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

[6137] Devon Energy Production Company, L.P. – Produced Water Treatment Research Pilot Project 06.19.2024. Devon Desal Analytical Reports

September 06, 2024

Pace Analytical®

ANALYTICAL REPORT

July 16, 2024

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

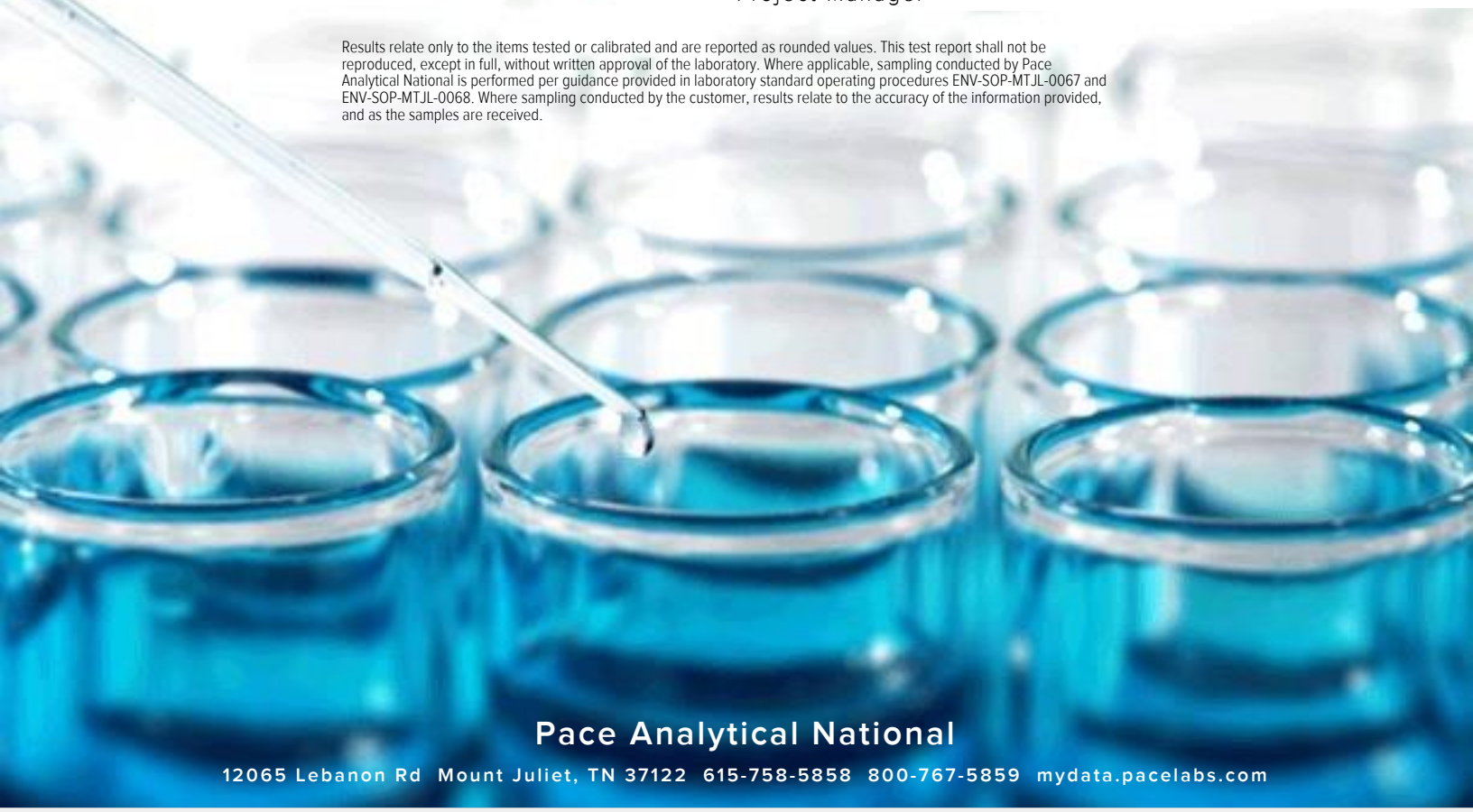
Devon Energy - Oklahoma City, OK

Sample Delivery Group:	L1748017
Samples Received:	06/19/2024
Project Number:	212C-HN-02831
Description:	Desalination Pilot
Report To:	Paul Barbour 333 W Sheridan Avenue Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

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

TABLE OF CONTENTS

CCR CLEAN EFFLUENT L1748017-01 WW

Collected by	Collected date/time	Received date/time
	06/18/24 10:00	06/19/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311717	1	06/28/24 08:20	06/28/24 08:20	JTM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2312601	1	06/26/24 16:05	06/26/24 18:00	DLS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2309483	1	06/21/24 15:42	06/21/24 16:39	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2308089	1	06/21/24 14:30	06/21/24 14:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2311324	1	06/25/24 02:02	06/25/24 09:59	MAB	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2310018	1	06/22/24 22:00	06/22/24 22:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2319463	10	07/10/24 03:16	07/10/24 03:16	DLH	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2311974	10	06/26/24 15:23	06/26/24 15:23	LAS	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2308449	1	06/20/24 09:50	06/20/24 09:50	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2307966	1	06/19/24 18:00	06/19/24 18:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2311507	1	06/20/24 08:22	06/20/24 08:22	DYA	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2314468	1	06/29/24 20:24	06/29/24 20:24	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2308789	1	06/20/24 13:04	06/20/24 19:32	SJF	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2307580	1	06/19/24 09:17	06/19/24 15:02	ARV	Mt. Juliet, TN
Mercury by Method 245.1	WG2307893	1	06/19/24 13:14	06/20/24 16:34	NDL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2311717	1	06/27/24 23:20	06/28/24 08:20	JTM	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2311717	1	06/27/24 23:20	06/29/24 13:02	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2311727	1	06/30/24 08:40	07/14/24 16:24	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2311727	10	06/30/24 08:40	07/14/24 12:32	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2310787	1	06/24/24 13:26	06/24/24 13:26	GLN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2312053	10	06/25/24 21:01	06/25/24 21:01	GLN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2310759	1	06/24/24 15:11	06/25/24 03:30	AGW	Mt. Juliet, TN

CASE NARRATIVE

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

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
L1748017-01	CCR CLEAN EFFLUENT	1664A, 4500O G-2016

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

Lab Sample ID	Project Sample ID	Method
L1748017-01	CCR CLEAN EFFLUENT	300.0

Calculated Results

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Trivalent	ND		0.0100	1	06/28/2024 08:20	WG2311717

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	16.0	Q	10.0	1	06/26/2024 18:00	WG2312601

Sample Narrative:

L1748017-01 WG2312601: Initial analysis within hold. Re-analysis for dilution or confirmation outside of hold.

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Suspended Solids	ND		2.50	1	06/21/2024 16:39	WG2309483

Wet Chemistry by Method 120.1

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	671		10.0	1	06/21/2024 14:30	WG2308089

Sample Narrative:

L1748017-01 WG2308089: at 25C

Wet Chemistry by Method 1664A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	5.84		5.62	1	06/25/2024 09:59	WG2311324

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	109	T8	1	06/22/2024 22:00	WG2310018

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	ND		10.0	10	07/10/2024 03:16	WG2319463
Chloride	ND		10.0	10	07/10/2024 03:16	WG2319463
Fluoride	ND		1.50	10	07/10/2024 03:16	WG2319463
Sulfate	ND		50.0	10	07/10/2024 03:16	WG2319463

Sample Narrative:

L1748017-01 WG2319463: dilution due to sample matrix

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	99.5		2.50	10	06/26/2024 15:23	WG2311974

Wet Chemistry by Method 3500Cr B-2011

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

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	Q	0.0100	1	06/20/2024 09:50	WG2308449

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.68	T8	1	06/19/2024 18:00	WG2307966

Sample Narrative:

L1748017-01 WG2307966: 8.68 at 20.6C

Wet Chemistry by Method 4500O G-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Oxygen	4.4 at 4.4c	T8	3	1	06/20/2024 08:22	WG2311507

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	19.1		1.00	1	06/29/2024 20:24	WG2314468

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
DOC	17.3	T8	1.00	1	06/20/2024 19:32	WG2308789

Wet Chemistry by Method 5540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
MBAS	ND		0.100	1	06/19/2024 15:02	WG2307580

Mercury by Method 245.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	06/20/2024 16:34	WG2307893

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	ND		0.200	1	06/28/2024 08:20	WG2311717
Antimony	ND		0.0100	1	06/28/2024 08:20	WG2311717
Arsenic	ND		0.0100	1	06/28/2024 08:20	WG2311717
Barium	ND		0.00500	1	06/28/2024 08:20	WG2311717
Beryllium	ND		0.00200	1	06/28/2024 08:20	WG2311717
Cadmium	ND		0.00200	1	06/28/2024 08:20	WG2311717
Chromium	ND		0.0100	1	06/28/2024 08:20	WG2311717
Copper	ND		0.0100	1	06/28/2024 08:20	WG2311717
Lead	ND		0.00500	1	06/28/2024 08:20	WG2311717
Lithium	ND		0.0150	1	06/28/2024 08:20	WG2311717
Nickel	ND		0.0100	1	06/28/2024 08:20	WG2311717
Selenium	ND		0.0100	1	06/28/2024 08:20	WG2311717
Silicon	ND		0.200	1	06/28/2024 08:20	WG2311717
Silver	ND		0.00500	1	06/29/2024 13:02	WG2311717
Strontium	0.0183		0.0100	1	06/28/2024 08:20	WG2311717

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Thallium	ND		0.0100	1	06/28/2024 08:20	WG2311717
Vanadium	ND		0.0200	1	06/28/2024 08:20	WG2311717
Zinc	ND		0.0500	1	06/28/2024 08:20	WG2311717
Phosphorus	ND		0.100	1	06/28/2024 08:20	WG2311717

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	ND		0.400	10	07/14/2024 12:32	WG2311727
Calcium	ND		1.00	1	07/14/2024 16:24	WG2311727
Cobalt	ND		0.00200	1	07/14/2024 16:24	WG2311727
Iron	0.305		0.100	1	07/14/2024 16:24	WG2311727
Magnesium	ND		1.00	1	07/14/2024 16:24	WG2311727
Manganese	0.0187		0.00500	1	07/14/2024 16:24	WG2311727
Molybdenum	ND		0.00500	1	07/14/2024 16:24	WG2311727
Potassium	ND		1.00	1	07/14/2024 16:24	WG2311727
Sodium	ND		2.00	1	07/14/2024 16:24	WG2311727
Tin	ND		0.00400	1	07/14/2024 16:24	WG2311727
Titanium	ND		0.0100	1	07/14/2024 16:24	WG2311727

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.250		0.0100	10	06/25/2024 21:01	WG2312053
Bromodichloromethane	ND		0.00100	1	06/24/2024 13:26	WG2310787
Bromoform	ND		0.00100	1	06/24/2024 13:26	WG2310787
Bromomethane	ND		0.00500	1	06/24/2024 13:26	WG2310787
Carbon tetrachloride	ND		0.00100	1	06/24/2024 13:26	WG2310787
Chlorobenzene	ND		0.00100	1	06/24/2024 13:26	WG2310787
Chlorodibromomethane	ND		0.00100	1	06/24/2024 13:26	WG2310787
Chloroethane	ND		0.00500	1	06/24/2024 13:26	WG2310787
2-Chloroethyl vinyl ether	ND		0.0500	1	06/24/2024 13:26	WG2310787
Chloroform	ND		0.00500	1	06/24/2024 13:26	WG2310787
Chloromethane	ND		0.00250	1	06/24/2024 13:26	WG2310787
1,2-Dichlorobenzene	ND		0.00100	1	06/24/2024 13:26	WG2310787
1,3-Dichlorobenzene	ND		0.00100	1	06/24/2024 13:26	WG2310787
1,4-Dichlorobenzene	ND		0.00100	1	06/24/2024 13:26	WG2310787
Dichlorodifluoromethane	ND		0.00500	1	06/24/2024 13:26	WG2310787
1,1-Dichloroethane	ND		0.00100	1	06/24/2024 13:26	WG2310787
1,2-Dichloroethane	ND		0.00100	1	06/24/2024 13:26	WG2310787
1,1-Dichloroethene	ND		0.00100	1	06/24/2024 13:26	WG2310787
trans-1,2-Dichloroethene	ND		0.00100	1	06/24/2024 13:26	WG2310787
1,2-Dichloropropane	ND		0.00100	1	06/24/2024 13:26	WG2310787
cis-1,3-Dichloropropene	ND		0.00100	1	06/24/2024 13:26	WG2310787
trans-1,3-Dichloropropene	ND		0.00100	1	06/24/2024 13:26	WG2310787
Ethylbenzene	0.00427		0.00100	1	06/24/2024 13:26	WG2310787
Methylene Chloride	ND		0.00500	1	06/24/2024 13:26	WG2310787
Methyl tert-butyl ether	ND		0.00100	1	06/24/2024 13:26	WG2310787
Naphthalene	ND		0.00500	1	06/24/2024 13:26	WG2310787
1,1,2,2-Tetrachloroethane	ND		0.00100	1	06/24/2024 13:26	WG2310787
Tetrachloroethene	ND		0.00100	1	06/24/2024 13:26	WG2310787
Toluene	0.179		0.00100	1	06/24/2024 13:26	WG2310787
1,1,1-Trichloroethane	ND		0.00100	1	06/24/2024 13:26	WG2310787
1,1,2-Trichloroethane	ND		0.00100	1	06/24/2024 13:26	WG2310787
Trichloroethene	ND		0.00100	1	06/24/2024 13:26	WG2310787

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Trichlorofluoromethane	ND		0.00500	1	06/24/2024 13:26	WG2310787
Vinyl chloride	ND		0.00100	1	06/24/2024 13:26	WG2310787
o-Xylene	0.0208		0.00100	1	06/24/2024 13:26	WG2310787
m&p-Xylene	0.0517		0.00200	1	06/24/2024 13:26	WG2310787
Xylenes, Total	0.0725		0.00300	1	06/24/2024 13:26	WG2310787
(S) Toluene-d8	*109*		*80.0-120*		*06/24/2024 13:26*	WG2310787
(S) Toluene-d8	*99.7*		*80.0-120*		*06/25/2024 21:01*	WG2312053
(S) 4-Bromofluorobenzene	*107*		*80.0-120*		*06/24/2024 13:26*	WG2310787
(S) 4-Bromofluorobenzene	*95.6*		*80.0-120*		*06/25/2024 21:01*	WG2312053
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*06/24/2024 13:26*	WG2310787
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*06/25/2024 21:01*	WG2312053

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	06/25/2024 03:30	WG2310759
Acenaphthylene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Anthracene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Benzidine	ND		0.0100	1	06/25/2024 03:30	WG2310759
Benzo(a)anthracene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Benzo(b)fluoranthene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Benzo(k)fluoranthene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Benzo(g,h,i)perylene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Benzo(a)pyrene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Bis(2-chlorethoxy)methane	ND		0.0100	1	06/25/2024 03:30	WG2310759
Bis(2-chloroethyl)ether	ND		0.0100	1	06/25/2024 03:30	WG2310759
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	06/25/2024 03:30	WG2310759
4-Bromophenyl-phenylether	ND		0.0100	1	06/25/2024 03:30	WG2310759
2-Chloronaphthalene	ND		0.00100	1	06/25/2024 03:30	WG2310759
4-Chlorophenyl-phenylether	ND		0.0100	1	06/25/2024 03:30	WG2310759
Chrysene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Dibenz(a,h)anthracene	ND		0.00100	1	06/25/2024 03:30	WG2310759
3,3-Dichlorobenzidine	ND		0.0100	1	06/25/2024 03:30	WG2310759
2,4-Dinitrotoluene	ND		0.0100	1	06/25/2024 03:30	WG2310759
2,6-Dinitrotoluene	ND		0.0100	1	06/25/2024 03:30	WG2310759
1,2-Diphenylhydrazine	ND	N2	0.0100	1	06/25/2024 03:30	WG2310759
Fluoranthene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Fluorene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Hexachlorobenzene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Hexachloro-1,3-butadiene	ND		0.0100	1	06/25/2024 03:30	WG2310759
Hexachlorocyclopentadiene	ND		0.0100	1	06/25/2024 03:30	WG2310759
Hexachloroethane	ND		0.0100	1	06/25/2024 03:30	WG2310759
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Isophorone	ND		0.0100	1	06/25/2024 03:30	WG2310759
Naphthalene	0.00270		0.00100	1	06/25/2024 03:30	WG2310759
Nitrobenzene	ND		0.0100	1	06/25/2024 03:30	WG2310759
n-Nitrosodimethylamine	ND		0.0100	1	06/25/2024 03:30	WG2310759
n-Nitrosodiphenylamine	ND		0.0100	1	06/25/2024 03:30	WG2310759
n-Nitrosodi-n-propylamine	ND		0.0100	1	06/25/2024 03:30	WG2310759
Phenanthrene	ND		0.00100	1	06/25/2024 03:30	WG2310759
Benzylbutyl phthalate	ND		0.00300	1	06/25/2024 03:30	WG2310759
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	06/25/2024 03:30	WG2310759
Di-n-butyl phthalate	ND		0.00300	1	06/25/2024 03:30	WG2310759
Diethyl phthalate	ND		0.00300	1	06/25/2024 03:30	WG2310759
Dimethyl phthalate	ND		0.00300	1	06/25/2024 03:30	WG2310759
Di-n-octyl phthalate	ND		0.00300	1	06/25/2024 03:30	WG2310759

CCR CLEAN EFFLUENT
Collected date/time: 06/18/24 10:00

SAMPLE RESULTS - 01

L1748017

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Pyrene	ND		0.00100	1	06/25/2024 03:30	WG2310759
1,2,4-Trichlorobenzene	ND		0.0100	1	06/25/2024 03:30	WG2310759
4-Chloro-3-methylphenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
2-Chlorophenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
2,4-Dichlorophenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
2,4-Dimethylphenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
4,6-Dinitro-2-methylphenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
2,4-Dinitrophenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
2-Nitrophenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
4-Nitrophenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
Pentachlorophenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
Phenol	0.116		0.0100	1	06/25/2024 03:30	WG2310759
2,4,6-Trichlorophenol	ND		0.0100	1	06/25/2024 03:30	WG2310759
(S) Nitrobenzene-d5	*87.0*		*15.0-314*		*06/25/2024 03:30*	WG2310759
(S) 2-Fluorobiphenyl	*81.5*		*22.0-127*		*06/25/2024 03:30*	WG2310759
(S) p-Terphenyl-d14	*88.6*		*29.0-141*		*06/25/2024 03:30*	WG2310759
(S) Phenol-d5	*26.6*		*8.00-424*		*06/25/2024 03:30*	WG2310759
(S) 2-Fluorophenol	*35.1*		*10.0-120*		*06/25/2024 03:30*	WG2310759
(S) 2,4,6-Tribromophenol	*81.3*		*10.0-153*		*06/25/2024 03:30*	WG2310759

Method Blank (MB)

(MB) R4087912-1 06/26/24 18:00

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

L1749625-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749625-01 06/26/24 18:00 • (DUP) R4087912-3 06/26/24 18:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	314	321	1	2.20		10

L1749880-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1749880-02 06/26/24 18:00 • (DUP) R4087912-4 06/26/24 18:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	426	428	1	0.468		10

Laboratory Control Sample (LCS)

(LCS) R4087912-2 06/26/24 18:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	9100	103	85.0-115	

Method Blank (MB)

(MB) R4085122-1 06/21/24 16:39

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

L1747759-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747759-01 06/21/24 16:39 • (DUP) R4085122-3 06/21/24 16:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	30.0	32.0	1	6.45		10

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/21/24 16:39 • (DUP) R4085122-4 06/21/24 16:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	91.0	93.0	1	2.17		10

Laboratory Control Sample (LCS)

(LCS) R4085122-2 06/21/24 16:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	840	109	85.0-115	

Method Blank (MB)

(MB) R4084886-1 06/21/24 14:30

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

Sample Narrative:
BLANK: at 25C

L1747965-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747965-01 06/21/24 14:30 • (DUP) R4084886-3 06/21/24 14:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	3340	3290	1	1.51		20

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

L1748140-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748140-01 06/21/24 14:30 • (DUP) R4084886-4 06/21/24 14:30

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

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

Laboratory Control Sample (LCS)

(LCS) R4084886-2 06/21/24 14:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	726	99.0	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4086062-1 06/25/24 09:59

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

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

(LCS) R4086062-2 06/25/24 09:59 • (LCSD) R4086062-3 06/25/24 09:59

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	32.6	36.7	81.5	91.8	78.0-114			11.8	20

L1748017-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748017-01 06/25/24 09:59 • (MS) R4086062-4 06/25/24 09:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	5.84	43.7	94.8	1	78.0-114	

L1748017-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748017-01 06/22/24 22:00 • (DUP) R4085267-3 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	109	107	1	1.60		20

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/22/24 22:00 • (DUP) R4085267-4 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	179	177	1	1.50		20

L1748038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748038-01 06/22/24 22:00 • (DUP) R4085267-5 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	-2.20	1.50	1	1.50	P1	20

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/22/24 22:00 • (DUP) R4085267-6 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	81.4	86.8	1	5.40		20

L1748734-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-01 06/22/24 22:00 • (DUP) R4085267-7 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	61.9	64.4	1	2.50		20

L1748734-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-02 06/22/24 22:00 • (DUP) R4085267-8 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	64.8	64.0	1	0.800		20

L1748734-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-03 06/22/24 22:00 • (DUP) R4085267-9 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	72.7	74.5	1	1.80		20

L1748734-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-04 06/22/24 22:00 • (DUP) R4085267-10 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	57.7	61.9	1	4.20		20

L1748734-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-05 06/22/24 22:00 • (DUP) R4085267-11 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	77.0	75.4	1	1.60		20

L1748734-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-06 06/22/24 22:00 • (DUP) R4085267-12 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	88.5	88.1	1	0.400		20

L1748734-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-07 06/22/24 22:00 • (DUP) R4085267-13 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	56.5	60.5	1	4.00		20

L1748734-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-08 06/22/24 22:00 • (DUP) R4085267-14 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	74.1	74.2	1	0.100		20

L1748734-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-09 06/22/24 22:00 • (DUP) R4085267-15 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	75.7	79.2	1	3.50		20

L1748734-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-10 06/22/24 22:00 • (DUP) R4085267-16 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	98.9	98.1	1	0.800		20

L1748734-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-11 06/22/24 22:00 • (DUP) R4085267-17 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	95.8	96.1	1	0.300		20

L1748734-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-12 06/22/24 22:00 • (DUP) R4085267-18 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	95.8	95.3	1	0.500		20

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

(LCS) R4085267-1 06/22/24 22:00 • (LCSD) R4085267-2 06/22/24 22:00

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	224	223	93.9	93.7	90.0-110			0.500	20

Method Blank (MB)

(MB) R4092590-1 07/09/24 22:13

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

L1747989-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1747989-05 07/10/24 01:47 • (DUP) R4092590-3 07/10/24 02:00

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	28.3	27.3	1	3.58		15
Fluoride	0.164	0.219	1	28.8	P1	15
Sulfate	12.9	12.8	1	0.747		15

L1749762-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1749762-08 07/10/24 09:13 • (DUP) R4092590-6 07/10/24 09:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	1.09	1.10	1	0.823		15
Chloride	7.39	7.35	1	0.563		15
Fluoride	ND	ND	1	12.8		15
Sulfate	187	185	1	0.806		15

Laboratory Control Sample (LCS)

(LCS) R4092590-2 07/09/24 22:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	39.9	99.8	90.0-110	
Chloride	40.0	40.5	101	90.0-110	
Fluoride	8.00	8.06	101	90.0-110	
Sulfate	40.0	39.1	97.6	90.0-110	

L1747989-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747989-05 07/10/24 01:47 • (MS) R4092590-4 07/10/24 02:13 • (MSD) R4092590-5 07/10/24 02:25

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	39.7	39.3	99.2	98.3	1	80.0-120			0.914	15
Chloride	40.0	28.3	60.4	60.5	80.2	80.4	1	80.0-120			0.134	15
Fluoride	8.00	0.164	8.00	8.91	97.9	109	1	80.0-120			10.8	15
Sulfate	40.0	12.9	49.0	49.0	90.2	90.1	1	80.0-120			0.139	15

L1749762-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1749762-08 07/10/24 09:13 • (MS) R4092590-7 07/10/24 09:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	1.09	38.2	92.9	1	80.0-120	
Chloride	40.0	7.39	45.6	95.5	1	80.0-120	
Fluoride	8.00	ND	8.16	100	1	80.0-120	
Sulfate	40.0	187	190	8.56	1	80.0-120	V

Method Blank (MB)

(MB) R4086842-1 06/26/24 14:44

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

L1747788-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747788-02 06/26/24 14:56 • (DUP) R4086842-5 06/26/24 14:58

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

L1747788-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1747788-04 06/26/24 15:07 • (DUP) R4086842-8 06/26/24 15:08

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) R4086842-2 06/26/24 14:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	8.02	107	90.0-110	

L1747788-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747788-01 06/26/24 14:52 • (MS) R4086842-3 06/26/24 14:53 • (MSD) R4086842-4 06/26/24 14:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	ND	5.59	5.53	108	107	1	90.0-110			0.953	10

L1747788-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747788-03 06/26/24 15:04 • (MS) R4086842-7 06/26/24 15:05

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	5.57	111	1	90.0-110	J5

Method Blank (MB)

(MB) R4084136-1 06/20/24 09:47

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

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/20/24 09:51 • (DUP) R4084136-5 06/20/24 09:51

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

Laboratory Control Sample (LCS)

(LCS) R4084136-2 06/20/24 09:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.517	103	80.0-120	

L1748017-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748017-01 06/20/24 09:50 • (MS) R4084136-3 06/20/24 09:50 • (MSD) R4084136-4 06/20/24 09:50

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	0.543	0.521	109	104	1	75.0-125			4.14	20

L1747960-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747960-01 06/19/24 18:00 • (DUP) R4083988-2 06/19/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.82	7.80	1	0.256		1

Sample Narrative:

OS: 7.82 at 21.4C

DUP: 7.8 at 21.4C

L1748128-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748128-01 06/19/24 18:00 • (DUP) R4083988-3 06/19/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.37	8.38	1	0.119		1

Sample Narrative:

OS: 8.37 at 20.8C

DUP: 8.38 at 20.8C

Laboratory Control Sample (LCS)

(LCS) R4083988-1 06/19/24 18:00

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

Sample Narrative:

LCS: 10.03 at 21.7C

Method Blank (MB)

(MB) R4084753-2 06/20/24 13:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.137	J	0.106	1.00

L1745594-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1745594-01 06/20/24 20:12 • (DUP) R4084753-5 06/20/24 21:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	65.0	65.2	2	0.353		20

L1748638-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748638-01 06/21/24 00:40 • (DUP) R4084753-6 06/21/24 00:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	2.44	3.05	1	22.3	P1	20

Laboratory Control Sample (LCS)

(LCS) R4084753-1 06/20/24 13:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	23.5	94.2	85.0-115	

L1745743-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1745743-01 06/20/24 17:09 • (MS) R4084753-3 06/20/24 17:29 • (MSD) R4084753-4 06/20/24 17:48

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	2.26	25.8	25.4	94.3	92.6	1	80.0-120			1.68	20

L1748638-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748638-02 06/21/24 01:17 • (MS) R4084753-7 06/21/24 01:34 • (MSD) R4084753-8 06/21/24 01:50

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	2.17	25.8	25.5	94.5	93.3	1	80.0-120			1.17	20

Method Blank (MB)

(MB) R4088290-2 06/29/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.112	J	0.102	1.00

L1747841-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1747841-07 06/29/24 15:50 • (DUP) R4088290-3 06/29/24 16:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	7.68	7.69	1	0.156		20

L1747903-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1747903-09 06/29/24 19:05 • (DUP) R4088290-6 06/29/24 19:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	ND	ND	1	3.53		20

Laboratory Control Sample (LCS)

(LCS) R4088290-1 06/29/24 14:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	25.2	101	85.0-115	

L1747903-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747903-08 06/29/24 17:50 • (MS) R4088290-4 06/29/24 18:07 • (MSD) R4088290-5 06/29/24 18:24

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 %
TOC (Total Organic Carbon)	25.0	6.35	30.7	30.8	97.5	97.6	1	85.0-115			0.130	20

L1747903-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747903-10 06/29/24 19:31 • (MS) R4088290-7 06/29/24 19:46 • (MSD) R4088290-8 06/29/24 20:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	1.21	26.3	26.1	100	99.7	1	85.0-115			0.458	20

Method Blank (MB)

(MB) R4083834-1 06/19/24 14:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
MBAS	U		0.0190	0.100

L1747713-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747713-01 06/19/24 15:00 • (DUP) R4083834-3 06/19/24 15:00

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

Laboratory Control Sample (LCS)

(LCS) R4083834-2 06/19/24 14:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
MBAS	1.00	1.07	107	85.0-115	

L1748038-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748038-01 06/19/24 15:02 • (MS) R4083834-4 06/19/24 15:09 • (MSD) R4083834-5 06/19/24 15:09

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 %
MBAS	1.00	ND	0.949	0.973	94.9	97.3	1	85.0-115			2.50	20

Method Blank (MB)

(MB) R4084453-1 06/20/24 16:13

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

Laboratory Control Sample (LCS)

(LCS) R4084453-2 06/20/24 16:16

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

L1748014-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748014-01 06/20/24 16:23 • (MS) R4084453-4 06/20/24 16:28 • (MSD) R4084453-5 06/20/24 16:31

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 %
Mercury	0.00300	ND	0.00353	0.00356	118	119	1	70.0-130			1.00	20

Method Blank (MB)

(MB) R4087844-1 06/28/24 07:35

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	0.00229	J	0.00227	0.00500
Lithium	U		0.00689	0.0150
Nickel	U		0.00182	0.0100
Selenium	U		0.00616	0.0100
Silicon	U		0.0771	0.200
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

Method Blank (MB)

(MB) R4088164-1 06/29/24 12:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silver	U		0.00131	0.00500

Laboratory Control Sample (LCS)

(LCS) R4087844-2 06/28/24 07:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.2	102	85.0-115	
Antimony	1.00	1.00	100	85.0-115	
Arsenic	1.00	1.03	103	85.0-115	
Barium	1.00	1.03	103	85.0-115	
Beryllium	1.00	1.02	102	85.0-115	
Cadmium	1.00	1.04	104	85.0-115	
Chromium	1.00	1.01	101	85.0-115	
Copper	1.00	1.08	108	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4087844-2 06/28/24 07:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	1.00	1.02	102	85.0-115	
Lithium	1.00	1.02	102	85.0-115	
Nickel	1.00	1.02	102	85.0-115	
Selenium	1.00	1.02	102	85.0-115	
Silicon	1.00	0.959	95.9	85.0-115	
Strontium	1.00	0.997	99.7	85.0-115	
Thallium	1.00	1.05	105	85.0-115	
Vanadium	1.00	1.01	101	85.0-115	
Zinc	1.00	1.02	102	85.0-115	
Phosphorus	1.00	1.09	109	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4088164-2 06/29/24 12:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver	0.200	0.189	94.7	85.0-115	

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/28/24 07:38 • (MS) R4087844-4 06/28/24 07:42 • (MSD) R4087844-5 06/28/24 07:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	2.41	12.8	13.0	104	106	1	70.0-130			1.50	20
Antimony	1.00	ND	1.04	1.06	104	106	1	70.0-130			1.83	20
Arsenic	1.00	ND	1.06	1.09	106	109	1	70.0-130			3.13	20
Barium	1.00	0.0254	1.07	1.09	105	107	1	70.0-130			2.14	20
Beryllium	1.00	ND	1.03	1.06	103	106	1	70.0-130			1.99	20
Cadmium	1.00	ND	1.06	1.09	106	109	1	70.0-130			2.43	20
Chromium	1.00	ND	1.03	1.04	103	104	1	70.0-130			1.73	20
Copper	1.00	ND	1.10	1.12	110	112	1	70.0-130			2.24	20
Lead	1.00	ND	1.05	1.07	105	107	1	70.0-130			1.91	20
Lithium	1.00	ND	1.04	1.05	104	105	1	70.0-130			1.21	20
Nickel	1.00	ND	1.05	1.07	105	107	1	70.0-130			2.04	20
Selenium	1.00	ND	1.05	1.10	105	110	1	70.0-130			4.63	20
Silicon	1.00	1.76	2.76	2.82	100	107	1	70.0-130			2.37	20
Strontium	1.00	0.106	1.11	1.13	100	103	1	70.0-130			1.84	20
Thallium	1.00	ND	1.06	1.10	106	110	1	70.0-130			3.35	20
Vanadium	1.00	ND	1.03	1.05	103	105	1	70.0-130			1.77	20

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/28/24 07:38 • (MS) R4087844-4 06/28/24 07:42 • (MSD) R4087844-5 06/28/24 07:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Zinc	1.00	ND	1.04	1.07	104	107	1	70.0-130			2.43	20
Phosphorus	1.00	0.121	1.20	1.27	108	115	1	70.0-130			6.05	20

L1747866-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747866-01 06/28/24 07:45 • (MS) R4087844-6 06/28/24 07:47 • (MSD) R4087844-7 06/28/24 07:49

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	10.7	10.7	106	106	1	70.0-130			0.252	20
Antimony	1.00	ND	1.11	1.11	111	111	1	70.0-130			0.157	20
Arsenic	1.00	ND	1.18	1.17	118	117	1	70.0-130			0.774	20
Barium	1.00	0.0301	1.07	1.07	104	104	1	70.0-130			0.223	20
Beryllium	1.00	ND	1.03	1.02	103	102	1	70.0-130			0.360	20
Cadmium	1.00	ND	1.15	1.14	115	114	1	70.0-130			0.735	20
Chromium	1.00	ND	1.02	1.01	102	101	1	70.0-130			1.39	20
Copper	1.00	ND	1.14	1.14	113	113	1	70.0-130			0.158	20
Lead	1.00	ND	1.07	1.06	107	106	1	70.0-130			0.889	20
Lithium	1.00	0.875	1.97	1.93	110	105	1	70.0-130			2.25	20
Nickel	1.00	ND	1.10	1.10	110	110	1	70.0-130			0.343	20
Selenium	1.00	ND	1.27	1.25	127	125	1	70.0-130			1.67	20
Silicon	1.00	ND	1.05	1.07	105	107	1	70.0-130			1.60	20
Strontium	1.00	16.6	17.5	16.8	88.7	16.1	1	70.0-130		V	4.24	20
Thallium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.361	20
Vanadium	1.00	ND	1.05	1.05	105	105	1	70.0-130			0.0418	20
Zinc	1.00	0.209	1.23	1.22	102	101	1	70.0-130			1.07	20
Phosphorus	1.00	ND	1.20	1.22	119	121	1	70.0-130			1.35	20

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/29/24 12:49 • (MS) R4088164-4 06/29/24 12:53 • (MSD) R4088164-5 06/29/24 12:55

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 %
Silver	0.200	ND	0.191	0.197	95.3	98.3	1	70.0-130			3.13	20

Method Blank (MB)

(MB) R4093592-1 07/14/24 11:08

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

Laboratory Control Sample (LCS)

(LCS) R4093592-2 07/14/24 11:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0561	112	85.0-115	
Calcium	5.00	5.45	109	85.0-115	
Cobalt	0.0500	0.0542	108	85.0-115	
Iron	1.00	1.06	106	85.0-115	
Magnesium	5.00	5.33	107	85.0-115	
Manganese	0.0500	0.0522	104	85.0-115	
Molybdenum	0.0500	0.0499	99.9	85.0-115	
Potassium	5.00	5.33	107	85.0-115	
Sodium	5.00	5.33	107	85.0-115	
Tin	0.0500	0.0519	104	85.0-115	
Titanium	0.0500	0.0524	105	85.0-115	

L1747961-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747961-01 07/14/24 11:16 • (MS) R4093592-4 07/14/24 11:23 • (MSD) R4093592-5 07/14/24 11:26

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	ND	0.0654	0.0664	131	133	1	70.0-130	J5	J5	1.46	20
Calcium	5.00	36.5	41.5	42.7	101	125	1	70.0-130			2.83	20
Cobalt	0.0500	ND	0.0540	0.0546	108	109	1	70.0-130			1.05	20
Iron	1.00	ND	1.12	1.12	106	106	1	70.0-130			0.0732	20
Magnesium	5.00	2.95	8.10	8.37	103	108	1	70.0-130			3.31	20

L1747961-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747961-01 07/14/24 11:16 • (MS) R4093592-4 07/14/24 11:23 • (MSD) R4093592-5 07/14/24 11:26

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 %
Manganese	0.0500	0.0265	0.0805	0.0813	108	110	1	70.0-130			0.951	20
Molybdenum	0.0500	ND	0.0540	0.0544	104	104	1	70.0-130			0.692	20
Potassium	5.00	1.65	6.97	6.94	106	106	1	70.0-130			0.468	20
Sodium	5.00	25.3	30.5	31.8	104	131	1	70.0-130		V	4.37	20
Tin	0.0500	ND	0.0519	0.0507	104	101	1	70.0-130			2.21	20
Titanium	0.0500	ND	0.0504	0.0490	101	97.9	1	70.0-130			2.97	20

L1748018-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748018-02 07/14/24 11:30 • (MS) R4093592-6 07/14/24 11:33 • (MSD) R4093592-7 07/14/24 11:36

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 %
Boron	0.0500	0.0875	0.143	0.155	110	134	1	70.0-130		J5	8.04	20
Calcium	5.00	40.8	45.1	47.0	86.2	125	1	70.0-130			4.20	20
Cobalt	0.0500	0.00559	0.0603	0.0616	109	112	1	70.0-130			2.23	20
Iron	1.00	6.39	7.93	8.90	155	252	1	70.0-130	V	V	11.5	20
Magnesium	5.00	5.78	11.0	11.6	103	116	1	70.0-130			5.71	20
Manganese	0.0500	0.518	0.588	0.615	141	194	1	70.0-130	V	V	4.39	20
Molybdenum	0.0500	0.0279	0.0820	0.0854	108	115	1	70.0-130			3.96	20
Potassium	5.00	1.73	6.86	7.11	103	108	1	70.0-130			3.68	20
Sodium	5.00	2.35	7.62	7.87	105	111	1	70.0-130			3.29	20
Tin	0.0500	0.0184	0.0691	0.0722	101	108	1	70.0-130			4.45	20
Titanium	0.0500	0.0295	0.0872	0.0954	115	132	1	70.0-130		J5	8.93	20

Method Blank (MB)

(MB) R4086326-4 06/24/24 06:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
2-Chloroethyl vinyl ether	U		0.000575	0.0500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
Ethylbenzene	U		0.000137	0.00100
Methylene Chloride	U		0.000430	0.00500
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
Vinyl chloride	U		0.000234	0.00100
o-Xylene	U		0.000174	0.00100
m&p-Xylene	U		0.000430	0.00200
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*113*			*80.0-120*
(S) 4-Bromofluorobenzene	*105*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*

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

(LCS) R4086326-1 06/24/24 05:09 • (LCSD) R4086326-2 06/24/24 05:29

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 %
Bromodichloromethane	0.00500	0.00477	0.00486	95.4	97.2	65.0-135			1.87	20
Bromoform	0.00500	0.00424	0.00434	84.8	86.8	70.0-130			2.33	20
Bromomethane	0.00500	0.00282	0.00300	56.4	60.0	15.0-185			6.19	20
Carbon tetrachloride	0.00500	0.00504	0.00527	101	105	70.0-130			4.46	20
Chlorobenzene	0.00500	0.00501	0.00516	100	103	65.0-135			2.95	20
Chlorodibromomethane	0.00500	0.00460	0.00460	92.0	92.0	70.0-135			0.000	20
Chloroethane	0.00500	0.00657	0.00732	131	146	40.0-160			10.8	20
2-Chloroethyl vinyl ether	0.0250	0.0214	0.0217	85.6	86.8	0.100-225			1.39	20
Chloroform	0.00500	0.00516	0.00520	103	104	70.0-135			0.772	20
Chloromethane	0.00500	0.00564	0.00578	113	116	0.100-205			2.45	20
1,2-Dichlorobenzene	0.00500	0.00484	0.00502	96.8	100	65.0-135			3.65	20
1,3-Dichlorobenzene	0.00500	0.00454	0.00474	90.8	94.8	70.0-130			4.31	20
1,4-Dichlorobenzene	0.00500	0.00457	0.00484	91.4	96.8	65.0-135			5.74	20
Dichlorodifluoromethane	0.00500	0.00674	0.00720	135	144	49.0-155			6.60	20
1,1-Dichloroethane	0.00500	0.00537	0.00551	107	110	70.0-130			2.57	20
1,2-Dichloroethane	0.00500	0.00519	0.00528	104	106	70.0-130			1.72	20
1,1-Dichloroethene	0.00500	0.00513	0.00532	103	106	50.0-150			3.64	20
trans-1,2-Dichloroethene	0.00500	0.00521	0.00527	104	105	70.0-130			1.15	20
1,2-Dichloropropane	0.00500	0.00539	0.00524	108	105	35.0-165			2.82	20
cis-1,3-Dichloropropene	0.00500	0.00477	0.00481	95.4	96.2	25.0-175			0.835	20
trans-1,3-Dichloropropene	0.00500	0.00453	0.00463	90.6	92.6	50.0-150			2.18	20
Ethylbenzene	0.00500	0.00481	0.00506	96.2	101	60.0-140			5.07	20
Methylene Chloride	0.00500	0.00510	0.00518	102	104	60.0-140			1.56	20
Methyl tert-butyl ether	0.00500	0.00492	0.00506	98.4	101	64.0-123			2.81	20
Naphthalene	0.00500	0.00329	0.00366	65.8	73.2	62.0-128			10.6	20
1,1,2,2-Tetrachloroethane	0.00500	0.00476	0.00482	95.2	96.4	60.0-140			1.25	20
Tetrachloroethene	0.00500	0.00522	0.00528	104	106	70.0-130			1.14	20
Toluene	0.00500	0.00503	0.00513	101	103	70.0-130			1.97	20
1,1,1-Trichloroethane	0.00500	0.00520	0.00533	104	107	70.0-130			2.47	20
1,1,2-Trichloroethane	0.00500	0.00490	0.00508	98.0	102	70.0-130			3.61	20
Trichloroethene	0.00500	0.00513	0.00539	103	108	65.0-135			4.94	20
Trichlorofluoromethane	0.00500	0.00591	0.00616	118	123	50.0-150			4.14	20
Vinyl chloride	0.00500	0.00606	0.00614	121	123	5.00-195			1.31	20
o-Xylene	0.00500	0.00472	0.00484	94.4	96.8	78.0-120			2.51	20
m&p-Xylene	0.0100	0.00961	0.0100	96.1	100	77.0-120			3.98	20
Xylenes, Total	0.0150	0.0143	0.0148	95.3	98.7	77.0-120			3.44	20
(S) Toluene-d8				*108*	*108*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*102*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*107*	*107*	*70.0-130*				

L1747945-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747945-08 06/24/24 09:00 • (MS) R4086326-5 06/24/24 14:27 • (MSD) R4086326-6 06/24/24 14:48

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 %
Bromodichloromethane	0.00500	ND	0.00455	0.00372	91.0	74.4	1	35.0-155			20.1	56
Bromoform	0.00500	ND	0.00399	0.00338	79.8	67.6	1	45.0-169			16.6	42
Bromomethane	0.00500	ND	ND	ND	52.8	44.8	1	0.100-206			16.4	61
Carbon tetrachloride	0.00500	ND	0.00505	0.00409	101	81.8	1	70.0-140			21.0	41
Chlorobenzene	0.00500	ND	0.00475	0.00394	95.0	78.8	1	37.0-160			18.6	53
Chlorodibromomethane	0.00500	ND	0.00405	0.00356	81.0	71.2	1	53.0-149			12.9	50
Chloroethane	0.00500	ND	0.00618	0.00503	124	101	1	14.0-230			20.5	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	0.00507	ND	101	83.4	1	51.0-138			19.5	54
Chloromethane	0.00500	ND	0.00516	0.00446	103	89.2	1	0.100-273			14.6	60
1,2-Dichlorobenzene	0.00500	ND	0.00465	0.00415	93.0	83.0	1	18.0-190			11.4	57
1,3-Dichlorobenzene	0.00500	ND	0.00456	0.00400	91.2	80.0	1	59.0-156			13.1	43
1,4-Dichlorobenzene	0.00500	ND	0.00442	0.00392	88.4	78.4	1	18.0-190			12.0	57
Dichlorodifluoromethane	0.00500	ND	0.00673	0.00565	135	113	1	20.0-160			17.4	20
1,1-Dichloroethane	0.00500	ND	0.00510	0.00418	102	83.6	1	59.0-155			19.8	40
1,2-Dichloroethane	0.00500	ND	0.00527	0.00485	90.5	82.1	1	49.0-155			8.30	49
1,1-Dichloroethene	0.00500	ND	0.00514	0.00405	103	81.0	1	0.100-234			23.7	32
trans-1,2-Dichloroethene	0.00500	ND	0.00477	0.00403	95.4	80.6	1	54.0-156			16.8	45
1,2-Dichloropropane	0.00500	ND	0.00495	0.00415	99.0	83.0	1	0.100-210			17.6	55
cis-1,3-Dichloropropene	0.00500	ND	0.00405	0.00346	81.0	69.2	1	0.100-227			15.7	58
trans-1,3-Dichloropropene	0.00500	ND	0.00395	0.00347	79.0	69.4	1	17.0-183			12.9	86
Ethylbenzene	0.00500	0.00398	0.00900	0.00798	100	80.0	1	37.0-162			12.0	63
Methylene Chloride	0.00500	ND	ND	ND	94.4	82.0	1	0.100-221			14.1	28
Methyl tert-butyl ether	0.00500	ND	0.00452	0.00410	90.4	82.0	1	42.0-142			9.74	20
Naphthalene	0.00500	ND	ND	ND	92.2	85.6	1	42.0-146			7.42	20
1,1,2,2-Tetrachloroethane	0.00500	ND	0.00447	0.00411	89.4	82.2	1	46.0-157			8.39	61
Tetrachloroethene	0.00500	ND	0.00494	0.00419	98.8	83.8	1	64.0-148			16.4	39
Toluene	0.00500	ND	0.00542	0.00456	94.1	76.9	1	47.0-150			17.2	41
1,1,1-Trichloroethane	0.00500	ND	0.00493	0.00417	98.6	83.4	1	56.0-162			16.7	36
1,1,2-Trichloroethane	0.00500	ND	0.00499	0.00433	99.8	86.6	1	52.0-150			14.2	45
Trichloroethene	0.00500	ND	0.00500	0.00416	100	83.2	1	70.0-157			18.3	48
Trichlorofluoromethane	0.00500	ND	0.00599	ND	120	97.8	1	17.0-181			20.2	84
Vinyl chloride	0.00500	ND	0.00593	0.00480	119	96.0	1	0.100-251			21.1	66
(S) Toluene-d8					*107*	*106*		*80.0-120*				
(S) 4-Bromofluorobenzene					*103*	*102*		*80.0-120*				
(S) 1,2-Dichloroethane-d4					*105*	*106*		*70.0-130*				

Method Blank (MB)

(MB) R4086501-4 06/25/24 19:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
(S) Toluene-d8	*99.9*			*80.0-120*
(S) 4-Bromofluorobenzene	*95.5*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

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

(LCS) R4086501-1 06/25/24 18:21 • (LCSD) R4086501-2 06/25/24 18:43

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	0.00505	0.00504	101	101	65.0-135			0.198	20
(S) Toluene-d8				*99.2*	*99.1*	*80.0-120*				
(S) 4-Bromofluorobenzene				*95.1*	*97.8*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*109*	*108*	*70.0-130*				

Method Blank (MB)

(MB) R4086423-3 06/25/24 01:23

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

Method Blank (MB)

(MB) R4086423-3 06/25/24 01:23

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	*125*			*15.0-314*
(S) 2-Fluorobiphenyl	*117*			*22.0-127*
(S) p-Terphenyl-d14	*132*			*29.0-141*
(S) Phenol-d5	*44.5*			*8.00-424*
(S) 2-Fluorophenol	*70.0*			*10.0-120*
(S) 2,4,6-Tribromophenol	*107*			*10.0-153*

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0381	76.2	47.0-145	
Acenaphthylene	0.0500	0.0424	84.8	33.0-145	
Anthracene	0.0500	0.0416	83.2	27.0-133	
Benzidine	0.100	0.0152	15.2	1.00-120	
Benzo(a)anthracene	0.0500	0.0458	91.6	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0483	96.6	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0493	98.6	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0356	71.2	1.00-219	
Benzo(a)pyrene	0.0500	0.0455	91.0	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0389	77.8	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0416	83.2	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0385	77.0	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0456	91.2	53.0-127	

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0387	77.4	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0453	90.6	25.0-158	
Chrysene	0.0500	0.0434	86.8	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0358	71.6	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0827	82.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0471	94.2	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0459	91.8	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0411	82.2	37.0-125	N2
Fluoranthene	0.0500	0.0427	85.4	26.0-137	
Fluorene	0.0500	0.0405	81.0	59.0-121	
Hexachlorobenzene	0.0500	0.0426	85.2	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0426	85.2	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0406	81.2	10.0-120	
Hexachloroethane	0.0500	0.0382	76.4	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0365	73.0	1.00-171	
Isophorone	0.0500	0.0393	78.6	21.0-196	
Naphthalene	0.0500	0.0349	69.8	21.0-133	
Nitrobenzene	0.0500	0.0395	79.0	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0372	74.4	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0414	82.8	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0432	86.4	1.00-230	
Phenanthrene	0.0500	0.0415	83.0	54.0-120	
Benzylbutyl phthalate	0.0500	0.0513	103	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0470	94.0	8.00-158	
Di-n-butyl phthalate	0.0500	0.0430	86.0	1.00-120	
Diethyl phthalate	0.0500	0.0422	84.4	1.00-120	
Dimethyl phthalate	0.0500	0.0427	85.4	1.00-120	
Di-n-octyl phthalate	0.0500	0.0431	86.2	4.00-146	
Pyrene	0.0500	0.0513	103	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0394	78.8	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0365	73.0	22.0-147	
2-Chlorophenol	0.0500	0.0338	67.6	23.0-134	
2,4-Dichlorophenol	0.0500	0.0381	76.2	39.0-135	
2,4-Dimethylphenol	0.0500	0.0441	88.2	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0596	119	1.00-181	
2,4-Dinitrophenol	0.0500	0.0592	118	1.00-191	
2-Nitrophenol	0.0500	0.0421	84.2	29.0-182	
4-Nitrophenol	0.0500	0.0179	35.8	1.00-132	
Pentachlorophenol	0.0500	0.0366	73.2	14.0-176	
Phenol	0.0500	0.0185	37.0	5.00-120	

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0472	94.4	37.0-144	
(S) Nitrobenzene-d5			*76.5*	*15.0-314*	
(S) 2-Fluorobiphenyl			*86.2*	*22.0-127*	
(S) p-Terphenyl-d14			*95.8*	*29.0-141*	
(S) Phenol-d5			*30.9*	*8.00-424*	
(S) 2-Fluorophenol			*44.6*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*83.5*	*10.0-153*	

L1748378-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748378-01 06/25/24 02:27 • (MS) R4086423-4 06/25/24 02:48 • (MSD) R4086423-5 06/25/24 03:09

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	0.0416	0.0404	83.2	80.8	1	47.0-145			2.93	48
Acenaphthylene	0.0500	ND	0.0460	0.0447	92.0	89.4	1	33.0-145			2.87	74
Anthracene	0.0500	ND	0.0449	0.0445	89.8	89.0	1	27.0-133			0.895	66
Benzidine	0.100	ND	0.0465	0.0166	46.5	16.6	1	1.00-120		J3	94.8	40
Benzo(a)anthracene	0.0500	ND	0.0471	0.0456	94.2	91.2	1	33.0-143			3.24	53
Benzo(b)fluoranthene	0.0500	ND	0.0457	0.0450	91.4	90.0	1	24.0-159			1.54	71
Benzo(k)fluoranthene	0.0500	ND	0.0462	0.0457	92.4	91.4	1	11.0-162			1.09	63
Benzo(g,h,i)perylene	0.0500	ND	0.0440	0.0397	88.0	79.4	1	1.00-219			10.3	97
Benzo(a)pyrene	0.0500	ND	0.0454	0.0445	90.8	89.0	1	17.0-163			2.00	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0412	0.0408	82.4	81.6	1	33.0-184			0.976	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0439	0.0464	87.8	92.8	1	12.0-158			5.54	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0430	0.0405	86.0	81.0	1	36.0-166			5.99	76
4-Bromophenyl-phenylether	0.0500	ND	0.0463	0.0472	92.6	94.4	1	53.0-127			1.93	43
2-Chloronaphthalene	0.0500	ND	0.0406	0.0401	81.2	80.2	1	60.0-120			1.24	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0496	0.0485	99.2	97.0	1	25.0-158			2.24	61
Chrysene	0.0500	ND	0.0458	0.0438	91.6	87.6	1	17.0-168			4.46	87
Dibenz(a,h)anthracene	0.0500	ND	0.0438	0.0405	87.6	81.0	1	1.00-227			7.83	126
3,3-Dichlorobenzidine	0.100	ND	0.100	0.0954	100	95.4	1	1.00-262			4.71	108
2,4-Dinitrotoluene	0.0500	ND	0.0562	0.0538	112	108	1	39.0-139			4.36	42
2,6-Dinitrotoluene	0.0500	ND	0.0516	0.0499	103	99.8	1	50.0-158			3.35	48
1,2-Diphenylhydrazine	0.0500	ND	0.0469	0.0451	93.8	90.2	1	18.0-156	N2	N2	3.91	34
Fluoranthene	0.0500	ND	0.0492	0.0476	98.4	95.2	1	26.0-137			3.31	66
Fluorene	0.0500	ND	0.0457	0.0439	91.4	87.8	1	59.0-121			4.02	38
Hexachlorobenzene	0.0500	ND	0.0431	0.0436	86.2	87.2	1	1.00-152			1.15	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0435	0.0446	87.0	89.2	1	24.0-120			2.50	62
Hexachlorocyclopentadiene	0.0500	ND	0.0384	0.0393	76.8	78.6	1	10.0-146			2.32	34

L1748378-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748378-01 06/25/24 02:27 • (MS) R4086423-4 06/25/24 02:48 • (MSD) R4086423-5 06/25/24 03:09

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	0.0421	0.0408	84.2	81.6	1	40.0-120			3.14	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0430	0.0395	86.0	79.0	1	1.00-171			8.48	99
Isophorone	0.0500	ND	0.0423	0.0414	84.6	82.8	1	21.0-196			2.15	93
Naphthalene	0.0500	ND	0.0365	0.0363	73.0	72.6	1	21.0-133			0.549	65
Nitrobenzene	0.0500	ND	0.0409	0.0409	81.8	81.8	1	35.0-180			0.000	62
n-Nitrosodimethylamine	0.0500	ND	0.0446	0.0399	89.2	79.8	1	10.0-120			11.1	40
n-Nitrosodiphenylamine	0.0500	ND	0.0434	0.0437	86.8	87.4	1	16.0-160			0.689	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0490	0.0460	98.0	92.0	1	1.00-230			6.32	87
Phenanthrene	0.0500	ND	0.0446	0.0440	89.2	88.0	1	54.0-120			1.35	39
Benzylbutyl phthalate	0.0500	ND	0.0490	0.0500	98.0	100	1	1.00-152			2.02	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0446	0.0443	89.2	88.6	1	8.00-158			0.675	82
Di-n-butyl phthalate	0.0500	ND	0.0465	0.0468	93.0	93.6	1	1.00-120			0.643	47
Diethyl phthalate	0.0500	ND	0.0485	0.0470	97.0	94.0	1	1.00-120			3.14	100
Dimethyl phthalate	0.0500	ND	0.0481	0.0471	96.2	94.2	1	1.00-120			2.10	183
Di-n-octyl phthalate	0.0500	ND	0.0469	0.0449	93.8	89.8	1	4.00-146			4.36	69
Pyrene	0.0500	ND	0.0470	0.0480	94.0	96.0	1	52.0-120			2.11	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0401	0.0409	80.2	81.8	1	44.0-142			1.98	50
4-Chloro-3-methylphenol	0.0500	ND	0.0432	0.0385	86.4	77.0	1	22.0-147			11.5	73
2-Chlorophenol	0.0500	ND	0.0388	0.0346	77.6	69.2	1	23.0-134			11.4	61
2,4-Dichlorophenol	0.0500	ND	0.0419	0.0400	83.8	80.0	1	39.0-135			4.64	50
2,4-Dimethylphenol	0.0500	ND	0.0493	0.0463	98.6	92.6	1	32.0-120			6.28	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0619	0.0617	124	123	1	1.00-181			0.324	203
2,4-Dinitrophenol	0.0500	ND	0.0621	0.0572	124	114	1	1.00-191			8.21	132
2-Nitrophenol	0.0500	ND	0.0446	0.0443	89.2	88.6	1	29.0-182			0.675	55
4-Nitrophenol	0.0500	ND	0.0221	0.0186	44.2	37.2	1	1.00-132			17.2	131
Pentachlorophenol	0.0500	ND	0.0357	0.0354	71.4	70.8	1	14.0-176			0.844	86
Phenol	0.0500	ND	0.0226	0.0214	45.2	42.8	1	5.00-120			5.45	64
2,4,6-Trichlorophenol	0.0500	ND	0.0504	0.0493	101	98.6	1	37.0-144			2.21	58
(S) Nitrobenzene-d5					*79.1*	*78.0*		*15.0-314*				
(S) 2-Fluorobiphenyl					*86.3*	*85.9*		*22.0-127*				
(S) p-Terphenyl-d14					*82.5*	*84.3*		*29.0-141*				
(S) Phenol-d5					*36.0*	*33.7*		*8.00-424*				
(S) 2-Fluorophenol					*51.5*	*48.0*		*10.0-120*				
(S) 2,4,6-Tribromophenol					*83.5*	*87.0*		*10.0-153*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

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	LAO000356
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.

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

Report to: **Paul Barbour**
Email To: **paul.barbour@dvn.com;asharma@ccrh2o.com**

Project Description: Destination Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET

Phone: **405-228-4308**
Client Project # 212C-MD-02831
Lab Project # **DEVENEOCOK-EFFLUENT**

Collected by (print): Danny Daniels
Site/Facility ID # CCR
P.O. #

Collected by (signature):
Immediately Packed on Ice N ____ Y ____
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
Quote #

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/hubfs/pas-standard-terms.pdf

SDG # L1746017
E220

Acctnum: **DEVENEOCOK**
Template: **T253875**
Prelogin: **P1083340**
PM: **3500 - Jennifer Gambill**
PB:
Shipped Via: **FedEx Ground**

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	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	Remarks	Sample # (lab only)
Pres Chk								27			27	27						
CCR CLEAN EFFLUENT	G	GW		6-18-24	1000	27	X	X	X	X			X	X	X			-01
CCR CLEAN EFFLUENT PFAS	G	GW		6-18-24	1000	2										X		
CCR CLEAN EFFLUENT RAD	G	NPW		6-18-24	1000	4					X	X						

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	
	6-18-24	1600	Grace Richards		
Relinquished by : (Signature) Grace Richards	Date: 6/18/24	Time: 1430	Received by: (Signature)	Temp: FEDEX 1.6+0.3=1.9 Bottles Received: 32	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Ei Dawn	Date: 6-19-24 Time: 0800	Hold: / Condition: NCF / OK

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 2 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/hubfs/pas-standard-terms.pdf

Report to: **Paul Barbour**

Email To: **paul.barbour@dvn.com;asharma@ccrh2o.com**

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: **405-228-4308**

Client Project # 212C-HW-02831

Lab Project # **DEVENEOCOK-EFFLUENT**

SDG # L1746073

Table #

Collected by (print): Donny Pounds

Site/Facility ID # CCR

P.O. #

Acctnum: **DEVENEOCOK**
Template: **T253875**
Prelogin: **P1083340**
PM: **3500 - Jennifer Gambill**
PB:

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 #

Date Results Needed

Immediately Packed on Ice N ___ Y ✓

Shipped Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-228 1L-HDPE-Add-HNO3	SPCON 250mlHDPE-NoPres	TDS,CR6,CR3 1L-HDPE-NoPres	TOC 250mlAmb-HCl	TSS 1L-HDPE NoPres	UV-254 100ml Amb NoPres	V624.1 40mlAmb-HCl				Remarks	Sample # (lab only)
CCR CLEAN EFFLUENT	G	GW		6-18-24	1000	27		X	X	X	X	X	X					-01
CCR CLEAN EFFLUENT PFAS	G	GW				2												
CCR CLEAN EFFLUENT RAD	G	NPW		6-18-24	1000	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 _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	6-18-24	1600	Grace Richards		
Relinquished by : (Signature)	**Date:**	**Time:**	**Received by: (Signature)**	**Temp:** EDA6 °C	**Bottles Received:**
Grace Richards	6/18/24	16:30		1.6+0.3F	1.9 32
Relinquished by : (Signature)	**Date:**	**Time:**	**Received for lab by: (Signature)**	**Date:**	**Time:**
			Ei Dawn 17	6-19-24	0800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®

ANALYTICAL REPORT

July 16, 2024

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

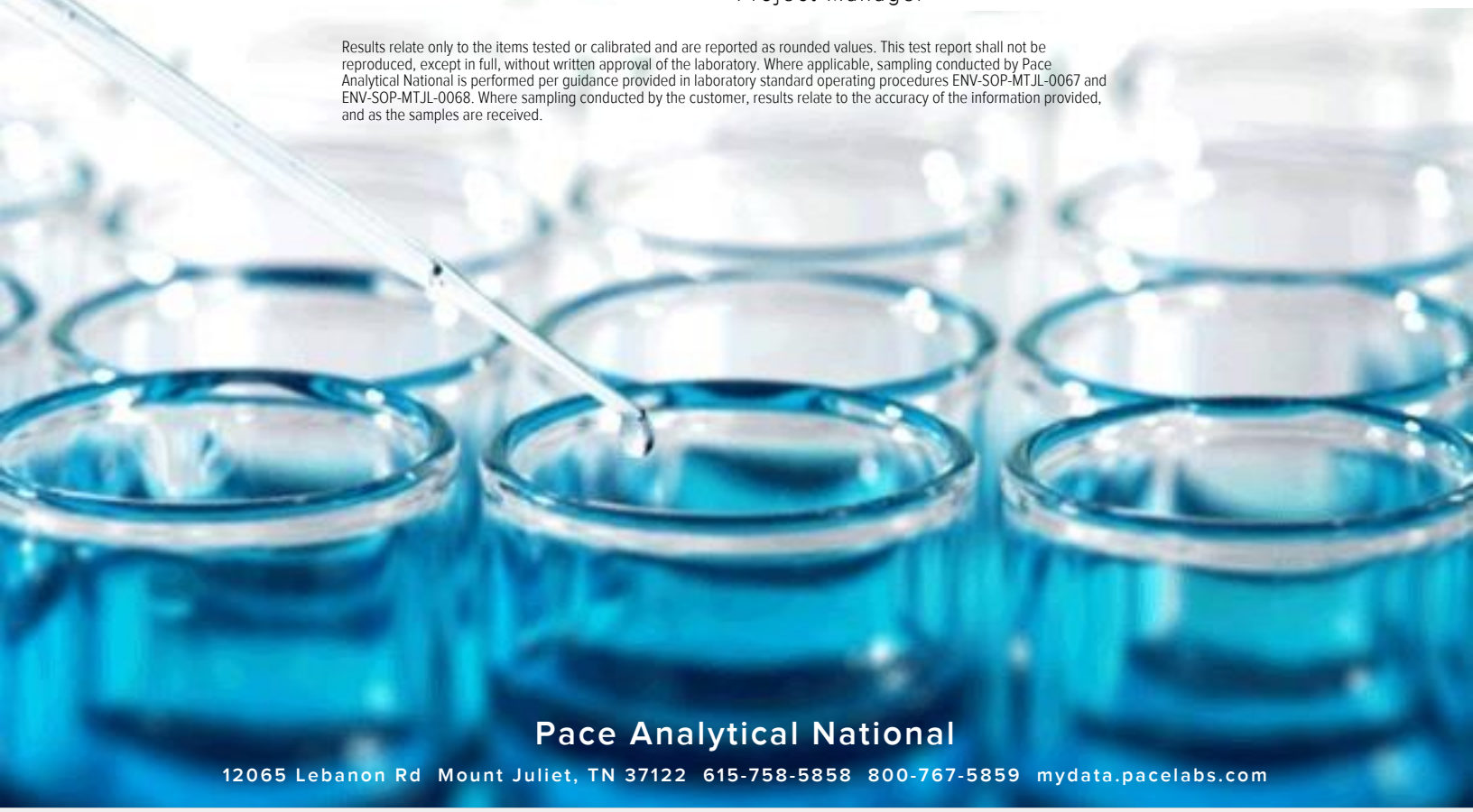
Devon Energy - Oklahoma City, OK

Sample Delivery Group:	L1748020
Samples Received:	06/19/2024
Project Number:	212C-HN-02831
Description:	Desalintion Pilot
Site:	NM
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

TABLE OF CONTENTS

CCR CLEAN EFFLUENT PFAS L1748020-01 GW

Collected by	Collected date/time	Received date/time
DD	06/18/24 10:00	06/19/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2308092	1	07/05/24 00:00	07/05/24 00:00	ANF	Beaver, WV 25813
Subcontracted Analyses	WG2308102	1	07/05/24 00:00	07/05/24 00:00	ANF	East Longmeadow, MA 01028

CASE NARRATIVE

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

L1748020 -01 contains subout data that is included after the chain of custody.

GLOSSARY OF TERMS

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.

ACCREDITATIONS & LOCATIONS

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.

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

Report to: Paul Barbour
Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Destruction Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET

Phone: 405-228-4308
Client Project # 212C-MN-02831
Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Reynolds
Site/Facility ID # CCR
P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y ___
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
Quote #

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/hubfs/pas-standard-terms.pdf

SDG # L1746020
E220

Account: DEVENEOCOK
Template: T253875
Prelogin: P1083340
PM: 3500 - Jennifer Gambill
PB:
Shipped Via: FedEx Ground

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	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	Remarks	Sample # (lab only)
Pre Chk								27			27	27						
CCR CLEAN EFFLUENT	G	GW		6-18-24	1000	27	X	X	X	X			X	X	X			
CCR CLEAN EFFLUENT PFAS	G	GW		6-18-24	1000	2										X		-01
CCR CLEAN EFFLUENT RAD	G	NPW		6-18-24	1000	4					X	X						

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	6-18-24	1600	Grace Richards	
Relinquished by : (Signature)	**Date:**	**Time:**	**Received by: (Signature)**	**Temp: FEDAC 1.6+0.3=1.9 Bottles Received: 32**
Grace Richards	6/18/24	1430		
Relinquished by : (Signature)	**Date:**	**Time:**	**Received for lab by: (Signature)**	**Date: Time:**
			Ei Rann	6-19-24 0800

If preservation required by Login: Date/Time
Hold:
Condition: NCF / OK

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-HW-02831

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # CCR

P.O. #

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 #

Date Results Needed

Immediately Packed on Ice N ___ Y ___

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-228 1L-HDPE-Add-HNO3	SPCON 250mlHDPE-NoPres	TDS,CR6,CR3 1L-HDPE-NoPres	TOC 250mlAmb-HCl	TSS 1L-HDPE NoPres	UV-254 100ml Amb NoPres	V624.1 40mlAmb-HCl			Remarks	Sample # (lab only)
CCR CLEAN EFFLUENT	G	GW		6-18-24	1000	27		X	X	X	X	X	X				
CCR CLEAN EFFLUENT PFAS	G	GW				2											
CCR CLEAN EFFLUENT RAD	G	NPW		6-18-24	1000	4	X										

Chain of Custody Page 1 of 1

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/hubfs/pas-standard-terms.pdf

SDG # L1748020

Table #

Acctnum: DEVENEOCOK
Template: T253875
Prelogin: P1083340
PM: 3500 - Jennifer Gambill
PB:

Shipped Via: FedEX Ground

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	6-18-24	1600	Grace Richards	
Relinquished by : (Signature) Grace Richards	6/18/24	16:20	Received by: (Signature)	Temp: EDA 6 °C 1.6+0.3=1.9 Bottles Received: 32
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Ei Dawn 17	Date: 6-19-24 Time: 0800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

con-test®
A Pace Analytical® Laboratory

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

July 3, 2024

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

Project Location: NM
Client Job Number:
Project Number: WG2308102
Laboratory Work Order Number: 24F2889

Enclosed are results of analyses for samples as received by the laboratory on June 20, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kaitlyn A. Feliciano
Project Manager

Table of Contents

con-test
A Pace Analytical® Laboratory

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: 7/3/2024

PURCHASE ORDER NUMBER: L1748020

PROJECT NUMBER: WG2308102

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24F2889

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	24F2889-01	Ground Water		Draft Method 1633	

con-test
A Pace Analytical® Laboratory

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

CASE NARRATIVE SUMMARY

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

Draft Method 1633

Qualifications:

H-01

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

Analyte & Samples(s) Qualified:

Total Suspended Solids
24F2889-01[CCR CLEAN EFFLUENT 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.

Lisa A. Worthington
Technical Representative

con-test
A Pace Analytical® Laboratory
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NM
Sample Description:
Work Order: 24F2889
Date Received: 6/20/2024
Field Sample #: CCR CLEAN EFFLUENT PFAS
Sampled: 6/18/2024 10:00
Sample ID: 24F2889-01
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	6/28/24	7/2/24 3:16	AMS
Perfluoropentanoic acid (PFPeA)	ND	2.0	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorohexanoic acid (PFHxA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorooctanoic acid (PFOA)	1.0	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorononanoic acid (PFNA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorodecanoic acid (PFDA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorobutanesulfonic acid (PFBS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorooctanesulfonic acid (PFOS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.99	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	49	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	49	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	2.0	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	2.0	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS

con-test
A Pace Analytical® Laboratory

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

Project Location: NM
Sample Description:
Work Order: 24F2889

Date Received: 6/20/2024

Field Sample #: CCR CLEAN EFFLUENT PFAS
Sampled: 6/18/2024 10:00

Sample ID: 24F2889-01

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	2.0	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	2.0	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:16	AMS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C4-PFBA	83.6	10-130		7/2/24 3:16
13C5-PFPeA	82.0	35-150		7/2/24 3:16
13C5-PFHxA	82.8	55-150		7/2/24 3:16
13C4-PFHpA	78.8	55-150		7/2/24 3:16
13C8-PFOA	87.1	60-140		7/2/24 3:16
13C9-PFNA	80.3	55-140		7/2/24 3:16
13C6-PFDA	75.4	50-140		7/2/24 3:16
13C7-PFUnA	72.6	30-140		7/2/24 3:16
13C2-PFDoA	69.6	10-150		7/2/24 3:16
13C2-PFTeDA	68.5	10-130		7/2/24 3:16
13C3-PFBS	85.6	55-150		7/2/24 3:16
13C3-PFHxS	82.7	55-150		7/2/24 3:16
13C8-PFOS	77.7	45-140		7/2/24 3:16
13C2-4:2FTS	65.7	60-200		7/2/24 3:16
13C2-6:2FTS	77.1	60-200		7/2/24 3:16
13C2-8:2FTS	66.0	50-200		7/2/24 3:16
13C8-PFOSA	74.2	30-130		7/2/24 3:16
D3-NMeFOSA	59.0	15-130		7/2/24 3:16
D5-NEtFOSA	55.6	10-130		7/2/24 3:16
D3-NMeFOSAA	79.8	45-200		7/2/24 3:16
D5-NEtFOSAA	71.7	10-200		7/2/24 3:16
D7-NMeFOSE	64.0	10-150		7/2/24 3:16
D9-NEtFOSE	57.3	10-150		7/2/24 3:16
13C3-HFPO-DA	82.6	25-160		7/2/24 3:16

con-test
A Pace Analytical® Laboratory

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

Project Location: NM
Sample Description:
Work Order: 24F2889

Date Received: 6/20/2024

Field Sample #: CCR CLEAN EFFLUENT PFAS
Sampled: 6/18/2024 10:00

Sample ID: 24F2889-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Suspended Solids	ND	10	mg/L	1	H-01	Draft Method 1633	6/25/24	6/25/24 13:00	LL

con-test
A Pace Analytical® Laboratory

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

Sample Extraction Data

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 6/25/2024 per NO PREP in Batch B378179**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24F2889-01 [CCR CLEAN EFFLUENT PFAS]	B378029	507	5.00	06/28/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24F2889-01 [CCR CLEAN EFFLUENT PFAS]	B378179	50.0	06/25/24

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
Blank (B378029-BLK1)				Prepared: 06/28/24 Analyzed: 07/01/24						
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 perfluoroocatnesulfonamide (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 (PFEESA)	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	*81.2*		ng/L	97.5		83.3	10-130			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
Blank (B378029-BLK1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Surrogate: 13C5-PFPeA	*39.9*		ng/L	48.7		81.8	35-150			
Surrogate: 13C5-PFHxA	*19.7*		ng/L	24.4		81.0	55-150			
Surrogate: 13C4-PFHpA	*18.8*		ng/L	24.4		77.3	55-150			
Surrogate: 13C8-PFOA	*20.2*		ng/L	24.4		83.0	60-140			
Surrogate: 13C9-PFNA	*10.2*		ng/L	12.2		83.4	55-140			
Surrogate: 13C6-PFDA	*9.71*		ng/L	12.2		79.7	50-140			
Surrogate: 13C7-PFUnA	*9.55*		ng/L	12.2		78.4	30-140			
Surrogate: 13C2-PFDoA	*9.16*		ng/L	12.2		75.1	10-150			
Surrogate: 13C2-PFTeDA	*9.27*		ng/L	12.2		76.1	10-130			
Surrogate: 13C3-PFBS	*20.3*		ng/L	24.4		83.5	55-150			
Surrogate: 13C3-PFHxS	*19.8*		ng/L	24.4		81.4	55-150			
Surrogate: 13C8-PFOS	*20.3*		ng/L	24.4		83.2	45-140			
Surrogate: 13C2-4:2FTS	*35.9*		ng/L	48.7		73.6	60-200			
Surrogate: 13C2-6:2FTS	*35.7*		ng/L	48.7		73.3	60-200			
Surrogate: 13C2-8:2FTS	*32.8*		ng/L	48.7		67.2	50-200			
Surrogate: 13C8-PFOSA	*18.5*		ng/L	24.4		76.1	30-130			
Surrogate: D3-NMeFOSA	*14.1*		ng/L	24.4		58.0	15-130			
Surrogate: D5-NEtFOSA	*14.4*		ng/L	24.4		59.3	10-130			
Surrogate: D3-NMeFOSAA	*37.9*		ng/L	48.7		77.8	45-200			
Surrogate: D5-NEtFOSAA	*35.5*		ng/L	48.7		72.9	10-200			
Surrogate: D7-NMeFOSE	*166*		ng/L	244		68.0	10-150			
Surrogate: D9-NEtFOSE	*146*		ng/L	244		60.0	10-150			
Surrogate: 13C3-HFPO-DA	*86.4*		ng/L	97.5		88.6	25-160			
LCS (B378029-BS1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Perfluorobutanoic acid (PFBA)	93.2	3.9	ng/L	94.5		98.6	58-148			
Perfluoropentanoic acid (PFPeA)	46.6	2.0	ng/L	47.2		98.6	54-152			
Perfluorohexanoic acid (PFHxA)	23.5	0.98	ng/L	23.6		99.6	55-152			
Perfluoroheptanoic acid (PFHpA)	23.3	0.98	ng/L	23.6		98.5	54-154			
Perfluorooctanoic acid (PFOA)	22.7	0.98	ng/L	23.6		96.0	52-161			
Perfluorononanoic acid (PFNA)	22.9	0.98	ng/L	23.6		96.8	59-149			
Perfluorodecanoic acid (PFDA)	22.4	0.98	ng/L	23.6		94.7	52-147			
Perfluoroundecanoic acid (PFUnA)	24.4	0.98	ng/L	23.6		103	48-159			
Perfluorododecanoic acid (PFDoA)	23.4	0.98	ng/L	23.6		99.0	64-142			
Perfluorotridecanoic acid (PFTrDA)	21.7	0.98	ng/L	23.6		91.9	49-148			
Perfluorotetradecanoic acid (PFTeDA)	23.0	0.98	ng/L	23.6		97.4	47-161			
Perfluorobutanesulfonic acid (PFBS)	21.0	0.98	ng/L	21.0		100	62-144			
Perfluoropentanesulfonic acid (PFPeS)	21.8	0.98	ng/L	22.2		98.1	59-151			
Perfluorohexanesulfonic acid (PFHxS)	19.7	0.98	ng/L	21.6		91.0	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	22.1	0.98	ng/L	22.5		98.4	55-152			
Perfluorooctanesulfonic acid (PFOS)	20.8	0.98	ng/L	21.9		94.8	58-149			
Perfluorononanesulfonic acid (PFNS)	22.7	0.98	ng/L	22.7		99.6	52-148			
Perfluorodecanesulfonic acid (PFDS)	20.9	0.98	ng/L	22.8		91.7	51-147			
Perfluorododecanesulfonic acid (PFDoS)	18.7	0.98	ng/L	22.9		81.6	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	91.2	3.9	ng/L	88.6		103	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	95.6	3.9	ng/L	89.8		107	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	85.9	3.9	ng/L	90.9		94.5	63-152			
Perfluorooctanesulfonamide (PFOSA)	23.1	0.98	ng/L	23.6		97.8	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	23.0	0.98	ng/L	23.6		97.5	63-145			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
LCS (B378029-BS1)				Prepared: 06/28/24 Analyzed: 07/01/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	23.3	0.98	ng/L	23.6		98.6	65-139			
N-MeFOSAA (NMeFOSAA)	22.0	0.98	ng/L	23.6		93.0	58-144			
N-EtFOSAA (NEtFOSAA)	21.6	0.98	ng/L	23.6		91.3	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	245	9.8	ng/L	236		104	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	246	9.8	ng/L	236		104	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	101	3.9	ng/L	94.5		107	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	95.9	3.9	ng/L	89.2		108	68-146			
9Cl-PF3ONS (F53B Minor)	93.6	3.9	ng/L	88.6		106	56-156			
11Cl-PF3OUdS (F53B Major)	89.4	3.9	ng/L	89.2		100	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	230	9.8	ng/L	236		97.2	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1150	49	ng/L	1180		97.5	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1040	49	ng/L	1180		87.7	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	40.0	2.0	ng/L	42.0		95.1	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	44.6	2.0	ng/L	47.2		94.4	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	42.6	2.0	ng/L	47.2		90.2	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	44.2	2.0	ng/L	47.2		93.5	48-161			
Surrogate: 13C4-PFBA	*80.7*		ng/L	98.4		82.0	10-130			
Surrogate: 13C5-PFPeA	*39.9*		ng/L	49.2		81.2	35-150			
Surrogate: 13C5-PFHxA	*19.7*		ng/L	24.6		80.2	55-150			
Surrogate: 13C4-PFHpA	*18.0*		ng/L	24.6		73.3	55-150			
Surrogate: 13C8-PFOA	*21.0*		ng/L	24.6		85.3	60-140			
Surrogate: 13C9-PFNA	*9.90*		ng/L	12.3		80.5	55-140			
Surrogate: 13C6-PFDA	*9.91*		ng/L	12.3		80.6	50-140			
Surrogate: 13C7-PFUnA	*9.20*		ng/L	12.3		74.7	30-140			
Surrogate: 13C2-PFDoA	*8.86*		ng/L	12.3		72.0	10-150			
Surrogate: 13C2-PFTeDA	*8.38*		ng/L	12.3		68.1	10-130			
Surrogate: 13C3-PFBS	*20.2*		ng/L	24.6		81.9	55-150			
Surrogate: 13C3-PFHxS	*19.8*		ng/L	24.6		80.3	55-150			
Surrogate: 13C8-PFOS	*19.1*		ng/L	24.6		77.8	45-140			
Surrogate: 13C2-4:2FTS	*36.5*		ng/L	49.2		74.3	60-200			
Surrogate: 13C2-6:2FTS	*36.9*		ng/L	49.2		74.9	60-200			
Surrogate: 13C2-8:2FTS	*35.3*		ng/L	49.2		71.7	50-200			
Surrogate: 13C8-PFOSA	*17.7*		ng/L	24.6		72.1	30-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	24.6		58.9	15-130			
Surrogate: D5-NEtFOSA	*14.5*		ng/L	24.6		58.9	10-130			
Surrogate: D3-NMeFOSAA	*36.8*		ng/L	49.2		74.7	45-200			
Surrogate: D5-NEtFOSAA	*33.4*		ng/L	49.2		67.8	10-200			
Surrogate: D7-NMeFOSE	*157*		ng/L	246		63.7	10-150			
Surrogate: D9-NEtFOSE	*142*		ng/L	246		57.9	10-150			
Surrogate: 13C3-HFPO-DA	*77.4*		ng/L	98.4		78.6	25-160			
MRL Check (B378029-MRL1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Perfluorobutanoic acid (PFBA)	7.17	3.9	ng/L	7.80		92.0	44-157			
Perfluoropentanoic acid (PFPeA)	3.52	1.9	ng/L	3.90		90.2	57-148			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
MRL Check (B378029-MRL1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Perfluorohexanoic acid (PFHxA)	1.79	0.97	ng/L	1.95		91.8	62-149			
Perfluoroheptanoic acid (PFHpA)	1.69	0.97	ng/L	1.95		87.0	56-150			
Perfluorooctanoic acid (PFOA)	1.91	0.97	ng/L	1.95		98.2	57-161			
Perfluorononanoic acid (PFNA)	1.62	0.97	ng/L	1.95		83.3	53-157			
Perfluorodecanoic acid (PFDA)	1.68	0.97	ng/L	1.95		86.3	43-158			
Perfluoroundecanoic acid (PFUnA)	1.44	0.97	ng/L	1.95		73.7	50-155			
Perfluorododecanoic acid (PFDoA)	1.69	0.97	ng/L	1.95		86.5	60-141			
Perfluorotridecanoic acid (PFTrDA)	1.62	0.97	ng/L	1.95		83.3	52-140			
Perfluorotetradecanoic acid (PFTeDA)	1.63	0.97	ng/L	1.95		83.8	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.43	0.97	ng/L	1.73		82.7	63-145			
Perfluoropentanesulfonic acid (PFPeS)	1.51	0.97	ng/L	1.83		82.6	58-144			
Perfluorohexanesulfonic acid (PFHxS)	1.53	0.97	ng/L	1.78		85.6	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	1.51	0.97	ng/L	1.86		81.3	51-150			
Perfluorooctanesulfonic acid (PFOS)	1.64	0.97	ng/L	1.81		90.5	43-162			
Perfluorononanesulfonic acid (PFNS)	1.57	0.97	ng/L	1.88		83.9	46-151			
Perfluorodecanesulfonic acid (PFDS)	1.45	0.97	ng/L	1.88		76.9	50-144			
Perfluorododecanesulfonic acid (PFDoS)	1.27	0.97	ng/L	1.89		67.4	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	6.50	3.9	ng/L	7.31		88.9	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	6.78	3.9	ng/L	7.41		91.5	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	6.21	3.9	ng/L	7.50		82.8	46-165			
Perfluorooctanesulfonamide (PFOSA)	1.64	0.97	ng/L	1.95		84.4	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.77	0.97	ng/L	1.95		90.6	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.70	0.97	ng/L	1.95		87.2	49-156			
N-MeFOSAA (NMeFOSAA)	1.60	0.97	ng/L	1.95		82.3	32-160			
N-EtFOSAA (NEtFOSAA)	1.73	0.97	ng/L	1.95		88.6	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	17.6	9.7	ng/L	19.5		90.5	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	17.5	9.7	ng/L	19.5		89.6	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.11	3.9	ng/L	7.80		91.2	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	6.23	3.9	ng/L	7.36		84.7	61-148			
9Cl-PF3ONS (F53B Minor)	6.11	3.9	ng/L	7.31		83.5	44-167			
11Cl-PF3OUdS (F53B Major)	5.66	3.9	ng/L	7.36		77.0	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	15.6	9.7	ng/L	19.5		80.2	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	80.2	49	ng/L	97.5		82.3	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	73.1	49	ng/L	97.5		75.0	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	2.73	1.9	ng/L	3.47		78.7	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.20	1.9	ng/L	3.90		82.1	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.07	1.9	ng/L	3.90		78.6	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.38	1.9	ng/L	3.90		86.7	47-160			
Surrogate: 13C4-PFBA	*80.9*		ng/L	97.5		83.0	10-130			
Surrogate: 13C5-PFPeA	*40.0*		ng/L	48.7		82.1	35-150			
Surrogate: 13C5-PFHxA	*19.7*		ng/L	24.4		80.9	55-150			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
MRL Check (B378029-MRL1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Surrogate: 13C4-PFHpA	*18.5*		ng/L	24.4		76.0	55-150			
Surrogate: 13C8-PFOA	*20.6*		ng/L	24.4		84.7	60-140			
Surrogate: 13C9-PFNA	*9.90*		ng/L	12.2		81.3	55-140			
Surrogate: 13C6-PFDA	*9.72*		ng/L	12.2		79.8	50-140			
Surrogate: 13C7-PFUnA	*9.68*		ng/L	12.2		79.4	30-140			
Surrogate: 13C2-PFDoA	*8.45*		ng/L	12.2		69.4	10-150			
Surrogate: 13C2-PFTeDA	*8.60*		ng/L	12.2		70.6	10-130			
Surrogate: 13C3-PFBS	*21.3*		ng/L	24.4		87.2	55-150			
Surrogate: 13C3-PFHxS	*20.3*		ng/L	24.4		83.2	55-150			
Surrogate: 13C8-PFOS	*20.3*		ng/L	24.4		83.2	45-140			
Surrogate: 13C2-4:2FTS	*37.1*		ng/L	48.7		76.2	60-200			
Surrogate: 13C2-6:2FTS	*35.8*		ng/L	48.7		73.5	60-200			
Surrogate: 13C2-8:2FTS	*36.8*		ng/L	48.7		75.6	50-200			
Surrogate: 13C8-PFOSA	*17.4*		ng/L	24.4		71.6	30-130			
Surrogate: D3-NMeFOSA	*13.9*		ng/L	24.4		57.2	15-130			
Surrogate: D5-NEtFOSA	*14.6*		ng/L	24.4		59.8	10-130			
Surrogate: D3-NMeFOSAA	*39.0*		ng/L	48.7		80.0	45-200			
Surrogate: D5-NEtFOSAA	*32.5*		ng/L	48.7		66.6	10-200			
Surrogate: D7-NMeFOSE	*154*		ng/L	244		63.1	10-150			
Surrogate: D9-NEtFOSE	*142*		ng/L	244		58.3	10-150			
Surrogate: 13C3-HFPO-DA	*78.7*		ng/L	97.5		80.7	25-160			

con-test
A Pace Analytical® Laboratory

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 B378179 - Draft Method 1633										
Blank (B378179-BLK1)				Prepared & Analyzed: 06/25/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B378179-BS1)				Prepared & Analyzed: 06/25/24						
Total Suspended Solids	207	5.0	mg/L	200		104	51.5-130			

con-test®
A Pace Analytical® Laboratory

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

FLAG/QUALIFIER SUMMARY

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

con-test
A Pace Analytical® Laboratory

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 perfluoroocatnesulfonamide (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 (PFEESA)	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

con-test®
A Pace Analytical® Laboratory

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

24F2889
KAF

Sub-Contract Chain of Custody

Batch Date/Time: 06/19/24 12:46
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: WG2308102
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/18/24
ESC Purchase Order #: L1748020
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
CCR CLEAN EFFLUENT PFAS	GW	NM	06/18/24 10:00	SUBPFAS1633	2. L1748020-01	

Relinquished by: _____ **Date** 6-19-24
Recieved by: AB 2.3 **Date** 6-20-24
Relinquished by: _____ **Date** _____
Recieved by: _____ **Date** _____

FedEx

FedEx® Tracking

DELIVERED

Thursday

6/20/24 at 10:01 AM

Signed for by: A.MULINARE

Obtain proof of delivery

How was your delivery?

DELIVERY STATUS

Delivered

Report missing package

TRACKING ID

731532056490

FROM
MOUNT JULIET, TN US

Label Created
6/19/24 4:17 PM

ON THE WAY
WINDSOR LOCKS, CT
6/20/24 7:30 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT
6/20/24 7:38 AM

DELIVERED
East Longmeadow, MA US

Delivered
6/20/24 at 10:01 AM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

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

Log In Back-Sheet

Client Pace

Project NA

MCP/RCP Required NA

Deliverable Package Requirement NA

Location ~~12065 Lebanon RD~~ NAAB

PWSID# (When Applicable) NA

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time AB 6/20/24

Back-Sheet By / Date / Time AB 6/20/24 12:28

Temperature Method temp gun # 4

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 2.3

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☑	☐
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

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

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

Sample																					
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																				
8oz Amb/Clear																					
4oz Amb/Clear																					
2oz Amb/Clear																					
Unpreserved	Ambers	1 Liter																			
HCL																					
Sulfuric																					
Sulfuric		250mL																			
Phosphoric																					
HCl																					
Unpreserved		100mL																			
Unpreserved	Plastics	1 Liter																			
Sulfuric																					
Unpreserved		500mL																			
Sulfuric																					
Unpreserved		250mL																			
Trizma																					
Sulfuric																					
Nitric																					
NaOH																					
Ammonium Acetate																					
NaOH/Zinc																					
Unpreserved	VOA Vials																				
HCl																					
MeOH																					
D.I. Water																					
BiSulfate																					
Col/Bact	Other/Fill in																				
500mL Plastic Trizma																					

Qualtrax ID: 120836

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 05, 2024

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

RE: Project: L1748020
Pace Project No.: 30694036

Dear Subout Team:

Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 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 Yasurek

Nikayla M. Yasurek
nikayla.yasurek@pacelabs.com
(724)850-5600
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: L1748020
Pace Project No.: 30694036

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: L1748020
Pace Project No.: 30694036

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30694036001	**L1748020-01**	Water	06/18/24 10:00	06/20/24 10:10

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: L1748020
Pace Project No.: 30694036

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30694036001	**L1748020-01**	SM 5910B-11	SDW	1	PASI-BV

PASI-BV = Pace Analytical Services - Beaver

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: L1748020
Pace Project No.: 30694036

Sample: L1748020-01 **Lab ID: 30694036001** Collected: 06/18/24 10:00 Received: 06/20/24 10:10 Matrix: Water

Comments: • Per client, run out of hold.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
UV254 SUVA Absorbing Organincs	Analytical Method: SM 5910B-11 Pace Analytical Services - Beaver							
U254 UV Absorbing Organic	**0.010**	cm-1	0.0030	1		06/21/24 14:42		H3,N2

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: L1748020
Pace Project No.: 30694036

QC Batch: 677416
QC Batch Method: SM 5910B-11
Analysis Method: SM 5910B-11
Analysis Description: UV254 SUVA Absorbing Organincs
Laboratory: Pace Analytical Services - Beaver

Associated Lab Samples: 30694036001

METHOD BLANK: 3298745
Matrix: Water
Associated Lab Samples: 30694036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
U254 UV Absorbing Organic	cm-1	ND	0.0030	06/21/24 14:32	N2

LABORATORY CONTROL SAMPLE: 3298746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
U254 UV Absorbing Organic	cm-1	0.072	0.061	85	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.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: L1748020
Pace Project No.: 30694036

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.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1748020
Pace Project No.: 30694036

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30694036001	**L1748020-01**	SM 5910B-11	677416		

Sub-Contract Chain of Custody

Batch Date/Time: 06/19/24 12:41
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: WG2308092
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/03/24
ESC Purchase Order #: L1748020
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
CCR CLEAN EFFLUENT PFAS	GW	NM	06/18/24 10:00	UV-254	1. L1748020-01	UV-254

Relinquished by: _____ **Date** 6-19-24
Recieved by: _____ **Date** 6·20·24 1010
Relinquished by: _____ **Date** _____
Recieved by: _____ **Date** _____

WO# : 30694036
30694036

DC#_Title: ENV-FRM-BEAV-0058 v03_Pace WV Sample Condition Upon Receip
Effective Date: 2/8/2023

WO#: 30694036
PM: NMY Due Date: 07/05/24
CLIENT: ESC

LIMS30 Lab Sample Condition Upon Receipt (West Virgi

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 27 **Type of Ice:** (Wet) Blue None

Cooler Temperature **Observed Temp** 4 °C Correction Factor: 0 °C Final Temp: 4 °C

Thermal Preservation Requirement Met Yes ☑ No ☐

pH paper Lot#	Date and Initials of person examining contents:

	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. Sub
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
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: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous sample field filtered: -pH adjusted within 24 hours? (If yes, indicate acid lot #)			✓ ✓	13.
Filtered volume received for Dissolved tests:			✓	14.
All containers have been checked for chemical preservation: exceptions: VOA, coliform, O&G, LLMercury, Non-aqueous matrix			✓	15.
All containers meet method/chemical preservation requirements:			✓	Initial when completed: CDW Date: 6-20-24
				Tests not preserved:
Headspace in VOA Vials:			✓	16.
Trip Blank Present:			✓	17.
				Initial when completed: CDW Date: 6-20-24

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.

Pace Analytical®

ANALYTICAL REPORT

July 18, 2024

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

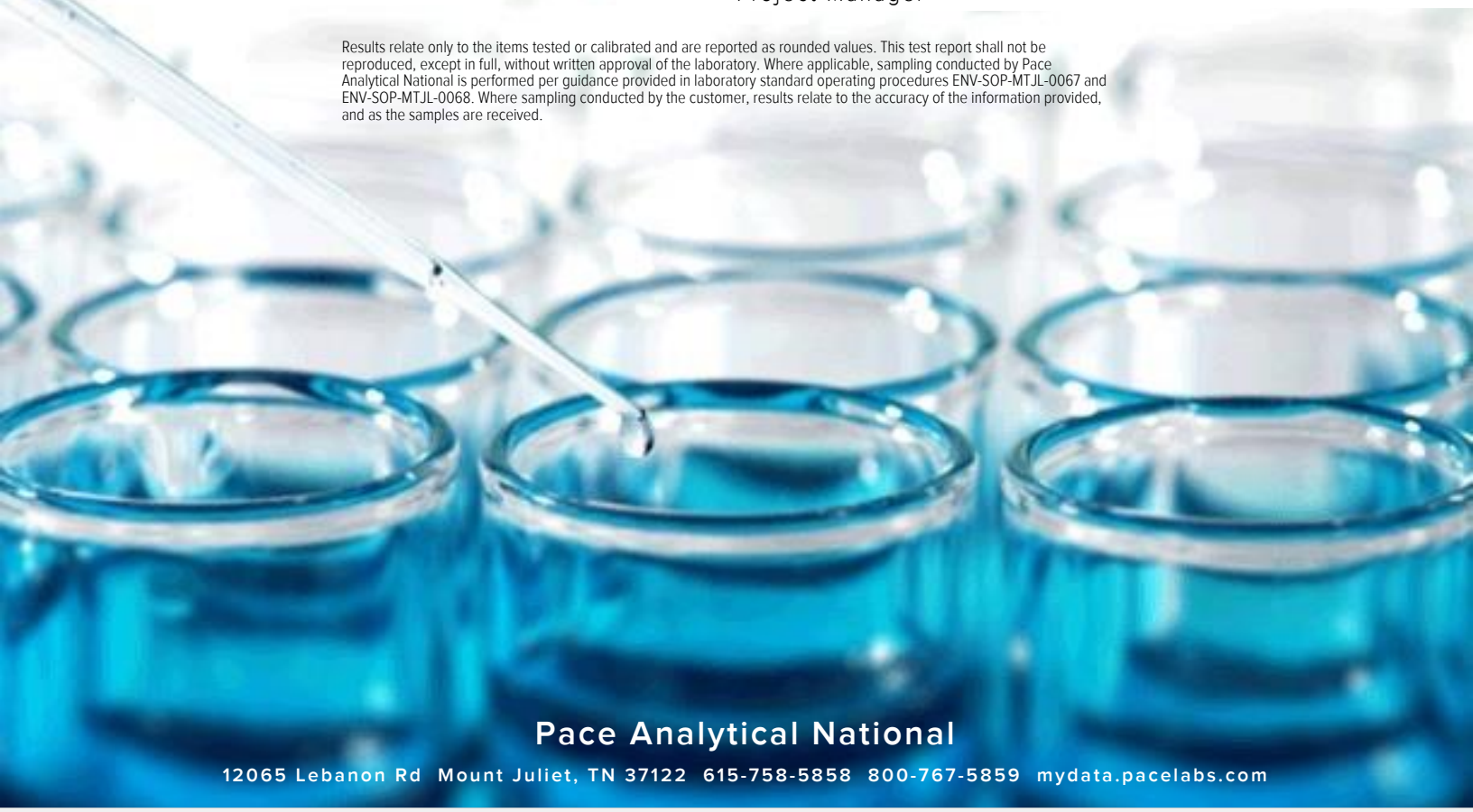
Devon Energy - Oklahoma City, OK

Sample Delivery Group:	L1748023
Samples Received:	06/19/2024
Project Number:	212C-HN-02831
Description:	Desalination Pilot
Report To:	Paul Barbour 333 W Sheridan Avenue Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

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

TABLE OF CONTENTS

CCR CLEAN EFFLUENT RAD L1748023-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/18/24 10:00	06/19/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG2310835	1	06/24/24 09:04	06/27/24 12:35	ALG	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2309149	1	06/21/24 21:36	07/05/24 17:29	DDD	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG2315459	1	07/06/24 11:43	07/08/24 23:25	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2309111	1	06/21/24 15:54	06/25/24 17:42	ZRG	Mt. Juliet, TN

CASE NARRATIVE

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.

Jennifer Gambill
Project Manager

Radiochemistry by Method 900

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
GROSS ALPHA	0.723		0.505	0.574	0.617	0.253	06/27/2024 12:35	WG2310835
GROSS BETA	0.585	J	1.30	1.37	1.72	0.828	06/27/2024 12:35	WG2310835

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.615		0.350	0.467	0.600	0.314	07/05/2024 17:29	WG2309149
(T) Barium	*106*					*30.0-143*	*07/05/2024 17:29*	WG2309149
(T) Yttrium	*74.0*					*30.0-136*	*07/05/2024 17:29*	WG2309149

Radiochemistry by Method D3972 U-02

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
URANIUM-234	-0.0436	U	0.230	0.439	0.550	0.385	07/08/2024 23:25	WG2315459
URANIUM-235	-0.0245	U	0.0638	0.273	0.335	0.277	07/08/2024 23:25	WG2315459
URANIUM-238	0.116	U	0.221	0.430	0.384	0.301	07/08/2024 23:25	WG2315459
(T) URANIUM-232	*53.6*					*30.0-110*	*07/08/2024 23:25*	WG2315459

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.568		0.338	0.470	0.320	0.224	06/25/2024 17:42	WG2309111
(T) Barium-133	*92.2*					*30.0-143*	*06/25/2024 17:42*	WG2309111

Method Blank (MB)

(MB) R4087325-1 06/27/24 12:35

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
GROSS ALPHA	0.148	U	0.445	0.666	0.272
GROSS BETA	-0.125	U	1.24	1.68	0.804

L1747966-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747966-01 06/27/24 12:35 • (DUP) R4087325-5 06/27/24 12:35

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	185	56.7	49.2	19.8	131	52.3	52.8	21.5	34.5	0.707		20	3
GROSS BETA	160	48.3	54.7	25.8	247	51.7	54.8	25.9	42.8	1.23		20	3

Laboratory Control Sample (LCS)

(LCS) R4087325-2 06/27/24 12:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	14.0	93.3	80.0-120	
GROSS BETA	40.2	43.0	107	80.0-120	

L1749017-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749017-01 06/27/24 12:35 • (MS) R4087325-3 06/27/24 12:35 • (MSD) R4087325-4 06/27/24 12:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	18.2	6.89	25.1	25.9	100	104	1	70.0-130			2.90		20
GROSS BETA	48.8	9.75	56.4	57.3	95.6	97.5	1	70.0-130			1.67		20

Method Blank (MB)

(MB) R4091735-1 07/05/24 17:29

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.466		0.216	0.368	0.192
(T) Barium	*90.3*		*90.3*		
(T) Yttrium	*106*		*106*		

L1748044-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748044-01 07/05/24 17:29 • (DUP) R4091735-5 07/05/24 17:29

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	0.604	0.409	0.708	0.373	0.215	0.297	0.522	0.276	94.9	0.769	U	20	3
(T) Barium	*105*				*98.0*	*98.0*							
(T) Yttrium	*73.3*				*108*	*108*							

Laboratory Control Sample (LCS)

(LCS) R4091735-2 07/05/24 17:29

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.91	98.2	80.0-120	
(T) Barium			*97.1*		
(T) Yttrium			*87.5*		

L1748527-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748527-01 07/05/24 17:29 • (MS) R4091735-3 07/05/24 17:29 • (MSD) R4091735-4 07/05/24 17:29

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.432	17.7	16.3	106	97.4	1	70.0-130			8.59		20
(T) Barium		*116*			*106*	*107*							
(T) Yttrium		*96.0*			*104*	*103*							

Method Blank (MB)

(MB) R4093343-3 07/11/24 22:38

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
URANIUM-234	0.0827		0.0420	0.0375	0.0259
URANIUM-235	0.00933	U	0.0173	0.0277	0.0209
URANIUM-238	0.0260	J	0.0236	0.0277	0.0209
(T) URANIUM-232	*75.9*		*75.9*		

L1750499-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750499-01 07/08/24 23:25 • (DUP) R4093343-2 07/08/24 23:25

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
URANIUM-234	0.386	0.359	0.371	0.306	0.545	0.517	0.644	0.450	34.2	0.253	J	20	3
URANIUM-235	0.0543	0.173	0.371	0.306	0.0411	0.198	0.450	0.353	27.6	0.0502	U	20	3
URANIUM-238	0.305	0.323	0.371	0.306	0.273	0.366	0.530	0.393	11.3	0.0672	J	20	3
(T) URANIUM-232	*47.1*				*45.8*	*45.8*							

Laboratory Control Sample (LCS)

(LCS) R4093343-1 07/08/24 23:25

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	5.03	5.52	110	80.0-120	
URANIUM-238	4.90	5.23	107	80.0-120	
(T) URANIUM-232			*58.0*		

L1748503-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748503-01 07/12/24 15:29 • (MS) R4093343-4 07/12/24 15:29 • (MSD) R4093343-5 07/12/24 15:29

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	1.36	20.7	21.5	96.1	100	1	75.0-125			4.03		20
URANIUM-238	19.6	0.839	20.6	23.1	101	114	1	75.0-125			11.8		20
(T) URANIUM-232		*82.8*			*85.0*	*82.4*							

Method Blank (MB)

(MB) R4087337-1 06/25/24 17:41

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	-0.0166	U	0.0386	0.0915	0.0614
(T) Barium-133	*83.6*		*83.6*		

L1748511-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748511-03 06/25/24 17:42 • (DUP) R4087337-5 06/25/24 17:41

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	-0.0726	0.154	0.364	0.243	-0.0164	0.233	0.433	0.278	0.000	0.201	U	20	3
(T) Barium-133	*84.3*				*82.8*	*82.8*							

Laboratory Control Sample (LCS)

(LCS) R4087337-2 06/25/24 17:41

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.11	102	75.0-125	
(T) Barium-133			*82.2*		

L1747363-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747363-03 06/25/24 17:41 • (MS) R4087337-3 06/25/24 17:41 • (MSD) R4087337-4 06/25/24 17:41

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	1.06	19.7	20.2	93.4	95.4	1	75.0-125			2.06		20
(T) Barium-133		*86.2*			*81.4*	*81.8*							

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

ACCREDITATIONS & LOCATIONS

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	LAO000356
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.

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

Report to: Paul Barbour
Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET

Phone: 405-228-4308
Client Project # 212C-MD-02831
Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels
Site/Facility ID # CCR
P.O. #

Collected by (signature):
Immediately Packed on Ice N ____ Y ____
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

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/hubfs/pas-standard-terms.pdf

SDG # L1746003
E220

Acctnum: DEVENEOCOK
Template: T253875
Prelogin: P1083340
PM: 3500 - Jennifer Gambill
PB:
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	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	Remarks	Sample # (lab only)
						Pres Chk		27			27	27						
CCR CLEAN EFFLUENT	G	GW		6-18-24	1000	27	X	X	X	X			X	X	X			
CCR CLEAN EFFLUENT PFAS	G	GW		6-18-24	1000	2										X		
CCR CLEAN EFFLUENT RAD	G	NPW		6-18-24	1000	4					X	X						-01

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	6-18-24	1600	Grace Richards	
Grace Richards	6/18/24	1430		Temp: FEDAC 1.6+0.3=1.9 Bottles Received: 32
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6-19-24 Time: 0800

If preservation required by Login: Date/Time
Hold:
Condition: NCF / OK

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-HW-02831

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # CCR

P.O. #

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 #

Date Results Needed

Immediately Packed on Ice N ___ Y ✓

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	RA-228 1L-HDPE-Add-HNO3	SPCON 250mlHDPE-NoPres	TDS,CR6,CR3 1L-HDPE-NoPres	TOC 250mlAmb-HCl	TSS 1L-HDPE NoPres	UV-254 100ml Amb NoPres	V624.1 40mlAmb-Hcl	Remarks	Sample # (lab only)
CCR CLEAN EFFLUENT	G	GW		6-18-24	1000	27		X	X	X	X	X	X		
CCR CLEAN EFFLUENT PFAS	G	GW				2									
CCR CLEAN EFFLUENT RAD	G	NPW		6-18-24	1000	4	X								-01

Chain of Custody Page 2 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/hubfs/pas-standard-terms.pdf

SDG # L1748523

Table #

Acctnum: DEVENEOCOK
Template: T253875
Prelogin: P1083340
PM: 3500 - Jennifer Gambill
PB:

Shipped Via: FedEX Ground

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	6-18-24	1600	Grace Richards	1
Relinquished by : (Signature) Grace Richards	6/18/24	16:20	Received by: (Signature)	Temp: EDA 6 °C 1.6+0.3=1.9 Bottles Received: 32
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Ei Dawn	Date: 6-19-24 Time: 0800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®

ANALYTICAL REPORT

July 16, 2024

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

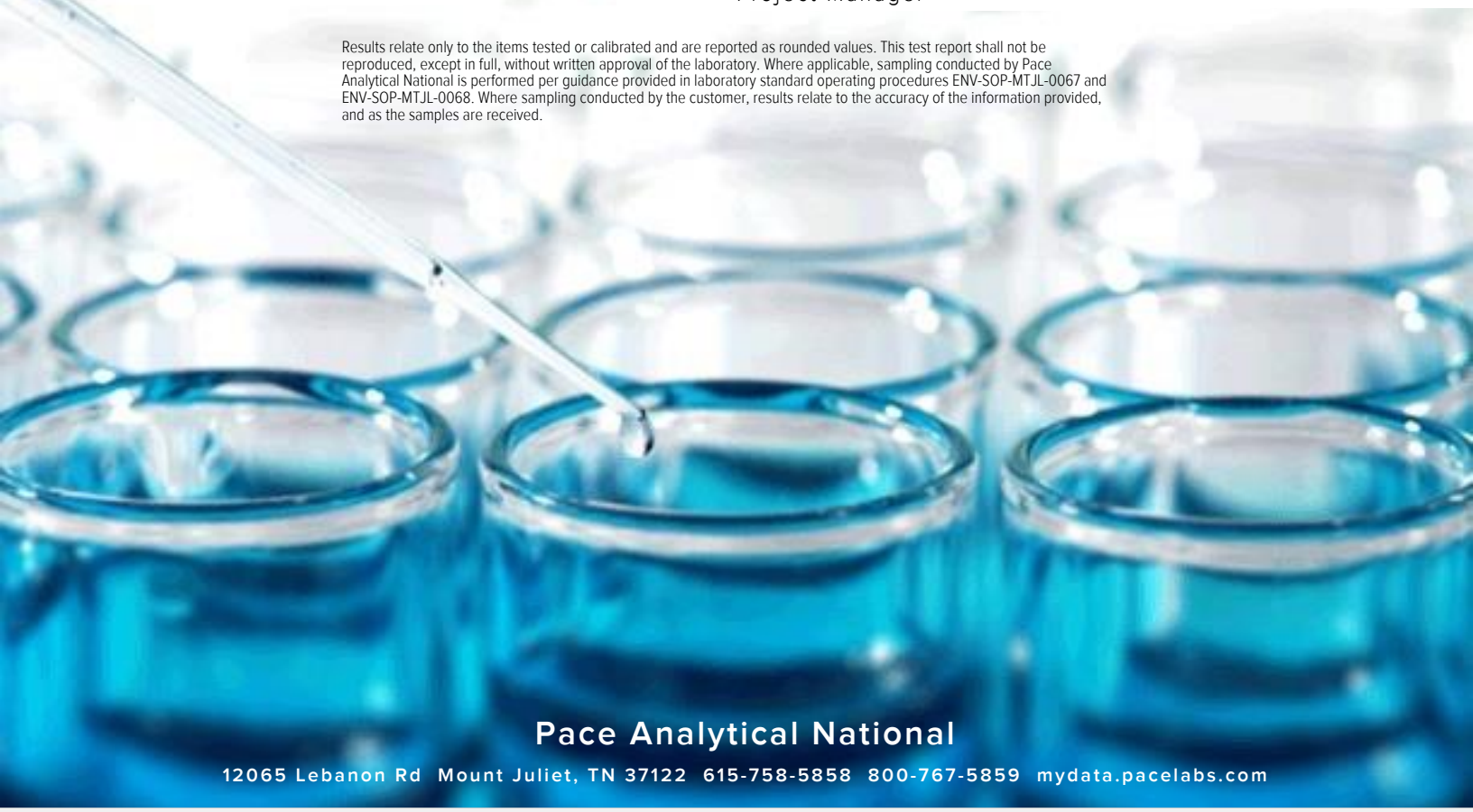
Devon Energy - Oklahoma City, OK

Sample Delivery Group:	L1748035
Samples Received:	06/19/2024
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
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

TABLE OF CONTENTS

FEED L1748035-01 WW

Collected by	Collected date/time	Received date/time
Danny Daniels	06/18/24 09:15	06/19/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311717	1	06/28/24 10:15	06/28/24 10:15	JTM	Mt. Juliet, TN
Calculated Results	WG2311974	1	06/27/24 15:50	06/27/24 15:50	JAS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2310335	1	06/22/24 16:12	06/23/24 09:09	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2309483	1	06/21/24 15:42	06/21/24 16:39	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2308089	1	06/21/24 14:30	06/21/24 14:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2311658	100	06/25/24 19:00	06/27/24 13:48	CAT	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2311324	1	06/25/24 02:02	06/25/24 09:59	MAB	Mt. Juliet, TN
Wet Chemistry by Method 2120 B-2011	WG2308465	1	06/20/24 08:37	06/20/24 08:37	ARV	Mt. Juliet, TN
Wet Chemistry by Method 2130 B-2011	WG2308063	1	06/19/24 12:45	06/19/24 12:45	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2309183	1	06/21/24 09:47	06/21/24 09:47	KA	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2310018	1	06/22/24 22:00	06/22/24 22:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2307978	100	06/19/24 23:51	06/19/24 23:51	JDG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2309479	100	06/22/24 23:51	06/22/24 23:51	JDG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2309479	1000	06/23/24 00:05	06/23/24 00:05	JDG	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2311974	200	06/26/24 15:25	06/26/24 15:25	LAS	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2308449	1	06/20/24 09:51	06/20/24 09:51	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2311378	100	06/25/24 08:35	06/27/24 15:50	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2307824	1	06/19/24 20:24	06/19/24 20:24	JAS	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG2309444	20	06/21/24 11:00	06/21/24 16:46	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500Cl G-2011	WG2308884	1	06/20/24 11:41	06/20/24 11:41	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2310563	1	06/25/24 10:00	06/25/24 22:08	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2307966	1	06/19/24 18:00	06/19/24 18:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2312371	1	06/25/24 16:50	06/25/24 16:50	LGG	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG2308068	1	06/19/24 15:33	06/19/24 15:33	SJA	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2307315	10	06/20/24 10:12	06/20/24 10:12	SDE	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2306540	1	06/20/24 14:00	06/20/24 14:00	SJA	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2307820	10	06/19/24 13:40	06/24/24 09:20	MEL	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2307933	10	06/19/24 14:11	06/24/24 09:44	MEL	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2308789	5	06/20/24 13:04	06/20/24 22:42	SJF	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2314912	5	07/01/24 13:33	07/01/24 13:33	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2307580	1	06/19/24 09:17	06/19/24 15:02	ARV	Mt. Juliet, TN
Mercury by Method 245.1	WG2307893	1	06/19/24 13:14	06/20/24 16:36	NDL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2311717	20	06/27/24 23:20	06/28/24 10:15	JTM	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2311717	20	06/27/24 23:20	06/29/24 13:18	JTM	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2311717	50	06/27/24 23:20	06/29/24 13:17	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2311727	10	06/30/24 08:40	07/14/24 12:36	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2311727	100	06/30/24 08:40	07/14/24 12:51	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2311331	10	06/25/24 07:09	06/25/24 07:09	GLN	Mt. Juliet, TN
TPH by TCEQ Method 1005	WG2312179	1	06/26/24 07:51	06/27/24 02:30	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2310759	1	06/24/24 15:11	06/29/24 07:06	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.

Jennifer Gambill
Project Manager

Sample Delivery Group (SDG) Narrative

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

Lab Sample ID	Project Sample ID	Method
L1748035-01	FEED	1664A, 4500O G-2016

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

Lab Sample ID	Project Sample ID	Method
L1748035-01	FEED	300.0

Calculated Results

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Trivalent	ND		0.0100	1	06/28/2024 10:15	WG2311717
Organic Nitrogen	ND		25.0	1	06/27/2024 15:50	WG2311974

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	124000		1000	1	06/23/2024 09:09	WG2310335

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Suspended Solids	91.0		6.25	1	06/21/2024 16:39	WG2309483

Wet Chemistry by Method 120.1

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	172000		10.0	1	06/21/2024 14:30	WG2308089

Sample Narrative:

L1748035-01 WG2308089: at 25C

Wet Chemistry by Method 130.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	17300		3000	100	06/27/2024 13:48	WG2311658

Wet Chemistry by Method 1664A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.88	1	06/25/2024 09:59	WG2311324

Wet Chemistry by Method 2120 B-2011

Analyte	Result pcu	Qualifier	RDL pcu	Dilution	Analysis date / time	Batch
Color, Apparent	40.0		1.00	1	06/20/2024 08:37	WG2308465

Sample Narrative:

L1748035-01 WG2308465: 6.47

Wet Chemistry by Method 2130 B-2011

Analyte	Result NTU	Qualifier	RDL NTU	Dilution	Analysis date / time	Batch
Turbidity	27.4		0.400	1	06/19/2024 12:45	WG2308063

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	257		20.0	1	06/21/2024 09:47	WG2309183
Alkalinity,Bicarbonate	257		20.0	1	06/21/2024 09:47	WG2309183
Alkalinity,Carbonate	ND		20.0	1	06/21/2024 09:47	WG2309183

Sample Narrative:

SAMPLE RESULTS - 01

FIELD
Collected date/time: 06/18/24 09:15
L1748035

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
L1748035-01 WG2309183: Endpoint pH 4.5 headspace						

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	179	T8	1	06/22/2024 22:00	WG2310018

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	794		100	100	06/22/2024 23:51	WG2309479
Chloride	87200		1000	1000	06/23/2024 00:05	WG2309479
Fluoride	ND		15.0	100	06/19/2024 23:51	WG2307978
Nitrate as (N)	10.2	Q	10.0	100	06/22/2024 23:51	WG2309479
Nitrite as (N)	ND		10.0	100	06/19/2024 23:51	WG2307978
Sulfate	594		500	100	06/19/2024 23:51	WG2307978

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	790		50.0	200	06/26/2024 15:25	WG2311974

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	Q	0.0100	1	06/20/2024 09:51	WG2308449

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	801		25.0	100	06/27/2024 15:50	WG2311378

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	06/19/2024 20:24	WG2307824

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	7310		400	20	06/21/2024 16:46	WG2309444

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	06/20/2024 11:41	WG2308884

Wet Chemistry by Method 4500CN E-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	06/25/2024 22:08	WG2310563

SAMPLE RESULTS - 01

FIELD
Collected date/time: 06/18/24 09:15

L1748035

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	6.93	T8	1	06/19/2024 18:00	WG2307966

Sample Narrative:
L1748035-01 WG2307966: 6.93 at 20.8C

Wet Chemistry by Method 4500O G-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Oxygen	2.3 at 21.1c	T8	3	1	06/25/2024 16:50	WG2312371

Wet Chemistry by Method 4500P E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphate,Ortho	0.352		0.0300	1	06/19/2024 15:33	WG2308068

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	ND		0.500	10	06/20/2024 10:12	WG2307315

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfite	ND	T8	3.00	1	06/20/2024 14:00	WG2306540

Wet Chemistry by Method 5210 B-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
BOD	161	B1	33.3	10	06/24/2024 09:20	WG2307820
CBOD	165	B1	33.3	10	06/24/2024 09:44	WG2307933

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
DOC	148	T8	5.00	5	06/20/2024 22:42	WG2308789

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	113		5.00	5	07/01/2024 13:33	WG2314912

Wet Chemistry by Method 5540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
MBAS	1.40		0.100	1	06/19/2024 15:02	WG2307580

Mercury by Method 245.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	06/20/2024 16:36	WG2307893

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	ND		4.00	20	06/28/2024 10:15	WG2311717
Antimony	ND		0.200	20	06/28/2024 10:15	WG2311717
Arsenic	ND		0.200	20	06/28/2024 10:15	WG2311717
Barium	4.20		0.100	20	06/28/2024 10:15	WG2311717
Beryllium	ND		0.0400	20	06/28/2024 10:15	WG2311717
Cadmium	ND		0.0400	20	06/28/2024 10:15	WG2311717
Chromium	ND		0.200	20	06/28/2024 10:15	WG2311717
Copper	ND		0.200	20	06/28/2024 10:15	WG2311717
Lead	ND		0.100	20	06/28/2024 10:15	WG2311717
Lithium	27.6		0.300	20	06/28/2024 10:15	WG2311717
Nickel	ND		0.200	20	06/28/2024 10:15	WG2311717
Selenium	ND		0.200	20	06/28/2024 10:15	WG2311717
Silicon	21.0		4.00	20	06/28/2024 10:15	WG2311717
Silver	ND		0.100	20	06/29/2024 13:18	WG2311717
Strontium	734		0.500	50	06/29/2024 13:17	WG2311717
Thallium	ND		0.200	20	06/28/2024 10:15	WG2311717
Zinc	ND		1.00	20	06/28/2024 10:15	WG2311717
Phosphorus	ND		2.00	20	06/28/2024 10:15	WG2311717

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	95.1		4.00	100	07/14/2024 12:51	WG2311727
Calcium	6950		10.0	10	07/14/2024 12:36	WG2311727
Cobalt	ND		0.0200	10	07/14/2024 12:36	WG2311727
Iron	4.14		1.00	10	07/14/2024 12:36	WG2311727
Magnesium	684		10.0	10	07/14/2024 12:36	WG2311727
Manganese	0.996		0.0500	10	07/14/2024 12:36	WG2311727
Molybdenum	ND		0.0500	10	07/14/2024 12:36	WG2311727
Potassium	860		10.0	10	07/14/2024 12:36	WG2311727
Sodium	40200		200	100	07/14/2024 12:51	WG2311727
Tin	ND		0.0400	10	07/14/2024 12:36	WG2311727
Titanium	ND		0.100	10	07/14/2024 12:36	WG2311727

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.607		0.0100	10	06/25/2024 07:09	WG2311331
Bromodichloromethane	ND		0.0100	10	06/25/2024 07:09	WG2311331
Bromoform	ND		0.0100	10	06/25/2024 07:09	WG2311331
Bromomethane	ND	J3	0.0500	10	06/25/2024 07:09	WG2311331
Carbon tetrachloride	ND		0.0100	10	06/25/2024 07:09	WG2311331
Chlorobenzene	ND		0.0100	10	06/25/2024 07:09	WG2311331
Chlorodibromomethane	ND		0.0100	10	06/25/2024 07:09	WG2311331
Chloroethane	ND		0.0500	10	06/25/2024 07:09	WG2311331
2-Chloroethyl vinyl ether	ND		0.500	10	06/25/2024 07:09	WG2311331
Chloroform	ND		0.0500	10	06/25/2024 07:09	WG2311331
Chloromethane	ND		0.0250	10	06/25/2024 07:09	WG2311331
1,2-Dichlorobenzene	ND		0.0100	10	06/25/2024 07:09	WG2311331
1,3-Dichlorobenzene	ND		0.0100	10	06/25/2024 07:09	WG2311331
1,4-Dichlorobenzene	ND		0.0100	10	06/25/2024 07:09	WG2311331
Dichlorodifluoromethane	ND		0.0500	10	06/25/2024 07:09	WG2311331
1,1-Dichloroethane	ND		0.0100	10	06/25/2024 07:09	WG2311331
1,2-Dichloroethane	ND		0.0100	10	06/25/2024 07:09	WG2311331
1,1-Dichloroethene	ND		0.0100	10	06/25/2024 07:09	WG2311331

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
trans-1,2-Dichloroethene	ND		0.0100	10	06/25/2024 07:09	WG2311331
1,2-Dichloropropane	ND		0.0100	10	06/25/2024 07:09	WG2311331
cis-1,3-Dichloropropene	ND		0.0100	10	06/25/2024 07:09	WG2311331
trans-1,3-Dichloropropene	ND		0.0100	10	06/25/2024 07:09	WG2311331
Ethylbenzene	0.0130		0.0100	10	06/25/2024 07:09	WG2311331
Methylene Chloride	ND		0.0500	10	06/25/2024 07:09	WG2311331
Methyl tert-butyl ether	ND		0.0100	10	06/25/2024 07:09	WG2311331
Naphthalene	ND		0.0500	10	06/25/2024 07:09	WG2311331
1,1,2,2-Tetrachloroethane	ND		0.0100	10	06/25/2024 07:09	WG2311331
Tetrachloroethene	ND		0.0100	10	06/25/2024 07:09	WG2311331
Toluene	0.437		0.0100	10	06/25/2024 07:09	WG2311331
1,1,1-Trichloroethane	ND		0.0100	10	06/25/2024 07:09	WG2311331
1,1,2-Trichloroethane	ND		0.0100	10	06/25/2024 07:09	WG2311331
Trichloroethene	ND		0.0100	10	06/25/2024 07:09	WG2311331
Trichlorofluoromethane	ND		0.0500	10	06/25/2024 07:09	WG2311331
Vinyl chloride	ND		0.0100	10	06/25/2024 07:09	WG2311331
o-Xylene	0.0492		0.0100	10	06/25/2024 07:09	WG2311331
m&p-Xylene	0.143		0.0200	10	06/25/2024 07:09	WG2311331
Xylenes, Total	0.192		0.0300	10	06/25/2024 07:09	WG2311331
(S) Toluene-d8	*109*		*80.0-120*		*06/25/2024 07:09*	WG2311331
(S) 4-Bromofluorobenzene	*97.8*		*80.0-120*		*06/25/2024 07:09*	WG2311331
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*06/25/2024 07:09*	WG2311331

Sample Narrative:

L1748035-01 WG2311331: Target and Non-target compounds too high to run at a lower dilution.

TPH by TCEQ Method 1005

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH C6 - C12	3.00		0.900	1	06/27/2024 02:30	WG2312179
TPH C12 - C28	11.7		0.900	1	06/27/2024 02:30	WG2312179
TPH C28 - C35	2.20		0.900	1	06/27/2024 02:30	WG2312179
TPH C6 - C35	16.9		0.900	1	06/27/2024 02:30	WG2312179
(S) o-Terphenyl	*96.6*		*70.0-130*		*06/27/2024 02:30*	WG2312179
(S) 1-chlorooctane	*89.9*		*70.0-130*		*06/27/2024 02:30*	WG2312179

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 07:06	WG2310759
Acenaphthylene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Anthracene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Benzidine	ND		0.0100	1	06/29/2024 07:06	WG2310759
Benzo(a)anthracene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Benzo(b)fluoranthene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Benzo(k)fluoranthene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Benzo(g,h,i)perylene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Benzo(a)pyrene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Bis(2-chlorethoxy)methane	ND		0.0100	1	06/29/2024 07:06	WG2310759
Bis(2-chloroethyl)ether	ND		0.0100	1	06/29/2024 07:06	WG2310759
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	06/29/2024 07:06	WG2310759
4-Bromophenyl-phenylether	ND		0.0100	1	06/29/2024 07:06	WG2310759
2-Chloronaphthalene	ND		0.00100	1	06/29/2024 07:06	WG2310759
4-Chlorophenyl-phenylether	ND		0.0100	1	06/29/2024 07:06	WG2310759
Chrysene	ND		0.00100	1	06/29/2024 07:06	WG2310759

SAMPLE RESULTS - 01

FLED
Collected date/time: 06/18/24 09:15
L1748035

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dibenz(a,h)anthracene	ND		0.00100	1	06/29/2024 07:06	WG2310759
3,3-Dichlorobenzidine	ND		0.0100	1	06/29/2024 07:06	WG2310759
2,4-Dinitrotoluene	ND		0.0100	1	06/29/2024 07:06	WG2310759
2,6-Dinitrotoluene	ND		0.0100	1	06/29/2024 07:06	WG2310759
1,2-Diphenylhydrazine	ND	N2	0.0100	1	06/29/2024 07:06	WG2310759
Fluoranthene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Fluorene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Hexachlorobenzene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Hexachloro-1,3-butadiene	ND		0.0100	1	06/29/2024 07:06	WG2310759
Hexachlorocyclopentadiene	ND		0.0100	1	06/29/2024 07:06	WG2310759
Hexachloroethane	ND		0.0100	1	06/29/2024 07:06	WG2310759
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Isophorone	ND		0.0100	1	06/29/2024 07:06	WG2310759
Naphthalene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Nitrobenzene	ND		0.0100	1	06/29/2024 07:06	WG2310759
n-Nitrosodimethylamine	ND		0.0100	1	06/29/2024 07:06	WG2310759
n-Nitrosodiphenylamine	ND		0.0100	1	06/29/2024 07:06	WG2310759
n-Nitrosodi-n-propylamine	ND		0.0100	1	06/29/2024 07:06	WG2310759
Phenanthrene	ND		0.00100	1	06/29/2024 07:06	WG2310759
Benzylbutyl phthalate	ND		0.00300	1	06/29/2024 07:06	WG2310759
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	06/29/2024 07:06	WG2310759
Di-n-butyl phthalate	ND		0.00300	1	06/29/2024 07:06	WG2310759
Diethyl phthalate	ND		0.00300	1	06/29/2024 07:06	WG2310759
Dimethyl phthalate	ND		0.00300	1	06/29/2024 07:06	WG2310759
Di-n-octyl phthalate	ND		0.00300	1	06/29/2024 07:06	WG2310759
Pyrene	ND		0.00100	1	06/29/2024 07:06	WG2310759
1,2,4-Trichlorobenzene	ND		0.0100	1	06/29/2024 07:06	WG2310759
4-Chloro-3-methylphenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
2-Chlorophenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
2,4-Dichlorophenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
2,4-Dimethylphenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
4,6-Dinitro-2-methylphenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
2,4-Dinitrophenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
2-Nitrophenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
4-Nitrophenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
Pentachlorophenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
Phenol	0.0560		0.0100	1	06/29/2024 07:06	WG2310759
2,4,6-Trichlorophenol	ND		0.0100	1	06/29/2024 07:06	WG2310759
(S) Nitrobenzene-d5	*103*		*15.0-314*		*06/29/2024 07:06*	WG2310759
(S) 2-Fluorobiphenyl	*86.5*		*22.0-127*		*06/29/2024 07:06*	WG2310759
(S) p-Terphenyl-d14	*79.9*		*29.0-141*		*06/29/2024 07:06*	WG2310759
(S) Phenol-d5	*87.4*		*8.00-424*		*06/29/2024 07:06*	WG2310759
(S) 2-Fluorophenol	*82.4*		*10.0-120*		*06/29/2024 07:06*	WG2310759
(S) 2,4,6-Tribromophenol	*94.0*		*10.0-153*		*06/29/2024 07:06*	WG2310759

Method Blank (MB)

(MB) R4086530-1 06/23/24 09:09

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

L1748183-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1748183-04 06/23/24 09:09 • (DUP) R4086530-3 06/23/24 09:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	479	490	1	2.27		10

L1748183-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1748183-06 06/23/24 09:09 • (DUP) R4086530-4 06/23/24 09:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	490	493	1	0.610		10

Laboratory Control Sample (LCS)

(LCS) R4086530-2 06/23/24 09:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8580	97.5	85.0-115	

Method Blank (MB)

(MB) R4085122-1 06/21/24 16:39

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

L1747759-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747759-01 06/21/24 16:39 • (DUP) R4085122-3 06/21/24 16:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	30.0	32.0	1	6.45		10

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/21/24 16:39 • (DUP) R4085122-4 06/21/24 16:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	91.0	93.0	1	2.17		10

Laboratory Control Sample (LCS)

(LCS) R4085122-2 06/21/24 16:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	840	109	85.0-115	

Method Blank (MB)

(MB) R4084886-1 06/21/24 14:30

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

Sample Narrative:
BLANK: at 25C

L1747965-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747965-01 06/21/24 14:30 • (DUP) R4084886-3 06/21/24 14:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	3340	3290	1	1.51		20

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

L1748140-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748140-01 06/21/24 14:30 • (DUP) R4084886-4 06/21/24 14:30

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

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

Laboratory Control Sample (LCS)

(LCS) R4084886-2 06/21/24 14:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	726	99.0	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4087367-1 06/27/24 13:42

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

L1748327-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748327-01 06/27/24 13:53 • (DUP) R4087367-3 06/27/24 13:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	135	127	1	6.11		20

Laboratory Control Sample (LCS)

(LCS) R4087367-2 06/27/24 13:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hardness (colorimetric) as CaCO3	100	104	104	85.0-115	

L1748711-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748711-01 06/27/24 13:58 • (MS) R4087367-4 06/27/24 13:59 • (MSD) R4087367-5 06/27/24 14:00

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 %
Hardness (colorimetric) as CaCO3	500	505	975	980	94.0	95.0	5	80.0-120			0.512	20

Method Blank (MB)

(MB) R4086062-1 06/25/24 09:59

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

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

(LCS) R4086062-2 06/25/24 09:59 • (LCSD) R4086062-3 06/25/24 09:59

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	32.6	36.7	81.5	91.8	78.0-114			11.8	20

L1748017-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748017-01 06/25/24 09:59 • (MS) R4086062-4 06/25/24 09:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	5.84	43.7	94.8	1	78.0-114	

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/20/24 08:37 • (DUP) R4084088-1 06/20/24 08:37

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

Sample Narrative:

OS: 8.72

DUP: 8.72

Method Blank (MB)

(MB) R4083711-1 06/19/24 12:45

Analyte	MB Result NTU	MB Qualifier	MB MDL NTU	MB RDL NTU
Turbidity	U		0.200	0.400

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/19/24 12:45 • (DUP) R4083711-3 06/19/24 12:45

Analyte	Original Result NTU	DUP Result NTU	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Turbidity	27.4	26.8	1	2.21		20

Laboratory Control Sample (LCS)

(LCS) R4083711-2 06/19/24 12:45

Analyte	Spike Amount NTU	LCS Result NTU	LCS Rec. %	Rec. Limits %	LCS Qualifier
Turbidity	40.0	38.5	96.3	90.0-110	

Method Blank (MB)

(MB) R4084928-2 06/21/24 09:40

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

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/21/24 09:47 • (DUP) R4084928-3 06/21/24 09:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	257	252	1	2.24		20
Alkalinity,Bicarbonate	257	252	1	2.24		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1748328-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1748328-04 06/21/24 11:43 • (DUP) R4084928-4 06/21/24 11:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	411	421	1	2.41		20
Alkalinity,Bicarbonate	411	421	1	2.41		20
Alkalinity,Carbonate	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4084928-1 06/21/24 09:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	98.1	98.1	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

L1748017-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748017-01 06/22/24 22:00 • (DUP) R4085267-3 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	109	107	1	1.60		20

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/22/24 22:00 • (DUP) R4085267-4 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	179	177	1	1.50		20

L1748038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748038-01 06/22/24 22:00 • (DUP) R4085267-5 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	-2.20	1.50	1	1.50	P1	20

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/22/24 22:00 • (DUP) R4085267-6 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	81.4	86.8	1	5.40		20

L1748734-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-01 06/22/24 22:00 • (DUP) R4085267-7 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	61.9	64.4	1	2.50		20

L1748734-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-02 06/22/24 22:00 • (DUP) R4085267-8 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	64.8	64.0	1	0.800		20

L1748734-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-03 06/22/24 22:00 • (DUP) R4085267-9 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	72.7	74.5	1	1.80		20

L1748734-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-04 06/22/24 22:00 • (DUP) R4085267-10 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	57.7	61.9	1	4.20		20

L1748734-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-05 06/22/24 22:00 • (DUP) R4085267-11 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	77.0	75.4	1	1.60		20

L1748734-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-06 06/22/24 22:00 • (DUP) R4085267-12 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	88.5	88.1	1	0.400		20

L1748734-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-07 06/22/24 22:00 • (DUP) R4085267-13 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	56.5	60.5	1	4.00		20

L1748734-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-08 06/22/24 22:00 • (DUP) R4085267-14 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	74.1	74.2	1	0.100		20

L1748734-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-09 06/22/24 22:00 • (DUP) R4085267-15 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	75.7	79.2	1	3.50		20

L1748734-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-10 06/22/24 22:00 • (DUP) R4085267-16 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	98.9	98.1	1	0.800		20

L1748734-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-11 06/22/24 22:00 • (DUP) R4085267-17 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	95.8	96.1	1	0.300		20

L1748734-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-12 06/22/24 22:00 • (DUP) R4085267-18 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	95.8	95.3	1	0.500		20

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

(LCS) R4085267-1 06/22/24 22:00 • (LCSD) R4085267-2 06/22/24 22:00

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	224	223	93.9	93.7	90.0-110			0.500	20

Method Blank (MB)

(MB) R4084492-1 06/19/24 20:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Fluoride	U		0.0640	0.150
Nitrite as (N)	U		0.0420	0.100
Sulfate	U		0.594	5.00

L1748033-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748033-02 06/19/24 22:04 • (DUP) R4084492-3 06/19/24 22:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.269	0.259	1	3.60		15
Nitrite as (N)	0.103	ND	1	200	P1	15
Sulfate	22.9	23.7	1	3.12		15

L1748114-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748114-01 06/20/24 01:12 • (DUP) R4084492-6 06/20/24 01:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.213	0.229	1	7.02		15
Nitrite as (N)	ND	ND	1	0.000		15
Sulfate	178	184	1	3.20		15

Laboratory Control Sample (LCS)

(LCS) R4084492-2 06/19/24 20:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluoride	8.00	7.39	92.4	90.0-110	
Nitrite as (N)	8.00	7.75	96.9	90.0-110	
Sulfate	40.0	36.2	90.6	90.0-110	

Wet Chemistry by Method 300.0

L1748033-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748033-02 06/19/24 22:04 • (MS) R4084492-4 06/19/24 22:31 • (MSD) R4084492-5 06/19/24 22:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	8.00	0.269	8.29	8.45	100	102	1	80.0-120			1.81	15
Nitrite as (N)	8.00	0.103	8.36	8.53	103	105	1	80.0-120			1.97	15
Sulfate	40.0	22.9	58.5	59.3	88.8	90.8	1	80.0-120			1.35	15

L1748114-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748114-01 06/20/24 01:12 • (MS) R4084492-7 06/20/24 01:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	8.00	0.213	7.96	96.8	1	80.0-120	
Nitrite as (N)	8.00	ND	8.15	102	1	80.0-120	
Sulfate	40.0	178	181	7.93	1	80.0-120	V

Method Blank (MB)

(MB) R4085884-1 06/22/24 12:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	0.409	J	0.353	1.00
Chloride	U		0.379	1.00
Nitrate as (N)	U		0.0480	0.100

L1748033-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748033-03 06/22/24 22:57 • (DUP) R4085884-3 06/22/24 23:11

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	43.4	43.4	1	0.0977		15
Nitrate as (N)	0.619	0.574	1	7.49		15

L1748254-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1748254-04 06/23/24 04:07 • (DUP) R4085884-6 06/23/24 04:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	1.45	1.43	1	1.68		15
Chloride	43.6	42.4	1	2.76		15
Nitrate as (N)	1.29	1.27	1	1.58		15

Laboratory Control Sample (LCS)

(LCS) R4085884-2 06/22/24 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	36.9	92.2	90.0-110	
Chloride	40.0	37.6	94.1	90.0-110	
Nitrate as (N)	8.00	7.39	92.4	90.0-110	

L1748033-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748033-03 06/22/24 22:57 • (MS) R4085884-4 06/22/24 23:24 • (MSD) R4085884-5 06/22/24 23:38

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	39.3	37.4	98.3	93.4	1	80.0-120			5.08	15
Chloride	40.0	43.4	75.5	71.3	80.3	69.7	1	80.0-120		J6	5.76	15
Nitrate as (N)	8.00	0.619	8.51	8.07	98.7	93.1	1	80.0-120			5.40	15

L1748254-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748254-04 06/23/24 04:07 • (MS) R4085884-7 06/23/24 04:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	1.45	38.0	91.3	1	80.0-120	
Chloride	40.0	43.6	72.9	73.3	1	80.0-120	J6
Nitrate as (N)	8.00	1.29	8.82	94.2	1	80.0-120	

Method Blank (MB)

(MB) R4086842-1 06/26/24 14:44

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

L1747788-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747788-02 06/26/24 14:56 • (DUP) R4086842-5 06/26/24 14:58

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

L1747788-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1747788-04 06/26/24 15:07 • (DUP) R4086842-8 06/26/24 15:08

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) R4086842-2 06/26/24 14:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	8.02	107	90.0-110	

L1747788-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747788-01 06/26/24 14:52 • (MS) R4086842-3 06/26/24 14:53 • (MSD) R4086842-4 06/26/24 14:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	ND	5.59	5.53	108	107	1	90.0-110			0.953	10

L1747788-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747788-03 06/26/24 15:04 • (MS) R4086842-7 06/26/24 15:05

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	5.57	111	1	90.0-110	J5

Method Blank (MB)

(MB) R4084136-1 06/20/24 09:47

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

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/20/24 09:51 • (DUP) R4084136-5 06/20/24 09:51

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

Laboratory Control Sample (LCS)

(LCS) R4084136-2 06/20/24 09:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.517	103	80.0-120	

L1748017-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748017-01 06/20/24 09:50 • (MS) R4084136-3 06/20/24 09:50 • (MSD) R4084136-4 06/20/24 09:50

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	0.543	0.521	109	104	1	75.0-125			4.14	20

Method Blank (MB)

(MB) R4087452-1 06/27/24 15:32

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

L1748128-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748128-01 06/27/24 16:31 • (DUP) R4087452-8 06/27/24 16:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	644	770	100	17.8		20

L1748128-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748128-02 06/27/24 16:33 • (DUP) R4087452-9 06/27/24 16:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	245	245	25	0.204		20

Laboratory Control Sample (LCS)

(LCS) R4087452-2 06/27/24 15:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	14.1	115	80.0-120	

L1746546-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746546-02 06/27/24 15:35 • (MS) R4087452-3 06/27/24 15:36 • (MSD) R4087452-4 06/27/24 15:37

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 %
Kjeldahl Nitrogen, TKN	5.00	ND	ND	ND	0.000	0.000	1	90.0-110	J6	J6	0.000	20

Sample Narrative:

OS: dilution due to sample matrix(no2no3 interference)

L1748030-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748030-02 06/27/24 15:40 • (MS) R4087452-5 06/27/24 15:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	ND	7.04	138	1	90.0-110	J5

Method Blank (MB)

(MB) R4083991-1 06/19/24 19:49

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

L1747985-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747985-01 06/19/24 20:07 • (DUP) R4083991-3 06/19/24 20:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	1.81	1.84	1	1.64		20

L1747989-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1747989-03 06/19/24 20:12 • (DUP) R4083991-4 06/19/24 20:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.772	0.787	1	1.92		20

Laboratory Control Sample (LCS)

(LCS) R4083991-2 06/19/24 19:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.38	95.2	90.0-110	

L1748019-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748019-01 06/19/24 20:21 • (MS) R4083991-5 06/19/24 20:22 • (MSD) R4083991-6 06/19/24 20:23

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 %
Nitrate-Nitrite	2.50	ND	1.22	1.19	48.8	47.6	1	90.0-110	J6	J6	2.49	20

L1748057-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748057-01 06/19/24 20:27 • (MS) R4083991-7 06/19/24 20:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	ND	1.86	74.4	1	90.0-110	J6

Method Blank (MB)

(MB) R4084938-1 06/21/24 16:44

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

L1748194-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748194-01 06/21/24 16:47 • (DUP) R4084938-5 06/21/24 16:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	532	553	1	3.79		20

L1748202-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748202-01 06/21/24 16:48 • (DUP) R4084938-6 06/21/24 16:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	612	611	1	0.182		20

Laboratory Control Sample (LCS)

(LCS) R4084938-2 06/21/24 16:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
COD	500	518	104	90.0-110	

L1745455-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1745455-02 06/21/24 16:44 • (MS) R4084938-3 06/21/24 16:44 • (MSD) R4084938-4 06/21/24 16:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	500	ND	520	533	104	107	1	90.0-110			2.58	20

Method Blank (MB)

(MB) R4084217-1 06/20/24 11:39

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

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/20/24 11:42 • (DUP) R4084217-4 06/20/24 11:42

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

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

(LCS) R4084217-2 06/20/24 11:39 • (LCSD) R4084217-3 06/20/24 11:40

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 %
Chlorine,residual	1.00	0.921	0.915	92.1	91.5	85.0-115			0.654	20

Method Blank (MB)

(MB) R4086420-1 06/25/24 21:27

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

L1747678-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747678-02 06/25/24 21:46 • (DUP) R4086420-5 06/25/24 21:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	200	P1	20

L1747717-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747717-01 06/25/24 21:50 • (DUP) R4086420-6 06/25/24 21:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	5.41		20

Laboratory Control Sample (LCS)

(LCS) R4086420-2 06/25/24 21:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.0967	96.7	87.1-120	

L1747529-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747529-02 06/25/24 21:36 • (MS) R4086420-3 06/25/24 21:37 • (MSD) R4086420-4 06/25/24 21:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0751	0.0840	71.9	80.8	1	90.0-110	J6	J6	11.2	20

L1747960-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747960-01 06/19/24 18:00 • (DUP) R4083988-2 06/19/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.82	7.80	1	0.256		1

Sample Narrative:

OS: 7.82 at 21.4C

DUP: 7.8 at 21.4C

L1748128-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748128-01 06/19/24 18:00 • (DUP) R4083988-3 06/19/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.37	8.38	1	0.119		1

Sample Narrative:

OS: 8.37 at 20.8C

DUP: 8.38 at 20.8C

Laboratory Control Sample (LCS)

(LCS) R4083988-1 06/19/24 18:00

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

Sample Narrative:

LCS: 10.03 at 21.7C

Method Blank (MB)

(MB) R4083842-1 06/19/24 15:33

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

L1748038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748038-01 06/19/24 15:36 • (DUP) R4083842-3 06/19/24 15:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphate,Ortho	1.02	1.02	5	0.785		20

Laboratory Control Sample (LCS)

(LCS) R4083842-6 06/19/24 15:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphate,Ortho	0.245	0.237	96.9	85.0-115	

L1748129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748129-01 06/19/24 15:37 • (MS) R4083842-4 06/19/24 15:37 • (MSD) R4083842-5 06/19/24 15:37

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 %
Phosphate,Ortho	0.500	ND	0.490	0.496	98.0	99.2	1	80.0-120			1.22	20

Method Blank (MB)

(MB) R4084142-1 06/20/24 10:07

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

L1747989-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747989-01 06/20/24 10:09 • (DUP) R4084142-3 06/20/24 10:09

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

L1748238-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748238-02 06/20/24 10:15 • (DUP) R4084142-6 06/20/24 10:15

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

Laboratory Control Sample (LCS)

(LCS) R4084142-2 06/20/24 10:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.498	99.6	85.0-115	

L1748128-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748128-02 06/20/24 10:13 • (MS) R4084142-4 06/20/24 10:14 • (MSD) R4084142-5 06/20/24 10:14

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 %
Sulfide	0.500	ND	0.154	0.163	30.8	32.6	1	80.0-120	J6	J6	5.68	20

Sample Narrative:

MS: Spike failure due to matrix interference

MSD: Spike failure due to matrix interference

Method Blank (MB)

(MB) R4084347-1 06/20/24 14:00

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

L1747261-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747261-02 06/20/24 14:00 • (DUP) R4084347-6 06/20/24 14:00

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

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

(LCS) R4084347-2 06/20/24 14:00 • (LCSD) R4084347-3 06/20/24 14:00

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 %
Sulfite	20.0	17.0	17.0	85.0	85.0	85.0-115			0.000	20

L1747261-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747261-01 06/20/24 14:00 • (MS) R4084347-4 06/20/24 14:00 • (MSD) R4084347-5 06/20/24 14:00

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 %
Sulfite	20.0	ND	19.0	19.0	85.0	85.0	1	85.0-115			0.000	20

Method Blank (MB)

(MB) R4085715-1 06/24/24 08:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
BOD	0.480	B1	0.200	0.200

L1748002-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748002-02 06/24/24 09:11 • (DUP) R4085715-3 06/24/24 09:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	3.83	3.96	1	3.34		30

Laboratory Control Sample (LCS)

(LCS) R4085715-2 06/24/24 08:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	207	105	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4085715-4 06/24/24 09:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	211	106	84.6-115	

Method Blank (MB)

(MB) R4085716-1 06/24/24 08:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
CBOD	0.480	B1	0.200	0.200

L1747645-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747645-02 06/24/24 09:33 • (DUP) R4085716-3 06/24/24 09:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
CBOD	5.28	4.95	1	6.45		30

Laboratory Control Sample (LCS)

(LCS) R4085716-2 06/24/24 08:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
CBOD	198	202	102	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4085716-4 06/24/24 09:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
CBOD	198	203	102	84.6-115	

Method Blank (MB)

(MB) R4084753-2 06/20/24 13:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.137	J	0.106	1.00

L1745594-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1745594-01 06/20/24 20:12 • (DUP) R4084753-5 06/20/24 21:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	65.0	65.2	2	0.353		20

L1748638-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748638-01 06/21/24 00:40 • (DUP) R4084753-6 06/21/24 00:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	2.44	3.05	1	22.3	P1	20

Laboratory Control Sample (LCS)

(LCS) R4084753-1 06/20/24 13:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	23.5	94.2	85.0-115	

L1745743-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1745743-01 06/20/24 17:09 • (MS) R4084753-3 06/20/24 17:29 • (MSD) R4084753-4 06/20/24 17:48

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	2.26	25.8	25.4	94.3	92.6	1	80.0-120			1.68	20

L1748638-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748638-02 06/21/24 01:17 • (MS) R4084753-7 06/21/24 01:34 • (MSD) R4084753-8 06/21/24 01:50

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	2.17	25.8	25.5	94.5	93.3	1	80.0-120			1.17	20

Method Blank (MB)

(MB) R4089097-2 07/01/24 11:58

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

L1748341-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748341-01 07/01/24 14:36 • (DUP) R4089097-3 07/01/24 14:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	ND	ND	1	13.6		20

L1751667-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1751667-03 07/01/24 19:16 • (DUP) R4089097-8 07/01/24 19:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	12.9	13.0	1	0.928		20

Laboratory Control Sample (LCS)

(LCS) R4089097-1 07/01/24 11:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	24.6	98.2	85.0-115	

L1748341-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748341-02 07/01/24 15:14 • (MS) R4089097-4 07/01/24 15:35 • (MSD) R4089097-5 07/01/24 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 %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	ND	25.0	24.5	97.8	96.0	1	85.0-115			1.78	20

L1751667-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751667-02 07/01/24 18:10 • (MS) R4089097-6 07/01/24 18:34 • (MSD) R4089097-7 07/01/24 18:55

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 %
TOC (Total Organic Carbon)	25.0	6.95	32.5	32.4	102	102	1	85.0-115			0.123	20

Method Blank (MB)

(MB) R4083834-1 06/19/24 14:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
MBAS	U		0.0190	0.100

L1747713-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747713-01 06/19/24 15:00 • (DUP) R4083834-3 06/19/24 15:00

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

Laboratory Control Sample (LCS)

(LCS) R4083834-2 06/19/24 14:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
MBAS	1.00	1.07	107	85.0-115	

L1748038-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748038-01 06/19/24 15:02 • (MS) R4083834-4 06/19/24 15:09 • (MSD) R4083834-5 06/19/24 15:09

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 %
MBAS	1.00	ND	0.949	0.973	94.9	97.3	1	85.0-115			2.50	20

Method Blank (MB)

(MB) R4084453-1 06/20/24 16:13

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

Laboratory Control Sample (LCS)

(LCS) R4084453-2 06/20/24 16:16

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

L1748014-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748014-01 06/20/24 16:23 • (MS) R4084453-4 06/20/24 16:28 • (MSD) R4084453-5 06/20/24 16:31

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 %
Mercury	0.00300	ND	0.00353	0.00356	118	119	1	70.0-130			1.00	20

Method Blank (MB)

(MB) R4087844-1 06/28/24 07:35

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	0.00229	J	0.00227	0.00500
Lithium	U		0.00689	0.0150
Nickel	U		0.00182	0.0100
Selenium	U		0.00616	0.0100
Silicon	U		0.0771	0.200
Strontium	U		0.000683	0.0100
Thallium	U		0.00460	0.0100
Zinc	U		0.00578	0.0500
Phosphorus	U		0.00760	0.100

Method Blank (MB)

(MB) R4088164-1 06/29/24 12:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silver	U		0.00131	0.00500

Laboratory Control Sample (LCS)

(LCS) R4087844-2 06/28/24 07:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.2	102	85.0-115	
Antimony	1.00	1.00	100	85.0-115	
Arsenic	1.00	1.03	103	85.0-115	
Barium	1.00	1.03	103	85.0-115	
Beryllium	1.00	1.02	102	85.0-115	
Cadmium	1.00	1.04	104	85.0-115	
Chromium	1.00	1.01	101	85.0-115	
Copper	1.00	1.08	108	85.0-115	
Lead	1.00	1.02	102	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4087844-2 06/28/24 07:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lithium	1.00	1.02	102	85.0-115	
Nickel	1.00	1.02	102	85.0-115	
Selenium	1.00	1.02	102	85.0-115	
Silicon	1.00	0.959	95.9	85.0-115	
Strontium	1.00	0.997	99.7	85.0-115	
Thallium	1.00	1.05	105	85.0-115	
Zinc	1.00	1.02	102	85.0-115	
Phosphorus	1.00	1.09	109	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4088164-2 06/29/24 12:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver	0.200	0.189	94.7	85.0-115	

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/28/24 07:38 • (MS) R4087844-4 06/28/24 07:42 • (MSD) R4087844-5 06/28/24 07:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	2.41	12.8	13.0	104	106	1	70.0-130			1.50	20
Antimony	1.00	ND	1.04	1.06	104	106	1	70.0-130			1.83	20
Arsenic	1.00	ND	1.06	1.09	106	109	1	70.0-130			3.13	20
Barium	1.00	0.0254	1.07	1.09	105	107	1	70.0-130			2.14	20
Beryllium	1.00	ND	1.03	1.06	103	106	1	70.0-130			1.99	20
Cadmium	1.00	ND	1.06	1.09	106	109	1	70.0-130			2.43	20
Chromium	1.00	ND	1.03	1.04	103	104	1	70.0-130			1.73	20
Copper	1.00	ND	1.10	1.12	110	112	1	70.0-130			2.24	20
Lead	1.00	ND	1.05	1.07	105	107	1	70.0-130			1.91	20
Lithium	1.00	ND	1.04	1.05	104	105	1	70.0-130			1.21	20
Nickel	1.00	ND	1.05	1.07	105	107	1	70.0-130			2.04	20
Selenium	1.00	ND	1.05	1.10	105	110	1	70.0-130			4.63	20
Silicon	1.00	1.76	2.76	2.82	100	107	1	70.0-130			2.37	20
Strontium	1.00	0.106	1.11	1.13	100	103	1	70.0-130			1.84	20
Thallium	1.00	ND	1.06	1.10	106	110	1	70.0-130			3.35	20
Zinc	1.00	ND	1.04	1.07	104	107	1	70.0-130			2.43	20
Phosphorus	1.00	0.121	1.20	1.27	108	115	1	70.0-130			6.05	20

L1747866-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747866-01 06/28/24 07:45 • (MS) R4087844-6 06/28/24 07:47 • (MSD) R4087844-7 06/28/24 07:49

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	10.7	10.7	106	106	1	70.0-130			0.252	20
Antimony	1.00	ND	1.11	1.11	111	111	1	70.0-130			0.157	20
Arsenic	1.00	ND	1.18	1.17	118	117	1	70.0-130			0.774	20
Barium	1.00	0.0301	1.07	1.07	104	104	1	70.0-130			0.223	20
Beryllium	1.00	ND	1.03	1.02	103	102	1	70.0-130			0.360	20
Cadmium	1.00	ND	1.15	1.14	115	114	1	70.0-130			0.735	20
Chromium	1.00	ND	1.02	1.01	102	101	1	70.0-130			1.39	20
Copper	1.00	ND	1.14	1.14	113	113	1	70.0-130			0.158	20
Lead	1.00	ND	1.07	1.06	107	106	1	70.0-130			0.889	20
Lithium	1.00	0.875	1.97	1.93	110	105	1	70.0-130			2.25	20
Nickel	1.00	ND	1.10	1.10	110	110	1	70.0-130			0.343	20
Selenium	1.00	ND	1.27	1.25	127	125	1	70.0-130			1.67	20
Silicon	1.00	ND	1.05	1.07	105	107	1	70.0-130			1.60	20
Strontium	1.00	16.6	17.5	16.8	88.7	16.1	1	70.0-130		V	4.24	20
Thallium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.361	20
Zinc	1.00	0.209	1.23	1.22	102	101	1	70.0-130			1.07	20
Phosphorus	1.00	ND	1.20	1.22	119	121	1	70.0-130			1.35	20

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/29/24 12:49 • (MS) R4088164-4 06/29/24 12:53 • (MSD) R4088164-5 06/29/24 12:55

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 %
Silver	0.200	ND	0.191	0.197	95.3	98.3	1	70.0-130			3.13	20

Method Blank (MB)

(MB) R4093592-1 07/14/24 11:08

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

Laboratory Control Sample (LCS)

(LCS) R4093592-2 07/14/24 11:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0561	112	85.0-115	
Calcium	5.00	5.45	109	85.0-115	
Cobalt	0.0500	0.0542	108	85.0-115	
Iron	1.00	1.06	106	85.0-115	
Magnesium	5.00	5.33	107	85.0-115	
Manganese	0.0500	0.0522	104	85.0-115	
Molybdenum	0.0500	0.0499	99.9	85.0-115	
Potassium	5.00	5.33	107	85.0-115	
Sodium	5.00	5.33	107	85.0-115	
Tin	0.0500	0.0519	104	85.0-115	
Titanium	0.0500	0.0524	105	85.0-115	

L1747961-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747961-01 07/14/24 11:16 • (MS) R4093592-4 07/14/24 11:23 • (MSD) R4093592-5 07/14/24 11:26

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	ND	0.0654	0.0664	131	133	1	70.0-130	J5	J5	1.46	20
Calcium	5.00	36.5	41.5	42.7	101	125	1	70.0-130			2.83	20
Cobalt	0.0500	ND	0.0540	0.0546	108	109	1	70.0-130			1.05	20
Iron	1.00	ND	1.12	1.12	106	106	1	70.0-130			0.0732	20
Magnesium	5.00	2.95	8.10	8.37	103	108	1	70.0-130			3.31	20

L1747961-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747961-01 07/14/24 11:16 • (MS) R4093592-4 07/14/24 11:23 • (MSD) R4093592-5 07/14/24 11:26

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 %
Manganese	0.0500	0.0265	0.0805	0.0813	108	110	1	70.0-130			0.951	20
Molybdenum	0.0500	ND	0.0540	0.0544	104	104	1	70.0-130			0.692	20
Potassium	5.00	1.65	6.97	6.94	106	106	1	70.0-130			0.468	20
Sodium	5.00	25.3	30.5	31.8	104	131	1	70.0-130		V	4.37	20
Tin	0.0500	ND	0.0519	0.0507	104	101	1	70.0-130			2.21	20
Titanium	0.0500	ND	0.0504	0.0490	101	97.9	1	70.0-130			2.97	20

L1748018-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748018-02 07/14/24 11:30 • (MS) R4093592-6 07/14/24 11:33 • (MSD) R4093592-7 07/14/24 11:36

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 %
Boron	0.0500	0.0875	0.143	0.155	110	134	1	70.0-130		J5	8.04	20
Calcium	5.00	40.8	45.1	47.0	86.2	125	1	70.0-130			4.20	20
Cobalt	0.0500	0.00559	0.0603	0.0616	109	112	1	70.0-130			2.23	20
Iron	1.00	6.39	7.93	8.90	155	252	1	70.0-130	V	V	11.5	20
Magnesium	5.00	5.78	11.0	11.6	103	116	1	70.0-130			5.71	20
Manganese	0.0500	0.518	0.588	0.615	141	194	1	70.0-130	V	V	4.39	20
Molybdenum	0.0500	0.0279	0.0820	0.0854	108	115	1	70.0-130			3.96	20
Potassium	5.00	1.73	6.86	7.11	103	108	1	70.0-130			3.68	20
Sodium	5.00	2.35	7.62	7.87	105	111	1	70.0-130			3.29	20
Tin	0.0500	0.0184	0.0691	0.0722	101	108	1	70.0-130			4.45	20
Titanium	0.0500	0.0295	0.0872	0.0954	115	132	1	70.0-130		J5	8.93	20

Method Blank (MB)

(MB) R4086110-3 06/25/24 01:13

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	*106*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.7*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*

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

(LCS) R4086110-1 06/25/24 00:15 • (LCSD) R4086110-2 06/25/24 00:35

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	0.00510	0.00509	102	102	65.0-135			0.196	20
Bromodichloromethane	0.00500	0.00524	0.00508	105	102	65.0-135			3.10	20
Bromoform	0.00500	0.00433	0.00438	86.6	87.6	70.0-130			1.15	20
Bromomethane	0.00500	0.00208	0.00259	41.6	51.8	15.0-185		J3	21.8	20
Carbon tetrachloride	0.00500	0.00518	0.00526	104	105	70.0-130			1.53	20
Chlorobenzene	0.00500	0.00499	0.00486	99.8	97.2	65.0-135			2.64	20
Chlorodibromomethane	0.00500	0.00461	0.00449	92.2	89.8	70.0-135			2.64	20
Chloroethane	0.00500	0.00439	0.00428	87.8	85.6	40.0-160			2.54	20
2-Chloroethyl vinyl ether	0.0250	0.0267	0.0271	107	108	0.100-225			1.49	20
Chloroform	0.00500	0.00513	0.00511	103	102	70.0-135			0.391	20
Chloromethane	0.00500	0.00404	0.00393	80.8	78.6	0.100-205			2.76	20
1,2-Dichlorobenzene	0.00500	0.00520	0.00514	104	103	65.0-135			1.16	20
1,3-Dichlorobenzene	0.00500	0.00528	0.00512	106	102	70.0-130			3.08	20
1,4-Dichlorobenzene	0.00500	0.00511	0.00522	102	104	65.0-135			2.13	20
Dichlorodifluoromethane	0.00500	0.00554	0.00519	111	104	49.0-155			6.52	20
1,1-Dichloroethane	0.00500	0.00535	0.00533	107	107	70.0-130			0.375	20
1,2-Dichloroethane	0.00500	0.00543	0.00539	109	108	70.0-130			0.739	20
1,1-Dichloroethene	0.00500	0.00505	0.00484	101	96.8	50.0-150			4.25	20
trans-1,2-Dichloroethene	0.00500	0.00495	0.00466	99.0	93.2	70.0-130			6.04	20
1,2-Dichloropropane	0.00500	0.00537	0.00519	107	104	35.0-165			3.41	20
cis-1,3-Dichloropropene	0.00500	0.00491	0.00493	98.2	98.6	25.0-175			0.406	20
trans-1,3-Dichloropropene	0.00500	0.00489	0.00468	97.8	93.6	50.0-150			4.39	20
Ethylbenzene	0.00500	0.00485	0.00490	97.0	98.0	60.0-140			1.03	20
Methylene Chloride	0.00500	0.00550	0.00529	110	106	60.0-140			3.89	20
Methyl tert-butyl ether	0.00500	0.00550	0.00550	110	110	64.0-123			0.000	20
Naphthalene	0.00500	0.00540	0.00515	108	103	62.0-128			4.74	20
1,1,2,2-Tetrachloroethane	0.00500	0.00453	0.00412	90.6	82.4	60.0-140			9.48	20
Tetrachloroethene	0.00500	0.00529	0.00486	106	97.2	70.0-130			8.47	20
Toluene	0.00500	0.00483	0.00487	96.6	97.4	70.0-130			0.825	20
1,1,1-Trichloroethane	0.00500	0.00511	0.00508	102	102	70.0-130			0.589	20
1,1,2-Trichloroethane	0.00500	0.00468	0.00458	93.6	91.6	70.0-130			2.16	20
Trichloroethene	0.00500	0.00570	0.00589	114	118	65.0-135			3.28	20
Trichlorofluoromethane	0.00500	0.00439	0.00462	87.8	92.4	50.0-150			5.11	20
Vinyl chloride	0.00500	0.00263	0.00293	52.6	58.6	5.00-195			10.8	20
o-Xylene	0.00500	0.00510	0.00489	102	97.8	78.0-120			4.20	20
m&p-Xylene	0.0100	0.00952	0.00979	95.2	97.9	77.0-120			2.80	20
Xylenes, Total	0.0150	0.0146	0.0147	97.3	98.0	77.0-120			0.683	20
(S) Toluene-d8				*104*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*98.4*	*98.8*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*107*	*108*	*70.0-130*				

L1748234-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748234-04 06/25/24 03:56 • (MS) R4086110-4 06/25/24 08:45 • (MSD) R4086110-5 06/25/24 09:05

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	0.0420	0.0480	0.0471	120	102	1	37.0-151			1.89	61
Bromodichloromethane	0.00500		0.00503	0.00463	90.4	82.4	1	35.0-155			8.28	56
Bromoform	0.00500		0.00482	0.00481	96.4	96.2	1	45.0-169			0.208	42
Bromomethane	0.00500		ND	ND	40.0	46.0	1	0.100-206			14.0	61
Carbon tetrachloride	0.00500		0.00553	0.00528	111	106	1	70.0-140			4.63	41
Chlorobenzene	0.00500		0.00494	0.00499	98.8	99.8	1	37.0-160			1.01	53
Chlorodibromomethane	0.00500		0.00486	0.00498	97.2	99.6	1	53.0-149			2.44	50
Chloroethane	0.00500		ND	ND	78.6	75.0	1	14.0-230			4.69	78
2-Chloroethyl vinyl ether	0.0250		ND	ND	0.000	0.000	1	0.100-305	J6	J6	0.000	71
Chloroform	0.00500		0.00646	0.00622	102	97.4	1	51.0-138			3.79	54
Chloromethane	0.00500		0.00377	0.00386	75.4	77.2	1	0.100-273			2.36	60
1,2-Dichlorobenzene	0.00500		0.00588	0.00577	118	115	1	18.0-190			1.89	57
1,3-Dichlorobenzene	0.00500		0.00617	0.00566	123	113	1	59.0-156			8.62	43
1,4-Dichlorobenzene	0.00500		0.00586	0.00574	117	115	1	18.0-190			2.07	57
Dichlorodifluoromethane	0.00500		ND	ND	87.0	87.0	1	20.0-160			0.000	20
1,1-Dichloroethane	0.00500		0.00568	0.00541	111	106	1	59.0-155			4.87	40
1,2-Dichloroethane	0.00500		0.00579	0.00532	114	105	1	49.0-155			8.46	49
1,1-Dichloroethene	0.00500		0.00442	0.00429	88.4	85.8	1	0.100-234			2.99	32
trans-1,2-Dichloroethene	0.00500		0.00450	0.00434	90.0	86.8	1	54.0-156			3.62	45
1,2-Dichloropropane	0.00500		0.00605	0.00568	121	114	1	0.100-210			6.31	55
cis-1,3-Dichloropropene	0.00500		0.00485	0.00477	97.0	95.4	1	0.100-227			1.66	58
trans-1,3-Dichloropropene	0.00500		0.00499	0.00506	99.8	101	1	17.0-183			1.39	86
Ethylbenzene	0.00500	0.138	0.141	0.143	60.0	100	1	37.0-162			1.41	63
Methylene Chloride	0.00500		ND	ND	93.4	90.6	1	0.100-221			3.04	28
Methyl tert-butyl ether	0.00500	ND	0.00569	0.00558	114	112	1	42.0-142			1.95	20
Naphthalene	0.00500	0.0120	0.0182	0.0178	124	116	1	42.0-146			2.22	20
1,1,2,2-Tetrachloroethane	0.00500		0.00632	0.00584	126	117	1	46.0-157			7.89	61
Tetrachloroethene	0.00500		0.00508	0.00506	102	101	1	64.0-148			0.394	39
Toluene	0.00500	0.00631	0.0113	0.0114	99.8	102	1	47.0-150			0.881	41
1,1,1-Trichloroethane	0.00500		0.00530	0.00505	106	101	1	56.0-162			4.83	36
1,1,2-Trichloroethane	0.00500		0.00571	0.00599	114	120	1	52.0-150			4.79	45
Trichloroethene	0.00500		0.00513	0.00513	103	103	1	70.0-157			0.000	48
Trichlorofluoromethane	0.00500		0.00530	0.00522	106	104	1	17.0-181			1.52	84
Vinyl chloride	0.00500		0.00290	0.00313	58.0	62.6	1	0.100-251			7.63	66
o-Xylene	0.00500		0.0841	0.0867	56.0	108	1	44.0-146			3.04	20
m&p-Xylene	0.0100		0.243	0.249	50.0	110	1	41.0-147			2.44	20
Xylenes, Total	0.0150	0.319	0.327	0.336	53.3	113	1	41.0-148			2.71	20
(S) Toluene-d8					*97.7*	*101*		*80.0-120*				
(S) 4-Bromofluorobenzene					*92.6*	*95.8*		*80.0-120*				
(S) 1,2-Dichloroethane-d4					*109*	*105*		*70.0-130*				

Method Blank (MB)

(MB) R4087162-1 06/26/24 20:55

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	*104*			*70.0-130*
(S) 1-chlorooctane	*101*			*70.0-130*

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

(LCS) R4087162-2 06/26/24 21:10 • (LCSD) R4087162-3 06/26/24 21:26

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	38.1	37.5	91.4	89.9	75.0-125			1.59	20
TPH C12 - C28	41.7	41.4	41.9	99.3	100	75.0-125			1.20	20
TPH C6 - C35	83.4	79.5	79.4	95.3	95.2	75.0-125			0.126	20
(S) o-Terphenyl				*95.8*	*98.1*	*70.0-130*				
(S) 1-chlorooctane				*96.9*	*95.1*	*70.0-130*				

Method Blank (MB)

(MB) R4086423-3 06/25/24 01:23

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

Method Blank (MB)

(MB) R4086423-3 06/25/24 01:23

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	*125*			*15.0-314*
(S) 2-Fluorobiphenyl	*117*			*22.0-127*
(S) p-Terphenyl-d14	*132*			*29.0-141*
(S) Phenol-d5	*44.5*			*8.00-424*
(S) 2-Fluorophenol	*70.0*			*10.0-120*
(S) 2,4,6-Tribromophenol	*107*			*10.0-153*

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0381	76.2	47.0-145	
Acenaphthylene	0.0500	0.0424	84.8	33.0-145	
Anthracene	0.0500	0.0416	83.2	27.0-133	
Benzidine	0.100	0.0152	15.2	1.00-120	
Benzo(a)anthracene	0.0500	0.0458	91.6	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0483	96.6	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0493	98.6	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0356	71.2	1.00-219	
Benzo(a)pyrene	0.0500	0.0455	91.0	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0389	77.8	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0416	83.2	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0385	77.0	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0456	91.2	53.0-127	

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0387	77.4	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0453	90.6	25.0-158	
Chrysene	0.0500	0.0434	86.8	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0358	71.6	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0827	82.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0471	94.2	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0459	91.8	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0411	82.2	37.0-125	N2
Fluoranthene	0.0500	0.0427	85.4	26.0-137	
Fluorene	0.0500	0.0405	81.0	59.0-121	
Hexachlorobenzene	0.0500	0.0426	85.2	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0426	85.2	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0406	81.2	10.0-120	
Hexachloroethane	0.0500	0.0382	76.4	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0365	73.0	1.00-171	
Isophorone	0.0500	0.0393	78.6	21.0-196	
Naphthalene	0.0500	0.0349	69.8	21.0-133	
Nitrobenzene	0.0500	0.0395	79.0	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0372	74.4	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0414	82.8	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0432	86.4	1.00-230	
Phenanthrene	0.0500	0.0415	83.0	54.0-120	
Benzylbutyl phthalate	0.0500	0.0513	103	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0470	94.0	8.00-158	
Di-n-butyl phthalate	0.0500	0.0430	86.0	1.00-120	
Diethyl phthalate	0.0500	0.0422	84.4	1.00-120	
Dimethyl phthalate	0.0500	0.0427	85.4	1.00-120	
Di-n-octyl phthalate	0.0500	0.0431	86.2	4.00-146	
Pyrene	0.0500	0.0513	103	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0394	78.8	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0365	73.0	22.0-147	
2-Chlorophenol	0.0500	0.0338	67.6	23.0-134	
2,4-Dichlorophenol	0.0500	0.0381	76.2	39.0-135	
2,4-Dimethylphenol	0.0500	0.0441	88.2	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0596	119	1.00-181	
2,4-Dinitrophenol	0.0500	0.0592	118	1.00-191	
2-Nitrophenol	0.0500	0.0421	84.2	29.0-182	
4-Nitrophenol	0.0500	0.0179	35.8	1.00-132	
Pentachlorophenol	0.0500	0.0366	73.2	14.0-176	
Phenol	0.0500	0.0185	37.0	5.00-120	

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0472	94.4	37.0-144	
(S) Nitrobenzene-d5			*76.5*	*15.0-314*	
(S) 2-Fluorobiphenyl			*86.2*	*22.0-127*	
(S) p-Terphenyl-d14			*95.8*	*29.0-141*	
(S) Phenol-d5			*30.9*	*8.00-424*	
(S) 2-Fluorophenol			*44.6*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*83.5*	*10.0-153*	

L1748378-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748378-01 06/25/24 02:27 • (MS) R4086423-4 06/25/24 02:48 • (MSD) R4086423-5 06/25/24 03:09

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	0.0416	0.0404	83.2	80.8	1	47.0-145			2.93	48
Acenaphthylene	0.0500	ND	0.0460	0.0447	92.0	89.4	1	33.0-145			2.87	74
Anthracene	0.0500	ND	0.0449	0.0445	89.8	89.0	1	27.0-133			0.895	66
Benzidine	0.100	ND	0.0465	0.0166	46.5	16.6	1	1.00-120		J3	94.8	40
Benzo(a)anthracene	0.0500	ND	0.0471	0.0456	94.2	91.2	1	33.0-143			3.24	53
Benzo(b)fluoranthene	0.0500	ND	0.0457	0.0450	91.4	90.0	1	24.0-159			1.54	71
Benzo(k)fluoranthene	0.0500	ND	0.0462	0.0457	92.4	91.4	1	11.0-162			1.09	63
Benzo(g,h,i)perylene	0.0500	ND	0.0440	0.0397	88.0	79.4	1	1.00-219			10.3	97
Benzo(a)pyrene	0.0500	ND	0.0454	0.0445	90.8	89.0	1	17.0-163			2.00	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0412	0.0408	82.4	81.6	1	33.0-184			0.976	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0439	0.0464	87.8	92.8	1	12.0-158			5.54	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0430	0.0405	86.0	81.0	1	36.0-166			5.99	76
4-Bromophenyl-phenylether	0.0500	ND	0.0463	0.0472	92.6	94.4	1	53.0-127			1.93	43
2-Chloronaphthalene	0.0500	ND	0.0406	0.0401	81.2	80.2	1	60.0-120			1.24	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0496	0.0485	99.2	97.0	1	25.0-158			2.24	61
Chrysene	0.0500	ND	0.0458	0.0438	91.6	87.6	1	17.0-168			4.46	87
Dibenz(a,h)anthracene	0.0500	ND	0.0438	0.0405	87.6	81.0	1	1.00-227			7.83	126
3,3-Dichlorobenzidine	0.100	ND	0.100	0.0954	100	95.4	1	1.00-262			4.71	108
2,4-Dinitrotoluene	0.0500	ND	0.0562	0.0538	112	108	1	39.0-139			4.36	42
2,6-Dinitrotoluene	0.0500	ND	0.0516	0.0499	103	99.8	1	50.0-158			3.35	48
1,2-Diphenylhydrazine	0.0500	ND	0.0469	0.0451	93.8	90.2	1	18.0-156	N2	N2	3.91	34
Fluoranthene	0.0500	ND	0.0492	0.0476	98.4	95.2	1	26.0-137			3.31	66
Fluorene	0.0500	ND	0.0457	0.0439	91.4	87.8	1	59.0-121			4.02	38
Hexachlorobenzene	0.0500	ND	0.0431	0.0436	86.2	87.2	1	1.00-152			1.15	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0435	0.0446	87.0	89.2	1	24.0-120			2.50	62
Hexachlorocyclopentadiene	0.0500	ND	0.0384	0.0393	76.8	78.6	1	10.0-146			2.32	34

L1748378-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748378-01 06/25/24 02:27 • (MS) R4086423-4 06/25/24 02:48 • (MSD) R4086423-5 06/25/24 03:09

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	0.0421	0.0408	84.2	81.6	1	40.0-120			3.14	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0430	0.0395	86.0	79.0	1	1.00-171			8.48	99
Isophorone	0.0500	ND	0.0423	0.0414	84.6	82.8	1	21.0-196			2.15	93
Naphthalene	0.0500	ND	0.0365	0.0363	73.0	72.6	1	21.0-133			0.549	65
Nitrobenzene	0.0500	ND	0.0409	0.0409	81.8	81.8	1	35.0-180			0.000	62
n-Nitrosodimethylamine	0.0500	ND	0.0446	0.0399	89.2	79.8	1	10.0-120			11.1	40
n-Nitrosodiphenylamine	0.0500	ND	0.0434	0.0437	86.8	87.4	1	16.0-160			0.689	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0490	0.0460	98.0	92.0	1	1.00-230			6.32	87
Phenanthrene	0.0500	ND	0.0446	0.0440	89.2	88.0	1	54.0-120			1.35	39
Benzylbutyl phthalate	0.0500	ND	0.0490	0.0500	98.0	100	1	1.00-152			2.02	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0446	0.0443	89.2	88.6	1	8.00-158			0.675	82
Di-n-butyl phthalate	0.0500	ND	0.0465	0.0468	93.0	93.6	1	1.00-120			0.643	47
Diethyl phthalate	0.0500	ND	0.0485	0.0470	97.0	94.0	1	1.00-120			3.14	100
Dimethyl phthalate	0.0500	ND	0.0481	0.0471	96.2	94.2	1	1.00-120			2.10	183
Di-n-octyl phthalate	0.0500	ND	0.0469	0.0449	93.8	89.8	1	4.00-146			4.36	69
Pyrene	0.0500	ND	0.0470	0.0480	94.0	96.0	1	52.0-120			2.11	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0401	0.0409	80.2	81.8	1	44.0-142			1.98	50
4-Chloro-3-methylphenol	0.0500	ND	0.0432	0.0385	86.4	77.0	1	22.0-147			11.5	73
2-Chlorophenol	0.0500	ND	0.0388	0.0346	77.6	69.2	1	23.0-134			11.4	61
2,4-Dichlorophenol	0.0500	ND	0.0419	0.0400	83.8	80.0	1	39.0-135			4.64	50
2,4-Dimethylphenol	0.0500	ND	0.0493	0.0463	98.6	92.6	1	32.0-120			6.28	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0619	0.0617	124	123	1	1.00-181			0.324	203
2,4-Dinitrophenol	0.0500	ND	0.0621	0.0572	124	114	1	1.00-191			8.21	132
2-Nitrophenol	0.0500	ND	0.0446	0.0443	89.2	88.6	1	29.0-182			0.675	55
4-Nitrophenol	0.0500	ND	0.0221	0.0186	44.2	37.2	1	1.00-132			17.2	131
Pentachlorophenol	0.0500	ND	0.0357	0.0354	71.4	70.8	1	14.0-176			0.844	86
Phenol	0.0500	ND	0.0226	0.0214	45.2	42.8	1	5.00-120			5.45	64
2,4,6-Trichlorophenol	0.0500	ND	0.0504	0.0493	101	98.6	1	37.0-144			2.21	58
(S) Nitrobenzene-d5					*79.1*	*78.0*		*15.0-314*				
(S) 2-Fluorobiphenyl					*86.3*	*85.9*		*22.0-127*				
(S) p-Terphenyl-d14					*82.5*	*84.3*		*29.0-141*				
(S) Phenol-d5					*36.0*	*33.7*		*8.00-424*				
(S) 2-Fluorophenol					*51.5*	*48.0*		*10.0-120*				
(S) 2,4,6-Tribromophenol					*83.5*	*87.0*		*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
B1	The blank depletion was greater than the recommended maximum depletion of 0.2mg/L.
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.

ACCREDITATIONS & LOCATIONS

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	LAO000356
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.

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET

Phone: 405-228-4308
Client Project # 212C-MM-02831
Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels
Site/Facility ID # CCR
P.O. #

Collected by (signature):
Immediately Packed on Ice N ____ Y ____

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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	625.1 100ml Amb-NaTio	ALK,ALKCA,ALKBI 1L-HDPE NoPres	BOD,CBOD,MBAS 500mlHDPE-NoPres	CHLORR 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH (Z12)	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3 (Z2)	GROSS ALPHA/BETA 500mlHDPE-Add HNO3 (Z2)	IODIDE 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3 (Z2)	Remarks	Sample # (lab only)
FEED	G	GW		6-18-24	0915	28	X	X	X	X	X	X			X	X		-01
FEED PFAS		GW				26												
FEED RAD	G	NPW		6-18-24	0915	2							X	X				
						4												
						06-19-24												
						CR												

* 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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No (Yes) HCL / MeoH TBR
	6-18-24	1600	James Carter	1
Relinquished by : (Signature) James Carter	6/18/24	1650	Received by: (Signature)	Temp: °C Bottles Received: 30
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) CROWLAND	Date: 06-19-24 Time: 0800

Hold: | Condition: NCF / OK (OK)

Chain of Custody Page 1 of 1

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/hubfs/pas-standard-terms.pdf

SDG # L1748035
B171

Acctnum: DEVENEOCOK
Template: T253929
Prelogin: P1082827
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEx Priority

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

PH-10BDH4321
TRC-3223A228

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET

Phone: 405-228-4308
Client Project # 212C-HN-02831
Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print):
Site/Facility ID # CCR
P.O. #

Collected by (signature):
Immediately Packed on Ice N ____ Y ____
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

Chain of Custody Page A 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/hubfs/pas-standard-terms.pdf

SDG # L748035
Table #
Acctnum: DEVENEOCOK
Template: T253929
Prelogin: P1082827
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEx Priority

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NH3 250mlHDPENaThioH2SO4	OGHEX 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-trwted	Remarks	Sample # (lab only)
Pres Chk							L2											
FEED	G	GW		6-18-24	0915	28	X	X		X		X	X	X	X	X		-01
FEED PFAS	G	GW		6-18-24	0915	20			X									
FEED RAD	G	NPW		6-18-24	0915	2					X							
						06-19-24 CR												

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
[signature]	6-18-24	1600	[signature]	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 30
[signature]	6/18/24	16:30		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			CROPER	06-19-24 0800

If preservation required by Login: Date/Time
Hold:
Condition: NCF / OK

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-HN-02831

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # SCR

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ____ Y ____

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

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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/hubfs/pas-standard-terms.pdf

SDG # L1748035

Table #

Acctnum: DEVENEOCOK
Template: T253929
Prelogin: P1082827
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEX Priority

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TSS 1L-HDPE NoPres	UV-254 100ml Amb NoPres	V624.1 40mlAmb-HCl	WetChem 125mlHDPE-NoPres	WetChem 250mlHDPE-H2SO4	WetChem 250mlHDPE-NoPres	Remarks	Sample # (lab only)
FEED	G	GW		6-18-24	0915	28	X	X	X	X	X	X		-01
~~FEED PFAS~~ DD		~~GW~~ DD												
~~FEED RAD~~ DD		~~NPW~~ DD												

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	6-18-24	1600		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 30
	6/18/24	16:32		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				06-19-24 0800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

L1748035

Tracking Numbers		Temperature
SWA		5.3+0.3=5.6 EDAL6
SWA		4.8+0.3=5.1 EDAL6

Name

Date

Pace Analytical®

ANALYTICAL REPORT

July 24, 2024

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

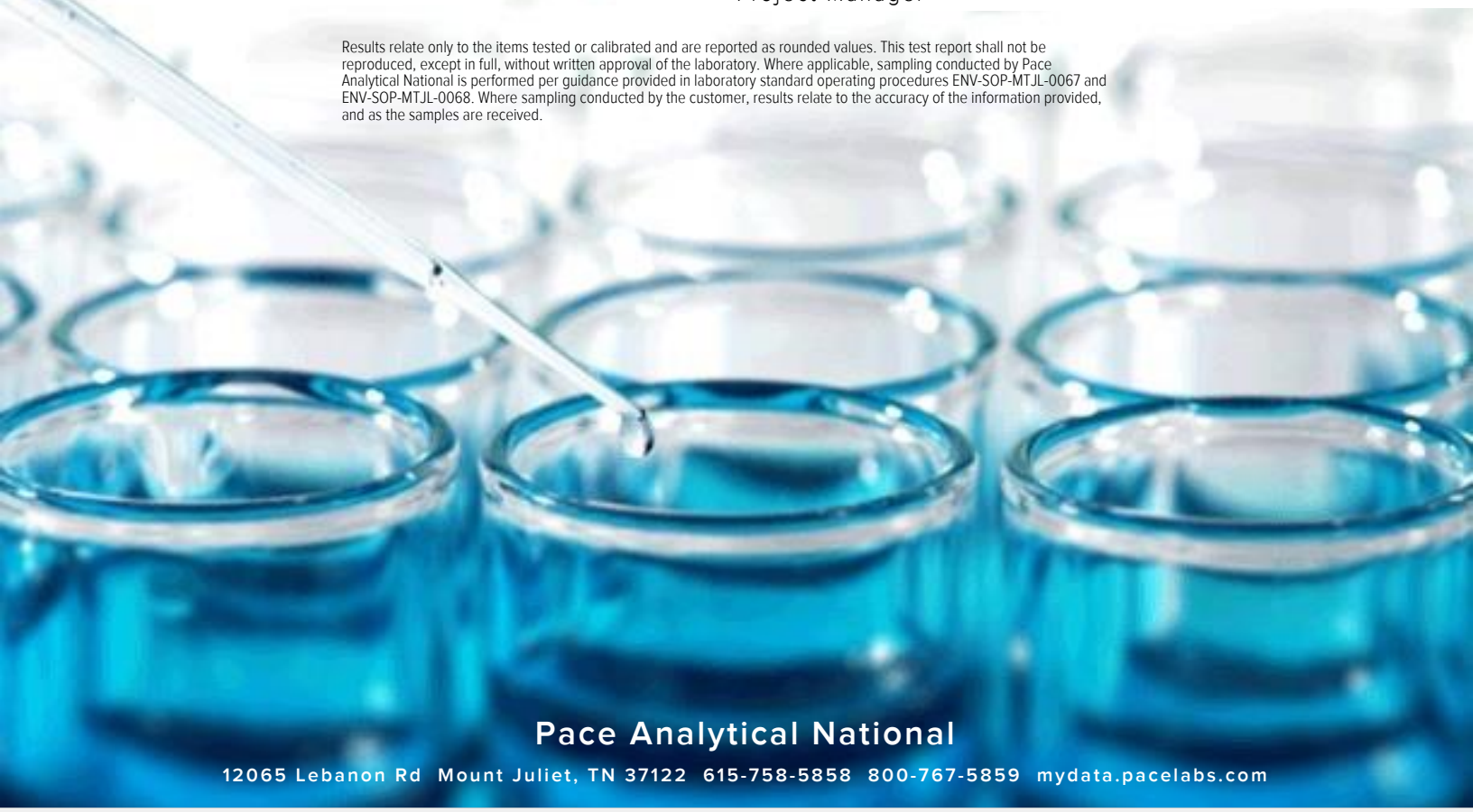
Devon Energy - Oklahoma City, OK

Sample Delivery Group:	L1748038
Samples Received:	06/19/2024
Project Number:	212C-HN-02831
Description:	Desalination Pilot
Report To:	Paul Barbour 333 W Sheridan Avenue Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

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

TABLE OF CONTENTS

POST ELECTROLYSIS L1748038-01 WW

Collected by	Collected date/time	Received date/time
DD	06/18/24 08:30	06/19/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311717	1	06/28/24 08:27	06/28/24 08:27	JTM	Mt. Juliet, TN
Calculated Results	WG2311974	1	07/03/24 10:50	07/03/24 10:50	JAS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2310328	1	06/22/24 15:57	06/23/24 12:59	MMF	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2309483	1	06/21/24 15:42	06/21/24 16:39	DLS	Mt. Juliet, TN
Wet Chemistry by Method 120.1	WG2308089	1	06/21/24 14:30	06/21/24 14:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG2311658	1	06/25/24 19:00	06/27/24 13:49	CAT	Mt. Juliet, TN
Wet Chemistry by Method 1664A	WG2311324	1	06/25/24 02:02	06/25/24 09:59	MAB	Mt. Juliet, TN
Wet Chemistry by Method 2120 B-2011	WG2308465	1	06/20/24 08:37	06/20/24 08:37	ARV	Mt. Juliet, TN
Wet Chemistry by Method 2130 B-2011	WG2307889	1	06/19/24 11:01	06/19/24 11:01	SJA	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2309184	1	06/21/24 12:40	06/21/24 12:40	KA	Mt. Juliet, TN
Wet Chemistry by Method 2580	WG2310018	1	06/22/24 22:00	06/22/24 22:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2307978	1	06/20/24 00:05	06/20/24 00:05	JDG	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2309479	1	06/23/24 00:18	06/23/24 00:18	JDG	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2311974	1	06/26/24 15:43	06/26/24 15:43	LAS	Mt. Juliet, TN
Wet Chemistry by Method 3500Cr B-2011	WG2308449	1	06/20/24 09:51	06/20/24 09:51	ARV	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2316294	1	07/02/24 22:00	07/03/24 10:50	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2307824	1	06/19/24 20:26	06/19/24 20:26	JAS	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG2309444	1	06/21/24 11:00	06/21/24 16:46	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500Cl G-2011	WG2308884	1	06/20/24 11:41	06/20/24 11:41	ARV	Mt. Juliet, TN
Wet Chemistry by Method 4500CN E-2016	WG2310563	1	06/25/24 10:00	06/25/24 22:09	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2307966	1	06/19/24 18:00	06/19/24 18:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2312371	1	06/25/24 16:54	06/25/24 16:54	LGG	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG2308068	5	06/19/24 15:36	06/19/24 15:36	SJA	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2307315	1	06/20/24 10:12	06/20/24 10:12	SDE	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2306540	1	06/20/24 14:00	06/20/24 14:00	SJA	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2308661	1	06/20/24 08:18	06/25/24 07:54	RLS	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2016	WG2308722	1	06/20/24 08:18	06/25/24 08:09	RLS	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2308789	1	06/20/24 13:04	06/20/24 23:24	SJF	Mt. Juliet, TN
Wet Chemistry by Method 5310 B-2014	WG2314468	1	06/29/24 20:57	06/29/24 20:57	ASH	Mt. Juliet, TN
Wet Chemistry by Method 5540 C-2011	WG2307580	1	06/19/24 09:17	06/19/24 15:02	ARV	Mt. Juliet, TN
Mercury by Method 245.1	WG2307893	1	06/19/24 13:14	06/20/24 16:39	NDL	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2311717	1	06/27/24 23:20	06/28/24 08:27	JTM	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2311717	1	06/27/24 23:20	06/29/24 13:20	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2311727	1	06/30/24 08:40	07/14/24 16:28	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2311727	10	06/30/24 08:40	07/14/24 12:39	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 624.1	WG2311331	1	06/25/24 02:58	06/25/24 02:58	GLN	Mt. Juliet, TN
TPH by TCEQ Method 1005	WG2312205	1	06/26/24 22:41	06/27/24 17:48	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2310759	1	06/24/24 15:11	06/25/24 04:55	AGW	Mt. Juliet, TN

CASE NARRATIVE

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

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
L1748038-01	POST ELECTROLYSIS	4500O G-2016, 1664A

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

Lab Sample ID	Project Sample ID	Method
L1748038-01	POST ELECTROLYSIS	300.0

Calculated Results

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Trivalent	ND		0.0100	1	06/28/2024 08:27	WG2311717
Organic Nitrogen	ND		0.250	1	07/03/2024 10:50	WG2311974

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	348		10.0	1	06/23/2024 12:59	WG2310328

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Suspended Solids	ND		10.0	1	06/21/2024 16:39	WG2309483

Wet Chemistry by Method 120.1

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	657		10.0	1	06/21/2024 14:30	WG2308089

Sample Narrative:

L1748038-01 WG2308089: at 25C

Wet Chemistry by Method 130.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	ND		30.0	1	06/27/2024 13:49	WG2311658

Wet Chemistry by Method 1664A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.49	1	06/25/2024 09:59	WG2311324

Wet Chemistry by Method 2120 B-2011

Analyte	Result pcu	Qualifier	RDL pcu	Dilution	Analysis date / time	Batch
Color, Apparent	1.00	Q	1.00	1	06/20/2024 08:37	WG2308465

Sample Narrative:

L1748038-01 WG2308465: 9.50

Wet Chemistry by Method 2130 B-2011

Analyte	Result NTU	Qualifier	RDL NTU	Dilution	Analysis date / time	Batch
Turbidity	0.937		0.400	1	06/19/2024 11:01	WG2307889

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	317		20.0	1	06/21/2024 12:40	WG2309184
Alkalinity,Bicarbonate	224		20.0	1	06/21/2024 12:40	WG2309184
Alkalinity,Carbonate	92.9		20.0	1	06/21/2024 12:40	WG2309184

Sample Narrative:

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
L1748038-01 WG2309184: Endpoint pH 4.5 headspace						

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	-2.20	P1 T8	1	06/22/2024 22:00	WG2310018

Wet Chemistry by Method 300.0

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
*Bromide	1.31	B	1.00	1	06/23/2024 00:18	WG2309479
Chloride	16.3		1.00	1	06/20/2024 00:05	WG2307978
Fluoride	ND		0.150	1	06/20/2024 00:05	WG2307978
Nitrate as (N)	ND	Q	0.100	1	06/23/2024 00:18	WG2309479
Nitrite as (N)	ND		0.100	1	06/20/2024 00:05	WG2307978
Sulfate	ND		5.00	1	06/20/2024 00:05	WG2307978

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	ND		0.250	1	06/26/2024 15:43	WG2311974

Wet Chemistry by Method 3500Cr B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	Q	0.0100	1	06/20/2024 09:51	WG2308449

Wet Chemistry by Method 351.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	ND		0.250	1	07/03/2024 10:50	WG2316294

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	06/19/2024 20:26	WG2307824

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	ND		20.0	1	06/21/2024 16:46	WG2309444

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	06/20/2024 11:41	WG2308884

Wet Chemistry by Method 4500CN E-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	06/25/2024 22:09	WG2310563

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.44	T8	1	06/19/2024 18:00	WG2307966

Sample Narrative:
L1748038-01 WG2307966: 9.44 at 20.6C

Wet Chemistry by Method 4500O G-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Oxygen	8.9 at 21.0c	T8	3	1	06/25/2024 16:54	WG2312371

Wet Chemistry by Method 4500P E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphate,Ortho	1.02		0.150	5	06/19/2024 15:36	WG2308068

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	ND		0.0500	1	06/20/2024 10:12	WG2307315

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfite	ND	T8	3.00	1	06/20/2024 14:00	WG2306540

Wet Chemistry by Method 5210 B-2016

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
BOD	25.3	K9	3.33	1	06/25/2024 07:54	WG2308661
CBOD	11.8	J-	3.33	1	06/25/2024 08:09	WG2308722

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
DOC	4.51	Q	1.00	1	06/20/2024 23:24	WG2308789

Wet Chemistry by Method 5310 B-2014

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	5.73		1.00	1	06/29/2024 20:57	WG2314468

Wet Chemistry by Method 5540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
MBAS	ND		0.100	1	06/19/2024 15:02	WG2307580

Mercury by Method 245.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	06/20/2024 16:39	WG2307893

POST ELECTROLYSIS

SAMPLE RESULTS - 01

Collected date/time: 06/18/24 08:30

L1748038

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Aluminum	ND		0.200	1	06/28/2024 08:27	WG2311717
Antimony	ND		0.0100	1	06/28/2024 08:27	WG2311717
Arsenic	ND		0.0100	1	06/28/2024 08:27	WG2311717
Barium	ND		0.00500	1	06/28/2024 08:27	WG2311717
Beryllium	ND		0.00200	1	06/28/2024 08:27	WG2311717
Cadmium	ND		0.00200	1	06/28/2024 08:27	WG2311717
Chromium	ND		0.0100	1	06/28/2024 08:27	WG2311717
Copper	ND		0.0100	1	06/28/2024 08:27	WG2311717
Lead	ND		0.00500	1	06/28/2024 08:27	WG2311717
Lithium	ND		0.0150	1	06/28/2024 08:27	WG2311717
Nickel	ND		0.0100	1	06/28/2024 08:27	WG2311717
Selenium	ND		0.0100	1	06/28/2024 08:27	WG2311717
Silicon	4.47		0.200	1	06/28/2024 08:27	WG2311717
Silver	ND		0.00500	1	06/29/2024 13:20	WG2311717
Strontium	0.0210		0.0100	1	06/28/2024 08:27	WG2311717
Thallium	ND		0.0100	1	06/28/2024 08:27	WG2311717
Vanadium	ND		0.0200	1	06/28/2024 08:27	WG2311717
Zinc	ND		0.0500	1	06/28/2024 08:27	WG2311717
Phosphorus	1.05		0.100	1	06/28/2024 08:27	WG2311717

Metals (ICPMS) by Method 200.8

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	1.29		0.400	10	07/14/2024 12:39	WG2311727
Calcium	ND		1.00	1	07/14/2024 16:28	WG2311727
Cobalt	ND		0.00200	1	07/14/2024 16:28	WG2311727
Iron	ND		0.100	1	07/14/2024 16:28	WG2311727
Magnesium	ND		1.00	1	07/14/2024 16:28	WG2311727
Manganese	ND		0.00500	1	07/14/2024 16:28	WG2311727
Molybdenum	ND		0.00500	1	07/14/2024 16:28	WG2311727
Potassium	ND		1.00	1	07/14/2024 16:28	WG2311727
Sodium	153		2.00	1	07/14/2024 16:28	WG2311727
Tin	0.00423		0.00400	1	07/14/2024 16:28	WG2311727
Titanium	ND		0.0100	1	07/14/2024 16:28	WG2311727

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00149		0.00100	1	06/25/2024 02:58	WG2311331
Bromodichloromethane	ND		0.00100	1	06/25/2024 02:58	WG2311331
Bromoform	ND		0.00100	1	06/25/2024 02:58	WG2311331
Bromomethane	ND	J3	0.00500	1	06/25/2024 02:58	WG2311331
Carbon tetrachloride	ND		0.00100	1	06/25/2024 02:58	WG2311331
Chlorobenzene	ND		0.00100	1	06/25/2024 02:58	WG2311331
Chlorodibromomethane	ND		0.00100	1	06/25/2024 02:58	WG2311331
Chloroethane	ND		0.00500	1	06/25/2024 02:58	WG2311331
2-Chloroethyl vinyl ether	ND		0.0500	1	06/25/2024 02:58	WG2311331
Chloroform	ND		0.00500	1	06/25/2024 02:58	WG2311331
Chloromethane	ND		0.00250	1	06/25/2024 02:58	WG2311331
1,2-Dichlorobenzene	ND		0.00100	1	06/25/2024 02:58	WG2311331
1,3-Dichlorobenzene	ND		0.00100	1	06/25/2024 02:58	WG2311331
1,4-Dichlorobenzene	ND		0.00100	1	06/25/2024 02:58	WG2311331
Dichlorodifluoromethane	ND		0.00500	1	06/25/2024 02:58	WG2311331
1,1-Dichloroethane	ND		0.00100	1	06/25/2024 02:58	WG2311331
1,2-Dichloroethane	ND		0.00100	1	06/25/2024 02:58	WG2311331

Volatile Organic Compounds (GC/MS) by Method 624.1

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	ND		0.00100	1	06/25/2024 02:58	WG2311331
trans-1,2-Dichloroethene	ND		0.00100	1	06/25/2024 02:58	WG2311331
1,2-Dichloropropane	ND		0.00100	1	06/25/2024 02:58	WG2311331
cis-1,3-Dichloropropene	ND		0.00100	1	06/25/2024 02:58	WG2311331
trans-1,3-Dichloropropene	ND		0.00100	1	06/25/2024 02:58	WG2311331
Ethylbenzene	ND		0.00100	1	06/25/2024 02:58	WG2311331
Methylene Chloride	ND		0.00500	1	06/25/2024 02:58	WG2311331
Methyl tert-butyl ether	ND		0.00100	1	06/25/2024 02:58	WG2311331
Naphthalene	ND		0.00500	1	06/25/2024 02:58	WG2311331
1,1,2,2-Tetrachloroethane	ND		0.00100	1	06/25/2024 02:58	WG2311331
Tetrachloroethene	ND		0.00100	1	06/25/2024 02:58	WG2311331
Toluene	0.00162		0.00100	1	06/25/2024 02:58	WG2311331
1,1,1-Trichloroethane	ND		0.00100	1	06/25/2024 02:58	WG2311331
1,1,2-Trichloroethane	ND		0.00100	1	06/25/2024 02:58	WG2311331
Trichloroethene	ND		0.00100	1	06/25/2024 02:58	WG2311331
Trichlorofluoromethane	ND		0.00500	1	06/25/2024 02:58	WG2311331
Vinyl chloride	ND		0.00100	1	06/25/2024 02:58	WG2311331
o-Xylene	ND		0.00100	1	06/25/2024 02:58	WG2311331
m&p-Xylene	ND		0.00200	1	06/25/2024 02:58	WG2311331
Xylenes, Total	ND		0.00300	1	06/25/2024 02:58	WG2311331
(S) Toluene-d8	*105*		*80.0-120*		*06/25/2024 02:58*	WG2311331
(S) 4-Bromofluorobenzene	*96.9*		*80.0-120*		*06/25/2024 02:58*	WG2311331
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*06/25/2024 02:58*	WG2311331

TPH by TCEQ Method 1005

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH C6 - C12	ND		0.900	1	06/27/2024 17:48	WG2312205
TPH C12 - C28	ND		0.900	1	06/27/2024 17:48	WG2312205
TPH C28 - C35	ND		0.900	1	06/27/2024 17:48	WG2312205
TPH C6 - C35	ND		0.900	1	06/27/2024 17:48	WG2312205
(S) o-Terphenyl	*89.4*		*70.0-130*		*06/27/2024 17:48*	WG2312205
(S) 1-chlorooctane	*84.9*		*70.0-130*		*06/27/2024 17:48*	WG2312205

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	06/25/2024 04:55	WG2310759
Acenaphthylene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Anthracene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Benzidine	ND		0.0100	1	06/25/2024 04:55	WG2310759
Benzo(a)anthracene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Benzo(b)fluoranthene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Benzo(k)fluoranthene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Benzo(g,h,i)perylene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Benzo(a)pyrene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Bis(2-chlorethoxy)methane	ND		0.0100	1	06/25/2024 04:55	WG2310759
Bis(2-chloroethyl)ether	ND		0.0100	1	06/25/2024 04:55	WG2310759
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	06/25/2024 04:55	WG2310759
4-Bromophenyl-phenylether	ND		0.0100	1	06/25/2024 04:55	WG2310759
2-Chloronaphthalene	ND		0.00100	1	06/25/2024 04:55	WG2310759
4-Chlorophenyl-phenylether	ND		0.0100	1	06/25/2024 04:55	WG2310759
Chrysene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Dibenz(a,h)anthracene	ND		0.00100	1	06/25/2024 04:55	WG2310759
3,3-Dichlorobenzidine	ND		0.0100	1	06/25/2024 04:55	WG2310759

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-Dinitrotoluene	ND		0.0100	1	06/25/2024 04:55	WG2310759
2,6-Dinitrotoluene	ND		0.0100	1	06/25/2024 04:55	WG2310759
1,2-Diphenylhydrazine	ND	N2	0.0100	1	06/25/2024 04:55	WG2310759
Fluoranthene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Fluorene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Hexachlorobenzene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Hexachloro-1,3-butadiene	ND		0.0100	1	06/25/2024 04:55	WG2310759
Hexachlorocyclopentadiene	ND		0.0100	1	06/25/2024 04:55	WG2310759
Hexachloroethane	ND		0.0100	1	06/25/2024 04:55	WG2310759
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Isophorone	ND		0.0100	1	06/25/2024 04:55	WG2310759
Naphthalene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Nitrobenzene	ND		0.0100	1	06/25/2024 04:55	WG2310759
n-Nitrosodimethylamine	ND		0.0100	1	06/25/2024 04:55	WG2310759
n-Nitrosodiphenylamine	ND		0.0100	1	06/25/2024 04:55	WG2310759
n-Nitrosodi-n-propylamine	ND		0.0100	1	06/25/2024 04:55	WG2310759
Phenanthrene	ND		0.00100	1	06/25/2024 04:55	WG2310759
Benzylbutyl phthalate	ND		0.00300	1	06/25/2024 04:55	WG2310759
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	06/25/2024 04:55	WG2310759
Di-n-butyl phthalate	0.0156		0.00300	1	06/25/2024 04:55	WG2310759
Diethyl phthalate	ND		0.00300	1	06/25/2024 04:55	WG2310759
Dimethyl phthalate	ND		0.00300	1	06/25/2024 04:55	WG2310759
Di-n-octyl phthalate	ND		0.00300	1	06/25/2024 04:55	WG2310759
Pyrene	ND		0.00100	1	06/25/2024 04:55	WG2310759
1,2,4-Trichlorobenzene	ND		0.0100	1	06/25/2024 04:55	WG2310759
4-Chloro-3-methylphenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
2-Chlorophenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
2,4-Dichlorophenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
2,4-Dimethylphenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
4,6-Dinitro-2-methylphenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
2,4-Dinitrophenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
2-Nitrophenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
4-Nitrophenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
Pentachlorophenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
Phenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
2,4,6-Trichlorophenol	ND		0.0100	1	06/25/2024 04:55	WG2310759
(S) Nitrobenzene-d5	*76.6*		*15.0-314*		*06/25/2024 04:55*	WG2310759
(S) 2-Fluorobiphenyl	*70.4*		*22.0-127*		*06/25/2024 04:55*	WG2310759
(S) p-Terphenyl-d14	*96.4*		*29.0-141*		*06/25/2024 04:55*	WG2310759
(S) Phenol-d5	*24.2*		*8.00-424*		*06/25/2024 04:55*	WG2310759
(S) 2-Fluorophenol	*34.2*		*10.0-120*		*06/25/2024 04:55*	WG2310759
(S) 2,4,6-Tribromophenol	*77.5*		*10.0-153*		*06/25/2024 04:55*	WG2310759

Method Blank (MB)

(MB) R4086574-1 06/23/24 12:59

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

L1748038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748038-01 06/23/24 12:59 • (DUP) R4086574-3 06/23/24 12:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	348	363	1	4.22		10

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/23/24 12:59 • (DUP) R4086574-4 06/23/24 12:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	52.0	50.0	1	3.92		10

Laboratory Control Sample (LCS)

(LCS) R4086574-2 06/23/24 12:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8500	96.6	85.0-115	

Method Blank (MB)

(MB) R4085122-1 06/21/24 16:39

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

L1747759-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747759-01 06/21/24 16:39 • (DUP) R4085122-3 06/21/24 16:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	30.0	32.0	1	6.45		10

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/21/24 16:39 • (DUP) R4085122-4 06/21/24 16:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	91.0	93.0	1	2.17		10

Laboratory Control Sample (LCS)

(LCS) R4085122-2 06/21/24 16:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	840	109	85.0-115	

Method Blank (MB)

(MB) R4084886-1 06/21/24 14:30

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

Sample Narrative:
BLANK: at 25C

L1747965-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747965-01 06/21/24 14:30 • (DUP) R4084886-3 06/21/24 14:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	3340	3290	1	1.51		20

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

L1748140-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748140-01 06/21/24 14:30 • (DUP) R4084886-4 06/21/24 14:30

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

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

Laboratory Control Sample (LCS)

(LCS) R4084886-2 06/21/24 14:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	726	99.0	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4087367-1 06/27/24 13:42

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

L1748327-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748327-01 06/27/24 13:53 • (DUP) R4087367-3 06/27/24 13:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	135	127	1	6.11		20

Laboratory Control Sample (LCS)

(LCS) R4087367-2 06/27/24 13:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hardness (colorimetric) as CaCO3	100	104	104	85.0-115	

L1748711-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748711-01 06/27/24 13:58 • (MS) R4087367-4 06/27/24 13:59 • (MSD) R4087367-5 06/27/24 14:00

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 %
Hardness (colorimetric) as CaCO3	500	505	975	980	94.0	95.0	5	80.0-120			0.512	20

Method Blank (MB)

(MB) R4086062-1 06/25/24 09:59

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

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

(LCS) R4086062-2 06/25/24 09:59 • (LCSD) R4086062-3 06/25/24 09:59

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	32.6	36.7	81.5	91.8	78.0-114			11.8	20

L1748017-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748017-01 06/25/24 09:59 • (MS) R4086062-4 06/25/24 09:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	5.84	43.7	94.8	1	78.0-114	

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/20/24 08:37 • (DUP) R4084088-1 06/20/24 08:37

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

Sample Narrative:

OS: 8.72

DUP: 8.72

Method Blank (MB)

(MB) R4083639-1 06/19/24 11:01

Analyte	MB Result NTU	MB Qualifier	MB MDL NTU	MB RDL NTU
Turbidity	U		0.200	0.400

L1747713-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747713-01 06/19/24 11:01 • (DUP) R4083639-3 06/19/24 11:01

Analyte	Original Result NTU	DUP Result NTU	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Turbidity	1.90	1.90	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4083639-2 06/19/24 11:01

Analyte	Spike Amount NTU	LCS Result NTU	LCS Rec. %	Rec. Limits %	LCS Qualifier
Turbidity	40.0	37.0	92.5	90.0-110	

Method Blank (MB)

(MB) R4084931-2 06/21/24 12:18

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

L1747681-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747681-01 06/21/24 12:26 • (DUP) R4084931-3 06/21/24 12:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	291	293	1	0.669		20
Alkalinity,Bicarbonate	282	285	1	1.27		20
Alkalinity,Carbonate	ND	ND	1	200	P1	20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1748632-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748632-01 06/21/24 14:53 • (DUP) R4084931-4 06/21/24 14:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	111	115	1	2.75		20
Alkalinity,Bicarbonate	102	105	1	2.11		20
Alkalinity,Carbonate	ND	ND	1	9.69		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4084931-1 06/21/24 12:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	98.8	98.8	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

L1748017-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748017-01 06/22/24 22:00 • (DUP) R4085267-3 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	109	107	1	1.60		20

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/22/24 22:00 • (DUP) R4085267-4 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	179	177	1	1.50		20

L1748038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748038-01 06/22/24 22:00 • (DUP) R4085267-5 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	-2.20	1.50	1	1.50	P1	20

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/22/24 22:00 • (DUP) R4085267-6 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	81.4	86.8	1	5.40		20

L1748734-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-01 06/22/24 22:00 • (DUP) R4085267-7 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	61.9	64.4	1	2.50		20

L1748734-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-02 06/22/24 22:00 • (DUP) R4085267-8 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	64.8	64.0	1	0.800		20

L1748734-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-03 06/22/24 22:00 • (DUP) R4085267-9 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	72.7	74.5	1	1.80		20

L1748734-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-04 06/22/24 22:00 • (DUP) R4085267-10 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	57.7	61.9	1	4.20		20

L1748734-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-05 06/22/24 22:00 • (DUP) R4085267-11 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	77.0	75.4	1	1.60		20

L1748734-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-06 06/22/24 22:00 • (DUP) R4085267-12 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	88.5	88.1	1	0.400		20

L1748734-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-07 06/22/24 22:00 • (DUP) R4085267-13 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	56.5	60.5	1	4.00		20

L1748734-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-08 06/22/24 22:00 • (DUP) R4085267-14 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	74.1	74.2	1	0.100		20

L1748734-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-09 06/22/24 22:00 • (DUP) R4085267-15 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	75.7	79.2	1	3.50		20

L1748734-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-10 06/22/24 22:00 • (DUP) R4085267-16 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	98.9	98.1	1	0.800		20

L1748734-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-11 06/22/24 22:00 • (DUP) R4085267-17 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	95.8	96.1	1	0.300		20

L1748734-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1748734-12 06/22/24 22:00 • (DUP) R4085267-18 06/22/24 22:00

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	95.8	95.3	1	0.500		20

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

(LCS) R4085267-1 06/22/24 22:00 • (LCSD) R4085267-2 06/22/24 22:00

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	224	223	93.9	93.7	90.0-110			0.500	20

Method Blank (MB)

(MB) R4084492-1 06/19/24 20:16

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

L1748033-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748033-02 06/19/24 22:04 • (DUP) R4084492-3 06/19/24 22:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	44.0	45.2	1	2.73		15
Fluoride	0.269	0.259	1	3.60		15
Nitrite as (N)	0.103	ND	1	200	P1	15
Sulfate	22.9	23.7	1	3.12		15

L1748114-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748114-01 06/20/24 01:12 • (DUP) R4084492-6 06/20/24 01:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4.93	4.97	1	0.663		15
Fluoride	0.213	0.229	1	7.02		15
Nitrite as (N)	ND	ND	1	0.000		15
Sulfate	178	184	1	3.20		15

Laboratory Control Sample (LCS)

(LCS) R4084492-2 06/19/24 20:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	36.3	90.7	90.0-110	
Fluoride	8.00	7.39	92.4	90.0-110	
Nitrite as (N)	8.00	7.75	96.9	90.0-110	
Sulfate	40.0	36.2	90.6	90.0-110	

L1748033-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748033-02 06/19/24 22:04 • (MS) R4084492-4 06/19/24 22:31 • (MSD) R4084492-5 06/19/24 22:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	44.0	74.3	75.5	75.9	78.9	1	80.0-120	J6	J6	1.65	15
Fluoride	8.00	0.269	8.29	8.45	100	102	1	80.0-120			1.81	15
Nitrite as (N)	8.00	0.103	8.36	8.53	103	105	1	80.0-120			1.97	15
Sulfate	40.0	22.9	58.5	59.3	88.8	90.8	1	80.0-120			1.35	15

L1748114-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748114-01 06/20/24 01:12 • (MS) R4084492-7 06/20/24 01:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	4.93	42.3	93.4	1	80.0-120	
Fluoride	8.00	0.213	7.96	96.8	1	80.0-120	
Nitrite as (N)	8.00	ND	8.15	102	1	80.0-120	
Sulfate	40.0	178	181	7.93	1	80.0-120	V

Wet Chemistry by Method 300.0

Method Blank (MB)

(MB) R4085884-1 06/22/24 12:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	0.409	J	0.353	1.00
Nitrate as (N)	U		0.0480	0.100

L1748033-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748033-03 06/22/24 22:57 • (DUP) R4085884-3 06/22/24 23:11

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	ND	1	0.000		15
Nitrate as (N)	0.619	0.574	1	7.49		15

L1748254-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1748254-04 06/23/24 04:07 • (DUP) R4085884-6 06/23/24 04:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	1.45	1.43	1	1.68		15
Nitrate as (N)	1.29	1.27	1	1.58		15

Laboratory Control Sample (LCS)

(LCS) R4085884-2 06/22/24 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	36.9	92.2	90.0-110	
Nitrate as (N)	8.00	7.39	92.4	90.0-110	

L1748033-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748033-03 06/22/24 22:57 • (MS) R4085884-4 06/22/24 23:24 • (MSD) R4085884-5 06/22/24 23:38

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	39.3	37.4	98.3	93.4	1	80.0-120			5.08	15
Nitrate as (N)	8.00	0.619	8.51	8.07	98.7	93.1	1	80.0-120			5.40	15

L1748254-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748254-04 06/23/24 04:07 • (MS) R4085884-7 06/23/24 04:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Bromide	40.0	1.45	38.0	91.3	1	80.0-120	
Nitrate as (N)	8.00	1.29	8.82	94.2	1	80.0-120	

Method Blank (MB)

(MB) R4086842-1 06/26/24 14:44

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

L1747788-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747788-02 06/26/24 14:56 • (DUP) R4086842-5 06/26/24 14:58

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

L1747788-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1747788-04 06/26/24 15:07 • (DUP) R4086842-8 06/26/24 15:08

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) R4086842-2 06/26/24 14:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	8.02	107	90.0-110	

L1747788-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747788-01 06/26/24 14:52 • (MS) R4086842-3 06/26/24 14:53 • (MSD) R4086842-4 06/26/24 14:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	ND	5.59	5.53	108	107	1	90.0-110			0.953	10

L1747788-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747788-03 06/26/24 15:04 • (MS) R4086842-7 06/26/24 15:05

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	5.57	111	1	90.0-110	J5

Method Blank (MB)

(MB) R4084136-1 06/20/24 09:47

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

L1748035-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748035-01 06/20/24 09:51 • (DUP) R4084136-5 06/20/24 09:51

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

Laboratory Control Sample (LCS)

(LCS) R4084136-2 06/20/24 09:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.517	103	80.0-120	

L1748017-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748017-01 06/20/24 09:50 • (MS) R4084136-3 06/20/24 09:50 • (MSD) R4084136-4 06/20/24 09:50

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	0.543	0.521	109	104	1	75.0-125			4.14	20

Method Blank (MB)

(MB) R4089590-1 07/03/24 10:12

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

L1752027-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752027-01 07/03/24 10:25 • (DUP) R4089590-3 07/03/24 10:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	9.42	10.8	1	13.6		20

L1752040-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1752040-01 07/03/24 10:51 • (DUP) R4089590-6 07/03/24 10:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	101	99.5	10	1.50		20

Laboratory Control Sample (LCS)

(LCS) R4089590-2 07/03/24 10:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	14.7	120	80.0-120	

L1752027-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752027-01 07/03/24 10:25 • (MS) R4089590-4 07/03/24 10:30 • (MSD) R4089590-5 07/03/24 10:31

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 %
Kjeldahl Nitrogen, TKN	5.00	9.42	16.2	16.6	136	144	1	90.0-110	J5	J5	2.44	20

L1752040-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1752040-01 07/03/24 10:51 • (MS) R4089590-7 07/03/24 10:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	101	108	140	10	90.0-110	V

Method Blank (MB)

(MB) R4083991-1 06/19/24 19:49

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

L1747985-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747985-01 06/19/24 20:07 • (DUP) R4083991-3 06/19/24 20:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	1.81	1.84	1	1.64		20

L1747989-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1747989-03 06/19/24 20:12 • (DUP) R4083991-4 06/19/24 20:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.772	0.787	1	1.92		20

Laboratory Control Sample (LCS)

(LCS) R4083991-2 06/19/24 19:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.38	95.2	90.0-110	

L1748019-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748019-01 06/19/24 20:21 • (MS) R4083991-5 06/19/24 20:22 • (MSD) R4083991-6 06/19/24 20:23

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 %
Nitrate-Nitrite	2.50	ND	1.22	1.19	48.8	47.6	1	90.0-110	J6	J6	2.49	20

L1748057-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1748057-01 06/19/24 20:27 • (MS) R4083991-7 06/19/24 20:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	ND	1.86	74.4	1	90.0-110	J6

Method Blank (MB)

(MB) R4084938-1 06/21/24 16:44

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

L1748194-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748194-01 06/21/24 16:47 • (DUP) R4084938-5 06/21/24 16:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	532	553	1	3.79		20

L1748202-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748202-01 06/21/24 16:48 • (DUP) R4084938-6 06/21/24 16:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	612	611	1	0.182		20

Laboratory Control Sample (LCS)

(LCS) R4084938-2 06/21/24 16:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
COD	500	518	104	90.0-110	

L1745455-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1745455-02 06/21/24 16:44 • (MS) R4084938-3 06/21/24 16:44 • (MSD) R4084938-4 06/21/24 16:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	500	ND	520	533	104	107	1	90.0-110			2.58	20

Method Blank (MB)

(MB) R4084217-1 06/20/24 11:39

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

L1748057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748057-01 06/20/24 11:42 • (DUP) R4084217-4 06/20/24 11:42

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

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

(LCS) R4084217-2 06/20/24 11:39 • (LCSD) R4084217-3 06/20/24 11:40

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 %
Chlorine,residual	1.00	0.921	0.915	92.1	91.5	85.0-115			0.654	20

Method Blank (MB)

(MB) R4086420-1 06/25/24 21:27

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

L1747678-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747678-02 06/25/24 21:46 • (DUP) R4086420-5 06/25/24 21:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	200	P1	20

L1747717-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747717-01 06/25/24 21:50 • (DUP) R4086420-6 06/25/24 21:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	5.41		20

Laboratory Control Sample (LCS)

(LCS) R4086420-2 06/25/24 21:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.0967	96.7	87.1-120	

L1747529-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747529-02 06/25/24 21:36 • (MS) R4086420-3 06/25/24 21:37 • (MSD) R4086420-4 06/25/24 21:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0751	0.0840	71.9	80.8	1	90.0-110	J6	J6	11.2	20

L1747960-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747960-01 06/19/24 18:00 • (DUP) R4083988-2 06/19/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.82	7.80	1	0.256		1

Sample Narrative:
OS: 7.82 at 21.4C
DUP: 7.8 at 21.4C

L1748128-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748128-01 06/19/24 18:00 • (DUP) R4083988-3 06/19/24 18:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.37	8.38	1	0.119		1

Sample Narrative:
OS: 8.37 at 20.8C
DUP: 8.38 at 20.8C

Laboratory Control Sample (LCS)

(LCS) R4083988-1 06/19/24 18:00

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

Sample Narrative:
LCS: 10.03 at 21.7C

Method Blank (MB)

(MB) R4083842-1 06/19/24 15:33

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

L1748038-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748038-01 06/19/24 15:36 • (DUP) R4083842-3 06/19/24 15:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphate,Ortho	1.02	1.02	5	0.785		20

Laboratory Control Sample (LCS)

(LCS) R4083842-6 06/19/24 15:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphate,Ortho	0.245	0.237	96.9	85.0-115	

L1748129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748129-01 06/19/24 15:37 • (MS) R4083842-4 06/19/24 15:37 • (MSD) R4083842-5 06/19/24 15:37

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 %
Phosphate,Ortho	0.500	ND	0.490	0.496	98.0	99.2	1	80.0-120			1.22	20

Method Blank (MB)

(MB) R4084142-1 06/20/24 10:07

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

L1747989-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747989-01 06/20/24 10:09 • (DUP) R4084142-3 06/20/24 10:09

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

L1748238-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748238-02 06/20/24 10:15 • (DUP) R4084142-6 06/20/24 10:15

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

Laboratory Control Sample (LCS)

(LCS) R4084142-2 06/20/24 10:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.498	99.6	85.0-115	

L1748128-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748128-02 06/20/24 10:13 • (MS) R4084142-4 06/20/24 10:14 • (MSD) R4084142-5 06/20/24 10:14

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 %
Sulfide	0.500	ND	0.154	0.163	30.8	32.6	1	80.0-120	J6	J6	5.68	20

Sample Narrative:

MS: Spike failure due to matrix interference

MSD: Spike failure due to matrix interference

Method Blank (MB)

(MB) R4084347-1 06/20/24 14:00

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

L1747261-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747261-02 06/20/24 14:00 • (DUP) R4084347-6 06/20/24 14:00

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

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

(LCS) R4084347-2 06/20/24 14:00 • (LCSD) R4084347-3 06/20/24 14:00

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 %
Sulfite	20.0	17.0	17.0	85.0	85.0	85.0-115			0.000	20

L1747261-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747261-01 06/20/24 14:00 • (MS) R4084347-4 06/20/24 14:00 • (MSD) R4084347-5 06/20/24 14:00

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 %
Sulfite	20.0	ND	19.0	19.0	85.0	85.0	1	85.0-115			0.000	20

Method Blank (MB)

(MB) R4086099-1 06/25/24 07:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
BOD	U		0.200	0.200

L1748365-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748365-01 06/25/24 08:01 • (DUP) R4086099-3 06/25/24 08:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	706	670	10	5.11		30

Laboratory Control Sample (LCS)

(LCS) R4086099-2 06/25/24 07:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	174	87.9	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4086099-4 06/25/24 08:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	174	87.8	84.6-115	

Method Blank (MB)

(MB) R4086100-1 06/25/24 07:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
CBOD	U		0.200	0.200

L1748514-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1748514-02 06/25/24 08:31 • (DUP) R4086100-3 06/25/24 08:33

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

Laboratory Control Sample (LCS)

(LCS) R4086100-2 06/25/24 07:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
CBOD	198	169	85.6	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4086100-4 06/25/24 08:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
CBOD	198	165	83.4	84.6-115	J-

Method Blank (MB)

(MB) R4084753-2 06/20/24 13:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
DOC	0.137	J	0.106	1.00

L1745594-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1745594-01 06/20/24 20:12 • (DUP) R4084753-5 06/20/24 21:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	65.0	65.2	2	0.353		20

L1748638-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748638-01 06/21/24 00:40 • (DUP) R4084753-6 06/21/24 00:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
DOC	2.44	3.05	1	22.3	P1	20

Laboratory Control Sample (LCS)

(LCS) R4084753-1 06/20/24 13:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
DOC	25.0	23.5	94.2	85.0-115	

L1745743-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1745743-01 06/20/24 17:09 • (MS) R4084753-3 06/20/24 17:29 • (MSD) R4084753-4 06/20/24 17:48

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	2.26	25.8	25.4	94.3	92.6	1	80.0-120			1.68	20

L1748638-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748638-02 06/21/24 01:17 • (MS) R4084753-7 06/21/24 01:34 • (MSD) R4084753-8 06/21/24 01:50

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	2.17	25.8	25.5	94.5	93.3	1	80.0-120			1.17	20

Method Blank (MB)

(MB) R4088290-2 06/29/24 14:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TOC (Total Organic Carbon)	0.112	J	0.102	1.00

L1747841-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1747841-07 06/29/24 15:50 • (DUP) R4088290-3 06/29/24 16:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	7.68	7.69	1	0.156		20

L1747903-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1747903-09 06/29/24 19:05 • (DUP) R4088290-6 06/29/24 19:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC (Total Organic Carbon)	ND	ND	1	3.53		20

Laboratory Control Sample (LCS)

(LCS) R4088290-1 06/29/24 14:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TOC (Total Organic Carbon)	25.0	25.2	101	85.0-115	

L1747903-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747903-08 06/29/24 17:50 • (MS) R4088290-4 06/29/24 18:07 • (MSD) R4088290-5 06/29/24 18:24

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 %
TOC (Total Organic Carbon)	25.0	6.35	30.7	30.8	97.5	97.6	1	85.0-115			0.130	20

L1747903-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747903-10 06/29/24 19:31 • (MS) R4088290-7 06/29/24 19:46 • (MSD) R4088290-8 06/29/24 20:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC (Total Organic Carbon)	25.0	1.21	26.3	26.1	100	99.7	1	85.0-115			0.458	20

Method Blank (MB)

(MB) R4083834-1 06/19/24 14:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
MBAS	U		0.0190	0.100

L1747713-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747713-01 06/19/24 15:00 • (DUP) R4083834-3 06/19/24 15:00

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

Laboratory Control Sample (LCS)

(LCS) R4083834-2 06/19/24 14:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
MBAS	1.00	1.07	107	85.0-115	

L1748038-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748038-01 06/19/24 15:02 • (MS) R4083834-4 06/19/24 15:09 • (MSD) R4083834-5 06/19/24 15:09

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 %
MBAS	1.00	ND	0.949	0.973	94.9	97.3	1	85.0-115			2.50	20

Method Blank (MB)

(MB) R4084453-1 06/20/24 16:13

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

Laboratory Control Sample (LCS)

(LCS) R4084453-2 06/20/24 16:16

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

L1748014-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748014-01 06/20/24 16:23 • (MS) R4084453-4 06/20/24 16:28 • (MSD) R4084453-5 06/20/24 16:31

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 %
Mercury	0.00300	ND	0.00353	0.00356	118	119	1	70.0-130			1.00	20

Method Blank (MB)

(MB) R4087844-1 06/28/24 07:35

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	0.00229	J	0.00227	0.00500
Lithium	U		0.00689	0.0150
Nickel	U		0.00182	0.0100
Selenium	U		0.00616	0.0100
Silicon	U		0.0771	0.200
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

Method Blank (MB)

(MB) R4088164-1 06/29/24 12:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silver	U		0.00131	0.00500

Laboratory Control Sample (LCS)

(LCS) R4087844-2 06/28/24 07:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aluminum	10.0	10.2	102	85.0-115	
Antimony	1.00	1.00	100	85.0-115	
Arsenic	1.00	1.03	103	85.0-115	
Barium	1.00	1.03	103	85.0-115	
Beryllium	1.00	1.02	102	85.0-115	
Cadmium	1.00	1.04	104	85.0-115	
Chromium	1.00	1.01	101	85.0-115	
Copper	1.00	1.08	108	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4087844-2 06/28/24 07:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	1.00	1.02	102	85.0-115	
Lithium	1.00	1.02	102	85.0-115	
Nickel	1.00	1.02	102	85.0-115	
Selenium	1.00	1.02	102	85.0-115	
Silicon	1.00	0.959	95.9	85.0-115	
Strontium	1.00	0.997	99.7	85.0-115	
Thallium	1.00	1.05	105	85.0-115	
Vanadium	1.00	1.01	101	85.0-115	
Zinc	1.00	1.02	102	85.0-115	
Phosphorus	1.00	1.09	109	85.0-115	

Laboratory Control Sample (LCS)

(LCS) R4088164-2 06/29/24 12:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver	0.200	0.189	94.7	85.0-115	

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/28/24 07:38 • (MS) R4087844-4 06/28/24 07:42 • (MSD) R4087844-5 06/28/24 07:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum	10.0	2.41	12.8	13.0	104	106	1	70.0-130			1.50	20
Antimony	1.00	ND	1.04	1.06	104	106	1	70.0-130			1.83	20
Arsenic	1.00	ND	1.06	1.09	106	109	1	70.0-130			3.13	20
Barium	1.00	0.0254	1.07	1.09	105	107	1	70.0-130			2.14	20
Beryllium	1.00	ND	1.03	1.06	103	106	1	70.0-130			1.99	20
Cadmium	1.00	ND	1.06	1.09	106	109	1	70.0-130			2.43	20
Chromium	1.00	ND	1.03	1.04	103	104	1	70.0-130			1.73	20
Copper	1.00	ND	1.10	1.12	110	112	1	70.0-130			2.24	20
Lead	1.00	ND	1.05	1.07	105	107	1	70.0-130			1.91	20
Lithium	1.00	ND	1.04	1.05	104	105	1	70.0-130			1.21	20
Nickel	1.00	ND	1.05	1.07	105	107	1	70.0-130			2.04	20
Selenium	1.00	ND	1.05	1.10	105	110	1	70.0-130			4.63	20
Silicon	1.00	1.76	2.76	2.82	100	107	1	70.0-130			2.37	20
Strontium	1.00	0.106	1.11	1.13	100	103	1	70.0-130			1.84	20
Thallium	1.00	ND	1.06	1.10	106	110	1	70.0-130			3.35	20
Vanadium	1.00	ND	1.03	1.05	103	105	1	70.0-130			1.77	20

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/28/24 07:38 • (MS) R4087844-4 06/28/24 07:42 • (MSD) R4087844-5 06/28/24 07:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Zinc	1.00	ND	1.04	1.07	104	107	1	70.0-130			2.43	20
Phosphorus	1.00	0.121	1.20	1.27	108	115	1	70.0-130			6.05	20

L1747866-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747866-01 06/28/24 07:45 • (MS) R4087844-6 06/28/24 07:47 • (MSD) R4087844-7 06/28/24 07:49

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	10.7	10.7	106	106	1	70.0-130			0.252	20
Antimony	1.00	ND	1.11	1.11	111	111	1	70.0-130			0.157	20
Arsenic	1.00	ND	1.18	1.17	118	117	1	70.0-130			0.774	20
Barium	1.00	0.0301	1.07	1.07	104	104	1	70.0-130			0.223	20
Beryllium	1.00	ND	1.03	1.02	103	102	1	70.0-130			0.360	20
Cadmium	1.00	ND	1.15	1.14	115	114	1	70.0-130			0.735	20
Chromium	1.00	ND	1.02	1.01	102	101	1	70.0-130			1.39	20
Copper	1.00	ND	1.14	1.14	113	113	1	70.0-130			0.158	20
Lead	1.00	ND	1.07	1.06	107	106	1	70.0-130			0.889	20
Lithium	1.00	0.875	1.97	1.93	110	105	1	70.0-130			2.25	20
Nickel	1.00	ND	1.10	1.10	110	110	1	70.0-130			0.343	20
Selenium	1.00	ND	1.27	1.25	127	125	1	70.0-130			1.67	20
Silicon	1.00	ND	1.05	1.07	105	107	1	70.0-130			1.60	20
Strontium	1.00	16.6	17.5	16.8	88.7	16.1	1	70.0-130		V	4.24	20
Thallium	1.00	ND	1.04	1.04	104	104	1	70.0-130			0.361	20
Vanadium	1.00	ND	1.05	1.05	105	105	1	70.0-130			0.0418	20
Zinc	1.00	0.209	1.23	1.22	102	101	1	70.0-130			1.07	20
Phosphorus	1.00	ND	1.20	1.22	119	121	1	70.0-130			1.35	20

L1746145-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746145-01 06/29/24 12:49 • (MS) R4088164-4 06/29/24 12:53 • (MSD) R4088164-5 06/29/24 12:55

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 %
Silver	0.200	ND	0.191	0.197	95.3	98.3	1	70.0-130			3.13	20

Method Blank (MB)

(MB) R4093592-1 07/14/24 11:08

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

Laboratory Control Sample (LCS)

(LCS) R4093592-2 07/14/24 11:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0561	112	85.0-115	
Calcium	5.00	5.45	109	85.0-115	
Cobalt	0.0500	0.0542	108	85.0-115	
Iron	1.00	1.06	106	85.0-115	
Magnesium	5.00	5.33	107	85.0-115	
Manganese	0.0500	0.0522	104	85.0-115	
Molybdenum	0.0500	0.0499	99.9	85.0-115	
Potassium	5.00	5.33	107	85.0-115	
Sodium	5.00	5.33	107	85.0-115	
Tin	0.0500	0.0519	104	85.0-115	
Titanium	0.0500	0.0524	105	85.0-115	

L1747961-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747961-01 07/14/24 11:16 • (MS) R4093592-4 07/14/24 11:23 • (MSD) R4093592-5 07/14/24 11:26

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	ND	0.0654	0.0664	131	133	1	70.0-130	J5	J5	1.46	20
Calcium	5.00	36.5	41.5	42.7	101	125	1	70.0-130			2.83	20
Cobalt	0.0500	ND	0.0540	0.0546	108	109	1	70.0-130			1.05	20
Iron	1.00	ND	1.12	1.12	106	106	1	70.0-130			0.0732	20
Magnesium	5.00	2.95	8.10	8.37	103	108	1	70.0-130			3.31	20

L1747961-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747961-01 07/14/24 11:16 • (MS) R4093592-4 07/14/24 11:23 • (MSD) R4093592-5 07/14/24 11:26

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 %
Manganese	0.0500	0.0265	0.0805	0.0813	108	110	1	70.0-130			0.951	20
Molybdenum	0.0500	ND	0.0540	0.0544	104	104	1	70.0-130			0.692	20
Potassium	5.00	1.65	6.97	6.94	106	106	1	70.0-130			0.468	20
Sodium	5.00	25.3	30.5	31.8	104	131	1	70.0-130		V	4.37	20
Tin	0.0500	ND	0.0519	0.0507	104	101	1	70.0-130			2.21	20
Titanium	0.0500	ND	0.0504	0.0490	101	97.9	1	70.0-130			2.97	20

L1748018-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748018-02 07/14/24 11:30 • (MS) R4093592-6 07/14/24 11:33 • (MSD) R4093592-7 07/14/24 11:36

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 %
Boron	0.0500	0.0875	0.143	0.155	110	134	1	70.0-130		J5	8.04	20
Calcium	5.00	40.8	45.1	47.0	86.2	125	1	70.0-130			4.20	20
Cobalt	0.0500	0.00559	0.0603	0.0616	109	112	1	70.0-130			2.23	20
Iron	1.00	6.39	7.93	8.90	155	252	1	70.0-130	V	V	11.5	20
Magnesium	5.00	5.78	11.0	11.6	103	116	1	70.0-130			5.71	20
Manganese	0.0500	0.518	0.588	0.615	141	194	1	70.0-130	V	V	4.39	20
Molybdenum	0.0500	0.0279	0.0820	0.0854	108	115	1	70.0-130			3.96	20
Potassium	5.00	1.73	6.86	7.11	103	108	1	70.0-130			3.68	20
Sodium	5.00	2.35	7.62	7.87	105	111	1	70.0-130			3.29	20
Tin	0.0500	0.0184	0.0691	0.0722	101	108	1	70.0-130			4.45	20
Titanium	0.0500	0.0295	0.0872	0.0954	115	132	1	70.0-130		J5	8.93	20

Method Blank (MB)

(MB) R4086110-3 06/25/24 01:13

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	*106*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.7*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*

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

(LCS) R4086110-1 06/25/24 00:15 • (LCSD) R4086110-2 06/25/24 00:35

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	0.00510	0.00509	102	102	65.0-135			0.196	20
Bromodichloromethane	0.00500	0.00524	0.00508	105	102	65.0-135			3.10	20
Bromoform	0.00500	0.00433	0.00438	86.6	87.6	70.0-130			1.15	20
Bromomethane	0.00500	0.00208	0.00259	41.6	51.8	15.0-185		J3	21.8	20
Carbon tetrachloride	0.00500	0.00518	0.00526	104	105	70.0-130			1.53	20
Chlorobenzene	0.00500	0.00499	0.00486	99.8	97.2	65.0-135			2.64	20
Chlorodibromomethane	0.00500	0.00461	0.00449	92.2	89.8	70.0-135			2.64	20
Chloroethane	0.00500	0.00439	0.00428	87.8	85.6	40.0-160			2.54	20
2-Chloroethyl vinyl ether	0.0250	0.0267	0.0271	107	108	0.100-225			1.49	20
Chloroform	0.00500	0.00513	0.00511	103	102	70.0-135			0.391	20
Chloromethane	0.00500	0.00404	0.00393	80.8	78.6	0.100-205			2.76	20
1,2-Dichlorobenzene	0.00500	0.00520	0.00514	104	103	65.0-135			1.16	20
1,3-Dichlorobenzene	0.00500	0.00528	0.00512	106	102	70.0-130			3.08	20
1,4-Dichlorobenzene	0.00500	0.00511	0.00522	102	104	65.0-135			2.13	20
Dichlorodifluoromethane	0.00500	0.00554	0.00519	111	104	49.0-155			6.52	20
1,1-Dichloroethane	0.00500	0.00535	0.00533	107	107	70.0-130			0.375	20
1,2-Dichloroethane	0.00500	0.00543	0.00539	109	108	70.0-130			0.739	20
1,1-Dichloroethene	0.00500	0.00505	0.00484	101	96.8	50.0-150			4.25	20
trans-1,2-Dichloroethene	0.00500	0.00495	0.00466	99.0	93.2	70.0-130			6.04	20
1,2-Dichloropropane	0.00500	0.00537	0.00519	107	104	35.0-165			3.41	20
cis-1,3-Dichloropropene	0.00500	0.00491	0.00493	98.2	98.6	25.0-175			0.406	20
trans-1,3-Dichloropropene	0.00500	0.00489	0.00468	97.8	93.6	50.0-150			4.39	20
Ethylbenzene	0.00500	0.00485	0.00490	97.0	98.0	60.0-140			1.03	20
Methylene Chloride	0.00500	0.00550	0.00529	110	106	60.0-140			3.89	20
Methyl tert-butyl ether	0.00500	0.00550	0.00550	110	110	64.0-123			0.000	20
Naphthalene	0.00500	0.00540	0.00515	108	103	62.0-128			4.74	20
1,1,2,2-Tetrachloroethane	0.00500	0.00453	0.00412	90.6	82.4	60.0-140			9.48	20
Tetrachloroethene	0.00500	0.00529	0.00486	106	97.2	70.0-130			8.47	20
Toluene	0.00500	0.00483	0.00487	96.6	97.4	70.0-130			0.825	20
1,1,1-Trichloroethane	0.00500	0.00511	0.00508	102	102	70.0-130			0.589	20
1,1,2-Trichloroethane	0.00500	0.00468	0.00458	93.6	91.6	70.0-130			2.16	20
Trichloroethene	0.00500	0.00570	0.00589	114	118	65.0-135			3.28	20
Trichlorofluoromethane	0.00500	0.00439	0.00462	87.8	92.4	50.0-150			5.11	20
Vinyl chloride	0.00500	0.00263	0.00293	52.6	58.6	5.00-195			10.8	20
o-Xylene	0.00500	0.00510	0.00489	102	97.8	78.0-120			4.20	20
m&p-Xylene	0.0100	0.00952	0.00979	95.2	97.9	77.0-120			2.80	20
Xylenes, Total	0.0150	0.0146	0.0147	97.3	98.0	77.0-120			0.683	20
(S) Toluene-d8				*104*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*98.4*	*98.8*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*107*	*108*	*70.0-130*				

L1748234-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748234-04 06/25/24 03:56 • (MS) R4086110-4 06/25/24 08:45 • (MSD) R4086110-5 06/25/24 09:05

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	0.0420	0.0480	0.0471	120	102	1	37.0-151			1.89	61
Bromodichloromethane	0.00500		0.00503	0.00463	90.4	82.4	1	35.0-155			8.28	56
Bromoform	0.00500		0.00482	0.00481	96.4	96.2	1	45.0-169			0.208	42
Bromomethane	0.00500		ND	ND	40.0	46.0	1	0.100-206			14.0	61
Carbon tetrachloride	0.00500		0.00553	0.00528	111	106	1	70.0-140			4.63	41
Chlorobenzene	0.00500		0.00494	0.00499	98.8	99.8	1	37.0-160			1.01	53
Chlorodibromomethane	0.00500		0.00486	0.00498	97.2	99.6	1	53.0-149			2.44	50
Chloroethane	0.00500		ND	ND	78.6	75.0	1	14.0-230			4.69	78
2-Chloroethyl vinyl ether	0.0250		ND	ND	0.000	0.000	1	0.100-305	J6	J6	0.000	71
Chloroform	0.00500		0.00646	0.00622	102	97.4	1	51.0-138			3.79	54
Chloromethane	0.00500		0.00377	0.00386	75.4	77.2	1	0.100-273			2.36	60
1,2-Dichlorobenzene	0.00500		0.00588	0.00577	118	115	1	18.0-190			1.89	57
1,3-Dichlorobenzene	0.00500		0.00617	0.00566	123	113	1	59.0-156			8.62	43
1,4-Dichlorobenzene	0.00500		0.00586	0.00574	117	115	1	18.0-190			2.07	57
Dichlorodifluoromethane	0.00500		ND	ND	87.0	87.0	1	20.0-160			0.000	20
1,1-Dichloroethane	0.00500		0.00568	0.00541	111	106	1	59.0-155			4.87	40
1,2-Dichloroethane	0.00500		0.00579	0.00532	114	105	1	49.0-155			8.46	49
1,1-Dichloroethene	0.00500		0.00442	0.00429	88.4	85.8	1	0.100-234			2.99	32
trans-1,2-Dichloroethene	0.00500		0.00450	0.00434	90.0	86.8	1	54.0-156			3.62	45
1,2-Dichloropropane	0.00500		0.00605	0.00568	121	114	1	0.100-210			6.31	55
cis-1,3-Dichloropropene	0.00500		0.00485	0.00477	97.0	95.4	1	0.100-227			1.66	58
trans-1,3-Dichloropropene	0.00500		0.00499	0.00506	99.8	101	1	17.0-183			1.39	86
Ethylbenzene	0.00500	0.138	0.141	0.143	60.0	100	1	37.0-162			1.41	63
Methylene Chloride	0.00500		ND	ND	93.4	90.6	1	0.100-221			3.04	28
Methyl tert-butyl ether	0.00500	ND	0.00569	0.00558	114	112	1	42.0-142			1.95	20
Naphthalene	0.00500	0.0120	0.0182	0.0178	124	116	1	42.0-146			2.22	20
1,1,2,2-Tetrachloroethane	0.00500		0.00632	0.00584	126	117	1	46.0-157			7.89	61
Tetrachloroethene	0.00500		0.00508	0.00506	102	101	1	64.0-148			0.394	39
Toluene	0.00500	0.00631	0.0113	0.0114	99.8	102	1	47.0-150			0.881	41
1,1,1-Trichloroethane	0.00500		0.00530	0.00505	106	101	1	56.0-162			4.83	36
1,1,2-Trichloroethane	0.00500		0.00571	0.00599	114	120	1	52.0-150			4.79	45
Trichloroethene	0.00500		0.00513	0.00513	103	103	1	70.0-157			0.000	48
Trichlorofluoromethane	0.00500		0.00530	0.00522	106	104	1	17.0-181			1.52	84
Vinyl chloride	0.00500		0.00290	0.00313	58.0	62.6	1	0.100-251			7.63	66
o-Xylene	0.00500		0.0841	0.0867	56.0	108	1	44.0-146			3.04	20
m&p-Xylene	0.0100		0.243	0.249	50.0	110	1	41.0-147			2.44	20
Xylenes, Total	0.0150	0.319	0.327	0.336	53.3	113	1	41.0-148			2.71	20
(S) Toluene-d8					*97.7*	*101*		*80.0-120*				
(S) 4-Bromofluorobenzene					*92.6*	*95.8*		*80.0-120*				
(S) 1,2-Dichloroethane-d4					*109*	*105*		*70.0-130*				

Method Blank (MB)

(MB) R4087785-1 06/27/24 16:23

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	*92.0*			*70.0-130*
(S) 1-chlorooctane	*87.0*			*70.0-130*

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

(LCS) R4087785-2 06/27/24 16:57 • (LCSD) R4087785-3 06/27/24 17:14

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	34.6	35.4	83.0	84.9	75.0-125			2.29	20
TPH C12 - C28	41.7	39.2	40.2	94.0	96.4	75.0-125			2.52	20
TPH C6 - C35	83.4	73.8	75.6	88.5	90.6	75.0-125			2.41	20
(S) o-Terphenyl				*92.3*	*89.3*	*70.0-130*				
(S) 1-chlorooctane				*96.1*	*93.7*	*70.0-130*				

Method Blank (MB)

(MB) R4086423-3 06/25/24 01:23

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

Method Blank (MB)

(MB) R4086423-3 06/25/24 01:23

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	*125*			*15.0-314*
(S) 2-Fluorobiphenyl	*117*			*22.0-127*
(S) p-Terphenyl-d14	*132*			*29.0-141*
(S) Phenol-d5	*44.5*			*8.00-424*
(S) 2-Fluorophenol	*70.0*			*10.0-120*
(S) 2,4,6-Tribromophenol	*107*			*10.0-153*

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0381	76.2	47.0-145	
Acenaphthylene	0.0500	0.0424	84.8	33.0-145	
Anthracene	0.0500	0.0416	83.2	27.0-133	
Benzidine	0.100	0.0152	15.2	1.00-120	
Benzo(a)anthracene	0.0500	0.0458	91.6	33.0-143	
Benzo(b)fluoranthene	0.0500	0.0483	96.6	24.0-159	
Benzo(k)fluoranthene	0.0500	0.0493	98.6	11.0-162	
Benzo(g,h,i)perylene	0.0500	0.0356	71.2	1.00-219	
Benzo(a)pyrene	0.0500	0.0455	91.0	17.0-163	
Bis(2-chlorethoxy)methane	0.0500	0.0389	77.8	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0416	83.2	33.0-185	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0385	77.0	36.0-166	
4-Bromophenyl-phenylether	0.0500	0.0456	91.2	53.0-127	

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Chloronaphthalene	0.0500	0.0387	77.4	60.0-120	
4-Chlorophenyl-phenylether	0.0500	0.0453	90.6	25.0-158	
Chrysene	0.0500	0.0434	86.8	17.0-168	
Dibenz(a,h)anthracene	0.0500	0.0358	71.6	1.00-227	
3,3-Dichlorobenzidine	0.100	0.0827	82.7	1.00-262	
2,4-Dinitrotoluene	0.0500	0.0471	94.2	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0459	91.8	50.0-158	
1,2-Diphenylhydrazine	0.0500	0.0411	82.2	37.0-125	N2
Fluoranthene	0.0500	0.0427	85.4	26.0-137	
Fluorene	0.0500	0.0405	81.0	59.0-121	
Hexachlorobenzene	0.0500	0.0426	85.2	1.00-152	
Hexachloro-1,3-butadiene	0.0500	0.0426	85.2	24.0-120	
Hexachlorocyclopentadiene	0.0500	0.0406	81.2	10.0-120	
Hexachloroethane	0.0500	0.0382	76.4	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0365	73.0	1.00-171	
Isophorone	0.0500	0.0393	78.6	21.0-196	
Naphthalene	0.0500	0.0349	69.8	21.0-133	
Nitrobenzene	0.0500	0.0395	79.0	35.0-180	
n-Nitrosodimethylamine	0.0500	0.0372	74.4	10.0-120	
n-Nitrosodiphenylamine	0.0500	0.0414	82.8	44.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0432	86.4	1.00-230	
Phenanthrene	0.0500	0.0415	83.0	54.0-120	
Benzylbutyl phthalate	0.0500	0.0513	103	1.00-152	
Bis(2-ethylhexyl)phthalate	0.0500	0.0470	94.0	8.00-158	
Di-n-butyl phthalate	0.0500	0.0430	86.0	1.00-120	
Diethyl phthalate	0.0500	0.0422	84.4	1.00-120	
Dimethyl phthalate	0.0500	0.0427	85.4	1.00-120	
Di-n-octyl phthalate	0.0500	0.0431	86.2	4.00-146	
Pyrene	0.0500	0.0513	103	52.0-120	
1,2,4-Trichlorobenzene	0.0500	0.0394	78.8	44.0-142	
4-Chloro-3-methylphenol	0.0500	0.0365	73.0	22.0-147	
2-Chlorophenol	0.0500	0.0338	67.6	23.0-134	
2,4-Dichlorophenol	0.0500	0.0381	76.2	39.0-135	
2,4-Dimethylphenol	0.0500	0.0441	88.2	32.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0596	119	1.00-181	
2,4-Dinitrophenol	0.0500	0.0592	118	1.00-191	
2-Nitrophenol	0.0500	0.0421	84.2	29.0-182	
4-Nitrophenol	0.0500	0.0179	35.8	1.00-132	
Pentachlorophenol	0.0500	0.0366	73.2	14.0-176	
Phenol	0.0500	0.0185	37.0	5.00-120	

Laboratory Control Sample (LCS)

(LCS) R4086423-1 06/25/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,6-Trichlorophenol	0.0500	0.0472	94.4	37.0-144	
(S) Nitrobenzene-d5			*76.5*	*15.0-314*	
(S) 2-Fluorobiphenyl			*86.2*	*22.0-127*	
(S) p-Terphenyl-d14			*95.8*	*29.0-141*	
(S) Phenol-d5			*30.9*	*8.00-424*	
(S) 2-Fluorophenol			*44.6*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*83.5*	*10.0-153*	

L1748378-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748378-01 06/25/24 02:27 • (MS) R4086423-4 06/25/24 02:48 • (MSD) R4086423-5 06/25/24 03:09

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	0.0416	0.0404	83.2	80.8	1	47.0-145			2.93	48
Acenaphthylene	0.0500	ND	0.0460	0.0447	92.0	89.4	1	33.0-145			2.87	74
Anthracene	0.0500	ND	0.0449	0.0445	89.8	89.0	1	27.0-133			0.895	66
Benzidine	0.100	ND	0.0465	0.0166	46.5	16.6	1	1.00-120		J3	94.8	40
Benzo(a)anthracene	0.0500	ND	0.0471	0.0456	94.2	91.2	1	33.0-143			3.24	53
Benzo(b)fluoranthene	0.0500	ND	0.0457	0.0450	91.4	90.0	1	24.0-159			1.54	71
Benzo(k)fluoranthene	0.0500	ND	0.0462	0.0457	92.4	91.4	1	11.0-162			1.09	63
Benzo(g,h,i)perylene	0.0500	ND	0.0440	0.0397	88.0	79.4	1	1.00-219			10.3	97
Benzo(a)pyrene	0.0500	ND	0.0454	0.0445	90.8	89.0	1	17.0-163			2.00	72
Bis(2-chlorethoxy)methane	0.0500	ND	0.0412	0.0408	82.4	81.6	1	33.0-184			0.976	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0439	0.0464	87.8	92.8	1	12.0-158			5.54	108
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0430	0.0405	86.0	81.0	1	36.0-166			5.99	76
4-Bromophenyl-phenylether	0.0500	ND	0.0463	0.0472	92.6	94.4	1	53.0-127			1.93	43
2-Chloronaphthalene	0.0500	ND	0.0406	0.0401	81.2	80.2	1	60.0-120			1.24	24
4-Chlorophenyl-phenylether	0.0500	ND	0.0496	0.0485	99.2	97.0	1	25.0-158			2.24	61
Chrysene	0.0500	ND	0.0458	0.0438	91.6	87.6	1	17.0-168			4.46	87
Dibenz(a,h)anthracene	0.0500	ND	0.0438	0.0405	87.6	81.0	1	1.00-227			7.83	126
3,3-Dichlorobenzidine	0.100	ND	0.100	0.0954	100	95.4	1	1.00-262			4.71	108
2,4-Dinitrotoluene	0.0500	ND	0.0562	0.0538	112	108	1	39.0-139			4.36	42
2,6-Dinitrotoluene	0.0500	ND	0.0516	0.0499	103	99.8	1	50.0-158			3.35	48
1,2-Diphenylhydrazine	0.0500	ND	0.0469	0.0451	93.8	90.2	1	18.0-156	N2	N2	3.91	34
Fluoranthene	0.0500	ND	0.0492	0.0476	98.4	95.2	1	26.0-137			3.31	66
Fluorene	0.0500	ND	0.0457	0.0439	91.4	87.8	1	59.0-121			4.02	38
Hexachlorobenzene	0.0500	ND	0.0431	0.0436	86.2	87.2	1	1.00-152			1.15	55
Hexachloro-1,3-butadiene	0.0500	ND	0.0435	0.0446	87.0	89.2	1	24.0-120			2.50	62
Hexachlorocyclopentadiene	0.0500	ND	0.0384	0.0393	76.8	78.6	1	10.0-146			2.32	34

L1748378-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748378-01 06/25/24 02:27 • (MS) R4086423-4 06/25/24 02:48 • (MSD) R4086423-5 06/25/24 03:09

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	0.0421	0.0408	84.2	81.6	1	40.0-120			3.14	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0430	0.0395	86.0	79.0	1	1.00-171			8.48	99
Isophorone	0.0500	ND	0.0423	0.0414	84.6	82.8	1	21.0-196			2.15	93
Naphthalene	0.0500	ND	0.0365	0.0363	73.0	72.6	1	21.0-133			0.549	65
Nitrobenzene	0.0500	ND	0.0409	0.0409	81.8	81.8	1	35.0-180			0.000	62
n-Nitrosodimethylamine	0.0500	ND	0.0446	0.0399	89.2	79.8	1	10.0-120			11.1	40
n-Nitrosodiphenylamine	0.0500	ND	0.0434	0.0437	86.8	87.4	1	16.0-160			0.689	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0490	0.0460	98.0	92.0	1	1.00-230			6.32	87
Phenanthrene	0.0500	ND	0.0446	0.0440	89.2	88.0	1	54.0-120			1.35	39
Benzylbutyl phthalate	0.0500	ND	0.0490	0.0500	98.0	100	1	1.00-152			2.02	60
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0446	0.0443	89.2	88.6	1	8.00-158			0.675	82
Di-n-butyl phthalate	0.0500	ND	0.0465	0.0468	93.0	93.6	1	1.00-120			0.643	47
Diethyl phthalate	0.0500	ND	0.0485	0.0470	97.0	94.0	1	1.00-120			3.14	100
Dimethyl phthalate	0.0500	ND	0.0481	0.0471	96.2	94.2	1	1.00-120			2.10	183
Di-n-octyl phthalate	0.0500	ND	0.0469	0.0449	93.8	89.8	1	4.00-146			4.36	69
Pyrene	0.0500	ND	0.0470	0.0480	94.0	96.0	1	52.0-120			2.11	49
1,2,4-Trichlorobenzene	0.0500	ND	0.0401	0.0409	80.2	81.8	1	44.0-142			1.98	50
4-Chloro-3-methylphenol	0.0500	ND	0.0432	0.0385	86.4	77.0	1	22.0-147			11.5	73
2-Chlorophenol	0.0500	ND	0.0388	0.0346	77.6	69.2	1	23.0-134			11.4	61
2,4-Dichlorophenol	0.0500	ND	0.0419	0.0400	83.8	80.0	1	39.0-135			4.64	50
2,4-Dimethylphenol	0.0500	ND	0.0493	0.0463	98.6	92.6	1	32.0-120			6.28	58
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0619	0.0617	124	123	1	1.00-181			0.324	203
2,4-Dinitrophenol	0.0500	ND	0.0621	0.0572	124	114	1	1.00-191			8.21	132
2-Nitrophenol	0.0500	ND	0.0446	0.0443	89.2	88.6	1	29.0-182			0.675	55
4-Nitrophenol	0.0500	ND	0.0221	0.0186	44.2	37.2	1	1.00-132			17.2	131
Pentachlorophenol	0.0500	ND	0.0357	0.0354	71.4	70.8	1	14.0-176			0.844	86
Phenol	0.0500	ND	0.0226	0.0214	45.2	42.8	1	5.00-120			5.45	64
2,4,6-Trichlorophenol	0.0500	ND	0.0504	0.0493	101	98.6	1	37.0-144			2.21	58
(S) Nitrobenzene-d5					*79.1*	*78.0*		*15.0-314*				
(S) 2-Fluorobiphenyl					*86.3*	*85.9*		*22.0-127*				
(S) p-Terphenyl-d14					*82.5*	*84.3*		*29.0-141*				
(S) Phenol-d5					*36.0*	*33.7*		*8.00-424*				
(S) 2-Fluorophenol					*51.5*	*48.0*		*10.0-120*				
(S) 2,4,6-Tribromophenol					*83.5*	*87.0*		*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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J-	The associated batch QC was outside the lower control limits; associated data has a potential negative bias.
K9	Test replicates show more than 30% difference between high and low values.
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.

GLOSSARY OF TERMS

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.

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	LAO000356
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.

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-MD-02821

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # CCR

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ____ Y ____

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

Analysis / Container / Preservative

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/hubfs/pas-standard-terms.pdf

SDG # L1746036
Table # H215
Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	625.1 100ml Amb-NaTio	CHLORR 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3	GROSS ALPHA/BETA 500mlHDPE-Add HNO3	IODIDE 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3 250mlHDPENaThioH2SO4	OGHEX 1L-Clr-WT-HCl	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	27	X	X	X	X			X	X	X	X		-01
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal PFAS	G	GW		6-18-24														
~~POST ELECTROLYSIS RAD~~ Ammonia Removal RAD	G	NPW		6-18-24	0830	2					X	X						

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	6-18-24	1600	Drew Richards		
Relinquished by : (Signature) Drew Richards	Date: 6/18/24	Time: 1630	Received by: (Signature)	Temp: EOAT °C 3.6(+0.1)=3.9 Bottles Received: 33	If preservation required by Login: Date/Time
	Date:	Time:	Received for lab by: (Signature)	Date: 6/19/24 Time: 0900	Hold: Condition: NCF / OK

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET
Phone: 405-228-4308
Client Project # 212C-HN-02831
Lab Project # DEVENEOCOK-EFFLUENT
Collected by (print): Danny Daniels
Site/Facility ID # CCR
P.O. #
Collected by (signature):
Quote #
Immediately Packed on Ice N ___ Y ✓
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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PFAS 1633 500mlHDPE-Trizma	PORTHO 100ml Amb NoPres	RA-228 1L-HDPE-Add-HNO3	SUBGRAVITY 1L-HDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TDS 1L-HDPE-NoPres	TOC 250mlAmb-HCl	TPHTX 40mlAmbHCl-BT-trwted	TSS 1L-HDPE NoPres	UV-254 100ml Amb NoPres	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	[illegible]		X		X	X	X	X	X	X	X		-01
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal PFAS	G	GW		6-18-24	0830	2	X											
~~POST ELECTROLYSIS RAD~~ Ammonia Removal RAD	G	NPW		6-18-24	0830	2			X									

* 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: 6-18-24 Time: 1600 Received by: (Signature) Grace Richards
Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature) Grace Richards Date: 6/18/24 Time: 1638 Received by: (Signature)
Temp: EOAG °C 3.6 +0.3=3.9 Bottles Received: 33
If preservation required by Login: Date/Time
Relinquished by : (Signature) Date: Time: Received for lab by: (Signature) Custon Organ Date: 6/19/24 Time: 0900
Hold: Condition: NCF / OK

Chain of Custody Page 1 of 1

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/hubfs/pas-standard-terms.pdf

SDG # L1314603
Table #
Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEx Ground

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

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-HN-02831

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # CCR

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V624.1 40mlAmb-HCl	WetChem 250mlHDPE-H2SO4	WetChem 250mlHDPE-NoPres	WetChem 500mlHDPE-NoPres	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	27	X	X	X	X		-01
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal, PFAS		GW										
~~POST ELECTROLYSIS RAD~~ Ammonia Removal, RAD		NPW										

Chain of Custody Page 1 of 1

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/hubfs/pas-standard-terms.pdf

SDG # L1748036

Table #

Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEX Ground

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	6-18-24	1600	Grace Richards		
Relinquished by : (Signature) Grace Richards	6-18-24	1640	Received by: (Signature)	Temp: 0.7 °C 3.6+0.3=3.9 Bottles Received: 33	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Easton Organ	Date: 6/19/24 Time: 0800	Hold: Condition: NCF / OK

Pace Analytical®

ANALYTICAL REPORT

July 30, 2024

Revised Report

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 Sc

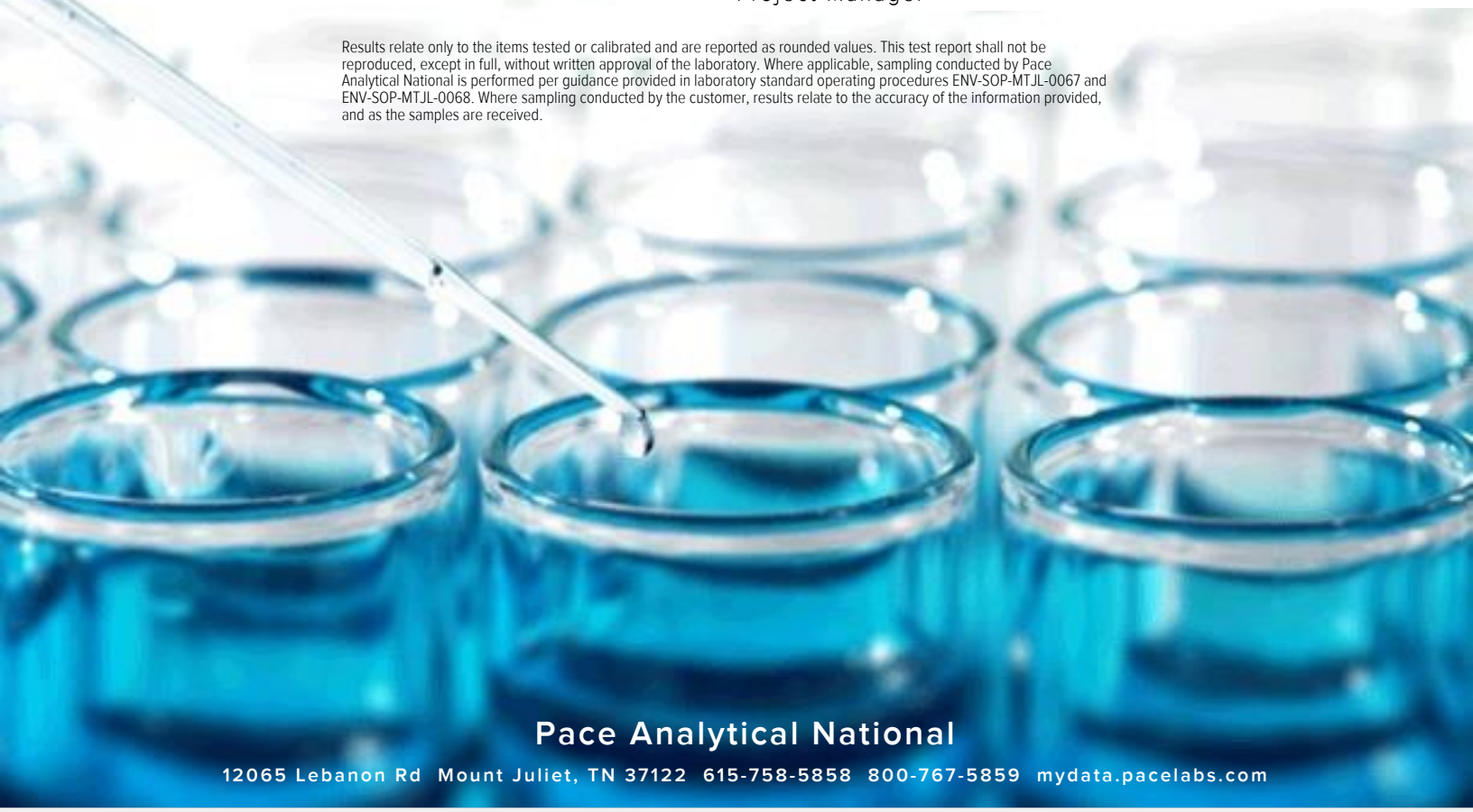
Devon Energy - Oklahoma City, OK

Sample Delivery Group:	L1748041
Samples Received:	06/19/2024
Project Number:	212C-HN-02821
Description:	Desalination Pilot
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

TABLE OF CONTENTS

POST ELECTROLYSIS PFAS L1748041-01 GW

Collected by	Collected date/time	Received date/time
DD	06/18/24 08:30	06/19/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2308111	1	07/05/24 00:00	07/05/24 00:00	ANF	Beaver, WV 25813
Subcontracted Analyses	WG2308121	1	07/01/24 00:00	07/01/24 00:00	ANF	Green Bay, WI 54302
Subcontracted Analyses	WG2308130	1	07/01/24 00:00	07/01/24 00:00	ANF	Indianapolis, IN 46268
Subcontracted Analyses	WG2308133	1	07/05/24 00:00	07/05/24 00:00	ANF	East Longmeadow, MA 01028

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 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.

Jennifer Gambill
Project Manager

Report Revision History

Level II Report - Version 1: 07/15/24 17:59

Project Narrative

The following report has been revised to include the PFAS results.
L1748041 -01 contains subout data that is included after the chain of custody.

1 Cp
2 Tc
3 Ss
4 Cn
5 Gl
6 Al
7 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

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.

ACCREDITATIONS & LOCATIONS

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	LAO000356
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.

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-MN-02831

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # CCR

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ____ Y ____

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: 27

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	625.1 100ml Amb-NaTio	CHLORR 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3	GROSS ALPHA/BETA 500mlHDPE-Add HNO3	IODIDE 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3 250mlHDPENaThioH2SO4	OGHEX 1L-Clr-WT-HCl	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	X	X	X	X			X	X	X	X		
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal PFAS	G	GW		6-18-24													-01
~~POST ELECTROLYSIS RAD~~ Ammonia Removal RAD	G	NPW		6-18-24	0830	2				X	X						

* 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) Date: 6-18-24 Time: 1600 Received by: (Signature) Drew Richards

Relinquished by : (Signature) Drew Richards Date: 6/18/24 Time: 1630 Received by: (Signature)

Relinquished by : (Signature) Date: Time: Received for lab by: (Signature) Date: 6/19/24 Time: 0900

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp: EDAT °C 3.6+0.3=3.9 Bottles Received: 33

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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/hubfs/pas-standard-terms.pdf

SDG # L1748011

Table # H215

Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEx Ground

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

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-HN-02831

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # CCR

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

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 27

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	PFAS 1633 500mlHDPE-Trizma	PORTHO 100ml Amb NoPres	RA-228 1L-HDPE-Add-HNO3	SUBGRAVITY 1L-HDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TDS 1L-HDPE-NoPres	TOC 250mlAmb-HCl	TPHTX 40mlAmbHCl-BT-trwted	TSS 1L-HDPE NoPres	UV-254 100ml Amb NoPres	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830		X		X	X	X	X	X	X	X		
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal PFAS	G	GW		6-18-24	0830	2	X										01
~~POST ELECTROLYSIS RAD~~ Ammonia Removal RAD	G	NPW		6-18-24	0830	2		X									

* 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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeOH TBR
	6-18-24	1600	Grace Richards	
Relinquished by : (Signature) Grace Richards	6/18/24	1638	Received by: (Signature)	Temp: EOAG °C 3.6 +0.3=3.9 Bottles Received: 33
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Victor Organ	Date: 6/19/24 Time: 0900

Hold: | If preservation required by Login: Date/Time | Condition: NCF / OK

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

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/hubfs/pas-standard-terms.pdf

Chain of Custody Page 1 of 1

SDG # L1741604

Table #

Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEx Ground

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET

Phone: 405-228-4308
Client Project # 212C-HN-02831
Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Ranny Daniels
Site/Facility ID # CCR
P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y ___
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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V624.1 40mlAmb-HCl	WetChem 250mlHDPE-H2SO4	WetChem 250mlHDPE-NoPres	WetChem 500mlHDPE-NoPres	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	27	X	X	X	X		
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal, PFAS		GW										
~~POST ELECTROLYSIS RAD~~ Ammonia Removal, RAD		NPW										

Chain of Custody Page 2 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/hubfs/pas-standard-terms.pdf

SDG # L1748041
Table #
Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEX Ground

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	6-18-24	1600	Tracy Richards	
Relinquished by : (Signature) Tracy Richards	6-18-24	1640	Received by: (Signature)	Temp: 0047 °C 3.6+0.3=3.9 Bottles Received: 33
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Sunter Orem	Date: 6/19/24 Time: 0800

If preservation required by Login: Date/Time
Hold:
Condition: NCF / OK

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

June 28, 2024

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

RE: Project: L1748041 WG2308121
Pace Project No.: 40280017

Dear MTJLSuboutTeam:

Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 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,

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

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

CERTIFICATIONS

Project:	L1748041 WG2308121
Pace Project No.:	40280017

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

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

SAMPLE SUMMARY

Project: L1748041 WG2308121
Pace Project No.: 40280017

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40280017001	**POST ELECTROLYSIS PFAS**	Water	06/18/24 08:30	06/20/24 09:25

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

SAMPLE ANALYTE COUNT

Project: L1748041 WG2308121
Pace Project No.: 40280017

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40280017001	**POST ELECTROLYSIS PFAS**	SM 2710F	HML	2

PASI-G = Pace Analytical Services - Green Bay

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

ANALYTICAL RESULTS

Project: L1748041 WG2308121
Pace Project No.: 40280017

Sample: POST ELECTROLYSIS PFAS **Lab ID: 40280017001** Collected: 06/18/24 08:30 Received: 06/20/24 09:25 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	**1.0**	g/mL			1		06/28/24 16:16		
Specific Gravity	**1.0**	no units			1		06/28/24 16:16		

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

QUALITY CONTROL DATA

Project: L1748041 WG2308121
Pace Project No.: 40280017

QC Batch: 478479
QC Batch Method: SM 2710F
Analysis Method: SM 2710F
Analysis Description: Specific Gravity /Bulk Density
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40280017001

SAMPLE DUPLICATE: 2740482

Parameter	Units	40280011001 Result	Dup Result	RPD	Max RPD	Qualifiers
Density	g/mL	0.99	0.99	0	20	
Specific Gravity	no units	0.99	0.99	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.

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

QUALIFIERS

Project: L1748041 WG2308121
Pace Project No.: 40280017

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1748041 WG2308121
Pace Project No.: 40280017

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40280017001	**POST ELECTROLYSIS PFAS**	SM 2710F	478479		

L0280017

Sub-Contract Chain of Custody

Batch Date/Time: 06/19/24 12:56
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: WG2308121
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/03/24
ESC Purchase Order #: L1748041
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST ELECTROLYSIS PFAS	GW	NM	06/18/24 08:30	Specific Gravity	2. L1748041-01	001

Relinquished by: _____ **Date** 6-19-24

Recieved by: _____ **Date** _____

Relinquished by: Fedex **Date** 6/20/24 0925

Recieved by: Genie Rizzo Pac **Date** 6/20/24 0925

DC#_Title: ENV-FRM-GBAY-0035 v03_Sample Preservation Receipt Form
Effective Date: 8/16/2022

Sample Preservation Receipt Form

Client Name: Pace TN

Project # 40280017

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

6/20/24 GF

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 #: WO#: 40280017
40280017

Client Name: PaceTN

Courier: ☐ CS Logistics ☑ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other: _____

Tracking #: 7315 3205 6489

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used SR - 136 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 2.0 /Corr: 2.0

Temp Blank Present: ☑ yes ☐ no **Biological 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 6/20/24 /Initials: GF

Labeled By Initials: SG

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. IRWO 6/20/24 GF
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: For Analysis: ☑Yes ☐No MS/MSD:	☐Yes ☑No ☐N/A	8.
Correct Containers Used: Correct Type: (Pace Green Bay), Pace IR, Non-Pace	☑Yes ☐No	9.
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☑Yes ☐No ☐N/A	12.
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

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

July 01, 2024

Jimmy Huckaba
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: WG2308130
Pace Project No.: 50376386

Dear Jimmy Huckaba:

Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 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,

Randal Rastorfer

Randal Rastorfer
randal.rastorfer@pacelabs.com
(614)301-3304
Project Manager

Enclosures

cc: Pace National Subout Team, Pace National

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: WG2308130
Pace Project No.: 50376386

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

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE SUMMARY

Project: WG2308130
Pace Project No.: 50376386

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50376386001	**POST ELECTROLYSIS PFAS**	Water	06/18/24 08:30	06/20/24 09:20

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SAMPLE ANALYTE COUNT

Project: WG2308130
Pace Project No.: 50376386

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50376386001	**POST ELECTROLYSIS PFAS**	EPA 9056	ADM	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: WG2308130
Pace Project No.: 50376386

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50376386001	**POST ELECTROLYSIS PFAS**					
EPA 9056	Iodide	0.56	mg/L	0.50	06/29/24 13:59	

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: WG2308130
Pace Project No.: 50376386

Sample: POST ELECTROLYSIS PFAS **Lab ID: 50376386001** Collected: 06/18/24 08:30 Received: 06/20/24 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 Iodide by IC	Analytical Method: EPA 9056 Initial Volume/Weight: 10 mL Final Volume/Weight: 10 mL Pace Analytical Services - Indianapolis							
Iodide	**0.56**	mg/L	0.50	1		06/29/24 13:59		

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: WG2308130
Pace Project No.: 50376386

QC Batch: 797018
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 Iodide by IC
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50376386001

METHOD BLANK: 3646735
Matrix: Water
Associated Lab Samples: 50376386001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iodide	mg/L	ND	0.50	06/28/24 16:56	

LABORATORY CONTROL SAMPLE: 3646736

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iodide	mg/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3646737 3646738

Parameter	Units	50376286004 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	4.8	4.7	95	94	80-120	1	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

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: WG2308130
Pace Project No.: 50376386

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.

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WG2308130
Pace Project No.: 50376386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50376386001	**POST ELECTROLYSIS PFAS**	EPA 9056	797018		

Sub-Contract Chain of Custody

Batch Date/Time: 06/19/24 13:03
Sub-Contract Lab: PACEIIN
Address: 7726 Moller Rd.
City/State: Indianapolis, IN 46268
Contact:
Randal.Rastorfer@pacelabs.com

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2308130
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/03/24
ESC Purchase Order #: L1748041
Send Reports to: James C Huckaba

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST ELECTROLYSIS PFAS	WW	NM	06/18/24 08:30	Iodide	2. L1748041-01	

Relinquished by: _____ **Date** 6-19-24
Recieved by: Fedex **Date** _____
Relinquished by: Fedex **Date** 6/20/24 9:20
Recieved by: [illegible] **Date** 6/20/24 9:20

WO# : 50376386
50376386

F-IN-Q-290-rev.27, 13Jun2024

Pace

SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents: 6/20/24 18:09 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 9 A B C D E F G H I
4. Cooler Temperature(s): 17/17 | | | |
(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 ☐ None
7. 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 ☑ No
If 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. Circle: HNO3 (<2) H2SO4 (<2) NaOH (>10) NaOH/ZnAc (>9) Any non-conformance to pH recommendations will be noted on the container count form			✓
Short Hold Time Analysis (48 hours or less)? Analysis:		✓				
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A ✓
Rush TAT Requested (4 days or less):		✓	Residual Chlorine Check (Total/Amenable/Free Cyanide)			✓
Custody Signatures Present?	✓		Headspace Wisconsin Sulfide?			✓
Containers Intact?:	✓		Headspace in VOA Vials (>6mm): See Containter 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 **

			MeOH (only)																																
			SBS																																
			DI																																
																																	Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
									AMBER GLASS							PLASTIC									OTHER							Red	Yellow	Green	Black
COC Line Item	WGFU	WGKU BG1U	R	DG9H VG9H	VOA VIAL HS (>6mm)	VG9U DG9U	VG9T	AG0U	AG1H	AG1U	AG3U	AG3S	AG3SF	AG3B	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	BP3B	BP3Z	CG3H	CG3F	Syringe Kit		BP4U	Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1																													WT				
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

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

BP1B	1L NaOH plastic	BP4U	125mL unpreserved plastic
BP1N	1L HNO3 plastic	BP4N	125mL HNO3 plastic
BP1S	1L H2SO4 plastic	BP4S	125mL H2SO4 plastic
BP1U	1L unpreserved plastic		
BP1Z	1L NaOH, Zn, Ac		
BP2N	500mL HNO3 plastic		
BP2C	500mL NaOH plastic		
BP2S	500mL H2SO4 plastic		
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3F	250mL HNO3 plastic-field filtered		
BP3U	250mL unpreserved plastic		
BP3S	250mL H2SO4 plastic		
BP3Z	250mL NaOH, ZnAc 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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 05, 2024

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

RE: Project: L1748041
Pace Project No.: 30694034

Dear Subout Team:

Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 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 Yasurek

Nikayla M. Yasurek
nikayla.yasurek@pacelabs.com
(724)850-5600
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: L1748041
Pace Project No.: 30694034

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

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: L1748041
Pace Project No.: 30694034

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30694034001	**L1748041-01**	Water	06/18/24 08:30	06/20/24 10:10

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: L1748041
Pace Project No.: 30694034

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30694034001	**L1748041-01**	SM 5910B-11	SDW	1	PASI-BV

PASI-BV = Pace Analytical Services - Beaver

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: L1748041
Pace Project No.: 30694034

Sample: L1748041-01 **Lab ID: 30694034001** Collected: 06/18/24 08:30 Received: 06/20/24 10:10 Matrix: Water

Comments: • Per client, run out of hold.

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	**0.029**	cm-1	0.0030	1		06/21/24 14:34		H3,N2

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: L1748041
Pace Project No.: 30694034

QC Batch: 677416
QC Batch Method: SM 5910B-11
Analysis Method: SM 5910B-11
Analysis Description: UV254 SUVA Absorbing Organincs
Laboratory: Pace Analytical Services - Beaver
Associated Lab Samples: 30694034001

METHOD BLANK: 3298745
Matrix: Water
Associated Lab Samples: 30694034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
U254 UV Absorbing Organic	cm-1	ND	0.0030	06/21/24 14:32	N2

LABORATORY CONTROL SAMPLE: 3298746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
U254 UV Absorbing Organic	cm-1	0.072	0.061	85	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.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: L1748041
Pace Project No.: 30694034

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.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1748041
Pace Project No.: 30694034

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30694034001	**L1748041-01**	SM 5910B-11	677416		

Sub-Contract Chain of Custody

Batch Date/Time: 06/19/24 12:52
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: WG2308111
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/03/24
ESC Purchase Order #: L1748041
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST ELECTROLYSIS PFAS	GW	NM	06/18/24 08:30	UV254	1. L1748041-01	UV254

Relinquished by: _____ **Date** 6-19-24
Recieved by: C Wilson **Date** 6.20.24 1010
Relinquished by: _____ **Date** _____
Recieved by: _____ **Date** _____

WO# : 30694034

30694034

DC#_Title: ENV-FRM-BEAV-0058 v03_Pace WV Sample Condition Upon Rece
Effective Date: 2/8/2023

WO#: 30694034

PM: NMY **Due Date: 07/05/24**
CLIENT: ESC

LIMS30 Lab Sample Condition Upon Receipt (West Vir

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 27 **Type of Ice:** Wet Blue None

Cooler Temperature **Observed Temp** .4 °C Correction Factor: .0 °C Final Temp: .4 °C

Thermal Preservation Requirement Met Yes ☑ No ☐

pH paper Lot#	Date and Initials of person examining contents:

	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. Sub
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
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: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous sample field filtered: -pH adjusted within 24 hours? (If yes, indicate acid lot #)			✓ ✓	13.
Filtered volume received for Dissolved tests:			✓	14.
All containers have been checked for chemical preservation: exceptions: VOA, coliform, O&G, LLMercury, Non-aqueous matrix			✓	15.
All containers meet method/chemical preservation requirements:			✓	Initial when completed CDW Date: 6-20-24
				Tests not preserved:
Headspace in VOA Vials:			✓	16.
Trip Blank Present:			✓	17.
				Initial when completed: CDW Date: 6-20-24

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.

con-test®
A Pace Analytical® Laboratory

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

July 3, 2024

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

Project Location: NM
Client Job Number:
Project Number: WG2308133
Laboratory Work Order Number: 24F2885

Enclosed are results of analyses for samples as received by the laboratory on June 20, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kaitlyn A. Feliciano
Project Manager

Table of Contents

con-test
A Pace Analytical® Laboratory

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: 7/3/2024

PURCHASE ORDER NUMBER: L1748041

PROJECT NUMBER: WG2308133

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24F2885

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

PROJECT LOCATION: NM

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
POST ELECTROLYSIS PFAS	24F2885-01	Ground Water		Draft Method 1633	

con-test
A Pace Analytical® Laboratory

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

CASE NARRATIVE SUMMARY

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

Draft Method 1633

Qualifications:

H-01

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

Analyte & Samples(s) Qualified:

Total Suspended Solids
24F2885-01[POST ELECTROLYSIS PFAS]

PF-17C

Extracted internal standard is outside of control limits. Analyte is a known difficult compound.

Analyte & Samples(s) Qualified:

13C2-6:2FTS
24F2885-01[POST ELECTROLYSIS PFAS]

1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS
24F2885-01[POST ELECTROLYSIS PFAS]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

con-test
A Pace Analytical® Laboratory

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

Project Location: NM
Sample Description:
Work Order: 24F2885

Date Received: 6/20/2024

Field Sample #: POST ELECTROLYSIS PFAS
Sampled: 6/18/2024 08:30

Sample ID: 24F2885-01

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)	5.9	3.8	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluoropentanoic acid (PFPeA)	9.6	1.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorohexanoic acid (PFHxA)	14	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluoroheptanoic acid (PFHpA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorooctanoic acid (PFOA)	1.6	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorononanoic acid (PFNA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorodecanoic acid (PFDA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluoroundecanoic acid (PFUnA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorododecanoic acid (PFDoA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorotridecanoic acid (PFTrDA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorotetradecanoic acid (PFTeDA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorobutanesulfonic acid (PFBS)	2.1	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluoropentanesulfonic acid (PFPeS)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorohexanesulfonic acid (PFHxS)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorooctanesulfonic acid (PFOS)	4.1	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorononanesulfonic acid (PFNS)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorodecanesulfonic acid (PFDS)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorododecanesulfonic acid (PFDoS)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	3.8	ng/L	1	PF-17C	Draft Method 1633	6/28/24	7/2/24 3:00	AMS
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	3.8	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluorooctanesulfonamide (PFOSA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
N-MeFOSAA (NMeFOSAA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
N-EtFOSAA (NEtFOSAA)	ND	0.95	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	ND	9.5	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	9.5	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	3.8	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	3.8	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
9Cl-PF3ONS (F53B Minor)	ND	3.8	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
11Cl-PF3OUdS (F53B Major)	ND	3.8	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	9.5	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	48	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	48	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	1.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS

con-test
A Pace Analytical® Laboratory
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NM
Sample Description:
Work Order: 24F2885
Date Received: 6/20/2024
Field Sample #: POST ELECTROLYSIS PFAS
Sampled: 6/18/2024 08:30
Sample ID: 24F2885-01
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	6/28/24	7/2/24 3:00	AMS
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		Draft Method 1633	6/28/24	7/2/24 3:00	AMS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
13C4-PFBA	80.4		10-130		7/2/24 3:00
13C5-PFPeA	78.6		35-150		7/2/24 3:00
13C5-PFHxA	78.5		55-150		7/2/24 3:00
13C4-PFHpA	76.3		55-150		7/2/24 3:00
13C8-PFOA	82.9		60-140		7/2/24 3:00
13C9-PFNA	77.0		55-140		7/2/24 3:00
13C6-PFDA	74.9		50-140		7/2/24 3:00
13C7-PFUnA	70.4		30-140		7/2/24 3:00
13C2-PFDoA	62.3		10-150		7/2/24 3:00
13C2-PFTeDA	50.8		10-130		7/2/24 3:00
13C3-PFBS	75.7		55-150		7/2/24 3:00
13C3-PFHxS	77.1		55-150		7/2/24 3:00
13C8-PFOS	76.4		45-140		7/2/24 3:00
13C2-4:2FTS	67.2		60-200		7/2/24 3:00
13C2-6:2FTS	**59.2**	*	60-200	PF-17C	7/2/24 3:00
13C2-8:2FTS	64.9		50-200		7/2/24 3:00
13C8-PFOSA	64.4		30-130		7/2/24 3:00
D3-NMeFOSA	47.9		15-130		7/2/24 3:00
D5-NEtFOSA	43.8		10-130		7/2/24 3:00
D3-NMeFOSAA	73.2		45-200		7/2/24 3:00
D5-NEtFOSAA	65.7		10-200		7/2/24 3:00
D7-NMeFOSE	49.1		10-150		7/2/24 3:00
D9-NEtFOSE	41.4		10-150		7/2/24 3:00
13C3-HFPO-DA	80.3		25-160		7/2/24 3:00

con-test
A Pace Analytical® Laboratory

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

Project Location: NM
Sample Description:
Work Order: 24F2885

Date Received: 6/20/2024

Field Sample #: POST ELECTROLYSIS PFAS
Sampled: 6/18/2024 08:30

Sample ID: 24F2885-01

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	34	10	mg/L	1	H-01	Draft Method 1633	6/25/24	6/25/24 13:00	LL

con-test
A Pace Analytical® Laboratory

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

Sample Extraction Data

Prep Method:Draft Method 1633 **Analytical Method:Draft Method 1633** **Leachates were extracted on 6/25/2024 per NO PREP in Batch B378179**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24F2885-01 [POST ELECTROLYSIS PFAS]	B378029	525	5.00	06/28/24

Draft Method 1633

Lab Number [Field ID]	Batch	Initial [mL]	Date
24F2885-01 [POST ELECTROLYSIS PFAS]	B378179	50.0	06/25/24

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
Blank (B378029-BLK1)				Prepared: 06/28/24 Analyzed: 07/01/24						
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 perfluoroocatnesulfonamide (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 (PFEESA)	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	*81.2*		ng/L	97.5		83.3	10-130			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
Blank (B378029-BLK1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Surrogate: 13C5-PFPeA	*39.9*		ng/L	48.7		81.8	35-150			
Surrogate: 13C5-PFHxA	*19.7*		ng/L	24.4		81.0	55-150			
Surrogate: 13C4-PFHpA	*18.8*		ng/L	24.4		77.3	55-150			
Surrogate: 13C8-PFOA	*20.2*		ng/L	24.4		83.0	60-140			
Surrogate: 13C9-PFNA	*10.2*		ng/L	12.2		83.4	55-140			
Surrogate: 13C6-PFDA	*9.71*		ng/L	12.2		79.7	50-140			
Surrogate: 13C7-PFUnA	*9.55*		ng/L	12.2		78.4	30-140			
Surrogate: 13C2-PFDoA	*9.16*		ng/L	12.2		75.1	10-150			
Surrogate: 13C2-PFTeDA	*9.27*		ng/L	12.2		76.1	10-130			
Surrogate: 13C3-PFBS	*20.3*		ng/L	24.4		83.5	55-150			
Surrogate: 13C3-PFHxS	*19.8*		ng/L	24.4		81.4	55-150			
Surrogate: 13C8-PFOS	*20.3*		ng/L	24.4		83.2	45-140			
Surrogate: 13C2-4:2FTS	*35.9*		ng/L	48.7		73.6	60-200			
Surrogate: 13C2-6:2FTS	*35.7*		ng/L	48.7		73.3	60-200			
Surrogate: 13C2-8:2FTS	*32.8*		ng/L	48.7		67.2	50-200			
Surrogate: 13C8-PFOSA	*18.5*		ng/L	24.4		76.1	30-130			
Surrogate: D3-NMeFOSA	*14.1*		ng/L	24.4		58.0	15-130			
Surrogate: D5-NEtFOSA	*14.4*		ng/L	24.4		59.3	10-130			
Surrogate: D3-NMeFOSAA	*37.9*		ng/L	48.7		77.8	45-200			
Surrogate: D5-NEtFOSAA	*35.5*		ng/L	48.7		72.9	10-200			
Surrogate: D7-NMeFOSE	*166*		ng/L	244		68.0	10-150			
Surrogate: D9-NEtFOSE	*146*		ng/L	244		60.0	10-150			
Surrogate: 13C3-HFPO-DA	*86.4*		ng/L	97.5		88.6	25-160			
LCS (B378029-BS1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Perfluorobutanoic acid (PFBA)	93.2	3.9	ng/L	94.5		98.6	58-148			
Perfluoropentanoic acid (PFPeA)	46.6	2.0	ng/L	47.2		98.6	54-152			
Perfluorohexanoic acid (PFHxA)	23.5	0.98	ng/L	23.6		99.6	55-152			
Perfluoroheptanoic acid (PFHpA)	23.3	0.98	ng/L	23.6		98.5	54-154			
Perfluorooctanoic acid (PFOA)	22.7	0.98	ng/L	23.6		96.0	52-161			
Perfluorononanoic acid (PFNA)	22.9	0.98	ng/L	23.6		96.8	59-149			
Perfluorodecanoic acid (PFDA)	22.4	0.98	ng/L	23.6		94.7	52-147			
Perfluoroundecanoic acid (PFUnA)	24.4	0.98	ng/L	23.6		103	48-159			
Perfluorododecanoic acid (PFDoA)	23.4	0.98	ng/L	23.6		99.0	64-142			
Perfluorotridecanoic acid (PFTrDA)	21.7	0.98	ng/L	23.6		91.9	49-148			
Perfluorotetradecanoic acid (PFTeDA)	23.0	0.98	ng/L	23.6		97.4	47-161			
Perfluorobutanesulfonic acid (PFBS)	21.0	0.98	ng/L	21.0		100	62-144			
Perfluoropentanesulfonic acid (PFPeS)	21.8	0.98	ng/L	22.2		98.1	59-151			
Perfluorohexanesulfonic acid (PFHxS)	19.7	0.98	ng/L	21.6		91.0	57-146			
Perfluoroheptanesulfonic acid (PFHpS)	22.1	0.98	ng/L	22.5		98.4	55-152			
Perfluorooctanesulfonic acid (PFOS)	20.8	0.98	ng/L	21.9		94.8	58-149			
Perfluorononanesulfonic acid (PFNS)	22.7	0.98	ng/L	22.7		99.6	52-148			
Perfluorodecanesulfonic acid (PFDS)	20.9	0.98	ng/L	22.8		91.7	51-147			
Perfluorododecanesulfonic acid (PFDoS)	18.7	0.98	ng/L	22.9		81.6	36-145			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	91.2	3.9	ng/L	88.6		103	67-146			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	95.6	3.9	ng/L	89.8		107	61-151			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	85.9	3.9	ng/L	90.9		94.5	63-152			
Perfluorooctanesulfonamide (PFOSA)	23.1	0.98	ng/L	23.6		97.8	61-148			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	23.0	0.98	ng/L	23.6		97.5	63-145			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
LCS (B378029-BS1)				Prepared: 06/28/24 Analyzed: 07/01/24						
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	23.3	0.98	ng/L	23.6		98.6	65-139			
N-MeFOSAA (NMeFOSAA)	22.0	0.98	ng/L	23.6		93.0	58-144			
N-EtFOSAA (NEtFOSAA)	21.6	0.98	ng/L	23.6		91.3	59-146			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	245	9.8	ng/L	236		104	71-136			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	246	9.8	ng/L	236		104	69-137			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	101	3.9	ng/L	94.5		107	63-144			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	95.9	3.9	ng/L	89.2		108	68-146			
9Cl-PF3ONS (F53B Minor)	93.6	3.9	ng/L	88.6		106	56-156			
11Cl-PF3OUdS (F53B Major)	89.4	3.9	ng/L	89.2		100	46-156			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	230	9.8	ng/L	236		97.2	62-129			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	1150	49	ng/L	1180		97.5	63-134			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	1040	49	ng/L	1180		87.7	50-138			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	40.0	2.0	ng/L	42.0		95.1	56-151			
Perfluoro-3-methoxypropanoic acid (PFMPA)	44.6	2.0	ng/L	47.2		94.4	51-145			
Perfluoro-4-methoxybutanoic acid (PFMBA)	42.6	2.0	ng/L	47.2		90.2	55-148			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	44.2	2.0	ng/L	47.2		93.5	48-161			
Surrogate: 13C4-PFBA	*80.7*		ng/L	98.4		82.0	10-130			
Surrogate: 13C5-PFPeA	*39.9*		ng/L	49.2		81.2	35-150			
Surrogate: 13C5-PFHxA	*19.7*		ng/L	24.6		80.2	55-150			
Surrogate: 13C4-PFHpA	*18.0*		ng/L	24.6		73.3	55-150			
Surrogate: 13C8-PFOA	*21.0*		ng/L	24.6		85.3	60-140			
Surrogate: 13C9-PFNA	*9.90*		ng/L	12.3		80.5	55-140			
Surrogate: 13C6-PFDA	*9.91*		ng/L	12.3		80.6	50-140			
Surrogate: 13C7-PFUnA	*9.20*		ng/L	12.3		74.7	30-140			
Surrogate: 13C2-PFDoA	*8.86*		ng/L	12.3		72.0	10-150			
Surrogate: 13C2-PFTeDA	*8.38*		ng/L	12.3		68.1	10-130			
Surrogate: 13C3-PFBS	*20.2*		ng/L	24.6		81.9	55-150			
Surrogate: 13C3-PFHxS	*19.8*		ng/L	24.6		80.3	55-150			
Surrogate: 13C8-PFOS	*19.1*		ng/L	24.6		77.8	45-140			
Surrogate: 13C2-4:2FTS	*36.5*		ng/L	49.2		74.3	60-200			
Surrogate: 13C2-6:2FTS	*36.9*		ng/L	49.2		74.9	60-200			
Surrogate: 13C2-8:2FTS	*35.3*		ng/L	49.2		71.7	50-200			
Surrogate: 13C8-PFOSA	*17.7*		ng/L	24.6		72.1	30-130			
Surrogate: D3-NMeFOSA	*14.5*		ng/L	24.6		58.9	15-130			
Surrogate: D5-NEtFOSA	*14.5*		ng/L	24.6		58.9	10-130			
Surrogate: D3-NMeFOSAA	*36.8*		ng/L	49.2		74.7	45-200			
Surrogate: D5-NEtFOSAA	*33.4*		ng/L	49.2		67.8	10-200			
Surrogate: D7-NMeFOSE	*157*		ng/L	246		63.7	10-150			
Surrogate: D9-NEtFOSE	*142*		ng/L	246		57.9	10-150			
Surrogate: 13C3-HFPO-DA	*77.4*		ng/L	98.4		78.6	25-160			
MRL Check (B378029-MRL1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Perfluorobutanoic acid (PFBA)	7.17	3.9	ng/L	7.80		92.0	44-157			
Perfluoropentanoic acid (PFPeA)	3.52	1.9	ng/L	3.90		90.2	57-148			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
MRL Check (B378029-MRL1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Perfluorohexanoic acid (PFHxA)	1.79	0.97	ng/L	1.95		91.8	62-149			
Perfluoroheptanoic acid (PFHpA)	1.69	0.97	ng/L	1.95		87.0	56-150			
Perfluorooctanoic acid (PFOA)	1.91	0.97	ng/L	1.95		98.2	57-161			
Perfluorononanoic acid (PFNA)	1.62	0.97	ng/L	1.95		83.3	53-157			
Perfluorodecanoic acid (PFDA)	1.68	0.97	ng/L	1.95		86.3	43-158			
Perfluoroundecanoic acid (PFUnA)	1.44	0.97	ng/L	1.95		73.7	50-155			
Perfluorododecanoic acid (PFDoA)	1.69	0.97	ng/L	1.95		86.5	60-141			
Perfluorotridecanoic acid (PFTrDA)	1.62	0.97	ng/L	1.95		83.3	52-140			
Perfluorotetradecanoic acid (PFTeDA)	1.63	0.97	ng/L	1.95		83.8	52-156			
Perfluorobutanesulfonic acid (PFBS)	1.43	0.97	ng/L	1.73		82.7	63-145			
Perfluoropentanesulfonic acid (PFPeS)	1.51	0.97	ng/L	1.83		82.6	58-144			
Perfluorohexanesulfonic acid (PFHxS)	1.53	0.97	ng/L	1.78		85.6	44-158			
Perfluoroheptanesulfonic acid (PFHpS)	1.51	0.97	ng/L	1.86		81.3	51-150			
Perfluorooctanesulfonic acid (PFOS)	1.64	0.97	ng/L	1.81		90.5	43-162			
Perfluorononanesulfonic acid (PFNS)	1.57	0.97	ng/L	1.88		83.9	46-151			
Perfluorodecanesulfonic acid (PFDS)	1.45	0.97	ng/L	1.88		76.9	50-144			
Perfluorododecanesulfonic acid (PFDoS)	1.27	0.97	ng/L	1.89		67.4	30-138			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	6.50	3.9	ng/L	7.31		88.9	52-158			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	6.78	3.9	ng/L	7.41		91.5	48-158			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	6.21	3.9	ng/L	7.50		82.8	46-165			
Perfluorooctanesulfonamide (PFOSA)	1.64	0.97	ng/L	1.95		84.4	47-163			
N-methyl perfluoroocatnesulfonamide (NMeFOSA)	1.77	0.97	ng/L	1.95		90.6	54-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.70	0.97	ng/L	1.95		87.2	49-156			
N-MeFOSAA (NMeFOSAA)	1.60	0.97	ng/L	1.95		82.3	32-160			
N-EtFOSAA (NEtFOSAA)	1.73	0.97	ng/L	1.95		88.6	51-154			
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	17.6	9.7	ng/L	19.5		90.5	56-151			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	17.5	9.7	ng/L	19.5		89.6	60-147			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.11	3.9	ng/L	7.80		91.2	58-154			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	6.23	3.9	ng/L	7.36		84.7	61-148			
9Cl-PF3ONS (F53B Minor)	6.11	3.9	ng/L	7.31		83.5	44-167			
11Cl-PF3OUdS (F53B Major)	5.66	3.9	ng/L	7.36		77.0	36-158			
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	15.6	9.7	ng/L	19.5		80.2	32-161			
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	80.2	49	ng/L	97.5		82.3	39-156			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	73.1	49	ng/L	97.5		75.0	36-149			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	2.73	1.9	ng/L	3.47		78.7	56-144			
Perfluoro-3-methoxypropanoic acid (PFMPA)	3.20	1.9	ng/L	3.90		82.1	48-150			
Perfluoro-4-methoxybutanoic acid (PFMBA)	3.07	1.9	ng/L	3.90		78.6	49-154			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.38	1.9	ng/L	3.90		86.7	47-160			
Surrogate: 13C4-PFBA	*80.9*		ng/L	97.5		83.0	10-130			
Surrogate: 13C5-PFPeA	*40.0*		ng/L	48.7		82.1	35-150			
Surrogate: 13C5-PFHxA	*19.7*		ng/L	24.4		80.9	55-150			

con-test
A Pace Analytical® Laboratory

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 B378029 - Draft Method 1633										
MRL Check (B378029-MRL1)				Prepared: 06/28/24 Analyzed: 07/01/24						
Surrogate: 13C4-PFHpA	*18.5*		ng/L	24.4		76.0	55-150			
Surrogate: 13C8-PFOA	*20.6*		ng/L	24.4		84.7	60-140			
Surrogate: 13C9-PFNA	*9.90*		ng/L	12.2		81.3	55-140			
Surrogate: 13C6-PFDA	*9.72*		ng/L	12.2		79.8	50-140			
Surrogate: 13C7-PFUnA	*9.68*		ng/L	12.2		79.4	30-140			
Surrogate: 13C2-PFDoA	*8.45*		ng/L	12.2		69.4	10-150			
Surrogate: 13C2-PFTeDA	*8.60*		ng/L	12.2		70.6	10-130			
Surrogate: 13C3-PFBS	*21.3*		ng/L	24.4		87.2	55-150			
Surrogate: 13C3-PFHxS	*20.3*		ng/L	24.4		83.2	55-150			
Surrogate: 13C8-PFOS	*20.3*		ng/L	24.4		83.2	45-140			
Surrogate: 13C2-4:2FTS	*37.1*		ng/L	48.7		76.2	60-200			
Surrogate: 13C2-6:2FTS	*35.8*		ng/L	48.7		73.5	60-200			
Surrogate: 13C2-8:2FTS	*36.8*		ng/L	48.7		75.6	50-200			
Surrogate: 13C8-PFOSA	*17.4*		ng/L	24.4		71.6	30-130			
Surrogate: D3-NMeFOSA	*13.9*		ng/L	24.4		57.2	15-130			
Surrogate: D5-NEtFOSA	*14.6*		ng/L	24.4		59.8	10-130			
Surrogate: D3-NMeFOSAA	*39.0*		ng/L	48.7		80.0	45-200			
Surrogate: D5-NEtFOSAA	*32.5*		ng/L	48.7		66.6	10-200			
Surrogate: D7-NMeFOSE	*154*		ng/L	244		63.1	10-150			
Surrogate: D9-NEtFOSE	*142*		ng/L	244		58.3	10-150			
Surrogate: 13C3-HFPO-DA	*78.7*		ng/L	97.5		80.7	25-160			

con-test
A Pace Analytical® Laboratory

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 B378179 - Draft Method 1633										
Blank (B378179-BLK1)				Prepared & Analyzed: 06/25/24						
Total Suspended Solids	ND	5.0	mg/L							
LCS (B378179-BS1)				Prepared & Analyzed: 06/25/24						
Total Suspended Solids	207	5.0	mg/L	200		104	51.5-130			

con-test®
A Pace Analytical® Laboratory

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

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-01	Recommended sample holding time was exceeded, but analysis was performed before 2X the allowable holding time.
PF-17C	Extracted internal standard is outside of control limits. Analyte is a known difficult compound.

con-test
A Pace Analytical® Laboratory

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 perfluoroocatnesulfonamide (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 (PFEESA)	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

con-test®
A Pace Analytical® Laboratory

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

24F 2885
KAF

Sub-Contract Chain of Custody

Batch Date/Time: 06/19/24 13:07
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: WG2308133
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/18/24
ESC Purchase Order #: L1748041
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
POST ELECTROLYSIS PFAS	GW	NM	06/18/24 08:30	SUBPFAS1633	2. L1748041-01	

Relinquished by: _____ **Date** 6-19-24

Recieved by: AB 23 **Date** 6-20-24

Relinquished by: _____ **Date** _____

Recieved by: _____ **Date** _____

FedEx Tracking

DELIVERED

Thursday

6/20/24 at 10:01 AM

Signed for by: A.MULINARE

Obtain proof of delivery

How was your delivery?

DELIVERY STATUS

Delivered

Report missing package

TRACKING ID

731532056490

FROM
MOUNT JULIET, TN US

Label Created
6/19/24 4:17 PM

ON THE WAY
WINDSOR LOCKS, CT
6/20/24 7:30 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT
6/20/24 7:38 AM

DELIVERED
East Longmeadow, MA US

Delivered
6/20/24 at 10:01 AM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

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

Log In Back-Sheet

Client Pace

Project NA

MCP/RCP Required NA

Deliverable Package Requirement NA

Location ~~12065 Lebanon RD~~ NA AB

PWSID# (When Applicable) NA

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time AB 6-20-24

Back-Sheet By / Date / Time AB 6/20/24 12:25

Temperature Method tempgun # 25

WV samples: Yes (see note*) / No (follow normal procedure)

Temp < 6° C Actual Temperature 2.3

Rush Samples: Yes / No Notify

Short Hold: Yes / No Notify

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☑	☐
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

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

Qualtrax ID: 120836

Pace

DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist

Effective Date: 06/11/2024

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	Sample		
																				16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars
																				8oz Amb/Clear		
																				4oz Amb/Clear		
																				2oz Amb/Clear		
																				Unpreserved	1 Liter	Ambers
																				HCL		
																				Sulfuric		
																				Sulfuric	250mL	
																				Phosphoric		
																				HCl		
																				Unpreserved	100mL	
																				Unpreserved	1 Liter	Plastics
																				Sulfuric		
																				Unpreserved	500mL	
																				Sulfuric		
																				Unpreserved	250mL	
																				Trizma		
																				Sulfuric		
																				Nitric		
																				NaOH		
																				Ammonium Acetate		
																				NaOH/Zinc		
																				Unpreserved	VOA Vials	
																				HCl		
																				MeOH		
																				D.I. Water		
																				BiSulfate		
																				Col/Bact	Other/Fill in	
																			2	500mL Plastic Trizma		

Qualtrax ID: 120836

Pace Analytical®

ANALYTICAL REPORT

July 18, 2024

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

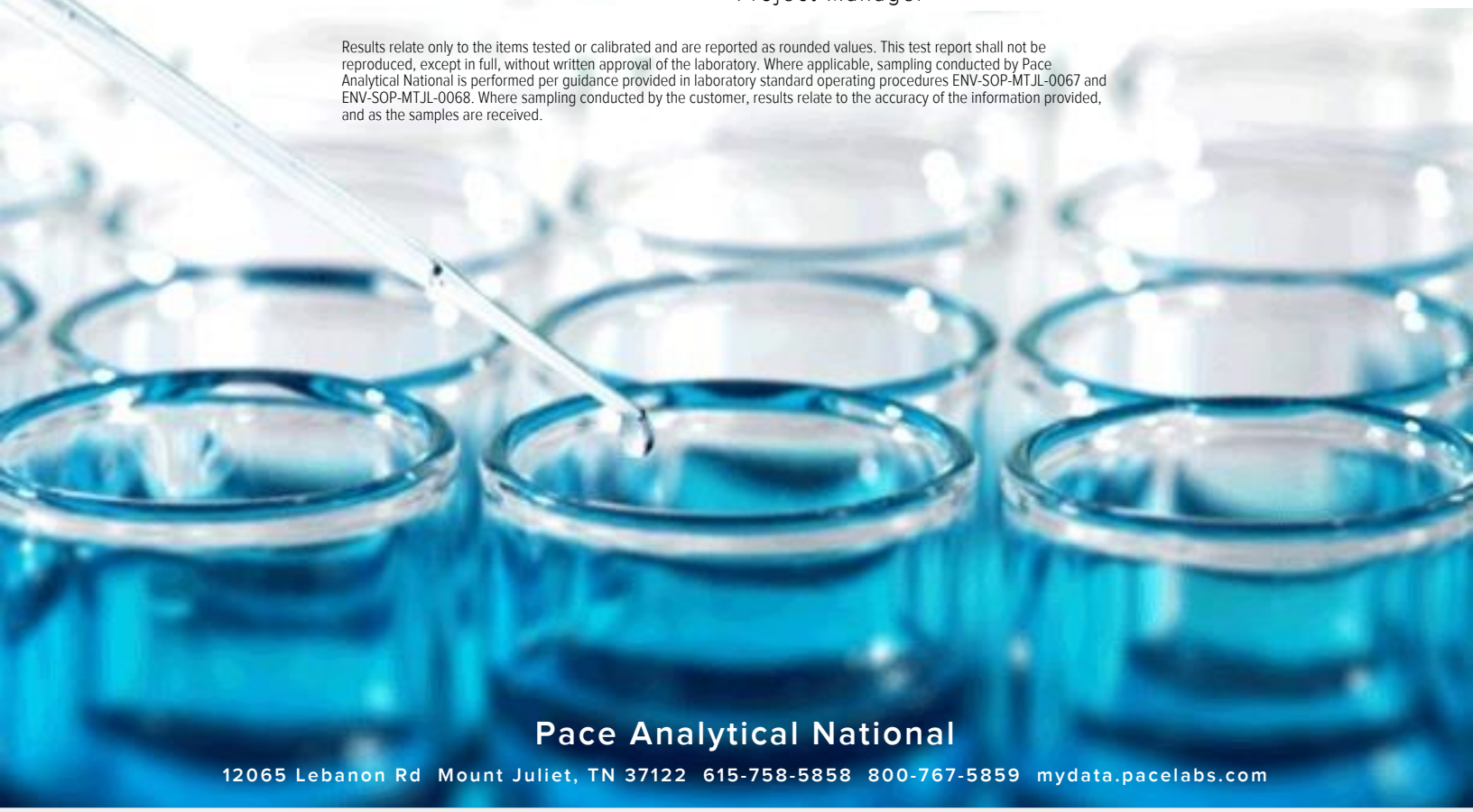
Devon Energy - Oklahoma City, OK

Sample Delivery Group:	L1748044
Samples Received:	06/19/2024
Project Number:	212C-HN-02831
Description:	Desalination Pilot
Report To:	Paul Barbour 333 W Sheridan Avenue Oklahoma City, OK 73102-5015

Entire Report Reviewed By:

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

TABLE OF CONTENTS

POST ELECTROLYSIS RAD L1748044-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/18/24 08:30	06/19/24 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG2310835	1	06/24/24 09:04	06/27/24 12:35	ALG	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG2309149	1	06/21/24 21:36	07/05/24 17:29	DDD	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG2315459	1	07/06/24 11:43	07/08/24 23:25	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2309111	1	06/21/24 15:54	06/25/24 17:42	ZRG	Mt. Juliet, TN

CASE NARRATIVE

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.

Jennifer Gambill
Project Manager

Radiochemistry by Method 900

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
GROSS ALPHA	0.977	J	1.57	1.59	2.22	0.911	06/27/2024 12:35	WG2310835
GROSS BETA	1.42	J	1.51	1.52	1.96	0.932	06/27/2024 12:35	WG2310835

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.604	J	0.409	0.528	0.708	0.373	07/05/2024 17:29	WG2309149
(T) Barium	*105*					*30.0-143*	*07/05/2024 17:29*	WG2309149
(T) Yttrium	*73.3*					*30.0-136*	*07/05/2024 17:29*	WG2309149

Radiochemistry by Method D3972 U-02

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
URANIUM-234	0.401	J	0.371	0.560	0.442	0.322	07/08/2024 23:25	WG2315459
URANIUM-235	-0.0367	U	0.0829	0.272	0.353	0.277	07/08/2024 23:25	WG2315459
URANIUM-238	0.522		0.375	0.565	0.308	0.255	07/08/2024 23:25	WG2315459
(T) URANIUM-232	*57.2*					*30.0-110*	*07/08/2024 23:25*	WG2315459

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0165	U	0.153	0.277	0.312	0.218	06/25/2024 17:42	WG2309111
(T) Barium-133	*92.2*					*30.0-143*	*06/25/2024 17:42*	WG2309111

Method Blank (MB)

(MB) R4087325-1 06/27/24 12:35

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
GROSS ALPHA	0.148	U	0.445	0.666	0.272
GROSS BETA	-0.125	U	1.24	1.68	0.804

L1747966-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747966-01 06/27/24 12:35 • (DUP) R4087325-5 06/27/24 12:35

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	185	56.7	49.2	19.8	131	52.3	52.8	21.5	34.5	0.707		20	3
GROSS BETA	160	48.3	54.7	25.8	247	51.7	54.8	25.9	42.8	1.23		20	3

Laboratory Control Sample (LCS)

(LCS) R4087325-2 06/27/24 12:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	14.0	93.3	80.0-120	
GROSS BETA	40.2	43.0	107	80.0-120	

L1749017-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749017-01 06/27/24 12:35 • (MS) R4087325-3 06/27/24 12:35 • (MSD) R4087325-4 06/27/24 12:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	18.2	6.89	25.1	25.9	100	104	1	70.0-130			2.90		20
GROSS BETA	48.8	9.75	56.4	57.3	95.6	97.5	1	70.0-130			1.67		20

Method Blank (MB)

(MB) R4091735-1 07/05/24 17:29

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.466		0.216	0.368	0.192
(T) Barium	*90.3*		*90.3*		
(T) Yttrium	*106*		*106*		

L1748044-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748044-01 07/05/24 17:29 • (DUP) R4091735-5 07/05/24 17:29

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	0.604	0.409	0.708	0.373	0.215	0.297	0.522	0.276	94.9	0.769	U	20	3
(T) Barium	*105*				*98.0*	*98.0*							
(T) Yttrium	*73.3*				*108*	*108*							

Laboratory Control Sample (LCS)

(LCS) R4091735-2 07/05/24 17:29

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.91	98.2	80.0-120	
(T) Barium			*97.1*		
(T) Yttrium			*87.5*		

L1748527-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748527-01 07/05/24 17:29 • (MS) R4091735-3 07/05/24 17:29 • (MSD) R4091735-4 07/05/24 17:29

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.432	17.7	16.3	106	97.4	1	70.0-130			8.59		20
(T) Barium		*116*			*106*	*107*							
(T) Yttrium		*96.0*			*104*	*103*							

Method Blank (MB)

(MB) R4093343-3 07/11/24 22:38

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
URANIUM-234	0.0827		0.0420	0.0375	0.0259
URANIUM-235	0.00933	U	0.0173	0.0277	0.0209
URANIUM-238	0.0260	J	0.0236	0.0277	0.0209
(T) URANIUM-232	*75.9*		*75.9*		

L1750499-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750499-01 07/08/24 23:25 • (DUP) R4093343-2 07/08/24 23:25

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
URANIUM-234	0.386	0.359	0.371	0.306	0.545	0.517	0.644	0.450	34.2	0.253	J	20	3
URANIUM-235	0.0543	0.173	0.371	0.306	0.0411	0.198	0.450	0.353	27.6	0.0502	U	20	3
URANIUM-238	0.305	0.323	0.371	0.306	0.273	0.366	0.530	0.393	11.3	0.0672	J	20	3
(T) URANIUM-232	*47.1*				*45.8*	*45.8*							

Laboratory Control Sample (LCS)

(LCS) R4093343-1 07/08/24 23:25

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	5.03	5.52	110	80.0-120	
URANIUM-238	4.90	5.23	107	80.0-120	
(T) URANIUM-232			*58.0*		

L1748503-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748503-01 07/12/24 15:29 • (MS) R4093343-4 07/12/24 15:29 • (MSD) R4093343-5 07/12/24 15:29

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	1.36	20.7	21.5	96.1	100	1	75.0-125			4.03		20
URANIUM-238	19.6	0.839	20.6	23.1	101	114	1	75.0-125			11.8		20
(T) URANIUM-232		*82.8*			*85.0*	*82.4*							

Method Blank (MB)

(MB) R4087337-1 06/25/24 17:41

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	-0.0166	U	0.0386	0.0915	0.0614
(T) Barium-133	*83.6*		*83.6*		

L1748511-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1748511-03 06/25/24 17:42 • (DUP) R4087337-5 06/25/24 17:41

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	-0.0726	0.154	0.364	0.243	-0.0164	0.233	0.433	0.278	0.000	0.201	U	20	3
(T) Barium-133	*84.3*				*82.8*	*82.8*							

Laboratory Control Sample (LCS)

(LCS) R4087337-2 06/25/24 17:41

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.11	102	75.0-125	
(T) Barium-133			*82.2*		

L1747363-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747363-03 06/25/24 17:41 • (MS) R4087337-3 06/25/24 17:41 • (MSD) R4087337-4 06/25/24 17:41

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	1.06	19.7	20.2	93.4	95.4	1	75.0-125			2.06		20
(T) Barium-133		*86.2*			*81.4*	*81.8*							

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

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.

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	LAO000356
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.

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

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-HW-02831

Lab Project # DEVENEOCOK-EFFLUENT

Collected by (print): Danny Daniels

Site/Facility ID # CCR

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y ___

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

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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/hubfs/pas-standard-terms.pdf

SDG # L1746044

Table # H215

Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	625.1 100ml Amb-NaTio	CHLORR 250mlHDPE-NoPres	CN 250mlHDPEAmb-NaOH	DOC 250mlAmb-No Pres	GROSS ALPHA/BETA 1L-HDPE-Add HNO3	GROSS ALPHA/BETA 500mlHDPE-Add HNO3	IODIDE 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3 250mlHDPENaThioH2SO4	OGHEX 1L-Clr-WT-HCl	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	27	X	X	X	X	X	X	X	X	X	X		
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal PFAS	G	GW		6-18-24														
~~POST ELECTROLYSIS RAD~~ Ammonia Removal RAD	G	NPW		6-18-24	0830	2					X	X						01

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
[signature]	6-18-24	1600	Arthu Richards		
Arthu Richards	6/18/24	1630	Received by: (Signature)	Temp: EOA °C 3.6+0.3=3.9 Bottles Received: 33	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/19/24 Time: 0800	Hold: Condition: NCF / OK

Kristen Organ

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

Report to: Paul Barbour
Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot
City/State Collected: Jal, NM
Please Circle: PT MT CT ET
Phone: 405-228-4308
Client Project # 212C-HM-02831
Lab Project # DEVENEOCOK-EFFLUENT
Collected by (print): Danny Daniels
Site/Facility ID #: CCR
P.O. #
Collected by (signature):
Quote #
Immediately Packed on Ice N ___ Y ___
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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PFAS 1633 500mlHDPE-Trizma	PORTHO 100ml Amb NoPres	RA-228 1L-HDPE-Add-HNO3	SUBGRAVITY 1L-HDPE-NoPres	SULFIDE 250mlAmb-S-NaOH+ZnAc	TDS 1L-HDPE-NoPres	TOC 250mlAmb-HCl	TPHTX 40mlAmbHCl-BT-trwted	TSS 1L-HDPE NoPres	UV-254 100ml Amb NoPres	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	27		X		X	X	X	X	X	X	X		
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal PFAS	G	GW		6-18-24	0830	2	X											
~~POST ELECTROLYSIS RAD~~ Ammonia Removal RAD	G	NPW		6-18-24	0830	2			X									-07

* 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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	6-18-24	1600	Trace Richards	
Relinquished by : (Signature) Trace Richards	6/18/24	1638	Received by: (Signature)	Temp: 3.6 +0.3=3.9 °C Bottles Received: 33
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Cesar Orpa	Date: 6/19/24 Time: 0900

If preservation required by Login: Date/Time
Hold:
Condition: NCF / OK

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

Chain of Custody Page 1 of 1
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/hubfs/pas-standard-terms.pdf

SDG # L1241604
Table #
Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEx Ground

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 2 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/hubfs/pas-standard-terms.pdf

Report to: Paul Barbour

Email To: paul.barbour@dvn.com;asharma@ccrh2o.com

Project Description: Desalination Pilot

City/State Collected: Jal, NM

Please Circle: PT MT CT ET

Phone: 405-228-4308

Client Project # 212C-HN-02831

Lab Project # DEVENEOCOK-EFFLUENT

SDG # L1748040

Table #

Collected by (print): Ranny Daniels

Site/Facility ID # CCR

P.O. #

Collected by (signature):

Quote #

Acctnum: DEVENEOCOK
Template: T253859
Prelogin: P1082836
PM: 3500 - Jennifer Gambill
PB: LM 6/13/24
Shipped Via: FedEX Ground

Immediately Packed on Ice N ____ Y ____

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

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V624.1 40mlAmb-HCl	WetChem 250mlHDPE-H2SO4	WetChem 250mlHDPE-NoPres	WetChem 500mlHDPE-NoPres	Remarks	Sample # (lab only)
~~POST ELECTROLYSIS~~ Ammonia Removal	G	GW		6-18-24	0830	27	X	X	X	X		
~~POST ELECTROLYSIS PFAS~~ Ammonia Removal, PFAS		GW										
~~POST ELECTROLYSIS RAD~~ Ammonia Removal, RAD		NPW										-01

* 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 #

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:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	6-18-24	1600	Tracy Richards	
Relinquished by : (Signature) Tracy Richards	6-18-24	1640	Received by: (Signature)	Temp: 0.07 °C 3.6+0.3=3.9 Bottles Received: 33
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Seyton Dunn	Date: 6/19/24 Time: 0800

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 381236
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	None	9/6/2024