

Caerus Oil and Gas

Sample Delivery Group: L1749841
Samples Received: 06/22/2024
Project Number:
Description: Love Ranch 8 Remediation
Site: LOVE RANCH 8 REMEDIATION
Report To: Jake J. / Brett M. / Blair R. / Andy V.
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By:



Chris Ward
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

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SAMPLE SUMMARY

20240618-LOVE RANCH 8-(SB RDC-03)@5 L1749841-01 Solid

Collected by
Reed Johnson

Collected date/time
06/18/24 10:35

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311591	1	07/03/24 18:48	07/03/24 18:48	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2310736	1	07/01/24 07:53	07/02/24 12:23	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2317271	1	07/03/24 19:13	07/03/24 21:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2317290	1	07/03/24 22:18	07/04/24 13:02	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2311598	1	06/27/24 20:24	06/28/24 12:08	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	5	06/29/24 06:28	07/01/24 01:25	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2313258	1.01	06/25/24 21:27	06/27/24 20:28	BAM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2313002	1	06/25/24 21:27	06/27/24 07:40	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2314678	1	06/30/24 08:36	07/01/24 21:13	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2314629	1	06/29/24 15:21	06/30/24 09:19	AMS	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

20240618-LOVE RANCH 8-(SB RDC-05)@20 L1749841-02 Solid

Collected by
Reed Johnson

Collected date/time
06/18/24 17:09

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311582	1	07/02/24 12:18	07/02/24 12:18	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2310736	1	07/01/24 07:53	07/02/24 12:31	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2315950	1	07/02/24 11:19	07/02/24 11:49	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2315942	1	07/02/24 11:06	07/02/24 15:02	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2311592	1	06/28/24 10:47	06/28/24 16:57	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	10	06/29/24 06:28	07/01/24 09:29	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	5	06/29/24 06:28	07/01/24 01:28	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2313258	1	06/25/24 21:27	06/27/24 20:54	BAM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2313002	1.01	06/25/24 21:27	06/27/24 07:59	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2314678	1	06/30/24 08:36	07/01/24 17:58	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2314629	1	06/29/24 15:21	06/30/24 10:27	AMS	Mt. Juliet, TN

⁷Gl

⁸Al

⁹Sc

20240619-LOVE RANCH 8-(SB RDC-07)@5 L1749841-03 Solid

Collected by
Reed Johnson

Collected date/time
06/19/24 09:45

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311591	1	07/03/24 18:49	07/03/24 18:49	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2310736	1	07/01/24 07:53	07/02/24 12:39	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2317271	1	07/03/24 19:13	07/03/24 21:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2317290	1	07/03/24 22:18	07/04/24 13:02	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2311598	1	06/27/24 20:24	06/28/24 12:10	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	5	06/29/24 06:28	07/01/24 01:31	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2313258	1.01	06/25/24 21:27	06/27/24 21:18	BAM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2313002	1	06/25/24 21:27	06/27/24 08:19	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2314678	1	06/30/24 08:36	07/01/24 18:11	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2314629	1	06/29/24 15:21	06/30/24 10:45	AMS	Mt. Juliet, TN

20240619-LOVE RANCH 8-(SB RDC-02)@10 L1749841-04 Solid

Collected by
Reed Johnson

Collected date/time
06/19/24 11:00

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311562	1	06/29/24 15:34	06/29/24 15:34	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2310736	1	07/01/24 07:53	07/02/24 12:47	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2314353	1	06/29/24 15:44	06/29/24 17:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2314414	1	06/29/24 15:47	06/29/24 16:00	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2311570	1	06/28/24 13:23	06/29/24 12:18	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	5	06/29/24 06:28	07/01/24 01:41	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2313258	1	06/25/24 21:27	06/27/24 21:41	BAM	Mt. Juliet, TN

SAMPLE SUMMARY

20240619-LOVE RANCH 8-(SB RDC-02)@10 L1749841-04 Solid

Collected by
Reed Johnson

Collected date/time
06/19/24 11:00

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2313002	1	06/25/24 21:27	06/27/24 08:38	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2314678	1	06/30/24 08:36	07/01/24 18:24	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2314629	1	06/29/24 15:21	06/30/24 11:02	AMS	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

20240621-LOVE RANCH 8-(SB RDC-14)@5 L1749841-05 Solid

Collected by
Reed Johnson

Collected date/time
06/21/24 09:23

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311591	1	07/03/24 18:51	07/03/24 18:51	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2310736	1	07/01/24 07:53	07/02/24 12:55	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2317271	1	07/03/24 19:13	07/03/24 21:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2317290	1	07/03/24 22:18	07/04/24 13:02	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2311598	1	06/27/24 20:24	06/28/24 12:13	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	10	06/29/24 06:28	07/01/24 09:33	SJM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	5	06/29/24 06:28	07/01/24 01:44	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2314036	1	06/25/24 21:27	06/28/24 17:34	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2313002	1	06/25/24 21:27	06/27/24 08:57	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2314678	1	06/30/24 08:36	07/01/24 18:37	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2314629	1	06/29/24 15:21	06/30/24 11:19	AMS	Mt. Juliet, TN

20240620-LOVE RANCH 8-(SB RDC-13)@5 L1749841-06 Solid

Collected by
Reed Johnson

Collected date/time
06/20/24 16:32

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2316638	1	07/06/24 11:35	07/06/24 11:35	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2310736	1	07/01/24 07:53	07/02/24 13:03	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2318200	1	07/05/24 17:18	07/05/24 21:15	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2318239	1	07/05/24 17:17	07/05/24 21:00	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2311534	1	06/27/24 20:23	06/28/24 11:53	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2311566	5	06/29/24 06:28	07/01/24 01:47	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2314036	1	06/25/24 21:27	06/28/24 17:57	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2313002	1.01	06/25/24 21:27	06/27/24 09:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2314678	1	06/30/24 08:36	07/01/24 18:50	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2314629	1	06/29/24 15:21	06/30/24 11:36	AMS	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.



Chris Ward
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.39		1	07/03/2024 18:48	WG2311591

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	07/02/2024 12:23	WG2310736

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.30	T8	1	07/03/2024 21:30	WG2317271

Sample Narrative:

L1749841-01 WG2317271: 8.3 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1080		10.0	1	07/04/2024 13:02	WG2317290

Sample Narrative:

L1749841-01 WG2317290: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.403		0.200	1	06/28/2024 12:08	WG2311598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.68		1.00	5	07/01/2024 01:25	WG2311566
Barium	163		2.50	5	07/01/2024 01:25	WG2311566
Cadmium	ND		1.00	5	07/01/2024 01:25	WG2311566
Copper	8.04		5.00	5	07/01/2024 01:25	WG2311566
Lead	7.52		2.00	5	07/01/2024 01:25	WG2311566
Nickel	9.77		2.50	5	07/01/2024 01:25	WG2311566
Selenium	ND		2.50	5	07/01/2024 01:25	WG2311566
Silver	ND		0.500	5	07/01/2024 01:25	WG2311566
Zinc	28.9		25.0	5	07/01/2024 01:25	WG2311566

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.101	1.01	06/27/2024 20:28	WG2313258
(S) a,a,a-Trifluorotoluene(FID)	94.9		77.0-120		06/27/2024 20:28	WG2313258

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/27/2024 07:40	WG2313002
Toluene	ND		0.00500	1	06/27/2024 07:40	WG2313002
Ethylbenzene	ND		0.00250	1	06/27/2024 07:40	WG2313002
Xylenes, Total	ND		0.00650	1	06/27/2024 07:40	WG2313002
1,2,4-Trimethylbenzene	ND		0.00500	1	06/27/2024 07:40	WG2313002
1,3,5-Trimethylbenzene	ND		0.00500	1	06/27/2024 07:40	WG2313002
(S) Toluene-d8	98.3		75.0-131		06/27/2024 07:40	WG2313002
(S) 4-Bromofluorobenzene	100		67.0-138		06/27/2024 07:40	WG2313002
(S) 1,2-Dichloroethane-d4	99.1		70.0-130		06/27/2024 07:40	WG2313002

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.17	J6	4.00	1	07/01/2024 21:13	WG2314678
C28-C36 Motor Oil Range	18.7		4.00	1	07/01/2024 21:13	WG2314678
(S) o-Terphenyl	31.7		18.0-148		07/01/2024 21:13	WG2314678

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Anthracene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Benzo(a)anthracene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Benzo(b)fluoranthene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Benzo(k)fluoranthene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Benzo(a)pyrene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Chrysene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Dibenz(a,h)anthracene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Fluoranthene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Fluorene	ND		0.00600	1	06/30/2024 09:19	WG2314629
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	06/30/2024 09:19	WG2314629
1-Methylnaphthalene	ND		0.0200	1	06/30/2024 09:19	WG2314629
2-Methylnaphthalene	ND		0.0200	1	06/30/2024 09:19	WG2314629
Naphthalene	ND		0.0200	1	06/30/2024 09:19	WG2314629
Pyrene	ND		0.00600	1	06/30/2024 09:19	WG2314629
(S) p-Terphenyl-d14	79.8		23.0-120		06/30/2024 09:19	WG2314629
(S) Nitrobenzene-d5	76.0		14.0-149		06/30/2024 09:19	WG2314629
(S) 2-Fluorobiphenyl	67.1		34.0-125		06/30/2024 09:19	WG2314629

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.88		1	07/02/2024 12:18	WG2311582

1
Cp

2
Tc

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	07/02/2024 12:31	WG2310736

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.42	T8	1	07/02/2024 11:49	WG2315950

5
Sr

6
Qc

Sample Narrative:

L1749841-02 WG2315950: 8.42 at 22.6C

7
Gl

8
Al

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	761		10.0	1	07/02/2024 15:02	WG2315942

9
Sc

Sample Narrative:

L1749841-02 WG2315942: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.492		0.200	1	06/28/2024 16:57	WG2311592

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	1.79		1.00	5	07/01/2024 01:28	WG2311566
Barium	291		5.00	10	07/01/2024 09:29	WG2311566
Cadmium	ND		1.00	5	07/01/2024 01:28	WG2311566
Copper	12.1		5.00	5	07/01/2024 01:28	WG2311566
Lead	11.0		2.00	5	07/01/2024 01:28	WG2311566
Nickel	12.5		2.50	5	07/01/2024 01:28	WG2311566
Selenium	ND		2.50	5	07/01/2024 01:28	WG2311566
Silver	ND		0.500	5	07/01/2024 01:28	WG2311566
Zinc	40.8		25.0	5	07/01/2024 01:28	WG2311566

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/27/2024 20:54	WG2313258
(S) a,a,a-Trifluorotoluene(FID)	95.9		77.0-120		06/27/2024 20:54	WG2313258

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0260		0.00101	1.01	06/27/2024 07:59	WG2313002
Toluene	ND		0.00505	1.01	06/27/2024 07:59	WG2313002
Ethylbenzene	ND		0.00253	1.01	06/27/2024 07:59	WG2313002
Xylenes, Total	ND		0.00656	1.01	06/27/2024 07:59	WG2313002
1,2,4-Trimethylbenzene	ND		0.00505	1.01	06/27/2024 07:59	WG2313002
1,3,5-Trimethylbenzene	ND		0.00505	1.01	06/27/2024 07:59	WG2313002
(S) Toluene-d8	99.3		75.0-131		06/27/2024 07:59	WG2313002
(S) 4-Bromofluorobenzene	101		67.0-138		06/27/2024 07:59	WG2313002
(S) 1,2-Dichloroethane-d4	96.1		70.0-130		06/27/2024 07:59	WG2313002

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	07/01/2024 17:58	WG2314678
C28-C36 Motor Oil Range	4.51		4.00	1	07/01/2024 17:58	WG2314678
(S) o-Terphenyl	30.8		18.0-148		07/01/2024 17:58	WG2314678

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Anthracene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Benzo(a)anthracene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Benzo(b)fluoranthene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Benzo(k)fluoranthene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Benzo(a)pyrene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Chrysene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Dibenz(a,h)anthracene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Fluoranthene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Fluorene	ND		0.00600	1	06/30/2024 10:27	WG2314629
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	06/30/2024 10:27	WG2314629
1-Methylnaphthalene	ND		0.0200	1	06/30/2024 10:27	WG2314629
2-Methylnaphthalene	ND		0.0200	1	06/30/2024 10:27	WG2314629
Naphthalene	ND		0.0200	1	06/30/2024 10:27	WG2314629
Pyrene	ND		0.00600	1	06/30/2024 10:27	WG2314629
(S) p-Terphenyl-d14	79.3		23.0-120		06/30/2024 10:27	WG2314629
(S) Nitrobenzene-d5	76.3		14.0-149		06/30/2024 10:27	WG2314629
(S) 2-Fluorobiphenyl	58.8		34.0-125		06/30/2024 10:27	WG2314629

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.26		1	07/03/2024 18:49	WG2311591

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	07/02/2024 12:39	WG2310736

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.37	T8	1	07/03/2024 21:30	WG2317271

Sample Narrative:
L1749841-03 WG2317271: 8.37 at 22.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	630		10.0	1	07/04/2024 13:02	WG2317290

Sample Narrative:
L1749841-03 WG2317290: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.950		0.200	1	06/28/2024 12:10	WG2311598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.40		1.00	5	07/01/2024 01:31	WG2311566
Barium	117		2.50	5	07/01/2024 01:31	WG2311566
Cadmium	ND		1.00	5	07/01/2024 01:31	WG2311566
Copper	5.09		5.00	5	07/01/2024 01:31	WG2311566
Lead	5.62		2.00	5	07/01/2024 01:31	WG2311566
Nickel	7.32		2.50	5	07/01/2024 01:31	WG2311566
Selenium	ND		2.50	5	07/01/2024 01:31	WG2311566
Silver	ND		0.500	5	07/01/2024 01:31	WG2311566
Zinc	ND		25.0	5	07/01/2024 01:31	WG2311566

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.101	1.01	06/27/2024 21:18	WG2313258
(S) a,a,a-Trifluorotoluene(FID)	95.4		77.0-120		06/27/2024 21:18	WG2313258

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/27/2024 08:19	WG2313002
Toluene	ND		0.00500	1	06/27/2024 08:19	WG2313002
Ethylbenzene	ND		0.00250	1	06/27/2024 08:19	WG2313002
Xylenes, Total	ND		0.00650	1	06/27/2024 08:19	WG2313002
1,2,4-Trimethylbenzene	ND		0.00500	1	06/27/2024 08:19	WG2313002
1,3,5-Trimethylbenzene	ND		0.00500	1	06/27/2024 08:19	WG2313002
(S) Toluene-d8	98.6		75.0-131		06/27/2024 08:19	WG2313002
(S) 4-Bromofluorobenzene	103		67.0-138		06/27/2024 08:19	WG2313002
(S) 1,2-Dichloroethane-d4	98.2		70.0-130		06/27/2024 08:19	WG2313002

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	07/01/2024 18:11	WG2314678
C28-C36 Motor Oil Range	ND		4.00	1	07/01/2024 18:11	WG2314678
(S) o-Terphenyl	26.5		18.0-148		07/01/2024 18:11	WG2314678

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Anthracene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Benzo(a)anthracene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Benzo(b)fluoranthene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Benzo(k)fluoranthene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Benzo(a)pyrene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Chrysene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Dibenz(a,h)anthracene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Fluoranthene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Fluorene	ND		0.00600	1	06/30/2024 10:45	WG2314629
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	06/30/2024 10:45	WG2314629
1-Methylnaphthalene	ND		0.0200	1	06/30/2024 10:45	WG2314629
2-Methylnaphthalene	ND		0.0200	1	06/30/2024 10:45	WG2314629
Naphthalene	ND		0.0200	1	06/30/2024 10:45	WG2314629
Pyrene	ND		0.00600	1	06/30/2024 10:45	WG2314629
(S) p-Terphenyl-d14	82.7		23.0-120		06/30/2024 10:45	WG2314629
(S) Nitrobenzene-d5	72.6		14.0-149		06/30/2024 10:45	WG2314629
(S) 2-Fluorobiphenyl	72.0		34.0-125		06/30/2024 10:45	WG2314629

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.75		1	06/29/2024 15:34	WG2311562

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	07/02/2024 12:47	WG2310736

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.44	T8	1	06/29/2024 17:00	WG2314353

Sample Narrative:

L1749841-04 WG2314353: 8.44 at 23.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	966		10.0	1	06/29/2024 16:00	WG2314414

Sample Narrative:

L1749841-04 WG2314414: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.629		0.200	1	06/29/2024 12:18	WG2311570

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.56		1.00	5	07/01/2024 01:41	WG2311566
Barium	159		2.50	5	07/01/2024 01:41	WG2311566
Cadmium	ND		1.00	5	07/01/2024 01:41	WG2311566
Copper	7.86		5.00	5	07/01/2024 01:41	WG2311566
Lead	7.28		2.00	5	07/01/2024 01:41	WG2311566
Nickel	9.50		2.50	5	07/01/2024 01:41	WG2311566
Selenium	ND		2.50	5	07/01/2024 01:41	WG2311566
Silver	ND		0.500	5	07/01/2024 01:41	WG2311566
Zinc	28.4		25.0	5	07/01/2024 01:41	WG2311566

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.606		0.100	1	06/27/2024 21:41	WG2313258
(S) a,a,a-Trifluorotoluene(FID)	93.8		77.0-120		06/27/2024 21:41	WG2313258

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0213		0.00100	1	06/27/2024 08:38	WG2313002
Toluene	ND		0.00500	1	06/27/2024 08:38	WG2313002
Ethylbenzene	0.0623		0.00250	1	06/27/2024 08:38	WG2313002
Xylenes, Total	0.410		0.00650	1	06/27/2024 08:38	WG2313002
1,2,4-Trimethylbenzene	0.0588		0.00500	1	06/27/2024 08:38	WG2313002
1,3,5-Trimethylbenzene	0.0710		0.00500	1	06/27/2024 08:38	WG2313002
(S) Toluene-d8	98.3		75.0-131		06/27/2024 08:38	WG2313002
(S) 4-Bromofluorobenzene	103		67.0-138		06/27/2024 08:38	WG2313002
(S) 1,2-Dichloroethane-d4	99.7		70.0-130		06/27/2024 08:38	WG2313002

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.02		4.00	1	07/01/2024 18:24	WG2314678
C28-C36 Motor Oil Range	15.8		4.00	1	07/01/2024 18:24	WG2314678
(S) o-Terphenyl	33.9		18.0-148		07/01/2024 18:24	WG2314678

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Anthracene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Benzo(a)anthracene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Benzo(b)fluoranthene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Benzo(k)fluoranthene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Benzo(a)pyrene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Chrysene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Dibenz(a,h)anthracene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Fluoranthene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Fluorene	ND		0.00600	1	06/30/2024 11:02	WG2314629
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	06/30/2024 11:02	WG2314629
1-Methylnaphthalene	ND		0.0200	1	06/30/2024 11:02	WG2314629
2-Methylnaphthalene	ND		0.0200	1	06/30/2024 11:02	WG2314629
Naphthalene	ND		0.0200	1	06/30/2024 11:02	WG2314629
Pyrene	ND		0.00600	1	06/30/2024 11:02	WG2314629
(S) p-Terphenyl-d14	84.2		23.0-120		06/30/2024 11:02	WG2314629
(S) Nitrobenzene-d5	68.2		14.0-149		06/30/2024 11:02	WG2314629
(S) 2-Fluorobiphenyl	70.8		34.0-125		06/30/2024 11:02	WG2314629

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.41		1	07/03/2024 18:51	WG2311591

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	07/02/2024 12:55	WG2310736

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.34	T8	1	07/03/2024 21:30	WG2317271

Sample Narrative:
L1749841-05 WG2317271: 8.34 at 21.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	744		10.0	1	07/04/2024 13:02	WG2317290

Sample Narrative:
L1749841-05 WG2317290: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.557		0.200	1	06/28/2024 12:13	WG2311598

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.55		1.00	5	07/01/2024 01:44	WG2311566
Barium	236		5.00	10	07/01/2024 09:33	WG2311566
Cadmium	ND		1.00	5	07/01/2024 01:44	WG2311566
Copper	8.48		5.00	5	07/01/2024 01:44	WG2311566
Lead	8.08		2.00	5	07/01/2024 01:44	WG2311566
Nickel	10.5		2.50	5	07/01/2024 01:44	WG2311566
Selenium	ND		2.50	5	07/01/2024 01:44	WG2311566
Silver	ND		0.500	5	07/01/2024 01:44	WG2311566
Zinc	30.1		25.0	5	07/01/2024 01:44	WG2311566

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/28/2024 17:34	WG2314036
(S) a,a,a-Trifluorotoluene(FID)	97.9		77.0-120		06/28/2024 17:34	WG2314036

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/27/2024 08:57	WG2313002
Toluene	ND		0.00500	1	06/27/2024 08:57	WG2313002
Ethylbenzene	ND		0.00250	1	06/27/2024 08:57	WG2313002
Xylenes, Total	ND		0.00650	1	06/27/2024 08:57	WG2313002
1,2,4-Trimethylbenzene	ND		0.00500	1	06/27/2024 08:57	WG2313002
1,3,5-Trimethylbenzene	ND		0.00500	1	06/27/2024 08:57	WG2313002
(S) Toluene-d8	101		75.0-131		06/27/2024 08:57	WG2313002
(S) 4-Bromofluorobenzene	101		67.0-138		06/27/2024 08:57	WG2313002
(S) 1,2-Dichloroethane-d4	98.4		70.0-130		06/27/2024 08:57	WG2313002

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	07/01/2024 18:37	WG2314678
C28-C36 Motor Oil Range	8.73		4.00	1	07/01/2024 18:37	WG2314678
(S) o-Terphenyl	32.2		18.0-148		07/01/2024 18:37	WG2314678

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Anthracene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Benzo(a)anthracene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Benzo(b)fluoranthene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Benzo(k)fluoranthene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Benzo(a)pyrene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Chrysene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Dibenz(a,h)anthracene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Fluoranthene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Fluorene	ND		0.00600	1	06/30/2024 11:19	WG2314629
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	06/30/2024 11:19	WG2314629
1-Methylnaphthalene	ND		0.0200	1	06/30/2024 11:19	WG2314629
2-Methylnaphthalene	ND		0.0200	1	06/30/2024 11:19	WG2314629
Naphthalene	ND		0.0200	1	06/30/2024 11:19	WG2314629
Pyrene	ND		0.00600	1	06/30/2024 11:19	WG2314629
(S) p-Terphenyl-d14	82.1		23.0-120		06/30/2024 11:19	WG2314629
(S) Nitrobenzene-d5	73.9		14.0-149		06/30/2024 11:19	WG2314629
(S) 2-Fluorobiphenyl	71.8		34.0-125		06/30/2024 11:19	WG2314629

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.17		1	07/06/2024 11:35	WG2316638

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	07/02/2024 13:03	WG2310736

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.52	T8	1	07/05/2024 21:15	WG2318200

Sample Narrative:
L1749841-06 WG2318200: 8.52 at 22.7C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	743		10.0	1	07/05/2024 21:00	WG2318239

Sample Narrative:
L1749841-06 WG2318239: at 25C

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.949		0.200	1	06/28/2024 11:53	WG2311534

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.34		1.00	5	07/01/2024 01:47	WG2311566
Barium	160		2.50	5	07/01/2024 01:47	WG2311566
Cadmium	ND		1.00	5	07/01/2024 01:47	WG2311566
Copper	8.24		5.00	5	07/01/2024 01:47	WG2311566
Lead	9.49		2.00	5	07/01/2024 01:47	WG2311566
Nickel	9.45		2.50	5	07/01/2024 01:47	WG2311566
Selenium	ND		2.50	5	07/01/2024 01:47	WG2311566
Silver	ND		0.500	5	07/01/2024 01:47	WG2311566
Zinc	31.6		25.0	5	07/01/2024 01:47	WG2311566

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	06/28/2024 17:57	WG2314036
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-120		06/28/2024 17:57	WG2314036

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00101	1.01	06/27/2024 09:16	WG2313002
Toluene	ND		0.00505	1.01	06/27/2024 09:16	WG2313002
Ethylbenzene	ND		0.00253	1.01	06/27/2024 09:16	WG2313002
Xylenes, Total	ND		0.00656	1.01	06/27/2024 09:16	WG2313002
1,2,4-Trimethylbenzene	ND		0.00505	1.01	06/27/2024 09:16	WG2313002
1,3,5-Trimethylbenzene	ND		0.00505	1.01	06/27/2024 09:16	WG2313002
(S) Toluene-d8	99.1		75.0-131		06/27/2024 09:16	WG2313002
(S) 4-Bromofluorobenzene	105		67.0-138		06/27/2024 09:16	WG2313002
(S) 1,2-Dichloroethane-d4	99.7		70.0-130		06/27/2024 09:16	WG2313002

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	07/01/2024 18:50	WG2314678
C28-C36 Motor Oil Range	4.75		4.00	1	07/01/2024 18:50	WG2314678
(S) o-Terphenyl	33.7		18.0-148		07/01/2024 18:50	WG2314678

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Anthracene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Benzo(a)anthracene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Benzo(b)fluoranthene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Benzo(k)fluoranthene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Benzo(a)pyrene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Chrysene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Dibenz(a,h)anthracene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Fluoranthene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Fluorene	ND		0.00600	1	06/30/2024 11:36	WG2314629
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	06/30/2024 11:36	WG2314629
1-Methylnaphthalene	ND		0.0200	1	06/30/2024 11:36	WG2314629
2-Methylnaphthalene	ND		0.0200	1	06/30/2024 11:36	WG2314629
Naphthalene	ND		0.0200	1	06/30/2024 11:36	WG2314629
Pyrene	ND		0.00600	1	06/30/2024 11:36	WG2314629
(S) p-Terphenyl-d14	86.4		23.0-120		06/30/2024 11:36	WG2314629
(S) Nitrobenzene-d5	75.0		14.0-149		06/30/2024 11:36	WG2314629
(S) 2-Fluorobiphenyl	73.1		34.0-125		06/30/2024 11:36	WG2314629

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4089202-1 07/02/24 09:03

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Hexavalent Chromium	0.414	⬇	0.255	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1749833-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1749833-09 07/02/24 11:35 • (DUP) R4089202-11 07/02/24 11:43

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	3.34		20

L1749853-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1749853-03 07/02/24 13:51 • (DUP) R4089202-12 07/02/24 13:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	12.4		20

Laboratory Control Sample (LCS)

(LCS) R4089202-2 07/02/24 09:11

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.4	104	80.0-120	

L1749832-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749832-05 07/02/24 09:19 • (MS) R4089202-3 07/02/24 09:27 • (MSD) R4089202-4 07/02/24 09:35

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	ND	18.2	18.2	89.3	89.2	1	75.0-125			0.118	20

L1749833-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749833-05 07/02/24 10:15 • (MS) R4089202-7 07/02/24 10:39 • (MSD) R4089202-8 07/02/24 10:47

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	ND	17.2	19.9	84.9	98.0	1	75.0-125			14.1	20

L1749832-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1749832-05 07/02/24 09:19 • (MS) R4089202-5 07/02/24 09:43

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Hexavalent Chromium	633	ND	525	82.9	50	75.0-125	

L1749833-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1749833-05 07/02/24 10:15 • (MS) R4089202-9 07/02/24 10:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Hexavalent Chromium	643	ND	532	82.8	50	75.0-125	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1749361-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1749361-11 06/29/24 17:00 • (DUP) R4088249-2 06/29/24 17:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.22	7.25	1	0.415		1

Sample Narrative:

OS: 7.22 at 24.2C

DUP: 7.25 at 24.3C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1749834-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1749834-08 06/29/24 17:00 • (DUP) R4088249-3 06/29/24 17:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.32	7.35	1	0.409		1

Sample Narrative:

OS: 7.32 at 24C

DUP: 7.35 at 23.9C

Laboratory Control Sample (LCS)

(LCS) R4088249-1 06/29/24 17:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 24C

L1749361-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1749361-08 07/02/24 11:49 • (DUP) R4089115-2 07/02/24 11:49

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.70	7.70	1	0.000		1

Sample Narrative:

OS: 7.7 at 22.8C

DUP: 7.7 at 22.7C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1749830-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1749830-02 07/02/24 11:49 • (DUP) R4089115-3 07/02/24 11:49

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.26	8.26	1	0.000		1

Sample Narrative:

OS: 8.26 at 22.8C

DUP: 8.26 at 22.8C

Laboratory Control Sample (LCS)

(LCS) R4089115-1 07/02/24 11:49

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

Sample Narrative:

LCS: 10 at 22C

L1749361-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1749361-02 07/03/24 21:30 • (DUP) R4090002-2 07/03/24 21:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.45	7.41	1	0.538		1

Sample Narrative:

OS: 7.45 at 23.9C

DUP: 7.41 at 23.6C

L1749853-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1749853-04 07/03/24 21:30 • (DUP) R4090002-3 07/03/24 21:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	7.99	7.95	1	0.502		1

Sample Narrative:

OS: 7.99 at 21.9C

DUP: 7.95 at 22.5C

Laboratory Control Sample (LCS)

(LCS) R4090002-1 07/03/24 21:30

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 23.2C



L1749834-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1749834-10 07/05/24 21:15 • (DUP) R4090605-2 07/05/24 21:15

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.80	7.77	1	0.385		1

Sample Narrative:

OS: 7.8 at 23.9C

DUP: 7.77 at 24C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1749853-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1749853-03 07/05/24 21:15 • (DUP) R4090605-3 07/05/24 21:15

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.31	8.28	1	0.362		1

Sample Narrative:

OS: 8.31 at 23.1C

DUP: 8.28 at 23C

Laboratory Control Sample (LCS)

(LCS) R4090605-1 07/05/24 21:15

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

Sample Narrative:

LCS: 10 at 22.6C

Method Blank (MB)

(MB) R4088207-1 06/29/24 16:00

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

Sample Narrative:

BLANK: at 25C

L1749393-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1749393-17 06/29/24 16:00 • (DUP) R4088207-3 06/29/24 16:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	552	553	1	0.181		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1749841-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1749841-04 06/29/24 16:00 • (DUP) R4088207-4 06/29/24 16:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	966	965	1	0.104		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4088207-2 06/29/24 16:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	738	101	85.0-115	

Sample Narrative:

LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4089243-1 07/02/24 15:02

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

L1749377-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1749377-01 07/02/24 15:02 • (DUP) R4089243-3 07/02/24 15:02

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	725	736	1	1.51		20

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

L1749832-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1749832-06 07/02/24 15:02 • (DUP) R4089243-4 07/02/24 15:02

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	111	110	1	0.181		20

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

Laboratory Control Sample (LCS)

(LCS) R4089243-2 07/02/24 15:02

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	729	99.5	85.0-115	

Sample Narrative:
LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4090115-1 07/04/24 13:02

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

L1749385-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1749385-02 07/04/24 13:02 • (DUP) R4090115-3 07/04/24 13:02

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	75.6	75.4	1	0.265		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1749841-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1749841-03 07/04/24 13:02 • (DUP) R4090115-4 07/04/24 13:02

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	630	711	1	12.1		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4090115-2 07/04/24 13:02

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) R4090604-1 07/05/24 21:00

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

Sample Narrative:

BLANK: at 25C

L1749833-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1749833-09 07/05/24 21:00 • (DUP) R4090604-3 07/05/24 21:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	17.8	17.7	1	0.338		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1749853-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1749853-05 07/05/24 21:00 • (DUP) R4090604-4 07/05/24 21:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	398	398	1	0.000		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4090604-2 07/05/24 21:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	713	97.3	85.0-115	

Sample Narrative:

LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4087740-1 06/28/24 10:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R4087740-2 06/28/24 10:45 • (LCSD) R4087740-3 06/28/24 10:48

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 %
Hot Water Sol. Boron	1.00	1.03	0.991	103	99.1	80.0-120			4.22	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4088163-1 06/29/24 12:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R4088163-2 06/29/24 12:25 • (LCSD) R4088163-3 06/29/24 12:27

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 %
Hot Water Sol. Boron	1.00	1.05	1.05	105	105	80.0-120			0.636	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4088096-1 06/28/24 16:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R4088096-2 06/28/24 16:13 • (LCSD) R4088096-3 06/28/24 16:16

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 %
Hot Water Sol. Boron	1.00	0.998	1.02	99.8	102	80.0-120			2.35	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4087750-1 06/28/24 11:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R4087750-2 06/28/24 11:45 • (LCSD) R4087750-3 06/28/24 11:46

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 %
Hot Water Sol. Boron	1.00	1.05	1.08	105	108	80.0-120			2.72	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4088444-1 07/01/24 00:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	0.156	U	0.152	2.50
Cadmium	U		0.0855	1.00
Copper	U		0.133	5.00
Lead	U		0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R4088444-2 07/01/24 00:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.4	94.4	80.0-120	
Barium	100	94.2	94.2	80.0-120	
Cadmium	100	99.2	99.2	80.0-120	
Copper	100	90.9	90.9	80.0-120	
Lead	100	96.8	96.8	80.0-120	
Nickel	100	96.9	96.9	80.0-120	
Selenium	100	93.6	93.6	80.0-120	
Silver	20.0	20.6	103	80.0-120	
Zinc	100	92.4	92.4	80.0-120	

L1749833-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749833-04 07/01/24 00:28 • (MS) R4088444-5 07/01/24 00:39 • (MSD) R4088444-6 07/01/24 00:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	ND	93.6	89.0	92.8	88.2	5	75.0-125			5.02	20
Barium	100	41.3	124	125	82.8	83.6	5	75.0-125			0.689	20
Cadmium	100	ND	98.2	93.7	98.2	93.7	5	75.0-125			4.67	20
Copper	100	ND	92.6	86.9	90.7	85.0	5	75.0-125			6.35	20
Lead	100	2.92	96.9	92.6	94.0	89.7	5	75.0-125			4.52	20
Nickel	100	ND	97.6	92.3	95.5	90.3	5	75.0-125			5.51	20
Selenium	100	ND	93.2	88.9	93.2	88.9	5	75.0-125			4.76	20
Silver	20.0	ND	20.6	19.8	103	99.2	5	75.0-125			3.84	20
Zinc	100	ND	101	94.8	92.8	86.8	5	75.0-125			6.18	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4088008-1 06/27/24 10:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0226	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	97.3			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4088008-2 06/27/24 11:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.15	83.0	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			104	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4088767-2 06/28/24 11:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	100			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4088767-1 06/28/24 10:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.11	102	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			106	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4087664-3 06/27/24 03:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	99.0			75.0-131
(S) 4-Bromofluorobenzene	101			67.0-138
(S) 1,2-Dichloroethane-d4	97.5			70.0-130

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

(LCS) R4087664-1 06/27/24 01:56 • (LCSD) R4087664-2 06/27/24 02:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.111	0.112	88.8	89.6	70.0-123			0.897	20
Toluene	0.125	0.105	0.109	84.0	87.2	75.0-121			3.74	20
Ethylbenzene	0.125	0.104	0.106	83.2	84.8	74.0-126			1.90	20
Xylenes, Total	0.375	0.304	0.321	81.1	85.6	72.0-127			5.44	20
1,2,4-Trimethylbenzene	0.125	0.110	0.112	88.0	89.6	70.0-126			1.80	20
1,3,5-Trimethylbenzene	0.125	0.107	0.112	85.6	89.6	73.0-127			4.57	20
(S) Toluene-d8				100	100	75.0-131				
(S) 4-Bromofluorobenzene				100	99.7	67.0-138				
(S) 1,2-Dichloroethane-d4				105	103	70.0-130				

1
Cp

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Tc

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Ss

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R4089034-1 07/01/24 17:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	36.3			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4089034-2 07/01/24 17:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.6	63.2	50.0-150	
(S) o-Terphenyl			41.9	18.0-148	

L1749841-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749841-01 07/01/24 21:13 • (MS) R4089034-3 07/01/24 21:26 • (MSD) R4089034-4 07/01/24 21:39

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.5	6.17	26.8	29.0	42.5	47.0	1	50.0-150	J6	J6	7.89	20
(S) o-Terphenyl					30.2	33.3		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4088667-2 06/30/24 08:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	88.0			23.0-120
(S) Nitrobenzene-d5	69.3			14.0-149
(S) 2-Fluorobiphenyl	70.1			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4088667-1 06/30/24 08:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0624	78.0	50.0-120	
Anthracene	0.0800	0.0692	86.5	50.0-126	
Benzo(a)anthracene	0.0800	0.0697	87.1	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0629	78.6	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0672	84.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0599	74.9	42.0-120	
Chrysene	0.0800	0.0679	84.9	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0687	85.9	47.0-125	
Fluoranthene	0.0800	0.0736	92.0	49.0-129	
Fluorene	0.0800	0.0685	85.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0677	84.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0672	84.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0664	83.0	50.0-120	
Naphthalene	0.0800	0.0614	76.8	50.0-120	
Pyrene	0.0800	0.0636	79.5	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4088667-1 06/30/24 08:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			95.8	23.0-120	
(S) Nitrobenzene-d5			93.9	14.0-149	
(S) 2-Fluorobiphenyl			87.3	34.0-125	

L1749841-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749841-01 06/30/24 09:19 • (MS) R4088667-3 06/30/24 09:36 • (MSD) R4088667-4 06/30/24 09:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0611	0.0588	76.4	73.5	1	14.0-127			3.84	27
Anthracene	0.0800	ND	0.0685	0.0655	85.6	81.9	1	10.0-145			4.48	30
Benzo(a)anthracene	0.0800	ND	0.0678	0.0642	84.8	80.3	1	10.0-139			5.45	30
Benzo(b)fluoranthene	0.0800	ND	0.0610	0.0573	76.3	71.6	1	10.0-140			6.26	36
Benzo(k)fluoranthene	0.0800	ND	0.0622	0.0602	77.8	75.3	1	10.0-137			3.27	31
Benzo(a)pyrene	0.0800	ND	0.0633	0.0601	79.1	75.1	1	10.0-141			5.19	31
Chrysene	0.0800	ND	0.0667	0.0628	83.4	78.5	1	10.0-145			6.02	30
Dibenz(a,h)anthracene	0.0800	ND	0.0662	0.0614	82.8	76.8	1	10.0-132			7.52	31
Fluoranthene	0.0800	ND	0.0743	0.0705	92.9	88.1	1	10.0-153			5.25	33
Fluorene	0.0800	ND	0.0692	0.0667	86.5	83.4	1	11.0-130			3.68	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0663	0.0628	82.9	78.5	1	10.0-137			5.42	32
1-Methylnaphthalene	0.0800	ND	0.0675	0.0639	84.4	79.9	1	10.0-142			5.48	28
2-Methylnaphthalene	0.0800	ND	0.0659	0.0625	82.4	78.1	1	10.0-137			5.30	28
Naphthalene	0.0800	ND	0.0620	0.0586	77.5	73.3	1	10.0-135			5.64	27
Pyrene	0.0800	ND	0.0640	0.0616	80.0	77.0	1	10.0-148			3.82	35
(S) p-Terphenyl-d14					89.0	76.9		23.0-120				
(S) Nitrobenzene-d5					82.5	82.7		14.0-149				
(S) 2-Fluorobiphenyl					79.1	76.4		34.0-125				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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.

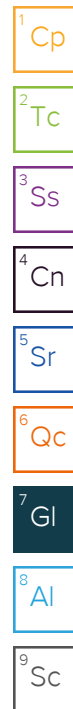
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

Abbreviations and Definitions

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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.



ACCREDITATIONS & LOCATIONS

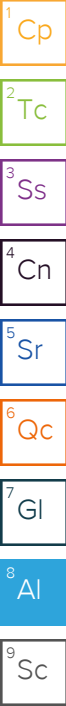
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



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