

**Scout Energy - Rangely, CO**

Sample Delivery Group: L1800059  
Samples Received: 11/15/2024  
Project Number:  
Description: MB Larson 3-25 Spill

Report To: Cody Christian  
100 Chevron Road  
Rangely, CO 81648

Entire Report Reviewed By:



Chris Ward  
Project Manager

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**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [mydata.pacelabs.com](https://mydata.pacelabs.com)

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

# SAMPLE SUMMARY

## MBLAR325-SS1 L1800059-01 Solid

Collected by  
Spencer Rugland

Collected date/time  
11/13/24 11:00

Received date/time  
11/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2405328	1	11/23/24 16:51	11/23/24 16:51	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2402545	1	11/17/24 16:39	11/18/24 03:57	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2407069	1	11/22/24 19:56	11/23/24 19:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2407074	1	11/22/24 20:05	11/22/24 22:41	BRT	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2405337	1	11/21/24 14:09	11/21/24 18:52	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2402928	5	11/17/24 08:26	11/17/24 18:56	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2406436	1	11/21/24 13:47	11/22/24 04:21	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2406394	1	11/21/24 13:47	11/22/24 01:35	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2402797	1	11/17/24 14:35	11/18/24 16:09	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2404398	1	11/19/24 15:44	11/20/24 00:39	JCH	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

## MBLAR325-SS2 L1800059-02 Solid

Collected by  
Spencer Rugland

Collected date/time  
11/13/24 11:15

Received date/time  
11/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2405328	1	11/23/24 16:53	11/23/24 16:53	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2402545	1	11/17/24 16:39	11/18/24 04:03	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2407069	1	11/22/24 19:56	11/23/24 19:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2407074	1	11/22/24 20:05	11/22/24 22:41	BRT	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2405337	1	11/21/24 14:09	11/21/24 18:50	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2402928	5	11/17/24 08:26	11/17/24 18:59	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2406436	1	11/21/24 13:47	11/22/24 04:44	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2406394	1	11/21/24 13:47	11/22/24 01:55	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2402797	2	11/17/24 14:35	11/18/24 16:22	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2404398	1	11/19/24 15:44	11/20/24 02:22	JCH	Mt. Juliet, TN

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

## MBLAR325-SS3 L1800059-03 Solid

Collected by  
Spencer Rugland

Collected date/time  
11/13/24 11:40

Received date/time  
11/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2405328	1	11/23/24 16:54	11/23/24 16:54	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2402545	1	11/17/24 16:39	11/18/24 04:10	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2407069	1	11/22/24 19:56	11/23/24 19:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2407074	1	11/22/24 20:05	11/22/24 22:41	BRT	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2405337	1	11/21/24 14:09	11/21/24 18:54	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2402928	5	11/17/24 08:26	11/17/24 19:03	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2406436	1	11/21/24 13:47	11/22/24 05:06	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2406394	1	11/21/24 13:47	11/22/24 02:14	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2402797	2	11/17/24 14:35	11/18/24 16:34	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2404398	1	11/19/24 15:44	11/20/24 03:14	JCH	Mt. Juliet, TN

## MBLAR325-SS4 L1800059-04 Solid

Collected by  
Spencer Rugland

Collected date/time  
11/13/24 12:00

Received date/time  
11/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2405328	1	11/23/24 16:56	11/23/24 16:56	DJS	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2402545	1	11/17/24 16:39	11/18/24 04:22	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2407069	1	11/22/24 19:56	11/23/24 19:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2407074	1	11/22/24 20:05	11/22/24 22:41	BRT	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2405337	1	11/21/24 14:09	11/21/24 18:55	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2402928	5	11/17/24 08:26	11/17/24 19:42	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2406436	1	11/21/24 13:47	11/22/24 05:29	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2406394	1	11/21/24 13:47	11/22/24 02:34	DWR	Mt. Juliet, TN

## SAMPLE SUMMARY

MBLAR325-SS4 L1800059-04 Solid

Collected by  
Spencer Rugland

Collected date/time  
11/13/24 12:00

Received date/time  
11/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2402797	1	11/17/24 14:35	11/18/24 15:57	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2404398	1	11/19/24 15:44	11/20/24 00:56	JCH	Mt. Juliet, TN

<sup>1</sup>Cp ${}^2\text{Tc}$  ${}^3S_s$  ${}^4\text{Cn}$  ${}^5\text{Sr}$  ${}^6\text{Qc}$  ${}^7\text{Gf}$  ${}^8\text{Al}$  ${}^9\text{Sc}$

# 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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.162		1	11/23/2024 16:51	WG2405328

1  
Cp

2  
Tc

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	11/18/2024 03:57	<a href="#">WG2402545</a>

3  
Ss

4  
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.56	<a href="#">T8</a>	1	11/23/2024 19:10	<a href="#">WG2407069</a>

5  
Sr

6  
Qc

Sample Narrative:

L1800059-01 WG2407069: 7.56 at 19.2C

7  
Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	2420	umhos/cm		10.0	1	11/22/2024 22:41	<a href="#">WG2407074</a>

8  
Al

Sample Narrative:

L1800059-01 WG2407074: at 25C

9  
Sc

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.876		0.0167	0.200	1	11/21/2024 18:52	<a href="#">WG2405337</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.34		0.100	1.00	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Barium	76.3		0.152	2.50	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Cadmium	0.147	<a href="#">J</a>	0.0855	1.00	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Copper	13.9		0.132	5.00	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Lead	14.6		0.0990	2.00	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Nickel	17.2		0.197	2.50	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Selenium	1.39	<a href="#">J</a>	0.180	2.50	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Silver	U		0.0865	0.500	5	11/17/2024 18:56	<a href="#">WG2402928</a>
Zinc	76.5		0.740	25.0	5	11/17/2024 18:56	<a href="#">WG2402928</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.126	<a href="#">B</a>	0.0217	0.100	1	11/22/2024 04:21	<a href="#">WG2406436</a>
(S) a,a,a-Trifluorotoluene(FID)	92.5			77.0-120		11/22/2024 04:21	<a href="#">WG2406436</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/22/2024 01:35	<a href="#">WG2406394</a>
Toluene	U		0.00130	0.00500	1	11/22/2024 01:35	<a href="#">WG2406394</a>
Ethylbenzene	U		0.000737	0.00250	1	11/22/2024 01:35	<a href="#">WG2406394</a>
Xylenes, Total	U		0.000880	0.00650	1	11/22/2024 01:35	<a href="#">WG2406394</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/22/2024 01:35	<a href="#">WG2406394</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/22/2024 01:35	<a href="#">WG2406394</a>
(S) Toluene-d8	107			75.0-131		11/22/2024 01:35	<a href="#">WG2406394</a>
(S) 4-Bromofluorobenzene	89.1			67.0-138		11/22/2024 01:35	<a href="#">WG2406394</a>
(S) 1,2-Dichloroethane-d4	86.4			70.0-130		11/22/2024 01:35	<a href="#">WG2406394</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	7.64		1.61	4.00	1	11/18/2024 16:09	<a href="#">WG2402797</a>
C28-C36 Motor Oil Range	30.3		0.274	4.00	1	11/18/2024 16:09	<a href="#">WG2402797</a>
(S) o-Terphenyl	68.1			18.0-148		11/18/2024 16:09	<a href="#">WG2402797</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Anthracene	U		0.00230	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Benzo(a)anthracene	0.00189	U	0.00173	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Benzo(b)fluoranthene	U	U4	0.00153	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Chrysene	U		0.00232	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Fluoranthene	0.00336	U	0.00227	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Fluorene	0.00265	U	0.00205	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
1-Methylnaphthalene	0.00526	U	0.00449	0.0200	1	11/20/2024 00:39	<a href="#">WG2404398</a>
2-Methylnaphthalene	0.00540	U	0.00427	0.0200	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Naphthalene	0.00930	U	0.00408	0.0200	1	11/20/2024 00:39	<a href="#">WG2404398</a>
Pyrene	0.00553	U	0.00200	0.00600	1	11/20/2024 00:39	<a href="#">WG2404398</a>
(S) p-Terphenyl-d14	41.8			23.0-120		11/20/2024 00:39	<a href="#">WG2404398</a>
(S) Nitrobenzene-d5	34.1			14.0-149		11/20/2024 00:39	<a href="#">WG2404398</a>
(S) 2-Fluorobiphenyl	34.2			34.0-125		11/20/2024 00:39	<a href="#">WG2404398</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	8.62		1	11/23/2024 16:53	WG2405328

Wet Chemistry by Method 7199

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
Hexavalent Chromium	U		0.255	1.00	1	11/18/2024 04:03	<a href="#">WG2402545</a>

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte	su				
pH	7.84	<a href="#">T8</a>	1	11/23/2024 19:10	<a href="#">WG2407069</a>

Sample Narrative:  
L1800059-02 WG2407069: 7.84 at 18.7C

Wet Chemistry by Method 9050AMod

	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte							
Specific Conductance	6350	umhos/cm		10.0	1	11/22/2024 22:41	<a href="#">WG2407074</a>

Sample Narrative:  
L1800059-02 WG2407074: at 25C

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

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l			
Hot Water Sol. Boron	1.86		0.0167	0.200	1	11/21/2024 18:50	<a href="#">WG2405337</a>

Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
Arsenic	7.01		0.100	1.00	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Barium	123		0.152	2.50	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Cadmium	0.251	<a href="#">J</a>	0.0855	1.00	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Copper	12.8		0.132	5.00	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Lead	15.1		0.0990	2.00	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Nickel	17.4		0.197	2.50	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Selenium	1.95	<a href="#">J</a>	0.180	2.50	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Silver	U		0.0865	0.500	5	11/17/2024 18:59	<a href="#">WG2402928</a>
Zinc	73.8		0.740	25.0	5	11/17/2024 18:59	<a href="#">WG2402928</a>

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

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
TPH (GC/FID) Low Fraction	0.0913	<a href="#">B J</a>	0.0217	0.100	1	11/22/2024 04:44	<a href="#">WG2406436</a>
(S) a,a,a-Trifluorotoluene(FID)	91.1			77.0-120		11/22/2024 04:44	<a href="#">WG2406436</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/22/2024 01:55	<a href="#">WG2406394</a>
Toluene	U		0.00130	0.00500	1	11/22/2024 01:55	<a href="#">WG2406394</a>
Ethylbenzene	U		0.000737	0.00250	1	11/22/2024 01:55	<a href="#">WG2406394</a>
Xylenes, Total	U		0.000880	0.00650	1	11/22/2024 01:55	<a href="#">WG2406394</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/22/2024 01:55	<a href="#">WG2406394</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/22/2024 01:55	<a href="#">WG2406394</a>
(S) Toluene-d8	106			75.0-131		11/22/2024 01:55	<a href="#">WG2406394</a>
(S) 4-Bromofluorobenzene	88.9			67.0-138		11/22/2024 01:55	<a href="#">WG2406394</a>
(S) 1,2-Dichloroethane-d4	86.4			70.0-130		11/22/2024 01:55	<a href="#">WG2406394</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	37.3		3.22	8.00	2	11/18/2024 16:22	<a href="#">WG2402797</a>
C28-C36 Motor Oil Range	146		0.548	8.00	2	11/18/2024 16:22	<a href="#">WG2402797</a>
(S) o-Terphenyl	78.1			18.0-148		11/18/2024 16:22	<a href="#">WG2402797</a>

Sample Narrative:  
L1800059-02 WG2402797: Dilution due to matrix impact during extraction procedure

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Anthracene	U		0.00230	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Benzo(b)fluoranthene	0.00256	J J4	0.00153	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Chrysene	U		0.00232	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Fluoranthene	0.00233	IJ	0.00227	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Fluorene	U		0.00205	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Indeno(1,2,3-cd)pyrene	0.00189	IJ	0.00181	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	11/20/2024 02:22	<a href="#">WG2404398</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Naphthalene	U		0.00408	0.0200	1	11/20/2024 02:22	<a href="#">WG2404398</a>
Pyrene	0.00236	IJ	0.00200	0.00600	1	11/20/2024 02:22	<a href="#">WG2404398</a>
(S) p-Terphenyl-d14	37.1			23.0-120		11/20/2024 02:22	<a href="#">WG2404398</a>
(S) Nitrobenzene-d5	28.4			14.0-149		11/20/2024 02:22	<a href="#">WG2404398</a>
(S) 2-Fluorobiphenyl	33.1	J2		34.0-125		11/20/2024 02:22	<a href="#">WG2404398</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	4.59		1	11/23/2024 16:54	WG2405328

Wet Chemistry by Method 7199

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Hexavalent Chromium	U		0.255	1.00	1	11/18/2024 04:10	<a href="#">WG2402545</a>

Wet Chemistry by Method 9045D

	Result su	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
pH	7.83	<a href="#">T8</a>	1	11/23/2024 19:10	<a href="#">WG2407069</a>

Sample Narrative:  
L1800059-03 WG2407069: 7.83 at 18.5C

Wet Chemistry by Method 9050AMod

	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte							
Specific Conductance	3900	umhos/cm		10.0	1	11/22/2024 22:41	<a href="#">WG2407074</a>

Sample Narrative:  
L1800059-03 WG2407074: at 25C

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

	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Analyte							
Hot Water Sol. Boron	0.867		0.0167	0.200	1	11/21/2024 18:54	<a href="#">WG2405337</a>

Metals (ICPMS) by Method 6020

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Arsenic	6.41		0.100	1.00	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Barium	191		0.152	2.50	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Cadmium	0.210	<a href="#">J</a>	0.0855	1.00	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Copper	10.8		0.132	5.00	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Lead	12.9		0.0990	2.00	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Nickel	14.4		0.197	2.50	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Selenium	1.23	<a href="#">J</a>	0.180	2.50	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Silver	U		0.0865	0.500	5	11/17/2024 19:03	<a href="#">WG2402928</a>
Zinc	58.8		0.740	25.0	5	11/17/2024 19:03	<a href="#">WG2402928</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
TPH (GC/FID) Low Fraction	0.114	<a href="#">B</a>	0.0217	0.100	1	11/22/2024 05:06	<a href="#">WG2406436</a>
(S) a,a,a-Trifluorotoluene(FID)	91.8			77.0-120		11/22/2024 05:06	<a href="#">WG2406436</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/22/2024 02:14	<a href="#">WG2406394</a>
Toluene	U		0.00130	0.00500	1	11/22/2024 02:14	<a href="#">WG2406394</a>
Ethylbenzene	U		0.000737	0.00250	1	11/22/2024 02:14	<a href="#">WG2406394</a>
Xylenes, Total	U		0.000880	0.00650	1	11/22/2024 02:14	<a href="#">WG2406394</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/22/2024 02:14	<a href="#">WG2406394</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/22/2024 02:14	<a href="#">WG2406394</a>
(S) Toluene-d8	107			75.0-131		11/22/2024 02:14	<a href="#">WG2406394</a>
(S) 4-Bromofluorobenzene	91.6			67.0-138		11/22/2024 02:14	<a href="#">WG2406394</a>
(S) 1,2-Dichloroethane-d4	86.1			70.0-130		11/22/2024 02:14	<a href="#">WG2406394</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	26.2		3.22	8.00	2	11/18/2024 16:34	<a href="#">WG2402797</a>
C28-C36 Motor Oil Range	107		0.548	8.00	2	11/18/2024 16:34	<a href="#">WG2402797</a>
(S) o-Terphenyl	80.1			18.0-148		11/18/2024 16:34	<a href="#">WG2402797</a>

Sample Narrative:  
L1800059-03 WG2402797: Dilution due to matrix impact during extraction procedure

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Anthracene	U		0.00230	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Benzo(b)fluoranthene	0.00274	J J4	0.00153	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Chrysene	U		0.00232	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Fluoranthene	U		0.00227	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Fluorene	U		0.00205	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	11/20/2024 03:14	<a href="#">WG2404398</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Naphthalene	U		0.00408	0.0200	1	11/20/2024 03:14	<a href="#">WG2404398</a>
Pyrene	0.00206	J	0.00200	0.00600	1	11/20/2024 03:14	<a href="#">WG2404398</a>
(S) p-Terphenyl-d14	37.1			23.0-120		11/20/2024 03:14	<a href="#">WG2404398</a>
(S) Nitrobenzene-d5	28.3			14.0-149		11/20/2024 03:14	<a href="#">WG2404398</a>
(S) 2-Fluorobiphenyl	34.0			34.0-125		11/20/2024 03:14	<a href="#">WG2404398</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	1.21		1	11/23/2024 16:56	WG2405328

1Cp

2Tc

3Ss

4Cn

Wet Chemistry by Method 7199

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
Hexavalent Chromium	U		0.255	1.00	1	11/18/2024 04:22	<a href="#">WG2402545</a>

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte	su				
pH	8.00	<a href="#">T8</a>	1	11/23/2024 19:10	<a href="#">WG2407069</a>

Sample Narrative:  
L1800059-04 WG2407069: 8 at 18.7C

5Sr

6Qc

7Gl

8Al

9Sc

Wet Chemistry by Method 9050AMod

	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte							
Specific Conductance	463	umhos/cm		10.0	1	11/22/2024 22:41	<a href="#">WG2407074</a>

Sample Narrative:  
L1800059-04 WG2407074: at 25C

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

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l			
Hot Water Sol. Boron	0.704		0.0167	0.200	1	11/21/2024 18:55	<a href="#">WG2405337</a>

Metals (ICPMS) by Method 6020

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
Arsenic	7.47		0.100	1.00	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Barium	193		0.152	2.50	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Cadmium	0.259	<a href="#">J</a>	0.0855	1.00	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Copper	13.1		0.132	5.00	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Lead	14.3		0.0990	2.00	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Nickel	16.9		0.197	2.50	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Selenium	1.25	<a href="#">J</a>	0.180	2.50	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Silver	U		0.0865	0.500	5	11/17/2024 19:42	<a href="#">WG2402928</a>
Zinc	72.7		0.740	25.0	5	11/17/2024 19:42	<a href="#">WG2402928</a>

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

	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg	mg/kg			
TPH (GC/FID) Low Fraction	0.140	<a href="#">B</a>	0.0217	0.100	1	11/22/2024 05:29	<a href="#">WG2406436</a>
(S) a,a,a-Trifluorotoluene(FID)	92.7			77.0-120		11/22/2024 05:29	<a href="#">WG2406436</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/22/2024 02:34	<a href="#">WG2406394</a>
Toluene	U		0.00130	0.00500	1	11/22/2024 02:34	<a href="#">WG2406394</a>
Ethylbenzene	U		0.000737	0.00250	1	11/22/2024 02:34	<a href="#">WG2406394</a>
Xylenes, Total	U		0.000880	0.00650	1	11/22/2024 02:34	<a href="#">WG2406394</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/22/2024 02:34	<a href="#">WG2406394</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/22/2024 02:34	<a href="#">WG2406394</a>
(S) Toluene-d8	106			75.0-131		11/22/2024 02:34	<a href="#">WG2406394</a>
(S) 4-Bromofluorobenzene	89.6			67.0-138		11/22/2024 02:34	<a href="#">WG2406394</a>
(S) 1,2-Dichloroethane-d4	83.7			70.0-130		11/22/2024 02:34	<a href="#">WG2406394</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	8.15		1.61	4.00	1	11/18/2024 15:57	<a href="#">WG2402797</a>
C28-C36 Motor Oil Range	35.1		0.274	4.00	1	11/18/2024 15:57	<a href="#">WG2402797</a>
(S) o-Terphenyl	55.0			18.0-148		11/18/2024 15:57	<a href="#">WG2402797</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Anthracene	U		0.00230	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Benzo(b)fluoranthene	U	J4	0.00153	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Chrysene	U		0.00232	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Fluoranthene	U		0.00227	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Fluorene	U		0.00205	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	11/20/2024 00:56	<a href="#">WG2404398</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Naphthalene	0.00427	J	0.00408	0.0200	1	11/20/2024 00:56	<a href="#">WG2404398</a>
Pyrene	U		0.00200	0.00600	1	11/20/2024 00:56	<a href="#">WG2404398</a>
(S) p-Terphenyl-d14	36.7			23.0-120		11/20/2024 00:56	<a href="#">WG2404398</a>
(S) Nitrobenzene-d5	32.0			14.0-149		11/20/2024 00:56	<a href="#">WG2404398</a>
(S) 2-Fluorobiphenyl	34.7			34.0-125		11/20/2024 00:56	<a href="#">WG2404398</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4147092-1 11/18/24 01:20

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

L1800059-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1800059-03 11/18/24 04:10 • (DUP) R4147092-8 11/18/24 04:16

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	U	U	1	0.000		20

L1800035-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1800035-03 11/18/24 01:47 • (DUP) R4147092-3 11/18/24 01:53

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	24.3	20.7	1	16.2		20

Laboratory Control Sample (LCS)

(LCS) R4147092-2 11/18/24 01:29

	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	

L1800054-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1800054-01 11/18/24 02:55 • (MS) R4147092-5 11/18/24 03:08 • (MSD) R4147092-6 11/18/24 03:14

	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	U	4.31	7.23	21.5	36.2	1	75.0-125	J6	J3 J6	50.7	20

L1800054-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1800054-01 11/18/24 02:55 • (MS) R4147092-7 11/18/24 03:20

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	641	U	373	58.3	50	75.0-125	J6

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1799377-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1799377-02 11/23/24 19:10 • (DUP) R4149915-2 11/23/24 19:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	7.79	7.77	1	0.257		1

Sample Narrative:

OS: 7.79 at 19.9C  
DUP: 7.77 at 20C

L1800059-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1800059-04 11/23/24 19:10 • (DUP) R4149915-3 11/23/24 19:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.00	7.98	1	0.250		1

Sample Narrative:

OS: 8 at 18.7C  
DUP: 7.98 at 18.7C

Laboratory Control Sample (LCS)

(LCS) R4149915-1 11/23/24 19:10

	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 19.9C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149771-1 11/22/24 22:41

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

L1799377-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1799377-02 11/22/24 22:41 • (DUP) R4149771-3 11/22/24 22:41

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2090	2070	1	0.817		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1800061-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1800061-01 11/22/24 22:41 • (DUP) R4149771-4 11/22/24 22:41

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	4710	4660	1	1.07		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4149771-2 11/22/24 22:41

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	714	97.4	85.0-115	

Sample Narrative:

LCS: at 25C

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc



Method Blank (MB)

(MB) R4149213-1 11/21/24 18:24

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) R4149213-2 11/21/24 18:26 • (LCSD) R4149213-3 11/21/24 18:28

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	1.10	1.11	110	111	80.0-120			1.49	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4147366-1 11/17/24 18:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	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) R4147366-2 11/17/24 18:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	99.9	99.9	80.0-120	
Barium	100	97.0	97.0	80.0-120	
Cadmium	100	100	100	80.0-120	
Copper	100	99.0	99.0	80.0-120	
Lead	100	93.4	93.4	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	98.6	98.6	80.0-120	
Silver	20.0	21.0	105	80.0-120	
Zinc	100	100	100	80.0-120	

L1800074-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1800074-04 11/17/24 18:41 • (MS) R4147366-5 11/17/24 18:50 • (MSD) R4147366-6 11/17/24 18:53

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 %
Arsenic	100	0.767	92.7	93.8	91.9	93.0	5	75.0-125			1.22	20
Barium	100	22.8	117	115	93.8	92.1	5	75.0-125			1.48	20
Cadmium	100	U	95.2	96.2	95.2	96.2	5	75.0-125			1.09	20
Copper	100	2.21	95.4	95.9	93.2	93.7	5	75.0-125			0.549	20
Lead	100	6.86	96.6	97.2	89.7	90.3	5	75.0-125			0.586	20
Nickel	100	2.55	99.4	100	96.8	97.5	5	75.0-125			0.678	20
Selenium	100	0.362	90.8	91.8	90.5	91.4	5	75.0-125			1.06	20
Silver	20.0	U	20.2	20.4	101	102	5	75.0-125			0.940	20
Zinc	100	14.8	112	111	96.9	96.2	5	75.0-125			0.665	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149393-3 11/22/24 02:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0825	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	94.0			77.0-120

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

(LCS) R4149393-1 11/22/24 00:57 • (LCSD) R4149393-2 11/22/24 01:20

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 %
TPH (GC/FID) Low Fraction	5.00	4.78	4.49	95.6	89.8	72.0-127			6.26	20
(S) a,a,a-Trifluorotoluene(FID)				95.4	103	77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4149311-3 11/21/24 23:08

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	108			75.0-131
(S) 4-Bromofluorobenzene	88.3			67.0-138
(S) 1,2-Dichloroethane-d4	86.2			70.0-130

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

(LCS) R4149311-1 11/21/24 21:30 • (LCSD) R4149311-2 11/21/24 21:50

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	0.125	0.126	100	101	70.0-123			0.797	20
Toluene	0.125	0.132	0.134	106	107	75.0-121			1.50	20
Ethylbenzene	0.125	0.122	0.121	97.6	96.8	74.0-126			0.823	20
Xylenes, Total	0.375	0.348	0.344	92.8	91.7	72.0-127			1.16	20
1,2,4-Trimethylbenzene	0.125	0.105	0.109	84.0	87.2	70.0-126			3.74	20
1,3,5-Trimethylbenzene	0.125	0.112	0.117	89.6	93.6	73.0-127			4.37	20
(S) Toluene-d8				105	106	75.0-131				
(S) 4-Bromofluorobenzene				90.9	87.1	67.0-138				
(S) 1,2-Dichloroethane-d4				91.5	88.3	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4147649-1 11/18/24 15:32

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	92.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4147649-2 11/18/24 15:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	45.8	91.6	50.0-150	
(S) o-Terphenyl			72.5	18.0-148	

L1800059-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1800059-01 11/18/24 16:09 • (MS) R4147649-3 11/18/24 16:22 • (MSD) R4147649-4 11/18/24 16:34

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	49.5	7.64	46.2	42.3	77.9	69.6	1	50.0-150			8.81	20
(S) o-Terphenyl					58.3	58.1		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4148411-2 11/19/24 21:29

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	40.5			23.0-120
(S) Nitrobenzene-d5	31.4			14.0-149
(S) 2-Fluorobiphenyl	36.8			34.0-125

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4148411-1 11/19/24 21:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0852	106	50.0-120	
Anthracene	0.0800	0.0919	115	50.0-126	
Benzo(a)anthracene	0.0800	0.0925	116	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0974	122	42.0-121	J4
Benzo(k)fluoranthene	0.0800	0.0928	116	49.0-125	
Benzo(a)pyrene	0.0800	0.0923	115	42.0-120	
Chrysene	0.0800	0.0956	120	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.100	125	47.0-125	
Fluoranthene	0.0800	0.100	125	49.0-129	
Fluorene	0.0800	0.0935	117	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0925	116	46.0-125	
1-Methylnaphthalene	0.0800	0.0939	117	51.0-121	
2-Methylnaphthalene	0.0800	0.0883	110	50.0-120	
Naphthalene	0.0800	0.0867	108	50.0-120	
Pyrene	0.0800	0.0932	117	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4148411-1 11/19/24 21:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			55.5	23.0-120	
(S) Nitrobenzene-d5			45.4	14.0-149	
(S) 2-Fluorobiphenyl			51.7	34.0-125	

L1799725-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1799725-01 11/19/24 22:55 • (MS) R4148411-3 11/19/24 23:12 • (MSD) R4148411-4 11/19/24 23:29

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	0.0768	U	0.0503	0.0639	65.5	83.6	1	14.0-127			23.8	27
Anthracene	0.0768	U	0.0542	0.0680	70.6	89.0	1	10.0-145			22.6	30
Benzo(a)anthracene	0.0768	0.00193	0.0567	0.0738	71.3	94.1	1	10.0-139			26.2	30
Benzo(b)fluoranthene	0.0768	0.00262	0.0585	0.0750	72.8	94.7	1	10.0-140			24.7	36
Benzo(k)fluoranthene	0.0768	U	0.0569	0.0736	74.1	96.3	1	10.0-137			25.6	31
Benzo(a)pyrene	0.0768	U	0.0576	0.0735	75.0	96.2	1	10.0-141			24.3	31
Chrysene	0.0768	U	0.0617	0.0764	80.3	100	1	10.0-145			21.3	30
Dibenz(a,h)anthracene	0.0768	U	0.0576	0.0744	75.0	97.4	1	10.0-132			25.5	31
Fluoranthene	0.0768	0.00293	0.0618	0.0773	76.7	97.3	1	10.0-153			22.3	33
Fluorene	0.0768	U	0.0556	0.0728	72.4	95.3	1	11.0-130			26.8	29
Indeno(1,2,3-cd)pyrene	0.0768	U	0.0557	0.0718	72.5	94.0	1	10.0-137			25.3	32
1-Methylnaphthalene	0.0768	0.00692	0.0636	0.0778	73.8	92.8	1	10.0-142			20.1	28
2-Methylnaphthalene	0.0768	0.00897	0.0609	0.0736	67.6	84.6	1	10.0-137			18.9	28
Naphthalene	0.0768	0.0126	0.0627	0.0741	65.2	80.5	1	10.0-135			16.7	27
Pyrene	0.0768	0.00363	0.0570	0.0731	69.5	90.9	1	10.0-148			24.8	35
(S) p-Terphenyl-d14					39.5	43.7		23.0-120				
(S) Nitrobenzene-d5					35.7	36.4		14.0-149				
(S) 2-Fluorobiphenyl					39.0	42.2		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.
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.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
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.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



# ACCREDITATIONS & LOCATIONS

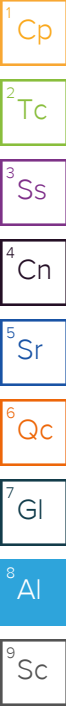
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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 <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.



Condition:  
NCF / ~~OK~~

[illegible]