

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

**QB Energy**

Sample Delivery Group: L1784364  
Samples Received: 10/02/2024  
Project Number:  
Description: EL12 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

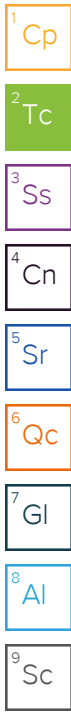
Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory 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**

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

# TABLE OF CONTENTS

<b>Cp: Cover Page</b>	1
<b>Tc: Table of Contents</b>	2
<b>Ss: Sample Summary</b>	3
<b>Cn: Case Narrative</b>	4
<b>Sr: Sample Results</b>	5
20241001-(FC-WH-1211D-SW)@5 L1784364-01	5
20241001-(FC-WH-1211D-BASE)@10 L1784364-02	7
20241001-(FC-WH-1211D-WW)@5 L1784364-03	9
<b>Qc: Quality Control Summary</b>	11
Wet Chemistry by Method 7199	11
Wet Chemistry by Method 9045D	12
Wet Chemistry by Method 9050AMod	15
Metals (ICP) by Method 6010B-NE493 Ch 2	18
Metals (ICPMS) by Method 6020	20
Volatile Organic Compounds (GC) by Method 8015D/GRO	21
Volatile Organic Compounds (GC/MS) by Method 8260B	22
Semi-Volatile Organic Compounds (GC) by Method 8015M	24
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	25
<b>Gl: Glossary of Terms</b>	27
<b>Al: Accreditations &amp; Locations</b>	28
<b>Sc: Sample Chain of Custody</b>	29



# SAMPLE SUMMARY

## 20241001-(FC-WH-1211D-SW)@5 L1784364-01 Solid

Collected by: B. Abeyta  
 Collected date/time: 10/01/24 09:05  
 Received date/time: 10/02/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2378174	1	10/09/24 17:29	10/09/24 17:29	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2375781	1	10/10/24 16:06	10/11/24 15:41	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2378960	1	10/09/24 14:29	10/09/24 18:35	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2378966	1	10/09/24 14:32	10/09/24 17:00	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2378183	1	10/08/24 21:56	10/09/24 03:23	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2376075	5	10/08/24 08:38	10/08/24 22:01	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2377562	1	10/06/24 10:55	10/08/24 07:43	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2377083	1	10/06/24 10:55	10/07/24 05:31	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2381347	10	10/14/24 08:14	10/16/24 11:46	SGB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2378505	1	10/09/24 20:11	10/11/24 05:19	HLA	Mt. Juliet, TN



## 20241001-(FC-WH-1211D-BASE)@10 L1784364-02 Solid

Collected by: B. Abeyta  
 Collected date/time: 10/01/24 09:15  
 Received date/time: 10/02/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2378220	1	10/10/24 13:40	10/10/24 13:40	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2375781	1	10/10/24 16:06	10/11/24 15:50	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2379679	1	10/10/24 11:31	10/10/24 14:30	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2379676	1	10/10/24 11:28	10/10/24 22:00	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2378226	1	10/09/24 19:49	10/10/24 00:50	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2376075	5	10/08/24 08:38	10/08/24 22:36	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2377562	1	10/06/24 10:55	10/08/24 08:06	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2377084	1	10/06/24 10:55	10/07/24 08:01	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2381347	1	10/14/24 08:14	10/15/24 15:13	JDG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2381347	5	10/14/24 08:14	10/16/24 13:57	SGB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2378505	1	10/09/24 20:11	10/11/24 04:43	HLA	Mt. Juliet, TN

## 20241001-(FC-WH-1211D-WW)@5 L1784364-03 Solid

Collected by: B. Abeyta  
 Collected date/time: 10/01/24 10:50  
 Received date/time: 10/02/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2378224	1	10/10/24 18:54	10/10/24 18:54	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2375781	1	10/10/24 16:06	10/11/24 15:59	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2380235	1	10/11/24 13:04	10/11/24 13:05	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2380246	1	10/11/24 15:55	10/11/24 16:20	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2378226	1	10/09/24 19:49	10/10/24 00:52	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2376075	5	10/08/24 08:38	10/08/24 22:39	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2377562	1	10/06/24 10:55	10/08/24 08:29	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2377084	1	10/06/24 10:55	10/07/24 08:20	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2381347	2	10/14/24 08:14	10/16/24 14:39	SGB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2378505	1	10/09/24 20:11	10/11/24 04:25	HLA	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

<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	3.53		1	10/09/2024 17:29	WG2378174

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	10/11/2024 15:41	<a href="#">WG2375781</a>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.99	<u>T8</u>	1	10/09/2024 18:35	<a href="#">WG2378960</a>

Sample Narrative:

L1784364-01 WG2378960: 7.99 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1220	umhos/cm		10.0	1	10/09/2024 17:00	<a href="#">WG2378966</a>

Sample Narrative:

L1784364-01 WG2378966: at 25C

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

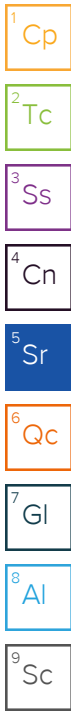
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.322		0.0167	0.200	1	10/09/2024 03:23	<a href="#">WG2378183</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	10.3		0.100	1.00	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Barium	399	<u>J5</u>	0.152	2.50	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Cadmium	0.489	<u>J</u>	0.0855	1.00	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Copper	31.7		0.132	5.00	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Lead	13.7		0.0990	2.00	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Nickel	19.6		0.197	2.50	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Selenium	0.733	<u>J</u>	0.180	2.50	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Silver	0.0928	<u>J O1</u>	0.0865	0.500	5	10/08/2024 22:01	<a href="#">WG2376075</a>
Zinc	104	<u>J6</u>	0.740	25.0	5	10/08/2024 22:01	<a href="#">WG2376075</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	0.0654	<u>B J</u>	0.0217	0.100	1	10/08/2024 07:43	<a href="#">WG2377562</a>
(S) a,a,a-Trifluorotoluene(FID)	96.6			77.0-120		10/08/2024 07:43	<a href="#">WG2377562</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	10/07/2024 05:31	<a href="#">WG2377083</a>
Toluene	U		0.00130	0.00500	1	10/07/2024 05:31	<a href="#">WG2377083</a>
Ethylbenzene	U		0.000737	0.00250	1	10/07/2024 05:31	<a href="#">WG2377083</a>
Xylenes, Total	U		0.000880	0.00650	1	10/07/2024 05:31	<a href="#">WG2377083</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/07/2024 05:31	<a href="#">WG2377083</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/07/2024 05:31	<a href="#">WG2377083</a>
(S) Toluene-d8	99.6			75.0-131		10/07/2024 05:31	<a href="#">WG2377083</a>
(S) 4-Bromofluorobenzene	102			67.0-138		10/07/2024 05:31	<a href="#">WG2377083</a>
(S) 1,2-Dichloroethane-d4	115			70.0-130		10/07/2024 05:31	<a href="#">WG2377083</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	98.2		16.1	40.0	10	10/16/2024 11:46	<a href="#">WG2381347</a>
C28-C36 Motor Oil Range	145		2.74	40.0	10	10/16/2024 11:46	<a href="#">WG2381347</a>
(S) o-Terphenyl	32.3			18.0-148		10/16/2024 11:46	<a href="#">WG2381347</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	10/11/2024 05:19	<a href="#">WG2378505</a>
Anthracene	U		0.00230	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Benzo(a)anthracene	0.00460	U	0.00173	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Benzo(b)fluoranthene	0.0113		0.00153	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Benzo(a)pyrene	0.00569	U	0.00179	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Chrysene	0.00760		0.00232	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Dibenz(a,h)anthracene	0.00307	U	0.00172	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Fluoranthene	0.00976		0.00227	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Fluorene	0.0128		0.00205	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Indeno(1,2,3-cd)pyrene	0.00406	U	0.00181	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
1-Methylnaphthalene	0.0869		0.00449	0.0200	1	10/11/2024 05:19	<a href="#">WG2378505</a>
2-Methylnaphthalene	0.184		0.00427	0.0200	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Naphthalene	0.0771		0.00408	0.0200	1	10/11/2024 05:19	<a href="#">WG2378505</a>
Pyrene	0.0172		0.00200	0.00600	1	10/11/2024 05:19	<a href="#">WG2378505</a>
(S) p-Terphenyl-d14	87.4			23.0-120		10/11/2024 05:19	<a href="#">WG2378505</a>
(S) Nitrobenzene-d5	81.2			14.0-149		10/11/2024 05:19	<a href="#">WG2378505</a>
(S) 2-Fluorobiphenyl	75.4			34.0-125		10/11/2024 05:19	<a href="#">WG2378505</a>

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	3.01		1	10/10/2024 13:40	WG2378220

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	10/11/2024 15:50	<a href="#">WG2375781</a>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.89	<u>T8</u>	1	10/10/2024 14:30	<a href="#">WG2379679</a>

Sample Narrative:

L1784364-02 WG2379679: 7.89 at 19.6C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	793	umhos/cm		10.0	1	10/10/2024 22:00	<a href="#">WG2379676</a>

Sample Narrative:

L1784364-02 WG2379676: at 25C

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

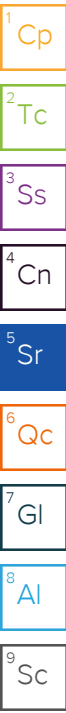
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.346		0.0167	0.200	1	10/10/2024 00:50	<a href="#">WG2378226</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	12.2		0.100	1.00	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Barium	332		0.152	2.50	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Cadmium	0.416	<u>J</u>	0.0855	1.00	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Copper	20.1		0.132	5.00	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Lead	13.5		0.0990	2.00	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Nickel	24.2		0.197	2.50	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Selenium	0.571	<u>J</u>	0.180	2.50	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Silver	0.105	<u>J</u>	0.0865	0.500	5	10/08/2024 22:36	<a href="#">WG2376075</a>
Zinc	62.9		0.740	25.0	5	10/08/2024 22:36	<a href="#">WG2376075</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	0.0583	<u>B J</u>	0.0217	0.100	1	10/08/2024 08:06	<a href="#">WG2377562</a>
(S) a,a,a-Trifluorotoluene(FID)	95.4			77.0-120		10/08/2024 08:06	<a href="#">WG2377562</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	10/07/2024 08:01	<a href="#">WG2377084</a>
Toluene	U		0.00130	0.00500	1	10/07/2024 08:01	<a href="#">WG2377084</a>
Ethylbenzene	U		0.000737	0.00250	1	10/07/2024 08:01	<a href="#">WG2377084</a>
Xylenes, Total	U		0.000880	0.00650	1	10/07/2024 08:01	<a href="#">WG2377084</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/07/2024 08:01	<a href="#">WG2377084</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/07/2024 08:01	<a href="#">WG2377084</a>
(S) Toluene-d8	98.6			75.0-131		10/07/2024 08:01	<a href="#">WG2377084</a>
(S) 4-Bromofluorobenzene	99.2			67.0-138		10/07/2024 08:01	<a href="#">WG2377084</a>
(S) 1,2-Dichloroethane-d4	118			70.0-130		10/07/2024 08:01	<a href="#">WG2377084</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	105		1.61	4.00	1	10/15/2024 15:13	<a href="#">WG2381347</a>
C28-C36 Motor Oil Range	194		1.37	20.0	5	10/16/2024 13:57	<a href="#">WG2381347</a>
(S) o-Terphenyl	58.5			18.0-148		10/15/2024 15:13	<a href="#">WG2381347</a>
(S) o-Terphenyl	89.3			18.0-148		10/16/2024 13:57	<a href="#">WG2381347</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	10/11/2024 04:43	<a href="#">WG2378505</a>
Anthracene	U		0.00230	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Chrysene	U		0.00232	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Fluoranthene	U		0.00227	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Fluorene	U		0.00205	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	10/11/2024 04:43	<a href="#">WG2378505</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Naphthalene	U		0.00408	0.0200	1	10/11/2024 04:43	<a href="#">WG2378505</a>
Pyrene	U		0.00200	0.00600	1	10/11/2024 04:43	<a href="#">WG2378505</a>
(S) p-Terphenyl-d14	80.5			23.0-120		10/11/2024 04:43	<a href="#">WG2378505</a>
(S) Nitrobenzene-d5	68.2			14.0-149		10/11/2024 04:43	<a href="#">WG2378505</a>
(S) 2-Fluorobiphenyl	72.6			34.0-125		10/11/2024 04:43	<a href="#">WG2378505</a>

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	1.01		1	10/10/2024 18:54	WG2378224

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.363	J	0.255	1.00	1	10/11/2024 15:59	<a href="#">WG2375781</a>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.06	T8	1	10/11/2024 13:05	<a href="#">WG2380235</a>

Sample Narrative:

L1784364-03 WG2380235: 8.06 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	285	umhos/cm		10.0	1	10/11/2024 16:20	<a href="#">WG2380246</a>

Sample Narrative:

L1784364-03 WG2380246: at 25C

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

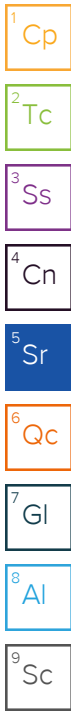
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.147	J	0.0167	0.200	1	10/10/2024 00:52	<a href="#">WG2378226</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	15.1		0.100	1.00	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Barium	407		0.152	2.50	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Cadmium	0.590	J	0.0855	1.00	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Copper	101		0.132	5.00	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Lead	31.6		0.0990	2.00	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Nickel	28.1		0.197	2.50	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Selenium	0.872	J	0.180	2.50	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Silver	0.147	J	0.0865	0.500	5	10/08/2024 22:39	<a href="#">WG2376075</a>
Zinc	77.9		0.740	25.0	5	10/08/2024 22:39	<a href="#">WG2376075</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	0.0529	B J	0.0217	0.100	1	10/08/2024 08:29	<a href="#">WG2377562</a>
(S) a,a,a-Trifluorotoluene(FID)	95.7			77.0-120		10/08/2024 08:29	<a href="#">WG2377562</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	10/07/2024 08:20	<a href="#">WG2377084</a>
Toluene	U		0.00130	0.00500	1	10/07/2024 08:20	<a href="#">WG2377084</a>
Ethylbenzene	U		0.000737	0.00250	1	10/07/2024 08:20	<a href="#">WG2377084</a>
Xylenes, Total	U		0.000880	0.00650	1	10/07/2024 08:20	<a href="#">WG2377084</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/07/2024 08:20	<a href="#">WG2377084</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/07/2024 08:20	<a href="#">WG2377084</a>
(S) Toluene-d8	98.4			75.0-131		10/07/2024 08:20	<a href="#">WG2377084</a>
(S) 4-Bromofluorobenzene	102			67.0-138		10/07/2024 08:20	<a href="#">WG2377084</a>
(S) 1,2-Dichloroethane-d4	120			70.0-130		10/07/2024 08:20	<a href="#">WG2377084</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	51.6		3.22	8.00	2	10/16/2024 14:39	<a href="#">WG2381347</a>
C28-C36 Motor Oil Range	113		0.548	8.00	2	10/16/2024 14:39	<a href="#">WG2381347</a>
(S) o-Terphenyl	62.8			18.0-148		10/16/2024 14:39	<a href="#">WG2381347</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	10/11/2024 04:25	<a href="#">WG2378505</a>
Anthracene	U		0.00230	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Chrysene	U		0.00232	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Fluoranthene	U		0.00227	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Fluorene	U		0.00205	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	10/11/2024 04:25	<a href="#">WG2378505</a>
2-Methylnaphthalene	0.00572	U	0.00427	0.0200	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Naphthalene	U		0.00408	0.0200	1	10/11/2024 04:25	<a href="#">WG2378505</a>
Pyrene	U		0.00200	0.00600	1	10/11/2024 04:25	<a href="#">WG2378505</a>
(S) p-Terphenyl-d14	93.5			23.0-120		10/11/2024 04:25	<a href="#">WG2378505</a>
(S) Nitrobenzene-d5	76.5			14.0-149		10/11/2024 04:25	<a href="#">WG2378505</a>
(S) 2-Fluorobiphenyl	84.9			34.0-125		10/11/2024 04:25	<a href="#">WG2378505</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4131730-1 10/11/24 13:37

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Hexavalent Chromium	U		0.255	1.00

<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

L1784364-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1784364-03 10/11/24 15:59 • (DUP) R4131730-7 10/11/24 16:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	0.363	0.373	1	2.62	↓	20

L1784373-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1784373-10 10/11/24 17:56 • (DUP) R4131730-8 10/11/24 18:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4131730-2 10/11/24 13:45

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	9.93	99.3	80.0-120	

L1784306-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784306-13 10/11/24 14:21 • (MS) R4131730-3 10/11/24 14:30 • (MSD) R4131730-4 10/11/24 14:39

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Hexavalent Chromium	20.0	U	16.5	15.1	82.7	75.4	1	75.0-125			9.18	20

L1784306-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1784306-13 10/11/24 14:21 • (MS) R4131730-5 10/11/24 14:48

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	648	U	532	82.1	50	75.0-125	

L1783102-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1783102-01 10/09/24 18:35 • (DUP) R4130674-2 10/09/24 18:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	su	su		%		%
pH	7.87	7.89	1	0.254		1

Sample Narrative:

OS: 7.87 at 20.4C  
DUP: 7.89 at 20.5C



L1785309-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1785309-04 10/09/24 18:35 • (DUP) R4130674-3 10/09/24 18:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
	pH	su		%		%
pH	8.35	8.36	1	0.120		1

Sample Narrative:

OS: 8.35 at 21C  
DUP: 8.36 at 21.1C



Laboratory Control Sample (LCS)

(LCS) R4130674-1 10/09/24 18:35

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

Sample Narrative:

LCS: 9.98 at 19.5C

L1784306-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1784306-11 10/10/24 14:30 • (DUP) R4131150-2 10/10/24 14:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	8.40	8.41	1	0.119		1

Sample Narrative:

OS: 8.4 at 20C  
DUP: 8.41 at 19.8C

L1784936-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1784936-02 10/10/24 14:30 • (DUP) R4131150-3 10/10/24 14:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	7.92	7.93	1	0.126		1

Sample Narrative:

OS: 7.92 at 20.3C  
DUP: 7.93 at 20.5C

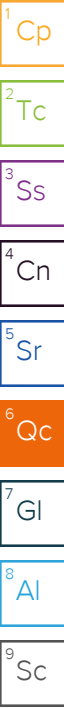
Laboratory Control Sample (LCS)

(LCS) R4131150-1 10/10/24 14:30

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

Sample Narrative:

LCS: 9.98 at 19.8C



L1784907-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1784907-02 10/11/24 13:05 • (DUP) R4131520-2 10/11/24 13:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.90	7.87	1	0.380		1

Sample Narrative:

OS: 7.9 at 19.9C

DUP: 7.87 at 19.8C

L1784936-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1784936-16 10/11/24 13:05 • (DUP) R4131520-3 10/11/24 13:05

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	7.88	7.85	1	0.381		1

Sample Narrative:

OS: 7.88 at 19.7C

DUP: 7.85 at 19.6C

Laboratory Control Sample (LCS)

(LCS) R4131520-1 10/11/24 13:05

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

Sample Narrative:

LCS: 9.98 at 19.6C

<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

Method Blank (MB)

(MB) R4130634-1 10/09/24 17:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Specific Conductance	U		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1784306-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1784306-02 10/09/24 17:00 • (DUP) R4130634-3 10/09/24 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	611	604	1	1.15		20

Sample Narrative:

OS: at 25C  
DUP: at 25C

L1784917-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1784917-03 10/09/24 17:00 • (DUP) R4130634-4 10/09/24 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	345	347	1	0.578		20

Sample Narrative:

OS: at 25C  
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4130634-2 10/09/24 17:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Specific Conductance	733	695	94.8	85.0-115	

Sample Narrative:

LCS: at 25C



Method Blank (MB)

(MB) R4131273-1 10/10/24 22:00

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

Sample Narrative:

BLANK: at 25C

L1784306-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1784306-09 10/10/24 22:00 • (DUP) R4131273-3 10/10/24 22:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	1700	1710	1	0.527		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1784936-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1784936-08 10/10/24 22:00 • (DUP) R4131273-4 10/10/24 22:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	690	692	1	0.289		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4131273-2 10/10/24 22:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	715	97.5	85.0-115	

Sample Narrative:

LCS: at 25C

<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

Method Blank (MB)

(MB) R4131660-1 10/11/24 16:20

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

L1784907-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784907-01 10/11/24 16:20 • (DUP) R4131660-3 10/11/24 16:20

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	1970	1970	1	0.203		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1784936-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1784936-16 10/11/24 16:20 • (DUP) R4131660-4 10/11/24 16:20

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	440	441	1	0.227		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4131660-2 10/11/24 16:20

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	745	102	85.0-115	

Sample Narrative:

LCS: at 25C

<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

Method Blank (MB)

(MB) R4130239-1 10/09/24 02:53

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) R4130239-2 10/09/24 02:55 • (LCSD) R4130239-3 10/09/24 02:57

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	0.898	0.920	89.8	92.0	80.0-120			2.47	20

<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

Method Blank (MB)

(MB) R4130763-1 10/10/24 00:38

Analyte	MB Result mg/l	<u>MB Qualifier</u>	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) R4130763-2 10/10/24 00:39 • (LCSD) R4130763-3 10/10/24 00:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.01	1.01	101	101	80.0-120			0.470	20

<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

Method Blank (MB)

(MB) R4130187-1 10/08/24 21:54

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	0.141	<u>J</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

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R4130187-2 10/08/24 21:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	97.3	97.3	80.0-120	
Barium	100	94.6	94.6	80.0-120	
Cadmium	100	99.9	99.9	80.0-120	
Copper	100	93.5	93.5	80.0-120	
Lead	100	91.3	91.3	80.0-120	
Nickel	100	99.5	99.5	80.0-120	
Selenium	100	97.7	97.7	80.0-120	
Silver	20.0	19.4	97.2	80.0-120	
Zinc	100	97.6	97.6	80.0-120	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1784364-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784364-01 10/08/24 22:01 • (MS) R4130187-5 10/08/24 22:10 • (MSD) R4130187-6 10/08/24 22:13

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	10.3	99.5	92.6	89.2	82.3	5	75.0-125			7.24	20
Barium	100	399	571	513	172	114	5	75.0-125	<u>J5</u>		10.6	20
Cadmium	100	0.489	92.3	83.1	91.8	82.6	5	75.0-125			10.4	20
Copper	100	31.7	117	109	85.8	77.6	5	75.0-125			7.19	20
Lead	100	13.7	101	88.9	86.8	75.2	5	75.0-125			12.3	20
Nickel	100	19.6	113	98.8	93.1	79.1	5	75.0-125			13.2	20
Selenium	100	0.733	89.6	82.2	88.9	81.4	5	75.0-125			8.64	20
Silver	20.0	0.0928	18.2	16.5	90.4	82.2	5	75.0-125			9.40	20
Zinc	100	104	176	180	72.2	75.6	5	75.0-125	<u>J6</u>		1.91	20

Method Blank (MB)

(MB) R4131979-2 10/08/24 01:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0242	↓	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.4			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4131979-1 10/08/24 00:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.46	109	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			110	77.0-120	

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

Method Blank (MB)

(MB) R4131437-2 10/06/24 21:53

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	99.1			75.0-131
(S) 4-Bromofluorobenzene	99.4			67.0-138
(S) 1,2-Dichloroethane-d4	110			70.0-130

Laboratory Control Sample (LCS)

(LCS) R4131437-1 10/06/24 20:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.121	96.8	70.0-123	
Toluene	0.125	0.113	90.4	75.0-121	
Ethylbenzene	0.125	0.111	88.8	74.0-126	
Xylenes, Total	0.375	0.352	93.9	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.131	105	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.130	104	73.0-127	
(S) Toluene-d8			94.8	75.0-131	
(S) 4-Bromofluorobenzene			99.7	67.0-138	
(S) 1,2-Dichloroethane-d4			123	70.0-130	

<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

Method Blank (MB)

(MB) R4130291-3 10/07/24 07:42

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	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	96.9			75.0-131
(S) 4-Bromofluorobenzene	99.2			67.0-138
(S) 1,2-Dichloroethane-d4	107			70.0-130

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

(LCS) R4130291-1 10/07/24 06:08 • (LCSD) R4130291-2 10/07/24 06:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Benzene	0.125	0.115	0.117	92.0	93.6	70.0-123			1.72	20
Toluene	0.125	0.113	0.113	90.4	90.4	75.0-121			0.000	20
Ethylbenzene	0.125	0.112	0.114	89.6	91.2	74.0-126			1.77	20
Xylenes, Total	0.375	0.342	0.353	91.2	94.1	72.0-127			3.17	20
1,2,4-Trimethylbenzene	0.125	0.125	0.128	100	102	70.0-126			2.37	20
1,3,5-Trimethylbenzene	0.125	0.123	0.127	98.4	102	73.0-127			3.20	20
(S) Toluene-d8				96.1	96.6	75.0-131				
(S) 4-Bromofluorobenzene				101	100	67.0-138				
(S) 1,2-Dichloroethane-d4				125	124	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4133118-1 10/15/24 10:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	81.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4133118-2 10/15/24 10:46

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
C10-C28 Diesel Range	50.0	38.0	76.0	50.0-150	
(S) o-Terphenyl			78.5	18.0-148	

L1784363-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784363-10 10/16/24 10:24 • (MS) R4133640-1 10/16/24 10:40 • (MSD) R4133640-2 10/16/24 10:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	48.9	28.1	54.1	93.5	53.2	133	1	50.0-150		J3	53.4	20
(S) o-Terphenyl					68.6	89.8		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4132530-2 10/10/24 22:30

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	98.4			23.0-120
(S) Nitrobenzene-d5	68.7			14.0-149
(S) 2-Fluorobiphenyl	85.6			34.0-125

<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

Laboratory Control Sample (LCS)

(LCS) R4132530-1 10/10/24 22:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0646	80.7	50.0-120	
Anthracene	0.0800	0.0703	87.9	50.0-126	
Benzo(a)anthracene	0.0800	0.0692	86.5	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0711	88.9	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0706	88.3	49.0-125	
Benzo(a)pyrene	0.0800	0.0655	81.9	42.0-120	
Chrysene	0.0800	0.0720	90.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0709	88.6	47.0-125	
Fluoranthene	0.0800	0.0708	88.5	49.0-129	
Fluorene	0.0800	0.0729	91.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0689	86.1	46.0-125	
1-Methylnaphthalene	0.0800	0.0717	89.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0696	87.0	50.0-120	
Naphthalene	0.0800	0.0679	84.9	50.0-120	
Pyrene	0.0800	0.0718	89.8	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4132530-1 10/10/24 22:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			102	23.0-120	
(S) Nitrobenzene-d5			83.6	14.0-149	
(S) 2-Fluorobiphenyl			90.2	34.0-125	

L1784363-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784363-17 10/11/24 00:35 • (MS) R4132530-3 10/11/24 00:52 • (MSD) R4132530-4 10/11/24 01:10

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	0.0796	U	0.0568	0.0545	71.4	69.2	1	14.0-127			4.13	27
Anthracene	0.0796	U	0.0618	0.0611	77.6	77.5	1	10.0-145			1.14	30
Benzo(a)anthracene	0.0796	U	0.0592	0.0597	74.4	75.8	1	10.0-139			0.841	30
Benzo(b)fluoranthene	0.0796	U	0.0593	0.0598	74.5	75.9	1	10.0-140			0.840	36
Benzo(k)fluoranthene	0.0796	U	0.0582	0.0617	73.1	78.3	1	10.0-137			5.84	31
Benzo(a)pyrene	0.0796	U	0.0592	0.0606	74.4	76.9	1	10.0-141			2.34	31
Chrysene	0.0796	U	0.0617	0.0637	77.5	80.8	1	10.0-145			3.19	30
Dibenz(a,h)anthracene	0.0796	U	0.0593	0.0612	74.5	77.7	1	10.0-132			3.15	31
Fluoranthene	0.0796	U	0.0637	0.0609	80.0	77.3	1	10.0-153			4.49	33
Fluorene	0.0796	U	0.0642	0.0623	80.7	79.1	1	11.0-130			3.00	29
Indeno(1,2,3-cd)pyrene	0.0796	U	0.0577	0.0576	72.5	73.1	1	10.0-137			0.173	32
1-Methylnaphthalene	0.0796	U	0.0610	0.0584	76.6	74.1	1	10.0-142			4.36	28
2-Methylnaphthalene	0.0796	U	0.0598	0.0567	75.1	72.0	1	10.0-137			5.32	28
Naphthalene	0.0796	U	0.0567	0.0543	71.2	68.9	1	10.0-135			4.32	27
Pyrene	0.0796	U	0.0638	0.0623	80.2	79.1	1	10.0-148			2.38	35
(S) p-Terphenyl-d14					92.2	89.0		23.0-120				
(S) Nitrobenzene-d5					85.4	66.3		14.0-149				
(S) 2-Fluorobiphenyl					90.1	80.6		34.0-125				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# 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.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 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.

<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

<b>Company Name/Address:</b> Caerus Oil & Gas  143 Diamond Ave Parachute, CO 81635		<b>Billing Information:</b> Same as left.		<b>Analysis / Container / Preservative</b>										Chain of Custody Page ___ of ___	
<b>Report to:</b> Blair Rollins		<b>Email To:</b> brollins@qb-energy.com		Pres Chk										 PEOPLE ADVANCING SCIENCE	

12065 Lebanon Rd Mount Juliet, TN 37122  
 Phone: 615-758-5858 Alt: 800-767-5859  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

<b>Project Description:</b> EL12 Remediation		<b>City/State Collected:</b> CO		<b>Please Circle:</b> PT <u>MT</u> CT ET	
<b>Phone:</b> (970) 640-6919		<b>Client Project #</b>		<b>Lab Project #</b>	
<b>Collected by (print):</b> B. Abeyta		<b>Site/Facility ID #</b>		<b>P.O. #</b>	
<b>Collected by (signature):</b> 		<b>Rush? (Lab MUST Be Notified)</b> <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		<b>Quote #</b>  Date Results Needed	
<b>Immediately Packed on Ice</b> N ___ Y <input checked="" type="checkbox"/>				No. of Cntrs	

SDG # U1784364  
**C055**  
 Acctnum:  
 Template:  
 Prelogin:  
 PM:  
 PB:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	TABLE 915 GRO/DRO/ORO	TABLE 915 Metals	TABLE 915 VOCs	TABLE 915 pH, SPCON, SAR	TABLE 915 PAHS								
20241001-EL12 697-(FC-WH-1211D-SW)@5	Grab	SS	5	2024-10-01	0905	4	X	X	X	X	X								
20241001-EL12 697-(FC-WH-1211D-BASE)@10	Grab	SS	10	2024-10-01	0915	4	X	X	X	X	X								-01
20241001-EL12 697-(FC-WH-1211D-WW)@5	Grab	SS	5	2024-10-01	1050	4	X	X	X	X	X								-02
																			-03

<b>* Matrix:</b> SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		<b>Remarks:</b>  Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # <u>7315 3202 7416</u>		pH _____ Temp _____ Flow _____ Other _____		<b>Sample Receipt Checklist</b> COC Seal Present/Intact: <input checked="" type="checkbox"/> NP Y ___ N ___ COC Signed/Accurate: <input checked="" type="checkbox"/> Y ___ N ___ Bottles arrive intact: <input checked="" type="checkbox"/> Y ___ N ___ Correct bottles used: <input checked="" type="checkbox"/> Y ___ N ___ Sufficient volume sent: <input checked="" type="checkbox"/> Y ___ N ___ If Applicable VOA Zero Headspace: ___ Y ___ N ___ Preservation Correct/Checked: ___ Y ___ N ___ RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y ___ N ___	
<b>Relinquished by : (Signature)</b> 		<b>Date:</b> 10/11/2024		<b>Time:</b> 1515		<b>Received by: (Signature)</b> 		<b>Trip Blank Received:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> HCL / MeOH TBR	
<b>Relinquished by : (Signature)</b> 		<b>Date:</b> 10/12/24		<b>Time:</b> 1700		<b>Received by: (Signature)</b> 		<b>Temp:</b> _____ °C <b>Bottles Received:</b> <u>MSA 94.1+0.3=4.4 12</u>	
<b>Relinquished by : (Signature)</b> 		<b>Date:</b> 10/22/2024		<b>Time:</b> 0900		<b>Received for lab by: (Signature)</b> 		<b>Date:</b> _____ <b>Time:</b> _____	
						<b>Hold:</b>		<b>Condition:</b> NCF / <input checked="" type="checkbox"/> OK	