



ANALYTICAL REPORT

April 23, 2025

Revised Report

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

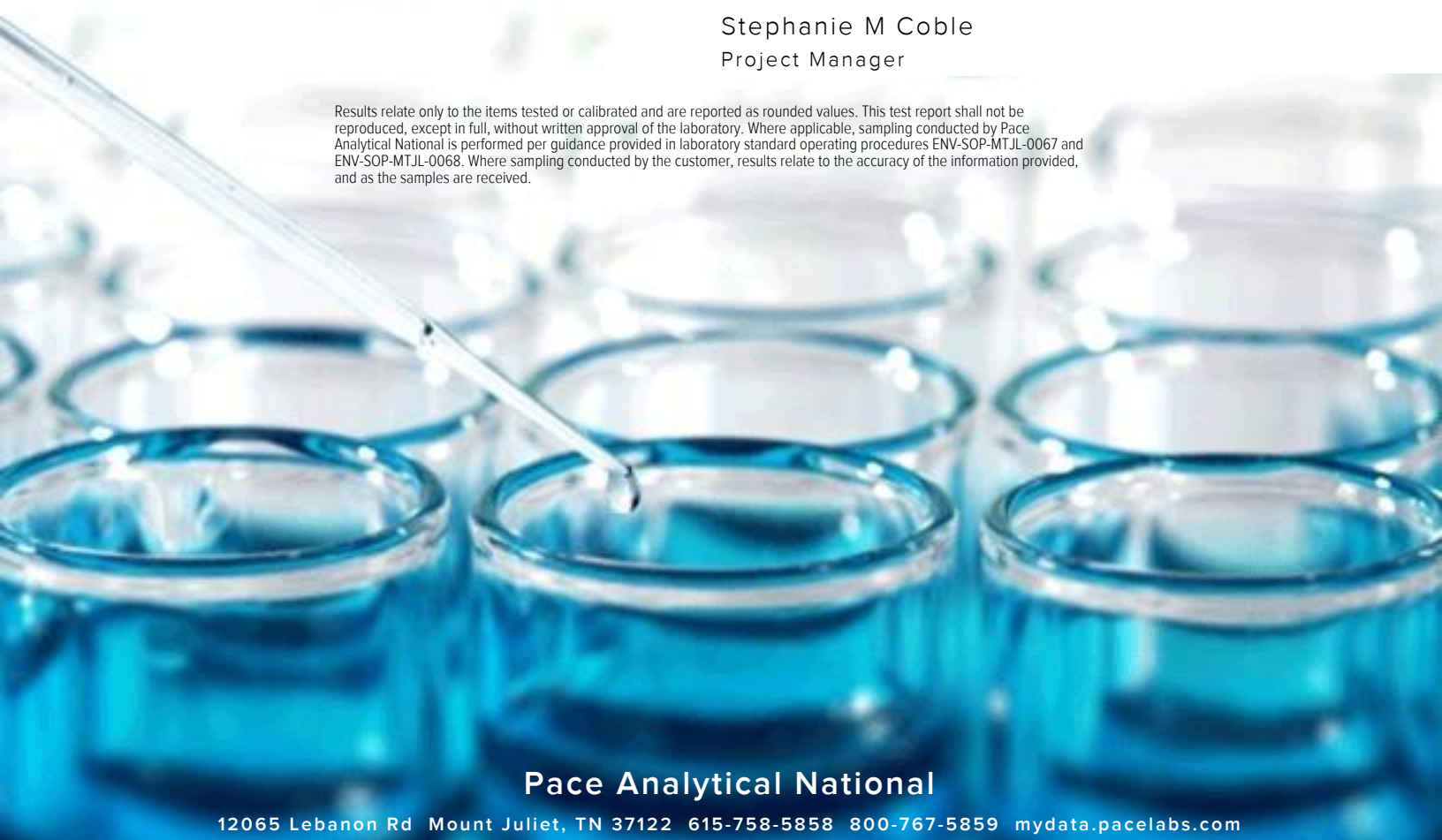
QB Energy

Sample Delivery Group: L1769228
 Samples Received: 08/20/2024
 Project Number:
 Description: M29 199 Facility Decommissioning
 Site: M29 199 PAD
 Report To: Jake J. / Brett M. / Blair R. / Andy V.
 143 Diamond Avenue
 Parachute, CO 81635

Entire Report Reviewed By:

Stephanie M Coble
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

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SAMPLE SUMMARY

20240819-M29 199-(FC-WH)@7 L1769228-01 Solid

Collected by: Jordan Veith
 Collected date/time: 08/19/24 11:45
 Received date/time: 08/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2350400	1	08/26/24 21:47	08/26/24 21:47	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2349413	1	08/27/24 13:33	08/28/24 11:24	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2351019	1	08/27/24 09:37	08/27/24 10:46	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2351005	1	08/27/24 09:37	08/27/24 14:56	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2349807	1	08/30/24 09:02	08/30/24 15:53	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2350409	1	08/27/24 13:45	08/27/24 18:23	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2355664	5	09/07/24 12:33	09/08/24 20:30	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2350127	1	08/21/24 18:59	08/25/24 16:53	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2348765	1	08/21/24 18:59	08/24/24 08:38	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2347718	1	08/22/24 22:00	08/23/24 11:26	JDJ	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2347718	5	08/22/24 22:00	08/24/24 11:34	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2347684	1	08/22/24 21:29	08/23/24 04:25	JCH	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 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.



Stephanie M Coble
Project Manager

Report Revision History

Level II Report - Version 1: 09/09/24 12:11

Project Narrative

Report reissued for encryption -04/23/25

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	6.86		1	08/26/2024 21:47	WG2350400

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	1.12		0.255	1.00	1	08/28/2024 11:24	WG2349413

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.37	<u>T8</u>	1	08/27/2024 10:46	WG2351019

Sample Narrative:

L1769228-01 WG2351019: 9.37 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	725	umhos/cm		10.0	1	08/27/2024 14:56	WG2351005

Sample Narrative:

L1769228-01 WG2351005: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.29	<u>J</u>	0.518	2.00	1	08/30/2024 15:53	WG2349807
Barium	1120		0.0852	0.500	1	08/30/2024 15:53	WG2349807
Cadmium	0.327	<u>J</u>	0.0471	0.500	1	08/30/2024 15:53	WG2349807
Copper	11.5		0.400	2.00	1	08/30/2024 15:53	WG2349807
Lead	70.6		0.208	0.500	1	08/30/2024 15:53	WG2349807
Nickel	10.2		0.132	2.00	1	08/30/2024 15:53	WG2349807
Selenium	U		0.764	2.00	1	08/30/2024 15:53	WG2349807
Silver	U		0.127	1.00	1	08/30/2024 15:53	WG2349807
Zinc	116		0.832	5.00	1	08/30/2024 15:53	WG2349807

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

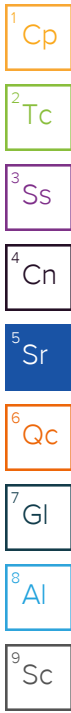
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.0857	<u>J</u>	0.0167	0.200	1	08/27/2024 18:23	WG2350409

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Selenium	0.415	<u>J</u>	0.180	2.50	5	09/08/2024 20:30	WG2355664

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	0.183	<u>B</u>	0.0217	0.100	1	08/25/2024 16:53	WG2350127
(S) a,a,a-Trifluorotoluene(FID)	97.8			77.0-120		08/25/2024 16:53	WG2350127



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	08/24/2024 08:38	WG2348765
Ethylbenzene	U		0.000737	0.00250	1	08/24/2024 08:38	WG2348765
Toluene	U		0.00130	0.00500	1	08/24/2024 08:38	WG2348765
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	08/24/2024 08:38	WG2348765
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	08/24/2024 08:38	WG2348765
Xylenes, Total	U		0.000880	0.00650	1	08/24/2024 08:38	WG2348765
(S) Toluene-d8	93.1			75.0-131		08/24/2024 08:38	WG2348765
(S) 4-Bromofluorobenzene	87.2			67.0-138		08/24/2024 08:38	WG2348765
(S) 1,2-Dichloroethane-d4	82.4			70.0-130		08/24/2024 08:38	WG2348765

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	104		1.61	4.00	1	08/23/2024 11:26	WG2347718
C28-C36 Motor Oil Range	173		1.37	20.0	5	08/24/2024 11:34	WG2347718
(S) o-Terphenyl	74.0			18.0-148		08/24/2024 11:34	WG2347718
(S) o-Terphenyl	61.7			18.0-148		08/23/2024 11:26	WG2347718

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
Anthracene	U		0.00230	0.00600	1	08/23/2024 04:25	WG2347684
Acenaphthene	U		0.00209	0.00600	1	08/23/2024 04:25	WG2347684
Benzo(a)anthracene	U		0.00173	0.00600	1	08/23/2024 04:25	WG2347684
Benzo(a)pyrene	U		0.00179	0.00600	1	08/23/2024 04:25	WG2347684
Benzo(b)fluoranthene	U		0.00153	0.00600	1	08/23/2024 04:25	WG2347684
Benzo(k)fluoranthene	U		0.00215	0.00600	1	08/23/2024 04:25	WG2347684
Chrysene	U		0.00232	0.00600	1	08/23/2024 04:25	WG2347684
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	08/23/2024 04:25	WG2347684
Fluoranthene	U		0.00227	0.00600	1	08/23/2024 04:25	WG2347684
Fluorene	U		0.00205	0.00600	1	08/23/2024 04:25	WG2347684
Indeno(1,2,3-cd)pyrene	0.00262	U	0.00181	0.00600	1	08/23/2024 04:25	WG2347684
Naphthalene	0.00661	U	0.00408	0.0200	1	08/23/2024 04:25	WG2347684
Pyrene	0.00690		0.00200	0.00600	1	08/23/2024 04:25	WG2347684
1-Methylnaphthalene	0.00832	U	0.00449	0.0200	1	08/23/2024 04:25	WG2347684
2-Methylnaphthalene	0.0116	U	0.00427	0.0200	1	08/23/2024 04:25	WG2347684
(S) p-Terphenyl-d14	72.5			23.0-120		08/23/2024 04:25	WG2347684
(S) Nitrobenzene-d5	82.0			14.0-149		08/23/2024 04:25	WG2347684
(S) 2-Fluorobiphenyl	84.4			34.0-125		08/23/2024 04:25	WG2347684

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4113846-1 08/28/24 10:00

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1769244-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1769244-03 08/28/24 12:27 • (DUP) R4113846-7 08/28/24 12:37

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

L1769244-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1769244-06 08/28/24 13:09 • (DUP) R4113846-8 08/28/24 13:19

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) R4113846-2 08/28/24 10:10

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

L1769224-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1769224-01 08/28/24 10:31 • (MS) R4113846-3 08/28/24 10:42 • (MSD) R4113846-4 08/28/24 10:52

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	4.44	8.72	22.2	43.6	1	75.0-125	<u>J6</u>	<u>J3 J6</u>	65.0	20

L1769224-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1769224-01 08/28/24 10:31 • (MS) R4113846-9 08/28/24 11:03

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	641	U	475	74.1	50	75.0-125	<u>J6</u>

L1768286-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1768286-05 08/27/24 10:46 • (DUP) R4112135-2 08/27/24 10:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
su	su	su		%		%
pH	7.79	7.79	1	0.000		1

Sample Narrative:

OS: 7.79 at 22.1C
DUP: 7.79 at 21.8C

L1769947-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1769947-06 08/27/24 10:46 • (DUP) R4112135-3 08/27/24 10:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	8.26	8.26	1	0.000		1

Sample Narrative:

OS: 8.26 at 21.1C
DUP: 8.26 at 21C

Laboratory Control Sample (LCS)

(LCS) R4112135-1 08/27/24 10:46

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

Sample Narrative:

LCS: 9.99 at 21.5C

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4112343-1 08/27/24 14:56

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

Sample Narrative:

BLANK: at 25C

L1768286-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1768286-04 08/27/24 14:56 • (DUP) R4112343-3 08/27/24 14:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	141	143	1	1.83		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1769904-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1769904-05 08/27/24 14:56 • (DUP) R4112343-4 08/27/24 14:56

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	410	402	1	1.97		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4112343-2 08/27/24 14:56

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Specific Conductance	733	728	99.3	85.0-115	

Sample Narrative:

LCS: at 25C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4114262-1 08/30/24 15:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.518	2.00
Barium	1.61		0.0852	0.500
Cadmium	U		0.0471	0.500
Copper	U		0.400	2.00
Lead	U		0.208	0.500
Nickel	U		0.132	2.00
Selenium	U		0.764	2.00
Silver	U		0.127	1.00
Zinc	U		0.832	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS)

(LCS) R4114262-2 08/30/24 15:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	99.5	99.5	80.0-120	
Barium	100	101	101	80.0-120	
Cadmium	100	96.5	96.5	80.0-120	
Copper	100	99.1	99.1	80.0-120	
Lead	100	95.9	95.9	80.0-120	
Nickel	100	95.9	95.9	80.0-120	
Selenium	100	92.6	92.6	80.0-120	
Silver	20.0	18.6	92.9	80.0-120	
Zinc	100	98.3	98.3	80.0-120	

⁷Gl

⁸Al

⁹Sc

L1769244-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1769244-10 08/30/24 15:42 • (MS) R4114262-5 08/30/24 15:48 • (MSD) R4114262-6 08/30/24 15:49

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	2.02	102	106	99.8	104	1	75.0-125			4.12	20
Barium	100	56.3	148	150	91.6	93.5	1	75.0-125			1.32	20
Cadmium	100	0.0658	97.8	101	97.7	101	1	75.0-125			3.72	20
Copper	100	1.90	102	107	101	105	1	75.0-125			4.07	20
Lead	100	3.52	102	106	98.2	102	1	75.0-125			3.94	20
Nickel	100	3.48	104	107	100	103	1	75.0-125			2.74	20
Selenium	100	U	92.8	98.0	92.8	98.0	1	75.0-125			5.53	20
Silver	20.0	U	19.1	19.9	95.3	99.4	1	75.0-125			4.14	20
Zinc	100	13.4	115	117	101	103	1	75.0-125			1.59	20

Method Blank (MB)

(MB) R4112520-1 08/27/24 17:53

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) R4112520-2 08/27/24 17:55 • (LCSD) R4112520-3 08/27/24 17:57

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	0.999	0.994	99.9	99.4	80.0-120			0.537	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4117002-1 09/08/24 19:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Selenium	U		0.180	2.50

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R4117002-2 09/08/24 19:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Selenium	100	101	101	80.0-120	

4 Cn

5 Sr

L1770794-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1770794-06 09/08/24 19:52 • (MS) R4117002-5 09/08/24 20:01 • (MSD) R4117002-6 09/08/24 20:05

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 %
Selenium	100	0.228	90.6	105	90.4	105	5	75.0-125			14.8	20

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4112272-3 08/25/24 14:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0288	↓	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	98.7			77.0-120

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

(LCS) R4112272-1 08/25/24 13:22 • (LCSD) R4112272-2 08/25/24 13:46

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	4.76	5.56	95.2	111	72.0-127			15.5	20
(S) a,a,a-Trifluorotoluene(FID)				106	109	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) R4111672-2 08/24/24 05:18

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	92.3			75.0-131
(S) 4-Bromofluorobenzene	90.2			67.0-138
(S) 1,2-Dichloroethane-d4	79.6			70.0-130

Laboratory Control Sample (LCS)

(LCS) R4111672-1 08/24/24 03:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.133	106	70.0-123	
Toluene	0.125	0.118	94.4	75.0-121	
Ethylbenzene	0.125	0.128	102	74.0-126	
Xylenes, Total	0.375	0.363	96.8	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.125	100	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.122	97.6	73.0-127	
(S) Toluene-d8			91.6	75.0-131	
(S) 4-Bromofluorobenzene			95.0	67.0-138	
(S) 1,2-Dichloroethane-d4			90.6	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) R4110990-1 08/23/24 09:52

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	79.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4110990-2 08/23/24 10:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	39.0	78.0	50.0-150	
(S) o-Terphenyl			71.2	18.0-148	

L1769141-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1769141-01 08/23/24 09:52 • (MS) R4110990-3 08/23/24 10:05 • (MSD) R4110990-4 08/23/24 10:18

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	U	36.7	35.4	74.1	72.4	1	50.0-150			3.61	20
(S) o-Terphenyl					69.5	62.1		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) R4110826-2 08/23/24 00:53

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	86.3			23.0-120
(S) Nitrobenzene-d5	86.1			14.0-149
(S) 2-Fluorobiphenyl	98.7			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4110826-1 08/23/24 00:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0623	77.9	50.0-120	
Anthracene	0.0800	0.0633	79.1	50.0-126	
Benzo(a)anthracene	0.0800	0.0613	76.6	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0647	80.9	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0620	77.5	49.0-125	
Benzo(a)pyrene	0.0800	0.0506	63.3	42.0-120	
Chrysene	0.0800	0.0691	86.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0641	80.1	47.0-125	
Fluoranthene	0.0800	0.0700	87.5	49.0-129	
Fluorene	0.0800	0.0697	87.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0617	77.1	46.0-125	
1-Methylnaphthalene	0.0800	0.0640	80.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0625	78.1	50.0-120	
Naphthalene	0.0800	0.0623	77.9	50.0-120	
Pyrene	0.0800	0.0639	79.9	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4110826-1 08/23/24 00:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			84.8	23.0-120	
(S) Nitrobenzene-d5			88.5	14.0-149	
(S) 2-Fluorobiphenyl			99.6	34.0-125	

L1769141-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1769141-09 08/23/24 03:15 • (MS) R4110826-3 08/23/24 03:32 • (MSD) R4110826-4 08/23/24 03:50

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	0.0788	U	0.0579	0.0572	73.5	72.6	1	14.0-127			1.22	27
Anthracene	0.0788	U	0.0577	0.0562	73.2	71.3	1	10.0-145			2.63	30
Benzo(a)anthracene	0.0788	U	0.0562	0.0553	71.3	70.2	1	10.0-139			1.61	30
Benzo(b)fluoranthene	0.0788	U	0.0571	0.0580	72.5	73.6	1	10.0-140			1.56	36
Benzo(k)fluoranthene	0.0788	U	0.0574	0.0558	72.8	70.8	1	10.0-137			2.83	31
Benzo(a)pyrene	0.0788	U	0.0535	0.0536	67.9	68.0	1	10.0-141			0.187	31
Chrysene	0.0788	U	0.0620	0.0634	78.7	80.5	1	10.0-145			2.23	30
Dibenz(a,h)anthracene	0.0788	U	0.0575	0.0575	73.0	73.0	1	10.0-132			0.000	31
Fluoranthene	0.0788	U	0.0655	0.0630	83.1	79.9	1	10.0-153			3.89	33
Fluorene	0.0788	U	0.0641	0.0632	81.3	80.2	1	11.0-130			1.41	29
Indeno(1,2,3-cd)pyrene	0.0788	U	0.0528	0.0538	67.0	68.3	1	10.0-137			1.88	32
1-Methylnaphthalene	0.0788	U	0.0615	0.0603	78.0	76.5	1	10.0-142			1.97	28
2-Methylnaphthalene	0.0788	U	0.0574	0.0569	72.8	72.2	1	10.0-137			0.875	28
Naphthalene	0.0788	U	0.0602	0.0586	76.4	74.4	1	10.0-135			2.69	27
Pyrene	0.0788	U	0.0617	0.0603	78.3	76.5	1	10.0-148			2.30	35
(S) p-Terphenyl-d14					79.4	82.9		23.0-120				
(S) Nitrobenzene-d5					81.9	82.2		14.0-149				
(S) 2-Fluorobiphenyl					92.1	91.4		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.

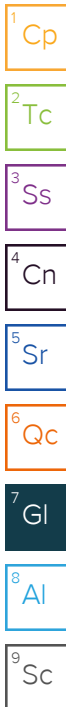
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. 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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

