

**Energy and Carbon Management Commission**

Sample Delivery Group: L1816543

Samples Received: 01/14/2025

Project Number:

Description: Hazel McHale 1

Report To: Laurel Anderson  
1120 Lincoln St.  
Suite 801  
Denver, CO 80203

Entire Report Reviewed By:



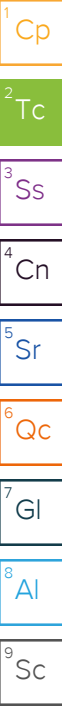
Chris Ward  
Project Manager

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

# TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
SS-01 @ 0-6" L1816543-01	5
Qc: Quality Control Summary	7
Wet Chemistry by Method 7199	7
Wet Chemistry by Method 9045D	8
Wet Chemistry by Method 9050AMod	9
Metals (ICP) by Method 6010B-NE493 Ch 2	10
Metals (ICPMS) by Method 6020	11
Volatile Organic Compounds (GC/MS) by Method 8260D	12
Semi-Volatile Organic Compounds (GC) by Method 8015M	13
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	14
Gl: Glossary of Terms	16
Al: Accreditations & Locations	17
Sc: Sample Chain of Custody	18



# SAMPLE SUMMARY

SS-01 @ 0-6" L1816543-01 Solid

Collected by  
Laurel Anderson

Collected date/time  
01/10/25 13:00

Received date/time  
01/14/25 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2434629	1	01/19/25 18:43	01/19/25 18:43	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2433171	1	01/14/25 22:08	01/16/25 14:23	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2436197	1	01/20/25 08:39	01/20/25 10:46	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2436198	1	01/20/25 08:42	01/20/25 11:02	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2434651	1	01/17/25 10:06	01/18/25 17:20	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2433779	5	01/15/25 12:48	01/16/25 18:00	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2433342	500	01/14/25 21:22	01/15/25 01:24	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2433922	500	01/16/25 09:27	01/16/25 19:23	KDB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2433861	1	01/16/25 16:21	01/17/25 18:08	JCH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2433861	20	01/16/25 16:21	01/21/25 00:49	ALM	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

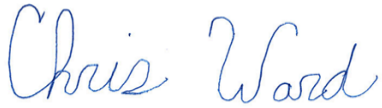
<sup>7</sup>Gl

<sup>8</sup>Al

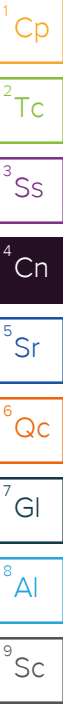
<sup>9</sup>Sc

# 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



Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	3.72		1	01/19/2025 18:43	WG2434629

Wet Chemistry by Method 7199

	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	01/16/2025 14:23	<a href="#">WG2433171</a>

Wet Chemistry by Method 9045D

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte	su				
pH	7.23	<a href="#">T8</a>	1	01/20/2025 10:46	<a href="#">WG2436197</a>

Sample Narrative:

L1816543-01 WG2436197: 7.23 at 20.3C

Wet Chemistry by Method 9050AMod

	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte							
Specific Conductance	1510	umhos/cm		10.0	1	01/20/2025 11:02	<a href="#">WG2436198</a>

Sample Narrative:

L1816543-01 WG2436198: at 25C

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

	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l			
Hot Water Sol. Boron	0.257		0.200	1	01/18/2025 17:20	<a href="#">WG2434651</a>

Metals (ICPMS) by Method 6020

	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Arsenic	1.72		1.00	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Barium	67.9		2.50	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Cadmium	ND		1.00	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Copper	7.96		5.00	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Lead	8.07		2.00	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Nickel	5.34		2.50	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Selenium	ND		2.50	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Silver	ND		0.500	5	01/16/2025 18:00	<a href="#">WG2433779</a>
Zinc	26.7		25.0	5	01/16/2025 18:00	<a href="#">WG2433779</a>

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

	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
TPH (GC/MS) Low Fraction	6830		250	500	01/15/2025 01:24	<a href="#">WG2433342</a>
Naphthalene	22.8		2.50	500	01/15/2025 01:24	<a href="#">WG2433342</a>
Benzene	4.03		0.500	500	01/15/2025 01:24	<a href="#">WG2433342</a>
Toluene	66.5		2.50	500	01/15/2025 01:24	<a href="#">WG2433342</a>
Ethylbenzene	25.3		0.500	500	01/15/2025 01:24	<a href="#">WG2433342</a>
Xylenes, Total	219		1.50	500	01/15/2025 01:24	<a href="#">WG2433342</a>
1,2,4-Trimethylbenzene	94.3		0.500	500	01/15/2025 01:24	<a href="#">WG2433342</a>
1,3,5-Trimethylbenzene	30.8		0.500	500	01/15/2025 01:24	<a href="#">WG2433342</a>
(S) Toluene-d8	109		75.0-131		01/15/2025 01:24	<a href="#">WG2433342</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	133		67.0-138		01/15/2025 01:24	<a href="#">WG2433342</a>
(S) 1,2-Dichloroethane-d4	98.4		70.0-130		01/15/2025 01:24	<a href="#">WG2433342</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	24700		2000	500	01/16/2025 19:23	<a href="#">WG2433922</a>
C28-C36 Motor Oil Range	12100		2000	500	01/16/2025 19:23	<a href="#">WG2433922</a>
(S) o-Terphenyl	0.000	<a href="#">J7</a>	18.0-148		01/16/2025 19:23	<a href="#">WG2433922</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	0.862		0.120	20	01/21/2025 00:49	<a href="#">WG2433861</a>
Anthracene	ND		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Benzo(a)anthracene	ND		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Benzo(b)fluoranthene	0.119		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Benzo(k)fluoranthene	ND		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Benzo(a)pyrene	ND		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Chrysene	0.357		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Dibenz(a,h)anthracene	ND		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Fluoranthene	0.349		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
Fluorene	3.84		0.120	20	01/21/2025 00:49	<a href="#">WG2433861</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
1-Methylnaphthalene	34.3		0.400	20	01/21/2025 00:49	<a href="#">WG2433861</a>
2-Methylnaphthalene	57.8		0.400	20	01/21/2025 00:49	<a href="#">WG2433861</a>
Naphthalene	25.2		0.400	20	01/21/2025 00:49	<a href="#">WG2433861</a>
Pyrene	0.308		0.00600	1	01/17/2025 18:08	<a href="#">WG2433861</a>
(S) p-Terphenyl-d14	102	<a href="#">J7</a>	23.0-120		01/21/2025 00:49	<a href="#">WG2433861</a>
(S) p-Terphenyl-d14	97.9		23.0-120		01/17/2025 18:08	<a href="#">WG2433861</a>
(S) Nitrobenzene-d5	0.000	<a href="#">J2</a>	14.0-149		01/17/2025 18:08	<a href="#">WG2433861</a>
(S) Nitrobenzene-d5	0.000	<a href="#">J7</a>	14.0-149		01/21/2025 00:49	<a href="#">WG2433861</a>
(S) 2-Fluorobiphenyl	0.000	<a href="#">J2</a>	34.0-125		01/17/2025 18:08	<a href="#">WG2433861</a>
(S) 2-Fluorobiphenyl	0.000	<a href="#">J7</a>	34.0-125		01/21/2025 00:49	<a href="#">WG2433861</a>

## Sample Narrative:

L1816543-01 WG2433861: Surrogate failure due to matrix interference

1  
Cp2  
Tc3  
Ss4  
Cn5  
Sr6  
Qc7  
Gl8  
Al9  
Sc

Method Blank (MB)

(MB) R4167791-1 01/16/25 10:03

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

L1816247-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816247-01 01/16/25 10:33 • (DUP) R4167791-3 01/16/25 10:42

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

L1816543-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816543-01 01/16/25 14:23 • (DUP) R4167791-4 01/16/25 14:33

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

Laboratory Control Sample (LCS)

(LCS) R4167791-2 01/16/25 10:13

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	9.68	96.8	80.0-120	

L1816768-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816768-04 01/16/25 15:47 • (MS) R4167791-5 01/16/25 15:57 • (MSD) R4167791-6 01/16/25 16:06

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	ND	11.7	9.91	58.7	49.6	1	75.0-125	J6	J6	16.9	20

L1816768-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1816768-04 01/16/25 15:47 • (MS) R4167791-9 01/16/25 16:16

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	636	ND	252	39.6	50	75.0-125	J6

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1816904-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1816904-03 01/20/25 10:46 • (DUP) R4168405-2 01/20/25 10:46

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.18	8.16	1	0.245		1

Sample Narrative:

OS: 8.18 at 19.7C

DUP: 8.16 at 19.6C

Laboratory Control Sample (LCS)

(LCS) R4168405-1 01/20/25 10:46

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

Sample Narrative:

LCS: 10 at 20.2C

<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) R4168418-1 01/20/25 11:02

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

Sample Narrative:

BLANK: at 25C

L1816904-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1816904-02 01/20/25 11:02 • (DUP) R4168418-3 01/20/25 11:02

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	778	769	1	1.16		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4168418-2 01/20/25 11:02

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	1130	1120	99.1	85.0-115	

Sample Narrative:

LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4168179-1 01/18/25 17:15

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) R4168179-2 01/18/25 17:17 • (LCSD) R4168179-3 01/18/25 17:18

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	1.08	1.08	108	108	80.0-120			0.0471	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4167626-1 01/16/25 16:51

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) R4167626-2 01/16/25 16:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	87.0	87.0	80.0-120	
Barium	100	84.4	84.4	80.0-120	
Cadmium	100	89.0	89.0	80.0-120	
Copper	100	88.6	88.6	80.0-120	
Lead	100	86.1	86.1	80.0-120	
Nickel	100	89.5	89.5	80.0-120	
Selenium	100	85.3	85.3	80.0-120	
Silver	20.0	17.3	86.7	80.0-120	
Zinc	100	86.1	86.1	80.0-120	

L1816403-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816403-05 01/16/25 16:57 • (MS) R4167626-5 01/16/25 17:07 • (MSD) R4167626-6 01/16/25 17:10

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 %
Arsenic	100	4.76	90.4	97.2	85.6	92.4	5	75.0-125			7.20	20
Barium	100	18.5	111	117	92.2	98.6	5	75.0-125			5.60	20
Cadmium	100	ND	89.8	95.9	89.8	95.9	5	75.0-125			6.55	20
Copper	100	ND	93.1	100	89.7	96.7	5	75.0-125			7.21	20
Lead	100	6.01	93.5	99.2	87.5	93.2	5	75.0-125			5.87	20
Nickel	100	3.00	95.4	103	92.4	99.5	5	75.0-125			7.22	20
Selenium	100	ND	86.7	92.4	86.4	92.1	5	75.0-125			6.40	20
Silver	20.0	ND	17.8	19.1	89.1	95.5	5	75.0-125			6.93	20
Zinc	100	ND	97.3	104	89.2	95.7	5	75.0-125			6.51	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4166978-5 01/15/25 01:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/MS) Low Fraction	U		4.58	12.5
Naphthalene	U		0.125	0.125
Benzene	U		0.00938	0.0250
Toluene	U		0.0308	0.125
Ethylbenzene	U		0.00750	0.0250
Xylenes, Total	U		0.0125	0.0750
1,2,4-Trimethylbenzene	U		0.00528	0.0250
1,3,5-Trimethylbenzene	U		0.00665	0.0250
(S) Toluene-d8	107			75.0-131
(S) 4-Bromofluorobenzene	96.3			67.0-138
(S) 1,2-Dichloroethane-d4	92.9			70.0-130

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

(LCS) R4166978-1 01/14/25 21:42 • (LCSD) R4166978-2 01/14/25 22:04

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 %
Naphthalene	0.0250	0.0228	0.0233	91.2	93.2	59.0-130			2.17	20
Benzene	0.0250	0.0221	0.0227	88.4	90.8	70.0-123			2.68	20
Toluene	0.0250	0.0224	0.0235	89.6	94.0	75.0-121			4.79	20
Ethylbenzene	0.0250	0.0232	0.0242	92.8	96.8	74.0-126			4.22	20
Xylenes, Total	0.0750	0.0686	0.0713	91.5	95.1	72.0-127			3.86	20
1,2,4-Trimethylbenzene	0.0250	0.0222	0.0226	88.8	90.4	70.0-126			1.79	20
1,3,5-Trimethylbenzene	0.0250	0.0220	0.0223	88.0	89.2	73.0-127			1.35	20
(S) Toluene-d8				98.9	99.4	75.0-131				
(S) 4-Bromofluorobenzene				93.9	96.0	67.0-138				
(S) 1,2-Dichloroethane-d4				106	103	70.0-130				

Laboratory Control Sample (LCS)

(LCS) R4166978-3 01/14/25 22:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/MS) Low Fraction	5.00	4.59	91.8	52.0-154	
(S) Toluene-d8			98.4	75.0-131	
(S) 4-Bromofluorobenzene			115	67.0-138	
(S) 1,2-Dichloroethane-d4			104	70.0-130	



Method Blank (MB)

(MB) R4167665-1 01/16/25 16:54

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	79.4			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4167665-2 01/16/25 17:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	42.5	85.0	50.0-150	
(S) o-Terphenyl			91.9	18.0-148	

L1816243-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816243-03 01/16/25 18:58 • (MS) R4167665-3 01/16/25 19:10 • (MSD) R4167665-4 01/16/25 19:23

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.9	ND	54.8	68.4	81.2	109	5	50.0-150		J3	22.1	20
(S) o-Terphenyl					82.4	84.9		18.0-148				

Sample Narrative:

OS: Cannot run at lower dilution due to viscosity of extract

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R4167948-2 01/17/25 01:47

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	91.2			23.0-120
(S) Nitrobenzene-d5	74.2			14.0-149
(S) 2-Fluorobiphenyl	91.6			34.0-125

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4167948-1 01/17/25 01:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0607	75.9	50.0-120	
Anthracene	0.0800	0.0643	80.4	50.0-126	
Benzo(a)anthracene	0.0800	0.0615	76.9	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0587	73.4	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0556	69.5	49.0-125	
Benzo(a)pyrene	0.0800	0.0554	69.3	42.0-120	
Chrysene	0.0800	0.0623	77.9	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0545	68.1	47.0-125	
Fluoranthene	0.0800	0.0642	80.3	49.0-129	
Fluorene	0.0800	0.0648	81.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0547	68.4	46.0-125	
1-Methylnaphthalene	0.0800	0.0649	81.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0636	79.5	50.0-120	
Naphthalene	0.0800	0.0591	73.9	50.0-120	
Pyrene	0.0800	0.0641	80.1	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4167948-1 01/17/25 01:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			81.8	23.0-120	
(S) Nitrobenzene-d5			74.0	14.0-149	
(S) 2-Fluorobiphenyl			81.9	34.0-125	

L1816395-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816395-03 01/17/25 14:19 • (MS) R4168471-1 01/17/25 14:37 • (MSD) R4168471-2 01/17/25 14:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0486	0.0423	56.8	48.9	1	14.0-127			13.9	27
Anthracene	0.0800	ND	0.0492	0.0438	61.5	54.8	1	10.0-145			11.6	30
Benzo(a)anthracene	0.0800	ND	0.0493	0.0444	61.6	55.5	1	10.0-139			10.5	30
Benzo(b)fluoranthene	0.0800	ND	0.0448	0.0401	56.0	50.1	1	10.0-140			11.1	36
Benzo(k)fluoranthene	0.0800	ND	0.0426	0.0391	53.2	48.9	1	10.0-137			8.57	31
Benzo(a)pyrene	0.0800	ND	0.0454	0.0407	56.8	50.9	1	10.0-141			10.9	31
Chrysene	0.0800	ND	0.0462	0.0423	57.8	52.9	1	10.0-145			8.81	30
Dibenz(a,h)anthracene	0.0800	ND	0.0373	0.0346	46.6	43.3	1	10.0-132			7.51	31
Fluoranthene	0.0800	ND	0.0489	0.0439	61.1	54.9	1	10.0-153			10.8	33
Fluorene	0.0800	ND	0.0528	0.0473	66.0	59.1	1	11.0-130			11.0	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0368	0.0335	46.0	41.9	1	10.0-137			9.39	32
1-Methylnaphthalene	0.0800	ND	0.0501	0.0447	62.6	55.9	1	10.0-142			11.4	28
2-Methylnaphthalene	0.0800	ND	0.0482	0.0449	60.3	56.1	1	10.0-137			7.09	28
Naphthalene	0.0800	ND	0.0500	0.0444	56.6	49.6	1	10.0-135			11.9	27
Pyrene	0.0800	ND	0.0461	0.0419	57.6	52.4	1	10.0-148			9.55	35
(S) p-Terphenyl-d14					59.6	54.6		23.0-120				
(S) Nitrobenzene-d5					85.6	77.3		14.0-149				
(S) 2-Fluorobiphenyl					61.0	55.8		34.0-125				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

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

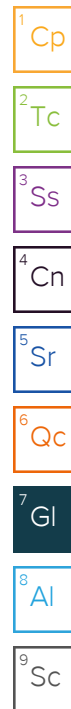
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

### Abbreviations and Definitions

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

### Qualifier Description

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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
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 <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.

