

**Colorado Oil & Gas Conservation**

Sample Delivery Group: L1468238  
Samples Received: 03/05/2022  
Project Number: 480275  
Description:  
Site: E. STIEBER  
Report To: Nikki Graber  
5405 Sacramento Pl.  
Colorado Springs, CO 80917

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 [www.pacenational.com](http://www.pacenational.com)

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

# SAMPLE SUMMARY

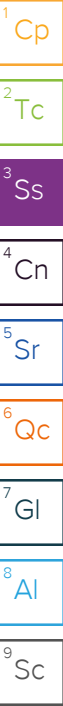
## SW-5 @ 8 L1468238-01 Solid

Collected by  
Alex Ahmaddian

Collected date/time  
03/02/22 11:17

Received date/time  
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1831083	1	03/13/22 12:20	03/13/22 12:20	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1828921	1	03/08/22 13:15	03/08/22 13:30	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1828048	1	03/08/22 07:23	03/08/22 09:20	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1829941	1	03/08/22 13:26	03/10/22 02:49	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1829270	1	03/08/22 13:26	03/09/22 08:07	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1832069	1	03/15/22 08:53	03/15/22 19:00	JAS	Mt. Juliet, TN



## SW-12 @ 8 L1468238-02 Solid

Collected by  
Alex Ahmaddian

Collected date/time  
03/02/22 12:19

Received date/time  
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1831083	1	03/13/22 12:23	03/13/22 12:23	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1828921	1	03/08/22 13:15	03/08/22 13:30	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1828048	1	03/08/22 07:23	03/08/22 09:20	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1830803	100	03/08/22 13:26	03/12/22 16:23	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1829270	8	03/08/22 13:26	03/09/22 15:08	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1832069	1	03/15/22 08:53	03/15/22 21:15	JAS	Mt. Juliet, TN

## SW-14 @ 8 L1468238-03 Solid

Collected by  
Alex Ahmaddian

Collected date/time  
03/02/22 12:40

Received date/time  
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1831083	1	03/13/22 12:26	03/13/22 12:26	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1828921	1	03/08/22 13:15	03/08/22 13:30	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1828048	1	03/08/22 07:23	03/08/22 09:20	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1830803	200	03/08/22 13:26	03/12/22 16:45	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1829270	20	03/08/22 13:26	03/09/22 15:32	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1832069	10	03/15/22 08:53	03/15/22 22:18	JAS	Mt. Juliet, TN

## SW-16 @ 8 L1468238-04 Solid

Collected by  
Alex Ahmaddian

Collected date/time  
03/02/22 12:48

Received date/time  
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1831083	1	03/13/22 12:29	03/13/22 12:29	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1828921	1	03/08/22 13:15	03/08/22 13:30	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1828048	1	03/08/22 07:23	03/08/22 09:20	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1829941	1	03/08/22 13:26	03/10/22 03:11	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1829270	1	03/08/22 13:26	03/09/22 08:28	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1832069	1	03/15/22 08:53	03/15/22 17:44	JAS	Mt. Juliet, TN

## BH-3 @ 9 L1468238-05 Solid

Collected by  
Alex Ahmaddian

Collected date/time  
03/02/22 09:55

Received date/time  
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1831083	1	03/13/22 12:37	03/13/22 12:37	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1828921	1	03/08/22 13:15	03/08/22 13:30	EPW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1828048	1	03/08/22 07:23	03/08/22 09:20	ARD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1830803	500	03/08/22 13:26	03/12/22 17:07	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1829270	40	03/08/22 13:26	03/09/22 15:53	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1832069	5	03/15/22 08:53	03/15/22 21:40	JAS	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	1.94		1	03/13/2022 12:20	WG1831083

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.37	T8	1	03/08/2022 13:30	WG1828921

## Sample Narrative:

L1468238-01 WG1828921: 8.37 at 23.5C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	424		10.0	1	03/08/2022 09:20	WG1828048

## Sample Narrative:

L1468238-01 WG1828048: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.746		0.100	1	03/10/2022 02:49	WG1829941
(S) a,a,a-Trifluorotoluene(FID)	105		77.0-120		03/10/2022 02:49	WG1829941

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/09/2022 08:07	WG1829270
Ethylbenzene	ND		0.00250	1	03/09/2022 08:07	WG1829270
Naphthalene	ND		0.0125	1	03/09/2022 08:07	WG1829270
Toluene	ND		0.00500	1	03/09/2022 08:07	WG1829270
1,2,4-Trimethylbenzene	ND		0.00500	1	03/09/2022 08:07	WG1829270
1,3,5-Trimethylbenzene	ND		0.00500	1	03/09/2022 08:07	WG1829270
Xylenes, Total	ND		0.00650	1	03/09/2022 08:07	WG1829270
(S) Toluene-d8	95.9		75.0-131		03/09/2022 08:07	WG1829270
(S) 4-Bromofluorobenzene	96.0		67.0-138		03/09/2022 08:07	WG1829270
(S) 1,2-Dichloroethane-d4	113		70.0-130		03/09/2022 08:07	WG1829270

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	77.9		4.00	1	03/15/2022 19:00	WG1832069
C28-C36 Motor Oil Range	37.4		4.00	1	03/15/2022 19:00	WG1832069
(S) o-terphenyl	68.6		18.0-148		03/15/2022 19:00	WG1832069

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	4.61		1	03/13/2022 12:23	WG1831083

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.17	T8	1	03/08/2022 13:30	<a href="#">WG1828921</a>

## Sample Narrative:

L1468238-02 WG1828921: 8.17 at 20.6C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	824		10.0	1	03/08/2022 09:20	<a href="#">WG1828048</a>

## Sample Narrative:

L1468238-02 WG1828048: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	467		10.0	100	03/12/2022 16:23	<a href="#">WG1830803</a>
(S) a,a,a-Trifluorotoluene(FID)	98.7		77.0-120		03/12/2022 16:23	<a href="#">WG1830803</a>

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

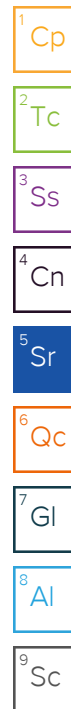
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00800	8	03/09/2022 15:08	<a href="#">WG1829270</a>
Ethylbenzene	0.100		0.0200	8	03/09/2022 15:08	<a href="#">WG1829270</a>
Naphthalene	0.354		0.100	8	03/09/2022 15:08	<a href="#">WG1829270</a>
Toluene	ND		0.0400	8	03/09/2022 15:08	<a href="#">WG1829270</a>
1,2,4-Trimethylbenzene	2.00		0.0400	8	03/09/2022 15:08	<a href="#">WG1829270</a>
1,3,5-Trimethylbenzene	0.777		0.0400	8	03/09/2022 15:08	<a href="#">WG1829270</a>
Xylenes, Total	0.958		0.0520	8	03/09/2022 15:08	<a href="#">WG1829270</a>
(S) Toluene-d8	95.3		75.0-131		03/09/2022 15:08	<a href="#">WG1829270</a>
(S) 4-Bromofluorobenzene	107		67.0-138		03/09/2022 15:08	<a href="#">WG1829270</a>
(S) 1,2-Dichloroethane-d4	108		70.0-130		03/09/2022 15:08	<a href="#">WG1829270</a>

## Sample Narrative:

L1468238-02 WG1829270: Non-target compounds too high to run at a lower dilution.

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	300		4.00	1	03/15/2022 21:15	<a href="#">WG1832069</a>
C28-C36 Motor Oil Range	149		4.00	1	03/15/2022 21:15	<a href="#">WG1832069</a>
(S) o-Terphenyl	91.3		18.0-148		03/15/2022 21:15	<a href="#">WG1832069</a>



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.09		1	03/13/2022 12:26	WG1831083

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.12	T8	1	03/08/2022 13:30	WG1828921

## Sample Narrative:

L1468238-03 WG1828921: 8.12 at 22.2C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	379		10.0	1	03/08/2022 09:20	WG1828048

## Sample Narrative:

L1468238-03 WG1828048: at 25C

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	410		20.0	200	03/12/2022 16:45	WG1830803
(S) a,a,a-Trifluorotoluene(FID)	111		77.0-120		03/12/2022 16:45	WG1830803

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.0200	20	03/09/2022 15:32	WG1829270
Ethylbenzene	0.193		0.0500	20	03/09/2022 15:32	WG1829270
Naphthalene	0.440		0.250	20	03/09/2022 15:32	WG1829270
Toluene	ND		0.100	20	03/09/2022 15:32	WG1829270
1,2,4-Trimethylbenzene	1.68		0.100	20	03/09/2022 15:32	WG1829270
1,3,5-Trimethylbenzene	0.666		0.100	20	03/09/2022 15:32	WG1829270
Xylenes, Total	0.523		0.130	20	03/09/2022 15:32	WG1829270
(S) Toluene-d8	98.2		75.0-131		03/09/2022 15:32	WG1829270
(S) 4-Bromofluorobenzene	101		67.0-138		03/09/2022 15:32	WG1829270
(S) 1,2-Dichloroethane-d4	109		70.0-130		03/09/2022 15:32	WG1829270

## Sample Narrative:

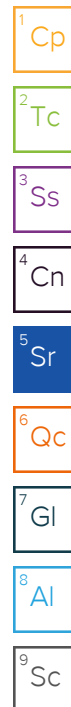
L1468238-03 WG1829270: Non-target compounds too high to run at a lower dilution.

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1380	J3 V	40.0	10	03/15/2022 22:18	WG1832069
C28-C36 Motor Oil Range	648		40.0	10	03/15/2022 22:18	WG1832069
(S) o-Terphenyl	169	J1	18.0-148		03/15/2022 22:18	WG1832069

## Sample Narrative:

L1468238-03 WG1832069: Surrogate failure due to matrix interference



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.29		1	03/13/2022 12:29	WG1831083

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.08	T8	1	03/08/2022 13:30	<a href="#">WG1828921</a>

## Sample Narrative:

L1468238-04 WG1828921: 8.08 at 21.4C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	552		10.0	1	03/08/2022 09:20	<a href="#">WG1828048</a>

## Sample Narrative:

L1468238-04 WG1828048: at 25C

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

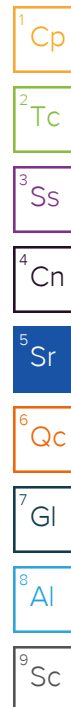
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.235		0.100	1	03/10/2022 03:11	<a href="#">WG1829941</a>
(S) a,a,a-Trifluorotoluene(FID)	108		77.0-120		03/10/2022 03:11	<a href="#">WG1829941</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/09/2022 08:28	<a href="#">WG1829270</a>
Ethylbenzene	ND		0.00250	1	03/09/2022 08:28	<a href="#">WG1829270</a>
Naphthalene	ND		0.0125	1	03/09/2022 08:28	<a href="#">WG1829270</a>
Toluene	ND		0.00500	1	03/09/2022 08:28	<a href="#">WG1829270</a>
1,2,4-Trimethylbenzene	ND		0.00500	1	03/09/2022 08:28	<a href="#">WG1829270</a>
1,3,5-Trimethylbenzene	ND		0.00500	1	03/09/2022 08:28	<a href="#">WG1829270</a>
Xylenes, Total	ND		0.00650	1	03/09/2022 08:28	<a href="#">WG1829270</a>
(S) Toluene-d8	97.5		75.0-131		03/09/2022 08:28	<a href="#">WG1829270</a>
(S) 4-Bromofluorobenzene	96.6		67.0-138		03/09/2022 08:28	<a href="#">WG1829270</a>
(S) 1,2-Dichloroethane-d4	111		70.0-130		03/09/2022 08:28	<a href="#">WG1829270</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	03/15/2022 17:44	<a href="#">WG1832069</a>
C28-C36 Motor Oil Range	ND		4.00	1	03/15/2022 17:44	<a href="#">WG1832069</a>
(S) o-Terphenyl	74.9		18.0-148		03/15/2022 17:44	<a href="#">WG1832069</a>





## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.75		1	03/13/2022 12:37	WG1831083

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.89	<u>T8</u>	1	03/08/2022 13:30	<a href="#">WG1828921</a>

## Sample Narrative:

L1468238-05 WG1828921: 7.89 at 21.2C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	243		10.0	1	03/08/2022 09:20	<a href="#">WG1828048</a>

## Sample Narrative:

L1468238-05 WG1828048: at 25C

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

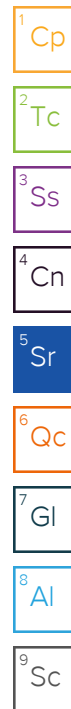
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	681		50.0	500	03/12/2022 17:07	<a href="#">WG1830803</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	89.9		77.0-120		03/12/2022 17:07	<a href="#">WG1830803</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	0.310		0.0400	40	03/09/2022 15:53	<a href="#">WG1829270</a>
Ethylbenzene	0.999		0.100	40	03/09/2022 15:53	<a href="#">WG1829270</a>
Naphthalene	0.661		0.500	40	03/09/2022 15:53	<a href="#">WG1829270</a>
Toluene	ND		0.200	40	03/09/2022 15:53	<a href="#">WG1829270</a>
1,2,4-Trimethylbenzene	3.38		0.200	40	03/09/2022 15:53	<a href="#">WG1829270</a>
1,3,5-Trimethylbenzene	1.08		0.200	40	03/09/2022 15:53	<a href="#">WG1829270</a>
Xylenes, Total	2.22		0.260	40	03/09/2022 15:53	<a href="#">WG1829270</a>
(S) <i>Toluene-d8</i>	94.5		75.0-131		03/09/2022 15:53	<a href="#">WG1829270</a>
(S) <i>4-Bromofluorobenzene</i>	100		67.0-138		03/09/2022 15:53	<a href="#">WG1829270</a>
(S) <i>1,2-Dichloroethane-d4</i>	108		70.0-130		03/09/2022 15:53	<a href="#">WG1829270</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	499		20.0	5	03/15/2022 21:40	<a href="#">WG1832069</a>
C28-C36 Motor Oil Range	231		20.0	5	03/15/2022 21:40	<a href="#">WG1832069</a>
(S) <i>o</i> -Terphenyl	103		18.0-148		03/15/2022 21:40	<a href="#">WG1832069</a>



L1468244-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1468244-02 03/08/22 13:30 • (DUP) R3767565-2 03/08/22 13:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.82	7.77	1	0.641		1

Sample Narrative:

OS: 7.82 at 21.2C

DUP: 7.77 at 20.9C

<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

L1468313-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1468313-01 03/08/22 13:30 • (DUP) R3767565-3 03/08/22 13:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.45	8.43	1	0.237		1

Sample Narrative:

OS: 8.45 at 20.9C

DUP: 8.43 at 20.7C

Laboratory Control Sample (LCS)

(LCS) R3767565-1 03/08/22 13:30

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.95	99.5	99.0-101	

Sample Narrative:

LCS: 9.95 at 19C

Method Blank (MB)

(MB) R3767363-1 03/08/22 09:20

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

L1466765-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1466765-01 03/08/22 09:20 • (DUP) R3767363-3 03/08/22 09:20

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	250	243	1	2.72		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1468238-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1468238-01 03/08/22 09:20 • (DUP) R3767363-4 03/08/22 09:20

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	424	438	1	3.25		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3767363-2 03/08/22 09:20

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	273	102	85.0-115	

Sample Narrative:

LCS: at 25C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3769166-2 03/10/22 00:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3769166-1 03/09/22 23:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.23	76.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			100	77.0-120	

L1468238-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1468238-01 03/10/22 02:49 • (MS) R3769166-3 03/10/22 09:19 • (MSD) R3769166-4 03/10/22 09:40

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 %
TPH (GC/FID) Low Fraction	5.50	0.746	1.96	2.27	22.1	27.7	1	10.0-151			14.7	28
(S) a,a,a-Trifluorotoluene(FID)					98.2	98.6		77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3769336-3 03/12/22 11:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	116			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3769336-2 03/12/22 10:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.95	108	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			103	77.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3767822-2 03/09/22 07:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Naphthalene	U		0.00488	0.0125
Toluene	U		0.00130	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	96.6			75.0-131
(S) 4-Bromofluorobenzene	94.4			67.0-138
(S) 1,2-Dichloroethane-d4	118			70.0-130

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

(LCS) R3767822-1 03/09/22 05:59 • (LCSD) R3767822-3 03/09/22 09:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.107	0.109	85.6	87.2	70.0-123			1.85	20
Ethylbenzene	0.125	0.105	0.109	84.0	87.2	74.0-126			3.74	20
Naphthalene	0.125	0.0973	0.0964	77.8	77.1	59.0-130			0.929	20
Toluene	0.125	0.103	0.105	82.4	84.0	75.0-121			1.92	20
1,2,4-Trimethylbenzene	0.125	0.107	0.112	85.6	89.6	70.0-126			4.57	20
1,3,5-Trimethylbenzene	0.125	0.110	0.115	88.0	92.0	73.0-127			4.44	20
Xylenes, Total	0.375	0.331	0.337	88.3	89.9	72.0-127			1.80	20
(S) Toluene-d8				92.9	93.8	75.0-131				
(S) 4-Bromofluorobenzene				102	93.6	67.0-138				
(S) 1,2-Dichloroethane-d4				123	114	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3770255-1 03/15/22 17:05

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	0.306	J	0.274	4.00
(S) o-Terphenyl	84.4			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3770255-2 03/15/22 17:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	39.1	78.2	50.0-150	
(S) o-Terphenyl			85.3	18.0-148	

L1468238-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1468238-03 03/15/22 22:18 • (MS) R3770255-3 03/15/22 22:30 • (MSD) R3770255-4 03/15/22 22:43

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	50.0	1380	1150	1440	0.000	120	10	50.0-150	V	J3	22.4	20
(S) o-Terphenyl					121	134		18.0-148				

Sample Narrative:

OS: Surrogate failure due to matrix interference

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

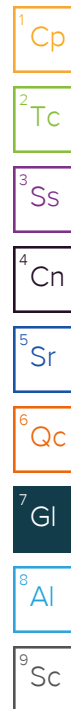
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.





# 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.



A233

## Spill Response Chain of Custody

Spill#	480275	Facility ID:	E. Stieber	Turn Around Time (check)	DISPOSAL	By Lab	PAGE	1	of	1
COMPANY NAME	COGCC	PHONE NUMBER	970-250-0543	Standard	x	LAB USE ONLY:				
ADDRESS	1120 Lincoln Street, Suite 801	CITY/STATE/ZIP	Denver, CO 80203	72hr		Temperature upon receipt: _____				
PROJECT MANAGER	Nikki Graber	PM EMAIL	nikki.graber@state.co.us	48hr		Custody seals in tact: Yes No N/A				
SAMPLER	Alex Ahmadian	Sampler Signature	<i>[Signature]</i>	24hr						
				Same Day						

Packed on Ice?	YES: <input checked="" type="checkbox"/>	Notes DO: 2022*02390
	NO: <input type="checkbox"/>	
Shipped?	YES: <input type="checkbox"/>	
	NO: <input type="checkbox"/>	

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	TPH	BTEX- Naphthalene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	SAR, EC, pH											Notes:
	SW-5@8'	Soil	3/2/22	11:17	3	X	X	X	X	X								-01			
	SW-12@8'			12:19														-02			
	SW-14@8'			12:40														-03			
	SW-16@8'			12:48														-04			
	BH-3@9'			9:55														-05			

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N If Applicable

COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☐ Y ☐ N

Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☐ Y ☐ N

Correct bottles used: ☒ Y ☐ N

Sufficient volume sent: ☒ Y ☐ N

RAD Screen <0.5 mR/hr: ☒ Y ☐ N

Comments:	QC PACKAGE (check below)
	<input checked="" type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>

KPK- E. Stieber Consolidation  
Soil sampling 3/2/22

	PRINTED NAME	SIGNATURE	DATE	TIME
RELINQUISHED BY	Alex Ahmadian	<i>[Signature]</i>	3/4/22	14:15
RECEIVED BY	James Cortese	<i>[Signature]</i>	3/4/22	14:15
RELINQUISHED BY	James Cortese	<i>[Signature]</i>	3/4	18:00
RECEIVED BY	N. Scott	<i>[Signature]</i>	3/5/22	0930
RELINQUISHED BY				