

May 15, 2019

<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

## Entrada Consulting Group

Sample Delivery Group: L1096305  
Samples Received: 05/08/2019  
Project Number:  
Description: 604-12-13  
Site: 604-12-13  
Report To: Robert Stockton  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:

*Chris Ward*

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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



<b>Cp: Cover Page</b>	<b>1</b>
<b>Tc: Table of Contents</b>	<b>2</b>
<b>Ss: Sample Summary</b>	<b>3</b>
<b>Cn: Case Narrative</b>	<b>5</b>
<b>Sr: Sample Results</b>	<b>6</b>
<b>S1 L1096305-01</b>	<b>6</b>
<b>S2 L1096305-02</b>	<b>8</b>
<b>S3 L1096305-03</b>	<b>10</b>
<b>S4 L1096305-04</b>	<b>12</b>
<b>S5 L1096305-05</b>	<b>14</b>
<b>S6 L1096305-06</b>	<b>16</b>
<b>Qc: Quality Control Summary</b>	<b>18</b>
Wet Chemistry by Method 3060A/7196A	18
Wet Chemistry by Method 9045D	19
Wet Chemistry by Method 9050AMod	20
Mercury by Method 7471A	21
Metals (ICP) by Method 6010B	22
Volatile Organic Compounds (GC) by Method 8015/8021	24
Semi-Volatile Organic Compounds (GC) by Method 8015	26
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	27
<b>Gl: Glossary of Terms</b>	<b>29</b>
<b>Al: Accreditations &amp; Locations</b>	<b>30</b>
<b>Sc: Sample Chain of Custody</b>	<b>31</b>



# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## S1 L1096305-01 Solid

Collected by Robert Stockton  
Collected date/time 05/07/19 11:20  
Received date/time 05/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1278199	1	05/10/19 15:17	05/10/19 15:17	CCE	Mt. Juliet, TN
Calculated Results	WG1277968	1	05/08/19 17:30	05/13/19 15:02	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1279182	1	05/12/19 10:00	05/13/19 15:02	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1278920	1	05/13/19 16:05	05/13/19 16:44	JZW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1278108	1	05/08/19 17:43	05/08/19 20:43	RDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1278841	1	05/09/19 16:29	05/10/19 07:54	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1277968	1	05/08/19 17:30	05/10/19 00:57	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1278071	1	05/08/19 13:09	05/08/19 17:32	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1278251	1	05/08/19 21:52	05/09/19 13:36	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1278258	1	05/09/19 07:00	05/09/19 13:36	DMG	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

## S2 L1096305-02 Solid

Collected by Robert Stockton  
Collected date/time 05/07/19 12:00  
Received date/time 05/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1278199	1	05/10/19 15:20	05/10/19 15:20	CCE	Mt. Juliet, TN
Calculated Results	WG1277968	1	05/08/19 17:30	05/13/19 15:27	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1279182	1	05/12/19 10:00	05/13/19 15:27	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1278920	1	05/13/19 16:05	05/13/19 16:44	JZW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1278108	1	05/08/19 17:43	05/08/19 20:43	RDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1278841	1	05/09/19 16:29	05/10/19 07:56	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1277968	1	05/08/19 17:30	05/10/19 01:00	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1278071	1	05/08/19 13:09	05/08/19 17:53	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1278251	1	05/08/19 21:52	05/09/19 13:02	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1278258	1	05/09/19 07:00	05/09/19 13:58	DMG	Mt. Juliet, TN

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## S3 L1096305-03 Solid

Collected by Robert Stockton  
Collected date/time 05/07/19 12:10  
Received date/time 05/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1278199	1	05/10/19 15:22	05/10/19 15:22	CCE	Mt. Juliet, TN
Calculated Results	WG1277968	1	05/08/19 17:30	05/13/19 15:28	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1279182	1	05/12/19 10:00	05/13/19 15:28	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1278920	1	05/13/19 16:05	05/13/19 16:44	JZW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1278108	1	05/08/19 17:43	05/08/19 20:43	RDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1278841	1	05/09/19 16:29	05/10/19 07:59	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1277968	1	05/08/19 17:30	05/10/19 01:02	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1278071	1	05/08/19 13:09	05/08/19 18:13	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1278251	100	05/08/19 21:52	05/09/19 15:30	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1278258	1	05/09/19 07:00	05/09/19 14:20	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1278258	20	05/09/19 07:00	05/09/19 20:11	LEA	Mt. Juliet, TN

Collected by Robert Stockton  
Collected date/time 05/07/19 11:50  
Received date/time 05/08/19 08:45

## S4 L1096305-04 Solid

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1278199	1	05/10/19 15:25	05/10/19 15:25	CCE	Mt. Juliet, TN
Calculated Results	WG1277968	1	05/08/19 17:30	05/13/19 15:29	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1279182	1	05/12/19 10:00	05/13/19 15:29	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1278920	1	05/13/19 16:05	05/13/19 16:44	JZW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1278108	1	05/08/19 17:43	05/08/19 20:43	RDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1278841	1	05/09/19 16:29	05/10/19 08:01	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1277968	1	05/08/19 17:30	05/10/19 01:05	CCE	Mt. Juliet, TN



## S4 L1096305-04 Solid

Collected by Robert Stockton  
Collected date/time 05/07/19 11:50  
Received date/time 05/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015/8021	WG1278071	1	05/08/19 13:09	05/08/19 18:34	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1278251	5	05/08/19 21:52	05/09/19 15:19	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1278258	1	05/09/19 07:00	05/09/19 14:42	DMG	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

## S5 L1096305-05 Solid

Collected by Robert Stockton  
Collected date/time 05/07/19 11:40  
Received date/time 05/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1278199	1	05/10/19 15:40	05/10/19 15:40	CCE	Mt. Juliet, TN
Calculated Results	WG1277968	1	05/08/19 17:30	05/13/19 15:29	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1279182	1	05/12/19 10:00	05/13/19 15:29	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1278920	1	05/13/19 16:05	05/13/19 16:44	JZW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1278108	1	05/08/19 17:43	05/08/19 20:43	RDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1278841	1	05/09/19 16:29	05/10/19 08:07	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1277968	1	05/08/19 17:30	05/10/19 01:08	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1278071	1	05/08/19 13:09	05/08/19 18:55	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1278251	1	05/08/19 21:52	05/09/19 18:54	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1278258	1	05/09/19 07:00	05/09/19 15:04	DMG	Mt. Juliet, TN

## S6 L1096305-06 Solid

Collected by Robert Stockton  
Collected date/time 05/07/19 11:30  
Received date/time 05/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1278199	1	05/10/19 15:43	05/10/19 15:43	CCE	Mt. Juliet, TN
Calculated Results	WG1277968	1	05/08/19 17:30	05/13/19 15:30	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1279182	1	05/12/19 10:00	05/13/19 15:30	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1278920	1	05/13/19 16:05	05/13/19 16:44	JZW	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1278108	1	05/08/19 17:43	05/08/19 20:43	RDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1278841	1	05/09/19 16:29	05/10/19 08:10	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1277968	1	05/08/19 17:30	05/10/19 01:11	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1278071	1	05/08/19 13:09	05/08/19 19:15	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1278251	1	05/08/19 21:52	05/09/19 13:24	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1278258	1	05/09/19 07:00	05/09/19 15:26	LEA	Mt. Juliet, TN



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	1.00		1	05/10/2019 15:17	WG1278199

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	42.1		1.00	1	05/13/2019 15:02	<a href="#">WG1277968</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND	<a href="#">J6 Q1</a>	2.00	1	05/13/2019 15:02	<a href="#">WG1279182</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.79	<a href="#">T8</a>	1	05/13/2019 16:44	<a href="#">WG1278920</a>

## Sample Narrative:

L1096305-01 WG1278920: 8.79 at 19.5C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	62.2		10.0	1	05/08/2019 20:43	<a href="#">WG1278108</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0735		0.0200	1	05/10/2019 07:54	<a href="#">WG1278841</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Barium	362		0.500	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Cadmium	ND		0.500	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Chromium	42.1		1.00	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Copper	16.9		2.00	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Lead	32.3		0.500	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Nickel	22.1		2.00	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Selenium	ND		2.00	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Silver	ND		1.00	1	05/10/2019 00:57	<a href="#">WG1277968</a>
Zinc	60.8		5.00	1	05/10/2019 00:57	<a href="#">WG1277968</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000958	<a href="#">B</a>	0.000500	1	05/08/2019 17:32	<a href="#">WG1278071</a>
Toluene	ND		0.00500	1	05/08/2019 17:32	<a href="#">WG1278071</a>
Ethylbenzene	0.000544		0.000500	1	05/08/2019 17:32	<a href="#">WG1278071</a>
Total Xylene	ND		0.00150	1	05/08/2019 17:32	<a href="#">WG1278071</a>
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 17:32	<a href="#">WG1278071</a>

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



## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	90.2		77.0-120		05/08/2019 17:32	<a href="#">WG1278071</a>
(S) a,a,a-Trifluorotoluene(PID)	92.4		72.0-128		05/08/2019 17:32	<a href="#">WG1278071</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	44.6		4.00	1	05/09/2019 13:36	<a href="#">WG1278251</a>
(S) o-Terphenyl	42.0		18.0-148		05/09/2019 13:36	<a href="#">WG1278251</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Acenaphthene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Acenaphthylene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Benzo(a)anthracene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Benzo(a)pyrene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Benzo(g,h,i)perylene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Chrysene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Fluoranthene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Fluorene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Naphthalene	ND		0.0200	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Phenanthrene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
Pyrene	ND		0.00600	1	05/09/2019 13:36	<a href="#">WG1278258</a>
1-Methylnaphthalene	ND		0.0200	1	05/09/2019 13:36	<a href="#">WG1278258</a>
2-Methylnaphthalene	ND		0.0200	1	05/09/2019 13:36	<a href="#">WG1278258</a>
2-Chloronaphthalene	ND		0.0200	1	05/09/2019 13:36	<a href="#">WG1278258</a>
(S) p-Terphenyl-d14	69.5		23.0-120		05/09/2019 13:36	<a href="#">WG1278258</a>
(S) Nitrobenzene-d5	68.9		14.0-149		05/09/2019 13:36	<a href="#">WG1278258</a>
(S) 2-Fluorobiphenyl	72.6		34.0-125		05/09/2019 13:36	<a href="#">WG1278258</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	4.19		1	05/10/2019 15:20	WG1278199

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	37.5		1.00	1	05/13/2019 15:27	<a href="#">WG1277968</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/13/2019 15:27	<a href="#">WG1279182</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.49	<a href="#">T8</a>	1	05/13/2019 16:44	<a href="#">WG1278920</a>

## Sample Narrative:

L1096305-02 WG1278920: 9.49 at 19.4C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	239		10.0	1	05/08/2019 20:43	<a href="#">WG1278108</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0342	<a href="#">B</a>	0.0200	1	05/10/2019 07:56	<a href="#">WG1278841</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Barium	279		0.500	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Cadmium	ND		0.500	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Chromium	37.5		1.00	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Copper	13.3		2.00	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Lead	12.3		0.500	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Nickel	19.5		2.00	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Selenium	ND		2.00	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Silver	ND		1.00	1	05/10/2019 01:00	<a href="#">WG1277968</a>
Zinc	44.2		5.00	1	05/10/2019 01:00	<a href="#">WG1277968</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00108	<a href="#">B</a>	0.000500	1	05/08/2019 17:53	<a href="#">WG1278071</a>
Toluene	ND		0.00500	1	05/08/2019 17:53	<a href="#">WG1278071</a>
Ethylbenzene	ND		0.000500	1	05/08/2019 17:53	<a href="#">WG1278071</a>
Total Xylene	ND		0.00150	1	05/08/2019 17:53	<a href="#">WG1278071</a>
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 17:53	<a href="#">WG1278071</a>





## Volatile Organic Compounds (GC) by Method 8015/8021

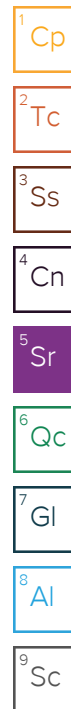
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	91.2		77.0-120		05/08/2019 17:53	<a href="#">WG1278071</a>
(S) a,a,a-Trifluorotoluene(PID)	94.0		72.0-128		05/08/2019 17:53	<a href="#">WG1278071</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	71.4		4.00	1	05/09/2019 13:02	<a href="#">WG1278251</a>
(S) o-Terphenyl	61.8		18.0-148		05/09/2019 13:02	<a href="#">WG1278251</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Acenaphthene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Acenaphthylene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Benzo(a)anthracene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Benzo(a)pyrene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Benzo(g,h,i)perylene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Chrysene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Fluoranthene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Fluorene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Naphthalene	ND		0.0200	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Phenanthrene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
Pyrene	ND		0.00600	1	05/09/2019 13:58	<a href="#">WG1278258</a>
1-Methylnaphthalene	ND		0.0200	1	05/09/2019 13:58	<a href="#">WG1278258</a>
2-Methylnaphthalene	ND		0.0200	1	05/09/2019 13:58	<a href="#">WG1278258</a>
2-Chloronaphthalene	ND		0.0200	1	05/09/2019 13:58	<a href="#">WG1278258</a>
(S) p-Terphenyl-d14	70.9		23.0-120		05/09/2019 13:58	<a href="#">WG1278258</a>
(S) Nitrobenzene-d5	73.6		14.0-149		05/09/2019 13:58	<a href="#">WG1278258</a>
(S) 2-Fluorobiphenyl	75.5		34.0-125		05/09/2019 13:58	<a href="#">WG1278258</a>





## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.50		1	05/10/2019 15:22	WG1278199

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	30.8		1.00	1	05/13/2019 15:28	<a href="#">WG1277968</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/13/2019 15:28	<a href="#">WG1279182</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.87	<a href="#">T8</a>	1	05/13/2019 16:44	<a href="#">WG1278920</a>

## Sample Narrative:

L1096305-03 WG1278920: 9.87 at 19.5C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	279		10.0	1	05/08/2019 20:43	<a href="#">WG1278108</a>

## Mercury by Method 7471A

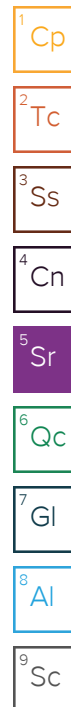
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0392	<a href="#">B</a>	0.0200	1	05/10/2019 07:59	<a href="#">WG1278841</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Barium	430		0.500	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Cadmium	ND		0.500	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Chromium	30.8		1.00	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Copper	11.2		2.00	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Lead	8.75		0.500	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Nickel	13.2		2.00	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Selenium	ND		2.00	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Silver	ND		1.00	1	05/10/2019 01:02	<a href="#">WG1277968</a>
Zinc	35.5		5.00	1	05/10/2019 01:02	<a href="#">WG1277968</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000830	<a href="#">B</a>	0.000500	1	05/08/2019 18:13	<a href="#">WG1278071</a>
Toluene	ND		0.00500	1	05/08/2019 18:13	<a href="#">WG1278071</a>
Ethylbenzene	ND		0.000500	1	05/08/2019 18:13	<a href="#">WG1278071</a>
Total Xylene	ND		0.00150	1	05/08/2019 18:13	<a href="#">WG1278071</a>
TPH (GC/FID) Low Fraction	0.170		0.100	1	05/08/2019 18:13	<a href="#">WG1278071</a>





## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	88.9		77.0-120		05/08/2019 18:13	<a href="#">WG1278071</a>
(S) a,a,a-Trifluorotoluene(PID)	94.3		72.0-128		05/08/2019 18:13	<a href="#">WG1278071</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6930		400	100	05/09/2019 15:30	<a href="#">WG1278251</a>
(S) o-Terphenyl	0.000	<u>J7</u>	18.0-148		05/09/2019 15:30	<a href="#">WG1278251</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Acenaphthene	ND		0.00600	1	05/09/2019 14:20	<a href="#">WG1278258</a>
Acenaphthylene	ND		0.00600	1	05/09/2019 14:20	<a href="#">WG1278258</a>
Benzo(a)anthracene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Benzo(a)pyrene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Benzo(b)fluoranthene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Benzo(g,h,i)perylene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Benzo(k)fluoranthene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Chrysene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Dibenz(a,h)anthracene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Fluoranthene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Fluorene	0.0372		0.00600	1	05/09/2019 14:20	<a href="#">WG1278258</a>
Indeno(1,2,3-cd)pyrene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Naphthalene	0.0260		0.0200	1	05/09/2019 14:20	<a href="#">WG1278258</a>
Phenanthrene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
Pyrene	ND		0.120	20	05/09/2019 20:11	<a href="#">WG1278258</a>
1-Methylnaphthalene	0.0538		0.0200	1	05/09/2019 14:20	<a href="#">WG1278258</a>
2-Methylnaphthalene	0.0734		0.0200	1	05/09/2019 14:20	<a href="#">WG1278258</a>
2-Chloronaphthalene	ND		0.0200	1	05/09/2019 14:20	<a href="#">WG1278258</a>
(S) p-Terphenyl-d14	0.000	<u>J2</u>	23.0-120		05/09/2019 14:20	<a href="#">WG1278258</a>
(S) p-Terphenyl-d14	99.3	<u>J7</u>	23.0-120		05/09/2019 20:11	<a href="#">WG1278258</a>
(S) Nitrobenzene-d5	102		14.0-149		05/09/2019 14:20	<a href="#">WG1278258</a>
(S) Nitrobenzene-d5	77.1	<u>J7</u>	14.0-149		05/09/2019 20:11	<a href="#">WG1278258</a>
(S) 2-Fluorobiphenyl	97.7	<u>J7</u>	34.0-125		05/09/2019 20:11	<a href="#">WG1278258</a>
(S) 2-Fluorobiphenyl	106		34.0-125		05/09/2019 14:20	<a href="#">WG1278258</a>

## Sample Narrative:

L1096305-03 WG1278258: IS/SURR failed on lower dilution.

<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	16.2		1	05/10/2019 15:25	WG1278199

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	41.4		1.00	1	05/13/2019 15:29	<a href="#">WG1277968</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/13/2019 15:29	<a href="#">WG1279182</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.94	<a href="#">T8</a>	1	05/13/2019 16:44	<a href="#">WG1278920</a>

## Sample Narrative:

L1096305-04 WG1278920: 8.94 at 19C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	297		10.0	1	05/08/2019 20:43	<a href="#">WG1278108</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0340	<a href="#">B</a>	0.0200	1	05/10/2019 08:01	<a href="#">WG1278841</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.35		2.00	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Barium	299		0.500	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Cadmium	ND		0.500	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Chromium	41.4		1.00	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Copper	12.9		2.00	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Lead	13.2		0.500	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Nickel	23.7		2.00	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Selenium	ND		2.00	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Silver	ND		1.00	1	05/10/2019 01:05	<a href="#">WG1277968</a>
Zinc	44.0		5.00	1	05/10/2019 01:05	<a href="#">WG1277968</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000950	<a href="#">B</a>	0.000500	1	05/08/2019 18:34	<a href="#">WG1278071</a>
Toluene	ND		0.00500	1	05/08/2019 18:34	<a href="#">WG1278071</a>
Ethylbenzene	0.000514		0.000500	1	05/08/2019 18:34	<a href="#">WG1278071</a>
Total Xylene	ND		0.00150	1	05/08/2019 18:34	<a href="#">WG1278071</a>
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 18:34	<a href="#">WG1278071</a>

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



## Volatile Organic Compounds (GC) by Method 8015/8021

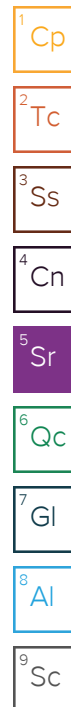
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	91.4		77.0-120		05/08/2019 18:34	<a href="#">WG1278071</a>
(S) a,a,a-Trifluorotoluene(PID)	93.8		72.0-128		05/08/2019 18:34	<a href="#">WG1278071</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	24.8		20.0	5	05/09/2019 15:19	<a href="#">WG1278251</a>
(S) o-Terphenyl	64.5		18.0-148		05/09/2019 15:19	<a href="#">WG1278251</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Acenaphthene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Acenaphthylene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Benzo(a)anthracene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Benzo(a)pyrene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Benzo(g,h,i)perylene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Chrysene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Fluoranthene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Fluorene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Naphthalene	ND		0.0200	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Phenanthrene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
Pyrene	ND		0.00600	1	05/09/2019 14:42	<a href="#">WG1278258</a>
1-Methylnaphthalene	ND		0.0200	1	05/09/2019 14:42	<a href="#">WG1278258</a>
2-Methylnaphthalene	ND		0.0200	1	05/09/2019 14:42	<a href="#">WG1278258</a>
2-Chloronaphthalene	ND		0.0200	1	05/09/2019 14:42	<a href="#">WG1278258</a>
(S) p-Terphenyl-d14	58.1		23.0-120		05/09/2019 14:42	<a href="#">WG1278258</a>
(S) Nitrobenzene-d5	67.5		14.0-149		05/09/2019 14:42	<a href="#">WG1278258</a>
(S) 2-Fluorobiphenyl	67.9		34.0-125		05/09/2019 14:42	<a href="#">WG1278258</a>





## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.75		1	05/10/2019 15:40	WG1278199

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	41.9		1.00	1	05/13/2019 15:29	<a href="#">WG1277968</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/13/2019 15:29	<a href="#">WG1279182</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.09	<a href="#">T8</a>	1	05/13/2019 16:44	<a href="#">WG1278920</a>

## Sample Narrative:

L1096305-05 WG1278920: 9.09 at 19C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	176		10.0	1	05/08/2019 20:43	<a href="#">WG1278108</a>

## Mercury by Method 7471A

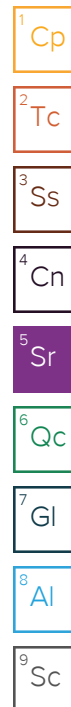
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0413	<a href="#">B</a>	0.0200	1	05/10/2019 08:07	<a href="#">WG1278841</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.51		2.00	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Barium	304		0.500	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Cadmium	ND		0.500	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Chromium	41.9		1.00	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Copper	12.7		2.00	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Lead	14.6		0.500	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Nickel	20.9		2.00	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Selenium	ND		2.00	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Silver	ND		1.00	1	05/10/2019 01:08	<a href="#">WG1277968</a>
Zinc	46.1		5.00	1	05/10/2019 01:08	<a href="#">WG1277968</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00103	<a href="#">B</a>	0.000500	1	05/08/2019 18:55	<a href="#">WG1278071</a>
Toluene	ND		0.00500	1	05/08/2019 18:55	<a href="#">WG1278071</a>
Ethylbenzene	0.000802		0.000500	1	05/08/2019 18:55	<a href="#">WG1278071</a>
Total Xylene	ND		0.00150	1	05/08/2019 18:55	<a href="#">WG1278071</a>
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 18:55	<a href="#">WG1278071</a>





## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	90.7		77.0-120		05/08/2019 18:55	<a href="#">WG1278071</a>
(S) a,a,a-Trifluorotoluene(PID)	93.5		72.0-128		05/08/2019 18:55	<a href="#">WG1278071</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	15.4		4.00	1	05/09/2019 18:54	<a href="#">WG1278251</a>
(S) o-Terphenyl	63.7		18.0-148		05/09/2019 18:54	<a href="#">WG1278251</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Acenaphthene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Acenaphthylene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Benzo(a)anthracene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Benzo(a)pyrene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Benzo(g,h,i)perylene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Chrysene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Fluoranthene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Fluorene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Naphthalene	ND		0.0200	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Phenanthrene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
Pyrene	ND		0.00600	1	05/09/2019 15:04	<a href="#">WG1278258</a>
1-Methylnaphthalene	ND		0.0200	1	05/09/2019 15:04	<a href="#">WG1278258</a>
2-Methylnaphthalene	ND		0.0200	1	05/09/2019 15:04	<a href="#">WG1278258</a>
2-Chloronaphthalene	ND		0.0200	1	05/09/2019 15:04	<a href="#">WG1278258</a>
(S) p-Terphenyl-d14	78.7		23.0-120		05/09/2019 15:04	<a href="#">WG1278258</a>
(S) Nitrobenzene-d5	81.3		14.0-149		05/09/2019 15:04	<a href="#">WG1278258</a>
(S) 2-Fluorobiphenyl	82.3		34.0-125		05/09/2019 15:04	<a href="#">WG1278258</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	2.03		1	05/10/2019 15:43	WG1278199

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	42.0		1.00	1	05/13/2019 15:30	<a href="#">WG1277968</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	05/13/2019 15:30	<a href="#">WG1279182</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.19	<a href="#">T8</a>	1	05/13/2019 16:44	<a href="#">WG1278920</a>

## Sample Narrative:

L1096305-06 WG1278920: 9.19 at 18.9C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	111		10.0	1	05/08/2019 20:43	<a href="#">WG1278108</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0418	<a href="#">B</a>	0.0200	1	05/10/2019 08:10	<a href="#">WG1278841</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Barium	294		0.500	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Cadmium	ND		0.500	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Chromium	42.0		1.00	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Copper	18.0		2.00	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Lead	21.9		0.500	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Nickel	22.6		2.00	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Selenium	ND		2.00	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Silver	ND		1.00	1	05/10/2019 01:11	<a href="#">WG1277968</a>
Zinc	49.0		5.00	1	05/10/2019 01:11	<a href="#">WG1277968</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00113	<a href="#">B</a>	0.000500	1	05/08/2019 19:15	<a href="#">WG1278071</a>
Toluene	ND		0.00500	1	05/08/2019 19:15	<a href="#">WG1278071</a>
Ethylbenzene	0.000695		0.000500	1	05/08/2019 19:15	<a href="#">WG1278071</a>
Total Xylene	0.00169	<a href="#">B</a>	0.00150	1	05/08/2019 19:15	<a href="#">WG1278071</a>
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 19:15	<a href="#">WG1278071</a>





## Volatile Organic Compounds (GC) by Method 8015/8021

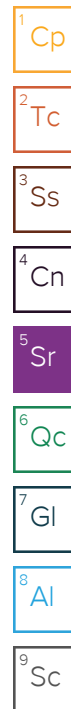
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	90.9		77.0-120		05/08/2019 19:15	<a href="#">WG1278071</a>
(S) a,a,a-Trifluorotoluene(PID)	93.7		72.0-128		05/08/2019 19:15	<a href="#">WG1278071</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	21.2		4.00	1	05/09/2019 13:24	<a href="#">WG1278251</a>
(S) o-Terphenyl	40.6		18.0-148		05/09/2019 13:24	<a href="#">WG1278251</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Acenaphthene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Acenaphthylene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Benzo(a)anthracene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Benzo(a)pyrene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Benzo(b)fluoranthene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Benzo(g,h,i)perylene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Benzo(k)fluoranthene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Chrysene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Dibenz(a,h)anthracene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Fluoranthene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Fluorene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Naphthalene	ND		0.0200	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Phenanthrene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
Pyrene	ND		0.00600	1	05/09/2019 15:26	<a href="#">WG1278258</a>
1-Methylnaphthalene	ND		0.0200	1	05/09/2019 15:26	<a href="#">WG1278258</a>
2-Methylnaphthalene	ND		0.0200	1	05/09/2019 15:26	<a href="#">WG1278258</a>
2-Chloronaphthalene	ND		0.0200	1	05/09/2019 15:26	<a href="#">WG1278258</a>
(S) p-Terphenyl-d14	69.9		23.0-120		05/09/2019 15:26	<a href="#">WG1278258</a>
(S) Nitrobenzene-d5	72.5		14.0-149		05/09/2019 15:26	<a href="#">WG1278258</a>
(S) 2-Fluorobiphenyl	71.7		34.0-125		05/09/2019 15:26	<a href="#">WG1278258</a>





Method Blank (MB)

(MB) R3410759-1 05/13/19 15:01

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

<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

L1096305-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1096305-06 05/13/19 15:30 • (DUP) R3410759-7 05/13/19 15:30

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

L1097267-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1097267-03 05/13/19 15:32 • (DUP) R3410759-8 05/13/19 15:33

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

Laboratory Control Sample (LCS)

(LCS) R3410759-2 05/13/19 15:02

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	22.6	94.3	80.0-120	

L1096305-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1096305-01 05/13/19 15:02 • (MS) R3410759-3 05/13/19 15:07 • (MSD) R3410759-4 05/13/19 15:07

	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	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	13.7	13.6	68.4	68.0	1	75.0-125	J6	J6	0.587	20

L1096305-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1096305-01 05/13/19 15:02 • (MS) R3410759-5 05/13/19 15:20

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	643	ND	554	86.1	50	75.0-125	



L1096296-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1096296-01 05/13/19 16:44 • (DUP) R3410765-2 05/13/19 16:44

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.92	8.90	1	0.224		1

Sample Narrative:

OS: 8.92 at 19.8C

DUP: 8.9 at 19.3C

Laboratory Control Sample (LCS)

(LCS) R3410765-1 05/13/19 16:44

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.97	99.7	99.0-101	

Sample Narrative:

LCS: 9.97 at 18.5C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3409462-1 05/08/19 20:43

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

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1096296-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1096296-01 05/08/19 20:43 • (DUP) R3409462-3 05/08/19 20:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1240	1240	1	0.161		20

L1096483-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1096483-01 05/08/19 20:43 • (DUP) R3409462-4 05/08/19 20:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	155	155	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3409462-2 05/08/19 20:43

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	445	445	100	90.0-110	



Method Blank (MB)

(MB) R3409979-5 05/10/19 09:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	0.00504	⬇	0.00280	0.0200

<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) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409979-1 05/10/19 07:43 • (LCSD) R3409979-2 05/10/19 07:45

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 %
Mercury	0.300	0.315	0.325	105	108	80.0-120			2.87	20

L1096296-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1096296-01 05/10/19 07:48 • (MS) R3409979-3 05/10/19 07:50 • (MSD) R3409979-4 05/10/19 07:52

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 %
Mercury	0.300	0.0887	0.328	0.338	79.6	83.1	1	75.0-125			3.15	20



Method Blank (MB)

(MB) R3409922-1 05/09/19 23:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Copper	U		0.530	2.00
Lead	U		0.190	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Zinc	U		0.590	5.00

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

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

(LCS) R3409922-2 05/09/19 23:49 • (LCSD) R3409922-3 05/09/19 23:52

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 %
Arsenic	100	91.4	96.3	91.4	96.3	80.0-120			5.15	20
Barium	100	100	106	100	106	80.0-120			5.60	20
Cadmium	100	96.9	102	96.9	102	80.0-120			5.42	20
Chromium	100	94.0	97.6	94.0	97.6	80.0-120			3.83	20
Copper	100	97.7	102	97.7	102	80.0-120			4.11	20
Lead	100	95.7	101	95.7	101	80.0-120			5.38	20
Nickel	100	96.1	101	96.1	101	80.0-120			5.33	20
Selenium	100	92.4	97.7	92.4	97.7	80.0-120			5.53	20
Silver	20.0	18.9	19.7	94.6	98.6	80.0-120			4.09	20
Zinc	100	95.5	101	95.5	101	80.0-120			5.08	20

L1095105-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095105-01 05/09/19 23:55 • (MS) R3409922-6 05/10/19 00:03 • (MSD) R3409922-7 05/10/19 00:06

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	758	ND	745	736	96.5	95.2	1	75.0-125			1.26	20
Barium	758	114	922	913	107	105	1	75.0-125			0.995	20
Cadmium	758	ND	789	779	104	103	1	75.0-125			1.20	20
Chromium	758	9.75	750	744	97.7	96.8	1	75.0-125			0.818	20
Copper	758	27.3	845	840	108	107	1	75.0-125			0.635	20
Lead	758	ND	768	758	101	100	1	75.0-125			1.32	20



L1095105-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095105-01 05/09/19 23:55 • (MS) R3409922-6 05/10/19 00:03 • (MSD) R3409922-7 05/10/19 00:06

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Nickel	758	22.8	794	785	102	101	1	75.0-125			1.07	20
Selenium	758	ND	753	746	99.4	98.4	1	75.0-125			0.954	20
Silver	152	ND	152	151	100	99.7	1	75.0-125			0.769	20
Zinc	758	41.3	805	798	101	99.8	1	75.0-125			0.927	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) R3409508-5 05/08/19 16:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000131	U	0.000120	0.000500
Toluene	0.000282	U	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	96.2			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	98.1			72.0-128

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3409508-1 05/08/19 14:57 • (LCSD) R3409508-2 05/08/19 15:18

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	0.0500	0.0497	0.0483	99.3	96.5	76.0-121			2.88	20
Toluene	0.0500	0.0482	0.0464	96.4	92.8	80.0-120			3.76	20
Ethylbenzene	0.0500	0.0516	0.0475	103	94.9	80.0-124			8.31	20
Total Xylene	0.150	0.160	0.155	107	104	37.0-160			2.85	20
(S) a,a,a-Trifluorotoluene(FID)				94.5	95.1	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				97.6	96.8	72.0-128				

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

(LCS) R3409508-3 05/08/19 15:39 • (LCSD) R3409508-4 05/08/19 15:59

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	5.50	5.48	5.44	99.6	98.9	72.0-127			0.738	20
(S) a,a,a-Trifluorotoluene(FID)				104	106	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				102	105	72.0-128				





L1095470-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095470-14 05/08/19 20:37 • (MS) R3409508-6 05/08/19 22:41 • (MSD) R3409508-7 05/08/19 23:01

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 %
Benzene	0.0500	ND	1.21	1.11	96.9	88.9	25	10.0-155			8.59	32
Toluene	0.0500	ND	1.24	1.08	99.0	86.4	25	10.0-160			13.6	34
Ethylbenzene	0.0500	ND	1.29	1.18	103	94.7	25	10.0-160			8.79	32
Total Xylene	0.150	ND	4.30	3.62	114	95.8	25	10.0-160			17.2	32
(S) a,a,a-Trifluorotoluene(FID)					95.8	95.3		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					96.6	102		72.0-128				

L1095470-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095470-14 05/08/19 20:37 • (MS) R3409508-8 05/08/19 23:22 • (MSD) R3409508-9 05/08/19 23:43

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 %
TPH (GC/FID) Low Fraction	5.50	ND	83.4	98.4	60.1	71.0	25	10.0-151			16.5	28
(S) a,a,a-Trifluorotoluene(FID)					101	105		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					101	103		72.0-128				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3409829-4 05/09/19 17:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	68.9			18.0-148

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3409829-1 05/09/19 12:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	38.9	77.8	50.0-150	
(S) o-Terphenyl			35.3	18.0-148	

L1096296-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1096296-01 05/09/19 14:45 • (MS) R3409829-2 05/09/19 14:56 • (MSD) R3409829-3 05/09/19 15:08

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) High Fraction	48.6	112	104	76.1	0.000	0.000	5	50.0-150	J6	J3 J6	31.0	20
(S) o-Terphenyl					58.2	59.2		18.0-148				

Method Blank (MB)

(MB) R3409652-2 05/09/19 11:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	97.7			14.0-149
(S) 2-Fluorobiphenyl	110			34.0-125
(S) p-Terphenyl-d14	102			23.0-120

1

Cp

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Tc

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Ss

4

Cn

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Sr

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Qc

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Gl

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Al

9

Sc

Laboratory Control Sample (LCS)

(LCS) R3409652-1 05/09/19 11:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0583	72.9	50.0-126	
Acenaphthene	0.0800	0.0622	77.8	50.0-120	
Acenaphthylene	0.0800	0.0657	82.1	50.0-120	
Benzo(a)anthracene	0.0800	0.0668	83.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0477	59.6	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0646	80.7	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0591	73.9	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0640	80.0	49.0-125	
Chrysene	0.0800	0.0659	82.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0654	81.8	47.0-125	
Fluoranthene	0.0800	0.0647	80.9	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3409652-1 05/09/19 11:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0678	84.8	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0644	80.5	46.0-125	
Naphthalene	0.0800	0.0632	79.0	50.0-120	
Phenanthrene	0.0800	0.0614	76.8	47.0-120	
Pyrene	0.0800	0.0637	79.6	43.0-123	
1-Methylnaphthalene	0.0800	0.0681	85.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0697	87.1	50.0-120	
2-Chloronaphthalene	0.0800	0.0595	74.4	50.0-120	
(S) Nitrobenzene-d5			89.9	14.0-149	
(S) 2-Fluorobiphenyl			102	34.0-125	
(S) p-Terphenyl-d14			94.6	23.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1096296-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1096296-01 05/09/19 12:30 • (MS) R3409652-3 05/09/19 12:52 • (MSD) R3409652-4 05/09/19 13:14

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0800	ND	0.0609	0.0698	76.1	87.3	1	10.0-145			13.6	30
Acenaphthene	0.0800	0.0180	0.0613	0.0700	54.1	65.0	1	14.0-127			13.3	27
Acenaphthylene	0.0800	ND	0.0516	0.0641	64.5	80.1	1	21.0-124			21.6	25
Benzo(a)anthracene	0.0800	ND	0.0590	0.0672	73.8	84.0	1	10.0-139			13.0	30
Benzo(a)pyrene	0.0800	ND	0.0528	0.0580	66.0	72.5	1	10.0-141			9.39	31
Benzo(b)fluoranthene	0.0800	ND	0.0507	0.0582	63.4	72.8	1	10.0-140			13.8	36
Benzo(g,h,i)perylene	0.0800	ND	0.0535	0.0600	66.9	75.0	1	10.0-140			11.5	33
Benzo(k)fluoranthene	0.0800	ND	0.0548	0.0611	68.5	76.4	1	10.0-137			10.9	31
Chrysene	0.0800	0.00883	0.0627	0.0671	67.3	72.8	1	10.0-145			6.78	30
Dibenz(a,h)anthracene	0.0800	ND	0.0595	0.0665	74.4	83.1	1	10.0-132			11.1	31
Fluoranthene	0.0800	ND	0.0551	0.0651	68.9	81.4	1	10.0-153			16.6	33
Fluorene	0.0800	0.0299	0.0838	0.0891	67.4	74.0	1	11.0-130			6.13	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0553	0.0634	69.1	79.3	1	10.0-137			13.6	32
Naphthalene	0.0800	0.156	0.226	0.185	87.5	36.3	1	10.0-135			20.0	27
Phenanthrene	0.0800	0.0577	0.110	0.106	65.4	60.4	1	10.0-144			3.70	31
Pyrene	0.0800	0.0154	0.0649	0.0728	61.9	71.8	1	10.0-148			11.5	35
1-Methylnaphthalene	0.0800	0.158	0.229	0.199	88.7	51.2	1	10.0-142			14.0	28
2-Methylnaphthalene	0.0800	0.318	0.410	0.339	115	26.2	1	10.0-137			19.0	28
2-Chloronaphthalene	0.0800	ND	0.0444	0.0528	55.5	66.0	1	29.0-120			17.3	24
(S) Nitrobenzene-d5					118	113		14.0-149				
(S) 2-Fluorobiphenyl					94.0	93.0		34.0-125				
(S) p-Terphenyl-d14					93.0	89.2		23.0-120				



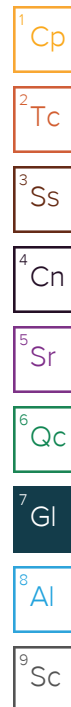
## Guide to Reading and Understanding Your Laboratory Report

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.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
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.
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.





Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* 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 National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
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>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

## Third Party Federal Accreditations

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

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Entrada Consulting Group		Billing Information:		Pres Chk		Analysis / Container / Preservative										Chain of Custody		Page 1 of 1			
330 Grand Avenue, Unit C Grand Junction, CO 81501		Report to: Robert Stockton		Email To: rstockton@entradainc.com												Pace Analytical® National Center for Testing & Innovation		12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859			
Project Description: 604-12-13		City/State Collected: DBQ, CO												L # 1096305		A074					
Phone: (970) 640-0568 Fax:		Client Project #		Lab Project #												Acctnum:		Template:			
Collected by (print): Robert Stockton		Site/Facility ID # 604-12-13		P.O. #												Prelogin:		TSR:			
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day Five Day Next Day 5 Day (Rad Only) Two Day 10 Day (Rad Only) Three Day		Quote #												PB:		Shipped Via:			
Immediately Packed on Ice N Y		Date Results Needed		No. of Cntrs												Remarks		Sample # (lab only)			
Sample ID		Comp/Grab		Matrix *		Depth		Date		Time		Table 910-1									
S1		Grab		SS				5/7/19		1120		3		X		01					
S2		Grab		SS				5/7/19		1200		3		X		02					
S3		Grab		SS				5/7/19		1210		3		X		03					
S4		Grab		SS				5/7/19		1150		3		X		04					
S5		Grab		SS				5/7/19		1140		3		X		05					
S6		Grab		SS				5/7/19		1130		3		X		06					
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks: Same Day Rush for Benzene		Samples returned via: UPS FedEx Courier		Tracking # 4510 1663 3124		Received by (Signature)		Trip Blank Received: Yes/No		Temp: 15.8°C 3.3+1=3.4		Bottles Received: 18		RAD SCREEN: <0.5 mR/hr					
Relinquished by (Signature)		Date: 5/7/19		Time: 1600		Received by (Signature)		Date: 5/8-19		Time: 8:45		Hold:		Condition: NCF / OK							



October 16, 2019

<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

## Laramie Energy - Grand Junction, CO

Sample Delivery Group: L1147323  
Samples Received: 10/08/2019  
Project Number:  
Description: 604-12-13  
Site: 604-12-13  
Report To: Robert Stockton  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

Entire Report Reviewed By:

*Chris Ward*

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.







<b>Cp: Cover Page</b>	<b>1</b>
<b>Tc: Table of Contents</b>	<b>2</b>
<b>Ss: Sample Summary</b>	<b>3</b>
<b>Cn: Case Narrative</b>	<b>4</b>
<b>Sr: Sample Results</b>	<b>5</b>
100719/12-13/S3/O-6" L1147323-01	5
100719/12-13/S3/O-6" L1147323-02	6
100719/12-13/S3/O-6" L1147323-03	8
100719/12-13/S3/O-6" L1147323-04	9
<b>Qc: Quality Control Summary</b>	<b>11</b>
Wet Chemistry by Method 3060A/7196A	11
Wet Chemistry by Method 9045D	13
Wet Chemistry by Method 9050AMod	14
Mercury by Method 7471A	15
Metals (ICP) by Method 6010B	16
Volatile Organic Compounds (GC) by Method 8015D/GRO	18
Volatile Organic Compounds (GC/MS) by Method 8260B	20
Semi-Volatile Organic Compounds (GC) by Method 8015	21
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	22
<b>Gl: Glossary of Terms</b>	<b>24</b>
<b>Al: Accreditations &amp; Locations</b>	<b>25</b>
<b>Sc: Sample Chain of Custody</b>	<b>26</b>



# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



100719/12-13/S3/O-6" L1147323-01 Solid

Collected by Robert Stockton  
Collected date/time 10/07/19 14:00  
Received date/time 10/08/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1360641	1	10/08/19 15:51	10/11/19 05:36	JAH	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

100719/12-13/S3/O-6" L1147323-02 Solid

Collected by Robert Stockton  
Collected date/time 10/07/19 14:00  
Received date/time 10/08/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1359721	1	10/12/19 14:57	10/12/19 14:57	EL	Mt. Juliet, TN
Calculated Results	WG1359589	1	10/09/19 15:03	10/10/19 08:10	TRB	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1359543	1	10/09/19 10:00	10/09/19 18:59	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1359545	1	10/09/19 19:00	10/09/19 19:33	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1359818	1	10/09/19 20:19	10/09/19 22:32	AKA	Mt. Juliet, TN
Mercury by Method 7471A	WG1359774	1	10/09/19 09:17	10/09/19 14:44	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1359589	1	10/09/19 15:03	10/10/19 08:10	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1361661	1	10/08/19 15:51	10/12/19 10:37	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1361716	10	10/11/19 22:16	10/12/19 18:23	FM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1361758	1	10/12/19 19:05	10/13/19 04:12	DMG	Mt. Juliet, TN

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

100719/12-13/S3/O-6" L1147323-03 Solid

Collected by Robert Stockton  
Collected date/time 10/07/19 11:40  
Received date/time 10/08/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1360641	1	10/08/19 15:51	10/11/19 05:55	JAH	Mt. Juliet, TN

100719/12-13/S3/O-6" L1147323-04 Solid

Collected by Robert Stockton  
Collected date/time 10/07/19 11:40  
Received date/time 10/08/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1359721	1	10/12/19 14:59	10/12/19 14:59	EL	Mt. Juliet, TN
Calculated Results	WG1359589	1	10/09/19 15:03	10/10/19 19:54	MSP	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1359960	1	10/09/19 13:22	10/10/19 19:54	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1359545	1	10/09/19 19:00	10/09/19 19:33	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1359818	1	10/09/19 20:19	10/09/19 22:32	AKA	Mt. Juliet, TN
Mercury by Method 7471A	WG1359774	1	10/09/19 09:17	10/09/19 14:47	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1359589	1	10/09/19 15:03	10/10/19 09:09	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1362879	1	10/08/19 15:51	10/15/19 13:33	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1361716	10	10/11/19 22:16	10/12/19 18:36	FM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1361758	1	10/12/19 19:05	10/13/19 02:07	DMG	Mt. Juliet, TN

ACCOUNT:

Laramie Energy - Grand Junction, CO

PROJECT:

SDG:

L1147323

DATE/TIME:

10/16/19 16:56

PAGE:

3 of 26



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



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	10/11/2019 05:36	<a href="#">WG1360641</a>
Toluene	ND		0.00500	1	10/11/2019 05:36	<a href="#">WG1360641</a>
Ethylbenzene	ND		0.00250	1	10/11/2019 05:36	<a href="#">WG1360641</a>
Total Xylenes	ND		0.00650	1	10/11/2019 05:36	<a href="#">WG1360641</a>
Methyl tert-butyl ether	ND		0.00100	1	10/11/2019 05:36	<a href="#">WG1360641</a>
(S) Toluene-d8	111		75.0-131		10/11/2019 05:36	<a href="#">WG1360641</a>
(S) 4-Bromofluorobenzene	86.2		67.0-138		10/11/2019 05:36	<a href="#">WG1360641</a>
(S) 1,2-Dichloroethane-d4	99.6		70.0-130		10/11/2019 05:36	<a href="#">WG1360641</a>

<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	8.16		1	10/12/2019 14:57	WG1359721

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	42.9		1.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	10/09/2019 18:59	<a href="#">WG1359543</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	10.0	<a href="#">T8</a>	1	10/09/2019 19:33	<a href="#">WG1359545</a>

## Sample Narrative:

L1147323-02 WG1359545: 10.02 at 21C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	172		10.0	1	10/09/2019 22:32	<a href="#">WG1359818</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	10/09/2019 14:44	<a href="#">WG1359774</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.36		2.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Barium	412		0.500	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Cadmium	ND		0.500	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Chromium	42.9		1.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Copper	18.0		2.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Lead	17.3		0.500	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Nickel	28.8		2.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Selenium	ND		2.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Silver	ND		1.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>
Zinc	52.5		5.00	1	10/10/2019 08:10	<a href="#">WG1359589</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	10/12/2019 10:37	<a href="#">WG1361661</a>
(S) a,a,a-Trifluorotoluene(FID)	96.6		77.0-120		10/12/2019 10:37	<a href="#">WG1361661</a>

<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



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	681		40.0	10	10/12/2019 18:23	<a href="#">WG1361716</a>
(S) o-Terphenyl	65.9		18.0-148		10/12/2019 18:23	<a href="#">WG1361716</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Acenaphthene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Acenaphthylene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Benzo(a)anthracene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Benzo(a)pyrene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Benzo(b)fluoranthene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Benzo(g,h,i)perylene	0.00977		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Benzo(k)fluoranthene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Chrysene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Dibenz(a,h)anthracene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Fluoranthene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Fluorene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Naphthalene	ND		0.0200	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Phenanthrene	ND		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
Pyrene	0.00738		0.00600	1	10/13/2019 04:12	<a href="#">WG1361758</a>
1-Methylnaphthalene	ND		0.0200	1	10/13/2019 04:12	<a href="#">WG1361758</a>
2-Methylnaphthalene	ND		0.0200	1	10/13/2019 04:12	<a href="#">WG1361758</a>
2-Chloronaphthalene	ND		0.0200	1	10/13/2019 04:12	<a href="#">WG1361758</a>
(S) p-Terphenyl-d14	68.3		23.0-120		10/13/2019 04:12	<a href="#">WG1361758</a>
(S) Nitrobenzene-d5	78.4		14.0-149		10/13/2019 04:12	<a href="#">WG1361758</a>
(S) 2-Fluorobiphenyl	75.7		34.0-125		10/13/2019 04:12	<a href="#">WG1361758</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	10/11/2019 05:55	<a href="#">WG1360641</a>
Toluene	ND		0.00500	1	10/11/2019 05:55	<a href="#">WG1360641</a>
Ethylbenzene	ND		0.00250	1	10/11/2019 05:55	<a href="#">WG1360641</a>
Total Xylenes	ND		0.00650	1	10/11/2019 05:55	<a href="#">WG1360641</a>
Methyl tert-butyl ether	ND		0.00100	1	10/11/2019 05:55	<a href="#">WG1360641</a>
(S) Toluene-d8	112		75.0-131		10/11/2019 05:55	<a href="#">WG1360641</a>
(S) 4-Bromofluorobenzene	84.4		67.0-138		10/11/2019 05:55	<a href="#">WG1360641</a>
(S) 1,2-Dichloroethane-d4	100		70.0-130		10/11/2019 05:55	<a href="#">WG1360641</a>

<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	5.65		1	10/12/2019 14:59	WG1359721

1  
Cp2  
Tc3  
Ss4  
Cn5  
Sr6  
Qc7  
Gl8  
Al9  
Sc

## Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Trivalent	40.2		1.00	1	10/10/2019 19:54	<a href="#">WG1359589</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	10/10/2019 19:54	<a href="#">WG1359960</a>

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.67	<a href="#">T8</a>	1	10/09/2019 19:33	<a href="#">WG1359545</a>

## Sample Narrative:

L1147323-04 WG1359545: 9.67 at 21.2C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	299		10.0	1	10/09/2019 22:32	<a href="#">WG1359818</a>

## Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	10/09/2019 14:47	<a href="#">WG1359774</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.05		2.00	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Barium	324		0.500	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Cadmium	ND		0.500	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Chromium	40.2		1.00	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Copper	16.1		2.00	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Lead	12.8		0.500	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Nickel	29.2		2.00	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Selenium	ND		2.00	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Silver	ND		1.00	1	10/10/2019 09:09	<a href="#">WG1359589</a>
Zinc	48.3		5.00	1	10/10/2019 09:09	<a href="#">WG1359589</a>

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	10/15/2019 13:33	<a href="#">WG1362879</a>
(S) a,a,a-Trifluorotoluene(FID)	91.7		77.0-120		10/15/2019 13:33	<a href="#">WG1362879</a>





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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	544		40.0	10	10/12/2019 18:36	<a href="#">WG1361716</a>
(S) o-Terphenyl	62.6		18.0-148		10/12/2019 18:36	<a href="#">WG1361716</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Acenaphthene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Acenaphthylene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Benzo(a)anthracene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Benzo(a)pyrene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Benzo(b)fluoranthene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Benzo(g,h,i)perylene	0.00755		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Benzo(k)fluoranthene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Chrysene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Dibenz(a,h)anthracene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Fluoranthene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Fluorene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Naphthalene	ND		0.0200	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Phenanthrene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
Pyrene	ND		0.00600	1	10/13/2019 02:07	<a href="#">WG1361758</a>
1-Methylnaphthalene	ND		0.0200	1	10/13/2019 02:07	<a href="#">WG1361758</a>
2-Methylnaphthalene	ND		0.0200	1	10/13/2019 02:07	<a href="#">WG1361758</a>
2-Chloronaphthalene	ND		0.0200	1	10/13/2019 02:07	<a href="#">WG1361758</a>
(S) p-Terphenyl-d14	70.2		23.0-120		10/13/2019 02:07	<a href="#">WG1361758</a>
(S) Nitrobenzene-d5	87.4		14.0-149		10/13/2019 02:07	<a href="#">WG1361758</a>
(S) 2-Fluorobiphenyl	81.9		34.0-125		10/13/2019 02:07	<a href="#">WG1361758</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3459452-1 10/09/19 18:55				
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

L1147412-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1147412-03 10/09/19 19:02 • (DUP) R3459452-7 10/09/19 19:02						
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	0.000	1	0.000		20

L1147600-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1147600-01 10/09/19 19:06 • (DUP) R3459452-8 10/09/19 19:06						
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	U	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3459452-2 10/09/19 18:55					
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	24.4	102	80.0-120	

L1147318-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1147318-02 10/09/19 18:56 • (MS) R3459452-3 10/09/19 18:56 • (MSD) R3459452-4 10/09/19 18:57										
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%		
Chromium,Hexavalent	20.0	ND	18.2	18.0	91.1	89.8	1	75.0-125		
									RPD	RPD Limits
									1.44	20

L1147318-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1147318-02 10/09/19 18:56 • (MS) R3459452-5 10/09/19 18:57							
	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	656	ND	544	82.9	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3459916-1 10/10/19 19:53

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

<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

L1147634-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1147634-04 10/10/19 19:56 • (DUP) R3459916-3 10/10/19 19:56

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

L1147634-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1147634-16 10/10/19 20:04 • (DUP) R3459916-4 10/10/19 20:04

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

Laboratory Control Sample (LCS)

(LCS) R3459916-2 10/10/19 19:53

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	26.0	109	80.0-120	

L1148016-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1148016-01 10/10/19 20:05 • (MS) R3459916-5 10/10/19 20:05 • (MSD) R3459916-6 10/10/19 20:05

	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	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	9.22	12.5	42.3	58.8	1	75.0-125	J6	J3 J6	30.3	20

L1148016-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1148016-01 10/10/19 20:05 • (MS) R3459916-7 10/10/19 20:07

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	656	ND	593	90.5	50	75.0-125	



L1147412-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1147412-03 10/09/19 19:33 • (DUP) R3459456-2 10/09/19 19:33

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	8.42	8.45	1	0.356		1

Sample Narrative:

OS: 8.42 at 20.8C

DUP: 8.45 at 20.8C

<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

L1147498-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1147498-01 10/09/19 19:33 • (DUP) R3459456-3 10/09/19 19:33

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.93	7.91	1	0.253		1

Sample Narrative:

OS: 7.93 at 20.8C

DUP: 7.91 at 21.1C

Laboratory Control Sample (LCS)

(LCS) R3459456-1 10/09/19 19:33

	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 21.3C



Method Blank (MB)

(MB) R3459485-1 10/09/19 22:32

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

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1146421-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1146421-03 10/09/19 22:32 • (DUP) R3459485-3 10/09/19 22:32

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	3420	3390	1	0.881		20

L1147423-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1147423-01 10/09/19 22:32 • (DUP) R3459485-4 10/09/19 22:32

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	200	198	1	0.955		20

Laboratory Control Sample (LCS)

(LCS) R3459485-2 10/09/19 22:32

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	393	389	99.0	85.0-115	



Method Blank (MB)

(MB) R3459349-1 10/09/19 14:16

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	0.00522	⬇	0.00280	0.0300

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

(LCS) R3459349-2 10/09/19 14:19 • (LCSD) R3459349-3 10/09/19 14:21

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Mercury	0.500	0.497	0.507	99.5	101	80.0-120			1.86	20

L1146719-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1146719-01 10/09/19 14:24 • (MS) R3459349-4 10/09/19 14:26 • (MSD) R3459349-5 10/09/19 14:29

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.558	0.0237	0.598	0.648	103	112	1	75.0-125			7.89	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3459674-1 10/10/19 08:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Copper	U		0.530	2.00
Lead	0.190	J	0.190	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Zinc	U		0.590	5.00

<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

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

(LCS) R3459674-2 10/10/19 08:05 • (LCSD) R3459674-3 10/10/19 08:07

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 %
Arsenic	100	92.6	93.4	92.6	93.4	80.0-120			0.827	20
Barium	100	98.6	99.3	98.6	99.3	80.0-120			0.687	20
Cadmium	100	94.0	94.4	94.0	94.4	80.0-120			0.473	20
Chromium	100	95.8	96.4	95.8	96.4	80.0-120			0.616	20
Copper	100	95.6	96.4	95.6	96.4	80.0-120			0.921	20
Lead	100	94.6	95.0	94.6	95.0	80.0-120			0.436	20
Nickel	100	96.0	96.8	96.0	96.8	80.0-120			0.859	20
Selenium	100	93.4	93.8	93.4	93.8	80.0-120			0.406	20
Silver	20.0	17.5	17.4	87.5	87.2	80.0-120			0.340	20
Zinc	100	94.6	95.1	94.6	95.1	80.0-120			0.487	20

L1147323-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1147323-02 10/10/19 08:10 • (MS) R3459674-6 10/10/19 08:18 • (MSD) R3459674-7 10/10/19 08:20

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	3.36	95.0	101	91.6	97.7	1	75.0-125			6.22	20
Barium	100	412	497	502	84.5	89.6	1	75.0-125			1.01	20
Cadmium	100	ND	93.5	101	93.4	100	1	75.0-125			7.30	20
Chromium	100	42.9	134	141	90.8	97.8	1	75.0-125			5.13	20
Copper	100	18.0	115	122	97.4	104	1	75.0-125			5.66	20
Lead	100	17.3	113	120	95.3	103	1	75.0-125			6.53	20
Nickel	100	28.8	128	135	98.9	106	1	75.0-125			5.73	20



[L1147323-02,04](#)

L1147323-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1147323-02 10/10/19 08:10 • (MS) R3459674-6 10/10/19 08:18 • (MSD) R3459674-7 10/10/19 08:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Selenium	100	ND	93.8	99.6	93.8	99.6	1	75.0-125			6.03	20
Silver	20.0	ND	16.4	17.8	82.0	89.1	1	75.0-125			8.27	20
Zinc	100	52.5	138	146	85.8	93.4	1	75.0-125			5.33	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) R3460941-2 10/12/19 01:55

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)	103			77.0-120

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Laboratory Control Sample (LCS)

(LCS) R3460941-1 10/12/19 01:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.45	99.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			110	77.0-120	



Method Blank (MB)

(MB) R3461449-2 10/15/19 11:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0337	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	94.1			77.0-120

<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) R3461449-1 10/15/19 10:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.67	84.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			100	77.0-120	



Method Blank (MB)

(MB) R3460000-2 10/11/19 00:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Methyl tert-butyl ether	U		0.000295	0.00100
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	111			75.0-131
(S) 4-Bromofluorobenzene	87.9			67.0-138
(S) 1,2-Dichloroethane-d4	101			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

Laboratory Control Sample (LCS)

(LCS) R3460000-1 10/10/19 21:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.100	80.0	70.0-123	
Ethylbenzene	0.125	0.120	96.0	74.0-126	
Methyl tert-butyl ether	0.125	0.165	132	66.0-132	
Toluene	0.125	0.117	93.6	75.0-121	
Xylenes, Total	0.375	0.335	89.3	72.0-127	
(S) Toluene-d8			103	75.0-131	
(S) 4-Bromofluorobenzene			95.0	67.0-138	
(S) 1,2-Dichloroethane-d4			107	70.0-130	

L1147318-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1147318-05 10/11/19 05:18 • (MS) R3460000-3 10/11/19 07:27 • (MSD) R3460000-4 10/11/19 07:46

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 %
Benzene	0.125	ND	0.0765	0.108	61.2	86.4	1	10.0-149			34.1	37
Ethylbenzene	0.125	ND	0.0854	0.128	68.3	102	1	10.0-160		J3	39.9	38
Methyl tert-butyl ether	0.125	ND	0.154	0.158	123	126	1	11.0-147			2.56	35
Toluene	0.125	ND	0.0963	0.135	77.0	108	1	10.0-156			33.5	38
Xylenes, Total	0.375	ND	0.245	0.353	65.3	94.1	1	10.0-160			36.1	38
(S) Toluene-d8					110	110		75.0-131				
(S) 4-Bromofluorobenzene					86.2	89.3		67.0-138				
(S) 1,2-Dichloroethane-d4					96.1	100		70.0-130				

Method Blank (MB)

(MB) R3460445-1 10/12/19 10:10

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	80.2			18.0-148

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Laboratory Control Sample (LCS)

(LCS) R3460445-2 10/12/19 10:23

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
TPH (GC/FID) High Fraction	50.0	41.6	83.2	50.0-150	
(S) o-Terphenyl			102	18.0-148	

L1146703-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1146703-04 10/12/19 15:32 • (MS) R3460445-3 10/12/19 15:44 • (MSD) R3460445-4 10/12/19 15:57

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	%	%		%			%	%
TPH (GC/FID) High Fraction	50.0	2060	1660	1420	0.000	0.000	10	50.0-150	V	V	15.6	20
(S) o-Terphenyl					62.8	75.1		18.0-148				

Method Blank (MB)

(MB) R3460493-2 10/13/19 01:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	93.3			14.0-149
(S) 2-Fluorobiphenyl	88.0			34.0-125
(S) p-Terphenyl-d14	90.4			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3460493-1 10/13/19 01:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0739	92.4	50.0-126	
Acenaphthene	0.0800	0.0786	98.3	50.0-120	
Acenaphthylene	0.0800	0.0841	105	50.0-120	
Benzo(a)anthracene	0.0800	0.0796	99.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0610	76.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0772	96.5	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0687	85.9	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0767	95.9	49.0-125	
Chrysene	0.0800	0.0769	96.1	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0763	95.4	47.0-125	
Fluoranthene	0.0800	0.0803	100	49.0-129	



Laboratory Control Sample (LCS)

(LCS) R3460493-1 10/13/19 01:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0762	95.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0754	94.3	46.0-125	
Naphthalene	0.0800	0.0747	93.4	50.0-120	
Phenanthrene	0.0800	0.0775	96.9	47.0-120	
Pyrene	0.0800	0.0803	100	43.0-123	
1-Methylnaphthalene	0.0800	0.0825	103	51.0-121	
2-Methylnaphthalene	0.0800	0.0775	96.9	50.0-120	
2-Chloronaphthalene	0.0800	0.0758	94.8	50.0-120	
(S) Nitrobenzene-d5			112	14.0-149	
(S) 2-Fluorobiphenyl			100	34.0-125	
(S) p-Terphenyl-d14			100	23.0-120	

L1147323-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1147323-04 10/13/19 02:07 • (MS) R3460493-3 10/13/19 02:28 • (MSD) R3460493-4 10/13/19 02:49

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0800	ND	0.0576	0.0561	72.0	70.1	1	10.0-145			2.64	30
Acenaphthene	0.0800	ND	0.0573	0.0553	71.6	69.1	1	14.0-127			3.55	27
Acenaphthylene	0.0800	ND	0.0630	0.0605	78.8	75.6	1	21.0-124			4.05	25
Benzo(a)anthracene	0.0800	ND	0.0577	0.0556	72.1	69.5	1	10.0-139			3.71	30
Benzo(a)pyrene	0.0800	ND	0.0511	0.0489	63.9	61.1	1	10.0-141			4.40	31
Benzo(b)fluoranthene	0.0800	ND	0.0536	0.0498	67.0	62.3	1	10.0-140			7.35	36
Benzo(g,h,i)perylene	0.0800	0.00755	0.0505	0.0488	53.7	51.6	1	10.0-140			3.42	33
Benzo(k)fluoranthene	0.0800	ND	0.0501	0.0515	62.6	64.4	1	10.0-137			2.76	31
Chrysene	0.0800	ND	0.0538	0.0516	67.3	64.5	1	10.0-145			4.17	30
Dibenz(a,h)anthracene	0.0800	ND	0.0488	0.0489	61.0	61.1	1	10.0-132			0.205	31
Fluoranthene	0.0800	ND	0.0615	0.0602	76.9	75.3	1	10.0-153			2.14	33
Fluorene	0.0800	ND	0.0584	0.0556	73.0	69.5	1	11.0-130			4.91	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0476	0.0470	59.5	58.8	1	10.0-137			1.27	32
Naphthalene	0.0800	ND	0.0547	0.0483	68.4	60.4	1	10.0-135			12.4	27
Phenanthrene	0.0800	ND	0.0587	0.0572	73.4	71.5	1	10.0-144			2.59	31
Pyrene	0.0800	ND	0.0568	0.0550	71.0	68.8	1	10.0-148			3.22	35
1-Methylnaphthalene	0.0800	ND	0.0617	0.0594	77.1	74.3	1	10.0-142			3.80	28
2-Methylnaphthalene	0.0800	ND	0.0597	0.0577	74.6	72.1	1	10.0-137			3.41	28
2-Chloronaphthalene	0.0800	ND	0.0587	0.0559	73.4	69.9	1	29.0-120			4.89	24
(S) Nitrobenzene-d5					77.1	77.6		14.0-149				
(S) 2-Fluorobiphenyl					76.5	75.5		34.0-125				
(S) p-Terphenyl-d14					67.3	66.5		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## 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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
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.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* 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 National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
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>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

## Third Party Federal Accreditations

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

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





**330 Grand Avenue, Unit C  
Grand Junction, CO 81501**

Report to:  
**Robert Stockton**

Project  
Description: **604-12-13**

Phone: **(970) 640-0568**  
Fax:

Collected by (print):  
**Robert Stockton**

Collected by (signature):

Immediately  
Packed on Ice N ☐ Y ☒

**Billing Information:**

**OXYCO-GJ**

Email To:  
**rstockton@entradainc.com**

City/State Collected:	DBQ, CO
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Lab Project #	
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P.O. #	
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	Quote #
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100	100

**Rush?** (Lab MUST Be Notified)

☐ Same Day    ☐ Five Day  
☐ Next Day    ☐ 5 Day (Rad Only)  
☐ Two Day    ☐ 10 Day (Rad Only)  
☐ Three Day

Date Results Needed

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



L#

A079

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks	Sample # (lab only)
---------	---------------------

[illegible]

\* Matrix:  
**SS** - Soil    **AIR** - Air    **F** - Filter  
**GW** - Groundwater    **B** - Bioassay  
**WW** - WasteWater  
**DW** - Drinking Water  
**OT** - Other

Remarks:

## Same Day Rush for Benzene

Samples returned via:  
UPS ☐ FedEx ☐ Courier ☐

Tracking #

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Trip Blank Received:	Yes / <u>No</u>
	HCL / MeOH
	TBR

Temp: °C Bottles Received:

0.2-20.0 <sup>AL</sup> 6

Date: 10-08 Time: 8130

Sample Receipt Checklist

COC Seal Present/Intact:	<u>NP</u>	<u>Y</u>	<u>N</u>
COC Signed/Accurate:		<u>Y</u>	<u>N</u>
Bottles arrive intact:		<u>Y</u>	<u>N</u>
Correct bottles used:		<u>Y</u>	<u>N</u>
Sufficient volume sent:		<u>Y</u>	<u>N</u>
<u>If Applicable</u>			
VOA Zero Headspace:		<u>Y</u>	<u>N</u>
Preservation Correct/Checked:		<u>Y</u>	<u>N</u>

**BAD SCREEN: <0.5 mR/hr**

If preservation required by Login: Date/Time

Hold:	Condition: NCF / OK
-------	------------------------

June 01, 2020

<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

## Entrada Consulting Group

Sample Delivery Group: L1221508  
Samples Received: 05/22/2020  
Project Number: 604-12-13 SPILL  
Description: 604-12-13 Spill

Report To: Stuart Hall  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:

*Chris Ward*

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.



Cp: Cover Page	1	<sup>1</sup> Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	<sup>2</sup> Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	<sup>3</sup> Ss
052120SS7 L1221508-01	5	
052120SS3R L1221508-02	6	<sup>4</sup> Cn
052120SS8 L1221508-03	7	<sup>5</sup> Sr
Qc: Quality Control Summary	8	
Volatile Organic Compounds (GC) by Method 8015D/GRO	8	<sup>6</sup> Qc
Semi-Volatile Organic Compounds (GC) by Method 8015	9	
Gl: Glossary of Terms	10	<sup>7</sup> Gl
Al: Accreditations & Locations	11	<sup>8</sup> Al
Sc: Sample Chain of Custody	12	<sup>9</sup> Sc



## 052120SS7 L1221508-01 Solid

Collected by  
R. JohnsonCollected date/time  
05/21/20 13:30Received date/time  
05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1483400	1	05/27/20 12:14	05/28/20 13:30	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1483827	1	05/29/20 13:09	05/30/20 20:17	JDG	Mt. Juliet, TN

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss

## 052120SS3R L1221508-02 Solid

Collected by  
R. JohnsonCollected date/time  
05/21/20 13:50Received date/time  
05/22/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1483400	1	05/27/20 12:14	05/28/20 13:54	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1483827	1	05/29/20 13:09	05/31/20 16:00	JDG	Mt. Juliet, TN

<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc

## 052120SS8 L1221508-03 Solid

Collected by  
R. JohnsonCollected date/time  
05/21/20 14:10Received date/time  
05/22/20 09:00

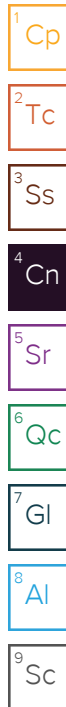
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1483400	1	05/27/20 12:14	05/28/20 14:18	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1483827	1	05/29/20 13:09	05/30/20 19:13	JDG	Mt. Juliet, TN

<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



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





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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/28/2020 13:30	<a href="#">WG1483400</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	94.7		77.0-120		05/28/2020 13:30	<a href="#">WG1483400</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	190		4.00	1	05/30/2020 20:17	<a href="#">WG1483827</a>
(S) <i>o</i> -Terphenyl	55.3		18.0-148		05/30/2020 20:17	<a href="#">WG1483827</a>

<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



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/28/2020 13:54	<a href="#">WG1483400</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	94.2		77.0-120		05/28/2020 13:54	<a href="#">WG1483400</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	21.4		4.00	1	05/31/2020 16:00	<a href="#">WG1483827</a>
(S) <i>o</i> -Terphenyl	63.9		18.0-148		05/31/2020 16:00	<a href="#">WG1483827</a>

<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



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/28/2020 14:18	<a href="#">WG1483400</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	93.9		77.0-120		05/28/2020 14:18	<a href="#">WG1483400</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	30.2		4.00	1	05/30/2020 19:13	<a href="#">WG1483827</a>
(S) <i>o</i> -Terphenyl	60.0		18.0-148		05/30/2020 19:13	<a href="#">WG1483827</a>

<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) R3533077-2 05/28/20 10:31

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)	100			77.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3533077-1 05/28/20 09:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.64	121	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			108	77.0-120	

Method Blank (MB)

(MB) R3533317-1 05/30/20 05:45

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	82.7			18.0-148

<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) R3533317-2 05/30/20 06:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
TPH (GC/FID) High Fraction	50.0	41.0	82.0	50.0-150	
(S) o-Terphenyl			75.2	18.0-148	



## 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.
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.
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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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* 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 National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
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>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

## Third Party Federal Accreditations

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

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



[illegible]

**Pace Analytical National Center for Testing & Innovation**  
Cooler Receipt Form

Client: <u>ENTCONGJCO</u>		<u>L1221508</u>	
Cooler Received/Opened On: <u>5 / 22 / 20</u>		Temperature: <u>Amb</u>	
Received By: <u>Lakeacher Webster</u>			
Signature: <u>[Signature]</u>			
Receipt Check List		NP	Yes
COC Seal Present / Intact?		<input checked="" type="checkbox"/>	
COC Signed / Accurate?			<input checked="" type="checkbox"/>
Bottles arrive intact?			<input checked="" type="checkbox"/>
Correct bottles used?			<input checked="" type="checkbox"/>
Sufficient volume sent?			<input checked="" type="checkbox"/>
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

*1790-505-0041*

*James [unclear]*

*2016/05/22*