

**Entrada Consulting Group**

Sample Delivery Group: L1390927  
Samples Received: 08/14/2021  
Project Number: HSC 1 BG  
Description: HCS 1 BG  
Site: HSC 1  
Report To: Stuart Hall  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:



Jordan N Zito  
Project Manager

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

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

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

# SAMPLE SUMMARY

## HSC1-BG W L1390927-01 Solid

Collected by  
Matt Kasten

Collected date/time  
08/13/21 11:00

Received date/time  
08/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1723791	1	08/21/21 00:13	08/21/21 00:13	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1725274	1	08/18/21 18:00	08/18/21 20:35	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1724990	1	08/18/21 01:15	08/18/21 06:58	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1724978	1	08/18/21 08:36	08/19/21 02:49	CCE	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

## HSC1-BG SW L1390927-02 Solid

Collected by  
Matt Kasten

Collected date/time  
08/13/21 10:55

Received date/time  
08/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1723791	1	08/21/21 00:16	08/21/21 00:16	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1725274	1	08/18/21 18:00	08/18/21 20:35	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1724990	1	08/18/21 01:15	08/18/21 06:58	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1724978	1	08/18/21 08:36	08/19/21 02:52	CCE	Mt. Juliet, TN

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

## HSC1-BG NE L1390927-03 Solid

Collected by  
Matt Kasten

Collected date/time  
08/13/21 10:55

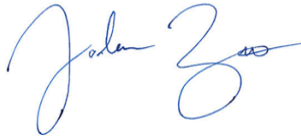
Received date/time  
08/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1723791	1	08/21/21 00:19	08/21/21 00:19	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1725274	1	08/18/21 18:00	08/18/21 20:35	WOS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1724990	1	08/18/21 01:15	08/18/21 06:58	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1724978	1	08/18/21 08:36	08/19/21 02:55	CCE	Mt. Juliet, TN

<sup>9</sup> Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jordan N Zito  
Project Manager



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.299		1	08/21/2021 00:13	WG1723791

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

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.17	<a href="#">T8</a>	1	08/18/2021 20:35	<a href="#">WG1725274</a>

<sup>3</sup> Ss<sup>4</sup> Cn

## Sample Narrative:

L1390927-01 WG1725274: 8.17 at 22.7C

<sup>5</sup> Sr

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	295		10.0	1	08/18/2021 06:58	<a href="#">WG1724990</a>

<sup>6</sup> Qc<sup>7</sup> Gl

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.26		0.518	2.00	1	08/19/2021 02:49	<a href="#">WG1724978</a>

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

## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.18		1	08/21/2021 00:16	WG1723791

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.76	<a href="#">T8</a>	1	08/18/2021 20:35	<a href="#">WG1725274</a>

## Sample Narrative:

L1390927-02 WG1725274: 9.76 at 22.1C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
Specific Conductance	354		10.0	1	08/18/2021 06:58	<a href="#">WG1724990</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg	mg/kg			
Arsenic	U		0.518	2.00	1	08/19/2021 02:52	<a href="#">WG1724978</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	1.97		1	08/21/2021 00:19	WG1723791

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.99	<a href="#">T8</a>	1	08/18/2021 20:35	<a href="#">WG1725274</a>

## Sample Narrative:

L1390927-03 WG1725274: 8.99 at 22.7C

## Wet Chemistry by Method 9050AMod

	Result	<u>Qualifier</u>	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	umhos/cm		umhos/cm		date / time	
Specific Conductance	71.0		10.0	1	08/18/2021 06:58	<a href="#">WG1724990</a>

## Metals (ICP) by Method 6010B

	Result	<u>Qualifier</u>	MDL	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	U		0.518	2.00	1	08/19/2021 02:55	<a href="#">WG1724978</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

Laboratory Control Sample (LCS)

(LCS) R3693657-1 08/18/21 20:35

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

Sample Narrative:

LCS: 10.04 at 23.5C

<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) R3693175-1 08/18/21 06:58

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

L1390924-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1390924-09 08/18/21 06:58 • (DUP) R3693175-3 08/18/21 06:58

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	umhos/cm	umhos/cm		%		%
Specific Conductance	266	260	1	2.59		20

L1390927-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1390927-01 08/18/21 06:58 • (DUP) R3693175-4 08/18/21 06:58

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	umhos/cm	umhos/cm		%		%
Specific Conductance	295	292	1	0.921		20

Laboratory Control Sample (LCS)

(LCS) R3693175-2 08/18/21 06:58

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	umhos/cm	umhos/cm	%	%	
Specific Conductance	899	926	103	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3693759-1 08/19/21 02:06

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Arsenic	U		0.518	2.00

Laboratory Control Sample (LCS)

(LCS) R3693759-2 08/19/21 02:09

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	92.9	92.9	80.0-120	

L1390862-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1390862-23 08/19/21 02:12 • (MS) R3693759-5 08/19/21 02:20 • (MSD) R3693759-6 08/19/21 02:23

	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	%	%		%			%	%
Arsenic	100	2.39	89.4	88.3	87.0	85.9	1	75.0-125			1.22	20

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

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

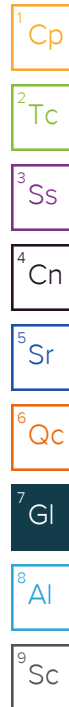
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

## Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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

T8	Sample(s) received past/too close to holding time expiration.
----	---



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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





**Entrada Consulting Group**

Sample Delivery Group: L1392701  
Samples Received: 08/19/2021  
Project Number: HSC1 BG  
Description: HSC1 BG  
Site: HSC1  
Report To: Stuart Hall  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:



Jordan N Zito  
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.

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

# SAMPLE SUMMARY

## HSC BG S L1392701-01 Solid

Collected by  
Matt Kasten

Collected date/time  
08/18/21 10:00

Received date/time  
08/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1726659	1	08/24/21 23:55	08/24/21 23:55	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1727882	1	08/26/21 12:23	08/27/21 08:45	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1727886	1	08/23/21 13:37	08/23/21 19:36	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1726931	1	08/23/21 07:47	08/25/21 21:33	CCE	Mt. Juliet, TN

## HSC BG SW L1392701-02 Solid

Collected by  
Matt Kasten

Collected date/time  
08/18/21 10:05

Received date/time  
08/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1726659	1	08/24/21 23:58	08/24/21 23:58	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1727882	1	08/26/21 12:23	08/27/21 08:45	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1727886	1	08/23/21 13:37	08/23/21 19:36	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1726929	1	08/23/21 07:39	08/25/21 16:11	CCE	Mt. Juliet, TN

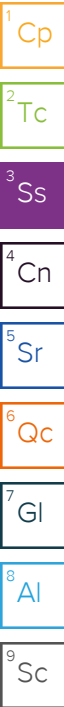
## HSC BG E L1392701-03 Solid

Collected by  
Matt Kasten

Collected date/time  
08/18/21 10:10

Received date/time  
08/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1726659	1	08/25/21 00:01	08/25/21 00:01	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1727882	1	08/26/21 12:23	08/27/21 08:45	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1727886	1	08/23/21 13:37	08/23/21 19:36	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1726929	1	08/23/21 07:39	08/25/21 16:24	CCE	Mt. Juliet, TN





# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Jordan N Zito  
Project Manager



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.12		1	08/24/2021 23:55	WG1726659

1  
Cp2  
Tc3  
Ss4  
Cn5  
Sr6  
Qc7  
Gl8  
Al9  
Sc

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.01	T8	1	08/27/2021 08:45	<a href="#">WG1727882</a>

## Sample Narrative:

L1392701-01 WG1727882: 8.01 at 23.8C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
Specific Conductance	1640		10.0	1	08/23/2021 19:36	<a href="#">WG1727886</a>

## Sample Narrative:

L1392701-01 WG1727886: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	mg/kg		mg/kg			
Arsenic	2.39		2.00	1	08/25/2021 21:33	<a href="#">WG1726931</a>

## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	14.0		1	08/24/2021 23:58	WG1726659

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.62	<a href="#">T8</a>	1	08/27/2021 08:45	<a href="#">WG1727882</a>

## Sample Narrative:

L1392701-02 WG1727882: 7.62 at 23.8C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	5170		10.0	1	08/23/2021 19:36	<a href="#">WG1727886</a>

## Sample Narrative:

L1392701-02 WG1727886: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	mg/kg		mg/kg			
	ND		2.00	1	08/25/2021 16:11	<a href="#">WG1726929</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	11.6		1	08/25/2021 00:01	WG1726659

## Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.79	<a href="#">T8</a>	1	08/27/2021 08:45	<a href="#">WG1727882</a>

## Sample Narrative:

L1392701-03 WG1727882: 9.79 at 23.9C

## Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	865		10.0	1	08/23/2021 19:36	<a href="#">WG1727886</a>

## Sample Narrative:

L1392701-03 WG1727886: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	ND		2.00	1	08/25/2021 16:24	<a href="#">WG1726929</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

L1392113-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1392113-02 08/27/21 08:45 • (DUP) R3697173-2 08/27/21 08:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.29	8.26	1	0.363		1

Sample Narrative:

OS: 8.29 at 24.2C  
DUP: 8.26 at 24.5C



L1392113-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1392113-17 08/27/21 08:45 • (DUP) R3697173-3 08/27/21 08:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.73	7.91	1	2.30	J3	1

Sample Narrative:

OS: 7.73 at 23.9C  
DUP: 7.91 at 23.9C

Laboratory Control Sample (LCS)

(LCS) R3697173-1 08/27/21 08:45

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.06 at 23.5C

Method Blank (MB)

(MB) R3695445-1 08/23/21 19:36

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

Sample Narrative:

BLANK: at 25C

L1392967-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1392967-04 08/23/21 19:36 • (DUP) R3695445-3 08/23/21 19:36

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1080	1180	1	8.51		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1392971-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1392971-02 08/23/21 19:36 • (DUP) R3695445-4 08/23/21 19:36

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	302	304	1	0.660		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3695445-2 08/23/21 19:36

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	921	102	85.0-115	

Sample Narrative:

LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3696706-1 08/25/21 16:05

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Arsenic	U		0.518	2.00

Laboratory Control Sample (LCS)

(LCS) R3696706-2 08/25/21 16:08

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	95.0	95.0	80.0-120	

L1392701-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1392701-02 08/25/21 16:11 • (MS) R3696706-5 08/25/21 16:19 • (MSD) R3696706-6 08/25/21 16:22

	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	%	%		%			%	%
Arsenic	100	ND	91.8	93.8	90.8	92.9	1	75.0-125			2.22	20

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3696709-1 08/25/21 20:52

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Arsenic	U		0.518	2.00

Laboratory Control Sample (LCS)

(LCS) R3696709-2 08/25/21 20:55

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	99.6	99.6	80.0-120	

L1392674-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1392674-19 08/25/21 20:58 • (MS) R3696709-5 08/25/21 21:07 • (MSD) R3696709-6 08/25/21 21:09

	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	%	%		%			%	%
Arsenic	100	4.85	98.6	98.5	93.7	93.6	1	75.0-125			0.0697	20

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

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Qc

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Gl

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Al

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Sc



# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

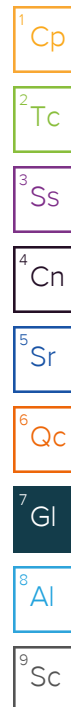
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

## Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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





**Entrada Consulting Group**

Sample Delivery Group: L1392721  
Samples Received: 08/19/2021  
Project Number: HSC 1 PIT  
Description: HSC 1 PIT

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

Entire Report Reviewed By:



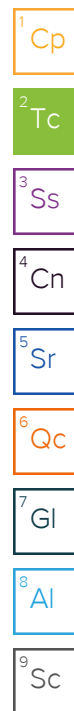
Chris Ward  
Project Manager

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

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

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# SAMPLE SUMMARY

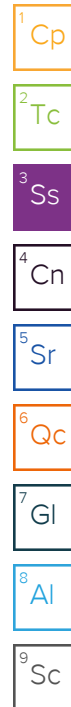
HSC 1 PIT BOX-8' L1392721-01 Solid

Collected by  
Matt Kasten

Collected date/time  
08/18/21 10:20

Received date/time  
08/19/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1726659	1	08/24/21 23:04	08/24/21 23:04	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1727027	1	08/23/21 12:32	08/24/21 18:10	GB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1730562	1	08/27/21 13:00	08/27/21 15:40	CRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1727886	1	08/23/21 13:37	08/23/21 19:36	AMH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1727069	1	08/22/21 07:14	08/25/21 04:55	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1726661	1	08/22/21 15:55	08/25/21 13:14	EL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1727068	5	08/22/21 07:16	08/22/21 21:41	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1729508	1	08/23/21 09:30	08/26/21 08:37	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1727908	1	08/23/21 09:30	08/23/21 14:21	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1731350	1	08/29/21 09:22	08/30/21 01:19	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1730313	1	08/27/21 09:15	08/27/21 19:07	LEA	Mt. Juliet, TN





# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward  
Project Manager



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.13		1	08/24/2021 23:04	WG1726659

## Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	08/24/2021 18:10	<a href="#">WG1727027</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.88	<a href="#">T8</a>	1	08/27/2021 15:40	<a href="#">WG1730562</a>

## Sample Narrative:

L1392721-01 WG1730562: 7.88 at 23.8C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2530		10.0	1	08/23/2021 19:36	<a href="#">WG1727886</a>

## Sample Narrative:

L1392721-01 WG1727886: at 25C

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	192		0.0852	0.500	1	08/25/2021 04:55	<a href="#">WG1727069</a>
Cadmium	0.315	<a href="#">J</a>	0.0471	0.500	1	08/25/2021 04:55	<a href="#">WG1727069</a>
Copper	20.8		0.400	2.00	1	08/25/2021 04:55	<a href="#">WG1727069</a>
Lead	14.7		0.208	0.500	1	08/25/2021 04:55	<a href="#">WG1727069</a>
Nickel	16.4		0.132	2.00	1	08/25/2021 04:55	<a href="#">WG1727069</a>
Selenium	U		0.764	2.00	1	08/25/2021 04:55	<a href="#">WG1727069</a>
Silver	U		0.127	1.00	1	08/25/2021 04:55	<a href="#">WG1727069</a>
Zinc	54.6		0.832	5.00	1	08/25/2021 04:55	<a href="#">WG1727069</a>

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.626		0.0167	0.200	1	08/25/2021 13:14	<a href="#">WG1726661</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.96		0.100	1.00	5	08/22/2021 21:41	<a href="#">WG1727068</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0217	0.100	1	08/26/2021 08:37	<a href="#">WG1729508</a>
(S) a,a,a-Trifluorotoluene(FID)	96.7			77.0-120		08/26/2021 08:37	<a href="#">WG1729508</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	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	08/23/2021 14:21	<a href="#">WG1727908</a>
Toluene	U		0.00130	0.00500	1	08/23/2021 14:21	<a href="#">WG1727908</a>
Ethylbenzene	U		0.000737	0.00250	1	08/23/2021 14:21	<a href="#">WG1727908</a>
Xylenes, Total	U		0.000880	0.00650	1	08/23/2021 14:21	<a href="#">WG1727908</a>
Naphthalene	U		0.00488	0.0125	1	08/23/2021 14:21	<a href="#">WG1727908</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	08/23/2021 14:21	<a href="#">WG1727908</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	08/23/2021 14:21	<a href="#">WG1727908</a>
(S) Toluene-d8	106			75.0-131		08/23/2021 14:21	<a href="#">WG1727908</a>
(S) 4-Bromofluorobenzene	80.1			67.0-138		08/23/2021 14:21	<a href="#">WG1727908</a>
(S) 1,2-Dichloroethane-d4	111			70.0-130		08/23/2021 14:21	<a href="#">WG1727908</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	34.3		1.61	4.00	1	08/30/2021 01:19	<a href="#">WG1731350</a>
C28-C36 Motor Oil Range	76.5		0.274	4.00	1	08/30/2021 01:19	<a href="#">WG1731350</a>
(S) o-Terphenyl	72.3			18.0-148		08/30/2021 01:19	<a href="#">WG1731350</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Acenaphthene	U		0.00209	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Acenaphthylene	U		0.00216	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Chrysene	U		0.00232	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Fluoranthene	U		0.00227	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Fluorene	U		0.00205	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Naphthalene	U		0.00408	0.0200	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Phenanthrene	U		0.00231	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
Pyrene	U		0.00200	0.00600	1	08/27/2021 19:07	<a href="#">WG1730313</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	08/27/2021 19:07	<a href="#">WG1730313</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	08/27/2021 19:07	<a href="#">WG1730313</a>
2-Chloronaphthalene	U		0.00466	0.0200	1	08/27/2021 19:07	<a href="#">WG1730313</a>
(S) p-Terphenyl-d14	96.2			23.0-120		08/27/2021 19:07	<a href="#">WG1730313</a>
(S) Nitrobenzene-d5	81.7			14.0-149		08/27/2021 19:07	<a href="#">WG1730313</a>
(S) 2-Fluorobiphenyl	88.2			34.0-125		08/27/2021 19:07	<a href="#">WG1730313</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3696104-1 08/24/21 17:32

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

L1392658-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1392658-05 08/24/21 17:44 • (DUP) R3696104-3 08/24/21 17:50

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

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3696104-8 08/24/21 19:59

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

Laboratory Control Sample (LCS)

(LCS) R3696104-2 08/24/21 17:39

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.0	100	80.0-120	

L1392793-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1392793-13 08/24/21 18:41 • (MS) R3696104-4 08/24/21 18:47 • (MSD) R3696104-5 08/24/21 18:52

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	0.904	19.4	19.7	92.3	93.8	1	75.0-125			1.55	20

L1392793-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1392793-13 08/24/21 18:41 • (MS) R3696104-6 08/24/21 18:57

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	653	0.904	611	93.6	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3697456-2 08/27/21 15:40

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su			%		%
pH	8.91		1	0.112		1

Sample Narrative:

DUP: 8.91 at 24.1C

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3697456-3 08/27/21 15:40

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su			%		%
pH	7.96		1	0.126		1

Sample Narrative:

DUP: 7.96 at 23.7C

Laboratory Control Sample (LCS)

(LCS) R3697456-1 08/27/21 15:40

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.06 at 23.4C

<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) R3695445-1 08/23/21 19:36

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

Sample Narrative:  
BLANK: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3695445-3 08/23/21 19:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
		umhos/cm		%		%
Specific Conductance		1180	1	8.51		20

Sample Narrative:  
DUP: at 25C

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3695445-4 08/23/21 19:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
		umhos/cm		%		%
Specific Conductance		304	1	0.660		20

Sample Narrative:  
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3695445-2 08/23/21 19:36

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	921	102	85.0-115	

Sample Narrative:  
LCS: at 25C

Method Blank (MB)

(MB) R3696014-1 08/25/21 03:55

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

<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) R3696014-2 08/25/21 03:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	105	105	80.0-120	
Cadmium	100	101	101	80.0-120	
Copper	100	106	106	80.0-120	
Lead	100	102	102	80.0-120	
Nickel	100	103	103	80.0-120	
Selenium	100	100	100	80.0-120	
Silver	20.0	18.0	90.2	80.0-120	
Zinc	100	98.0	98.0	80.0-120	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3696014-5 08/25/21 04:09 • (MSD) R3696014-6 08/25/21 04:12

Analyte	Spike Amount mg/kg	Original Result	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	100		1870	2040	0.000	0.000	1	75.0-125	V	V	8.65	20
Cadmium	100		93.2	93.3	93.2	93.3	1	75.0-125			0.0683	20
Copper	100		114	113	95.7	95.3	1	75.0-125			0.367	20
Lead	100		111	112	83.1	83.9	1	75.0-125			0.769	20
Nickel	100		115	115	98.8	98.9	1	75.0-125			0.0729	20
Selenium	100		92.3	93.5	92.3	93.5	1	75.0-125			1.31	20
Silver	20.0		17.4	17.5	87.2	87.5	1	75.0-125			0.231	20
Zinc	100		117	117	74.1	74.7	1	75.0-125	J6	J6	0.561	20

Method Blank (MB)

(MB) R3696222-1 08/25/21 10:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R3696222-2 08/25/21 10:39 • (LCSD) R3696222-3 08/25/21 10:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.00	1.04	100	104	80.0-120			3.75	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) R3695007-1 08/22/21 20:27

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Laboratory Control Sample (LCS)

(LCS) R3695007-2 08/22/21 20:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Arsenic	100	93.8	93.8	80.0-120	

<sup>4</sup>Cn

<sup>5</sup>Sr

L1392658-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1392658-01 08/22/21 20:34 • (MS) R3695007-5 08/22/21 20:44 • (MSD) R3695007-6 08/22/21 20:47

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 %
Arsenic	100	5.32	88.3	86.5	83.0	81.2	5	75.0-125			2.07	20

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3697174-3 08/26/21 03:42

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)	96.8			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3697174-2 08/26/21 02:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.94	89.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			95.9	77.0-120	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3697174-6 08/26/21 12:58 • (MSD) R3697174-7 08/26/21 13:22

Analyte	Spike Amount mg/kg	Original Result	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	3.85		0.797	2.68	20.1	43.5	1	10.0-151		J3	108	28
(S) a,a,a-Trifluorotoluene(FID)					96.8	99.0		77.0-120				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc



Method Blank (MB)

(MB) R3698198-2 08/23/21 12:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Naphthalene	U		0.00488	0.0125
Toluene	U		0.00130	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	106			75.0-131
(S) 4-Bromofluorobenzene	81.2			67.0-138
(S) 1,2-Dichloroethane-d4	111			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3698198-1 08/23/21 11:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.122	97.6	70.0-123	
Ethylbenzene	0.125	0.105	84.0	74.0-126	
Naphthalene	0.125	0.0815	65.2	59.0-130	
Toluene	0.125	0.120	96.0	75.0-121	
1,2,4-Trimethylbenzene	0.125	0.123	98.4	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.131	105	73.0-127	
Xylenes, Total	0.375	0.303	80.8	72.0-127	
(S) Toluene-d8			99.9	75.0-131	
(S) 4-Bromofluorobenzene			89.1	67.0-138	
(S) 1,2-Dichloroethane-d4			123	70.0-130	

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3698198-3 08/23/21 18:46 • (MSD) R3698198-4 08/23/21 19:05

Analyte	Spike Amount mg/kg	Original Result	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		0.0663	0.102	53.0	81.6	1	10.0-149		J3	42.4	37
Ethylbenzene	0.125		0.0571	0.0921	45.7	73.7	1	10.0-160		J3	46.9	38
Naphthalene	0.125		0.0930	0.113	74.4	90.4	1	10.0-160			19.4	36
Toluene	0.125		0.0706	0.111	56.5	88.8	1	10.0-156		J3	44.5	38
1,2,4-Trimethylbenzene	0.125		0.0703	0.111	56.2	88.8	1	10.0-160		J3	44.9	36
1,3,5-Trimethylbenzene	0.125		0.0738	0.123	59.0	98.4	1	10.0-160		J3	50.0	38
Xylenes, Total	0.375		0.163	0.257	43.5	68.5	1	10.0-160		J3	44.8	38

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3698198-3 08/23/21 18:46 • (MSD) R3698198-4 08/23/21 19:05

Analyte	Spike Amount mg/kg	Original Result	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) Toluene-d8					107	106		75.0-131				
(S) 4-Bromofluorobenzene					83.3	83.1		67.0-138				
(S) 1,2-Dichloroethane-d4					116	113		70.0-130				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3697899-1 08/29/21 23:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	84.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3697899-2 08/29/21 23:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	46.3	92.6	50.0-150	
(S) o-Terphenyl			80.9	18.0-148	

L1392845-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1392845-02 08/30/21 14:46 • (MS) R3698294-1 08/30/21 14:59 • (MSD) R3698294-2 08/30/21 15:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	16.7	51.3	47.9	70.6	63.0	10	50.0-150			6.85	20
(S) o-Terphenyl					80.1	77.4		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3697852-2 08/27/21 17:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	97.4			14.0-149
(S) 2-Fluorobiphenyl	109			34.0-125
(S) p-Terphenyl-d14	134	J1		23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3697852-1 08/27/21 17:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0787	98.4	50.0-126	
Acenaphthene	0.0800	0.0836	105	50.0-120	
Acenaphthylene	0.0800	0.0892	112	50.0-120	
Benzo(a)anthracene	0.0800	0.0804	101	45.0-120	
Benzo(a)pyrene	0.0800	0.0786	98.2	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0901	113	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0841	105	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0871	109	49.0-125	
Chrysene	0.0800	0.0859	107	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0820	103	47.0-125	
Fluoranthene	0.0800	0.0785	98.1	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3697852-1 08/27/21 17:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0835	104	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0790	98.8	46.0-125	
Naphthalene	0.0800	0.0826	103	50.0-120	
Phenanthrene	0.0800	0.0783	97.9	47.0-120	
Pyrene	0.0800	0.0877	110	43.0-123	
1-Methylnaphthalene	0.0800	0.0836	105	51.0-121	
2-Methylnaphthalene	0.0800	0.0772	96.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0816	102	50.0-120	
(S) Nitrobenzene-d5			94.0	14.0-149	
(S) 2-Fluorobiphenyl			103	34.0-125	
(S) p-Terphenyl-d14			121	23.0-120	J1

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3697852-3 08/27/21 23:45 • (MSD) R3697852-4 08/28/21 00:05

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0792		0.0957	0.0607	114	69.7	1	10.0-145		J3	44.8	30
Acenaphthene	0.0792		0.0765	0.0606	96.6	76.9	1	14.0-127			23.2	27
Acenaphthylene	0.0792		0.0892	0.0742	105	86.5	1	21.0-124			18.4	25
Benzo(a)anthracene	0.0792		0.242	0.107	247	77.4	1	10.0-139	J5	J3	77.4	30
Benzo(a)pyrene	0.0792		0.250	0.116	246	77.0	1	10.0-141	J5	J3	73.2	31
Benzo(b)fluoranthene	0.0792		0.362	0.139	340	58.4	1	10.0-140	J5	J3	89.0	36
Benzo(g,h,i)perylene	0.0792		0.203	0.0950	196	59.5	1	10.0-140	J5	J3	72.5	33
Benzo(k)fluoranthene	0.0792		0.191	0.104	197	87.6	1	10.0-137	J5	J3	59.0	31
Chrysene	0.0792		0.293	0.130	302	96.4	1	10.0-145	J5	J3	77.1	30
Dibenz(a,h)anthracene	0.0792		0.0940	0.0657	108	73.1	1	10.0-132		J3	35.4	31
Fluoranthene	0.0792		0.529	0.181	524	85.0	1	10.0-153	J5	J3	98.0	33
Fluorene	0.0792		0.0770	0.0607	97.2	77.0	1	11.0-130			23.7	29
Indeno(1,2,3-cd)pyrene	0.0792		0.201	0.0904	193	53.2	1	10.0-137	J5	J3	75.9	32
Naphthalene	0.0792		0.0795	0.0670	100	85.0	1	10.0-135			17.1	27
Phenanthrene	0.0792		0.243	0.123	257	106	1	10.0-144	J5	J3	65.6	31
Pyrene	0.0792		0.455	0.176	441	88.8	1	10.0-148	J5	J3	88.4	35
1-Methylnaphthalene	0.0792		0.0768	0.0641	97.0	81.3	1	10.0-142			18.0	28
2-Methylnaphthalene	0.0792		0.0678	0.0568	85.6	72.1	1	10.0-137			17.7	28
2-Chloronaphthalene	0.0792		0.0708	0.0570	89.4	72.3	1	29.0-120			21.6	24
(S) Nitrobenzene-d5					87.5	77.8		14.0-149				
(S) 2-Fluorobiphenyl					103	89.0		34.0-125				
(S) p-Terphenyl-d14					113	100		23.0-120				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

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

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

### Abbreviations and Definitions

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

### Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

<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

# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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



[illegible]



**Entrada Consulting Group**

Sample Delivery Group: L1405637  
Samples Received: 09/18/2021  
Project Number: HSC 1 BG  
Description: HSC 1 BG  
Site: HSC 1  
Report To: Stuart Hall  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:



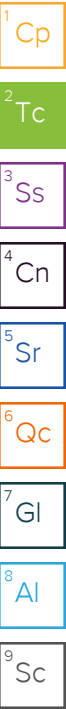
Chris Ward  
Project Manager

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

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

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# SAMPLE SUMMARY

## HSC1-BGW1 L1405637-01 Solid

				Collected by Matt Kasten	Collected date/time 09/17/21 10:35	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 19:22	LD	Mt. Juliet, TN

## HSC1-BGS L1405637-02 Solid

				Collected by Matt Kasten	Collected date/time 09/17/21 10:40	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 19:45	LD	Mt. Juliet, TN

## HSC1-BGW1 L1405637-03 Solid

				Collected by Matt Kasten	Collected date/time 09/17/21 10:40	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 19:55	LD	Mt. Juliet, TN

## HSC1-BGW1 L1405637-04 Solid

				Collected by Matt Kasten	Collected date/time 09/17/21 10:40	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 19:58	LD	Mt. Juliet, TN

## HSC1-BGW1 L1405637-05 Solid

				Collected by Matt Kasten	Collected date/time 09/17/21 10:40	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 20:01	LD	Mt. Juliet, TN

## HSC1-BGS L1405637-06 Solid

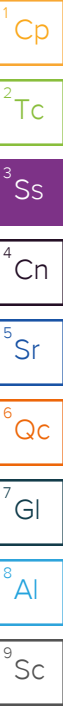
				Collected by Matt Kasten	Collected date/time 09/17/21 10:40	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 20:05	LD	Mt. Juliet, TN

## HSC1-BGS L1405637-07 Solid

				Collected by Matt Kasten	Collected date/time 09/17/21 10:40	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 20:08	LD	Mt. Juliet, TN

## HSC1-BGS L1405637-08 Solid

				Collected by Matt Kasten	Collected date/time 09/17/21 10:40	Received date/time 09/18/21 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1746123	5	09/25/21 08:55	09/26/21 20:11	LD	Mt. Juliet, TN



# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Chris Ward  
Project Manager



Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.53		0.100	1.00	5	09/26/2021 19:22	<a href="#">WG1746123</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

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.50		0.100	1.00	5	09/26/2021 19:45	<a href="#">WG1746123</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

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.86		0.100	1.00	5	09/26/2021 19:55	<a href="#">WG1746123</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

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.08		0.100	1.00	5	09/26/2021 19:58	<a href="#">WG1746123</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



Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.94		0.100	1.00	5	09/26/2021 20:01	<a href="#">WG1746123</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

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.60		0.100	1.00	5	09/26/2021 20:05	<a href="#">WG1746123</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

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.43		0.100	1.00	5	09/26/2021 20:08	<a href="#">WG1746123</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

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.50		0.100	1.00	5	09/26/2021 20:11	<a href="#">WG1746123</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) R3708874-1 09/26/21 19:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3708874-2 09/26/21 19:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	90.1	90.1	80.0-120	

L1405637-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1405637-01 09/26/21 19:22 • (MS) R3708874-5 09/26/21 19:32 • (MSD) R3708874-6 09/26/21 19:35

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	4.53	105	98.0	100	93.5	5	75.0-125			6.56	20

1  
Cp

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# GLOSSARY OF TERMS

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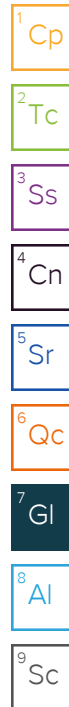
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

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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.
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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.



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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







L1405637 \*ENTCONGJCO\*

R5

Please add 6 additional dashes all logged for ASG

3 copies each of each sample

Please note that email addresses for staff at the Pace Analytical National Center for Testing & Innovation have changed. My new email address is Chris.Ward@pacelabs.com<mailto:Chris.Ward@pacelabs.com>. Please update your records accordingly.

Thanks,

[Description: ESC Leaf for Email Signature Line] Chris Ward  
Project Manager<sup>2</sup>

Pace Analytical National

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Members

 Chris Ward (responsible)