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December 2, 2024  
Brett Middleton  
EHS Specialist  
QB Energy, LLC  
143 Diamond Ave.  
Parachute, CO 81635

**Subject:** Report of Work Completed (ROWC) for DCU 2 Well Pad – Secondary Containment Replacement Impact Investigation – 10/22/2024

***Field Activity Information:***

ECMC Location Name (Location ID#): DIVIDE CREEK UNIT-68S91W/26SWNE (334263)  
QB Location Name: Divide Creek Unit 02 DCU 2  
ECMC Remediation Project #: 37501  
Form 27 Submittal Doc #: 403963003  
GPS Coordinates: 39.332554, -107.516847

Mr. Middleton,

KLJ Engineering (KLJ) has prepared this Report of Work Completed (ROWC) on behalf of QB Energy LLC (QB) to summarize recent soil sample collection activities conducted as part of a tank secondary containment replacement submitted to ECMC under Form 4 #403938717 on September 30, 2024. Following the initial notification, QB initiated Remediation Project #37501 to document additional investigative actions. The purpose of this document is to outline the assessment's context, methods employed, summarize findings, and provide suggestions for further actions. Enclosed with this ROWC are supplementary materials including maps showing soil sampling locations, tables displaying field and analytical data, photographic logs, and laboratory analytical reports.

***Background***

The DCU2 well pad (the Site) is located approximately 19.5 miles southeast of the community of Rifle, in Mesa County, Colorado. The Site produces oil and gas from the Divide Creek Oil and Gas Field (ECMC Field Code: 16900) and is included in the QB Uncle Bob Production Area. Land use within the vicinity of the Site is primarily forested rangeland and oil & gas operations. The Site is located on the west facing slope of Flagpole Mountain at an elevation of approximately 10400 feet above mean sea level (amsl). The nearest surface water feature is Brook Creek, located approximately 0.26 miles to the south of the Site at an elevation of approximately 10200 feet amsl.



A review of the ECMC GIS Online Mapping Application<sup>1</sup> and Colorado Department of Natural Resources (DNR) DWR Well Permit Research Web Application<sup>2</sup> showed that the nearest permitted groundwater well (Colorado DNR Receipt Number: 0400498) is located 2.69 miles west of the Site at an elevation of approximately 7320 feet amsl. A review of well records indicates that it is used for domestic use in a single-family dwelling, irrigation or one acre of lawn and garden and watering of livestock and fire protection and has a documented depth to water of 4 feet bgs.

### ***Methodology***

KLJ Environmental Specialists visited the Site on October 22, 2024 to collect samples to evaluate for the presence of contaminants in soil as part of the upgrade of the Site's secondary containment. Upon arrival, it was observed that the upgraded secondary containment system had been installed, featuring a high-density polyethylene (HDPE) liner and steel walls. The footprint of the new containment system is smaller than the original secondary containment area.

During field activities KLJ personnel collected four total soil samples. KLJ personnel collected two soil samples from within the boundaries of the historic secondary containment but outside the limits of the newly installed system. Sample "20241022-DCU2-(FC-T)@0.5" was collected immediately east of the new containment, and sample "20241022-DCU2-(FC-T02)@0.5" was collected immediately west. Additionally, two background soil samples were taken from undisturbed locations southwest and southeast of the well pad. Due to local topography and the need to cut into the hillside during construction of the well pad's working surface, background samples were collected from a depth consistent with the constructed surface. Roadcuts near the site were utilized to access subsurface soils for these background samples. A map showing the background soil sample locations is attached to this report.

Field sampling equipment was cleaned and decontaminated between each sample collection. Samples were collected following standard methodology, immediately packed on ice, and transferred to the courier for Pace Analytical on the same afternoon. All investigation soil samples were submitted for analysis of the full ECMC Table 915-1 soil parameters. Background soil samples were submitted for analysis of ECMC Table 915-1 inorganic soil parameters. Additionally, a calibrated photoionization detector (PID) was used to collect field screening readings of volatile organic compound (VOC) concentrations from soil at the same location and depth as all sampled soil.

### ***Analytical Results***

During field screening activities, the maximum PID reading for soil collected from excavations was recorded as 1.6 parts per million (ppm). Laboratory analytical results indicate compliance for all samples with Table 915-1 Residential Soil Screening Limits (RSSLs) except arsenic in all samples. All samples exhibit compliance with respect to Table 915-1 Soil Suitability for Reclamation (SSR) standards. Analytical results indicate that all investigation samples contain chromium (VI) concentrations of less than 1.0 mg/kg, but laboratory detection limits were not low enough to determine if concentrations meet RSSL allowable concentrations.

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<sup>1</sup> [https://cogccmap.state.co.us/cogcc\\_gis\\_online/](https://cogccmap.state.co.us/cogcc_gis_online/)

<sup>2</sup> <https://maps.dnrgis.state.co.us/dwr/Index.html?viewer=dwrwellpermit>



During the collection of background soil samples, the maximum PID field screening reading was recorded as 0.3 ppm. Laboratory analytical results indicate that background arsenic concentrations exceed ECMC Table 915-1 RSSL standards, with concentrations ranging from 3.29 to 4.21 mg/kg. Additionally, laboratory analytical results indicate that all background soil samples contain chromium (VI) concentrations of less than 1.0 mg/kg, but laboratory detection limits were not low enough to determine if concentrations meet RSSL allowable concentrations.

### **Conclusion**

As previously discussed, a review of the ECMC GIS Online Mapping Application and Colorado Department of Natural Resources DWR Well Permit Research Web Application showed that the nearest permitted groundwater well is located 2.69 miles west of the Site and has a static water level surface of 4 feet bgs. Since this groundwater well is located at an elevation of 7320 feet amsl and the recorded water level is 4 feet bgs, the computed groundwater depth is 7316 feet amsl. The elevation of the Site is 10400 feet amsl, which is 3084 feet above the computed groundwater depth. Considering the significant difference between the computed depth to groundwater and the elevation at the Site, as well as the absence of groundwater encountered during excavations during this assessment, KLJ recommends that QB seek approval from ECMC to apply Table 915-1 RSSL limits to all future soil samples and to the evaluation of project success, as no path to groundwater appears to exist.

KLJ advises that QB integrates the analytical results from background soil samples collected at the Site while addressing arsenic exceedances observed in investigation samples. To this end, KLJ recommends QB request the application of Table 915-1, Footnote 1 and Footnote 11 to modify the acceptable arsenic concentration used to evaluate project success to 5.26 mg/kg, and thereby to remove arsenic as a constituent of concern.

Based on all investigative results, and assuming the proposed requests for consideration are approved, all constituents of concern are compliant with Table 915-1 RSSLs or alternative screening levels. Therefore, KLJ advises QB to request closure of Remediation Project Number 37501 with a no further action determination.

Thank you for the opportunity to provide our services to QB. If you have any questions or would like to request any further information, please reach out at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Will Harmon'.

Will Harmon, P.G.  
Environmental Specialist  
KLJ Engineering



***Included Appendices***

Appendix A – SOIL SAMPLING LOCATION MAPS

Appendix B – SOIL SAMPLE COLLECTION INFORMATION

Appendix C - ANALYTICAL RESULTS TABLES

Appendix D - PHOTOGRAPHIC LOGS

Appendix E - LABORATORY ANALYSIS RESULTS REPORTS



## **APPENDIX A**

### **SOIL SAMPLING LOCATION MAPS**

# DCU 2 Well Pad - Overview

Secondary Containment Replacement Impact Investigation – 10/22/2024

## Legend

● Sample Collection Location

20241022-DCU2-(FC-T)@0.5  
20241022-DCU2-(FC-T02)@0.5

801

20241022-DCUBG-(DCU2-SW)@5.5

20241022-DCUBG-(DCU2-SE)@4.5

Google Earth

500 ft



# DCU 2 Well Pad - Secondary Containment

Secondary Containment Replacement Impact Investigation – 10/22/2024

## Legend

● Sample Collection Location





## **APPENDIX B**

### **SOIL SAMPLE COLLECTION INFORMATION**



**Sample Collection Summary Table**

**DCU 2 Well Pad – Secondary Containment Replacement Impact Investigation – 10/22/2024**

Sample ID	Sample Type	Depth (FT BGS)	PID (ppm)	Odor	Grab or Composite	Submitted for Analysis	Requested Analysis
20241022-DCU2-(FC-T)@0.5	Investigation	0.5	1.6	No	Grab	Yes	TPH, EC, SAR, pH, boron (hot water soluble soil extract), Organic Componds in Soils - Table 915-1, ECMC Metals in Soils - Table 915-1, ECMC
20241022-DCU2-(FC-T02)@0.5	Investigation	0.5	0.2	No	Grab	Yes	TPH, EC, SAR, pH, boron (hot water soluble soil extract), Organic Componds in Soils - Table 915-1, ECMC Metals in Soils - Table 915-1, ECMC
20241022-DCUBG-(DCU2-SE)@4.5	Background	4.5	0.1	No	Grab	Yes	EC, SAR, pH, boron (hot water soluble soil extract), <i>Metals in Soils</i> - Table 915-1, ECMC
20241022-DCUBG-(DCU2-SW)@5.5	Background	5.5	0.3	No	Grab	Yes	EC, SAR, pH, boron (hot water soluble soil extract), <i>Metals in Soils</i> - Table 915-1, ECMC

FT – feet

BGS – below ground surface

PID – photoionization detector

PPM – parts per million

TPH – total petroleum hydrocarbons

ECMC – Colorado Energy and Carbon Management Commission

EC – electrical conductivity

SAR – sodium adsorption ratio



## **APPENDIX C**

### **ANALYTICAL RESULTS TABLES**

**SOIL ANALYTICAL RESULTS TABLE  
DIVIDE CREEK UNIT 02**

				<b>EC</b>	<b>SAR</b>	<b>pH</b>	<b>HWS Boron</b>	<b>Arsenic</b>	<b>Barium</b>	<b>Cadmium</b>	<b>Chromium VI</b>	<b>Copper</b>	<b>Lead</b>	<b>Nickel</b>	<b>Selenium</b>	<b>Silver</b>	<b>Zinc</b>
<b>Analyte</b>				4	6	8.3	2	0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
<b>915-1 PROTECTION OF GW</b>				4	6	8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
<b>915-1 RESIDENTIAL SOIL</b>																	
<b>Units</b>				mmhos/cm	No Unit	SU	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<b>Sample Name</b>	<b>Sample Type</b>	<b>Sample Date</b>	<b>Lab Report</b>														
20241022-DCU2-(FC-T)@0.5	Facility Closure	10/22/2024	L1791877	0.454	0.728	7.90	0.294	<b>4.45</b>	<b>158</b>	0.241	< <b>1.00</b>	20.8	<b>21.4</b>	19.3	<b>0.456</b>	< 0.500	64.1
20241022-DCU2-(FC-T02)@0.5	Facility Closure	10/22/2024	L1791877	0.531	1.79	8.04	0.133	<b>2.26</b>	<b>136</b>	0.0879	< <b>1.00</b>	4.61	4.32	5.69	<b>0.310</b>	< 0.500	22.1

**Notes:**

Bold with silver highlight: Exceeds RSSLs

Bold with blue highlight: Exceeds POGs

"<" (as in, less than laboratory reporting detection limit)

**SOIL ANALYTICAL RESULTS TABLE  
DIVIDE CREEK UNIT 02**

<b>Analyte</b> <b>915-1 PROTECTION OF GW</b> <b>915-1 RESIDENTIAL SOIL</b>				GRO			DRO			ORO			Benzene			Toluene			Ethylbenzene			Total Xylenes			1,2,4-TMB			1,3,5-TMB			Acenaphthene			Anthracene			Benz(a)anthracene			Benzo(b)fluoranthene			Benzo(k)fluoranthene			Benzo(a)pyrene			Chrysene			Dibenz(a,h)anthracene			Fluoranthene			Fluorene			Indeno(1,2,3-cd)Pyre			1-Methylnaphthalene			2-Methylnaphthalene			Naphthalene			Pyrene		
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																											
<b>Sample Name</b>	<b>Sample Type</b>	<b>Sample Date</b>	<b>Lab Report</b>	0.0286	16.2	26.2	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600																														
20241022-DCU2-(FC-T)@0.5	Facility Closure	10/22/2024	L1791877	0.0409	< 4.00	6.14	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600																														
20241022-DCU2-(FC-T02)@0.5	Facility Closure	10/22/2024	L1791877	0.0409	< 4.00	6.14	< 0.00100	< 0.00500	< 0.00250	< 0.00650	< 0.00500	< 0.00500	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600	< 0.00600																														

**Notes:**  
 Bold with silver highlight: Exceeds RSSLs  
 Bold with blue highlight: Exceeds POGs  
 "<" (as in, less than laboratory reporting detection limit)

**SOIL ANALYTICAL RESULTS TABLE  
DCUBG**

				<b>EC</b>	<b>SAR</b>	<b>pH</b>	<b>HWS Boron</b>	<b>Arsenic</b>	<b>Barium</b>	<b>Cadmium</b>	<b>Chromium VI</b>	<b>Copper</b>	<b>Lead</b>	<b>Nickel</b>	<b>Selenium</b>	<b>Silver</b>	<b>Zinc</b>
<b>Analyte</b>				4	6	8.3	2	0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
<b>915-1 PROTECTION OF GW</b>				4	6	8.3	2	0.68	15000	71	0.3	3100	400	1500	390	390	23000
<b>915-1 RESIDENTIAL SOIL</b>																	
<b>Units</b>				mmhos/cm	No Unit	SU	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<b>Sample Name</b>	<b>Sample Type</b>	<b>Sample Date</b>	<b>Lab Report</b>														
20241022-DCUBG-(DCU2-SE)@4.5	Background	10/22/2024	L1791873	0.0570	0.217	6.72	0.128	<b>4.21</b>	<b>137</b>	<b>0.398</b>	< 1.00	15.8	10.4	<b>29.2</b>	<b>0.484</b>	< 0.500	59.8
20241022-DCUBG-(DCU2-SW)@5.5	Background	10/22/2024	L1791873	0.0373	0.316	6.54	0.0511	<b>3.29</b>	80.1	0.200	< 1.00	13.1	9.93	18.4	<b>0.347</b>	< 0.500	46.9

**Notes:**

Bold with silver highlight: Exceeds RSSLs

Bold with blue highlight: Exceeds POGs


"<" (as in, less than laboratory reporting detection limit)




## APPENDIX D

## PHOTOGRAPHIC LOGS



<b>Photograph #1</b>	<b>DCU 2 Well Pad – Secondary Containment Replacement Impact Investigation</b>	
Date Taken:	October 22, 2024	
Direction:	N/A	
Description:	Overview of the site, with new secondary containment installed	



<b>Photograph #2</b>	<b>DCU 2 Well Pad – Secondary Containment Replacement Impact Investigation</b>	
Date Taken:	October 22, 2024	
Direction:	N/A	
Description:	20241022-DCU2-(FC-T)@0.5	



<b>Photograph #3</b>	<b>DCU 2 Well Pad – Secondary Containment Replacement Impact Investigation</b>
Date Taken:	October 22, 2024
Direction:	N/A
Description:	20241022-DCU2-(FC-T02)@0.5



<b>Photograph #4</b>	<b>DCU 2 Well Pad – Secondary Containment Replacement Impact Investigation</b>
Date Taken:	October 22, 2024
Direction:	N/A
Description:	20241022-DCUBG-(DCU2-SE)@4.5





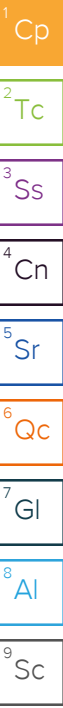
<b>Photograph #5</b>	<b>DCU 2 Well Pad – Secondary Containment Replacement Impact Investigation</b>
Date Taken:	October 22, 2024
Direction:	N/A
Description:	20241022-DCUBG-(DCU2-SW)@5.5





## **APPENDIX E**

# **LABORATORY ANALYSIS RESULTS REPORTS**



## QB Energy

Sample Delivery Group: L1791877  
Samples Received: 10/23/2024  
Project Number:  
Description: DCU2 Tank Removal

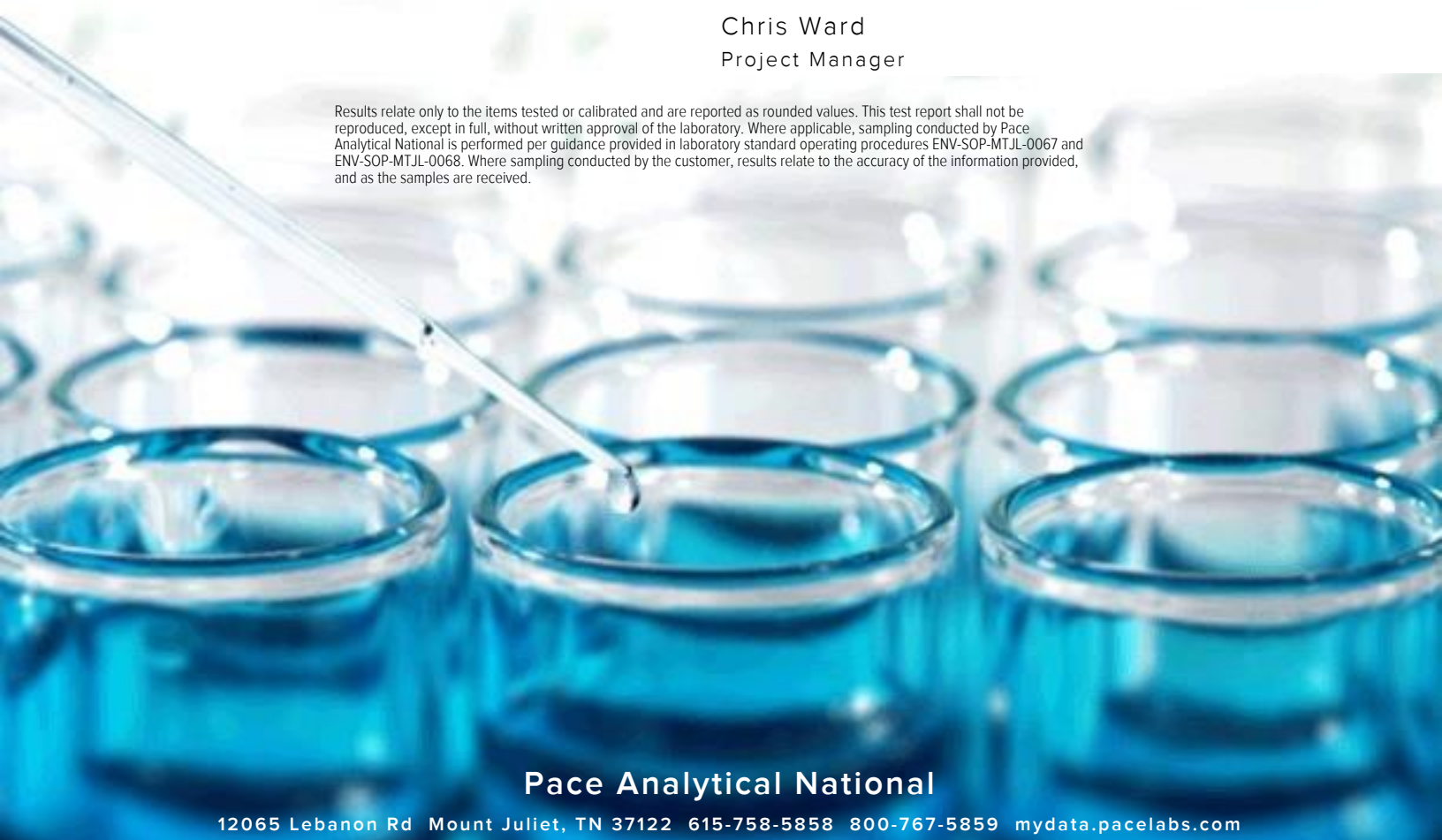
Report To: Jake J. / Brett M. / Blair R. / Andy V.  
143 Diamond Avenue  
Parachute, CO 81635

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.

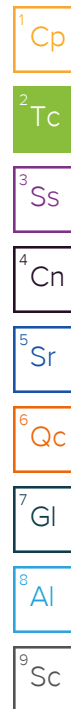


**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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# SAMPLE SUMMARY

20241022-DCU2-(FC-T)@0.5 L1791877-01 Solid

Collected by: Nora Oviatt  
 Collected date/time: 10/22/24 11:45  
 Received date/time: 10/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2391527	1	11/03/24 14:10	11/03/24 14:10	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2389292	1	10/25/24 17:39	10/29/24 01:15	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2394884	1	11/04/24 07:51	11/04/24 09:35	BRT	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2394888	1	11/04/24 07:58	11/04/24 11:43	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2391532	1	10/30/24 15:16	10/31/24 18:23	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2388942	5	10/31/24 07:53	11/01/24 13:35	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2390591	1	10/25/24 09:13	10/28/24 06:13	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2390767	1	10/25/24 09:13	10/28/24 09:29	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2391995	1	10/30/24 09:40	10/30/24 19:43	KDB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2391607	1	10/29/24 17:29	10/30/24 15:07	MKM	Mt. Juliet, TN

20241022-DCU2-(FC-T02)@0.5 L1791877-02 Solid

Collected by: Nora Oviatt  
 Collected date/time: 10/22/24 12:05  
 Received date/time: 10/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2391527	1	11/03/24 14:13	11/03/24 14:13	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2389292	1	10/25/24 17:39	10/29/24 01:26	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2394884	1	11/04/24 07:51	11/04/24 09:35	BRT	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2394888	1	11/04/24 07:58	11/04/24 11:43	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2391532	1	10/30/24 15:16	10/31/24 18:26	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2388942	5	10/31/24 07:53	11/01/24 13:39	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2390591	1	10/25/24 09:13	10/28/24 06:36	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2390767	1	10/25/24 09:13	10/28/24 09:48	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2391995	1	10/30/24 09:40	10/30/24 19:14	KDB	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2391607	1	10/29/24 17:29	10/30/24 15:24	MKM	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# CASE NARRATIVE

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



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	0.728		1	11/03/2024 14:10	WG2391527

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	10/29/2024 01:15	<a href="#">WG2389292</a>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.90	<u>T8</u>	1	11/04/2024 09:35	<a href="#">WG2394884</a>

Sample Narrative:

L1791877-01 WG2394884: 7.9 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	454	umhos/cm		10.0	1	11/04/2024 11:43	<a href="#">WG2394888</a>

Sample Narrative:

L1791877-01 WG2394888: at 25C

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

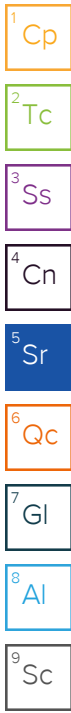
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.294		0.0167	0.200	1	10/31/2024 18:23	<a href="#">WG2391532</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.45		0.100	1.00	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Barium	158		0.152	2.50	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Cadmium	0.241	<u>J</u>	0.0855	1.00	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Copper	20.8		0.132	5.00	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Lead	21.4		0.0990	2.00	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Nickel	19.3		0.197	2.50	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Selenium	0.456	<u>J</u>	0.180	2.50	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Silver	U		0.0865	0.500	5	11/01/2024 13:35	<a href="#">WG2388942</a>
Zinc	64.1		0.740	25.0	5	11/01/2024 13:35	<a href="#">WG2388942</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	0.0286	<u>J</u>	0.0217	0.100	1	10/28/2024 06:13	<a href="#">WG2390591</a>
(S) a,a,a-Trifluorotoluene(FID)	97.4			77.0-120		10/28/2024 06:13	<a href="#">WG2390591</a>



## 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	10/28/2024 09:29	<a href="#">WG2390767</a>
Toluene	U		0.00130	0.00500	1	10/28/2024 09:29	<a href="#">WG2390767</a>
Ethylbenzene	U		0.000737	0.00250	1	10/28/2024 09:29	<a href="#">WG2390767</a>
Xylenes, Total	U		0.000880	0.00650	1	10/28/2024 09:29	<a href="#">WG2390767</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/28/2024 09:29	<a href="#">WG2390767</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/28/2024 09:29	<a href="#">WG2390767</a>
(S) Toluene-d8	101			75.0-131		10/28/2024 09:29	<a href="#">WG2390767</a>
(S) 4-Bromofluorobenzene	98.7			67.0-138		10/28/2024 09:29	<a href="#">WG2390767</a>
(S) 1,2-Dichloroethane-d4	101			70.0-130		10/28/2024 09:29	<a href="#">WG2390767</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	16.2		1.61	4.00	1	10/30/2024 19:43	<a href="#">WG2391995</a>
C28-C36 Motor Oil Range	26.2		0.274	4.00	1	10/30/2024 19:43	<a href="#">WG2391995</a>
(S) o-Terphenyl	82.5			18.0-148		10/30/2024 19:43	<a href="#">WG2391995</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
Acenaphthene	U		0.00209	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Anthracene	U		0.00230	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Chrysene	U		0.00232	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Fluoranthene	U		0.00227	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Fluorene	U		0.00205	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
1-Methylnaphthalene	0.00605	U	0.00449	0.0200	1	10/30/2024 15:07	<a href="#">WG2391607</a>
2-Methylnaphthalene	0.0122	U	0.00427	0.0200	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Naphthalene	0.00558	U	0.00408	0.0200	1	10/30/2024 15:07	<a href="#">WG2391607</a>
Pyrene	U		0.00200	0.00600	1	10/30/2024 15:07	<a href="#">WG2391607</a>
(S) p-Terphenyl-d14	57.2			23.0-120		10/30/2024 15:07	<a href="#">WG2391607</a>
(S) Nitrobenzene-d5	65.9			14.0-149		10/30/2024 15:07	<a href="#">WG2391607</a>
(S) 2-Fluorobiphenyl	58.5			34.0-125		10/30/2024 15:07	<a href="#">WG2391607</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	1.79		1	11/03/2024 14:13	WG2391527

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	10/29/2024 01:26	<a href="#">WG2389292</a>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.04	<u>T8</u>	1	11/04/2024 09:35	<a href="#">WG2394884</a>

Sample Narrative:

L1791877-02 WG2394884: 8.04 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	531	umhos/cm		10.0	1	11/04/2024 11:43	<a href="#">WG2394888</a>

Sample Narrative:

L1791877-02 WG2394888: at 25C

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

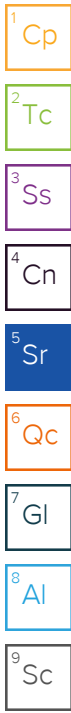
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.133	<u>J</u>	0.0167	0.200	1	10/31/2024 18:26	<a href="#">WG2391532</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.26		0.100	1.00	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Barium	136		0.152	2.50	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Cadmium	0.0879	<u>J</u>	0.0855	1.00	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Copper	4.61	<u>J</u>	0.132	5.00	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Lead	4.32		0.0990	2.00	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Nickel	5.69		0.197	2.50	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Selenium	0.310	<u>J</u>	0.180	2.50	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Silver	U		0.0865	0.500	5	11/01/2024 13:39	<a href="#">WG2388942</a>
Zinc	22.1	<u>J</u>	0.740	25.0	5	11/01/2024 13:39	<a href="#">WG2388942</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	0.0409	<u>J</u>	0.0217	0.100	1	10/28/2024 06:36	<a href="#">WG2390591</a>
(S) a,a,a-Trifluorotoluene(FID)	97.4			77.0-120		10/28/2024 06:36	<a href="#">WG2390591</a>



## 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	10/28/2024 09:48	<a href="#">WG2390767</a>
Toluene	U		0.00130	0.00500	1	10/28/2024 09:48	<a href="#">WG2390767</a>
Ethylbenzene	U		0.000737	0.00250	1	10/28/2024 09:48	<a href="#">WG2390767</a>
Xylenes, Total	U		0.000880	0.00650	1	10/28/2024 09:48	<a href="#">WG2390767</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/28/2024 09:48	<a href="#">WG2390767</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/28/2024 09:48	<a href="#">WG2390767</a>
(S) Toluene-d8	99.7			75.0-131		10/28/2024 09:48	<a href="#">WG2390767</a>
(S) 4-Bromofluorobenzene	102			67.0-138		10/28/2024 09:48	<a href="#">WG2390767</a>
(S) 1,2-Dichloroethane-d4	99.1			70.0-130		10/28/2024 09:48	<a href="#">WG2390767</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	U		1.61	4.00	1	10/30/2024 19:14	<a href="#">WG2391995</a>
C28-C36 Motor Oil Range	6.14		0.274	4.00	1	10/30/2024 19:14	<a href="#">WG2391995</a>
(S) o-Terphenyl	78.1			18.0-148		10/30/2024 19:14	<a href="#">WG2391995</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
Acenaphthene	U		0.00209	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Anthracene	U		0.00230	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Chrysene	U		0.00232	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Fluoranthene	U		0.00227	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Fluorene	U		0.00205	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
1-Methylnaphthalene	U		0.00449	0.0200	1	10/30/2024 15:24	<a href="#">WG2391607</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Naphthalene	U		0.00408	0.0200	1	10/30/2024 15:24	<a href="#">WG2391607</a>
Pyrene	U		0.00200	0.00600	1	10/30/2024 15:24	<a href="#">WG2391607</a>
(S) p-Terphenyl-d14	82.5			23.0-120		10/30/2024 15:24	<a href="#">WG2391607</a>
(S) Nitrobenzene-d5	68.5			14.0-149		10/30/2024 15:24	<a href="#">WG2391607</a>
(S) 2-Fluorobiphenyl	76.9			34.0-125		10/30/2024 15:24	<a href="#">WG2391607</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4138778-1 10/29/24 00:55

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

<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

L1791877-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1791877-02 10/29/24 01:26 • (DUP) R4138778-3 10/29/24 01:36

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

L1792271-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1792271-04 10/29/24 05:59 • (DUP) R4138778-8 10/29/24 06:09

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

Laboratory Control Sample (LCS)

(LCS) R4138778-2 10/29/24 01:05

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	10.2	102	80.0-120	

L1792271-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792271-01 10/29/24 04:24 • (MS) R4138778-5 10/29/24 05:06 • (MSD) R4138778-6 10/29/24 05:17

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Hexavalent Chromium	20.0	U	1.65	1.22	8.23	6.09	1	75.0-125	<u>J6</u>	<u>J3 J6</u>	29.9	20

L1792271-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1792271-01 10/29/24 04:24 • (MS) R4138778-7 10/29/24 05:27

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	631	U	412	65.3	50	75.0-125	<u>J6</u>

L1791867-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1791867-01 11/04/24 09:35 • (DUP) R4141519-2 11/04/24 09:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.85	7.86	1	0.127		1

Sample Narrative:

OS: 7.85 at 20.2C  
 DUP: 7.86 at 20.3C

L1792779-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1792779-01 11/04/24 09:35 • (DUP) R4141519-3 11/04/24 09:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.75	7.80	1	0.643		1

Sample Narrative:

OS: 7.75 at 19.9C  
 DUP: 7.8 at 20.3C

Laboratory Control Sample (LCS)

(LCS) R4141519-1 11/04/24 09:35

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

Sample Narrative:

LCS: 10.01 at 20C



Method Blank (MB)

(MB) R4141583-1 11/04/24 11:43

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

L1791877-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1791877-01 11/04/24 11:43 • (DUP) R4141583-3 11/04/24 11:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	454	452	1	0.442		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1792284-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1792284-02 11/04/24 11:43 • (DUP) R4141583-4 11/04/24 11:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	265	265	1	0.226		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4141583-2 11/04/24 11:43

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	754	103	85.0-115	

Sample Narrative:

LCS: at 25C

<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) R4140537-1 10/31/24 18:12

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) R4140537-2 10/31/24 18:15 • (LCSD) R4140537-3 10/31/24 18:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.07	1.07	107	107	80.0-120			0.283	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) R4140819-1 11/01/24 14:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	0.161	U	0.133	5.00
Lead	U		0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R4140819-2 11/01/24 14:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	90.3	90.3	80.0-120	
Barium	100	91.7	91.7	80.0-120	
Cadmium	100	86.3	86.3	80.0-120	
Copper	100	86.2	86.2	80.0-120	
Lead	100	87.3	87.3	80.0-120	
Nickel	100	92.5	92.5	80.0-120	
Selenium	100	88.7	88.7	80.0-120	
Silver	20.0	18.2	91.1	80.0-120	
Zinc	100	90.5	90.5	80.0-120	

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

L1791925-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1791925-01 11/01/24 14:09 • (MS) R4140819-5 11/01/24 14:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Arsenic	99.8	9.34	115	106	5	75.0-125	
Barium	99.8	51.8	151	99.1	5	75.0-125	
Cadmium	99.8	U	101	101	5	75.0-125	
Copper	99.8	30.1	114	84.2	5	75.0-125	
Lead	99.8	8.44	105	96.2	5	75.0-125	
Nickel	99.8	3.13	112	109	5	75.0-125	
Selenium	99.8	0.573	102	101	5	75.0-125	
Silver	20.0	1.62	22.6	105	5	75.0-125	
Zinc	99.8	29.6	123	93.2	5	75.0-125	

Method Blank (MB)

(MB) R4139602-3 10/27/24 21:39

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
<sup>(S)</sup> a,a,a-Trifluorotoluene(FID)	100			77.0-120

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

(LCS) R4139602-1 10/27/24 20:25 • (LCSD) R4139602-2 10/27/24 20:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	5.65	4.98	113	99.6	72.0-127			12.6	20
<sup>(S)</sup> a,a,a-Trifluorotoluene(FID)				104	104	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

Method Blank (MB)

(MB) R4139913-2 10/28/24 08:11

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	99.7			75.0-131
(S) 4-Bromofluorobenzene	99.6			67.0-138
(S) 1,2-Dichloroethane-d4	95.4			70.0-130

Laboratory Control Sample (LCS)

(LCS) R4139913-1 10/28/24 06:54

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Benzene	0.125	0.109	87.2	70.0-123	
Toluene	0.125	0.105	84.0	75.0-121	
Ethylbenzene	0.125	0.104	83.2	74.0-126	
Xylenes, Total	0.375	0.315	84.0	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.103	82.4	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.102	81.6	73.0-127	
(S) Toluene-d8			96.6	75.0-131	
(S) 4-Bromofluorobenzene			97.2	67.0-138	
(S) 1,2-Dichloroethane-d4			106	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4139953-1 10/30/24 16:39

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	75.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4139953-2 10/30/24 16:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
C10-C28 Diesel Range	50.0	40.3	80.6	50.0-150	
(S) o-Terphenyl			79.7	18.0-148	

L1791876-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791876-02 10/30/24 21:07 • (MS) R4139953-3 10/30/24 21:21 • (MSD) R4139953-4 10/30/24 21:35

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	%	%		%			%	%
C10-C28 Diesel Range	49.3	419	250	519	0.000	202	100	50.0-150	<u>JV</u>	<u>J3 V</u>	70.0	20
(S) o-Terphenyl					61.7	92.2		18.0-148	<u>J7</u>	<u>J7</u>		

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4141248-2 10/30/24 09:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	81.4			23.0-120
(S) Nitrobenzene-d5	79.5			14.0-149
(S) 2-Fluorobiphenyl	79.4			34.0-125

<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) R4141248-1 10/30/24 09:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0494	61.8	50.0-120	
Anthracene	0.0800	0.0489	61.1	50.0-126	
Benzo(a)anthracene	0.0800	0.0491	61.4	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0503	62.9	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0488	61.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0378	47.3	42.0-120	
Chrysene	0.0800	0.0525	65.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0492	61.5	47.0-125	
Fluoranthene	0.0800	0.0535	66.9	49.0-129	
Fluorene	0.0800	0.0531	66.4	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0494	61.8	46.0-125	
1-Methylnaphthalene	0.0800	0.0531	66.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0504	63.0	50.0-120	
Naphthalene	0.0800	0.0503	62.9	50.0-120	
Pyrene	0.0800	0.0557	69.6	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4141248-1 10/30/24 09:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			81.8	23.0-120	
(S) Nitrobenzene-d5			85.1	14.0-149	
(S) 2-Fluorobiphenyl			80.5	34.0-125	

L1791860-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791860-04 10/30/24 11:18 • (MS) R4141248-3 10/30/24 11:36 • (MSD) R4141248-4 10/30/24 11:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0772	U	0.0433	0.0461	56.1	59.1	1	14.0-127			6.26	27
Anthracene	0.0772	U	0.0438	0.0441	56.7	56.5	1	10.0-145			0.683	30
Benzo(a)anthracene	0.0772	U	0.0409	0.0440	53.0	56.4	1	10.0-139			7.30	30
Benzo(b)fluoranthene	0.0772	U	0.0470	0.0482	60.9	61.8	1	10.0-140			2.52	36
Benzo(k)fluoranthene	0.0772	U	0.0417	0.0461	54.0	59.1	1	10.0-137			10.0	31
Benzo(a)pyrene	0.0772	U	0.0420	0.0454	54.4	58.2	1	10.0-141			7.78	31
Chrysene	0.0772	U	0.0462	0.0498	59.8	63.8	1	10.0-145			7.50	30
Dibenz(a,h)anthracene	0.0772	U	0.0415	0.0445	53.8	57.1	1	10.0-132			6.98	31
Fluoranthene	0.0772	U	0.0469	0.0491	60.8	62.9	1	10.0-153			4.58	33
Fluorene	0.0772	U	0.0462	0.0486	59.8	62.3	1	11.0-130			5.06	29
Indeno(1,2,3-cd)pyrene	0.0772	U	0.0414	0.0455	53.6	58.3	1	10.0-137			9.44	32
1-Methylnaphthalene	0.0772	U	0.0482	0.0493	62.4	63.2	1	10.0-142			2.26	28
2-Methylnaphthalene	0.0772	U	0.0458	0.0454	59.3	58.2	1	10.0-137			0.877	28
Naphthalene	0.0772	U	0.0455	0.0462	58.9	59.2	1	10.0-135			1.53	27
Pyrene	0.0772	U	0.0500	0.0537	64.8	68.8	1	10.0-148			7.14	35
(S) p-Terphenyl-d14					74.8	73.6		23.0-120				
(S) Nitrobenzene-d5					72.0	69.0		14.0-149				
(S) 2-Fluorobiphenyl					74.4	72.9		34.0-125				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

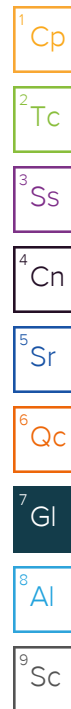
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

### Abbreviations and Definitions

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

Qualifier	Description
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.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.



# ACCREDITATIONS & LOCATIONS

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

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

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

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

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

<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





## QB Energy

Sample Delivery Group: L1791873  
Samples Received: 10/23/2024  
Project Number:  
Description: DCU2 Background

Report To: Jake J. / Brett M. / Blair R. / Andy V.  
143 Diamond Avenue  
Parachute, CO 81635










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.

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# SAMPLE SUMMARY

## 20241022-DCUBG-(DCU2-SE)@4.5 L1791873-01 Solid

Collected by: Nora Oviatt  
 Collected date/time: 10/22/24 12:45  
 Received date/time: 10/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2390496	1	10/30/24 19:40	10/30/24 19:40	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2388532	1	10/27/24 15:25	10/27/24 23:54	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2392357	1	10/30/24 14:04	10/30/24 16:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2392360	1	10/30/24 14:08	10/30/24 16:04	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2390497	1	10/29/24 09:59	10/29/24 18:21	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2388925	5	10/29/24 08:14	10/29/24 18:59	LD	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

## 20241022-DCUBG-(DCU2-SW)@5.5 L1791873-02 Solid

Collected by: Nora Oviatt  
 Collected date/time: 10/22/24 13:15  
 Received date/time: 10/23/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2390496	1	10/30/24 19:43	10/30/24 19:43	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2388532	1	10/27/24 15:25	10/28/24 00:24	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2392357	1	10/30/24 14:04	10/30/24 16:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2392360	1	10/30/24 14:08	10/30/24 16:04	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2390497	1	10/29/24 09:59	10/29/24 18:23	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2388925	5	10/29/24 08:14	10/29/24 19:03	LD	Mt. Juliet, TN

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# CASE NARRATIVE

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



Chris Ward  
Project Manager

<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	0.217		1	10/30/2024 19:40	WG2390496

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U	J6	0.255	1.00	1	10/27/2024 23:54	WG2388532

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	6.72	T8	1	10/30/2024 16:30	WG2392357

Sample Narrative:

L1791873-01 WG2392357: 6.72 at 22.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	57.0	umhos/cm		10.0	1	10/30/2024 16:04	WG2392360

Sample Narrative:

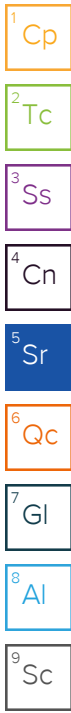
L1791873-01 WG2392360: at 25C

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	0.128	J	0.0167	0.200	1	10/29/2024 18:21	WG2390497

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.21		0.100	1.00	5	10/29/2024 18:59	WG2388925
Barium	137		0.152	2.50	5	10/29/2024 18:59	WG2388925
Cadmium	0.398	J	0.0855	1.00	5	10/29/2024 18:59	WG2388925
Copper	15.8		0.132	5.00	5	10/29/2024 18:59	WG2388925
Lead	10.4		0.0990	2.00	5	10/29/2024 18:59	WG2388925
Nickel	29.2		0.197	2.50	5	10/29/2024 18:59	WG2388925
Selenium	0.484	J	0.180	2.50	5	10/29/2024 18:59	WG2388925
Silver	U		0.0865	0.500	5	10/29/2024 18:59	WG2388925
Zinc	59.8		0.740	25.0	5	10/29/2024 18:59	WG2388925



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.316		1	10/30/2024 19:43	WG2390496

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	10/28/2024 00:24	<a href="#">WG2388532</a>

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	6.54	<u>T8</u>	1	10/30/2024 16:30	<a href="#">WG2392357</a>

Sample Narrative:

L1791873-02 WG2392357: 6.54 at 21.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	37.3	umhos/cm		10.0	1	10/30/2024 16:04	<a href="#">WG2392360</a>

Sample Narrative:

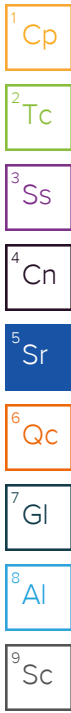
L1791873-02 WG2392360: at 25C

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	0.0511	<u>J</u>	0.0167	0.200	1	10/29/2024 18:23	<a href="#">WG2390497</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.29		0.100	1.00	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Barium	80.1		0.152	2.50	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Cadmium	0.200	<u>J</u>	0.0855	1.00	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Copper	13.1		0.132	5.00	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Lead	9.93		0.0990	2.00	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Nickel	18.4		0.197	2.50	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Selenium	0.347	<u>J</u>	0.180	2.50	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Silver	U		0.0865	0.500	5	10/29/2024 19:03	<a href="#">WG2388925</a>
Zinc	46.9	<u>B</u>	0.740	25.0	5	10/29/2024 19:03	<a href="#">WG2388925</a>



Method Blank (MB)

(MB) R4138262-1 10/27/24 22:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Hexavalent Chromium	0.540	<span style="color: red;">J</span>	0.255	1.00

<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

L1791883-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1791883-04 10/28/24 01:02 • (DUP) R4138262-7 10/28/24 01:08

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

L1791883-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1791883-07 10/28/24 01:26 • (DUP) R4138262-8 10/28/24 01:32

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

Laboratory Control Sample (LCS)

(LCS) R4138262-2 10/27/24 22:27

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	10.5	105	80.0-120	

L1791873-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791873-01 10/27/24 23:54 • (MS) R4138262-3 10/28/24 00:00 • (MSD) R4138262-4 10/28/24 00:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Hexavalent Chromium	20.0	U	U	U	0.000	0.000	1	75.0-125	<span style="color: red;">J6</span>	<span style="color: red;">J6</span>	0.000	20

L1791873-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1791873-01 10/27/24 23:54 • (MS) R4138262-5 10/28/24 00:12

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	656	U	339	51.7	50	75.0-125	<span style="color: red;">J6</span>

L1791866-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1791866-01 10/30/24 16:30 • (DUP) R4139874-2 10/30/24 16:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	10.3	10.3	1	0.000		1

Sample Narrative:

OS: 10.26 at 21.9C

DUP: 10.26 at 21.9C

L1791892-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1791892-02 10/30/24 16:30 • (DUP) R4139874-3 10/30/24 16:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.82	7.81	1	0.128		1

Sample Narrative:

OS: 7.82 at 20.8C

DUP: 7.81 at 20.8C

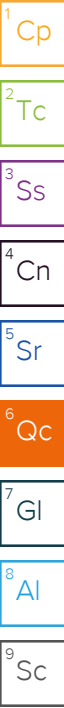
Laboratory Control Sample (LCS)

(LCS) R4139874-1 10/30/24 16:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.96	99.6	99.0-101	

Sample Narrative:

LCS: 9.96 at 20.7C



Method Blank (MB)

(MB) R4139810-1 10/30/24 16:04

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

Sample Narrative:

BLANK: at 25C

L1791866-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1791866-02 10/30/24 16:04 • (DUP) R4139810-3 10/30/24 16:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	7850	7830	1	0.255		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1791892-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1791892-01 10/30/24 16:04 • (DUP) R4139810-4 10/30/24 16:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	449	447	1	0.446		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4139810-2 10/30/24 16:04

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Specific Conductance	733	756	103	85.0-115	

Sample Narrative:

LCS: at 25C



Method Blank (MB)

(MB) R4139321-1 10/29/24 18:01

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) R4139321-2 10/29/24 18:04 • (LCSD) R4139321-3 10/29/24 18:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.08	1.11	108	111	80.0-120			2.50	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) R4139318-1 10/29/24 18:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	0.227	U	0.133	5.00
Lead	0.230	U	0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	5.77	U	0.740	25.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R4139318-2 10/29/24 18:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Barium	100	98.5	98.5	80.0-120	
Cadmium	100	101	101	80.0-120	
Copper	100	103	103	80.0-120	
Lead	100	99.3	99.3	80.0-120	
Nickel	100	104	104	80.0-120	
Selenium	100	104	104	80.0-120	
Silver	20.0	20.2	101	80.0-120	
Zinc	100	102	102	80.0-120	

L1791866-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1791866-03 10/29/24 18:18 • (MS) R4139318-5 10/29/24 18:28 • (MSD) R4139318-6 10/29/24 18:32

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	4.08	109	102	105	98.4	5	75.0-125			6.03	20
Barium	100	436	593	499	157	62.9	5	75.0-125	V	V	17.2	20
Cadmium	100	0.148	102	96.4	102	96.2	5	75.0-125			5.35	20
Copper	100	11.2	114	105	103	93.4	5	75.0-125			9.02	20
Lead	100	7.28	108	101	100	93.8	5	75.0-125			6.21	20
Nickel	100	6.84	108	104	102	96.7	5	75.0-125			4.65	20
Selenium	100	0.186	103	98.2	103	98.0	5	75.0-125		E	5.00	20
Silver	20.0	U	20.6	19.7	103	98.5	5	75.0-125			4.46	20
Zinc	100	31.0	130	120	99.1	89.3	5	75.0-125			7.81	20

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

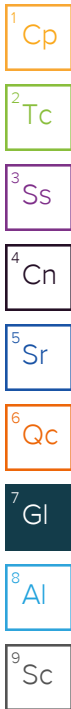
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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.



# 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.

<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



**Background Sample Analyte List**

Electrical conductivity (EC) (by saturated paste method)

Sodium adsorption ratio (SAR) (by saturated paste method)

pH (by saturated paste method)

boron (hot water soluble soil extract)

arsenic

barium

cadmium

chromium (VI)

copper

lead

nickel

selenium

silver

zinc

