

Caerus Oil and Gas

Sample Delivery Group: L1775400
Samples Received: 09/07/2024
Project Number:
Description: Coral Creek 4512 Facility Decommissioning
Site: CORRAL CREEK 4512
Report To: Jake J. / Brett M. / Blair R. / Andy V.
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By:



Chris Ward
Project Manager

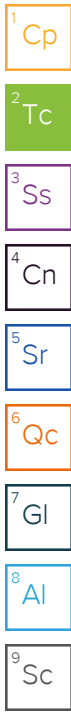
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Pace Analytical National

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SAMPLE SUMMARY

20240906-CCBG-(A361100-N)@3 L1775400-01 Solid

Collected by Trevor Lakin Collected date/time 09/06/24 10:39 Received date/time 09/07/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2364092	1	09/20/24 18:06	09/20/24 18:06	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2358623	1	09/11/24 20:40	09/12/24 09:48	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366789	1	09/20/24 16:59	09/20/24 17:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366794	1	09/20/24 17:03	09/21/24 14:31	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2364184	1	09/19/24 19:45	09/19/24 23:51	JTM	Mt. Juliet, TN
Subcontracted Analyses	WG2358511	1	09/17/24 00:00	09/17/24 00:00	-	Minneapolis, MN 55414

1
Cp

2
Tc

3
Ss

4
Cn

20240906-CCBG-(A361100-E)@3 L1775400-02 Solid

Collected by Trevor Lakin Collected date/time 09/06/24 10:54 Received date/time 09/07/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2364092	1	09/20/24 18:07	09/20/24 18:07	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2358623	1	09/11/24 20:40	09/12/24 09:54	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366789	1	09/20/24 16:59	09/20/24 17:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366794	1	09/20/24 17:03	09/21/24 14:31	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2364184	1	09/19/24 19:45	09/19/24 23:53	JTM	Mt. Juliet, TN
Subcontracted Analyses	WG2358511	1	09/17/24 00:00	09/17/24 00:00	-	Minneapolis, MN 55414

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

20240906-CCBG-(A361100-S)@3 L1775400-03 Solid

Collected by Trevor Lakin Collected date/time 09/06/24 11:08 Received date/time 09/07/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2364174	1	09/18/24 10:07	09/18/24 10:07	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2358632	1	09/12/24 16:51	09/16/24 02:28	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2364652	1	09/18/24 10:33	09/18/24 12:09	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2364678	1	09/18/24 10:32	09/18/24 23:45	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2364199	1	09/17/24 22:03	09/18/24 16:51	RDS	Mt. Juliet, TN
Subcontracted Analyses	WG2358511	1	09/17/24 00:00	09/17/24 00:00	-	Minneapolis, MN 55414

20240906-CCBG-(A361100-W)@3 L1775400-04 Solid

Collected by Trevor Lakin Collected date/time 09/06/24 11:29 Received date/time 09/07/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2364092	1	09/20/24 18:09	09/20/24 18:09	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2358632	1	09/12/24 16:51	09/16/24 02:35	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366789	1	09/20/24 16:59	09/20/24 17:10	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366794	1	09/20/24 17:03	09/21/24 14:31	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2364184	1	09/19/24 19:45	09/19/24 23:54	JTM	Mt. Juliet, TN
Subcontracted Analyses	WG2358511	1	09/17/24 00:00	09/17/24 00:00	-	Minneapolis, MN 55414

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

Project Narrative

L1775400 -01, -02, -03, -04 contains subout data that is included after the chain of custody.

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	0.306		1	09/20/2024 18:06	WG2364092

1 Cp

2 Tc

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	09/12/2024 09:48	WG2358623

3 Ss

4 Cn

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.97	<u>T8</u>	1	09/20/2024 17:10	WG2366789

5 Sr

6 Qc

Sample Narrative:

L1775400-01 WG2366789: 7.97 at 23.2C

7 Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	226	umhos/cm		10.0	1	09/21/2024 14:31	WG2366794

8 Al

Sample Narrative:

L1775400-01 WG2366794: at 25C

9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.281		0.0167	0.200	1	09/19/2024 23:51	WG2364184

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.335		1	09/20/2024 18:07	WG2364092

1 Cp

2 Tc

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.351	J P1	0.255	1.00	1	09/12/2024 09:54	WG2358623

3 Ss

4 Cn

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.46	T8	1	09/20/2024 17:10	WG2366789

5 Sr

6 Qc

Sample Narrative:

L1775400-02 WG2366789: 7.46 at 22.9C

7 Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	173	umhos/cm		10.0	1	09/21/2024 14:31	WG2366794

8 Al

Sample Narrative:

L1775400-02 WG2366794: at 25C

9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.210		0.0167	0.200	1	09/19/2024 23:53	WG2364184

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.288		1	09/18/2024 10:07	WG2364174

1 Cp

2 Tc

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	09/16/2024 02:28	WG2358632

3 Ss

4 Cn

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.55	T8	1	09/18/2024 12:09	WG2364652

5 Sr

6 Qc

Sample Narrative:

L1775400-03 WG2364652: 7.55 at 21.5C

7 Gl

8 Al

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	132	umhos/cm		10.0	1	09/18/2024 23:45	WG2364678

9 Sc

Sample Narrative:

L1775400-03 WG2364678: 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	0.260		0.0167	0.200	1	09/18/2024 16:51	WG2364199

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.318		1	09/20/2024 18:09	WG2364092

1 Cp

2 Tc

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.274	J	0.255	1.00	1	09/16/2024 02:35	WG2358632

3 Ss

4 Cn

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.00	T8	1	09/20/2024 17:10	WG2366789

5 Sr

6 Qc

Sample Narrative:

L1775400-04 WG2366789: 8 at 23.1C

7 Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	183	umhos/cm		10.0	1	09/21/2024 14:31	WG2366794

8 Al

Sample Narrative:

L1775400-04 WG2366794: at 25C

9 Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.150	J	0.0167	0.200	1	09/19/2024 23:54	WG2364184

Method Blank (MB)

(MB) R4119162-1 09/12/24 06:55

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1775374-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1775374-07 09/12/24 09:11 • (DUP) R4119162-9 09/12/24 09:29

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

L1775400-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1775400-02 09/12/24 09:54 • (DUP) R4119162-10 09/12/24 10:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	0.351	U	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R4119162-2 09/12/24 07:04

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	10.7	107	80.0-120	

L1775374-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1775374-04 09/12/24 08:27 • (MS) R4119162-5 09/12/24 08:40 • (MSD) R4119162-7 09/12/24 08:46

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	11.2	9.50	55.8	47.5	1	75.0-125	J6	J6	16.1	20

L1775374-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1775374-04 09/12/24 08:27 • (MS) R4119162-8 09/12/24 08:52

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	643	U	655	102	50	75.0-125	

Method Blank (MB)

(MB) R4120091-1 09/16/24 00:47

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1775335-41 Original Sample (OS) • Duplicate (DUP)

(OS) L1775335-41 09/16/24 01:02 • (DUP) R4120091-3 09/16/24 01:08

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

L1775402-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1775402-02 09/16/24 02:47 • (DUP) R4120091-8 09/16/24 02:53

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) R4120091-2 09/16/24 00:56

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

L1775335-44 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1775335-44 09/16/24 01:27 • (MS) R4120091-4 09/16/24 01:33 • (MSD) R4120091-5 09/16/24 01:39

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	18.5	18.5	92.3	92.5	1	75.0-125			0.249	20

L1775335-44 Original Sample (OS) • Matrix Spike (MS)

(OS) L1775335-44 09/16/24 01:27 • (MS) R4120091-6 09/16/24 01:45

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	636	U	487	76.6	50	75.0-125	

L1774929-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1774929-01 09/18/24 12:09 • (DUP) R4121185-2 09/18/24 12:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.53	7.53	1	0.000		1

Sample Narrative:

OS: 7.53 at 22.1C
DUP: 7.53 at 22.5C

L1775335-29 Original Sample (OS) • Duplicate (DUP)

(OS) L1775335-29 09/18/24 12:09 • (DUP) R4121185-3 09/18/24 12:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.77	8.73	1	0.457		1

Sample Narrative:

OS: 8.77 at 21.2C
DUP: 8.73 at 21.8C

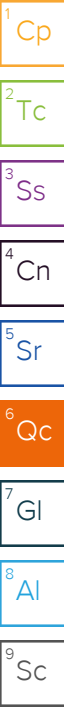
Laboratory Control Sample (LCS)

(LCS) R4121185-1 09/18/24 12:09

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 20.9C



L1775343-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1775343-05 09/20/24 17:10 • (DUP) R4122529-2 09/20/24 17:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
su	su			%		%
pH	8.40	8.35	1	0.597		1

Sample Narrative:

OS: 8.4 at 23.1C
DUP: 8.35 at 23.1C

L1775400-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1775400-04 09/20/24 17:10 • (DUP) R4122529-3 09/20/24 17:10

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	8.00	8.01	1	0.125		1

Sample Narrative:

OS: 8 at 23.1C
DUP: 8.01 at 23.1C

Laboratory Control Sample (LCS)

(LCS) R4122529-1 09/20/24 17:10

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
su	su		%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 21.8C

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4121502-1 09/18/24 23:45

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

L1774811-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1774811-01 09/18/24 23:45 • (DUP) R4121502-3 09/18/24 23:45

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	165	164	1	0.729		20

Sample Narrative:

OS: at 25C
DUP: at 25C

L1775335-30 Original Sample (OS) • Duplicate (DUP)

(OS) L1775335-30 09/18/24 23:45 • (DUP) R4121502-4 09/18/24 23:45

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	234	232	1	1.03		20

Sample Narrative:

OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4121502-2 09/18/24 23:45

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	717	97.8	85.0-115	

Sample Narrative:

LCS: at 25C



Method Blank (MB)

(MB) R4122755-1 09/21/24 14:31

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

L1775343-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1775343-05 09/21/24 14:31 • (DUP) R4122755-3 09/21/24 14:31

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	349	347	1	0.575		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1775400-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1775400-04 09/21/24 14:31 • (DUP) R4122755-4 09/21/24 14:31

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	183	185	1	1.58		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4122755-2 09/21/24 14:31

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	735	100	85.0-115	

Sample Narrative:

LCS: at 25C

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4122285-1 09/19/24 23:21

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

¹Cp

²Tc

³Ss

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

(LCS) R4122285-2 09/19/24 23:22 • (LCSD) R4122285-3 09/19/24 23:24

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	1.02	1.02	102	102	80.0-120			0.0808	20

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4121342-1 09/18/24 14:55

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) R4121342-2 09/18/24 14:57 • (LCSD) R4121342-3 09/18/24 14:59

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	1.02	1.06	102	106	80.0-120			3.53	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

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.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCREDITATIONS & LOCATIONS

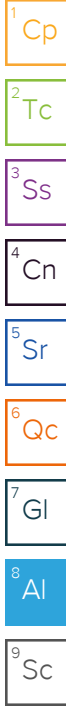
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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 ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	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 ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	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 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ 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.



Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information:
SAMEASLEFT

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



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



SDG # **E065**

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

Remarks Sample # (lab only)

Report to:
Jake Janicek

Email To:
jjanicek@caerusoilandgas.com

Project Description:
Corral Creek 4512 Facility Decommissioning

City/State
Collected: Piceance Crk, CO

Please Circle:
PT MT CT ET

Phone: (970) 778-2314

Client Project #

Lab Project #

Collected by (print):
Trevor Lakin

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

Immediately

Packed on Ice N ___ Y X

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

Date Results Needed

Standard TAT

No.
of
Cntrs

COGOC Table 915-1 minus organics

EC, pH, SAR

Arsenic, Boron

COGOC Table 910-1

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
20240906-CCBG-(A361100-N)@3	Grab	SS	3ft	9/6/24	10:39	4
20240906-CCBG-(A361100-E)@3	↓	↓	↓	↓	10:54	4
20240906-CCBG-(A361100-S)@3	↓	↓	↓	↓	11:08	4
20240906-CCBG-(A361100-W)@3	↓	↓	↓	↓	11:29	4

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

Remarks:

Samples returned via:

___ UPS ___ FedEx ___ Courier

Tracking #

7315 3203 0537

pH ___ Temp ___

Flow ___ Other ___

Sample Receipt Checklist

COC Seal Present/Intact: NP ___ Y ___ N
COC Signed/Accurate: ___ Y ___ N
Bottles arrive intact: ___ Y ___ N
Correct bottles used: ___ Y ___ N
Sufficient volume sent: ___ Y ___ N
If Applicable
VOA Zero Headspace: ___ Y ___ N
Preservation Correct/Checked: ___ Y ___ N
RAD Screen <0.5 mR/hr: ___ Y ___ N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes No
HCL / MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **14.9 °C** Bottles Received: **16**
1.0 ± 0.3 = 1.3

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: **9-7-24** Time: **0900**

If preservation required by Login: Date/Time

Hold: Condition:
NCF / OK



September 18, 2024

Client Services
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1775400 WG2358511
Pace Project No.: 10707148

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Yeng Ozawa
yeng.ozawa@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical National Center for
Testing & Innovation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: L1775400 WG2358511

Pace Project No.: 10707148

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

DoD Certification via A2LA #: 2926.01

EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

GMP+ Certification #: GMP050884

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

ISO/IEC 17025 Certification via A2LA #: 2926.01

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification (A2LA) #: R-036

North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Oklahoma Certification #: 9507

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Vermont Certification #: VT-027053137

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification via A2LA #: 2926.01

USDA Permit #: P330-19-00208

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: L1775400 WG2358511
Pace Project No.: 10707148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10707148001	20240906-CCBG-(A361100-N)@3	Solid	09/06/24 10:39	09/10/24 08:50
10707148002	20240906-CCBG-(A361100-E)@3	Solid	09/06/24 10:54	09/10/24 08:50
10707148003	20240906-CCBG-(A361100-S)@3	Solid	09/06/24 11:08	09/10/24 08:50
10707148004	20240906-CCBG-(A361100-W)@3	Solid	09/06/24 11:29	09/10/24 08:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: L1775400 WG2358511
Pace Project No.: 10707148

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10707148001	20240906-CCBG-(A361100-N)@3	EPA 6020B	NN2	9	PASI-M
10707148002	20240906-CCBG-(A361100-E)@3	EPA 6020B	NN2	9	PASI-M
10707148003	20240906-CCBG-(A361100-S)@3	EPA 6020B	NN2	9	PASI-M
10707148004	20240906-CCBG-(A361100-W)@3	EPA 6020B	NN2	9	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1775400 WG2358511

Pace Project No.: 10707148

Sample: 20240906-CCBG-(A361100-N)@3 Lab ID: 10707148001 Collected: 09/06/24 10:39 Received: 09/10/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis							
Arsenic	3.6	mg/kg	0.46	0.13	20	09/12/24 10:05	09/16/24 18:44	7440-38-2	M1
Barium	111	mg/kg	0.28	0.081	20	09/12/24 10:05	09/16/24 18:44	7440-39-3	M1
Cadmium	0.055J	mg/kg	0.074	0.027	20	09/12/24 10:05	09/16/24 18:44	7440-43-9	M1
Copper	4.7	mg/kg	0.93	0.28	20	09/12/24 10:05	09/16/24 18:44	7440-50-8	M1
Lead	7.0	mg/kg	0.46	0.16	20	09/12/24 10:05	09/16/24 18:44	7439-92-1	M1
Nickel	8.1	mg/kg	0.46	0.21	20	09/12/24 10:05	09/16/24 18:44	7440-02-0	M1
Selenium	0.19J	mg/kg	0.46	0.097	20	09/12/24 10:05	09/16/24 18:44	7782-49-2	M1
Silver	<0.19	mg/kg	0.46	0.19	20	09/12/24 10:05	09/16/24 18:44	7440-22-4	M1
Zinc	37.3	mg/kg	4.6	1.3	20	09/12/24 10:05	09/16/24 18:44	7440-66-6	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1775400 WG2358511

Pace Project No.: 10707148

Sample: 20240906-CCBG-(A361100-E)@3 Lab ID: 10707148002 Collected: 09/06/24 10:54 Received: 09/10/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis							
Arsenic	3.6	mg/kg	0.47	0.14	20	09/12/24 10:05	09/16/24 18:57	7440-38-2	
Barium	260	mg/kg	0.28	0.083	20	09/12/24 10:05	09/16/24 18:57	7440-39-3	
Cadmium	0.12	mg/kg	0.076	0.028	20	09/12/24 10:05	09/16/24 18:57	7440-43-9	
Copper	9.4	mg/kg	0.95	0.29	20	09/12/24 10:05	09/16/24 18:57	7440-50-8	
Lead	13.5	mg/kg	0.47	0.16	20	09/12/24 10:05	09/16/24 18:57	7439-92-1	
Nickel	12.5	mg/kg	0.47	0.22	20	09/12/24 10:05	09/16/24 18:57	7440-02-0	
Selenium	0.30J	mg/kg	0.47	0.10	20	09/12/24 10:05	09/16/24 18:57	7782-49-2	
Silver	<0.19	mg/kg	0.47	0.19	20	09/12/24 10:05	09/16/24 18:57	7440-22-4	
Zinc	42.6	mg/kg	4.7	1.3	20	09/12/24 10:05	09/16/24 18:57	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1775400 WG2358511

Pace Project No.: 10707148

Sample: 20240906-CCBG-(A361100-S)@3 Lab ID: 10707148003 Collected: 09/06/24 11:08 Received: 09/10/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis							
Arsenic	5.2	mg/kg	0.50	0.14	20	09/12/24 10:05	09/16/24 19:00	7440-38-2	
Barium	177	mg/kg	0.30	0.087	20	09/12/24 10:05	09/16/24 19:00	7440-39-3	
Cadmium	0.11	mg/kg	0.080	0.029	20	09/12/24 10:05	09/16/24 19:00	7440-43-9	
Copper	7.4	mg/kg	1.0	0.30	20	09/12/24 10:05	09/16/24 19:00	7440-50-8	
Lead	12.6	mg/kg	0.50	0.17	20	09/12/24 10:05	09/16/24 19:00	7439-92-1	
Nickel	13.6	mg/kg	0.50	0.23	20	09/12/24 10:05	09/16/24 19:00	7440-02-0	
Selenium	0.24J	mg/kg	0.50	0.10	20	09/12/24 10:05	09/16/24 19:00	7782-49-2	
Silver	<0.20	mg/kg	0.50	0.20	20	09/12/24 10:05	09/16/24 19:00	7440-22-4	
Zinc	44.2	mg/kg	5.0	1.4	20	09/12/24 10:05	09/16/24 19:00	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1775400 WG2358511

Pace Project No.: 10707148

Sample: 20240906-CCBG-(A361100-W)@3 Lab ID: 10707148004 Collected: 09/06/24 11:29 Received: 09/10/24 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis							
Arsenic	6.0	mg/kg	0.47	0.13	20	09/12/24 10:05	09/16/24 19:03	7440-38-2	
Barium	477	mg/kg	1.4	0.41	100	09/12/24 10:05	09/17/24 10:25	7440-39-3	
Cadmium	0.13	mg/kg	0.075	0.028	20	09/12/24 10:05	09/16/24 19:03	7440-43-9	
Copper	8.7	mg/kg	0.94	0.29	20	09/12/24 10:05	09/16/24 19:03	7440-50-8	
Lead	15.2	mg/kg	0.47	0.16	20	09/12/24 10:05	09/16/24 19:03	7439-92-1	
Nickel	16.6	mg/kg	0.47	0.22	20	09/12/24 10:05	09/16/24 19:03	7440-02-0	
Selenium	0.27J	mg/kg	0.47	0.099	20	09/12/24 10:05	09/16/24 19:03	7782-49-2	
Silver	<0.19	mg/kg	0.47	0.19	20	09/12/24 10:05	09/16/24 19:03	7440-22-4	
Zinc	53.4	mg/kg	4.7	1.3	20	09/12/24 10:05	09/16/24 19:03	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: L1775400 WG2358511

Pace Project No.: 10707148

QC Batch:	967420	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3050B	Analysis Description:	6020B Solids UPD5
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10707148001, 10707148002, 10707148003, 10707148004

METHOD BLANK: 5055754 Matrix: Solid

Associated Lab Samples: 10707148001, 10707148002, 10707148003, 10707148004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	<0.14	0.49	0.14	09/16/24 18:38	
Barium	mg/kg	<0.085	0.29	0.085	09/16/24 18:38	
Cadmium	mg/kg	<0.029	0.078	0.029	09/16/24 18:38	
Copper	mg/kg	<0.30	0.97	0.30	09/16/24 18:38	
Lead	mg/kg	<0.17	0.49	0.17	09/16/24 18:38	
Nickel	mg/kg	<0.23	0.49	0.23	09/16/24 18:38	
Selenium	mg/kg	<0.10	0.49	0.10	09/16/24 18:38	
Silver	mg/kg	<0.20	0.49	0.20	09/16/24 18:38	
Zinc	mg/kg	<1.4	4.9	1.4	09/16/24 18:38	

LABORATORY CONTROL SAMPLE: 5055755

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	47.4	52.1	110	80-120	
Barium	mg/kg	47.4	53.3	112	80-120	
Cadmium	mg/kg	47.4	52.1	110	80-120	
Copper	mg/kg	47.4	56.0	118	80-120	
Lead	mg/kg	47.4	53.0	112	80-120	
Nickel	mg/kg	47.4	56.4	119	80-120	
Selenium	mg/kg	47.4	52.2	110	80-120	
Silver	mg/kg	23.7	27.3	115	80-120	
Zinc	mg/kg	47.4	53.5	113	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 5055756 5055757

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10707148001 Result	Spike Conc.	Spike Conc.	MS Result						
Arsenic	mg/kg	3.6	47.4	45.7	32.0	33.5	60	65	75-125	5	20 M1
Barium	mg/kg	111	47.4	45.7	144	161	69	108	75-125	11	20 M1
Cadmium	mg/kg	0.055J	47.4	45.7	34.5	35.9	73	78	75-125	4	20 M1
Copper	mg/kg	4.7	47.4	45.7	30.7	33.1	55	62	75-125	7	20 M1
Lead	mg/kg	7.0	47.4	45.7	41.0	42.5	72	78	75-125	4	20 M1
Nickel	mg/kg	8.1	47.4	45.7	33.9	36.9	54	63	75-125	9	20 M1
Selenium	mg/kg	0.19J	47.4	45.7	28.7	31.0	60	68	75-125	8	20 M1
Silver	mg/kg	<0.19	23.7	22.8	20.8	21.2	87	93	75-125	2	20
Zinc	mg/kg	37.3	47.4	45.7	70.6	76.5	70	86	75-125	8	20 M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: L1775400 WG2358511

Pace Project No.: 10707148

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1775400 WG2358511

Pace Project No.: 10707148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10707148001	20240906-CCBG-(A361100-N)@3	EPA 3050B	967420	EPA 6020B	967953
10707148002	20240906-CCBG-(A361100-E)@3	EPA 3050B	967420	EPA 6020B	967953
10707148003	20240906-CCBG-(A361100-S)@3	EPA 3050B	967420	EPA 6020B	967953
10707148004	20240906-CCBG-(A361100-W)@3	EPA 3050B	967420	EPA 6020B	967953

REPORT OF LABORATORY ANALYSIS

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Sub-Contract Chain of Custody

Batch Date/Time: 09/08/24 23:41
Sub-Contract Lab: PACEMN
Address: 1700 Elm Street Suite 200
 SE
City/State: Minneapolis, MN 55414
Contact: tong.lee@pacelabs.com
Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2358511
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 09/19/24
ESC Purchase Order #: L1775400
Send Reports to: James C Huckaba



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 Phone: (615) 773-9756
 Fax: (615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
20240906-CCBG- (A361100-N)@3	SS	CO	09/06/24 10:39	Metals	1. L1775400-01	6020 AS, BA, CD, CU, PB, NI, SE, AG, ZN, Report to the MDL/RDL
20240906-CCBG- (A361100-E)@3	SS	CO	09/06/24 10:54	Metals	2. L1775400-02	6020 AS, BA, CD, CU, PB, NI, SE, AG, ZN, Report to the MDL/RDL
20240906-CCBG- (A361100-S)@3	SS	CO	09/06/24 11:08	Metals	3. L1775400-03	6020 AS, BA, CD, CU, PB, NI, SE, AG, ZN, Report to the MDL/RDL
20240906-CCBG- (A361100-W)@3	SS	CO	09/06/24 11:29	Metals	4. L1775400-04	6020 AS, BA, CD, CU, PB, NI, SE, AG, ZN, Report to the MDL/RDL

CW1
 CW2
 CW3
 CW4

*= Container used for multiple Samples and/or Analyses

Relinquished by: [Signature] Date 9/9/24
 Received by: Am mes/pac Date 9/10/24 8:50
 Relinquished by: _____ Date _____
 Received by: _____ Date _____

19.7°C **No Ice**

WO# : 10707148



ENV-FRM-MIN4-0150 v17 Sample Condition Upon Receipt

CLIENT NAME: Pace MTJL PROJECT #:

WO#: 10707148

COURIER: Client Commercial FedEx Pace
 Speedee UPS USPS

PM: Y01 Due Date: 09/24/24
 CLIENT: PASI-TN

TRACKING NUMBER: H041 0481 0203 See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: YES NO Seals Intact: YES NO Biological Tissue Frozen: YES NO N/A
 Packing Material: Bubble Bags Bubble Wrap None Other Temp Blank: YES NO Type of Ice: Blue Dry Wet
 Thermometer: T1 (0461) T2 (0436) T3 (0459) T4 (0402) T5 (0178) T6 (0235)
 T7 (0042) T8 (0775) T9 (0727) 01339252 (1710) Melted None

Did Samples Originate in West Virginia: YES NO Were All Container Temps taken: YES NO N/A
 Correction Factor: -0.4 Cooler Temp Read w/Temp Blank: _____ °C Average Corrected Temp (no Temp Blank Only): 19.7 °C
 Cooler Temp Corrected w/Temp Blank: _____ °C
 NOTE: Temp should be above freezing to 6°C. See Exceptions Form ENV-FRM-MIN4-0142 1 Container

USDA Regulated Soil: N/A - Water Sample/Other (describe): Soil Initials & Date of Person Examining Contents: SJC 9/10/24
 Did Samples originate from one of the following states (check maps) AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: YES NO Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): YES NO
 NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

LOCATION (check one):	<input type="checkbox"/> DULUTH	<input checked="" type="checkbox"/> MINNEAPOLIS	<input type="checkbox"/> VIRGINIA	YES	NO	N/A	COMMENT(S)								
Chain of Custody Present and Filled Out?		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		1.								
Chain of Custody Relinquished?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		2.								
Sampler Name and/or Signature on COC?		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		3.								
Samples Arrived within Hold Time?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		4. If Fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 hr <input type="checkbox"/> No								
Short Hold Time Analysis (<72 hr)?		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		5. <input type="checkbox"/> BOD / cBOD <input type="checkbox"/> Fecal coliform <input type="checkbox"/> Hex Chrom <input type="checkbox"/> HPC <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Ortho Phos <input type="checkbox"/> Total coliform/E. coli <input type="checkbox"/> Other: _____								
Rush Turn Around Time Requested?		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		6.								
Sufficient Sample Volume?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		7. <u>1060W per sample</u>								
Correct Containers Used?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		8.								
- Pace Containers Used?		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>										
Containers Intact?		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		9.								
Field Filtered Volume Received for Dissolved Tests?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		10. Is sediment visible in the dissolved container: <input type="checkbox"/> YES <input type="checkbox"/> NO								
Is sufficient information available to reconcile the samples to the COC? NOTE: If ID/Date/Time don't match fill out section 11. Matrix: <input type="checkbox"/> Oil <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Other		<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		11. If NO, write ID/Date/Time of container below: <input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0142								
All containers needing acid/base preservation have been checked? All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		12. Sample #: <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> Zinc Acetate Positive for Residual Chlorine: <input type="checkbox"/> YES <input type="checkbox"/> NO pH Paper Lot # <table border="1"> <tr> <th>Residual Chlorine</th> <th>0-6 Roll</th> <th>0-6 Strip</th> <th>0-14 Strip</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table> <input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0142	Residual Chlorine	0-6 Roll	0-6 Strip	0-14 Strip				
Residual Chlorine	0-6 Roll	0-6 Strip	0-14 Strip												
NOTE: If adding preservation to the container, verify with the PM first. Clients may require adding preservative to the field and equipment blanks when this occurs.															
Headspace in Methyl Mercury Container?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		13.								
Extra labels present on soil VOA or WIDRO containers?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		14.								
Headspace in VOA Vials (greater than 6mm)?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/> See Exceptions form ENV-FRM-MIN4-0140								
Trip Blanks Present?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		15.								
Trip Blank Custody Seals Present?		<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		Pace Trip Blank Lot # (if purchased): _____								

CLIENT NOTIFICATION / RESOLUTION

FIELD DATA REQUIRED: YES NO

Person Contacted: _____ Date & Time: _____

Comments / Resolution: _____

Project Manager Review: Yeng Ozawa Date: 9/10/24

NOTE: When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: SJC Line: 3

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp
20.0	19.6	19.7
20.2	19.8	
20.3	19.7	
20.1	19.7	

PM Notified of Out of Temp Cooler? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If yes, indicate who was contacted, date and time. If no, indicate reason why. <i>Not on ice/ambient</i>
Multiple Cooler Project? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

If anything is OVER 6.0°C, you **MUST** document containers in this section **HERE**



Tracking Number	Temperature

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples										
Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								YES	NO	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	
								<input type="checkbox"/>	<input type="checkbox"/>	

Comments: _____

