

Caerus Oil and Gas

Sample Delivery Group: L1528876
Samples Received: 08/24/2022
Project Number:
Description: RA11 Backgrounds
Site: RA11
Report To: Brett Middleton
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 National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	6
Sr: Sample Results	7
20220823-RA11-BG03 @ 1FT L1528876-01	7
20220823-RA11-BG04 @ 1FT L1528876-02	8
20220823-RA11-BG05 @ 1FT L1528876-03	9
20220823-RA11-BG06 @ 1FT L1528876-04	10
20220823-RA11-BG07 @ 1FT L1528876-05	11
20220823-RA11-BG08 @ 3FT L1528876-06	12
20220823-RA11-BG08 @ 5FT L1528876-07	13
20220823-RA11-BG09 @ 3FT L1528876-08	14
20220823-RA11-BG10 @ 5FT L1528876-09	15
20220823-RA11-BG10 @ 7FT L1528876-10	16
20220823-RA11-BG10 @ 9FT L1528876-11	17
20220823-RA11-BG10 @ 11FT L1528876-12	18
20220823-RA11-BG10 @ 13FT L1528876-13	19
Qc: Quality Control Summary	20
Wet Chemistry by Method 7199	20
Wet Chemistry by Method 9045D	21
Wet Chemistry by Method 9050AMod	24
Metals (ICP) by Method 6010B	26
Metals (ICP) by Method 6010B-NE493 Ch 2	30
Metals (ICPMS) by Method 6020	31
Gl: Glossary of Terms	35
Al: Accreditations & Locations	36
Sc: Sample Chain of Custody	37

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

SAMPLE SUMMARY

20220823-RA11-BG03 @ 1FT L1528876-01 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 07:15

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 16:32	08/30/22 16:32	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1919060	1	09/02/22 03:13	09/02/22 11:44	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1917505	1	08/31/22 09:00	08/31/22 11:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923611	1	09/09/22 16:10	09/13/22 13:30	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918588	1	08/30/22 15:45	08/31/22 13:48	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:04	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918592	5	08/30/22 15:46	08/31/22 01:26	SJM	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

20220823-RA11-BG04 @ 1FT L1528876-02 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 07:20

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 16:35	08/30/22 16:35	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1919060	1	09/02/22 03:13	09/02/22 12:10	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1917505	1	08/31/22 09:00	08/31/22 11:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923611	1	09/09/22 16:10	09/13/22 13:30	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1916971	1	08/28/22 09:28	08/29/22 13:45	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:07	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1916975	5	08/28/22 09:31	08/29/22 11:06	SJM	Mt. Juliet, TN

20220823-RA11-BG05 @ 1FT L1528876-03 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 11:00

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 16:38	08/30/22 16:38	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1919060	1	09/02/22 03:13	09/02/22 12:20	ARD	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1917505	1	08/31/22 09:00	08/31/22 11:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1916940	1	08/29/22 16:28	08/30/22 17:55	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:10	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1916966	5	08/29/22 16:57	08/29/22 22:59	LD	Mt. Juliet, TN

20220823-RA11-BG06 @ 1FT L1528876-04 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 11:10

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 16:41	08/30/22 16:41	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 10:47	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1917505	1	08/31/22 09:00	08/31/22 11:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918588	1	08/30/22 15:45	08/31/22 13:51	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:13	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918592	5	08/30/22 15:46	08/31/22 01:30	SJM	Mt. Juliet, TN

20220823-RA11-BG07 @ 1FT L1528876-05 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 11:20

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 16:44	08/30/22 16:44	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 10:52	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1917505	1	08/31/22 09:00	08/31/22 11:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN

SAMPLE SUMMARY

20220823-RA11-BG07 @ 1FT L1528876-05 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 11:20

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1918588	1	08/30/22 15:45	08/31/22 13:54	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:15	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918592	5	08/30/22 15:46	08/31/22 01:33	SJM	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

20220823-RA11-BG08 @ 3FT L1528876-06 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 07:45

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:21	08/30/22 17:21	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:03	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1917505	1	08/31/22 09:00	08/31/22 11:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918588	1	08/30/22 15:45	08/31/22 14:02	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:18	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918592	5	08/30/22 15:46	08/31/22 01:43	SJM	Mt. Juliet, TN

20220823-RA11-BG08 @ 5FT L1528876-07 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 07:55

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:24	08/30/22 17:24	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:08	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1919627	1	09/01/22 11:00	09/01/22 13:00	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918717	1	08/30/22 15:44	08/31/22 13:03	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:21	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918718	5	08/30/22 15:45	08/31/22 01:53	JPD	Mt. Juliet, TN

20220823-RA11-BG09 @ 3FT L1528876-08 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 08:20

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:27	08/30/22 17:27	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:13	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1919627	1	09/01/22 11:00	09/01/22 13:00	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918717	1	08/30/22 15:44	08/31/22 13:05	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:29	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918718	5	08/30/22 15:45	08/31/22 01:57	JPD	Mt. Juliet, TN

20220823-RA11-BG10 @ 5FT L1528876-09 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 08:50

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:29	08/30/22 17:29	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:18	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1916686	1	08/30/22 11:00	08/30/22 13:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918717	1	08/30/22 15:44	08/31/22 13:08	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:32	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918718	5	08/30/22 15:45	08/31/22 02:11	JPD	Mt. Juliet, TN

SAMPLE SUMMARY

20220823-RA11-BG10 @ 7FT L1528876-10 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 09:20

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:38	08/30/22 17:38	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:24	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1919627	1	09/01/22 11:00	09/01/22 13:00	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918717	1	08/30/22 15:44	08/31/22 13:16	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:35	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918718	5	08/30/22 15:45	08/31/22 02:14	JPD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

20220823-RA11-BG10 @ 9FT L1528876-11 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 09:50

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:07	08/30/22 17:07	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:39	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1919627	1	09/01/22 11:00	09/01/22 13:00	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918717	1	08/30/22 15:44	08/31/22 13:18	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:37	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918718	5	08/30/22 15:45	08/31/22 02:17	JPD	Mt. Juliet, TN

20220823-RA11-BG10 @ 11FT L1528876-12 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 10:15

Received date/time
08/24/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:09	08/30/22 17:09	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:44	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1916686	1	08/30/22 11:00	08/30/22 13:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918717	1	08/30/22 15:44	08/31/22 13:21	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:40	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918718	5	08/30/22 15:45	08/31/22 02:21	JPD	Mt. Juliet, TN

20220823-RA11-BG10 @ 13FT L1528876-13 Solid

Collected by
Tristan Schmalz

Collected date/time
08/23/22 10:45

Received date/time
08/24/22 08:45

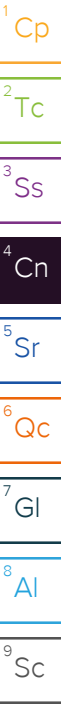
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1916909	1	08/30/22 17:12	08/30/22 17:12	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1920916	1	09/07/22 19:43	09/14/22 11:49	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1919627	1	09/01/22 11:00	09/01/22 13:00	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1923754	1	09/10/22 15:00	09/13/22 12:40	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1918717	1	08/30/22 15:44	08/31/22 13:24	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1917805	1	08/28/22 17:20	08/30/22 12:43	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1918718	5	08/30/22 15:45	08/31/22 02:24	JPD	Mt. Juliet, TN

CASE NARRATIVE

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



Chris Ward
Project Manager



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.467		1	08/30/2022 16:32	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/02/2022 11:44	WG1919060

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.32	T8	1	08/31/2022 11:00	WG1917505

Sample Narrative:

L1528876-01 WG1917505: 9.32 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	251		10.0	1	09/13/2022 13:30	WG1923611

Sample Narrative:

L1528876-01 WG1923611: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	330		0.500	1	08/31/2022 13:48	WG1918588
Cadmium	0.783		0.500	1	08/31/2022 13:48	WG1918588
Copper	18.4		2.00	1	08/31/2022 13:48	WG1918588
Lead	13.0		0.500	1	08/31/2022 13:48	WG1918588
Nickel	26.3		2.00	1	08/31/2022 13:48	WG1918588
Selenium	ND		2.00	1	08/31/2022 13:48	WG1918588
Silver	ND		1.00	1	08/31/2022 13:48	WG1918588
Zinc	81.3		5.00	1	08/31/2022 13:48	WG1918588

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	08/30/2022 12:04	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.12		1.00	5	08/31/2022 01:26	WG1918592

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	0.810		1	08/30/2022 16:35	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/02/2022 12:10	WG1919060

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.88	T8	1	08/31/2022 11:00	WG1917505

Sample Narrative:

L1528876-02 WG1917505: 9.88 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	354		10.0	1	09/13/2022 13:30	WG1923611

Sample Narrative:

L1528876-02 WG1923611: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	734		0.500	1	08/29/2022 13:45	WG1916971
Cadmium	ND		0.500	1	08/29/2022 13:45	WG1916971
Copper	13.3		2.00	1	08/29/2022 13:45	WG1916971
Lead	7.73		0.500	1	08/29/2022 13:45	WG1916971
Nickel	29.4		2.00	1	08/29/2022 13:45	WG1916971
Selenium	ND		2.00	1	08/29/2022 13:45	WG1916971
Silver	ND		1.00	1	08/29/2022 13:45	WG1916971
Zinc	82.5		5.00	1	08/29/2022 13:45	WG1916971

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.204		0.200	1	08/30/2022 12:07	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.87		1.00	5	08/29/2022 11:06	WG1916975

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	0.994		1	08/30/2022 16:38	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/02/2022 12:20	WG1919060

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	10.2	T8	1	08/31/2022 11:00	WG1917505

Sample Narrative:

L1528876-03 WG1917505: 10.16 at 20.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	450		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-03 WG1923754: at 25C

Metals (ICP) by Method 6010B

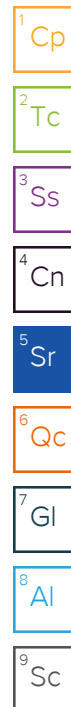
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	46.9		0.500	1	08/30/2022 17:55	WG1916940
Cadmium	0.565		0.500	1	08/30/2022 17:55	WG1916940
Copper	26.7		2.00	1	08/30/2022 17:55	WG1916940
Lead	12.8		0.500	1	08/30/2022 17:55	WG1916940
Nickel	9.45		2.00	1	08/30/2022 17:55	WG1916940
Selenium	ND		2.00	1	08/30/2022 17:55	WG1916940
Silver	ND		1.00	1	08/30/2022 17:55	WG1916940
Zinc	36.4		5.00	1	08/30/2022 17:55	WG1916940

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.288		0.200	1	08/30/2022 12:10	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.85		1.00	5	08/29/2022 22:59	WG1916966



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.0221		1	08/30/2022 16:41	WG1916909

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	1.14		1.00	1	09/14/2022 10:47	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	6.48	T8	1	08/31/2022 11:00	WG1917505

Sample Narrative:

L1528876-04 WG1917505: 6.48 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2210		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-04 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	159		0.500	1	08/31/2022 13:51	WG1918588
Cadmium	1.51		0.500	1	08/31/2022 13:51	WG1918588
Copper	25.0		2.00	1	08/31/2022 13:51	WG1918588
Lead	37.8		0.500	1	08/31/2022 13:51	WG1918588
Nickel	42.2		2.00	1	08/31/2022 13:51	WG1918588
Selenium	ND		2.00	1	08/31/2022 13:51	WG1918588
Silver	ND		1.00	1	08/31/2022 13:51	WG1918588
Zinc	148		5.00	1	08/31/2022 13:51	WG1918588

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	08/30/2022 12:13	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	75.9		1.00	5	08/31/2022 01:30	WG1918592



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.649		1	08/30/2022 16:44	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 10:52	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.82	T8	1	08/31/2022 11:00	WG1917505

Sample Narrative:

L1528876-05 WG1917505: 9.82 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	276		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-05 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	893		0.500	1	08/31/2022 13:54	WG1918588
Cadmium	1.26		0.500	1	08/31/2022 13:54	WG1918588
Copper	13.0		2.00	1	08/31/2022 13:54	WG1918588
Lead	16.5		0.500	1	08/31/2022 13:54	WG1918588
Nickel	19.7		2.00	1	08/31/2022 13:54	WG1918588
Selenium	ND		2.00	1	08/31/2022 13:54	WG1918588
Silver	ND		1.00	1	08/31/2022 13:54	WG1918588
Zinc	52.7		5.00	1	08/31/2022 13:54	WG1918588

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	08/30/2022 12:15	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	5.38		1.00	5	08/31/2022 01:33	WG1918592

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	0.175		1	08/30/2022 17:21	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:03	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.13	T8	1	08/31/2022 11:00	WG1917505

Sample Narrative:

L1528876-06 WG1917505: 8.13 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	73.1		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-06 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	86.9		0.500	1	08/31/2022 14:02	WG1918588
Cadmium	ND		0.500	1	08/31/2022 14:02	WG1918588
Copper	11.2		2.00	1	08/31/2022 14:02	WG1918588
Lead	8.06		0.500	1	08/31/2022 14:02	WG1918588
Nickel	16.4		2.00	1	08/31/2022 14:02	WG1918588
Selenium	ND		2.00	1	08/31/2022 14:02	WG1918588
Silver	ND		1.00	1	08/31/2022 14:02	WG1918588
Zinc	45.0		5.00	1	08/31/2022 14:02	WG1918588

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	08/30/2022 12:18	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	4.29		1.00	5	08/31/2022 01:43	WG1918592

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	0.275		1	08/30/2022 17:24	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:08	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.42	T8	1	09/01/2022 13:00	WG1919627

Sample Narrative:

L1528876-07 WG1919627: 8.42 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	176		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-07 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	62.2		0.500	1	08/31/2022 13:03	WG1918717
Cadmium	ND		0.500	1	08/31/2022 13:03	WG1918717
Copper	7.36		2.00	1	08/31/2022 13:03	WG1918717
Lead	6.75		0.500	1	08/31/2022 13:03	WG1918717
Nickel	12.8		2.00	1	08/31/2022 13:03	WG1918717
Selenium	ND		2.00	1	08/31/2022 13:03	WG1918717
Silver	ND		1.00	1	08/31/2022 13:03	WG1918717
Zinc	36.2		5.00	1	08/31/2022 13:03	WG1918717

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	08/30/2022 12:21	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.88		1.00	5	08/31/2022 01:53	WG1918718

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.24		1	08/30/2022 17:27	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:13	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.62	T8	1	09/01/2022 13:00	WG1919627

Sample Narrative:

L1528876-08 WG1919627: 8.62 at 19.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	706		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-08 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	169		0.500	1	08/31/2022 13:05	WG1918717
Cadmium	ND		0.500	1	08/31/2022 13:05	WG1918717
Copper	16.4		2.00	1	08/31/2022 13:05	WG1918717
Lead	9.58		0.500	1	08/31/2022 13:05	WG1918717
Nickel	13.8		2.00	1	08/31/2022 13:05	WG1918717
Selenium	ND		2.00	1	08/31/2022 13:05	WG1918717
Silver	ND		1.00	1	08/31/2022 13:05	WG1918717
Zinc	52.8		5.00	1	08/31/2022 13:05	WG1918717

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.211		0.200	1	08/30/2022 12:29	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.53		1.00	5	08/31/2022 01:57	WG1918718

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	14.4		1	08/30/2022 17:29	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:18	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.38	T8	1	08/30/2022 13:00	WG1916686

Sample Narrative:

L1528876-09 WG1916686: 9.38 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1070		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-09 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	231		0.500	1	08/31/2022 13:08	WG1918717
Cadmium	ND		0.500	1	08/31/2022 13:08	WG1918717
Copper	11.9		2.00	1	08/31/2022 13:08	WG1918717
Lead	8.96		0.500	1	08/31/2022 13:08	WG1918717
Nickel	20.1		2.00	1	08/31/2022 13:08	WG1918717
Selenium	ND		2.00	1	08/31/2022 13:08	WG1918717
Silver	ND		1.00	1	08/31/2022 13:08	WG1918717
Zinc	75.7		5.00	1	08/31/2022 13:08	WG1918717

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	08/30/2022 12:32	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.06		1.00	5	08/31/2022 02:11	WG1918718

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	16.8		1	08/30/2022 17:38	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:24	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.35	T8	1	09/01/2022 13:00	WG1919627

Sample Narrative:

L1528876-10 WG1919627: 9.35 at 19.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	1120		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-10 WG1923754: at 25C

Metals (ICP) by Method 6010B

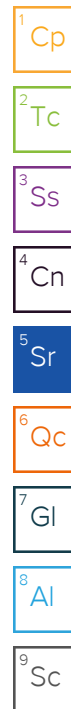
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	88.7		0.500	1	08/31/2022 13:16	WG1918717
Cadmium	ND		0.500	1	08/31/2022 13:16	WG1918717
Copper	12.3		2.00	1	08/31/2022 13:16	WG1918717
Lead	9.92		0.500	1	08/31/2022 13:16	WG1918717
Nickel	18.3		2.00	1	08/31/2022 13:16	WG1918717
Selenium	ND		2.00	1	08/31/2022 13:16	WG1918717
Silver	ND		1.00	1	08/31/2022 13:16	WG1918717
Zinc	68.0		5.00	1	08/31/2022 13:16	WG1918717

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.267		0.200	1	08/30/2022 12:35	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.17		1.00	5	08/31/2022 02:14	WG1918718



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	15.6		1	08/30/2022 17:07	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:39	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.48	T8	1	09/01/2022 13:00	WG1919627

Sample Narrative:

L1528876-11 WG1919627: 9.48 at 19.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	930		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-11 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	69.3		0.500	1	08/31/2022 13:18	WG1918717
Cadmium	ND		0.500	1	08/31/2022 13:18	WG1918717
Copper	12.1		2.00	1	08/31/2022 13:18	WG1918717
Lead	15.5		0.500	1	08/31/2022 13:18	WG1918717
Nickel	12.4		2.00	1	08/31/2022 13:18	WG1918717
Selenium	ND		2.00	1	08/31/2022 13:18	WG1918717
Silver	ND		1.00	1	08/31/2022 13:18	WG1918717
Zinc	42.4		5.00	1	08/31/2022 13:18	WG1918717

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		0.200	1	08/30/2022 12:37	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.91		1.00	5	08/31/2022 02:17	WG1918718

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	16.0		1	08/30/2022 17:09	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:44	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.50	T8	1	08/30/2022 13:00	WG1916686

Sample Narrative:

L1528876-12 WG1916686: 9.5 at 22.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	812		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-12 WG1923754: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	80.5		0.500	1	08/31/2022 13:21	WG1918717
Cadmium	ND		0.500	1	08/31/2022 13:21	WG1918717
Copper	8.59		2.00	1	08/31/2022 13:21	WG1918717
Lead	8.25		0.500	1	08/31/2022 13:21	WG1918717
Nickel	16.3		2.00	1	08/31/2022 13:21	WG1918717
Selenium	ND		2.00	1	08/31/2022 13:21	WG1918717
Silver	ND		1.00	1	08/31/2022 13:21	WG1918717
Zinc	55.8		5.00	1	08/31/2022 13:21	WG1918717

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.260		0.200	1	08/30/2022 12:40	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	3.53		1.00	5	08/31/2022 02:21	WG1918718

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.5		1	08/30/2022 17:12	WG1916909

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	09/14/2022 11:49	WG1920916

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.68	T8	1	09/01/2022 13:00	WG1919627

Sample Narrative:

L1528876-13 WG1919627: 9.68 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	785		10.0	1	09/13/2022 12:40	WG1923754

Sample Narrative:

L1528876-13 WG1923754: at 25C

Metals (ICP) by Method 6010B

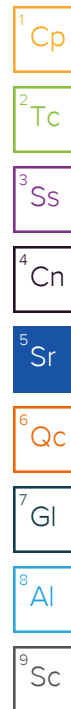
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium	200		0.500	1	08/31/2022 13:24	WG1918717
Cadmium	ND		0.500	1	08/31/2022 13:24	WG1918717
Copper	9.43		2.00	1	08/31/2022 13:24	WG1918717
Lead	8.10		0.500	1	08/31/2022 13:24	WG1918717
Nickel	21.9		2.00	1	08/31/2022 13:24	WG1918717
Selenium	ND		2.00	1	08/31/2022 13:24	WG1918717
Silver	ND		1.00	1	08/31/2022 13:24	WG1918717
Zinc	66.8		5.00	1	08/31/2022 13:24	WG1918717

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.223		0.200	1	08/30/2022 12:43	WG1917805

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Arsenic	2.79		1.00	5	08/31/2022 02:24	WG1918718



Method Blank (MB)

(MB) R3838211-1 09/14/22 10:35

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

L1528876-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1528876-05 09/14/22 10:52 • (DUP) R3838211-3 09/14/22 10:58

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Hexavalent Chromium	ND	ND	1	3.79		20

L1529292-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1529292-06 09/14/22 13:14 • (DUP) R3838211-8 09/14/22 13:19

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

Laboratory Control Sample (LCS)

(LCS) R3838211-2 09/14/22 10:42

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.6	106	80.0-120	

L1529292-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529292-01 09/14/22 12:15 • (MS) R3838211-4 09/14/22 12:21 • (MSD) R3838211-5 09/14/22 12:26

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	ND	21.1	21.8	105	109	1	75.0-125			3.13	20

L1529292-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1529292-01 09/14/22 12:15 • (MS) R3838211-7 09/14/22 12:47

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	641	ND	762	119	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1528639-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1528639-03 08/30/22 13:00 • (DUP) R3831897-2 08/30/22 13:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	7.88	7.87	1	0.127		1

Sample Narrative:

OS: 7.88 at 22.3C

DUP: 7.87 at 22.3C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1528793-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1528793-02 08/30/22 13:00 • (DUP) R3831897-3 08/30/22 13:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.02	7.99	1	0.375		1

Sample Narrative:

OS: 8.02 at 22C

DUP: 7.99 at 21.9C

Laboratory Control Sample (LCS)

(LCS) R3831897-1 08/30/22 13:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.90	99.0	99.0-101	

Sample Narrative:

LCS: 9.9 at 22.2C

L1528744-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1528744-02 08/31/22 11:00 • (DUP) R3832371-2 08/31/22 11:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.84	8.83	1	0.113		1

Sample Narrative:

OS: 8.84 at 20.7C

DUP: 8.83 at 20.8C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1528876-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1528876-03 08/31/22 11:00 • (DUP) R3832371-3 08/31/22 11:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pH	su		%		%
pH	10.2	10.1	1	0.394		1

Sample Narrative:

OS: 10.16 at 20.3C

DUP: 10.12 at 20.2C

Laboratory Control Sample (LCS)

(LCS) R3832371-1 08/31/22 11:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	9.92	99.2	99.0-101	

Sample Narrative:

LCS: 9.92 at 20.7C

L1528730-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1528730-01 09/01/22 13:00 • (DUP) R3832944-2 09/01/22 13:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
pH	7.74	7.73	1	0.129		1

Sample Narrative:

OS: 7.74 at 20.2C

DUP: 7.73 at 19.9C

L1528876-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1528876-13 09/01/22 13:00 • (DUP) R3832944-3 09/01/22 13:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	pH	su		%		%
pH	9.68	9.68	1	0.000		1

Sample Narrative:

OS: 9.68 at 20.2C

DUP: 9.68 at 20.3C

Laboratory Control Sample (LCS)

(LCS) R3832944-1 09/01/22 13:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
pH	10.0	9.90	99.0	99.0-101	

Sample Narrative:

LCS: 9.9 at 19.3C

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3836553-1 09/13/22 13:30

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

L1528633-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1528633-01 09/13/22 13:30 • (DUP) R3836553-3 09/13/22 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	162	163	1	0.123		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1528794-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1528794-02 09/13/22 13:30 • (DUP) R3836553-4 09/13/22 13:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	283	286	1	1.16		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3836553-2 09/13/22 13:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	1120	1110	99.2	85.0-115	

Sample Narrative:

LCS: at 25C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3836523-1 09/13/22 12:40

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

L1528876-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1528876-07 09/13/22 12:40 • (DUP) R3836523-3 09/13/22 12:40

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	176	173	1	1.55		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1529291-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1529291-04 09/13/22 12:40 • (DUP) R3836523-4 09/13/22 12:40

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	237	237	1	0.0421		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3836523-2 09/13/22 12:40

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	1120	1120	99.6	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) R3832136-1 08/30/22 16:09

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3832136-2 08/30/22 16:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	95.6	95.6	80.0-120	
Cadmium	100	92.0	92.0	80.0-120	
Copper	100	93.9	93.9	80.0-120	
Lead	100	91.7	91.7	80.0-120	
Nickel	100	92.5	92.5	80.0-120	
Selenium	100	93.8	93.8	80.0-120	
Silver	20.0	17.4	87.1	80.0-120	
Zinc	100	90.8	90.8	80.0-120	

L1528692-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1528692-03 08/30/22 16:15 • (MS) R3832136-5 08/30/22 16:24 • (MSD) R3832136-6 08/30/22 16:27

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 %
Barium	99.7	180	237	231	57.2	51.7	1	75.0-125	J6	J6	2.34	20
Cadmium	99.7	ND	92.6	87.2	92.4	87.0	1	75.0-125			5.91	20
Copper	99.7	42.6	138	133	95.3	90.2	1	75.0-125			3.77	20
Lead	99.7	11.6	108	105	96.8	92.9	1	75.0-125			3.68	20
Nickel	99.7	9.41	109	103	99.2	93.5	1	75.0-125			5.39	20
Selenium	99.7	ND	86.3	79.3	86.3	79.3	1	75.0-125			8.53	20
Silver	20.0	ND	17.4	16.3	87.0	81.6	1	75.0-125			6.46	20
Zinc	99.7	34.3	118	112	84.1	78.1	1	75.0-125			5.25	20

Method Blank (MB)

(MB) R3831610-1 08/29/22 12:28

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

Laboratory Control Sample (LCS)

(LCS) R3831610-2 08/29/22 12:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	92.5	92.5	80.0-120	
Cadmium	100	88.9	88.9	80.0-120	
Copper	100	90.6	90.6	80.0-120	
Lead	100	87.7	87.7	80.0-120	
Nickel	100	91.4	91.4	80.0-120	
Selenium	100	89.6	89.6	80.0-120	
Silver	20.0	16.3	81.3	80.0-120	
Zinc	100	89.9	89.9	80.0-120	

L1528508-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1528508-01 08/29/22 12:33 • (MS) R3831610-5 08/29/22 12:41 • (MSD) R3831610-6 08/29/22 12:43

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	100	180	238	235	58.3	55.1	1	75.0-125	J6	J6	1.32	20
Cadmium	100	ND	94.1	88.4	93.7	88.0	1	75.0-125			6.19	20
Copper	100	16.3	109	104	93.2	87.6	1	75.0-125			5.24	20
Lead	100	18.2	108	101	89.9	83.3	1	75.0-125			6.27	20
Nickel	100	22.2	115	108	93.2	85.4	1	75.0-125			7.03	20
Selenium	100	ND	95.6	90.0	94.7	89.1	1	75.0-125			6.09	20
Silver	20.0	ND	17.3	16.4	86.5	81.8	1	75.0-125			5.60	20
Zinc	100	81.1	157	147	76.2	65.8	1	75.0-125		J6	6.86	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3832626-1 08/31/22 13:29

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

Laboratory Control Sample (LCS)

(LCS) R3832626-2 08/31/22 13:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	102	102	80.0-120	
Cadmium	100	98.5	98.5	80.0-120	
Copper	100	99.4	99.4	80.0-120	
Lead	100	98.1	98.1	80.0-120	
Nickel	100	98.4	98.4	80.0-120	
Selenium	100	98.8	98.8	80.0-120	
Silver	20.0	18.5	92.5	80.0-120	
Zinc	100	97.1	97.1	80.0-120	

L1529737-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529737-04 08/31/22 13:34 • (MS) R3832626-5 08/31/22 13:43 • (MSD) R3832626-6 08/31/22 13:45

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 %
Barium	100	125	232	214	106	88.2	1	75.0-125			8.06	20
Cadmium	100	ND	90.9	92.0	90.6	91.7	1	75.0-125			1.20	20
Copper	100	10.6	105	104	94.2	93.3	1	75.0-125			0.874	20
Lead	100	13.2	105	104	91.9	91.0	1	75.0-125			0.843	20
Nickel	100	13.9	107	108	93.0	93.7	1	75.0-125			0.696	20
Selenium	100	ND	90.9	92.2	90.9	92.2	1	75.0-125			1.46	20
Silver	20.0	ND	17.1	17.4	85.7	86.9	1	75.0-125			1.42	20
Zinc	100	54.5	135	133	80.6	78.7	1	75.0-125			1.36	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3832641-1 08/31/22 12:40

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3832641-2 08/31/22 12:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	97.3	97.3	80.0-120	
Cadmium	100	93.4	93.4	80.0-120	
Copper	100	95.1	95.1	80.0-120	
Lead	100	94.0	94.0	80.0-120	
Nickel	100	96.4	96.4	80.0-120	
Selenium	100	92.9	92.9	80.0-120	
Silver	20.0	18.3	91.6	80.0-120	
Zinc	100	93.0	93.0	80.0-120	

L1529292-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529292-04 08/31/22 12:50 • (MS) R3832641-5 08/31/22 12:57 • (MSD) R3832641-6 08/31/22 13:00

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 %
Barium	100	185	289	283	104	97.6	1	75.0-125			2.16	20
Cadmium	100	ND	94.0	96.3	93.8	96.1	1	75.0-125			2.44	20
Copper	100	9.98	107	109	97.2	98.9	1	75.0-125			1.57	20
Lead	100	9.28	103	105	93.6	95.4	1	75.0-125			1.73	20
Nickel	100	15.1	112	114	97.1	99.3	1	75.0-125			1.98	20
Selenium	100	ND	91.1	94.1	91.1	94.1	1	75.0-125			3.17	20
Silver	20.0	ND	18.4	18.8	91.9	93.9	1	75.0-125			2.23	20
Zinc	100	37.8	124	126	85.7	88.1	1	75.0-125			1.90	20

Method Blank (MB)

(MB) R3831952-1 08/30/22 11:56

Analyte	MB Result mg/l	<u>MB Qualifier</u>	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) R3831952-2 08/30/22 11:59 • (LCSD) R3831952-3 08/30/22 12:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	0.962	0.963	96.2	96.3	80.0-120			0.0894	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3831693-1 08/29/22 21:22

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

Laboratory Control Sample (LCS)

(LCS) R3831693-2 08/29/22 21:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	85.7	85.7	80.0-120	

L1528692-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1528692-03 08/29/22 21:29 • (MS) R3831693-5 08/29/22 21:39 • (MSD) R3831693-6 08/29/22 21:42

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	99.7	1.11	77.8	71.5	76.7	70.4	5	75.0-125		J6	8.39	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3831367-1 08/29/22 09:19

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

Laboratory Control Sample (LCS)

(LCS) R3831367-2 08/29/22 09:23

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	88.9	88.9	80.0-120	

L1528508-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1528508-01 08/29/22 09:26 • (MS) R3831367-5 08/29/22 09:36 • (MSD) R3831367-6 08/29/22 09:39

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Arsenic	100	6.87	93.0	88.9	86.1	82.0	5	75.0-125			4.51	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3832320-1 08/31/22 01:03

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

Laboratory Control Sample (LCS)

(LCS) R3832320-2 08/31/22 01:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	92.0	92.0	80.0-120	

L1529737-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529737-04 08/31/22 01:10 • (MS) R3832320-5 08/31/22 01:20 • (MSD) R3832320-6 08/31/22 01:23

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	5.05	85.9	87.1	80.9	82.0	5	75.0-125			1.32	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3832322-1 08/31/22 01:31				
	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3832322-2 08/31/22 01:34					
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/kg	mg/kg	%	%	
Arsenic	100	91.8	91.8	80.0-120	

L1529292-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1529292-04 08/31/22 01:37 • (MS) R3832322-4 08/31/22 01:47 • (MSD) R3832322-5 08/31/22 01:50												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Arsenic	100	4.26	87.4	89.9	83.2	85.7	5	75.0-125			2.85	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

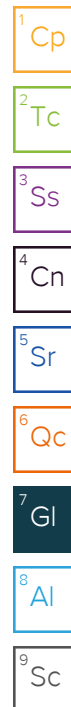
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Qualifier	Description
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.



ACCREDITATIONS & LOCATIONS

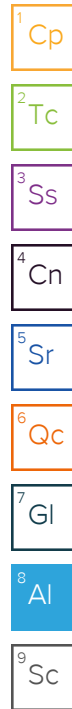
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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:
SAME AS LEFT

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page ____ of ____



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



SDG # **4528876**
B097

Acctnum:
Template:
Prelogin:
PM:
PB:

Shipped Via:

Remarks Sample # (lab only)

Report to: Jake Janicek
Email To: jjanicek@caerusoilandgas.com

Project Description: **RAII Backgrounds**
City/State Collected: **Piceance Crk, CO** Please Circle: PT **MT** CT ET

Phone: (970) 778-2314
Client Project #
Lab Project #

Collected by (print): **Tristan Schmalz**
Site/Facility ID # **RAII**
P.O. #

Collected by (signature): *Tristan Schmalz*
Rush? (Lab MUST Be Notified)
____ Same Day ____ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day
Date Results Needed
Standard TAT
No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
20220823-RAII-BG03@ 1ft	Grab	SS	1 ft	8/23/22	7:15	2
20220823-RAII-BG04@ 1ft			1 ft		7:20	2
20220823-RAII-BG05@ 1ft			1 ft		11:00	2
20220823-RAII-BG06@ 1ft			1 ft		11:10	2
20220823-RAII-BG07@ 1ft			1 ft		11:20	2
20220823-RAII-BG08@ 3ft			3 ft		7:45	2
20220823-RAII-BG08@ 5ft			5 ft		7:55	2
20220823-RAII-BG09@ 3ft			3 ft		8:20	2
20220823-RAII-BG10@ 5ft			5 ft		8:50	2
20220823-RAII-BG10@ 7ft			7 ft		9:20	2

* 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 #

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) *Tristan Schmalz*
Date: **8/23/2022** Time: **12:30**
Relinquished by: (Signature) *[Signature]*
Date: **8/23/22** Time: **1:50**
Relinquished by: (Signature) *[Signature]*
Date: Time:

Received by: (Signature) *[Signature]*
Received by: (Signature) *[Signature]*
Received for lab by: (Signature) *[Signature]*

Trip Blank Received: Yes ____ No ____
HCL / MeOH TBR
Temp: ____ °C
Bottles Received: **1540 = 1.5**
Date: **8/24/22** Time: **8:45**

If preservation required by Login: Date/Time


Hold: Condition: **NCF / OK**

Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

Billing Information:
SAME AS LEFT

Analysis / Container / Preservative									
Pres Chk									

Chain of Custody Page ____ of ____


National Center for Testing & Innovation

Report to:
Jake Janicek

Email To:
jjanicek@caerusoilandgas.com

Project Description:
RAII Backgrounds

City/State
Collected: Piceance Crk, CO

Please Circle:
PT MT CT ET

Phone: (970) 778-2314

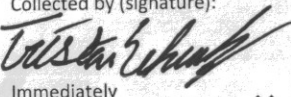
Client Project #

Lab Project #

Collected by (print):
Tristan Schmalz

Site/Facility ID #
RAII

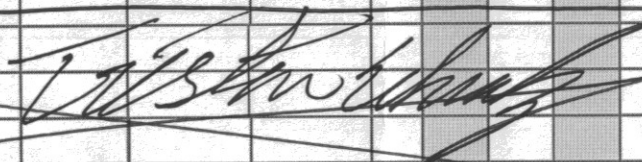
P.O. #

Collected by (signature):

Immediately
Packed on Ice N ____ Y X

Rush? (Lab MUST Be Notified)
____ Same Day ____ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day

Quote #
Date Results Needed
Standard TAT

No.
of
Cnts

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cnts
20220823-RAII-BG10@9ft	Grab	SS	9ft	8/23/22	9:50	2
20220823-RAII-BG10@11ft	Grab	SS	11ft	8/23/22	10:15	2
2022082-RAII-BG10@13ft	Grab	SS	13ft	8/23/22	10:45	2
 8/23/2022						

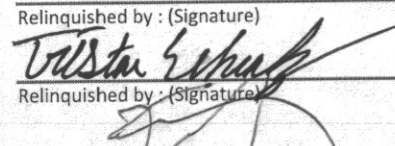
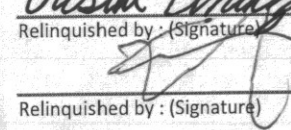
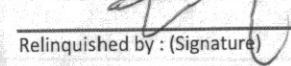
COGCC Table 915-1 MINUS ORGANICS	EC, pH, SAR	Arsenic, Boron	COGCC Table 910-1																	
----------------------------------	-------------	----------------	-------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Remarks	Sample # (lab only)
	-11
	-12
	-13

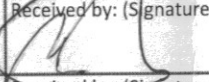
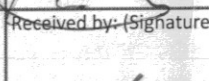
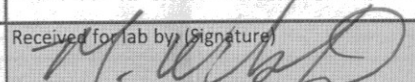
* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:
pH ____ Temp ____
Flow ____ Other ____
Samples returned via:
____ UPS ____ FedEx ____ Courier ____
Tracking #

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

Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)


Date:
8/23/2022
Time:
12:30
Date:
8/23/22
Time:
1500
Date:
8/24/22
Time:
8:45

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR
Temp: °C
Bottles Received: 1.5/1.9 = 1.5

If preservation required by Login: Date/Time
Hold:
Condition:
NCF / OK