

Terracon - Wheat Ridge, CO

Sample Delivery Group: L1468266
Samples Received: 03/05/2022
Project Number: 25227071
Description: City of Louisville, Colorado Limited Soil Sampling

Report To: Kerry Conner
10625 W I70 Frontage Rd, Ste 3
Wheat Ridge, CO 80033

Entire Report Reviewed By:



Chris Ward
Project Manager

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

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

SAMPLE SUMMARY

GTGSS01 L1468266-01 Solid

				Collected by Daniel Qua	Collected date/time 03/03/22 07:30	Received date/time 03/05/22 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 13:44	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:29	JPD	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

GTGSS02 L1468266-02 Solid

				Collected by Daniel Qua	Collected date/time 03/03/22 07:55	Received date/time 03/05/22 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 13:54	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:13	JPD	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

GTGSS03 L1468266-03 Solid

				Collected by Daniel Qua	Collected date/time 03/03/22 08:20	Received date/time 03/05/22 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 13:57	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:33	JPD	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

DMOSSS01 L1468266-04 Solid

				Collected by Daniel Qua	Collected date/time 03/03/22 09:20	Received date/time 03/05/22 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 13:59	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:36	JPD	Mt. Juliet, TN

DMOSSS02 L1468266-05 Solid

				Collected by Daniel Qua	Collected date/time 03/03/22 09:30	Received date/time 03/05/22 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:02	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:46	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1829477	5	03/09/22 17:00	03/09/22 19:14	JPD	Mt. Juliet, TN

DMOSSS03 L1468266-06 Solid

				Collected by Daniel Qua	Collected date/time 03/03/22 10:15	Received date/time 03/05/22 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:04	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:50	JPD	Mt. Juliet, TN

HOSSS01 L1468266-07 Solid

				Collected by Daniel Qua	Collected date/time 03/03/22 10:45	Received date/time 03/05/22 09:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:07	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:53	JPD	Mt. Juliet, TN

SAMPLE SUMMARY

EPSS01 L1468266-08 Solid

			Collected by Daniel Qua	Collected date/time 03/03/22 11:25	Received date/time 03/05/22 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:09	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 18:57	JPD	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

CPSS01 L1468266-09 Solid

			Collected by Daniel Qua	Collected date/time 03/03/22 12:00	Received date/time 03/05/22 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:12	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:00	JPD	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

CMSS01 L1468266-10 Solid

			Collected by Daniel Qua	Collected date/time 03/03/22 12:20	Received date/time 03/05/22 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:14	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:04	JPD	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

HP2SS01 L1468266-11 Solid

			Collected by Daniel Qua	Collected date/time 03/03/22 12:50	Received date/time 03/05/22 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:17	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:07	JPD	Mt. Juliet, TN

HP2SS02 L1468266-12 Solid

			Collected by Daniel Qua	Collected date/time 03/03/22 13:00	Received date/time 03/05/22 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:25	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:11	JPD	Mt. Juliet, TN

MPSS01 L1468266-13 Solid

			Collected by Daniel Qua	Collected date/time 03/03/22 13:30	Received date/time 03/05/22 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:27	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:14	JPD	Mt. Juliet, TN

SCPSS01 L1468266-14 Solid

			Collected by Daniel Qua	Collected date/time 03/03/22 14:10	Received date/time 03/05/22 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828116	1	03/06/22 14:04	03/07/22 14:30	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:24	JPD	Mt. Juliet, TN

SAMPLE SUMMARY

EP2SS01 L1468266-15 Solid

Collected by
Daniel Qua

Collected date/time
03/03/22 14:40

Received date/time
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828128	1	03/06/22 11:22	03/07/22 10:15	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:28	JPD	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

RCSS01 L1468266-16 Solid

Collected by
Daniel Qua

Collected date/time
03/03/22 15:20

Received date/time
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828128	1	03/06/22 11:22	03/07/22 10:22	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:31	JPD	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

RCSS02 L1468266-17 Solid

Collected by
Daniel Qua

Collected date/time
03/03/22 15:25

Received date/time
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828128	1	03/06/22 11:22	03/07/22 10:25	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:35	JPD	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

RCSS03 L1468266-18 Solid

Collected by
Daniel Qua

Collected date/time
03/03/22 15:30

Received date/time
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828128	1	03/06/22 11:22	03/07/22 10:28	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:38	JPD	Mt. Juliet, TN

PPSS01 L1468266-19 Solid

Collected by
Daniel Qua

Collected date/time
03/03/22 16:00

Received date/time
03/05/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828128	1	03/06/22 11:22	03/07/22 10:30	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:42	JPD	Mt. Juliet, TN

PPSS02 L1468266-20 Solid

Collected by
Daniel Qua

Collected date/time
03/03/22 16:05

Received date/time
03/05/22 09:30

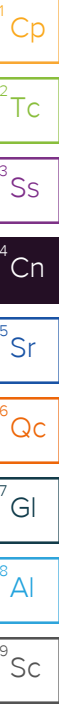
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1828128	1	03/06/22 11:22	03/07/22 10:33	MRW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1828243	5	03/07/22 17:03	03/08/22 19:45	JPD	Mt. Juliet, TN

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



Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	03/07/2022 13:44	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Antimony	ND		3.00	5	03/08/2022 18:29	WG1828243
Arsenic	1.64		1.00	5	03/08/2022 18:29	WG1828243
Barium	40.7		2.50	5	03/08/2022 18:29	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:29	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:29	WG1828243
Chromium	5.86		5.00	5	03/08/2022 18:29	WG1828243
Cobalt	1.88		1.00	5	03/08/2022 18:29	WG1828243
Copper	ND		5.00	5	03/08/2022 18:29	WG1828243
Lead	4.69		2.00	5	03/08/2022 18:29	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:29	WG1828243
Nickel	4.14		2.50	5	03/08/2022 18:29	WG1828243
Selenium	ND		2.50	5	03/08/2022 18:29	WG1828243
Silver	ND		0.500	5	03/08/2022 18:29	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:29	WG1828243
Vanadium	11.7		2.50	5	03/08/2022 18:29	WG1828243
Zinc	ND		25.0	5	03/08/2022 18:29	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	03/07/2022 13:54	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Antimony	ND		3.00	5	03/08/2022 18:13	WG1828243
Arsenic	1.01		1.00	5	03/08/2022 18:13	WG1828243
Barium	19.7		2.50	5	03/08/2022 18:13	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:13	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:13	WG1828243
Chromium	ND		5.00	5	03/08/2022 18:13	WG1828243
Cobalt	1.10		1.00	5	03/08/2022 18:13	WG1828243
Copper	ND		5.00	5	03/08/2022 18:13	WG1828243
Lead	ND		2.00	5	03/08/2022 18:13	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:13	WG1828243
Nickel	ND		2.50	5	03/08/2022 18:13	WG1828243
Selenium	ND		2.50	5	03/08/2022 18:13	WG1828243
Silver	ND		0.500	5	03/08/2022 18:13	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:13	WG1828243
Vanadium	8.54		2.50	5	03/08/2022 18:13	WG1828243
Zinc	ND		25.0	5	03/08/2022 18:13	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0400	1	03/07/2022 13:57	WG1828116

¹Cp

²Tc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 18:33	WG1828243
Arsenic	ND		1.00	5	03/08/2022 18:33	WG1828243
Barium	13.2		2.50	5	03/08/2022 18:33	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:33	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:33	WG1828243
Chromium	ND		5.00	5	03/08/2022 18:33	WG1828243
Cobalt	ND		1.00	5	03/08/2022 18:33	WG1828243
Copper	ND		5.00	5	03/08/2022 18:33	WG1828243
Lead	ND		2.00	5	03/08/2022 18:33	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:33	WG1828243
Nickel	ND		2.50	5	03/08/2022 18:33	WG1828243
Selenium	ND		2.50	5	03/08/2022 18:33	WG1828243
Silver	ND		0.500	5	03/08/2022 18:33	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:33	WG1828243
Vanadium	6.82		2.50	5	03/08/2022 18:33	WG1828243
Zinc	ND		25.0	5	03/08/2022 18:33	WG1828243

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Mercury by Method 7471A

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.0400	1	03/07/2022 13:59	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		3.00	5	03/08/2022 18:36	WG1828243
Arsenic	3.99		1.00	5	03/08/2022 18:36	WG1828243
Barium	65.8		2.50	5	03/08/2022 18:36	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:36	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:36	WG1828243
Chromium	10.6		5.00	5	03/08/2022 18:36	WG1828243
Cobalt	3.07		1.00	5	03/08/2022 18:36	WG1828243
Copper	7.77		5.00	5	03/08/2022 18:36	WG1828243
Lead	20.8		2.00	5	03/08/2022 18:36	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:36	WG1828243
Nickel	6.59		2.50	5	03/08/2022 18:36	WG1828243
Selenium	ND		2.50	5	03/08/2022 18:36	WG1828243
Silver	ND		0.500	5	03/08/2022 18:36	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:36	WG1828243
Vanadium	20.6		2.50	5	03/08/2022 18:36	WG1828243
Zinc	40.1		25.0	5	03/08/2022 18:36	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0400	1	03/07/2022 14:02	WG1828116

¹Cp

²Tc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 18:46	WG1828243
Arsenic	4.47		1.00	5	03/08/2022 18:46	WG1828243
Barium	80.1		2.50	5	03/08/2022 18:46	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:46	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:46	WG1828243
Chromium	13.6		5.00	5	03/08/2022 18:46	WG1828243
Cobalt	3.86		1.00	5	03/08/2022 18:46	WG1828243
Copper	8.04		5.00	5	03/08/2022 18:46	WG1828243
Lead	20.6		2.00	5	03/08/2022 18:46	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:46	WG1828243
Nickel	7.05	Q1	2.50	5	03/09/2022 19:14	WG1829477
Selenium	ND		2.50	5	03/08/2022 18:46	WG1828243
Silver	ND		0.500	5	03/08/2022 18:46	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:46	WG1828243
Vanadium	27.4		2.50	5	03/08/2022 18:46	WG1828243
Zinc	40.8		25.0	5	03/08/2022 18:46	WG1828243

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	0.0537		0.0400	1	03/07/2022 14:04	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 18:50	WG1828243
Arsenic	2.24		1.00	5	03/08/2022 18:50	WG1828243
Barium	114		2.50	5	03/08/2022 18:50	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:50	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:50	WG1828243
Chromium	17.7		5.00	5	03/08/2022 18:50	WG1828243
Cobalt	5.03		1.00	5	03/08/2022 18:50	WG1828243
Copper	12.4		5.00	5	03/08/2022 18:50	WG1828243
Lead	13.8		2.00	5	03/08/2022 18:50	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:50	WG1828243
Nickel	11.5		2.50	5	03/08/2022 18:50	WG1828243
Selenium	ND		2.50	5	03/08/2022 18:50	WG1828243
Silver	ND		0.500	5	03/08/2022 18:50	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:50	WG1828243
Vanadium	34.4		2.50	5	03/08/2022 18:50	WG1828243
Zinc	47.5		25.0	5	03/08/2022 18:50	WG1828243

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Mercury by Method 7471A

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.0400	1	03/07/2022 14:07	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		3.00	5	03/08/2022 18:53	WG1828243
Arsenic	4.35		1.00	5	03/08/2022 18:53	WG1828243
Barium	81.3		2.50	5	03/08/2022 18:53	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:53	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:53	WG1828243
Chromium	13.3		5.00	5	03/08/2022 18:53	WG1828243
Cobalt	3.64		1.00	5	03/08/2022 18:53	WG1828243
Copper	12.0		5.00	5	03/08/2022 18:53	WG1828243
Lead	11.8		2.00	5	03/08/2022 18:53	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:53	WG1828243
Nickel	8.37		2.50	5	03/08/2022 18:53	WG1828243
Selenium	ND		2.50	5	03/08/2022 18:53	WG1828243
Silver	ND		0.500	5	03/08/2022 18:53	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:53	WG1828243
Vanadium	24.6		2.50	5	03/08/2022 18:53	WG1828243
Zinc	61.4		25.0	5	03/08/2022 18:53	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	03/07/2022 14:09	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Antimony	ND		3.00	5	03/08/2022 18:57	WG1828243
Arsenic	2.70		1.00	5	03/08/2022 18:57	WG1828243
Barium	90.0		2.50	5	03/08/2022 18:57	WG1828243
Beryllium	ND		2.50	5	03/08/2022 18:57	WG1828243
Cadmium	ND		1.00	5	03/08/2022 18:57	WG1828243
Chromium	13.4		5.00	5	03/08/2022 18:57	WG1828243
Cobalt	4.24		1.00	5	03/08/2022 18:57	WG1828243
Copper	8.47		5.00	5	03/08/2022 18:57	WG1828243
Lead	7.32		2.00	5	03/08/2022 18:57	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 18:57	WG1828243
Nickel	9.73		2.50	5	03/08/2022 18:57	WG1828243
Selenium	ND		2.50	5	03/08/2022 18:57	WG1828243
Silver	ND		0.500	5	03/08/2022 18:57	WG1828243
Thallium	ND		2.00	5	03/08/2022 18:57	WG1828243
Vanadium	23.7		2.50	5	03/08/2022 18:57	WG1828243
Zinc	37.4		25.0	5	03/08/2022 18:57	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Mercury	0.103		0.0400	1	03/07/2022 14:12	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		3.00	5	03/08/2022 19:00	WG1828243
Arsenic	3.97		1.00	5	03/08/2022 19:00	WG1828243
Barium	145		2.50	5	03/08/2022 19:00	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:00	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:00	WG1828243
Chromium	14.8		5.00	5	03/08/2022 19:00	WG1828243
Cobalt	4.23		1.00	5	03/08/2022 19:00	WG1828243
Copper	22.1		5.00	5	03/08/2022 19:00	WG1828243
Lead	11.7		2.00	5	03/08/2022 19:00	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:00	WG1828243
Nickel	10.2		2.50	5	03/08/2022 19:00	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:00	WG1828243
Silver	1.22		0.500	5	03/08/2022 19:00	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:00	WG1828243
Vanadium	28.9		2.50	5	03/08/2022 19:00	WG1828243
Zinc	57.3		25.0	5	03/08/2022 19:00	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0400	1	03/07/2022 14:14	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:04	WG1828243
Arsenic	2.98		1.00	5	03/08/2022 19:04	WG1828243
Barium	82.7		2.50	5	03/08/2022 19:04	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:04	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:04	WG1828243
Chromium	14.2		5.00	5	03/08/2022 19:04	WG1828243
Cobalt	3.99		1.00	5	03/08/2022 19:04	WG1828243
Copper	7.70		5.00	5	03/08/2022 19:04	WG1828243
Lead	8.71		2.00	5	03/08/2022 19:04	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:04	WG1828243
Nickel	9.17		2.50	5	03/08/2022 19:04	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:04	WG1828243
Silver	ND		0.500	5	03/08/2022 19:04	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:04	WG1828243
Vanadium	25.6		2.50	5	03/08/2022 19:04	WG1828243
Zinc	34.8		25.0	5	03/08/2022 19:04	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0400	1	03/07/2022 14:17	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:07	WG1828243
Arsenic	3.24		1.00	5	03/08/2022 19:07	WG1828243
Barium	97.5		2.50	5	03/08/2022 19:07	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:07	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:07	WG1828243
Chromium	17.5		5.00	5	03/08/2022 19:07	WG1828243
Cobalt	5.09		1.00	5	03/08/2022 19:07	WG1828243
Copper	11.9		5.00	5	03/08/2022 19:07	WG1828243
Lead	10.9		2.00	5	03/08/2022 19:07	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:07	WG1828243
Nickel	11.9		2.50	5	03/08/2022 19:07	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:07	WG1828243
Silver	ND		0.500	5	03/08/2022 19:07	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:07	WG1828243
Vanadium	30.4		2.50	5	03/08/2022 19:07	WG1828243
Zinc	50.8		25.0	5	03/08/2022 19:07	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	03/07/2022 14:25	WG1828116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Antimony	ND		3.00	5	03/08/2022 19:11	WG1828243
Arsenic	2.49		1.00	5	03/08/2022 19:11	WG1828243
Barium	61.9		2.50	5	03/08/2022 19:11	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:11	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:11	WG1828243
Chromium	7.27		5.00	5	03/08/2022 19:11	WG1828243
Cobalt	2.83		1.00	5	03/08/2022 19:11	WG1828243
Copper	5.01		5.00	5	03/08/2022 19:11	WG1828243
Lead	13.4		2.00	5	03/08/2022 19:11	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:11	WG1828243
Nickel	4.57		2.50	5	03/08/2022 19:11	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:11	WG1828243
Silver	ND		0.500	5	03/08/2022 19:11	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:11	WG1828243
Vanadium	12.6		2.50	5	03/08/2022 19:11	WG1828243
Zinc	39.5		25.0	5	03/08/2022 19:11	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	0.171		0.0400	1	03/07/2022 14:27	WG1828116

¹Cp

²Tc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:14	WG1828243
Arsenic	3.21		1.00	5	03/08/2022 19:14	WG1828243
Barium	121		2.50	5	03/08/2022 19:14	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:14	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:14	WG1828243
Chromium	13.5		5.00	5	03/08/2022 19:14	WG1828243
Cobalt	3.97		1.00	5	03/08/2022 19:14	WG1828243
Copper	25.0		5.00	5	03/08/2022 19:14	WG1828243
Lead	9.85		2.00	5	03/08/2022 19:14	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:14	WG1828243
Nickel	9.90		2.50	5	03/08/2022 19:14	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:14	WG1828243
Silver	2.52		0.500	5	03/08/2022 19:14	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:14	WG1828243
Vanadium	25.8		2.50	5	03/08/2022 19:14	WG1828243
Zinc	57.5		25.0	5	03/08/2022 19:14	WG1828243

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0400	1	03/07/2022 14:30	WG1828116

¹Cp

²Tc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:24	WG1828243
Arsenic	2.41		1.00	5	03/08/2022 19:24	WG1828243
Barium	59.0		2.50	5	03/08/2022 19:24	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:24	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:24	WG1828243
Chromium	10.7		5.00	5	03/08/2022 19:24	WG1828243
Cobalt	2.92		1.00	5	03/08/2022 19:24	WG1828243
Copper	7.17		5.00	5	03/08/2022 19:24	WG1828243
Lead	7.15		2.00	5	03/08/2022 19:24	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:24	WG1828243
Nickel	7.18		2.50	5	03/08/2022 19:24	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:24	WG1828243
Silver	ND		0.500	5	03/08/2022 19:24	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:24	WG1828243
Vanadium	18.5		2.50	5	03/08/2022 19:24	WG1828243
Zinc	32.2		25.0	5	03/08/2022 19:24	WG1828243

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0400	1	03/07/2022 10:15	WG1828128

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:28	WG1828243
Arsenic	2.45		1.00	5	03/08/2022 19:28	WG1828243
Barium	69.6		2.50	5	03/08/2022 19:28	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:28	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:28	WG1828243
Chromium	12.8		5.00	5	03/08/2022 19:28	WG1828243
Cobalt	4.07		1.00	5	03/08/2022 19:28	WG1828243
Copper	7.67		5.00	5	03/08/2022 19:28	WG1828243
Lead	8.20		2.00	5	03/08/2022 19:28	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:28	WG1828243
Nickel	8.38		2.50	5	03/08/2022 19:28	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:28	WG1828243
Silver	ND		0.500	5	03/08/2022 19:28	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:28	WG1828243
Vanadium	23.3		2.50	5	03/08/2022 19:28	WG1828243
Zinc	37.3		25.0	5	03/08/2022 19:28	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	0.0932		0.0400	1	03/07/2022 10:22	WG1828128

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:31	WG1828243
Arsenic	3.77		1.00	5	03/08/2022 19:31	WG1828243
Barium	97.7		2.50	5	03/08/2022 19:31	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:31	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:31	WG1828243
Chromium	14.3		5.00	5	03/08/2022 19:31	WG1828243
Cobalt	5.38		1.00	5	03/08/2022 19:31	WG1828243
Copper	12.5		5.00	5	03/08/2022 19:31	WG1828243
Lead	11.5		2.00	5	03/08/2022 19:31	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:31	WG1828243
Nickel	11.8		2.50	5	03/08/2022 19:31	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:31	WG1828243
Silver	ND		0.500	5	03/08/2022 19:31	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:31	WG1828243
Vanadium	30.3		2.50	5	03/08/2022 19:31	WG1828243
Zinc	54.2		25.0	5	03/08/2022 19:31	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0400	1	03/07/2022 10:25	WG1828128

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:35	WG1828243
Arsenic	4.38		1.00	5	03/08/2022 19:35	WG1828243
Barium	200		2.50	5	03/08/2022 19:35	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:35	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:35	WG1828243
Chromium	14.8		5.00	5	03/08/2022 19:35	WG1828243
Cobalt	5.55		1.00	5	03/08/2022 19:35	WG1828243
Copper	10.4		5.00	5	03/08/2022 19:35	WG1828243
Lead	11.3		2.00	5	03/08/2022 19:35	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:35	WG1828243
Nickel	11.5		2.50	5	03/08/2022 19:35	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:35	WG1828243
Silver	ND		0.500	5	03/08/2022 19:35	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:35	WG1828243
Vanadium	29.9		2.50	5	03/08/2022 19:35	WG1828243
Zinc	43.2		25.0	5	03/08/2022 19:35	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	0.0920		0.0400	1	03/07/2022 10:28	WG1828128

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Antimony	ND		3.00	5	03/08/2022 19:38	WG1828243
Arsenic	2.58		1.00	5	03/08/2022 19:38	WG1828243
Barium	94.7		2.50	5	03/08/2022 19:38	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:38	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:38	WG1828243
Chromium	12.7		5.00	5	03/08/2022 19:38	WG1828243
Cobalt	3.79		1.00	5	03/08/2022 19:38	WG1828243
Copper	19.7		5.00	5	03/08/2022 19:38	WG1828243
Lead	10.1		2.00	5	03/08/2022 19:38	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:38	WG1828243
Nickel	8.82		2.50	5	03/08/2022 19:38	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:38	WG1828243
Silver	1.01		0.500	5	03/08/2022 19:38	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:38	WG1828243
Vanadium	22.1		2.50	5	03/08/2022 19:38	WG1828243
Zinc	55.9		25.0	5	03/08/2022 19:38	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.0400	1	03/07/2022 10:30	WG1828128

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	<u>Qualifier</u>	RDL mg/kg	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		3.00	5	03/08/2022 19:42	WG1828243
Arsenic	3.76		1.00	5	03/08/2022 19:42	WG1828243
Barium	87.6		2.50	5	03/08/2022 19:42	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:42	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:42	WG1828243
Chromium	14.0		5.00	5	03/08/2022 19:42	WG1828243
Cobalt	4.97		1.00	5	03/08/2022 19:42	WG1828243
Copper	9.51		5.00	5	03/08/2022 19:42	WG1828243
Lead	10.9		2.00	5	03/08/2022 19:42	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:42	WG1828243
Nickel	10.6		2.50	5	03/08/2022 19:42	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:42	WG1828243
Silver	ND		0.500	5	03/08/2022 19:42	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:42	WG1828243
Vanadium	26.0		2.50	5	03/08/2022 19:42	WG1828243
Zinc	35.5		25.0	5	03/08/2022 19:42	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	03/07/2022 10:33	WG1828128

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Antimony	ND		3.00	5	03/08/2022 19:45	WG1828243
Arsenic	2.90		1.00	5	03/08/2022 19:45	WG1828243
Barium	76.6		2.50	5	03/08/2022 19:45	WG1828243
Beryllium	ND		2.50	5	03/08/2022 19:45	WG1828243
Cadmium	ND		1.00	5	03/08/2022 19:45	WG1828243
Chromium	12.6		5.00	5	03/08/2022 19:45	WG1828243
Cobalt	4.25		1.00	5	03/08/2022 19:45	WG1828243
Copper	8.66		5.00	5	03/08/2022 19:45	WG1828243
Lead	11.0		2.00	5	03/08/2022 19:45	WG1828243
Molybdenum	ND		2.50	5	03/08/2022 19:45	WG1828243
Nickel	9.13		2.50	5	03/08/2022 19:45	WG1828243
Selenium	ND		2.50	5	03/08/2022 19:45	WG1828243
Silver	ND		0.500	5	03/08/2022 19:45	WG1828243
Thallium	ND		2.00	5	03/08/2022 19:45	WG1828243
Vanadium	22.9		2.50	5	03/08/2022 19:45	WG1828243
Zinc	39.3		25.0	5	03/08/2022 19:45	WG1828243

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3767153-1 03/07/22 13:14

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3767153-2 03/07/22 13:21

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.506	101	80.0-120	

L1467277-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1467277-20 03/07/22 13:23 • (MS) R3767153-3 03/07/22 13:26 • (MSD) R3767153-4 03/07/22 13:29

	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	%	%		%			%	%
Mercury	0.500	ND	0.569	0.503	114	101	1	75.0-125			12.3	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3767048-5 03/07/22 09:20

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3767048-6 03/07/22 09:23

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.494	98.9	80.0-120	

L1468196-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1468196-01 03/07/22 09:25 • (MS) R3767048-7 03/07/22 09:28 • (MSD) R3767048-8 03/07/22 09:30

	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	%	%		%			%	%
Mercury	0.500	416	401	466	0.000	10100	500	75.0-125	V	V	15.2	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3767637-1 03/08/22 18:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Antimony	U		0.166	3.00
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Beryllium	U		0.138	2.50
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Cobalt	U		0.0463	1.00
Copper	U		0.133	5.00
Lead	U		0.0990	2.00
Molybdenum	U		0.101	2.50
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Thallium	U		0.0650	2.00
Vanadium	U		0.187	2.50
Zinc	U		0.740	25.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3767637-2 03/08/22 18:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	100	102	102	80.0-120	
Arsenic	100	91.7	91.7	80.0-120	
Barium	100	91.0	91.0	80.0-120	
Beryllium	100	88.5	88.5	80.0-120	
Cadmium	100	95.8	95.8	80.0-120	
Chromium	100	95.6	95.6	80.0-120	
Cobalt	100	97.1	97.1	80.0-120	
Copper	100	82.1	82.1	80.0-120	
Lead	100	90.9	90.9	80.0-120	
Molybdenum	100	95.7	95.7	80.0-120	
Nickel	100	96.8	96.8	80.0-120	
Selenium	100	99.3	99.3	80.0-120	
Silver	20.0	19.4	97.2	80.0-120	
Thallium	100	89.8	89.8	80.0-120	
Vanadium	100	93.8	93.8	80.0-120	
Zinc	100	94.7	94.7	80.0-120	

L1468266-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1468266-02 03/08/22 18:13 • (MS) R3767637-5 03/08/22 18:23 • (MSD) R3767637-6 03/08/22 18:26

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Antimony	100	ND	86.6	91.1	86.3	90.8	5	75.0-125			5.05	20
Arsenic	100	1.01	82.6	87.5	81.6	86.5	5	75.0-125			5.78	20
Barium	100	19.7	99.4	110	79.7	90.7	5	75.0-125			10.5	20
Beryllium	100	ND	81.2	88.1	81.1	87.9	5	75.0-125			8.10	20
Cadmium	100	ND	91.1	94.6	91.1	94.6	5	75.0-125			3.84	20
Chromium	100	ND	87.5	91.2	85.2	88.8	5	75.0-125			4.08	20
Cobalt	100	1.10	88.6	93.5	87.5	92.4	5	75.0-125			5.29	20
Copper	100	ND	78.7	82.7	76.5	80.5	5	75.0-125			4.94	20
Lead	100	ND	85.0	88.6	83.1	86.6	5	75.0-125			4.12	20
Molybdenum	100	ND	87.7	93.6	87.6	93.4	5	75.0-125			6.46	20
Nickel	100	ND	88.7	93.7	87.0	92.0	5	75.0-125			5.51	20
Selenium	100	ND	90.2	95.7	90.0	95.5	5	75.0-125			5.91	20
Silver	20.0	ND	17.9	18.8	89.3	94.1	5	75.0-125			5.28	20
Thallium	100	ND	82.6	86.2	82.6	86.2	5	75.0-125			4.30	20
Vanadium	100	8.54	91.8	96.9	83.3	88.3	5	75.0-125			5.33	20
Zinc	100	ND	94.2	99.6	85.0	90.4	5	75.0-125			5.57	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3768287-1 03/09/22 19:07

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
Nickel	U		0.197	2.50

Laboratory Control Sample (LCS)

(LCS) R3768287-2 03/09/22 19:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Nickel	100	95.1	95.1	80.0-120	

L1468266-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1468266-05 03/09/22 19:14 • (MS) R3768287-5 03/09/22 19:24 • (MSD) R3768287-6 03/09/22 19:28

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Nickel	100	7.05	96.0	100	89.0	93.1	5	75.0-125			4.20	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

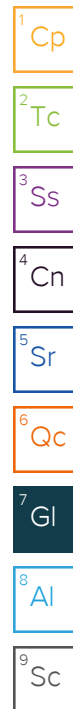
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.



ACCREDITATIONS & LOCATIONS

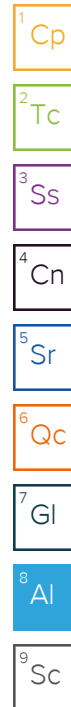
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico 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.



Condition:
NCF / OK

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
<u>If Applicable</u>			
VOA Zero Headspace:		Y	N
Preservation Correct/Checked:		Y	N
RAD Screen <0.5 mR/hr:		Y	N

Hold:	Condition
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