

Bottom Ash Data

2020 Week 22

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on June 9, 2020. The data represents bottom ash composite results for week 22 of 2020 (May 24, 2020 to May 30, 2020).

The bottom ash meets the requirements of Metro Vancouver's Bottom Ash Management Plan and is suitable for disposal.



CERTIFICATE OF ANALYSIS

Work Order : **VA20A7500**
Client : **Covanta Burnaby Renewable Energy, ULC**
Contact : Steve McKinney
Address : 5150 Riverbend Drive
Burnaby BC Canada V3N 4V3
Telephone : 604 521 1025
Project : Weekly Bottom Ash-Suite
PO : VANCO 0000049378
C-O-C number : ----
Sampler : ----
Site : ----
Quote number : Standing Offer (BC work)
No. of samples received : 12
No. of samples analysed : 12

Page : 1 of 11
Laboratory : Vancouver - Environmental
Account Manager : Brent Mack
Address : 8081 Lougheed Highway
Burnaby BC Canada V5A 1W9
Telephone : +1 604 253 4188
Date Samples Received : 02-Jun-2020 11:50
Date Analysis Commenced : 03-Jun-2020
Issue Date : 09-Jun-2020 09:46

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Aaron Yu	Laboratory Analyst	Metals, Burnaby, British Columbia
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Brieanna Allen	Department Manager - Organics	Organics, Burnaby, British Columbia
Cristina Alexandre	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kinny Wu	Laboratory Analyst	Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Shaneel Dayal	Metal Analyst	Metals, Burnaby, British Columbia



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

<i>Unit</i>	<i>Description</i>
%	percent
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in reports identified as "Preliminary Report" are considered authorized for use.



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2022-A-1	BA2022-A-2	BA2022-A-3	BA2022-A-4	BA2022-A-5
(Matrix: Soil/Solid)										
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-001	VA20A7500-002	VA20A7500-003	VA20A7500-004	VA20A7500-005	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	17.2	15.7	17.4	17.0	16.6	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.4	11.6	11.4	11.5	11.5	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	30200	29900	40800	31200	35900	
antimony	7440-36-0	E440	0.10	mg/kg	107	118	99.6	139	101	
arsenic	7440-38-2	E440	0.10	mg/kg	33.1	40.5	36.0	34.3	34.3	
barium	7440-39-3	E440	0.50	mg/kg	444	463	563	602	615	
beryllium	7440-41-7	E440	0.10	mg/kg	0.32	0.35	0.33	0.40	0.32	
bismuth	7440-69-9	E440	0.20	mg/kg	3.89	4.76	4.18	4.37	3.56	
boron	7440-42-8	E440	5.0	mg/kg	176	158	161	197	174	
cadmium	7440-43-9	E440	0.020	mg/kg	10.8	14.8	11.1	12.4	9.93	
calcium	7440-70-2	E440	50	mg/kg	114000	119000	108000	115000	120000	
chromium	7440-47-3	E440	0.50	mg/kg	147	137	171	311	146	
cobalt	7440-48-4	E440	0.10	mg/kg	32.1	257	41.1	105	207	
copper	7440-50-8	E440	0.50	mg/kg	2060	2200	6180	5370	8790	
iron	7439-89-6	E440	50	mg/kg	45200	53200	74100	64200	49100	
lead	7439-92-1	E440	0.50	mg/kg	537	504	722	386	1370	
lithium	7439-93-2	E440	2.0	mg/kg	20.7	16.4	17.2	48.0	16.5	
magnesium	7439-95-4	E440	20	mg/kg	11800	10600	11000	12000	11400	
manganese	7439-96-5	E440	1.0	mg/kg	748	1160	2680	967	1010	
mercury	7439-97-6	E510	0.0500	mg/kg	0.0661	0.0746	0.318	0.0503	0.0519	
molybdenum	7439-98-7	E440	0.10	mg/kg	31.0	19.1	40.8	20.5	16.8	
nickel	7440-02-0	E440	0.50	mg/kg	389	162	138	124	100	
phosphorus	7723-14-0	E440	50	mg/kg	8600	10200	7420	7520	8630	
potassium	7440-09-7	E440	100	mg/kg	4640	4800	4380	4990	4580	
selenium	7782-49-2	E440	0.20	mg/kg	0.26	0.32	0.24	0.31	0.24	
silver	7440-22-4	E440.Ag	0.10	mg/kg	4.72	----	----	----	----	
silver	7440-22-4	E440	0.10	mg/kg	----	4.65	4.73	10.2	6.46	
sodium	7440-23-5	E440	50	mg/kg	12300	13000	12500	13500	13800	
strontium	7440-24-6	E440	0.50	mg/kg	280	281	252	282	287	



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2022-A-1	BA2022-A-2	BA2022-A-3	BA2022-A-4	BA2022-A-5
(Matrix: Soil/Solid)										
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-001	VA20A7500-002	VA20A7500-003	VA20A7500-004	VA20A7500-005	
					Result	Result	Result	Result	Result	
Metals										
sulfur	7704-34-9	E440	1000	mg/kg	11000	12200	11000	12200	10600	
thallium	7440-28-0	E440	0.050	mg/kg	<0.050	0.052	<0.050	<0.050	<0.050	
tin	7440-31-5	E440	2.0	mg/kg	1620	97.2	81.4	873	88.7	
titanium	7440-32-6	E440	1.0	mg/kg	248	180	658	382	429	
tungsten	7440-33-7	E440	0.50	mg/kg	4.46	4.24	6.25	7.35	13.6	
uranium	7440-61-1	E440	0.050	mg/kg	4.25	4.90	4.26	4.25	4.11	
vanadium	7440-62-2	E440	0.20	mg/kg	43.8	44.8	45.6	49.2	55.6	
zinc	7440-66-6	E440	2.0	mg/kg	5080	4600	5900	5860	3830	
zirconium	7440-67-7	E440	1.0	mg/kg	1.6	1.8	1.1	1.0	1.1	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.8	11.8	11.7	11.7	11.8	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	9.86	8.89	8.85	8.89	9.54	
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.89	2.89	2.89	2.89	2.89	
pH, TCLP final	----	EPP444	0.010	pH units	5.84	5.91	5.99	5.92	5.94	
antimony, TCLP	7440-36-0	E444	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	
beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	
boron, TCLP	7440-42-8	E444	0.50	mg/L	2.11	2.04	2.12	2.00	1.92	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.216	0.286	0.334	0.248	0.206	
calcium, TCLP	7440-70-2	E444	10	mg/L	2020	2000	2060	2040	1960	
chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	
cobalt, TCLP	7440-48-4	E444	0.050	mg/L	0.768	0.487	1.48	0.849	0.864	
copper, TCLP	7440-50-8	E444	0.050	mg/L	1.30	1.05	1.40	1.44	0.775	
iron, TCLP	7439-89-6	E444	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	
lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	0.30	<0.25	0.36	<0.25	
magnesium, TCLP	7439-95-4	E444	2.5	mg/L	158	158	153	153	154	
mercury, TCLP	7439-97-6	E512	0.0100	mg/L	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	
nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.54	0.51	0.72	0.62	0.55	
selenium, TCLP	7782-49-2	E444	1.00	mg/L	<1.00	<1.00	<1.00	<1.00	<1.00	
silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2022-A-1	BA2022-A-2	BA2022-A-3	BA2022-A-4	BA2022-A-5
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-001	VA20A7500-002	VA20A7500-003	VA20A7500-004	VA20A7500-005	
					Result	Result	Result	Result	Result	
TCLP Metals										
thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
zinc, TCLP	7440-66-6	E444	0.50	mg/L	66.4	63.7	72.6	69.4	79.6	

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2022-A-6	BA2022-A-7	BA2022-A-8	BA2022-A-9	BA2022-A-10
(Matrix: Soil/Solid)										
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-006	VA20A7500-007	VA20A7500-008	VA20A7500-009	VA20A7500-010	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	16.5	18.1	15.3	17.2	14.2	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.5	11.4	11.3	11.1	11.4	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	32300	28800	23900	38200	39600	
antimony	7440-36-0	E440	0.10	mg/kg	104	118	<0.10	108	123	
arsenic	7440-38-2	E440	0.10	mg/kg	31.2	41.7	0.36	44.2	40.4	
barium	7440-39-3	E440	0.50	mg/kg	651	604	11.6	534	498	
beryllium	7440-41-7	E440	0.10	mg/kg	0.37	0.36	0.11	0.40	0.36	
bismuth	7440-69-9	E440	0.20	mg/kg	3.57	4.27	<0.20	4.72	5.36	
boron	7440-42-8	E440	5.0	mg/kg	189	246	149	167	217	
cadmium	7440-43-9	E440	0.020	mg/kg	13.7	16.7	0.083	12.3	12.2	
calcium	7440-70-2	E440	50	mg/kg	115000	113000	23800	119000	110000	
chromium	7440-47-3	E440	0.50	mg/kg	139	142	132	145	157	
cobalt	7440-48-4	E440	0.10	mg/kg	27.8	29.3	25.4	38.5	42.6	
copper	7440-50-8	E440	0.50	mg/kg	3010	33600	93.8	3410	3660	
iron	7439-89-6	E440	50	mg/kg	67000	47400	34500	56400	55300	
lead	7439-92-1	E440	0.50	mg/kg	1310	516	<0.50	732	495	
lithium	7439-93-2	E440	2.0	mg/kg	13.8	16.5	15.2	20.2	17.6	
magnesium	7439-95-4	E440	20	mg/kg	11300	11400	22800	11100	11000	
manganese	7439-96-5	E440	1.0	mg/kg	810	1050	582	768	865	
mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	0.157	0.861	0.0601	
molybdenum	7439-98-7	E440	0.10	mg/kg	21.4	34.1	0.34	17.6	20.0	
nickel	7440-02-0	E440	0.50	mg/kg	106	108	55.0	151	139	
phosphorus	7723-14-0	E440	50	mg/kg	9650	8840	455	9250	10200	
potassium	7440-09-7	E440	100	mg/kg	4850	4830	390	5580	5240	
selenium	7782-49-2	E440	0.20	mg/kg	<0.20	5.07	<0.20	0.38	0.30	
silver	7440-22-4	E440	0.10	mg/kg	3.94	4.64	<0.10	3.98	3.76	
sodium	7440-23-5	E440	50	mg/kg	14200	13400	201	13900	13600	
strontium	7440-24-6	E440	0.50	mg/kg	351	279	79.2	383	264	
sulfur	7704-34-9	E440	1000	mg/kg	10300	11400	<1000	12600	12200	
thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	<0.050	0.062	<0.050	



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2022-A-6	BA2022-A-7	BA2022-A-8	BA2022-A-9	BA2022-A-10
(Matrix: Soil/Solid)										
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-006	VA20A7500-007	VA20A7500-008	VA20A7500-009	VA20A7500-010	
					Result	Result	Result	Result	Result	
Metals										
tin	7440-31-5	E440	2.0	mg/kg	222	3690	<2.0	165	115	
titanium	7440-32-6	E440	1.0	mg/kg	415	767	2170	1360	832	
tungsten	7440-33-7	E440	0.50	mg/kg	5.28	5.57	<0.50	7.66	8.04	
uranium	7440-61-1	E440	0.050	mg/kg	4.30	4.40	0.063	5.22	5.19	
vanadium	7440-62-2	E440	0.20	mg/kg	43.0	46.1	89.3	48.6	48.9	
zinc	7440-66-6	E440	2.0	mg/kg	7410	3730	92.9	9440	4430	
zirconium	7440-67-7	E440	1.0	mg/kg	1.1	<1.0	<1.0	2.5	1.7	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.7	11.7	11.7	11.8	11.6	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	9.28	9.43	9.36	9.51	9.94	
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.89	2.89	2.89	2.89	2.89	
pH, TCLP final	----	EPP444	0.010	pH units	5.95	5.90	5.87	5.97	5.94	
antimony, TCLP	7440-36-0	E444	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	
beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	
boron, TCLP	7440-42-8	E444	0.50	mg/L	1.98	1.97	2.13	1.92	2.00	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.281	0.227	0.211	0.226	0.325	
calcium, TCLP	7440-70-2	E444	10	mg/L	2000	2090	2040	1960	1970	
chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	
cobalt, TCLP	7440-48-4	E444	0.050	mg/L	0.840	0.573	0.858	0.755	0.412	
copper, TCLP	7440-50-8	E444	0.050	mg/L	1.26	0.490	1.00	0.425	1.26	
iron, TCLP	7439-89-6	E444	5.0	mg/L	<5.0	5.6	<5.0	<5.0	<5.0	
lead, TCLP	7439-92-1	E444	0.25	mg/L	1.58	<0.25	0.28	0.61	0.34	
magnesium, TCLP	7439-95-4	E444	2.5	mg/L	160	156	152	149	145	
mercury, TCLP	7439-97-6	E512	0.0100	mg/L	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	
nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.56	0.81	0.54	0.64	0.55	
selenium, TCLP	7782-49-2	E444	1.00	mg/L	<1.00	<1.00	<1.00	<1.00	<1.00	
silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	<0.15	<0.15	<0.15	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2022-A-6	BA2022-A-7	BA2022-A-8	BA2022-A-9	BA2022-A-10
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00	27-May-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-006	VA20A7500-007	VA20A7500-008	VA20A7500-009	VA20A7500-010	
					Result	Result	Result	Result	Result	
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L	98.6	76.7	73.6	74.2	95.6	

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2022-A-11	BA2022-A-12	----	----	----
(Matrix: Soil/Solid)										
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-011	VA20A7500-012	-----	-----	-----	
					Result	Result	---	---	---	
Physical Tests										
moisture	----	E144	0.25	%	17.0	16.3	----	----	----	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.4	11.2	----	----	----	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	47400	32000	----	----	----	
antimony	7440-36-0	E440	0.10	mg/kg	115	105	----	----	----	
arsenic	7440-38-2	E440	0.10	mg/kg	40.5	44.6	----	----	----	
barium	7440-39-3	E440	0.50	mg/kg	544	551	----	----	----	
beryllium	7440-41-7	E440	0.10	mg/kg	0.41	0.36	----	----	----	
bismuth	7440-69-9	E440	0.20	mg/kg	5.11	4.50	----	----	----	
boron	7440-42-8	E440	5.0	mg/kg	189	158	----	----	----	
cadmium	7440-43-9	E440	0.020	mg/kg	10.5	23.5	----	----	----	
calcium	7440-70-2	E440	50	mg/kg	128000	103000	----	----	----	
chromium	7440-47-3	E440	0.50	mg/kg	142	757	----	----	----	
cobalt	7440-48-4	E440	0.10	mg/kg	28.5	30.1	----	----	----	
copper	7440-50-8	E440	0.50	mg/kg	2040	5290	----	----	----	
iron	7439-89-6	E440	50	mg/kg	70400	86600	----	----	----	
lead	7439-92-1	E440	0.50	mg/kg	434	1250	----	----	----	
lithium	7439-93-2	E440	2.0	mg/kg	17.2	15.4	----	----	----	
magnesium	7439-95-4	E440	20	mg/kg	10700	10500	----	----	----	
manganese	7439-96-5	E440	1.0	mg/kg	1020	928	----	----	----	
mercury	7439-97-6	E510	0.0500	mg/kg	0.112	0.0866	----	----	----	
molybdenum	7439-98-7	E440	0.10	mg/kg	16.6	42.6	----	----	----	
nickel	7440-02-0	E440	0.50	mg/kg	151	439	----	----	----	
phosphorus	7723-14-0	E440	50	mg/kg	10000	7790	----	----	----	
potassium	7440-09-7	E440	100	mg/kg	5290	4620	----	----	----	
selenium	7782-49-2	E440	0.20	mg/kg	0.29	0.28	----	----	----	
silver	7440-22-4	E440	0.10	mg/kg	3.54	3.99	----	----	----	
sodium	7440-23-5	E440	50	mg/kg	13600	13000	----	----	----	
strontium	7440-24-6	E440	0.50	mg/kg	288	242	----	----	----	
sulfur	7704-34-9	E440	1000	mg/kg	12200	10700	----	----	----	
thallium	7440-28-0	E440	0.050	mg/kg	0.055	<0.050	----	----	----	



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2022-A-11	BA2022-A-12	----	----	----
(Matrix: Soil/Solid)										
Client sampling date / time					27-May-2020 09:00	27-May-2020 09:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-011	VA20A7500-012	-----	-----	-----	
					Result	Result	---	---	---	
Metals										
tin	7440-31-5	E440	2.0	mg/kg	110	89.7	---	---	---	
titanium	7440-32-6	E440	1.0	mg/kg	915	1070	---	---	---	
tungsten	7440-33-7	E440	0.50	mg/kg	8.62	7.72	---	---	---	
uranium	7440-61-1	E440	0.050	mg/kg	5.06	4.47	---	---	---	
vanadium	7440-62-2	E440	0.20	mg/kg	57.9	52.2	---	---	---	
zinc	7440-66-6	E440	2.0	mg/kg	4400	4200	---	---	---	
zirconium	7440-67-7	E440	1.0	mg/kg	1.8	1.2	---	---	---	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.8	11.8	---	---	---	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	9.78	10.1	---	---	---	
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.89	2.89	---	---	---	
pH, TCLP final	----	EPP444	0.010	pH units	5.84	5.80	---	---	---	
antimony, TCLP	7440-36-0	E444	1.0	mg/L	<1.0	<1.0	---	---	---	
arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	---	---	---	
barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	---	---	---	
beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	<0.025	---	---	---	
boron, TCLP	7440-42-8	E444	0.50	mg/L	2.07	1.93	---	---	---	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.276	0.408	---	---	---	
calcium, TCLP	7440-70-2	E444	10	mg/L	1960	1990	---	---	---	
chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	---	---	---	
cobalt, TCLP	7440-48-4	E444	0.050	mg/L	1.26	1.82	---	---	---	
copper, TCLP	7440-50-8	E444	0.050	mg/L	1.19	1.17	---	---	---	
iron, TCLP	7439-89-6	E444	5.0	mg/L	<5.0	<5.0	---	---	---	
lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	<0.25	---	---	---	
magnesium, TCLP	7439-95-4	E444	2.5	mg/L	158	155	---	---	---	
mercury, TCLP	7439-97-6	E512	0.0100	mg/L	<0.0100	<0.0100	---	---	---	
nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.75	0.66	---	---	---	
selenium, TCLP	7782-49-2	E444	1.00	mg/L	<1.00	<1.00	---	---	---	
silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	---	---	---	
thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	---	---	---	
vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	---	---	---	



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2022-A-11	BA2022-A-12	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	27-May-2020 09:00	27-May-2020 09:00	---	---	---
Analyte	CAS Number	Method	LOR	Unit	VA20A7500-011	VA20A7500-012	-----	-----	-----	
TCLP Metals					Result	Result	---	---	---	
zinc, TCLP	7440-66-6	E444	0.50	mg/L	59.9	57.1	----	----	----	

Please refer to the General Comments section for an explanation of any qualifiers detected.