

Bottom Ash Data

2020 Week 24

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on June 25, 2020. The data represents bottom ash composite results for week 24 of 2020 (June 7, 2020 to June 13, 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 : **VA20A8387**
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 : 16-Jun-2020 12:00
Date Analysis Commenced : 17-Jun-2020
Issue Date : 24-Jun-2020 16:16

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>
Brianna Allen	Department Manager - Organics	Organics, Burnaby, British Columbia
Dee Lee	Analyst	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Muneeb Alam	Analyst	Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	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	BA2024-A-1	BA2024-A-2	BA2024-A-3	BA2024-A-4	BA2024-A-5
(Matrix: Soil/Solid)										
Client sampling date / time					10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-001	VA20A8387-002	VA20A8387-003	VA20A8387-004	VA20A8387-005	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	21.7	22.7	20.8	21.4	22.2	
pH (1:2 soil:water)	----	E108	0.10	pH units	10.6	11.2	10.9	10.8	10.8	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	36500	32600	32700	27000	33500	
antimony	7440-36-0	E440	0.10	mg/kg	108	95.7	245	124	122	
arsenic	7440-38-2	E440	0.10	mg/kg	28.5	25.3	41.3	29.9	31.6	
barium	7440-39-3	E440	0.50	mg/kg	616	604	554	508	577	
beryllium	7440-41-7	E440	0.10	mg/kg	0.36	0.37	0.34	0.31	0.33	
bismuth	7440-69-9	E440	0.20	mg/kg	5.28	7.25	8.19	14.2	5.96	
boron	7440-42-8	E440	5.0	mg/kg	209	161	207	156	179	
cadmium	7440-43-9	E440	0.020	mg/kg	9.65	10.1	13.4	9.83	15.3	
calcium	7440-70-2	E440	50	mg/kg	107000	104000	118000	109000	119000	
chromium	7440-47-3	E440	0.50	mg/kg	146	144	138	174	143	
cobalt	7440-48-4	E440	0.10	mg/kg	26.1	108	19.2	49.3	25.0	
copper	7440-50-8	E440	0.50	mg/kg	11000	1740	18600	45500	17100	
iron	7439-89-6	E440	50	mg/kg	64500	77700	61500	68200	55600	
lead	7439-92-1	E440	0.50	mg/kg	1030	1310	736	9710	420	
lithium	7439-93-2	E440	2.0	mg/kg	18.0	22.9	16.4	14.0	17.0	
magnesium	7439-95-4	E440	20	mg/kg	11300	10900	10700	10200	10300	
manganese	7439-96-5	E440	1.0	mg/kg	861	3890	782	965	791	
mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	
molybdenum	7439-98-7	E440	0.10	mg/kg	26.4	51.9	23.3	26.0	45.2	
nickel	7440-02-0	E440	0.50	mg/kg	148	139	93.5	426	171	
phosphorus	7723-14-0	E440	50	mg/kg	7490	7460	8970	8490	8250	
potassium	7440-09-7	E440	100	mg/kg	4390	4200	4740	4230	4630	
selenium	7782-49-2	E440	0.20	mg/kg	0.28	0.23	0.37	0.38	0.32	
silver	7440-22-4	E440.Ag	0.10	mg/kg	----	----	----	16.1	----	
silver	7440-22-4	E440	0.10	mg/kg	14.9	3.68	5.22	----	4.28	
sodium	7440-23-5	E440	50	mg/kg	12900	12600	13500	13000	13300	
strontium	7440-24-6	E440	0.50	mg/kg	334	264	269	249	270	



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2024-A-1	BA2024-A-2	BA2024-A-3	BA2024-A-4	BA2024-A-5
(Matrix: Soil/Solid)										
Client sampling date / time										
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-001	VA20A8387-002	VA20A8387-003	VA20A8387-004	VA20A8387-005	
					Result	Result	Result	Result	Result	
Metals										
sulfur	7704-34-9	E440	1000	mg/kg	9700	8900	10900	10200	10500	
thallium	7440-28-0	E440	0.050	mg/kg	0.054	<0.050	0.077	0.072	0.053	
tin	7440-31-5	E440	2.0	mg/kg	396	85.6	155	423	85.5	
titanium	7440-32-6	E440	1.0	mg/kg	687	719	703	221	314	
tungsten	7440-33-7	E440	0.50	mg/kg	5.40	2.88	5.52	19.0	4.06	
uranium	7440-61-1	E440	0.050	mg/kg	4.20	4.18	4.32	4.03	4.42	
vanadium	7440-62-2	E440	0.20	mg/kg	43.2	43.3	46.4	39.8	43.1	
zinc	7440-66-6	E440	2.0	mg/kg	8920	4360	6850	4960	6610	
zirconium	7440-67-7	E440	1.0	mg/kg	<1.0	1.0	1.3	1.6	1.5	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.6	11.6	11.5	11.6	11.4	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.55	8.78	9.06	8.65	8.74	
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.83	2.83	2.83	2.83	2.83	
pH, TCLP final	----	EPP444	0.010	pH units	5.46	6.06	7.79	8.17	6.87	
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	2.20	2.17	1.64	1.36	1.97	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.510	0.281	<0.050	<0.050	0.154	
calcium, TCLP	7440-70-2	E444	10	mg/L	2250	1970	1530	1300	1780	
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	0.762	0.690	0.100	<0.050	0.477	
copper, TCLP	7440-50-8	E444	0.050	mg/L	0.943	0.593	0.222	0.235	0.417	
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	0.27	<0.25	<0.25	<0.25	<0.25	
magnesium, TCLP	7439-95-4	E444	2.5	mg/L	160	141	91.6	80.1	120	
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	0.83	0.55	<0.25	<0.25	0.34	
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	BA2024-A-1	BA2024-A-2	BA2024-A-3	BA2024-A-4	BA2024-A-5
Client sampling date / time					10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-001	VA20A8387-002	VA20A8387-003	VA20A8387-004	VA20A8387-005	
					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	105	45.5	<0.50	<0.50	17.0	17.0

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



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2024-A-6	BA2024-A-7	BA2024-A-8	BA2024-A-9	BA2024-A-10
Client sampling date / time					10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-006	VA20A8387-007	VA20A8387-008	VA20A8387-009	VA20A8387-010	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	22.2	21.6	23.8	22.0	21.2	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.1	11.1	11.2	11.4	11.1	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	31300	30500	28500	38400	30700	
antimony	7440-36-0	E440	0.10	mg/kg	110	92.9	106	112	102	
arsenic	7440-38-2	E440	0.10	mg/kg	53.0	29.7	42.0	28.2	27.8	
barium	7440-39-3	E440	0.50	mg/kg	639	533	609	638	590	
beryllium	7440-41-7	E440	0.10	mg/kg	0.39	0.36	0.38	0.43	0.40	
bismuth	7440-69-9	E440	0.20	mg/kg	11.0	5.64	19.9	5.44	8.95	
boron	7440-42-8	E440	5.0	mg/kg	155	151	257	254	146	
cadmium	7440-43-9	E440	0.020	mg/kg	10.4	23.2	10.5	9.32	9.80	
calcium	7440-70-2	E440	50	mg/kg	105000	110000	109000	99800	112000	
chromium	7440-47-3	E440	0.50	mg/kg	172	136	133	212	178	
cobalt	7440-48-4	E440	0.10	mg/kg	23.7	41.0	65.6	41.7	65.3	
copper	7440-50-8	E440	0.50	mg/kg	4900	2530	38400	4070	6240	
iron	7439-89-6	E440	50	mg/kg	67600	48300	62400	77400	59100	
lead	7439-92-1	E440	0.50	mg/kg	8000	491	527	520	1410	
lithium	7439-93-2	E440	2.0	mg/kg	13.6	17.0	16.4	19.2	26.0	
magnesium	7439-95-4	E440	20	mg/kg	10900	10400	11300	9540	11400	
manganese	7439-96-5	E440	1.0	mg/kg	734	782	2120	1000	861	
mercury	7439-97-6	E510	0.0500	mg/kg	0.0767	<0.0500	<0.0500	<0.0500	<0.0500	
molybdenum	7439-98-7	E440	0.10	mg/kg	26.6	25.5	25.0	33.6	26.5	
nickel	7440-02-0	E440	0.50	mg/kg	141	242	1170	296	150	
phosphorus	7723-14-0	E440	50	mg/kg	6680	8010	8190	6870	7980	
potassium	7440-09-7	E440	100	mg/kg	4100	4360	5080	4020	4340	
selenium	7782-49-2	E440	0.20	mg/kg	0.29	0.28	0.53	0.24	0.24	
silver	7440-22-4	E440.Ag	0.10	mg/kg	----	----	----	----	3.33	
silver	7440-22-4	E440	0.10	mg/kg	22.9	13.0	4.63	8.48	----	
sodium	7440-23-5	E440	50	mg/kg	12100	12800	12300	12100	13500	
strontium	7440-24-6	E440	0.50	mg/kg	270	290	275	294	280	
sulfur	7704-34-9	E440	1000	mg/kg	9300	9800	9900	9000	9900	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2024-A-6	BA2024-A-7	BA2024-A-8	BA2024-A-9	BA2024-A-10
Client sampling date / time					10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-006	VA20A8387-007	VA20A8387-008	VA20A8387-009	VA20A8387-010	
					Result	Result	Result	Result	Result	
Metals										
thallium	7440-28-0	E440	0.050	mg/kg	0.066	<0.050	0.059	0.098	0.055	
tin	7440-31-5	E440	2.0	mg/kg	753	448	85.6	90.0	599	
titanium	7440-32-6	E440	1.0	mg/kg	441	175	309	920	752	
tungsten	7440-33-7	E440	0.50	mg/kg	2.71	2.51	2.51	2.95	7.34	
uranium	7440-61-1	E440	0.050	mg/kg	4.30	4.34	4.27	4.44	4.68	
vanadium	7440-62-2	E440	0.20	mg/kg	50.4	42.1	41.5	52.7	57.3	
zinc	7440-66-6	E440	2.0	mg/kg	5220	7230	4720	5590	4360	
zirconium	7440-67-7	E440	1.0	mg/kg	1.1	2.1	1.2	1.5	1.1	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.6	11.6	11.6	11.7	11.6	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.91	8.60	8.96	8.91	8.72	
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.83	2.83	2.83	2.83	2.83	
pH, TCLP final	----	EPP444	0.010	pH units	6.08	5.62	6.12	6.40	6.45	
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	3.69	2.18	2.02	2.03	2.02	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.250	0.247	0.541	0.218	0.172	
calcium, TCLP	7440-70-2	E444	10	mg/L	1930	2170	1970	1920	1830	
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	1.08	2.08	1.23	0.724	1.07	
copper, TCLP	7440-50-8	E444	0.050	mg/L	0.708	0.956	1.42	0.658	0.844	
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	<0.25	<0.25	<0.25	<0.25	
magnesium, TCLP	7439-95-4	E444	2.5	mg/L	146	152	138	133	131	
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	0.66	0.66	0.48	0.52	0.49	
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	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2024-A-6	BA2024-A-7	BA2024-A-8	BA2024-A-9	BA2024-A-10
Client sampling date / time					10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00	10-Jun-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-006	VA20A8387-007	VA20A8387-008	VA20A8387-009	VA20A8387-010	
					Result	Result	Result	Result	Result	
TCLP Metals										
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	43.6	72.4	42.0	26.8	30.8	

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



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2024-A-11	BA2024-A-12	----	----	----
(Matrix: Soil/Solid)										
Client sampling date / time						10-Jun-2020 09:00	10-Jun-2020 09:00	---	---	---
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-011	VA20A8387-012	-----	-----	-----	-----
					Result	Result	---	---	---	---
Physical Tests										
moisture	----	E144	0.25	%	20.1	22.0	----	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units	10.8	11.0	----	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg	38600	33300	----	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg	101	180	----	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg	43.2	27.4	----	----	----	----
barium	7440-39-3	E440	0.50	mg/kg	543	555	----	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg	0.34	0.48	----	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg	6.78	5.86	----	----	----	----
boron	7440-42-8	E440	5.0	mg/kg	140	165	----	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg	11.0	10.2	----	----	----	----
calcium	7440-70-2	E440	50	mg/kg	103000	115000	----	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg	159	185	----	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg	20.1	23.7	----	----	----	----
copper	7440-50-8	E440	0.50	mg/kg	4690	10600	----	----	----	----
iron	7439-89-6	E440	50	mg/kg	84500	80900	----	----	----	----
lead	7439-92-1	E440	0.50	mg/kg	501	343	----	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg	13.3	14.4	----	----	----	----
magnesium	7439-95-4	E440	20	mg/kg	9860	10100	----	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg	1000	1200	----	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	----	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg	33.8	24.4	----	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg	132	118	----	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg	7200	7580	----	----	----	----
potassium	7440-09-7	E440	100	mg/kg	3840	4180	----	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg	0.21	0.26	----	----	----	----
silver	7440-22-4	E440	0.10	mg/kg	3.34	3.33	----	----	----	----
sodium	7440-23-5	E440	50	mg/kg	12000	11700	----	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg	271	273	----	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg	9900	9800	----	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg	<0.050	0.058	----	----	----	----



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2024-A-11	BA2024-A-12	----	----	----
(Matrix: Soil/Solid)										
Client sampling date / time						10-Jun-2020 09:00	10-Jun-2020 09:00	---	---	---
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-011	VA20A8387-012	-----	-----	-----	-----
					Result	Result	---	---	---	---
Metals										
tin	7440-31-5	E440	2.0	mg/kg	89.3	94.7	----	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg	1330	384	----	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg	4.06	2.78	----	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg	4.02	4.48	----	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg	43.0	47.2	----	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg	2850	5620	----	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg	2.3	1.5	----	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.6	11.7	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.88	8.87	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.83	2.83	----	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units	5.86	7.21	----	----	----	----
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	2.30	1.92	----	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.323	0.050	----	----	----	----
calcium, TCLP	7440-70-2	E444	10	mg/L	2140	1720	----	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	----	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L	0.731	0.160	----	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L	0.500	0.311	----	----	----	----
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	154	100	----	----	----	----
mercury, TCLP	7439-97-6	E512	0.0100	mg/L	<0.0100	<0.0100	----	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.70	<0.25	----	----	----	----
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 (Matrix: Soil/Solid)					Client sample ID	BA2024-A-11	BA2024-A-12	----	----	----
Client sampling date / time					10-Jun-2020 09:00	10-Jun-2020 09:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	VA20A8387-011	VA20A8387-012	-----	-----	-----	
TCLP Metals					Result	Result	---	---	---	
zinc, TCLP	7440-66-6	E444	0.50	mg/L	54.6	0.95	----	----	----	

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