

Bottom Ash Data

2020 Week 23

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on June 18, 2020. The data represents bottom ash composite results for week 23 of 2020 (May 31, 2020 to June 6, 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 : **VA20A7928**
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 : 09-Jun-2020 11:07
Date Analysis Commenced : 10-Jun-2020
Issue Date : 17-Jun-2020 15:50

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>
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Brieanna Allen	Department Manager - Organics	Organics, Burnaby, British Columbia
Dee Lee	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	BA2023-A-1	BA2023-A-2	BA2023-A-3	BA2023-A-4	BA2023-A-5
(Matrix: Soil/Solid)										
Client sampling date / time					03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-001	VA20A7928-002	VA20A7928-003	VA20A7928-004	VA20A7928-005	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	18.7	18.2	19.2	17.4	18.7	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.7	11.3	11.5	11.2	11.4	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	33600	32400	33200	29700	32000	
antimony	7440-36-0	E440	0.10	mg/kg	176	147	166	136	159	
arsenic	7440-38-2	E440	0.10	mg/kg	42.7	52.0	47.0	43.5	43.2	
barium	7440-39-3	E440	0.50	mg/kg	487	481	502	526	493	
beryllium	7440-41-7	E440	0.10	mg/kg	0.39	0.40	0.39	0.42	0.37	
bismuth	7440-69-9	E440	0.20	mg/kg	13.8	6.11	9.11	5.92	7.38	
boron	7440-42-8	E440	5.0	mg/kg	225	256	196	161	219	
cadmium	7440-43-9	E440	0.020	mg/kg	20.1	16.9	21.0	16.6	16.8	
calcium	7440-70-2	E440	50	mg/kg	140000	126000	133000	130000	131000	
chromium	7440-47-3	E440	0.50	mg/kg	156	174	166	153	177	
cobalt	7440-48-4	E440	0.10	mg/kg	152	25.5	491	25.8	54.2	
copper	7440-50-8	E440	0.50	mg/kg	5900	1500	4010	1420	2500	
iron	7439-89-6	E440	50	mg/kg	65100	52300	66600	59100	69400	
lead	7439-92-1	E440	0.50	mg/kg	471	436	900	445	457	
lithium	7439-93-2	E440	2.0	mg/kg	21.4	19.7	42.8	15.9	18.7	
magnesium	7439-95-4	E440	20	mg/kg	10500	10100	9600	11600	9460	
manganese	7439-96-5	E440	1.0	mg/kg	742	3180	1370	689	806	
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	38.7	52.1	35.0	49.9	39.1	
nickel	7440-02-0	E440	0.50	mg/kg	149	159	125	208	131	
phosphorus	7723-14-0	E440	50	mg/kg	8640	8660	9560	9440	8590	
potassium	7440-09-7	E440	100	mg/kg	5560	5500	5620	5040	5160	
selenium	7782-49-2	E440	0.20	mg/kg	0.61	0.47	0.60	0.42	0.50	
silver	7440-22-4	E440	0.10	mg/kg	9.68	4.71	7.34	5.69	11.2	
sodium	7440-23-5	E440	50	mg/kg	14900	14200	15000	14400	14400	
strontium	7440-24-6	E440	0.50	mg/kg	307	339	300	413	305	
sulfur	7704-34-9	E440	1000	mg/kg	15000	13500	13900	14100	13600	



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2023-A-1	BA2023-A-2	BA2023-A-3	BA2023-A-4	BA2023-A-5
(Matrix: Soil/Solid)										
Client sampling date / time					03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-001	VA20A7928-002	VA20A7928-003	VA20A7928-004	VA20A7928-005	
					Result	Result	Result	Result	Result	
Metals										
thallium	7440-28-0	E440	0.050	mg/kg	0.055	0.054	0.055	0.063	0.058	
tin	7440-31-5	E440	2.0	mg/kg	312	121	146	106	134	
titanium	7440-32-6	E440	1.0	mg/kg	1280	907	1100	1090	788	
tungsten	7440-33-7	E440	0.50	mg/kg	5.36	15.8	5.74	10.8	5.65	
uranium	7440-61-1	E440	0.050	mg/kg	4.62	4.90	4.74	5.10	4.29	
vanadium	7440-62-2	E440	0.20	mg/kg	47.2	55.0	49.7	49.4	46.5	
zinc	7440-66-6	E440	2.0	mg/kg	5270	5500	5070	16500	9920	
zirconium	7440-67-7	E440	1.0	mg/kg	1.4	1.2	1.3	1.2	1.3	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	12.0	11.8	11.8	11.7	11.9	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.91	8.30	9.04	8.49	9.24	
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.88	2.88	2.88	2.88	2.88	
pH, TCLP final	----	EPP444	0.010	pH units	6.55	6.23	6.55	6.30	6.38	
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	2.44	2.39	2.83	2.42	2.35	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.344	0.288	0.264	0.301	0.427	
calcium, TCLP	7440-70-2	E444	10	mg/L	1990	1930	1960	1970	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	0.625	0.708	0.777	2.24	0.723	
copper, TCLP	7440-50-8	E444	0.050	mg/L	0.653	1.20	0.495	0.892	0.857	
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	0.56	<0.25	<0.25	<0.25	
magnesium, TCLP	7439-95-4	E444	2.5	mg/L	135	129	135	137	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	0.40	0.51	2.18	0.61	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	BA2023-A-1	BA2023-A-2	BA2023-A-3	BA2023-A-4	BA2023-A-5
Client sampling date / time					03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-001	VA20A7928-002	VA20A7928-003	VA20A7928-004	VA20A7928-005	
					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	36.8	45.4	46.6	43.1	42.8	

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



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2023-A-6	BA2023-A-7	BA2023-A-8	BA2023-A-9	BA2023-A-10
(Matrix: Soil/Solid)										
Client sampling date / time					03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-006	VA20A7928-007	VA20A7928-008	VA20A7928-009	VA20A7928-010	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	18.6	17.9	19.6	17.8	18.7	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.2	11.0	11.0	11.1	11.2	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	36100	32500	41100	40400	32600	
antimony	7440-36-0	E440	0.10	mg/kg	127	127	138	203	138	
arsenic	7440-38-2	E440	0.10	mg/kg	38.8	46.6	43.9	46.8	48.7	
barium	7440-39-3	E440	0.50	mg/kg	476	495	531	492	458	
beryllium	7440-41-7	E440	0.10	mg/kg	0.36	0.36	0.39	0.36	0.38	
bismuth	7440-69-9	E440	0.20	mg/kg	5.40	9.35	5.11	6.64	6.24	
boron	7440-42-8	E440	5.0	mg/kg	169	148	154	248	238	
cadmium	7440-43-9	E440	0.020	mg/kg	15.6	15.5	15.0	18.3	15.2	
calcium	7440-70-2	E440	50	mg/kg	118000	118000	123000	125000	122000	
chromium	7440-47-3	E440	0.50	mg/kg	194	316	178	173	161	
cobalt	7440-48-4	E440	0.10	mg/kg	101	21.4	48.8	21.8	43.3	
copper	7440-50-8	E440	0.50	mg/kg	1900	1630	3420	2980	2560	
iron	7439-89-6	E440	50	mg/kg	74600	55500	52000	74900	57000	
lead	7439-92-1	E440	0.50	mg/kg	510	547	393	2810	363	
lithium	7439-93-2	E440	2.0	mg/kg	20.6	21.8	18.4	28.4	19.3	
magnesium	7439-95-4	E440	20	mg/kg	10300	10100	10600	10700	9930	
manganese	7439-96-5	E440	1.0	mg/kg	832	2930	744	893	757	
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	48.4	71.0	67.7	51.5	52.3	
nickel	7440-02-0	E440	0.50	mg/kg	494	210	141	164	263	
phosphorus	7723-14-0	E440	50	mg/kg	8410	8250	8260	8110	7750	
potassium	7440-09-7	E440	100	mg/kg	5230	5340	4970	5100	5010	
selenium	7782-49-2	E440	0.20	mg/kg	0.39	0.29	0.39	0.44	0.36	
silver	7440-22-4	E440	0.10	mg/kg	4.24	5.76	9.69	5.56	4.48	
sodium	7440-23-5	E440	50	mg/kg	14800	14700	14100	14200	14400	
strontium	7440-24-6	E440	0.50	mg/kg	265	283	357	280	280	
sulfur	7704-34-9	E440	1000	mg/kg	13000	12200	11700	14100	12500	
thallium	7440-28-0	E440	0.050	mg/kg	0.050	0.054	0.051	<0.050	0.055	



Analytical Results

Sub-Matrix: Soil					Client sample ID				
(Matrix: Soil/Solid)					BA2023-A-6	BA2023-A-7	BA2023-A-8	BA2023-A-9	BA2023-A-10
Client sampling date / time					03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-006	VA20A7928-007	VA20A7928-008	VA20A7928-009	VA20A7928-010
					Result	Result	Result	Result	Result
Metals									
tin	7440-31-5	E440	2.0	mg/kg	145	164	192	110	102
titanium	7440-32-6	E440	1.0	mg/kg	725	550	796	1200	894
tungsten	7440-33-7	E440	0.50	mg/kg	7.30	6.40	5.58	6.43	10.7
uranium	7440-61-1	E440	0.050	mg/kg	4.54	5.00	4.37	4.66	4.50
vanadium	7440-62-2	E440	0.20	mg/kg	51.2	50.4	53.0	49.5	47.4
zinc	7440-66-6	E440	2.0	mg/kg	3650	6580	3950	4240	6030
zirconium	7440-67-7	E440	1.0	mg/kg	1.2	1.3	1.6	1.7	1.2
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.7	11.6	11.6	11.7	11.7
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.28	8.45	8.72	8.91	9.03
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.88	2.88	2.88	2.88	2.88
pH, TCLP final	----	EPP444	0.010	pH units	6.08	5.95	5.81	6.16	5.97
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	2.32	2.84	2.07	2.38	2.09
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.382	0.268	0.614	0.340	0.297
calcium, TCLP	7440-70-2	E444	10	mg/L	1900	1880	1810	1960	1860
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	1.06	1.61	0.414	0.741	2.81
copper, TCLP	7440-50-8	E444	0.050	mg/L	0.814	0.902	1.53	0.972	1.34
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	135	133	132	127	134
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	0.74	0.56	0.50	0.46
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	BA2023-A-6	BA2023-A-7	BA2023-A-8	BA2023-A-9	BA2023-A-10
Client sampling date / time					03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00	03-Jun-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-006	VA20A7928-007	VA20A7928-008	VA20A7928-009	VA20A7928-010	
					Result	Result	Result	Result	Result	
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L	49.6	54.7	64.8	49.7	46.1	

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



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2023-A-11	BA2023-A-12	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	03-Jun-2020 09:00	03-Jun-2020 09:00	---	---	---
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-011	VA20A7928-012	-----	-----	-----	
					Result	Result	---	---	---	
Physical Tests										
moisture	----	E144	0.25	%	18.8	18.0	----	----	----	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.1	11.2	----	----	----	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	30200	32700	----	----	----	
antimony	7440-36-0	E440	0.10	mg/kg	124	127	----	----	----	
arsenic	7440-38-2	E440	0.10	mg/kg	36.3	41.2	----	----	----	
barium	7440-39-3	E440	0.50	mg/kg	494	494	----	----	----	
beryllium	7440-41-7	E440	0.10	mg/kg	0.35	0.36	----	----	----	
bismuth	7440-69-9	E440	0.20	mg/kg	6.15	5.72	----	----	----	
boron	7440-42-8	E440	5.0	mg/kg	221	361	----	----	----	
cadmium	7440-43-9	E440	0.020	mg/kg	29.6	20.0	----	----	----	
calcium	7440-70-2	E440	50	mg/kg	114000	124000	----	----	----	
chromium	7440-47-3	E440	0.50	mg/kg	145	156	----	----	----	
cobalt	7440-48-4	E440	0.10	mg/kg	27.2	41.6	----	----	----	
copper	7440-50-8	E440	0.50	mg/kg	1770	1120	----	----	----	
iron	7439-89-6	E440	50	mg/kg	65700	73800	----	----	----	
lead	7439-92-1	E440	0.50	mg/kg	460	370	----	----	----	
lithium	7439-93-2	E440	2.0	mg/kg	18.4	20.0	----	----	----	
magnesium	7439-95-4	E440	20	mg/kg	9210	8510	----	----	----	
manganese	7439-96-5	E440	1.0	mg/kg	869	804	----	----	----	
mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	----	----	----	
molybdenum	7439-98-7	E440	0.10	mg/kg	48.4	49.9	----	----	----	
nickel	7440-02-0	E440	0.50	mg/kg	138	96.7	----	----	----	
phosphorus	7723-14-0	E440	50	mg/kg	7790	8160	----	----	----	
potassium	7440-09-7	E440	100	mg/kg	4740	5020	----	----	----	
selenium	7782-49-2	E440	0.20	mg/kg	0.35	0.43	----	----	----	
silver	7440-22-4	E440	0.10	mg/kg	5.12	5.08	----	----	----	
sodium	7440-23-5	E440	50	mg/kg	13900	14100	----	----	----	
strontium	7440-24-6	E440	0.50	mg/kg	272	278	----	----	----	
sulfur	7704-34-9	E440	1000	mg/kg	11500	12900	----	----	----	
thallium	7440-28-0	E440	0.050	mg/kg	0.053	<0.050	----	----	----	



Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2023-A-11	BA2023-A-12	----	----	----
(Matrix: Soil/Solid)										
Client sampling date / time					03-Jun-2020 09:00	03-Jun-2020 09:00	---	---	---	---
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-011	VA20A7928-012	-----	-----	-----	-----
					Result	Result	---	---	---	---
Metals										
tin	7440-31-5	E440	2.0	mg/kg	106	119	----	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg	931	1140	----	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg	7.37	8.04	----	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg	4.62	4.07	----	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg	44.9	50.4	----	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg	3490	4130	----	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg	1.2	1.2	----	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.7	11.8	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.76	9.05	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.88	2.88	----	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units	6.05	6.14	----	----	----	----
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	2.10	2.18	----	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.264	0.290	----	----	----	----
calcium, TCLP	7440-70-2	E444	10	mg/L	1830	1900	----	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	----	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L	0.998	1.15	----	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L	1.31	0.488	----	----	----	----
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	138	130	----	----	----	----
mercury, TCLP	7439-97-6	E512	0.0100	mg/L	<0.0100	<0.0100	----	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L	1.06	0.68	----	----	----	----
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	BA2023-A-11	BA2023-A-12	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	03-Jun-2020 09:00	03-Jun-2020 09:00	---	---	---
Analyte	CAS Number	Method	LOR	Unit	VA20A7928-011	VA20A7928-012	-----	-----	-----	
TCLP Metals					Result	Result	---	---	---	
zinc, TCLP	7440-66-6	E444	0.50	mg/L	59.6	57.8	----	----	----	

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