Bottom Ash Data

2020 Week 10

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on March 18, 2020. The data represents bottom ash composite results for week 10 of 2020 (March 1, 2020 to March 7, 2020).

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **VA20A3074**	Page	: 1 of 11
Client	: **Covanta Burnaby Renewable Energy, ULC**	Laboratory	: Vancouver - Environmental
Contact	: Steve McKinney	Account Manager	: Brent Mack
Address	: 5150 Riverbend Drive Burnaby BC Canada V3N 4V3	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: 604 521 1025	Telephone	: +1 604 253 4188
Project	: Weekly Bottom Ash - Suite	Date Samples Received	: 10-Mar-2020 11:30
PO	: VANCO 0000049378	Date Analysis Commenced	: 11-Mar-2020
C-O-C number	: ----	Issue Date	: 16-Mar-2020 12:08
Sampler	: ----		
Site	: ----		
Quote number	: Standing Offer		
No. of samples received	: 12		
No. of samples analysed	: 12		

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.

Signatories	*Position*	*Laboratory Department*
Cristina Alexandre	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Dee Lee	Analsyt	Metals, Burnaby, British Columbia
Evan Ben-Oliel	Metal Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Extractions	Organics, 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).

Unit	*Description*
%	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**
(Matrix: **Soil/solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-1	BA2010-A-2	BA2010-A-3	BA2010-A-4	BA2010-A-5
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00
						VA20A3074-001	VA20A3074-002	VA20A3074-003	VA20A3074-004	VA20A3074-005
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		21.4	23.3	23.7	23.9	23.5
pH (1:2 soil:water)	----	E108	0.10	pH units		11.1	11.1	11.3	11.0	11.2
Metals										
aluminum	7429-90-5	E440	50	mg/kg		42500	29900	28300	33500	25800
antimony	7440-36-0	E440	0.10	mg/kg		101	101	92.3	118	126
arsenic	7440-38-2	E440	0.10	mg/kg		17.5	22.8	20.2	21.9	21.3
barium	7440-39-3	E440	0.50	mg/kg		504	487	485	445	472
beryllium	7440-41-7	E440	0.10	mg/kg		0.40	0.40	0.33	0.41	0.39
bismuth	7440-69-9	E440	0.20	mg/kg		5.99	5.73	6.86	8.80	12.6
boron	7440-42-8	E440	5.0	mg/kg		237	206	197	175	198
cadmium	7440-43-9	E440	0.020	mg/kg		9.95	11.0	9.70	11.9	12.3
calcium	7440-70-2	E440	50	mg/kg		131000	119000	124000	127000	142000
chromium	7440-47-3	E440	0.50	mg/kg		119	347	127	108	135
cobalt	7440-48-4	E440	0.10	mg/kg		19.1	18.3	43.4	68.3	27.9
copper	7440-50-8	E440	0.50	mg/kg		2350	965	1900	4300	4970
iron	7439-89-6	E440	50	mg/kg		40000	49900	56000	43400	53600
lead	7439-92-1	E440	0.50	mg/kg		381	650	406	1060	432
lithium	7439-93-2	E440	2.0	mg/kg		22.6	15.6	15.4	16.6	19.6
magnesium	7439-95-4	E440	20	mg/kg		10600	9710	10300	11700	11700
manganese	7439-96-5	E440	1.0	mg/kg		789	1290	662	674	894
mercury	7439-97-6	E510	0.0500	mg/kg		0.183	0.180	0.194	0.203	0.217
molybdenum	7439-98-7	E440	0.10	mg/kg		25.4	28.4	21.4	16.8	17.9
nickel	7440-02-0	E440	0.50	mg/kg		145	391	185	175	126
phosphorus	7723-14-0	E440	50	mg/kg		10500	9280	11400	12300	11000
potassium	7440-09-7	E440	100	mg/kg		5110	4610	4410	5590	4880
selenium	7782-49-2	E440	0.20	mg/kg		0.35	0.32	0.35	0.34	0.36
silver	7440-22-4	E440	0.10	mg/kg		3.13	3.22	7.33	6.82	5.15
sodium	7440-23-5	E440	50	mg/kg		14600	13300	12600	13700	13400
strontium	7440-24-6	E440	0.50	mg/kg		282	276	262	279	316
sulfur	7704-34-9	E440	1000	mg/kg		12100	11700	11700	13000	14000

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-1	BA2010-A-2	BA2010-A-3	BA2010-A-4	BA2010-A-5
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00
						VA20A3074-001	VA20A3074-002	VA20A3074-003	VA20A3074-004	VA20A3074-005
						Result	Result	Result	Result	Result
Metals										
thallium	7440-28-0	E440	0.050	mg/kg		0.057	0.053	0.050	0.056	0.067
tin	7440-31-5	E440	2.0	mg/kg		81.2	104	83.5	128	145
titanium	7440-32-6	E440	1.0	mg/kg		588	535	284	299	359
tungsten	7440-33-7	E440	0.50	mg/kg		8.26	5.10	3.77	4.38	5.72
uranium	7440-61-1	E440	0.050	mg/kg		4.90	4.73	4.78	4.93	5.33
vanadium	7440-62-2	E440	0.20	mg/kg		45.2	45.1	40.7	50.2	42.5
zinc	7440-66-6	E440	2.0	mg/kg		3410	3040	3250	5130	5180
zirconium	7440-67-7	E440	1.0	mg/kg		2.3	1.1	2.2	2.4	1.5
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.7	11.7	11.6	11.7	11.7
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.64	8.71	8.77	8.70	8.61
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.91	2.91	2.91	2.91	2.91
pH, TCLP final	----	EPP444	0.010	pH units		5.96	6.14	6.22	6.13	6.61
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	3.02	2.95	2.56	2.54
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.206	0.170	0.198	0.181	0.101
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2000	1990	2060	2030	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		1.00	0.592	0.759	0.374	0.573
copper, TCLP	7440-50-8	E444	0.050	mg/L		1.17	0.885	0.927	0.586	0.448
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	0.50	mg/L		140	133	137	138	118
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		0.45	0.41	0.40	0.56	0.29
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**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-1	BA2010-A-2	BA2010-A-3	BA2010-A-4	BA2010-A-5
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00
						VA20A3074-001	VA20A3074-002	VA20A3074-003	VA20A3074-004	VA20A3074-005
						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
zinc, TCLP	7440-66-6	E444	0.50	mg/L		47.2	34.2	28.4	36.9	17.7

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

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-6	BA2010-A-7	BA2010-A-8	BA2010-A-9	BA2010-A-10
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00
						VA20A3074-006	VA20A3074-007	VA20A3074-008	VA20A3074-009	VA20A3074-010
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		24.3	21.6	24.4	22.5	22.9
pH (1:2 soil:water)	----	E108	0.10	pH units		11.4	11.2	11.2	11.1	11.2
Metals										
aluminum	7429-90-5	E440	50	mg/kg		30300	24400	31300	35500	28000
antimony	7440-36-0	E440	0.10	mg/kg		112	107	163	102	99.8
arsenic	7440-38-2	E440	0.10	mg/kg		21.0	19.2	37.8	20.9	22.7
barium	7440-39-3	E440	0.50	mg/kg		454	480	453	408	500
beryllium	7440-41-7	E440	0.10	mg/kg		0.37	0.40	0.36	0.32	0.35
bismuth	7440-69-9	E440	0.20	mg/kg		7.25	7.82	18.9	7.53	8.33
boron	7440-42-8	E440	5.0	mg/kg		181	262	282	177	221
cadmium	7440-43-9	E440	0.020	mg/kg		10.5	11.0	10.9	12.2	12.3
calcium	7440-70-2	E440	50	mg/kg		128000	134000	136000	120000	129000
chromium	7440-47-3	E440	0.50	mg/kg		132	122	104	117	118
cobalt	7440-48-4	E440	0.10	mg/kg		117	18.4	18.4	55.5	23.0
copper	7440-50-8	E440	0.50	mg/kg		1210	3910	1720	24300	8960
iron	7439-89-6	E440	50	mg/kg		55600	44700	40600	59700	61600
lead	7439-92-1	E440	0.50	mg/kg		398	590	531	398	316
lithium	7439-93-2	E440	2.0	mg/kg		22.0	20.1	16.2	16.5	16.2
magnesium	7439-95-4	E440	20	mg/kg		11100	12200	11600	10000	10400
manganese	7439-96-5	E440	1.0	mg/kg		857	660	812	742	848
mercury	7439-97-6	E510	0.0500	mg/kg		0.179	0.232	0.210	0.228	0.284
molybdenum	7439-98-7	E440	0.10	mg/kg		21.1	24.5	55.8	17.1	21.0
nickel	7440-02-0	E440	0.50	mg/kg		105	96.7	109	90.3	128
phosphorus	7723-14-0	E440	50	mg/kg		11700	10800	9920	9820	9020
potassium	7440-09-7	E440	100	mg/kg		5600	4610	4670	5140	4730
selenium	7782-49-2	E440	0.20	mg/kg		0.34	0.34	0.30	0.30	0.31
silver	7440-22-4	E440	0.10	mg/kg		3.62	3.85	3.96	8.24	6.24
sodium	7440-23-5	E440	50	mg/kg		13400	13600	13400	13500	13800
strontium	7440-24-6	E440	0.50	mg/kg		295	291	312	262	257
sulfur	7704-34-9	E440	1000	mg/kg		12900	13400	11900	12800	11300
thallium	7440-28-0	E440	0.050	mg/kg		0.056	0.079	<0.050	0.093	0.050

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-6	BA2010-A-7	BA2010-A-8	BA2010-A-9	BA2010-A-10
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00
						VA20A3074-006	VA20A3074-007	VA20A3074-008	VA20A3074-009	VA20A3074-010
						Result	Result	Result	Result	Result
Metals										
tin	7440-31-5	E440	2.0	mg/kg		116	98.2	275	98.9	90.9
titanium	7440-32-6	E440	1.0	mg/kg		716	559	911	539	592
tungsten	7440-33-7	E440	0.50	mg/kg		4.90	4.46	6.85	4.28	3.86
uranium	7440-61-1	E440	0.050	mg/kg		5.13	5.22	4.63	4.60	4.78
vanadium	7440-62-2	E440	0.20	mg/kg		42.1	46.7	44.8	40.3	45.6
zinc	7440-66-6	E440	2.0	mg/kg		2980	19600	5660	10100	8300
zirconium	7440-67-7	E440	1.0	mg/kg		1.7	1.3	2.0	2.5	1.1
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		8.67	8.45	8.32	8.85	8.60
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.91	2.91	2.91	2.91	2.91
pH, TCLP final	----	EPP444	0.010	pH units		5.93	6.12	6.25	6.59	6.16
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		2.68	2.43	2.37	2.34	2.59
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.259	0.183	0.141	0.199	0.148
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2220	1930	1930	1820	2050
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		0.749	0.898	1.25	0.482	0.341
copper, TCLP	7440-50-8	E444	0.050	mg/L		1.55	0.818	0.774	0.880	0.641
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	0.50	mg/L		148	134	134	121	132
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		0.84	0.39	0.65	0.27	0.41
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**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-6	BA2010-A-7	BA2010-A-8	BA2010-A-9	BA2010-A-10
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00	04-Mar-2020 09:00
						VA20A3074-006	VA20A3074-007	VA20A3074-008	VA20A3074-009	VA20A3074-010
						Result	Result	Result	Result	Result
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		53.3	36.2	28.8	17.6	36.8

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

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-11	BA2010-A-12	----	----	----
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	----	----	----
						VA20A3074-011	VA20A3074-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
moisture	----	E144	0.25	%		24.6	23.4	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units		11.1	11.3	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg		27500	39400	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg		111	97.6	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg		23.0	22.0	----	----	----
barium	7440-39-3	E440	0.50	mg/kg		467	529	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg		0.33	0.37	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg		8.15	10.5	----	----	----
boron	7440-42-8	E440	5.0	mg/kg		168	185	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg		11.8	10.2	----	----	----
calcium	7440-70-2	E440	50	mg/kg		130000	139000	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg		119	127	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg		23.3	25.8	----	----	----
copper	7440-50-8	E440	0.50	mg/kg		1390	5980	----	----	----
iron	7439-89-6	E440	50	mg/kg		50900	43100	----	----	----
lead	7439-92-1	E440	0.50	mg/kg		391	698	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg		19.2	17.7	----	----	----
magnesium	7439-95-4	E440	20	mg/kg		10200	12400	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg		763	935	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg		0.378	0.289	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg		19.7	48.6	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg		102	220	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg		11400	11600	----	----	----
potassium	7440-09-7	E440	100	mg/kg		4480	5240	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg		0.31	0.41	----	----	----
silver	7440-22-4	E440	0.10	mg/kg		4.53	5.42	----	----	----
sodium	7440-23-5	E440	50	mg/kg		13300	14300	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg		256	303	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg		11900	13200	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg		0.055	0.067	----	----	----

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/solid**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2010-A-11	BA2010-A-12	----	----	----
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	----	----	----
						VA20A3074-011	VA20A3074-012	--------	--------	--------
						Result	Result	----	----	----
Metals										
tin	7440-31-5	E440	2.0	mg/kg		134	131	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg		451	1160	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg		6.93	4.18	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg		4.73	5.14	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg		40.2	48.1	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg		3270	3600	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg		1.1	4.0	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.7	11.7	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.80	8.87	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.91	2.91	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units		6.10	6.19	----	----	----
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		2.42	2.32	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.224	0.137	----	----	----
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2080	1930	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L		<0.25	<0.25	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L		0.868	0.366	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L		1.10	0.711	----	----	----
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	0.50	mg/L		134	135	----	----	----
mercury, TCLP	7439-97-6	E512	0.0100	mg/L		<0.0100	<0.0100	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L		0.37	0.39	----	----	----
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	**BA2010-A-11**	**BA2010-A-12**	**----**	**----**	**----**
					Client sampling date / time	04-Mar-2020 09:00	04-Mar-2020 09:00	----	----	----
Analyte	*CAS Number*	*Method*	*LOR*	*Unit*		**VA20A3074-011**	**VA20A3074-012**	**--------**	**--------**	**--------**
						Result	Result	----	----	----
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		27.2	32.6	----	----	----

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