Bottom Ash Data

2020 Week 13

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on April 6, 2020. The data represents bottom ash composite results for week 13 of 2020 (March 22, 2020 to March 28, 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	: **VA20A4182**	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	: ----	Date Samples Received	: 31-Mar-2020 14:30
PO	: VANCO 0000049378	Date Analysis Commenced	: 31-Mar-2020
C-O-C number	: ----	Issue Date	: 06-Apr-2020 10:52
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*
Brieanna Allen	Department Manager - Organics	Organics, Burnaby, British Columbia
Cristina Alexandre	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Erick Magalhaes	Laboratory Analyst	Metals, Burnaby, British Columbia
Evan Ben-Oliel	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).

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	BA2013-A-1	BA2013-A-2	BA2013-A-3	BA2013-A-4	BA2013-A-5
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00
						VA20A4182-001	VA20A4182-002	VA20A4182-003	VA20A4182-004	VA20A4182-005
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		18.4	19.5	17.4	16.9	18.4
pH (1:2 soil:water)	----	E108	0.10	pH units		12.2	12.1	12.1	12.0	12.1
Metals										
aluminum	7429-90-5	E440	50	mg/kg		31200	37500	28300	40300	27300
antimony	7440-36-0	E440	0.10	mg/kg		207	194	177	194	205
arsenic	7440-38-2	E440	0.10	mg/kg		49.7	47.4	45.9	44.4	43.1
barium	7440-39-3	E440	0.50	mg/kg		459	519	478	477	405
beryllium	7440-41-7	E440	0.10	mg/kg		0.39	0.38	0.37	0.34	1.87
bismuth	7440-69-9	E440	0.20	mg/kg		12.8	22.0	33.7	11.2	16.7
boron	7440-42-8	E440	5.0	mg/kg		299	202	203	278	229
cadmium	7440-43-9	E440	0.020	mg/kg		22.3	19.1	16.4	20.6	22.2
calcium	7440-70-2	E440	50	mg/kg		158000	151000	138000	140000	129000
chromium	7440-47-3	E440	0.50	mg/kg		173	215	330	152	159
cobalt	7440-48-4	E440	0.10	mg/kg		30.8	29.4	54.0	21.4	163
copper	7440-50-8	E440	0.50	mg/kg		4000	2180	1430	1570	1300
iron	7439-89-6	E440	50	mg/kg		42300	58800	64500	46700	43800
lead	7439-92-1	E440	0.50	mg/kg		418	392	348	479	995
lithium	7439-93-2	E440	2.0	mg/kg		18.8	17.3	16.6	15.3	18.4
magnesium	7439-95-4	E440	20	mg/kg		11500	10500	9990	9800	8810
manganese	7439-96-5	E440	1.0	mg/kg		1820	860	743	764	701
mercury	7439-97-6	E510	0.0500	mg/kg		<0.0500	<0.0500	<0.0500	0.0938	<0.0500
molybdenum	7439-98-7	E440	0.10	mg/kg		38.0	33.6	31.0	47.8	29.8
nickel	7440-02-0	E440	0.50	mg/kg		1070	215	1380	130	146
phosphorus	7723-14-0	E440	50	mg/kg		8280	8710	8360	8760	7550
potassium	7440-09-7	E440	100	mg/kg		6820	6120	5920	5870	6140
selenium	7782-49-2	E440	0.20	mg/kg		0.67	0.72	0.66	0.60	0.59
silver	7440-22-4	E440	0.10	mg/kg		6.81	9.39	5.53	6.32	6.96
sodium	7440-23-5	E440	50	mg/kg		17000	16100	14600	15000	15700
strontium	7440-24-6	E440	0.50	mg/kg		348	333	280	317	339
sulfur	7704-34-9	E440	1000	mg/kg		16000	16800	15200	15000	15400

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2013-A-1	BA2013-A-2	BA2013-A-3	BA2013-A-4	BA2013-A-5
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00
						VA20A4182-001	VA20A4182-002	VA20A4182-003	VA20A4182-004	VA20A4182-005
						Result	Result	Result	Result	Result
Metals										
thallium	7440-28-0	E440	0.050	mg/kg		0.067	0.054	0.057	0.055	0.051
tin	7440-31-5	E440	2.0	mg/kg		191	190	164	172	226
titanium	7440-32-6	E440	1.0	mg/kg		405	1420	1150	1030	480
tungsten	7440-33-7	E440	0.50	mg/kg		7.45	7.33	7.26	8.74	8.30
uranium	7440-61-1	E440	0.050	mg/kg		5.10	4.80	4.37	4.29	4.54
vanadium	7440-62-2	E440	0.20	mg/kg		50.1	45.8	43.1	43.5	40.3
zinc	7440-66-6	E440	2.0	mg/kg		10000	5440	10500	6940	5040
zirconium	7440-67-7	E440	1.0	mg/kg		1.2	1.7	1.2	1.6	1.0
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.8	11.8	11.8	11.7	11.8
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		9.31	9.72	10.6	9.75	8.82
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		6.60	6.94	6.74	6.95	7.02
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		2.48	2.47	2.66	2.45	2.43
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.244	0.201	0.164	0.189	0.166
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2330	2240	2190	2100	2200
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		0.282	0.300	0.232	0.388	0.334
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.360	0.282	0.295	0.388	0.230
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		113	115	107	115	106
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	0.50	0.42	0.51	0.40
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	BA2013-A-1	BA2013-A-2	BA2013-A-3	BA2013-A-4	BA2013-A-5
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00
						VA20A4182-001	VA20A4182-002	VA20A4182-003	VA20A4182-004	VA20A4182-005
						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		23.1	18.6	10.7	17.5	13.2

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	BA2013-A-6	BA2013-A-7	BA2013-A-8	BA2013-A-9	BA2013-A-10
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00
						VA20A4182-006	VA20A4182-007	VA20A4182-008	VA20A4182-009	VA20A4182-010
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		18.0	18.6	18.0	17.8	17.0
pH (1:2 soil:water)	----	E108	0.10	pH units		12.2	12.0	12.1	12.0	11.9
Metals										
aluminum	7429-90-5	E440	50	mg/kg		22800	27900	29600	31800	24200
antimony	7440-36-0	E440	0.10	mg/kg		177	191	184	164	190
arsenic	7440-38-2	E440	0.10	mg/kg		40.3	44.8	46.3	37.6	41.2
barium	7440-39-3	E440	0.50	mg/kg		412	402	455	615	438
beryllium	7440-41-7	E440	0.10	mg/kg		0.33	0.34	0.33	0.33	0.36
bismuth	7440-69-9	E440	0.20	mg/kg		63.3	25.4	17.0	25.0	121
boron	7440-42-8	E440	5.0	mg/kg		207	252	192	187	196
cadmium	7440-43-9	E440	0.020	mg/kg		18.3	20.2	16.6	16.4	20.8
calcium	7440-70-2	E440	50	mg/kg		130000	140000	134000	132000	136000
chromium	7440-47-3	E440	0.50	mg/kg		146	159	262	159	170
cobalt	7440-48-4	E440	0.10	mg/kg		22.2	46.7	30.4	57.9	20.5
copper	7440-50-8	E440	0.50	mg/kg		1100	1380	3080	1440	1840
iron	7439-89-6	E440	50	mg/kg		59400	39300	54900	55200	48700
lead	7439-92-1	E440	0.50	mg/kg		2030	498	552	413	1010
lithium	7439-93-2	E440	2.0	mg/kg		14.6	16.9	18.2	16.3	14.9
magnesium	7439-95-4	E440	20	mg/kg		10800	9560	9970	8860	9120
manganese	7439-96-5	E440	1.0	mg/kg		965	710	642	684	631
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		35.1	31.2	28.9	32.0	54.6
nickel	7440-02-0	E440	0.50	mg/kg		124	139	286	1050	208
phosphorus	7723-14-0	E440	50	mg/kg		7620	7670	8060	6300	7240
potassium	7440-09-7	E440	100	mg/kg		5290	5950	5660	5330	5300
selenium	7782-49-2	E440	0.20	mg/kg		0.54	0.71	0.70	0.62	0.64
silver	7440-22-4	E440	0.10	mg/kg		14.4	6.79	6.75	5.98	5.61
sodium	7440-23-5	E440	50	mg/kg		14200	14900	15000	13300	14500
strontium	7440-24-6	E440	0.50	mg/kg		284	302	323	266	295
sulfur	7704-34-9	E440	1000	mg/kg		14300	15700	15000	13500	15400
thallium	7440-28-0	E440	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2013-A-6	BA2013-A-7	BA2013-A-8	BA2013-A-9	BA2013-A-10
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00
						VA20A4182-006	VA20A4182-007	VA20A4182-008	VA20A4182-009	VA20A4182-010
						Result	Result	Result	Result	Result
Metals										
tin	7440-31-5	E440	2.0	mg/kg		3480	169	174	233	168
titanium	7440-32-6	E440	1.0	mg/kg		485	775	1050	884	723
tungsten	7440-33-7	E440	0.50	mg/kg		13.9	8.64	6.72	5.37	6.75
uranium	7440-61-1	E440	0.050	mg/kg		3.93	4.56	4.17	4.09	4.20
vanadium	7440-62-2	E440	0.20	mg/kg		37.8	44.7	44.5	42.0	41.3
zinc	7440-66-6	E440	2.0	mg/kg		5490	5610	5260	4250	6380
zirconium	7440-67-7	E440	1.0	mg/kg		<1.0	1.2	1.4	1.3	1.3
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.8	11.8	11.8	11.8	11.8
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.47	7.88	7.98	8.76	8.33
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		7.04	7.04	6.84	7.03	6.68
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		2.52	2.55	2.36	2.31	2.43
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.179	0.269	0.212	0.161	0.161
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2120	2160	2060	2120	2080
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		0.183	0.399	0.485	0.455	0.284
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.253	0.281	0.330	0.195	0.311
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		108	110	110	110	104
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		0.43	0.44	0.65	0.59	0.37
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	BA2013-A-6	BA2013-A-7	BA2013-A-8	BA2013-A-9	BA2013-A-10
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00	25-Mar-2020 09:00
Analyte	CAS Number	Method	LOR	Unit		VA20A4182-006	VA20A4182-007	VA20A4182-008	VA20A4182-009	VA20A4182-010
						Result	Result	Result	Result	Result
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		13.0	15.0	21.0	17.9	11.0

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	BA2013-A-11	BA2013-A-12	----	----	----
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	----	----	----
						VA20A4182-011	VA20A4182-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
moisture	----	E144	0.25	%		18.7	18.0	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units		12.0	12.0	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg		29900	28700	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg		208	187	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg		44.7	42.4	----	----	----
barium	7440-39-3	E440	0.50	mg/kg		475	430	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg		0.34	0.42	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg		15.2	10.6	----	----	----
boron	7440-42-8	E440	5.0	mg/kg		204	238	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg		18.6	20.0	----	----	----
calcium	7440-70-2	E440	50	mg/kg		149000	135000	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg		157	149	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg		29.1	108	----	----	----
copper	7440-50-8	E440	0.50	mg/kg		1550	2790	----	----	----
iron	7439-89-6	E440	50	mg/kg		42100	46100	----	----	----
lead	7439-92-1	E440	0.50	mg/kg		471	357	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg		15.7	16.7	----	----	----
magnesium	7439-95-4	E440	20	mg/kg		10700	9300	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg		905	666	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg		<0.0500	<0.0500	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg		50.1	32.3	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg		127	523	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg		8400	6960	----	----	----
potassium	7440-09-7	E440	100	mg/kg		6140	5730	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg		0.66	0.61	----	----	----
silver	7440-22-4	E440	0.10	mg/kg		6.24	8.12	----	----	----
sodium	7440-23-5	E440	50	mg/kg		16000	15200	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg		313	294	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg		16900	14500	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg		<0.050	<0.050	----	----	----

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2013-A-11	BA2013-A-12	----	----	----
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	----	----	----
						VA20A4182-011	VA20A4182-012	--------	--------	--------
						Result	Result	----	----	----
Metals										
tin	7440-31-5	E440	2.0	mg/kg		183	169	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg		577	484	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg		6.52	6.34	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg		4.41	4.06	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg		40.2	42.1	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg		5480	6820	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg		1.2	1.2	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.8	11.8	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.58	8.43	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.88	2.88	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units		6.83	7.09	----	----	----
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		2.38	2.68	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.191	0.166	----	----	----
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2130	2130	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L		<0.25	<0.25	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L		0.465	0.382	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.285	0.228	----	----	----
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		111	105	----	----	----
mercury, TCLP	7439-97-6	E512	0.0100	mg/L		<0.0100	<0.0100	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L		0.38	0.44	----	----	----
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	BA2013-A-11	BA2013-A-12	----	----	----
					Client sampling date / time	25-Mar-2020 09:00	25-Mar-2020 09:00	----	----	----
Analyte	CAS Number	Method	LOR	Unit		VA20A4182-011	VA20A4182-012	--------	--------	--------
						Result	Result	----	----	----
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		10.8	10.3	----	----	----

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