Bottom Ash Data

2020 Week 12

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on March 31, 2020. The data represents bottom ash composite results for week 12 of 2020 (March 15, 2020 to March 21, 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	: **VA20A3826**	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	: 24-Mar-2020 11:45
PO	: VANCO 0000049378	Date Analysis Commenced	: 24-Mar-2020
C-O-C number	: ----	Issue Date	: 30-Mar-2020 12:02
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
Erick Magalhaes	Laboratory Analyst	Metals, Burnaby, British Columbia
Evan Ben-Oliel	Metal Analyst	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).

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	BA2012-A-1	BA2012-A-2	BA2012-A-3	BA2012-A-4	BA2012-A-5
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00
						VA20A3826-001	VA20A3826-002	VA20A3826-003	VA20A3826-004	VA20A3826-005
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		20.3	20.5	18.5	19.9	20.1
pH (1:2 soil:water)	----	E108	0.10	pH units		11.7	11.8	11.6	11.8	11.9
Metals										
aluminum	7429-90-5	E440	50	mg/kg		39000	41300	47400	33400	32400
antimony	7440-36-0	E440	0.10	mg/kg		103	112	116	133	143
arsenic	7440-38-2	E440	0.10	mg/kg		24.0	28.8	25.9	28.3	27.7
barium	7440-39-3	E440	0.50	mg/kg		543	586	536	596	554
beryllium	7440-41-7	E440	0.10	mg/kg		0.34	0.37	0.38	0.58	0.37
bismuth	7440-69-9	E440	0.20	mg/kg		33.7	7.42	6.16	5.27	5.65
boron	7440-42-8	E440	5.0	mg/kg		310	198	264	214	207
cadmium	7440-43-9	E440	0.020	mg/kg		8.25	9.55	9.44	10.4	8.57
calcium	7440-70-2	E440	50	mg/kg		135000	138000	135000	128000	133000
chromium	7440-47-3	E440	0.50	mg/kg		779	163	186	149	154
cobalt	7440-48-4	E440	0.10	mg/kg		29.4	24.7	265	26.9	30.4
copper	7440-50-8	E440	0.50	mg/kg		2210	3280	1540	5570	12300
iron	7439-89-6	E440	50	mg/kg		47300	66400	72900	81600	58400
lead	7439-92-1	E440	0.50	mg/kg		297	355	609	369	741
lithium	7439-93-2	E440	2.0	mg/kg		27.1	13.9	36.3	67.9	13.6
magnesium	7439-95-4	E440	20	mg/kg		10100	10600	10100	10700	12500
manganese	7439-96-5	E440	1.0	mg/kg		693	846	984	879	698
mercury	7439-97-6	E510	0.0500	mg/kg		<0.0500	<0.0500	<0.0500	0.119	<0.0500
molybdenum	7439-98-7	E440	0.10	mg/kg		144	56.3	29.4	28.2	27.0
nickel	7440-02-0	E440	0.50	mg/kg		243	86.6	162	115	1250
phosphorus	7723-14-0	E440	50	mg/kg		8990	10000	9580	9180	10000
potassium	7440-09-7	E440	100	mg/kg		3870	4540	5030	4140	4340
selenium	7782-49-2	E440	0.20	mg/kg		0.36	0.43	0.44	0.46	0.52
silver	7440-22-4	E440	0.10	mg/kg		4.90	9.55	7.13	5.34	10.2
sodium	7440-23-5	E440	50	mg/kg		13000	13800	14900	12400	12400
strontium	7440-24-6	E440	0.50	mg/kg		304	321	468	327	289
sulfur	7704-34-9	E440	1000	mg/kg		10100	11300	11700	10500	10500

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2012-A-1	BA2012-A-2	BA2012-A-3	BA2012-A-4	BA2012-A-5
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00
						VA20A3826-001	VA20A3826-002	VA20A3826-003	VA20A3826-004	VA20A3826-005
						Result	Result	Result	Result	Result
Metals										
thallium	7440-28-0	E440	0.050	mg/kg		<0.050	<0.050	<0.050	0.050	<0.050
tin	7440-31-5	E440	2.0	mg/kg		180	112	130	163	531
titanium	7440-32-6	E440	1.0	mg/kg		433	712	647	687	1110
tungsten	7440-33-7	E440	0.50	mg/kg		4.38	7.24	5.94	7.16	10.8
uranium	7440-61-1	E440	0.050	mg/kg		3.72	4.14	3.84	3.70	3.94
vanadium	7440-62-2	E440	0.20	mg/kg		43.4	48.5	47.8	47.3	42.1
zinc	7440-66-6	E440	2.0	mg/kg		2820	3060	5090	6540	5100
zirconium	7440-67-7	E440	1.0	mg/kg		2.2	1.7	2.4	1.3	1.3
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.8	11.9	11.9	12.0	12.0
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.06	8.67	8.65	9.34	9.29
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		6.31	6.68	6.24	6.74	6.40
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		2.34	2.25	2.38	2.21	2.30
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.116	0.120	0.146	0.132	0.089
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2060	2190	2070	2160	2130
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		0.606	0.671	0.452	1.22	0.413
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.234	0.527	0.622	0.486	<0.050
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		116	115	112	116	119
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	0.38	0.43	0.40	0.48
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	BA2012-A-1	BA2012-A-2	BA2012-A-3	BA2012-A-4	BA2012-A-5
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00
						VA20A3826-001	VA20A3826-002	VA20A3826-003	VA20A3826-004	VA20A3826-005
						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		31.7	16.9	30.6	14.9	23.9

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	BA2012-A-6	BA2012-A-7	BA2012-A-8	BA2012-A-9	BA2012-A-10
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00
						VA20A3826-006	VA20A3826-007	VA20A3826-008	VA20A3826-009	VA20A3826-010
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		20.3	19.7	20.8	20.4	19.5
pH (1:2 soil:water)	----	E108	0.10	pH units		11.7	11.8	11.8	11.9	11.7
Metals										
aluminum	7429-90-5	E440	50	mg/kg		38700	37600	37000	34000	30500
antimony	7440-36-0	E440	0.10	mg/kg		134	120	130	110	145
arsenic	7440-38-2	E440	0.10	mg/kg		32.8	25.0	30.2	24.0	28.8
barium	7440-39-3	E440	0.50	mg/kg		628	546	541	507	603
beryllium	7440-41-7	E440	0.10	mg/kg		0.36	0.41	0.35	0.37	0.36
bismuth	7440-69-9	E440	0.20	mg/kg		13.4	12.5	5.80	8.38	6.11
boron	7440-42-8	E440	5.0	mg/kg		176	144	172	250	278
cadmium	7440-43-9	E440	0.020	mg/kg		9.77	11.0	8.42	9.31	9.35
calcium	7440-70-2	E440	50	mg/kg		139000	128000	124000	128000	136000
chromium	7440-47-3	E440	0.50	mg/kg		152	179	166	151	548
cobalt	7440-48-4	E440	0.10	mg/kg		37.5	50.9	33.6	18.2	28.3
copper	7440-50-8	E440	0.50	mg/kg		2630	5980	1730	2230	3980
iron	7439-89-6	E440	50	mg/kg		57800	63900	60300	52600	60400
lead	7439-92-1	E440	0.50	mg/kg		4340	372	485	318	711
lithium	7439-93-2	E440	2.0	mg/kg		15.3	18.2	14.6	17.0	19.9
magnesium	7439-95-4	E440	20	mg/kg		11900	10200	9560	11200	12300
manganese	7439-96-5	E440	1.0	mg/kg		902	752	770	707	2810
mercury	7439-97-6	E510	0.0500	mg/kg		<0.0500	<0.0500	<0.0500	<0.0500	0.0684
molybdenum	7439-98-7	E440	0.10	mg/kg		35.2	27.8	57.8	22.7	24.5
nickel	7440-02-0	E440	0.50	mg/kg		181	245	118	93.8	111
phosphorus	7723-14-0	E440	50	mg/kg		10500	8670	7670	8220	8940
potassium	7440-09-7	E440	100	mg/kg		4560	4560	4440	4690	4770
selenium	7782-49-2	E440	0.20	mg/kg		0.40	0.36	0.29	0.35	0.58
silver	7440-22-4	E440	0.10	mg/kg		5.68	5.66	4.61	7.57	9.79
sodium	7440-23-5	E440	50	mg/kg		13400	13000	12900	13400	14500
strontium	7440-24-6	E440	0.50	mg/kg		338	289	315	338	352
sulfur	7704-34-9	E440	1000	mg/kg		11700	11000	10800	12400	11200
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	BA2012-A-6	BA2012-A-7	BA2012-A-8	BA2012-A-9	BA2012-A-10
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00
						VA20A3826-006	VA20A3826-007	VA20A3826-008	VA20A3826-009	VA20A3826-010
						Result	Result	Result	Result	Result
Metals										
tin	7440-31-5	E440	2.0	mg/kg		124	123	104	112	137
titanium	7440-32-6	E440	1.0	mg/kg		1210	962	680	598	600
tungsten	7440-33-7	E440	0.50	mg/kg		8.16	6.28	6.35	8.07	9.78
uranium	7440-61-1	E440	0.050	mg/kg		4.11	3.88	3.73	3.99	4.15
vanadium	7440-62-2	E440	0.20	mg/kg		46.9	43.7	44.3	43.3	48.6
zinc	7440-66-6	E440	2.0	mg/kg		3740	3100	4770	3080	4340
zirconium	7440-67-7	E440	1.0	mg/kg		1.9	1.2	1.1	1.1	1.1
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.8	11.9	11.9	11.9	11.9
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.57	8.99	8.82	8.69	8.77
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		6.56	6.28	6.58	6.43	6.50
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		2.26	2.69	2.22	2.16	2.28
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.128	0.129	0.139	0.131	0.142
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2020	2140	2060	2050	2090
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		0.392	0.288	0.989	0.348	0.628
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.359	0.517	0.378	0.503	0.698
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		117	122	121	119	125
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	0.45	0.42	0.49	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	BA2012-A-6	BA2012-A-7	BA2012-A-8	BA2012-A-9	BA2012-A-10
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00	18-Mar-2020 09:00
Analyte	CAS Number	Method	LOR	Unit		VA20A3826-006	VA20A3826-007	VA20A3826-008	VA20A3826-009	VA20A3826-010
						Result	Result	Result	Result	Result
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		37.1	22.8	40.4	33.4	24.5

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	BA2012-A-11	BA2012-A-12	----	----	----
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	----	----	----
						VA20A3826-011	VA20A3826-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
moisture	----	E144	0.25	%		19.5	21.5	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units		11.8	11.8	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg		32600	32200	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg		112	134	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg		23.7	30.5	----	----	----
barium	7440-39-3	E440	0.50	mg/kg		540	514	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg		0.38	0.33	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg		6.15	7.73	----	----	----
boron	7440-42-8	E440	5.0	mg/kg		140	236	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg		10.7	10.4	----	----	----
calcium	7440-70-2	E440	50	mg/kg		126000	136000	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg		271	508	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg		24.6	57.5	----	----	----
copper	7440-50-8	E440	0.50	mg/kg		1330	2110	----	----	----
iron	7439-89-6	E440	50	mg/kg		45300	54700	----	----	----
lead	7439-92-1	E440	0.50	mg/kg		314	299	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg		53.3	16.6	----	----	----
magnesium	7439-95-4	E440	20	mg/kg		9940	13300	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg		658	707	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg		<0.0500	<0.0500	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg		23.8	36.6	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg		113	507	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg		8620	9280	----	----	----
potassium	7440-09-7	E440	100	mg/kg		4740	4670	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg		0.38	0.44	----	----	----
silver	7440-22-4	E440.Ag	0.10	mg/kg		6.06	----	----	----	----
silver	7440-22-4	E440	0.10	mg/kg		----	14.4	----	----	----
sodium	7440-23-5	E440	50	mg/kg		13700	14000	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg		287	466	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg		10800	12100	----	----	----

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2012-A-11	BA2012-A-12	----	----	----
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	----	----	----
						VA20A3826-011	VA20A3826-012	--------	--------	--------
						Result	Result	----	----	----
Metals										
thallium	7440-28-0	E440	0.050	mg/kg		<0.050	<0.050	----	----	----
tin	7440-31-5	E440	2.0	mg/kg		100	152	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg		1020	783	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg		8.62	8.79	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg		3.67	3.99	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg		42.5	61.6	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg		3430	3280	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg		1.3	1.4	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.8	11.8	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.38	8.49	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.91	2.91	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units		6.34	6.32	----	----	----
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		2.29	2.24	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.168	0.215	----	----	----
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2050	2030	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L		<0.25	<0.25	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L		0.461	0.406	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.648	0.509	----	----	----
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		124	120	----	----	----
mercury, TCLP	7439-97-6	E512	0.0100	mg/L		<0.0100	<0.0100	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L		0.42	0.45	----	----	----
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	----	----	----

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2012-A-11	BA2012-A-12	----	----	----
					Client sampling date / time	18-Mar-2020 09:00	18-Mar-2020 09:00	----	----	----
Analyte	CAS Number	Method	LOR	Unit		VA20A3826-011	VA20A3826-012	--------	--------	--------
						Result	Result	----	----	----
TCLP Metals										
vanadium, TCLP	7440-62-2	E444	0.15	mg/L		<0.15	<0.15	----	----	----
zinc, TCLP	7440-66-6	E444	0.50	mg/L		43.5	34.7	----	----	----

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