Bottom Ash Data

2020 Week 11

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on March 26, 2020. The data represents bottom ash composite results for week 11 of 2020 (March 8, 2020 to March 14, 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	: **VA20A3533**	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	: 18-Mar-2020 11:50
PO	: VANCO 0000049378	Date Analysis Commenced	: 19-Mar-2020
C-O-C number	: ----	Issue Date	: 24-Mar-2020 15:46
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
Evan Ben-Oliel	Metal Analyst	Metals, Burnaby, British Columbia
Ophelia Chiu	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Owen Cheng		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	BA2011-A-1	BA2011-A-2	BA2011-A-3	BA2011-A-4	BA2011-A-5
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00
						VA20A3533-001	VA20A3533-002	VA20A3533-003	VA20A3533-004	VA20A3533-005
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		21.9	20.0	20.6	19.8	20.6
pH (1:2 soil:water)	----	E108	0.10	pH units		10.5	10.6	10.5	10.5	10.5
Metals										
aluminum	7429-90-5	E440	50	mg/kg		36000	32400	47300	40400	36000
antimony	7440-36-0	E440	0.10	mg/kg		114	110	107	99.4	105
arsenic	7440-38-2	E440	0.10	mg/kg		18.5	22.7	20.4	20.7	19.9
barium	7440-39-3	E440	0.50	mg/kg		582	637	528	535	546
beryllium	7440-41-7	E440	0.10	mg/kg		0.38	0.40	0.40	0.43	0.35
bismuth	7440-69-9	E440	0.20	mg/kg		5.23	8.04	5.40	3.62	28.9
boron	7440-42-8	E440	5.0	mg/kg		221	222	163	246	189
cadmium	7440-43-9	E440	0.020	mg/kg		12.4	8.55	8.69	8.44	10.7
calcium	7440-70-2	E440	50	mg/kg		123000	135000	126000	127000	129000
chromium	7440-47-3	E440	0.50	mg/kg		152	195	166	2300	129
cobalt	7440-48-4	E440	0.10	mg/kg		91.6	256	191	40.7	34.6
copper	7440-50-8	E440	0.50	mg/kg		9000	5660	7210	6720	1420
iron	7439-89-6	E440	50	mg/kg		52200	49800	50000	65800	47800
lead	7439-92-1	E440	0.50	mg/kg		490	597	544	316	423
lithium	7439-93-2	E440	2.0	mg/kg		32.2	29.8	19.8	19.4	15.8
magnesium	7439-95-4	E440	20	mg/kg		10700	11200	10200	10100	12500
manganese	7439-96-5	E440	1.0	mg/kg		1610	1110	999	1130	904
mercury	7439-97-6	E510	0.0500	mg/kg		0.0503	0.0545	0.0648	0.0522	<0.0500
molybdenum	7439-98-7	E440	0.10	mg/kg		27.0	37.0	30.0	46.4	34.8
nickel	7440-02-0	E440	0.50	mg/kg		465	658	145	1280	200
phosphorus	7723-14-0	E440	50	mg/kg		10300	12300	11500	10900	10600
potassium	7440-09-7	E440	100	mg/kg		4560	5280	4910	4910	4960
selenium	7782-49-2	E440	0.20	mg/kg		0.30	0.34	0.43	0.36	0.29
silver	7440-22-4	E440	0.10	mg/kg		5.01	3.61	5.29	3.89	5.68
sodium	7440-23-5	E440	50	mg/kg		14600	14800	15000	14700	13700
strontium	7440-24-6	E440	0.50	mg/kg		314	449	313	296	302
sulfur	7704-34-9	E440	1000	mg/kg		11600	11600	11200	11000	11600

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2011-A-1	BA2011-A-2	BA2011-A-3	BA2011-A-4	BA2011-A-5
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00
						VA20A3533-001	VA20A3533-002	VA20A3533-003	VA20A3533-004	VA20A3533-005
						Result	Result	Result	Result	Result
Metals										
thallium	7440-28-0	E440	0.050	mg/kg		<0.050	0.058	<0.050	0.058	<0.050
tin	7440-31-5	E440	2.0	mg/kg		6200	85.2	140	111	129
titanium	7440-32-6	E440	1.0	mg/kg		472	1050	816	627	474
tungsten	7440-33-7	E440	0.50	mg/kg		6.65	6.70	5.00	7.02	4.48
uranium	7440-61-1	E440	0.050	mg/kg		4.63	5.03	4.56	4.96	4.33
vanadium	7440-62-2	E440	0.20	mg/kg		46.6	46.7	44.0	54.0	42.5
zinc	7440-66-6	E440	2.0	mg/kg		3590	4170	2900	9420	2930
zirconium	7440-67-7	E440	1.0	mg/kg		1.9	1.6	2.5	2.1	1.8
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.6	11.6	11.6	11.6	11.6
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.58	8.51	8.89	9.20	8.83
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.89	2.89	2.89	2.89	2.89
pH, TCLP final	----	EPP444	0.010	pH units		6.10	6.04	6.31	6.03	5.80
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	2.34	2.36	2.44	2.15
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.171	0.121	0.425	0.178	0.186
calcium, TCLP	7440-70-2	E444	2.0	mg/L		1900	1990	1990	1940	1870
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		0.869	0.967	0.499	0.976	0.402
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.582	0.951	0.508	0.275	0.680
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		124	130	133	125	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		0.51	0.46	0.62	0.56	0.56
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	BA2011-A-1	BA2011-A-2	BA2011-A-3	BA2011-A-4	BA2011-A-5
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00
Analyte	CAS Number	Method	LOR	Unit		VA20A3533-001	VA20A3533-002	VA20A3533-003	VA20A3533-004	VA20A3533-005
						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		37.4	34.5	37.5	45.4	39.1

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	BA2011-A-6	BA2011-A-7	BA2011-A-8	BA2011-A-9	BA2011-A-10
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00
						VA20A3533-006	VA20A3533-007	VA20A3533-008	VA20A3533-009	VA20A3533-010
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		18.9	20.6	19.5	20.1	20.4
pH (1:2 soil:water)	----	E108	0.10	pH units		10.5	10.5	10.5	10.6	10.6
Metals										
aluminum	7429-90-5	E440	50	mg/kg		32800	32900	32400	42000	40400
antimony	7440-36-0	E440	0.10	mg/kg		100	109	105	100	103
arsenic	7440-38-2	E440	0.10	mg/kg		20.3	22.7	22.3	19.1	20.6
barium	7440-39-3	E440	0.50	mg/kg		577	635	626	650	592
beryllium	7440-41-7	E440	0.10	mg/kg		0.36	0.38	0.40	0.39	0.41
bismuth	7440-69-9	E440	0.20	mg/kg		4.27	4.14	6.06	3.94	5.15
boron	7440-42-8	E440	5.0	mg/kg		206	191	196	202	256
cadmium	7440-43-9	E440	0.020	mg/kg		9.60	9.06	8.79	8.51	12.4
calcium	7440-70-2	E440	50	mg/kg		134000	127000	137000	126000	125000
chromium	7440-47-3	E440	0.50	mg/kg		130	117	195	461	198
cobalt	7440-48-4	E440	0.10	mg/kg		42.2	21.8	290	40.4	23.4
copper	7440-50-8	E440	0.50	mg/kg		1630	4990	5810	3730	3860
iron	7439-89-6	E440	50	mg/kg		54700	52800	58400	61600	65800
lead	7439-92-1	E440	0.50	mg/kg		350	1590	399	495	2020
lithium	7439-93-2	E440	2.0	mg/kg		18.4	18.1	23.1	24.6	18.6
magnesium	7439-95-4	E440	20	mg/kg		10900	11500	11800	10700	10900
manganese	7439-96-5	E440	1.0	mg/kg		885	683	1190	921	1120
mercury	7439-97-6	E510	0.0500	mg/kg		0.0633	<0.0500	0.0928	<0.0500	0.0511
molybdenum	7439-98-7	E440	0.10	mg/kg		31.4	33.8	55.3	39.2	32.6
nickel	7440-02-0	E440	0.50	mg/kg		89.9	107	254	317	192
phosphorus	7723-14-0	E440	50	mg/kg		12700	10600	11700	11400	12300
potassium	7440-09-7	E440	100	mg/kg		5060	4830	5120	4870	5470
selenium	7782-49-2	E440	0.20	mg/kg		0.22	0.30	0.38	0.28	0.69
silver	7440-22-4	E440	0.10	mg/kg		3.92	5.40	6.24	3.38	3.51
sodium	7440-23-5	E440	50	mg/kg		15200	14400	14900	14700	16000
strontium	7440-24-6	E440	0.50	mg/kg		324	318	545	313	309
sulfur	7704-34-9	E440	1000	mg/kg		11200	11000	12700	11800	12100
thallium	7440-28-0	E440	0.050	mg/kg		0.050	<0.050	<0.050	<0.050	0.065

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2011-A-6	BA2011-A-7	BA2011-A-8	BA2011-A-9	BA2011-A-10
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00
						VA20A3533-006	VA20A3533-007	VA20A3533-008	VA20A3533-009	VA20A3533-010
						Result	Result	Result	Result	Result
Metals										
tin	7440-31-5	E440	2.0	mg/kg		102	244	148	86.6	116
titanium	7440-32-6	E440	1.0	mg/kg		294	535	718	1180	886
tungsten	7440-33-7	E440	0.50	mg/kg		5.91	6.65	5.66	10.1	7.87
uranium	7440-61-1	E440	0.050	mg/kg		4.71	4.57	4.87	4.68	4.61
vanadium	7440-62-2	E440	0.20	mg/kg		44.8	44.0	45.6	45.0	43.3
zinc	7440-66-6	E440	2.0	mg/kg		4150	3730	3800	2990	6040
zirconium	7440-67-7	E440	1.0	mg/kg		2.2	1.4	1.2	2.7	1.5
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.6	11.6	11.6	11.6	11.6
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		9.03	9.26	9.09	9.44	9.20
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.89	2.89	2.89	2.89	2.89
pH, TCLP final	----	EPP444	0.010	pH units		6.01	5.89	6.18	6.07	6.19
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		2.39	2.34	2.81	2.27	2.82
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.129	0.216	0.133	0.132	0.462
calcium, TCLP	7440-70-2	E444	2.0	mg/L		1960	1880	2070	1980	2030
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		0.443	1.14	0.533	0.539	1.23
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.884	1.16	0.481	1.08	0.676
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		125	128	126	131	130
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		0.54	0.52	0.50	0.43	0.52
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	BA2011-A-6	BA2011-A-7	BA2011-A-8	BA2011-A-9	BA2011-A-10
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00	11-Mar-2020 09:00
Analyte	CAS Number	Method	LOR	Unit		VA20A3533-006	VA20A3533-007	VA20A3533-008	VA20A3533-009	VA20A3533-010
						Result	Result	Result	Result	Result
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		30.8	32.1	27.6	35.4	88.8

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	BA2011-A-11	BA2011-A-12	----	----	----
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	----	----	----
						VA20A3533-011	VA20A3533-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
moisture	----	E144	0.25	%		21.8	21.0	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units		10.6	10.6	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg		40200	33700	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg		89.1	88.8	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg		19.2	20.7	----	----	----
barium	7440-39-3	E440	0.50	mg/kg		580	490	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg		0.36	0.40	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg		19.0	4.42	----	----	----
boron	7440-42-8	E440	5.0	mg/kg		206	191	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg		15.5	7.42	----	----	----
calcium	7440-70-2	E440	50	mg/kg		121000	119000	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg		138	189	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg		35.4	17.7	----	----	----
copper	7440-50-8	E440	0.50	mg/kg		6300	8690	----	----	----
iron	7439-89-6	E440	50	mg/kg		63700	58000	----	----	----
lead	7439-92-1	E440	0.50	mg/kg		693	359	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg		17.4	18.4	----	----	----
magnesium	7439-95-4	E440	20	mg/kg		11300	9900	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg		966	831	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg		0.0532	0.0560	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg		58.9	32.1	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg		190	140	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg		11600	10400	----	----	----
potassium	7440-09-7	E440	100	mg/kg		4860	4190	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg		0.30	0.23	----	----	----
silver	7440-22-4	E440	0.10	mg/kg		3.67	3.07	----	----	----
sodium	7440-23-5	E440	50	mg/kg		14900	13300	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg		320	304	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg		11200	11200	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg		0.067	<0.050	----	----	----

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2011-A-11	BA2011-A-12	----	----	----
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	----	----	----
						VA20A3533-011	VA20A3533-012	--------	--------	--------
						Result	Result	----	----	----
Metals										
tin	7440-31-5	E440	2.0	mg/kg		131	72.4	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg		598	336	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg		4.95	5.40	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg		4.44	4.53	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg		44.9	41.7	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg		5640	3500	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg		1.7	2.2	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.6	11.6	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		9.53	9.53	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.89	2.89	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units		6.04	6.25	----	----	----
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	2.38	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.132	0.293	----	----	----
calcium, TCLP	7440-70-2	E444	2.0	mg/L		1990	2000	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L		<0.25	<0.25	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L		0.550	1.95	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.943	0.950	----	----	----
iron, TCLP	7439-89-6	E444	5.0	mg/L		<5.0	<5.0	----	----	----
lead, TCLP	7439-92-1	E444	0.25	mg/L		0.68	0.76	----	----	----
magnesium, TCLP	7439-95-4	E444	0.50	mg/L		126	127	----	----	----
mercury, TCLP	7439-97-6	E512	0.0100	mg/L		<0.0100	<0.0100	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L		0.50	0.40	----	----	----
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	**BA2011-A-11**	**BA2011-A-12**	**----**	**----**	**----**
					Client sampling date / time	11-Mar-2020 09:00	11-Mar-2020 09:00	----	----	----
Analyte	*CAS Number*	*Method*	*LOR*	*Unit*		**VA20A3533-011**	**VA20A3533-012**	**--------**	**--------**	**--------**
						Result	Result	----	----	----
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		43.0	36.4	----	----	----

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