Bottom Ash Data

2020 Week 5

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on February 14, 2020. The data represents bottom ash composite results for week 5 of 2020 (January 26, 2020 to February 1, 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	: **VA20A1263**	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	: 04-Feb-2020 11:50
PO	: VANCO 0000049378	Date Analysis Commenced	: 05-Feb-2020
C-O-C number	: ----	Issue Date	: 12-Feb-2020 15:35
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*
Aaron Yu	Laboratory Analyst	Metals, Burnaby, British Columbia
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Brieanna Allen	Department Manager - Organics	Organics, Burnaby, British Columbia
Cristina Alexandre	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Dee Lee	Analsyt	Metals, Burnaby, British Columbia
Mae Soropia	Lab 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.

Qualifiers

Qualifier	*Description*
DUPH	*Duplicate results outside ALS DQO, due to sample heterogeneity.*

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2005-A-1	BA2005-A-2	BA2005-A-3	BA2005-A-4	BA2005-A-5
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00
						VA20A1263-001	VA20A1263-002	VA20A1263-003	VA20A1263-004	VA20A1263-005
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		25.2	25.7	24.3	23.8	24.7
pH (1:2 soil:water)	----	E108	0.10	pH units		10.7	10.7	10.8	10.9	10.8
Metals										
aluminum	7429-90-5	E440	50	mg/kg		37200	32800	34100	33100	36300
antimony	7440-36-0	E440	0.10	mg/kg		113	141	126	113	114
arsenic	7440-38-2	E440	0.10	mg/kg		14.4	15.0	12.3	13.3	13.2
barium	7440-39-3	E440	0.50	mg/kg		809	850	655	695	737
beryllium	7440-41-7	E440	0.10	mg/kg		0.40	0.43	0.37	0.41	0.40
bismuth	7440-69-9	E440	0.20	mg/kg		11.3	13.7	8.91	11.4	11.3
boron	7440-42-8	E440	5.0	mg/kg		235	165	199	261	191
cadmium	7440-43-9	E440	0.020	mg/kg		10.2	9.08	10.2	8.60	14.9
calcium	7440-70-2	E440	50	mg/kg		149000	139000	140000	135000	134000
chromium	7440-47-3	E440	0.50	mg/kg		138	202	116	221	111
cobalt	7440-48-4	E440	0.10	mg/kg		50.6	179	40.7	20.8	20.4
copper	7440-50-8	E440	0.50	mg/kg		2310	3500	1750	11800	14000
iron	7439-89-6	E440	50	mg/kg		46500	49900	49500	68200	56000
lead	7439-92-1	E440	0.50	mg/kg		336	358	311	367	362
lithium	7439-93-2	E440	2.0	mg/kg		18.1	49.8	24.5	16.0	16.7
magnesium	7439-95-4	E440	20	mg/kg		12100	14000	11100	11900	12000
manganese	7439-96-5	E440	1.0	mg/kg		782	976	765	904	724
mercury	7439-97-6	E510	0.0500	mg/kg		<0.0500 DUPH	<0.0500	0.0613	0.0542	0.0565
molybdenum	7439-98-7	E440	0.10	mg/kg		169	73.3	125	102	111
nickel	7440-02-0	E440	0.50	mg/kg		130	192	134	144	77.0
phosphorus	7723-14-0	E440	50	mg/kg		14500	10700	11100	10600	11600
potassium	7440-09-7	E440	100	mg/kg		5940	5630	5140	5650	4700
selenium	7782-49-2	E440	0.20	mg/kg		0.33	0.33	0.30	0.60	0.29
silver	7440-22-4	E440.Ag	0.10	mg/kg		----	----	----	2.92	----
silver	7440-22-4	E440	0.10	mg/kg		7.68	4.53	5.74	----	3.94
sodium	7440-23-5	E440	50	mg/kg		17000	15500	15700	15900	14400
strontium	7440-24-6	E440	0.50	mg/kg		348	319	353	454	306

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2005-A-1	BA2005-A-2	BA2005-A-3	BA2005-A-4	BA2005-A-5
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00
						VA20A1263-001	VA20A1263-002	VA20A1263-003	VA20A1263-004	VA20A1263-005
						Result	Result	Result	Result	Result
Metals										
sulfur	7704-34-9	E440	1000	mg/kg		9800	9300	9400	9100	10200
thallium	7440-28-0	E440	0.050	mg/kg		0.076	0.078	0.135	0.064	0.063
tin	7440-31-5	E440	2.0	mg/kg		130	115	91.8	128	101
titanium	7440-32-6	E440	1.0	mg/kg		364	405	446	633	1010
tungsten	7440-33-7	E440	0.50	mg/kg		10.7	9.83	8.19	11.8	10.2
uranium	7440-61-1	E440	0.050	mg/kg		4.54	4.52	4.51	4.02	4.29
vanadium	7440-62-2	E440	0.20	mg/kg		36.6	38.6	36.0	35.6	34.5
zinc	7440-66-6	E440	2.0	mg/kg		4320	5650	8530	5840	3500
zirconium	7440-67-7	E440	1.0	mg/kg		2.3	2.5	2.5	2.0	1.9
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.5	11.6	11.4	11.5	11.5
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		6.16	5.98	6.22	7.32	7.17
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.90	2.90	2.90	2.90	2.90
pH, TCLP final	----	EPP444	0.010	pH units		6.42	6.35	6.35	6.37	6.34
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		2.18	2.11	2.18	2.30	2.20
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.138	0.219	0.162	0.148	0.247
calcium, TCLP	7440-70-2	E444	2.0	mg/L		1770	1840	1800	1840	1830
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		1.15	0.691	0.473	0.769	0.555
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.963	0.925	0.763	1.16	0.855
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		129	128	128	133	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		0.42	0.52	0.41	0.39	0.54
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

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2005-A-1	BA2005-A-2	BA2005-A-3	BA2005-A-4	BA2005-A-5
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00
						VA20A1263-001	VA20A1263-002	VA20A1263-003	VA20A1263-004	VA20A1263-005
						Result	Result	Result	Result	Result
TCLP Metals										
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
zinc, TCLP	7440-66-6	E444	0.50	mg/L		32.2	36.0	28.7	31.5	35.3

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

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2005-A-6	BA2005-A-7	BA2005-A-8	BA2005-A-9	BA2005-A-10
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00
						VA20A1263-006	VA20A1263-007	VA20A1263-008	VA20A1263-009	VA20A1263-010
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		23.6	24.1	26.2	22.2	23.8
pH (1:2 soil:water)	----	E108	0.10	pH units		10.6	10.9	10.8	11.0	10.7
Metals										
aluminum	7429-90-5	E440	50	mg/kg		37300	37000	37500	42600	41000
antimony	7440-36-0	E440	0.10	mg/kg		108	104	120	104	109
arsenic	7440-38-2	E440	0.10	mg/kg		12.4	15.4	18.4	14.3	18.6
barium	7440-39-3	E440	0.50	mg/kg		829	794	1010	654	754
beryllium	7440-41-7	E440	0.10	mg/kg		0.39	0.40	0.44	0.39	0.36
bismuth	7440-69-9	E440	0.20	mg/kg		8.91	11.6	10.1	11.1	10.5
boron	7440-42-8	E440	5.0	mg/kg		240	194	283	274	150
cadmium	7440-43-9	E440	0.020	mg/kg		9.56	9.67	10.3	9.47	10.6
calcium	7440-70-2	E440	50	mg/kg		133000	144000	134000	137000	143000
chromium	7440-47-3	E440	0.50	mg/kg		126	116	122	124	170
cobalt	7440-48-4	E440	0.10	mg/kg		71.2	106	53.4	55.6	146
copper	7440-50-8	E440	0.50	mg/kg		2150	2190	9630	2160	3830
iron	7439-89-6	E440	50	mg/kg		56800	44500	56200	69400	63800
lead	7439-92-1	E440	0.50	mg/kg		290	317	309	325	388
lithium	7439-93-2	E440	2.0	mg/kg		17.1	23.4	17.7	32.8	21.8
magnesium	7439-95-4	E440	20	mg/kg		12700	13200	10900	12600	16400
manganese	7439-96-5	E440	1.0	mg/kg		830	759	739	1040	1690
mercury	7439-97-6	E510	0.0500	mg/kg		0.0756	<0.0500	0.0575	0.0977	<0.0500
molybdenum	7439-98-7	E440	0.10	mg/kg		83.6	103	75.5	70.7	111
nickel	7440-02-0	E440	0.50	mg/kg		155	366	130	332	192
phosphorus	7723-14-0	E440	50	mg/kg		11900	11300	9580	11500	11600
potassium	7440-09-7	E440	100	mg/kg		4860	5500	4820	6320	4780
selenium	7782-49-2	E440	0.20	mg/kg		0.30	0.34	0.72	0.32	0.48
silver	7440-22-4	E440	0.10	mg/kg		7.02	11.6	10.7	19.3	3.63
sodium	7440-23-5	E440	50	mg/kg		15200	16300	15700	16200	15000
strontium	7440-24-6	E440	0.50	mg/kg		397	351	323	338	315
sulfur	7704-34-9	E440	1000	mg/kg		9300	9800	8400	9400	9100
thallium	7440-28-0	E440	0.050	mg/kg		0.069	0.065	0.074	0.077	0.074

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2005-A-6	BA2005-A-7	BA2005-A-8	BA2005-A-9	BA2005-A-10
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00
						VA20A1263-006	VA20A1263-007	VA20A1263-008	VA20A1263-009	VA20A1263-010
						Result	Result	Result	Result	Result
Metals										
tin	7440-31-5	E440	2.0	mg/kg		108	211	159	274	147
titanium	7440-32-6	E440	1.0	mg/kg		645	488	621	364	459
tungsten	7440-33-7	E440	0.50	mg/kg		13.0	8.47	9.82	8.04	9.52
uranium	7440-61-1	E440	0.050	mg/kg		4.29	4.56	4.37	4.65	4.53
vanadium	7440-62-2	E440	0.20	mg/kg		35.7	37.6	36.0	37.2	36.4
zinc	7440-66-6	E440	2.0	mg/kg		4400	3660	9800	4490	4280
zirconium	7440-67-7	E440	1.0	mg/kg		2.5	2.8	2.4	4.3	3.3
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.4	11.4	11.4	11.4	11.4
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		6.24	5.91	5.83	6.52	6.97
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.90	2.90	2.90	2.90	2.90
pH, TCLP final	----	EPP444	0.010	pH units		6.38	6.21	6.28	6.30	6.29
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		2.14	2.32	2.28	2.12	2.18
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.129	0.150	0.166	0.224	0.150
calcium, TCLP	7440-70-2	E444	2.0	mg/L		1800	1810	1860	1820	1840
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		0.367	0.655	1.33	0.791	0.661
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.666	0.957	1.35	0.816	0.495
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		130	128	130	130	133
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	0.33	0.32	0.81	1.08
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**)					Client sample ID	BA2005-A-6	BA2005-A-7	BA2005-A-8	BA2005-A-9	BA2005-A-10
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00	29-Jan-2020 09:00
Analyte	*CAS Number*	*Method*	*LOR*	*Unit*		**VA20A1263-006**	**VA20A1263-007**	**VA20A1263-008**	**VA20A1263-009**	**VA20A1263-010**
						Result	Result	Result	Result	Result
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		26.9	43.9	38.8	30.9	34.1

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

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2005-A-11	BA2005-A-12	----	----	----
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	----	----	----
						VA20A1263-011	VA20A1263-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
moisture	----	E144	0.25	%		24.4	24.8	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units		10.8	10.7	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg		36000	50400	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg		108	96.7	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg		15.8	12.2	----	----	----
barium	7440-39-3	E440	0.50	mg/kg		783	734	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg		0.41	0.45	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg		10.9	11.3	----	----	----
boron	7440-42-8	E440	5.0	mg/kg		235	235	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg		9.81	9.78	----	----	----
calcium	7440-70-2	E440	50	mg/kg		135000	131000	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg		120	132	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg		26.8	33.7	----	----	----
copper	7440-50-8	E440	0.50	mg/kg		4060	8490	----	----	----
iron	7439-89-6	E440	50	mg/kg		52400	64700	----	----	----
lead	7439-92-1	E440	0.50	mg/kg		455	307	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg		30.7	19.2	----	----	----
magnesium	7439-95-4	E440	20	mg/kg		13900	13600	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg		2920	807	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg		0.0884	0.0578	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg		93.2	72.6	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg		95.3	95.9	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg		10700	9630	----	----	----
potassium	7440-09-7	E440	100	mg/kg		5350	5220	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg		0.30	0.22	----	----	----
silver	7440-22-4	E440	0.10	mg/kg		4.09	3.28	----	----	----
sodium	7440-23-5	E440	50	mg/kg		15700	14700	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg		348	733	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg		9600	8600	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg		0.067	0.062	----	----	----

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2005-A-11	BA2005-A-12	----	----	----
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	----	----	----
						VA20A1263-011	VA20A1263-012	--------	--------	--------
						Result	Result	----	----	----
Metals										
tin	7440-31-5	E440	2.0	mg/kg		325	98.6	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg		538	1100	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg		8.42	5.84	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg		4.60	4.67	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg		36.6	37.4	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg		3900	4170	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg		2.4	3.8	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.4	11.4	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		7.73	7.72	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.90	2.90	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units		6.31	6.35	----	----	----
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		2.50	2.18	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.345	0.308	----	----	----
calcium, TCLP	7440-70-2	E444	2.0	mg/L		1870	1840	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L		<0.25	<0.25	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L		0.659	0.616	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L		1.05	0.836	----	----	----
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		128	128	----	----	----
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	0.36	----	----	----
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**)					Client sample ID	**BA2005-A-11**	**BA2005-A-12**	**----**	**----**	**----**
					Client sampling date / time	29-Jan-2020 09:00	29-Jan-2020 09:00	----	----	----
Analyte	*CAS Number*	*Method*	*LOR*	*Unit*		**VA20A1263-011**	**VA20A1263-012**	**--------**	**--------**	**--------**
						Result	Result	----	----	----
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		43.9	41.1	----	----	----

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