Bottom Ash Data

2020 Week 1

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on January 16, 2020. The data represents bottom ash composite results for week 1 of 2020 (December 29, 2019 to January 4, 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	: **VA20A0107**	Page	: 1 of 11
Client	: **Covanta Burnaby R.E., 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	: 07-Jan-2020 12:00
PO	: VANCO 0000049378	Date Analysis Commenced	: 08-Jan-2020
C-O-C number	: ----	Issue Date	: 15-Jan-2020 13:28
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
Evan Ben-Oliel	Metal Analyst	Metals, Burnaby, British Columbia
Mae Soropia	Lab Analyst	Metals, Burnaby, British Columbia
Ping Yeung		Inorganics, Edmonton, Alberta

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**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2001-A-1	BA2001-A-2	BA2001-A-3	BA2001-A-4	BA2001-A-5
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00
						VA20A0107-001	VA20A0107-002	VA20A0107-003	VA20A0107-004	VA20A0107-005
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		23.3	22.4	22.4	21.7	23.0
pH (1:2 soil:water)	----	E108	0.10	pH units		10.2	10.1	10.2	10.1	10.1
Metals										
aluminum	7429-90-5	E440	50	mg/kg		50700	38100	37200	39500	48000
antimony	7440-36-0	E440	0.10	mg/kg		115	109	132	120	121
arsenic	7440-38-2	E440	0.10	mg/kg		13.9	20.8	21.1	17.7	17.3
barium	7440-39-3	E440	0.50	mg/kg		478	434	449	440	458
beryllium	7440-41-7	E440	0.10	mg/kg		0.39	0.46	151	0.44	0.45
bismuth	7440-69-9	E440	0.20	mg/kg		9.90	42.0	8.82	8.41	21.3
boron	7440-42-8	E440	5.0	mg/kg		222	280	209	184	256
cadmium	7440-43-9	E440	0.020	mg/kg		9.58	15.5	12.3	10.8	12.4
calcium	7440-70-2	E440	50	mg/kg		139000	137000	141000	131000	140000
chromium	7440-47-3	E440	0.50	mg/kg		315	142	179	300	125
cobalt	7440-48-4	E440	0.10	mg/kg		91.5	144	204	99.6	37.8
copper	7440-50-8	E440	0.50	mg/kg		17100	7270	13000	1320	8480
iron	7439-89-6	E440	50	mg/kg		45400	57300	55500	60900	41600
lead	7439-92-1	E440	0.50	mg/kg		251	1750	306	503	864
lithium	7439-93-2	E440	2.0	mg/kg		36.3	28.7	428	26.4	22.7
magnesium	7439-95-4	E440	20	mg/kg		13000	10500	11200	10500	11700
manganese	7439-96-5	E440	1.0	mg/kg		969	750	2120	778	1050
mercury	7439-97-6	E510	0.0500	mg/kg		0.0820	0.0656	0.0800	0.0937	0.114
molybdenum	7439-98-7	E440	0.10	mg/kg		22.9	22.7	28.7	27.1	22.7
nickel	7440-02-0	E440	0.50	mg/kg		281	116	524	400	120
phosphorus	7723-14-0	E440	50	mg/kg		14000	12200	12700	12600	12800
potassium	7440-09-7	E440	100	mg/kg		5890	6380	6320	6080	6540
selenium	7782-49-2	E440	0.20	mg/kg		0.36	0.30	0.38	0.38	0.37
silver	7440-22-4	E440	0.10	mg/kg		6.03	5.75	7.69	6.74	9.22
sodium	7440-23-5	E440	50	mg/kg		16600	18600	17100	16500	18300
strontium	7440-24-6	E440	0.50	mg/kg		291	304	324	282	326
sulfur	7704-34-9	E440	1000	mg/kg		13400	13800	13900	13300	14000

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2001-A-1	BA2001-A-2	BA2001-A-3	BA2001-A-4	BA2001-A-5
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00
						VA20A0107-001	VA20A0107-002	VA20A0107-003	VA20A0107-004	VA20A0107-005
						Result	Result	Result	Result	Result
Metals										
thallium	7440-28-0	E440	0.050	mg/kg		<0.050	0.056	0.052	0.058	0.082
tin	7440-31-5	E440	2.0	mg/kg		95.2	242	186	104	126
titanium	7440-32-6	E440	1.0	mg/kg		410	395	458	512	569
tungsten	7440-33-7	E440	0.50	mg/kg		16.9	14.3	25.4	18.0	18.6
uranium	7440-61-1	E440	0.050	mg/kg		4.88	4.98	5.39	4.98	5.04
vanadium	7440-62-2	E440	0.20	mg/kg		38.4	41.5	41.0	39.7	39.2
zinc	7440-66-6	E440	2.0	mg/kg		4010	4460	4880	4130	7650
zirconium	7440-67-7	E440	1.0	mg/kg		4.4	2.8	2.4	3.0	3.3
Speciated Metals										
chromium, hexavalent [Cr VI]	18540-29-9	E532	0.10	mg/kg		0.31	----	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.2	11.2	11.2	11.2	11.2
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		9.59	8.06	8.56	9.17	8.30
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		6.43	6.39	6.34	6.31	6.30
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		4.15	3.11	3.55	2.65	3.32
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.130	0.176	0.148	0.129	0.283
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2190	2240	2200	2170	2440
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		0.807	0.644	3.61	0.463	0.687
copper, TCLP	7440-50-8	E444	0.050	mg/L		1.00	1.02	0.988	1.04	0.955
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	143	148	148	158
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		0.36	0.46	0.38	0.40	0.42
selenium, TCLP	7782-49-2	E444	1.00	mg/L		<1.00	<1.00	<1.00	<1.00	<1.00

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2001-A-1	BA2001-A-2	BA2001-A-3	BA2001-A-4	BA2001-A-5
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00
						VA20A0107-001	VA20A0107-002	VA20A0107-003	VA20A0107-004	VA20A0107-005
						Result	Result	Result	Result	Result
TCLP Metals										
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
zinc, TCLP	7440-66-6	E444	0.50	mg/L		29.7	40.6	29.0	28.4	39.8

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	BA2001-A-6	BA2001-A-7	BA2001-A-8	BA2001-A-9	BA2001-A-10
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00
						VA20A0107-006	VA20A0107-007	VA20A0107-008	VA20A0107-009	VA20A0107-010
						Result	Result	Result	Result	Result
Physical Tests										
moisture	----	E144	0.25	%		23.6	23.2	23.8	22.9	23.3
pH (1:2 soil:water)	----	E108	0.10	pH units		10.2	10.1	10.1	10.1	10.3
Metals										
aluminum	7429-90-5	E440	50	mg/kg		43700	37200	36700	34800	41000
antimony	7440-36-0	E440	0.10	mg/kg		184	135	110	126	112
arsenic	7440-38-2	E440	0.10	mg/kg		28.1	16.2	15.5	18.0	19.0
barium	7440-39-3	E440	0.50	mg/kg		457	488	429	427	404
beryllium	7440-41-7	E440	0.10	mg/kg		0.45	0.42	0.40	0.41	0.38
bismuth	7440-69-9	E440	0.20	mg/kg		10.8	11.7	6.73	7.10	6.59
boron	7440-42-8	E440	5.0	mg/kg		296	183	188	265	194
cadmium	7440-43-9	E440	0.020	mg/kg		11.8	11.0	36.9	10.8	13.0
calcium	7440-70-2	E440	50	mg/kg		145000	132000	136000	150000	130000
chromium	7440-47-3	E440	0.50	mg/kg		139	147	322	188	155
cobalt	7440-48-4	E440	0.10	mg/kg		38.2	367	52.2	20.0	44.5
copper	7440-50-8	E440	0.50	mg/kg		19200	7970	1400	2300	8820
iron	7439-89-6	E440	50	mg/kg		61900	67800	49000	68200	52900
lead	7439-92-1	E440	0.50	mg/kg		1810	4850	460	1700	754
lithium	7439-93-2	E440	2.0	mg/kg		27.8	23.9	21.5	20.4	19.8
magnesium	7439-95-4	E440	20	mg/kg		11500	10600	10900	11400	10600
manganese	7439-96-5	E440	1.0	mg/kg		1020	780	1220	774	859
mercury	7439-97-6	E510	0.0500	mg/kg		0.161	0.114	0.0869	0.0680	0.101
molybdenum	7439-98-7	E440	0.10	mg/kg		26.1	17.5	41.2	22.2	22.3
nickel	7440-02-0	E440	0.50	mg/kg		265	378	123	118	296
phosphorus	7723-14-0	E440	50	mg/kg		13900	12200	14400	13800	12600
potassium	7440-09-7	E440	100	mg/kg		6480	6160	6560	6110	6000
selenium	7782-49-2	E440	0.20	mg/kg		0.39	0.33	0.58	0.33	0.44
silver	7440-22-4	E440.Ag	0.10	mg/kg		----	----	----	----	9.23
silver	7440-22-4	E440	0.10	mg/kg		14.8	8.48	5.61	6.25	----
sodium	7440-23-5	E440	50	mg/kg		17000	16200	19000	18100	16600
strontium	7440-24-6	E440	0.50	mg/kg		335	212	307	330	419
sulfur	7704-34-9	E440	1000	mg/kg		14800	13400	13300	13800	13500

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2001-A-6	BA2001-A-7	BA2001-A-8	BA2001-A-9	BA2001-A-10
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00
						VA20A0107-006	VA20A0107-007	VA20A0107-008	VA20A0107-009	VA20A0107-010
						Result	Result	Result	Result	Result
Metals										
thallium	7440-28-0	E440	0.050	mg/kg		0.056	0.119	<0.050	0.059	0.054
tin	7440-31-5	E440	2.0	mg/kg		129	2170	107	126	235
titanium	7440-32-6	E440	1.0	mg/kg		412	354	249	288	456
tungsten	7440-33-7	E440	0.50	mg/kg		20.2	16.3	18.4	20.3	122
uranium	7440-61-1	E440	0.050	mg/kg		5.11	4.90	4.99	5.13	4.53
vanadium	7440-62-2	E440	0.20	mg/kg		42.3	35.7	41.4	40.2	41.1
zinc	7440-66-6	E440	2.0	mg/kg		4450	12100	4210	9790	4710
zirconium	7440-67-7	E440	1.0	mg/kg		3.2	2.8	3.5	3.1	3.0
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.2	11.2	11.2	11.3	11.2
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		8.90	8.87	8.92	8.60	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		6.34	7.24	7.41	6.62	6.77
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		3.10	2.56	2.52	2.76	2.86
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.165	0.066	<0.050	0.159	0.109
calcium, TCLP	7440-70-2	E444	2.0	mg/L		2230	1960	1920	2140	2160
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		0.654	0.377	0.254	0.664	0.827
copper, TCLP	7440-50-8	E444	0.050	mg/L		1.05	0.435	0.358	0.810	0.643
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		0.40	<0.25	<0.25	<0.25	<0.25
magnesium, TCLP	7439-95-4	E444	0.50	mg/L		141	105	103	131	124
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	<0.25	<0.25	0.33	0.35
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**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2001-A-6	BA2001-A-7	BA2001-A-8	BA2001-A-9	BA2001-A-10
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00	01-Jan-2020 09:00
						VA20A0107-006	VA20A0107-007	VA20A0107-008	VA20A0107-009	VA20A0107-010
						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		36.1	2.44	0.95	22.9	13.6

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	BA2001-A-11	BA2001-A-12	----	----	----
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	----	----	----
						VA20A0107-011	VA20A0107-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
moisture	----	E144	0.25	%		23.4	23.0	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units		10.2	10.3	----	----	----
Metals										
aluminum	7429-90-5	E440	50	mg/kg		44100	40100	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg		107	117	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg		18.2	24.4	----	----	----
barium	7440-39-3	E440	0.50	mg/kg		435	468	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg		0.36	0.35	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg		6.52	6.29	----	----	----
boron	7440-42-8	E440	5.0	mg/kg		237	192	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg		13.5	10.6	----	----	----
calcium	7440-70-2	E440	50	mg/kg		126000	132000	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg		161	155	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg		23.3	52.5	----	----	----
copper	7440-50-8	E440	0.50	mg/kg		1770	1680	----	----	----
iron	7439-89-6	E440	50	mg/kg		52400	81800	----	----	----
lead	7439-92-1	E440	0.50	mg/kg		1570	249	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg		18.9	24.8	----	----	----
magnesium	7439-95-4	E440	20	mg/kg		10200	11600	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg		782	836	----	----	----
mercury	7439-97-6	E510	0.0500	mg/kg		0.0560	0.0838	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg		26.3	28.4	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg		95.2	107	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg		13100	13300	----	----	----
potassium	7440-09-7	E440	100	mg/kg		5750	6360	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg		0.29	0.41	----	----	----
silver	7440-22-4	E440	0.10	mg/kg		5.43	7.16	----	----	----
sodium	7440-23-5	E440	50	mg/kg		16600	16600	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg		275	316	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg		12300	13300	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg		0.052	0.050	----	----	----

Analytical Results

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

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	BA2001-A-11	BA2001-A-12	----	----	----
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	----	----	----
						VA20A0107-011	VA20A0107-012	--------	--------	--------
						Result	Result	----	----	----
Metals										
tin	7440-31-5	E440	2.0	mg/kg		120	116	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg		637	634	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg		23.0	23.8	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg		4.66	4.86	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg		37.5	38.8	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg		3550	3840	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg		3.2	2.6	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units		11.2	11.2	----	----	----
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units		9.22	8.54	----	----	----
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units		2.88	2.88	----	----	----
pH, TCLP final	----	EPP444	0.010	pH units		7.32	7.47	----	----	----
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		2.48	2.63	----	----	----
cadmium, TCLP	7440-43-9	E444	0.050	mg/L		0.057	<0.050	----	----	----
calcium, TCLP	7440-70-2	E444	2.0	mg/L		1970	1830	----	----	----
chromium, TCLP	7440-47-3	E444	0.25	mg/L		<0.25	<0.25	----	----	----
cobalt, TCLP	7440-48-4	E444	0.050	mg/L		0.314	0.264	----	----	----
copper, TCLP	7440-50-8	E444	0.050	mg/L		0.464	0.397	----	----	----
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	101	----	----	----
mercury, TCLP	7439-97-6	E512	0.0100	mg/L		<0.0100	<0.0100	----	----	----
nickel, TCLP	7440-02-0	E444	0.25	mg/L		<0.25	<0.25	----	----	----
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	BA2001-A-11	BA2001-A-12	----	----	----
					Client sampling date / time	01-Jan-2020 09:00	01-Jan-2020 09:00	----	----	----
Analyte	CAS Number	Method	LOR	Unit		VA20A0107-011	VA20A0107-012	--------	--------	--------
						Result	Result	----	----	----
TCLP Metals										
zinc, TCLP	7440-66-6	E444	0.50	mg/L		5.82	1.11	----	----	----

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