

Bottom Ash Data

2020 Week 16

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on May 6, 2020. The data represents bottom ash composite results for week 16 of 2020 (April 12, 2020 to April 18, 2020).

The bottom ash meets the requirements of Metro Vancouver's Bottom Ash Management Plan and is suitable for disposal.



CERTIFICATE OF ANALYSIS

Work Order : **VA20A5068**
Amendment : **1**
Client : **Covanta Burnaby Renewable Energy, ULC**
Contact : Steve McKinney
Address : 5150 Riverbend Drive
Burnaby BC Canada V3N 4V3
Telephone : 604 521 1025
Project : Weekly Bottom Ash - Suite
PO : VANCO 0000049378
C-O-C number : ----
Sampler : ----
Site : ----
Quote number : Standing Offer
No. of samples received : 16
No. of samples analysed : 16

Page : 1 of 11
Laboratory : Vancouver - Environmental
Account Manager : Brent Mack
Address : 8081 Lougheed Highway
Burnaby BC Canada V5A 1W9
Telephone : +1 604 253 4188
Date Samples Received : 21-Apr-2020 10:40
Date Analysis Commenced : 23-Apr-2020
Issue Date : 06-May-2020 12:28

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Aaron Yu	Laboratory Analyst	Metals, Burnaby, British Columbia
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Brieanna Allen	Department Manager - Organics	Organics, Burnaby, British Columbia
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Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	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).

<i>Unit</i>	<i>Description</i>
%	percent
g	grams
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
mL	millilitre
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					Client sample ID				
(Matrix: Soil/Solid)					BA2016-A-1	BA2016-A-2	BA2016-A-3	BA2016-A-4	BA2016-A-5
Client sampling date / time					15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-001	VA20A5068-002	VA20A5068-003	VA20A5068-004	VA20A5068-005
					Result	Result	Result	Result	Result
Sample Preparation									
weight, extraction (dry)	----	EP440.Ag	0.01	g	----	0.253	----	----	----
final volume	----	EP440.Ag	0.1	mL	----	50	----	----	----
Physical Tests									
moisture	----	E144	0.25	%	17.8	17.8	17.9	18.3	17.4
pH (1:2 soil:water)	----	E108	0.10	pH units	11.2	11.2	11.1	11.1	11.2
Metals									
aluminum	7429-90-5	E440	50	mg/kg	29800	30100	28000	31200	34900
antimony	7440-36-0	E440	0.10	mg/kg	164	901	163	168	168
arsenic	7440-38-2	E440	0.10	mg/kg	40.5	39.1	42.8	45.8	47.7
barium	7440-39-3	E440	0.50	mg/kg	459	490	432	430	456
beryllium	7440-41-7	E440	0.10	mg/kg	0.39	0.39	0.40	0.43	0.41
bismuth	7440-69-9	E440	0.20	mg/kg	8.55	212	8.44	7.96	7.63
boron	7440-42-8	E440	5.0	mg/kg	201	172	180	166	187
cadmium	7440-43-9	E440	0.020	mg/kg	31.2	20.4	22.5	502	22.3
calcium	7440-70-2	E440	50	mg/kg	127000	111000	123000	125000	132000
chromium	7440-47-3	E440	0.50	mg/kg	168	217	165	191	162
cobalt	7440-48-4	E440	0.10	mg/kg	25.8	87.7	30.8	20.2	19.4
copper	7440-50-8	E440	0.50	mg/kg	1670	41800	2220	6240	2480
iron	7439-89-6	E440	50	mg/kg	63100	44700	59800	55600	48700
lead	7439-92-1	E440	0.50	mg/kg	428	4420	542	405	563
lithium	7439-93-2	E440	2.0	mg/kg	17.2	62.6	16.1	18.1	16.7
magnesium	7439-95-4	E440	20	mg/kg	10100	10200	10100	10700	11500
manganese	7439-96-5	E440	1.0	mg/kg	806	1030	1110	989	795
mercury	7439-97-6	E510	0.0500	mg/kg	0.115	0.0874	0.116	0.0972	0.0906
molybdenum	7439-98-7	E440	0.10	mg/kg	29.9	36.6	26.0	34.7	26.6
nickel	7440-02-0	E440	0.50	mg/kg	149	311	160	109	159
phosphorus	7723-14-0	E440	50	mg/kg	11500	9990	9500	10200	10700
potassium	7440-09-7	E440	100	mg/kg	6210	6640	6400	6650	6990
selenium	7782-49-2	E440	0.20	mg/kg	0.60	0.49	0.45	0.59	0.45
silver	7440-22-4	E440.Ag	0.10	mg/kg	----	9.63	----	----	----



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2016-A-1	BA2016-A-2	BA2016-A-3	BA2016-A-4	BA2016-A-5
Client sampling date / time						15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-001	VA20A5068-002	VA20A5068-003	VA20A5068-004	VA20A5068-005	
					Result	Result	Result	Result	Result	
Metals										
sodium	7440-23-5	E440	50	mg/kg	15800	15200	15000	16300	17600	
strontium	7440-24-6	E440	0.50	mg/kg	304	272	281	308	311	
sulfur	7704-34-9	E440	1000	mg/kg	14500	12200	13600	14800	14300	
thallium	7440-28-0	E440	0.050	mg/kg	0.057	0.087	0.060	0.062	0.060	
tin	7440-31-5	E440	2.0	mg/kg	154	10800	151	143	167	
titanium	7440-32-6	E440	1.0	mg/kg	399	1060	682	694	427	
tungsten	7440-33-7	E440	0.50	mg/kg	11.1	9.34	10.8	10.8	10.2	
uranium	7440-61-1	E440	0.050	mg/kg	4.99	4.67	4.73	5.24	5.27	
vanadium	7440-62-2	E440	0.20	mg/kg	53.2	50.1	50.9	58.3	53.5	
zinc	7440-66-6	E440	2.0	mg/kg	4520	4360	4680	4850	4260	
zirconium	7440-67-7	E440	1.0	mg/kg	1.2	1.3	1.3	1.3	1.6	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.7	11.7	11.7	11.7	11.7	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.99	8.95	9.38	9.05	9.17	
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	6.39	6.36	6.42	6.45	6.51	
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	2.53	2.39	2.42	2.25	2.34	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.428	0.494	0.452	0.394	0.354	
calcium, TCLP	7440-70-2	E444	2.0	mg/L	2210	2160	2150	2090	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	0.667	0.994	0.380	1.70	0.624	
copper, TCLP	7440-50-8	E444	0.050	mg/L	1.01	1.36	1.24	0.709	0.848	
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	146	152	138	141	146	
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	0.64	0.77	0.54	0.56	0.54	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2016-A-1	BA2016-A-2	BA2016-A-3	BA2016-A-4	BA2016-A-5
Client sampling date / time					15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-001	VA20A5068-002	VA20A5068-003	VA20A5068-004	VA20A5068-005	
					Result	Result	Result	Result	Result	
TCLP Metals										
selenium, TCLP	7782-49-2	E444	1.00	mg/L	<1.00	<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	<0.050
thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
vanadium, TCLP	7440-62-2	E444	0.15	mg/L	0.16	0.16	<0.15	<0.15	<0.15	<0.15
zinc, TCLP	7440-66-6	E444	0.50	mg/L	44.2	45.3	41.1	41.7	38.7	

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



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2016-A-6	BA2016-A-7	BA2016-A-8	BA2016-A-9	BA2016-A-10
Client sampling date / time					15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-006	VA20A5068-007	VA20A5068-008	VA20A5068-009	VA20A5068-010	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	18.5	18.8	18.4	18.7	18.6	
pH (1:2 soil:water)	----	E108	0.10	pH units	11.2	11.3	11.2	11.2	11.2	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	25600	30200	28500	27800	33500	
antimony	7440-36-0	E440	0.10	mg/kg	153	213	185	168	154	
arsenic	7440-38-2	E440	0.10	mg/kg	40.2	40.8	52.5	46.0	48.3	
barium	7440-39-3	E440	0.50	mg/kg	422	475	462	441	466	
beryllium	7440-41-7	E440	0.10	mg/kg	0.44	0.39	0.40	0.43	0.46	
bismuth	7440-69-9	E440	0.20	mg/kg	7.47	8.18	9.05	8.71	7.42	
boron	7440-42-8	E440	5.0	mg/kg	210	187	252	225	248	
cadmium	7440-43-9	E440	0.020	mg/kg	22.6	25.5	26.3	27.9	23.4	
calcium	7440-70-2	E440	50	mg/kg	125000	125000	129000	134000	128000	
chromium	7440-47-3	E440	0.50	mg/kg	299	175	163	154	191	
cobalt	7440-48-4	E440	0.10	mg/kg	29.3	32.2	23.0	49.4	126	
copper	7440-50-8	E440	0.50	mg/kg	2170	3280	3730	2890	2420	
iron	7439-89-6	E440	50	mg/kg	48600	54200	51000	53200	51000	
lead	7439-92-1	E440	0.50	mg/kg	567	606	526	512	420	
lithium	7439-93-2	E440	2.0	mg/kg	16.8	17.1	17.0	17.8	24.8	
magnesium	7439-95-4	E440	20	mg/kg	12900	11700	13100	11900	12000	
manganese	7439-96-5	E440	1.0	mg/kg	738	770	4400	859	1320	
mercury	7439-97-6	E510	0.0500	mg/kg	0.145	0.157	0.107	0.127	0.119	
molybdenum	7439-98-7	E440	0.10	mg/kg	39.3	30.0	29.0	33.3	30.5	
nickel	7440-02-0	E440	0.50	mg/kg	251	182	171	144	120	
phosphorus	7723-14-0	E440	50	mg/kg	10400	10300	10700	11300	11100	
potassium	7440-09-7	E440	100	mg/kg	6680	6740	6770	7220	7010	
selenium	7782-49-2	E440	0.20	mg/kg	0.50	0.50	0.59	0.56	0.60	
sodium	7440-23-5	E440	50	mg/kg	15700	15900	16400	17200	17600	
strontium	7440-24-6	E440	0.50	mg/kg	632	298	396	317	339	
sulfur	7704-34-9	E440	1000	mg/kg	14200	13900	15700	15400	14500	
thallium	7440-28-0	E440	0.050	mg/kg	0.065	0.063	0.064	0.063	0.064	
tin	7440-31-5	E440	2.0	mg/kg	141	2640	178	189	160	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2016-A-6	BA2016-A-7	BA2016-A-8	BA2016-A-9	BA2016-A-10
Client sampling date / time					15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00	15-Apr-2020 09:00
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-006	VA20A5068-007	VA20A5068-008	VA20A5068-009	VA20A5068-010	
					Result	Result	Result	Result	Result	
Metals										
titanium	7440-32-6	E440	1.0	mg/kg	302	593	649	522	877	
tungsten	7440-33-7	E440	0.50	mg/kg	12.1	13.9	12.8	12.4	12.4	
uranium	7440-61-1	E440	0.050	mg/kg	5.19	4.88	5.44	5.49	4.97	
vanadium	7440-62-2	E440	0.20	mg/kg	53.2	61.6	54.3	54.4	67.6	
zinc	7440-66-6	E440	2.0	mg/kg	4420	6360	6540	5180	4760	
zirconium	7440-67-7	E440	1.0	mg/kg	1.3	1.4	1.1	1.3	1.9	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.6	11.7	11.7	11.7	11.8	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	9.08	9.25	9.61	9.49	9.57	
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	6.33	6.35	6.44	6.04	6.09	
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	2.38	2.41	2.38	2.38	2.42	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.580	0.380	0.390	0.385	0.524	
calcium, TCLP	7440-70-2	E444	2.0	mg/L	2120	2210	2160	2140	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	0.503	0.632	0.803	0.814	1.15	
copper, TCLP	7440-50-8	E444	0.050	mg/L	0.834	0.786	0.666	1.18	1.07	
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	140	153	147	145	150	
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	0.61	0.62	0.54	0.72	0.66	
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	
zinc, TCLP	7440-66-6	E444	0.50	mg/L	42.4	37.4	46.8	44.2	55.7	



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



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2016-A-11	BA2016-A-12	BA2016-A-6 REP1	BA2016-A-6 REP2	BA2016-A-6 REP3
Client sampling date / time						15-Apr-2020 09:00	15-Apr-2020 09:00	01-May-2020	01-May-2020	01-May-2020
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-011	VA20A5068-012	VA20A5068-013	VA20A5068-014	VA20A5068-015	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	---	E144	0.25	%	17.2	19.5	---	---	---	
pH (1:2 soil:water)	---	E108	0.10	pH units	11.1	11.4	---	---	---	
Metals										
aluminum	7429-90-5	E440	50	mg/kg	35200	29000	---	---	---	
antimony	7440-36-0	E440	0.10	mg/kg	161	168	---	---	---	
arsenic	7440-38-2	E440	0.10	mg/kg	43.2	49.9	---	---	---	
barium	7440-39-3	E440	0.50	mg/kg	443	435	---	---	---	
beryllium	7440-41-7	E440	0.10	mg/kg	0.37	0.48	---	---	---	
bismuth	7440-69-9	E440	0.20	mg/kg	8.64	85.2	---	---	---	
boron	7440-42-8	E440	5.0	mg/kg	245	207	---	---	---	
cadmium	7440-43-9	E440	0.020	mg/kg	23.1	25.9	---	---	---	
calcium	7440-70-2	E440	50	mg/kg	122000	122000	---	---	---	
chromium	7440-47-3	E440	0.50	mg/kg	191	145	---	---	---	
cobalt	7440-48-4	E440	0.10	mg/kg	21.8	42.1	---	---	---	
copper	7440-50-8	E440	0.50	mg/kg	5950	11100	---	---	---	
iron	7439-89-6	E440	50	mg/kg	73400	49500	---	---	---	
lead	7439-92-1	E440	0.50	mg/kg	635	422	---	---	---	
lithium	7439-93-2	E440	2.0	mg/kg	16.6	18.6	---	---	---	
magnesium	7439-95-4	E440	20	mg/kg	10700	12100	---	---	---	
manganese	7439-96-5	E440	1.0	mg/kg	837	707	---	---	---	
mercury	7439-97-6	E510	0.0500	mg/kg	0.0913	0.0925	---	---	---	
molybdenum	7439-98-7	E440	0.10	mg/kg	41.5	29.5	---	---	---	
nickel	7440-02-0	E440	0.50	mg/kg	160	183	---	---	---	
phosphorus	7723-14-0	E440	50	mg/kg	9880	10700	---	---	---	
potassium	7440-09-7	E440	100	mg/kg	6500	6590	---	---	---	
selenium	7782-49-2	E440	0.20	mg/kg	0.52	1.52	---	---	---	
sodium	7440-23-5	E440	50	mg/kg	15400	16000	---	---	---	
strontium	7440-24-6	E440	0.50	mg/kg	280	281	---	---	---	
sulfur	7704-34-9	E440	1000	mg/kg	14500	14100	---	---	---	
thallium	7440-28-0	E440	0.050	mg/kg	0.062	0.078	---	---	---	
tin	7440-31-5	E440	2.0	mg/kg	1030	152	---	---	---	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2016-A-11	BA2016-A-12	BA2016-A-6 REP1	BA2016-A-6 REP2	BA2016-A-6 REP3
Client sampling date / time						15-Apr-2020 09:00	15-Apr-2020 09:00	01-May-2020	01-May-2020	01-May-2020
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-011	VA20A5068-012	VA20A5068-013	VA20A5068-014	VA20A5068-015	
					Result	Result	Result	Result	Result	
Metals										
titanium	7440-32-6	E440	1.0	mg/kg	812	445	----	----	----	
tungsten	7440-33-7	E440	0.50	mg/kg	12.5	9.00	----	----	----	
uranium	7440-61-1	E440	0.050	mg/kg	4.85	5.02	----	----	----	
vanadium	7440-62-2	E440	0.20	mg/kg	51.7	56.7	----	----	----	
zinc	7440-66-6	E440	2.0	mg/kg	4910	10200	----	----	----	
zirconium	7440-67-7	E440	1.0	mg/kg	1.4	1.3	----	----	----	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444	0.010	pH units	11.6	11.7	11.6	11.6	11.6	
pH, TCLP 2nd preliminary	----	EPP444	0.010	pH units	8.33	9.20	9.08	9.08	9.08	
pH, TCLP extraction fluid initial	----	EPP444	0.010	pH units	2.91	2.91	2.92	2.92	2.92	
pH, TCLP final	----	EPP444	0.010	pH units	6.20	6.45	6.09	6.25	6.28	
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	2.40	2.32	----	----	----	
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.409	0.438	0.443	0.461	0.382	
calcium, TCLP	7440-70-2	E444	2.0	mg/L	2180	2120	----	----	----	
chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	----	----	----	
cobalt, TCLP	7440-48-4	E444	0.050	mg/L	0.566	1.20	----	----	----	
copper, TCLP	7440-50-8	E444	0.050	mg/L	0.905	0.824	----	----	----	
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	144	153	----	----	----	
mercury, TCLP	7439-97-6	E512	0.0100	mg/L	<0.0100	<0.0100	----	----	----	
nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.62	0.67	----	----	----	
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	0.87	<0.15	----	----	----	
zinc, TCLP	7440-66-6	E444	0.50	mg/L	52.8	54.8	----	----	----	



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

Analytical Results

Sub-Matrix: Soil					Client sample ID	BA2016-A-6	---	---	---	---
(Matrix: Soil/Solid)						REP4				
					Client sampling date / time	01-May-2020	---	---	---	---
Analyte	CAS Number	Method	LOR	Unit	VA20A5068-016	-----	-----	-----	-----	-----
					Result	---	---	---	---	---
TCLP Metals										
pH, TCLP 1st preliminary	---	EPP444	0.010	pH units	11.6	---	---	---	---	---
pH, TCLP 2nd preliminary	---	EPP444	0.010	pH units	9.08	---	---	---	---	---
pH, TCLP extraction fluid initial	---	EPP444	0.010	pH units	2.92	---	---	---	---	---
pH, TCLP final	---	EPP444	0.010	pH units	6.40	---	---	---	---	---
cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.391	---	---	---	---	---

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