

## Bottom Ash Data

2019 Week 34

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The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on September 6, 2019. The data represents bottom ash composite results for week 34 of 2019 (August 18, 2019 to August 24, 2019).

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



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Date Received: 27-AUG-19  
Report Date: 04-SEP-19 13:13 (MT)  
Version: FINAL

Client Phone: 604-521-1025

## Certificate of Analysis

Lab Work Order #: L2336477  
Project P.O. #: VANCO-0000048466  
Job Reference:  
C of C Numbers:  
Legal Site Desc:

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Brent Mack, B.Sc.  
Account Manager

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## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L2336477-1 Soil 21-AUG-19 09:00 BA1934-A-1	L2336477-2 Soil 21-AUG-19 09:00 BA1934-A-2	L2336477-3 Soil 21-AUG-19 09:00 BA1934-A-3	L2336477-4 Soil 21-AUG-19 09:00 BA1934-A-4	L2336477-5 Soil 21-AUG-19 09:00 BA1934-A-5	
Grouping	Analyte					
<b>SOIL</b>						
<b>Physical Tests</b>	Moisture (%)	19.6	18.1	19.4	18.6	19.6
	pH (1:2 soil:water) (pH)	10.52	10.49	10.36	10.43	10.51
<b>Metals</b>	Aluminum (Al) (mg/kg)	24500	33000	30100	31100	32400
	Antimony (Sb) (mg/kg)	115	122	139	121	127
	Arsenic (As) (mg/kg)	39.8	39.7	42.3	42.1	41.1
	Barium (Ba) (mg/kg)	402	532	492	489	473
	Beryllium (Be) (mg/kg)	0.32	0.36	0.37	0.39	0.32
	Bismuth (Bi) (mg/kg)	6.10	6.51	5.63	7.70	7.18
	Boron (B) (mg/kg)	188	216	211	232	248
	Cadmium (Cd) (mg/kg)	11.4	12.5	12.1	12.3	16.1
	Calcium (Ca) (mg/kg)	99500	116000	114000	115000	118000
	Chromium (Cr) (mg/kg)	270	170	966	180	144
	Cobalt (Co) (mg/kg)	197	36.7	137	27.9	104
	Copper (Cu) (mg/kg)	4600	1200	3390	1350	1350
	Iron (Fe) (mg/kg)	61100	48600	41900	71400	48500
	Lead (Pb) (mg/kg)	301	367	338	317	457
	Lithium (Li) (mg/kg)	14.1	17.2	15.7	20.2	19.4
	Magnesium (Mg) (mg/kg)	8300	10500	10500	10500	10300
	Manganese (Mn) (mg/kg)	1050	674	819	782	714
	Mercury (Hg) (mg/kg)	0.075	0.110	0.111	0.095	0.104
	Molybdenum (Mo) (mg/kg)	63.3	81.7	142	399	88.4
	Nickel (Ni) (mg/kg)	270	231	1080	155	168
	Phosphorus (P) (mg/kg)	8010	9740	10200	9430	10000
	Potassium (K) (mg/kg)	4820	5700	5740	5690	5850
	Selenium (Se) (mg/kg)	0.32	0.38	0.34	0.31	0.45
	Silver (Ag) (mg/kg)	4.70	7.28	6.49	8.11	6.27
	Sodium (Na) (mg/kg)	13000	16100	15800	16200	16400
	Strontium (Sr) (mg/kg)	361	285	282	275	283
	Sulfur (S) (mg/kg)	10800	13400	12800	12500	13600
	Thallium (Tl) (mg/kg)	<0.050	0.057	<0.050	<0.050	<0.050
	Tin (Sn) (mg/kg)	99.4	128	92.9	120	110
	Titanium (Ti) (mg/kg)	460	1270	606	652	845
	Tungsten (W) (mg/kg)	11.0	13.6	11.2	7.57	12.1
	Uranium (U) (mg/kg)	4.30	5.23	4.89	5.04	5.79
	Vanadium (V) (mg/kg)	42.9	49.4	58.3	48.3	46.2
	Zinc (Zn) (mg/kg)	4390	5220	4710	5210	4160
	Zirconium (Zr) (mg/kg)	<1.0	1.7	1.2	1.2	1.2

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L2336477-6 Soil 21-AUG-19 09:00 BA1934-A-6	L2336477-7 Soil 21-AUG-19 09:00 BA1934-A-7	L2336477-8 Soil 21-AUG-19 09:00 BA1934-A-8	L2336477-9 Soil 21-AUG-19 09:00 BA1934-A-9	L2336477-10 Soil 21-AUG-19 09:00 BA1934-A-10
Grouping	Analyte				
<b>SOIL</b>					
<b>Physical Tests</b>	Moisture (%)	20.1	20.1	20.4	19.3
	pH (1:2 soil:water) (pH)	10.21	10.62	10.38	10.26
<b>Metals</b>	Aluminum (Al) (mg/kg)	30900	29000	31700	27400
	Antimony (Sb) (mg/kg)	109	125	117	119
	Arsenic (As) (mg/kg)	40.1	41.9	36.2	40.7
	Barium (Ba) (mg/kg)	418	438	446	478
	Beryllium (Be) (mg/kg)	0.31	0.34	1.62	0.49
	Bismuth (Bi) (mg/kg)	5.02	7.09	5.88	6.23
	Boron (B) (mg/kg)	217	262	258	227
	Cadmium (Cd) (mg/kg)	14.4	10.6	14.6	10.6
	Calcium (Ca) (mg/kg)	98600	104000	118000	105000
	Chromium (Cr) (mg/kg)	140	164	156	172
	Cobalt (Co) (mg/kg)	32.8	55.4	31.3	71.0
	Copper (Cu) (mg/kg)	3880	1150	1560	3250
	Iron (Fe) (mg/kg)	54300	39800	54700	66000
	Lead (Pb) (mg/kg)	431	572	937	393
	Lithium (Li) (mg/kg)	13.0	17.2	15.8	16.7
	Magnesium (Mg) (mg/kg)	9180	9390	10200	8410
	Manganese (Mn) (mg/kg)	806	721	713	756
	Mercury (Hg) (mg/kg)	0.101	0.085	0.111	0.085
	Molybdenum (Mo) (mg/kg)	42.9	49.5	53.2	127
	Nickel (Ni) (mg/kg)	174	179	233	468
	Phosphorus (P) (mg/kg)	8180	8540	11300	8670
	Potassium (K) (mg/kg)	4970	5020	5770	5670
	Selenium (Se) (mg/kg)	0.27	0.26	0.31	0.24
	Silver (Ag) (mg/kg)	4.52	3.80	7.29	6.86
	Sodium (Na) (mg/kg)	13300	13700	15000	14800
	Strontium (Sr) (mg/kg)	237	255	462	286
	Sulfur (S) (mg/kg)	10600	11700	13200	11500
	Thallium (Tl) (mg/kg)	<0.050	<0.050	0.054	<0.050
	Tin (Sn) (mg/kg)	78.5	98.6	107	197
	Titanium (Ti) (mg/kg)	331	552	504	690
	Tungsten (W) (mg/kg)	8.71	10.7	8.20	9.85
	Uranium (U) (mg/kg)	4.23	4.69	5.06	4.75
	Vanadium (V) (mg/kg)	41.4	40.7	48.3	42.5
	Zinc (Zn) (mg/kg)	3760	3500	4930	4190
	Zirconium (Zr) (mg/kg)	1.2	1.0	1.3	<1.0

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2336477-11	L2336477-12		
		Description	Soil	Soil		
		Sampled Date	21-AUG-19	21-AUG-19		
		Sampled Time	09:00	09:00		
		Client ID	BA1934-A-11	BA1934-A-12		
Grouping	Analyte					
<b>SOIL</b>						
<b>Physical Tests</b>	Moisture (%)	19.0	19.3			
	pH (1:2 soil:water) (pH)	10.42	10.33			
<b>Metals</b>	Aluminum (Al) (mg/kg)	37000	33100			
	Antimony (Sb) (mg/kg)	123	132			
	Arsenic (As) (mg/kg)	42.9	41.3			
	Barium (Ba) (mg/kg)	517	447			
	Beryllium (Be) (mg/kg)	0.38	0.37			
	Bismuth (Bi) (mg/kg)	7.06	8.71			
	Boron (B) (mg/kg)	208	223			
	Cadmium (Cd) (mg/kg)	14.3	13.9			
	Calcium (Ca) (mg/kg)	121000	116000			
	Chromium (Cr) (mg/kg)	167	152			
	Cobalt (Co) (mg/kg)	46.1	460			
	Copper (Cu) (mg/kg)	7890	2210			
	Iron (Fe) (mg/kg)	52200	43100			
	Lead (Pb) (mg/kg)	1580	552			
	Lithium (Li) (mg/kg)	17.6	69.2			
	Magnesium (Mg) (mg/kg)	9680	9680			
	Manganese (Mn) (mg/kg)	1760	1230			
	Mercury (Hg) (mg/kg)	0.078	0.082			
	Molybdenum (Mo) (mg/kg)	76.1	72.6			
	Nickel (Ni) (mg/kg)	1010	1350			
	Phosphorus (P) (mg/kg)	10800	10600			
	Potassium (K) (mg/kg)	6400	6080			
	Selenium (Se) (mg/kg)	0.41	0.35			
	Silver (Ag) (mg/kg)	15.1	12.5			
	Sodium (Na) (mg/kg)	17100	15500			
	Strontium (Sr) (mg/kg)	348	272			
	Sulfur (S) (mg/kg)	13100	13100			
	Thallium (Tl) (mg/kg)	0.055	0.051			
	Tin (Sn) (mg/kg)	124	142			
	Titanium (Ti) (mg/kg)	633	651			
	Tungsten (W) (mg/kg)	16.8	9.44			
Uranium (U) (mg/kg)	5.56	5.21				
Vanadium (V) (mg/kg)	49.4	45.4				
Zinc (Zn) (mg/kg)	5650	5450				
Zirconium (Zr) (mg/kg)	1.4	1.2				

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2336477-1	L2336477-2	L2336477-3	L2336477-4	L2336477-5
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	21-AUG-19	21-AUG-19	21-AUG-19	21-AUG-19	21-AUG-19
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1934-A-1	BA1934-A-2	BA1934-A-3	BA1934-A-4	BA1934-A-5
Grouping	Analyte						
<b>SOIL</b>							
<b>TCLP Metals</b>	1st Preliminary pH (pH)		11.52	11.43	11.48	11.58	11.47
	2nd Preliminary pH (pH)		10.04	9.73	9.84	9.68	9.78
	Final pH (pH)		6.31	6.28	6.25	6.34	6.29
	Extraction Solution Initial pH (pH)		2.90	2.90	2.90	2.90	2.90
	Antimony (Sb)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba)-Leachable (mg/L)		<2.5	<2.5	<2.5	<2.5	<2.5
	Beryllium (Be)-Leachable (mg/L)		<0.025	<0.025	<0.025	<0.025	<0.025
	Boron (B)-Leachable (mg/L)		3.05	3.00	2.96	2.99	2.98
	Cadmium (Cd)-Leachable (mg/L)		0.190	0.277	0.297	0.213	0.224
	Calcium (Ca)-Leachable (mg/L)		2030	2030	2030	2020	2040
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		1.23	0.670	0.683	0.505	0.555
	Copper (Cu)-Leachable (mg/L)		0.792	1.18	1.08	1.33	0.983
	Iron (Fe)-Leachable (mg/L)		<5.0	<5.0	<5.0	<5.0	<5.0
	Lead (Pb)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Magnesium (Mg)-Leachable (mg/L)		123	126	127	128	130
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.59	0.57	0.62	0.70	0.53
	Selenium (Se)-Leachable (mg/L)		<0.10	<0.10	<0.10	<0.10	<0.10
	Silver (Ag)-Leachable (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Thallium (Tl)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Vanadium (V)-Leachable (mg/L)		<0.15	<0.15	<0.15	<0.15	<0.15
	Zinc (Zn)-Leachable (mg/L)		36.5	39.0	41.3	43.4	39.6

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2336477-6	L2336477-7	L2336477-8	L2336477-9	L2336477-10
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	21-AUG-19	21-AUG-19	21-AUG-19	21-AUG-19	21-AUG-19
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1934-A-6	BA1934-A-7	BA1934-A-8	BA1934-A-9	BA1934-A-10
Grouping	Analyte						
<b>SOIL</b>							
<b>TCLP Metals</b>	1st Preliminary pH (pH)		11.50	11.52	11.50	11.38	11.52
	2nd Preliminary pH (pH)		9.82	9.85	9.70	9.78	10.01
	Final pH (pH)		6.27	6.29	6.38	6.30	6.21
	Extraction Solution Initial pH (pH)		2.90	2.90	2.90	2.90	2.90
	Antimony (Sb)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba)-Leachable (mg/L)		<2.5	<2.5	<2.5	<2.5	<2.5
	Beryllium (Be)-Leachable (mg/L)		<0.025	<0.025	<0.025	<0.025	<0.025
	Boron (B)-Leachable (mg/L)		3.04	2.94	3.32	3.28	2.98
	Cadmium (Cd)-Leachable (mg/L)		0.243	0.246	0.242	0.234	0.202
	Calcium (Ca)-Leachable (mg/L)		2050	1990	2080	2080	2060
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		0.791	0.929	0.688	0.484	0.429
	Copper (Cu)-Leachable (mg/L)		1.08	0.588	0.983	1.02	0.555
	Iron (Fe)-Leachable (mg/L)		<5.0	<5.0	<5.0	<5.0	<5.0
	Lead (Pb)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Magnesium (Mg)-Leachable (mg/L)		132	134	127	132	134
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.89	0.74	0.58	0.60	0.57
	Selenium (Se)-Leachable (mg/L)		<0.10	<0.10	<0.10	<0.10	<0.10
	Silver (Ag)-Leachable (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Thallium (Tl)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Vanadium (V)-Leachable (mg/L)		<0.15	<0.15	<0.15	<0.15	<0.15
	Zinc (Zn)-Leachable (mg/L)		42.3	38.7	35.5	33.5	43.7

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2336477-11	L2336477-12		
		Description	Soil	Soil		
		Sampled Date	21-AUG-19	21-AUG-19		
		Sampled Time	09:00	09:00		
		Client ID	BA1934-A-11	BA1934-A-12		
Grouping	Analyte					
<b>SOIL</b>						
<b>TCLP Metals</b>	1st Preliminary pH (pH)	11.37	11.36			
	2nd Preliminary pH (pH)	9.66	9.74			
	Final pH (pH)	6.32	6.45			
	Extraction Solution Initial pH (pH)	2.90	2.90			
	Antimony (Sb)-Leachable (mg/L)	<1.0	<1.0			
	Arsenic (As)-Leachable (mg/L)	<1.0	<1.0			
	Barium (Ba)-Leachable (mg/L)	<2.5	<2.5			
	Beryllium (Be)-Leachable (mg/L)	<0.025	<0.025			
	Boron (B)-Leachable (mg/L)	3.07	3.11			
	Cadmium (Cd)-Leachable (mg/L)	0.232	0.175			
	Calcium (Ca)-Leachable (mg/L)	1980	2070			
	Chromium (Cr)-Leachable (mg/L)	<0.25	<0.25			
	Cobalt (Co)-Leachable (mg/L)	0.860	1.19			
	Copper (Cu)-Leachable (mg/L)	0.871	0.411			
	Iron (Fe)-Leachable (mg/L)	<5.0	<5.0			
	Lead (Pb)-Leachable (mg/L)	<0.25	<0.25			
	Magnesium (Mg)-Leachable (mg/L)	133	131			
	Mercury (Hg)-Leachable (mg/L)	<0.0010	<0.0010			
	Nickel (Ni)-Leachable (mg/L)	0.63	0.59			
	Selenium (Se)-Leachable (mg/L)	<0.10	<0.10			
	Silver (Ag)-Leachable (mg/L)	<0.050	<0.050			
	Thallium (Tl)-Leachable (mg/L)	<1.0	<1.0			
	Vanadium (V)-Leachable (mg/L)	<0.15	<0.15			
	Zinc (Zn)-Leachable (mg/L)	30.5	31.7			

\* Please refer to the Reference Information section for an explanation of any qualifiers detected.



## Reference Information

### QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Cobalt (Co)	DUP-H	L2336477-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Copper (Cu)	DUP-H	L2336477-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Molybdenum (Mo)	DUP-H	L2336477-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Leachable	MS-B	L2336477-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cobalt (Co)-Leachable	MS-B	L2336477-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Zinc (Zn)-Leachable	MS-B	L2336477-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9

### Qualifiers for Individual Parameters Listed:

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

### Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
<b>HG-200.2-CVAF-VA</b>	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)
Soil samples are digested with hot nitric and hydrochloric acids, followed by CVAAS analysis. This method is fully compliant with the BC SALM strong acid leachable metals digestion method.			
<b>HG-TCLP-CVAFS-VA</b>	Soil	Mercury by CVAAS (TCLP)	EPA 1311/245.7
This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter and analysed using atomic absorption spectrophotometry (EPA 245.7).			
<b>MET-200.2-CCMS-VA</b>	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
Soil/sediment is dried, disaggregated, and sieved (2 mm). Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.			
Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H <sub>2</sub> S) may be excluded if lost during sampling, storage, or digestion.			
<b>MET-TCLP-CCMS-VA</b>	Soil	Metals by ICPMS (TCLP)	EPA 1311/6020A
This analysis is carried out in accordance with the extraction procedure outlined in "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods Volume 1C" SW-846 EPA Method 1311, published by the United States Environmental Protection Agency (EPA). In summary, the sample is extracted at a 20:1 liquid to solids ratio for 16 to 20 hours using either extraction fluid #1 (glacial acetic acid, water and sodium hydroxide) or extraction fluid #2 (glacial acetic acid), depending on the pH of the original sample. The extract is then filtered through a 0.6 to 0.8 micron glass fibre filter. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).			
<b>MOISTURE-VA</b>	Soil	Moisture content	CCME PHC in Soil - Tier 1 (mod)
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of two hours.			
<b>PH-1:2-VA</b>	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL
This analysis is carried out in accordance with procedures described in "pH, Electrometric in Soil and Sediment - Prescriptive Method", Rev. 2005, Section B Physical, Inorganic and Misc. Constituents, BC Environmental Laboratory Manual. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.			

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

### Chain of Custody Numbers:

## Reference Information

### GLOSSARY OF REPORT TERMS

*Surrogate* - A compound that is similar in behaviour 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.

*mg/kg* - milligrams per kilogram based on dry weight of sample.

*mg/kg wwt* - milligrams per kilogram based on wet weight of sample.

*mg/kg lwt* - milligrams per kilogram based on lipid-adjusted weight of sample.

*mg/L* - milligrams per litre.

*<* - Less than.

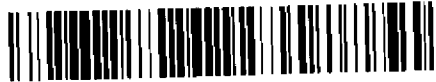
*D.L.* - The reported Detection Limit, also known as the Limit of Reporting (LOR).

*N/A* - Result not available. Refer to qualifier code and definition for explanation.

*Test results reported relate only to the samples as received by the laboratory.*

**UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.**

*Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.*



L2336477-COFC

Chain of Custody / Analytical Request Form  
 Canada Toll Free: 1 800 668 9878  
 www.alsglobal.com

COC # \_\_\_\_\_

Page \_\_\_\_ of \_\_\_\_

<b>Report To</b>		<b>Report Format / Distribution</b>		<b>Service Requested</b> (Rush for routine analysis subject to availability)	
Company: Covanta Energy		<input type="checkbox"/> Standard <input type="checkbox"/> Other		<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)	
Contact: Steve Mckinney / Dan Skrypnik		<input checked="" type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax		<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT	
Address: 5150 Riverbend Drive		Email 1: smckinney@covanta.com		<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT	
Burnaby BC		Email 2: rjohnson4@covanta.com		<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Phone: 604-521-1025		Email 3: dskrypnik@covanta.com		<b>Analysis Request</b>	
Fax: <input type="checkbox"/> Yes <input type="checkbox"/> No		brent.kirkpatrick@metrovancover.org			
		Sarah.Wellman@metrovancover.org			

<b>Invoice To</b> Same as Report ?		<b>Client / Project Information</b>		Please indicate below Filtered, Preserved or both (F, P, F/P)									
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input type="checkbox"/> No		Job #:		MET-TCLP-VA (all metals, Hg)	MOISTURE	Chrome 6	MET-CSR+FULL-VA (all metals)						Number of Containers
Company:		PO / AFE: PO# 46693 Weekly Bottom Ash - Suite											
Contact:		LSD: (includes 2:1 pH)											
Address:		Quote #:											
Phone:		ALS Contact:		Sampler:									

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	MET-TCLP-VA (all metals, Hg)	MOISTURE	Chrome 6	MET-CSR+FULL-VA (all metals)										
BA1934-A-1		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-2		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-3		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-4		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-5		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-6		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-7		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-8		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-9		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-10		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-11		21-Aug-19	9:00	Soil	X	X		X										1
BA1934-A-12		21-Aug-19	9:00	Soil	X	X		X										1

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mm-yy): 27-Aug-19	Time (hh-mm): 0800	Received by: AI SC	Date: AUG 27 2019	Time: 11 am	Temperature: 22.22°C	Verified by:	Date:	Time:	Observations: Yes / No ?
										If Yes add SIF