

## Bottom Ash Data

### 2018 Week 3

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The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on February 2, 2018. The data represents bottom ash composite results for week 3 of 2018 (January 14, 2018 to January 20, 2018).

The bottom ash meets the requirements of Metro Vancouver's Bottom Ash Management Plan and is suitable for beneficial use during Coquitlam Landfill closure works.



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Date Received: 23-JAN-18  
Report Date: 30-JAN-18 17:40 (MT)  
Version: FINAL

Client Phone: 604-521-1025

## Certificate of Analysis

Lab Work Order #: L2048155  
Project P.O. #: VANCO-0000040506  
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		L2048155-1 SOIL 17-JAN-18 09:00 BA1803-A-1	L2048155-2 SOIL 17-JAN-18 09:00 BA1803-A-2	L2048155-3 SOIL 17-JAN-18 09:00 BA1803-A-3	L2048155-4 SOIL 17-JAN-18 09:00 BA1803-A-4	L2048155-5 SOIL 17-JAN-18 09:00 BA1803-A-5
Grouping	Analyte					
<b>SOIL</b>						
<b>Physical Tests</b>	Moisture (%)	22.8	20.7	21.9	21.7	22.7
	pH (1:2 soil:water) (pH)	10.84	10.77	10.75	10.71	10.86
<b>Metals</b>	Aluminum (Al) (mg/kg)	35300	33200	29700	34500	34000
	Antimony (Sb) (mg/kg)	128	124	147	129	149
	Arsenic (As) (mg/kg)	18.8	17.3	21.3	19.6	22.3
	Barium (Ba) (mg/kg)	512	511	379	355	426
	Beryllium (Be) (mg/kg)	0.54	0.52	0.42	0.40	0.38
	Bismuth (Bi) (mg/kg)	98.4	101	130	77.2	156
	Boron (B) (mg/kg)	309	446	331	257	306
	Cadmium (Cd) (mg/kg)	12.0	13.9	13.0	11.1	23.8
	Calcium (Ca) (mg/kg)	143000	144000	159000	133000	126000
	Chromium (Cr) (mg/kg)	217	124	162	134	131
	Cobalt (Co) (mg/kg)	27.7	28.6	120	65.3	37.2
	Copper (Cu) (mg/kg)	2770	3570	7360	18700	12400
	Iron (Fe) (mg/kg)	52500	53000	65600	64300	52500
	Lead (Pb) (mg/kg)	500	567	557	6520	372
	Lithium (Li) (mg/kg)	18.6	22.8	18.1	27.4	17.7
	Magnesium (Mg) (mg/kg)	11500	9490	10400	9440	10800
	Manganese (Mn) (mg/kg)	745	917	866	795	742
	Mercury (Hg) (mg/kg)	<0.050	0.062	<0.050	0.054	<0.050
	Molybdenum (Mo) (mg/kg)	24.1	25.8	26.9	25.0	26.9
	Nickel (Ni) (mg/kg)	96.0	91.3	384	638	201
	Phosphorus (P) (mg/kg)	9960	9460	11700	11100	11200
	Potassium (K) (mg/kg)	5480	5190	5520	4920	5180
	Selenium (Se) (mg/kg)	0.29	0.38	0.34	0.30	0.42
	Silver (Ag) (mg/kg)	4.23	4.60	5.14	9.09	5.19
	Sodium (Na) (mg/kg)	16700	14600	15500	13800	16300
	Strontium (Sr) (mg/kg)	345	296	371	282	305
	Sulfur (S) (mg/kg)	15700	14500	16400	15000	15400
	Thallium (Tl) (mg/kg)	0.062	0.070	0.070	0.117	0.066
	Tin (Sn) (mg/kg)	122	331	165	256	1480
	Titanium (Ti) (mg/kg)	1010	1190	675	439	767
	Tungsten (W) (mg/kg)	7.92	7.19	9.23	6.09	9.75
	Uranium (U) (mg/kg)	4.24	4.32	4.91	4.11	4.60
	Vanadium (V) (mg/kg)	47.5	43.6	59.8	41.6	52.2
	Zinc (Zn) (mg/kg)	3460	4320	5780	12600	4020
	Zirconium (Zr) (mg/kg)	1.2	1.4	1.3	1.6	1.3

\* 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		L2048155-6 SOIL 17-JAN-18 09:00 BA1803-A-6	L2048155-7 SOIL 17-JAN-18 09:00 BA1803-A-7	L2048155-8 SOIL 17-JAN-18 09:00 BA1803-A-8	L2048155-9 SOIL 17-JAN-18 09:00 BA1803-A-9	L2048155-10 SOIL 17-JAN-18 09:00 BA1803-A-10
Grouping	Analyte					
<b>SOIL</b>						
<b>Physical Tests</b>	Moisture (%)	23.0	22.4	22.4	23.1	23.2
	pH (1:2 soil:water) (pH)	10.85	10.86	10.80	10.60	10.78
<b>Metals</b>	Aluminum (Al) (mg/kg)	39600	31500	26900	39100	36500
	Antimony (Sb) (mg/kg)	133	150	129	158	129
	Arsenic (As) (mg/kg)	16.8	20.3	17.8	22.8	18.8
	Barium (Ba) (mg/kg)	474	416	478	423	514
	Beryllium (Be) (mg/kg)	0.41	0.39	0.43	0.38	0.40
	Bismuth (Bi) (mg/kg)	115	123	92.2	110	148
	Boron (B) (mg/kg)	302	305	234	287	272
	Cadmium (Cd) (mg/kg)	11.2	13.4	70.4	13.3	20.2
	Calcium (Ca) (mg/kg)	142000	142000	142000	143000	134000
	Chromium (Cr) (mg/kg)	198	136	131	193	141
	Cobalt (Co) (mg/kg)	33.9	34.6	167	46.7	63.0
	Copper (Cu) (mg/kg)	6060	4080	1520	3730	3970
	Iron (Fe) (mg/kg)	57300	63700	68300	66100	51600
	Lead (Pb) (mg/kg)	333	414	394	393	385
	Lithium (Li) (mg/kg)	20.0	21.2	23.6	20.4	20.0
	Magnesium (Mg) (mg/kg)	10300	10000	10500	11000	10200
	Manganese (Mn) (mg/kg)	840	865	810	1640	714
	Mercury (Hg) (mg/kg)	<0.050	0.064	0.128	0.051	0.065
	Molybdenum (Mo) (mg/kg)	38.2	27.7	24.2	30.0	24.3
	Nickel (Ni) (mg/kg)	138	197	104	181	140
	Phosphorus (P) (mg/kg)	11100	10500	10700	11600	10400
	Potassium (K) (mg/kg)	5310	5330	4950	5970	5380
	Selenium (Se) (mg/kg)	0.50	0.36	0.25	0.35	0.39
	Silver (Ag) (mg/kg)	5.21	7.25	6.76	5.27	5.80
	Sodium (Na) (mg/kg)	14700	15200	14100	16200	14900
	Strontium (Sr) (mg/kg)	380	336	296	369	292
	Sulfur (S) (mg/kg)	14600	16300	14900	16700	15300
	Thallium (Tl) (mg/kg)	0.063	0.093	0.061	0.074	0.066
	Tin (Sn) (mg/kg)	232	168	170	148	147
	Titanium (Ti) (mg/kg)	694	595	514	830	1170
	Tungsten (W) (mg/kg)	15.7	10.7	32.7	18.2	8.49
	Uranium (U) (mg/kg)	4.33	4.32	4.02	4.80	4.34
	Vanadium (V) (mg/kg)	51.5	42.9	42.5	51.9	49.8
	Zinc (Zn) (mg/kg)	3710	12500	3170	4350	3670
	Zirconium (Zr) (mg/kg)	1.6	1.1	<1.0	1.2	2.5

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2048155-11	L2048155-12		
		Description	SOIL	SOIL		
		Sampled Date	17-JAN-18	17-JAN-18		
		Sampled Time	09:00	09:00		
		Client ID	BA1803-A-11	BA1803-A-12		
Grouping	Analyte					
<b>SOIL</b>						
<b>Physical Tests</b>	Moisture (%)	22.2	22.9			
	pH (1:2 soil:water) (pH)	11.02	10.73			
<b>Metals</b>	Aluminum (Al) (mg/kg)	30100	41600			
	Antimony (Sb) (mg/kg)	162	134			
	Arsenic (As) (mg/kg)	18.0	19.6			
	Barium (Ba) (mg/kg)	491	393			
	Beryllium (Be) (mg/kg)	0.43	0.39			
	Bismuth (Bi) (mg/kg)	142	238			
	Boron (B) (mg/kg)	294	335			
	Cadmium (Cd) (mg/kg)	11.6	12.5			
	Calcium (Ca) (mg/kg)	139000	132000			
	Chromium (Cr) (mg/kg)	125	115			
	Cobalt (Co) (mg/kg)	45.8	29.8			
	Copper (Cu) (mg/kg)	4300	3460			
	Iron (Fe) (mg/kg)	38400	54600			
	Lead (Pb) (mg/kg)	2490	1320			
	Lithium (Li) (mg/kg)	23.7	19.2			
	Magnesium (Mg) (mg/kg)	10900	9840			
	Manganese (Mn) (mg/kg)	713	862			
	Mercury (Hg) (mg/kg)	<0.050	<0.050			
	Molybdenum (Mo) (mg/kg)	30.8	22.8			
	Nickel (Ni) (mg/kg)	153	100			
	Phosphorus (P) (mg/kg)	11100	11400			
	Potassium (K) (mg/kg)	5450	5100			
	Selenium (Se) (mg/kg)	0.33	0.34			
	Silver (Ag) (mg/kg)	7.18	4.89			
	Sodium (Na) (mg/kg)	15500	14800			
	Strontium (Sr) (mg/kg)	347	298			
	Sulfur (S) (mg/kg)	15100	13500			
	Thallium (Tl) (mg/kg)	0.066	0.070			
	Tin (Sn) (mg/kg)	230	130			
	Titanium (Ti) (mg/kg)	717	639			
	Tungsten (W) (mg/kg)	9.42	6.65			
	Uranium (U) (mg/kg)	4.30	4.12			
Vanadium (V) (mg/kg)	47.4	49.3				
Zinc (Zn) (mg/kg)	3600	6170				
Zirconium (Zr) (mg/kg)	1.1	1.9				

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2048155-1	L2048155-2	L2048155-3	L2048155-4	L2048155-5
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	17-JAN-18	17-JAN-18	17-JAN-18	17-JAN-18	17-JAN-18
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1803-A-1	BA1803-A-2	BA1803-A-3	BA1803-A-4	BA1803-A-5
Grouping	Analyte						
<b>SOIL</b>							
<b>TCLP Metals</b>	1st Preliminary pH (pH)		11.49	11.50	11.47	11.45	11.29
	2nd Preliminary pH (pH)		8.94	8.85	8.96	8.71	8.26
	Final pH (pH)		6.05	5.92	6.23	5.48	5.88
	Extraction Solution Initial pH (pH)		2.87	2.87	2.87	2.87	2.87
	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)		2.69	3.73	2.45	2.59	2.57
	Cadmium (Cd)-Leachable (mg/L)		0.182	0.148	0.180	0.200	0.177
	Calcium (Ca)-Leachable (mg/L)		1950	1820	1980	1830	1970
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		1.06	0.354	0.597	0.458	0.795
	Copper (Cu)-Leachable (mg/L)		1.63	1.26	1.46	1.94	1.37
	Iron (Fe)-Leachable (mg/L)		<5.0	<5.0	<5.0	8.0	<5.0
	Lead (Pb)-Leachable (mg/L)		0.42	<0.25	<0.25	0.91	<0.25
	Magnesium (Mg)-Leachable (mg/L)		110	100	106	102	110
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.95	0.60	0.38	0.40	0.45
	Selenium (Se)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	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)		34.5	36.0	68.9	53.2	41.3

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2048155-6	L2048155-7	L2048155-8	L2048155-9	L2048155-10
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	17-JAN-18	17-JAN-18	17-JAN-18	17-JAN-18	17-JAN-18
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1803-A-6	BA1803-A-7	BA1803-A-8	BA1803-A-9	BA1803-A-10
Grouping	Analyte						
<b>SOIL</b>							
<b>TCLP Metals</b>	1st Preliminary pH (pH)		11.29	11.43	11.48	11.39	11.49
	2nd Preliminary pH (pH)		8.27	8.92	9.08	8.83	8.91
	Final pH (pH)		5.98	5.61	5.73	5.92	5.93
	Extraction Solution Initial pH (pH)		2.87	2.87	2.87	2.87	2.87
	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)		2.57	2.81	2.60	2.87	2.59
	Cadmium (Cd)-Leachable (mg/L)		0.156	0.265	0.195	0.187	0.183
	Calcium (Ca)-Leachable (mg/L)		1900	1940	1970	2030	1960
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		1.48	0.679	0.551	0.873	0.407
	Copper (Cu)-Leachable (mg/L)		2.38	2.33	1.26	0.829	1.48
	Iron (Fe)-Leachable (mg/L)		<5.0	<5.0	<5.0	<5.0	<5.0
	Lead (Pb)-Leachable (mg/L)		<0.25	0.28	1.03	<0.25	2.21
	Magnesium (Mg)-Leachable (mg/L)		107	112	114	117	106
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.53	0.34	0.40	0.63	0.37
	Selenium (Se)-Leachable (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	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)		57.7	64.4	43.2	53.9	45.4

\* 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	L2048155-11 SOIL 17-JAN-18 09:00 BA1803-A-11	L2048155-12 SOIL 17-JAN-18 09:00 BA1803-A-12		
Grouping	Analyte				
<b>SOIL</b>					
<b>TCLP Metals</b>	1st Preliminary pH (pH)	11.48	11.50		
	2nd Preliminary pH (pH)	8.95	9.08		
	Final pH (pH)	5.94	6.10		
	Extraction Solution Initial pH (pH)	2.87	2.87		
	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)	2.46	2.65		
	Cadmium (Cd)-Leachable (mg/L)	0.189	0.183		
	Calcium (Ca)-Leachable (mg/L)	2030	2030		
	Chromium (Cr)-Leachable (mg/L)	<0.25	<0.25		
	Cobalt (Co)-Leachable (mg/L)	0.775	0.409		
	Copper (Cu)-Leachable (mg/L)	1.71	1.69		
	Iron (Fe)-Leachable (mg/L)	<5.0	<5.0		
	Lead (Pb)-Leachable (mg/L)	0.31	0.63		
	Magnesium (Mg)-Leachable (mg/L)	113	113		
	Mercury (Hg)-Leachable (mg/L)	<0.0010	<0.0010		
	Nickel (Ni)-Leachable (mg/L)	0.45	0.39		
	Selenium (Se)-Leachable (mg/L)	<1.0	<1.0		
	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)	38.6	43.0		

\* 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)
Matrix Spike	Calcium (Ca)-Leachable	MS-B	L2048155-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cobalt (Co)-Leachable	MS-B	L2048155-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Zinc (Zn)-Leachable	MS-B	L2048155-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9

**Qualifiers for Individual Parameters Listed:**

Qualifier	Description
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>AG-200.2-A-CCMS-VA</b>	Soil	Elevated Ag in Soil by CRC ICPMS	EPA 200.2/6020A
<p>This method uses a heated strong acid digestion with HNO<sub>3</sub> and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Analysis is by Collision/Reaction Cell ICPMS.</p>			
<b>HG-200.2-CVAF-VA</b>	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)
<p>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.</p>			
<b>HG-TCLP-CVAFS-VA</b>	Soil	Mercury by CVAAS (TCLP)	EPA 1311/245.7
<p>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).</p>			
<b>MET-200.2-CCMS-VA</b>	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
<p>This method uses a heated strong acid digestion with HNO<sub>3</sub> and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Analysis is by Collision/Reaction Cell ICPMS.</p>			
<b>MET-TCLP-ICP-VA</b>	Soil	Metals by ICPOES (TCLP)	EPA 1311/6010B
<p>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 inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).</p>			
<b>MOISTURE-VA</b>	Soil	Moisture content	CWS for PHC in Soil - Tier 1
<p>This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.</p>			
<b>PH-1:2-VA</b>	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL
<p>This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at &lt;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.</p>			

\*\* 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.**

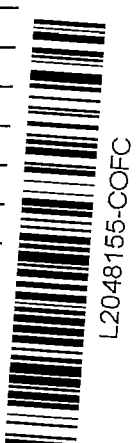
*Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.*



<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
Address:	5150 Riverbend Drive Burnaby BC	Email 1:	smckinney@covanta.com		<input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Phone:	604-521-1025	Email 2:	rjohnson4@covanta.com		<input type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	<input type="checkbox"/> Yes <input type="checkbox"/> No	Email 3:	dskrypnik@covanta.com		<input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT

<b>Invoice To</b> Same as Report ? <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Client / Project Information</b>		<b>Analysis Request</b>	
Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input type="checkbox"/> No		Job #:			
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 year on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-TCLP-VA (all metals, Hg)	MOISTURE	Chrome 6	MET-CSR+FULL-VA (all metals)	Number of Containers
BA1803-A-1		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-2		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-3		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-4		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-5		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-6		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-7		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-8		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-9		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-10		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-11		17-Jan-18	9:00	Soil	X	X		X	1
BA1803-A-12		17-Jan-18	9:00	Soil	X	X		X	1



Special Ins. \_\_\_\_\_ ions 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.

<b>SHIPMENT RELEASE (client use)</b>			<b>SHIPMENT RECEPTION (lab use only)</b>			<b>SHIPMENT VERIFICATION (lab use only)</b>				
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
<i>[Signature]</i>	23-Jan-18	07:00	<i>[Signature]</i>	Jan 23	11:00	19.8 °C				