

## Bottom Ash Data

2018 Week 32

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The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on August 21, 2018. The data represents bottom ash composite results for week 32 of 2018 (August 5, 2018 to August 11, 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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Burnaby BC V3N 4V3

Date Received: 15-AUG-18  
Report Date: 20-AUG-18 15:32 (MT)  
Version: FINAL

Client Phone: 604-521-1025

## Certificate of Analysis

Lab Work Order #: L2147295  
Project P.O. #: VANCO-0000047506  
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	L2147295-1	L2147295-2	L2147295-3	L2147295-4	L2147295-5
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1832-A-1	BA1832-A-2	BA1832-A-3	BA1832-A-4	BA1832-A-5
Grouping	Analyte						
<b>SOIL</b>							
<b>Physical Tests</b>	Moisture (%)		20.4	21.3	20.2	21.1	19.3
	pH (1:2 soil:water) (pH)		11.54	11.40	11.53	11.61	11.52
<b>Metals</b>	Aluminum (Al) (mg/kg)		30900	29600	29100	31100	29700
	Antimony (Sb) (mg/kg)		125	129	112	143	143
	Arsenic (As) (mg/kg)		40.3	41.3	37.3	41.2	36.4
	Barium (Ba) (mg/kg)		564	449	469	495	465
	Beryllium (Be) (mg/kg)		0.40	0.39	0.38	0.39	0.37
	Bismuth (Bi) (mg/kg)		8.55	9.16	6.68	8.83	17.1
	Boron (B) (mg/kg)		320	279	226	235	304
	Cadmium (Cd) (mg/kg)		12.8	28.1	12.6	21.4	12.4
	Calcium (Ca) (mg/kg)		128000	132000	124000	125000	123000
	Chromium (Cr) (mg/kg)		179	170	164	229	175
	Cobalt (Co) (mg/kg)		42.2	51.4	61.8	25.9	49.1
	Copper (Cu) (mg/kg)		3990	1650	3680	6500	3930
	Iron (Fe) (mg/kg)		63700	53700	63100	57000	55200
	Lead (Pb) (mg/kg)		358	695	360	614	695
	Lithium (Li) (mg/kg)		15.6	20.1	18.5	15.3	28.1
	Magnesium (Mg) (mg/kg)		9950	11000	11000	10100	10100
	Manganese (Mn) (mg/kg)		759	684	687	680	612
	Mercury (Hg) (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Molybdenum (Mo) (mg/kg)		90.5	108	142	88.5	123
	Nickel (Ni) (mg/kg)		95.3	175	122	188	95.2
	Phosphorus (P) (mg/kg)		12800	12400	12200	10400	13400
	Potassium (K) (mg/kg)		5960	6630	5950	5870	5440
	Selenium (Se) (mg/kg)		0.82	0.36	0.35	0.37	0.33
	Silver (Ag) (mg/kg)		4.62	6.89	4.06	8.26	4.00
	Sodium (Na) (mg/kg)		15900	17700	16200	16000	15900
	Strontium (Sr) (mg/kg)		302	297	291	281	303
	Sulfur (S) (mg/kg)		13300	15100	14000	13100	13400
Thallium (Tl) (mg/kg)		0.105	0.096	0.093	0.091	0.084	
Tin (Sn) (mg/kg)		124	133	144	133	125	
Titanium (Ti) (mg/kg)		493	510	483	713	450	
Tungsten (W) (mg/kg)		48.6	35.9	37.1	49.0	42.6	
Uranium (U) (mg/kg)		5.57	6.06	5.56	5.70	5.38	
Vanadium (V) (mg/kg)		47.6	50.7	47.0	47.8	92.0	
Zinc (Zn) (mg/kg)		5540	4460	3620	3290	3870	
Zirconium (Zr) (mg/kg)		<1.0	<1.0	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	L2147295-6	L2147295-7	L2147295-8	L2147295-9	L2147295-10
					SOIL	SOIL	SOIL	SOIL	SOIL
		08-AUG-18	09:00	BA1832-A-6	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18
					BA1832-A-6	BA1832-A-7	BA1832-A-8	BA1832-A-9	BA1832-A-10
Grouping	Analyte								
<b>SOIL</b>									
<b>Physical Tests</b>	Moisture (%)	19.2	20.4	20.3	20.0	20.2			
	pH (1:2 soil:water) (pH)	11.53	11.46	11.57	11.33	11.57			
<b>Metals</b>	Aluminum (Al) (mg/kg)	36700	32300	37200	29900	34800			
	Antimony (Sb) (mg/kg)	103	111	122	157	136			
	Arsenic (As) (mg/kg)	34.8	35.3	35.5	44.6	34.3			
	Barium (Ba) (mg/kg)	544	495	525	492	543			
	Beryllium (Be) (mg/kg)	0.38	0.40	0.37	0.37	0.41			
	Bismuth (Bi) (mg/kg)	10.7	7.27	18.2	13.6	13.0			
	Boron (B) (mg/kg)	270	232	298	217	220			
	Cadmium (Cd) (mg/kg)	12.8	11.8	12.9	22.6	12.5			
	Calcium (Ca) (mg/kg)	120000	120000	114000	126000	126000			
	Chromium (Cr) (mg/kg)	190	182	163	575	225			
	Cobalt (Co) (mg/kg)	101	44.8	59.7	33.1	53.6			
	Copper (Cu) (mg/kg)	1460	8040	4580	25000	15800			
	Iron (Fe) (mg/kg)	75500	67400	74900	66400	76000			
	Lead (Pb) (mg/kg)	317	607	687	3560	533			
	Lithium (Li) (mg/kg)	16.1	20.5	17.6	20.0	15.7			
	Magnesium (Mg) (mg/kg)	9760	9760	9520	9600	10500			
	Manganese (Mn) (mg/kg)	726	785	742	959	789			
	Mercury (Hg) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050			
	Molybdenum (Mo) (mg/kg)	96.5	92.5	82.1	101	92.3			
	Nickel (Ni) (mg/kg)	213	227	93.7	238	627			
	Phosphorus (P) (mg/kg)	10200	10300	10000	10600	10800			
	Potassium (K) (mg/kg)	5540	5550	5700	5890	5760			
	Selenium (Se) (mg/kg)	0.29	0.73	0.34	0.40	0.39			
	Silver (Ag) (mg/kg)	4.23	7.19	5.02	8.65	5.58			
	Sodium (Na) (mg/kg)	16000	16200	15100	15800	15800			
	Strontium (Sr) (mg/kg)	310	286	440	304	297			
	Sulfur (S) (mg/kg)	11700	13000	13300	14500	12800			
	Thallium (Tl) (mg/kg)	0.110	0.092	0.091	0.249	0.088			
	Tin (Sn) (mg/kg)	103	108	338	184	135			
	Titanium (Ti) (mg/kg)	627	516	887	506	748			
	Tungsten (W) (mg/kg)	44.1	31.9	27.1	35.5	42.5			
	Uranium (U) (mg/kg)	5.14	5.67	5.42	5.97	5.47			
	Vanadium (V) (mg/kg)	51.1	47.9	53.5	49.6	51.3			
	Zinc (Zn) (mg/kg)	3650	9790	3600	14000	3570			
	Zirconium (Zr) (mg/kg)	1.3	1.2	1.3	1.2	1.2			

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2147295-11	L2147295-12			
		Description	SOIL	SOIL			
		Sampled Date	08-AUG-18	08-AUG-18			
		Sampled Time	09:00	09:00			
		Client ID	BA1832-A-11	BA1832-A-12			
Grouping	Analyte						
<b>SOIL</b>							
<b>Physical Tests</b>	Moisture (%)	20.4	20.8				
	pH (1:2 soil:water) (pH)	11.33	11.44				
<b>Metals</b>	Aluminum (Al) (mg/kg)	34800	28600				
	Antimony (Sb) (mg/kg)	111	120				
	Arsenic (As) (mg/kg)	36.2	40.3				
	Barium (Ba) (mg/kg)	485	467				
	Beryllium (Be) (mg/kg)	0.42	0.40				
	Bismuth (Bi) (mg/kg)	35.6	9.32				
	Boron (B) (mg/kg)	243	244				
	Cadmium (Cd) (mg/kg)	13.0	19.3				
	Calcium (Ca) (mg/kg)	131000	125000				
	Chromium (Cr) (mg/kg)	175	162				
	Cobalt (Co) (mg/kg)	46.1	28.8				
	Copper (Cu) (mg/kg)	2140	1770				
	Iron (Fe) (mg/kg)	47000	59100				
	Lead (Pb) (mg/kg)	522	418				
	Lithium (Li) (mg/kg)	18.4	16.9				
	Magnesium (Mg) (mg/kg)	10400	11100				
	Manganese (Mn) (mg/kg)	1040	646				
	Mercury (Hg) (mg/kg)	<0.050	<0.050				
	Molybdenum (Mo) (mg/kg)	77.0	97.7				
	Nickel (Ni) (mg/kg)	131	146				
	Phosphorus (P) (mg/kg)	10600	10900				
	Potassium (K) (mg/kg)	6150	5910				
	Selenium (Se) (mg/kg)	0.35	0.32				
	Silver (Ag) (mg/kg)	3.27	4.35				
	Sodium (Na) (mg/kg)	16400	16400				
	Strontium (Sr) (mg/kg)	309	335				
	Sulfur (S) (mg/kg)	13800	13100				
	Thallium (Tl) (mg/kg)	0.090	0.092				
	Tin (Sn) (mg/kg)	126	112				
	Titanium (Ti) (mg/kg)	562	547				
	Tungsten (W) (mg/kg)	29.1	34.1				
	Uranium (U) (mg/kg)	5.67	6.05				
Vanadium (V) (mg/kg)	50.8	51.3					
Zinc (Zn) (mg/kg)	4880	4490					
Zirconium (Zr) (mg/kg)	1.4	1.5					

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2147295-1	L2147295-2	L2147295-3	L2147295-4	L2147295-5
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1832-A-1	BA1832-A-2	BA1832-A-3	BA1832-A-4	BA1832-A-5
Grouping	Analyte						
<b>SOIL</b>							
<b>TCLP Metals</b>	1st Preliminary pH (pH)		11.50	11.37	11.55	11.45	11.64
	2nd Preliminary pH (pH)		9.29	9.08	9.66	9.57	9.80
	Final pH (pH)		6.04	5.97	6.00	6.05	6.06
	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)		2.76	2.81	2.84	2.94	2.95
	Cadmium (Cd)-Leachable (mg/L)		0.406	0.162	0.200	0.288	0.187
	Calcium (Ca)-Leachable (mg/L)		1960	2040	1930	1940	2000
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		0.317	0.764	1.34	0.742	0.412
	Copper (Cu)-Leachable (mg/L)		1.37	1.25	1.58	1.50	1.40
	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	0.33
	Magnesium (Mg)-Leachable (mg/L)		119	121	112	116	119
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.55	0.48	0.71	0.59	0.55
	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)		36.3	30.3	43.1	32.3	45.7

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

## ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2147295-6	L2147295-7	L2147295-8	L2147295-9	L2147295-10
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18	08-AUG-18
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1832-A-6	BA1832-A-7	BA1832-A-8	BA1832-A-9	BA1832-A-10
Grouping	Analyte						
<b>SOIL</b>							
<b>TCLP Metals</b>	1st Preliminary pH (pH)		11.38	11.51	11.44	11.49	11.59
	2nd Preliminary pH (pH)		9.39	9.40	9.60	9.44	9.93
	Final pH (pH)		5.95	6.05	6.09	6.13	5.90
	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)		2.73	2.64	2.92	3.11	2.72
	Cadmium (Cd)-Leachable (mg/L)		0.172	0.165	0.232	0.209	0.187
	Calcium (Ca)-Leachable (mg/L)		1970	1920	2010	2000	1950
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		2.08	0.731	0.848	0.853	0.427
	Copper (Cu)-Leachable (mg/L)		1.62	1.53	0.830	1.26	1.40
	Iron (Fe)-Leachable (mg/L)		<5.0	<5.0	<5.0	<5.0	<5.0
	Lead (Pb)-Leachable (mg/L)		<0.25	<0.25	0.68	<0.25	<0.25
	Magnesium (Mg)-Leachable (mg/L)		116	113	121	116	114
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.46	0.54	0.78	0.56	0.61
	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)		40.3	56.3	34.9	46.8	41.6

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

# ALS ENVIRONMENTAL ANALYTICAL REPORT

	<b>Sample ID</b> <b>Description</b> <b>Sampled Date</b> <b>Sampled Time</b> <b>Client ID</b>	L2147295-11 SOIL 08-AUG-18 09:00 BA1832-A-11	L2147295-12 SOIL 08-AUG-18 09:00 BA1832-A-12		
Grouping	Analyte				
<b>SOIL</b>					
<b>TCLP Metals</b>	1st Preliminary pH (pH)	11.61	11.58		
	2nd Preliminary pH (pH)	9.49	9.91		
	Final pH (pH)	5.99	6.35		
	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)	2.68	3.06		
	Cadmium (Cd)-Leachable (mg/L)	0.210	0.198		
	Calcium (Ca)-Leachable (mg/L)	1940	2020		
	Chromium (Cr)-Leachable (mg/L)	<0.25	<0.25		
	Cobalt (Co)-Leachable (mg/L)	0.427	0.618		
	Copper (Cu)-Leachable (mg/L)	1.37	1.83		
	Iron (Fe)-Leachable (mg/L)	<5.0	<5.0		
	Lead (Pb)-Leachable (mg/L)	<0.25	<0.25		
	Magnesium (Mg)-Leachable (mg/L)	115	117		
	Mercury (Hg)-Leachable (mg/L)	<0.0010	<0.0010		
	Nickel (Ni)-Leachable (mg/L)	0.48	0.48		
	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)	45.0	40.8		

\* 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	L2147295-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cobalt (Co)-Leachable	MS-B	L2147295-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Zinc (Zn)-Leachable	MS-B	L2147295-1, -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>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)
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.			
<b>MET-TCLP-ICP-VA</b>	Soil	Metals by ICPOES (TCLP)	EPA 1311/6010B
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).			
<b>MOISTURE-VA</b>	Soil	Moisture content	CWS for PHC in Soil - Tier 1
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six 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 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 <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.*



**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="checkbox"/> Regular (Standard Turnaround Times - Business Days)	
Contact: Steve Mckinney / Dan Skrypnyk	<input checked="" type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input type="checkbox"/> Fax <input type="checkbox"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT	
Address: 5150 Riverbend Drive Burnaby BC	Email 1: <a href="mailto:smckinney@covanta.com">smckinney@covanta.com</a> Email 2: <a href="mailto:rjohnson4@covanta.com">rjohnson4@covanta.com</a> Email 3: <a href="mailto:dkrypnyk@covanta.com">dkrypnyk@covanta.com</a>	<input type="checkbox"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT <input type="checkbox"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone: 604-521-1025    Fax: _____ <input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="mailto:brent.kirkpatrick@metrovancover.org">brent.kirkpatrick@metrovancover.org</a> <a href="mailto:Sarah.Wellman@metrovancover.org">Sarah.Wellman@metrovancover.org</a>	<b>Analysis Request</b>

<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 #:		
Company:	PO / AFE: PO# 46693 Weekly Bottom Ash - Suite		
Contact:	LSD: (includes 2:1 pH)		
Address:			
Phone: _____    Fax: _____	Quote #:		
<b>Lab Work Order #</b> (lab use only)	<b>ALS Contact:</b>	<b>Sampler:</b>	

Sample #	Sample Identification (This description will appear 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	
	BA1832-A-1	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-2	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-3	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-4	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-5	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-6	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-7	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-8	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-9	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-10	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-11	08-Aug-18	9:00	Soil	X	X		X		1
	BA1832-A-12	08-Aug-18	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-mmm-yy): 15-Aug-18	Time (hh-mm): 08:00	Received by:	Date: Aug 15	Time: 12:30	Temperature: 22.4 °C	Verified by: _____	Date: _____	Time: _____	Observations: Yes / No ? If Yes add SIF