

Bottom Ash Data

2018 Week 21

The following analytical report was sent to the Ministry of Environment and Climate Change Strategy on June 6, 2018. The data represents bottom ash composite results for week 21 of 2018 (May 20, 2018 to May 26, 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: 29-MAY-18
Report Date: 05-JUN-18 17:12 (MT)
Version: FINAL

Client Phone: 604-521-1025

Certificate of Analysis

Lab Work Order #: L2102073
Project P.O. #: VANCO-0000047506
Job Reference: 46693 WEEKLY BOTTOM ASH-SUITE
C of C Numbers:
Legal Site Desc:

Brent Mack, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L2102073-1 soil 23-MAY-18 09:00 BA1821-A-1	L2102073-2 soil 23-MAY-18 09:00 BA1821-A-2	L2102073-3 soil 23-MAY-18 09:00 BA1821-A-3	L2102073-4 soil 23-MAY-18 09:00 BA1821-A-4	L2102073-5 soil 23-MAY-18 09:00 BA1821-A-5	
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	14.0	15.2	15.1	14.3	14.8
	pH (1:2 soil:water) (pH)	11.51	11.36	11.46	11.50	11.48
Metals	Aluminum (Al) (mg/kg)	30200	30800	31200	32300	31200
	Antimony (Sb) (mg/kg)	179	189	164	169	167
	Arsenic (As) (mg/kg)	58.2	55.5	58.8	54.2	50.2
	Barium (Ba) (mg/kg)	421	399	419	406	514
	Beryllium (Be) (mg/kg)	0.46	0.43	0.44	0.43	0.50
	Bismuth (Bi) (mg/kg)	16.3	12.0	11.6	10.4	9.26
	Boron (B) (mg/kg)	250	219	224	223	351
	Cadmium (Cd) (mg/kg)	15.0	15.0	14.9	16.9	14.3
	Calcium (Ca) (mg/kg)	124000	122000	127000	134000	140000
	Chromium (Cr) (mg/kg)	165	200	133	160	339
	Cobalt (Co) (mg/kg)	27.6	47.4	33.3	174	27.6
	Copper (Cu) (mg/kg)	12200	3760	1850	2560	3430
	Iron (Fe) (mg/kg)	65800	55000	44900	53000	65900
	Lead (Pb) (mg/kg)	464	593	1540	384	380
	Lithium (Li) (mg/kg)	21.0	19.0	19.2	23.7	23.6
	Magnesium (Mg) (mg/kg)	10500	10600	9890	10600	11000
	Manganese (Mn) (mg/kg)	930	759	733	734	862
	Mercury (Hg) (mg/kg)	<0.050	0.084	<0.050	0.119	<0.050
	Molybdenum (Mo) (mg/kg)	49.0	56.3	42.6	50.7	73.3
	Nickel (Ni) (mg/kg)	158	275	165	181	216
	Phosphorus (P) (mg/kg)	8380	8210	10300	8460	8500
	Potassium (K) (mg/kg)	5430	5750	5670	5590	5600
	Selenium (Se) (mg/kg)	0.52	0.48	0.50	0.66	0.50
	Silver (Ag) (mg/kg)	5.88	16.3	7.63	6.19	6.39
	Sodium (Na) (mg/kg)	14900	16100	15100	15100	15900
	Strontium (Sr) (mg/kg)	438	288	292	311	382
	Sulfur (S) (mg/kg)	18200	18100	17300	18800	17800
	Thallium (Tl) (mg/kg)	0.088	0.084	0.089	0.086	0.083
	Tin (Sn) (mg/kg)	153	144	160	136	136
	Titanium (Ti) (mg/kg)	955	1030	641	801	858
	Tungsten (W) (mg/kg)	10.7	11.9	10.6	18.5	12.0
	Uranium (U) (mg/kg)	4.90	5.23	5.38	5.36	5.01
	Vanadium (V) (mg/kg)	52.6	52.5	50.6	54.9	54.7
	Zinc (Zn) (mg/kg)	4500	4550	3580	4990	4870
	Zirconium (Zr) (mg/kg)	1.5	1.3	1.2	1.1	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	L2102073-6 soil 23-MAY-18 09:00 BA1821-A-6	L2102073-7 soil 23-MAY-18 09:00 BA1821-A-7	L2102073-8 soil 23-MAY-18 09:00 BA1821-A-8	L2102073-9 soil 23-MAY-18 09:00 BA1821-A-9	L2102073-10 soil 23-MAY-18 09:00 BA1821-A-10	
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	14.1	15.0	15.5	14.7	13.9
	pH (1:2 soil:water) (pH)	11.64	11.43	11.65	11.53	11.57
Metals	Aluminum (Al) (mg/kg)	28200	41700	38000	84800	27800
	Antimony (Sb) (mg/kg)	173	174	386	271	184
	Arsenic (As) (mg/kg)	47.6	47.3	56.8	96.3	69.0
	Barium (Ba) (mg/kg)	484	481	452	902	430
	Beryllium (Be) (mg/kg)	0.41	0.41	0.39	0.78	0.42
	Bismuth (Bi) (mg/kg)	10.1	12.1	16.3	14.6	16.3
	Boron (B) (mg/kg)	208	221	206	541	261
	Cadmium (Cd) (mg/kg)	15.8	14.8	19.2	25.2	16.0
	Calcium (Ca) (mg/kg)	121000	122000	122000	223000	121000
	Chromium (Cr) (mg/kg)	158	172	175	337	174
	Cobalt (Co) (mg/kg)	39.7	60.9	26.8	107	37.6
	Copper (Cu) (mg/kg)	2200	18400	2490	2400	4100
	Iron (Fe) (mg/kg)	60800	70500	60300	136000	77600
	Lead (Pb) (mg/kg)	6360	4510	5940	1450	807
	Lithium (Li) (mg/kg)	21.0	18.6	18.1	36.9	19.8
	Magnesium (Mg) (mg/kg)	9680	9730	10200	20400	10300
	Manganese (Mn) (mg/kg)	703	833	787	1850	763
	Mercury (Hg) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Molybdenum (Mo) (mg/kg)	78.2	57.2	46.6	83.4	49.3
	Nickel (Ni) (mg/kg)	130	219	167	370	185
	Phosphorus (P) (mg/kg)	8470	7660	8450	15300	7990
	Potassium (K) (mg/kg)	5430	5270	5300	9580	5240
	Selenium (Se) (mg/kg)	0.45	0.44	0.56	0.91	1.14
	Silver (Ag) (mg/kg)	14.5	17.7	6.17	12.5	6.61
	Sodium (Na) (mg/kg)	14900	13900	14300	26100	14700
	Strontium (Sr) (mg/kg)	298	310	308	622	314
	Sulfur (S) (mg/kg)	16700	17400	18300	32100	17200
	Thallium (Tl) (mg/kg)	0.147	0.115	0.116	0.145	0.144
	Tin (Sn) (mg/kg)	329	606	255	270	585
	Titanium (Ti) (mg/kg)	778	1260	1150	3500	1110
	Tungsten (W) (mg/kg)	8.87	10.5	12.6	23.5	8.75
	Uranium (U) (mg/kg)	4.87	4.76	4.94	8.92	4.74
	Vanadium (V) (mg/kg)	48.2	53.4	50.5	102	48.7
	Zinc (Zn) (mg/kg)	4230	4460	4370	8270	15100
	Zirconium (Zr) (mg/kg)	1.1	1.5	1.7	4.2	1.1

* 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	L2102073-11 soil 23-MAY-18 09:00 BA1821-A-11	L2102073-12 soil 23-MAY-18 09:00 BA1821-A-12		
Grouping	Analyte				
SOIL					
Physical Tests	Moisture (%)	14.7	15.7		
	pH (1:2 soil:water) (pH)	11.48	11.63		
Metals	Aluminum (Al) (mg/kg)	49800	28900		
	Antimony (Sb) (mg/kg)	139	153		
	Arsenic (As) (mg/kg)	47.1	54.2		
	Barium (Ba) (mg/kg)	473	467		
	Beryllium (Be) (mg/kg)	0.37	0.43		
	Bismuth (Bi) (mg/kg)	7.45	8.02		
	Boron (B) (mg/kg)	250	210		
	Cadmium (Cd) (mg/kg)	14.7	13.7		
	Calcium (Ca) (mg/kg)	118000	127000		
	Chromium (Cr) (mg/kg)	162	168		
	Cobalt (Co) (mg/kg)	39.3	45.8		
	Copper (Cu) (mg/kg)	1440	4150		
	Iron (Fe) (mg/kg)	62100	64100		
	Lead (Pb) (mg/kg)	514	1160		
	Lithium (Li) (mg/kg)	16.4	17.4		
	Magnesium (Mg) (mg/kg)	10300	10800		
	Manganese (Mn) (mg/kg)	1000	894		
	Mercury (Hg) (mg/kg)	<0.050	0.120		
	Molybdenum (Mo) (mg/kg)	42.8	59.3		
	Nickel (Ni) (mg/kg)	186	145		
	Phosphorus (P) (mg/kg)	8780	8810		
	Potassium (K) (mg/kg)	4730	5300		
	Selenium (Se) (mg/kg)	0.39	0.41		
	Silver (Ag) (mg/kg)	4.85	7.54		
	Sodium (Na) (mg/kg)	13200	14800		
	Strontium (Sr) (mg/kg)	357	310		
	Sulfur (S) (mg/kg)	15800	17300		
	Thallium (Tl) (mg/kg)	0.078	0.081		
	Tin (Sn) (mg/kg)	157	160		
	Titanium (Ti) (mg/kg)	1920	849		
	Tungsten (W) (mg/kg)	14.0	11.2		
	Uranium (U) (mg/kg)	4.55	4.99		
Vanadium (V) (mg/kg)	50.7	50.9			
Zinc (Zn) (mg/kg)	4900	4660			
Zirconium (Zr) (mg/kg)	2.6	1.1			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2102073-1	L2102073-2	L2102073-3	L2102073-4	L2102073-5
		Description	soil	soil	soil	soil	soil
		Sampled Date	23-MAY-18	23-MAY-18	23-MAY-18	23-MAY-18	23-MAY-18
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1821-A-1	BA1821-A-2	BA1821-A-3	BA1821-A-4	BA1821-A-5
Grouping	Analyte						
SOIL							
TCLP Metals	1st Preliminary pH (pH)		11.60	11.68	11.67	11.64	11.55
	2nd Preliminary pH (pH)		9.03	9.20	9.62	9.19	8.91
	Final pH (pH)		5.58	5.56	5.42	5.68	5.51
	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)		2.45	2.34	2.09	2.34	2.18
	Cadmium (Cd)-Leachable (mg/L)		0.279	0.398	0.240	0.205	0.697
	Calcium (Ca)-Leachable (mg/L)		1910	1970	1760	1850	1870
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		0.443	0.385	0.368	0.217	0.642
	Copper (Cu)-Leachable (mg/L)		3.86	3.27	1.65	1.66	1.96
	Iron (Fe)-Leachable (mg/L)		5.6	<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)		118	122	98.9	109	106
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.62	0.66	0.63	0.69	1.07
	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)		67.3	55.9	53.6	42.8	55.6

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2102073-6	L2102073-7	L2102073-8	L2102073-9	L2102073-10
		Description	soil	soil	soil	soil	soil
		Sampled Date	23-MAY-18	23-MAY-18	23-MAY-18	23-MAY-18	23-MAY-18
		Sampled Time	09:00	09:00	09:00	09:00	09:00
		Client ID	BA1821-A-6	BA1821-A-7	BA1821-A-8	BA1821-A-9	BA1821-A-10
Grouping	Analyte						
SOIL							
TCLP Metals	1st Preliminary pH (pH)		11.65	11.67	11.57	11.58	11.63
	2nd Preliminary pH (pH)		9.81	9.44	8.73	8.96	9.51
	Final pH (pH)		5.64	5.90	5.81	5.90	5.64
	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)		2.15	2.30	2.30	2.40	2.28
	Cadmium (Cd)-Leachable (mg/L)		0.215	0.263	0.231	0.264	0.318
	Calcium (Ca)-Leachable (mg/L)		1860	1920	1870	1930	1900
	Chromium (Cr)-Leachable (mg/L)		<0.25	<0.25	<0.25	<0.25	<0.25
	Cobalt (Co)-Leachable (mg/L)		0.451	0.668	4.28	1.20	0.441
	Copper (Cu)-Leachable (mg/L)		1.20	1.11	1.38	2.28	2.33
	Iron (Fe)-Leachable (mg/L)		<5.0	<5.0	<5.0	<5.0	<5.0
	Lead (Pb)-Leachable (mg/L)		<0.25	0.48	<0.25	<0.25	0.29
	Magnesium (Mg)-Leachable (mg/L)		111	113	112	113	115
	Mercury (Hg)-Leachable (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Nickel (Ni)-Leachable (mg/L)		0.96	0.72	0.52	0.60	0.60
	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)		62.6	68.5	55.2	53.9	55.7

* 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	L2102073-11 soil 23-MAY-18 09:00 BA1821-A-11	L2102073-12 soil 23-MAY-18 09:00 BA1821-A-12		
Grouping	Analyte				
SOIL					
TCLP Metals	1st Preliminary pH (pH)	11.59	11.62		
	2nd Preliminary pH (pH)	9.41	9.36		
	Final pH (pH)	5.52	6.04		
	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)	2.60	2.60		
	Cadmium (Cd)-Leachable (mg/L)	0.243	0.255		
	Calcium (Ca)-Leachable (mg/L)	1880	1960		
	Chromium (Cr)-Leachable (mg/L)	<0.25	<0.25		
	Cobalt (Co)-Leachable (mg/L)	0.370	0.797		
	Copper (Cu)-Leachable (mg/L)	2.64	1.07		
	Iron (Fe)-Leachable (mg/L)	<5.0	<5.0		
	Lead (Pb)-Leachable (mg/L)	0.31	<0.25		
	Magnesium (Mg)-Leachable (mg/L)	111	116		
	Mercury (Hg)-Leachable (mg/L)	<0.0010	<0.0010		
	Nickel (Ni)-Leachable (mg/L)	0.55	0.69		
	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)	54.1	46.5		

* 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)
Certified Reference Material	Titanium (Ti)	MES	L2102073-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cadmium (Cd)-Leachable	MS-B	L2102073-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Leachable	MS-B	L2102073-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Cobalt (Co)-Leachable	MS-B	L2102073-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Zinc (Zn)-Leachable	MS-B	L2102073-1, -10, -11, -12, -2, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
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**
HG-200.2-CVAF-VA	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.	
HG-TCLP-CVAFS-VA	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).	
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
		This method uses a heated strong acid digestion with HNO ₃ 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.	
MET-TCLP-ICP-VA	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).	
MOISTURE-VA	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.	
PH-1:2-VA	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.



L2102073-COFC

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

COC # _____

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Report To		Report Format / Distribution		Service Requested (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 Skrypnyk		<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 Burnaby BC		Email 1: smckinney@covanta.com		<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT	
Phone: 604-521-1025		Email 2: rjohnson4@covanta.com		<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT	
Fax: <input type="checkbox"/> Yes <input type="checkbox"/> No		Email 3: dskrypnyk@covanta.com		Analysis Request	
		brent.kirkpatrick@metrovancover.org			
		Sarah.Wellman@metrovancover.org			

Invoice To Same as Report? <input type="checkbox"/> Yes <input type="checkbox"/> No		Client / Project Information		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:		Quote #:							
Phone:									

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)	Number of Containers			
BA1821-A-1		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-2		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-3		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-4		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-5		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-6		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-7		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-8		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-9		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-10		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-11		23-May-18	9:00	Soil	X	X		X				1
BA1821-A-12		23-May-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-mm-yy): 29-May-18	Time (hh:mm): 08:00	Received by: JH JC	Date: 5/29/18	Time: 11:05 AM	Temperature: 20.20C	Verified by:	Date:	Time:	Observations:
Yes / No ? If Yes add SIF										