Bottom Ash Data

2024 Week 21

The following analytical report represents bottom ash composite results for week 21 of 2024 (May 19, 2024 to May 25, 2024).

The bottom ash meets the conditions of Metro Vancouver's 2020 Bottom Ash Management Plan and is suitable for disposal.

CERTIFICATE OF ANALYSIS

Work Order	: **VA24B2426**	Page	: 1 of 11
Client	: **Covanta Burnaby Renewable Energy, ULC**	Laboratory	: ALS Environmental - Vancouver
Contact	: Nicole Victor	Account Manager	: Ian Chen
Address	: 5150 Riverbend Drive Burnaby BC Canada V3N 4V3	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 31-May-2024 12:24
PO	: PO#46693 Weekly Bottom Ash - Suite	Date Analysis Commenced	: 03-Jun-2024
C-O-C number	: ----	Issue Date	: 06-Jun-2024 14:59
Sampler	: ----		
Site	: (includes 2:1 PH)		
Quote number	: Covanta Burnaby Standing Offer 2024		
No. of samples received	: 12		
No. of samples analysed	: 12		

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.

Signatories	*Position*	*Laboratory Department*
Alex Thornton	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	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).

Unit	*Description*
%	percent
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
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

Sub-Matrix: Soil
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: BA2421-A-1	BA2421-A-2	BA2421-A-3	BA2421-A-4	BA2421-A-5
					Client sampling date / time: 22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00
					VA24B2426-001	VA24B2426-002	VA24B2426-003	VA24B2426-004	VA24B2426-005
					Result	Result	Result	Result	Result
Physical Tests									
Moisture	----	E144/VA	0.25	%	23.7	23.7	16.1	26.5	23.8
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	12.7	12.7	12.7	12.7	12.5
Metals									
Aluminum	7429-90-5	E440/VA	50	mg/kg	28500	29100	36100	31000	37600
Antimony	7440-36-0	E440/VA	0.10	mg/kg	108	81.2	87.8	99.2	88.6
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	25.2	23.4	23.3	24.3	22.9
Barium	7440-39-3	E440/VA	0.50	mg/kg	534	519	455	561	530
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.35	0.34	0.38	0.36	0.36
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	7.26	7.49	8.10	6.59	9.02
Boron	7440-42-8	E440/VA	5.0	mg/kg	182	176	162	162	141
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	10.7	9.65	7.80	8.21	8.34
Calcium	7440-70-2	E440/VA	50	mg/kg	133000	117000	125000	136000	122000
Chromium	7440-47-3	E440/VA	0.50	mg/kg	157	166	1020	124	118
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	64.3	38.2	175	119	43.4
Copper	7440-50-8	E440/VA	0.50	mg/kg	2120	1570	4340	1480	1250
Iron	7439-89-6	E440/VA	50	mg/kg	59000	88700	66100	54300	44000
Lead	7439-92-1	E440/VA	0.50	mg/kg	378	1230	425	669	370
Lithium	7439-93-2	E440/VA	2.0	mg/kg	25.3	25.7	27.0	33.7	24.2
Magnesium	7439-95-4	E440/VA	20	mg/kg	10500	10700	9710	10500	9680
Manganese	7439-96-5	E440/VA	1.0	mg/kg	703	941	743	653	622
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	0.0791	0.0990	0.113	0.123	0.101
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	16.4	14.0	16.1	13.2	26.2
Nickel	7440-02-0	E440/VA	0.50	mg/kg	168	169	1200	152	112
Phosphorus	7723-14-0	E440/VA	50	mg/kg	9140	8920	8390	12100	9250
Potassium	7440-09-7	E440/VA	100	mg/kg	4770	4460	4600	4750	4580
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.36	0.34	0.33	0.32	0.37
Silver	7440-22-4	E440/VA	0.10	mg/kg	8.51	3.44	4.31	4.11	8.54
Sodium	7440-23-5	E440/VA	50	mg/kg	13600	12700	13500	14600	13100
Strontium	7440-24-6	E440/VA	0.50	mg/kg	320	253	272	284	286

Analytical Results

Sub-Matrix: Soil
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA2421-A-1	BA2421-A-2	BA2421-A-3	BA2421-A-4	BA2421-A-5
					Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00
						VA24B2426-001	VA24B2426-002	VA24B2426-003	VA24B2426-004	VA24B2426-005
						Result	Result	Result	Result	Result
Metals										
Sulfur	7704-34-9	E440/VA	1000	mg/kg		11400	9200	9900	9500	9600
Thallium	7440-28-0	E440/VA	0.050	mg/kg		<0.050	<0.050	0.090	<0.050	<0.050
Tin	7440-31-5	E440/VA	2.0	mg/kg		89.2	99.9	101	93.5	106
Titanium	7440-32-6	E440/VA	1.0	mg/kg		264	360	432	191	287
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		13.0	11.4	10.5	9.81	10.3
Uranium	7440-61-1	E440/VA	0.050	mg/kg		3.37	2.92	3.16	3.21	3.06
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		36.7	44.3	38.4	43.8	41.7
Zinc	7440-66-6	E440/VA	2.0	mg/kg		3040	2480	7020	3950	3080
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		2.4	1.8	2.2	3.1	2.4
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		12.1	12.1	12.0	12.1	12.0
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		8.12	8.51	8.30	8.27	8.09
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		2.86	2.86	2.86	2.86	2.86
pH, TCLP final	----	EPP444/VA	0.010	pH units		6.63	6.57	6.60	6.67	6.58
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L		<1.00	<1.00	<1.00	<1.00	<1.00
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L		<2.5	<2.5	<2.5	<2.5	<2.5
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L		<0.025	<0.025	<0.025	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L		2.02	2.05	2.08	2.10	2.13
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L		0.134	0.104	0.085	0.077	0.095
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L		1810	1900	1890	1950	1940
Chromium, TCLP	7440-47-3	E444/VA	0.25	mg/L		<0.25	<0.25	<0.25	<0.25	<0.25
Cobalt, TCLP	7440-48-4	E444/VA	0.050	mg/L		1.27	0.614	0.531	0.637	0.581
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		1.19	1.18	1.20	1.33	1.09
Iron, TCLP	7439-89-6	E444/VA	5.0	mg/L		<5.0	<5.0	<5.0	<5.0	<5.0
Lead, TCLP	7439-92-1	E444/VA	0.25	mg/L		<0.25	<0.25	<0.25	<0.25	<0.25
Magnesium, TCLP	7439-95-4	E444/VA	2.5	mg/L		111	117	115	115	118
Mercury, TCLP	7439-97-6	E512/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel, TCLP	7440-02-0	E444/VA	0.25	mg/L		<0.25	0.25	0.27	<0.25	<0.25
Selenium, TCLP	7782-49-2	E444/VA	0.10	mg/L		<0.10	<0.10	<0.10	<0.10	<0.10

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2421-A-1	BA2421-A-2	BA2421-A-3	BA2421-A-4	BA2421-A-5
					Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24B2426-001	VA24B2426-002	VA24B2426-003	VA24B2426-004	VA24B2426-005
						Result	Result	Result	Result	Result
TCLP Metals										
Silver, TCLP	7440-22-4	E444/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/VA	0.20	mg/L		<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/VA	0.15	mg/L		<0.15	<0.15	<0.15	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L		9.73	10.3	10.4	8.10	9.41
Zirconium, TCLP	7440-67-7	E444/VA	10	mg/L		<10	<10	<10	<10	<10

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA2421-A-6	BA2421-A-7	BA2421-A-8	BA2421-A-9	BA2421-A-10
					Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00
						VA24B2426-006	VA24B2426-007	VA24B2426-008	VA24B2426-009	VA24B2426-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		26.6	24.8	24.7	24.6	24.9
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		12.6	12.6	12.7	12.7	12.6
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		32000	36700	33300	29700	29200
Antimony	7440-36-0	E440/VA	0.10	mg/kg		100	86.0	83.6	87.3	85.4
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		24.7	25.4	25.7	20.4	22.7
Barium	7440-39-3	E440/VA	0.50	mg/kg		552	602	607	567	474
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.36	0.39	0.38	0.36	0.54
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		8.54	7.45	6.82	6.97	6.91
Boron	7440-42-8	E440/VA	5.0	mg/kg		214	150	264	190	239
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		11.2	7.60	8.90	8.57	8.14
Calcium	7440-70-2	E440/VA	50	mg/kg		136000	122000	122000	114000	125000
Chromium	7440-47-3	E440/VA	0.50	mg/kg		148	211	119	147	139
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		112	84.6	51.6	123	126
Copper	7440-50-8	E440/VA	0.50	mg/kg		3840	2600	1490	7480	1150
Iron	7439-89-6	E440/VA	50	mg/kg		44200	43800	57000	59700	44900
Lead	7439-92-1	E440/VA	0.50	mg/kg		529	330	314	701	329
Lithium	7439-93-2	E440/VA	2.0	mg/kg		31.6	27.2	28.9	26.4	27.8
Magnesium	7439-95-4	E440/VA	20	mg/kg		10300	10000	9790	9340	10000
Manganese	7439-96-5	E440/VA	1.0	mg/kg		804	674	727	668	666
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.159	0.104	0.0710	0.0934	0.0991
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		13.3	12.7	12.1	13.9	12.3
Nickel	7440-02-0	E440/VA	0.50	mg/kg		326	125	102	305	92.3
Phosphorus	7723-14-0	E440/VA	50	mg/kg		9720	9070	9140	7500	8660
Potassium	7440-09-7	E440/VA	100	mg/kg		5180	4720	4850	4160	4590
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.36	0.29	0.32	0.29	0.30
Silver	7440-22-4	E440/VA	0.10	mg/kg		>50.9	16.5	3.54	>40.9	4.46
Sodium	7440-23-5	E440/VA	50	mg/kg		15300	14400	14600	12800	13400
Strontium	7440-24-6	E440/VA	0.50	mg/kg		298	262	285	290	263
Sulfur	7704-34-9	E440/VA	1000	mg/kg		11000	9500	9500	8500	9000

Analytical Results

Sub-Matrix: Soil
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA2421-A-6	BA2421-A-7	BA2421-A-8	BA2421-A-9	BA2421-A-10
					Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00
						VA24B2426-006	VA24B2426-007	VA24B2426-008	VA24B2426-009	VA24B2426-010
						Result	Result	Result	Result	Result
Metals										
Thallium	7440-28-0	E440/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Tin	7440-31-5	E440/VA	2.0	mg/kg		111	103	72.2	276	73.5
Titanium	7440-32-6	E440/VA	1.0	mg/kg		282	334	328	282	290
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		12.0	41.9	7.46	13.2	9.10
Uranium	7440-61-1	E440/VA	0.050	mg/kg		3.42	3.19	3.05	2.83	3.12
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		37.2	38.0	35.1	32.7	37.9
Zinc	7440-66-6	E440/VA	2.0	mg/kg		4470	3230	2820	3170	2720
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		2.0	2.1	1.8	1.6	1.9
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		12.0	12.1	12.0	12.1	12.1
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		8.03	8.47	8.14	8.20	8.33
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		2.86	2.86	2.86	2.86	2.86
pH, TCLP final	----	EPP444/VA	0.010	pH units		7.13	7.55	6.96	6.46	6.77
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L		<1.00	<1.00	<1.00	<1.00	<1.00
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L		<2.5	<2.5	<2.5	<2.5	<2.5
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L		<0.025	<0.025	<0.025	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L		1.88	1.93	1.97	2.16	1.89
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L		<0.050	<0.050	0.260	0.105	0.080
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L		1720	1840	1810	1980	1800
Chromium, TCLP	7440-47-3	E444/VA	0.25	mg/L		<0.25	<0.25	<0.25	<0.25	<0.25
Cobalt, TCLP	7440-48-4	E444/VA	0.050	mg/L		0.477	0.236	0.583	0.928	0.439
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		1.07	1.08	1.02	1.31	1.06
Iron, TCLP	7439-89-6	E444/VA	5.0	mg/L		<5.0	<5.0	<5.0	<5.0	<5.0
Lead, TCLP	7439-92-1	E444/VA	0.25	mg/L		<0.25	<0.25	<0.25	<0.25	<0.25
Magnesium, TCLP	7439-95-4	E444/VA	2.5	mg/L		105	102	101	121	102
Mercury, TCLP	7439-97-6	E512/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel, TCLP	7440-02-0	E444/VA	0.25	mg/L		<0.25	<0.25	<0.25	0.31	<0.25
Selenium, TCLP	7782-49-2	E444/VA	0.10	mg/L		<0.10	<0.10	<0.10	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2421-A-6	BA2421-A-7	BA2421-A-8	BA2421-A-9	BA2421-A-10
					Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00	22-May-2024 09:00
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24B2426-006	VA24B2426-007	VA24B2426-008	VA24B2426-009	VA24B2426-010
						Result	Result	Result	Result	Result
TCLP Metals										
Thallium, TCLP	7440-28-0	E444/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/VA	0.20	mg/L		<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/VA	0.15	mg/L		<0.15	<0.15	<0.15	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L		1.52	<0.50	3.01	15.0	8.49
Zirconium, TCLP	7440-67-7	E444/VA	10	mg/L		<10	<10	<10	<10	<10

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)				Client sample ID	BA2421-A-11	BA2421-A-12	----	----	----
				Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B2426-011	VA24B2426-012	--------	--------	--------
					Result	Result	----	----	----
Physical Tests									
Moisture	----	E144/VA	0.25	%	25.1	25.5	----	----	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	12.6	12.6	----	----	----
Metals									
Aluminum	7429-90-5	E440/VA	50	mg/kg	27100	28700	----	----	----
Antimony	7440-36-0	E440/VA	0.10	mg/kg	95.0	97.8	----	----	----
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	23.7	22.7	----	----	----
Barium	7440-39-3	E440/VA	0.50	mg/kg	524	549	----	----	----
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.36	0.35	----	----	----
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	6.72	7.63	----	----	----
Boron	7440-42-8	E440/VA	5.0	mg/kg	277	174	----	----	----
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	7.90	8.09	----	----	----
Calcium	7440-70-2	E440/VA	50	mg/kg	123000	122000	----	----	----
Chromium	7440-47-3	E440/VA	0.50	mg/kg	309	166	----	----	----
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	47.8	87.6	----	----	----
Copper	7440-50-8	E440/VA	0.50	mg/kg	1200	2880	----	----	----
Iron	7439-89-6	E440/VA	50	mg/kg	42100	43900	----	----	----
Lead	7439-92-1	E440/VA	0.50	mg/kg	416	334	----	----	----
Lithium	7439-93-2	E440/VA	2.0	mg/kg	21.5	26.2	----	----	----
Magnesium	7439-95-4	E440/VA	20	mg/kg	9920	9610	----	----	----
Manganese	7439-96-5	E440/VA	1.0	mg/kg	746	658	----	----	----
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	0.0772	0.104	----	----	----
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	12.2	13.1	----	----	----
Nickel	7440-02-0	E440/VA	0.50	mg/kg	119	676	----	----	----
Phosphorus	7723-14-0	E440/VA	50	mg/kg	7940	8860	----	----	----
Potassium	7440-09-7	E440/VA	100	mg/kg	4490	4550	----	----	----
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.32	0.29	----	----	----
Silver	7440-22-4	E440/VA	0.10	mg/kg	5.26	3.13	----	----	----
Sodium	7440-23-5	E440/VA	50	mg/kg	13600	13600	----	----	----
Strontium	7440-24-6	E440/VA	0.50	mg/kg	269	270	----	----	----
Sulfur	7704-34-9	E440/VA	1000	mg/kg	9100	9300	----	----	----

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2421-A-11	BA2421-A-12	----	----	----
					Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24B2426-011	VA24B2426-012	--------	--------	--------
						Result	Result	----	----	----
Metals										
Thallium	7440-28-0	E440/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Tin	7440-31-5	E440/VA	2.0	mg/kg		90.0	94.5	----	----	----
Titanium	7440-32-6	E440/VA	1.0	mg/kg		279	346	----	----	----
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		13.7	9.24	----	----	----
Uranium	7440-61-1	E440/VA	0.050	mg/kg		3.07	3.12	----	----	----
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		37.8	37.2	----	----	----
Zinc	7440-66-6	E440/VA	2.0	mg/kg		2860	2750	----	----	----
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		1.5	1.4	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		12.1	12.1	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		8.43	8.14	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		2.86	2.86	----	----	----
pH, TCLP final	----	EPP444/VA	0.010	pH units		6.42	7.30	----	----	----
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L		<1.00	<1.00	----	----	----
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L		<1.0	<1.0	----	----	----
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L		<2.5	<2.5	----	----	----
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L		<0.025	<0.025	----	----	----
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L		2.12	1.83	----	----	----
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L		0.094	<0.050	----	----	----
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L		1920	1700	----	----	----
Chromium, TCLP	7440-47-3	E444/VA	0.25	mg/L		<0.25	<0.25	----	----	----
Cobalt, TCLP	7440-48-4	E444/VA	0.050	mg/L		0.642	0.236	----	----	----
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		1.08	1.05	----	----	----
Iron, TCLP	7439-89-6	E444/VA	5.0	mg/L		<5.0	<5.0	----	----	----
Lead, TCLP	7439-92-1	E444/VA	0.25	mg/L		<0.25	<0.25	----	----	----
Magnesium, TCLP	7439-95-4	E444/VA	2.5	mg/L		120	96.4	----	----	----
Mercury, TCLP	7439-97-6	E512/VA	0.0010	mg/L		<0.0010	<0.0010	----	----	----
Nickel, TCLP	7440-02-0	E444/VA	0.25	mg/L		0.29	<0.25	----	----	----
Selenium, TCLP	7782-49-2	E444/VA	0.10	mg/L		<0.10	<0.10	----	----	----
Silver, TCLP	7440-22-4	E444/VA	0.050	mg/L		<0.050	<0.050	----	----	----

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA2421-A-11	BA2421-A-12	----	----	----
					Client sampling date / time	22-May-2024 09:00	22-May-2024 09:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24B2426-011	VA24B2426-012	--------	--------	--------
						Result	Result	----	----	----
TCLP Metals										
Thallium, TCLP	7440-28-0	E444/VA	1.0	mg/L		<1.0	<1.0	----	----	----
Uranium, TCLP	7440-61-1	E444/VA	0.20	mg/L		<0.20	<0.20	----	----	----
Vanadium, TCLP	7440-62-2	E444/VA	0.15	mg/L		<0.15	<0.15	----	----	----
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L		16.6	1.20	----	----	----
Zirconium, TCLP	7440-67-7	E444/VA	10	mg/L		<10	<10	----	----	----

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24B2426**	Page	: 1 of 15
Client	: **Covanta Burnaby Renewable Energy, ULC**	Laboratory	: ALS Environmental - Vancouver
Contact	: Nicole Victor	Account Manager	: Ian Chen
Address	: 5150 Riverbend Drive Burnaby BC Canada V3N 4V3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 31-May-2024 12:24
PO	: PO#46693 Weekly Bottom Ash - Suite	Issue Date	: 06-Jun-2024 14:46
C-O-C number	: ----		
Sampler	: ----		
Site	: (includes 2:1 PH)		
Quote number	: Covanta Burnaby Standing Offer 2024		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / **Container / Client Sample ID(s)**	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-1	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-10	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-11	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-12	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-2	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-3	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-4	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-5	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-6	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-7	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-8	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA2421-A-9	E510	22-May-2024	04-Jun-2024	28 days	14 days	✓	05-Jun-2024	28 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-1	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-10	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-11	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-12	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-2	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-3	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-4	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-5	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-6	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-7	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-8	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA2421-A-9	E440	22-May-2024	04-Jun-2024	180 days	14 days	✓	05-Jun-2024	180 days	14 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-1	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-10	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-11	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-12	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-2	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-3	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-4	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-5	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-6	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-7	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-8	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA2421-A-9	E144	22-May-2024	----	----	----		04-Jun-2024	----	13 days	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-1	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-10	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-11	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-12	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-2	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-3	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-4	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-5	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-6	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-7	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-8	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA2421-A-9	E108	22-May-2024	04-Jun-2024	30 days	14 days	✓	04-Jun-2024	30 days	14 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-1	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-10	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-11	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-12	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-2	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-3	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-4	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-5	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-6	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-7	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-8	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA2421-A-9	E512	03-Jun-2024	06-Jun-2024	40 days	15 days	✓	06-Jun-2024	40 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-1	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-10	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-11	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-12	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-2	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-3	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-4	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-5	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-6	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-7	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-8	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA2421-A-9	E444	03-Jun-2024	06-Jun-2024	192 days	15 days	✓	06-Jun-2024	192 days	15 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA2421-A-1	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA2421-A-10	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA2421-A-11	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA2421-A-12	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA2421-A-2	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA2421-A-3	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA2421-A-4	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA2421-A-5	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA2421-A-6	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA2421-A-7	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA2421-A-8	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA2421-A-9	EPP444	22-May-2024	03-Jun-2024	----	----		----	28 days	12 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Mercury by CVAAS (TCLP)	E512	1478480	1	12	8.3	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1474025	1	16	6.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1478481	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1474026	1	16	6.2	5.0	✓
Moisture Content by Gravimetry	E144	1474028	1	12	8.3	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1474027	1	16	6.2	5.0	✓
Laboratory Control Samples (LCS)							
Mercury in Soil/Solid by CVAAS	E510	1474025	2	16	12.5	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1474026	2	16	12.5	10.0	✓
Moisture Content by Gravimetry	E144	1474028	1	12	8.3	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1474027	1	16	6.2	5.0	✓
Method Blanks (MB)							
Mercury by CVAAS (TCLP)	E512	1478480	1	12	8.3	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1474025	1	16	6.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1478481	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1474026	1	16	6.2	5.0	✓
Moisture Content by Gravimetry	E144	1474028	1	12	8.3	5.0	✓
Matrix Spikes (MS)							
Mercury by CVAAS (TCLP)	E512	1478480	1	12	8.3	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1478481	1	12	8.3	5.0	✓

Methodology References and Summaries

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. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:Water Extraction)	E108 ALS Environmental - Vancouver	Soil/Solid	BC Lab Manual	pH is determined by potentiometric measurement with a pH electrode at ambient laboratory temperature (normally 20 ± 5°C), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at <60 ºC) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
Moisture Content by Gravimetry	E144 ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Vancouver	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
Metals by CRC ICPMS (TCLP)	E444 ALS Environmental - Vancouver	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Vancouver	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
Mercury by CVAAS (TCLP)	E512 ALS Environmental - Vancouver	Soil/Solid	SW 846 -1311/245.1 CVAA ON TCLP LEACHATE	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by CVAAS.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Vancouver	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	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.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Metals and Mercury	EP440 ALS Environmental - Vancouver	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.
TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP444 ALS Environmental - Vancouver	Soil/Solid	EPA 1311	Preparation of a Toxicity Characteristic Leaching Procedure (TCLP) solid sample involves particle size reduction, homogenization, then determination of appropriate extraction fluid. A measured portion of fresh subsample is placed in an extraction bottle with the appropriate extraction fluid then tumbled in a rotary extractor for 18+/- 2 hours at 23 +/- 2 C. The liquid leachate is filtered to separate from solids then bottled and prepared for analytical tests.

QUALITY CONTROL REPORT

Work Order	: **VA24B2426**	Page	: 1 of 11
Client	: Covanta Burnaby Renewable Energy, ULC	Laboratory	: ALS Environmental - Vancouver
Contact	: Nicole Victor	Account Manager	: Ian Chen
Address	: 5150 Riverbend Drive Burnaby BC Canada V3N 4V3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 31-May-2024 12:24
PO	: PO#46693 Weekly Bottom Ash - Suite	Date Analysis Commenced	: 03-Jun-2024
C-O-C number	: ----	Issue Date	: 06-Jun-2024 14:50
Sampler	: ----		
Site	: (includes 2:1 PH)		
Quote number	: Covanta Burnaby Standing Offer 2024		
No. of samples received	: 12		
No. of samples analysed	: 12		

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 Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

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.

Signatories	*Position*	*Laboratory Department*
Alex Thornton	Analyst	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1474027)											
VA24B0576-008	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	8.80	8.80	0.0%	5%	----
Physical Tests (QC Lot: 1474028)											
VA24B2426-001	BA2421-A-1	Moisture	----	E144	0.25	%	23.7	25.8	8.43%	20%	----
Metals (QC Lot: 1474025)											
VA24B0576-008	Anonymous	Mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	0	Diff <2x LOR	----
Metals (QC Lot: 1474026)											
VA24B0576-008	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	8170	8430	3.10%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.11	<0.10	0.01	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	1.32	1.14	13.9%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	28.8	32.7	12.7%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.11	0.11	0.0006	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.027	0.039	0.012	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	4760	4490	5.93%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	9.31	9.59	2.88%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	3.47	3.74	7.43%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	6.55	7.69	16.0%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	12300	12400	0.797%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	1.61	1.61	0.007	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	3.4	3.6	0.2	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	3090	3280	5.95%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	187	195	4.08%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.15	0.12	0.03	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	6.07	6.40	5.14%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	302	335	33	Diff <2x LOR	----
		Potassium	7440-09-7	E440	100	mg/kg	530	570	7.53%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	477	461	3.46%	40%	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 1474026) - continued											
VA24B0576-008	Anonymous	Strontium	7440-24-6	E440	0.50	mg/kg	36.0	34.0	5.62%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	737	714	3.24%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.314	0.281	0.033	Diff <2x LOR	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	38.0	38.5	1.27%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	19.0	21.1	10.6%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	2.7	2.8	0.05	Diff <2x LOR	----
TCLP Metals (QC Lot: 1478480)											
VA24B2426-001	BA2421-A-1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 1478481)											
VA24B2426-001	BA2421-A-1	Antimony, TCLP	7440-36-0	E444	1.00	mg/L	<1.00	<1.00	0	Diff <2x LOR	----
		Arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	0	Diff <2x LOR	----
		Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	<0.025	0	Diff <2x LOR	----
		Boron, TCLP	7440-42-8	E444	0.50	mg/L	2.02	2.07	0.05	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.134	0.143	0.008	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1810	1940	6.71%	30%	----
		Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Cobalt, TCLP	7440-48-4	E444	0.050	mg/L	1.27	1.34	4.82%	30%	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	1.19	1.24	3.91%	30%	----
		Iron, TCLP	7439-89-6	E444	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	111	115	4.03%	30%	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	0.25	0.004	Diff <2x LOR	----
		Selenium, TCLP	7782-49-2	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	0	Diff <2x LOR	----
		Zinc, TCLP	7440-66-6	E444	0.50	mg/L	9.73	10.2	4.79%	30%	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1474028)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 1474025)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 1474026)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 1474026) - continued						
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
TCLP Metals (QCLot: 1478480)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals (QCLot: 1478481)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1474027)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	100	95.0	105	----
Physical Tests (QCLot: 1474028)									
Moisture	----	E144	0.25	%	50 %	99.9	90.0	110	----
Metals (QCLot: 1474025)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	101	80.0	120	----
Metals (QCLot: 1474026)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	98.7	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	90.1	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	101	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	99.1	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	97.9	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	92.5	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	94.2	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	98.1	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	98.0	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	96.0	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	95.2	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	92.9	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	95.5	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	94.6	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	96.6	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	98.2	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	94.2	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	91.3	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	96.3	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	98.1	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	93.5	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	99.0	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	81.3	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	98.7	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	97.0	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	95.6	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1474026) - continued									
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	94.1	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	92.4	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	93.6	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	93.7	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	104	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	97.5	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	94.8	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	92.6	80.0	120	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
TCLP Metals (QCLot: 1478480)										
VA24B2426-001	BA2421-A-1	Mercury, TCLP	7439-97-6	E512	0.0010 mg/L	0.001 mg/L	96.9	50.0	140	----
TCLP Metals (QCLot: 1478481)										
VA24B2426-001	BA2421-A-1	Antimony, TCLP	7440-36-0	E444	4.19 mg/L	5 mg/L	83.8	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.3 mg/L	5 mg/L	85.2	50.0	140	----
		Barium, TCLP	7440-39-3	E444	9.5 mg/L	12.5 mg/L	75.9	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.206 mg/L	0.25 mg/L	82.3	50.0	140	----
		Boron, TCLP	7440-42-8	E444	7.63 mg/L	10 mg/L	76.3	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.212 mg/L	0.25 mg/L	84.9	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.01 mg/L	1.25 mg/L	80.9	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	ND mg/L	----	ND	50.0	140	----
		Copper, TCLP	7440-50-8	E444	1.97 mg/L	2.5 mg/L	78.6	50.0	140	----
		Iron, TCLP	7439-89-6	E444	199 mg/L	250 mg/L	79.6	50.0	140	----
		Lead, TCLP	7439-92-1	E444	7.98 mg/L	10 mg/L	79.8	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	212 mg/L	250 mg/L	85.0	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	1.98 mg/L	2.5 mg/L	79.2	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.05 mg/L	5 mg/L	81.0	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.061 mg/L	0.1 mg/L	60.7	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	3.9 mg/L	5 mg/L	78.7	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	3.91 mg/L	5 mg/L	78.2	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.62 mg/L	0.75 mg/L	82.0	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	8.18 mg/L	10 mg/L	81.8	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.7 mg/L	1 mg/L	70.5	50.0	150	----

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 1474025)									
QC-1474025-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	98.9	70.0	130	----
Metals (QCLot: 1474026)									
QC-1474026-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	107	70.0	130	----
QC-1474026-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	92.8	70.0	130	----
QC-1474026-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	94.6	70.0	130	----
QC-1474026-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	96.1	70.0	130	----
QC-1474026-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	106	70.0	130	----
QC-1474026-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	83.5	70.0	130	----
QC-1474026-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	98.5	70.0	130	----
QC-1474026-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	103	70.0	130	----
QC-1474026-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	98.3	70.0	130	----
QC-1474026-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	96.3	70.0	130	----
QC-1474026-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	95.6	70.0	130	----
QC-1474026-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	99.7	70.0	130	----
QC-1474026-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	91.2	70.0	130	----
QC-1474026-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	107	70.0	130	----
QC-1474026-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	100	70.0	130	----
QC-1474026-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	95.3	70.0	130	----
QC-1474026-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	91.9	70.0	130	----
QC-1474026-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	99.6	70.0	130	----
QC-1474026-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	93.2	70.0	130	----
QC-1474026-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	96.2	70.0	130	----
QC-1474026-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	88.5	60.0	140	----
QC-1474026-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	90.2	70.0	130	----
QC-1474026-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	113	70.0	130	----
QC-1474026-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	98.4	70.0	130	----
QC-1474026-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	97.4	50.0	150	----
QC-1474026-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	93.9	70.0	130	----
QC-1474026-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	94.7	40.0	160	----
QC-1474026-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	100.0	70.0	130	----
QC-1474026-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	114	70.0	130	----
QC-1474026-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	93.2	70.0	130	----
QC-1474026-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	96.7	70.0	130	----

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 1474026) - continued									
QC-1474026-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	95.5	70.0	130	----
QC-1474026-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	107	70.0	130	----

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

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COC # _____

Page ____ of ____

Report To			
Company:	Covanta Energy		
Contact:	Nicole Victor / Dan Skrypnyk		
Address:	5150 Riverbend Drive		
	Burnaby BC		
Phone:	604-521-1025	Fax:	
		☐ Yes	☐ No

Report Format / Distribution				
☐ Standard	☐ Other			
☑ PDF	☐ Excel	☐ Digital	☐ Fax	
Email 1:	nvictor@covanta.com			
Email 2:	ofetherstonhaugh@covanta.com			
Email 3:	dskrypnyk@covanta.com			
	brent.kirkpatrick@metrovancouver.org			
	Sarah.Wellman@metrovancouver.org			

Service Requested (Rush for routine analysis subject to availability)

- (●) Regular (Standard Turnaround Times - Business Days)
- ( ) Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
- ( ) Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
- ( ) Same Day or Weekend Emergency - Contact ALS to Confirm TAT

Invoice To	Same as Report ?		
Hardcopy of Invoice with Report?	☐ Yes	☐ No	
Company:			
Contact:			
Address:			
Phone:		Fax:	

Client / Project Information	
Job #:	
PO / AFE:	PO# 46693 Weekly Bottom Ash - Suite
LSD:	(includes 2:1 pH)
Quote #:	

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Lab Work Order # (lab use only)	B2426	ALS Contact:		Sampler:	

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
	BA2421-A-1	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-2	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-3	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-4	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-5	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-6	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-7	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-8	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-9	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-10	22-May-24	9:00	Soil	X	X		X	
	BA2421-A-11	22-May-24	9:00	Soil	X	X		X	1
	BA2421-A-12	22-May-24	9:00	Soil	X	X		X	1

Environmental Division Vancouver

Work Order Reference

VA24B2426

Telephone : +1 604 253 4188

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.

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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)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
[signature]	30-May-24	0900	SZ	30-5-24	2 pm	20 °C				

GENF 20.00 Front

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

Page ___ of ___

Report To				Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)
Company:	Covanta Energy			☐ Standard ☐ Other				◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Nicole Victor / Dan Skrypnyk			☑ PDF ☐ Excel ☐ Digital ☐ Fax				○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	5150 Riverbend Drive			Email 1:	nvictor@covanta.com			○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Burnaby BC			Email 2:	ofetherstonhaugh@covanta.com			○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	604-521-1025	Fax:		Email 3:	dskrypnyk@covanta.com			Analysis Request
		☐ Yes	☐ No		brent.kirkpatrick@metrovancouver.org			
					Sarah.Wellman@metrovancouver.org			
Invoice To	Same as Report ?			Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)
Hardcopy of Invoice with Report?		☐ Yes	☐ No	Job #:				
Company:				PO / AFE:	PO# 46693 Weekly Bottom Ash - Suite			
Contact:				LSD:	(includes 2:1 pH)			
Address:								
Phone:		Fax:		Quote #:				
Lab Work Order # (lab use only)	B2426			ALS Contact:		Sampler:		

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
~~1~~	~~BA2421-A-1~~	~~22-May-24~~	~~9:00~~	~~Soil~~	X	X		X	
2	BA2421-A-2	22-May-24	9:00	Soil	X	X		X	
3	BA2421-A-3	22-May-24	9:00	Soil	X	X		X	
4	BA2421-A-4	22-May-24	9:00	Soil	X	X		X	
5	BA2421-A-5	22-May-24	9:00	Soil	X	X		X	
6	BA2421-A-6	22-May-24	9:00	Soil	X	X		X	
7	BA2421-A-7	22-May-24	9:00	Soil	X	X		X	
8	BA2421-A-8	22-May-24	9:00	Soil	X	X		X	
9	BA2421-A-9	22-May-24	9:00	Soil	X	X		X	
10	BA2421-A-10	22-May-24	9:00	Soil	X	X		X	
11	BA2421-A-11	22-May-24	9:00	Soil	X	X		X	1
12	BA2421-A-12	22-May-24	9:00	Soil	X	X		X	1

Environmental Division Vancouver

Work Order Reference

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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
[signature]	30-May-24	0500	SC	30-5-24	2 pm	20 °C				