

Bottom Ash Data

2025 Week 38

The following analytical report represents bottom ash composite results for week 38 of 2025 (September 14, 2025 to September 20, 2025).

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	: VA25C5135		
Amendment	: 1		
Client	: Veolia Environmental Services Canada	Laboratory	: ALS Environmental - Vancouver
Contact	: Brian Graham	Account Manager	: Gulraj Dhanaua
Address	: 5150 Riverbend Dr. Burnaby British Columbia Canada V3N 4V3	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	E-mail	: Gulraj.Dhanaua@alsglobal.com
Project	: Veolia Weekly Bottom Ash-Suite	Telephone	: +1 604 253 4188
PO	: 1000497676	Date Samples Received	: 23-Sep-2025 12:15
C-O-C number	: ----	Date Analysis Commenced	: 26-Sep-2025
Sampler	: ----	Issue Date	: 23-Oct-2025 12:39
Site	: Metro Van Ash Sampling Program		
Quote number	: VA25-VISI100-001		
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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Robert Nguyen	Analyst	Metals, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Organics, 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).

<i>Unit</i>	<i>Description</i>
%	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.

Workorder Comments

Amendment (23/10/2025): This report has been amended as a result of a request to change sample identification numbers (IDs) received by ALS from Ramy Ghanem on 23/10/2025. All analysis results are as per the previous report.



Analytical Results

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

					BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21 ----
					Client sample ID				
					Client sampling date / time				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-001	VA25C5135-002	VA25C5135-003	VA25C5135-004	VA25C5135-005
					Result	Result	Result	Result	Result
Physical Tests									
Moisture	----	E144/VA	0.25	%	24.1	16.2	25.4	20.3	19.2
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	12.66	12.77	12.62	12.78	12.78
Metals									
Aluminum	7429-90-5	E440/VA	50	mg/kg	39100	27400	39200	30000	31100
Antimony	7440-36-0	E440/VA	0.10	mg/kg	85.1	78.2	82.6	80.6	53.0
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	19.2	34.6	16.4	34.3	28.0
Barium	7440-39-3	E440/VA	0.50	mg/kg	610	444	506	524	612
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.41	0.31	0.38	0.31	0.30
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	7.52	6.07	10.7	6.48	4.25
Boron	7440-42-8	E440/VA	5.0	mg/kg	185	237	158	198	188
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	7.27	7.23	8.39	4.66	3.59
Calcium	7440-70-2	E440/VA	50	mg/kg	147000	135000	135000	116000	109000
Chromium	7440-47-3	E440/VA	0.50	mg/kg	124	139	135	127	202
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	107	227	136	35.1	26.5
Copper	7440-50-8	E440/VA	0.50	mg/kg	3980	1420	2680	9670	1080
Iron	7439-89-6	E440/VA	50	mg/kg	67300	56400	59500	52200	68100
Lead	7439-92-1	E440/VA	0.50	mg/kg	352	391	484	378	250
Lithium	7439-93-2	E440/VA	2.0	mg/kg	29.6	36.4	27.9	17.9	19.5
Magnesium	7439-95-4	E440/VA	20	mg/kg	12400	11000	13400	10700	10100
Manganese	7439-96-5	E440/VA	1.0	mg/kg	799	829	775	686	633



Analytical Results

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

					Client sample ID				
					BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21 ----
Client sampling date / time					21-Sep-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-001	VA25C5135-002	VA25C5135-003	VA25C5135-004	VA25C5135-005
					Result	Result	Result	Result	Result
Metals									
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	18.2	18.4	17.7	23.9	17.2
Nickel	7440-02-0	E440/VA	0.50	mg/kg	339	225	372	293	142
Phosphorus	7723-14-0	E440/VA	50	mg/kg	9590	6450	9640	6240	6160
Potassium	7440-09-7	E440/VA	100	mg/kg	5340	3600	5030	4120	4040
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.34	0.35	0.41	0.32	0.32
Silver	7440-22-4	E440/VA	0.10	mg/kg	4.81	4.58	6.22	2.15	2.12
Sodium	7440-23-5	E440/VA	50	mg/kg	14500	11000	13500	11200	11400
Strontium	7440-24-6	E440/VA	0.50	mg/kg	515	626	394	262	256
Sulfur	7704-34-9	E440/VA	1000	mg/kg	10400	11000	11100	8600	7600
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	78.2	88.7	101	88.4	73.0
Titanium	7440-32-6	E440/VA	1.0	mg/kg	366	466	337	1200	992
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	14.6	3.26	12.9	4.20	2.28
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.59	1.31	1.53	1.37	1.11
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	39.9	32.4	39.7	33.0	33.2
Zinc	7440-66-6	E440/VA	2.0	mg/kg	3940	2770	5200	3700	8820
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	2.6	<1.0	2.8	1.6	<1.0
TCLP Metals									
pH, TCLP 1st preliminary	---	EPP444/VA	0.010	pH units	12.04	12.10	11.98	12.10	12.05



Analytical Results

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

					Client sample ID				
					BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21 ----
Client sampling date / time					21-Sep-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-001	VA25C5135-002	VA25C5135-003	VA25C5135-004	VA25C5135-005
					Result	Result	Result	Result	Result
TCLP Metals									
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	6.54	9.22	6.94	6.82	5.71
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.88	2.88	2.88	2.88	2.88
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.88	6.01	6.77	6.02	6.50
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	1.75	1.71	1.92	1.80	1.76
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.097	0.071	0.083	0.077	0.061
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1820	1680	1970	1850	1820
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	0.615	0.656	0.531	0.656	0.886
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.942	0.260	0.858	1.10	0.894
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	0.32
Magnesium, TCLP	7439-95-4	E444/VA	2.5	mg/L	126	107	140	126	129
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	0.30	0.46	0.28	0.60	0.44
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	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21 ----
					Client sampling date / time	21-Sep-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-001	VA25C5135-002	VA25C5135-003	VA25C5135-004	VA25C5135-005	
					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	7.16	40.9	14.1	43.9	25.9	
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 qualifiers detected.

Analytical Results

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

					Client sample ID	BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21 ----
					Client sampling date / time	21-Sep-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-006	VA25C5135-007	VA25C5135-008	VA25C5135-009	VA25C5135-010	
					Result	Result	Result	Result	Result	
Physical Tests										
Moisture	----	E144/VA	0.25	%	23.6	22.6	22.8	25.3	23.2	
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	12.68	12.75	12.67	12.61	12.74	
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg	33600	36000	31600	39900	40300	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	71.2	66.9	70.5	70.6	56.7	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	14.0	19.9	13.0	13.6	16.4	
Barium	7440-39-3	E440/VA	0.50	mg/kg	614	608	631	679	670	



Analytical Results

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

					Client sample ID				
					BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21 ----
Client sampling date / time					21-Sep-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-006	VA25C5135-007	VA25C5135-008	VA25C5135-009	VA25C5135-010
					Result	Result	Result	Result	Result
Metals									
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.36	0.30	0.41	0.34	0.30
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	7.35	8.42	9.64	8.68	11.1
Boron	7440-42-8	E440/VA	5.0	mg/kg	152	194	190	175	213
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	5.46	5.32	6.07	5.80	5.03
Calcium	7440-70-2	E440/VA	50	mg/kg	126000	122000	130000	128000	118000
Chromium	7440-47-3	E440/VA	0.50	mg/kg	109	141	133	132	142
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	24.2	28.7	38.2	123	578
Copper	7440-50-8	E440/VA	0.50	mg/kg	1560	2170	2320	1980	3990
Iron	7439-89-6	E440/VA	50	mg/kg	53400	52700	53700	72100	47800
Lead	7439-92-1	E440/VA	0.50	mg/kg	355	359	260	487	319
Lithium	7439-93-2	E440/VA	2.0	mg/kg	19.9	19.8	21.1	39.8	29.2
Magnesium	7439-95-4	E440/VA	20	mg/kg	11600	12700	10500	11900	11800
Manganese	7439-96-5	E440/VA	1.0	mg/kg	682	786	641	810	691
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	14.7	34.8	22.7	26.8	24.3
Nickel	7440-02-0	E440/VA	0.50	mg/kg	147	204	96.2	324	135
Phosphorus	7723-14-0	E440/VA	50	mg/kg	7640	7610	10800	9950	8980
Potassium	7440-09-7	E440/VA	100	mg/kg	4550	4590	4330	4880	4640
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.24	0.31	0.36	0.33	0.28
Silver	7440-22-4	E440/VA	0.10	mg/kg	6.74	4.72	5.26	3.24	2.60



Analytical Results

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

					Client sample ID				
					BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21 ----
Client sampling date / time					21-Sep-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-006	VA25C5135-007	VA25C5135-008	VA25C5135-009	VA25C5135-010
					Result	Result	Result	Result	Result
Metals									
Sodium	7440-23-5	E440/VA	50	mg/kg	13100	12600	12100	14100	12400
Strontium	7440-24-6	E440/VA	0.50	mg/kg	466	275	358	651	280
Sulfur	7704-34-9	E440/VA	1000	mg/kg	8300	10000	9200	9400	9000
Thallium	7440-28-0	E440/VA	0.050	mg/kg	<0.050	0.081	<0.050	<0.050	<0.050
Tin	7440-31-5	E440/VA	2.0	mg/kg	170	114	102	93.0	66.9
Titanium	7440-32-6	E440/VA	1.0	mg/kg	298	474	239	340	406
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	11.1	3.15	13.0	10.2	3.47
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.49	1.32	1.91	1.40	1.31
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	33.6	32.1	31.2	33.6	30.4
Zinc	7440-66-6	E440/VA	2.0	mg/kg	3960	3400	2180	3070	4310
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	2.2	1.4	1.9	2.4	1.9
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.97	12.03	11.95	11.96	11.99
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	5.55	6.18	5.24	5.99	6.00
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.88	2.88	2.88	2.88	2.88
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.73	6.11	6.76	6.69	6.26
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



Analytical Results

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

					Client sample ID				
					BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21 ----
Client sampling date / time					21-Sep-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-006	VA25C5135-007	VA25C5135-008	VA25C5135-009	VA25C5135-010
					Result	Result	Result	Result	Result
TCLP Metals									
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L	1.75	1.82	1.91	1.85	1.68
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.312	0.086	0.068	0.084	0.071
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1820	1800	1950	1930	1820
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	0.544	2.30	2.18	0.618	0.856
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.918	1.26	0.862	0.875	1.16
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	0.29	<0.25	<0.25	<0.25
Magnesium, TCLP	7439-95-4	E444/VA	2.5	mg/L	141	140	142	144	161
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	0.27	0.53	0.27	0.29	0.38
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
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	11.3	27.6	7.77	7.63	25.5
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 qualifiers detected.



Analytical Results

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

					Client sample ID		BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21 ----	----	----	----
					Client sampling date / time		21-Sep-2025 00:00	21-Sep-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-011	VA25C5135-012	----	----	----		
					Result	Result	----	----	----		
Physical Tests											
Moisture	----	E144/VA	0.25	%	21.5	23.0	----	----	----		
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	12.58	12.65	----	----	----		
Metals											
Aluminum	7429-90-5	E440/VA	50	mg/kg	32700	34100	----	----	----		
Antimony	7440-36-0	E440/VA	0.10	mg/kg	64.8	88.4	----	----	----		
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	15.0	24.9	----	----	----		
Barium	7440-39-3	E440/VA	0.50	mg/kg	445	560	----	----	----		
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.31	0.36	----	----	----		
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	10.5	7.56	----	----	----		
Boron	7440-42-8	E440/VA	5.0	mg/kg	209	152	----	----	----		
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	6.36	5.35	----	----	----		
Calcium	7440-70-2	E440/VA	50	mg/kg	132000	132000	----	----	----		
Chromium	7440-47-3	E440/VA	0.50	mg/kg	130	108	----	----	----		
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	26.4	38.3	----	----	----		
Copper	7440-50-8	E440/VA	0.50	mg/kg	1940	1710	----	----	----		
Iron	7439-89-6	E440/VA	50	mg/kg	56500	46600	----	----	----		
Lead	7439-92-1	E440/VA	0.50	mg/kg	295	261	----	----	----		
Lithium	7439-93-2	E440/VA	2.0	mg/kg	24.9	26.0	----	----	----		
Magnesium	7439-95-4	E440/VA	20	mg/kg	14400	11600	----	----	----		
Manganese	7439-96-5	E440/VA	1.0	mg/kg	893	715	----	----	----		



Analytical Results

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

					Client sample ID		BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21 ----	----	----	----
					Client sampling date / time		21-Sep-2025 00:00	21-Sep-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-011	VA25C5135-012	----	----	----		
					Result	Result	----	----	----		
Metals											
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	<0.0500	----	----	----		
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	31.2	15.5	----	----	----		
Nickel	7440-02-0	E440/VA	0.50	mg/kg	156	152	----	----	----		
Phosphorus	7723-14-0	E440/VA	50	mg/kg	9190	8940	----	----	----		
Potassium	7440-09-7	E440/VA	100	mg/kg	5030	4990	----	----	----		
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.64	0.30	----	----	----		
Silver	7440-22-4	E440/VA	0.10	mg/kg	7.06	3.98	----	----	----		
Sodium	7440-23-5	E440/VA	50	mg/kg	13700	14600	----	----	----		
Strontium	7440-24-6	E440/VA	0.50	mg/kg	341	388	----	----	----		
Sulfur	7704-34-9	E440/VA	1000	mg/kg	10300	8700	----	----	----		
Thallium	7440-28-0	E440/VA	0.050	mg/kg	<0.050	<0.050	----	----	----		
Tin	7440-31-5	E440/VA	2.0	mg/kg	120	140	----	----	----		
Titanium	7440-32-6	E440/VA	1.0	mg/kg	301	380	----	----	----		
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	3.23	10.8	----	----	----		
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.55	1.53	----	----	----		
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	25.4	29.3	----	----	----		
Zinc	7440-66-6	E440/VA	2.0	mg/kg	3600	2390	----	----	----		
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	2.3	1.9	----	----	----		
TCLP Metals											
pH, TCLP 1st preliminary	---	EPP444/VA	0.010	pH units	12.00	11.98	----	----	----		



Analytical Results

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

					Client sample ID	BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21 ----	----	----	----
					Client sampling date / time	21-Sep-2025 00:00	21-Sep-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-011	VA25C5135-012	----	----	----	
					Result	Result	----	----	----	
TCLP Metals										
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	8.66	6.33	----	----	----	
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.88	2.88	----	----	----	
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.39	6.48	----	----	----	
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	1.73	1.82	----	----	----	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.408	0.133	----	----	----	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1880	1910	----	----	----	
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	0.982	1.02	----	----	----	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	1.09	1.01	----	----	----	
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	175	151	----	----	----	
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	0.36	0.47	----	----	----	
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	BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21 ----	BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21 ----	----	----	----
					Client sampling date / time	21-Sep-2025 00:00	21-Sep-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C5135-011	VA25C5135-012	----	----	----	----
					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	17.2	14.6	----	----	----	----
Zirconium, TCLP	7440-67-7	E444/VA	10	mg/L	<10	<10	----	----	----	----

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



QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : VA25C5135</p> <p>Amendment : 1</p> <p>Client : Veolia Environmental Services Canada</p> <p>Contact : Brian Graham</p> <p>Address : 5150 Riverbend Dr. Burnaby BC Canada V3N 4V3</p> <p>Telephone : ----</p> <p>Project : Veolia Weekly Bottom Ash-Suite</p> <p>PO : 1000497676</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Metro Van Ash Sampling Program</p> <p>Quote number : VA25-VIS1100-001</p> <p>No. of samples received : 12</p> <p>No. of samples analysed : 12</p>	<p>Page : 1 of 16</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Gulraj Dhanaua</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 23-Sep-2025 12:15</p> <p>Issue Date : 23-Oct-2025 12:39</p>
--	--

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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- 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.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: Soil/Solid

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Bismuth	7440-69-9	E440	36.8 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Cadmium	7440-43-9	E440	164 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Cobalt	7440-48-4	E440	36.1 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Copper	7440-50-8	E440	48.7 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Lead	7439-92-1	E440	79.2 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Nickel	7440-02-0	E440	102 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Tin	7440-31-5	E440	41.2 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Tungsten	7440-33-7	E440	79.4 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.

Result Qualifiers

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.



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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 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	
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21	E510	21-Sep-2025	27-Sep-2025	28 days	7 days	✔	29-Sep-2025	28 days	2 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 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		
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21	E440	21-Sep-2025	27-Sep-2025	180 days	7 days	✔	29-Sep-2025	180 days	7 days	✔	
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		



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 : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		



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 : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21	E144	21-Sep-2025	----	----	----		26-Sep-2025	----	----		
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 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 BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21	E108	21-Sep-2025	27-Sep-2025	30 days	7 days	✔	27-Sep-2025	30 days	7 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✔	29-Sep-2025	34 days	9 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✔	29-Sep-2025	34 days	9 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✔	29-Sep-2025	34 days	9 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✔	29-Sep-2025	34 days	9 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	
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21	E512	26-Sep-2025	29-Sep-2025	34 days	9 days	✓	29-Sep-2025	34 days	9 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✓	30-Sep-2025	186 days	9 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		
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✔	30-Sep-2025	186 days	9 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		
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✓	30-Sep-2025	186 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21	E444	26-Sep-2025	29-Sep-2025	186 days	9 days	✓	30-Sep-2025	186 days	9 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-10/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-11/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-12/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-2/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-3/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-4/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 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	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-5/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-6/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-7/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-8/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2538-A-9/12 UNPROCESSED Sept 14 to Sept 21	EPP444	21-Sep-2025	26-Sep-2025	----	----		----	28 days	6 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	Method	QC Lot #	Count		Frequency (%)		Evaluation
			QC	Regular	Actual	Expected	
Analytical Methods							
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2244908	1	18	5.5	5.0	✔
Moisture Content by Gravimetry	E144	2244909	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2244907	1	18	5.5	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2247864	1	12	8.3	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2244906	1	18	5.5	5.0	✔
Mercury by CVAAS (TCLP)	E512	2247863	1	12	8.3	5.0	✔
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2244908	1	18	5.5	5.0	✔
Moisture Content by Gravimetry	E144	2244909	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2244907	2	18	11.1	10.0	✔
Mercury in Soil/Solid by CVAAS	E510	2244906	2	18	11.1	10.0	✔
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2244909	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2244907	1	18	5.5	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2247864	1	12	8.3	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2244906	1	18	5.5	5.0	✔
Mercury by CVAAS (TCLP)	E512	2247863	1	12	8.3	5.0	✔
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	2247864	1	12	8.3	5.0	✔
Mercury by CVAAS (TCLP)	E512	2247863	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 $20 \pm 5^{\circ}\text{C}$), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at $<60^{\circ}\text{C}$) 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 HNO_3 and HCl . Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, 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 HNO_3 and HCl , followed by CVAAS analysis.
Mercury by CVAAS (TCLP)	E512 ALS Environmental - Vancouver	Soil/Solid	EPA 1311/245.1 (mod)	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 $<60^{\circ}\text{C}$) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.



<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
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 HNO ₃ 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	: VA25C5135	Page	: 1 of 12
Amendment	: 1		
Client	: Veolia Environmental Services Canada	Laboratory	: ALS Environmental - Vancouver
Contact	: Brian Graham	Account Manager	: Gulraj Dhanaua
Address	: 5150 Riverbend Dr. Burnaby BC Canada V3N 4V3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: Veolia Weekly Bottom Ash-Suite	Date Samples Received	: 23-Sep-2025 12:15
PO	: 1000497676	Date Analysis Commenced	: 26-Sep-2025
C-O-C number	: ----	Issue Date	: 23-Oct-2025 12:39
Sampler	: ----		
Site	: Metro Van Ash Sampling Program		
Quote number	: VA25-VISI100-001		
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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Robert Nguyen	Analyst	Vancouver Metals, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Vancouver Organics, 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: 2244908)											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	pH (1:2 soil:water)	----	E108	0.10	pH units	12.66	12.66	0.0%	5%	----
Physical Tests (QC Lot: 2244909)											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Moisture	----	E144	0.25	%	24.1	24.6	1.86%	20%	----
Metals (QC Lot: 2244906)											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	0	Diff <2x LOR	----
Metals (QC Lot: 2244907)											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Aluminum	7429-90-5	E440	50	mg/kg	39100	33200	16.2%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	85.1	82.9	2.68%	30%	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	19.2	15.9	18.6%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	610	512	17.4%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.41	0.38	0.03	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	7.52	10.9	36.8%	30%	DUP-H
		Boron	7440-42-8	E440	5.0	mg/kg	185	177	4.39%	30%	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	7.27	72.8	164%	30%	DUP-H
		Calcium	7440-70-2	E440	50	mg/kg	147000	138000	6.80%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	124	118	5.44%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	107	154	36.1%	30%	DUP-H
		Copper	7440-50-8	E440	0.50	mg/kg	3980	2420	48.7%	30%	DUP-H
		Iron	7439-89-6	E440	50	mg/kg	67300	59000	13.1%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	352	813	79.2%	40%	DUP-H
		Lithium	7439-93-2	E440	2.0	mg/kg	29.6	39.5	28.4%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	12400	12600	1.17%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	799	1030	24.9%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	18.2	15.6	15.3%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	339	110	102%	30%	DUP-H
		Phosphorus	7723-14-0	E440	50	mg/kg	9590	10700	10.6%	30%	----



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: 2244907) - continued											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Potassium	7440-09-7	E440	100	mg/kg	5340	5160	3.37%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.34	0.34	0.003	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	4.81	5.08	5.56%	40%	----
		Sodium	7440-23-5	E440	50	mg/kg	14500	14100	3.00%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	515	456	12.0%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	10400	10400	0.0344%	30%	----
		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	78.2	119	41.2%	40%	DUP-H
		Titanium	7440-32-6	E440	1.0	mg/kg	366	253	36.4%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	14.6	33.9	79.4%	30%	DUP-H
		Uranium	7440-61-1	E440	0.050	mg/kg	1.59	1.62	1.98%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	39.9	33.8	16.7%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	3940	2910	29.9%	30%	----
Zirconium	7440-67-7	E440	1.0	mg/kg	2.6	2.8	0.2	Diff <2x LOR	----		
TCLP Metals (QC Lot: 2247863)											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2247864)											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	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	1.75	1.74	0.006	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.097	0.095	0.002	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1820	1790	1.57%	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	0.615	0.606	1.46%	30%	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	0.942	0.933	0.974%	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	126	127	0.455%	30%	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.30	0.30	0.004	Diff <2x LOR	----		



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
TCLP Metals (QC Lot: 2247864) - continued											
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	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	7.16	7.10	0.854%	30%	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----

Qualifiers

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.



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: 2244909)						
Moisture	---	E144	0.25	%	<0.25	---
Metals (QCLot: 2244906)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	---
Metals (QCLot: 2244907)						
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	---
Tin	7440-31-5	E440	2	mg/kg	<2.0	---



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2244907) - continued						
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: 2247863)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals (QCLot: 2247864)						
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: 2244908)									
pH (1:2 soil:water)	---	E108	---	pH units	6 pH units	100	95.0	105	---
Physical Tests (QCLot: 2244909)									
Moisture	---	E144	0.25	%	50 %	100	90.0	110	---
Metals (QCLot: 2244906)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	100	80.0	120	---
Metals (QCLot: 2244907)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	106	80.0	120	---
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	100	80.0	120	---
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	106	80.0	120	---
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	103	80.0	120	---
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	99.3	80.0	120	---
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	96.9	80.0	120	---
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	98.4	80.0	120	---
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	98.5	80.0	120	---
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	104	80.0	120	---
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	102	80.0	120	---
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	99.5	80.0	120	---
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	---
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	102	80.0	120	---
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	97.9	80.0	120	---
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	100	80.0	120	---
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	---
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	105	80.0	120	---
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	103	80.0	120	---
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	101	80.0	120	---
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	108	80.0	120	---
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	110	80.0	120	---
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	103	80.0	120	---
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	92.3	80.0	120	---
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	106	80.0	120	---
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	103	80.0	120	---
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	105	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: 2244907) - continued									
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	99.3	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	101	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	105	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	99.9	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	105	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	101	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	107	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: 2247863)										
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Mercury, TCLP	7439-97-6	E512	0.0029 mg/L	0.003 mg/L	96.4	50.0	140	----
TCLP Metals (QCLot: 2247864)										
VA25C5135-001	BA 2538-A-1/12 UNPROCESSED Sept 14 to Sept 21	Antimony, TCLP	7440-36-0	E444	4.81 mg/L	5 mg/L	96.2	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.8 mg/L	5 mg/L	96.1	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.6 mg/L	12.5 mg/L	101	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.236 mg/L	0.25 mg/L	94.5	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.13 mg/L	10 mg/L	91.3	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.235 mg/L	0.25 mg/L	94.2	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.20 mg/L	1.25 mg/L	95.7	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	ND mg/L	----	ND	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.29 mg/L	2.5 mg/L	91.7	50.0	140	----
		Iron, TCLP	7439-89-6	E444	228 mg/L	250 mg/L	91.3	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.22 mg/L	10 mg/L	92.2	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	239 mg/L	250 mg/L	95.8	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.32 mg/L	2.5 mg/L	93.0	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.94 mg/L	5 mg/L	98.7	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.077 mg/L	0.1 mg/L	76.6	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.6 mg/L	5 mg/L	92.6	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.78 mg/L	5 mg/L	95.7	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.73 mg/L	0.75 mg/L	97.7	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.07 mg/L	10 mg/L	90.7	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	84.8	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:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
Metals (QCLot: 2244906)									
QC-2244906-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	104	70.0	130	----
Metals (QCLot: 2244907)									
QC-2244907-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	98.2	70.0	130	----
QC-2244907-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	96.8	70.0	130	----
QC-2244907-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	94.9	70.0	130	----
QC-2244907-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	94.4	70.0	130	----
QC-2244907-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	104	70.0	130	----
QC-2244907-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	92.2	70.0	130	----
QC-2244907-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	101	70.0	130	----
QC-2244907-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	100	70.0	130	----
QC-2244907-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	95.6	70.0	130	----
QC-2244907-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	95.4	70.0	130	----
QC-2244907-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	92.8	70.0	130	----
QC-2244907-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	100	70.0	130	----
QC-2244907-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	94.7	70.0	130	----
QC-2244907-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	106	70.0	130	----
QC-2244907-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	95.0	70.0	130	----
QC-2244907-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	96.5	70.0	130	----
QC-2244907-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	99.8	70.0	130	----
QC-2244907-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	96.1	70.0	130	----
QC-2244907-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	89.9	70.0	130	----
QC-2244907-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	98.5	70.0	130	----
QC-2244907-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	102	60.0	140	----
QC-2244907-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	95.2	70.0	130	----
QC-2244907-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	103	70.0	130	----
QC-2244907-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	101	70.0	130	----
QC-2244907-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	105	50.0	150	----
QC-2244907-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	97.7	70.0	130	----
QC-2244907-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	97.0	40.0	160	----
QC-2244907-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	103	70.0	130	----
QC-2244907-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	108	70.0	130	----
QC-2244907-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	104	70.0	130	----
QC-2244907-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	97.0	70.0	130	----

Page : 12 of 12
 Work Order : VA25C5135 Amendment 1
 Client : Veolia Environmental Services Canada
 Project : Veolia Weekly Bottom Ash-Suite



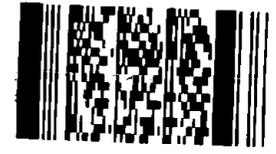
Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
Metals (QCLot: 2244907) - continued									
QC-2244907-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	98.1	70.0	130	----
QC-2244907-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	106	70.0	130	----



Report To	Report Format / Distribution	Service Requested (Rush for routine e)
Company: Veolia Canada / Burnaby Waste To Energy Facility	"Veolia Email Distribution List" please	
Contact: Brian Graham / Darcie Grace		
Address: 5150 Riverbend Drive Burnaby BC	Email 1: Darcie.grace@veolia.com	
	Email 2: lorenzo.ilao@veolia.com	
Phone: 604-521-1025 Fax:	Email 3: karen.thornquist@veolia.com	Analysis
	brent.kirkpatrick@metrovanvancouver.org	
	Sarah.Wellman@metrovanvancouver.org	

Environmental Division
 Vancouver
 Work Order Reference
VA25C5135



Telephone : +1 604 253 4188

Invoice To Same as Report ? Veolia Water Canada	Client / Project Information	Please indicate below Filtered, F			
Hardcopy of Invoice with Report?	Job #: Veolia Weekly Bottom Ash - Suite				
Company: Veolia Water Canada / Burnaby Waste To Energy	PO / AFE: PO#				
Contact: Danny George, Purchaser/Darcie Grace, SHE Manager	LSD: (includes 2:1 pH)				
Address: 5150 Riverbend Drive, Burnaby BC V3N 4V3					
Phone: 604 521 1025 Fax:	Quote #:				

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
	Lab Work Order # (lab use only) CS35	ALS Contact:	Sampler:						
	BA 2537-A-1 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-2 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-3 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-4 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-5 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-6 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-7 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-8 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-9 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-10 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-11 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
	BA 2537-A-12 UNPROCESSED Sept 14 to Sept 21			Soil	X	X		X	1
water Aquatic									

Form may delay a es with the Ter numbers and										
SHIPMENT RECEPTION (lab use only)					SHIPMENT VERIFICATION (lab use only)					
Released by: <i>[Signature]</i>	Date (dd-mmm-yy): 23/09/25	Time (hh-mm): 09:00	Received by:	Date:	Time:	Temperature: °C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF

21
UP 9/23/25 12:15 PM

UNPROCESSED

Bottom Ash Worksheet

Date sample composited (DD/MM/YYYY)	22/09/2025
Person doing the sampling	AYMAN T
Total Sample Weight before processing, kg	149 kg
Weight of Material >3/8", kg	58.9 kg
Weight of Material that cannot be processed to <3/8" (metal, wood, etc), kg	89.2 kg
Final Total weight of Processed Bottom Ash, kg	58.9 kg

Return this form with the filled Weekly Bottom Ash Composite Sample containers

Completely fill twelve (12) 500ml sample containers and label each with "Bottom Ash" and the week the ash composite is from, i.e. "June 9-15, 2019"