

Bottom Ash Data

2025 Week 52

The following analytical report represents bottom ash composite results for week 52 of 2025 (December 21, 2025 to December 27, 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	: VA25D4356		
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	: 31-Dec-2025 10:10
C-O-C number	: ----	Date Analysis Commenced	: 03-Jan-2026
Sampler	: ----	Issue Date	: 30-Jan-2026 11:03
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>
Dan Gebert	Supervisor - Metals Mercury & Speciation	Metals, Burnaby, British Columbia
Ophelia Chiu	Department Manager - Organics	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 (30/01/2026): This report has been amended to alter the site details, project reference code or order number. All analysis results are as per the previous report.



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID				
					BA 2552-A-1 ----	BA 2552-A-2 ----	BA 2552-A-3 ----	BA 2552-A-4 ----	BA 2552-A-5 ----
Client sampling date / time					29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-001	VA25D4356-002	VA25D4356-003	VA25D4356-004	VA25D4356-005
					Result	Result	Result	Result	Result
Physical Tests									
Moisture	----	E144/VA	0.25	%	29.8	30.6	28.2	28.7	29.5
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	10.41	10.69	10.41	10.38	10.51
Metals									
Aluminum	7429-90-5	E440/VA	50	mg/kg	35900	43200	33400	57500	42100
Antimony	7440-36-0	E440/VA	0.10	mg/kg	114	144	91.3	74.8	86.4
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	12.3	9.98	13.9	10.4	10.3
Barium	7440-39-3	E440/VA	0.50	mg/kg	695	632	606	676	741
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.43	0.48	0.42	0.47	0.55
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	7.48	8.44	7.69	7.78	5.49
Boron	7440-42-8	E440/VA	5.0	mg/kg	151	178	217	149	153
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	5.91	5.57	6.90	6.33	5.11
Calcium	7440-70-2	E440/VA	50	mg/kg	125000	128000	141000	120000	133000
Chromium	7440-47-3	E440/VA	0.50	mg/kg	326	245	189	141	235
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	143	142	81.6	185	186
Copper	7440-50-8	E440/VA	0.50	mg/kg	29800	3030	2630	3440	3390
Iron	7439-89-6	E440/VA	50	mg/kg	79300	73400	75300	60500	58700
Lead	7439-92-1	E440/VA	0.50	mg/kg	242	5530	335	197	211
Lithium	7439-93-2	E440/VA	2.0	mg/kg	34.9	54.6	36.5	66.1	53.4
Magnesium	7439-95-4	E440/VA	20	mg/kg	11400	12800	12700	11700	12300
Manganese	7439-96-5	E440/VA	1.0	mg/kg	1070	1420	954	1180	1230
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	0.168	<0.0500	<0.0500	<0.0500



Analytical Results

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

					Client sample ID	BA 2552-A-1	BA 2552-A-2	BA 2552-A-3	BA 2552-A-4	BA 2552-A-5
					Client sampling date / time	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-001	VA25D4356-002	VA25D4356-003	VA25D4356-004	VA25D4356-005	
					Result	Result	Result	Result	Result	
Metals										
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	64.9	65.8	97.1	51.4	45.7	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	288	535	367	800	471	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	9300	9020	10800	9180	15100	
Potassium	7440-09-7	E440/VA	100	mg/kg	5750	5780	6490	5480	5820	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.33	0.25	0.37	0.29	0.30	
Silver	7440-22-4	E440/VA	0.10	mg/kg	7.08	8.67	4.11	3.61	4.50	
Sodium	7440-23-5	E440/VA	50	mg/kg	17300	17000	18300	16200	17800	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	398	349	356	310	598	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	9500	10000	11200	9300	8200	
Thallium	7440-28-0	E440/VA	0.050	mg/kg	0.070	0.156	<0.050	<0.050	<0.050	
Tin	7440-31-5	E440/VA	2.0	mg/kg	309	1780	208	257	243	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	311	303	267	599	318	
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	10.1	14.9	9.63	10.7	12.1	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.56	1.84	1.62	1.66	1.47	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	44.7	71.6	40.5	62.1	48.6	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	4490	12800	4420	2210	7450	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	2.8	3.6	2.7	3.7	3.7	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.80	11.76	11.67	11.71	11.75	
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	8.71	8.98	8.61	8.63	8.58	
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.89	2.89	2.89	2.89	2.89	



Analytical Results

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

					Client sample ID	BA 2552-A-1	BA 2552-A-2	BA 2552-A-3	BA 2552-A-4	BA 2552-A-5
					Client sampling date / time	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-001	VA25D4356-002	VA25D4356-003	VA25D4356-004	VA25D4356-005	
					Result	Result	Result	Result	Result	
TCLP Metals										
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.53	6.73	6.61	6.45	6.60	
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	1.70	1.72	1.65	1.63	1.74	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.064	0.059	0.089	0.075	0.092	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1910	1880	1810	1760	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	1.43	0.792	0.630	1.70	1.13	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	1.22	1.11	1.01	1.32	1.21	
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	130	122	128	123	131	
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	0.40	0.32	0.48	0.43	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	



Analytical Results

					Client sample ID	BA 2552-A-1 ----	BA 2552-A-2 ----	BA 2552-A-3 ----	BA 2552-A-4 ----	BA 2552-A-5 ----
					Client sampling date / time	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-001	VA25D4356-002	VA25D4356-003	VA25D4356-004	VA25D4356-005	
					Result	Result	Result	Result	Result	
TCLP Metals										
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L	24.1	10.8	17.6	39.1	22.2	
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

					Client sample ID	BA 2552-A-6 ----	BA 2552-A-7 ----	BA 2552-A-8 ----	BA 2552-A-9 ----	BA 2552-A-10 ----
					Client sampling date / time	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-006	VA25D4356-007	VA25D4356-008	VA25D4356-009	VA25D4356-010	
					Result	Result	Result	Result	Result	
Physical Tests										
Moisture	----	E144/VA	0.25	%	28.5	28.8	28.7	28.3	26.8	
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	10.46	10.65	10.64	10.27	10.35	
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg	36500	43800	51100	41700	39700	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	95.5	80.3	111	97.4	86.2	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	12.0	12.6	11.8	13.0	11.4	
Barium	7440-39-3	E440/VA	0.50	mg/kg	476	662	654	640	674	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.44	0.39	0.43	0.45	0.43	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	6.80	11.6	7.02	5.73	7.63	
Boron	7440-42-8	E440/VA	5.0	mg/kg	146	205	180	165	141	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	5.43	4.48	4.98	4.62	5.43	
Calcium	7440-70-2	E440/VA	50	mg/kg	136000	129000	135000	143000	146000	



Analytical Results

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

					Client sample ID	BA 2552-A-6 ----	BA 2552-A-7 ----	BA 2552-A-8 ----	BA 2552-A-9 ----	BA 2552-A-10 ----
					Client sampling date / time	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-006	VA25D4356-007	VA25D4356-008	VA25D4356-009	VA25D4356-010	
					Result	Result	Result	Result	Result	
Metals										
Chromium	7440-47-3	E440/VA	0.50	mg/kg	1930	349	149	161	261	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	124	572	141	45.9	249	
Copper	7440-50-8	E440/VA	0.50	mg/kg	5080	24300	10200	1730	6090	
Iron	7439-89-6	E440/VA	50	mg/kg	72800	70900	52300	60600	67000	
Lead	7439-92-1	E440/VA	0.50	mg/kg	340	863	227	207	395	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	33.7	35.2	42.3	32.4	47.5	
Magnesium	7439-95-4	E440/VA	20	mg/kg	12200	12500	12600	12600	13100	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	1310	1370	1120	841	1410	
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	207	54.4	49.2	89.0	75.3	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	1060	286	220	191	536	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	10500	8950	12100	12200	10700	
Potassium	7440-09-7	E440/VA	100	mg/kg	5580	5110	6140	6600	6050	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.35	0.24	0.34	0.27	0.28	
Silver	7440-22-4	E440/VA	0.10	mg/kg	8.32	>152	20.9	3.06	6.99	
Sodium	7440-23-5	E440/VA	50	mg/kg	16400	16100	18500	19200	17000	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	356	318	386	351	742	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	10100	8600	9700	9800	10900	
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	149	293	118	90.1	181	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	360	398	346	302	273	



Analytical Results

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

					Client sample ID	BA 2552-A-6 ----	BA 2552-A-7 ----	BA 2552-A-8 ----	BA 2552-A-9 ----	BA 2552-A-10 ----
					Client sampling date / time	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-006	VA25D4356-007	VA25D4356-008	VA25D4356-009	VA25D4356-010	
					Result	Result	Result	Result	Result	
Metals										
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	10.1	10.3	10.1	9.15	12.0	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.52	1.32	1.54	1.54	1.45	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	51.4	53.1	39.8	42.8	65.2	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	3830	2440	4610	2780	3860	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	3.2	3.2	3.9	2.9	1.9	
TCLP Metals										
pH, TCLP 1st preliminary	---	EPP444/VA	0.010	pH units	11.73	11.74	11.71	11.59	11.67	
pH, TCLP 2nd preliminary	---	EPP444/VA	0.010	pH units	8.65	8.51	8.38	8.45	7.17	
pH, TCLP extraction fluid initial	---	EPP444/VA	0.010	pH units	2.89	2.89	2.89	2.89	2.89	
pH, TCLP final	---	EPP444/VA	0.010	pH units	6.44	6.59	6.53	6.65	6.53	
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	1.73	1.75	1.73	1.73	1.79	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.098	0.087	1.28	0.065	0.068	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1830	1840	1860	1890	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	1.48	1.14	6.90	1.14	1.08	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	1.39	1.19	1.25	0.953	1.48	
Iron, TCLP	7439-89-6	E444/VA	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID				
					BA 2552-A-6 ----	BA 2552-A-7 ----	BA 2552-A-8 ----	BA 2552-A-9 ----	BA 2552-A-10 ----
					Client sampling date / time				
					29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00	29-Dec-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-006	VA25D4356-007	VA25D4356-008	VA25D4356-009	VA25D4356-010
					Result	Result	Result	Result	Result
TCLP Metals									
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	125	128	127	125	127
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	0.41	0.34	0.37	0.35	0.32
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	27.1	20.7	25.5	16.2	24.4
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 2552-A-11 ----	BA 2552-A-12 ----	----	----	----
					Client sampling date / time				
					29-Dec-2025 12:00	29-Dec-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-011	VA25D4356-012	----	----	----
					Result	Result	----	----	----
Physical Tests									
Moisture	----	E144/VA	0.25	%	28.7	29.3	----	----	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	10.28	10.37	----	----	----



Analytical Results

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

					Client sample ID	BA 2552-A-11	BA 2552-A-12	----	----	----
					Client sampling date / time	29-Dec-2025 12:00	29-Dec-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-011	VA25D4356-012	----	----	----	
					Result	Result	----	----	----	
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg	56000	60900	----	----	----	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	87.9	95.3	----	----	----	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	11.3	10.1	----	----	----	
Barium	7440-39-3	E440/VA	0.50	mg/kg	670	673	----	----	----	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.51	0.87	----	----	----	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	5.25	7.06	----	----	----	
Boron	7440-42-8	E440/VA	5.0	mg/kg	156	140	----	----	----	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	4.84	5.61	----	----	----	
Calcium	7440-70-2	E440/VA	50	mg/kg	138000	138000	----	----	----	
Chromium	7440-47-3	E440/VA	0.50	mg/kg	144	163	----	----	----	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	310	430	----	----	----	
Copper	7440-50-8	E440/VA	0.50	mg/kg	6070	1370	----	----	----	
Iron	7439-89-6	E440/VA	50	mg/kg	50000	40900	----	----	----	
Lead	7439-92-1	E440/VA	0.50	mg/kg	174	273	----	----	----	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	44.1	56.1	----	----	----	
Magnesium	7439-95-4	E440/VA	20	mg/kg	12000	13500	----	----	----	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	889	993	----	----	----	
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	<0.0500	----	----	----	
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	76.0	263	----	----	----	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	359	149	----	----	----	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	9710	9920	----	----	----	



Analytical Results

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

					Client sample ID		BA 2552-A-11	BA 2552-A-12	----	----	----
					Client sampling date / time		29-Dec-2025 12:00	29-Dec-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-011	VA25D4356-012	----	----	----	----	----
					Result	Result	----	----	----	----	----
Metals											
Potassium	7440-09-7	E440/VA	100	mg/kg	5930	6730	----	----	----	----	----
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.29	0.27	----	----	----	----	----
Silver	7440-22-4	E440/VA	0.10	mg/kg	14.3	6.87	----	----	----	----	----
Sodium	7440-23-5	E440/VA	50	mg/kg	17200	18400	----	----	----	----	----
Strontium	7440-24-6	E440/VA	0.50	mg/kg	320	362	----	----	----	----	----
Sulfur	7704-34-9	E440/VA	1000	mg/kg	9500	11100	----	----	----	----	----
Thallium	7440-28-0	E440/VA	0.050	mg/kg	<0.050	<0.050	----	----	----	----	----
Tin	7440-31-5	E440/VA	2.0	mg/kg	161	97.5	----	----	----	----	----
Titanium	7440-32-6	E440/VA	1.0	mg/kg	600	609	----	----	----	----	----
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	13.6	7.51	----	----	----	----	----
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.60	1.69	----	----	----	----	----
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	41.2	56.8	----	----	----	----	----
Zinc	7440-66-6	E440/VA	2.0	mg/kg	3340	2210	----	----	----	----	----
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	3.1	3.7	----	----	----	----	----
TCLP Metals											
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.64	11.57	----	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	7.21	7.78	----	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.89	2.89	----	----	----	----	----
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.52	6.61	----	----	----	----	----
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	----	----	----	----	----



Analytical Results

					Client sample ID		BA 2552-A-11	BA 2552-A-12	----	----	----
					----	----	----	----	----	----	
Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sampling date / time		29-Dec-2025 12:00	29-Dec-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D4356-011	VA25D4356-012	----	----	----	----	
					Result	Result	----	----	----		
TCLP Metals											
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	1.74	1.72	----	----	----	----	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.087	0.069	----	----	----	----	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1820	1790	----	----	----	----	
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	1.36	0.923	----	----	----	----	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	1.13	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	123	124	----	----	----	----	
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	0.44	0.27	----	----	----	----	
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	----	----	----	----	
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	22.3	12.6	----	----	----	----	
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 : VA25D4356</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-VISI100-001</p> <p>No. of samples received : 12</p> <p>No. of samples analysed : 12</p>	<p>Page : 1 of 15</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 : 31-Dec-2025 10:10</p> <p>Issue Date : 30-Jan-2026 11:03</p>
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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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-1	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-10	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-11	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-12	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-2	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-3	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-4	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 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 2552-A-5	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-6	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-7	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-8	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2552-A-9	E510	29-Dec-2025	06-Jan-2026	28 days	8 days	✔	06-Jan-2026	28 days	1 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-1	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-10	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-11	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-12	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 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 2552-A-2	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-3	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-4	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-5	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-6	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-7	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-8	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2552-A-9	E440	29-Dec-2025	06-Jan-2026	180 days	8 days	✔	06-Jan-2026	180 days	8 days	✔	
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2552-A-1	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----		



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 2552-A-10	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-11	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-12	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-2	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-3	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-4	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-5	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-6	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2552-A-7	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----	



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 2552-A-8	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2552-A-9	E144	29-Dec-2025	----	----	----		03-Jan-2026	----	----		
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-1	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-10	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-11	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-12	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-2	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-3	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-4	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 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 2552-A-5	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-6	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-7	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-8	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2552-A-9	E108	29-Dec-2025	06-Jan-2026	30 days	8 days	✔	06-Jan-2026	30 days	8 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2552-A-1	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✔	07-Jan-2026	35 days	9 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2552-A-10	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✔	07-Jan-2026	35 days	9 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2552-A-11	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✔	07-Jan-2026	35 days	9 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2552-A-12	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✔	07-Jan-2026	35 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 2552-A-2	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2552-A-3	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2552-A-4	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2552-A-5	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2552-A-6	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2552-A-7	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2552-A-8	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2552-A-9	E512	05-Jan-2026	07-Jan-2026	35 days	9 days	✓	07-Jan-2026	35 days	9 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2552-A-1	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 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 2552-A-10	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-11	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-12	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-2	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-3	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-4	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-5	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-6	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-7	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 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 2552-A-8	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 days	9 days	✓	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2552-A-9	E444	05-Jan-2026	07-Jan-2026	187 days	9 days	✓	08-Jan-2026	187 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 2552-A-1	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-10	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-11	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-12	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-2	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-3	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✓	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-4	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 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	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-5	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-6	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-7	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-8	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2552-A-9	EPP444	29-Dec-2025	05-Jan-2026	----	----		----	28 days	7 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 (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2405173	1	19	5.2	5.0	✔
Moisture Content by Gravimetry	E144	2405176	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2405175	1	18	5.5	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2408356	1	12	8.3	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2405174	1	18	5.5	5.0	✔
Mercury by CVAAS (TCLP)	E512	2408355	1	12	8.3	5.0	✔
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2405173	1	19	5.2	5.0	✔
Moisture Content by Gravimetry	E144	2405176	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2405175	2	18	11.1	10.0	✔
Mercury in Soil/Solid by CVAAS	E510	2405174	2	18	11.1	10.0	✔
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2405176	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2405175	1	18	5.5	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2408356	1	12	8.3	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2405174	1	18	5.5	5.0	✔
Mercury by CVAAS (TCLP)	E512	2408355	1	12	8.3	5.0	✔
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	2408356	1	12	8.3	5.0	✔
Mercury by CVAAS (TCLP)	E512	2408355	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	: VA25D4356		
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	: 31-Dec-2025 10:10
PO	: 1000497676	Date Analysis Commenced	: 03-Jan-2026
C-O-C number	: ----	Issue Date	: 30-Jan-2026 11:03
Sampler	: ----		
Site	: Metro Van Ash Sampling Program		
Quote number	: VA25-VIS100-001		
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
- @ReferenceMaterial!
- 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>
Dan Gebert	Supervisor - Metals Mercury & Speciation	Vancouver Metals, Burnaby, British Columbia
Ophelia Chiu	Department Manager - Organics	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

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: 2405173)											
VA25D4316-001	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	8.39	8.38	0.1 %	5%	---
Physical Tests(QC Lot: 2405176)											
VA25D4356-001	BA 2552-A-1	Moisture	----	E144	0.25	%	29.8	30.2	1.38 %	20%	---
Metals(QC Lot: 2405174)											
VA25D4316-001	Anonymous	Mercury	7439-97-6	E510	0.0500	mg/kg	0.927	0.809	13.6 %	40%	---
Metals(QC Lot: 2405175)											
VA25D4316-001	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	21000	19900	5.60 %	40%	---
		Antimony	7440-36-0	E440	0.10	mg/kg	10.1	12.4	20.0 %	30%	---
		Arsenic	7440-38-2	E440	0.10	mg/kg	19.1	20.9	8.53 %	30%	---
		Barium	7440-39-3	E440	0.50	mg/kg	1390	1310	5.44 %	40%	---
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.49	0.47	0.02	Diff <2x LOR	---
		Bismuth	7440-69-9	E440	0.20	mg/kg	5.51	4.71	15.7 %	30%	---
		Boron	7440-42-8	E440	5.0	mg/kg	14.5	14.2	0.3	Diff <2x LOR	---
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.778	0.798	2.51 %	30%	---
		Calcium	7440-70-2	E440	50	mg/kg	13600	13200	3.49 %	30%	---
		Chromium	7440-47-3	E440	0.50	mg/kg	60.7	56.3	7.48 %	30%	---
		Cobalt	7440-48-4	E440	0.10	mg/kg	13.4	11.8	12.6 %	30%	---
		Copper	7440-50-8	E440	0.50	mg/kg	124	155	21.7 %	30%	---
		Iron	7439-89-6	E440	50	mg/kg	24400	23400	4.23 %	30%	---
		Lead	7439-92-1	E440	0.50	mg/kg	100	92.6	7.73 %	40%	---
		Lithium	7439-93-2	E440	2.0	mg/kg	11.8	11.2	0.6	Diff <2x LOR	---
		Magnesium	7439-95-4	E440	20	mg/kg	6310	6320	0.0149 %	30%	---
		Manganese	7439-96-5	E440	1.0	mg/kg	483	468	3.09 %	30%	---
		Molybdenum	7439-98-7	E440	0.10	mg/kg	43.8	31.6	32.2 %	40%	---
		Nickel	7440-02-0	E440	0.50	mg/kg	104	93.4	10.3 %	30%	---
		Phosphorus	7723-14-0	E440	50	mg/kg	1040	1010	2.43 %	30%	---
		Potassium	7440-09-7	E440	100	mg/kg	2070	1970	4.53 %	40%	---
		Selenium	7782-49-2	E440	0.20	mg/kg	7.53	7.67	1.92 %	30%	---
		Silver	7440-22-4	E440	0.10	mg/kg	1.54	1.42	7.88 %	40%	---
		Sodium	7440-23-5	E440	50	mg/kg	1730	1690	2.57 %	40%	---
		Strontium	7440-24-6	E440	0.50	mg/kg	113	106	6.60 %	40%	---
		Sulfur	7704-34-9	E440	1000	mg/kg	3200	3100	100	Diff <2x LOR	---
		Thallium	7440-28-0	E440	0.050	mg/kg	0.206	0.172	0.034	Diff <2x LOR	---
		Tin	7440-31-5	E440	2.0	mg/kg	4.7	4.3	0.4	Diff <2x LOR	---



Sub-Matrix: Soil

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: 2405175)											
		Titanium	7440-32-6	E440	1.0	mg/kg	904	875	3.26 %	40%	---
		Tungsten	7440-33-7	E440	0.50	mg/kg	2.21	2.42	0.20	Diff <2x LOR	---
		Uranium	7440-61-1	E440	0.050	mg/kg	1.38	1.06	25.9 %	30%	---
		Vanadium	7440-62-2	E440	0.20	mg/kg	119	103	14.7 %	30%	---
		Zinc	7440-66-6	E440	2.0	mg/kg	333	317	5.18 %	30%	---
		Zirconium	7440-67-7	E440	1.0	mg/kg	12.2	11.6	5.61 %	30%	---
TCLP Metals(QC Lot: 2408355)											
VA25D4356-001	BA 2552-A-1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	---
TCLP Metals(QC Lot: 2408356)											
VA25D4356-001	BA 2552-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	1.70	1.65	0.05	Diff <2x LOR	---
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.064	0.062	0.002	Diff <2x LOR	---
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1910	1800	5.43 %	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	1.43	1.42	1.29 %	30%	---
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	1.22	1.20	1.46 %	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	130	124	4.82 %	30%	---
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.40	0.39	0.02	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	24.1	23.6	2.22 %	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(QC Lot: 2405173)						
pH (1:2 soil:water)	----	E108	----	pH units	----	----
Physical Tests(QC Lot: 2405176)						
Moisture	----	E144	0.25	%	<0.25	----
Metals(QC Lot: 2405174)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals(QC Lot: 2405175)						
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	----
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	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals(QC Lot: 2405175)						
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
TCLP Metals(QC Lot: 2408355)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals(QC Lot: 2408356)						
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

					Laboratory Control Sample (LCS) Report				
Analyte	CAS Number	Method	LOR	Unit	Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Physical Tests(QC Lot: 2405173)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	101	95.0	105	----
Physical Tests(QC Lot: 2405176)									
Moisture	----	E144	0.25	%	50 %	101	90.0	110	----
Metals(QC Lot: 2405174)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	114	80.0	120	----
Metals(QC Lot: 2405175)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	98.9	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	99.6	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	99.5	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	104	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	97.9	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	98.9	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	101	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	99.1	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	99.2	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	97.9	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	96.7	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	99.6	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	103	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	104	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	103	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	97.9	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	101	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	97.0	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	102	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	104	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.9	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	98.3	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	100	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	89.1	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	99.8	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	99.6	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	93.0	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	101	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	105	80.0	120	----



Sub-Matrix: Soil

					Laboratory Control Sample (LCS) Report				
					<i>Spike</i>	<i>Recovery (%)</i>	<i>Recovery Limits (%)</i>		
<i>Analyte</i>	<i>CAS Number</i>	<i>Method</i>	<i>LOR</i>	<i>Unit</i>	<i>Target Concentration</i>	<i>LCS</i>	<i>Low</i>	<i>High</i>	<i>Qualifier</i>
Metals(QC Lot: 2405175)									
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	101	80.0	120	---
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	95.8	80.0	120	---
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	103	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

Sub-Matrix: Soil

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
TCLP Metals(QC Lot: 2408355)										
VA25D4356-001	BA 2552-A-1	Mercury, TCLP	7439-97-6	E512	0.0029 mg/L	0.003 mg/L	95.4	50.0	140	---
TCLP Metals(QC Lot: 2408356)										
VA25D4356-001	BA 2552-A-1	Antimony, TCLP	7440-36-0	E444	5.62 mg/L	5 mg/L	112	50.0	140	---
		Arsenic, TCLP	7440-38-2	E444	5.2 mg/L	5 mg/L	105	50.0	140	---
		Barium, TCLP	7440-39-3	E444	13.5 mg/L	12.5 mg/L	108	50.0	140	---
		Beryllium, TCLP	7440-41-7	E444	0.244 mg/L	0.25 mg/L	97.6	50.0	140	---
		Boron, TCLP	7440-42-8	E444	9.37 mg/L	10 mg/L	93.7	50.0	140	---
		Cadmium, TCLP	7440-43-9	E444	0.258 mg/L	0.25 mg/L	103	50.0	140	---
		Calcium, TCLP	7440-70-2	E444	ND	---	ND	50.0	140	---
		Chromium, TCLP	7440-47-3	E444	1.28 mg/L	1.25 mg/L	102	50.0	140	---
		Cobalt, TCLP	7440-48-4	E444	ND	---	ND	50.0	140	---
		Copper, TCLP	7440-50-8	E444	2.46 mg/L	2.5 mg/L	98.6	50.0	140	---
		Iron, TCLP	7439-89-6	E444	248 mg/L	250 mg/L	99.1	50.0	140	---
		Lead, TCLP	7439-92-1	E444	10.2 mg/L	10 mg/L	102	50.0	140	---
		Magnesium, TCLP	7439-95-4	E444	241 mg/L	250 mg/L	96.6	50.0	140	---
		Nickel, TCLP	7440-02-0	E444	2.55 mg/L	2.5 mg/L	102	50.0	140	---
		Selenium, TCLP	7782-49-2	E444	5.20 mg/L	5 mg/L	104	50.0	140	---
		Silver, TCLP	7440-22-4	E444	0.105 mg/L	0.1 mg/L	105	50.0	140	---
		Thallium, TCLP	7440-28-0	E444	5.2 mg/L	5 mg/L	104	50.0	140	---
		Uranium, TCLP	7440-61-1	E444	5.18 mg/L	5 mg/L	104	50.0	150	---
		Vanadium, TCLP	7440-62-2	E444	0.78 mg/L	0.75 mg/L	103	50.0	140	---
		Zinc, TCLP	7440-66-6	E444	ND	---	ND	50.0	140	---
		Zirconium, TCLP	7440-67-7	E444	0.9 mg/L	1 mg/L	89.6	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: Soil

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Reference Material (RM) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	Original Result	LCS	Low	High	
Metals(QC Lot: 2405174)										
QC-MRG2-2405174001		Mercury	7439-97-6	E510	0.0675 mg/kg	0.0675 mg/kg		70.0	130	---
Metals(QC Lot: 2405175)										
QC-MRG2-2405174001		Aluminum	7429-90-5	E440	22490 mg/kg	22490 mg/kg		70.0	130	---
		Antimony	7440-36-0	E440	24.8 mg/kg	24.8 mg/kg		70.0	130	---
		Arsenic	7440-38-2	E440	21.2 mg/kg	21.2 mg/kg		70.0	130	---
		Barium	7440-39-3	E440	788 mg/kg	788 mg/kg		70.0	130	---
		Beryllium	7440-41-7	E440	1.82 mg/kg	1.82 mg/kg		70.0	130	---
		Bismuth	7440-69-9	E440	1.78 mg/kg	1.78 mg/kg		70.0	130	---
		Cadmium	7440-43-9	E440	2.15 mg/kg	2.15 mg/kg		70.0	130	---
		Calcium	7440-70-2	E440	4904 mg/kg	4904 mg/kg		70.0	130	---
		Chromium	7440-47-3	E440	56.9 mg/kg	56.9 mg/kg		70.0	130	---
		Cobalt	7440-48-4	E440	32 mg/kg	32 mg/kg		70.0	130	---
		Copper	7440-50-8	E440	969 mg/kg	969 mg/kg		70.0	130	---
		Iron	7439-89-6	E440	32740 mg/kg	32740 mg/kg		70.0	130	---
		Lead	7439-92-1	E440	919 mg/kg	919 mg/kg		70.0	130	---
		Lithium	7439-93-2	E440	47.3 mg/kg	47.3 mg/kg		70.0	130	---
		Magnesium	7439-95-4	E440	7780 mg/kg	7780 mg/kg		70.0	130	---
		Manganese	7439-96-5	E440	8639 mg/kg	8639 mg/kg		70.0	130	---
		Molybdenum	7439-98-7	E440	25.1 mg/kg	25.1 mg/kg		70.0	130	---
		Nickel	7440-02-0	E440	1004 mg/kg	1004 mg/kg		70.0	130	---
		Phosphorus	7723-14-0	E440	660 mg/kg	660 mg/kg		70.0	130	---
		Potassium	7440-09-7	E440	10820 mg/kg	10820 mg/kg		70.0	130	---
		Selenium	7782-49-2	E440	1.04 mg/kg	1.04 mg/kg		60.0	140	---



Sub-Matrix: Soil

					Reference Material (RM) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Target Concentration	Original Result	LCS	Low	High	Qualifier
Metals(QC Lot: 2405175)										
		Silver	7440-22-4	E440	8.98 mg/kg	8.98 mg/kg		70.0	130	----
		Sodium	7440-23-5	E440	1771 mg/kg	1771 mg/kg		70.0	130	----
		Strontium	7440-24-6	E440	41 mg/kg	41 mg/kg		70.0	130	----
		Sulfur	7704-34-9	E440	3935 mg/kg	3935 mg/kg		50.0	150	----
		Thallium	7440-28-0	E440	0.907 mg/kg	0.907 mg/kg		70.0	130	----
		Tin	7440-31-5	E440	3.79 mg/kg	3.79 mg/kg		40.0	160	----
		Titanium	7440-32-6	E440	2786 mg/kg	2786 mg/kg		70.0	130	----
		Tungsten	7440-33-7	E440	6.99 mg/kg	6.99 mg/kg		70.0	130	----
		Uranium	7440-61-1	E440	3.97 mg/kg	3.97 mg/kg		70.0	130	----
		Vanadium	7440-62-2	E440	66.2 mg/kg	66.2 mg/kg		70.0	130	----
		Zinc	7440-66-6	E440	828 mg/kg	828 mg/kg		70.0	130	----
		Zirconium	7440-67-7	E440	6.91 mg/kg	6.91 mg/kg		70.0	130	----

Bottom Ash Sampling

Bottom Ash Worksheet

Date sample composited (DD/MM/YYYY)	09/12/2025
Person doing the sampling	Noah
Total Sample Weight before processing, kg	120.35
Weight of Material >3/8", kg	37.4
Weight of Material that cannot be processed to <3/8" (metal, wood, etc), kg	5
Final Total weight of Processed Bottom Ash, kg	78.05

DATE
Load #
Load time
H2O Total
Acid Total
Trailer #

Finish

Start

Tank level
H2O SP
Acid SP

Time

Finished loading trailer

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

Fill twelve bags with approximately 2000g of mixed bottom ash and label each with "Bottom Ash" and the week the ash composite is from, i.e. "June 9-15, 2019"

Started loading trailer
All flyash loading parameters are normal
All flyash loading parameters are normal
All flyash loading parameters are normal
All flyash loading parameters are normal
All flyash loading parameters are normal