

Bottom Ash Data

2025 Week 40

The following analytical report represents bottom ash composite results for week 40 of 2025 (September 28, 2025 to October 4, 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	: VA25C6438		
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	: 06-Oct-2025 12:00
C-O-C number	: ----	Date Analysis Commenced	: 08-Oct-2025
Sampler	: ----	Issue Date	: 14-Oct-2025 14:02
Site	: Metro Van Ash Sampling Program (includes 2:11 pH)		
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
Janice Leung	Supervisor - Organics Instrumentation	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

Due to the adsorptive nature of Sample -1 ("BA 2540-A-1"), double the normal amounts of acids and water were required to conduct the BC SALM metals soil digestion. Test results are not adversely affected.



Analytical Results

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

					Client sample ID	BA 2540-A-1 ----	BA 2540-A-2 ----	BA 2540-A-3 ----	BA 2540-A-4 ----	BA 2540-A-5 ----
					Client sampling date / time	05-Oct-2025 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-001	VA25C6438-002	VA25C6438-003	VA25C6438-004	VA25C6438-005	
					Result	Result	Result	Result	Result	
Physical Tests										
Moisture	----	E144/VA	0.25	%	27.2	26.6	28.1	28.1	27.2	
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	10.09	10.14	10.15	10.15	10.14	
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg	40800	47300	38100	37500	37500	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	111	95.9	102	87.5	88.3	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	12.7	10.7	11.2	9.91	9.88	
Barium	7440-39-3	E440/VA	0.50	mg/kg	1110	546	552	604	575	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.38	0.37	0.39	0.34	0.34	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	6.07	8.04	10.7	5.83	6.52	
Boron	7440-42-8	E440/VA	5.0	mg/kg	171	165	164	231	136	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	7.84	9.75	7.57	7.37	6.82	
Calcium	7440-70-2	E440/VA	50	mg/kg	137000	130000	133000	119000	120000	
Chromium	7440-47-3	E440/VA	0.50	mg/kg	204	822	199	220	174	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	79.8	104	241	115	74.8	
Copper	7440-50-8	E440/VA	0.50	mg/kg	3640	4970	7300	1600	2080	
Iron	7439-89-6	E440/VA	50	mg/kg	76500	67300	55700	74000	75000	
Lead	7439-92-1	E440/VA	0.50	mg/kg	344	278	598	332	1690	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	48.1	33.4	41.2	30.0	43.0	
Magnesium	7439-95-4	E440/VA	20	mg/kg	11800	11800	12300	10800	11300	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	1080	925	918	894	912	
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	



Analytical Results

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

					Client sample ID	BA 2540-A-1	BA 2540-A-2	BA 2540-A-3	BA 2540-A-4	BA 2540-A-5
					Client sampling date / time	05-Oct-2025 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-001	VA25C6438-002	VA25C6438-003	VA25C6438-004	VA25C6438-005	
					Result	Result	Result	Result	Result	
Metals										
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	44.4	35.7	29.6	32.1	55.8	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	254	936	520	247	236	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	16900	13300	13900	12700	10700	
Potassium	7440-09-7	E440/VA	100	mg/kg	5460	5330	5300	5260	4960	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.46	0.39	0.51	0.45	0.40	
Silver	7440-22-4	E440/VA	0.10	mg/kg	19.7	18.0	>43.4	14.4	7.02	
Sodium	7440-23-5	E440/VA	50	mg/kg	17100	17000	17200	15900	15300	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	331	288	311	276	252	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	9600	9900	10300	9000	8700	
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	96.2	108	116	146	148	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	2440	350	362	219	270	
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	99.0	62.1	105	54.3	53.6	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.72	1.77	1.89	1.66	1.75	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	31.2	31.8	27.8	29.1	27.7	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	2970	3060	2750	3740	2760	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	6.9	5.1	3.6	3.9	4.2	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.36	11.34	11.35	11.33	11.37	
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	6.52	5.61	5.81	5.82	6.06	
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.90	2.90	2.90	2.90	2.90	



Analytical Results

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

					Client sample ID	BA 2540-A-1	BA 2540-A-2	BA 2540-A-3	BA 2540-A-4	BA 2540-A-5
					Client sampling date / time	05-Oct-2025 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-001	VA25C6438-002	VA25C6438-003	VA25C6438-004	VA25C6438-005	
					Result	Result	Result	Result	Result	
TCLP Metals										
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.93	6.63	6.67	6.83	6.86	
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	1.94	2.08	2.08	2.09	2.14	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	<0.050	0.051	0.051	<0.050	0.139	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1880	2030	1960	1920	1940	
Chromium, TCLP	7440-47-3	E444/VA	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	
Cobalt, TCLP	7440-48-4	E444/VA	0.050	mg/L	0.976	1.40	0.923	1.22	1.57	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.592	0.756	0.632	0.585	0.607	
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	112	119	121	116	114	
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	0.42	0.76	0.49	0.40	0.35	
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

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA 2540-A-1 ----	BA 2540-A-2 ----	BA 2540-A-3 ----	BA 2540-A-4 ----	BA 2540-A-5 ----
					Client sampling date / time	05-Oct-2025 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-001	VA25C6438-002	VA25C6438-003	VA25C6438-004	VA25C6438-005	
					Result	Result	Result	Result	Result	
TCLP Metals										
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L	4.07	9.48	5.72	3.68	3.10	
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 2540-A-6 ----	BA 2540-A-7 ----	BA 2540-A-8 ----	BA 2540-A-9 ----	BA 2540-A-10 ----
					Client sampling date / time	05-Oct-2025 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-006	VA25C6438-007	VA25C6438-008	VA25C6438-009	VA25C6438-010	
					Result	Result	Result	Result	Result	
Physical Tests										
Moisture	----	E144/VA	0.25	%	27.9	27.9	27.4	27.9	27.2	
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	10.08	10.08	10.20	10.13	10.20	
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg	43400	36800	42200	37600	30000	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	95.8	106	100	108	102	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	11.3	10.8	10.4	11.4	12.1	
Barium	7440-39-3	E440/VA	0.50	mg/kg	608	567	586	523	544	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.41	0.39	0.37	0.36	0.34	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	11.4	7.18	7.08	7.54	6.23	
Boron	7440-42-8	E440/VA	5.0	mg/kg	198	176	209	134	148	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	7.13	9.75	8.96	8.49	8.29	
Calcium	7440-70-2	E440/VA	50	mg/kg	129000	138000	127000	120000	117000	



Analytical Results

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

					Client sample ID	BA 2540-A-6	BA 2540-A-7	BA 2540-A-8	BA 2540-A-9	BA 2540-A-10
					Client sampling date / time	05-Oct-2025 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-006	VA25C6438-007	VA25C6438-008	VA25C6438-009	VA25C6438-010	
					Result	Result	Result	Result	Result	
Metals										
Chromium	7440-47-3	E440/VA	0.50	mg/kg	210	206	312	146	179	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	96.5	223	71.4	259	73.7	
Copper	7440-50-8	E440/VA	0.50	mg/kg	2470	3360	2450	4740	14400	
Iron	7439-89-6	E440/VA	50	mg/kg	65900	61600	70000	66400	69700	
Lead	7439-92-1	E440/VA	0.50	mg/kg	330	348	497	1430	284	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	33.4	41.9	32.2	38.6	30.0	
Magnesium	7439-95-4	E440/VA	20	mg/kg	12600	12100	11400	10900	10800	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	1040	790	946	1310	874	
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	<0.0500	<0.0500	0.0662	<0.0500	
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	30.2	32.9	74.4	31.2	34.9	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	272	420	764	151	1100	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	12200	14800	11800	12500	12400	
Potassium	7440-09-7	E440/VA	100	mg/kg	5660	5740	5180	5330	5040	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.51	0.48	0.46	0.34	0.44	
Silver	7440-22-4	E440/VA	0.10	mg/kg	7.41	8.96	9.90	15.6	>44.9	
Sodium	7440-23-5	E440/VA	50	mg/kg	17800	17900	16800	16400	15800	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	284	350	331	357	255	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	9000	10800	9500	9300	8700	
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	103	157	480	204	157	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	283	258	316	265	238	



Analytical Results

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

					Client sample ID	BA 2540-A-6	BA 2540-A-7	BA 2540-A-8	BA 2540-A-9	BA 2540-A-10
					Client sampling date / time	05-Oct-2025 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-006	VA25C6438-007	VA25C6438-008	VA25C6438-009	VA25C6438-010	
					Result	Result	Result	Result	Result	
Metals										
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	60.9	69.6	68.7	57.7	64.8	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.83	1.87	1.68	1.80	1.76	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	29.4	28.1	28.1	25.7	27.1	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	3260	6620	6920	3780	3830	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	3.2	3.0	3.9	4.7	3.9	
TCLP Metals										
pH, TCLP 1st preliminary	---	EPP444/VA	0.010	pH units	11.39	11.36	11.31	11.32	11.29	
pH, TCLP 2nd preliminary	---	EPP444/VA	0.010	pH units	5.74	5.46	2.56	4.50	3.30	
pH, TCLP extraction fluid initial	---	EPP444/VA	0.010	pH units	2.90	2.84	4.94	4.94	4.94	
pH, TCLP final	---	EPP444/VA	0.010	pH units	6.66	6.65	9.51	9.83	9.16	
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L	<1.00	<1.00	<1.00	<1.00	<1.00	
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L	2.06	2.03	0.74	0.78	0.82	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.051	0.101	<0.050	<0.050	<0.050	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	2030	1990	747	771	743	
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	0.810	1.82	<0.050	<0.050	<0.050	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.673	0.668	0.651	0.698	0.722	
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 2540-A-6 ----	BA 2540-A-7 ----	BA 2540-A-8 ----	BA 2540-A-9 ----	BA 2540-A-10 ----
					Client sampling date / time				
					05-Oct-2025 12:00	05-Oct-2025 12:00	05-Oct-2025 12:00	05-Oct-2025 12:00	05-Oct-2025 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-006	VA25C6438-007	VA25C6438-008	VA25C6438-009	VA25C6438-010
					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	118	116	4.9	4.6	4.5
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	0.38	0.46	<0.25	<0.25	<0.25
Selenium, TCLP	7782-49-2	E444/VA	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
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	7.10	6.48	<0.50	<0.50	<0.50
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 2540-A-11 ----	BA 2540-A-12 ----	----	----	----
					Client sampling date / time				
					05-Oct-2025 12:00	05-Oct-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-011	VA25C6438-012	----	----	----
					Result	Result	----	----	----
Physical Tests									
Moisture	----	E144/VA	0.25	%	27.8	28.2	----	----	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	10.22	10.17	----	----	----



Analytical Results

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

					Client sample ID	BA 2540-A-11	BA 2540-A-12	----	----	----
					Client sampling date / time	05-Oct-2025 12:00	05-Oct-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-011	VA25C6438-012	----	----	----	
					Result	Result	----	----	----	
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg	44800	39600	----	----	----	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	96.0	90.3	----	----	----	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	10.1	11.1	----	----	----	
Barium	7440-39-3	E440/VA	0.50	mg/kg	659	657	----	----	----	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.38	0.32	----	----	----	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	5.52	8.24	----	----	----	
Boron	7440-42-8	E440/VA	5.0	mg/kg	200	167	----	----	----	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	6.63	7.10	----	----	----	
Calcium	7440-70-2	E440/VA	50	mg/kg	131000	117000	----	----	----	
Chromium	7440-47-3	E440/VA	0.50	mg/kg	186	193	----	----	----	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	90.7	193	----	----	----	
Copper	7440-50-8	E440/VA	0.50	mg/kg	6730	3080	----	----	----	
Iron	7439-89-6	E440/VA	50	mg/kg	63000	87500	----	----	----	
Lead	7439-92-1	E440/VA	0.50	mg/kg	395	706	----	----	----	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	39.2	32.4	----	----	----	
Magnesium	7439-95-4	E440/VA	20	mg/kg	11000	12400	----	----	----	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	955	830	----	----	----	
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	<0.0500	<0.0500	----	----	----	
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	40.9	34.3	----	----	----	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	303	275	----	----	----	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	11200	13700	----	----	----	



Analytical Results

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

					Client sample ID	BA 2540-A-11	BA 2540-A-12	----	----	----
					Client sampling date / time	05-Oct-2025 12:00	05-Oct-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-011	VA25C6438-012	----	----	----	
					Result	Result	----	----	----	
Metals										
Potassium	7440-09-7	E440/VA	100	mg/kg	5480	5220	----	----	----	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.34	0.53	----	----	----	
Silver	7440-22-4	E440/VA	0.10	mg/kg	9.20	24.9	----	----	----	
Sodium	7440-23-5	E440/VA	50	mg/kg	17400	16400	----	----	----	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	496	347	----	----	----	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	8700	8300	----	----	----	
Thallium	7440-28-0	E440/VA	0.050	mg/kg	<0.050	<0.050	----	----	----	
Tin	7440-31-5	E440/VA	2.0	mg/kg	137	371	----	----	----	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	375	346	----	----	----	
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	75.7	64.7	----	----	----	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.69	1.57	----	----	----	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	28.5	26.0	----	----	----	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	4030	3410	----	----	----	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	9.2	3.9	----	----	----	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.30	11.31	----	----	----	
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	3.32	2.92	----	----	----	
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	4.94	4.94	----	----	----	
pH, TCLP final	----	EPP444/VA	0.010	pH units	9.77	9.69	----	----	----	
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

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

					Client sample ID	BA 2540-A-11	BA 2540-A-12	----	----	----
					Client sampling date / time	05-Oct-2025 12:00	05-Oct-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25C6438-011	VA25C6438-012	----	----	----	----
					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	0.82	0.82	----	----	----	----
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	<0.050	<0.050	----	----	----	----
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	765	786	----	----	----	----
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	<0.050	<0.050	----	----	----	----
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.689	0.666	----	----	----	----
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	5.1	5.1	----	----	----	----
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	<0.25	<0.25	----	----	----	----
Selenium, TCLP	7782-49-2	E444/VA	0.10	mg/L	<0.10	<0.10	----	----	----	----
Silver, TCLP	7440-22-4	E444/VA	0.050	mg/L	<0.050	<0.050	----	----	----	----
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	<0.50	<0.50	----	----	----	----
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 : VA25C6438</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 (includes 2:11 pH)</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 : 06-Oct-2025 12:00</p> <p>Issue Date : 14-Oct-2025 13:56</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 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	VA25C6438-001	BA 2540-A-1	Cobalt	7440-48-4	E440	59.1 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C6438-001	BA 2540-A-1	Copper	7440-50-8	E440	58.8 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25C6438-001	BA 2540-A-1	Lead	7439-92-1	E440	175 % DUP-H	40%	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 2540-A-1	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-10	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-11	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-12	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-2	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-3	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-4	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 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 2540-A-5	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-6	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-7	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-8	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Mercury in Soil/Solid by CVAAS											
LDPE bag BA 2540-A-9	E510	05-Oct-2025	11-Oct-2025	28 days	6 days	✔	11-Oct-2025	28 days	0 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-1	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-10	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-11	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-12	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 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		
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-2	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-3	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-4	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-5	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-6	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-7	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-8	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag BA 2540-A-9	E440	05-Oct-2025	11-Oct-2025	180 days	6 days	✔	12-Oct-2025	180 days	6 days	✔	
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-1	E144	05-Oct-2025	----	----	----		09-Oct-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 2540-A-10	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-11	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-12	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-2	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-3	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-4	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-5	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-6	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-7	E144	05-Oct-2025	----	----	----		09-Oct-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 2540-A-8	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : Moisture Content by Gravimetry											
LDPE bag BA 2540-A-9	E144	05-Oct-2025	----	----	----		09-Oct-2025	----	----		
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-1	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-10	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-11	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-12	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-2	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-3	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-4	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 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		
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-5	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-6	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-7	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-8	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)											
LDPE bag BA 2540-A-9	E108	05-Oct-2025	11-Oct-2025	30 days	6 days	✔	11-Oct-2025	30 days	6 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2540-A-1	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2540-A-10	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2540-A-11	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔	
TCLP Metals : Mercury by CVAAS (TCLP)											
Glass vial - total (lab preserved) BA 2540-A-12	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 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 2540-A-2	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2540-A-3	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2540-A-4	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2540-A-5	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2540-A-6	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2540-A-7	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2540-A-8	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2540-A-9	E512	05-Oct-2025	09-Oct-2025	28 days	4 days	✔	09-Oct-2025	28 days	4 days	✔
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2540-A-1	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 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 2540-A-10	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-11	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-12	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-2	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-3	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-4	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-5	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-6	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-7	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 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 2540-A-8	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : Metals by CRC ICPMS (TCLP)											
HDPE - total (lab preserved) BA 2540-A-9	E444	05-Oct-2025	09-Oct-2025	180 days	4 days	✔	10-Oct-2025	180 days	4 days	✔	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-1	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-10	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-11	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-12	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-2	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-3	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-4	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 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 2540-A-5	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-6	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-7	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-8	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 days	✔
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2540-A-9	EPP444	05-Oct-2025	08-Oct-2025	----	----		----	28 days	3 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	2269174	1	15	6.6	5.0	✔
Moisture Content by Gravimetry	E144	2269175	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2269172	1	15	6.6	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2268002	2	12	16.6	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2269173	1	15	6.6	5.0	✔
Mercury by CVAAS (TCLP)	E512	2268001	2	12	16.6	5.0	✔
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2269174	1	15	6.6	5.0	✔
Moisture Content by Gravimetry	E144	2269175	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2269172	2	15	13.3	10.0	✔
Mercury in Soil/Solid by CVAAS	E510	2269173	2	15	13.3	10.0	✔
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2269175	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2269172	1	15	6.6	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2268002	2	12	16.6	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2269173	1	15	6.6	5.0	✔
Mercury by CVAAS (TCLP)	E512	2267999	2	12	16.6	5.0	✔
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	2268002	2	12	16.6	5.0	✔
Mercury by CVAAS (TCLP)	E512	2267999	2	12	16.6	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	: VA25C6438	Page	: 1 of 14
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	: 06-Oct-2025 12:00
PO	: 1000497676	Date Analysis Commenced	: 08-Oct-2025
C-O-C number	: ----	Issue Date	: 14-Oct-2025 13:57
Sampler	: ----		
Site	: Metro Van Ash Sampling Program (includes 2:11 pH)		
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>
Dan Gebert	Supervisor - Metals Mercury & Speciation	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	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: 2269174)											
VA25C6438-001	BA 2540-A-1	pH (1:2 soil:water)	----	E108	0.10	pH units	10.09	10.15	0.6%	5%	----
Physical Tests (QC Lot: 2269175)											
VA25C6438-001	BA 2540-A-1	Moisture	----	E144	0.25	%	27.2	27.4	0.658%	20%	----
Metals (QC Lot: 2269172)											
VA25C6438-001	BA 2540-A-1	Aluminum	7429-90-5	E440	50	mg/kg	40800	48200	16.7%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	111	115	3.07%	30%	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	12.7	11.9	5.97%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	1110	1190	6.63%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.38	0.41	0.03	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	6.07	6.61	8.50%	30%	----
		Boron	7440-42-8	E440	5.0	mg/kg	171	202	16.5%	30%	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	7.84	6.73	15.2%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	137000	127000	7.60%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	204	275	29.4%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	79.8	147	59.1%	30%	DUP-H
		Copper	7440-50-8	E440	0.50	mg/kg	3640	1990	58.8%	30%	DUP-H
		Iron	7439-89-6	E440	50	mg/kg	76500	90200	16.4%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	344	5120	175%	40%	DUP-H
		Lithium	7439-93-2	E440	2.0	mg/kg	48.1	37.2	25.6%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	11800	11300	4.33%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	1080	1000	7.66%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	44.4	40.3	9.84%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	254	210	18.8%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	16900	14700	14.4%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	5460	5600	2.54%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.46	0.48	0.01	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	19.7	14.0	33.9%	40%	----
		Sodium	7440-23-5	E440	50	mg/kg	17100	17900	4.62%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	331	312	6.03%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	9600	9800	2.08%	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: 2269172) - continued											
VA25C6438-001	BA 2540-A-1	Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	0.067	0.017	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	96.2	105	8.40%	40%	----
		Titanium	7440-32-6	E440	1.0	mg/kg	2440	2910	17.8%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	99.0	101	2.08%	30%	----
		Uranium	7440-61-1	E440	0.050	mg/kg	1.72	1.73	0.393%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	31.2	34.3	9.55%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	2970	3180	6.71%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	6.9	6.5	6.11%	30%	----
Metals (QC Lot: 2269173)											
VA25C6438-001	BA 2540-A-1	Mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2267999)											
VA25C6438-001	BA 2540-A-1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2268000)											
VA25C6438-001	BA 2540-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	1.94	1.97	0.03	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1880	1900	1.30%	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	0.976	0.963	1.36%	30%	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	0.592	0.585	1.22%	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	112	112	0.0659%	30%	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.42	0.41	0.004	Diff <2x LOR	----
		Selenium, TCLP	7782-49-2	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	0	Diff <2x LOR	----
		Zinc, TCLP	7440-66-6	E444	0.50	mg/L	4.07	4.09	0.411%	30%	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	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: 2268001)											
VA25C6438-008	BA 2540-A-8	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2268002)											
VA25C6438-008	BA 2540-A-8	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	0.74	0.79	0.04	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	747	756	1.13%	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	<0.050	<0.050	0	Diff <2x LOR	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	0.651	0.671	2.92%	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	4.9	5.0	0.1	Diff <2x LOR	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	<0.25	0	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	<0.50	<0.50	0	Diff <2x LOR	----		
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: 2269175)						
Moisture	---	E144	0.25	%	<0.25	---
Metals (QCLot: 2269172)						
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	---



Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2269172) - continued						
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	---
Metals (QCLot: 2269173)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	---
TCLP Metals (QCLot: 2267999)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	---
TCLP Metals (QCLot: 2268000)						
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	---
TCLP Metals (QCLot: 2268001)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	---
TCLP Metals (QCLot: 2268002)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	---
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	---



Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 2268002) - continued						
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: 2269174)									
pH (1:2 soil:water)	---	E108	---	pH units	6 pH units	99.3	95.0	105	---
Physical Tests (QCLot: 2269175)									
Moisture	---	E144	0.25	%	50 %	99.7	90.0	110	---
Metals (QCLot: 2269172)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	98.5	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	94.8	80.0	120	---
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	97.2	80.0	120	---
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	102	80.0	120	---
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	91.8	80.0	120	---
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	91.1	80.0	120	---
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	94.5	80.0	120	---
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	98.3	80.0	120	---
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	97.8	80.0	120	---
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	95.9	80.0	120	---
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	92.7	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	97.4	80.0	120	---
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	103	80.0	120	---
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	100	80.0	120	---
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	94.5	80.0	120	---
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	97.6	80.0	120	---
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	93.9	80.0	120	---
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	99.6	80.0	120	---
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	98.5	80.0	120	---
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	95.2	80.0	120	---
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	93.5	80.0	120	---
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	99.5	80.0	120	---
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	100	80.0	120	---
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	99.5	80.0	120	---
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	92.8	80.0	120	---
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	90.6	80.0	120	---



Sub-Matrix: Soil/Solid

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2269172) - continued									
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	92.8	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	95.7	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	102	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	98.7	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	95.7	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	98.1	80.0	120	----
Metals (QCLot: 2269173)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	93.8	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: 2267999)										
VA25C6438-001	BA 2540-A-1	Mercury, TCLP	7439-97-6	E512	0.0028 mg/L	0.003 mg/L	93.6	50.0	140	----
TCLP Metals (QCLot: 2268000)										
VA25C6438-001	BA 2540-A-1	Antimony, TCLP	7440-36-0	E444	4.90 mg/L	5 mg/L	98.1	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.8 mg/L	5 mg/L	95.8	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.3 mg/L	12.5 mg/L	98.4	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.235 mg/L	0.25 mg/L	94.0	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.43 mg/L	10 mg/L	94.3	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.229 mg/L	0.25 mg/L	91.7	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.16 mg/L	1.25 mg/L	92.6	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	ND mg/L	----	ND	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.23 mg/L	2.5 mg/L	89.0	50.0	140	----
		Iron, TCLP	7439-89-6	E444	228 mg/L	250 mg/L	91.0	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.00 mg/L	10 mg/L	90.0	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	241 mg/L	250 mg/L	96.3	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.22 mg/L	2.5 mg/L	89.0	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.68 mg/L	5 mg/L	93.7	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.093 mg/L	0.1 mg/L	93.4	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.5 mg/L	5 mg/L	90.6	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.61 mg/L	5 mg/L	92.2	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.69 mg/L	0.75 mg/L	91.8	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	8.80 mg/L	10 mg/L	88.0	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	81.0	50.0	150	----
TCLP Metals (QCLot: 2268001)										
VA25C6438-008	BA 2540-A-8	Mercury, TCLP	7439-97-6	E512	0.0028 mg/L	0.003 mg/L	92.5	50.0	140	----
TCLP Metals (QCLot: 2268002)										
VA25C6438-008	BA 2540-A-8	Antimony, TCLP	7440-36-0	E444	4.82 mg/L	5 mg/L	96.4	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.7 mg/L	5 mg/L	93.7	50.0	140	----
		Barium, TCLP	7440-39-3	E444	11.5 mg/L	12.5 mg/L	91.7	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.226 mg/L	0.25 mg/L	90.2	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.22 mg/L	10 mg/L	92.2	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.222 mg/L	0.25 mg/L	88.9	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.14 mg/L	1.25 mg/L	90.9	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.224 mg/L	0.25 mg/L	89.5	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.21 mg/L	2.5 mg/L	88.5	50.0	140	----
		Iron, TCLP	7439-89-6	E444	218 mg/L	250 mg/L	87.4	50.0	140	----
		Lead, TCLP	7439-92-1	E444	8.45 mg/L	10 mg/L	84.5	50.0	140	----



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: 2268002) - continued										
VA25C6438-008	BA 2540-A-8	Magnesium, TCLP	7439-95-4	E444	232 mg/L	250 mg/L	92.9	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.19 mg/L	2.5 mg/L	87.5	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.59 mg/L	5 mg/L	91.9	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.090 mg/L	0.1 mg/L	89.8	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.2 mg/L	5 mg/L	83.5	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.35 mg/L	5 mg/L	87.0	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.67 mg/L	0.75 mg/L	89.9	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	8.78 mg/L	10 mg/L	87.8	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	77.6	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:

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: 2269172)									
QC-2269172-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	102	70.0	130	----
QC-2269172-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	97.7	70.0	130	----
QC-2269172-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	93.3	70.0	130	----
QC-2269172-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	95.8	70.0	130	----
QC-2269172-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	103	70.0	130	----
QC-2269172-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	86.0	70.0	130	----
QC-2269172-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	96.4	70.0	130	----
QC-2269172-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	97.2	70.0	130	----
QC-2269172-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	99.7	70.0	130	----
QC-2269172-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	96.7	70.0	130	----
QC-2269172-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	93.0	70.0	130	----
QC-2269172-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	98.4	70.0	130	----
QC-2269172-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	88.3	70.0	130	----
QC-2269172-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	109	70.0	130	----
QC-2269172-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	102	70.0	130	----
QC-2269172-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	93.2	70.0	130	----
QC-2269172-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	97.8	70.0	130	----
QC-2269172-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	95.2	70.0	130	----
QC-2269172-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	99.4	70.0	130	----
QC-2269172-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	96.7	70.0	130	----
QC-2269172-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	98.2	60.0	140	----
QC-2269172-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	97.6	70.0	130	----
QC-2269172-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	108	70.0	130	----
QC-2269172-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	101	70.0	130	----
QC-2269172-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	99.0	50.0	150	----
QC-2269172-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	93.3	70.0	130	----
QC-2269172-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	98.9	40.0	160	----
QC-2269172-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	98.2	70.0	130	----
QC-2269172-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	112	70.0	130	----
QC-2269172-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	89.2	70.0	130	----
QC-2269172-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	96.6	70.0	130	----
QC-2269172-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	95.7	70.0	130	----
QC-2269172-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	105	70.0	130	----

Page : 14 of 14
 Work Order : VA25C6438
 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: 2269173)									
QC-2269173-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	94.3	70.0	130	----



Report To		Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)									
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: lorengo.ilao@veolia.com													
Phone: 604-521-1025 Fax:		Email 3: karen.thornquist@veolia.com				Analysis Request									
		brent.kirkpatrick@metrovancover.org													
		Sarah.Wellman@metrovancover.org													
Invoice To Same as Report? Veolia Water Canada		Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)									
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 #:													
Lab Work Order # (lab use only)		ALS Contact:		Sampler:											
C6438															
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
	BA 2539-A-1	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-2	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-3	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-4	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-5	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-6	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-7	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-8	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-9	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-10	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-11	1 Oct 2025	12:00	Soil	X	X		X							1
	BA 2539-A-12	1 Oct 2025	12:00	Soil	X	X		X							1
water Aquatic															
Form may delay dates with the Terms and numbers and															
SHIPMENT RECEPTION (lab use only)		SHIPMENT VERIFICATION (lab use only)													
Released by:	Date (dd-mmm-yy): 06/10/25	Time (hh-mm): 07:40	Received by: CW	Date: Oct 6	Time: 12pm	Temperature: 19 °C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF					

Environmental Division
 Vancouver
 Work Order Reference
VA25C6438

Telephone: +1 804 253 4188

EMS OPERATIONAL PROCEDURE No. BA2

Bottom Ash Sampling

Bottom Ash Worksheet

Date sample composited (DD/MM/YYYY)	Oct 6 / 25
Person doing the sampling	R Lambert
Total Sample Weight before processing, kg	103
Weight of Material >3/8", kg	16.1
Weight of Material that cannot be processed to <3/8" (metal, wood, etc), kg	14.4
Final Total weight of Processed Bottom Ash, kg	88.6

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"