metrovancouver

Bottom Ash Data

2025 Week 41

The following analytical report represents bottom ash composite results for week 41 of 2025 (October 5, 2025 to October 11, 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	:	**VA25C7339**			
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	:	15-Oct-2025 10:20
C-O-C number	:	----	Date Analysis Commenced	:	15-Oct-2025
Sampler	:	----	Issue Date	:	22-Oct-2025 16:29
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.

Signatories	*Position*	*Laboratory Department*
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Organics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

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

<: less than.
>: greater than.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-1 ----	BA 2541-A-2 ----	BA 2541-A-3 ----	BA 2541-A-4 ----	BA 2541-A-5 ----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
						VA25C7339-001	VA25C7339-002	VA25C7339-003	VA25C7339-004	VA25C7339-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		26.6	28.0	28.0	29.0	28.0
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		9.78	9.77	9.83	9.78	9.78
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		53000	40100	40800	40800	39900
Antimony	7440-36-0	E440/VA	0.10	mg/kg		133	169	129	176	126
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		17.0	12.8	13.5	15.8	13.2
Barium	7440-39-3	E440/VA	0.50	mg/kg		600	604	491	444	487
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.43	0.38	0.34	0.35	0.36
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		6.56	8.91	7.52	8.18	7.32
Boron	7440-42-8	E440/VA	5.0	mg/kg		203	179	219	272	144
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		8.73	8.02	8.51	10.2	10.1
Calcium	7440-70-2	E440/VA	50	mg/kg		139000	135000	143000	123000	139000
Chromium	7440-47-3	E440/VA	0.50	mg/kg		205	231	190	237	183
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		244	42.7	71.8	60.8	90.3
Copper	7440-50-8	E440/VA	0.50	mg/kg		3950	9090	1980	34800	2770
Iron	7439-89-6	E440/VA	50	mg/kg		72800	56100	55000	75900	49900
Lead	7439-92-1	E440/VA	0.50	mg/kg		255	2750	357	341	365
Lithium	7439-93-2	E440/VA	2.0	mg/kg		35.2	30.1	32.4	44.9	40.7
Magnesium	7439-95-4	E440/VA	20	mg/kg		13100	12500	11500	11400	11300
Manganese	7439-96-5	E440/VA	1.0	mg/kg		872	812	721	877	822
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.337	0.272	0.0862	0.243	0.113

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: BA 2541-A-1 ----	BA 2541-A-2 ----	BA 2541-A-3 ----	BA 2541-A-4 ----	BA 2541-A-5 ----
					Client sampling date / time: 13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
					VA25C7339-001	VA25C7339-002	VA25C7339-003	VA25C7339-004	VA25C7339-005
					Result	Result	Result	Result	Result
Metals									
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	30.0	36.7	41.3	30.0	32.7
Nickel	7440-02-0	E440/VA	0.50	mg/kg	1170	214	139	635	143
Phosphorus	7723-14-0	E440/VA	50	mg/kg	11600	11100	12600	9630	13200
Potassium	7440-09-7	E440/VA	100	mg/kg	6120	5960	5920	5500	6180
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.48	0.51	0.56	0.47	0.69
Silver	7440-22-4	E440/VA	0.10	mg/kg	8.08	>27.1	12.5	8.69	8.11
Sodium	7440-23-5	E440/VA	50	mg/kg	18100	17600	17600	16600	17500
Strontium	7440-24-6	E440/VA	0.50	mg/kg	311	306	306	325	337
Sulfur	7704-34-9	E440/VA	1000	mg/kg	11800	12200	13600	12000	12700
Thallium	7440-28-0	E440/VA	0.050	mg/kg	<0.050	<0.050	<0.050	0.081	<0.050
Tin	7440-31-5	E440/VA	2.0	mg/kg	100	612	135	186	96.8
Titanium	7440-32-6	E440/VA	1.0	mg/kg	377	303	229	341	242
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	42.5	69.0	66.9	37.5	50.6
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.72	1.67	1.62	1.62	1.71
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	34.5	30.9	28.0	29.4	28.8
Zinc	7440-66-6	E440/VA	2.0	mg/kg	3700	2890	3270	7650	4050
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	3.9	2.3	3.0	3.7	3.1
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.05	11.07	11.09	11.00	11.10
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	5.81	4.79	5.30	4.03	5.09
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.92	4.93	2.92	4.93	2.92

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-1 ----	BA 2541-A-2 ----	BA 2541-A-3 ----	BA 2541-A-4 ----	BA 2541-A-5 ----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
						VA25C7339-001	VA25C7339-002	VA25C7339-003	VA25C7339-004	VA25C7339-005
						Result	Result	Result	Result	Result
TCLP Metals										
pH, TCLP final	----	EPP444/VA	0.010	pH units		6.48	9.16	6.68	9.39	6.77
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L		<1.00	<1.00	<1.00	<1.00	<1.00
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L		<2.5	<2.5	<2.5	<2.5	<2.5
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L		<0.025	<0.025	<0.025	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L		1.97	0.86	2.04	1.00	2.33
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L		0.243	<0.050	0.085	<0.050	0.192
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L		1910	856	2020	926	2000
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		1.15	<0.050	0.779	<0.050	0.681
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		0.646	0.767	0.698	0.706	0.801
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		128	17.0	126	21.0	126
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		0.39	<0.25	0.37	<0.25	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

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-1 ----	BA 2541-A-2 ----	BA 2541-A-3 ----	BA 2541-A-4 ----	BA 2541-A-5 ----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
						VA25C7339-001	VA25C7339-002	VA25C7339-003	VA25C7339-004	VA25C7339-005
						Result	Result	Result	Result	Result
TCLP Metals										
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L		12.9	<0.50	8.41	<0.50	7.31
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)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-6 ----	BA 2541-A-7 ----	BA 2541-A-8 ----	BA 2541-A-9 ----	BA 2541-A-10 ----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
						VA25C7339-006	VA25C7339-007	VA25C7339-008	VA25C7339-009	VA25C7339-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		27.8	29.9	29.1	29.9	29.7
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		9.70	9.80	9.78	9.83	9.81
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		58200	44700	45500	44900	37000
Antimony	7440-36-0	E440/VA	0.10	mg/kg		199	133	190	130	117
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		13.2	10.8	13.4	15.8	12.8
Barium	7440-39-3	E440/VA	0.50	mg/kg		520	538	553	531	567
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.35	0.35	0.43	0.36	0.35
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		7.86	7.16	7.27	6.80	7.55
Boron	7440-42-8	E440/VA	5.0	mg/kg		189	140	168	162	271
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		10.7	7.86	11.6	8.20	42.7
Calcium	7440-70-2	E440/VA	50	mg/kg		135000	130000	146000	138000	128000

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-6 ----	BA 2541-A-7 ----	BA 2541-A-8 ----	BA 2541-A-9 ----	BA 2541-A-10 ----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
						VA25C7339-006	VA25C7339-007	VA25C7339-008	VA25C7339-009	VA25C7339-010
						Result	Result	Result	Result	Result
Metals										
Chromium	7440-47-3	E440/VA	0.50	mg/kg		171	513	141	239	233
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		69.5	41.4	33.9	58.2	64.3
Copper	7440-50-8	E440/VA	0.50	mg/kg		2970	11900	2640	11000	8250
Iron	7439-89-6	E440/VA	50	mg/kg		58000	64600	49900	62900	51100
Lead	7439-92-1	E440/VA	0.50	mg/kg		2520	431	269	400	259
Lithium	7439-93-2	E440/VA	2.0	mg/kg		33.2	25.3	30.8	52.0	27.4
Magnesium	7439-95-4	E440/VA	20	mg/kg		12000	11000	13400	10700	11300
Manganese	7439-96-5	E440/VA	1.0	mg/kg		1000	1120	866	1260	783
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.152	0.135	0.383	0.149	0.117
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		31.2	68.4	33.7	46.6	49.3
Nickel	7440-02-0	E440/VA	0.50	mg/kg		246	318	142	741	720
Phosphorus	7723-14-0	E440/VA	50	mg/kg		10400	10200	11700	13000	10600
Potassium	7440-09-7	E440/VA	100	mg/kg		5880	5100	6140	5290	5550
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.42	0.39	0.45	0.48	0.43
Silver	7440-22-4	E440/VA	0.10	mg/kg		7.05	>77.2	>35.2	9.32	7.82
Sodium	7440-23-5	E440/VA	50	mg/kg		17500	15700	17600	16900	16400
Strontium	7440-24-6	E440/VA	0.50	mg/kg		327	309	322	403	311
Sulfur	7704-34-9	E440/VA	1000	mg/kg		11700	10900	12200	11700	10700
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		1330	1640	262	95.5	385
Titanium	7440-32-6	E440/VA	1.0	mg/kg		379	253	253	256	258

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-6 ----	BA 2541-A-7 ----	BA 2541-A-8 ----	BA 2541-A-9 ----	BA 2541-A-10 ----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
						VA25C7339-006	VA25C7339-007	VA25C7339-008	VA25C7339-009	VA25C7339-010
						Result	Result	Result	Result	Result
Metals										
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		34.3	49.4	41.8	40.0	52.9
Uranium	7440-61-1	E440/VA	0.050	mg/kg		1.62	1.57	1.74	1.55	1.55
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		29.5	31.6	28.7	29.0	28.5
Zinc	7440-66-6	E440/VA	2.0	mg/kg		3240	2490	3420	2810	2880
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		5.6	4.1	2.8	2.7	3.1
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		11.05	11.25	11.24	11.27	11.27
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		5.27	2.83	3.40	4.10	3.08
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		2.92	4.93	4.93	4.93	4.93
pH, TCLP final	----	EPP444/VA	0.010	pH units		6.71	9.43	9.26	9.36	9.37
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		2.10	0.92	0.97	0.90	0.99
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L		0.087	<0.050	<0.050	<0.050	<0.050
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L		2050	912	920	884	903
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		1.01	<0.050	<0.050	<0.050	<0.050
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		0.751	0.789	0.713	0.762	0.773
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)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-6 ----	BA 2541-A-7 ----	BA 2541-A-8 ----	BA 2541-A-9 ----	BA 2541-A-10 ----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00	13-Oct-2025 12:00
						VA25C7339-006	VA25C7339-007	VA25C7339-008	VA25C7339-009	VA25C7339-010
						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		129	18.6	20.2	18.0	16.8
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	<0.25	<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		10.1	<0.50	<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)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-11 ----	BA 2541-A-12 ----	----	----	----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	----	----	----
						VA25C7339-011	VA25C7339-012	----	----	----
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/VA	0.25	%		27.9	27.2	----	----	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		9.78	9.77	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-11 ----	BA 2541-A-12 ----	----	----	----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	----	----	----
						VA25C7339-011	VA25C7339-012	----	----	----
						Result	Result	----	----	----
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		36100	48000	----	----	----
Antimony	7440-36-0	E440/VA	0.10	mg/kg		128	130	----	----	----
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		13.6	13.7	----	----	----
Barium	7440-39-3	E440/VA	0.50	mg/kg		527	466	----	----	----
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.48	0.35	----	----	----
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		8.58	8.09	----	----	----
Boron	7440-42-8	E440/VA	5.0	mg/kg		163	154	----	----	----
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		11.4	8.35	----	----	----
Calcium	7440-70-2	E440/VA	50	mg/kg		139000	133000	----	----	----
Chromium	7440-47-3	E440/VA	0.50	mg/kg		164	277	----	----	----
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		79.0	54.7	----	----	----
Copper	7440-50-8	E440/VA	0.50	mg/kg		3610	2150	----	----	----
Iron	7439-89-6	E440/VA	50	mg/kg		55900	56100	----	----	----
Lead	7439-92-1	E440/VA	0.50	mg/kg		356	324	----	----	----
Lithium	7439-93-2	E440/VA	2.0	mg/kg		27.4	27.1	----	----	----
Magnesium	7439-95-4	E440/VA	20	mg/kg		12400	12000	----	----	----
Manganese	7439-96-5	E440/VA	1.0	mg/kg		1060	805	----	----	----
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.148	0.104	----	----	----
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		38.4	37.6	----	----	----
Nickel	7440-02-0	E440/VA	0.50	mg/kg		370	148	----	----	----
Phosphorus	7723-14-0	E440/VA	50	mg/kg		11900	11300	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-11 ----	BA 2541-A-12 ----	----	----	----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	----	----	----
						VA25C7339-011	VA25C7339-012	----	----	----
						Result	Result	----	----	----
Metals										
Potassium	7440-09-7	E440/VA	100	mg/kg		6010	6190	----	----	----
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.46	0.42	----	----	----
Silver	7440-22-4	E440/VA	0.10	mg/kg		8.70	6.90	----	----	----
Sodium	7440-23-5	E440/VA	50	mg/kg		17000	17800	----	----	----
Strontium	7440-24-6	E440/VA	0.50	mg/kg		347	357	----	----	----
Sulfur	7704-34-9	E440/VA	1000	mg/kg		12800	12700	----	----	----
Thallium	7440-28-0	E440/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Tin	7440-31-5	E440/VA	2.0	mg/kg		134	111	----	----	----
Titanium	7440-32-6	E440/VA	1.0	mg/kg		263	347	----	----	----
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		81.9	47.4	----	----	----
Uranium	7440-61-1	E440/VA	0.050	mg/kg		1.74	1.62	----	----	----
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		37.3	30.2	----	----	----
Zinc	7440-66-6	E440/VA	2.0	mg/kg		40900	4950	----	----	----
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		2.6	4.8	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		11.21	11.20	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		3.16	3.89	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		4.93	4.93	----	----	----
pH, TCLP final	----	EPP444/VA	0.010	pH units		9.37	9.09	----	----	----
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)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2541-A-11 ----	BA 2541-A-12 ----	----	----	----
					Client sampling date / time	13-Oct-2025 12:00	13-Oct-2025 12:00	----	----	----
						VA25C7339-011	VA25C7339-012	----	----	----
						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		1.07	1.10	----	----	----
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		876	894	----	----	----
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		0.722	0.656	----	----	----
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		20.6	25.7	----	----	----
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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25C7339**	Page	: 1 of 15
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	: 15-Oct-2025 10:20
PO	: 1000497676	Issue Date	: 22-Oct-2025 16:29
C-O-C number	: ----		
Sampler	: ----		
Site	: Metro Van Ash Sampling Program		
Quote number	: VA25-VISI100-001		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

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

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

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

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

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

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

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-1	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-10	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-11	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-12	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-2	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-3	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-4	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-5	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-6	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-7	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-8	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2541-A-9	E510	13-Oct-2025	22-Oct-2025	28 days	9 days	✓	22-Oct-2025	28 days	0 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-1	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-10	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-11	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-12	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-2	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-3	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-4	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-5	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-6	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-7	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-8	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2541-A-9	E440	13-Oct-2025	22-Oct-2025	180 days	9 days	✓	22-Oct-2025	180 days	9 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-1	E144	13-Oct-2025	----	----	----		15-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-10	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-11	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-12	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-2	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-3	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-4	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-5	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-6	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-7	E144	13-Oct-2025	----	----	----		15-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-8	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2541-A-9	E144	13-Oct-2025	----	----	----		15-Oct-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-1	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-10	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-11	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-12	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-2	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-3	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-4	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-5	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-6	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-7	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-8	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2541-A-9	E108	13-Oct-2025	18-Oct-2025	30 days	5 days	✓	19-Oct-2025	30 days	5 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2541-A-1	E512	15-Oct-2025	17-Oct-2025	30 days	4 days	✓	17-Oct-2025	30 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2541-A-2	E512	15-Oct-2025	17-Oct-2025	30 days	4 days	✓	17-Oct-2025	30 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2541-A-3	E512	15-Oct-2025	17-Oct-2025	30 days	4 days	✓	17-Oct-2025	30 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2541-A-4	E512	15-Oct-2025	17-Oct-2025	30 days	4 days	✓	17-Oct-2025	30 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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-5	E512	15-Oct-2025	17-Oct-2025	30 days	4 days	✓	17-Oct-2025	30 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-6	E512	15-Oct-2025	17-Oct-2025	30 days	4 days	✓	17-Oct-2025	30 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-10	E512	16-Oct-2025	17-Oct-2025	31 days	4 days	✓	17-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-11	E512	16-Oct-2025	17-Oct-2025	31 days	4 days	✓	17-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-12	E512	16-Oct-2025	17-Oct-2025	31 days	4 days	✓	17-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-7	E512	16-Oct-2025	17-Oct-2025	31 days	4 days	✓	17-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-8	E512	16-Oct-2025	17-Oct-2025	31 days	4 days	✓	17-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
BA 2541-A-9	E512	16-Oct-2025	17-Oct-2025	31 days	4 days	✓	17-Oct-2025	31 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved)										
BA 2541-A-1	E444	15-Oct-2025	17-Oct-2025	182 days	4 days	✓	18-Oct-2025	182 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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-2	E444	15-Oct-2025	17-Oct-2025	182 days	4 days	✓	18-Oct-2025	182 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-3	E444	15-Oct-2025	17-Oct-2025	182 days	4 days	✓	18-Oct-2025	182 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-4	E444	15-Oct-2025	17-Oct-2025	182 days	4 days	✓	18-Oct-2025	182 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-5	E444	15-Oct-2025	17-Oct-2025	182 days	4 days	✓	18-Oct-2025	182 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-6	E444	15-Oct-2025	17-Oct-2025	182 days	4 days	✓	18-Oct-2025	182 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-10	E444	16-Oct-2025	17-Oct-2025	183 days	4 days	✓	18-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-11	E444	16-Oct-2025	17-Oct-2025	183 days	4 days	✓	18-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-12	E444	16-Oct-2025	17-Oct-2025	183 days	4 days	✓	18-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2541-A-7	E444	16-Oct-2025	17-Oct-2025	183 days	4 days	✓	18-Oct-2025	183 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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved)										
BA 2541-A-8	E444	16-Oct-2025	17-Oct-2025	183 days	4 days	✓	18-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved)										
BA 2541-A-9	E444	16-Oct-2025	17-Oct-2025	183 days	4 days	✓	18-Oct-2025	183 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 2541-A-1	EPP444	13-Oct-2025	15-Oct-2025	----	----		----	28 days	2 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2541-A-2	EPP444	13-Oct-2025	15-Oct-2025	----	----		----	28 days	2 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2541-A-3	EPP444	13-Oct-2025	15-Oct-2025	----	----		----	28 days	2 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2541-A-4	EPP444	13-Oct-2025	15-Oct-2025	----	----		----	28 days	2 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2541-A-5	EPP444	13-Oct-2025	15-Oct-2025	----	----		----	28 days	2 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2541-A-6	EPP444	13-Oct-2025	15-Oct-2025	----	----		----	28 days	2 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2541-A-10	EPP444	13-Oct-2025	16-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2541-A-11	EPP444	13-Oct-2025	16-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 2541-A-12	EPP444	13-Oct-2025	16-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 2541-A-7	EPP444	13-Oct-2025	16-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 2541-A-8	EPP444	13-Oct-2025	16-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 2541-A-9	EPP444	13-Oct-2025	16-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			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2278496	1	12	8.3	5.0	✓
Moisture Content by Gravimetry	E144	2278497	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2289847	1	19	5.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	2282579	2	12	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2289846	1	15	6.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	2282584	2	12	16.6	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2278496	1	12	8.3	5.0	✓
Moisture Content by Gravimetry	E144	2278497	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2289847	2	19	10.5	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2289846	2	15	13.3	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2278497	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2289847	1	19	5.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	2282579	2	12	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2289846	1	15	6.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	2282584	2	12	16.6	5.0	✓
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	2282579	2	12	16.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	2282584	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 ± 5°C), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at <60 ºC) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
Moisture Content by Gravimetry	E144 ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Vancouver	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
Metals by CRC ICPMS (TCLP)	E444 ALS Environmental - Vancouver	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Vancouver	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
Mercury by CVAAS (TCLP)	E512 ALS Environmental - Vancouver	Soil/Solid	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°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.

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

QUALITY CONTROL REPORT

Work Order	: **VA25C7339**	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	: 15-Oct-2025 10:20
PO	: 1000497676	Date Analysis Commenced	: 15-Oct-2025
C-O-C number	: ----	Issue Date	: 22-Oct-2025 16:30
Sampler	: ----		
Site	: Metro Van Ash Sampling Program		
Quote number	: VA25-VISI100-001		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

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

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Vancouver Organics, Burnaby, British Columbia

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2278496)											
VA25C7339-001	BA 2541-A-1	pH (1:2 soil:water)	----	E108	0.10	pH units	9.78	9.78	0.0%	5%	----
Physical Tests (QC Lot: 2278497)											
VA25C7339-001	BA 2541-A-1	Moisture	----	E144	0.25	%	26.6	27.6	3.72%	20%	----
Metals (QC Lot: 2289846)											
VA25C7426-001	Anonymous	Mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	0	Diff <2x LOR	----
Metals (QC Lot: 2289847)											
VA25C7426-001	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	15300	16500	7.74%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.24	0.39	0.14	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	4.06	4.99	20.6%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	58.0	66.6	13.8%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.22	0.29	0.06	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.097	0.121	0.024	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	3620	3860	6.43%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	27.0	28.9	6.81%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	7.18	8.02	11.0%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	17.3	20.0	14.8%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	20600	22300	8.15%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	4.32	5.09	16.3%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	9.0	9.4	0.4	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	6190	6420	3.57%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	367	376	2.51%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.51	0.64	23.7%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	22.1	26.1	16.7%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	454	490	7.71%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	660	670	0.382%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	230	229	1.0	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*
Metals (QC Lot: 2289847) - continued											
VA25C7426-001	Anonymous	Strontium	7440-24-6	E440	0.50	mg/kg	17.3	19.5	12.2%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.060	0.058	0.002	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	921	988	7.07%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.304	0.336	0.032	Diff <2x LOR	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	51.7	57.9	11.4%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	40.5	41.7	2.76%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	1.7	2.1	0.4	Diff <2x LOR	----
TCLP Metals (QC Lot: 2282578)											
VA25C7339-002	BA 2541-A-2	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	0.86	0.92	0.06	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	856	933	8.61%	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	0.767	0.799	4.10%	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	17.0	18.1	6.26%	30%	----
		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	----
TCLP Metals (QC Lot: 2282579)											
VA25C7339-001	BA 2541-A-1	Antimony, TCLP	7440-36-0	E444	1.00	mg/L	<1.00	<1.00	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: 2282579) - continued											
VA25C7339-001	BA 2541-A-1	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	1.97	1.98	0.01	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.243	0.237	0.006	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1910	1890	0.805%	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	1.15	1.13	1.09%	30%	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	0.646	0.625	3.21%	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	128	123	3.61%	30%	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.39	0.39	0.003	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	12.9	12.6	2.22%	30%	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2282582)											
VA25C7339-002	BA 2541-A-2	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2282584)											
VA25C7339-001	BA 2541-A-1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2278497)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2289846)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2289847)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2289847) - continued						
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
TCLP Metals (QCLot: 2282578)						
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: 2282579)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 2282579) - continued						
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: 2282582)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals (QCLot: 2282584)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----

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: 2278496)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	100	95.0	105	----
Physical Tests (QCLot: 2278497)									
Moisture	----	E144	0.25	%	50 %	101	90.0	110	----
Metals (QCLot: 2289846)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	92.0	80.0	120	----
Metals (QCLot: 2289847)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	104	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	103	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	102	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	100	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	94.4	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	104	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	98.8	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	101	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	97.7	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	110	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	104	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	106	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	103	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	106	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	102	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	107	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	102	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	102	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	98.6	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	109	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	110	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	101	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: 2289847) - continued									
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	102	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	100	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	105	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	105	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	108	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	106	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	99.3	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	112	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: 2282578)										
VA25C7339-002	BA 2541-A-2	Antimony, TCLP	7440-36-0	E444	4.46 mg/L	5 mg/L	89.2	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.4 mg/L	5 mg/L	87.2	50.0	140	----
		Barium, TCLP	7440-39-3	E444	11.6 mg/L	12.5 mg/L	93.2	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.218 mg/L	0.25 mg/L	87.3	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.49 mg/L	10 mg/L	94.9	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.211 mg/L	0.25 mg/L	84.3	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.06 mg/L	1.25 mg/L	85.2	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.217 mg/L	0.25 mg/L	86.9	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.05 mg/L	2.5 mg/L	82.2	50.0	140	----
		Iron, TCLP	7439-89-6	E444	208 mg/L	250 mg/L	83.2	50.0	140	----
		Lead, TCLP	7439-92-1	E444	8.62 mg/L	10 mg/L	86.2	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	233 mg/L	250 mg/L	93.2	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.12 mg/L	2.5 mg/L	84.7	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.33 mg/L	5 mg/L	86.5	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.080 mg/L	0.1 mg/L	80.4	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.3 mg/L	5 mg/L	86.1	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.48 mg/L	5 mg/L	89.6	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.64 mg/L	0.75 mg/L	85.7	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	8.39 mg/L	10 mg/L	83.9	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	76.5	50.0	150	----
TCLP Metals (QCLot: 2282579)										
VA25C7339-001	BA 2541-A-1	Antimony, TCLP	7440-36-0	E444	4.51 mg/L	5 mg/L	90.2	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.2 mg/L	5 mg/L	84.6	50.0	140	----
		Barium, TCLP	7440-39-3	E444	10.3 mg/L	12.5 mg/L	82.8	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.215 mg/L	0.25 mg/L	86.0	50.0	140	----
		Boron, TCLP	7440-42-8	E444	8.13 mg/L	10 mg/L	81.3	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.218 mg/L	0.25 mg/L	87.2	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.06 mg/L	1.25 mg/L	84.8	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	ND mg/L	----	ND	50.0	140	----
		Copper, TCLP	7440-50-8	E444	1.97 mg/L	2.5 mg/L	78.6	50.0	140	----
		Iron, TCLP	7439-89-6	E444	205 mg/L	250 mg/L	82.2	50.0	140	----
		Lead, TCLP	7439-92-1	E444	8.39 mg/L	10 mg/L	83.9	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	199 mg/L	250 mg/L	79.5	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.01 mg/L	2.5 mg/L	80.4	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.14 mg/L	5 mg/L	82.8	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.078 mg/L	0.1 mg/L	78.4	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.2 mg/L	5 mg/L	84.6	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: 2282579) - continued										
VA25C7339-001	BA 2541-A-1	Uranium, TCLP	7440-61-1	E444	4.33 mg/L	5 mg/L	86.6	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.64 mg/L	0.75 mg/L	85.1	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	ND mg/L	----	ND	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	76.4	50.0	150	----
TCLP Metals (QCLot: 2282582)										
VA25C7339-002	BA 2541-A-2	Mercury, TCLP	7439-97-6	E512	0.0027 mg/L	0.003 mg/L	89.9	50.0	140	----
TCLP Metals (QCLot: 2282584)										
VA25C7339-001	BA 2541-A-1	Mercury, TCLP	7439-97-6	E512	0.0027 mg/L	0.003 mg/L	90.1	50.0	140	----

Reference Material (RM) Report

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

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 2289846)									
QC-2289846-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	87.5	70.0	130	----
Metals (QCLot: 2289847)									
QC-2289847-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	109	70.0	130	----
QC-2289847-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	94.3	70.0	130	----
QC-2289847-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	96.1	70.0	130	----
QC-2289847-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	96.0	70.0	130	----
QC-2289847-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	108	70.0	130	----
QC-2289847-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	117	70.0	130	----
QC-2289847-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	102	70.0	130	----
QC-2289847-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	102	70.0	130	----
QC-2289847-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	99.4	70.0	130	----
QC-2289847-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	98.7	70.0	130	----
QC-2289847-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	93.9	70.0	130	----
QC-2289847-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	103	70.0	130	----
QC-2289847-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	97.4	70.0	130	----
QC-2289847-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	113	70.0	130	----
QC-2289847-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	100	70.0	130	----
QC-2289847-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	98.2	70.0	130	----
QC-2289847-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	98.9	70.0	130	----
QC-2289847-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	97.5	70.0	130	----
QC-2289847-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	104	70.0	130	----
QC-2289847-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	97.5	70.0	130	----
QC-2289847-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	108	60.0	140	----
QC-2289847-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	97.4	70.0	130	----
QC-2289847-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	122	70.0	130	----
QC-2289847-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	103	70.0	130	----
QC-2289847-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	98.6	50.0	150	----
QC-2289847-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	104	70.0	130	----
QC-2289847-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	97.8	40.0	160	----
QC-2289847-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	104	70.0	130	----
QC-2289847-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	114	70.0	130	----
QC-2289847-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	99.6	70.0	130	----
QC-2289847-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	100	70.0	130	----

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 2289847) - continued									
QC-2289847-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	97.1	70.0	130	----
QC-2289847-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	108	70.0	130	----

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

Page 1 of 1

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	Email 1:	Darcie.grace@veolia.com	
	Burnaby BC	Email 2:	lorenzo.ilao@veolia.com	
Phone:	604-521-1025 Fax:	Email 3:	karen.thornquist@veolia.com	**Analysis Request**
			brent.kirkpatrick@metrovancouver.org	
			Sarah.Wellman@metrovancouver.org	

Invoice To	Same as Report ? Veolia Water Canada	**Client / Project Information**	
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:

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

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 2541-A-1	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-2	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-3	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-4	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-5	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-6	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-7	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-8	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-9	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-10	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-11	13 Oct 2025	12:00	Soil	X	X				X							1
	BA 2541-A-12	13 Oct 2025	12:00	Soil	X	X				X							1
water Aquatic																	

Environmental Division
Vancouver
Work Order Reference
VA25C7339

Telephone : +1 604 253 4188

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SHIPMENT RECEPTION (lab use only)							SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	15/10/25	07:15		Rcvd 15Oct2025	10:20 am	20 °C				

GENF 20.00 Front

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # _____

Page 1 of 1

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	Email 1:	Darcie.grace@veolia.com	
	Burnaby BC	Email 2:	lorenzo.ilao@veolia.com	
Phone:	604-521-1025 Fax:	Email 3:	karen.thornquist@veolia.com	**Analysis Request**
			brent.kirkpatrick@metrovancouver.org	
			Sarah.Wellman@metrovancouver.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:**	

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 2541-A-1	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-2	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-3	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-4	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-5	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-6	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-7	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-8	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-9	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-10	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-11	13 Oct 2025	12:00	Soil	X	X		X	1
	BA 2541-A-12	13 Oct 2025	12:00	Soil	X	X		X	1
water Aquatic									

Environmental Division
Vancouver
Work Order Reference
VA25C7339

Telephone : +1 604 253 4188

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SHIPMENT RECEPTION (lab use only)							SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	15/10/25	07:15	JC	Rcvd 15Oct2025	1020 hr	20 °C				

GENF 20.00 Front

Bottom Ash Worksheet

Date sample composited (DD/MM/YYYY)	13/10/2025
Person doing the sampling	Adam J
Total Sample Weight before processing, kg	52 kg
Weight of Material >3/8", kg	5.9kg
Weight of Material that cannot be processed to <3/8" (metal, wood, etc), kg	3kg
Final Total weight of Processed Bottom Ash, kg	49kg

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"