metrovancouver

Bottom Ash Data

2025 Week 46

The following analytical report represents bottom ash composite results for week 46 of 2025 (November 9, 2025 to November 15, 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	:	**VA25D0917**			
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	:	19-Nov-2025 12:00
C-O-C number	:	----	Date Analysis Commenced	:	23-Nov-2025
Sampler	:	----	Issue Date	:	26-Nov-2025 13:34
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*
Brieanna Allen	Production/Validation Manager	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia

General Comments

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

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

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

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

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

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

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

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

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-1 ----	BA 2546-A-2 ----	BA 2546-A-3 ----	BA 2546-A-4 ----	BA 2546-A-5 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-001	VA25D0917-002	VA25D0917-003	VA25D0917-004	VA25D0917-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		29.8	29.6	27.1	28.9	30.1
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		10.14	10.12	10.23	10.16	10.14
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		33300	41200	44300	40400	42900
Antimony	7440-36-0	E440/VA	0.10	mg/kg		83.5	83.1	79.9	78.5	68.0
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		9.58	8.83	11.6	8.14	8.58
Barium	7440-39-3	E440/VA	0.50	mg/kg		581	542	524	674	540
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.45	0.42	0.37	0.36	0.43
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		6.80	6.60	39.8	8.69	7.01
Boron	7440-42-8	E440/VA	5.0	mg/kg		174	206	144	147	174
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		5.25	5.04	5.44	12.1	5.53
Calcium	7440-70-2	E440/VA	50	mg/kg		126000	125000	122000	118000	121000
Chromium	7440-47-3	E440/VA	0.50	mg/kg		312	152	148	163	195
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		144	118	83.6	241	553
Copper	7440-50-8	E440/VA	0.50	mg/kg		1440	3690	4100	3010	2030
Iron	7439-89-6	E440/VA	50	mg/kg		81200	71500	84000	73100	75600
Lead	7439-92-1	E440/VA	0.50	mg/kg		684	433	305	344	321
Lithium	7439-93-2	E440/VA	2.0	mg/kg		36.9	36.5	33.2	34.9	32.9
Magnesium	7439-95-4	E440/VA	20	mg/kg		12500	11200	11100	11600	11500
Manganese	7439-96-5	E440/VA	1.0	mg/kg		908	1070	956	861	1070
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.106	0.131	0.236	0.184	0.141

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-1 ----	BA 2546-A-2 ----	BA 2546-A-3 ----	BA 2546-A-4 ----	BA 2546-A-5 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-001	VA25D0917-002	VA25D0917-003	VA25D0917-004	VA25D0917-005
						Result	Result	Result	Result	Result
Metals										
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		49.1	17.1	17.7	22.4	19.1
Nickel	7440-02-0	E440/VA	0.50	mg/kg		395	232	182	187	177
Phosphorus	7723-14-0	E440/VA	50	mg/kg		12300	11200	14400	11900	12000
Potassium	7440-09-7	E440/VA	100	mg/kg		5200	4790	4570	5200	4800
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.32	0.37	0.23	0.23	0.43
Silver	7440-22-4	E440/VA	0.10	mg/kg		10.1	3.75	3.53	3.67	4.92
Sodium	7440-23-5	E440/VA	50	mg/kg		14600	14400	14000	14900	14700
Strontium	7440-24-6	E440/VA	0.50	mg/kg		352	291	284	293	286
Sulfur	7704-34-9	E440/VA	1000	mg/kg		9100	9200	8400	8600	8900
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		109	118	205	210	124
Titanium	7440-32-6	E440/VA	1.0	mg/kg		206	310	261	278	242
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		8.71	10.0	11.1	7.06	13.8
Uranium	7440-61-1	E440/VA	0.050	mg/kg		1.77	1.74	1.66	1.71	1.72
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		29.4	27.1	25.8	29.1	27.4
Zinc	7440-66-6	E440/VA	2.0	mg/kg		4500	4140	3230	3210	2940
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		2.6	3.3	3.2	2.3	3.3
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		11.34	11.22	11.33	11.29	11.34
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		3.86	3.13	3.64	3.65	3.22
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		4.94	4.94	4.94	4.94	4.94

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-1 ----	BA 2546-A-2 ----	BA 2546-A-3 ----	BA 2546-A-4 ----	BA 2546-A-5 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-001	VA25D0917-002	VA25D0917-003	VA25D0917-004	VA25D0917-005
						Result	Result	Result	Result	Result
TCLP Metals										
pH, TCLP final	----	EPP444/VA	0.010	pH units		9.86	9.37	9.91	9.89	9.75
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		0.84	0.84	0.85	0.85	0.83
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L		770	768	757	754	724
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		<0.050	<0.050	<0.050	<0.050	<0.050
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		0.687	0.645	0.707	0.701	0.611
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		7.5	11.2	10.7	9.4	11.5
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		<0.25	<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

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-1 ----	BA 2546-A-2 ----	BA 2546-A-3 ----	BA 2546-A-4 ----	BA 2546-A-5 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-001	VA25D0917-002	VA25D0917-003	VA25D0917-004	VA25D0917-005
						Result	Result	Result	Result	Result
TCLP Metals										
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L		<0.50	<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 2546-A-6 ----	BA 2546-A-7 ----	BA 2546-A-8 ----	BA 2546-A-9 ----	BA 2546-A-10 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-006	VA25D0917-007	VA25D0917-008	VA25D0917-009	VA25D0917-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		30.6	26.5	28.5	28.4	27.5
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		10.10	10.03	10.15	10.17	10.07
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		30500	38300	41100	36600	46200
Antimony	7440-36-0	E440/VA	0.10	mg/kg		63.3	100	63.5	75.9	81.2
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		8.63	8.78	9.02	9.07	8.81
Barium	7440-39-3	E440/VA	0.50	mg/kg		579	595	609	579	574
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.46	0.58	0.37	0.50	0.41
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		7.13	7.42	10.6	7.46	6.59
Boron	7440-42-8	E440/VA	5.0	mg/kg		181	240	169	190	160
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		5.45	7.64	5.46	8.35	4.44
Calcium	7440-70-2	E440/VA	50	mg/kg		124000	121000	127000	124000	129000

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-6 ----	BA 2546-A-7 ----	BA 2546-A-8 ----	BA 2546-A-9 ----	BA 2546-A-10 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-006	VA25D0917-007	VA25D0917-008	VA25D0917-009	VA25D0917-010
						Result	Result	Result	Result	Result
Metals										
Chromium	7440-47-3	E440/VA	0.50	mg/kg		178	174	223	164	140
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		211	342	62.6	74.9	64.3
Copper	7440-50-8	E440/VA	0.50	mg/kg		12600	2520	2330	5130	4030
Iron	7439-89-6	E440/VA	50	mg/kg		78500	72700	60000	79000	60300
Lead	7439-92-1	E440/VA	0.50	mg/kg		541	1100	364	927	647
Lithium	7439-93-2	E440/VA	2.0	mg/kg		66.0	32.2	30.4	30.3	32.3
Magnesium	7439-95-4	E440/VA	20	mg/kg		11800	11400	12400	12500	13600
Manganese	7439-96-5	E440/VA	1.0	mg/kg		1080	831	860	918	852
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.127	0.187	0.224	0.143	0.167
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		17.2	20.5	17.6	16.6	16.6
Nickel	7440-02-0	E440/VA	0.50	mg/kg		387	484	288	347	312
Phosphorus	7723-14-0	E440/VA	50	mg/kg		12200	12700	13200	11900	15800
Potassium	7440-09-7	E440/VA	100	mg/kg		4870	4840	4760	4650	4680
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.40	0.31	0.30	0.32	0.30
Silver	7440-22-4	E440/VA	0.10	mg/kg		3.85	5.26	4.00	19.1	11.9
Sodium	7440-23-5	E440/VA	50	mg/kg		14900	15300	14300	15800	14500
Strontium	7440-24-6	E440/VA	0.50	mg/kg		292	331	526	358	332
Sulfur	7704-34-9	E440/VA	1000	mg/kg		9100	9400	8800	8500	8800
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		142	625	91.9	194	83.1
Titanium	7440-32-6	E440/VA	1.0	mg/kg		229	256	220	284	265

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-6 ----	BA 2546-A-7 ----	BA 2546-A-8 ----	BA 2546-A-9 ----	BA 2546-A-10 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-006	VA25D0917-007	VA25D0917-008	VA25D0917-009	VA25D0917-010
						Result	Result	Result	Result	Result
Metals										
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		5.82	8.81	9.47	8.17	9.68
Uranium	7440-61-1	E440/VA	0.050	mg/kg		1.84	1.79	1.66	1.68	1.68
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		25.4	25.9	27.0	24.7	30.2
Zinc	7440-66-6	E440/VA	2.0	mg/kg		7610	3500	3240	3680	4490
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		3.5	3.9	3.2	2.7	3.0
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		11.22	11.31	11.34	11.32	11.30
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		3.30	3.59	3.72	3.79	3.89
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		4.94	4.94	4.94	4.94	4.94
pH, TCLP final	----	EPP444/VA	0.010	pH units		9.59	9.50	10.14	10.01	9.76
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		0.91	0.76	0.71	0.77	0.82
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L		760	730	693	725	706
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		<0.050	<0.050	<0.050	<0.050	<0.050
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		0.579	0.626	0.671	0.668	0.632
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 2546-A-6 ----	BA 2546-A-7 ----	BA 2546-A-8 ----	BA 2546-A-9 ----	BA 2546-A-10 ----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00	17-Nov-2025 12:00
						VA25D0917-006	VA25D0917-007	VA25D0917-008	VA25D0917-009	VA25D0917-010
						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		12.9	8.9	6.5	7.1	7.1
Mercury, TCLP	7439-97-6	E512/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel, TCLP	7440-02-0	E444/VA	0.25	mg/L		<0.25	<0.25	<0.25	<0.25	<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		<0.50	<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 2546-A-11 ----	BA 2546-A-12 ----	----	----	----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	----	----	----
						VA25D0917-011	VA25D0917-012	----	----	----
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/VA	0.25	%		28.8	28.5	----	----	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		10.24	10.19	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-11 ----	BA 2546-A-12 ----	----	----	----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	----	----	----
						VA25D0917-011	VA25D0917-012	----	----	----
						Result	Result	----	----	----
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		52500	34800	----	----	----
Antimony	7440-36-0	E440/VA	0.10	mg/kg		101	95.6	----	----	----
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		9.58	10.6	----	----	----
Barium	7440-39-3	E440/VA	0.50	mg/kg		512	482	----	----	----
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.35	0.39	----	----	----
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		8.14	6.65	----	----	----
Boron	7440-42-8	E440/VA	5.0	mg/kg		235	240	----	----	----
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		5.69	7.05	----	----	----
Calcium	7440-70-2	E440/VA	50	mg/kg		120000	132000	----	----	----
Chromium	7440-47-3	E440/VA	0.50	mg/kg		209	158	----	----	----
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		43.2	84.7	----	----	----
Copper	7440-50-8	E440/VA	0.50	mg/kg		13800	5750	----	----	----
Iron	7439-89-6	E440/VA	50	mg/kg		61700	64600	----	----	----
Lead	7439-92-1	E440/VA	0.50	mg/kg		252	452	----	----	----
Lithium	7439-93-2	E440/VA	2.0	mg/kg		33.2	33.1	----	----	----
Magnesium	7439-95-4	E440/VA	20	mg/kg		11600	13900	----	----	----
Manganese	7439-96-5	E440/VA	1.0	mg/kg		807	779	----	----	----
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.162	0.163	----	----	----
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		15.4	18.4	----	----	----
Nickel	7440-02-0	E440/VA	0.50	mg/kg		186	244	----	----	----
Phosphorus	7723-14-0	E440/VA	50	mg/kg		13000	12600	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2546-A-11 ----	BA 2546-A-12 ----	----	----	----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	----	----	----
						VA25D0917-011	VA25D0917-012	----	----	----
						Result	Result	----	----	----
Metals										
Potassium	7440-09-7	E440/VA	100	mg/kg		4900	5300	----	----	----
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.35	0.41	----	----	----
Silver	7440-22-4	E440/VA	0.10	mg/kg		6.27	>94.7	----	----	----
Sodium	7440-23-5	E440/VA	50	mg/kg		15200	15400	----	----	----
Strontium	7440-24-6	E440/VA	0.50	mg/kg		317	335	----	----	----
Sulfur	7704-34-9	E440/VA	1000	mg/kg		9300	10200	----	----	----
Thallium	7440-28-0	E440/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Tin	7440-31-5	E440/VA	2.0	mg/kg		168	139	----	----	----
Titanium	7440-32-6	E440/VA	1.0	mg/kg		377	198	----	----	----
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		8.23	53.6	----	----	----
Uranium	7440-61-1	E440/VA	0.050	mg/kg		1.66	1.79	----	----	----
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		28.3	33.8	----	----	----
Zinc	7440-66-6	E440/VA	2.0	mg/kg		4120	4850	----	----	----
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		4.5	2.4	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		11.38	11.38	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		3.25	4.40	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		4.94	4.94	----	----	----
pH, TCLP final	----	EPP444/VA	0.010	pH units		10.02	9.99	----	----	----
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 2546-A-11 ----	BA 2546-A-12 ----	----	----	----
					Client sampling date / time	17-Nov-2025 12:00	17-Nov-2025 12:00	----	----	----
						VA25D0917-011	VA25D0917-012	----	----	----
						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		0.76	0.83	----	----	----
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		718	728	----	----	----
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		0.649	0.620	----	----	----
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		7.2	10.1	----	----	----
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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA25D0917**	Page	: 1 of 16
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	: 19-Nov-2025 12:00
PO	: 1000497676	Issue Date	: 26-Nov-2025 13:31
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 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	VA25D0917-001	BA 2546-A-1	Bismuth	7440-69-9	E440	92.8 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D0917-001	BA 2546-A-1	Chromium	7440-47-3	E440	35.7 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D0917-001	BA 2546-A-1	Cobalt	7440-48-4	E440	95.6 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D0917-001	BA 2546-A-1	Copper	7440-50-8	E440	32.3 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D0917-001	BA 2546-A-1	Lead	7439-92-1	E440	87.3 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D0917-001	BA 2546-A-1	Molybdenum	7439-98-7	E440	83.9 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D0917-001	BA 2546-A-1	Silver	7440-22-4	E440	80.9 % 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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-1	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-10	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-11	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-12	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-2	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-3	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-4	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-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 2546-A-5	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-6	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-7	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-8	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2546-A-9	E510	17-Nov-2025	25-Nov-2025	28 days	8 days	✓	26-Nov-2025	28 days	0 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-1	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-10	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-11	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-12	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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 2546-A-2	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-3	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-4	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-5	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-6	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-7	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-8	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2546-A-9	E440	17-Nov-2025	25-Nov-2025	180 days	8 days	✓	26-Nov-2025	180 days	8 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-1	E144	17-Nov-2025	----	----	----		24-Nov-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 2546-A-10	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-11	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-12	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-2	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-3	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-4	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-5	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-6	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-7	E144	17-Nov-2025	----	----	----		24-Nov-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 2546-A-8	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2546-A-9	E144	17-Nov-2025	----	----	----		24-Nov-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-1	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-10	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-11	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-12	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-2	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-3	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-4	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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 2546-A-5	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-6	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-7	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-8	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2546-A-9	E108	17-Nov-2025	25-Nov-2025	30 days	8 days	✓	26-Nov-2025	30 days	8 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-1	E512	23-Nov-2025	24-Nov-2025	34 days	7 days	✓	24-Nov-2025	34 days	7 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-2	E512	23-Nov-2025	24-Nov-2025	34 days	7 days	✓	24-Nov-2025	34 days	7 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-3	E512	23-Nov-2025	24-Nov-2025	34 days	7 days	✓	24-Nov-2025	34 days	7 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-4	E512	23-Nov-2025	24-Nov-2025	34 days	7 days	✓	24-Nov-2025	34 days	7 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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 2546-A-5	E512	23-Nov-2025	24-Nov-2025	34 days	7 days	✓	24-Nov-2025	34 days	7 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-6	E512	23-Nov-2025	24-Nov-2025	34 days	7 days	✓	24-Nov-2025	34 days	7 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-10	E512	24-Nov-2025	25-Nov-2025	35 days	8 days	✓	25-Nov-2025	35 days	8 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-11	E512	24-Nov-2025	25-Nov-2025	35 days	8 days	✓	25-Nov-2025	35 days	8 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-12	E512	24-Nov-2025	25-Nov-2025	35 days	8 days	✓	25-Nov-2025	35 days	8 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-7	E512	24-Nov-2025	25-Nov-2025	35 days	8 days	✓	25-Nov-2025	35 days	8 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-8	E512	24-Nov-2025	25-Nov-2025	35 days	8 days	✓	25-Nov-2025	35 days	8 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2546-A-9	E512	24-Nov-2025	25-Nov-2025	35 days	8 days	✓	25-Nov-2025	35 days	8 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-1	E444	23-Nov-2025	24-Nov-2025	186 days	7 days	✓	25-Nov-2025	186 days	7 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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 2546-A-2	E444	23-Nov-2025	24-Nov-2025	186 days	7 days	✓	25-Nov-2025	186 days	7 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-3	E444	23-Nov-2025	24-Nov-2025	186 days	7 days	✓	25-Nov-2025	186 days	7 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-4	E444	23-Nov-2025	24-Nov-2025	186 days	7 days	✓	25-Nov-2025	186 days	7 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-5	E444	23-Nov-2025	24-Nov-2025	186 days	7 days	✓	25-Nov-2025	186 days	7 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-6	E444	23-Nov-2025	24-Nov-2025	186 days	7 days	✓	25-Nov-2025	186 days	7 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-10	E444	24-Nov-2025	25-Nov-2025	187 days	8 days	✓	25-Nov-2025	187 days	8 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-11	E444	24-Nov-2025	25-Nov-2025	187 days	8 days	✓	25-Nov-2025	187 days	8 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-12	E444	24-Nov-2025	25-Nov-2025	187 days	8 days	✓	25-Nov-2025	187 days	8 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2546-A-7	E444	24-Nov-2025	25-Nov-2025	187 days	8 days	✓	25-Nov-2025	187 days	8 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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 2546-A-8	E444	24-Nov-2025	25-Nov-2025	187 days	8 days	✓	25-Nov-2025	187 days	8 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved)										
BA 2546-A-9	E444	24-Nov-2025	25-Nov-2025	187 days	8 days	✓	25-Nov-2025	187 days	8 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2546-A-1	EPP444	17-Nov-2025	23-Nov-2025	----	----		----	28 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2546-A-2	EPP444	17-Nov-2025	23-Nov-2025	----	----		----	28 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2546-A-3	EPP444	17-Nov-2025	23-Nov-2025	----	----		----	28 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2546-A-4	EPP444	17-Nov-2025	23-Nov-2025	----	----		----	28 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2546-A-5	EPP444	17-Nov-2025	23-Nov-2025	----	----		----	28 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2546-A-6	EPP444	17-Nov-2025	23-Nov-2025	----	----		----	28 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS)										
BA 2546-A-10	EPP444	17-Nov-2025	24-Nov-2025	----	----		----	28 days	7 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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 2546-A-11	EPP444	17-Nov-2025	24-Nov-2025	----	----		----	28 days	7 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2546-A-12	EPP444	17-Nov-2025	24-Nov-2025	----	----		----	28 days	7 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2546-A-7	EPP444	17-Nov-2025	24-Nov-2025	----	----		----	28 days	7 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2546-A-8	EPP444	17-Nov-2025	24-Nov-2025	----	----		----	28 days	7 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2546-A-9	EPP444	17-Nov-2025	24-Nov-2025	----	----		----	28 days	7 days	✓

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2353403	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2353404	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2353402	1	20	5.0	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	2354936	2	12	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2353401	1	17	5.8	5.0	✓
Mercury by CVAAS (TCLP)	E512	2354935	2	12	16.6	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2353403	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	2353404	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2353402	2	20	10.0	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2353401	2	17	11.7	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2353404	1	12	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2353402	1	20	5.0	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	2352756	2	12	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2353401	1	17	5.8	5.0	✓
Mercury by CVAAS (TCLP)	E512	2354935	2	12	16.6	5.0	✓
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	2352756	2	12	16.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	2354935	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	: **VA25D0917**	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	: 19-Nov-2025 12:00
PO	: 1000497676	Date Analysis Commenced	: 23-Nov-2025
C-O-C number	: ----	Issue Date	: 26-Nov-2025 13:30
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*
Brieanna Allen	Production/Validation Manager	Vancouver Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2353403)											
VA25D0917-001	BA 2546-A-1	pH (1:2 soil:water)	----	E108	0.10	pH units	10.14	10.22	0.8%	5%	----
Physical Tests (QC Lot: 2353404)											
VA25D0917-001	BA 2546-A-1	Moisture	----	E144	0.25	%	29.8	29.2	1.92%	20%	----
Metals (QC Lot: 2353401)											
VA25D0917-001	BA 2546-A-1	Mercury	7439-97-6	E510	0.0500	mg/kg	0.106	0.127	0.0207	Diff <2x LOR	----
Metals (QC Lot: 2353402)											
VA25D0917-001	BA 2546-A-1	Aluminum	7429-90-5	E440	50	mg/kg	33300	48800	37.8%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	83.5	80.1	4.18%	30%	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	9.58	9.95	3.73%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	581	549	5.76%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.45	0.40	0.05	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	6.80	18.6	92.8%	30%	DUP-H
		Boron	7440-42-8	E440	5.0	mg/kg	174	174	0.321%	30%	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	5.25	5.42	3.08%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	126000	128000	1.63%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	312	217	35.7%	30%	DUP-H
		Cobalt	7440-48-4	E440	0.10	mg/kg	144	50.9	95.6%	30%	DUP-H
		Copper	7440-50-8	E440	0.50	mg/kg	1440	1990	32.3%	30%	DUP-H
		Iron	7439-89-6	E440	50	mg/kg	81200	64700	22.7%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	684	268	87.3%	40%	DUP-H
		Lithium	7439-93-2	E440	2.0	mg/kg	36.9	38.4	3.75%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	12500	12000	3.95%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	908	948	4.29%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	49.1	20.1	83.9%	40%	DUP-H
		Nickel	7440-02-0	E440	0.50	mg/kg	395	416	5.39%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	12300	13500	9.54%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	5200	4940	5.08%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.32	0.28	0.04	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	10.1	4.27	80.9%	40%	DUP-H
		Sodium	7440-23-5	E440	50	mg/kg	14600	15000	2.83%	40%	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2353402) - continued											
VA25D0917-001	BA 2546-A-1	Strontium	7440-24-6	E440	0.50	mg/kg	352	302	15.2%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	9100	8700	3.95%	30%	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	109	126	14.2%	40%	----
		Titanium	7440-32-6	E440	1.0	mg/kg	206	265	24.9%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	8.71	8.20	6.08%	30%	----
		Uranium	7440-61-1	E440	0.050	mg/kg	1.77	1.75	1.20%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	29.4	29.9	1.68%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	4500	4440	1.47%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	2.6	3.9	1.3	Diff <2x LOR	----
TCLP Metals (QC Lot: 2352756)											
VA25D0917-001	BA 2546-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	0.84	0.79	0.05	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	770	733	4.86%	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	0.687	0.675	1.81%	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	7.5	7.0	0.5	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	----
TCLP Metals (QC Lot: 2352757)											
VA25D0917-001	BA 2546-A-1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	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: 2354935)											
VA25D0917-007	BA 2546-A-7	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2354936)											
VA25D0917-007	BA 2546-A-7	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	0.76	0.72	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	730	691	5.56%	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	0.626	0.587	6.51%	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	8.9	8.2	0.7	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: 2353404)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2353401)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2353402)						
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: 2353402) - 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: 2352756)						
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: 2352757)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals (QCLot: 2354935)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals (QCLot: 2354936)						
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: 2354936) - 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: 2353403)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	99.5	95.0	105	----
Physical Tests (QCLot: 2353404)									
Moisture	----	E144	0.25	%	50 %	101	90.0	110	----
Metals (QCLot: 2353401)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	98.4	80.0	120	----
Metals (QCLot: 2353402)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	102	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	99.6	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	102	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	100	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	92.0	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	95.0	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	98.7	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	98.4	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	103	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	98.8	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	103	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	96.7	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	99.7	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	103	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	104	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	100	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	101	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	108	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	103	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	100	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	93.8	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	101	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	105	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	97.4	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: 2353402) - continued									
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	95.7	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	98.3	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	96.7	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	98.6	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	102	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	100	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	105	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: 2352756)										
VA25D0917-001	BA 2546-A-1	Antimony, TCLP	7440-36-0	E444	4.98 mg/L	5 mg/L	99.7	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	5.1 mg/L	5 mg/L	103	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.8 mg/L	12.5 mg/L	103	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.244 mg/L	0.25 mg/L	97.4	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.63 mg/L	10 mg/L	96.3	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.244 mg/L	0.25 mg/L	97.6	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.23 mg/L	1.25 mg/L	98.7	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.249 mg/L	0.25 mg/L	99.5	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.40 mg/L	2.5 mg/L	96.1	50.0	140	----
		Iron, TCLP	7439-89-6	E444	238 mg/L	250 mg/L	95.3	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.60 mg/L	10 mg/L	96.0	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	264 mg/L	250 mg/L	105	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.50 mg/L	2.5 mg/L	100	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.95 mg/L	5 mg/L	98.9	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.072 mg/L	0.1 mg/L	72.3	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.8 mg/L	5 mg/L	96.4	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	5.01 mg/L	5 mg/L	100	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.77 mg/L	0.75 mg/L	103	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	10.4 mg/L	10 mg/L	104	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.9 mg/L	1 mg/L	90.1	50.0	150	----
TCLP Metals (QCLot: 2352757)										
VA25D0917-001	BA 2546-A-1	Mercury, TCLP	7439-97-6	E512	0.0030 mg/L	0.003 mg/L	100	50.0	140	----
TCLP Metals (QCLot: 2354935)										
VA25D0917-007	BA 2546-A-7	Mercury, TCLP	7439-97-6	E512	0.0028 mg/L	0.003 mg/L	92.9	50.0	140	----
TCLP Metals (QCLot: 2354936)										
VA25D0917-007	BA 2546-A-7	Antimony, TCLP	7440-36-0	E444	4.48 mg/L	5 mg/L	89.6	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.6 mg/L	5 mg/L	92.7	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.1 mg/L	12.5 mg/L	96.5	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.236 mg/L	0.25 mg/L	94.4	50.0	140	----
		Boron, TCLP	7440-42-8	E444	8.74 mg/L	10 mg/L	87.4	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.226 mg/L	0.25 mg/L	90.3	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.12 mg/L	1.25 mg/L	89.3	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.225 mg/L	0.25 mg/L	89.9	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.18 mg/L	2.5 mg/L	87.4	50.0	140	----
		Iron, TCLP	7439-89-6	E444	227 mg/L	250 mg/L	90.7	50.0	140	----
		Lead, TCLP	7439-92-1	E444	8.66 mg/L	10 mg/L	86.6	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: 2354936) - continued										
VA25D0917-007	BA 2546-A-7	Magnesium, TCLP	7439-95-4	E444	229 mg/L	250 mg/L	91.5	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.28 mg/L	2.5 mg/L	91.2	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.79 mg/L	5 mg/L	95.9	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.088 mg/L	0.1 mg/L	88.0	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.4 mg/L	5 mg/L	88.8	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.38 mg/L	5 mg/L	87.6	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.68 mg/L	0.75 mg/L	91.0	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.23 mg/L	10 mg/L	92.3	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	78.4	50.0	150	----

Reference Material (RM) Report

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

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 2353401)									
QC-2353401-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	99.8	70.0	130	----
Metals (QCLot: 2353402)									
QC-2353402-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	107	70.0	130	----
QC-2353402-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	97.8	70.0	130	----
QC-2353402-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	95.7	70.0	130	----
QC-2353402-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	96.2	70.0	130	----
QC-2353402-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	106	70.0	130	----
QC-2353402-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	86.4	70.0	130	----
QC-2353402-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	102	70.0	130	----
QC-2353402-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	104	70.0	130	----
QC-2353402-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	105	70.0	130	----
QC-2353402-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	100	70.0	130	----
QC-2353402-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	95.5	70.0	130	----
QC-2353402-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	104	70.0	130	----
QC-2353402-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	92.9	70.0	130	----
QC-2353402-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	107	70.0	130	----
QC-2353402-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	105	70.0	130	----
QC-2353402-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	100	70.0	130	----
QC-2353402-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	98.3	70.0	130	----
QC-2353402-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	103	70.0	130	----
QC-2353402-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	101	70.0	130	----
QC-2353402-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	105	70.0	130	----
QC-2353402-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	105	60.0	140	----
QC-2353402-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	99.3	70.0	130	----
QC-2353402-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	121	70.0	130	----
QC-2353402-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	105	70.0	130	----
QC-2353402-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	93.9	50.0	150	----
QC-2353402-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	98.7	70.0	130	----
QC-2353402-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	99.5	40.0	160	----
QC-2353402-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	102	70.0	130	----
QC-2353402-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	100	70.0	130	----
QC-2353402-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	103	70.0	130	----
QC-2353402-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	102	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: 2353402) - continued									
QC-2353402-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	104	70.0	130	----
QC-2353402-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	112	70.0	130	----

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

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): D917

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 2546-A-1	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-2	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-3	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-4	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-5	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-6	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-7	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-8	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-9	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-10	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-11	17/11/2025	12:00	Soil	X	X				X							1
	BA 2546-A-12	17/11/2025	12:00	Soil	X	X				X							1

Environmental Division Vancouver
Work Order Reference
VA25D0917

Telephone : +1 604 253 4188

water Aquatic

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NT RELEASE (c

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
	19/11/25	07:55				17 °C		11/19	12pm	

GENF 20.00 Front

Bottom Ash Worksheet

Date sample composited (DD/MM/YYYY)	17/11/2025
Person doing the sampling	Adam. J
Total Sample Weight before processing, kg	29.4kg
Weight of Material >3/8", kg	2.3kg
Weight of Material that cannot be processed to <3/8" (metal, wood, etc), kg	2kg
Final Total weight of Processed Bottom Ash, kg	27.4kg

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"