metrovancouver

Bottom Ash Data

2025 Week 42

The following analytical report represents bottom ash composite results for week 42 of 2025 (October 12, 2025 to October 18, 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	:	**VA25C7830**			
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	:	20-Oct-2025 12:30
C-O-C number	:	----	Date Analysis Commenced	:	23-Oct-2025
Sampler	:	----	Issue Date	:	27-Oct-2025 19:52
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*
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Robert Nguyen	Analyst	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 2542-A-1 ----	BA 2542-A-2 ----	BA 2542-A-3 ----	BA 2542-A-4 ----	BA 2542-A-5 ----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
						VA25C7830-001	VA25C7830-002	VA25C7830-003	VA25C7830-004	VA25C7830-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		22.6	22.0	22.4	22.8	22.3
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		10.43	10.48	10.37	10.44	10.41
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		41200	41800	43000	33800	37400
Antimony	7440-36-0	E440/VA	0.10	mg/kg		111	115	92.9	114	100
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		28.6	15.8	13.6	18.0	14.1
Barium	7440-39-3	E440/VA	0.50	mg/kg		558	535	606	496	547
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.38	0.40	0.35	0.49	0.39
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		8.64	10.7	6.07	16.6	16.5
Boron	7440-42-8	E440/VA	5.0	mg/kg		245	229	197	214	192
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		15.7	7.12	5.68	35.3	6.35
Calcium	7440-70-2	E440/VA	50	mg/kg		144000	141000	134000	149000	138000
Chromium	7440-47-3	E440/VA	0.50	mg/kg		192	150	177	145	151
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		76.0	50.3	99.0	156	62.7
Copper	7440-50-8	E440/VA	0.50	mg/kg		3730	1240	4840	4740	2630
Iron	7439-89-6	E440/VA	50	mg/kg		66000	57700	72900	60000	54600
Lead	7439-92-1	E440/VA	0.50	mg/kg		953	274	381	318	281
Lithium	7439-93-2	E440/VA	2.0	mg/kg		32.3	32.9	27.4	35.9	26.0
Magnesium	7439-95-4	E440/VA	20	mg/kg		12500	12200	12600	12200	11800
Manganese	7439-96-5	E440/VA	1.0	mg/kg		942	1040	1060	821	736
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.157	0.104	0.103	0.176	0.137

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: BA 2542-A-1 ----	BA 2542-A-2 ----	BA 2542-A-3 ----	BA 2542-A-4 ----	BA 2542-A-5 ----
					Client sampling date / time: 20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
					VA25C7830-001	VA25C7830-002	VA25C7830-003	VA25C7830-004	VA25C7830-005
					Result	Result	Result	Result	Result
Metals									
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	23.9	19.9	17.9	21.5	16.7
Nickel	7440-02-0	E440/VA	0.50	mg/kg	156	179	116	209	160
Phosphorus	7723-14-0	E440/VA	50	mg/kg	11500	11100	9870	13000	11400
Potassium	7440-09-7	E440/VA	100	mg/kg	5970	5640	5440	6010	5960
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.43	0.36	0.31	0.42	0.37
Silver	7440-22-4	E440/VA	0.10	mg/kg	6.39	5.50	5.09	11.2	4.77
Sodium	7440-23-5	E440/VA	50	mg/kg	18500	17400	16500	17200	17100
Strontium	7440-24-6	E440/VA	0.50	mg/kg	305	297	311	292	287
Sulfur	7704-34-9	E440/VA	1000	mg/kg	11100	10300	8900	11300	10200
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	126	110	121	132	126
Titanium	7440-32-6	E440/VA	1.0	mg/kg	274	222	249	168	199
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	16.5	12.6	11.4	16.5	12.3
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.77	1.64	1.45	1.61	1.57
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	34.9	35.5	37.7	37.5	30.0
Zinc	7440-66-6	E440/VA	2.0	mg/kg	5450	6590	3660	3860	4760
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	2.7	5.0	4.6	2.8	3.2
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.22	11.16	11.18	11.19	11.15
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	4.65	3.47	3.37	3.70	3.37
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 2542-A-1 ----	BA 2542-A-2 ----	BA 2542-A-3 ----	BA 2542-A-4 ----	BA 2542-A-5 ----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
						VA25C7830-001	VA25C7830-002	VA25C7830-003	VA25C7830-004	VA25C7830-005
						Result	Result	Result	Result	Result
TCLP Metals										
pH, TCLP final	----	EPP444/VA	0.010	pH units		9.70	9.65	10.08	9.78	9.86
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L		<1.00	<1.00	<1.00	<1.00	<1.00
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L		<2.5	<2.5	<2.5	<2.5	<2.5
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L		<0.025	<0.025	<0.025	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L		0.77	0.86	0.81	0.93	0.88
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		716	715	742	833	760
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		0.729	0.663	0.786	0.769	0.689
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		3.4	7.6	<2.5	7.5	4.0
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 2542-A-1 ----	BA 2542-A-2 ----	BA 2542-A-3 ----	BA 2542-A-4 ----	BA 2542-A-5 ----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
						VA25C7830-001	VA25C7830-002	VA25C7830-003	VA25C7830-004	VA25C7830-005
						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 2542-A-6 ----	BA 2542-A-7 ----	BA 2542-A-8 ----	BA 2542-A-9 ----	BA 2542-A-10 ----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
						VA25C7830-006	VA25C7830-007	VA25C7830-008	VA25C7830-009	VA25C7830-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/VA	0.25	%		22.4	20.8	22.7	21.3	22.4
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		10.56	10.48	10.44	10.50	10.69
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		53600	32600	45800	33800	48200
Antimony	7440-36-0	E440/VA	0.10	mg/kg		97.7	75.9	86.0	155	104
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		12.4	20.1	14.4	19.0	16.3
Barium	7440-39-3	E440/VA	0.50	mg/kg		639	527	675	509	440
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.37	0.32	0.37	0.37	0.43
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		7.44	8.33	6.09	10.2	9.20
Boron	7440-42-8	E440/VA	5.0	mg/kg		209	223	179	174	228
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		9.71	6.83	6.14	288	7.70
Calcium	7440-70-2	E440/VA	50	mg/kg		140000	135000	137000	142000	152000

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2542-A-6 ----	BA 2542-A-7 ----	BA 2542-A-8 ----	BA 2542-A-9 ----	BA 2542-A-10 ----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
						VA25C7830-006	VA25C7830-007	VA25C7830-008	VA25C7830-009	VA25C7830-010
						Result	Result	Result	Result	Result
Metals										
Chromium	7440-47-3	E440/VA	0.50	mg/kg		131	157	148	223	199
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		31.8	527	48.8	84.5	107
Copper	7440-50-8	E440/VA	0.50	mg/kg		2600	2300	1100	2380	2240
Iron	7439-89-6	E440/VA	50	mg/kg		56100	69000	45500	65300	69500
Lead	7439-92-1	E440/VA	0.50	mg/kg		218	502	220	1030	316
Lithium	7439-93-2	E440/VA	2.0	mg/kg		32.3	46.5	34.9	30.6	34.3
Magnesium	7439-95-4	E440/VA	20	mg/kg		12100	11500	11400	11600	13200
Manganese	7439-96-5	E440/VA	1.0	mg/kg		837	1000	739	882	1080
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.127	0.160	0.106	0.153	0.338
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		18.5	30.1	20.1	22.3	20.7
Nickel	7440-02-0	E440/VA	0.50	mg/kg		359	197	106	236	406
Phosphorus	7723-14-0	E440/VA	50	mg/kg		11800	11900	11100	11700	11700
Potassium	7440-09-7	E440/VA	100	mg/kg		5920	6100	6360	5850	6260
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.31	0.35	0.30	0.40	0.31
Silver	7440-22-4	E440/VA	0.10	mg/kg		4.44	17.5	5.06	5.93	6.47
Sodium	7440-23-5	E440/VA	50	mg/kg		17700	16800	17100	16200	18000
Strontium	7440-24-6	E440/VA	0.50	mg/kg		282	289	278	648	345
Sulfur	7704-34-9	E440/VA	1000	mg/kg		9800	10000	9300	11200	10600
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		102	133	103	153	105
Titanium	7440-32-6	E440/VA	1.0	mg/kg		295	225	266	226	300

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2542-A-6 ----	BA 2542-A-7 ----	BA 2542-A-8 ----	BA 2542-A-9 ----	BA 2542-A-10 ----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
						VA25C7830-006	VA25C7830-007	VA25C7830-008	VA25C7830-009	VA25C7830-010
						Result	Result	Result	Result	Result
Metals										
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		14.2	46.9	10.6	15.5	18.4
Uranium	7440-61-1	E440/VA	0.050	mg/kg		1.47	1.56	1.51	1.61	1.76
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		37.8	32.5	39.8	32.6	38.5
Zinc	7440-66-6	E440/VA	2.0	mg/kg		4090	3830	3360	3590	7310
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		4.5	5.1	4.3	3.0	4.4
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		11.21	11.21	11.18	11.22	11.20
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		5.65	2.44	3.38	3.90	2.76
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		2.88	4.98	4.98	4.98	4.98
pH, TCLP final	----	EPP444/VA	0.010	pH units		7.09	9.54	10.27	10.08	9.97
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		2.20	0.87	0.80	0.85	0.87
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		1960	784	778	775	815
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		0.559	<0.050	<0.050	<0.050	<0.050
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L		0.794	0.714	0.861	0.771	0.767
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 2542-A-6 ----	BA 2542-A-7 ----	BA 2542-A-8 ----	BA 2542-A-9 ----	BA 2542-A-10 ----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00	20-Oct-2025 12:00
						VA25C7830-006	VA25C7830-007	VA25C7830-008	VA25C7830-009	VA25C7830-010
						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		136	6.7	<2.5	4.0	5.2
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		0.26	<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		2.22	<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 2542-A-11 ----	BA 2542-A-12 ----	----	----	----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	----	----	----
						VA25C7830-011	VA25C7830-012	----	----	----
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/VA	0.25	%		22.7	21.8	----	----	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units		10.50	10.62	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2542-A-11 ----	BA 2542-A-12 ----	----	----	----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	----	----	----
						VA25C7830-011	VA25C7830-012	----	----	----
						Result	Result	----	----	----
Metals										
Aluminum	7429-90-5	E440/VA	50	mg/kg		35500	32700	----	----	----
Antimony	7440-36-0	E440/VA	0.10	mg/kg		93.2	110	----	----	----
Arsenic	7440-38-2	E440/VA	0.10	mg/kg		18.0	14.6	----	----	----
Barium	7440-39-3	E440/VA	0.50	mg/kg		548	471	----	----	----
Beryllium	7440-41-7	E440/VA	0.10	mg/kg		0.32	0.34	----	----	----
Bismuth	7440-69-9	E440/VA	0.20	mg/kg		13.3	8.01	----	----	----
Boron	7440-42-8	E440/VA	5.0	mg/kg		168	179	----	----	----
Cadmium	7440-43-9	E440/VA	0.020	mg/kg		6.12	7.88	----	----	----
Calcium	7440-70-2	E440/VA	50	mg/kg		120000	136000	----	----	----
Chromium	7440-47-3	E440/VA	0.50	mg/kg		231	169	----	----	----
Cobalt	7440-48-4	E440/VA	0.10	mg/kg		32.2	91.3	----	----	----
Copper	7440-50-8	E440/VA	0.50	mg/kg		11000	2540	----	----	----
Iron	7439-89-6	E440/VA	50	mg/kg		67200	62600	----	----	----
Lead	7439-92-1	E440/VA	0.50	mg/kg		231	1580	----	----	----
Lithium	7439-93-2	E440/VA	2.0	mg/kg		23.9	32.9	----	----	----
Magnesium	7439-95-4	E440/VA	20	mg/kg		11400	12900	----	----	----
Manganese	7439-96-5	E440/VA	1.0	mg/kg		810	876	----	----	----
Mercury	7439-97-6	E510/VA	0.0500	mg/kg		0.0824	0.119	----	----	----
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg		18.8	20.7	----	----	----
Nickel	7440-02-0	E440/VA	0.50	mg/kg		629	216	----	----	----
Phosphorus	7723-14-0	E440/VA	50	mg/kg		9590	10300	----	----	----

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BA 2542-A-11 ----	BA 2542-A-12 ----	----	----	----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	----	----	----
						VA25C7830-011	VA25C7830-012	----	----	----
						Result	Result	----	----	----
Metals										
Potassium	7440-09-7	E440/VA	100	mg/kg		5260	5580	----	----	----
Selenium	7782-49-2	E440/VA	0.20	mg/kg		0.37	0.43	----	----	----
Silver	7440-22-4	E440/VA	0.10	mg/kg		8.13	6.01	----	----	----
Sodium	7440-23-5	E440/VA	50	mg/kg		14600	16100	----	----	----
Strontium	7440-24-6	E440/VA	0.50	mg/kg		295	304	----	----	----
Sulfur	7704-34-9	E440/VA	1000	mg/kg		9800	11700	----	----	----
Thallium	7440-28-0	E440/VA	0.050	mg/kg		<0.050	<0.050	----	----	----
Tin	7440-31-5	E440/VA	2.0	mg/kg		109	127	----	----	----
Titanium	7440-32-6	E440/VA	1.0	mg/kg		263	275	----	----	----
Tungsten	7440-33-7	E440/VA	0.50	mg/kg		31.7	20.0	----	----	----
Uranium	7440-61-1	E440/VA	0.050	mg/kg		1.50	1.62	----	----	----
Vanadium	7440-62-2	E440/VA	0.20	mg/kg		32.7	32.8	----	----	----
Zinc	7440-66-6	E440/VA	2.0	mg/kg		3560	3970	----	----	----
Zirconium	7440-67-7	E440/VA	1.0	mg/kg		3.9	1.8	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units		11.22	11.17	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units		2.96	3.22	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units		4.98	4.98	----	----	----
pH, TCLP final	----	EPP444/VA	0.010	pH units		9.95	9.90	----	----	----
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 2542-A-11 ----	BA 2542-A-12 ----	----	----	----
					Client sampling date / time	20-Oct-2025 12:00	20-Oct-2025 12:00	----	----	----
						VA25C7830-011	VA25C7830-012	----	----	----
						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		0.86	0.89	----	----	----
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		782	813	----	----	----
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		0.732	0.755	----	----	----
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		6.1	6.8	----	----	----
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	: **VA25C7830**	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	: 20-Oct-2025 12:30
PO	: 1000497676	Issue Date	: 27-Oct-2025 19:51
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	Anonymous	Anonymous	Lead	7439-92-1	E440	41.6 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Metals	Anonymous	Anonymous	Sulfur	7704-34-9	E440	2600 % DUP-H, J	Diff <2x LOR	Low Level DUP DQO exceeded (difference > 2 LOR).

Result Qualifiers

Qualifier	Description
DUP-H	*Duplicate results outside ALS DQO, due to sample heterogeneity.*
J	*Duplicate results and limits are expressed in terms of absolute difference.*

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 2542-A-11	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	26-Oct-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-12	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	26-Oct-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-1	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-10	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-2	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-3	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-4	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-5	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-6	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-7	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-8	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag BA 2542-A-9	E510	20-Oct-2025	25-Oct-2025	28 days	5 days	✓	27-Oct-2025	28 days	2 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-1	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-10	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-11	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-12	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 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
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-2	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-3	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-4	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-5	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-6	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-7	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-8	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag BA 2542-A-9	E440	20-Oct-2025	25-Oct-2025	180 days	5 days	✓	27-Oct-2025	180 days	5 days	✓
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-1	E144	20-Oct-2025	----	----	----		24-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 2542-A-10	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-11	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-12	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-2	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-3	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-4	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-5	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-6	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-7	E144	20-Oct-2025	----	----	----		24-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 2542-A-8	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BA 2542-A-9	E144	20-Oct-2025	----	----	----		24-Oct-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-1	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-10	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-11	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	25-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-12	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	25-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-2	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-3	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-4	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-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 2542-A-5	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-6	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-7	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-8	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag BA 2542-A-9	E108	20-Oct-2025	25-Oct-2025	30 days	5 days	✓	26-Oct-2025	30 days	5 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-1	E512	23-Oct-2025	24-Oct-2025	31 days	4 days	✓	24-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-2	E512	23-Oct-2025	24-Oct-2025	31 days	4 days	✓	24-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-3	E512	23-Oct-2025	24-Oct-2025	31 days	4 days	✓	24-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-4	E512	23-Oct-2025	24-Oct-2025	31 days	4 days	✓	24-Oct-2025	31 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 2542-A-5	E512	23-Oct-2025	24-Oct-2025	31 days	4 days	✓	24-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-6	E512	23-Oct-2025	24-Oct-2025	31 days	4 days	✓	24-Oct-2025	31 days	4 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-10	E512	23-Oct-2025	25-Oct-2025	31 days	5 days	✓	25-Oct-2025	31 days	5 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-11	E512	23-Oct-2025	25-Oct-2025	31 days	5 days	✓	25-Oct-2025	31 days	5 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-12	E512	23-Oct-2025	25-Oct-2025	31 days	5 days	✓	25-Oct-2025	31 days	5 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-7	E512	23-Oct-2025	25-Oct-2025	31 days	5 days	✓	25-Oct-2025	31 days	5 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-8	E512	23-Oct-2025	25-Oct-2025	31 days	5 days	✓	25-Oct-2025	31 days	5 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) BA 2542-A-9	E512	23-Oct-2025	25-Oct-2025	31 days	5 days	✓	25-Oct-2025	31 days	5 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-1	E444	23-Oct-2025	24-Oct-2025	183 days	4 days	✓	25-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 2542-A-2	E444	23-Oct-2025	24-Oct-2025	183 days	4 days	✓	25-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-3	E444	23-Oct-2025	24-Oct-2025	183 days	4 days	✓	25-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-4	E444	23-Oct-2025	24-Oct-2025	183 days	4 days	✓	25-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-5	E444	23-Oct-2025	24-Oct-2025	183 days	4 days	✓	25-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-6	E444	23-Oct-2025	24-Oct-2025	183 days	4 days	✓	25-Oct-2025	183 days	4 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-10	E444	23-Oct-2025	25-Oct-2025	183 days	5 days	✓	26-Oct-2025	183 days	5 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-11	E444	23-Oct-2025	25-Oct-2025	183 days	5 days	✓	26-Oct-2025	183 days	5 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-12	E444	23-Oct-2025	25-Oct-2025	183 days	5 days	✓	26-Oct-2025	183 days	5 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-7	E444	23-Oct-2025	25-Oct-2025	183 days	5 days	✓	26-Oct-2025	183 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*
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-8	E444	23-Oct-2025	25-Oct-2025	183 days	5 days	✓	26-Oct-2025	183 days	5 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) BA 2542-A-9	E444	23-Oct-2025	25-Oct-2025	183 days	5 days	✓	26-Oct-2025	183 days	5 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2542-A-1	EPP444	20-Oct-2025	23-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 2542-A-10	EPP444	20-Oct-2025	23-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 2542-A-11	EPP444	20-Oct-2025	23-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 2542-A-12	EPP444	20-Oct-2025	23-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 2542-A-2	EPP444	20-Oct-2025	23-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 2542-A-3	EPP444	20-Oct-2025	23-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 2542-A-4	EPP444	20-Oct-2025	23-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 2542-A-5	EPP444	20-Oct-2025	23-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 2542-A-6	EPP444	20-Oct-2025	23-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 2542-A-7	EPP444	20-Oct-2025	23-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 2542-A-8	EPP444	20-Oct-2025	23-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 2542-A-9	EPP444	20-Oct-2025	23-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	2297931	2	29	6.9	5.0	✓
Moisture Content by Gravimetry	E144	2297936	2	24	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2297520	2	30	6.6	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	2298939	3	12	25.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2297929	2	30	6.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	2298940	3	12	25.0	5.0	✓
Laboratory Control Samples (LCS)							
pH by Meter (1:2 Soil:Water Extraction)	E108	2297931	2	29	6.9	5.0	✓
Moisture Content by Gravimetry	E144	2297936	2	24	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2297520	4	30	13.3	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	2297929	4	30	13.3	10.0	✓
Method Blanks (MB)							
Moisture Content by Gravimetry	E144	2297936	2	24	8.3	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2297520	2	30	6.6	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	2298939	3	12	25.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	2297929	2	30	6.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	2298940	3	12	25.0	5.0	✓
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	2298939	3	12	25.0	5.0	✓
Mercury by CVAAS (TCLP)	E512	2298940	3	12	25.0	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	: **VA25C7830**	Page	: 1 of 20
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	: 20-Oct-2025 12:30
PO	: 1000497676	Date Analysis Commenced	: 23-Oct-2025
C-O-C number	: ----	Issue Date	: 27-Oct-2025 19:51
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*
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Robert Nguyen	Analyst	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: 2297522)											
VA25C7770-006	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	8.91	8.93	0.2%	5%	----
Physical Tests (QC Lot: 2297530)											
VA25C7770-006	Anonymous	Moisture	----	E144	0.25	%	8.73	8.24	5.79%	20%	----
Physical Tests (QC Lot: 2297931)											
VA25C7125-007	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	7.38	7.43	0.7%	5%	----
Physical Tests (QC Lot: 2297936)											
VA25C7125-007	Anonymous	Moisture	----	E144	0.25	%	12.5	10.8	14.6%	20%	----
Metals (QC Lot: 2297520)											
VA25C7770-006	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	16200	17200	6.41%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	1.25	1.57	22.5%	30%	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	37.4	32.6	13.8%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	64.6	66.1	2.23%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.48	0.46	0.02	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	0.21	0.006	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	0.208	0.183	12.7%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	32700	30900	5.74%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	138	138	0.0687%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	27.8	31.5	12.4%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	73.5	72.7	1.12%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	37400	36300	2.94%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	20.2	30.7	41.6%	40%	DUP-H
		Lithium	7439-93-2	E440	2.0	mg/kg	31.8	33.3	4.46%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	22500	23400	4.03%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	633	638	0.822%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	1.33	1.20	9.83%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	160	151	5.69%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	630	724	14.0%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	1160	1370	16.4%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.36	0.29	0.07	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: 2297520) - continued											
VA25C7770-006	Anonymous	Silver	7440-22-4	E440	0.10	mg/kg	0.18	0.12	0.06	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	221	218	3	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.50	mg/kg	139	132	5.25%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	6300	# 3700	2600	Diff <2x LOR	DUP-H,J
		Thallium	7440-28-0	E440	0.050	mg/kg	0.133	0.139	0.006	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	257	280	8.58%	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	0.845	0.793	6.42%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	52.4	54.0	2.95%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	72.7	72.5	0.184%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	3.3	3.3	0.02	Diff <2x LOR	----
Metals (QC Lot: 2297521)											
VA25C7770-006	Anonymous	Mercury	7439-97-6	E510	0.0500	mg/kg	<0.0500	<0.0500	0	Diff <2x LOR	----
Metals (QC Lot: 2297928)											
VA25C7125-007	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	14800	14400	3.09%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.15	0.13	0.02	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	2.17	2.07	4.32%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	68.1	67.7	0.563%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.18	0.16	0.02	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	0.058	0.059	0.0003	Diff <2x LOR	----
		Calcium	7440-70-2	E440	50	mg/kg	5120	4520	12.4%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	14.6	14.3	2.51%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	5.93	5.79	2.39%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	15.1	15.0	0.799%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	17200	17400	0.929%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	2.20	2.11	0.09	Diff <2x LOR	----
		Lithium	7439-93-2	E440	2.0	mg/kg	4.3	4.2	0.03	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	3930	3920	0.136%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	288	271	5.84%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.14	0.16	0.02	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	9.31	9.38	0.769%	30%	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 2297928) - continued											
VA25C7125-007	Anonymous	Phosphorus	7723-14-0	E440	50	mg/kg	411	421	2.27%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	760	710	7.06%	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	340	300	12.6%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	57.9	52.1	10.6%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	<0.050	0	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	1020	923	10.1%	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	0.377	0.376	0.111%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	50.1	49.7	0.827%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	28.9	28.9	0.267%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	2.9	3.0	0.09	Diff <2x LOR	----
Metals (QC Lot: 2297929)											
VA25C7125-007	Anonymous	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0061	0.0084	0.0023	Diff <2x LOR	----
TCLP Metals (QC Lot: 2297618)											
VA25C7830-001	BA 2542-A-1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2297620)											
VA25C7830-006	BA 2542-A-6	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2297622)											
VA25C7830-001	BA 2542-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	0.77	0.80	0.03	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	716	732	2.25%	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	0.729	0.754	3.37%	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	----

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: 2297622) - continued											
VA25C7830-001	BA 2542-A-1	Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	3.4	3.6	0.2	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: 2297623)											
VA25C7830-006	BA 2542-A-6	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	2.20	2.25	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	1960	2040	4.00%	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	0.559	0.566	1.22%	30%	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	0.794	0.799	0.657%	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	136	136	0.280%	30%	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.26	0.27	0.008	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	2.22	2.29	0.07	Diff <2x LOR	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2298939)											
VA25C7830-007	BA 2542-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	----

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: 2298939) - continued											
VA25C7830-007	BA 2542-A-7	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	0.87	0.84	0.02	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	784	774	1.26%	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	0.714	0.699	2.11%	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	6.7	6.6	0.1	Diff <2x LOR	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Selenium, TCLP	7782-49-2	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	0	Diff <2x LOR	----
		Zinc, TCLP	7440-66-6	E444	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2298940)											
VA25C7830-007	BA 2542-A-7	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----

Qualifiers

Qualifier	*Description*
DUP-H	*Duplicate results outside ALS DQO, due to sample heterogeneity.*
J	*Duplicate results and limits are expressed in terms of absolute difference.*

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: 2297530)						
Moisture	----	E144	0.25	%	<0.25	----
Physical Tests (QCLot: 2297936)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 2297520)						
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: 2297520) - 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	----
Metals (QCLot: 2297521)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 2297928)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2297928) - continued						
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
Metals (QCLot: 2297929)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
TCLP Metals (QCLot: 2297618)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals (QCLot: 2297620)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP Metals (QCLot: 2297622)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 2297622) - continued						
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
TCLP Metals (QCLot: 2297623)						
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: 2298939)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 2298939) - continued						
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: 2298940)						
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: 2297522)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	101	95.0	105	----
Physical Tests (QCLot: 2297530)									
Moisture	----	E144	0.25	%	50 %	101	90.0	110	----
Physical Tests (QCLot: 2297931)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	100	95.0	105	----
Physical Tests (QCLot: 2297936)									
Moisture	----	E144	0.25	%	50 %	102	90.0	110	----
Metals (QCLot: 2297520)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	107	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	107	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	106	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	109	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	101	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	95.6	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	101	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	103	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	104	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	103	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	103	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	108	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	103	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	103	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	105	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	103	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	105	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	106	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	104	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	97.5	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	105	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2297520) - continued									
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	91.5	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	100	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	103	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	102	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	103	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	103	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	103	80.0	120	----
Metals (QCLot: 2297521)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	99.8	80.0	120	----
Metals (QCLot: 2297928)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	101	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	97.2	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	98.8	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	99.9	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	97.4	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	95.9	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	103	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	97.5	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	99.2	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	100	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	98.1	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	102	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	102	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	98.0	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	109	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	101	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	96.8	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	99.7	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	99.6	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	101	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	97.1	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	90.5	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: 2297928) - continued									
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	102	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	98.0	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	95.7	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	97.2	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	97.6	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	96.1	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	96.6	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	107	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	101	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	101	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	98.2	80.0	120	----
Metals (QCLot: 2297929)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	92.3	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: 2297618)										
VA25C7830-001	BA 2542-A-1	Mercury, TCLP	7439-97-6	E512	0.0029 mg/L	0.003 mg/L	96.9	50.0	140	----
TCLP Metals (QCLot: 2297620)										
VA25C7830-006	BA 2542-A-6	Mercury, TCLP	7439-97-6	E512	0.0018 mg/L	0.003 mg/L	61.2	50.0	140	----
TCLP Metals (QCLot: 2297622)										
VA25C7830-001	BA 2542-A-1	Antimony, TCLP	7440-36-0	E444	5.77 mg/L	5 mg/L	115	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	5.4 mg/L	5 mg/L	107	50.0	140	----
		Barium, TCLP	7440-39-3	E444	14.6 mg/L	12.5 mg/L	117	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.254 mg/L	0.25 mg/L	101	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.25 mg/L	10 mg/L	92.5	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.260 mg/L	0.25 mg/L	104	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.31 mg/L	1.25 mg/L	105	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.262 mg/L	0.25 mg/L	105	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.54 mg/L	2.5 mg/L	101	50.0	140	----
		Iron, TCLP	7439-89-6	E444	251 mg/L	250 mg/L	101	50.0	140	----
		Lead, TCLP	7439-92-1	E444	10.2 mg/L	10 mg/L	102	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	281 mg/L	250 mg/L	112	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.56 mg/L	2.5 mg/L	102	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	5.22 mg/L	5 mg/L	104	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.074 mg/L	0.1 mg/L	74.2	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.9 mg/L	5 mg/L	98.8	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	5.10 mg/L	5 mg/L	102	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.80 mg/L	0.75 mg/L	107	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	10.9 mg/L	10 mg/L	109	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.9 mg/L	1 mg/L	88.0	50.0	150	----
TCLP Metals (QCLot: 2297623)										
VA25C7830-006	BA 2542-A-6	Antimony, TCLP	7440-36-0	E444	5.32 mg/L	5 mg/L	106	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	5.1 mg/L	5 mg/L	102	50.0	140	----
		Barium, TCLP	7440-39-3	E444	13.8 mg/L	12.5 mg/L	110	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.245 mg/L	0.25 mg/L	97.9	50.0	140	----
		Boron, TCLP	7440-42-8	E444	8.94 mg/L	10 mg/L	89.4	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.252 mg/L	0.25 mg/L	101	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.27 mg/L	1.25 mg/L	102	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	ND mg/L	----	ND	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.41 mg/L	2.5 mg/L	96.4	50.0	140	----
		Iron, TCLP	7439-89-6	E444	246 mg/L	250 mg/L	98.3	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.71 mg/L	10 mg/L	97.1	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: 2297623) - continued										
VA25C7830-006	BA 2542-A-6	Magnesium, TCLP	7439-95-4	E444	268 mg/L	250 mg/L	107	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.51 mg/L	2.5 mg/L	100	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.97 mg/L	5 mg/L	99.3	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.071 mg/L	0.1 mg/L	70.8	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.8 mg/L	5 mg/L	96.2	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.96 mg/L	5 mg/L	99.2	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	10.2 mg/L	10 mg/L	102	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.9 mg/L	1 mg/L	89.2	50.0	150	----
TCLP Metals (QCLot: 2298939)										
VA25C7830-007	BA 2542-A-7	Antimony, TCLP	7440-36-0	E444	4.48 mg/L	5 mg/L	89.5	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.5 mg/L	5 mg/L	89.8	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.2 mg/L	12.5 mg/L	97.8	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.220 mg/L	0.25 mg/L	88.1	50.0	140	----
		Boron, TCLP	7440-42-8	E444	8.31 mg/L	10 mg/L	83.1	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.217 mg/L	0.25 mg/L	86.8	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.11 mg/L	1.25 mg/L	88.8	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.222 mg/L	0.25 mg/L	88.9	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.14 mg/L	2.5 mg/L	85.8	50.0	140	----
		Iron, TCLP	7439-89-6	E444	215 mg/L	250 mg/L	86.1	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	234 mg/L	250 mg/L	93.6	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.14 mg/L	2.5 mg/L	85.6	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.32 mg/L	5 mg/L	86.4	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.057 mg/L	0.1 mg/L	57.4	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.2 mg/L	5 mg/L	84.7	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.33 mg/L	5 mg/L	86.6	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.68 mg/L	0.75 mg/L	90.5	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.04 mg/L	10 mg/L	90.4	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	80.2	50.0	150	----
TCLP Metals (QCLot: 2298940)										
VA25C7830-007	BA 2542-A-7	Mercury, TCLP	7439-97-6	E512	0.0026 mg/L	0.003 mg/L	85.3	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: 2297520)									
QC-2297520-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	108	70.0	130	----
QC-2297520-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	107	70.0	130	----
QC-2297520-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	97.8	70.0	130	----
QC-2297520-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	108	70.0	130	----
QC-2297520-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	100	70.0	130	----
QC-2297520-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	91.4	70.0	130	----
QC-2297520-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	101	70.0	130	----
QC-2297520-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	101	70.0	130	----
QC-2297520-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	104	70.0	130	----
QC-2297520-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	104	70.0	130	----
QC-2297520-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	102	70.0	130	----
QC-2297520-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	105	70.0	130	----
QC-2297520-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	99.5	70.0	130	----
QC-2297520-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	103	70.0	130	----
QC-2297520-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	101	70.0	130	----
QC-2297520-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	100	70.0	130	----
QC-2297520-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	101	70.0	130	----
QC-2297520-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	103	70.0	130	----
QC-2297520-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	100	70.0	130	----
QC-2297520-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	103	70.0	130	----
QC-2297520-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	108	60.0	140	----
QC-2297520-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	102	70.0	130	----
QC-2297520-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	113	70.0	130	----
QC-2297520-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	97.9	70.0	130	----
QC-2297520-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	73.7	50.0	150	----
QC-2297520-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	104	70.0	130	----
QC-2297520-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	101	40.0	160	----
QC-2297520-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	102	70.0	130	----
QC-2297520-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	112	70.0	130	----
QC-2297520-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	96.4	70.0	130	----
QC-2297520-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	104	70.0	130	----
QC-2297520-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	100	70.0	130	----
QC-2297520-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	105	70.0	130	----

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report: RM Target Concentration	Recovery (%): RM	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Metals (QCLot: 2297521)									
QC-2297521-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	97.7	70.0	130	----
Metals (QCLot: 2297928)									
QC-2297928-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	108	70.0	130	----
QC-2297928-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	106	70.0	130	----
QC-2297928-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	108	70.0	130	----
QC-2297928-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	97.8	70.0	130	----
QC-2297928-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	111	70.0	130	----
QC-2297928-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	95.1	70.0	130	----
QC-2297928-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	109	70.0	130	----
QC-2297928-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	105	70.0	130	----
QC-2297928-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	105	70.0	130	----
QC-2297928-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	106	70.0	130	----
QC-2297928-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	102	70.0	130	----
QC-2297928-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	105	70.0	130	----
QC-2297928-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	102	70.0	130	----
QC-2297928-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	111	70.0	130	----
QC-2297928-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	110	70.0	130	----
QC-2297928-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	104	70.0	130	----
QC-2297928-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	101	70.0	130	----
QC-2297928-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	104	70.0	130	----
QC-2297928-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	95.5	70.0	130	----
QC-2297928-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	108	70.0	130	----
QC-2297928-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	110	60.0	140	----
QC-2297928-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	98.8	70.0	130	----
QC-2297928-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	111	70.0	130	----
QC-2297928-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	100	70.0	130	----
QC-2297928-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	94.2	50.0	150	----
QC-2297928-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	101	70.0	130	----
QC-2297928-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	99.4	40.0	160	----
QC-2297928-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	109	70.0	130	----
QC-2297928-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	116	70.0	130	----
QC-2297928-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	101	70.0	130	----
QC-2297928-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	105	70.0	130	----
QC-2297928-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	108	70.0	130	----
QC-2297928-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	106	70.0	130	----
Metals (QCLot: 2297929)									
QC-2297929-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	97.4	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		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)	VA7830	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 2542-A-1	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-2	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-3	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-4	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-5	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-6	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-7	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-8	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-9	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-10	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-11	20 Oct 2025	12:00	Soil	X	X				X							1
	BA 2542-A-12	20 Oct 2025	12:00	Soil	X	X				X							1
water Aquatic																	

Environmental Division
Vancouver
Work Order Reference
VA25C7830

Telephone : +1 604 253 4188

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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
	20/10/25	08:40		Oct 20	12:30	17 °C				

GENF 20.00 Front

Bottom Ash Worksheet

Date sample composited (DD/MM/YYYY)	20/10/2025
Person doing the sampling	Noah T
Total Sample Weight before processing, kg	87.35
Weight of Material >3/8", kg	19.6
Weight of Material that cannot be processed to <3/8" (metal, wood, etc), kg	2.4
Final Total weight of Processed Bottom Ash, kg	65.35

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"