

## Bottom Ash Data

2025 Week 47

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The following analytical report represents bottom ash composite results for week 47 of 2025 (November 16, 2025 to November 22, 2025).

The bottom ash meets the conditions of Metro Vancouver's 2020 Bottom Ash Management Plan and is suitable for disposal .



**CERTIFICATE OF ANALYSIS**

<b>Work Order</b>	: <b>VA25D1299</b>	<b>Laboratory</b>	: ALS Environmental - Vancouver
<b>Client</b>	: <b>Veolia Environmental Services Canada</b>	<b>Account Manager</b>	: Gulraj Dhanaua
<b>Contact</b>	: Brian Graham	<b>Address</b>	: 8081 Lougheed Highway
<b>Address</b>	: 5150 Riverbend Dr. Burnaby British Columbia Canada V3N 4V3		: Burnaby BC Canada V5A 1W9
<b>Telephone</b>	: ----	<b>E-mail</b>	: Gulraj.Dhanaua@alsglobal.com
<b>Project</b>	: Veolia Weekly Bottom Ash-Suite	<b>Telephone</b>	: +1 604 253 4188
<b>PO</b>	: 1000497676	<b>Date Samples Received</b>	: 24-Nov-2025 11:40
<b>C-O-C number</b>	: ----	<b>Date Analysis Commenced</b>	: 25-Nov-2025
<b>Sampler</b>	: ----	<b>Issue Date</b>	: 01-Dec-2025 17:21
<b>Site</b>	: Metro Van Ash Sampling Program		
<b>Quote number</b>	: VA25-VISI100-001		
<b>No. of samples received</b>	: 12		
<b>No. of samples analysed</b>	: 12		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

**Signatories**

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Organics, Burnaby, British Columbia



## General Comments

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

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

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

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

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

<i>Unit</i>	<i>Description</i>
%	percent
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

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

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

## Qualifiers

<i>Qualifier</i>	<i>Description</i>
DLA	Detection Limit adjusted for required dilution.



## Analytical Results

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

					Client sample ID	BA 2547-A-1 ----	BA 2547-A-2 ----	BA 2547-A-3 ----	BA 2547-A-4 ----	BA 2547-A-5 ----
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-001	VA25D1299-002	VA25D1299-003	VA25D1299-004	VA25D1299-005	
					Result	Result	Result	Result	Result	
<b>Physical Tests</b>										
Moisture	----	E144/VA	0.25	%	25.3	27.9	27.2	24.1	26.3	
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	11.77	12.02	11.80	11.75	11.70	
<b>Metals</b>										
Aluminum	7429-90-5	E440/VA	50	mg/kg	34300	37200	52200	40100	43100	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	76.1	85.2	49.7	72.2	87.9	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	15.2	16.2	16.2	12.9	15.0	
Barium	7440-39-3	E440/VA	0.50	mg/kg	716	794	732	685	749	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.43	0.40	0.37	0.49	0.41	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	7.15	7.87	5.70	8.11	8.71	
Boron	7440-42-8	E440/VA	5.0	mg/kg	265	231	204	180	218	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	5.01	7.95	5.33	7.93	12.4	
Calcium	7440-70-2	E440/VA	50	mg/kg	128000	115000	116000	119000	110000	
Chromium	7440-47-3	E440/VA	0.50	mg/kg	124	161	305	151	166	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	34.5	56.3	48.8	42.3	113	
Copper	7440-50-8	E440/VA	0.50	mg/kg	2320	1720	1590	4930	11100	
Iron	7439-89-6	E440/VA	50	mg/kg	64000	71900	49700	73900	67100	
Lead	7439-92-1	E440/VA	0.50	mg/kg	339	245	492	1180	297	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	28.1	48.8	28.9	25.2	36.3	
Magnesium	7439-95-4	E440/VA	20	mg/kg	11900	11400	11300	11500	11500	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	923	1030	789	860	964	
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	0.0659	<0.0500	<0.0500	0.0524	0.0951	



## Analytical Results

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

					Client sample ID	BA 2547-A-1	BA 2547-A-2	BA 2547-A-3	BA 2547-A-4	BA 2547-A-5
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-001	VA25D1299-002	VA25D1299-003	VA25D1299-004	VA25D1299-005	
					Result	Result	Result	Result	Result	
<b>Metals</b>										
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	14.0	20.3	16.9	15.1	18.8	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	108	322	311	136	268	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	11200	10500	11500	8820	11400	
Potassium	7440-09-7	E440/VA	100	mg/kg	4450	3950	3710	3950	4540	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.30	0.30	0.22	0.26	0.26	
Silver	7440-22-4	E440/VA	0.10	mg/kg	4.54	3.36	4.32	3.68	7.14	
Sodium	7440-23-5	E440/VA	50	mg/kg	14300	12700	13300	12300	14300	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	448	289	265	281	294	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	8600	7700	7100	7900	7400	
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	90.8	103	75.1	287	114	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	322	578	310	401	1250	
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	8.31	12.7	5.23	5.83	12.9	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.66	1.78	1.45	1.56	1.75	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	34.5	37.9	31.7	30.0	34.3	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	2790	4910	2200	4660	8410	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	2.1	1.8	5.2	2.6	2.9	
<b>TCLP Metals</b>										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.98	12.00	12.03	11.92	11.93	
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	6.18	6.34	6.49	5.53	5.97	
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.88	2.88	2.88	2.88	2.88	



## Analytical Results

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

					Client sample ID	BA 2547-A-1	BA 2547-A-2	BA 2547-A-3	BA 2547-A-4	BA 2547-A-5
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-001	VA25D1299-002	VA25D1299-003	VA25D1299-004	VA25D1299-005	
					Result	Result	Result	Result	Result	
<b>TCLP Metals</b>										
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.12	6.29	6.61	6.43	6.38	
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L	<1.00	<1.00	<1.00	<1.00	<1.00	
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L	1.81	1.96	1.91	1.86	1.97	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.129	0.084	0.138	0.082	0.070	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1700	1830	1670	1710	1760	
Chromium, TCLP	7440-47-3	E444/VA	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	
Cobalt, TCLP	7440-48-4	E444/VA	0.050	mg/L	1.14	1.31	1.34	0.755	1.06	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.911	0.662	0.668	0.614	0.819	
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	120	122	114	107	121	
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	0.49	0.54	0.40	0.49	0.47	
Selenium, TCLP	7782-49-2	E444/VA	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	
Silver, TCLP	7440-22-4	E444/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Thallium, TCLP	7440-28-0	E444/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Uranium, TCLP	7440-61-1	E444/VA	0.20	mg/L	<0.20	<0.20	<0.20	<0.20	<0.20	
Vanadium, TCLP	7440-62-2	E444/VA	0.15	mg/L	<0.15	<0.15	<0.15	<0.15	<0.15	



### Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA 2547-A-1 ----	BA 2547-A-2 ----	BA 2547-A-3 ----	BA 2547-A-4 ----	BA 2547-A-5 ----
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-001	VA25D1299-002	VA25D1299-003	VA25D1299-004	VA25D1299-005	
					Result	Result	Result	Result	Result	
<b>TCLP Metals</b>										
Zinc, TCLP	7440-66-6	E444/VA	0.50	mg/L	27.1	29.2	9.19	17.7	34.0	
Zirconium, TCLP	7440-67-7	E444/VA	10	mg/L	<10	<10	<10	<10	<10	

Please refer to the General Comments section for an explanation of any qualifiers detected.

### Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	BA 2547-A-6 ----	BA 2547-A-7 ----	BA 2547-A-8 ----	BA 2547-A-9 ----	BA 2547-A-10 ----
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-006	VA25D1299-007	VA25D1299-008	VA25D1299-009	VA25D1299-010	
					Result	Result	Result	Result	Result	
<b>Physical Tests</b>										
Moisture	----	E144/VA	0.25	%	26.1	25.5	24.8	26.0	24.0	
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	12.05	11.96	11.85	11.73	11.98	
<b>Metals</b>										
Aluminum	7429-90-5	E440/VA	50	mg/kg	46500	54400	32100	42500	30400	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	71.9	74.4	91.7	64.8	69.3	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	13.0	24.4	17.8	18.0	13.5	
Barium	7440-39-3	E440/VA	0.50	mg/kg	910	752	664	1340	744	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.42	0.38	0.38	0.47	0.33	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	20.6	19.6	9.22	7.78	37.9	
Boron	7440-42-8	E440/VA	5.0	mg/kg	235	281	170	216	229	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	4.78	18.4	6.02	4.11	5.28	
Calcium	7440-70-2	E440/VA	50	mg/kg	125000	123000	125000	108000	117000	



## Analytical Results

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

					Client sample ID	BA 2547-A-6	BA 2547-A-7	BA 2547-A-8	BA 2547-A-9	BA 2547-A-10
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-006	VA25D1299-007	VA25D1299-008	VA25D1299-009	VA25D1299-010	
					Result	Result	Result	Result	Result	
<b>Metals</b>										
Chromium	7440-47-3	E440/VA	0.50	mg/kg	196	149	189	179	135	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	58.7	66.7	65.8	55.3	363	
Copper	7440-50-8	E440/VA	0.50	mg/kg	3070	2530	3310	1570	10200	
Iron	7439-89-6	E440/VA	50	mg/kg	57200	60200	67500	55700	61900	
Lead	7439-92-1	E440/VA	0.50	mg/kg	238	318	479	814	617	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	31.7	32.6	30.7	29.2	30.3	
Magnesium	7439-95-4	E440/VA	20	mg/kg	12000	12000	12700	11200	13100	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	1020	1010	1870	917	731	
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	0.0795	0.0927	0.0913	<0.0500	0.135	
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	15.5	49.0	18.0	23.3	11.1	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	270	160	209	121	161	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	10400	11400	10400	9780	9420	
Potassium	7440-09-7	E440/VA	100	mg/kg	4150	4120	4190	4540	4000	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.26	0.36	0.36	0.25	0.37	
Silver	7440-22-4	E440/VA	0.10	mg/kg	3.02	16.6	6.63	2.79	3.95	
Sodium	7440-23-5	E440/VA	50	mg/kg	13100	14000	12800	15100	12900	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	294	288	316	273	234	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	7700	8000	9500	6600	6800	
Thallium	7440-28-0	E440/VA	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.092 <sup>DLA</sup>	
Tin	7440-31-5	E440/VA	2.0	mg/kg	81.8	413	356	132	132	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	852	499	300	790	348	



## Analytical Results

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

					Client sample ID	BA 2547-A-6	BA 2547-A-7	BA 2547-A-8	BA 2547-A-9	BA 2547-A-10
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-006	VA25D1299-007	VA25D1299-008	VA25D1299-009	VA25D1299-010	
					Result	Result	Result	Result	Result	
<b>Metals</b>										
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	9.21	7.96	13.1	6.72	8.11	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.64	1.71	1.80	1.61	1.58	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	31.7	35.5	30.9	35.9	27.8	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	9340	3480	3180	2730	8350	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	2.4	2.7	1.7	1.4	<1.8 <sup>DLA</sup>	
<b>TCLP Metals</b>										
pH, TCLP 1st preliminary	---	EPP444/VA	0.010	pH units	11.95	11.99	11.97	11.98	11.87	
pH, TCLP 2nd preliminary	---	EPP444/VA	0.010	pH units	6.18	6.26	5.96	6.38	5.85	
pH, TCLP extraction fluid initial	---	EPP444/VA	0.010	pH units	2.88	2.88	2.88	2.88	2.88	
pH, TCLP final	---	EPP444/VA	0.010	pH units	6.50	6.56	6.39	6.23	6.15	
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L	<1.00	<1.00	<1.00	<1.00	<1.00	
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium, TCLP	7440-39-3	E444/VA	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	
Beryllium, TCLP	7440-41-7	E444/VA	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	
Boron, TCLP	7440-42-8	E444/VA	0.50	mg/L	1.77	1.81	1.70	1.97	1.98	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.150	<0.050	0.056	0.081	0.065	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1660	1680	1560	1800	1770	
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	0.902	0.848	0.659	1.38	2.05	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.502	0.621	0.514	0.570	0.833	
Iron, TCLP	7439-89-6	E444/VA	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	



### Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID				
					BA 2547-A-6 ----	BA 2547-A-7 ----	BA 2547-A-8 ----	BA 2547-A-9 ----	BA 2547-A-10 ----
					Client sampling date / time				
					24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00	24-Nov-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-006	VA25D1299-007	VA25D1299-008	VA25D1299-009	VA25D1299-010
					Result	Result	Result	Result	Result
<b>TCLP Metals</b>									
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	107	119	102	125	130
Mercury, TCLP	7439-97-6	E512/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel, TCLP	7440-02-0	E444/VA	0.25	mg/L	0.42	0.37	0.46	0.77	0.42
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	17.0	23.6	18.7	25.6	23.1
Zirconium, TCLP	7440-67-7	E444/VA	10	mg/L	<10	<10	<10	<10	<10

Please refer to the General Comments section for an explanation of any qualifiers detected.

### Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID				
					BA 2547-A-11 ----	BA 2547-A-12 ----	----	----	----
					Client sampling date / time				
					24-Nov-2025 00:00	24-Nov-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-011	VA25D1299-012	----	----	----
					Result	Result	----	----	----
<b>Physical Tests</b>									
Moisture	----	E144/VA	0.25	%	26.6	23.6	----	----	----
pH (1:2 soil:water)	----	E108/VA	0.10	pH units	11.76	6.57	----	----	----



### Analytical Results

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

					Client sample ID	BA 2547-A-11	BA 2547-A-12	----	----	----
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-011	VA25D1299-012	----	----	----	
					Result	Result	----	----	----	
<b>Metals</b>										
Aluminum	7429-90-5	E440/VA	50	mg/kg	43300	49500	----	----	----	
Antimony	7440-36-0	E440/VA	0.10	mg/kg	78.6	72.0	----	----	----	
Arsenic	7440-38-2	E440/VA	0.10	mg/kg	17.3	13.1	----	----	----	
Barium	7440-39-3	E440/VA	0.50	mg/kg	712	713	----	----	----	
Beryllium	7440-41-7	E440/VA	0.10	mg/kg	0.45	0.38	----	----	----	
Bismuth	7440-69-9	E440/VA	0.20	mg/kg	6.58	8.18	----	----	----	
Boron	7440-42-8	E440/VA	5.0	mg/kg	180	196	----	----	----	
Cadmium	7440-43-9	E440/VA	0.020	mg/kg	5.56	4.72	----	----	----	
Calcium	7440-70-2	E440/VA	50	mg/kg	113000	121000	----	----	----	
Chromium	7440-47-3	E440/VA	0.50	mg/kg	322	156	----	----	----	
Cobalt	7440-48-4	E440/VA	0.10	mg/kg	234	392	----	----	----	
Copper	7440-50-8	E440/VA	0.50	mg/kg	4470	3110	----	----	----	
Iron	7439-89-6	E440/VA	50	mg/kg	76000	65200	----	----	----	
Lead	7439-92-1	E440/VA	0.50	mg/kg	203	313	----	----	----	
Lithium	7439-93-2	E440/VA	2.0	mg/kg	30.6	36.8	----	----	----	
Magnesium	7439-95-4	E440/VA	20	mg/kg	11000	12100	----	----	----	
Manganese	7439-96-5	E440/VA	1.0	mg/kg	929	780	----	----	----	
Mercury	7439-97-6	E510/VA	0.0500	mg/kg	0.0825	0.0612	----	----	----	
Molybdenum	7439-98-7	E440/VA	0.10	mg/kg	20.1	14.0	----	----	----	
Nickel	7440-02-0	E440/VA	0.50	mg/kg	158	133	----	----	----	
Phosphorus	7723-14-0	E440/VA	50	mg/kg	8950	9210	----	----	----	



## Analytical Results

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

					Client sample ID	BA 2547-A-11	BA 2547-A-12	----	----	----
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-011	VA25D1299-012	----	----	----	
					Result	Result	----	----	----	
<b>Metals</b>										
Potassium	7440-09-7	E440/VA	100	mg/kg	4360	4190	----	----	----	
Selenium	7782-49-2	E440/VA	0.20	mg/kg	0.37	0.32	----	----	----	
Silver	7440-22-4	E440/VA	0.10	mg/kg	5.06	3.87	----	----	----	
Sodium	7440-23-5	E440/VA	50	mg/kg	14700	13400	----	----	----	
Strontium	7440-24-6	E440/VA	0.50	mg/kg	270	306	----	----	----	
Sulfur	7704-34-9	E440/VA	1000	mg/kg	6800	7700	----	----	----	
Thallium	7440-28-0	E440/VA	0.050	mg/kg	<0.050	<0.050	----	----	----	
Tin	7440-31-5	E440/VA	2.0	mg/kg	129	87.8	----	----	----	
Titanium	7440-32-6	E440/VA	1.0	mg/kg	824	779	----	----	----	
Tungsten	7440-33-7	E440/VA	0.50	mg/kg	9.16	9.60	----	----	----	
Uranium	7440-61-1	E440/VA	0.050	mg/kg	1.58	1.59	----	----	----	
Vanadium	7440-62-2	E440/VA	0.20	mg/kg	37.3	38.4	----	----	----	
Zinc	7440-66-6	E440/VA	2.0	mg/kg	2430	4150	----	----	----	
Zirconium	7440-67-7	E440/VA	1.0	mg/kg	1.2	2.2	----	----	----	
<b>TCLP Metals</b>										
pH, TCLP 1st preliminary	----	EPP444/VA	0.010	pH units	11.93	11.91	----	----	----	
pH, TCLP 2nd preliminary	----	EPP444/VA	0.010	pH units	5.94	5.72	----	----	----	
pH, TCLP extraction fluid initial	----	EPP444/VA	0.010	pH units	2.88	2.88	----	----	----	
pH, TCLP final	----	EPP444/VA	0.010	pH units	6.26	6.33	----	----	----	
Antimony, TCLP	7440-36-0	E444/VA	1.00	mg/L	<1.00	<1.00	----	----	----	
Arsenic, TCLP	7440-38-2	E444/VA	1.0	mg/L	<1.0	<1.0	----	----	----	



### Analytical Results

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

					Client sample ID	BA 2547-A-11	BA 2547-A-12	----	----	----
					Client sampling date / time	24-Nov-2025 00:00	24-Nov-2025 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA25D1299-011	VA25D1299-012	----	----	----	
					Result	Result	----	----	----	
<b>TCLP Metals</b>										
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	2.03	2.04	----	----	----	
Cadmium, TCLP	7440-43-9	E444/VA	0.050	mg/L	0.058	0.062	----	----	----	
Calcium, TCLP	7440-70-2	E444/VA	10	mg/L	1890	1840	----	----	----	
Chromium, TCLP	7440-47-3	E444/VA	0.25	mg/L	<0.25	<0.25	----	----	----	
Cobalt, TCLP	7440-48-4	E444/VA	0.050	mg/L	1.18	1.78	----	----	----	
Copper, TCLP	7440-50-8	E444/VA	0.050	mg/L	0.612	0.777	----	----	----	
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	127	123	----	----	----	
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	0.74	0.59	----	----	----	
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	16.5	29.4	----	----	----	
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

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<p><b>Work Order</b> : <b>VA25D1299</b></p> <p><b>Client</b> : <b>Veolia Environmental Services Canada</b></p> <p><b>Contact</b> : Brian Graham</p> <p><b>Address</b> : 5150 Riverbend Dr. Burnaby BC Canada V3N 4V3</p> <p><b>Telephone</b> : ----</p> <p><b>Project</b> : Veolia Weekly Bottom Ash-Suite</p> <p><b>PO</b> : 1000497676</p> <p><b>C-O-C number</b> : ----</p> <p><b>Sampler</b> : ----</p> <p><b>Site</b> : Metro Van Ash Sampling Program</p> <p><b>Quote number</b> : VA25-VIS1100-001</p> <p><b>No. of samples received</b> : 12</p> <p><b>No. of samples analysed</b> : 12</p>	<p><b>Page</b> : 1 of 16</p> <p><b>Laboratory</b> : ALS Environmental - Vancouver</p> <p><b>Account Manager</b> : Gulraj Dhanaua</p> <p><b>Address</b> : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p><b>Telephone</b> : +1 604 253 4188</p> <p><b>Date Samples Received</b> : 24-Nov-2025 11:40</p> <p><b>Issue Date</b> : 01-Dec-2025 17:20</p>
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This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

**Key**

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

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### ***Workorder Comments***

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

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### ***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
<b>Duplicate (DUP) RPDs</b>								
Metals	VA25D1299-001	BA 2547-A-1	Copper	7440-50-8	E440	101 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D1299-001	BA 2547-A-1	Silver	7440-22-4	E440	184 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D1299-001	BA 2547-A-1	Strontium	7440-24-6	E440	55.3 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D1299-001	BA 2547-A-1	Tungsten	7440-33-7	E440	172 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Metals	VA25D1299-001	BA 2547-A-1	Zinc	7440-66-6	E440	130 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.

**Result Qualifiers**

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.



## Analysis Holding Time Compliance

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

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

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

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

Matrix: **Soil/Solid**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
<b>Metals : Mercury in Soil/Solid by CVAAS</b>											
<b>LDPE bag</b> BA 2547-A-1	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔	
<b>Metals : Mercury in Soil/Solid by CVAAS</b>											
<b>LDPE bag</b> BA 2547-A-10	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔	
<b>Metals : Mercury in Soil/Solid by CVAAS</b>											
<b>LDPE bag</b> BA 2547-A-11	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔	
<b>Metals : Mercury in Soil/Solid by CVAAS</b>											
<b>LDPE bag</b> BA 2547-A-12	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔	
<b>Metals : Mercury in Soil/Solid by CVAAS</b>											
<b>LDPE bag</b> BA 2547-A-2	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔	
<b>Metals : Mercury in Soil/Solid by CVAAS</b>											
<b>LDPE bag</b> BA 2547-A-3	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔	
<b>Metals : Mercury in Soil/Solid by CVAAS</b>											
<b>LDPE bag</b> BA 2547-A-4	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
<b>Metals : Mercury in Soil/Solid by CVAAS</b>										
<b>LDPE bag</b> BA 2547-A-5	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔
<b>Metals : Mercury in Soil/Solid by CVAAS</b>										
<b>LDPE bag</b> BA 2547-A-6	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔
<b>Metals : Mercury in Soil/Solid by CVAAS</b>										
<b>LDPE bag</b> BA 2547-A-7	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔
<b>Metals : Mercury in Soil/Solid by CVAAS</b>										
<b>LDPE bag</b> BA 2547-A-8	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔
<b>Metals : Mercury in Soil/Solid by CVAAS</b>										
<b>LDPE bag</b> BA 2547-A-9	E510	24-Nov-2025	28-Nov-2025	28 days	5 days	✔	01-Dec-2025	28 days	3 days	✔
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>										
<b>LDPE bag</b> BA 2547-A-1	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>										
<b>LDPE bag</b> BA 2547-A-10	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>										
<b>LDPE bag</b> BA 2547-A-11	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>										
<b>LDPE bag</b> BA 2547-A-12	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-2	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-3	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-4	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-5	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-6	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-7	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-8	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Metals : Metals in Soil/Solid by CRC ICPMS</b>											
<b>LDPE bag</b> BA 2547-A-9	E440	24-Nov-2025	28-Nov-2025	180 days	5 days	✔	01-Dec-2025	180 days	5 days	✔	
<b>Physical Tests : Moisture Content by Gravimetry</b>											
<b>LDPE bag</b> BA 2547-A-1	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----		



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-10	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-11	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-12	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-2	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-3	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-4	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-5	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-6	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	
<b>Physical Tests : Moisture Content by Gravimetry</b>										
LDPE bag BA 2547-A-7	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
<b>Physical Tests : Moisture Content by Gravimetry</b>											
LDPE bag BA 2547-A-8	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----		
<b>Physical Tests : Moisture Content by Gravimetry</b>											
LDPE bag BA 2547-A-9	E144	24-Nov-2025	----	----	----		27-Nov-2025	----	----		
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>											
LDPE bag BA 2547-A-1	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔	
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>											
LDPE bag BA 2547-A-10	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔	
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>											
LDPE bag BA 2547-A-11	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔	
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>											
LDPE bag BA 2547-A-12	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔	
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>											
LDPE bag BA 2547-A-2	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔	
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>											
LDPE bag BA 2547-A-3	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔	
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>											
LDPE bag BA 2547-A-4	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-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		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>										
<b>LDPE bag</b> BA 2547-A-5	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>										
<b>LDPE bag</b> BA 2547-A-6	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>										
<b>LDPE bag</b> BA 2547-A-7	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>										
<b>LDPE bag</b> BA 2547-A-8	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>Physical Tests : pH by Meter (1:2 Soil:Water Extraction)</b>										
<b>LDPE bag</b> BA 2547-A-9	E108	24-Nov-2025	28-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
<b>Glass vial - total (lab preserved)</b> BA 2547-A-1	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
<b>Glass vial - total (lab preserved)</b> BA 2547-A-10	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
<b>Glass vial - total (lab preserved)</b> BA 2547-A-11	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✔	29-Nov-2025	30 days	5 days	✔
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
<b>Glass vial - total (lab preserved)</b> BA 2547-A-12	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✔	29-Nov-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		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-2	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-3	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-4	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-5	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-6	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-7	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-8	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Mercury by CVAAS (TCLP)</b>										
Glass vial - total (lab preserved) BA 2547-A-9	E512	25-Nov-2025	29-Nov-2025	30 days	5 days	✓	29-Nov-2025	30 days	5 days	✓
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-1	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✓	30-Nov-2025	182 days	6 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-10	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-11	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-12	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-2	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-3	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-4	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-5	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-6	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>										
HDPE - total (lab preserved) BA 2547-A-7	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✔	30-Nov-2025	182 days	6 days	✔



Matrix: Soil/Solid

Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>											
HDPE - total (lab preserved) BA 2547-A-8	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✓	30-Nov-2025	182 days	6 days	✓	
<b>TCLP Metals : Metals by CRC ICPMS (TCLP)</b>											
HDPE - total (lab preserved) BA 2547-A-9	E444	25-Nov-2025	29-Nov-2025	182 days	6 days	✓	30-Nov-2025	182 days	6 days	✓	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-1	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✓	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-10	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✓	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-11	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✓	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-12	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✓	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-2	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✓	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-3	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✓	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>											
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-4	EPP444	24-Nov-2025	25-Nov-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		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-5	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✔
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-6	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✔
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-7	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✔
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-8	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✔
<b>TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)</b>										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) BA 2547-A-9	EPP444	24-Nov-2025	25-Nov-2025	----	----		----	28 days	2 days	✔

**Legend & Qualifier Definitions**

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



## Quality Control Parameter Frequency Compliance

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

Matrix: **Soil/Solid**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
<b>Analytical Methods</b>							
<b>Laboratory Duplicates (DUP)</b>							
pH by Meter (1:2 Soil:Water Extraction)	E108	2359514	1	19	5.2	5.0	✔
Moisture Content by Gravimetry	E144	2359520	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2359513	1	19	5.2	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2360892	1	12	8.3	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2359512	1	19	5.2	5.0	✔
Mercury by CVAAS (TCLP)	E512	2360891	1	12	8.3	5.0	✔
<b>Laboratory Control Samples (LCS)</b>							
pH by Meter (1:2 Soil:Water Extraction)	E108	2359514	1	19	5.2	5.0	✔
Moisture Content by Gravimetry	E144	2359520	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2359513	2	19	10.5	10.0	✔
Mercury in Soil/Solid by CVAAS	E510	2359512	2	19	10.5	10.0	✔
<b>Method Blanks (MB)</b>							
Moisture Content by Gravimetry	E144	2359520	1	12	8.3	5.0	✔
Metals in Soil/Solid by CRC ICPMS	E440	2359513	1	19	5.2	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	2360892	1	12	8.3	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	2359512	1	19	5.2	5.0	✔
Mercury by CVAAS (TCLP)	E512	2360891	1	12	8.3	5.0	✔
<b>Matrix Spikes (MS)</b>							
Metals by CRC ICPMS (TCLP)	E444	2360892	1	12	8.3	5.0	✔
Mercury by CVAAS (TCLP)	E512	2360891	1	12	8.3	5.0	✔



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:Water Extraction)	E108 ALS Environmental - Vancouver	Soil/Solid	BC Lab Manual	pH is determined by potentiometric measurement with a pH electrode at ambient laboratory temperature (normally $20 \pm 5^{\circ}\text{C}$ ), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at $<60^{\circ}\text{C}$ ) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
Moisture Content by Gravimetry	E144 ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at $105^{\circ}\text{C}$ . 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 $\text{HNO}_3$ and $\text{HCl}$ .  Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines.  Analysis is by Collision/Reaction Cell ICPMS.
Metals by CRC ICPMS (TCLP)	E444 ALS Environmental - Vancouver	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Vancouver	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with $\text{HNO}_3$ and $\text{HCl}$ , followed by CVAAS analysis.
Mercury by CVAAS (TCLP)	E512 ALS Environmental - Vancouver	Soil/Solid	EPA 1311/245.1 (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by CVAAS.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Vancouver	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at $<60^{\circ}\text{C}$ ) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.



<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Digestion for Metals and Mercury	EP440  ALS Environmental - Vancouver	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO <sub>3</sub> 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

<b>Work Order</b>	<b>: VA25D1299</b>	<b>Page</b>	: 1 of 12
<b>Client</b>	: Veolia Environmental Services Canada	<b>Laboratory</b>	: ALS Environmental - Vancouver
<b>Contact</b>	: Brian Graham	<b>Account Manager</b>	: Gulraj Dhanaua
<b>Address</b>	: 5150 Riverbend Dr. Burnaby BC Canada V3N 4V3	<b>Address</b>	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
<b>Telephone</b>	: ----	<b>Telephone</b>	: +1 604 253 4188
<b>Project</b>	: Veolia Weekly Bottom Ash-Suite	<b>Date Samples Received</b>	: 24-Nov-2025 11:40
<b>PO</b>	: 1000497676	<b>Date Analysis Commenced</b>	: 25-Nov-2025
<b>C-O-C number</b>	: ----	<b>Issue Date</b>	: 01-Dec-2025 17:20
<b>Sampler</b>	: ----		
<b>Site</b>	: Metro Van Ash Sampling Program		
<b>Quote number</b>	: VA25-VISI100-001		
<b>No. of samples received</b>	: 12		
<b>No. of samples analysed</b>	: 12		

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

This Quality Control Report contains the following information:

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

### Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Vancouver Organics, Burnaby, British Columbia



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## 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

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

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### 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
<b>Physical Tests (QC Lot: 2359514)</b>											
VA25D1299-001	BA 2547-A-1	pH (1:2 soil:water)	----	E108	0.10	pH units	11.77	11.73	0.3%	5%	----
<b>Physical Tests (QC Lot: 2359520)</b>											
VA25D1299-001	BA 2547-A-1	Moisture	----	E144	0.25	%	25.3	25.7	1.66%	20%	----
<b>Metals (QC Lot: 2359512)</b>											
VA25D1299-001	BA 2547-A-1	Mercury	7439-97-6	E510	0.0500	mg/kg	0.0659	0.0926	0.0267	Diff <2x LOR	----
<b>Metals (QC Lot: 2359513)</b>											
VA25D1299-001	BA 2547-A-1	Aluminum	7429-90-5	E440	50	mg/kg	34300	41200	18.2%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	76.1	64.3	16.9%	30%	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	15.2	19.9	26.5%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	716	699	2.46%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.43	0.48	0.04	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	7.15	5.61	24.1%	30%	----
		Boron	7440-42-8	E440	5.0	mg/kg	265	202	27.3%	30%	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	5.01	4.00	22.4%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	128000	107000	17.3%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	124	164	27.3%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	34.5	28.5	19.0%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	2320	7080	101%	30%	DUP-H
		Iron	7439-89-6	E440	50	mg/kg	64000	61200	4.57%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	339	320	5.87%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	28.1	25.3	10.5%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	11900	10100	16.2%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	923	784	16.2%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	14.0	13.7	1.78%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	108	114	5.22%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	11200	8880	23.5%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	4450	3870	13.9%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.30	0.28	0.02	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	4.54	107	184%	40%	DUP-H
		Sodium	7440-23-5	E440	50	mg/kg	14300	11800	19.4%	40%	----



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
<b>Metals (QC Lot: 2359513) - continued</b>											
VA25D1299-001	BA 2547-A-1	Strontium	7440-24-6	E440	0.50	mg/kg	448	254	55.3%	40%	DUP-H
		Sulfur	7704-34-9	E440	1000	mg/kg	8600	7400	15.6%	30%	----
		Thallium	7440-28-0	E440	0.050	mg/kg	<0.050	0.093	0.043	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	90.8	115	23.7%	40%	----
		Titanium	7440-32-6	E440	1.0	mg/kg	322	360	11.1%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	8.31	112	172%	30%	DUP-H
		Uranium	7440-61-1	E440	0.050	mg/kg	1.66	1.57	5.64%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	34.5	34.3	0.641%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	2790	13200	130%	30%	DUP-H
		Zirconium	7440-67-7	E440	1.0	mg/kg	2.1	2.6	0.5	Diff <2x LOR	----
<b>TCLP Metals (QC Lot: 2360891)</b>											
VA25D1299-001	BA 2547-A-1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
<b>TCLP Metals (QC Lot: 2360892)</b>											
VA25D1299-001	BA 2547-A-1	Antimony, TCLP	7440-36-0	E444	1.00	mg/L	<1.00	<1.00	0	Diff <2x LOR	----
		Arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	0	Diff <2x LOR	----
		Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	<0.025	0	Diff <2x LOR	----
		Boron, TCLP	7440-42-8	E444	0.50	mg/L	1.81	1.74	0.07	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	0.129	0.126	0.003	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1700	1690	0.575%	30%	----
		Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Cobalt, TCLP	7440-48-4	E444	0.050	mg/L	1.14	1.12	2.40%	30%	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	0.911	0.887	2.77%	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	120	114	5.66%	30%	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.49	0.48	0.009	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	27.1	26.5	2.33%	30%	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----



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## Qualifiers

<i>Qualifier</i>	<i>Description</i>
DUP-H	<i>Duplicate results outside ALS DQO, due to sample heterogeneity.</i>

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## 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
<b>Physical Tests (QCLot: 2359520)</b>						
Moisture	---	E144	0.25	%	<0.25	---
<b>Metals (QCLot: 2359512)</b>						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	---
<b>Metals (QCLot: 2359513)</b>						
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
<b>Metals (QCLot: 2359513) - continued</b>						
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	----
<b>TCLP Metals (QCLot: 2360891)</b>						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
<b>TCLP Metals (QCLot: 2360892)</b>						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----



## Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
<b>Physical Tests (QCLot: 2359514)</b>									
pH (1:2 soil:water)	---	E108	---	pH units	6 pH units	100	95.0	105	---
<b>Physical Tests (QCLot: 2359520)</b>									
Moisture	---	E144	0.25	%	50 %	99.7	90.0	110	---
<b>Metals (QCLot: 2359512)</b>									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	101	80.0	120	---
<b>Metals (QCLot: 2359513)</b>									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	109	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	108	80.0	120	---
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	108	80.0	120	---
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	105	80.0	120	---
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	99.6	80.0	120	---
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	96.8	80.0	120	---
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	106	80.0	120	---
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	99.7	80.0	120	---
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	106	80.0	120	---
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	105	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	106	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	107	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	107	80.0	120	---
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	106	80.0	120	---
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	102	80.0	120	---
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	111	80.0	120	---
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	107	80.0	120	---
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.7	80.0	120	---
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	97.0	80.0	120	---
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	107	80.0	120	---
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	106	80.0	120	---
Sulfur	7704-34-9	E440	1000	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
<b>Metals (QCLot: 2359513) - continued</b>									
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	98.3	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	106	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	103	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	102	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	108	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	108	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	106	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	116	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
<b>TCLP Metals (QCLot: 2360891)</b>										
VA25D1299-001	BA 2547-A-1	Mercury, TCLP	7439-97-6	E512	0.0026 mg/L	0.003 mg/L	86.4	50.0	140	----
<b>TCLP Metals (QCLot: 2360892)</b>										
VA25D1299-001	BA 2547-A-1	Antimony, TCLP	7440-36-0	E444	4.75 mg/L	5 mg/L	95.0	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	4.6 mg/L	5 mg/L	91.2	50.0	140	----
		Barium, TCLP	7440-39-3	E444	11.8 mg/L	12.5 mg/L	94.1	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.228 mg/L	0.25 mg/L	91.3	50.0	140	----
		Boron, TCLP	7440-42-8	E444	8.53 mg/L	10 mg/L	85.3	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.229 mg/L	0.25 mg/L	91.4	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.14 mg/L	1.25 mg/L	91.3	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	ND mg/L	----	ND	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.11 mg/L	2.5 mg/L	84.3	50.0	140	----
		Iron, TCLP	7439-89-6	E444	218 mg/L	250 mg/L	87.2	50.0	140	----
		Lead, TCLP	7439-92-1	E444	8.80 mg/L	10 mg/L	88.0	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	227 mg/L	250 mg/L	90.6	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.32 mg/L	2.5 mg/L	93.0	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.57 mg/L	5 mg/L	91.4	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.092 mg/L	0.1 mg/L	92.0	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	4.4 mg/L	5 mg/L	88.3	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	4.44 mg/L	5 mg/L	88.8	50.0	150	----
		Vanadium, TCLP	7440-62-2	E444	0.68 mg/L	0.75 mg/L	90.9	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	ND mg/L	----	ND	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	0.8 mg/L	1 mg/L	80.9	50.0	150	----



## Reference Material (RM) Report

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

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
<b>Metals (QCLot: 2359512)</b>									
QC-2359512-003	MRCA-21	Mercury	7439-97-6	E510	0.068 mg/kg	102	70.0	130	----
<b>Metals (QCLot: 2359513)</b>									
QC-2359513-003	MRCA-21	Aluminum	7429-90-5	E440	22500 mg/kg	116	70.0	130	----
QC-2359513-003	MRCA-21	Antimony	7440-36-0	E440	24.8 mg/kg	102	70.0	130	----
QC-2359513-003	MRCA-21	Arsenic	7440-38-2	E440	21.2 mg/kg	102	70.0	130	----
QC-2359513-003	MRCA-21	Barium	7440-39-3	E440	788 mg/kg	103	70.0	130	----
QC-2359513-003	MRCA-21	Beryllium	7440-41-7	E440	1.82 mg/kg	111	70.0	130	----
QC-2359513-003	MRCA-21	Bismuth	7440-69-9	E440	1.78 mg/kg	105	70.0	130	----
QC-2359513-003	MRCA-21	Cadmium	7440-43-9	E440	2.15 mg/kg	108	70.0	130	----
QC-2359513-003	MRCA-21	Calcium	7440-70-2	E440	4900 mg/kg	104	70.0	130	----
QC-2359513-003	MRCA-21	Chromium	7440-47-3	E440	56.9 mg/kg	106	70.0	130	----
QC-2359513-003	MRCA-21	Cobalt	7440-48-4	E440	32 mg/kg	105	70.0	130	----
QC-2359513-003	MRCA-21	Copper	7440-50-8	E440	969 mg/kg	105	70.0	130	----
QC-2359513-003	MRCA-21	Iron	7439-89-6	E440	32700 mg/kg	105	70.0	130	----
QC-2359513-003	MRCA-21	Lead	7439-92-1	E440	919 mg/kg	100	70.0	130	----
QC-2359513-003	MRCA-21	Lithium	7439-93-2	E440	47.3 mg/kg	112	70.0	130	----
QC-2359513-003	MRCA-21	Magnesium	7439-95-4	E440	7780 mg/kg	110	70.0	130	----
QC-2359513-003	MRCA-21	Manganese	7439-96-5	E440	8640 mg/kg	105	70.0	130	----
QC-2359513-003	MRCA-21	Molybdenum	7439-98-7	E440	25.1 mg/kg	105	70.0	130	----
QC-2359513-003	MRCA-21	Nickel	7440-02-0	E440	1000 mg/kg	103	70.0	130	----
QC-2359513-003	MRCA-21	Phosphorus	7723-14-0	E440	660 mg/kg	106	70.0	130	----
QC-2359513-003	MRCA-21	Potassium	7440-09-7	E440	10800 mg/kg	109	70.0	130	----
QC-2359513-003	MRCA-21	Selenium	7782-49-2	E440	1.04 mg/kg	101	60.0	140	----
QC-2359513-003	MRCA-21	Silver	7440-22-4	E440	8.98 mg/kg	102	70.0	130	----
QC-2359513-003	MRCA-21	Sodium	7440-23-5	E440	1770 mg/kg	115	70.0	130	----
QC-2359513-003	MRCA-21	Strontium	7440-24-6	E440	41 mg/kg	107	70.0	130	----
QC-2359513-003	MRCA-21	Sulfur	7704-34-9	E440	3940 mg/kg	99.2	50.0	150	----
QC-2359513-003	MRCA-21	Thallium	7440-28-0	E440	0.907 mg/kg	100.0	70.0	130	----
QC-2359513-003	MRCA-21	Tin	7440-31-5	E440	3.79 mg/kg	105	40.0	160	----
QC-2359513-003	MRCA-21	Titanium	7440-32-6	E440	2790 mg/kg	109	70.0	130	----
QC-2359513-003	MRCA-21	Tungsten	7440-33-7	E440	6.99 mg/kg	118	70.0	130	----
QC-2359513-003	MRCA-21	Uranium	7440-61-1	E440	3.97 mg/kg	105	70.0	130	----
QC-2359513-003	MRCA-21	Vanadium	7440-62-2	E440	66.2 mg/kg	105	70.0	130	----


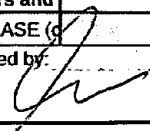
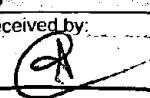
Page : 12 of 12  
 Work Order : VA25D1299  
 Client : Veolia Environmental Services Canada  
 Project : Veolia Weekly Bottom Ash-Suite



Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
<b>Metals (QCLot: 2359513) - continued</b>									
QC-2359513-003	MRCA-21	Zinc	7440-66-6	E440	828 mg/kg	104	70.0	130	----
QC-2359513-003	MRCA-21	Zirconium	7440-67-7	E440	6.91 mg/kg	117	70.0	130	----



Report To		Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)										
Company: Veolia Canada / Burnaby Waste To Energy Facility		"Veolia Email Distribution List" please													
Contact: Brian Graham / Darcie Grace															
Address: 5150 Riverbend Drive		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			<b>Analysis Request</b>										
		brent.kirkpatrick@metrovancover.org													
		Sarah.Wellman@metrovancover.org													
Invoice To Same as Report? Veolia Water Canada		Client / Project Information			Please indicate below Filtered, Preserved or both (F, P, F/P)										
Hardcopy of Invoice with Report?		Job #: Veolia Weekly Bottom Ash - Suite													
Company: Veolia Water Canada / Burnaby Waste To Energy		PO / AFE: PO#													
Contact: Danny George, Purchaser/Darcie Grace, SHE Manager		LSD: (includes 2:1 pH)													
Address: 5150 Riverbend Drive, Burnaby BC V3N 4V3															
Phone: 604 521 1025 Fax:		Quote #:													
Lab Work Order # (lab use only) <b>D1299</b>		ALS Contact:	Sampler:												
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-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 2547-A-1	Environmental Division Vancouver Work Order Reference <b>VA25D1299</b>  Telephone: +1 604 253 4188	24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-2		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-3		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-4		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-5		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-6		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-7		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-8		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-9		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-10		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-11		24/11/2025	12:00	Soil	X	X		X							1
BA 2547-A-12		24/11/2025	12:00	Soil	X	X		X							1
Water Aquatic															
Form may delay															
es with the Ter															
numbers and															
AT RELEASE (g		SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)										
Released by: 		Date (dd-mm-yy): 24/11/25	Time (hh-mm): 09:13	Received by: 	Date: NOV 24	Time: 11:40	Temperature: 13 °C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF				

**EMS OPERATIONAL PROCEDURE No. BA2**

Bottom Ash Sampling

**Bottom Ash Worksheet**

Date sample composited (DD/MM/YYYY)	24/11/2025
Person doing the sampling	Noah T
Total Sample Weight before processing, kg	103.35
Weight of Material >3/8", kg	29.55
Weight of Material that cannot be processed to <3/8" (metal, wood, etc), kg	2.2
Final Total weight of Processed Bottom Ash, kg	73.8

**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"**