
CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: VA23C6587	Page	: 1 of 8
Client	: Lafarge Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Louise Bantok	Account Manager	: Ian Chen
Address	: 2300 Rogers Ave Coquitlam BC Canada V3K 5X6	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: VAID - Texada	Date Samples Received	: 02-Nov-2023 10:00
PO	: 4501719953	Date Analysis Commenced	: 07-Nov-2023
C-O-C number	: 20-1070170	Issue Date	: 14-Nov-2023 08:49
Sampler	: ----		
Site	: ----		
Quote number	: 2022 PRICING		
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
- Guideline Comparison

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
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Sam Silveira	Lab Assistant	Metals, Burnaby, British Columbia



No Breaches Found

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.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	Description
µg/L	micrograms per litre
mg/L	milligrams per litre

>: greater than.

<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Sample Comments

Sample	Client Id	Comment
VA23C6587-008	VA8 - Site#8 Tank Outlet	Sample(008) : Water sample for VOC analysis contained > 5% headspace. Results may be biased low.



Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).



Analytical Results Evaluation

				Client sample ID	VA1 - Site#1 Hotel	VA2 - Site#2 Earl ST	VA3 - Site#3 Marble Bay @ VAN ANDA	VA4 - Site#4 Blewett / Smelter	VA5 - Site#5 Sellentin @ Stuart Bay RD	VA6 - Site#6 Wall ST Pumphouse	VA7 - Site#7 Copper Queen @ Alladin
Matrix: Water				Sampling date/time	31-Oct-2023 23:05	31-Oct-2023 13:05	31-Oct-2023 13:54	31-Oct-2023 14:13	31-Oct-2023 14:30	31-Oct-2023 15:01	31-Oct-2023 14:50
Sub-Matrix					Water	Water	Water	Water	Water	Water	Water
Analyte	CAS Number	Method/Lab	Unit		VA23C6587-001	VA23C6587-002	VA23C6587-003	VA23C6587-004	VA23C6587-005	VA23C6587-006	VA23C6587-007
Physical Tests											
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	mg/L		135	135	135	132	130	130	131
Total Metals											
Aluminum, total	7429-90-5	E420/VA	mg/L		0.0044	0.0052	0.0043	0.0095	0.0041	0.0116	0.0040
Antimony, total	7440-36-0	E420/VA	mg/L		0.00160	0.00159	0.00168	0.00162	0.00162	0.00160	0.00162
Arsenic, total	7440-38-2	E420/VA	mg/L		0.00237	0.00202	0.00217	0.00216	0.00223	0.00214	0.00218
Barium, total	7440-39-3	E420/VA	mg/L		0.00866	0.00728	0.00779	0.00749	0.00748	0.00762	0.00772
Beryllium, total	7440-41-7	E420/VA	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium, total	7440-43-9	E420/VA	mg/L		<0.0000100 ^{DLM}	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000150 ^{DLM}	<0.0000050
Calcium, total	7440-70-2	E420/VA	mg/L		48.8	49.4	49.1	48.3	47.4	47.2	47.4
Cesium, total	7440-46-2	E420/VA	mg/L		0.000029	0.000028	0.000030	0.000028	0.000028	0.000029	0.000029
Chromium, total	7440-47-3	E420/VA	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper, total	7440-50-8	E420/VA	mg/L		0.00337	0.00366	0.00178	0.00344	0.00442	0.00610	0.00314
Iron, total	7439-89-6	E420/VA	mg/L		<0.010	0.013	<0.010	<0.010	0.014	0.029	<0.010
Lead, total	7439-92-1	E420/VA	mg/L		0.000112	0.000062	<0.000050	0.000122	0.000055	0.000415	0.000052
Lithium, total	7439-93-2	E420/VA	mg/L		<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Magnesium, total	7439-95-4	E420/VA	mg/L		3.26	2.88	2.99	2.89	2.89	2.94	2.99
Manganese, total	7439-96-5	E420/VA	mg/L		0.00411	0.00316	0.00382	0.00482	0.00412	0.00991	0.00367
Mercury, total	7439-97-6	E508/VA	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	mg/L		0.0117	0.0119	0.0122	0.0119	0.0116	0.0111	0.0117
Nickel, total	7440-02-0	E420/VA	mg/L		<0.00050	<0.00050	<0.00050	0.00089	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E420/VA	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	mg/L		0.427	0.383	0.399	0.381	0.371	0.383	0.389
Rubidium, total	7440-17-7	E420/VA	mg/L		0.00054	0.00046	0.00048	0.00050	0.00049	0.00051	0.00046
Selenium, total	7782-49-2	E420/VA	mg/L		0.000802	0.000880	0.000825	0.000850	0.000792	0.000788	0.000767



Analytical Results Evaluation

Matrix: Water				Client sample ID	VA1 - Site#1 Hotel	VA2 - Site#2 Earl ST	VA3 - Site#3 Marble Bay @ VAN ANDA	VA4 - Site#4 Blewett / Smelter	VA5 - Site#5 Sellentin @ Stuart Bay RD	VA6 - Site#6 Wall ST Pumphouse	VA7 - Site#7 Copper Queen @ Alladin
					31-Oct-2023 23:05	31-Oct-2023 13:05	31-Oct-2023 13:54	31-Oct-2023 14:13	31-Oct-2023 14:30	31-Oct-2023 15:01	31-Oct-2023 14:50
				Sampling date/time	Water	Water	Water	Water	Water	Water	Water
Sub-Matrix	VA23C6587-001	VA23C6587-002	VA23C6587-003		VA23C6587-004	VA23C6587-005	VA23C6587-006	VA23C6587-007			
Analyte	CAS Number	Method/Lab	Unit								
Total Metals											
Silicon, total	7440-21-3	E420/VA	mg/L	2.90	2.93	2.83	2.93	2.78	2.83	2.72	
Silver, total	7440-22-4	E420/VA	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	mg/L	7.00	6.32	6.42	6.27	6.11	6.24	6.44	
Strontium, total	7440-24-6	E420/VA	mg/L	0.234	0.233	0.238	0.231	0.230	0.226	0.227	
Sulfur, total	7704-34-9	E420/VA	mg/L	19.5	19.2	19.7	19.5	19.2	19.8	19.4	
Tellurium, total	13494-80-9	E420/VA	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Thallium, total	7440-28-0	E420/VA	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/VA	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Tungsten, total	7440-33-7	E420/VA	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	mg/L	0.00387	0.00383	0.00395	0.00387	0.00383	0.00378	0.00381	
Vanadium, total	7440-62-2	E420/VA	mg/L	0.00139	0.00105	0.00119	0.00111	0.00118	0.00111	0.00117	
Zinc, total	7440-66-6	E420/VA	mg/L	0.0045	0.0045	0.0040	0.0045	0.0065	0.0069	<0.0030	
Zirconium, total	7440-67-7	E420/VA	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

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

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results Evaluation

Matrix: Water			Client sample ID	VA8 - Site#8 Tank Outlet	VA9 - Site#9 Wall Street End Hydrant	VA10 - Site#10 Marble Bay + Sellentin St	Raw Supply	VA-DUP Smelter #4	----	----		
				31-Oct-2023 11:23	31-Oct-2023 15:06	31-Oct-2023 15:30	31-Oct-2023 11:34	31-Oct-2023 15:13	----	----		
				Water	Water	Water	Water	Water	----	----		
Analyte		CAS Number	Method/Lab	Unit	VA23C6587-008	VA23C6587-009	VA23C6587-010	VA23C6587-011	VA23C6587-012	-----	-----	
Physical Tests												
Hardness (as CaCO3), from total Ca/Mg			----	EC100A/VA	mg/L	133	128	133	136	132	----	----
Total Metals												
Aluminum, total			7429-90-5	E420/VA	mg/L	0.0034	0.0038	0.0039	0.0180	0.0096	----	----
Antimony, total			7440-36-0	E420/VA	mg/L	0.00161	0.00157	0.00163	0.00171	0.00159	----	----
Arsenic, total			7440-38-2	E420/VA	mg/L	0.00239	0.00199	0.00232	0.00254	0.00211	----	----
Barium, total			7440-39-3	E420/VA	mg/L	0.00789	0.00720	0.00769	0.00884	0.00741	----	----
Beryllium, total			7440-41-7	E420/VA	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	----	----
Bismuth, total			7440-69-9	E420/VA	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	----	----
Boron, total			7440-42-8	E420/VA	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	----	----
Cadmium, total			7440-43-9	E420/VA	mg/L	<0.0000100 ^{DLM}	<0.0000050	<0.0000050	<0.0000100 ^{DLM}	<0.0000050	----	----
Calcium, total			7440-70-2	E420/VA	mg/L	48.2	46.4	48.5	49.2	48.2	----	----
Cesium, total			7440-46-2	E420/VA	mg/L	0.000030	0.000027	0.000030	0.000029	0.000025	----	----
Chromium, total			7440-47-3	E420/VA	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	----	----
Cobalt, total			7440-48-4	E420/VA	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	----	----
Copper, total			7440-50-8	E420/VA	mg/L	0.00277	0.00469	0.00564	0.00063	0.00355	----	----
Iron, total			7439-89-6	E420/VA	mg/L	<0.010	0.014	<0.010	0.040	0.012	----	----
Lead, total			7439-92-1	E420/VA	mg/L	0.000270	0.000101	0.000088	<0.000050	0.000135	----	----
Lithium, total			7439-93-2	E420/VA	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	----	----
Magnesium, total			7439-95-4	E420/VA	mg/L	3.03	2.87	3.00	3.08	2.96	----	----
Manganese, total			7439-96-5	E420/VA	mg/L	0.00433	0.00328	0.00373	0.106	0.00479	----	----
Mercury, total			7439-97-6	E508/VA	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, total			7439-98-7	E420/VA	mg/L	0.0121	0.0109	0.0120	0.0130	0.0118	----	----
Nickel, total			7440-02-0	E420/VA	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00127	----	----
Phosphorus, total			7723-14-0	E420/VA	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	----	----
Potassium, total			7440-09-7	E420/VA	mg/L	0.389	0.367	0.380	0.405	0.382	----	----
Rubidium, total			7440-17-7	E420/VA	mg/L	0.00049	0.00048	0.00047	0.00048	0.00049	----	----
Selenium, total			7782-49-2	E420/VA	mg/L	0.000823	0.000789	0.000803	0.000974	0.000780	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	VA8 - Site#8 Tank Outlet	VA9 - Site#9 Wall Street End Hydrant	VA10 - Site#10 Marble Bay + Sellentin St	Raw Supply	VA-DUP Smelter #4	----	----
				Sampling date/time	31-Oct-2023 11:23	31-Oct-2023 15:06	31-Oct-2023 15:30	31-Oct-2023 11:34	31-Oct-2023 15:13	----	----
				Sub-Matrix	Water	Water	Water	Water	Water	----	----
Analyte	CAS Number	Method/Lab	Unit		VA23C6587-008	VA23C6587-009	VA23C6587-010	VA23C6587-011	VA23C6587-012	-----	-----
Total Metals											
Silicon, total	7440-21-3	E420/VA	mg/L		2.80	2.82	2.77	2.92	2.80	----	----
Silver, total	7440-22-4	E420/VA	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	mg/L		6.51	6.08	6.33	3.53	6.32	----	----
Strontium, total	7440-24-6	E420/VA	mg/L		0.232	0.222	0.232	0.237	0.231	----	----
Sulfur, total	7704-34-9	E420/VA	mg/L		19.4	19.1	19.1	19.2	19.6	----	----
Tellurium, total	13494-80-9	E420/VA	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	mg/L		<0.000010	<0.000010	<0.000010	0.000014	<0.000010	----	----
Thorium, total	7440-29-1	E420/VA	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	mg/L		<0.00030	<0.00030	<0.00030	0.00054	<0.00030	----	----
Tungsten, total	7440-33-7	E420/VA	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	----	----
Uranium, total	7440-61-1	E420/VA	mg/L		0.00387	0.00368	0.00388	0.0119	0.00383	----	----
Vanadium, total	7440-62-2	E420/VA	mg/L		0.00125	0.00101	0.00127	0.00168	0.00108	----	----
Zinc, total	7440-66-6	E420/VA	mg/L		0.0085	0.0042	0.0035	0.0096	0.0044	----	----
Zirconium, total	7440-67-7	E420/VA	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	----	----
Volatile Organic Compounds [THMs]											
Bromodichloromethane	75-27-4	E611B/VA	µg/L		6.0	8.2	----	----	----	----	----
Bromoform	75-25-2	E611B/VA	µg/L		<1.0	<1.0	----	----	----	----	----
Chloroform	67-66-3	E611B/VA	µg/L		81.2	116	----	----	----	----	----
Dibromochloromethane	124-48-1	E611B/VA	µg/L		<1.0	<1.0	----	----	----	----	----
Trihalomethanes [THMs], total	----	E611B/VA	µg/L		87.2	124	----	----	----	----	----
Volatile Organic Compounds [THMs] Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611B/VA	%		76.0	73.6	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611B/VA	%		92.8	92.6	----	----	----	----	----

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Please refer to the Accreditation section for an explanation of analyte accreditations.



Key:

CERTIFICATE OF ANALYSIS

Work Order	: VA23C6587	Page	: 1 of 8
Client	: Lafarge Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Louise Bantok	Account Manager	: Ian Chen
Address	: 2300 Rogers Ave Coquitlam BC Canada V3K 5X6	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: VAID - Texada	Date Samples Received	: 02-Nov-2023 10:00
PO	: 4501719953	Date Analysis Commenced	: 07-Nov-2023
C-O-C number	: 20-1070170	Issue Date	: 14-Nov-2023 08:49
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This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Sam Silveira	Lab Assistant	Metals, Burnaby, British Columbia



General Comments

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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
µg/L	micrograms per litre
mg/L	milligrams per litre

<: 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.

Sample Comments

Sample	Client Id	Comment
VA23C6587-008	VA8 - Site#8 Tank Outlet	Sample(008) : Water sample for VOC analysis contained > 5% headspace. Results may be biased low.

Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	VA1 - Site#1 Hotel	VA2 - Site#2 Earl ST	VA3 - Site#3 Marble Bay @ VAN ANDA	VA4 - Site#4 Blewett / Smelter	VA5 - Site#5 Sellentin @ Stuart Bay RD
Client sampling date / time					31-Oct-2023 23:05	31-Oct-2023 13:05	31-Oct-2023 13:54	31-Oct-2023 14:13	31-Oct-2023 14:30	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA23C6587-001	VA23C6587-002	VA23C6587-003	VA23C6587-004	VA23C6587-005	
					Result	Result	Result	Result	Result	
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg		----	EC100A/VA	0.60	mg/L	135	135	135	132	130
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0044	0.0052	0.0043	0.0095	0.0041	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00160	0.00159	0.00168	0.00162	0.00162	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00237	0.00202	0.00217	0.00216	0.00223	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00866	0.00728	0.00779	0.00749	0.00748	
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000100 ^{DLM}	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	48.8	49.4	49.1	48.3	47.4	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000029	0.000028	0.000030	0.000028	0.000028	
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00337	0.00366	0.00178	0.00344	0.00442	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.010	0.013	<0.010	<0.010	0.014	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000112	0.000062	<0.000050	0.000122	0.000055	
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	3.26	2.88	2.99	2.89	2.89	
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00411	0.00316	0.00382	0.00482	0.00412	
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0117	0.0119	0.0122	0.0119	0.0116	
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	0.00089	<0.00050	
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.427	0.383	0.399	0.381	0.371	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00054	0.00046	0.00048	0.00050	0.00049	
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000802	0.000880	0.000825	0.000850	0.000792	
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.90	2.93	2.83	2.93	2.78	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	VA1 - Site#1 Hotel	VA2 - Site#2 Earl ST	VA3 - Site#3 Marble Bay @ VAN ANDA	VA4 - Site#4 Blewett / Smelter	VA5 - Site#5 Sellentin @ Stuart Bay RD
Client sampling date / time					31-Oct-2023 23:05	31-Oct-2023 13:05	31-Oct-2023 13:54	31-Oct-2023 14:13	31-Oct-2023 14:30	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA23C6587-001	VA23C6587-002	VA23C6587-003	VA23C6587-004	VA23C6587-005	
					Result	Result	Result	Result	Result	
Total Metals										
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	7.00	6.32	6.42	6.27	6.11	
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.234	0.233	0.238	0.231	0.230	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	19.5	19.2	19.7	19.5	19.2	
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00387	0.00383	0.00395	0.00387	0.00383	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00139	0.00105	0.00119	0.00111	0.00118	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0045	0.0045	0.0040	0.0045	0.0065	
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	

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

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	VA6 - Site#6 Wall ST Pumphouse	VA7 - Site#7 Copper Queen @ Alladin	VA8 - Site#8 Tank Outlet	VA9 - Site#9 Wall Street End Hydrant	VA10 - Site#10 Marble Bay + Sellentin St
Client sampling date / time					31-Oct-2023 15:01	31-Oct-2023 14:50	31-Oct-2023 11:23	31-Oct-2023 15:06	31-Oct-2023 15:30	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA23C6587-006	VA23C6587-007	VA23C6587-008	VA23C6587-009	VA23C6587-010	
					Result	Result	Result	Result	Result	
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	130	131	133	128	133	
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0116	0.0040	0.0034	0.0038	0.0039	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00160	0.00162	0.00161	0.00157	0.00163	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00214	0.00218	0.00239	0.00199	0.00232	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00762	0.00772	0.00789	0.00720	0.00769	
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000150 ^{DLM}	<0.0000050	<0.0000100 ^{DLM}	<0.0000050	<0.0000050	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	47.2	47.4	48.2	46.4	48.5	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000029	0.000029	0.000030	0.000027	0.000030	
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00610	0.00314	0.00277	0.00469	0.00564	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.029	<0.010	<0.010	0.014	<0.010	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000415	0.000052	0.000270	0.000101	0.000088	
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	2.94	2.99	3.03	2.87	3.00	
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00991	0.00367	0.00433	0.00328	0.00373	
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0111	0.0117	0.0121	0.0109	0.0120	
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.383	0.389	0.389	0.367	0.380	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00051	0.00046	0.00049	0.00048	0.00047	
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000788	0.000767	0.000823	0.000789	0.000803	
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.83	2.72	2.80	2.82	2.77	
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	VA6 - Site#6 Wall ST Pumphouse	VA7 - Site#7 Copper Queen @ Alladin	VA8 - Site#8 Tank Outlet	VA9 - Site#9 Wall Street End Hydrant	VA10 - Site#10 Marble Bay + Sellentin St
Client sampling date / time					31-Oct-2023 15:01	31-Oct-2023 14:50	31-Oct-2023 11:23	31-Oct-2023 15:06	31-Oct-2023 15:30	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA23C6587-006	VA23C6587-007	VA23C6587-008	VA23C6587-009	VA23C6587-010	
					Result	Result	Result	Result	Result	
Total Metals										
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	6.24	6.44	6.51	6.08	6.33	
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.226	0.227	0.232	0.222	0.232	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	19.8	19.4	19.4	19.1	19.1	
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00378	0.00381	0.00387	0.00368	0.00388	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00111	0.00117	0.00125	0.00101	0.00127	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0069	<0.0030	0.0085	0.0042	0.0035	
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611B/VA	1.0	µg/L	----	----	6.0	8.2	----	
Bromoform	75-25-2	E611B/VA	1.0	µg/L	----	----	<1.0	<1.0	----	
Chloroform	67-66-3	E611B/VA	1.0	µg/L	----	----	81.2	116	----	
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L	----	----	<1.0	<1.0	----	
Trihalomethanes [THMs], total	----	E611B/VA	2.0	µg/L	----	----	87.2	124	----	
Volatile Organic Compounds [THMs] Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%	----	----	76.0	73.6	----	
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%	----	----	92.8	92.6	----	

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

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Water					Client sample ID	Raw Supply	VA-DUP Smelter #4	----	----	----
(Matrix: Water)										
					Client sampling date / time	31-Oct-2023 11:34	31-Oct-2023 15:13	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA23C6587-011	VA23C6587-012	-----	-----	-----	
					Result	Result	----	----	----	
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg		----	EC100A/VA	0.60	mg/L	136	132	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0180	0.0096	----	----	----	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00171	0.00159	----	----	----	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00254	0.00211	----	----	----	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00884	0.00741	----	----	----	
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	----	----	----	
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	----	----	----	
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.010	<0.010	----	----	----	
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000100 ^{DLM}	<0.0000050	----	----	----	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	49.2	48.2	----	----	----	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000029	0.000025	----	----	----	
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----	
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00063	0.00355	----	----	----	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.040	0.012	----	----	----	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	0.000135	----	----	----	
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	<0.0010	----	----	----	
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	3.08	2.96	----	----	----	
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.106	0.00479	----	----	----	
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	----	
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0130	0.0118	----	----	----	
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	0.00127	----	----	----	
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	----	----	----	
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.405	0.382	----	----	----	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00048	0.00049	----	----	----	
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000974	0.000780	----	----	----	
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.92	2.80	----	----	----	
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	----	----	----	
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	3.53	6.32	----	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	Raw Supply	VA-DUP Smelter #4	----	----	----
(Matrix: Water)										
					Client sampling date / time	31-Oct-2023 11:34	31-Oct-2023 15:13	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA23C6587-011	VA23C6587-012	-----	-----	-----	
					Result	Result	----	----	----	
Total Metals										
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.237	0.231	----	----	----	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	19.2	19.6	----	----	----	
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	----	----	----	
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000014	<0.000010	----	----	----	
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00054	<0.00030	----	----	----	
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.0119	0.00383	----	----	----	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00168	0.00108	----	----	----	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0096	0.0044	----	----	----	
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	----	----	----	

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: VA23C6587	Page	: 1 of 8
Client	: Lafarge Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Louise Bantok	Account Manager	: Ian Chen
Address	: 2300 Rogers Ave Coquitlam BC Canada V3K 5X6	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: VAID - Texada	Date Samples Received	: 02-Nov-2023 10:00
PO	: 4501719953	Issue Date	: 14-Nov-2023 08:50
C-O-C number	: 20-1070170		
Sampler	: ----		
Site	: ----		
Quote number	: 2022 PRICING		
No. of samples received	: 12		
No. of samples analysed	: 12		

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

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

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

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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	
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) Raw Supply	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA1 - Site#1 Hotel	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA10 - Site#10 Marble Bay + Sellentin St	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA2 - Site#2 Earl ST	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA3 - Site#3 Marble Bay @ VAN ANDA	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA4 - Site#4 Blewett / Smelter	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA5 - Site#5 Sellentin @ Stuart Bay RD	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA6 - Site#6 Wall ST Pumphouse	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA7 - Site#7 Copper Queen @ Alladin	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA8 - Site#8 Tank Outlet	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA9 - Site#9 Wall Street End Hydrant	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA-DUP Smelter #4	E508	31-Oct-2023	10-Nov-2023	28 days	10 days	✓	10-Nov-2023	28 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) Raw Supply	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA1 - Site#1 Hotel	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA10 - Site#10 Marble Bay + Sellentin St	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA2 - Site#2 Earl ST	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓



Matrix: **Water** 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	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA3 - Site#3 Marble Bay @ VAN ANDA	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA4 - Site#4 Blewett / Smelter	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA5 - Site#5 Sellentin @ Stuart Bay RD	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA6 - Site#6 Wall ST Pumphouse	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA7 - Site#7 Copper Queen @ Alladin	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA8 - Site#8 Tank Outlet	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA9 - Site#9 Wall Street End Hydrant	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA-DUP Smelter #4	E420	31-Oct-2023	07-Nov-2023	180 days	7 days	✓	10-Nov-2023	180 days	10 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate) VA8 - Site#8 Tank Outlet	E611B	31-Oct-2023	10-Nov-2023	14 days	10 days	✓	11-Nov-2023	14 days	11 days	✓

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 Work Order : VA23C6587
 Client : Lafarge Canada Inc.
 Project : VAID - Texada



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method		Method	Sampling Date	Extraction / Preparation			Analysis				
Container / Client Sample ID(s)	Preparation Date			Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS											
Glass vial (sodium thiosulfate) VA9 - Site#9 Wall Street End Hydrant		E611B	31-Oct-2023	10-Nov-2023	14 days	10 days	✔	11-Nov-2023	14 days	11 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: **Water** 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)							
THMs by Headspace GC-MS	E611B	1233236	1	7	14.2	5.0	✔
Total Mercury in Water by CVAAS	E508	1233122	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1225703	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
THMs by Headspace GC-MS	E611B	1233236	1	7	14.2	5.0	✔
Total Mercury in Water by CVAAS	E508	1233122	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1225703	1	20	5.0	5.0	✔
Method Blanks (MB)							
THMs by Headspace GC-MS	E611B	1233236	1	7	14.2	5.0	✔
Total Mercury in Water by CVAAS	E508	1233122	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1225703	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
THMs by Headspace GC-MS	E611B	1233236	1	7	14.2	5.0	✔
Total Mercury in Water by CVAAS	E508	1233122	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1225703	1	20	5.0	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
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
THMs by Headspace GC-MS	E611B ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO ₃), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.

QUALITY CONTROL REPORT

Work Order	: VA23C6587	Page	: 1 of 10
Client	: Lafarge Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Louise Bantok	Account Manager	: Ian Chen
Address	: 2300 Rogers Ave Coquitlam BC Canada V3K 5X6	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	:	Telephone	: +1 604 253 4188
Project	: VAID - Texada	Date Samples Received	: 02-Nov-2023 10:00
PO	: 4501719953	Date Analysis Commenced	: 07-Nov-2023
C-O-C number	: 20-1070170	Issue Date	: 14-Nov-2023 08:49
Sampler	: ----		
Site	: ----		
Quote number	: 2022 PRICING		
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
- 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
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Sam Silveira	Lab Assistant	Vancouver Metals, Burnaby, British Columbia

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Work Order : VA23C6587
Client : Lafarge Canada Inc.
Project : VAID - Texada



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: Water					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
Total Metals (QC Lot: 1225703)											
VA23C6587-001	VA1 - Site#1 Hotel	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0044	0.0037	0.0007	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00160	0.00165	2.71%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00237	0.00236	0.0895%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.00866	0.00811	6.57%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	48.8	49.4	1.40%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000029	0.000030	0.000001	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00337	0.00320	0.00016	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000112	0.000113	0.000001	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	3.26	3.07	5.86%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00411	0.00383	7.09%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0117	0.0118	0.657%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	0.427	0.409	0.018	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00054	0.00050	0.00004	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000802	0.000806	0.482%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.90	3.00	3.49%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	7.00	6.63	5.38%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.234	0.236	0.768%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	19.5	20.0	2.75%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----



Sub-Matrix: Water					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
Total Metals (QC Lot: 1225703) - continued											
VA23C6587-001	VA1 - Site#1 Hotel	Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00387	0.00393	1.65%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00139	0.00130	0.00009	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0045	0.0031	0.0015	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1233122)											
VA23C6363-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds [THMs] (QC Lot: 1233236)											
VA23C6488-004	Anonymous	Bromodichloromethane	75-27-4	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----
		Bromoform	75-25-2	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----
		Chloroform	67-66-3	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----
		Dibromochloromethane	124-48-1	E611B	1.0	µg/L	<1.0	<1.0	0.0%	30%	----



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: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1225703)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1225703) - continued						
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1233122)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds [THMs] (QCLot: 1233236)						
Bromodichloromethane	75-27-4	E611B	1	µg/L	<1.0	----
Bromoform	75-25-2	E611B	1	µg/L	<1.0	----
Chloroform	67-66-3	E611B	1	µg/L	<1.0	----
Dibromochloromethane	124-48-1	E611B	1	µg/L	<1.0	----



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: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1225703)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	112	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	109	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	102	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	106	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	96.8	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	103	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	108	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	108	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	108	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	103	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	108	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	108	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	114	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	108	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	109	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	112	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	102	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	108	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	108	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	108	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	106	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	108	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	107	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1225703) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	102	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	108	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	116	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	107	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----
Total Metals (QCLot: 1233122)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	91.5	80.0	120	----
Volatile Organic Compounds [THMs] (QCLot: 1233236)									
Bromodichloromethane	75-27-4	E611B	1	µg/L	100 µg/L	106	70.0	130	----
Bromoform	75-25-2	E611B	1	µg/L	100 µg/L	127	70.0	130	----
Chloroform	67-66-3	E611B	1	µg/L	100 µg/L	108	70.0	130	----
Dibromochloromethane	124-48-1	E611B	1	µg/L	100 µg/L	119	70.0	130	----



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: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1225703)										
VA23C6587-002	VA2 - Site#2 Earl ST	Aluminum, total	7429-90-5	E420	0.207 mg/L	0.2 mg/L	103	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Barium, total	7440-39-3	E420	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0385 mg/L	0.04 mg/L	96.2	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0106 mg/L	0.01 mg/L	106	70.0	130	----
		Boron, total	7440-42-8	E420	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00398 mg/L	0.004 mg/L	99.6	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0107 mg/L	0.01 mg/L	107	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Copper, total	7440-50-8	E420	0.0196 mg/L	0.02 mg/L	98.2	70.0	130	----
		Iron, total	7439-89-6	E420	2.00 mg/L	2 mg/L	100.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0207 mg/L	0.02 mg/L	103	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0937 mg/L	0.1 mg/L	93.7	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0197 mg/L	0.02 mg/L	98.7	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0397 mg/L	0.04 mg/L	99.3	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.6 mg/L	10 mg/L	106	70.0	130	----
		Potassium, total	7440-09-7	E420	4.01 mg/L	4 mg/L	100	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0197 mg/L	0.02 mg/L	98.3	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0424 mg/L	0.04 mg/L	106	70.0	130	----
		Silicon, total	7440-21-3	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Silver, total	7440-22-4	E420	0.00417 mg/L	0.004 mg/L	104	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.9 mg/L	20 mg/L	99.3	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0416 mg/L	0.04 mg/L	104	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00406 mg/L	0.004 mg/L	102	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1225703) - continued										
VA23C6587-002	VA2 - Site#2 Earl ST	Thorium, total	7440-29-1	E420	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Tin, total	7440-31-5	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0393 mg/L	0.04 mg/L	98.2	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00437 mg/L	0.004 mg/L	109	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.102 mg/L	0.1 mg/L	102	70.0	130	----
		Zinc, total	7440-66-6	E420	0.393 mg/L	0.4 mg/L	98.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0411 mg/L	0.04 mg/L	103	70.0	130	----
Total Metals (QCLot: 1233122)										
VA23C6423-002	Anonymous	Mercury, total	7439-97-6	E508	0.000402 mg/L	0.0005 mg/L	80.5	70.0	130	----
Volatile Organic Compounds [THMs] (QCLot: 1233236)										
VA23C6488-008	Anonymous	Bromodichloromethane	75-27-4	E611B	92.9 µg/L	100 µg/L	92.9	60.0	140	----
		Bromoform	75-25-2	E611B	116 µg/L	100 µg/L	116	60.0	140	----
		Chloroform	67-66-3	E611B	94.1 µg/L	100 µg/L	94.1	60.0	140	----
		Dibromochloromethane	124-48-1	E611B	104 µg/L	100 µg/L	104	60.0	140	----

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



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Chain of Custody (COC) / Analytical Request Form

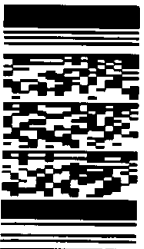
COC Number: 20-1070170

Canada Toll Free: 1 800 668 9878

Page of

Report To		Contact and company name below will appear on the final report		
Company:	Lafarge Portland	Select Report Format: ☐ PDF ☐ EXCEL ☐ BOD (DIGITAL)		
Contact:	604 340 6350	Merge COC/OCI Reports with COA ☒ YES ☐ NO ☐ N/A		
Phone:	Company address below will appear on the final report	☐ Compare Results to Criteria on Report - provide details below if box checked		
Street:	2300 Rodgers Avenue	Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX		
City/Province:	Vancouver, BC	Email 1 or Fax: Contact@alsglobal.com		
Postal Code:	V3K 5X8	Email 2: Lafarge Portland		
Invoice To:	Same as Report To	Email 3: Lafarge Portland		
Copy of Invoice with Report:	☒ YES ☐ NO	Invoice Recipients		
Company:	Lafarge	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX		
Contact:	Mat Ravadeh	Email 1 or Fax:		
ALS Account # / Quote #:		Email 2:		
Job #:	VAID - Texada	Oil and Gas Required Fields (client use)		
PO / AFE:	4501719953	AFECost Center:		
LSD:		Major/Minor Code:		
		Requisitioner:		
		Routing Code:		
		Location:		
ALS Lab Work Order # (ALS use only):		ALS Contact:		
		Sampler:		
ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type
VA1-Site #1 Hotel		3/10/23	1:15 PM	Water
VA2-Site #2 Ross St		3/10/23	1:35 PM	Water
VA3-Site #3 Mosse Bay @ VANANDA		3/10/23	1:54 PM	Water
VA4-Site #4 Blissett / Smethers		3/10/23	2:13 PM	Water
VA5-Site #5 Blissett @ Strait Bay RD3		3/10/23	2:30 PM	Water
VA6-Site #6 Wall St Pump House		3/10/23	3:01 PM	Water
VA7-Site #7 Coopers Quay @ Alladin		3/10/23	2:50 PM	Water
VA8-Site #8 TPK Outlet		3/10/23	1:33 PM	Water
VA9-Site #9 Wall Street and Bedford		3/10/23	3:06 PM	Water
VA10-Site #10 Mosse Bay + Blissett St		3/10/23	3:30 PM	Water
RAW Supply		3/10/23	1:34 PM	Water
VA-DUP #1 Smethers #4		3/10/23	2:13 PM	Water
Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)				
Drinking Water (DW) Samples (client use)				
Are samples taken from a Regulated DW System? ☒ YES ☐ NO				
Are samples for human consumption/ use? ☒ YES ☐ NO				
Samples are chlorinated				
SHIPPING RELEASE (client use)				
Released by: Austin Ryse Date: Nov/1/23 Time: 11:00 AM				
INITIAL SHIPMENT RECEPTION (ALS use only)				
Time: Date:				
WHITE - LABORATORY COPY YELLOW - CLIENT COPY				
Turnaround Time (TAT) Requested				
☐ Routine [R] if received by 3pm M-F - no surcharges apply				
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum				
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum				
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum				
☐ 1 day [P1] if received by 3pm M-F - 100% rush surcharge minimum				
☐ Same day [E] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non routine tests				
Date and Time Required for all EAP TATs:				
For all tests with rush TATs requested, please contact your ALS to confirm availability.				
Analysis Request				
Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below				
SAMPLES ON HOLD				
EXTENDED STORAGE REQUIRED				
SUSPECTED HAZARD (see notes)				

Telephone: +1 804 253 4788



Environmental Division
Vancouver
Work Order Reference
VA23C6587

AFFIX ALS BARCODE LABEL HERE (ALS use only)

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

Time: Date:

INITIAL SHIPMENT RECEPTION (ALS use only)

Time: 1000

ALS 2023 FORM