



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: VA24C0303	Page	: 1 of 7
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	: 13-Aug-2024 10:00
PO	: 4501832334	Date Analysis Commenced	: 15-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Aug-2024 09:17
Sampler	: ----		
Site	: ----		
Quote number	: Lafarge Western Canada Standing Offer 2024		
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
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	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).

<i>Unit</i>	<i>Description</i>
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.



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/SME LTER	VA5 - SITE #5 SELLENTIN @STURT BAY RD	VA6 - SITE #6 WALL ST PUMPHOUSE	VA7 - SITE #7 COPPER QUEEN @ ALLADIN
Matrix: Water				Sampling date/time	12-Aug-2024 06:25	12-Aug-2024 07:05	12-Aug-2024 07:10	12-Aug-2024 07:25	12-Aug-2024 06:50	12-Aug-2024 07:50	12-Aug-2024 08:05
				Sub-Matrix	Water	Water	Water	Water	Water	Water	Water
Analyte	CAS Number	Method/Lab	Unit		VA24C0303-001	VA24C0303-002	VA24C0303-003	VA24C0303-004	VA24C0303-005	VA24C0303-006	VA24C0303-007
Physical Tests											
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	mg/L		118	116	117	121	119	119	116
Total Metals											
Aluminum, total	7429-90-5	E420/VA	mg/L		0.0110	0.0104	0.0111	0.0101	0.0094	0.0114	0.0115
Antimony, total	7440-36-0	E420/VA	mg/L		0.00140	0.00138	0.00142	0.00143	0.00140	0.00146	0.00144
Arsenic, total	7440-38-2	E420/VA	mg/L		0.00284	0.00278	0.00285	0.00273	0.00280	0.00290	0.00286
Barium, total	7440-39-3	E420/VA	mg/L		0.00685	0.00703	0.00690	0.00701	0.00688	0.00687	0.00681
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		<0.0000050	<0.0000050	0.0000051	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	mg/L		42.9	42.6	42.6	44.3	43.6	43.4	42.4
Cesium, total	7440-46-2	E420/VA	mg/L		0.000022	0.000024	0.000022	0.000024	0.000021	0.000023	0.000023
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		0.00304	0.00502	0.00319	0.00338	0.00321	0.00197	0.00355
Iron, total	7439-89-6	E420/VA	mg/L		<0.010	0.010	<0.010	<0.010	0.021	<0.010	0.011
Lead, total	7439-92-1	E420/VA	mg/L		0.000229	0.000122	0.000074	0.000303	0.000063	0.000154	0.000091
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		2.53	2.48	2.60	2.56	2.58	2.53	2.50
Manganese, total	7439-96-5	E420/VA	mg/L		0.00712	0.00647	0.00730	0.00556	0.00753	0.00700	0.00709
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		0.0113	0.0111	0.0115	0.0115	0.0114	0.0118	0.0116
Nickel, total	7440-02-0	E420/VA	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<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		0.303	0.301	0.306	0.306	0.300	0.298	0.301
Rubidium, total	7440-17-7	E420/VA	mg/L		0.00039	0.00040	0.00040	0.00043	0.00035	0.00035	0.00035



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/SME LTER	VA5 - SITE #5 SELLENTIN @STURT BAY RD	VA6 - SITE #6 WALL ST PUMPHOUSE	VA7 - SITE #7 COPPER QUEEN @ ALLADIN
				Sampling date/time	12-Aug-2024 06:25	12-Aug-2024 07:05	12-Aug-2024 07:10	12-Aug-2024 07:25	12-Aug-2024 06:50	12-Aug-2024 07:50	12-Aug-2024 08:05
				Sub-Matrix	Water	Water	Water	Water	Water	Water	Water
Analyte	CAS Number	Method/Lab	Unit		VA24C0303-001	VA24C0303-002	VA24C0303-003	VA24C0303-004	VA24C0303-005	VA24C0303-006	VA24C0303-007
Total Metals											
Selenium, total	7782-49-2	E420/VA	mg/L		0.000722	0.000749	0.000845	0.000695	0.000827	0.000696	0.000818
Silicon, total	7440-21-3	E420/VA	mg/L		3.13	3.15	3.15	3.20	3.10	3.17	3.15
Silver, total	7440-22-4	E420/VA	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	mg/L		8.65	8.62	8.86	7.91	8.51	8.41	8.56
Strontium, total	7440-24-6	E420/VA	mg/L		0.174	0.170	0.173	0.174	0.172	0.183	0.175
Sulfur, total	7704-34-9	E420/VA	mg/L		14.2	14.7	14.1	14.5	14.6	14.5	14.6
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		0.000023	0.000027	<0.000010	<0.000010	0.000018	<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
Tin, total	7440-31-5	E420/VA	mg/L		<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
Tungsten, total	7440-33-7	E420/VA	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	mg/L		0.00928	0.00933	0.00905	0.00938	0.00903	0.00931	0.00927
Vanadium, total	7440-62-2	E420/VA	mg/L		0.00139	0.00137	0.00141	0.00138	0.00140	0.00142	0.00141
Zinc, total	7440-66-6	E420/VA	mg/L		<0.0030	0.0056	0.0051	0.0034	0.0042	<0.0030	<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

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	----	----
				Sampling date/time	12-Aug-2024 06:15	12-Aug-2024 07:45	12-Aug-2024 06:40	12-Aug-2024 06:08	12-Aug-2024 06:40	----	----
				Sub-Matrix	Water	Water	Water	Water	Water	----	----
Analyte	CAS Number	Method/Lab	Unit		VA24C0303-008	VA24C0303-009	VA24C0303-010	VA24C0303-011	VA24C0303-012	-----	-----
Physical Tests											
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	mg/L		122	119	121	119	117	----	----
Total Metals											
Aluminum, total	7429-90-5	E420/VA	mg/L		0.0095	0.0124	0.0098	0.0120	0.0092	----	----
Antimony, total	7440-36-0	E420/VA	mg/L		0.00139	0.00143	0.00140	0.00138	0.00137	----	----
Arsenic, total	7440-38-2	E420/VA	mg/L		0.00272	0.00280	0.00272	0.00277	0.00278	----	----
Barium, total	7440-39-3	E420/VA	mg/L		0.00687	0.00712	0.00648	0.00701	0.00649	----	----
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		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----	----
Calcium, total	7440-70-2	E420/VA	mg/L		44.8	43.6	44.3	43.3	42.6	----	----
Cesium, total	7440-46-2	E420/VA	mg/L		0.000021	0.000024	0.000020	0.000022	0.000021	----	----
Chromium, total	7440-47-3	E420/VA	mg/L		<0.00050	<0.00050	0.00056	<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		0.00205	0.00396	0.00645	0.00074	0.00650	----	----
Iron, total	7439-89-6	E420/VA	mg/L		<0.010	0.024	0.013	0.018	<0.010	----	----
Lead, total	7439-92-1	E420/VA	mg/L		0.000236	0.000164	0.000230	<0.000050	0.000228	----	----
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		2.54	2.56	2.54	2.56	2.57	----	----
Manganese, total	7439-96-5	E420/VA	mg/L		0.00811	0.0166	0.00753	0.0272	0.00764	----	----
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		0.0114	0.0116	0.0116	0.0113	0.0113	----	----
Nickel, total	7440-02-0	E420/VA	mg/L		<0.00050	<0.00050	<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	----	----
Potassium, total	7440-09-7	E420/VA	mg/L		0.298	0.306	0.295	0.316	0.296	----	----
Rubidium, total	7440-17-7	E420/VA	mg/L		0.00038	0.00042	0.00041	0.00043	0.00034	----	----
Selenium, total	7782-49-2	E420/VA	mg/L		0.000710	0.000719	0.000750	0.000756	0.000788	----	----



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	----	----
				Sampling date/time	12-Aug-2024 06:15	12-Aug-2024 07:45	12-Aug-2024 06:40	12-Aug-2024 06:08	12-Aug-2024 06:40	----	----
				Sub-Matrix	Water	Water	Water	Water	Water	----	----
Analyte	CAS Number	Method/Lab	Unit		VA24C0303-008	VA24C0303-009	VA24C0303-010	VA24C0303-011	VA24C0303-012	-----	-----
Total Metals											
Silicon, total	7440-21-3	E420/VA	mg/L		3.12	3.07	3.15	3.08	3.10	----	----
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		8.65	7.98	8.75	3.44	8.82	----	----
Strontium, total	7440-24-6	E420/VA	mg/L		0.168	0.176	0.174	0.171	0.171	----	----
Sulfur, total	7704-34-9	E420/VA	mg/L		14.3	13.9	14.8	14.8	14.5	----	----
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	0.000021	<0.000010	0.000011	<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	<0.00030	<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		0.00956	0.00921	0.00921	0.00894	0.00922	----	----
Vanadium, total	7440-62-2	E420/VA	mg/L		0.00135	0.00145	0.00144	0.00132	0.00137	----	----
Zinc, total	7440-66-6	E420/VA	mg/L		<0.0030	0.0037	0.0092	<0.0030	0.0088	----	----
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		8.5	10.7	----	----	----	----	----
Bromoform	75-25-2	E611B/VA	µg/L		<1.0	<1.0	----	----	----	----	----
Chloroform	67-66-3	E611B/VA	µg/L		170	203	----	----	----	----	----
Dibromochloromethane	124-48-1	E611B/VA	µg/L		<1.0	<1.0	----	----	----	----	----
Trihalomethanes [THMs], total	----	E611B/VA	µg/L		178	214	----	----	----	----	----
Volatile Organic Compounds [THMs] Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611B/VA	%		98.6	103	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611B/VA	%		101	101	----	----	----	----	----

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Page : 7 of 7
Work Order : VA24C0303
Client : Lafarge Canada Inc.
Project : VAID - Texada



Key:

CERTIFICATE OF ANALYSIS

Work Order	: VA24C0303	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	: 13-Aug-2024 10:00
PO	: 4501832334	Date Analysis Commenced	: 15-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Aug-2024 09:16
Sampler	: ----		
Site	: ----		
Quote number	: Lafarge Western Canada Standing Offer 2024		
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
- 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
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia



General Comments

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

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

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

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

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

Unit	Description
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.



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/SMEL TER	VA5 - SITE #5 SELLENTIN @STURT BAY RD
					Client sampling date / time	12-Aug-2024 06:25	12-Aug-2024 07:05	12-Aug-2024 07:10	12-Aug-2024 07:25	12-Aug-2024 06:50
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0303-001	VA24C0303-002	VA24C0303-003	VA24C0303-004	VA24C0303-005	
					Result	Result	Result	Result	Result	
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg		----	EC100A/VA	0.60	mg/L	118	116	117	121	119
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0110	0.0104	0.0111	0.0101	0.0094	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00140	0.00138	0.00142	0.00143	0.00140	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00284	0.00278	0.00285	0.00273	0.00280	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00685	0.00703	0.00690	0.00701	0.00688	
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	<0.0000050	<0.0000050	0.0000051	<0.0000050	<0.0000050	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	42.9	42.6	42.6	44.3	43.6	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000022	0.000024	0.000022	0.000024	0.000021	
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	0.00304	0.00502	0.00319	0.00338	0.00321	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.010	0.010	<0.010	<0.010	0.021	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000229	0.000122	0.000074	0.000303	0.000063	
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	2.53	2.48	2.60	2.56	2.58	
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00712	0.00647	0.00730	0.00556	0.00753	
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	0.0113	0.0111	0.0115	0.0115	0.0114	
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	0.303	0.301	0.306	0.306	0.300	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00039	0.00040	0.00040	0.00043	0.00035	
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000722	0.000749	0.000845	0.000695	0.000827	



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/SMEL TER	VA5 - SITE #5 SELLENTIN @STURT BAY RD
Client sampling date / time					12-Aug-2024 06:25	12-Aug-2024 07:05	12-Aug-2024 07:10	12-Aug-2024 07:25	12-Aug-2024 06:50	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0303-001	VA24C0303-002	VA24C0303-003	VA24C0303-004	VA24C0303-005	
					Result	Result	Result	Result	Result	
Total Metals										
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	3.13	3.15	3.15	3.20	3.10	
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	8.65	8.62	8.86	7.91	8.51	
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.174	0.170	0.173	0.174	0.172	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	14.2	14.7	14.1	14.5	14.6	
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	0.000023	0.000027	<0.000010	<0.000010	0.000018	
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	0.00928	0.00933	0.00905	0.00938	0.00903	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00139	0.00137	0.00141	0.00138	0.00140	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0056	0.0051	0.0034	0.0042	
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					12-Aug-2024 07:50	12-Aug-2024 08:05	12-Aug-2024 06:15	12-Aug-2024 07:45	12-Aug-2024 06:40	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0303-006	VA24C0303-007	VA24C0303-008	VA24C0303-009	VA24C0303-010	
					Result	Result	Result	Result	Result	
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	119	116	122	119	121	
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0114	0.0115	0.0095	0.0124	0.0098	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00146	0.00144	0.00139	0.00143	0.00140	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00290	0.00286	0.00272	0.00280	0.00272	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00687	0.00681	0.00687	0.00712	0.00648	
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	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	43.4	42.4	44.8	43.6	44.3	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000023	0.000023	0.000021	0.000024	0.000020	
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00056	
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	0.00197	0.00355	0.00205	0.00396	0.00645	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.010	0.011	<0.010	0.024	0.013	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000154	0.000091	0.000236	0.000164	0.000230	
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	2.53	2.50	2.54	2.56	2.54	
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00700	0.00709	0.00811	0.0166	0.00753	
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	0.0118	0.0116	0.0114	0.0116	0.0116	
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	0.298	0.301	0.298	0.306	0.295	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00035	0.00035	0.00038	0.00042	0.00041	
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000696	0.000818	0.000710	0.000719	0.000750	
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	3.17	3.15	3.12	3.07	3.15	



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	12-Aug-2024 07:50	12-Aug-2024 08:05	12-Aug-2024 06:15	12-Aug-2024 07:45	12-Aug-2024 06:40
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0303-006	VA24C0303-007	VA24C0303-008	VA24C0303-009	VA24C0303-010	
					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	8.41	8.56	8.65	7.98	8.75	
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.183	0.175	0.168	0.176	0.174	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	14.5	14.6	14.3	13.9	14.8	
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	0.000021	<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	0.00931	0.00927	0.00956	0.00921	0.00921	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00142	0.00141	0.00135	0.00145	0.00144	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	0.0037	0.0092	
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	----	----	8.5	10.7	----	
Bromoform	75-25-2	E611B/VA	1.0	µg/L	----	----	<1.0	<1.0	----	
Chloroform	67-66-3	E611B/VA	1.0	µg/L	----	----	170	203	----	
Dibromochloromethane	124-48-1	E611B/VA	1.0	µg/L	----	----	<1.0	<1.0	----	
Trihalomethanes [THMs], total	----	E611B/VA	2.0	µg/L	----	----	178	214	----	
Volatile Organic Compounds [THMs] Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611B/VA	1.0	%	----	----	98.6	103	----	
Difluorobenzene, 1,4-	540-36-3	E611B/VA	1.0	%	----	----	101	101	----	

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	----	----	----
(Matrix: Water)										
					Client sampling date / time	12-Aug-2024 06:08	12-Aug-2024 06:40	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0303-011	VA24C0303-012	-----	-----	-----	
					Result	Result	----	----	----	
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg		----	EC100A/VA	0.60	mg/L	119	117	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0120	0.0092	----	----	----	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00138	0.00137	----	----	----	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00277	0.00278	----	----	----	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00701	0.00649	----	----	----	
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	<0.0000050	<0.0000050	----	----	----	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	43.3	42.6	----	----	----	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000022	0.000021	----	----	----	
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	0.00074	0.00650	----	----	----	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.018	<0.010	----	----	----	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	0.000228	----	----	----	
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	2.56	2.57	----	----	----	
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0272	0.00764	----	----	----	
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	0.0113	0.0113	----	----	----	
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----	
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	0.316	0.296	----	----	----	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00043	0.00034	----	----	----	
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000756	0.000788	----	----	----	
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	3.08	3.10	----	----	----	
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	3.44	8.82	----	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	RAW SUPPLY	VA-DUP	----	----	----
(Matrix: Water)										
					Client sampling date / time	12-Aug-2024 06:08	12-Aug-2024 06:40	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0303-011	VA24C0303-012	-----	-----	-----	
					Result	Result	----	----	----	
Total Metals										
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.171	0.171	----	----	----	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	14.8	14.5	----	----	----	
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	0.000011	<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	<0.00030	<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	0.00894	0.00922	----	----	----	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00132	0.00137	----	----	----	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0088	----	----	----	
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	: VA24C0303	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	: 13-Aug-2024 10:00
PO	: 4501832334	Issue Date	: 19-Aug-2024 09:17
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Lafarge Western Canada Standing Offer 2024		
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	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA1 - SITE #1 HOTEL	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA10 - SITE #10 - MARBLE BAY & SELLENTIN ST	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA2 - SITE #2 EARL ST	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA3 - SITE #3 MARBLE BAY @ VAN ANDA	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA4 - SITE #4 BLEWETT/SMELTER	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA5 - SITE #5 SELLENTIN @STURT BAY RD	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 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 Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA6 - SITE #6 WALL ST PUMPHOUSE	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA7 - SITE #7 COPPER QUEEN @ ALLADIN	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA8 - SITE #8 TANK OUTLET	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA9 - SITE #9 - WALL STREET END HYDRANT	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) VA-DUP	E508	12-Aug-2024	16-Aug-2024	28 days	4 days	✓	16-Aug-2024	28 days	4 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) RAW SUPPLY	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA1 - SITE #1 HOTEL	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA10 - SITE #10 - MARBLE BAY & SELLENTIN ST	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA2 - SITE #2 EARL ST	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 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 Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA3 - SITE #3 MARBLE BAY @ VAN ANDA	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA4 - SITE #4 BLEWETT/SMELTER	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA5 - SITE #5 SELLENTIN @STURT BAY RD	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA6 - SITE #6 WALL ST PUMPHOUSE	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA7 - SITE #7 COPPER QUEEN @ ALLADIN	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA8 - SITE #8 TANK OUTLET	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA9 - SITE #9 - WALL STREET END HYDRANT	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) VA-DUP	E420	12-Aug-2024	16-Aug-2024	180 days	4 days	✓	18-Aug-2024	180 days	6 days	✓
Volatile Organic Compounds [THMs] : THMs by Headspace GC-MS										
Glass vial (sodium thiosulfate) VA8 - SITE #8 TANK OUTLET	E611B	12-Aug-2024	15-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	4 days	✓

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 Work Order : VA24C0303
 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	12-Aug-2024	15-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	4 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	1598369	1	6	16.6	5.0	✔
Total Mercury in Water by CVAAS	E508	1601042	2	29	6.9	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1596163	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
THMs by Headspace GC-MS	E611B	1598369	1	6	16.6	5.0	✔
Total Mercury in Water by CVAAS	E508	1601042	2	29	6.9	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1596163	1	20	5.0	5.0	✔
Method Blanks (MB)							
THMs by Headspace GC-MS	E611B	1598369	1	6	16.6	5.0	✔
Total Mercury in Water by CVAAS	E508	1601042	2	29	6.9	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1596163	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
THMs by Headspace GC-MS	E611B	1598369	1	6	16.6	5.0	✔
Total Mercury in Water by CVAAS	E508	1601042	2	29	6.9	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1596163	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	: VA24C0303	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	: 13-Aug-2024 10:00
PO	: 4501832334	Date Analysis Commenced	: 15-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Aug-2024 09:17
Sampler	: ----		
Site	: ----		
Quote number	: Lafarge Western Canada Standing Offer 2024		
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
Angela Ren	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia



General Comments

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

Key :

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

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

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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



Laboratory Duplicate (DUP) Report

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

					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: 1596163)											
VA24C0250-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0150	mg/L	82.7	81.6	1.36%	20%	----
		Antimony, total	7440-36-0	E420	0.00050	mg/L	0.00100	0.00101	0.000010	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00050	mg/L	0.0295	0.0296	0.321%	20%	----
		Barium, total	7440-39-3	E420	0.00050	mg/L	0.785	0.781	0.531%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	0.00196	0.00191	2.52%	20%	----
		Bismuth, total	7440-69-9	E420	0.000250	mg/L	0.000764	0.000773	0.000010	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.050	mg/L	0.072	0.073	0.0001	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000250	mg/L	0.00253	0.00254	0.392%	20%	----
		Calcium, total	7440-70-2	E420	0.250	mg/L	41.6	42.6	2.49%	20%	----
		Cesium, total	7440-46-2	E420	0.000050	mg/L	0.00473	0.00479	1.37%	20%	----
		Chromium, total	7440-47-3	E420	0.00250	mg/L	0.116	0.114	1.53%	20%	----
		Cobalt, total	7440-48-4	E420	0.00050	mg/L	0.0586	0.0580	0.941%	20%	----
		Copper, total	7440-50-8	E420	0.00250	mg/L	0.338	0.336	0.509%	20%	----
		Iron, total	7439-89-6	E420	0.050	mg/L	108	109	0.948%	20%	----
		Lead, total	7439-92-1	E420	0.000250	mg/L	0.229	0.232	1.42%	20%	----
		Lithium, total	7439-93-2	E420	0.0050	mg/L	0.0584	0.0585	0.118%	20%	----
		Magnesium, total	7439-95-4	E420	0.0250	mg/L	40.0	39.5	1.22%	20%	----
		Manganese, total	7439-96-5	E420	0.00050	mg/L	3.45	3.52	1.97%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000250	mg/L	0.00324	0.00322	0.771%	20%	----
		Nickel, total	7440-02-0	E420	0.00250	mg/L	0.177	0.175	0.985%	20%	----
		Phosphorus, total	7723-14-0	E420	0.250	mg/L	2.61	2.81	7.23%	20%	----
		Potassium, total	7440-09-7	E420	0.250	mg/L	8.23	8.37	1.60%	20%	----
		Rubidium, total	7440-17-7	E420	0.00100	mg/L	0.0348	0.0363	4.06%	20%	----
		Selenium, total	7782-49-2	E420	0.000250	mg/L	0.00145	0.00132	0.000127	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.50	mg/L	90.9	94.0	3.26%	20%	----
		Silver, total	7440-22-4	E420	0.000050	mg/L	0.000792	0.000808	1.96%	20%	----
		Sodium, total	7440-23-5	E420	0.250	mg/L	67.1	65.5	2.39%	20%	----
		Strontium, total	7440-24-6	E420	0.00100	mg/L	0.307	0.310	0.806%	20%	----
		Sulfur, total	7704-34-9	E420	2.50	mg/L	3.81	3.42	0.39	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00100	mg/L	<0.00100	<0.00100	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: 1596163) - continued											
VA24C0250-001	Anonymous	Thallium, total	7440-28-0	E420	0.000050	mg/L	0.000452	0.000481	0.000028	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00050	mg/L	0.00540	0.00550	1.81%	20%	----
		Tin, total	7440-31-5	E420	0.00050	mg/L	0.00157	0.00151	0.00006	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00150	mg/L	2.42	2.42	0.0885%	20%	----
		Tungsten, total	7440-33-7	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000050	mg/L	0.00276	0.00289	4.56%	20%	----
		Vanadium, total	7440-62-2	E420	0.00250	mg/L	0.169	0.167	1.23%	20%	----
		Zinc, total	7440-66-6	E420	0.0150	mg/L	0.420	0.414	1.61%	20%	----
		Zirconium, total	7440-67-7	E420	0.00100	mg/L	0.00295	0.00268	0.00027	Diff <2x LOR	----
Total Metals (QC Lot: 1601042)											
VA24C0096-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1601044)											
VA24C0303-005	VA5 - SITE #5 SELLENTIN @STURT BAY RD	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds [THMs] (QC Lot: 1598369)											
VA24B9888-004	Anonymous	Bromodichloromethane	75-27-4	E611B	1.0	µg/L	3.0	3.0	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	24.2	24.1	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: 1596163)						
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: 1596163) - 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: 1601042)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1601044)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds [THMs] (QCLot: 1598369)						
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	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1596163)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	104	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	103	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	107	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	101	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	94.4	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	105	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	97.8	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	104	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	102	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.9	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.8	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.7	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	103	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	110	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	96.3	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	95.6	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	110	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	97.5	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	101	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	99.4	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	97.4	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.0	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1596163) - 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	102	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	101	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Total Metals (QCLot: 1601042)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	97.1	80.0	120	----
Total Metals (QCLot: 1601044)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	94.2	80.0	120	----
Volatile Organic Compounds [THMs] (QCLot: 1598369)									
Bromodichloromethane	75-27-4	E611B	1	µg/L	100 µg/L	98.4	70.0	130	----
Bromoform	75-25-2	E611B	1	µg/L	100 µg/L	97.8	70.0	130	----
Chloroform	67-66-3	E611B	1	µg/L	100 µg/L	94.9	70.0	130	----
Dibromochloromethane	124-48-1	E611B	1	µg/L	100 µg/L	98.5	70.0	130	----



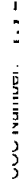
Matrix Spike (MS) Report

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: 1596163)										
VA24C0267-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00919 mg/L	0.01 mg/L	91.9	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00381 mg/L	0.004 mg/L	95.4	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00992 mg/L	0.01 mg/L	99.2	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Copper, total	7440-50-8	E420	ND mg/L	----	ND	70.0	130	----
		Iron, total	7439-89-6	E420	1.88 mg/L	2 mg/L	94.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.0188 mg/L	0.02 mg/L	93.9	70.0	130	----
		Lithium, total	7439-93-2	E420	ND mg/L	----	ND	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0191 mg/L	0.02 mg/L	95.3	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0375 mg/L	0.04 mg/L	93.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.47 mg/L	10 mg/L	94.7	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0189 mg/L	0.02 mg/L	94.7	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0420 mg/L	0.04 mg/L	105	70.0	130	----
		Silicon, total	7440-21-3	E420	9.71 mg/L	10 mg/L	97.1	70.0	130	----
		Silver, total	7440-22-4	E420	0.00361 mg/L	0.004 mg/L	90.2	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	21.1 mg/L	20 mg/L	105	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		Tin, total	7440-31-5	E420	ND mg/L	----	ND	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0382 mg/L	0.04 mg/L	95.6	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00394 mg/L	0.004 mg/L	98.6	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0995 mg/L	0.1 mg/L	99.5	70.0	130	----
		Zinc, total	7440-66-6	E420	0.382 mg/L	0.4 mg/L	95.5	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
Total Metals (QCLot: 1601042)										
VA24C0096-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000950 mg/L	0 mg/L	95.0	70.0	130	----
Total Metals (QCLot: 1601044)										
VA24C0303-006	VA6 - SITE #6 WALL ST PUMPHOUSE	Mercury, total	7439-97-6	E508	0.0000966 mg/L	0 mg/L	96.6	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
Volatile Organic Compounds [THMs] (QCLot: 1598369)										
VA24B9888-004	Anonymous	Bromodichloromethane	75-27-4	E611B	98.9 µg/L	100 µg/L	98.9	60.0	140	----
		Bromoform	75-25-2	E611B	99.7 µg/L	100 µg/L	99.7	60.0	140	----
		Chloroform	67-66-3	E611B	95.6 µg/L	100 µg/L	95.6	60.0	140	----
		Dibromochloromethane	124-48-1	E611B	97.5 µg/L	100 µg/L	97.5	60.0	140	----

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