

CERTIFICATE OF ANALYSIS

Work Order : **VA21C2768**
Client : **Lafarge Canada Inc.**
Contact : Stephanie Voysey
Address : 2300 Rogers Ave
 Coquitlam BC Canada V3K 5X6
Telephone : 604 349 9193
Project : Van Anda - Texada Island
PO : ----
C-O-C number : ----
Sampler : KS
Site : ----
Quote number : Q75544 - Texada Quarry
No. of samples received : 9
No. of samples analysed : 9

Page : 1 of 6
Laboratory : Vancouver - Environmental
Account Manager : Carla Fuginski
Address : 8081 Lougheed Highway
 Burnaby BC Canada V5A 1W9
Telephone : +1 604 253 4188
Date Samples Received : 14-Oct-2021 10:10
Date Analysis Commenced : 25-Oct-2021
Issue Date : 27-Oct-2021 10:52

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Caleb Deroche	Lab Analyst	Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Paolo Obillo	Account Manager Assistant	Administration, Burnaby, British Columbia



General Comments

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

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

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

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

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

<i>Unit</i>	<i>Description</i>
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

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

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

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



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	VA1 Site#1 Hotel	VA2 Site#2 Earl St	VA3 Site#3 Marble Bay@Vananda	VA4 Site#4 Marble Bay@Sellentin	VA5 Site#5 Sellentin@Stur g Bay Rd
Client sampling date / time					12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00	
Analyte	CAS Number	Method	LOR	Unit	VA21C2768-001	VA21C2768-002	VA21C2768-003	VA21C2768-004	VA21C2768-005	
					Result	Result	Result	Result	Result	
Field Tests										
pH, field	----	EF001	0.100	pH units	6.98	6.83	6.85	6.76	6.90	
Physical Tests										
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L	138	136	136	136	137	
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0031	0.0034	0.0037	<0.0030	0.0033	
antimony, total	7440-36-0	E420	0.00010	mg/L	0.00130	0.00129	0.00135	0.00133	0.00130	
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00151	0.00162	0.00152	0.00146	0.00182	
barium, total	7440-39-3	E420	0.00010	mg/L	0.00718	0.00712	0.00706	0.00694	0.00701	
beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	
bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
calcium, total	7440-70-2	E420	0.050	mg/L	50.5	49.5	49.8	49.5	50.0	
cesium, total	7440-46-2	E420	0.000010	mg/L	0.000026	0.000028	0.000024	0.000027	0.000026	
chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
copper, total	7440-50-8	E420	0.00050	mg/L	0.00559	0.00529	0.0414	0.00304	0.00376	
iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	0.117	
lead, total	7439-92-1	E420	0.000050	mg/L	0.000220	0.000193	0.00114	0.000133	0.000054	
lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
magnesium, total	7439-95-4	E420	0.0050	mg/L	2.95	2.92	2.93	2.95	2.94	
manganese, total	7439-96-5	E420	0.00010	mg/L	0.00294	0.00244	0.00301	0.00341	0.00240	
mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00698	0.00724	0.00392	0.00538	0.00750	
nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0.00064	<0.00050	<0.00050	
phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
potassium, total	7440-09-7	E420	0.050	mg/L	0.336	0.335	0.336	0.327	0.337	
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00048	0.00039	0.00046	0.00046	0.00051	
selenium, total	7782-49-2	E420	0.000050	mg/L	0.000452	0.000533	0.000440	0.000498	0.000542	



Analytical Results

Sub-Matrix: Water

(Matrix: Water)

Client sample ID

					VA1 Site#1 Hotel	VA2 Site#2 Earl St	VA3 Site#3 Marble Bay@Vananda	VA4 Site#4 Marble Bay@Sellentin	VA5 Site#5 Sellentin@Stur g Bay Rd
Client sampling date / time					12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00
Analyte	CAS Number	Method	LOR	Unit	VA21C2768-001	VA21C2768-002	VA21C2768-003	VA21C2768-004	VA21C2768-005
					Result	Result	Result	Result	Result
Total Metals									
silicon, total	7440-21-3	E420	0.10	mg/L	2.49	2.44	2.46	2.52	2.47
silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0.000010	<0.000010	<0.000010
sodium, total	17341-25-2	E420	0.050	mg/L	6.12	6.09	5.61	5.91	5.20
strontium, total	7440-24-6	E420	0.00020	mg/L	0.216	0.221	0.214	0.219	0.213
sulfur, total	7704-34-9	E420	0.50	mg/L	13.0	15.0	10.0	12.1	18.0
tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0.00031	<0.00010	<0.00010
titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000698	0.000646	0.000834	0.000730	0.000653
vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00095	0.00102	0.00093	0.00091	0.00105
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0040	0.0056	0.0200	<0.0030	0.0164
zirconium, total	7440-67-7	E420	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 qualifiers detected.



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	VA-DUP Site#8 Tank Outlet	----
Client sampling date / time					12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 15:00	----	
Analyte	CAS Number	Method	LOR	Unit	VA21C2768-006	VA21C2768-007	VA21C2768-008	VA21C2768-009	-----	
					Result	Result	Result	Result	----	
Field Tests										
pH, field	----	EF001	0.100	pH units	6.90	6.84	6.95	6.95	----	
Physical Tests										
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L	138	136	138	136	----	
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0034	0.0033	0.0044	0.0046	----	
antimony, total	7440-36-0	E420	0.00010	mg/L	0.00129	0.00130	0.00136	0.00135	----	
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00148	0.00146	0.00170	0.00174	----	
barium, total	7440-39-3	E420	0.00010	mg/L	0.00708	0.00721	0.00703	0.00689	----	
beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	----	
bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	----	
boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----	
cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----	
calcium, total	7440-70-2	E420	0.050	mg/L	50.5	49.6	50.4	49.6	----	
cesium, total	7440-46-2	E420	0.000010	mg/L	0.000026	0.000024	0.000024	0.000027	----	
chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----	
copper, total	7440-50-8	E420	0.00050	mg/L	0.00344	0.00477	0.00132	0.00084	----	
iron, total	7439-89-6	E420	0.010	mg/L	<0.010	0.023	<0.010	0.011	----	
lead, total	7439-92-1	E420	0.000050	mg/L	0.000073	0.000316	0.000066	0.000062	----	
lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
magnesium, total	7439-95-4	E420	0.0050	mg/L	2.89	2.92	2.96	2.89	----	
manganese, total	7439-96-5	E420	0.00010	mg/L	0.00240	0.00260	0.00360	0.00346	----	
mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----	
molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00469	0.00536	0.00378	0.00376	----	
nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	----	
potassium, total	7440-09-7	E420	0.050	mg/L	0.330	0.332	0.336	0.326	----	
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00043	0.00048	0.00041	0.00045	----	
selenium, total	7782-49-2	E420	0.000050	mg/L	0.000484	0.000416	0.000573	0.000499	----	
silicon, total	7440-21-3	E420	0.10	mg/L	2.45	2.44	2.61	2.46	----	



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	VA-DUP Site#8 Tank Outlet	----
Client sampling date / time					12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 14:00	12-Oct-2021 15:00	----
Analyte	CAS Number	Method	LOR	Unit	VA21C2768-006	VA21C2768-007	VA21C2768-008	VA21C2768-009	-----
					Result	Result	Result	Result	----
Total Metals									
silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	----
sodium, total	17341-25-2	E420	0.050	mg/L	5.75	5.82	5.49	5.46	----
strontium, total	7440-24-6	E420	0.00020	mg/L	0.212	0.216	0.219	0.214	----
sulfur, total	7704-34-9	E420	0.50	mg/L	10.8	12.2	11.6	10.6	----
tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	----
thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	----
thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	----
tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000726	0.000700	0.000943	0.000896	----
vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00085	0.00087	0.00097	0.00101	----
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0060	0.0046	<0.0030	<0.0030	----
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	----

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: VA21C2768	Page	: 1 of 7
Client	: Lafarge Canada Inc.	Laboratory	: Vancouver - Environmental
Contact	: Stephanie Voysey	Account Manager	: Carla Fuginski
Address	: 2300 Rogers Ave Coquitlam BC Canada V3K 5X6	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 349 9193	Telephone	: +1 604 253 4188
Project	: Van Anda - Texada Island	Date Samples Received	: 14-Oct-2021 10:10
PO	: ----	Issue Date	: 27-Oct-2021 10:52
C-O-C number	: ----		
Sampler	: KS		
Site	: ----		
Quote number	: Q75544 - Texada Quarry		
No. of samples received	: 9		
No. of samples analysed	: 9		

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 Services number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

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 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	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA1 Site#1 Hotel	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA2 Site#2 Earl St	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA3 Site#3 Marble Bay@Vananda	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA4 Site#4 Marble Bay@Sellentin	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA5 Site#5 Sellentin@Sturg Bay Rd	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA6 Site#6 Wall St Pumphouse	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA7 Site#7 Copper Queen @ Alladin	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	



Matrix: **Water**

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

Analyte Group 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	
Field Tests : Field pH,EC,Salinity,Ci2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA8 Site#8 Tank Outlet	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Field Tests : Field pH,EC,Salinity,Ci2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA-DUP Site#8 Tank Outlet	EF001	12-Oct-2021	----	----	----		27-Oct-2021	----	----	
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA1 Site#1 Hotel	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA2 Site#2 Earl St	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA3 Site#3 Marble Bay@Vananda	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA4 Site#4 Marble Bay@Sellentin	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA5 Site#5 Sellentin@Sturg Bay Rd	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA6 Site#6 Wall St Pumphouse	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA7 Site#7 Copper Queen @ Alladin	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✔



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

Analyte Group 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 (hydrochloric acid) VA8 Site#8 Tank Outlet	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA-DUP Site#8 Tank Outlet	E508	12-Oct-2021	----	----	----		25-Oct-2021	28 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA1 Site#1 Hotel	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA2 Site#2 Earl St	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA3 Site#3 Marble Bay@Vananda	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA4 Site#4 Marble Bay@Sellentin	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA5 Site#5 Sellentin@Sturg Bay Rd	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA6 Site#6 Wall St Pumphouse	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA7 Site#7 Copper Queen @ Alladin	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓



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

Analyte Group	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 (nitric acid) VA8 Site#8 Tank Outlet	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA-DUP Site#8 Tank Outlet	E420	12-Oct-2021	----	----	----		25-Oct-2021	180 days	13 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)							
Total Mercury in Water by CVAAS	E508	329079	2	40	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	324075	1	19	5.2	5.0	✔
Laboratory Control Samples (LCS)							
Total Mercury in Water by CVAAS	E508	329079	2	40	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	324075	1	19	5.2	5.0	✔
Method Blanks (MB)							
Total Mercury in Water by CVAAS	E508	329079	2	40	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	324075	1	19	5.2	5.0	✔
Matrix Spikes (MS)							
Total Mercury in Water by CVAAS	E508	329079	2	40	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	324075	1	19	5.2	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 Vancouver - Environmental	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 Vancouver - Environmental	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Hardness (Calculated) from Total Ca/Mg	EC100A Vancouver - Environmental	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.
Field pH,EC,Salinity,Cl ₂ ,ORP,DO, Turbidity,T,T-P,o-PO ₄	EF001 Vancouver - Environmental	Water	Field Measurement (Client Supplied)	Field pH, EC, Salinity, Cl ₂ , ORP, DO, Turbidity,T, T-P or o-PO ₄ measurements provided by client and recorded on ALS report may affect the validity of results.



QUALITY CONTROL REPORT

Work Order : **VA21C2768**

Page : 1 of 10

Client : Lafarge Canada Inc.
Contact : Stephanie Voysey
Address : 2300 Rogers Ave
Coquitlam BC Canada V3K 5X6
Telephone : 604 349 9193
Project : Van Anda - Texada Island
PO : ----
C-O-C number : ----
Sampler : KS
Site : ----
Quote number : Q75544 - Texada Quarry
No. of samples received : 9
No. of samples analysed : 9

Laboratory : Vancouver - Environmental
Account Manager : Carla Fuginski
Address : 8081 Lougheed Highway
Burnaby, British Columbia Canada V5A 1W9
Telephone : +1 604 253 4188
Date Samples Received : 14-Oct-2021 10:10
Date Analysis Commenced : 25-Oct-2021
Issue Date : 27-Oct-2021 10:52

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 Percentage Difference (RPD) and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

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
Caleb Deroche	Lab Analyst	Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Paolo Obillo	Account Manager Assistant	Administration, 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 Services number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percentage Difference

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



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: 324075)											
VA21C2698-003	Anonymous	aluminum, total	7429-90-5	E420	0.0150	mg/L	<0.0150	<0.0150	0	Diff <2x LOR	----
		antimony, total	7440-36-0	E420	0.00050	mg/L	0.00506	0.00502	0.783%	20%	----
		arsenic, total	7440-38-2	E420	0.00050	mg/L	0.00075	0.00083	0.00007	Diff <2x LOR	----
		barium, total	7440-39-3	E420	0.00050	mg/L	0.0101	0.0100	0.626%	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	0.000250	mg/L	<0.000250	<0.000250	0	Diff <2x LOR	----
		boron, total	7440-42-8	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.00125	mg/L	<0.00125	<0.00125	0	Diff <2x LOR	----
		calcium, total	7440-70-2	E420	0.250	mg/L	278	291	4.65%	20%	----
		cesium, total	7440-46-2	E420	0.000050	mg/L	0.000410	0.000408	0.000002	Diff <2x LOR	----
		chromium, total	7440-47-3	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		cobalt, total	7440-48-4	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		copper, total	7440-50-8	E420	0.00250	mg/L	0.0127	0.0125	0.00026	Diff <2x LOR	----
		iron, total	7439-89-6	E420	0.050	mg/L	0.069	0.072	0.004	Diff <2x LOR	----
		lead, total	7439-92-1	E420	0.000250	mg/L	<0.000250	<0.000250	0	Diff <2x LOR	----
		lithium, total	7439-93-2	E420	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		magnesium, total	7439-95-4	E420	0.500	mg/L	12.4	12.1	2.33%	20%	----
		manganese, total	7439-96-5	E420	0.00050	mg/L	0.0972	0.0980	0.904%	20%	----
		molybdenum, total	7439-98-7	E420	0.000250	mg/L	5.45	5.40	0.930%	20%	----
		nickel, total	7440-02-0	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		phosphorus, total	7723-14-0	E420	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.500	mg/L	6.46	6.38	1.35%	20%	----
		rubidium, total	7440-17-7	E420	0.00100	mg/L	0.0106	0.0107	0.652%	20%	----
		selenium, total	7782-49-2	E420	0.000250	mg/L	0.00507	0.00488	3.81%	20%	----
		silicon, total	7440-21-3	E420	0.50	mg/L	2.64	2.62	0.01	Diff <2x LOR	----
		silver, total	7440-22-4	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		sodium, total	17341-25-2	E420	0.250	mg/L	109	105	4.13%	20%	----
		strontium, total	7440-24-6	E420	0.00100	mg/L	3.11	3.11	0.149%	20%	----
		sulfur, total	7704-34-9	E420	2.50	mg/L	320	315	1.57%	20%	----
		tellurium, total	13494-80-9	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		thallium, total	7440-28-0	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		thorium, total	7440-29-1	E420	0.00050	mg/L	<0.00050	<0.00050	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: 324075) - continued											
VA21C2698-003	Anonymous	tin, total	7440-31-5	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.00330	mg/L	<0.00330	<0.00330	0	Diff <2x LOR	----
		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	0.00858	0.00827	3.69%	20%	----
		vanadium, total	7440-62-2	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		zinc, total	7440-66-6	E420	0.0150	mg/L	<0.0150	<0.0150	0	Diff <2x LOR	----
		zirconium, total	7440-67-7	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
Total Metals (QC Lot: 329079)											
KS2103379-001	Anonymous	mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 329080)											
VA21C2768-003	VA3 Site#3 Marble Bay@Vananda	mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----



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: 324075)						
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	17341-25-2	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	----
tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 324075) - continued						
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: 329079)						
mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 329080)						
mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----



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: 324075)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	99.7	80.0	120	----
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	100	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	103	80.0	120	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	99.6	80.0	120	----
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	91.2	80.0	120	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	98.1	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	99.1	80.0	120	----
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	102	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.8	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	98.4	80.0	120	----
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	102	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	102	80.0	120	----
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	99.2	80.0	120	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120	----
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	112	80.0	120	----
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	98.4	80.0	120	----
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	96.4	80.0	120	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	100	80.0	120	----
sodium, total	17341-25-2	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	99.2	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	96.1	80.0	120	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	98.7	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	98.7	80.0	120	----
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	89.0	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	95.8	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----



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: 324075) - continued									
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	94.3	80.0	120	----
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	95.4	80.0	120	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	95.1	80.0	120	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	90.6	80.0	120	----
Total Metals (QCLot: 329079)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	88.6	80.0	120	----
Total Metals (QCLot: 329080)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	94.1	80.0	120	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					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: 324075)										
VA21C2698-004	Anonymous	aluminum, total	7429-90-5	E420	0.193 mg/L	0.2 mg/L	96.4	70.0	130	----
		antimony, total	7440-36-0	E420	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		arsenic, total	7440-38-2	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		barium, total	7440-39-3	E420	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		beryllium, total	7440-41-7	E420	0.0398 mg/L	0.04 mg/L	99.6	70.0	130	----
		bismuth, total	7440-69-9	E420	0.00928 mg/L	0.01 mg/L	92.8	70.0	130	----
		boron, total	7440-42-8	E420	0.094 mg/L	0.1 mg/L	93.7	70.0	130	----
		cadmium, total	7440-43-9	E420	0.00396 mg/L	0.004 mg/L	98.9	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	0.00956 mg/L	0.01 mg/L	95.6	70.0	130	----
		chromium, total	7440-47-3	E420	0.0394 mg/L	0.04 mg/L	98.4	70.0	130	----
		cobalt, total	7440-48-4	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		copper, total	7440-50-8	E420	0.0197 mg/L	0.02 mg/L	98.3	70.0	130	----
		iron, total	7439-89-6	E420	1.97 mg/L	2 mg/L	98.7	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	0.0971 mg/L	0.1 mg/L	97.1	70.0	130	----
		magnesium, total	7439-95-4	E420	0.938 mg/L	1 mg/L	93.8	70.0	130	----
		manganese, total	7439-96-5	E420	0.0196 mg/L	0.02 mg/L	97.9	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	0.0390 mg/L	0.04 mg/L	97.4	70.0	130	----
		phosphorus, total	7723-14-0	E420	10.2 mg/L	10 mg/L	102	70.0	130	----
		potassium, total	7440-09-7	E420	3.81 mg/L	4 mg/L	95.2	70.0	130	----
		rubidium, total	7440-17-7	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		selenium, total	7782-49-2	E420	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		silicon, total	7440-21-3	E420	8.85 mg/L	10 mg/L	88.5	70.0	130	----
		silver, total	7440-22-4	E420	0.00379 mg/L	0.004 mg/L	94.6	70.0	130	----
		sodium, total	17341-25-2	E420	1.96 mg/L	2 mg/L	98.1	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	99.4	70.0	130	----
		tellurium, total	13494-80-9	E420	0.0375 mg/L	0.04 mg/L	93.9	70.0	130	----
		thallium, total	7440-28-0	E420	0.00364 mg/L	0.004 mg/L	91.0	70.0	130	----
		thorium, total	7440-29-1	E420	0.0196 mg/L	0.02 mg/L	98.2	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: 324075) - continued										
VA21C2698-004	Anonymous	tin, total	7440-31-5	E420	0.0186 mg/L	0.02 mg/L	93.1	70.0	130	----
		titanium, total	7440-32-6	E420	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		tungsten, total	7440-33-7	E420	0.0177 mg/L	0.02 mg/L	88.5	70.0	130	----
		uranium, total	7440-61-1	E420	0.00383 mg/L	0.004 mg/L	95.7	70.0	130	----
		vanadium, total	7440-62-2	E420	0.0983 mg/L	0.1 mg/L	98.3	70.0	130	----
		zinc, total	7440-66-6	E420	0.394 mg/L	0.4 mg/L	98.5	70.0	130	----
		zirconium, total	7440-67-7	E420	0.0378 mg/L	0.04 mg/L	94.4	70.0	130	----
Total Metals (QCLot: 329079)										
VA21C2536-001	Anonymous	mercury, total	7439-97-6	E508	0.0000937 mg/L	0.0001 mg/L	93.7	70.0	130	----
Total Metals (QCLot: 329080)										
VA21C2768-004	VA4 Site#4 Marble Bay@Sellentin	mercury, total	7439-97-6	E508	0.0000881 mg/L	0.0001 mg/L	88.1	70.0	130	----



Chain of Custody (COC) / Analytical
Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 15 -

Page of

www.alsglobal.com

Report To		Report Format / Distribution		Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply	
Company:	Lafarge	Select Report Format:	☒ PDF ☒ EXCEL ☐ EDD (DIGITAL)	Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply	
Contact:	Stephanie Voysey	Quality Control (QC) Report with Report	☒ YES ☐ NO	4 day [P4] ☐	
Phone:	604 340 6320	☐ Compare Results to Criteria on Report - provide details below if box checked		3 day [P3] ☐	1 Business day [E1] ☐
Company address below will appear on the final report		Select Distribution:	☒ EMAIL ☐ MAIL ☐ FAX	2 day [P2] ☐	Same Day, Weekend or Statutory holiday [E0] ☐
Street:	2300 Rogers Avenue	Email 1 or Fax	stephanie.voysey@lafargeholcim.com	Date and Time Required for all E&P TATs:	
City/Province:	Coquitlam, BC	Email 2		For tests that can not be performed according to the service level selected, you will be contacted.	
Postal Code:	V3K 5X6	Email 3	lafargeholcim@esdat.net	Analysis Request	
Invoice To	Same as Report To ☒ YES ☐ NO	Invoice Distribution		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below	
	Copy of Invoice with Report ☒ YES ☐ NO	Select Invoice Distribution:	☐ EMAIL ☐ MAIL ☐ FAX		
Company:		Email 1 or Fax			
Contact:		Email 2			
Project Information		Oil and Gas Required Fields (client use)			
ALS Account # / Quote #:		AFE/Cost Center:	PO#		
Job #:	Van Anda - Texada Island	Major/Minor Code:	Routing Code:		
PO / AFE:		Requisitioner:			
LSD:		Location:			
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler: KEN SOLIS		
ALS Sample # (lab 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	6.98PH	12/10/21	2:00PM	
VA2	SITE#2 EARL ST	6.83PH	12/10/21		
VA3	SITE#3 MARGUERY @ VANANDA	6.25PH	12/10/21		
VA4	SITE#4 MARGUERY @ SELENTIN	6.76PH	12/10/21		
VA5	SITE#5 SELENTIN @ SUB BAY RD	6.90PH	12/10/21		
VA6	SITE#6 WALL ST @ MPHOUSE	6.90PH	12/10/21		
VA7	SITE#7 COOPER @ QUEEN @ VANANDA	6.84PH	12/10/21		
VA8	SITE#8 TANIR DUKLET	6.95PH	12/10/21		
VA-DUP	SITE#8 TANK OUTLET	6.95PH	12/10/21	3:00PM	
Drinking Water (DW) Samples ¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)		SAMPLE CONDITION AS RECEIVED (lab use only)	
Are samples taken from a Regulated DW System? ☒ YES ☐ NO				Frozen ☐ SIF Observations Yes ☐ No ☐	
Are samples for human drinking water use? ☒ YES ☐ NO				Ice Packs ☒ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐	
				Cooling Initiated ☐	
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)		FINAL SHIPMENT RECEPTION (lab use only)	
Released by:	Date:	Time:	Received by:	Date:	Time:
				14 Oct 2021	10:10 AM

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 2015 FRONT

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.

Environmental Division
Vancouver
Work Order Reference
VA21C2768



Telephone : +1 604 263 4188

Number of Containers

- ① VA1 - SITE #1 HOTEL 6.88 PH
- ② VA2 - SITE #2 EARL ST 6.83 PH
- ③ VA3 - SITE #3 MARBLE BAY @ VANANDA 6.85 PH
- ④ VA4 - SITE #4 MARBLE BAY @ SELLENTIN 6.76 PH
- ⑤ VA5 - SITE #5 SELLENTIN @ STURT BAY RD 6.90 PH
- ⑥ VA6 - SITE #6 WALL ST PUMPHOUSE 6.90 PH
- ⑦ ~~VA7~~ - SITE #7 COPPER QUEEN @ ALLADIN 6.84 PH
- ⑧ VA8 - SITE #8 TANK OUTLET 6.95 PH
- ⑨ VA-DUP - SITE #8 TANK OUTLET 6.95 PH