

CERTIFICATE OF ANALYSIS

Work Order : **VA21C6429**
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 : 4501487255
C-O-C number : ----
Sampler : ----
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 : 26-Nov-2021 10:30
Date Analysis Commenced : 30-Nov-2021
Issue Date : 07-Dec-2021 12:34

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>
Dee Lee	Analyst	Metals, Burnaby, British Columbia
Paolo Obillo	Account Manager Assistant	Administration, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	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).

<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.

Qualifiers

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



Analytical Results

Sub-Matrix: Water					Client sample ID				
(Matrix: Water)					VA1	VA2	VA3	VA4	VA5
Client sampling date / time					24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00
Analyte	CAS Number	Method	LOR	Unit	VA21C6429-001	VA21C6429-002	VA21C6429-003	VA21C6429-004	VA21C6429-005
					Result	Result	Result	Result	Result
Field Tests									
pH, field	----	EF001	0.100	pH units	7.19	6.86	6.60	6.72	6.55
Physical Tests									
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L	122	120	119	120	120
Total Metals									
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0252	0.0246	0.0235	0.0277	0.0247
antimony, total	7440-36-0	E420	0.00010	mg/L	0.00132	0.00138	0.00136	0.00136	0.00135
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00207	0.00206	0.00194	0.00209	0.00186
barium, total	7440-39-3	E420	0.00010	mg/L	0.00633	0.00635	0.00595	0.00610	0.00598
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	<0.0000100 ^{DLM}
calcium, total	7440-70-2	E420	0.050	mg/L	44.6	43.6	43.4	43.7	43.7
cesium, total	7440-46-2	E420	0.000010	mg/L	0.000029	0.000029	0.000025	0.000027	0.000025
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	0.00632	0.00308	0.00468	0.00265	0.00562
iron, total	7439-89-6	E420	0.010	mg/L	0.030	0.039	0.030	0.029	0.036
lead, total	7439-92-1	E420	0.000050	mg/L	0.000232	0.000051	0.000091	0.000110	0.000308
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	2.65	2.62	2.70	2.69	2.58
manganese, total	7439-96-5	E420	0.00010	mg/L	0.00158	0.00245	0.00161	0.00173	0.00159
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	0.0103	0.0108	0.0104	0.0106	0.0102
nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<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	<0.050
potassium, total	7440-09-7	E420	0.050	mg/L	0.372	0.365	0.357	0.356	0.351
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00050	0.00045	0.00041	0.00046	0.00048
selenium, total	7782-49-2	E420	0.000050	mg/L	0.00105	0.000938	0.000798	0.000915	0.000946
silicon, total	7440-21-3	E420	0.10	mg/L	3.26	3.20	3.28	3.29	3.27



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	VA1	VA2	VA3	VA4	VA5
Client sampling date / time					24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00	
Analyte	CAS Number	Method	LOR	Unit	VA21C6429-001	VA21C6429-002	VA21C6429-003	VA21C6429-004	VA21C6429-005	
					Result	Result	Result	Result	Result	
Total Metals										
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	6.38	5.90	6.26	6.19	6.12	
strontium, total	7440-24-6	E420	0.00020	mg/L	0.207	0.221	0.212	0.213	0.218	
sulfur, total	7704-34-9	E420	0.50	mg/L	15.2	15.3	15.8	15.3	15.6	
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	<0.00010	<0.00010	<0.00010	
titanium, total	7440-32-6	E420	0.00030	mg/L	0.00055	0.00052	0.00059	0.00056	0.00059	
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	0.00190	0.00186	0.00189	0.00185	0.00188	
vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00090	0.00091	0.00091	0.00090	0.00085	
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0050	0.0064	0.0083	<0.0030	0.0196	
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	VA7	VA8	VA-DUP	----
Client sampling date / time						24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 13:00	----
Analyte	CAS Number	Method	LOR	Unit	VA21C6429-006	VA21C6429-007	VA21C6429-008	VA21C6429-009	-----	----
					Result	Result	Result	Result		----
Field Tests										
pH, field	----	EF001	0.100	pH units	6.55	6.54	6.62	6.72		----
Physical Tests										
hardness (as CaCO ₃), from total Ca/Mg	----	EC100A	0.60	mg/L	120	121	120	118		----
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0237	0.0272	0.0242	0.0242		----
antimony, total	7440-36-0	E420	0.00010	mg/L	0.00133	0.00134	0.00131	0.00133		----
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00185	0.00186	0.00203	0.00202		----
barium, total	7440-39-3	E420	0.00010	mg/L	0.00600	0.00611	0.00613	0.00602		----
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	43.9	44.0	43.6	42.8		----
cesium, total	7440-46-2	E420	0.000010	mg/L	0.000025	0.000025	0.000026	0.000025		----
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	0.00386	0.0105	0.00123	0.00266		----
iron, total	7439-89-6	E420	0.010	mg/L	0.031	0.074	0.031	0.028		----
lead, total	7439-92-1	E420	0.000050	mg/L	0.000096	0.000455	<0.000050	0.000106		----
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	2.65	2.62	2.61	2.62		----
manganese, total	7439-96-5	E420	0.00010	mg/L	0.00164	0.00656	0.00179	0.00157		----
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	0.0103	0.0102	0.0104	0.0103		----
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	0.352	0.341	0.345	0.354		----
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00038	0.00046	0.00046	0.00041		----
selenium, total	7782-49-2	E420	0.000050	mg/L	0.000972	0.000906	0.00108	0.00110		----
silicon, total	7440-21-3	E420	0.10	mg/L	3.27	3.32	3.33	3.31		----
silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010		----



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	VA6	VA7	VA8	VA-DUP	----
Client sampling date / time						24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 14:00	24-Nov-2021 13:00	----
Analyte	CAS Number	Method	LOR	Unit	VA21C6429-006	VA21C6429-007	VA21C6429-008	VA21C6429-009	-----	
					Result	Result	Result	Result	----	
Total Metals										
sodium, total	17341-25-2	E420	0.050	mg/L	6.08	6.04	5.88	6.10	----	
strontium, total	7440-24-6	E420	0.00020	mg/L	0.207	0.211	0.207	0.208	----	
sulfur, total	7704-34-9	E420	0.50	mg/L	15.5	16.0	15.8	15.2	----	
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	0.000020	<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	0.00049	0.00051	0.00061	0.00058	----	
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	0.00187	0.00183	0.00194	0.00189	----	
vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00089	0.00090	0.00088	0.00089	----	
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0056	0.0129	<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	: VA21C6429	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	: 26-Nov-2021 10:30
PO	: 4501487255	Issue Date	: 07-Dec-2021 12:34
C-O-C number	: ----		
Sampler	: ----		
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	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA2	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA3	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA4	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA5	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA6	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA7	EF001	24-Nov-2021	----	----	----		07-Dec-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,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA8	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Field Tests : Field pH,EC,Salinity,Cl2,ORP,DO, Turbidity,T,T-P,o-PO4										
Glass vial total (hydrochloric acid) VA-DUP	EF001	24-Nov-2021	----	----	----		07-Dec-2021	----	----	
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA1	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA2	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA3	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA4	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA5	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA6	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA7	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 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	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) VA-DUP	E508	24-Nov-2021	----	----	----		02-Dec-2021	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA1	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA2	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA3	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA4	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA5	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA6	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA7	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 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 Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA8	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 days	✔
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) VA-DUP	E420	24-Nov-2021	----	----	----		30-Nov-2021	180 days	6 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	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
Total Mercury in Water by CVAAS	E508	357700	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	355672	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Total Mercury in Water by CVAAS	E508	357700	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	355672	1	20	5.0	5.0	✓
Method Blanks (MB)							
Total Mercury in Water by CVAAS	E508	357700	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	355672	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Total Mercury in Water by CVAAS	E508	357700	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	355672	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 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.



Environmental

QUALITY CONTROL REPORT

Work Order : **VA21C6429**

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 : 4501487255
C-O-C number : ----
Sampler : ----
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 : 26-Nov-2021 10:30
Date Analysis Commenced : 30-Nov-2021
Issue Date : 07-Dec-2021 12:34

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
Dee Lee	Analyst	Metals, Burnaby, British Columbia
Paolo Obillo	Account Manager Assistant	Administration, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	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 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: 355672)											
VA21C6377-001	Anonymous	aluminum, total	7429-90-5	E420	0.0030	mg/L	1.25	1.22	2.25%	20%	----
		antimony, total	7440-36-0	E420	0.00010	mg/L	0.0149	0.0147	1.36%	20%	----
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00784	0.00788	0.596%	20%	----
		barium, total	7440-39-3	E420	0.00010	mg/L	0.141	0.145	2.50%	20%	----
		beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		bismuth, total	7440-69-9	E420	0.000050	mg/L	0.000589	0.000619	5.00%	20%	----
		boron, total	7440-42-8	E420	0.010	mg/L	0.078	0.074	0.003	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000745	0.0000773	3.65%	20%	----
		calcium, total	7440-70-2	E420	0.050	mg/L	89.2	86.2	3.47%	20%	----
		cesium, total	7440-46-2	E420	0.000010	mg/L	0.00178	0.00179	0.933%	20%	----
		chromium, total	7440-47-3	E420	0.00050	mg/L	0.00534	0.00548	2.73%	20%	----
		cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00796	0.00805	1.07%	20%	----
		copper, total	7440-50-8	E420	0.00050	mg/L	0.00428	0.00441	0.00013	Diff <2x LOR	----
		iron, total	7439-89-6	E420	0.010	mg/L	3.48	3.55	1.84%	20%	----
		lead, total	7439-92-1	E420	0.000050	mg/L	0.00761	0.00769	1.08%	20%	----
		lithium, total	7439-93-2	E420	0.0010	mg/L	0.0109	0.0103	5.25%	20%	----
		magnesium, total	7439-95-4	E420	0.0050	mg/L	60.8	61.9	1.75%	20%	----
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.375	0.380	1.50%	20%	----
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00844	0.00827	2.08%	20%	----
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.0544	0.0548	0.766%	20%	----
		phosphorus, total	7723-14-0	E420	0.050	mg/L	0.103	0.089	0.014	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.050	mg/L	5.08	5.18	1.87%	20%	----
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00699	0.00744	6.33%	20%	----
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.000855	0.000911	6.25%	20%	----
		silicon, total	7440-21-3	E420	0.10	mg/L	4.80	4.88	1.67%	20%	----
		silver, total	7440-22-4	E420	0.000010	mg/L	0.000052	0.000051	0.0000007	Diff <2x LOR	----
		sodium, total	17341-25-2	E420	0.050	mg/L	28.6	27.9	2.69%	20%	----
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.425	0.422	0.710%	20%	----
		sulfur, total	7704-34-9	E420	0.50	mg/L	115	114	0.507%	20%	----
		tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		thallium, total	7440-28-0	E420	0.000010	mg/L	0.000040	0.000046	0.000006	Diff <2x LOR	----
		thorium, total	7440-29-1	E420	0.00010	mg/L	0.00027	0.00028	0.000007	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: 355672) - continued											
VA21C6377-001	Anonymous	tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.00030	mg/L	0.0601	0.0604	0.442%	20%	----
		tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00112	0.00114	0.842%	20%	----
		uranium, total	7440-61-1	E420	0.000010	mg/L	0.00435	0.00443	1.73%	20%	----
		vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00498	0.00515	3.50%	20%	----
		zinc, total	7440-66-6	E420	0.0030	mg/L	0.0229	0.0227	0.0002	Diff <2x LOR	----
		zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00066	0.00072	0.00006	Diff <2x LOR	----
Total Metals (QC Lot: 357700)											
VA21C6400-002	Anonymous	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: 355672)						
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: 355672) - 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: 357700)						
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: 355672)									
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	107	80.0	120	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	103	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	93.5	80.0	120	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	94.3	80.0	120	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	95.0	80.0	120	----
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	97.5	80.0	120	----
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	97.8	80.0	120	----
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	96.5	80.0	120	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	96.2	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.4	80.0	120	----
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	96.8	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	104	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	107	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	101	80.0	120	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	95.8	80.0	120	----
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	99.4	80.0	120	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	106	80.0	120	----
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	97.1	80.0	120	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	103	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	109	80.0	120	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.4	80.0	120	----
sodium, total	17341-25-2	E420	0.05	mg/L	50 mg/L	112	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	107	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	105	80.0	120	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	108	80.0	120	----
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	86.7	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	92.0	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	89.6	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: 355672) - continued									
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	96.5	80.0	120	----
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	99.9	80.0	120	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	98.5	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	94.6	80.0	120	----
Total Metals (QCLot: 357700)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	102	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: 355672)										
VA21C6377-002	Anonymous	aluminum, total	7429-90-5	E420	0.202 mg/L	0.2 mg/L	101	70.0	130	----
		antimony, total	7440-36-0	E420	0.0233 mg/L	0.02 mg/L	117	70.0	130	----
		arsenic, total	7440-38-2	E420	0.0210 mg/L	0.02 mg/L	105	70.0	130	----
		barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		beryllium, total	7440-41-7	E420	0.0345 mg/L	0.04 mg/L	86.4	70.0	130	----
		bismuth, total	7440-69-9	E420	0.00963 mg/L	0.01 mg/L	96.3	70.0	130	----
		boron, total	7440-42-8	E420	0.088 mg/L	0.1 mg/L	87.7	70.0	130	----
		cadmium, total	7440-43-9	E420	0.00394 mg/L	0.004 mg/L	98.5	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	0.0112 mg/L	0.01 mg/L	112	70.0	130	----
		chromium, total	7440-47-3	E420	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	----
		cobalt, total	7440-48-4	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	94.8	70.0	130	----
		iron, total	7439-89-6	E420	2.02 mg/L	2 mg/L	101	70.0	130	----
		lead, total	7439-92-1	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		lithium, total	7439-93-2	E420	0.0932 mg/L	0.1 mg/L	93.2	70.0	130	----
		magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		manganese, total	7439-96-5	E420	0.0188 mg/L	0.02 mg/L	94.3	70.0	130	----
		molybdenum, total	7439-98-7	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		nickel, total	7440-02-0	E420	0.0379 mg/L	0.04 mg/L	94.7	70.0	130	----
		phosphorus, total	7723-14-0	E420	9.73 mg/L	10 mg/L	97.3	70.0	130	----
		potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		rubidium, total	7440-17-7	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		selenium, total	7782-49-2	E420	0.0422 mg/L	0.04 mg/L	105	70.0	130	----
		silicon, total	7440-21-3	E420	9.99 mg/L	10 mg/L	99.9	70.0	130	----
		silver, total	7440-22-4	E420	0.00391 mg/L	0.004 mg/L	97.7	70.0	130	----
		sodium, total	17341-25-2	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	----
		tellurium, total	13494-80-9	E420	0.0405 mg/L	0.04 mg/L	101	70.0	130	----
		thallium, total	7440-28-0	E420	0.00362 mg/L	0.004 mg/L	90.4	70.0	130	----
		thorium, total	7440-29-1	E420	0.0198 mg/L	0.02 mg/L	99.2	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: 355672) - continued										
VA21C6377-002	Anonymous	tin, total	7440-31-5	E420	0.0190 mg/L	0.02 mg/L	94.8	70.0	130	----
		titanium, total	7440-32-6	E420	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		tungsten, total	7440-33-7	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		uranium, total	7440-61-1	E420	0.00370 mg/L	0.004 mg/L	92.4	70.0	130	----
		vanadium, total	7440-62-2	E420	0.103 mg/L	0.1 mg/L	103	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	0.0447 mg/L	0.04 mg/L	112	70.0	130	----
Total Metals (QCLot: 357700)										
VA21C6400-003	Anonymous	mercury, total	7439-97-6	E508	0.000104 mg/L	0.0001 mg/L	104	70.0	130	----



ALS Environmental

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 -

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Report To Contact and company name below will appear on the final report		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	PRIORITY (Business Days)	4 day [P4] ☐ 3 day [P3] ☐ 2 day [P2] ☐	
Phone:	604 340 6320	☐ Compare Results to Criteria on Report - provide details below if box checked		EMERGENCY	1 Business day [E1] ☐ Same Day, Weekend or Statutory holiday [E0] ☐	
Company address below will appear on the final report		Select Distribution:	☒ EMAIL ☐ MAIL ☐ FAX	Date and Time Required for all E&P TATs:		
Street:	2300 Rogers Avenue	Email 1 or Fax	stephanie.voysey@lafargeholdcim.com	For tests that can not be performed according to the service level selected, you will be contacted.		
City/Province:	Coquitlam, BC	Email 2		Analysis Request		
Postal Code:	V3K 5X6	Email 3	lafargeholdcim@esdat.net	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below		
Invoice To	Same as Report To ☒ YES ☐ NO	Invoice Distribution		Environmental Division Vancouver Work Order Reference VA21C6429  Telephone : +1 604 253 4188		
	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:			
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	Total Metals	Total Hg
	VA1	25/11/21	2:00 PM		✓	✓
	VA2	"			✓	✓
	VA3	"			✓	✓
	VA4	"			✓	✓
	VA5	"			✓	✓
	VA6	"			✓	✓
	VA7	"			✓	✓
	VA8	"			✓	✓
	VA-DUP	"	4:00 PM		✓	✓
Drinking Water (DW) Samples¹ (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 ☐		
				INITIAL COOLER TEMPERATURES °C		
				FINAL COOLER TEMPERATURES °C		
				14		
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)		FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:
						JC
						26 Nov 2021
						1030 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.

- ① VA-1 - SITE[#]1 HOTEL 7.19 PH
- ② VA-2 - SITE[#]2 EARL ST ~~6.55~~ ~~6.80~~ PH 6.86
- ③ VA-3 - SITE[#]3 MARBLE BAY @ VANANDA 6.60 PH
- ④ VA-4 - SITE[#]4 MARBLE BAY @ SELLENTIN 6.72 PH
- ⑤ VA-5 - SITE[#]5 SELLENTIN @ STURTS ST ~~6.55~~ ~~6.80~~ PH
- ⑥ VA-6 - SITE[#]6 WALL ST PUMPHOUSE 6.55 PH
- ⑦ VA-7 - SITE[#]7 COPPER QUEEN @ ALADIN 6.54 PH
- ⑧ VA-8 - SITE[#]8 TANK OUTLET 6.62 PH
- ⑨ VA-DUP - SITE[#]4 MARBLE BAY @ SELLENTIN 6.72 PH