

Lupin Mines Incorporated

July 22, 2021

Mr. Baba Peterson
Water Resources Inspector
Nunavut District, Nunavut Region
Kugluktuk, NU

Email: baba.petersen@canada.ca

**RE: Lupin Mine - Water Licence No.2AM-LUP2032, Part E, Item 4
Notice of Discharge regarding Part E, Item 5, Item 6 and Item 9**

Dear Mr. Petersen:

On behalf of Lupin Mines Incorporated (LMI), as required by Part E, Item 4 of Water Licence 2AM-LUP2032, notification is provided that LMI plans to commence discharge from Monitoring Station LUP-10 (Pond 2) at the Lupin Mine Site. **LMI is requesting that the Inspector waive the 10-day notice to begin discharge.**

Water quality samples obtained at LUP-10 on July 14, 2021 indicate that all parameters meet the requirements of Part E, Item 5 and Item 6. Results are included in the table below and the Certificate of Analysis from ALS and Nautilus are attached for your information.

Also, as required by Part E, Item 4 of Water Licence No. 2AM-LUP2032, notification is provided that LMI plans to commence discharge from Monitoring Station LUP-14 (Sewage Lagoon), at the Lupin Mine Site. **LMI is requesting that the Inspector waive the 10-day notice to begin discharge.**

Water quality samples obtained at LUP-14 on June 25, 2021 indicate that all parameters meet the requirements of Part E, Item 9. Results are included in the table below and the Certificate of Analysis from ALS is attached for your information.

If you require additional information, please contact Karyn Lewis at k.lewis@mandalayresources.com or phone (778-386-7340).

Yours truly,



Project Manager
Lupin Mines Incorporated

Dist. licensing@nwb-oen.ca
mark.aussenegg@canada.ca

LUP-10 – Tailings Containment Area

		Water Licence 2AM-LUP2032	
Parameter	ALS Lab #YL2100767 July 22, 2021	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
pH	7.39	6.0 to 9.5	
Total Arsenic (mg/L)	0.0121	0.30	0.60
Total Copper (mg/L)	0.00230	0.15	0.30
Total Cyanide (mg/L)	<0.0050	0.50	1.00
Total Lead (mg/L)	0.000213	0.10	0.20
Total Nickel (mg/L)	0.0487	0.20	0.40
Total Zinc (mg/L)	0.129	0.40	0.80
Total Suspended Solids (mg/L)	<1.0	15	30
Un-ionized Ammonia (mg/N-L)	0.0620	0.50	1.00
Oil and Grease (mg/L)	No Visible Sheen	No Visible Sheen	No Visible Sheen

Nautilus Laboratories	Static Pass / Fail
Rainbow Trout 24 hr – July 14, 2021	Pass
Daphnia 48 hr – July 14, 2021	Pass

LUP-14 – Sewage Lagoon

		Water Licence 2AM-LUP2032
Parameter	ALS Lab #YL2100625 June 25, 2021	Maximum Concentration of Any Grab Sample (mg/L)
pH	6.79	6.0 to 9.5
Total Arsenic	0.00531	0.05
Total Copper	0.00114	0.20
Total Lead	0.000108	0.05
Total Nickel	0.00815	0.30
Total Zinc	0.0146	0.50
Total Suspended Solids	1.8	35
BOD ₅	<2	30
Oil and Grease	No Visible Sheen	No Visible Sheen

CERTIFICATE OF ANALYSIS

Work Order : **YL2100767**

Amendment : **(Partial Results)**

Client : **Elgin Mining Inc.**

Contact : Karyn Lewis

Address : 76 Richmond Street Suite 330
Toronto ON Canada M5C 1P1

Telephone : 604 682 3366

Project : LUPIN MINE

PO : ----

C-O-C number : ----

Sampler : ----

Site : ----

Quote number : Lupin Mine 2021

No. of samples received : 1

No. of samples analysed : 1

Page : 1 of 4

Laboratory : Yellowknife - Environmental

Account Manager : Oliver Gregg

Address : 314 Old Airport Road, Unit 116
Yellowknife NT Canada X1A 3T3

Telephone : 1 867 446 5593

Date Samples Received : 14-Jul-2021 14:45

Date Analysis Commenced : 20-Jul-2021

Issue Date : 22-Jul-2021 08:11

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>
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Shaneel Dayal	Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

(Partial Results)

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Client : Elgin Mining Inc.
Project : LUPIN MINE



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>
µS/cm	Microsiemens per centimetre
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>
HTP	Sample preparation or preservation hold time was exceeded.

(Partial Results)

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Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE



Analytical Results

Sub-Matrix: Water					Client sample ID	LUP-10a Effluent	----	----	----	----
(Matrix: Water)										
					Client sampling date / time	14-Jul-2021 09:00	----	----	----	----
Analyte	CAS Number	Method	LOR	Unit	YL2100767-001	Result	-----	-----	-----	-----
Physical Tests										
alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	15.0	----	----	----	----	----
conductivity	----	E100	1.0	µS/cm	410	----	----	----	----	----
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L	114	----	----	----	----	----
pH	----	E108	0.10	pH units	7.39	----	----	----	----	----
solids, total suspended [TSS]	----	E160-L	1.0	mg/L	<1.0	----	----	----	----	----
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0620	----	----	----	----	----
bromide	24959-67-9	E235.Br-U	0.0050	mg/L	0.216	----	----	----	----	----
chloride	16887-00-6	E235.Cl-L	0.10	mg/L	17.1	----	----	----	----	----
fluoride	16984-48-8	E235.F-L	0.010	mg/L	0.081	----	----	----	----	----
nitrate (as N)	14797-55-8	E235.NO3-T	0.0030	mg/L	0.486	----	----	----	----	----
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	0.0029	----	----	----	----	----
sulfate (as SO4)	14808-79-8	E235.SO4-L	0.050	mg/L	146	----	----	----	----	----
Cyanides										
cyanide, strong acid dissociable (total)	----	E333	0.0050	mg/L	<0.0050 ^{HTP}	----	----	----	----	----
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0499	----	----	----	----	----
antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	----	----	----	----	----
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.0121	----	----	----	----	----
barium, total	7440-39-3	E420	0.00010	mg/L	0.0108	----	----	----	----	----
beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	----	----	----	----	----
bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	----	----	----	----	----
boron, total	7440-42-8	E420	0.010	mg/L	0.036	----	----	----	----	----
cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000889	----	----	----	----	----
calcium, total	7440-70-2	E420	0.050	mg/L	34.5	----	----	----	----	----
cesium, total	7440-46-2	E420	0.000010	mg/L	0.000031	----	----	----	----	----
chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	----	----	----	----	----
cobalt, total	7440-48-4	E420	0.00010	mg/L	0.0238	----	----	----	----	----
copper, total	7440-50-8	E420	0.00050	mg/L	0.00230	----	----	----	----	----
iron, total	7439-89-6	E420	0.010	mg/L	0.186	----	----	----	----	----
lead, total	7439-92-1	E420	0.000050	mg/L	0.000213	----	----	----	----	----

(Partial Results)

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Client : Elgin Mining Inc.
Project : LUPIN MINE



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	LUP-10a Effluent	---	---	---	---
Client sampling date / time					14-Jul-2021 09:00	---	---	---	---	---
Analyte	CAS Number	Method	LOR	Unit	YL2100767-001	-----	-----	-----	-----	-----
					Result	---	---	---	---	---
Total Metals										
lithium, total	7439-93-2	E420	0.0010	mg/L	0.0182	---	---	---	---	---
magnesium, total	7439-95-4	E420	0.0050	mg/L	6.86	---	---	---	---	---
manganese, total	7439-96-5	E420	0.00010	mg/L	0.630	---	---	---	---	---
mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	---	---	---	---	---
molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000271	---	---	---	---	---
nickel, total	7440-02-0	E420	0.00050	mg/L	0.0487	---	---	---	---	---
phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	---	---	---	---	---
potassium, total	7440-09-7	E420	0.050	mg/L	2.96	---	---	---	---	---
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00157	---	---	---	---	---
selenium, total	7782-49-2	E420	0.000050	mg/L	0.000058	---	---	---	---	---
silicon, total	7440-21-3	E420	0.10	mg/L	1.76	---	---	---	---	---
silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	---	---	---	---	---
sodium, total	17341-25-2	E420	0.050	mg/L	29.6	---	---	---	---	---
strontium, total	7440-24-6	E420	0.00020	mg/L	0.167	---	---	---	---	---
sulfur, total	7704-34-9	E420	0.50	mg/L	50.8	---	---	---	---	---
tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	---	---	---	---	---
thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	---	---	---	---	---
thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	---	---	---	---	---
tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	---	---	---	---	---
titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	---	---	---	---	---
tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	---	---	---	---	---
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000031	---	---	---	---	---
vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	---	---	---	---	---
zinc, total	7440-66-6	E420	0.0030	mg/L	0.129	---	---	---	---	---
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	---	---	---	---	---

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: YL2100767	Page	: 1 of 9
Amendment	: (Partial Results)		
Client	: Elgin Mining Inc.	Laboratory	: Yellowknife - Environmental
Contact	: Karyn Lewis	Account Manager	: Oliver Gregg
Address	: 76 Richmond Street Suite 330 Toronto ON Canada M5C 1P1	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 604 682 3366	Telephone	: 1 867 446 5593
Project	: LUPIN MINE	Date Samples Received	: 14-Jul-2021 14:45
PO	: ----	Issue Date	: 22-Jul-2021 08:11
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Lupin Mine 2021		
No. of samples received	: 1		
No. of samples analysed	: 1		

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)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

(Partial Results)

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Client : Elgin Mining Inc.
Project : LUPIN MINE



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	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) LUP-10a - Effluent	E298	14-Jul-2021	20-Jul-2021	----	----		20-Jul-2021	28 days	7 days	✓
Anions and Nutrients : Bromide by IC (Ultra Trace Level)										
HDPE LUP-10a - Effluent	E235.Br-U	14-Jul-2021	----	----	----		21-Jul-2021	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE LUP-10a - Effluent	E235.Cl-L	14-Jul-2021	----	----	----		21-Jul-2021	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC (Low Level)										
HDPE LUP-10a - Effluent	E235.F-L	14-Jul-2021	----	----	----		21-Jul-2021	28 days	7 days	✓
Anions and Nutrients : Nitrate in Water by IC (Trace Level)										
HDPE LUP-10a - Effluent	E235.NO3-T	14-Jul-2021	----	----	----		21-Jul-2021	3 days	7 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE LUP-10a - Effluent	E235.NO2-L	14-Jul-2021	----	----	----		21-Jul-2021	3 days	7 days	✖ EHT
Anions and Nutrients : Sulfate in Water by IC (Low Level)										
HDPE LUP-10a - Effluent	E235.SO4-L	14-Jul-2021	----	----	----		21-Jul-2021	28 days	7 days	✓

(Partial Results)

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

Analyte Group	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	
Bioassays : Survival/LC50 Daphnia Magna 48 hours										
HDPE carboy LC50 LUP-10a - Effluent	DAP-LC50-48	14-Jul-2021	----	----	----			5 days	----	EHT
Bioassays : Survival/LC50 Rainbow Trout (96 hours)										
HDPE carboy LC50 LUP-10a - Effluent	TRT-LC50-96	14-Jul-2021	----	----	----			5 days	----	EHT
Cyanides : Total Cyanide by CFA										
HDPE LUP-10a - Effluent	E333	14-Jul-2021	----	----	----		20-Jul-2021	----	7 days	
Physical Tests : Alkalinity Species by Titration										
HDPE LUP-10a - Effluent	E290	14-Jul-2021	----	----	----		20-Jul-2021	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE LUP-10a - Effluent	E100	14-Jul-2021	----	----	----		20-Jul-2021	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE LUP-10a - Effluent	E108	14-Jul-2021	----	----	----		20-Jul-2021	0.25 hrs	156 hrs	✖ EHTR-FM
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE LUP-10a - Effluent	E160-L	14-Jul-2021	----	----	----		21-Jul-2021	7 days	7 days	✓
Radiological Parameters : Radium-226 by Radon Emanation										
HDPE (nitric acid) LUP-10a - Effluent	RA226-MMER	14-Jul-2021	----	----	----			180 days	----	EHT
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) LUP-10a - Effluent	E508	14-Jul-2021	----	----	----		21-Jul-2021	28 days	7 days	✓

(Partial Results)

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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) LUP-10a - Effluent	E420	14-Jul-2021	----	----	----		21-Jul-2021	180 days	7 days	✔

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

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

(Partial Results)

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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)							
Alkalinity Species by Titration	E290	247808	0	1	0.0	5.0	✖
Ammonia by Fluorescence	E298	247805	1	1	100.0	5.0	✔
Bromide by IC (Ultra Trace Level)	E235.Br-U	247952	1	1	100.0	5.0	✔
Chloride in Water by IC (Low Level)	E235.Cl-L	247949	1	1	100.0	5.0	✔
Conductivity in Water	E100	247807	1	1	100.0	5.0	✔
Fluoride in Water by IC (Low Level)	E235.F-L	247950	1	1	100.0	5.0	✔
Nitrate in Water by IC (Trace Level)	E235.NO3-T	247951	1	1	100.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	247946	1	2	50.0	5.0	✔
pH by Meter	E108	247809	1	1	100.0	5.0	✔
Sulfate in Water by IC (Low Level)	E235.SO4-L	247953	1	1	100.0	5.0	✔
Total Cyanide by CFA	E333	247825	1	1	100.0	5.0	✔
Total Mercury in Water by CVAAS	E508	247896	1	8	12.5	5.0	✔
Total Metals in Water by CRC ICPMS	E420	247894	1	4	25.0	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	247808	1	1	100.0	5.0	✔
Ammonia by Fluorescence	E298	247805	1	1	100.0	5.0	✔
Bromide by IC (Ultra Trace Level)	E235.Br-U	247952	1	1	100.0	5.0	✔
Chloride in Water by IC (Low Level)	E235.Cl-L	247949	1	1	100.0	5.0	✔
Conductivity in Water	E100	247807	1	1	100.0	5.0	✔
Fluoride in Water by IC (Low Level)	E235.F-L	247950	1	1	100.0	5.0	✔
Nitrate in Water by IC (Trace Level)	E235.NO3-T	247951	1	1	100.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	247946	1	2	50.0	5.0	✔
pH by Meter	E108	247809	1	1	100.0	5.0	✔
Sulfate in Water by IC (Low Level)	E235.SO4-L	247953	1	1	100.0	5.0	✔
Total Cyanide by CFA	E333	247825	1	1	100.0	5.0	✔
Total Mercury in Water by CVAAS	E508	247896	1	8	12.5	5.0	✔
Total Metals in Water by CRC ICPMS	E420	247894	1	4	25.0	5.0	✔
TSS by Gravimetry (Low Level)	E160-L	247848	1	1	100.0	5.0	✔
Method Blanks (MB)							
Alkalinity Species by Titration	E290	247808	1	1	100.0	5.0	✔
Ammonia by Fluorescence	E298	247805	1	1	100.0	5.0	✔
Bromide by IC (Ultra Trace Level)	E235.Br-U	247952	1	1	100.0	5.0	✔
Chloride in Water by IC (Low Level)	E235.Cl-L	247949	1	1	100.0	5.0	✔
Conductivity in Water	E100	247807	1	1	100.0	5.0	✔
Fluoride in Water by IC (Low Level)	E235.F-L	247950	1	1	100.0	5.0	✔
Nitrate in Water by IC (Trace Level)	E235.NO3-T	247951	1	1	100.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	247946	1	2	50.0	5.0	✔

(Partial Results)

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Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE



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
Method Blanks (MB) - Continued							
Sulfate in Water by IC (Low Level)	E235.SO4-L	247953	1	1	100.0	5.0	✔
Total Cyanide by CFA	E333	247825	1	1	100.0	5.0	✔
Total Mercury in Water by CVAAS	E508	247896	1	8	12.5	5.0	✔
Total Metals in Water by CRC ICPMS	E420	247894	1	4	25.0	5.0	✔
TSS by Gravimetry (Low Level)	E160-L	247848	1	1	100.0	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	247805	0	1	0.0	5.0	✖
Bromide by IC (Ultra Trace Level)	E235.Br-U	247952	0	1	0.0	5.0	✖
Chloride in Water by IC (Low Level)	E235.Cl-L	247949	0	1	0.0	5.0	✖
Fluoride in Water by IC (Low Level)	E235.F-L	247950	0	1	0.0	5.0	✖
Nitrate in Water by IC (Trace Level)	E235.NO3-T	247951	0	1	0.0	5.0	✖
Nitrite in Water by IC (Low Level)	E235.NO2-L	247946	1	2	50.0	5.0	✔
Sulfate in Water by IC (Low Level)	E235.SO4-L	247953	0	1	0.0	5.0	✖
Total Cyanide by CFA	E333	247825	0	1	0.0	5.0	✖
Total Mercury in Water by CVAAS	E508	247896	1	8	12.5	5.0	✔
Total Metals in Water by CRC ICPMS	E420	247894	1	4	25.0	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
Survival/LC50 Daphnia Magna 48 hours	DAP-LC50-48 Nautilus Environmental (Calgary) - #4 6125 - 12 Street SE Calgary Alberta Canada T2H 2K1	Water	EPS1/RM/14	See attached report.
Conductivity in Water	E100 Vancouver - Environmental	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 Vancouver - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L Vancouver - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Bromide by IC (Ultra Trace Level)	E235.Br-U Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Water by IC (Low Level)	E235.Cl-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC (Low Level)	E235.F-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Trace Level)	E235.NO3-T Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

(Partial Results)

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 Work Order : YL2100767
 Client : Elgin Mining Inc.
 Project : LUPIN MINE



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Water by IC (Low Level)	E235.SO4-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 Vancouver - Environmental	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 Vancouver - Environmental	Water	J. Environ. Monit., 2005, 7, 37-42 (mod)	Ammonia in water is analyzed by flow-injection analysis with fluorescence detection after reaction with orthophthaldialdehyde (OPA).
Total Cyanide by CFA	E333 Vancouver - Environmental	Water	ISO 14403 (mod)	Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.
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.
Radium-226 by Radon Emanation	RA226-MMER Fort Collins - Environmental - 225 Commerce Drive Fort Collins Colorado United States 80524	Water	EPA 903.1	Radium-226 in sample was analyzed according to the current revision of SOP 783.
Survival/LC50 Rainbow Trout (96 hours)	TRT-LC50-96 Nautilus Environmental (Calgary) - #4 6125 - 12 Street SE Calgary Alberta Canada T2H 2K1	Water	EPS1/RM/13	See attached report.

(Partial Results)

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Client : Elgin Mining Inc.
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Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 Vancouver - Environmental	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.



QUALITY CONTROL REPORT

Work Order : **YL2100767**
Amendment : **(Partial Results)**

Page : 1 of 10

Client : Elgin Mining Inc.
Contact : Karyn Lewis
Address : 76 Richmond Street Suite 330
Toronto ON Canada M5C 1P1
Telephone : 604 682 3366
Project : LUPIN MINE
PO : ----
C-O-C number : ----
Sampler : ----
Site : ----
Quote number : Lupin Mine 2021
No. of samples received : 1
No. of samples analysed : 1

Laboratory : Yellowknife - Environmental
Account Manager : Oliver Gregg
Address : 314 Old Airport Road, Unit 116
Yellowknife, Northwest Territories Canada X1A 3T3
Telephone : 1 867 446 5593
Date Samples Received : 14-Jul-2021 14:45
Date Analysis Commenced : 20-Jul-2021
Issue Date : 22-Jul-2021 08:11

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
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Shaneel Dayal	Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

(Partial Results)



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Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE

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.

(Partial Results)

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Work Order : YL2100767
Client : Elgin Mining Inc.
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Laboratory Duplicate (DUP) Report

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

Sub-Matrix: 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
Physical Tests (QC Lot: 247807)											
YL2100767-001	LUP-10a Effluent	conductivity	----	E100	1.0	µS/cm	410	410	0.00%	10%	----
Physical Tests (QC Lot: 247809)											
YL2100767-001	LUP-10a Effluent	pH	----	E108	0.10	pH units	7.39	7.40	0.135%	4%	----
Anions and Nutrients (QC Lot: 247805)											
YL2100767-001	LUP-10a Effluent	ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0620	0.0625	0.909%	20%	----
Anions and Nutrients (QC Lot: 247946)											
VA21B4864-001	Anonymous	nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 247949)											
YL2100767-001	LUP-10a Effluent	chloride	16887-00-6	E235.Cl-L	0.10	mg/L	17.1	17.1	0.0719%	20%	----
Anions and Nutrients (QC Lot: 247950)											
YL2100767-001	LUP-10a Effluent	fluoride	16984-48-8	E235.F-L	0.010	mg/L	0.081	0.081	0.00004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 247951)											
YL2100767-001	LUP-10a Effluent	nitrate (as N)	14797-55-8	E235.NO3-T	0.0030	mg/L	0.486	0.486	0.103%	20%	----
Anions and Nutrients (QC Lot: 247952)											
YL2100767-001	LUP-10a Effluent	bromide	24959-67-9	E235.Br-U	0.0050	mg/L	0.216	0.212	2.30%	20%	----
Anions and Nutrients (QC Lot: 247953)											
YL2100767-001	LUP-10a Effluent	sulfate (as SO4)	14808-79-8	E235.SO4-L	0.050	mg/L	146	146	0.0998%	20%	----
Cyanides (QC Lot: 247825)											
YL2100767-001	LUP-10a Effluent	cyanide, strong acid dissociable (total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Total Metals (QC Lot: 247894)											
VA21B4846-006	Anonymous	aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0763	0.0674	12.4%	20%	----
		antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00080	0.00073	0.00007	Diff <2x LOR	----
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0878	0.0851	3.07%	20%	----
		beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, total	7440-42-8	E420	0.010	mg/L	0.015	0.015	0.0002	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000313	0.0000386	0.0000073	Diff <2x LOR	----
		calcium, total	7440-70-2	E420	0.050	mg/L	16.2	16.2	0.182%	20%	----
		cesium, total	7440-46-2	E420	0.000010	mg/L	0.000010	<0.000010	0.0000005	Diff <2x LOR	----
		chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

(Partial Results)

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Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE



Sub-Matrix: Water

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: 247894) - continued											
VA21B4846-006	Anonymous	cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00308	0.00312	1.44%	20%	----
		copper, total	7440-50-8	E420	0.00050	mg/L	0.00204	0.00204	0.000002	Diff <2x LOR	----
		iron, total	7439-89-6	E420	0.010	mg/L	6.02	6.09	1.15%	20%	----
		lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		magnesium, total	7439-95-4	E420	0.0050	mg/L	13.6	13.4	1.33%	20%	----
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.268	0.269	0.554%	20%	----
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000415	0.000378	0.000036	Diff <2x LOR	----
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.0496	0.0497	0.275%	20%	----
		phosphorus, total	7723-14-0	E420	0.050	mg/L	0.060	<0.050	0.010	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.050	mg/L	9.06	8.94	1.41%	20%	----
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00325	0.00336	3.14%	20%	----
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.000128	0.000114	0.000014	Diff <2x LOR	----
		silicon, total	7440-21-3	E420	0.10	mg/L	17.8	17.8	0.112%	20%	----
		silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		sodium, total	17341-25-2	E420	0.050	mg/L	5.33	5.30	0.625%	20%	----
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.103	0.106	2.94%	20%	----
		sulfur, total	7704-34-9	E420	0.50	mg/L	4.69	4.87	0.18	Diff <2x LOR	----
		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	<0.000010	<0.000010	0	Diff <2x LOR	----
		thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.00030	mg/L	0.00366	0.00353	3.62%	20%	----
		tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		uranium, total	7440-61-1	E420	0.000010	mg/L	0.000024	0.000022	0.000001	Diff <2x LOR	----
		vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00087	0.00083	0.00004	Diff <2x LOR	----
		zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 247896)											
VA21B4395-003	Anonymous	mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

(Partial Results)

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Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE



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
Physical Tests (QCLot: 247807)						
conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 247808)						
alkalinity, total (as CaCO ₃)	----	E290	1	mg/L	1.4	----
Physical Tests (QCLot: 247848)						
solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 247805)						
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 247946)						
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 247949)						
chloride	16887-00-6	E235.Cl-L	0.1	mg/L	<0.10	----
Anions and Nutrients (QCLot: 247950)						
fluoride	16984-48-8	E235.F-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 247951)						
nitrate (as N)	14797-55-8	E235.NO3-T	0.003	mg/L	<0.0030	----
Anions and Nutrients (QCLot: 247952)						
bromide	24959-67-9	E235.Br-U	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 247953)						
sulfate (as SO ₄)	14808-79-8	E235.SO4-L	0.05	mg/L	<0.050	----
Cyanides (QCLot: 247825)						
cyanide, strong acid dissociable (total)	----	E333	0.002	mg/L	<0.0020	----
Total Metals (QCLot: 247894)						
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	----

(Partial Results)



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Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 247894) - continued						
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	----
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: 247896)						
mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----

(Partial Results)

Page : 7 of 10
Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE



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
Physical Tests (QCLot: 247807)									
conductivity	----	E100	1	µS/cm	146.9 µS/cm	99.2	90.0	110	----
Physical Tests (QCLot: 247808)									
alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	101	85.0	115	----
Physical Tests (QCLot: 247809)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 247848)									
solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	90.5	85.0	115	----
Anions and Nutrients (QCLot: 247805)									
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.4	85.0	115	----
Anions and Nutrients (QCLot: 247946)									
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 247949)									
chloride	16887-00-6	E235.Cl-L	0.1	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 247950)									
fluoride	16984-48-8	E235.F-L	0.01	mg/L	1 mg/L	107	90.0	110	----
Anions and Nutrients (QCLot: 247951)									
nitrate (as N)	14797-55-8	E235.NO3-T	0.003	mg/L	2.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 247952)									
bromide	24959-67-9	E235.Br-U	0.005	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 247953)									
sulfate (as SO4)	14808-79-8	E235.SO4-L	0.05	mg/L	100 mg/L	103	90.0	110	----
Cyanides (QCLot: 247825)									
cyanide, strong acid dissociable (total)	----	E333	0.002	mg/L	0.25 mg/L	87.5	80.0	120	----
Total Metals (QCLot: 247894)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	102	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	101	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	102	80.0	120	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	107	80.0	120	----
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	95.0	80.0	120	----

(Partial Results)

Page : 8 of 10
Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE



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: 247894) - continued									
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	100	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	101	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	104	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	103	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	98.9	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	104	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	99.6	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	103	80.0	120	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	101	80.0	120	----
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	99.0	80.0	120	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	105	80.0	120	----
sodium, total	17341-25-2	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	100	80.0	120	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	104	80.0	120	----
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.4	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	98.2	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	96.6	80.0	120	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	99.5	80.0	120	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	109	80.0	120	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	92.8	80.0	120	----
Total Metals (QCLot: 247896)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	99.0	80.0	120	----

(Partial Results)

Page : 9 of 10
Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE



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 $\geq 1 \times$ 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
Anions and Nutrients (QCLot: 247946)										
YL2100767-001	LUP-10a Effluent	nitrite (as N)	14797-65-0	E235.NO2-L	0.515 mg/L	0.5 mg/L	103	75.0	125	----
Total Metals (QCLot: 247894)										
VA21B4846-007	Anonymous	aluminum, total	7429-90-5	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		antimony, total	7440-36-0	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		arsenic, total	7440-38-2	E420	0.0202 mg/L	0.02 mg/L	101	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	0.0381 mg/L	0.04 mg/L	95.2	70.0	130	----
		bismuth, total	7440-69-9	E420	0.00976 mg/L	0.01 mg/L	97.6	70.0	130	----
		boron, total	7440-42-8	E420	0.098 mg/L	0.1 mg/L	98.1	70.0	130	----
		cadmium, total	7440-43-9	E420	0.00382 mg/L	0.004 mg/L	95.4	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	0.00972 mg/L	0.01 mg/L	97.2	70.0	130	----
		chromium, total	7440-47-3	E420	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		cobalt, total	7440-48-4	E420	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		copper, total	7440-50-8	E420	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		iron, total	7439-89-6	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		lead, total	7439-92-1	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		lithium, total	7439-93-2	E420	0.0953 mg/L	0.1 mg/L	95.3	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	ND mg/L	0.02 mg/L	ND	70.0	130	----
		molybdenum, total	7439-98-7	E420	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		nickel, total	7440-02-0	E420	0.0380 mg/L	0.04 mg/L	95.1	70.0	130	----
		phosphorus, total	7723-14-0	E420	10.3 mg/L	10 mg/L	103	70.0	130	----
		potassium, total	7440-09-7	E420	3.90 mg/L	4 mg/L	97.5	70.0	130	----
		rubidium, total	7440-17-7	E420	0.0196 mg/L	0.02 mg/L	97.8	70.0	130	----
		selenium, total	7782-49-2	E420	0.0413 mg/L	0.04 mg/L	103	70.0	130	----
		silicon, total	7440-21-3	E420	ND mg/L	10 mg/L	ND	70.0	130	----
		silver, total	7440-22-4	E420	0.00396 mg/L	0.004 mg/L	99.1	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	20.4 mg/L	20 mg/L	102	70.0	130	----

(Partial Results)



Page : 10 of 10
Work Order : YL2100767
Client : Elgin Mining Inc.
Project : LUPIN MINE

Sub-Matrix: **Water**

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: 247894) - continued										
VA21B4846-007	Anonymous	tellurium, total	13494-80-9	E420	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
		thallium, total	7440-28-0	E420	0.00378 mg/L	0.004 mg/L	94.6	70.0	130	----
		thorium, total	7440-29-1	E420	0.0205 mg/L	0.02 mg/L	102	70.0	130	----
		tin, total	7440-31-5	E420	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		titanium, total	7440-32-6	E420	0.0396 mg/L	0.04 mg/L	98.9	70.0	130	----
		tungsten, total	7440-33-7	E420	0.0200 mg/L	0.02 mg/L	100.0	70.0	130	----
		uranium, total	7440-61-1	E420	0.00391 mg/L	0.004 mg/L	97.7	70.0	130	----
		vanadium, total	7440-62-2	E420	0.0992 mg/L	0.1 mg/L	99.2	70.0	130	----
		zinc, total	7440-66-6	E420	0.417 mg/L	0.4 mg/L	104	70.0	130	----
		zirconium, total	7440-67-7	E420	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
Total Metals (QCLot: 247896)										
VA21B4395-004	Anonymous	mercury, total	7439-97-6	E508	0.0000950 mg/L	0.0001 mg/L	95.0	70.0	130	----



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Chain of Custody (COC) / Analytical Request Form

COC Number 20 -

Canada Toll Free: 1 800 668 9878

Page of

Report To Contact and company name below will appear on the final report		Reports / Recipients Select Report Format: ☒ PDF ☐ EXCEL ☒ ETO (DIGITAL) Merge QC/QCI Reports with COA: ☐ YES ☐ NO ☐ N/A ☐ Complete Results to Criteria on Report - provide details below if box checked Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX	
Company: Mandatary Resources Contact: Karyn Lewis Phone: 778-386-7340 Company address below will appear on the final report Street: 76 Richmond Street, Suite 300 City/Province: Toronto Postal Code: M5C 1P1		Email 1 or Fax: kiewis@elgimining.com Email 2: lupinlogistics@discoverymining.ca Email 3: kate_sandier@spider.com	
Invoice To: Same as Report To ☒ YES ☐ NO Copy of Invoice with Report: ☒ YES ☐ NO		Invoice Recipients Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: payable@mandataryresources.com Email 2:	
Company: Contact: Project Information ALS Account # / Quote #: Job #: PO / AFE: LSD: ALS Lab Work Order # (ALS use only): YL2100767		Oil and Gas Required Fields (client use) AF/ECOC Center: Major/Minor Code: Requester: Location: ALS Contact: Sampler:	
ALS Sample # (ALS use only): LUP-10a Sample Identification and/or Coordinates (This description will appear on the report): Environmental Division Yellowknife Work Order Reference YL2100767 Barcode: Telephone: +1 867 873 5593		Date (dd-mm-yy): 14-Jul-21 Time (hh:mm): Sample Type: Effluent	
Drinking Water (DW) Samples (ch): Are samples taken from a Regulated DW System? ☐ YES ☐ NO Are samples for human consumption/ use? ☐ YES ☐ NO		At evaluation by selecting from drop-down below (Excel COC only)	
Released by: SHIPMENT RELEASE (client use) Date: Time: Received by: INITIAL SHIPMENT RECEPTION (ALS use only) Date: Time: Received by: FINAL SHIPMENT RECEPTION (ALS use only) Date: Time: SUBMISSION COMMENTS IDENTIFIED ON SAMPLE RECEIPT NOTIFICATION Cooler Custody Seals Intact: ☐ YES ☐ N/A INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: COOLING METHOD: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED COOLING INITIATED: ☐ YES ☐ NO		Turnaround Time (TAT) Requested ☒ Routine [R] if received by 3pm M-F - no surcharges apply ☐ 3 day [P3] if received by 3pm M-F - 20% rush surcharge minimum ☐ 5 day [P5] if received by 3pm M-F - 35% rush surcharge minimum ☐ 7 day [P7] if received by 3pm M-F - 50% rush surcharge minimum ☐ 10 day [E1] if received by 3pm M-F - 100% rush surcharge minimum ☐ Same day [E2] if received by 10am M-F - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests. Data and Time Required for all EAP TATs: For all tests with rush TATs requested, please contact your ALS to confirm availability. Analysis Request Indicate Filled (F), Preserved (P) or Filled and Preserved (FP) below pH, EC, Alk, hardness, TSS: P4 Nutrients (Nitrate, Nitrite, NH3): P4 Total Metals + Hg: P4 Cyanide: P4 Radium-226: R Acute Toxicity Daphnia magna: R Acute Toxicity Rainbow Trout: R SAMPLES ON HOLD EXTENDED STORAGE REQUIRED SUSPECTED HAZARD (see notes)	

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

Trout Test Summary

 Client: ALS Yellowknife

 Client #: ALS106

 Reference #: 2021-1759

 Date Collected: 7/14/2021

 Date Received: 7/15/2021

 Date: 7/20/2021

If you have any questions, please contact the Laboratory Supervisor or Technical Lead. Please note these results are preliminary and have not gone through final quality verification.

	Sample Strength %	Cumulative Mortality %				Endpoint/Comments
		24 hrs	48 hrs	72 hrs	96 hrs	
Description: <u>YL2100767-001</u>	Control	0	0	0	0	
Method: <u>Rainbow trout</u>	100	0	0	0	0	
Technician: <u>KL/AW</u>						
Started: <u>2021/07/16</u>						
Ended: <u>2021/07/20</u>						

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Daphnia Test Summary

 Client: ALS Yellowknife

 Client #: ALS106

 Reference #: 2021-1759

 Date Collected: 2021-07-14

 Date Received: 2021-07-15

 Date: 2021-07-18

 If you have any questions, please contact the Laboratory Supervisor or Technical Lead.
 Please note these results are preliminary and have not gone through final quality verification.

	Sample Strength %	Cumulative Mortality %		Endpoint/Comments
		24 hrs	48 hrs	
Description: <u>YL2100767-001</u>	Control	0	0	
Method: <u>Daphnia magna</u>	100	0	0	
Tester: <u>EV/KL</u>				
Started: <u>2021/07/16</u>				
Ended: <u>2021/07/18</u>				

	Sample Strength %	Cumulative Immobility %		Endpoint/Comments
		24 hrs	48 hrs	
Description: _____	Control	0	0	
Method: _____	100	3	0	
Tester: _____				
Started: _____				
Ended: _____				

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CERTIFICATE OF ANALYSIS

Work Order : **YL2100625**
Client : **Elgin Mining Inc.**
Contact : Karyn Lewis
Address : 76 Richmond Street Suite 330
 Toronto ON Canada M5C 1P1
Telephone : 604 682 3366
Project : LUPIN MINE
PO : ----
C-O-C number : 817539
Sampler : ----
Site : ----
Quote number : Lupin Mine 2021
No. of samples received : 4
No. of samples analysed : 4

Page : 1 of 5
Laboratory : Yellowknife - Environmental
Account Manager : Oliver Gregg
Address : 314 Old Airport Road, Unit 116
 Yellowknife NT Canada X1A 3T3
Telephone : 1 867 446 5593
Date Samples Received : 25-Jun-2021 16:05
Date Analysis Commenced : 25-Jun-2021
Issue Date : 08-Jul-2021 13:26

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>
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	External Subcontracting, Yellowknife, Northwest Territories



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
µS/cm	Microsiemens per centimetre
CFU/100mL	colony forming units per 100 mL
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

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



Analytical Results

Sub-Matrix: Water					Client sample ID	LUP-14 Pre-Decant	Upper Sewage Lake	LUP-EL-01	LUP-BL-01	----
(Matrix: Water)										
Client sampling date / time						25-Jun-2021 08:00	25-Jun-2021 08:15	25-Jun-2021 07:30	25-Jun-2021 09:20	----
Analyte	CAS Number	Method	LOR	Unit	YL2100625-001	YL2100625-002	YL2100625-003	YL2100625-004	-----	
					Result	Result	Result	Result	----	
Physical Tests										
alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	8.1	5.2	<1.0	2.1	----	----
conductivity	----	E100	1.0	µS/cm	180	68.3	37.7	21.5	----	----
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L	59.9	23.8	11.8	6.76	----	----
pH	----	E108	0.10	pH units	6.79	6.51	5.45	6.02	----	----
solids, total suspended [TSS]	----	E160-L	1.0	mg/L	1.8	3.6	2.1	1.3	----	----
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	----	----	----	----
bromide	24959-67-9	E235.Br-U	0.0050	mg/L	0.0688	<0.0050	<0.0050	<0.0050	----	----
chloride	16887-00-6	E235.Cl-L	0.10	mg/L	8.44	1.48	0.85	0.29	----	----
fluoride	16984-48-8	E235.F-L	0.010	mg/L	0.051	0.041	0.038	0.021	----	----
nitrate (as N)	14797-55-8	E235.NO3-T	0.0030	mg/L	0.0194	<0.0030	0.0065	0.0104	----	----
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	----
phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	----	----	----	----
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0120	0.0260	----	----	----	----
sulfate (as SO4)	14808-79-8	E235.SO4-L	0.050	mg/L	57.4	21.1	11.9	5.64	----	----
Kjeldahl nitrogen, total [TKN]	----	E318	0.200	mg/L	0.231	0.297	----	----	----	----
Bacteriological Tests										
coliforms, thermotolerant [fecal]	----	FC-MF	1.0	CFU/100mL	<1.0	1.0	----	----	----	----
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0501	0.0556	0.191	0.0573	----	----
antimony, total	7440-36-0	E420	0.00010	mg/L	0.00014	<0.00010	<0.00010	<0.00010	----	----
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00531	0.00707	0.00172	0.00078	----	----
barium, total	7440-39-3	E420	0.00010	mg/L	0.00997	0.00556	0.00835	0.00348	----	----
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	0.037	<0.010	<0.010	<0.010	----	----
cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000182	0.0000109	0.0000354	0.0000089	----	----
calcium, total	7440-70-2	E420	0.050	mg/L	17.6	6.29	2.24	1.26	----	----
cesium, total	7440-46-2	E420	0.000010	mg/L	0.000064	0.000026	0.000035	0.000016	----	----
chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	----



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	LUP-14 Pre-Decant	Upper Sewage Lake	LUP-EL-01	LUP-BL-01	----
Client sampling date / time						25-Jun-2021 08:00	25-Jun-2021 08:15	25-Jun-2021 07:30	25-Jun-2021 09:20	----
Analyte	CAS Number	Method	LOR	Unit	YL2100625-001	YL2100625-002	YL2100625-003	YL2100625-004	-----	
					Result	Result	Result	Result	-----	
Total Metals										
cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00167	0.00104	0.00928	0.00081		----
copper, total	7440-50-8	E420	0.00050	mg/L	0.00114	0.00156	0.00458	0.00144		----
iron, total	7439-89-6	E420	0.010	mg/L	0.231	0.113	0.209	0.088		----
lead, total	7439-92-1	E420	0.000050	mg/L	0.000108	0.000071	0.000094	<0.000050		----
lithium, total	7439-93-2	E420	0.0010	mg/L	0.0093	0.0031	0.0026	0.0017		----
magnesium, total	7439-95-4	E420	0.0050	mg/L	3.88	1.98	1.51	0.877		----
manganese, total	7439-96-5	E420	0.00010	mg/L	0.0963	0.0296	0.0976	0.00750		----
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	0.000134	0.000280	<0.000050	<0.000050		----
nickel, total	7440-02-0	E420	0.00050	mg/L	0.00815	0.00833	0.0163	0.00411		----
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	2.10	1.54	0.646	0.506		----
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00396	0.00274	0.00179	0.00134		----
selenium, total	7782-49-2	E420	0.000050	mg/L	0.000054	<0.000050	<0.000050	<0.000050		----
silicon, total	7440-21-3	E420	0.10	mg/L	0.45	0.10	1.03	0.48		----
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	6.32	1.81	1.19	0.731		----
strontium, total	7440-24-6	E420	0.00020	mg/L	0.110	0.0238	0.0129	0.00742		----
sulfur, total	7704-34-9	E420	0.50	mg/L	20.6	7.49	4.27	1.91		----
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	0.00107	0.00105	0.00215	<0.00090 ^{DLM}		----
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	0.000031	0.000030	0.000044	0.000037		----
vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0146	0.0039	0.0096	<0.0030		----
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020		----
Aggregate Organics										
biochemical oxygen demand [BOD]	----	BOD5	2	mg/L	<2	3	----	----		----

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Work Order : YL2100625
Client : Elgin Mining Inc.
Project : LUPIN MINE



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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: YL2100625	Page	: 1 of 14
Client	: Elgin Mining Inc.	Laboratory	: Yellowknife - Environmental
Contact	: Karyn Lewis	Account Manager	: Oliver Gregg
Address	: 76 Richmond Street Suite 330 Toronto ON Canada M5C 1P1	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 604 682 3366	Telephone	: 1 867 446 5593
Project	: LUPIN MINE	Date Samples Received	: 25-Jun-2021 16:05
PO	: ----	Issue Date	: 08-Jul-2021 13:27
C-O-C number	: 817539		
Sampler	: ----		
Site	: ----		
Quote number	: Lupin Mine 2021		
No. of samples received	: 4		
No. of samples analysed	: 4		

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 Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Method Blank value outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Page : 2 of 14
Work Order : YL2100625
Client : Elgin Mining Inc.
Project : LUPIN MINE



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Physical Tests	QC-MRG2-2342960 01	----	alkalinity, total (as CaCO3)	----	E290	4.6 mg/L ^B	1.5 mg/L	Blank result exceeds permitted value

Result Qualifiers

Qualifier *Description*

B *Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*



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	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand (BOD) 5-day										
HDPE [BOD HT-48h] Upper Sewage Lake	BOD5	25-Jun-2021	----	----	----		26-Jun-2021	48 hrs	25 hrs	✓
Aggregate Organics : Biochemical Oxygen Demand (BOD) 5-day										
HDPE [BOD HT-48h] LUP-14 Pre-Decant	BOD5	25-Jun-2021	----	----	----		26-Jun-2021	48 hrs	26 hrs	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) LUP-14 Pre-Decant	E298	25-Jun-2021	03-Jul-2021	----	----		05-Jul-2021	28 days	10 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Upper Sewage Lake	E298	25-Jun-2021	03-Jul-2021	----	----		05-Jul-2021	28 days	10 days	✓
Anions and Nutrients : Bromide by IC (Ultra Trace Level)										
HDPE LUP-14 Pre-Decant	E235.Br-U	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Bromide by IC (Ultra Trace Level)										
HDPE LUP-BL-01	E235.Br-U	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Bromide by IC (Ultra Trace Level)										
HDPE LUP-EL-01	E235.Br-U	25-Jun-2021	----	----	----		01-Jul-2021	28 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	
Anions and Nutrients : Bromide by IC (Ultra Trace Level)										
HDPE Upper Sewage Lake	E235.Br-U	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE LUP-14 Pre-Decant	E235.Cl-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE LUP-BL-01	E235.Cl-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE LUP-EL-01	E235.Cl-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE Upper Sewage Lake	E235.Cl-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level)										
HDPE LUP-14 Pre-Decant	E378-U	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level)										
HDPE Upper Sewage Lake	E378-U	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Fluoride in Water by IC (Low Level)										
HDPE LUP-14 Pre-Decant	E235.F-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC (Low Level)										
HDPE LUP-BL-01	E235.F-L	25-Jun-2021	----	----	----		01-Jul-2021	28 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	
Anions and Nutrients : Fluoride in Water by IC (Low Level)										
HDPE LUP-EL-01	E235.F-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC (Low Level)										
HDPE Upper Sewage Lake	E235.F-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Nitrate in Water by IC (Trace Level)										
HDPE LUP-14 Pre-Decant	E235.NO3-T	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Trace Level)										
HDPE LUP-BL-01	E235.NO3-T	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Trace Level)										
HDPE LUP-EL-01	E235.NO3-T	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Trace Level)										
HDPE Upper Sewage Lake	E235.NO3-T	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE LUP-14 Pre-Decant	E235.NO2-L	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE LUP-BL-01	E235.NO2-L	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE LUP-EL-01	E235.NO2-L	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	✖ EHT



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	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Upper Sewage Lake	E235.NO2-L	25-Jun-2021	----	----	----		01-Jul-2021	3 days	6 days	* EHT
Anions and Nutrients : Sulfate in Water by IC (Low Level)										
HDPE LUP-14 Pre-Decant	E235.SO4-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC (Low Level)										
HDPE LUP-BL-01	E235.SO4-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC (Low Level)										
HDPE LUP-EL-01	E235.SO4-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC (Low Level)										
HDPE Upper Sewage Lake	E235.SO4-L	25-Jun-2021	----	----	----		01-Jul-2021	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) LUP-14 Pre-Decant	E318	25-Jun-2021	03-Jul-2021	----	----		05-Jul-2021	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) Upper Sewage Lake	E318	25-Jun-2021	03-Jul-2021	----	----		05-Jul-2021	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (Ultra Trace)										
Amber glass total (sulfuric acid) LUP-14 Pre-Decant	E372-U	25-Jun-2021	03-Jul-2021	----	----		04-Jul-2021	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (Ultra Trace)										
Amber glass total (sulfuric acid) Upper Sewage Lake	E372-U	25-Jun-2021	03-Jul-2021	----	----		04-Jul-2021	28 days	9 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	
Bacteriological Tests : Fecal Coliforms by MF										
Sterile HDPE (Sodium thiosulphate) Upper Sewage Lake	FC-MF	25-Jun-2021	----	----	----		25-Jun-2021	30 hrs	7 hrs	✓
Bacteriological Tests : Fecal Coliforms by MF										
Sterile HDPE (Sodium thiosulphate) LUP-14 Pre-Decant	FC-MF	25-Jun-2021	----	----	----		25-Jun-2021	30 hrs	8 hrs	✓
Physical Tests : Alkalinity Species by Titration										
HDPE LUP-14 Pre-Decant	E290	25-Jun-2021	----	----	----		02-Jul-2021	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE LUP-BL-01	E290	25-Jun-2021	----	----	----		02-Jul-2021	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE LUP-EL-01	E290	25-Jun-2021	----	----	----		02-Jul-2021	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Upper Sewage Lake	E290	25-Jun-2021	----	----	----		02-Jul-2021	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE LUP-14 Pre-Decant	E100	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE LUP-BL-01	E100	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE LUP-EL-01	E100	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 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	
Physical Tests : Conductivity in Water										
HDPE Upper Sewage Lake	E100	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE LUP-BL-01	E108	25-Jun-2021	----	----	----		02-Jul-2021	0.25 hrs	165 hrs	✖ EHTL
Physical Tests : pH by Meter										
HDPE LUP-14 Pre-Decant	E108	25-Jun-2021	----	----	----		02-Jul-2021	0.25 hrs	167 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE LUP-EL-01	E108	25-Jun-2021	----	----	----		02-Jul-2021	0.25 hrs	167 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE Upper Sewage Lake	E108	25-Jun-2021	----	----	----		02-Jul-2021	0.25 hrs	167 hrs	✖ EHTR-FM
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE LUP-14 Pre-Decant	E160-L	25-Jun-2021	----	----	----		01-Jul-2021	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE LUP-BL-01	E160-L	25-Jun-2021	----	----	----		01-Jul-2021	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE LUP-EL-01	E160-L	25-Jun-2021	----	----	----		01-Jul-2021	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE Upper Sewage Lake	E160-L	25-Jun-2021	----	----	----		01-Jul-2021	7 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 Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) LUP-14 Pre-Decant	E508	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) LUP-BL-01	E508	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) LUP-EL-01	E508	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) Upper Sewage Lake	E508	25-Jun-2021	----	----	----		02-Jul-2021	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) LUP-14 Pre-Decant	E420	25-Jun-2021	----	----	----		02-Jul-2021	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) LUP-BL-01	E420	25-Jun-2021	----	----	----		02-Jul-2021	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) Upper Sewage Lake	E420	25-Jun-2021	----	----	----		02-Jul-2021	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) LUP-EL-01	E420	25-Jun-2021	----	----	----		02-Jul-2021	180 days	8 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended
 EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
 EHT: Exceeded ALS recommended hold time prior to analysis.
 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)							
Alkalinity Species by Titration	E290	234297	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	235595	1	17	5.8	5.0	✓
Bromide by IC (Ultra Trace Level)	E235.Br-U	234307	1	5	20.0	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	234304	1	5	20.0	5.0	✓
Conductivity in Water	E100	234296	1	17	5.8	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level)	E378-U	234309	1	2	50.0	5.0	✓
Fluoride in Water by IC (Low Level)	E235.F-L	234305	1	5	20.0	5.0	✓
Nitrate in Water by IC (Trace Level)	E235.NO3-T	234306	1	5	20.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	234303	1	9	11.1	5.0	✓
pH by Meter	E108	234295	1	20	5.0	5.0	✓
Sulfate in Water by IC (Low Level)	E235.SO4-L	234308	1	5	20.0	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	235593	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	235142	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	234755	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (Ultra Trace)	E372-U	235596	1	5	20.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	234297	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	235595	1	17	5.8	5.0	✓
Bromide by IC (Ultra Trace Level)	E235.Br-U	234307	1	5	20.0	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	234304	1	5	20.0	5.0	✓
Conductivity in Water	E100	234296	1	17	5.8	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level)	E378-U	234309	1	2	50.0	5.0	✓
Fluoride in Water by IC (Low Level)	E235.F-L	234305	1	5	20.0	5.0	✓
Nitrate in Water by IC (Trace Level)	E235.NO3-T	234306	1	5	20.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	234303	1	9	11.1	5.0	✓
pH by Meter	E108	234295	1	20	5.0	5.0	✓
Sulfate in Water by IC (Low Level)	E235.SO4-L	234308	1	5	20.0	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	235593	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	235142	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	234755	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (Ultra Trace)	E372-U	235596	1	5	20.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	234236	1	12	8.3	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	234297	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	235595	1	17	5.8	5.0	✓
Bromide by IC (Ultra Trace Level)	E235.Br-U	234307	1	5	20.0	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	234304	1	5	20.0	5.0	✓



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
Method Blanks (MB) - Continued							
Conductivity in Water	E100	234296	1	17	5.8	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level)	E378-U	234309	1	2	50.0	5.0	✔
Fluoride in Water by IC (Low Level)	E235.F-L	234305	1	5	20.0	5.0	✔
Nitrate in Water by IC (Trace Level)	E235.NO3-T	234306	1	5	20.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	234303	1	9	11.1	5.0	✔
Sulfate in Water by IC (Low Level)	E235.SO4-L	234308	1	5	20.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	235593	1	17	5.8	5.0	✔
Total Mercury in Water by CVAAS	E508	235142	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	234755	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (Ultra Trace)	E372-U	235596	1	5	20.0	5.0	✔
TSS by Gravimetry (Low Level)	E160-L	234236	1	12	8.3	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	235595	1	17	5.8	5.0	✔
Bromide by IC (Ultra Trace Level)	E235.Br-U	234307	1	5	20.0	5.0	✔
Chloride in Water by IC (Low Level)	E235.Cl-L	234304	1	5	20.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level)	E378-U	234309	1	2	50.0	5.0	✔
Fluoride in Water by IC (Low Level)	E235.F-L	234305	1	5	20.0	5.0	✔
Nitrate in Water by IC (Trace Level)	E235.NO3-T	234306	1	5	20.0	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	234303	1	9	11.1	5.0	✔
Sulfate in Water by IC (Low Level)	E235.SO4-L	234308	1	5	20.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	235593	1	17	5.8	5.0	✔
Total Mercury in Water by CVAAS	E508	235142	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	234755	1	19	5.2	5.0	✔
Total Phosphorus by Colourimetry (Ultra Trace)	E372-U	235596	1	5	20.0	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
Biochemical Oxygen Demand (BOD) 5-day	BOD5 Taiga Environmental Laboratory - 4601 - 52nd Avenue P.O. BOX 1500 Yellowknife Northwest Territories Canada X1A 2R3	Water	SM5210B	Sample was diluted, seeded, and incubated at specified temperature for 5 days. Dissolved oxygen is measured initially and after incubation, and the BOD is computed from the difference between initial and final DO.
Conductivity in Water	E100 Vancouver - Environmental	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 Vancouver - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally $20 \pm 5^\circ\text{C}$). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L Vancouver - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Bromide by IC (Ultra Trace Level)	E235.Br-U Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Water by IC (Low Level)	E235.Cl-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC (Low Level)	E235.F-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Trace Level)	E235.NO3-T Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Water by IC (Low Level)	E235.SO4-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 Vancouver - Environmental	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 Vancouver - Environmental	Water	J. Environ. Monit., 2005, 7, 37-42 (mod)	Ammonia in water is analyzed by flow-injection analysis with fluorescence detection after reaction with orthophthaldialdehyde (OPA).
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318 Vancouver - Environmental	Water	APHA 4500-Norg D (mod)	Total Kjeldahl Nitrogen is determined using block digestion followed by flow-injection analysis with fluorescence detection.
Total Phosphorus by Colourimetry (Ultra Trace)	E372-U Vancouver - Environmental	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level)	E378-U Vancouver - Environmental	Water	APHA 4500-P E (mod)	Dissolved Orthophosphate is determined colourimetrically on a water sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
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.
Fecal Coliforms by MF	FC-MF	Water	APHA 9222D	See attached report.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
	Taiga Environmental Laboratory - 4601 - 52nd Avenue P.O. BOX 1500 Yellowknife Northwest Territories Canada X1A 2R3			
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Preparation for Ammonia	EP298 Vancouver - Environmental	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in water	EP318 Vancouver - Environmental	Water	APHA 4500-Norg D (mod)	Samples are digested using block digestion with Copper Sulfate Digestion Reagent.
Digestion for Total Phosphorus in water	EP372 Vancouver - Environmental	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



QUALITY CONTROL REPORT

Work Order : **YL2100625**

Page : 1 of 14

Client : Elgin Mining Inc.
Contact : Karyn Lewis
Address : 76 Richmond Street Suite 330
Toronto ON Canada M5C 1P1
Telephone : 604 682 3366
Project : LUPIN MINE
PO : ----
C-O-C number : 817539
Sampler : ----
Site : ----
Quote number : Lupin Mine 2021
No. of samples received : 4
No. of samples analysed : 4

Laboratory : Yellowknife - Environmental
Account Manager : Oliver Gregg
Address : 314 Old Airport Road, Unit 116
Yellowknife, Northwest Territories Canada X1A 3T3
Telephone : 1 867 446 5593
Date Samples Received : 25-Jun-2021 16:05
Date Analysis Commenced : 25-Jun-2021
Issue Date : 08-Jul-2021 13:27

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
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	External Subcontracting, Yellowknife, Northwest Territories



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
Physical Tests (QC Lot: 234295)											
VA21B3220-001	Anonymous	pH	----	E108	0.10	pH units	8.36	8.36	0.00%	4%	----
Physical Tests (QC Lot: 234296)											
VA21B3220-001	Anonymous	conductivity	----	E100	2.0	µS/cm	476	480	0.837%	10%	----
Physical Tests (QC Lot: 234297)											
VA21B3220-001	Anonymous	alkalinity, total (as CaCO ₃)	----	E290	1.0	mg/L	248	247	0.565%	20%	----
Anions and Nutrients (QC Lot: 234303)											
VA21B3326-001	Anonymous	nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	0.104	0.108	3.49%	20%	----
Anions and Nutrients (QC Lot: 234304)											
YL2100625-001	LUP-14 Pre-Decant	chloride	16887-00-6	E235.Cl-L	0.10	mg/L	8.44	8.42	0.196%	20%	----
Anions and Nutrients (QC Lot: 234305)											
YL2100625-001	LUP-14 Pre-Decant	fluoride	16984-48-8	E235.F-L	0.010	mg/L	0.051	0.051	0.000007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 234306)											
YL2100625-001	LUP-14 Pre-Decant	nitrate (as N)	14797-55-8	E235.NO3-T	0.0030	mg/L	0.0194	0.0189	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 234307)											
YL2100625-001	LUP-14 Pre-Decant	bromide	24959-67-9	E235.Br-U	0.0050	mg/L	0.0688	0.0686	0.281%	20%	----
Anions and Nutrients (QC Lot: 234308)											
YL2100625-001	LUP-14 Pre-Decant	sulfate (as SO ₄)	14808-79-8	E235.SO4-L	0.050	mg/L	57.4	57.4	0.113%	20%	----
Anions and Nutrients (QC Lot: 234309)											
YL2100625-001	LUP-14 Pre-Decant	phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 235593)											
YL2100624-001	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	0.050	mg/L	0.559	0.572	2.20%	20%	----
Anions and Nutrients (QC Lot: 235595)											
YL2100624-001	Anonymous	ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.293	0.296	0.740%	20%	----
Anions and Nutrients (QC Lot: 235596)											
YL2100624-001	Anonymous	phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0154	0.0148	0.0005	Diff <2x LOR	----
Total Metals (QC Lot: 234755)											
VA21B3265-001	Anonymous	aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0445	0.0436	2.04%	20%	----
		antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00020	0.00020	0.000005	Diff <2x LOR	----
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0161	0.0165	2.25%	20%	----
		beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----

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: 234755) - continued											
VA21B3265-001	Anonymous	bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, total	7440-42-8	E420	0.010	mg/L	0.023	0.023	0.00009	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000678	0.0000711	4.78%	20%	----
		calcium, total	7440-70-2	E420	0.050	mg/L	5.24	5.28	0.732%	20%	----
		cesium, total	7440-46-2	E420	0.000010	mg/L	0.000220	0.000229	3.98%	20%	----
		chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		cobalt, total	7440-48-4	E420	0.00010	mg/L	0.0218	0.0223	2.16%	20%	----
		copper, total	7440-50-8	E420	0.00050	mg/L	0.00117	0.00124	0.00007	Diff <2x LOR	----
		iron, total	7439-89-6	E420	0.010	mg/L	0.255	0.264	3.48%	20%	----
		lead, total	7439-92-1	E420	0.000050	mg/L	0.168	0.170	1.02%	20%	----
		lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		magnesium, total	7439-95-4	E420	0.0050	mg/L	0.900	0.923	2.57%	20%	----
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.130	0.134	2.94%	20%	----
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.0101	0.0106	4.46%	20%	----
		phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.050	mg/L	1.15	1.19	2.96%	20%	----
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00314	0.00335	6.74%	20%	----
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.000098	0.000124	0.000026	Diff <2x LOR	----
		silicon, total	7440-21-3	E420	0.10	mg/L	1.80	1.97	9.19%	20%	----
		silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		sodium, total	17341-25-2	E420	0.050	mg/L	1.63	1.67	2.11%	20%	----
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.0169	0.0174	2.85%	20%	----
		sulfur, total	7704-34-9	E420	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		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	0.000116	0.000118	1.57%	20%	----
		thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.00030	mg/L	0.00186	0.00194	0.00008	Diff <2x LOR	----
		tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		uranium, total	7440-61-1	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		zinc, total	7440-66-6	E420	0.0030	mg/L	1.78	1.82	2.55%	20%	----
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----		
Total Metals (QC Lot: 235142)											



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: 235142) - continued											
WR2100715-018	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
Physical Tests (QCLot: 234236)						
solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 234296)						
conductivity	----	E100	1	µS/cm	1.3	----
Physical Tests (QCLot: 234297)						
alkalinity, total (as CaCO ₃)	----	E290	1	mg/L	# 4.6	B
Anions and Nutrients (QCLot: 234303)						
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 234304)						
chloride	16887-00-6	E235.Cl-L	0.1	mg/L	<0.10	----
Anions and Nutrients (QCLot: 234305)						
fluoride	16984-48-8	E235.F-L	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 234306)						
nitrate (as N)	14797-55-8	E235.NO3-T	0.003	mg/L	<0.0030	----
Anions and Nutrients (QCLot: 234307)						
bromide	24959-67-9	E235.Br-U	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 234308)						
sulfate (as SO ₄)	14808-79-8	E235.SO4-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 234309)						
phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 235593)						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 235595)						
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 235596)						
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Total Metals (QCLot: 234755)						
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	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 234755) - continued						
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	---
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: 235142)						
mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	---



Qualifiers

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.



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 (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 234236)									
solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	92.7	85.0	115	----
Physical Tests (QCLot: 234295)									
pH	----	E108	----	pH units	7 pH units	99.7	98.0	102	----
Physical Tests (QCLot: 234296)									
conductivity	----	E100	1	µS/cm	146.9 µS/cm	98.6	90.0	110	----
Physical Tests (QCLot: 234297)									
alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	97.5	85.0	115	----
Anions and Nutrients (QCLot: 234303)									
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 234304)									
chloride	16887-00-6	E235.Cl-L	0.1	mg/L	100 mg/L	99.7	90.0	110	----
Anions and Nutrients (QCLot: 234305)									
fluoride	16984-48-8	E235.F-L	0.01	mg/L	1 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 234306)									
nitrate (as N)	14797-55-8	E235.NO3-T	0.003	mg/L	2.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 234307)									
bromide	24959-67-9	E235.Br-U	0.005	mg/L	0.5 mg/L	98.1	85.0	115	----
Anions and Nutrients (QCLot: 234308)									
sulfate (as SO4)	14808-79-8	E235.SO4-L	0.05	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 234309)									
phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	97.7	80.0	120	----
Anions and Nutrients (QCLot: 235593)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 235595)									
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.2	85.0	115	----
Anions and Nutrients (QCLot: 235596)									
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	96.8	80.0	120	----
Total Metals (QCLot: 234755)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	99.5	80.0	120	----
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	97.8	80.0	120	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	97.8	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	96.9	80.0	120	----

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 Work Order : YL2100625
 Client : Elgin Mining Inc.
 Project : LUPIN MINE



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: 234755) - continued									
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	93.3	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	94.0	80.0	120	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	94.6	80.0	120	----
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	96.3	80.0	120	----
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	96.8	80.0	120	----
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.9	80.0	120	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	97.9	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	96.9	80.0	120	----
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	104	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.2	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	91.6	80.0	120	----
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	99.0	80.0	120	----
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	97.1	80.0	120	----
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	97.6	80.0	120	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	105	80.0	120	----
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	107	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	99.8	80.0	120	----
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	106	80.0	120	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.7	80.0	120	----
sodium, total	17341-25-2	E420	0.05	mg/L	50 mg/L	106	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	97.7	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.0	80.0	120	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	96.9	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	97.2	80.0	120	----
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	91.7	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	96.8	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	101	80.0	120	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.4	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	99.0	80.0	120	----
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	92.8	80.0	120	----
Total Metals (QCLot: 235142)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	94.0	80.0	120	----





Matrix Spike (MS) Report

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

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method						
Anions and Nutrients (QCLot: 234303)										
VA21B3326-002	Anonymous	nitrite (as N)	14797-65-0	E235.NO2-L	2.59 mg/L	2.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 234304)										
YL2100625-002	Upper Sewage Lake	chloride	16887-00-6	E235.Cl-L	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 234305)										
YL2100625-002	Upper Sewage Lake	fluoride	16984-48-8	E235.F-L	1.08 mg/L	1 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 234306)										
YL2100625-002	Upper Sewage Lake	nitrate (as N)	14797-55-8	E235.NO3-T	2.51 mg/L	2.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 234307)										
YL2100625-002	Upper Sewage Lake	bromide	24959-67-9	E235.Br-U	0.504 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 234308)										
YL2100625-002	Upper Sewage Lake	sulfate (as SO4)	14808-79-8	E235.SO4-L	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 234309)										
YL2100625-002	Upper Sewage Lake	phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0320 mg/L	0.03 mg/L	106	70.0	130	----
Anions and Nutrients (QCLot: 235593)										
YL2100624-003	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	2.52 mg/L	2.5 mg/L	101	70.0	130	----
Anions and Nutrients (QCLot: 235595)										
YL2100624-003	Anonymous	ammonia, total (as N)	7664-41-7	E298	ND mg/L	0.1 mg/L	ND	75.0	125	MS-B
Anions and Nutrients (QCLot: 235596)										
YL2100624-003	Anonymous	phosphorus, total	7723-14-0	E372-U	0.0497 mg/L	0.05 mg/L	99.5	70.0	130	----
Total Metals (QCLot: 234755)										
VA21B3265-001	Anonymous	antimony, total	7440-36-0	E420	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	----
		arsenic, total	7440-38-2	E420	0.0192 mg/L	0.02 mg/L	96.3	70.0	130	----
		barium, total	7440-39-3	E420	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		beryllium, total	7440-41-7	E420	0.0380 mg/L	0.04 mg/L	94.9	70.0	130	----
		bismuth, total	7440-69-9	E420	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		boron, total	7440-42-8	E420	0.096 mg/L	0.1 mg/L	96.6	70.0	130	----
		cadmium, total	7440-43-9	E420	0.00383 mg/L	0.004 mg/L	95.7	70.0	130	----
		calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	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: 234755) - continued										
VA21B3265-001	Anonymous	cesium, total	7440-46-2	E420	0.00990 mg/L	0.01 mg/L	99.0	70.0	130	----
		chromium, total	7440-47-3	E420	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	----
		cobalt, total	7440-48-4	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		copper, total	7440-50-8	E420	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	----
		iron, total	7439-89-6	E420	1.98 mg/L	2 mg/L	99.0	70.0	130	----
		lead, total	7439-92-1	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		lithium, total	7439-93-2	E420	0.0934 mg/L	0.1 mg/L	93.4	70.0	130	----
		magnesium, total	7439-95-4	E420	0.951 mg/L	1 mg/L	95.1	70.0	130	----
		manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		molybdenum, total	7439-98-7	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		nickel, total	7440-02-0	E420	0.0388 mg/L	0.04 mg/L	97.0	70.0	130	----
		phosphorus, total	7723-14-0	E420	10.0 mg/L	10 mg/L	100	70.0	130	----
		potassium, total	7440-09-7	E420	3.98 mg/L	4 mg/L	99.5	70.0	130	----
		rubidium, total	7440-17-7	E420	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		selenium, total	7782-49-2	E420	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		silicon, total	7440-21-3	E420	9.64 mg/L	10 mg/L	96.4	70.0	130	----
		silver, total	7440-22-4	E420	0.00391 mg/L	0.004 mg/L	97.8	70.0	130	----
		sodium, total	17341-25-2	E420	2.11 mg/L	2 mg/L	106	70.0	130	----
		strontium, total	7440-24-6	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		sulfur, total	7704-34-9	E420	20.7 mg/L	20 mg/L	103	70.0	130	----
		tellurium, total	13494-80-9	E420	0.0381 mg/L	0.04 mg/L	95.2	70.0	130	----
		thallium, total	7440-28-0	E420	0.00392 mg/L	0.004 mg/L	98.0	70.0	130	----
		thorium, total	7440-29-1	E420	0.0198 mg/L	0.02 mg/L	98.9	70.0	130	----
		tin, total	7440-31-5	E420	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	----
		titanium, total	7440-32-6	E420	0.0391 mg/L	0.04 mg/L	97.8	70.0	130	----
		tungsten, total	7440-33-7	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	----
		uranium, total	7440-61-1	E420	0.00397 mg/L	0.004 mg/L	99.2	70.0	130	----
		vanadium, total	7440-62-2	E420	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		zinc, total	7440-66-6	E420	ND mg/L	0.4 mg/L	ND	70.0	130	----
		zirconium, total	7440-67-7	E420	0.0395 mg/L	0.04 mg/L	98.8	70.0	130	----
Total Metals (QCLot: 235142)										
WR2100715-019	Anonymous	mercury, total	7439-97-6	E508	0.0000966 mg/L	0.0001 mg/L	96.6	70.0	130	----

Qualifiers	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.





Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
210968

- FINAL REPORT -

Prepared For: ALS Environmental

Address: 314 Old Airport Road
Unit 116
Yellowknife, NT
X1A 2R1

Attn: Oliver Gregg

Facsimile:

Final report has been reviewed and approved by:

Glen Hudy
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
 - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
 - Environment Canada
 - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Wednesday, July 07, 2021

Print Date: *Wednesday, July 07, 2021*

Page 1 of 4



Taiga Environmental Laboratory

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
210968

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2100625-001 LUP-14 Pre-Decant**

Taiga Sample ID: **001**

Client Project:

Sample Type: Water

Received Date: 25-Jun-21

Sampling Date: 25-Jun-21

Sampling Time: 8:00

Location:

Report Status: Final

Test Parameter	Result		Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Inorganics - Nutrients</u>							
Biochemical Oxygen Demand	<	2	2	mg/L	26-Jun-21	SM5210:B	
<u>Microbiology</u>							
Coliforms, Fecal	<	1	1	CFU/100mL	25-Jun-21	SM9222:D	

ReportDate: Wednesday, July 07, 2021

Print Date: *Wednesday, July 07, 2021*

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
210968

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2100625-002 Upper Sewage Lake**

Taiga Sample ID: **002**

Client Project:

Sample Type: Water

Received Date: 25-Jun-21

Sampling Date: 25-Jun-21

Sampling Time: 8:15

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<u>Inorganics - Nutrients</u>						
Biochemical Oxygen Demand	3	2	mg/L	26-Jun-21	SM5210:B	
<u>Microbiology</u>						
Coliforms, Fecal	1	1	CFU/100mL	25-Jun-21	SM9222:D	

ReportDate: Wednesday, July 07, 2021

Print Date: *Wednesday, July 07, 2021*

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Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:
210968

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2100625-002 Upper Sewage Lake**

Taiga Sample ID: **002**

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: Wednesday, July 07, 2021

Print Date: *Wednesday, July 07, 2021*

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not with a concept

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