



**2AM-LUP2032**

**LUPIN MINE SITE**

**2025 ANNUAL REPORT**

**PREPARED FOR:**

NUNAVUT WATER BOARD

**PREPARED BY:**

KELLIE LEEDHAM, FALKIRK ENVIRONMENTAL CONSULTANTS LTD.

JON MELNYK, JDS MINING AND ENGINEERING INC.

**APPROVED BY:**

FELIX MENSAH-YEBOAH

DIRECTOR, MINE CLOSURE AND ASSET MANAGEMENT

ALKANE RESOURCES INC.

## DOCUMENT CONTROL

Document History	Date	Section	Summary of Changes	Author
1	March 2026	ALL	Draft Creation	K. Leedham, Falkirk
2	March 2026	ALL	Draft Review	JDS and Alkane
3	March 31, 2026	ALL	Document Finalization	Alkane

This document has been prepared in cooperation with cooperation with JDS Energy and Mining Inc. (JDS), Falkirk Environmental Consultants Ltd., with subject matter expert content provided by WSP Canada Inc., Stantec, and SLR Consulting Ltd.

**Approved by:**



**Felix Mensah-Yeboah**

Director, Mine Closure and Asset Management  
Alkane Resources Inc.

**March 31, 2026**

## Executive Summary

The Lupin Mine remained in “Care and Maintenance” Phase throughout 2025. The Mine was mainly accessed via aircraft. The camp was opened twice during the 2025 season from June 2–5; and August 14 to September 25 to support essential care, maintenance, and regulatory compliance activities. Work undertaken during these periods included:

- Freshwater supply pumping from Contwoyto Lake and sewage disposal to the sewage lagoons to support camp operations;
- Incineration of general camp waste;
- General site maintenance and housekeeping;
- Sediment and erosion control activities;
- Annual geotechnical inspection of engineered facilities including the Tailings Containment Area (TCA);
- Water quality monitoring in accordance with the requirements of Water Licence 2AM-LUP2032;
- Completion of the Annual Dam Safety Inspection;
- Discharge of compliant effluent from the Lower Sewage Lagoon;
- Routine maintenance of water management facilities, including pumping, pH treatment, and erosion-related slope repairs;
- Continued erosion-prevention works within the TCA;
- Routine inspection and maintenance of the Fuel Storage Facility, and associated Tanks;
- Minor remediation of historic hydrocarbon impacts, including liner removal and relocation of contaminated soil to the crown pillar; and  
Advancement of final spillway design modifications for the TCA.

The following activities did not occur:

- No pumping of water from ponds was used for industrial purposes or dust suppression;
- No equipment mobilization or demobilization, as the winter road was not constructed;
- No mine water discharge from the underground workings or from the TCA;
- No waste was shipped offsite. Wastes, hazardous waste, and chemicals were consolidated and prepared for shipment via the planned winter road in 2026; and
- No reclamation work on underground workings, waste rock areas, borrow pits, quarry sites, landfill, site roads, water management facilities, or the explosives magazine.

A regulatory site inspection of the Lupin mine site was conducted by the Crown Indigenous Relations and Northern Affairs (CIRNAC) and the Nunavut Water Board (NWB) on September 18, 2025, for the Water Licence and associated Land Leases. Representatives from Alkane were present for this inspection.

Construction of the winter road in 2026 will enable the mobilization of equipment required to initiate significant reclamation activities in alignment with the approved Final Closure and Reclamation Plan.





## **Executive Summary (Innuinaqtun)**

### **Ataniuyut Unipkangit Naunarhimayut**

LMI was unable to find a translator to secure Innuinaqtun translation services for the Annual Report. LMI is committed to continuing to attempt to acquire these services. A Innuinaqtun translation will be submitted as soon as this translation is complete.

## TABLE OF CONTENTS

Introduction .....	1
Location .....	2
Reporting .....	5
(A) - Volume of Water Pumped at LUP-01.....	5
(B) Water Volumes Pumped from Ponds for Industrial Use.....	5
(C) Tailings Effluent Discharged at LUP-10.....	5
(D) Discharge from LUP-11. ....	6
(E) Treated Sewage Effluent discharged at Station LUP-14.....	6
(F) Hazardous Waste and Chemical Storage.....	6
(G) Monitoring Program Summary .....	8
LUP-01.....	8
LUP-10.....	8
LUP-14.....	8
East Lake, Boot Lake, Lower Sewage Lake .....	8
Other Monitoring.....	9
Summary of all Monitoring Data.....	9
Quality Assurance and Quality Control (QAQC).....	16
(H) Inspection Results and Actions to Comply.....	17
(I) Water Supply and Waste Management Facility Works.....	17
Geotechnical Monitoring .....	17
(J) Unauthorized Discharges .....	18
(K) Revision to Plans, Reports or Manuals.....	18
(L) Engagement .....	18
(M) Reclamation work completed in 2025 and Anticipated Works for 2026.....	19
(N) Additional Details Requested.....	22
2. Schedule B.2 - Post Closure Monitoring Plan Update.....	22

## LIST OF FIGURES

Figure 1: General Location of the Lupin Mine .....	3
Figure 2: Overview of Mine Layout.....	4

## LIST OF TABLES

Table 1: Quantity of Water Pumped at LUP-01 .....	5
Table 2: 2025 Sewage Effluent Discharge Quantities at LUP-14.....	6
Table 3: Quantities of hazardous wastes and chemical remaining onsite as of Dec.31, 2025.....	6
Table 4: Tabular Summaries of all data generated under the “Monitoring Program, Schedule J, Table 1.”	9
Table 6: Summary of Works Completed in 2025 and Proposed Works for 2026 .....	20

## APPENDICES

APPENDIX A.	2025 Dam Safety Inspection (DSI)
APPENDIX B.	2025 Water Sampling Data and Certificates of Analysis
APPENDIX C.	Schedule B.2 Summary of Measures for Post Closure Monitoring (“Table 14”)

## INTRODUCTION

The Lupin Mine (the Mine) is located approximately 285 km southeast of Kugluktuk in the Kitikmeot Region of Nunavut and is owned by Lupin Mines Incorporated (LMI), a wholly owned, indirect subsidiary of Alkane Resources Incorporated (Alkane). Alkane Resources, an Australian-based gold and antimony producer merged with Mandalay Resources in August 2025. Both LMI and Mandalay Resources remain as entities under the Alkane Resources cooperate structure.

The Mine is situated on the western shore of Contwoyto Lake, approximately 60 km south of the Arctic Circle. It is an underground gold mine that was in operation from 1982 to 2005 with temporary suspensions of activities between January 1998 and April 2000, and again between August 2003 and March 2004. The mine resumed production in March 2004 until February 2005 when the Site was placed into “Care and Maintenance”, and no active mining has taken place since.

On October 20, 2017, LMI announced that the Mine will transition from “Care and Maintenance” to full closure and reclamation, beginning in 2018 through to 2020. An application for renewal and amendment of the current water licence (Application), as well as a Final Closure and Reclamation Plan (FCRP) was submitted to the Nunavut Water Board on July 27, 2018 which underwent an extensive review process and culminated in the issuance of amended Type A Water Licence 2AM-LUP2032 on February 29, 2020 by the Nunavut Water Board (NWB) and approval by the Minister of Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) on April 9, 2020. LMI continued active preparatory work and initiated year one of the active closure phase in Q1 of 2020. At the beginning of 2022 LMI once again entered “Care and Maintenance” with limited on-site activities.

Permits allowing for the construction of the winter road construction to access the Mine have been obtained by LMI. However, following a strategic review, LMI decided to reschedule the construction of the winter road for the 2025 season. The decision was influenced by the fact that contractor proposals for the 2025 winter road did not align with the project's requirements or timeline constraints for the 2025 field season. As such, some reclamation and closure activities originally scheduled for the 2025 field season have been delayed to future years. These are detailed further in this report.

The 2025 work was primarily focused on satisfying monitoring and reporting requirements outlined in Licence 2AM-LUP2032, such as water quality monitoring, site water management, and geotechnical investigations. Additionally, maintenance and housekeeping work was undertaken with equipment already located onsite and are further detailed in this report.

Part B, Item 2 of the Licence 2AM-LUP2032 requires an Annual Report to be submitted to the NWB prior to March 31 of the year following the calendar year being reported and prepared in accordance with Schedule B of the Licence.

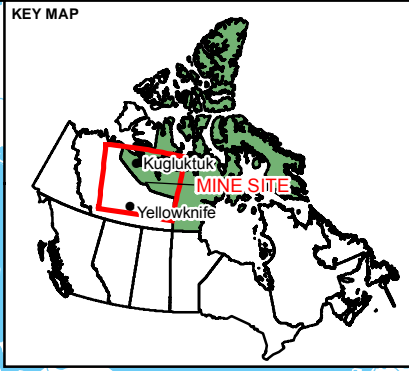
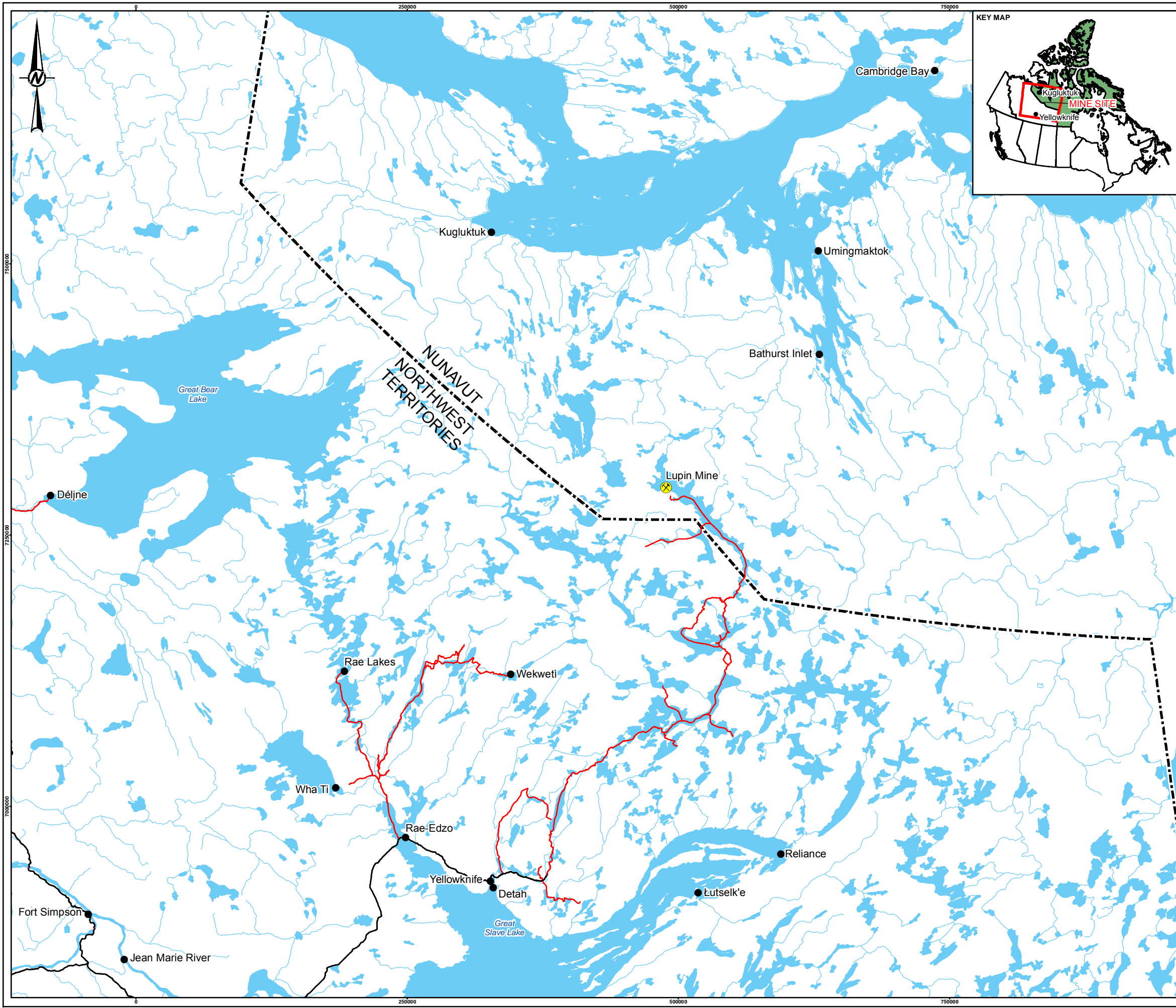
This 2025 Annual Report was created by Falkirk Environmental Consultants Ltd. (Falkirk) and JDS Energy and Mining Inc. (JDS), who both actively support regulatory and operational planning for the Lupin Mine, in consultation with the following Subject Matter Experts (SME) who actively participated in studies and monitoring activities at the Mine in 2025, including:

- Stantec – Engineer of Record (EOR) for the TCA.
- WSP – EOR for the Mine Site.
- SLR – SME for water quality in TCA and water quality data interpretations.
- JDS – Mine site management.

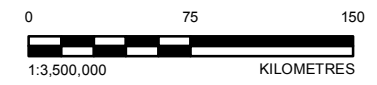
The following sections provide the information as required under Schedule B of Water Licence No. 2AM-LUP2032. This includes appendices to provide further detail on these requirements. Appendices have been created by subject matter experts, relative to their area of practice and role at the Mine.

## **LOCATION**

The Lupin Mine is located approximately 285 km southeast of Kugluktuk, in the Kitikmeot Region of Nunavut, on the western shore of Contwoyto Lake, approximately 60 km south of the Arctic Circle. The general location and overview of the mine are shown in the figures below.



- LEGEND**
- LUPIN MINE
  - POPULATED PLACE
  - HIGHWAY
  - WINTER ROAD
  - WATERCOURSE
  - TERRITORIAL/PROVINCIAL BOUNDARY
  - WATERBODY



**REFERENCE(S)**  
 HYDROGRAPHY, POPULATED PLACE, TERRITORIAL BOUNDARIES, AND TRANSPORTATION DATA OBTAINED FROM GEOGRATIS © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.  
 DATUM: NAD83 PROJECTION: UTM ZONE 12

**CLIENT**  
 MANDALAY RESOURCES CORPORATION

**PROJECT**  
 LUPIN MINE CLOSURE

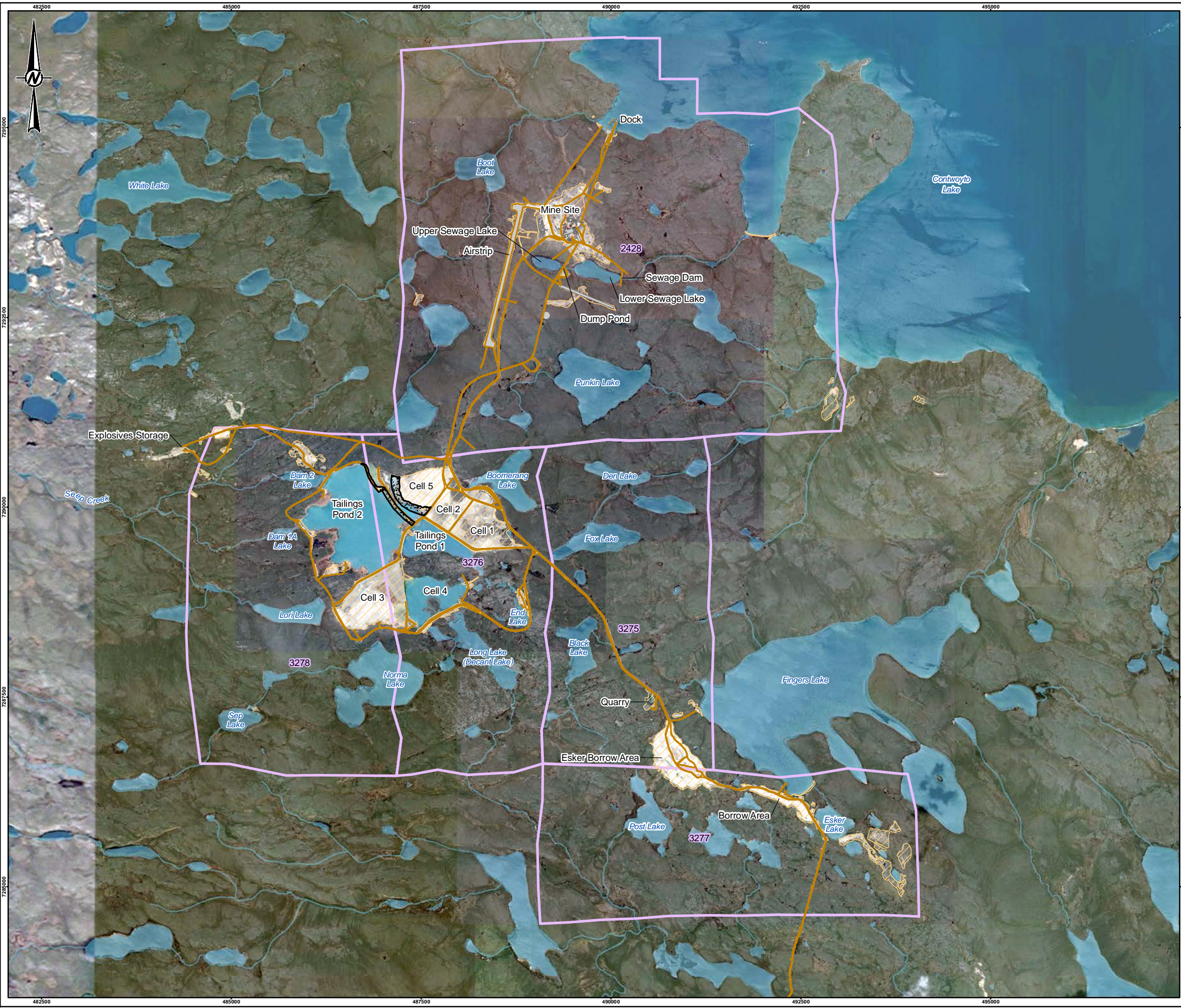
**TITLE**  
 LOCATION PLAN

<b>LUPIN MINES INCORPORATED</b>	YYYY-MM-DD	2018-01-25
	DESIGNED	NC
	PREPARED	AA
	REVIEWED	KB
	APPROVED	KB

PROJECT NO.	CONTROL	REV.	FIGURE
1789942	3000	A	1

PATH: I:\2017\1789942\MapInfo\MapInfo\General\1789942\_2000\_Fig01\_LocationPlan\_RevA.mxd PRINTED ON: 2018-01-30 AT 9:31:52 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



**LEGEND**

- ROAD
- WATERCOURSE
- APPROXIMATE 2017 RECLAMATION WORK
- DISTURBANCE FOOTPRINT
- INFRASTRUCTURE FOOTPRINT
- MINERAL LEASE BOUNDARY
- WATERBODY

0 2 4  
1:50,000 KILOMETRES

**REFERENCE(S)**  
 HYDROGRAPHY, TOPOGRAPHY, AND TRANSPORTATION DATA OBTAINED FROM GEOGRATIS © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED. FOOTPRINT OBTAINED FROM CLIENT. IMAGE OBTAINED FROM GOOGLE EARTH © 2017 GOOGLE INC. USED WITH PERMISSION. GOOGLE AND GOOGLE LOGO ARE REGISTERED TRADEMARKS OF GOOGLE INC. IMAGERY DATE: SEPTEMBER 11, 2017, JANUARY 19, 2018, AND JANUARY 24, 2018. GOOGLE EARTH IMAGE IS NOT TO SCALE. DATUM: NAD83 PROJECTION: UTM ZONE 12

**CLIENT**  
 MANDALAY RESOURCES CORPORATION

**PROJECT**  
 LUPIN MINE CLOSURE

**TITLE**  
 GENERAL ARRANGEMENT PLAN - CURRENT CONDITIONS

<b>LUPIN MINES INCORPORATED</b>	YYYY-MM-DD	2018-01-25
	DESIGNED	NC
	PREPARED	AA
	REVIEWED	KB
	APPROVED	KB

PROJECT NO. 1789942 CONTROL 3000 REV. A FIGURE 2

PATH: I:\3017\1789942\Maping\MXD\General\1789942\_3000\_Fig3\_GeneralArrangementPlan\_CurrentConditions\_RevA.mxd PRINTED ON: 2018-01-15 AT: 9:27:24 AM  
 IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

## REPORTING

The following sections detail the Annual Report Requirements as outlined in Section B of 2AM-LUP2032.

### (A) - VOLUME OF WATER PUMPED AT LUP-01

*The following section details monthly and annual quantities of water pumped from Contwoyto Lake at Station LUP-01.*

The Lupin Mine camp opened between June 2, 2025, until June 5, 2025, and then again from August 14, 2025, until September 25, 2025. Pumping water from Contwoyto Lake for use began on once on site and continued through the duration of the season. Water was pumped using a belly pump, filling a 15,140-litre water truck (4,000 USG) which is used to transport it to camp's two 4,542-litre storage tanks. The water is then processed through a series of filters with disinfection provided by a flow-through Ultraviolet chamber prior to distribution to camp.

The camp was open for a total of 46 days in 2025 using a total annual quantity of 144.36 m<sup>3</sup> of freshwater for domestic purposes. The average quantity of water used was 3.14 m<sup>3</sup>/day. A Blue-White Industries Model F-1000-RT Totalizer flow meter is used to calculate the daily freshwater consumption. The total quantity of water consumed is well within the maximum authorized water use of 5,000 m<sup>3</sup>/year during the Care and Maintenance Phase under the water licence.

The following table summarizes the monthly and annual quantities in cubic metres of water pumped from Contwoyto Lake at Monitoring Station LUP-01.

**Table 1: Quantity of Water Pumped at LUP-01**

2025	Jun	Aug	Sep
Number of days of pumping	4	18	24
Average Monthly Use (m <sup>3</sup> )	12.5	56.5	75.4
TOTAL Annual Usage (m <sup>3</sup> )	144.36		

### (B) WATER VOLUMES PUMPED FROM PONDS FOR INDUSTRIAL USE

*This section details monthly and annual quantities of water pumped from ponds against the roads, or ponds or lakes proximal to the road for industrial purpose, including dust suppression.*

No water was pumped from ponds against the roads or proximal to the road for either industrial purposes or for dust suppression. Water used for these purposes was taken from the freshwater intake at Contwoyto Lake and included in the overall camp use volumes.

### (C) TAILINGS EFFLUENT DISCHARGED AT LUP-10

*This section details Monthly and annual quantities of treated Tailings Effluent discharged at Station LUP-10.*

No tailings effluent discharge at Station LUP-10 occurred in 2025.

### (D) DISCHARGE FROM LUP-11.

*This section details monthly and annual quantities of Mine water discharged at Station LUP-11.*

No mine water was discharged from the underground workings at the Lupin Mine Site LUP-11 in 2025 while carrying out closure and reclamation activities.

### (E) TREATED SEWAGE EFFLUENT DISCHARGED AT STATION LUP-14.

*This section details monthly and annual quantities of treated Sewage Effluent discharged at LUP-14*

A Notice to Discharge from LUP-14 was submitted September 4, 2025, and approval to commence was provided by James Bolt, Inspector with CIRNAC on September 5, 2025.

Based on compliant effluent parameter analysis, approval for discharge was received and discharge from the Sewage Lakes Disposal Facility (Station ID LUP-14) began on September 12, 2025. Controlled effluent release occurred between September 12 - 25, 2025 (14 days). Effluent was discharged from the Lower Sewage Lagoon using two eight-inch siphons. The total annual quantity of effluent discharged in September was 150,470 m<sup>3</sup>.

The following table illustrates the monthly and annual discharge quantity of Sewage Effluent at monitoring Station LUP-14 in 2025. There was no discharge in any month other than September. Additional analyses as required under Schedule J are included in Appendix B.

**Table 2: 2025 Sewage Effluent Discharge Quantities at LUP-14**

2025	September	Total Annual Discharge (m <sup>3</sup> )
Discharge volume at LUP-14 (m <sup>3</sup> )	150,470	150,470

### (F) HAZARDOUS WASTE AND CHEMICAL STORAGE

*This section details the types and quantities of Hazardous Waste and Chemicals stored at the Mine.*

The following table summarizes the types and quantities of hazardous waste and chemicals remaining on site as of 31 December 2025, to be used or transported offsite.

The waste oil, fuel/water mix, oil/water mix, and waste fuel are planned to be removed from site via the 2026 winter road.

**Table 3: Quantities of hazardous wastes and chemical remaining onsite as of Dec.31, 2025.**

Hazardous Material	Volume	Units
0w-30 Oil	76	L
0w-40 Oil	349	L
10w Hydraulic Oil	110	L
12 V Vehicle Batteries	11	each
50:1 Mix Gas	36	L

Hazardous Material	Volume	Units
Acetylene	48	kg
Antifreeze with Oil Contamination	250	L
Antifreeze	1,750	L
Transmission Oil	151	L
Bleach	8	L
Camp Antifreeze	1,760	L
Useable Diesel	2,000	L
Fuel Water Mix	27,664	L
Gasoline	4,368	L
Grease	245	kg
Hydraulic Fluid	330	L
Kerosene	20	L
Lime	7,200	kg
Mixed Diesel/Water/Antifreeze	3,952	L
Nitrogen	13	kg
Oil/Water Mix	8,320	L
Old Jet A	32,240	L
Oxygen	22	kg
Propane	1,740	kg
Solvent	38	L
Waste Diesel	18,720	L
Waste Oil	86,120	L

No waste was shipped offsite in 2025 as all waste, hazardous waste, and chemicals will be shipped to Yellowknife via the winter road in the future.

Food waste and cardboard are disposed of via the incinerator. The incinerator is located South-East of the main camp.

#### **Fuel and Petroleum Products Inventory Description**

As of December 31, 2025, there was approximately 269,880 litres of diesel fuel in the Temporary Fuel Farm (TFF) and no jet fuel remaining in Tank 15.

Additionally, there are several empty 205 litre drums and twenty (20) empty 1,000 litre totes available for spill contingency and/or temporary storage of hydrocarbons or hydrocarbon contaminated water.

## **(G) MONITORING PROGRAM SUMMARY**

*This section includes Tabular Summaries of all data generated under the “Monitoring Program” Summary of Monitoring Program, as required by 2AM-LUP2032, Schedule J, Table 1.*

See Appendix B for the water quality analytical data and the Certificates of Analyses.

### **LUP-01**

A water sample from Contwoyto Lake (Station ID LUP-01) was collected on June 4, 2025; analytical results were compared against the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines (WQG) for the Protection of Aquatic Life, Freshwater. Results indicate that pH is below the given range and total aluminum exceeds the CCME WQG. LUP-01 was established to monitor the receiving bay of Contwoyto Lake which was originally proposed to be located at the inflow of the stream from the Sewage Lakes; however, historical station LUP-01 located in the vicinity of the bay was deemed appropriate to reinstate. There is currently insufficient data to comment on the total aluminum exceedance and possible trends in the receiving environment; data from 2026 will be reviewed and compared to available historical data. The results are presented in Appendix B, Table B2.

### **LUP-10**

Discharge was not required from the TCA or the Bulk Fuel Storage Facility (including the Satellite Tank Farm and the Third-Party Drum Storage area) in 2025; therefore, sampling of the downstream monitoring locations was not required.

### **LUP-14**

Water quantity and water quality monitoring was conducted for discharge from the Sewage Lakes Disposal Facility in 2025 as required by the Monitoring Program Requirements (Schedule J, Table 1) of the Water Licence. All effluent discharged from the Sewage Lakes Disposal Facility at Station ID LUP-14 must be within the water quality limits as described in Part E, Item 9 of the Water Licence. Water samples from LUP-14 were collected on three dates: June 5, August 24, and September 11, 2025. The sample collected on August 24 was analyzed for the select parameters identified in the water quality limits in Part E, Item 9 of the Water Licence to verify compliance prior to discharge. The analytical results of the water samples were compared against the criteria outlined in Part E, Item 9 of the Water Licence and confirmed to be within the criteria. The LUP-14 results are presented in Appendix B, Table B1.

Approval for discharge was received and discharge from the Sewage Lakes Disposal Facility (Station ID LUP-14) began on September 12, 2025. Effluent was discharged between September 12 - 25, 2025. Approximately 150,470 m<sup>3</sup> of effluent was discharged in September, for an annual total of 150,470 m<sup>3</sup>.

### **East Lake, Boot Lake, Lower Sewage Lake**

In accordance with the Monitoring Program Requirements (Schedule J, Table 1) of the Water Licence, sampling at East Lake (LUP-EL-01) and Boot Lake (LUP-BL-01) took place on June 3, August 23-24, and September 17, 2025, and sampling at Lower Sewage Lake (LUP-LSL-01) occurred on June 4 and September 17, 2025. East Lake and Boot Lake are required to be sampled twice-yearly to provide baseline data prior to the construction of the waste rock dome. The sampling event on August 23-24, 2025, for the collection

of water samples from East Lake and Boot Lake, was completed in addition to the Water Licence requirements in support of additional data for baseline concentrations. The analytical results were compared against the CCME WQG for the Protection of Aquatic Life, Freshwater.

Results indicate that pH is generally below the CCME WQG range, and total aluminum, total cadmium, total copper, total iron, and/or total nickel exceed the CCME WQG. Comparing data from East Lake and Boot Lake in 2021, 2024, and 2025, indicates that select total metals concentrations have exceeded CCME WQG, commonly more than once. The total metals concentrations do not display any increasing or decreasing annual trends, and exceedances are commonly followed by a non-exceedance, and vice versa.

Lower Sewage Lake results indicate that pH is generally below the CCME WQG range, and total aluminum, total arsenic, and total iron exceed the CCME WQG. While total arsenic exceeds the CCME WQG in the water sample collected from the Lower Sewage Lake, it does not exceed the Water Licence discharge criteria from the Sewage Lakes Disposal Facility (Station ID LUP-14).

The results for East Lake, Boot Lake, and Lower Sewage Lake are presented in Appendix B, Table B2.

### Other Monitoring

Sampling of LUP-SP-01 was not completed as no seepage was observed. Seep Sampling locations will be added to the post-closure monitoring program as new seeps are documented.

### Summary of all Monitoring Data

The table below summarizes all data generated under the Monitoring Program, per Schedule J, Table 1.

**Table 4: Tabular Summaries of all data generated under the “Monitoring Program, Schedule J, Table 1.”**

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-01	Freshwater Intake from Contwoyto Lake	Annually	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Total Metals, and</li> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>pH is below the given range and total aluminum exceeds the CCME WQG</li> <li>Refer to Appendix B, Table B2 for detailed results</li> </ul>
		Monthly	Quantity of water measured and recorded in cubic metres	Refer to discussion above

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-10	Pond 2 discharge at Dam 1A	Daily during periods of Discharge	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Total Metals, Cyanide, no visible sheen of Oil and Grease</li> </ul>	No discharge in 2025
			Quantity of treated effluent discharged, measured, and recorded in cubic metres	No discharge in 2025
		Weekly during periods of discharge from the Tailings Containment Area	<ul style="list-style-type: none"> <li>Nutrients</li> <li>Radium (<sup>226</sup>RA)</li> </ul>	No discharge in 2025
		Monthly (no less than one-month Intervals) commencing with the first day of decant	<ul style="list-style-type: none"> <li>Cyanide</li> <li>Bioassay</li> </ul>	No discharge in 2025
LUP-10a (LUP- 102)	Internal station in TCA Pond 2, approximately 100 m upstream from siphon intake	Once prior to initiation of decant and once prior to termination of decant	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Cyanide, and</li> <li>Radium (<sup>226</sup>RA), and</li> <li>Bioassay</li> </ul>	No decant in 2025
LUP-11	Mine water discharge at automatic sampler in the mill	Not Active		Not Active
LUP-12	Mill tailings taken at the mill	Not Active		Not Active

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-14	Decant structure from the Sewage Lakes Disposal Facilities	First day of discharge and then monthly thereafter during periods of flow	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Biological, and</li> <li>Other: Biochemical</li> <li>Oxygen Demand</li> <li>(BOD5), Total</li> <li>Phosphorus,</li> <li>Total Orthophosphorus</li> <li>(OPO4), Total</li> <li>Kjeldahl Nitrogen</li> <li>(TKN)</li> </ul>	<ul style="list-style-type: none"> <li>Within Water Licence criteria.</li> <li>Refer to Appendix B, Table B1</li> </ul>
		Monthly	Quantity of treated effluent discharged in cubic metres	Sept 2025: 150,470 m <sup>3</sup>
LUP-15	Discharge from TCA Pond 1 (east pond) into TCA Pond 2 (west pond)	Not Active		Not Active
LUP-16	TCA Pond 2 at center	Not Active		Not Active
LUP-17	TCA Pond 2 upstream of Station LUP-10	Not Active		Not Active
LUP-19	East end of Seep Creek in Dam 2 Lake	Not Active		Not Active
LUP-20	West end of Seep Creek before discharge into Unnamed Lake	Weekly during discharge from the TCA commencing with the first day of discharge	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Cyanide, and</li> <li>Radium (<sup>226</sup>RA)</li> </ul>	No discharge in 2025

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-21	North end of Concession Creek before discharge into Unnamed Lake	Weekly during discharge from the TCA commencing with the first day of discharge	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Cyanide, and</li> <li>Radium (<sup>226</sup>RA)</li> </ul>	No discharge in 2025
LUP-22	Inner Sun Bay near center and midway between end of peninsula and west shore	Weekly at mid-depth, commencing one (1) week prior to discharge from the TCA and concluding two (2) weeks after cessation of the discharge	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Cyanide, and</li> <li>Radium (<sup>226</sup>RA)</li> </ul>	No discharge in 2025
LUP-24	Inner Sun Bay near narrows	Weekly at mid-depth, commencing one (1) week prior to discharge from the TCA, and concluding two (2) weeks after cessation of the discharge and when bioassay sample is collected at LUP-10 just prior to termination of decant	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Cyanide, and</li> <li>Radium (<sup>226</sup>RA)</li> </ul>	No discharge in 2025
LUP-25	Outer Sun Bay (Total Rather than specific metals)	Weekly at mid-depth, commencing one (1) week prior to discharge from the TCA, and concluding two (2) weeks after cessation of the discharge	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Cyanide, and</li> <li>Radium (<sup>226</sup>RA)</li> </ul>	No discharge in 2025
LUP-26	Contwoyto Lake in bay east of water intake	Not Active		Not Active
LUP-27	Bulk Fuel Storage Facility	Once prior to discharge and weekly during periods of discharge	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Total Oil and Grease,</li> <li>BTEX</li> </ul>	No discharge in 2025

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-28	Discharge from the Landfarm Facility	Once prior to discharge and weekly during periods of discharge	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No discharge in 2025
LUP-29	Landfarm Facility Monitoring Well – Up gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site
LUP-30a	Landfarm Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site
LUP-30b	Landfarm Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site
LUP-31	Seepage from the Landfill Facility	Monthly during periods of observed flow	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-32	Landfill Facility Monitoring Well – Up gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site
LUP-33a	Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site
LUP-34b	Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site
LUP-35	Seepage from the Landfill Facility	Monthly during periods of observed flow	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site
LUP-36	Demolition Landfill Facility Monitoring Well – Up gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Nutrients, Total Metals,</li> <li>• Total Oil and Grease,</li> <li>• BTEX</li> </ul>	No observed flow while on site

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-37a	Demolition Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Total Oil and Grease,</li> <li>BTEX</li> </ul>	No observed flow while on site
LUP-37b	Demolition Landfill Facility Monitoring Well – Down gradient	Monthly during periods of observed flow – June through September	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Nutrients, Total Metals,</li> <li>Total Oil and Grease,</li> <li>BTEX</li> </ul>	No observed flow while on site
LUP-EL-01	East Lake near shoreline near the potential seepage inputs	Twice-yearly: Once in freshet and once in late open-water season, ensuring that baseline samples are collected prior to construction of the waste rock dome.	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Total Metals</li> </ul>	<ul style="list-style-type: none"> <li>pH outside the given range and total aluminum, total cadmium, total copper, and total nickel exceed the CCME WQG</li> <li>Refer to Appendix B, Table B2 for detailed results</li> </ul>
LUP-BL-01	Boot Lake near shoreline near the potential seepage inputs	Twice-yearly: Once in freshet and once in late open-water season, ensuring that baseline samples are collected prior to construction of the waste rock dome.	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Total Metals</li> </ul>	<ul style="list-style-type: none"> <li>pH outside the given range and total aluminum, total cadmium, total copper, total iron, and total nickel exceed the CCME WQG</li> <li>Refer to Appendix B, Table B2 for detailed results</li> </ul>
LUP-LSL-01	Lower Sewage Lake near shoreline near the potential seepage inputs	Twice-yearly: Once in freshet and once in late open-water season, ensuring that baseline samples are collected prior to construction of the waste rock dome.	<ul style="list-style-type: none"> <li>Field,</li> <li>Conventional,</li> <li>Total Metals</li> </ul>	<ul style="list-style-type: none"> <li>pH outside the given range and total aluminum, total arsenic, and total iron exceed the CCME WQG</li> <li>Refer to Appendix B, Table B2 for detailed results</li> </ul>

Station ID	Location	Frequency	Parameter	2025 Annual Update
LUP-SP-01 to LUP-SP-XX(a)	Seeps from the Waste Rock Dome, Locations of observed seepage or flow from waste rock pile	Twice-yearly: Once in freshet and once in late open-water season	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Total Metals</li> </ul>	No seepage observed
LUP-TCA-01 to LUP-TCA-XX(a)	Seeps from the TCA, Locations of observed seepage or flow from waste rock pile	Twice-yearly: Once in freshet and once in late open-water season	<ul style="list-style-type: none"> <li>• Field,</li> <li>• Conventional,</li> <li>• Total Metals</li> </ul>	No seepage observed

*Notes:*

(a) Seep Sampling locations will be added to the post-closure monitoring program as new seeps are documented.

## Quality Assurance and Quality Control (QAQC)

### Relative Percent Difference

A quality assurance and quality control (QA/QC) program was followed to assess and document that the sampling and analytical data were interpretable, meaningful, and reproducible.

Two stages of QA/QC were completed, with one stage completed by Bureau Veritas Laboratory and the other as part of field procedures.

To assess the reproducibility of the laboratory analyses, and to demonstrate that the field sampling techniques utilized by field personnel can yield reproducible results, three blind field duplicate water samples were submitted for laboratory analysis. The relative percent difference (RPD – the absolute difference between the two values, divided by the mean) of duplicate analyses was used to evaluate the sample result variability.

Where the concentration of a parameter is less than five times the laboratory method detection limit (LMDL), the results are less precise and the RPD is not calculated. For parameters with concentrations less than five times the LMDL, the absolute difference between samples should be less than two times the LMDL.

RPD results indicated that the RPDs were either acceptable or not calculated when the concentrations were less than five times the LMDL. The results are presented in Appendix B, Table B3.

### Laboratory Quality Assurance/Quality Control

The laboratories used meet the ISO/IEC 17025 standard. Accreditation to the ISO/IEC17025 standard is assessed by Standards Council of Canada or Canadian Association of Laboratory Accreditation. The Standards Council of Canada is mutually recognized with Canadian Association of Laboratory Accreditation through the International Laboratory Accreditation Cooperation as equivalent programs. As conveyed by the laboratory, method blanks, method spikes, duplicates, and/or surrogates are routinely analyzed as part of their QA/QC programs.

The following was noted in Bureau Veritas laboratory report C573211:

- Laboratory RPD for Total Chromium, Total Molybdenum, and Total Nickel are outside of the control limits; however, it is noted that the overall quality control for these analyses meets acceptability criteria.

It is concluded that the data is reliable for data interpretation.

### **Field and Trip Blanks**

Field and trip blanks were collected during the June and September field programs to monitor for potential cross-contamination. Definitions for each blank type are as follows:

- Field blanks are collected by pouring contaminant free water supplied by the laboratory into appropriate bottles in the work area in the field. These samples provide information on potential cross-contamination from the work environment.
- Trip blanks are prepared in the laboratory, are brought to the field (and remain sealed), and submitted back to the laboratory. These samples provide information on potential cross-contamination from sampling, handling, and analysis procedures at the laboratory.

Trip and field blank analytical results are provided in Appendix B, Table B4; concentrations were less than the reportable detection limits and/or guidelines.

## **(H) INSPECTION RESULTS AND ACTIONS TO COMPLY**

*This section details a Summary of actions taken to address concerns or deficiencies listed in inspection reports and/or compliance reports filed by an Inspector.*

CIRNAC and the NWB conducted an inspection at the Lupin Mine on September 18, 2025, for the Water Licence and associated Land Leases. Representatives from Alkane were present for this inspection.

Unfortunately, poor weather and visibility restricted the duration of the inspection.

There was no formal Inspection report issued, and no compliance issues communicated.

## **(I) WATER SUPPLY AND WASTE MANAGEMENT FACILITY WORKS**

*This section details a summary of modifications and/or major maintenance work carried out on the Water Supply and the Waste Management Facilities, including associated structures.*

### **Geotechnical Monitoring**

The 2025 TCA dam safety inspection (DSI) was conducted during the period of September 17-18, 2025, by Steven Bundrock, PEng., Senior Geotechnical Engineer with Stantec.

Detailed visual inspection was completed on all TCA components, along with readings of instrumentation. The inspection report was finalized by Stantec, on March 6, 2025, and is included as Appendix A. The general observations indicated that the perimeter dams are in stable condition. Various maintenance works were completed in 2025, in anticipation of major closure activities to be completed in 2026. Dam 3 was re-sloped and armoured to address tension cracking along the crest. Repairs and armoured of erosion gullies along Dam 3 and the Cell 5 spillway were also completed.

The major closure activities that were carried out in 2025 are outlined below.

- pH treatment of water within Pond 2.
- Pumping of water from Pond 1 to Pond 2 to allow sufficient freeboard for freshet 2026.
- Repair of erosion in the Cell 5 Spillway was completed in September.
- Dam maintenance of Dam 3 in September.
- Repair and armoring of erosion gullies on Dam 3 in September.

## **(J) UNAUTHORIZED DISCHARGES**

*This section includes a description of all unauthorized discharges including volumes, spill report line identification number and summaries of any follow-up action taken.*

There were no unauthorized discharges in 2025.

## **(K) REVISION TO PLANS, REPORTS OR MANUALS**

The following plans were updated and submitted to the NWB on October 7, 2025, to reflect comments made during regulator review of the 2024 Annual Report.

- Lupin Mine Tailings Containment Erosion and Sediment Control Plan.
- (251007 2AM-LUP2032 Lupin Mine TCA Erosion and Sediment Control Plan 2023 Final-IMLE4).
- Lupin Mine Updated Waste Management Plan.
- (251007 2AM-LUP2032 LMI Waste Management Plan 2025 Final-IMLE).

Other Plan updates include:

- Updates to Table 14 of the Final Closure and Reclamation Plan has been updated to reflect schedules works towards reclamation and closure. This updated table is included as Appendix C.

## **(L) ENGAGEMENT**

*This section summarizes any public consultation and participation with local organization and residents of nearby communities, including schedule of upcoming events and information sessions.*

As the winter road was not built in 2025, reclamation and closure works were limited, resulting in fewer communications and engagement efforts.

The Tli'cho Government has a Caribou monitoring camp at the Fry Inlet, south of the Mine. In September 2025, LMI and the Tli'cho Government attempted to coordinate transporting and delivering a generator to their camp. Ongoing communications for future collaborations to assist with camp operations are in progress.

LMI is in periodic communications with the Kivalliq Inuit Association regarding activities and progress towards reclamation and closure. LMI has committed to providing photographic updates to the Kivalliq Inuit Association as works progress.

LMI is committed to engaging in meaningful discussions on reclamation and closure of the Mine. Future efforts will focus on communicating site activities planned to achieve final closure of the Lupin Mine. LMI intends to address any information requests and concerns raised while the Mine is reclaimed and progresses towards closure.

## **(M) RECLAMATION WORK COMPLETED IN 2025 AND ANTICIPATED WORKS FOR 2026**

*This section summarizes abandonment and reclamation work completed during the year and an outline of any work anticipated for the next year.*

As previously discussed, given LMI's inability to construct the winter road in 2025, thus restricting equipment mobilization, reclamation works were limited. As such, some reclamation and closure activities originally scheduled for the 2025 field season have been delayed to future years. The table below summarizes reclamation works completed in 2025 and proposed works planned for the 2026 field season.

**Table 5: Summary of Works Completed in 2025 and Proposed Works for 2026**

Component	Works Completed in 2025	Proposed 2026 Works
Underground Mine	No reclamation work completed in 2025	Reclamation work planned for 2026
Contaminated Soil	A limited program of hydrocarbon cleanup was undertaken in the Third-Party Berm area. About 400 m <sup>3</sup> of soil was removed from above the liner. The liner was removed and an additional 842 m <sup>3</sup> was removed from below the liner. The removed soil and the liner were placed into the crown pillar.	<ul style="list-style-type: none"> <li>• Any soil contamination that inadvertently occurs will be managed in accordance with the Waste Management Plan.</li> <li>• PHC soils beneath the Main Tank Farm are planned to be excavated and placed into the crown pillar as previously planned.</li> </ul>
Waste Rock	No reclamation work completed in 2025	Waste Rock in the Mine Site Area is planned to be excavated and placed to construct the dome and landfill cover as per the FCRP.
TCA	Dam Safety Inspection (DSI) <ul style="list-style-type: none"> <li>• Repair of erosion in the Cell 5 Spillway was completed in September.</li> <li>• Re-sloping of an over-steepened section of Dam 3 in September.</li> <li>• Repair and armoring of erosion gullies on Dam 3 in September.</li> <li>• Full details provided in Appendix A, Dam Safety Investigation.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-slope Cell 3 drainage swale.</li> <li>• Continue remediation for exposed tailing in the NW Cell 4 corner of Cell 5.</li> <li>• Remediate areas of exposed tailings between Pond 1 closure and elevation and J Dam.</li> <li>• Remediate areas of exposed tailings between Pond 2 closure and elevation and K Dam.</li> <li>• Additional maintenance of sections of Dam 3 is required to achieve acceptable stability and cover near surface tailings.</li> </ul>
Buildings and Equipment	No reclamation work completed in 2025	<ul style="list-style-type: none"> <li>• Demolition of site infrastructure including the camp 700 and 800 facilities, both cold storage buildings, the administrative building, and the arsenic treatment plant.</li> <li>• Demolition of Tank 2, Tank 3, Tank 4, and Tank 15 following the consumption of fuel delivered on the 2026 winter road.</li> </ul>
Borrow and Quarry Areas	No reclamation work completed in 2025	Borrow areas will re-surfaced and regraded to ensure appropriate site water management.

Component	Works Completed in 2025	Proposed 2026 Works
Chemicals and Fuel	<ul style="list-style-type: none"> <li>Continued preparations for Waste fuel, oils, and chemicals to be demobilized on upcoming winter road.</li> </ul>	<ul style="list-style-type: none"> <li>Demobilization of waste oils, unusable fuels, and chemicals via the 2026 winter road.</li> </ul>
Machinery and Mobile Equipment	Repairs to light vehicles, highway trucks, end-dumps, excavators, bulldozers, graders.	<ul style="list-style-type: none"> <li>Further equipment will be drained of fluids and placed in the landfill in 2026. Some equipment will remain for post closure maintenance, but most of the equipment will be shipped to Yellowknife via the winter road.</li> <li>Fluids drained from the equipment are stored in a bermed area to be shipped off-site on the winter road for disposal.</li> </ul>
Landfill	No major reclamation or abandonment work was completed in 2025.	Landfill design modifications to be finalized, including potential esker cap and dome remediation planned, as per engineering drawings.
Roads	<ul style="list-style-type: none"> <li>The culvert along the Esker Haul Road near Fox Lake was reinstalled to address drainage issues.</li> <li>Minor road repairs around the TCA to address erosion.</li> </ul>	Continue with road maintenance and repair as necessary and in accordance with the FCRP.
Mobilization/Demobilization	No major works in 2025	Significant mobilization/demobilization works will occur in 2026, with the building of the 2026 winter road, in support of the FCRP.
Explosives Magazine	Not completed in 2025	Demobilization planned in 2026.
Emergency Dump Ponds	Ongoing visual inspections of ponds. Minor maintenance works performed.	Potential remediation of northern dump pond.
Sewage Lagoons	No works completed, other than effluent drawdown.	No planned works.
Waste Disposal	Camp waste and cardboard was incinerated.	<ul style="list-style-type: none"> <li>Camp and domestic waste will be incinerated.</li> <li>Hauling of hazardous and other wastes via 2026 winter road.</li> </ul>

**Fuel Storage Facility Update:**

The pre-existing fuel storage facilities at Lupin included a Main Tank Farm (consisting of 14 diesel tanks, one Jet A tank, and nine individual tanks), a Satellite Fuel Facility (consisting of a system of 10 diesel tanks, two gasoline tanks, and a waste oil tank farm which included two waste oil tanks), and a TFF which was constructed in September 2023 to support closure activities and enable the continued decommissioning of permanent infrastructure.

In 2025, Tank 15 (originally used for Jet A fuel) remained in service and was cleaned upon consumption of the remaining diesel fuel in the tank in anticipation of the new fuel deliveries planned for the 2026 winter road. Tank 4 was cleaned and prepared for deconstruction and disposal in the landfill in 2026. Additionally, the fuel contained within the TFF was cleaned due to identified contamination, to maintain fuel use in operations.

No fuel remained in the Main Tank Farm. Fuel storage was limited to the six TFF tanks, which as of December 31, 2025, contained approximately 269,880 litres of diesel fuel.

The TFF will remain in service until the last tank is no longer needed. After that, the last tank will be decommissioned for disposal in the landfill. The liner will be removed and disposed in the landfill. Non contaminated granular berms will be regraded and land formed.

**(N) ADDITIONAL DETAILS REQUESTED**

*This section details any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.*

No additional information has been requested from the Board that has not already been submitted.

**2. SCHEDULE B.2 - POST CLOSURE MONITORING PLAN UPDATE**

*This section details updates to Schedule B for Annual Reporting Requirements, reflecting the Post Closure Monitoring Plan as outlined in Schedule J, Item 13 of 2AM-LUP2032.*

The Mine is currently in modified active Care and Maintenance of the Closure Phase. Given that no winter road was constructed in 2025, and reclamation activities were limited.

See Appendix C - Table 14 – Post Closure Monitoring Plan and Final Closure Update.

## **APPENDIX A. 2025 Dam Safety Inspection (DSI)**

# **2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**



Prepared for:  
Lupin Mines Incorporated

Date:  
March 6, 2026

Prepared by:  
Steve Bundrock, P.Eng  
Lindsay Pistner, P.Eng

Project/File:  
169525614

## Disclaimer

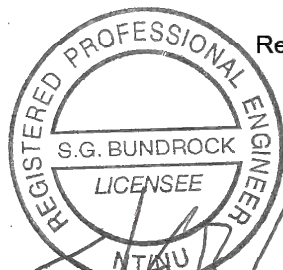
The conclusions in the Report titled 2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Lupin Mines Inc. (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

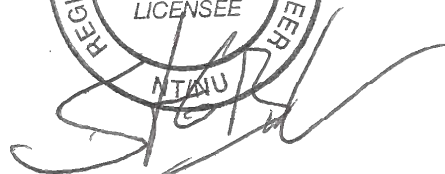
This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by:

  
Lindsay Pistner, P.Eng.




Reg# L5236



Reviewed and  
Approved by:

2026-03-16

Steven Bundrock, P.Eng.

PERMIT TO PRACTICE NUNAMI STANTEC LTD.	
Signature	
Date	2026-03-17
PERMIT NUMBER: P 1117	
NT/NU Association of Professional Engineers and Geoscientists	
<small>169525614 - Issued for Use by Client</small>	

# Table of Contents

<b>Executive Summary</b> .....	<b>iii</b>
<b>Acronyms / Abbreviations</b> .....	<b>iv</b>
<b>1 Introduction</b> .....	<b>2.1</b>
<b>2 Background Information</b> .....	<b>2.1</b>
2.1 Project Description .....	2.2
2.1.1 Location and Access.....	2.2
2.1.2 History and Current Status.....	2.3
2.1.3 Site Infrastructure.....	2.3
2.2 Climate .....	2.4
2.3 Site Geological Conditions.....	2.4
2.4 Permafrost Monitoring.....	2.5
<b>3 Tailings Containment Area Dams</b> .....	<b>3.1</b>
3.1 Dam Consequence Classifications .....	3.2
<b>4 2025 TCA Inspection</b> .....	<b>4.1</b>
4.1 General.....	4.1
4.2 Instrumentation Monitoring Results .....	4.2
4.2.1 Thermistors .....	4.2
4.2.2 Water Content Sensors.....	4.18
4.2.3 Transducers .....	4.19
4.3 Perimeter Dams .....	4.21
4.4 Internal Dams .....	4.21
<b>5 Recommendations</b> .....	<b>5.1</b>
5.1 Dam 2 Collection Pond .....	5.5
5.2 Maintenance and Closure Priorities .....	5.5
<b>6 Safety Statement</b> .....	<b>6.1</b>
<b>7 Limitations</b> .....	<b>7.1</b>
<b>8 References</b> .....	<b>8.1</b>

## List of Tables

Table 3.1 CDA Dam Consequence Classifications .....	3.3
Table 3.2 TCA Dam Consequence Classifications.....	3.4
Table 4.1 Thermistor Coordinates and Condition .....	4.4
Table 4.2 Active Layer Permafrost Thaw Depth .....	4.16
Table 4.3 VWC Sensors Coordinates and Condition.....	4.18
Table 4.4 VWC Sensor Install Details.....	4.18
Table 4.5 Transducers - Coordinates and Condition .....	4.19
Table 5.1 Priority Scale Definitions .....	5.1
Table 5.2 Observations and Recommendations.....	5.2

## List of Figures

Figure 4-1 Lupin TCA Instrumentation.....	4.2
Figure 4-2 Thermistor D1A-00-01 Results .....	4.5
Figure 4-3 Thermistor D1A-00-02 Results .....	4.5
Figure 4-4 Thermistor D2-00-02 Results .....	4.6
Figure 4-5 Thermistor D3D-1 Results .....	4.6
Figure 4-6 Thermistor D4-1 Results.....	4.7



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
Table of Contents

Figure 4-7 Thermistor D4-3 Results ..... 4.7  
Figure 4-8 Thermistor D4-4 Results ..... 4.8  
Figure 4-9 Thermistor TC1-3 Results ..... 4.8  
Figure 4-10 Thermistor TC3-1 Results ..... 4.9  
Figure 4-11 Thermistor TC1-6 Results ..... 4.9  
Figure 4-12 Thermistor TC1-7 Results ..... 4.10  
Figure 4-13 Thermistor D2-4-2024 Results ..... 4.10  
Figure 4-14 Thermistor DN-1-2024 Results ..... 4.11  
Figure 4-15 Thermistor TCN-1-2024 Results ..... 4.11  
Figure 4-16 Thermistor TC5-1-2024 Results ..... 4.12  
Figure 4-17 Thermistor TC2-2-2024 Results ..... 4.12  
Figure 4-18 Thermistor DJ-1-2024 Results ..... 4.13  
Figure 4-19 Thermistor DL-1-2024 Results ..... 4.13  
Figure 4-20 Thermistor DL-2-2024 Results ..... 4.14  
Figure 4-21 Thermistor DM-1-2024 Results ..... 4.14  
Figure 4-22 Limestone Drain Thermistor Results ..... 4.15  
Figure 4-23 Thermistor TC3-2 Temperature Data 2021 to 2025 ..... 4.17  
Figure 4-24 Transducer Results ..... 4.20

**List of Appendices**

- Appendix A Site Figures**
- Appendix B TCA Dam Descriptions**
- Appendix C Photographic Log**



## **Executive Summary**

Stantec Consulting Ltd. (Stantec) serves as the Engineer of Record (EoR) for the Lupin Mines Incorporated (LMI) Tailings Containment Area (TCA). The Lupin Mine, located on the western shore of Contwoyto Lake in Nunavut, has been undergoing active closure activities since 2005. Stantec carries out annual TCA Dam Safety Inspections as part of EoR duties and as required under Nunavut Water Licence 2AM-LUP2032. Stantec completed the 2025 DSI on September 17 and 18 which included a walkover of the dam embankments, crests, and water management structures, along with collection of instrumentation data.

Perimeter dams were observed to be generally stable. Previously observed tension cracking at Dam 3 was remediated by resloping and toe armouring, and no additional cracking was observed during the inspection. The erosional features in the surface water collection channel between Cell 1a and Dam 3 were excavated, recompacted and armoured. At Dam 2, water in the downstream seepage collection ponds continues to be interpreted as surface runoff rather than seepage. Other historic erosion features were unchanged, and vegetation growth and isolated animal burrows did not affect performance at current water levels.

Internal dams were observed to be stable overall, with a few items that require action in 2026. The Cell 3 drainage swale continues to experience erosion and requires mitigation. In Cell 4, the northwest corner requires additional esker fill to achieve the 1.0 m final cover, along with completion of shoreline armouring. The limestone drain installed in 2024 is functioning as intended. The observed erosion in the Cell 5 spillway to Pond 1 was repaired, and the spillway was rebuilt to the original design. At Dam M, the downstream embankment requires resloping to the closure design geometry, filling/compaction of erosional features, and covering exposed tailings at the toe. The Cell N diversion ditch was observed to be concentrating flow and eroding the N Dam downstream toe and was infilled and compacted at the request of Stantec. Overall water levels in Cell 4 and Ponds 1 and 2 were managed. The Divider Dyke spillway was functioning as intended to manage Cell 4 pond elevations. Pumping was carried out from Pond 1 to Pond 2 to reduce Pond 1 water levels and maintain sufficient dam freeboard through freshet 2026.

Instrumentation for the TCA's dams and covers includes thermistors, volumetric water content (VWC) sensors, and pressure transducers. Most thermistors were functional in 2025, with several repaired or newly installed in 2024. Results indicate that permafrost remains intact beneath the dams and reclaimed tailings, with active layer depths generally between 1 and 3.6 m, which is consistent with historical ranges. VWC data could not be retrieved in 2025 due to software issues, however, site observations and prior results indicate covers are saturated and continue to perform as intended. Cell 1 transducer readings showed stable water levels during the open-water period and confirmed saturation at the cover-tailings interface.

The 2025 DSI concludes that the TCA dams were stable at the time of the inspection, with no Priority 1 or Priority 2 findings identified. Recommended actions were assigned Priority 3 and Priority 4 only. Priorities for 2026 include Dam 1A, J Dam and sewage lagoon spillway construction, M dam resloping, cover placement (Cell 4 NW corner, M Dam toe, J Dam toe), water management system repairs (Cell 3), pumping to maintain safe water levels, repair and maintenance of erosional features and continued monitoring.



## Acronyms / Abbreviations

Acronym / Abbreviation	Full Name
CDA	Canadian Dam Association
DSI	Dam Safety Inspection
ERP	Emergency Response Plan
FCRP	Final Closure and Reclamation Plan
JDS	JDS Energy & Mining Inc.
LMI	Lupin Mines Incorporated
mbgl	Metres below ground level
MEND	Mine Environmental Neutral Drainage
NWB	Nunavut Water Board
Stantec	Stantec Consulting Ltd
TCA	Tailings Containment Area
WSP	William Sale Partnership
VWC	Volumetric Water Content



# 1 Introduction

Lupin Mines Incorporated (LMI), a wholly owned indirect subsidiary of Alkane Resources Limited, retained Stantec Consulting Ltd. (Stantec) to complete the annual dam safety inspection (DSI) at the Lupin Mine Tailings Containment Area (TCA). Stantec carried out a site visit and dam safety inspection on the TCA in September 2025. This report presents background information, results and recommendations from the DSI.

# 2 Background Information

The Lupin Mine is located on the western shore of Contwoyto Lake, approximately 400 km northeast of Yellowknife, Northwest Territories, in the Kitikmeot Region of Nunavut (Appendix A – Figure 1). The site includes camp and support facilities, fuel storage, an airstrip, overflow and sewage ponds, and the TCA as shown in Appendix A – Figure 2. A plan view of the TCA is provided in Appendix A – Figure 3.

Lupin mining operations ceased in 2005. The Lupin Mine site is currently undergoing active closure activities. Closure activities are detailed in the approved Final Closure and Reclamation Plan (FCRP), issued by Golder Associates in 2018 (Golder, 2018).

The Lupin Mine operates under the Nunavut Water Licence 2AM-LUP2032 (NWB, 2020), issued to LMI by the Nunavut Water Board (NWB, or The Board). Part J, Condition 12 of the water licence requires an annual geotechnical inspection to be completed for the TCA during ice free, open-water conditions by a Geotechnical Engineer (NWB, 2020). Stantec has provided a qualified person to conduct the geotechnical inspection in order to fulfill the requirements of Part E, Condition 7 of the water licence, which stipulates that the TCA shall be constructed, operated, and maintained to engineering standards such that:

- A minimum freeboard of 1.0 metre is maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board in writing
- Seepage from the TCA is minimized
- Seepage that occurs is collected and returned immediately to the TCA
- Erosion of constructed facilities is addressed immediately
- The solids fraction of the mill tailings is permanently contained within the TCA or underground as backfill
- Measures are implemented so that the TCA is adequately covered or managed, including the use of approved binding agents, so as to prevent windblown tailings from impacting other areas of the project site



## 2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report

### Background Information

- Transducers are installed and maintained within existing standpipes to collect water level data and ensure tailings saturation.

The water licence further stipulates that during the active Closure and Care and Maintenance Phases, inspections are to be carried out on a bi-weekly basis during freshet (approximately May and June), and monthly during the remainder of the open water period (approximately July to October) for the following:

- Seepage from dams
- Water levels in ponds/cells
- General surface erosion, tension cracks, and/or anomalies on dams
- Records of these inspections are to be kept for review at the request of Inspector, or as otherwise approved by the Board. More frequent inspections will be performed at the request of an Inspector.

To meet these conditions, this report summarizes Stantec's observations of the TCA's condition in 2025 and presents our recommendations. Previous annual inspections, safety reviews, and risk assessments with respect to the TCA are as follows:

- Construction reporting during active closure activities by Stantec, JDS, WSP, and LMI
- Inspection Reports from 2018-2024 by Stantec Consulting Ltd
- Inspection Reports from 2016 and 2017 by Norwest Corporation
- Inspection Reports from 2012-2015 by SRK Consulting
- 2015 Dam Safety Review Report by SRK Consulting
- 2023 Dam Safety Review Report by SLR Consulting
- 2012 TCA Risk Assessment and Water Quality Review by SRK Consulting.

While the annual inspection is carried out to satisfy the licence requirements, the format and methodology used are performed in accordance with good engineering practices laid out in Canadian Dam Association (CDA) Dam Safety Guidelines (2013, 2014) and Province of British Columbia Water Management Branch (BCWMB, 2011) Dam Safety Guidelines.

## 2.1 Project Description

### 2.1.1 Location and Access

The Lupin Mine is accessible by air or winter road. Air access is services by a gravel airstrip, capable of handling large aircraft. Charter flights from Yellowknife support the site. When the mine was in operation, the Tibbitt, Northwest Territories to Contwoyto, Nunavut Winter Road was utilized to resupply the mine.



Since 2005, this winter road terminated at the Ekati Diamond Mine and has not been extended to the Lupin Mine since 2005, when the mine went into the Care and Maintenance phase. An overland access trail was constructed to the Lupin site in the winter of 2020 to facilitate equipment mobilization for closure activities. This trail was reestablished in order to mobilize additional equipment to site in the winter of 2023/24 and will be reestablished for equipment demobilization once the closure activities have been completed.

## **2.1.2 History and Current Status**

In accordance with the approved FCRP, the Lupin Mine current closure activities include, but are not limited to, infrastructure demolition, identification and disposal of contaminated soils, water treatment and discharge, water quality and geochemical monitoring, tailings cover and shoreline armouring construction, construction of passive outfalls and spillways, tailings dam resloping and dam repairs, and waste management.

## **2.1.3 Site Infrastructure**

Numerous mine facilities have been decommissioned as part of closure activities, including:

- The mill underground hoist and wheelhouse, ball mill, concentrator, and paste backfill plant (decommissioned and demolished).
- The camp and support facilities which historically included multiple accommodation wings, an office building, recreation facilities, a shop, carpentry building, weather station, cold and warm storage, and generators. Most of these structures were demolished, with only two wings of the camp, the shop, cold storage buildings, and associated generators remaining.
- A waste management incinerator, landfill, and a burn pit.
- Fuel storage facilities (including the main tank farm containing diesel and jet fuel for annual operations). Most of the fuel tanks were decommissioned and demolished. In 2023, a temporary fuel storage berm was constructed to facilitate decommissioning and demolition activities.

In addition to the decommissioned facilities noted above, the following mine facilities remain:

- A gravel airstrip capable of accommodating large aircraft such as Boeing 737s. Airstrip instrumentation has been decommissioned but the airstrip is to remain indefinitely for emergency purposes.
- Gravel roads connecting facilities and the various site infrastructure. These roads were largely still in place at the time of inspection but are to be decommissioned and scarified as part of the FCRP.
- Two sewage lagoons. These facilities are to be decommissioned, drained, and breached as part of closure activities. Spillways are to be constructed through the existing embankments to facilitate passive drainage.



- The TCA, consisting of frozen core dams that contain tailings cells undergoing progressive reclamation which has been completed at several cells. Water treatment equipment was present at the TCA and typically consisted of a water treatment plant at Dam 1A and at the arsenic treatment building, as well as temporary equipment. Various instrumentation is present at the TCA, and consists of a barometer, thermistors, volumetric water content sensors, and pressure transducers.
- Two emergency tailings dump ponds, located along the historical tailings pipeline alignment. These facilities are to be decommissioned as part of closure activities.

## **2.2 Climate**

Stantec evaluated climate data from an automated weather station (Lupin CWIJ) previously available via the Weather Underground database (WU, 2016) and intermittent climate data from the Environment Canada database for station LUPIN CS Climate ID 230N002. The climate data evaluation was completed in 2018, and updated in 2025, for the period of May 2005 to April 2017. Details from the climate data evaluation were as follows:

- Annual mean temperature: -10.9°C
- Average winter temperature (from October to April): -21°C
- Average summer temperature (from May to September): 8°C
- Average annual precipitation: 592 mm (\*data does not differentiate between snow and rain)
- Average wind direction: south-southwest
- Average wind speed: 16 km/h

## **2.3 Site Geological Conditions**

The Lupin Mine was located in an area underlain by an Archean metaturbidite sequence of the Contwoyto Formation. The rocks have been subjected to both regional and contact metamorphism, which included deformations and intrusions of various ages.

The area was glaciated and experienced isostatic rebound after the glaciers ablated. Runoff related to glaciation washed out erodible soils and formed lakes in low-lying areas. The easily erodible glaciolacustrine and glaciofluvial sands were reworked and displaced by meltwater and resulted in the outcrops present with thin soil veneers, abandoned beaches, and esker formations (Kinross, 2005). Where bedrock is not present at the surface, overburden typically consists of coarse-grained glacial till which is intermittently covered by glaciolacustrine and glaciofluvial deposits. The till is a silty sand with gravel and boulders, with low plasticity and ice content depending on the depth.

A substantial esker deposit, referred to as the Finger Lakes borrow source, is located roughly five km southeast of the TCA. Material at this borrow source has been classified as a gravely sand and was



demonstrated to be geochemically stable under various wetting/drying cycles and leaching. Gravely sand sourced from the Finger Lakes borrow source has been used for most of the progressive reclamation and tailings/contaminated materials cover onsite. Prior to selection for progressive reclamation material, sand and gravel from this source was utilized for road and dam construction. Several other inactive borrow sources consisting of similar esker deposits are present near the TCA perimeter.

## **2.4 Permafrost Monitoring**

The site is located within a permafrost region. The active layer has been observed to be variable between depths of 1.25 m to 3 m based on available data. During operation, scheduled monitoring was completed for instrumentation, water level records, water quality, and production volumes. This monitoring program was reduced accordingly during the Care and Maintenance Phase of the mine and is now carried out when work is being done on site, where applicable. Thermistors were installed in several dams and in the tailings cover to monitor performance. Some thermistors are no longer functional and/or are damaged beyond repair. Nine thermistors were drilled and installed in July 2024 in order to support the performance monitoring requirements of the FCRP. Functional thermistors are monitored at least once annually during the geotechnical inspection and more often when site access allows. The results indicate that permafrost remains within the dams and reclaimed tailings, and the results are consistent with reasonable historical variation and limits.



### **3 Tailings Containment Area Dams**

The TCA tailings are primarily comprised of amphibole and quartz, which account for 80% of the volume. Pyrrhotite and arsenopyrite make up an additional 17%. Studies have demonstrated that the tailings have a potential for acid generation (Kinross, 2005).

The TCA consisted of eight perimeter dams named Dam 1A, 1B, 1C, 2, 3, 4, 5, and 6, and 11 internal dams named Dams 3A, 3B, 3C, 3D, 3E, J, K, L, M, N and the Divider Dykes.

Five tailings cells (1 to 5) were used for tailings containment. During reclamation, internal dams 3A, 3B, 3C, and 3E were covered and are no longer considered to be dams. Cells 1 and 2 have been reclaimed. Cells 3 and 5 were covered in 2021 while Cell N was partially covered in 2022. Cell 4 was partially covered during the 2024 construction season.

Remaining tailings requiring cover includes:

- isolated areas of exposed tailings situated above the closure elevation within Ponds 1 and 2,
- additional fill at the Cell 4 northwest corner exposed tailings area,
- small areas of additional fill at Cell N, and
- an unquantified volume of tailings situated in the two emergency tailings dump ponds.

No tailings have been produced since 2005.

Dams were constructed with esker sands and gravels and fine-grained tailings material. Perimeter dams and K Dam included a geosynthetic liner for seepage control and reduction of fines migration. The dams had frozen cores overlying a permafrost foundation. Perimeter dams ranged in height from one to eight metres, and internal dams ranged in height from six to 12 metres. Refer to Appendix B for a summary description of the TCA dams.

Most of the tailings were historically contained within the TCA. However, there were two emergency tailings dump ponds which were utilized during adverse weather conditions. The extent, volume, and location of tailings impounded in the emergency dump ponds is unknown but is expected to be limited based on visual observation. The North emergency tailings dump pond is situated between the upper and lower sewage lagoon and the South emergency tailings dump pond is located one kilometre south.

The active closure procedure for water management includes the following steps:

- Runoff is directed from Cell 3 into Cell 4 via the passive drain outfall structure through L Dam.
- From Cell 4, the water is drained by a spillway constructed through the Divider Dykes, where it enters the Chain of Lakes natural drainage system near the southeast corner of the TCA. Comingled water from the natural system and Cell 3/Cell 4 flows into Pond 1.



- Cell 1 and 2 runoff is directed into Pond 1, while the remainder is left on the cover.
- Cell 5 runoff is directed into Pond 1 via the passively draining outfall structure through J Dam.
- Pond 1 water levels are managed by siphoning water across J Dam and into Pond 2.
- Pond 2 water treatment occurs by adding neutralizing products, such as soda ash or lime, to raise the pH to the acceptable water license discharge criteria. Precipitates from treatment are deposited in Pond 2 and treated water is siphoned to the receiving environment in accordance with the Water License requirements (NWB, 2020). Pond 2 does not have a flood overflow structure or means of passively discharging runoff; instead, water is retained, and discharge is restricted until water quality achieves the discharge requirements outlined in the Water License.

### **3.1 Dam Consequence Classifications**

Stantec used the CDA Guidelines (CDA, 2013) to determine dam consequence classifications. Classifications and associated incremental losses are presented in Table 3.1 (CDA, 2013).



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 Tailings Containment Area Dams

Table 3.1 CDA Dam Consequence Classifications

Dam Classification	Population at Risk <sup>1</sup>	Loss of Life <sup>2</sup>	Incremental Losses	
			Environmental and Cultural Values	Infrastructure and Economics
Low	None	0	Minimal short-term loss	Low economic losses
			No long-term loss	Area contains limited infrastructure of services
Significant	Temporary Only	Unspecified	No significant loss or deterioration of fish or wildlife habitat	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes
			Loss of marginal habitat only	
High	Permanent	10 or fewer	Restoration or compensation in kind highly possible	High economic losses affecting infrastructure, public transportation, and commercial facilities
			Significant loss or deterioration of important fish or wildlife habitat	
Very High	Permanent	100 or fewer	Restoration or compensation in kind possible but impractical	Very high economic losses affecting important infrastructure or services (e.g., highway, industrial facility, storage facilities for dangerous substances)
			Significant loss or deterioration of critical fish or wildlife habitat	
Extreme	Permanent	More than 100	Restoration or compensation in kind impossible	Extreme losses affecting critical infrastructure or services (e.g., hospital, major industrial complex, major storage facilities for dangerous substances)
			Major loss of critical fish or wildlife habitat	

Note 1. Definition for population at risk:

**None** - There is no identifiable population at risk, so there is no possibility of loss of life other than through unforeseeable misadventure.

**Temporary** - People are only temporary in the dam-breach inundation zone (e.g., seasonal cottage use, passing through on transportation routes, participating in recreational activities). **Permanent** - The population at risk is ordinarily located in the dam-breach inundation zone (e.g., as permanent resident); three consequence classes (high, very high, extreme) are proposed to allow for more detailed estimate of potential loss life (to assist in decision-making if the appropriate analysis is carried out).

Note 2. Definition for loss of life:

**Unspecified** - The appropriate level of safety required at a dam where people are temporarily at risk depends on the number of people, the exposure time, the nature of their activity, and other conditions. A higher class could be appropriate, depending on the requirements. However, the design flood requirement, for example, might not be higher if the temporary population is not likely to be present during the flood season.



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
Tailings Containment Area Dams

Based on Stantec’s 2025 inspection, the dam consequence classifications are outlined in Table 3.2.

*Table 3.2 TCA Dam Consequence Classifications*

<b>Dam</b>	<b>Consequence Classification</b>	<b>Rationale</b>	
Perimeter Dams	1A	Significant	Release of water that may not meet discharge criteria into the environment
	1B	Significant	Release of water that may not meet discharge criteria into the environment
	1C	Significant	Release of water that may not meet discharge criteria into the environment
	2	Significant	Release of water that may not meet discharge criteria into the environment
	3	Low	No free-standing water; stable reclaimed tailings with very limited impact upon failure
	4	Significant	Release of water that may not meet discharge criteria into the environment
	5	Low	No free-standing water; stable reclaimed tailings with very limited impact upon failure
	6	Low	No free-standing water; stable reclaimed tailings with very limited impact upon failure
Internal Dams	3D	Low	Any release of effluent or tailings are contained within the TCA
	J	Low	Any release of effluent or tailings are contained within the TCA
	K	Low	Any release of effluent or tailings are contained within the TCA
	L	Low	Any release of effluent or tailings are contained within the TCA
	M	Low	Any release of effluent or tailings are contained within the TCA
	N	Low	Any release of effluent or tailings are contained within the TCA
	Divider Dykes	Low	Any release of effluent or tailings are contained within the TCA

These consequence classifications are in line with the classifications outlined in the 2015 Dam Safety Review (SRK, 2015) and the 2023 Dam Safety Review (SLR Consulting, 2023). No significant changes have been made since the 2024 inspection that would warrant changing the classification.

In 2023, SLR noted that an emergency response plan (ERP) was in place and made recommendations to enhance the ERP such that potential dam safety emergencies are considered and planned for accordingly. Typically, an ERP is informed by an inundation study which identifies impacted areas downstream. However, due to the lack of transportable tailings, and the lack of a permanent population or infrastructure downstream of the TCA, an inundation study has been deemed non-applicable. In response to SLR recommendation and to update the ERP for closure conditions, a new ERP and an inundation study may be needed.



## **4 2025 TCA Inspection**

### **4.1 General**

The DSI was completed by Stantec's Steve Bundrock (Engineer of Record) and Lindsay Pistner (P.Eng) from September 17 to 18, 2025. Weather during the site visit was cloudy and windy, with temperatures ranging from 5° to 13°C during the day. A substantial precipitation event occurred on September 15 prior to the site visit. According to the Environment Canada database under station LUPIN CS Climate ID 230N002, the site received approximately 23 mm of rain. At the time of inspection all access roads were clear and mainly free of ponded water and were in good condition. All key TCA areas were accessible via light duty pickup truck or on foot.

The DSI included a walkover, visual observations, and photography of the TCA upstream and downstream embankments, dam crests and toe areas, Cell 3 and Cell 5 outfall structures, and the Cell 4/Divider Dyke spillway. Inspections of the emergency dump ponds; upper and lower sewage lagoons were also carried out. Stantec observed for visible signs of:

- Instability (cracking, settling, slumping, toe heave, bulging, or other displacement)
- Oversteepened slopes,
- Uneven crests,
- Erosion,
- Ponded water and seeps,
- Material types and fugitive tailings,
- Vegetation,
- Animal burrows, and
- Other indicators of changing or unfavorable physical conditions.

Photograph logs from the site inspection are provided in Appendix C.

Monitoring results from the thermistors, transducers and volumetric water content sensors (VWCs) were collected. The instrumentation data was analyzed and is presented in the following section. Water sampling and monitoring was carried out at multiple locations in the TCA and at site by SLR.



The 2025 annual DSI site visit occurred in partial conjunction with an inspection by CIRNAC/PSPC representatives and members of the Kitikmeot Inuit Association (KIA) who arrived on site on the second day of the DSI. Due to low lying fog CIRNAC/PSPC/KIA representatives arrived on site in the afternoon and only a brief 3-hour visit was possible.

## 4.2 Instrumentation Monitoring Results

The instrument locations are displayed in Figure 4-1 below, and on a larger view presented in Appendix A Figure 3.



Figure 4-1 Lupin TCA Instrumentation

### 4.2.1 Thermistors

Thermistors were installed in the TCA in 1995, 2004, 2022 and 2024, to monitor the thermal performance of the dams, tailings and covers. The thermistors that were installed in 2022 and 2024 were executed with the intent of satisfying conditions of the approved Final TCA Closure Plan and the Final Closure and Reclamation Plan. During the operational phase of the mine the installed thermistors were monitored



## 2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report

### 2025 TCA Inspection

monthly. Monitoring shifted to a semi-annual frequency when the mine entered the Care and Maintenance phase and are currently monitored annually.

There are 30 thermistors installed in the TCA: 16 in the dam embankments, and 14 in the reclaimed tailings and cover material. Repairs were completed in 2024 to restore functionality of damaged thermistors. The current condition and coordinates of thermistors are presented in Table 4.1.

Three of the thermistors installed in the reclaimed tailings and cover material do not have calibration data on record to evaluate the results, and four were damaged. In 2024, repairs were attempted at three of the four damaged instruments. It was determined that two of these instruments (TC1-6 and TC1-7) were unrepairable without excavating material. Currently, this area is sufficiently monitored by adjacent instruments (TC1-3 and D3D-1) and repair of TC1-6 and TC1-7 are not critical.

Monitoring results are presented in Figure 4-2 to Figure 4-22. Data series were selected to span August to September from the years 2010 to 2025. Minimum and maximum values were calculated and plotted using data series collected in the 1990s to 2025. Historically, the internal dam thermistors were not monitored as often as the thermistors installed in the perimeter dams, and these instruments have a shortened dataset ranging from 2014 to the present day.



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
2025 TCA Inspection

Table 4.1 Thermistor Coordinates and Condition

Location	Station (Inst. Name)	As-Built Coordinates		Install Date	Condition		
		E	N		September 2023	September 2025	Beads Working
Dam 1A	D1A-00-01	485985	7289706	Nov, 2000	Partially Working	Partially Working <sup>1</sup>	8/10 <sup>2</sup>
	D1A-00-02	485920	7289785	Nov, 2000	Damaged	Working	7/10 <sup>2</sup>
Dam 2	D2-00-02	486322	7290481	Nov, 2000	Partially Working	Working	9/10 <sup>2</sup>
	D2-00-03	486278	7290408	Nov, 2000	Damaged	Damaged <sup>3</sup>	0/10
Dam 2	D2-4-2024	486215	7290325	Jul, 2024	-	Working	5/5
Dam 3D	D3D-1	488024	7289565	Jun, 2004	Working	Partially Working	8/10 <sup>2</sup>
Dam 4	D4-1	488066	7288800	Oct, 1995	Working	Working	15/15
	D4-2				Damaged	Unknown	
	D4-3	487550	7288430	Oct, 1995	Not Working	Working	15/15
	D4-4	487500	7288375	Oct, 1995	Working	Working	15/15
Dam K	DK-3	486974	7289175	Jun, 2004	Not Working	Damaged <sup>1</sup>	0/10
N Dam	DN-1-2024	486819	7290376	Jul, 2024	-	Working	5/5
L Dam	DL-1-2024	487242	7289061	Jul, 2024	-	Working	5/5
	DL-2-2024	487281	7288763	Jul, 2024	-	Working	10/10
J Dam	DJ-1-2024	487234	7289544	Jul, 2024	-	Working	9/9
M Dam	DM-1-2024	487174	7290026	Jul, 2024	-	Working	9/9
Cell 1	TC1-1				Unknown	Unknown	
	TC1-2				Unknown	Unknown	
	TC1-3	488320	7290020	Nov, 1995	Working	Working	15/15
	TC1-4				Unlocated	Unknown	
	TC1-5				Unknown	Unknown	
	TC1-6	488245	7290023	May, 2003	Not Working	Partially Working <sup>1</sup>	5/16
	TC1-7	488023	7289618	Jun, 2004	Partially Working	Partially Working <sup>1</sup>	11/15
Cell 2	TC2-1				Damaged	Unknown	
Cell 3	TC3-1	486890	7289070	Jun, 2004	-	Working	11/15
	TC3-2 <sup>4</sup>	487079	7288658	Sept, 2021	Working	Working	8/8
Cell N	TCN-1-2024	486945	7290282	Jul, 2024	-	Working	7/8
Cell 5	TC5-1-2024	487346	7290092	Jul, 2024	-	Working	8/8
Cell 2	TC2-2-2024	487773	7290043	Jul, 2024	-	Working	9/9
Cell 4	Limestone Drain	487246	7289126	Jul, 2024	-	Working	2/2

Notes

1. Instrument/cable damage below ground, unable to repair without excavating material.
2. The non-functioning thermistor nodes are in the permafrost active layer.
3. The connection plug is broken; last data was recorded in 2006.
4. Connected to a multichannel data logger.



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

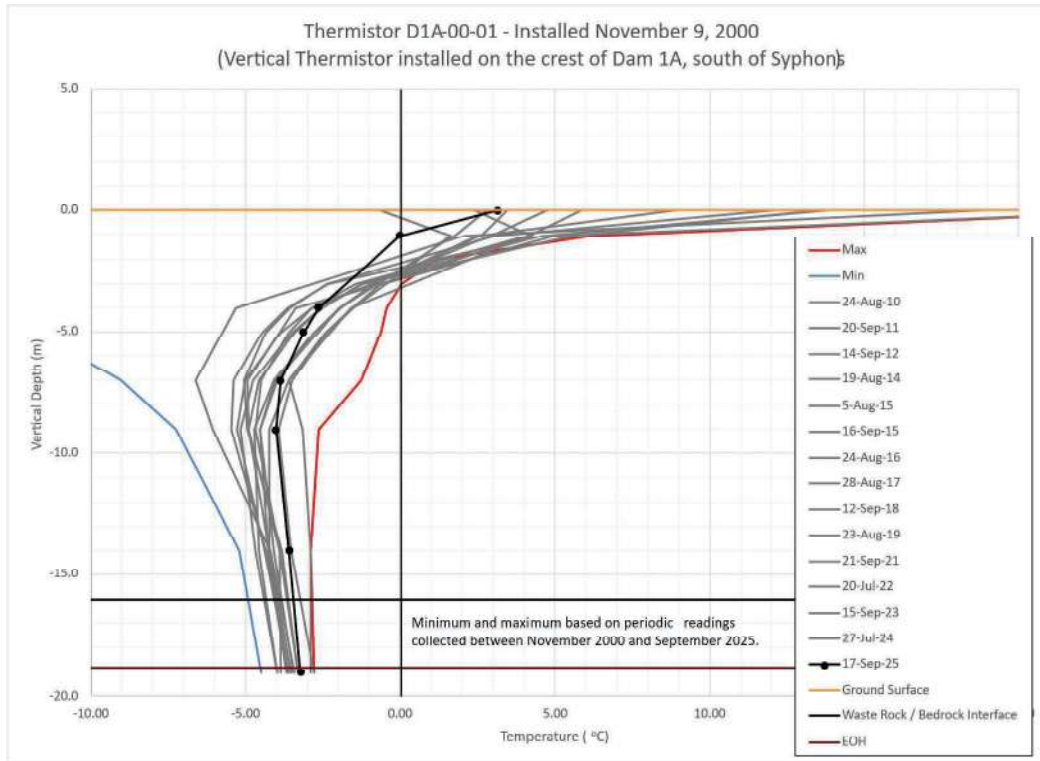


Figure 4-2 Thermistor D1A-00-01 Results

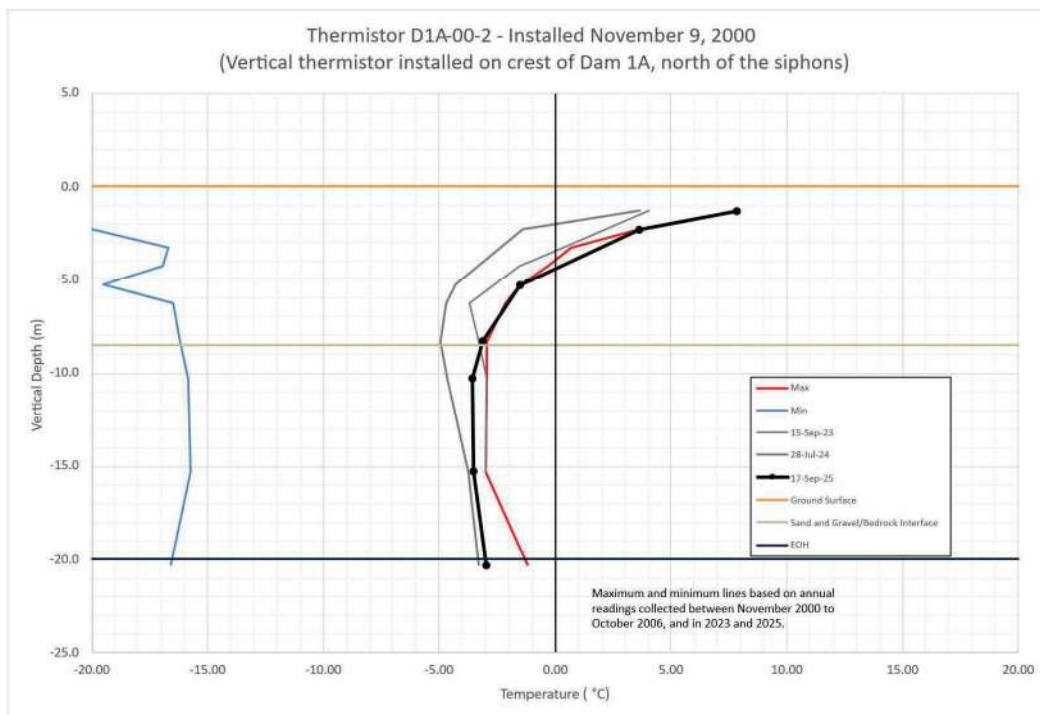


Figure 4-3 Thermistor D1A-00-02 Results



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

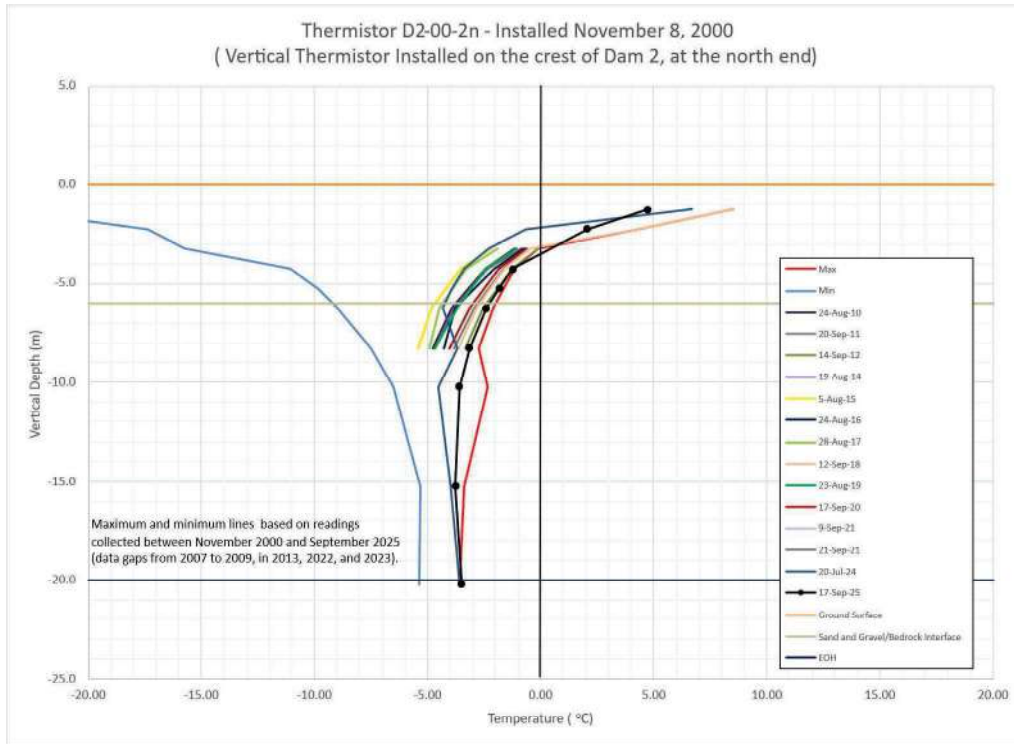


Figure 4-4 Thermistor D2-00-02 Results

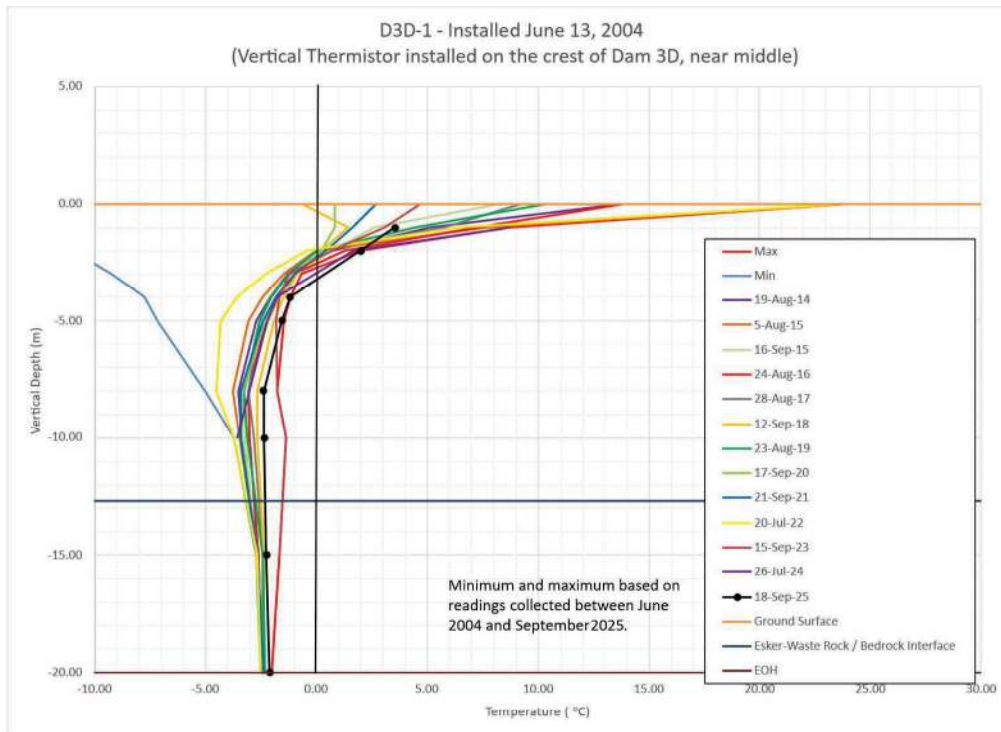


Figure 4-5 Thermistor D3D-1 Results



# 2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report

## 2025 TCA Inspection

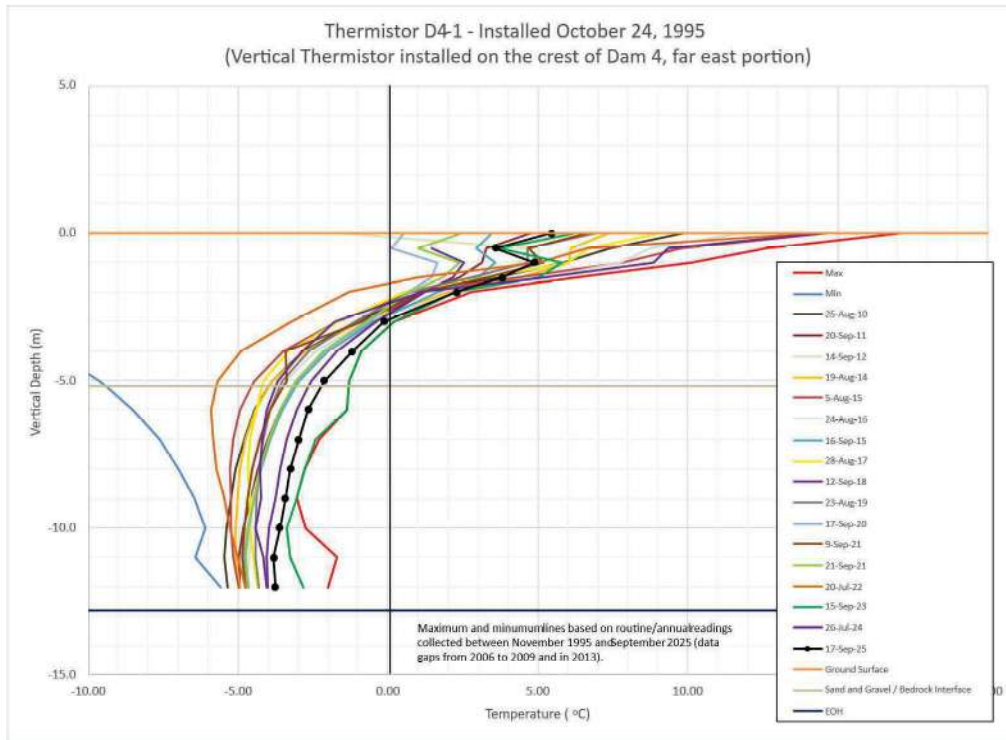


Figure 4-6 Thermistor D4-1 Results

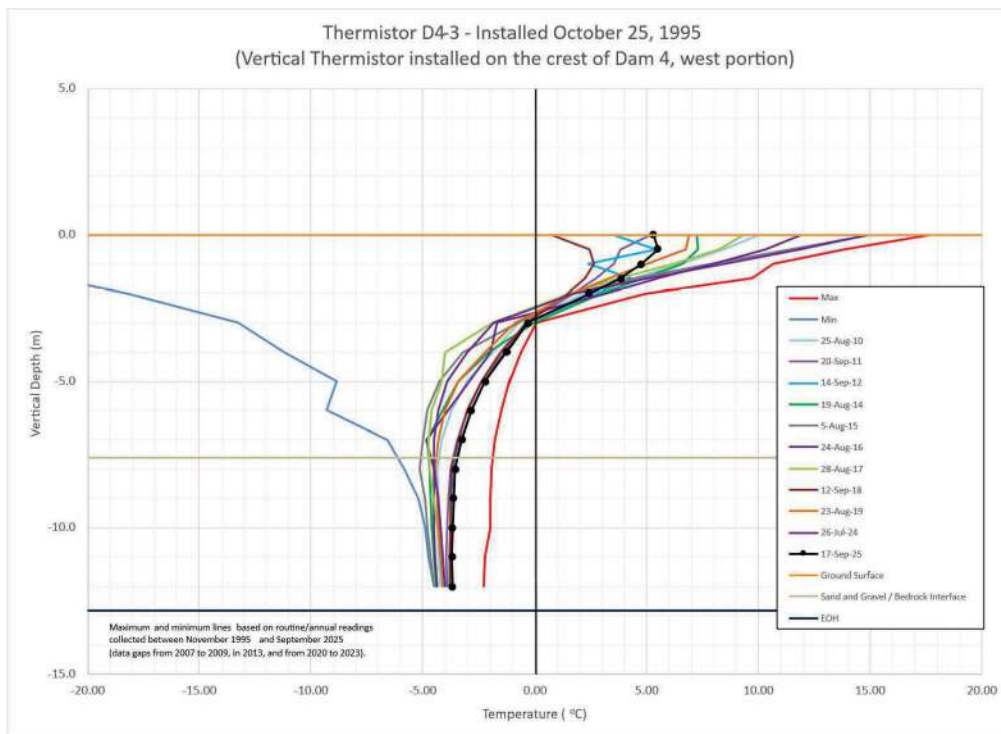


Figure 4-7 Thermistor D4-3 Results



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

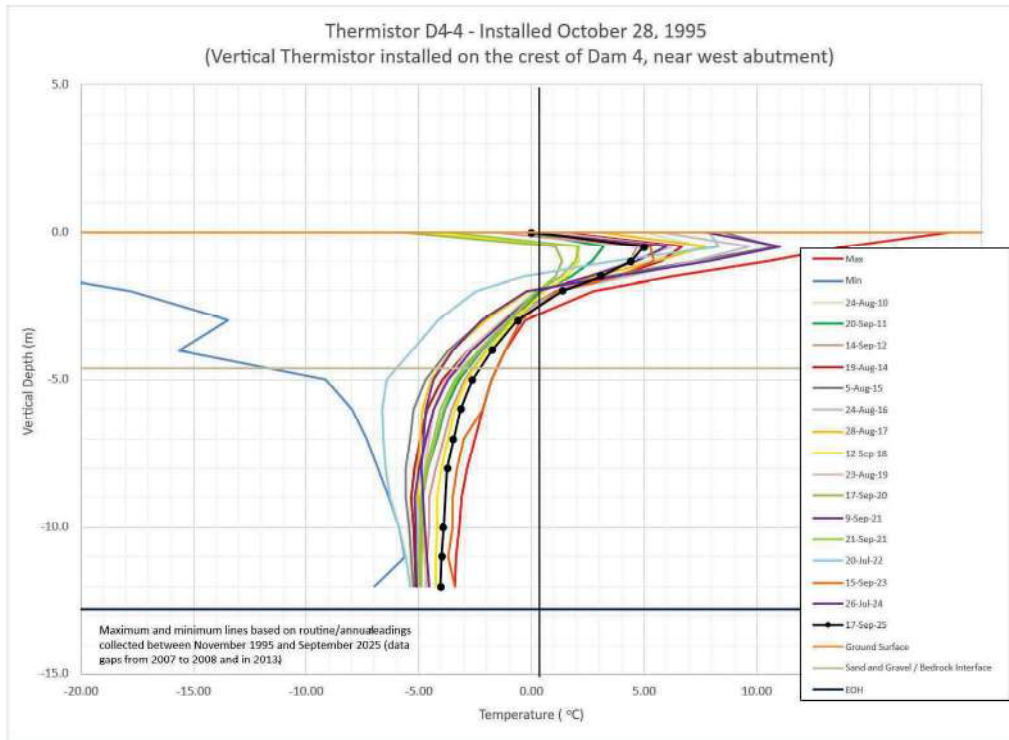


Figure 4-8 Thermistor D4-4 Results

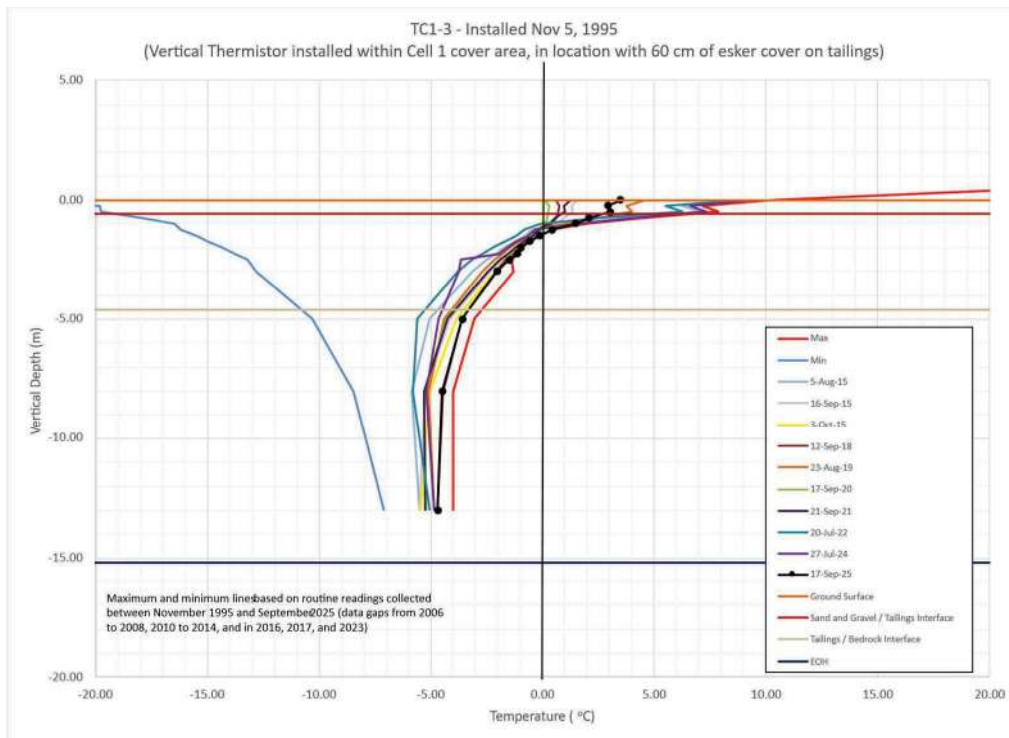


Figure 4-9 Thermistor TC1-3 Results



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

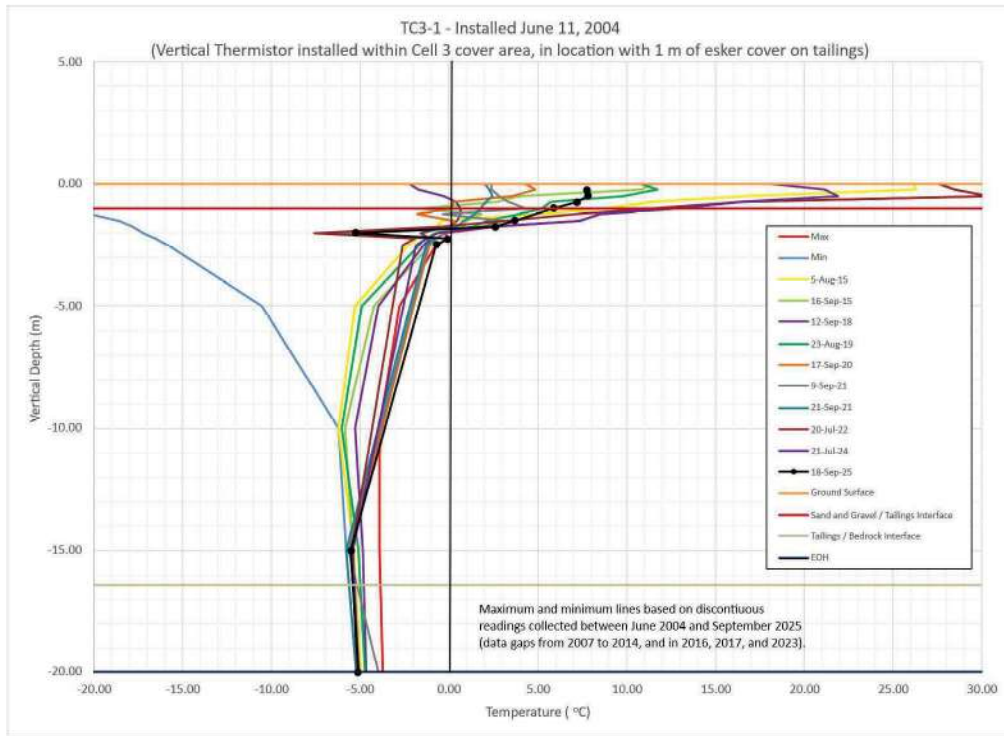


Figure 4-10 Thermistor TC3-1 Results

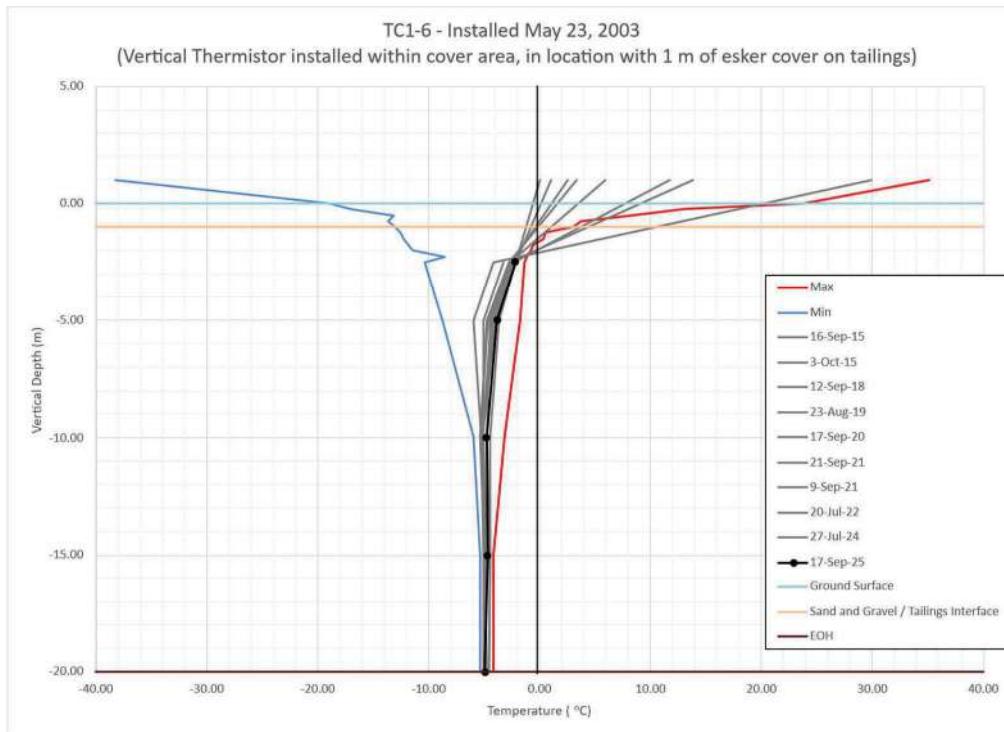


Figure 4-11 Thermistor TC1-6 Results



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

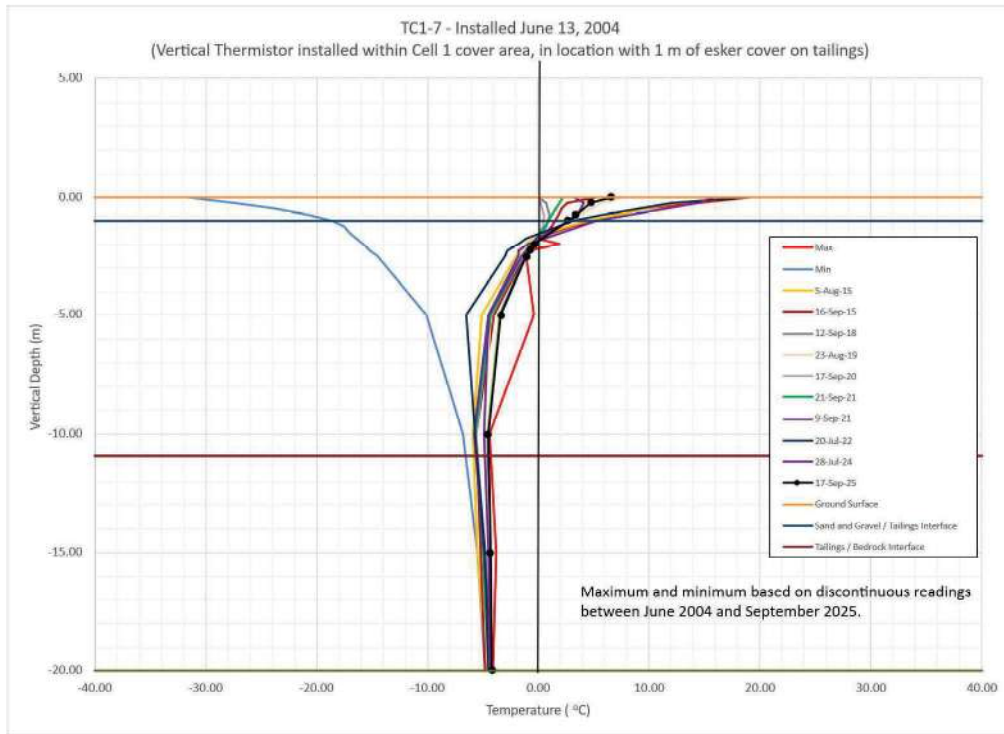


Figure 4-12 Thermistor TC1-7 Results

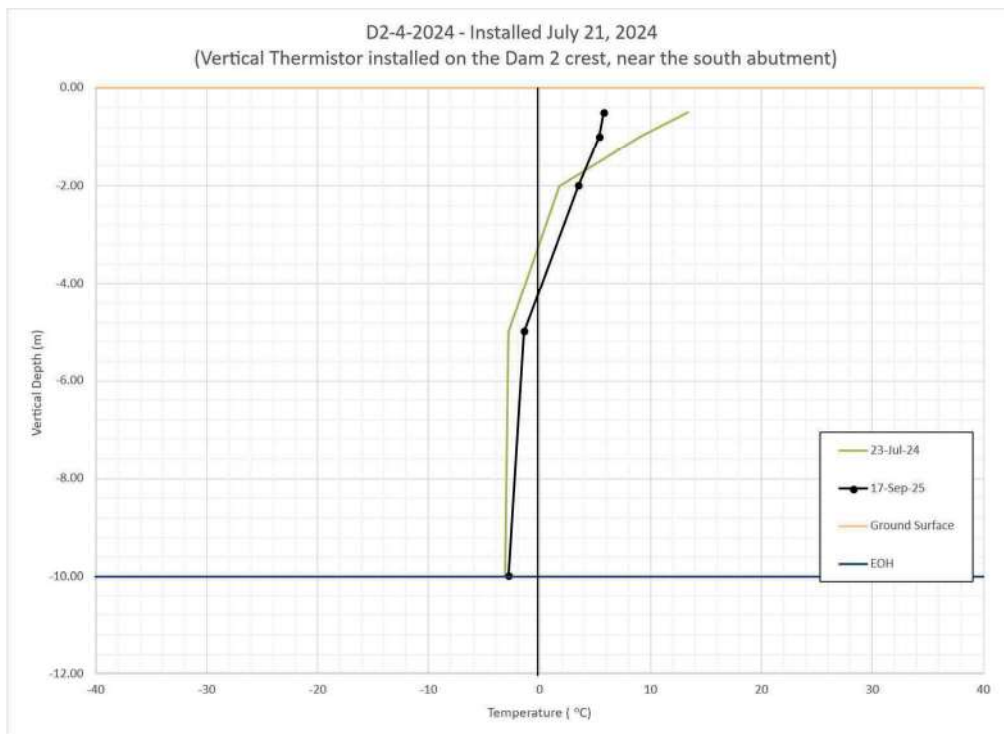


Figure 4-13 Thermistor D2-4-2024 Results



2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report  
 2025 TCA Inspection

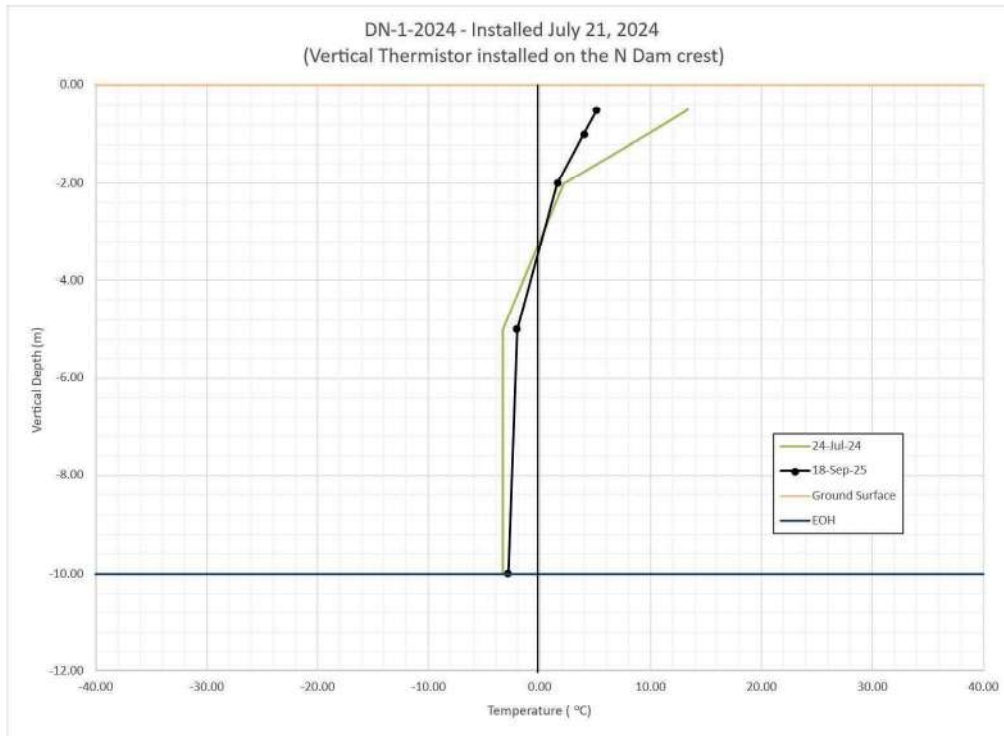


Figure 4-14 Thermistor DN-1-2024 Results

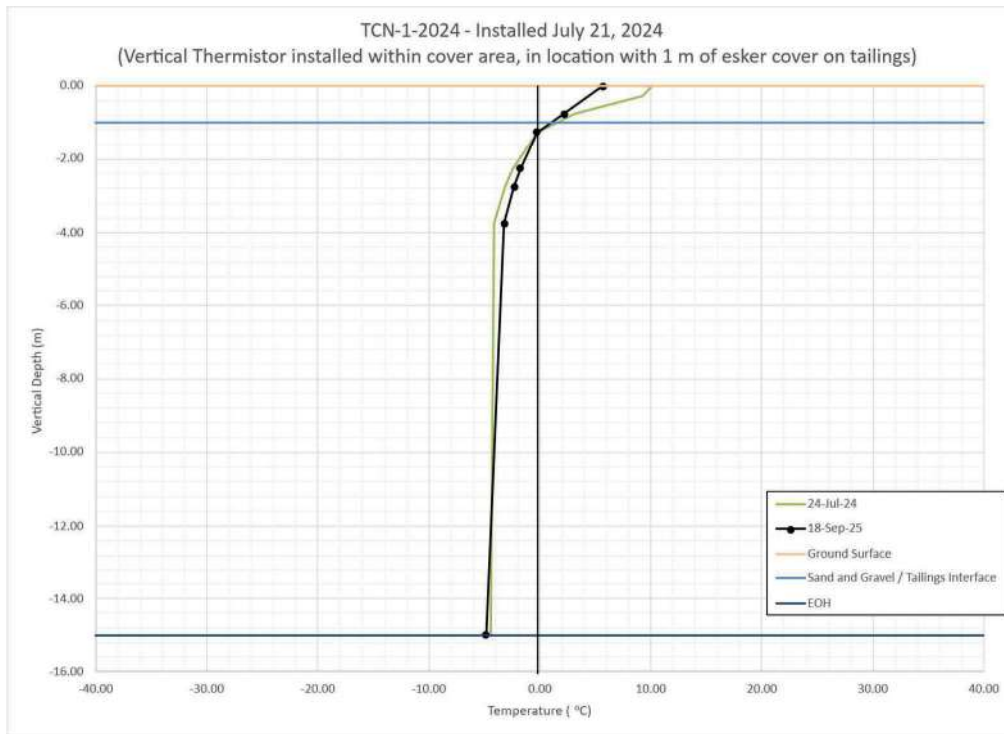


Figure 4-15 Thermistor TCN-1-2024 Results



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

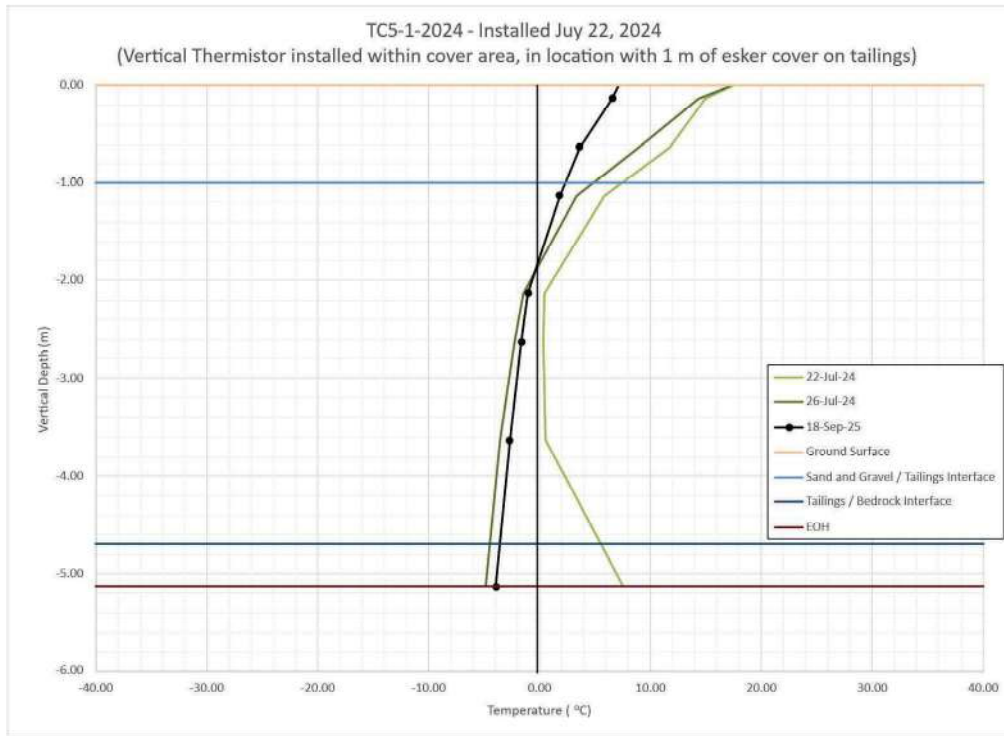


Figure 4-16 Thermistor TC5-1-2024 Results



Figure 4-17 Thermistor TC2-2-2024 Results



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

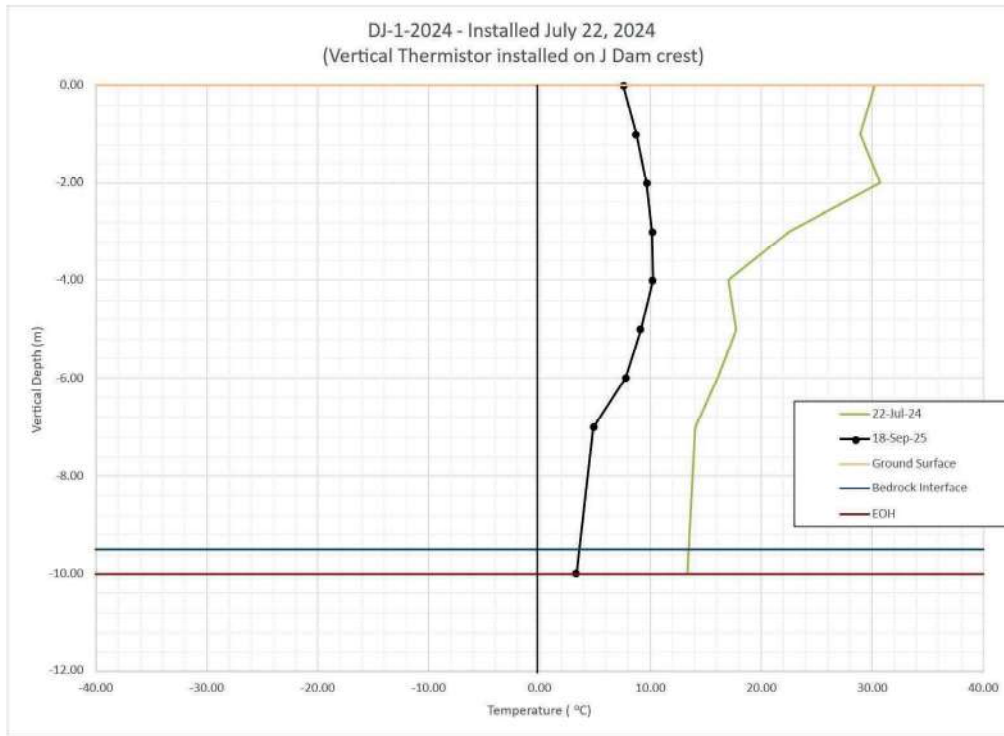


Figure 4-18 Thermistor DJ-1-2024 Results

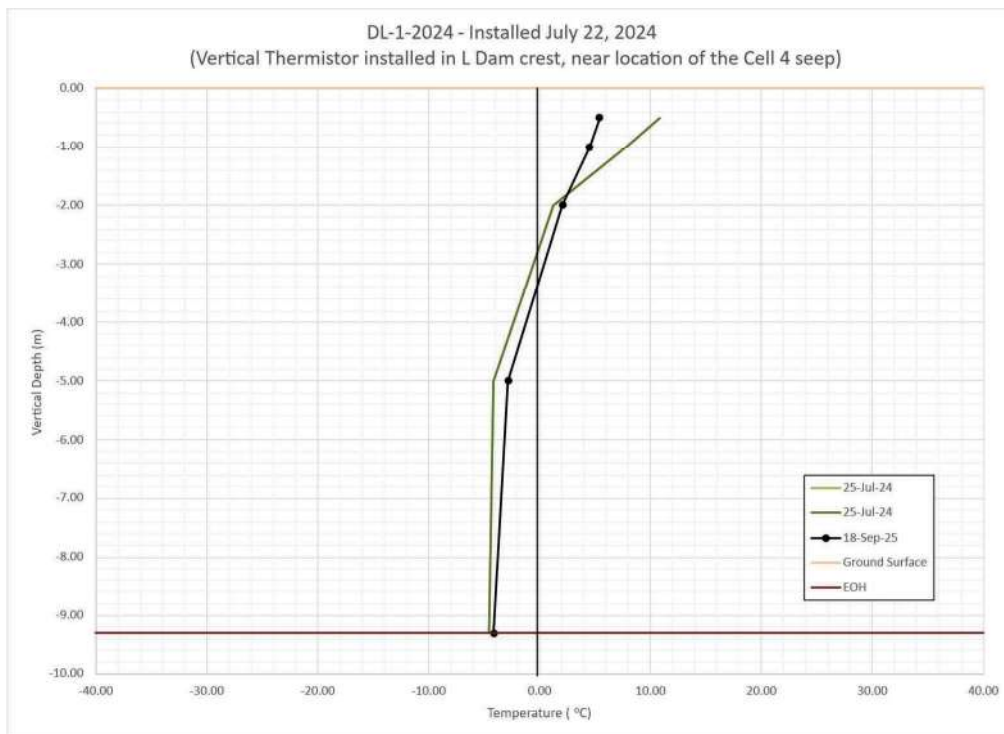


Figure 4-19 Thermistor DL-1-2024 Results



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection



Figure 4-20 Thermistor DL-2-2024 Results

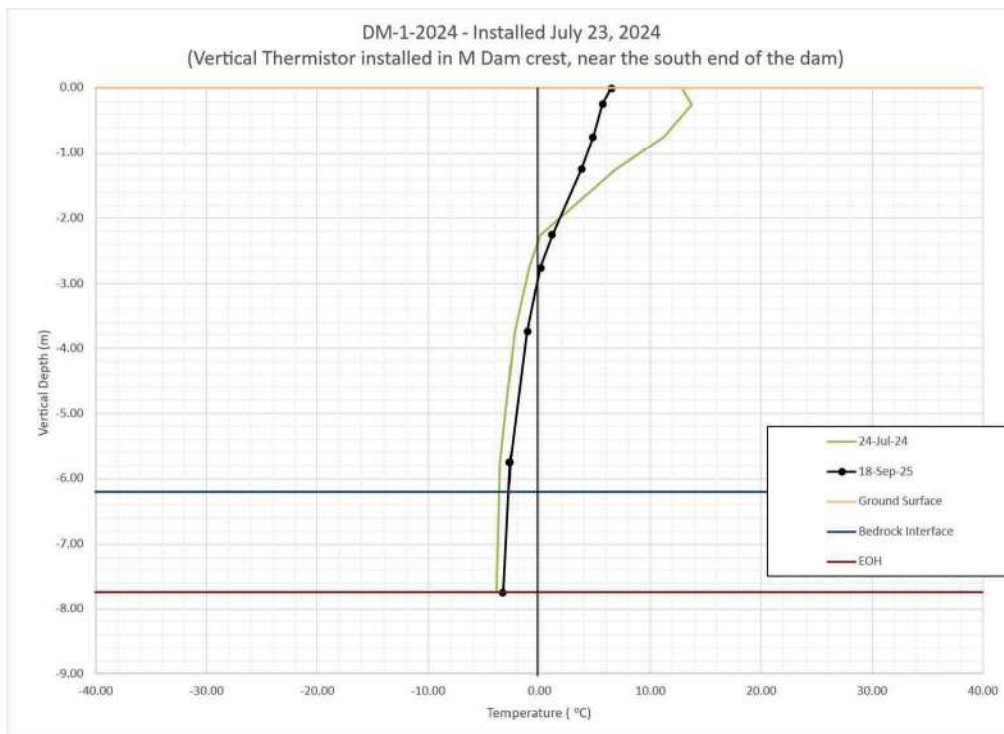


Figure 4-21 Thermistor DM-1-2024 Results



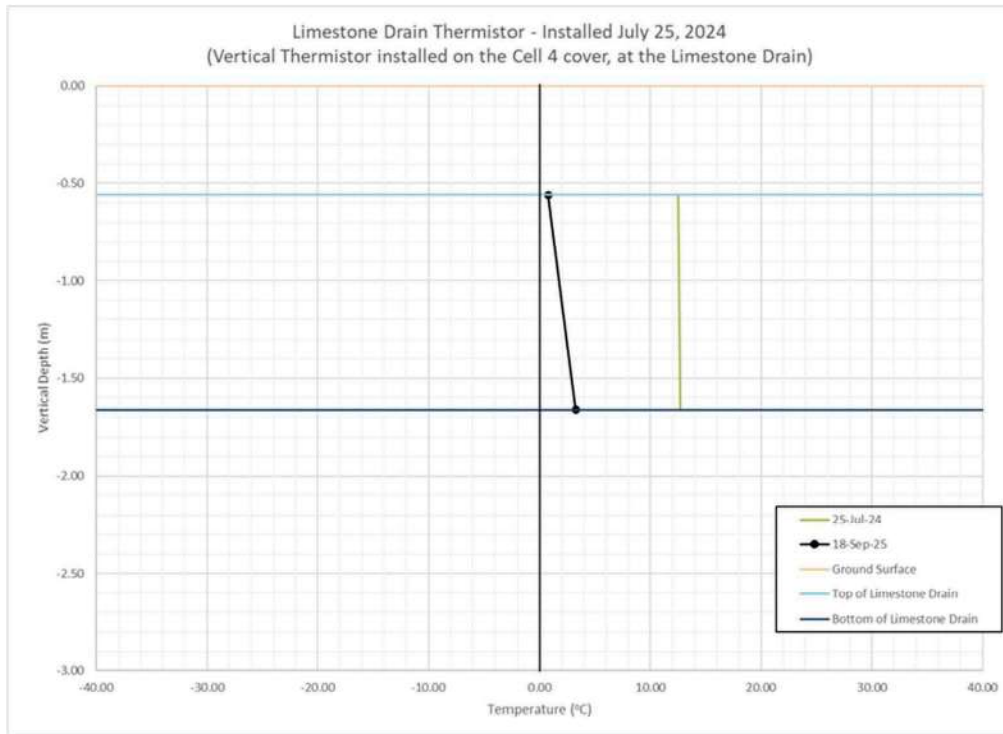


Figure 4-22 Limestone Drain Thermistor Results

Based upon the thermistor monitoring results, the active layer associated with annual summertime permafrost thaw ranged from roughly 1 m to 3.6 m deep as shown in Table 4.2. The 2025 data suggest that several thermistor beads were either at, or in excess of, historical maximums that have been plotted on Figure 4-2 to Figure 4-22. Although temperatures were at, or in excess of, historical maximums, results indicated intact permafrost dam cores and foundations below the active zone.

The thermistors which show the deepest active permafrost layers have either missing data from damaged thermistor beads within the active layer or have more widely spaced beads (ex. Bead depths at 2.0 and 5.0 metres below ground level (mbgl)) which may not provide enough closely spaced data for accurate identification of the active layer depth.



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
 2025 TCA Inspection

*Table 4.2 Active Layer Permafrost Thaw Depth*

<b>Thermistor</b>	<b>Frozen Depth (mbgl)</b>
D1A-00-01	1
D1A-00-02	4.5 <sup>1</sup>
D2-00-02	3.5 <sup>2</sup>
D2-4-2024	4 <sup>4</sup>
D3D-1	3.5 <sup>3</sup>
D4-1	3
D4-2	3
D4-3	3
D4-4	2.5
DN-1-2024	3.6 <sup>4</sup>
DL-1-2024	3.5 <sup>4</sup>
DL-2-2024	1.6
DJ-1-2024	Not frozen
DM-1-2024	3
TC1-3	1.5
TC1-6	2
TC1-7	1.8
TC3-1	2
TCN-1-2024	1.2
TC5-1-2024	1.8
TC2-2-2024	1.2
Limestone Drain	Not frozen

Notes.

1. The damaged thermistor beads are at 3.3 and 4.3 mbgl, in the active permafrost layer.
2. The damaged thermistor bead is at 3.2 mbgl, in the active permafrost layer.
3. The damaged thermistor bead is at 3 mbgl, in the active permafrost layer.
4. The thermistor beads are at depths of 0.5, 1.0, 2.0, 5.0 and 10 mbgl.



#### 4.2.1.1 Multi-Channel Logger

One thermistor, TC3-2, was installed in the Cell 3 cover surface in 2021 and is connected to a multi-channel data logger. The data logger records data from eight sensors once per day at depths ranging from 1.5 m above ground surface to 5.5 m below ground surface. Figure 4-23 presents the recorded data from TC3-2 from 2021 to 2025.

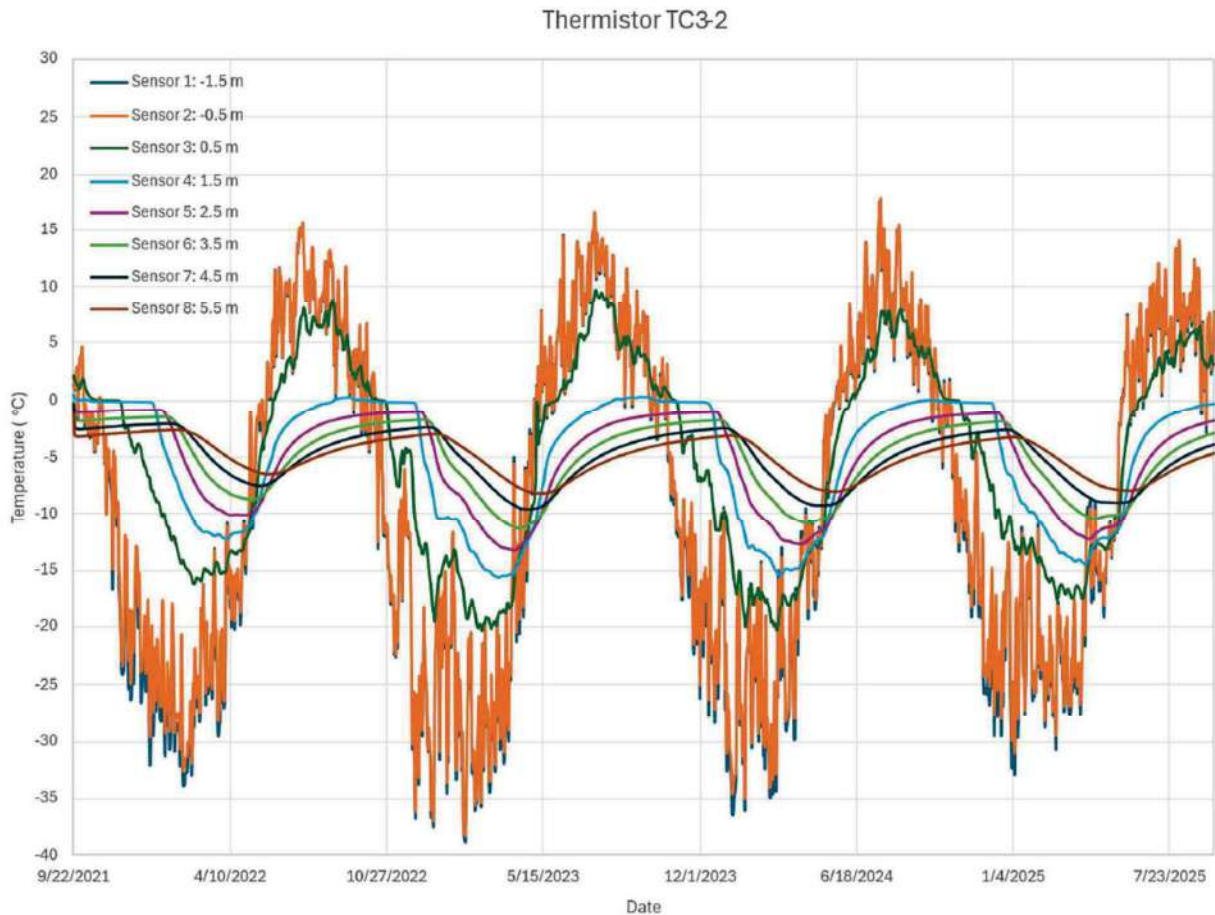


Figure 4-23 Thermistor TC3-2 Temperature Data 2021 to 2025

Based on review of the collected TC3-2 thermistor data, the permafrost active layer at Cell 3 was observed to be located between sensor 4 and sensor 5 (1.5 to 2.5 m depth). Because the sensor 4 (1.5 m depth) maximum temperature is typically 0.5°C or lower throughout the year, the actual permafrost depth at Cell 3 is likely at 1.5 m depth. As expected, year-round temperature stability increases with depth. The data appears to be relatively consistent and aside from seasonal variability, no apparent increasing or decreasing trend in temperature has been noted.



## 4.2.2 Water Content Sensors

To monitor performance of the tailings cover, volumetric water content (VWC) sensors were installed in Cell 1, Cell 3 and Cell 5 covers. These instruments include a TEROS-12 VWC sensor that measures volumetric water content, temperature and electrical conductivity. The datalogger records results once every 12 hours. The VWC sensor details are presented in Table 4.3. The sensor information is provided in Table 4.4

*Table 4.3 VWC Sensors Coordinates and Condition*

Location	Station (Inst. Name)	E	N	Install Date	2024 Condition
Cell 1	<b>C1-1VWC</b>	488028	7289597	2018	Working
Cell 3	<b>C3-1VWC</b>	487014	7289138	2018	Working
Cell 3	<b>TC3-VWC2</b>	487177	7288745	2024	Working
Cell 5	<b>TC5-VWC1</b>	487205	7290175	2024	Working

*Table 4.4 VWC Sensor Install Details*

VWC ID	Cell 1-1		Cell 3-1		Cell 3-2		Cell 5-1	
	Depth (m)	Material	Depth (m)	Material	Depth (m)	Material	Depth (m)	Material
Port 5	1.0	Fine Sand (Cover)	0.35	Sand and Gravel (Cover)	0.30	Sand (Cover)	0.30	Sand (Cover)
Port 4	1.2		0.5		0.50			
Port 3	1.4		0.6		1.26			
Port 2	1.6		0.7		1.56	Sand (Cover/Tailings Interface)	1.6	Sand (Cover/Tailings Interface)
Port 1	1.8	Tailings	1.0	Sand and Gravel (Cover)	1.76	Tailings	1.8	Tailings

Monitoring is carried out to assess the percent saturation at various depths within the cover material. The Mine Environment Neutral Drainage (MEND) Program (MEND, 2009) demonstrated that a soil cover moisture content (percent saturation) greater than 85% provides an effective barrier against oxidization. Sensors register ice as a dry void so as pore water freezes, the measured water content drops during the winter months.

Attempts to collect VWC data in 2025 were unsuccessful due to software issues. The data will be collected and presented in the next reporting period. At the time of the inspection, there was some ponded water on the cells from the recent rain event which suggest that the cover is saturated and performing as intended. Previous monitoring results also support this conclusion.



### 4.2.3 Transducers

Three In-Situ Level TROLL 400 transducers and one In-Situ BaroTROLL transducer were installed in four standpipes in the Cell 1 cover in 2019. Based on information from Kinross (2006), the standpipes were installed to the tailings/cover contact. Transducers were installed a few centimetres off the bottom of the standpipes. The installation summaries indicated that there was approximately 1.0 m of cover thickness at the three transducer locations. These transducers provide insight into the historical performance of the tailings and aid in reconciling the VWC data. The transducers were programmed to record the depth of water above the sensor in each standpipe at 4-hour intervals. The transducers are winterized such that they remain operational throughout the freezing period, but water level readings recorded at temperatures below 0°C are not representative of real water/ice thickness.

The transducer details are presented in Table 4.5. The transducer results from 2019 to 2025 are presented in Figure 4-24.

*Table 4.5 Transducers - Coordinates and Condition*

Location	Station (Inst. Name)	E	N	Install Date	2025 Condition
Cell 1	SP2	488313	7290007	2019	Working
	SP5	488254	7289783	2019	Working
	SP8	488192	7289550	2019	Working
	Baro (ATM-1)	487905	7289675	2019	Working



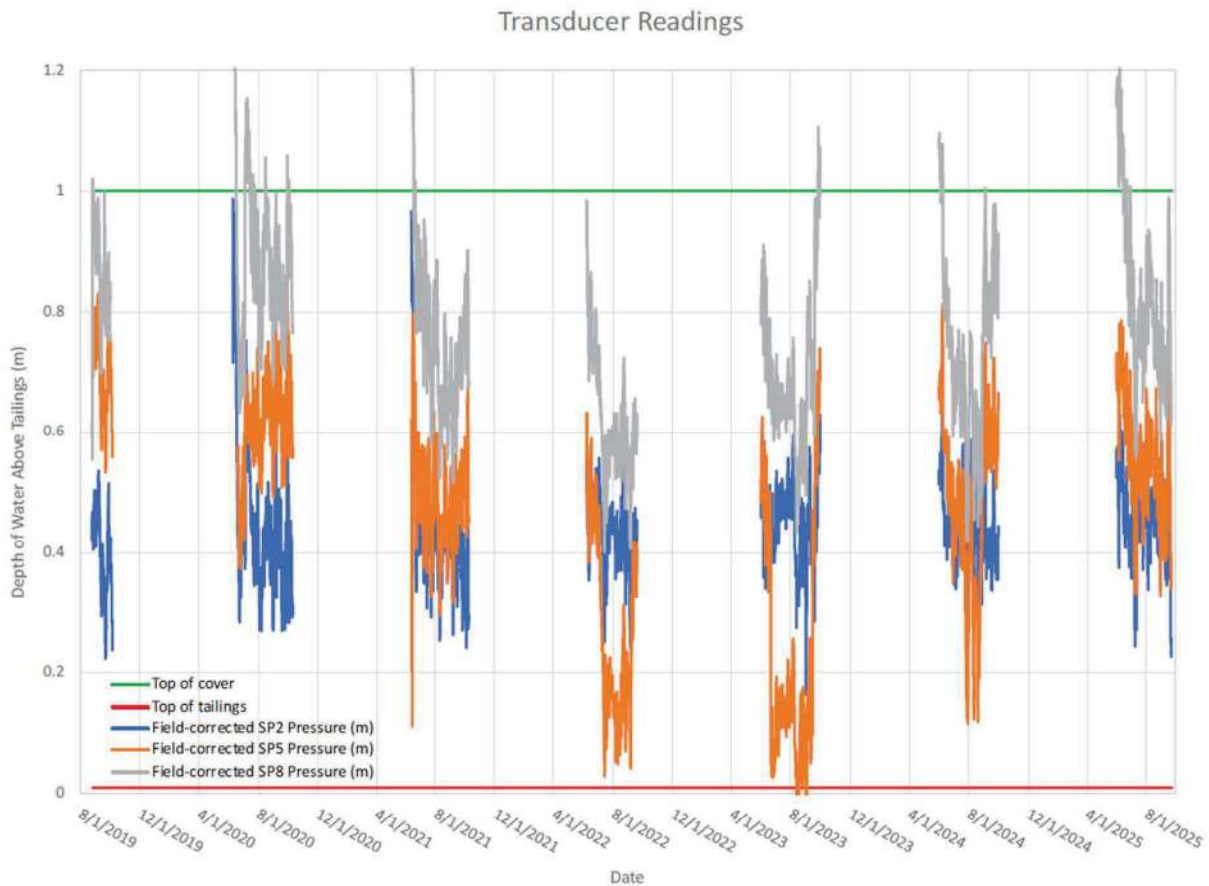


Figure 4-24 Transducer Results

Data collected during the freezing period have been removed from the plots since these results are unreliable. Results collected over the open-water period fluctuate in response to evaporation and precipitation events. The general trend indicates that there was typically a minimum of 30 cm of water above the contact point of the tailings and cover material, over the period of record. Some results for SP8 show water levels extending beyond the top of cover material, indicating ponding water on the cover surface.

Instrument SP5 was disturbed by wind or other weather between 2021 and 2022, which raised the transducer elevation. As a result, the monitoring results for SP5 were approximately 20 cm lower during 2022 and 2023. The transducer was repositioned in 2023. Based on the data collected since its repositioning, it appears the transducer is at a similar elevation as originally installed.

The 2025 transducer readings show that the cover and tailings were saturated at the monitored locations across Cell 1, indicating the cover is functioning as designed.



### **4.3 Perimeter Dams**

The perimeter dams (Dams 1A through 6) were observed to be in stable condition. Minor variations in crest height (<1m) were observed at most dams. Shrubs and grasses vegetated some dam embankments but does not pose a threat to dam integrity.

On some perimeter dam upstream embankments, erosional features from wave action were observed. These erosional features appear to be unchanged from previous years based on visual observation and photographic records.

Erosional gullies were observed on several downstream embankments. Most of these erosional gullies were noted historically. Erosional gullies varied in size and geometry, and no active erosion was observed at the time of inspection. These features will require filling and compaction with granular material and may need additional armouring or local grading to prevent concentrated flows from impacting the dams.

The previously observed tension cracking near the crest of Dam 3 was remediated in September 2025. The downstream slope of Dam 3 was resloped to a 2H:1V or shallower slope in the areas of cracking and armoured with riprap at the toe in effort to stabilize the area. At the time of inspection, no cracking was visible on the crest. Additionally, the erosional features in the surface water collection channel between Cell 1a and Dam 3 were excavated, recompacted and armoured.

At the time of inspection, the water surface elevation at Pond 1 was 482.79 m, and Pond 2 was 482.03 m. The perimeter dam freeboard values were estimated to be greater than 3.5 m. This is greater than the minimum freeboard amount of 1.0 m required. Dams 1B, 1C, 5, and 6 did not have water at the toe of their upstream embankments due to low water levels.

Previous annual inspections noted seepage at the downstream toe of Dam 2 near its northeastern abutment. This seepage was historically collected in two seepage collection dams/ponds downstream of Dam 2. Since 2021 closure activities, Pond 2 water levels have been maintained at a lower elevation than the seepage collection pond. This supports the conclusion that the source of water in the Dam 2 collection ponds is not a result of seepage, but instead is runoff from upstream areas. Ponded water was observed in the northern seepage collection dam/pond during the 2025 inspection, while the southern seepage collection pond was dry. It is recommended that the seepage pond berms be removed and regraded to restore the original ground conditions downstream of Dam 2, thus preventing ponds from impounding runoff.

Animal burrows, likely caused by Siksiks or Lemmings, were observed on some perimeter dam embankments and crests. Burrows were most common on western and southern slopes and near/at the dam crest. Burrows are not expected to be a major concern for the structures due to reduced water levels across the TCA but may serve as a preferential seepage pathway if water levels are higher.

### **4.4 Internal Dams**

In 2024 an esker cover was placed on the exposed tailings in the NW section of Cell 4, and a limestone drain system was constructed to neutralize acidic seepage water in the historical seep area. Additional fill



## 2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report

### 2025 TCA Inspection

and shoreline armouring remain to be completed. The minor swale on the Cell 4 cover material which has conveyed surface water runoff across the cover to Pond 4 was performing well with some minor erosion, and some minor ponded water is also present in this area. A thermistor was installed to monitor the thermal performance of the Cell 4 cover at the limestone drain. The September 2025 readings show the cover is not yet frozen, however the temperature ranges from 0.8°C to 3.2°C at the top and bottom of the drain, respectively.

Water was present in the Divider Dyke spillway and was flowing towards Pond 4. The dykes were surveyed to have a freeboard of approximately 3.0 m.

The Cell N field-fit diversion ditch was observed to be concentrating flow and eroding the N Dam downstream toe area during the 2024 site inspection. At the recommendation of Stantec, the diversion ditch was infilled and compacted with cover material. This area should continue to be monitored for future surface erosion and remediated as required, including tying in the esker cover into the natural ground.

Existing erosional features that were identified in previous DSIs and DSRs appeared to be similar in size, shape, and overall geometry. Small windrows created by road grading contribute to this issue as they trap and direct water to a single low spot on dam crests producing a higher volume of flow off the dam. The windrows on Dam 4 were graded down at the time of the 2024 inspection and had not reformed at the time of the 2025 inspection. Monitoring should continue for new occurrences of windrows, and they should be removed where they occur.

Existing erosional features were observed at several locations on the M Dam downstream embankment and crest. It is expected that these erosional features will be covered and remediated during the planned resloping works.

Existing erosional features related to wave action and scour appeared to be similar in size and extent to observations collected in previous years. No seepage or saturated areas were identified in the downstream toe areas.

Minor amounts of shrubs and grasses were noted to vegetate some dam slopes and, to a lesser extent, the esker cover surfaces but do not pose a threat to stability. Revegetation of the esker cover surfaces is beneficial and is a crucial part of the closure plan.

The Cell 3 tailings cover, drainage swale, and outfall structure incorporated in L Dam were completed in 2021. Similar to observations made in 2023 and 2024, the drainage swale had multiple erosional gullies (estimated to be 30-50 cm deep and 2 m wide) adjacent to it. Some accumulation of sediment was also observed on the floor of the drainage swale. The outfall structure appeared to be functioning adequately but was not actively discharging water at the time of inspection. In response to the progressive erosion of the cover surface adjacent to the Cell 3 drainage swale, mitigation will be required in 2026 which may include resloping side slopes, filling and compacting erosional features, realignment of the swale, and/or armouring with coarse material.

The observed erosion in the Cell 5 spillway was repaired, and the spillway was rebuilt to the original design. No active discharge was occurring at the time of inspection.



**2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report**  
2025 TCA Inspection

Instrumentation repairs and new installations were completed in 2024; no further repairs were completed in 2025. Details on the instrumentation data and analysis can be reviewed in Section 4.2. The instrumentation appeared to be in acceptable condition at the time of inspection.



## 5 Recommendations

Based upon the 2025 dam safety inspection and review of instrumentation monitoring results, Stantec has developed observations and recommendations which are provided below. For comparison purposes, the findings from the 2024 inspection report have been included.

Recommendations are assigned a priority level 1 to 4, based on the perceived severity as related to dam safety or the contents of the dam safety management system. Definitions of priority levels are presented in Table 5.1. Findings and recommendations from this DSI are presented in Table 5.2.

Table 5.1 Priority Scale Definitions

Priority	Description		
	Dam/ Structural Safety	Operations /Governance	Environmental/Closure
1	A dam safety issue considered immediately dangerous to life, health or the environment, or a significant risk of regulatory enforcement.	N/A	An issue associated with the dam that is considered immediately dangerous to life, health, or the environment.
Priority 1 recommendations require immediate or time-sensitive action by operations.			
2	If not corrected, a concern that could result in a dam safety issue leading to injury or environmental impact.	If not corrected, a concern that could result in significant business disruption or a repetitive deficiency that demonstrates a systematic breakdown of procedure.	An issue considered to be of significant risk of regulatory enforcement; or, if not corrected, a concern that could result in regional scale /long-term or local scale/short term environmental impacts.
Priority 2 recommendations require action by a date agreed by operations and corporate.			
3	Single occurrence of deficiency or non-conformance that alone would not be expected to result in dam safety issues.	Single occurrence of deficiency or non-conformance that alone would not be expected to result in business disruption or breakdown of procedure.	Single occurrence of deficiency or non-conformance that alone would not be expected to result in environmental impacts or regulatory enforcement.
Priority 3 recommendations require action by a date agreed by operations and corporate.			
4	A recommendation based on good practice improvement or risk reduction.		
The timeline for completion of Priority 4 recommendations is at the discretion of site operations considering its resources, as agreed by corporate.			



2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report  
Recommendations

Table 5.2 Observations and Recommendations

Inspection Item	2024 Inspection			2025 Inspection			Priority
	Observations	Recommendations	Estimated Freeboard (m) <sup>(2)</sup>	Observation	Recommendations	Estimated Freeboard (m) <sup>(2)</sup>	
<b>Perimeter Dams</b>							
Dam 1A	No progressive deterioration was observed for erosional features. Repairs were attempted at thermistor D1A-00-01 but were not completed. Repairs at D1A-00-02 also remain.	Monitor erosional features for progressive deterioration and fill and compact during spillway construction. Repair instruments.	4.28	No progressive deterioration was observed for erosional features. Animal burrows were present near crest.	Monitor erosional features for progressive deterioration and fill and compact during spillway construction.	4	4
Dam 1B	No progressive deterioration was observed for erosional features. Animal burrows were present near crest.	Monitor erosional features for progressive deterioration and fill and compact during spillway construction	3.77	No progressive deterioration was observed for erosional features. Animal burrows were present near crest.	Monitor erosional features for progressive deterioration and fill and compact during spillway construction	4	4
Dam 1C	No progressive deterioration was observed for historical erosional features. Animal burrows observed on crest of Dam 1C. The Pond 2 shoreline was located at a significant distance from the upstream toe.	Monitor erosional features for progressive deterioration and fill and compact during spillway construction.	3.69	No progressive deterioration was observed for historical erosional features. Animal burrows observed on crest.	Monitor erosional features for progressive deterioration and fill and compact during spillway construction.	4	4
Dam 2	Historical erosional features were observed. The NW seepage collection pond contained presumed runoff. Thermistor D2-00-02 was repaired. Thermistor D2-00-03 cable was severed and was not repaired. Thermistor D2-4-2024 was installed.	Fill and compact erosional features. Remove windrows from the dam crest. Pump water from seepage collection ponds back to Pond 2. Remove/regrade pond embankments. Repair D2-00-03.	4.33	Historical erosional features were observed. The NW seepage collection pond contained presumed runoff.	Fill and compact erosional features. Pump water from seepage collection ponds back to Pond 2. Remove/regrade seepage collection pond embankments.	3	3
Dam 3	New tension cracking, enlarged erosional features, and existing animal burrows were observed. Volunteer vegetation continued to establish on the tailings cover surface.	Fill and compact and armour erosional features. Reslope or construct a toe berm downstream of the tension crack area.	No water is impounded by this dam	Repairs completed included regrading downstream slope tension cracks, placing tritrap at the toe, and repairing channel and french drain erosion. Volunteer vegetation occurring on the cover surface.	Continue to monitor for reappearing tension cracks and erosional features.	3	3
Dam 4	New erosional features and existing erosional features were observed. Thermistor D4-3 was repaired.	Fill and compact erosional features. Remove windrows from dam crests.	N/A <sup>(3)</sup>	No progressive deterioration was observed for the historical erosional features.	Fill and compact erosional features.	4	4
Dam 5	No progressive deterioration was observed for the historical erosional features.	Fill and compact erosional features.	N/A <sup>(1)</sup>	No progressive deterioration was observed for the historical erosional features.	Fill and compact erosional features.	4	4
Dam 6	No progressive deterioration was observed for the historical erosional features.	Fill and compact erosional features. Remove windrows from the dam crest.	N/A <sup>(1)</sup>	No progressive deterioration was observed for the historical erosional features.	Fill and compact erosional features.	4	4



2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report  
Recommendations

Inspection Item	2024 Inspection			2025 Inspection		
	Observations	Recommendations	Estimated Freeboard (m) <sup>(2)</sup>	Observation	Recommendations	Priority
<b>Internal Dams</b>						
Dams 3A to 3D	No progressive deterioration was observed for historical erosional features and wave-action erosion at Dam 3D. Thermistor TC2-2-2024 was installed in the Cell 2 cover.	Fill, compact and if needed, armour wave action and other erosional features.	No water is impounded by these dams	No progressive deterioration was observed for historical erosional features and wave-action erosion.	Fill, compact and if needed, armour wave action and other erosional features. Remove dam crest windrows.	4
Dam J	Siphon intakes were decommissioned, Pumping of water from Pond 1 to Pond 2 was carried out. No progressive deterioration observed for historical wave-action erosion. Thermistor DL-1-2024 was installed.	Armour areas of wave-action erosion as needed. Update the Pond 1 closure elevation on detailed design drawings to reflect design changes	2.91	Pumping water from Pond 1 to Pond 2 was carried out. No progressive deterioration observed for historical wave-action erosion.	Armour areas of wave-action erosion as needed.	3
Dam K	The recently completed embankment re-slope has been performing well. Minor erosional features were noted. Thermistor DK-3's severed cable was located below ground surface. Repairs were attempted but not completed in 2024.	Monitor erosion. Attempt repair of damaged thermistor and abandon the instrument if repairs are not feasible.	N/A <sup>(1)</sup>	No progressive deterioration was observed for the minor historical erosional features.	Continue to monitor erosion.	3
Dam L	Historical erosion features were noted near the crest and downstream embankment at L Dam. The Cell 3 outfall structure appeared to be functioning adequately. Discharge was not occurring. The Cell 3 drainage swale had multiple new erosional gullies and sediment accumulation was observed. Thermistor DL-1-2024 was installed in Dam L. Thermistor DL-2-2024 was installed in the limestone drain. TC3-VWC2 was installed.	Fill and compact erosion. Remove windrows from dam crest. Monitor the outfall structure for deformation or performance issues. Mitigate Cell 3 drainage swale issues by resloping side slopes, filling and compacting erosional features, realigning the drainage swale, and/or armouring.	N/A <sup>(4)</sup>	Historical erosion features were observed near the downstream slope. The Cell 3 outfall structure appeared to be functioning adequately. Discharge was not occurring. The Cell 3 drainage swale had new erosional gullies and sediment accumulation.	Mitigate Cell 3 drainage swale by resloping, filling and compacting erosional features, realigning, and/or armouring.	4
Dam M	The Cell 5 outfall structure appeared to be functioning adequately. Discharge was not occurring at the time of inspection. Some portions of the outfall were backfilled to allow for haulage to pass through the area. Existing erosional features were noted near the crest and on the downstream embankment. Historical tension cracking/erosion appeared to be largely unchanged from historical observations. Tailings exists at the M Dam toe area. Thermistor TC5-4-2024 and DM-4-2024 were installed. TC5-VWC1 was installed.	Remove backfill material when haulage is complete. Reslope the downstream embankment to 2.1H:1V. Fill and compact erosion. Cover exposed tailings with fill or water cap.	N/A <sup>(4)</sup>	The Cell 5 outfall structure appeared to be functioning adequately after erosion repairs. Discharge was not occurring during inspection. Existing erosional features were noted near the crest and on the downstream slope. Tailings exist at the Dam toe area.	Reslope the downstream embankment to 2.1H:1V. Fill and compact eroded areas. Cover exposed tailings with fill or water cap.	3
Dam N	Erosion was observed at the downstream toe near the NW corner of Cell N. Thermistor DN-1-2024 and TCN-1-2024 were installed.	Fill and compact cover material at NW corner to achieve 1.0 m cover.	N/A <sup>(5)</sup>	The diversion ditch on N Dam was infilled and compacted with cover material. There was some ponded water present on the Cell N cover.	Fill and compact cover material at NW corner to achieve 1.0 m cover. Continue to monitor the cover for surface erosional features and potential water ponding.	3



2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report  
Recommendations

Inspection Item	2024 Inspection		2025 Inspection		Priority	
	Observations	Recommendations	Estimated Freeboard (m) <sup>(2)</sup>	Observation		Recommendations
Divider Dykes	A small sump, plywood, and rock check dam were located in the Divider Dykes spillway. The spillway was functioning adequately. Discharge was occurring at the time of inspection. Historical tension cracks and erosional features were unchanged. Esker cover was placed on historically exposed tailings at the NW corner of Cell 4. Based on analyses, 50% of the cover surface at Cell 4 was placed in 2024. The passive limestone drain was completed in July 2024 in accordance with design guidance.	Remove the sump, plywood, and rock check dam from the constructed spillway. Backfill the sump with riprap. Monitor the spillway for deformation or performance issues. Place clean esker fill on the historically exposed area of tailings at the NW corner of Cell 4 to bring the final cover surface to at least 1.0 m. Armour the shoreline. Monitor the passive limestone drain system. Consider collecting water samples downstream of this feature during active discharge to monitor water quality.	3.07 <sup>(3)</sup>	The spillway was functioning adequately. Discharge was occurring at the time of inspection. Historical tension cracks and erosional features were unchanged.	Monitor the spillway for performance issues. Place clean esker on the historically exposed tailings at the NW corner of Cell 4 to achieve 1.0 m cover. Armour the shoreline. Continue to monitor the passive limestone drain system.	4

Notes:

- Water was not adjacent to the dam to determine available freeboard.
- Freeboard was measured with survey equipment on September 17, 2025
- A spillway is constructed to passively manage water below the dam structure.
- An outfall structure is constructed to passively manage water below the dam structure.
- Cell has been covered in 1.0 m of esker material. Cover surface ties-in to the dam crest, no water is impounded in this cell as a result.



## 5.1 Dam 2 Collection Pond

In response to dewatering efforts over the past few years, ponded water levels at Pond 2 remained lower than water impounded in the Dam 2 collection ponds. The 2022 DSI concluded that the source of water in the collection ponds was not due to seepage from Pond 2, but surface run-on from the surrounding native ground upgradient of the pond. Previous DSIs recommended that operational procedures be reconsidered as the water in the pond should not be considered as impacted water. Based on the results of this DSI, these recommendations remain valid. The water quality in the collection ponds should be monitored and a closure plan developed which may include breaching, grading, cover or other alternatives.

## 5.2 Maintenance and Closure Priorities

The following maintenance and closure items documented in Table 5-1 should be prioritized:

1. Reslope Dam M in accordance with the closure design.
2. Continue to execute remediation for the NW corner of Cell 4. Additional fill should be added to achieve 1.0 m of esker cover over tailings. Also, complete shoreline protection (riprap).
3. Assess onsite conditions and develop detailed drawings for spillway designs for Dam 1A, J Dam, and the two sewage lagoons.
4. Assess onsite conditions and develop a strategy for covering or removing tailings impounded in the two emergency tailings dump ponds.
5. Assess the Cell 3/Dam L drainage swale erosion issue for potential to worsen over time. If needed, identify and implement remediation which may include placement of riprap, regrading, realignment and/or other approaches.

After the completion of priority maintenance, LMI should carry out the following:

- Fill and compact large and progressing erosional features (see Table 5-1 above) with well graded esker sand and gravel during spillway construction and resloping activities.
- Continue to remove windrows from dam crests and access roads to reduce the extent to which ponded water can accumulate on the crests.
- Repair thermistors and any other damaged instruments where possible (as indicated in Table 5-1).
- Secure monitoring instruments on mounting systems.



## 6 Safety Statement

Based on the findings from the DSI, the Lupin Mine TCA currently appears to be stable. The DSI did not encounter any Priority 1 issues that could be considered immediately dangerous to life, health or the environment, or a significant risk of regulatory enforcement. Stantec has identified geotechnical, hydrotechnical and dam safety management system findings which are part of critical aspects of the dams and it's management system, are located within credible development paths for potential failure modes, and if not addressed, could compromise the integrity of the dams in the short or long-term.

Recommendations to address DSI findings are provided in each case as well as additional recommendations which may further aid LMI in managing and reducing Dam related risk. LMI and other stakeholders should review the priority of recommendations and consider risks in order to identify appropriate timelines and mitigations.

Due to the inherent risks of dam structures and the dynamic nature of dam design, construction and performance and the surrounding environment, it is also important that risks and uncertainties continue to be identified, investigated and communicated to stakeholders, including continuing frequent communication with corporate management for proper budget allocation and management of change.



## 7 Limitations

This annual inspection report has been prepared for the sole benefit of Lupin Mines Inc. or its agent and may not be used by any third party without the express written consent of Stantec and LMI. Any use which a third party makes of this report is the responsibility of such third party.

The annual inspection performed by Stantec is based on information provided by others. Stantec has a right to reasonably rely on the information and data provided by LMI or obtained from generally acceptable sources within the industry without independent verification except to the extent such verification is expressly included in the services. Unless expressly stated otherwise, assumptions, data and information supplied by, or gathered from other sources upon which Stantec opinion as set out herein is based has not been verified by Stantec and Stantec makes no representation as to its accuracy and disclaims all liability with respect thereto.

The findings and conclusions in this annual inspection report are limited in terms of accuracy to the time, scope, and purpose for which the report was prepared and do not necessarily represent the conditions at any other time. An annual inspection is not intended to reflect the status of the dam for any significant period and reflects the current conditions at the time of issuance of the report. It is critical to note that the condition of the dams depends on numerous and constantly changing internal and external conditions and is evolutionary in nature. It would be incorrect to assume that the present conditions of the dams will continue to represent the condition of the dams in the future. Only through continued care and inspection can there be any chance that unsafe conditions will be detected. The information, opinions, and/or recommendations made in this report are in accordance with Stantec's present understanding of the site-specific project as described by LMI and observed by Stantec. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site-specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Stantec is requested by LMI to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

Preparation of this report, and all associated work, was conducted in accordance with the normally accepted standard of care for the specific professional service provided to LMI. No other warranty is made and Stantec does not guarantee the performance of the project in any respect, only that its engineering work and judgements rendered meet the standard of care.

Should any site or sub-surface conditions be encountered that are different from those described in this report, Stantec must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Stantec will not be responsible to any party for damages incurred as a result of failing to notify Stantec that differing site or sub-surface conditions are present upon becoming aware of such conditions.



## **8 References**

Canadian Dam Association (CDA) 2013. CDA Dam Safety Guidelines, 2013.

Canadian Dam Association (CDA) 2014. Technical Bulletin, Application of Dam Safety Guidelines to Mining Dams, 2014.

Golder Associates (Golder) 2018. Lupin Mine Site Final Closure and Reclamation Plan. Prepared for Lupin Mines Incorporated, submitted to Nunavut Water Board, July 2018.

Kinross Gold Corporation (Kinross) 2006. Final Abandonment and Restoration Plan and 2006 Response to Technical Review Comments – Lupin Mine. Prepared for Nunavut Water Board, 2006.

MEND Report 1.20.1 (MEND) 2009. Prediction Manual for Drainage Chemistry from Sulphidic Geologic Material, December 2009.

Norwest Corporation, 2016. 2016 Lupin Mine Tailings Containment Area Geotechnical Inspection Report, submitted to Lupin Mine Incorporated, October 2016.

Norwest Corporation, 2017. 2017 Lupin Mine Tailings Containment Area Geotechnical Inspection Report, submitted to Lupin Mine Incorporated, August 2017.

Nunavut Water Board (NWB) 2020. Nunavut Water Licence 2AM-LUP2032, issued to Lupin Mines Incorporated, February 2020.

Penner, E., and Crawford, C.B., 1983. Frost Action and Foundations, published as DBR paper no. 1090 of the Division of Building Research, National Research Council of Canada, March 1983.

Province of British Columbia, Water Management Branch (BCWMB) 2011. Dam Safety Guidelines, Inspection & Maintenance of Dams. Prepared by Dam Safety Section. ISBN 0-7726-3520-X. March 2016.

SLR Consulting Ltd. (SLR) 2023. 2023 Dam Safety Review Lupin Mine Tailings Containment Area (TCA). March 2024.

SRK Consulting Ltd. (SRK) 2012. Lupin Mine Site 2012 Geotechnical Inspection Follow-up Risk Assessment and Water Quality Review. Prepared for Lupin Mines Incorporated, 2012.

SRK Consulting Ltd. (SRK) 2016. Lupin Mine Tailings Management Facility 2015 Dam Safety Review. Prepared for Lupin Mine Incorporated, January 2016.

Stantec Consulting, 2018. 2018 Lupin Mine Tailings Area Inspection Report, Annual Geotechnical Inspection of the Tailings Containment Area. Report submitted to Lupin Mine Incorporated, November 16, 2018.

Stantec Consulting, 2019. 2019 Lupin Mine Tailings Area Inspection Report, Annual Geotechnical Inspection of the Tailings Containment Area. Report submitted to Lupin Mine Incorporated, October 24, 2019.

Stantec Consulting, 2020. 2020 Lupin Mine Tailings Area Inspection Report, Annual Geotechnical Inspection of the Tailings Containment Area. Report submitted to Lupin Mine Incorporated, November 17, 2020.



## 2025 Lupin Mine Tailings Containment Area Annual Dam Safety Inspection Report

### References

Stantec Consulting, 2021a. 2021 Lupin Mine Tailings Area Inspection Report, Annual Geotechnical Inspection of the Tailings Containment Area. Report submitted to Lupin Mines Incorporated on November 5, 2021.

Stantec Consulting, 2021b. Lupin Mine Reclamation, 2021 Construction Summary Report – Dam K Reslope. November 19, 2021.

Stantec Consulting, 2021c. Lupin Mine Reclamation, 2021 Construction Summary Report – Cell 3. November 19, 2021.

Stantec Consulting, 2021d. Lupin Mine Reclamation, 2021 Construction Summary Report – Cell 5. November 19, 2021.

Stantec Consulting, 2021e. Lupin Mine Reclamation, 2021 Construction Summary Report – Divider Dyke Spillway. November 19, 2021.

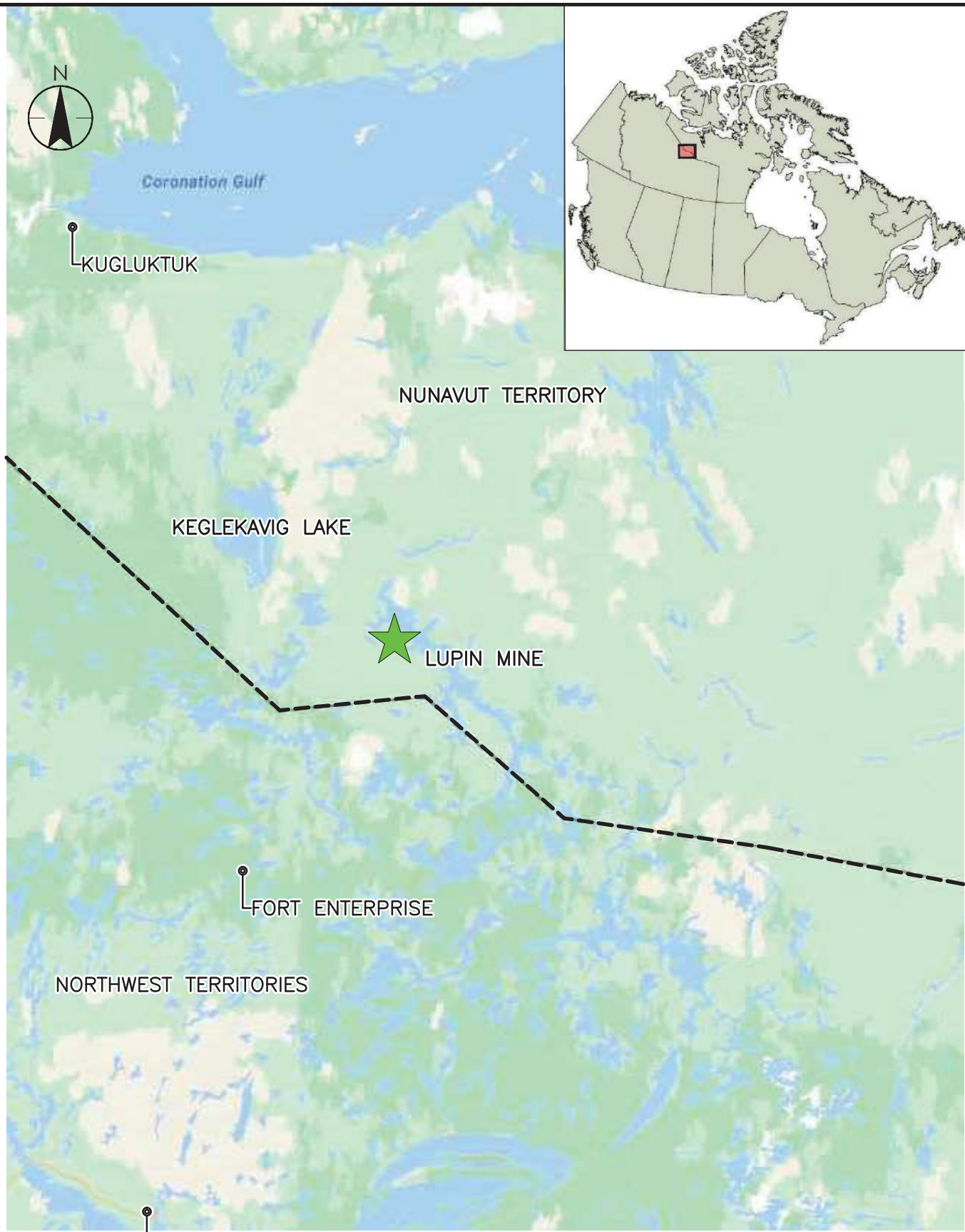
Stantec Consulting, 2022. 2022 Lupin Mine Tailings Area Inspection Report, Annual Geotechnical Inspection of the Tailings Containment Area. Report submitted to Lupin Mines Incorporated on August 22, 2022.

Stantec Consulting, 2024. 2023 Lupin Mine Tailings Area Annual Inspection Report, Annual Geotechnical Inspection of the Tailings Containment Area. Report submitted to Lupin Mines Incorporated on March 21, 2024.




## Appendix A Site Figures





FILENAME: \\CA0002-PPFSS02\SHARED\_PROJECTS\169525614\DRAWING\LUPIN TCA REPORT FIGURES\25614 FIG 1 SITE LOCATION.DWG  
 XREF FILE(S):  
 IMAGE FILE(S): Lupin mine location; Lupin mine provincial.png; Lupin-Site Locations-S

SCALES INDICATED BASED ON AN 8.5"x11" PLOT CONFIGURATION			
<b>LUPIN MINES INC.</b>			
<b>2025 ANNUAL DAM SAFETY INSPECTION</b>			
SITE LOCATION			
SCALE:	N.T.S.		PROJECT NO.: 169525614
DATE:	2025-10-16		
CO-ORD. SYS.:	UTM-NAD83-12		
DRWN BY:	TV		
DSGN BY:	LP		
REVD BY:	SB		
APP'D BY:	SB		
		FIG. NO.:	1
		REV.:	A

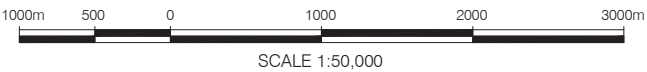
FILENAME: \\CA0002-PPFSS02\SHARED\_PROJECTS\669256614\DRAWING\LUPIN TCA REPORT FIGURES\25614 FIG 2 SITE OVERVIEW.DWG  
 XREF FILE(S): LUPIN MINE-ALL LUPIN-NE LUPIN-NW LUPIN-SW LUPIN-SE LUPIN-NE LUPIN-NW LUPIN-SW LUPIN-SE  
 IMAGE FILE(S): LUPIN MINE-ALL LUPIN-NE LUPIN-NW LUPIN-SW LUPIN-SE LUPIN-NE LUPIN-NW LUPIN-SW LUPIN-SE

DATE: 10/17/2025 TIME: 11:59:09 PLOT SCALE: 1:3,872



Notes

1. COORDINATES: UTM ZONE 12N.
2. AERIAL IMAGERY CAPTURED FROM GOOGLE EARTH ON AUGUST 2025.



SCALES INDICATED BASED ON AN 8.5"x11" PLOT CONFIGURATION

**LUPIN MINES INC.**

**2025 ANNUAL DAM SAFETY INSPECTION**

MINE PLAN VIEW

SCALE:	1:50,000
DATE:	2025-10-16
CO-ORD. SYS.:	UTM-NAD83-12
DRWN BY:	TV
DSGN BY:	LP
REVD BY:	SB
APP'D BY:	SB



PROJECT NO.:	169525614	FIG. NO.:	2	REV.:	A
--------------	-----------	-----------	---	-------	---



## Appendix B TCA Dam Descriptions



Table B-1. TCA Dam Descriptions

Dam	Construction Year	Crest Elevation (m) <sup>3, 4</sup>	Dam Height (m) <sup>5</sup>	Foundation	Dam Fill	Slopes	
						Upstream	Downstream
<b>Perimeter Dams</b>							
1A	1981	486.3	6.3	Deep Silty Sand Till	Compacted Silty Sand Till, upstream Esker zone, Riprap	2.5H:1V	2.5H:1V
1B	1981	485.8	2.5	Silty Sand Till	Compacted Silty Sand Till, upstream Esker zone, Riprap	2.5H:1V	2.5H:1V
1C	1981	485.9	2.2	Silty Sand Till	Compacted Silty Sand Till, upstream Esker zone, Riprap	2.5H:1V	2.5H:1V
2	1981	486.3	6.3	Deep Silty Sand Till	Compacted Silty Sand Till, upstream Esker zone, Riprap	2.5H:1V	2.5H:1V
3	1983	490.2	-	Silty Sand Till	Compacted Silty Sand Till, upstream Esker zone, Riprap	2.5H:1V	2.5H:1V
4	1992	489.6	9.6	Fractured Bedrock	Esker Sand and Gravel, upstream and downstream Riprap	2.3H:1V	1.5H:1V
5	1992	491.5	1.5	Silty Sand and Gravel Till	-	3H:1V	2H:1V
6	1992	490.3	3	Silty Sand and Gravel Till	-	3H:1V	2H:1V
<b>Internal Dams</b>							
3C	1985	491.2	n/a <sup>6</sup>	-	-	-	-
3D	1986	490.5	9.5	Bedrock	Esker Sand and Gravel, downstream mine rock, additional Esker on crest	-	1.6H:1V
3E	1985	491.2	n/a <sup>6</sup>	-	-	-	-
J	1985	485.6	7.6	Shallow Till over Bedrock	Mine Rock, upstream Esker Sand and Gravel, Tailings	1.5-2H:1V	Approx 1.4H:1V
K	1990	491	11	Bedrock/Competent Foundation	Esker Sand and Gravel, downstream Riprap	3H:1V	1.5-2H:1V
L	1992	490.8	5.2	-	Esker Sand and Gravel, upstream and downstream Riprap	1.5H:1V	1.5H:1V
M	1992	488.8	8.8	Tailings over Bedrock	Esker Sand and Gravel, downstream Riprap	1H:1.1V	1H:0.6V
N	1997	483.9	n/a <sup>6</sup>	-	Esker Sand and Gravel, downstream Riprap	-	-

Notes.

1. Table copied and adapted from the 2023 DSR (SLR, 2023).
2. Information sourced from SRK (2016) and Stantec (2021).
3. Crest elevations for dams 1A, 1B, 1C, 2, 4, 5, 6, J and K have been reported from SRK (2016).
4. Crest elevations for dams 3, 3C, 3D, 3E, L, M, N have been reported from Holubec (2005).
5. Dam height approximated based on elevation of organic stripped cover from the original design section (Geocon, 1981).
6. No original design documents available.

## Appendix C Photographic Log





Photo 1: Overview of the Dam 1A downstream crest and embankment, and dewatering siphons. Taken from the northwest abutment.



Photo 4: Thermistor D1A-00-01, installed on the crest near the northwest abutment.

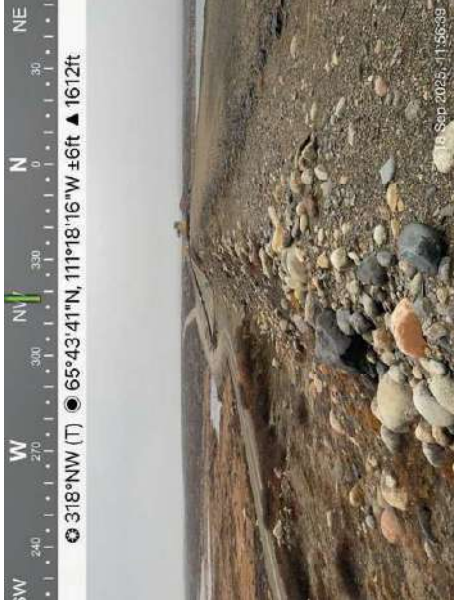



Photo 2: Overview of the Dam 1A downstream crest and embankment, and dewatering siphons. Taken from the southeast abutment.



Photo 5: Thermistor D1A-00-02, installed on the crest near the southeast abutment.



Photo 3: Overview of the Dam 1A upstream crest and embankment.

<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>Dam 1A</b>	
	PN: 169525614
FIGURE 1	REV. A

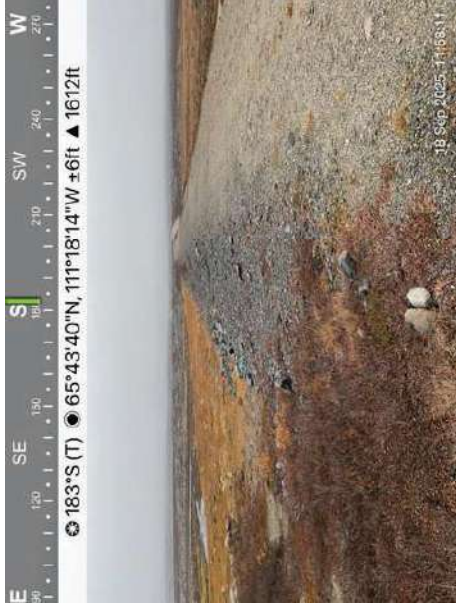


Photo 6: Dam 1B crest and upstream embankment.



Photo 7: Dam 1B crest and downstream embankment.

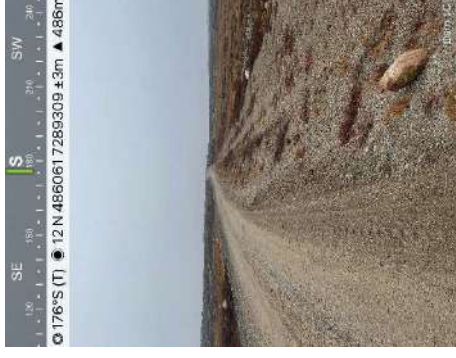


Photo 8: Dam 1C crest and downstream embankment.



Photo 9: Dam 1C crest and upstream embankment.

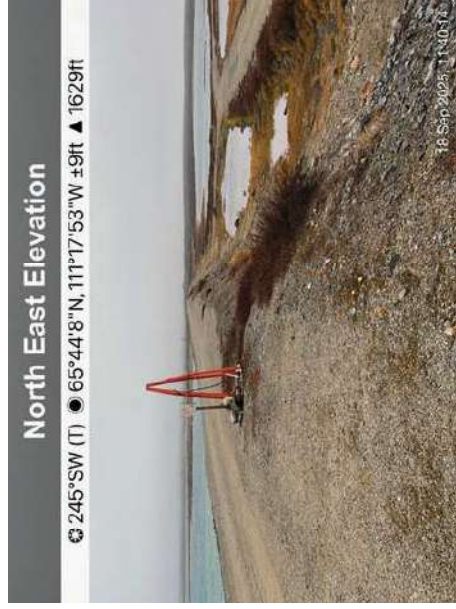


Photo 10: Dam 2 crest, downstream embankment and NW seepage collection pond with runoff water present.



Photo 11: Dam 2 crest and upstream embankment, and Pond 2. Taken from the northern abutment.

<b>LMI</b>	Lupin Mines Incorporated	<b>Stantec</b>	PN: 168525614	FIGURE 2	REV. A
	2025 Dam Safety Inspection				
<b>Site Inspection Photograph Log</b>					
<b>Dam 1B, 1C, and 2</b>					



Photo 12: Overview of the Dam 3 crest and downstream embankment. Resloping work was completed in September, and riprap placed at the toe.

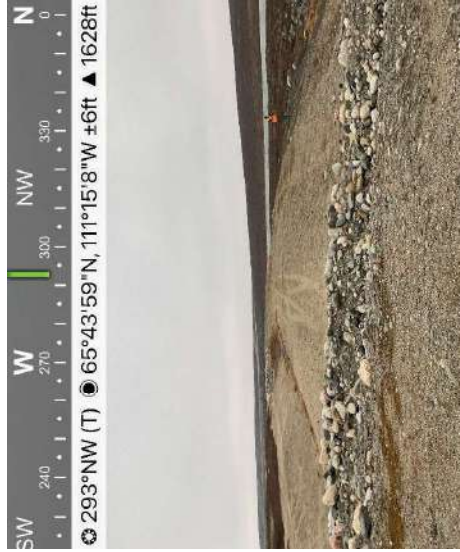


Photo 15: Dam 3 surface water management feature.



Photo 13: Dam 3 resloped work.

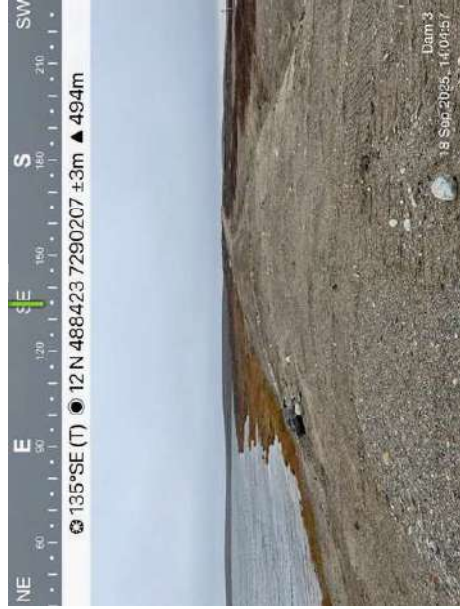



Photo 16: Repaired erosion area on the Dam 3 water management feature.



Photo 14: Riprap armor along the downstream toe.

<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>Dam 3</b>	
 <b>Stantec</b>	PN: 168525614 <b>FIGURE 3</b>
	REV. A

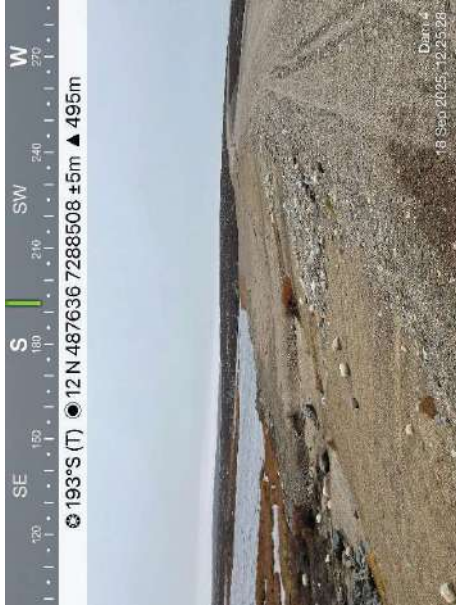


Photo 17: Dam 4 crest and downstream slope. Erosion areas observed last year appear to be filled in.

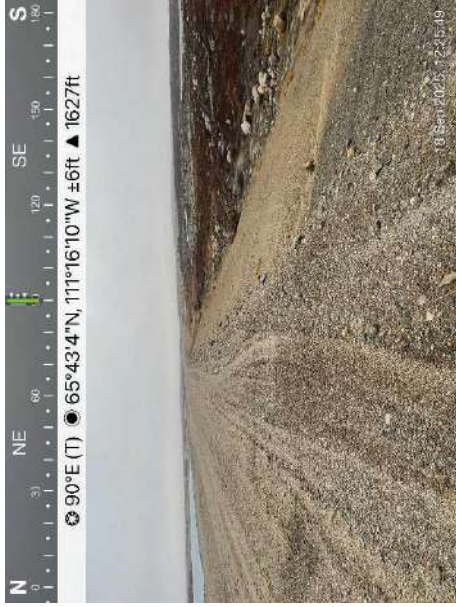


Photo 18: Dam 4 downstream embankment and toe.

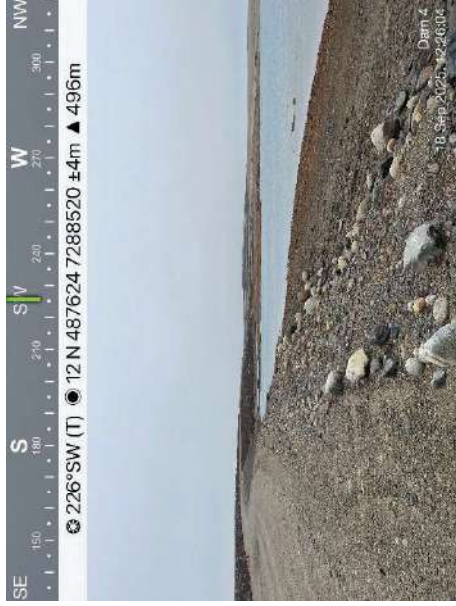


Photo 19: Dam 4 crest and upstream embankment, and Pond 4.



Photo 20: Dam 4 upstream embankment and Pond 4.



Photo 21: Thermistor D4-3, installed on the crest near the southern abutment.


<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>Dam 4</b>	
	PN: 168525614
FIGURE	5
REV. A	REV. A



Photo 22: Dam 5 upstream crest and embankment.

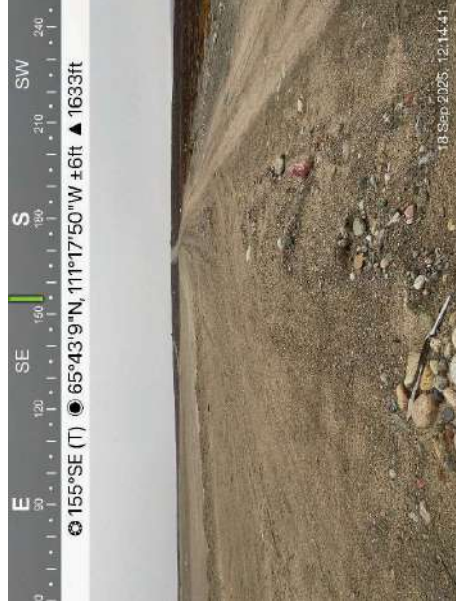


Photo 25: Dam 6 upstream embankment and Cell 3 cover. Taken from the northern abutment.

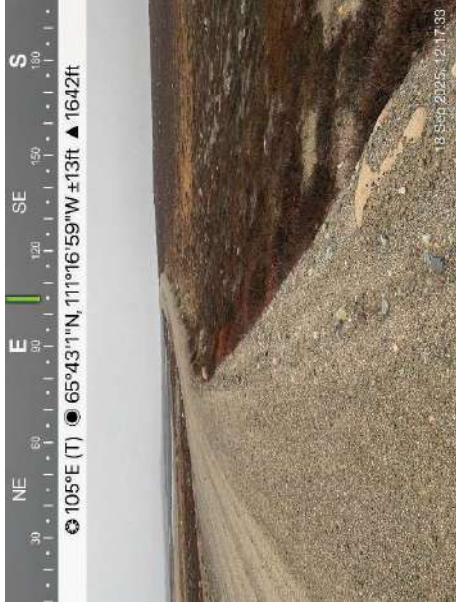


Photo 23: Dam 5 downstream crest and embankment.

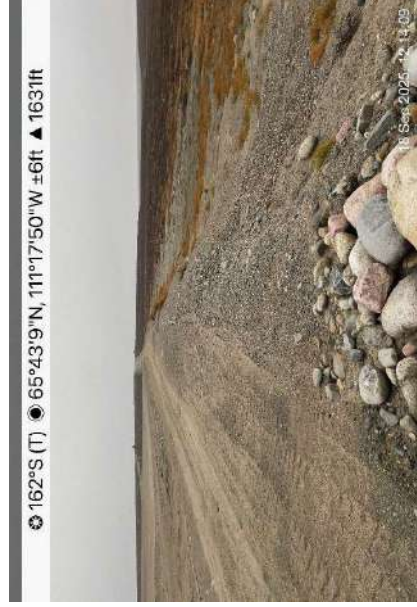


Photo 26: Dam 6 downstream crest and embankment.



Photo 24: Dam 5 upstream embankment and Cell 3.


<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>Dams 5 and 6</b>	
 <b>Stantec</b>	PN: 168525614 <b>FIGURE 6</b>
	REV. A



Photo 27: Overview of the Dam 3D crest.

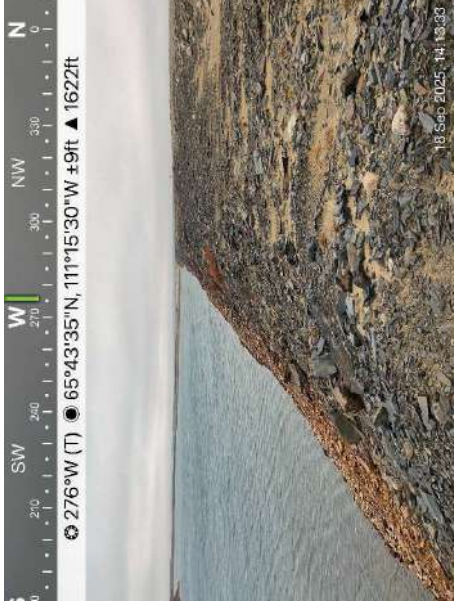


Photo 28: Dam 3D downstream embankment.



Photo 29: Taken from the southern end of Dam 3D, looking across the crest and to Cell 1.

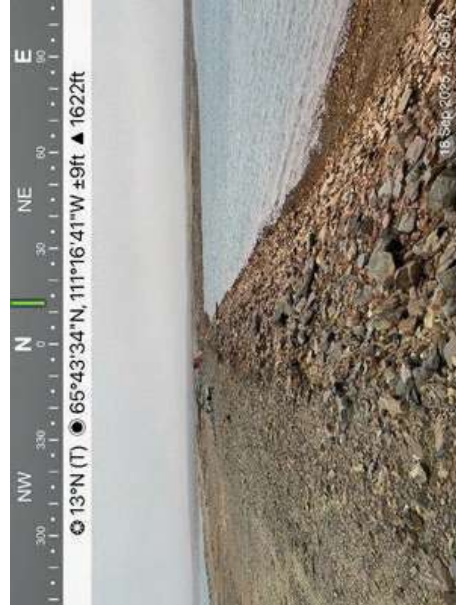


Photo 30: J Dam upstream crest and embankment. Showing Pond 1 to the east of the dam.



Photo 31: J Dam downstream crest and embankment. Showing Pond 2 to the west of the dam.


<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>Dam 3D and J Dam</b>	
	PN: 168525614
FIGURE	7
	REV. A



Photo 32: K Dam crest and downstream embankment.



Photo 33: K Dam downstream embankment and toe area.


<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
Site Inspection Photograph Log	
K Dam	
 <b>Stantec</b>	PN: 168525614
FIGURE 8	REV. A



Photo 34: L Dam downstream embankment, taken from the crest near the NW corner.



Photo 37: Minor swale conveying surface water over the Cell 4 NW corner esker cover.



Photo 35: Drainage swale on the Cell 3 esker cover.



Photo 38: Cell 4 NW corner esker cover. Showing the minor swale conveying surface water, and some ponded water.



Photo 36: L Dam outfall structure from the Cell 3 cover to Pond 4.


<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>L Dam, Cell 3 and Cell 4</b>	
 <b>Stantec</b>	PN: 169525614 <b>FIGURE 9</b>
	REV. A



Photo 39: M Dam crest and downstream embankment. Taken from the M Dam crest near N Dam.



Photo 42: N Dam downstream embankment.

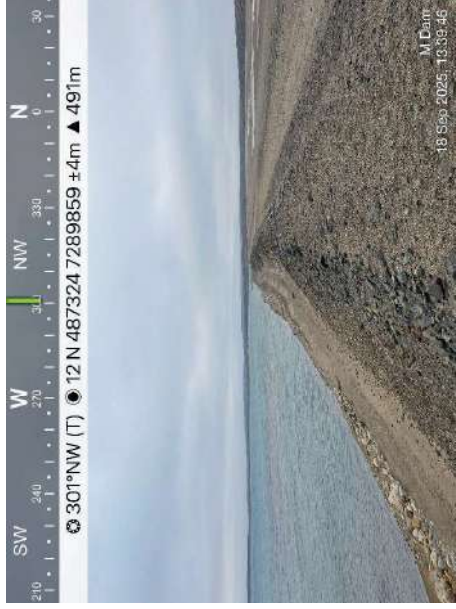


Photo 40: M Dam crest and downstream embankment. Taken from the crest near the southern abutment.



Photo 43: N Dam downstream embankment.



Photo 41: M Dam downstream area looking towards J Dam, showing exposed tailings.

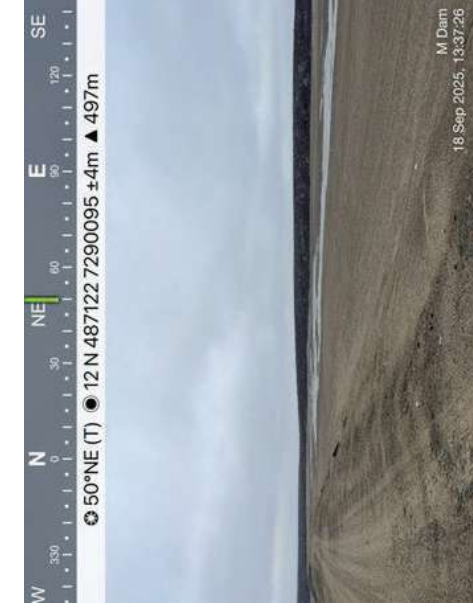


Photo 44: Cell 5 esker cover with ponded water, taken from M Dam crest.


<b>LMI</b>	Lupin Mines Incorporated
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>M Dam and N Dam</b>	
	PN: 169525614
FIGURE 10	REV. A




Photo 45: Repaired Cell 5 spillway, looking towards Pond 1.



Photo 46: Repaired Cell 5 spillway, looking towards Pond 1.



Photo 47: Repaired Cell 5 spillway, looking towards J Dam.

<b>LMI</b>	<b>Lupin Mines Incorporated</b>
	2025 Dam Safety Inspection
<b>Site Inspection Photograph Log</b>	
<b>Cell 5 Spillway</b>	
	PN: 168525614
FIGURE 11	
REV. A	

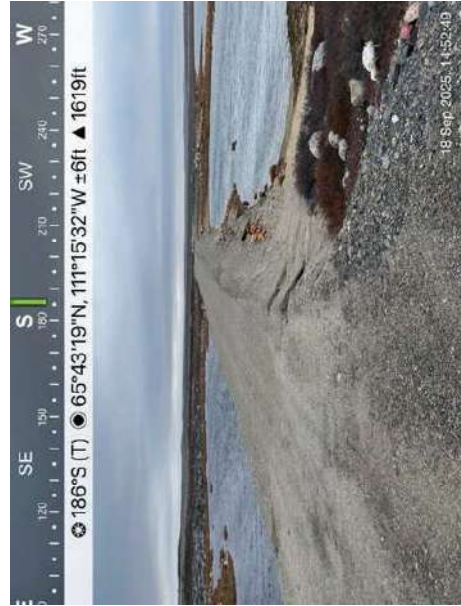


Photo 48: South Divider Dyke, taken from near the northern abutment.



Photo 49: South Divider Dyke erosional feature on the downstream crest and embankment.




Photo 50: South Divider Dyke erosional feature on the upstream crest and embankment.



Photo 62: Divider Dyke spillway, taken looking towards the North Divider Dyke.



Photo 63: Divider Dyke Spillway.

<b>LMI</b>	Lupin Mines Incorporated 2025 Dam Safety Inspection
	Site Inspection Photograph Log Divider Dyke and Spillway
 <b>Stantec</b>	PN: 169525614 <b>FIGURE 12</b> REV. A

**With every community, we redefine what's possible.**



Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

**Stantec Consulting Ltd.**  
1100-111 Dunsmuir Street  
Vancouver BC V6B 6A3  
stantec.com

## **APPENDIX B. 2025 Water Sampling Data and Certificates of Analysis**

**Table B1: Effluent Quality Results from Lower Sewage Lake at Station LUP-14**

Site Area	Locations		
Sample Location	LUP-14		
Sample Date	2025-Jun-05	2025-Aug-24	2025-Sep-11
Sample ID	LUP-14	LUP-14	LUP-14

Parameter Groups	Parameters	Filtered or Total	RDL	Result Unit	SS-Lupin Mine Sewage Lake Effluent LUP-14			
Field	Temperature (field)	T		deg C	nc	3.61	14.4	8.9
	pH (field)	T		pH	6.0-9.5	6.52	6.98	7.58
	Electrical Conductivity (field)	T		µS/cm	nc	165	229,000	-
Conventional	pH	T		pH	6.0-9.5	6.32	-	6.58
	Hardness	T	0.5	mg/L	nc	77	-	100
	Total Suspended Solids	T	0.99 - 1	mg/L	35	4.4	3.6	2.6
	Alkalinity (Total) (as CaCO3)	T	1	mg/L	nc	15	-	16
	Alkalinity, bicarbonate	T	1	mg/L	nc	19	-	19
	Alkalinity, carbonate	T	1	mg/L	nc	< 1.0	-	< 1.0
	Alkalinity-P	T	1	mg/L	nc	-	-	< 1.0
	Alkalinity-PP (as CaCO3)	T	1	mg/L	nc	< 1.0	-	-
Nutrients	Ammonia (as N)	T	0.015	mg/L	nc	-	-	< 0.015
	Nitrate (as N)	F	0.04	mg/L	nc	< 0.040	-	< 0.040
	Nitrate (as NO3-)	F	0.18	mg/L	nc	< 0.18	-	< 0.18
	Nitrite (as N)	F	0.04	mg/L	nc	< 0.040	-	< 0.040
	Nitrite (as NO2-)	F	0.13	mg/L	nc	< 0.13	-	< 0.13
Other	Nitrate and Nitrite (as N)	F	0.04	mg/L	nc	< 0.040	-	< 0.040
	Biochemical Oxygen Demand	T	2	mg/L	30	< 2.0	< 2.0	< 2.0
	Total Kjeldahl Nitrogen	T	0.04	mg/L	nc	0.36	-	0.37
Total Metals	Orthophosphate	T	0.003	mg/L	nc	< 0.0030	-	< 0.0030
	Phosphorus	T	0.003 - 0.1	mg/L	nc	0.0067/< 0.10	-	0.011/< 0.10
	Aluminum	T	0.003	mg/L	nc	0.055	-	0.034
	Antimony	T	0.0006	mg/L	nc	< 0.00060	-	< 0.00060
	Arsenic	T	0.0002	mg/L	0.05	0.0065	0.006	0.0057
	Barium	T	0.01	mg/L	nc	0.015	-	0.013
	Beryllium	T	0.001	mg/L	nc	< 0.0010	-	< 0.0010
	Boron	T	0.02	mg/L	nc	0.076	-	0.087
	Cadmium	T	0.00002	mg/L	nc	< 0.000020	-	< 0.000020
	Calcium	T	0.3	mg/L	nc	20	-	25
	Chromium III+VI	T	0.001	mg/L	nc	< 0.0010	-	< 0.0010
	Cobalt	T	0.0003	mg/L	nc	0.0042	-	0.00064
	Copper	T	0.001	mg/L	0.2	0.0012	0.0012	0.0011
	Iron	T	0.06	mg/L	nc	0.36	-	0.21
	Lead	T	0.0002	mg/L	0.05	< 0.00020	< 0.00020	< 0.00020
	Lithium	T	0.02	mg/L	nc	< 0.020	-	< 0.020
	Magnesium	T	0.2	mg/L	nc	4.7	-	6.3
	Manganese	T	0.004	mg/L	nc	0.35	-	0.056
	Mercury	T	0.0000019	mg/L	nc	< 0.0000019	-	< 0.0000019
	Molybdenum	T	0.0002	mg/L	nc	< 0.00020	-	< 0.00020
	Nickel	T	0.0005	mg/L	0.3	0.011	0.0056	0.0055
	Phosphorus	T	0.003 - 0.1	mg/L	nc	0.0067/< 0.10	-	0.011/< 0.10
	Potassium	T	0.3	mg/L	nc	2.2	-	2.7
	Selenium	T	0.0002	mg/L	nc	< 0.00020	-	< 0.00020
	Silicon	T	0.5	mg/L	nc	0.57	-	< 0.50
	Silver	T	0.0001	mg/L	nc	< 0.00010	-	< 0.00010
	Sodium	T	0.5	mg/L	nc	7.9	-	11
	Strontium	T	0.02	mg/L	nc	0.12	-	0.17
	Thallium	T	0.0002	mg/L	nc	< 0.00020	-	< 0.00020
	Tin	T	0.001	mg/L	nc	< 0.0010	-	< 0.0010
	Titanium	T	0.001	mg/L	nc	0.0017	-	0.001
	Uranium	T	0.0001	mg/L	nc	< 0.00010	-	< 0.00010
	Vanadium	T	0.001	mg/L	nc	< 0.0010	-	< 0.0010
Zinc	T	0.003	mg/L	0.5	0.023	< 0.0030	< 0.0030	
Ecological	Fecal Coliforms	T	1	num/100mL	1,000	< 1	-	< 1.0

**Notes:**

- .' sample not analyzed for parameter indicated
- < less than reported detection limit
- RDL reported detection limit
- µS/cm microsiemen per centimetre
- deg C degree Celsius
- mg/L milligram per litre
- num/100mL count per 100 millilitres
- pH potential of hydrogen
- nc no criteria

SS-Lupin Mine Sewage Lake Effluent LUP-14 Not discharging from LUP-14  
 Nunavut Water Board, Water Licence No.2AM-LUP2032, Sewage Lake Disposal Facilities at Monitoring Program Station LUP-14, Part E, Item 9

**Table B2: Water Quality Results from Contwoyto Lake (LUP-01), Boot Lake, East Lake, and Lower Sewage Lake**

Parameter Groups	Parameters	RDL	Result Unit	CCME WQG Freshwater Aquatic Life (long term)	CCME WQG Freshwater Aquatic Life (short term)	Locations					
						LUP-01		LUP-BL-01		LUP-BL-01	
						2025-Jun-04	2025-Jun-03	2025-Aug-24		2025-Sep-17	
						N	N	N	FD	FD	N
Sample Location	Sample Date	Sample Type	Sample ID								
Field	Temperature (field)		deg C	ng	ng	2.84	0.82	13	-	7.3	7.3
	pH (field)		pH	6.5-9.0	ng	5.72	8.55	6.86	-	5.97	5.97
	Electrical Conductivity (field)		µS/cm	ng	ng	40	34	44,700	-	81.8	81.8
Conventional	pH		pH	6.5-9.0	ng	6.77	5.94	6.32	6.31	6.21	6.24
	Hardness	0.5	mg/L	ng	ng	13	14	19	19	42	44
	Total Suspended Solids	0.99 - 1	mg/L	bkgd+(5,25,10%) see notes	bkgd+(25,25,10%) see notes	< 1.0	< 1.0	< 1.0	< 0.99	2.7	3.2
	Alkalinity (Total) (as CaCO3)	1	mg/L	ng	ng	2.6	1.9	4.7	4.8	2.9	2.9
	Alkalinity, bicarbonate	1	mg/L	ng	ng	3.1	2.3	5.8	5.8	3.5	3.5
	Alkalinity, carbonate	1	mg/L	ng	ng	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Alkalinity-P	1	mg/L	ng	ng	-	-	< 1.0	< 1.0	< 1.0	< 1.0
	Alkalinity-PP (as CaCO3)	1	mg/L	ng	ng	< 1.0	< 1.0	-	-	-	-
Total Metals	Aluminum	0.003	mg/L	0.0050-0.10	ng	0.083	0.077	0.019	0.02	0.15	0.14
	Antimony	0.0006	mg/L	ng	ng	< 0.00060	< 0.00060	< 0.00060	< 0.00060	< 0.00060	< 0.00060
	Arsenic	0.0002	mg/L	0.005	ng	0.0014	0.00091	0.001	0.00098	0.001	0.00096
	Barium	0.01	mg/L	ng	ng	< 0.010	< 0.010	< 0.010	< 0.010	0.017	0.016
	Beryllium	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Boron	0.02	mg/L	1.5	29	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
	Cadmium	0.0002	mg/L	0.00040-0.00017	0.00026-0.0023	0.000025	0.000037	0.000027	0.000043	0.000048	0.000066
	Calcium	0.3	mg/L	ng	ng	2.8	2.5	2.8	2.8	9	9.4
	Chromium III+VI	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Cobalt	0.0003	mg/L	ng	ng	0.0029	0.0034	0.00059	0.00061	0.018	0.017
	Copper	0.001	mg/L	0.0020-0.0026	ng	0.002	0.0024	0.0015	0.0016	0.002	0.0044
	Iron	0.06	mg/L	0.3	ng	0.08	0.079	0.077	0.085	0.45	0.41
	Lead	0.0002	mg/L	0.0010-0.0036	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	Lithium	0.02	mg/L	ng	ng	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
	Magnesium	0.2	mg/L	ng	ng	1.6	1.9	2.7	2.8	5.7	6
	Manganese	0.004	mg/L	ng	ng	0.034	0.032	0.0091	0.0092	0.19	0.2
	Mercury	0.000019	mg/L	0.000026	ng	< 0.000019	< 0.000019	< 0.000019	< 0.000019	< 0.000019	< 0.000019
	Molybdenum	0.0002	mg/L	0.073	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	Nickel	0.0005	mg/L	0.025-0.10	ng	0.0089	0.0095	0.0049	0.0054	0.04	0.038
	Phosphorus	0.1	mg/L	ng	ng	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
	Potassium	0.3	mg/L	ng	ng	0.49	0.62	0.69	0.74	1	1.1
	Selenium	0.0002	mg/L	0.001	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	Silicon	0.5	mg/L	ng	ng	0.62	0.73	< 0.50	< 0.50	1.3	1.2
	Silver	0.0001	mg/L	0.00025	ng	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
	Sodium	0.5	mg/L	ng	ng	1.2	1.1	1.7	1.8	2.9	3.1
	Strontium	0.02	mg/L	ng	ng	< 0.020	< 0.020	< 0.020	< 0.020	0.042	0.043
	Thallium	0.0002	mg/L	0.0008	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	Tin	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Titanium	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Uranium	0.0001	mg/L	0.015	0.033	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
	Vanadium	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Zinc	0.003	mg/L	ng	ng	0.01	0.0068	< 0.0030	< 0.0030	0.014	0.017

**Notes:**

- samples collected at the same location and date are blind field duplicate/parent pairs
- sample not analyzed for parameter indicated
- < less than reported detection limit
- N (Normal)
- FD (Duplicate)
- RDL reported detection limit
- µS/cm microsiemen per centimetre
- deg C degree Celsius
- mg/L milligram per litre
- pH potential of hydrogen
- ng no guideline
- CCME WQG Freshwater Aquatic Life (long term) CCME Water Quality Guidelines for the Protection of Aquatic Life, Freshwater (Long-term)
- CCME WQG Freshwater Aquatic Life (short term) CCME Water Quality Guidelines for the Protection of Aquatic Life, Freshwater (Short-term)

**Table B2: Water Quality Results from Contwoyto Lake (LUP-01), Boot Lake, East Lake, and Lower Sewage Lake**

Parameter Groups	Parameters	RDL	Result Unit	CCME WQG Freshwater Aquatic Life (long term)	CCME WQG Freshwater Aquatic Life (short term)	Locations					
						LUP-EL-01		LUP-LSL-01			
						2025-Jun-03	2025-Aug-23	2025-Sep-17	2025-Jun-04		2025-Sep-17
						N	N	N	FD	N	N
Sample Location	Sample Date	Sample Type	Sample ID	Sample ID	Sample ID	REPLICATE #2	LUP-LSL-01	LUP-LSL-01			
Field	Temperature (field)		deg C	ng	ng	6.25	15	6.7	4.27	4.27	8
	pH (field)		pH	6.5-9.0	ng	9.87	5.64	5.71	6.35	6.35	6.82
	Electrical Conductivity (field)		µS/cm	ng	ng	79	129,100	127.2	175	175	190.7
Conventional	pH		pH	6.5-9.0	ng	4.94	6.1	4.6	6.56	6.54	6.35
	Hardness	0.5	mg/L	ng	ng	21	70	72	73	74	110
	Total Suspended Solids	0.99 - 1	mg/L	bkgd+(5,25,10%) see notes	bkgd+(25,25,10%) see notes	< 1.0	< 1.0	< 1.0	4.3	3.5	< 1.0
	Alkalinity (Total) (as CaCO3)	1	mg/L	ng	ng	< 1.0	2.3	< 1.0	13	13	15
	Alkalinity, bicarbonate	1	mg/L	ng	ng	< 1.0	2.9	< 1.0	16	16	18
	Alkalinity, carbonate	1	mg/L	ng	ng	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Alkalinity-P	1	mg/L	ng	ng	-	< 1.0	< 1.0	-	-	< 1.0
	Alkalinity-PP (as CaCO3)	1	mg/L	ng	ng	< 1.0	-	-	< 1.0	< 1.0	-
Total Metals	Aluminum	0.003	mg/L	0.0050-0.10	ng	0.25	0.12	0.55	0.062	0.07	0.041
	Antimony	0.0006	mg/L	ng	ng	< 0.00060	< 0.00060	< 0.00060	< 0.00060	< 0.00060	< 0.00060
	Arsenic	0.0002	mg/L	0.005	ng	0.0014	0.0015	0.001	0.0065	0.0066	0.0052
	Barium	0.01	mg/L	ng	ng	0.014	0.023	0.025	0.016	0.016	0.015
	Beryllium	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Boron	0.02	mg/L	1.5	29	< 0.020	< 0.020	< 0.020	0.077	0.075	0.082
	Cadmium	0.0002	mg/L	0.00040-0.00017	0.00026-0.0023	0.000089	0.000076	0.00023	0.000034	0.000042	< 0.000020
	Calcium	0.3	mg/L	ng	ng	3.6	11	12	21	21	28
	Chromium III+VI	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Cobalt	0.0003	mg/L	ng	ng	0.02	0.0088	0.087	0.0048	0.0059	0.0034
	Copper	0.001	mg/L	0.0020-0.0026	ng	0.0065	0.0045	0.016	0.0015	0.0016	0.001
	Iron	0.06	mg/L	0.3	ng	0.29	0.28	0.18	0.42	0.42	0.51
	Lead	0.0002	mg/L	0.0010-0.0036	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	Lithium	0.02	mg/L	ng	ng	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
	Magnesium	0.2	mg/L	ng	ng	2.8	9.7	10	5	5.1	7.2
	Manganese	0.004	mg/L	ng	ng	0.26	0.16	0.45	0.42	0.43	0.26
	Mercury	0.000019	mg/L	0.000026	ng	0.0000022	< 0.0000019	< 0.0000019	< 0.0000019	< 0.0000019	< 0.0000019
	Molybdenum	0.0002	mg/L	0.073	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00024	< 0.00020
	Nickel	0.0005	mg/L	0.025-0.10	ng	0.031	0.049	0.18	0.012	0.015	0.008
	Phosphorus	0.1	mg/L	ng	ng	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
	Potassium	0.3	mg/L	ng	ng	0.59	1.1	1.1	2.3	2.3	2.9
	Selenium	0.0002	mg/L	0.001	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	Silicon	0.5	mg/L	ng	ng	1.1	< 0.50	3.3	0.65	0.68	< 0.50
	Silver	0.0001	mg/L	0.00025	ng	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
	Sodium	0.5	mg/L	ng	ng	1.1	3.9	2.9	8.4	8.3	11
	Strontium	0.02	mg/L	ng	ng	< 0.020	0.06	0.053	0.13	0.13	0.16
	Thallium	0.0002	mg/L	0.0008	ng	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	Tin	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Titanium	0.001	mg/L	ng	ng	< 0.0010	0.001	< 0.0010	0.0011	0.0036	< 0.0010
	Uranium	0.0001	mg/L	0.015	0.033	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
	Vanadium	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	Zinc	0.003	mg/L	ng	ng	0.017	0.017	0.073	0.028	0.029	0.0038

- Notes:**
- samples collected at the same location and date are blind field duplicate/parent pairs
  - sample not analyzed for parameter indicated
  - < less than reported detection limit
  - N (Normal)
  - FD (Duplicate)
  - RDL reported detection limit
  - µS/cm microsiemen per centimetre
  - deg C degree Celsius
  - mg/L milligram per litre
  - pH potential of hydrogen
  - ng no guideline
  - CCME WQG Freshwater Aquatic Life (long term) CCME Water Quality Guidelines for the Protection of Aquatic Life, Freshwater (Long-term)
  - CCME WQG Freshwater Aquatic Life (short term) CCME Water Quality Guidelines for the Protection of Aquatic Life, Freshwater (Short-term)

**Table B3: Relative Percent Differences in Surface Water**

Parameter Groups	Parameters	Result Unit	RDL	RPD % Limit	Locations								
					LUP-BL-01			LUP-LSL-01					
					2025-Sep-17			2025-Aug-24			2025-Jun-04		
					N	FD	RPD	N	FD	RPD	N	FD	RPD
LUP-BL-01	DUP-09-2025	RPD %	LUP-BL-01	DUP-08-2025	RPD %	LUP-LSL-01	REPLICATE #2	RPD %					
Field	Electrical conductivity (field)	µS/cm		NC	81.8	81.8	NC	-	-	-	-	-	-
		mS/cm		NC	-	-	-	44.7	44.7	NC	0.175	0.175	NC
	pH (field)	pH Units		NC	5.97	5.97	NC	6.86	-	-	6.35	6.35	NC
	Temp (field)	deg C		NC	7.3	7.3	NC	13	13	NC	4.27	4.27	NC
Conventional	Hardness (as CaCO3)	mg/L	0.50	50	44	42	5	19	19	0	74	73	1
	pH (lab)	pH Units		50	6.24	6.21	NC	6.32	6.31	NC	6.54	6.56	NC
	Total suspended solids	mg/L	1.0	50	3.2	2.7	NC	< 1.0	< 0.99	NC	3.5	4.3	NC
	Alkalinity (bicarbonate)	mg/L	1.0	50	3.5	3.5	NC	5.8	5.8	0	16	16	0
	Alkalinity (carbonate)	mg/L	1.0	50	< 1.0	< 1.0	NC	< 1.0	< 1.0	NC	< 1.0	< 1.0	NC
	Alkalinity (P)	mg/L	1.0	50	< 1.0	< 1.0	NC	< 1.0	< 1.0	NC	-	-	-
	Alkalinity (PP as CaCO3)	mg/L	1.0	50	-	-	-	-	-	-	< 1.0	< 1.0	NC
Total Metals	Alkalinity (total as CaCO3)	mg/L	1.0	50	2.9	2.9	NC	4.7	4.8	NC	13	13	0
	Aluminum	mg/L	0.0030	50	0.14	0.15	7	0.019	0.02	5	0.07	0.062	12
	Antimony	mg/L	0.00060	50	< 0.00060	< 0.00060	NC	< 0.00060	< 0.00060	NC	< 0.00060	< 0.00060	NC
	Arsenic	mg/L	0.00020	50	0.00096	0.001	NC	0.001	0.00098	NC	0.0066	0.0065	2
	Barium	mg/L	0.010	50	0.016	0.017	NC	< 0.010	< 0.010	NC	0.016	0.016	NC
	Beryllium	mg/L	0.0010	50	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC
	Boron	mg/L	0.020	50	< 0.020	< 0.020	NC	< 0.020	< 0.020	NC	0.075	0.077	NC
	Cadmium	µg/L	0.020	50	0.066	0.048	NC	0.027	0.043	NC	0.042	0.034	NC
	Calcium	mg/L	0.30	50	9.4	9	4	2.8	2.8	0	21	21	0
	Chromium (III+VI)	mg/L	0.0010	50	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC
	Cobalt	mg/L	0.00030	50	0.017	0.018	6	0.00059	0.00061	NC	0.0059	0.0048	21
	Copper	mg/L	0.0010	50	0.0044	0.002	NC	0.0015	0.0016	NC	0.0016	0.0015	NC
	Iron	mg/L	0.060	50	0.41	0.45	9	0.077	0.085	NC	0.42	0.42	0
	Lead	mg/L	0.00020	50	< 0.00020	< 0.00020	NC	< 0.00020	< 0.00020	NC	< 0.00020	< 0.00020	NC
	Lithium	mg/L	0.020	50	< 0.020	< 0.020	NC	< 0.020	< 0.020	NC	< 0.020	< 0.020	NC
	Magnesium	mg/L	0.20	50	6	5.7	5	2.7	2.8	4	5.1	5	2
	Manganese	mg/L	0.0040	50	0.2	0.19	5	0.0091	0.0092	NC	0.43	0.42	2
	Mercury	µg/L	0.0019	50	< 0.0019	< 0.0019	NC	< 0.0019	< 0.0019	NC	< 0.0019	< 0.0019	NC
	Molybdenum	mg/L	0.00020	50	< 0.00020	< 0.00020	NC	< 0.00020	< 0.00020	NC	0.00024	< 0.00020	NC
	Nickel	mg/L	0.00050	50	0.038	0.04	5	0.0049	0.0054	10	0.015	0.012	22
	Phosphorus	mg/L	0.10	50	< 0.10	< 0.10	NC	< 0.10	< 0.10	NC	< 0.10	< 0.10	NC
	Potassium	mg/L	0.30	50	1.1	1	NC	0.69	0.74	NC	2.3	2.3	0
	Selenium	mg/L	0.00020	50	< 0.00020	< 0.00020	NC	< 0.00020	< 0.00020	NC	< 0.00020	< 0.00020	NC
	Silicon	mg/L	0.50	50	1.2	1.3	NC	< 0.50	< 0.50	NC	0.68	0.65	NC
	Silver	mg/L	0.00010	50	< 0.00010	< 0.00010	NC	< 0.00010	< 0.00010	NC	< 0.00010	< 0.00010	NC
	Sodium	mg/L	0.50	50	3.1	2.9	7	1.7	1.8	NC	8.3	8.4	1
	Strontium	mg/L	0.020	50	0.043	0.042	NC	< 0.020	< 0.020	NC	0.13	0.13	0
	Thallium	mg/L	0.00020	50	< 0.00020	< 0.00020	NC	< 0.00020	< 0.00020	NC	< 0.00020	< 0.00020	NC
	Tin	mg/L	0.0010	50	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC
	Titanium	mg/L	0.0010	50	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC	0.0036	0.0011	NC
	Uranium	mg/L	0.00010	50	< 0.00010	< 0.00010	NC	< 0.00010	< 0.00010	NC	< 0.00010	< 0.00010	NC
	Vanadium	mg/L	0.0010	50	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC	< 0.0010	< 0.0010	NC
	Zinc	mg/L	0.0030	50	0.017	0.014	NC	< 0.0030	< 0.0030	NC	0.029	0.028	4

**Notes:**

- samples collected at the same location and date are blind field duplicate/parent pairs
- .. sample not analyzed for parameter indicated
- < less than reported detection limit
- Sample Type FD (Duplicate)
- Sample Type N (Normal)
- RPD relative percent difference
- RDL reported detection limit
- % percent
- µg/L microgram per litre
- mg/L milligram per litre
- µS/cm microsiemen per centimetre
- mS/cm milliSiemens per centimetre
- deg C degree Celsius
- pH Units potential of hydrogen units
- NC NC
- RPD % Limit NC is shown when the RPD was not calculated. The RPD is calculated when the results are 5 times greater than the detection limit. RPD Limit Exceedances are when the RPD is greater than 50%



**Table B4: Field and Trip Blanks**

Site Area	Locations	
	FIELD BLANK	TRIP BLANK
	2025-Sep-17	2025-Jun-04
	FB	TB
	FIELD BLANK 2025	TRIP BLANK

Parameter Groups	Parameters	Filtered or Total	RDL	Result Unit	CCME WQG Freshwater Aquatic Life (long term)	CCME WQG Freshwater Aquatic Life (short term)		
Conventional, Nutrients, Other	pH	T		pH	6.5-9.0	ng:no guideline	5.7	5.35
	Hardness	T	0.5	mg/L	ng	ng	< 0.50	< 0.50
	Electrical Conductivity	T	2	µS/cm	ng	ng	-	< 2.0
	Total Suspended Solids	T	0.97	mg/L	bkqd+(5,25,10%) see notes	bkqd+(25,25,10%) see notes	-	< 0.97
	Alkalinity (Total) (as CaCO3)	T	1	mg/L	ng	ng	< 1.0	< 1.0
	Alkalinity, bicarbonate	T	1	mg/L	ng	ng	< 1.0	< 1.0
	Alkalinity, carbonate	T	1	mg/L	ng	ng	< 1.0	< 1.0
	Alkalinity-P	T	1	mg/L	ng	ng	< 1.0	-
	Alkalinity-PP (as CaCO3)	T	1	mg/L	ng	ng	-	< 1.0
	Biochemical Oxygen Demand	T	2	mg/L	ng	ng	-	< 2.0
	Nitrate (as N)	F	0.04	mg/L	ng	ng	-	< 0.040
	Nitrate (as NO3-)	F	0.18	mg/L	ng	ng	-	< 0.18
	Nitrite (as N)	F	0.04	mg/L	ng	ng	-	< 0.040
	Nitrite (as NO2-)	F	0.13	mg/L	ng	ng	-	< 0.13
	Nitrate and Nitrite (as N)	F	0.04	mg/L	ng	ng	-	< 0.040
	Total Kjeldahl Nitrogen	T	0.04	mg/L	ng	ng	-	< 0.040
	Orthophosphate	T	0.003	mg/L	ng	ng	-	< 0.0030
	Phosphorus	T	0.003 - 0.1	mg/L	ng	ng	< 0.10	< 0.0030/< 0.10
	Aluminum	T	0.003	mg/L	0.005	0.005	< 0.0030	< 0.0030
	Antimony	T	0.0006	mg/L	ng	ng	< 0.00060	< 0.00060
Arsenic	T	0.0002	mg/L	0.005	0.005	< 0.00020	< 0.00020	
Barium	T	0.01	mg/L	ng	ng	< 0.010	< 0.010	
Beryllium	T	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	
Boron	T	0.02	mg/L	1.5	29	< 0.020	< 0.020	
Cadmium	T	0.00002	mg/L	0.00004	0.00011	< 0.000020	< 0.000020	
Calcium	T	0.3	mg/L	ng	ng	< 0.30	< 0.30	
Chromium III+VI	T	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	
Cobalt	T	0.0003	mg/L	ng	ng	< 0.00030	< 0.00030	
Copper	T	0.001	mg/L	0.002	0.002	< 0.0010	< 0.0010	
Iron	T	0.06	mg/L	0.3	0.3	< 0.060	< 0.060	
Lead	T	0.0002	mg/L	0.001	0.001	< 0.00020	< 0.00020	
Lithium	T	0.02	mg/L	ng	ng	< 0.020	< 0.020	
Magnesium	T	0.2	mg/L	ng	ng	< 0.20	< 0.20	
Manganese	T	0.004	mg/L	ng	ng	< 0.0040	< 0.0040	
Mercury	T	0.0000019	mg/L	0.000026	0.000026	< 0.0000019	< 0.0000019	
Molybdenum	T	0.0002	mg/L	0.073	0.073	< 0.00020	< 0.00020	
Nickel	T	0.0005	mg/L	0.025	0.025	< 0.00050	< 0.00050	
Phosphorus	T	0.003 - 0.1	mg/L	ng	ng	< 0.10	< 0.0030/< 0.10	
Potassium	T	0.3	mg/L	ng	ng	< 0.30	< 0.30	
Selenium	T	0.0002	mg/L	0.001	0.001	< 0.00020	< 0.00020	
Silicon	T	0.5	mg/L	ng	ng	< 0.50	< 0.50	
Silver	T	0.0001	mg/L	0.00025	0.00025	< 0.00010	< 0.00010	
Sodium	T	0.5	mg/L	ng	ng	< 0.50	< 0.50	
Strontium	T	0.02	mg/L	ng	ng	< 0.020	< 0.020	
Thallium	T	0.0002	mg/L	0.0008	0.0008	< 0.00020	< 0.00020	
Tin	T	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	
Titanium	T	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	
Uranium	T	0.0001	mg/L	0.015	0.033	< 0.00010	< 0.00010	
Vanadium	T	0.001	mg/L	ng	ng	< 0.0010	< 0.0010	
Zinc	T	0.003	mg/L	ng	ng	< 0.0030	0.026	

**Notes:**

'.	sample not analyzed for parameter indicated
<	less than reported detection limit
Sample Type	TB (Trip Blank)
Sample Type	FB (Field Blank)
RDL	reported detection limit
µS/cm	microsiemen per centimetre
mg/L	milligram per litre
pH	potential of hydrogen
ng	no guideline
CCME WQG Freshwater Aquatic Life (long term)	CCME Water Quality Guidelines for the Protection of Aquatic Life, Freshwater (Long-term)
CCME WQG Freshwater Aquatic Life (short term)	CCME Water Quality Guidelines for the Protection of Aquatic Life, Freshwater (Short-term)



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

**Taiga Batch No.:**  
**250706**

**- FINAL REPORT -**

---

**Prepared For:** Bureau Veritas Canada

**Address:** 500 - 1919 Minnesota Court  
Mississauga, ON  
L5N 0C9

**Attn:** General Contact

**Facsimile:**

---

**Final report has been reviewed and approved by:**

---

**Bradley Koswan**  
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, June 11, 2025

**Print Date:** *Wednesday, June 11, 2025*

*Page 1 of 4*



## Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

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

Taiga Batch No.:  
**250706**

### - CERTIFICATE OF ANALYSIS -

Client Sample ID: **DMP033-LUP-01**

Taiga Sample ID: **001**

Client Project: C552089

Sample Type: Water

Received Date: 05-Jun-25

Sampling Date: 04-Jun-25

Sampling Time: 20:00

Location:

Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b>Microbiology</b>						
Coliforms, Fecal	< 1	1	CFU/100mL	05-Jun-25	TEL017	

ReportDate: Wednesday, June 11, 2025

Print Date: *Wednesday, June 11, 2025*

*Page 2 of 4*



Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

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

Taiga Batch No.:

250706

- CERTIFICATE OF ANALYSIS -

Client Sample ID: DMP034-LUP-14

Taiga Sample ID: 002

Client Project: C552089

Sample Type: Water

Received Date: 05-Jun-25

Sampling Date: 05-Jun-25

Sampling Time: 8:00

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b>Microbiology</b>						
Coliforms, Fecal	< 1	1	CFU/100mL	05-Jun-25	TEL017	

ReportDate: Wednesday, June 11, 2025

Print Date: Wednesday, June 11, 2025



**Taiga Environmental Laboratory**

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

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

**Taiga Batch No.:**

**250706**

**- CERTIFICATE OF ANALYSIS -**

---

**Client Sample ID: DMP034-LUP-14**

**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, June 11, 2025

**Print Date:** *Wednesday, June 11, 2025*

*Page 4 of 4*



Your P.O. #: YEL274  
 Your Project #: 213.000020.00001  
 Site Location: LUPIN MINE  
 Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
 8 WEST ST. PAUL STREET  
 KAMLOOPS, BC  
 Canada V2C 1G1

**Report Date: 2025/06/17**  
 Report #: R3675526  
 Version: 3 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C552089**

**Received: 2025/06/05, 15:20**

Sample Matrix: Water  
 # Samples Received: 7

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Acidity pH 4.5 & pH 8.3 (as CaCO3) (1)	7	N/A	2025/06/10	AB SOP-00005	SM 24 2310 B m
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	2	N/A	2025/06/10	AB SOP-00005	SM 24 2320 B m
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	4	N/A	2025/06/11	AB SOP-00005	SM 24 2320 B m
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	1	N/A	2025/06/14	AB SOP-00005	SM 24 2320 B m
Biochemical Oxygen Demand (1)	2	2025/06/08	2025/06/13	AB SOP-00017	SM 24 5210B m
Bromide by IC (1)	2	N/A	2025/06/09	AB SOP-00052	SM 24 4110 B m
Cadmium - low level CCME (Total) (1)	5	N/A	2025/06/13		Auto Calc
Cadmium - low level CCME (Total) (1)	2	N/A	2025/06/14		Auto Calc
Chloride/Sulphate by Auto Colourimetry (1)	1	N/A	2025/06/10	AB SOP-00020	SM24-4500-Cl/SO4-E m
Chloride/Sulphate by Auto Colourimetry (1)	1	N/A	2025/06/09	AB SOP-00020	SM24-4500-Cl/SO4-E m
Conductivity @25C (1)	2	N/A	2025/06/10	AB SOP-00005	SM 24 2510 B m
Conductivity @25C (1)	4	N/A	2025/06/11	AB SOP-00005	SM 24 2510 B m
Conductivity @25C (1)	1	N/A	2025/06/12	AB SOP-00005	SM 24 2510 B m
Total Coliform and E. Coli (2)	2	2025/06/11	2025/06/11		Subcontract
Fluoride (1)	2	N/A	2025/06/10	AB SOP-00005	SM 24 4500-F C m
Hardness (1)	2	N/A	2025/06/11		Auto Calc
Hardness (1)	4	N/A	2025/06/14		Auto Calc
Hardness (1)	1	N/A	2025/06/17		Auto Calc
Mercury (Total) by CV (1)	5	2025/06/12	2025/06/12	AB SOP-00084	BCMOE BCLM Oct2013 m
Mercury (Total) by CV (1)	2	2025/06/12	2025/06/13	AB SOP-00084	BCMOE BCLM Oct2013 m
Elements by ICP-Dissolved-Lab Filtered (1, 3)	2	N/A	2025/06/10	AB SOP-00042	EPA 6010d R5 m
Elements by ICP-Dissolved-Lab Filtered (1, 3)	4	N/A	2025/06/13	AB SOP-00042	EPA 6010d R5 m
Elements by ICP-Dissolved-Lab Filtered (1, 3)	1	N/A	2025/06/14	AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Total (1)	1	2025/06/12	2025/06/12	AB SOP-00014 / AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Total (1)	4	2025/06/12	2025/06/13	AB SOP-00014 / AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Total (1)	2	2025/06/13	2025/06/13	AB SOP-00014 / AB SOP-00042	EPA 6010d R5 m
Elements by ICPMS - Total (1)	5	2025/06/12	2025/06/13	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m



Your P.O. #: YEL274  
 Your Project #: 213.000020.00001  
 Site Location: LUPIN MINE  
 Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
 8 WEST ST. PAUL STREET  
 KAMLOOPS, BC  
 Canada V2C 1G1

**Report Date: 2025/06/17**  
 Report #: R3675526  
 Version: 3 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C552089**

**Received: 2025/06/05, 15:20**

Sample Matrix: Water  
 # Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS - Total (1)	2	2025/06/13	2025/06/13	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
Nitrate and Nitrite (1)	1	N/A	2025/06/10		Auto Calc
Nitrate and Nitrite (1)	1	N/A	2025/06/09		Auto Calc
NO2 (N); NO2 (N) + NO3 (N) in Water (1)	1	N/A	2025/06/08	AB SOP-00091	SM 24 4500 NO3m
NO2 (N); NO2 (N) + NO3 (N) in Water (1)	1	N/A	2025/06/09	AB SOP-00091	SM 24 4500 NO3m
Nitrate (as N) (1)	1	2025/06/07	2025/06/10		Auto Calc
Nitrate (as N) (1)	1	2025/06/07	2025/06/09		Auto Calc
pH @25°C (1, 4)	2	N/A	2025/06/10	AB SOP-00005	SM 24 4500-H+B m
pH @25°C (1, 4)	4	N/A	2025/06/11	AB SOP-00005	SM 24 4500-H+B m
pH @25°C (1, 4)	1	N/A	2025/06/14	AB SOP-00005	SM 24 4500-H+B m
Orthophosphate by Automated Analyzer (1, 5)	1	N/A	2025/06/10	AB SOP-00025	SM 24 4500-P A,F m
Orthophosphate by Automated Analyzer (1, 5)	1	N/A	2025/06/08	AB SOP-00025	SM 24 4500-P A,F m
Total Dissolved Solids (Filt. Residue) (1)	1	2025/06/10	2025/06/11	AB SOP-00065	SM 24 2540 C m
Total Dissolved Solids (Filt. Residue) (1)	6	2025/06/09	2025/06/10	AB SOP-00065	SM 24 2540 C m
Total Kjeldahl Nitrogen (Total) (1)	2	N/A	2025/06/11		Auto Calc
Nitrogen (Total) (1)	2	2025/06/10	2025/06/11	AB SOP-00093	SM 24 4500-N C m
Total Phosphorus (1)	1	2025/06/11	2025/06/11	AB SOP-00024	SM 24 4500-P A,B,F m
Total Phosphorus (1)	1	2025/06/11	2025/06/12	AB SOP-00024	SM 24 4500-P A,B,F m
Total Suspended Solids (NFR) (1)	7	2025/06/09	2025/06/09	AB SOP-00061	SM 24 2540 D m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report.



Your P.O. #: YEL274  
Your Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
8 WEST ST. PAUL STREET  
KAMLOOPS, BC  
Canada V2C 1G1

**Report Date: 2025/06/17**  
Report #: R3675526  
Version: 3 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C552089**

**Received: 2025/06/05, 15:20**

Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
- (2) This test was performed by Taiga Environmental Laboratory, 4601 – 52 Avenue , Yellowknife, NT, X1A 1L4
- (3) Dissolved > Total Imbalance: When applicable, Dissolved and Total results were reviewed and data quality meets acceptable levels unless otherwise noted.
- (4) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.
- (5) Orthophosphate > Total Phosphorus Imbalance: When applicable, Orthophosphate, Total Phosphorus and dissolved Phosphorus results were reviewed and data quality meets acceptable levels unless otherwise noted.

Encryption Key



Bureau Veritas  
17 Jun 2025 13:15:28

Please direct all questions regarding this Certificate of Analysis to:

Nahed Amer, Key Account Specialist  
Email: Nahed.AMER@bureauveritas.com  
Phone# (780) 577-7100

=====  
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Scott Cantwell, General Manager responsible for Alberta Environmental laboratory operations.



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### TOTAL KJELDAHL NITROGEN (TOTAL)

Bureau Veritas ID		DMP034		DMP039		
Sampling Date		2025/06/05 08:00		2025/06/04		
COC Number		1OF1		1OF1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>QC Batch</b>	<b>TRIP BLANK</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>						
Nitrate (N)	mg/L	<0.040	B978151	<0.040	0.040	B978151
Nitrate (NO3)	mg/L	<0.18	B978123	<0.18	0.18	B978123
Nitrite (NO2)	mg/L	<0.13	B978123	<0.13	0.13	B978123
Total Total Kjeldahl Nitrogen (Calc)	mg/L	0.36	B978158	<0.040	0.040	B978158
<b>Nutrients</b>						
Nitrite (N)	mg/L	<0.040	B978647	<0.040	0.040	B980145
Nitrate plus Nitrite (N)	mg/L	<0.040	B978647	<0.040	0.040	B980145
Total Nitrogen (N)	mg/L	0.36	B981510	<0.020	0.020	B981509
RDL = Reportable Detection Limit						



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### HARDNESS - LAB FILTERED (WATER)

Bureau Veritas ID		DMP033		DMP034		DMP035		DMP036	DMP037		
Sampling Date		2025/06/04 20:00		2025/06/05 08:00		2025/06/03 10:06		2025/06/03 12:10	2025/06/04 14:00		
COC Number		1OF1		1OF1		1OF1		1OF1	1OF1		
	<b>UNITS</b>	<b>LUP-01</b>	<b>QC Batch</b>	<b>LUP-14</b>	<b>QC Batch</b>	<b>LUP-EL-01</b>	<b>QC Batch</b>	<b>LUP-BL-01</b>	<b>LUP-LSL-01</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Calculated Parameters</b>											
Hardness (CaCO3)	mg/L	13	B978122	77	B978283	21	B978283	14	74	0.50	B978283
<b>Lab Filtered Elements</b>											
Dissolved Calcium (Ca)	mg/L	2.8	B986212	23	B981064	3.8	B988049	2.5	22	0.30	B986212
Dissolved Magnesium (Mg)	mg/L	1.5	B986212	5.0	B981064	2.8	B988049	1.8	4.8	0.20	B986212
RDL = Reportable Detection Limit											

Bureau Veritas ID		DMP038		DMP039		
Sampling Date		2025/06/04		2025/06/04		
COC Number		1OF1		1OF1		
	<b>UNITS</b>	<b>REPLICATE #2</b>	<b>QC Batch</b>	<b>TRIP BLANK</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>						
Hardness (CaCO3)	mg/L	73	B978283	<0.50	0.50	B978283
<b>Lab Filtered Elements</b>						
Dissolved Calcium (Ca)	mg/L	22	B986212	<0.30	0.30	B981191
Dissolved Magnesium (Mg)	mg/L	4.8	B986212	<0.20	0.20	B981191
RDL = Reportable Detection Limit						



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### REGULATED METALS INCLUDING MERCURY-TOTAL (WATER)

Bureau Veritas ID		DMP033		DMP035		DMP036	DMP037		
Sampling Date		2025/06/04 20:00		2025/06/03 10:06		2025/06/03 12:10	2025/06/04 14:00		
COC Number		1OF1		1OF1		1OF1	1OF1		
	UNITS	LUP-01	QC Batch	LUP-EL-01	QC Batch	LUP-BL-01	LUP-LSL-01	RDL	QC Batch
<b>Elements</b>									
Total Cadmium (Cd)	ug/L	0.025	B978059	0.089	B978059	0.037	0.042	0.020	B978282
Total Mercury (Hg)	ug/L	<0.0019	B985185	0.0022	B985185	<0.0019	<0.0019	0.0019	B985185
Total Aluminum (Al)	mg/L	0.083	B986766	0.25	B984089	0.077	0.070	0.0030	B984089
Total Antimony (Sb)	mg/L	<0.00060	B986766	<0.00060	B984089	<0.00060	<0.00060	0.00060	B984089
Total Arsenic (As)	mg/L	0.0014	B986766	0.0014	B984089	0.00091	0.0066	0.00020	B984089
Total Barium (Ba)	mg/L	<0.010	B986774	0.014	B984093	<0.010	0.016	0.010	B984093
Total Beryllium (Be)	mg/L	<0.0010	B986766	<0.0010	B984089	<0.0010	<0.0010	0.0010	B984089
Total Boron (B)	mg/L	<0.020	B986774	<0.020	B984093	<0.020	0.075	0.020	B984093
Total Calcium (Ca)	mg/L	2.8	B986774	3.6	B984093	2.5	21	0.30	B984093
Total Chromium (Cr)	mg/L	<0.0010	B986766	<0.0010	B984089	<0.0010	<0.0010	0.0010	B984089
Total Cobalt (Co)	mg/L	0.0029	B986766	0.020	B984089	0.0034	0.0059	0.00030	B984089
Total Copper (Cu)	mg/L	0.0020	B986766	0.0065	B984089	0.0024	0.0016	0.0010	B984089
Total Iron (Fe)	mg/L	0.080	B986774	0.29	B984093	0.079	0.42	0.060	B984093
Total Lead (Pb)	mg/L	<0.00020	B986766	<0.00020	B984089	<0.00020	<0.00020	0.00020	B984089
Total Lithium (Li)	mg/L	<0.020	B986774	<0.020	B984093	<0.020	<0.020	0.020	B984093
Total Magnesium (Mg)	mg/L	1.6	B986774	2.8	B984093	1.9	5.1	0.20	B984093
Total Manganese (Mn)	mg/L	0.034	B986774	0.26	B984093	0.032	0.43	0.0040	B984093
Total Molybdenum (Mo)	mg/L	<0.00020	B986766	<0.00020	B984089	<0.00020	0.00024	0.00020	B984089
Total Nickel (Ni)	mg/L	0.0089	B986766	0.031	B984089	0.0095	0.015	0.00050	B984089
Total Phosphorus (P)	mg/L	<0.10	B986774	<0.10	B984093	<0.10	<0.10	0.10	B984093
Total Potassium (K)	mg/L	0.49	B986774	0.59	B984093	0.62	2.3	0.30	B984093
Total Selenium (Se)	mg/L	<0.00020	B986766	<0.00020	B984089	<0.00020	<0.00020	0.00020	B984089
Total Silicon (Si)	mg/L	0.62	B986774	1.1	B984093	0.73	0.68	0.50	B984093
Total Silver (Ag)	mg/L	<0.00010	B986766	<0.00010	B984089	<0.00010	<0.00010	0.00010	B984089
Total Sodium (Na)	mg/L	1.2	B986774	1.1	B984093	1.1	8.3	0.50	B984093
Total Strontium (Sr)	mg/L	<0.020	B986774	<0.020	B984093	<0.020	0.13	0.020	B984093
Total Sulphur (S)	mg/L	4.6	B986774	7.6	B984093	4.5	22	0.20	B984093
Total Thallium (Tl)	mg/L	<0.00020	B986766	<0.00020	B984089	<0.00020	<0.00020	0.00020	B984089
Total Tin (Sn)	mg/L	<0.0010	B986766	<0.0010	B984089	<0.0010	<0.0010	0.0010	B984089
Total Titanium (Ti)	mg/L	<0.0010	B986766	<0.0010	B984089	<0.0010	0.0036	0.0010	B984089
Total Uranium (U)	mg/L	<0.00010	B986766	<0.00010	B984089	<0.00010	<0.00010	0.00010	B984089

RDL = Reportable Detection Limit



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

**REGULATED METALS INCLUDING MERCURY-TOTAL (WATER)**

Bureau Veritas ID		DMP033		DMP035		DMP036	DMP037		
Sampling Date		2025/06/04 20:00		2025/06/03 10:06		2025/06/03 12:10	2025/06/04 14:00		
COC Number		1OF1		1OF1		1OF1	1OF1		
	<b>UNITS</b>	<b>LUP-01</b>	<b>QC Batch</b>	<b>LUP-EL-01</b>	<b>QC Batch</b>	<b>LUP-BL-01</b>	<b>LUP-LSL-01</b>	<b>RDL</b>	<b>QC Batch</b>
Total Vanadium (V)	mg/L	<0.0010	B986766	<0.0010	B984089	<0.0010	<0.0010	0.0010	B984089
Total Zinc (Zn)	mg/L	0.010	B986766	0.017	B984089	0.0068	0.029	0.0030	B984089
RDL = Reportable Detection Limit									



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### REGULATED METALS INCLUDING MERCURY-TOTAL (WATER)

Bureau Veritas ID		DMP038		DMP039		
Sampling Date		2025/06/04		2025/06/04		
COC Number		1OF1		1OF1		
	<b>UNITS</b>	<b>REPLICATE #2</b>	<b>QC Batch</b>	<b>TRIP BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Elements</b>						
Total Cadmium (Cd)	ug/L	0.034	B978282	<0.020	0.020	B978059
Total Mercury (Hg)	ug/L	<0.0019	B985323	<0.0019	0.0019	B985323
Total Aluminum (Al)	mg/L	0.062	B984089	<0.0030	0.0030	B986766
Total Antimony (Sb)	mg/L	<0.00060	B984089	<0.00060	0.00060	B986766
Total Arsenic (As)	mg/L	0.0065	B984089	<0.00020	0.00020	B986766
Total Barium (Ba)	mg/L	0.016	B984093	<0.010	0.010	B986774
Total Beryllium (Be)	mg/L	<0.0010	B984089	<0.0010	0.0010	B986766
Total Boron (B)	mg/L	0.077	B984093	<0.020	0.020	B986774
Total Calcium (Ca)	mg/L	21	B984093	<0.30	0.30	B986774
Total Chromium (Cr)	mg/L	<0.0010	B984089	<0.0010	0.0010	B986766
Total Cobalt (Co)	mg/L	0.0048	B984089	<0.00030	0.00030	B986766
Total Copper (Cu)	mg/L	0.0015	B984089	<0.0010	0.0010	B986766
Total Iron (Fe)	mg/L	0.42	B984093	<0.060	0.060	B986774
Total Lead (Pb)	mg/L	<0.00020	B984089	<0.00020	0.00020	B986766
Total Lithium (Li)	mg/L	<0.020	B984093	<0.020	0.020	B986774
Total Magnesium (Mg)	mg/L	5.0	B984093	<0.20	0.20	B986774
Total Manganese (Mn)	mg/L	0.42	B984093	<0.0040	0.0040	B986774
Total Molybdenum (Mo)	mg/L	<0.00020	B984089	<0.00020	0.00020	B986766
Total Nickel (Ni)	mg/L	0.012	B984089	<0.00050	0.00050	B986766
Total Phosphorus (P)	mg/L	<0.10	B984093	<0.10	0.10	B986774
Total Potassium (K)	mg/L	2.3	B984093	<0.30	0.30	B986774
Total Selenium (Se)	mg/L	<0.00020	B984089	<0.00020	0.00020	B986766
Total Silicon (Si)	mg/L	0.65	B984093	<0.50	0.50	B986774
Total Silver (Ag)	mg/L	<0.00010	B984089	<0.00010	0.00010	B986766
Total Sodium (Na)	mg/L	8.4	B984093	<0.50	0.50	B986774
Total Strontium (Sr)	mg/L	0.13	B984093	<0.020	0.020	B986774
Total Sulphur (S)	mg/L	22	B984093	0.27	0.20	B986774
Total Thallium (Tl)	mg/L	<0.00020	B984089	<0.00020	0.00020	B986766
Total Tin (Sn)	mg/L	<0.0010	B984089	<0.0010	0.0010	B986766
Total Titanium (Ti)	mg/L	0.0011	B984089	<0.0010	0.0010	B986766
Total Uranium (U)	mg/L	<0.00010	B984089	<0.00010	0.00010	B986766

RDL = Reportable Detection Limit



**BUREAU  
VERITAS**

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

**REGULATED METALS INCLUDING MERCURY-TOTAL (WATER)**

Bureau Veritas ID		DMP038		DMP039		
Sampling Date		2025/06/04		2025/06/04		
COC Number		1OF1		1OF1		
	<b>UNITS</b>	<b>REPLICATE #2</b>	<b>QC Batch</b>	<b>TRIP BLANK</b>	<b>RDL</b>	<b>QC Batch</b>
Total Vanadium (V)	mg/L	<0.0010	B984089	<0.0010	0.0010	B986766
Total Zinc (Zn)	mg/L	0.028	B984089	0.026	0.0030	B986766
RDL = Reportable Detection Limit						



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

**REGULATED METALS + HG (CCME/AT1) - HGT-V**

Bureau Veritas ID		DMP034		
Sampling Date		2025/06/05 08:00		
COC Number		10F1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>				
Total Cadmium (Cd)	ug/L	<0.020	0.020	B978282
Total Mercury (Hg)	ug/L	<0.0019	0.0019	B985185
Total Aluminum (Al)	mg/L	0.055	0.0030	B984108
Total Antimony (Sb)	mg/L	<0.00060	0.00060	B984108
Total Arsenic (As)	mg/L	0.0065	0.00020	B984108
Total Barium (Ba)	mg/L	0.015	0.010	B984114
Total Beryllium (Be)	mg/L	<0.0010	0.0010	B984108
Total Boron (B)	mg/L	0.076	0.020	B984114
Total Calcium (Ca)	mg/L	20	0.30	B984114
Total Chromium (Cr)	mg/L	<0.0010	0.0010	B984108
Total Cobalt (Co)	mg/L	0.0042	0.00030	B984108
Total Copper (Cu)	mg/L	0.0012	0.0010	B984108
Total Iron (Fe)	mg/L	0.36	0.060	B984114
Total Lead (Pb)	mg/L	<0.00020	0.00020	B984108
Total Lithium (Li)	mg/L	<0.020	0.020	B984114
Total Magnesium (Mg)	mg/L	4.7	0.20	B984114
Total Manganese (Mn)	mg/L	0.35	0.0040	B984114
Total Molybdenum (Mo)	mg/L	<0.00020	0.00020	B984108
Total Nickel (Ni)	mg/L	0.011	0.00050	B984108
Total Phosphorus (P)	mg/L	<0.10	0.10	B984114
Total Potassium (K)	mg/L	2.2	0.30	B984114
Total Selenium (Se)	mg/L	<0.00020	0.00020	B984108
Total Silicon (Si)	mg/L	0.57	0.50	B984114
Total Silver (Ag)	mg/L	<0.00010	0.00010	B984108
Total Sodium (Na)	mg/L	7.9	0.50	B984114
Total Strontium (Sr)	mg/L	0.12	0.020	B984114
Total Sulphur (S)	mg/L	20	0.20	B984114
Total Thallium (Tl)	mg/L	<0.00020	0.00020	B984108
Total Tin (Sn)	mg/L	<0.0010	0.0010	B984108
Total Titanium (Ti)	mg/L	0.0017	0.0010	B984108
Total Uranium (U)	mg/L	<0.00010	0.00010	B984108
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

**REGULATED METALS + HG (CCME/AT1) - HGT-V**

Bureau Veritas ID		DMP034		
Sampling Date		2025/06/05 08:00		
COC Number		10F1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
Total Vanadium (V)	mg/L	<0.0010	0.0010	B984108
Total Zinc (Zn)	mg/L	0.023	0.0030	B984108
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		DMP033			DMP034			DMP035		
Sampling Date		2025/06/04 20:00			2025/06/05 08:00			2025/06/03 10:06		
COC Number		1OF1			1OF1			1OF1		
	UNITS	LUP-01	RDL	QC Batch	LUP-14	RDL	QC Batch	LUP-EL-01	RDL	QC Batch
<b>Parameter</b>										
Subcontract Parameter	MPN/100mL	ATTACHED	N/A	B982861	ATTACHED	N/A	B982861			
<b>Demand Parameters</b>										
Biochemical Oxygen Demand	mg/L				<2.0	2.0	B978304			
<b>Misc. Inorganics</b>										
Conductivity	uS/cm	42	2.0	B983100	220	2.0	B981715	66	2.0	B981715
pH	pH	6.77	N/A	B979950	6.32	N/A	B981712	4.94	N/A	B987957
Acidity (pH 4.5)	mg/L	<1.0	1.0	B981065	<1.0	1.0	B981065	<1.0	1.0	B981065
Acidity (pH 8.3)	mg/L	2.3	1.0	B981065	2.5	1.0	B981065	7.2	1.0	B981065
Total Dissolved Solids	mg/L	16	10	B979938	110	10	B980687	40	10	B978885
Total Suspended Solids	mg/L	<1.0	1.0	B978779	4.4	0.99	B978779	<1.0	1.0	B978774
<b>Anions</b>										
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	B983103	<1.0	1.0	B981714	<1.0	1.0	B987959
Alkalinity (Total as CaCO3)	mg/L	2.6	1.0	B983103	15	1.0	B981714	<1.0	1.0	B987959
Bicarbonate (HCO3)	mg/L	3.1	1.0	B983103	19	1.0	B981714	<1.0	1.0	B987959
Bromide (Br)	mg/L				0.11	0.010	B979250			
Carbonate (CO3)	mg/L	<1.0	1.0	B983103	<1.0	1.0	B981714	<1.0	1.0	B987959
Dissolved Fluoride (F)	mg/L				0.053	0.050	B981716			
Hydroxide (OH)	mg/L	<1.0	1.0	B983103	<1.0	1.0	B981714	<1.0	1.0	B987959
Chloride (Cl)	mg/L				12	1.0	B979443			
Sulphate (SO4)	mg/L				64	1.0	B979443			
<b>Nutrients</b>										
Orthophosphate (P)	mg/L				<0.0030	0.0030	B978560			
Total Phosphorus (P)	mg/L				0.0067	0.0030	B982744			
RDL = Reportable Detection Limit N/A = Not Applicable										



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		DMP036		DMP037	DMP038			DMP039		
Sampling Date		2025/06/03 12:10		2025/06/04 14:00	2025/06/04			2025/06/04		
COC Number		1OF1		1OF1	1OF1			1OF1		
	UNITS	LUP-BL-01	QC Batch	LUP-LSL-01	REPLICATE #2	RDL	QC Batch	TRIP BLANK	RDL	QC Batch
<b>Demand Parameters</b>										
Biochemical Oxygen Demand	mg/L							<2.0 (1)	2.0	B978304
<b>Misc. Inorganics</b>										
Conductivity	uS/cm	41	B983100	220	220	2.0	B983100	<2.0	2.0	B981715
pH	pH	5.94	B979950	6.54	6.56	N/A	B979950	5.35	N/A	B979950
Acidity (pH 4.5)	mg/L	<1.0	B981065	<1.0	<1.0	1.0	B981065	<1.0	1.0	B981065
Acidity (pH 8.3)	mg/L	2.8	B981065	2.4	2.5	1.0	B981065	<1.0	1.0	B981065
Total Dissolved Solids	mg/L	24	B978885	120	120	10	B979938	<10	10	B979938
Total Suspended Solids	mg/L	<1.0	B978774	3.5	4.3	1.0	B978779	<0.97	0.97	B978779
<b>Anions</b>										
Alkalinity (PP as CaCO3)	mg/L	<1.0	B983103	<1.0	<1.0	1.0	B983103	<1.0	1.0	B981714
Alkalinity (Total as CaCO3)	mg/L	1.9	B983103	13	13	1.0	B983103	<1.0	1.0	B981714
Bicarbonate (HCO3)	mg/L	2.3	B983103	16	16	1.0	B983103	<1.0	1.0	B981714
Bromide (Br)	mg/L							<0.010	0.010	B979250
Carbonate (CO3)	mg/L	<1.0	B983103	<1.0	<1.0	1.0	B983103	<1.0	1.0	B981714
Dissolved Fluoride (F)	mg/L							<0.050	0.050	B981716
Hydroxide (OH)	mg/L	<1.0	B983103	<1.0	<1.0	1.0	B983103	<1.0	1.0	B981714
Chloride (Cl)	mg/L							<1.0	1.0	B982031
Sulphate (SO4)	mg/L							<1.0	1.0	B982031
<b>Nutrients</b>										
Orthophosphate (P)	mg/L							<0.0030	0.0030	B981192
Total Phosphorus (P)	mg/L							<0.0030	0.0030	B982302
RDL = Reportable Detection Limit N/A = Not Applicable (1) Sample analyzed past hold time. Sample analysis is recommended within 48 hours of sampling.										



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.3°C
-----------	-------

Sample DMP039 [TRIP BLANK] : Sample was analyzed past method specified hold time for NO<sub>2</sub> (N); NO<sub>2</sub> (N) + NO<sub>3</sub> (N) in Water. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample was analyzed past method specified hold time for Orthophosphate by Automated Analyzer. Sample was analyzed past method specified hold time for Biochemical Oxygen Demand.

**Results relate only to the items tested.**



### QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
B978304	Biochemical Oxygen Demand	2025/06/13			92	85 - 115	<2.0	mg/L	3.6	20		
B978560	Orthophosphate (P)	2025/06/08	80	80 - 120	105	80 - 120	<0.0030	mg/L	0.90	20		
B978647	Nitrate plus Nitrite (N)	2025/06/08	107	80 - 120	99	80 - 120	<0.040	mg/L	NC	20		
B978647	Nitrite (N)	2025/06/08	90	80 - 120	105	80 - 120	<0.040	mg/L	NC	20		
B978774	Total Suspended Solids	2025/06/09	119	80 - 120	98	80 - 120	<1.0	mg/L	10	20		
B978779	Total Suspended Solids	2025/06/09	97	80 - 120	94	80 - 120	<1.0	mg/L	13	20		
B978885	Total Dissolved Solids	2025/06/10	97	80 - 120	98	80 - 120	<1.0	mg/L	0.94	20		
B979250	Bromide (Br)	2025/06/09	105	80 - 120	101	80 - 120	<0.010	mg/L	NC	20		
B979443	Chloride (Cl)	2025/06/09	NC	80 - 120	101	80 - 120	<1.0	mg/L	0.19	20		
B979443	Sulphate (SO4)	2025/06/09	NC	80 - 120	97	80 - 120	<1.0	mg/L	0.68	20		
B979938	Total Dissolved Solids	2025/06/10	100	80 - 120	100	80 - 120	<1.0	mg/L	2.3	20		
B979950	pH	2025/06/10			100	97 - 103			0.46	N/A		
B980145	Nitrate plus Nitrite (N)	2025/06/09	96	80 - 120	111	80 - 120	<0.040	mg/L	NC	20		
B980145	Nitrite (N)	2025/06/09	99	80 - 120	105	80 - 120	<0.040	mg/L	NC	20		
B980687	Total Dissolved Solids	2025/06/11	NC	80 - 120	96	80 - 120	<1.0	mg/L	2.5	20		
B981064	Dissolved Calcium (Ca)	2025/06/10	NC	80 - 120	104	80 - 120	<0.30	mg/L	0.086	20		
B981064	Dissolved Magnesium (Mg)	2025/06/10	97	80 - 120	102	80 - 120	<0.20	mg/L	0.58	20		
B981065	Acidity (pH 4.5)	2025/06/10					<1.0	mg/L	NC	20		
B981065	Acidity (pH 8.3)	2025/06/10			103	80 - 120	<1.0	mg/L	0.41	20		
B981191	Dissolved Calcium (Ca)	2025/06/10	NC	80 - 120	94	80 - 120	<0.30	mg/L	0.63	20		
B981191	Dissolved Magnesium (Mg)	2025/06/10	NC	80 - 120	100	80 - 120	<0.20	mg/L	0.24	20		
B981192	Orthophosphate (P)	2025/06/10	109	80 - 120	110	80 - 120	<0.0030	mg/L	NC	20		
B981509	Total Nitrogen (N)	2025/06/11	113	80 - 120	103	80 - 120	<0.020	mg/L	14	20	109	80 - 120
B981510	Total Nitrogen (N)	2025/06/11	NC	80 - 120	100	80 - 120	<0.020	mg/L			114	80 - 120
B981712	pH	2025/06/11			100	97 - 103			2.4	N/A		
B981714	Alkalinity (PP as CaCO3)	2025/06/11					<1.0	mg/L	NC	20		
B981714	Alkalinity (Total as CaCO3)	2025/06/11			102	80 - 120	<1.0	mg/L	3.1	20		
B981714	Bicarbonate (HCO3)	2025/06/11					<1.0	mg/L	3.1	20		
B981714	Carbonate (CO3)	2025/06/11					<1.0	mg/L	NC	20		
B981714	Hydroxide (OH)	2025/06/11					<1.0	mg/L	NC	20		
B981715	Conductivity	2025/06/11			100	90 - 110	<2.0	uS/cm	0.14	10		
B981716	Dissolved Fluoride (F)	2025/06/11	95	80 - 120	95	80 - 120	<0.050	mg/L	1.4	20		



Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
B982031	Chloride (Cl)	2025/06/10	105	80 - 120	101	80 - 120	<1.0	mg/L	0.83	20		
B982031	Sulphate (SO4)	2025/06/10	100	80 - 120	100	80 - 120	<1.0	mg/L	0.30	20		
B982302	Total Phosphorus (P)	2025/06/11	109	80 - 120	97	80 - 120	<0.0030	mg/L	4.8	20	88	80 - 120
B982744	Total Phosphorus (P)	2025/06/12	NC	80 - 120	97	80 - 120	<0.0030	mg/L	11	20	88	80 - 120
B983100	Conductivity	2025/06/11			101	90 - 110	<2.0	uS/cm	0.29	10		
B983103	Alkalinity (PP as CaCO3)	2025/06/11					<1.0	mg/L	NC	20		
B983103	Alkalinity (Total as CaCO3)	2025/06/11			99	80 - 120	<1.0	mg/L	4.0	20		
B983103	Bicarbonate (HCO3)	2025/06/11					<1.0	mg/L	2.2	20		
B983103	Carbonate (CO3)	2025/06/11					<1.0	mg/L	NC	20		
B983103	Hydroxide (OH)	2025/06/11					<1.0	mg/L	NC	20		
B984089	Total Aluminum (Al)	2025/06/13	102	80 - 120	103	80 - 120	<0.0030	mg/L	0.83	20		
B984089	Total Antimony (Sb)	2025/06/13	106	80 - 120	104	80 - 120	<0.0060	mg/L	NC	20		
B984089	Total Arsenic (As)	2025/06/13	107	80 - 120	108	80 - 120	<0.00020	mg/L	1.8	20		
B984089	Total Beryllium (Be)	2025/06/13	101	80 - 120	100	80 - 120	<0.0010	mg/L	NC	20		
B984089	Total Chromium (Cr)	2025/06/13	104	80 - 120	106	80 - 120	<0.0010	mg/L	NC	20		
B984089	Total Cobalt (Co)	2025/06/13	103	80 - 120	106	80 - 120	<0.00030	mg/L	1.9	20		
B984089	Total Copper (Cu)	2025/06/13	103	80 - 120	107	80 - 120	<0.0010	mg/L	2.2	20		
B984089	Total Lead (Pb)	2025/06/13	101	80 - 120	102	80 - 120	<0.00020	mg/L	NC	20		
B984089	Total Molybdenum (Mo)	2025/06/13	110	80 - 120	108	80 - 120	<0.00020	mg/L	NC	20		
B984089	Total Nickel (Ni)	2025/06/13	102	80 - 120	107	80 - 120	<0.00050	mg/L	3.0	20		
B984089	Total Selenium (Se)	2025/06/13	107	80 - 120	109	80 - 120	<0.00020	mg/L	NC	20		
B984089	Total Silver (Ag)	2025/06/13	104	80 - 120	105	80 - 120	<0.00010	mg/L	NC	20		
B984089	Total Thallium (Tl)	2025/06/13	106	80 - 120	108	80 - 120	<0.00020	mg/L	NC	20		
B984089	Total Tin (Sn)	2025/06/13	105	80 - 120	106	80 - 120	<0.0010	mg/L	NC	20		
B984089	Total Titanium (Ti)	2025/06/13	108	80 - 120	109	80 - 120	<0.0010	mg/L	NC	20		
B984089	Total Uranium (U)	2025/06/13	105	80 - 120	105	80 - 120	<0.00010	mg/L	NC	20		
B984089	Total Vanadium (V)	2025/06/13	105	80 - 120	106	80 - 120	<0.0010	mg/L	NC	20		
B984089	Total Zinc (Zn)	2025/06/13	99	80 - 120	104	80 - 120	<0.0030	mg/L	5.7	20		
B984093	Total Barium (Ba)	2025/06/13	106	80 - 120	105	80 - 120	<0.010	mg/L	NC	20		
B984093	Total Boron (B)	2025/06/13	101	80 - 120	99	80 - 120	<0.020	mg/L	NC	20		
B984093	Total Calcium (Ca)	2025/06/13	98	80 - 120	97	80 - 120	<0.30	mg/L	1.4	20		
B984093	Total Iron (Fe)	2025/06/13	108	80 - 120	106	80 - 120	<0.060	mg/L	6.4	20		



Bureau Veritas Job #: C552089  
 Report Date: 2025/06/17

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
 Client Project #: 213.000020.00001  
 Site Location: LUPIN MINE  
 Your P.O. #: YEL274

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
B984093	Total Lithium (Li)	2025/06/13	98	80 - 120	96	80 - 120	<0.020	mg/L	NC	20		
B984093	Total Magnesium (Mg)	2025/06/13	103	80 - 120	102	80 - 120	<0.20	mg/L	1.2	20		
B984093	Total Manganese (Mn)	2025/06/13	102	80 - 120	101	80 - 120	<0.0040	mg/L	4.6	20		
B984093	Total Phosphorus (P)	2025/06/13	104	80 - 120	102	80 - 120	<0.10	mg/L	NC	20		
B984093	Total Potassium (K)	2025/06/13	100	80 - 120	98	80 - 120	<0.30	mg/L	12	20		
B984093	Total Silicon (Si)	2025/06/13	103	80 - 120	102	80 - 120	<0.50	mg/L	2.2	20		
B984093	Total Sodium (Na)	2025/06/13	97	80 - 120	96	80 - 120	<0.50	mg/L	1.7	20		
B984093	Total Strontium (Sr)	2025/06/13	102	80 - 120	100	80 - 120	<0.020	mg/L	NC	20		
B984093	Total Sulphur (S)	2025/06/13	104	80 - 120	101	80 - 120	<0.20	mg/L	1.2	20		
B984108	Total Aluminum (Al)	2025/06/12	98	80 - 120	105	80 - 120	<0.0030	mg/L	NC	20		
B984108	Total Antimony (Sb)	2025/06/12	100	80 - 120	104	80 - 120	<0.00060	mg/L	NC	20		
B984108	Total Arsenic (As)	2025/06/12	102	80 - 120	105	80 - 120	<0.00020	mg/L	15	20		
B984108	Total Beryllium (Be)	2025/06/12	95	80 - 120	96	80 - 120	<0.0010	mg/L	NC	20		
B984108	Total Chromium (Cr)	2025/06/12	99	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20		
B984108	Total Cobalt (Co)	2025/06/12	98	80 - 120	103	80 - 120	<0.00030	mg/L	NC	20		
B984108	Total Copper (Cu)	2025/06/12	98	80 - 120	104	80 - 120	<0.0010	mg/L	3.6	20		
B984108	Total Lead (Pb)	2025/06/12	94	80 - 120	95	80 - 120	<0.00020	mg/L	1.3	20		
B984108	Total Molybdenum (Mo)	2025/06/12	103	80 - 120	105	80 - 120	<0.00020	mg/L	9.4	20		
B984108	Total Nickel (Ni)	2025/06/12	99	80 - 120	103	80 - 120	<0.00050	mg/L	5.8	20		
B984108	Total Selenium (Se)	2025/06/12	104	80 - 120	107	80 - 120	<0.00020	mg/L	NC	20		
B984108	Total Silver (Ag)	2025/06/12	99	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20		
B984108	Total Thallium (Tl)	2025/06/12	115	80 - 120	118	80 - 120	<0.00020	mg/L	NC	20		
B984108	Total Tin (Sn)	2025/06/12	102	80 - 120	105	80 - 120	<0.0010	mg/L	NC	20		
B984108	Total Titanium (Ti)	2025/06/12	101	80 - 120	104	80 - 120	<0.0010	mg/L	19	20		
B984108	Total Uranium (U)	2025/06/12	104	80 - 120	106	80 - 120	<0.00010	mg/L	3.5	20		
B984108	Total Vanadium (V)	2025/06/12	99	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20		
B984108	Total Zinc (Zn)	2025/06/12	87	80 - 120	100	80 - 120	<0.0030	mg/L	3.4	20		
B984114	Total Barium (Ba)	2025/06/12	100	80 - 120	101	80 - 120	<0.010	mg/L	2.3	20		
B984114	Total Boron (B)	2025/06/12	99	80 - 120	99	80 - 120	<0.020	mg/L	1.2	20		
B984114	Total Calcium (Ca)	2025/06/12	93	80 - 120	94	80 - 120	<0.30	mg/L	2.3	20		
B984114	Total Iron (Fe)	2025/06/12	110	80 - 120	107	80 - 120	<0.060	mg/L	6.1	20		
B984114	Total Lithium (Li)	2025/06/12	92	80 - 120	93	80 - 120	<0.020	mg/L				



Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
B984114	Total Magnesium (Mg)	2025/06/12	100	80 - 120	101	80 - 120	<0.20	mg/L	2.3	20		
B984114	Total Manganese (Mn)	2025/06/12	105	80 - 120	103	80 - 120	<0.0040	mg/L	3.9	20		
B984114	Total Phosphorus (P)	2025/06/12	99	80 - 120	100	80 - 120	<0.10	mg/L	NC	20		
B984114	Total Potassium (K)	2025/06/12	95	80 - 120	96	80 - 120	<0.30	mg/L	0.28	20		
B984114	Total Silicon (Si)	2025/06/12	100	80 - 120	102	80 - 120	<0.50	mg/L				
B984114	Total Sodium (Na)	2025/06/12	93	80 - 120	94	80 - 120	<0.50	mg/L	2.3	20		
B984114	Total Strontium (Sr)	2025/06/12	96	80 - 120	98	80 - 120	<0.020	mg/L	2.4	20		
B984114	Total Sulphur (S)	2025/06/12	97	80 - 120	98	80 - 120	<0.20	mg/L	2.8	20		
B985185	Total Mercury (Hg)	2025/06/12	94	80 - 120	100	80 - 120	<0.0019	ug/L	NC	20		
B985323	Total Mercury (Hg)	2025/06/13	86	80 - 120	98	80 - 120	<0.0019	ug/L	NC	20		
B986212	Dissolved Calcium (Ca)	2025/06/13	NC	80 - 120	99	80 - 120	<0.30	mg/L	2.0	20		
B986212	Dissolved Magnesium (Mg)	2025/06/13	95	80 - 120	98	80 - 120	<0.20	mg/L	2.7	20		
B986766	Total Aluminum (Al)	2025/06/13	NC	80 - 120	114	80 - 120	<0.0030	mg/L	0.38	20		
B986766	Total Antimony (Sb)	2025/06/13	107	80 - 120	109	80 - 120	<0.00060	mg/L	NC	20		
B986766	Total Arsenic (As)	2025/06/13	108	80 - 120	111	80 - 120	<0.00020	mg/L	0.90	20		
B986766	Total Beryllium (Be)	2025/06/13	113	80 - 120	107	80 - 120	<0.0010	mg/L	NC	20		
B986766	Total Chromium (Cr)	2025/06/13	107	80 - 120	108	80 - 120	<0.0010	mg/L	2.0	20		
B986766	Total Cobalt (Co)	2025/06/13	107	80 - 120	108	80 - 120	<0.00030	mg/L	NC	20		
B986766	Total Copper (Cu)	2025/06/13	108	80 - 120	109	80 - 120	<0.0010	mg/L	4.7	20		
B986766	Total Lead (Pb)	2025/06/13	106	80 - 120	105	80 - 120	<0.00020	mg/L	NC	20		
B986766	Total Molybdenum (Mo)	2025/06/13	110	80 - 120	110	80 - 120	<0.00020	mg/L	3.4	20		
B986766	Total Nickel (Ni)	2025/06/13	107	80 - 120	109	80 - 120	<0.00050	mg/L	5.0	20		
B986766	Total Selenium (Se)	2025/06/13	105	80 - 120	109	80 - 120	<0.00020	mg/L	0.34	20		
B986766	Total Silver (Ag)	2025/06/13	106	80 - 120	107	80 - 120	<0.00010	mg/L	NC	20		
B986766	Total Thallium (Tl)	2025/06/13	110	80 - 120	110	80 - 120	<0.00020	mg/L	NC	20		
B986766	Total Tin (Sn)	2025/06/13	109	80 - 120	108	80 - 120	<0.0010	mg/L	NC	20		
B986766	Total Titanium (Ti)	2025/06/13	109	80 - 120	110	80 - 120	<0.0010	mg/L	NC	20		
B986766	Total Uranium (U)	2025/06/13	109	80 - 120	110	80 - 120	<0.00010	mg/L	2.7	20		
B986766	Total Vanadium (V)	2025/06/13	108	80 - 120	109	80 - 120	<0.0010	mg/L	NC	20		
B986766	Total Zinc (Zn)	2025/06/13	NC	80 - 120	111	80 - 120	<0.0030	mg/L	NC	20		
B986774	Total Barium (Ba)	2025/06/14	105	80 - 120	105	80 - 120	<0.010	mg/L	1.2	20		
B986774	Total Boron (B)	2025/06/14	100	80 - 120	100	80 - 120	<0.020	mg/L	5.5	20		



BUREAU VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
B986774	Total Calcium (Ca)	2025/06/14	97	80 - 120	96	80 - 120	<0.30	mg/L	1.3	20		
B986774	Total Iron (Fe)	2025/06/14	114	80 - 120	111	80 - 120	<0.060	mg/L	NC	20		
B986774	Total Lithium (Li)	2025/06/14	97	80 - 120	96	80 - 120	<0.020	mg/L	NC	20		
B986774	Total Magnesium (Mg)	2025/06/14	103	80 - 120	102	80 - 120	<0.20	mg/L	1.5	20		
B986774	Total Manganese (Mn)	2025/06/14	106	80 - 120	106	80 - 120	<0.0040	mg/L	NC	20		
B986774	Total Phosphorus (P)	2025/06/14	103	80 - 120	104	80 - 120	<0.10	mg/L	NC	20		
B986774	Total Potassium (K)	2025/06/14	99	80 - 120	98	80 - 120	<0.30	mg/L	0.91	20		
B986774	Total Silicon (Si)	2025/06/14	103	80 - 120	103	80 - 120	<0.50	mg/L	1.3	20		
B986774	Total Sodium (Na)	2025/06/14	96	80 - 120	96	80 - 120	<0.50	mg/L	4.4	20		
B986774	Total Strontium (Sr)	2025/06/14	101	80 - 120	100	80 - 120	<0.020	mg/L	0.97	20		
B986774	Total Sulphur (S)	2025/06/14	104	80 - 120	103	80 - 120	<0.20	mg/L	0.54	20		
B987957	pH	2025/06/14			100	97 - 103			0.57	N/A		
B987959	Alkalinity (PP as CaCO3)	2025/06/14					<1.0	mg/L	NC	20		
B987959	Alkalinity (Total as CaCO3)	2025/06/14			98	80 - 120	<1.0	mg/L	NC	20		
B987959	Bicarbonate (HCO3)	2025/06/14					<1.0	mg/L	NC	20		
B987959	Carbonate (CO3)	2025/06/14					<1.0	mg/L	NC	20		
B987959	Hydroxide (OH)	2025/06/14					<1.0	mg/L	NC	20		
B988049	Dissolved Calcium (Ca)	2025/06/14	NC	80 - 120	96	80 - 120	<0.30	mg/L	1.0	20		
B988049	Dissolved Magnesium (Mg)	2025/06/14	95	80 - 120	101	80 - 120	<0.20	mg/L	1.6	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



BUREAU  
VERITAS

Bureau Veritas Job #: C552089  
Report Date: 2025/06/17

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL274

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

\_\_\_\_\_  
Fiona Luo, Project Solutions Representative

\_\_\_\_\_  
Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

\_\_\_\_\_  
Sandy Yuan, M.Sc., QP, Scientific Specialist

\_\_\_\_\_  
Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

\_\_\_\_\_  
Bureau Veritas Certified by Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

---

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Scott Cantwell, General Manager responsible for Alberta Environmental laboratory operations.

C552089  
2025/06/05 15:20

4400 Canada Way, Burnaby, BC V5G 3K3  
Tel: (604) 734-7226 Toll Free: (800) 655-8566



www.bv.com

CHAIN OF CUSTODY RECORD  
ENV-COC-0001543



EYK-2025-06-010

**Invoice Information** Invoice to (requires report)  Report Information (if differs from invoice)

Company: SLR Consulting (Canada) Ltd. Quotation #: CS0535  
 Contact Name: Kristin Hansvall P.O. B./A/E/A: VEL274  
 Street Address: 8 St. Paul St. West Project #: 213.000020.00001  
 City: Kamloops Prov: BC Postal Code: V2C 1G1 Site #:   
 Phone: 250-318-0512 Site Location: Lupin Mine  
 Email: khansvall@slrconsulting.com Site Location Province: Nunavut  
 Copies: AccountsPayableCA@slrconsulting.com labdate@slrconsulting.com Sampled by: ST

**Regulatory Criteria**

BC CSR  CCME  Drinking Water  
 YUKON CSR  BC Water Quality  Other:   
 Company: khansvall@slrconsulting.com  
 Email: labdate@slrconsulting.com

**SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS**

Sample Identification	Date Sampled			Time (24hr)			Metric
	YY	MM	DD	HH	MM	SS	
1 LUP-01	25	06	04	20	00		SW
2 LUP-14	25	06	05	08	00		SW
3 LUP-EL-01	25	06	03	10	06		SW
4 LUP-BL-01	25	06	03	12	10		SW
5 LUP-LSL-01	25	06	04	14	00		SW
6 Replicate # 2				14	00		SW
7 Trip Blank							W

Sample ID	Date			Time			Seal present	Seal intact	Cooling media present	Received by: (Signature/Print)
	YY	MM	DD	HH	MM	SS				
1	25	06	05	14	45		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Chamberlain
2							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Chamberlain

Sample ID	Regular Turnaround Time (TAT)												Comments											
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	
5																							5	
6																							6	
4																							4	
4																							4	
4																							4	
4																							4	
7																							7	

**LAB USE ONLY**

Seal present:  Yes  No  
 Seal intact:  Yes  No  
 Cooling media present:  Yes  No

Temperature reading by: \_\_\_\_\_

Received in Yellowknife  
By: *Chamberlain*  
EYK: 20  
JUN 05 2025  
Tama: 3:15 / 3:16



## Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

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

Taiga Batch No.:  
**251267**

### - AMENDED REPORT -

**Prepared For:** Bureau Veritas Canada

**Address:** 500 - 1919 Minnesota Court

Mississauga, ON

L5N 0C9

**Attn:** General Contact

**Facsimile:**

**Final report has been reviewed and approved by:**

**Bradley Koswan**  
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.
- All data provided by the customer will be represented by the blue colour used in this statement.



Taiga Batch No.:  
251267

**- CERTIFICATE OF ANALYSIS -**

Client Sample ID: **DRP654-LUP-14**

Taiga Sample ID: 001

Client Project: **C573211**

Sample Type: **Water**

Received Date: **25-Aug-25**

Sampling Date: **24-Aug-25**

Sampling Time: **9:45**

Location:

Report Status: **Amended**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b><u>Microbiology</u></b>						
Coliforms, Fecal	2	1	CFU/100mL	25-Aug-25	TEL017	

Taiga Batch No.:  
251267

**- CERTIFICATE OF ANALYSIS -**

---

Client Sample ID: **DRP654-LUP-14**

Taiga Sample ID: 001

**\* 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

Comments *Amendment: Updated sample ID*



Your P.O. #: YEL294  
 Your Project #: 213.000020.00001  
 Site Location: Lupin Mine  
 Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
 8 WEST ST. PAUL STREET  
 KAMLOOPS, BC  
 Canada V2C 1G1

**Report Date: 2026/01/09**  
 Report #: R3749324  
 Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BUREAU VERITAS JOB #: C573211**

**Received: 2025/08/25, 08:35**

Sample Matrix: Water  
 # Samples Received: 4

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Acidity pH 4.5 & pH 8.3 (as CaCO3) (1)	3	N/A	2025/08/28	AB SOP-00005	SM 24 2310 B m
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	3	N/A	2025/08/28	AB SOP-00005	SM 24 2320 B m
Biochemical Oxygen Demand (1)	1	2025/08/27	2025/09/01	AB SOP-00017	SM 24 5210B m
Cadmium - low level CCME (Total) (1)	3	N/A	2025/08/30		Auto Calc
Conductivity @25C (1)	3	N/A	2025/08/28	AB SOP-00005	SM 24 2510 B m
Fecal Coliforms (Water) (2)	1	2025/09/04	2025/09/04		Subcontract
Hardness (1)	3	N/A	2025/08/30		Auto Calc
Mercury (Total) by CV (1)	3	2025/08/29	2025/08/29	AB SOP-00084	BCMOE BCLM Oct2013 m
Elements by ICP-Dissolved-Lab Filtered (1, 3)	3	N/A	2025/08/29	AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Total (1)	3	2025/08/30	2025/08/30	AB SOP-00014 / AB SOP-00042	EPA 6010d R5 m
Elements by ICPMS - Total (1)	3	2025/08/30	2025/08/30	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Total (1)	1	2025/09/02	2025/09/03	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
pH @25°C (1, 4)	3	N/A	2025/08/28	AB SOP-00005	SM 24 4500-H+B m
Total Suspended Solids (NFR) (1)	1	2025/08/29	2025/08/29	AB SOP-00061	SM 24 2540 D m
Total Suspended Solids (NFR) (1)	3	2025/08/29	2025/08/30	AB SOP-00061	SM 24 2540 D m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.



Your P.O. #: YEL294  
Your Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
8 WEST ST. PAUL STREET  
KAMLOOPS, BC  
Canada V2C 1G1

**Report Date: 2026/01/09**  
Report #: R3749324  
Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BUREAU VERITAS JOB #: C573211**

**Received: 2025/08/25, 08:35**

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) This test was performed by Taiga Environmental Laboratory, 4601 – 52 Avenue , Yellowknife, NT, X1A 1L4

(3) Dissolved > Total Imbalance: When applicable, Dissolved and Total results were reviewed and data quality meets acceptable levels unless otherwise noted.

(4) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Mariel Saavedra Marquez  
Project Solutions Representative  
09 Jan 2026 15:10:21

Please direct all questions regarding this Certificate of Analysis to:

Nahed Amer, Key Account Specialist  
Email: Nahed.AMER@bureauveritas.com  
Phone# (780) 577-7100

=====

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Scott Cantwell, General Manager responsible for Alberta Environmental laboratory operations.



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

### HARDNESS - LAB FILTERED (WATER)

Bureau Veritas ID		DRP650	DRP651	DRP652		
Sampling Date		2025/08/24 07:00	2025/08/23 19:41	2025/08/24 07:00		
COC Number		1OF1	1OF1	1OF1		
	<b>UNITS</b>	<b>LUP-BL-01</b>	<b>LUP-EL-01</b>	<b>DUP-08-2025</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>						
Hardness (CaCO3)	mg/L	19	70	19	0.50	C063585
<b>Lab Filtered Elements</b>						
Dissolved Calcium (Ca)	mg/L	3.1	12	3.1	0.30	C065924
Dissolved Magnesium (Mg)	mg/L	2.7	9.7	2.7	0.20	C065924
RDL = Reportable Detection Limit						



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

### REGULATED METALS (CCME/AT1) - TOTAL

Bureau Veritas ID		DRP650	DRP651	DRP652		
Sampling Date		2025/08/24 07:00	2025/08/23 19:41	2025/08/24 07:00		
COC Number		1OF1	1OF1	1OF1		
	<b>UNITS</b>	<b>LUP-BL-01</b>	<b>LUP-EL-01</b>	<b>DUP-08-2025</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>						
Total Cadmium (Cd)	ug/L	0.027	0.076	0.043	0.020	C063157
Total Aluminum (Al)	mg/L	0.019	0.12	0.020	0.0030	C068524
Total Antimony (Sb)	mg/L	<0.00060	<0.00060	<0.00060	0.00060	C068524
Total Arsenic (As)	mg/L	0.0010	0.0015	0.00098	0.00020	C068524
Total Barium (Ba)	mg/L	<0.010	0.023	<0.010	0.010	C068526
Total Beryllium (Be)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	C068524
Total Boron (B)	mg/L	<0.020	<0.020	<0.020	0.020	C068526
Total Calcium (Ca)	mg/L	2.8	11	2.8	0.30	C068526
Total Chromium (Cr)	mg/L	<0.0010 (1)	<0.0010	<0.0010	0.0010	C068524
Total Cobalt (Co)	mg/L	0.00059	0.0088	0.00061	0.00030	C068524
Total Copper (Cu)	mg/L	0.0015	0.0045	0.0016	0.0010	C068524
Total Iron (Fe)	mg/L	0.077	0.28	0.085	0.060	C068526
Total Lead (Pb)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	C068524
Total Lithium (Li)	mg/L	<0.020	<0.020	<0.020	0.020	C068526
Total Magnesium (Mg)	mg/L	2.7	9.7	2.8	0.20	C068526
Total Manganese (Mn)	mg/L	0.0091	0.16	0.0092	0.0040	C068526
Total Molybdenum (Mo)	mg/L	<0.00020 (1)	<0.00020	<0.00020	0.00020	C068524
Total Nickel (Ni)	mg/L	0.0049 (1)	0.049	0.0054	0.00050	C068524
Total Phosphorus (P)	mg/L	<0.10	<0.10	<0.10	0.10	C068526
Total Potassium (K)	mg/L	0.69	1.1	0.74	0.30	C068526
Total Selenium (Se)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	C068524
Total Silicon (Si)	mg/L	<0.50	<0.50	<0.50	0.50	C068526
Total Silver (Ag)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	C068524
Total Sodium (Na)	mg/L	1.7	3.9	1.8	0.50	C068526
Total Strontium (Sr)	mg/L	<0.020	0.060	<0.020	0.020	C068526
Total Sulphur (S)	mg/L	6.0	26	6.0	0.20	C068526
Total Thallium (Tl)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	C068524
Total Tin (Sn)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	C068524
Total Titanium (Ti)	mg/L	<0.0010	0.0010	<0.0010	0.0010	C068524
RDL = Reportable Detection Limit						
(1) Duplicate exceeds acceptance criteria due to sample non homogeneity. Reanalysis yields similar results.						



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

**REGULATED METALS (CCME/AT1) - TOTAL**

Bureau Veritas ID		DRP650	DRP651	DRP652		
Sampling Date		2025/08/24 07:00	2025/08/23 19:41	2025/08/24 07:00		
COC Number		1OF1	1OF1	1OF1		
	<b>UNITS</b>	<b>LUP-BL-01</b>	<b>LUP-EL-01</b>	<b>DUP-08-2025</b>	<b>RDL</b>	<b>QC Batch</b>
Total Uranium (U)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	C068524
Total Vanadium (V)	mg/L	<0.0010	<0.0010	<0.0010	0.0010	C068524
Total Zinc (Zn)	mg/L	<0.0030	0.017	<0.0030	0.0030	C068524
RDL = Reportable Detection Limit						



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

### RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		DRP650		DRP651			DRP652		
Sampling Date		2025/08/24 07:00		2025/08/23 19:41			2025/08/24 07:00		
COC Number		1OF1		1OF1			1OF1		
	<b>UNITS</b>	<b>LUP-BL-01</b>	<b>QC Batch</b>	<b>LUP-EL-01</b>	<b>RDL</b>	<b>QC Batch</b>	<b>DUP-08-2025</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Misc. Inorganics</b>									
Conductivity	uS/cm	55	C066524	190	2.0	C066524	55	2.0	C066524
pH	pH	6.32	C066521	6.10	N/A	C066521	6.31	N/A	C066521
Acidity (pH 4.5)	mg/L	<1.0	C065375	<1.0	1.0	C065375	<1.0	1.0	C065375
Acidity (pH 8.3)	mg/L	<1.0	C065375	1.6	1.0	C065375	<1.0	1.0	C065375
Total Suspended Solids	mg/L	<1.0	C067056	<1.0	1.0	C067052	<0.99	0.99	C067056
<b>Anions</b>									
Alkalinity (PP as CaCO3)	mg/L	<1.0	C066517	<1.0	1.0	C066517	<1.0	1.0	C066517
Alkalinity (Total as CaCO3)	mg/L	4.7	C066517	2.3	1.0	C066517	4.8	1.0	C066517
Bicarbonate (HCO3)	mg/L	5.8	C066517	2.9	1.0	C066517	5.8	1.0	C066517
Carbonate (CO3)	mg/L	<1.0	C066517	<1.0	1.0	C066517	<1.0	1.0	C066517
Hydroxide (OH)	mg/L	<1.0	C066517	<1.0	1.0	C066517	<1.0	1.0	C066517
RDL = Reportable Detection Limit N/A = Not Applicable									

Bureau Veritas ID		DRP654		
Sampling Date		2025/08/24 09:45		
COC Number		1OF1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Parameter</b>				
Subcontract Parameter	MPN/100mL	ATTACHED	N/A	B458746
<b>Demand Parameters</b>				
Biochemical Oxygen Demand	mg/L	<2.0 (1)	2.0	C063848
<b>Misc. Inorganics</b>				
Total Suspended Solids	mg/L	3.6	1.0	C067056
RDL = Reportable Detection Limit N/A = Not Applicable (1) Sample analyzed past hold time. Sample analysis is recommended within 48 hours of sampling.				



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

### MERCURY BY COLD VAPOR (WATER)

Bureau Veritas ID		DRP650	DRP651	DRP652		
Sampling Date		2025/08/24 07:00	2025/08/23 19:41	2025/08/24 07:00		
COC Number		1OF1	1OF1	1OF1		
	<b>UNITS</b>	<b>LUP-BL-01</b>	<b>LUP-EL-01</b>	<b>DUP-08-2025</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>						
Total Mercury (Hg)	ug/L	<0.0019	<0.0019	<0.0019	0.0019	C067242
RDL = Reportable Detection Limit						



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

### ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		DRP654		
Sampling Date		2025/08/24 09:45		
COC Number		1OF1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>				
Total Arsenic (As)	mg/L	0.0060	0.00020	C070075
Total Copper (Cu)	mg/L	0.0012	0.0010	C070075
Total Lead (Pb)	mg/L	<0.00020	0.00020	C070075
Total Nickel (Ni)	mg/L	0.0056	0.00050	C070075
Total Zinc (Zn)	mg/L	<0.0030	0.0030	C070075
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
-----------	-------

Report reissued to update sample ID LUP-LSL-01 to LUP-14 as requested on 2026/01/08.

**Results relate only to the items tested.**



Bureau Veritas Job #: C573211  
 Report Date: 2026/01/09

### QUALITY ASSURANCE REPORT

SLR CONSULTING (CANADA) LTD  
 Client Project #: 213.000020.00001  
 Site Location: Lupin Mine  
 Your P.O. #: YEL294  
 Sampler Initials: ED

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C063848	Biochemical Oxygen Demand	2025/09/01			100	85 - 115	<2.0	mg/L	8.8	20
C065375	Acidity (pH 4.5)	2025/08/29					<1.0	mg/L	NC	20
C065375	Acidity (pH 8.3)	2025/08/29			99	80 - 120	<1.0	mg/L	NC	20
C065924	Dissolved Calcium (Ca)	2025/08/29	93	80 - 120	105	80 - 120	<0.30	mg/L	1.1	20
C065924	Dissolved Magnesium (Mg)	2025/08/29	96	80 - 120	106	80 - 120	<0.20	mg/L	0.71	20
C066517	Alkalinity (PP as CaCO3)	2025/08/28					<1.0	mg/L	NC	20
C066517	Alkalinity (Total as CaCO3)	2025/08/28			96	80 - 120	<1.0	mg/L	3.0	20
C066517	Bicarbonate (HCO3)	2025/08/28					<1.0	mg/L	3.0	20
C066517	Carbonate (CO3)	2025/08/28					<1.0	mg/L	NC	20
C066517	Hydroxide (OH)	2025/08/28					<1.0	mg/L	NC	20
C066521	pH	2025/08/28			99	97 - 103			0.19	N/A
C066524	Conductivity	2025/08/28			100	90 - 110	<2.0	uS/cm	0	10
C067052	Total Suspended Solids	2025/08/29	106	80 - 120	94	80 - 120	<1.0	mg/L	NC	20
C067056	Total Suspended Solids	2025/08/30	97	80 - 120	90	80 - 120	<1.0	mg/L	NC	20
C067242	Total Mercury (Hg)	2025/08/29	100	80 - 120	101	80 - 120	<0.0019	ug/L	NC	20
C068524	Total Aluminum (Al)	2025/08/30	102	80 - 120	103	80 - 120	<0.0030	mg/L	2.4	20
C068524	Total Antimony (Sb)	2025/08/30	100	80 - 120	100	80 - 120	<0.00060	mg/L	NC	20
C068524	Total Arsenic (As)	2025/08/30	98	80 - 120	100	80 - 120	<0.00020	mg/L	2.3	20
C068524	Total Beryllium (Be)	2025/08/30	104	80 - 120	103	80 - 120	<0.0010	mg/L	NC	20
C068524	Total Chromium (Cr)	2025/08/30	96	80 - 120	96	80 - 120	<0.0010	mg/L	184 (1)	20
C068524	Total Cobalt (Co)	2025/08/30	95	80 - 120	95	80 - 120	<0.00030	mg/L	18	20
C068524	Total Copper (Cu)	2025/08/30	95	80 - 120	95	80 - 120	<0.0010	mg/L	NC	20
C068524	Total Lead (Pb)	2025/08/30	97	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20
C068524	Total Molybdenum (Mo)	2025/08/30	100	80 - 120	100	80 - 120	<0.00020	mg/L	174 (1)	20
C068524	Total Nickel (Ni)	2025/08/30	93	80 - 120	95	80 - 120	<0.00050	mg/L	90 (1)	20
C068524	Total Selenium (Se)	2025/08/30	99	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
C068524	Total Silver (Ag)	2025/08/30	98	80 - 120	97	80 - 120	<0.00010	mg/L	NC	20
C068524	Total Thallium (Tl)	2025/08/30	103	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
C068524	Total Tin (Sn)	2025/08/30	101	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
C068524	Total Titanium (Ti)	2025/08/30	104	80 - 120	98	80 - 120	<0.0010	mg/L	NC	20
C068524	Total Uranium (U)	2025/08/30	102	80 - 120	101	80 - 120	<0.00010	mg/L	NC	20



**QUALITY ASSURANCE REPORT(CONT'D)**

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C068524	Total Vanadium (V)	2025/08/30	94	80 - 120	96	80 - 120	<0.0010	mg/L	NC	20
C068524	Total Zinc (Zn)	2025/08/30	94	80 - 120	95	80 - 120	<0.0030	mg/L	NC	20
C068526	Total Barium (Ba)	2025/08/30	103	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
C068526	Total Boron (B)	2025/08/30	105	80 - 120	105	80 - 120	<0.020	mg/L	NC	20
C068526	Total Calcium (Ca)	2025/08/30	91	80 - 120	91	80 - 120	<0.30	mg/L	1.3	20
C068526	Total Iron (Fe)	2025/08/30	116	80 - 120	117	80 - 120	<0.060	mg/L	NC	20
C068526	Total Lithium (Li)	2025/08/30	92	80 - 120	92	80 - 120	<0.020	mg/L	NC	20
C068526	Total Magnesium (Mg)	2025/08/30	105	80 - 120	106	80 - 120	<0.20	mg/L	1.4	20
C068526	Total Manganese (Mn)	2025/08/30	106	80 - 120	107	80 - 120	<0.0040	mg/L	8.4	20
C068526	Total Phosphorus (P)	2025/08/30	112	80 - 120	112	80 - 120	<0.10	mg/L	NC	20
C068526	Total Potassium (K)	2025/08/30	97	80 - 120	96	80 - 120	<0.30	mg/L	2.4	20
C068526	Total Silicon (Si)	2025/08/30	107	80 - 120	108	80 - 120	<0.50	mg/L	NC	20
C068526	Total Sodium (Na)	2025/08/30	96	80 - 120	96	80 - 120	<0.50	mg/L	1.4	20
C068526	Total Strontium (Sr)	2025/08/30	100	80 - 120	101	80 - 120	<0.020	mg/L	NC	20
C068526	Total Sulphur (S)	2025/08/30	99	80 - 120	100	80 - 120	<0.20	mg/L	0.21	20
C070075	Total Arsenic (As)	2025/09/03	104	80 - 120	106	80 - 120	<0.00020	mg/L	1.5	20
C070075	Total Copper (Cu)	2025/09/03	100	80 - 120	103	80 - 120	<0.0010	mg/L	2.2	20
C070075	Total Lead (Pb)	2025/09/03	108	80 - 120	108	80 - 120	<0.00020	mg/L	2.4	20
C070075	Total Nickel (Ni)	2025/09/03	100	80 - 120	103	80 - 120	<0.00050	mg/L	1.9	20
C070075	Total Zinc (Zn)	2025/09/03	98	80 - 120	100	80 - 120	<0.0030	mg/L	4.4	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).  
 (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BUREAU  
VERITAS

Bureau Veritas Job #: C573211  
Report Date: 2026/01/09

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: Lupin Mine  
Your P.O. #: YEL294  
Sampler Initials: ED

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Sandy Yuan, M.Sc., QP, Scientific Specialist

Yifei Yang, Project Solutions Representative

Bureau Veritas Certified by Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

---

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Scott Cantwell, General Manager responsible for Alberta Environmental laboratory operations.





## Taiga Environmental Laboratory

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9

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

Taiga Batch No.:

**251416**

### - FINAL REPORT -

**Prepared For:** Bureau Veritas Canada

**Address:** 500 - 1919 Minnesota Court

Mississauga, ON

L5N 0C9

**Attn:** General Contact

**Facsimile:**

**Final report has been reviewed and approved by:**

**Bradley Koswan**  
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.
- All data provided by the customer will be represented by the blue colour used in this statement.



Taiga Batch No.:  
251416

**- CERTIFICATE OF ANALYSIS -**

Client Sample ID: **DSW241-LUP-14**

Taiga Sample ID: 001

Client Project: **C577997**

Sample Type: **Water**

Received Date: 12-Sep-25

Sampling Date: **11-Sep-25**

Sampling Time: **14:30**

Location:

Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b><u>Microbiology</u></b>						
Coliforms, Fecal	< 1	1	CFU/100mL	12-Sep-25	TEL017	



Taiga Batch No.:  
251416

**- CERTIFICATE OF ANALYSIS -**

---

Client Sample ID: **DSW241-LUP-14**

Taiga Sample ID: 001

---

\* 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



Your P.O. #: YEL296  
 Your Project #: 213.000020.00001  
 Site Location: LUPIN MINE  
 Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
 8 WEST ST. PAUL STREET  
 KAMLOOPS, BC  
 Canada V2C 1G1

**Report Date: 2025/09/22**  
 Report #: R3712837  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C577997**

**Received: 2025/09/11, 16:45**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	1	N/A	2025/09/18	AB SOP-00005	SM 24 2320 B m
Biochemical Oxygen Demand (1)	1	2025/09/14	2025/09/19	AB SOP-00017	SM 24 5210B m
Cadmium - low level CCME (Total) (1)	1	N/A	2025/09/21		Auto Calc
Fecal Coliforms (Water) (2)	1	2025/09/17	2025/09/17		
Hardness (1)	1	N/A	2025/09/17		Auto Calc
Mercury (Total) by CV (1)	1	2025/09/19	2025/09/19	AB SOP-00084	BCMOE BCLM Oct2013 m
Elements by ICP-Dissolved-Lab Filtered (1, 3)	1	N/A	2025/09/16	AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Total (1)	1	2025/09/19	2025/09/20	AB SOP-00014 / AB SOP-00042	EPA 6010d R5 m
Elements by ICPMS - Total (1)	1	2025/09/19	2025/09/20	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
Ammonia-N (Total) (1)	1	N/A	2025/09/19	AB SOP-00007	SM 24 4500 NH3 A G m
Nitrate and Nitrite (1)	1	N/A	2025/09/15		Auto Calc
NO2 (N); NO2 (N) + NO3 (N) in Water (1)	1	N/A	2025/09/14	AB SOP-00091	SM 24 4500 NO3m
Nitrate (as N) (1)	1	2025/09/14	2025/09/15		Auto Calc
pH @25°C (1, 4)	1	N/A	2025/09/18	AB SOP-00005	SM 24 4500-H+B m
pH (Field) (1)	1	N/A	2025/09/14	Field Test	Field Test
Orthophosphate by Automated Analyzer (1, 5)	1	N/A	2025/09/14	AB SOP-00025	SM 24 4500-P A,F m
Redox Potential (OnSite-Field) (1)	1	N/A	2025/09/14	Field Test	Field Test
Temperature (Field) (1)	1	N/A	2025/09/14	Field Test	Field Test
Total Kjeldahl Nitrogen (Total) (1)	1	N/A	2025/09/19		Auto Calc
Nitrogen (Total) (1)	1	2025/09/19	2025/09/19	AB SOP-00093	SM 24 4500-N C m
Total Phosphorus (1)	1	2025/09/18	2025/09/20	AB SOP-00024	SM 24 4500-P A,B,F m
Total Suspended Solids (NFR) (1)	1	2025/09/16	2025/09/16	AB SOP-00061	SM 24 2540 D m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement



Your P.O. #: YEL296  
Your Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
8 WEST ST. PAUL STREET  
KAMLOOPS, BC  
Canada V2C 1G1

**Report Date: 2025/09/22**  
Report #: R3712837  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C577997**

**Received: 2025/09/11, 16:45**

Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) This test was performed by Taiga Environmental Laboratory, 4601 – 52 Avenue , Yellowknife, NT, X1A 1L4

(3) Dissolved > Total Imbalance: When applicable, Dissolved and Total results were reviewed and data quality meets acceptable levels unless otherwise noted.

(4) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

(5) Orthophosphate > Total Phosphorus Imbalance: When applicable, Orthophosphate, Total Phosphorus and dissolved Phosphorus results were reviewed and data quality meets acceptable levels unless otherwise noted.

Encryption Key



Bureau Veritas  
22 Sep 2025 15:53:12

Please direct all questions regarding this Certificate of Analysis to:  
Nahed Amer, Key Account Specialist  
Email: Nahed.AMER@bureauveritas.com  
Phone# (780) 577-7100

=====

This report has been generated and distributed using a secure automated process. Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Scott Cantwell, General Manager responsible for Alberta Environmental laboratory operations.



BUREAU  
VERITAS

Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

### TOTAL KJELDAHL NITROGEN (TOTAL)

Bureau Veritas ID		DSW241		
Sampling Date		2025/09/11 14:30		
COC Number		10F1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Nitrate (N)	mg/L	<0.040	0.040	C085188
Nitrate (NO3)	mg/L	<0.18	0.18	C085187
Nitrite (NO2)	mg/L	<0.13	0.13	C085187
Total Total Kjeldahl Nitrogen (Calc)	mg/L	0.37	0.040	C085189
<b>Nutrients</b>				
Nitrite (N)	mg/L	<0.040	0.040	C085372
Nitrate plus Nitrite (N)	mg/L	<0.040	0.040	C085372
Total Nitrogen (N)	mg/L	0.37	0.020	C091782
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

### HARDNESS - LAB FILTERED (WATER)

Bureau Veritas ID		DSW241		
Sampling Date		2025/09/11 14:30		
COC Number		1OF1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Hardness (CaCO3)	mg/L	100	0.50	C085185
<b>Lab Filtered Elements</b>				
Dissolved Calcium (Ca)	mg/L	29	0.30	C086929
Dissolved Magnesium (Mg)	mg/L	6.8	0.20	C086929
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

### REGULATED METALS (CCME/AT1) - TOTAL

Bureau Veritas ID		DSW241		
Sampling Date		2025/09/11 14:30		
COC Number		1OF1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>				
Total Cadmium (Cd)	ug/L	<0.020	0.020	C085183
Total Aluminum (Al)	mg/L	0.034	0.0030	C092369
Total Antimony (Sb)	mg/L	<0.00060	0.00060	C092369
Total Arsenic (As)	mg/L	0.0057	0.00020	C092369
Total Barium (Ba)	mg/L	0.013	0.010	C092379
Total Beryllium (Be)	mg/L	<0.0010	0.0010	C092369
Total Boron (B)	mg/L	0.087	0.020	C092379
Total Calcium (Ca)	mg/L	25	0.30	C092379
Total Chromium (Cr)	mg/L	<0.0010	0.0010	C092369
Total Cobalt (Co)	mg/L	0.00064	0.00030	C092369
Total Copper (Cu)	mg/L	0.0011	0.0010	C092369
Total Iron (Fe)	mg/L	0.21	0.060	C092379
Total Lead (Pb)	mg/L	<0.00020	0.00020	C092369
Total Lithium (Li)	mg/L	<0.020	0.020	C092379
Total Magnesium (Mg)	mg/L	6.3	0.20	C092379
Total Manganese (Mn)	mg/L	0.056	0.0040	C092379
Total Molybdenum (Mo)	mg/L	<0.00020	0.00020	C092369
Total Nickel (Ni)	mg/L	0.0055	0.00050	C092369
Total Phosphorus (P)	mg/L	<0.10	0.10	C092379
Total Potassium (K)	mg/L	2.7	0.30	C092379
Total Selenium (Se)	mg/L	<0.00020	0.00020	C092369
Total Silicon (Si)	mg/L	<0.50	0.50	C092379
Total Silver (Ag)	mg/L	<0.00010	0.00010	C092369
Total Sodium (Na)	mg/L	11	0.50	C092379
Total Strontium (Sr)	mg/L	0.17	0.020	C092379
Total Sulphur (S)	mg/L	26	0.20	C092379
Total Thallium (Tl)	mg/L	<0.00020	0.00020	C092369
Total Tin (Sn)	mg/L	<0.0010	0.0010	C092369
Total Titanium (Ti)	mg/L	0.0010	0.0010	C092369
Total Uranium (U)	mg/L	<0.00010	0.00010	C092369
Total Vanadium (V)	mg/L	<0.0010	0.0010	C092369
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

**REGULATED METALS (CCME/AT1) - TOTAL**

Bureau Veritas ID		DSW241		
Sampling Date		2025/09/11 14:30		
COC Number		1OF1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
Total Zinc (Zn)	mg/L	<0.0030	0.0030	C092369
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

### RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		DSW241		
Sampling Date		2025/09/11 14:30		
COC Number		10F1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Parameter</b>				
Subcontract Parameter	MPN/100mL	ATTACHED	N/A	C089735
<b>Demand Parameters</b>				
Biochemical Oxygen Demand	mg/L	<2.0 (1)	2.0	C085338
<b>Field Parameters</b>				
Field pH	pH	7.58	N/A	ONSITE
Field Redox Potential	mV	79.7	N/A	ONSITE
Field Temperature (Fd)	deg. C	8.9	N/A	ONSITE
<b>Misc. Inorganics</b>				
pH	pH	6.58	N/A	C087001
Total Suspended Solids	mg/L	2.6	1.0	C086712
<b>Anions</b>				
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	C086998
Alkalinity (Total as CaCO3)	mg/L	16	1.0	C086998
Bicarbonate (HCO3)	mg/L	19	1.0	C086998
Carbonate (CO3)	mg/L	<1.0	1.0	C086998
Hydroxide (OH)	mg/L	<1.0	1.0	C086998
<b>Nutrients</b>				
Total Ammonia (N)	mg/L	<0.015	0.015	C092027
Orthophosphate (P)	mg/L	<0.0030	0.0030	C085378
Total Phosphorus (P)	mg/L	0.011	0.0030	C090366
RDL = Reportable Detection Limit N/A = Not Applicable (1) Sample analyzed past hold time. Sample analysis is recommended within 48 hours of sampling.				



**BUREAU**  
**VERITAS**

Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

**MERCURY BY COLD VAPOR (WATER)**

Bureau Veritas ID		DSW241		
Sampling Date		2025/09/11 14:30		
COC Number		1OF1		
	<b>UNITS</b>	<b>LUP-14</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>				
Total Mercury (Hg)	ug/L	<0.0019	0.0019	C092507
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.3°C
-----------	-------

**Results relate only to the items tested.**



Bureau Veritas Job #: C577997  
Report Date: 2025/09/22

### QUALITY ASSURANCE REPORT

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL296  
Sampler Initials: HC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
C085338	Biochemical Oxygen Demand	2025/09/19			100	85 - 115	<2.0	mg/L	NC	NC	20	
C085372	Nitrate plus Nitrite (N)	2025/09/14	83	80 - 120	92	80 - 120	<0.040	mg/L	NC	NC	20	
C085372	Nitrite (N)	2025/09/14	100	80 - 120	98	80 - 120	<0.040	mg/L	NC	NC	20	
C085378	Orthophosphate (P)	2025/09/14	93	80 - 120	106	80 - 120	<0.0030	mg/L	NC	NC	20	
C086712	Total Suspended Solids	2025/09/16	102	80 - 120	98	80 - 120	<1.0	mg/L	NC	NC	20	
C086929	Dissolved Calcium (Ca)	2025/09/16	96	80 - 120	101	80 - 120	<0.30	mg/L	0.34	NC	20	
C086929	Dissolved Magnesium (Mg)	2025/09/16	99	80 - 120	101	80 - 120	<0.20	mg/L	0.085	NC	20	
C086998	Alkalinity (PP as CaCO3)	2025/09/18					<1.0	mg/L	NC	NC	20	
C086998	Alkalinity (Total as CaCO3)	2025/09/18			97	80 - 120	<1.0	mg/L	0.15	NC	20	
C086998	Bicarbonate (HCO3)	2025/09/18					<1.0	mg/L	0.15	NC	20	
C086998	Carbonate (CO3)	2025/09/18					<1.0	mg/L	NC	NC	20	
C086998	Hydroxide (OH)	2025/09/18					<1.0	mg/L	NC	NC	20	
C087001	pH	2025/09/18			100	97 - 103			0.41	N/A		
C090366	Total Phosphorus (P)	2025/09/20	96	80 - 120	92	80 - 120	<0.0030	mg/L	NC	NC	20	85
C091782	Total Nitrogen (N)	2025/09/19	NC	80 - 120	101	80 - 120	<0.020	mg/L	1.8	NC	20	102
C092027	Total Ammonia (N)	2025/09/19	107	80 - 120	105	80 - 120	<0.015	mg/L	2.2	NC	20	
C092369	Total Aluminum (Al)	2025/09/20	106	80 - 120	108	80 - 120	<0.0030	mg/L	NC	NC	20	
C092369	Total Antimony (Sb)	2025/09/20	102	80 - 120	106	80 - 120	<0.00060	mg/L	NC	NC	20	
C092369	Total Arsenic (As)	2025/09/20	100	80 - 120	104	80 - 120	<0.00020	mg/L	NC	NC	20	
C092369	Total Beryllium (Be)	2025/09/20	98	80 - 120	99	80 - 120	<0.0010	mg/L	NC	NC	20	
C092369	Total Chromium (Cr)	2025/09/20	100	80 - 120	105	80 - 120	<0.0010	mg/L	NC	NC	20	
C092369	Total Cobalt (Co)	2025/09/20	96	80 - 120	99	80 - 120	<0.00030	mg/L	NC	NC	20	
C092369	Total Copper (Cu)	2025/09/20	95	80 - 120	100	80 - 120	<0.0010	mg/L	NC	NC	20	
C092369	Total Lead (Pb)	2025/09/20	105	80 - 120	107	80 - 120	<0.00020	mg/L	NC	NC	20	
C092369	Total Molybdenum (Mo)	2025/09/20	106	80 - 120	109	80 - 120	<0.00020	mg/L	NC	NC	20	
C092369	Total Nickel (Ni)	2025/09/20	98	80 - 120	103	80 - 120	<0.00050	mg/L	NC	NC	20	
C092369	Total Selenium (Se)	2025/09/20	99	80 - 120	100	80 - 120	<0.00020	mg/L	NC	NC	20	
C092369	Total Silver (Ag)	2025/09/20	102	80 - 120	105	80 - 120	<0.00010	mg/L	NC	NC	20	
C092369	Total Thallium (Tl)	2025/09/20	106	80 - 120	108	80 - 120	<0.00020	mg/L	NC	NC	20	
C092369	Total Tin (Sn)	2025/09/20	104	80 - 120	107	80 - 120	<0.0010	mg/L				
C092369	Total Titanium (Ti)	2025/09/20	105	80 - 120	107	80 - 120	<0.0010	mg/L	NC	NC	20	



**BUREAU VERITAS**

Bureau Veritas Job #: C577997  
 Report Date: 2025/09/22

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
 Client Project #: 213.000020.00001  
 Site Location: LUPIN MINE  
 Your P.O. #: YEL296  
 Sampler Initials: HC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
C092369	Total Uranium (U)	2025/09/20	109	80 - 120	110	80 - 120	<0.00010	mg/L	NC	20		
C092369	Total Vanadium (V)	2025/09/20	102	80 - 120	105	80 - 120	<0.00010	mg/L	NC	20		
C092369	Total Zinc (Zn)	2025/09/20	94	80 - 120	98	80 - 120	<0.00030	mg/L	NC	20		
C092379	Total Barium (Ba)	2025/09/20	101	80 - 120	104	80 - 120	<0.010	mg/L	NC	20		
C092379	Total Boron (B)	2025/09/20	104	80 - 120	103	80 - 120	<0.020	mg/L	NC	20		
C092379	Total Calcium (Ca)	2025/09/20	NC	80 - 120	97	80 - 120	<0.30	mg/L	NC	20		
C092379	Total Iron (Fe)	2025/09/20	NC	80 - 120	103	80 - 120	<0.060	mg/L	NC	20		
C092379	Total Lithium (Li)	2025/09/20	96	80 - 120	98	80 - 120	<0.020	mg/L	NC	20		
C092379	Total Magnesium (Mg)	2025/09/20	96	80 - 120	101	80 - 120	<0.20	mg/L	NC	20		
C092379	Total Manganese (Mn)	2025/09/20	102	80 - 120	101	80 - 120	<0.0040	mg/L	NC	20		
C092379	Total Phosphorus (P)	2025/09/20	100	80 - 120	99	80 - 120	<0.10	mg/L	NC	20		
C092379	Total Potassium (K)	2025/09/20	101	80 - 120	102	80 - 120	<0.30	mg/L	NC	20		
C092379	Total Silicon (Si)	2025/09/20	NC	80 - 120	105	80 - 120	<0.50	mg/L	NC	20		
C092379	Total Sodium (Na)	2025/09/20	98	80 - 120	100	80 - 120	<0.50	mg/L	NC	20		
C092379	Total Strontium (Sr)	2025/09/20	97	80 - 120	100	80 - 120	<0.020	mg/L	NC	20		
C092379	Total Sulphur (S)	2025/09/20	89	80 - 120	88	80 - 120	<0.20	mg/L	NC	20		
C092507	Total Mercury (Hg)	2025/09/22	95	80 - 120	100	80 - 120	<0.0019	ug/L	NC	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

\_\_\_\_\_  
Fiona Luo, Project Solutions Representative

\_\_\_\_\_  
Sandy Yuan, M.Sc., QP, Scientific Specialist

\_\_\_\_\_  
Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

\_\_\_\_\_  
Bureau Veritas Certified by Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

\_\_\_\_\_  
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Scott Cantwell, General Manager responsible for Alberta Environmental laboratory operations.



4606 Canada Way, Burnaby, BC V5G 1K5  
Tel: (604) 734-7276 Toll Free: (800) 665-8562

CHAIN OF CUSTODY RECORD  
ENV COC - 00015W3



EYK-2025-09-03C

**Invoice Information**  Invoice to (regular report)  Report information (if differs from invoice)

Company: SR Consulting (Canada) Ltd. Quotation #: C50955  
 Contact Name: Kristin Hansvall P.O. #/ APE#: YEL296  
 Street Address: 8 St. Paul St West Project #: 213.000020.00001  
 City: Kamboops Prov: BC Postal Code: V2C 1G1 City: Lupin Mine  
 Phone: 250-378-0512 Site Location: Nunavut  
 Email: khansvall@srconsulting.com Site Location (Frontend): Nunavut  
 Copies: AccountsPayableCA@srconsulting.com labdata@srconsulting.com Sampled By: HC

**Regulatory Criteria**

BC CSR  CTME  Drinking Water  
 YUKON CSR  BK Water Quality  Other:

SAMPLES MUST BE KEPT COOL (COLD) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Sample Identification	Date Sampled			Time (24hr)			Matrix	FIELD FILTERED	FIELD PRESERVED	LAB FILTRATION REQUIRED	pH, alkalinity, hardness, TSS	Total Metals	Total mercury	Total ammonia, nitrate, nitrite	Fecal coliforms	Total phosphorus	OP4	TKN	BOD5	Comments	
	YY	MM	DD	HH	MM	SS															
LUP-14	25	09	10				Water - Surface	X		X	X	X	X	X	X	X	X	X	X		Temp
LUP-14	25	09	11	14	30		LSL	X		X	X	X	X	X	X	X	X	X	X		Temp
LUP-14	25	09	11	14	30		LSL	X		X	X	X	X	X	X	X	X	X	X		Temp

Received in Yellowknife  
 BY: J. McEwen  
 SEP 11 2025  
 Temp: 4/4/5  
 OS: YES Ice: YES

DO: 119.7.2  
 DO: 12.97mg/L

LAB USE ONLY

Seal present	Yes	No	Temp	°C
Seal intact	Yes	No	Temp	°C
Cooling media present	Yes	No	Temp	°C

Received by: (Signature/Print) Hugh Cartwright  
 Date: YY MM DD HH MM 25 09 10 14 30  
 Received by: (Signature/Print) P. M. DRASHI PASEL  
 Date: YY MM DD HH MM 25 09 13 15 20



Your P.O. #: YEL273  
 Your Project #: 213.000020.00001  
 Site Location: LUPIN MINE  
 Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
 8 WEST ST. PAUL STREET  
 KAMLOOPS, BC  
 Canada V2C 1G1

**Report Date: 2025/10/01**  
 Report #: R3716430  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C582610**

**Received: 2025/09/19, 10:00**

Sample Matrix: Water  
 # Samples Received: 5

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	2	N/A	2025/09/24	AB SOP-00005	SM 24 2320 B m
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	2	N/A	2025/09/25	AB SOP-00005	SM 24 2320 B m
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	1	N/A	2025/09/26	AB SOP-00005	SM 24 2320 B m
Cadmium - low level CCME (Total) (1)	2	N/A	2025/09/25		Auto Calc
Cadmium - low level CCME (Total) (1)	2	N/A	2025/09/28		Auto Calc
Cadmium - low level CCME (Total) (1)	1	N/A	2025/09/29		Auto Calc
Hardness (1)	2	N/A	2025/09/25		Auto Calc
Hardness (1)	3	N/A	2025/09/27		Auto Calc
Mercury (Total) by CV (1)	2	2025/09/25	2025/09/25	AB SOP-00084	BCMOE BCLM Oct2013 m
Mercury (Total) by CV (1)	1	2025/09/25	2025/09/26	AB SOP-00084	BCMOE BCLM Oct2013 m
Mercury (Total) by CV (1)	2	2025/09/25	2025/09/29	AB SOP-00084	BCMOE BCLM Oct2013 m
Elements by ICP-Dissolved-Lab Filtered (1, 2)	2	N/A	2025/09/25	AB SOP-00042	EPA 6010d R5 m
Elements by ICP-Dissolved-Lab Filtered (1, 2)	3	N/A	2025/09/27	AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Total (1)	2	2025/09/25	2025/09/25	AB SOP-00014 / AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Total (1)	3	2025/09/26	2025/09/26	AB SOP-00014 / AB SOP-00042	EPA 6010d R5 m
Elements by ICPMS - Total (1)	2	2025/09/25	2025/09/25	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Total (1)	1	2025/09/26	2025/09/26	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Total (1)	2	2025/09/26	2025/09/27	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
pH @25°C (1, 3)	2	N/A	2025/09/24	AB SOP-00005	SM 24 4500-H+B m
pH @25°C (1, 3)	2	N/A	2025/09/25	AB SOP-00005	SM 24 4500-H+B m
pH @25°C (1, 3)	1	N/A	2025/09/26	AB SOP-00005	SM 24 4500-H+B m
Total Suspended Solids (NFR) (1)	4	2025/09/23	2025/09/23	AB SOP-00061	SM 24 2540 D m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession



Your P.O. #: YEL273  
Your Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your C.O.C. #: 10F1

**Attention: Kristin Hansvall**

SLR CONSULTING (CANADA) LTD  
8 WEST ST. PAUL STREET  
KAMLOOPS, BC  
Canada V2C 1G1

**Report Date: 2025/10/01**  
Report #: R3716430  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C582610**

**Received: 2025/09/19, 10:00**

using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) Dissolved > Total Imbalance: When applicable, Dissolved and Total results were reviewed and data quality meets acceptable levels unless otherwise noted.

(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas

01 Oct 2025 14:13:47

Please direct all questions regarding this Certificate of Analysis to:

Nahed Amer, Key Account Specialist  
Email: Nahed.AMER@bureauveritas.com  
Phone# (604) 734 7276

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rob Gilbert, BBY General Manager responsible for British Columbia Environmental laboratory operations.



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### HARDNESS - LAB FILTERED (WATER)

Bureau Veritas ID		DTJ857	DTJ858		DTJ859	DTJ860	DTJ861		
Sampling Date		2025/09/17 13:50	2025/09/17 14:45		2025/09/17 15:22	2025/09/17 13:50	2025/09/17 14:45		
COC Number		1OF1	1OF1		1OF1	1OF1	1OF1		
	<b>UNITS</b>	<b>LUP-EL-01</b>	<b>LUP-BL-01</b>	<b>QC Batch</b>	<b>LUP-LSL-01</b>	<b>DUP-09-2025</b>	<b>FIELD BLANK 2025</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Calculated Parameters</b>									
Hardness (CaCO3)	mg/L	72	44	C094186	110	42	<0.50	0.50	C094186
<b>Lab Filtered Elements</b>									
Dissolved Calcium (Ca)	mg/L	12	8.5	C100649	30	8.2	<0.30	0.30	C101786
Dissolved Magnesium (Mg)	mg/L	10	5.4	C100649	7.7	5.2	<0.20	0.20	C101786
RDL = Reportable Detection Limit									



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### REGULATED METALS (CCME/AT1) - TOTAL

Bureau Veritas ID		DTJ857	DTJ858		DTJ859		DTJ860		
Sampling Date		2025/09/17 13:50	2025/09/17 14:45		2025/09/17 15:22		2025/09/17 13:50		
COC Number		1OF1	1OF1		1OF1		1OF1		
	<b>UNITS</b>	<b>LUP-EL-01</b>	<b>LUP-BL-01</b>	<b>QC Batch</b>	<b>LUP-LSL-01</b>	<b>QC Batch</b>	<b>DUP-09-2025</b>	<b>RDL</b>	<b>QC Batch</b>

Elements									
Total Cadmium (Cd)	ug/L	0.23	0.066	C094177	<0.020	C094177	0.048	0.020	C094177
Total Aluminum (Al)	mg/L	0.55	0.14	C099903	0.041	C101573	0.15	0.0030	C101646
Total Antimony (Sb)	mg/L	<0.00060	<0.00060	C099903	<0.00060	C101573	<0.00060	0.00060	C101646
Total Arsenic (As)	mg/L	0.0010	0.00096	C099903	0.0052	C101573	0.0010	0.00020	C101646
Total Barium (Ba)	mg/L	0.025	0.016	C099913	0.015	C101577	0.017	0.010	C101651
Total Beryllium (Be)	mg/L	<0.0010	<0.0010	C099903	<0.0010	C101573	<0.0010	0.0010	C101646
Total Boron (B)	mg/L	<0.020	<0.020	C099913	0.082	C101577	<0.020	0.020	C101651
Total Calcium (Ca)	mg/L	12	9.4	C099913	28	C101577	9.0	0.30	C101651
Total Chromium (Cr)	mg/L	<0.0010	<0.0010	C099903	<0.0010	C101573	<0.0010	0.0010	C101646
Total Cobalt (Co)	mg/L	0.087	0.017	C099903	0.0034	C101573	0.018	0.00030	C101646
Total Copper (Cu)	mg/L	0.016	0.0044	C099903	0.0010	C101573	0.0020	0.0010	C101646
Total Iron (Fe)	mg/L	0.18	0.41	C099913	0.51	C101577	0.45	0.060	C101651
Total Lead (Pb)	mg/L	<0.00020	<0.00020	C099903	<0.00020	C101573	<0.00020	0.00020	C101646
Total Lithium (Li)	mg/L	<0.020	<0.020	C099913	<0.020	C101577	<0.020	0.020	C101651
Total Magnesium (Mg)	mg/L	10	6.0	C099913	7.2	C101577	5.7	0.20	C101651
Total Manganese (Mn)	mg/L	0.45	0.20	C099913	0.26	C101577	0.19	0.0040	C101651
Total Molybdenum (Mo)	mg/L	<0.00020	<0.00020	C099903	<0.00020	C101573	<0.00020	0.00020	C101646
Total Nickel (Ni)	mg/L	0.18	0.038	C099903	0.0080	C101573	0.040	0.00050	C101646
Total Phosphorus (P)	mg/L	<0.10	<0.10	C099913	<0.10	C101577	<0.10	0.10	C101651
Total Potassium (K)	mg/L	1.1	1.1	C099913	2.9	C101577	1.0	0.30	C101651
Total Selenium (Se)	mg/L	<0.00020	<0.00020	C099903	<0.00020	C101573	<0.00020	0.00020	C101646
Total Silicon (Si)	mg/L	3.3	1.2	C099913	<0.50	C101577	1.3	0.50	C101651
Total Silver (Ag)	mg/L	<0.00010	<0.00010	C099903	<0.00010	C101573	<0.00010	0.00010	C101646
Total Sodium (Na)	mg/L	2.9	3.1	C099913	11	C101577	2.9	0.50	C101651
Total Strontium (Sr)	mg/L	0.053	0.043	C099913	0.16	C101577	0.042	0.020	C101651
Total Sulphur (S)	mg/L	25	15	C099913	29	C101577	15	0.20	C101651
Total Thallium (Tl)	mg/L	<0.00020	<0.00020	C099903	<0.00020	C101573	<0.00020	0.00020	C101646
Total Tin (Sn)	mg/L	<0.0010	<0.0010	C099903	<0.0010	C101573	<0.0010	0.0010	C101646
Total Titanium (Ti)	mg/L	<0.0010	<0.0010	C099903	<0.0010	C101573	<0.0010	0.0010	C101646
Total Uranium (U)	mg/L	<0.00010	<0.00010	C099903	<0.00010	C101573	<0.00010	0.00010	C101646

RDL = Reportable Detection Limit



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### REGULATED METALS (CCME/AT1) - TOTAL

Bureau Veritas ID		DTJ857	DTJ858		DTJ859		DTJ860		
Sampling Date		2025/09/17 13:50	2025/09/17 14:45		2025/09/17 15:22		2025/09/17 13:50		
COC Number		1OF1	1OF1		1OF1		1OF1		
	<b>UNITS</b>	<b>LUP-EL-01</b>	<b>LUP-BL-01</b>	<b>QC Batch</b>	<b>LUP-LSL-01</b>	<b>QC Batch</b>	<b>DUP-09-2025</b>	<b>RDL</b>	<b>QC Batch</b>
Total Vanadium (V)	mg/L	<0.0010	<0.0010	C099903	<0.0010	C101573	<0.0010	0.0010	C101646
Total Zinc (Zn)	mg/L	0.073	0.017	C099903	0.0038	C101573	0.014	0.0030	C101646
RDL = Reportable Detection Limit									



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### REGULATED METALS (CCME/AT1) - TOTAL

Bureau Veritas ID		DTJ861		
Sampling Date		2025/09/17 14:45		
COC Number		10F1		
	<b>UNITS</b>	<b>FIELD BLANK 2025</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>				
Total Cadmium (Cd)	ug/L	<0.020	0.020	C094177
Total Aluminum (Al)	mg/L	<0.0030	0.0030	C101573
Total Antimony (Sb)	mg/L	<0.00060	0.00060	C101573
Total Arsenic (As)	mg/L	<0.00020	0.00020	C101573
Total Barium (Ba)	mg/L	<0.010	0.010	C101577
Total Beryllium (Be)	mg/L	<0.0010	0.0010	C101573
Total Boron (B)	mg/L	<0.020	0.020	C101577
Total Calcium (Ca)	mg/L	<0.30	0.30	C101577
Total Chromium (Cr)	mg/L	<0.0010	0.0010	C101573
Total Cobalt (Co)	mg/L	<0.00030	0.00030	C101573
Total Copper (Cu)	mg/L	<0.0010	0.0010	C101573
Total Iron (Fe)	mg/L	<0.060	0.060	C101577
Total Lead (Pb)	mg/L	<0.00020	0.00020	C101573
Total Lithium (Li)	mg/L	<0.020	0.020	C101577
Total Magnesium (Mg)	mg/L	<0.20	0.20	C101577
Total Manganese (Mn)	mg/L	<0.0040	0.0040	C101577
Total Molybdenum (Mo)	mg/L	<0.00020	0.00020	C101573
Total Nickel (Ni)	mg/L	<0.00050	0.00050	C101573
Total Phosphorus (P)	mg/L	<0.10	0.10	C101577
Total Potassium (K)	mg/L	<0.30	0.30	C101577
Total Selenium (Se)	mg/L	<0.00020	0.00020	C101573
Total Silicon (Si)	mg/L	<0.50	0.50	C101577
Total Silver (Ag)	mg/L	<0.00010	0.00010	C101573
Total Sodium (Na)	mg/L	<0.50	0.50	C101577
Total Strontium (Sr)	mg/L	<0.020	0.020	C101577
Total Sulphur (S)	mg/L	<0.20	0.20	C101577
Total Thallium (Tl)	mg/L	<0.00020	0.00020	C101573
Total Tin (Sn)	mg/L	<0.0010	0.0010	C101573
Total Titanium (Ti)	mg/L	<0.0010	0.0010	C101573
Total Uranium (U)	mg/L	<0.00010	0.00010	C101573
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### REGULATED METALS (CCME/AT1) - TOTAL

Bureau Veritas ID		DTJ861		
Sampling Date		2025/09/17 14:45		
COC Number		10F1		
	<b>UNITS</b>	<b>FIELD BLANK 2025</b>	<b>RDL</b>	<b>QC Batch</b>
Total Vanadium (V)	mg/L	<0.0010	0.0010	C101573
Total Zinc (Zn)	mg/L	<0.0030	0.0030	C101573
RDL = Reportable Detection Limit				



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		DTJ857		DTJ858		DTJ859		DTJ860		
Sampling Date		2025/09/17 13:50		2025/09/17 14:45		2025/09/17 15:22		2025/09/17 13:50		
COC Number		1OF1		1OF1		1OF1		1OF1		
	<b>UNITS</b>	<b>LUP-EL-01</b>	<b>QC Batch</b>	<b>LUP-BL-01</b>	<b>QC Batch</b>	<b>LUP-LSL-01</b>	<b>QC Batch</b>	<b>DUP-09-2025</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Misc. Inorganics</b>										
pH	pH	4.60	C100074	6.24	C099018	6.35	C099236	6.21	N/A	C099018
Total Suspended Solids	mg/L	<1.0	C096714	3.2	C096714	<1.0	C096714	2.7	1.0	C096714
<b>Anions</b>										
Alkalinity (PP as CaCO3)	mg/L	<1.0	C100077	<1.0	C099014	<1.0	C099235	<1.0	1.0	C099014
Alkalinity (Total as CaCO3)	mg/L	<1.0	C100077	2.9	C099014	15	C099235	2.9	1.0	C099014
Bicarbonate (HCO3)	mg/L	<1.0	C100077	3.5	C099014	18	C099235	3.5	1.0	C099014
Carbonate (CO3)	mg/L	<1.0	C100077	<1.0	C099014	<1.0	C099235	<1.0	1.0	C099014
Hydroxide (OH)	mg/L	<1.0	C100077	<1.0	C099014	<1.0	C099235	<1.0	1.0	C099014
RDL = Reportable Detection Limit N/A = Not Applicable										

Bureau Veritas ID		DTJ861		
Sampling Date		2025/09/17 14:45		
COC Number		1OF1		
	<b>UNITS</b>	<b>FIELD BLANK 2025</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Misc. Inorganics</b>				
pH	pH	5.70	N/A	C100382
<b>Anions</b>				
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	C100382
Alkalinity (Total as CaCO3)	mg/L	<1.0	1.0	C100382
Bicarbonate (HCO3)	mg/L	<1.0	1.0	C100382
Carbonate (CO3)	mg/L	<1.0	1.0	C100382
Hydroxide (OH)	mg/L	<1.0	1.0	C100382
RDL = Reportable Detection Limit N/A = Not Applicable				



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### MERCURY BY COLD VAPOR (WATER)

Bureau Veritas ID		DTJ857	DTJ858		DTJ859		DTJ860		
Sampling Date		2025/09/17 13:50	2025/09/17 14:45		2025/09/17 15:22		2025/09/17 13:50		
COC Number		1OF1	1OF1		1OF1		1OF1		
	<b>UNITS</b>	<b>LUP-EL-01</b>	<b>LUP-BL-01</b>	<b>QC Batch</b>	<b>LUP-LSL-01</b>	<b>QC Batch</b>	<b>DUP-09-2025</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Elements</b>									
Total Mercury (Hg)	ug/L	<0.0019	<0.0019	C100238	<0.0019	C101063	<0.0019	0.0019	C101069
RDL = Reportable Detection Limit									

Bureau Veritas ID		DTJ861		
Sampling Date		2025/09/17 14:45		
COC Number		1OF1		
	<b>UNITS</b>	<b>FIELD BLANK 2025</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Elements</b>				
Total Mercury (Hg)	ug/L	<0.0019	0.0019	C101069
RDL = Reportable Detection Limit				



**BUREAU  
VERITAS**

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### GENERAL COMMENTS

Results relate only to the items tested.



Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

### QUALITY ASSURANCE REPORT

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C096714	Total Suspended Solids	2025/09/23	94	80 - 120	101	80 - 120	<1.0	mg/L	2.2	20
C099014	Alkalinity (PP as CaCO3)	2025/09/24					<1.0	mg/L	NC	20
C099014	Alkalinity (Total as CaCO3)	2025/09/24			99	80 - 120	<1.0	mg/L	0.086	20
C099014	Bicarbonate (HCO3)	2025/09/24					<1.0	mg/L	0.086	20
C099014	Carbonate (CO3)	2025/09/24					<1.0	mg/L	NC	20
C099014	Hydroxide (OH)	2025/09/24					<1.0	mg/L	NC	20
C099018	pH	2025/09/24			100	97 - 103			0.39	N/A
C099235	Alkalinity (PP as CaCO3)	2025/09/25					<1.0	mg/L	NC	20
C099235	Alkalinity (Total as CaCO3)	2025/09/25			99	80 - 120	<1.0	mg/L	0.13	20
C099235	Bicarbonate (HCO3)	2025/09/25					<1.0	mg/L	0.13	20
C099235	Carbonate (CO3)	2025/09/25					<1.0	mg/L	NC	20
C099235	Hydroxide (OH)	2025/09/25					<1.0	mg/L	NC	20
C099236	pH	2025/09/25			100	97 - 103			2.3	N/A
C099903	Total Aluminum (Al)	2025/09/25	118	80 - 120	111	80 - 120	<0.0030	mg/L	13	20
C099903	Total Antimony (Sb)	2025/09/25	109	80 - 120	105	80 - 120	<0.00060	mg/L	NC	20
C099903	Total Arsenic (As)	2025/09/25	109	80 - 120	105	80 - 120	<0.00020	mg/L	2.5	20
C099903	Total Beryllium (Be)	2025/09/25	106	80 - 120	107	80 - 120	<0.0010	mg/L	NC	20
C099903	Total Chromium (Cr)	2025/09/25	108	80 - 120	105	80 - 120	<0.0010	mg/L	NC	20
C099903	Total Cobalt (Co)	2025/09/25	104	80 - 120	103	80 - 120	<0.00030	mg/L	5.5	20
C099903	Total Copper (Cu)	2025/09/25	100	80 - 120	103	80 - 120	<0.0010	mg/L	8.2	20
C099903	Total Lead (Pb)	2025/09/25	105	80 - 120	105	80 - 120	<0.00020	mg/L	NC	20
C099903	Total Molybdenum (Mo)	2025/09/25	118	80 - 120	107	80 - 120	<0.00020	mg/L	12	20
C099903	Total Nickel (Ni)	2025/09/25	101	80 - 120	104	80 - 120	<0.00050	mg/L	3.3	20
C099903	Total Selenium (Se)	2025/09/25	104	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
C099903	Total Silver (Ag)	2025/09/25	105	80 - 120	103	80 - 120	<0.00010	mg/L	NC	20
C099903	Total Thallium (Tl)	2025/09/25	108	80 - 120	106	80 - 120	<0.00020	mg/L	NC	20
C099903	Total Tin (Sn)	2025/09/25	111	80 - 120	107	80 - 120	<0.0010	mg/L	NC	20
C099903	Total Titanium (Ti)	2025/09/25	111	80 - 120	113	80 - 120	<0.0010	mg/L	9.1	20
C099903	Total Uranium (U)	2025/09/25	113	80 - 120	108	80 - 120	<0.00010	mg/L	0.52	20
C099903	Total Vanadium (V)	2025/09/25	111	80 - 120	105	80 - 120	<0.0010	mg/L	NC	20
C099903	Total Zinc (Zn)	2025/09/25	94	80 - 120	103	80 - 120	<0.0030	mg/L	NC	20



Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C099913	Total Barium (Ba)	2025/09/25	92	80 - 120	93	80 - 120	<0.010	mg/L	1.8	20
C099913	Total Boron (B)	2025/09/25	95	80 - 120	95	80 - 120	<0.020	mg/L	3.5	20
C099913	Total Calcium (Ca)	2025/09/25	NC	80 - 120	90	80 - 120	<0.30	mg/L	2.1	20
C099913	Total Iron (Fe)	2025/09/25	99	80 - 120	98	80 - 120	<0.060	mg/L	15	20
C099913	Total Lithium (Li)	2025/09/25	95	80 - 120	94	80 - 120	<0.020	mg/L	3.1	20
C099913	Total Magnesium (Mg)	2025/09/25	NC	80 - 120	95	80 - 120	<0.20	mg/L	1.8	20
C099913	Total Manganese (Mn)	2025/09/25	90	80 - 120	94	80 - 120	<0.0040	mg/L	3.7	20
C099913	Total Phosphorus (P)	2025/09/25	92	80 - 120	94	80 - 120	<0.10	mg/L	NC	20
C099913	Total Potassium (K)	2025/09/25	100	80 - 120	98	80 - 120	<0.30	mg/L	2.5	20
C099913	Total Silicon (Si)	2025/09/25	86	80 - 120	96	80 - 120	<0.50	mg/L	4.5	20
C099913	Total Sodium (Na)	2025/09/25	NC	80 - 120	96	80 - 120	<0.50	mg/L	2.4	20
C099913	Total Strontium (Sr)	2025/09/25	NC	80 - 120	90	80 - 120	<0.020	mg/L	0.92	20
C099913	Total Sulphur (S)	2025/09/25	NC	80 - 120	83	80 - 120	<0.20	mg/L	4.1	20
C100074	pH	2025/09/25			101	97 - 103			0.22	N/A
C100077	Alkalinity (PP as CaCO3)	2025/09/25					<1.0	mg/L	NC	20
C100077	Alkalinity (Total as CaCO3)	2025/09/25			96	80 - 120	<1.0	mg/L	0.069	20
C100077	Bicarbonate (HCO3)	2025/09/25					<1.0	mg/L	0.069	20
C100077	Carbonate (CO3)	2025/09/25					<1.0	mg/L	NC	20
C100077	Hydroxide (OH)	2025/09/25					<1.0	mg/L	NC	20
C100238	Total Mercury (Hg)	2025/09/25	107	80 - 120	104	80 - 120	<0.0019	ug/L	NC	20
C100382	Alkalinity (PP as CaCO3)	2025/09/26					<1.0	mg/L	NC	20
C100382	Alkalinity (Total as CaCO3)	2025/09/26			99	80 - 120	<1.0	mg/L	5.6	20
C100382	Bicarbonate (HCO3)	2025/09/26					<1.0	mg/L	5.6	20
C100382	Carbonate (CO3)	2025/09/26					<1.0	mg/L	NC	20
C100382	Hydroxide (OH)	2025/09/26					<1.0	mg/L	NC	20
C100383	pH	2025/09/26			100	97 - 103			0.29	N/A
C100649	Dissolved Calcium (Ca)	2025/09/25	NC	80 - 120	91	80 - 120	<0.30	mg/L	2.0	20
C100649	Dissolved Magnesium (Mg)	2025/09/25	NC	80 - 120	94	80 - 120	<0.20	mg/L	2.7	20
C101063	Total Mercury (Hg)	2025/09/26	101	80 - 120	104	80 - 120	<0.0019	ug/L	NC	20
C101069	Total Mercury (Hg)	2025/09/29	101	80 - 120	102	80 - 120	<0.0019	ug/L	NC	20
C101573	Total Aluminium (Al)	2025/09/27	NC	80 - 120	105	80 - 120	<0.0030	mg/L	11	20



Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C101573	Total Antimony (Sb)	2025/09/27	101	80 - 120	99	80 - 120	<0.00060	mg/L	NC	20
C101573	Total Arsenic (As)	2025/09/27	101	80 - 120	99	80 - 120	<0.00020	mg/L	4.3	20
C101573	Total Beryllium (Be)	2025/09/27	103	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
C101573	Total Chromium (Cr)	2025/09/27	102	80 - 120	100	80 - 120	<0.0010	mg/L	NC	20
C101573	Total Cobalt (Co)	2025/09/27	102	80 - 120	100	80 - 120	<0.00030	mg/L	17	20
C101573	Total Copper (Cu)	2025/09/27	101	80 - 120	99	80 - 120	<0.0010	mg/L	8.3	20
C101573	Total Lead (Pb)	2025/09/27	99	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20
C101573	Total Molybdenum (Mo)	2025/09/27	105	80 - 120	103	80 - 120	<0.00020	mg/L	8.6	20
C101573	Total Nickel (Ni)	2025/09/27	103	80 - 120	99	80 - 120	<0.00050	mg/L	11	20
C101573	Total Selenium (Se)	2025/09/27	98	80 - 120	97	80 - 120	<0.00020	mg/L	12	20
C101573	Total Silver (Ag)	2025/09/27	101	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
C101573	Total Thallium (Tl)	2025/09/27	106	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
C101573	Total Tin (Sn)	2025/09/27	105	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20
C101573	Total Titanium (Ti)	2025/09/27	110	80 - 120	105	80 - 120	<0.0010	mg/L	12	20
C101573	Total Uranium (U)	2025/09/27	107	80 - 120	104	80 - 120	<0.00010	mg/L	7.8	20
C101573	Total Vanadium (V)	2025/09/27	102	80 - 120	100	80 - 120	<0.0010	mg/L	9.4	20
C101573	Total Zinc (Zn)	2025/09/27	NC	80 - 120	93	80 - 120	<0.0030	mg/L	NC	20
C101577	Total Barium (Ba)	2025/09/27	101	80 - 120	101	80 - 120	<0.010	mg/L	0.29	20
C101577	Total Boron (B)	2025/09/27	101	80 - 120	101	80 - 120	<0.020	mg/L	0.99	20
C101577	Total Calcium (Ca)	2025/09/27	97	80 - 120	97	80 - 120	<0.30	mg/L	1.4	20
C101577	Total Iron (Fe)	2025/09/27	106	80 - 120	107	80 - 120	<0.060	mg/L	NC	20
C101577	Total Lithium (Li)	2025/09/27	97	80 - 120	97	80 - 120	<0.020	mg/L	1.4	20
C101577	Total Magnesium (Mg)	2025/09/27	105	80 - 120	104	80 - 120	<0.20	mg/L	2.3	20
C101577	Total Manganese (Mn)	2025/09/27	102	80 - 120	102	80 - 120	<0.0040	mg/L	3.3	20
C101577	Total Phosphorus (P)	2025/09/27	102	80 - 120	102	80 - 120	<0.10	mg/L	NC	20
C101577	Total Potassium (K)	2025/09/27	102	80 - 120	102	80 - 120	<0.30	mg/L	2.7	20
C101577	Total Silicon (Si)	2025/09/27	104	80 - 120	104	80 - 120	<0.50	mg/L	1.3	20
C101577	Total Sodium (Na)	2025/09/27	97	80 - 120	98	80 - 120	<0.50	mg/L	1.9	20
C101577	Total Strontium (Sr)	2025/09/27	98	80 - 120	98	80 - 120	<0.020	mg/L	1.1	20
C101577	Total Sulphur (S)	2025/09/27	93	80 - 120	93	80 - 120	<0.20	mg/L	1.3	20
C101646	Total Aluminium (Al)	2025/09/26	104	80 - 120	100	80 - 120	<0.0030	mg/L	0.22	20



BUREAU VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C101646	Total Antimony (Sb)	2025/09/26	100	80 - 120	98	80 - 120	<0.00060	mg/L	NC	20
C101646	Total Arsenic (As)	2025/09/26	100	80 - 120	100	80 - 120	<0.00020	mg/L	3.8	20
C101646	Total Beryllium (Be)	2025/09/26	95	80 - 120	94	80 - 120	<0.0010	mg/L	NC	20
C101646	Total Chromium (Cr)	2025/09/26	98	80 - 120	99	80 - 120	<0.0010	mg/L	NC	20
C101646	Total Cobalt (Co)	2025/09/26	96	80 - 120	98	80 - 120	<0.00030	mg/L	8.1	20
C101646	Total Copper (Cu)	2025/09/26	94	80 - 120	98	80 - 120	<0.0010	mg/L	2.2	20
C101646	Total Lead (Pb)	2025/09/26	98	80 - 120	99	80 - 120	<0.00020	mg/L	4.8	20
C101646	Total Molybdenum (Mo)	2025/09/26	106	80 - 120	99	80 - 120	<0.00020	mg/L	3.2	20
C101646	Total Nickel (Ni)	2025/09/26	94	80 - 120	97	80 - 120	<0.00050	mg/L	0.43	20
C101646	Total Selenium (Se)	2025/09/26	93	80 - 120	95	80 - 120	<0.00020	mg/L	0.28	20
C101646	Total Silver (Ag)	2025/09/26	98	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
C101646	Total Thallium (Tl)	2025/09/26	104	80 - 120	105	80 - 120	<0.00020	mg/L	NC	20
C101646	Total Tin (Sn)	2025/09/26	100	80 - 120	99	80 - 120	<0.0010	mg/L	NC	20
C101646	Total Titanium (Ti)	2025/09/26	104	80 - 120	105	80 - 120	<0.0010	mg/L	2.5	20
C101646	Total Uranium (U)	2025/09/26	106	80 - 120	104	80 - 120	<0.00010	mg/L	2.4	20
C101646	Total Vanadium (V)	2025/09/26	100	80 - 120	98	80 - 120	<0.0010	mg/L	3.8	20
C101646	Total Zinc (Zn)	2025/09/26	89	80 - 120	92	80 - 120	<0.0030	mg/L	8.4	20
C101651	Total Barium (Ba)	2025/09/27	96	80 - 120	100	80 - 120	<0.010	mg/L	1.1	20
C101651	Total Boron (B)	2025/09/27	97	80 - 120	100	80 - 120	<0.020	mg/L	1.1	20
C101651	Total Calcium (Ca)	2025/09/27	NC	80 - 120	96	80 - 120	<0.30	mg/L	0.39	20
C101651	Total Iron (Fe)	2025/09/27	NC	80 - 120	105	80 - 120	<0.060	mg/L	2.0	20
C101651	Total Lithium (Li)	2025/09/27	92	80 - 120	96	80 - 120	<0.020	mg/L	0.92	20
C101651	Total Magnesium (Mg)	2025/09/27	NC	80 - 120	103	80 - 120	<0.20	mg/L	0.97	20
C101651	Total Manganese (Mn)	2025/09/27	99	80 - 120	100	80 - 120	<0.0040	mg/L	0.68	20
C101651	Total Phosphorus (P)	2025/09/27	99	80 - 120	101	80 - 120	<0.10	mg/L	NC	20
C101651	Total Potassium (K)	2025/09/27	99	80 - 120	101	80 - 120	<0.30	mg/L	0.52	20
C101651	Total Silicon (Si)	2025/09/27	NC	80 - 120	103	80 - 120	<0.50	mg/L	1.6	20
C101651	Total Sodium (Na)	2025/09/27	NC	80 - 120	97	80 - 120	<0.50	mg/L	0.97	20
C101651	Total Strontium (Sr)	2025/09/27	91	80 - 120	97	80 - 120	<0.020	mg/L	0.30	20
C101651	Total Sulphur (S)	2025/09/27	NC	80 - 120	91	80 - 120	<0.20	mg/L	1.2	20
C101786	Dissolved Calcium (Ca)	2025/09/27	96	80 - 120	99	80 - 120	<0.30	mg/L	1.1	20



BUREAU  
VERITAS  
LABORATORY

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

### QUALITY ASSURANCE REPORT(CONT'D)

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C101786	Dissolved Magnesium (Mg)	2025/09/27	98	80 - 120	100	80 - 120	<0.20	mg/L	1.0	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



BUREAU  
VERITAS

Bureau Veritas Job #: C582610  
Report Date: 2025/10/01

SLR CONSULTING (CANADA) LTD  
Client Project #: 213.000020.00001  
Site Location: LUPIN MINE  
Your P.O. #: YEL273  
Sampler Initials: JO

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Sandy Yuan, M.Sc., QP, Scientific Specialist

Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

Bureau Veritas Certified by Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

---

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rob Gilbert, BBY General Manager responsible for British Columbia Environmental laboratory operations.



**APPENDIX C. Schedule B.2 Summary of Measures for Post Closure Monitoring  
("Table 14")**

2AM-LUP2032- Lupin Mine 2024 Annual Report. Section B - Table 14 - Post Closure Monitoring Plan and Final Closure Update

Component	Description	Preparatory Work 2018	Closure Phase					Post-Closure Phase				
			2019-2022	2022-2023	2024	2025	2026	2027	2028	2029	2030	2031
			Active Stage	C&M			Active	Passive Stage				
Underground Mine	Backfilling of shafts to prevent animal or human entrance			X								
	Blasting down crown pillars where required for stability or disposal – to be carried out under approved care and maintenance plan		X									
	Disposing of contaminated soil, waste rock and demolition rubble into open crown pillars – to be carried out under approved care and maintenance plan				X	X						
	Backfilling of crown pillars with rock fill (to 1.5 m above surface to allow for settlement) – to be carried out under approved care and maintenance plan					X						
Waste Rock	Capping rock fill in crown pillars with 1.0 m of esker material					X						
	Excavate waste rock from perimeter areas and dispose in the open crown pillars, landfill(s) or central waste rock area <sup>(a)</sup> – to be carried out under approved care and maintenance plan					X						
Tailings Containment Area	Excavate waste rock containing high levels <sup>(b)</sup> of As, CN or PbNO3 and dispose in shafts or crown pillars to be carried out under approved care and maintenance plan			X								
	Contouring remaining waste rock and capping with 1.0 m of esker material					X						
	Place a 10 m long plug of rock fill in the adit and portal area			X								
	Removal of tailings pipeline; bury in landfill		X									
	Remove any tailings from emergency dump and dispose in crown pillar			X								
	Covering of remaining tailings area with 1.0 m of esker material – to be carried out under approved Final TCA Closure Plan		X		X	X	X					
Buildings and Equipment	Demolish treatment plant; dispose in landfill(s)					X						
	Installation of permanent monitoring instrumentation – to be carried out under approved Final TCA Closure Plan	X										
	Regrading granular slopes on M Dam			X		X						
	Removal of asbestos containing materials, disposal in landfill(s)		X									
	Remove salvageable materials; consolidate for shipment off-site		X			X						
	Removal of above-ground mechanical and electrical equipment		X			X						
	Demolition of ancillary buildings (shops, storage, camp); disposal of rubble in landfill(s)		X			X						
	Demolition of mine and mill buildings; disposal of rubble in landfill(s)		X			X						
	Hoe ram concrete foundation slabs; leave in place and cover		X			X						
	Removal of freshwater supply system pumphouse; remove pipeline and dispose in the landfill(s)		X				X					
Borrow and Quarry Areas	Placement of 0.3 m granular fill over slabs (except in central area where they will be covered by waste rock and esker cover)					X						
	Dismantling and removal of sewage pipeline, lagoon shack and pumping facilities		X									
	Disposal of unsalvageable / un-recyclable non-hazardous waste in landfill(s) – to be carried out under existing approved management plan		X				X					
	Burn combustible material – to be carried out under existing approved licence/permit						X					
Chemicals	Contouring esker area and placement of erosion protection in drainage paths						X					
	Decontaminate: oil, fuel and glycol systems		X									
	Drum paints, solvents, chemicals, glycols, and hazardous materials for shipment to off-site disposal		X		X	X	X					
	Remove ashes from burn pit and bury in landfill(s) > 2m below final grade – to be carried out under existing approved licence/permit		X				X					
	Burn waste oil – to be carried out under existing approved licence/permit		X				X					
	Consume most of diesel fuel for closure operations			X	X	X	X					
Machinery and Mobile Equipment	Burn excess fuel at end of closure activities – to be carried out under existing approved licence/permit								X			
	Empty and purge fuel tanks and dispose in accordance with the Canadian Environmental Protection Act Regulation	X	X	X	X	X			X			
	Remove liner from Temporary Fuel Farm and dispose in landfill		X	X	X	X					X	
	Excavation of hydrocarbon contaminated soils, bury in open crown pillars including landfarm soils		X	X	X	X						
Landfill	Flatten bunds around TFF and grade to prevent ponding											X
	Drain fluid from equipment to be left on-site and dispose equipment in landfill(s)				X		X					X
Site Roads	Drain fluid from equipment used for long-term maintenance (e.g., excavators) <sup>(c)</sup> and dispose equipment in landfill(s) or off-site											X
	Place wastes into existing landfill(s) – to be carried out under existing approved management plan		X				X					
	Use waste rock to infill voids and create a stable contoured surface which drains freely		X				X					
Water Management Facilities	Cover contoured landfill(s) with 1 m of esker material						X					
	Scarify all-weather roads; remove culverts						X				X	
Mob/Demob	Treat water inventory with lime and release to lower water level – to be carried out under existing approved licence/permit		X	X			X		X			
	Construction of spillways in Dam 1A and J Dam; place geotextile and rip rap to 2 m depth										X	
	Excavation of spillways on Upper and Lower Sewage Lakes						X	X				
	Mobilize Winter Ice Road maintenance equipment						X	X				
	Operate Winter Ice Road for salvage removal						X	X				

a) The waste rock from the perimeter of the Mill Site Area (shown in Figure 10) will be removed and disposed into the open crown pillars, shafts, landfill(s) or the central waste rock area. Waste rock which will stay on place will be contoured to drain freely and then capped with 1.0 m of esker material.

b) Refer to text for levels of As, CN, or PbNO3 requiring disposal in shafts or crown pillars, rather than covering in place.

c) Assumed 5 years after closure; however Closure schedule depends on monitoring results. Activities will occur until contact water quality satisfies water licence criteria for direct discharge to the environment.