

# LUPIN MINES INCORPORATED

March 31, 2016

Karen Kharatyan  
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Nunavut Water Board  
P.O. Box 119  
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**By email**      [karen.kharatyan@nwb-oen.ca](mailto:karen.kharatyan@nwb-oen.ca)

**Re:**              2015 Annual Report: Lupin Mine Type A Water Licence (2AM-LUP1520).

Dear Ms. Kharatyan,

Lupin Mines Incorporated (LMI) is pleased to submit the attached 2015 Annual Report for the Lupin Mine in accordance with Type A water licence 2AM-LUP0914 Part B, Item 2.

The attached information summary addresses the 2015 annual reporting requirements. LMI's renewed water licence (2AM-LUP1520) was approved by the Minister on October 5, 2015.

Inuktitut and Inuinnaqtun translations as per Appendix A are being prepared and will be forwarded to the Nunavut Water Board in the next few weeks.

Should you have any questions please contact the undersigned.

Yours truly,

*"Karyn Lewis"*

Karyn Lewis

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## **Lupin Mine 2015 Summary of Activities**

The Lupin Mine site was in a state of care and maintenance throughout the 2015 reporting period. The mine was occupied periodically between March and October with camp occupancy numbers ranging from 2 to 20 people on site.

A total of 173 m<sup>3</sup> of water was used for domestic purposes in 2015. Approximately 112,000 m<sup>3</sup> was discharged from the Lower Sewage Pond to the receiving environment in August 2015. Approximately 2.2 million m<sup>3</sup> of treated tailings was discharged from Pond 2 to the receiving environment. Without a valid water licence LMI did not have authorization to discharge either the sewage lagoon or Pond 2 prior to receiving a direction by the AANDC Water Resource Officer on July 22, 2015. The water levels at the sewage lagoon and Pond 2 have been brought down to acceptable levels.

Care and maintenance activities carried out in 2015 included routine inspection of facilities, water sampling, site water management, sewage lagoon discharge and maintenance, treated tailings discharge, waste backhauls and annual geotechnical inspection.

LMI submitted a water licence renewal application to the Nunavut Water Board on February 28, 2014. A Pre-Hearing Conference, a Technical Session, and a Community Information Session were held in Kugluktuk, NU on October 22nd and 23rd hosted by the Nunavut Water Board to facilitate the water licencing renewal process. A Public Hearing and Community Information Session were held in Kugluktuk, NU on February 4-5, 2015 hosted by the Nunavut Water Board in regards to the water licencing renewal process. The NWB closed the file on the water licence renewal on March 13<sup>th</sup>, 2015. The NWB issued a decision that was sent to the Minister for consideration and approval on May 11, 2015. On June 23, 2015 the Minister advised the NWB that he would be withholding approval. On July 13, 2015 the NWB advised all parties that additional submissions would be accepted until August 12, 2015. On August 21, 2015 the NWB issued correspondence to the Minister for his review and consideration of an amended, updated and corrected licence. The Minister approved the licence on October 5, 2015.

## 2AM-LUP1520 - 2015 LMI Annual Reporting Requirements - Part B, Item 2

- a) The monthly and annual quantities in cubic metres of water pumped from Contwoyto Lake at Station Number LUP-01:

The following quantities of water were withdrawn from Contwoyto Lake in 2015 for domestic purposes:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Water use (m <sup>3</sup> )	-	-	-	-	-	-	-	54	64	51	4	-	173

Domestic water came from Contwoyto Lake.

- b) The monthly and annual quantities in cubic metres of treated Tailings effluent discharged at Station Number LUP-10:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Pond 2 Discharge at Dam (m <sup>3</sup> )	-	-	-	-	-	-	-	-	500,864	1,670,179	-	-	2,171,043

There was approx. 2.2 million m<sup>3</sup> treated effluent discharged from the Pond 2 in September and October 2015 as directed by the AANDC Water Resource Officer on July 22, 2015 – see Item (i) below. LMI did not have authorization to discharge prior to the receipt of this direction. The water level was brought down to an acceptable level.

- c) The monthly and annual quantities in cubic metres of Minewater discharged at Station Number LUP-11:

Not applicable given the care and maintenance status in 2015.

- d) The monthly and annual quantities in cubic metres of treated Sewage effluent discharged at Station Number LUP-14:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Sewage Effluent Discharge (m <sup>3</sup> )	-	-	-	-	-	1296*	-	111,204	-	-	-	-	112,500

\*estimate of spring overflow

There was approx. 112,500 m<sup>3</sup> discharged from the Lower Sewage Lake in August 2015 as directed by the AANDC Water Resource Officer on July 22, 2015 – see Item (i) below. LMI

did not have authorization to discharge prior to the receipt of this direction. The water level was brought down to an acceptable level.

e) Details on the types and quantities of Hazardous Waste and chemicals stored on site :

As of December 31, 2015 there was approximately 1,930,500 litres of diesel fuel and 400 litres of gasoline in tanks on site, plus one hundred and nine 205 L drums of Jet-A or Av-gas; fifty six 205 L drums of diesel; and one hundred and ninety nine 205 L drums of fuel considered to be contaminated. As of November 4, 2015, there forty size oil cubes, and ninety eight 205 L drums, ten 45 L drums and five 20 L pails of various lubricants in the lube oil storage area. As of December 31, 2015 there are approximately 450 bags of lime stored inside a cold storage building.

f) Tabular summaries of all data generated under the “Monitoring Program”:

Water sampling was carried out in 2015 and the sampling results in tabular format are reported in reported in Appendix A.

g) A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector:

Environment Canada Inspector was at site on September 27<sup>th</sup> to obtain water samples for the treated tailings discharge.

Water Resource Inspector was at site on July 14, 2015 to complete a site visit. On September 27, 2015 the Water Resource Inspector and Manager of Field Operations conducted an opportunistic visit to site. There was discussions/correspondence from July 2015 to December 2015 between the Inspector and Lupin.. Correspondence is located on the NWB ftp site under Inspections (included in Appendix B, attached). A summary of actions are as follows:

- Sewage Lagoon repairs and decant – see item (i) below
- Tailing treatment and decant – see item (i) below
- Hazardous Waste Inventory – see item (e) above.
- Sampling outside the TCA – Sampling program was completed and filed with NWB as per the renewed water licence – see Appendix C
- Geotechnical Inspection – a geotechnical inspection was completed and filed with the NWB as per the renewed water licence – see Appendix C

- Spill 12-306 – approval for a landfarm has been included in the renewed water licence and LMI has hired an engineering firm to complete the work required to be able to use the landfarm in the upcoming 2016 season to address this spill.

h) A summary of modification and/or major maintenance work carried out on the water supply and the waste disposal facilities, including all associated structures:

No major work was carried out in 2015 on water or waste disposal facilities. Repairs to the sewage lagoon as requested by the Water Resources Inspector were completed. See item (i) below.

A 2015 Sewage Facility Geotechnical Inspection Memo, 2015 Annual Geotechnical Inspection (with cover letter) and 2015 Waste Management Facilities Geotechnical Inspection (with cover letter) were filed with the NWB and the Water Resources Inspector as requested – see Appendix C

i) A list and description of all unauthorized discharges including volumes, spill report line identification number and summaries of follow-up action taken:

There were no unauthorized discharges in 2015.

On May 11, 2015, a renewal licence was issued by the NWB for the Minister's approval, however on June 23, 2015 the Minister withheld approval.

On July 3, 2015 LMI wrote a letter to the Minister requesting that he reconsider his decision to withhold approval of the new type 'A' water licence, 2AM-LUP1520, indicating that LMI's temporary water use approvals do not authorize the company to undertake the significant and necessary water management activities that must be commenced in July 2015 in order to prevent serious harm to water resources and site infrastructure and in the absence of a valid water licence, LMI has no authority to use water or deposit waste in relation to Lupin Mine. LMI held two temporary authorizations, an emergency amendment to 2AM-LUP0914 valid to August 19 2015 (for discharge of the sewage lakes facility only) and 8WLC-LUP1516 valid to June 10 2016 (for the establishment of a separate camp). However, neither of these temporary solutions permits the required discharge from the TCA, nor do they allow for use of the existing water use and waste disposal facilities.

On July 16, 2015 LMI submitted to AANDC the requested work plan which detailed the personnel required, the work required to prepare, treat, sample, and discharge water from the TCA and the time it will take to complete.

On July 22, 2015, the Water Resource Inspection issued an Inspectors Direction (2015-KIT002-EP) to take the following actions:

*1. Immediately take the steps necessary to mitigate the risk to the TCA and to the environment. This shall be carried out in compliance with Part E of the expired 2AM-LUP0914 licence, the 2013 Liquid Waste Management Plan, and the 2015 Work Plan submitted to AANDC on July 16, 2015. In the case of conflict of dates or timings between the latter two documents, the Work Plan will supersede.*

*2. Implement fully the monitoring program as described in 2AM-LUP0914 (expired) with respect to the discharge (Stations LUP-10, LUP-20, LUP-21, LUP-22, LUP-24, and LUP-25) as identified in step 10 of the Work Plan.*

*LMI may accommodate up to 30 personnel at Lupin Mine as necessary to carry out the above tasks and may utilize the water facilities. However, there is an Inspector's Direction (issued September 8, 2014) that requires LMI to maintain the facility at a level that is consistent with safe operation, and to implement the recommendations in the 2014 geotechnical engineer's report "2014 Sewage Pond Dams Geotechnical Inspection\_1CL008\_002\_PMH\_AT\_20141020". The sewage lakes may only be utilized*

*a) once the recommendations in Part 4, paragraph 2 of the 2014 Sewage Pond Dams Geotechnical Inspection\_1CL008\_002\_PMH\_AT\_20141020 with respect to the Lower Dam have been carried out;*

*b) the effluent levels within those lakes is decanted to allow operation within the limits contained Part E of water licence 2AM-LUP0914; AND,*

*c) the September 8, 2014 Inspector's Direction is subsequently revoked.*

*An alternate method of sewage disposal will be required in the interim. In addition to the personnel required for the TCA discharge, LMI may accommodate extra persons to complete the work on the Lower Sewage Dam.*

On September 8, 2015 the Water Resources Inspector wrote to LMI and advised LMI of the following:

*An Inspector's Direction dated September 8, 2014 was issued to LMI requiring decant, inspection, and repairs of the Sewage Lakes facility at the Lupin Mine. LMI was directed to:*

*1. ...to immediately decant the Lower Sewage Lagoon and maintain the facility at a level that is consistent with safe operation. No new waste is to be deposited to the facility.*

*This shall be carried out in compliance with Part E Items 4 and 8 of the expired Licence and until such time as a new licence is issued. [and that]*

*2. A geotechnical inspection is to be conducted of the Upper and Lower Sewage Lagoon. The engineer's report is to be submitted to the Nunavut Water Board and to the Inspector by October 31 2014, accompanied by a plan and timelines to implement the engineer's recommendations. Any repairs required are to be carried out without delay.*

*On July 22, 2015 a second Direction [2015-KIT002-EP] was issued that allows limited use of Lupin Mine's camp facilities in order to prepare for, and carry out, the decant of the Tailings Containment Area and associated monitoring, but denies use of the Sewage Lakes facility until such time as compliance with the previously-issued Direction was achieved. LMI was directed that:*

*The sewage lakes may only be utilized:*

*a) once the recommendations in Part 4, paragraph 2 of the 2014 Sewage Pond Dams Geotechnical Inspection\_1CL008\_002\_PMH\_AT\_20141020 with respect to the Lower Dam have been carried out;*

*b) the effluent levels within those lakes is decanted to allow operation within the limits contained Part E of water licence 2AM-LUP0914; AND,*

***c) the September 8, 2014 Inspector's Direction is subsequently revoked.***

*LMI contracted Mr. Alvin Tong, P. Eng., a Senior Consultant with SRK Consulting (Canada) Inc. to conduct a geotechnical inspection on September 15, 2014. On September 3, 2015 a memo from the same confirms that the required repairs have been completed and the lagoon levels have been lowered to an acceptable level: "The dams met the minimum freeboard to allow operation. LMI has provided photographs on 2 September, 2015 indicating all finishing work on both dams are completed." This memo, signed and stamped by Mr. Tong, is submitted as evidence that the work has been completed.*

*I have reviewed and am satisfied with the evidence provided in this matter. This correspondence is to inform LMI that LMI is now deemed to have met conditions a) and b) of the July 22, 2015 Direction [2015-KIT002-EP]. The AANDC Inspector's Direction dated **September 8, 2014** issued to LMI is now revoked, to satisfy condition (c), recognizing that the work is substantially completed. LMI may therefor now utilize the Sewage Lakes facility, in compliance with Part E items 4, 7 and 8, and Part H item 8 of the expired water licence*

*(2AMLUP0914) in order to carry out the activities authorized by the July 22, 2015 Direction [2015- KIT002-EP].*

*The July 22, 2015 Direction [2015-KIT002-EP] remains in effect.*

On December 14, 2015 the Water Resources wrote to LMI and advised LMI of the following:

*An Inspector's Direction dated July 22, 2015 was issued to Lupin Mines Inc. (LMI) to mitigate the risk of failure of, or damage to, the Tailings Containment Area (TCA) by way of treating and decanting the facility, and to implement the associated monitoring program. LMI was directed to:*

*1. Immediately take the steps necessary to mitigate the risk to the TCA and to the environment. [To be carried out in compliance with Part E of the expired 2AM-LUP0914 licence, the 2013 Liquid Waste Management Plan, and the 2015 Work Plan submitted to AANDC on July 16, 2015.]*

*2. Implement fully the monitoring program as described in 2AM-LUP0914 (expired) with respect to the discharge (Stations LUP-10, LUP-20, LUP-21, LUP-22, LUP-24, and LUP-25) as identified in step 10 of the Work Plan.*

*The Direction also permitted limited use of Lupin Mine's camp facilities in order to prepare for, and carry out, the decant of the Tailings Containment Area and associated monitoring, but denied use of the Sewage Lakes facility until such time as compliance with a 2014 Direction was achieved.*

*The 2014 Direction was revoked on September 8, 2015, allowing use of the Sewage Lakes facility.*

*I have received confirmation that the TCA decant has been completed and LMI has provided discharge records and monitoring results demonstrating that it was carried out in compliance with the Direction and the Licence.*

*I have reviewed and am satisfied with the evidence provided in this matter. This correspondence is to inform LMI that LMI is now deemed to have met the conditions of **the July 22, 2015 Direction [2015-KIT002-EP] and the Direction is now revoked.***

*Acknowledging the logistical and safety challenges at this time of year, final samples for LUP-22, LUP-24 and LUP-25 are to be collected as soon as it is safe to do so, and the results forwarded upon receipt.*



j) Where applicable, revisions as Addendums, with an indication of where changes have been made, for Plans, Reports, and Manuals:

LMI has submitted the following updated plans to the NWB on March 25, 2016 and can be located on the NWB ftp site.

- Interim Abandonment and Restoration Plan including appendices
- Care and Maintenance Plan including:
  - Waste Management Plan (Solid and Hazardous) including
    - Incinerator Operating and Maintenance Procedures
    - Landfill Management Plan
    - Landfarm Management Plan
  - Liquid Waste Management Plan including:
    - Water Quality Monitoring Plan and Quality Assurance and Quality Control Plan
  - Wildlife Management Plan
  - Monitoring and Inspection Schedule
- Spill Contingency Management Plan

k) For Care and Maintenance, provide an updated status of any progressive reclamation as it relates to tailings cover remediation and justification for not proceeding to full reclamation under Part I, Item 5:

LMI continues to monitor the global economic climate and evaluate the feasibility of operating the Lupin mine along with the potential for identifying additional resources through its exploration activities. In the interim, the site remains in care and maintenance and a decision with respect to Part I, Item 5 was not contemplated in 2015.

l) A summary of public consultation and participation with local organizations and the residents of the nearby communities, including a schedule of upcoming community events and information sessions:

A Public Hearing and Community Information Session were held in Kugluktuk, NU on February 4-5, 2015 hosted by the Nunavut Water Board in regards to the water licencing renewal process.

LMI hosted the KIA for a site tour of the Lupin site on July 14, 2015.

- m) A summary of any abandonment and reclamation work completed during the year and an outline of any work anticipated for the next year:

LMI backhauled approx. 130,000 lbs of waste from site during the 2016 season. LMI will continue to backhaul as much waste as possible during the 2016 season.

Repairs to the upper and lower sewage lagoon – see Item (i) above as well as the Geotechnical Inspection reports under Appendix C.

LMI has hired an engineering firm to complete the Landfarm plan and initiate treatment of the hydrocarbon soil at the satellite tank farm.

- n) An updated assessment of the current mine reclamation liability using the most current version of RECLAIM as required by Part I, Item 3:

The 2015 cost estimate is attached under Appendix D. The amount of the cost estimate has not changed from the 2014 cost estimate. Due to fuel prices and labour costs dropping significantly in the last year LMI has decided to stay with the same cost estimate rather than lower the cost estimate to reflect the new rates during 2015.

- o) Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported:

The Nunavut Water Board did not request additional information for the 2015 reporting period.

## **APPENDICES**

Appendix A – 2015 Monitoring Report with Water Sample Results

Appendix B – 2015 Inspection Reports and Directions and LMI Responses

Appendix C – 2015 Geotechnical Reports and Cover Letters and Windblown Tails Survey

Appendix D - Interim Abandonment and Restoration Plan including Appendices

Appendix E - Care and Maintenance Plan including Appendices

Appendix F - Spill Contingency Management Plan

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## **Appendix A**

### **2015 Monitoring Report with Water Sample Results**

**Appendix B**  
**2015 Inspection Reports, Directions and LMI Responses**

**Appendix C**  
**2015 Geotechnical Reports and Cover Letters**

## **Appendix D**

### **Interim Abandonment and Restoration Plan including Appendices**

## **Appendix E**

### **Care and Maintenance Plan including Appendices**

**Appendix F**  
**Spill Contingency Management Plan**