

**LUPIN MINE - APPLICATION FOR RENEWAL AND AMENDMENT OF LICENCE 2AM-LUP1520  
FINAL CLOSURE AND RECLAMATION PLAN  
LUPIN UYARAKHIUQVIK – TUKHIRAUT NUTANGURUTMUN IHUAQHIGIARUTOLU LAISA 2AM-  
LUP1520 KINGULLIQ UMIKNIA HALUMARTIQNIALU PARNAUT**

**NWB Public Hearing January 15-16, 2019 Kugluktuk, Nunavut**



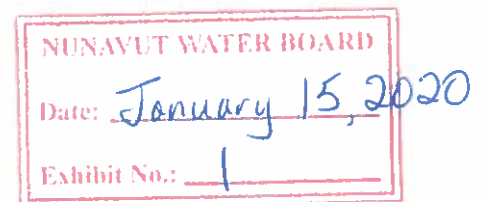
NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Forward-Looking Statement

*This presentation contains "forward-looking statements" within the meaning of applicable securities laws, including statements relating to life of mine production plans, exploration plans and the growth and strategy of Mandalay. Actual results and developments may differ materially from those contemplated by these statements depending on, among other things, exploration results or production results not meeting management's expectations, capital, production and operating cost results not meeting current plans, and changes in commodity prices and general market and economic conditions. The factors identified above are not intended to represent a complete list of the factors that could affect Mandalay. A description of additional risks that could result in actual results and developments differing from those contemplated by forward looking statements in this news release can be found under the heading "Risk Factors" in Mandalay's annual information form dated March 28, 2019, its short form base shelf prospectus dated February 12, 2018, and prospectus supplement dated February 12, 2019, copies of which are available under Mandalay's profile at [www.sedar.com](http://www.sedar.com). Although Mandalay has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.*

## Quality Control and Assurance

*Quality control and assurance programs are implemented in line with the standards of National Instrument 43-101.*

*The exploration programs at Mandalay's properties are supervised by Chris Gregory (Member, Australian Institute of Geoscientists, VP of Operational Geology for Mandalay and a "Qualified Person" as defined under National Instrument 43-101. Mr. Gregory regularly visits Mandalay's properties, and supervises the collection and interpretation of scientific and technical information contained in this presentation.*

*Dominic Duffy, President and CEO of Mandalay, has visited Costerfield, Cerro Bayo, Challacollo, and Björkdal and has supervised the preparation of this presentation.*

*All currency references in US\$ unless otherwise indicated.*

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## Lupin Mine – Status

## Lupin Uyarakhiuqvik - Qanuritnia



Lupin Mine Site 2019 View looking east

## Lupin Mine - Status

- Located approximately 285 kilometres southeast of Kugluktuk, in the Kitikmeot Region of Nunavut; accessible by air and winter ice road
- In operation from 1982 to 2005, the Lupin Mine has been in Care and Maintenance since February 2005
- Owned by Lupin Mines Incorporate (LMI), a wholly owned indirect subsidiary of Mandalay Resources Corporation
- Interim Closure and Restoration Plan submitted by LMI and approved by the Nunavut Water Board July 20, 2018
- Inilik mikhaani 285 kilaamitat nigiat kanangnaani Kugluktuk, Kitikmeotni Nunavut; pilaqni tingmitikkut ukiumilu hikukkut apqut
- Aulatauyyuq talvanga 1982 tikitlugu 2005, tamna Lupin Uyarakhiuqvik Munariyauyuq Ihuaqhihimanialu taimanga Fibruari 2005
- Nanminiriyat tapkuatlu Lupin Uyarakhiuqvik Nanminilgit (LMI-kut), tamaitnut nanminiriyat turaqpiagnagu ilagiyat tapkuat Mandalay Risuasis Kuapurisan
- Tatyallak Umiknia Halumartiqnialu Parnaut tuniyat tapkuat LMI-kut angiqtatlu tapkuat Nunavut Imaliriyit Katimayit Julai 20, 2018

## Lupin Mine - Status

- LMI has carried out progressive reclamation under this and previously approved plans since initial ownership of the property in 2011 (through Elgin Mining and now Mandalay Resources Corporation)
- Final Closure and Reclamation Plan (FCRP) was submitted for approval July 27, 2018 with an application for licence amendment and renewal
- The Application and FCRP completeness review and technical review have been completed
- LMI provided notice on January 30, 2019 to Environment Climate Change Canada, with respect to the Metal and Diamond Mines Effluent Regulations, seeking closed mine status.
- LMI-kut atuqtai halummaqtirivalianiq atuqhugu una hivuanilu angiqtauyyuq parnautit taimanga pigialihaqnianit nanminiriliqni havakviat 2011-mi (apqutigiplugit Elgin Uyarakhiuqvik tatayalu Mandalay Risuasis Kuapurisan)
- Kingulliqpamik Umiknia Halumartiqnialu Parnaut (FCRP-nga) tuniyauyuq angiqtauyukhaq Julai 27, 2018 piplugu tukhiraut laisamun ihuaqhigiaqnia nutanguqnialu
- Tamna Tukhiraut tamnalu FCRP-nga iniqhimakhait naunaiqni pitquhiliqutitlu naunaiyaqni iniqhimaliqitut.
- LMI-kut piqaqtitat tuhaqhit talvani Januari 30, 2019 tapkununga Avatiliriyit Hilaplu Ahianguqnia Kanata, piplugit tapkuat Haviit Qiplariktutlu Uyarakhiuqvik Halumaittut Imaqta Maligait qiniqtai umiknianut uyarakhiuqvik qanuritnia.

## Lupin Mine – Status (cont.). Lupin Uyarakhiuqvik - Qanuritnia

- The Technical Meeting and Pre-hearing conference took place June 6-7, 2019 with PHC Decision Report issued June 18, 2019
- (translation)
- A list of 15 commitments was provided with the Decision to be addressed and submitted prior to the Public Hearing
- All 15 commitments were completed and provided to the NWB prior to, or on their respective dates
- Most commitments considered resolved with exception of security cost estimate and framework for progressive release of security. (Continued meetings)
- LMI anticipates all commitments to be resolved prior to or at the public hearing

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## Lupin Mine – Status (cont.). Lupin Uyarakhiuqvik - Qanuritnia

Work completed during 2019 to fulfil commitments at the Technical Meeting, June 6-7, 2019

- Bathymetric surveys of Pond 1, Pond 2, Cell 4 and Cell 5
- (translation)
- Commitment No.10, test pits in covered cells and standpipe water levels and water quality information collected
- One-time geophysical survey of two selected dams, Dam 3D and Dam 4. Survey completed by Aurora Geosciences Ltd. for STANTEC
- Geotechnical Assessments
- Completed a Human Health and Ecological Risk Assessment (HHERA)

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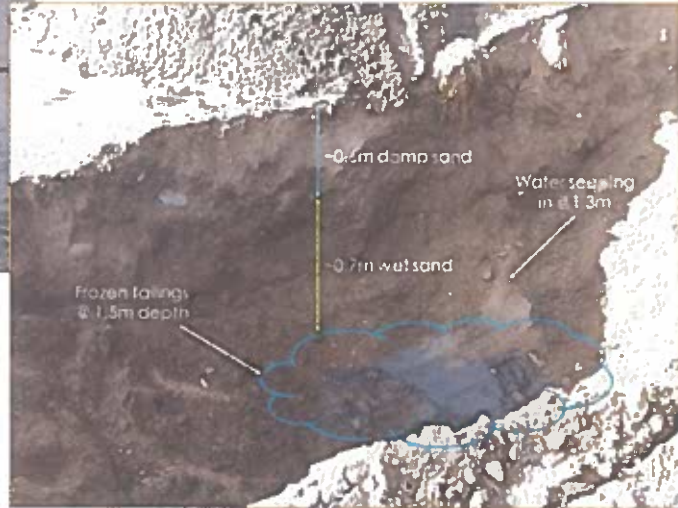


## Lupin Site Work 2019



Bathymetry work in Cell 4 July 19, 2019

Test pit Cell No.1 (covered in 1995);  
provided in Commitment No.10



## Lupin Mine – Status (cont.). Lupin Uyarakhiuvik - Qanuritnia

Work completed during 2019 Care and Maintenance

- Discharge of water from the Lower Sewage Lake to the Environment (monitoring)
- Syphoning of water from the Tailings line Dump Station No.1 to the lower sewage lake
- Completed the Lupin Mine Phase 6 (Final) Environmental Effects Monitoring Study under the Metal and Diamond Mines Effluent Monitoring Regulations.
- Transfer of water from Cell No.3 to Cell No.4
- Syphoning of water from Pond No.1 to Pond No.2
- Pumping water from Cell No.5 to Pond No.1
- translation

## Lupin Site Activities 2019



Lower Sewage Pond Discharge  
intake July 5, 2019



Syphoning from Cell No.3 to Cell  
No.4 June 28, 2019



Pumping from Cell No.5 to Pond 1  
July 18, 2019

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

11



## Lupin Mine – Status (cont.). Lupin Uyarakhiuqvik - Qanuritnia

Work completed during 2019 Care and Maintenance

- Pumping of water from West Zone Pit #2 to Stope # 1
- Repairs to KDam crest due to erosion
- Excavated a drainage swale along Cell No.3 and KDam, to control and prevent further erosion of the downstream face of KDam
- Gate culvert control removed and coffer dam installed to contain water in Cell No.4

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

12





## Work completed during 2019 Care and Maintenance



Repairs to KDam Crest (erosion gullies)  
July 16, 2019



Excavation of swale along Cell 3 and  
KDam (for runoff control) July 17, 2019



Cell No.4 Bermed area around culvert  
complete July 2019

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

13



## Lupin Mine – Status

## Lupin Uyarakhiuqvik - Qanuritnia

- Satellite view of the Lupin Mine Site
- Qangattaqhimayumin Takuyaunia tamna Lupin Uyarakhiuqvik Havakvia



NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

14



## Water Licence 2AM-LUP1520 Renewal and Amendment Imaqmun Laisa 2AM-LUP1520 Nutangurut Ihuaqhigiarutlu

### Application Highlights

- Initial request of a 7 year; Following the Pre-conference Hearing Report Decision, LMI has confirmed the request for a licence term of 12 years to coincide with full closure activities and the first 5 years of post-closure monitoring
- An increase in water use from the current 5,000 m3/year to 250,025 m3/year for 2 years to cover increased camp requirements and industrial use, then return to 5,000 m3/year during post-closure

### Tukhiraut Tuhaquniqhauni

- 
- Iliana imaq atuqnia tatyamin 5,000 m3/ukiug tikitlugu 250,025 m3/ukiug taphumunga 2 ukiug piyanga ilagiaqnia hiniktaqvik piyaaqni havakviklu atuqnia, utiqlugulu 5,000 m3/ukiug umikhimaliaqtitlugu

## Water Licence 2AM-LUP1520 Renewal and Amendment Imaqmun Laisa 2AM-LUP1520 Nutangurut Ihuaqhigiarutlu

### Application Highlights

- In addition, water sources to include ponded water and lakes nearby access roads for industrial uses including dust suppression.
- Review of Licence terms and conditions, and structure to better represent the closure of the mine, non-operations, and post-closure monitoring
- Approval of the 2018 Final Closure and Reclamation Plan

### Tukhiraut Tuhaquniqhauni

- 
- Naunaiyaqnia Laisa hivituni aturialgitlu, hanayangalu nakuutqiyamik piyanga umiknia uyarakhiuvik, aulahuqnia, umiaqtitlugulu munarinia
- Angiqtauni tapkuat 2018 Kingulliqmik Umiknia tamnalua Halumaqtiqnia Parnaut



## Technical Meeting and Pre-hearing Conference Decision Outcomes

- Through the technical meeting discussions in Kugluktuk, NU, June 6-7, 2019, and conveyed to LMI and interested parties in the Pre-hearing Conference Decision Report, a list of commitments was developed as well as a List of Issues (Sec. 6 of the Decision) to be discussed at the Public Hearing.
- The issues will be addressed through the Public Hearing Agenda.
- LMI is pleased to report that all commitments as listed in Appendix D of the PHC Decision Report have been completed and submitted to the NWB, by the dates set out, in advance of the Public Hearing. With the exception of few minor items to be dealt with at this Public Hearing, the issue of Security Cost Estimate and the corresponding Framework for Progressive Release of Security, LMI considers the commitments fulfilled and issues resolved
- Translation
- 
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17



## Lupin Mine – Closure Lupin Uyarakhiuqvik - Umiknia

- Draft concept of Lupin Mine site after reclamation is complete  
Uuktut ihumaginia tamna Lupin Uyarakhiuqvik havaklvia halumartiaqtitlugu



NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

18



## Lupin Mine – Final Closure and Reclamation Plan

### Lupin Uyarakhluqvik – Kingulliqpaq Umiknia Halumartiqnialu Plarnaut

#### Components of the Plan

- Executive Summary
- 1.0 Introduction
- 2.0 Project Description
- 3.0 Progressive Reclamation and Post Operational Activities
- 4.0 Permanent Closure and Reclamation
- 5.0 Monitoring
- 6.0 Post Remediation Site and Environmental Conditions
- 7.0 Financial Security
- 8.0 References

#### Ilagiyai Parnautip

- Ataniuyunut Nainaqhimagut
- 1.0 Unniqtutit
- 2.0 Havaq Unniqtuta
- 3.0 Aturuiqpaliyani Halumartiqni Aulahuiaqtitlugulu Huliniit
- 4.0 Umikpiaqnia Halumartiqnialu
- 5.0 Munariyaunia
- 6.0 Halumartiqtitlugu Havakvik Avatiliqutitlu Qanuritnit
- 7.0 Kiinauyat Nautiumatit
- 8.0 Naunaipkutat

## 4.0 Permanent Closure and Reclamation

### Umikpiaqnia Halumaqtigaunialun

#### Progressive Reclamation Update and Final Closure Requirements

- Underground Mine
- Tailings Impoundment
- Rock Pile
- Chemicals/Soil
- Buildings and Equipment
- Capital Expenditures and Short Term Water Treatment/Management
- Interim Care and Maintenance
- Post Closure Monitoring and Maintenance
- Mobilization/Demobilization

#### Aturuiqpaliayut Halumartiqni Tuhaqhit Kingulliqpaqlu Umiknia Piyaqaqni

- Nunap Iluani Uyarakhiurniq
- UyaraktaqnikutHiamaktailini
- Uyaqat Qalirikititni
- Avugiyauvaktut/Nuna
- Igluqpait Hanalrutitlu
- Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia
- Munariyaulaktut Ihuaqhihimanilu
- Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu
- Atuliqtitni/Ituptiqni

## Final Closure Requirements - Kingulliqpamik Umiknianut Piyalgit

- **Underground Mine**
  - Tailings Impoundment
  - Rock Pile
  - Chemicals/Soil
  - Buildings and Equipment
  - Capital Expenditures and Short Term Water Treatment/Management
  - Interim Care and Maintenance
  - Post Closure Monitoring and Maintenance
  - Mobilization/Demobilization
- **Nunap Iluani Uyarakhiurniq**
  - Uyaraktaqnikut Hiamaktailini
  - Uyaqat Qaliriktitni
  - Avugiyauvaktut/Nuna
  - Igluqpait Hanalrutitlu
  - Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia
  - Munariyaulaktut Ihuaqhihimanilu
  - Umiaqtitlugu Munariyaunia Ihuaqhihimanialu
  - Atuliqtitni/Ituptiqni

## Underground Mine

- Portal and mine openings closure (shaft, air raises)
- Crown Pillar blasting; for soil, waste rock and demolition waste disposal
- Backfill and reclaim open stopes (Crown Pillars)



Centre zone crown pillar opening 2018  
Qitqani imiktailitit angmania

## Nunap Iluani Uyarakhiurniq

- Nunap iluanut itiqvia uyarakhiuviklu angmani umiknit (aniqhaktuqvit, qingait)
- Imiktailitit qartaqnit; nunanut, iqakut uyaqat ituptigatlu iqakut iqaqnit
- Kivviuhirtuqni halumartiqnilu angmanit uvingani (Imiktailitit)



Portal - Nunap Iluanut Itiqvik

## Underground Mine



Centre Zone Crown pillar opening 2018

## Nunap Iluani Uyarakhiurniq



East zone crown reclaimed 2002  
Kanangnaani qanga halumartiqnia 2002

## Final Closure Requirements - Kingulliqpamik Umiknianut Piyalgit

- |  |  |
|--|--|
| ■ Underground Mine   | ■ Nunap Iluani Uyarakhiurniq   |
| ■ <b>Tailings Impoundment</b>                                    | ■ <b>UyaraktaqnikutHiamaktailini</b>                                     |
| ■ Rock Pile  | ■ Uyaqat Qaliriktitni  |
| ■ Chemicals/Soil   | ■ Avugiyauvaktut/Nuna  |
| ■ Buildings and Equipment  | ■ Igluqpait Hanalrutitlu   |
| ■ Capital Expenditures and Short Term Water Treatment/Management | ■ Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia |
| ■ Interim Care and Maintenance                                   | ■ Munariyaulaktut Ihuaqhihimanilu  |
| ■ Post Closure Monitoring and Maintenance                        | ■ Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu                            |
| ■ Mobilization/Demobilization                                    | ■ Atuliqtitni/Ituptiqni  |

## Tailings Impoundment

- Rip Rap; MDam Completed 2017
- Flatten Slopes Pond 2 side of Mdam and KDam
- Cover Tailings; approx. 199,000m<sup>2</sup> to be completed - 10,500 m<sup>2</sup> of cover applied to Cell 5 in 2018, remaining cover required of 199,000 m<sup>2</sup>.
- Tailings piping removal/disposal - 4,000 m of tailings pipeline removed, 4,500m remaining
- Syphon removal/disposal (Dam 1a and JDam)
- Construct/excavate spillways for Dam 1a and JDam (including geotextile and rip rap relocated from dam slopes)
- Specialized Items (permanent instrumentation, monitoring) 2018

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

## Uyaraktaqnikut Hiamaktailini

- Qaliriktitarniq; M Haput Inirtuq 2017
- Manikhaqni Uvinganit Tahiraq 2 mikhaani M Haput tamnalu K Haput
- Hauni Uyaraktaqnikut; mikhaani 199,000m<sup>2</sup> iniqtakhat - 10,500 m<sup>2</sup> hauni atuqtat Iluani 5 2018mi, hipakua hauni piyalgit 199,000 m<sup>2</sup>.
- Uyaraktaqnikut huplua ahivaqnia/iqaqnia - 4,000 m uyaraktaqnikut huplua ahivaqnia, 4,500m hipakua
- Pakpaknia ahivaqnia/iqaqnia (Haput 1a tamnalu J Haput)
- Hanayaunia/amuyuani kiviraqvit Haput 1a tamnalu J Haput (ilautitlugu maqittailit tamnalu qaliriktitnia nutaunia talvanga haput uvinganit)
- Taihimayut Hunat (ilihimainaqtukhat uukturautit, munarinit)

25



## Tailings Impoundment

## Uyaraktaqnikut Hiamaktailini



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26





## Tailings Impoundment

TCA Cell 5 on left, Pond 2 on right  
TCA Kuviraqvik 5 haumiani, Tahiraq 2 taliqpiani



Cell 5 to be covered, view from M Dam  
Kuviraqvik 5 hauyukhaq, takunia mikhaanit M Haput



## Uyaraktaqnikut Hiamaktailini



Cell 3 and 4  
Kuviraqvik 3 4-lu

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27



## Tailings Impoundment

## Uyaraktaqnikut Hiamaktailini



Dam 1a syphons, spillway location  
Haput 1a pakpautit, kuviraqvia inaa



K Dam; Pond 2 on right  
K Haput; Tahiraq 2 taliqpiani

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

28





## Final Closure Requirements - Kingulliqpamik Umiknianut Piyalgit

- Underground Mine
- Tailings Impoundment
- **Rock Pile**
- Chemicals/Soil
- Buildings and Equipment
- Capital Expenditures and Short Term Water Treatment/Management
- Interim Care and Maintenance
- Post Closure Monitoring and Maintenance
- Mobilization/Demobilization
- Nunap Iluani Uyarakhiurniq
- Uyaraktaqnikut Hiamaktailini
- **Uyaqat Qaliriktitni**
- Avugiyauvaktut/Nuna
- Igluqpait Hanalrutitlu
- Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia
- Munariyaulaktut Ihuaqhihimanilu
- Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu
- Atuliqtitni/Ituptiqni

### Rock Pile

- Consolidate Rock into Central Area (191,000m<sup>3</sup>)
- Soil Cover - excavate, haul, spread and compact (303,400m<sup>3</sup>)
- Contour area of rock left in place (303,400m<sup>2</sup>)

Crown pillar area  
Qanga imiktailit nuna



### Uyaqat Qaliriktitaqni

- Katitnit Uyaqat Qitiqpanut Nuna (191,000 m<sup>3</sup>)
- Nuna Haunia - amuni, agyaqni, hiamakni naniktiqnilu (303,400 m<sup>3</sup>)
- Ayikiktitni nuna uyaqat haumiani ilini (303,400 m<sup>2</sup>)



Waste rock and piles – ballfield  
Iqakut uyaqat qaliriknilu - muqpakvik

## Final Closure Requirements - Kingulliqpamik Umiknianut Piyalgit

- |  |  |
|--|--|
| ▪ Underground Mine   | ▪ Nunap Iluan Uyarakhiurniq  |
| ▪ Tailings Impoundment   | ▪ Uyaraktaqnikut Hiamaktailini   |
| ▪ Rock Pile  | ▪ Uyaqat Qaliriktiti   |
| ▪ <b>Chemicals/Soil</b>  | ▪ <b>Avugiyauvaktut/Nuna</b>   |
| ▪ Buildings and Equipment  | ▪ Igluqpait Hanalrutitlu   |
| ▪ Capital Expenditures and Short Term Water Treatment/Management | ▪ Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia |
| ▪ Interim Care and Maintenance                                   | ▪ Munariyaulaktut Ihuaqhihimanilu  |
| ▪ Post Closure Monitoring and Maintenance                        | ▪ Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu                            |
| ▪ Mobilization/Demobilization                                    | ▪ Atuliqtitni/Ituptiqni  |

### Chemicals/soil

#### Buildings Decontamination/Consolidation of Hazardous Materials

- Decontaminate: oil, fuel and glycol systems – a large amount of this work was carried during the 2018 summer and winter work program – all tanks not in use outside of the main tank have been cleaned and signed off by a professional engineer
- Removal of asbestos containing materials (sheet flooring, tiles, mastic and caulking)

### Avgiyauyut/nuna

#### Igluqpait Halumailruiyaqni/Katitauni Hivuranaqtut Hunat

- Halumailruiyaqni: kinirtuq, uqhuqyuat tamnalu imaqtutikhaut havagutai – anginiqhaq aktilaq uuma havaq atuqtauyut atuqtitlugu 2018 auya ukiungalu havat havagutai – tamaita qataqyuat atuqtaungittut hilataani taphuma atuqtauniqhaq qattaqyuat halumaqtauyut sainiqtauplutiklu havaktilluamin qauyimauiyumin
- Ahivaqni ikittaiptuktilgit hunat (iluittut natiit, natikhat, nipitirutai kuhiripkutailu)

## Chemicals/soil

### Hazardous Materials Removal

- Waste oils, fuels, batteries, machine shop paints/solvents etc. – the majority of waste has already been removed from site (2015, 2016, 2017 and 2018), batteries have been removed. Lab reagents have been removed in (2016, 2017 and 2018). Items currently at site will be required during reclamation

### Contaminated soils and soils removal

- Load haul dump to crown pillar

## Avgiyauyut/nuna

### Hivuranaqtut HUnat Ahivaqni

- Iqakut kiniqtut, uqhuqyuat, paatyit, Hannavikmi minguat/halumaqtirutit ahiilu – tapkuat amihuniqhat iqakut ahivaqpagiqhimayut havakvikmin (2015, 2016, 2017 tamnalu 2018), paatyit ahivaqtauyut. Naunaiyaqvikmi avugiyauyut ahivaqtauyut talvani (2016, 2017 tamnalu 2018). HUnat tatya havakvikmi piyaqaqniat atuqtitlugu halumaqtigaunia

### Halumaqhimayut nunat nunatlu ahivaqni

- Uhiliqtutit akhaluutit imigipkutaqnut

## Final Closure Requirements - Kingulliqpamik Umiknianut Piyalgit

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>Underground Mine</li><li>Tailings Impoundment</li><li>Rock Pile</li><li>Chemicals/Soil</li><li><b>Buildings and Equipment</b></li><li>Capital Expenditures and Short Term Water Treatment/Management</li><li>Interim Care and Maintenance</li><li>Post Closure Monitoring and Maintenance</li><li>Mobilization/Demobilization</li></ul> | <ul style="list-style-type: none"><li>Nunap Iluan Uyarakhiurniq</li><li>UyaraktaqnikutHiamaktailini</li><li>Uyaqat Qaliriktitni</li><li>Avugiyauvaktut/Nuna</li><li><b>Igluqpait Hanalrutitlu</b></li><li>Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia</li><li>Munariyaulaktut Ihuaqhihimanilu</li><li>Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu</li><li>Atuliqtitni/Ituptiqni</li></ul> |
|---|--|

## Buildings and Equipment

### Removal of buildings

- Accommodation complex
- Hoist room and travel ways
- Shaft house
- Warehouse, Mill
- Powerhouse
- Headframe
- Airlock building and fresh air intake
- Two cold storage buildings
- Arsenic Treatment building
- Pumphouse
- Explosives Storage
- Fire house

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

## Igluqpait Hanalrutitlu

### Removal of buildings

- Hiniktaqviit atatyutiyut
- Nivingartiqvik igluaq aularviklu apqutai
- Anmuktaqvik igluqpak
- Uviahausi, Havikhaliuqvik
- Qulliliqutiqaqvik
- Qaliquitigiya
- Aniaviulaiyaut igluqpak qingariyauyutlu ilunmutyuta
- Malruk niglamalanut hiqluak igluqpak
- Avugiyauyut Tuqunalgit Halumaqhautit igluqpak
- Pakpautiqaqvik
- Qaqtautit Tutqumavik
- Qaptirutiqaqvik

35



## Buildings and Equipment

### Removal of buildings

- Emergency powerhouse
- Weather station/storage buildings
- Batch plant, ATV building
- Storage at laydown/airstrip
- Fuel Tanks (12 small, 15 large remain)
- Freshwater intake
- Consolidate & dump boneyard debris
- Break foundation slabs/leave in place

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

## Igluqpait Hanalrutitlu

### Ahivartiqni Igluqpait

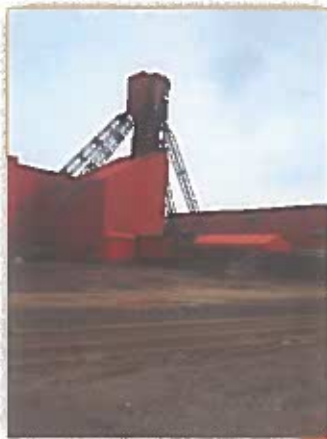
- Irininaqtunut qulliliqutiqaqvik
- Hilalirivik/Tutqumavit igluqpait
- Katihimanit hannavik, Haantait igluqpa
- Tutqumavik iliuqaqviki/milvik
- Uqhuqyuqaqvut (12 mikiyut, 15 angiyut huniumaittut)
- Imirtaqvik immiqtuivik
- Katitauni iqaqnilu hunavaluit iqakut
- ahiruqtigini tunngaviit/aulangitni inaitni

36



## Buildings and Equipment

Removal of buildings



Headframe  
Qulirutigiyauyuq



Warehouse, engineering  
offices and shops  
Uviahausi, qauyimayiyut  
aapisit hannavitlu



Main Fuel Farm  
Aturniqhaq Uqhuqyuqaqvik



Mill  
Havikhaliuqvik

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

37



## Buildings and Equipment

Removal of equipment



Powerhouse  
Qulliliqutiqaqvik

## Igluqpait Hanalrutitlu

Ahivaqni Hanalrutit

Mill  
Havikhaliuqvik



NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

38



## Buildings and Equipment (cont.)

- Landfill for Demolition Waste
- Reclaim approx. 12km of roads (removal of culverts, scarify roads)
- Other – grade and contour esker borrow area (180,000m<sup>2</sup>)

## Igluqpait Hanalrutitlu (huli)

- Nunami Iqaqvik Ituptigaunia Iqakunut
- Halumartiqni mikhaani 12KM apqutit (ahivaqni kuukviuyut huplut, manikhaqni apqutit)
- Ahii – manikhaqni maniqamun ayyikkuhiutini qimiit iluttuqhimani (180,000m<sup>2</sup>)



Tailings access road  
Uyaraktaqnikut pilaqnia apqut

Fingers Lake Esker  
Tikkiit Tahiq Qimiq



## Proposed Demolition Landfill Site Location



Location South of Minesite Adjacent to the Upper Sewage Lake



## Final Closure Requirements - Kingulliqpamik Umiknianut Piyalgit

- Underground Mine
- Tailings Impoundment
- Rock Pile
- Chemicals/Soil
- Buildings and Equipment
- **Capital Expenditures and Short Term Water Treatment/Management**
- Interim Care and Maintenance
- Post Closure Monitoring and Maintenance
- Mobilization/Demobilization
- Nunap Iluani Uyarakhiurniq
- Uyaraktaqnikut Hiamaktailini
- Uyaqat Qaliriktitni
- Avugiyauvaktut/Nuna
- Igluqpait Hanalrutitlu
- **Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia**
- Munariyaulaktut Ihuaqhihimanilu
- Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu
- Atuliqtitni/Ituptiqni

## Capital Expenditures and Short Term Water Treatment/Management

- Decommission fresh water supply (pumphouse and pipeline)
- Water treatment operation tailings containment area (1.8mil m<sup>3</sup>)



Fresh water pumphouse and 6" line  
Imatqiktuq pakpakvia tamnalu 6" huplu

TCA Pond 2 – Syphon and Spillway location centre left  
TCA Tahiraq 2 – Pakpakvik Kuviraqviklu qitqa ahirtuq



## Final Closure Requirements (following reclamation)

- Underground Mine
- Tailings Impoundment
- Rock Pile
- Chemicals/Soil
- Buildings and Equipment
- Capital Expenditures and Short Term Water Treatment/Management
- **Interim Care and Maintenance**
- Post Closure Monitoring and Maintenance
- Mobilization/Demobilization
- Nunap Iluani Uyarakhiurniq
- UyaraktaqnikutHiamaktailini
- Uyaqat Qaliriktitni
- Avugiyauvaktut/Nuna
- Igluqpat Hanalrutitlu
- Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia
- **Munariyaulaktut Ihuaqhihimanilu**
- Umiaqtitlugu Munariyaunia Ihuaqhihimanialu
- Atuliqtitni/Ituptiqni

## 2019 – Final Year of Interim Care and Maintenance 2019 – Kingulliappaq Ukiuq Munaritlaknia Ihuaqhihimanialu

- Covered previously under Current Status at the Lupin Mine
  - Final EEM Studies under the Metal and Diamond Mines Effluent Regulations
  - Geotechnical and geophysical surveys
  - Test pitting
  - General water management at the Tailings Containment Area
  - Maintenance and repairs at Dam K, Cell No.4 Divider Dike
  - Water quality monitoring
  - Sewage Lakes Discharge

## Final Closure Requirements (following reclamation)

- Underground Mine
- Tailings Impoundment
- Rock Pile
- Chemicals/Soil
- Buildings and Equipment
- Capital Expenditures and Short Term Water Treatment/Management
- Interim Care and Maintenance
- **Post Closure Monitoring and Maintenance**
- Mobilization/Demobilization
- Nunap Iluani Uyarakhiurniq
- UyaraktaqnikutHiamaktailini
- Uyaqat Qaliriktutni
- Avugiyauvaktut/Nuna
- Igluqpait Hanalrutitlu
- Angiyut Akiliqtutit Hivikitumutlu Aturtuq Imaq Halumaqtirut/Aulataunia
- Munariyaulaktut Ihuaqhihimanilu
- **Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu**
- Atuliqtutni/Ituptiqni

## Post Closure Monitoring and Maintenance (10yr)

- Annual geotechnical inspections
- Monitoring (including maintenance)
- Site water quality monitoring (water licence)
- Ukiumun nunaqliqutit naunairtuqni
- Munarinia (ilautitlugit ihuaqhihimani)
- Havakvikmi imaq nakuunia munarinia (imaqmun laisa)

## Current Reclaimed Cell Areas of the TCA - Vegetation



Cell No.1 Vegetation July 2019

## Current Reclaimed Cell Areas of the TCA - Vegetation



Cell No.1 Vegetation between Dam 3 and 3a; July 2019

## Current Reclaimed Cell Areas of the TCA - Vegetation



Cell No.1 Vegetation with standing water July 2019

## Final Closure Requirements (following reclamation)

- Underground Mine
- Tailings Impoundment
- Rock Pile
- Chemicals/Soil
- Buildings and Equipment
- Capital Expenditures and Short Term Water Treatment/Management
- Interim Care and Maintenance
- Post Closure Monitoring and Maintenance
- **Mobilization/Demobilization**
- Nunap Iluani Uyarakhiurniq
- UyaraktaqnikutHiamaktailini
- Uyaqat Qalırıktitni
- Avugiyauvaktut/Nuna
- Igluqpait Hanałrutitlu
- Angiyut Akiliqtutit Hivikıtumutlu Aturtuq Imaq Halumaqtirut/Aulataunia
- Munariyaulaktut Ihuaqhihimanilu
- Umiqaqtitlugu Munariyaunia Ihuaqhihimanialu
- **Atuliqtitni/Ituptiqni**

## Mobilization/Demobilization

- Additional equipment mobilized to site early 2020
- Tools and equipment
- Transport/flights
- Man days/months
- Accommodations for workers

## Atulirtitni/Ituptiqni

- Ilagiarutit hanalrutit atuliqtitni havakvikmun atulihaqniani 2020
- Hanalrutithanatyutitlu
- Nuktirautit/tingmitit
- Inungnut ublut/tatqiqhiutit
- Hiniktaqvit havaktinut

## Lupin Project (Circa 1978)

Proposed Lupin Mine site;  
viewing south with sewage  
lakes near top of photo

Uuktugauyuq Lupin  
Uyarakhiuqvik inaa; nigianit  
takunia anaqnut kuviraqvit  
tahiit haniani qulaani piksa





## Lupin Mine - Closure

Draft concept of Lupin Mine site after reclamation is complete

Uukturaut ihumaginia Lupin  
Uyarakhiuqvik inaa  
halumartiqaqtitlugu



NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

53



## Work Programs – 2019-2022

- Mandalay Resources, finalized a contract arrangement in 2019, with Nahanni Construction Ltd. for all closure and reclamation work at Lupin related to the Final Closure and Reclamation Plan
- Due to the delay in the return of security and obtaining permits (winter road) LMI was in care and maintenance during the 2019 season. Some reclamation and maintenance work was completed during the 2019 season by Nahanni
- Mandalay anticipated having the final closure and reclamation plan/renewed water licence to be completed in the first quarter of 2020.

## Havaq Havagtai – 2019-2022

- 
- 
- Mandalay niriuktuq pihimania kingulliqaq umiknia halumartiqnialu parnaut/nutangurut ihuaqhiqiaqnialu imaq laisa pityuhiq iniqnia hivulliqli hitaumauyaqniani 2020

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU

54



## Work Programs – 2019-2022

- Mobilization will start in early 2020 via the winter road
- The full reclamation program, as updated during the NWB final closure and reclamation process (located on NWB ftp site), will take place during 2020 and 2021. With the demobilization taking place in early 2022.

## Havaq Havagtai – 2019-2022

- Atuliqtitni pigiaqniat atulihaqniani 2020 atuqlugu hikukkut apqut
- Tamna tamaat halumartiqnia havagut, tuhaqhityutauniagut atuqtitlugu NWB- kut kingulliqpamik umiknia halummartiqnialu pityuhiq (inilik talvani NWB-kut ftp qaritauyakkuvia), atuqtauniaq atuqtitlugu 2020 tamnalu 2021. Piplugit ituptiqni atuqtauni hivulliqmi hitamauyaqnia 2022.



Lupin Manager Cabin – 2019

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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary

Through the technical meeting discussions in Kugluktuk, NU, June 6-7, 2019, and conveyed to LMI and interested parties in the Pre-hearing Conference Decision Report, a list of commitments was developed as well as a List of Issues (Sec. 6 of the Decision) to be discussed at the Public Hearing.

The issues will be addressed through the Public Hearing Agenda.

LMI is pleased to report that all commitments as listed in Appendix D of the PHC Decision Report have been completed and submitted to the NWB, by the dates set out, in advance of the Public Hearing. With the exception of few minor items to be dealt with at this Public Hearing, the issue of Security Cost Estimate and the corresponding Framework for Progressive Release of Security, LMI considers the commitments fulfilled and issues resolved.

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.1 and 7 (CIRNAC)

HHERA Report with supporting Technical Memo Geochemical source term and load model for seepage from the rock storage dome (Appendix C to HHERA)

- Filed by LMI on October 15, 2019

CIRNAC December 6, 2019 Comment No.1:

- included the need for an updated monitoring plan, and a comment that the HHERA should include the Tailings Containment Area (TCA)

LMI response:

- a post-closure monitoring plan is committed to under Commitment No.14
- The TCA was addressed in a separate Ecological Risk Assessment submitted with the 2014 renewal application
- LMI considers this item resolved

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.2 (CIRNAC)

Updated security Estimate RECLAIM model

- Filed by LMI November 1, 2019

CIRNAC December 6, 2019 Comment No.2:

- additional discussions were needed on the closure cost estimate

LMI response:

- LMI provided additional detail on its estimate, based on a signed contract with the Contractor, a firm price for work to be carried out, considered more accurate than estimated unit rates of RECLAIM
- **LMI considers this item resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.3 and 4 (CIRNAC)

LMI to review records and provide an historical data analysis with respect to ARD potential of tailings dams and roadways, etc.

- Filed by LMI August 15, 2019

CIRNAC December 6, 2019 Comment No.3 and 4:

- LMI thoroughly review the historical data to provide a more accurate account of the ARD potential at site

LMI response:

- LMI, in a memo provided by STANTEC dated August 14, 2019 LMI evidenced that the historical data has been reviewed and that an accurate account of the ARD potential is reflected in the closure plan
- No requirement under Commitment No.4
- **LMI considers this item resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.5 (CIRNAC)

Preliminary design level explanation of waste rock storage "Dome" design (including typical cross section, seepage, topography, geochemistry and storm water drainage estimates, etc.)

- Filed by LMI October 15, 2019

CIRNAC December 6, 2019 Comment No.6:

- LMI provide preliminary design cross sections and specification on proposed drainage systems and cover stabilization of the proposed Dome

LMI response:

- LMI provided the Technical Memo (Golder 2019b) with typical cross-sections with a commitment to provide detailed grading plans and specifications in Q1 2021 once the site has been cleared and surveys obtained (conceptual details/cross-sections to be provided in advance of or at the hearing)
- Post closure impacts of any waste rock seeps are addressed in the HHERA and ongoing general and long-term monitoring
- **LMI considers this item resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.6 (CIRNAC)

LMI provide geotechnical analysis (details) to provide confirmation of long-term dam stability and erosion Control

- Filed by LMI November 15, 2019

CIRNAC December 6, 2019 Comment No.5:

- LMI provide more specific information on the location where embankment stabilization work would be carried out and design details;

LMI response:

- LMI final response referred CIRNAC to LMI's response to Commitment No.12 (STANTEC 2019c), where a full thaw analysis was completed for Dam 3D and Dam 4.
- In its final submission LMI provided additional information on Slope stability and where re-sloping would apply (Re-sloping of Dam K and Dam M required)
- Commitment No.6 response included conceptual drawings for surface drainage of Cells No.3 and No.5 as well as outlet structure cross-sections
- **LMI considers this item resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.7 (CIRNAC)

LMI to provide a geochemical source term and load model for seepage from the waste rock "Dome."

- Filed by LMI October 15, 2019

CIRNAC December 6, 2019 Comment No.7:

- documentation provided by LMI is a seepage model rather than a source term model, however CIRNAC is satisfied with the response, conditional on seepage samples are collected and modeling updated

LMI response:

- LMI is committed to providing a Post closure monitoring plan for the site and area
- **LMI considers this item resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.8 (CIRNAC)

Decision matrix/tree that determines how exposed tailings will be handled on a case by case basis when lowering the water level in the TCA.

- Filed by LMI October 15, 2019

CIRNAC December 6, 2019 Comment No.8:

- The information provided does not satisfy their request, and that LMI provide an adaptive management decision matrix clearly outlining how the potentially exposed tailings would be managed.

LMI response:

- LMI provided with its final submission, a revised "Contingency Contaminants Management Decision Matrix"
- Further points to be provided at the hearing on covering of tailings vs removal, effectiveness, stability of dam toes etc.
- **LMI considers this item resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU





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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary **Commitment No.9 (LMI)**

Joint Submission on Framework for progressive release of security

- To be filed by LMI August 15, 2019; deferred by both CIRNAC and LMI to November 15, 2019

CIRNAC December 6, 2019 Comment No.2:

- See CIRNAC comment provided under Commitment No.2 and the commitment to further discussion on both the security estimate and the Framework for progressive release of security

LMI response:

- LMI has provided a draft framework for progressive release of security to CIRNAC; further discussions are planned in advance of the Public Hearing at which time, LMI intends to provide the NWB a summary of resolution in the form of exhibit(s)
- **LMI considers this item ongoing, to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary **Commitment No.10 (ECCC)**

One-time inspection (test pit) to “ground truth” the status of the cover nearby one of the installed standpipes.

- Filed by LMI October 15, 2019

ECCC comments No.2 and 5:

- The request for field investigations have been resolved
- recommends that the details of the TCA monitoring should be included in the post-closure monitoring plan

LMI response:

- LMI will include details of the TCA monitoring in the post-closure monitoring plan, to be submitted one year following approval of the licence by the Minister
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.11 and 12 (ECCC)

LMI conduct a one-time geophysical survey along two selected dams to confirm the condition of frozen cores.

- Filed by LMI October 15, 2019

ECCC comment No.3:

- That the commitment made has provided the required information regarding the dams
- Further analysis was done on slope stability
- Recommend ongoing monitoring of the dams and that dam stability monitoring be included in a post-closure monitoring plan

LMI response:

- LMI will include committed to continue monitoring these dams in accordance with industry standard monitoring practices. The frequency and duration will be determined during the development of the post-closure monitoring plan
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.13 (ECCC)

Climate change modelling; LMI to use a range of emission scenarios (low to high future forcing) from multiple climate models and considering multiple parameters, for consideration in the Final Closure and Reclamation Plan

- Filed by LMI October 15, 2019

ECCC comment No.1:

- LMI consider both the high and low emission scenarios along with the average emission scenario for the thermal modeling and contingency plans
- LMI consider the high and low emission scenarios for thermal modelling, and develop contingency plans that consider both

LMI response:

- LMI's final submission clarified the work carried out under commitment Nos. 12 and 13, which concluded that, under the HES (High Emission Scenario), with the highest risks, indicate that the Lupin TCA will perform as intended, and therefore does not require contingency planning under the proposed climate risk scenarios
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.14 (ECCC)

Post-closure monitoring plan, following discussion with all stakeholders.

- To be filed by LMI one year following approval of the Licence by the Minister

ECCC comment No.4:

- ECCC commented in their final submission, specifically under item 4, but also under items 2,3,5 and 6, recommending monitoring requirements, frequency, locations and instrumentation for the Post-Closure Monitoring Plan.
- CIRNAC commented that HHERA results be included in the required monitoring plan

LMI response:

- LMI confirmed in its final submission response to parties regarding a Post Closure Monitoring Plan, under Commitments Nos. 1, 3, 5, that the concerns would be addressed in the proposed post -closure monitoring plan
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.15 (NWB)

LMI to provide Draft Licence Framework identifying suggested amendments to existing Licence

- Filed with LMI's final submission dated January 3, 2020

ECCC comment No.8

- Recommended LMI note proposed new criteria under Schedule 4 of the MDMER in the event of discharges in 2021 and forward
- Update the definition of "Recognized Closed Mine"

LMI response:

- LMI acknowledges ECCC comments and provided additional recommended text for the NWB in their final submission
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Technical Meeting and Pre-hearing Conference Decision Commitments Summary Commitment No.15 (NWB)

LMI wishes to note for reviewers a few minor licence condition changes that were included in the draft water licence framework, with respect to Water use and waste discharge

- Water use requirements have been converted from m<sup>3</sup>/day to m<sup>3</sup>/year for the initial closure activities, ie 250,025 m<sup>3</sup>/year, to be consistent with the care and maintenance units. Part D, Item 2.
- LMI has included, in their final submission, a licence condition for use of water from sources other than Contwoyto lake (road side ponds and lakes)
- LMI has included conditions for waste discharge, TCA effluent Part E, Item 3, maximum discharge volume of 125,000 m<sup>3</sup>/day, to allow for full discharge of the TCA water during the 2020 open water season (current licence 70,000 m<sup>3</sup>/da7).
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Response to Additional Comments: CIRNAC's final submission; December 18, 2019

### CIRNAC Comment No. 1

- Term of Renewed Licence

CIRNAC had no comment on the 7-year term

LMI response:

- LMI confirmed to the NWB on November 15, 2019, a request to change the licence term request to 12 years
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## **Response to Additional Comments: CIRNAC's final submission; December 18, 2019**

### **CIRNAC Comment No. 2**

#### **Water Use Requirement**

CIRNAC had no comment on the requested water use

#### **LMI response:**

- LMI refers the NWB to its final submission, dated January 3, 2020, the Draft Water Licence Framework (DWLF), which clarified the water use, converting the daily request to annual, and additional sources, from ponded water or lakes along access roads for industrial use/dust suppression.
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## **Response to Additional Comments: CIRNAC's final submission; December 18, 2019**

### **CIRNAC Comment No. 3**

#### **Waste disposal**

CIRNAC had no further comment on waste disposal

#### **LMI response:**

- LMI refers the NWB to the DWLF
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## **Response to Additional Comments: CIRNAC's final submission; December 18, 2019**

### **CIRNAC Comment No. 4**

Status of Commitments No.3, 4, 5, 7 and 8

CIRNAC commented:

- With the exception of Commitment No.7, CIRNAC requires additional information

LMI response:

- LMI refers CIRNAC and the NWB to the final submission responses provided to the initial CIRNAC submission.
- Further discussion with CIRNAC has resulted in resolution with additional requests to be provided in advance of or at the hearing in the form of exhibit(s)
- LMI considers this item to be resolved

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## **Response to Additional Comments: CIRNAC's final submission; December 18, 2019**

### **CIRNAC Comment No. 5 and 6**

Draft Water Licence Framework and Management Plans and Reports

CIRNAC had no concerns

LMI response:

- LMI refers the NWB to the List of Issues to be discussed at the Public Hearing
- LMI considers this item to be resolved

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU





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## Response to Additional Comments: CIRNAC's final submission; December 18, 2019

### CIRNAC Comment No. 9

Reclamation Security Cost Estimate; Commitment No. 2, and Framework for progressive release of security No.9

#### CIRNAC comment:

- Provided further comment to its Initial Submission requesting clarity on several items in the LMI cost estimate
- LMI provided a proposal for the framework and will provide comment/re-draft

#### LMI response:

- LMI refers the NWB to its response under the Initial Submission No.2 and Final Submission No.8
- LMI refers CIRNAC and the NWB to the proposed DWLF, Attachment C, Security Framework Agreement (Commitment No.15)
- Note: LMI and CIRNAC have been in discussions since the above submission and have committed to further discussion in advance of the Public Hearing, with a summary to be provided as exhibit(s)
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Response to Additional Comments: ECCC's final submission; December 13, 2019

### ECCC Comment No. 4

Duration of Permanent Monitoring and Timing Clarification

#### ECCC Comment

- LMI to include thresholds for water quality and tailings cover performance that would trigger moving to reduced monitoring frequency or intensity in the proposed post-closure monitoring plan
- Monitoring of the TCA cover and water quality be done over a duration that is sufficient to demonstrate physical and chemical stability and acceptable quality for the long term.

#### LMI Response

- Thresholds to be included in the post-closure monitoring plan
- Monitoring will be undertaken until physical and chemical stability is achieved. Final duration of monitoring will be dependent on water quality results
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## **Response to Additional Comments: ECCC's final submission; December 13, 2019**

### **ECCC Comment No. 6**

Waste rock consolidation, rock dome

#### **ECCC Comment:**

- Recommends sampling of adjacent lakes; water quality of visible seeps or flows, and identify thresholds that would require remedial measures

#### **LMI Response**

- LMI will develop and implement a detailed surface water monitoring program for the adjacent lakes
- An adaptive approach to the seepage and lake monitoring program will enable the implementation of additional remedial options if required to mitigate seepage discharge to the adjacent lakes
- LMI included in its final submission, Attachment 2 – Proposed General Monitoring Table Changes
- **LMI considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## **Response to Additional Comments: ECCC's final submission; December 13, 2019**

### **ECCC Comment No. 7**

Asbestos Disposal

- LMI commits to following appropriate guidelines for the disposal of asbestos containing materials
- **ECCC considers this item to be resolved**

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



## Summary List of Commitments and Resolution

Appendix D: List of Commitments Summary	Number of Commitments	Unresolved Commitments
Commitments requested by CIRNAC	8 – 6 resolved	Commitment No.2 <ul style="list-style-type: none"> <li>▪ Updated Security Estimate</li> <li>▪ To provide conceptual grading plans (drawings) for Dams K and M</li> <li>▪ Further discussion prior to Public Hearing</li> </ul> Commitment No.6 <ul style="list-style-type: none"> <li>▪ Geotechnical details of engineered structures</li> <li>▪ LMI to provide conceptual drawings with respect to drainage pathways from Cell 3 and 5</li> </ul>
Commitments requested by ECCC	5 – 5 resolved	None
Commitments requested by LMI	1	Commitment No.9 <ul style="list-style-type: none"> <li>▪ Joint submission with LMI on Security Framework</li> </ul>
Commitments requested by NWB	1 – 1 resolved	None

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



## Potential Exhibits to be filed at the Public Hearing

Exhibit No.	Title	Requested by and in support of Commitment
1	Golder - Conceptual Design of Waste Rock Dome Concept	CIRNAC Commitment No.5(6)
2	STANTEC - Preliminary Design Level Explanation of waste rock storage Dome Design	CIRNAC Commitment No.5(6) Dome Design
3	STANTEC - Decision Matrix	Commitment No.8
4	LMI - Framework for Progressive Release of Security	Commitment No.9
5	Updated Implementation Schedule	

NWB Public Hearing – January 15-16, 2020 – Kugluktuk, NU



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## Thank You!



## Questions?