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July 20, 2020

Mr. Richard Dwyer, Manager of Licensing
Nunavut Water Board
Gjoa Haven, NU

Via Email: licensing@nwb-oen.ca

**Re: Kitikmeot Inuit Association Response to Lupin Mines Incorporated Comments
Water License 2AM-LUP2032**

Dear Sir:

This is the submission of the Kitikmeot Inuit Association (“KIA”) in response to the Lupin water license comments for water license 2AM-LUP2032 made by Lupin Mines Inc. (LMI) on July 14, 2020.

I. BACKGROUND:

The KIA is the Regional Inuit Association for the Kitikmeot Region of Nunavut and the Designated Inuit Organization for Article 20 of the Nunavut Agreement for the Kitikmeot Region. The KIA is not a regulating agency with respect to this project, however we are representing Inuit interest due to the historic importance of Tahikyoak (Contwoyto Lake).

KIA has reviewed the comments filed in support of the water license commitments by LMI. We have been assisted in this review by Mr. Steve Januszewski, P.Eng., of SteveJan Consultants Inc. (SJCI).

KIA staff and advisors have reviewed the response by LMI during the preparation of this response to the Board.

II. KIA SUBMISSIONS:

KIA’s resources are limited and our work reviewing LMI’s submitted materials benefitted from retaining SJCI to assist in the review. SJCI has been asked by the KIA to review the LMI response and provide a high-level response.

Summary of Comments

The LMI Response addresses a number of the points raised in the KIA submission and SJCI supporting technical memoranda on the 3 conditions in the new Water Licence.



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The NWB Public Registry includes an extensive listing of documents related to communications between CIRNAC and LMI regarding a number of CIRNAC issues which led to resolutions and follow-up commitments by LMI. It's unclear in this high-level review whether all of those points have been addressed in LMI's clarifications, commitments, the new Water License or other regulatory instruments.

SJCI has not undertaken a review of the 2018 Final Closure and Reclamation Plan by Golder to see how the most recent reclamation plans for the TCA within it differ from those stated in the 2005 Closure Plan for the Tailings Containment Area, which has been approved by the NWB (W.L. 2AM-LUP2032, Part B, Item 13).

However, the LMI Response makes apparent the continued diligence in careful monitoring of the reclamation activities at the site that should be undertaken, quite possibly beyond those stipulated in the Water License and additional submissions pending from LMI including an update to the FCRP and a Post-Closure Monitoring Plan .

The majority of issues and questions raised in the three supporting Technical Memoranda (SJCI - June 22, 23, & 23, 2020) have not been answered by LMI. A response by LMI, quite possibly just requiring clarifications to KIA concerns, to all the points made, would be greatly appreciated.

Part E, Item 25 Design for Waste Rock Dome – Specific Comments

SJCI concurs that the 1.0 m thick esker cover over the various waste rock storage facilities has been previously agreed to. However, as stated by SJCI in the Technical Memorandum, strategic placement of materials within the various covered facilities should consider burying the highest ML/ARD potential waste rock at the deepest locations with more benign material placed near the top of the stacks, prior to covering. This would help minimize ML/ARD runoff from the covered facilities.

A search for the first bullet in the LMI response citing a LMI "...Response to March 4th Letter from CIRNAC..." could not be found on the NWB Public Registry. However, a subsequent submission to the NWB from CIRNAC (CIRNAC Apr30, 2019) raised a number of issues on various aspects of the reclamation plan including issues with the apparent increase in the estimated amount of PAG waste rock (10% to 67%) of the 1M m3 of waste rock on site in total, and the CIRNAC request for geo-chemical modelling of facilities built of PAG waste rock as well as estimates of contaminant loading to the environment from these sources (Section 4.3.2.7 Waste Rock). It is uncertain whether this additional work has been undertaken and if so what its conclusions and recommendations were.



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Part E, Item 26 Technical Memorandum on Additional Geotechnical Details on TCA Dam K and Dam M Cross Sections – Specific Comments

Signed and stamped engineering drawings should be provided when they are available.

Drawing Nos. 002 - 009 of the supporting Stantec memorandum indicate some tailings in Cells 3 & 5 will have to be relocated to deeper areas within the cells to achieve the minimum 1.0 m of water cover. Possibly, the author's previous use of the phrase, "...tailings requiring removal...", would have been better stated as being "...tailings being locally relocated to deeper areas within those cells...".

The NWB Condition Part E, Item 26 b. asks for "...a note to clarify the storm return period that will be used for designing the features". Drawing 009 for the Outflow Channel from Cell 3 shows the water level at a 1-in-100-year, 24-hour storm event, as stated in Note 7 on the drawing. However, the flowrate itself is not stated and is also only shown on that drawing and is not noted in Drawing 005 for the Cell 5 Outflow Channel. This point was highlighted in the previous SJCI comment (First paragraph of Specific Comments section) looking for the range of water levels and flowrates to be expected across the facility and over the two spillways during design dry periods and storm events, especially with climate change being a growing concern for such facilities.

SCJI Technical Memorandum - Part E, Item 27 Technical Memorandum on Exposed Tailings Preliminary Cover Design – Specific Comments

The author's previous comment still stands about the long list of work details being left to be done in-field that could have been significantly dealt with in advance with more extensive field investigations and more information being provided in the drawings. This makes a review of the methodologies by stakeholders such as the KIA impossible, as decisions will be made in the field without stakeholder review in advance.

Uncertainties

The additional items of uncertainty noted by the author in preparing the earlier Technical Memorandum still apply:

- A better estimate of the total volume of waste rock requiring remediation is required (using 1M m3 without a detailed rationale or reference seems over-simplistic);
- A detailed assessment of the quantities of the various levels of ML/ARD potential (i.e., low, medium, high) of all the waste rock is required; thus enabling a more diligent placement plan for the materials to minimize the risk for future ML/ARD concern;



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- LMI should provide an estimate of the total volume of esker material required for the various reclamation tasks that are intended to use this material;
- LMI should confirm the availability of adequate volumes of esker material, and it being available in a timely manner when it is required during the reclamation program (i.e., due to its permafrost state it can only be excavated in thin layers. Ref. FRCP Sec 2.3.2);
- Clarification as to why the RECLAIM costing show all the liabilities as being related to Water and none to the Land (ref: FRCP App. G)?
- The FCRP mentions that 131,500 m² remain to be covered and that this work should be completed in 2019. Has this been done? It is unclear how much additional tailings beach area is to be exposed when the water levels are lowered in the ponds as part of implementing the new TCA configuration and remedial work being undertaken to the dams as required from annual geotechnical inspections; and
- The FCRP states that the remedial work with implementing the passive water flows across the TCA will be completed once the outflow water (over Dam 1A) meets discharge water quality guidelines. It is uncertain when this may occur (or maybe it already has?). However, any further time until this occurs may provide the opportunity for more detailed studies (engineering design, bathymetry, surveying, depth measurements of existing cover and tailings, etc.) to be undertaken to better understand and nail down more accurately the work required for the Civil Contractor to undertake the works program.

The KIA thanks the Board for the opportunity to address our concerns regarding this file. Should you have any questions or would like any clarification, I can be contacted at srlands@kitia.ca or by phone at (867) 982-3310.

**ALL OF WHICH IS RESPECTFULLY SUBMITTED:
ON BEHALF OF THE KITIKMEOT INUIT ASSOCIATION**

Wynter Kuliktana
Senior Lands Officer
Department of Lands, Environment & Resources
Kitikmeot Inuit Association

Cc: Geoff Clark, Kitikmeot Inuit Association Director of Lands, Environment and Resources