Environmental Protection Operations Directorate
Prairie & Northern Region
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT X1A 2P7

ECCC File: 6100 000 009/011
NWB File: 2AM-LUP2032

March 10, 2022

via email at: licensing@nwb-oen.ca

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Richard Dwyer:

RE: 2AM-LUP2032 – Lupin Mines Incorporated – 2021 Construction Summary Reports 2AM-LUP2032

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned construction summary report. ECCC is providing technical, science-based information and knowledge based on our mandate pursuant to the *Canadian Environmental Protection Act*, the pollution prevention provisions of the *Fisheries Act.* These comments are intended to inform the assessment of this project's potential effects in the receiving environment and on valued ecosystem components. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

The following comments are provided:

1. Section 3.2.2 Field Adjustments

Reference(s)

- 2021 Construction Summary Report – Cell 3 – Rev 2
- 2021 Construction Summary Report – Cell 5 – Rev 2

Comment

The Proponent indicated that both Cell 3 and Cell 5 were designed to be fully covered by 1m of esker material, with a surface channel draining into Cell 4 and Pond 1 respectively. In the case of Cell 3, the outflow channel was designed through a small section of L Dam to be primarily composed of coarse sand and gravel, with cobble material overlaying a geotextile cover placed on esker material and original ground. For Cell 5, the outflow channel was designed through J Dam to be primarily composed of coarse sand and gravel, with cobble

material overlaying a geotextile cover placed on esker material and original ground. In both cases, ECCC notes that the proponent had to maintain drainage and could not raise the elevation in both cases, in Cell 3 and Cell 5; however, in the case of Cell 3 the cover is as low as 0.6 m, whereas in Cell 5 it is 0.8m.

The Proponent indicated that the areas that are less than 1m cover would be instrumented with volumetric water content sensor (VWC) to monitor depth of saturated conditions in the cover. However, the Proponent did not provide details of contingency plans or confirm that the cover will not be reduced further by erosion or settlement, nor have the effects of reducing the cover's thickness been evaluated, in terms of its performance.

ECCC Recommendation(s)

ECCC recommends that the Proponent provide details of contingency plans and discuss whether the cover will be reduced further by erosion or settlement. In addition, an evaluation should be provided on what the impact of further reduction of cover thickness would be on the overall performance of the cover, and how this would be mitigated.

If you need more information, please contact Stephinie Mallon at Stephinie.Mallon@ec.gc.ca.

Sincerely,

[original signed by]

Stephinie Mallon
Environmental Assessment Officer

cc: Jody Small, Acting Head, Environmental Assessment North (NT and NU)