

Environmental Protection Operations Directorate  
Prairie & Northern Region  
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ECCC File: 6100 000 009/011  
NWB File: 2AM-LUP2032



May 18, 2020

via email at: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)

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

Dear Richard Dwyer,

**RE: 2AM-LUP2032 Lupin Mine Water Licence – Post Closure Monitoring Plan**

Environment and Climate Change Canada (ECCC) has reviewed the Post Closure Monitoring Plan submitted to the Nunavut Water Board (NWB) for water licence 2AM-LUP2032 by Lupin Mines Incorporated (the Proponent).

ECCC's specialist advice is based on our mandate pursuant to the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*.

The following comments are provided:

**1. Phase 2 Passive Closure Monitoring**

Reference(s):

- Table 9 Water Quality Monitoring Requirements for Active and Passive Closure at Lupin Mine
- Section 6.2.2 Tailings Containment Area

Comments:

Table 9 presents the monitoring for discharges from Pond 2, which is currently the effluent final discharge point, designated LUP-10. After 2021, a spillway will be installed at Dam 1A and this will be designated Station LUP-10b. Passive monitoring will be done for the period 2022-2026, or until the global objectives for the mine site can be confirmed. During the passive monitoring in Phase 2, all downstream monitoring is proposed to be completely discontinued as discharge from the Tailings Containment Area (TCA) will have ceased in 2021. Given that there will still be outflows from Pond 2 via the spillway, testing of downstream water quality should not be dropped entirely; this could be triggered as a response to any unanticipated changes in water quality at LUP-10b.



Section 6.2.2 proposes using a site-specific TCA pH trigger limit of 5.5 starting in Phase 2. If the pH in Pond 2 remains above 5.5 and is not actively decreasing, then passive discharge of Pond 2 would occur and monitoring would move to the Phase 2 reduced frequency of twice-yearly sampling. If this is not the case, treatment and active discharge would be maintained. The approach outlined will rely on clear demonstration of pH trends in Pond 2 waters.

Recommendation(s):

ECCC recommends:

- Linking sampling downstream of LUP-10b to the Adaptive Monitoring described in Section 6.2.6.
- Identifying the data analysis method that will be used to demonstrate pH trends or stability. This could be included under Section 7.0 Data Storage, Analysis and Reporting Subsection 7.1 Tailings Containment Area.

## **2. Adaptive Monitoring**

Reference(s):

- Section 6.2.6 Adaptive Monitoring

Comments:

The Proponent states that monitoring will be scaled back as verification monitoring confirms predictions of chemical and physical stability, based on evidence. Section 6.2.6 focuses on reducing monitoring, but notes that if there is a need for enhanced monitoring, such as deterioration in water quality,

“A detailed monitoring plan will be developed for any areas of concern depending on the geographic extent of the observed concern and/or a source, pathway, and receptor analysis for potential contaminant release to the environment.”

No discussion has been provided on what would trigger increases in monitoring or constitute an area of concern.

Recommendation(s):

ECCC recommends that further discussion be outlined in Section 6.2.6 on triggers for increased monitoring under the Adaptive Monitoring approach.

If you need more information, please contact Victoria Shore at [Victoria.Shore@canada.ca](mailto:Victoria.Shore@canada.ca).

Sincerely,



Victoria Shore  
Senior Environmental Assessment Officer  
Environmental Protection Operations Directorate, Prairie Northern Region

Cc: Jody Small, Head, Environmental Assessment North (NT and NU)  
Environmental Protection Operations Directorate, Prairie Northern Region