

If you need further information, please contact the project manager, Guillaume Clément-Mathieu, by phone at 418-573-2306 or by email at guillaume.clement-mathieu@iaac-aeic.gc.ca.

Best regards,

<Original signed by>

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Enclosure: A – Non-matching Responses to Questions from the Fourth Information Request

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Annex A. Non-matching Responses to Questions from the Fourth Information Request

The Committee concludes that the alternative solution proposed by the proponent is not described in sufficient detail to allow its analysis. The proponent must provide the information requested below:

Efficiency, durability and sustainability of roads according to the suggested design

Background: The Committee is not able to determine that the proposed haul road design will be effective, sustainable and durable in a northern mine site.

Question: The proponent must demonstrate that the addition of a geomembrane to the unpaved road design will effectively prevent groundwater contamination for the duration of the project. The proponent must consider, without limitation, the impact of the following on the effectiveness, integrity and lifespan of the roads and geomembrane:

- the repeated passage of heavy trucks;
- environmental effects such as sustained rain events, water accumulation, freeze-thaw cycles and others;
- prolonged use of dust suppressants and de-icing products.

The proponent must document the state of practice, viability, effectiveness and sustainability of the proposed alternative through concrete examples typical of the climatic and logistical conditions of the James Bay Lithium Mine Project site. The Committee recommends that the proponent relies on expert opinion and scientific literature.

Analysis of alternatives

Background: The technical note does not allow the Committee to conclude that the proposed alternative is the most appropriate from a technical, economic and environmental point of view.

Question: The proponent must document various alternatives considered for the construction of the mine site roads by following the four steps detailed in the Operational Policy Statement "Purpose of" and "Alternative Means" under the *Canadian Environmental Assessment Act (2012)*¹. The proponent must explain the methodology used to select the alternative identified in the March 8, 2022 technical note. In the event

¹ <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/addressing-purpose-alternative-means-under-canadian-environmental-assessment-act-2012.html>

that the proposed approach is not selected, the proponent must present and analyze a viable alternative, for instance the opening an off-site quarry.

Direction of flow in ditches on either side of the watercourse CE3

Background: Maps 4-7 to 4-10 in the technical note illustrate the direction of water flow in roadside ditches during the construction and operation phases. Water flows away from watercourse CE3 from the culvert, where this watercourse is the lowest point of the road. From the planned culvert at this watercourse, the water would thus flow naturally to a higher section of the road, without pumping.

Question: The proponent must justify and, if necessary, correct the direction of water flow in the ditches, particularly when flow direction shows a shift away from the CE3 culvert (lowest point on the road).

Volume of overburden

Background: On page 1 of the technical note, it is stated that "approximately 480,000 m³ of overburden material will be needed to build the 5.3 km of roads". The volume initially planned for the overburden and peat storage facility was 3.4 Mm³, which would be reduced to approximately 2.9 Mm³. The proponent does not specify how the decrease in the volume of material stored in the overburden and peat storage facility would modify the configuration or dimensions of the pile. Furthermore, the proponent does not describe the impact of this change on environmental components. For example, the new configuration of the pile as well as the truck traffic on-site could modify air quality modelling results.

Question: The proponent must describe the planned modifications to the overburden and peat storage facility based on the reduction in the volume of material to be stored. The proponent must also specify the impacts of this change on environmental components.

Thickness of the road top layer

Background: The proponent does not appear to clarify whether the one metre thickness of rock material corresponds to both layers of waste rock (infrastructure and road surface).

Question: The proponent must specify whether the fine granular material is part of the one metre thickness of rock material. The proponent must also provide the source of the fine granular material that would form the road base.

Flow rate under the geomembrane

Context: According to the technical note, the geomembrane would be a sealing measure to protect groundwater. Its daily flow rate would be lower than the threshold of 3.3 L/m² recommended by Directive 019 of the *ministère de l'Environnement et de la Lutte contre les changements climatiques*.

Question: The proponent must justify its choice of geomembrane among available options, in particular by providing the percolation rate of the selected geomembrane.

Disposal of surficial deposits and geomembrane during restoration

Background: On page 4 of the technical note, the proponent states that "the closure plan will need to be modified to remove the upper layers of the roads (infrastructure and surface layers) and bring (*sic*) them to the waste rock piles". The proponent does not indicate how it would dispose of the geomembrane or manage surficial deposits if it were to become contaminated.

The Committee reminds the proponent that it will be necessary to characterize the surficial deposits used for road construction prior to their reuse. The reuse of these materials must comply with the regulations in force.

Question: The proponent must present the measures that would be implemented regarding :

- the disposal of the geomembrane during restoration work;
- the management and disposal of surficial deposits used in road design, particularly if these materials are contaminated.

Monitoring wells

Background: The proponent indicates that additional monitoring wells would be installed "along the roads to monitor groundwater quality". However, no monitoring wells are considered along the roads north and east of the pit.

Question: The proponent must document the choice of location for the monitoring wells and justify the choice not to install them on certain sections.

Actions to be taken in case of exceedance

Context: The proponent mentions on page 4 of the technical note that "if an exceedance occurs, the search for the cause could lead to [...] local pumping to the north water management pond for possible treatment".

Question: The proponent must explain how it would be possible to capture all contaminated water and whether pumping from the wells would be sufficient to eliminate potential groundwater contamination.

Greenhouse gases

Background: The proponent had previously estimated the greenhouse gas emissions associated with road construction.

Question: The proponent must confirm whether the proposed changes to road construction would affect the estimate of greenhouse gas emissions. A new estimate must be provided if applicable.

Water management

Comment: Map 4-8 illustrates that in some locations, water from the ditches flow directly into the surrounding environment. The Committee would like to remind the proponent that water at the mine site must be managed at all times in accordance with the *Fisheries Act* and the *Metal Mining and Diamond Mining Effluent Regulations*, where applicable.