



August 13<sup>th</sup>, 2020

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

**Re: Agnico Eagle Mines – Whale Tail Project Responses to IVR Diversion Design Report Comments**

Dear Mr. Dwyer,

As requested, the following responses are intended to address the comments made in the below letter:

- July 31, 2020; Crown-Indigenous Relations and Northern Affairs Canada Comments on 2AM-WTP1830 Whale Tail IVR Diversion Design Report.

Should you have any questions or require further information, please do not hesitate to contact us.

Best regards,

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## 1 Rationale for Change in Conceptual Design

**Comment 1:** The licensee provided the following rationale for the change in conceptual design: *“(I)t is noted that in the Prefeasibility Study Phase (SNC-Lavalin, 2019), the conceptual design for the IVR Diversion was a berm. The conceptual design was based on the available hydrological and topographical data at the time. The initial design was reviewed and with the recent data obtained for this study, the location of the IVR Diversion and design have been changed from the PFS design.”*

**Recommendation 1:** CIRNAC recommends that the licensee clarify the above-noted statement as it is not clear how significant are the discrepancies of hydrological and topographical data between those been applied in the Prefeasibility Study Phase (SNC-Lavalin, 2019) and those been obtained since.

**Agnico Eagle’s Response:**

*There are no significant differences/discrepancies from the sets of data used in the prefeasibility and final design phases. SNC-Lavalin has evaluated in more detail the final design IVR Diversion and the findings indicated that the conceptual design needed to be changed in order to properly reroute the runoff that will be generated within the clean watershed and provide a more robust design.*

## 2 Geotextile vs Filter Material

**Comment 2:** CIRNAC notes the design report’s emphasis on how the choice of material for the trapezoidal section of the diversion was made: *“(T)he trapezoidal section will consist of geotextile (as per requested by AEM instead of filter material) placed on at the bottom the excavation and overlain by riprap.”*

**Recommendation 2:** CIRNAC recommends that the licensee clarify if the performance of the diversion will be impacted by the use of geotextile instead of filter material.

**Agnico Eagle’s Response:**

*Geotextile is a suitable replacement to filter material and is not expected to impact the performance of the channel for its lifespan. Some localised settlement could happen with only a geotextile but these could be taken off with a suitable inspection and maintenance program. However, during further review of the design by the Meadowbank Dike Review Board (MDRB), it was suggested to consider adding a filter layer to minimise required maintenance of the channel in case of a differential settlement of the geotextile. As a result of this review, Agnico is considering adding a filter layer on top of the excavated area before placing the geotextile and riprap. This design change will improve the robustness of the structure and will be documented in the as-built construction document.*



### 3 Validation of Runoff Coefficient

**Comment 3:** CIRNAC notes that a conservative runoff coefficient of 1.0 was used in the design to estimate peak flow (i.e., Table 3-1).

**Recommendation 3:** CIRNAC seeks clarification on whether the peak flow has been calculated with a weighted C-value representing the sites actual hardness as this information may be useful for subsequent designs of the area.

**Agnico Eagle's Response:**

*The runoff coefficient was not obtained by weighted values. The maximum value of the coefficient (1.0) was selected since the location of the project is in permafrost areas where the losses through the soils can be considered negligible. This is a more conservative approach which will ensure that the diversion will have the necessary hydraulic capacity.*

### 4 Consideration of Climate Change Factor

**Recommendation 4:** CIRNAC recommends that the licensee clarify if any provisions or contingencies related to the climate change factor have been included when determining the rain intensity.

**Agnico Eagle's Response:**

*Climate change was not considered in the design due to the short lifespan of this structure.*

### 5 Management of inflow water

**Recommendation 5:** CIRNAC notes that the inflow of water in the open test pits was identified in Appendix A – Field Investigation Test Pits Logs and would like to seek clarification on whether there should be specific dewatering measures taken or how the inflow of water will be managed during the construction activities.

**Agnico Eagle's Response:**

*The channel will be constructed from the topographical low area toward the high area. If natural, non-contact water report to the excavation it will be pumped out of the excavation and in the constructed part of the channel (if the TSS are within discharge limit). If the TSS are above discharge criteria, or there is no channel section built (at the beginning of the project), the water will be transferred toward the water management infrastructures on site.*