



March 10th, 2021

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 WRSF Pumping System Design Report Comments

Dear Mr. Dwyer,

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

- February 23, 2021, Amaruq Phase 2 IVR WRSF pumping System Design Report, License 2AM-WTP-1830.

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

Best regards,

Casandra DeForge
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819-759-3555
Compliance Counselor



1 KivIA Comments

1.1 Contact/Surface Water Management

Reference: Section 2.0 Contact/Surface Water Management System, page 2, paragraph 3.

Comment 1: The report states that *"water from IWC sump will be pumped to a highest point (El 176 m) to the east of the IVR WRSF and discharged within the same catchment area of the IVR Attenuation Pond. From there, water shall follow the natural topography and gravity flow toward IWE sump (former A54 lake) and then overflow to toward the IVR Attenuation Pond. Alternatively, water from the IWC could also be transferred toward IWA."*

The KivIA would prefer the alternative solution with water from the IWC being transferred toward IWA. The KivIA is of the opinion that this would minimize the footprint related to any TSS impacts for the catchment area. In addition, it should allow for better control of surface runoff during spring freshet.

Agnico Eagle's Response: Agnico acknowledge the KivIA comment. Two pumping options were presented at IWC to increase flexibility of the IVR WRSF water management system. Agnico will regularly be inspecting the area at freshet to ensure that the contact water is managed within the IVR WRSF catchment area and will take the necessary action to minimise TSS.

1.2 Access Ramp and Pumping Pad

Reference: Section 3.2 Access Ramp and Pumping Pad, page 4, Table 3-2

Comment 2: The KivIA would like to see the value for the Safety Berm Height included in Table 3-2.

Agnico Eagle's Response: The berm will be fit in the field to ensure a safe work environment and are typically in the 1-2 m height range.

1.3 Culvert Results

Reference: Section 3.4.1 Culvert Results, page 8

Comment 3: The report states that *"a culvert system with three (3) CSP's of 800 mm diameter would be able to pass the design flow at partially full capacity (85% diameter)."*

The KivIA has the following questions regarding the capacity, installation and inspections of the culverts:

- i) Does the design flow at partially full capacity for the 800 mm, or 900 mm, diameter culverts included peak flow during freshet?
- ii) At what elevation within the IVR WRSF ring road will the culverts be placed?
- iii) Will all culverts be placed at the same elevation in the IVR WRSF ring road, or will they be placed at different elevations?



- iv) Will there be regular inspections of the culverts during winter and spring to ensure that the culvert(s) are not packed with snow and/or ice?
- v) Will snow removal from the IVR WRSF ring road be completed in such a manner as to not plug the culverts, or the area immediately adjacent to the culverts, with snow?

Agnico Eagle's Response:

- i) The peak flow does not include the spring freshet peak flow. The peak flow was estimated by applying the rational method based the rain I-D-F (intensity duration curve) available at Baker Lake Station. The methodology provides a more conservative approach since peak flows from maximum rainfall events are greater than those generated during snowmelt (in spring). The culvert systems were sized to handle the peak flow for a 1:100 Year Flood inflow design flow. The culvert shall be 85% full when passing the peak design flow.
- ii) The culvert should be installed at the lowest ground elevation of the crossing (invert elevation same as the waterline/waterpath).
- iii) The culverts shall be placed at different elevation in the IVR WRSF ring road based on the natural topography. The culvert should be installed at the lowest ground elevation of the crossing (invert elevation same as the waterline/waterpath).
- iv) The action to ensure that the water management culvert of the IVR WRSF perform well during freshet will be added to the freshet action and incident response plan for the Whale Tail Pit Expansion Project. The plan will include requirement for regular inspection and mitigation action such as the clearing of snow and ice to ensure the performance of the system.
- v) See response to iv