July 28, 2026

Robert Hunter
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

**Re: Notification of Construction of the Mary River Mine Site Water Treatment Ponds – Type 'A' Water Licence 2AM-MRY2540**

Baffinland Iron Mines Corporation (Baffinland) is providing this submission in response to comments received from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) on July 14, 2026, regarding Baffinland's June 26, 2026 construction notice to the Nunavut Water Board (NWB) for the proposed Mine Site Water Treatment Ponds, submitted under Part D of Type 'A' Water Licence 2AM-MRY2540. Baffinland proposes to construct two lined Mine Site Water Treatment Ponds to treat impacted water collected in totes (e.g. from vehicle wash bays). The ponds are a mitigation measure intended to improve the treatment of impacted water at the Mine Site.

Baffinland's responses to CIRNAC's comments are provided in Attachment 1.

Should you have any questions or require further information, please contact the undersigned.

Regards,

Elisabeth Luther

Senior Manager, Regulatory Affairs

cc. Lou Kamermans (Baffinland)

*Attachments*

*Attachment 1. Response to Comments on the Notification of Construction of the Mary River Mine Site Water Treatment Ponds*

**Attachment 1**

**Response to Comments on the Notification of Construction of the Mary River Mine Site Water Treatment Ponds**

**Table 1.** Baffinland's Response to Comments on the Notification of Construction of the Mary River Mine Site Water Treatment Ponds

| # | Comment | Recommendation | Baffinland Response |
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| R-01 Permafrost Risk | The proposed pond design acknowledges the presence of shallow groundwater, ice-rich soils, and permafrost within the project area. However, subsurface characterization within the pond footprint is limited, consisting of only two shallow boreholes completed in 2026 and reliance on historical investigations conducted nearby. The report identifies the potential for seasonal soil movement, settlement, and permafrost degradation, but does not include thermal modelling or a detailed assessment of long-term pond performance under changing ground conditions. Given the importance of maintaining liner integrity and preventing contaminant release, uncertainty regarding subsurface ice conditions and permafrost stability presents a potential risk to the long-term performance of the containment system. | CIRNAC recommends that Baffinland complete additional pre-construction subsurface investigations to confirm the presence or absence of ice-rich soils within the pond footprint. Additionally, expand the permafrost monitoring program that includes thermistors to assess long-term performance of the ponds and associated berms. | Pre-construction geotechnical investigations were completed, and a summary of the findings is provided in the final bullet of Section 4.2.1 of the Design Basis Memo (included as Attachment 1 of the Notification of Construction). Based on the investigation results, an above-ground design was selected specifically because it minimizes disturbance to existing ground conditions. This design approach has been successfully implemented at the Project site and has demonstrated satisfactory performance across all existing ponds.<br><br>To further verify site conditions, additional test pits will be completed prior to construction, and thermistors will be installed to monitor ground temperatures, consistent with the recommendations outlined in Section 7.0 of the Basis Design Memo.<br><br>Existing ponds are subject to annual geotechnical inspections to assess structural performance and identify any signs of instability. To date, these inspections have not identified concerns related to structural slumping or foundation instability. The proposed ponds will be incorporated into the same annual geotechnical inspection program to ensure their ongoing performance is monitored throughout their operational life. |
| R-02 Protection measures | The proposed ponds will contain impacted water characterized by elevated concentrations of ammonia, hydrocarbons (including BTEX and petroleum hydrocarbon fractions), and oil and grease. The design relies on a geomembrane liner as the primary containment measure; however, no leak detection or seepage monitoring system is proposed. While the Pinchin report recommends groundwater monitoring wells around the ponds, it does not commit to their installation prior to operation. In the event of liner failure or degradation, there is a potential risk of contaminant migration to | CIRNAC recommends that Baffinland install an appropriate groundwater monitoring network around the proposed ponds prior to commissioning, including upgradient and downgradient monitoring locations, to collect baseline groundwater quality data. Monitoring parameters should include, at a minimum, pH, conductivity, ammonia, major ions, hydrocarbons (PHCs), BTEX, and any other site-specific | Groundwater in the vicinity of the proposed ponds has already been characterized, and results have been documented in annual groundwater monitoring reports provided to CIRNAC as part of the annual Water Licence reporting. Baffinland confirms that annual groundwater monitoring has included pH, conductivity, ammonia, major ions, petroleum hydrocarbon fractions 1 through 4 (PHC F1-F4), volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene and xylenes (BTEX), as well as other parameters including polycyclic aromatic hydrocarbons (PAHs) and total and dissolved metals.<br><br>Background groundwater monitoring wells (MS-HWB-GW-REF1, HWB-KP22-06, and MS-HWB-25-03) are located 150 to 200 m northeast and upgradient of the Hazardous Waste Berm Facility (i.e., the area of the proposed ponds). Between 2023 and 2025, exceedances of nitrate at MS- |

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| | groundwater and subsequently to surrounding freshwater environments. Baseline groundwater conditions and ongoing monitoring are necessary to support source water protection objectives and confirm containment performance. | contaminants of concern. Baffinland should also provide details regarding contingency measures for liner failure and seepage detection. If this is already completed, CIRNAC requests Baffinland share these lab reports. | HWB-GW-REF1 in 2024 and 2025 were measured relative to the commercial/industrial Tier 2 Federal Interim Groundwater Quality Guidelines (FIGQGs) for freshwater aquatic life. Other background groundwater monitoring wells (MS-HWB-GW-REF3 and HWB-KP22-01) are located cross-gradient of the Hazardous Waste Berm Facility. Between 2023 and 2025, exceedances of chloride at MS-HWB-GW-REF3 in 2025 and dissolved iron at HWB-KP22-01 in 2023, 2024, and 2025 were measured relative to the commercial/industrial Tier 2 FIGQGs for freshwater aquatic life. It is of note that the background groundwater monitoring wells are located in the vicinity of other disturbed areas, and no baseline (pre-Project disturbance) data exists.<br><br>While exceedances of chloride, fluoride, nitrate, nitrite, PHC F2, naphthalene, pyrene, dissolved copper, and dissolved iron, relative to the commercial/industrial Tier 2 FIGQGs for freshwater aquatic life, have been measured at the Hazardous Waste Berm Facility between 2023 and 2025, exceedances have not been measured at MS-HWB-25-01 (installed in 2025), which is located approximately 120 m downgradient of the Hazardous Waste Berm Facility and upgradient of Camp Lake.<br><br>Should groundwater monitoring identify contaminant concentrations above existing levels, or should the annual geotechnical inspection identify evidence of geotechnical instability, the affected pond will be emptied, as appropriate, to facilitate an investigation. The investigation will identify the source of the seepage or instability, and appropriate corrective measures will be implemented based on the findings.<br><br>At the Project, hydrogeological conditions are strongly controlled by continuous permafrost. Seasonal sub-surface flow is generally limited to the shallow active layer, which typically reaches a maximum depth of approximately three meters and remains frozen for most of the year. Below the active layer, the underlying permafrost forms a low-permeability barrier that substantially limits deeper groundwater flow pathways. As a result, the most relevant potential seepage pathway is shallow seasonal active-layer flow, rather than migration through a persistent deep groundwater system. This is evidenced by frequent dry and frozen groundwater monitoring wells during the height of active layer thickness (late-August/early-September). |

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| R-03 Monitoring | The proposed treatment approach relies on pH adjustment, sedimentation, oil separation, and long-term storage to reduce contaminant concentrations, particularly ammonia. The influent water is expected to contain elevated ammonia concentrations (average approximately 1,024 mg/L), and treatment involves raising pH to approximately 11.5 to promote ammonia volatilization. While the report identifies pH, total ammonia nitrogen (TAN), and oil and grease as key monitoring parameters, it does not clearly describe expected treatment performance, target effluent quality objectives, contingency measures if treatment targets are not achieved, or operational controls for managing high-pH water. Additional information is required to demonstrate that the proposed system will effectively support future treatment and discharge objectives while minimizing environmental risk. | CIRNAC recommends that Baffinland provide additional information regarding the expected treatment performance of the proposed pond system, including anticipated reductions in ammonia, hydrocarbons, and oil and grease, proposed water quality objectives, operational monitoring requirements, and contingency measures should treatment targets not be achieved. CIRNAC also recommends that Baffinland provide a pH management and monitoring plan for water stored within the ponds. Approvals shouldn't be issued until such time as an approved monitoring program for the ponds have been submitted and reviewed. | Baffinland acknowledges CIRNAC's request for additional information regarding treatment performance, effluent objectives, operational monitoring, contingency measures, and management of elevated-pH water.<br><br>The proposed ponds form part of a controlled, batch-based wastewater treatment and discharge system. Wastewater will undergo solids separation, sedimentation, oil and grease flotation, and pH adjustment to approximately 11.5 to promote ammonia volatilization. Water will be recirculated as required, with pH monitored during active treatment. Following ammonia reduction and settlement, the water will be neutralized and receive additional filtration or polishing, including treatment through Baffinland's existing oil-water separation equipment where required. The Design Basis Memo similarly identifies chemical and physico-chemical treatment during the initial retention stage, followed by additional filtration and discharge of treated water.<br><br>Baffinland has conducted several years of pilot-scale and operational trials demonstrating that its existing treatment equipment can reduce petroleum hydrocarbons, oil and grease, PAHs, suspended solids, and associated metals to concentrations that meet applicable Water Licence requirements. Ammonia has remained the principal treatment focus; which has been successfully addressed through secondary treatment using Baffinland's sewage wastewater treatment plant. The proposed elevated-pH pond process is intended to provide a more practical primary method of ammonia reduction.<br><br>Treatment performance will be endpoint-controlled rather than based solely on a fixed treatment period or assumed percentage reduction. The water will remain within containment until monitoring confirms that it meets all applicable Water Licence criteria and pond-specific discharge requirements. No discharge will occur while water remains at the elevated treatment pH, while visible sheen or free product is present, or before confirmatory analytical results are available. Discharge will be undertaken as a controlled, operator-authorized batch activity using temporary pumping and conveyance equipment. |

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| | | | The pond monitoring program will include routine pH and TAN monitoring during treatment, inspection for oil, sheen and solids, and final laboratory analysis before discharge. Although the Design Basis Memo identifies pH, TAN, and oil and grease as the principal retention-period parameters, the final monitoring suite will also include petroleum hydrocarbons, TSS, metals, PAHs, and other parameters applicable to the wastewater source and Water Licence requirements.<br><br>Baffinland will prepare a pond-specific monitoring and pH management procedure before commissioning. Given the limited construction season, and that water will be retained for approximately one year, Baffinland respectfully proposes that construction approval may proceed subject to the condition that no treated water be discharged until the operating, monitoring, pH-management, and discharge procedures have been submitted and reviewed by the Nunavut Water Board. These procedures will be developed based on the management protocols for oily water and operational wastewater outlined in Baffinland's Fresh Water Supply, Sewage and Wastewater Management Plan (BIM-5200-PLA-0022, Rev. 12) submitted and reviewed as part of the 2025 QIA-NWB Annual Report for Operations. If treatment objectives are not achieved, the water will remain contained and may be subject to extended retention, further pH adjustment, additional mixing or recirculation, additional settling, repeat oil-water separation or filtration, transfer to the second pond, secondary treatment through the sewage treatment plant where appropriate, or off-site disposal. |