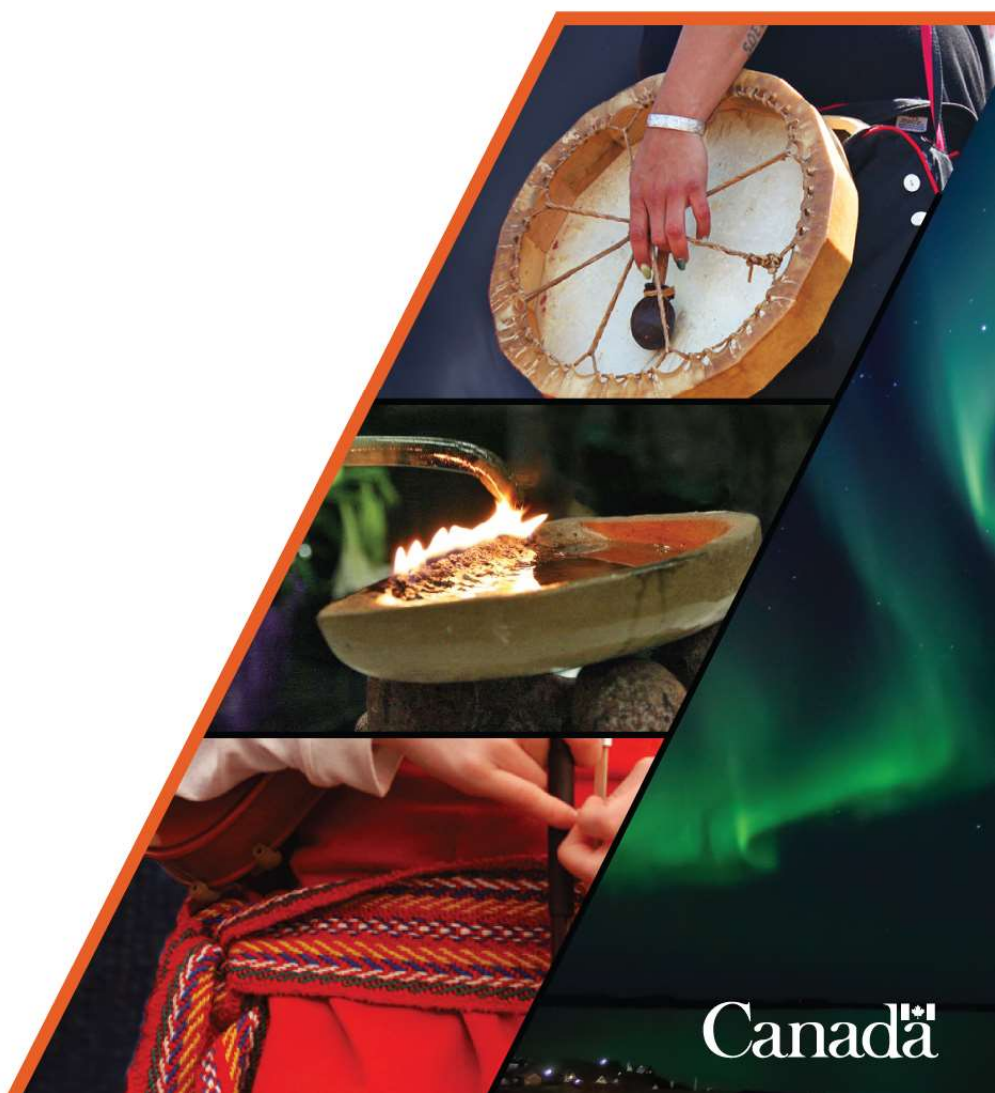


CIRNAC Comments to NIRB Re: Comment Request for Baffinland Iron Mines Corporation's Mary River Project 2025 Annual Report



Canada

Nunavut Regional Office
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Your file - Votre référence
08MN053
Our file - Notre référence
GCDOCS #148923788

August 4, 2026

Keith Morrison,
Manager, Project Monitoring
Nunavut Impact Review Board
P.O. Box 1360
Cambridge Bay, NU, X0B 0C0
Via electronic mail to: info@nirb.ca

Re: Comment Request for Baffinland Iron Mines Corporation's Mary River Project 2025 Annual Report

Dear Keith Morrison,

On June 17, 2026, as per Section 12.7.3 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty The Queen in Right of Canada (Nunavut Agreement)*, s. 135(4) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14 (*NuPPAA*), and the amended Mary River Project Certificate No. 005, the Nunavut Impact Review Board (NIRB) requested parties to review Baffinland Iron Mines Corporation's (Baffinland's) 2025 Annual Report with respect to effects and compliance monitoring.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) has conducted a review of the 2025 Annual Report and related documents in areas under its mandate pertaining to effects and compliance monitoring. On this basis, CIRNAC would like to provide the comments attached for the NIRB's consideration.

CIRNAC appreciates the opportunity to review Baffinland's Mary River Project 2025 Annual Report and looks forward to working with the NIRB and Baffinland through future reviews for this project. Should you have any questions, please do not hesitate to contact Alex Chaikine by email at alexandre.chaikine@rcaanc-cirnac.gc.ca. and Saba Qazi at Saba.Qazi@rcaanc-cirnac.gc.ca.

Sincerely,



Richard Bingley
Manager, Impact Assessment



1. **Effects Monitoring**

The 2025 Annual Report has been evaluated to assess the measurable changes to the valued components/indicators under CIRNAC areas of interest, compared to the potential effects that were predicted to result from a proposed development of the Mary River Iron Mine Project, taking into account the Final Environmental Impact Statement (FEIS), previous years' monitoring reports and the requirements included in the Project Certificate. The assessment considered the following:

- a. Whether the conclusions reached by Baffinland in the 2025 Annual Report are valid; and,**
- b. Any areas of significance requiring further supporting information or any changes to the monitoring program which may be required.**

Within the areas under its mandate, CIRNAC did not identify any information that would invalidate the conclusions reached by Baffinland in the 2025 Annual Report. However, CIRNAC is providing Technical Review Comments (TRCs) for the NIRB's consideration, with the following notes:

- TRC #1, 2, 3b, 5, 6, 7a, 10, 11, 14, 15 incorporate ongoing recommendations from the 2023-2024 Annual Reports, which, in the opinion of CIRNAC, have yet to be addressed.
- In addition to ongoing recommendations from prior years, CIRNAC has identified two TRCs (#16, 17) that are new for the 2025 reporting year.
- Eight TRCs (former #3a, 4, 7b, 7c, 8, 9, 12, 13), in the opinion of CIRNAC, were addressed by Baffinland.

Comment Number:	CIRNAC #1 STATUS (Ongoing)
Subject/Topic:	Dustfall Effects on Surface Water Quality, Groundwater, Land Contamination, and Terrestrial Receptors
References:	• Nunavut Impact Review Board (NIRB) Project Certificate [No.: 005] dated November 17, 2023 ○ Terms and Conditions (TC) #10, 21, 33-38 • Baffinland Iron Mines Corporation (Baffinland) 2026. 2025 Annual Report to the NIRB including: ○ Section 4.6.2 Air Quality ○ Section 4.6.5 Groundwater & Surface Water ○ Section 4.6.6 Vegetation ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #114) ○ Appendix G.2 Groundwater Monitoring Report ○ Appendix G.1.1: 2025 Annual Air Quality, Dustfall and Meteorology Report ○ Appendix G.1.4 2025 Geotechnical Inspection Report and BIM Response ○ Appendix G.3: Freshwater Environment Monitoring Reports ○ Appendix G.4.4: 2025 Annual Report



	○ Appendix G.4: Terrestrial Environment 2025 Annual Monitoring Report (TEAMR). • Baffinland 2025. 2024 Annual Report to the NIRB. • Baffinland 2026. 2025 QIA-NWB Annual Report for Operations: ○ Appendix E.13: Response to 2024 Annual Report Comments • CIRNAC Water Licence Inspection Report (April 2, 2026) • Baffinland Response to April 2026 CIRNAC Inspection (May 19, 2026)
Comment	CIRNAC acknowledges Baffinland's response and its position that the current soil and vegetation monitoring frequency of every 3–5 years remains scientifically appropriate for indicators that are presently characterized as low risk. CIRNAC also acknowledges that the 2022 monitoring results generally indicated limited changes from baseline conditions and that Baffinland committed to conducting soil and lichen monitoring in 2025 in accordance with the approved Terrestrial Environment Mitigation and Monitoring Plan (TEMMP). However, CIRNAC notes that the conclusions presented in the 2025 Annual Report warrant additional supporting information to demonstrate that the characterization of environmental risk as "low" remains appropriate. Specifically, the 2025 Terrestrial Environment Annual Monitoring Report (TEAMR) identifies continued increasing trends for contaminants of potential concern (COPCs). Lead and copper concentrations in lichen samples exceeded indicator values at locations near the Mine Site and Tote Road. Furthermore, relationships between dustfall and lichen concentrations of arsenic, copper, and lead were identified, suggesting that dust deposition continues to be an important pathway influencing terrestrial receptor exposure (TEAMR Section 8.1.2.3). CIRNAC notes that previous comments and recommendations have focused on improving the understanding of the relationship between dust deposition, contaminant loading, and terrestrial receptors. While Baffinland has concluded that soil and vegetation metals continue to present a low environmental and human health risk, the supporting rationale for this conclusion is not fully evident in the annual reporting. In particular, complete dustfall analytical chemistry data do not appear to have been presented within the 2025 TEAMR: - Section 7.3 of the 2024 TEAMR states that dustfall samples were analyzed for total insoluble dustfall and a suite of metals to characterize contaminants of potential concern and inform other monitoring endpoints. While the dustfall deposition rates are



	reported, the corresponding analytical metals results are not presented in the TEAMR. - Section 8 of the TEAMR (Vegetation and Soil Base Metals Monitoring) does not present the analytical metals data referenced in Section 7.3. Limited analytical results are presented for Sheardown Lake within the 2023/2024 Lake Sedimentation Monitoring Program report; these results are restricted to three sampling locations and a subset of parameters that do not provide a comprehensive summary of the analytical chemistry collected through the dustfall monitoring program. - The TEAMR references the analysis of insoluble dust and metals, however no information is provided to consider soluble fractions of dust results and potential effects on receiving environments, particularly surface water. Given that TC #21 requires monitoring of the seasonal deposition rates, quantities, and chemical composition of dust entering aquatic systems, CIRNAC recommends that future annual reports clearly present and interpret all available dustfall analytical chemistry data, trends, and discussions on implications towards aquatic effects within the monitoring programs used to assess aquatic effects, including Appendix G.3 (Lake Sedimentation Monitoring Report [LSMR] and Comprehensive Regional Environmental Monitoring Program [CREMP]).
Conclusion/ Request	CIRNAC recommends that Baffinland: a) Include complete dustfall analytical chemistry data (analytical lab reports, tabulated results, etc.) for all parameters and locations, include rationale for the use of only insoluble dust analysis within the TEAMR. b) Summarize the results and trends of the dustfall analytical chemistry data within the 2026 Annual Report. c) Provide discussions within the 2026 Annual Report on the “low-risk” qualifier for environmental impacts and if continued increasing trends in lichen and dustfall samples may alter the interpretation of risk to receptors.

Comment Number:	CIRNAC #2 STATUS (Ongoing)
Subject/Topic:	Waste Rock Facility – Waste Rock Characterization, Placement Strategy, and Thermal Performance



References:	• NIRB Project Certificate [No.: 005] dated November 17, 2023 ○ TCs #16, 17, 18, 19, 23, 24, 28, 41, 46 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ○ Section 4.6.4 Hydrogeology and Hydrogeology ○ Section 4.6.5 Groundwater & Surface Water ○ Section 4.6.7 Freshwater Environment ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #115) • Baffinland 2026. 2025 Qikiqtani Inuit Association (QIA) and Nunavut Water Board (NWB) Annual Report for Operations: ○ Appendix E.6: Waste Rock Geochemistry Analytical Sampling Results • Baffinland 2024. Aquatics Effects Monitoring Plan Rev 2 • Baffinland 2026. Freshwater Supply, Sewage and Wastewater Management Plan • Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including: ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026 • Baffinland 2025. 2024 Annual Report to the NIRB.
Comment	Waste Rock Geochemistry Baffinland notes that Acid-Base Accounting (ABA) and Shake Flask Extraction (SFE) testing is being used internally to support ongoing validation of waste rock classification criteria and that results to date have not identified concerns with the current categorization approach. CIRNAC seeks geochemical evidence that the current classification and management system will continue to prevent Acid Rock Drainage / Metal Leaching (ARD/ML) in the future, not just that water quality is currently acceptable. The results of the SFE and ABA testing will allow CIRNAC to assess if the current management system will prevent ARD/ML in the future, rather than relying on the current water quality results. Operational testing provides useful information on waste rock performance, and water quality monitoring along the toe of the Waste Rock Facility (WRF) shows no exceedances of parameters identified in the WRF Quality Assurance/Quality Control (QA/QC) Monitoring Plan. However, the operational testing provides limited information on the broader geochemical characteristics of the waste rock and associated contact water. Presenting this information with the off-site ABA and SFE test results would provide additional confidence that current waste rock classification and management practices remain appropriate over the long term, and that field observations are consistent with laboratory-based predictions.



	Long-Term Performance Trends Baffinland indicates that weekly waste rock placement tracking, combined with high-resolution blast-hole geochemical characterization, demonstrates that the placement strategy is being implemented as designed. Although monitored parameters remain below the Lower Action Levels in the WRF QA/QC Monitoring Plan, the current reporting does not include waste placement or geochemical trend graphs over time. Including these graphs would help demonstrate whether the waste rock placement strategy is performing as intended and whether concentrations of key parameters remain stable. The existing deposition records confirm that waste rock is being placed in accordance with the Phase 1 Waste Rock Management Plan, but they do not provide sufficient information to assess the geochemical effectiveness of the placement strategy or potential impacts on seepage quality. Trend analyses would also help evaluate the timing of geochemical changes within the WRF, which are expected to develop gradually rather than instantaneously.
Conclusion/ Request	CIRNAC recommends that, in their 2026 Annual Report, Baffinland: a) Provide the missing ABA/SFE laboratory results. b) Present temporal geochemical and waste-rock placement trend analyses. Demonstrate, through temporal trend data, that changes in placement practices are driving improvements in water quality. Quantify the lag time between waste-rock placement and any resulting geochemical response. c) Demonstrate through both geochemical and thermal monitoring and modelling that the WRF management strategy will remain effective in preventing ARD/ML impacts over the long term.

Comment Number:	CIRNAC #3b STATUS (Ongoing)
Subject/Topic:	Groundwater and Active-Layer Flow Monitoring
References:	• Project Certificate No. 005 (Amendment 05) (November 17, 2023) ○ TCs #17, 21, 23, 24, 25, 28 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ○ Section 4.6.4 Hydrology and Hydrogeology ○ Section 4.6.5 Groundwater & Surface Water ○ Appendix A.2 2025 Status of PC Terms and Conditions ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comments #117, #128, #129)



	○ Appendix G.2: Groundwater Monitoring Report ○ Appendix G.3: Freshwater Environment Monitoring Reports (CREMP, LSMR) ○ Baffinland 2026. 2025 QIA-NWB Annual Report for Operations ○ Appendix E.9: Aquatic Effects Monitoring Program ○ Appendix E.11: Groundwater Monitoring Reports • Knight Piesold 2023. Mary River Project: Ground Water Monitoring Program Review and Assessment.
Comment	CIRNAC acknowledges Baffinland's previous responses to CIRNAC recommendations on the 2024 Annual Report (Appendix E, Comments #117, #128 and #129) and their explanation that continuous permafrost limits subsurface water movement at the Project site and that active-layer flow behaves differently from groundwater flow in non-permafrost environments. The thermistor data and site investigations described by Baffinland support the conclusion that the active layer is generally shallow and seasonal. However, the information provided does not fully demonstrate that all potential subsurface pathways for contaminant migration have been characterized, nor does it fully support the conclusion that additional groundwater or active-layer monitoring is unwarranted. Specifically: 1. Conceptual understanding of groundwater and active-layer flow Baffinland indicates that the conceptual site model for active-layer flow is still being developed for the Landfill and Hazardous Waste Berm facilities on an annual basis in conjunction with the current groundwater monitoring program. However, there remains uncertainty regarding the movement of water through the active layer and the potential for mine-related contaminants to be transported from project facilities to the receiving environment. Additional information on the proposed timeline for continued conceptual site model development for the Landfill, Hazardous Waste Berm, and other Mine areas would help support Baffinland's conclusions. 2. Evidence supporting the absence of subsurface flow pathways Baffinland refers to earlier investigations that did not find active-layer flow beside the WRF. However, the reporting does not explain when and where this work was done, how long it lasted, or what methods were used. Without this information, it is difficult to confirm whether Baffinland has adequately checked for shallow subsurface pathways



	that could carry contaminants away from the WRF. TC #23 requires Baffinland to develop and implement a groundwater monitoring and management plan to monitor, prevent, and mitigate potential Project effects on groundwater. The available information does not clearly show that the current monitoring program is sufficient. The existing well network is limited, but it confirms that groundwater/ active layer flow is present at the Site and that measurable groundwater effects are occurring within the Project Area. 3. Monitoring results indicate continued uncertainty regarding mine-related influences Baffinland states that potential water quality effects from the WRF can be identified through existing surface water monitoring programs, including <i>Metal and Diamond Mining Effluent Regulations</i> and Environmental Effects Monitoring (MDMER/EEM) and CREMP. CIRNAC recognizes the value of these programs, but they do not fully confirm whether shallow groundwater or active-layer flow is carrying contaminants from the WRF and other Mine areas to the receiving environment. Baffinland has excavated two shallow test pits near the WRF, but the information provided does not rule out the presence of active-layer flow in the WRF area. Thermistor data also show that the active layer can extend up to 3 m below ground surface, which supports the potential for seasonal active layer flow. Recent CREMP results further show that mine-related influences continue to occur in the Sheardown Lake and Camp Lake tributaries, including exceedances of Aquatic Effects Monitoring Program (AEMP) benchmarks and other parameters requiring further investigation, particularly in areas influenced by the Mary River Tributary F. Based on the information currently available, CIRNAC disagrees with the conclusion that additional groundwater or active-layer monitoring is not warranted. The ongoing assessments do not adequately address the potential for talik conditions. Seasonal thaw and talik conditions may create localized groundwater flow paths that transport contact water from the ore stockpile, waste rock facilities, or other disturbed areas to receiving waters as non-point source discharges. These pathways could bypass existing compliance monitoring locations and may not be detected until effects are observed in receiving waters. Potential areas of interest for additional active layer investigation include the Milne Port Ore Stockpile Area, Crusher Area, Explosive Magazine Area, and KM106 Ore Stockpile.
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	Milne Port Ore Stockpile Area Visible pooling of water occurs during summer months outside the collection pond system, and the proximity of the ore stockpile area to Milne Inlet and Phillips Creek may influence active layer development and seasonal flow pathways. Installation of a limited number of drive-point piezometers, thermistor(s), or shallow monitoring points may help confirm whether seasonal groundwater flow occurs within the active layer and whether runoff collection systems are effectively capturing contact water. Explosive Magazine Area and KM106 Ore Stockpile Baffinland currently relies on thermistor data to characterize active layer conditions; therefore, installation of additional thermistors in these key areas could provide stronger evidence regarding permafrost conditions and potential active layer flow pathways. Alternatively, a limited seasonal investigation using temporary drive-point monitoring locations could be undertaken during peak thaw periods to characterize potential active layer conditions downgradient of these Mine areas. The objective of these recommendations is to reduce uncertainty and provide site-specific evidence supporting the inferred conceptual site model.
Conclusion/Request	To support its conclusion, Baffinland should 1. Provide a timeline for ongoing development of the active-layer flow portions of the conceptual site model within the 2026 Annual Report; and, 2. Provide details of the historical investigations undertaken to assess subsurface flow pathways around the WRF and other project facilities, including methods, locations, timing, and results should be provided in the 2026 Annual Report. 3. Include discussion in the annual groundwater monitoring report to address the potential for contact water to migrate through the active layer and emerge as non-point source discharges that bypass established compliance monitoring points, particularly in the vicinity of the Milne Port ore stockpile, waste rock facilities, and other disturbed areas. 4. Discuss the implications of recent talik discoveries and whether similar conditions could occur elsewhere within the Project area. 5. Collect targeted site-specific data (e.g., additional thermistor monitoring and/or limited seasonal active-layer investigations) at



	Milne Port, Crusher Area, KM106, and the Explosive Magazine Area to validate the inferred conceptual site model and demonstrate that seasonal active-layer flow does not present a contaminant transport pathway to nearby receptors. Until this information is provided, CIRNAC considers further supporting evidence necessary to confirm that the current monitoring program is sufficient to detect and manage potential mine-related effects associated with subsurface water movement.
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Comment Number:	CIRNAC #5 STATUS (Ongoing)
Subject/Topic:	KM105 Water Management: Progress Made but Effectiveness Not Yet Confirmed
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ◦ TCs # 16, 17, 21, 22, 24, 28 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ◦ Section 3.1 Site Activities Completed in 2025 ◦ Section 4.3 Summary of 2025 Compliance with Terms and Conditions ◦ Section 4.5.2 Unauthorized Discharges and Spills ◦ Section 4.6.4 Hydrology and Hydrogeology ◦ Section 4.6.5 Groundwater and Surface Water ◦ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #119) ◦ Appendix G.1.4 2025 Geotechnical Inspection Report and BIM Response • NWB Water Licence No. 2AM-MRY2540/Type A dated April 28, 2025. • Baffinland 2026. 2025 QIA-NWB Annual Report for Operations: ◦ Appendix E.8.1: CIRNAC Inspection reports and Baffinland Responses ◦ Appendix E.8.2: QIA Inspection Reports and Baffinland Response • Baffinland 2025. KM105 Pond Seepage Update Letter. • Baffinland 2026. Notification of Construction of a KM105 Water Management Infrastructure – Type ‘A’ Water Licence 2AM-MRY2540 • NIRB 2026. 2026 Spring Site Visit Report. Mary River Project. File No. 02MN053. Project Certificate 005
Comment:	CIRNAC acknowledges that Baffinland has made progress toward addressing Recommendation #5 of the Long-Term Water Management Plan (LTWMP) through the implementation of interim mitigation measures and the development of an engineered design for a filter berm and final discharge point.



	However, key elements required to demonstrate compliance with Project Certificate No. 005, specifically TCs #17, 22, and 24 related to effluent management, sediment and erosion control, and discharge monitoring, remain outstanding. Specifically, the concern is whether sufficient implementation and operational performance information has been provided to demonstrate the effectiveness of the mitigation measures and compliance with the TC requirements. The proposed system has not yet been implemented, and no performance monitoring data are available to confirm that effluent will consistently meet discharge criteria under varying conditions. In addition, the response does not clearly demonstrate that sediment and erosion are being effectively managed at source, with continued reliance on downstream treatment. Further, the functionality of the overall water management infrastructure has not yet been validated under operational conditions. CIRNAC notes that Baffinland's statements regarding chemical dosing, filtration, and polishing measures are generally consistent with Baffinland letter dated January 22, 2025 regarding KM105 Pond Seepage Update submitted in relation to Water Licence 2AM-MRY1325, which outlined a conceptual mitigation strategy for KM105. However, the January 22, 2025 letter does not independently demonstrate the effectiveness of the filter berm, polishing pond, or the claimed two- to three-order-of-magnitude reduction in total suspended solids (TSS). Verification of these performance claims would require supporting monitoring results, inspection findings, and technical documentation demonstrating system performance under operational conditions. Additionally, while NIRB staff observed the KM105 water management infrastructure during the 2026 Spring Site Visit, the site visit report notes that seasonal conditions limited assessment of water management infrastructure and does not provide a quantitative evaluation of effluent quality, treatment effectiveness, or long-term system performance. Accordingly, CIRNAC is of the view that the information provided demonstrates progress toward addressing Recommendation #5 of the LTWMP, but does not yet demonstrate full compliance with TCs #17, 22, and 24..
Conclusion/Request:	CIRNAC notes that additional implementation details, performance monitoring results, and operational verification are required before the effectiveness of the proposed mitigation measures can be confirmed. CIRNAC recommends that Baffinland: 1. Continue implementation, optimization, and adaptive management of the KM105 mitigation measures and associated water management infrastructure. 2. Provide performance monitoring results demonstrating that effluent



	consistently meets regulatory discharge criteria.
	3. Demonstrate effective source control of sediment and erosion.
	4. Validate the long-term functionality of the KM105 water management infrastructure under operational conditions

Comment Number:	CIRNAC #6 STATUS (Ongoing)
Subject/Topic:	AEMP Benchmark Exceedances and Effectiveness of Dyno Emulsion Plant Mitigation Measures
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ TCs # 8, 17, 20, 21, 23 and 24 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ○ 4.6.5 Groundwater & Surface Water ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #120) ○ Appendix G.2: Groundwater Monitoring Report ○ Appendix G.3.1: 2025 CREMP
Comment:	Despite the 2025 CREMP reported upgrades to the Dyno Emulsion Plant which were conducted in an effort to mitigate nitrate/nitrite and ammonia concentrations in Sheardown Lake and Tributary #9, some Nitrate and ammonia benchmark exceedances were still reported in 2025 throughout the Sheardown Lake system. While the report notes that mean concentrations remained below applicable AEMP criteria, the AEMP does not appear to identify mean concentration as the basis for determining benchmark exceedances, which may mask be environmentally relevant short-term or seasonal exceedances . It is unclear why the reported exceedances were considered acceptable despite exceeding applicable benchmarks during specific sampling periods. CIRNAC acknowledges Baffinland's commitment to continue monitoring, conduct temporal trend analyses, and investigate potential sources of elevated parameters in Sheardown Lake and Tributary #1 (SDLT1) in 2026.
Conclusion/Request:	CIRNAC recommends that Baffinland: 1. Provide additional rationale for its use of mean concentrations when evaluating AEMP benchmark exceedances. 2. Report on the effectiveness of Dyno Emulsion Plant Upgrades within the 2026 NIRB Annual Report. 3. Provide methodology and a proposed timeline for investigating other potential Mine related sources of elevated nitrate and metals concentrations within the Sheardown Lake system, including SDLT1.



Comment Number:	CIRNAC #7a STATUS (ONGOING)
Subject/Topic:	Thermal Monitoring and Long-Term performance of the Waste Rock Facility
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ◦ TCs #8, 17, 25 and 28 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ◦ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report ◦ Appendix G.1.4: 2025 Geotechnical Inspection Reports • Baffinland 2026. 2025 QIA-NWB Annual Report for Operations: ◦ Appendix E.8.1: CIRNAC Inspection reports and Baffinland Responses (Comment #121) ◦ Appendix E.8.2: QIA Inspection Reports and Baffinland Response • Baffinland 2025. 2024 QIA-NWB Annual Report for Operations: ◦ Appendix E.10: Assessment of Active Zone Depth Considering SSP1-2.6 Climate Change Projections at Mary River Mine, dated October 4, 2024. • Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including: ◦ Appendix A: Waste Rock Management Plan – June 2024 through September 2026: ▪ Appendix A2: Technical Memorandum: Thermal Model and Assessment of Conceptual Summer Deposition Strategies for the Waste Rock Storage Facility at Mary River Mine
Comment	Details on the WRF instrumentation status have been provided. Thermistors are considered the primary instruments for determining thermal conditions within the WRF. The thermistors have been updated, and the data have been downloaded and plotted. Based on visual review of these plots, the WRF thermal conditions indicate that freezing is occurring as predicted in the design. A 2–3 m active zone has also been observed, which is consistent with design expectations. Baffinland has also provided discussion of temperature trends, including the warming observed at depth in BH-1. However, it is unclear whether complete temperature records since instrument installation have been provided for all monitoring stations. The information presented relies primarily on visual interpretation of selected thermistor plots and does not include a comprehensive assessment of temperature evolution across the WRF as a function of both time and depth. In addition, several monitoring instruments, including oxygen sensors, barometers, and most vibrating wire piezometers, are no longer operational, limiting the ability to fully assess thermal, hydrogeological, and geochemical conditions within the WRF. Based on the information provided, CIRNAC considers its previous request to be only partially addressed: <i>provide the temperature evolution since instrument installation, at the different monitoring</i>



	<i>stations, as a function of time and depth.</i> The monitoring is insufficient to determine whether the warming trend observed at depth in BH-1, or other localized warm zones, could affect the long-term performance of the WRF. Without a comprehensive analysis of temperature trends and an updated thermal assessment, it is not possible to confirm that observed conditions remain consistent with model predictions or that the frozen cover will continue to perform as intended under future climate conditions.
Conclusion/Request	CIRNAC recommends that Baffinland provide a comprehensive summary of temperature evolution since instrument installation for all thermistor monitoring stations, including temperature profiles by depth and time, and incorporate these monitoring results into the next update of the WRF thermal model. CIRNAC also recommends that future assessments demonstrating whether the WRF performance objectives be presented in future annual reports, showing how the report: - uses available monitoring data to validate model predictions, reassess previous observations regarding increasing temperatures at depth in BH-1, and evaluates the potential influence of localized warm zones, heat-generating processes, and reduced instrumentation on long-term WRF performance. - considers a range of future climate change scenarios and evaluates their implications for active-layer development, thermal stability, and long-term geochemical performance.

Comment Number:	CIRNAC #10 STATUS (Ongoing)
Subject/Topic:	Waste Rock Management: Physical slope stability of Waste Rock Facility
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ TC #25, 26, 28, 29 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #126) ○ Appendix G.1.4: 2025 Geotechnical Inspection Reports ○ Appendix G.2: Groundwater Monitoring Report • CIRNAC Comments to NIRB Re: Comment Request for Baffinland Iron Mines Corporation's Mary River Project 2024 Annual Report. • Baffinland 2026 and 2025. 2025 and 2024 QIA-NWB Annual Reports for Operations: ○ Appendix E.8.2: QIA inspection reports and Baffinland Responses



Comment:	CIRNAC remains concerned that the original issue identified in the 2024 Annual Report has not been adequately addressed. TC #25 requires Baffinland to undertake geotechnical investigations to identify sensitive landforms and develop appropriate design, mitigation, and monitoring measures to minimize project effects. The August 2024 QIA inspection report documented localized surface instability in the WRF and suggested that variable material gradation, including the possible presence of finer-grained material, may have contributed to the observed sloughing. The report also noted that the strength parameters used in WRF stability analyses are based on assumed values and recommended testing of as-deposited waste rock to determine site-specific material properties. CIRNAC acknowledges Baffinland's response to Comment #126 in Appendix E that the instability may have resulted from temporary over-steepening of freshly placed waste rock and notes the supporting drone survey indicating slope angles of approximately 39–41 degrees. However, the response does not provide data confirming the as-placed waste rock properties or demonstrate that the observed material characteristics are consistent with the assumptions used in WRF design and stability assessments. CIRNAC considers the recommendation from Comment #126 to determine as-placed waste rock properties to be only partially addressed. Baffinland's response also does not address the recommendation to install deformation monitoring instrumentation, or provide a technical rationale for why such monitoring is not required. Accordingly, CIRNAC considers recommendations from the 2024 Annual Report review to remain outstanding and recommends providing additional information to support closure of the issue.
Conclusion/Request	CIRNAC recommends that Baffinland provide: 1. Available data on the as-placed waste rock properties, including gradation, fines content, density, moisture/ice content, and material variability within the WRF. 2. The technical basis for concluding that the observed instability represents normal adjustment to the angle of repose, including any supporting analyses or observations. 3. A description of how waste rock placement practices are verified to be consistent with design assumptions. 4. Rationale for whether additional field investigations are or are not warranted to characterize the as-placed waste rock and confirm long-term slope performance.



Comment Number:	CIRNAC #11 STATUS (Ongoing)
Subject/Topic:	Surface Water Quantity: Waste Rock Facility - Water Balance
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ TC #17 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ○ 4.5.2 Unauthorized Discharge and Spills ○ 4.6.5 Groundwater & Surface Water ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #127) ○ Appendix F: Status of Commitments in 2025 • NWB Water Licence No. 2AM-MRY2540/Type A dated April 28, 2025. • Baffinland 2024. Phase 1 Waste Rock Management Plan Rev 4.1, including: ○ 8.1 Deposition Strategy and Guidelines ○ 9. WRF Water Management ○ 9.3 Water Volume Tracking ○ Appendix A: Waste Rock Management Plan – June 2024 through September 2026: ▪ Appendix A.3: 2023 Water Balance Update Report
Comment:	CIRNAC acknowledges that Baffinland has undertaken investigations related to water management performance, implemented corrective actions and infrastructure improvements following water management incidents, and continues to collect hydrometric and water quality information to support adaptive management. CIRNAC further notes that updated water balance and water quality modelling work has been completed for other Project components and that climate and snowmelt processes are being considered within ongoing modelling efforts. CIRNAC also acknowledges Baffinland's indication that future review of the WRF Water Balance Model is planned as part of future planning work in 2027. As this future review is not yet available, CIRNAC is unable to evaluate its outcomes at this time and looks forward to reviewing the results once completed and submitted. While the information provided demonstrates ongoing monitoring, investigation, and adaptive management activities, the evidence currently available does not clearly demonstrate that the WRF Water Balance Model has been updated using newly collected climate, hydrometric, and snowpack information, nor does it provide sufficient detail regarding implementation of a WRF-specific snowpack monitoring approach. Additional information would therefore be required to fully evaluate how the recommendation from Comment #127 in Appendix E has been addressed.
Conclusion/Request:	CIRNAC recommends that Baffinland as part of the 2026 Annual Report:



	1. Provide a summary of the snowpack monitoring program being implemented within or representative of the WRF catchment, including monitoring locations, methodologies, parameters collected, and a summary of results obtained to date. The requested information is intended to demonstrate how the data support the planned review of the WRF Water Balance Model; 2. Upon completion of the planned review of the WRF Water Balance Model (during the ICRP-scheduled update of the WRF Water Quality Model in 2027), provide documentation demonstrating how newly collected climate, hydrometric, and snowpack data were evaluated and incorporated into the model, or provide a technical rationale explaining why a model update was not considered necessary.
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Comment Number:	CIRNAC #14 STATUS (Ongoing)
Subject/Topic:	Elevated Major Ions and Salinity in Downstream Waters
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) TCs # 17, 21, 23, 24 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ○ Section 4.6.4 Hydrology and Hydrogeology ○ Section 4.6.5 Groundwater & Surface Water ○ Appendix A.2 2025 Status of PC Terms and Conditions ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #130) ○ Appendix G.3: Freshwater Environment Monitoring Reports (CREMP, LSMR) • Type 'A' Water Licence 2AM-MRY1325 – Part F, Condition 8 and Schedule 4 • Baffinland 2025. 2024 QIA-NWB Annual Report for Operations ○ Appendix E.9: Aquatic Effects Monitoring Program
Comment:	CIRNAC acknowledges that Baffinland has undertaken trend analyses and committed to investigating potential sources of sulfate and other major ions. However, the information presented in the 2025 Annual Report and CREMP report does not demonstrate that the causes of increasing sulfate and related major ion concentrations have been identified, nor does it identify any mitigation or management measures to address these trends. CIRNAC's original concern was that increasing concentrations of sulfate, total dissolved solids, specific conductance, and other major ions in the Sheardown Lake system and downstream receiving environments may represent a developing mine-related influence that could result in cumulative changes to freshwater habitat over time, even where current concentrations remain below AEMP benchmarks. The 2025 CREMP report continues to identify increasing trends for several water quality parameters within the Sheardown Lake system, suggesting that mine-related influences may be ongoing. In addition,



	trend analyses provided in the 2025 CREMP under the appended Table G series do not appear to include all potentially affected monitoring locations, including Sheardown Lake Tributary #9. While Baffinland indicates that existing monitoring of major ions is sufficient to detect changes in water quality and references the AEMP Trigger Action Response Plan (TARP) as a precautionary measure, CIRNAC notes that no trend thresholds, management triggers, source attribution findings, or mitigation measures have been presented to demonstrate how increasing trends will be addressed before benchmark exceedances occur.
Conclusion/Request:	CIRNAC recommends that Baffinland, in the 2026 Annual Report: 1. Provide the results of the source identification investigation for sulfate and other increasing major ions, including an assessment of likely mine-related sources; 2. Establish and report trend-based management thresholds or action triggers for key parameters exhibiting persistent increases (e.g., sulfate, Total Dissolved Solids, specific conductance and other major ions); 3. Describe any mitigation, operational controls, or adaptive management measures being implemented or considered to prevent further increases in these parameters; and 4. Confirm that trend analyses include all relevant potentially affected monitoring stations, including Sheardown Lake Tributary #9, or provide justification where stations are excluded.

Comment Number:	CIRNAC #15 STATUS (Ongoing)
Subject/Topic:	Metal Accumulation in Lake Sediments
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ◦ TCs # 10, 21, 22, 187 • Baffinland 2026. 2025 Annual Report to the NIRB; including: ◦ Appendix A.2 2025 Status of PC Terms and Conditions ◦ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report (Comment #131) ◦ Appendix G.3: Freshwater Environment Monitoring Reports (CREMP, LSMR) • Type 'A' Water Licence 2AM-MRY1325 – Part F, Condition 8 and Schedule 4 • Baffinland 2025. 2024 QIA-NWB Annual Report for Operations ◦ Appendix E.9: Aquatic Effects Monitoring Program • Canadian Council of Ministers of the Environment (CCME) Sediment Quality Guidelines ◦ Interim Sediment Quality Guidelines (ISQGs) • Final Environmental Impact Statement (Baffinland)



Comment:	CIRNAC remains concerned that the original issue identified in the 2024 Annual Report has not been adequately addressed. In 2024 it was identified that sediment concentrations of arsenic, iron and copper in Sheardown Lake NW exceeded the AEMP benchmark levels and that statistical analysis confirmed increasing trends for concentrations of these metals since baseline. A targeted investigation into the sources of these metals and was recommended. Metal concentrations exceeded monitoring thresholds, but no response was triggered While Baffinland has previously concluded that elevated sediment metal concentrations do not represent a concern based on mean sample concentrations, the 2025 monitoring results continue to show AEMP benchmark exceedances, increasing trends in sediment metals, and evidence of biological effects (reduced frequency of invertebrates [<i>Chironomidae</i> sp.]) within the Sheardown Lake system (Appendix G.3). The AEMP does not specify the use of mean concentrations as the basis for evaluating benchmark exceedances, and it is unclear why the applicable TARP processes were not initiated for parameters exceeding AEMP benchmarks. In 2025, sediment trap samples exceeded AEMP benchmarks for chromium, copper, iron, nickel, and zinc. These benchmarks are intended to identify conditions that may require further investigation. However, Baffinland relied on average (mean) concentrations across samples to argue that there was no concern. CIRNAC notes that the AEMP does not state that exceedances can be dismissed using average values. From CIRNAC's perspective, once benchmark exceedances occur, the corresponding TARP process should be followed unless there is a clear justification otherwise. Furthermore, additional statistics such as 95% Upper Confidence Limit, minimums, maximums, median, etc. should be presented and assessed within Baffinland's assessment. The reports provide conflicting conclusions about mine-related effects and reporting methods appear to be changing in ways that make trends harder to see CIRNAC also notes inconsistencies between the conclusions of the 2025 CREMP and LSMR regarding whether elevated sediment metals may be associated with mine-related influences. In addition, changes to reporting methods, data presentation, and baseline comparisons reduce transparency and make it difficult to evaluate trends consistently between reporting years. Independent review of the data indicates substantial increases in several sediment constituents relative to baseline conditions that were not discussed in the report. The benchmark exceedances, increasing metal trends, inconsistent interpretations, methodological changes, and observed biological effects suggest that the original concern raised by CIRNAC remains unresolved and warrants further investigation.
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Conclusion/Request:	CIRNAC recommends that Baffinland: 1. Investigate elevated sediment metals and sedimentation effects in the Sheardown Lake system, including sources, transport pathways, and potential mine-related contributions identified through CREMP and LSMR monitoring. 2. Apply the relevant TARP processes for sediment parameters exceeding AEMP benchmarks, or provide a clear rationale for not initiating a response that is supported by the AEMP. 3. Reconcile the 2025 CREMP and LSMR conclusions and clarify whether increasing sediment metal trends are considered mine-related. 4. Explain changes to reporting methods, statistics, figures, and baseline comparisons, and demonstrate that trend detection and reporting transparency are maintained.
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Comment Number:	CIRNAC #16 STATUS (New)
Subject/Topic:	MS-08 Pond Embankment Settlement and Stability Assessment
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ TCs # 19, 25, 26, 29 • Baffinland 2026. 2025 Annual Report to the NIRB including: ○ Appendix E: Baffinland response to Comments on 2024 NIRB Annual Report ○ Appendix G.1.4 Geotechnical Inspection Report and BIM Response
Comment:	As per TC# 25 where <i>“the Proponent shall undertake the additional geotechnical investigations to identify sensitive landforms, modify engineering design for Project infrastructure, develop and implement preventive and/or mitigation and monitoring measures to minimize the impacts of the Project’s activities and infrastructure on sensitive landforms.”</i> The 2025 Annual Geotechnical Inspection Report identified settlement along the MS-08 Pond perimeter embankment and indicated that the crest elevation will be raised to compensate. As MS-08 is a critical water management structure, any settlement should be evaluated to confirm that the pond remains stable and fit for purpose. The report does not explain the cause of the settlement or assess whether it could affect the long-term integrity of the embankment that are directly relevant to the requirements of TC# 25. Based on the information provided, it is unclear whether the settlement reflects normal performance or a developing concern that requires further attention.
Conclusion/Request:	CIRNAC recommends that Baffinland provide an assessment of the cause, extent, and significance of the settlement, including the Engineer



	of Record's opinion on any implications for embankment stability and pond integrity, and whether any monitoring or mitigation measures planned to address the requirements of TC# 25.
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Comment Number:	CIRNAC #17 STATUS (New)
Subject/Topic:	Management Plan Updates
References:	• Project Certificate 005 (Amendment 05) (November 17, 2023) ○ Commitment # 22 from Appendix B, Table 2: Commitments from the Sustaining Operations Proposal (SOP) • Baffinland 2026. 2025 Annual Report to the NIRB; including: ○ Appendix G.7: Table 1: 2025 Management Plan Status.
Comment:	Commitment 22 from the SOP states that Baffinland will provide a consolidated list of management plans and their current status (e.g., updated, pending revision, in review, finalized etc.), the stated target date for the next revision, and specific trigger for the revision in the Annual Report to NIRB. CIRANC notes that Appendix G.7 does not contain the stated target date for next revision or the specific trigger for the revision.
Conclusion/Request:	CIRNAC recommends that Baffinland update Appendix G.7 for the 2026 Annual Report to meet the commitment.



2. **Compliance Monitoring**

a. Provide a summary of any compliance monitoring and/or site inspections undertaken in association with the project, including specifically:

i. Identify the terms and conditions from the Project Certificate that have been incorporated into any permits, certificates, licenses, or other approvals issued for the Project, where applicable.

CIRNAC has a broad mandate for the co-management of water resources and the management of Crown land in Nunavut under the following applicable acts and regulations:

- The *Department of Crown-Indigenous Relations and Northern Affairs Act*;
- The *Nunavut Land Claims Agreement Act* and the *Nunavut Agreement*;
- The *Arctic Waters Pollution Prevention Act* and *Regulations*;
- The *Nunavut Planning and Project Assessment Act*;
- The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and *Regulations*; and
- The *Territorial Lands Act* and *Regulations*.

In terms of water management in Nunavut, CIRNAC has several different responsibilities. The Minister of Northern and Arctic Affairs has a decision-making role with regard to the Nunavut Water Board's (NWB) issuance of Water Licences associated with any project. Furthermore, CIRNAC participates as an intervenor in the water licensing process, providing advice and expertise.

When a proposed project is approved to proceed, CIRNAC is responsible for inspecting and enforcing any Terms and Conditions contained within any Water Licence associated with the project. The NWB ensures that Project Certificate Terms and Conditions are incorporated in Water Licences.

CIRNAC issued the following authorizations for BIMC's Mary River Project:

- Land use permit N2019Q0011
- Land use permit N2019J0010
- Land use permit N2019C0009
- Surface lease O47H16001

CIRNAC has reviewed the Type 'A' Water Licence associated with the Mary River Project with respect to Project Certificate [No. 005] and has included a concordance table (Appendix A) that outlines how these T&Cs have been incorporated into the Water Licence.

In 2024, the project activities and monitoring were conducted under the following Water Licences:

- Type 'A' Water Licence 2AM-MRY1325 Amendment #1 (replaced by 2AM-MRY 2540 which has been approved in June 2025)
- Type 'B' Water Licence 2BE-MRY1421 (currently 2BE- MRY2131)



ii. A summary of any inspections conducted during the 2023 reporting period, and the results of these inspections.

CIRNAC's Water Resource Officers (Inspectors) conducted three inspections of the Mary River Mine, on January 8, 2025; June 26, 2025; and October 9, 2025.

A summary of the concerns identified in the inspection reports is presented below for NIRB's consideration.

January 8, 2025

No non-compliance issues were found.

Waste Rock Facility (WRF):

- The site was found to be clean and well-organized.
- Baffinland successfully met its quarterly target, achieving 85% overall waste rock coverage.
- The Q4 report was submitted, as required, at the end of January 2025.

Tote Road Culvert Cleanup (KM 63.5):

- The damaged and loose culverts from the Fall 2024 rain event were completely removed between November 28 and November 29, 2024, successfully fulfilling the cleanup plan agreed upon in October 2024.

Operations & Compliance:

- The site currently hosts 374 staff members at Mary River and 180 at Milne Inlet Port.
- Water consumption and waste disposal for both locations remain fully compliant within the prescribed Water License volume requirements.

June 26, 2025

The following issues of non-compliance were found:

1. Numerous quatrex bags filled with previously contaminated soil were discovered outside a designated lined/berm facility.
2. A pallet of drums containing oil or fuel were observed outside the repair shop near the crusher pad and were not contained within secondary containment.
3. A fuel spill was observed near the Heavy Duty truck laydown yard at the Milne Port site.

Baffinland was directed to take the following actions:

1. Hazardous Waste must be placed into a designated lined facility.
2. Drums of hazardous materials must be placed within secondary containment.
3. All fuel spills must be reported and remediated to the satisfaction of the Inspector.

Baffinland fulfilled all three actions and submitted a report to CIRNAC with photos in October 2025.

October 9, 2025

During the inspection, hazardous waste was observed out of secondary containment due to snow build up. The issue was resolved the following day and the hazardous waste was placed within secondary containment. The inspection of the tote road was not done due to weather and road conditions during this time. No other issues of non-compliance were observed.



Road/culvert work was completed during the summer of 2025 at the Mary River site down grade from the tank farm. This was done to repair the road washout and prevent this incident from happening again. Photos of the job can be seen in the photo log below.

iii. A summary of Baffinland's compliance status with regard to authorizations that have been issued for the project.

Minor issues on non-compliance were resolved and there are no outstanding issues. CIRNAC will continue to work with Baffinland to ensure compliance with all water licence requirements associated with Mary River project.

Appendix A: Mary River Project Certificate Terms and Conditions incorporated into any permits, certificates, licences or other approvals issued for the Project

Project Certificate 005 Term & Condition		Implemented in NWB water licence 2AM-MRY2540	Implemented in CIRNAC's land use permit
10	The Proponent shall update its Dust Management and Monitoring Plan to address and/or include the following additional items: a. Outline the specific plans for monitoring dust along the first few kilometres of the rail corridor leaving the Mary River mine site. b. Identify the specific adaptive management measures to be considered should monitoring indicate that dust deposition from trains transporting along the rail route is greater than initially predicted. c. Outline specific plans for monitoring dustfall at intervals along and in the vicinity of the Milne Inlet Tote Road to determine the amount and extent of dustfall. d. Identify the specific adaptive management measures to be considered if monitoring indicates that dust deposition from traffic on the Milne Inlet Tote Road is greater than initially predicted.		N2019Q0011 , Part 31(1) (m) 48
11	The Proponent shall develop and implement an <i>Incineration Management Plan</i> that takes into consideration the recommendations provided in Environment Canada's Technical Document for Batch Waste Incineration (2010).	Part F, Item 7 (requirement to test and dispose bottom ash and record analysis results and volumes of ash)	
14	The Proponent shall conduct noise and		N2019Q0011 , Part



Project Certificate 005 Term & Condition		Implemented in NWB water licence 2AM-MRY2540	Implemented in CIRNAC's land use permit
	vibration monitoring at Project accommodations sites located at the Mary River mine site, Steensby Inlet Port site, and Milne Inlet Port site. Sampling shall be undertaken during the summer and winter months during all phases of Project development. (b) The Proponent, through coordination with the TEWG as may be appropriate, shall demonstrate appropriate adaptive management for project activities during operations which have the potential to produce noise and sensory disturbance to wildlife and other users of project areas.		31 (1) (m) 49
16	The Proponent shall ensure that the water related infrastructure or facilities that are designed and constructed, including the modification of culverts, diversion of watercourses, and diversion of runoff into watercourses along the railway, access roads, the Milne Tote Road, and other areas of the Project site, are consistent with those proposed in the FEIS in terms of type, location, and scope and that the requirements of all relevant regulatory authorities are satisfied advance of constructing those facilities.	Part D	
17	The Proponent shall develop and implement effective measures to ensure that effluent from project-related facilities and/or activities, including sewage treatment plants, ore stockpiles, and mine pit, satisfies all discharge criteria requirement established by the relevant regulatory agencies prior to being discharged into the receiving environment.	Parts F and I	
18	The Proponent shall carry out continued analyses over time to confirm and update, accordingly, the approximate fill time for the mine pit lake identified in the FEIS	Part F, Item 3	
19	The Proponent shall ensure that it develops and implement adequate monitoring and maintenance procedures	Parts B, D, Item 20, E Item 17, and I	



Project Certificate 005 Term & Condition		Implemented in NWB water licence 2AM-MRY2540	Implemented in CIRNAC's land use permit
	to ensure that the culverts and other conduits that may be prone to blockage do not significantly hinder or alter the natural flow of water from areas associated with the proposed mine. In addition, the Proponent shall monitor, document and report the withdrawal rates for water removed and utilized for all domestic and industrial purposes.		
20	The Proponent shall monitor the effects of explosives residue and related by-products from project-related blasting activities as well as develop and implement effective preventative and mitigation measures, including treatment, if necessary, to ensure that the effects associated with the manufacturing, storage, transportation and use of explosives do not negatively impact the Project and surrounding areas.	Part E, Item 24, Part I, Item 21,	
21	The Proponent shall ensure that the scope of the <i>Aquatic Effects Monitoring Plan</i> (AEMP) includes, at a minimum, monitoring of nonpoint sources of discharge, selection of appropriate reference sites, measures to ensure the collection of adequate baseline data and the mechanisms proposed to monitor and treat runoff, and sample sediments.	Part I	
22	The Proponent shall develop a detailed <i>Sediment and Erosion Management Plan</i> to prevent and/or mitigate sediment loading into surface water within the Project area.	Part D	
23	The Proponent shall develop and implement a <i>Groundwater Monitoring and Management Plan</i> to monitor, prevent and mitigate the potential effects of the Project on groundwater within the Project area.	Part I, Item 11 (requirement to conduct opportunistic monitoring on any observed seepage)	
24	The Proponent shall monitor as required the relevant parameters of the effluent generated from Project activities and facilities and shall carryout treatment if	Part E and F.	



Project Certificate 005 Term & Condition		Implemented in NWB water licence 2AM-MRY2540	Implemented in CIRNAC's land use permit
	necessary to ensure that discharge conditions are met at all times.		
25	The Proponent shall undertake the additional geotechnical investigations to identify sensitive landforms, modify engineering design for Project infrastructure and develop mitigation and monitoring measures to minimize the impacts of the Project's activities and infrastructure on sensitive landforms.	Part D, Item 16 and Part I, Item 09 (for water infrastructure)	
26	The Proponent shall develop and implement a comprehensive erosion management plan to prevent or minimize the effects of destabilization and erosion that may occur due to the Project's construction and operation.	Parts D, E, and F (requirement to prevent or minimize erosion)	N2019Q0011, part 31 (1) (m) 50
28	The Proponent shall monitor the effects of the Project on the permafrost along the railway and all other Project affected areas and must implement effective preventative measures to ensure that the integrity of the permafrost is maintained.	Part D, Item 10 (requirement to minimize disturbance to permafrost around the site, including railway corridor)	
29	The Proponent shall provide to the respective regulatory authorities, for review and acceptance, for-construction engineering design and drawings, specifications and engineering analysis to support design in advance for constructing those facilities. Once project facilities are constructed, the Proponent shall provide copies of the as-built drawings and design to the appropriate regulatory authorities	Part D, Item 1 and Part E, Item 17	
30	The Proponent shall develop site-specific quarry operation and management plans in advance of the development of any potential quarry site or borrow pit.	Part D, Item 5	N2019Q0011 , Part 31 (1) (m) 51
33	The Proponent shall include relevant Monitoring and Management Plans within its Environmental Management System, Terrestrial Environment Management and Monitoring Plan (TEMMP)	Part J, Item 1	
39	The Proponent shall develop a progressive revegetation program for disturbed areas that are no longer	Part J, Item 10 (requirement to implement	



Project Certificate 005 Term & Condition		Implemented in NWB water licence 2AM-MRY2540	Implemented in CIRNAC's land use permit
	required for operations, such program to incorporate measures for the use of test plots, reseeding and replanting of native plants as necessary. It is further recommended that this program be directly associated with the management plans for erosion control established for the Project.	progressive reclamation including revegetation)	
40	The Proponent shall include revegetation strategies in its Site Reclamation Plan that support progressive reclamation and that promote natural revegetation and recovery of disturbed areas compatible with the surrounding natural environment.	Part J, Items 09 and 10	
41	Unless otherwise approved by regulatory authorities, the Proponent shall maintain a minimum 100-metre naturally-vegetated buffer between the high-water mark of any fishbearing water bodies and any permanent quarries with potential for acid rock drainage or metal leaching.	Part D, Items 12 and 13	
42	The Proponent shall maintain minimum a 30- metre naturally-vegetated buffer between the mining operation and adjacent water bodies.	Parts D, E, F, and H	
43	Prior to the start of construction, the Proponent must submit a Site Drainage and Silt Control Plan to the appropriate regulatory authorities for approval.	Part D, Item 1	
46	The Proponent shall ensure that runoff from fuel storage and maintenance facility areas, sewage and wastewater other facilities responsible for generating liquid effluent and runoff meet discharge requirements	Part F	
47	The Proponent shall ensure that all Project infrastructures in watercourses are designed and constructed in such a manner that they do not unduly prevent and limit the movement of water in fish bearing streams and rivers	Part E, Item 23	N2019Q0011 , Part 31 (1)(f) 16.
48	The Proponent shall engage with Fisheries and Oceans Canada and Qikiqtani Inuit Association in exploring possible Project specific thresholds for blasting that would exceed the	Part E, Item 24 (requirement to submit Blasting Management Plans)	



Project Certificate 005 Term & Condition		Implemented in NWB water licence 2AM-MRY2540	Implemented in CIRNAC's land use permit
	requirements of Fisheries and Oceans Canada's Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (D.G. Wright and G.E. Hopky, 1998).		
53	The Proponent shall demonstrate consideration for the following: a. Steps taken to prevent caribou mortality an injury as a result of train and vehicular traffic, including operational measures meant to maximize the potential for safe traffic relative to operations on the railway, Milne Inlet tote road and associated access roads. b. Monitoring and mitigation measures at points where the railway, roads, trails and flight paths pass through caribou calving areas, particularly during caribou calving times. c. Evaluation of the effectiveness of proposed caribou crossings over the railway, Milne Inlet tote road and access roads as well as the appropriate number. d. Development of a surveillance system along the railway corridor to identify the presence of caribou in proximity to the train tracks and operational protocols for the train to avoid collisions and enable caribou to cross the train tracks unimpeded. e. Protocols for documentation and reporting of all caribou collisions and mortalities, as well as mechanisms for adaptive management responses designed to prevent further such interactions.		N2019Q0011, Parts 31 (1) (h) 36-38, and 31 (1) (m) 52
64	The Proponent shall ensure that its Environment Protection Plan incorporates waste management provisions to prevent carnivores from being attracted to the Project site(s). Consideration must be given to the following measures:	Part F, Item 6	N2019Q0011 , Part 31 (1) (g) 27



Project Certificate 005 Term & Condition		Implemented in NWB water licence 2AM-MRY2540	Implemented in CIRNAC's land use permit
	a. installation of an incinerator beside the kitchen that will help to keep the food waste management process simple and will minimize the opportunity for human error (i.e. storage of garbage outside, hauling in a truck (odours remain in truck), hauling some distance to a landfill site, incomplete combustion at landfill, fencing of landfill, etc.). b. installation of solid carnivore-proof skirting on all kitchen and accommodation buildings (i.e., heavy-duty steel mesh that would drop down from the edge of the buildings/trailers and buried about a half meter into the ground to prevent animals from digging under the skirting).		
92	The Proponent shall ensure that it maintains the necessary equipment and trained personnel to respond to all sizes of potential spills associated with the Project in a self-sufficient manner.	Part H, Item 5	N2019Q0011 , Part 31 (1) (g) 30, 31

