

Report title: The Nunavut Impact Review Board’s 2021-2022 Annual Monitoring Report for Baffinland Iron Mines Corporation’s Mary River Project (NIRB File No. 08MN053)

Project: Mary River Project
Project Location: Qikiqtani (North Baffin) Region, Nunavut
Land Tenure: Inuit Owned Lands

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Cover Photos: Baffinland Staff
View of Ore Stockpile, Milne Port;
Sailivik Accommodations Complex, Mary River Mine Site;
Ore Carrier being loaded, Milne Port; and
Ore Stockpile with *DustTreat* being applied, Milne Port.

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1 INTRODUCTION

The Nunavut Impact Review Board (NIRB or Board) was established through Articles 10 and 12 of the Agreement between *the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and is responsible for the assessment of ecosystemic and socio-economic impacts of projects in the Nunavut Settlement Area pursuant to the *Nunavut Agreement*. The NIRB is responsible for post environmental assessment monitoring of projects in accordance with Part 7 of Article 12 of the *Nunavut Agreement* and s. 135 of the *Nunavut Planning and Project Assessment Act, S.C. 2013, c. 14, s. 2 (NuPPAA)*. The purpose of the NIRB's monitoring program as outlined in Section 12.7.2 of the *Nunavut Agreement* and s. 135(3) of the *NuPPAA* are as follows:

- a) To measure the relevant effects of projects on the ecosystemic and socio-economic environments of the Nunavut Settlement Area;
- b) To determine whether and to what extent the land or resource use in question is carried out within the predetermined terms and conditions;
- c) To provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and
- d) To assess the accuracy of the predictions contained in the project impact statements.

As such, this report provides findings that resulted from the Board's monitoring programs for the Mary River Project from October 1, 2021 to September 30, 2022.

1.1 Background of the Mary River Project and Amendments

1.1.1 The Mary River Project

The original Mary River Project approximately 150 kilometres (km) from Pond Inlet was approved in December 2012 for development of an open pit iron ore mine on northern Baffin Island. It included the use of an existing Tote Road between Milne Inlet and the Mine Site and a railway connecting the Mine Site to the Steensby Port (Figure 1) to ship 12 MT/a of iron ore year-round. Several elements have not been constructed: the port at Steensby Inlet, the railway from the Mine Site to Steensby Inlet, and the fleet of purpose-built ore carriers.

For further information on the original Mary River Project, please refer to the Project Dashboard on the NIRB's Public Registry at www.nirb.ca/project/124700.

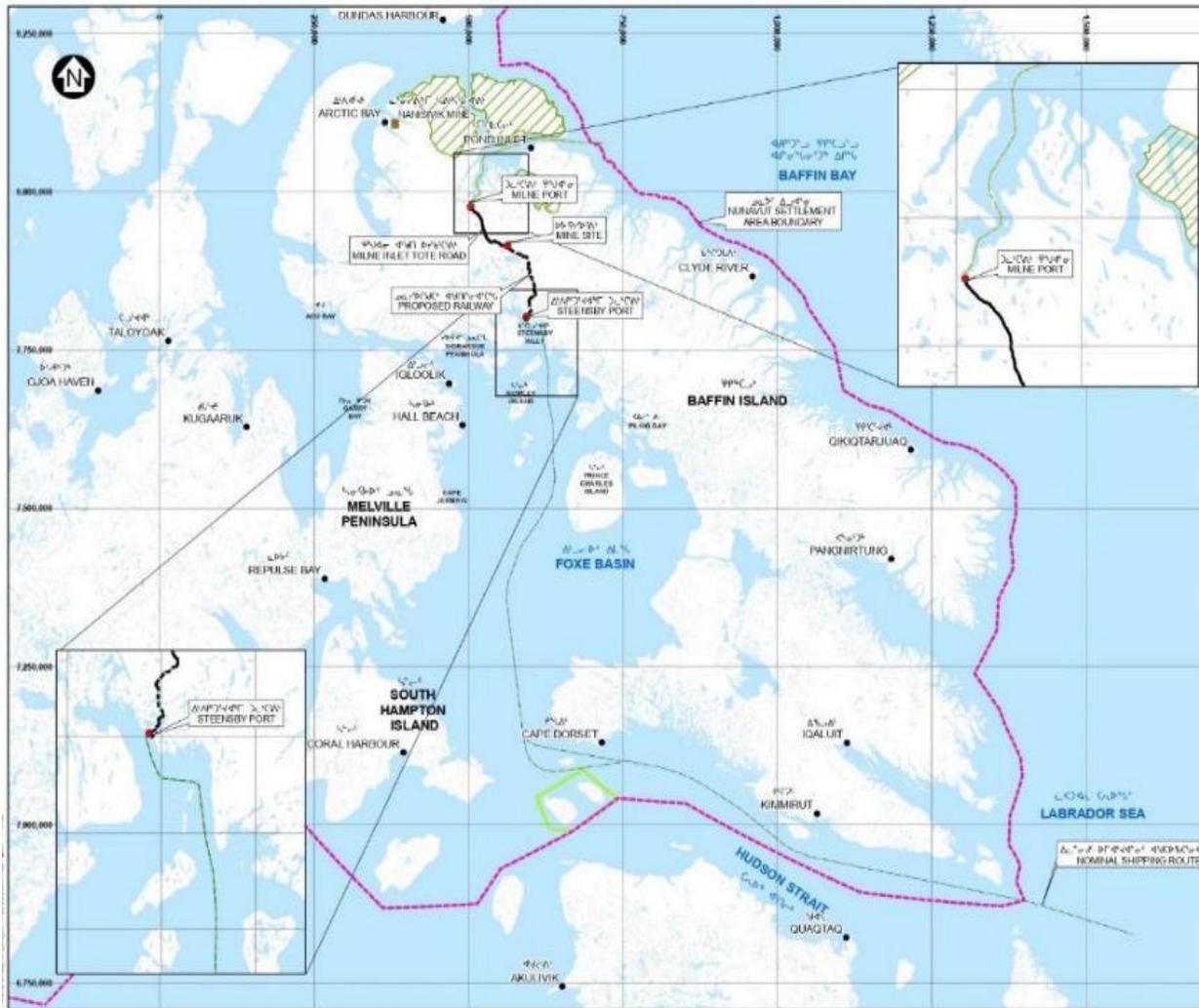


Figure 1: Project Location Map

1.1.2 The Early Revenue Phase Proposal (Amendment No. 1)

In January 2013, Baffinland applied for an amendment to the original Mary River Project, seeking to modify the project by transporting 4.2 Mtpa of ore along the Tote Road to Milne Port ([Figure 2](#)) for shipment during the open water season only. The of the southern railway, Steensby Port, and the purpose-built ore carriers to be delayed until shipments through Milne Inlet had generated sufficient revenue to support their development. Consequently, the Early Revenue Phase Proposal (ERP) changed the shipping route from Foxe Basin in the South to Eclipse Sound in the North. Following the NIRB’s impact assessment, the proposed amendment was approved to proceed, and Mary River Project Certificate No. 005 was subsequently amended and re-issued on May 28, 2014.

For further information on the original Mary River Project, please refer to the Project Dashboard on the NIRB’s Public Registry at www.nirb.ca/project/124702.

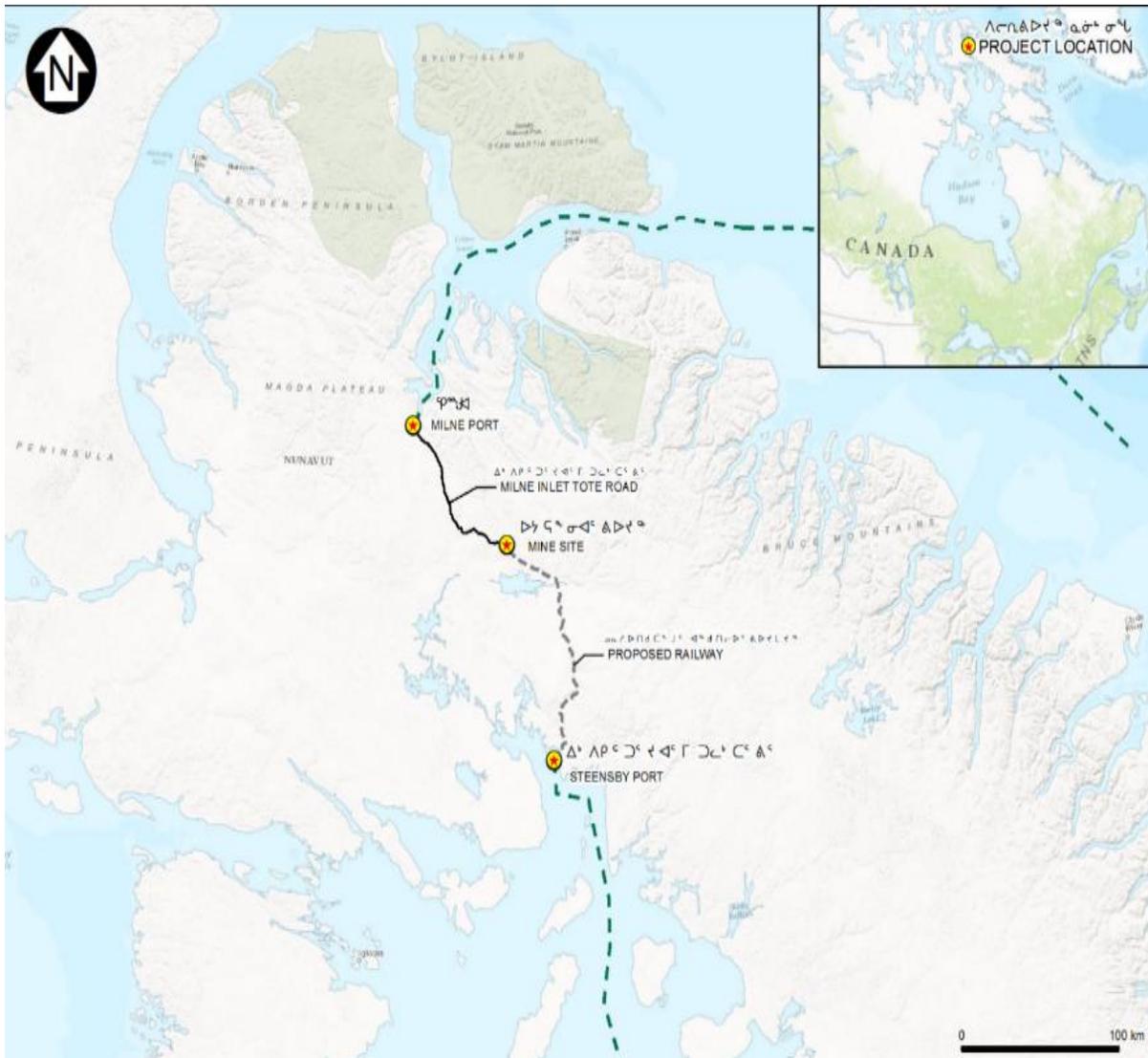


Figure 2: Early Revenue Phase of the Mary River Project

1.1.3 Production Increase Proposal (Amendment No. 2)

In April 2018, Baffinland submitted the “Production Increase, Fuel Storage and Milne Port Accommodations Modification Proposal” (Production Increase Proposal) to the NIRB. This proposed an increase in the volume of ore that would be trucked from Mine site to Milne Port via the Tote Road from 4.2 Mtpa to 6 Mtpa. It further included the addition of a 15 million-liter (ML) diesel fuel tank within the existing Fuel Storage Facility at Milne Port and installation of a new 380-person accommodation at Milne Port.

On August 31, 2018, the NIRB issued its Reconsideration Report and Recommendations to then Minister of Intergovernmental, Northern Affairs and Internal Trade (The Minister; now Minister of Northern Affairs) recommending the camp upgrades and fuel storage expansion to proceed; however, the Board recommended that the increased transportation and shipping of ore not be

allowed to proceed. On September 30, 2018, the Minister accepted the Board’s positive recommendations; however, the Minister varied the recommendation by allowing Baffinland to increase shipping from Milne Inlet until the end of 2019. Subsequently, the amended Project Certificate No 005 was issued on October 30, 2018.

For further information on the original Mary River Project, please refer to the Project Dashboard on the NIRB’s Public Registry at www.nirb.ca/project/124703.

1.1.4 Extension Request to the Production Increase Proposal (Amendment No. 3)

On December 6, 2019, Baffinland requested the Board to further modify Conditions 179(a) and 179(b) of the Mary River Project Certificate¹ as part of their “Extension Request to the Production Increase Proposal” (the Extension Request) because of the suspension of the Phase 2 Development Proposal Hearing. On March 4, 2020, after the NIRB’s impact assessment of the potential ecosystemic and socio-economic effects of the Extension Request, the Board provided their recommendation to the Responsible Ministers recommending approval for Baffinland’s Extension Request Proposal until December 31, 2021.

On May 19, 2020, then Minister of Northern Affairs wrote to the Board on behalf of the Responsible Ministers to accept the Board’s recommendation regarding Term and Conditions 179 (a) and (b) of the Extension Request. The Minister also varied Term and Conditions 179 (c) and 183 in Project Certificate No. 005, Amendment No. 3 issued on June 18, 2020, to ensure those conditions were meeting their original intent.

For further information on the original Mary River Project, please refer to the Project Dashboard on the NIRB’s Public Registry at www.nirb.ca/project/125710.

1.1.5 Production Increase Proposal Renewal

While waiting for the Ministers Decision on the Phase 2 Development Proposal and in an effort to maintain production levels to reduce the risk of adverse socio-economic impacts from employee lay-offs Baffinland submitted an application on June 13, 2022, requesting the Board to further modify Conditions 179(a) and 179(b) of the Mary River Project Certificate² as part of their “Production Increase Proposal Renewal” (PIP Renewal). Specifically, Baffinland requested that that Board considered the continued trucking and shipping of 6 Mtpa of iron ore from the Mine Site to Milne Port using the continued transportation and shipping corridors until December 31, 2022.

¹ Baffinland letter to the NIRB regarding their Extension Request to the Production Increase Proposal (Doc. ID No. 327657).

² Baffinland letter to the NIRB regarding their Extension Request to the Production Increase Proposal (Doc. ID No. 327657).

On September 22, 2022, after the NIRB's impact assessment of the potential ecosystemic and socio-economic effects of the PIP Renewal, the Board provided their recommendation to the Responsible Ministers recommending approval Baffinland's PIP Renewal. On October 4, 2022, the Minister of Northern Affairs wrote to the Board on behalf of the Responsible Ministers to accept the Board's recommendation regarding Term and Conditions 179 (a) and (b) of the PIP Renewal along with the addition of five (5) new Terms and Conditions and the modification of two (2) others to enshrine Baffinland's commitments as enforceable Terms and Conditions. On November 3, 2022, the Board published Project Certificate No. 005, Amendment No. 4 including the modifications to Terms and Conditions 49, 77, 179 (s) and (b), 183 and the new addition Terms and Conditions 185-189.

For further information on the original Mary River Project, please refer to the Project Dashboard on the NIRB's Public Registry at www.nirb.ca/project/124701.

1.1.6 Phase 2 Development Proposal

During the 2021-2022 monitoring period, the NIRB continued the reconsideration for the "Phase 2 Development Proposal" with the NIRB completing the Public Hearing, followed by the Board allowing Intervenors to submit Final Closing Statements in writing on January 12, 2022, followed by the Proponent on January 24, 2022. After reviewing the Final Closing Statements, the Board formally closed the Public Hearing Record for the file on January 28, 2022.

On May 13, 2022, after careful consideration, the Board issued their Reconsideration Report and Recommendations to the Minister of Northern Affairs. The Board concluded that the Phase 2 Development Proposal has the potential to result in significant adverse ecosystemic effects on marine mammals, fish, caribou and other terrestrial wildlife along with vegetation and freshwater ecosystems which could lead to adverse socio-economic effects on Inuit. The Board further expressed that the proposal poses the potential for transboundary effects on marine mammals, fish, and the marine environment generally. As a result of these findings, the Board remained concerned that these adverse effects would not be able to be mitigated through adaptive management and monitoring programs and consequently recommended that the Proposal should not be allowed to proceed as this time. On November 16, 2022, the Responsible Minister provided Correspondence to the Board providing its decision and acceptance of the Board's Recommendation that the Phase 2 Development Proposal should not be allowed to proceed to the permitting stage.

For further information on the original Mary River Project, please refer to the Project Dashboard on the NIRB's Public Registry at www.nirb.ca/project/125710.

1.2 Project Components

The Mary River Project involves exploration, construction, operation, closure, and reclamation of an open pit iron ore mine at Deposit No. 1 and includes mining at a total rate of 18 Mtpa. There are three (3) main project locations – the Mine site, Milne Port located north of the Mine site, and Steensby Port located south of the Mine site. Milne Port is connected to the Mine site by the Tote Road, approximately 100 kilometers (km) in length. The Project as originally proposed was to include the construction of a railway approximately 150 km in length to connect the Mine Site to Steensby Port; however, this infrastructure is yet to be constructed.

As currently approved, the extracted ore is crushed and transported by truck along the Tote Road then shipped from Milne Port during the open water season using contracted vessels. The approved Project also includes additional facilities at Milne Port, including the construction of a fixed ore dock, ore stockpile and reclaim area, ship loading facilities and an accommodations camp. The 4 Mtpa ERP operations are expected to continue for the life of the Project; however, the increased transported and shipping granted under the Production Increase Proposal Renewal is approved until December 31, 2022.

Baffinland reported in 2021 to the NIRB that mining and ore hauling activities from the Mine Site to Milne Port continued and that approximately 6 Mtpa of iron ore was mined and hauled on the Tote Road and approximately 6 Mtpa was shipped from Milne Port to markets. While Baffinland indicated that no specific project activities occurred along the southern railway or at the Steensby Port site in 2021, Baffinland reported to the NIRB that the scope of the construction and site activities it undertook in 2021 included:

- Development and operation of the mine, ore crushing and land transportation, stockpiling and marine shipment of ore;
- The continued development and construction of infrastructure required at Milne Port and the Mine Site, and along the Tote Road;
- Continued operation of Mine Site and Milne Port Camps to support ongoing operations and construction activities, which included the use of water and deposition of waste as authorized under existing permits;
- Ongoing operation of permitted quarry and borrow sources;
- Arrival of vessels carrying fuel, equipment, and supplies for use at the Mine Site and Milne Port during shipping season (between end of July and end of October 2021). Transportation of material, fuel, and supplies required for operational and construction activities to the Mine Site year-round via the Tote Road;
- Ongoing environmental effects studies and baseline data collection to support the construction and operation of the Project as well as for future engineering requirements;

- Environmental monitoring in accordance with the approved Project Certificate, licences, authorizations, management plans and environmental effects monitoring plans;
- Ongoing exploration activities including drilling, mapping, prospecting, sampling and geophysics;
- Tote Road improvements to address fish passage, drainage and sedimentation and erosion concerns;
- Site grading and laydown construction for supplies and equipment to support future construction activities and remove ponding and permafrost degradation issues;
- Remediation of historic borrow pits along the Tote Road; and
- Construction of new water management infrastructure at Km 105.

2 MONITORING ACTIVITIES

2.1 General Reporting Requirements

Baffinland’s annual report is a summary of the Project activities and consultation efforts with stakeholders undertaken in 2021. It also outlines the status of compliance, methods employed to complete work, a summary of results, trends, and next steps for each project Certificate Term and Condition.

On April 1, 2022, the NIRB received Baffinland’s *Mary River Project 2021 Annual Report (the 2021 Annual Report)* as required by the amended Mary River Project Certificate No.005.³

Additionally, during the 2021-2022 monitoring period Baffinland provided the NIRB with the following Plans and documents as required by the Project Certificate:

- Status of Project Certificate Conditions in 2021;
- 2021 Community Engagement Records;
- 2021 Marine and Terrestrial Working Group Meeting Notes;
- Concordance to 2021 Board Recommendations;
- Two (2) 3rd Party Audit Reports (September 2021 and April 2022);
- 2021 Socio-Economic Monitoring Report;
- Marine Shipping and Vessel Management Report; and
- Status of Proponent Commitments in 2021.

³ Document ID: 330028-330079

2.2 Compliance Monitoring

At present, the NIRB has not yet issued a post-environmental assessment monitoring program (PEAMP) for the Project Certificate. PEAMP is designed to work as an instrument of the Proponent's overall monitoring efforts of the project and should provide the NIRB and parties with information respecting the activities relating to a project, its impacts, and the implementation of any mitigative measures through use of the monitoring plans and programs as described in the review or reconsideration processes.

The NIRB understands that several portions of the Project have still not been fully realized and that consequently some Terms and Conditions cannot be fully achieved until later phases of Mary River's development as well as the ongoing assessment of the Phase 2 Development Proposal. The NIRB expects that planning, consultation, and collaboration will continue over the next year to finalize and refine management and monitoring plans and will work to finalizing the PEAMP in the future.

2.2.1 Compliance with NIRB Project Certificate No. 005

Proponent's Responses to the Board's 2021 Recommendations

On October 27, 2021, as a result of the NIRB's 2020-2021 Monitoring Program, the Board made six (6) recommendations to Baffinland to provide guidance on how to achieve compliance with the Mary River Project Certificate No 005, Amendment 003. These recommendations are outlined in [Appendix I](#) which also includes follow up/updates on each of the recommendations from the Proponent.

Baffinland has provided the information and updates requested on all six (6) recommendations; however, there remains concerns with the following topics. Some of these concerns are reflected through new Board recommendations [later in this report](#) and some are required ongoing work by the Proponent which cannot be completed within a single annual cycle.

- Fish passage and culvert obstruction;
- Groundwater Management;
- The Marine and Terrestrial Environment Working Groups; and
- Marine Mammal Early Warning Indicators.

Compliance Achievements

[Appendix II](#) documents Baffinland's compliance achievements with the Project Certificate from 2021-2022. During this reporting period, the Proponent was successful in having met most of the requirements of the NIRB Project Certificate No. 005, Amendment 003. However, there are several terms and conditions where the Proponent has struggled to achieve compliance or meet the original intent of the Term and Condition, specifically Terms and Conditions: 49, 77, 85, 110, 111, 112, and 184.

On April 12, 2022, the NIRB requested that Authorizing Agencies with a mandate or jurisdictional responsibility for the Mary River Project provide comments and information with respect to compliance and effects monitoring. Specifically, comments were requested regarding the following as it pertains to compliance monitoring, and assessment undertaken by regulators and other Authorizing Agencies to establish whether the Project is being carried out within defined regulations, commitments, and agreements:

- a. Compliance Monitoring
 - i. Provide a summary of any compliance monitoring and/or site inspections undertaken in association with the Project, including specifically:
 - a. Identify the terms and conditions from the Project Certificate which have been incorporated into any permits, certificates, licences, or other approvals issued for the Project, where applicable and report annually to the NIRB on the status of those incorporated terms and conditions;
 - b. A summary of any inspections conducted during the 2021 reporting period, and the results of these inspections; and
 - c. A summary of the Proponent's compliance status regarding authorizations that have been issued for the Project.

The NIRB received comments from the following parties regarding Baffinland’s 2021 Annual Report:

Table 1: Parties Comments on and Baffinland’s Responses on *the 2021 Annual Report to the NIRB and Associated Document ID Numbers.*

Organization	Document ID No.
Qikiqtani Inuit Association (QIA)	340485
Government of Nunavut (GN)	340481
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)	340478
Environment and Climate Change Canada (ECCC)	340480
Fisheries and Oceans Canada (DFO)	340479 & 341423
Parks Canada (PC)	340483 & 340484
Transport Canada (TC)	340486
Oceans North (ON)	340482
Baffinland Iron Mines Corporation (Baffinland)	341226

On August 5, 2022, Baffinland provided written responses to address all the comments identified by parties, and where applicable the Proponent also provided additional action plans and commitments aimed to address all the outstanding monitoring issues identified during site visits and inspections of the Mary River Project.⁴

2.2.2 Compliance Monitoring by Agency

Qikiqtani Inuit Association

In their correspondence received by the Board on June 30, 2021, the QIA noted several comments on Baffinland’s *2021 Annual Report*; however, no update was provided regarding the completion of any site visits in 2021.

Crown-Indigenous Relations and Northern Affairs Canada

Due to COVID travel restrictions, CIRNAC completed one (1) site inspection in 2021 to review compliance with the Type ‘A’ Water License (2AM-MRY1325) and Type ‘B’ Water License (2BE-MRY1421) associated with the Mary River Project. CIRNAC is enforcing any Terms and Conditions contained within any Water Licenses associated with the Project. The site inspection occurred on September 16-17, 2021. A summary of their findings is outlined below:

Tote Road:

- Noted multiple spills near the parking areas, visible erosion beside three (3) culverts, one (1) damaged and two (2) ditches identified potentially not engineered to site standards.

⁴ Document ID No.: 331347-331439

Milne Inlet Port

- MP-05 and MP-06 collection ponds appeared to be appropriately pumped down with minor issues.
- No visible berms at the hazardous waste site HWB 03, HWB 04, or Western Globe Fuel Module pumping station.

Mine Site

- Noted no water management from the runway and surrounding areas.
- Not allowed waste found in the landfill as food waste and fuel filters.
- Seepage issues found in the MS-07, Crusher Pad and Crusher Pond locations.
- Noted some lubricants and hazardous material stored outside containment at KM 104.

Environment and Climate Change Canada

Due to COVID-19 travel restrictions, ECCC did not conduct a site-inspection in 2021. No authorizations from ECCC have been issued; however, the Mary River Project is subject to the *Metal and Diamond Mining Effluent Regulations* (MDMER) with the MDMER Reports regularly submitted to ECCC. The ECCC Enforcement Officer noted some alleged violations, but no measures were issued. ECCC noted to the Proponent that on June 1st, 2022, new amendments coming into force under the MDMER.

Fisheries and Oceans Canada

DFO indicated that the Proponent currently operates under three (3) *Fisheries Act Authorizations* for Milne Inlet Tote Road, Milne Inlet Ore Dock, and the Milne Inlet Freight Dock (14-HCAA-00525, 06-HCAA-CA7-00084, and 18-HCAA-00160). DFO stated that due to travel restrictions associated with COVID-19, they were unable to perform any site inspections in 2021.

DFO stated that the following Terms and Conditions: 87, 105, 109, 110, and 121 from Project Certificate No. 005 and subsequent amendments for the Mary River Project have been incorporated into DFO's *Fisheries Act Authorization* for the Milne Inlet Ore Dock (DFO File No.: 14-HCAA-00525). DFO also outlined that additional terms and conditions from the NIRB's Project Certificate No.: 005 for the Mary River Project, while not directly incorporated, fall under DFO's mandate, and overlap with conditions in Baffinland's existing *Fisheries Act Authorizations* as follows:

- Milne Inlet Tote Road (DFO File No.: 06-HCAA-CA7-00084): Terms and Conditions 19, 26, 45, 47, 48(a);
- Milne Inlet Ore Dock (DFO File No.: 14-HCAA-00525): Terms and Conditions 45, 76, 88, 99, 101, 106, 113, 115, 123; and
- Milne Inlet Freight Dock (DFO File No.: 18-HCAA-00160): Terms and Conditions 14(a), 45, 76, 88, 99, 101, 113, 115, 123, 128.

As a general condition under the *Fisheries Act* Authorizations, Baffinland must submit on its compliances annually and the following are DFO's comments from the review:

- Several issues that impacted fish passage were noted, priority culverts were assessed by Baffinland and DFO will conduct a site inspection in late June 2022.
- DFO closed the Authorization for the Milne Inlet Ore Dock and no further monitoring is required.
- DFO received Baffinland's Offsetting Marine Habitat Monitoring at the Freight Dock Report and, 2021 was the second of the five (5) years of monitoring on the freight dock

Transport Canada

TC commented on areas relevant to the Department.

- The Milne Inlet Marine Facility is in compliance with marine transportation. TC completed a marine security inspection, and no deficiencies were noted.
- The oil handling facility at Milne Port is in compliance as per part 8 of the *Canada Shipping Act, 2011*, but no physical inspection was conducted at the facility.
- TC inspected seven (7) vessels in 2021, including ballast water and no deficiencies were noted.
- TC confirms compliance with all its regulatory approvals under the *Navigable Waters Protection Act* and did not conduct a physical inspection on this in 2021.
- No inspection was conducted related to Transportation of Dangerous Goods.

2.2.3 Marine Monitoring and Marine Mitigation Workshop

As a result of direction given by the Responsible Ministers on September 30, 2018, associated with their approval of Baffinland's "Production Increase Proposal"⁵, the Board hosted the first Marine Monitoring and Marine Mitigation Workshop (Marine Workshop) in Pond Inlet on May 1-2, 2019. Following that workshop, the Board released a summary report and associated recommendations⁶ that resulted from community feedback. In the 2019-2020 monitoring year, the Board hosted a second Marine Workshop on August 25, 2021, with the resulting recommendations issued on November 25, 2020.

In 2021-2022, the Board was unable to schedule a Marine Workshop due to the Board's ongoing assessment of the Phase 2 Development Proposal. As part of the Minister's decision on the Phase 2 Development Proposal, the Minister provide the Board with direction to continue hosting

⁵ Ministers Approval Re Production Increase Proposal (Doc ID: 320546)

⁶ Marine Monitoring and Marine Mitigation Workshop Summary Report (Doc ID: 325313)

Marine Monitoring and Mitigation Workshops annually; as such, the Board looks forward to hosting this workshop in May of 2023.

2.2.4 Performance Audit Workshop

Term and Condition 179(c) was added to the Mary River Project Certificate in October 2018 as required by the Responsible Ministers, when they approved the Production Increase Proposal Amendment “to ensure that all commitments made by the proponent with respect to the Production Increase Proposal and delivery of benefits to Inuit are adhered to and can be determined through a body of evidence”.

In December 2019 Baffinland applied to the Board for the Extension Request proposal which was subsequently approved by the Minister on May 19, 2020 (see [Section 1.1](#)). Following the receipt of the Board’s recommendation on the Extension Request, the Responsible Ministers consulted with the QIA and received concern that Term and Condition 179(c) is not currently providing adequate certainty regarding the submission deadlines for the performance audits and that the content of the current audits has not met the “spirit and intent” of the commitments made by the Proponent. As a result, Term and Condition 179(c) was varied to direct Baffinland to submit their bi-annual performance audits on March 31st and September 30th of each calendar year. Further, the Board was directed to host a workshop to clarify the scope of the performance audits and to ensure that the audits meet their intended purpose.

Since the issuance of Project Certificate No. 005, Amendment No. 3 in June 2020 and the introduction of the varied Term and Condition 179(c), the Board informed the Minister that due to COVID-19 and workload of parties participating in ongoing monitoring of the Project and the assessment of the Phase 2 Development Project proposal, the Board was unable to schedule an Audit Workshop in the 2020-2021 monitoring period.

In 2021-2022, the Board was unable to schedule an Audit Workshops due to the Board’s ongoing assessment of the Phase 2 Development Proposal. As part of the Minister’s decision on the Phase 2 Development Proposal, the Minister provide the Board with direction to continue to host the Performance Audit Workshop; as such, the Board looks forward to hosting this workshop in 2023.

2.3 Effects Monitoring

Effects monitoring can be described as an assessment of the measurable change to an environmental or socio-economic component, as compared to the potential effects that were predicted to result from a proposed development. In the case of the Mary River Project, impact predictions and mitigation measures were outlined and developed throughout the impact assessment of the Project and were recorded and presented through the Final Environmental Impact Statement (FEIS), the three (3) addendums to the FEIS, and other related documents.

Although the NIRB is currently in the process of developing a Post-Environmental Assessment Monitoring Framework for the Mary River Project that will address in greater details the expectation of the monitoring framework, the NIRB still expects that the Proponent will continue to invest effort on impact predictions and adequacy of monitoring/mitigation plans. Baffinland has not consistently provided reporting on how the information collected compares to the predictions in the FEIS and ERP but efforts to do so have improved in recent years.

2.3.1 Effects Monitoring - Authorizing Agencies

Table 2 below summarizes the comments received from various Authorizing Agencies regarding compliance monitoring of the Mary River Project in the 2021 reporting period and Baffinland’s response provided on August 5, 2021. Where applicable the Proponent also provided additional action plans and commitments to address outstanding monitoring issues identified during site visits and inspections of the Mary River Project. For fulsome party comments and Baffinland responses, please visit the NIRB’s Public Registry and search the NIRB Document ID numbers listed in [Table 1](#).

The NIRB would like to note that any comments and/or discussions related to the Phase 2 Development Proposal were not considered through the NIRB’s current evaluation of the 2021-2022 monitoring year as they are considered through the assessment process itself. Should the Proposal be approved to proceed, any plans would then be considered as part of ongoing Project Monitoring.

Table 2: General Summary of Comments and Responses Received on Baffinland’s 2021 Annual Report

Comment	Proponent Response
Qikiqtani Inuit Association	
<p>QIA 2021 AMR GC #1</p> <p>Clarify various different statements in Baffinland popular summary.</p>	<p>Baffinland notes that the popular summary is intended to provide a high-level plan language summary and for detailed information regarding the topics, readers should refer to topic specific sections in the report.</p>
<p>QIA 2021 AMR GC #2</p> <p>Provide criteria table used by Baffinland to determine if recommendations from the Marine Environment Working Group are feasible.</p> <p>Provide examples of recommendations made by the MEWG that it is considered of personal interest by Baffinland.</p>	<p>Baffinland holistically considers advice from other parties in these meetings and in determining feasibility economics are one of many factors considered.</p> <p>A full table of requests have been provided (NIRB Doc ID: 333841 & 333851).</p>

Comment	Proponent Response
<p>QIA 2021 AMR GC #3 Provide in a timely manner the terrestrial and marine draft monitoring reports to the Working groups, so these reports could be finalized and included in the final Annual Report to the NIRB.</p>	<p>Baffinland is updating the Terms of Reference for the working groups and expects to address this concern there.</p>
<p>QIA 2021 AMR GC #4 Update the baseline studies happening at Steensby Port.</p>	<p>Baseline studies were conducted for the Original Mary River Project in the mid 2000's and Baffinland is in the process of completing updated baseline information for the Freshwater and Marine environments.</p>
<p>QIA 2021 AMR GC #5 Provide a tracking table related to community engagement by Baffinland indicating further detail of what was discuss during the engagement.</p>	<p>Key concerns from engagements are covered under dust, marine environment (including marine mammals) and terrestrial environment. Baffinland has provided summaries of comments and responses in Appendix B.1 and B.2 in the <i>2021 Annual Report</i>.</p>
<p>QIA 2021 AMR GC #6 Clarify the role of Inuit Qaujimagatuqangit and Inuit observations into the marine observation for the marine monitoring.</p>	<p>Baffinland expects to use Inuit Qaujimagatuqangit in providing advise to Baffinland through the Inuit Certainty Agreement along with longstanding meetings with the Hunters and Trappers Associations.</p>
<p>QIA 2021 AMR GC #7 Include input from Inuit and Stakeholder on how terms and conditions should be applied and on Baffinland's self-assessment of compliance status.</p>	<p>Baffinland notes these responsibilities fall under NIRB's mandate and defers to NIRB for comment.</p>
<p>QIA 2021 AMR GC #8 Report on all trends of the project not just those deemed notable by the Proponent.</p>	<p>Baffinland defers to NIRB to provide guidance on how to report its compliance. It notes that due to different types of data, graphical representation of trends may not always be an appropriate way to explain results.</p>
<p>QIA 2021 AMR GC #9 Present a trend on the number of annual reported spills, to elaborate on other causes of spills, to provide estimated amount for unquantified spills</p>	<p>Baffinland notes an 8% increase in spills from 2020-2021; however, this difference came from only one (1) additional spill. Overall, still representing a significant reduction in the number of spills.</p>
<p>QIA 2021 AMR GC #10 Describe work to assist Inuit in the development of Inuit Qaujimagatuqangit defined climate related criteria and where it</p>	<p>Notes that Appendix G.1 of the <i>2021 Annual Report</i> is intended to be a draft version of the climate change study shared with stakeholders to receive feedback and intends to collect this</p>

Comment	Proponent Response
will be used to inform climate scenario development.	feedback from parties such as the QIA to incorporate into the plan. Baffinland further disagrees with QIA that their status of the T&C indicated admission of failure.
QIA 2021 AMR GC #11 Provide detail on GHG emissions sources.	As noted in Section 4.2.4 of the <i>2021 Annual Report</i> , emissions from transportation to and from a facility (e.g., airplanes or vessels) are not reported.
QIA 2021 AMR GC #12 Describe measures to ensure the air quality monitoring equipment is in good working order.	Baffinland has implemented corrective actions to improve the collection of weather data including increasing the frequency of equipment audits and keeping more spare parts on site.
QIA 2021 AMR GC #13 Indicate Inuit concerns related to Noise and Vibration and how they have been addressed.	Baffinland notes that they are not aware of any concerns from Inuit regarding noise and vibration on the site.
QIA 2021 AMR GC #14 Elaborate communication concerns by Inuit or Stakeholders via the shipping communication protocol.	See response to QIA 2021 AMR SE #32.
QIA 2021 AMR TE #1 <ul style="list-style-type: none"> • Provide evidence that the shorter dustfall monitors reflect conditions at ground level and to present alternative methods. • Identify inefficient mitigation measures and to provide detail on further measures. • Develop daily triggers for dust mitigation measures. • Develop a community-based monitoring program on dust for key values. 	Baffinland notes that there is no technical evidence to suggest value in measuring dust at heights outside of the industry standard. They are awaiting the Dust Audit report for further mitigations. Baffinland encourages QIA to review dust monitoring results from previous reports.
QIA 2021 AMR TE #2 <ul style="list-style-type: none"> • Identify highly sensitive areas for noise and to monitor at these locations. • Initiate a vibration monitoring program around the Project. • Re-estimate the Zone of Influence. • Consider additional mitigation measures based on the Zone of Influence. 	Mapping exercises were completed in baseline assessments in 2012 with respect to sensitive areas to Inuit. Baffinland will not be monitoring vibration in the Project area and notes that mitigation measures have been considered and balanced with practicality. These are further documented in various submissions. Baffinland does not see a need to complete a desktop review for emerging topics as their technical

Comment	Proponent Response
<ul style="list-style-type: none"> Summarize monitoring work relative to the 40 dBA permissible sound levels. Review emerging research on more conservative permissible sound levels. 	<p>experts regularly review research in their area of expertise. Baffinland encourages parties to provide reference for key articles they expect to be helpful.</p>
<p>QIA 2021 AMR TE #3 Requests that Baffinland construct the Tote Road as proposed in the FEIS with the requirements of relevant regulatory authorities.</p>	<p>Baffinland requested clarification on the QIA's request prior to providing a fulsome response.</p>
<p>QIA 2021 AMR TE #4 Improve sampling procedures for discharges compliance.</p>	<p>Baffinland has endeavored to improve their sampling procedures but notes it to be unlikely to ever satisfy discharge criteria 100% of the time.</p> <p>The company is further committed to researching new methodologies.</p>
<p>QIA 2021 AMR TE #5 Treat Deposit #1 as an Open Pit or provide evidence to the contrary.</p>	<p>QIA has not provided any additional information to support the comment since submitted previously in 2020.</p>
<p>QIA 2021 AMR TE #6 Confirm if all corrective actions to the non-compliant effluent discharges at the Waste Rock Facility have been addressed.</p>	<p>There were no water quality concerns connected with the Waste Rock Facility in 2021. The facility is operating as designed and ongoing maintenance is occurring as noted in the Project water license.</p>
<p>QIA 2021 AMR TE #7 Assess measures taken to reduce water withdrawal and the effectiveness of those actions.</p>	<p>Baffinland notes near total compliance with water withdrawal limits in 2021 and indicated the improvement is a result of their controls implemented in response to the comments in 2020.</p>
<p>QIA 2021 AMR TE #8 Conduct a research program with Inuit at defining aesthetic value and to integrate the result into the dust management planning and reclamation planning.</p>	<p>Baffinland notes their ongoing work with the QIA through the ICA to add IQ and Inuit knowledge to strengthen their monitoring programs and that this work under that agreement falls largely within QIA's commitments.</p>
<p>QIA 2021 AMR TE #9 Update the Terrestrial Environment Mitigation and Monitoring Plan by providing changes based on TEWG's inputs.</p>	<p>Baffinland will update the Monitoring Plan to include a summary of these inputs and changes.</p>

Comment	Proponent Response
<p>QIA 2021 AMR TE #10</p> <p>Provide evidence of soil and lichen samplings overlap with high concentration of dust and provide an analysis on the relationship.</p>	<p>Baffinland has noted through the TEWG meetings that soil and lichen sampling sites overlap with sites where dust fall stations are located. Baffinland outlined an explanation for spikes in data in Section 8.1.2 of the <i>2021 Annual Report</i> but notes that ongoing sampling shows a generally low level of metal concentration.</p> <p>Baffinland added that current data suggests that these spikes can't be differentiated to Project affects or not as metal concentrations can be naturally high in the soil.</p>
<p>QIA 2021 AMR TE #11</p> <p>Review its approach on the Northern Contaminants Program considering the low caribou tissue sampling and voluntary participation.</p>	<p>Baffinland noted that this question should be directed at the Government of Nunavut as they are best positions to comment on caribou sampling.</p>
<p>QIA 2021 AMR TE #12</p> <p>Describe how Inuit Qaujimagatuqangit inform the revegetation studies, plans, programs and how Inuit will be involved in future reclamation planning.</p>	<p>Baffinland notes the inclusion of IQ into revegetation studies through Inuit input on Baffinland's Interim Closure and Reclamation Plan. The implementation of this plan will require development of a mandate created in conjunction with the QIA.</p>
<p>QIA 2021 AMR TE #13</p> <p>Describe how Inuit Qaujimagatuqangit inform terrestrial monitoring design, analysis, and conclusions.</p>	<p>Baffinland requires new information regarding this question as it has been asked several times in previous reporting.</p>
<p>QIA 2021 AMR TE #14</p> <p>Seek availability of studies to caribou harvest programs in communities and describe intention to collaborate.</p>	<p>There is a very limited number of studies publicly available on caribou harvest programs as some of the work undertaken by the QWMB has not been made public.</p> <p>Baffinland suggests a recommendation from NIRB to guide all working group members to provide relevant research should they know of it.</p>
<p>QIA 2021 AMR TE #15</p> <p>In relation to the Terrestrial Environment Working Group (TEWG), QIA recommends:</p> <ul style="list-style-type: none"> • Improve timing to ensure advice are incorporated into upcoming field season. 	<p>In its review of the Terms of Reference Baffinland is considering establishing an independent chair and clarification on Baffinland's required actions in response to recommendations.</p>

Comment	Proponent Response
<ul style="list-style-type: none"> • Provide information earlier to the group for better preparation. • Revise and adopt new terms of reference. • Incorporate Inuit Qaujimajatuqangit into existing monitoring programs. 	
<p>QIA 2021 AMR TE #16</p> <ul style="list-style-type: none"> • Test the effectiveness of the Height Land Survey outside the zone of influence (ZOI). • Detail caribou sightings. • Develop an approach to identify the zone of influence around the project and based on Inuit Qaujimajatuqangit develop mitigation measures to reduce impacts to caribou. • Update the Terrestrial Environment Annual Monitoring Plan to include monitoring changes. 	<p>Baffinland disagrees with the need to test the effectiveness of these surveys. Baffinland states they have a protocol established for caribou surveys including location, number of caribou along with behavioural notes about movement. Baffinland notes the study design previously presented addressed the number of caribou needed for a ZOI study and that the current numbers had not met the threshold needed.</p>
<p>QIA 2021 AMR TE #17</p> <p>Describe the hunter harvest survey and how the information has been used to establish a pre-construction baseline.</p>	<p>Baffinland notes that it tracked the number of hunters using the facilities as well as the number of caribou harvested by those individuals when shared. The baseline study conducted pre-construction was available from the Nunavut Wildlife Management Board (2004) and was fundamental in Baffinland’s understanding of the caribou populations.</p>
<p>QIA 2021 AMR TE #18</p> <p>Summarize progress made on the community-based monitoring referenced under T&C No.57(b).</p>	<p>Baffinland does not agree with QIA’s notion that T&C 57(b) suggests the need for Baffinland to develop an independent community-based monitoring program.</p>
<p>QIA 2021 AMR TE #19</p> <p>Ensure reliable collection of weather data and remedy any issues that arise.</p>	<p>Baffinland has implemented corrective actions to improve the collection of weather data including increasing the frequency of equipment audits and keeping more spare parts on site.</p>
<p>QIA 2021 AMR TE #20</p> <p>Develop a parallel community-based monitoring program and to provide an update on Baffinland’s effort to build Inuit-controlled monitoring programs.</p>	<p>Baffinland notes that since 2020 they have worked on the Inuit Certainty Agreement (ICA) which would implement commitments designed to elevate the role of Inuit in</p>

Comment	Proponent Response
	monitoring and looks forward to continuing the implementation of these moving forward.
<p>QIA 2021 AMR TE #21</p> <ul style="list-style-type: none"> • Develop a strategic sampling of lichen targeting known caribou forage areas. • Detail on how dust will be jointly managed by Baffinland and Inuit parties. 	<p>Baffinland notes that dustfall sampling program is designed to capture and address project related dust while the vegetation monitoring assesses the projects affects on vegetation.</p> <p>Baffinland requires further information from the QIA to provide a more detailed response. A third-party audit report is being prepared to provide recommendations.</p>
<p>QIA 2021 AMR TE #22</p> <p>Include explicit discussion of Inuit Qaujimajatuqangit related to T&C 58(f).</p>	<p>Baffinland notes that the studies presented in the Wildlife baseline and contemporary knowledge study summarize the IQ made available to Baffinland regarding caribou movement.</p>
<p>QIA 2021 AMR TE #23</p> <p>Discuss if there were any disturbances to Inuit harvesting from aircraft.</p>	<p>Baffinland relies on information received through community engagement and the QIA administered wildlife compensation fund to identify and track disturbances and negative interaction between aircraft and Inuit harvesting.</p>
<p>QIA 2021 AMR TE #24</p> <p>Clarify what information is collected to conclude that no wildlife is harmed during blasting operations.</p>	<p>Baffinland has various noise recording devices set up and has found that the Project produces noises great enough to elicit a wildlife response close to the Project; however, at 1.5 km 90% of the noise levels were beneath thresholds and at 3 km it drops to less than 3%.</p>
<p>QIA 2021 AMR TE #25</p> <p>Provide discussion of any community concerns related to T&C 63, on wildlife interactions.</p>	<p>Baffinland actively responds to community concerns, for example, not using any ice-breaking vessels at the start of the 2021 shipping season. A second is the response to dust concerns through the implementation of a third-party dust audit.</p>
<p>QIA 2021 AMR TE #26</p> <p>To ensure helicopters are not flying over sensitive areas, include maps of known calving locations, sensitive timing and correlation between noise monitoring and helicopters flying lower than 650 magl.</p>	<p>Baffinland provided a description of helicopter flight summaries along with a reference to the 2020 and 2021 Terrestrial Environment Monitoring Report for maps.</p>

Comment	Proponent Response
<p>QIA 2021 AMR TE #27 Include land disturbance statistic inside and outside breeding window each year.</p>	<p>Baffinland will include this information in further reports.</p>
<p>QIA 2021 AMR TE #28 Complete bird nest surveys within seven days of construction if deterrents are not installed.</p>	<p>Baffinland notes that several stationary deterrents have been installed at hazardous waste berms and water containment facilities at Milne Port and the Mine Site.</p> <p>Bird nest surveys continue to be completed up to five (5) days prior to construction activities.</p>
<p>QIA 2021 AMR TE #29 In collaboration with the TEWG, implement a monitoring program for non-compliant helicopter effects. Describe what information is given to pilot.</p>	<p>Baffinland notes the information given to pilots comes from ECCC and represents moulting areas. Flight height restrictions are included in contracts and rational are provided for non-compliance.</p>
<p>QIA 2021 AMR TE #30 Clarify how marine birds were monitored and Project effects on common king eiders and seabird migration.</p>	<p>Baffinland conducted shoreline surveys to determine potential effects on nesting shoreline birds and continues to support ECCC's research efforts.</p>
<p>QIA 2021 AMR TE #31 Provide information on the role of Inuit Qaujimagatuqangit and Inuit participation in bird monitoring.</p>	<p>Baffinland holds engagement meetings with affected communities resulting in feedback that is brought into Baffinland's monitoring programs.</p>
<p>QIA 2021 AMR M&AE #1 Integrate Inuit observation into dustfall distribution and effects monitoring.</p>	<p>Baffinland expects this to be resolved through implementation of various agreements through the ICA.</p>
<p>QIA 2021 AMR M&AE #2 Describe measures taken to avoid sample losses in the future as the dry bulk samples incident.</p>	<p>Baffinland has investigated the factors involved and has responded with an updated procedure for sampling. This information has also been included in onboarding material for staff.</p>
<p>QIA 2021 AMR M&AE #3 Recommend that the moderate threshold on sediment deposition trigger a study on arctic char egg survival.</p>	<p>Baffinland will consider and engage the QIA prior to drafting the updated Aquatic Effects Monitoring plan.</p>
<p>QIA 2021 AMR M&AE #4 Assess and monitor aquatic effects from dust of Phillips Creek that is crossed by the Tote Road.</p>	<p>Baffinland confirms that it is assessing and monitoring inputs and aquatic effects of dust on water quality, sediment deposition and biota in Phillips Creek.</p> <p>See Tote Road Monitoring Program for more details.</p>

Comment	Proponent Response
<p>QIA 2021 AMR M&AE #5 Assess potential risk to fish in the Tote Road streams from chemicals released by rubber particles worn from the tires.</p>	<p>Baffinland monitoring for additional sampling criteria at specific road crossings. Baffinland commits to adding additional parameters to these sites in consultation with the QIA.</p>
<p>QIA 2021 AMR M&AE #6 Prevent and mitigate the cause of the groundwater contamination around the landfill. Confirm steps being taken to ensure stability berms stability.</p>	<p>In 2022 Baffinland will create pit excavations within the landfill and sampling of leachate to establish source terms and contribute to modelling. Baffinland intends to continue refining the approach to improve monitoring.</p>
<p>QIA 2021 AMR M&AE #7 Demonstrate measures to reduce discharges exceedances beyond improved sampling and internal training.</p>	<p>See QIA 2921 AMR TE #4.</p>
<p>QIA 2021 AMR M&AE #8 Provide an effects assessment of operating the Tote Road in its current state.</p>	<p>Baffinland notes that there continues to be ongoing upgrades to sections of the Tote Road to mitigate erosion concerns and to safely transport the ore. Baffinland notes they continue to implement recommendations from the 2019 Report with focus on permafrost stability of areas outlined by the third party.</p>
<p>QIA 2021 AMR M&AE #10</p> <ul style="list-style-type: none"> • Clarify why remedial work to the freight dock is postponed. • Summarize vessels using the freight dock. • Identify what additional habitat offsetting measures are under consideration. • Explain measures to avoid of the intertidal coarse substrate monitoring data. 	<p>Clarifies that remedial work on the freight dock has not been proposed at this time and the stability assessment in be completed in 2024 will provide additional information on whether this work is necessary.</p> <p>Baffinland notes they submit much of this information to DFO through the Fisheries Act Authorization which is not subject to a NIRB commenting period.</p>
<p>QIA 2021 AMR M&AE #11</p> <ul style="list-style-type: none"> • Describe any actions to mitigate perched culverts in 2021. • List streams which did not allow upstream fish passage in 2021. • When plans for corrective actions at the culvert crossing will be released and implemented. 	<p>Culvert and fish passage monitoring is reported in <i>the 2021 Annual Report</i> page 160.</p> <p>Baffinland continues to work with DFO to develop plans to address fish passage issues.</p>

Comment	Proponent Response
<p>QIA 2021 AMR M&AE #12 Provide further description of methods and results on arctic char monitoring to put the study in proper context.</p>	<p>Baffinland provided a response to the MEWG on July 7, 2022, to address methodology related requests.</p>
<p>QIA 2021 AMR M&AE #13 Provide a rationale for modifying the sediment and benthic biota sampling program to the MEWG with analyses.</p>	<p>Baffinland acknowledges QIA's concern with the continuity of the full-scale radian monitoring program, Baffinland believes completing the survey every three (3) years is reasonable.</p>
<p>QIA 2021 AMR M&AE #14 Implement Phase 2 commitments related to ballast water and hull biofouling.</p>	<p>Baffinland notes that there is no evidence to suggest the existing ballast water and invasive species monitoring is not effective.</p>
<p>QIA 2021 AMR M&AE #15 Provide rationale for modifying its invasive species monitoring program to the MEWG and explain how monitoring will occur for planktonic non-indigenous species and aquatic invasive species.</p>	<p>Baffinland monitoring for planktonic non-indigenous and aquatic invasive species through recruitment and settlement studies. Annual monitoring of settlement plates and baskets provides information on the recruitment/establishment of potential species.</p>
<p>QIA 2021 AMR M&AE #16 Discuss important changes of the Marine Environment Effects Monitoring Program with the MEWG.</p>	<p>In the ongoing review of the TOR's for the working groups, Baffinland will consider the logistics of an adjusted annual meeting schedule.</p>
<p>QIA 2021 AMR M&AE #17 Consider the options for optimizing quadrat monitoring program in 2022 and discuss options with the MEWG.</p>	<p>Through discussions with the MEWG in June 2022, Baffinland committed to increasing the number of quadrats in each of the exposure reference areas to 13.</p>
<p>QIA 2021 AMR M&AE #18 Explain how the ringed seal aerial survey responds to harvesters concerns and detail how Inuit Qaujimagatuqangit was incorporated into ringed seal monitoring.</p>	<p>Through consultations undertaken for the Project, the Company learned of key community concerns related to ringed seal and the project including the impacts of ice-breaking on pupping/seal dens and harvesting on the ice. More recent concerns have been brought forward about seal populations around Ragged Island and Baffinland has limited the number of vessels anchoring there in response. The ringed seal aerial survey has been discussed in response to hunters noting lower seal abundance in the general RSA of the Project.</p>

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<p>QIA 2021 AMR M&AE #19 Detail how Inuit Qaujimagatuqangit provided information on narwhal acoustic and integrated into the marine monitoring.</p>	<p>Baffinland notes through IQ they have learnt that narwhal are sensitive to noise and will react to vessels from long distances away. This has helped to shape and influence the marine monitoring program in characterizing ship noise to better understand what thresholds of noise may impact narwhal.</p>
<p>QIA 2021 AMR M&AE #20 Provide additional analysis of aerial photographs on narwhals to document its Early Warning Indicator and provide summary of harvester observations on narwhals and how this was integrated into the Adaptive Management Plan.</p>	<p>Baffinland commits to sharing this information with the MEWG in Q3 2022.</p>
<p>QIA 2021 AMR M&AE #21 Summarize Inuit Qaujimagatuqangit compiled on marine birds and report on opportunities to include local observations in the marine birds monitoring program.</p>	<p>See response to QIA 2021 AMR TE #30 & 31.</p>
<p>QIA 2021 AMR M&AE #22</p> <ul style="list-style-type: none"> • Summarize Inuit Qaujimagatuqangit on narwhal sensitivity to acoustic and open-water shipping and how it was integrated into adaptive management plan. • Detail how IQ supports conclusion about the extensive movement of narwhals. • Define wording in conclusion about narwhals and how Inuit understand those definitions. • Explain how IQ has been integrated into its 2021 assessments and how it was integrated into the establishment of thresholds for noise impacts on marine mammals. 	<p>See response to QIA 2021 AMR M&AE #19.</p>
<p>QIA 2021 AMR M&AE #23 Collaborate with Inuit in analyzing alternative anchoring locations and update its conclusion accordingly.</p>	<p>Baffinland disagrees with QIA's position on the results of the anchorage alternatives analysis including that Baffinland failed to adequately consider Inuit input.</p>

Comment	Proponent Response
	Baffinland notes they have engaged over several meetings throughout the years to discuss anchoring locations and Baffinland has explored several alternatives proposed by the MHTO with the locations being ruled out for various functional and safety considerations.
<p>QIA 2021 AMR M&AE #24</p> <p>Detail how Inuit Qaujimagatugangit and Inuit were incorporated into the marine offsetting program.</p>	<p>Reports submitted to DFO as part of <i>Fisheries Act</i> Authorizations were provided as part of the Annual Report for information purposes only and Baffinland can confirm that these applications are subject to consultation with Inuit.</p>
<p>QIA 2021 AMR M&AE #25</p>	<p>With the current data on Narwhal populations in Eclipse Sound, DFO agrees that the decline appears to be persistent and continued. DFO believes these concerns are best addressed through the reconsideration process underway for Baffinland's Production Increase Proposal Renewal application. DFO remains concerned with the declining stock assessments and will be providing their expert advice through the reconsideration process. Should that process not be able to resolve concerns, DFO is open to working with the MEWG to determine strategies and issuing recommendations under T&C 183 of the Project Certificate. (Doc ID No. 341423)</p>
<p>QIA 2021 AMR SE #1</p> <p>Describe Inuit and Stakeholder feedback on communication methods in ensuring public safety.</p>	<p>Baffinland typically holds pre and post shipping season meetings with the MTHO, Hamlet of Pond Inlet, and the QIA with opportunities in the agenda to discuss specific concerns regarding communication methods. This is one of several examples provided,</p> <p>Please see the full comment for more details.</p>
<p>QIA 2021 AMR SE #2</p> <p>Request a minimum of two Qikiqtaaluk Socio-Economic Monitoring Committee meetings in 2022.</p>	<p>Baffinland expects to engage with the QSEMC throughout 2022; however, the frequency of these meetings is at the discretion of the GN.</p>

Comment	Proponent Response
<p>QIA 2021 AMR SE #3 Expand breadth and scope of information that is made available to the Qikiqtaaluk Socio-Economic Monitoring Committee.</p>	<p>Baffinland requests further information to separate the response provided to this question in previous years.</p>
<p>QIA 2021 AMR SE #4 Expand breadth and scope of reporting on training offered and migration.</p>	<p>Baffinland and the QIA work together on the Q-step training program and realized that by offering training within the communities, participants were able to participate while completing family obligations at home. Baffinland believes that the delivery of this training ensures compliance with T&C 132.</p>
<p>QIA 2021 AMR SE #5 Complete the Inuit Employee Survey by Q4 of 2022.</p>	<p>Baffinland will administer the 2022 Inuit Employee Survey prior to the end of the 2022 calendar year.</p>
<p>QIA 2021 AMR SE #6 QIA requests that Baffinland bring reporting into compliance with the PC.</p>	<p>Table 4.40 of <i>the 2021 Annual Report</i> provides details Baffinland and contractor employment data including Inuit employment information.</p>
<p>QIA 2021 AMR SE #7 Indicate additional opportunities for work or study programs have been considered.</p>	<p>Baffinland discusses works study programs and opportunity in detail on page 347-438 of the <i>2021 Annual Report</i>.</p>
<p>QIA 2021 AMR SE #8 Detail transferable job certification to other employment.</p>	<p>Baffinland would like to highlight that this T&C is applicable to the Construction period of the Project only.</p>
<p>QIA 2021 AMR SE #9 Provide additional analysis on the impacts of COVID-19 restrictions on Inuit training.</p>	<p>During 2021, many Nunavummiut were off-site to reduce the spread of COVID-19 to the communities. Baffinland was able to adapt many of their training programs to increase the delivery of in-community training and was able to offer all required training once Nunavut employees returned to site.</p>
<p>QIA 2021 AMR SE #10 The Labour Market Analysis suggests that little has improved since the original study in 2013.</p>	<p>Baffinland would like to highlight that this T&C is applicable to the construction period only which ended in 2015 and has no regulatory responsibility to continue reporting on this topic.</p>
<p>QIA 2021 AMR SE #11 Identify education and training initiative related to science.</p>	<p>Baffinland would like to highlight that this T&C is applicable to the construction period only which ended in 2015 and has no regulatory responsibility to continue reporting on this topic.</p>

Comment	Proponent Response
<p>QIA 2021 AMR SE #12 Justify how languages barriers or alienation is addressed.</p>	<p>Baffinland disagrees that there is a lack of compliance with this T&C as it continues to work on reducing barriers to employment between different cultures and languages. Baffinland notes they are open to working with the QIA to determine the next workplace conditions review to better understand potential issues.</p>
<p>QIA 2021 AMR SE #13 Detail additional efforts to keep Inuit employees connected to their families.</p>	<p>Baffinland has no additional information to provide at this time.</p>
<p>QIA 2021 AMR SE #14 To provide a comprehensive response to the T&C No. 144, Requirements for Employment.</p>	<p>Baffinland notes that all items relating to employment are outlined in their Socio-economic Monitoring Report including the need for background checks, various education and skills requirements, English proficiency testing for safety purposes and others.</p>
<p>QIA 2021 AMR SE #15 Detail activities or actions of the Qikiqtaaluk Socio-Economic Monitoring Committee for Inuit Women and childcare barriers.</p>	<p>This comment is directed at the Government of Nunavut.</p>
<p>QIA 2021 AMR SE #16 Share detail on the Memorandum of Understanding (MOU) between Baffinland and the Government of Nunavut on housing.</p>	<p>Baffinland has no additional information to provide at this time as the MOU development is progressing and any updates will be provided to the NIRB.</p>
<p>QIA 2021 AMR SE #17</p> <ul style="list-style-type: none"> • Engage with QIA and elders to monitor changes in Resource and Land Use and expand variables being monitored. • Engage with the Socio-Economic Groups on the four components of food security. 	<p>Baffinland notes their continued collaboration with the QIA in the development and implementation of the ICA and its efforts to elevate the role of Inuit in monitoring. Baffinland is confident that the systems are in place to address the concerns listed by QIA through this agreement.</p>
<p>QIA 2021 AMR SE #18 Record additional data alongside visitor days and should be considered in the analysis of visitor days.</p>	<p>Baffinland notes that no additional information was provided, or any deficiency indicated with the previous responses to this question and has no further information to provide.</p>
<p>QIA 2021 AMR SE #19 Collaborate with the MHTO and QIA to track data around harvester observed Project effects.</p>	<p>Baffinland believes that T&C 148 encourages collaborative monitoring in conjunction with the QMSEC's monitoring program but does not obligate it. Baffinland also notes that QIA is the administrator of the Wildlife Compensation</p>

Comment	Proponent Response
	Fund and may conduct a review as they deem necessary.
<p>QIA 2021 AMR SE #20</p> <p>Collaborate with the QIA to identify appropriate techniques to monitor changes in Resource and Land Use.</p>	<p>Baffinland notes their continued collaboration with the QIA in the development and implementation of the ICA and its efforts to elevate the role of Inuit in monitoring. Baffinland is confident that the systems are in place to address the concerns listed by QIA through this agreement.</p>
<p>QIA 2021 AMR SE #21</p> <p>Further monitor Inuit land use and develop a workplan with the QIA to use the result of the baseline food study. Detail the development of community-level indicators on project interactions and harvesting/food security.</p>	<p>Baffinland notes their continued collaboration with the QIA in the development and implementation of the ICA and its efforts to elevate the role of Inuit in monitoring. Baffinland is confident that the systems are in place to address the concerns listed by QIA through this agreement.</p>
<p>QIA 2021 AMR SE #22</p> <p>Update the study on risk of a temporary mine closure.</p>	<p>The Temporary Closure Risk Analysis was updated in 2021 and circulated with the QIA multiple times as a member of the Mary River Socio-Economic Working Group with the final report being provided to the NIRB in January 2022.</p>
<p>QIA 2021 AMR SE #23</p> <p>Share detail on the Memorandum of Understanding between Baffinland and the Government of Nunavut on housing.</p>	<p>Baffinland has no additional information to provide at this time.</p>
<p>QIA 2021 AMR SE #24</p> <p>Consider Inuit-led monitoring programs to track indirect Project effects for filling in gaps of Qikiqtaaluk Socio-Economic Monitoring Committee process.</p>	<p>Baffinland notes their continued collaboration with the QIA through the development and implementation of the ICA and its efforts to elevate the role of Inuit in monitoring. Baffinland is confident that the systems are in place to address the concerns listed by QIA through this agreement.</p>
<p>QIA 2021 AMR SE #25</p> <p>Update report on mitigation measures to avoid cultural conflicts.</p>	<p>Baffinland notes that no additional information has been provided or any deficiency indicated with the previous responses to this question and has no further information to provide.</p>
<p>QIA 2021 AMR SE #26</p> <p>Further detail reporting measures taken on Term and Condition No. 156.</p>	<p>Baffinland notes that no additional information has been provided or any deficiency indicated with the previous responses to this question and has no further information to provide.</p>

Comment	Proponent Response
<p>QIA 2021 AMR SE #27 Request reporting on the status of alcohol and narcotic anonymous programs at Project sites in the 2022 Annual Report.</p>	<p>Baffinland continues to research resources to complete this objective, in the interim, the Employee Family Assistance Program is being utilized for support in situation involving substance abuse.</p>
<p>QIA 2021 AMR SE #28 Report monitoring on additional pressure on community infrastructure as the number of aircraft movements.</p>	<p>Baffinland continues to engage with the Government of Nunavut through various platforms to monitor project related effects on infrastructure within the Local Study Area and believes they are in-compliance with T&C 159.</p>
<p>QIA 2021 AMR SE #29 Advance Inuit-led monitoring programs that include a framework for tracking and integrating Elder and community engagement.</p>	<p>Baffinland requests that the QIA provides specific examples of Elder feedback as documented by the QIA and further expand on how the Company provided information is insufficient as they have received contradicting information.</p>
<p>QIA 2021 AMR SE #30 Revisit conclusions regarding changes to culture, resources and land use based on Inuit observation.</p>	<p>Baffinland notes their continued collaboration with the QIA through the development and implementation of the ICA and its efforts to elevate the role of Inuit in monitoring. Baffinland is confident that the systems are in place to address the concerns listed by QIA through this agreement.</p>
<p>QIA 2021 AMR SE #31 Concern with the ineffective Inuit input into the Project decision.</p>	<p>Baffinland notes that they continue to provide Inuit with opportunities to engage in Project related decision making including participating in working groups, monitoring programs and annual meetings.</p>
<p>QIA 2021 AMR SE #32 Provide descriptions of any incidences, near misses, or concerns communicated via the communications protocol.</p>	<p>Baffinland has included in its <i>2021 Annual Report</i> a summary of questions and concerns received through implementation of the shipping communications protocol.</p>
<p>QIA 2021 AMR SE #33 Detail further on the emergency shelter offered along the Tote Road.</p>	<p>Baffinland notes they are in compliance with T&C 165 through allowing the use of buildings along the Tote Road and Milne Port for emergency use to land users and employees negating the need to install another form of emergency shelter every 1km. This T&C does not require Baffinland to monitor usage data for these shelters.</p>

Comment	Proponent Response
<p>QIA 2021 AMR SE #34 Develop indicators on social issues that can be monitored to fill gaps in the Qikiqtaaluk Socio-Economic Monitoring Committee process.</p>	<p>Baffinland notes that no additional information has been provided or any deficiency indicated with the previous responses to this question and has no further information to provide.</p>
<p>QIA 2021 AMR SE #35 Ensure following annual monitoring report includes Inuit employee survey, efforts of the Qikiqtaaluk Socio-Economic Monitoring Committee and COVID-19 related impacts.</p>	<p>Due to COVID-19 Baffinland was unable to administer the Inuit Employee survey but commits to doing so by the end of 2022.</p>
<p>QIA 2021 AMR SE #36 Provide description and demonstrate elements of the monitoring programs that have been incorporated based on Inuit Qaujimagatunqangit.</p>	<p>Baffinland notes that no additional information was provided, or any deficiency indicated with the previous responses to this question and has no further information to provide.</p> <p>Baffinland notes their continued collaboration with the QIA through the development and implementation of the ICA and its efforts to elevate the role of Inuit in monitoring. Baffinland is confident that the systems are in place to address the concerns listed by QIA through this agreement.</p>
Crown-Indigenous Relations and Northern Affairs Canada	
<p>CIRNAC #1</p> <ul style="list-style-type: none"> • Develop a dustfall impact Conceptual Site Model to summarize the sources and extent of contamination. • Indicate how dustfall rate correlates with contamination loading into the aquatic environment. • Undertake leachability and geochemical testing on the sediment samples. 	<ul style="list-style-type: none"> • Baffinland recognizes that the proposed conceptual model would provide value for risk assessment and derivation of effects predictions; however, the Project is at the effects monitoring stage. It is not clear that this understanding would enhance existing environmental monitoring procedures. • Soil metals at the Project are presently at or below lab/analytic detection limits. It is not clear what the value of pursuing further geotechnical testing on soil and sediment under these circumstances.
<p>CIRNAC #2 Update the Air Quality and Noise Abatement Management Plan to include procedure of dust suppressant and the appropriate product name.</p>	<p>Baffinland confirms that the next revision of the Air Quality and Noise Abatement Management Plan will include this information.</p>

Comment	Proponent Response
<p>CIRNAC #3</p> <ul style="list-style-type: none"> • Continue the use of thermal instrument to monitor around the Waste Rock Facility. • Update the water model accordingly when the Phase 1 Waste Rock Management Plan is updated. • Adhere to the commitment that ‘Further evaluation of the geochemical monitoring dataset and screening criteria’ during the Phase 2 update. Add to the commitment: a review of the total sulphur threshold and an analysis around the uncertainty of the sulphur threshold. • Confirm potential problematic sources will be disturbed towards end of mine life. 	<p>Baffinland notes that these comments are better placed in the Nunavut Water Board Process Annual Reporting.</p> <ul style="list-style-type: none"> • Baffinland notes these commitments referenced by CIRNAC will be completed as part of the Phase 1 Waste Rock Management Plan by the end of 2022. • The overall proportion of Potentially Acid Generating rock is 15%, Baffinland expects there to be Non-Potentially Acid Generating to cover the Waste Rock Facility throughout the Mine life.
<p>CIRNAC #4</p> <p>Expand the groundwater monitoring program to include the Waste Rock Facility area.</p>	<p>Moving forward Baffinland is applying a risk-based approach to groundwater monitoring focusing on the facilities presenting the greatest potential risk to surface water. These are a function of:</p> <ul style="list-style-type: none"> • Distance to potential surface water receiver; • Known or suspected issues (e.g., seepage); • The age of the facility; • Potential contaminants of concern; and • Soil types.
<p>CIRNAC #5</p> <p>Recommend adding markers of Acid Rock Drainage and Metal Leaching beyond pH and compare results to the FEIS Addendum.</p>	<p>Baffinland will continue to collect samples for analysis that are currently prescribed in the Type “A” Water License and additional monitoring would be considered through a Water License Amendment process. Future Annual Reports will contain comparisons of results to FEIS baseline data.</p>
<p>CIRNAC #6</p> <p>Update the <i>Surface Water and Aquatic Ecosystem Management Plan (SWAEMP)</i> to include remedial measures on perching and sediment concerns.</p>	<p>The SWAEMP described mitigation measures for stream crossings and fish habitat in Section 4.3 and 4.4. Descriptions of remedial measures to be implemented are not within the scope of the plan. Baffinland continues to work with DFO to address fish passage issues along the Tote Road.</p>

Comment	Proponent Response
<p>CIRNAC #7 Adapt its TEAMS dustfall monitoring results into the <i>Core Receiving Environment Monitoring Program (CREMP)</i> and <i>Lake Sedimentation Monitoring Program</i> to facilitate adaptive management.</p>	<p>Baffinland will include this assessment in the linkage between dustfall monitoring, the CREMP, the Lake sedimentation Program and atmospheric monitoring to identify potential mitigative measures in future reporting.</p>
<p>CIRNAC #8 Ensure future Socio-Economic Monitoring Report submissions include references of the original FEIS.</p>	<p>Baffinland agrees with CIRNAC's recommendation and will ensure future socio-economic monitoring reports include appropriate references to the original FEIS predictions.</p>
<p>CIRNAC #9 Revise the Inuit Employee Survey to collect information from employees within the year being reported on education and past employment.</p>	<p>In the most recent version of Baffinland's Inuit Employee Survey, Question 6 asks employees to indicate the length of time they have worked for Baffinland which includes an option for less than one (1) year.</p> <p>Baffinland uses responses to question 6, 17, and 18 together about previous job experience and transitions to better reflect the intent of T&C 140.</p>
<p>CIRNAC #10 Describe changes in health centre visits per capita in the North Baffin Local Study Area and Iqaluit with calculation.</p>	<p>Baffinland uses data prepared and reported by the Nunavut Bureau of Statistics to report on health centre visits per capita in the North Baffin Local Study Area and Iqaluit. From 2003 to 2016 (the most recent updates to the table from the GN) data includes community health centre visits only, excluding Iqaluit.</p>
Fisheries and Oceans Canada	
<p>DFO #1 Maintain culverts as designed to ensure adequate fish passage. Any restriction is considered an impact to fish passage.</p>	<p>Baffinland will continue to work with DFO to address fish passage issues along the Tote Road.</p>
<p>DFO #2 Support the continued revision of the Terms of Reference.</p>	<p>Baffinland thanks DFO for their continued support on this initiative.</p>
<p>DFO #3 Add draft Marine Environmental Effects Monitoring Program as an Appendix.</p>	<p>Baffinland is currently reviewing the and updating the TOR's for the working groups and will address these recommendations through that process.</p>
<p>DFO #4 Inform the results on new taxa to DFO.</p>	<p>A review of the genus indicated that <i>Tricellaria</i> has four (4) species that are native to the Arctic,</p>

Comment	Proponent Response
	<p>and only one (1) is flagged as a potential invader (<i>T. inopinata</i>). An unidentified Tricellaria specimen would be one of the identified species rather than an unconfirmed non-indigenous species and the identification was designated “no risk”. However, due to its the presence of <i>T. inopinata</i> on the Aquatic Invasive Species (AIS) database it was treated with caution and sent for independent verification. Any other species of this genus will be treated the same way.</p>
<p>DFO #5 Recommend Baffinland to consult DFO and the MEWG before removing the zooplankton sampling from the monitoring program.</p>	<p>Baffinland has and will continue to consult with DFO and the MEWG prior to expanding its AIS monitoring programs.</p>
<p>DFO #6</p> <ul style="list-style-type: none"> • Provide specific data to Eclipse Sound and Admiralty Inlet to support hypothesis for narwhal change in distribution. • Reassess the abundance measurement. • Discuss further mitigation for open water shipping with the MEWG. 	<ul style="list-style-type: none"> • Available Inuit Qaujimajatuqangit supports the hypothesis that narwhal modify their distribution between Milne and Admiralty Inlet and Baffinland has also provided a quote from DFO supporting a similar assertion in the past. • Baffinland notes that DFO considers averaging the survey replicates to be best practice; however, the objective of the leg 2 surveys run by Baffinland was to survey over three (3) days which was only accomplished for one (1) replicate due to weather issues. If more than one (1) survey meets this requirement in the future, Baffinland agrees that it is the best practice. • Enhanced mitigations are in place for 2022 considering the precautionary principle and these were discussed extensively with the MEWG and DFO during four (4) MEWG meetings in May and June 2022.
<p>DFO #7 Recommend additional Early Warning Indicators beyond the calf/cow ratio.</p>	<p>Baffinland has incorporated additional EWI’s including behavioural response indicators which are summarized in several reports and programs including Baffinland’s 2022 Narwhal Adaptive Management Response Plan which is available on the NIRB’s Public Registry.</p>

Comment	Proponent Response
Environment and Climate Change Canada	
<p>ECCC #1 Include December NO₂ data into the evaluation of the maximum and 24-hour concentrations of NO₂ and exceedances.</p>	<p>The NO₂ concentrations at the PSC during December 2021 construction was 46.2% due to an extended power failure resulting in an extended shutdown of the air sample. There were 344 valid hours of NO₂ concentrations collected and the mean was 10.8ppb.</p> <p>Further detail is provided in Baffinland’s full response.</p>
<p>ECCC #2 Provide the initial stack test results of the new incinerator at Milne Port and explain why it did not meet emission standards.</p>	<p>Preliminary Stack testing at the 380-person camo incinerator indicated exceedance sin dioxins/furan parameter standards. As a result, this incinerator has not been put into use and will complete a confirmatory test prior to doing so.</p>
<p>ECCC #3</p> <ul style="list-style-type: none"> • Provide results of all incinerator stack test that have been conducted. • Provide rational of any stack that exceeded emission standards. • Update the Waste Management Plan to require annual test stack for all incinerators incinerating more than 26 tonnes of waste. 	<ul style="list-style-type: none"> • All results are discussed in Appendix G.23 in the 2019 NIRB Annual Report and Appendix G.22 in the 2020 NIRB Annual Report. • This is discussed in Appendix G.23 and G.21 of the <i>2019 and 2020 NIRB Annual Reports</i>. Baffinland has consistently responses to stack testing results that are above testing parameters. • Baffinland will incorporate this requirement into the next revision of the Air Quality and Noise Abatement Management Plan.
<p>ECCC #4 Confirm if the installation of the monitoring wells is proceeding in 2022.</p>	<p>Baffinland continues to explore the plan to install permanent monitoring wells at the Project. Groundwater monitoring will continue in 2022 whether permanent wells can be installed or not.</p>
<p>ECCC #5 Clarify the groundwater well location around the landfill facility and update the figures.</p>	<p>A transcription error occurred resulting in incorrect coordinates for the well locations in question. The correct coordinates for the 2021 MS-LF-GW-REF1 site are 17W 560837 7912640 which is only two (2) meters from previous measurements.</p>
<p>ECCC #6 Assess potential impacts on Sheardown Lake if trends continue to show an increasing</p>	<p>Sheardown lake is assessed annually as part of the Core Receiving Environment Monitoring Program (CREMP). This has included</p>

Comment	Proponent Response
concentration of parameters. Recommend using a lower detection limit for silver.	assessment of Sulphate and dissolved Uranium. The 2022 CREMP will flag potential increases in concentrations of parameters in surface water of Sheardown Lake SE that may be correlated to groundwater inputs.
ECCC #7 Provide an understanding of contaminant mobility related to the groundwater analyses.	Baffinland is continuing work with a consultant to review existing groundwater data and evaluate contaminant mobility near the landfill. An assessment of this will be conducted based on additional monitoring data including sampling and characterization of leachate within the landfill itself.
ECCC #8 Update Tables 3.1 and 3.2 of the Aquatics Environment Monitoring Program and include a rationale for the change into the chromium benchmarks.	Baffinland will update the tables accordingly.
ECCC #9 Submit the draft Marine Environmental Effects Monitoring Program with the Annual Report and to update the report with the MEWG comments.	Baffinland is currently reviewing and updating the TORs for the MEWG and plans to address this recommendation through that process.
Parks Canada	
PC #1 Review the submission of the draft monitoring reports so comments can be included prior of this Baffinland Annual Report.	Baffinland is currently reviewing and updating the TORs for the working groups and plans to address this recommendation through that process.
PC #2 Revise the wording discussing the impacts of vessels on marine mammals as the amount of time narwhal may be impacted may be lesser or greater.	Due to the large disparity between the speed of vessels and narwhal, the difference in disturbance time for noise exposure between a moving and non-moving narwhal is negligible.
PC #3 Clarify both western science and Inuit Qaujimajatuqangit have identified related to natural exchange of narwhals between summers stocks for the Baffin Bay population.	Baffinland notes that the summary of Inuit Qaujimajatuqangit provided by Parks Canada misrepresents the information shared with the QWMB. The QWMB notes that there is no separate Eclipse Sound and Admiralty Inlet narwhal stocks.
PC #4 Clarify whether a precautionary approach will be taken to icebreaking and shipping during	Baffinland confirms that a precautionary approach to icebreaking and shipping is taking place in 2022 including:

Comment	Proponent Response
the 2022 season if no conclusive results on the Early Warning Indicator.	<ul style="list-style-type: none"> • No ice breaking at the beginning of the shipping season; • Use of convoys through 2022 to reduce sound exposure; and • No more than 80 ore carriers will be chartered to transport 6Mtpa if approved.
<p>PC #5 Clarify the current limitations for interpreting of the Listening Range Reduction and thresholds on narwhals.</p>	The limitations to listening range reduction metric have been clearly outlined in JASCO's annual acoustic monitoring reports to date. Baffinland notes this recommendation from Parks Canada and will include reference to the limitation in the 2022 Annual Report to the NIRB in the appropriate sections.
Government of Nunavut	
<p>GN AR # 01</p> <ul style="list-style-type: none"> • Provide information financial cost of the snow track and Hight-of-Land (HOL) surveys from 2014 to 2021. • Provide the number of helicopter flights conducted during the HOL and how many were under the altitude threshold. • Redirect investment of HOL surveys into an enhanced incidental caribou observation and on a regional monitoring in collaboration with the GN. 	<ul style="list-style-type: none"> • The cost of HOL surveys is irrelevant to annual report review and effects monitoring and Baffinland is committed to conducting those surveys. • Helicopter flight information was provided through the Terrestrial Environment Annual Monitoring Report and are not summarized to specific surveys. • Baffinland is unclear of how providing financial costs would resolve the GN's concerns. The company is considering enhancements to the incidental wildlife sightings log and has always supported and accommodated the GN's regional wildlife surveys.
<p>GN AR # 02</p> <ul style="list-style-type: none"> • Explain why soil and vegetation sampling did not occur at all Program sites. • Confirm that all samplings will occur in 2022. • Provide information on trends of increasing metal concentrations at Milne site. 	<ul style="list-style-type: none"> • Comprehensive soil and vegetation monitoring has occurred annually since 2016 and Baffinland has fulfilled its ongoing compliance monitoring requirements. • The 2022 Program has targeted a comprehensive sampling schedule on site. • Explanations and rational about the metal concentrations on site are provided in Section 8.1.2. Where spikes in concentrations have been noted, it cannot be differentiated from metal increase from the Project as the soil contains generally high concentrations of metals in the soil.

Comment	Proponent Response
<p>GN AR # 03</p> <ul style="list-style-type: none"> • Clarify requirements to fly below the minimum altitudes specified in the Project Certificate. • Clarify the criteria to determine a flight is shot distance. • Clarify procedure in place for delaying helicopter flights unable to flight above the minimum altitude due to weather condition. • Clarify specific flights shown in the report were justified to fly below specified altitude. 	<ul style="list-style-type: none"> • The aerodynamic behaviour of sling loads on site are largely unpredictable and slinging can lead to the need for quick landing. Therefore, flying lower to the ground can make it easier to rest the load if needed. Airspeed while slinging averages 60kt. • The helicopters average speed while not slinging is much faster and pilots are not expected to come down from 2,132 ft on a distance lower than 15NM. This operates differently than vertical takeoffs where varying speeds are achieved through various heights. • Pilots delay flights for weather related reasons along with other reasons. These were not recorded in 2021 but will be moving forward. • The flights shown on the map consist of point-to-point line segments of 2-minute duration. Flights without pilot provided rational are deemed non-compliance while those with rational are compliant. The length of the flights in the individual maps cannot be determined from the maps since take offs and landings are not identified. These could be multiple short flights but appear as one continuous line.
<p>GN AR # 04</p> <ul style="list-style-type: none"> • Provide rational for selecting 0.5 m as the height for ground-level dustfall monitors. • Consider monitors at shorter height. 	<ul style="list-style-type: none"> • The 0.5m height was selected to achieve “as close to ground level as possible” while minimizing potential for interactions with snow drifts, rodents, or wildlife. • There are no dustfall collectors sufficient for sampling at ground level. Refer to QIA 2021 TE #1.
Oceans North	
<p>ON #1 Shared concerns with the decrease abundance of narwhals in Eclipse sound and Baffinland’s conclusion on shipping effects.</p>	<ul style="list-style-type: none"> • Baffinland notes that ON provides no evidence or analysis to support the claim that Baffinland’s monitoring shown acoustic disturbance in narwhal at lower than 120dB. • ON has expressed support for DFO’s views regarding Admiralty and Milne Inlet narwhal stock but does not provide any substantive

Comment	Proponent Response
	<p>evidence and Baffinland is unwilling to take a one-sided approach to IQ views.</p> <ul style="list-style-type: none"> • ON inappropriately mischaracterizes Baffinland’s approach to cumulative effects. Baffinland notes that it is committed to a holistic approach to cumulative effect monitoring and does not draw conclusions based on a single variable.
<p>ON #2 Noted concerns with Baffinland’s monitoring of cumulative effects and reporting of marine monitoring program to the MEWG</p>	<p>Baffinland disagrees with ON claims regarding monitoring and IQ suggesting they are not based in evidence but are rather opinions held against the Company. Further detail is provided in Baffinland’s full response.</p>
<p>ON #3 Shared concerns with the reporting by Baffinland as not including all data of narwhals, with the decision making at the Working Group and Baffinland assessment of the Early Warning Indicator.</p>	<p>Baffinland notes they are willing to implement any direction or advice from the NIRB on the inclusion and exclusion of data should they wish to provide any. Baffinland notes that with respect to timing of reporting, they are working on reviewing the TORs for the working groups and expect to cover this topic there. Baffinland further notes that ON has mischaracterized their work and that has led to misleading comments and review. Baffinland notes they have carefully considered measuring cortisol levels in narwhal and that it would be useful data; however, feel that the current variables monitor provide better indications of Project related effects.</p>

NIRB's Review of Baffinland's 2021 Annual Report

The NIRB has reviewed Baffinland's 2021 Mary River Project Annual Report which included a summary of Baffinland's compliance with terms and conditions pertaining to the Mary River Project Certificate, Amendment No. 003 and provides the following comments.

Baffinland has submitted all their required management plans through the submission of their *2021 Annual Report*. Year over year Baffinland has made consistent efforts to improve compliance with the Mary River Project Certificate; however, full compliance has not yet been achieved. Key areas of concern that still need to be addressed include but not limited to:

- Integration of Inuit Qaujimagatuqangit into monitoring program designs and implementation remains a concern to several parties and communities and Baffinland should continue to explore way to better communicate and articulate their efforts.
- Timely implementation of proposed mitigations measures leading to delays in publication of results and subsequent adaptation to programs.

The NIRB appreciates Baffinland's work on this annual report and the steps taken to manage the amount of material submitted with concise summaries and most reference documentation submitted as appendices. This year the NIRB also acknowledges the amount of discussion regarding the integration of data and other report requests through the 2022 monitoring year and therefore no specific direction will be provided at this time. The NIRB looks forward to Baffinland's 2022 Annual Report.

3 SITE VISIT REPORTS

NIRB staff were able to complete two (2) site visits in the 2021-2022 monitoring year, the first of which occurred from June 13-16, 2022, with the intention of observing freshet preparations by Baffinland as well as activities in preparing for the upcoming shipping season. The second site visit was completed by Monitoring Officers from August 23-25, 2022, with the expectation to observe ongoing ship loading and shipping activities as well as summer monitoring programs. NIRB staff produced *Site Visit Reports*⁷ for both visits and has published them on the Public Registry under www.nirb.ca/project/124703.

⁷ NIRB June 2022 Site Visit Report Doc ID No. 341416 & 341817.
NIRB August 2022 Site Visit Report Doc ID No. 341812.

4 AREAS REQUIRING FURTHER STUDY OR CHANGES TO THE MONITORING PROGRAM—MONITORING OFFICERS RECOMENDATIONS

The NIRB would like to highlight some items that would assist the Proponent in moving towards achievement with its Project Certificate.

Administrative Reporting

Monitoring Officers would like to remind the Proponent to provide reporting updates on items 5-12 in the Board's General Regulatory and Administrative Responsibilities as outline in Section 4.1 of the Project Certificate or Appendix II of the Annual Monitoring Report. This information will assist in the NIRB accurately understanding Baffinland's strategies for achieving these items.

Working Groups

Considering the commitments made by Baffinland through the Production Increase Proposal Renewal and the ongoing discussion work with the terms of reference (TOR) for the Working Groups, the NIRB Monitoring Officers will continue to monitor the comments and previously noted concerns surrounding the groups in the upcoming monitoring year. Monitoring Officers are hopeful that these changes will bring forth valuable improvements to the overall functionality of the Working Groups as well as their ability to render advice.

During the next monitoring year further, attention will be paid to the outcomes of these commitments as implementation begins on various aspects of Project Certificate No. 005 Amendment No. 4 including the introduction of an interim Project Monitor. The NIRB Monitoring Officers looks forward into the completion of the TOR, an improvement of the group's functionality and tracking concerns, and an agreement within parties on the timeline for Baffinland Monitoring Report releases.

Dust Mitigation

Due to the third-party Inuit-led Dust Audit, the NIRB does not have specific recommendation related to dust mitigation on-site for the current year. Baffinland will have the upcoming monitoring period to introduce and implement the results of the dust audit into their Project operations and monitoring. The NIRB looks forward to the Dust Audit report and encourages Baffinland to explore feasibility of the proposed measures in the upcoming Dust Audit Report. The NIRB's Monitoring Officers will continue to follow action taken by the Proponent to reduce

the emissions of dust around the Project area and will follow-up in subsequent monitoring years should concern continue to arise on this topic.

Flight Height Requirements

Terms and Conditions No. 59 and 71 in the Project Certificate No. 005 require the Proponent to respect a certain height for flight within the Project area. Under these specific Terms and Conditions, Baffinland reports any deviations to this minimum flight height along with the Pilots rationale for the deviation. These rationale are listed by Baffinland in its annual report for Term and Condition No. 59, in 2021 in the Table 4.20 and these are often noted by Parties with several parties indicating disagreement for the rationale or acknowledging the frequency of the deviations as a point of concern.

The NIRB recommends that Baffinland, the Government of Nunavut, and other Terrestrial Environment Working Group members collaborate to create a list of acceptable rationale for helicopter flights that are below the minimum flight heights set out in the Project Certificate. The Monitoring Officers note that this has been a point of concern for parties for several years and is hopeful that the changes to make-up, structure and function of the working groups will aid in resolving this long-standing concern. A clarification should be sent to the NIRB as part of the 2022 Annual Report with a summary of the discussion at the working group which led to the finalized list.

Marine Mammal Monitoring – Early Warning Indicator

In *the 2021 Annual Report* Term and Condition No. 110, Baffinland noted that the proportion of immature narwhal was 24% lower than the 2014-2015 baseline conditions. In the 2020 Preliminary Narwhal aerial survey report, Baffinland noted the threshold the selected EWI to be 0.323, although the 2021 results were calculated to be under this at 0.102, Baffinland observed that the lower numbers in 2021 may be the result of “low sample size which may also explain the absence of power to detect a statistically significant decrease in the EWI”.

In 2021, the Board recommended that Baffinland and the Marine Environmental Working Group work together to identify how the Early Warning Indicator (EWI) currently identified is acceptable and if not to modify the EWI selection. Upon review of Baffinland’s 60-day Response Package⁸, 90-day Response Package⁹ and Appendix E to Baffinland’s *2021 Annual Report*¹⁰, the NIRB Monitoring Officers were unable to locate a follow-up response to this recommendation. As such, in 2022, the NIRB is recommending that Baffinland either provide the requested information or

⁸ Baffinland’s 60 Day Response to the NIRB’s 2021 Recommendations NIRB Doc ID. 337505

⁹ Baffinland’s 90 Day Response to the NIRB’s 2021 Recommendations NIRB Doc ID. 337797

¹⁰ Appendix E to Baffinland’s 2021 Annual Report NIRB Doc ID. 338443

the location where the NIRB can find it (if already provided). In addition, the NIRB is requesting Baffinland to provide a summary of what is acceptable rational when this threshold is exceeded in consultation with the Marine Environment Working Group.

Permafrost Degradation

Based on the June 2022 site visit, the Monitoring Officers noted that Baffinland has recurring challenges with permafrost stability along the Tote Road. NIRB staff asked the Proponent to provide in future annual reports, under Term and Condition 28, more details on specific problematic locations of permafrost degradation along the Tote Road and Mine Haul Roads. These updates would also include mitigations taken to resolve the issue and a summary of activities undertaken to describe progress made from the early days of Tote Road use as well as noting if these challenges are continuing to occur at the same locations.

Terrestrial Environment Mitigation and Monitoring Plan

With respect to Term and Condition No. 38, Baffinland stated: *“The current adaptive management approach based on engagement with the working groups has led to modifications to the study design and methods supported by data trends, interpretations, and statistical analyses”*. On Term and Condition No. 50, Baffinland listed some examples of updates made to methodologies resulting from inputs. However, NIRB staff noted that the last update for the Terrestrial Environment Mitigation and Monitoring Plan was in 2016 and is seeking clarification regarding whether this version is up to date with the current activities or if updates have been made since.

Information Requested from Regulatory Authorities

NIRB asks the Government of Nunavut and the Qikiqtani Inuit Association to provide information or reporting on Terms and Conditions requiring their feedback, comments, and updates as part of the NIRB’s annual reporting cycle in 2023. The Terms and Conditions the NIRB is requesting input on are as follows:

Qikiqtani Inuit Association: 138, 146, 152 and 160

The Government of Nunavut: 146, 158, 159, 160, 161 and 167

5 FINDINGS—BOARD RECOMENDATIONS

The objectives of the NIRB’s monitoring program as indicated in Section 12.7.2 of the *Nunavut Agreement* and s. 135(3) of the *NuPPAA* include:

- a) To measure the relevant effects of projects on the ecosystemic and socio-economic environments of the Nunavut Settlement Area;
- b) To determine whether and to what extent the land or resource use in question is carried out within the predetermined terms and conditions;
- c) To provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and
- d) To assess the accuracy of the predictions contained in the project impact statements.

As discussed previously, during the 2021–2022 monitoring period, Baffinland demonstrated compliance with most of the reporting requirements as contained in the Project Certificate, and as applicable to the current phase of the Mary River project; however, the Board notes some areas requiring clarification or improvement and require follow-up action by Baffinland to ensure full compliance with the Mary River Project Certificate achieved in the future.

The Board would like to acknowledge that it has focused attention on similar topics in several subsequent years throughout its monitoring Program including Dust Emissions on Site, Reporting timelines for annual monitoring data, working groups functionality and recommendations, Early Warning Indicators for Marine Mammals and ongoing monitoring and adaptive management. As has been the case with previous assessments completed by the Board for this Project, during the Board’s assessment of Baffinland’s Production Increase Proposal Renewal (PIP Renewal), the Board consistently heard these recurring themes through parties’ and community comments. The Board understands these issues are of great importance to both potentially affected communities and to the success of the Mary River Project as a whole. Through the assessment process of the PIP Renewal, the Board heard Baffinland provide several commitments to the communities, the QIA, and Working Group members to resolve these ongoing concerns. These commitments were outlined in the both the Board’s Reconsideration Report and Recommendations¹¹ provided to the Responsible Minister on September 22, 2022 and were subsequently highlighted by the Responsible Ministers¹² in their response as an integral link to the success of the Project. As such, the Minister’s modified Project Certificate No. 005 to include five (5) addition Terms & Conditions and varied two (2) others to formalize several of these commitments into the Project Certificate.

With the topics of these new modifications covering many of the ongoing Board Recommendations in previous years, for the 2021-2022 Monitoring year, the Board has decided to limit its recommendations to the Proponent to topics outside of these commitments to allow

¹¹ NIRB’s Reconsideration Report and Recommendations for Baffinland’s Production Increase Proposal Renewal Doc ID. 314713.

¹² The Responsible Ministers Decision Regarding Baffinland’s Production Increase Proposal Renewal Doc ID. 341811.

for adequate time for Baffinland and parties to implement these commitments and determine their efficacy moving forward. During the 2022- 2023 Monitoring period, the Board will be closely monitoring these commitments, their progress, and their efficacy to resume a fulsome evaluation of those topics in the coming years. The Board would like to be clear excluding these topics from the 2022 Board Recommendations in no way limits their scope of focus in subsequent years and should the Board find these issues remain outstanding through the 2022-2023 monitoring period, they may be elevated to formal recommendations again.

The 2022 Board Recommendations for Baffinland’s Mary River Project include:

Narwhal Population Exchange Between Admiralty and Milne Inlet

Opposing arguments from Fisheries and Oceans Canada and Baffinland regarding narwhal populations along with the ongoing decline in narwhal numbers Baffinland tracked in their monitoring data creates challenges for the Board to fully assess the extent of project related impacts on narwhal populations. Baffinland’s aerial surveys only indicate a decline in narwhal populations Milne Inlet. As such:

The Board requests that Fisheries and Oceans Canada and Baffinland Iron Ore Mines coordinate on collection and analysis of monitoring data as it relates to narwhal population(s) of Admiralty and Milne Inlet. The Board looks forward to an update on the progress of coordination in the 2022 Annual Report.

6 SUMMARY

Baffinland commenced construction of the Mary River Project in May 2013, and to date the Project is largely being operated as committed to in the Final Environmental Impact Statement for the Early Revenue Phase, Production Increase Proposal, and the Extension Request to the Production Increase Proposal Addendums. Since issuance of the original NIRB Project Certificate in December 2012 and the amendments on May 28, 2014, October 30, 2018, and June 18, 2020, Baffinland has made efforts to continue to work towards compliance with the Terms and Conditions of the Project Certificate and all amendments. However, as discussed throughout this report in Sections [4](#) and [5](#) remain outstanding and require Baffinland’s attention.

As in previous years, the Board expects that Baffinland devote sufficient time and attention to addressing the recommendations accompanying this monitoring report to ensure full compliance with Project Certificate No. 005. Pursuant to the *Nunavut Agreement* Sections 12.7.2, 12.7.3, and s. 112(1) of the *NuPPAA*, the NIRB will continue to work with Baffinland and other Authorizing Agencies to conduct and coordinate monitoring efforts, and to review results and Project compliance in accordance with the requirements set out in the Mary River Project Certificate No. 005, Amendment 003.

Prepared by: Cory Barker
Title: Technical Advisor III
Date: December 2, 2022

Signature: 

Reviewed by: Kelli Gillard
Title: Manager, Project Monitoring
Date: December 2, 2022

Signature: 

Prepared by: Guillaume Daoust
Title: Technical Advisor II
Date: December 2, 2022
Signature:



Appendix I: BAFFINLAND’S FOLLOW-UP TO 2021 BOARD RECOMMENDATIONS

Attachment 1

Baffinland Response to NIRB Monitoring Staff 60 Day Recommendations
and Information Requests

Table 1: Baffinland Response to NIRB Monitoring Staff 60 Day Recommendations and Information Requests

Topic	NIRB Comment	NIRB Recommendation	Baffinland Response	Attachment
Monitoring Officer Recommendations				
Exceedances in Effluent and Water Withdrawal	Terms and Conditions 17, 24, and 46 in Project Certificate No. 005 require the Proponent to develop and implement various measures to ensure discharges satisfy the required criteria. In the Board's review of Baffinland's <i>2020 Annual Report</i> , it became known that Baffinland reported seven (7) non-compliant effluent discharge exceedances in fecal coliform, pH, ammonia, and lead. Further, 31 exceedances in daily water withdrawal from Camp Lake occurred as a result of increased dust suppression. The NIRB, QIA, and CIRNAC note concerns around the continued exceedances of the effluent criteria and water withdrawal from Camp Lake.	Monitoring Officers will continue to monitor these exceedances in yearly annual reports and encourage Baffinland to continue to closely monitor these exceedances and train staff to reduce the number of occurrences. Additionally, Monitoring Officers are requesting Baffinland investigate the exceedances of Camp Lake water withdrawal and determine where exceedances are routine or if exceedances were due to a dry year. Conclusions are to be reported within 60 days of issuance of this report.	<p>Baffinland refers to Section 4.6.4 of the 2020 NIRB Annual Report for details on water withdrawal exceedances and clarifies that the 31 water withdrawal exceedances were from approved Project water sources in 2020; including one (1) exceedance at Camp Lake, two (2) at Km 32 lake, eight (8) at BG-50 and twenty (20) at CV-217. As outlined in the annual report Baffinland completed a root cause analysis for all exceedances of the daily dust suppression water use limits stipulated in the Type 'A' Water Licence to identify effective corrective actions. This investigation concluded that the main cause was due to cross shift tracking of water use on a daily basis and corrective actions to address this were implemented. Corrective actions that Baffinland had taken to prevent similar incidents from re-occurring included installing signs at dust suppression water sources that indicate the daily water use limits in numbers of truckloads per day, and implementing an improved water truck operator log that indicates when the maximum daily volume of water has been collected from each source based on the number of water truck loads filled. In the spring of 2021, an additional corrective action was implemented; a waterproof storage system was installed at each water source to house daily water use logs to improve accounting over a 24 hour period for all operators. Corrective actions implemented as committed to in the 2020 NIRB annual report have been effective at improving tracking of water use as no exceedances of water withdrawal limits at Project sites have occurred in 2021.</p> <p>In regards to effluent discharge exceedances, Baffinland continues to improve on management of discharges to ensure effluent meets relevant discharge criteria for the Project. The Project's Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16- 0010) outlines the steps taken in the event that water quality monitoring indicates that effluent no longer meets the applicable water quality discharge criteria, which would result in the halting of effluent discharge immediately. Troubleshooting and further water quality monitoring are implemented until compliant results are obtained before discharge recommences. The plan also outlines the procedures for monitoring during a discharge with periodic sampling by an independent accredited laboratory (ALS) for applicable parameters to ensure compliance. Baffinland also continues to focus on staff training, especially as related to Baffinland's Fresh Water Supply, Sewage and Wastewater Management Plan and to Baffinland's Quality Assurance and Quality Control Plan, as well as other ongoing improvements including improvements to processes, and inspections and maintenance programs, to ensure the continuous improvement of effluent and wastewater management practices and procedures.</p>	
Dust	When reviewing Baffinland's <i>2020 Annual Report</i> to the Board, there was difficulty in reviewing the dust collection data from dustfall	The Board requests Baffinland tabulate year over year quantitative data for dustfall monitoring stations from establishment of the stations for monitoring until 2020 within 60 days of issuance of this report. Additionally,	Attachment 2 includes the data in tabular format as requested by NIRB. These data were also summarized in Figures 8-10 to 8-13 in the 2020 Terrestrial Environment Annual Monitoring Report.	Attachment 2 – Data of Annual Dustfall Deposition for each Monitoring Station

Topic	NIRB Comment	NIRB Recommendation	Baffinland Response	Attachment
	monitoring stations positioned at the Mine Site, along the Tote Road, and at Milne Port.	this data analysis shall be incorporated and presented in future annual reports to the Board.	<p>Also in Attachment 2 are total annual dustfall for each monitoring station between 2015 and 2020 (year over year data provided for years where we have consistent data between 2015-2020, i.e., screened out 2014 data as mine was in construction not production phase, and DF stations with only 2019/2020 data).</p> <p>Attachment 3 identifies that from 2015 through 2020 there were no direct correlation between production and dustfall. From 2014 to 2016, dustfall across the PDA increased commensurately with mine production, in 2016 there was a large increase in production from 0.5 MTPA to 2.5 MTPA, and there was a corresponding increase in dustfall, however, then from 2016 to 2020, dustfall generally plateaued with only modest increases in some Project areas. Post-2016 decreases in dustfall are likely associated with implementation of dustfall mitigation strategies.</p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> </div> <div style="width: 50%;"> </div> <div style="width: 50%;"> </div> <div style="width: 50%;"> </div> </div> <p>In March 2021 Baffinland also submitted to the NIRB Registry a Dust Monitoring Report that summarized Project activities that generate dust, mitigation, the dustfall monitoring program, and monitoring conducted in the receiving environments to confirm that no significant effects are happening as a result of dustfall generated by the project. A copy of this report has also been re-provided to the NIRB as Attachment 4.</p>	<p>Attachment 3 – Annual Total Dustfall Comparison Relative to Annual Shipping Rate</p> <p>Attachment 4 – Dust Summary Report</p>

ID#	Topic	NIRB Comment	NIRB Recommendation	Baffinland Response
Monitoring Officer Recommendations				
1	Arctic Char Monitoring Programs	Baffinland has been monitoring Arctic char in the waterbodies around the Project for several years through various programs and indicates they have included Inuit Qaujimagatuqangit and community concerns in the development of these programs through discussions with the Mittimatalik Hunters and Trappers Organization. However, Term and Condition 113 in the Project Certificate specifically requests for monitoring of Arctic char stock sizes as part of their monitoring programs.	Monitoring Officers are requesting clarification regarding the Proponent's current Arctic char monitoring program and whether the program includes tracking Arctic char stocks. If the existing programs have Arctic char stock sizes, please provide the most recent data and compare that to all previously collected estimates. If existing programs do not track Arctic char stock sizes, the Proponent should provide clarification regarding the current monitoring practices and why this information is not collected. Further Monitoring Officers are requesting a timeline as to when the program can include this information. The requested information should be provided within 90 days of issuance of this report.	<p>Anadromous Arctic char are common in many river systems feeding into Milne Inlet and Eclipse Sound on North Baffin Island. It is presently unknown if individual river systems in this region represent genetically discrete stocks or if there is a high degree of migration (gene flow) between these systems (DFO, 2013). Most river system fisheries on North Baffin Island, especially during the open-water season, have the potential to harvest a mixture of Arctic Char stocks from proximate systems (i.e., these likely represent mixed-stock fisheries). Despite this, the current management of Arctic char fisheries in the Canadian Arctic (co-managed by DFO and NWMB) is based on the assumption that each river system supports a discrete fish stock which has a high fidelity rate to the population stock (Kristofferson et al. 1984).</p> <p>Baffinland's environmental effects monitoring (EEM) program (i.e., monitoring designed for detection of potential Project-related effects) does not include tracking of Arctic char stocks. Effects monitoring for this key indicator species is accomplished through monitoring for potential Project-related changes in Arctic char health, habitat quality (water and sediment quality, productivity) and habitat use (relative abundance). This approach is consistent with general principles for effects monitoring that states, "All monitoring should be based on an ecological approach that recognizes the interrelationships between ecosystem components" and "As there are innumerable components of the ecosystem that could be monitored, all monitoring should be directed towards a manageable set of ecological indicators selected to optimize the detection of potential or actual changes" (Everitt, 1991). To date, the extensive monitoring completed in both the marine environment at Milne Port and in the freshwater environment near the operating mine has not demonstrated any evidence of adverse effects of the Project on Arctic char via these pathways (Golder, 2021). Therefore, the rationale follows that if we are not observing Project effects on fish health, fish habitat quality or fish habitat use near Milne Port where impacts from the Project are greatest, then it is highly unlikely that the Project is resulting in adverse effects on Arctic char stock sizes in the local receiving environment. For example, each year as part of the Marine Environmental Effects Monitoring Program (MEEMP), we monitor multiple receptors in the marine environment that collectively reflect the habitat quality, food availability, and health of Arctic char; specifically, we measure concentrations of metals and other contaminants in marine waters and sediments (habitat quality), abundance of benthic invertebrates (prey availability), and assess body condition and muscle tissue concentrations (fish health). Following multiple years of monitoring in the Milne Port area, there is no evidence that Arctic char habitat, their prey base, or their health condition has been compromised by the Project. Concentrations of contaminants in sediments and fish tissues are consistent with baseline and the number of Arctic char caught in our annual surveys has remained consistent through time (Golder, 2021).</p> <p>More recently, there has been feedback provided by some community members suggesting that the Mary River Project is responsible for observed lower Arctic char numbers in recent years within the local waterways of Milne Inlet and Eclipse Sound, in addition to reports of char in poor health conditions in these areas. In specific response to these concerns, in consultation and through in-field collaboration with the MHTO, Baffinland expanded its Arctic char health monitoring program in 2021 to include the Tugaat River, Qurluktuk Lake (both waterbodies identified as target study areas by the MHTO for ongoing fish monitoring) and Ikaluit Lake (not visited in 2021 due to weather). The summer 2021 field program that looked specifically at fish body condition and fish health in the Tugaat River during the open-water season. Fish data collected during this program is still being analysed but it will include a comparison of Arctic char body condition and growth metrics between 2021 and sampling conducted prior to Milne Port construction (e.g., historical studies from 1992 and 1996). Any evidence of Project impacts on fish health or growth parameters in these waterbodies would serve to trigger further studies, which could include investigations into stock size metrics in the corresponding freshwater systems, but not in the marine environment for the reasons detailed above. Similarly, a lack of evidence of adverse effects of the Project on Arctic char health in this waterway would rationalize why a stock size assessment would not be a reasonable Project monitoring requirement.</p>

ID#	Topic	NIRB Comment	NIRB Recommendation	Baffinland Response
				<p>Although Baffinland acknowledges that Term and Condition 113 outlines a requirement to conduct stock sizes of Arctic char, it is important to note that Fisheries and Oceans Canada (DFO) is the responsible authority for assessing the status of Arctic char stocks in the North Baffin Region and to provide advice on the sustainability of these fisheries. For example, before a fishery is licenced as a commercial operation, the sustainability of the harvest on the stock must be evaluated (DFO, 2010). This is typically done by operating a fishery under an exploratory licence for five or more consecutive years. The specific objective of the exploratory fishery stage is to determine whether the harvested stock or population can sustain a commercial viable operation by collecting and analysing biological and catch and effort data. Essentially the resilience of a stock to sustained fishing pressure is assessed and if resilience to the level of harvest is demonstrated, the stock may be considered for designation as a commercial waterbody. The Robertson River (i.e., Koluktoo River) in Milne Inlet and the Satuut River in Eclipse Sound (bottom tip of Navy Board Inlet) are two such waterbodies that are presently being assessed by DFO for the feasibility of a sustainable fishery (DFO, 2013; NWRTF, 2020). Details of this study are captured in Attachment 1. Background information on past studies undertaken by DFO in response to historical concerns raised by the community of Pond Inlet related to stock sizes of Arctic Char in freshwater bodies near the Project area, but prior to its development are included in Attachment 2.</p> <p>In summary, Baffinland is not currently undertaking char stock size assessments in the Regional Study area for the following reasons:</p> <ul style="list-style-type: none"> • Baffinland extensively monitors several arctic char metrics in both the marine and freshwater environments within the Project zone of influence (including fish health and body condition, fish habitat quality, fish habitat use, prey availability) that effectively capture the applicable Project effects pathway (e.g., effect of iron ore dust emissions, changes to fish habitat, etc.). At present, results of this monitoring indicate that there are no adverse effects in fish health or other char effect indicators (i.e., fish habitat) from the Project. Therefore, it is reasonable to assume no impacts to the stock at a population level would be occurring. Accordingly, there is no reasonable justification to conduct a stock assessment for arctic char for the same pathway of concern. Baffinland has recently expanded on its Arctic char fish health monitoring program in other local waterways in direct response to recent community concerns on this topic. • The community of Pond Inlet have expressed concerns regarding stock size of Arctic Char in waterbodies near the Project area long before any activities associated with the Project began (see Attachment 2). Critical thresholds for commercial and subsistence harvesting have not been set in all water bodies near the Project area, suggesting that potential overharvesting may be resulting in reduced fishing success, as was the case in years prior to Project development. • Although the NIRB has directed Baffinland to conduct stock size assessments in Milne and Steensby Inlet in Term and Condition 113, this is not a practical way to investigate potential effects as stock sizes for fish are not assessed in the marine environment given that arctic char are only resident in the marine environment for several weeks during the open-water season and there are multiple stocks mixing in the marine at this time. Furthermore, in light of the current data gaps on stock definition, stock size would need to be undertaken in the corresponding river or lakes systems. This work is ongoing by the responsible parties. • It is the responsibility of DFO to assess the status of local arctic char stocks in the Canadian arctic and to manage these stocks accordingly. To this effect, there has been limited study undertaken to date in the North Baffin region to inform this process, although there is some work in progress under the direction of DFO and the NWMB to fill these existing data gaps (i.e. exploratory fishery in Milne Inlet and Eclipse Sound – Attachment 1). There is little justification for redundancy in this effort (i.e., multiple parties conducting equivalent char population/stock investigations), particularly when several of these stocks are considered high risk from prior commercial and subsistence harvesting, including those belonging to the Tugaat River watershed (DFO, 2013).

ID#	Topic	NIRB Comment	NIRB Recommendation	Baffinland Response																																																																																				
2	Aquatic Invasive Species (AIS) Monitoring Program	According to the Term and Condition 87, in the 2020 sampling at Milne Port and Ragged Island, eight (8) benthic taxa were identified and sent for independent verification. In Baffinland's description of Term and Condition 88, they indicated that the AIS monitoring identified nine (9) taxa.	Monitoring Officers are requesting clarification over the number of taxa flagged. The Proponent should provide a clear description of new taxa and already identified taxa from past sampling. The information should be provided writing 90 days of issuance of this report.	<p>A total of nine (9) taxa were flagged for independent verification as part of NIS/AIS monitoring in 2020, this included eight (8) benthic invertebrates and one (1) fish. These taxa are listed in the following table:</p> <table border="1"> <thead> <tr> <th>Phylum Class/Order</th> <th>Family</th> <th>Subfamily</th> <th>Taxa (Original Identification)</th> </tr> </thead> <tbody> <tr> <td colspan="4">Annelida (Benthic Taxa)</td> </tr> <tr> <td>Polychaeta/Phyllodocida</td> <td>Polynoidae</td> <td>Polynoinae</td> <td><i>Harmothoe imbricata</i>¹</td> </tr> <tr> <td>Polychaeta/Phyllodocida</td> <td>Polynoidae</td> <td>Polynoinae</td> <td><i>Harmothoe propinqua</i></td> </tr> <tr> <td>Polychaeta/Phyllodocida</td> <td>Polynoidae</td> <td>Polynoinae</td> <td><i>Hesperonoe</i> sp.</td> </tr> <tr> <td>Polychaeta/Sabellida</td> <td>Fabriciidae</td> <td></td> <td><i>Pseudofabricia</i> sp. nr. <i>Aberrans</i></td> </tr> <tr> <td>Polychaeta/Spionida</td> <td>Spionidae</td> <td></td> <td><i>Marenzelleria viridis</i></td> </tr> <tr> <td>Polychaeta/Terebellida</td> <td>Ampharetidae</td> <td>Ampharetinae</td> <td><i>Ampharete petersenae</i></td> </tr> <tr> <td>Polychaeta/Terebellida</td> <td>Ampharetidae</td> <td>Ampharetinae</td> <td><i>Sosane wireni</i></td> </tr> <tr> <td>Polychaeta/Terebellida</td> <td>Terebellidae</td> <td></td> <td><i>Paramphitrite birulai</i>²</td> </tr> <tr> <td colspan="4">Chordata (Fish Taxa)</td> </tr> <tr> <td>Actinopterygii/Perciformes</td> <td>Ammodytidae</td> <td></td> <td><i>Ammodytes hexapterus</i></td> </tr> </tbody> </table> <p>¹<i>Harmothoe imbricata</i> was initially mistakenly identified by Biologica as <i>Harmothoe viridis</i>. The specimen was sent for verification to confirm the correction.</p> <p>²<i>Paramphitrite birulai</i> was independently verified as <i>Amphitrite birulai</i>, which is an alternative name for the same species</p> <p>Organisms sent for independent verification are also summarized in Table 8-15 in Section 8.5.4 of the 2020 MEEMP Report. This table also includes organisms flagged for independent verification in 2019, as these results were not available at the time of preparation of the 2019 MEEMP Report. As such, Section 8.5.4 includes a total of fifteen (15) organisms, including nine (9) specimens from 2020 and eight (8) specimens from 2019. The complete record of organisms sent for verification since the AIS/NIS Monitoring Program was initiated is presented in Appendix 8D-1 of the 2020 MEEMP Report. For ease of reference, it has also been included as Attachment 3 to this submission.</p> <p>Following independent verification, the taxa (from 2019 and 2020) were again screened against various taxonomic databases as described in Chapter 8.0 of the 2020 MEEMP Report. Following review, seven (7) of the taxa were reconfirmed as "Low Risk" or "High Risk" taxa on the Project Watchlist. The Project Watchlist includes specimens flagged since the start of the AIS/NIS monitoring program, not just taxa verified in 2020 (noting 2020 verifications included taxa identified in previous monitoring years). As of 2020, there are a total of nine (9) taxa on the Project Watchlist. The table below identifies these nine (9) taxa, their risk category and the year they were placed on the Project Watchlist.</p> <table border="1"> <thead> <tr> <th>Phylum Class/Order</th> <th>Family</th> <th>Subfamily</th> <th>Taxa</th> <th>Risk Category</th> <th>Year Added</th> </tr> </thead> <tbody> <tr> <td colspan="6">Annelida (Benthic Taxa)</td> </tr> <tr> <td>Polychaeta/Phyllodocida</td> <td>Polynoidae</td> <td>Polynoinae</td> <td><i>Hesperonoe</i> sp.</td> <td>Low Risk</td> <td>2020</td> </tr> <tr> <td>Polychaeta/Sabellida</td> <td>Fabriciidae</td> <td></td> <td><i>Pseudofabricia</i> sp. nr. <i>Aberrans</i></td> <td>Low Risk</td> <td>2018</td> </tr> <tr> <td>Polychaeta/Spionida</td> <td>Spionidae</td> <td></td> <td><i>Marenzelleria viridis</i></td> <td>High Risk</td> <td>2019</td> </tr> <tr> <td>Polychaeta/Terebellida</td> <td>Ampharetidae</td> <td>Ampharetinae</td> <td><i>Ampharete petersenae</i></td> <td>Low Risk</td> <td>2020</td> </tr> </tbody> </table>	Phylum Class/Order	Family	Subfamily	Taxa (Original Identification)	Annelida (Benthic Taxa)				Polychaeta/Phyllodocida	Polynoidae	Polynoinae	<i>Harmothoe imbricata</i> ¹	Polychaeta/Phyllodocida	Polynoidae	Polynoinae	<i>Harmothoe propinqua</i>	Polychaeta/Phyllodocida	Polynoidae	Polynoinae	<i>Hesperonoe</i> sp.	Polychaeta/Sabellida	Fabriciidae		<i>Pseudofabricia</i> sp. nr. <i>Aberrans</i>	Polychaeta/Spionida	Spionidae		<i>Marenzelleria viridis</i>	Polychaeta/Terebellida	Ampharetidae	Ampharetinae	<i>Ampharete petersenae</i>	Polychaeta/Terebellida	Ampharetidae	Ampharetinae	<i>Sosane wireni</i>	Polychaeta/Terebellida	Terebellidae		<i>Paramphitrite birulai</i> ²	Chordata (Fish Taxa)				Actinopterygii/Perciformes	Ammodytidae		<i>Ammodytes hexapterus</i>	Phylum Class/Order	Family	Subfamily	Taxa	Risk Category	Year Added	Annelida (Benthic Taxa)						Polychaeta/Phyllodocida	Polynoidae	Polynoinae	<i>Hesperonoe</i> sp.	Low Risk	2020	Polychaeta/Sabellida	Fabriciidae		<i>Pseudofabricia</i> sp. nr. <i>Aberrans</i>	Low Risk	2018	Polychaeta/Spionida	Spionidae		<i>Marenzelleria viridis</i>	High Risk	2019	Polychaeta/Terebellida	Ampharetidae	Ampharetinae	<i>Ampharete petersenae</i>	Low Risk	2020
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				Polychaeta/Terebellida	Terebellidae		<i>Amphitrite birulai/Paramphitrite birulai</i>	Low Risk	2020
Arthropoda (Benthic Taxa)									
				Malacostraca/Amphipoda	Corophiidae	Corophiinae	<i>Crassikorophium</i> sp.	Low Risk	2018*
				Malacostraca/Amphipoda	Corophiidae	Corophiinae	<i>Monocorophium</i> sp.	High Risk	2018*
Chordata (Fish Taxa)									
				Actinopterygii/Perciformes	Ammodytidae		<i>Ammodytes hexapterus</i>	Low Risk	2020
* <i>Crassikorophium</i> sp. and <i>Monocorophium</i> sp. were both identified during baseline surveys and their presence in the region are not considered Project-related. Both organisms were placed on the Project Watchlist based on concerns from DFO that these genera can demonstrate invasive behaviour.									
Board Recommendations									
1	Dust	Dust at the Mary River Project site has been a concern for many community members and interested parties for several years. Parties have submitted comments through various monitoring avenues including the Working Groups and comments on annual reports. Since 2015, the Board has routinely made observations and annual recommendations regarding the production of dust on site. In response to these concerns, Baffinland has conducted several studies to find more effective ways to reduce the amount of dust deposition on site and along the Tote Road. Most recently, Baffinland tested a dust suppression product along the Tote Road (<i>Dust Stop</i>) and on the ore stockpile (<i>DustTreat</i>). This has helped control the dust in some areas when mitigations are used effectively (installation of hoods, shrouds, and bellows at the Crusher site); however, dust deposition remains an area of	Considering both the historical concerns and efforts made to date, the Board recommended that Baffinland work with the Qikiqtani Inuit Association, Environment and Climate Change Canada, Government of Nunavut, and other members of the Terrestrial Environmental Working Group to explore and develop alternative dust collection methods such as the snow core sampling and that additional dust monitoring be implemented by the winter of 2022.	<p>Baffinland has been actively working the Terrestrial Environment Working Group members to revise the dust sampling program to address their input. This has involved expanding the initial passive dust fall collection program since the start of operations, including installing additional dust fall collectors at 1 km from the PDA (at the request of the QIA), shorter (1m) dust fall collectors (at the request of communities, the GN and the QIA), additional collectors at Milne Port (at the request of the QIA and MHTO due to concerns related to dust on ice) and collectors along the proposed railway deviation on the Northern Transportation Corridor (at the request of the QIA). Since 2018, Baffinland has also been conducting satellite image analysis of dust dispersion extent based on a suggestion from the MHTO that the dust fall collector data do not appropriately illustrate the extent of dust fall on the land.</p> <p>Baffinland has also conducted snow machine-based surveys on ice-covered Milne Inlet to investigate reports from the MHTO on heavy deposition of dust on the ice around seal breathing holes. Results of these exploratory surveys showed that despite the seal breathing hole photographed by Baffinland being several kilometres closer to Milne Port than the one captured by the MHTO the previous winter, there is a complete absence of dust around the seal breathing hole depicted in the Baffinland photo. While there could be natural causes for the change in dust distribution in Milne Inlet between 2020 and 2021 (i.e. wind direction, strength), Baffinland did introduce an important control measure at Milne Port between the two periods that likely contributed to this improvement. Specifically, in November 2020 Baffinland began applying a product known as DusTreat to the Milne Port stockpiles, which forms a crust over the ore and prevents dust from escaping into Milne Inlet and the surrounding area. It is important to note that this additional mitigation was implemented in response to a general request from MHTO representatives at a February 2020 in person meeting of the Terrestrial Environment Working Group to mitigate the release of dust in the project area, particularly in Milne Inlet. Annual satellite imagery analysis is then compared to baseline data (2004 to 2013). Preliminary findings from the 2021 Baffinland Dustfall Extent Imagery Analysis also suggest dustfall extent in Milne Inlet in 2021 is smaller than in 2020 and is showing a downward trend from the greatest extent observed in 2019. Details regarding the ice-covered surveys and results of the satellite imagery analysis have been previously presented to NIRB in September 2021 (NIRB Registry ID No. 336778) and have been re-included to this submission as Attachment 4.</p> <p>While Baffinland recognizes that some hunters have indicated that the visual effect of dust on snow may have the potential to deter hunters, or negatively impact their experiences on the land, it is important to note that there is variability in the extent or magnitude of dust emitted from Project infrastructure, and effective mitigations can be applied to mediate this. Furthermore, extensive environmental monitoring of key environmental components (water quality, vegetation health, fish health, etc.) have shown that dust from the Project is not resulting in significant adverse impacts on the environment. This information was previously provided to the NIRB in September 2021 (NIRB Registry ID No. 334330) and has been included here again as Attachment 5.</p>					

ID#	Topic	NIRB Comment	NIRB Recommendation	Baffinland Response
		<p>concern for community members and land users near the Project.</p> <p>As noted by the Qikiqtani Inuit Association in its comments on the <i>2020 Annual Report</i>, alternative means to measuring dust accumulation in the Project Area may help to provide a more complete view of the dust deposition that occurs through both the summer and winter months at Mary River.</p>		<p>To address hunters concerns, Baffinland also undertook a pilot snow sampling program in 2020/2021. These results confirm that there are no elevated health risks for consumption of snow (i.e. as water for tea) because of dust deposition, however, there are some areas where aesthetic values, as determined by Health Canada, were exceeded. (See NIRB Registry ID. No 334147 – Appendix MHTO 12 Attachment 1: Memo on Snow Sampling, also provided as Attachment 6 to this submission).</p> <p>Separately, as reported to Baffinland by QIA in September 2021, QIA undertook an independent dust sampling program, which includes data analysis and interviews with community members from Pond Inlet. The QIA suggested these results would be available in Q3/Q4 2021, however, the results of this study have not been issued as of yet. Baffinland has suggested the program carried out by QIA would qualify for adoption by the community of Pond Inlet as a community based monitoring program, which Baffinland would fund through existing mechanisms in the Mary River IIBA, however, more details of the program are required, as are further discussions with the QIA and community of Pond Inlet.</p> <p>In summary, Baffinland has expanded its dustfall monitoring program over the years to cover a greater spatial extent, and has introduced new sampling methods to the program to fully characterize effects of dust from the Project on both the environment and land users. Baffinland continues to remain open to alternative monitoring methods, and will seek ongoing input from the TEWG, governmental bodies with specialized expertise in dust monitoring such as NRCan, and Inuit. Baffinland looks forward to reviewing the results of QIAs dust monitoring program, which may also serve to inform future monitoring methods that can be regularly implemented either by Baffinland or as a community based monitoring program. Additionally, an independently managed Dust Audit, which includes community representatives from the five most impacted communities is ongoing. Recommendations related to further monitoring for dust from this Audit are expected in Q4 2022.</p>

References:

DFO. 2010. Exploratory Fishery Protocol - Nunavut and Northwest Territories anadromous Arctic Char. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2010/022. / MPO. 2010.

DFO. 2013. DFO Review of Pond Inlet Emerging Arctic Char Fishery Application. Submission to the Nunavut Wildlife Management Board (NWMB).

Everitt, R.R. 1991. Environmental Effects Monitoring Manual. A Manuscript Report Prepared for the Canadian Environmental Assessment Research Council

Golder. 2021. 2020 MEEMP and AIS Monitoring Report. Report # 1663724-281-R-Rev0. 30 July 2021.

Kristofferson, A.H., D. K. McGowan and G. W. Carder. 1984. Management of the commercial fishery for anadromous Arctic charr in the Cambridge Bay area, Northwest Territories. Canada, p. 447-461. In: L. Johnson and B. Burns [eds.] *Biology of the Arctic Charr: Proceedings of the International Symposium on Arctic Charr*. University of Manitoba Press, Winnipeg, Manitoba

NWRTF. 2020. Pond Inlet Arctic Char Fishery Development Research Program. NWRTF Final Project Report 2020/2021. NWRT Project Number: 3-20-11.

Appendix II: NIRB'S ASSESSMENT OF BAFFINLAND'S PROJECT CERTIFICATE COMPLIANCE IN THE 2021-2022 MONITORING PERIOD

Board Guidance on General Regulatory and Administrative Responsibilities

Term and Condition	Reporting Requirements	Compliance Achievement	NIRB Comment
General Regulatory Requirements			
1. Appointment of Monitoring Officer(s)	n/a	Active In Compliance	Completed by NIRB
2. NIRB to report annually on the monitoring program (in English and Inuktitut)	Annually	Active In Compliance	Completed by NIRB
3. NIRB to conduct periodic community meetings updates regarding its Monitoring Program	n/a		To be determined in 2022 due to active processes for the Project.
4. NIRB to schedule periodic site inspections.	n/a	Active In Compliance	Two (2) site visits occurred in 2022, the first in June and the second in August.
5. Proponent must obtain all required federal and territorial permits and other approvals and shall comply with the requirements of such regulatory instruments.	n/a	Active In Compliance	Baffinland has included items in its 2021 Annual Report.
6. Duty to Comply with environmental laws and regulations and/or regulatory instruments, prompt action to remedy non-compliance and report any non-compliance.	Annually	Active In Compliance	Baffinland has included details in its 2021 Annual Report
7. Posting of adequate performance bonding.	n/a	Active In Compliance	N/A
Monitoring Records			
8. Information requirements for monitoring reporting.	Annually	Active In Compliance	
9. Make significant monitoring results and/or summaries of significant results available in	Annually	Active In Compliance	2021 Annual Report and at Baffinland's website www.baffinland.com .

Term and Condition	Reporting Requirements	Compliance Achievement	NIRB Comment
English and Inuktitut, to the extent feasible.			
10. Maintain the records, including results, of all Project-related monitoring data and analysis for the life of the Project, including closure and post-closure monitoring.	n/a	Active In Compliance	
11. Maintenance of an up to date the Environmental Impact Statement and the updated environmental monitoring programs developed for the Project as new information is collected.	Updated as indicated by new baseline data or monitoring results.	Active In Compliance	
12. Publicly-accessible Project-specific web portal or web page to make available in a central location all significant non-confidential monitoring and reporting information submitted to regulatory authorities	n/a	Active In Compliance	Website: www.baffinland.com Completed by Baffinland and updated regularly with monitoring plans, reports, and results.
On-going Engagement in Project Monitoring, Modelling, Management and Reporting			
13. Provide on-going opportunities for consultation and comment on any substantive revisions to the Project-specific monitoring program, modelling, studies, management plans, management measures, and reporting.	Continuous/on going.	Active Deficient - in progress	The NIRB notes that this is largely completed through the Project Working Groups which are currently reviewing their Terms of Reference.

Term and Condition	Reporting Requirements	Compliance Achievement	NIRB Comment
14. To the extent feasible, the NIRB will provide an opportunity for comment on any substantive revisions to the Project-specific monitoring, modelling, studies, management plans, management measures, and reporting provided by the Proponent under the Project Certificate.	Ongoing.	Active In Compliance	Completed by NIRB

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Glossary	<p>In Compliance: The Proponent has fulfilled its obligations described under the Term and Condition as set out in the Project Certificate for the monitoring period.</p> <p>Deficient – in progress: Proponent has partially fulfilled its obligations described under the Term and Condition as set out in the Project Certificate for the monitoring period.</p> <p>Non-Compliance: Proponent has not met its obligations described under the Term and Condition as set out in the Project Certificate for the monitoring period.</p> <p>Not Yet Active: The term and condition is not active to the current phase of the Project in this monitoring period.</p>			
Climate				
1	GPS/tidal gauge monitoring of sea levels and storm surges	<i>Milne Inlet</i> Active In Compliance	<i>Milne Inlet</i> Active In Compliance	Related to Term and Condition 83. Baffinland kept collecting data at Milne Port during 2021 on water level resulting from tidal forcing, eight neap-spring tidal cycles were observed and no storm surges.
		<i>Steensby Inlet</i> Not Yet Active	<i>Steensby Inlet</i> Deficient – In Progress	At Steensby Inlet Baffinland has deployed an oceanographic mooring in 2021 and will be recovered in August 2022.
2	Validation and update of climate change impacts of the project on the LSA and RSA.	Active In Compliance	Active In Compliance	Baffinland will update its Climate Change Strategy in 2022.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
3	Exploring and implementing steps to reduce GHGs.	Active In Compliance	Active In Compliance	In 2021, no new action was taken by Baffinland to reduce GHGs, but Baffinland's third-party verification completed its 2021 GHG emissions. Additional initiatives will be identified through the updated Climate Change Strategy in 2022.
4	Engage Inuit in climate change related research and studies.	Active In Compliance	Active In Compliance	In 2021, Stratos engaged with some communities for the development of the Climate Change Strategy framework. Baffinland is currently updating its Climate Change Strategy, inclusion and collaboration with communities will be provided.
5	Reasonable measures to ensure that Project-site weather related information is publicly available.	Active In Compliance	Active In Compliance	Baffinland makes the weather for the Mary River Project locations (Mine Site and Milne Port) publicly available on their website at www.baffinland.com and through the Weather Network.
6	Provide results of SO ₂ , NO _x , and GHG emissions calculations using fuel consumption or other relevant criteria.	Active In Compliance	Active In Compliance	Baffinland provided a table summarizing their 2021 annual emissions in their self-assessment of Term and Condition 6: GHG = 169,719 t-CO ₂ eq SO ₂ = 13 t(SO ₂) NO _x = 3, 757 t (NO ₂)

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Air Quality				
7	Update Air Quality and Noise Abatement Plan to include continuous SO ₂ and NO ₂ monitoring at port sites to capture operations phase ship-generated emissions for several seasons.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	Baffinland continues monitoring of SO ₂ and NO ₂ at Mine Site Complex and Port. SO ₂ and NO ₂ remain within the air quality objectives. <i>Air Quality and Noise Abatement Management Plan</i> (Baffinland, 2022), Baffinland's Appendix G.3, NIRB ID No: 338447 <i>Annual Air Quality, Dustfall and Meteorology Report</i> (Stantec, 2022), Baffinland's Appendix G.26, NIRB ID No: 338489
		Steensby Inlet Not Yet Applicable	Steensby Inlet Not Yet Applicable	
8	Demonstrate through SO ₂ and NO ₂ monitoring at the mine site and ports that emissions remain within predicted levels. Provide rationale and mitigation measures for exceedances.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	In 2021, Baffinland's overall SO ₂ and NO ₂ levels across all sites were within both the 1-hour and annual thresholds for Nunavut Air Quality Standards. <i>Air Quality and Noise Abatement Management Plan</i> (Baffinland, 2022), Baffinland's Appendix G.3, NIRB ID No: 338447 <i>Annual Air Quality, Dustfall and Meteorology Report</i> (Stantec, 2022), Baffinland's Appendix G.26, NIRB ID No: 338489
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	
9	Provide calculations of Green House Gas (GHG) emissions at the port sites and other Project sources including Project associated aircraft.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	Total calculated GHG emissions in 2021 were 169, 719 t-CO ₂ eq compared to 168, 919 t-CO ₂ eq in 2020. In the Terms and Conditions 3, Table 4.2 shows the GHGs emissions trend since 2015.
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	
10	Update to Dust Management Plan to include monitoring and management plans	Active Deficient – In progress	Active In Compliance	In 2021, Baffinland installed 14 new dustfall monitoring stations and 6 of them were at 0.5 m height as requested by QIA and the TEWG. In specific locations dustfall did exceed FEIS predictions, but overall dustfall was within observations from previous years. Baffinland installed a new air quality monitoring program at the Port Site Complex and Mine Site Complex to measure atmospheric dust (see Air Quality Memo Appendix G.29).

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
				<i>Air Quality and Noise Abatement Management Plan</i> (Baffinland, 2021), Baffinland's Appendix G.3, NIRB ID No: 338447. <i>Air Quality Memo</i> (Stantec, 2022), Baffinland's Appendix G.29, NIRB ID No: 338486 <i>Draft Terrestrial Environment 2021 Annual Monitoring Plan</i> (EDI, 2022)
11	Develop and Implement Incineration Management Plan.	Active In Compliance	Active In Compliance	Baffinland adheres to the six-step process for batch waste incineration as outlined by Environment and Climate Change Canada including conducting waste audits at both the Milne Port and Mary River Facilities. <i>Waste Management Plan</i> (Baffinland, 2020), NIRB ID No: 330371
12	Conduct at least one stack test immediately following commissioning new incinerators.	Active In Compliance	Active In Compliance	In 2021, Baffinland installed a real-time monitoring system to monitor incinerator operating parameters. All ash samples were below threshold values. Further testing will occur in 2022 with the presence of a third-party consultant. <i>Air Quality and Noise Abatement Management Plan</i> (Baffinland, 2022), Baffinland's Appendix G.3, NIRB ID No: 338447 <i>Waste Management Plan</i> (Baffinland, 2020), NIRB ID No: 330371
Noise and Vibration				
13	Work with Fisheries and Oceans Canada (DFO) to select overpressure threshold applied to explosives for the protection of fish and aquatic life.	Active In Compliance	Active In Compliance	No blasting occurred in 2021 within setback distances detailed by the DFO guidance document. Blasting is conducted in accordance with Baffinland's Quarry Blasting Management Plan and Environmental Protection Plan. <i>Surface Water and Aquatic Ecosystem Management Plan</i> (2021) <i>Environmental Protection Plan</i> (2021)
14	Conduct noise and vibration monitoring at Project accommodations in summer	Active In Compliance	Active In Compliance	Baffinland indicated that noise and vibration monitoring at the Mine site and Milne Port accommodations is scheduled annually by its Health and Safety staff. Results from 2021 indicated noise levels below 75 dBA which is within acceptable ranges. Due to COVID-19 limitations, testing occurred in September and December 2021.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	and winter during all phases of the Project.			<i>Noise and Vibration Surveys</i> (HDS, 2022), Baffinland's Appendix G.2, NIRB ID No: 338446.
14a	Demonstrate appropriate adaptive management practices during construction for activities with the potential to disrupt marine mammals.	Active In Compliance	Active In Compliance	No construction activities occurred in Milne Port in 2021. Before any construction, Baffinland will develop an associated Construction Environmental Management Plan to would include mitigation and adaptive management measures to protect marine mammals.
14b	Demonstrate appropriate adaptive management practices for project activities with the potential to disrupt terrestrial wildlife and Project site users.	Active Deficient – In progress	Active Deficient – In progress	The noise monitoring did not occur in 2021, but it is considered for 2022. No adaptive management practices are presented by Baffinland.
15	Collaborate with the Qikiqtani Inuit Association (QIA) and local Hamlets when undertaking consultation with communities regarding railway, Tote Road, and marine shipping operations. Provide visuals and discuss safety considerations.	Active In Compliance	Active In Compliance	Baffinland continues to work with local communities and the QIA regarding safety considerations for those interacting with the Project. During the June 29, 2021, MEWG meeting, Baffinland presented and reviewed its 2021 shipping plans. 10 shipping monitors were hired during the 2021 shipping season. Baffinland continues to inform its shipping activities through Facebook and the local radio. The Visitor Communication Centres along the Tote Road remained available for hunters and visitors. 2021 MEWG Meeting Minutes, Baffinland's Appendix C.1, NIRB ID No: 338438 2021 Shipping and Monitoring Program Meeting Records, Baffinland's Appendix G.4, NIRB ID No: 338448

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Hydrology or Hydrogeology				
16	Ensure that water related infrastructure is consistent with FEIS and FEIS addendum.	Active In Compliance	Active In Compliance	<p>Baffinland ensures that the water related infrastructure and facilities constructed on site are consistent with those proposed in the FEIS and related addendums. In 2021, Baffinland completed the following work:</p> <ul style="list-style-type: none"> • Maintenance of surface water drainage; • Prevention of pooling water on and around the Crusher Facility MS-06; • Expansion of the Waster Rock Facility; • Maintenance of the surface water drainage of the Tote Road; and • Construction of the MS-11 Surface Water Management Pond. <p>The railway is not yet active.</p>
17	Develop and implement measures to ensure that all effluent satisfies discharge criteria established by relevant regulatory authorities.	Active Deficient – in progress	Active Deficient – in progress	<p>Related to Terms and Conditions 24 and 46.</p> <p>In 2021, a total of four (4) effluent discharges did not comply with the applicable discharge criteria (fecal coliforms at 1,000 CFU/100 mL at the Mine Site and 10,000 CFU/100 mL at the Milne Port; Total Suspended Solids 15mg/L; ammonia: 4 mg/L; pH: 6.0-9.5; Lead: 0.001 mg/L):</p> <ol style="list-style-type: none"> 1. July 9, 2021, at the Milne Port effluent monitoring the lead concentration level was 0.00656 mg/L. Further samples in August confirmed an acceptable lead level, so Baffinland thinks the exceedance could have been a sampling or analytical error. 2. July 12, 2021, the Total Suspended Solids (TSS) at Milne port effluent monitoring station was observed at 17.3 mg/L. Baffinland is adjusting the Mobile Oily Water Treatment System to avoid future exceedances. 3. August 2, 2021, total lead observed was 0.00403 mg/L at the Milne Port Contaminated Snow Containment Berm effluent monitoring station. August

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
				<p>20, 2021, TSS was observed at 19.8 mg/L at the same station. Baffinland stated that sampling or analytical error might be the reasons for these exceedances.</p> <p><i>Fresh Water Supply, Sewage and Wastewater Management Plan (Baffinland, 2022), Baffinland's Appendix G.33, NIRB ID No: 338482 to 338478</i></p>
18	Confirm and update, as needed, the approximate fill time of the mine lake pit identified in the FEIS.	Active In Compliance	Active In Compliance	<p>The latest version of the Interim Closure and Reclamation Plan (ICRP, 2018) discussed the estimated fill time for the mine pit lake.</p> <p>Interim Closure and Reclamation Plan (ICRP, 2018), NIRB ID No: 330296</p>
19	Develop and implement adequate water infrastructure monitoring to ensure that natural water flow is not significantly hindered. Monitor and report water withdrawal rates and water use for domestic and industrial purposes.	Active In Compliance	Active In Compliance	<p>During 2021, Baffinland did continue to monitor Project water crossing and routine preventative maintenance as snow clearance prior to freshet. No significant blockages were observed. For water withdrawal limits, only two (2) exceedances occurred in 2021. Both exceedances occurred at approved dust suppression water sources along the Tote Road.</p> <p><i>Environmental Protection Plan (Baffinland, 2021)</i> <i>Roads Management Plan (Baffinland, 2020), NIRB ID No: 330369</i> <i>Surface Water and Aquatic Ecosystem Management Plan (Baffinland, 2021)</i></p>
Groundwater and Surface Waters				
20	Monitor the effects of explosive residue and by-products from Project related blasting. Implement measures to ensure explosives do not negatively effect the surrounding area.	Active Deficient – In Progress	Active In Compliance	<p>During 2021, all samples collected were below the Canadian Water Quality Guidelines except for one sample exceeded the guideline at Milne Port Q1. No adverse effects have been monitored to phytoplankton, benthic invertebrates or Arctic char in Camp Lake and Sheardown Lake.</p> <p><i>Aquatic Effects Monitoring plan (Baffinland, 2022), Baffinland's Appendix G.5, NIRB ID No: 338449</i></p>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
21	Ensure that the scope of the Aquatic Effects Monitoring Program (AEMP) is consistent with the requirements in the condition.	Active Deficient – In Progress	Active In Compliance	The current revision of the Project's AEMP (2022) appears to meet the requirements of the intended scope for Term and Condition 21. <i>Aquatic Effects Monitoring plan</i> (Baffinland, 2022), Baffinland's Appendix G.5, NIRB ID No: 338449
22	Develop a Sediment and Erosion Management Plan.	Active In Compliance	Accomplished Completed	A Sediment and Erosion Management Plan is incorporated into Baffinland's Surface Water and Aquatic Ecosystem Management Plan (SWAEMP, 2021).
23	Develop and implement Groundwater Monitoring and Management Plan.	Active Deficient – In progress	Active In Compliance	During 2021, groundwater was sampled at seven (7) monitoring wells at the Mine Site Hazardous Waste Berm area and at five (5) monitoring wells at the Landfill Facility. <i>2021 Groundwater Monitoring Report</i> (Tetra Tech, 2022), Baffinland's Appendix G.8, NIRB ID No: 338453
24	Ensure that effluent discharge conditions are met all times	Active Deficient – In progress	Active Deficient – In progress	Related to Terms and Conditions 17 and 46. In 2021, a total of four (4) effluent discharges did not comply with the applicable discharge criteria (fecal coliforms at 1,000 CFU/100 mL at the Mine Site and 10,000 CFU/100 mL at the Milne Port; Total Suspended Solids 15mg/L; ammonia: 4 mg/L; pH: 6.0-9.5; Lead: 0.001 mg/L): <ol style="list-style-type: none"> July 9, 2021, at the Milne Port effluent monitoring the lead concentration level was 0.00656 mg/L. Further samples in August confirmed an acceptable lead level, so Baffinland thinks the exceedance could have been a sampling or analytical error. July 12, 2021, the Total Suspended Solids (TSS) at Milne Port effluent monitoring station was observed at 17.3 mg/L. Baffinland is adjusting the Mobile Oily Water Treatment System to avoid future exceedances.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
				<p>3. August 2, 2021, total lead observed was 0.00403 mg/L at the Milne Port Contaminated Snow Containment Berm effluent monitoring station. August 20, 2021, TSS was observed at 19.8 mg/L at the same station. Baffinland stated that sampling or analytical error might be the reasons for these exceedances.</p> <p><i>Fresh Water Supply, Sewage and Wastewater Management Plan (Baffinland, 2022), Baffinland's Appendix G.33, NIRB ID No: 338482 to 338478.</i></p>
25	Identify sensitive landforms and develop and implement measures to minimize Project impacts on identified landforms.	Active In Compliance	Accomplished Completed	<p>Geotechnical investigations were done by Baffinland prior to initial construction. Baffinland has done additional geotechnical investigation for future infrastructures.</p> <p><i>2021 Annual Geotechnical Inspections (Wood, 2021), Baffinland's Appendix G.19, NIRB ID No: 339470 to 338474</i></p>
26	Develop and Implement Erosion Management Plan.	Active In Compliance	Accomplished Completed	<p>An erosion management plan is included in the Project's Surface Water and Aquatic Ecosystem Management Plan (2021). Sediment and erosion control is also discussed within the Environmental Protection Plan (2021).</p> <p><i>Surface Water and Aquatic Management Plan (Baffinland, 2021), available on Baffinland's website</i> <i>Environmental Protection Plan (Baffinland, 2021), available on Baffinland's website</i></p>
27	Record notes on impacts to the aesthetic value of the Project area heard in public consultations.	Active In Compliance	Active In Compliance	<p>Due to COVID-19 travel restrictions Baffinland was limited to hold public meetings in-person; however, alternative formats were used to collecting feedback such as radio shows. Most comments were related to visible dust around Milne Port and the Tote Road.</p> <p><i>2021 Engagement Records and Community Comments and Questions, Baffinland's Appendix B, NIRB ID No: 338437</i></p>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
28	Monitor Project effects on permafrost and ensure its integrity.	Active Deficient – In progress	Active Deficient – In progress	Bi-annual inspections were completed by a third-party between June 17 and 24, 2021, and September 14 to 17, 2021. Baffinland continues to have permafrost degradation along the Tote Road and Mine Haul Road. <i>2021 Annual Geotechnical Inspections</i> (Wood, 2021), Baffinland’s Appendix G.19, NIRB ID No: 339470 to 338474 Railway has not been constructed yet
29	Provide construction design and drawings for review and acceptance by relevant authorities. Provide as-built drawings to authorities following construction.	Active In Compliance	Active In Compliance	One (1) engineering submission was provided in 2021 to Authorizing Agencies.
30	Develop site-specific quarry operation and management plans before the development of any potential quarry site or borrow pit.	Active In Compliance	Active In Compliance	No new quarry operation and management plan was submitted by Baffinland in 2021 as no new development of new quarry site or borrow pit.
31	Ensure that Project activities are planned and conducted to minimize the Project footprint.	Active In Compliance	Active In Compliance	In 2021 the total footprint of the Project was 587 ha which is less of the 7,618 ha assessed in the FEIS. During 2021, no unauthorized land disturbance occurred. <i>Environmental Protection Plan</i> (Baffinland, 2021), available on Baffinland’s website <i>Draft 2021 Terrestrial Environment Annual Monitoring Report (2022)</i>
32	Ensure that all supplies brought to site are clean of soil that could contain plant seeds not naturally occurring in the area.	Active In Compliance	Active In Compliance	No exotic invasive plants were identified in 2021 during the incidental monitoring. Baffinland has service agreements and contracts were updated in 2018 to include the clause “All equipment delivered to site must be free and clear of soils that may contain seeds of invasive species”.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	Inspect vehicle tires prior to initial use in Project area.			<i>2020 Terrestrial Environment Annual Monitoring Report (EDI, 2021)</i> , NIRB ID No: 336735
33	Include relevant monitoring and management plans within the Terrestrial Environment Mitigation Monitoring Plan (TEMMP).	Active In Compliance	Active In Compliance	The TEMMP is updated on an as-needed basis to reflect any changes to programs and results of analysis as well as discussed at working group meetings. <i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016)</i> , NIRB ID No: 330302
34	Conduct soil sampling to determine levels of metals in soils where berry producing plants are, near any potential development area prior to commencing operations.	Active In Compliance	Active In Compliance	Vegetation sampling occurred in 2021 to evaluate metal concentrations. According to Baffinland, metal concentrations in soil in 2021 remained below or within acceptable range. Soil-metal and lichen-metal concentrations represent a low risk to environmental and human health and safety. <i>Draft 2021 Terrestrial Environment Annual Monitoring Report (EDI, 2022)</i>
35	Monitor baseline metal levels in organ tissue of caribou harvested within the local study area, prior to commencing operations.	Active Deficient – In progress	Active Deficient- In progress	Through the Northern Contaminants Program (NCP) project funding for the 2020-2021 program, Baffinland collaborated, and tissue samples were collected by hunters. These samples will be analyzed for metals through the NCP with the Government of Nunavut (GN) and Baffinland.
36	Establish an on-going monitoring program of vegetation used as caribou forage near Project development areas, prior to commencing operations.	Active In Compliance	Active In Compliance	Annual vegetation surveys were conducted between 2014-2019. To date, no evidence of change in vegetation abundance due to Project effects were determined and the monitoring is scheduled to be repeated in 2022 or 2023. <i>2019 Terrestrial Environment Annual Monitoring Report (EDI, 2020)</i> , NIRB ID No: 330047

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
37	Incorporate methods to evaluate the potential introduction of invasive plant species into the Terrestrial Environment and Monitoring Plan. Report non-indigenous plant species to the Government of Nunavut.	Active In Compliance	Active In Compliance	The exotic invasive monitoring is scheduled every three (3) to five (5) years, the latest survey occurred in 2019 with a follow-up in 2020. In 2021, no identification was observed though incidental monitoring activities. <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302
38	Review and adjust all monitoring information and management plans annually and adjust as needed to prevent/reduce adverse project effects on vegetation.	Active In Compliance	Active In Compliance	Baffinland's TEMMP is reviewed and adjusted throughout TEWG discussions. TEWG Meeting Records, Baffinland's Appendix C.2, NIRB ID No: 338439 <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302
39	Develop a progressive revegetation program for disturbed areas no longer in use.	Active In Compliance	Active In Compliance	The 2020 test plot was revisited in 2021 to evaluate revegetation success rate. This preliminary test is intended as a starting point for research and Baffinland will continue to assess it. Results will be shared with the Mine Closure Working Group. <i>Interim Closure and Reclamation Plan</i> (Baffinland, 2018), NIRB ID No: 330296 <i>Revegetation Survey and Preliminary Reclamation Trial</i> (Baffinland, 2022), Baffinland's Appendix G.15, NIRB ID Nos: 338464 & 338465
40	Include revegetation plans in the Site Reclamation Plan that promotes progressive reclamation compatible with the surrounding environment.	Active In Compliance	Active In Compliance	Provided in the Interim Closure and Reclamation Plan (2018). Baffinland has set up test plots in 2019 for a revegetation study and were revisited in 2021. No measurable changes in revegetation were observed at the test plot. <i>Interim Closure and Reclamation Plan</i> (Baffinland, 2018), NIRB ID No: 330296 <i>Revegetation Survey and Preliminary Reclamation Trial</i> (Baffinland, 2022), Baffinland's Appendix G.15, NIRB ID Nos: 338464 & 338465

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Freshwater Aquatic Environment				
41	Maintain a 100-m naturally vegetated buffer between the high-water mark of any fish-bearing water bodies and permanent quarries with the potential for acid rock drainage, unless otherwise approved.	Active In Compliance	Active In Compliance	No new quarries were developed in 2021 and existing quarries maintained a 100-metre buffer from the high-water mark to any fish bearing bodies. <i>Borrow Pit and Quarry Management Plan</i> (Baffinland, 2014), NIRB ID No: 330389 <i>QMR2 Quarry Management Plan</i> (Baffinland, 2021), Baffinland's Appendix G.28, NIRB ID No: 338487
42	Maintain a 30-m naturally vegetated buffer between the mining operation and adjacent water bodies.	Active In Compliance	Active In Compliance	Project activities maintained a 31-metre buffer and Project-related operations conducted within 30 m of a water body where authorized under the Type 'A' Water License and DFO Letters of Advice. <i>Surface Water and Aquatic Ecosystems Management Plan</i> (Baffinland, 2021), Available on Baffinland's website <i>Environmental Protection Plan</i> (Baffinland, 2021), Available on Baffinland's website
43	Submission of a Site Drainage and Silt Control Plan to the relevant authorities prior to the start of construction.	Active In Compliance	Active In Compliance	Drainage plans for Project sites and silt/sediment control measures used at the Project are outlined in the Project's Surface Water and Aquatic Ecosystem Management Plan (2021). <i>Surface Water and Aquatic Ecosystems Management Plan</i> (Baffinland, 2021), Available on Baffinland's website
44	Meet or exceed guidelines for blasting thresholds set by Fisheries and Oceans Canada for the protection of fish and fish habitat.	Active In Compliance	Active In Compliance	No blasting occurred in 2021 within the required setback distances established by the DFO. <i>Environmental Protection Plan</i> (Baffinland, 2021), Available on Baffinland's website

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
45	Adherence to the No-Net-Loss principle at all phases of the Project.	Active In Compliance	Active In Compliance	<p>Baffinland must demonstrate adherence to No-Net-Loss Principle in two (2) active Fisheries Act Authorizations. In 2021, Baffinland completed 37 fish bearing crossings assessments during spring and fall. Potential issues were observed on 12 fish bearing crossings and remediation actions are planned for 2022. Overall, year 2 of monitoring indicates that the 3-D structure of the Freight Dock offset habitat provides a suitable and stable substrate for marine organisms as evidenced by the presence of macroalgae, invertebrates and fishes.</p> <p><i>Year 2 Freight Dock Offset Habitat Monitoring Report (Golder, 2022), Baffinland's Appendix G.11, NIRB ID No: 338458</i></p>
46	Ensure runoff from fuel storage and maintenance facility areas, sewage and wastewater other facilities generating liquid effluent and runoff meet discharge requirements.	Active Deficient – In progress	Active Deficient – In progress	<p>Related to Terms and Conditions 17 and 24.</p> <p>In 2021, a total of four (4) effluent discharges did not comply with the applicable discharge criteria (fecal coliforms at 1,000 CFU/100 mL at the Mine Site and 10,000 CFU/100 mL at the Milne Port; Total Suspended Solids (TSS) 15mg/L; ammonia: 4 mg/L; pH: 6.0-9.5; Lead: 0.001 mg/L):</p> <ol style="list-style-type: none"> July 9, 2021, at the Milne Port effluent monitoring the lead concentration level was 0.00656 mg/L. Further samples in August confirmed an acceptable lead level, so Baffinland thinks the exceedance could have been a sampling or analytical error. July 12, 2021, the Total Suspended Solids (TSS) at Milne port effluent monitoring station was observed at 17.3 mg/L. Baffinland is adjusting the Mobile Oily Water Treatment System to avoid future exceedances. August 2, 2021, total lead observed was 0.00403 mg/L at the Milne Port Contaminated Snow Containment Berm effluent monitoring station. August 20, 2021, TSS was observed at 19.8 mg/L at the same station. Baffinland

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
				<p>stated that sampling or analytical error might be the reasons for these exceedances.</p> <p>During freshet 2021, several TSS exceedances at locations monitored were reported to ECCC, CIRNAC, NWB and NT-NU Spill Line. For the Tote Road Monitoring, six (6) sampling were greater than the 50mg/L TSS concentrations during the May 25 to June 15, 2021, period.</p> <p><i>Fresh Water Supply, Sewage and Wastewater Management Plan (Baffinland, 2022), Baffinland's Appendix G.33, NIRB ID No: 338482 to 338478</i> <i>Freshet 2021 Monitoring Report (Baffinland, 2022), Baffinland's Appendix G.24, NIRB ID No: 338491</i></p>
47	Design and construct all Project infrastructure so as they do not prevent or limit the movement of water in fish bearing streams.	Active Deficient – In progress	Active Deficient – In progress	Baffinland must demonstrate adherence to No-Net-Loss Principle in two (2) active Fisheries Act Authorizations. In 2021, Baffinland completed 37 fish bearing crossings assessments during spring and fall. Potential issues were observed on 12 fish bearing crossings and remediation actions are planned for 2022.
48	Engage with DFO and the QIA to explore Project specific thresholds for blasting that would exceed guidelines.	Active In Compliance	Active In Compliance	To date, there has been no need to undertake blasting in or near water. Should this become necessary, Baffinland committed to engaging the QIA and DFO.
48(a)	Conduct additional surveys for the presence of Arctic char in freshwater bodies and ongoing monitoring of Arctic char health where applicable, within watersheds proximal to the mine, Tote Road, and Milne	Active Deficient – In Progress	Active In Compliance	Baffinland implemented the Milne Inlet Freshwater Fish Health Assessment program following discussions with the Mittimatalik Hunters and Trappers Organization (MHTO). The design of the study was also discussed with the MHTO in February 2021 about locations and timing. Based on discussions, three (3) rivers were targeted for the study, Tugaat, Qurluktuk, and Ikaluit.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	Inlet Port project development areas, including but not limited to, Phillips Creek, Tugaat and Qurluktuk lakes. Consult with MHTO re: the design, timing, and location of proposed surveys and ongoing monitoring.			In 2021, two (2) sites were surveyed, Tugaat Lake and Quluktuk Lake and a total of 62 Arctic char were sampled. <i>2021 Milne Inlet Freshwater Fish Health Assessment Preliminary Results (Minnow, 2022)</i> , Baffinland's Appendix G.22, NIRB ID No: 338477
Terrestrial Environment				
49	Establish a Terrestrial Environment Working Group (TEWG) to serve as an advisory body.	Active In Compliance	Active In Compliance	The TEWG was established in 2013. Baffinland's <i>2021 Annual Report</i> documents all TEWG meetings and meeting minutes. Development of updated Terms of Reference are currently under review by Parties and Baffinland expect to continue this work through 2022. Similar to the Marine Environment Working Group, although established, the group requires finalization of the Terms of Reference in order to determine consensus on decisions and implementation of advice.
50	Develop and implement a Project specific terrestrial monitoring plan.	Active In Compliance	Active In Compliance	The Terrestrial environment monitoring programs are reviewed regularly with the TEWG to improve methodologies and long-term assessments. <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)
51	Consider and, where appropriate, cooperate with relevant regional and/or community-based monitoring initiatives that raise issues or produce information pertinent to mitigating project-induced	Active In Compliance	Active In Compliance	Baffinland has previously provided financial and logistical support for the Government of Nunavut's (GN) North Baffin Island Caribou population survey since 2009. In 2021, the GN undertook a collaring program and completed a composition survey. Baffinland presented options for large-scale caribou surveys to the TEWG in 2021 Baffinland is working with the GN on finalizing an agreement for the ongoing regional monitoring program.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	impacts. Give special consideration for supporting regional studies of population health and harvest programs for North Baffin caribou.			<i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022) <i>Caribou Monitoring – Triggers and Recommendations</i> (EDI, 2022) Baffinland Appendix G.23, NIRB ID No: 338492
52	Initiate and develop a timeline to test and implement deterrence mechanisms for caribou near hazardous areas, within 3 months of issuances of the Project Certificate. Report information back to the Terrestrial working group.	Active Deficient – In progress	Active In Compliance	Through the TEWG several options have been discussed and Baffinland indicated that through these discussions they've settled on a "step-wise" solution in which mitigation is applied if a conflict between caribou and hazardous area occurs. As a preventative measure, Baffinland has a stop work policy when wildlife is present to reduce hazardous conditions. Baffinland notes that caribou abundance on North Baffin Island is so low that there have only been incidental sightings of caribou; however, the situation will continually be monitored, and deterrents identified as needed. <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (2016), NIRB ID No: 330302
53	Proponent shall demonstrate all measures outlined in the condition to mitigate impacts to caribou.	a), b), c), and e) Active In Compliance d) Is not yet active.	a), b), c), and e) Active In Compliance d) Is not yet active.	Baffinland has created the Caribou Decision Tree as presented in the Terrestrial Environment Monitoring Plan to detail actions to take if, and when caribou are observed on site. Detailed methods are also included in the Draft 2021 Terrestrial Environment Annual Monitoring Report which is reviewed by the TEWG. <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)
54	Provide an updated Terrestrial Environment Monitoring Plan which includes all aspects included in the condition.	Active In Compliance	Active In Compliance	The Terrestrial Environment Mitigation and Monitoring Plan is reviewed annually and updated as needed. <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
55	Develop an adaptive management plan applicable to wolves and wolf habitats in collaboration with the Government of Nunavut.	Active In Compliance	Active In Compliance	No significant wolf population has been identified in the Project area and therefore work is on hold for now; however, protocols exist and are ready to be implemented should they be required. <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)
56	Develop a progressive strategy for the recovery of terrestrial wildlife habitat that is consistent with the <i>Nunavut Wildlife Act</i> . To ensure progressive reclamation of disturbed wildlife habitat.	Active In Compliance	Active In Compliance	Baffinland further indicated that an Interim Mine Closure and Reclamation Plan (2018) was in place to identify best practices for promoting natural revegetation and support the rehabilitation of affected areas. Results of the reclamation study conducted to-date will be shared with stakeholder through a Mine Closure Working Group. <i>Interim Closure and Reclamation Plan</i> (Baffinland, 2018), NIRB ID No: 330296 <i>Revegetation Survey and Preliminary Reclamation Trial</i> (Baffinland, 2022), Baffinland's Appendix G.15, NIRB ID Nos: 338464 & 338465
57	Report annually on terrestrial environment monitoring efforts including information included in the condition.	Active In Compliance	Active In Compliance	<i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)
58	Incorporate a review section in the NIRB annual report including the information outlined in the condition.	Active In Compliance	Active In Compliance	<i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)
59	Ensure that aircraft maintain, whenever possible altitudes outlined in the condition. Develop measures to ensure all	Active Deficient – In progress	Active Deficient – In progress	A discrepancy has been noted between Terms and Conditions 59 and 71 in which a minimum flight altitude of 610 meters above ground level (magl) and 650 magl has been discussed. Since nearly all flight areas contain migratory birds, the default minimum altitude for helicopter flights was 650 magl. Through consultation with

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	employees and subcontractors providing aircraft services are respectful of wildlife and Inuit harvesting that may occur in the Project development area.			<p>the TEWG, pilots were required to fill out daily time sheets to note reason for flight height deviations.</p> <p>Baffinland provided several rationales that pilots noted for these deviations including but not limited to survey methods requiring low flights, short distance flights that don't allow for 650 magl to be achieved and slinging. After considering pilot rational, Baffinland reported 72% conformity with flight heights in snow goose areas during the moulting season (July-August).</p> <p><i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)</p>
60	Develop a blasting program to minimize the effects of blasting on terrestrial wildlife, prior to construction.	Active In Compliance	Active In Compliance	<p>According to Baffinland, no known harm or disturbance has occurred to wildlife by blasting during the construction.</p> <p><i>Borrow Pit and Quarry Management Plan</i> (Baffinland, 2014), NIRB ID No: 330389 <i>Environmental Protection Plan</i> (Baffinland, 2021), Available on Baffinland's website</p>
61	Implement a stop work policy when wildlife in the area may be endangered by Project work, whenever practical and not causing human safety concerns.	Active In Compliance	Active In Compliance	<p>The Environment Protection Plan outlines the 'stop work' procedure and the Terrestrial Environment Working Group provided an operational definition of 'endangered'.</p> <p><i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Environmental Protection Plan</i> (Baffinland, 2021), Available on Baffinland's website</p>
62	Prohibit Project employees from transporting firearms to site and from operating firearms in the Project area for the purpose of wildlife harvest.	Active In Compliance	Active In Compliance	<p>Baffinland policy prohibits employees from carrying firearms on site. In 2021, no incidences of Project personnel hunting or fishing within Baffinland's Project Development Area.</p> <p><i>Weapons on Site Policy</i> (Baffinland, 2015), NIRB ID No: 291703 <i>Hunting and Harvesting Policy</i> (Baffinland, 2013), NIRB ID No: 291704</p>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
63	Liaise with local Hunters and Trappers Organizations in advance of carrying out terrestrial wildlife surveys. Meet with the organizations in person annually to discuss wildlife monitoring.	Active In Compliance	Active In Compliance	Baffinland provided a list of engagements with all HTO's, Inuit Organizations, and Hamlets in 2021 through both Working Group meetings and additional meetings. <i>2021 Community Engagement Records</i> , Baffinland's Appendix B, NIRB ID No: 338437 <i>2021 TEWG Meeting Minutes</i> , Baffinland's Appendix C.2, NIRB ID No: 338439 <i>2021 Shipping and Monitoring Program Meeting Minutes</i> , Baffinland's Appendix G.4, NIRB ID No: 338448
64	Ensure the environment protection plan incorporates waste management provisions to ensure carnivores are not attracted to Project site(s).	Part A and B Active In Compliance	Active In Compliance	Baffinland continues to apply protection and mitigation measures listed in their plan to make sure wildlife is not attracted to site. All employees on-site must pass training on the environmental protection. <i>Environmental Protection Plan</i> (Baffinland, 2021), Available on Baffinland's website <i>Waste Management Plan</i> (Baffinland, 2020), NIRB ID No: 330371 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)
Birds				
65	Ensure all employees at site receive bird awareness training (avoidance of nests and large concentrations of foraging and moulting birds).	Active In Compliance	Active In Compliance	Baffinland Site Environment Department Employees have continued to receive annually bird survey training and staff continued to survey grounds of new construction activities. <i>Environmental Protection Plan</i> (Baffinland, 2021), Available on Baffinland's website
66	Avoid bird Species at Risk and their nests; establish avoidance zones as per TEMMP.	Active In Compliance	Active In Compliance	No Species at Risk nests or eggs have been encountered during Project activities. <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022) <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
67	Ensure mitigation and monitoring strategies for bird Species at Risk are updated for consistency with applicable status reports, recovery strategies, action plans and management plans.	Active In Compliance	Active In Compliance	Baffinland coordinates with Environment and Climate Change Canada (ECCC) to develop mitigation and monitoring strategies for Species at Risk through the TEWG meetings. <i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016), NIRB ID No: 330302</i> <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report (EDI, 2022)</i>
68	Install flashing red, red strobe or white strobe lights and guy-wire deterrents on communications towers. Consider reducing lighting when possible in areas where it may serve as an attractant to birds or other wildlife.	Active In Compliance	Active In Compliance	Reflectors have been installed on guy wires of current communications towers and will continue to be done in future construction activities. Strobe lights were found to not be relevant mitigation measures since bird are mostly present during the period of 24-hour sunlight. <i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016), NIRB ID No: 330302</i>
69	Prior to bird migrations and nesting, identify and install nesting deterrents (e.g., flagging) to discourage birds from nesting that will be disturbed by construction/clearing activities.	Active In Compliance	Active In Compliance	In 2021 there were no attempted nesting attempts in cleared area and one (1) nest was found in a previously undisturbed area. No deterrents were used. <i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016), NIRB ID No: 330302</i> <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report (EDI, 2022)</i>
70	Protect any nests found (or indicated nests) with a buffer zone as per setback distances outlined in the TEMMP.	Active In Compliance	Active In Compliance	In 2021, the active migratory bird nest survey detected two (2) Snow Bunting nest at the KM 104, a no-disturbance buffer was created to protect the nest and the construction in the area was postpone. <i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016), NIRB ID No: 330302</i> <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report (EDI, 2022)</i>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
71	<p>Subject to safety requirements, the Proponent shall require all project related aircraft to maintain a cruising altitude of at least:</p> <p>a. 650 m during point to point travel when in areas likely to have migratory birds</p> <p>b. 1100 m vertical and 1500 m horizontal distance from observed concentrations of migratory birds</p> <p>c. 1100 m over the area identified as a key site for moulting snow geese during the moulting period (July-August), and if maintaining this altitude is not possible, maintain a lateral distance of at least at least 1500 m from the boundary of this site</p>	Active Deficient – In progress	Active Deficient – In progress	<p>A discrepancy has been noted between Terms and Conditions 59 and 71 in which a minimum flight altitude of 610 meters above ground level (magl) and 650 magl has been discussed. Since nearly all flight areas contain migratory birds, the default minimum altitude for helicopter flights was 650 magl.</p> <p>Through consultation with the TEWG, pilots were required to fill out daily time sheets to note reason for flight height deviations. Baffinland provided several rationales that pilots noted for these deviations including but not limited to survey methods requiring low flights, short distance flights that do not allow for 650 magl to be achieved and slinging. After considering pilot rational, Baffinland reported 72% conformity with flight heights in snow goose areas during the moulting season (July-August).</p> <p><i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016), NIRB ID No: 330302</i></p> <p><i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report (EDI, 2022)</i></p>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
72	Ensure that pilots are informed of minimum cruising altitude guidelines and that a daily log or record of flight paths is maintained and available for regulatory authorities.	Active Deficient – In progress	Active In Compliance	<p>Pilots are contracted to follow flight altitude regulations set in place by Baffinland through the Project Certificate. However, pilots are not fully compliant, some non-compliances are due to flight requirements such as weather, movement of personnel and equipment, pilot safety or short flight distances.</p> <p>Through consultation with the TEWG, pilots were required to fill out daily time sheets to note reason for flight height deviations. Baffinland provided several rationales that pilots noted for these deviations including but not limited to survey methods requiring low flights, short distance flights that don't allow for 650 magl to be achieved and slinging. After considering pilot rational, Baffinland reported 72% conformity with flight heights in snow goose areas during the moulting season (July-August).</p> <p><i>Environmental Protection Plan (Baffinland, 2021), Available on Baffinland's website</i> <i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016), NIRB ID No: 330302</i> <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report (EDI, 2022)</i></p>
73	Develop detailed and robust mitigation and monitoring plans for migratory birds taking into consideration input from relevant organizations.	Active In Compliance	Active In Compliance	<p>Baffinland continues to meet and benefits from the relevant organizations within the Terrestrial Environment Working Group to adapt and develop mitigation and monitoring plans for birds.</p> <p><i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016), NIRB ID No: 330302</i> <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report (EDI, 2022)</i> <i>2021 TEWG Meeting Minutes, Baffinland's Appendix C.2, NIRB ID No: 338439</i></p>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
74	Develop and update relevant monitoring plans for migratory birds prior to construction including the key indicators included in the condition.	Active In Compliance	Active In Compliance	Baffinland keep following monitoring programs as describe within its TEMMP. To date, the monitoring data of bird densities are insufficient to monitor Project effects. In 2021, Baffinland had focused its effort in preparing a draft manuscript for peer-review publication. Next PRISM surveys are planned for 2023. <i>Terrestrial Environment Mitigation and Monitoring Plan</i> (Baffinland, 2016), NIRB ID No: 330302 <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022) <i>2021 TEWG Meeting Minutes</i> , Baffinland's Appendix C.2, NIRB ID No: 338439
75	Report annually on terrestrial habitat loss due to the Project to verify impact predictions and project footprint.	Active In Compliance	Active In Compliance	At the end of 2021 the total Project footprint is 587 hectares which is less than what was assessed in the FEIS (7, 618 ha), and to date all Baffinland's activities have occurred within the PDA. <i>Draft 2021 Terrestrial Environment Mitigation and Monitoring Report</i> (EDI, 2022)
Marine Environment				
76	Develop a comprehensive environmental effect monitoring program to address concerns and identify potential impacts on the marine environment.	Active In Compliance	Active In Compliance	Overall, the MEEMP sampling results do not suggest degradation of the marine environment, a summary list of results is presented in Baffinland's annual report. <i>2020 MEEMP and AIS Monitoring Program Report</i> (Golder, 2021), NIRB ID No: 336738 to 336740 <i>Draft 2021 Marine Environmental Effects Monitoring Program</i> (Golder, 2022)
77	Establish a Marine Environment Working Group.	Active In Compliance	Active In Compliance	The MEWG was established in 2013 and met twice in 2021 (teleconference) to guide and review the development of marine monitoring efforts. Like the Terrestrial Environment Working Group, although established, the Terms of Reference have yet to be finalized. Baffinland continues to work on a revised Terms of Reference throughout 2022, further explanation in Baffinland's response to Board's recommendation. <i>Concordance to 2020-2021 Board Recommendations</i> , Baffinland's Appendix E, NIRB ID No: 338443

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
78	Update baseline information for landfast ice using a long-term dataset and with inter-annual variation.	Active Deficient – In progress	Active In compliance	Ice Condition studies were commissioned by Baffinland in 2011, 2015, 2016, and 2021 along the Northern shipping route. In addition, Baffinland uses the Canadian Ice Service and ice navigators on board the MSV Botnika. This information is used to navigate ice and in the procurement of ice-class vessels for Project operations. Baffinland indicated that this study will continue to be updated as new data becomes availability. <i>2021 Shipping and Marine Wildlife Management Plan</i> (Baffinland, 2022), Baffinland's Appendix G.12, NIRB ID No: 338459
79	Provide the Canadian Hydrographic Services with bathymetric data and other information in support of Project shipping where possible.	Active In Compliance	Active In Compliance	Baffinland has entered into a collaborative agreement with Canadian Hydrographic Survey for their nautical charting program and collected additional bathymetry data around the ore dock in 2016. Baffinland indicated that no data has been collected since as there have been no substantial changes to the Northern Shipping Route.
80	Prior to commercial shipping of iron ore, a detailed risk assessment is to be conducted for Project related shipping accidents.	Active In Compliance	Active In Compliance	Baffinland has developed and maintains contingency plans to respond to spills and conducts annual spill response exercises. <i>Emergency Response Plan</i> (ERP; Baffinland, 2020), Available on Baffinland's website <i>2021 Oil Pollution Emergency Plan - Milne Inlet OPEP</i> (Baffinland, 2021), Available on Baffinland's website <i>Spill Contingency Plan</i> (Baffinland, 2021), Available on Baffinland's website <i>2021 Shipping and Marine Wildlife Management Plan</i> (Baffinland, 2022), Baffinland's Appendix G.12, NIRB ID No: 338459
81	Reassess the potential for ship wake impacts to cause coastal change following changes to the proposed shipping route.	Northern Route Active In Compliance	Northern Route Accomplished Completed	Baffinland indicated that ship wake effects were assessed for the Mary River Project in 2012 and 2018 with results indicating wind generated waves are likely to exceed ship waves. There were no significant changes to the proposed shipping routes in 2020 and as such, no reassessment has occurred. Should changes to the shipping route be proposed, Baffinland is committed to undertake the required assessment.
		Southern Route Not Yet Active	Southern Route Not Yet Active	

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
82	Encouraged to have ore carriers to subjected to sea trials to measure wake characteristics at various speeds.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	Baffinland suggests that this Term and Condition was intended for the purpose-built ore-carriers on the Project and largely for the southern shipping route. Since the current operation is using commercially available ships in the northern route, no sea-trials have been conducted to date, but they remain committed to the performing these trials should they use purpose-built vessels in the future.
83	Install tidal gauges at Steensby and Milne Ports to monitor sea levels and storm surges.	Milne Inlet Active Deficient – In progress	Milne Inlet Active In Compliance	Related to Term and Condition 1. In 2021 tidal monitoring continued using an RBRconcerto CTD sensor programmed to measure pressure, temperature, and conductivity. Sensors installed at Milne Port indicate typical water level fluctuations resulting from tidal forcing. At Steensby Inlet Baffinland has deployed an oceanographic mooring in 2021 and will be recovered in August 2022. <i>Draft 2021 MEEMP and NIS/AIS Monitoring Report (Golder, 2022)</i>
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active In Compliance	
83 (a)	Identify potential for and conduct monitoring to identify effects of sediment redistribution associated with construction and operation at Milne Port	Active Deficient – In progress	Active In Compliance	In 2018, Baffinland conducted hydrodynamic and sediment transport modelling near Milne Port. In 2019, Golder conducted a background review of hydrology and geomorphology in Philips Creek. No additional modelling was conducted in 2020. In 2019, Baffinland conducted a review of the hydrology and geomorphology in Phillips Creek estuary to understand fluvial processes. The results of this study suggested that the measured 2014-2017 samples are within the range of natural variability. The 2021 MEEMP included marine water and sediment sampling and biological sampling for metals analysis. The monitoring indicates to date that the construction and operation of Milne Port does not negatively affect the marine water quality at Milne Port. <i>Draft 2021 MEEMP and AIS Monitoring Program (Golder, 2022)</i>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
84	Update sediment redistribution modelling once ship design has been completed and sampling should be undertaken to validate the model and inform sampling sites and the monitoring plan.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	This Term and Condition is not currently applicable as it related to the use of purpose-built vessels that have not yet been used. Ship wake modelling was performed in 2018 for the Phase 2 suggest that wakes are expected to be minimal along the Northern Shipping Route. As Baffinland have not performed ship wake modelling for the southern route and no sediment dispersion modelling was completed for Milne Port shipping. Baffinland indicated that if purpose-built vessels are used, these assessments will be updated.
85	Develop a monitoring plan to verify Project impact predictions associated with sediment redistribution resulting from propeller wash in shallow water locations along the shipping route. Additional mitigation measures are required if monitoring detects negative impacts.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	Baffinland believes this concerns the southern shipping route, which is inactive. Baffinland indicated they would develop a monitoring plan to verify predictions of sediment redistribution resulting from propeller wash in shallow locations along the shipping route when the southern shipping route is active.
86	Prior to commercial shipping of iron ore, use more detailed bathymetry collected from Steensby and Milne Inlets to model anticipated ballast water discharges from ore carriers. This information should be used to update ballast water discharge impact predictions and sampling should be	Milne Inlet Active Deficient – In progress	Milne Inlet Active In Compliance	No additional ballast water modelling was undertaken in 2021. Baffinland further updated its modeling to include assessment of sensitivity to dispersion, salinity, and temperature. These updates indicate that the furthest point discharge may travel is Ragged Island resulting in Baffinland focusing its invasive species monitoring at Milne port and Ragged Island. According to the monitoring results to date, there is no need to expand or update the ballast water modeling. <i>Draft 2021 MEEMP and AIS Monitoring Program (Golder, 2022)</i>
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	conducted to validate the model.			
87	Develop a detailed monitoring program at several sites over the long term to evaluate changes to marine habitat and organisms and to monitor for non-native introductions resulting from Project-related shipping. Initiate program several years prior to any ballast water discharge at Steensby or Milne Inlets.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	The Marine Environmental Effects Monitoring Plan (MEEMP) in place and carried out in 2021. Aquatic invasive species monitoring identified 53 taxa in 2021 which were had not been previously identified at Milne Port during baseline. All but one (1) had clear occurrence in the Canadian Arctic and was sent for independent verification. Five (5) taxa were flagged in previous years, and all sent for further verification to experts. To date, no Project-related introduction species were identified which require rapid response. <i>Draft 2021 MEEMP and NIS/AIS Monitoring Report (Golder, 2022)</i>
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	
88	Prior to commercial shipping of iron ore, provide update risk analysis regarding ballast water discharge to assess the adequacy of treatment and implications on the receiving environment.	Active In Compliance	Active In Compliance	In 2021, 56 of the 74 ore carrier voyages transiting to Milne Port had International Maritime Organization (IMO) approved D-2 ballast water treatment systems installed on board as part of a Canada's ratification of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (IMO 2017) that entered into force on September 8, 2017 (IMO 2017). It consists of ballast water exchange and treatment prior to release at Milne Port. See T&C 87 for results on species identified. To date ballast water has low to no impact on the temperature and salinity at Milne Inlet. <i>Ballast Water Management Plan (Baffinland, 2019), NIRB ID No: 330316 Draft 2021 MEEMP and NIS/AIS Monitoring Report (Golder, 2022)</i>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
89	Develop and implement a ballast water management program that may include the treatment and monitoring of ballast water discharges in a manner consistent with or exceeds applicable regulations. The management program should reflect all inclusions outlined in the condition.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	In 2021, 56 of the 74 ore carriers that serviced Milne Port had International Maritime Organization (IMO) approved D-2 ballast water treatment systems installed on board as part of a Canada's ratification of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (IMO 2017) that entered into force on September 8, 2017 (IMO 2017). Ballast water salinity was measured in all ore carriers and all, but one (1) sample were compliant with standards, this was a vessel coming from another Canadian port and able to exchange ballast water at Milne Port. <i>Ballast Water Management Plan</i> (Baffinland, 2019), NIRB ID No: 330316
		Steensby Inlet Not yet active	Steensby Inlet Not yet active	
90	Incorporate into the Project Shipping and Marine Wildlife Management Plan provisions to achieve compliance with the requirements under the International Convention for the Control and Management of Ships Ballast Water and Sediment (2004) or its replacement regulation as amended.	Milne Port Active In Compliance	Active In Compliance	<i>Ballast Water Management Plan</i> (Baffinland, 2019), NIRB ID No: 330316 <i>2021 Shipping and Marine Wildlife Management Plan</i> (Baffinland, 2022), Baffinland's Appendix G.12, NIRB ID No: 338459
		Steensby Inlet Not yet active		
91	Develop a detailed monitoring plan for Steensby and Milne Inlets for fouling that complies with all applicable regulatory	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	Despite the use of an HD camera on the Remotely Operated Vehicles did not improve taxa identification as it was still difficult to identify to species. No ship hull surveys were conducted in 2021.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	requirements and guidelines issued by Transport Canada.	Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	DFO commented that Baffinland should explore alternative methodologies to improve the taxonomic resolution of samples. As an alternative method, Baffinland conducted an alternative method to monitor for recruitment of encrusting species, similar to what could be present on ship hull biofouling. The settlement substrates deployed served to monitor for recruitment of encrusting species. <i>2021 Shipping and Marine Wildlife Management Plan (Baffinland, 2022), Baffinland's Appendix G.12, NIRB ID No: 338459</i> <i>Draft 2021 MEEMP and NIS/AIS Monitoring Report (Golder, 2022)</i>
92	Ensure that the Proponent maintains the necessary equipment and trained personnel to respond to all sizes of potential spills in a self-sufficient manner.	Milne Port Active In Compliance	Milne Port Active In Compliance	Baffinland has Spill Response Plans in place to respond to both land and marine spills and conducts annual spill response training exercises. In 2021, a spill response training to Baffinland staff was conducted by consultant Navenco Marine on July 9 to 11. <i>Emergency Response Plan (Baffinland, 2020), NIRB ID No: 330317</i> <i>Spill Contingency Plan (Baffinland, 2021), NIRB ID No: 330372</i> <i>Oil Pollution Emergency Plan (Baffinland, 2020), NIRB ID No: 330297</i> <i>Spill at Sea Response Plan (Baffinland, 2015), NIRB ID No: 330314</i>
		Steensby Inlet Not yet active	Steensby Inlet Not yet active	
93	Prior to construction, based on vessel selection, reassess the risk analysis of using vessel - based fuel storage with the inclusions outlined in the condition.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	The use of vessel-based fuel storage is not part of the active Project.
94	Consult directly with affected communities regarding its plans for over-wintering of fuel in Steensby Inlet.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	Overwintering of fuel at Steensby Inlet is not part of the active Project.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
95	Meet or exceed all regulatory regulations and requirements to the practice of overwintering of a fuel vessel at Steensby Inlet with reporting to NIRB and Transport Canada.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	Overwintering of fuel at Steensby Inlet is not part of the active Project.
96	Update the NIRB on the results of all compliance monitoring and site inspections undertaken by government agencies for the overwintering of a fuel vessel at Steensby Inlet.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	Overwintering of fuel at Steensby Inlet is not part of the active Project.
97	Prior to commercial shipping of iron ore, conduct fuel spill dispersion modelling that minimally includes those items outlined in the condition.	Milne Port Active In Compliance	Milne Port Completed Accomplished	Oil spill modelling was conducted in 2015 and there have been no changes to the Project's shipping practices since.
		Steensby Inlet Not yet active	Steensby Inlet Not yet active	<i>Milne Inlet Spill Modelling Report Fuel Spill Modelling</i> (AMEC Foster Wheeler, 2015), NIRB ID No: 302669 <i>Emergency Response Plan</i> (Baffinland, 2020), NIRB ID No: 330317 <i>Spill Contingency Plan</i> (Baffinland, 2021), NIRB ID No: 33072
98	Incorporate the results of revised fuel dispersion modelling into its impact predictions for the marine environment and the spill response and emergency preparedness plans.	Active In Compliance	Active In Compliance	Fuel Spill modelling was conducted in 2015 and informed several spill-response plans. If there are changes to the Project, the Proponent may be required to update its predictions and/or associated plans and submit to the NIRB. <i>Emergency Response Plan</i> (Baffinland, 2020), NIRB ID No: 330317 <i>Spill at Sea Response Plan</i> (Baffinland, 2015), NIRB ID No: 330314
Marine Wildlife				

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
99	With the Marine Environment Working Group, consider and identify priorities for conducting supplemental baseline assessments for the items outlined in the condition.	Active In Compliance	Milne Port Completed Accomplished	Baseline assessment on this term and condition has been completed. In compliance through the ERP phase of the project and its associated Marine Environmental Effects Monitoring Plans (2022). Baffinland focuses on monitoring of the marine environment. <i>Draft 2021 MEEMP and NIS/AIS Monitoring Report (Golder, 2022)</i>
			Steensby Inlet Not yet active	
100	Update the Project Shipping and Marine Wildlife Management plan to include avoidance of polynyas and mitigation measures designed for potential fuel spills along the shipping lane during the winter months.	Milne Inlet Active Deficient – In progress	Milne Inlet Active In Compliance	Baffinland has updated its Shipping and Marine Wildlife Management Plan to reflect adjustments to shipping operations through varying degrees of ice and the use of an ice-breaker vessel as an escort. Steensby Inlet not yet applicable <i>2021 Shipping and Marine Wildlife Management Plan (Baffinland, 2022), Baffinland’s Appendix G.12, NIRB ID No: 338459</i>
101	Incorporate all items outlined in the condition into the appropriate monitoring plans.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	Baffinland is compliant with Terms and Conditions that apply to Milne Inlet but not for Steensby as it is inactive. <i>2021 Ringed Seal Aerial Survey Monitoring Program (Golder, 2022), Baffinland Appendix’s G.16, NIRB ID No: 338466</i> <i>2021 Marine Mammal Aerial Survey Program Report (Golder, 2022)</i> <i>2021 Bruce Head Shore-Based Monitoring Report (Golder, 2022)</i> <i>Draft 2021 Marine Environmental Effect Monitoring Program and AIS Monitoring Report</i> <i>2021 Underwater Acoustic Monitoring (Open-Water Season) (Austin et al., 2022),</i>
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	
102	Ensure that routing of project vessels is tracked and recorded for both the southern and northern shipping routes, with	Active In Compliance	Active In Compliance	Approximately every 30 minutes, vessel information is made publicly available via the Baffinland website and through Baffinland’s Shipping Monitor’s office in the Mittimatalik Hunters and Trappers Organization building in Pond Inlet.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	data made real-time available to communities in Nunavut and Nunavik.			Steensby Inlet not yet active
103	Report annually to the NIRB regarding project related ship track and sea-ice information including all items outlined in the condition.	Active In Compliance	Active In Compliance	Baffinland has reported all information related to ship track and sea ice. Daily maps are prepared showing project vessels tracks with when ice concentration is 1/10 or greater. Due to COVID-19, Baffinland partnered with the Marine Mammal Observation Network (MMON) to run a marine mammal incidental sightings program Steensby Inlet not yet active <i>Daily Ship Traffic</i> (Baffinland, 2022), Baffinland's Appendix G.9, NIRB ID No: 338454 to 338456 <i>2021 Incidental Marine Mammals Sightings</i> (Baffinland, 2022), Baffinland's Appendix G.10, NIRB ID No: 338457
104	Plan shipping routes to Steensby Port in accordance with the items outlined in the condition. Summarize all incidences of significant deviations from the nominal shipping route presented in the FEIS to/from Milne and Steensby Ports.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	There were no unplanned deviations from nominal shipping routes to/from Milne Port in 2021.
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	
105	Ensure that measures to reduce the potential for interaction with marine mammals	Active Deficient – In progress	Active In Compliance	Baffinland applies several mitigations to reduce potential interaction between marine wildlife and shipping including, but not limited to: no breaking land fast ice, no icebreaking at the start of the shipping season, 9 knot speed limit within

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	particularly in Hudson Strait and Milne Inlet area identified and implemented prior to commencement of shipping operations.			Regional Study Area and establishment of “no-go” zones. A full list of mitigations is provided in the <i>2021 Annual Report</i> . No activity took place at Steensby port in 2020. <i>2021 Shipping and Marine Wildlife Management Plan</i> (Baffinland, 2022), Baffinland’s Appendix G.12, NIRB ID No: 338459
106	Ensure that shipboard observers are employed during seasons where shipping occurs and provided with the means to effectively carry out the duties. The role of shipboard observers should be taken into consideration in the design of any Project purpose-built ships.	Active Deficient – In progress	Active In Compliance	Baffinland partnered with the Marine Mammal Observation Network for the marine mammal incidental sighting program through contracted vessels. 11 vessels participated in this program with most sightings being documented by the MSV Botnica and included various mammal species. <i>2021 Incidental Marine Mammals Sightings</i> (Baffinland, 2022), Baffinland’s Appendix G.10, NIRB ID No: 338457
107	Revise the proposed 'surveillance monitoring' to improve the likelihood of detecting strong marine mammal, seabird, or seaduck responses occurring too far ahead of the ship to be detectable by observers aboard the ore carriers.	Active Deficient – In progress	Active In Compliance	Baffinland partnered with the Marine Mammal Observation Network for the marine mammal incidental sighting program through contracted vessels. 11 vessels participated in this program with most sightings being documented by the MSV Botnica and included various mammal species. No additional surveillance is described by Baffinland outside of the shipboard observers. <i>2021 Incidental Marine Mammals Sightings</i> (Baffinland, 2022), Baffinland’s Appendix G.10, NIRB ID No: 338457

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
108	Ensure that data produced by the surveillance monitoring program is analyzed by experienced analysts (in addition to being discussed as proposed in the FEIS) to maximize effectiveness in providing baseline information and/or detecting potential effects. Data from the long-term monitoring should be treated with the same rigor.	Northern Route Active Deficient – In progress	Northern Route Active Deficient – In progress	The data collected through the Ship-based Observer Program and the 2021 efforts to participate in the Marine Mammal Observation Network are described as largely anecdotal and do not produce data to the same analytical degree of other monitoring programs. Further notes see Term and Condition 107 <i>2021 Incidental Marine Mammals Sightings</i> (Baffinland, 2022), Baffinland's Appendix G.10, NIRB ID No: 338457
		Southern Route Not Yet Active	Southern Route Not Yet Active	
109	Conduct a monitoring program to confirm the predictions in the Final Environmental Impact Statement (FEIS) with respect to disturbance effects from ships noise on the distribution and occurrence of marine mammals.	Active Deficient – In progress	Active Deficient – In progress	In 2021 Baffinland conducted aerial surveys, the Bruce Head shore-based monitoring program and the underwater acoustic monitoring program to monitor sound impact on marine mammals. The 2021 Eclipse Sound narwhal stock was lower than the 2020 stock. The monitoring program does not clarify between factors that have potentially caused impacts to mammals from sound and other factors. This topic has been discussed through several MEWG meetings since monitoring has begun. No Studies were conducted in Hudson Straight, Foxe Basin or Steensby Inlet as the southern shipping route is not yet active. <i>Draft 2021 Marine Mammal Aerial Survey Report</i> (Golder, 2022) <i>2017–2018 Integrated Narwhal Tagging Study</i> (Golder, 2020), NIRB ID No: 330075 <i>Draft 2021 Bruce Head Shore-based Monitoring Program</i> (Golder, 2022) <i>2021 Underwater Acoustic Monitoring Program (Open-water Season) Draft Report</i> (Austin et al., 2022) <i>2020 Underwater Acoustic Monitoring Program (Open-water Season)</i> (Austin et al., 2022), Baffinland's Appendix G.25, NIRB ID No: 338490

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
110	Immediately develop a monitoring protocol that includes acoustical monitoring to assess short, long term and cumulative effects of vessel noise on marine mammals. Work with the MEWG to identify appropriate early warning indicators that will ensure rapid identification of negative impacts along southern and northern shipping routes.	Active Deficient – In progress	Active Deficient – In progress	Baffinland provided the Board with proposed Early Warning Indicators (EWI) in August 2020, with the EWI selection of the decrease in proportion of immature narwhal. Baffinland noted that the threshold level needed to be reached as a proportion of immature narwhal recorded from Bruce Head is 0.137 to trigger EWI adaptive management practices. Technical Memo: Early Warning Indicators for Marine Mammals (2020) Southern shipping route not yet active.
111	Develop clear thresholds for determining if negative impacts as a result of vessel noise is occurring.	Active Deficient – In progress	Active Deficient – In progress	As previous Term and Condition 110, Baffinland has developed an Early Warning Indicator (EWI) to measure potential effects on narwhals. In 2021, there was a decrease in the Eclipse Sound narwhal population, and it remains difficult for MEWG members to agree on the ship noise effects on narwhal and the decreasing EWI. Baffinland will continue to monitor underwater sound in 2022. <i>Draft 2021 Bruce Head Shore-based Monitoring Report (Golder, 2022)</i> <i>2021 Underwater Acoustic Monitoring Program (Open-water Season) Draft Report (Austin et al., 2022)</i> <i>2020 Underwater Acoustic Monitoring Program (Open-water Season) (Austin et al., 2022), Baffinland's Appendix G.25, NIRB ID No: 338490</i> Southern shipping route not yet active
112	Prior to commercial shipping of iron ore, in conjunction with the MEWG, develop a monitoring	Active Deficient – In progress	Active Deficient – In progress	See Comments on Terms and Conditions 110 and 111 <i>Draft 2021 Bruce Head Shore-based Monitoring Report (Golder, 2022)</i>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	protocol that includes acoustical monitoring that provides an assessment of the negative effects of vessel noise on marine mammals. Consideration of early warning indicators and thresholds of impacts should be included.			<i>2021 Underwater Acoustic Monitoring Program (Open-water Season) Draft Report</i> (Austin et al., 2022) <i>2020 Underwater Acoustic Monitoring Program (Open-water Season)</i> (Austin et al., 2022), Baffinland's Appendix G.25, NIRB ID No: 338490
113	Conduct monitoring of marine fish and fish habitat including monitoring for Arctic char stock size and health condition in Steensby and Milne Inlets, as recommended by the MEWG.	Active In Compliance	Active In Compliance	Baffinland is monitoring fish and fish habitat (including Arctic char and other species in the area) in consultation with the MEWG through the Marine Environmental Effects Monitoring and Aquatic Invasive Species Program. The monitoring program focuses and not limited to the size, age, and tissue chemistry. <i>2020 Marine Environment Effects Monitoring Program and Aquatic Invasive Species Report</i> (Golder, 2021), NIRB ID No: 336738 to 336740 <i>Draft 2021 Marine Environmental Effects Monitoring Program and Aquatic Invasive Species Report</i> (EDI, 2022) Steensby Inlet not yet active.
114	In the event of the development of a commercial fishery in Steensby Inlet or Milne Inlet areas, in conjunction with the MEWG, shall update the monitoring program for fish and fish habitat to ensure that the ability to identify Arctic Char stock(s) and any changes in stock size and structure of affected stocks and fish health is	Active In Compliance	Not Yet Active Not Yet Applicable	There are no commercial fisheries located in Steensby or Milne Inlet. Baffinland will adapt its monitoring programs accordingly should a commercial fishery be developed.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	maintained to address any monitoring issues relating to the commercial stock fishery.			
115	Continue to explore off-setting options in both the freshwater and marine environment to offset serious hard to fish which will result from the construction and infrastructure associated with the project.	Active In Compliance	Active In Compliance	Baffinland has engaged with the five (5) affected communities throughout the regulatory process and afterwards regarding habitat offset of the Ore dock. Monitoring results from the Milne Port Ore dock offsetting activities have proven to be effective at supporting biological activity. Steensby Inlet not yet active.
116	Prior to construction, develop mitigation measures to minimize the effects of blasting on marine fish and fish habitat, marine water quality and wildlife that includes compliance with the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	Blasting in the marine environment has not occurred during the life of the Project. If required, Baffinland will develop plans with the MEWG and DFO.
117	Ensure that blasting in, and near, marine water shall only occur during periods of open water. Blasting in, and near, fish-bearing freshwater should occur to the greatest degree possible in open water. Blasting during ice-covered periods must	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	Blasting in the marine environment has not occurred during the life of the Project. If required, Baffinland will develop plans with the MEWG and DFO.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	meet requirements established by Fisheries and Oceans Canada.			
118	Prior to construction, incorporate into the appropriate mitigation plan, thresholds for the use of specific mitigation measures meant to prevent or limit marine wildlife disturbance.	Active In Compliance	Accomplished Completed	Baffinland has incorporated appropriate information into mitigation plans for previous construction activities; if new marine construction occurs this term and condition will be applied.
119	In conjunction with the MEWG, monitor ringed seal birth lair abundance and distribution for at least two years prior to the start of ice-breaking to develop a baseline, with continue monitoring over the life-time of the project.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	No winter shipping has occurred during the current phase of the Project. Baffinland notes that although they do not break landfast ice, however, they have received comments from hunters indicating changes in seal abundance and distribution. Baffinland conducted a target seal monitoring program along the Northern shipping route in 2021. <i>2021 Ringed Seal Aerial Survey Monitoring Program (Golder, 2022), Baffinland's Appendix G.16, NIRB ID No: 338466</i>
120	Ensure, subject to vessel and human safety, that all Project shipping adhere to mitigation measures outlined in the condition for the protection of marine wildlife.	Active In Compliance	Active In Compliance	In 2021, only deviances for research purpose occurred from the nominal shipping route, all the rest of Baffinland ships had no significant deviations from the shipping route and most ships were 99.4% compliant with the 9-knot speed limit. <i>2021 Shipping and Marine Wildlife Management Plan (Baffinland, 2021), NIRB ID No: 336317</i>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
121	Immediately report any accidental contact by Project vessels with marine mammals or seabird colonies to Fisheries and Oceans Canada and Environment Canada, respectively.	Active In Compliance	Active In Compliance	There was no marine mammal or seabird strikes reported in 2021. <i>2021 Shipping and Marine Wildlife Management Plan (Baffinland, 2021)</i> , NIRB ID No: 336317
122	Summarize and report annually to the NIRB regarding accidental contact by Project vessels with marine mammals or seabird colonies through the applicable monitoring report.	Active In Compliance	Active In Compliance	There were no observations of accidental contact between Project vessels and marine mammals or seabird colonies.
123	Provide sufficient marine mammal observer coverage on Project vessels to ensure that collisions with marine mammals and seabird colonies are observed and reported throughout the lifecycle of the Project. The marine wildlife observer protocol should include those items outlined in the condition.	Active In Compliance	Active In Compliance	Baffinland partnered with the Marine Mammal Observation Network for the marine mammal incidental sighting program through contracted vessels. 11 vessels participated in this program with most sightings being documented by the MSV Botnica and included various mammal species. <i>2021 Incidental Marine Mammals Sightings (Baffinland, 2022)</i> , Baffinland's Appendix G.10, NIRB ID No: 338457
124	Prohibit all Project employees from recreational boating, fishing and harvesting of marine wildlife in Project areas,	Active In Compliance	Active In Compliance	No incidences of Project personnel hunting or fishing within the Project Development Area occurred in 2021.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	including Steensby and Milne Inlets.			<i>Hunting and Harvesting Policy</i> (Baffinland, 2013), NIRB ID No: 291704 <i>Environmental Protection Plan</i> (Baffinland, 2021), Available on Baffinland’s website
125	Prior to the use of acoustic deterrent devices, carry out consultations with communities along the shipping routes and nearest to Steensby and Milne Inlet Ports to assess acceptability of the devices. Feedback from consultation should be incorporated into the mitigation plan.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	No acoustic deterrents were used by the Project to date.
125(a)	Consult with potentially affected communities and groups, particularly the Hunters and Trappers Organizations regarding the identification of Project vessel anchor sites and potential areas of temporary refuge for Project vessels along the shipping routes within the Nunavut Settlement Area. Feedback from the consultation should be incorporated.	Active Deficient – In progress	Active In Compliance	Baffinland continued to engage with the Mittimatalik Hunters and Trappers Organization and other community members in 2021 regarding vessel at Ragged Island or any anchoring related concerns. <i>2021 Community Engagement Records</i> (Baffinland, 2022), NIRB ID No: 338437 <i>2021 MEWG Meeting Records</i> (Baffinland, 2022), NIRB ID No: 338438

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
126	Design monitoring programs to ensure that local users of the marine area in communities along the shipping route have opportunity to be engaged throughout the life of the Project in assisting with monitoring and evaluating potential Project-induced impacts and changes in marine mammal distributions.	Active In Compliance	Active In Compliance	Due to the lifting of COVID-19 restrictions in 2021, Baffinland was able to hire more Inuit for its monitoring programs. Seven (7) individuals were employed from Pond Inlet or Arctic Bay for the 2021 marine monitoring programs and 10 for the shipping monitors. The MHTO continues to be part of the MEWG and to provide advice.
127	Ensure that communities and groups in Nunavik are kept informed of Project shipping activities and are provided with opportunity to participate in the continued development and refinement of shipping related monitoring and mitigation plans.	Active In Compliance	Not Yet Active Not Yet Applicable	This term and condition was designed for the Steensby shipping route which is inactive; however Baffinland provides real time information using <i>Exact Earth</i> on all Project vessels through their website, www.baffinland.com .
128	Consult with local communities as fish habitat off-setting options are being considered and demonstrate incorporation of this input in the design of the Fish Habitat Off-Setting Plan.	Active In Compliance	Active In Compliance	Multiple potential offsetting options were identified and consulted with communities as part of the Phase 2 planning. In 2021, there were no consultation activities due to COVID-19 restrictions.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Population Demographics				
129	Encouraged to engage in the work of the Qikiqtaaluk Socio-Economic Monitoring Committee along with other agencies and affected communities, endeavoring to identify areas of mutual interest into a collaborative monitoring framework that includes socio-economic priorities related to the Project, communities and the North Baffin region as a whole.	Active In Compliance	Active In Compliance	The planned Qikitaaluk Socio-Economic Monitoring Committee (QSEMC) meeting was canceled in 2021 due to COVID-19 case in Iqaluit. Baffinland continues to engage with members through written correspondence. <i>SEMWG Meeting Records</i> (Baffinland, 2022), Baffinland's Appendix C.3, NIRB ID No: 338441 <i>2021 Socio-Economic Monitoring Report</i> (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460
130	Consider establishing and coordinating with smaller socio-economic working groups to meet Project specific monitoring requirements throughout the life of the Project.	Active In Compliance	Active In Compliance	Baffinland continues to engage with the Qikiqtaaluk Socio-Economic Monitoring Committee (QSEMC), Socio-Economic Monitoring Working Group (SEMWG), and North Baffin communities on the Project's monitoring program. <i>SEMWG Meeting Records</i> (Baffinland, 2022), Baffinland's Appendix C.3, NIRB ID No: 338441 <i>2021 Socio-Economic Monitoring Report</i> (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460
131	The Qikiqtaaluk Socio-Economic Monitoring committee is encouraged to engage in monitoring of demographic changes including the	Active In Compliance	Active In Compliance	Demographic trend changes were detailed in Baffinland's 2021 Socio-economic Monitoring Report. <i>2021 Socio-Economic Monitoring Report</i> (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	movement of people into and out of the North Baffin communities and the territory.			
132	Encouraged to partner with other agencies in the North Baffin region, the Municipal Training Organization and the Government of Nunavut in developing/implementing programs which encourage Inuit to remain living in their home communities while seeking ongoing and progressive training and development.	Active In Compliance	Active In Compliance	<p>In 2021, Baffinland partnered with local and regional governmental agencies and educational agencies to support local training programs for limiting out migration. Community training was increased in each impacted communities including Work Readiness Training, Tuttarvik 101 Financial Literacy Training and Pre-Trades Training.</p> <p><i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i> <i>Qikiqtani Skills and Training for Employment Partnership (Q-STEP) Project Advisory Committee (PAC) Quarterly Reports (Baffinland, 2022), Baffinland's Appendix G.18, NIRB ID No: 338469</i></p>
133	Encouraged to work with the Qikiqtaaluk Socio-Economic Monitoring committee and with the Government of Nunavut and other relevant stakeholders to design and implement a voluntary survey to be completed by its employees on an annual basis in order to track housing status and migration intentions. Non-confidential findings are to be reported to the Government of Nunavut and the NIRB.	Active In Compliance	Active Deficient – in progress	<p>Due to COVID-19, Baffinland was unable to administer the updated Employment Survey in Q4 of 2021. Baffinland will explore methods to administer the Inuit Employee Survey to Inuit in case further COVID-19 restrictions arise or other unforeseen circumstances. The last survey data are from 2020.</p> <p><i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i></p>

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
134	Provide in the annual report to the NIRB a summary of employee origin information including information outlined in the condition.	Active In Compliance	Active In Compliance	Baffinland has collected data on the origin, number, and ethnicity of employees and contractors who work on the Project in 2021. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022)</i> , Baffinland's Appendix G.13, NIRB ID No: 338460
Training and Education				
135	Encouraged to consider offering additional options for work/study programs available to Project employees.	Active In Compliance	Active In Compliance	Baffinland provides several training opportunities to staff including online training through 2021 for employees on site.
136	Encouraged to work with training organizations and/or government departments offering mine-related or other training in order to provide additional training opportunities for employees which are transferable and meaningful.	Active In Compliance	Active In Compliance	In 2021 Adult Basic Education and Pathway to Adult Secondary School Programs were successfully delivered in impacted communities in partnership with Nunavut Arctic College. <i>SEMWG Meeting Records (Baffinland, 2022)</i> , Baffinland's Appendix C.3, NIRB ID No: 338441
137	Prior to construction, develop an easy referenced listing of formal certificates and licenses that may be acquired via on-site training or training during employment at Mary River. Listing to be updated on an annual basis, provided to the	Active In Compliance	Active In Compliance	Baffinland has developed several qualifications available to employees and that can be used for other employment

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	NIRB upon completion and whenever it is revised.			
138	Encouraged to work with the Qikiqtani Inuit Association to ensure timely development of effective Inuit training and work-ready programs.	Active In Compliance	Active In Compliance	Baffinland, the QIA, the Government of Nunavut, Kakivak Association and the Government of Canada have partnered in the \$19 million Qikiqtani Skills and Training for Employment Partnership (Q-STEP) training program. The objective of this program is to provide Inuit with skills and qualifications to meet employment requirement for the Mary River Project and other employment in the region.
139	Prior to construction, undertake and provide results of a detailed labor market analysis which provides quantitative predictions on the number of employees to be sourced from southern Canada and foreign markets. Within 90 days of receipt of the Project Certificate, submission of an updated labor market analysis must be submitted.	Active In Compliance	Active In Compliance	Baffinland provided a revised labor market analysis in the <i>2014 Annual Report</i> . In 2021, the Mining Industry Human Resources Council developed a draft Skills Equivalency Assessment Template designed to assess Inuit skills and knowledge acquired through traditional skills and training.
140	Encouraged to survey Nunavummiut employees as they are hired and specifically note the level of education obtained and whether the incoming employee resigned or left an educational institute to take up employment with the Project.	Active In Compliance	Active In Compliance	Due to the COVID-19 Baffinland was unable to conduct the survey but will continue to administer the Employee Survey in 2022. Even if Baffinland was unable to conduct the survey, it was still able to capture employment and education data through its applicant tracking system. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022)</i> , Baffinland's Appendix G.13, NIRB ID No: 338460

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
141	Prior to construction, encouraged to work with the Qikiqtani Inuit Association in order to prioritize the provision of training of Inuit to serve as employees in monitoring or other such capacities.	Active In Compliance	Active In Compliance	Baffinland has indicated that it continues to work with the QIA to promote Inuit training, education, and employment initiatives which are consistent with the provisions outlines in the Inuit Impact Benefit Agreement. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i>
Livelihood and Employment				
142	Encouraged to address the potential direct and indirect effects that may result from Project employees on-site use of various Inuktitut dialects as well as other spoken languages.	Active In Compliance	Active In Compliance	Baffinland has company policies in place to outline the Company's position in support of the use of Inuktitut at all Project sites in Nunavut and ensures that a lack of English does not pose a barrier to Inuit employment by translating signage and resource materials on-site. Baffinland has other language considerations as Inuktitut to assure access to service and information for any employees.
143	Encouraged to consider the use of both existing and innovative technologies to ensure Project employees are able to contact their family and friends.	Active In Compliance	Active In Compliance	Internet and telephone access are available free of charge to all employees in the accommodation complexes.
144	Encouraged to make requirements for employment clear in its work-readiness and other programs and documentation.	Active In Compliance	Active In Compliance	The Baffinland Community Liaison Officers in each community are responsible for communicating the employment requirements for individuals who apply for jobs at Baffinland.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
145	Encouraged to work with the Government of Nunavut and the Qikiqtaaluk Socio-Economic Monitoring committee to monitor the barriers to employment for women.	Active In Compliance	Active In Compliance	In 2021, the Arnait Action Plan committee was formed and made recommendations to remove some barriers to employment with Baffinland (see Baffinland's Socio-Monitoring Reports). The Arnait Action Plan is planned until 2023. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i>
146	The Government of Nunavut and the Qikiqtani Inuit Association are encouraged to investigate the possibility for Project revenue streams to support initiatives or programs which offset or subsidize childcare for Project employees.	Not Yet Active Not Yet Applicable	Active Deficient in-progress	This Term and Condition is directed to QIA and the GN and no information was received.
147	Encouraged to work with the Government of Nunavut and the Nunavut Housing Corporation to investigate options and incentives which might enable and provide incentive for employees living in social housing to maintain employment as well as to negotiate for an obtain manageable rental rates.	Active In Compliance	Active In Compliance	In 2021, Baffinland has engaged with the Government of Nunavut through the Socio-Economic Monitoring Working Group. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i>
Benefits, Royalties and Taxation				

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
148	Encouraged to undertake collaborative monitoring in conjunction with the Qikiqtaaluk Socio-economic Monitoring committee's monitoring program which addresses Project harvesting interactions and food security and broad indicators of dietary habits.	Active In Compliance	Active In Compliance	This topic continues to be tracked through the QSEMC process, community engagement conducted for the Project, and related information. Baffinland provided funding to support QIA in conducting a Pond Inlet Country Food Baseline Study which started in 2021. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i>
149	Prior to operations, required to undertake an analysis of the risk of temporary mine closure giving consideration to the effects of such to the North Baffin region.	Active In Compliance	Accomplished Completed	In 2014, Baffinland submitted a report titled "Potential Effects of a Mine Closure" to the NIRB. In 2022, Baffinland submitted an updated report. <i>Temporary Closure Planning: Socio-Economic Considerations for the Mary River Project (Jason Prno Consulting Services LTD, 2022), Baffinland's Appendix G.21, NIRB ID No: 337714</i>
150	Ensure that specific conditions are met in regard to Sirmilik National Park, as outlined in the condition.	Active In Compliance	Active In Compliance	Baffinland includes the minimum flying altitudes in the aviation contracts; however, no flights over Sirmilik Park occurred in 2021. Baffinland continues to advise Parks Canada of shipping activity. <i>2021 MEWG Meeting Records (Baffinland, 2022), Baffinland's Appendix C.1, NIRB ID No: 338438</i>
151	Encouraged to investigate measures and programs designed to assist Project employees with home ownership or access to affordable housing options.	Active In Compliance	Active In Compliance	Baffinland has signed a Memorandum of Understanding with the GN in 2019, and welcome discussion on housing related issues. Baffinland will engage with the GN and the Nunavut Housing Corporation through the MoU in 2022 and will report back in the annual report. Baffinland continues to offer financial literacy training to its employees.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
152	The Qikiqtani Inuit Association is encouraged to provide the Board and the Qikiqtaaluk Socio-Economic Monitoring committee which information regarding the effectiveness of any provisions within the Inuit Impact Benefit Agreement which may require that larger contracts are broken into smaller contracts.	Active Deficient – In progress	Active Deficient – In progress	This condition is directed at the Qikiqtani Inuit Association and no information was received.
Human Health and Wellbeing				
153	Encouraged to employ a mental health professional to provide counselling to Inuit and non-Inuit employees in order to positively contribute toward employee health and well-being.	Active In Compliance	Active In Compliance	Baffinland's benefit plan includes an Employee and Family Assistance Program (EFAP) which offers all permanent employees and their dependents professional short-term counselling. Inuit cultural advisors are also available for the Project's Inuit employees. The usage of EFAP by Nunavut-based employees increased in 2021, from an average of 15 cases between 2017 and 2020, to 34 in 2021. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i>
154	Work with the Government of Nunavut and the Qikiqtaaluk Socio-Economic committee to monitor potential indirect effects of the projects.	Active In Compliance	Active In Compliance	Information related to this Term and Condition for indirect effects can be found in the Socio-Economic Monitoring Report. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i>
155	Encouraged to provide the NIRB with an updated report on its development of mitigation	Active In Compliance	Accomplished Completed	Baffinland promotes employee cohesion through cultural awareness and social programs. Baffinland continues to deliver cultural workshops at site and the Inuit Cultural Engagement Workshop to all employees.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	measures and plans to deal with potential cultural conflicts which may occur at site.			
156	Encouraged to assist with the provision and/or support of recreation programs and opportunities within the potentially affected communities in order to mitigate potential impacts of employees' absence from home and community life.	Active In Compliance	Active In Compliance	Through the IIBA, Baffinland has established an Ilagiiktunut Nunalinnullu Pivalliajutisait Kiinaujat Fund to support various community opportunities.
157	Consider providing counselling and access to treatment programs for addictions, domestic parenting, and marital issues that affect employees and/or their families.	Active In Compliance	Active In Compliance	Baffinland's employee benefit plan includes an Employee and Family Assistance Program (EFAP), which offers all permanent employees and their dependents access to professional short-term counselling on an as-needed basis. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022)</i> , Baffinland's Appendix G.13, NIRB ID No: 338460
Community Infrastructure				
158	Encouraged to work with the Government of Nunavut and other relevant parties to develop a Human Health Working Group.	Active In Compliance	Active In Compliance	Baffinland is currently involved with the Qikiqtaaluk Socio-Economic Monitoring Committee (QSEMC) and Socio-Economic Monitoring Working Group (SEMWG) which help to inform its socio-economic monitoring. The Government of Nunavut is an active participant in both groups. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022)</i> , Baffinland's Appendix G.13, NIRB ID No: 338460

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
159	Encouraged to work with the Government of Nunavut to develop an effects monitoring program that captures increases to community based and airport infrastructure in the local study area and Iqaluit.	Active In Compliance	Active In Compliance	Baffinland continues to work with the Qikiqtaaluk Socio-Economic Monitoring Committee (QSEMC) and Socio-Economic Monitoring Working Group (SEMWG) on monitoring Project-related pressures to community infrastructure. <i>2021 Socio-Economic Monitoring Report (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460</i>
160	The Government of Nunavut and the Qikiqtani Inuit Association are encouraged to cooperate to ensure that benefits are in a broad sense distributed across impacted communities and demographic groups that best offsets Project related impacts to infrastructure or services.	Active In Compliance	Active In Compliance	Baffinland produces an annual Socio-economic Monitoring Report and regularly engages the Qikiqtaaluk Socio-Economic Monitoring Committee (QSEMC) and Mary River Socio Economic Monitoring Working Group (SEMWG) to discuss socioeconomic impacts and benefits of the Project. These groups are set up as a forum for discussion on this topic.
161	The Government of Nunavut should be prepared for the potential need for increased policing to handle on-going Project related demographic changes in subsequent crime prevention.	Active In Compliance	Active In Compliance	While Baffinland cannot influence how the GN and RCMP interact with one another, Baffinland regularly cooperates with the GN and the RCMP in the affected communities with regards to Project-related socio-economic monitoring.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Culture, Resources and Land Use				
162	Make all reasonable efforts to engage Elders and community members of the North Baffin communities for input into monitoring programs and mitigative measures to ensure that they are informed by traditional activities, cultural resources and land-use.	Active In Compliance	Active In Compliance	Community members and other Project stakeholders continue to provide input that helps guide the development of monitoring programs. A summary of community engagement dates, locations and topics are covered in Table 2.1 in Baffinland's <i>2021 Annual Report</i> . Baffinland engages with representatives (including elders) from the MHTO and the Hamlet of Pond Inlet prior to shipping. <i>2021 Shipping and Monitoring Program Meeting Records</i> (Baffinland, 2022), Baffinland's Appendix G.4, NIRB ID No: 338448
163	Continue to engage and consult with the communities of the North Baffin region to ensure that Nunavummiut are kept informed about Project activities.	Active In Compliance	Active In Compliance	Community members and other Project stakeholders continue to provide input that helps guide the development of monitoring programs. A summary of community engagement dates, locations and topics are covered in Table 2.1 in Baffinland's <i>2021 Annual Report</i> . <i>2021 Engagement Records and Community Comments and Questions</i> (Baffinland, 2022), Baffinland's Appendix B, NIRB ID No: 338437
164	Provide notification to communities regarding scheduled ship transits throughout the Regional Study Area including Eclipse Sound and Milne Inlet. Real-time data should be made available. Changes to proposed shipping routes should be provided to the MEWG, the community of	Northern Route Active In Compliance	Northern Route Active In Compliance	Baffinland has contracted <i>ExactEarth</i> to actively track vessels real time and made that information publicly available on their website www.baffinland.com as well as in their office in Pond Inlet through their Shipping Monitors.
		Southern Route Not Yet Active	Southern Route Not Yet Active	

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
	Pond Inlet and communities in the region.			
165	Encouraged to provide buildings along the rail line and Tote Road for emergency shelter purposes to be made available for employees and land users of the area.	Tote Road Active In Compliance	Tote Road Active In Compliance	Baffinland has emergency shelter stations at KM 33, 40, 60, and 69 along the Tote Road. The rail line is not yet constructed. <i>Emergency Response Plan</i> (Baffinland, 2020), NIRB ID No: 330317 <i>Roads Management Plan</i> (Baffinland, 2020), NIRB ID No: 330369
		Steensby Railway Not Yet Active	Steensby Railway Not Yet Active	
166	Ensure through consultation efforts and public awareness campaigns that the public has access to shipping operations personnel for transits into and out of Steensby and Milne ports via telephone or internet contact to ensure information regarding ice conditions and ship movements can be shared.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	Ship movement information is available on Baffinland's website (www.baffinland.com). Baffinland's Shipping Monitors in Pond Inlet are also accessible via telephone or email if issues need to be reported.
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	
167	Encouraged to enter into negotiations for a Development Partnership Agreement (DPA) with the Government of Nunavut.	Active Deficient – In progress	Active Deficient – In progress	In 2013, Baffinland reached out to the GN to develop a DPA; however, that is yet to be formalized. The DPA program for new mines is on hold while the GN's Department of Economic Development and Transportation and Department of Finance work to develop a replacement program. Baffinland has indicated that they will re-engage with the GN once a new policy is formalized. In 2019, Baffinland and the GN have signed a Memorandum of Understanding indicating that Nunavummiut should benefit from resource development in the territory and that maximizing their engagement in the effort is important.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Governance and Leadership				
168	Include the aspects outlined in the condition into the monitoring program adopted by the Qikiqtani Socio-Economic Monitoring committee.	Active In Compliance	Active In Compliance	For summary of results please consult Table 4.54 of Baffinland's <i>2021 Annual Report</i> . <i>2021 Socio-Economic Monitoring Report</i> (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460
169	Provide an annual monitoring summary to the NIRB on the monitoring data collected related to the regional and cumulative economic effects associated with the Project and any proposed mitigation measures.	Active In Compliance	Active In Compliance	<i>2021 Socio-Economic Monitoring Report</i> (Aglu and Stratos, 2022), Baffinland's Appendix G.13, NIRB ID No: 338460
Incidents and Malfunctions				
170	Include an updated Terrestrial Wildlife Management and Monitoring Plan plans for increased caribou monitoring efforts including weekly winter track surveys and bi-monthly surveys in the summer and fall.	Active Deficient – In progress	Not Yet Active Not Yet Applicable	The original objective of the Term and Condition was to minimize railway-caribou interactions. However, during the reconsideration process for the ERP, increased traffic along the Tote Road also provided concern for caribou-vehicle interaction along the railway. Baffinland conducted snow rack surveys along the Tote Road with a total of 74 tracks observed over six (6) surveys between February 17, 2021, and November 1, 2021. <i>2021 Draft Terrestrial Environment Annual Monitoring Report</i> (EDI, 2022)

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
171	Include within the updated Terrestrial Wildlife Management and Monitoring Plan, a commitment to establish deterrents along the railway and Tote road embankments at any areas where the movement of caribou presents a likelihood of mortality to occur.	Tote Road No Longer Active Completed	Tote Road Accomplished Completed	Areas that may be used by caribou were identified in the FEIS and mitigation measures are described in the <i>Terrestrial Environment Mitigation and Monitoring Plan</i> .
		Steensby Railway Not Yet Active	Steensby Railway Not Yet Active	<i>FEIS Terrestrial Wildlife Baseline Report (EDI, 2012)</i> <i>Terrestrial Environment Mitigation and Monitoring Plan (Baffinland, 2016)</i> , NIRB ID No: 330302
172	Encouraged to provide the Government of Nunavut with evidence that the vessel intended for use for the overwintering of fuel has been designed and certified for use under the operational conditions. Proof of vessel owners insurance policies are required.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	There is no overwintering of fuel associated with the active phase of the Project.
173	Employ best practices and meet all regulatory requirements during ship to shore and other marine based fuel transfer events.	Active In Compliance	Active In Compliance	Baffinland maintains an approved Oil Pollution and Emergency Plan for ship to shore fuel transfers at Milne Port. Training for this occurred in July 2021 and mock spill exercises are performed annually. <i>Spill Contingency Plan (Baffinland, 2020)</i> , NIRB ID No: 330372 <i>Oil Pollution Emergency Plan – Milne Inlet (Baffinland, 2020)</i> , NIRB ID No: 330297 <i>Oil Pollution Prevention Plan – Milne Inlet (Baffinland, 2020)</i> , Available on Baffinland’s website <i>Shipping and Marine Wildlife Management Plan (Baffinland, 2020)</i> , NIRB ID No: 330300 <i>Spill at Sea Response Plan (Baffinland, 2015)</i> , NIRB ID No: 330314

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
174	Provide, as well as the Canadian Coast Guard, spill response equipment and annual training to Nunavut communities along the shipping route.	Active In Compliance	Active In Compliance	<p>Due to COVID-19, visit to Project facilities during the OPEP training in July 2021 by non-project staff were put on hold. Baffinland will continue to conduct annual spill response exercises.</p> <p><i>Oil Pollution Emergency Plan – Milne Inlet</i> (Baffinland, 2020), NIRB ID No: 330297 <i>Oil Pollution Prevention Plan – Milne Inlet</i> (Baffinland, 2020), Available on Baffinland’s website <i>Shipping and Marine Wildlife Management Plan</i> (Baffinland, 2020), NIRB ID No: 330300 <i>Spill at Sea Response Plan</i> (Baffinland, 2015), NIRB ID No: 330314</p>
175	In coordination with the Qikiqtani Inuit Association and the Hunters and Trappers Organizations of the North Baffin communities and Coral Harbour, provide updates to the Shipping and Marine Wildlife Management Plan to include adaptive management measures to take should the placement of route markers along the ships track during ice breaking not prove to be feasible for marking the route.	Not Yet Active Not Yet Applicable	Not Yet Active Not Yet Applicable	There is no winter shipping associated with the active phase of the Project.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
176	Required to revise its spill planning to include additional trajectory modelling for Hudson Strait, where walrus concentrate, as well as Milne Inlet, Eclipse Sound and Pond Inlet during winter conditions.	Milne Inlet Active In Compliance	Milne Inlet Active In Compliance	Baffinland conducted spill modelling in 2015 for the Northern Shipping Corridor which helped developed Baffinland's current spill response plan. This work has not yet been completed for Steensby due to its inactivity.
		Steensby Inlet Not Yet Active	Steensby Inlet Not Yet Active	<i>Oil Pollution Emergency Plan – Milne Inlet</i> (Baffinland, 2020), NIRB ID No: 330297 <i>Oil Pollution Prevention Plan – Milne Inlet</i> (Baffinland, 2020), Available on Baffinland's website <i>Shipping and Marine Wildlife Management Plan</i> (Baffinland, 2020), NIRB ID No: 330300 <i>Spill at Sea Response Plan</i> (Baffinland, 2015), NIRB ID No: 330314
177	Enroll any foreign flagged vessels commissioned for Project-related shipping within Canadian waters into the relevant foreign program, equivalent to Transport Canada's Marine Safety Delegated Statutory Inspection Program.	Active In Compliance	Active In Compliance	Baffinland has included this requirement in their shipping contracts with all vessel operators.
Alternatives Analysis				
178	Subject to safety requirements, require all Project vessels to maintain a route to the south of Mill Island to prevent disturbances to walrus and walrus habitat.	Not Yet Applicable Not Yet Active	Not Yet Applicable Not Yet Active	This Term and Condition is related to the southern shipping corridor which is currently inactive.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
Operational Flexibility				
179	Not to exceed 20 ore carrier transits to Steensby Port per month during the open water season (242 transits per year).	Not Yet Applicable Not Yet Active	Not Yet Applicable Not Yet Active	This Term and Condition is related to the southern shipping corridor which is currently inactive.
179a	Until December 31, 2021 the total volume of ore must not exceed 6.0 million tonnes per annum (Mtpa).	Active In Compliance	Active In Compliance	In 2021, Baffinland shipped 5.6 Mt of ore.
179b	Until December 31, 2021 the total volume of ore transported along the Tote Road must not exceed 6.0 million tonnes per annum (Mtpa).	Active In Compliance	Active In Compliance	In 2021, Baffinland transported 5.4 Mt of iron ore by truck on the Tote Road.
179c	Bi-annual Third-Party Performance Audit on Project Certificate N.005 Terms and Conditions and the Inuit Impact Benefit Agreement.	Active In Compliance	Active In Compliance	Baffinland submitted two (2) third-party audits to the NIRB regarding their compliance with the NIRB Project Certificate No. 005 and the IIBA Established with the QIA in 2019. These reports were received in September 2021 and March 2022 covering the entirety of 2021.
Transboundary Effects				
180	The Marine Environment Working Group shall invite a representative from Makivik Corporation to be a member of the group.	Active In Compliance	Active In Compliance	Makivik has been a member of the Marine Environment Working Group (MEWG) since 2013 and receives MEWG related correspondences. If a member is unable to attend in person, they receive finalized minutes and technical information. At this time, Makivik Corporation has not been attending the MEWG meetings but it included on all distribution lists.

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
181	Regardless of whether Makivik Corporation participates as a member of the Marine Environment Working Group, the group will provide Makivik with regular updates throughout the life cycle of the project.	Active In Compliance	Active In Compliance	Makivik is a member of the MEWG and receives regular meeting materials.
182	Make available any ship route deviation routes provided to the NIRB to Makivik Corporation.	Active In Compliance	Active In Compliance	Vessel traffic information is currently publicly available through Baffinland's website. www.baffinland.com .

Term and Condition No.	Summary of Term and Condition Requirements	NIRB 2020-2021 Evaluation	NIRB 2021-2022 Evaluation	NIRB Comments
183	Collaborate with the MEWG to improve monitoring and mitigation of the marine environment. The Proponent shall implement any direction from the Department of Fisheries and Oceans Canada (DFO) for any avoidance or mitigation measures including the cessation of any activity of the protection of the marine environment.	Active Deficient – In progress	Active Deficient – In progress	<p>Baffinland has continued to consult the MEWG on Project monitoring programs specifically related to marine mammals. There is often discussion of mitigation strategies at the meetings; however, as the final Terms of Reference is currently under review by Baffinland and all parties and are expected to be finalized in 2022 it has been difficult to resolve issues or to develop mitigation strategies agreed by all parties.</p> <p><i>2021 MEWG Meeting Minutes</i> (Baffinland, 2022), Baffinland Appendix C.1, NIRB ID No: 338438</p>
184	The Proponent shall collaborate with the Marine Environment Working Group to review the status of compliance with, and implementation of, all of the Terms and Conditions in Project Certificate No. 005 related to marine environmental protection.	Active Deficient – In progress	Active Deficient – In progress	<p>In its submission to the NIRB, Baffinland lists the 2021 MEWG meetings where they state compliance is discussed along with a list of mitigations that were applied to the Project in 2021 as a result of recommendations made by the MEWG, DFO, and Inuit Stakeholders.</p> <p>The NIRB understands that the draft Terms of Reference for the working group have yet to be finalized and looks forward to having them finalized in 2023 and for further information regarding discussions included in next year’s annual report.</p>