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Qikiqtani Inuit Association

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January 21 2019 NWB File No: 2BE-EQE

Manager of Licensing
Nunavut Water Board
P.O. Box 119, Gjoa Haven
Nunavut, X0B 1J0
licensing@nwb-oen.ca

RE: Baffinland's Eqe Bay Exploration Program Water Licence Application

Dear Ida Porter,

The Qikiqtani Inuit Association (QIA) would like to thank the Nunavut Water Board (NWB) for the opportunity to comment on Baffinland's Eqe Bay Water Licence Application. The QIA has compiled the attached list of 51 comment topics with specific recommendations or requests associated with each one. Due to the nature and extent of our comments, QIA requests that Baffinland be required to submit revisions to the NWB so that interveners are given the option of commenting again through this public process.

Should you have any questions regarding our comments, please do not hesitate to contact Joel Fortier, Environmental Assessment Coordinator for QIA Lands at jfortier@qia.ca.

Sincerely,

Rosanne D'Orazio
Director of Lands
Qikiqtani Inuit Association

1. QIA-NWB-1

Comment No.	QIA-NWB-1
Subject/Topic	Differences between draft Eqe Bay EPP submitted to NIRB and NWB
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission)
Summary of Issue	The QIA initially conducted a gap analysis of draft Eqe Bay documents submitted to the NIRB in July 2018, which included the Project Proposal, Environmental Protection Plan, Spill Contingency Plan, and Environmental Inspection and Monitoring Plan. In December 2018, Baffinland submitted additional documents to the NWB as part of their Type 'B' Water License Application, including revised versions of the abovementioned plans, as well as a new Eqe Bay Waste Management Plan, Closure and Reclamation Plan, and the Water Sampling QA/QC Plan developed for the Mary River Project. It is unclear whether the Dec 2018 documents are intended to supersede the previous versions submitted to the NIRB, or whether the content has been modified and/or truncated to contain the most relevant information for the purposes of the Type 'B' water license application. The issue is further complicated because of new, additional content in the Dec 2018 versions – will these be integrated into the NIRB documents? As a result of this ambiguity, many of the technical comments that follow in this report will refer to both documents and will highlight differences that the QIA would like Baffinland to clarify.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Clarify whether the Dec 2018 versions of draft management plans supersede the July 2018 versions, or whether they are intended only for the Type 'B' water license application. ii. Clarify whether the new Dec 2018 plans – without previous versions submitted to the NIRB – are intended only for the Type 'B' water license application.

2. QIA-NWB-2

Comment No.	QIA-NWB-2
Subject/Topic	Seasonal occupancy of 100-person camp and additional water use
References	Eqe Bay Exploration Program Project Proposal, April 2018 • Sections 2.1 to 2.3, Pages 5-7
Summary of Issue	Baffinland states that the initial 50-person camp will likely be expanded to a 100-person camp provided initial exploration drilling is promising. Will there be a peak season and down season for the exploration program, and thus seasonal differences in camp occupancy? What are the expected numbers of personnel present at camp during each season? For example, page 7 of the Project Proposal states that "Baffinland expects to maintain a small care and maintenance staff year-round during most years"; however, page 9 states that "the exploration program could grow to up to 9 diamond core drills operating year-round." Expected camp occupancy is important for understanding the magnitude of potential seasonal impacts on fish (e.g. water draw) and wildlife. Furthermore, Section 2.2 states that to accommodate the expanded 100-person camp, water will either be trucked or piped in. What is the distance of pipe necessary to reach the camp? The QIA requests that Baffinland supply a map of the route for the above-ground pipe, as this will likely result in land disturbance.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please provide the estimated number of personnel that are expected at the exploration camp in different seasons. ii. If piping will be used to supply additional water to the 100-person camp, please provide the length, height above land, and proposed route for this pipe.

3. QIA-NWB-3

Comment No.	3. QIA-NWB-3
Subject/Topic	Quarry- and borrow source-specific management plans
References	Eqe Bay Exploration Program Project Proposal, April 2018 • Section 2.6, Page 8 Draft Eqe Bay Environmental Protection Plan, 7 Dec 2018 (NWB submission) • Section 2.21.2, Page 52
Summary of Issue	Section 2.6 of the Project Proposal states that once the potential quarries have been assessed for acid rock drainage (ARD) and metal leaching (ML) potential, Baffinland will develop and file a quarry-specific management plan with the NWB and QIA. The draft EPP, Section 2.21.2, also states that site specific management plans for each quarry and borrow source will be developed, and approved by the QIA and NWB. When can the QIA expect to receive these quarry- and borrow-specific management plans? These management plans will be required for review prior to the QIA signing a surface land use permit with Baffinland to ensure that any ARD or ML potential will be adequately mitigated.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or additional information: i. Please provide a timeline for the development of these site-specific management plans. These should be produced for review by the QIA prior to finalizing the QIA land lease agreement.

4. QIA-NWB-4

Comment No.	QIA-NWB-4

Subject/Topic	Maximum number of targets for backpack drill program
References	Eqe Bay Exploration Program Project Proposal, April 2018 • Section 3.2, Page 9
Summary of Issue	Section 3.2 of the Project Proposal explains that the Backpack Drill Program will drill "at least 50 targets in the exploration area." This is a statement of a minimum target level. Can Baffinland provide a maximum number of target sites that the program can adhere to? This information is required by the QIA to assess the land liability risks of the project.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please provide information on the estimated maximum number of backpack drill targets that the program could reach during a given year. Impacts are typically based on maximum estimates rather than minimum estimates, and the QIA wishes to examine the proposed security against potential maximum levels of drill targets rather than minimum numbers.

5. QIA-NWB-5

Comment No.	QIA-NWB-5
Subject/Topic	Locations of culvert crossings should be approved by QIA
References	Eqe Bay Exploration Program Project Proposal, April 2018 • Section 4.3, Page 10; Figure 3
Summary of Issue	Two culvert crossings are proposed for the Project along fish-bearing streams connected to Lakes EB-1 and EB-2. As indicated in Figure 3, these culvert locations are located on IOL (technically NTI Exploration Agreement Sub-Area). The construction of these culverts may affect surface land, which would necessitate consultation with the QIA. Furthermore, the baseline information collected by Baffinland regarding traditional fishing use of these areas is not be

	up to date (see **QIA-EB-4**); thus, the locations of these culverts may have potential impacts on current land use by Inuit.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Since the proposed culvert crossings are located on IOL, please consult with the QIA about their locations; and ensure that traditional fishing use by Inuit of areas connected to the crossings are well understood.

6. QIA-NWB-6

Comment No.	QIA-NWB-6
Subject/Topic	Potential access road network not indicated in Figure 3
References	Eqe Bay Exploration Program Project Proposal, April 2018 • Section 4.3, Page 10; Figure 3
Summary of Issue	Based on the description of the access road throughout the Project Proposal, including Figure 3, the reader would assume that there was a single road proposed between the camp and exploration area. However, Section 4.3 states that "the access road may further finger out to specific drill sites." The QIA needs to know how many potential branches of the road there will/may be, and the length of each segment, as Baffinland's plan could turn into a substantial road network that would have greater impacts on wildlife than a single access road. Baffinland should provide further information/clarify on the total potential surface area of land that could be disturbed due to access road branching. This information is required by the QIA to assess the land liability risks of the project.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please estimate the maximum number of branches off the main access road that Baffinland is planning on constructing.

	ii. Please indicate all potential branches in Figure 3 of the Project Proposal, even if some branches have a lower probability of being constructed.

7. QIA-NWB-7

Comment No.	QIA-NWB-7
Subject/Topic	Environmental management plans developed for Mary River Project
References	Eqe Bay Exploration Program Project Proposal, April 2018 • Section 7, Page 23 • Section 2.6, Page 8 Water Licence Application Executive Summary, 7 Dec 2018 Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission)
Summary of Issue	In Section 7 of the Project Proposal, Baffinland originally proposed to develop three management plans (MPs) specific to the Eqe Bay Exploration Program: Spill Contingency Plan, Closure and Reclamation Plan, and Monitoring and Inspection Plan. Baffinland proposed to apply, "as appropriate", a number of other environmental MPs developed for the Mary River Project. Management plans should be developed specific to the conditions that will be encountered for a project; a reviewer will not be able to determine which plans, or portions of plans, the Proponent will deem appropriate for the Eqe Bay Exploration Program. Since the Mary River Project was initiated, a lot has also been learned about potential mining and exploration impacts in Nunavut. Environmental MPs for Eqe Bay should incorporate "lessons learned" from Mary River as well as other northern mineral exploration projects of similar scope. These projects' plans (available in the NIRB public registry) could serve as useful templates (e.g., organization, level of detail) for developing similar plans for the Eqe Bay project.

	As of December 2018, Baffinland has since developed two additional plans for Eqe Bay: Environmental Protection Plan and Waste Management Plan. As shown on p. 3 of the Water Licence Application Executive Summary, Baffinland will still be referring to the Cultural Resources Protection Plan and Sampling Program–QA/QC Plan developed for the Mary River Project. The documents submitted to the NWB in Dec 2018 no longer reference these additional MPs developed for Mary River that were listed within the Project Proposal: • **Surface Water and Aquatic Ecosystems Management Plan** • **Terrestrial Environment Mitigation and Monitoring Plan** – To supplement the limited information contained in OESs within the draft EPP, a TEMMP should be developed for Eqe Bay. Alternatively, the TEMMP can be subdivided into categories of valued components, such as individual stand-alone plans for wildlife, vegetation, soils, etc. Example: the Kuulu Project (NxGold), a mineral exploration project near Rankin Inlet in Nunavut, has developed a Wildlife Protection Plan. • **Borrow Pit and Quarry Management Plan** – In the Project Proposal, Section 2.6, Baffinland refers to the Mary River Borrow Pit and Quarry Management Plan because it contains the protocol for assessment for potential acid rock drainage. This plan will also be important to the Eqe Bay Project. Alternatively, this more general information could be added to quarry-specific management plans. Additional plans that Baffinland has previously produced for Mary River, that are not discussed in the Project Proposal for Eqe Bay, include: • **Emergency Response Plan** – Baffinland prepared this plan for Mary River in 2015, revised in 2018. The QIA notes that the Dec 2018 version of the draft Eqe Bay EPP no longer references this plan (see **QIA-EB-26**). Example: the Kuulu Exploration Project (NxGold) has developed a suitable Emergency Response Plan. • **Polar Bear Safety Plan** – Baffinland prepared this plan for Mary River in 2014, revised in 2016. The draft Eqe Bay EPP refers to this plan within the Polar Bear Encounters OES. • **Hazardous Material and Hazardous Waste Management Plan** – Baffinland prepared this plan for Mary River in 2012, with the latest revisions in 2017. Section 2.16 in the draft Eqe Bay EPP and Section 4.4 in the draft Eqe Bay Waste MP include limited information on hazardous materials (see **QIA-EB-50**). Many other exploration projects also have a

	separate Fuel Management Plan, including the Gibson MacQuoid Project (North Country Gold). Furthermore, the Kuulu Project includes an Engagement Plan that has identified all stakeholders and presents the purpose and methodology of engagement activities. Baffinland may benefit from developing a similar plan to demonstrate their commitment to local and Inuit engagement.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Produce environmental management plans specific to the Eqe Bay Exploration Program for review. This is necessary because the current concept promoted by Baffinland, to apply management plans from Mary River "as appropriate", leaves uncertainty as to which plans, and portions of plans, Baffinland will consider appropriate to the Eqe Bay Exploration project.

8. QIA-NWB-8

Comment No.	QIA-NWB-8
Subject/Topic	Review and revision of the EPP should be performed in conjunction with the QIA
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 1.3, Page 12 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 1.3, Page 13
Summary of Issue	In the July 2018 version of the draft Eqe Bay EPP, Section 1.3, the Environmental Superintendents and Coordinators' responsibilities included conducting a "review and revision of the EPP on an as needed basis to determine if updates are required, or at the request of the Environment Manager." The QIA requests that review and revision of the EPP should be performed in conjunction with the QIA.

	In the Dec 2018 version of the EPP, the roles of Environmental Superintendents and Coordinators have been removed; and all references to the "Environmental Department" have been replaced with a single person, the "Environmental Representative". However, the Environmental Representative has not inherited the same responsibilities of reviewing and revising the EPP. The closest approximation is one of the Eqe Bay Camp Manager's responsibilities, to "initiate changes to improve and update the Plan as required" (which was also in the July 2018 version). While an extended Environmental Dept may not be required for this exploration program, it is important that review and revision of the EPP and other management plans is conducted, and the QIA should be involved in these processes.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, orinformation: i. Please indicate key environmental roles and individuals responsible for revising, or leading the revisions of, the EPP. Regardless if project roles for Eqe Bay have been revised, someone must be assigned the responsibility of conducting/leading a review and revision of the EPP on an as needed basis to determine if updates are required, or at the request of the Environmental Manager. ii. Review and revision of the EPP should be performed <u>in conjunction with the QIA</u>.

9. QIA-NWB-9

Comment No.	QIA-NWB-9
Subject/Topic	Water use from Lakes EB-1 and EB-2 may impact fish and fish habitat
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) and 7 Dec 2018 (NWB submission) • Section 2.4.2, Page 19 Eqe Bay Exploration Program Project Proposal, April 2018

	• Section 3.3, Page 9 • Section 5.4, Freshwater Biota, Page 14 • Section 6.3, Pages 17-19 General Water Licence Application, 7 Dec 2018 • Section 13, Page 4
Summary of Issue	Section 3.3 of the Project Proposal states that 270 m^3 of water will be pumped daily from Unnamed Lake #1 for exploration work. Section 2.4.2 of the Draft EPP states that the Eqe Bay Exploration Camp will obtain water from unnamed lake EB-2. However, the Eqe Bay Exploration Program Project Proposal (p. 14) and other management plans state that unnamed Lake EB-1 will be used for the camp water supply, and EB-2 will be used to supply water to drills. Please clarify the water sources to be used for camp supply and drill work. Assuming that 270 m^3 of water will be pumped daily for drill work and that 9 exploration drills may be working year-round (Section 3.2 of Project Proposal), this amounts to a maximum annual water draw of 98,550 m^3, and 492,750 m^3 over the 5-year exploration period. This is a potentially large amount of water to be withdrawn from Unnamed Lake #1. The amount of water withdrawal could eventually affect water temperatures, freezing depths, and the shallow habitat around the lake edges where some fish spawn. Section 5.4 of the Project Proposal describes the freshwater biota of both lakes to be used for the Project. Lake EB-1 very likely supports Arctic char, ninespine stickleback, and possibly sculpins. A culvert is planned for installation in an unnamed stream at the east side of Lake EB-1, which likely supports juvenile Arctic char. Lake EB-2 is unlikely to be accessible by sea-run Arctic char due to insufficient flows and habitat connectivity, although it may support land-locked Arctic char and ninespine stickleback. A crossing is proposed for a stream that may support juvenile rearing land-locked Arctic char. Since both unnamed lakes are fish-bearing, will the water drawdown affect total water levels and potential spawning at lakeshore margins? Although Arctic char typically spawn in water deeper than 2 m (DFO 2014, Harwood & Babaluk 2014) and may be unlikely to be stranded by water drawdown for the Project, reducing water levels could increase water temperature and affect fish survival and egg viability. Furthermore, decreased water in the lake due to Project-related water use can affect runoff into streams and flow rates, which can affect fish species (or life cycle stages) residing in those streams. Are these lakes or streams part of

	or connected to Inuit fishing areas? Updated maps of traditional land use are required to evaluate potential impacts (see **QIA-EB-4**). Section 6.3 of the Project Proposal, Effects Assessment for Surface Water and Groundwater, states that water withdrawal rates are not anticipated to change the flow of water to/from the lakes; and that the volumes to be withdrawn are not anticipated to have an effect on the quantity of surface water. Baffinland also predicts that winter water withdrawals from Lakes EB-1 and EB-2 are not expected to have a material effect on fish habitat including any spawning areas or fish eggs that may be present; however, this assessment was based on evaluation of lake surface area (2 dimensions) and annual recharge to catchment area. Bathymetric surveys, enabling a 3-dimensional understanding of lake depth and shape, were planned to be conducted during the summer of 2018 on Lakes EB-1 and EB-2, after which Baffinland proposed to re-assess the winter water withdrawal in accordance with the DFO Protocol and to submit the results to the NWB (p. 19). There is no indication in the Dec 2018 documents, submitted as part of Baffinland's Type 'B' water license application, whether bathymetric surveys were conducted as planned. The A-7 Project Proposal is still the version from April 2018, containing the effects assessment as discussed above. However, the General Water Licence Application, submitted in Dec 2018 to the NWB, reports the same expected winter withdrawal volumes as described in the Project Proposal, which implies that additional surveys and reassessment were not completed. (Note: there is a typo in the Application, as the drawdown from Lake EB-2 is estimated to be 2.5 cm rather than 2.5 mm.) Does Baffinland still have plans for reassessment following the DFO Protocol for Winter Water Withdrawal? The QIA requests to review the updated analyses prior to authorizing land use permits.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Clarify whether Lake EB-1 or EB-2 will be used for camp water supply and drill water supply. ii. Clarify whether Baffinland conducted the bathymetric surveys of Lake EB-1 and EB-2 that were planned for the 2018 open water season. iii. If 2018 bathymetric surveys were conducted, Baffinland should re-assess potential effects on surface water quantity and fish and fish habitat.

	iv. If the reassessment was performed, Baffinland should submit the updated assessment of effects on surface water to fish and fish habitat to the QIA and the NWB for review.

10. QIA-NWB-10

Comment No.	QIA-NWB-10
Subject/Topic	Short-notice water draws from additional water sources
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.4.2, Page 20 • Section 2.18.2, Page 51 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.4.2, Page 19 Eqe Bay Exploration Program Project Proposal, April 2018 • Figure 3; Section 5.3, Page 13 • Section 6.3, Page 18
Summary of Issue	In addition to the planned water use from Lakes EB-1 and EB-2, Section 2.4.2 and 2.18.2 of the draft EPP (July 2018 version) state that "*if water is required from a source that may be drawn down (small lake or stream), Baffinland shall submit a request for approval to the Board at least 15 days prior to withdrawing the water*." Figure 3 in the Project Proposal shows two "additional drill water sources" – are these what the EPP is referring to? Section 5.3, p. 13 of the Project Proposal states that neither water quality sampling nor bathymetric surveys have been conducted at these waterbodies. Furthermore, Section 6.3 states that fisheries assessments have not yet been conducted on these waterbodies, but Baffinland has observed stickleback minnows in one of the ponds. Water drawdown should not be performed on fish-bearing waters without prior analysis of potential impacts, as this can influence the spawning success of some species. Baffinland should identify non-fish-bearing lakes and develop a

	contingency plan in advance, in case the need for additional water source(s) arises for the Project. If the stickleback-bearing pond is still planned for use, bathymetric surveys should be conducted to assess whether water withdrawal for drill work will affect fish and fish habitat, and fish surveys should be conducted to establish if there are additional fish species within the water body. The QIA notes that the statements regarding short-notice water draws have been removed from the Dec 2018 version of the draft EPP that was submitted as part of the Type 'B' water license application. Is Baffinland no longer planning on using additional water sources, or will they request an emergency amendment to their water license should the need arise?
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Identify alternative, non-fish-bearing water bodies in advance, in case water is required from an additional source(s). ii. Indicate whether bathymetric surveys and fisheries assessments will be (or have been) conducted on the additional water source ponds identified in Figure 3, to assess the potential impacts of water withdrawal from these sources in advance of their potential use. iii. If surveys and assessments have been completed, Baffinland should submit these new assessments to the QIA and NWB for review.

11. QIA-NWB-11

Comment No.	QIA-NWB-11
Subject/Topic	Water use activities associated with drilling programs are missing
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.18.2, Pages 51-52 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.4.2, Page 20

	• Section 2.19.2, Pages 48-50
Summary of Issue	At the end of Section 2.4.2 in the Dec 2018 version of the draft Eqe Bay EPP, the reader is directed to Section 2.18 for water use activities associated with drilling programs. This citation needs to be corrected, as Exploration Drilling Operations is now Section 2.19. However, the section on exploration drilling no longer discusses water use. By contrast, the July 2018 version of the draft EPP, pages 51-52, described environmental protection measures for Water Use, Brine and Drill Water Runoff. The following points are missing in the updated version, which may be relevant for the Type 'B' Water License Application: - Brine (calcium chloride salt mixed with water) used in exploration drilling is to be controlled to the maximum extent practicable. Drilling muds contained in drilling fluids must be settled out in sumps or by silt fences prior to entering any downstream water bodies or streams. - Salt and water use for each drill is to be controlled by the use of brine mixing stations. The brine station operator will inspect his/her station daily and will be in continuous communication with each exploration drill. Brine conservation measures will be adopted which will include: shutting off the flow of brine to drills when brine is not required (i.e., when drills are temporarily shut down); eliminating all spillage in the vicinity of the brine stations; and minimizing to the greatest extent practicable the brine's salt concentrations. - All water intake hoses shall be equipped with a screen of an appropriate mesh size (as approved by the DFO) to ensure that fish are not entrained. Additionally, operators will ensure the water intake hoses withdraw water at such a rate that fish do not become impinged on the screen. - Measures shall be provided to prevent and control erosion on banks of any body of water. - Streams cannot be used as a water source unless authorized and approved by the Nunavut Water Board. - If water is required from a source that may be drawn down (small lake or stream), Baffinland shall submit a request for approval to the Board at least 15 days prior to withdrawing the water.

	- Drill water shall be obtained from water sources(s) proximal to the drilling targets and shall not exceed a total of 250 m^3 per day for all drilling activities on the Project. - Water use will be tracked using inline water metres on intake lines and recorded on the Daily Drilling Inspection Reports (Section 3.5). - No material shall be removed from below the ordinary High Water Mark of any water body unless authorized. - The drill water supply temperature should be monitored during drilling and kept to a temperature as low as possible (but not so low as to cause an imminent risk of frozen water lines). - To maximize drill return water recirculation, casing is to be frozen into the ground to a depth of 3 to 6 m below grade. The specific depth of casing to be frozen into each hole and length of time to allow for freezing will be specified by the acting Supervisor. - For on-ice drilling, returned water released must be nontoxic, and not result in an increase in Total Suspended Solids (TSS) in the immediate receiving water above the CCME guidelines for the protection of Fresh Water Aquatic Life (i.e. .10 mg/L for lakes with background levels under 100 mg/L or 10% for those above 100 mg/L). Some of these points were described in Section 2.4.2; however, this section was specified as environmental protection measures for the camp water supply. It could be that the revised Section 2.19.2 was copied and pasted from Section 2.5.2 on geotechnical drilling operations, as the content matches exactly, and the subsection on water use, brine, and drill water runoff was missed. Baffinland should clarify whether any or all of the procedures described above are still relevant to the Eqe Bay Exploration Program. If so, they should be reinstated within the EPP. Furthermore, if these water use activities pertain to geotechnical drilling operations as well, the EPP should indicate this.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Include water use activities associated with drilling programs into the appropriate section(s) of the draft EPP.

	ii. If there are omissions from the list above, Baffinland should clarify why the excluded procedures are no longer relevant to the Eqe Bay exploration program.

12. QIA-NWB-12

Comment No.	QIA-NWB-12
Subject/Topic	Risk of hyper saline drilling fluid entering high-value fishery lakes
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) and 7 Dec 2018 (NWB submission) • Sections 2.5.1 and 2.5.2, Page 21
Summary of Issue	Section 2.5 in the draft EPP states that one of the environmental concerns associated with geotechnical drilling operations is drilling fluid. Specifically, spills or leakage of hyper saline drilling fluid could contaminate nearby waterbodies or watercourses and impact local fish populations and other aquatic organisms (Blair *et al.* 2017). In Section 2.5.2, it is implied that geotechnical drilling should be carried out a minimum of 31 m from the High Water Mark of waterbodies, but work within 31 m is acceptable as long as it has been approved by the Nunavut Water Board. Due to the potential contamination risk from hyper saline drilling fluid, this minimum distance should be adhered to – and ideally increased – if drilling will be located adjacent to high-value fishery lakes. Similarly, the dedicated sump location for collecting "dirty" drill water and cuttings prior to disposal may be as close as 31 m from surface water bodies. It would be ideal if this minimum distance can be increased when work is located adjacent to high-value fishery lakes.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Increase the minimum distance from the HWM of waterbodies where geotechnical drilling activities and sumps may be allowed, if the waterbody is a high-value fishery lake.

13. QIA-NWB-13

Comment No.	QIA-NWB-13
Subject/Topic	Disposal of calcium chloride ($CaCl_2$) into natural depressions
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.5.2, Page 22 • Section 2.18.2, Page 52 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.5.2, Page 21 • Section 2.19.2, Page 49
Summary of Issue	During drill operation and movements, one of the environmental protection measures is to dispose of all land-based drill waste, including salts ($CaCl_2$), into "*a properly constructed sump or natural depression located at least 31 m above the High Water Mark of any water body*." The disposal of $CaCl_2$ into sumps or natural depressions is not an effective solution. Drilling sumps rely on permafrost to act as an impermeable layer. However, $CaCl_2$ will melt ice to -20 °C to -25 °C (Bogemans *et al.* 1989), and this can damage permafrost and cause heaving and changes in vegetation. Vegetation will also be damaged if $CaCl_2$ is disposed of at high concentrations. Rainfall and snowmelt can also cause leaching. Accumulation of salt in the soil also makes it difficult for plant roots to absorb water and can inhibit seed germination of grasses/sedges and wildflowers. Degrading drilling sumps, due to the failure of permafrost as a waste containment medium, have been shown to have impacts on sensitive Arctic lake ecosystems. Affected lakes had elevated chloride levels and modified invertebrate assemblages, where species that are more tolerant of higher conductivity became more common (Thienpont *et al.* 2013). Changes in aquatic invertebrate communities may lead to impacts on predator species, such as fish.

	If sumps must be used for disposal of drill water (geotechnical or exploration drilling operations), they should be regularly inspected for longevity and sump failure.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Alternative drilling waste disposal options (not sumps or natural depressions) should be used for disposal of saline waste ($CaCl_2$). ii. If sumps must be used, they should be inspected for longevity and sump failure.

14. QIA-NWB-14

Comment No.	QIA-NWB-14
Subject/Topic	Reporting procedure if permafrost is broken through by the drill
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) and 7 Dec 2018 (NWB submission) • Section 2.5.2, Page 22
Summary of Issue	In the July 2018 version of the draft EPP, one of the environmental protection measures for geotechnical drilling is: "*In case the bottom of the permafrost is broken through by the drill, the depth of the bottom and location shall be reported immediately to the Environment Department who shall in turn report to the Nunavut Water Board*." This procedure is notably absent in the Dec 2018 version of the draft EPP that was submitted to the NWB as part of Baffinland's Type 'B' water license application.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information:

	i. Please reinstate the reporting procedure for the situation wherein the drill breaks through the bottom of the permafrost. ii. Please include this procedure within Section 2.19.2, Exploration Drilling Operations, as well.

15. QIA-NWB-15

Comment No.	QIA-NWB-15
Subject/Topic	Materials left on the ice during drill hole abandonment
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.5.2, Page 23 • Section 2.18.2, Page 52 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.5.2 • Section 2.19.2
Summary of Issue	In the July 2018 version of the draft EPP, one of the environmental protection measures for geotechnical and exploration drilling is: "*Materials such as debris and/or drill cuttings shall not be left on the ice when there is potential for that material to enter a water body*." This is an important measure, relevant to a Type 'B' water license application, that was removed from the Dec 2018 version of the draft EPP.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please reinstate the procedure for not leaving materials such as debris and/or drill cuttings on the ice, if these materials have the potential to enter a watercourse or water body.

16. QIA-NWB-16

Comment No.	QIA-NWB-16
Subject/Topic	Spill response reporting structure and timing
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.6.2, Page 25 • Section 2.7.2, Page 27 • Section 2.15.2, Page 43 • Section 2.16.2, Page 46 • Section 2.18.2, Pages 51-52 • Section 2.21, Page 58 • Section 2.22, Page 60, Table 2.22-1 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.6.2, Page 24 • Section 2.7.2, Page 26 • Section 2.15.2, Page 40 • Section 2.16.2, Page 42-43 • Section 2.23, Page 55, Table 2.23-1 Draft Eqe Bay Spill Contingency Plan, 7 Dec 2018 (NWB Submission) Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB Submission) • Section 8.2, Page 30

Summary of Issue	In Section 2.18.2 of the July 2018 version of the draft EPP, proposed brine conservation measures include eliminating all spillage in the vicinity of the brine stations, and minimizing to the greatest extent practicable the brine's salt concentration. As discussed in technical comment **QIA-EB-19**, the QIA has concerns about the risk of hyper-saline drilling fluid leaking into high-value fishery lakes. If any spills of brine, sediment, fuel and/or other hazardous material occur on IOL, the QIA must be informed immediately. Furthermore, in the July 2018 version of the draft EPP, Section 2.22 on Spill Control Measures and Reporting states that "*all spills, leaks and releases of hazardous materials will be reported to the Environment Department immediately and documented… within 12 hours of the spill*". This reporting requirement is also reiterated within Sections 2.6.2 (Equipment Operation and Mobilization), 2.7.2 (Fuel Storage and Handling), 2.15.2 (Wastewater Treatment), and 2.16.2 (Hazardous Material and Hazardous Waste Management). Section 2.21, Compliance Inspections, also mentions the reporting of spills to the Environment Department as soon as possible. Any project-related spills that occur may threaten IOL. Please include the QIA into this reporting procedure within all relevant sections of the draft EPP, including Table 2.22-1 (General Spill Reporting and Clean Up Standards); as well as the draft Spill Contingency Plan and Waste Management Plan (e.g., Section 8.2 on sewage spills). The QIA notes that the 12-hour reporting timeline has been removed from the Dec 2018 version of the draft EPP, in all sections mentioned above. Furthermore, the wording in Section 2.16.2 and Section 2.23 is missing "immediately" for reporting hazardous spills to the Environmental Representative. Can Baffinland explain the rationale behind these changes? Without setting a timeline requirement for reporting spills, especially hazardous spills, the potential impacts on human health and the environment may be greater if the contaminated area is allowed to expand over time.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. The inclusion of a statement that any spills of hazardous material, including brine spills, on or threatening IOL will be reported to the QIA and the Environment Department. ii. The reinstatement of the 12-hour reporting timeline requirement for hazardous spills; and provide the rationale for removing this timeline from the revised Dec 2018 draft EPP.

17. QIA-NWB-17

Comment No.	QIA-NWB-17
Subject/Topic	Emergency spill response – emergency response plan, training, inspection and maintenance of supplies
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.22, Page 60, Table 2.22-1 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.23, Page 55, Table 2.23-1 Draft Eqe Bay Spill Contingency Plan, 7 Dec 2018 (NWB Submission)
Summary of Issue	The paragraph about emergency spill response training below the graphic of Spill Response Levels (p. 61 in July 2018 version) has been removed from the Dec 2018 version of the draft EPP (p. 56). The revised draft EPP also no longer makes reference to the Emergency Response Plan developed for the Mary River Project (nor has Baffinland developed an ERP for Eqe Bay). The draft Eqe Bay Spill Contingency Plan does not include emergency spill response training. Furthermore, no details are provided with respect to spill response training and regular inspection and maintenance of spill response supplies to help ensure adequate response in the event of a spill scenario. Baffinland must ensure that there are staff present at Eqe Bay who harbor the necessary skills to deal with emergency spill response, as well as emergency response in general.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Information regarding inspection and maintenance schedules for spill response supplies. ii. Information regarding training of on-site staff and their capacity to deal with various emergency spill scenarios.

18. QIA-NWB-18

Comment No.	QIA-NWB-18
Subject/Topic	Reporting leaks immediately to the Environmental Department/Representative
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.5.2, Page 22 • Section 2.6.2, Page 25 • Section 2.7.2, Page 27 • Section 2.16.2, Page 45 • Section 2.18.2, Page 50 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.5.2, Page 22 • Section 2.6.2, Page 24 • Section 2.7.2, Page 27 • Section 2.16.2, Page 42 • Section 2.19.2, Page 49
Summary of Issue	An improvement made to the Dec 2018 version of the draft EPP is that within Section 2.5.2 (Geotechnical Drilling Operations) and Section 2.19.2 (Exploration Drilling Operations), "all leaks shall be immediately repaired" has been modified to "all leaks shall be immediately reported to the Environmental Representative and repaired." The QIA requests similar changes to be made in Section 2.6.2 (Equipment Operation and Mobilization), Section 2.7.2 (Fuel Storage and Handling), and Section 2.16.2 (Hazardous Material and Hazardous Waste Management). For example, daily pre-operation inspections and inspections of fuel/chemical

	storage areas may identify leaks. These should be immediately reported to the Environmental Representative, and repaired immediately, if possible.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. A statement that all leaks will be immediately reported to the Environmental Representative.

19. QIA-NWB-19

Comment No.	QIA-NWB-19
Subject/Topic	Adequacy of spill response equipment and supplies
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.7.2 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.7.2, Page 26 Eqe Bay Exploration Program Project Proposal (April 2018) • Section 2.5, Page 7 Draft Eqe Bay Spill Contingency Plan, 7 Dec 2018 (NWB submission) • Section 6.1, Page 19
Summary of Issue	A new addition to Section 2.7.2 in the Dec 2018 version of the draft EPP is that "*adequate spill response equipment and supplies will be available at fuel storage sites, refueling stations, maintenance areas and drill sites*." The adequacy of the spill response will depend on how much fuel is being stored at each site. In the Project Proposal, Section 2.5, Baffinland expects to use/store 369,000 L of fuel for the initial drilling program (now planned for 2019). Upon expansion to the 100-person camp, they will store 1,500,000 L of fuel. Can Baffinland estimate

	the amount of fuel that will be stored at each storage site, refueling station, maintenance areas, and drill sites? Proper planning and preparation can help to ensure the adequacy of spill response for the Eqe Bay Exploration Program. Furthermore, spill response supplies and locations are not listed in the draft Eqe Bay Spill Contingency Plan. It is noted that spill kit locations are intended to be added to Appendix B, site layout figure, as part of an updated plan.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. An explanation on how Baffinland will ensure that spill response equipment and supplies are adequate at each fuel storage site, refuelling station, maintenance area, and drill site. ii. A complete list of spill response supplies that meet described spill scenarios. iii. An identified location on the site layout map where spill response supplies will be stored, and in what quantity, along with rationale for the location of these spill response supply stores. iv. Maximum distance and mobilization times to potential spill scenarios from each spill response supply store.

20. QIA-NWB-20

Comment No.	QIA-NWB-20
Subject/Topic	Revisions to Sediment and Erosion Control section of draft EPP
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) and 7 Dec 2018 (NWB submission) • Sections 2.9, 2.9.1, 2.9.2

Summary of Issue	The Dec 2018 version of the draft EPP, Section 2.9 (Sediment and Erosion Control) has some omissions in comparison to the July 2018 version submitted to the NIRB, which may be relevant for the Type 'B' water license application. One of the environmental concerns in Section 2.9.1 originally stated, "These materials [suspended sediments, metals, petroleum hydrocarbons, and other substances] may affect water quality and, subsequently, aquatic life by reducing feeding success, fish egg and larval survival and fish habitat." The Dec 2018 version has removed the rest of the statement after "water quality". It is unclear why Baffinland made this change, as Lakes EB-1 and EB-2, as well as the connecting streams where culverts are to be installed, are fish-bearing waterbodies/watercourses. Fish assessments have not been performed on other water bodies in the area (see **QIA-EB-17**). In Section 2.9.2, two environmental protection measures for ESC have been removed from the Dec 2018 version of the draft EPP, while another point pertaining to drainage patterns at borrow areas is addressed in Section 2.21 (Quarry and Borrow Management): - Turbidity monitoring will be conducted at watercourses by Environmental Monitors during and after construction activities when necessary. - Project Personnel shall maintain, as required, all sediment and erosion control measures following rain or storm events to minimize further environmental damage. All repairs shall be undertaken under the direction and to the satisfaction of the Environment Department. It is important that ESC measures are regularly inspected and maintained after installation, to ensure that they remain effective. Correspondingly, turbidity monitoring is an important procedure to assess whether ESC measures are working effectively or not. Furthermore, in Section 2.9, it is important that ESC measures be implemented during decommissioning activities during closure, as well as "prior to the initiation of construction, borrowing or quarrying activities in each specific work area."
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please explain all of the environmental concerns associated with stormwater runoff into water bodies and watercourses.

	ii. Please reinstate the environmental protection measures regarding turbidity monitoring and maintenance of ESC measures. iii. Ensure that ESC measures are implemented during decommissioning activities as well as during construction, borrowing or quarrying.

21. QIA-NWB-21

Comment No.	QIA-NWB-21
Subject/Topic	Kitchen controls and incineration protocols to prevent polar bear attraction
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Sections 2.10.2, 2.11.2, 2.5.2, 2.18.2 • Sections 2.14.2 and 2.14.4, Page 41 • Section 2.21, Page 58 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Sections 2.10.2, 2.11.2, 2.5.2, 2.19.2 • Sections 2.14.2 and 2.14.4, Page 38 • Section 2.22, Page 54 Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission) • Table 3-2, Pages 16-17 • Section 5, Page 23
Summary of Issue	Throughout the draft EPP, one measure to minimize wildlife attraction is to keep site and working areas clean of food scraps and garbage at all times (Polar Bear, Fox and Wolf OESs). In the Dec 2018 version, the sections on geotechnical and exploration drilling also state that all waste, such as food and packaging, shall be

	collected for disposal at the camp on a daily basis. In general, workers should not be allowed to take/store food outside of the kitchen and eating areas. As polar bears can detect scents up to 32 km away, it is imperative that the camp/cook tent consider how emissions of various scents may draw these animals into the area. Within other parts of Nunavut, direct experience has been amassed at exploration camps wherein unique smells, such as that produced when making popcorn or bacon, has drawn grizzly bears into the vicinity of the camp. Part of polar bear management at the exploration camp should include avoidance of cooking strong smelling foods or use of an appropriate scrubber or filter or cooking set up to reduce scents. An example of a commercial grade filtration system for reduction of scents is shown below: https://www.homedepot.com/p/XPOWER-550-CFM-Commercial-4-Stage-Filtration-HEPA-Purifier-System-Mini-Air-Scrubber-X-2580/301299440 Other scent reducing systems, filters, and scrubbers may be available from other suppliers. Reducing the attraction of Polar Bears to the camp will be vital for human health and safety, and for reducing human bear conflicts that result in destruction of polar bears. The Proponent should also consider implementing additional wildlife control procedures for kitchen safety, food handling, and food storage, as described in Section 9.2.6 of *Camp Set Up and Management* in the Northwest Territories and Nunavut (WSCC 2017), which are not currently included in the Project Proposal and EPP documents supplied for Eqe Bay. These include: • Controlling the smells of food, garbage, and waste products (such as by using an air scrubber); • Preparing only enough food that can be consumed at one meal; and • Removing leftover lunch food from daypacks and disposing of it properly every day. Section 2.14.4 (Solid Waste Management) states that all wildlife attracting waste will be stored in sealed animal proof containers prior to incineration. Table 3-2 in the draft Eqe Bay Waste Management Plan indicates that these will be steel bins placed outside kitchens. This table also shows that kitchen grease/oil may be disposed of by incineration or offsite disposal (p. 17). Since the odours from kitchen grease may attract wildlife, kitchen grease should also be stored in animal-proof steel bins outside the kitchen prior to incineration. However, Section 2.22, Compliance Inspections, states that one of the focal points is to inspect whether "*food waste and wildlife attractants will be disposed indoors to*

	prevent the attraction and food conditioning of wildlife." Please clarify where food waste and other wildlife attractants will be disposed. Table 3-2 of the draft Waste Management Plan also indicates that the frequency of incineration of food waste/putrescible products will be "each or every other day". Daily incineration is recommended to minimize wildlife attractants. Section 5, p. 23, of the Waste MP explains the Eco Waste Solutions (EWS) CA-100 model incinerator has a waste capacity of 400 lbs/batch, slightly lower than the 440 lbs/day expected to be generated by a 100-person camp, thus "requiring at least 1 batch/day to be incinerated." Therefore, Baffinland should be able to commit to incinerating food waste and kitchen scraps every day.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. To avoid wildlife encounters and reduce attractants at work sites, food should not be allowed to be removed from the kitchen area. ii. Include appropriate controls for minimizing cooking-related food scents, e.g. avoidance of strong-smelling foods or use of a commercial air scrubber. iii. Implement additional wildlife controls for kitchen safety and food handling/storage, as per all suggestions in the WSCC's (2017) *Camp Set Up and Management* in the NWT and Nunavut. iv. Commit to incinerating food waste and other wildlife attractants on a daily basis.

22. QIA-NWB-22

Comment No.	QIA-NWB-22
Subject/Topic	Solid waste management – incinerator location, acceptable items, and data collection
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Sections 2.14.2 and 2.14.4, Page 41

	Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Sections 2.14.2 and 2.14.4, Page 38 Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission) • Table 3-2, Pages 14-18 • Section 5, Page 23 • Appendix A • Appendix B
Summary of Issue	Because incinerators can be sources of pollutants, baseline data collection, and monitoring during operations, should be performed within the zone of influence (ZOI) of the incinerator to detect any changes in the environment. Furthermore, because of pollutant risks, the QIA recommends that the incinerator and ZOI be located off IOL. If this is not possible, the QIA should be consulted about location options, and should be allowed to assist in the location selection process to minimize risks to their land. Project staff should also be familiar with a list of products that are safe to incinerate. In addition, all waste to be incinerated should be kept dry. The draft Eqe Bay Waste MP presents inconsistent information throughout the document that may be confusing for project personnel. For example, Table 3-2 shows that the following items can be incinerated: - "small amounts" of absorbents/used spill pads; - cardboard; - cigarette butts; - food waste/putrescible; - kitchen grease/oil; - oily rags and similar debris; - paper products; - plastic food packaging and bags, etc.;

	- sewage sludge; and - textiles that come into contact with food. However, cigarette butts are considered as hazardous materials in Table 3-2, whereas the general guidelines are that only combustible, non-hazardous wastes can be incinerated. "Small amounts" of absorbents needs to be defined to avoid subjective interpretation. The draft EPP and Waste MP indicate that untreated wood, cardboard, and paper products will be disposed of via open burning rather than incineration. However, in Appendix A, the Eqe Bay Exploration Program Waste Sorting Guidelines (which looks like a document intended to be posted on site) state that "*wastes incinerated onsite include food, food packaging, paper, cardboard, oily rags and sewage sludge. All other waste types, including hazardous waste, are stored onsite until they can be shipped offsite for proper disposal/recycling*." The QIA would like Baffinland to maximize the use of incineration over open burning methods (see **QIA-EB-40**). Furthermore, Table 3-1 within Appendix B, Incinerator Maintenance and Operation Procedure, lists additional waste materials that are considered acceptable for incineration (presumably based on Eco Waste Solutions' "Acceptable Waste-Streams" in Appendix C), including additional plastic products, wood, air filters, and biomedical waste. It is important that Baffinland's policies, plans, and procedures are aligned. For example, project staff responsible for incineration may not be aware that Baffinland has a policy to minimize the incineration of plastics to the maximum extent practicable (Section 5, p. 23 of Waste MP), if they are only/more familiar with the Incinerator SOP.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please consult the QIA about incinerator/waste management area location options, and allow them to assist in the location selection process to minimize risks to their land. ii. Ensure that soil and water are tested within the ZOI of the incinerator prior to incinerator use, for baseline information against which any changes to IOL can be tested following incinerator use. iii. Ensure that all waste to be incinerated will be kept dry. iv. Ensure that incineration policies, plans, and procedures are consistent, such as the list of acceptable items for incineration.

	v. Maximize incineration over open burning, even for untreated wood, cardboard, and paper products.

23. QIA-NWB-23

Comment No.	QIA-NWB-23
Subject/Topic	Open burning is not recommended by GN Environmental Guideline
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.14.3, Page 41 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.14.3, Page 38 Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission) • Section 6, Page 26 • Appendix D
Summary of Issue	Section 2.14.3 of the EPP describes protocols for open burning. As noted in Section 2.3.1 of the Government of Nunavut's *Environmental Guideline for the Burning and Incineration of Solid Waste*, open burning, particularly in the Arctic, does not achieve the temperatures needed for complete combustion of the waste. This results in the formation of potentially hazardous pollutants and ash, which are likely to impact nearby land and water bodies (which could impact wildlife and fish within those features). Open burning also results in the release of air pollution, which may annoy land users and affect nearby wildlife. The open burning of solid waste remains a common practice in Nunavut but it is the policy of the Department of the Environment to eliminate or minimize open burning of mixed solid waste and to encourage more acceptable methods of waste disposal and incineration. In Appendix D of the draft Waste MP (Open Burning of Untreated Wood, Cardboard, and Paper Products Procedure), Section 4.9 indicates that "the Camp

	Manager will keep a log of the approximate quantities of waste burnt during each open burn." How will these approximate quantities be measured? In addition to total quantities, the QIA would like Baffinland to record the types of materials burned via open burning methods, and to maximize the use of incineration (see **QIA-EB-39**). Soil and water testing surrounding the open burning locations chosen should be conducted before and after the exploration project to ensure that soils and water bodies have not been impacted by open burning, and to protect the liability of the QIA for the health of IOL. Further, if open burning must be done, the QIA recommends using modified burn barrels over the open top sea container (i.e., open burn box) proposed by Baffinland. Modified Burn Barrels (see Figure 4 in the Guideline [GN 2012]) have the advantage of burning at higher temperatures. However, these still do not necessarily improve on emissions quality, particularly if anything wet or frozen is added to the mixture. In addition, modified burn barrels are only capable of burning small volumes of solid waste as they are typically constructed from 45 gal metal fuel or oil drums. The CA-100 model incinerator proposed for Eqe Bay is capable of accommodating larger volumes of untreated wood, cardboard, and paper products (which are all acceptable items to incinerate). Therefore, the QIA wishes for absolute maximization of the incinerator over open burning via any method.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Maximize incineration over open burning whenever possible, even for untreated wood, cardboard, and paper products. ii. If open burning is absolutely necessary, follow the GN *Environmental Guideline for the Burning and Incineration of Solid Waste* (e.g., modified burn barrels). iii. Record the quantities and types of material burned, and provide an annual report to the QIA. iv. Conduct soil and water testing surrounding the open burning locations before and after the exploration project, to ensure that soils and water bodies have not been impacted by open burning. Sampling should be conducted in a statistically valid way such that cause-and-effect can be established or inferred from the data.

24. QIA-NWB-24

Comment No.	QIA-NWB-24
Subject/Topic	Treated wastewater release locations
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.15.2, Page 44 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.15.2, Page 40 Eqe Bay Exploration Program Project Proposal, April 2018 • Figure 3; Section 5.6, Page 15
Summary of Issue	In Section 2.15.2 of the draft Eqe Bay EPP, environmental protection measures for wastewater treatment, the last bullet point states that "*treated wastewater will only be released into the receiving environment at approved locations*." Figure 3 of the Project Proposal shows the location of "treated sewage effluent discharge" south of the proposed exploration camp, west of the barge landing. Has this location been approved by the appropriate authorities, including the QIA? On the map, the discharge site is located on IOL (technically the NTI Exploration Agreement Sub-Area); therefore, the QIA should be consulted about the locations of proposed release sites. Section 5.6 of the Project Proposal describes the historical and traditional uses of waters in the project area. The shoreline of Eqe Bay has been identified as an area for clam digging and blueberry picking. Therefore, it is important that the proponent and the QIA consider whether the treated sewage effluent discharge will affect traditional land use of the area over time, both in the case that a problem with the sewage treatment process occurs, or via perception of the safety of Inuit to practice traditional land uses in the area.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please consult with the QIA about the treated sewage effluent discharge location indicated on Figure 3.

	ii. Please assess whether this discharge location may impact traditional land use, as identified in Section 5.6 of the Project Proposal. iii. Identify protocols that will be put in place to monitor the safety of clams over time in the vicinity of the sewage effluent discharge site, particularly in the case that a malfunction occurs with the sewage treatment process, rendering the effluent more problematic than anticipated.

25. QIA-NWB-25

Comment No.	QIA-NWB-25
Subject/Topic	Wastewater log volume tracking
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.15.2, Page 43 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.15.2, Page 40 • Section 3.10, Page 72
Summary of Issue	In the July 2018 version of the draft EPP, Section 2.15.2 states that the "quantity of sewage treated will be documented continuously using in-line flow or vacuum truck counts." Baffinland appears to have selected in-line flow monitors, as evidenced by the revisions made to the Dec 2018 document. In this case, the Wastewater Log shown in Section 3.10 needs to be amended, as the Dec 2018 version continues to use "Truck ID" and "No. Loads" as column headers.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please amend the Wastewater Log to be more suitable for in-line flow monitoring to measure the quantity of treated effluent discharged from the sewage treatment plant.

26. QIA-NWB-26

Comment No.	QIA-NWB-26
Subject/Topic	Inspection and clean-up of antifreeze from drip trays
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.16.2, Page 45 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.16.2, Page 42 Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission) • Section 4.4, Page 22
Summary of Issue	In Section 2.16.2 of the draft RPP, as well as Section 4.4 of the draft Waste MP, one of the environmental protection measures for hazardous material and hazardous waste management is to employ drip trays for lubricating oils and antifreeze. Baffinland should ensure that drip trays are inspected regularly, and cleaned immediately, as antifreeze will attract and harm wildlife if ingested, especially if the antifreeze is made up of ethylene glycol (LaKind *et al.* 1999). Propylene glycol-based antifreeze is preferred as it is much less toxic to humans and wildlife, unless it is ingested in large quantities. The draft Waste MP does not specify whether the antifreeze to be used for the Eqe Bay Exploration Program will be propylene or ethylene glycol.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please indicate what type of antifreeze (glycol) will be used for the Eqe Bay Exploration Program.

	ii. Inspect drip trays regularly and clean up antifreeze immediately to prevent ingestion by wildlife.

27. QIA-NWB-27

Comment No.	QIA-NWB-27
Subject/Topic	Road maintenance and closure procedures
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.17.2, Page 47 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.17.2, Page 44
Summary of Issue	In the July 2018 version of the draft EPP, Section 2.17.2, environmental protection measures for road construction includes that "*at closure, swales will be left in place, or alternatively, the road bed will be breached to allow drainage*." Upon project closure, if the road will be decommissioned, the QIA would prefer that the latter method be employed. Leaving swales in place will change the hydrology and vegetation of the area over the long-term, whereas breaching the road bed will allow for more natural drainage patterns to be restored. There has been a reorganization of the road construction, quarry, and borrow management sections between the July 2018 and Dec 2018 versions of the draft EPP. The Dec 2018 version is missing the measure regarding road closure and swales discussed above, as well as another measure where "areas of unexpected settlement will be filled to re-establish the natural contours and eliminate ponding of water." Ponding of water, and freeze-thaw of the ponds over time, will also lead to changes in local hydrology.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. If roads will be decommissioned after Project closure, please breach the road bed, rather than leaving swales, to allow more natural drainage patterns.

	ii. Please reinstate the road maintenance procedure regarding filling in unexpected settlement to avoid ponding of water.

28. QIA-NWB-28

Comment No.	QIA-NWB-28
Subject/Topic	Drill locations and sump alternatives should be approved by QIA
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.18.2, Page 49 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.19.2, Page 48
Summary of Issue	In the July 2018 version of the draft EPP, the first environmental protection measure described on p. 49 within Section 2.18.2 is the proper downstream placement of the collection/settling sump(s); however, the EPP notes this exception: "*in some circumstances sumps may not be practical. In these cases, approval must be obtained by the Environmental Department*." Since the exploration drilling work will occur on IOL, the QIA should also be given authority to approve drill placement. However, the Dec 2018 version of the draft EPP no longer includes this statement. Can Baffinland clarify whether the omission means that sumps will always be used? Furthermore, the Dec 2018 version of Section 2.19.2 is missing the protection measure to "*ensure sumps are of sufficient capacity based on a combination of proposed drill hole length, water usage, and the potential residence time of the sumps*." It is important that sumps have the capacity to hold the expected volumes of drill waste, and that they are regularly inspected (see **QIA-EB-20**). What are Baffinland's contingency plans for drill waste management if sumps are insufficient? Another protection measure for pre-drilling (present in both July and Dec 2018 versions) states that archaeology clearance shall be obtained from the Environmental Department/Representative for drill locations. Since geotechnical and exploration drilling work will occur on IOL, archaeology

	clearance should also be obtained from the QIA. See also technical comments **QIA-EB-13** and **QIA-EB-14** regarding archaeology-related concerns.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please clarify whether Baffinland has a contingency plan for sumps, as well as insufficient sump capacity. ii. If drilling work will occur on IOL, drill locations and archaeology clearance should be approved by the QIA.

29. QIA-NWB-29

Comment No.	QIA-NWB-29
Subject/Topic	Additional mitigation for quarry and borrow pit management
References	Draft Eqe Bay Environmental Protection Plan, 3 July 2018 (NIRB submission) • Section 2.20.2, Page 56 Draft Eqe Bay EPP, 7 Dec 2018 (NWB submission) • Section 2.21.2, Page 53
Summary of Issue	The QIA notes that monitoring the effects of explosives residue, and other measures for quarry and borrow pit management, have been removed from the Dec 2018 version of the draft EPP. These may be relevant for the Type 'B' water license application and should be reinstated in the EPP: - In the event water licence criteria or other criteria established in the quarry or waste rock management plans are exceeded or close to being exceeded, personnel will work with Environment to develop and implement effective preventative and/or mitigation measures, including treatment, if necessary, to ensure that the effects associated with the

	manufacturing, storage, transportation and use of explosives do not negatively impact the Project and surrounding areas. - Maintain vegetation buffer zones to protect water bodies. - Sources of in-pit water will be diverted away from the development area by constructing ditches and berms using rip-rap, geotextile and other sedimentation control measures. Ditching will be minimized to reduce land disturbance and will be approved by the Environment Department prior to construction. **(Note: Since quarries and borrow pits are located on IOL, ditching should also be approved by the QIA.)** - Use rip-rap to reinforce drainage channel corners and water discharge points. - Promote natural revegetation where required to stabilize slopes. - Ice-rich material will be stockpiled 31 m above the ordinary High Water Mark of any water body and in a location where melt water will not re-enter the pit or have adverse impacts on adjacent aquatic resources.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Reinstate previous environmental protection measures for quarry and borrow pit management. ii. Any necessary ditching for the management of in-pit water should be approved by the QIA.

30. QIA-NWB-30

Comment No.	QIA-NWB-30
Subject/Topic	Contingency plan for sewage treatment plant
References	Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission)

	• Table 3-2, Page 16 • Section 8.3, Page 30
Summary of Issue	In Table 3-2 of the draft Waste MP, the general management method for human waste explains that if it cannot be treated by the onsite sewage treatment plant, it will be stored in closed drums in the hazardous waste storage areas until final disposal. Is this related to the contingency measures for sewage treatment (Section 8.3), which states that "continued year-round maintenance and operation of the sewage treatment plant, when feasible"? However, this section does not describe further what would happen if the STP is malfunctioning, or if year-round operation is not feasible. Furthermore, if human waste must be temporarily stored for offsite disposal, this type of waste could be a wildlife attractant and should thus be stored in animal-proof containers.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please provide additional details of a contingency plan in the case that the sewage treatment plant malfunctions or if year-round maintenance and operation are not feasible. ii. Human waste should be stored in animal-proof containers until final disposal offsite, to avoid wildlife attraction.

31. QIA-NWB-31

Comment No.	QIA-NWB-31
Subject/Topic	More information needed for hazardous materials and hazardous waste management
References	Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission) • Table 3-2, Pages 14-18 • Section 4.4, Pages 21-22

Summary of Issue	Section 4 of the draft Waste MP contains a very brief description of hazardous waste and materials. Two of the eight hazardous materials listed on p. 21, ammonium nitrate and cleaners/degreasers, are not described in Table 3-2 (i.e., waste type, classification, general management method, final disposal), nor are they described further below in Section 4.4. Ammonium nitrate is a component of explosives. Further, detailed information regarding hazardous materials and explosives storage, handling, transport, and disposal are needed within the draft Eqe Bay Waste MP. This information is needed to help reduce/minimize human error that may lead to potential impacts on human health and the environment.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please provide further information regarding the storage, handling, transport, and disposal of hazardous materials, including explosives.

32. QIA-NWB-32

Comment No.	QIA-NWB-32
Subject/Topic	Discrepancies between Waste Sorting Guidelines and Table 3-2
References	Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission) • Table 3-2, Pages 14-18 • Appendix A
Summary of Issue	Appendix A of the draft Waste MP appears to be a document that will be posted on site for easy reference for all Project personnel. Thus, it is important that the content of Appendix A reflect Baffinland's official plans, policies, and procedures. On the second page of Appendix A, there is a table showing a summary of common hazardous waste types and their respective storage containers. There are a few discrepancies between this table and Table 3-2 in the main body of the draft Waste MP that need to be clarified:

	• Batteries (i.e. AA, AAA, etc.) – ensure that personnel understand that this category does not include lead acid or lithium ion batteries, which must be stored differently. • Chemical/lab wastes – as per Table 3-2, "spent lab reagents" should be stored following MSDS recommendations. • Fuel (contaminated) – Table 3.2 includes only closed top drums for diesel fuel, not 1,000 L plastic totes. • Oil – Table 3.2 includes only 1,000 L totes for lube oil, not drums. • All items that should be stored in drums – need to specify whether they should be open or closed top drums.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please address the discrepancies identified above, and ensure that Appendix A is aligned with Baffinland's official plans, policies, and procedures for waste management.

33. QIA-NWB-33

Comment No.	QIA-NWB-33
Subject/Topic	Management of waste oil
References	Draft Eqe Bay Waste Management Plan, 7 Dec 2018 (NWB submission) • Table 3-1, Page 13 • Table 3-2, Page 17 • Appendix C (p. 7) • Section 2.2

	Draft Eqe Bay Environmental Protection Plan, 7 Dec 2018 (NWB submission) • Section 2.7.2, Page 27
Summary of Issue	There are inconsistent details regarding the management of waste oils/used oils within the draft Waste MP. According to Table 3-2, as well as Section 2.7.2 of the draft EPP, waste oils are to be temporarily stored until offsite disposal. However, Table 3-1 of the draft Waste MP describes the "possible reuse of fuel and oil for heating and other uses". In Appendix C, page 7 of Eco Waste Solutions' quotation includes the 'Waste Oil Burner, Tank and Piping Package' and describes the use of waste oils as a fuel source to operate the incinerator system. This is presented as an environmentally sound manner of disposing of waste oils. This option for the management of waste oil would align with Baffinland's Sustainable Development Policy (Section 2.2), which includes seeking "to use energy, raw materials and natural resources more efficiently and effectively."
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please clarify Baffinland's management plan for waste oils, and ensure that the procedure is consistent within the draft Waste Management Plan as well as corresponding documents.

34. QIA-NWB-34

Comment No.	QIA-NWB-34
Subject/Topic	Water quality monitoring locations; relevance of Mary River Water Sampling QA/QC Plan to Eqe Bay
References	Surface Water Sampling Program – Quality Assurance and Quality Control Plan, BAF-PH1-830-P16-0001, Rev 2, 29 Mar 2017 (NWB submission) • Section 4.2, Page 15 • Section 4.3.2, Section 5, Section 6

	Draft Eqe Bay Environmental Inspection and Monitoring Plan, 7 Dec 2018 (NWB submission) • Section 4.3, Page 15 • Table 4-3, Pages 14-15 • Table 4-1, Pages 12-13 Eqe Bay Exploration Program Project Proposal, April 2018 • Section 5.3, Page 13, Surface Water Regime and Drainage Area
Summary of Issue	Baffinland submitted the Water Sampling QA/QC Plan developed for the Mary River Project, as part of their Type 'B' Water License Application for the Eqe Bay Exploration Program. Because these are different project types with different facilities, it is unclear what details are applicable to Eqe Bay. For example, Section 4.2 lists the surface water quality samples related to the Mary River monitoring programs. Of these 12 water quality monitoring locations, the following may be relevant for Eqe Bay: - Collection of environmental surface water samples from area lakes, streams and rivers. - Collection of effluent samples from the current and future wastewater treatment facilities. - Collection of drinking water samples from camp potable water sources. - Collection of water samples from fuel berms and dispensing facilities. - Collection of water samples from maintenance shops. - Collection of water samples representative of general site drainage before, during, and after construction of road(s). - Collection of water samples downstream of active quarry locations. - Measurement of water sample field parameters (e.g. pH, conductivity, temperature etc.). Based on the Dec 2018 version of the draft Eqe Bay Environmental Inspection and Monitoring Plan, Baffinland proposes to conduct water quality testing/monitoring at only five locations: sewage effluent, runoff from quarries,

	containment water (precipitation within hazardous materials containment areas), culvert install, and drinking water sourced from Lake EB-1. Will Baffinland be conducting additional water quality sampling/monitoring as described above, including sampling of Lake EB-2 (drill water supply) and the additional water sources shown in Figure 3? The Project Proposal indicates that water quality sampling has not been conducted in the area (as of April 2018; p. 13). Furthermore, the Mary River Water Sampling QA/QC Plan includes procedures for depth sampling of lakes, sediment monitoring, and benthic invertebrate monitoring. It is unclear whether these procedures will be used for the Eqe Bay Exploration Program.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please clarify what parts of the Mary River Water Sampling QA/QC Plan are applicable to the Eqe Bay Exploration Program. ii. Please clarify whether Baffinland plans to collect samples at additional water quality monitoring locations than those presented in the draft Eqe Bay Environmental Inspection and Monitoring Plan.

35. QIA-NWB-35

Comment No.	QIA-NWB-35
Subject/Topic	Environmental Inspection and Monitoring Plan is missing comprehensive monitoring framework for environmental values
References	Draft Eqe Bay Environmental Inspection & Monitoring Plan, 7 Dec 2018 (NWB submission) • Section 3, Page 10 Baffinland Iron Mines Corporation Terrestrial Environment Mitigation and Monitoring Plan, March 2016
Summary of Issue	In comparison to the Terrestrial Environment Mitigation & Monitoring Plan (TEMMP) that was developed for Mary River, the draft Eqe Bay Exploration

	Program Inspection & Monitoring Plan provides limited details with respect to a monitoring framework, specifically for vegetation, migratory birds, terrestrial wildlife, general reporting, and adaptive management. For example, Section 3.0 lists activities and facilities that will be monitored as required under the water use license. Monitoring of other activities and facilities (e.g. trail/road construction and use) that may affect terrestrial and other components of the environment (e.g., vegetation) are not included. If Baffinland intends for the Eqe Bay Inspection and Monitoring Plan to primarily be used for water use and water quality testing, the title of the plan should reflect this purpose. Nevertheless, additional monitoring plans need to be developed for all other valued environmental components (VECs) associated with this Project, such as a TEMMP specific to Eqe Bay. These comprehensive monitoring plans are also required as a condition of Inuit Land Use Lease III and other applicable approvals and legislation.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. That all relevant information to ensure a comprehensive monitoring framework is included within the Eqe Bay Environmental Inspection & Monitoring Plan, or within a stand-alone monitoring plan for each VEC. ii. That Baffinland add monitoring of activities and facilities that will affect relevant components of the environment. This revised list of monitoring activities would ideally be reviewed by QIA prior to finalization. iii. Review and revise list of monitoring activities on a regular basis, in conjunction with QIA, to determine if amendments to the list are required.

36. QIA-NWB-36

Comment No.	QIA-NWB-36
Subject/Topic	Rationale for location of water quality monitoring stations

References	Draft Eqe Bay Environmental Inspection & Monitoring Plan, 7 Dec 2018 (NWB submission) • Section 4.3, Page 14 Draft Eqe Bay Inspection & Monitoring Plan, July 2018 (NIRB submission) • Section 3.3, Table 4, Page 11
Summary of Issue	General locations for surface water quality monitoring are provided; however, there is no rationale as to why these specific locations were selected. In addition, a map showing locations of the monitoring stations is not provided (note that a map was provided in the Draft plan of July 2018).
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or additional information: i. Rationale for selection of each water quality monitoring stations, including selection criteria, limitations, and objectives. ii. Please include a map showing general locations of planned monitoring stations, and update map once specific locations have been selected.

37. QIA-NWB-37

Comment No.	QIA-NWB-37
Subject/Topic	Groundwater and seepage monitoring
References	Draft Eqe Bay Environmental Inspection & Monitoring Plan, 7 Dec 2018 (NWB submission) • Section 4.1, Table 4-1, Page 12
Summary of Issue	It is unclear whether the proponent has evaluated the potential for groundwater and seepage issues and determined there is no risk. The reviewer suspects that the depth of permafrost in this area will exclude this risk for exploration, but requests confirmation on how this risk was excluded.

Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please provide a rationale as to whether groundwater and seepage monitoring is considered practical or required in this area based on existing conditions (depth of permafrost, presence of Taliqs, etc.). ii. If monitoring is reasonable, describe appropriate monitoring options. If not, rationale is all that is required.

38. QIA-NWB-38

Comment No.	QIA-NWB-38
Subject/Topic	Reclamation, closure and post-closure monitoring
References	Draft Eqe Bay Environmental Inspection & Monitoring Plan, 7 Dec 2018 (NWB submission) • Section 1.4, Page 6 Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Section 5.2.1.7, Page 33
Summary of Issue	The monitoring plan refers to a separate Closure and Reclamation Plan that will be prepared to complement the Eqe Bay Exploration Program. At the conclusion of the exploration program, the closure and reclamation plan must be followed to remove all equipment and materials from the site and restore the area to the extent practical. No details are provided in the Inspection and Monitoring Plan with respect to reclamation, closure, and post-closure monitoring. There are some details provided for post closure monitoring in the Closure and Reclamation Plan; however, there is no firm commitment or schedule for post closure monitoring, other than a proposal to visit the site once the following summer.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information:

	i. Please provide appropriate commitments and details for reclamation, closure, and post-closure monitoring including expected duration, frequency, and staff. These details may be included in the Closure and Reclamation Plan.

39. QIA-NWB-39

Comment No.	QIA-NWB-39
Subject/Topic	Spill response in adverse conditions
References	Draft Eqe Bay Spill Contingency Plan, 7 Dec 2018 (NWB submission)
Summary of Issue	Adverse conditions (periods of prolonged darkness, sea ice, severe weather) can affect the ability to respond to spill scenarios and may reduce the effectiveness of spill response supplies.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please provide additional information with regards to back-up spill response plans in the event of adverse conditions.

40. QIA-NWB-40

Comment No.	QIA-NWB-40
Subject/Topic	Frequency of monitoring activities
References	Draft Eqe Bay Environmental Inspection & Monitoring Plan, 7 Dec 2018 (NWB submission)

	• Section 3, Table 3-1, Page 10 Draft Eqe Bay Inspection & Monitoring Plan, July 2018 (NIRB submission) • Section 2, Table 1, Page 7 Draft Eqe Bay Environmental Protection Plan, 7 Dec 2018 (NWB submission) • Section 2.7.2, Page 27
Summary of Issue	Frequency of some monitoring activities are not sufficient to mitigate potential environmental effects associated with the proposed project. The draft Inspection and Monitoring Plan from July 2018 indicated a more intensive monitoring schedule than the revised Dec 2018 Monitoring Plan for some activities, such as inspection of fuel storage and handling facilities (changed from daily monitoring to weekly monitoring). Similarly, in Section 2.7.2 of the draft EPP, the measure to "examine all fuel storage containers in your work area for leaks at least once per day" has been removed from the Dec 2018 version submitted to the NWB as part of Baffinland's Type 'B' Water License Application.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Review inspection protocols for all project activities with regard to best practices and vendor prescribed monitoring schedules for specific facilities (e.g. incinerator, sewage treatment plant, etc.), and revise accordingly to reflect most conservative inspection schedule. ii. Revise monitoring schedule for inspections of fuel storage and handling facilities and hazardous materials containment area from weekly to daily or as recommended by environmental staff based on risk.

41. QIA-NWB-41

Comment No.	QIA-NWB-41
Subject/Topic	Potential spill analysis

References	Draft Eqe Bay Spill Contingency Plan, 7 Dec 2018 (NWB submission) • Section 6, Page 19
Summary of Issue	Several spill scenarios are provided for Level 1 (Low) and 2 (Moderate) emergency response levels; however, there are no spill scenarios corresponding to Level 3 (High) with which to assess preparedness or capability, despite the potential to have sufficient quantities of fuel and hazardous materials on site to warrant consideration of that level of risk.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Please describe appropriate spill scenarios corresponding to Level 3 risk, and appropriate mitigation strategies in the event of an occurrence.

42. QIA-NWB-42

Comment No.	QIA-NWB-42
Subject/Topic	Equipment and Labour Rates not provided
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Appendix B, Table B-1
Summary of Issue	The QIA Abandonment and Reclamation Policy for Inuit Owned Lands states evidence is to be provided to support unit costs, and that unit costs are to be based on Third Party Contractor rates. Appendix B of the Closure and Reclamation Plan sates that unit rates were established in the 2014 Project Financial Security Assessment for the Mary River Project and were updated in 2018 based on actualized 3rd Party Contractor equipment and labour rates, however the rates were not provided with the estimate. It is also unclear what most of the Table B-1 items are for. For example, what work is completed for the line item "Light Mechanical Equipment"? Is it for dismantling and/or placement on a barge? Additional description is required in order for an accurate cost review to be completed.

Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Labour and equipment rates should be provided along with the productivity calculations used to derive the 2018 unit rates provided in Table B-1 of Appendix B. Details of the items included (and excluded) in the equipment and labour rates should also be provided (insurance, bonding, fuel, profit, overhead, etc.). ii. The basis for the assumed unit rate productivities should also be stated. iii. Additional description of the work completed for each of the Table B-1 unit rates should be provided. iv. A crew and equipment listing should also be provided to allow for a proper assessment of the camp and supervision costs.

43. QIA-NWB-43

Comment No.	QIA-NWB-43
Subject/Topic	Work Breakdown Structure and Missing Cost Items
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Appendix C • Section 5.2
Summary of Issue	Appendix C Estimate Breakdown Structure does not follow the description of the closure activities listed in Section 5.2 of the Closure Plan with many of the closure work items listed in the report not costed in the estimate. For example, no costs are allocated for removal of hazardous materials and wastes from the site to licenses disposal facilities, reclamation of roads, airstrips and development areas, removal of water crossings and regrading of disturbed project areas (other than the camp).

	Related to comment **QIA-EB-66**, it is not clear what the Mobile and Mechanical Equipment direct cost of $43,000 covers, and additional details are needed.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. It is recommended that the Work Breakdown structure of the direct costs be modified to match the subheadings under Section 5.2 of the Closure and Reclamation plan, i.e.: a. Buildings and Equipment b. Waste and Fuel c. Quarries d. Transportation Routes ii. Each major section listed above should have line items that correspond to the work items listed in "Engineering Work Associated with Closure Activity" under each subsection of Section 5.2 in the closure plan.

44. QIA-NWB-44

Comment No.	QIA-NWB-44
Subject/Topic	Material Quantities
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Appendix C • Figure 4-1
Summary of Issue	The QIA Abandonment and Reclamation Policy for Inuit Owned Lands states evidence shall be provided for the quantities used in the estimate. The 33,500 m^2 area for grading and re-contouring the camp area included in the cost

	estimate appears to be significantly less that the "High Impact Area – Camp Area" outlined in Figure 4-1 of the Closure and Reclamation Plan.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. A figure should be provided that provides the outline of the areas to be reclaimed that are included in the cost estimate.

45. QIA-NWB-45

Comment No.	QIA-NWB-45
Subject/Topic	Project Duration/Schedule
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Section B.4.6
Summary of Issue	Section B.4.6 currently estimates that 127 person-days are required for construction of the closure and remediation works, but no overall project duration/schedule is provided. The overall construction duration along with the estimated crew size and equipment fleet would be useful in assessing if many of the indirect costs are appropriate for the project (specifically, the worker mobilization costs, construction supervision costs, and QA/QC costs). For example, if the crew size was 8 persons, it is assumed that the construction duration would be approximately 16 days. Assuming a site supervisor is on-site full time at a rate of $100/hr, this amounts to $16,000, which is almost equal to the entire allocation for supervision, project management, and contract administration.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Provide an estimate of the project duration and schedule along with a list of the anticipated work crew and support staff required for the project to allow for an accurate review of the project indirect costs.

46. QIA-NWB-46

Comment No.	QIA-NWB-46
Subject/Topic	Transportation Rates
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission)
Summary of Issue	The QIA Abandonment and Reclamation Policy for Inuit Owned Lands states evidence transportation rates (including air travel, marine shipping, and overland haul) must be supported by site-specific invoicing or cost quotations. No details are provided in the estimate on the basis of the transportation costs. It is not explicitly stated how the buildings, structures, and equipment are being removed and where they are being disposed. Similarly, no basis is provided for the mobilization and demobilization costs for fuel, equipment, materials, and labor.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Provide additional cost basis details of the transportation rates, including details on destinations, method of shipment, tipping fees, etc.

47. QIA-NWB-47

Comment No.	QIA-NWB-47
Subject/Topic	Short Term C&M Closure & Post Closure Monitoring and Reporting Details
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Section B.4.8

	• Appendix C
Summary of Issue	There is a discrepancy in the costs between Section B.4.8, where the monitoring program totals $185,000 and the cost estimate spreadsheet where a cost of $105,000 is listed.
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. The cost discrepancy is requested to be corrected.

48. QIA-NWB-48

Comment No.	QIA-NWB-48
Subject/Topic	Worker Mobilization
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Section B.4.5
Summary of Issue	Section B.4.5 states that the worker mobilization costs are based on a cost per person-day on-site and is separated by mobilization of workers from southern communities and mobilization of workers from northern communities. The rational of this method of calculation is unclear. If workers are camped on site, why is a cost per person-day on site applied?
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Additional details on the basis of estimation is requested.

49. QIA-NWB-49

Comment No.	QIA-NWB-49
Subject/Topic	Fuel
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Section B.4.4
Summary of Issue	Section B.4.4 of the Closure and Reclamation Plan states that it is assumed that some fuel on site would be available for reclamation activities. Section 4.1 of the QIA Abandonment and Reclamation Policy states that the assumed use of on-site fuel for reclamation purposes is not acceptable. In addition, no evidence is provided for the assumed fuel mobilization rate of $0.40/L. (See related comment **QIA-EB-70**)
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. It is requested that the use of on-site fuel for reclamation activities be removed from the estimate. ii. Additional details on the basis of estimate for the fuel mobilization and demobilization is requested.

50. QIA-NWB-50

Comment No.	QIA-NWB-50
Subject/Topic	Indirect Add-on Percentages
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission) • Appendix B

	• Appendix C
Summary of Issue	The following percentage add-ons are stated in Appendix B of the Closure and Reclamation Plan to be included in the cost estimate: • Supervision, Project Management and Contract Supervision: 9.4% of the total direct costs, care and maintenance costs, and closure monitoring/reporting costs. • Engineering fees: 3.9% of direct costs • Contingency: 12.5% of direct costs, mob/demob of equipment and material costs, worker accommodation and camp operation costs, mobilization of workers, costs and post closure monitoring. The costs provided in Appendix C of the Closure and Reclamation Plan indicate that the indirect cost percentages were applied to the direct costs only. As a result, the actual percentages used were: • Supervision, Project Management and Contract Admin: 6.2% • Engineering: 3.9% • Contingency: 6.2%
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. It is requested that the cost estimate be corrected such that the add-on percentages are applied to all the cost items listed in Appendix B. ii. In addition, it is recommended that the add-on percentages be reconsidered. As this closure reclamation project is relatively small, the engineering fees are likely to make-up a larger percentage of the direct costs. It is recommended that the supervision and project management staffing costs be estimated based on the number of staff required and the project duration and hourly rates. The level of contingency is significantly lower than typical contingency levels applied at an early stage of design.

51. QIA-NWB-51

Comment No.	QIA-NWB-51
Subject/Topic	Post Closure Period
References	Draft Eqe Bay Closure and Reclamation Plan, 7 Dec 2018 (NWB submission)
Summary of Issue	According to the Closure and Reclamation Plan, the post closure monitoring period of one year appears to be low compared to other projects, where a geotechnical inspection period would typically be proposed to extend to approximately 5 years following closure, or until physical stability is demonstrated. In addition, the post-closure inspections costs of $5,000 is atypically low. Further, to support the monitoring program, additional details on water monitoring (number of samples, etc.) is required. (See also **QIA-EB-54** and **QIA-EB-56**.)
Recommendations/ Requests	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. The proposed post-closure monitoring period be increased from 1 to 5 years post-closure. ii. Please increase the post closure monitoring costs on a per-year basis, and to also account for an increased number of monitoring years. iii. Please provide details on the water monitoring program (number of samples, locations, etc.) to support a technical review and security costing estimate.

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