22 February 2019

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RE: Eqe Bay Exploration Program – Response to Reviewer Comments
Type B Water Licence Application (2BE-EQE----)

1 – INTRODUCTION

Baffinland Iron Mines Corporation (Baffinland) is pleased to submit the attached responses to comments the Nunavut Water Board (NWB) received from the Qikiqtani Inuit Association (QIA) and Canada-Indigenous Relations and Northern Affairs Canada (CIRNAC) regarding this request for a Type B Water Licence for its proposed Eqe Bay Exploration Program.

The responses to CIRNAC's and QIA's comments application and supporting materials are presented as Tables 1 and 2. Additionally, Baffinland has revised and updated its management plans as a result of comments received, which are also provided as Attachments 4 through 8.

2 – DISCUSSIONS WITH REVIEWERS

Prior to submitting these responses, Baffinland held teleconferences with each of the two agencies. A call was held with CIRNAC on February 19, 2019 and CIRNAC provided email clarifications to two of their comments (#7 and #10) on February 21, 2019. The email clarifications have been added to their original comments in Table 1.

A call was also held with the QIA on February 21, 2019. One of the key outcomes of this call was agreement between the parties that comments not related to the water licence (i.e., regarding a terrestrial environment mitigation and monitoring plan) may continue as part of ongoing discussion between the parties with respect to a Land Use Lease for the Eqe Bay Exploration Program. Additionally, Baffinland will continue to engage with QIA on the topic of reclamation security, which QIA's comments #42 through #51 focus on. Baffinland has responded to these comments in Table 2, and changes to the reclamation security estimate in response to these comments are reflected in the updated Closure and Reclamation Plan. It is Baffinland's understanding that the NWB does not typically set requirements for the holding of reclamation security in the issuance of Type B Water Licences, and that the QIA may require Baffinland to post reclamation security for the Eqe Bay Exploration Program under the future Land Use Lease. As such, Baffinland suggests that issuance of a Type B Water Licence need not be held up by ongoing discussions with QIA on these subjects.

3 – REVISED MANAGEMENT PLANS

To fully respond to the comments received, Baffinland revised the following management plans, which are also attached:

- Closure and Reclamation Plan
- Environmental Protection Plan
- Environmental Inspection and Monitoring Plan
- Spill Contingency Plan
- Waste Management Plan

4 – CLOSURE

We trust that the Nunavut Water Board will find our responses to Intervenor comments satisfactory. Please do not hesitate to contact the undersigned should you have any remaining questions or comments.

Regards,

Christopher Murray
Environmental & Regulatory Compliance Manager

Cc:
Karén Kharatyan, Richard Dwyer (Nunavut Water Board)
Fai Ndofor, Sean Joseph, Rosanne D'Orazio, Joel Fortier, Ross Elgin (Qikiqtani Inuit Association)
Michelle Blade, Ian Parsons, Bridget Campbell, Justin Hack (Crown-Indigenous Relations and Northern Affairs Canada)
Grant Goddard, Megan-Lord Hoyle, Thomas Iannelli, Jon Hey, Andrew Vermeer (Baffinland)
Richard Cook (Knight Piésold)

ATTACHMENTS:

1 Table 1 – Response to CIRNAC Comments
2 Table 2 – Response to QIA Comments
3 Figure 1 – Proposed Exploration Area Layout (with more detailed topography)
4 Closure and Reclamation Plan, Rev. 0, Feb 2019
5 Environmental Protection Plan, Rev. 0, Feb 2019
6 Environmental Monitoring and Inspection Plan, Rev. 0, Feb 2019
7 Spill Contingency Plan, Rev. 0, Feb 2019
8 Waste Management Plan, Rev. 0, Feb 2019

Attachment 1

Table 1 – Response to CIRNAC Comments

Table 1 - Response to CIRNAC Comments on Type B Water Licence Application

No.	Comment	Response
1	Baffinland have provided a topographic map of the proposed exploration area layout. CIRNAC requests further explanation be provided on water management through the exploration area, such as around infrastructure to avoid erosion and sedimentation of freshwater waterways. Additionally, CIRNAC requests details of the snow management plan for the exploration layout area.	Water management at the exploration area consists of: - drawing water from the nearby lake - disposing of treated sewage effluent to land to run-off into Eqe Bay - drilling using sumps to collect and recirculate drill water - installation of culverts in mostly non fish-bearing waters Sections 2.3, 2.5, 2.9, 2.17, 2.18 and 2.20 of the EPP deal with water management and erosion and sediment control in detail, so Baffinland does not intend to prepare a Surface Water and Aquatic Ecosystems Management Plan. A Snow Management Plan is not required, as conditions are very different from Mary River: the ground is vegetated unlike Mary River which is mainly sparsely vegetated glacio-fluvial soils, and there are no major sources of dust that will be captured in the snow pack. Minimal snow clearing will be undertaken, and virtually none during the initial stages.
2	Baffinland have multiple transport options to the camp including, but not limited to: helicopters, and aircraft that will land either on floats on a lake adjacent to the camp, or on the tundra if equipped with tundra tires. Over the subsequent 5 years, the exploration program may expand to include construction of access trails to connect the camp to exploration areas, and construction of an airstrip to improve air access to the site. CIRNAC requests additional details on where the diesel and Jet-A1 fuel will be stored, and what the refueling and spill response procedures will be when unloading the fuel from sealift barges and using the fuel at the exploration camp.	Spill response procedures are provided in the Spill Contingency Plan. Fuel storage locations will be identified in future update to this Plan, once the camp has been established. Fuel storage and handling procedures are provided in Section 2.7 of the EPP.
3	Baffinland indicate one or two quarries may be exploited to construct an access road and airstrip. CIRNAC requests further information on the approximate quarry sizes and anticipated volume of material to be removed from the quarries.	The quarries, access road and airstrip remain at a conceptual level, as project components that may be constructed in the next few years if initial exploration results are promising. A ball-park estimate of the volume of rock that may be extracted from the two quarries is 25,000 to 50,000 m^3. Engineering design of these project components and the quarries will be completed once a decision has been made to construct these project components.
4	Guidelines for water removal for lakes are based on up to 10 percent (%) below ice water volume unless more information has been provided. Baffinland have provided expected below-ice drawdown based on lake-catchment size and mean annual unit runoffs, however have not provided the volumes of the lakes. CIRNAC requests Baffinland provide the lake volumes and corresponding calculated drawdowns of the water supply lakes – ideally based on the bathymetric surveys conducted on the two lakes in 2018.	Baffinland believes the approach it used to assess available water in the absence of lake volumes is indicative that sufficient water is available. Baffinland did not have a presence at Eqe Bay in 2018, and therefore the bathymetric surveys were not completed, as originally intended. Baffinland expects to complete bathymetric surveys in 2019, and will file updated water removal assessments with the NWB following analysis of the data.
5	The water supply for drilling is estimated at 270 cubic metres per day (m^3/day). CIRNAC asks for clarification as to why the 270 m^3/day associated with drilling is not also listed under quantity and quality of waste involved.	Drill water was not identified as a waste stream because it will be recycled to the extent possible. Due to losses, however, drill water should have been identified as a waste. The drill water will contain solid fines from drilling that will settle in sumps. Most drilling will not use a brine, so the drill water will in most instances be fresh.
6	Waste oil is listed as a type of waste involved. Composition of the waste oil was not defined. CIRNAC seeks clarification on the type and source of waste oil generated.	Waste oil will likely be a combination of used engine oil, gear oil and hydraulic oil generated by the drills, gensets, trucks and heavy equipment.

Table 1 - Response to CIRNAC Comments on Type B Water Licence Application

No.	Comment	Response
7	During the Nunavut Impact Review Board (NIRB) screening process, CIRNAC Impact Assessments Division noted “concerns regarding the potential for geotechnical drilling, physical scarring, land disturbance activities to cause water and groundwater contamination, and influence acid generation and release of metal-bearing groundwater; and recommended that the Proponent submit revised management plans that account for all activities and phases of the project, including potential expansion.” CIRNAC Waters requests the aforementioned revised management plans are submitted to the NWB for review by interested parties, in particular on assessing and mitigating the influence of acid generation and release of metal-bearing groundwater. **February 21, 2019 Clarification:** CIRNAC recognizes the proponent has submitted management plans which are site specific to the Eqe Bay project such as the: Environmental Inspection and Monitoring Plan, Spill Contingency Plan, Waste Management Plan, Environmental Protection Plan, and Closure and Reclamation Plan. CIRNAC requests the site specific to the Eqe Bay project ‘Surface Water and Aquatic Ecosystems Management Plan’ and ‘Borrow Pit and Quarry Management Plan’ are also submitted to the Nunavut Water Board (NWB) for review by interested parties as they also are water related. With respect to assessing and mitigating the influence of acid generation and release of metal-bearing groundwater, CIRNAC appreciates the environmental protection measures in Section 2.5.2 in the Eqe Bay Environmental Protection Plan (3 July 2018). CIRNAC requests additional details on the methodology (i.e. material and procedure) for plugging and permanently sealing drill holes if artesian flow is encountered.	Sections 2.3, 2.5, 2.9, 2.17, 2.18 and 2.20 of the EPP deal with water management and erosion and sediment control in detail, so Baffinland does not intend to prepare a Surface Water and Aquatic Ecosystems Management Plan. It is uncertain if Baffinland will develop the quarries identified in the application, and as such, Baffinland suggests that the NWB can incorporate a term in the licence that requires Baffinland to submit a Quarry Management Plan to the Board for approval prior to developing any quarries, and such a plan will present an assessment of acid rock drainage and metal leaching (ARD/ML) potential. There are various methods that may be used to plug and permanently seal drill holes if artesian conditions are encountered, including premanufactured plugs, grouting, or installing a permanent standpipe. Baffinland needs to consult its drilling contractor regarding their proposed approach.
8	At the Igloolik meeting on April 5, 2018 with the Mayor and Council, HTA Representatives and QIA Representatives, a comment was made to Baffinland that “this site is closer to the tide water; I imagine you’ll have measures to protect the marine environment?” CIRNAC Waters requests a map be provided to the NWB for interested parties to review of the high tide mark, including anticipated storm surge height, for the EQE Bay Exploration Program. Mitigative measures on how infrastructure will be protected from high tide water should be included in the revised management plans for review.	Baffinland understood the comment from Igloolik to mean that a future mining operation at Eqe Bay, as a source of noise, dust, effluents, etc., would be in close proximity to the marine environment, and not that the exploration camp may be vulnerable to storm surges. The contour intervals shown on the site layout (Figure 3 in Attachment 7 - Project Proposal) are 20 m, and as such, it appears that the exploration camp area is close to sea level, but it is well above the high water mark and not at risk from storm surges. A close-up of the camp area with 1 m contours is shown on the attached Figure 1. The camp will be located at about 10-12 m above sea level.
9	Baffinland states “equipment and materials will be delivered to Eqe Bay by sealift and the camp will be established in the fall of 2018.” CIRNAC asks for clarification on what activities have already taken place at the EQE Bay Exploration area prior to receiving a Type B Water Licence. Specifically, was a sealift delivered and a camp established in 2018? And if so, under what licence did the aforementioned activities take place.	Baffinland did not mobilize equipment and a camp to Eqe Bay in 2018 as originally planned. This is now being planned for 2019.
10	Figure 3 indicates water will be removed from the unnamed lake (EB-2) for the drill water supply, from unnamed lake (EB-1) for the camp water supply, and from two lakes labeled “additional drill water sources.” Only volumes from unnamed lakes EB-1 and EB- 2 are included in the Type B Water Licence application. CIRNAC requests clarification on the volume of water intended to be removed from the two lakes labeled “additional drill water sources." **February 21, 2019 Clarification:** CIRNAC is satisfied with the water licence authorizing removal of water from the unnamed lakes EB-1 and EB-2 specified in the water licence application. If the proponent requires water from additional water sources, and the proposed condition is approved by the NWB, CIRNAC would be satisfied with the proponent submitting to the NWB for approval, at least 30 days prior to commencement of use of water from the additional source, the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures. CIRNAC requests that a list of the additional water sources be approved by the NWB and be uploaded to the NWB ftp site for the benefit of CIRNAC Inspections and other interested parties. CIRNAC also requests that the total water volume from the approved water sources does not exceed the daily nor total volume specified in the water licence.	Because of its large size, most of the water for drilling will come from unnamed lake EB-2. These smaller water bodies will be used for only select exploration drillholes due to their small size. Baffinland suggests that the NWB consider a condition in the licence such as the following, from a previous exploration and geotechnical drilling water licence issued to Baffinland: *If the Licensee requires water in sufficient volume that the source water body may be drawn down the Licensee shall, at least 30 days prior to commencement of use of water, submit to the Board for approval the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.* Baffinland concurs that the overall volume of water approved in the licence would remain unchanged with the use of additional water sources for which Baffinland will seek approval.

Table 1 - Response to CIRNAC Comments on Type B Water Licence Application

No.	Comment	Response
11	Baffinland indicates "camp sewage will be treated using a package sewage treatment plant prior to effluent being discharged to land for runoff into Eqe Bay." CIRNAC requests additional information on: - how the treated sewage effluent flow will be managed in the winter when it freezes closest to the sewage treatment plant outlet; - if barriers will be used to laterally contain the sewage land treatment area as Figure 3 shows the area is relatively flat; and - if signs and/or fencing will be deployed advising pedestrians and vehicles to avoid going the treated sewage effluent area.	The outlet pipeline will be insulated and heat-traced to avoid freezing, as is the case at the Mary River Project. The outlet pipeline will be placed in consideration of grade (achieving sufficient grade to continue to run off through the winter), minimizing potential for erosion, and uses of the surrounding area to avoid conflict with people and equipment. Signs or fencing will be used as needed to prevent traffic from affecting the pipeline or land disposal area.
12	CIRNAC recommends that the updated Spill Contingency Plan, including the spill kit locations, is provided with the 2019 Annual Report or sooner.	Baffinland agrees to file an updated Spill Contingency Plan with the 2019 Annual Report by March 31, 2020, or possibly sooner. The Plan will be updated once the initial camp is established, to confirm fuel storage and spill response equipment locations.
13	CIRNAC requests clarification on the location of the culverts as the 'proposed culvert in fish bearing waters' symbol on Figure 1 is not located on a stream. CIRNAC requests the site-specific stream assessments and revised culvert designs be provided to the NWB and distributed to interested parties for review prior to construction.	At the scale of the figure, a stream draining unnamed lake EB-2 is not shown. Any revised culvert designs will be filed with the NWB. Following completion of its fisheries assessments, Baffinland will also seek guidance from DFO, and will obtain a letter of advice or an authorization under the *Fisheries Act,* as directed by DFO.
14	Both 5.2.4.5 Engineering Work Associated with Closure Activity & 6 Progressive Reclamation refer to "at least 30 m above the ordinary High Water Mark." CIRNAC reminds that the value should be at least 31 m above the ordinary High Water Mark.	Noted. The Closure and Reclamation Plan has been revised to state 31 m above the ordinary high water mark.

Attachment 2

Table 2 – Response to QIA Comments

Baffinland

Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-1	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.	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.	The Dec 2018 management plans supersede the July 2018 versions. However, updated versions of each management plan that incorporate reviewer comments are provided with these responses.
QIA-NWB-2	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.	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.	i. It is not clear why this information is required. The maximum indicated camp population could occur during any or all seasons. Initially, the peak occupancy will be during the summer. It is difficult to forecast beyond that. Baffinland does know though that it will start with a smaller 25-person camp in 2019. ii. These details are not available; it is dependent on the final siting of all the facilities (camp, sewage treatment plant) and proximity to the water supply intake. The piping will most likely be insulated and lay directly on the tundra. These details will be decided by Baffinland Project's and/or an expeditor hired to construct and operate the exploration camp. It is unlikely that the piping will cause meaningful disturbance to the ground surface, as the pipe will likely be placed by hand or possibly with the use of a small skid steer.
QIA-NWB-3	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.	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.	The timing of the development of quarry-specific management plans is dependent on a decision by Baffinland to expand the initial camp and construct the access road to the exploration area. A decision to proceed will be based on a number of factors, including the success of initial exploration at Eqe Bay, the priority placed on this program relative to Baffinland's other exploration and mining initiatives, market factors, etc. Baffinland suggests that it and the QIA can discuss land use licence/lease and quarry concession agreement matters outside of the water licensing process.
QIA-NWB-4	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.	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.	The maximum estimated targets that Baffinland would be able to drill in a given field season is 50, given current staffing levels and method of access to Eqe Bay. Photos of the drill are found on the manufacturer's website: http://www.backpackdrill.com/. The backpack drills are incredibly small and the holes that it drills provide surface to near-surface samples. As such, Baffinland maintains that no reclamation is needed with these small drillholes.
QIA-NWB-5	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.	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.	Baffinland's understanding from consulting with Hall Beach and Igloolik is that the Eqe Bay area was historically important (i.e., pre-settlement) but the area is used only occasionally today. The Mary River Project's Inuit Knowledge Study did not identify any local fishing areas within the exploration area. However, Baffinland is prepared to discuss these culvert crossings with the QIA prior to construction, in concert with consultation with Fisheries and Oceans Canada in relation to any required letter of advice or authorization under the *Fisheries Act* .
QIA-NWB-6	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.	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.	This cannot be estimated. It is likely that Baffinland will establish a small laydown area at the end of the access road, to stage drilling from that location. The Project Proposal stated that extensions could reach out to specific drill sites. Upon further consideration, Baffinland does not expect to develop branches to specific drill sites, as the drill spacing could be quite close. More likely, any branches to the access road would establish access into another area, and small staging areas would again be established. A helicopter will be needed to access specific drill locations. Baffinland is prepared to discuss access road extensions with the QIA as part of its land use licence or lease.

Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-7	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.	• **Surface Water and Aquatic Ecosystems Management Plan -** Sections 2.3, 2.5, 2.9, 2.17, 2.18 and 2.20 of the EPP deal with water management and the control of water and sediment. As such, Baffinland does not intend to prepare a Surface Water and Aquatic Ecosystems Management Plan. • **Terrestrial Environment Mitigation and Monitoring Plan –** Key elements of a TEMMP are found in the EPP, including protection measures for caribou (Section 2.12) and birds (Section 2.13), a wildlife log (Section 3.7), an Active Migratory Bird Nest Search Form (Section 3.8), a caribou encounter decision tree (Appendix B) and an Active Migratory Bird Nest Survey Protocol (Appendix C). • **Borrow Pit and Quarry Management Plan –** Baffinland agrees that a Quarry Management Plan will be required including an ARD/ML assessment protocol and an assessment or ARD/ML potential, and proposes to prepare and submit such a plan to the NWB and the QIA prior to undertaking this aspect of the project. • **Emergency Response Plan –** Baffinland will prepare a brief Emergency Response Plan in the near future. • **Polar Bear Safety Plan –** Key elements of such a plan are incorporated into the EPP as follows: operational environmental standard on polar bear encounters in Section 2.10; a Polar Bear Readiness Audit Form in Section 3.6; and Polar Bear Readiness Procedure and Audit Process in Appendix A. • **Hazardous Material and Hazardous Waste Management Plan** – Baffinland believes it has adequately addressed hazardous materials and waste in the Waste Management Plan.
QIA-NWB-8	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.	The Qikiqtani Inuit Association requests the following additions, alterations, or information: 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 in conjunction with the QIA.	i. The assignment of responsibilities is at Baffinland's discretion. There will be someone assigned to update the EPP and other management plans. ii. Baffinland is willing to consult with the QIA regarding future revisions to its EPP.
QIA-NWB-9	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	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.	i. Lake EB-1 will be used for the camp water supply, and Lake EB-2 will be used to supply drill water. ii. Baffinland did not conduct bathymetric surveys in 2018 as originally planned; this is now scheduled for 2019. iii. Baffinland is prepared to file bathymetry maps and a revised assessment of its water withdrawals on Lakes EB-1 and EB-2, once the surveys have been completed.

Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-10	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 licence 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?		Baffinland suggests that the NWB consider a condition in the licence such as the following, from a previous exploration and geotechnical drilling water licence issued to Baffinland: *If the Licensee requires water in sufficient volume that the source water body may be drawn down the Licensee shall, at least 30 days prior to commencement of use of water, submit to the Board for approval the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.*
QIA-NWB-11	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 m3 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	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.	Baffinland has added water management associated with exploration drilling into Section 2.5 of the EPP. The geotechnical drilling OES has been removed as it is not relevant. Note that drilling is expected to be sufficiently shallow such that CaCl brine is not expected to be needed.
QIA-NWB-12	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.	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.	Baffinland needs to retain the option of drilling within 31 m of a waterbody, subject to site-specific approval by the NWB. We have modified the exploration drilling OES recommending to increase the setback >31 m in instances where it is the same to be further away.
QIA-NWB-13	During drill operation and movements, one of the environmental protection measures is to dispose of all land-based drill waste, including salts (CaCl2), 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 CaCl2 into sumps or natural depressions is not an effective solution. Drilling sumps rely on permafrost to act as an impermeable layer. However, CaCl2 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 CaCl2 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	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 (CaCl2). ii. If sumps must be used, they should be inspected for longevity and sump failure.	Baffinland will not dispose of CaCl (powder) in sumps. This may have been poorly worded and intended to refer to the disposal of CaCl-containing drill water and/or cuttings. The EPP was revised to remove reference to disposing of CaCl in sumps.
QIA-NWB-14	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.	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.	These measures have been added back into the EPP (Section 2.5).
QIA-NWB-15	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 licence application, that was removed from the Dec 2018 version of the draft EPP.	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.	These measures have been added back into the EPP (Section 2.5).

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Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-16	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.	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.	i. Any spills of hazardous material will be reported to the QIA and GN-DOE. This has been added back into the referenced sections. ii. The 12-hour reporting requirement has been added to the referenced sections of the EPP.
QIA-NWB-17	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.	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.	Inspection of spill response supplies is included in the Environmental Inspection Forms, which will be completed during Compliance Inspections as described in section 2.21 of the EPP. The schedule for the inspections will vary, but will be no less than monthly and will be established by the Environmental Superintendents and Coordinators. Eqe Bay staff will be trained all aspects of the EPP during Site orientation, and all supervisors will be trained in emergency response including spills.
QIA-NWB-18	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.	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.	The requirement to repair and report all leaks to the Environmental Representative have been added to the referenced sections of the EPP.
QIA-NWB-19	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.	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.	This information cannot be provided at this time. Once bulk fuel is brought to site, Baffinland will be further updating its spill response equipment and contingency measures. This can include an inventory of fuel quantities stored at each location, and the corresponding quantity of spill response equipment present at each site.
QIA-NWB-20	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."	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.	i. The environmental concerns regarding sedimentation have been reinstated. ii. The referenced statements have been reinstated. iii. Text has been added emphasizing that sediment and erosion control is a potential issue at all project stages.

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Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-21	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.	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.	i. This has been added to Section 2.5 Exploration Drilling. Ii. This will be considered. iii. Baffinland will comply with WSCC requirements. iv. Baffinland will incinerate food waste on a daily basis as much as possible. See EPP Section 2.14 and the Waste Management Plan.
QIA-NWB-22	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.	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.	The collection of baseline data and monitoring of the environment surrounding the incinerator is not practical or necessary. Locating the incinerator off IOL is not possible. It will need to be located close to the camp initially, as no roads will be in place. Siting options will improve once an access road has been constructed. The first priority will be to make sure it is not located upwind of the exploration camp, and secondarily not upwind of the lake adjacent to the camp. Baffinland is willing to review the proposed location with the QIA prior to starting to use the incinerator. Staff will be trained in the proper operation of the incinerator, as described in Section 5.1 of the Waste Management Plan. With respect to the waste types that can be incinerated, reference to only non-hazardous waste is an over-simplification, as cigarette butts, oily rags and used spill pads can be incinerated. This has been clarified in Section 3.2 of the Waste Management Plan. With reference to "small amounts" of absorbents, there will be limited waste storage facilities and the incinerator will have limited capacity. If substantial quantities of absorbent pads were generated, these may be stored and transported off-site for disposal. Same with cardboard; when large quantities are generated at once, it maybe difficult to incinerate everything and open burning may be more practical. In regard to the QIA's specific requests: i. As above, Baffinland is willing to review the proposed incinerator location with the QIA. ii. Baffinland respectfully disagrees with analyzing soil and water within a ZOI of the incinerator. This is an exploration project proposing to operate a small scale incinerator on a temporary basis. iii. Waste will be kept dry. iv. Baffinland has addressed the inconsistencies. v. These wastes will normally be incinerated, except when a large quantity of cardboard is generated at once. With respect to discrepancies between Table 3-1 of the Incinerator Operation Procedure and the Waste Management Plan, we have removed biomedical waste from this table, as the Waste Management Plan states that this waste stream will be taken off-site. There are no further discrepancies, as Table 3-1 describes the quantity and proportion of waste that can be incinerated; it is not equivalent to the tables presented in the Plan.

Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-23	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	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.	See responses to comment #22
QIA-NWB-24	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.	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.	i. This aspect is governed by the Water Licence and the discretion of the Waters Inspector. ii. The Eqe Bay area is an area of Inuit land use historically, but it is rarely used today because of its distance from the communities. This is described in the Project Proposal. There is not much else to add beyond this. iii. The marine waters at the camp location are deep, and are not expected to support meaningful populations of clams.
QIA-NWB-25	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.	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.	The wastewater log has been updated to reflect a metered measurement.
QIA-NWB-26	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.	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.	i. it is likely that both types of antifreeze will be used. ii. Agreed.
QIA-NWB-27	In the July 2018 version of the draft EPP, Section 2.17.2, environmental protection measures for road construction includes that *'bt 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.	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.	The Closure and Reclamation Plan indicates that water crossing(s) along the access road will be removed and the surrounding area graded to restore the natural drainage pattern of the area and ensure stability. However, the Closure Plan indicates that the road and airstrip will be transferred 'as is'. The Site Wide closure objective specifies that drainage pathways for surface runoff are physically stable. On closure, swales and other drainage features along the road will be inspected to ensure long term stability and aesthetic features reflect the surrounding topography and drainage. The EPP will be updated to clarify this.
QIA-NWB-28	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.	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.	i. Where sumps are not practical, sediment and erosion control measures may be used. This could include snow berms. The key objective is not to use sumps, it is to ensure that sediment does not runoff towards nearby watercourses. ii. It is not practical to obtain approval of individual drill locations. Baffinland can notify the QIA of the location of upcoming drilling campaigns. Archaeology is protected by the Nunavut Archaeological and Paleontological Site Regulations. Reference to the Environmental Representative is because the location of archaeological sites is confidential and so to the extent possible, the location of archaeological sites will be known by the Environmental Representative, and drilling staff will confirm with the Environmental Representative that archaeological surveys have been conducted at proposed drill locations and that identified archaeological sites will be avoided.

Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-29	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.	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.	i. These measures have been added back into the EPP (Section 2.20.2). ii. Ditching is not expected, because the quarries are unlikely to be excavated below grade. Ditching will be noted in the quarry management plans.
QIA-NWB-30	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.	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.	Baffinland may use pacto toilets with its initial camp, which will be smaller than the initial camp described in the application (25 people instead of 50 people) and prior to the mobilization of the sewage treatment plant. These pacto toilets can remain as back-up once the camp grows and the sewage treatment plant is installed.
QIA-NWB-31	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.	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.	The Waste Management Plan has been updated to account for the storage, handling, transport and disposal of hazardous materials including explosives. Explosives are to be handled by experienced and licensed personnel only.
QIA-NWB-32	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.	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.	Baffinland has addressed the noted discrepancies in the Waste Management Plan.
QIA-NWB-33	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."	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.	Baffinland has amended the management plans to reflect the use of waste/used oil in the camp incinerator as an option for disposal. Baffinland's experience at Mary River, however, is that the concentrations of impurities exceed the GN's limits. For this reason, waste oil at Mary River is back-hauled to the south for disposal. Based on this experiential knowledge, waste/used oil will predominantly be disposed off-Site.
QIA-NWB-34	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.	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.	The Mary River Water Sampling QA/QC Plan is more comprehensive than what is required at the Eqe Bay Exploration Program, at least initially. If initial exploration proves promising, a mineral resource is identified and initial economic and engineering studies are undertaken (for example, with a Preliminary Economic Assessment), then Baffinland will undertake more comprehensive sampling programs to document baseline conditions. At that point, other unused aspects of the QA/QC Plan will be applied.
QIA-NWB-35	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	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.	The Environmental Monitoring & Inspection Plan was developed as part of the water licence application in accordance with the NWB's Supplementary Information Guidelines, and thus focuses on water use and waste disposal aspects of the exploration program. Baffinland is open to discussing non-water licence related monitoring outside of the NWB's water licensing process through ongoing discussions with QIA around the Land Use Lease.

Baffinland

Table 2 - Response to QIA Comments on Type B Water Licence Application

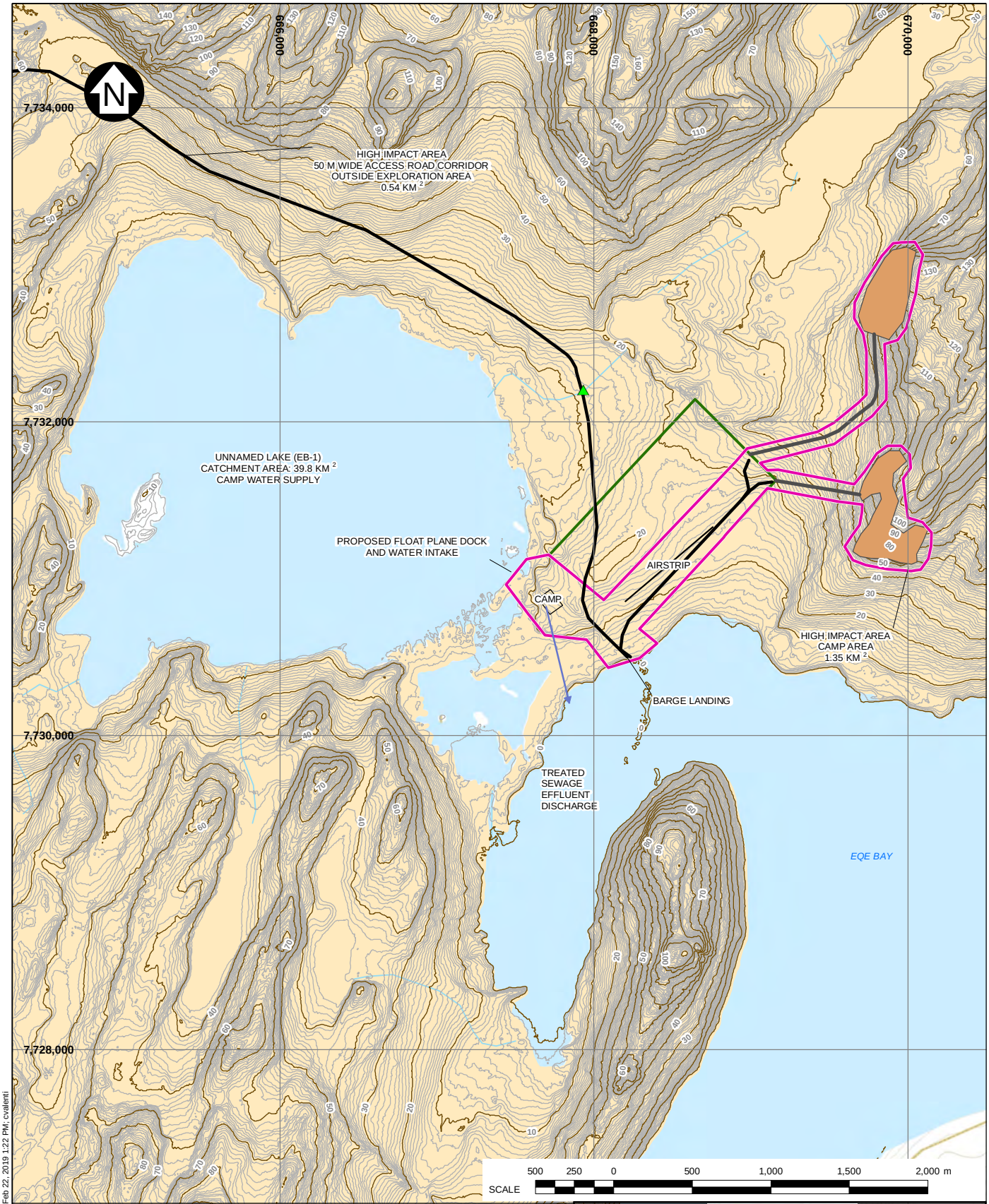
No.	Issue	Recommendation/Request	Response
QIA-NWB-36	General locations for surface water quality monitoring are provided; however, there is no rationale as to why these specific locations were selected. In addition, a map showing locations of the monitoring stations is not provided (note that a map was provided in the Draft plan of July 2018).	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.	The figure showing preliminary monitoring locations has been added to the plan.
QIA-NWB-37	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.	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.	i. The potential for talik to be present under the exploration area, and consequently the presence of hyper-saline groundwater, cannot be completely ruled out. Ultimately, Baffinland will need to know about the presence and distribution of taliks and groundwater, if the program advances to a project. Baffinland will consider how the presence of taliks may be investigated if not inadvertently encountered during exploration drilling. There are provisions in the EPP for encountering groundwater including artesian conditions, and drillers are capable of dealing with this if encountered. Baffinland will notify the NWB and the QIA if groundwater is encountered during drilling. ii. Monitoring is not required, though as described above, Baffinland will be ready should it be encountered, will notify parties, and may eventually seek to confirm the presence or absence of taliks if mine development is being contemplated.
QIA-NWB-38	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.	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.	Monitoring during reclamation and post-closure is normally addressed in the Closure and Reclamation Plan. The CRP will be a living document that is updated as information is available (e.g., once the camp has been constructed), and closure/post-closure monitoring requirements will be better articulated in the CRP at that time.
QIA-NWB-39	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.	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.	This comment does not appear consistent with the scope of the proposed exploration project. Prolonged darkness will occur, and operations as well as response activities will be implemented accounting for that reality. Sea ice is not relevant to Eqe Bay. The operations will plan for adverse weather, and as with normal operations, response efforts would cease under severe weather in the interest of worker safety.
QIA-NWB-40	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.	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.	i. Inspections will be completed at a minimum on a monthly basis, however consideration will be given to vendor prescribed schedules to ensure the most conservative inspection schedule, as determined by the Environment Manager for the Site. ii. Section 2.7.2 of the EPP specifies that fuel storage will be inspected according to the requirements outlined in the CCME Environmental Code of Practice for Above Ground Storage Tank Systems Containing Petroleum Products. This guidance document specifies daily visual inspections during operation of the tank(s).
QIA-NWB-41	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.	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.	A potential spill scenario that is a Level 3 risk is the transfer of fuel by hose from a sealift barge to bulk fuel storage tanks (25,000 L ISO containers). The Eqe Bay Exploration Program will not have bulk fuel storage for the first couple of years at minimum. Baffinland has updated the Spill Contingency Plan to identify this spill scenario, also committing to developing a fulsome spill response plan corresponding to this scenario, before bulk fuel storage facilities are brought to Eqe Bay.
QIA-NWB-42	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 states 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.	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.	The contractor labour and equipment rates that were used to derive the updated 2018 unit rates were provided to QIA in 2018 when unit rates for the Mary River Project were updated as part of the High Uncertainty Items review. The basis for the individual unit rates is described in detail in the 2014 Complete Project Financial Security Assessment for the Mary River Project. This document can be added as an appendix to the final version of the Closure Plan. The estimate breakdown structure identifies the man hours required to complete each reclamation task based on the assumptions in the estimate. It is noted that the labour and equipment rates are presented as blended rates, therefore the individual crew sizes and equipment lists are not specified for each task, however the 2014 Complete Project Financial Security Assessment provides given assumptions.
QIA-NWB-43	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 licensed 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.	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.	The EBS is not intended to correspond to the headings of the Closure and Reclamation Plan, but rather the headings of Appendix B - Cost Estimate Assumptions. Reorganizing the EBS will not provide additional clarity on the costs estimated for closure. Demobilization of wastes and materials is considered an indirect cost, and is assumed to be equal to 10% of direct costs for the purpose of preparing the estimate. The direct cost for mobile and mechanical equipment includes the decontamination of any applicable equipment, dismantling and removal from site. It is noted that reclamation of transportation routes such as roads and airstrips are not considered in the Closure and Reclamation plan, per section 5.4.2.5.
QIA-NWB-44	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 than the "High Impact Area – Camp Area" outlined in Figure 4-1 of the Closure and Reclamation Plan.	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.	The impact area defined for the Camp will not be entirely disturbed, and is only defined as an impact area as it the area of highest use for camp activities. The size of the impact area as defined in the land lease application is greater than the footprint of the camp to allow for potential future expansion of the program. Only the disturbed area of the camp and associated infrastructure is considered in the 33,500 m2 allocated for grading and re-contouring of disturbed areas.

Table 2 - Response to QIA Comments on Type B Water Licence Application

No.	Issue	Recommendation/Request	Response
QIA-NWB-45	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.	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.	As the estimate is built up based on the overall effort to complete the work (i.e. 127 person days), the crew size for individual activities is already accounted for. Additionally, as a blended labour rate is utilized, supervisory costs are incorporated into the estimate prior to the application of the indirect allocation for Supervision, Project Management and Contract Administration which is meant to account for costs associated with off-Site project management activities and not direct supervision. This approach is sufficiently conservative as it assumes the hours to complete the works are completed by a composite of labourers and supervisors, when in reality a single supervisor may oversee multiple activities occurring concurrently.
QIA-NWB-46	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.	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.	The basis for all transportation costs is provided in the 2014 Complete Project Financial Security Assessment for the Mary River project, which is deemed to be sufficiently conservative as the lifespan of the Mary River Project is greater than that proposed for the Eqe Bay Exploration Program, and transportation to the Eqe Bay project in closure would likely be facilitated through the Mary River Project.
QIA-NWB-47	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.	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. The cost discrepancy is requested to be corrected.	The cost for post closure monitoring is estimated to be $185,000, and has been corrected in the report.
QIA-NWB-48	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 rationale of this method of calculation is unclear. If workers are camped on site, why is a cost per person-day on site applied?	The Qikiqtani Inuit Association requests the following additions, alterations, or information: i. Additional details on the basis of estimation is requested.	Per person-day estimates for mobilization were prepared so that mobilization could be based on the total effort required to reclaim the Site. This does not imply that workers are demobilized/mobilized daily.
QIA-NWB-49	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)	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.	Baffinland maintains that fuel remaining on Site during closure activities would be available for use in a closure scenario. In discussions with QIA for the Mary River Project, it was determined that 50% of the available fuel on Site could be used for reclamation purposes, subject to further discussion as part of the High Uncertainty Items. Supporting documentation for fuel mobilization rates is provided in the 2014 Complete Project Financial Security Assessment.
QIA-NWB-50	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%	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.	i) Baffinland notes there were transcription errors in the application of the indirect cost estimates. The revised cost estimates have been updated in the revised Closure and Reclamation Plan. ii) The percentages used are consistent with the approach Baffinland has taken for the Mary River project. It is expected that limited additional site characterization will be needed to develop engineering specifications due to the relatively straightforward nature of the reclamation activities required (predominantly minor earthworks with a simple demolition contract). Baffinland believes 3.9% for engineering is sufficiently conservative given the relatively simple engineering scope. The allowance of 9.4% for supervision, project management and contract supervision and contingency of 12.5% is reflective of the limited scope of the exploration program. Baffinland notes that should the exploration program evolve into a bulk sample or full project phase, reclamation securities would be revisited during this time as part of the Type B or Type A Water Licence Application and revised lease agreement with QIA.
QIA-NWB-51	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.)	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.	Baffinland believes the post closure monitoring program of one (1) year is sufficiently conservative given the limited scope of the exploration program. Should monitoring during the execution of the exploration program indicate the potential for impacts this may be revised. However, as there are no predicted significant or residual effects to air, water, soils, vegetation, terrestrial life, marine life, cultural heritage, or land use, there will be limited need to monitor the impacts of the project in post closure.

Attachment 3

Figure 1 – Proposed Exploration Area Layout



LEGEND:

- PROPOSED CULVERT
- PROPOSED ACCESS ROAD/TRAIL
- QUARRY ACCESS ROAD
- WATER
- POTENTIAL QUARRY AREA
- POTENTIAL DEVELOPMENT AREA
- HIGH IMPACT AREA - CAMP AREA
- NTI EXPLORATION AGREEMENT SUB-AREA

NOTES:

1. COORDINATE GRID IS IN METRES.
   COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N.
2. CONTOUR INTERVAL IS 1 METRE.
3. LOCATIONS AND SIZING OF PROJECT FACILITIES IS APPROXIMATE ONLY.

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	21FEB'19	ISSUED WITH TRANSMITTAL	RAC	AS	RAC

Baffinland

EQE BAY EXPLORATION PROGRAM

PROPOSED EXPLORATION AREA LAYOUT

Knight Piésold CONSULTING

P/A NO. NB102-181/46

REF NO. NB18-00255

FIGURE 1

REV 0

SAVED: I:\1102\00181\46\A\GIS\Figs\A09 R0.mxd; Feb 22, 2019 1:22 PM; cvalenti

Attachment 4

Closure and Reclamation Plan

Provided via File Transfer

Attachment 5

Environmental Protection Plan

Provided via File Transfer

Attachment 6

Environmental Monitoring and Inspection Plan

Provided via File Transfer

Attachment 7

Spill Contingency Plan

Provided via File Transfer

Attachment 8

Waste Management Plan

Provided via File Transfer