HPI: Attachment 1



To: Nunavut Impact Review Board

October 15, 2019

Re: Submission of Community Risk Assessment Workshops Report

Consulting with Inuit who live and work in the North Baffin communities is essential to the success of the Mary River Project. Baffinland remains committed to meaningfully engaging Inuit to ensure that Inuit Qaujimajatuqangit (IQ) and Inuit perspectives are incorporated into the existing operation, Phase 2 Project proposal, and future project planning.

Baffinland has been consulting with the communities of Arctic Bay, Clyde River, Hall Beach, Igloolik and Pond Inlet. This has included hosting public, stakeholder and working group meetings on the Phase 2 proposal, in addition to a series of community workshops on topics of contemporary land-use, shipping through ice, open water shipping, and caribou. Information gained through these consultation activities has built on the extensive amount of information obtained through Baffinland's existing consultation and Inuit Qaujimajatuqangit programs.

As part of this on-going consultation three (3) workshops hosted in 2019 focused on identifying potential effects and protection measures (mitigation and monitoring) for the Phase 2 proposal, in addition to documenting community perspectives on risk assessment and management. Priority areas addressed included the proposed North Railways interactions in the terrestrial environment and the proposed increase of shipping activities in the marine environment. The attached report prepared by *ERM Consultants Canada Ltd.* presents the results of these workshops. Since the first workshop, Baffinland recognized the importance of providing a platform for discussion between all communities and has therefore created several other opportunities for those broader meetings throughout the review process.

During this series of workshops, participants toured the Mary River mine site and Milne Port, as well as visited an operating railway in Trois-Rivieres, Quebec. These tours familiarized participants with existing operations and environmental management initiatives and those proposed under the Phase 2 Proposal. These workshops also facilitated open dialogue between workshop participants on environmental risks associated with the Phase 2 Proposal. Specifically, participants were given the opportunity to discuss and participate in activities directed towards identifying project-related environmental risks and the ways in which Baffinland can go about mitigating for identified risks.

Baffinland would like to thank all workshop participants from Arctic Bay, Clyde River, Hall Beach, Igloolik, Pond Inlet and the Qikiqtani Inuit Association for their time, input, and thoughtfulness that made these workshops a success.

These workshops provided Baffinland with important feedback about how it can better plan, construct, and execute the Phase 2 Proposal, if approved. This is embodied in eight (8) consensus statements that were agreed to by workshop participants at the conclusion of the workshop series. They are:

- 1. Continue to work with affected communities to address impacts and issues that arise over life of mine.
- 2. Hauling of ore by rail is expected to have less impact on the environment than using trucks.
- 3. Involve Inuit and incorporate IQ in the design of monitoring programs. More work is needed to meaningfully and equally use IQ.
- 4. Community members should participate in monitoring programs. HTOs should be the focal point for participation.

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- 5. Important to continue to monitor impacts of dust on vegetation, lakes and Milne Inlet, including animals on the ocean floor.
- 6. Monitoring of dust should look for contaminants.
- 7. Important to continue to monitor impacts of shipping on marine wildlife with scientific and IQ tools.
- 8. All aspects of the environment (land, sea, people, wildlife) are changing because of climate change. This must be considered in addition to mine impacts.

Baffinland is committed to implementing measures that ensure the intent of the consensus statements above are integrated into Project planning and monitoring. The information, thoughts, and perspectives shared by workshop participants has further informed Baffinland's approach to environmental management of the Phase 2 Proposal and will ensure improvements are made to planned monitoring and mitigation plans and programs in line with Inuit perspectives and IQ.

Baffinland will continue to work with the North Baffin communities to implement the recommendations made in Community Risk Assessment Workshops as identified in consensus statement #1 and acknowledges consensus statement #2 as a mitigation by design as part of the Phase 2 Proposal.

Baffinland proposes to implement consensus statement #3 through the creation of the Inuit Advisory Panel. Baffinland will be seeking input from the Inuit Advisory Panel in order to identify further opportunities for incorporating IQ into the design of monitoring programs.

Consensus statement #4 confirms that community members should participate in monitoring programs. Baffinland has included Inuit in its monitoring programs with increasing participation from 2017 onward and will continue building capacity with Inuit involved in these programs. This will be done in consultation with Hunter and Trapper Organizations and knowledge holders.

Dust observed on the land, water, snow or on animals has been raised as a concern in many forums. Consensus statement #5 and #6 highlights the importance of continuing to monitor impacts of dust. Baffinland has committed to continuing monitoring of dust through an updated Air quality and Noise Abatement Management Plan, the Surface Water and Aquatic Ecosystems Management Plan and the Marine Environmental Effects Monitoring Program. Baffinland will report the results of these programs to community members.

Baffinland will implement recommendation #7 through the Marine Environment Management Plan, ensuring that Inuit are involved in monitoring programs and by reporting results of the monitoring programs to communities and the proposed Inuit Advisory Panel.

Baffinland acknowledges consensus statement #8 and agrees that planning for and monitoring climate change is critically important, particularly in an Arctic environment. Inuit perspectives are vital to the full understanding of this. Recognizing the importance of this, Baffinland will work with the North Baffin communities and the Inuit Advisory Panel to better understand how we can include more information on potential impacts from a changing climate in monitoring programs and reports.

In addition to the consensus statements a number of themes for mitigation and monitoring emerged which largely centred around the need to have communities involved in all aspects of project monitoring and interpretation of results and better collaboration to ensure multiple parties are working together.

During one of the workshops it was mentioned that Baffinland should learn from experience of other operating mines on how to manage impacts on caribou. Baffinland took that recommendation in earnest and invited an Inuk working in the Kivalliq Region of Nunavut to the rail alignment crossing workshop held at the mine from July 29-

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August 2, 2019 to share their first-hand experiences on the management and monitoring of caribou interactions with linear infrastructure. This provided a very good opportunity to take into consideration lessons learned from other parties.

Many of the protection measures raised by participants are and will continue to remain in place as part of the Phase 2 proposal as outlined in the report. Specific mitigation measures that have been incorporated into the Phase 2 proposal as a result of these workshops include: the use of a 'high rail car' to observe for wildlife interactions along the rail during times of heightened caribou presence; the development of the Inuit Advisory Panel to establish a body that can provide advice and guidance to Baffinland's executive on how to incorporate Inuit perspectives in project planning, design and operations.

Consistent engagement with Inuit across the North Baffin Region will be ongoing throughout the life of the Mary River Mine and is essential to the success of the operation. Collaboration between Inuit and Baffinland through this series of workshops has been instrumental in ensuring that the Phase 2 Project can be implemented in a way which will ensure the sustainable development of the mine alongside the protection of Inuit cultural practices over the life of the Project.



Baffinland

Mary River Phase 2 Proposal לֹב ^ ∧⊂תס^י 2-ר ⊃ילבת

Community Risk Assessment Workshops: Final Report

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1. INTRODUCTION

As part of project preparation and the environmental assessment for the Phase 2 Proposal, Baffinland Iron Mines Corporation (Baffinland) has been consulting with the North Baffin communities of Arctic Bay, Clyde River, Hall Beach, Igloolik, and Pond Inlet. This consultation has included hosting public, stakeholder, and working group meetings on the Phase 2 Proposal, in addition to a series of community workshops on topics such as contemporary Inuit land use, shipping through ice, open water shipping, and caribou. Information gained through consultation activities has built on an extensive amount of information obtained through Baffinland's existing consultation and Inuit Qaujimajatuqangit (IQ) program.

As part of the ongoing Phase 2 Proposal consultation, three community workshops were hosted by Baffinland. Priority areas addressed include the proposed North Rail's interactions with the terrestrial environment, and shipping interactions with the marine environment along the Northern Shipping Route. These workshops focused on identifying potential effects and protection measures (mitigation and monitoring) for the Phase 2 Proposal, in addition to documenting community perspectives on risk assessment and management.

This Final Report provides a synthesis of the results of the Community Risk Assessment Workshops.

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Baffinland Iron Mines Corporation

30 September 2019 | ≺∩∧₁ 30, 2019

1.1 Workshop Objectives

The overall objectives of the Community Risk Assessment Workshops were to:

- Develop a common understanding of the Phase 2 Proposal and Baffinland's plans to manage risks to the environment;
- Share IQ and scientific information for the Phase 2 Proposal;
- Understand community perspectives on potential impacts and risks to the environment;
- Identify and understand protection measures for the Phase 2 Proposal; and
- Come to consensus on conclusion statements from the workshop series.

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2. METHOD

The dates and locations of the Community Risk Assessment Workshops were:

- Workshop #1 January 14 to 17, 2019 Mary River mine site;
- Workshop #2 February 12 to14, 2019 Trois-Rivieres, Quebec; and
- Workshop #3 May 7 to 9, 2019 Mary River mine site.

2.1 Attendance

Workshop participants included representatives from the Hunters and Trappers Organizations (HTOs) and local knowledge holders from the communities of Arctic Bay, Clyde River, Hall Beach, Igloolik, and Pond Inlet. Hamlets were invited to elect two members of the community who are knowledgeable about the land and waters near the Phase 2 Proposal. For each HTO, a Chairperson and/or another member of the organization were invited to the workshops. The Qikiqtani Inuit Association (QIA) was also invited to attend. Representatives from Baffinland and its terrestrial and marine environment consultants (EDI and Golder, respectively) were in attendance to provide information and answer questions from workshop participants on the Mary River operation and the Phase 2 Proposal, as well as to observe the proceedings. Representatives from Genesee & Wyoming Canada (rail operations and maintenance contractor) attended the second day of Workshop #2 to host a railway tour and provide information on their operations. ERM designed and facilitated the workshops. The attendees for each of the three workshops is provided in Appendix A. Workshop participants signed-in daily as a record of their participation.

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2.2 Workshop Process

The workshops included presentations, site tours, group discussions, facilitated group work, and consensus-building, as described below. The agenda for each workshop is provided in Appendix B.

- Participant Consent. For each workshop, prior to the start of activities, individuals were asked to consent to participating in the workshops. It was explained that the workshops were to include a discussion of information shared by all participants. The purpose of the workshops and planned use of the information was described. By signature each participant confirmed their understanding of the objectives, consented to participating in the workshops, and acknowledged their understanding of a Statement of Informant Rights provided. The Participant Consent Form is provided in Appendix C. This research was conducted under Nunavut Research Institute (NRI) Scientific Research License #02 001 19N-M (expiry December 31, 2019).
- Presentations on the Phase 2 Proposal. Presentations were provided by Baffinland and its consultants on the Phase 2 Proposal to provide background information to participants. Over the three workshops, presentations addressed:
 - the Phase 2 Proposal project description;
 - terrestrial and marine environment studies;
 - environmental protection measures, including mitigation and management plans;
 - environmental monitoring programs;
 - proposed shoulder season ice breaking;
 - community benefits and socioeconomic impacts; and
 - closure planning.

Questions and comments throughout the presentations were encouraged.

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- Site Tours. During Workshop #1, Baffinland provided guided tours of the Mary River mine site, including infrastructure and operations, the haul road from the mine site to the marine terminal, and the Milne Port marine terminal facility. The Milne Port tour viewed the ore pad (existing and proposed Phase 2 Proposal expansion), ship loader, accommodations complex, fuel farm, and waste water facility. The Mary River site tour viewed the airport, snow management, warehouse complex, waste water and sewage facilities, landfill, waste sorting facility, maintenance facility, emergency response facility, crusher area, and accommodations. The tour included travel to the top of the ore deposit and viewing of mining operations (removal and loading of ore), as well as viewing the Mary River site from the vantage of the top of the ore deposit. The haul road tour viewed the operation of haul trucks along the road, and included discussion of the location of the proposed rail line.
- Railway Tour. During Workshop #2 in Trois-Rivieres, Genesee & Wyoming hosted a railway tour. The purposes of the tour were to familiarize participants with the operation of a freight rail line, and to provide an opportunity to ask questions of a railway operator. The tour included: 1) viewing the operation of a rail line snow plow; 2) riding along a section of rail line in a bus "high rail" vehicle; and 3) viewing a freight train passing through a road crossing. Following the tour, Genesee & Wyoming delivered a presentation on the company and its operations, corporate values and priorities, mine rail operations in Labrador and northern Quebec, safety, and employment strategy. A question and answer period followed the presentation.
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- Knowledge of the Land. During Workshop #1, participants were engaged in a discussion about their knowledge of the land. The purpose of the discussion was to initiate thought and dialogue regarding key features of land use and the environment as it relates to the Phase 2 Proposal. The discussion provided participants with the opportunity to highlight information that they wanted to share with Baffinland, such as information on current land use activities, knowledge of the land and the Phase 2 proposal North Rail, and knowledge of marine waters and the proposed Phase 2 use of the Northern Shipping Route. Maps showing the Proposed Development Area (PDA) of the Phase 2 Proposal, as well as the Regional Study Areas for the terrestrial environment and the marine environment used for the environmental assessment studies, were presented and participants were invited to speak to and draw on the maps. All information shared by participants was recorded. This workshop activity did not and was not intended to collect comprehensive IQ information but rather to build on the extensive information previously shared with Baffinland.
- Risk Analysis. During Workshop #1, the concept of a risk analysis was presented to the participants. Risk analysis was explained as describing, for a given potential impact of the Phase 2 Proposal, both the scale or size of the potential impact and the likelihood of the impact occurring. These ideas were discussed and presented as a risk matrix (Table 2.2-1). Risk matrices were completed by the group for the terrestrial and marine environments during Workshop #1, and reviewed and confirmed during Workshop #2. This documented the current views of the participants regarding the impacts and associated risks prior to the consideration of protection measures.
- Measures to Avoid Impacts and Manage Risks. Building from the risk assessment discussion, participants discussed mitigation measures to address potential impacts and risks. To start, Baffinland presented proposed protection measures for the terrestrial and marine environments. Following the presentations, a facilitated discussion asked participants for their input on the proposed protection measures. The following questions were asked to prompt discussion:
 - Will the measure do what is intended?
 - Would this be effective? Why or why not?
 - How can it be changed to work better?
 - Is anything missing?

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- Monitoring for the Phase 2 Proposal. During Workshop #2, a facilitated discussion asked participants for their input on monitoring, focused on the following questions:
 - What should be monitored?
 - Why should it be monitored?

This discussion continued during Workshop #3.

- **Workshop Conclusions and Consensus** Statements. During Workshop #3, key conclusions were confirmed with the participants through a consensus-building process. Group consensus was developed using a traffic card voting process involving the following steps: 1) a statement was made to the group, based on common points of discussion; 2) individual participants indicated by holding up a coloured card if they agreed with the statement (green card), had reservations but found the statement acceptable (yellow card), or disagreed with the statement (red card); 3) those participants that indicated reservations or disagreement with the statement were asked to explain their position, and revisions to the statement were then considered by the group; and 4) participants were asked to vote again. The process continued until consensus on each statement was reached as indicated by no disagreement (no 'red cards').
- Workshop Evaluation. At the end of each workshop, participants were asked to complete an evaluation form. This evaluation asked participants regarding the extent to which they agreed or disagreed to a number of statements about the workshop, and asked other direct and open-ended questions. The workshop evaluation results are provided in Appendix D.
- Results Verification Workshop. Following completion of the workshop series, a Draft Report in both languages was prepared and provided to all workshop participants for review. A workshop was then held to verify the results as reported in the Draft Report. Specifically, the objectives of the verification workshop were the following: review the objectives and process for the community risk assessment workshops, share workshop evaluation results, verify the results and summary of key findings from the workshops as presented in the Draft Report, and discuss next steps.

The agendas for the workshops are provided in Appendix B. Note that the timing of activities was adjusted during the workshops to accommodate the needs of the participants and logistical constraints, and is not exactly as shown in Appendix B.

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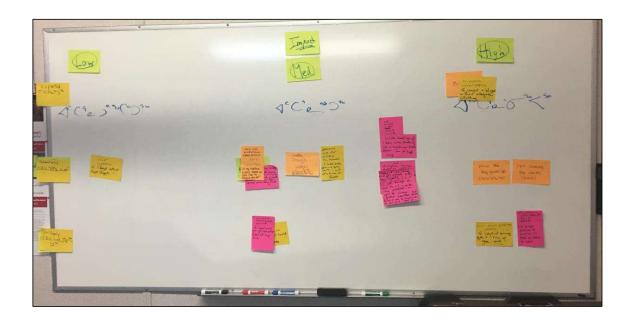
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Table 2.2-1: Risk Matrix Template

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3. RESULTS

3.1 Phase 2 Risks to the Terrestrial Environment

During all three workshops, participants discussed risks to the terrestrial environment, primarily associated with the operation of the proposed North Rail and the use of the Tote Road. The results of the group risk analysis are shown in Table 3.1-1. The listed risks are as identified by the workshop participants, based on their concerns. In addition, the results of the risk analysis does not consider mitigation that may be used to manage the potential impacts and reduce the risks.

In Workshop #1, the following points were raised:

- Consider natural causes of caribou mortality, not related to mining.
- Consider cumulative effects to caribou and include predation on caribou by wolves.
- Concern about impacts of dust (e.g., along the side of the road; when snow melts, there is a lot of sediment accumulation).
- Trains are expected to create less dust than hauling ore by truck. Too much dust is created by trucks. Do not expect many impacts from trains.
- Concern over the impacts of the Tote Road and North Rail on travel routes/ trails used by hunters, and what Baffinland can do to minimize impacts (e.g., develop and improve crossings).
- Concern about impacts on wildlife if they eat plants with dust. Unsure about dust impacts on humans.
- Impacts on caribou movement and migration is less of a concern if caribou are able to move to other areas. Caribou are expected to move to other grazing and calving areas.
- Land users fish in the lakes and ocean. Quality of fish may be affected by iron, but iron occurs naturally in the lakes.
- Vehicle collisions with animals crossing the road are now unlikely to occur, but that is because now there are few animals in the area. Wildlife may not understand the noise from a train and may not know to get out of the way.

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In Workshop #2, the following points were raised:

- Impacts on the travel routes of hunters (no longer being able to use these because of the Tote Road and proposed North Rail). There are impacts on hunters that need to cross the Tote Road – need properly designed crossings.
- The Tote Road used to be open to the public, but is no longer now that Baffinland is using the road. This loss of access has had an impact on land users. Hunting areas are no longer accessible.
- Concern for collisions of train with wildlife, and how much time and distance is needed for a train to stop. Concern about impacts of the train on migrating caribou and collisions with caribou, and that the train will not be able to stop in time to avoid collisions. Wildlife may not know what a train is.
- Concern over emissions from trains (e.g., NO₂, greenhouse gases).
- Concern that caribou, birds and other animals will get sick from eating dust that is on vegetation.
- In the design of the North Rail, important to consider permafrost and the need to avoid permafrost melt.
- Need to avoid impacts on historic sites (e.g., huts, cabins), archaeological sites, and travel routes of hunters.
- Sensitive to impacts on travel routes and where the animals are regularly. Areas around lakes are important to monitor because they are used by caribou and are where camp sites are found.
- Should consider more broadly the impacts of the Phase 2 Proposal on livelihoods (i.e., because of impacts on the environment) and communities. Should consider impacts on workers (e.g., social impacts due to fly-in/fly-out work schedule, impacts on families and children, impacts of spending decisions), on hunters (impacts on animal movement and behaviour), and on movement of people between communities.

In Workshop #3, the following points were raised:

Retaining access to the land use areas is extremely important. The loss of public access to the Tote Road when Baffinland began activities has had an impact. Access by land users around and across the road needs to improve.

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- Caribou are adaptive, and it is expected that caribou will eventually come back to the area once food source returns (once the lichen grows back).
- Concern about long-term impacts of dust on vegetation.
- There is no railway experience in the North. It is difficult to predict how caribou and other wildlife will behave because they have never experienced a railway in operation.
- When caribou return to the area, the risks to caribou may become more of a concern.
- The land and environment is changing from climate change, not just due to mining impacts.

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Community Risk Assessment Workshops: Final Report | ܝܘܩܡܝܪܕܝ ܫܘܝܝܩܩܪܩܪܕ، ܬܩܙᢣܠܩܪܠﺩ ܬܙܪﻝﻝܪܩܪܠ; ףﮔﺎܪܝܪܬܪ ▷ܩ٠ీﻟܪ

Table 3.1-1: Risk Analysis Results – Terrestrial Environment (Prior to Mitigation)

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√۹^۲∩۲۹°√ ۵°۲°۲۵°√	Unlikely CALAペレンA〜& A d c b	Potentially CΔLΔ⊂⊃Δ∿ฉ Ω ⊲୯ ⁵	Expected 9.0 P.P.P.P.*
High	None	 Impacts of ore runoff/ dust on lakes and marine life Impacts of any runoff from the mine or roads, particularly during heavy rain or high snow melt times Impacts of ore in the lakes on char/ fish; decreasing fish populations and impacting ability to harvest fish 	 Accidents Truck accidents or train derailment when travelling during a blizzard Workers and visitors not following the safety rules and regulations/ not being prepared
[€] C ⁴ √⊗^b.	■ ۸۲۴™۲۰۵۴	 Φ)Φγός Ργς CΦCΦς σα 40 4σς/ >4 ΦCΦΓ C Cγνως Φ'L. ΔL TPCως σ'4∩ως Φ'DΦγός γα ΔΔαα Τε σλληΓ Ργς C C Δ σηΓ σχαθησε τράση γα σχαθησε σχαθησε	 ▲ Λσ¹¬Δσ⁴ρċε Δα ὑἀρῆς Λσ¹¬Δσ⁴ρψε Ρ◊«μισε Δα ὑἀρΠήψα «ΚάσηΓε ἡἀσὰ Δληγεςης¬¬ Αἡ/ἀσηΓε ▲ Λεπμε Φ'Ε. Φ'Ε. Φ'Ε. Φ'Ε. Δα ὑΕ. Φ'Ε. Δα ὑΕ. Φ'Ε. Κεινς ἐω ἐν ἐν
Medium	 Vehicle collisions with animals crossing the road 	 Impacts on caribou grazing areas and food source Impacts on wildlife from dust, and impacts on their food source (for birds, owls, caribou, etc.) Impacts of railway on hunter travel routes Impacts of railway on caribou trails and crossings (may not understand to stay out of the way) 	 Char/ fish going bad from dust

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Low	■ None	Impact on caribou calving areasChanges to caribou movement and migration	Rabbits, ptarmigan may lose food sourceDust from trains
√	■ AC% ^{&} r ^c O%	 ▲ ⟨¹)₲゚/₲゚ ⟨¹, ⟨¹, ⟨¹, ⟨¹, ⟨¹, ⟨¹, ⟨¹, ⟨¹, ⟨¹, ⟨¹,	 ΡЬ Δ² <li< td=""></li<>

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3.2 Phase 2 Risks to the Marine Environment

During all three workshops, participants also discussed risks to the marine environment, primarily associated with the operation of Milne Port and shipping along the Northern Shipping Route. The results of the group risk analysis are shown in Table 3.2-1. As with the terrestrial environment, the risks to the marine environment are as identified by the workshop participants, based on their concerns. In addition, the results of the risk analysis does not consider mitigation that may be used to manage the potential impacts and reduce the risks.

In Workshop #1, the following points were raised:

- If shipping routes are properly identified and away from land, it will not impact marine wildlife much.
- Shipping impacts are less risky if limited to the ice free period.
- Shipping will be safer in inlet and if ships keep to the shipping routes.
- Narwhal getting hit by propeller or ships is unlikely.
- Ships do not always follow the rules regarding speed restrictions or travel routes.
- Concern about impacts on narwhal and other marine mammals (narwhal move away when vessels transit through; killer whales also impact narwhal populations and movement).
- Concern about interaction with calving grounds of whales; there are also areas where they rest like Koluktoo Bay, while not necessarily giving birth.
- Concern that killer whales have a bigger impact on the narwhal population than shipping.
- There are impacts of climate change on marine mammals (e.g., narwhal moving west, introduction of new species into the area). Appearance of new species in the area (i.e., bowhead whale) may have effect on narwhal travel and presence.
- Concern about impacts of port construction on the marine environment (e.g., pile driving, timing of construction to avoid impacts on migrating fish).
- Concern that fish could be getting contaminated if a spill occurs.
- In the future, the Project will affect and impact community lifestyle.
- After the mining is completed, there may be consequences that people find out about after the fact.

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In **Workshop #2**, the following points were raised:

- Narwhal move out of the area when ships travel through. The narwhal are moving their migrating routes. Ships are affecting narwhal migration.
- There is loss of income in Pond Inlet and Arctic Bay from marine mammal harvest (narwhal) because of impacts of shipping (Project ships and cruise ships).
- In Milne Inlet there are summer hunting camps. Summer camps are impacted by shipping – we are not able to bury our cache or to sell our product. The ships are going to keep passing and the animals are going to get out of the way, and there's no way to avoid this.
- Inuit traditional hunting routes should be protected. Baffinland should respect the areas that Inuit don't want the route to go through.
- Problems with communities being able to communicate with ships because of language barriers (e.g., vessel captains only speak Russian).
- There are three important commercial fisheries in the Baffin area. If they are reduced because of Project impacts, a lot of income will be lost.
- When ships are full, you can hear and feel the vibrations from miles away. This impacts the marine life and the people.
- Concern for potential impacts of shipping on narwhal birthing. For the last two years, we haven't seen narwhal giving birth.
- Concern about contamination of animals.
- Hunters will also need to travel further if wildlife are disturbed.

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In Workshop #3, the following points were raised:

- Overall, with expansion of the mine there is expected to be more impacts on the marine environment. Increased shipping will make it harder for Inuit to live off the land.
- Believe shipping has had an impact on narwhal they have moved out of the area and it has impacted the harvest.
- If impacts on the marine environment affect one community (e.g., Pong Inlet), they will also affect other communities in the region because of relationships and sharing among communities.
- For ships, when ice is breaking up in the spring it is primarily a concern for navigation (in inlets, in particular).
- Multi-year ice can be dangerous, which more of a concern for ship traffic than icebergs, which do not frequently occur.
- In the spring (March to May), seal pups are very small and vulnerable. There should be no ice breaking at this time. Need to know more about behaviour of seals when ice breaks up and as ice moves out.
- Concern about impacts of oil spills on seabirds and other marine mammals (bowhead whales, seals, and all marine life).
- Ships vibrate when leaving port with a heavy load this is felt by land users and disturbs wildlife and people camping on the land along Milne Inlet. More understanding is needed to assess and mitigate this impact.
- More research is needed to understand potential impacts from invasive species that may be released from ships.
- Reconsider the current location of ship anchoring locations near Ragged Island. These are currently near seal hunting grounds.
- There is an impact on hunting due to the safety regulations (primarily, hunting exclusion zones) along the shipping route, in addition to around the mine and port site, and the Tote Road.
- Whale behaviour can put them at risk. If breaking ice, whales can congregate in open areas, which can make them vulnerable. Whales will get used to boats at the dock, and may stay close. This may become a problem. But expect that whales will get out of the way.
- Ship strike of narwhal and other marine mammals not a concern. Marine mammals will get out of the way.

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Shoulder Season Ice Breaking

During Workshop #3, Baffinland presented information on shoulder season ice-breaking to allow for an increase in the length of the shipping season. The Baffinland presentation was followed by a facilitated discussion of the group's questions and concerns. The following key points were raised:

- Ice breaking should not occur if hunting is still occurring along the flow edge. Usually by July ice is too dangerous for hunting, so ice breaking in July should not be an issue for hunters.
- Proposed end date of November 15th for shoulder season ice breaking may be an issue, because travel and hunting usually begins on the November 11th long weekend (travel from Pond Inlet to the fjords).
- When there is land fast ice and seals are still in breathing holes, ice breaking can be very dangerous for seals because they do not have a place to flee. It is safer by July when the ice begins to break up.
- Will impact marine mammals because it is a new activity (animals are not used to it).
- Note that ice freeze-up is very different now and changing – variable, unpredictable, and seems to be occurring later now.
- Baffinland needs to work with Pond Inlet to understand and schedule their activities (every community is different).
- Do not know the impact of an ice breaker on forming ice. Should ask the community and plan based on input received.

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Table 3.2-1: Risk Analysis Results – Marine Environment (Prior to Mitigation)

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[⋄] ∇₽∇ [⋄] ∇	Unlikely CALAペケンム・セルタイプ	Potentially CALAにJAであるC ^b	Expected Graph Pt Pt
High	 Ship hitting ice (multi-year ice or iceberg) If ship travels through ice in spring, impact on seal birthing 	 Oil spills from ships Contamination of char/fish if a large spill; will also impact people if fish contaminated Impact on commercial fisheries in Baffin Bay due to shipping 	 Marine life (seals, bowhead, narwhal, other whales) may move away if disturbed by shipping Hunters would need to travel farther if wildlife disturbed Impact of ship vibrations on marine life and people Release of ballast water and cooling water in the bay from ships
[♣] C∜∕⇔≽₽,	 PF	 ► Φ⁺/Δω⁺Γ⁻ Δδλ⁺Γ ΦΓα⁺(4α[†]σ⁻ ΑΦ⁺Γ⁻Γω⁺ Δδω⁺ Δδω⁺ ΑΦα[†]Γ κ⁻ Δω⁺σ⁺ Δδω⁺Σ ΑΦ⁺Γ⁻Γα⁺ αΕ Φρ⁺Γα⁺ σΦδα⁺ Σδω⁺ Δδω⁺ φρ⁺ βρ⁺ Σδω⁺ αδω⁺ φρ⁺ Δδω⁺ Δδω⁺ αδω⁺ α	 CΛΡΥΓΡΟΔς (αςής, Δήλς, Δγλης Υρωυλος) ΔγΔρΟΡναθυσ ΡΓΟΥΥΘος Διολίθονη L'ΒΔής Ρθυν') Ος Δη Δθυσ στή το στη το
Medium	■ None	Air emissions from ships	■ None
ᡩᡴᠲᢥ᠘ᡶᢤ	■ AC% [™] f ^c O%		■ ΛC%*Ր⁻Ͻփ
Low	 Ships striking narwhal by propeller or ship (lower impact on population if male narwhal impacted) 	None	If ships travel too fast, will impact marine life
√C∩¬%	 PΓ */√ */√ */√ */√ */√ */ */	■ \C& [™] f ^c D [®]	$ \qquad \qquad \blacksquare \ D \Gamma D^4 d^G \ \Delta^A \Gamma^G G^L L_D D^G C, d^D^B l_D d^G D^C \\ C_D D^I D C d^b $

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3.3 Terrestrial Environment Protection Measures

Participants provided comments on how to manage impacts on the terrestrial environment, as well as on terrestrial monitoring. Key points are summarized below.

For each potential impact identified by the risk analysis (see Table 3.1-1), Baffinland proposed mitigation. This mitigation, as shown in Table 3.3-1, was discussed and participants were invited to provide comments or additional information to help improve protection measures.

Managing Impacts

- Work to develop crossings of the Tote Road is not yet completed. Need to look at possible crossing locations and design for the North Rail.
- Caribou crossing locations need to be planned and put in place. This will be important when caribou come back to the area. Baffinland should work with hunters to identify the best locations for crossings.
- Consider situations that would require stopping activities (e.g., stop mining activities during calving).
 This may be required to protect caribou.
- Baffinland should consider alternate routes to avoid impacts on hunters. The proposed alignment of the North Rail is going through travel routes and crossings. Should consider moving the Tote Road and North Rail alignment, rather than ask hunters to change their travel routes.
- Inuit are no longer allowed to access the land at the mine or port sites, or use the Tote Road. Land users should have access to the land.
- Baffinland should learn from other mine projects in Nunavut on how to manage impacts on caribou when they are near or on roads. There is experience in the Kivalliq that can provide learnings.

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Monitoring

- Emissions from the diesel engines of the trains should be monitored.
- Monitoring of melt waters and for dust fall is important. Monitor not just fish, but other wildlife (e.g., hare) for contaminants.
- Dust from the mine activities travels up Milne Inlet (as far as Bruce Head). This should also be monitored (not currently). Dust fall on the ocean (up Milne Inlet) as well as the land should also be monitored.
- Monitoring locations should also be expanded to include lakes on the east side of Baffin (request from Pond Inlet HTO).
- In assessing impacts, it is important to consider that fish migrate. Fish impacted near the mine or port will then travel to other areas.
- Inuit see the changes. Inuit need to be involved in the monitoring.

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Table 3.3-1: Protection Measures for the Terrestrial Environment

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Potential Impacts from Phase 2 as Identified by Workshop Participants	Project Mitti م کام هار	Project Mitigation and Management
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Impacts of ore runoff/ dust on lakes and	Control dust	■ <>C∩σ ^{\$} ><5C ⁺ C ⁻ C ⁻ C
marine life	Dust is not dangerous	■ >⁴७८ं⁴ ▷ು∿ </td
	Monitor for metals in water	■ ⁴₽₽⊁५⁴∟∩ ^с ५Å ^с △L٩ܪс⊃ ^с
م-√الم-		
Impacts of any runoff from the mine or	l Clear snow	■ <>C∆4∆Jø
roads, particularly during heavy rain or high snow melt times	ı Keep culverts functional	■ /<∪∆^ ^c <pre></pre>
°a,Γc datΓc DtGcCnd⁴Γc	■ Monitor streams	→ \$P> ↑€ d∪.€
4<'400-¹²•ë⁻, ∧, 04° DF° L'd'+40° D'. J 5° ¢' 40° D'. J 5° ¢' 40° D'. D 5° ¢' 40° D'. D		
Impacts of ore in the lakes on char/ fish;	Control dust	■ >⊀⁴bĊ⁵ bLrJJ
decreasing rish populations and impacting	ı Clear snow	■ <> < <p>< <p>< <p>< <p>< <p>< <p< td=""></p<></p></p></p></p></p>
	ı Keep culverts functional	■ /<_∆∆ ^c **/^*^^</td
⟨¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬	ı Monitor run-off, streams, lakes and fish	$lacksymbol{\blacksquare}$ ${}^{L} DP DF DF DAF$, $dU LC$, $CP C DF DAF DAF$
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Accidents	Health and safety protocols	 ■ 4° Φ 4 8 * C Δ C L σ ' J C 4' L J < C C ' a * J S ** Y N C N σ ' J C
ΛσʹυΔΫβσ∙	l Fit for work rules	Γ
•	Controlled access	 ■ <!--</td-->
		■ △▷८С▷」σ (△△⁴८२⁴² σ▷√
Truck accidents or train derailment when travelling during a blizzard	Road and rail safety protocol	■ << <d∩p< <\l=""> aa\dP∩^c <<\C^a \D^6 <<<<cc> <</cc></d∩p<>
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Potential Impacts from Phase 2 as Identified by Workshop Participants סאבי 2-F שים 1-5	Project Mitigatio ∧⊳זי∻יר"∩≎	Project Mitigation and Management ∧┣ᄼᄛᅩᅮᅆ҇∩ݮᅆᇫᆸᆸ
Workers and visitors not following the safety rules and regulations/ not being prepared ハールト マレー・カー・エー・アー・ファー・コート・コート・コート・コート・コート・コート・コート・コート・コート・コー	Communicate proceduresUse of English languageToolbox meetingsDiscipline to point of dismissal	 ϽϞΡͺͺʹϐϲʹϹϷ͵ͿͼʹͺϽϽͼʹϹϷͺͼͰϧΔͼ ϤϽͼʹϹϷϭʹ·ʹͿͺʹϐϲʹ϶ϲͺϽϽʹ ΛϲʹϲʹͰϞΔͼ ͰϧͰϼͼ ϧΛͺͺϹϻͼ ϥʹͼϷΓϥʹͼͰϟͼͼ ΛϲʹͺϲͺϲͺϹϪϥʹ·ʹͺͺϔʹͼʹϹϷͺͻσ
Impacts on caribou grazing areas and food source \$\\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	 Quantify potential impact Control dust Lichen monitoring — growth rates and metals content 	 ■ ⟨Γ\Δ*C*⊃^c ⟨¹>°+⟩σ▷+²°α,°¬^c ■ >+°bĊ bLf ¬J ■ ⊃¹⊃Δ^c σ*P°+°σ* °³D>+\Δσ* - Λρ*<√c√σ*↑° ¬c à->p^c ⟨¬¹,° ¬c
Impacts on wildlife from dust, and impacts on their food source (for birds, owls, caribou, etc.)	 Control dust Vegetation monitoring — growth and metals in soil 	 ► >4%b¢* bLrJJ ↑२%¬٥, %b>>4∆a° ↑2% ∆<4ac
Impacts of railway on hunter travel routes סרט״יליליליליליליליליליליליליליליליליליליל	Travel route mapsSafe snow machine crossings	 Δ*Γ*GF*&P*&C°*J° <<*d∩δ° δα**J Φ>Λ
Impacts of railway on caribou trails and crossings (may not understand to stay out of the way)	 Caribou crossings "High car" surveys Make noise — alert animals Change embankment as necessary 	 □)→)Δ^c Δb⁴δδ⁴Γ^c ■ "^cd^cΓ^h) ^D ω ½ d̄) Γ ^C ⁻ Φρ² γ Δp^c ■ σ Λ^c δ^c Γ Γ σ ^c γ 1 Γ σ ^c γ 1 Γ σ ^c γ 1 Γ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ
Vehicle collisions with animals crossing the road road בס⊸לקלי⊾ס ∆הליך במילילר ללקלים שלללים שלללים	 Caribou decision tree (direction for operation of vehicles when caribou present) Each collision results in investigation Very low occurrence at other mine sites 	 Dida Pilas Allebde ("badapeda" d"b" as badapeda" d"b" as badapeda" d"b" as badapeda" de badapeda" de badapeda de babadapeda de basada de badapeda de badapeda de babada de badapeda de ba

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Potential Impacts from Phase 2 as Identified by Workshop Participants סאבר Aרתס " 2-Γ ארמסיי	Project Mitigati Λδγ≼· ຕ ^ι ∘∩ ^c Γ	Project Mitigation and Management ∧┣ᄼᆃᅩᇆᅆႶᅂᇄ ◁ᄔᆸ ◁┣ᆫངႶℊᇷ
Char/ fish going bad from dust △℉ℷℎ՜Հ/ՃቴℷℷՀ՟ ∧▷ィ∿Ժ℉⊃Հ >Հ℉Ը℉՟	Control dustMonitor run-off, streams, lakes and fish	■ >4%¢¢ bLFJ ■ %P>>5°J° d&¢¢, dic.°, C/° <1°LJ ∆%DJA°
Rabbits, ptarmigan may lose food source >>c- \delta\f\\\^\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	 Quantify potential impact Dust control Plant monitoring — growth rates and metals content 	 ■ <pre></pre>
Dust from trains >ל'הלה'ב סם ⁴לורלה'בסם "אלהל	■ Low dust from trains	■ >⊀&Ċ`₺」₳^^Ր<∇° ഫ゚∀₽∩⁴₹₫° σ<
Impact on caribou calving areas לב•ריר⊃ים באביריר כיבר לאיריה באביריר כיבר	Identify calving areas (IQ)Quantify impactsTimed construction (southern rail)Height of Land Surveys	 \$\text{P}\text{A}\text{P}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}\text{D}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{D}^{\chi}\$\$ \$\text{A}\text{C}\text{A}\text{D}\text{A}\text{D}\$\$ \$\text{A}\text{C}\text{A}\text{D}\$\$
Changes to caribou movement and migration حا√ح"کا"فد کاکرٹ تاکہ کاکرٹ تاکہ کاکرٹ کاکٹ فر کاک	 Identify movement patterns (IQ) Let the leaders pass Caribou have the right-of-way Keep the project "permeable" Caribou decision tree (direction for operation of vehicles when caribou present) Collaborative monitoring 	 \$bp\Jr^c dpc^aa^hr^c \$bbArp^a^hr^c (ΔbΔ^c bp\LyD^b^hr^c)\$ \$bp\LyD^b^hr^c \$\rightarrow \rightarrow \rightarrow

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3.4 Marine Environment Protection Measures

Participants also provided comments on how to manage impacts on the marine environment, as well as on monitoring. Key points are summarized below.

For each potential impact identified by the risk analysis (see Table 3.2-1), Baffinland has proposed mitigation. This mitigation, as shown in Table 3.4-1, was discussed and participants were invited to provide comments or additional information to improve protection measures.

Managing Impacts

- The ship anchorage sites have an impact on hunting (where Inuit are able to hunt). Can the anchorage sites at Ragged Island be moved (seal hunting in the area)?
- More work is needed to ensure that ships follow the rules.
- Would like to see alternate shipping routes, farther to the south.
- Need mitigation and monitoring of pollution (garbage) from ships.
- Add mitigation that certain ships will have ice rating/classification.
- Would like more information on regulations and management of ship noise.

Monitoring

- Would like to see additional observations/data of impacts of shipping on marine wildlife (i.e., information collected from observation posts).
- Scientific monitoring methods can hurt animals (e.g., use of collars, tags). Would like more information of the animals that are injured by research programs (e.g., whales injured by tags), and when tagging was unsuccessful.
- Need to monitor the impact of noise from shipping on marine mammals.
- Regarding proposed shoulder season ice breaking, need to pass information on to Pond Inlet HTO. Need monitoring of impacts on animals and people.
- Need Inuit participation in monitoring.

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Table 3.4-1: Protection Measures for the Marine Environment

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Potential Impacts from Phase 2 as Identified by Workshop Participants מאסאריף 2-F	Project Mitigatio	Project Mitigation and Management ∧┣ᄼᆇᅩᅮႥႶჼႶℊݨ ◁ቴ ◁┗~Ⴖℊݨ
Marine life (seals, bowhead, narwhal, other whales) may move away if disturbed by shipping Cωρ'ΓΡCΔε (α-ή-ς, ⊲'ձ'ε, ⊲μ'-μ- 'ρω¬ιΔς) αγαρθαβθαβθαβθαβθαβθαβθαβθαβθαβθαβθαβθαβθαβθ	 Reduced ship speeds (9 knots maximum) Ships maintain constant course and speed Icebreaking avoids sensitive seal periods Ships will not approach within 300 metres (m) of a walrus or polar bear on sea ice Ships will not separate an individual member of a group from other group members Learn more about disturbance through monitoring 	 αρτην της της της αρτης (9 knots-ρς ηγείνης της της της της της της της της της τ
Hunters would need to travel farther if wildlife disturbed LもA六 ^C P・しょってるんるもう。のっぱん AシDドャ-CDJ∩゚	 Reduce disturbance to wildlife Track information Harvesters enabling program in Pond Inlet Further management options to be discussed 	 I'chſd¹ɔJ ∆¿∆ìnæ® σ⁴ধ∩σ³ bÞÞìԿ¹ɔrc ⊃PłDL³ťñc IchLCc²rc L⁵b∆nc ∧rd®nc∩ɔn² ⊃द⁴ur³ AÞcc∩g²Jc ∢J³CCb³b°g∂²a ³D² Þ⁵bዖ≀n۶Þɔn³
Impact of ship vibrations on marine life and people מטשיריי אלקיב' דרן איףליי מייים איףליי רולי דרן ביי	Reduced ship speeds (9 knots maximum)	■ ᡆᠨᠬ᠙᠙knots-ᠣ ^᠙ ᠰ᠘᠘ᡅᢀᡏ᠘᠘᠙
Release of ballast water and cooling water in the bay from ships Pרַלּלְלֹס ^כ ∆נני אל באלים לקלילי של באלים של באלים לבאלים מוני של באלים באלים של באלים	 Adhere to Transport Canada regulations Mid-Atlantic ballast water exchange Ballast water treatment Comprehensive Aquatic Invasive Species (AIS) and Ship Hull Fouling Monitoring Program Contingency plan developed in collaboration with Fisheries and Oceans Canada (DFO) specialists 	 Lc² JC ba CΓC Δ² ρ² Gy² Jcnλ² θ² Lc l Gċ ² ρ° \$ρΛσσ² - σ²ċ ² ρ¹ Γσ⁴ ₹σ⁵σ α Διλ γρλσ² Δ/α³ θ² σρος Δις α σ² Δ σλος ΄ βλις Δι τρ σ α βρησρχε Γ² λρ² (AIS) σηρα ἢ ρ² ζο μος μος σα βρησρος βρησρος και βρης σρος βα βρασρος βα
Air emissions from ships סרסיף ארכ⊃ר לכים ארכשל לרבור לכים ארכשל	Regulation of emissions from ships	■ Lauge ™is Soot do dta Draftar ™is Soo

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MARY RIVER PHASE 2 PROPOSAL | كَاذِكُ المكابِّرة 24 كابُروك

Community Risk Assessment Workshops: Final Report במביל י"ר בביל האלאפין האלאפין. לאיטיריים ו איטיביי איטיביי

RESULTS %bod%böc

Project Mitigation and Management ∧b≀⋞ఄఄç໊∩゚∩σ໊ ⊄ٔL ◁▷⊆゚∩σ℉	Reduced ship speeds (9 knots maximum) Ships maintain constant course and speed Ships will not separate an individual member of a group from other group members ■ ロード・レー・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	 Reduced ship speeds (9 knots maximum) מ-βαγίας αραγίας αραγίας (9 knots-ως αφρος αραγίας (9 knots-ως αφρος αραγίας (9 knots-ως αφρος α
Potential Impacts from Phase 2 as Identified by Workshop Participants מא⊃∆J∩סביברלרבי ∧רתים " 2-ך	Ships striking narwhal by propeller or ship סוליטליללא איז ליללא שלילילללא טישילילי	If ships travel too fast, will impact marine life סריל⊃ליליל מיאיריל מיאיריל מיאירילילי אירילילי כרי

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4. SUMMARY

4.1 Results Verification

During a one-day workshop to verify the results, discussions included a review of the identified environmental risks and protection measures, key themes for mitigation and monitoring, the concluding consensus statements, and important workshop outcomes. Participants were encouraged to share their views on the workshop including interpretation of the key outcomes.

Through the discussion, the results of the community risk assessment workshops were verified and are reported here, including confirmation of discussion highlights, key themes and conclusions. Through the verification process, a small number of specific revisions to the report were identified and have been addressed in this report. Topics of discussion included: preferred alignment of the North Rail line and Tote Road; ship anchoring locations; impacts from dust and monitoring; monitoring of contaminants in fish; monitoring of ship ballast water; community-based monitoring; community participation and involvement in the design of monitoring programs; meaning and use of IQ, and differences between individuals, communities, and generations; Inuit access to the mine site; public access to the results of studies completed for the Project; and Baffinland funding commitments and contributions to communities.

4.2 Themes for Mitigation and Monitoring

In addition to the specific ideas on mitigation and monitoring (Sections 3.3 and 3.4), comments were made that are relevant to the development of further protection measures:

- Community HTOs and harvesters should be directly involved in monitoring. Hunters travel everywhere and see things that Baffinland doesn't see.
- Get communities involved in monitoring, and develop community monitoring stations or monitoring camps.
 Communities/hunters need technology to record observations, such as cameras and/or tablets.
- Get community input on the development of management plans, research methods, and reporting, and incorporate IQ in programs.
- Additional work is needed to share knowledge between Baffinland, Inuit organizations, communities, governments and researchers. Need to also work with younger generations. Collaborate – use data available from other studies (e.g., Oceans North marine mammal monitoring program). We need to work together.

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4.3 Consensus Statements

At the conclusion of the workshop series, participants reached group consensus on several summary statements. These are provided below. All workshop participants either fully agreed with or accepted each statement, as confirmed through a consensus process (see Section 2.2).

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CONSENSUS STATEMENTS

- 1. Continue to work with affected communities to address impacts and issues that arise over life of mine.
- 2. Hauling of ore by rail is expected to have less impact on the environment than using trucks.
- 3. Involve Inuit and incorporate IQ in the design of monitoring programs. More work is needed to meaningfully and equally use IQ.
- 4. Community members should participate in monitoring programs. HTOs should be the focal point for participation.
- 5. Important to continue to monitor impacts of dust on vegetation, lakes and Milne Inlet, including animals on the ocean floor.
- 6. Monitoring of dust should look for contaminants.
- 7. Important to continue to monitor impacts of shipping on marine wildlife with scientific and IQ tools.
- 8. All aspects of the environment (land, sea, people, wildlife) are changing because of climate change. This must be considered in addition to mine impacts.

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4.4 Next Steps

The workshop series was successful in meeting its overall purpose - to hear, through open discussion, from land users from the impacted communities regarding their knowledge and experiences, their perception of Project impacts on the terrestrial and marine environments, and to get their input on ways to avoid, mitigate and manage risks to protect the environment. It was also hoped that following this input, workshop participants would re-assess the risks that they had previously identified now considering the mitigation and monitoring programs that were discussed; however, this was not able to be achieved at this time.

At the conclusion of the final workshop, participants were asked what they would like to see happen next. Answers highlighted the need to:

- take our words and direction seriously, as the knowledge we have is important;
- provide opportunities for site visits by communities and community funding; and
- continue to discuss, work together and collaborate.

Baffinland will continue to engage with communities to understand their concerns and get additional input of ways to protect the environment. Baffinland is also committed to fully considering the information provided during the workshops and will provide feedback to participants on how their input influenced Project decisions.

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APPENDIX A WORKSHOP ATTENDANCE

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Appendix A: Workshop Attendance

Table A-1: Workshop #1 Attendance, January 14 to 17, 2019

Community and/or Organization	Name	Role	
QIA and Arctic Bay HTO	Levi Barnabas	QIA Representative and Participant	
Arctic Bay HTO	Joshua Kango	Participant	
Arctic Bay HTO and Hamlet	Kigutitarjuk Shappa	Participant	
	Sakiasee Qaunaq	Participant	
Clyde River HTO	Lucy Palituq	Participant	
Hall Beach HTO	Danny Arvaluk	Participant	
Hall Beach HTO and Hamlet	Timothy Kuppaq	Participant	
Baffinland	Megan Lord-Hoyle	Observer and Presenter	
	Andrew Moore	Observer	
	Joseph Tigullaraq	Observer	
	Krista Johnson	Observer and Recorder	
EDI	Mike Setterington	Observer and Presenter	
Golder	Patrick Abgrall	Observer and Presenter	
ERM	Kent Gustavson	Facilitator	
Independent	Simona Arnatsiaq	Interpreter	

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Table A-2: Workshop #2 Attendance, February 12 to 14, 2019

Community and/or Organization	Name	Role
Arctic Bay HTO	Jonah Oyukuluk	Participant
	Joshua Kango	Participant
Arctic Bay HTO and Hamlet	Kigutitarjuk Shappa	Participant
	Sakiasee Qaunaq	Participant
Clyde River HTO	Lucy Palituq	Participant
Hall Beach HTO	Danny Arvaluk	Participant
Hall Beach HTO and Hamlet	Timothy Kuppaq	Participant
lgloolik Knowledge Holder	George Qulaut	Participant
Pond Inlet HTO	Caleb Sangoya	Participant
Baffinland	Lou Kamermans	Observer
	Fay Pittman	Observer
	Chris Murray	Observer
	Krista Johnson	Observer and Recorder
EDI	Mike Setterington	Observer and Presenter
Golder	Patrick Abgrall	Observer and Presenter
Genesee & Wyoming	Louis Gravel	Observer and Presenter
	André Houde	Observer
	Benoit Giroux	Observer
	Christian Richard	Observer
	Claudine Bois	Observer
ERM	Kent Gustavson	Facilitator
Independent	Geela Tigullaraq	Interpreter
	Rhoda Kayakjuak	Interpreter

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Table A-3: Workshop #3 Attendance, May 7 to 9, 2019

Community and/or Organization	Name	Role	
Arctic Bay HTO	Joshua Kango	Participant	
	Olayuk Naqitaqvik	Participant	
Arctic Bay HTO and Hamlet	Sakiasee Qaunaq	Participant	
	Kigutitarjuk Shappa	Participant	
Clyde River HTO	Lucy Palituq	Participant	
Hall Beach HTO	Danny Arvaluk	Participant	
Hall Beach HTO and Hamlet	Timothy Kuppaq	Participant	
Igloolik Knowledge Holder	George Qulaut	Participant	
lgloolik HTO	David Irngaut	Participant	
	Natalino Piuqattuk	Participant	
Pond Inlet HTO	Caleb Sangoya	Participant	
Baffinland	Megan Lord-Hoyle	Observer and Presenter	
	Joseph Tigullaraq	Observer	
	Chris Murray	Observer and Presenter	
	Krista Johnson	Observer and Recorder	
EDI	Mike Setterington	Observer and Presenter	
Golder	Patrick Abgrall	Observer and Presenter	
ERM	Kent Gustavson	Facilitator	
Independent	Simona Arnatsiaq	Interpreter	
	Rhoda Kayakjuak	Interpreter	

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Table A-4: Results Verification Workshop Attendance, September 4, 2019

Community and/or Organization	Name	Role
Arctic Bay HTO	Joshua Kango	Participant
	Olayuk Naqitaqvik	Participant
Arctic Bay HTO and Hamlet	Sakiasee Qaunaq	Participant
	Kigutitarjuk Shappa	Participant
Clyde River HTO	Lucy Palituq	Participant
Hall Beach HTO and Hamlet	Timothy Kuppaq	Participant
Igloolik Knowledge Holder	George Qulaut	Participant
Igloolik HTO	David Irngaut	Participant
	Natalino Piuqattuk	Participant
Pond Inlet HTO	Caleb Sangoya	Participant
Baffinland	Megan Lord-Hoyle	Observer and Presenter
	Udlu Hanson	Observer
	Krista Johnson	Observer and Recorder
Stantec	Sara Wallace	Observer and Presenter
ERM	Kent Gustavson	Facilitator
Independent	Abraham Tarralik	Interpreter
	Lazarus Arreak	Interpreter

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APPENDIX B WORKSHOP AGENDAS

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AGENDA – COMMUNITY RISK ASSESSMENT WORKSHOP



Baffinland's Phase 2 Proposal
January 14-17, 2019
Mary River Project Site

Workshop Objectives

- Develop a common understanding of what is proposed for Phase 2, with a focus on the North Rail and shipping, and current plans to manage risks to the environment
- Confirm existing sources of IQ and scientific information for the Phase 2 proposal
- Identify community perspectives on potential impacts and risks to the environment
- Identify protection measures for the Phase 2 Proposal

Page 2 of 5

Day 1 – Monday, January 14th

7:00am – 8:00am	Breakfast (provided)	
8:30am – 9:30am	Workshop Purpose, Objectives and Agenda	ERM
9:30am – 10:00am	Introductions	All
10:00am – 10:30am	Break	
10:30am – 12:00pm	The Phase 2 Proposal • Presentation and discussion	Baffinland
12:00pm — 1:00pm	Lunch (provided)	
1:00pm — 2:30pm	Terrestrial Environment Studies and Protection Measures • Presentation and discussion	EDI
2:30pm – 3:00pm	Break	
3:00pm — 4:30pm	Marine Environment Studies and Protection Measures • Presentation and discussion	Golder
4:30pm — 5:00pm	Preparation for Site Tour	Baffinland
5:00pm — 6:00pm	Supper (provided)	

Page 3 of 5

Day 2 – Tuesday, January 15th

7:00am – 8:00am	Breakfast (provided)	
9:00am – 12:00pm	Mary River Project Site Tour	All
12:00pm — 1:00pm	Lunch (provided)	
1:00pm – 5:00pm	Mary River Project Site Tour	All
5:00pm — 6:00pm	Supper (provided)	

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Day 3 – Wednesday, January 16th

7:00am – 8:00am	Breakfast (provided)	
8:30am – 9:00am	Welcome and Review	ERM
9:00am – 10:00am	Group Work – Knowledge of the Land • Discussion and mapping	All
10:00am – 10:30am	Break	
10:30am – 12:00am	Group Work – Knowledge of the Land (continued) • Discussion and mapping	All
12:00pm — 1:00pm	Lunch (provided)	
1:00pm — 1:30pm	Assessing Project Risks • Presentation and discussion	EDI
1:30pm — 2:30pm	Group Work – Managing Risks on the Land • Brainstorming and risk assessment	All
2:30pm – 3:00pm	Break	
3:00pm – 3:30pm	Group Work – Managing Risks on the Land (continued) • Brainstorming and risk assessment	All
3:30pm – 4:30pm	What We Heard • Group summary	ERM
5:00pm — 6:00pm	Supper (provided)	

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Day 4 – Thursday, January 17th

7:00am – 8:00am	Breakfast (provided)	
8:30am – 9:00am	Welcome and Review	ERM
9:00am – 10:00am	Group Work – Phase 2 Risks to the Terrestrial Environment Brainstorming and risk assessment	All
10:00am – 10:30am	Break	
10:30am — 12:00pm	Group Work – Phase 2 Risks to the Terrestrial Environment (continued) • Brainstorming and risk assessment	All
12:00pm — 1:00pm	Lunch (provided)	
1:00pm — 2:30pm	Group Work – Phase 2 Risks to the Marine Environment Brainstorming and risk assessment	All
2:30pm – 3:00pm	Break	
3:00pm – 4:00pm	Measures to Avoid Impacts and Manage Risks • Group discussion	All
4:00pm — 5:00pm	What We Heard • Group summary and consensus	ERM
5:00pm — 6:00pm	Supper (provided)	



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AGENDA - COMMUNITY RISK ASSESSMENT WORKSHOP (WORKSHOP #2)



Baffinland's Phase 2 Proposal February 12-14, 2019

Workshop Objectives

Trois-Rivières, Quebec

- Confirm the results of Workshop #1
- Become familiar with the operation of a railway
- Continue sharing IQ and scientific information for the Phase 2 Proposal
- Understand community perspectives on potential impacts and risks to the environment
- Identify and understand protection measures for the Phase 2 Proposal

Page 2 of 4

Day 1 – Tuesday, February 12th

7:00am – 8:00am	Breakfast (provided)	
8:30am – 9:00am	Workshop Purpose, Objectives and Agenda	ERM
9:00am – 9:30am	Introductions	All
9:30am – 10:00am	Summary of Workshop #1 Purpose and Results • Presentation and discussion	ERM
10:00am – 10:30am	Break	
10:30am — 12:00pm	Revisiting Workshop #1 Risk Assessment Group discussion	All
12:00pm — 1:00pm	Lunch (provided)	
1:00pm — 1:45pm	Protection Measures for the Terrestrial Environment • Presentation and discussion	EDI
1:45pm – 2:30pm	Protection Measures for the Marine Environment • Presentation and discussion	Golder
2:30pm – 3:00pm	Break	
3:00pm – 4:00pm	Measures to Avoid Impacts and Manage Risks • Group discussion	All
4:00pm – 4:30pm	What We Heard on Day 1 • Group summary	ERM
4:30pm — 5:00pm	Preparation for Railway Tour	Baffinland
5:00pm — 6:00pm	Supper (provided)	

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Day 2 – Wednesday, February 13th

7:00am – 8:00am	Breakfast (provided)	
8:00am – 3:00pm	Quebec Gatineau Railway Tour	All
3:00pm – 4:00pm	Reflections on the Railway Tour • Group discussion	All
4:00pm – 4:30pm	What We Heard on Day 2 • Presentation and discussion	ERM
5:00pm — 6:00pm	Supper (provided)	

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Day 3 – Thursday, February 14th

7:00am – 8:00am	Breakfast (provided)	
8:30am – 9:00am	Welcome and Review of Agenda	ERM
9:00am – 10:00am	Measures to Avoid Impacts and Manage Risks (continued from Day 1)	All
	Group discussion	All
10:00am – 10:30am	Break	
10:30am – 11:15am	Monitoring the Terrestrial Environment • Presentation and discussion	EDI
11:15am – 12:00pm	Monitoring the Marine Environment • Presentation and discussion	Golder
12:00pm — 1:00pm	Lunch (provided)	
1:00pm – 2:30pm	Monitoring for the Phase 2 Proposal Brainstorming and group discussion	All
2:30pm – 3:00pm	Break	
3:00pm – 4:30pm	Workshop Conclusions and Next Steps • Group consensus	ERM
5:00pm — 6:00pm	Supper (provided)	



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7:00am – 8:00am	ᠵ᠙ᢩ᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘᠘	
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10:00am – 10:30am	△ [֍] Ե∿Լ⊂⊳Ե ^լ ⊐∩ ^₅	
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11:15am — 12:00pm	₽₽₽₹<<<<<<<<><<<<><<<<><<<<><<<<><<<<>	Golder
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5:00pm – 6:00pm	ᢄᠳ᠘ᡀ᠘᠘᠙᠘᠘᠘᠘᠘	



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AGENDA - COMMUNITY RISK ASSESSMENT WORKSHOP (WORKSHOP #3)



Baffinland's Phase 2 Proposal May 7-9, 2019

Mary River Project Site

Workshop Objectives

- Confirm the results of Workshop #2
- Address remaining requests from participants, including requests for additional information
- Continue sharing of IQ and scientific information for the Phase 2 Proposal
- Continue exploration of community perspectives on potential impacts and risks to the environment, including mitigation and monitoring
- Come to consensus on conclusion statements from the workshop series

Page 2 of 4

Day 1 – Tuesday, May 7th

7:00am – 8:00am	Breakfast	
8:30am – 9:00am	Workshop Purpose, Objectives and Agenda	ERM
9:00am – 9:30am	Introductions	All
9:30am – 10:15am	Summary of Workshop #2 Results • Presentation and discussion	ERM
10:15am – 10:30am	Break	
10:30am – 12:00pm	Community Benefits, Socioeconomic Impacts • Presentation and discussion	Baffinland
12:00pm — 1:00pm	Lunch	
1:00pm – 2:30pm	Review of Protection Measures for the Terrestrial Environment Group discussion	All
2:30pm – 2:45pm	Break	
2:45pm – 4:15pm	Review of Risk Analysis for the Terrestrial Environment Group discussion	All
4:15pm – 4:30pm	What We Heard on Day 1 Group summary	ERM
5:00pm — 7:00pm	Supper	

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Day 2 – Wednesday, May 8th

7:00am – 8:00am	Breakfast	
8:30am – 9:00am	Welcome and Review of Agenda	ERM
9:00am – 10:15am	Review of Protection Measures for the Marine Environment Group discussion	All
10:15am – 10:30am	Break	
10:30am – 12:00pm	Review of Risk Analysis for the Marine Environment Group discussion	All
12:00pm — 1:00pm	Lunch	
1:00pm — 2:30pm	Shoulder Season Ice Breaking • Presentation and discussion	Baffinland and Golder
2:30pm – 2:45pm	Break	
2:45pm — 4:30pm	Risk Analysis for Shoulder Season Ice Breaking • Group discussion	All
5:00pm — 6:00pm	Supper	

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Day 3 - Thursday, May 9th

7:00am – 8:00am	Breakfast	
8:30am – 9:00am	Welcome and Review of Agenda	ERM
9:00am – 10:15am	Concluding Statements on Risks for Terrestrial Environment • Group consensus	All
10:15am – 10:30am	Break	
10:30am – 12:00pm	Concluding Statements on Risks for Marine Environment Group consensus	All
12:00pm — 1:00pm	Lunch	
1:00pm – 2:30pm	Closure Planning • Presentation and discussion	Baffinland
2:30pm – 2:45pm	Break	
2:45pm — 3:00pm	What We Heard on Day 3 • Group summary	ERM
3:00pm – 3:30pm	Workshop Conclusions and Next Steps • Presentation and discussion	ERM
3:30pm – 4:30pm	Workshop Evaluation and Closing Remarks	All
5:00pm — 6:00pm	Supper	



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7:00am – 8:00am	⊳-ç5₁८८,┹ _₽	
8:30am – 9:00am	ጋ [‱] ႱሎႶናႶႫჼ ᡏ᠘᠘᠆ᡅᡏᡟᡕ᠂᠙ᡏᡃᡗᢓᡏ᠑᠘ᡥ	ERM
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10:30am – 12:00pm	℉ℾ⅌ℤℲℶՈ℄⅄⅀ℽ⅄ℯK℮℄ℶⅅ℄ ● ℎℂ℀ℴ⅂ℍ⅀⅌℮ℴℾℸℿ	CLfLp
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5:00pm – 6:00pm	⊳°¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬	

Community Risk Assessment Workshop Agenda

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7:00am – 8:00am	⊳-ċ₽┖C°a°	
8:30am – 9:00am	⊃ [™] レ⅄ʰՈ·⋂σ·ჼ ◁ᡃL ለᠵ᠒ᡏᡃ\᠋ᢉ᠂ᡃ᠙ᡏᡃ᠌ᠻ᠌ᢦᡝ᠍᠌᠌ᠫᠬ	ERM
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AGENDA - COMMUNITY RISK ASSESSMENT, RESULTS VERIFICATION WORKSHOP



Baffinland's Phase 2 Proposal September 4, 2019 Iqaluit, NU

Workshop Objectives

- Review the objectives and process for the Community Risk Assessment Workshops
- Share workshop evaluation results
- Verify the results and summary of key findings from the workshops as presented in the Draft Report
- Discuss next steps

Community Risk Assessment Workshop Agenda

Page 2 of 2

Day 1 – Wednesday, September 4th

7:00am – 8:00am	Breakfast	
8:30am – 9:00am	Opening Prayer, Introductions, Objectives and Agenda	ERM
9:00am – 10:00am	Evaluation Results and Feedback on Workshop Process Visual group discussion	All
10:00am – 10:15am	Break	
10:15am – 11:00am	Review of the Consensus Statements • "Dot voting" group activity and discussion	All
11:00am – 12:00pm	Risks and Protection Measures – Terrestrial Environment Group discussion	All
12:00pm — 1:00pm	Lunch	
1:00pm – 2:00pm	Risks and Protection Measures – Marine Environment Group discussion	All
2:00pm — 3:00pm	Key Themes for Mitigation and Monitoring • "2-3-all" group activity	All
3:00pm – 3:15pm	Break	
3:15pm – 4:00pm	Important Workshop Outcomes • "Build-a-web" group activity	All
4:00pm – 4:15pm	Closing Comments	All
4:15pm – 5:00pm	Next Steps and Workshop Close	Baffinland
5:00pm — 7:00pm	Supper	



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APPENDIX C PARTICIPANT CONSENT FORM

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PARTICIPANT CONSENT FORM

Baffinland's Phase 2 Proposal



What	Community Risk Assessment Workshop #3
Were	Mary River Project Site
When	May 7-9, 2019

Baffinland Iron Mines Corporation ("Baffinland") is hosting a series of three workshops, beginning in January 2019, to continue to share information on the Phase 2 proposal. The workshops will share information about the proposed North Rail and marine shipping in Eclipse Sound. The workshops will engage participants in discussion about the potential risks and impacts of the Phase 2 proposal, and ways to avoid, mitigate and manage risks to protect the environment. Baffinland would like to hear from land users regarding their knowledge and experiences, and get their input on the Phase 2 Proposal. These workshops are important to understand community perspectives and Inuit Qaujimajatuqangit (IQ).

You are being asked to participate in these workshops to share your knowledge, experience and information on land use. The workshops will include an open discussion of information shared by Baffinland and all workshop participants. If you agree to participate, the information that you provide will be used to develop a report that will be submitted to the Nunavut Impact Review Board (NIRB) as part of the review for the Phase 2 proposal. The report will be available to the public.

	Do you consent to the use of the information that you provide in the environmental review of the Phase 2 Proposal?	Yes	□No
	Do you consent to the use of your name as a reference for this information in our reporting? If you do not consent, information you provide will be anonymous.	∐Yes	□No
	Do you consent to the use of photos from this workshop in our reporting?	Yes	□No
	Would you like a written summary of the results of the workshop to be provided for your reference and review?	Yes	□No
Othe	er comments/requests regarding the use of this information:		

ERM	Community Risk Assessment Workshop Particticipant Consent Form
	Page 2 of 2

I have been fully informed of the objectives of the study being conducted. I understand these

STATEMENT OF INFORMANT RIGHTS

objectives and consent to participating in the workshop as described. I understand that steps will be undertaken to ensure that the information I provide will remain confidential unless I consent to being identified. I also understand that, if I wish to withdraw from the study, I may do so at any time without repercussions

Participant Name

Signature

Date

Lead Researcher Name

Signature

Date

CONTACT DETAILS

For questions regarding this study, please contact ERM:

Contact: Kent Gustavson

Email: <u>kent.gustavson@erm.com</u>

Phone: (604) 689-9460

Address: ERM

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Victoria, BC V8W 0B6

For Baffinland, please contact:

Contact: Krista Johnson

Email: krista.johnson@baffinland.ca
Phone: (416) 364-8820, ext. 5103
Address: Baffinland Iron Mines Corporation

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ᢐᠲᠺ᠘ᠵ᠈ᠳᢗ $\underline{krista.johnson@baffinland.ca}$ ₽Ġ∟⊳∩°U: (416) 364-8820, ext. 5103

⊃Ġ₽∩°U: Baffinland Iron Mines Corporation

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APPENDIX D WORKSHOP EVALUATION RESULTS

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Appendix D: Workshop Evaluation Results

At the end of each workshop, participants were asked to complete an evaluation form. This evaluation asked participants regarding the extent to which they agreed or disagreed to a number of statements about the workshop, and asked other direct and open-ended questions. The results of the evaluations for each workshop are provided below.

1. WORKSHOP #1

For Workshop #1, participants were asked to indicate the extent to which they agree or disagree with the following statements:

- 1. After this workshop, I feel I understand what Baffinland is proposing for Phase 2.
- 2. After this workshop, I feel I understand how the Phase 2 project could impact the marine and terrestrial environment.
- 3. After this workshop, I feel I understand what Baffinland is proposing to minimize impacts to the marine and terrestrial environment.
- 4. After this workshop, I feel I understand how Baffinland is going to monitor potential impacts of the Project on the marine and terrestrial environment.
- 5. After this workshop, I feel I know how I can continue to be involved in providing information to Baffinland in the future to improve their environmental management practices.
- 6. After visiting the Mine Site, I feel I better understand the Project.
- 7. I was able to share information and make my views known during the workshop.
- 8. IQ was discussed and considered during the workshop.

Responses are summarized in Table D.1-1.

Participants were also asked what parts of the workshop they found most useful. Answers provided are shown in Table D.1-2.

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Baffinland Iron Mines Corporation

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Table D.1-1: Workshop #1 Evaluation Responses

∩∩%b% D.1-1: b∩Lσ% #1 **%Γ**′?σ′,**J**′ **P⊳**′,**d⊂⊳**,**d**′

Question Number	Number of Responses °Ь トゥー・トゥート・トゥート・トゥート・トゥート・トゥート・トゥート・トゥート・</th <th>Median Response</th>						Median Response
∉∤⊳∪ _~ Γ ⊲∨"٩⊂⊳<	Disagree ◄૧٣-٢٠٢٠	Somewhat Disagree Ac*UJ* 4*C**C*D**	Unsure っぱっ	Somewhat Agree Δc∿UJ ^c ⊲°Ր°⊃°	Agree ⊲°Ր∜⊃"	Did Not Answer P⊳∿Ր⊂⊃∿	⊌⊳,⊀Ųċ ¿U54⊲⇔c⊃c
1					7		Agree ⊲∿Ր∿⊃∿
2		1		2	4		Agree ⊲∿Ր∿⊃∿
3				3	4		Agree ⊲∿Ր∿⊃∿
4			1	1	4	1	Agree ⊲∿Ր∿⊃∿
5				3	4		Agree ⊲∿Ր∿⊃∿
6				1	6		Agree ⊲∿Ր∿⊃∿
7				1	6		Agree ⊲∿Ր∿⊃∿
8					7		Agree ⊲∿Ր∿⊃∿

Table D.1-2: Workshop #1 Evaluation – Parts Participants Found Most Useful

ՈՈ%ե% D.1-2: ԵՈLσ% #1 ℉Ր?σ% – Δ∟ペՐ^c ԵՈLՆԵϘ⊀ഛ^c ◁ϽՈՆԵሲՆ≻≺^c

Workshop Component Ს∩L∩°∩σ⊳< ᠘ᡄ∿Ს	Number of Responses もベアシーででいる。
Presentations Cdʕʰåʰ⋂ˤ⋂ở⁻°	2
Group Discussions bパヒ<೨パト ▷Ⴊ゚ー೨Ⴠ゚\゚ö゚	4
Mapping ೨೭ ^ಇ ರ√೧೯	4
Site Visit⊳ታና⁵⊂ሲ⊲'୮⁵ Cժታኈጋ∆σኈ	5

In response to the question on how you feel about the Phase 2 Proposal (Table D.1-3), participants indicated that they were supportive (three responses), unsure (one response), and undecided (two responses; one individual responded both supportive and undecided). Two participants did not provide a response to this question. No one provided a reason for their response.

Participants were also asked if there is any additional information they would like Baffinland to provide, or if there is anything else they would like to share (comments, concerns, etc.). No responses were provided to these questions.

$$\begin{split} & \text{b} \cap \text{L} \text{b} \subset \text{Pt} < \text{A} \wedge \text{c} \text{p} \subset \text{Pt} < \text{Pt} > \text{Pt} > \text{Pt} > \text{Pt} < \text{$$

Table D.1-3: Workshop #1 Evaluation – Feelings about the Phase 2 Proposal NO®6® D.1-3: bOLσ® #1 ℉℉ெ – Δ⁵ለЈℰልՐን▷σ℃し ∧⊂ん◁® 2 ⊃⁵ሪና▷⊂▷ጚ⅃°

Response P⊳'⊀∩	Number of Responses
Supportive ∆bर⁵⊃∆र ^c	3
Unsure _{のこく} c	1
Unsupportive Δbイ֍ϽΔ֍ՐϲϽϲ	0
Undecided Δ/L¬>°C°	2
No Response P▷'⊀೧್७°Ր°⊃°	2

2. WORKSHOP #2

For Workshop #2, participants were asked to indicate the extent to which they agree or disagree with the following statements:

- 1. After this workshop, I feel I understand what Baffinland is proposing for Phase 2.
- 2. After this workshop, I feel I understand how the Phase 2 project could impact the marine and terrestrial environment.
- 3. After this workshop, I feel I understand what Baffinland is proposing to minimize impacts to the marine and terrestrial environment.
- 4. After this workshop, I feel I understand how Baffinland is going to monitor potential impacts of the Project on the marine and terrestrial environment.
- 5. After this workshop, I feel I know how I can continue to be involved in providing information to Baffinland in the future to improve their environmental management practices.
- 6. After the railway tour, I feel I better understand the Project.
- 7. I was able to share information and make my views known during the workshop.
- 8. IQ was discussed and considered during the workshop.

Responses are summarized in Table D.2-1.

Participants were also asked what parts of the workshop they found most useful (Table D.2-2). One participant added the comment that they mostly found the site visit (railway tour) most useful, and that they did not realize that they could operate in the winter. Another participant added the comment that they found the sharing of knowledge most useful.

2. **b∩L**σ⁵ #2

$$\label{eq:bolton} \begin{split} \mathsf{b} \cap \mathsf{L} \sigma^* \ \#2 - \mathsf{J}^c, \ \mathsf{b} \cap \mathsf{L}^\mathsf{t} \mathsf{b} \subset \mathsf{D} \mathsf{t}^c \ \mathsf{d} - \mathsf{d} \Delta^* \mathsf{t}' \mathsf{d} \mathsf{t} \mathsf{D} \subset \mathsf{D}^\mathsf{t} - \mathsf{d} - \mathsf{d} + \mathsf{d}$$

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- 4. $b \cap L \sigma \dot{b} \sigma^b \cap ' \Box \cap '$, $\Box \cap V \cup b \Delta^b \dot{c} \delta^c \dot{c} \delta^c$ $b \cap b \wedge \Delta \sigma \mathcal{A}^b \cup C \wedge \sigma \mathcal{A}^c \wedge \mathcal{A}^c \wedge \mathcal{A}^b \wedge \Delta^b \wedge \Delta^b \mathcal{A}^b \wedge \Delta^b \wedge \Delta^b$

- 8. Ե∩Lσზჼ∩-೨C ΔΔΔ° ℅ΡλL♭ϽϐʹՐ° ▷℅Ρィ▷ᢏ▷%Ͻ° ◁┖೨ Δ/LՐ♭▷<೨೧°.

 $PD^{3}CDC$ $\Delta\Delta\Delta^{6}CLC$ $\Omega\Omega^{6}D.2-1.$

$$\label{eq:bolder} \begin{split} & b \cap L^{t} C \cap Y^{c} \ \, d \wedge L^{t} P \cap P^{c} \ \, d \wedge P^{t} \wedge P^{c} \wedge P^{t} \wedge$$

Table D.2-1: Workshop #2 Evaluation Responses

∩∩%b% D.2-1: b∩Lσ% #2 ℉Γ℉σ⁴⅃Ր ₽▷⁺⊀ℂ▷⊀Ր

Question Number ⊲∧ [⊕] dCÞ ^{<} ℄Կ⊳∩ [∾] ե	Number of Responses ⁰b<'≀⊳σ∿Ր゚ የ⊳ጚ゚						Median Response
	Disagree ◄૧°°°۲°⊃°	Somewhat Disagree Δϲ∿ႱͿϲ ⋖∿Ր⊶ՐϲϽ·ϧ	Unsure ^ゆ	Somewhat Agree Δϲ∿ႱͿϲ ⊲℉⊃֍	Agree ⊲∿Ր∜⊃%	Did Not Answer P⊳∿Ր⁻⊃֍	,6U54⊲≎,⊃,6⊳,4Ų,
1		2	1	4	1	1	Somewhat Agree △୯୯১′ ◁∿Ր∜⊃∜
2		0.5	1	4.5	3		Somewhat Agree △୯୯৮ ◁∿ՐԳ⊃Գ
3			1	5	3		Somewhat Agree △୯୯৮ ◁∿ՐԳ⊃℉
4			1	3	5		Agree ⊲°Ր%⊃%
5		0.5	1	1	6.5		Agree ⊲°Ր%⊃%
6		2		2	5		Agree ⊲°Ր%⊃%
7				3	6		Agree ⊲°Ր%⊃%
8	1		1	4	3		Somewhat Agree △୯୯୯ ◁∿ՐԳ⊃Գ

Table D.2-2: Workshop #2 Evaluation – Parts Participants Found Most Useful ∩∩%b% D.2-2: b∩Lσ% #2 ℉Ր℉σՙ⅃՟ – Δ℄∿Ր՟ b∩L℅ℂ▷⊀ℴ՟ ◁់⊃೧℅℄℄ℷℎ▷⊀՟

Workshop Component Ե∩L∩ ^c ∩σ⊳< Δϲ [∿] Ⴑ	Number of Responses ⁰b <r'⊳σ°ր° th="" ₽⊳⊀°<=""></r'⊳σ°ր°>
Presentations CdϚ·ὰ- ^s -∩ ^c ∩Ժ- ^c	3
Group Discussions bパヒ<ᠴパ▷Ⴊ゚ーユჀ゚ペテċ	4
Mapping ൧൨ [๛] ป഻഻഻഻഻഻഻഻഻഻഻഻	4
Site Visit Þታናኑርሲ⊲'Γኑ ርժታችጋ∆ታች	4

In response to the question on how you feel about the Phase 2 Proposal, participants indicated that they were supportive or unsure (Table D.2-3). Two participants did not provide a response to this question.

One participant who is in support of Phase 2 stated that it was because Inuit would benefit as intended under the Nunavut Agreement. One participant who is unsure stated that they would like to know the response of the affected communities, but that as for economic purposes of the Proposal they were in support. Another participant who is unsure about the Proposal stated that it was because it is not acceptable to Pond Inlet harvesters.

Participants also noted the following:

- "More opportunities to give my thoughts and input."
- "More IQ from elders, as very little was exposed."
- "Need a workshop with the Pond Inlet HTO and elders to collect IQ knowledge."
- "Share economic information on investors/ partners, income, and expenses."

- "△ᢧ᠘ና 锡▷ት᠘ᢣϽቴነግዮተው Δቴዉሲታ▷ላσና ለነቴትσናጔበነ, Γዮላ፡ևሲጓՐቴ ∖ቴዮና∩∟▷ኒር."
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Table D.2-3: Workshop #2 Evaluation – Feelings about the Phase 2 Proposal በ∩ኈեኈ D.2-3: Ե∩Lσኈ #2 ℉ՐዮႫና⅃⁻ – Δ▹∧⅃ለኴልዮን▷σኄႱ ለሮሴ⊲ኈ 2 ጋዮረና▷⊂▷ጚ⅃՟

Response P≻'⊀∩	Number of Responses ゚b゚イとσ゚೧゚゚ PD オ゚
Supportive ∆b√°5∆∆√°	4
Unsure aut ^c	3
Unsupportive ∆b⊀%⊃∆°C°⊃°	0
Undecided ∆/L⊂▷°Ր°⊃°	0
No Response	2

3. WORKSHOP #3

For Workshop #3, participants were asked to indicate the extent to which they agree or disagree with the following statements:

- 1. After this workshop, I feel I understand what Baffinland is proposing for Phase 2.
- 2. After this workshop, I feel I understand how the Phase 2 project could impact the marine and terrestrial environment.
- 3. After this workshop, I feel I understand what Baffinland is proposing to minimize impacts to the marine and terrestrial environment.
- 4. After this workshop, I feel I understand how Baffinland is going to monitor potential impacts of the Project on the marine and terrestrial environment.
- 5. After this workshop, I feel I know how I can continue to be involved in providing information to Baffinland in the future to improve their environmental management practices.
- I was able to share information and make my views known during the workshop.
- 7. IQ was discussed and considered during the workshop.

Responses are summarized in Table D.3-1.

Participants were also asked what parts of the workshop they found most useful. Answers provided are shown in Table D.3-2.

In response to the question on how you feel about the Phase 2 Proposal, most participants indicated that they were supportive or undecided (Table D.3-3). In the responses, one individual indicated that they were both supportive and unsupportive (both included in tally as 0.5 response under each), and one individual did not record an answer to this question.

One individual that is supportive of the Phase 2 Proposal stated that it is because of the job opportunities, while another stated that they want mining to continue. The individual that feels unsure about the Phase 2 Proposal stated that it is because only the northern portion of the Project was discussed, but that it also includes Steensby Inlet.

3. **b∩L**σ⁵ #3

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- 3. bnlf\u00e4\u00f6-\u00e4r\u00e4\u00e4r\u00

- 5. Ե∩Lσቴჼ∩-೨C ΔΔΔ° ቴΡλͰͰϽቴʹՐ° ▷ቴΡイ▷⊂▷ჼϽ° ◁¹Ĺ೨ Δረ۲/Ի▷<೨೧°.

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Table D.3-1: Workshop #3 Evaluation Responses

∩∩%b% D.3-1: b∩Lσ% #3 %PГ%pσ'J° PÞ'⊀CÞ≺°

Question Number ⊲∧ [⊕] d⊂⊳< ՃԿ⊳∩ [∾] ե	Number of Responses °b<′≀⊳σ∿Ր° የ⊳⊀°						Median Response
	Disagree ◄∿Ր~Ր⁻⊃%	Somewhat Disagree Δ L L C T C T C T C T C T C T C T C T C T	Unsure ئادە	Somewhat Agree Δ	Agree ⊲∿Ր∜⊃∜	Did Not Answer P⊳∿Ր⁻⊃֍	.ἐ∪১⊀⊲ ♀ c⊃c b⊳,⊀Ųc
1	1	2		1	7		Agree ⊲∿Ր∜⊃%
2		1		7	3		Somewhat Agree △୯୯୦୯ ଐ୮୭୭୭
3				6	5		Somewhat Agree △୯୯୦୯ ସଂՐԳ⊃Գ
4		3		5	3		Somewhat Agree △୯୳୰ ଐ୮Գ⊃Գ
5		2		2	7		Agree ⊲∿Ր∿⊃∿
6	1	1	1	2	6		Agree ⊲∿Ր∿⊃∿
7			1	4	6		Agree ⊲∿Ր∿⊃∿

Table D.3-2: Workshop #3 Evaluation – Parts Participants Found Most Useful

∩∩[®]ե[®] D.3-2: Ե∩Lσ[®] #3 ℉Γʹ₽σ[®] – Δϲ[®]Γ[°] Ե∩L[®]Ե⊂⊳⊀^Δ[°] ⊲Ͻ∩[®]Եἰռ⊁⊳⊀[°]

Workshop Component ᲮᲘL∩°∩σ⊳ベムこし	Number of Responses 'b< / /ኦታ የር
Presentations CdS÷à. [™] ∩°∩∂-°	4
Group Discussions ᲮᲘᲖᲡ<ᲙᲘᲖ ᲓᲖ-এ৻ᲡᲖᲬ੶	6
Mapping ൧൨഼୰⊲⊂൨൳ ^ൟ	6
Site Visit ⊳ሃና⁵⊂ሊ⊲ፕ⁵ Cժሃኈጋ∆Ժኈ	3
Other ⊲r∿ს	1 (Inuit perspective) (ΔΔΔ ^c ⊂⊳⊃ს℉ ^c)
No Response ೪೪-೧೯⊃೯	1

Table D.3-3: Workshop #3 Evaluation – Feelings about the Phase 2 Proposal

ՈՈ⁰Ե⁰ D.3-3: Ե∩Lσ⁰ #3 ℉Γ℉σ՞ – Δ⁰ΛJሥልቦን▷σ℃ ለ⊂ሒ⊲՞ 2 Ͻ⁰ረና⊳⊂⊳ጚ⅃^ℂ

Response P⊳'⊀∩	Number of Responses ゚b゚イントー でいている。
Supportive ∆6⊀%⊃∆⊀ ^c	5.5
Unsure a_ot ^c	1
Unsupportive ∆bर%⊃∆%Ր⊂⊃⊂	1
Undecided ∆≀L⊂⊳°Ր°⊃°	2.5
No Response P▷⁺イ೧℉শՐ⊂⊃ ^c	1

In response to the question "Is there any additional information you would like Baffinland to provide?", participants noted the following:

- "What has been discovered regarding Project impacts?"
- "I think you are going too fast."

In response to the question "Is there anything else you would like to share (comments, concerns, etc.)?", participants noted the following:

- "Too many to say or write."
- "The expansion proposal shouldn't be that big."

 $\begin{array}{l} \text{PD'tCDt'} & \text{AA'hho'} \\ \text{DotLAh'c?", } & \text{ACD'hCDt'} \\ \text{DotLAh'c?", } & \text{ACD'hCDt'} \\ \end{array}$

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- "⊃₫₽₽₽₽₽₽"

 $\begin{array}{l} \mathsf{P} \mathsf{D}^{\flat} \mathsf{d} \mathsf{\Pi}^{\varsigma} = \mathsf{D} \mathsf{d}^{\flat} \mathsf{d} \mathsf{\Pi}^{\varsigma} \mathsf{d}^{\varsigma} \mathsf{d}^{\varsigma}$

- "▷ኄ▷ሥላ∆ና ∩∩ናሲ◁፦՝⇒゚ᡠ゚◁Г┦⊃◁៕⊀ҁ."

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Project No. | ∧⊂∿⊲⁵ J° &\⊳∩.: 0489284-0004

Baffinland Iron Mines Corporation

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ERM has over 160 offices across the following countries and territories worldwide

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France	≫Ġ ^ℴ ʹ	Romania	₽Γσγ
Germany	ίLσ	Russia	2⊲5
Hong Kong	Hợở pỏ	Singapore	√°√√><
India	Δ $^{\circ}$ \cap $^{\flat}$	South Africa	ord d≫rb
Indonesia	Δ $^{\circ}$ \supset $\overset{\circ}{\sigma}$ $^{\circ}$	South Korea	ԺՐ⊲ ժ <u></u> Ն
Ireland		Spain	۲ <u>۸</u> ۰
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Kazakhstan	Ρ٩٠٩Ċ٠	Taiwan	$C\nabla P \triangleleft_{\sigma}$
Kenya	۲⊲۰۶	Thailand	⊂∆ذ⁴
Malaysia	L는5	UAE	UAE
Mexico	Lb⊲ ₂ \9	UK	$C \land P < \triangleleft P \triangleleft$
Mozambique	ٵٚڔڹؗ؋	US	
Myanmar	L∆♭°Ĺ°	Vietnam	\$

ERM's Vancouver Office ERM's ⋖৾৽ძ⋖Г° ∩∩ናʿል∿Ს°

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Baffinland IQ/Risk Workshop January 14-17, 2019

Day #1: January 14, 2019

Group Introductions

- Levi Barnabas (QIA)
 - O Why are you interested in the workshop?
 - Interested in the progress of BIM RE: the Phase 2 project. Wants to understand what Ph. 2 really means, as well as to understand what exactly is happening.
 - Important issue(s):
 - Dust control.
 - Understands that BIM needs to expand in order to increase revenues; however, this must be done in the most sustainable manner possible.
- Kigutitarjuk Shappa (Elder, Arctic Bay)
 - O Why are you interested in the workshop?
 - Has a keen interest in learning about the project so that she can educate people in her community about the project. Feels as though community members are not making any effort in educating themselves/learning about the project. Wants to distribute her knowledge.
 - Important issue(s):
 - Distribution of knowledge.
- Daniel Arvalag (HTO, Hall Beach)
 - O Why are you interested in the workshop?
 - Wants to learn more about dust and how it is created by the Mary River project.
 - Wants to learn about dust mitigation measures (dust control). Steep areas on
 - Important issue(s):
 - Dust control brother says that there is a lot of dust created by operations.
 - Steep areas on tote road leading to a lot of dust. Feels as though that the material on the roads is too fine. Should use pebbles.
- Sakiasie Qaunaq (HTO, Arctic Bay)
 - O Why are you interested in the workshop?
 - Want to learn about the dangers of mining.
 - When working at a mine the issue of noise pollution was main concern. Didn't have PPE to protect hearing. Lost hearing due to this.
 - o Important issue(s):
 - Noise pollution.
 - Need levelling of road. If roads are not level, then this can lead to accidents.
- Timothy Kupaaq, (HTO, Hall Beach)
 - O Why are you interested in the workshop?
 - Have NU land claims settlements and BIM has been very active in this area.
 - No longer can live off of hunting, so need jobs to sustain life now and well into the future (wants to learn about job opportunities).
- Joshua Kango (HTO, Arctic Bay)
 - O Why are you interested in the workshop?

- Sustainable future future for children (jobs at the mine). Want to learn about what opportunities are available so that can help youth become full-time employees.
- o Important issue(s):
 - Wildlife and violence
 - Believe wildlife won't be able to sustain communities year round.
 - Need to take a lot of measures to mitigate for project effects.
 - Employment distribution of knowledge RE: employment opportunities.
- Lucy Palituq (HTO, Clyde River)
 - O Why are you interested in the workshop?
 - Training and education that is available important that Inuit participate so that they can optimize on employment opportunities.
 - o Important issue(s):
 - Employment opportunities.
- Joe (BIM): Talked about main issue brought up by communities. Also expressed he is here to learn more about the project. Talked about conflict in knowledge. Need to mesh IQ and western science together, and create a cohesive approach. Inuit and westernized communities need to collaborate more to create effective measures and tackle common issues.
 - Shipping through NWP have increased and this is an issue.

Why Igloolik and Pond Inlet not here?

- Megan and Joe to go back to Pond. Pond to create a committee RE: Phase 2. Identified why Pond is not here.
- Was a very short notice RE: workshop invites.

Joanna, Cultural Advisor (BIM).

• works with employees if they are to be disciplined by supervisor, if they are having issue, etc.

Mike Setterington, Wildlife biologist (EDI)

- Why are you interested in the workshop
 - o Interested in continuing to learn about the project. Something we haven't done in past workshops is thinking about the future a lot of time is spent on talking about past and what is currently happening with wildlife. Now want to try to understand what we can do in the future to address wildlife issues. Here to listen to what major concerns are of the future, and what we can collectively do about identified issues.

Baffinland Presentation, Presenter: Megan Lord-Hoyle

- Presentation focused on the difference between current operations and those proposed with Phase 2.
- Question with RE: to the 4M tonnes, would that tonnage come from the same pit (i.e. Pit #1)?
 Would you have to build another loading dock?
 - Deposit # 1 has 400M tonnes. If ph.2 is approved, we'd still be mining from deposit #1.
 And when Steensby comes online, will still be mining from deposit #1. In order for Steensby to come online, need railway and other infrastructure. No new pits introduced.
- 70% increase in Inuit employment numbers since 2017.
- Question (Joshua): Unilingual do not understand percentages. Please explain without using percentages.
 - Levi answered question referred to IIBA and percentages RE: Inuit employment, with priority from the 5 N. Baffin communities. Joe explained the increase in employees from 2017 to 2018 (an increase). Percentages do not mean anything in Inuktitut – it cannot be translated.
- Joshua Kango, Question: came here to grasp better understanding of the project. What is the price of iron ore now? **Megan to find chart outlining the iron ore price variance**.
- Daniel Arvalag, Question/comment: Dust. What precautions is BIM taking RE: dust suppression?
 - Are there any vacuums around the drill to decrease dust pollution? To be answered tomorrow during site tour.
 - Question: making gravel do you need gravel padding all along the railway up to the port? Answer: yes.
 - Question: when the train starts moving, how sturdy is the train? Will it break down a lot due to the constant use of it?
 - A: have team of rail engineers that are looking at the design of th train and rail line, and are taking into consideration the climate, frequency of train use, and case studies RE: other railways in similar climate that currently exist. Locomotive apprenticeship program RE: train maintenance program.
 - o Daniel Arvalag, Comment: Train is better dust wise.
 - Levi Barnabas, Question: have trains been used in cooler weather? Are trains weather tested for these harsh arctic conditions? A: There are a few rails that are operating in arctic conditions that we can learn from. If constructed, this would be the most northerly rail in the world!
 - Joshua Kango, Question/Comment: there is a river. Does the river by the port have fish?
 A: yes, it has fish.
 - Joshua Kango, Question: when would the construction be for the second ore dock?
 Summer? A: Ideally, construction in the summer as it is the easiest time to construct.
 Also need a fisheries authorization on top of NIRB approval to start construction.
- Joshua Kango, Question: how deep will ice be during freeze up in November? A: we have ice study that discusses ice thickness over the past 20-25 years.
- Timothy Kupaaq, Question: Do the ships currently exist? A: the ships have already been built.
- Joshua Kango, Question: During phase 2, Inuit employment is expected to be around 1000. What about the current employees? Are you going to promote the current individuals that are

- working at Mary River? A: It is not an additional 1000 people, it is bringing the workforce (Inuit) to 1000 from the current 350.
- Joshua Kango, Question: When looking at Phase 2, what is the percentage difference of royalties between all governments? How is company making profit after all these payments? A: BIM will be making a profit.
- Joshua Kango, Comment: Inuit should be able to give the presentation that BIM is doing so right now the presentation should be delivered by an Inuit person.

Terrestrial Environment, Presenter: Mike

- Joshua Kango, Comment: word of mouth that caribou always come back, and that they come back every 70 years (according to Inuit).
- Joshua Kango, Comment: Another caribou specialist said once that the caribou in the south don't go up land. Looking for clarification caribou in the south was found up in the north. There is evidence of this.
- Timothy Kupaaq, Comment: no caribou at the moment. During the 80s there were a lot. An elder in Cape Dorset said that the caribou travel up land, and that this movement takes more than one year to happen. Elders therefore determined that there was a cycle and that is would take several years for them to make it to North Baffin.
- Daniel Arvalaq, Comment: questioning the migration map put on display. Referring to migration map. Caribou moved along the shore line the south west portion of map only had caribou around 1990, and then they moved south. Perhaps they moved down to the mainland, and that is why caribou numbers have declined (knowledge from parents).
- Levi Barnabas, Comment: Need to see impacts of other mines on caribou do other mine sites impact caribou? Need to see bigger picture. Did caribou leave previous mine sites and come back over time?
- Saikaisie Qaunaq, Comment: there used to be a lot of caribou along the roads... caribou got so used to traffic that they did not even get spooked.
- Levi Barnabas, Comment: used to go hunting just north of Arctic Bay. Blasting was happening in this area but the caribou were not disturbed by blasting. When not being hunted caribou usually don't run away from activity (i.e. blasting).
- Daniel, Question: there have been caribou deaths of herds recently...what is the life expectancy of caribou?
- Joshua Kango, Comment: elders don't blame mine for deaths of caribou. Rather, the younger generation does.
- Kigutitarjuk Shappa, Comment: Natural predators need to be built into caribou models as wolves, for instance, always hunt calves...
 - Saikaisie Qaunaq, Comment: can't blame wolves on decline of caribou...they did not deplete the caribou...possibly the RCMP ended up killing the wolves with poison to decrease number of wolves because they would travel in packs...shouldn't assume wolves are depleting caribou populations...
- Levi Barnabas, Question: asking about caribou and whether they go through waterways (i.e. creeks), and on bridges. A: yes, they do go through water...
- Joshua Kango, Comment: With RE: to dust, if it rains, the rain will clean the dust, but if dust is on side of the road that is a concern. We need to keep our environment clean and free from pollution. When you have snow, and when it melts, there is a lot of sediment accumulation.
- Timothy Kupaaq, Comment: the dust generated from the mine doesn't seem to be harmful to hamlets. However, when dust falls on snow, and when snow melts, toxins may make its way into bodies of water and/or affect wildlife.
- Daniel Arvalaq, comment: dust should not affect wildlife too much...dust is natural...it shouldn't have an effect.

Day #2: January 15, 2019

Site Tour

Presentation at Port

- Do people use shelters on the side of Tote Road? A: yes, they are available for hunters to use.
- Do you have crossings for people on snowmobiles along the Tote Road? A: yes. These crossings were developed in consultation with HTO.

Marine Environment Presentation, Presenter: Patrick Abgrall

- Joshua Kango, Comment: Narwhal can give birth to calves through the entire year not just during open water season.
- Levi Barnabas, Comment: Request to extend shipping period. Observed ice breakers going through Eclipse Sound.
- Timothy Kupaaq, Question: he asked how the narwhal were in the summer, and whether he observed any changes last summer? The man said that there were very few narwhal when compared to other years... wonders what the cause was to this decline in population. Believed that is was killer whales who impacted the narwhal population.
- Levi Barnabas, Comment: as a hunter he gets confused. Although from the area, we do not know whether the decline in population was due to ship traffic... recently this summer there were bow head whales, which usually do not come into the area. It is difficult to determine the exact cause as to what is affecting the narwhal population. Doesn't think it is shipping that is affecting the population. There were invasive species that came in this past summer as well that may have had impact on the narwhal population (i.e. sperm whales).
- Levi Barnabas, Comment: in Arctic Bay, were told that the bowhead whales were in the Pond area and therefore the narwhal moved toward Arctic Bay. Believes that over the next few years we will be able to determine the exact cause for the change in travel patterns of narwhal.
- Discussion on cruise ships. Who is responsible for ensuring these ships go about their operations (i.e. speed, etc.) in a proper manner? BIM to try to get into touch with cruise companies to get them to talk to N. Baffin Communities so that they can hear what these communities want and companies can create and employ new standards that satisfy community wants.
- Levi Barnabas, Comment: QIA has monitoring program in Lancaster Sound, and took pictures of boats travelling. Ships in Lancaster sound is a concern and ships must go about their operations accordingly. We need to identify ourselves that the 9 knots should be mandatory for all ships in the area.
 - O Q to Lucy Palitug: Do cruise ships come in to talk to community? A: no.
 - Levi Barnabas: Occasionally in Arctic Bay, cruise ships are to provide hamlet with letter announcing presence prior to shipping in.
 - Andrew Moore: BIM willing to reach out to cruise ship companies to increase awareness about hamlet concerns, etc.
- Sakiasie Qaunaq, Question: what are the effects of pile driving on the aquatic environment? Are there specific time periods that will decrease effects of pile driving on the environment? Pile driving in winter would there be less impact?

- Timothy Kupaaq, Comment: drill holes in winter, then when ice melts, wait until fish go
 upstream to fill drill holes with sediment... This will have minimum impact on the aquatic
 environment
- Joshua Kango, Question: Where are whales tagged? A: Tremblay sound.
- Daniel Arvalaq, Comment: fish go up stream to the lakes in august. It is pretty accurate when the fish go upstream and downstream. If you are doing work in September, we are not worried because we know the fish have already gone upstream!!!

Day #3

Morning Discussion

- Joshua Kango, Comment: Nearly impossible to get around the dust issue. Has major concerns about the dust.
- Sakiasie Qaunaq, Comment: With your plans with the railroad, believes BIM will have to level off a lot of areas along the road. Believes there is a lot of work to be done to get railroad in, and to ensure it conforms with the land. It is imperative that the railroad conforms with the land. Will have to level many areas on the land when the railway goes in.
 - A: Design of railroad continuously being updated.
- Timothy Kupaaq, Comment: Is the red dust safe? A: Dust is always monitored.
- Kigutitarjuk Shappa, Comment: Why do you sort the ore by size? To minimize dust? A: various sizes of ore have different uses. Each product is used for different end products dependent on size.
- Levi Barnabas, Comment: some areas where hunters go to are very steep and need to be smoothed out. BIM has done work on hunter trails, but more work needs to be done. BIM should touch base with the HTOs RE: the trails and what should be done to increase their quality.
 - Skidoo trails
 - BIM needs to stop at trail passings? Observed that BIM did not stop at all passings during the site tour (i.e. drive down tote road).
- Daniel Arvalaq, Comment: Best arctic char in the Pond region. Need to protect the fish.

Site Tour #2

- Visited the following locations/discussed the following topics:
 - Weather haven
 - Snow management
 - Waste berms are lined (containment)
 - o Camp Lake fresh water is drawn from this lack for use by camp
 - Do environmental monitoring on its quantity and quality
 - Waste sorting building
 - Site services building site services supports all departments, and has significant Inuit employment.
 - Airport has been updated

- Mary River Warehouse where goods are processed and stored. Run by Port and Logistics department.
- Crane do not have indoor facility to do mechanical work on cranes at the moment. Currently building a heated area for mechanics to work on large machines.
- Mary River treated water from treatment plant is discharged here in the river.

Locations and Descriptions: IQ Mapping

Map A

- 1. In 1960s when started exploring Mary River, the plane used to land by the lake. Used to hunt caribou by the lake, and could see Mary River in spring. Hunters never knew why people were doing work in the area at this time did not know that exploration was happening. In 1970s they started a drilling program. We used to take the spare parts and oil...and use it for skidoos.
- 2. Found caribou here. Also, seal can be found in this area.
- 3. Used to skidoo in this area, which had the best caribou (good for clothing as these caribou had great fur).
- 4. Male caribou in this area.
- 5. ...no # 5
- 6. Caribou are sensitive here and therefore should not develop here. Many inuksuks in this area. Very sensitive area and should be left alone
- 7. Walk on mainland...there are graves here. Ancient history here. Bigger than average human being buried in this location.
- 8. A lake...at the end of the fjord there are human skulls and skeletons. Also human remains along the river. Whole area was used by people for camping purposes they used to go up the hill from this location to go caribou hunting.
- 9. ...area where caribou are hunted—lots of caribou (along the coast).
- 10. Gathering place in the winter. Walk in mainland looking for caribou.
- 11. Lots of travel routes coming from the north

Map B

General comment(s):

- In September the caribou gather in packs and start migrating. In august, caribou break up into packs and go different ways (travel in smaller packs). Migrate towards arctic bay fjord, as well as west along the shoreline. The rail way will affect the migration route of these caribou. Have to be careful to not disrupt the first herd, then the other herds will follow. Herd will continue to travel if there are caribou crossings need to be mindful of these crossings.
- Most occupied land south of mine site.
- Not much land use in norther section of project area.
- Collection of flint in south of study area, along the shoreline.
- 1. Travel along phillips Creek by skidoo.

Map C

General comments:

- Seals are plentify in the pond inlet area (bylot). This is where the seals give birth along the shoreline. Pups can be destroyed by ships if they come in this area. In April/June, pups are grown enough to fend themselves.
- Not too familiar with the marine study area...
- 1. Flo edge here. Congregate in the middle and go up to arctic bay (narwhal). Most go around bylot island. Circle bylot island and travel along the shoreline.

Impact Assessment: Uncertainty and Risk

- Western and inuit knowledge need to work together to create stronger evidence. The merging
 of knowledge is necessary
- Pond inlet is saying there are not as many seals in the area now.
- Narlwhals end up going to inlets in surrounding communities
- When there is a lot of ice, people are able to catch more narwhal. Ice and killer whales will impact movement of narwhal.
- Because of climate change and melting ice, narwhals are heading west. These whales are also heading west due to shipping traffic.
- Feel bowhead whales are being affected by offshore drilling.

Day #4

Risks to the terrestrial environment

- How will the mine affect birds
 - Sakiasie thinks the railway will not create as much dust (perceive this as a medium risk)
- Mining to impact caribou grazing areas similar to effects to birds (i.e. owls, etc.).
 - Caribou may move to different birthing area if disturbed
 - o Can possibly change caribou movement and migration
 - Caribou can travel even when in labour, and therefore can move out of the way
 - o Do expect caribou to move to other areas due to mining.
 - Likelihood: potential
- Impact of dust on caribou grazing
 - o Impact: Medium
 - o Likelihood: potential
- Effects on rabbits and ptarmigan (food sources)
 - Low impact.
- Impacts on wildlife and food sources
- Caribou (food source)
- Impacts of dust on animals
 - o Animals eat plant life, and may be affected by dust on consumed plants
 - o Not too sure of impacts of dust as do not know potential effects on humans and plants.
 - If go at low speed, impact on animals will be minimal.
- Impacts on lakes (water)
 - o High
- Effects on char

- Medium impact
- Runoff water
 - What are you concerned about getting/going into the water? A: spills from trucks, etc.
 - Seen as a high risk if pollution gets into the water.
- Trucking/training during a blizzard
 - What is the concern? A: derailment or an accident.
 - Seen as a high impact.
- Not knowing routines (I.e. safety and regulations)
- Workers not knowing the rules knowing the environment as well as rules/safety of the mine
 - High impact
 - Likelihood: expected...
- Accidents
- Animals crossing roads
 - o If collide with a herd of caribou and kill them all off, this can be seen as a high impact
 - Medium road to port has some wildlife...but the noise from the trucks will drive animals away
- Railway will impact caribou/humans
 - If train hits human or animal...will keep on going? Humans will understand noise coming from train, but animals will not.
 - o Impact level: medium
- Iron in lakes may impact fish populations...may affect quality of char (i.e. dust will go into lake and level of iron in fish will increase)
 - o Participants fish in the ocean...others do fish in these lakes.
 - o Impact level: high
 - Likelihood: potentially
 - Runoff from operations doesn't seem to affect the wildlife. If the iron content is naturally occurring in the water, it is OK.
- Train will create less dust...therefore, dust from a train is of low impact
- Mining of iron ore residual effects
 - o Long-term effects of dust, etc.
- Rail and train will not impact much

Risks to the Marine Environment

- Shipping is it safe?
 - O What impacts is the group worried about RE: shipping risks?
 - If break rules (i.e. don't follow route and do not abide by speed limit) may affect the aquatic environment.
 - High risk
 - Likelihood for ships to not stay in their route: unlikely
- If a ship hits an iceberg
 - o Impact: high
 - Likelihood: unlikely

- If narwhal hit by a ship
 - o low impact (assuming a single whale)
 - Likelihood: unlikely
 - May break the propeller
 - o Instant death to whale
 - o Are there any birthing places for whales on the shipping route?
- Speed of fish and whether they are working properly
 - o Impact: Low
- Shipping effects on seal births
 - o Impact: High
- Contaminated fish
 - If fish do get contaminated
 - o Impact: high
- Impact of contaminants in the marine environment
 - Impact: high → ONLY if a large spill
- Oil spill
 - o Impact: High
 - Likelihood: potential
- Deviation to migration routes of marine mammals due to shipping effects on hunters
 - o Hunters will have to travel further distance to harvest

Measures to Avoid Impacts and Manage Risks

- want more information on shipping
 - o # of ships
 - Summary of fishing activities
- More information on
 - Increased use of Tote Road (# trucks, # ships)
- Like to see the train in operation!

IQ/Risk Assessment Workshop #2

TROIS-RIVIERES, QU | FEBRUARY 11-15, 2019
BAFFINLAND MEETING MINUTES

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Day 1: February 12, 2019

• Kent Gustavson: Workshop purpose – we will continue to discuss risks and impacts of Phase 2 proposal, with a focus on the proposed north rail and marine shipping in eclipse sound. BIM wants to get input on how to avoid, mitigate, and manage risk(s) to protect the environment This time around we are going to spend time revisiting what we did in workshop #1. We want to confirm what participants said and give opportunity to add additional information. Going to become familiar with the operation of a railway. We will continue sharing IQ and scientific info. Want to understand community perspectives RE: impacts to the environment.

This workshop we are going to focus on protection measures.

BIM's role is to listen and observe, and to provide information on the project.

Introductions

- Kigutitarjuk Shappa
 - An elder. Having some technical issues regarding the proposed project.
- Lucy Pilatuq
 - I am appointed to be here by the HTA.
- George Qualut
 - Have been in many areas where BIM operates in. was with QC for 9 years, and we collaborated work between QC and BIM. Happy to voice opinions – happy BIM is willing to listen to community issues, etc.
 - We have expectations of doing some work and having negotiations with BIM. This is why George wants to attend.
- Danny Arvaluk
 - o Hall Beach
 - o HTA
 - Happy Pond Inlet is here
- Timothy Kuppaq
 - Born in an igloo, and only means of transportation was a dog team, and only means of heat was from seals.
 - Reason for attending is that, in the past, in the 1970s, an individual from Hall Beach started a lot of work in the area (exploration). Being here is important because if we stall this operation, the Nunavut government is getting funding from the federal govt. we need the Nunavut government to receive funding by the federal government.
 - I support BIM because we are just in the beginning of what we can do there is a lot of potential. Knows that the economics with the Government of Nunavut doesn't just come from animals, but it comes from the mining industry in the territory. We need this project for future generations.
- Joshua Kango
 - o HTA, Chair
 - Modern way of thinking, and thinking for future generations (his mindset 2 POVs)
 - Main diet is from the land, and maybe it will be different for future generations, so need to consider everything.

Jonah Olayuk (AB)

- Is a hunter in the community.
- HTA board member
- Has done a lot of monitoring on narwhal and polar bears
- The routes for the ships travel back and forth in the area, and can affect the narhwal.
 Need to consider animals in the sea, as well as those on the land. Need to work together to support the mine.
- Need to be a voice for the future and for the people for today. Need to consider what BIM wants to do. If we work together, we can come up with more ideas regarding protecting animals.
- o In the arctic there are not a lot of tools to do studies. So if we combine IQ with modern science, we can do good work for the future.

Sakiasie Qaunaq

- o HTA/Elder
- o Worked in Nanisivik mines for more than 30 years. It is different than BIM
- o Need to work together. We need to work hard towards our goals.

Caleb Sangoya

- From Pond Inlet HTA
- Back in 2000, BIM created roads, and from 2000 until now cannot go caribou hunting.
 The areas with caribou have been disturbed. It's like BIM has put us aside and we now have to go further to go hunting. Not able to hunt in area any more.
- With regard to the ocean, have harvested narhwal and have hunted seals. Have not been able to catch narwhal over the past 2 years due to the shipping. Peoples' lives in the area have been disturbed due to incoming ship traffic, as well as due to cruise ships. Have told Environment Canada that no more cruise ships should be coming in.
- Conditions Pond has given to BIM have not been complied to. The ships used by BIM do not comply with conditions the hamlet has given. There has been an accident and they have lost their sled, which has been brought up to BIM. BIM hasn't done anything about it. Hopefully ship routes are followed better. In 2018 there was a document signed saying BIM will follow conditions the hamlet gave, but they have yet to be followed. We want the ships to start complying with what the hamlet has requested. Do not want any more cruise ships (no more than 5).
- The effects on the animals, Environment Canada cannot say what the effects are exactly. It is not only Baffinland, there are also other researchers that are disturbing wildlife (in the sea). Pond lost seals for a bit due to use of sonar equipment.
- BIM has taken over hunters can no longer go on the land around operations. With the Phase 2 proposal we want to have some discussions where hunters can reroute, because hunters cannot go through without BIM approval. Inuit traditional hunting routes should be considered. Really wants input taken into consideration on the trails, etc. Traditional hunting grounds no longer available.

Risk Assessment

- Kent Gustavson: Impacts to the terrestrial environment that the group though were of potential high impact, but unlikely to happen.
 - (risk assessment matrix)
 - High-potential → runoff from mine and roads. When there is heavy rain or snow melt, there is concern with run of going from the roads to the environment.
 - High-expected \rightarrow worried about impacts of the ore in the lakes, on char and other fish, potentially decreasing fish pops and impacting ability to harvest fish.
 - Wanted to present the matrix, and wanted to do the exercise to get info from participants and how they describe risk. Should be worried about expected-high.
- Comments on matrix:
 - Caleb Sangoya: People investing in the company. As community is co-partner, are we not allowed to know how much money investors are getting?
 - Lou Kamermans: BIM at a very high level is not a public company, so we do not disclose our final information (i.e. operating profits). This is because its commercially sensitive. If public, we would share this info. Sharing this info can be damaging. When it comes to our IIBA, we have worked with the QIA to be very clear about the money that is being transferred as a result of the agreement, including royalty payments that are being made. There is also funding BIM provides to different programs, whether to HTAs, or training purposes.
 - Caleb Sangoya: we are open with BIM, why are they not open regarding finances with us? Why BIM is here to find out thoughts on this. BIM is interested in view on impacts and what needs to be done to protect the environment. BIM needs to think about how they disclose their financial info.
 - Joshua Kango: BIM has removed the bridge, what is the story about this? A: as part of ERP, BIM proposed to take out all sea cans that were being used to cross rivers, and have replaced them with actual bridges. For ph2 and the rail line, BIM is proposing bridges.
 - Joshua Kango: when in Mary River, we heard ships were not following procedures.
 - Caleb Sangoya: the HTAs have been dealing with shipping want alternate routes further down south. There are a few problems. The Russian ships are non-stop. They use the same route.
 - Hunters communicating with ship captains. But they are Russian so they don't understand English.
 - Lou Kamermans: they retain their operating languages. We contract ships from around the world, so we do wind up with ships that operate in the northern arctic and they come in and speak their operating language. We will have a person in Pond this summer that will manage all communication to ensure that, if a hunter can identify a problem, they will communicate it to the HTA office, which will tell BIM immediately, which will then relay this issue on to the ship.
 - Sakiasie Qaunaq: when we were in Mary River, we took a bus to the milne Inlet. We
 passed traditional routes on this tour. There is a lake that BIM says they will make
 routes for the caribou to move on will create crossings as well.

- Lou Kamermans: We do have maps and will put on wall so that we can understand these crossings, etc. with regard to caribou crossings, this summer at the end of august we had the HTO for Pond on site, and drove the tote road where they pointed out where people cross when travelling through area. Based on this, we went out with the equipment to smooth out crossings. Thinking that another session like this should go forward, especially with regard to the rail line. We want people to point out spots along the proposed rail line so that we can ensure there are adequate crossings.
- Caleb Sangoya: its written in the Nunavut Agreement that the road is open to all hunters, but now it is closed. The Road is supposed to be a public road, but its closed due to safety purposes.
- George Qulaut: the question you asked, it is true. Remembers in 2006 2007 it was discussed with the Inuit organizations; just before it was fully implemented with the roads (Tote Road). The traditional routes have been the best routes through the region since 1964-65. BIM has taken over. What you are saying is true. The roads used by hunters and public is used by BIM. If it is too dangerous, then the road will be closed. There was an agreement so that the road could be built. BIM doesn't know at the moment because management keeps on changing. IQ has been neglected.
- ⊙ George Qulaut: question → noticed that from what he has been reading and what has been seen and talked about, actually practicing IQ part (visual). On the train itself, will it be a diesel run vehicle, and if so, have there been any questions on the pollutants the diesel will have? Will it have an impact to the environment? We know for a fact that diesel creates emissions (NO2), it may not be harmful, but does become harmful when it becomes acid rain. This is a big concern. Have there been any questions on these issues?
 - Lou Kamermans: for the rail way, we are using diesel. BIM's plan is to use a type-4 diesel engine. This means that it is a cleaner burning engine. This has been factored into the air quality assessment and modelling. We look at emissions that can be generated. What has been concluded is that emissions emitted is so local, and the train is passing so unfrequently. There is no real concentration for these emission to concentrate in the area. For the long-term effects, cannot speak to NO2 and SO2. But what we have done is GHG calculations for life of the project, which is reported. Submitted climate change strategy to the NIRB yesterday.
 - George Qulaut: asking this question because between 82-92, George used to work for the scientific research Centre, and monitored pollutants. The biggest pollutants came from the US, and from the Russian side. Most were caused by trains highest concern at the time. Still concerned about fossil fuels and associated pollutants. George's niece came back from a mining symposium in Finland, and a mining company in Finland- they refuse to use the rail because it has more pollutants than the tote road. The tote road is a small amount of pollutants.

• Lou Kamermans: we will look into this further. A main point of the rail is that we plan to burn less fuel by rail than that we burn with our trucks currently.

Comments: Terrestrial Environment

- Joshua Kango: trains are faster than trucks? Does it take longer for trains to stop when compared to trucks?
 - Lou Kamermans: top speed 60km/h, but avg speed will be 30km/h.
- George Qulaut: add impact of livelihoods of the communities to the matrix. Impacts of rail on communities and people.
 - o Kent Gustavson: in what way are you concerned?
 - George Qulaut: employees (2 weeks in, 2 weeks out have affected family dynamics; increased income coming in financial literacy), hunters (i.e. tote road effects; effecting animal routing and their behaviour), and commuters between communities.
- Caleb Sangoya: in the past 1978, the hunters used to sell their narwhal tusks and skins, and seal skins. Over the past few years Pond hasn't been able to harvest and has lost out on income generated from doing this. Have lost out on a lot since can no longer harvest narwhal, etc. There has been such a huge market change with muktuk and seal, etc. The community of Pond Inlet has lost a lot of income and wants compensation. Have lost \$1m over the last two years. This decrease in harvest is due to too many ships being around.

Comments: Marine environment table (matrix)

- High-expected: Marine mammals move away when ships are in the area (disturbed and move away).
 Hunters will need to travel further if wildlife are disturbed. Also need to consider about the financial implications. \$1m drop in records in conservation office. There are 3 fisheries in Baffin area, and these fisheries are losing a lot of money due to a decline in fish populations. Baffin fisheries.
- Danny Arvaluk: question for Pond: considering all the ships that go into Pond, how much do you profit from them?
 - Caleb Sangoya: we don't profit from them, we only profit from the ones that carry the ore.
 Danny is asking this because there is also QC giving money. Communities that are close to the tote road to benefit from the project.
- Sakiasie Qaunaq: in April seal pups come, and in march until about June they have seal dens on the ice, which gets affected when the ice is broken up my ships.
- Ph2 proposal committed to open water shipping only. If ships do go through ice it will have high impact.
- Jonah Oyukuluk: regarding narwhals, with the expectation of more ships coming in, and more iron ore being shipped, it has been mentioned that the narwhal are moving their migrating routes to higher areas. Animals have better hearing than us humans, our narwhals come in the fall and hunt until spring and summer. The participant said from Pond that funs will diminish due to a decreased amount of narwhal. Ships are busy and are affecting narwhal migration it is very expensive to get hunting gear as well. Right now we are not getting any benefits through BIM. For instance, from Nanasivik mines, used to get subsidies from the mining company. With loss of narwhal population, will lose money commercial

sales from tusks, etc. Nanasivik mines used to pay half of a purchase for people in communities (i.e. transport costs for a truck, for instance)

Caleb Sangoya: the narhwals need to go through Pond Inlet to get to Arctic Bay, but with the
commercial effects in Pond Inlet, there is also going to be effects in arctic bay. Through IQ, we know
that narwhals go through Pond Inlet to arctic bay.

[discussion on risk levels]

- High-unlikely → ships hitting an iceberg; if a ship travels through ice in sprint affecting seal birthing.
- High-potentially → oil spills from ships; contamination from char and other fish if there was a large spill, and whether this would impact harvesters and other people if fish are contaminated
- High-likely → marine life, seals, whales, they move away if disturbed by shipping, and hunters begin to travel further for harvesting
- Low-unlikely → ships striking narwhal by propeller. Lower impact if a male was hit
- Low-expected → shipping speeds if travel too fast will impact marine life
- To add:
 - O George Qulaut: Ballast water discharge in port at milne Inlet (pollution) impact on marine life. The bay itself, the temperature will change due to coolants from ships. What we don't see, we don't think about...but this does have a big impact on wildlife, but also since ships run on diesel, it will also impact the environment, especially the sea ice. What goes up, must come down. During the winter, ship pollutants won't be seen, but once the sea ice starts to melt in cooler weather, will be able to see pollutants. This has already infected sea mammals. This is a huge impact
 - Impacts of ballast water (release from ships) and cooling water on ships. → release of ballast water, high-expected
 - Food chain is affected and infected
 - Emissions from ships → medium-potentially
 - Ships Vibration ships vibrate more when full → high-expected
 - Danny Arvaluk: ships are going too close to land. I need access to tote road as well.
 - o George Qulaut: would like to know, are there customs at the port? Canada customs?
 - o Lou Kamermans: have to get back on this. There are certain procedures.
 - o George Qulaut: later on, for instance, in the future we think of other risks...can we send them in?
 - Caleb Sangoya: if there was a spill around milne Inlet, it's always windy, and it touches every single
 one of the animals. ...everything goes north from here...
 - George Qulaut: gathering of info from elders. Most elders who have not stepped into a classroom are not writers. They prefer to speak out. Advice is to interview elders, not make them write items down.

Presentation: terrestrial environment protection and monitoring

Presenter: Mike Setterington

Protection

- Table exercise risk matrix was done to get a grasp of peoples concerns regarding the proposed project.
- That's what we get at with impact assessment deal with things we don't necessarily know about
- We are looking for participants' knowledge and how they manage risk and how things can be fixed
- When we started these workshops 11 years ago...will go over how have implemented mitigation measures??
- Through workshop, we know the mine operations are on wildlife habitat (i.e. caribou)

Terrestrial environment

- Vegetation
 - This is the foundation of habitat for all animals.
 - Key issues:
 - Project footprint area that has been disturbed
 - Plant health dust created, emissions how does it affect plant health and habitat?
 - 'footprint' is not translated properly in slide (slide 10)
 - Habitat right by road veg has dust on it.
 - Protection vegetation
 - Need to try to keep footprint as small as we possibly can
 - Have controls in place so do not have invasive species coming in
 - When it comes to reclamation, we are starting to do more research to see what can be done to bring vegetation back. (i.e. look at nanasivik to see what reclamation went on there)
 - What can we do about dust? Can put water down on the roads to suppress dust.
 Putting salt on the roads is also done.
 - BIM has suffered from dust control (historically) as, at first, had only one location where water could be drawn for dust suppression purposes. Now there are multiple points along the Tote Road where water trucks can divert water for suppression.
 - Processing of ore is a big dust generator

Birds

- Concerns:
 - Habitat loss
 - Morality
 - i.e. birds flying into lights, buildings, ships, etc
 - health
 - dust implications on birds
- o indicator birds
 - snow geese are a significant concern for ECCC.

- Eiders are of interest regarding southern shipping
- Loon nest along the tote road
- Protection measures
 - What we want to do is try to avoid creating problems for birds –keeping footprint small
 - Overflights limit amount of air traffic
 - There are regulations for pilots to fly safely, as well as guidelines for flight height restrictions.
 - If can avoid disturbing landscape outside nesting season, therefore building everything in the winter...would avoid issues. Unfortunately, a lot has to be done in summer months.
 - Marine environment (birds)
 - Shipping route 1mile from seabird colonies
 - Surveying of areas to ensure birds are not in area.

Mammals

- Caribou is a key interest.
- Protection habitat
 - Minimizing the area that has to be disturbed
 - Limiting sensory disturbance limiting smells, the taste, etc., of the project.
 Controlled movement on land by people
 - Reclamation how can we start to create new habitat?
 - Caribou have a calving period between 1 5 may and 15 july
- Protection movement
 - Manage snowbanks to keep the trucks moving have to blade the snow, which creates snow banks. Need to keep those low so that caribou can move freely over them
 - Operator awareness operators are not seeing caribou on site now.
 - On-site crossings for caribou select sites with elders on site, and have follow up programs to ensure caribou are able to use them
 - Caribou are likely to adapt to consistent train set passes
- Have you mapped caribou trails?
 - A lot of deep-set trails along the way to Steensby.
 - Look at embankment to see whether adequate and whether caribou can cross them
 - Map on caribou movement
 - How hunters can access land need hunters to highlight where crossings should happen.
 - Look at where transportation networks (i.e. roads, rails) interact with caribou and how caribou react.
- Protection mortality
 - No hunting or fishing policy for BIM personnel on site
 - Operational flexibility eventually things will be running smoothly.
- Protection health

- Disturbing caribou as little as possible, and ensuring their food sources remain and are not contaminated.
- Paying more attention when caribou are calving
- Want speed limit restrictions and locations where trucks cannot stop.
- o Caribou decision tree
 - Will slowly see an increase of caribou at mine site over the next several years

Questions:

- Caleb Sangoya: the crossings are not completed yet. We have many projects RE: crossings for caribou. From hills, look and identify possible crossing areas for the rail way. The hunters traditional routes should not change just change the roads instead. Make roads away from the existing hunting roads. Can the tote road be changed to not disturb traditional roads? Have signed a co-partnership with BIM, but they are not listening to us.
 - o Mike Setterington: maybe need to look at areas of conflict (crossing) closer.
 - Lou Kamermans: with regard to the deviation, BIM has brought maps. Will highlight routes we looked at for the railway and provide reason about why we came up with current alignment.
- Joshua Kango: birds that are eating from the land I am concerned about them. Will they get sick by eating vegetation with dust on it? Can they get sick from the dust?
 - Mike Setterington: What are the exact concerns? Does it make animals sick? Have been working to try to answer this question. Have been measuring the dust and determining what is suspended in the dust. Haven't found anything that will make animals sick.
- Joshua Kango: the vegetation, does it [dust] slow down the growth of the plants?
 - o Mike Setterington: yes, there is no vegetation on the road.
- Caleb Sangoya: not sure when, but in January we had a meeting with the hunters and biologists.
 Caribou stay in Yellowknife in winter and then migrate (monitored by collars). This study indicated that caribou could not pass the road and that they all died (in Meadowbank). What is the difference between the Tote road and what we'd see in Alaska?
 - Mike Setterington: if we go to Alaska, there is another mine site called the red dog mine, who have migration of caribou every year. The road is 80 miles long. Meadowbank road comes right out of baker lake. It's the same thing very low embankment road. Study (collar data) show caribou are slower to pass the road.
- George Qulaut: BIM is looking at data that dates back to the 1930s, etc. Looked at the cycle (i.e. 70-year cycle). If able to get a study done by Freeman, who also hired an Inuk, around 1975, this would be good. He published a book on Inuit land use and occupancy. In this book it talks about the migration of caribou and traffic lines, as well as travel lines of Inuit.

Marine environment – protection measures.

Presenter: Patrick Abgrall

- We don't know how the environment is going to react, and therefore we make predictions on how the animals will be affected and react. Always a level of uncertainty.
- Marine environment key indicators
 - can't look at everything in the environment, and therefore look at key indicators
 - o marine mammals
 - o marine water and sediment quality
 - remain in guidelines
 - o marine habitat
 - fish habitat
 - arctic char health, to ensure fish are healthy and that the habitat is healthy
 - o protected areas and key habitat sites important places to animals
- potential impacts
 - we look at things that can be impacted by an activity, such as habitat, behavior, mortality, and health
 - o behaviours how behavior changes when compared to no activities?
 - Change in habitat what is available? Noise from vessels making some habitats not useful anymore.
- Potential impacts to narwhal
 - Looking at how the shipping lane overlaps narwhal habitat
 - What are the important habitats that the shipping routes are overlapping with?
 - Looked at calving grounds, migratory corridors.
 - Awareness of areas that narwhal go to for protection from killer whales
 - One key impacts looked at is impact of ship noise one main disturbance with ships.
- Protection measures
 - Some things can be minimized, others cannot
 - Dock construction BIM putting new loading dock in
 - Do construction in winter to decrease overall impact to marine mammals
 - Pile driving when ice is gone and open water, there are measures that need to be followed, such as the ramping up procedure.
 - Bubble curtain reduces noise
 - Shipping and marine wildlife management
 - Main issue is the speed at which ships move need to maintain 9 knot limit to reduce wake being created as well as noise and collisions with marine life.
 - George Qulaut: how many miles is 9 knots?
 - Patrick Abrall: 10 miles/hr
 - Ballast water there are guidelines to follow. When get to port, have to go through ballast water testing, which confirms whether water is OK to be discharge to the environment.

Management plans

 This list goes to show what BIM has to do to ensure compliance, and what BIM is to do to mitigate/eliminate for risk(s).

- Fisheries act authorization
- Shipping and marine wildlife management plan
 - Looking at this plan, what it says is that it describes vessel traffic management (how boats will come in, where they will stay, etc.)
 - Outlines roles and responsibilities who does what, and what needs to be done.
- Important components from previous meeting:
 - o Concern of whales being hit by vessels ship strikes. Mitigate by employing speed limits
 - Risk of whales moving away due to shipping

Questions:

- Jonah Oyukuluk: question about vessel speed. Where are shipping routes on maps? Where are speeds listed? Where can you visually see the shipping route, and where they have to follow the speed of 9 knots?
 - Patrick Abgrall: will find a picture outlining where these routes are. Will show this during next presentation.
- Caleb Sangoya: with computers we can see shipping and where they are. Hear about ships in winter season. The impacts on marine life through the shipping routes. What are the real impacts of shipping? We want to know actual impacts, not observations. Ships are travelling not too far from Arctic Bay. We would like to work with Arctic Bay HTO to deal with this. Ships at Ragged Island, is there another place where they can be anchored? This is the place where hunters go out. We would like the ships to go behind the island. There is no room for the ships. More discussion RE: anchoring area is needed.
 - Patrick Abgrall: we have been doing meetings with HTO and the hamlet regarding when
 to start and finish shipping season, and to report back. Have also been communicating
 all the way through just to understand problems and how we approach shipping
 problems. No huge issue regarding ships drifting. We need to keep talking about how to
 manage this. We will have no more than 3 ships combined drifting/anchored in this
 area.
- Caleb Sangoya: On the IIBA agreement, there is an agreement between BIM regarding no
 hunting zones one mile from Baffinland. The agreement, there are a lot of people liable to go to
 court because when there are narwhal hunters go crazy need to look at IIBA.
 - Patrick Abgrall: Interest regarding where hunters are going and where narwhal are going. To figure out a way where Golder can perhaps support the HTO and where the hunters are going to catch (and where they are not catching) narwhal, and whether they're spending more time and travelling further distances to get narwhal. More clarity regarding where hunting can happen is needed, especially with regard to narwhal hunting.
 - Jonah Oyukuluk: Arctic Bay had good year last year with catching narwhal. With the quota, they used up all the quota by early fall, and then killer whales came. When this happens, the narwhal swim away and go to the other side to the shadow area. When they come fluctuates from year to year.
 - Patrick Abgrall: was there more narwhal than usual?
 - Sakiasie Quanaq: narwhal were late coming in due to ships. Narwhal hunting season starts in April, but there was so much ice. When the ice

left, then the narwhal came, and then the killer whales came. Used up all the quota.

- Joshua Kango: ships carrying ore will you be doing a lot of shipping even if the railroad has not been constructed? Will all shipping continue? When big ships come, will small ships continue?
 - Lou Kamermans: will have a mix of ships coming in and out. Preference for larger ships, but because we don't own our ships we have to take what we can get.
- Danny Arvaluk: I have a question for the biologist. There was an abundance of narwhal, and wanted to harvest but went over the quota. Wondering where the narwhals came from that went around Pellet Bay. DFO said if you go over your quota you can get more from another community if they haven't used their complete quota.
 - Patrick Abgrall: know that the narwhals have been moving around from tagging program (Arctic Bay to Pond Inlet). Not too sure about quota sharing though.
- George Qulaut: For inuit, when they talk about their knowledge, they talk about their personal experience. Are you able to provide a report on how much damage has been made to the environment?
 - Patrick Abgrall: this is discussed Marine environment working group.
 - George Qulaut: Have not heard about the negative impacts. It would be beneficial about the negatives, not just the good news!! For inuit, BIM just gives us good news, not the bad. IQ that has been provided (negative effects) have not always been considered. Need to be more transparent about negatives.
- George Qulaut: with the marine life, have you received any complaints about mammals going deaf?
 - Patrick Abgrall: no.
 - George Qulaut: Have you heard of any sea mammals other than narwhal moving to other areas?
 - Patrick Abgrall: No. In terms of what the impact is, have not hidden any results regarding migration and disruptions. With regard to the EA, it's not an assessment saying that nothing will happen to the environment. There will be impacts, and they are identified. Noticed that narwhal do move away. Animals move out of the way when ships come, but do tend to come back. 2018 was a different year. There were fewer narwhal the ice stayed around longer. Trying to figure out what role shipping played regarding the narwhal population last year. Planning to do monitoring before ships come in. Golder to show some studies.

Day 2: February 13 2019

Genesee and Wyoming Presentation – Railway: A sustainable Way to Move Freight

Questions:

- Timothy Kuppaq: with the train, does it have to be in a flat place?
 - o Fay Pittman: maximum slope is 1.5-2%, so can climb a little bit.
- Timothy Kuppaq: would the smaller animals, are they able to go through the piles?
 - Genesee and Wyoming: usually they go over the rails. Don't see railway as a restriction.
 It's like a road. Sometimes because it is easier on the track, animals use the track to walk
- Timothy Kuppag: is it safe for skidoos do go over the rail?
 - Genesee and Wyoming: it's only dangerous if you're riding along the track. You can cross, but don't ride down the track.
- Kigutitarjuk Shappa: theres a lot of potential for people to who do not have formal education to get training by Genesee and Wyoming. One of her children is a heavy machine operator.
- Joshua Kango: how many miles between Labrador and Scheferville?
 - o Genesee and Wyoming: 251 miles shorter than the railway to be constructed up north.
 - O Joshua Kango: How much was it to construct the railroad?
 - o Genesee and Wyoming: this was constructed in 1951-1953...\$50m for small portion
 - Joshua Kango: Heard that the plan for the mine in Mary River is to continue for 100 or so years. So we feel, if we make a railway, might as well make a really long one.
- Sakiasie Qaunaq: from Labrador, can you get to here? Is there a port near here (trois-Rivieres)?
 - Genesee and Wyoming: yes and yes. Can't get to Quebec City, though. But from Quebec City, can access all North American network.
- Sakiasie Qaunaq: For us, we have potential to build the railroad. But have the concern that they might be running into caribou (collisions). Do trains hit animals?
 - Genesee and Wyoming: yes, there was a lot of caribou around Labrador, but they didn't stay close to the track. When there are no trees you are able to see caribou in advance and stop the train. Emergency stop will take 500m to stop the train. Not more than 10 kills a year in the area. Every time an animal is hit, a report needs to go into the government.
- Sakiasie Qaunaq: On Baffin Island, we have migrating caribou and this was a bit of a concern (collisions). Concern that, due to train momentum, cannot stop right away. We usually have blizzard conditions. We saw how the snow is removed, and have realized how it'll be done up north.
 - Genesee and Wyoming: there are also larger machines that can be used to clear snow on the track. Easier to operate trains in snow than trucks
- Danny Arvaluk: glad people here are able to ask questions. Are the cars covered?
 - Lou Kamermans: in the case of BIM, the product will be in lump, so it's not fines and therefore won't blow out of the car.

- Fay Pittman: the difference now with the train operation, with the trucks, crushing happens at the mine. However, with the train operation, will do primary crushing at mine and secondary crushing at port, where the fines will be covered.
- Lou Kamermans: when a train starts to transport ore, and we are going to have a bigger product being shipped, will have larger vessels coming in (because of bigger load). Size of vessel will be similar. Bigger tonnage = larger ships and larger frequency. The goal is to have larger ships so that fewer ships have to come in. given BIM rents out ships, there will be a mix of ship sizes.
- Caleb Sangoya: with the trains and where they're currently operating, we thought that if they didn't have action plan of migrating caribou letting them pass, if they are not going to have regulations about this, then we wouldn't want the railway to be constructed and wanted the traditional hunting routes to be considered as well as traditional camps. The railroad was going to go right through traditional routes and crossings. Can we try to give suggestion of alternate routes?
 - o Lou Kamermans: already using the road the railway will follow close.
 - Caleb Sangoya: When you were talking about staff and safety. In Pond Inlet, have seen communication practices through CB radios. There was an issue of the company not being happy with the staff speaking Inuktitut.
 - Lou Kamermans: BIM is a responsible company, and sometimes language is important for safety.
 - Caleb Sangoya: In ph2 need to look at what language is used for communication purposes. This needs to be included in HR policy.
 - Lou Kamermans: Sometime when it comes to safety, It should be communicated in language everyone understands. BIM president has committed to Inuktitut to be used on site one-on-one.
- Caleb Sangoya: Should do more assessments on where crossings will be placed. The rail should have more crossings. Want to work with Ph2 on this to ensure more crossings.
 - Lou Kamermans: presently, there are 8 crossings, and have also designed snowmobile crossings. Asking for these workshops to provide locations for crossings so that snowmobiles can cross the tracks, as well as caribou crossings. Need to physically go to area and identify crossings too.
 - Should be implemented under IIBA, that 25% should be hires from the area...? This should go up to 50%. Perhaps training will be very useful.
- Lucy Pilatuq: where can I apply to training?
 - Lou Kamermans: once contract is ready to go, there will be a schedule to build the railway. To train someone it takes about 6-8 months. This is when we will recruit people.
- George Qulaut: Genesee and Wyoming already created a contract with BIM?
 - Fay Pittman: currently in contract negotiations. Should have the contract set in the next month or so.
- George Qulaut: the climate is very different in Baffin Region. Its dry and have drifting snow. The snow is hard. The fluctuation of climate change and extreme cold how much fluctuation do you have on the rail and can the train derail in extreme cold?
 - Genesee and Wyoming: in Labrador, because of sun and summer the rail can go to 40 degrees Celsius, and in winter, can go as low at -50. In Baffin, can we -50. In summer, it

- won't get up to 40 degrees, maybe 25. Wind has no impact on temperature of rail. Do not want to install rail in really cold weather due to possible expansion and buckling. Biggest concern is permafrost.
- George Qulaut: a lot of homes have been shifting due to thawing of permafrost. Do you
 have any idea on how to avoid permafrost melt?
 - Fay Pittman: There is a big buffer between rail and permafrost. There is no heat; the chance to thaw permafrost is low. Part of design is to avoid permafrost. In areas with permafrost, there are areas of insulation and fill to ensure the permafrost does now melt.
- George Qulaut: we have crystal fog, ice fog, etc., which builds up a lot on metal. Can this cause a derailment?
 - Genesee and Wyoming: no. not like an airplane. There is no impact from ice. Sometimes when there is a lot of traffic ice does build between the rail and seat of the rail. If you exceed the space, then do need to heat to avoid. If have clips, will keep pressure on the rail and will avoid ice buildup.
- George Qulaut: do you have any understanding on the Nunavut land claims agreement.
 A: Genesee and Wyoming does not, but BIM does.
 - Reason asking this is due to HR, and GW wants to make employee base to be 100% Inuit employment. Bu with today's situation, with only 13-14k Inuit populating the island alone, BIM is having a hard time to match the 25% Inuit employment rate. It is almost impossible to hire local. BIM is only focusing on 5 communities, but there are 13 communities on Baffin Island. From our experience, speaking on behalf of the Inuit and communities, George is neutral. BIM people have this big dream, and they don't see the situation that is occurring with the contractors. The biggest issue is communication gap. There have been complaints Inuit were using old trucks, whereas southerners were using new trucks. If you were the contractor, how best would you be able to fix these issues?
 - Genesee and Wyoming: one thing GW can answer is that, when operating a railway in Nova Scotia, we speak English. In Labrador, we speak English. GW is open to all who apply, and it is mandatory to speak English. If it is safety sensitive, need to speak language all people are able to speak. There will be cultural awareness training.
 - George Qaulut: who would own the rail and the locomotive and the cars?
 - Fay Pittman: the contract is not completed yet, but likely BIM. BIM is doing the purchase. GW will operate the trains and do maintenance, etc., but BIM will own the assets.
 - George Qaulut: there are Inuit organizations and Inuit business owners in NU. Would GW be open for joint ventures with local businesses or Inuit corporations?
 - Genesee and Wyoming: hard to say as don't understand businesses at the moment; however, need to understand better to see if they [communities] can provide necessary services. GW has openness to look at this.

- George Qaulut: how do you respect inuit IQ (TK)?
 - Genesee and Wyoming: When working in Shefferville, we got a call and
 was told that there was a statue and that trucks are going around it.
 Due to hearing this we changed trucking route. It is Important to
 understand what is important to population, and take appropriate
 corrective measures. Easier to create a solution when understand why a
 solution is to be made. GW to learn and to be taught by Inuit. Need to
 keep constant communication.
- Joshua Kango: When you transport iron ore from Labrador, you take everything out from the cars?
 - Genesee and Wyoming: yes.
 - Joshua Kango: Ask this because, when you head back do you just bring it back empty?
 - Genesee and Wyoming: yes.
- Timothy Kuppaq: you see the potential in people, and can train people, and because of this, hopefully you continue this way of thinking. People without formal education can do a lot. Its true – don't need to think about people who have formal education. We appreciate how GW sees potential of people.
- Caleb Sangoya: with article 5.7 in the IIBA in Mary River, since 2000 up to now, I only know of two Inuit who act as contractors. How would you push for contracts for Inuit owned businesses to get contracts?
 - Genesee and Wyoming: normally it is cheaper to use local people because don't need to transport goods for a long distance – more cost effective.
- Caleb Sangoya: are you planning to come up to Pond Inlet HTO and talk about the railroad?
 - Genesee and Wyoming: yes, once contract is set up, etc., it would be great to go up and meet the community.

Alternate routes – route selection

Presenter: Lou Kamermans

- Talking about rail route and rail route selection
- George Qaulut: in 2007, Phase 2 was introduced to communities, meaning the rail would be Mary River to Steensby. What is the current Phase 2? Is it Mary River to milne only, or does this also include Steensby?
 - Lou Kamermans: with Phase 2 it does propose a railway from Mary River to the milne port. But also under Phase 2, need to consider south route to Steensby can't think of it in isolation. Phase 2 can operate with Steensby as well. However, what we are seeking approval for is just for Mary River to Milne. What we went through up to 2012 is Mary River to Steensby, but now we are looking at Mary River to milne port.
 - George Qaulut: So this workshop is focusing on the north railway?
 - o Lou Kamermans: Yes.
- Lou Kamermans: Talking about how decided on deviation piece of rail line. The zoomed in part of the map is the railway along the tote road, and where the railway deviates. We looked at alternatives as it is hard to follow the road all the way. When looking at the rail way, looked at

three main areas. Looks at alternate routes north of the mountain, as well as a direct route that followed the tote as close as possible. South route as well

- Lou Kamermans: What looked at for alternatives is: technically and economically feasible? If these two things are possible, then carried things further and looked at environmental acceptability, and acceptability from community perspective. With the northern route, found that the river would have to be followed really closely. A lot of cut and fill necessary, which would lead to creation of many embankments. The more cut and fill the more costs. This route was going to be problematic and expensive. Barriers to movement as well. When look at the route hugging tote road, we noticed we were dealing with steeper grades. This can create concerns regarding safety. This option would also have the most cut and fill, which is very expensive. And again, embankment and mobility issues arise.
- Lou Kamermans: Further south, we pushed out the route (following valley). This route has less cut and fill, so less embankments, more safe, less of a barrier, and cheaper, but the safety was most key factor this route has least amount of gradient variance. This is how we decided to move forward with option in south. From an environmental alternative, no record in consultation, or from IQ workshops and interviews, shows that the chosen alignment proves as issue to wildlife. Even though it has a bridge, none of the options do not include bridges all routes include at least 2 bridges.
- Loue Kamermans: (map on wall) the map shows all known travel routes to date. Want
 to capture more routes, if any. The green line is a known travel route. The orange are
 current travel routes identified through interviews, the darker green lines are travel
 route used in the past.

Questions regarding the maps:

- Caleb Sangoya: from Mary River it is an ore road that has been put there due to the IIBA. There has not been an agreement concluded on this. When we first saw the road being planned, there were people from communities who used the road. Asked if the road had been considered for land use plan. I don't think there has been a decision on this. We need community members to identify routes that currently exist. The NIRB will have a hearing, and hopefully Igloolik and Pond can work on alternate routes. Worried about contaminated water with the current route, although you say it is safe to drink it, there will be ore on the water.
 - Lou Kamermans: first off, we are here to get input and is exactly what we are looking for. We are interested in your concerns, and we want to be able to talk to communities at the hearing, and to make sure that BIM has the certainty that everyone needs regarding impacts. For Pond Inlet and Igloolik meeting about routes, think this would be beneficial and will help need to know crossings. BIM is open to discuss location of crossings to ensure that travel routes are maintained. The NIRB review process has been pushed out. Hearing in September now.
- Jonah Oyukuluk: Pond Inlet and Igloolik people will work together and because its important
 route for them. The communities should be visited by HTO and consultation should happen with
 the community members. The routes are important with the dog races, and BIM needs to
 consider dog race routes. Need to consult Pond regarding their dog race routes. Crossings
 should be negotiated with community members.

- Lou Kamermans: In the planning phase, communities should reach out to BIM. We should work together to communicate where and when we are constructing, and what route BIM should follow to ensure least amount of interference possible. As for being in the communities, we will be in the communities several times more leading up to the Hearings. Will be back in communities and explain what BIM has heard, and what BIM is doing to address concerns heard so far. Also will be back in communities to talk about dust. Really want to explain the dust generated by project and address concerns RE: dust.
- Sakiasie Qaunaq: when we were at the site, there was not much light out, and we were given a tour. It was said that BIM is going to create skidoo crossings, and that people from Pond they have made a suggestion where alignment should be and where crossings should be. BIM also said that traditional routes have been closed as well, are they closed? Or are they still able to go through? Also, with the cabins, will cabins be made available? Is it true that the crossings have been closed and that some cabins will be built for safety?
 - Caleb Sangoya: tote road has been closed to harvesters due to safety reasons.
 - Lou Kamermans: BIM has a hunter visitor site policy, and we do not allow private users to use road due to safety concerns (i.e. trucks). Want to help hunters get from one side of the road to the next.
 - Sakiasie Qaunaq: are you going to build an alternate public road or route?
 - Lou Kamermans: the railway follows existing tote road for most of its length, there is just a small area that deviation occurs. Benefit of this is that we don't have to build another road to service the railway.
 - Caleb Sangoya: We were told that crossings have been closed and migration routes for caribou. In Pond it was said crossings will be made. When you are at milne Inlet, you don't have to go through the road when hunting there. BIM has yet to decided crossings for railroad. We have requested an alternate route for hunter used. This hasn't happened the alignments are just at the proposal stage because not approved yet.
- Joshua Kango: so glad we are doing this exercise. When we are about to go to Mary River, we were told that people from every community were to be part of workshop 1. In the future will equipment not be moved like it is now? There is miscommunication in the workshop 1.
- Caleb Sangoya: with last negotiations with alignment, if the skidoos are in fine working order they will not be hauled. Only if they had an accident they will be hauled.

Reflection of railway tour

- Timothy Kuppaq: what I saw with the train is that there are crossings. There are bridges. What I was thinking they do not go through slopes very much, and because they want to go in a flat place, the animals, can the animals get through? Just ensure animals are able to get through any crossings and bridges passage for wildlife underneath. With deer and moose have you seen them go under the bridges?
 - Mike Setterington: In the Kitikmeot region, the Doris North project, there are bridges for a road, and wildlife goes under. wildlife don't seem to hesitate to continue on.
 - Timothy Kuppaq: to keep shade...go into infrastructure for shade. Sure caribou will have access to go across railway.

- Danny Arvaluk: when at dew lines, the buildings are high and caribou go under buildings for shelter.
- Caleb Sangoya: last winter we had a signing with BIM and HTA, and we wanted to be very transparent with what's going on and their project. BIM didn't tell them about one project not aware that BIM is allowing GW to build railway. Not only Pond who is affected all communities are affected. Before go to NIRB, hopefully have more meetings with communities.
- Sakiasie Qaunaq: after looking at the train and railroad, has realized when we get a train and build the railroad at Mary River, it will be safer for the staff. The trucks are dangerous in the winter due to the weather. Fully supports the train idea. Feels it is better to have a train than continue with trucking.
- George Qulaut: the question I asked yesterday about the pollutants from the emissions. GW said they will use a small amount of diesel. You need to watch to see if this is true throughout the project. With BIM have contracts, they are very important and they consult us. When they put things into practice, BIM neglects us.
- Kigutitarjuk Shappa: I have learned so much. In 1967, there was in train in Montreal, but I was not sure how they work but now I do. There are always good and bad components positives and negatives go hand in hand.
- Lucy Palituq: it was a very smooth ride in the bus highrail.
- Timothy Kuppaq: didn't think trains could go through snow. But now know they can go through snow and operate through winter.
- Joshua Kango: at the moment, we don't have very much animals in the Mary River area, and you want to build the railroad I am not too concerned about the animals. There aren't a lot of caribou so not too concerned. When we used to have so many caribou in Iqaluit, they used to be run over by cars. Just concerned about the safety of the people. Have realized that GW has been operating for many years.

Day 3 February 14 2019

Measures to avoid impact and manage risks

- Kent Gustavson: Want to talk about protection measures how to avoid or eliminate impacts.
 Map has been put on wall so that community members can point out problem areas RE: train alignment
- When thinking about mitigation measures, need to consider a few questions:
 - Will measure do what is intended
 - Would this be effective?
 - How can it be changed to work better?
 - Is anything missing?
 - Question, George: will there be any cleaning work done and how will that be done?
 Lakes, rivers, same with ocean...the one that are impacted. What are you going to be using to maintain water quality? Oil spills, runoff, derailment, and dust

Measures to avoid impact and manage risks – terrestrial

- Mike Setterington: what we do to clean up messes. An oil spill is catastrophic. There are always small spills; but larger spills and fuel spills with ships are dealt with ASAP. However, BIM will avoid big spills (there is a management plan).
- Mike Setterington: With regard to dust, BIM monitors dust at site in multiple locations. If dust was dangerous, then we would have to eliminate dust being dispersed. Through monitoring, it has shown that there is more dust than expected in certain areas. We are managing this by separating stockpiles, etc. whole idea about dust is have to avoid the dispersal of dust. If it's getting into the water, we will move snow that has dust on it upland so that does not runoff in water. But overall cleanup happens at closure. Rec/rem will happen. The main goal is to avoid incidents from happening. This is done through mitigation and monitoring. There are plans in place when a spill happens, for instance. Plans in place in case something unexpected happens. The main thing is being prepared BIM is prepared as they have plans in place.
- Caleb Sangoya: with the impact from Phase 2, in milne Inlet we have camps, about 9, don't talk about how ships affect these camps. People harvest in the Inlet (fish, seals, narwhal). There are historical routes that are still used. For last two years have not been able to sell our harvest and we have lost out on income. The ships are travelling back and forth and so are the animals. Acoustics in the water and noise and vibrations are affected the marine environment. Need to focus on what is most affected. Even garbage is being thrown into the ocean.
 - Patrick Abgrall: garbage should not be thrown overboard. This is the first time in meetings this is being brought up. BIM needs to reinforce not throwing trash in water. Most vessels have regulations against littering.
 - Caleb Sangoya: need more monitoring camps. Monitoring should be done by hunters.
 Hunters can report to BIM regarding monitoring of numbers of wildlife around. Need monitoring stations for community members to monitor and report from.
 - Lou Kamermans: We need to merge community feedback into our mgmt. plans and reporting. Need to enforce measures and ensure continuous improvement

- Caleb Sangoya: Need community monitoring and management. Have found lots of contaminants in fish. Same with the narwhal. Scientist and biologists working together, they do not comply with Inuit hunters and fishers. Need community input in research and monitoring and reporting.
 - Patrick Abgrall: Tremblay tagging program DFO had consultation with HTO, etc. these tagging programs are not part of BIM. Misunderstanding regarding who is the owner of these tagging programs.
- Joshua Kango: just by listening, it was mentioned that now we have regulations put in place, you are not to throw trash in the water or land. You don't let us see the rules and regulations. Where are these regulations? Need to present this to us. Pond said there is a lot of trash on shore line. Hunters should take pictures and show evidence. Have attended conference in Iqaluit and now I believe rules are starting to be put in place regarding shipping.
 - Patrick Abgrall: vessels need to monitor their crews and littering on/off ships.
 Timethy Kuppag: it is true what Calab is saving about the animals. When they do
- Timothy Kuppaq: it is true what Caleb is saying about the animals. When they do research and put tags on them, I saw a tag on a walrus that led to infection. For Inuit, the mammals, they go to shore to die. But when they are healthy, they stay in the waters. Tagging devices are not always good. Not saying BIM is the cause. Other government researchers are to blame. Not all BIM, other researchers are using terrible methods.
- Caleb Sangoya: we need cameras and records to show evidence. Need monitoring and observation station as well. Need people taking photographs of issues. Monitoring and observation stations should be all over. Happy to hear BIM is finally willing to listen to community concerns. Need to continue with this and work together.
 - Patrick Abgrall: maybe need to equip hunters with small digital cameras and books and maps to document findings and concerns. Using satellite photos – marine monitoring Working Group needs to share results. Therefore, unable to integrate findings and knowledge. Need them to share data with everyone.
- George Qulaut: would like to understand, we have IQ and non-Inuit have their formal education and expertise. We are mixing the knowledge we have. We are learning more and more. Research methods and effects on communities. There are incidences in the past because of BIM, various universities, the federal government, and the Government of Nunavut have a huge interest in what is around Baffinland. Prior to BIM, there were no tourists, DFO had little interest, the GN has very little interest. Because of BIM and the opening of the mine, huge interest has come about. Disagrees with BIM saying its DFO's impact. BIM has also had impacted the area by shipping by pollution. As Inuit, we often work together to accomplish something. This is one thing that BIM is slowly learning. BIM isn't too open yet and welcoming. Need to be more open about negatives. It is important for BIM to understand what elders are saying about animals being monitored by scientists. The reason they're being monitored is because how BIM will affect wildlife and their migratory routes. There was one fox that a collar was put on in Pond Inlet. Last month this fox was caught in Igloolik. There was no more skin around its neck. A lot of research is being done without BIM knowing. It is important for us to share knowledge. It's also important to understand that although BIM isn't doing

research, BIM operations have peaked interest in the area and therefore need to acknowledge that this increased interest has led to the carrying out of studies by many scientists that are not working for BIM. The biggest questions of the younger generation are asking - will the iron be used for war? Some of the elders say that when BIM wanted to make the mine...will it be used for nuclear war? Need to discuss international impacts.

- Kent Gustavson: Some takeaway points include the sharing of knowledge between BIM, government, and Inuit; and research priorities have been influenced by the presence of the Project.
- Kigutitarjuk Shappa: from what I have heard from the hunters and everyone else, I have a question: when you try to harvest your narwhal, how many have you lost into the ocean? What about how you lose animals through research methods? When hunters lose catch, they don't bring it home and release. For Inuit, we don't do tagging but we do lose animals as well. How successful is research with tagging? How frequent does tagging lead to the death of an animal? We need to come up with mitigation measures for animal loss through hunting and research so that we can look at how many animals have been lost by unsuccessful hunting and by unsuccessful studies.
- Timothy Kuppaq: I have lost a lot of animals! But sometimes the catch goes under the water - sometimes they get away then die later. Feel so bad when it's not an immediate kill.
- Sakiasie Qaunaq: with the meeting now, and from information we hear, what was mentioned and the traditional hunting routes around Pond Inlet area and eclipse sound, this is one concern. We need to focus on things that are different. Have modern equipment to hunt. Means of survival are mainly now modern jobs. In past used to trap animals and sell hides. Need to learn to work together and have employment at the mine. People need to learn about how to work with everyone. Need to collaborate need to talk about more than safety and environmental issues. Need to talk about how can work together in harmony. We also need to have respect for one another.
- Lucy Palituq: if you are going to have new research program going, our community (Clyde) were given iPads, and were able to track where going on GPS and record what has been harvested, etc. Maybe this can be done in Pond Inlet. These iPads can be used to take pictures. This program was run by the Nunavut Wildlife Management Board. The benefit was that the hunters who had the iPads got a new skidoo after done monitoring.
 - Patrick Abgrall: maybe we can create an app for monitoring and reporting great way to get information. Everything is connected and needs to be looked at. When university goes to HTO for research proposal, HTO should have right to say yes or no. If not comfortable with something, we need to have discussion about a better go forward.
- Joshua Kango: people have been told that certain foods are ok to eat, but then the
 meat has been tested by scientists and it was concluded that there were contaminants
 that would affect humans.
 - Patrick Abgrall: There are thresholds regarding acceptability levels of toxins in catches. Need more information on HHRA and animals hurt by research, and its impact on people.

- Patrick Abgrall: with monitoring programs near port, there is a certain number of fish that are taken and sent to a lab for testing. Part of monitoring plan is to keep the fish safe. However, maybe we should also collect sample of animals found dead. There is potential to involve HTO in sampling. Can we equip hunters with a kit to send out for testing?
- o George Qulaut: there should be more information on unsuccessful tagging, unsuccessful kills by Inuit, etc., especially with polar bears. Hunters were asking exact same questions. Don't be disappointed about losing a hunt. The animals through IQ, they should not be harmed or made fun of it can come back to you. There have been observations about polar bears, they don't just become boney. Sometimes they get puss around their necks. There is a difference between western science and IQ.
- Caleb Sangoya: glad I am from Canada. When started with BIM, we talked about the risks and impacts the project could have. We were already identifying them. In Africa there is mining where African people are not treated well. If we identify risks in advance, we can avoid issues. Research and IQ are two different things. This should be recognized. BIM says dust isn't harmful, but we have observed loss in vegetation.

Measures to avoid impact and manage risk – terrestrial

- George Qulaut: For our future generation, we want to add our archaeological sites. I don't want to lose the sites. We need to remember our past –do not want to lose archaeological sites. The vehicle and train routes can have an impact on these sites.
- Caleb Sangoya: sensitive to archaeological sites as well. Caribou, they are always around the lakes. The lakes should be monitored properly. Need sampling programs.
- Caleb Sangoya: add all wildlife to the concern regarding caribou getting out of the way of the train (foxes, hares). Sometimes caribou will jump in front of things.
 - Directed to George Qulaut: Mike Setterington → have actually observed a lot of fox kills along the road.
- Caleb Sangoya: when used to go up in the area before there were trucks going along the road.
 Need locate areas that are populated by specific animals. Same thing with fish.

Measures to avoid impacts and manage risks – marine

- Caleb Sangoya: around March/April, Pond is asking for ships to not go by the port. This is because calving/cubs are born.
 - Kent Gustavson: Shipping happens between July 1 to November 15. If BIM does actually follow this, can this issue be removed as a concern? The issue of impacting birthing of seals, etc. If shipping only happens in the summer, can the issue of travelling through ice and impacting seals be taken off the matrix?
 - Caleb Sangoya: even though you are shipping through no-ice season, the train will continue through the winter.
 - Sakiasie Qaunaq: we want to protect the waters of Pond Inlet (Eclipse sound). We are going to be using the trains and the ships to haul the ore, and then we will have them move from milne Inlet to Steensby, and the ship routes will change.

- Caleb Sangoya: have been told with Steenbsy Inlet, that BIM will always be going through here. When there is an increase in tonnage, there will be continuous transportation. If don't have Steenbsy will not be able to meet tonnage targets.
 - Chris Murry: for Phase 2 we will be shipping through the north. Once Steenbsy is constructed, we will maintain the northern shipping route, but only during defined period of time (summer). Steenbsy would be operational year round.
- Joshua Kango: disappointed that people from Igloolik and Pond were not at the site.
 They would have provided more info if they were at the first workshop. Understands that shipping by vessel will only happen during summer. However, Steensby will happen during winter and summer.
 - Chris Murray: the cost to build the southern rail line is very high, and we need to build the funds through ERP and ph2 to in order to have capital to go forward with Steensby. Steensby has already been proposed and has been approved.
 - Caleb Sangoya: for the people of Igloolik, they need to consider that for about 2 summer we have had no narwhals. When they start hauling throughout the whole year, the walruses will be affected. Igloolik isn't benefiting now, and wont if Steensby goes forward.

Ship vibrations

- Caleb Sangoya: Ship vibrations is a very big issue. When you are at the cabin you see that things are moving can tell that the ships are passing by. How can we come up with mitigation measures for this? Even when travelling slow, there are still vibrations. When Phase is approved, it is hard to say we can mitigate for this or not. People of Igloolik will be affected all year round when Steensby goes ahead.
- Caleb Sangoya: there are birthing areas for narwhals, but haven't seen them give birth since the ships have started going through the area.
- Caleb Sangoya: I am from Pond Inlet and when we wanted to build a cabin we have to go to HTA to get it approved. They have to consider all things and assess the area to see if it is OK to build a cabin. Why do you not request HTA approval for projects?
 - Kent Gustavson: anything that is to take place on Inuit-owned land it is up to the HTA to approve, then the QIA. Need to get clarification on this.
 - Chris Murray: we have a commercial lease agreement with the QIA to access the land. I am not aware of discussions with HTA and the process with their approval.
 - Patrick Abgrall: Golder has gotten HTA approval for studies.
 - Caleb Sangoya: when we see narwhals that are about to give birth, we tell children not to go in water. This is because vibrations can affect the birthing process. Now with ships, we cannot tell ships to stop going through.
 - Kigutitarjuk Shappa: whales give birth at different times at the month in the summer. Narhwal are not like seals. Seals have cubing season, but not with narwhal.

- Caleb Sangoya: is it true whales can give birth throughout the summer. Yes, it is, but over the past 2 summers there have been no birthings of whales in the area
- Sakiasie Qaunaq: through IQ, the narwhal can give birth any time. When they are together in a group, they can give birth.
- Joshua Kango: going back to the previous topic regarding the approval for research. When people want to build cabins you go through HTA. But for animal research you have to go through the ad-hoc committee, and when they approve it they have to let QIA know.

Monitoring the terrestrial environment

- Mike Setterington: As a person who does EAs across Canada, my career has been built on small to large development project. My job is to work with proponents and go through and identify overall disturbance and to identify how to protect areas to ensure the least amount of impact.
- Mike Setterington: Workshop participants have mentioned legislation it is painful to read. In Nunavut in particular, there is the Nunavut agreement. Inuit-owned lands have been identified and protected under Nunavut land Claim Agreement. There is another process, which is the NIRB process which is applied to large developments.

Monitoring studies

- Mike Setterington: We are monitoring footprint, dust, etc., and acknowledge that measures are not perfect. Because dust is such an issue, we have a good dust monitoring program. Dust isn't a problem until it lands on vegetation and then this vegetation is consumed by animals.
- Mike Setterington: Also looking at caribou we want to know how they respond to the project. Have made predictions on caribou based off of other mines across the country. Also look for tracks on snow and what they're doing around the project site.
- Mike Setterington: these are some of the many programs BIM has that fit into broader monitoring programs.
 - Road traffic monitoring
 - Can see have had more trucks on road than expected.
 - Dust-fall monitoring
 - Predicted that we will see dust and that it will be generated, but what is the impact? [reference dust fall map]
 - How do we go about measuring/monitoring dust? There are dust fall collectors.
 - Through monitoring have found out that dust at air strip and milne port are being generated more than expected.
 - Vegetation monitoring
 - Impacts of dust on vegetation is a problem we are interested in.
 - GN and BIM have vegetation monitoring programs GN concerns revolved around project impact on habitat
 - If we see something happening close to Baffinland and far away, then it's something happening across the island.
 - There are sample plots close to the road and further from the road. Want to figure out how far away dust affects vegetation. We collect vegetation and send to lab to figure out which metals are on it.
 - We have gotten people from communities to do surveys.

- We want to determine if project is affecting vegetation and caribou, and as a result permanent sampling plots have been set up.
- Snow banks and tracks
 - Monitoring of snow banks to ensure there being managed properly.
 - Measuring of bank size, as well as look for animal tracks.
 - More monitoring will happen once caribou come back.
 - We are now monitoring snow banks at every km to determine whether we are compliant. If not, loaders go out and decrease bank size.
- Height of land surveys
 - With this, we walk up on high points of land to see caribou, and observe how they respond to the project. This happens middle to end of June/July.
 - We held a program on behavior monitoring/observations, which was done in 2013. However, we have not seen any caribou since 2013.
 - Have a lot of helicopters flying around, but key thing is to avoid certain areas around the site.
- Wildlife mitigation and monitoring plan
 - Produce reports every year and is presented to the working group

Questions:

- George Qulaut: Directed to Mike Setterington → what type of professional are you?
 - Mike Setterington: Professional biologist since 1988. I started with forestry in southern Canada, then birds across Canada, then started studying caribou in the terms of impact assessment. All staff members are biologists. P.bio.
 - o George Qaulut: have you dealt with insects?
 - Mike Setterington: no, we do not have emtomologists. We do have a have chemist.
- Caleb Sangoya: with the monitoring stations for the dust...we have had access to the lands there for a long time, and they are high places. Do they go up to three feet? The dust collectors? How high are they?
 - Mike Setterington: they stand quite high off the ground (2 metres) then the funnel protects the contents in the jar. We have to build them up high so they do not get buried with snow. The second reason, if they are too low, you will get broken pieces of vegetation in the jars, therefore affecting the measure. 24 dust fall collectors in total exist.
 - Caleb Sangoya: with the dust monitors, they have all been proven effective? We have seen dust that goes all the way to Bruce Head and yes, we do have less dust now. But when we see dust going that distance, especially in the spring, it can get into the environment (soil, water). How can this be mitigated for? When making tea in area, don't want polluted snow. How can this be monitored and measured?
 - Mike Setterington: how mitigate for dust? Putting crushing operation in a building. We will still have issue with the stock pile, as in big wind events, particles can be captured and blown. Cannot put water on it as it will freeze the iron ore. Mitigation dust from the stock piles will be somewhat of a challenge. How mitigate dust going further up north? It will be tricky. Not being able to make tea is an effect that was not predicted. Comes

back to the largest environmental issue which is the controlling of the dust. Red dust is not a huge risk.

- Caleb Sangoya: a lot of info suggesting that dust can be seen all around the haul area. As soon as we get out half mile from the road, we get to the point where can't measure the dust.
- Caleb Sangoya: researchers and scientist have mentioned that the dust, when it goes on the land, the sun turns it to acid – do you get acid rain?
 - Mike Setterington: no, this is not the case.
 - Chris Murray: We collect water around facilities to ensure no pollution.
 - Mike Setterington: fundamental protection measure is water protection.
- Joshua Kango: sometimes I don't understand exactly what you are saying about dust. When you're talking about dust, are you talking about fumes from vehicles, or dust from the ore? You have said that you have tested the animals. For us, the lichen takes 50-60 years to grow. How long with western science has it been determine to grow?
 - Mike Setterington: we are talking about ore dust and dust from the road. With regard to lichen, a 50-60 year growth rate is coming from traditional knowledge. Western science agrees with this growth rate too.
 - o Joshua Kango: What about emission from the vehicles?
 - Mike Setterington: with regard to emissions, BIM reports on GHG emissions generated by operations. By the time is settles on plants it can actually be a bit of a fertilizer.

Monitoring of the Marine Environment

Patrick Abgrall: The objective of the monitoring studies is to measure effects of project on the
environment. Impact assessment predicted the effects of the project on the environment. Until
an activity happens, we never know exactly what is going to happen. We have mitigation
measures in place – we are currently determining if they are effective. Adaptive management as
needed. As we see things we can make changes to plans/programs to better them.

Marine Monitoring Programs

- For marine mammals, we have 5 programs which either happening annually or every few years.
 - Ship-based observer program
 - Aerial surveys
 - Caleb Sangoya: can Ocean North's info be distributed to other communities?
 Pond to distribute it next meeting. Effects of mammals...ocean north's report on effects is very good.
 - Sakiasie Qaunaq: Can be put on vehicles to make them safe, especially with regard to emissions?
 - Chris Murray: in terms of health and safety, have monitoring for staff on site to ensure that air quality they're exposed to is safe as far as the diesel fumes, don't have to worry about confined space exposure to staff. But do monitor air quality at mine site and milne port on a continuous basis.

- Shore-based monitoring program
 - Patrick Abgrall: Allows to study a small area over a long period of time. Elijah has been vocal about importance of this project. Observers in Pond believe that the shore-based study worked best. 2017 had similar amount of narwhal ins 2014/15. 2016 it went up.
- Acoustic monitoring programs
- Narwhal tagging program
 - Patrick Abgrall: We see how narwhal are behaving based off their population through use of backpack tags. Want to collaborate with other scientists to determine whether killer whales had impact on narwhal migration patterns/their presence in certain locations.
- Marine ecosystem
 - Patrick Abgrall: Marine ecological effects monitoring program. For instance, with this
 program we look at ballast water. Specifically, we look at the water column, which assist
 us with determining the overall quality of water. We also look at the possibility of
 aquatic invasive species. There is also a marine habitat offset monitoring program as
 well as physical oceanography programs.

Questions:

- Timothy Kuppaq: do you use drones?
 - Patrick Abgrall: have tried them out, but when on site didn't see a lot of narwhal but didn't have any whales to look at with the drone.
- Caleb Sangoya: This regards the ship-based observer program. In 1996, when I built a cabin in area there wasn't a lot of shipping. When the ships start arriving, the ocean movement is different. Now with shipping, Stevens Islands cannot really be seen. This is also where the narwhal were found before (this is Bruce Head area). Narwhal hide around the area, but if ships continue, the narwhal won't come back. There is a nursery for narwhal is Eclipse Bay, however, they have been moving out of the area.
 - Patrick Abgrall: in 2015 saw a lot of narhwal passing by Bruce Head, and some in 2016.
 Last year did not see a lot.
- Jonah Oyukuluk: question about narwhals are you going to do more research around Pond Inlet area?
 - Patrick Abgrall: that is what Golder is looking at with aerial survey. Talking with BIM with where the surveying is going to happen.
- George Qulaut: when doing observation research, have to consider what we do not see. When
 marine biologists talk about this subject I just have so many questions as I lost my father at age
 of 13 due to drowning. When people talk about marine mammals it is always painful.
- George Qulaut: how are the narwhal tagged and how are they captured?
 - Patrick Abgrall: from Tremblay, net is set out in water, then have two people who are stationed on the shore and look at the net. There are buoys that are on top of the net that sink when a narwhal is in the net. Unhook net and bring into shoreline, where it is held in shallow water. A vet is on site that takes samples and looks at stress of animal. If the animal shows any sign of damage, we let go of the animal. If OK, proceed with tagging. In theory, the tags should stay there for a while.

- George Qulaut: what material is used?
- Patrick Abgrall: plastic.
- George Qaulut: were you involved with Steensby Inlet marine monitoring?
 - Patrick Abgrall: no.
- Jonah Oyukuluk: One time when we were hunting narwhal we saw killer whales along the beach. Saw metal pieces coming out of narhwal. tagging through use of spear doesn't hurt the narwhals.
 - Patrick Abgrall: this year no tagging through Tremblay Sound. DFO trying to figure out long term research in area. Once figured out there may be collaboration with this research. Yes, there are different tags.
- Kigutitarjuk Shappa: with regard to the maps, thought we were going to make alignments on map.
 - o Caleb Sangoya: I don't want to do this as I am not an expert on routes.
- Caleb Sangoya: what aerial surveys need to observe is different when narwhal are in a small area. Narhwal have good hearing, and planes can scare them away
 - o Patrick Abgrall: If they are in more open water, narhwhal are able to move faster.
- Caleb Sangoya: With regard to Inuit Knowledge, we are not paid to provide it. I want to be paid for knowledge use.
- George Qaulut: helicopters are all different. The helicopter that has 2 blades, even though not visible, the sound is very close. When fishing on lake, could see fish then all of a sudden they swam the opposite direction due to an incoming helicopter. The fish heard the helicopter before humans did. Need to be aware of helicopters and the noise they make. They have many effects. Also with marine life, footprints were mentioned. You talked about what can be observed by our eyes, what about microbiology? Their food source. Have you done testing on plankton?
 - Patrick Abgrall: yes, this is done at the port. We look at water samples. Also take samples off sea floor. With regard to planes and helicopters, there are many aspects to consider. Twin otters can fly further. It's good to compare how survey has been carried out historically. Planes differ and have different effects.

Reclamation

Presenter: Chris Murray

- Chris Murray: We have an idea on how we will clean up some infrastructure, but for the rail line, this is the infrastructure that could potentially be used if once the mine life is expired. In the Yukon, a historical rail is used for tourism. What would you like happen with the railway? Do you want it removed? Or do you want to leave it in place? Partial removal?
- George Qaulut: what type of closure are we talking about? If mine is not operational due to decrease in ore price? Or time when resource is exhausted?
 - Chris Murray: two different closures. Temporary, but infrastructure left in place. Then
 there is permanent closure, where everything has been exhausted. In this context, we
 are looking for input on permanent closure.
 - Caleb Sangoya: too early to say what should be done. When this time comes, the people
 of Nunavut have to have a say about it.

- Chris Murray: We work close with QIA to update closure plan. QIA approves the interim plan. The final plan is prepared when the mine goes into final closure. At this point we are planning as a just in case measure. Thinking around the tote road, we have bridges. As part of closure plan, we can remove bridges. QIA has said they may want to use bridges after the project. However, we need to wait and see at closure what is acceptable. Right now our plan says we will take the bridges out, but there is the option to leave the infrastructure.
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- Caleb Sangoya: I have been told that a big mountain will be made?
- Chris Murray: the pit once developed would be filled with water and will create a lake. The intent is to create permafrost to capture acid generating rocks.
- Caleb Sangoya: Can other mines use the railroad?
 - Ohris Murray: there may be opportunity for other companies to use railroad for their operations. But because iron ore is a bulk commodity and we have to mine and move a lot of it, we need the infrastructure. There are quite a few iron ore deposits in the area, and so there are opportunities to mine the other deposits in the future.
- Joshua Kango: North Baffin has basically been a dump site for a long time. If closing up, will equipment be shipped away from site? Will items just be left up or shipped south?
 - Chris Murray: some of the equipment is owned by contractors which will take the
 equipment once they leave. A lot of the larger pieces of equipment will have to be
 decommissioned and disposed of on site. But always looking for opportunity to recycle
 materials. The current plan for heavy equipment and BIM owned equipment is to dismantle
 it and decontaminate it and leave in landfill on site. But the intent at this point is to dispose
 of on site.
 - Sakiasie Qaunaq: The site should be properly cleaned and the pit should be left open.
 Maybe extend road to Pond Inlet.
 - George Qaulut: looking for clarification yesterday I asked about ownership of the rail line
 - Chris Murray: BIM will own infrastructure but the train will be operated by a contractor.
 - George Qaulut: I have done research on rail lines previously owned by mines. In the long run, I think the next generations who will be there will make the final decision. Would like to see that, if the rail line is to be built to Steensby to Milne Inlet, that the rail be given to an

Inuit organization. For example, QIA. However, maybe the t north and south Baffin will be broken up into two associations.

- Chris Murray: important point. In our closure plan we have a set of objectives and criteria for each area of the mine to say this is how we ae going to clean it up and what it's expected to look like at closure, and how it is being done. The last column on table is the measurement of it how do we confirm it has been cleaned? There's anything from a geotechnical engineering to ensure everything is stable, to a biologisy to ensure animals can move freely, but also a rep from a regional Inuit organization signing off that it meets aesthetic value of land, and is acceptable at closure.
- George Qaulut: with regard to the pit and its name, I would like to see at that time during closure that is be renamed as an Inuktitut name and that name should be. It should be called Old Mary River.
- Danny Arvaluk: thanks Igloolik and Pond for being here. Wish to keep the pit open.
- Kent Gustavson: What would you like to see in the next workshop?
 - George Qaulut: This workshop has taught me a lot and will be able to relay info on to communities. Happy to share IQ. Would like an archaeologist here. Human beahaviour should also be studied. I fell it would be beneficial is all 5 BCLOs were to attend these workshops. In future workshops, you should invite also all HTO members and a member from the municipality. Also, with regard to the cost of obtaining IQ, Inuit want to be paid for their knowledge. I agree with Joshua that Inuit have been underdog in payments. Between 1954 and 1957 when hall beach was being constructed, I looked into wages of Inuit. All Inuit were paid 200 a month between these years. At this time it was a lot of money. However, also at this time, minimum payment for southerner was \$3,000 a month.

Appendices

Appendix 1 – Workshop Participants

Community and/or Organization	Name	Role
Arctic Bay HTO	Jonah Oyukuluk	Participant
Arctic Bay HTO	Joshua Kango	Participant
Arctic Bay HTO and Hamlet	Kigutitarjuk Shappa	Participant
Arctic Bay HTO and Hamlet	Sakiasie Qaunaq	Participant
Clyde River HTO	Lucy Palituq	Participant
Hall Beach HTO	Danny Arvaluk	Participant
Hall Beach HTO and Hamlet	Timothy Kupaaq	Participant
Igloolik Knowledge Holder	George Qulaut	Participant
Pond Inlet HTO	Caleb Sangoya	Participant
Baffinland	Lou Kamermans	Observer
	Fay Pittman	Observer
	Chris Murray	Observer
	Krista Johnson	Observer and Recorder
EDI	Mike Setterington	Observer and Presenter
Golder	Patrick Abgrall	Observer and Presenter
Genesee & Wyoming	Louis Gravel	Observer and Presenter
	André Houde	Observer
	Benoit Giroux	Observer
	Christian Richard	Observer
	Claudine Bois	Observer
ERM	Kent Gustavson	Facilitator
Independent	Geela Tigullaraq	Interpreter
	Rhoda Kayakjuak	Interpreter

IQ/Risk Workshop: May 7-9, 2019

Day 1: May 7, 2019

- Caleb Sangoya gave opening prayer
- Roundtable Introduction of participants:
 - o George Qulaut (Igloolik, NU) Knowledge Holder
 - Was a negotiator between BIM and QIA. Wants BIM message to be consistent with Inuit communities.
 - Natalino Piuqattuk (Igloolik, NU) HTA Board Member
 - Interested in the proposed railway.
 - o Caleb Sangoya (Pond Inlet, NU) MHTO Representative
 - Is attending workshop because the proposed Phase 2 Project will have great impact. first steps as a child in the Mary River area. Frequents the area in the spring and summer for hunting and traditional land use purposes. Was unable to visit the location in which he used to camp in when on site; is upset as he is not able to go to traditional lands any more (i.e. for fishing), and has now observes damage and exploitation of the land in the area. Is upset about caribou paths being impacted by the Tote Road and further impacted by the proposed rail line.
 - Is concerned about losing ancestral homes.
 - Does not think BIM cares for the land and the people in this area.
 - Approvals are happening without involvement of the community members.
 - Expects there to be no damage or risk to the environment and human environment. Would like to understand fully what BIM's plans are – why is the company in a hurry to move forward and increase production?
 - Joshua Kango (Arctic Bay, NU) HTO Representative
 - Happy to be participating, and would like to remind all participants to think about the future and what will be required for Inuit to survive and thrive. What we have to do is prepare the future for our children and grandchildren. We were told that our grandchildren will be working here for a long time – we are doing this for future generations.
 - Most important issues to cover:
 - BIM is extracting from our land and exporting over the sea very little is going to Inuit. Need to think more about a balance where both the company and Inuit benefit. Regarding marine and land life, as long as these environments are not damaged, then is OK. We did have a lot of caribou at one time in this area, as well as a lot of fish. When caribou first started seeing exploration, they went away and then returned. Marine life can get used to traffic as well marine mammals are adaptive.

- Curious as to the size of ship to be travelling in and out of Milne Port.
 We live off the land and waters, we may lose all those mammals. It
 might not just not happen immediately, but may lose species over time.
 Whales are now going to the Kivalliq through Lancaster Sound. It is a
 route, and this transportation route has affected the marine life.
 Increased shipping will make it harder for Inuit to live off the land and
 waters. Inuit get little benefits. We may end up losing food source
 completely.
- o Sakiasie Qaunag (Arctic Bay, NU) Hamlet Council/Knowledge Holder
 - Participated in previous environmental assessment phase for the Project. BIM
 does come to communities and as well as does talk about plans they are quite
 transparent. BIM also gets information from communities.
 - Seems as though BIM is trying to determine overall impacts the Phase 2
 Proposal will have on the environment (i.e. damage to land).
 - Would like to be involved in planning process. We talk about adaptation and how things will function. We can work collaboratively if we continue to have workshops.
 - Understands we are going through EA process, and that we need to start planning together and consult with one another.
 - Here for the workshop so that we can work collaboratively with one another.
- Timothy Kuppaq (Hall Beach, NU) Knowledge Holder
 - Used to live in Arctic Bay moved to Hall Beach in 1980s.
 - Supports BIM this is why he is here. Understands that the land is being used and impacted, but Inuit need this project for today and the next generation. There are so many tragedies happening in communities. Need to help our next generations grow, and this mine will help with doing so. Community members need jobs and money so that they can survive. Most Inuit do not live traditionally any more. We need to plan ahead we need to make plans for our future generations.
 - Doesn't talk a lot to elders about this project; rather, talks to youth and how the project can benefit them. Elders and non-youth must not think about themselves. Need to think about future generations.
- Danny Arvaluk (Hall Beach, NU) HTO Representative
 - On the HTO Economic Development Committee
 - The project and its expansion is going to have an impact on all north Baffin communities. Inuit and non-Inuit need to participate in the planning process.
 - There should be designated outside location on site for people to go and visit.
- David Irngaut (Igloolik, NU) Knowledge Holder
 - Grew up in Pond Inlet (first visited Mary River area in 1955), and sympathizes with Caleb's remarks about the project.

- Representing Igloolik elders (no longer with the Igloolik HTA).
- Would like BIM to continue with the project and move forward. Igloolik community members work here – want Inuit to continue to work at Baffinland.
- Need to change some of the proposed rail line routes this is his only concern.
 Baffinland needs to do proper railway route planning. Impact on narwhal also needs to be assessed.
- Area needs to be properly planned out.
- The ore dust is nothing dangerous.
- Need more meetings so that we can make decisions.
- Snow melt in Mary River is having an impact on freshet (i.e. melting/flow of water).
- As Inuit, we only have country food we can eat anything that is fresh from the land. However, the project may have impact on the land – measures must be developed to mitigate impacts.
- Olayuk Naqitaqvik (Arctic Bay, NU) Community Representative, Designate for QIA Representative
 - Appointed by Hamlet via QIA
 - Levi gave his position to sit here
 - Inuit in attendance at the workshop are not the same as young generation we have now. Older generations of Inuit grew up barely surviving.
 - The people that are employed by BIM are growing and are getting ahead. They are not struggling. Mining is growing fast and is getting bigger this is a big positive. Inuit need the jobs. However, for the animals, they may vanish, and for this reason time must be taken to ensure animals are not highly impacted. Seems like everything is being rushed.
 - As of present, there are not many Inuit employed at the BIM Mary River site; however, there will be more in the future. People employed by BIM are doing well and can look after their families. This is good. This amount will increase need to look at community aspect at how this project can advance. Need to work together and make agreements.
 - Arctic Bay is not getting too many benefits. Think BIM is rushing the expansion of the project. Probably not going to listen to Inuit saying to 'slow down' because people need jobs.
- Lucy Palituq (Clyde River, NU) HTO Representative
 - Agrees with the Phase 2 Proposal. A lot of inuit IQ is being implemented in this process. Can see that Inuit are part of this project, and have been considered.
- Kigutikakjuk Shappa (Arctic Bay, NU) Elder/Knowledge Holder/Hamlet Member
 - When looking at young people, they are not eating as much country food as we used to. Support the Inuit (traditional) as well as those who need money. With regard to Pond Inlet, the community is closest to the mine. If Pond Inlet is

having a hard time getting food, country food can be shipped to them. If we can share what we have to the other communities, this would be great.

- Caleb Sangoya (Pond Inlet, NU) HTO Representative
 - The Pond Inlet HTO is working with BIM. Cannot come to an agreement yet regarding employment. Yes, Inuit employment on site is wonderful, but it is also way behind in its Inuit employment targets. Have not met 25% yet. Inuit women represent only 2% of the BIM workforce on site. What is BIM's plan to meet the 25%?
 - Has concern about fuel spills. Other concern regards ships following regulations (i.e. speed limits, ballast water).

Summary of workshop #2 results

- Caleb: no contracts available in Pond Inlet. Article 7 of NLCA how can we improve the amount of contracts? Are you forgetting benefits to the communities regarding contracts?
 - Answer Joe (BIM): contractors should attend community tours. Nothing regarding contracts came up in Pond Inlet. Clyde River is now working with EDO to increase contract benefits. Need to encourage people to go to community meetings.
- Caleb: There is a hearing in September. We would like to see all the contracts that you have awarded to date. Tenders should be open to community members. When tenders go out, first priority should be affected communities. There are many contracts that could be awarded to Inuit communities.
- Caleb: We used to catch so many narwhal in Milne Inlet. There has been a decrease in the amount of narwhal. Contracts should be tendered and awarded to affected communities first.
- Megan Lord-Hoyle: Have article under IIBA that outlines process to follow when contracting out. All contracts are actually advertised. For every tender we have, we send out to a distribution list. So if businesses are interested in applying for the tenders, then the first step is to become a designated Inuit firm, then they will be added to the distribution list so that they will see all the tenders becoming available. BIM is working with the QIA to ensure this list is up-to-date. It is recognized that not all businesses are registered yet. So also within the IIBA, there is a business capacity start-up fund. BIM has provided funds to help support local businesses start up.

Megan Lord-Hoyle: Presentation – Community Benefits, Socio-Economic Impacts

- The FEIS was developed and takes form as a number of TSDs on each different environmental and socio-economic components.
- Description of VSECs and associated impacts (estimated):
 - Effects on economic development → Positive effects both through employment and through training.
 - Human health and well-being → High probability of effects to occur, residual effects of absence of people in communities (shift work).

- Contracting and business opportunities → Through IIBA and certain contracting structures in place, there is high probability that the creation of location business opportunities would result. Also high probability of interaction between project and culturally significant areas that are important to communities.
- Potential for sensory disturbance at camp interaction by hunters going through by operations.
- why need for rush to increase production?
 - Mary river iron ore the deposit here is high grade as exists in large quantities. Investors have invested billions of dollars to get the project running now and into the future. Iron ore price and how much needed to turn a profit differentiates it from other minerals. With gold, producers don't need a lot of it to turn the project. However, what should be noted is that gold projects have short life span. But for iron ore, there are two scenarios that make it profitable: i) iron ore price is higher; or ii) need to transport as bulk commodity.
- Discussion on investors since 2013:
 - After Steensby was approved, the price of iron ore started to drop. The cost to build the rail line to Steensby was not profitable. This is why BIM has re-envisioned how the company is operating now and in the future. With the fluctuation of commodity prices, the company is not making money right now not profitable. Production now is maintaining commitments to IIBA, but none is going back to investors. At some point investors will lose interest if they do not see a return. It has been since 2013 that it was first envisioned to be a profitable project. This has yet to happen. This is why we are in a rush for the approval of the Phase 2 Proposal the only way to survive is to increase production. BIM recognizes that it seems like a lot to ask communities to provide input into the proposal, and that the timeline does seem short, but we are looking to get as much input as possible. We want to understand what communities are looking for, and we want to work together and create an agreement on how we are going to work together.
- In 2018, an IIBA renegotiated between BIM and the QIA. Some of the highlights out of the negotiations:
 - Research vessel to go to all communities over 5 years.
 - o Harvesters enabling program.
 - \$200k to Pond Inlet each year for community-based monitoring (10 years).
 - Commitment to fund training Centre in pond inlet to spend \$2.5M until 2021 on Inuit training program called Q-STEP.
- QIA indicated they may want to renegotiate IIBA specific to ph2. BIM's position is that IIBA as it
 is does cover Phase 2.
- Overall, the workforce isn't going to change that much with where we are now. Right now there are approximately 1,000 BIM employees.
- Through Phase 2, BIM will be spending >\$200M/year in Nunavut. This includes wages, contracts, etc.
- The IIBA does set out a goal for minimum Inuit employment at site. This goal is renegotiated each year with the QIA. No target has occurred/been created yet for 2019. 2018 was 25%. Also

have aspirational target of 50% Inuit employment. It has been recognized by the GN and QIA that this is not achievable year-to-year. This is a long-term goal. Need to build up a labour pool.

- This relationship with north Baffin communities will drive what the future looks like.
- Management plans help guide operations; they outline what we monitor and what mitigation is in place.
- Current community benefits programs
 - Training > 72,000 hours of training completed by Inuit at site.
 - Contracting 9 contracts worth more than \$140M to Inuit businesses and Joint Ventures.

Questions:

- What did you expect from project as it developed?
- o Have you noticed benefits to your communities?
- What else can BIM be doing through operations to benefit communities?
- o Caleb: regarding Nunavut, BIM has given money to the Government of Nunavut.
- Caleb: Pond Inlet has a terrible water truck. Municipal services are not up to par. In spring, have a lot of dust on the road.
- Caleb: In the communities there are agreements. We can create a corporation if you wanted us to. Us in the high arctic need to form a land-holding corporation to see benefits. QIA looks after itself and nothing goes to the communities. We need our own corporation so that can tap into benefits. The 5 affected communities should start a corporation that is recognized by BIM.
 - Joe (BIM): There is nothing that prevents BIM working directly with communities. We do work directly with the communities.
 - Caleb: BIM should have a closer relationship with communities.
- o Timothy: Agrees with Caleb. We the affected communities should directly benefit financially or at least get assistance from the mine. Inuit workers, because I live with them, they need to be encouraged to gain employment and training at BIM operations. Need to provide motivation to the new generation so that they can be self-sufficient and get jobs at mines. Also keep hearing Inuit hire has to increase it is up to use Inuit to go out and seek work. However, many of us do not have the education, motivation, or skills to get into workforce. Young people need encouragement to get working. If BIM were to shut its doors and another company comes in and takes over, I know that the relationship would not be the same. I think that if we had a more skilled Inuit workforce more Inuit would be hired. We also recognize what BIM is doing BIM has met with communities since they started operating. We acknowledge you are supportive of Inuit and Inuit benefits. Want to see BIM continue what they are doing. Don't want someone else to take over.
- Sakiasie: When we met in the winter (January), we talked about employment. There are no convenience stores here where cigarettes can be purchases.
 - Answer Megan Lord-Hoyle (BIM): there is one in the MSC and the new camp.
- Sakiasie: Went to room and there was no soap and no towels we need towels and soap. Need cigarettes toothbrush, etc. hygiene products do not exist here. Rooms are completely empty. I refuse to live like this. Rooms should have all items.

- George: Question about how much BIM is spending in Canada. Are you spending money on European vessels?
- o Caleb: Who approved the Tote Road?
 - Answer Megan Lord-Hoyle (BIM): Tote road construction happened before BIM was operational. BIM does have a commercial lease where we pay QIA for access to PD area, which includes use to the Tote Road.
 - Caleb: Who was involved in this?
 - Joe: Also, NPC reviews land use. So BIM's use of the Tote Road is approved.
 NIRB reviews the LUP from the NPC as well.
 - Caleb: Want community members to understand the process fully. We have land use committees in municipalities. For example, if want to build cabin, need to get approval. Pond Inlet owns part of the vicinity of Mary River. I do not think the NPC consulted with the community at all regarding the Tote Road and its use. Need to understand that we in community go to the HTO land use committee, approved by the HTO committee, before we can build cabin on Inuit owned land. This is how HTOs operate at the community level.

Mike Setterington, Presentation: Review of Protection Measures for the Terrestrial Environment

- What do you think are the impacts of ore runoff dust on lakes and marine life?
- What do you think are the impacts of runoff of mine onto roads?
- What do you think are the impacts of ore in the lakes on char, fish, potentially decreasing fish populations and impacting fish harvesting?
- George: Doesn't like proposed questions to answer. Elders don't know how to answer these questions.
- Timothy: How do we know that there is an impact? Need to review ice melt and dust. Water and ice should be tested. When we go seal hunting in the spring, we see dust on the ice/snow. This should be monitored over time. In spring, I would like to see BIM monitor ice melt and test dust.
- Answer Mike Setterington (EDI): As far as dust go, we see it everywhere. We do monitor dust fall. The important thing that we are looking at are the components in the dust. We monitor dust on land, but not on snow. This is because we believe we have a good sense as to how much dust is being generated by this project. We just collect dust scientifically so that we can quantify it. Have been talking about dust since the beginning of this project. At the last workshop, we discussed dust controls in place. From all the lab testing on the dust, it is not a dangerous dust at all
- Sakiasie: We have a lot of dust from the earth. There is a lake by Pond Inlet, salmon river, it is very murky water because the mud is flowing it it is the same dust that we can breathe in the environment. It can affect the respiratory health of animals. But once settled in water, it is no longer harmful to people and wildlife. Such dust (iron ore) can affect human and animal life only if breathed in. not too concerned about dust once the railroad starts. There will be less dust with the trains. Look at the lakes the lakes still have fish. Dust is not a concern.
- Caleb: Concerned about the surface of the earth. It used to be wonderful. There is a deep water lake around here. It is not good for children. Tailing ponds have been tested since 1940s. it is OK on surface, but everything below the earth is not ok (ground water). after 20 years, the tailings

water can be turned into healthy water. Important to monitor tailings ponds. Iqaluit and Kugluktuk have monitoring programs RE: water quality. Perhaps there may be a negative impact by iron ore mines.

- Response Mike Setterington (EDI): there is monitoring in water for metals. There are a
 lot of monitoring programs. Have been doing intensive monitoring since 2012. In 7th
 year of impact monitoring. This is followed up by MEWG and TEWG. During these
 meetings, technical people are in attendance and ask questions about monitoring
 results.
- Caleb: from the dust monitoring or other things, we have to understand this is why BIM is monitoring. We need monitoring programs to continue to ensure there are no negative impacts on the environment.
- Joshua: Do you test dust to see if there are health impacts? Do you get results of the dust? What is good, what is bad? Are there any health impacts?
 - O Answer Mike Setterington (EDI): we are looking at pathways to see if there is an impact on human health. It starts with worker health and safety. There is active monitoring on site. When it comes to health impact on people who do not work here (i.e. hunters), this is why we are monitoring dust fall and looking at plants to see if there is a pathway for animals to pick-up these and become sick. Haven't identified a clear pathway for communities to get sick from operations at Mary River. Right now, the concern is the dust on the vegetation and the animals who eat this vegetation. Is there any risk to humans? We are not seeing a pathway here, yet.
- Olayuk: The lakes in the area have fish. Have you studied the fish in the lakes nearby?
 - o Answer Mike Setterington (EDI): Yes we have done baseline studies on the fish.
 - Patrick Abgrall (Golder): We had discussions about community-based monitoring last week with the MHTO about location of lakes that are outside of the direct project area.
 Looking to sample from these other lakes. Helping HTO build plan for sampling at these different lakes.
 - Megan Lord-Hoyle: Clearing snow, especially during freshet is important. There are requirements under the Type A water license on how much TSS can be in the streams and lakes nearby. Right before freshet, because the dust builds up on snow banks, we go along and clear the snow away and put it into a snow dump so that it does not melt and allow for extra dust to melt into streams, etc. So naturally, as things melt, there will be soil that runs downstream anyway, but to minimize additional impacts, we try to remove this snow to reduce amount of soil and sediment going into streams.
 - Mike Setterington (EDI): A lot of control measures we have in place are very specific due to existing regulation. Looking at how project well impact harvesting of anything.
- Caleb: We want to see the development of a research Centre so that we can monitor and test everything. Wants studies to be done in Pond Inlet. Would like to see the health department work with the community during the lifetime of the mine.
- Mike Setterington (EDI): *dust control pictures* In early days, used to only have one water truck. Dust control at first was not good – could only have one truck and divert water from one location. This has improved over the years.
- Sakiasie: Have you seen any change in fish in the lakes when you go towards milne inlet?

- Answer Mike Setterington (EDI): What we do do is we pick vegetation that animals eat
 to see if there is changes in the vegetation. It would take a compelling reason to go
 forward and do destructive sampling.
- Caleb: With regard to areas that you are doing active monitoring, what is happening with the dust bins and such?
 - o Answer Mike Setterington (EDI): We have been monitoring for 7 years.
- Caleb: Pond Inlet wants the monitoring of fish to happen for 20 years.
- Joshua: Do you have dust monitors at milne inlet?
 - o Answer Mike Setterington (EDI): Yes, have 6 collectors on the land.
 - o Joshua: Can you put monitors on the ocean as well in the winter time?
 - Answer Mike Setterington (EDI): We are starting to do things differently on the snow. We will look into this.
- Timothy: We are talking about risk management. Want to say that Caleb and I saw in Quebec (trois-Rivieres, QU) that it is windy there. We were surprised to see a train running in high winds and snow. The rail road was high up off the ground as well. Agrees with BIM and supports the company.
- Caleb: We have to work together especially when it comes to monitoring.
- Mike Setterington (EDI): We want to do what we can to prevent accidents. This is why we have safety rules. Health and safety protocols – trying to avoid or prevent accidents from happening.
 Train derailment – there is road and rail safety protocol to shut the rail down. Everything needs to be clearly communicated.
- Timothy: My question, if there was an accident (i.e. oil spill on shipping corridor), it definitely would have an impact on the land. Who would be cleaning it up? Who would provide the funding? Where would you get the money to clean up the spill? (tabled for tomorrow).
- Caleb: Are we visitors to site?
 - Answer Mike Setterington (EDI): We are visitors to site.
- George: On the safety aspect. Would telephones be installed along the rails?
 - Answer Mike Setterington (EDI): BIM has survival cabins and there will be a communication network.
- Mike Setterington (EDI): Getting into caribou issues. Concerns that were brought up by this group in previous workshops also reflect concerns coming up by regulators. For instance, there is concern about caribou grazing areas and food sources. It is important to quantify the impact on caribou habitat. In order to minimize impacts to caribou, BIM has dust control measures. We also look at what is happening to their food. Most metals that are found in generated dust is iron. If see an increase in a metal concentration, will do further studies. The railway will lead to a great reduction in dust. This is a huge mitigation. Controlling dust and measuring it are key.
 - Timothy: Our past generation they never talked about losing animals in the future. If there is something built and animals are disturbed, they always come back. The lichen is very slow growing. Once the lichen grows back, so do the caribou. This is a trend. Because there is no lichen right now, there are no caribou. This trend was seen even before the mine was built. Sometimes caribou move to another area and then come back they have not been in the areas since 1990s. caribou not being in the region is not due to mining, it is due to them waiting for the lichen to grow fully. The mine has not scared caribou away from the general area.

- George: You are talking about food sources. With regard to lichen and vegetation, we know that dust at this moment is not affecting it, but in the long run, the plants may die off. The dust will choke off plants. Are you concerned about the long-term effects of dust on vegetation?
 - Answer Mike Setterington (EDI): Dust will kill vegetation over time. We are not trying to hide this fact. With gravel roads you lose vegetation around it.
 - David: We have no control over wildlife as human beings. We all know there was a lot of caribou at one point. TK states that nearby Steensby Inlet that the wind has shifted. It used to go east, and now there are snow drifts in the opposite direction. Our ancestors' knowledge, when we talk about wildlife, whether it be marine or terrestrial, when we become obsessed with that and try to take control, we become powerless. We need to respect the animals of any kind. We have to respect the animals.
 - Joshua: We heard that the trucks will continue to travel the Tote Road even with the rail line in. Answer
 - Answer Mike Setterington (EDI): When building the rail way, BIM plans to transport ore half way down the road to the rail way. Will have railway going to mine to port – this is the end goal.
- Mike Setterington (EDI): Very few caribou trails in the north when compared to the south (Steensby). Based on information BIM has for the north railway, 11-12 crossings for caribou need to be built. Back to concerns about impacts of railway on hunter travel routes, they will be impacted, but action can be made to minimize such impacts.
- Comments on mitigation on travel routes:
 - o Timothy: We had never seen a train or track in own land up North. Cannot say how caribou will behave because have never seen a railroad in operation up here. Yes, we can make assumptions, but haven't experienced a rail way in the North. If we have the experience and have seen it, then we can have other ideas.
 - Caleb: With regard to the caribou crossings, other operators stop operations when caribou are spotted close to the mine. This should apply to ore haul carriers and the train. Can learn from the Keewatin miners and how they managed crossings. Hunters need crossings as well as we cannot use the road at the moment. If Phase 2 is approved, we may give up caribou hunting completely here. Wants future workshops on site. Would like to see BIM continue, as well as would like to see Inuit continue to hunt and harvest off the land.
 - David: We never used to come here because there used to not be any caribou in the area. Caribou are always migrating. We were even able to follow them on skidoos.
 Caribou will just always be around here. When they start migrating, they will continue on using their previous tracks. Just need to plan around these tracks. Making a crossing for caribou will help, maybe we can build alternate routes as well.
 - Danny: Would like to clarify about caribou. Caribou can climb very high steep places.
 Whatever caribou can go under they will go under it. They are very smart animals.
 - Mike Setterington (EDI): Elijah said BIM will have a caribou problem in the future.
 - George: There are also other animals than caribou. Animals keep going back to migrating area – they are adaptable to the environment. Need to be aware of all other animals (other than caribou).

- Mike Setterington (EDI): For operations, years in the future when train is going, caribou will respond to change. BIM won't do construction during calving period (Steensby).
- Sakiasie: Caribou still run around even when about to give birth. Caribou are really adaptable. Caribou do not run away and flee.
- Mike Setterington (EDI): Each collision on site will result in an investigation. Vehicle collision with caribou doesn't happen quite often.
- Lucy: Understands that animals do migrate and follow food sources. She supports risk assessment and regulation for mitigation purposes. There are very well clarified.
- Olayuk: Not too concerned about caribou. As long as you have good protective measures in place to monitor things will be OK. Is in support of BIM's monitoring programs. If BIM uses protective measures, Inuit will continue to survive and strive. Is aware that the project will damage the land and animals. Believes that BIM is rushing, but this may be because of the money. Need to work collaboratively with Inuit with any and all planning. This mine is great for communities and will create jobs, but there will be some changes (depending on the expansion of the project). There will be more transportation used regardless. Glad you are doing monitoring and assessing the environment. Captured data will be useful to us.
- David: When we talk about past experience and the future, whether it is land life or marine, we were taught to respect those and to not destroy wildlife. Take what you need, not more. Mining is not the only thing that damages wildlife. We people also have a responsibility to care for wildlife. We can make money out of wildlife. It is very restricted now as to what can be harvested. Policy overrides Inuit concern. Inuit need to be more responsible and more assertive with regard to caring for the land. It is not just mining company that will deplete wildlife. We all need to take responsibility we are stewards of the land. Those on the HTO councils need to do their part on behalf of the community.
- Danny: why are you crushing rock to the point where it is very fine? If you could make the rock bigger before you transport it to port, this would decrease the amount of dust generated.
 - o answer Megan Lord-Hoyle (BIM): Want to say that in response to your suggestion, that is what we envision doing for Phase 2. We are looking to move the secondary crushing to the port. This crushing will also take place indoors.
- Timothy: The environment is changing since we were born. Climate change is making the environment change at a fast pace. We believe that the permafrost is melting below, and that the earth is warming up. Mining alone will not impact permafrost, but climate change will.
- George: We are all tired. Little respect of verbal knowledge of people (white people). There was a picture taken yesterday by NASA (NASA worldview). The picture shows red. It is dust from the trucks. Why is the road red?
- Caleb: Need to have good monitoring and mitigated for to ensure that dust does not go everywhere.

Kent Gustavson (ERM): summary points for the day:

- Important to monitor for dust.
- Fish will migrate.
- Dust impact on vegetation (long-term effects).
- Don't know how caribou will interact with the rail.

• Climate change having effect on the land.

Day 2: May 8, 2019

- Kent Gustavson (ERM): The point of looking at risk analysis matrix is to go over mitigation and agree what should be done. Also, I'd like to go over the matrix to possibly change ratings of risk level(s) assigned to identified risks. When you add mitigation, you hope to reduce the risk.
- Timothy: Yesterday we talked about caribou and whether they areat risk or not. From experience, caribou are not at risk. We live on the caribou. They know to dig under the snow to get at food sources because they smell vegetation. They eat what is edible. If we see tracks showing they have been grazing in the snow, this is an indicator that the caribou may be having issue getting their food source. Caribou find their food by scent. As human beings we eat what we enjoy and discard what we do not like to eat.
 - o Kent Gustavson (ERM): Is caribou risk where it should be (medium, potentially)?
 - Caleb: Believe they are at risk at the moment. At the moment we have no caribou. This is a risk. There are a few caribou, but they are not grazing where they used to around here. After 5-10 years the caribou will return, but the path that caribou use to cross the lands may have been affected by the Tote Road, and will be further affected by the rail line. We used to have a lot of caribou, but the road seems to be impeding on their path and it is too close to the original crossing paths. Western science is different that Inuit knowledge. Inuit rely on the weather. Need to hire people that are experienced to do caribou monitoring, etc. Need to also talk to hunters. Many that are here do not have particular knowledge of this land.
 - Kent Gustavson (ERM): In the future there may be more of a concern regarding the railway and its impact on caribou crossing.
 - Caleb: When there are no caribou the impact may not exist at this moment.
 However, when they return the scenario may be different.
 - Timothy: a long time ago in Nanisivik, I worked there before caribou arrived. Caribou started to arrive when I Left the site. Built highway before caribou migrated back. Kunuk (worked at Nanisivik) could provide more detail on roads and caribou. Caribou migrate where they need to. They have different abilities, and can adapt to a certain extent. They climb high places we cannot climb as humans, such as cliffs.
 - David: Regarding the railroad, we need to review this more. There is a way to improve the railroad. This development also needs to happen. We talked about the train because the trucks are generating a lot of dust. They were asked to cover the ore during transport. Why hasn't this happened? We need to look at ways to prevent accidents and impacts – development will continue. Need to do fine crushing at the port. If covering ore when transporting to the port, this would further prevent dust.
 - Joshua: we have different understandings. A truck carrying ore to the port, although it
 may or may not be covered, the road is still creating dust when they travel. Possibly
 there is dust falling from the ore, but it is the road causing most of the dust.
 - Kent Gustavson (ERM): Most of the dust generated is from the road.
 - Joe (BIM): There are two sizes of ore that are hauled from Mary Rive to Milne Port. One consists of pebbles that doesn't generate dust, and then there are fines that do create some dust.
 - Sakisie: We are Inuit; we are not used to paper. It is difficult with the language you use. it is hard to understand risk. When we went to Quebec we met with the rail road

operators, and I asked them if they have dealt with caribou before. They [Genessee & Wyoming] said they have and that there are a lot of caribou in Labrador. I asked how many caribou they have hit, and they answered very few. There are a lot of caribou along the rail road. They were not too concerned about colliding with the caribou. We don't have a lot of caribou in this area. I believe that caribou adapt. In Nanisivik you could see caribou grazing or resting by the road side. They quickly adapted to the highway. I would say that it is medium risk (railway and caribou). It is certainly a risk, yes but it is not a high risk — I say it is a medium risk. Before the railroad becomes a reality, we can assume it is a medium risk.

- Kigutikakjuk: We hear that because there are not a lot of caribou here at the moment, the risk is low. However, in the future, when caribou return, the risk may be high. We just do not know the future and how development will affect the environment and wildlife. We do not know what the risk is.
- Caleb: Nanisivik as an example, we are looking at 100-year plan here. We have learned that from Keewatin how the caribou migrate. We have few caribou, but this railroad can be a risk to the few caribou. There is an area where we have identified where the caribou are. For example, when you look at the land you will see where the snow has completely melted; this is how you know the caribou have been grazing.
- o Kent Gustavson (ERM): does the group think that caribou crossings would be sufficient?
 - Caleb: I believe this would work, but need to work with BIM to identify these crossings. BIM and hunters need to work together to identify best crossings.
- O Joshua: If you have another meeting like this meeting, would like to have to Kivalliq and Keewatin community miners that live by the mines to explain what they are observing and talk about their experience? Caribou activity can die off without any mining operations. Animals will die off in groups. In the fall, if we have rain and the food source freezes over, caribou will die off in numbers. Human activity is not the only cause to caribou deaths nature can do this as well.
- Megan Lord-Hoyle (BIM): we will look into this perhaps for the crossings exercise (bringing someone from Kivalliq or Keewatin to talk about experiences).
- O George: I am totally confused. I rely on own experience. From personal experience, I have seen the caribou herds that I have hunted I understand their habits. Caribou migrate in huge numbers. In the spring they return and migrate again. They are different from the Baffin caribou. In the mainland, caribou are very wild and they will run off very quickly with human contact. The caribou here, if tracked by snowmobile, if they see the fresh tracks, they stay away from area. In the fall, caribou behave differently as well. Went caribou hunting to Mary River once. We were also quarrying for soapstone. The caribou here are smaller; they are tame and curious. They see humans without fear. We need to acknowledge that herds behave differently. We need to be relying on resident expertise for their knowledge. Caribou behave differently in varying geographical areas. What is the behavior of the north Baffin caribou?
 - Danny: To reiterate, Keewatin caribou are different than the North Baffin caribou. North Baffin are small caribou.
 - David: Need to educate ourselves because all wildlife is interdependent on one another.

- Kent Gustavson (ERM): we are now going to go through other risks.
- Caleb: Talked about migration and hunters. From Igloolik, Hall Beach and Clyde, they do not hunt in Mary River too much. Pond inlet hunts in Mary River. The impact on rail roads on hunting routes can only be defined by Pond Inlet.
 - Joshua: Question to pond inlet the road was built a lot time ago, before the mine happened. Was there consultation with Pond on the Tote Road?
 - Answer Kent Gustavson (ERM): This road was put in before BIM came into the area.
 - Caleb: Who built the road? Not happy that Pond was not part of the road planning. We were told that it would be a public road.
 - Joe (BIM): There is the NPC. There are people who agree and disagree with certain things. The NIRB examines the EAs of projects. This road would have been approved through the NPC process. The railway was not included in the NPC Land Use Plans. The rail road has yet to be approved, this is why we are going through hearings.
- Lucy: We are looking at risks and impacts. This is important yes, it is a little confusing to us. When we leave our land we usually see our environment. The rail road and mining is also useful to us, so it is a whole part of planning. We talked about employment, etc. it is a long process and a lot of planning. We use our experiences to talk about issues being brought up in the workshop.
- Kigutikakjuk: Are all the roads an issue? What if you were given an alternate route, it would be feasible?
 - Caleb: We used to use this road until BIM came in place. Now we can't because its restricted.
- Joe (BIM): What Caleb is talking about is the road from Mary River to Milne Inlet, it is not accessible because for skidoos and Hondas they are not visible for the workers who are travelling on the Tote Road. We understand your concern. However, when you come by the truck, the truckers can assist you with crossing the tote road.
- Caleb: Was thinking before the hearing that perhaps the hunters of Pond Inlet should raise their issues. The tote road was supposed to be publically accessed. Crossings should not only be for just caribou, but for hunters as well.
- Sakiasie: People from Pond and the hunters are having problems with these roads. The people who are using the Tote Road use it to do hauling. There is no alternative for the haulers. Pond Inlet is getting way ahead of themselves. BIM is working really hard to get what they want done, done.
- Joshua: If the rail road is approved, if it is too dangerous to use roads for anything else, once you start the rail road maybe it will be easier for Pond to use these roads.
 - Megan Lord-Hoyle (BIM): In terms of access, when Phase 2 starts, we won't have ore trucks on the road anymore. So a lot of the traffic will decrease. In terms of access for snowmobiles, etc., think we may use same practices we are using now to ensure safety. However, other things we have been doing is trying to understand where people are travelling around the Tote Road and improving crossings across the Tote. Last year we made improvements to crossings with MHTO input.
- Sakiasie: The animals can go anywhere there is food. They definitely will move. If do construction the will move somewhere else – it is expected.

Patrick Abgrall (Golder): Review of protection measures for the marine environment

- Potential impact ships hitting ice burgs (should be changed to ice in general)
 - Mitigation ice escort services, ice management (tugs), transit only when safe
 - Risk: do these mitigation measures address your concerns?
 - Caleb: The ice burgs, have never seen a collision between a burg and ship happen before. Ships use their routes and GPS to avoid collision. There is more of a concern relating to the break-up of ice.
 - o George: Animals will flee when ice breakers come through.
 - Sakiasie: In May the seal pups are very small. No ships should come in May. In the fjords from March to May, the seal pups are vulnerable and are at risk.
 - Caleb: We need to know more about seals. All we know is that once the sun is back, the seals come out. They also travel along the shoreline. More studies need to happen on the seals, especially when the ice is breaking up.
- Potential impact oil spills from ships
 - Olayuk: If there is an oil spill, how will BIM prevent it from going all over?
 - Joshua: What if there was a spill by Pond Inlet?
 - Answer Patrick Abgrall (Golder): The vessel itself would respond first.
- Potential impact contamination on fish due to a spill
 - George: Regarding an oil spill, and the fish were harmed, does some of the oil spill go to the bottom of the ocean, or does the oil float? Aren't seabirds at risk due to oil floating?
 - Answer Patrick Abgrall (Golder): this concern was brought up in the first workshop.
 - Mike Setterington (EDI): There would be nothing different to a seabird response
 would be same as national spills regulation.
 - George: To add to this, need to consider all marine life and the potential impacts of an oil spill on them.
 - Caleb: We studied at the fjord. There was fuel that was poured on the water, and then sunk to the bottom on rocks.
 - Answer Patrick Abgrall (Golder): Yes, with an oil spill it's a full environmental impact.
 First time have heard about a tug spilling oil.
 - Joe (BIM): Not aware of the oil spill by pond inlet. If a major oil spill happens then we
 will deal with it and will report it to authorities.
 - Joshua: This may not be the time to talk about it, but if there is an oil spill, will BIM have to pay a fine for damaging the environment?
 - Answer Megan Lord-Hoyle: Potentially, yes. We may be required to pay a fine or give compensation if we do not do our due diligence. The regulators would determine the outcomes.
- Potential impact marine life
 - o Patrick Abgrall (Golder): Ice breaking will avoid sensitive periods.
 - Patrick Abgrall (Golder): At breakup, if any mammal is on ice, ships wont approach within 300m.
 - o Joshua We don't understand English. 9 knots...what does this mean?
 - Caleb: When ships are departing, there is a lot of vibration on the land when leaving port with full load. We need to figure this issue out. If there are hunter boats nearby as

- well as wildlife, have to think about exiting a little further away as the vibrations affect a lot.
- Patrick Abgrall (Golder): We have recordings of ships coming and leaving port and their sounds. The vibration is a different concern. Now understand that hunters on land also feel vibrations.
- Caleb: When they leave empty, you don't feel the vibration. But with a full load you can feel vibration on the land. It is no problem when the ship is coming.
- O Joshua: Maybe useless information, but, when the ship is leaving it could go faster...but if a ship is travelling too fast it can create a lot of waves.
- Caleb: The vibration impacted our ears and body; now what we know what it is we are not scared of it.
 - Question Megan Lord-Hoyle: Do you have the same experience in the community.
 - Answer Caleb: No. just experience this vibration when out hunting outside of the community. Sometimes ships go along the shore or in the middle of the inlet and we feel vibrations.
- Olayuk: With Phase 2 comes more shipping. Are you going to expand everything else?
 Will the shipping be more frequent or less frequent?
 - Answer Patrick Abgrall (Golder): What is being proposed in Phase 2 is more ships, and bigger ships to reduce amount of ships having to come through. Sure there will be impacts.
 - Kent Gustavson (ERM): What our objective of the meeting here is to get further information from you on what impacts you are worried about. Then we are sharing with you what BIM is planning on doing and what currently is being done to mitigate impacts.
- Olayuk: Pretty sure we will all have our own different opinions. I know for a fact that if you have an expansion that you will have a bigger impact.
- Kigutikakjuk: If change shipping route, would you have less ships in Pond Inlet?
- David: When I used to sit for the HTO, we used to send out some letters to other HTO
 members and also the Baffin island community. Whenever there are difficulties people
 send the HTO letters. We have to work collaboratively, even not in the same area.
- Timothy: Ice has changed. BIM is not generating a lot of noise has a lot to do with other shipping.
- Marine impact Ship vibration
 - o Patrick Abgrall (Golder): Reduce speed of ships.
- Marine impact release of ballast water
 - Patrick Abrgrall (Golder): No invasive species have been found, so it seems like the treatment process seems to be working well. With Phase 2, there will be other regulatory requirements when it comes to ballast discharge.
 - Caleb: This ballast...I think you should do more research on the ballast because the ballast brings in invasive species.

Marine impact – ship strikes

- Caleb: This is not really a concern. I am more concerned about where the ships will be docking and anchoring (Ragged Island). Not a concern regarding ship strikes on narwhal.
- Patrick: Ship strike is not an issue when it comes to narwhal; anchoring locations is the issue as its by seal hunting grounds.
- David: When there is ice, seals are most vulnerable when they have pups. I don't think there is any likelihood of hitting a whale.
- Kigutikakjuk: When the boat is approaching the land from far away, whales flee to get away from the noise. They won't be hit.

Review of risk analysis for the marine environment

- Caleb: The original Phase 2 was Mary River to Steensby, now it's going to Milne Inlet. It is still Phase
 2 in our minds.
- George: What regulations are the foreign ships going to follow? When they come to Canada they should follow Canadian legislation. How do you monitor and manage foreign ships to ensure they abide by Canadian rules?
- Answer Megan Lord-Hoyle: All vessels are required to follow regulations by international maritime organization, which are very strict and there are high penalties. Once in Canadian water, ships have to abide by Canadian regulations. We enforce this by ensuring we operate with reputable operators. Ships have to report back to transport Canada about their practices and such (i.e. ballast water have to provide documentation on this to transport Canada).
- Timothy: When doing study, Inuit are not invited to participate. Scientific reports are too positive no negative impacts are highlighted. If Inuit are more so involved in research and monitoring there would be a different point of view. We need to work together.
- Patrick Abgrall (Golder): Getting participants helping out with monitoring programs to share findings to communities would be a good approach/
- Danny: what fuel do the ships use?
 - Answer Megan Lord-Hoyle: Ore carriers don't fill up at our site maybe sealift, though. Ore carriers come with their own fuel.
- Marine life moving away disturbed by shipping, resulting in hunters having to travel further
 - Caleb: For the past 2-3 summers, we have had very little narwhal, even before the ships came, we would catch any whales around here. Not as many narwhals in the area. This should be a high impact as shipping is already affecting us. We have talked compensation with BIM (between BIM and Pond). This is not the only thing we are worried about. From Pond Inlet we go to Lancaster Sound, and we have found garbage here (from Coast Guard). This will directly impact pond, but also affect other communities indirectly.
 - Patrick Abgrall (Golder): Yes, number of whales have been down this year. But maybe they
 are going another direction this is what the monitoring programs are trying to determine.
- Concern on vibrations
 - Joshua: I want to ask, do the ships have a motor unlike the boats that we see? Perhaps their migrations are different due to their motors.

- Caleb: Research requests are very useful as well. Perhaps something can be done to the ship to decrease vibrations.
- Caleb: We are trying to close points off in waters from tourists. We only approve certain areas that they can get into.
- Sakiasie: Observed that ships in docking area were not affecting animals in the area. With regard to invasive species, we may be getting them due to climate change.
 - Patrick Abgrall (Golder): There is an exchange of water in north Atlantic (ballast), allowing for ships to come into port low. They then discharge in port, then fill up with ore to go back out.
 - Timothy: Ballast water from the ships, they are pouring it into the ocean. Before dumping in port, do they put chemicals in it to kill organisms? Sure there is a way to treat ballast water to get rid of invasive specifies. Not a concern. *Patrick talked about UV treatment*
 - George conern about ballast because they have invasive species from china...

Ship striking

Caleb: Ships can get too close to cabins.

Patrick Abgrall/Megan Lord-Hoyle: Ice Breaking Presentation

- Megan Lord-Hoyle (BIM): We are looking to extend the shipping window from July 15 to the end of October to July 15 to November 15. Ships would go through only if certain conditions are met. Activities are going to be governed by ice conditions, we have a commitment to not break land-fast ice. At the end of the season we would ship as long as we could until the land-fast ice started forming.
- Megan Lord-Hoyle (BIM): We heard through many discussions with communities that there are sensitive times that BIM should avoid shipping. Timothy mentioned this March to May are very sensitive times. BIM is avoiding these months. Working with Pond Inlet to understand when they stop using floe edge for hunting purposes. We do not want to have run-ins between ship and hunters. We are working with Pond to create protocol to determine when hunters are no longer using the ice. We are also looking to reduce the number of ships coming to port area. Previously, we would bring ships in where they would wait by Ragged Island. So last year, there were around 7 ore carriers around the island. We got a call from Pond Inlet saying this was not working and BIM needs to change practices. So in September of last year (2018) we introduced a new policy where only 3 vessels can wait at the island, and other vessels need to wait off the coast of Greenland. Right now we are using one ice-breaking ship, but as part of Phase 2 and extending the season, we may need two ice breakers to be present through shipping route. 10 tugs will be required; these will be brought to the port area to help get vessels against the dock. These tugs will also keep ice away from vessels when at port. The tugs may go up to Milne Inlet to meet vessels.
- Joshua: With regard to the tug boats, are they all Milne Port right now?
 - o Megan Lord-Hoyle (BIM): No, they come in and out during the shipping season.

- Timothy: When you have land-fast ice, when the ice is breaking up, seal pups need a place to flee. If the pups are still in breathing holes it could be very dangerous. With ice broken up, they can flee more. This ice break happens in July.
- Caleb: When we are hunters, we are delegated by community members. When ice becomes dangerous, they close the whale hunting season. Usually towards July we go with the ice break up. Many people have lost hunting equipment due to the ice breakup. Sometimes when the floe edge is closed up for whale hunting, they go up further into the fjords up by Ragged Island to Savvik in this area there is no ice here in the beginning of July. At end of season (November 15), I don't think we will come to an agreement with Pond to stop shipping this time. There is a weekend (November 11) where Pond go out hunting for whale.
 - o Megan Lord-Hoyle (BIM): This hunt happens after November 11....?
 - Caleb: yes, long weekend.
 - o Joe: from Pond Inlet, the HTO stops hunting when the shore land becomes dangerous.
 - Caleb: I think November 15 is too late for the season to end because thick ice will be forming.
- David: The ice freeze up is very different now, and very unpredictable. You have to work with Pond to determine shipping details (i.e. dates) in November. If ice is broken and refreezes, the ice can be very rough. Ice becomes a barrier.
- Caleb: If there is early ice formation, the whales get stuck (Milne Inlet).
- David: Pond and BIM need to continue to communicate. Seasons differ. Think that Igloolik will have earlier ice breakup now.
- Megan Lord-Hoyle (BIM): When ice is forming in later season, what impacts do you think will happen if vessels are travelling through while ice is forming?
 - o Caleb: I think that the ice breakers will have more impact than the ore carriers.
 - Megan Lord-Hoyle (BIM): What do you think will happen to the ice from the ice breaker.
 - Caleb impact is unpredictable.
 - Caleb: I want to meet with shipping companies (meeting with BIM, Pond too). There is
 ice formed from the other end of the inlet (Navy Board), and once ice breakup happens,
 animals come in.
 - o Timothy: Chunks of ice start coming in once weather starts cooling off.
 - Danny: The open water is now staying open longer now. I don't blame you for wanting to expand the shipping season.
- Timothy: Not sure if the ship would have impact on wildlife...
- Olayuk: I spent three weeks in a ship. We were working with Nanisivik. When we were getting close to the ice, we saw an animal that came up and was trying to get away from the ship traffic. Shipping will definitely have an impact on marine life. They are not used to this new noise or activity. Yes, they may adapt.

Questions and Answer Period

- Caleb: What you said today, on behalf of the HTOs, I would like to raise this information to the MHTO regarding wildlife noise traffic and shipping. I understand that marine life can adapt, but whether they are harmed is the question. Need to continue to monitor narwhal for 20 years. This would be ideal. The birthing place from Ragged Island up the inlet, there is a recording devise that has been put there. When a boat is 15 miles away, the whale goes into shock. Therefore, BIM needs to come up with an understanding and continue to monitor narwhal and wildlife. We need to understand impacts of shipping. Seals will be affected differently. Bearded seals go into shock when boats are 20 miles away.
- Joshua: The ships, something that is hanging off the boat in the water that is beeping.
 - Patrick Abgrall (Golder): Ship noise changes when it is going through the ice. The depth finder is not at a high frequency.
- Caleb: Maybe should not put any sonar, etc., in waters so that animals are not scared away.
- Joshua: The ships that are coming up here and the other ones coming up in the future, if Pond Inlet were to make a decision perhaps maybe its climate change that is warming up the ocean, so I think ice won't be an issue in the future.
- Patrick Abgrall (Golder): Sonar on vessels? There have been some concerns with this before.
- Megan Lord-Hoyle (BIM): Have asked shipping person about noises there should be no underwater sounds. But cannot speak to coast guard vessels.
- David: When we heard that ships were coming in, people ran away due to the noise we did not
 know the noise was coming from ships. Perhaps Pond Inlet and the people that are shipping
 should be communicating with each other. It would be interesting to participate in this.
- Sakiasie: I think it is the depth finder making noise in the water. Observed that marine mammals avoided ship with depth finders. Thinks that animals are scared of ice breaker and are fleeing.
- George: The noises that are coming from the ships, maybe we can hear from you about the underwater noises. What regulations are in place for underwater noises?
 - Answer Patrick Abgrall (Golder): Right now in Canada there are no federally mandated regulation for noise impacts in water. In the international community, there are adopted regulations that do exist, especially as it relates to noise thresholds.
- Caleb: If Pond Inlet doesn't support Phase 2, but the other communities do, it is up to the NIRB
 to decide what happens. All communities will have an opportunity to say yes or no to the
 project.

Day 3: May 9, 2019

- Kent Gustavson (ERM): We are going to run through proposed statements. Please indicate if you
 agree with it or not through the use of your coloured paper. Green means 'agree' and red
 means 'disagree'. Yellow means you 'agree but minor changes are needed'.
- Caleb: We started on Tuesday, and all the stuff we talked about...we are going to try to put on green paper?
 - o Answer Kent Gustavson (ERM): Yes, as many as we can.
- George: Since 2004 up to today, I have been involved in this processes with BIM activities.
 Through meetings I have realized there are some important meetings and some are ignored are these meetings going to be ignored? How do you find elder decisions important? Or are you just going to forget about the information a few years later.
 - o Answer Megan Lord-Hoyle (BIM): In terms of using the information and value of this information, as well as Olayuk, you were speaking about how does input change the operations, and will what is being said in this meeting change the proposal? The intent of the workshop is to help us form additional mitigation measures, provide input on monitoring activities, and ideas on how to better project operations with Inuit help. So the result of these workshops will be reported in a third report, and BIM will provide information on how collected information will be used, as well as how the information has helped and shaped the project proposal and associated management plans. We have heard over the past two days on how Inuit can assist with monitoring i.e. going in high cars to act as wildlife observers. We also have past examples on how these meetings have affected operations. For example, we have reduced the number of vessels in the Eclipse Sound area as a direct result of community meetings. In the past, the Phase 2 proposal has changed due to meetings. The original Phase 2 proposal had winter shipping, and we cut it out.
- Olayuk: There are three colours to choose from what happens if we do not come to a consensus.
 - Response Kent Gustavson (ERM): We move on.

Agreed upon Statements:

- 1. Involve Inuit and incorporate IQ in the design of monitoring programs. more work is needed to meaningfully and equally use IQ. Vote: 2 Green, 9 Yellow
- George: Inuit have different opinions as individuals. The things that we are planning for the future have to be assessed more and/or reviewed. Some people have not gone out on the land and they don't know much traditional stuff. Need to think about how and who holds the TK. Who is going to make sure that it is implemented? Yes, it can be implemented now, but years down the road it may not be applicable. What are we doing here? Children growing up now don't really believe in IQ. They have no respect for IQ. Who is responsible and accountable to implement IQ in BIM corporate?
 - Answer Kent Gustavson (ERM): this is good detail we can attach to a statement.
- Caleb: You said you use IQ when you did a whale study. The Inuk involved in the study is not recording. Rather, the white guy is recording. Also, you use white technology to count whales. I am a

hunter here in the area – You think that Inuit are a token. When you look at IQ, how are you going to implement IQ? Why are you using this as a token statement?

- Kent Gustavson (ERM): how can change this statement to incorporate what you just said?
- Lucy: The statement is talking about what we are working on now. We have been invited to these workshops – we are talking about IQ. The philosophy is to incorporate IQ knowledge into organizational structure and ops.
- George: I need to be honest from my experience. I worked in labs and I worked with scientists. I worked in a research lab for 14 years in Igloolik with biologists who studied wildlife. The biologists and Inuit were not able to come to an agreement on things. IQ knowledge and western science are opposed to one another. TK was breached by scientific work. Elders were hurt a lot because they value animals, especially if an animal is alive. The scientists, for instance, they put it to sleep, and tag it. It is clear that some scientists have prejudice against Inuit. Scientists and IQ holders will not merge together equally this is what I am afraid of. Do they have to merge together? Or do we need to keep it separate? Self-directed scientists come. Some are good, some are bad. I am afraid and concerned, and I want to make it clear they [BIM] want to hear from you that the Inuit support the proposal they want evidence. From my experience, scientists and IQ holders are two different minds. Some want to help, but some come for their own gratifications. When they [scientists] study harvest by Inuit, they interfere. If you are going to use IQ you should be able to move freely on your own land. Seems like we are in jail right now.
- Olayuk: I want clarification before I vote. Who implements IQ in the company in the workplace? Who is responsible for the portfolio of IQ?
 - Answer Megan Lord-Hoyle (BIM): A variety of people are to be responsible for the incorporation of IQ. If there was going to be a single person, which I don't think it would be appropriate to identify one single person, it would be mostly driven by the sustainable development group. We are the most close-knit with the communities. We are receiving feedback from communities, and it is our responsibility from these engagement activities to bring information back to the company. It is the responsibility of management at the company that IQ is respected. It is a very interesting conversation to have and it is something we are looking at – how do we ensure IQ is captured and implemented going forward? Local knowledge is also extremely valid information, and maybe it does not fall into IQ, but this information is extremely valuable with our project planning. We are looking at right now trying to more explicitly define how we engage with community members, etc., and how we ensure implementation of TK and IQ is done appropriately. The QIA has asked us to do this. They will need to be involved in these discussions. Information we receive is broader than IQ – it is local knowledge we attain from communities as well as from interacting with people on site.
- David: We Inuit want to tell the truth. For instance, I said I am not yet an elder but am becoming one. It is the first time I am involved in IQ. I am concerned about Pond Inlet I don't know what they are doing. I want the truth; I want something concrete that we are in fact taken seriously. Use Inuit are told to be honest if you tell the honest truth that is good. Misleading people seems to be the way of the white world. We are told to give our word and stick to it. At the moment they [BIM] will promise you many things, and as time goes

- they will change their minds. Concerned most about Pond Inlet. If I am forced to vote this morning, then I will select colour yellow not opposing white people. Want to make sure that Pond Inlet is satisfied with what BIM is doing.
- Sakiasie: Regarding IQ, when you started IQ work, you formed a committee, we had a woman working with us. Igloolik, Pond, Arctic Bay, and Clyde met a couple times regarding IQ. We met with socio-economic people, we talked about IQ and white knowledge. We want to talk face-to-face and come to an understanding. We need to learn to work together respectfully. It would make things a lot easier. I believe that IQ can be incorporated in the workplace today. It does have to be incorporated [IQ]; you have to respect it. We had a white person working with us we need to be involved face-to-face and I am here at this workshop because I was appointed to do so on behalf of the community. IQ has to be promoted and implemented. IQ in the old days we had tribal leaderships who managed and regulated the IQ, and they would remind the community members that they were breaking IQ laws and were not respecting the animals and the environment. A lot of it [IQ] is body language and observation, and therefore I believe that talking is not implementing. You are not showing it. You are not going out on the land. From my experience, it was observation, less verbal, and a lot by example.
- Joshua: I have never been in a school system. I caught the traditional lifestyle towards the end. I have been involved in an IQ lifestyle. Indigenous language has been recognized nationwide, yet the government has not recognized IQ. It seems like you can get token approval at the moment, but is IQ taken seriously? Are Inuit not involved at the moment? What you need to say is that Inuit are involved and that Inuit are involved in incorporating IQ in the design. We need to say that Inuit are already involved.
- Joe: regarding IQ. I was with the territorial government, as was George when they came up with the term of IQ. As I was one of the people that came up with the acronym IQ, thought that we would use IP initially, but doesn't sounds too good. IQ is changing as time goes on. But while we are in transition today, our knowledge today, it also includes cultural values. When other organizations and other agencies talk about IQ, they are talking about our current knowledge and culture. Pond Inlet asked that boats have to go slower, so we changed to nine knots. When we are talking about today's knowledge, it is in transition. We are not talking about traditional ancient knowledge, but rather TK as it is today.
- Caleb: I wantt to talk about two items that we want to include n Pond-related research. For example, the Inuit has their own water board. Funding from BIM example, Its just Pond doing work, no western scientists. When we talk about IQ, it is not really what it is. Why are we trying to deal with IQ anyway? The people of Pond Inlet, they are all welcoming and right up to today when a white person comes to Pond, they can do whatever. But here on site we can't do anything.
- Kent Gustavson (ERM): More work is needed to meaningfully and equally use IQ. Does this seem reasonable?
- Kigutikakjuk: We are talking just about this area of Mary River. There are employees that are here from many communities. There is a purpose for not being able to go on the land here.
- George: We need to come up with a solution. For example, I have been involved with the
 GN and federal government, they are forcing us to use their IQ here and elsewhere. From

2003 to 2009, for 6 years, the IQ was a committee and I was involved. We had to come up with how the GN couple integrate and implement IQ in the workforce.

- Involve inuit and incorporate IQ in the design of monitoring programs. more work is needed to meaningfully and equally use IQ.
- Caleb: when they say IQ, we don't give them any authority. For example, the Tote Road, we cannot
 access the road. But they didn't even ask Pond Inlet if this could be the case. And we can't leave this
 building. People guit jobs because can't go on land.
 - Danny: we who are here, we come from various communities. The way we hunt, these are the areas that we hunt. In January to May, we hunt during this season. From June to September, we move to hunt. Oct-Dec, don't hunt as much. These are the hunting season for us. When it comes to hunting, whale hunting happens in the summer time -these are busy times. We all have the same job as harvesters and fishers. We feed our family by hunting, we too prepare to hunt. We do think ahead, and we do have busy times in the year during hunting season.
 - Natalino: bit of red in my mind. In 2010, BIM started talking about the rail road to Steensby. We were not welcomed by Baffinland during this time. We had to go to Halifax. We wanted to use a helicopter and were told to not come back here in the area. There was an archaeologist who got fired for not cooperating with the community. This is why we don't work well with BIM when it comes to Inuit interests as we are not welcomed.
 - Caleb: we have informal meetings outside the boardroom.

2. Important to continue to monitor impacts of shipping on marine wildlife with scientific and IQ tools. Vote: Full out consensus.

- Sakiasie: Regarding the ships, shipping and wildlife (marine) in the fjords, we know there will be effects and impacts due to shipping. We expect that. And for many years you will be shipping on the route. I do not know how long shipping will cause effects into the future. Seals rely on the ice. But of course there will be changes over time, whether the impact is harmful or not, ongoing monitoring is very important. Because we are talking about 100-year cycle of shipping, need to monitor. Don't want to be fearful we need to mitigate impacts
- Caleb: add to sentence <u>important to monitor impacts with scientific and IQ</u> tools. The scientists look into a microscope and Inuit can scan the environment. Long-term management should be both scientific and IQ.
- Olayuk: If BIM is to get started right away with Phase, we need to be aware of Pond Inlet and their concerns. Need to work with Pond and come to a consensus. Compensation and networking with affected community is critical and should begin immediately.
- o George: Can agree with that, but regarding IQ, our researchers are hunters. When they state something to BIM it is not taken seriously, or they are bound by guidelines and existing rules. They have rules here with hunters and cabins, if you involve hunters in this area, yes, you will have to respect a little more with what they have to say when in this area. Don't put rules and regulations on them. In this case, if you are open to a true partnership, I would agree with this statement. Will you acknowledge hunters as scientific researchers as the same as western scientists?

- Answer Megan Lord-Hoyle (BIM): We do take Inuit seriously; we do take feedback seriously. What I have learned through this is that we need to improve mechanisms on how to do this.
- David: One question with regard to shipping I heard that ships are travelling off route. There is a route that is designated for these ships. This needs to be implemented better.
- Caleb: MHTO meets with BIM regarding shipping, etc., so that we can come to an agreement. When BIM goes through Ragged Island, BIM and MHTO are trying to get one office in Pond Inlet that will deal with issues with shipping, and that we can have direct contact regarding an issue immediately. BIM needs to respect and honour the views of hunters. We need to do things on an equal basis and respect each other.
- o Joshua: how about the ocean bed?
- Caleb: Working with water board. Haven't heard about how much dust accumulates on ice. Maybe communities can do their own dust monitoring on how much dust is accumulating in their own towns.
- O Sakiasie: It is just part of the land...when you grind it [ore] it gets fine and tends to spread.
- Sakiasie: If there is a contaminant in the dust, people are working down at the Port– can we test humans to see how much dust they are inhaling?
- o Caleb: with rail road, dust will be minimal.
- George: Snow is starting to melt and the dust is going down into the sea.
 - Response Megan Lord-Hoyle (BIM): Are we monitoring site water going into the oceans and assessing how this water is affecting organisms on the sea floor?
 - George: Yes, the flow of water from Mary River is going down to Steensby and is affecting water quality. Want to find out how many contaminants are seeping into water at Steensby from Mary River.
 - 3. NEW: Community members should participate in monitoring. HTOs should be the focal point for participation. Vote: 5 yellow, 6 green.
 - o Caleb: need to ensure that it [people monitoring] is Inuit enrolled in the NLCA.
 - George: I disagree all community members should be able to participate. There are non-Inuit in communities. It causes a problem to separate us from them. We are looking at the community as a unit.
 - Lucy: when you live in Clyde for more than 6 month, you are part of the community.
 - David: Yes, I believe you (to George). Inuit are adopting the habits of white people. What Lucy said, but there is a difference - we don't include all outsider residents to join us. If this is workable, fine.
 Hunters are most affected and should be the first consulted when it comes to wildlife, etc.
 - Danny: I would say the same HTO is a focal point. We need to support each other in the community as a unit.
 - Olayuk: Question Mary River as an example, you are monitoring a lot of the stuff that you are doing and their impacts. If there are any impacts happening or any changes being observed, is it only related to your work place? Do you inform the 5 affected communities of the impacts that you find? How do you inform communities of change?
 - Caleb: There are many people that want to study in Baffin Island area. We had 20 requests to study char recently. If the researchers are not hiring Inuit, we don't want to have them come to the community.

- Megan Lord-Hoyle (BIM): We do communicate in many different ways. Through public information sessions, we report on monitoring programs we are doing. We also have meetings with HTOs on observed impacts. The MHTO is part of environmental working groups so they are privy to giving input to monitoring program designs, etc. Inuit involved in monitoring programs, maybe they can help with presenting on results to the HTOs. This is something that will evolve with time and with more input. Research programs are more than 50% Inuit.
- Mike Setterington (EDI): We have heard lots of comments over the years. This is why we are trying
 to see what the group can agree to. We don't want to make conclusions we want to figure out
 what the group feels and what they believe should be a reported conclusion/finding.
 - 4. Continue to work with affected communities to address impacts and issues that arise over life of mine. Vote: 6 yellow, 5 green
 - o Caleb: Inuit should be involved in research all the time.
 - o Danny: 5 affected communities should be added on to the statement.
 - George: I disagree. Through the life time of the mine I think if it's going to Steensby inlet, not only 5 communities will be affected, others will be affected too.
 - Caleb: When it comes to benefits and employment, if Pond Inlet were to source all contracts, things would be good.
 - George: I disagree. With the life time of the mine, if we look at the lifetime of the company, mining extends to other areas and other affected communities will arise.
 - Caleb: Pond Inlet is the most affect. It seems like we are powerless and are not heard. I think
 that BIM realizes that each community has different concerns. We are talking about Phase 2 at
 the moment.
 - o Caleb: QIA should be part of these conservations.
 - 5. All aspects of the environment (i.e. land, sea, people, wildlife) are changing because of climate change. This must be considered in addition to mine impacts. Vote: 9 green, 2 yellow
 - o George: Do we know how much the mine is contributing to climate change?
 - Answer Patrick Abgrall (Golder): Can't effectively quantify how much climate change is happening. We know it is happening, but we don't know to what extent. It is hard to determine how much an activity is affecting climate change.
 - George: this question is coming from the youth.
 - Megan Lord-Hoyle (BIM): Patrick is correct in the sense that we can't quantify how much we are contributing to climate change. But what we do do is monitor GHG generated on site and we report on this annually to ECCC. We also monitor changes in permafrost.
 - Caleb: When it comes to climate change I can say that the environment is changing due to oil and gas.

- One red card which then turned to yellow (Olayuk): I am just concerned about the wildlife, not much about other things. If we lose our animals while I am still alive this would be very drastic given we live on them. They are our main survival.
- **6.** Hauling ore by rail is expected to have less impact on the environment than using trucks. Vote: 7 yellow, 4 green
- Joshua: The railroad is going to be very small. It is not going to go to another country.
- Caleb: Want to clarify, in Pond they heard how the railroad is going to run. There are a lot of
 jobs available once the railroad starts running.
- Sakiasie: understood this too that employment will stay relatively the same.

Concluding remarks – closing comments

- Kigutikakjuk: The things we usually talk about are important issues from Pond Inlet. The facts that come from this discussion can be supported. If we were to have endangered species and the hunters can't go hunting, hunters need to be compensated. For me, they should be paid compensation and should be trying to improve the population of the wildlife. So the shipping and the vibration from the ships varies from year to year. Some years we don't have fish, other times we do have fish. Same thing with narwhal in one year they didn't have much because they have rerouted somewhere else, and other times the population is high.
- Lucy: I understand that Pond Inlet is the closest to the mine and the most impacted. It is their land, so they seem to be possessive. But the people that are working here can tell that they are getting good benefits from the mine. Other communities do not get as many benefits as Pond Inlet. Can see the impacts that the mine is doing to the communities.
- Olayuk: here on behalf of Levi Barnabus (QIA). He had things to do so sent me here. But, this workshop I think is quite useful and beneficial. You are also hearing from the community members this is beneficial to BIM. I think this has been a positive experience. As for impacts, I am concerned about alcohol that is being shipped into communities as people cannot drink here. Who can I talk to about these types of problems? We need to consider these impacts too. Alcohol does have impact on us. This workshop was useful. Has had a positive impact in community too. IF BIM can follow the rules, I think we can live in harmony.
- David: When I go back home I will be reporting on the radio station. Will report on discussions we had. I know I am not with the elders at the moment. I have never been involved in any of this or have had any white education. From my lifetime and experience and from what I have seen, I pass on the knowledge that I have gained. Thankful for this opportunity. I now have a better understanding of activities. We who are here, because we are traditional Inuit, when you say that the ore you carry to port doesn't create dust, then why is it so red along the road? We know that is could be the wheels from the trucks causing dust, but you wouldn't see red dust if it wasn't being spread. Communities need to get together more and learn from each other and talk about impacts we see.
- Danny: Didn't know anything about the train, but now understand. Am concerned about Pond
 Inlet hunters and the impact on their livelihood. We can use radios to inform each other of ships

- coming and going. Need to monitor shipping route. Was concerned about snow and trains. In Quebec there was a snow removal machine; I now have better understanding that there is a way to get snow and ice off the tracks. We are concerned about Pond Inlet, whether it be compensation financially or other ways to compensate.
- o Timothy: I would like to see the mine continue operations. Looking into the future, when we voted for NU, people wanted NU. We have to continue to live. You [BIM] now give royalties to QIA. Our young people they no longer live traditionally. We who have white hair we now purchase snowmobiles due to benefits from the mine. There are ways to mitigate impacts to language and culture. I would like to see the mine move forward. Want BIM to work for us they are a company that works for us so I want to see them continue their operations.
- Sakiasie: The meetings we had so far may seem slow, tedious, but we have gotten a better understanding of Phase 2. If there are issues these are clarified during the workshop. Communicating with each other has helped us to have a better understanding of the expansion and project. It was going to be expensive in the beginning and during the approval process. The price of iron ore dictates the status of the company. If BIM increases shipping of ore, then they can turn a profit. Doing this has been very expensive. Want to expand because company is not making a profit. We need them to get the approval process so that the company can continue to move ahead. All the planning you are doing at the moment, I do agree with it.
- Joshua: Of two minds I want to approve the plan, but on the other hand I don't. Inuit employment I think the objective is to increase it. Inuit who come to work here are not many – BIM needs to improve this.
- O Caleb: I ended up here twice. First meeting I felt that they are considering us in their planning. However, how the benefits are useful for us, we haven't really talked about them. Representing my community, with regard to EA, I know what is impacted, what we are losing, and what is not coming up. [BIM] needs assistance with their environmental studies.... Also, the impacts of the oil spill [from the tug boat] was never assessed they [BIM] should deal with it. We should establish a lab to do research in Pond Inlet. There are also observation programs BIM should expand stations that are used. The shipping the shipping is going to increase so anything that is impacted by shipping will have an impact on Inuit. Good research should be put in place for assessing impacts. BIM should deal with communities and not the QIA.
 - Employment should look into local contracting.
 - Marine and land working group is only group working with Pond Inlet. Need to understand it is a big job to work with the HTO.
 - QIA the QIA never participates in anything....
- Natalino: I would like the mine to grow. With regard to trying to build rail road as far as Steensby Inlet, BIM needs to do better impact assessment research. Also, Inuit need more benefits.
- George: BIM is noting down concerns. In 2004, we knew that there would be minerals. In 2012, signed an agreement on the NLCA. Happy that Joe was hired as a manager at BIM. Joe needs to mentor a younger person. When it comes to employment and the impact of Inuit on employment, there is mental well-being this needs to be discussed. We didn't talk about the socio-economic component. Why are we not addressing socio-economic issues and HR? Need to look at traditional counselling as well.

Chris Murray, Presentation: Closure

Chris asked the group the following general questions:

- O When an area is disturbed, which natural plants grow back first?
- O Which plants grow fastest?
- Are there certain species more preferred?
- o Timothy: BIM needs to mitigate disturbance to lakes, etc.
- o Caleb: What are edible plants to us? Saxifrage is one. The indigenous plants we had here they should all come back. Once dust is gone maybe they will be able to grow back.
- o Kigutikakjuk: Vegetation comes back naturally over the years.
- Sakiasie: You'd have to burry a lot of the equipment in gravel. When you use gravel to burry equipment, it is a very slow process.
- David: I am sure that vegetation will grow back. I am sure about this. We know that on the side of the road that vegetation grows. Are you going to cover the pit in gravel? What are you going to do with the open pit? I don't think you will be closing the mine any time soon.
 - o Answer Chris Murray (BIM): The pit will be filled with water and form a lake.
- Chris Murray (BIM): One of the objectives of the closure plan is to learn from other sites. With
 revegetation, we did a review of other sites that have had mines closed and have had reclamation to
 see what the best techniques are to promote vegetation.
- o Kigutikakjuk: We don't have much vegetation in the Inuit diet.
- George: would like to ask, like you said, the buildings, the infrastructure would be demolished, so if you have complete closure, would there be another assessment on what is left behind? The DEW line sites look OK from the outside, and we didn't think they would have seepage. But there are now contaminants there.
 - Chris Murray (BIM): We would do a complete assessment of site following closure. It is a
 3-phase site assessment.
- O Danny: I like to comment about the DEW line sites. A DEW Line site stills exists in Hall Beach; it is still running and there is still maintenance happening. There will always be growth of vegetation.
- Caleb: Contaminants really need to be assessed, and the dust that we are talking about here, if there
 are any contaminants in the dust, there may be chemicals that will inhibit growth of vegetation.
 Lichen takes long to grow.
- o Joshua: It was mentioned earlier would they burry the vehicles here underground?
 - Answer Chris Murray (BIM): Any equipment owned by BIM would be decontaminated and stripped apart and landfilled, unless there is any opportunity to sell the equipment.
 We have to plan for worst case, and this would be for BIM to dispose of everything assuming that everything has no value. Realistically, things may be able to be recycled and used by others.
 - Joshua: I am thinking if you are going to bury them, the oil, etc., all equipment has to be contained.
 - Answer Chris Murray (BIM): We would decontaminant and take oils and greases, etc., all out of the machinery before disposal.
- Aesthetic conditions

- Chris Murray (BIM): Want to make sure that the land can be brought back to a state as close as possible as before operations. How can we best restore the land? Before the mine site can be officially closed, the site will have to be inspected.
- Sakiasie: The gravel you put on is usually white and consists of rock and gravel. You cannot really grow anything in this.
- o Timothy: The rocks don't grow anything, you need soil. If it is a black rock, you can lay it out and then put a soil on top of it then something may be able to grow.
- O Danny: In a landfill, need to put a lining in it then put gravel, then level it out so that contaminants do not spread anywhere else.
- Chris Murray (BIM): Picture 1 showing mine haul road, but you can also see natural features around it.
- o Kent Gustavson (ERM): Would it be fair to ask what colours are not natural?
- Olayuk: When you plan to bury the equipment and fill the pits you have to put a liner in them [pits].
 - Answer Chris Murray (BIM): At the landfills where we would bury equipment, it would be buried with sand and gravel.
 - Olayuk: do I understand that you will bury the equipment elsewhere other than the mine location?
 - Answer Chris Murray (BIM): We have a landfill currently at the mine, and as part of Phase 2, we will have a landfill at the port site as well. All the nonhazardous materials will either be disposed of in these landfills, or in old quarries, or will have to designate a new site within mine boundaries.
 - Olayuk: With the pits, are you saying you will insulate it, put in and, and put water in it?
 - Answer Chris Murray (BIM): We will put water in the pit to form a lake.
 - Olayuk: you will reclaim the pit that way. What about all the garbage and such?
 - Answer Chris Murray (BIM): All garbage, etc., will go in a landfill, either the existing landfills or quarries or a new landfill. Anything that is hazardous that cannot be buried will be sent off site.
- Danny: Not good at colours. Would like you to try to keep things looking as natural as possible.
- Kigutikakjuk: I think anything that can be used should be given to Inuit. All contaminants should go down south. The heavy equipment should go to communities.
 - Answer Chris Murray (BIM): To the extent possible we will make sure that any equipment that can be used by communities will be given the opportunity to use such materials. But in the case of planning, we have to think worst case to ensure we have enough space to dispose of items on site.
- Caleb: The 5 affected communities should cooperate and should be involved in the closing of the mine. The train and the railway, I will say what is useful should go to the communities. Maybe paved roads would be good down the road.
- o George: One thing I need to hear from you is regarding the landfill. The landfill itself, what are the procedures you will be conducting to determine what goes into landfills?

- Answer Chris Murray (BIM): Anything going into landfill will be assessed to see if it has any contaminants, will then be stripped and tested before going into the landfill. The landfill is designed for nonhazardous waste. Have surface water monitoring around landfills, as well as have a pilot study for groundwater around the landfill to characterize the groundwater.
- George: how long would monitoring be done?
 - Answer Chris Murray (BIM): Post closure monitoring program is 5 years of monitoring (continuous). 18 years in total.
- Olayuk: Do you have to submit a closure proposal/plan to the NIRB? Seems to be a rushed item by BIM, but it is a long time away.
 - Chris Murray (BIM): Yes, we need to submit a closure plan by the NWB. Need to set aside securities to implement the plan too. The QIA is responsible for approving the plan.
- Timothy: You ask what colour you would like. You have a picture of Mary River, but it is not
 a picture of the natural state. You should use natural land before the project to assist with
 reclamation.

Megan Lord-Hoyle (BIM): We recognize there are concerns with restrictions in place in the mine area. The reason why we do this is due to safety. Hoping that through the workshops on the mine site that you have a better understanding of the mine operations and the activities. Acknowledge and appreciate the comments that have been made in this workshop and other meetings with regards to working with BIM and strengthening our relationship. Your knowledge should be on equal grounds with scientific knowledge. We value your participation in this workshop. I want to ensure you that information shared in these meetings does impact our operations. We need community support, the governments', and the QIA's. We have many partners to integrate into our planning, and communities are a vital part of this. Thank you for coming to this workshop, and for continuing to work with us and be involved in this process. Next steps for this workshop: report will be created. BIM will give some consideration to conversation that was held here and identify and articulate in a way how we are going to be using the information. Before this report gets submitted to the NIRB in august, we will be coming back to meet with you to verify the report.

Timothy: are you paying people to get to airports?

• Answer Megan Lord-Hoyle (BIM): We are using a taxi service in hall beach to transport employees to the airport.