

Results of Community Workshops Conducted for Baffinland Iron Mines Corporation's Phase 2 Proposal

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This report has been prepared by Jason Prno (PhD) of Jason Prno Consulting Services Ltd. on behalf of Baffinland Iron Mines Corporation. Report maps were prepared by Sikumiut Environmental Management Ltd. and Environmental Dynamics Inc. This report has been reviewed and edited by Baffinland Iron Mines Corporation and may contain various company statements.

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EXECUTIVE SUMMARY

In October 2014, Baffinland Iron Mines Corporation (Baffinland) submitted a Project Description to the Nunavut Impact Review Board (NIRB) for the Phase 2 development of the Mary River Project (the Project). This Phase 2 proposal would enable the company to increase shipment of iron ore from Milne Port from 4.2 million tonnes per annum (mtpa) to 12 mtpa, and extend the shipping season from June into March. Phase 2 would also result in an increase in shipping transits through the Northern Shipping Route and increased truck volume on the Tote Road, amongst other Project modifications.

Baffinland identified the need for additional information to be collected in regards to contemporary Inuit land uses in areas potentially affected by the Phase 2 proposal. In addition to this land use information, there was a need for community concerns specific to the Phase 2 proposal to be discussed and for potential mitigation measures to be reviewed and assessed. In order to do this, Baffinland organized a series of 'invited persons' workshops and public open houses in Pond Inlet and Arctic Bay, Nunavut between March 2015 and May 2016.¹ These workshops were focused on five main themes:

- Contemporary Inuit land use in the Eclipse Sound and Navy Board Inlet areas
- Shipping through ice
- Open water shipping
- Caribou
- Phase 2 and Arctic Bay

A number of discussions were held during these workshops and opportunities were provided for local residents to learn more about the Phase 2 proposal, share comments and concerns, and provide suggestions on how the proposal could be improved.

The first workshop, *Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas*, reviewed seasonal conditions and land use activities for the Inuit seasons of Ukiaksaq (October to mid-November), Ukiuq (mid-November to February), Upirngaksaq (March to May), Upirngaaq (late May to July), and Aujaq (end of July to September) in the Eclipse Sound and Navy Board Inlet areas. This workshop documented a number of Inuit land use activities, some of which the Phase 2 proposal may interact with. In addition to documenting land use information textually and on seasonal maps, graphical calendars were created to provide a more detailed timeline of selected land use activities throughout the year. Discussion and mapping of key narwhal migration and lifecycle activities in the Eclipse Sound and Navy Board Inlet areas also occurred during the workshop.

The second workshop, *Shipping Through Ice*, focused on obtaining community feedback pertaining to the shipping through ice component of Phase 2. Concerns about the effects of Phase 2 on the marine environment (including marine mammals) were raised, as were concerns on Inuit travel routes and land use activities being impeded by ice breaking activity and the creation of a ship track. However, various mitigation, monitoring and research, and compensation and benefits recommendations were made by workshop participants. Interest was expressed in the use of ship track crossing methods (e.g. removable

¹ Please note these workshops focused only on the Phase 2 proposal as described in the October 2014 Project Description. Any subsequent changes to the scope of Phase 2 will be addressed through Baffinland's ongoing community engagement program.

bridges) and workshop participants discussed a number of ship track safety, crossing, and marking considerations. Workshop participants also commented on preferred timing, routing, and notification methods for shipping through ice activities, in addition to other related topics. Finally, workshop participants described ice conditions along the proposed Phase 2 shipping route and other locations in the Eclipse Sound and Navy Board Inlet areas.

The third workshop, *Open Water Shipping*, focused on obtaining community feedback pertaining to the open water shipping component of Phase 2. Some concerns about the effects of Phase 2 on the marine environment (including marine mammals) were again raised, as were some concerns on Inuit land use activities being impeded by open water shipping activities. However, open water shipping was generally noted to raise much fewer concerns than shipping through ice. Various mitigation, monitoring and research, and compensation and benefits recommendations were also made by workshop participants, in addition to discussing other related topics. Finally, workshop participants commented on the acceptability of Baffinland's proposed trans-shipping sites, and described shipping route conditions along the proposed Phase 2 shipping route and other locations in the Eclipse Sound and Navy Board Inlet areas.

The fourth workshop, *Caribou*, focused on obtaining community feedback pertaining to the Phase 2 proposal and caribou. Various North Baffin caribou ecology topics were discussed, including population dynamics, migration patterns, behaviour, and food sources. Contemporary caribou harvesting activities in the North Baffin region were also reviewed and community concerns pertaining to the Phase 2 proposal and caribou were documented. For example, concerns pertaining to existing Project-related impacts, harvesting and land use, the tote road, dust, and monitoring programs were all reviewed. Likewise, various mitigation, monitoring and research, and compensation and benefits recommendations were made by workshop participants, in addition to discussing other related topics.

The fifth and final workshop, *Phase 2 and Arctic Bay*, focused on obtaining feedback from the community of Arctic Bay on the Phase 2 proposal. Summaries of feedback obtained from the previous community workshops held in Pond Inlet were reviewed and discussions on a number of related topics ensued. These discussions were generally structured around the previous community workshop themes of contemporary Inuit land use in the Eclipse Sound and Navy Board Inlet areas, shipping through ice, open water shipping, and caribou, although other topics were discussed as necessary. While many comments raised in this workshop were similar to those documented in the previous community workshops, some valuable new information and experiences (e.g. from the Nanisivik Mine) were also shared.

Completion of these five community workshops has provided Baffinland with valuable community feedback on the Phase 2 proposal. It has also helped identify a number of potential mitigation, monitoring and research, and compensation and benefits measures that could be employed moving forward. Additional outcomes from these workshops have included continued relationship building and information sharing with the residents of Pond Inlet and Arctic Bay in regards to the Mary River Project, and satisfaction of some Phase 2 public consultation requirements related to the environmental assessment that will be conducted. The success of these workshops was due in large part to the meaningful participation of community members from Pond Inlet and Arctic Bay, their willingness to discuss a diverse array of issues in an open and transparent manner, and the cooperative atmosphere that was established between all parties in attendance. Baffinland would like to again thank all community members and QIA representatives who participated in these workshops for allowing this meaningful dialogue to occur.

ACKNOWLEDGEMENTS

We would like to thank all community members who participated in the invited persons workshops and the time they took to share their knowledge and insights:

Joshua Arreak (Hamlet of Pond Inlet nominee)
James Atagootak (Hamlet of Pond Inlet nominee)
Abraham Kublu (Hamlet of Pond Inlet nominee)
Ludy Pudluk (Hamlet of Pond Inlet nominee)
Tim Souci (Hamlet of Pond Inlet nominee)
Joanasie Mucpa (Pond Inlet Hunters and Trappers Organization nominee)
Elijah Panikpakoocho (Pond Inlet Hunters and Trappers Organization nominee)
Jimmy Pitseolak (Pond Inlet Hunters and Trappers Organization nominee)
Michael Inuarak (Nasivvik High School nominee)
Savanna Killiktee (Nasivvik High School nominee)
Kunnuk Qamaniq (Nasivvik High School nominee)
Lindsey Qanguq (Nasivvik High School nominee)
Timothy Aksarjuk (Qikiqtani Inuit Association nominee)
Paniloo Sangoya (Qikiqtani Inuit Association nominee)
Enookie Inuarak (Qikiqtani Inuit Association)
Michael Quanaq (Hamlet of Arctic Bay nominee)
Rhoda Tunraq (Hamlet of Arctic Bay nominee)
Koonark Enoogoo (Arctic Bay Hunters and Trappers Organization nominee)
Andrew Muckpa (Arctic Bay Hunters and Trappers Organization nominee)
Qaumayuq Oyukuluk (Arctic Bay Hunters and Trappers Organization nominee)
Jobie Attitaq (Arctic Bay Hunters and Trappers Organization nominee)
Sakiasee Qaunaq (Arctic Bay nominee)
Kiqutikakjuk Shappa (Arctic Bay nominee)
Rosalina Naqitamr (Arctic Bay High School nominee)
Letia Kalluk (Arctic Bay High School nominee)

We would also like to thank the various members of the public and Mary River Community Group who shared their knowledge and insights during the workshops, and the interpreters and transcribers that assisted us. The Qikiqtani Inuit Association also provided valuable suggestions and support throughout these workshops.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	II
ACKNOWLEDGEMENTS	IV
TABLE OF CONTENTS.....	V
LIST OF TABLES	VII
LIST OF FIGURES.....	VII
1. INTRODUCTION	8
1.1 PURPOSE AND OBJECTIVES OF WORKSHOPS	8
2. METHODOLOGY	10
2.1 WORKSHOP DESIGN.....	10
2.1.1 Approach to the Workshops.....	10
2.1.2 Workshop Team.....	11
2.2 DATA COLLECTION AND VERIFICATION METHODS.....	12
2.2.1 Invited Persons Workshops	13
2.2.2 Public Open Houses	14
2.2.3 Mary River Community Group Meetings.....	14
2.2.4 Verification Meeting	14
2.3 WORKSHOP TOPICS.....	15
2.3.1 Workshop #1: Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas	15
2.3.2 Workshop #2: Shipping Through Ice.....	16
2.3.3 Workshop #3: Open Water Shipping	16
2.3.4 Workshop #4: Caribou	17
2.3.5 Workshop #5: Phase 2 and Arctic Bay	17
2.4 DATA ANALYSIS AND REPORTING	17
2.5 DATA LIMITATIONS	18
2.6 LONG-TERM USE AND STORAGE OF COMMUNITY WORKSHOP MATERIALS	19
3. RESULTS – WORKSHOP #1 (CONTEMPORARY INUIT LAND USE IN THE ECLIPSE SOUND AND NAVY BOARD INLET AREAS)	20
3.1 OVERVIEW.....	20
3.2 SEASONAL CONDITIONS AND LAND USE ACTIVITIES	20
3.2.1 Ukiaksaq (October to Mid-November).....	20
3.2.2 Ukiuq (Mid-November to February)	23
3.2.3 Upirngaksaq (March to May)	26
3.2.4 Upirngaaq (Late May to July)	29
3.2.5 Aujaq (End of July to September)	32
3.3 ADDITIONAL INFORMATION	35
3.3.1 Seasonal Calendars of Selected Land Use Activities in the Eclipse Sound and Navy Board Inlet Areas	35
3.3.2 Narwhal Migration and Lifecycle Activities in the Eclipse Sound and Navy Board Inlet Areas	38

4. RESULTS – WORKSHOP #2 (SHIPPING THROUGH ICE)	40
4.1 OVERVIEW.....	40
4.2 SEASONAL LAND USE INTERACTIONS AND CONCERNS	40
4.3 MITIGATION, MONITORING AND RESEARCH, AND COMPENSATION AND BENEFITS RECOMMENDATIONS.....	45
4.4 OTHER COMMENTS AND INFORMATION REQUESTS.....	53
4.5 SHIPPING ROUTE CONDITIONS IN ECLIPSE SOUND AND NAVY BOARD INLET	54
5. RESULTS – WORKSHOP #3 (OPEN WATER SHIPPING)	55
5.1 OVERVIEW.....	55
5.2 SEASONAL LAND USE INTERACTIONS AND CONCERNS	55
5.3 MITIGATION, MONITORING AND RESEARCH, AND COMPENSATION AND BENEFITS RECOMMENDATIONS.....	61
5.4 OTHER COMMENTS AND INFORMATION REQUESTS.....	65
5.5 TRANS-SHIPPING LOCATIONS	65
5.6 SHIPPING ROUTE CONDITIONS IN ECLIPSE SOUND AND NAVY BOARD INLET	68
6. RESULTS – WORKSHOP #4 (CARIBOU).....	69
6.1 OVERVIEW.....	69
6.2 NORTH BAFFIN CARIBOU ECOLOGY	69
6.2.1 Population Dynamics	69
6.2.2 Migration Patterns	71
6.2.3 Behaviour	72
6.2.4 Food Sources.....	73
6.3 CONTEMPORARY CARIBOU HARVESTING IN THE NORTH BAFFIN REGION	76
6.4 EXPRESSED COMMUNITY ISSUES AND CONCERNS.....	78
6.5 MITIGATION, MONITORING AND RESEARCH, AND COMPENSATION AND BENEFITS RECOMMENDATIONS.....	84
6.6 OTHER COMMENTS AND INFORMATION REQUESTS.....	92
7. RESULTS – WORKSHOP #5 (PHASE 2 AND ARCTIC BAY)	93
7.1 OVERVIEW.....	93
7.2 CONTEMPORARY INUIT LAND USE IN THE ECLIPSE SOUND AND NAVY BOARD INLET AREAS...	93
7.3 SHIPPING THROUGH ICE	94
7.4 OPEN WATER SHIPPING	97
7.5 CARIBOU.....	99
7.6 OTHER COMMENTS AND INFORMATION REQUESTS.....	101
8. SUMMARY AND CONCLUSIONS	102
9. REFERENCES	104
APPENDIX A: WORKSHOP PHOTOS	105
APPENDIX B: WORKSHOP CONSENT FORMS.....	112
APPENDIX C: WORKSHOP QUESTIONNAIRES AND DATA COLLECTION GUIDES.....	144
APPENDIX D: WORKSHOP NOTES	151
APPENDIX E: NORTH BAFFIN CARIBOU ECOLOGY AND HARVESTING INFORMATION – DETAILED FIGURE.....	234

LIST OF TABLES

Table 1: Phase 2 community workshops overview.....	9
Table 2: Members of the Phase 2 community workshops team	12
Table 3: Potential seasonal land use interactions and concerns associated with shipping through ice identified during the community workshops	44
Table 4: Mitigation, monitoring and research, and compensation and benefits recommendations associated with shipping through ice identified in the community workshops	52
Table 5: Potential seasonal land use interactions and concerns associated with open water shipping identified during the community workshops	60
Table 6: Mitigation, monitoring and research, and compensation and benefits recommendations associated with open water shipping identified in the community workshops.....	64
Table 7: Issues and concerns associated with caribou identified during the community workshops	83
Table 8: Mitigation, monitoring and research, and compensation and benefits recommendations related to caribou identified in the community workshops	91

LIST OF FIGURES

Figure 1: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Ukiaksaag (October to mid-November) [Map produced by Sikumiut Environmental Management Ltd.].....	22
Figure 2: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Ukiuq (mid-November to February) [Map produced by Sikumiut Environmental Management Ltd.]	25
Figure 3: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Upirngaksaag (March to May) [Map produced by Sikumiut Environmental Management Ltd.].....	28
Figure 4: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Upirngaaq (late May to July) [Map produced by Sikumiut Environmental Management Ltd.]	31
Figure 5: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Aujaq (end of July to September) [Map produced by Sikumiut Environmental Management Ltd.]	34
Figure 6: Seasonal calendar of marine mammal harvesting activities in the Eclipse Sound and Navy Board Inlet areas	36
Figure 7: Seasonal calendar of other land use activities in the Eclipse Sound and Navy Board Inlet areas.....	37
Figure 8: Key narwhal migration and lifecycle activities in the Eclipse Sound and Navy Board Inlet areas [Map produced by Sikumiut Environmental Management Ltd.]	39
Figure 9: Potential ship track crossing locations identified in Workshop #2 [Map produced by Sikumiut Environmental Management Ltd.].....	51
Figure 10: Potential trans-shipping locations for Phase 2 [Map produced by Sikumiut Environmental Management Ltd.]	67
Figure 11: North Baffin caribou ecology and harvesting information [Map produced by Environmental Dynamics Inc.].....	75

1. INTRODUCTION

1.1 PURPOSE AND OBJECTIVES OF WORKSHOPS

In October 2014, Baffinland Iron Mines Corporation (Baffinland) submitted a Project Description to the Nunavut Impact Review Board (NIRB) for the Phase 2 development of the Mary River Project (the Project). This Phase 2 proposal would enable the company to increase shipment of iron ore from Milne Port from 4.2 million tonnes per annum (mtpa) to 12 mtpa, and extend the shipping season from June into March. Phase 2 would also result in an increase in shipping transits through the Northern Shipping Route and increased truck volume on the Tote Road, amongst other Project modifications.

Baffinland identified the need for additional information to be collected in regards to contemporary Inuit land uses in areas potentially affected by the Phase 2 proposal.² In addition to this land use information, there was a need for community concerns specific to the Phase 2 proposal to be discussed and for potential mitigation measures to be reviewed and assessed. In order to do this, Baffinland and the Qikiqtani Inuit Association (QIA) organized a series of ‘invited persons’ workshops and public open houses in Pond Inlet and Arctic Bay, Nunavut.³ These had the following objectives:

- To determine the location, timing, and intensity of contemporary Inuit land use activities in the Eclipse Sound and Navy Board Inlet areas, so the effects of Phase 2 can be more accurately assessed.
- To document community feedback regarding the shipping through ice component of Baffinland’s Phase 2 proposal, and to identify potential mitigation measures.
- To document community feedback regarding the open water shipping component of Baffinland’s Phase 2 proposal, and to identify potential mitigation measures.
- To document community feedback regarding Baffinland’s Phase 2 proposal and caribou, and to identify potential mitigation measures.
- To engage the community of Arctic Bay on Baffinland’s Phase 2 proposal, document their feedback, and have them identify potential mitigation measures.

The results of these workshops are described in this report and will be used by Baffinland to help improve its Phase 2 proposal, and to support a future environmental assessment of the same. Additional outcomes from these workshops have included continued relationship building and information sharing with the residents of Pond Inlet and Arctic Bay in regards to the Project, and satisfaction of some Phase 2 public consultation requirements related to the environmental assessment that will be conducted. An overview of the Phase 2 community workshop topics, dates, and locations is provided in Table 1.

² For the purposes of the workshops, these areas refer to the general areas surrounding the marine transportation corridor associated with proposed Phase 2 activities in the Eclipse Sound area, and land-based transportation corridor that stretches from the Mary River mine site to Milne Inlet.

³ These workshops focused only on the Phase 2 proposal as described in the October 2014 Project Description.

Event	Dates	Location
Workshop #1: Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas	March 3-4, 2015 (Invited Persons Workshop) March 5, 2015 (Public Open House)	Pond Inlet, Nunavut
Workshop #2: Shipping Through Ice	April 27-29, 2015 (Invited Persons Workshop) April 30, 2015 (Public Open House)	Pond Inlet, Nunavut
Workshop #3: Open Water Shipping	October 26-27, 2015 (Invited Persons Workshop) October 28, 2015 (Public Open House)	Pond Inlet, Nunavut
Workshop #4: Caribou	November 20-22, 2015 (Invited Persons Workshop) May 8, 2016 (Public Open House)	Pond Inlet, Nunavut
Workshop #5: Phase 2 and Arctic Bay	May 5-6, 2016 (Invited Persons Workshop) May 7, 2016 (Public Open House)	Arctic Bay, Nunavut
Verification Meeting	May 9-10, 2016 (Invited Persons)	Pond Inlet, Nunavut

Table 1: Phase 2 community workshops overview

2. METHODOLOGY

2.1 WORKSHOP DESIGN

2.1.1 Approach to the Workshops

Section 16.3.11 of the Inuit Impact and Benefit Agreement (IIBA) between Baffinland and the QIA provides guidance on how these two organizations will work together in the design, conduct, and final storage of Inuit knowledge collected in support of the Project.⁴ As such, Baffinland developed and consulted with the QIA on its community workshop methodology proposals before commencing the workshops, in order to provide the QIA with an opportunity to comment on and approve all Phase 2 community workshop plans. Various suggestions were made by the QIA during their review of these documents, which were considered and incorporated by Baffinland as appropriate. QIA provided formal approval of the final workshop methodology proposals before any of the workshops proceeded.

Workshops #1-4 occurred in Pond Inlet, Nunavut, which is located approximately 150 km to the northeast of the Mary River mine site. Pond Inlet was chosen as the location for these workshops as it is the closest community to the mine site and proposed Phase 2 shipping activities in the Eclipse Sound area, and because its residents regularly use the Eclipse Sound area for harvesting and other land use activities. Workshop #5 occurred in Arctic Bay, Nunavut, which is located approximately 285 km to the northwest of the Mary River mine site. Arctic Bay was chosen as the location for this workshop because residents of Arctic Bay have some overlapping interests and land uses related to Baffinland's Phase 2 proposal.

The Phase 2 community workshop model follows a similar approach to the Inuit Qaujimagatuqangit (IQ) workshops conducted previously for the Mary River Project. In 2007 and 2008, for example, a number of invited persons and public workshops were conducted by Baffinland in the northern Baffin Island communities of Pond Inlet, Clyde River, Arctic Bay, Igloodik, and Hall Beach. In 2010, a series of additional IQ workshops were conducted jointly by Baffinland and the QIA in the southern Baffin Island communities of Cape Dorset and Kimmirut. Results from these workshops and the larger IQ study that was conducted have been presented previously in Baffinland's Final EIS (i.e. Baffinland Iron Mines Corporation 2012) and in Knight Piésold Ltd. (2014).

For the Phase 2 community workshops, workshop topics were selected by Baffinland after an internal review of data gaps in the existing IQ study, through discussions with the QIA, and after soliciting community feedback during an open house hosted by Baffinland on the Phase 2 proposal in Pond Inlet on January 22, 2015. Preliminary workshop topics were also discussed with the Pisiksik Community Advisory Group (CAG) in Pond Inlet on January 23, 2015. CAG members provided valuable feedback on potential workshop topics and structure, while also suggesting a number of potential workshop participants. The CAG members agreed that an invited persons workshop format would be useful for collecting information, but also felt that various members of the public and the CAG themselves should be provided the opportunity to participate.⁵

⁴ See Qikiqtani Inuit Association and Baffinland Iron Mines Corporation (2013) for detailed information on the IIBA's contents.

⁵ Please note the CAG no longer exists. A Mary River Community Group (MRCG) has been formed in cooperation with the QIA instead.

Taking this feedback into account, Baffinland developed a general model for each of the five workshops to follow. This model included first hosting a 2-3 day invited person workshop, followed by an afternoon/evening public open house. A meeting with the Mary River Community Group (MRCG) was also held following these events to gather additional feedback. While Baffinland worked closely with the QIA in the design of the workshops and open houses, considerable effort was also undertaken by Baffinland to ensure Nunavut community research and consultation ‘best practices’ were followed where appropriate (e.g. ITK and NRI 2007; Government of Nunavut 2012). Additional details specific to the structure and design of each of the five workshops can be found in following sections of this report.

The workshops and open houses were not designed to result in final Project decisions being made by the participants or communities. Rather, this report provides a scoping-level review of key issues and suggestions raised by community members with regards to the Phase 2 project proposal. Participants also provided independent perspectives and were never assumed to be representing the viewpoints of their communities and/or nominating organizations. Likewise, the information presented in this report isn’t intended to reflect workshop and/or open house participant consensus on the issues raised, or be a complete representation of all viewpoints or knowledge held by community members. Baffinland acknowledges additional community engagement will be necessary to fully satisfy public consultation requirements on the Phase 2 project proposal.

2.1.2 Workshop Team

The workshop team was composed of a number of individuals. The name, organization, and role of each of these individuals is listed in Table 2.

Name	Organization	Role
Tom Paddon	Baffinland	Workshop participation
Todd Burlingame	Baffinland	Workshop oversight
Erik Madsen	Baffinland	Workshop oversight
Wayne McPhee	Baffinland	Workshop oversight
Oliver Curran	Baffinland	Workshop oversight and participation
Jennifer St. Paul Butler	Baffinland	Workshop coordination, support, and participation
Joe Tigullaraq	Baffinland	Workshop support, organization, and participation
Joe Krimmerdjuar	Baffinland	Workshop support, organization, and participation
Meena Oyukuluk	Baffinland	Workshop support, organization, and participation
Jason Prno	Consultant to Baffinland – Jason Prno Consulting Services Ltd.	Workshop lead, design of workshop methodology, data analysis and report writing
Leroy Metcalfe	Consultant to Baffinland – Sikumiut Environmental Management Ltd.	Workshop participation and support, subject matter expert (marine environment)
Jason Lewis	Consultant to Baffinland – Sikumiut Environmental Management Ltd.	Workshop coordination, support, and participation; GIS support (preparation of workshop maps and figures)
Mike Settingington	Consultant to Baffinland – Environmental Dynamics Inc.	Workshop participation and support, subject matter expert (terrestrial wildlife), GIS support (preparation of workshop maps and figures)
Richard Cook	Consultant to Baffinland – Knight Piésold Ltd.	Review of workshop report
Justin Buller	QIA	Review of workshop methodology, workshop observation and participation
Peter Autut	QIA	Workshop observation and participation
Jeff Higdon	Consultant to QIA; marine environment	Review of workshop methodology, workshop observation and participation
Kim Poole	Consultant to QIA; terrestrial wildlife	Review of workshop methodology, workshop observation and participation
Local interpreter(s) / translator(s)	N/A	Interpretation and translation

Table 2: Members of the Phase 2 community workshops team

2.2 DATA COLLECTION AND VERIFICATION METHODS

Data collection occurred through a series of invited persons workshops and public open houses in Pond Inlet and Arctic Bay. A results verification meeting with various invited persons workshop participants in Pond Inlet additionally occurred. These are described further in the sections below. Selected photographs from the workshops, open houses, and verification meeting are provided in Appendix A.

Signed consent forms are provided in Appendix B. The questionnaires / discussion guides used in the invited persons workshops are provided in Appendix C. The questions identified in Appendix C served as key workshop discussion areas, but additional themes were discussed as necessary. Meeting notes are provided in Appendix D, while spatial information that was collected is presented on workshop maps in Sections 3 through 6 and in Appendix E.

2.2.1 Invited Persons Workshops

Contemporary land users, elders, and other residents of Pond Inlet and Arctic Bay were asked to participate in the invited persons workshops. More specifically, invitations were sent to the following organizations in Pond Inlet and Arctic Bay so they could nominate individuals to participate:

- Hunters and Trappers Organization
- Hamlet Council
- High School

These organizations were informed that only those individuals with detailed knowledge about the scheduled workshop topics should be nominated. These organizations were permitted to nominate individuals outside of their respective organizations (in lieu of their own organizational representative(s) attending) if they felt the workshop topics would be better addressed by other individuals. The QIA was also asked to nominate participants in Workshops #1-3 held in Pond Inlet. Participants sometimes varied between the workshops (e.g. due to their availability and/or knowledge). Furthermore, Workshops #1-3 consisted only of Pond Inlet residents, while Workshop #4 consisted of both Pond Inlet and Arctic Bay residents, and Workshop #5 consisted only of Arctic Bay residents.

Workshops (also known as ‘focus groups’ or ‘group interviews’) were utilized because they are an efficient way of collecting qualitative information from multiple people on focused topics of interest. The object, as Patton (2002: 386) notes, “is to get high-quality data in a social context where people can consider their own views in the context of the views of others”. Furthermore, the workshop model arguably helps promote important Inuit societal values such as ‘decision-making through discussion and consensus’; ‘working together for a common cause’; and ‘fostering good spirit by being, open, welcoming and inclusive’ (e.g. Government of Nunavut 2004).

While the advantages of workshops are numerous, Patton (2002) also highlights their ability to enhance data quality through continual participant interaction (i.e. this interaction provides ‘checks and balances’ within the group), and their utility in quickly assessing the degree of convergence (or divergence) of participant views on selected topics. Partly for these reasons, “group interviews and focus groups have now become highly valued and widely used qualitative methods” (Patton 2002: 112).

At the beginning of each workshop, Baffinland representatives provided an overview of the Phase 2 proposal and described the purpose and objectives of the workshop. Interpretation services were provided as necessary. Workshop agendas and consent forms were also provided (in English and Inuktitut) and discussed, and data collection activities only began once the consent forms had been reviewed. Each workshop followed an agenda and questionnaire/workshop guide that was prepared in advance. Information shared during the workshops was recorded in detailed meeting notes and on poster-sized paper base maps, as appropriate. Each of the workshops were also audio recorded.

2.2.2 Public Open Houses

Summarized results from the workshops were presented in public open houses. The same consent form utilized in the workshops was used in the open houses and served the dual purpose of being a sign-in sheet. A number of methods were employed to engage the public during the open houses, including summary posters and maps, PowerPoint presentations, and various handouts. Baffinland and QIA representatives were also present to engage the public, provide information, and record any feedback that was shared. Data recorded in the open houses was differentiated both in the data collection process (e.g. by using different coloured markers or annotations on the maps) and in the GIS databases (e.g. in separate attribute or notes files). Any written notes produced from the open houses also distinguished the source of the data. The open houses were not audio recorded, due to the difficulties associated with audio recording in large group settings where multiple conversations could be occurring simultaneously.

The open houses provided an opportunity for the general public to view and verify workshop data, while also allowing for new insights and information to be shared. The hosting of open houses also helped ensure all community members and organizations had an opportunity to participate in the data collection process, while improving the validity of the results. Open houses were advertised throughout the community (e.g. using radio announcements and posters in the Co-op and Northern Stores, Hamlet and HTO offices) and interpreters were available at each event.

2.2.3 Mary River Community Group Meetings

While meetings between Baffinland and the MRCG occur in an ongoing manner, follow-up meetings to each of the workshops were also held with the MRCG in which workshop summaries were presented for further input and feedback. Notes from the MRCG meetings were not integrated into the analysis of workshop data (see Section 2.4 for further information on data analysis and reporting methods), although feedback obtained during the meetings was used to identify potential issues or discrepancies that could be brought back to workshop participants at a later date. Likewise, spatial information was not collected during these MRCG meetings.

2.2.4 Verification Meeting

Following the five workshops, Baffinland organized a data verification meeting with participants from the invited persons workshops in Pond Inlet. Summaries of information collected during previous workshops were presented by Baffinland to the participants, and participants were provided an opportunity to edit, remove, or add new information. This served to help verify the workshop data that had been previously collected.

In the interest of time, only selected summary information was verified with meeting participants. Information reviewed and verified from Workshop #1 included seasonal land use maps and graphical calendars of selected land use activities in the Eclipse Sound and Navy Board Inlet areas. Information obtained on narwhal migration and lifecycle activities in the Eclipse Sound and Navy Board Inlet areas was also reviewed and verified. Information reviewed and verified from Workshop #2 included summaries of seasonal land use interactions and issues; summaries of issues, concerns, and recommendations pertaining to Phase 2 shipping through ice; and potential ship track crossing locations identified by workshop participants. Information obtained on ice conditions in Eclipse Sound and Navy Board Inlet was also reviewed and verified.

Information reviewed and verified from Workshop #3 included summaries of seasonal land use interactions and issues; summaries of issues, concerns, and recommendations pertaining to Phase 2 open water shipping; and recommendations made by workshop participants on potential trans-shipping locations. Information reviewed and verified from Workshop #4 included summaries of caribou ecology and contemporary Inuit land use activities related to caribou; and summaries of issues, concerns, and recommendations pertaining to Phase 2 and caribou. Information from Workshop #5 was not reviewed in any significant manner during the verification meeting, as Arctic Bay residents were not in attendance. However, summaries of feedback obtained from previous community workshops (i.e. Workshops #1-4) held in Pond Inlet were reviewed in Workshop #5, so that Arctic Bay workshop participants had an opportunity to comment.

Any changes made to the workshop dataset during the verification meeting were documented in meeting notes and/or the workshop GIS databases. Once all workshop data modifications were made the workshop dataset was considered finalized and available to be included in this report.

2.3 WORKSHOP TOPICS

2.3.1 Workshop #1: Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas

The objective of this workshop was to determine the location, timing, and intensity of contemporary Inuit land use activities in the Eclipse Sound and Navy Board Inlet areas, so the effects of Phase 2 could be more accurately assessed. As a significant amount of IQ for the Eclipse Sound area already exists from the original IQ study (see for example, Baffinland Iron Mines Corporation (2012) and Knight Piésold Ltd. (2014)), it was determined that detailed mapping and documentation of historic individual Inuit land uses (e.g. specific camping sites, individual travel routes, personal hunting areas) did not need to occur. Rather, the focus of this workshop was on developing a broad understanding of contemporary community land use patterns in the Eclipse Sound and Navy Board Inlet areas, as this was an underexplored area in the previous IQ study.

This focus helped provide a baseline against which the potential effects of Phase 2 on contemporary Inuit land uses could be investigated in later workshops. ‘Contemporary’ activities were defined as having regularly occurred within approximately the past 10 years. The invited persons workshop participants were also instructed to comment as much as possible on those activities important to the community as a whole (or large segments of it), rather than on individual land use activities. Due to the increased shipping activity associated with Phase 2, the emphasis of the workshop was on sea ice and ocean use; terrestrial land uses were not focused on, but were documented spatially and summarized in meeting notes when raised.

Contemporary Inuit land uses were documented primarily through use of a seasonal calendar data collection guide. For each traditional season of the year, key land use activities in the Eclipse Sound and Navy Board Inlet areas were identified by workshop participants and documented both textually and spatially. Copies of the seasonal calendar data collection guide were provided to workshop participants prior to the workshop so they could come better prepared to discuss its subject areas.

2.3.2 Workshop #2: Shipping Through Ice

The objective of this workshop was to document community feedback regarding the shipping through ice component of Baffinland's Phase 2 proposal and to identify potential mitigation measures. Prior to the workshop, Baffinland hosted a visit to Nain, Labrador on April 14-16, 2015 for a number of Pond Inlet residents (including five workshop participants) and the president of the QIA. These site visit participants had an opportunity to observe shipping through ice at another northern mining operation (i.e. the Voisey's Bay Mine) and the ship track crossing methods that were being employed there.

During the workshop, Baffinland presented an overview of proposed Phase 2 shipping through ice activities, including proposed nominal shipping routes, conceptual shipping through ice schedules, types of ships to be used, and other operational considerations. The land use information obtained in Workshop #1 was also presented in this workshop, with the proposed Phase 2 nominal shipping route overlain on a series of seasonal land use maps. These maps were used to guide a significant portion of the subsequent workshop discussions. Proceeding season-by-season, the emphasis of these discussions was on Inuit sea ice use during periods of shipping through ice. However, workshop participants were also encouraged to identify species of marine mammals that may be affected in the Eclipse Sound and Navy Board Inlet areas, sensitive marine locations, timing of these sensitivities, and types of local marine use (e.g. harvesting, travel, camping, tourism) that may be affected, amongst other topics.

An additional focus of this workshop was to discuss potential mitigation measures related to ship track crossing. A summary presentation of the Nain, Labrador visit was made by Baffinland on Day 2 of the workshop, which included videos and photos of shipping through ice and ship track bridge operation. Participants who attended the visit were encouraged to share their observations with the rest of the group. A half-day discussion then ensued, with numerous clarification questions posed to Baffinland. Baffinland then presented conceptual mitigation options being considered for Phase 2 (including ship track crossing methods) and solicited workshop participant feedback. In addition to discussing ship track crossing methods, Baffinland solicited opinions on ship track crossing locations, timing and location of shipping activities, community notification methods, and other logistical matters. Workshop participants were also invited to share their own mitigation suggestions related to shipping through ice. Baffinland additionally asked workshop participants to describe ice conditions along the proposed Phase 2 shipping route and other locations in Eclipse Sound and Navy Board Inlet, so that a better understanding of potential shipping conditions could be obtained.

2.3.3 Workshop #3: Open Water Shipping

The objective of this workshop was to document community feedback regarding the open water shipping component of Baffinland's Phase 2 proposal, and to identify potential mitigation measures. During the workshop, Baffinland presented an overview of proposed Phase 2 open water shipping activities, including nominal shipping routes, conceptual open water shipping schedules, types of ships to be used, and other operational considerations. Land use information obtained in Workshop #1 specific to the open water period was also presented in this workshop, with relevant Phase 2 Project components (e.g. nominal shipping routes, potential trans-shipping sites) overlain on a series of seasonal land use maps. These maps were used to guide some of the subsequent workshop discussions, which emphasized potential Phase 2 interactions with land use activities in the Eclipse Sound and Navy Board Inlet areas during open water. However, workshop participants were also be asked to identify species of marine mammals that may be affected in the Eclipse Sound and Navy Board Inlet areas,

sensitive marine locations, timing of these sensitivities, and types of local marine use (e.g. harvesting, travel, camping, tourism) that may be affected, amongst other topics.

An additional focus of this workshop was to discuss potential mitigation measures related to open water shipping. Baffinland presented conceptual mitigation and monitoring options to the workshop participants and solicited their feedback. Workshop participants were also encouraged to make their own suggestions. Baffinland additionally solicited feedback on potential trans-shipping locations in Milne Inlet. Matters such as ship safety, shelter from the wind and other elements, ocean currents, and interactions with Inuit land use activities were all considered. In addition to these areas of inquiry, Baffinland asked workshop participants to describe open water shipping conditions along the proposed Phase 2 shipping route and other locations in the Eclipse Sound and Navy Board Inlet areas.

2.3.4 Workshop #4: Caribou

The objective of this workshop was to document community feedback regarding Baffinland's Phase 2 proposal and caribou, and to identify potential mitigation measures. During the workshop, Baffinland presented an overview of proposed Phase 2 activities, including details pertaining to mine operations, types of mining and transportation equipment to be used, transportation schedules, and road corridor expansion plans. Current understandings of caribou ecology and harvesting in the North Baffin region (which drew on both IQ and scientific perspectives) were also reviewed with workshop participants for verification and comment. Following this, information on contemporary Inuit use of caribou in the North Baffin region was documented. Inuit caribou harvesting activities, locations, and periods were reviewed, and maps were used to document any spatial information that was shared. Workshop participants were also asked to share their impressions, concerns, and suggestions regarding potential Phase 2 interactions with caribou in the Project area.

An additional focus of this workshop was to discuss potential mitigation measures related to caribou. Baffinland presented conceptual mitigation and monitoring options for Phase 2 to the workshop participants and solicited their feedback. Workshop participants were also encouraged to make their own suggestions and provide any additional information they felt may be relevant to the planning of Phase 2.

2.3.5 Workshop #5: Phase 2 and Arctic Bay

The objective of this workshop was to engage the community of Arctic Bay on Baffinland's Phase 2 proposal, document their feedback, and have them identify potential mitigation measures. During the workshop, Baffinland presented details of the Phase 2 proposal, reviewed feedback obtained from previous community workshops held in Pond Inlet, and solicited new feedback. An additional focus of this workshop was to discuss potential mitigation measures related to Phase 2. Baffinland presented conceptual mitigation and monitoring options for Phase 2 to the workshop participants and solicited their opinions on these. Workshop participants were also encouraged to make their own suggestions and provide any additional information they felt may be relevant to the planning of Phase 2.

2.4 DATA ANALYSIS AND REPORTING

Two types of data were collected in the workshops and open houses: verbal/textual data and spatial data. Verbal/textual data were recorded primarily in detailed workshop notes (see Appendix D). Key points, agreements, disagreements, concerns, and suggestions raised by workshop and open house

participants were recorded in these notes. Data analysis was then accomplished through a form of associative analysis. In associative analysis, “the researcher looks for patterns, replication and linkages in the dataset” (GSRU 2007: 8:38). Data obtained from the workshops were thus analyzed to see if general themes emerged amongst the data sets and, if so, to qualitatively describe those themes. Organization of workshop notes was also aided in some instances by using the NVivo 10 software package, which is a commonly used application for analyzing qualitative research data. The software assists users to sort and organize (‘code’) collected information, identify data similarities and differences, and uncover key themes and findings.

All spatial information that was provided by workshop and open house participants (e.g. mapped land use activities and wildlife information) was digitized using Geographic Information System (GIS) software, similar to what was done in the original IQ study. A number of theme-based maps were then prepared, final versions of which are provided in Sections 3 through 6 and in Appendix E of this report. GIS databases were developed to store workshop and open house spatial information and were organized, to the greatest degree practical, using a format previously suggested by the QIA.

Textual and spatial information obtained during the workshops and open houses were then analyzed for common themes and findings. However, some workshop discussions were unrelated to the specific workshop topic at hand or were a follow-up to previous workshop topics that had been discussed. In these instances, the information that was provided was analyzed as part of the data obtained from those other workshops. Once all workshop data were compiled and analyzed, a draft workshop report was prepared. The final report (i.e. this report) will be included in the Phase 2 environmental assessment submission to the NIRB. Workshop results will also be integrated into other analyses (e.g. effect assessments) conducted for the Phase 2 environmental assessment, as appropriate.

2.5 DATA LIMITATIONS

As noted previously, this report provides a review of key issues raised by community representatives with regards to Phase 2. It does not present a complete representation of all viewpoints held by community representatives. The information presented in this report also isn’t intended to reflect workshop and/or open house participant consensus on particular issues. Rather, it summarizes a range of discussions (organized by theme, where possible) that were held.

While this report strives to present land use information shared by workshop participants in a comprehensive manner, some discrepancies and data gaps may nevertheless exist. For example, workshop participants were not always in full agreement on the details of some land use activities (e.g. their exact timing and location) and not every knowledgeable land user participated in these workshops. As such, it is possible the land use information presented in this report could be added to and improved on in the future. Report maps, graphs, and summaries should be used for general information purposes only, with the understanding they may not fully represent all land use activities that occur.

Furthermore, the meeting notes found in Appendix D present summarized versions of statements made by workshop participants, rather than fully transcribed accounts. Some of these statements have also been included within the main body of this report in order to provide greater context and clarity to points that are made; these statements should not be considered verbatim quotes made by workshop participants. While transcription of the workshop discussions was considered in the workshop design phase, it was eventually decided against due to the challenges associated with transcribing large group discussions and open houses (e.g. it may be difficult to identify who is speaking, multiple conversations

may be occurring at the same time, people may speak over one another) and while using simultaneous interpretation.

2.6 LONG-TERM USE AND STORAGE OF COMMUNITY WORKSHOP MATERIALS

In accordance with Section 16.4.4 of the QIA-Baffinland IIBA, Baffinland shall pay the costs of collecting, recording, analyzing, assembling and delivering to the QIA all Inuit knowledge collected/developed. As such, original copies of workshop materials will be returned to the QIA. These materials include:

- Original copies and scanned copies of consent forms / sign-in sheets
- Original workshop maps
- Digital scans of the workshop maps
- Digitized workshop maps in ArcGIS format
- Digital audio recordings in .mp3 format
- Written meeting notes in Microsoft Word format
- NVivo database files

Copies of community workshop materials and/or summary reports will additionally be provided to the communities of Pond Inlet and Arctic Bay, and Baffinland will also retain copies of all workshop materials for its own files. However, audio files from the morning of the second day of Workshop #3 are missing. While there is no audio record of this portion of the workshop, detailed notes were taken to document the main discussions that occurred.

3. RESULTS – WORKSHOP #1 (CONTEMPORARY INUIT LAND USE IN THE ECLIPSE SOUND AND NAVY BOARD INLET AREAS)

3.1 OVERVIEW

Using the seasonal calendar data collection guide provided in Appendix C, contemporary Inuit land use activities in the Eclipse Sound and Navy Board Inlet areas were documented during Workshop #1. Workshop discussions were organized around traditional Inuit seasons and the Nunavut Planning Commission's (2000: 15) description of annual snow, ice, water and light cycles in the North Baffin region were used to commence the workshop discussion. However, workshop participants suggested five seasons would be more appropriate to use, rather than the six seasons suggested by the Nunavut Planning Commission (2000). These five seasons (and their suggested timeframes) include Ukiaksaq (October to mid-November), Ukiuq (mid-November to February), Upirngaksaq (March to May), Upirngaaq (late May to July), and Aujaq (end of July to September). Workshop participants noted the beginning and end of each season are not constant and may vary depending on yearly weather conditions. For this reason, the time periods for each season should only be used as approximations.

For each season, descriptions of typical weather and environmental conditions were provided and key land use activities in the Eclipse Sound and Navy Board Inlet areas were described. The results of these discussions are summarized in Section 3.2, both textually and in seasonal land use maps.⁶ For additional seasonal and land use information, please refer to the workshop notes provided in Appendix D.⁷ Section 7 of this report may also be consulted for information on land use activities undertaken by residents of Arctic Bay, as Section 3 (i.e. this section) focuses primarily on Pond Inlet. The results of the Mary River Project IQ study presented in Baffinland Iron Mines Corporation (2012) and Knight Piésold Ltd. (2014) can be referred to for additional Inuit land use information in the North Baffin Region. Section 3.3 presents further information collected during Workshop #1, including seasonal calendars of selected land use activities undertaken by residents of Pond Inlet, and information on key narwhal migration and lifecycle activities in the Eclipse Sound and Navy Board Inlet areas.

3.2 SEASONAL CONDITIONS AND LAND USE ACTIVITIES

3.2.1 Ukiaksaq (October to Mid-November)

3.2.1.1 *Weather and Environmental Conditions*

Typical weather and environmental conditions during Ukiaksaq were described by workshop participants. For example, workshop participants noted the sun disappears in the middle of November and temperatures start to become colder during this season. Snow also falls on the land during Ukiaksaq and the ground starts to become frozen. Likewise, ocean ice freezes 4-6 inches thick in early/mid-November. Inuit know the ice is safe to travel on when it reaches this thickness, or when they

⁶ Only final versions of the seasonal land use maps are presented, which include any revisions made during subsequent workshops and open houses, and the verification visit. Travel routes identified on the land use maps show only general locations and directions of travel. Likewise, land use areas identified on the land use maps may show only general locations where activities occur.

⁷ Written notes from the public open house component of Workshop #1 were not taken; rather, edits were made directly to the seasonal land use maps where appropriate.

can't break through the ice with three pokes of a harpoon. However, the edge of the coastline and fjords freeze first and the lakes also begin to freeze in this season. Finally, it was noted the wind is stronger in Ukiaksaq and generally comes from the north/northwest. Multi-year ice will also start to come down Navy Board Inlet during this season.

3.2.1.2 Land Use Activities

Inuit contemporary land use activities in the Eclipse Sound and Navy Board Inlet areas during Ukiaksaq were described by workshop participants. An overview of key activities is provided here and in Figure 1, although Appendix D should be consulted for additional details.

Inland caribou hunting is popular during Ukiaksaq because the caribou are typically fatter than in other seasons. Hunting may occur by first boating to a particular location, then using ATVs to travel inland to hunting locations (or snow machines if there is enough snow). There is typically no hunting that takes place during freeze-up, but anywhere from 10 hunting groups a week to 20 hunting groups a month may otherwise harvest caribou during this season. Workshop participants noted there are less caribou present today than in the past.

Narwhal hunting also occurs in Ukiaksaq and October was noted as the main harvesting period for this season. Up to 20 boats a week may be out hunting narwhal during peak narwhal availability periods, although the highest numbers of hunters will be out when the narwhal numbers are also the highest. The areas closest to Pond Inlet were said to be the most actively hunted, as this is where the most narwhal will be present. Day trips (e.g. if narwhal are close to town) up to week-long trips (e.g. if narwhal are in Milne Inlet) may occur. However, Milne Inlet and Navy Board Inlet are not very actively hunted for narwhal at this time of year. Whales were also noted to occasionally become stranded in the ice during Ukiaksaq.⁸

Ukiaksaq is also a period when seal hunting takes place, which can occur all over the ocean (and all year long). Ringed seals are the most popular to hunt, although bearded, harp, and hooded seals may also be caught in lesser quantities. Seal hunting in Ukiaksaq is done mostly using day trips and can also occur at winter ice cracks (i.e. once ice has formed) in Eclipse Sound from October to May.

A number of other activities were noted to occur during Ukiaksaq. For example, fishing on inland lakes for Arctic char occurs, although more fishing occurs once the lakes begin to freeze. Inland ptarmigan hunting also occurs, with snowmobiles or ATVs used to access inland hunting areas. Likewise, boat trips to cabins will be taken in Ukiaksaq, although not much camping will occur. Ocean travel is generally limited during this period as the water is often too rough.

On following page:

Figure 1: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Ukiaksaq (October to mid-November) [Map produced by Sikumiut Environmental Management Ltd.]

⁸ Two narwhal stranding locations were identified on the Ukiaksaq map (see Figure 1), although workshop participants also noted narwhal strandings may occur during Ukiuq. However, at least one of the strandings identified on Figure 1 is known by the author to have occurred at the transition between Ukiaksaq and Ukiuq (i.e. in 2008, these strandings occurred in the second half of November).

3.2.2 Ukiuq (Mid-November to February)

3.2.2.1 *Weather and Environmental Conditions*

January and February were noted to be the coldest months of this season. Periods of haze from the cold can also occur during Ukiuq and the sea ice can become 6-7 feet thick, although the ice will often be thickest where there is no snow. Winds are typically from the south during Ukiuq and while Eclipse Sound is usually windy (with east-west winds), it was noted these strong winds don't usually reach the community of Pond Inlet. Rough ice areas will be avoided if they can be by hunters in Ukiuq (e.g. by travelling along the coast or inland); otherwise, they will find a way to weave or hack (using tools) their way through tough spots. Some rough ice areas were noted to change year-to-year, while other areas will stay the same.

3.2.2.2 *Land Use Activities*

Inuit contemporary land use activities in the Eclipse Sound and Navy Board Inlet areas during Ukiuq were described by workshop participants. An overview of key activities is provided here and in Figure 2, although Appendix D should be consulted for additional details.

Hunting at the Pond Inlet floe edge was noted to occur during Ukiuq. This is the most actively used floe edge, with most people travelling to Button Point first, then north or south along the floe edge. To get to Button Point, people will often travel from Pond Inlet to Bylot Island and then along the coast. Seal hunting is the most popular activity that occurs during this season. Ringed seals are the most regularly harvested seals, but harp, bearded, and hooded seals may also be caught (although hooded seals are rarely caught). The smaller and tastier seals were noted to come from the floe edge and January was said to be the best seal hunting month in Ukiuq. Polar bear and occasional walrus hunting will also occur at the Pond Inlet floe edge.

Approximately 20 snow machine groups will travel to this area on the weekends and 10+ snow machine groups will travel to this area during the week. Some day trips will occur in addition to some overnight camping trips. While some dog teams will travel here, most modern travel is with snow machines. Travel by snow machine to the floe edge in the Button Point area takes approximately 45 minutes (if travelling fast) to 2 hours, and was noted to be approximately 40 miles from Pond Inlet. It takes one day of travel on average by dog team, although the fastest time recalled was 4.5 hours. The Pond Inlet floe edge was noted to be a very popular area by a number of individuals.

Hunting at the Navy Board Inlet floe edge may also occur during Ukiuq, although this area is not very actively used (it was used more in the past). Some polar bear, seal, and walrus hunting may occur, with ringed seal being the most popular seal species harvested. However, some bearded and harp seal may also be harvested. The Navy Board Inlet floe edge was noted to have many more walrus present than at the floe edge in the Button Point area. Travel to the Navy Board Inlet floe edge from Pond Inlet by snow machine takes approximately 12-17 hours, or 2 or more days (two overnights) by dog team.

Inland caribou hunting occurs during all of Ukiuq and travel to inland caribou hunting areas often occurs first over the sea ice. Travel to Mary River on a snow machine, non-stop, in good conditions was noted to take approximately 12 hours. However, the average time it takes someone on a snow machine is 2 days, or 5-7 days by dog team. Ukiuq is also a period when inland fishing occurs, with travel to inland

fishing areas often occurring first over the sea ice. Commercial fishing activities also occur during this season.

Seal hunting throughout Eclipse Sound (i.e. not only at the floe edge) will occur during Ukiuq. Hunting occurs in different ways, including at cracks in the ice. Seal hunting at winter ice cracks will occur from October to May, with ringed seals being the primary focus (although bearded seals may be harvested occasionally). No particularly busy month for seal hunting during Ukiuq was identified, as hunting was said to be fairly constant throughout this season. Once seal hunting cracks freeze over in Eclipse Sound, however, more people will travel to the Button Point area (in December or early January). Hunting at seal breathing holes may also occur. This activity will take place throughout Eclipse Sound (and throughout the year), although in some years seals will use breathing holes more than others. Seal nets may also be used as a harvesting method, although they are generally only used by individuals with dog teams (i.e. less than 10 people). It was additionally noted that seals will start to make their dens in February, while seal pupping will begin in February and March.

Inter-community travel to Arctic Bay can occur during Ukiuq, with the main travel route being located through southwestern Eclipse Sound. Only very limited travel to Arctic Bay will occur through Navy Board Inlet. Most travel to Arctic Bay is by snow machine, although less than five groups were estimated to undertake this trip during Ukiuq every year. Travel to Arctic Bay on a snow machine, non-stop, in good conditions takes approximately 9-12 hours. However, the average time it takes someone on a snow machine is 2-3 days (2 overnights), or 3-9 days by dog team. Polar bear hunting occurs throughout Navy Board Inlet in the winter and seal hunting will also often occur along the way. Whales were also noted to occasionally become stranded in the ice during Ukiuq.

On following page:

Figure 2: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Ukiuq (mid-November to February) [Map produced by Sikumiut Environmental Management Ltd.]

3.2.3 Upirngaksaq (March to May)

3.2.3.1 *Weather and Environmental Conditions*

The weather was said by workshop participants to vary in this season and be very hard to forecast. More generally, the beginning of March and beginning of May were noted to have very different weather. March is often called ‘early spring’ because the daylight increases, but the weather is still cold like it is in the winter. Beginning in April and continuing into May, it will start snowing and become frequently cloudy, although temperatures will often start to warm up in May. April and May were also noted to be when the sea ice is the thickest.

3.2.3.2 *Land Use Activities*

Inuit contemporary land use activities in the Eclipse Sound and Navy Board Inlet areas during Upirngaksaq were described by workshop participants. An overview of key activities is provided here and in Figure 3, although Appendix D should be consulted for additional details.

Workshop participants noted the same land use activities occurring in Ukiuq also occur in Upirngaksaq. However, a number of differences were discussed, including the fact that narwhals will start arriving in April and May. Seal hunting also continues in Ukiuq and seal pupping will last into March. Ringed seal pups are preferred by local Inuit and are harvested throughout Eclipse Sound. The only areas noted that were not good for hunting them are where polar bears are also hunting seals. Snow and ice conditions will dictate exactly where seal pups are found. Seal hunting can occur at winter ice cracks in Eclipse Sound from October to May.

Inland hunting and fishing occurs during Upirngaksaq. Inland travel to Mary River will often occur in March, although a popular time for inland caribou hunting, generally, is March to May. The most popular time for inland fishing is April and May. The frequency of inter-community travel increases during the spring when the amount of daylight increases. March to the beginning of June are popular times for inter-community travel to places like Arctic Bay, Clyde River, and Igloolik.

Pond Inlet floe edge activities continue in Upirngaksaq, including the hunting of ringed and bearded seal, narwhal, polar bear, and walrus (although this species is not often hunted here). A number of people will be at the floe edge in May because of narwhal hunting opportunities. Hunting at the floe edge, generally, is very popular from April to June, with June being the most popular month. There are approximately the same number of people at the floe edge during Upirngaksaq as in Ukiuq; however, there are many more people using Eclipse Sound for hunting seal pups at this time. It was estimated there will be 20+ groups/individuals out per week hunting during this time. In May, leads (which are different than ice cracks) will start forming in the ice. Leads will usually form in the same place each year. Upirngaksaq also sees some narwhal hunting occur at the Navy Board Inlet floe edge in April and May.

May and June were noted to be a popular time for outfitters and other tourists (like photographers) to arrive at the Pond Inlet floe edge. More generally, April and May were noted to be very popular for sport hunting in the area, with April being the main month for sport hunting. However, the polar bear hunting season is over at the end of May. The Nunavut Quest dog team race may also occur in Upirngaksaq.

On following page:

Figure 3: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Upirngaksaq (March to May) [Map produced by Sikumiut Environmental Management Ltd.]

3.2.4 Upirngaaq (Late May to July)

3.2.4.1 *Weather and Environmental Conditions*

Once leads start forming and when Inuit can pitch tents, Upirngaaq starts. It also starts to get warmer in Upirngaaq and, by the end of the season, ice break-up will have begun.

3.2.4.2 *Land Use Activities*

Inuit contemporary land use activities in the Eclipse Sound and Navy Board Inlet areas during Upirngaaq were described by workshop participants. An overview of key activities is provided here and in Figure 4, although Appendix D should be consulted for additional details.

While all of Upirngaaq was described as a busy period for land use activities, June was noted to be the busiest month (as long as there is ice to travel on and hunt from). People will be spread throughout Eclipse Sound during this time of year; however, Pond Inlet floe edge activities continue to be important during Upirngaaq. Seal and narwhal hunting at the floe edge will occur, and bowhead whales may be found at this time of year. However, bowhead whales will not be regularly harvested because they are under a harvesting quota system. Porpoises may also be seen at the floe edge, but will not be harvested. The floe edge will remain busy until the Pond Inlet HTO informs the community it should no longer be used for the season because of safety concerns (e.g. due to thin or melting ice). Outfitters/tourists will also access the floe edge in Upirngaaq, with May and June being the most popular months.

Bird and egg harvesting is an important activity that occurs in the Eclipse Sound and Navy Board Inlet areas during Upirngaaq. This includes harvesting of snow geese, Canada geese, swans, and sandhill cranes. Eider ducks (eggs, mostly) will be harvested during June and July. Murre and kittiwake eggs will also be harvested during Upirngaaq. Generally, egg harvesting stops when embryos begin forming in the eggs.

Seal harvesting occurs throughout Eclipse Sound at breathing holes, while seals are basking on the ice, and in leads (although not regularly) during Upirngaaq. Spring was noted to be the most popular seal hunting period of the year, with young seals primarily being harvested at this time. Upirngaaq was noted to be when seal pups become young seals, often harvested for their skins. Adult seals are not regularly harvested because they sink once shot at this time of year and are difficult to retrieve. Only dog team owners will typically hunt adult seals at this time.

Narwhal harvesting at the Pond Inlet floe edge is another land use activity that occurs in Upirngaaq. Narwhal harvesting within Eclipse Sound itself may also occur in July. Narwhal will enter the leads in Eclipse Sound in July. Narwhal migrate into Eclipse Sound from both Navy Board Inlet and Pond Inlet, although large male narwhals will be the first ones to enter the leads, ahead of the females and calves. Ice fishing on the ocean also occurs in Upirngaaq, primarily in thin ice locations. Fishing occurs as fish migrate to the sea in the spring, before the ice breaks up. Upirngaaq is also a very popular season for camping and cabin use. Inuit will camp throughout Eclipse Sound and, to a lesser degree, Navy Board Inlet during this time. May was also noted to be very popular for sport hunting. Workshop participants additionally noted there may be patches of hazardous and thin ice at this time of year.

On following page:

Figure 4: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Upirngaaq (late May to July) [Map produced by Sikumiut Environmental Management Ltd.]

3.2.5 Aujaq (End of July to September)

3.2.5.1 *Weather and Environmental Conditions*

Workshop participants noted Aujaq will be the warmest part of the year and July will be the hottest month. Ice will also break up at this time of year and it may be rainy and windy. Aujaq is the main open water period of the year. Winds typically come from the east during Aujaq. Workshop participants also noted the ocean current is stronger at this time of year, especially during full moons; this current moves out towards Baffin Bay. Likewise, icebergs will move down and past the community of Pond Inlet in Aujaq and multi-year ice will be seen coming through the area. Icebergs have even been noted to come right up to the beach near the community of Pond Inlet.

3.2.5.2 *Land Use Activities*

Inuit contemporary land use activities in the Eclipse Sound and Navy Board Inlet areas during Aujaq were described by workshop participants. An overview of key activities is provided here and in Figure 5, although Appendix D should be consulted for additional details.

Harvesting of marine mammals will occur throughout Eclipse Sound during Aujaq. Hunting seals and narwhal was noted to be very popular during this time of year and it was estimated that more than 50 boats per week could be out hunting during this time. While ringed seals are harvested everywhere in Eclipse Sound during Aujaq, the harvesting of young seals is preferred. Harp seals and the occasional bearded seal may also be harvested. Likewise, most narwhal in the area are found from the end of July to the middle of August. Narwhal calving was noted to occur in the southwestern inlets/fjords of Eclipse Sound (e.g. Milne Inlet).⁹ August and September is the busiest narwhal harvesting period of the year. Polar bears are present in the area but are not harvested, as their hunting season is over at the end of May.

Some walrus may be harvested to the east of the community of Pond Inlet (i.e. two harvesting locations were marked on the Aujaq map, whose closest boundaries are approximately 90 km and 105 km east of the community, respectively); however, few walrus occupy this area because the water is considered too deep for them. Walrus may also be harvested in northern Navy Board Inlet during Aujaq, but not regularly (however, walrus were noted to be present there year round). Workshop participants noted walrus harvesting isn't an activity that is typically focused on by local hunters from Pond Inlet. Likewise, killer whales can be seen in Eclipse Sound at this time of year but will not be hunted. Bowhead whales will also migrate through the area with their calves in Aujaq, but are not actively harvested by Inuit due to strict quotas that are in place. Fin or sperm whales may also be seen, but are not harvested. Workshop participants additionally noted more porpoises are being seen in the area; however, these are not typically harvested.

Aujaq was noted to be an important period for caribou hunting, with inland travel generally occurring by ATV. It was estimated that more than 10 groups of caribou hunters may head out per week (or perhaps even more than 20 groups), but not recently (i.e. summer 2015) because of caribou hunting restrictions that have been put in place by the government. Late August and September are the busiest months for caribou hunting in Aujaq.

⁹ Narwhal typically migrate into the fjords to give birth and raise their young once the land fast ice has cleared.

In August, geese with chicks (goslings) are harvested in a number of locations on the land and water, although gosling harvesting is most popular. Likewise, fish are found and harvested throughout Eclipse Sound during Aujaq. Fishing is generally done with rods right after ice breakup. There are also some locations where rivers run to the ocean that are popular harvesting locations. September was noted to be an important period for Arctic char fishing on inland lakes.

Other land use information was provided by workshop participants for Aujaq. For example, July was noted to be the month that people switch from using a snowmobile to a boat. Furthermore, only limited inland travel will occur in the summer and inter-community travel generally does not happen in this season. Gathering of clams, kelp/seaweed, and other marine resources does not readily occur by residents of Pond Inlet in Aujaq. However, Aujaq is a period when some non-traditional types of land use will occur. Tourists (e.g. kayakers) can be present in Eclipse Sound at this time of year and some cruise ships and sailboats may arrive (usually in August). Likewise, Baffinland and community sealifts and fuel tankers will enter Eclipse Sound at this time.

On following page:

Figure 5: Inuit contemporary land use in the Eclipse Sound and Navy Board Inlet areas during Aujaq (end of July to September) [Map produced by Sikumiut Environmental Management Ltd.]

3.3 ADDITIONAL INFORMATION

3.3.1 Seasonal Calendars of Selected Land Use Activities in the Eclipse Sound and Navy Board Inlet Areas

Using information provided by participants in Workshop #1, draft seasonal calendars of contemporary land use activities in the Eclipse Sound and Navy Board Inlet areas were developed. These calendars were then presented to participants in the May 2016 verification meeting for feedback and revision. Final versions of these calendars are presented in Figures 6 and 7. These figures display key contemporary land use activities undertaken by residents of Pond Inlet in the Eclipse Sound and Navy Board Inlet areas, and the timing and relative intensity of those activities. Information is provided on marine mammal harvesting, caribou hunting, fishing, bird and egg harvesting, other land uses, and tourism.

Light green periods on the calendars are when land use activities were identified to occur, while dark green periods are when land use activities are more intensive. Those periods labelled as 'peak' are when selected land use activities were identified to occur most intensively within the dark green periods. However, periods marked as light green shouldn't necessarily be considered less important or indicative of activities not regularly occurring.¹⁰

On following pages:

Figure 6: Seasonal calendar of marine mammal harvesting activities in the Eclipse Sound and Navy Board Inlet areas

Figure 7: Seasonal calendar of other land use activities in the Eclipse Sound and Navy Board Inlet areas

¹⁰ Light green periods simply reflect the fact that workshop participants didn't identify them as periods of more intensive use compared to other times of the year. Likewise, some activities which occur over limited time periods were identified as dark green, perhaps because these activities do not occur at any other time of the year. In consideration of the above, the seasonal calendars presented in Figures 6 and 7 should be considered general representations of seasonal land use activities undertaken by Pond Inlet residents in the Eclipse Sound and Navy Board Inlet areas, rather than definitive schedules.

	UKIAKSAAQ		UKIUQ				UPIRNGAKSAAQ			UPIRNGAAQ		AUJAAQ	
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	
MARINE MAMMAL HARVESTING													
Seal Hunting within Eclipse Sound	Light Green	Light Green	Light Green	Dark Green	Dark Green	Light Green							
Seal Pup Hunting within Eclipse Sound						Dark Green	Dark Green	Dark Green					
Narwhal Hunting within Eclipse Sound	Light Green									Light Green	Dark Green	Dark Green	
Pond Inlet Floe Edge Hunting			Light Green	Light Green	Light Green	Light Green	Dark Green	Dark Green	Dark Green	Peak	Light Green		
• <i>Seals</i>			Light Green	Light Green	Light Green	Light Green	Dark Green	Dark Green	Dark Green	Light Green			
• <i>Polar Bear</i>			Light Green	Light Green	Light Green	Dark Green	Dark Green	Dark Green					
• <i>Walrus</i>					Light Green	Light Green	Light Green	Light Green	Light Green				
• <i>Narwhal</i>							Light Green	Light Green	Dark Green	Dark Green			
Navy Board Inlet Floe Edge Hunting			Light Green	Light Green	Light Green								
• <i>Seals</i>			Light Green	Light Green	Light Green								
• <i>Polar Bear</i>			Light Green	Light Green	Light Green								
• <i>Walrus</i>					Light Green	Light Green	Light Green	Light Green	Light Green				
• <i>Narwhal</i>							Light Green	Light Green	Light Green				
Polar Bear Hunting in Navy Board Inlet			Light Green	Light Green	Light Green	Dark Green	Dark Green	Light Green					
Seal Hunting in Navy Board Inlet							Light Green	Light Green	Light Green				
Walrus Harvesting in Northern Navy Board Inlet and East of Pond Inlet	Light Green										Light Green	Light Green	

Notes: Information on this calendar was provided by residents of Pond Inlet who participated in community workshops held for Baffinland Iron Mines Corporation's Phase 2 proposal. Light green periods are when the activity was identified to occur. Dark green periods are when the activity was identified to occur more frequently/intensively. Those periods labelled as 'peak' are when selected land use activities were identified to occur most frequently/intensively within the dark green periods. This calendar is for general informational purposes only and may not fully represent all land use activities occurring in the area.

	UKIAKSAAQ		UKIUQ				UPIRNGAKSAAQ			UPIRNGAAQ		AUJAAQ	
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	
CARIBOU HUNTING													
Inland Caribou Hunting	Light Green	Dark Green	Dark Green	Light Green	Dark Green	Dark Green	Dark Green	Light Green			Light Green	Dark Green	
FISHING													
Fishing on Inland Lakes	Dark Green	Dark Green	Dark Green	Light Green	Light Green	Light Green	Dark Green	Dark Green	Light Green				
Ice Fishing on Ocean										Dark Green	Dark Green	Light Green	
Fishing on Ocean (Open Water)										Light Green	Light Green		
BIRD & EGG HARVESTING													
Ptarmigan Hunting	Dark Green	Dark Green	Light Green	Light Green	Light Green	Light Green	Light Green					Dark Green	
Snow Geese								Dark Green	Dark Green				
Snow Geese Egg Harvesting									Dark Green				
Canada Geese								Dark Green	Dark Green				
Geese with Goslings (Goslings are Preferred)											Dark Green		
Swans								Light Green	Light Green				
Sandhill Cranes								Light Green	Light Green				
Eider Ducks (Eggs, Mainly)									Dark Green	Dark Green			
Murres (Eggs)									Dark Green	Dark Green			
Kittiwakes (Eggs)									Dark Green	Dark Green			
OTHER LAND USES													
Family Camping in Eclipse Sound (and to a lesser degree in Navy Board Inlet)									Dark Green	Dark Green	Dark Green	Dark Green	
Inter-Community Travel		Light Green	Light Green	Light Green	Light Green	Dark Green	Dark Green	Dark Green	Dark Green				
TOURISM													
Sport Hunting						Light Green	Peak	Dark Green					
Tourists and Outfitters at Pond Inlet Floe Edge (e.g. Photographers)								Dark Green	Dark Green				
Kayakers											Dark Green	Light Green	
Cruise Ships and Sailboats											Light Green	Dark Green	

Notes: Information on this calendar was provided by residents of Pond Inlet who participated in community workshops held for Baffinland Iron Mines Corporation's Phase 2 proposal. Light green periods are when the activity was identified to occur. Dark green periods are when the activity was identified to occur more frequently/intensively. Those periods labelled as 'peak' are when selected land use activities were identified to occur most frequently/intensively within the dark green periods. This calendar is for general informational purposes only and may not fully represent all land use activities occurring in the area.

3.3.2 Narwhal Migration and Lifecycle Activities in the Eclipse Sound and Navy Board Inlet Areas

In addition to discussing contemporary Inuit land use activities, a separate discussion on key narwhal migration and lifecycle activities in the Eclipse Sound and Navy Board Inlet areas occurred in Workshop #1. These activities were documented both spatially and textually. A map of these activities is presented in Figure 8.

Workshop participants generally noted that in April, May, and June narwhal will migrate in from Baffin Bay and be found in the areas offshore of the Pond Inlet floe edge, northern coast of Bylot Island, Navy Board Inlet floe edge, and eastern Lancaster Sound. The main narwhal migration is from the south and begins in March each year. Once the ice starts to break up in July, narwhal will begin migrating into Eclipse Sound through Pond Inlet and Navy Board Inlet. Narwhal will first begin coming into the leads closest to the Pond Inlet floe edge in July. It was noted that large male narwhals are the first ones to enter the leads, ahead of the females and calves. In August, September, and October, narwhal will be found in the Milne Inlet area; this is where calving activities occur. In October and November, narwhal will migrate back out to Baffin Bay through Eclipse Sound and Pond Inlet to overwinter. However, it was noted the periods mentioned here are approximate and may change from year to year (e.g. due to ice conditions).

On following page:

Figure 8: Key narwhal migration and lifecycle activities in the Eclipse Sound and Navy Board Inlet areas
[Map produced by Sikumiut Environmental Management Ltd.]

4. RESULTS – WORKSHOP #2 (SHIPPING THROUGH ICE)

4.1 OVERVIEW

Workshop #2 focused on the shipping through ice component of Baffinland’s Phase 2 proposal. Potential seasonal land use interactions and concerns were reviewed; mitigation and monitoring recommendations were discussed; other comments and information requests were documented; and ice conditions in Eclipse Sound and Navy Board Inlet were reviewed. The results of these workshop discussions are described further in Sections 4.2-4.5. Comments from the public open house component of Workshop #2 and subsequent verification meeting have also been integrated into the sections below, where relevant.

A notable amount of discussion on Baffinland’s shipping through ice proposal also occurred during the other Phase 2 community workshops. While these discussions were unrelated to the scheduled workshop topics, participants often indicated they wished to discuss this matter further. All workshop comments on shipping through ice have been integrated into Sections 4.2-4.5 below, rather than into other sections of this report. Meeting notes are presented in Appendix D.

4.2 SEASONAL LAND USE INTERACTIONS AND CONCERNS

Using the seasonal land use maps developed in Workshop #1, Baffinland identified a number of potential Project-land use interactions for each season when shipping through ice would occur. These seasons include Ukiaksaq (October to mid-November; however, ice only forms in the latter part of this season), Ukiuq (mid-November to February), Upirngaksaq (March to May; however, Baffinland is not proposing to ship in April and May), and Upirngaaq (late May to July). Aujaq (end of July to September) was not discussed at Workshop #2, as this season was discussed in Workshop #3 on open water shipping. The seasonal maps and potential land use interactions identified by Baffinland were then presented to the workshop participants for comment and verification. While some revisions were suggested by participants, these were generally minor in nature and easily incorporated by the Baffinland team.

As demonstrated on the seasonal maps presented in Section 3.2, potential Phase 2 interactions generally pertain to Inuit harvesting and land use areas that overlap with proposed shipping activities. The proposed ship track will transect or cross Inuit travel routes, and Inuit land uses located on the opposite side of the shipping route may become more difficult to access as a result of the ship track. Workshop participants expressed concern in regard to the potential impacts of the Phase 2 project proposal on harvesting, travel, and other land use activities. Workshop participants stressed the importance of land and ice-based travel to local Inuit, and the importance of marine mammal and other wildlife harvesting.

We keep hearing that ships will pass through here. These will be different from ships that are used by sealift and oil carriers. They are controlled by non-Indigenous people. Inuit want to travel. I don’t want any hindrances on any Inuit travel. I am not thinking of only myself, but also my children’s children. If we plan this right, it will run for years and years and will result in employment. Please do not hinder the movements of Inuit. I heard that when people were caribou hunting, they had to wait to cross the Tote Road. Inuit around here are very careful or considerate of how they travel. I am not trying to stop employment, but to follow correct rules for Inuit and the Company. [Workshop #2 Participant]

The material we are discussing and have discussed, we care about the ocean in front of us because that's where our wildlife and food comes from. The ocean is like our farm. We live off what grows from there. For that reason, it's our life too. It's part of our culture. That's how we are different from southerners. [Verification Meeting Participant]

We are concerned about our social wellbeing and environment. We live in a very expensive place. We will have more concerns in the future. [Workshop #2 Participant]

Likewise, it was noted that impacts to harvesting and land use must be avoided during Phase 2 and all shipping activities must be conducted safely. Of particular concern to workshop participants was the potential for local travel routes (e.g. to harvesting, camping, and cabin locations) to be cut off by the ship track and for marine mammals in the Eclipse Sound area to be negatively affected by shipping. Workshop participants also expressed concerns that shipping through ice would interfere with their hunting of marine mammals in Eclipse Sound and, especially, reduce their ability to fully participate in Pond Inlet floe edge activities.

For safety reasons, we are concerned about March to June because we'd have to do things we've never done before. This is where we live. Just as the mining company wants things their way, we want it our way too. Hunting is a full-time, year round activity. [Workshop #2 Participant]

Shipping would interfere with our hunting of seals. [Workshop #2 Participant]

If I saw the ship yesterday I would have been worried that my son would not have been able to return. [Workshop #2 Participant]

If winter shipping is approved, there are seal pup dens right close to the shore. Since seal pups are born in March, the captain of the ship won't be able to see them on his computer; the seal pups will be under the snow. [Workshop #2 Participant]

The travel route to Arctic Bay through Milne Inlet would be cut off by the ship track, but travellers could go around it. [Workshop #2 Participant]

Workshop participants noted shipping through ice is not an activity that regularly occurs in Eclipse Sound. As such, the residents of Pond Inlet lack experience with shipping through ice and are unfamiliar with all of its potential effects. A number of workshop participants also had concerns about the use of Eclipse Sound as a shipping route and questioned whether Baffinland would consider using Navy Board Inlet instead. It was suggested that Navy Board Inlet could result in fewer negative effects on marine wildlife, Inuit harvesting, and Inuit travel. This is at least partly because there are fewer individuals that use Navy Board Inlet (for harvesting, etc.) than Eclipse Sound.

In regards to open water shipping, the people of Pond Inlet have less concerns about summer shipping, because we have yet to experience a ship travelling through in winter. Perhaps when we see the first ship travelling through in winter we might have additional comments, but we haven't experienced it yet. [Workshop #3 Participant]

The ship will be right in front of our community so we will be able to see it here. [Workshop #2 Participant]

If they are going to have winter shipping, we wouldn't object too much if it went through Navy Board Inlet. During the spring, people from Pond Inlet like to go camping to Bylot Island and other areas, through Eclipse Sound. If you are going to have winter shipping, we wouldn't want the ships going through Eclipse Sound. We only have narwhals in the summer time. Seals are always migrating back and forth. They usually enter this area through Navy Board Inlet. It usually takes two days for the water to freeze during the cold time. Sometimes ice will form a lot quicker. If the ship travels one way, then how long would it take for the ship to come back through the same route? [Workshop #3 Participant]

It would be appropriate if the ships were to go through Navy Board Inlet for winter shipping. If the ships went through Eclipse Sound in winter, the majority of people in Pond Inlet would prefer Navy Board Inlet to be used instead. We are not too concerned with narwhal in the summer time when the oceans are ice free. We are more concerned with ships traversing in the winter seasons. [Workshop #3 Participant]

We don't want ships travelling through Eclipse Sound, past Pond Inlet. We don't object to the use of Navy Board Inlet. It's okay if ships go through Navy Board Inlet. We don't usually travel as much through Navy Board Inlet. If the ships travel through Eclipse Sound, it will have a negative impact on seals. [Workshop #3 Participant]

Regarding Phase 2, during the Early Revenue Phase, Steensby Inlet needed to be paid for, so the Early Revenue Phase was started. When the Early Revenue Phase started, you started to work on Phase 2 and brought up winter shipping, because you may not be able to afford Steensby. This is a huge deal for the community of Pond Inlet. We don't want the mine to stop but the effects may be huge and it is a concern. We need straight answers. Perhaps Steensby Inlet is being released bit by bit. I wanted to explain that... If ships do travel through Navy Board Inlet, we'd all be glad if you took that route. Can we do a study to see if we can ship through Navy Board Inlet? People would be even more supportive. People who are against the mine wouldn't be so negative. It would have effects but they would be less. We'd be able to sleep at night if you were to go through Navy Board Inlet. [Verification Meeting Participant]

Land user safety also emerged as an important concern and it was suggested that community members be kept informed of ship track safety protocols and shipping schedules. Concerns over large pieces of ice potentially breaking off (especially in the spring and early summer) as a result of shipping through ice were expressed, as were concerns over the potential for leads or cracks to form as a result of ice breaking. It was additionally noted that shipping through ice has the potential to affect floe edge stability and might create issues for land user safety. Being unable to see the ship track and ship track crossings in the dark, the need for multiple ship track crossing locations, and Inuit travel routes potentially being cut off by the ship track were also identified as concerns. Likewise, a fear was expressed that certain individuals would still try and cross the ship track even when it wasn't safe to do so.

I'm concerned that if a ship passes, large ice chunks could break off and we would require support from Baffinland if hunters were stranded. The ice is thinner now, and wind and currents pick up ice more easily. [Workshop #2 Participant]

Once the ships start breaking the ice, there will be cracks and leads and some pieces will break off for sure and this will be a danger for some hunters. [Workshop #2 Participant]

March, April, May, and June - I don't want shipping then, because the ice is moving around. All the ice could break away if the ship is passing through. The ice pans could float away. That's why we don't want shipping in those months. [Workshop #2 Participant]

Some experiences with shipping through ice at the Nanisivik Mine near Arctic Bay were shared during the Phase 2 community workshops (primarily during Workshop #5, although some experiences were shared in Workshop #2). For example, one individual recalled that seals would act afraid of ships moving through rough ice. It was also noted that while seals would initially flee from shipping activities, they would generally return to the area a day after a ship had passed through. Some hunters from Arctic Bay were also said to have benefited from Nanisivik's shipping activities, as they could hunt narwhal in the ship track after the ship had passed. However, no ship track bridges or crossings were provided by the Nanisivik Mine and local residents often crossed the ship track on their own accord. It was said the ship track could be dangerous and unstable to travel on for two days after a ship had passed, although some individuals would try and cross the ship track regardless of these conditions. Additional information on the experience of Arctic Bay residents with the Nanisivik Mine is provided in Section 7 of this report.

Seals were afraid of the ship when it passed through rough ice. We didn't see changes in the marine mammals for a number of years. It took 13 years to rebound. [Workshop #2 Participant]

We would have to keep the community informed so that they follow the safety procedures. There are people that will still do whatever they want though. I have crossed tracks that ships have used the day before, but safety should be the number one concern. [Workshop #2 Participant]

Shipping during certain months of the year was identified as problematic for a number of workshop participants. June was noted by many individuals to be a peak period for Inuit hunters and families going out on the ice to hunt, travel, and camp and fears were expressed over these activities being negatively impacted by Baffinland's shipping activities. Shipping during March, April, and May was also a concern for some individuals due to various land use and environmental considerations (e.g. seal pups are born in March and could be affected by shipping activities). These and other seasonal land use interactions and concerns associated with shipping through ice are summarized in Table 3. Additional information can be found in the workshop notes found in Appendix D.

Season	Potential Project – Land Use Interactions	Expressed Community Concerns
Ukiaksaq (October to Mid-November)	<ul style="list-style-type: none"> Narwhal and seal harvesting (primarily open water) Ocean travel (open water) Ship track crossing (once ice is safe to travel on) 	<ul style="list-style-type: none"> Shipping through ice in Eclipse Sound raises concerns for the residents of Pond Inlet and is not a preferred route for many residents. A number of residents questioned whether Navy Board Inlet could be used by Baffinland during ice covered months instead.
Ukiuq (Mid-November to February)	<ul style="list-style-type: none"> Pond Inlet floe edge activities Sea ice seal hunting Use of ice cracks Ship track crossing (e.g. to access floe edges and Button Point, marine mammal harvesting, fishing, travel to Arctic Bay) 	<ul style="list-style-type: none"> Local residents lack experience with shipping through ice and are unfamiliar with all of its potential effects Potential negative effects on marine wildlife, Inuit harvesting, and Inuit travel may occur as a result of shipping through Eclipse Sound Crossing an unstable ship track can be dangerous The ship track and crossings will be difficult for Inuit hunters to see in the dark
Upirngaksaq (March to May) **Note that Baffinland is not proposing to ship during April and May**	<ul style="list-style-type: none"> Pond Inlet floe edge activities Sea ice seal hunting Seal pup hunting Use of ice cracks Ship track crossing (e.g. to access floe edges and Button Point, marine mammal harvesting, sport hunting, fishing, travel to Arctic Bay) 	<ul style="list-style-type: none"> Shipping in June is a concern. June is the peak period for Inuit hunters and families going out on the ice to hunt, travel, and camp. Shipping during March is a concern as seal pups are born in this month. Shipping during April and May is also a concern for some individuals. Hunter safety during the months of March to June is a concern, as the ice is weaker at this time and its stability could be affected by ice breaking. The potential for emergencies and rescue situations is a concern.
Upirngaaq (Late May to July) **Note that Baffinland is not proposing to ship during May**	<ul style="list-style-type: none"> Pond Inlet floe edge activities Sea ice seal hunting Use of leads Ship track crossing (e.g. to access floe edges and Button Point, bird/egg harvesting, camping/cabins, marine mammal harvesting, fishing) Ocean travel (open water) 	<ul style="list-style-type: none"> Large pieces of ice may break off when ships pass by, creating dangerous conditions for hunters Pieces of the floe edge could potentially break off during June ice breaking Community members will need to be notified of the shipping schedules and ship track crossing safety protocols The travel route to Arctic Bay could be cut off due to the ship track The Phase 2 shipping route may affect the route of the Nunavut Quest dog team race

Table 3: Potential seasonal land use interactions and concerns associated with shipping through ice identified during the community workshops

4.3 MITIGATION, MONITORING AND RESEARCH, AND COMPENSATION AND BENEFITS RECOMMENDATIONS

An additional focus of Workshop #2 was to discuss potential mitigation, monitoring and research, and compensation and benefits measures related to shipping through ice. To help advance this discussion, a presentation on the Nain, Labrador visit by local representatives in April 2015 was provided by Baffinland to workshop participants. This presentation included videos and photos of shipping through ice activities and ship track bridge operation for the Voisey's Bay Mine. Workshop participants who attended the visit were also encouraged to share their thoughts and observations with the rest of the group. Baffinland then presented some conceptual mitigation options being considered for Phase 2 (including ship track crossings) to the workshop participants and solicited their feedback.

Considerable discussion focused on the use of ship track crossings (e.g. pontoon bridges, ice crossings) as a potential mitigation measure to be employed by Baffinland for Phase 2. Workshop participants expressed interest in the use of bridges and ice crossings to travel across the ship track, and lengthy discussions on how these crossings work elsewhere (e.g. at the Voisey's Bay Mine) and how they might be deployed in Eclipse Sound were held. While workshop participants stressed that any mitigation measures designed by Baffinland need to be tailored to the unique ice conditions and environment of Eclipse Sound, many felt these crossings could be a useful way for Inuit to pass over the ship track. However, it was noted that more than one ship track crossing location would need to be established in order to avoid lengthy detours, and their locations would need to change depending on the season and ice conditions.

People travelling to the floe edge and Bylot Island will need more than one crossing. [Workshop #2 Participant]

If you're going to be putting bridges up, our ice conditions are so different than what's in the picture. Ice conditions may cause trouble for the bridges you deploy. We'll need to know the underwater and atmospheric temperatures; we'll have more safe passages if we do that. Sometimes we travel on the ice when we can't see in front of us (e.g. in a blizzard), and younger people go a lot faster on the ice. [Workshop #2 Participant]

Bridge locations will have to change depending on the season because in the first part of the ice season more people travel towards Bylot Island. Then, later on, it's colder and people start going to other areas. We need separate maps for different seasons. [Workshop #2 Participant]

Hunters will complain if there are too few areas to cross. [Workshop #2 Participant]

A number of potential seasonal ship track crossing locations were identified by workshop participants on a workshop map (see Figure 9). However, workshop participants noted these locations were preliminary and further discussion with community members would be needed before they are finalized. Furthermore, only potential crossing locations for the seasons of Ukiaksaaq (October to mid-November)

and Ukiuq (mid-November to February) plus the month of March were identified.¹¹ Workshop participants did not wish to identify potential crossing locations for Upirngaaq (late May to July).

I don't think it's up to us to decide where the crossings are going to go until Baffinland consults the community. We don't know exactly how things are going to happen.
[Workshop #2 Participant]

It was suggested that any ship track crossings be made wide enough to accommodate dog teams and other equipment, and that minimum ice thicknesses for ship track crossings and markers be determined prior to Phase 2 advancing. The ship track and crossings must also be visible to travelers at all times, even in the dark of winter and in snowstorms. It was suggested that markers and lights might be useful in this regard, although any markers would have to be spaced closely enough to be visible to passing travelers.

Dog team owners are the ones who hunt more seals than others. We'll need to consider dog teams crossing the tracks. There are quite a few owners in the community. [Workshop #2 Participant]

If the project is approved, would the ship track be marked? Because you wouldn't be able to see it in the dark? [Workshop #2 Participant]

We'll need more information about refreeze times. We'll need to learn about experiences in other locations. [Workshop #2 Participant]

Sometimes we'll get blizzards and won't be able to see. [Workshop #2 Participant]

You would need beacons in the winter. [Workshop #2 Participant]

We could request or demand they put markers on the track. [Workshop #2 Participant]

Again, a number of workshop participants stressed that Navy Board Inlet was their preferred route for Baffinland's shipping through ice activities, rather than Eclipse Sound. This is because Navy Board Inlet is generally less frequented by local Inuit and would result in fewer negative effects on marine wildlife, Inuit harvesting, and Inuit travel. At the request of Baffinland, however, the workshop discussions remained focused on potential effects related to the use of Eclipse Sound for shipping activities.

I would prefer that winter shipping occurs in Navy Board Inlet. I'm not going to change my mind. [Workshop #3 Participant]

It would be appropriate if the ships were to go through Navy Board Inlet for winter shipping. If the ships went through Eclipse Sound in winter, the majority of people in Pond Inlet would

¹¹ During Ukiaksaq (October to mid-November), ship track crossings would only be needed during the ice-covered period that occurs near the end of the season. Potential ship track crossing locations were also identified for the month of March, but some workshop participants noted these were included for consideration only if shipping is to occur in that month. This is because some workshop participants felt that shipping through ice should not occur during the month of March.

prefer Navy Board Inlet to be used instead. We are not too concerned with narwhal in the summer time when the oceans are ice free. We are more concerned with ships traversing in the winter seasons. [Workshop #3 Participant]

You may hear at the public meeting that people want Baffinland to ship through Navy Board Inlet. [Workshop #3 Participant]

My concern with the Phase 2 proposal still pertains to shipping in June. The community does not want any shipping in June. Period. We would even recommend that you not change the number of ships per year, but we don't want you to ship in June. Most residents of Pond Inlet would say 'no' to shipping through Eclipse Sound. More people would support Navy Board Inlet for winter shipping. We would prefer Navy Board Inlet. [Workshop #4 Participant]

Some interest was expressed in conducting a potential 'pilot project' associated with shipping through ice in Eclipse Sound. For example, it was suggested Baffinland could arrange for an ice breaking vessel to transit through Eclipse Sound during an ice-covered period (but prior to full project approval) so that residents of Pond Inlet could familiarize themselves with shipping through ice activities. This pilot project would allow residents of Pond Inlet to witness shipping through ice in their local environment, view its effects first hand, and ultimately make a more informed decision on whether or not the activity should be approved. It was noted that a demonstration pontoon bridge would also be useful for community members to see prior to making a decision on whether or not it would be an acceptable solution for Eclipse Sound.

The best time to come in with a ship is after the floe edge is closed. If shipping will happen in Eclipse Sound, there will need to be adjustments to the timing of the shipping schedule. Baffinland should run a pilot program with an ice breaker to see how ice breaking goes in Eclipse Sound, first. [Workshop #3 Participant]

It would seem that we would need to have a lot more bridges because we go to a lot more areas. Maybe we can get demonstration pieces during the final approval process so that the community can see what they look like and how they would be used? If you're going to go with the approval process, we can have a demonstration process in the community. [Workshop #2 Participant]

Workshop participants also made a number of recommendations with regards to the timing of shipping through ice activities. It was strongly suggested that Baffinland avoid shipping in June, as this month is the peak period for Inuit hunters and families going out on the ice to hunt, travel, and camp. Likewise, it was suggested that shipping through Eclipse Sound only occur after community travel to the floe edge has been shut down by the Pond Inlet HTO. Shipping during March was a concern for some participants (as seal pups are born in this month) and it was suggested that shipping may need to be avoided during this period as well. Some individuals expressed the desire to avoid shipping in April and May as well; however, Baffinland clarified it was not proposing to ship during these months. It was additionally noted that ship traffic should be stopped during times when Nunavut Quest dog team racers are going

to be crossing the ship track.¹² Some individuals suggested Baffinland increase the number of ship transits that occur in the open water season so that fewer shipping through ice transits need to occur.

Referring to the shipping schedule, I notice that April and May would have no shipping but June is the month that Pond Inlet residents use the ice the most. I would much prefer that there be no shipping in June. This will be brought up in other meetings. [Workshop #2 Participant]

June is the most important time of year for us. This is when most people are out on the ice. We would like shipping to pause during this time. [Workshop #2 Participant]

May and June are the busiest times of year for us on the ice. [Workshop #2 Participant]

Starting in March the seal pups are born. March and June are the most important months. In the past, it didn't used to be until April that seals were born. Just to the west of us now, they are catching pups. March and June are the months I'm worried about. Most able men go out still, even if it's just occasionally. [Workshop #2 Participant]

There should be no shipping in June. Take the number of ships from June and put them in July and October. [Workshop #2 Participant]

Everyone would disagree with shipping in June, even if ship track crossings were available. June is the best time to go out with families. [Workshop #2 Participant]

Spring time, around July, the ice gets considerably thinner. Once we can't get to the floe edge, ships could have free range in our area. [Verification Meeting Participant]

Various community notification measures were suggested, in order to ensure land user safety around shipping activities. For example, it was suggested community members should be kept informed of ship track crossing safety protocols and be notified when all ships are scheduled to pass through Eclipse Sound. TV, VHF, radio, meetings, posters, phone applications/text messages, SPOT units, GPS, and Facebook could all be useful for this, although additional VHF repeaters may need to be installed in Eclipse Sound to expand VHF's present coverage. It was also noted that an existing travel route to Arctic Bay would be affected by the proposed shipping route. Likewise, travellers to/from Arctic Bay needing to cross the ship track should be kept informed of the ship track crossings and procedures.

Presentations and Facebook would be the best way to notify young people of the ship coming. [Workshop #2 Participant]

There needs to be more than one communication method used. Radio, TV, and Facebook could be used. [Workshop #2 Participant]

We would have to keep the community informed so that they follow the safety procedures. There are people that will still do whatever they want though. I have crossed tracks that

¹² The Nunavut Quest dog team race is an annual event that has historically occurred between different northern Baffin Island communities around the months of April and May.

ships have used the day before, but safety should be the number one concern. [Workshop #2 Participant]

I would also like to see research if the shipping is going to go ahead. As soon as ice forms, from November to February, once the ship passes, how long does it take to freeze again? Communicate that information to the community. Find out how long it takes to freeze again. We would need that information. [Workshop #2 Participant]

A number of other suggestions were made with regards to potential ship track crossings. For example, it was suggested the operation and maintenance of ship track crossings could be a good business development opportunity for Inuit contractors to take advantage of. Workshop participants also noted that some re-routing of ship traffic may be useful in order to avoid Inuit hunting areas, marine wildlife, and shallow areas that are hazardous for ships. Some way of dispersing seal pups located in front of the ships could also be considered by Baffinland (e.g. by using a snowmobile travelling in front of the ships).

While potential mitigation measures associated with shipping through ice were a large focus of the Workshop #2 discussions, some suggestions on potential monitoring and research, and compensation and benefits programs were also provided. For example, it was suggested that noise monitoring during shipping through ice should occur, as should further research and monitoring of marine mammals (e.g. seals, whales). Some form of compensation (e.g. money, gasoline) may also need to be provided to hunters who are required to detour from their regular travel routes in order to access one of the ship track crossings. Likewise, compensation may need to be provided for the loss of wildlife and for hunters that lose equipment after accidentally driving into the ship track. It was also suggested that additional community benefits should be provided to Pond Inlet because of the effects they will experience from Phase 2. One suggestion was made for Baffinland to donate their ship track bridges to the community or employ them for other community uses (e.g. a community dock) when no longer being used for company activities.

If you're going to be doing winter shipping, you should be monitoring noise underneath the ice to be sure it's not affecting wildlife, especially the seals. My reason for this is that Labrador Inuit are saying there are less seals now. People will be suspicious and think the seals will be scared away. [Workshop #2 Participant]

Someone will need to be monitoring so seal pups won't be killed by the ships. [Workshop #2 Participant]

A lot of ships will be traversing through Eclipse Sound or near Mt. Herodier. If you have winter shipping through Navy Board Inlet, you can't see what's under there. We know our marine mammals travel along the shoreline. During the summer, at least you can see marine mammals under water. How can you monitor something that is under the ice? Using a camera under water, installed near the shore. Would it be too dark to have a video camera under water? [Workshop #3 Participant]

It sounds like Steensby Inlet will be on hold for a long time. Community members of Pond Inlet will be the only affected community. I believe the planning for this part should be done in such a way that Pond Inlet gets the most IIBA benefits. The other communities won't be seeing the project. We here are still in control of our lives and we have people from down south planning the project. We will be the most affected. That needs to be considered and

dealt with in the IIBA benefits. I myself will not want winter shipping through Eclipse Sound, but I wouldn't mind if it happened through Navy Board Inlet, and I will push this until I die. [Verification Meeting Participant]

Baffinland should donate any crossings to HTO. [Workshop #2 Participant]

I too am grateful. I appreciate the people that are able to come up here to deal with Pond Inlet's environment. The fact that the community members are not left in the cold, I really appreciate that. If the mine keeps going, I want money laid aside for our descendants. The area is a traditional area. Before we were born, the Inuit knew there was a material of substance there. Even if they didn't know it was the Mary River mine there. Because of that, southerners look for jobs, and I'm grateful for them, because it's something that will create jobs for us. That project may be ongoing for several years. For that reason, I want money set aside for Pond Inlet. [Verification Meeting Participant]

Mitigation, monitoring and research, and compensation and benefits recommendations associated with shipping through ice identified in the community workshops are summarized in Table 4.

On following page:

Figure 9: Potential ship track crossing locations identified in Workshop #2 [Map produced by Sikumiut Environmental Management Ltd.]

Issue		Expressed Community Recommendations
Mitigation	Ship Track Crossing	<ul style="list-style-type: none"> Consider use of crossings/bridges over the ship track. More than one crossing/bridge location would be needed. Some potential ship track crossing locations were identified. However, further engagement with communities is needed. Crossing locations would need to change depending on the season and ice conditions. Mitigation measures will need to be tailored to the Eclipse Sound ice conditions and environment. Crossings/bridges should be made wide enough to accommodate dog teams and other equipment A demonstration bridge would be useful to see prior to making a decision on whether or not it would be an acceptable solution Determine the minimum ice thicknesses whereby ship track crossings can be safely established
	Ship Track Marking	<ul style="list-style-type: none"> The ship track and crossings must be visible at all times, even in the dark of winter and in snowstorms. Markers and lights might be useful. Markers must be spaced closely enough to be visible to travelers. Determine the minimum ice thicknesses whereby ship track markers can be safely established
	Timing of Shipping	<ul style="list-style-type: none"> Avoid shipping in June. June is the peak period for Inuit hunters and families going out on the ice to hunt, travel, and camp. Shipping during March is a concern as seal pups are born in this month. Shipping may need to be avoided in this month. Some individuals also suggested shipping in April and May should be avoided. Ship traffic should be stopped when Nunavut Quest racers are going to be crossing the ship track Baffinland should increase the number of ship transits that occur in the open water season so that fewer shipping through ice transits need to occur
	Community Notification	<ul style="list-style-type: none"> Land user safety is paramount. Community members will need to be kept informed of ship track crossing safety protocols. Community members should be notified when Baffinland's ships are passing through Eclipse Sound. TV, VHF, radio, meetings, posters, phone applications/text messages, SPOT units, GPS, and Facebook could be useful. Additional VHF repeaters may need to be installed. There is a travel route to Arctic Bay that would be affected by the shipping route. Travellers to/from Arctic Bay needing to cross the ship track should be informed of the ship track crossings and procedures.
	Ship Routing	<ul style="list-style-type: none"> The use of Navy Board Inlet is preferred over Eclipse Sound for shipping through ice activities Some re-routing of ship traffic may be useful to avoid Inuit hunting areas, marine wildlife, and shallow areas that are hazardous for ships
	Other	<ul style="list-style-type: none"> A shipping through ice 'pilot project' in Eclipse Sound could be useful. It would allow local residents to directly experience shipping activities and effects. Some way of dispersing seal pups located in front of the ships should be considered
Monitoring and Research		<ul style="list-style-type: none"> Noise monitoring should occur Further research and monitoring of marine mammals (e.g. seals, whales) will need to occur
Compensation and Benefits		<ul style="list-style-type: none"> Compensation may need to be provided to individuals impacted by the ship track Additional community benefits should be provided to Pond Inlet due to the effects they will experience from Phase 2 Operation and maintenance of the ship track bridges and crossings could be a good business opportunity for Inuit contractors The ship track bridges could be donated to the community or employed for other community uses The Mary River Project can provide a number of beneficial local employment opportunities

Table 4: Mitigation, monitoring and research, and compensation and benefits recommendations associated with shipping through ice identified in the community workshops

4.4 OTHER COMMENTS AND INFORMATION REQUESTS

In addition to the previous discussions, a number of other comments and information requests were made about shipping through ice. For example, it was suggested that Baffinland work closely with all affected community members when developing mitigation and management plans, and that more community consultation should occur before any final approvals for Phase 2 are given. Likewise, it was stated that all potential shipping-related impacts must be understood by community members before those approvals are given. While a number of community members are supportive of the opportunities mineral development provides, it was stressed that a balance between Inuit needs and economic development must be struck.

*We are not against development; we just want to be part of the decision making.
[Workshop #2 Participant]*

I also thank you for being able to participate and for you being here to hear our concerns. I know we will see you in the future. You will always have someone in Pond Inlet willing to respond to your questions. [Workshop #2 Participant]

*We live here. It seems that we both have to be flexible if this project is to go ahead.
[Workshop #2 Participant]*

We can come to agreements. We can become like-minded. We need to keep agreeing about things and we need to be informed about things. If we are not informed, our resentment may start to grow. We are all Canadians, we all live in Canada. I appreciate that people are getting jobs. They would be in harder situations if they didn't have jobs. The economic benefits are beneficial to our people. The problems have been less, or mitigated, and the community members know what's happening to their lives. [Verification Meeting Participant]

A number of information requests related to shipping through ice were made. For example, workshop participants requested more information be provided on ship track re-freeze rates and conditions, ship designs and abilities (once these are finalized), locations where the ships will be built, safety considerations, minimum ice thicknesses whereby ship track crossings and markers could be safely established, and on studies needed to ensure shipping through ice can be conducted without negative impacts (e.g. bathymetry and noise studies). Questions on ship transit scheduling and the number of ships to be used were also raised.

There was significant discussion and a number of questions on the use of ice breakers and ship track crossings for the Voisey's Bay Mine in Labrador during Workshop #2. Group discussion regularly occurred on technical aspects of bridge use in Nain including anchoring, battery systems, the strength of winches and ropes, bridge floating ability, and ability to move ice out of the way. Discussions on hunting intensity in Nain versus Pond Inlet, local travel routes, time of year of travel, and consulting local people on the development of the pontoon system also occurred. Additional information on the ship track crossings/bridges was also requested (e.g. how they will be built and operated, how they will be paid for, who will operate them). Likewise, residents of Arctic Bay and northern Labrador were noted to have experience with shipping through ice as a result of the Nanisivik Mine and Voisey's Bay Mine; as such, these residents have perspectives that could be valuable for the planning of Phase 2.

4.5 SHIPPING ROUTE CONDITIONS IN ECLIPSE SOUND AND NAVY BOARD INLET

In addition to the previous discussions, Baffinland also asked workshop participants to describe ice conditions along the proposed Phase 2 shipping route and other locations in the Eclipse Sound and Navy Board Inlet areas. To help stimulate this discussion, Baffinland first presented summary results of regional ice condition studies conducted by its shipping consultant, Enfotec, to the group. These studies have demonstrated that shipping through Pond Inlet is preferable to Navy Board Inlet due to shorter ship transit times and ice conditions that are significantly more favourable for shipping.

The workshop participants did not disagree with Baffinland's characterization of ice conditions in Eclipse Sound and Navy Board Inlet and in some instances provided additional information. For example, a participant nominated by the Pond Inlet HTO to attend the workshop mentioned the HTO had previously stated shipping through Eclipse Sound was preferable over Navy Board Inlet. This is because Navy Board Inlet has a large number of marine mammals that use the area and the potential for shipping-related impacts on them was of concern. This same participant noted that shipping through Eclipse Sound is safer than through Navy Board Inlet, as the ice in Navy Board Inlet is considerably rougher. Most workshop participants, however, stated their preference for Navy Board Inlet to be used for Baffinland's shipping through ice activities, rather than Eclipse Sound.

Workshop participants commented on the fact that icebergs and multi-year ice can be present in the Eclipse Sound and Navy Board Inlet areas and pose a hazard to ships. Various concerns and questions about Baffinland's ships being able to safely navigate the ice conditions in Eclipse Sound were raised, and some discussion was held on planned ship specifications and capabilities. It was also noted that ice conditions can change every year, with one participant noting ice conditions today are different than they were in the 1950s. Various ice features were mapped in Workshops #1 and #2 and can be seen in the seasonal maps presented in Section 3.2. Some of these maps show areas of rough ice, smooth ice, thin ice, and open water. Shallow areas were also documented.

5. RESULTS – WORKSHOP #3 (OPEN WATER SHIPPING)

5.1 OVERVIEW

Workshop #3 focused on the open water shipping component of Baffinland’s Phase 2 proposal. Potential seasonal land use interactions and concerns were reviewed, mitigation and monitoring recommendations were discussed, other comments and information requests were documented, and feedback on potential trans-shipping locations was solicited. The results of these discussions are described further in Sections 5.2-5.6. Comments received during the public open house component of Workshop #3 and subsequent verification meeting have also been integrated into the sections below, where relevant. Notes from both the invited persons workshop and public open house can be found in Appendix D.

5.2 SEASONAL LAND USE INTERACTIONS AND CONCERNS

Using the seasonal land use maps developed in Workshop #1, Baffinland identified a number of potential Project-land use interactions for each season when open water shipping would occur. These seasons include Upirngaaq (late May to July; however, open water only occurs in the latter part of this season), Aujaq (end of July to September), and Ukiakaaq (October to mid-November; however, ice forms in the latter part of this season). Ukiuq (mid-November to February) and Upirngakaaq (March to May) were not reviewed as these seasons were discussed in Workshop #2. The seasonal maps and potential land use interactions identified by Baffinland were then presented to workshop participants for comment and verification.

As demonstrated in the seasonal maps presented in Section 3.2, potential Phase 2 interactions generally pertain to Inuit harvesting areas that overlap with proposed open water shipping activities and Inuit travel routes that would cross the shipping route. Likewise, workshop participants expressed some concern that potential negative effects on the marine environment, marine wildlife, and Inuit harvesting may occur as a result of Phase 2 open water shipping activities. Issues were raised about underwater noise (e.g. from ship loading activities), ballast water discharge, sewage, and garbage disposal, for example. The use of acoustic devices and underwater monitoring devices were noted to have negative effects on marine wildlife and were discouraged. Protection of the marine environment was said to be particularly important and it was recommended that all Phase 2-related impacts be understood and addressed before the proposal proceeds.

It’s a lot of ships. I’m mostly concerned about the narwhals. When trying to hunt seals and a ship passes by, it’s hard to shoot if your boat is moving from the wake of the ship.

[Workshop #3 Participant]

With respect to shipping, where exactly are the iron ore ships coming from? If ships are coming into the Arctic from non-Arctic waters, they may have wildlife, like rats, other pests, and insects that may come in on the ships. We don’t want to see alien species like this arrive here in the Arctic. On ships coming into the community we have often seen spiders and other pests that aren’t native to this area. With the increase in shipping and activity at Milne Inlet that is proposed, this may become an effect. [Workshop #4 Participant]

The high number of ships in between Milne, Ragged Island, and through Eclipse Sound could impact narwhals. There will be a lot of noise from trans-shipping... Under the IIBA, this

should include what people from Pond Inlet want because they are affected the most. People are concerned about this. When it comes to the IIBA, they want to be included more because hunters will be affected. [Workshop #3 Participant]

Some concerns over the increased number of open water shipping transits required for Phase 2 were raised. However, open water shipping was generally noted to raise much fewer concerns than shipping through ice. Open water shipping was said to be less concerning because Pond Inlet residents have past experience with this type of shipping and because similar open water shipping activities have already been approved by regulators (e.g. for Baffinland's Early Revenue Phase). Likewise, Eclipse Sound was often seen as an acceptable location for open water shipping to occur.

Regarding the proposed shipping route during the open water season – The people of Pond Inlet already approved the route for summer shipping. We have no objection to that route. [Workshop #3 Participant]

In regards to open water shipping, the people of Pond Inlet have less concerns about summer shipping, because we have yet to experience a ship travelling through in winter. Perhaps when we see the first ship travelling through in winter we might have additional comments, but we haven't experienced it yet. [Workshop #3 Participant]

Narwhal and shipping is not much of a concern during summer. It doesn't matter how fast a ship is going, because marine mammals can move quickly. A ship is much slower than the speed of a bullet, so they will be able to disperse and move away. They can dive from bullets so they will be able to move away. As suspected, there were some underwater acoustic devices in the Eclipse Sound area. That would be the only concern I have, the use of underwater devices. [Workshop #3 Participant]

We are not too concerned with narwhal in the summer time when the oceans are ice free. We are more concerned with ships traversing in the winter seasons. [Workshop #3 Participant]

There is no concern about shipping during summer. There are always ships in summer. We love to eat seal pups after the ice breaks up. They are hard to harvest through breathing holes. [Workshop #3 Participant]

I don't think people in Pond Inlet are too concerned about open water shipping, so that's why they are not voicing their opinions. There is one individual that is concerned about narwhal numbers in Eclipse Sound, but other than that, I have not heard any objections. They have heard about this for a long time now. [Workshop #3 Participant]

While some workshop participants expressed concern marine mammals could be impacted by shipping activities, a number of others commented on marine mammals' ability to adapt and the lack of long-term effects that would result from open water shipping. For example, it was noted that marine mammals may initially flee from shipping activities but will tend to return to an area shortly after a ship has passed. Likewise, marine mammals can become accustomed to shipping-related noise and disturbance if it poses no immediate threat to their safety. It was also noted that marine wildlife population numbers can naturally fluctuate over time.

The marine mammals, they get used to shipping noise. In the past, when the ships started coming to our area in the 1960s, wildlife would move somewhere else. Nowadays, seals are no longer going to different areas. Sometimes they go not far away, but this is temporary and then they return. We see ore carriers passing through Eclipse Sound. Calving areas for narwhal are near Bruce Head and Tremblay Sound. I'm not talking about winter shipping. We have monitors stationed at the Bruce Head. [Workshop #3 Participant]

When the ships start entering the area, the narwhals listen to the noise. After the ship continues on, the narwhal return. That's how they behave. It's not like they are scared. Narwhals tend to move faster from cruise ships and merchant vessels. Iron ore vessels move a lot slower, so the narwhal seem to tolerate them more. Seals know when the ships are coming before the narwhals do. When the ships are travelling, you see more seals on the shoreline. That is something that we can clearly see... One thing that was evident two years ago, when they were building a dock at Milne Port, is that they would swim away when there were no ships in the area and also when there were no hunters in the area. They seem to tolerate the ships. I don't want to say bad things about hunters, but narwhals move away from hunters when they hear shooting. When the iron ore carriers move through here, the narwhals always return. [Workshop #3 Participant]

In the summer, before the ships started going there, we know that if one narwhal noticed something strange, all the other narwhals would find out about it because they can communicate with each other underwater. There will always be a sea mammal who knows what's going on. I'm not concerned at all with summer shipping because they always know where you are. When they were using kayaks in the past, that's what they did. They vocalize, circling you, letting others know where you are. [Workshop #2 Participant]

Ships don't bother narwhal much anymore. When a ship is louder and starts its engine, the narwhals run away. They are more afraid when it's leaving than when it's coming in. That's how we see them from Bruce Head. When the work started on the dock, the narwhal would run away because they were putting boulders in the water. The narwhals would come back in the evening. They are more afraid of rocks than ships. I guess they are used to ships now. Seals are braver than narwhal as long as they have distance between them. They will go underwater when the ship comes and then rise up again when it leaves. Narwhals take the newborn calf between them and force it to dive. As they grow they get left alone. [Workshop #2 Participant]

Narwhals will still have access, even if there is shipping. When we went to Labrador, someone harvested narwhal in the ship track... Narwhals get used to the ship sounds. Marine mammals not being hunted don't get scared. Once population numbers increase, they are not afraid of anything. You won't be able to block the route of narwhals, regardless. [Workshop #3 Participant]

Workshop participants described some negative effects that have been experienced as a result of Baffinland's existing activities and were concerned these effects would continue. In one recent instance, hunters were unable to execute a successful hunt because of the wake of a passing Baffinland ship. The wake caused excessive movement of the hunters' boat and prevented them from shooting their targeted species. Another incident of concern involved narwhal hunters in a boat near the Milne Inlet port site being approached by Baffinland employees to be told they could not hunt in that location.

More generally, Pond Inlet residents no longer use the Milne Inlet area for camping and other land use activities to the same degree they did in the past as a result of the Project activities that now occur there. Some concern was also expressed over the number of Baffinland ships seen idle in the Milne Inlet/Eclipse Sound area in 2015, waiting to be loaded.

Hunters tried to hunt narwhal in Milne Inlet this year and Baffinland employees approached the hunters and asked them to stop hunting. Under the NLCA, they can't stop them from hunting. Why were they trying to prohibit them from hunting narwhals? [Workshop #3 Participant]

Narwhals are coming, and the ship shows up, and before the narwhals reach the hunters' area they stopped and went back. Hunters were frustrated because they lost their chance to hunt. [Workshop #3 Participant]

I don't have much concern about ships in open water. People used to go camping and go to caribou hunting areas before the mine started, and that is an impact. They would enjoy their camping at Milne Inlet. This is an impact to hunters. Sometimes our people go fishing to Robertson River. We have not seen big impacts from the ships traversing so far. We might want to reassess the situation after many seasons of shipping. I would prefer more people hunt harp seals because we have too many. It's a change we've observed. [Workshop #3 Participant]

People are asking for compensation because of the effects of the ships while they are on their hunt. [Workshop #3 Participant]

We are affected in Milne Inlet because we hunt in that area. Mary River was a camping ground and was used for caribou hunting in summer time before the mine went in. The community doesn't go camping in that area anymore because there is so much activity around that area. Milne Inlet also used to be a camping area before. There used to be tents and whole groups of families. Some people in Pond Inlet are concerned about the Phase 2 proposal. [Workshop #4 Participant]

People were complaining that many ships were waiting around [in Eclipse Sound/Milne Inlet in 2015] and they thought that was the usual waiting time for ships. It needs to be explained that this was not a normal operating year. [Verification Meeting Participant]

Some local residents have questioned whether Baffinland activities (e.g. shipping, use of underwater acoustic devices) have been responsible for recently observed changes to marine wildlife. These changes have included fewer narwhal being observed, an increase in harp seals in Eclipse Sound, and a number of dead sculpin and fish that were found in the Eclipse Sound area in the summer of 2015. More generally, workshop participants commented on the lack of communication they perceived to be occurring between Baffinland and the community of Pond Inlet, specifically with regards to shipping schedules and the results of existing monitoring programs. Seasonal land use interactions and concerns associated with shipping through ice are summarized in Table 5. Additional information can be found in the workshop notes found in Appendix D.

The hunters and elders had some concerns during the past summer. We only saw harp seals in our area. Only later in the fall were we able to get seals and narwhals, so there was some

speculation that there may be some devices in the water. We did not see narwhals here in July, August, September. [Workshop #3 Participant]

We have that narwhal monitoring at Bruce Head and [unrecorded comments]. We know that in Milne Inlet, before Baffinland, we had a baseline of how mammals lived. Some of these animals that go up into the area have stopped going there or up to Koluktoo Bay. This summer we had the least amount of narwhal go up into those bays, according to our study. It is seals too. It is visible now. Before Baffinland, families used to live at Milne Inlet in the summer. This is non-existent now. It doesn't happen now. These impacts are visible. We are not trying to halt your project, but we will talk about the effects we see. [Verification Meeting Participant]

Dead sculpins and other fish were found dead on the shore, near the HTO shack. Is that due to the Mary River Project or due to ballast water? [Workshop #3 Participant]

Somebody needs to figure out why those sculpin died. If we understand what caused that, we can prevent it. When the small marine food chain species start dying off, we are concerned for all animals. We need to look into the sculpin situation. When they have natural die offs, they don't wash up on shore. This was not just in Milne Inlet. There was dead sculpin on one of the islands you wanted to use for trans-shipping. Wildlife do die off by themselves and that may have been the case. But I would like to hear more information about that. [Verification Meeting Participant]

Season	Potential Project – Land Use Interactions	Expressed Community Concerns
<p align="center">Upirngaaq (Late May to July)</p> <p align="center">**Note that Baffinland is not proposing to ship during May**</p>	<ul style="list-style-type: none"> • Pond Inlet floe edge activities (during ice cover) • Sea ice seal hunting (during ice cover) • Use of leads (during ice cover) • Ship track crossing (during ice cover - e.g. to access floe edges and Button Point, bird/egg harvesting, camping/cabins, marine mammal harvesting, fishing) • Ocean travel 	<ul style="list-style-type: none"> • Open water shipping raises fewer concerns than shipping through ice and Eclipse Sound was often seen as an acceptable location for open water shipping to occur. However, some potential negative effects on the marine environment, marine wildlife, and Inuit harvesting may still occur. • Concerns were raised related to underwater noise, ballast water, sewage, garbage disposal, and the use of acoustic and underwater monitoring devices. Protection of the marine environment is important and all Phase 2-related impacts should be understood and addressed before the proposal proceeds. • A lack of communication is perceived to be occurring between Baffinland and the community of Pond Inlet (e.g. regarding shipping schedules and results of existing monitoring programs) • Some residents of Pond Inlet were said to have already been negatively affected by Baffinland’s shipping activities • Some local residents have questioned whether Baffinland activities have been responsible for recently observed impacts on marine wildlife
<p align="center">Aujaq (End of July to September)</p>	<ul style="list-style-type: none"> • Open water seal and narwhal harvesting • Fishing • Goose harvesting • Ocean travel • Tourism 	
<p align="center">Ukiaksaq (October to Mid-November)</p>	<ul style="list-style-type: none"> • Narwhal and seal harvesting (primarily open water) • Ocean travel • Ship track crossing (once ice is safe to travel on) 	

Table 5: Potential seasonal land use interactions and concerns associated with open water shipping identified during the community workshops

5.3 MITIGATION, MONITORING AND RESEARCH, AND COMPENSATION AND BENEFITS RECOMMENDATIONS

An additional focus of Workshop #3 was to discuss potential mitigation, monitoring and research, and compensation and benefits measures related to Baffinland's open water shipping proposal. To help set the context for this discussion, Baffinland presented some conceptual mitigation and monitoring options being considered for Phase 2 to the workshop participants and solicited their feedback. Workshop participants were also encouraged to make any additional recommendations they felt were relevant.

A number of suggestions were made regarding potential mitigation measures for Phase 2. Perhaps most importantly, workshop participants expressed the desire for more communication between the community of Pond Inlet and Baffinland to occur. One suggestion was for Pond Inlet to be notified when Baffinland's ships are passing through Eclipse Sound. The Baffinland Community Liaison Officer, VHF radio (although it was noted additional VHF repeaters may need to be installed in Eclipse Sound to expand VHF's present coverage), and the internet were discussed as potential ways in which this notification could occur. Some individuals also suggested communication of environmental monitoring results and business opportunities associated with the Mary River Project should occur with greater frequency.

Looking at the Project over the last 14 years, the BCLO used to inform us when the ships were passing by. Why doesn't that happen now? [Workshop #3 Participant]

Yes, VHF and VHF repeaters allow for communication back to the communities. Would Baffinland consider putting more repeaters in the Milne Inlet area to help with communication? [Workshop #3 Participant]

Are we able to see how fast the ship is moving and the name of the ship? Are we able to see the ships' progress through the internet? At Bruce Head, we identify all kinds of ships. [Workshop #3 Participant]

More generally, workshop participants stressed that all Phase 2-related impacts should be understood and addressed before the proposal proceeds. Some individuals also suggested Baffinland increase the number of ship transits that occur in the open water season so that fewer shipping through ice transits need to occur. One individual suggested Baffinland conduct a one year shipping 'pilot project', so local residents could witness the effects of shipping first-hand before making a final decision. It was additionally suggested Baffinland develop appropriate oil spill response procedures for its shipping activities.

There should be no shipping in June. Take the number of ships from June and put them in July and October. [Workshop #2 Participant]

Workshop participants stated that Pond Inlet residents should continue to be involved in the planning and decision-making for Phase 2. The IIBA may be one area for increased involvement and a number of participants suggested the IIBA should be amended to reflect changes in the Phase 2 proposal. It was recommended that Pond Inlet representatives be involved in this IIBA amendment process (instead of only the QIA and Baffinland), to help ensure the community's concerns are addressed and sufficient local benefits are received.

The number of ships will be increased, and the IIBA will need to be modified. [Workshop #3 Participant]

The IIBA is paid directly to QIA, but we prefer that the IIBA benefit the people in Pond Inlet. We need to create a new IIBA for the benefit of people in Pond Inlet. [Workshop #3 Participant]

Various suggestions were made on research and monitoring for Phase 2, with a number of workshop participants noting the existing Bruce Head marine mammal monitoring program should continue to operate. However, an increase in marine mammal (especially narwhal) monitoring and research was suggested. These activities should occur throughout Eclipse Sound and Milne Inlet, rather than focusing only on Bruce Head, and include the selected trans-shipping location. It was also noted that monitoring programs should occur throughout the life of the Project and their results should be shared with the community of Pond Inlet on a regular basis. Some workshop participants recommended a community-based environmental monitoring program be developed, in order to make greater use of community monitors and input. Baffinland's existing ship-based observer monitoring program also garnered some criticism in the workshop, primarily due to the viewing/sightline limitations faced by observers while transiting Eclipse Sound.

Will you look at underwater noise when the vessel is being loaded at the Port? [Workshop #3 Participant]

The mine will operate for 21 years. We will want the marine mammal program to continue and if we need to update it, we can. [Workshop #3 Participant]

This would be a record number of ships for open water. It would be best to see some results from the Bruce Head program, before we discuss open water shipping. [Workshop #3 Participant]

Different monitoring will always be useful. Sometimes there are fewer narwhal, sometimes there are more. Sometimes they don't use the same routes. These monitoring programs are very useful for us. We will be always looking for better methods for monitoring. [Workshop #3 Participant]

We want more research conducted in Eclipse Sound instead of predictions being made. [Workshop #3 Participant]

In the months of June and July, narwhals start entering Eclipse Sound, so I would prefer there be monitoring in June and July. It's not only narwhals that are entering; other marine mammals also enter this area and sometimes they enter through Navy Board Inlet. Under Phase 2, there should be additional monitoring outside of Bruce Head, which only occurs in summer. [Workshop #3 Participant]

There needs to be an improvement on monitoring. People on the ships [shipboard observers] see nothing because everything is moving away from them. You could work with the HTO to set up a monitoring program, like using a form for hunters to fill out. [Workshop #3 Participant]

Some workshop participants expressed an interest in increased local business development opportunities associated with Phase 2. For example, it was noted the community of Pond Inlet would benefit from an environmental monitoring business being run by a local contractor. It was also suggested Baffinland communicate all potential contracting opportunities (e.g. for monitoring) to the community of Pond Inlet in the future. More generally, it was acknowledged that Mary River can provide a number of opportunities for local employment.

I would prefer that if a business were to be established here in the community, it not be a southern contractor. It should be someone from the community that has the business here. [Workshop #3 Participant]

Under the IIBA, we have the best opportunity for contracting with Baffinland but there has been a lack of communication to the community about opportunities to contract. Would it be difficult to get that information to the community? [Workshop #3 Participant]

We need to create new business opportunities. If people don't want to go through that venture, then they won't. [Workshop #3 Participant]

Some suggestions were made on additional benefits Baffinland could provide to the community of Pond Inlet. This included the construction of a cabin/emergency shelter at one of the proposed trans-shipping locations (i.e. Anchorage #1). Anchorage #1 was noted to be in an area where boat travel to/from Milne Inlet regularly occurs and where local Inuit use to take shelter from the elements (e.g. wind, waves) when in their boats. The construction of a shelter would thus be useful for hunters who are traveling in the area that require a place to stay. Another suggestion included using empty Baffinland ships leaving Milne Port to backhaul community waste from Pond Inlet to the south. Finally, it was suggested that a hunter compensation program be developed for individuals whose hunting success is negatively affected by shipping activities. Workshop participants highlighted a recent example of hunters being unable to shoot their rifles due to the wake of a Baffinland ship and feared similar events could happen again in the future.

If you're going to have trans-shipping in this area, maybe you can build a shelter for the hunters, so that we can visit, because this is a very good shelter location. There's some really rough waves in the area of Milne Inlet. Hunters going for caribou at Mary River will shelter in that area. If we could have an emergency shelter, then we can say these people are very helpful. It would need to be at least 10' x 7'. It would definitely be beneficial to hunters. In summer time, it's a popular route for hunters, by Anchorage #1. We stop there until the weather calms down, so that the boats can be safe. [Workshop #3 Participant]

During your seasonal shipping, do your ships go back empty? Or do you fill them with extra iron ore? Can we put our contaminated waste from the community on them to go back south? [Workshop #3 Participant]

People are asking for compensation because of the effects of the ships while they are on their hunt. [Workshop #3 Participant]

Mitigation, monitoring and research, and compensation and benefits recommendations associated with open water shipping identified in the community workshops are summarized in Table 6. Additional information on these topics can be found in the workshop notes found in Appendix D.

Issue	Expressed Community Recommendations
Mitigation	<ul style="list-style-type: none"> • Baffinland should communicate more with community members. Community members should continue to be involved in the planning and decision-making for Phase 2. • The IIBA should be amended to reflect changes in the Phase 2 proposal. Pond Inlet representatives should be involved in this process. • Community members should be notified when Baffinland’s ships are passing through Eclipse Sound • All Phase 2-related impacts should be understood and addressed before the proposal proceeds • Baffinland should increase the number of ship transits that occur in the open water season so that fewer shipping through ice transits need to occur • A one year shipping ‘pilot project’ may be useful • Appropriate oil spill response procedures need to be developed
Monitoring and Research	<ul style="list-style-type: none"> • The Bruce Head marine mammal monitoring program should continue • Increased marine mammal (especially narwhal) research and monitoring should occur in Eclipse Sound and Milne Inlet, including the trans-shipping location • Marine mammal monitoring should occur over the life of the Project • The use of ship-based observers is not always effective, due to viewing limitations onboard the ships • The results of monitoring programs should be shared with community members • There is a need for a community-based monitoring program and increased use of community monitors • Monitoring businesses could be run by local contractors, thus providing a benefit to the community • Baffinland should communicate potential contracting opportunities (e.g. for monitoring) to the community
Compensation and Benefits	<ul style="list-style-type: none"> • The IIBA should be amended to reflect changes in the Phase 2 proposal. Pond Inlet representatives should be involved in this process. • Hunters should be compensated when their hunting success is negatively affected by shipping activities • Additional local business opportunities are desired in the community • Monitoring businesses could be run by a local contractor, thus providing a benefit to the community • Baffinland should communicate potential contracting opportunities to the community • A cabin/emergency shelter could be built at trans-shipping anchorage #1 for travelling hunters to use • Baffinland’s empty ships could be used to transport community waste from Pond Inlet to the south • The Mary River Project can provide a number of beneficial local employment opportunities

Table 6: Mitigation, monitoring and research, and compensation and benefits recommendations associated with open water shipping identified in the community workshops

5.4 OTHER COMMENTS AND INFORMATION REQUESTS

In addition to the previous discussions, a number of other comments and information requests were made during the open water shipping workshop. For example, it was noted that continued communication and cooperation between Baffinland and the community of Pond Inlet will be necessary. However, it was also noted the community of Pond Inlet has struggled with internal communication amongst community members, as not all community members are necessarily interested and/or engaged in certain issues. One individual suggested a site visit would be useful to attend and should be made available to the workshop participants.

Right now, we are trying to reach a consensus. We have to give consideration to people who are employed at Mary River. We want them to continue to work. We don't want to prevent people from working. We want to have a working relationship. This is the purpose of our work. Once we reach an agreement, our plans would be put in place. We want to reach a consensus. We are going to have to make some changes to the plan. [Workshop #3 Participant]

Pond Inlet has been talking about the Mary River Project for a long time. Sometimes we have to come up with mitigation issues and potential negative impacts. This is one of the major projects we have to undertake. Sometime, you should take us to the site to inspect it so we can see. We have been involved with this project for a long time. Why don't we go for a site visit? Please take into your heart any comments you heard so there will be less problems in the future. [Workshop #3 Participant]

It was recommended Baffinland conduct additional environmental studies in Eclipse Sound before Phase 2 commences and that relevant monitoring information continue to be collected over the long-term. For example, additional information on environmental conditions in the Eclipse Sound area (e.g. on ocean currents) was requested. Workshop participants also had a number of questions pertaining to open water shipping and how Phase 2 would operate. Questions pertained to the number of ships that would be transiting Eclipse Sound, the number of ships that would be moored while waiting to be loaded, ballast water treatment methods, ship routing, dock construction methods, ore stockpiling techniques, and the use of tug boats, to name a few.

Questions and concerns related to employment and training at Mary River were additionally raised. For example, some individuals asked about potential employment opportunities at Mary River and how they could apply. Others expressed frustration about having applied, but not having received an employment offer or a call back from the company. A small number of comments on the use of IQ in the Project's environmental assessment were also made. For example, one individual expressed concern IQ wouldn't be fully considered by Baffinland or appropriately incorporated into the socio-economic aspects of the impact assessment. Additional information on these and other matters can be found in the workshop notes found in Appendix D.

5.5 TRANS-SHIPPING LOCATIONS

Three potential trans-shipping locations for Phase 2 were reviewed with workshop participants. Workshop participants were asked to comment on the acceptability of each site and whether one site was preferable over others. Anchorage #1 (i.e. Ragged Island) was noted by many individuals to be the preferred trans-shipping location. This is because Anchorage #1 is in an area that has few marine

mammals, where hunting does not regularly take place, and where people generally don't camp. Anchorage #2, on the other hand, is located in an area that has many marine mammals and where people camp. Anchorage #1 was also noted to be in an area where boat travel to/from Milne Inlet regularly occurs and where local Inuit will use to take shelter from the elements (e.g. wind, waves) when in their boats. A request for Baffinland to build a cabin/emergency shelter at that location was made by one individual, as this would be useful for hunters who are traveling in the area that require a place to stay. Figure 10 displays potential trans-shipping locations discussed with the workshop participants.

I used to hunt in that region. Marine mammals do not pass by Anchorage #1. A lot of marine mammals pass by Anchorage #2 and people camp by Anchorage #2. People do not camp by Anchorage #1. Anchorage #1 is the most suitable area. That is the preferred location. [Workshop #3 Participant]

There's also a channel near Anchorage #1. The hunters tend to travel through this area and shelter there during the storm season, so ships could also go here to shelter. [Workshop #3 Participant]

Regarding Anchorage #1, I have no objections, because people don't camp in that area. We pass by the place. I know you can seek shelter there. We never camp near there. Only a few seals bask in that area. A ship can anchor there. I have no objection as a result. I also support Anchorage #1. [Workshop #3 Participant]



Figure 10: Potential trans-shipping locations for Phase 2 [Map produced by Sikumiut Environmental Management Ltd.]

5.6 SHIPPING ROUTE CONDITIONS IN ECLIPSE SOUND AND NAVY BOARD INLET

Various ocean-related features (e.g. shallow areas, current directions) were mapped in Workshop #1 and can be seen in the seasonal maps presented in Section 3.2. Baffinland's proposed route for Phase 2 open water shipping generally raised few concerns amongst workshop participants and Eclipse Sound was often seen as an acceptable location for open water shipping to occur. As noted previously, open water shipping activities were said to be less concerning than shipping through ice because Pond Inlet residents have past experience with open water shipping and because similar shipping activities in the area have already been approved by regulators (e.g. for Baffinland's Early Revenue Phase). Additional information on shipping route conditions in Eclipse Sound and Navy Board Inlet is provided in Section 3.2 and Appendix D.

6. RESULTS – WORKSHOP #4 (CARIBOU)

6.1 OVERVIEW

A series of discussions pertaining to caribou and Baffinland's Phase 2 proposal were held during Workshop #4. For example, caribou ecology and harvesting in the North Baffin region were discussed; issues and concerns associated with Phase 2 were reviewed; specific mitigation, monitoring and research, and compensation and benefits recommendations were documented; and other comments and information requests were made. A summary of these discussions is provided in Sections 6.2-6.6, below.¹³ Comments from the public open house component of Workshop #4 and subsequent verification meeting have also been integrated into the sections below, where relevant. Notes from these meetings can be found in Appendix D.

6.2 NORTH BAFFIN CARIBOU ECOLOGY

Existing information on North Baffin caribou ecology (e.g. collected for the FEIS and through the original IQ study) was first reviewed with the workshop participants. The accuracy of this existing information was then confirmed by the workshop participants and some additional insights were provided. Other aspects of North Baffin caribou ecology were also discussed during the workshop including population dynamics, migration patterns, behaviour, and food sources. Information from these discussions is summarized in the sections below and presented on Figure 11 and in Appendix E.¹⁴

6.2.1 Population Dynamics

Workshop participants confirmed there are two main caribou herds present on Baffin Island: the 'North Baffin' and 'South Baffin' herds. There are also sub-populations that exist within the North Baffin herd. Workshop participants consider one of these sub-populations to be 'mountain caribou', which are found on the northern Borden Peninsula and have slightly different physical characteristics than the main North Baffin herd. Caribou from the main North Baffin herd were said to be smaller in body size and have no eyelashes.

There are two main herds. The South Baffin and the North Baffin herds. [Workshop #4 Participant]

We also have caribou that are different; they are a separate caribou population. We consider them mountain caribou and they are found on the northern Borden Peninsula. They are slightly different than the main North Baffin herd. The main herd is smaller in body size and have no eyelashes. We notice this because we harvest and butcher caribou. That's how we differentiate between caribou. [Workshop #4 Participant]

¹³ The summaries presented in this section should not be considered a complete representation of what is known about North Baffin caribou; additional information can be found in Baffinland's Phase 2 environmental impact statement, the original IQ study conducted for the Mary River Project, and other sources.

¹⁴ The figure presented in Appendix E is a larger and more detailed representation of Figure 11; however, both figures were created from the same workshop data set.

We have slightly different caribou around Arctic Bay. In the northern Borden Peninsula, they are different. [Workshop #4 Participant]

Workshop participants confirmed the North Baffin caribou herd generally follows a 60-80 year population cycle, which is driven in some part by the availability of food (e.g. lichens and leafy vegetation). When food becomes unavailable in a particular location (i.e. after it has all been consumed), caribou will move to different locations and their population numbers may decline. When food sources eventually grow back (e.g. over a 60-80 year time span), caribou will return to those areas and their numbers may increase. Workshop participants acknowledged caribou around Pond Inlet are currently at a low point in their population cycle. Participants also noted high numbers of caribou in the Pond Inlet area last occurred beginning in the 1980s, before reaching a peak in the mid-1990s. After this period, caribou began moving south towards Clyde River. Workshop participants were confident caribou would return to the area again sometime in the future; IQ that has been passed down through multiple generations also suggests this will occur. An exact period of time when caribou would return was unknown, but one individual speculated it could begin within the next 10 years. Another individual suggested caribou are already beginning to move north again.

This is regarding IQ. We have a small number of caribou right now, but we are expecting within 10 years that we will have more caribou migrating this way. This needs to be taken into consideration. There will be more caribou in this area in the next 10 years. [Workshop #4 Participant]

When hunters go hunting, we are always very observant of the caribou. In past years we had abundant caribou around Pond Inlet, in 1994 and 1995. The caribou then headed towards Clyde River for a 10 year period. They started moving south and into the fjords towards Clyde River. When the elders saw that they said 'uh oh', because they knew the caribou would not return for a while. They knew they would not return until the vegetation grew back. It can take a very long time for the vegetation to grow back... It seems like it will be a few years before the main herd arrives. It seems like there are more caribou starting to migrate north again. [Workshop #4 Participant]

The caribou have left our main area. Based on IQ we know there is a rough range of time when the caribou will return. We don't know an exact day, but know of rough years. IQ says there is a 60 year cycle. We know they will always return. We don't know the exact year, but know they will return when their food starts growing back. [Workshop #4 Participant]

We used to go caribou hunting a lot around 1969, the 70s, and 80s, when there were a lot of caribou [south of Pond Inlet down to Mary River]. They didn't go up [to that area south of Pond Inlet from Mary River] in one year, they took many years to move up that way. It took them a long time to eat all the food on the way up. In the 80s the caribou starting arriving in the Pond Inlet area. In the mid-90s they were right around Pond Inlet. [Workshop #4 Participant]

We also experience this in Arctic Bay. We used to hunt caribou [on the southern Borden Peninsula], but they started moving north. It took them many years to do this. It took them almost 40 years to reach Arctic Bay. 45 years or so. [Workshop #4 Participant]

6.2.2 Migration Patterns

Workshop participants described a number of general migration patterns used by the main North Baffin caribou herd. In the spring (e.g. April and May), female caribou will generally move in a northwards manner and into higher elevation calving grounds (e.g. mountains and valleys). These higher elevations were noted to provide increased safety from predators and have fewer mosquitos. Calving will occur from mid-May to early June. Female caribou will then spend the rest of the spring and summer around the areas they calved, before migrating southwards again in the fall.

The main fall migration begins at the end of August and continues into September and October. This is when female caribou will travel south to meet up with other members of their herd and to find a mate. Likewise, fall is the time of year when bull caribou start their rut. In the winter, caribou will be found in flatter, valley-like areas where predators are easier to see. It was further noted that caribou generally don't migrate long distances in the winter and prefer only to move short distances at a time. The main spring and fall caribou migrations will also be more predictable when the herds are larger.

In the spring the females are travelling up in the land to give birth. In the fall they are going down south looking for the other herd. They will travel to the south to meet up with the other herd. They will gather and repopulate. The mothers and calves are up on the mountains where there are less mosquitos and to protect their young ones. In the fall they go back down to the beach and will look for their mate. [Workshop #4 Participant]

In the fall, bulls start their rut. The bulls are looking for mates at this time of year. [Workshop #4 Participant]

In the winter, caribou tend to be found more in the flat, valley areas, so they can see predators. [Workshop #4 Participant]

On the Borden Peninsula, workshop participants noted caribou migrate north in the fall and south in the spring. Caribou in this area will primarily migrate north from the mainland, although some caribou may also come from the east (on Baffin Island, towards the Barnes Ice Cap).

On the Borden Peninsula, there is not a lot of vegetation. The caribou migrate north in the fall and south in the spring. Caribou migrate north from the mainland, although some come from the east, the Baffin side, as well. [Workshop #4 Participant]

More generally, it was noted that caribou in larger herds tend to move more aggressively towards their destinations than smaller herds, and will be less likely to detour from their intended route. Migrating caribou also have leaders they will follow, which tend to be female caribou with calves. While these leaders may not always be visible to the rest of the herd, their route and direction will nevertheless be followed (perhaps through scent). Some caribou trails and movement patterns were marked on workshop maps (see Figure 11), although it was also noted caribou have historically been found all along the tote road and not in any particular location. Wide trails found on the land indicate use by a large number of caribou, while narrower trails indicate use by fewer caribou. It was also suggested the distribution of caribou may have changed since the development of the Mary River Project.

Males will follow mothers with calves. All the caribou are watching the mothers with the calves. [Workshop #4 Participant]

The caribou will follow the leading caribou. They will not make a detour. They will follow the leader. When they are travelling in a large herd they are not scared of anything. When they are not a large herd they are scared easier. [Workshop #4 Participant]

When you see wide trails that is where hundreds of caribou have used the trails. When you see narrow trails there are fewer caribou that have gone through. [Workshop #4 Participant]

Some areas were noted to have more, or less, caribou than other areas. For example, Inuit historically gathered around Angajurjualuk Lake because caribou were regularly found there. One individual also suggested caribou could historically be found all the way from Angajurjualuk Lake to Milne Inlet. However, caribou are not currently found around Milne Inlet or Steensby Inlet in high numbers and it was speculated this may be due to noise associated with Baffinland's operations. The area around Angajurjualuk Lake was also noted to presently lack caribou. However, an area to the southeast of Mary River was noted to have caribou, as did an area around the Barnes Ice Cap. These and other areas are displayed on Figure 11 and in Appendix E.

Since time immemorial, we know that Big A Lake has been a gathering location for Inuit because that area always had caribou, even if there were no caribou elsewhere...The area from Milne Inlet to Big A Lake was always known to have caribou all the time. With the constant traffic all the time now, however, it could be causing some impact. There are less caribou there now. [Workshop #4 Participant]

Up in the mountains [north of Mary River] we harvest most of our caribou. We rarely went south to Mary River itself. That was in the 70s and 80s. We spent more time in the Milne Inlet area. We only went down the tote road as far as we needed to. When we were chasing caribou, they would always flee towards the Mary River area. Caribou tend to flee to areas where they know there are existing herds. [Workshop #4 Participant]

6.2.3 Behaviour

Workshop participants noted caribou in high numbers and in larger herds will behave differently than individual caribou and those found in smaller herds. For example, larger herds tend to be less fearful (e.g. of human activities) and skittish than smaller herds, and can be aggressive when moving to new areas. It was noted larger herds will be less likely to detour from their chosen direction and will continue moving even when disturbances might be present. Conversely, when caribou are in low numbers they will try and avoid human activities and pollution, and may travel to areas they otherwise wouldn't go in larger numbers.

When they are in lower numbers they become more skittish and go to areas they otherwise wouldn't go in larger numbers. In larger numbers they no longer fear human activities. In low numbers they will try and avoid human activities and pollution. [Workshop #4 Participant]

Animals at low population densities are more timid. [Workshop #4 Participant]

I know for sure if there are vehicles every 3 minutes, there will be caribou hit by the vehicles. When caribou are going to their destinations, they do not stop. They will not stop. This is an issue you will need to consider. [Workshop #4 Participant]

If the caribou want to go somewhere, they'll go there. Nothing will stop them. [Verification Meeting Participant]

Workshop participants recalled examples of seeing caribou in small groups trying to go around or jump over an ATV trail, while noting that larger herds would simply walk across the same trail. Caribou found in large herds also tend to be more curious than those in smaller herds and caribou will become less fearful when they are hungry and pursuing sources of food. Caribou found at lower elevations and female caribou with calves were also said to generally be more fearful and skittish than others.

When I was younger I used to see caribou jump over an ATV trail. This was when they were individuals or in a small herd. Larger herds used to walk right across it. If they are going in one direction they won't stop no matter what. Even when trying to make them flee they will continue moving on. [Workshop #4 Participant]

When caribou move to new forage areas, they are very aggressive in the way they act and where they want to go. For example, when crossing an area or road to go to a new site, they will not be deterred by traffic in where they want to go. They will likely try and cross the road even though it may not be safe for them to do so. [Workshop #4 Participant]

When the caribou are down lower, they seem more skittish. They are less skittish when the herd is in larger numbers. [Workshop #4 Participant]

When caribou are more numerous they might not worry about traffic, but the females with calves are more skittish. [Verification Meeting Participant]

6.2.4 Food Sources

Some discussion on North Baffin caribou food sources was held during the workshop. As noted previously, workshop participants confirmed the North Baffin herd generally follows a 60-80 year population cycle that is driven in some part by the availability of food. Lichens were noted to be a main source of food for North Baffin caribou, although other types of vegetation may also be consumed depending on the season. Caribou will tend to stay in one spot if there is enough food available; however, if food is not readily available caribou will move to new locations and exhibit foraging behaviour.

In Arctic Bay right now there isn't much food available for caribou; that's why there is not a lot of caribou there right now. [Workshop #4 Participant]

If there is a lot of food available, caribou will stay in one spot. If not, they will move around and forage more. [Workshop #4 Participant]

I do not have a lot of concern about caribou disturbance and Phase 2. I'm concerned about the cost to build the road. It might be better to build twinned roads instead. Caribou follow

their food; they will travel to where there is food. A rail line in their way won't matter to them. [Workshop #4 Participant]

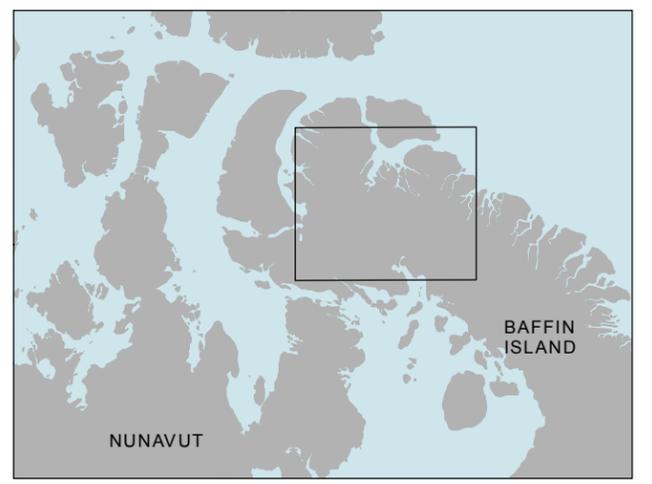
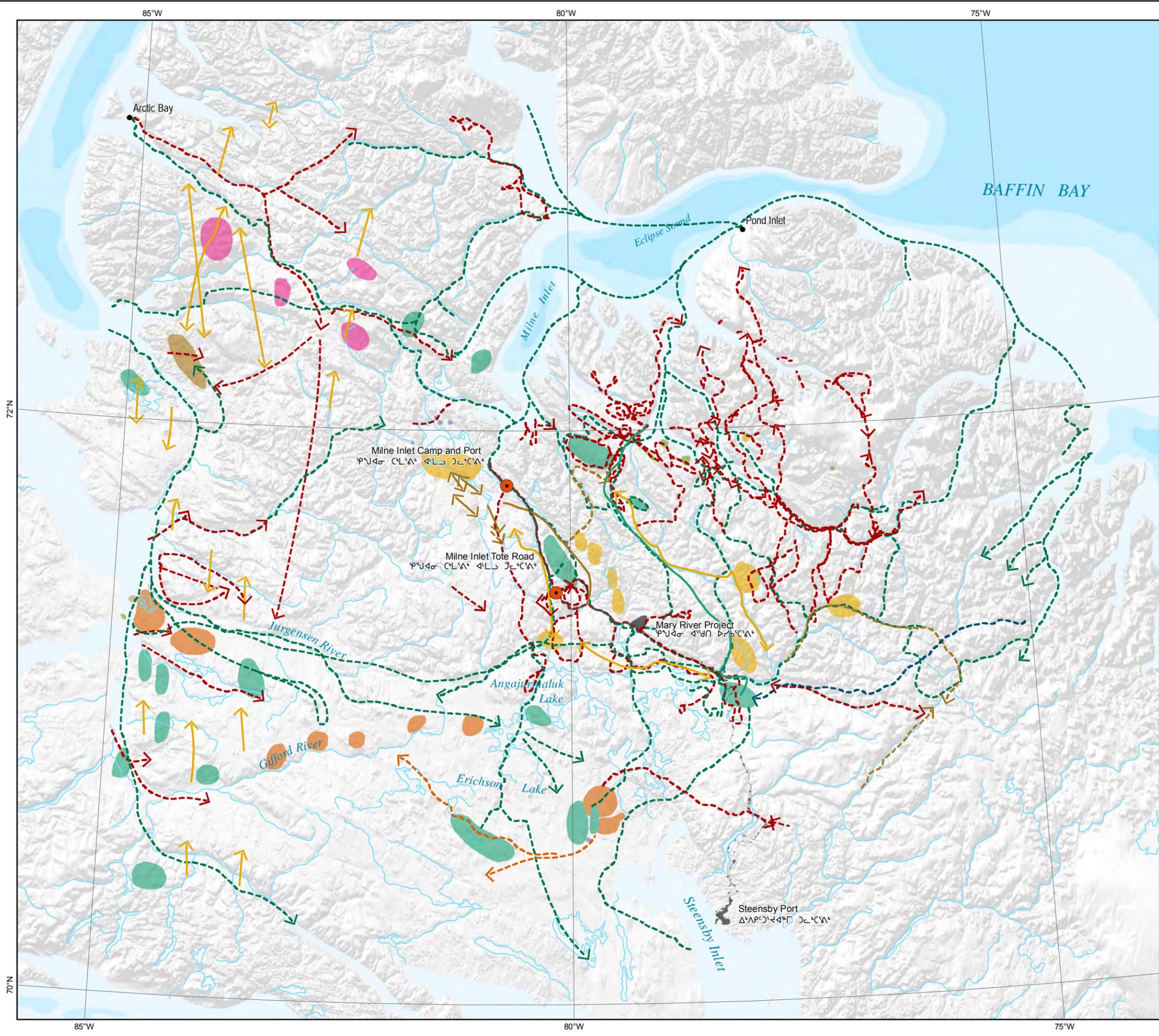
One workshop participant noted some North Baffin caribou have a diurnal feeding cycle. That is, these caribou will feed at higher elevations during the day and lower elevations in the evenings. At higher elevations and in rocky terrain, there is black lichen that can be found on top of rocks that caribou will consume. Caribou will get fat from this type of lichen in the summer time and their meat will taste sweeter because they consume it. Caribou that occupy higher elevations and consume this black lichen also tend to have darker stomach contents than other caribou. Vegetation consumed at lower elevations and in valleys tends to be greener and leafier. Some caribou were also noted to consume twigs and willows. The stomach contents of caribou that eat these types of vegetation are greener than those that consume the black lichen mentioned above. Their stomach contents also tend to be greenest in the spring, because of the newly grown vegetation and shoots that are consumed. Likewise, caribou stomach contents may change colour as the season progresses into fall.

They pretty well eat the lichen all year long. They also eat other vegetation depending on the season. It will vary during the year. They don't just eat lichen. During the day they will eat in higher elevations and in the mountains. They will eat lower down in the valleys later on. In the higher elevations and in rocky terrain, where the terrain hasn't been glaciated, there is black lichen on top of the rock. When they eat that lichen from the rock they start to get fat in the summer time. When they go to lower elevations and valleys they eat more leafy vegetation. There's a particular plant [unrecorded name]. They start to eat twigs and willows, like rabbits. In the night and evening, they start moving down from the higher elevations. [Workshop #4 Participant]

Darker stomach contents are found in the caribou that occupy the higher elevations, in the mountains. They are the ones that eat the rock lichen. They fatten up on the rock lichen. Their meat is sweeter. Green vegetation is found in the lower elevations and valleys. The stomach contents of caribou that eat this are greener. In the spring their contents are greener, because the vegetation is new, new shoots. The stomach contents will change colour as the season progresses into fall. There is actually only a small stomach that caribou have; they have another location, a big bag to store the cud and rumen. If their stomach is not full, however, they will be starving, as they will not be getting enough nutrients from the cud. The small stomach makes a good hat. Once a caribou lies down, it will chew the cud. [Workshop #4 Participant]

Some discussion also occurred on how caribou stomach content colour changes when there are higher numbers of caribou present. For example, it was noted that caribou who first arrive in an area and aren't competing with other caribou for food tend to have greener stomach contents. As time progresses, however, their stomach contents will become darker as food becomes less available and rock lichens are increasingly consumed. Caribou will then eventually migrate away altogether. This scenario was said to have occurred both in Pond Inlet and Cape Dorset in the 1990s.

On following page:
Figure 11: North Baffin caribou ecology and harvesting information [Map produced by Environmental Dynamics Inc.]



- Legend**
- Snow machine crossing
 - Seasonal Movement by Caribou or Human**
 - Caribou - Fall Movement
 - Caribou - Winter Movement
 - Caribou - Summer Movement
 - Human - Fall Travel
 - Human - Winter Travel
 - Human - Spring Travel
 - Human - Spring/Summer Travel
 - Human - Summer Travel
 - Seasonal Caribou Locations**
 - Fall
 - Winter
 - Spring
 - Summer
 - Summer and Winter
 - Year Round
 - Miscellaneous

North Baffin Caribou Ecology and Harvesting Information

Data sources:

Point, line and polygon data are a representation of land use and ecological information collected in the Mary River Project region. The information was gathered at a caribou workshop in Pond Inlet in November 2015, and confirmed at Arctic Bay and Pond Inlet in April 2016.

1:250,000 Topography - Canvec 1:250,000 Topographic Series [multiple computer files]. Government of Canada - Natural Resources Canada, 2012. Available at Geogratis: <<http://www.geogratis.gc.ca>> (Accessed in 2013 and 2015).

1:10,000,000 Bathymetry - National Atlas of Canada [computer files]. Government of Canada; Instituto Nacional de Estadística, Geografía e Informática (INEGI); U.S. Geological Survey, 2010. Available at <<http://geogratis.gc.ca>> (Accessed September 1, 2016).

Milne Tote Road Alignment Polyline and Project Areas Polygons [computer files]. Baffinland, 2013. Provided by Baffinland Iron Mines Corporation (Accessed in 2013).

Digital Elevation Model (DEM) - Canadian Digital Elevation Model (CDEM) [computer file]. Government of Canada - Natural Resources Canada, 2012. Available Geogratis: <<http://www.geogratis.gc.ca>> (Accessed in 2014).



Map Scale 1:1,500,000 (printed on 11 x 17)
Map Projection: Canada Lambert Conformal Conic



Drawn: HG (EDI) Checked: MS (EDI) Date: 22/09/2016

Path: J:\work\projects\2016\1607076_BIMM\Maping\Map\Map\Caribou\DC_Area_1\Sept2016_11x17.mxd

6.3 CONTEMPORARY CARIBOU HARVESTING IN THE NORTH BAFFIN REGION

Contemporary caribou harvesting activities in the North Baffin region were discussed during Workshop #4. Discussion occurred on the timing of harvesting, locations where harvesting takes place, and harvesting-related travel routes. Information from these workshop discussions is summarized in the sections below and presented on Figure 11 and in Appendix E.

Workshop discussions confirmed the importance of caribou harvesting to North Baffin Inuit. It was noted that caribou have been harvested by Inuit for generations and remain a valued component of the local diet. Furthermore, IQ on caribou has been passed down through generations and remains a comprehensive information source. Workshop participants also confirmed caribou in the North Baffin are currently at a low point in their population cycle, although higher numbers of caribou have occurred in the past and are expected to occur again in the future. Effects of the recent caribou harvesting moratorium and quotas were also discussed and it was noted more caribou hunting will occur when the population is higher.

The elders have told us about hunting areas. We will use these areas to hunt caribou now; that information has been passed down from our ancestors. Inuksuks are built differently to indicate different things. They may have indicated a caribou trail or where caribou herds could be found. Or a cache of meat. The information from our ancestors is always truthful. When Inuit are telling stories we are helping each other out. This is why we tell stories. Before gas we survived with seal oil lamps and built huts without wood. We even used to have swings in our huts. I was born in a kamotik when we were travelling. My father stopped and built an igloo when we were travelling. I was born in an igloo. Our elders survived the harsh winters. [Workshop #4 Participant]

We historically relied on the game, we still do. We still hunt to survive. We're still like that. It's part of our Inuit system. We still eat country food. If that were to be affected in some way we would be very concerned. [Workshop #4 Participant]

When caribou are in higher numbers, there is more hunting that occurs. [Workshop #4 Participant]

Certain periods were identified as preferable for caribou harvesting over others. Around Pond Inlet, the end of August and early September were noted to be one of the best times to harvest caribou because the quality of caribou is best; caribou are said to be fat and have the best skins at this time. However, November and December are also popular hunting periods as caribou meat is harvested for the Christmas season. One individual noted this was the peak hunting period for Pond Inlet residents. Hunters will also start hunting around Mary River at the end of January and in early February, although it was noted there is generally no caribou hunting that occurs around Mary River in April and May. Conversely, the rut season (i.e. around November) was said to be a time when harvesting of male caribou is avoided. This is because their meat does not taste good during this period. Section 3.2 and the seasonal calendar presented in Figure 7 provide additional information on caribou harvesting activities conducted by residents of Pond Inlet.

In August people liked to go hunting. When we used to wear caribou skins, people wanted to hunt when the caribou were fat, when the skin was nice and thin. We preferred to hunt caribou at this time. [Workshop #4 Participant]

In Pond Inlet, the most popular time to hunt for caribou occurs at the end of November and in December. Caribou meat is harvested for the Christmas season. This is the peak hunting period. [Workshop #4 Participant]

In the Pond Inlet area, there is not much caribou hunting that occurs in November. The meat doesn't taste good at this time of year, because the caribou are in the rut. [Workshop #4 Participant]

At the end of January and in early February, hunters will start hunting around Mary River. There is no caribou hunting around Mary River in April and May. [Workshop #4 Participants]

Around Arctic Bay, caribou hunting by skidoo generally occurs during November, December, March, and April and it was noted that some hunters will travel to the Igloolik/Hall Beach areas to harvest as well. ATV-based hunting around Arctic Bay will generally occur in August and September and, in some locations, ATVs will be transported to hunting locations by boat first. Of these Arctic Bay hunting periods, March, April, and August were said to be particularly popular.

We hunt for caribou by skidoo around Arctic Bay during November, December, March, and April. We hunt by ATV in August and September. In some locations, we transport our ATVs by boat first. [Workshop #4 Participant]

In Arctic Bay, March and April are the peak caribou hunting periods. Hunters will travel to Igloolik and Hall Beach to harvest caribou. There are less caribou around now, however. [Workshop #4 Participant]

August is a popular time for Arctic Bay residents to harvest caribou [on the Borden Peninsula] by ATV. [Workshop #4 Participant]

A number of caribou hunting routes in the North Baffin were identified by participants on a workshop map. These routes can be seen on Figure 11 and in Appendix E. Routes travelled by snow machine (i.e. during periods of snow cover) and ATV (i.e. in summer) were differentiated. Caribou hunting routes that are walked were also identified on the map. All routes marked on the map were noted to be main travel corridors, although additional travel inland will occur off of these main routes (which were not marked). Workshop participants clarified the marked routes were not trails, per se, but represented general travel areas. The Arctic Bay hunting routes that were marked were noted to only be the most popular routes in the area. A number of more popular hunting routes for Arctic Bay residents are located off the workshop base map that was used.

All the [contemporary caribou harvesting travel route] lines on the map have been walked by Inuit in the past. [Workshop #4 Participant]

The most popular caribou hunting route for Pond Inlet residents used to be the Mary River tote road. This was previous to the development of the mine. [Workshop #4 Participant]

While the routes mentioned above represent general areas where caribou harvesting activities may take place, more specific harvesting locations were also discussed during the workshop. For example, the

Mary River area was noted to be an important area for caribou hunting. More recently, the mountains north of Mary River and the Milne Inlet area have been important harvesting areas. The Mary River tote road also remains an important harvesting route, although this was used more heavily by Inuit prior to the development of the mine. Contemporary use of the tote road occurs primarily in the summer, although winter use may also occur. More generally, caribou harvesting activities were said to occur in proximity to the community wherever possible; if caribou are found near to the community there would be no reason to travel further afield.

6.4 EXPRESSED COMMUNITY ISSUES AND CONCERNS

A number of issues and concerns pertaining to the Phase 2 proposal and caribou were raised during the workshop. For example, concerns pertaining to existing Project-related impacts, harvesting and land use, the tote road, dust, and monitoring programs were all discussed.

Workshop participants often expressed concern about existing impacts from the Mary River Project on caribou. For example, it was suggested that existing Project-related disturbances such as noise, vehicular traffic, aircraft, and other mining activities may have driven caribou away from the Project's vicinity. Areas that were said to have been affected include Milne Inlet, the area between Milne Inlet and Angajurjualuk Lake, Mary River, and Steensby Inlet. However, some workshop participants noted caribou currently avoid the Project area because they are in low numbers; caribou are expected to be more readily found around the Project site once their population increases.

Between Pond Inlet and Mary River there have been a few straggler caribou in the high areas. They seem to avoid that area. There are not a lot of caribou around Milne Inlet and Steensby Inlet. They seem to avoid that area. It could be because of the noise of the vehicles... This area always had caribou prior to the iron mine project. The area from Milne Inlet to Big A Lake was always known to have caribou all the time. With the constant traffic all the time now, however, it could be causing some impact. There are less caribou there now. [Workshop #4 Participant]

Your studies of animals and your maps don't tell you everything. As a hunter, you can see that animals start leaving the area once activities ramp up. You're the one responsible for moving them out. [Workshop #4 Participant]

The Arctic Bay HTO always voiced their concerns about the Mary River aircraft. There is non-stop aircraft and helicopters flying over the project. Could you reduce the number of flights and rely more on ground transportation? Flights have an impact on wildlife? Can you reduce the number of flights you use? Especially for the studies you are conducting? [Workshop #4 Participant]

Ever since Baffinland has started operating we have been observing. Hunters and the organization. The caribou used to occupy [the area south of Milne Inlet] around 2004. In 2006 and 2007 the aircraft started using the area during exploration. They also had to land along the tote road. I think this suspicion started around then. The low flying helicopters may have pushed the caribou away. The disappearance of caribou coincided with the same time all this activity occurred. [Workshop #4 Participant]

It was also suggested that regional impacts may have occurred as a result of the Project. For example, one participant mentioned some Arctic Bay residents believe the tote road is preventing caribou from moving towards their community. Dust-related impacts (e.g. on vegetation) and the effects of increased pollution and emissions from the Project were cited as additional concerns local residents had with existing operations.

Half the people from Arctic Bay believe the road is affecting the caribou and preventing them from coming up to Arctic Bay. I don't believe that myself, but is there any way Baffinland can look at involving people from Arctic Bay in the caribou surveys so that our community can better understand what is actually happening? [Workshop #4 Participant]

In the winter we are not so concerned about dust. We are more concerned in the summer season, when it becomes an issue. Dust comes from the wheels of the trucks. I'm more concerned about caribou eating the vegetation that is covered in dust around the mine site, rather than the tote road. [Workshop #4 Participant]

That's where the frustration comes in. You're saying there is no dust on the road, but we're physically seeing dust on the road from trucks. [Workshop #4 Participant]

The current lack of North Baffin caribou was noted to have negatively affected the Inuit subsistence harvest. Existing Project developments have also limited the ability and/or desire of Inuit to access some traditional land use and harvesting areas. For example, while both the Mary River and Milne Inlet areas have been important camping and hunting areas in the past, they are no longer regularly used because of the increased industrial activity in those areas. Local hunters also have difficulty crossing the tote road with their snow machines in certain locations. There are two locations where hunters traditionally cross the tote road (see Figure 11 and Appendix E); however, these often get filled in with snow, have large snowbanks develop, and are where snow machines can get stuck. More generally, one workshop participant commented on the perception that exists in the community of Pond Inlet that Baffinland doesn't want local residents to hunt caribou around the mine site.

What I'm trying to say is that hunters have almost always used that area for hunting and fishing. Because of the mine expanding to the size it is now, we can no longer access some of these areas. I'm not blaming Baffinland for that; it's just reality. [Workshop #4 Participant]

We are affected in Milne Inlet because we hunt in that area. Mary River was a camping ground and was used for caribou hunting in summer time before the mine went in. The community doesn't go camping in that area anymore because there is so much activity around that area. Milne Inlet also used to be a camping area before. There used to be tents and whole groups of families. Some people in Pond Inlet are concerned about the Phase 2 proposal. [Workshop #4 Participant]

The most popular caribou hunting route for Pond Inlet residents used to be the Mary River tote road. This was previous to the development of the mine. [Workshop #4 Participant]

Currently, there are two areas where we cross the tote road in winter. They both have bridges. However, these locations often get filled in with snow, snowbanks develop, and snow machines get stuck. These are obstacles for us. I was wondering if Baffinland could fix

this. I can show you on the map where these are. One is at kilometre 15. [Workshop #4 Participant]

The perception in the community is that Baffinland doesn't want us to hunt caribou around their mine. [Workshop #4 Participant]

The Phase 2 proposal raised additional harvesting and land use concerns for workshop participants. For example, concerns were raised about the potential for Phase 2 to cause further declines in the North Baffin caribou herd. It was noted this would be particularly problematic for Inuit hunters, especially given current (low) caribou population numbers and existing harvesting limits the Government of Nunavut has placed on local hunters. One workshop participant questioned whether Phase 2 would result in further caribou population declines and the implementation of another harvesting moratorium. Hunter safety on the tote road was also raised as a concern, primarily due to the increased road traffic associated with Phase 2. Concerns were also expressed about the potential for the tote road to be closed to the public as a result of this increased traffic. Such a closure would impact caribou hunters' ability to access inland areas and successfully harvest caribou. Road closure would be a significant issue in the summer, as alternative inland travel routes are more limited than in the winter.

This year we only have a 30 caribou hunting limit. Baffinland should think about further impacts on the caribou it might cause. [Workshop #4 Participant]

If caribou were affected by the project would that mean a greater likelihood of a caribou harvesting moratorium occurring? Like the one that was established already by the authorities? [Workshop #4 Participant]

Phase 2 will have an impact on caribou. [Workshop #4 Participant]

I have a question regarding the tote road. As of right now, hunters can use the tote road from Milne Inlet to go to caribou hunting areas. Your presentation said there would be an increase in trucks on the tote road during Phase 2. Will hunters still be able to use the tote road in Phase 2? Will they be able to hop on a truck to travel down the road? Or would they use an ATV? Increased traffic presents a safety issue and a hunting issue for hunters. With the increase in traffic, my biggest fear is the safety of hunters travelling on an ATV, as it is a public road. [Workshop #4 Participant]

In the summer time, we only use the tote road to travel down to Mary River. We don't use other areas on our ATV. [Workshop #4 Participant]

Phase 2 tote road activities raised additional concerns for workshop participants. Particular concern was expressed about the increased potential (i.e. with increased traffic) for caribou to be struck and killed by vehicular traffic on the road. It was noted that trucks may not be able to stop in time to avoid striking animals and that drivers may have limited visibility in some instances (e.g. at night and when truck windows are dirty). The most serious concerns pertained to when the caribou population will increase in the future, as it was suggested there will be an elevated risk of caribou being killed during this time. This elevated risk will result from higher caribou numbers and the tendency for large herds to act more aggressively than smaller herds (e.g. larger herds will be less fearful when crossing the road, even in potentially unsafe situations). One individual suggested caribou won't cross in front of vehicles on the

tote road when there are one to three animals present; if the herd was larger, however, animals would be more likely to cross.

Have you started widening the tote road already? How fast do these trucks travel? Can they stop if they suddenly see caribou? [Workshop #4 Participant]

How many caribou can you see going from Mary River to Milne Inlet on the tote road? Can the truck drivers spot the caribou along the road? How far can they see from the truck? Sometimes the truck's windows are dirty. [Workshop #4 Participant]

I know for sure if there are vehicles every 3 minutes, there will be caribou hit by the vehicles. When caribou are going to their destinations, they do not stop. They will not stop. This is an issue you will need to consider. [Workshop #4 Participant]

With trucks every 3 minutes, even if airbrakes were used they would probably still hit the caribou. [Workshop #4 Participant]

The issue will be when the caribou numbers increase and they are no longer scared, and will cross the road. Based on IQ, we know there are population cycles and the caribou will return when their food returns. [Workshop #4 Participant]

Will there be issues with having trucks on the road at night? Will they be able to see the caribou? [Workshop #4 Participant]

Additional Phase 2 concerns included the potential for the tote road to act as a barrier to migrating caribou and that snowbanks piled on the side of the road may hinder caribou from crossing it. However, some workshop participants suggested the tote road would likely not be a barrier to caribou, because caribou generally don't migrate in a direction that crosses the road (e.g. caribou in the Arctic Bay area tend to migrate in a north/south manner, from the mainland). Similarly, spring was noted to be a particularly sensitive time for North Baffin caribou, as this is when female caribou are giving birth. Some concerns were also raised about dust from the tote road falling on roadside vegetation, as caribou who consume this vegetation may inadvertently ingest dust-borne metals and other contaminants. Likewise, some concerns were raised over the human health effects associated with harvesting and eating caribou that have consumed dust-laden vegetation. Noise pollution emerged as another concern for some individuals, as caribou were noted to be particularly sensitive to noise and will often flee when it is excessive. However, these noise impacts weren't necessarily a concern for all workshop participants.

It's going to be a concern if Phase 2 starts on the tote road. If there are trucks every 3 minutes, that's going to block the caribou from crossing the road. That may be a big blow to the hunters. It will be a topic of discussion for the hunters. [Workshop #4 Participant]

I have a concern about trucks passing every 3 minutes. Especially in spring when females are giving birth. You will have to watch out more during this period. This is usually in June. This is my main concern. [Workshop #4 Participant]

When caribou hear noise, they automatically flee. That's why hunters have been worried about the noise pollution. Caribou have much better hearing; it is better than human hearing. [Workshop #4 Participant]

Caribou won't be so negatively affected because they can move to different areas and they can hear a long ways. It's a different story for marine creatures. [Verification Meeting Participant]

I'm not concerned about trucks hitting caribou if caribou numbers increase. The only concern to me that I have experienced is, I think around 2008 during the Bulk Sample, Joshua and I were on a trip. We saw caribou near Mary River and we caught it. You could hear blasting at Mary River. All the caribou would flee the blasting, more than traffic noise. Noise isn't really a deterrent to caribou. I'm not against the project, but we would need to know if the caribou were eating contaminated foods. [Verification Meeting Participant]

I have a concern about the dust. Can it be better controlled? When I was flying on Canadian North over the tote road, I could see the dust spreading along the tote road. Even from 20,000 feet. Can there be a better plan that you put in place? Can you cover the trucks? So that vegetation on the road won't be affected? [Workshop #4 Participant]

Regarding caribou, we've talked about widening the road. I've seen the road every year from Mary River to Milne Inlet. At Mary River the dust is formed from the wheels of the trucks. When it's raining it's not dusty. We need to discuss this. The HTO will need to discuss this. The roads need to be maintained. If the caribou ate contaminated vegetation, like lead or zinc, how long would it take them to get sick? [Workshop #4 Participant]

If the caribou was contaminated and I ate it, would I have health issues because of it? Would those issues be passed on to my children and their children? [Workshop #4 Participant]

Finally, some concerns were expressed over the design of Baffinland's existing wildlife monitoring programs. While these concerns (and suggested remedies) are discussed in more detail in Section 6.5, they generally pertained to the need for increased involvement of Inuit in monitoring efforts, refining the timing and methods used in caribou monitoring studies, expanding the geographic scope of caribou monitoring, and limiting excessive use of helicopters. Community-identified issues and concerns pertaining to Baffinland's Phase 2 proposal and caribou are summarized in Table 7.

Theme	Expressed Community Issues and Concerns
Existing Project-Related Impacts	<ul style="list-style-type: none"> • Project noise, vehicular traffic, aircraft, and other mining activities may have driven caribou away from the Project’s vicinity and broader region • Dust-related impacts (e.g. on vegetation) and the effects of increased pollution and emissions from the Project • Project developments have limited the ability and/or desire of Inuit to access some traditional land use areas • Hunters have had difficulty crossing the tote road in two locations with their snow machines due to excessive snow buildup • A perception exists in the community of Pond Inlet that Baffinland doesn’t want local residents to hunt caribou around the mine site
Harvesting and Land Use	<ul style="list-style-type: none"> • The current low numbers of North Baffin caribou has negatively affected the Inuit subsistence harvest • Phase 2 may cause further declines in the North Baffin caribou herd • Hunter safety on the tote road may be compromised due to increased road traffic • Public access on the tote road during Phase 2 needs to be available so that caribou hunters’ ability to access inland areas and successfully harvest caribou isn’t reduced
Tote Road	<ul style="list-style-type: none"> • Phase 2 may increase the potential for caribou to be struck and killed by vehicular traffic on the tote road • Trucks may not be able to stop in time to avoid striking animals. Drivers may have limited visibility at night and in dusty situations. • The potential for caribou strikes will increase during periods when caribou populations are high as a result of greater numbers and the fact that large herds tend to act more aggressively than smaller herds • The tote road may act as a potential barrier to migrating caribou (e.g. snowbanks on the side of the road may hinder caribou from crossing the road) • Spring is a sensitive time for North Baffin caribou, as this is when female caribou are giving birth
Dust and Noise	<ul style="list-style-type: none"> • Dust from tote road activities may fall on roadside vegetation. When consuming this vegetation, caribou may ingest dust-borne metals and other contaminants. • Potential human health effects associated with harvesting (and eating) caribou that have consumed dust-laden vegetation • Caribou are sensitive to noise and will often flee when it is excessive
Monitoring Programs	<ul style="list-style-type: none"> • Increase the involvement of Inuit in monitoring efforts, refine the timing and methods used in caribou monitoring studies, expand the geographic scope of caribou monitoring, and limit use of helicopters in current monitoring programs

Table 7: Issues and concerns associated with caribou identified during the community workshops

6.5 MITIGATION, MONITORING AND RESEARCH, AND COMPENSATION AND BENEFITS RECOMMENDATIONS

An additional focus of Workshop #4 was to discuss potential mitigation, monitoring and research, and compensation and benefits measures related to Baffinland's Phase 2 proposal and caribou. To help set the context for this discussion, Baffinland presented conceptual mitigation and monitoring options being considered for Phase 2 to the workshop participants and solicited their feedback. Workshop participants were also encouraged to make any additional recommendations they felt might be relevant.

A number of suggestions were made with regards to potential mitigation measures for Phase 2. For example, workshop participants suggested Baffinland continue to work with local communities in the development of Project-related mitigation and monitoring programs. Workshop participants also noted Baffinland will need to be prepared for future increases in the North Baffin caribou population. This is partly because caribou in large numbers/herds tend to behave differently than individual caribou and those in smaller herds (e.g. larger herds tend to be less fearful and skittish than smaller herds, and can be aggressive when moving to new areas). Workshop participants suggested caribou in larger herds may try and cross the tote road even when it is not safe for them to do so and will follow their leaders across the road regardless of risks posed by traffic.

If we work together on this, I don't think there are any issues we can't resolve.

I'm thankful we were provided with an opportunity to participate. We want to be included in future meetings. We never had opportunities like this with Nanisivik. It seems like things are very open here. [Workshop #4 Participant]

When the project was first beginning, we were only told how great the project is and nowadays you've taken all these issues into consideration. It will need to be well planned for you and for us. Today, we need to work equally for the start of your second phase. I know more clearly how your project stands. We didn't know what your plans were when you first started coming to the community. I will agree to some parts of the project, and not to some others. I will not hesitate to say no if I have to. [Verification Meeting Participant]

My anxieties and worries have lessened because of what I've heard from Baffinland. I am less worried and anxious now because of the path we have. I appreciate the cooperation we have had. I would like to see us work together down the road. [Workshop #4 Participant]

When they are in lower numbers they become more skittish and go to areas they otherwise wouldn't go in larger numbers. In larger numbers they no longer fear human activities. In low numbers they will try and avoid human activities and pollution. [Workshop #4 Participant]

Once you start to see many caribou on the tote road you need to be worried, as there will be more behind them. [Workshop #4 Participant]

If there are one to three animals, they won't cross the road in front of the vehicles. Large herds will cross in front of vehicles, however. Truck drivers will need to be aware of this. [Workshop #4 Participant]

It was also noted that caribou in large herds tend to be more curious than caribou in smaller herds and will be more likely to investigate the mine's operations. As a result, Baffinland may need to explore fencing options in some Project areas. Caribou also become less fearful when they are hungry and pursuing sources of food. Likewise, spring (i.e. June) was noted as a potentially sensitive period for caribou, as this is when female caribou are giving birth. In all these instances it was noted Baffinland will need to act cautiously and develop appropriate management responses.

I imagine they will lose that fear at Mary River when the herd is large. Land animals will lose their fear once they realize they can't be harmed; they will be afraid at first though. Polar bears and some other land animals will attack anything that is moving when they are starving; this is different than caribou. When caribou start running out of food, they will go to the tote road if there is food there. [Workshop #4 Participant]

When caribou numbers are low, they will be very timid. When caribou numbers are high, they will be very curious. [Workshop #4 Participant]

Caribou in large numbers will be curious about all the noise at the mine site and will want to investigate. You might need fencing to make sure they don't come in and check once the population numbers become higher. [Workshop #4 Participant]

I have a concern about trucks passing every 3 minutes. Especially in spring when females are giving birth. You will have watch out more during this period. This is usually in June. This is my main concern. [Workshop #4 Participant]

Bulls will cross more frequently when looking for food. [Workshop #4 Participant]

Potential strategies for managing large numbers of caribou crossing the tote road were provided by workshop participants. These included the development of a caribou awareness program for truck drivers, implementing speed limits and traffic stoppage protocols, and the use of truck horns to scare caribou away (but it was suggested horns should only be used for large herds, as they could scare away smaller numbers of caribou). The use of fences and rails along the tote road was discouraged by one workshop participant, as these can create a barrier to migrating animals. One individual also suggested it may be useful for vehicles on the tote road to travel in tandem or in groups, in order to allow more space for caribou to cross the road.

The vehicles will be travelling every 3 minutes. If a big caribou herd is crossing the road and following the leader, can we stop the vehicles until the caribou have crossed the road? [Workshop #4 Participant]

If the caribou start migrating in large numbers across the road, I think it would best to use the truck's horn to scare them away. But you shouldn't use the horn when there are only small numbers of caribou are present. That is because it will move them away from the area. [Workshop #4 Participant]

They wanted to put some type of fencing or rail guard on a part of the road. If they added the rail guard and raised the height of the road, by creating an embankment, it would definitely create a barrier for animals. Animals like to continue going where they are

heading and don't want to take detours. Except for safety reasons, it would be much better if there were no barriers. [Workshop #4 Participant]

I agree with [workshop participant] that the trucks should stop and allow the caribou to pass by. The first three caribou should be allowed to pass so that the others will follow. [Workshop #4 Participant]

Regarding the vehicles every three minutes, I would suggest the vehicles travel in tandem or in groups, two or three trucks, to allow more space for caribou to cross the road. [Workshop #4 Participant]

Suggestions for enhanced dust management practices were raised during the workshop and included ensuring the ore hauling trucks are covered (e.g. with tarps) while travelling along the tote road, ensuring the trucks are properly maintained, and better maintenance of (and improvements to) the tote road. While some seasons were noted to be dustier than others, winter was said to be one time of the year when there were fewer community concerns about dust.

The road needs improvements. [Workshop #4 Participant]

My comment pertains to monitoring. We're approaching fall. As it transitions to snow and freezing temperatures, we start seeing impacts on vehicles. We see wear and tear on the vehicles. There has to be more emphasis on checking the dust, especially during the transition from summer to fall. With respect to visibility, it can also create low visibility. This affects monitoring and your monitoring plan. You will need to make sure you maintain your vehicles; that will be important. Even in the community, you see seasons that have more wear and tear on the vehicles. Some seasons are dustier than others in the community. In some seasons you can't even read the street signs because they are covered in dust. Summer and winter aren't really an issue for dust. It's the transition seasons. With respect to wildlife, fall is the season where you see the most change. That's what you'll have to pay attention to. [Workshop #4 Participant]

I have a concern about the dust. Can it be better controlled? When I was flying on Canadian North over the tote road, I could see the dust spreading along the tote road. Even from 20,000 feet. Can there be a better plan that you put in place? Can you cover the trucks? So that vegetation on the road won't be affected? [Workshop #4 Participant]

Having a tarp over the ore on the trucks would help alleviate concerns. I know that the iron ore doesn't get lifted easily by the wind, not like sand. With regular sand and gravel you will see lots of dust associated with it. [Workshop #4 Participant]

Likewise, some discussion on Inuit site access and harvesting in the Project vicinity occurred. Workshop participants identified two current locations used by local hunters to cross the tote road with snow machines in the winter (see Figure 11 and Appendix E). However, these locations often get filled in with snow, have large snowbanks develop, and are where snow machines can get stuck. Workshop participants asked if Baffinland could ensure these two crossing areas remain clear. Discussion on Baffinland's draft land user access procedures for the Milne Inlet and Mary River sites also occurred, and some minor recommendations were provided by the workshop participants to improve these. Workshop participants additionally requested Baffinland provide an alternative route for land users to

access the Mary River area should public access to the tote road be closed as a result of Phase 2. This is because the tote road currently acts as the area's primary caribou hunting route.

Our biggest concern in summer time is travelling on the tote road and through the mine site on ATVs. People prefer to hunt caribou in the summer. We do go caribou hunting in the winter also. We're less concerned about travelling in the winter, as there are more travel route options for us to use. Currently, there are two areas where we cross the tote road in winter. They both have bridges. However, these locations often get filled in with snow, snowbanks develop, and snow machines get stuck. These are obstacles for us. I was wondering if Baffinland could fix this. I can show you on the map where these are. One is at kilometre 15. [Workshop #4 Participant]

With the increase in traffic you're proposing on the tote road, it sounds like the road will be closed to any other vehicles. If it's going to be closed for public usage, I think you have to have a plan to offer us an alternative route. Because that is our main caribou hunting access route. We may be asking you to charter us in if we can't access the interior for our hunting. You will be creating a barrier to us. [Workshop #4 Participant]

A considerable amount of discussion on caribou monitoring and research occurred during the workshop. For example, workshop participants suggested local Inuit should have more involvement in Project monitoring programs and that existing monitoring programs should be refined. Support for Baffinland's existing 'height-of-land' monitoring surveys was expressed, but increased use of Inuit observers (e.g. experienced hunters) was suggested. It was noted that Inuit observers are often better suited than non-Inuit for spotting caribou, as a result of their experience on the land (e.g. through hunting). Likewise, Baffinland should work with local HTOs to identify appropriate individuals to participate in these programs. Another request was made to allow for local Inuit to participate in the Mary River Terrestrial Environment Working Group (TEWG), so that meeting results could be provided directly back to their communities.

A hunter and a scientist will have different foundations of knowledge. Although we may think we're talking about the same issue, we may be talking about different issues. Hunters should be included in any future studies. We often review the results of studies and notice that certain things could have been done differently, and would have resulted in completely different results. The studies could have been done better. [Workshop #4 Participant]

Depending on the terrain, you might not be able to see animals. Local individuals may be better able to do this. [Workshop #4 Participant]

Half the people from Arctic Bay believe the road is affecting the caribou and preventing them from coming up to Arctic Bay. I don't believe that myself, but is there any way Baffinland can look at involving people from Arctic Bay in the caribou surveys so that our community can better understand what is actually happening? [Workshop #4 Participant]

How are you going to monitor caribou? Through hunters? [Workshop #4 Participant]

I would really like to see a person, or two people from the community, be a part of the Terrestrial Environment Working Group. This is because QIA is not communicating the results of those meetings back to the community well. During the NIRB hearing I requested

to have representatives from Pond Inlet on that group and to this day there has been nothing happen. [Workshop #4 Participant]

Certain times of the year were identified as better than others to conduct caribou surveys. Spring (e.g. March-June) was said to be one of these periods, as caribou fur is darker during this time and animals are easier to spot. Surveys should also be conducted while snow is still on the ground, as caribou will be more visible. October may also be a good time to conduct surveys, as this is when caribou start congregating into herds for the rut and become easier to count. The fall and summer were said to be poor times for conducting surveys, as caribou can become dispersed and hard to spot. Caribou can also be difficult to spot when the snow first starts falling (from August to mid-September), and when their coats change colour. Spotting caribou in the winter was noted to be particularly difficult for observers due to the cold temperatures, although it becomes easier when the sun starts to return.

Regarding caribou monitoring, there are some aspects that I think can be improved. You seem to have been focused on aircraft-based population studies. I think you need more land-based wildlife studies and observations, using people on the ground. You should study the caribou populations according to the seasons. Some suggestions we've made have not been followed. In the fall or summer, the animals are widely dispersed. It may seem like the population is very low. But if you were aware of the behavioural tendencies of caribou, you would know. The spring, when caribou are easy to spot, is when we've asked for the studies to be conducted. But scientists want to do caribou studies in the fall and summer when they are very hard to spot. You also only want to focus on the project area. I think you need to listen to our suggestions. [Workshop #4 Participant]

In October all the caribou start congregating during the rut season. You'll start seeing caribou congregate into herds. That's the best time for surveys. [Workshop #4 Participant]

Early spring is the best time for caribou studies. March, April, May, June. Their fur is darker at this time than later in the season. [Workshop #4 Participant]

I want to provide some support to that comment. A lot of us have spent a lot of time on the land spotting caribou. A lot of us are very adept at seeing just a caribou tail behind the rocks. They can be very camouflaged and hard to see. You might only see an ear or tail. It is better to conduct a survey with snow on the ground, as they are more visible. [Workshop #4 Participant]

It is difficult to glass caribou in the winter, when it is too cold. When the sun starts to come back it gets easier. We know that when the snow first starts falling it is very difficult to spot caribou, from August to mid-September. When the coats change colour it can be practically impossible to spot them. [Workshop #4 Participant]

Some criticisms of Baffinland's existing caribou surveying programs were raised during the workshop. For example, one participant suggested Baffinland relies too heavily on aerial surveying and should focus more on ground-based survey methods. This same individual also suggested Baffinland expand the scope of its surveys beyond the immediate vicinity of the mine's footprint. Such a narrow scope, it was argued, ignores caribou which may be located in other parts of the region and which may have already moved away as a result of mining-related disturbances (e.g. noise, flights, traffic, and other activities). Reducing the number of helicopter flights used to move observers between Baffinland's height-of-land

survey locations could also reduce caribou disturbance. This could potentially be accomplished by building permanent encampments at existing survey locations for observers to stay in for longer periods of time. More generally, it was suggested Baffinland regularly monitor for future increases in the caribou population, so the company will be prepared when large numbers of caribou return to the Project area. Further research and monitoring of other, non-Project related effects on caribou populations (e.g. wolf predation) was also suggested.

With respect to scientific studies, when we hear about caribou surveys, I've noticed that they only look at the mine footprint. You only seem to fly over and do your aerial surveys over the mine footprint. That's too close. Some caribou come from 100km away. You need to study outside of the mine site area. Doing this would allow you to see the trends. It would allow you to see caribou that are further to the west and east. Caribou are non-stop travellers. Not all of them stick around one location. This could help you improve your studies. [Workshop #4 Participant]

If there's a hill, perhaps we can have an encampment on top of the hill. This would help reduce the number of flights. I'm just trying to think of ways to be less intrusive and bothersome to caribou. Like, if you had a person up high that was observing there very quietly. That would reduce the number of people being shuttled around. [Workshop #4 Participant]

I believe the caribou will gradually come back into the Mary River area. I would like to see an increase in monitoring and mitigation of that. [Workshop #4 Participant]

I think you also need to monitor the wolves and their effects on caribou. When caribou populations increase, so do the wolf populations. We should not only look at the mine and human factors related to caribou; we also need to look at other factors related to caribou. The public shouldn't just blame the mine or the humans for the impacts. [Workshop #4 Participant]

Discussion of potential local benefits from Phase 2 also occurred during the workshop. For example, it was requested that more benefits be provided by Baffinland to nearby communities than has occurred in the past. It was also noted that funds provided to communities and local businesses through mining can often be beneficial, and that local communities are generally interested in the employment and business opportunities Mary River can provide. One workshop participant suggested Baffinland additionally consider providing equipment (e.g. surplus vehicles like ATVs) and tools for hunters to use at the Mary River HTO cabin. It was noted these items would be useful for hunters to have access to once caribou return to the area.

For Pond Inlet, we would like to see more tangible benefits, rather than just workshops like this. [Workshop #4 Participant]

Any kind of funds provided to communities and local businesses are always beneficial. There is interest in employment and business opportunities resulting from Mary River. There are a lot of people interested in these things. The barrier is that the opportunities aren't always disclosed and provided to the communities. [Workshop #4 Participant]

What about the HTO cabin? What if there were any surplus vehicles like an ATV left at the cabin that could be used by hunters? If the caribou ever returned, that would be something useful for hunters to have. Some sort of toolkit to repair vehicles could be left at the cabin. [Workshop #4 Participant]

The topic of caribou-related compensation was also discussed in the workshop. Workshop participants noted compensation may need to be provided to hunters for caribou that are killed by tote road traffic, or rendered inedible due to the ingestion of mine-related contaminants. While workshop participants suggested it may be possible for caribou killed by tote road traffic to be retrieved, stored, and provided to local residents by Baffinland, bruised and/or spoiled meat would not be appropriate to provide. Likewise, some workshop participants suggested Baffinland could organize a charter plane for local hunters to harvest caribou in areas where their population numbers are unaffected by mine development. Mitigation, monitoring and research, and compensation and benefits recommendations related to caribou are summarized in Table 8.

If a caribou ate contaminated food, like iron ore, and was affected, would I be compensated? [Workshop #4 Participant]

If a caribou was injured and was bleeding internally after being hit by a vehicle, it wouldn't be edible. Hunters don't really want bruised meat. We would have to be compensated for the kills, for the spoiled meat. If it's only dead overnight it's ok, if it's dead for a couple of days it's wasted meat. [Workshop #4 Participant]

They should store the meat that was hit by a vehicle; that would be better. [Workshop #4 Participant]

The meat [from caribou that are killed by vehicle strikes] should be dressed for consumption by local Inuit, if possible, and compensation has to be paid. [Verification Meeting Participant]

Baffinland should charter a plane to help us hunt caribou. [Workshop #4 Participant]

Issue	Expressed Community Recommendations
Mitigation	<ul style="list-style-type: none"> • Baffinland should continue working with local communities on decisions related to the Mary River Project • Baffinland should prepare for future increases in the North Baffin caribou population • Potential management strategies for the tote road include developing a caribou awareness program for truck drivers, implementing speed limits and traffic stoppage protocols, and the use of truck horns to scare large herds of caribou away • Fences and rails along the tote road may act as a barrier to migrating animals • Tote road vehicles could travel in tandem or in groups • Dust management could be enhanced by covering ore hauling trucks, ensuring trucks are properly maintained, and through better maintenance of (and improvements to) the tote road • Ensure the two locations used by hunters to cross the tote road in the winter remain clear of snow • If the tote road were to be closed to the public, Baffinland would need to provide an alternative route for land users to access the area
Monitoring and Research	<ul style="list-style-type: none"> • Increase use of Inuit observers in the ‘height-of-land’ surveys. Baffinland should work with local HTOs to identify appropriate observers. • Local Inuit should be involved in the Mary River Terrestrial Environment Working Group • Certain times of the year are better than others to conduct caribou surveys. These include spring, while snow is still on the ground, and in October. • Baffinland relies too heavily on aerial surveying and should focus more on ground-based surveying • Surveys should be expanded beyond the vicinity of the mine’s footprint • Reduce the number of helicopter flights used to move individuals between height-of-land survey locations, perhaps by building permanent encampments in existing survey locations for observers to use • Regularly monitor for future increases in caribou population numbers • Further research and monitoring of other, non-Project related impacts on caribou (e.g. wolf predation) would be useful
Compensation and Benefits	<ul style="list-style-type: none"> • More Project-related benefits should be provided to local communities • Mining-related funds provided to communities and local businesses can be beneficial. Communities are generally interested in the employment and business opportunities Mary River can provide. • Compensation may need to be provided by the company for caribou-related impacts

Table 8: Mitigation, monitoring and research, and compensation and benefits recommendations related to caribou identified in the community workshops

6.6 OTHER COMMENTS AND INFORMATION REQUESTS

A number of other comments and information requests were raised during the caribou workshop. For example, questions were raised on existing operations at Mary River such as how the Project was designed and currently operates. Questions on the Phase 2 proposal and future Project activities were also asked and pertained to the mine's lifecycle (e.g. ore estimates, production estimates, mine life estimates), mine infrastructure siting and design (e.g. tote road design, location of road camps, stockpile locations, Milne Port airstrip), planned usage of the tote road (e.g. amount of traffic, speed of traffic), and other Project aspects (e.g. use of IQ, rail line construction, speed of trains).

Discussion also occurred on how Project-related monitoring programs have operated to-date and how they would be designed for Phase 2. For example, the results from some of these studies (e.g. on terrestrial wildlife, birds, and vegetation) were requested. Suggestions were also made regarding the improvement of caribou monitoring programs, as detailed in Section 6.5. However, the impacts of dust on the environment (e.g. on freshwater, vegetation) was noted as a concern and further research and information on this topic was suggested. Some concern about Project-related impacts on Arctic char was additionally noted.

Other Phase 2 concerns were expressed during the workshop. For example, one individual expressed concern about the potential for invasive species to be found on board Baffinland's ships. Another individual from Arctic Bay stressed the importance of mine site remediation and clean-up at Mary River and noted this didn't occur in a satisfactory manner for the Nanisivik Mine. Some disappointment with the QIA was also expressed during the workshop. It was suggested the QIA doesn't always share the same views as the community of Pond Inlet or provide sufficient information to the community. Another individual noted economic opportunities related to Mary River (e.g. business opportunities) aren't always disclosed and provided to the communities. Another individual noted Baffinland will need to resolve the ship loading difficulties the company experienced in the summer of 2015, for future shipping seasons.

7. RESULTS – WORKSHOP #5 (PHASE 2 AND ARCTIC BAY)

7.1 OVERVIEW

This workshop focused on identifying potential Phase 2 interactions with the community of Arctic Bay. The Phase 2 proposal was first discussed with workshop participants and summaries of feedback obtained from previous community workshops held in Pond Inlet were reviewed. Subsequent discussions were held on a number of topics including community concerns related to Phase 2, and potential Phase 2-related mitigation and monitoring options. These discussions were generally structured around the previous community workshop themes of contemporary Inuit land use in the Eclipse Sound and Navy Board Inlet areas, shipping through ice, open water shipping, and caribou, although other topics were discussed as necessary.

The results of these discussions are summarized in Sections 7.2-7.6. These sections do not attempt to describe every detail raised in the workshop; rather, the aim is to present new information or major points of divergence from previous community workshops. Comments from the public open house component of Workshop #5 have also been integrated into the sections below, where relevant. Notes from both the invited persons workshop and public open house can be found in Appendix D.

7.2 CONTEMPORARY INUIT LAND USE IN THE ECLIPSE SOUND AND NAVY BOARD INLET AREAS

Contemporary Inuit land use activities in the Eclipse Sound and Navy Board Inlet areas were discussed with workshop participants and the seasonal land use maps prepared in Workshop #1 were reviewed. While workshop participants had some additions to make to these maps, they were generally small in number. This was likely due to most Arctic Bay land use activities being undertaken in closer proximity to the community (and away from the Eclipse Sound and Navy Board Inlet areas) and/or outside the boundaries of the base map utilized for Workshop #1. However, a number of new travel routes to/from Arctic Bay were added as was a fishing location used by some Arctic Bay residents. These changes have been captured in the seasonal land use maps presented in Section 3.2.

Potential Phase 2 interactions with Arctic Bay primarily pertain to Inuit travel routes that would cross the ship track. Interactions may also occur with some Inuit land uses that either overlap Phase 2 activities or are located on the opposite side of the shipping route (and which may become more difficult to access as a result of the ship track). Travel routes identified by Arctic Bay residents on the seasonal land use maps are used primarily for harvesting activities (e.g. for seal, caribou, narwhal, and floe edge hunting) and/or inter-community travel (e.g. between Arctic Bay and Pond Inlet). Inter-community travel is conducted to visit family members or attend in-community events, although harvesting will often occur along the way. Most of this travel was noted to occur using land-based routes. However, some inter-community boat travel through Navy Board Inlet will also occur, during Aujaq (end of July to September).

For greater clarity, workshop participants were asked to comment specifically on the amount of travel that typically occurs between Arctic Bay and Pond Inlet throughout the year. In Ukiaksaq (October to mid-November) it was noted only minimal travel will occur. In Ukiuq (mid-November to February) it was noted that people will generally only travel if they have to (e.g. for Christmas, funerals, other events), with under ten groups typically travelling to Pond Inlet during this time. However, 2-3 families will typically travel to Pond Inlet in December in order to visit relatives for Christmas or other events. In Upirngaksaq (March to May) it was noted that people may be travelling for the Nunavut Quest dog

team race (an annual event that has historically occurred between different northern Baffin Island communities around the months of April and May), local hockey tournaments, or other events. Upringaksaq was noted to be the busiest inter-community travelling period of the year, with April and May being the main travel months. At least ten groups were estimated to travel during this season, although it was noted there could be multiple snowmobiles travelling. In Upirngaaq (late May to July) the snow has melted so there is no overland inter-community travel that occurs. In Aujaq (end of July to September), there will be about five trips that occur.

7.3 SHIPPING THROUGH ICE

Arctic Bay workshop participants had a number of comments, questions, and concerns related to the shipping through ice component of the Phase 2 proposal. Many of these were similar to comments raised in previous community workshops held in Pond Inlet (e.g. questions about shipping schedules and operations, concerns about ship track crossing and land user safety, comments on potential marine wildlife impacts) and are generally not explored in detail here (although Section 4 and Appendix D can be consulted for further information). However, some valuable new information and past experiences with the Nanisivik Mine¹⁵ were shared.

A number of workshop participants described positive experiences their community had with the Nanisivik Mine. These included the provision of local jobs and community member access to the mine's sealift (and ability to import freight). Another workshop participant noted hunters were able to enjoy quicker than usual ice travel in the spring as a result of the ship track that was created. This is because water would drain off the ice and back into the ship track, creating a drier travel route (and in some cases reducing a typical six hour trip to a two hour trip). More generally, it was noted that Nanisivik ice breaking caused few serious concerns for the community of Arctic Bay, although it was acknowledged that Phase 2 will be different in many regards (e.g. Phase 2 will require significantly more shipping transits than Nanisivik).

The ice breaker came one time in May [for Nanisivik]. Afterwards it was June. It was also bringing in local supplies. It was bringing in equipment or supplies for the community too. I saw my truck on the ship. It was a big benefit for us. They should be doing that here too. They have to provide opportunity for communities to benefit. [Workshop #5 Participant]

In June and July, the water would drain off the surface and that's why the ship track became a highway. So smooth. Without that trail, it would take six hours. With the trail, it would take only two hours to get there. [Workshop #5 Participant]

We have experience and we know, there was more benefit to it than negatives. When you hear people saying it is negative or very bad to have the ship, most of us will say 'it was for the better'. If Pond Inlet people say it's all bad, we'll tell them there were more benefits than negatives. We got all sorts of reports from hunters. [Workshop #5 Participant]

¹⁵ The Nanisivik Mine was a lead-zinc mine that operated from 1976-2002 and was located approximately 20 km east of the community of Arctic Bay. While Nanisivik had its own town site and airport, it was connected by road to the community of Arctic Bay. Concentrate produced at the mine was shipped from the Nanisivik port site, including during ice-covered periods.

Living here and experiencing ice breaking here, there were no real serious concerns. We don't really have a real opposition to this idea of winter shipping... We know from our experience and we are telling you the truth. As long as nothing bad happens to the ship.
[Workshop #5 Participant]

Furthermore, some of the concerns Arctic Bay residents initially had about shipping through ice never materialized. One individual described concerns the community had about the impacts of ice breaking on narwhal but noted that rather than scaring narwhal away, ice breaking created access for narwhal and ended up benefiting local hunters. However, some minor and/or temporary effects associated with shipping through ice were noted. For example, one individual mentioned narwhal would at first flee when an ice breaker came near, but would eventually return to the area. Another individual added that overall changes (e.g. year to year) to the narwhal population did not occur as a result of Nanisivik's shipping activities. In another instance, a small number of dead seals near where a Nanisivik ship had passed were noted and reports of some seals losing their hearing as a result of shipping activities had been made. However, another individual described how seals will likely adapt to the noise and disturbance caused by shipping, simply by avoiding areas where shipping activity occurs.

The ship track was used by narwhal to migrate in because the ship was opening up the ice. But when the ice breaker came in the narwhals would scatter. After the ice breaker came in and things calmed down, the narwhal came back in. It had a very temporary impact.
[Workshop #5 Participant]

We didn't see any decrease year to year. We didn't notice any changes in the population or abundance of narwhal. There were no drastic changes to the numbers. [Workshop #5 Participant]

I noticed dead seals near the ship and they lost hearing too, so they gave us reports on that. Not too many though. We heard of reports of seals losing hearing. We report it to the conservation officer, who might have the reports. The seal was taken for testing. There were only 1-2 dead seals. Afterwards, there was a scientist working on seals and he was doing a study, but there were no real concerns. [Workshop #5 Participant]

Let's say if the ship came in the fall, the seals might avoid breeding in the space where they heard this noise. They might breed somewhere else. They can adapt to the conditions that are being brought to them. The seals already know there is too much activity, so they will go elsewhere to breed. If the ship is moving in the same place, the animals will know, they will only stick to the places where the ships aren't. They'll go a certain distance from the noise. The seals will avoid the area of activity. They are already prepared when the ice is frozen to give birth. [Workshop #5 Participant]

Workshop participants also commented on the positive relationship their community established with the mine and collaborative approaches to impact mitigation that were developed. For example, a method was developed to identify the most appropriate route for ships to take through the ice. This involved community members traveling out on the ice in advance of a ship arriving, to place drums marking a route the ship should follow. Community members would place these drums in areas where there were less baby seals present, so that ships could avoid coming into contact with them. In another instance, community members had expressed concerns about large pieces of landfast ice breaking off as a result of Nanisivik's shipping activities. A solution was then devised which involved the ship travelling

in a zig-zag fashion through the ice, rather than in a straight line, to help ensure the ice remained intact. More generally, good communication with the company was noted to have occurred and the company was said to have regularly informed the community about its operations and listened to their input.

*We talked with the company, they communicated well with us. The HTO was the first point of contact. We put drums out to mark the area for ships where there were less seals, for the ships to follow... There was no problem because they were truthful about where they were coming in. We showed the track they could go through to avoid the baby seals... We carried a whole bunch of drums to put on the ice and the ship went right beside the drums.
[Workshop #5 Participant]*

*The zig zagging route in Arctic Bay [taken by the Nanisivik ice breaker] was mainly for the hunters, to keep the ice from breaking off. We didn't like the idea of a straight ship track. But that was for our own purpose. I don't know if it would fit in the Pond Inlet area.
[Workshop #5 Participant]*

Those people used to come before we travelled on the ice. They looked for public input, they informed the community. It was useful to us. If we had concerns, it was expressed to the company. [Workshop #5 Participant]

Other comments related to the shipping through ice component of the Phase 2 proposal were expressed in the workshop. For example, concerns were expressed about the potential for lost snow machines and personal equipment in the ship track, as similar losses had occurred when Nanisivik was in operation. Other comments and concerns were expressed about slow re-freeze rates of the ship track (which could inhibit safe land user crossing), ice rubble piling up on the side of the ship's track (making it more difficult for land users to cross), and with regards to spills and ballast water exchange.

The lost equipment was the main concern for us. [Workshop #5 Participant]

The MV Arctic, coming back from Nanisivik with a full load, they came back on the same ship track. It was broken in more pieces, and we were not able to cross... MV Arctic only came in one time. Your ships will come in more frequently. I saw a video from Labrador, of them putting in an ice bridge. For Arctic Bay, we don't believe the ship track will freeze right away. There will be open water. [Workshop #5 Participant]

After the first pass [of the ice breaker], we could cross almost right away. After the second voyage, with a full load, that's when it really broke up and we couldn't cross. [Workshop #5 Participant]

We used to be out hunting narwhal in July. The ship would come in. We were able to get across. When it came back loaded, going back out, and the ice was in smaller pieces, it would not refreeze. In mid-winter, the ice would re-freeze. As soon as the ship would pass by, the small pieces would freeze over. The small pieces would pile up. We have a polynya near here because of the current. The water goes up on the ice around the polynya, builds up, piles up. The water on the ship track would do the same with passes. It builds up, freezes, and makes it difficult for travel. You could have scrapers or some equipment in areas where you're going to put an ice bridge, like a loader. I'm just saying this as a suggestion. [Workshop #5 Participant]

We have concerns similar to other communities... [Workshop #5 Participant]

Do you have a plan to clean spills up? [Workshop #5 Participant]

Would the ballast water be drained before you approach, or would you bring equipment instead of ballast? Would you dump or discharge the ballast water before entering [Milne Inlet]? [Workshop #5 Participant]

However, workshop participants expressed considerable interest in the use of removable bridges to cross the ship track and acknowledged they would be a much safer option than crossing the ship track without one. It was noted that Nanisivik did not deploy bridges in the past. This forced local land users to cross the ship track on their own accord and created potentially dangerous situations. A number of questions on how the removable bridges would be used and operated during Phase 2 were asked, and suggestions on communicating with local community members (e.g. on the location of crossings) were made.

When Nanisivik was bringing in the ice breaker, those of us that didn't know our lives, we were reckless. We were not concerned about our safety. Back then, we just tried to get across. With a bridge, our safety would be guaranteed. We could get across it safely. Without a bridge, it's not a guarantee. There was risk with crossing the Nanisivik ship's track. We didn't know then that a bridge was possible. Now we know we can take steps to be safer. [Workshop #5 Participant]

When we went to a meeting in Pond Inlet, there was a person from Labrador and he reported on making these bridges. I like the idea, though. [Workshop #5 Participant]

We would keep the people informed. Through the HTO or whoever, to keep us informed as to where the bridge is located. We would encourage people to use the bridge. [Workshop #5 Participant]

The bridges look helpful and easy. [Workshop #5 Participant]

Young people are travelling without regard to safety. A bridge would be a safe way to get across. If it's being used, it would provide a safe way to cross that ship track. Some of the young people are reckless. Protect yourself against liability. [Workshop #5 Participant]

7.4 OPEN WATER SHIPPING

Arctic Bay workshop participants had a number of comments, questions, and concerns related to the open water shipping component of the Phase 2 proposal. Some of these were similar to comments raised in previous community workshops held in Pond Inlet (e.g. questions about shipping schedules and operations, comments on potential marine impacts) and are generally not explored in detail here (although Section 5 and Appendix D can be consulted for further information). However, some new information and experiences were shared by workshop participants and are summarized below.

For example, questions and concerns about potential impacts to the marine environment (including marine mammals) from open water shipping were discussed. Some of these pertained to the

disturbance of wildlife from shipping activities, the potential for shipping-related spills, and ballast water exchange. However, workshop participants also acknowledged most Phase 2 shipping effects (in open water and through ice) would be experienced by the community of Pond Inlet, rather than Arctic Bay. Workshop participants also expressed support for the people of Pond Inlet during the review of the Phase 2 proposal.

Here in Arctic Bay, we would have no impact. But in Pond Inlet, I'm pretty sure Pond Inlet will have more concerns than Arctic Bay people. In summer, marine mammals will be dispersed more, so we know that Pond Inlet will have less marine mammals. When the Coast Guard is anchored in the bay, there are fewer seals. When the ship leaves, the marine mammals return. [Workshop #5 Participant]

This area, Eclipse Sound, might have less whales and narwhals due to increased traffic going through. They may come more to the Arctic Bay area. We share the same stock of narwhals. We know from the past there are less narwhals there. We know there are already impacts, compared to the past. It's mainly about Pond Inlet. We can't really do anything here. For us, it's more benefit. We'll get more narwhals. But I'm sympathetic to Pond Inlet. It's mixed emotions. [Workshop #5 Participant]

I'm worried about spill clean ups... [Workshop #5 Participant]

In Pond Inlet, it is their hunting ground. [Workshop #5 Participant]

I will follow the Pond Inlet people. I will support whatever they want. [Workshop #5 Participant]

Workshop participants also discussed impacts that were unlikely to occur from open water shipping. These participants highlighted the temporary nature of some shipping effects, the adaptability of certain marine mammal species to shipping-related disturbance, and experiences the community of Arctic Bay had with Nanisivik, amongst other topics.

We had a tanker anchored here. We had killer whales come in close to the tanker. I don't think it's a big concern to the marine mammals. Maybe they're attracted to the ship more than they are scared of it. [Workshop #5 Participant]

I think over time the marine mammals can get used to it. In the early days of the ships, animals used to go right to shore. We see seals behaving normally. It actually benefitted hunters because it herded narwhal close to shore. [Workshop #5 Participant]

We know as HTO members that in the summer the marine mammals move at their own discretion wherever they feel like. They are like you and me. We don't want to be rammed by a ship, so we move out of the way. I'm worried about spill clean ups, but ramming will never happen. [Workshop #5 Participant]

In the summer, this [shipping] is the only way to do it. Today there are seals and narwhal moving about normally, they're used to it. They're not threatened. If they hear something they don't like, they're going to go away from it. In open water, they can go anywhere. Summer is not a problem to me. [Workshop #5 Participant]

Ballast water is a concern to me, but from experience with the MV Arctic, they emptied all that ballast in our ocean, but we didn't see anything. We still see the bottom feeders [e.g. sculpin] and narwhal still feeding on them. From my own experience, I don't see any reason to be concerned about the impact. [Workshop #5 Participant]

Inuit are not concerned [about ballast water], but agencies like DFO, who have people who went to university, are more concerned about it. But, our only concern is what we heard from DFO, that's not our internal concern. [Workshop #5 Participant]

7.5 CARIBOU

Arctic Bay workshop participants had a number of comments, questions, and concerns related to caribou and the Phase 2 proposal. Many of these were similar to comments raised in previous community workshop discussions and are generally not explored in detail here (although Section 6 and Appendix D can be consulted for further information). However, some new information and experiences (e.g. with the Nanisivik Mine) were shared and are summarized below.

As in Workshop #4, participants from Workshop #5 confirmed the importance of caribou to local Inuit residents. Workshop participants also reviewed the caribou maps developed in Workshop #4 (see Figure 11 for a final version) and made a small number of revisions. Likewise, workshop participants confirmed North Baffin caribou are currently in a low part of their population cycle, but are expected to rebound sometime in the future. Various comments on caribou ecology and harvesting were also made.

We go caribou hunting from here and they hardly see any around here anymore. Some of us say now, that when the vegetation grows back and when it becomes edible for caribou, they will be back. It's going to be another generation or so... Caribou are not coming back overnight. [Workshop #5 Participant]

I grew up living here, around Igloodik. In 1946, we moved to this area. Earlier, there was caribou around. The whole Baffin had lots of caribou. When we were growing up, there were no caribou in the Arctic Bay area. People would travel to collect caribou hides for clothing. In the fall, they'd head back to the coast. The west side had no caribou. In the year 2000, the caribou started coming to the west coast. Even to Bylot Island. I thought it would be permanent to have caribou around. Perhaps they went south. They moved down towards Repulse Bay. They'll eventually come back. [Workshop #5 Participant]

There are no caribou now, but they will come back. We need to think of the future because they will eventually come back. [Workshop #5 Participant]

For the first herd of caribou going into the area, we were told not to harass them. Let them go and then the others behind them will follow the first group. They will keep going, no matter what the obstacles are. They will continue using the same trails. A herd of caribou, when they start moving, they all move the same direction. Let the first ones go through. [Workshop #5 Participant]

Caribou are only found in very specific areas. Hall Beach is where we would go for caribou right now. [Workshop #5 Participant]

Impacts which are unlikely to occur as a result of Phase 2 were discussed in the workshop. For example, one workshop participant described how caribou at the Nanisivik Mine were largely unperturbed by the mining operations. Another participant commented on a caribou sub-population that doesn't migrate to the Mary River area and is not expected to interact with the Project. However, it was again noted the North Baffin caribou population is expected to increase in the future and that Baffinland should be prepared for this. Discussion on potential dust and air quality-related impacts also occurred, although some individuals highlighted reasons why these issues were not of serious concern to them.

If there's going to be a road, I'm not concerned about the road. Caribou will not suddenly appear. They will gradually come in small groups at a time. We need to plan before that and biologists need to do a good study. We had the Nanisivik mine here and everyday there was traffic going from Arctic Bay to Nanisivik, when there were caribou around. Caribou were in the way of trucks, they didn't worry about the road going there. They were moving about like the road wasn't there. Even the airport, they were on the runway. With that number of caribou, it's not going to happen overnight. I don't have any problem with that road now, maybe in 10 years... We would drive around caribou and they would hardly glance at us. There will be a lot more vehicles at Mary River, just make sure we're not running into them all the time. Mary River is very close to here and we can be there overnight on skidoo. [Workshop #5 Participant]

Caribou from the east and the proposed rail line, it was a concern that they can't move east to west. The elders here have been saying that the caribou from the Hall Beach area have migrated. They moved further to the west side, off your map. They don't go to Mary River, in the east. They go to the west. Have you started to verify that these are two different stocks of caribou? [Workshop #5 Participant]

The dust from the land is not a problem. The vehicle and blasting dust have no effect. I don't have a concern. It's very dusty in Arctic Bay when the snow melts. Even the buildings will be covered. Our mountain will be covered. We're still alive, we're still healthy. We keep saying let's pave the road, but we live with dust. It's just natural. I don't have a concern with it. We had Nanisivik and the road was mixed with the concentrate and other contamination. When the truck was loaded with concentrate, it would scatter the concentrate on the road. You can see it, the black concentrate. That dust we're talking about at Mary River is natural and not contaminated. It's only dust from the earth. Even with blasting, there is very minimal dust and it falls down. It's confined to one area. [Workshop #5 Participant]

When Nanisivik was here, dust scattered to the ice, and there was no smoke. At Mary River, there's no smoke, there's no processing. There is less concern than we had with Nanisivik's production. I agree with them. [Workshop #5 Participant]

Comments and suggestions on potential mitigation measures were also raised during the workshop in Arctic Bay. For example, workshop participants highlighted the importance of developing mitigation measures for the tote road (e.g. to reduce the likelihood of caribou being struck by vehicles) and for Baffinland to work together with community members (in both Arctic Bay and Pond Inlet) in developing management solutions for caribou.

For mitigation, speed limits and stopping zones could be used. If signs are posted regarding these, it might help the drivers. Put it in a policy. They need some signs that they can read in their vehicle. [Workshop #5 Participant]

Perhaps in the future, if we start seeing caribou or are hitting caribou [on the road], we can get together and try to find a solution. But we want to be kept informed. If anything happens to the wildlife, let us know. Let us know the impact. Right now, we don't have any caribou so it's difficult to talk about. We don't have the evidence. We'll get together in the future, after a number of years. We'll do an actual case, if something happened. We can't really forecast what will happen. We don't have caribou now so it's hard to talk about. [Workshop #5 Participant]

Pond Inlet, Arctic Bay, and Baffinland can find a solution, as long as they work together and there is good communication... We can look at each concern and consider ways to mitigate. [Workshop #5 Participant]

I'm agreeing with Pond Inlet on their concerns, because they are the closest community. They'll have the greatest impact. [Workshop #5 Participant]

7.6 OTHER COMMENTS AND INFORMATION REQUESTS

In addition to the previous discussions, a number of other comments and information requests were raised during the workshop. For example, workshop participants had various questions about current and future Project operations. These pertained to mine and port site activities, shipping activities and schedules, tote road activities, and the timing of Phase 2, amongst other topics. As in previous workshops, comments on employment opportunities and potential compensation and benefits from the mine were also raised. Furthermore, participants expressed appreciation for being involved in the workshop discussions and highlighted the importance of Baffinland working together with community members in the future. Additional details on these and other comments made during Workshop #5 can be found in Appendix D.

8. SUMMARY AND CONCLUSIONS

Between March 2015 and May 2016 a series of community workshops were held in the communities of Pond Inlet and Arctic Bay to discuss and gather feedback on Baffinland's Phase 2 proposal. These workshops were focused on five main themes:

- Contemporary Inuit land use in the Eclipse Sound and Navy Board Inlet areas
- Shipping through ice
- Open water shipping
- Caribou
- Phase 2 and Arctic Bay

A number of discussions were held during these workshops and opportunities were provided for local residents to learn more about the Phase 2 proposal, share comments and concerns, and provide suggestions on how the proposal could be improved.

The first workshop, *Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas*, reviewed seasonal conditions and land use activities for the Inuit seasons of Ukiaksaq (October to mid-November), Ukiuq (mid-November to February), Upirngaksaq (March to May), Upirngaaq (late May to July), and Aujaq (end of July to September) in the Eclipse Sound and Navy Board Inlet areas. This workshop documented a number of Inuit land use activities, some of which the Phase 2 proposal may interact with. In addition to documenting land use information textually and on seasonal maps, graphical calendars were created to provide a more detailed timeline of selected land use activities throughout the year. Discussion and mapping of key narwhal migration and lifecycle activities in the Eclipse Sound and Navy Board Inlet areas also occurred during the workshop.

The second workshop, *Shipping Through Ice*, focused on obtaining community feedback pertaining to the shipping through ice component of Phase 2. Concerns about the effects of Phase 2 on the marine environment (including marine mammals) were raised, as were concerns on Inuit travel routes and land use activities being impeded by ice breaking activity and the creation of a ship track. However, various mitigation, monitoring and research, and compensation and benefits recommendations were made by workshop participants. Interest was expressed in the use of ship track crossing methods (e.g. removable bridges) and workshop participants discussed a number of ship track safety, crossing, and marking considerations. Workshop participants also commented on preferred timing, routing, and notification methods for shipping through ice activities, in addition to other related topics. Finally, workshop participants described ice conditions along the proposed Phase 2 shipping route and other locations in the Eclipse Sound and Navy Board Inlet areas.

The third workshop, *Open Water Shipping*, focused on obtaining community feedback pertaining to the open water shipping component of Phase 2. Some concerns about the effects of Phase 2 on the marine environment (including marine mammals) were again raised, as were some concerns on Inuit land use activities being impeded by open water shipping activities. However, open water shipping was generally noted to raise much fewer concerns than shipping through ice. Various mitigation, monitoring and research, and compensation and benefits recommendations were also made by workshop participants, in addition to discussing other related topics. Finally, workshop participants commented on the acceptability of Baffinland's proposed trans-shipping sites, and described shipping route conditions

along the proposed Phase 2 shipping route and other locations in the Eclipse Sound and Navy Board Inlet areas.

The fourth workshop, *Caribou*, focused on obtaining community feedback pertaining to the Phase 2 proposal and caribou. Various North Baffin caribou ecology topics were discussed, including population dynamics, migration patterns, behaviour, and food sources. Contemporary caribou harvesting activities in the North Baffin region were also reviewed and community concerns pertaining to the Phase 2 proposal and caribou were documented. For example, concerns pertaining to existing Project-related impacts, harvesting and land use, the tote road, dust, and monitoring programs were all reviewed. Likewise, various mitigation, monitoring and research, and compensation and benefits recommendations were made by workshop participants, in addition to discussing other related topics.

The fifth and final workshop, *Phase 2 and Arctic Bay*, focused on obtaining feedback from the community of Arctic Bay on the Phase 2 proposal. Summaries of feedback obtained from the previous community workshops held in Pond Inlet were reviewed and discussions on a number of related topics ensued. These discussions were generally structured around the previous community workshop themes of contemporary Inuit land use in the Eclipse Sound and Navy Board Inlet areas, shipping through ice, open water shipping, and caribou, although other topics were discussed as necessary. While many comments raised in this workshop were similar to those documented in the previous community workshops, some valuable new information and experiences (e.g. from the Nanisivik Mine) were also shared.

Completion of these five community workshops has provided Baffinland with valuable community feedback on the Phase 2 proposal. It has also helped identify a number of potential mitigation, monitoring and research, and compensation and benefits measures that could be employed moving forward. Additional outcomes from these workshops have included continued relationship building and information sharing with the residents of Pond Inlet and Arctic Bay in regards to the Mary River Project, and satisfaction of some Phase 2 public consultation requirements related to the environmental assessment that will be conducted. The success of these workshops was due in large part to the meaningful participation of community members from Pond Inlet and Arctic Bay, their willingness to discuss a diverse array of issues in an open and transparent manner, and the cooperative atmosphere that was established between all parties in attendance. Baffinland would like to again thank all community members and QIA representatives who participated in these workshops for allowing this meaningful dialogue to occur.

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APPENDIX A: WORKSHOP PHOTOS



Workshop #1 – Invited Persons



Workshop #1 – Invited Persons



Workshop #1 – Public Open House



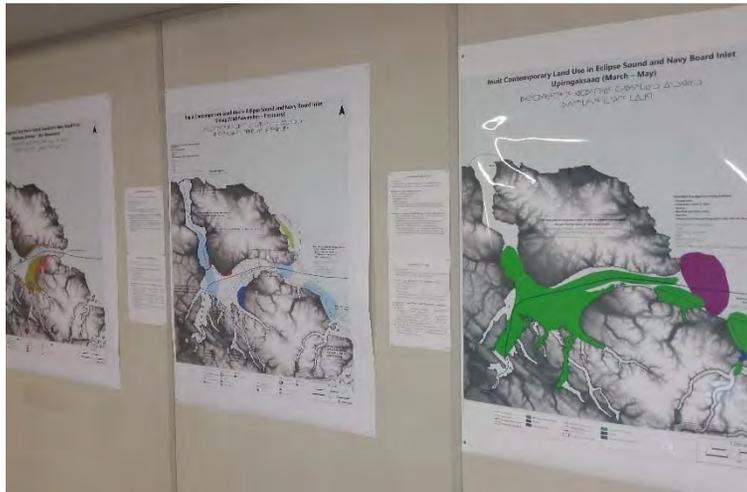
Workshop #1 – Public Open House



Workshop #2 – Invited Persons



Workshop #2 – Invited Persons



Workshop #2 – Public Open House



Workshop #2 – Public Open House



Workshop #3 – Invited Persons



Workshop #3 – Invited Persons



Workshop #3 – Public Open House



Workshop #3 – Public Open House



Workshop #4 – Invited Persons



Workshop #4 – Invited Persons



Workshop #4 – Invited Persons



Workshop #4 – Public Open House



Workshop #5 – Invited Persons



Workshop #5 – Invited Persons



Workshop #5 – Public Open House



Workshop #5 – Public Open House



Verification Meeting



Verification Meeting



Verification Meeting



Verification Meeting

APPENDIX B: WORKSHOP CONSENT FORMS

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop #1: Contemporary Inuit Land Use Date: March 3-4, 2015 Location: Baffinland Resource Centre Pond Inlet, Nunavut

Inuit Qaujimajatuqangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

By signing this form, you understand the purpose of these IQ workshops, you wish to participate, and you give us consent to record your words and use the information you provide. You are also free not to participate in the workshop. You may request that your name be included, or not included in any reports and presentations, by checking the appropriate box next to your name.

Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Abrian (Jimmy) Pitsedak	<i>Abrian Jimmy Pitsedak</i>	M.H.T.O	✓		
Kunuk (Mrs David) Gamanig	<i>Kunuk Gamanig DG</i>	High School	✓		
Michael Inuaruk	<i>LAD Δ Δ Δ Δ Δ</i>	Nosivvik High School	✓		
Joshua Arreak	<i>Joshua Arreak</i>	Hamlet - Pond Inlet	✓		
	<i>SANGLA POND INLET</i>		✓		
Lucy Pudlat	<i>POND TALKI</i>	HAMLET	✓		

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: Public Workshop Date: March 5 2015 Location: Pond Inlet NL.

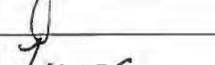
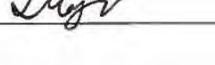
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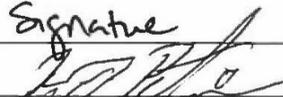
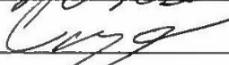
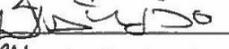
Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

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Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
				✓	
Thomas Ruyterlyk					
Jacob Inuarak			✓		
Enoosie Inuarak		QIA	✓		
Troy Rutzelaw		DOE			will not modify map
Paul MUCPA					

Name	Signature	Representative Group	Yes, use my name here	No, you may not use my name.	Other.
Thomas Peterowski					
Caren Elvean					Sign in
Shelly Elvean	Shelly on				Sign in
MARN KIMMERSWALD					
David Qamanig					
Moshikobek	Moshikobek.				
Colin Saunders					

Baffinland contact information: Jennifer St. Paul Butler, Environmental Analyst, Baffinland Iron Mines Corporation, Tel: (416) 364-8820 x 5050, Email: jennifer.stpaulbutler@baffinland.com

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: Workshop 2 Date: Apr. 27-29 2015 Location: Pond Inlet

Inuit Qaujimaqatugangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

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Please read and sign below if you agree.

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Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
JOSHUA ARREAK	<i>Joshua Arreak</i>	Hauld of Pond/Inlet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
JIMMY PITSEOLAK	<i>Jimmy Pitseolak</i>	Mittimatalik H.T.O.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	modern I.Q.
KINUK QAMANTY	<i>Kinuk Qamanty</i>	Nasivvik High school	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Savanna Killiktee	<i>S Killiktee</i>	Nasivvik High School	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
LUDY PUSOLEK	<i>Ludy Pusolek</i>	Q.S. BORD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ELIJAH P.	<i>E. P.</i>	H.T.O.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: Public Workshop #2 Date: April 30th 2015 Location: Old hotel Pond Inlet, NU

Inuit Qaujimagatuqangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

By signing this form, you understand the purpose of these IQ workshops, you wish to participate, and you give us consent to record your words and use the information you provide. You are also free not to participate in the workshop. You may request that your name be included, or not included in any reports and presentations, by checking the appropriate box next to your name.

Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Thomas Petoalik		P.E.C.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Joel Nashoo		—	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Pond community		—	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
PATRICK SANGOYA		n/a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Carolines K. Nuteak		DEA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		—	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

NAME	SIGNATURE	REPRESENTING	YES, YOU MAY USE MY NAME	NO, YOU MAY NOT USE MY NAME	OTHER INSTRUCTIONS
Lamech Kadloo			✓		
Tommy Peterloosi			✓		
Simeonie OOROVA	Simeonie OOROVA		✓		
Netluselah Atagotak	M. Atagotak		✓		
Paul mupā	Paul mupā		✓		
h. C. Aced/S	(Mayor Charlie)		✓		
Achikcajigak			✓		

Baffinland contact information: Jennifer St. Paul Butler, Environmental Analyst, Baffinland Iron Mines Corporation, Tel: (416) 364-8820 x 5050, Email: jennifer.stpaulbutler@baffinland.com

Appendix A: Proposed consent form (to be translated)

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: Open Water Shipping Date: Oct 25-27, 2015 Location: Pond Inlet, Nunavut

Inuit Qaujimagatuqangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

By signing this form, you understand the purpose of these IQ workshops, you wish to participate, and you give us consent to record your words and use the information you provide. You are also free not to participate in the workshop. You may request that your name be included, or not included in any reports and presentations, by checking the appropriate box next to your name.

Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Adrian Jimmy Pitseolak	<i>Adrian Jimmy Pitseolak</i>	M.H.T.O	X		X
Kuuk Qamanig	<i>Kuuk Qamanig</i>	N.H.S	X		
Michael Inuarak	<i>Michael Inuarak</i>	N.H.S	X		
ELIJAH PANIPAKOCHU	<i>Eljah Panipakocho</i>	H.T.O.	X		
Lindsey Qanguq	<i>Lindsey Qanguq</i>	N.H.S	X		
P. SANCOUP	<i>P. SANCUP</i>	A.S. b.N.C.R	X		

Appendix A: Proposed consent form (to be translated)

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: WORKSHOP #3 OPEN WATER SHIPPING PUBLIC WORKSHOP Date: OCTOBER 28 2015 Location: COMMUNITY HALL, POND INLET

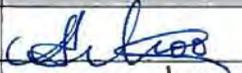
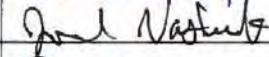
Inuit Qaujimagatugangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

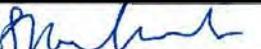
Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

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Please read and sign below if you agree.

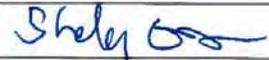
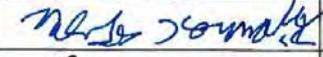
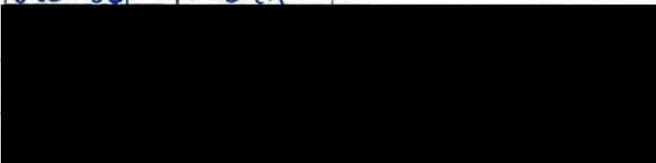
I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Samson Etkoo		stake holder	YES		
Joel Nastuk		Inuit	yes		
Joe Macca			yes		
				no	
Phoda Kemerre			Yes		
Mary Simonie			YES		

JOSAH ATAGOOK		Inuk	yes		
				* NO *	
Simon Markosak		Inuk	yes		
Gesoni Killiktoe		Inuk	Yes.		
Lee Takawgak		Inuk	yes		
Simeonie Enook		Inuk	yes		
Shan Peter/...		Inuk	yh		
Seemee AKSARUK		INUK	yes		
				NO	
Levi Qamanik		Inuk	yes		
Simeonie OATOOVA	S.O.	Inuk	yes		
Alloo Ioo Atagook		Inuk	yes		
NORMAN KOONOO		INUK	YES		
Lizzie Simonie			yes		
Jamie Enook		Inuk	yes		
Iemish Koonook		high school	yes		

Baffinland contact information:

Jennifer St. Paul Butler, Environmental Analyst, Baffinland Iron Mines Corporation, Tel: (416) 364-8820 x 5050, Email: jennifer.stpaulbutler@baffinland.com

Shelly Elverum	Shelly 				No IQ only QQ
James Innuitig			X		
Nancy Kilukishak	Nancy Kilukishak		X		
Cindy Angetsiak	Cindy Angetsiak		X		
Andrew Kasamak	Andrew K		X		
HOSERS Koonak			X		
Nellie George			X		
				X	
Δεηλ Δωδ994			X		
Joshua Arneak					
			X	X	
			X		
Masa Donger			X		
Lasamense			X		
Ii ATAD SUAT			X		
James Pitivank			X		

Baffinland contact information:

Jennifer St. Paul Butler, Environmental Analyst, Baffinland Iron Mines Corporation, Tel: (416) 364-8820 x 5050, Email: jennifer.stpaulbutler@baffinland.com

Appendix A: Proposed consent form (to be translated)

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: WORKSHOP #3 OPEN WATER SHIPPING PUBLIC WORKSHOP Date: OCTOBER 28 Location: COMMUNITY HALL, POND INLET

Inuit Qaujimajatuqangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

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Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
RHODA KOONOO	<i>Rhoda Koonoo</i>		<input checked="" type="checkbox"/>		
HAM	<i>KADLGO</i>		<input checked="" type="checkbox"/>		
Abraham Koonuk	<i>[Signature]</i>		<input checked="" type="checkbox"/>		
STAN OMIK	<i>[Signature]</i>		<input checked="" type="checkbox"/>		
				<input checked="" type="checkbox"/>	
				<input checked="" type="checkbox"/>	

				X	
Bryan Sivona	<i>[Signature]</i>		X		
Rueyus Ootooa	<i>[Signature]</i>				
				X	
				X	
				X	
Jactatak Kalluk	<i>[Signature]</i>		✓		
James Kunuk	James Kunuk		✓		
				X	

Baffinland contact information:

Jennifer St. Paul Butler, Environmental Analyst, Baffinland Iron Mines Corporation, Tel: (416) 364-8820 x 5050, Email: jennifer.stpaulbutler@baffinland.com

1/2

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: Workshop 4: Caribou Phase 2 Date: Nov 20, 21, 22 2015 Location: Pond Inlet, Nunavut

Inuit Qaujimagatuqangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

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Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Abraham Kublu	A. Kublu	Hamlet of Pond Inlet	Yes		Yes.
Joshua Arreak	Joshua Arreak	Hamlet of Pond Inlet	Yes		Okay
Eliij PAMPAKKOOSTO	Elija	H.T.O. - Pond Inlet	Yes.		Yes.
Jimmy Pitseolsk	Jimmy Pitseolsk	H.T.O.	YUP		YUP
Michael Quanna	Michael Quanna	Hamlet of Arviq	YES		YES
Andrew Muckga	Andrew Muckga	H.T.O.	Yes		Yes

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: Workshop #4 CARIBOU Date: MAY 8 2016 Location: POND INLET, NU.
 (open house)

Inuit Qaujimagatuqangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

By signing this form, you understand the purpose of these IQ workshops, you wish to participate, and you give us consent to record your words and use the information you provide. You are also free not to participate in the workshop. You may request that your name be included, or not included in any reports and presentations, by checking the appropriate box next to your name.

Please read and sign below if you agree.

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Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Joel Nashook	<i>[Signature]</i>	community	yes		none
Sharon Ootok	<i>[Signature]</i>	"	yes		none
Silas Takangak	<i>[Signature]</i>		yes		
Della Jo Takangak	<i>[Signature]</i>	—	—		—
Samantha Eble	<i>[Signature]</i>	—	yes		none
Rosie Koolto	<i>[Signature]</i>		yes		

Eva Kadloo	Eva Kadloo	Yes		
Andy T. O	Andy T. O	Yes		
COLEGE/CO	COLEGE/CO			
DENNY K	Denny Kadloo	Yes		
BOAZIE O		Yes		
Jesse Nider	Jesse	Yes		
Amie Okerok	Amie Okerok	Yes		
Therese K. Toke	Therese K. Toke	Yes		
Joseph Utge	John	Yes		
Gisa Inuarak	Gisa	Yes		
Larry Kadloo		Yes		

Baffinland contact information:

Jennifer St. Paul Butler, Environmental Analyst, Baffinland Iron Mines Corporation, Tel: (416) 364-8820 x 5050, Email: jennifer.stpaulbutler@baffinland.com

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: Workshop #5 Arctic Bay Date: May 5-7 Location: Hamlet Chambers, Arctic Bay

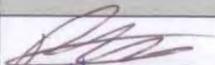
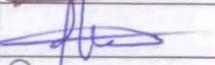
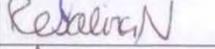
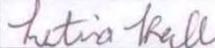
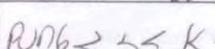
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Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Peter Autut		Q.I.A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
JOBIE ATTITAQ		H.TO. ARCTIC BAY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rosalina Naqitarnik		Inuviala school	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Letia Kalluk		High School representative	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RUN6 & K.S.		ΔOLR:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: WORKSHOP #15 PUBLIC OPENHOUSE Date: MAY 7 2016 Location: ARCTIC BAY, NU.

Inuit Qaujimagatugangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

By signing this form, you understand the purpose of these IQ workshops, you wish to participate, and you give us consent to record your words and use the information you provide. You are also free not to participate in the workshop. You may request that your name be included, or not included in any reports and presentations, by checking the appropriate box next to your name.

Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
Mishak Alkurit		Interpreter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		Arctic Bay	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
		Arctic Bay	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Roxanne Kiangag			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		Arctic Bay	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
		Arctic Bay	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Kataisio Attagutsiak	Kataisio Attagutsiak	Interpreter	✓		
Wapik Attagutsiak	Wapik Attagutsiak		✓		
Lily Kigutag	Lily Kigutag		✓		lilykigutag@hotmail.com
Cathy Aola	Cathy Aola		✓		
Thomas Aola	Thomas Aola		✓		
Cindy Kunuk	Cindy Kunuk		✓		

Baffinland contact information: Jennifer St. Paul Butler, Environmental Analyst, Baffinland Iron Mines Corporation, Tel: (416) 364-8820 x 5050, Email: jennifer.stpaulbutler@baffinland.com

INUIT QAUJIMAJATUQANGIT STUDIES SUPPORTING THE MARY RIVER PROJECT

Workshop Title: VERIFICATION SESSION Date: MAY 9-10/16 Location: POND INLET, NU

Inuit Qaujimagatujangit (IQ) is described as Inuit knowledge of the land and water, wildlife, and Inuit customs, beliefs and values. IQ workshops are being held to collect information on Baffinland Iron Mines Corporation's (Baffinland) Phase 2 proposal for the Mary River Project. The information you provide will be used to help plan the Mary River Project and to support an environmental impact assessment of the Phase 2 proposal. Baffinland may only use the knowledge you share in the development of impact assessments for the Project; you will retain your ownership rights (if any); you are not being asked to give away or waive any rights that you might have (if any) to the IQ collected from you.

Please be advised that what we talk about at this workshop may be audio recorded and photographs may be taken. The verbal, written, and spatial information you provide in this workshop may be used in publically available reports and presentations for Baffinland's Mary River Project. The information used may include personal information about you, such as your name and community. Baffinland and the Qikiqtani Inuit Association (QIA) are working together to hold these workshops, and in accordance with the Inuit Impact and Benefit Agreement (IIBA) signed by Baffinland and the QIA, all original copies of IQ workshop materials will be returned to the QIA. QIA will serve as steward of any IQ collected at the workshops and by signing below, QIA has your consent to keep all IQ collected from you in its records and QIA may use it for any future purposes. Copies of these materials will also be provided to the community of Pond Inlet and Baffinland will retain copies of all workshop materials for their own files. Please note the QIA has previously approved the methodology used in this workshop.

By signing this form, you understand the purpose of these IQ workshops, you wish to participate, and you give us consent to record your words and use the information you provide. You are also free not to participate in the workshop. You may request that your name be included, or not included in any reports and presentations, by checking the appropriate box next to your name.

Please read and sign below if you agree.

I have been fully informed of the objectives of the study being conducted. I understand these objectives of the study and consent to having my information documented for the study. I understand that steps will be undertaken to ensure that the information I share will remain confidential unless I consent to being identified. I also understand that I am free not to participate in the study if I choose.

Name (please print)	Signature	Representing (community or organization, if applicable)	YES, you may use my name	NO, you may NOT use my name	Other instructions on the use of personal information
JOSHUA ARREAK	<i>[Signature]</i>	HANLET	YES		
KINUK QAMAVIQ	<i>[Signature]</i>	High School	<input checked="" type="checkbox"/>		
Savanna Killiktee	<i>[Signature]</i>	Nasiivvik high school	YES		
Tim. AKSARDUK	<i>[Signature]</i>	INLCCTDO	<input checked="" type="checkbox"/>		
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<input checked="" type="checkbox"/>		
<i>[Signature]</i>	<i>[Signature]</i>	H.T.O.	<input checked="" type="checkbox"/>		

APPENDIX C: WORKSHOP QUESTIONNAIRES AND DATA COLLECTION GUIDES

Workshop #1 Seasonal Calendar Data Collection Guide

Theme	Description (Note – Information may be textual or spatial)
Month or season	
Weather conditions <ul style="list-style-type: none"> • Temperature • Sunlight • Precipitation 	
Sea ice conditions	
Important sea-ice/ocean travel corridors	
Travel methods used <ul style="list-style-type: none"> • Snow machine • Dog team • Boat • ATV 	
Land use activities and locations <ul style="list-style-type: none"> • Marine mammal harvesting <ul style="list-style-type: none"> ○ Seal (e.g. ringed, bearded, harp) ○ Narwhal ○ Beluga ○ Bowhead ○ Killer whale ○ Walrus ○ Polar bear • Fishing • Camping / cabin trips and touring • Inter-community travel • Travel to inland areas (e.g. for hunting) • Floe edge hunting and camping • Tourism (e.g. park use, polar bear hunting, floe edge tourism) • Birds and egg harvesting (e.g. geese, cliff nesting birds) • Other marine resources (e.g. seaweed, clams, mussels) 	
Land use intensity <ul style="list-style-type: none"> • None (the activity does not occur during this time period) • Low (the activity occurs, but not often) • Medium (the activity occurs often) • High (the main period when this activity occurs) 	
Other land use information <ul style="list-style-type: none"> • Approximate number of land users participating in activities • Types of people/groups engaged in land use activities • Length of time land users are engaged in particular activities (e.g. day trips, weekends, multi-day trips) • Other 	

****Notes****

- Important sea-ice/ocean travel corridors and land use areas will be spatially documented on monthly/seasonal maps. However, detailed land use mapping will not occur as the original IQ study has already documented much of this information.
- Only sea ice and ocean use in the Eclipse Sound area will be focused on for the seasonal

calendar. Terrestrial land uses will not be documented in any detail. Information on terrestrial uses, when provided by IQ holders, will not be discouraged or ignored, but will be recorded in a summarized manner instead.

Workshop #2 Questionnaire / Data Collection Guide

1. Now that you've had an opportunity to learn more about the shipping through ice component of Baffinland's Phase 2 proposal, what are your general impressions of it?
2. Do you have any concerns you would like to share with us regarding the shipping through ice component of the Phase 2 proposal? Specifically with regards to:
 - a. Inuit land use. If so, please describe the land use you are concerned about, why you are concerned, and the time of year in which your concern relates to.
 - b. Marine mammals and the marine environment. If so, please describe the marine mammals/marine environment component you are concerned about, why you are concerned, and the time of year in which your concern relates to.
 - c. Other. If so, please describe your concern in more detail and the time of year in which it relates to (if applicable).
3. Do you have any suggestions as to how your concerns might be alleviated (i.e. suggested mitigation and monitoring options)? Specifically with regards to:
 - a. Inuit land use
 - b. Marine mammals and the marine environment
 - c. Other
4. What are your thoughts on the shipping through ice mitigation and monitoring options discussed by Baffinland in this workshop? Do you think they are a good idea? Can they be improved? If so, how?
 - a. Ship track crossing options (e.g. methods, locations, timing, community notification, other logistical matters)
 - b. Monitoring options
 - c. Employment/business opportunities
 - d. Other
5. Can you describe what the ice conditions are like along:
 - a. The proposed Phase 2 shipping through ice route in Eclipse Sound?
 - b. Navy Board Inlet and Lancaster Sound?

Workshop #3 Questionnaire / Data Collection Guide

1. Now that you've had an opportunity to learn more about the open water shipping component of Baffinland's Phase 2 proposal, what are your general impressions of it?
2. Do you have any concerns you would like to share with us regarding the open water shipping component of the Phase 2 proposal? Specifically with regards to:
 - a. Inuit use of the marine environment
 - b. Marine mammals
 - c. Other
3. How would you characterize Inuit hunters' current interactions with open water shipping?
4. Do you have any suggestions as to how your concerns might be alleviated (i.e. suggested mitigation and monitoring options)? Or how conflicts between Baffinland and hunters can be avoided? Specifically with regards to:
 - a. Inuit use of the marine environment
 - b. Marine mammals and the marine environment
 - c. Other
5. Among the potential trans-shipping locations in Milne Inlet presented by Baffinland, are there any that are preferable/less preferable to you? Why?
6. What are your thoughts on the open water shipping mitigation and monitoring options discussed by Baffinland in this workshop? Do you think they are a good idea/bad idea? Can they be improved? If so, how?
 - a. Mitigation options (1st avoid the impact to the extent possible, 2nd minimize the impact to the extent possible, 3rd mitigate the impact to the extent possible)
 - b. Monitoring options (monitoring that can compare predicted versus actual impacts)
 - c. Employment/business opportunities
 - d. Other
7. Can you describe what the ocean and boating conditions (e.g. wind, currents, tides, hazards, icebergs,) are like along:
 - a. The proposed Phase 2 shipping route in Eclipse Sound and Pond Inlet?
 - b. Navy Board Inlet and Lancaster Sound?

Workshop #4 Questionnaire / Data Collection Guide

1. Now that you've had an opportunity to learn more about Baffinland's Phase 2 proposal, what are your general impressions of it?
2. Do you have any concerns you would like to share with us regarding potential caribou interactions with the proposed Phase 2 activities? Specifically with regards to:
 - a. Caribou populations. If so, please describe what exactly you are concerned about, why you are concerned, and the time of year in which your concern relates to.
 - b. Inuit harvesting of caribou. If so, please describe what exactly you are concerned about, why you are concerned, and the time of year in which your concern relates to.
 - c. Other. If so, please describe your concern in more detail and the time of year in which it relates to (if applicable).
3. Please describe the time horizon in which you expect to see an increase in caribou population numbers in the northern Baffin Island region.
4. Please describe the general lifecycle and ecology of northern Baffin Island caribou, using months/seasons for reference if possible [note: mapping may occur].
5. Please describe contemporary Inuit caribou harvesting activities in the northern Baffin Island region, using months/seasons for reference if possible [note: mapping may occur].
6. Do you think that the tote road activity described will prevent caribou populations from recovering or slow recovery?
7. Do you have any suggestions as to how your concerns might be alleviated (i.e. suggested mitigation and monitoring options)? Specifically with regards to:
 - a. Caribou populations
 - b. Caribou interactions with the road, and traffic effects on caribou movement
 - c. Inuit harvesting of caribou
 - d. Other
8. What are your thoughts on the mitigation and monitoring options for caribou discussed by Baffinland in this workshop? Do you think they are a good idea/bad idea? Can they be improved? If so, how?
 - a. Mitigation options
 - b. Monitoring options
 - c. Employment/business opportunities
 - d. Other

Workshop #5 Questionnaire / Data Collection Guide

1. Is the information collected during Workshop #1 (contemporary Inuit land use) accurate and complete? Does any information need to be added or modified? Specifically with regards to:
 - a. Inuit land use
 - b. Environment / wildlife
 - c. Other

2. Is the information collected during Workshop #2 (shipping through ice) accurate and complete? Does any information need to be added or modified? Specifically with regards to:
 - a. Inuit land use
 - b. Environment / wildlife
 - c. Community concerns
 - d. Mitigation, monitoring, and compensation recommendations
 - e. Shipping route conditions in Eclipse Sound and Navy Board Inlet
 - f. Other

3. Is the information collected during Workshop #3 (open water shipping) accurate and complete? Does any information need to be added or modified? Specifically with regards to:
 - a. Inuit land use
 - b. Environment / wildlife
 - c. Community concerns
 - d. Mitigation, monitoring, and compensation recommendations
 - e. Trans-shipping locations
 - f. Shipping route conditions in Eclipse Sound and Navy Board Inlet
 - g. Other

4. Is the information collected during Workshop #4 (caribou) accurate and complete? Does any information need to be added or modified? Specifically with regards to:
 - a. Inuit land use
 - b. Environment / wildlife
 - c. Community concerns
 - d. Mitigation, monitoring, and compensation recommendations
 - e. Other

APPENDIX D: WORKSHOP NOTES

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #1: Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas
-Invited Persons Workshop Notes-

Participants:

Joshua Arreak (Hamlet of Pond Inlet nominee)	Jennifer St Paul Butler (Baffinland)
Ludy Pudluk (Hamlet of Pond Inlet nominee)	Jason Prno (Jason Prno Consulting Services Ltd.)
Jimmy Pitseolak (Pond Inlet HTO nominee)	Jason Lewis (Avati)
Elijah Panikpakoochoo (Pond Inlet HTO nominee)	Justin Buller (QIA)
Joanasie Mucpa (Pond Inlet HTO nominee)	Jeff Higdon (Consultant to QIA)
Michael Inuarak (Nasivvik High School nominee)	
Kunnuk Qamaniq (Nasivvik High School nominee)	
Timothy Aksarjuk (QIA nominee)	
Paniloo Sangoya (QIA nominee)	

Dates:

March 3-4, 2015

Other Information:

At the beginning of the workshop, Baffinland spent time presenting details of the Phase 2 proposal and describing the purpose and objectives of the workshop. Much of the remaining time was then spent discussing and documenting contemporary seasonal land use activities in the Eclipse Sound and Navy Board Inlet areas. The workshop was facilitated by Jason Prno. Workshop notes were recorded by Jennifer St Paul Butler and Jason Lewis, and were compiled by Jason Lewis. The workshop was observed by Justin Buller and Jeff Higdon of the QIA. Information provided in the workshop (included below) is attributed to individual participants or to group discussion where appropriate. Where an attribution is not listed, the information provider(s) were unrecorded.

Notes:

Workshop participants indicated that the Inuit calendar in this part of the Arctic (the Pond Inlet – Eclipse Sound area) is divided into five seasons, not six as presented in the North Baffin Land Use Plan. These are: Ukiaksaq, Ukiuq, Upirngaksaq, Upirngaaq, and Aujaq. The data collected at this workshop was organized according to these five seasons. However, it was noted that the exact timing of the seasons is variable and may change from year to year.

Ukiaksaq (October to Mid-November):

1. **Weather**

- This period is the start of winter. The weather turns cold and the freezing begins.
- During Ukiaksaq we have snow on the land, frost on the beach, the coastline is just freezing, and the ground is frozen [Elijah].
- It begins to get windy [Kunnuk]. The prevailing fall winds come from the north/northwest when it gets cold [Joshua/Joanasie].

- In October or November we see thin sheets of ice beginning to form on the surface of the water and the wind picks up really easily [Jimmy]. The wind starts getting stiffer; the wind is different [Paniloo].

2. Ice Conditions

- Ukiaksaq is the beginning of the freeze-up.

- In October, icebergs begin to move into Eclipse Sound from Navy Board Inlet; sometimes they come in from the east when there is a storm [Paniloo].

- Ice freezes from the north and moves north, pressure ridges are created this way. We see the fjords freeze up before the open water as the current determines the freezing [Paniloo/Jimmy].

- In October/November the old ice/multi-year ice starts to come in [Jimmy].

- We require six inches of ice on the ocean to use snowmobiles safely. The ice is still wavy when there are four or less inches of ice. We test the ice with a harpoon; if it takes three or more pokes to make a hole, then you can walk on it but there are still hazards and we have to be careful [Elijah/Jimmy].

- We begin to use the ice for travel in early to mid-November. It used to be October, but now it's getting later and later [Joshua/Paniloo].

- After freeze-up, there's a period of 1-2 weeks where it is too thick for boats and too thin for snowmobiles, and then we are back to seal hunting [Group Discussion].

3. Land Use Activities

- The primary land use activities during this season are caribou hunting, ptarmigan hunting, and inland fishing.

- We hunt caribou up past Mary River but not anymore. We boat to Milne Inlet and use all-terrain vehicles (ATVs) to travel inland [Jimmy].

- The boating routes stick to the coast and through the inlets, especially when it is too windy. September or October, and a bit of August, are the busiest months [Kunnuk and Jimmy].

- Caribou hunting also takes place in Navy Board Inlet. We boat to cabins and harbours on the coast and then use ATVs to travel inland to the hunting grounds [Group Discussion].

- There used to be more snow; we would bring the snowmobiles down by boat and take them inland [Elijah].

- It was common for 20 groups of people from Pond Inlet to go caribou hunting in a month [Jimmy].

- There may be more; up to 10 groups per week [Joshua].

- Inland fishing during Ukiaksaq takes place close to Pond Inlet at the only fish bearing lake in the vicinity. September is one of busiest months for the lake closest to Pond Inlet. Once freeze-up has occurred, we go fishing further out.

- When the lakes are freezing up, we do more fishing at this time [Elijah].

- Ptarmigan hunting also occurs during October/November. Snowmobiles or ATVs are used to travel inland from Pond Inlet to hunt. We don't trap foxes anymore but when we did, November used to be the time that this would happen. Not a lot of families are camping during this season; it is mostly men travelling and hunting [Joshua].

- The primary activities that take place in the Eclipse Sound area during Ukiaksaq are seal and narwhal hunting, and fishing (the locations and routes used for these activities were indicated on the corresponding map).

- There is some narwhal hunting in Milne Inlet at this time of year (the group indicated the movement of narwhal on the map). By October the narwhal are moving out of the area.

- October is the key narwhal hunting period for this season [Group Discussion].

- Most hunters are narwhal hunting. There can be up to 20 boats a week at peak hunting times when narwhal are present; it depends, if they are very active.
- If narwhal are by the town, we can do day trips. If they go to Milne Inlet, we may do a week-long trip. Narwhal are tagged so hunting in fall can depend on how many were tagged in the summer [Group Discussion].
- Seal hunting occurs all over; the only time we don't seal hunt is when the ice is too thick to go by boat but too thin to travel over [Jimmy].
- We go to the south coast of Bylot Island, west of Pond Inlet, to hunt seal. That's where it is busiest. We hunt ringed, bearded, and sometimes hooded seals. We don't hunt harp seals. Ringed seals are the most popular. Hooded seals are rare but we sometimes get them [Paniloo].
- Young harp seals are good food. It's the spring time in June when most people are hunting as families, but the fall is also very popular. Seal hunting is a year-round activity conducted by everybody. Hunters are out all year but they are accompanied by families primarily in the spring [Group Discussion].
- Seal hunting during this time of year is done mostly using day trips as long as there's daylight and we can sight our rifles. It depends on the daylight [Timothy].
- Sometimes we bring flashlights to hunt in the dark. If there were no seals, there would not be people around here [Paniloo].

Ukiuq (Mid-November to February):

1. Weather

- The weather during Ukiuq is cold and calm.
- This is when we begin to see frost on the wires. The prevailing winds come from the southern highlands at about 8-9 km/hr. We don't see much wind in Pond Inlet but it is usually windy on Eclipse Sound. The end of December is when it gets very cold [Group Discussion].
- We used to be able to hear the ground cracking because of the cold, but not anymore. It used to get really hazy because of the cold but now we get short periods of one-day haze [Paniloo].

2. Ice Conditions

- Ukiuq is the period when Eclipse Sound is frozen over and is being used extensively for travel and hunting.
- The sea ice is 6/7 ft. thick during this time. Where there is no snow, it is thicker. The ice is thickest along the coast of Bylot Island across from Pond Inlet (areas of thin ice (less than 3 ft.) or open water were marked on the map) [Jimmy/Joshua/Elijah].
- Areas of rough ice indicate pressure ridges and multi-year ice (these areas were indicated on the map).
- On snowmobiles, we avoid this; we travel along the coast on the landfast ice. Hunters don't get stuck in rough ice, they find a way through. If there are ice obstacles, we can chop or weave our way through or around rough ice. The trails depend on where the rough ice forms year to year (the trail to Button Point this was marked on the map) [Group Discussion].
- The Pond Inlet floe edge was marked on the map. We do not use the floe edge in Navy Board Inlet in the winter. There were some stranded whales there two years ago. This is mainly for polar bear hunting.
- We don't go there on purpose. We used it in the past, but not anymore. The whole of Navy Board Inlet is used for polar bear hunting and hunting seals on the way. Sport hunters are using this area. We used to go to that area to trap foxes, but not anymore [Paniloo].
- Navy Board Inlet has thick ice; it is too windy for snow accumulation [Group Discussion].

3. Land Use Activities

- Harp, bearded, ringed, and hooded seal hunting are the most popular activities during this time. Hooded seals are rarely caught.
- We go past Button Point for seal hunting. Most of us are going to Button Point and from there we travel north or south along the Pond Inlet floe edge [Group Discussion].
- Other activities at Button Point include some walrus and polar bear hunting. Most of us carry on to the floe edge to seal hunt. Here we find younger, tastier seals. We can taste where a seal has been harvested from.
- On the Pond Inlet floe edge and at Button Point there may be 20 snowmobile groups on the weekend and more than 10 groups during the week. It can get crowded there and we see even more in April [Group Discussion].
- We travel there by snowmobile and some of us take our dog teams. It takes us about two hours to get to Button Point by snowmobile and 6-7 hours by dog team [Group Discussion].
- Seal hunting along the ice cracks occurs in the winter (the perennial ice cracks were indicated on the corresponding map). We hunt mainly ringed seals and occasionally bearded seals along the cracks. Seal hunting at breathing holes occurs anywhere there is ice [Jimmy/Joshua/Elijah].
- Seal pupping season runs from February to March. Seal netting also occurs during this season although it is not as popular; around 10 of us participate in this activity (popular seal netting locations were marked on the map) [Group Discussion].
- All the Pond Inlet HTO polar bear tags are for the Baffin Bay population.
- There are no boundaries for animals; the polar bears go where they please. There is no difference between the Baffin Bay and Lancaster Sound populations [Paniloo].
- More polar bear dens are found southeast of the floe edge. Young seals can't be found in those areas because the bears eat them [Group Discussion].
- Animals are moving around; we are seeing fish where there were never fish before. We can't estimate where they will move because it's totally different than it was. Seals, even during the dead of winter, are moving through the ice cracks [Group Discussion].
- Only occasionally do we catch walrus at the Pond Inlet floe edge. Navy Board Inlet has many more walrus. There won't be narwhals or whales at this time. Ringed seals are most popular. Navy Board Inlet doesn't have many hunting groups in the winter time. In the past it was used more for fox trapping. Caribou hunting and fishing occurs after January (these locations were marked on the map). Travel to the Navy Board Inlet floe edge takes longer. It takes us 12-17 hrs on snowmobile and two sleeps by dog team.
- Once in a blue moon, we travel to Arctic Bay via Navy Board Inlet. We don't follow that route anymore and we would be afraid of the conditions these days. Travel by snow machine to Arctic Bay is 2-3 days. You can go non-stop if the conditions are good in 9-12 hours. It is about the same distance as Pond Inlet to Mary River. It takes us 3-9 days on a dog team depending on the conditions and how well you treat your dogs. Sometimes dog teams race to Arctic Bay from Pond Inlet [Group Discussion].

Upirngaksaq (March to May):

1. Weather

- The weather during Upirngaksaq varies widely and is difficult to predict. This period is indicated by increased daylight and snow melting in May.
- The beginning of March and beginning of May have completely different weather. There is a huge variance [Joshua].

- It is difficult for us to forecast weather during this time. Once May comes, it starts warming up during the day time [Timothy].
- March is called early spring because of the increased daylight. The weather is still cold and more like winter. The difference is the increased daylight, but it is still very cold at night. I can almost call it part of winter because conditions are still winter-like; the snow has not started melting [Joshua].
- Starting in April and into May, it starts snowing and we see more clouds. Today, we don't have much snow, because there hasn't been any wind and it hasn't been snowing. Those are the usual conditions we observe during this season here. Once it starts warming up, the wind comes and the snow starts to melt. In late April, the clouds come in, sometimes earlier [Paniloo].
- In late March/early April, once the air warms up, Eclipse Sound gets a lot windier. We rely on the weather and wait for the weather. Sometimes you can't tell the difference between the sky and the tracks. This would be different if you have a good GPS. When the skies are clear, it is too hot for the seals to bask on the ice. They bask more when it's cloudy during late May. Clouds are good for our eyes in the springtime because they say the sun is bad for our eyes [Paniloo].
- In April, we start getting more weather-beaten [Jimmy].
- March is a very popular month to use the Pond Inlet floe edge because of the daylight [Joshua].

2. Ice Conditions

- The ice conditions during this period are similar to Ukiuq. As the season gets warmer the ice cracks begin to expand.
- The ice cracks begin to form into leads as they begin to melt.
- April/May is when the ice is the thickest. One side of a fjord is always thinner than the other, especially if there is more snow [Group Discussion].

3. Land Use Activities

- The activities during Upirngakxaaq are very similar to what takes place during Ukiuq with slight variation. The major activities include seal hunting, primarily for pups, caribou hunting in the Mary River area, increased travel to and from the floe edge and also between communities.
- Hunting of seal pups occurs during this time for clothing and food. There will be tracks everywhere. There's less wind. This will include young people [Group Discussion].
- There is more inter-community travel during the spring when daylight increases. This continues until the rivers begin to melt inland [Elijah].
- We are fishing until April. More people are travelling during this time to the Mary River area for fishing and caribou hunting [Group Discussion].
- In May, more people are on the floe edge because of the whales [Jimmy].
- All of Eclipse Sound is used for hunting seal pups. The snow conditions on the ice and hard ice will dictate where the seal pups are (the most popular areas for hunting were indicated on the map). Foxes will follow us as we hunt seal pups. The areas that have polar bears are not good spots for hunting seal pups, because bears already got them [Group Discussion].
- The seal pups are a delicacy to a lot of people. About the same number of groups as Ukiuq travel to the floe edge, but more people are going to Eclipse Sound for seal pup hunting. There will be 20+ groups/individuals out per week hunting during this time. More people are on the land than in the community. Only the workers and the young people don't go out.
- The numbers really depend on the narwhal, as we are going to get narwhal on the floe edge, and we are not the only ones hunting; polar bears are out there too [Elijah].
- The busiest time of the year at the Pond Inlet floe edge is June; but it is used all the time when there is ice. It is always busy. It can be used up to July. May is also very busy. Walrus come

through during this season, but not often. Bearded and ringed seals are here at the floe edge too.

- Polar bear season ends at the end of May. The HTO has numbers for the narwhal spring hunt. March/April/May are the most popular months for inland caribou hunting, and fishing is popular in April/May. It is too cold in March [Group Discussion].
- April to the beginning of June is the most popular time for travel to other communities, as long as there is snow on the land. The last ones travel just as the rivers start running. Some Arctic Bay travel might occur in March. The Igloodik travel route is through Milne Inlet.
- Mostly day trips occur during seal pup hunting. If I see too many people heading in one direction, I'll head the other way [Jimmy].
- There are over 100 people with snowmobiles in Pond Inlet. There are always people out.
- In May, the leads start forming. Leads are open water. They are different than ice cracks. When cracks start melting, they become leads, they either form in the cracks or parallel to them. They become wider and wider and are usually in the same place each year. The beginning of May is when the leads start forming [Group Discussion].
- April/May is very popular for sport hunting. Some start in March.
- May/June is popular for outfitters/other tourists like photographers. Kayakers aren't around until July. The crazy ones kayak at the floe edge [Jimmy].

Upirngaaq (Late May to July):

1. Weather

- Once leads start forming, Upirngaaq starts. When we can pitch tents, Upirngaaq starts.
- The temperature starts to get warmer. Cracks are forming into leads towards the end of May.

2. Ice Conditions

- The ice conditions at the start of Upirngaaq are similar to the end of Upirngakaaq. Eclipse Sound is frozen and is being used extensively for hunting and travel. However, by the end of the season the ice is beginning to become slush and break-up has begun.
- By the end of June in the fjords and mid-July in the rest of Eclipse Sound, ice becomes too slushy for hunting seals. There is not a lot of inland activity at this time (hazardous thin ice was marked on the map at end of June/July) [Group Discussion].
- There are more leads where the sea ice is thicker. The thin ice hardly has any leads. Leads can form in the same location and hunters know about them.

3. Land Use Activities

- The prized animals during this period are young seals which are valued for their meat and skins. Birds and eggs are also harvested during this period. During this season there are people hunting all over Eclipse Sound. We also begin to see tourists at the floe edge. As the season progresses there is less activity on the ice as it becomes unsafe. The end of Upirngaaq marks the start of the transition from ice covered to open water, or break-up.
- Seal pups become young seals at this time; their skins become good skins for use.
- Birds including geese and murre are harvested during this season. We also see snow buntings during this time.
- We camp all over Eclipse Sound but not so much in Navy Board Inlet. People will go out camping before break-up and wait for break-up to occur. This is a very popular camping season (popular camping locations were identified on the map) [Group Discussion].

- There are three bird sanctuaries on Bylot Island. We eat the occasional bird, but we are mostly seeking eggs.
- Egg harvesting stops when embryos form in the eggs. Eider ducks will nest on small islands. Many geese are harvested but many, many more migrate south [Group Discussion].
- Narwhal are coming into the leads in July, through the ones closest to the floe edge. Big male narwhals are the first ones to go through the leads ahead of the females and calves. When we hunt them from kayaks, they can be underwater for about an hour. After that, they will be underwater for shorter periods. Narwhal migrate from both directions (Navy Board Inlet and Eclipse Sound). Narwhals winter in the Nuuk region, they do not go south [Group Discussion].
- We don't hunt that many seals in the leads. If we see one, we might take it, but we don't actively hunt along there. Once there are leads, we don't hunt that many adults. They sink at that time of year, so if we try to hunt them, we lose them [Group Discussion].
- The same as plants have seasons, animals have their seasons and we like that variety [Paniloo].
- Bowhead whales may be at the floe edge at this time. We don't try to catch them because we need permission. August 2010 was our last bowhead hunt. We see porpoises sometimes, but do not harvest them [Group Discussion].
- There's no love lost between hunters and tourists at the floe edge. They don't like being in the same space. Outfitters are not allowed to hunt or harvest with tourists [Joshua].
- Fish run to the sea in the spring time, before the ice breaks up. Fishing happens in the thin ice locations.

Aujaq (End of July to September):

1. Weather

- The weather during this period is warm, rainy and windy. There are prevailing easterly winds. The start of this season is the beginning of break-up.
- The weather during Aujaq can be rainy and windy; ice is breaking up. Winds come from the east. It is usually bad weather. It is also the warmest part of the year. July has the hottest weather. We see a lot of ice chunks floating around [Group Discussion].

2. Ice Conditions

- As Aujaq progresses we see a transformation to open water. This results in sporadic pan ice in early Aujaq. This is also when the icebergs begin to come into Eclipse Sound.
- Ice occasionally congregates in some places, but not all the time. There was a time when ice didn't leave [Paniloo].
- The ocean current is stronger, especially during full moons. Current moves out towards Baffin Bay. Icebergs move down and past the community. Multi-year ice comes through there too. There have been icebergs that have come right up to the beach [Group Discussion].

3. Land Use Activities

- During Aujaq we see similar activities take place as in Upirngaaq, but they take place in different locations in Eclipse Sound. There is also an increase in tourism and cruise ship activities. This is also when Baffinland shipping, the sealifts and fuel ships, is at its peak.
- The same harvesting activities as Upirngaaq occur, but in different areas. No polar bears are harvested and walrus would be very rare. We are starting to see porpoises. We have not harvested them. We see killer whales in Eclipse Sound at this time of year. They do not come until summer. Killer whales are "sea wolves". We consider them our hunting partners, we don't hunt them [Group Discussion].

- Hunting narwhal and seals is very popular as ice breaks up. Most narwhal are found around the end of July to the middle of August. We see narwhal calving in Milne Inlet and Koluktoo Bay. Narwhal will not touch other narwhal's flesh with their tusks. We can see more than 50 boats a week going out during this time to hunt [Group Discussion].
- July is the month that we change from using a snowmobile on the ice to a boat on the water. Bowheads will migrate through with calves but we haven't seen them calve in this area. They go in family groups (the bowhead harvest site from 2010 was marked on the map). It took us 3 days to butcher the whale.
- Fish are everywhere at this time. There are sea run Arctic Char at Bylot Island. We fish with rods right after break-up. Food spoils quickly, so we can dry fish if you're far up the fjords [Group Discussion].
- We see fin or sperm whales, which have big teeth, sometimes. We do not harvest them. We saw some walrus harvested in the Milne Inlet area last summer. Walrus are in Navy Board Inlet all year round. There are hardly any walrus around because it's too deep [Group Discussion].
- More than 10 groups of caribou hunters will head out per week, maybe even more than 20, but not this summer because caribou hunting is banned. These days there is not much inland travel in the summer. Inter-community travel does not happen in this season [Group Discussion].
- During August we harvest geese with chicks, especially goslings. Sea kayakers are here during this time (these areas were marked on the map). Cruise ships come in at this time of year; there are 10-19 ships per year. They are annoying. It's always growing. They usually come in August. Some sailboats come too.
- Baffinland ships are coming through at this time; the sealifts and fuel ships [Group Discussion].

Narwhal Migration and Life Cycle Activities in the Eclipse Sound and Navy Board Inlet Areas:

In addition to discussing contemporary Inuit land use activities, the QIA requested that a discussion on key narwhal migration and life cycle activities in the Eclipse Sound and Navy Board Inlet areas occur in Workshop #1. These activities were documented both spatially and textually by workshop participants.

Workshop participants generally noted that in April, May, and June narwhal will migrate in from Baffin Bay and be found in the areas offshore of the Pond Inlet floe edge, northern coast of Bylot Island, Navy Board Inlet floe edge, and eastern Lancaster Sound. Once the ice starts to break up in July, narwhal will begin migrating into Eclipse Sound through Pond Inlet and Navy Board Inlet. Narwhal will first begin coming into the leads closest to the Pond Inlet floe edge in July. It was noted that large male narwhals are the first ones to enter the leads, ahead of the females and calves. In August and September, narwhal will be found in the Milne Inlet area of Eclipse Sound; this is where calving activities occur. In October and November, narwhal will migrate back out to Baffin Bay through Eclipse Sound and Pond Inlet to overwinter.

**Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #2: Shipping Through Ice
-Invited Persons Workshop Notes-**

Participants:

Joshua Arreak (Hamlet of Pond Inlet nominee)	Oliver Curran (Baffinland)
James Atagootak (Hamlet of Pond Inlet nominee)	Jennifer St Paul Butler (Baffinland)
Ludy Pudluk (Hamlet of Pond Inlet nominee)	Jason Prno (Jason Prno Consulting Services Ltd.)
Elijah Panikpakoochoo (Pond Inlet HTO nominee)	Leroy Metcalfe (SEM)
Jimmy Pitseolak (Pond Inlet HTO nominee)	Jason Lewis (Avati)
Joanasie Mucpa (Pond Inlet HTO nominee)	Enookie Inuarak (QIA)
Kunuk (David) Qamaniq (Nasivvik High School nominee)	Justin Buller (QIA)
Savannah Killiktee (Nasivvik High School nominee)	Jeff Higdon (Consultant to QIA)
Paniloo Sangoya (QIA nominee)	
Timothy Aksarjuk (QIA nominee)	

Dates:

April 27–29, 2015

Other Information:

At the beginning of the workshop, Baffinland presented details of the Phase 2 proposal and described the purpose and objectives of the workshop. The remainder of the workshop was spent discussing potential Inuit land use interactions with the shipping through ice component of the Phase 2 proposal, revising maps produced during Workshop #1, discussing community concerns and potential ways to address those concerns, and potential mitigation and monitoring options for Phase 2, amongst other topics. The workshop was facilitated by Jason Prno although portions of the workshop were at times led by other members of the Baffinland team. Workshop notes were recorded by Jennifer St Paul Butler and Jason Lewis. The workshop was observed by Justin Buller, Jeff Higdon, and Enookie Inuarak of the QIA. Information provided in the workshop (included below) is attributed to individual participants or to group discussion where appropriate. Interpretation services were provided by Philip Paneak.

Notes:

Introductory Workshop Presentation, Review of Agenda and Consent Form:

- What is trans-shipping? [James]
- How many ice breakers will there be? [Ludy]
- Would the ice breakers be owned by Baffinland? Who would operate them? Transport Canada? [Ludy]
- I want to know what we are going to be signing. I want it to be clear. [Paniloo]
- Are we going to be discussing solutions or mitigations for ice shipping? [Elijah]

- I didn't participate in Workshop #1. Why do we need to sign this? Are we signing as a representative of our organization? Does it say that I approve of the project? Before I sign, I want to understand whether signing the consent form means I approve of the project. [James]
- Once they start shipping ore the wildlife will change. Will Baffinland compensate the community for the loss of wildlife? [Joanasie]
- While you have been selected by a local organization to participate in this workshop it doesn't mean you are speaking on their behalf. You have been identified as a person in the community with knowledge on the subject matter. [Joshua, Jeff, and Justin]

Discussion of Technical Aspects of Shipping through Ice and of Ice Conditions in Navy Board Inlet and Eclipse Sound:

- You're planning to build ships but you need money to do this. How can you do this without money? What have you done about the railroad project at Steensby Inlet? [Paniloo]
- In the past meetings with the HTO, we had decided that we didn't want Navy Board Inlet used because there's not enough research that has been done and it's used by marine mammals to come into the area. The ice comes through Navy Board Inlet and the effect would be much greater to marine wildlife if you used that area. Seals come to the eastern side of the Sound. I would prefer shipping through Eclipse Sound because we can keep an eye on it that way. There have been resolutions passed by the HTO in the past that, unless there's an emergency, Navy Board Inlet should not be used. They don't even want cruise ships to use Navy Board Inlet because of the wildlife. If you want to use Eclipse Sound, you are more than welcome. To us, it would be safer to ship through Eclipse Sound. The ice is a lot rougher over there than here. We are always going through there so we know about the ice conditions. [Elijah]
- Referring to the shipping schedule, I notice that April and May would have no shipping but June is the month that Pond Inlet residents use the ice the most. I would much prefer that there be no shipping in June. This will be brought up in other meetings. [Timothy]
- Icebergs can be of massive size. They can be a hazard for the ships too. [Jimmy]
- How about rough ice? Do you have those concerns too? [Jimmy]
- This year and at certain times, there are huge areas of rough and thick ice, not just in April or May. As the cold winters progress, ice becomes thicker and thicker. Would your ship be able to go through those conditions or does your ship need a certain ice thickness? [Jimmy]
- Since the beginning of winter, the ice started piling up due to the current. In January, February and March that ice gets thicker, and the rough ice also gets deeper on the bottom. [Jimmy]
- June is the most important time of year for us. This is when most people are out on the ice. We would like shipping to pause during this time. [Joshua]
- May and June are the busiest times of year for us on the ice. [Jimmy]
- There are three kinds of icebergs: Multi-year, flat top (tabular), and [unrecorded comment]. Tabular icebergs used to be called ice islands. If there is ice blocking Eclipse Sound, are there plans to use a road? What if ice stays there, blocking the channel? [Ludy]
- If they got stuck there, it would be a problem. [Ludy]
- When the current is really strong, it went through the channels. When it goes to Lancaster Sound, it slows down and spreads. It shouldn't be a problem shipping. If it came farther down the channels, it would be a problem. The multi-year ice can be higher than buildings. [Ludy]
- Is using a 25 year old photo of ice conditions useful? Could you update the image? What thickness of ice can the ships actually go through? What thickness of ice can a PC4 transit through? [Justin]
- We saw a presentation from David of a ship going through the ice, with a bridge [from the Nain site visit]. Would we get this? [Savannah]

- Will the ice breakers be designed to go through thick ice or multi-year ice? [Jimmy]
- Say the ship passes through the first time; is the refrozen ice in the ship track the same thickness or is it thinner when it freezes over? [Joshua]
- You can cross the track with a ski doo and stuff, but if it has been snowy or cloudy, that's a different story. It depends on the conditions. [Ludy]
- We'll need more information about refreeze times. We'll need to learn about experiences in other locations. [David]
- The Coast Guard comes in to aid other ships in ice. Last July, they went to Milne Inlet, breaking up the ice. Once you get your own ships, would that ship be more powerful than Coast Guard ice breakers? Would they need any help from the Coast Guard? [James]
- How much ice (in thickness) can your ships go through compared to the Coast Guard? [James]
- In the meetings you had for Mary River, you had ship designs already. Is this not true? [James]
- The ships proposed for Steensby Inlet are not the same as what are proposed for the northern shipping route. The northern shipping route ships would be smaller than what was proposed for Steensby. [Jeff]
- Has ice breaking in these conditions up here ever been tried before or will it be the first time? [Jimmy]
- Is that a refrozen track on Slide 22? [Jeff]
- What would cause the ship (Umiak) to use a different track? Why does ship track ice become more difficult to transit through over time? [Justin]
- The size of the ice rubble – Is that related to the thickness of the ice? [Justin]
- The rubble is 3x5ft? [Justin]
- If the ice is thick, the ship track is rougher than when the ice is thinner. That's what we saw. I've never seen tracks in January or February because they didn't do shipping during that time. In early winter, if it's a clear night, you can go on the ice the next day. If it's snowy or windy or there's a blizzard, you can't see it, can't go out on it sometimes. This is what I've seen personally. Perhaps the currents around here are milder than where I lived. Sometimes large pieces would stick out of the ship track. If you're going to be putting bridges up, our ice conditions are so different than what's in the picture. Ice conditions may cause trouble for the bridges you deploy. We'll need to know the underwater and atmospheric temperatures; we'll have more safe passages if we do that. Sometimes we travel on the ice when we can't see in front of us (e.g. in a blizzard), and younger people go a lot faster on the ice. [Ludy]
- With 24 passages in the winter, would the ship be going to Milne Inlet 24 times or would that be 24 ships coming in during the winter? [Elijah]
- What would the frequency be, in days? [Elijah]
- So, six days in between shipments? [Elijah]
- Does that include ships transporting fuel and supplies? Or just ore? [Enookie]
- Does that include two vessels? [Justin]
- So, 96 uses of the ship track? [Justin]
- I was asking if it is 24 passages during the winter season. There will be one ship every how many days? [Elijah]
- You will have to re-install the ice bridge all over again every six days. [Elijah]
- If there are 12 ships in June, would there be one or two shipping tracks? [Jimmy]
- You use a ship track as long as you can, then switch to another when required? [Jeff]
- There was no ice piled on the sides in Labrador. It was just flat. There was hardly any rubble. [Elijah]
- Did you ask how many times the ship had passed through? [Ludy]
- Seven. [Elijah]

- They have been going through this for 10 years in Labrador; they know this from experience. Inuit also do the studies themselves; not just the company. [David]
- If it's done in cold temperatures, it would freeze quicker than in warmer temperatures. This is something we'd have to find out for our area. [Elijah]
- It would be different here than over there. The shipping route in Labrador doesn't have any rough ice. We have lots of rough ice. It would be different. [Paniloo]
- Do you know the distance from the floe edge to Voisey's Bay? [Elijah]
- There is going to be some serious consideration when talking about winter shipping. Some younger people hunt seals less than 100 yards from the shore once it starts freezing up. As freeze up continues, seals move towards Bylot Island and people hunt in the dark. This is always within the confines of Eclipse Sound. Hunting caribou is banned, so we have to concentrate on seals. With a quota of 21 bears, even if there are a lot around, we can't hunt them. Right now, you can see people hunting on the ice. If the project is going to go ahead, then the shipping has to be nearer to Bylot Island. I think we would need less bridges if the ship track was closer to Bylot Island than is presently proposed. We can't stop hunting as we need the food. These considerations will have to be made; consideration of the movement of the hunters and of the ships. I'm thinking that if the ship goes closer to Bylot Island to give room for the seal hunt, they won't have to cross the ship's track. I can't say whether seals will run away from the trip. All year round, seals are present. [Elijah]
- Dog team owners are the ones who hunt more seals than others. We'll need to consider dog teams crossing the tracks. There are quite a few owners in the community. [David]
- Starting in March the seal pups are born. March and June are the most important months. In the past, it didn't used to be until April that seals were born. Just to the west of us now, they are catching pups. March and June are the months I'm worried about. Most able men go out still, even if it's just occasionally. [Paniloo]
- We camp around Milne Inlet. There are cabins there that are used in the summer time. If the ship will go that route, if you're only using bridges in Eclipse Sound, then what would be used in Milne Inlet for people picking up their meat caches? That will have to be carefully considered. As soon as freeze up happens, we start hunting seals. If winter shipping is approved, there are seal pup dens right close to the shore. Since seal pups are born in March, the captain of the ship won't be able to see them on his computer; the seal pups will be under the snow. The bridges will need to accommodate the dog teams. [James]

Potential Seasonal Interactions with Phase 2 Activities:

1. Ukiaksaq (October to Mid-November)

- This is caribou hunting season, but we're not allowed to kill them currently. [Ludy]
- I would prefer the ship track move closer to Bylot Island, as there is more activity closer to Pond Inlet. We're still using boats by the time we can get on the ice. [Elijah]
- Icebergs and multi-year ice comes in in the fall. [Elijah]
- Even in Milne Inlet, we get debris from Greenland. [James]
- Mid-November is when the ice is safe to travel on in this season. We use boats up until then if we can. [Jimmy]
- I would like the shipping route to be closer to Bylot Island. This is new to us, we haven't experienced shipping at that time of year, so we are guessing at what effect this will have. If we had actual experience with it, we'd be able to talk about it. We are trying to make decisions for people who aren't born yet. [Elijah]

- I am not sure if I agree about the shipping route being closer to Bylot Island. We use the cracks close to Bylot Island to hunt seals. Our snowmobile tracks go all over the place. [Enookie]
- Animals even flee from ski doo noise. I was just thinking the ship could go farther away from the community. [Elijah]
- We hunt closer to the land on both sides after freeze up. If the ice is not thick enough to anchor the bridge, what would we do? [Enookie]
- We have 24 hour darkness here from mid-November to the end of January and this is coming up on the dark season. We can see things only by headlights because you can't see in the dark. Therefore, hunters are just as happy to hunt in the dark as the daylight, since we are used to it. That's one of the major differences from Labrador. [Paniloo]
- Chesterfield Inlet has some experience. They used to have a lot of seals, but since shipping began, seals have moved to different places. The areas closer to Bylot Island are used in the spring time. If the ship was too close to the shore, the seals might move somewhere else. [James]
- If we don't map all the trails, then people can say we don't use them (starts adding additional trails to the map). [Jimmy]
- [Unrecorded comments]. [Justin]

2. Ukiug (Mid-November to February)

- Seals are very capable under the ice. You can lose them for up to 2 hours. [Elijah]
- We're hunting full-time from November to February. [Jimmy]
- We hunt anywhere there is smooth ice in the winter time. If the ice is smooth the skidoo trails go everywhere. [Group discussion]
- Seals were afraid of the ship when it passed through rough ice. We didn't see changes in the marine mammals for a number of years. It took 13 years to rebound. [Ludy]
- Seals are becoming scarcer and scarcer in every year in Labrador. [Paniloo]
- You would need beacons in the winter. [Paniloo]
- If the project is approved, would the ship track be marked? Because you wouldn't be able to see it in the dark? [James]
- You would need beacons in the winter. [Paniloo]
- We could request or demand they put markers on the track. [James]
- Lights or markers every 5 km? Did we discuss that before? [Ludy]
- Keep in mind polar bears love to play with those types of things. Bears will interfere with those markers. [Ludy]
- If there's going to be shipping in the winter, there are many issues that people are thinking about in Pond Inlet. [Timothy]
- In February, occasionally we'll get high winds. Dog teams go to the floe edge and people who don't own dog teams go camping in this area. Once the ships start breaking the ice, there will be cracks and leads and some pieces will break off for sure and this will be a danger for some hunters. [Enookie]
- Will we be kept informed when the ship is coming? [Paniloo]
- Presentations and Facebook would be the best way to notify young people of the ship coming. [David]
- Ways to notify the people of Pond Inlet about ship schedules and the condition of the crossings could include posters, phone apps, and Facebook. [Unknown respondent(s)]
- There needs to be more than one communication method used. Radio, TV, and Facebook could be used. [Jimmy]

- We might be able to use SPOT or GPS. [Ludy]
- VHF is widely used here. That would be a good way to do it. We have repeaters installed. [Joshua]
- The HTO would probably install more repeaters, because there are some areas that are not covered by VHF. [Joshua]
- How many communications people are employed at Voisey's Bay? [Enookie]
- The track is too close to Bylot Island in this area. There may be a lot of seal pups here and it may be shallow there. [Group discussion]
- Not in my opinion. [Elijah]
- The track has to be proper for the ship. We can't think of only ourselves. Not all people are hunters so we need to have employment too. We can't be putting up too many barriers for our descendants. The ship needs a proper track. Yes, we want to hunt through the ice. This winter, hunting through the ice is really good this year. We have to think of others who want to do other things. It's not only us that hold the truth. There are people out there with other truths. There are a lot more people here in the community now. [Joanasie]
- There are very few breathing holes near the floe edge for seals; they'll be more inland. [Paniloo]
- If there are certain areas that have more wildlife in one year, there are other areas that will have less. [Joshua]
- Breathing holes can be right next to each other. [Elijah]
- I'm concerned that if a ship passes, large ice chunks could break off and we would require support from Baffinland if hunters were stranded. The ice is thinner now, and wind and currents pick up ice more easily. Bylot Island is a national park; there could be issues with Parks Canada. [James]
- Sport hunting should be removed from the map as it takes place in April and May. [Group discussion]
- All commercial fishing areas are south of the ship's track. [Elijah]
- The travel route to Arctic Bay through Milne Inlet would be cut off by the ship track, but travellers could go around it. [Elijah]

3. Upirngaksaag (March to May)

- Seal pup hunting occurs from mid-March to April. [Paniloo]
- There are seal pups in the area until the middle of April. [Elijah]
- In May, when it's warmer, we hunt basking seals. [Jimmy]
- I don't think younger people are too concerned with hunting seals these days. [Elijah]
- There will always be someone out there thinking about hunting. We shouldn't be talking about our young people that way. [James]
- As the weather gets warmer, young people start hunting more. [Jimmy]
- If you take them out as kids, they will go out for a lifetime. [Paniloo]
- Shipping would interfere with our hunting of seals. [Jimmy]
- If I saw the ship yesterday I would have been worried that my son would not have been able to return. [Timothy]
- People travelling to the floe edge and Bylot Island will need more than one crossing. [Jimmy]
- Will people be aware that there are bridges? Ice conditions are not good in July. [Elijah]
- We will be hunting seals in the ship track instead. [Enookie]
- We'll always be hunting seals in breathing holes in Eclipse Sound. [Jimmy]

- We are concerned about our ability to hunt in Eclipse Sound for basking seals at this time. [Joshua]
- The beginning of June is when the surface of the ice begins melting. [Elijah]
- Towards late May people will be out looking for seal holes, and into June. [Joshua]
- You can always find them, even when there's snow. By June 6, there are lots of goose eggs. [Elijah]
- March, April, May and June - If there is no shipping during those months, I would prefer it. [Jimmy]
- Yes, I would prefer it. [Elijah]
- There should be no shipping in June. Take the number of ships from June and put them in July and October. [Joshua]
- Ice conditions are not that good at the beginning of July. We only travel to the floe edge. People get stranded on the ice because of it breaking up. [Elijah]
- The only difference here between Ukiuq is the hunting of young seals. [Joshua]
- If dog teams need to cross, can the ship wait for them to cross? Would it be possible to stop shipping for a few days for Nunavut Quest? We do not want it to be affected. [Joshua]
- It (Nunavut Quest) is not an annual event for one community. It would only come to Pond Inlet every 3-4 years. And only if Pond Inlet is the departure or destination point. [Elijah]

4. Upirngaaq (Late May to July)

- In July you can't really travel by snowmobile. [Timothy]
- We'll need to cross the ship's track for gathering eggs. [Joshua]
- We're saying we don't want shipping to the middle of June? Or all of June? We don't want June to be affected. [Elijah]
- I worry about March too, but it is still freezing in March. [Joshua]
- The public will come up with different suggestions than this group. [Jimmy]
- Everyone would disagree with shipping in June, even if ship track crossings were available. June is the best time to go out with families. [Jimmy]
- We will have to make Baffinland agree. [Elijah]
- For safety reasons, we are concerned about March to June because we'd have to do things we've never done before. This is where we live. Just as the mining company wants things their way, we want it our way too. Hunting is a full-time, year round activity. [Paniloo]
- We think we'll be seen as part of the flora and fauna and won't get any assistance. [Joshua]
- The closest communities to the project should have much more say than the others. If the rights of the community are ignored, that breaks the land claims agreement. As tax payers, we have to be involved. [Paniloo]
- It's like a farm down south. This is our farm and where we get our food. [Joshua]
- We are not against development; we just want to be part of the decision making. [Paniloo]
- March, April, May, and June - I don't want shipping then, because the ice is moving around. All the ice could break away if the ship is passing through. The ice pans could float away. That's why we don't want shipping in those months. [Jimmy]
- Inuit have their own laws with animals. We have to cooperate with each other. If the seals were gone, we would turn to Baffinland. If there was an oil spill, that would be a catastrophe. Since there is no spill, we are ok with shipping. We will always be using fuel. [Elijah]
- In June, if there was shipping, would the track ever refreeze? [Justin]
- It would be slushy. [Jimmy]
- The community could only cross at pontoon locations. [Jimmy]

- Would the floating fuel storage mentioned in your project description be over winter as well? [Justin]
- When people are hunting narwhals at the floe edge in June, the number of hunters are way less than the number of hunters hunting seals. There are more people in Eclipse Sound than at the floe edge. There are usually more tourists at the floe edge at this time of the year, according to what I've seen in past years. [Elijah]
- It's in the beginning of June that everybody is in Eclipse Sound. In the beginning of July, more people are at the floe edge, and collecting Murre eggs. [Jimmy]
- There are usually many machines coming in from the floe edge in the spring when narwhal hunters start heading home. [James]
- Especially on Saturdays. [Elijah]
- We have to have dialogue. [Joshua]
- If we can come up with a middle ground and extend the no shipping season to include March and June. [Elijah]
- We are not concerned about summer time. July is ok to start shipping. [Paniloo]
- Winds need to be considered in Eclipse Sound. [Joanasie]
- Would we be able to delay arrival of the ships if there was a search and rescue in progress? [James]

Nain Visit Discussion:

- We have a feeling here that we won't get much assistance. We know that Baffinland will be distributing to the QIA and other groups, for those of us who live closest to the project, there's [unrecorded comments]. [Joshua]
- We didn't hear any rumbling or scraping. If you didn't see the ice, you wouldn't know it was breaking through it. You could walk around on the ship without noticing any movement. [Joshua]
- We tried to stand by the ship, but we could hardly hear because of the wind. [Paniloo]
- We did not see any sideways cracks. [Joshua]
- The ice is thinner over there (in Labrador); can you imagine what it would be like over here? [James]
- The only time we'll find out is when it comes here. [Elijah]
- Have you studied what the noise levels are like under water? It is probably louder than what you can hear on top of the ice. With more multi-year ice, there's probably more noise. [Jimmy]
- Is it any different when the ships are fully loaded? [Ludy]
- [Group discussion occurred on technical aspects of bridge use in Nain including anchoring, batteries, strength of winch and rope, floating ability, and ability to move ice out of the way. Discussions on hunting intensity in Nain vs. Pond Inlet, travel routes, time of year of travel, and consulting local people on the development of the pontoon system also occurred]

Mitigation and Monitoring Discussion:

- How often are the markers placed (at Voisey's Bay)? [Jeff]
- Do you get ice packing up along the ship's track (at Voisey's Bay)? Does it pile up from the temperature and the currents? [James]
- Do you get pack ice naturally from the currents before the ship arrives (at Voisey's Bay)? [James]
- We get ice that piles up here. That is another big difference between Pond Inlet and Nain. We get pack ice along the proposed shipping route in this area. [Paniloo]
- Can you see the ship track from Nain? [James]
- The ship will be right in front of our community so we will be able to see it here. [James]

- [Group discussion on the ships and if they would be designed to handle the environment in and around Pond Inlet]
- You cannot get pack ice in thin ice. [Joshua]
- Can the ships go through pack ice? [Elijah]
- We keep hearing that ships will pass through here. These will be different from ships that are used by sealift and oil carriers. They are controlled by non-Indigenous people. Inuit want to travel. I don't want any hindrances on any Inuit travel. I am not thinking of only myself, but also my children's children. If we plan this right, it will run for years and years and will result in employment. Please do not hinder the movements of Inuit. I heard that when people were caribou hunting, they had to wait to cross the Tote Road. Inuit around here are very careful or considerate of how they travel. I am not trying to stop employment, but to follow correct rules for Inuit and the company. [Joanasie]
- What do the markers or the posts look like when it's the dead of winter (at Voisey's Bay)? What about early or late fall, when the ice is new? [Enookie]
- The reason why I'm asking is that our hunters will go on the ice as soon as they can and when they won't break through. We might have to put the markers on thinner ice; that's why I'm bringing it up. [Enookie]
- The Phase 2 proposal has a second ore dock included. Can't you load two ships at once? The delay would then be on the Greenland side. [Justin]
- The people in Nain had different experiences than some of us have had on ships. As a young person, I experienced two different types of ships. We used to take ships to Clyde and Craig Harbour because my father worked for the RCMP. The government ship wasn't a full ice breaker and was called the CD Howe. We travelled on the ship in the 1950s when there was still ice around. It sounded like an empty barrel. The last time we went on the ship was at Alexander Fjord where there was lots of multi-year ice on a Canadian ice breaker called the Labrador. It was working so hard and our cabin was right in front of the ship next to the hall. We were going through 3-4 feet of ice, but we couldn't hear it. It was so different from the CD Howe. It was an actual ice breaker. The CD Howe was so loud, but the Labrador wasn't. It was just as quiet as the ship we experienced in Labrador. The ships that aren't actually designed for ice breaking are very noisy. [Elijah]
- I had a similar experience on the Labrador; I was throwing up so much. It's a completely different experience being on an ice breaker versus a non-ice breaker. Ice is alive. It has a life of its own. New ice will split cleanly but multi-year ice breaks up really roughly. It's possible to ship through ice. [Ludy]
- The ice we get now is totally different from ice in the 1950s. It becomes slush in the spring time. The top of the ice used to freeze solid. The ice we have these days is softer than we had before. There are still no changes in the way multi-year ice behaves. We are getting almost the same conditions as Labrador. We get rough ice right after freeze-up but it's passable by ski-doo most of the time. [Paniloo]
- Down in Nain, have there been any accidents or incidents with the ore ship? [Enookie]
- Have there been any incidents or accidents with the ship track (at Voisey's Bay)? [Justin]
- When you pull the markers in the spring (at Voisey's Bay), have there been any times when they can't be retrieved? [Justin]
- Were there any times you pulled the markers before the last transit occurred (at Voisey's Bay)? [Jeff]
- If you're travelling parallel with the ship's track, can you see the markers (at Voisey's Bay)? [James]
- Do the bridges have beacons too (at Voisey's Bay)? [Joshua]
- Where do you store the pontoon bridges (at Voisey's Bay) at the end of the season? [Enookie]
- Has there been any vandalism occur (at Voisey's Bay)? [Jeff]

- Does paint scrape off the ship on to the ice (at Voisey's Bay)? We would need battery powered lights because we have 24 hour darkness. [Jimmy]
- How do we charge solar lights in the dark season? [Jimmy]
- How are the VHF repeaters powered in town? [Ludy]
- We have tried to have the best quality equipment so we can use them all winter. [Joshua]
- We put those together at the HTO. [Jimmy]
- What if I was travelling between the markers? [James]
- Sometimes we'll get blizzards and won't be able to see. [Jimmy]
- You'll just have to keep in mind there is a ship track there. [Elijah]
- Sometimes you are travelling and you can only see your feet. [James]
- People who are out on the land when blizzards come need to make it home. [Paniloo]
- Will the seismic testing interfere with the shipping? [Joanasie]
- We would need more pontoons here for the much wider track. How do you get the pontoons onto the land after they are removed from the ice? Can you show a video of how they do this in Labrador? They are very heavy. We have people still travelling to the floe edge when there's no snow on the ground. It would be more difficult here without the snow. We may be able to use them as a dock or bridge. [Enookie]
- Can the pontoons be repurposed to be a small craft dock? [Justin]
- What was the cost of the bridges per section (at Voisey's Bay)? What are they made of? Did the mining company pay for them? [Jimmy]
- Pond Inlet residents have never experienced ship tracks on ice. We can only determine if it's good for us if we see it happen. [Timothy]
- Will NIRB have a hearing about this process? [Ludy]
- I think the winch sledge would need to have pontoons too. [Enookie]
- How did the pontoon bridges get to Nain? [Jeff]
- I think we are rushing a bit in dealing with ice bridges. I know we will be discussing this again during the approval phase and discussing our differences then. If we do the work we're doing now before the approvals, we will be insinuating to the public that we approve the project. We are getting ahead of ourselves. [Paniloo]
- The track that the ship will travel has thicker ice and is different than the Labrador example. We have talked about building ice bridges by smoothing the ice. What would we use to flatten ice that is much thicker? We just avoid rough ice areas now. They are too dangerous to travel on. So, if I'm going over to Bylot Island, I will avoid the rough ice. If we are travelling on rough ice, we chisel at it with harpoons. [James]
- At the time when there was rough ice in the Sound we chiseled a trail using the less rough ice. We don't go in a straight line if there's rough ice. Rough ice areas are not always in the same place. [Paniloo]
- Ensuring the ice is safe for crossing would be the responsibility of Baffinland or the contractor. [Jimmy]
- The slide you showed with the Snow Cat or Haglun; what is the context of that? [Justin]
- We would have to keep the community informed so that they follow the safety procedures. There are people that will still do whatever they want though. I have crossed tracks that ships have used the day before, but safety should be the number one concern. [Ludy]
- It would seem that we would need to have a lot more bridges because we go to a lot more areas. Maybe we can get demonstration pieces during the final approval process so that the community can see what they look like and how they would be used? If you're going to go with the approval process, we can have a demonstration process in the community. [Jimmy]

Mapping and Discussion of Potential Ship Track Crossing Locations:

- The western side freezes before the eastern side. Areas of smoother ice are better for bridging than the rough parts. [Elijah]
- Prevailing winds will play a factor. It will be best to install them in less windy areas. [Unknown respondent]
- Bridge locations will have to change depending on the season because in the first part of the ice season more people travel towards Bylot Island. Then, later on, it's colder and people start going to other areas. We need separate maps for different seasons. [Enookie]
- Hunters will complain if there are too few areas to cross. [Jimmy]
- There will be supporters and opponents. Everyone in Pond Inlet should know about this. [Paniloo]
- This map should be made available for the public too. [Enookie]
- There's not that many full time hunters. [Elijah]
- How many crossings were there at Voisey's Bay? [Jeff]
- There will be a ship going into and out of Milne Port every 1 or 2 days; there is not as much time for refreeze. [Justin]
- What happens to the cracks and leads in Labrador? The reason I'm asking is if a lead formed from the sides of a ship track, on what side of the lead would you put the bridge? If you put the bridge in an area where you have to also cross a lead, the bridge is not useful. [James]
- The area in front of Pond Inlet is only freezing in December. [Elijah]
- Button Point doesn't freeze until January sometime. [Joshua]
- In Ukiuq, the crossings closest to the floe edge will be the most popular. [Jimmy]
- In Ukiuq, it would be important to notify the people of Arctic Bay about the crossings towards Milne Inlet. [Enookie]
- Floe edge crossing would be more important in the spring time. [Elijah]
- We have to get together with Arctic Bay hunters on this issue. They need to know too. They are coming back and forth, even in the winter time. [James]
- Keep in mind in February the winds are always from the west. Pond Inlet will be calm, but that area will always be windy (around Mount Herodier). [Paniloo]
- [Group decides not to identify any additional priority or preferred crossings for now, because they want to think more about it]
- The ship track crossings may require a number of crews working in a number of locations. [Jeff]
- I don't think it's up to us to decide where the crossings are going to go until Baffinland consults the community. We don't know exactly how things are going to happen. [Paniloo]
- With many different crossings we've talked about the costs to the company. But what about the costs to the community? How far will the company go to meet the community's needs? [Justin]
- What if we try this and it doesn't work? How could the plan change? What happens if it doesn't work? [Justin]
- The HTO closes floe edge access in Upirngaaq when it is not safe to travel there. [Jimmy]
- We can call this the draft plan. Baffinland should donate any crossings to HTO. [Jimmy]

Presentation and Discussion on Environmental Monitoring:

- If you're going to be doing winter shipping, you should be monitoring noise underneath the ice to be sure it's not affecting wildlife, especially the seals. My reason for this is that Labrador Inuit are saying there are less seals now. People will be suspicious and think the seals will be scared away. [Jimmy]

- In the summer, before the ships started going there, we know that if one narwhal noticed something strange, all the other narwhals would find out about it because they can communicate with each other underwater. There will always be a sea mammal who knows what's going on. I'm not concerned at all with summer shipping because they always know where you are. When they were using kayaks in the past, that's what they did. They vocalize, circling you, letting others know where you are. [Paniloo]
- Sounds narwhals make when wounded are the same as a squeaky sliding door. We hear that with underwater microphones. Ships don't bother narwhal much anymore. When a ship is louder and starts its engine, the narwhals run away. They are more afraid when it's leaving than when it's coming in. That's how we see them from Bruce Head. When the work started on the dock, the narwhal would run away because they were putting boulders in the water. The narwhals would come back in the evening. They are more afraid of rocks than ships. I guess they are used to ships now. Seals are braver than narwhal as long as they have distance between them. They will go underwater when the ship comes and then rise up again when it leaves. Narwhals take the newborn calf between them and force it to dive. As they grow they get left alone. [Elijah]
- Would the onboard ship observers get direction from the HTO? [Joshua]
- The observer said he didn't see any narwhals or seals but I disagreed. [Elijah]
- Someone will need to be monitoring so seal pups won't be killed by the ships. [Enookie]
- We hunt for seal pups in March and into the early part of April. When there's hardly any snow on top of the ice, then there's hardly any seal pups. They are in the rough ice with more snow. Foxes and polar bears hunt for the pups too. [Elijah]
- When we are hunting seals at the breathing holes, you'll also see them on the surface. There are probably pups being born along the ship's track. You'll have to research underwater sounds. [Jimmy]
- There are no certain areas for seal pups; they are born everywhere. Even along the routes we travel. That is something that needs to be monitored. [Paniloo]
- You need researchers hired by yourselves, not researchers hired by the mining company. Sometimes researchers will try to do things their way. Especially new and young researchers. [Ludy]
- The researchers that worked on the seals, or on noise, how did Inuit feel about those researchers in Labrador? [Jimmy]
- The methods and techniques used for research in Labrador are similar to those used here in Nunavut. [Jeff]
- I want you to keep in mind that on board observers may tell you there's no wildlife; however, they only have a view from one side. [Joshua]
- Bruce Head just observes, it doesn't tag. Narwhals will slowly swim away from the ship, they turn, they stop, and then turn backwards as if they are watching the ship. Just like caribou act. They reminded me of caribou. When hunters are there and an animal is shot all other animals go underwater. [Elijah]
- I would also like to see research if the shipping is going to go ahead. As soon as ice forms, from November to February, once the ship passes, how long does it take to freeze again? Communicate that information to the community. Find out how long it takes to freeze again. We would need that information. [Enookie]

Closing Remarks:

- I am happy to be involved in this very important project. Don't believe everything you hear, because things change all the time and people break their word. People from the south can have no idea

how things work up here. With things moving forward, there are some aspects Inuit will not agree with or be against, but decisions will be made in the future. Please remember they will be sailing through your waters and if you agree with them and can work with them, things are possible. It's a lot easier to deal with these things than in the early days. I'm happy that I can be involved. They are working less behind our back than they did in the past. I thank you very much for coming here to provide us with information. This is still not a set deal, but I'm happy to see you are planning for the future. [Ludy]

- I thank you for being involved in this. We cannot know how things will be in the future. This is not the last meeting between the residents of the community and people of Baffinland. I am expecting more meetings concerning this proposal. I've been involved the whole time and I have a better understanding now since the trip to Labrador. Labradorians probably felt the same way we do now. We are concerned about our social wellbeing and environment. We live in a very expensive place. We will have more concerns in the future. I am very happy to see the young people being involved. [Paniloo]
- I also thank you for being able to participate and for you being here to hear our concerns. I know we will see you in the future. You will always have someone in Pond Inlet willing to respond to your questions. [Timothy]
- I know that we are close to Arctic Bay and they are not involved in these meetings. Their hunters are aware of what we will be going through. We can learn things from them. At that time, they weren't involved in the decision making before Nunavut was created. I would like to see them here in the future. [James]
- Even if Baffinland doesn't go ahead, someone else will and they might not be concerned with our opinions. I would like Baffinland to carry on. I can work very well with them and am not leery of them. We started this work in 2004 and for the last 10 years we've been planning. We had serious disagreements in the beginning because we used Mary River as a caribou hunting ground. It's totally different these days, going to Mary River. Some people used to not be welcoming but it's totally different now. [Elijah]
- I thank you for having me participate and it was a very good learning experience for me. I am learning from the elders, Jimmy, Enookie, Joshua, and all the Baffinland people. [Kunuk]
- It's because of the Nunavut Land Claims Agreement that we're doing this. If we didn't have the land claim we would know of this only when ships started going past our community. We have a place at the table now. When you're representing people, you want to see them benefit, move forward, get more abilities. Not everybody is happy about this project but if it's going to benefit people, we need to support them emotionally. This will not be the end of the world. [Enookie]
- I would like to thank you for being included. I don't go out on the land much but I've learned a lot about the project. [Savannah]
- We live here. It seems that we both have to be flexible if this project is to go ahead. [Enookie]

**Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #2: Shipping Through Ice
-Public Open House Notes-**

Participants:

Various members of the public (see sign-in sheet)
Jennifer St Paul Butler (Baffinland)
Jason Prno (Jason Prno Consulting Services Ltd.)
Jason Lewis (Avati)
Justin Buller (QIA)
Jeff Higdon (Consultant to QIA)

Date:

April 30, 2015 (3:00 - 5:00 pm and 7:00 – 9:00 pm)

Other Information:

A number of discussions regarding Baffinland's Phase 2 proposal were held with residents of Pond Inlet during the public open house component of Workshop #2. Generally, these residents were interested in learning more about Baffinland's plans for shipping through ice, posed a number of questions to Baffinland, raised concerns, and made various suggestions. While the list below is not an exhaustive account of the issues raised in the public open house, it provides an overview of some of the key areas that were discussed. Interpretation services were provided by two local interpreters.

Notes:

- Will compensation or gas be provided to hunters needing to detour from their regular travel routes in order to access one of the ship track crossings?
- The ships will need to avoid shallow areas.
- Some hunters will chose not to use the ship track crossings and will cross the ship track on their own (e.g. by water skipping).
- Will ice pans break off as a result of shipping through ice?
- Bathymetric studies will need to be conducted along the shipping route before shipping commences.
- There should be no shipping in June.
- Ship noise studies will need to be conducted.
- Baffinland will need to avoid impacting seals along the shipping route.
- How many ships will there be every year? Every month?
- Will the company pay for the ship track crossing bridges?
- Who will operate the ship track crossing bridges?
- How big will the ships be?
- How much will the ships weigh?
- Have you consulted with the HTO about when they close the floe edge?
- How thick is the ice in Nain that the ice breaker was going through?

- There are lots of narwhal and other marine mammals in Milne Inlet. There are cabins used by Inuit there as well.
- What would happen if a hunter drove into the ship track and didn't have insurance? Would Baffinland compensate them?
- I don't think that paint scraping off the hull of the ship onto the ice will be an issue.
- Where will the ships be built?
- Past Arctic Bay residents aren't concerned about ice breaking as they have dealt with it previously at Nanisivik.
- Arctic Bay residents never had bridges; they used to cross the ship track on their own, sometimes shortly after the ship passed. It was similar to crossing rough ice.
- Operation of the bridges/crossings will be a good opportunity for Inuit contractors.
- Large ice chunks and pans can break off easily in the spring and early summer.
- Hunters from Arctic Bay used to hunt narwhal in the ship track. Seals used to be seen in the areas where the ship passed, the day after it passed.
- There is a travel route to Arctic Bay that will be affected by the shipping route and travellers to Arctic Bay that will need to cross the ship track.
- The ship track crossing bridges are a good idea and would be much better than trying to cross a rough ship track.
- How do the people of Nain feel about the shipping through ice that occurs for the Voisey's Bay Mine? Do they think there has been an impact on their way of life?

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #3: Open Water Shipping
-Invited Persons Workshop Notes-

Participants:

Abraham Kublu (Hamlet of Pond Inlet nominee)	Oliver Curran (Baffinland)
Tim Souci (Hamlet of Pond Inlet nominee)	Jennifer St Paul Butler (Baffinland)
Elijah Panikpakoochoo (Pond Inlet HTO nominee)	Jason Prno (Jason Prno Consulting Services Ltd.)
Jimmy Pitseolak (Pond Inlet HTO nominee)	Leroy Metcalfe (SEM)
Joanasie Mucpa (Pond Inlet HTO nominee)	Enookie Inuarak (QIA)
Kunuk (David) Qamaniq (Nasivvik High School nominee)	Justin Buller (QIA)
Michael Inuarak (Nasivvik High School nominee)	Jeff Higdon (Consultant to QIA)
Lindsey Qanguq (Nasivvik High School nominee)	
Timothy Aksarjuk (QIA nominee)	
Paniloo Sangoya (QIA nominee)	

Dates:

October 26 – 27, 2015

Other Information:

At the beginning of the workshop, Baffinland presented details of the Phase 2 proposal and described the purpose and objectives of the workshop. The remainder of the workshop was spent discussing potential Inuit land use interactions with the open water shipping component of the Phase 2 proposal, discussing community concerns and potential ways to address those concerns, possible trans-shipping locations, and potential mitigation and monitoring options for Phase 2, amongst other topics. The workshop was facilitated by Jason Prno although portions of the workshop were at times led by other members of the Baffinland team. Workshop notes were recorded by Jennifer St Paul Butler. The workshop was observed (and participated in) by Justin Buller, Jeff Higdon, and Enookie Inuarak of the QIA. Information provided in the workshop (included below) is attributed to individual participants or to group discussion where appropriate. Interpretation services were provided by Titus Arnakallak.

Notes:

Introductory Workshop Presentation, Review of Agenda and Consent Form:

- You probably received the minutes from September when the Mary River project committee met. [Paniloo]
- Yes, Baffinland received those minutes. [Justin]
- Will we be able to report on the monitoring work we have done in the past? [Elijah]
- The slides are misnumbered. I am concerned that we are consenting to information we are not seeing. [Enookie]
- How come the people who were involved in the workshops two years ago are different than the people around the table today? [Abraham]

- What happened to the position that was supposed to be in the community who would communicate with Pond Inlet about Baffinland? [Abraham]
- Looking at the Project over the last 14 years, the BCLO used to inform us when the ships were passing by. Why doesn't that happen now? [Abraham]
- The website Baffinland uses provides a real-time snapshot of ship traffic. They will also need to display a future schedule to help with planning. [Justin]
- People on the land don't have access to the internet. Ship schedules may need to be radio communicated. [Jeff]
- Yes, VHF and VHF repeaters allow for communication back to the communities. Would Baffinland consider putting more repeaters in the Milne Inlet area to help with communication? [Enookie]

Discussion of Open Water Shipping Activities:

- In regards to the coming regulations for ballast water, will Baffinland use lasers [UV treatment of ballast water]? [Abraham]
- Did you ask your contractors if they will install ballast water treatment on their ships? [Abraham]
- Do you have information about the ocean currents? [Abraham]
- Will you look at underwater noise when the vessel is being loaded at the Port? [Abraham]
- On slide 9, it states how many ships there would be during Phase 2. Shipping is March to June. Does that include the already approved ships which would be included in the Early Revenue Phase? [Enookie]
- Regarding the proposed shipping route during the open water season – The people of Pond Inlet already approved the route for summer shipping. We have no objection to that route. The marine mammals, they get used to shipping noise. In the past, when the ships started coming to our area in the 1960s, wildlife would move somewhere else. Nowadays, seals are no longer going to different areas. Sometimes they go not far away, but this is temporary and then they return. We see ore carriers passing through Eclipse Sound. Calving areas for narwhal are near Bruce Head and Tremblay Sound. I'm not talking about winter shipping. We have monitors stationed at the Bruce Head. [Paniloo]
- In regards to open water shipping, the people of Pond Inlet have less concerns about summer shipping, because we have yet to experience a ship travelling through in winter. Perhaps when we see the first ship travelling through in winter we might have additional comments, but we haven't experienced it yet. [Timothy]
- Regarding what's already approved for the ERP, we have seen many ships passing by and we have seen them parking in different places. Like 3 or 4 ships parked in one day. For this Phase 2 shipping, how many more parked ships would there be? Especially including the big ships that would be parked at the trans-shipping location, waiting to be loaded? We see ships come close to the community and then keep going to Milne. [Enookie]
- On slide 29, we know the number of ships will increase in the area, but will they be discharging sewage and garbage? [Enookie]
- Based on the information that we have, our currents always travel from the Resolute Bay area and always travel westward. We don't have those same monitors, but we know where the currents come from. We found multi-year ice from Arctic Bay in one of the inlets, that's how we knew the currents. [Paniloo]
- The Navy or Coast Guard, were they influenced to be up there this summer by Baffinland? [Enookie]
- When will you share results from the Bruce Head monitoring program with the community? [Tim]
- Do you use acoustic devices that are implanted somewhere in the Eclipse Sound area? [Jimmy]
- Is there any other device that is on the sea floor in Eclipse Sound near Pond Inlet? [Jimmy]

- The mine will operate for 21 years. We will want the marine mammal program to continue and if we need to update it, we can. In regards to ballast water, I don't think discharge will happen in Pond Inlet itself, but I think it could have effects in the Baffin Bay area. [Jimmy]
- The hunters and elders had some concerns during the past summer. We only saw harp seals in our area. Only later in the fall were we able to get seals and narwhals, so there was some speculation that there may be some devices in the water. We did not see narwhals here in July, August, September. [Jimmy]
- Can we use your data against the Canadian Coast Guard who are doing bathymetry work? If they are the ones that are causing the narwhal not to be around? We want to defend ourselves and you guys. [Abraham]
- The work that is being done might make a 'click-click' sound. [Abraham]
- It does make a sound. You should provide this information to the HTO. [Abraham]
- People are asking for compensation because of the effects of the ships while they are on their hunt. [Enookie]
- No [there is not a concern about fewer marine mammals being in the area than in the past]. Narwhals are coming, and the ship shows up, and before the narwhals reach the hunters' area they stopped and went back. Hunters were frustrated because they lost their chance to hunt. [Enookie]
- QIA is currently drafting rules for how someone would apply for compensation from the fund within the IIBA for hunters. HTOs and communities will get a chance to comment. [Justin]
- The Canadian Coast Guard and Navy ships were a disturbance too. [Enookie]
- Dead sculpins and other fish were found dead on the shore, near the HTO shack. Is that due to the Mary River Project or due to ballast water? [Jimmy]
- I have heard that you will periodically see dead sculpin and fish, even in lakes. But I have not observed it myself. Once in a long time, it has been recorded, that sculpin die. Baffinland Iron Mines are not the only ones to blame. It has happened before, in marine and terrestrial environments. Sometimes when populations explode, they die out. We've seen fish washed up before, every once in a long time. I don't think industrial activities are the main reason. I was just wondering if you have heard or are aware that all wildlife tend to move elsewhere. They say there's no caribou in the Baffin Region but in the future, they will come back. The same will happen with marine mammals. In one year they are abundant and the next year they are not. In 1949, we only had a small dinghy and they harvested over 70 narwhal. The following year, there were no narwhal in our camp and by spring time they were starving. There were no ships in the area at that time; only a hospital ship and RCMP. [Joanasie]
- If anyone ever finds dead animals or fish bring them to the HTO and I can potentially arrange for them to be sampled. We may be able to figure out what happened. [Jeff]
- Hunters tried to hunt narwhal in Milne Inlet this year and Baffinland employees approached the hunters and asked them to stop hunting. Under the NLCA, they can't stop them from hunting. Why were they trying to prohibit them from hunting narwhals? [Jimmy]
- One slide 58, is that Milne Inlet? [Jimmy]
- During your seasonal shipping, do your ships go back empty? Or do you fill them with extra iron ore? Can we put our contaminated waste from the community on them to go back south? [Abraham]
- Our sealifts go on to other communities after Pond Inlet. [Abraham]
- Who gets to see the lab analysis results if there is a die off of sculpins? Maybe we can correlate it with discharge, if we can see the results? [Tim]

Potential Seasonal Interactions with Phase 2 Activities:

5. Upirngaaq (Late May to July)

- Have you used the IQ information collected by Knight Piésold? [Abraham]
- The shipping numbers [ship frequency estimates for Phase 2] table in the presentation says 'Steensby Port' instead of 'Milne Port'. [Enookie]
- Why are there different shipping numbers for Milne Port and Pond Inlet? [Enookie]
- There will be no shipping during April and May, but if you were going to have winter shipping, as hunters, it would be convenient if you could make corrections to the schedule. During April, it's still too cold to go camping. We go camping for the entire month of June and hunt for seal pups. We can't really travel on the ice in the month of July. I would prefer if there was no shipping in May and June. We have to give consideration to seals when they start giving birth in April and May. In May, they are quite large and some seal pups. Maybe winter shipping should occur from November to March. Our climate is a lot different than Labrador. [Elijah]
- I support his suggestion. We will be talking about winter shipping. We don't want ships travelling through Eclipse Sound, past Pond Inlet. We don't object to the use of Navy Board Inlet. It's okay if ships go through Navy Board Inlet. We don't usually travel as much through Navy Board Inlet. If the ships travel through Eclipse Sound, it will have a negative impact on seals. [Paniloo]
- We are talking about the month of June, when Pond Inlet residents start going out camping 24/7. I do not want ships coming through in the month of June. [Timothy]
- It's [i.e. the end of July] a time when the ice is breaking up, so everyone is back in the community. The HTO closes the floe edge season at the end of June or 2nd week of July. At the end of July, the ice starts going out towards Baffin Bay. If you used Navy Board Inlet it means you wouldn't have to change your shipping schedule. If shipping happens in Eclipse Sound during the winter, we would want to see some modifications. [Jimmy]
- This would be a record number of ships for open water. It would be best to see some results from the Bruce Head program, before we discuss open water shipping. [Tim]
- At Bruce Head, we monitor the different observation zones every day for 12 hours a day. We monitor the narwhals every hour. During the month of August, narwhals migrate to this area. They are going to the various inlets near Koluktoo Bay. We don't see narwhals until the 3rd week of July. This is something that has happened for three summers. We observe them through telescopes. I can recognize you from Bruce Head by looking through telescopes. We can see whales and fish like char and seals using that telescope. We also report the weather situation. You see a whole bunch of narwhals in the open water. They appear to be feeding, when the tusks are upwards. Whenever there is a breeze, they go somewhere else. When the ships start entering the area, the narwhals listen to the noise. After the ship continues on, the narwhal return. That's how they behave. It's not like they are scared. Narwhals tend to move faster from cruise ships and merchant vessels. Iron ore vessels move a lot slower, so the narwhal seem to tolerate them more. Seals know when the ships are coming before the narwhals do. When the ships are travelling, you see more seals on the shoreline. That is something that we can clearly see. We have people working night shift until the middle of August. We take turns watching. That's how carefully we monitor the narwhals and marine mammals. One thing that was evident two years ago, when they were building a dock at Milne Port, is that they would swim away when there were no ships in the area and also when there were no hunters in the area. They seem to tolerate the ships. I don't want to say bad things about hunters, but narwhals move away from hunters when they hear shooting. When the iron ore carriers move through here, the narwhals always return. [Elijah]

- At the end of July we were expecting the mammals to come to the area. During the month after August 4th, narwhal were able to get to that area. [Paniloo]
- I'd like to see Elijah's perspective presented in any of the Bruce Head monitoring reports. [Tim]
- There was a merchant cargo vessel at Milne Inlet. The ship was unloading supplies and was not making any noise, but then when it moved the narwhal dispersed temporarily. They returned afterwards. They don't migrate anywhere. [Elijah]
- For the open water shipping proposal, there would be 104 ships. Does Baffinland have the capacity to fill all those ships for that summer season? You guys had some problems with the ERP. If there are more problems, are you looking at having 15 ships parked? [Enookie]
- You would need 2 docks and 2 ramps at Milne Port for Phase 2? [Enookie]
- During Upirngaaq, there is still some hunting that takes place in available open water during early break up, and we'll sometimes try to reach Navy Board at the end of July. Everybody else is in town waiting for the ice break up. The best time to come in with a ship is after the floe edge is closed. If shipping will happen in Eclipse Sound, there will need to be adjustments to the timing of the shipping schedule. Baffinland should run a pilot program with an ice breaker to see how ice breaking goes in Eclipse Sound, first. [Jimmy]
- A coast guard ice breaker might be useful to see. [Enookie]
- Are we able to see how fast the ship is moving and the name of the ship? Are we able to see the ships' progress through the internet? At Bruce Head, we identify all kinds of ships. [Elijah]

6. Aujaq (End of July to September)

- Have the ship monitors seen any marine mammals being impacted by the ships? [Enookie]
- Slide 20 asks how monitoring can be improved. There needs to be an improvement on monitoring. People on the ships [shipboard observers] see nothing because everything is moving away from them. You could work with the HTO to set up a monitoring program, like using a form for hunters to fill out. [Enookie]
- There has been some discussion around a community based monitoring program being developed. It will continue to be discussed. I think it's a good idea. It's on the radar. [Jeff]
- [Unrecorded comments]
- Are there any plans for oil spill training for residents? [Tim]
- Petro Canada conducted an oil spill monitoring program at Cape Hat. They made a spill, then cleaned it up. There was no residue left once the cleaning solution sank to the bottom. Birds cannot fly when in oil. When you apply cleaning solution, it can clean up the fuel spills. [Paniloo]
- Petro Canada conducted a Baffin Island oil spill on purpose, maybe around 1979. As Mayor, I went to inspect their equipment twice. [Paniloo]
- Open water season shipping has already been approved. [Timothy]
- The trans-shipping activity is also a new activity that has not been approved. [Jeff]
- I don't have much concern about ships in open water. People used to go camping and go to caribou hunting areas before the mine started, and that is an impact. They would enjoy their camping at Milne Inlet. This is an impact to hunters. Sometimes our people go fishing to Robertson River. We have not seen big impacts from the ships traversing so far. We might want to reassess the situation after many seasons of shipping. I would prefer more people hunt harp seals because we have too many. It's a change we've observed. [Elijah]

7. Ukiaksaq (October to Mid-November)

- It's a lot of ships. I'm mostly concerned about the narwhals. When trying to hunt seals and a ship passes by, it's hard to shoot if your boat is moving from the wake of the ship. [Enookie]

Discussion on Open Water Shipping Activities:

- Is Panamax the size of ship that would be parked at the trans-shipping site? [Enookie]
- How many summers are you planning to stay in Milne Inlet before you start shipping in Steensby Inlet? [Paniloo]
- I assumed there would be huge stockpiles of ore, but was impressed when it all was shipped this summer. It was all gone. If they are going to continue to stockpile, would they be able to keep up with the ships coming in? [Elijah]
- When you start operating, even in winter, is the process still the same? [Elijah]
- Would there be tug boats at Ragged Island? [Enookie]
- The high number of ships in between Milne, Ragged Island, and through Eclipse Sound could impact narwhals. There will be a lot of noise from trans-shipping. You are going to need monitoring at Ragged Island when they are trans-shipping in the summer time. You don't necessarily need ship observers, we need to establish a new monitoring program at Ragged Island. Under the IIBA, this should include what people from Pond Inlet want because they are affected the most. People are concerned about this. When it comes to the IIBA, they want to be included more because hunters will be affected. [Enookie]
- If they are going to have winter shipping, we wouldn't object too much if it went through Navy Board Inlet. During the spring, people from Pond Inlet like to go camping to Bylot Island and other areas, through Eclipse Sound. If you are going to have winter shipping, we wouldn't want the ships going through Eclipse Sound. We only have narwhals in the summer time. Seals are always migrating back and forth. They usually enter this area through Navy Board Inlet. It usually takes two days for the water to freeze during the cold time. Sometimes ice will form a lot quicker. If the ship travels one way, then how long would it take for the ship to come back through the same route? [Elijah]
- I know this won't happen overnight, but we will continue to say we don't want winter shipping in Eclipse Sound. They did conduct some tests near Steensby Inlet, but they haven't conducted any assessments in this area. A ship was in the Steensby Inlet area. [Paniloo]
- During the ERP final hearings, Makivik and the Kitikmeot [Kivalliq?] were discussing Steensby Inlet. There were so many studies happening around the Steensby Inlet area. Pond Inlet is requesting the whole area of Eclipse Sound needs to be researched. Is it because we are only one community asking? Is it because Makivik and Kitikmeot [Kivalliq?] are bigger voices? [Abraham]
- We want more research conducted in Eclipse Sound instead of predictions being made. I can't cover my own ass to get compensation in the future. I can make up stories, because there's no data or information available. [Abraham]
- We have a representative here saying there are less narwhal around Pond Inlet now. We need more research. [Abraham]
- Yes [Baffinland needs more monitoring at the trans-shipping location and in Eclipse Sound near Pond Inlet] and Bruce Head at the same time. [Abraham]
- I meant the whole thing, not just Anchorage #1. The larger area is where people and marine mammals go. The trans-shipping location is where the big footprint would be. [Enookie]
- In the months of June and July, narwhals start entering Eclipse Sound, so I would prefer there be monitoring in June and July. It's not only narwhals that are entering; other marine mammals also

enter this area and sometimes they enter through Navy Board Inlet. Under Phase 2, there should be additional monitoring outside of Bruce Head, which only occurs in summer. [Jimmy]

- During the month of April, narwhal congregate at the floe edge. We could not access the floe edge. You can determine what direction narwhal are coming from, it is very visible. Last summer, they were travelling continuously from that area. The migration routes of marine mammals should be monitored closer. We suspected underwater devices were installed because narwhal were accessing from different areas more often. The ice controls the migration routes. Narwhals in the Milne Inlet area didn't mind the underwater acoustic devices. The devices that emit sound underwater scare the narwhals. They knew where they were located. Microphones underwater allow us to hear the sounds of the narwhal. We should carefully monitor the narwhal before the ships arrive. [Elijah]
- This [Bruce Head] is where narwhals are monitored during the summer time. They congregate in this area in the summer. If the ships will be coming through the Eclipse Sound area early in the season, then we need a similar study, like Bruce Head, conducted in Eclipse Sound. Marine mammals are migrating through both channels. [Jimmy]
- June should have no shipping. That is when narwhals are arriving. [Elijah]
- End of June, beginning of July, the narwhals are arriving. [Jimmy]
- Narwhal arrive at the end of May and it would be appropriate not to have shipping in June. It would also be considerate for people camping in June. Narwhal and camping occur in the month of June. Narwhals start migrating when the fast moving ice starts breaking up. [Elijah]
- In April, narwhals are congregating at the floe edge. In May and June they start entering this area as the ice is breaking up. In July they are migrating through as the ice is breaking up. I would prefer no shipping to occur from March to July. [Jimmy]
- Narwhal and shipping is not much of a concern during summer. It doesn't matter how fast a ship is going, because marine mammals can move quickly. A ship is much slower than the speed of a bullet, so they will be able to disperse and move away. They can dive from bullets so they will be able to move away. As suspected, there were some underwater acoustic devices in the Eclipse Sound area. That would be the only concern I have, the use of underwater devices. [Jimmy]
- Our only concern is not limited to narwhals. The purpose of this workshop is to concentrate on summer shipping. It would be appropriate if the ships were to go through Navy Board Inlet for winter shipping. If the ships went through Eclipse Sound in winter, the majority of people in Pond Inlet would prefer Navy Board Inlet to be used instead. We are not too concerned with narwhal in the summer time when the oceans are ice free. We are more concerned with ships traversing in the winter seasons. [Timothy]
- Stephen Harper was concerned about economic issues. We would prefer Navy Board Inlet be used. When we first heard about it, we were totally against both shipping routes. Our concerns were being ignored. At least, now we can send a letter directly to the Prime Minister with our concerns. Right now, we are trying to reach a consensus. We have to give consideration to people who are employed at Mary River. We want them to continue to work. We don't want to prevent people from working. We want to have a working relationship. This is the purpose of our work. Once we reach an agreement, our plans would be put in place. We want to reach a consensus. We are going to have to make some changes to the plan. We have no concerns about summer shipping. The number of ships will be increased, and the IIBA will need to be modified. We won't partake in the creation of the IIBA. We will continue to express our concerns. I would prefer that winter shipping occurs in Navy Board Inlet. I'm not going to change my mind. [Paniloo]
- I want to support Paniloo's comments. We will be able to support them in regards to the Mary River Project. We don't want certain ships travelling through Eclipse Sound. Ships can travel through Navy Board Inlet because it doesn't have too many ridges. [Joanasie]

- Right now the current proposal is to have ships travel through Eclipse Sound. Have you made a proposal to go through Navy Board Inlet as well? [Jimmy]
- Is there any possible way that proposal could be changed? [Jimmy]
- There's too much multi-year ice [in Navy Board Inlet] in October, November, and December when the ice is starting to form to travel through Navy Board Inlet. Multi-year ice can be removed by ships. We prefer that ships travel through Eclipse Sound in summer because there are so many narwhals in Navy Board Inlet. [Enookie]
- I thought your ship was designed to go through ice, so Navy Board Inlet shouldn't be a problem. If the ship makes a track, it would make it easier to get through in winter. It would weaken the ice. In August, Eclipse Sound wouldn't bother them, because they are in Milne Inlet. [Jimmy]
- I would rather see them go through Navy Board Inlet in the summer. This is because there are small boats in front of Pond Inlet that would be very affected by large ships and waves. Young people wouldn't get the opportunity to go out on the land. [Abraham]
- I just want to say, I don't have too much of a concern during spring time. During spring, when the ice is breaking up, seals start travelling along the shoreline. I don't know which route they take during the spring time. They migrate towards inlet. [Elijah]
- They enter through Navy Board Inlet and follow the shoreline. [Paniloo]
- There's lots of ice in Eclipse Sound during spring time. [Elijah]
- Narwhals will still have access, even if there is shipping. When we went to Labrador, someone harvested narwhal in the ship track. They normally have beluga. We did not actually go to the loading site. Narwhals get used to the ship sounds. Marine mammals not being hunted don't get scared. Once population numbers increase, they are not afraid of anything. You won't be able to block the route of narwhals, regardless. [Paniloo]
- There is no concern about shipping during summer. There are always ships in summer. We love to eat seal pups after the ice breaks up. They are hard to harvest through breathing holes. [Elijah]

Trans-Shipping Sites Discussion:

- I used to hunt in that region. Marine mammals do not pass by Anchorage #1. A lot of marine mammals pass by Anchorage #2 and people camp by Anchorage #2. People do not camp by Anchorage #1. Anchorage #1 is the most suitable area. That is the preferred location. [Paniloo]
- There's also a channel near Anchorage #1. The hunters tend to travel through this area and shelter there during the storm season, so ships could also go here to shelter. You should be aware that there are Arctic Char in that area. They stay there. They don't go up to the lakes. When I was a young man, my father would accidentally shoot fish when aiming for seals in that area. [Elijah]
- If you're going to have trans-shipping in this area, maybe you can build a shelter for the hunters, so that we can visit, because this is a very good shelter location. There's some really rough waves in the area of Milne Inlet. Hunters going for caribou at Mary River will shelter in that area. If we could have an emergency shelter, then we can say these people are very helpful. It would need to be at least 10' x 7'. It would definitely be beneficial to hunters. In summer time, it's a popular route for hunters, by Anchorage #1. We stop there until the weather calms down, so that the boats can be safe. [Jimmy]
- If you guys set up a cabin there, there will be no issues. [Jimmy]
- Regarding Anchorage #1, I have no objections, because people don't camp in that area. We pass by the place. I know you can seek shelter there. We never camp near there. Only a few seals bask in that area. A ship can anchor there. I have no objection as a result. I also support Anchorage #1. [Joanasie]
- Do you have to build anything there or is it just parking for the ships? [Enookie]

Mitigation and Monitoring Discussion:

- We can't really say how much narwhals have been affected by shipping during the summer. I can't say for certain whether you can see any more narwhals when there are ships in the area. Recently this past summer, as I was on my way home after teaching the younger generation about the procedures, we travelled by helicopter to Milne Inlet to refuel. There were some killer whales near the vicinity of Milne Inlet and there was a dead narwhal carcass floating. One orca had a narwhal in its mouth. One killer whale slammed a narwhal. Killer whales are very fast. Narwhals are more afraid of killer whales than ships. Narwhals don't seem to mind ships. Once ships are in the area they sometimes disperse, but once the ships have passed they return to the area. The ship that had teeth that was painted on the hull, the narwhals were maybe scared of that ship. Maybe they assumed the narwhal would be bitten by that ship. Those were my observations. [Elijah]
- Regarding zooplankton and benthic invertebrates, have you tested any ballast water? [Enookie]
- Do you plan to do these types of tests? [Enookie]
- You should do it. [Enookie]
- As a shipboard observer, you cannot really see. When I was travelling on one of the merchant vessels, you can only see cranes in front of you. You can only see out the sides of the windows. It was getting dark during the whole time while we travelled to Milne Inlet. We saw seals and harp seals, and narwhals. I was on a tanker the first time around. We were able to see everywhere on the tanker. We saw all kinds of marine mammals. It was choppy and I couldn't see much. Climbing the ladders to board the ship at Pond Inlet was quite scary. The training didn't line up so I went up without training. The first one I went on was quite high. It took me awhile, but once I got used to it I got better. [Michael]
- Different monitoring will always be useful. Sometimes there are fewer narwhal, sometimes there are more. Sometimes they don't use the same routes. These monitoring programs are very useful for us. We will be always looking for better methods for monitoring. [Enookie]
- A lot of ships will be traversing through Eclipse Sound or near Mt. Herodier. If you have winter shipping through Navy Board Inlet, you can't see what's under there. We know our marine mammals travel along the shoreline. During the summer, at least you can see marine mammals under water. How can you monitor something that is under the ice? Using a camera under water, installed near the shore. Would it be too dark to have a video camera under water? [Elijah]
- During winter, seals can travel anywhere, regardless of ice cover. They travel along shore, or in the leads. They create breathing holes in the leads. If you have a net in the ice, by the community, you will always be able to trap seals. [Elijah]
- If you want to have winter shipping, there should be a contractor to monitor it. That's something we saw in Labrador, they had some observers from the communities. This observer will tell the captain to slow down if they are going too fast. We will need the same thing here if Baffinland wants winter shipping. [Paniloo]
- I would prefer that if a business were to be established here in the community, it not be a southern contractor. It should be someone from the community that has the business here. [Jimmy]
- Under the IIBA, we have the best opportunity for contracting with Baffinland but there has been a lack of communication to the community about opportunities to contract. Would it be difficult to get that information to the community? [Abraham]
- There is a requirement in the IIBA for priority contract opportunities to be provided to Inuit firms, and notification of non-award. Baffinland has to tell them why they don't get work if they aren't successful on a bid. Businesses can also apply for funding under the IIBA. Through working with the company over the last month or so, we are now getting contracting forecasts and updates on when

contracts will become available. We've completed the Baffin Inuit firm list. We are working to make sure that firms are on the list, that they can do the work, and are notified of contract opportunities. [Justin]

- We would have to ask our community if there is interest in monitoring contracts. If there is some business opportunity, we should inform the public as a whole. [Jimmy]
- In Labrador, our airplane was chartered by a mine contractor. After contracts became available for the mine, local people were able to take advantage. The IIBA is paid directly to QIA, but we prefer that the IIBA benefit the people in Pond Inlet. We need to create a new IIBA for the benefit of people in Pond Inlet. We need to create new business opportunities. If people don't want to go through that venture, then they won't. [Paniloo]
- From the last public hearing, there was a hundred-something monitoring and mitigation requirements from NIRB. Is anyone following up on this to make sure Baffinland is doing it? [Abraham]
- This year, only NIRB came in to the community giving updates, but not the other parties sitting around the table at the public hearing. That's why I'm asking if anyone else was involved, QIA or other regulators. [Abraham]
- There's a responsibility for the community representatives too. The HTO and Hamlet representatives, you should be reporting back to your organizations. [Jeff]
- That is part of the reason the Mary River Community Group has been established. They can share comments and questions to Baffinland and QIA. They also answer back to the community and vice versa. [Justin]
- We have a problem with our communications in Pond Inlet. People hardly listen to local radio and they are not informed. We try to inform the younger generation. Young people and some adults don't listen to the radio. It's impossible to inform all members of the community through the radio station. When there are too many organizations, problems arise. I often went on radio, because I wanted to suggest that winter shipping be conducted through Navy Board Inlet. I asked people to call me to discuss the matter. Nobody called me or opposed it. [Paniloo]
- Facebook is a good way to communicate. [Michael]
- Unfortunately, some youth don't have computers. But I asked students at the school about public posting. The youth are trying to come up with a plan and Joe is the only person that acts as a liaison person and informs us. If Joe could have one or two coworkers, we would have more people to hear from about Baffinland. [Kunuk]
- I don't think people in Pond Inlet are too concerned about open water shipping, so that's why they are not voicing their opinions. There is one individual that is concerned about narwhal numbers in Eclipse Sound, but other than that, I have not heard any objections. They have heard about this for a long time now. [Elijah]
- You'll probably hear an earful from the people of Pond Inlet at the public meetings. [Paniloo]

Closing Remarks:

- Thank you to QIA and Baffinland for sponsoring these meetings and allowing us to express our thoughts. You may hear at the public meeting that people want Baffinland to ship through Navy Board Inlet. [Jimmy]
- Pond Inlet has been talking about the Mary River Project for a long time. Sometimes we have to come up with mitigation issues and potential negative impacts. This is one of the major projects we have to undertake. Sometime, you should take us to the site to inspect it so we can see. We have been involved with this project for a long time. Why don't we go for a site visit? Please take into your heart any comments you heard so there will be less problems in the future. [Enookie]

- I totally support Enookie's comments. The youth are considered the future and we will try and help out in any way we can. Thank you for this workshop. There does not seem to be any obstacles. [Kunuk]
- You have held these meetings for many years. I really try to support you. The Elders are capable of many things. That is the best method. Thank you for these meetings. [Elijah]
- Thank you. [Lindsey]

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #3: Open Water Shipping
- Open House Notes -

Participants:

Various members of the public (see sign-in sheet)
Oliver Curran (Baffinland)
Jennifer St Paul Butler (Baffinland)
Jason Prno (Jason Prno Consulting Services Ltd.)
Leroy Metcalfe (SEM)
Justin Buller (QIA)
Jeff Higdon (Consultant to QIA)

Date and Location:

October 28, 2015 (3:00 – 5:00 pm and 7:00 – 9:00 pm)
Community Hall, Pond Inlet, Nunavut

Other Information:

A number of discussions regarding Baffinland's Phase 2 proposal were held with residents of Pond Inlet during the open house component of Workshop #3. Generally, these residents were interested in learning more about Baffinland's plans for Phase 2, posed a number of questions to Baffinland, raised concerns, and made various suggestions. While the list below is not an exhaustive account of the issues raised in the open house, it provides an overview of some of the key areas that were discussed with different individuals. Interpretation services were provided by a local interpreter.

Notes:

Example comments on Phase 2 open water shipping:

- Much fewer narwhal were seen in Eclipse Sound during the past summer compared to previous summers.
- Why are there two shipping routes to Greenland proposed?
- Will Baffinland consult with every house in Pond Inlet about the potential trans-shipping anchorage locations?
- Has construction of the second dock at Milne Inlet been approved?
- Baffinland should conduct one year of shipping as a pilot project before the full 20+ years of shipping is approved. This would allow the community of Pond Inlet to see what the effects of shipping would be first-hand.
- Baffinland and Inuit need to work together. Things will go smoother if they work together.
- Marine mammals will move away from ships because of the noise. Will this mean the marine mammals will disappear?
- Why did the ships from the past summer season stop operating before open water was truly over? There should have been more ships.

- A number of general questions were raised in the open house about Baffinland's plans for Phase 2 community consultations.
- A number of general questions were raised in the open house about the environmental monitoring programs Baffinland has in place.
- Narwhal monitoring should occur at locations other than just Bruce Head.
- Environmental monitoring should occur at the locations where the ships are moored.
- A number of individuals noted that Anchorage #1 is a preferable location for trans-shipping compared to Anchorage #2 and #3. This is because there are fewer marine mammals around Anchorage #1 and less hunting that takes place. There are also less people camping/using cabins in that area.
- Why can't the anchorage be located out in open areas, like the middle of Eclipse Sound?
- More shipping should occur in open water, to reduce the number of icebreaking trips.

Other comments:

- I thought Baffinland representatives would be here at this meeting, not consultants. I thought you were hosting a public meeting.
- Having first aid training is a requirement for some jobs at Mary River, but few people in Pond Inlet have this type of training. Could Baffinland offer this training in Pond Inlet?
- Shipping through Eclipse Sound during winter is a safety issue for hunters and travelers. Baffinland should consider only operating during open water because of this.
- There should be no winter shipping occur.
- Going through Navy Board Inlet would be cheaper for the company during winter because they wouldn't have to build bridges for the community to cross the ship's track.
- Ice conditions can change in Eclipse Sound and Navy Board Inlet every year. During some years, Navy Board Inlet can have smooth ice.
- There are less people hunting caribou in the Mary River area these days, compared to the past.
- How many people are working at Mary River right now?
- We don't know what the effects of winter shipping will be as we haven't seen winter shipping in this area before.
- I haven't heard about there being impacts from winter shipping in other locations before.
- When they were using ice breakers at the Nanisivik Mine there were some hunters that lost their sleds because of it. The ship track could be unstable to travel on for two days. I don't want the same thing to happen with Phase 2.
- There is a worry in the community that IQ will not be properly incorporated into Phase 2 planning.
- How are social concerns and IQ being addressed in Phase 2? Environment and land use related IQ is different than IQ on social matters.
- It is good to see the employment that is resulting from the mine.
- There are cabins on Bylot Island across from the community of Pond Inlet that residents use, including myself. I am worried about not being able to cross the ship's track in the winter to access my cabin.
- The Nunavut Quest dog team race route could be affected by winter shipping.
- Shipping could affect Inuit travel routes.
- I'm interested in jobs for youth but have not heard much about Phase 2. I'm interested to know there are medics at site as that is a field young people interested in nursing might be able to work in.
- Workshop participants are not sharing enough information back to their organizations.

- Navy Board Inlet is the preferred route for winter shipping, not Eclipse Sound. There will be fewer ship track crossings needed if the route goes through Navy Board Inlet. There are also less people using Navy Board Inlet than Eclipse Sound in the winter.
- A number of general questions were raised in the open house about the employment and training opportunities available at Mary River for Pond Inlet residents.
- Complaints were raised about individuals applying for jobs with Baffinland, but never getting called back or receiving an interview.

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #4: Caribou
-Invited Persons Workshop Notes-

Participants:

Abraham Kublu (Hamlet of Pond Inlet nominee)	Oliver Curran (Baffinland)
Joshua Arreak (Hamlet of Pond Inlet nominee)	Joe Tigullaraq (Baffinland)
Elijah Panikpakoochoo (Pond Inlet HTO nominee)	Joe Krimmerdjuar (Baffinland)
Jimmy Pitseolak (Pond Inlet HTO nominee)	Jason Prno (Jason Prno Consulting Services Ltd.)
Andrew Muckpa (Arctic Bay HTO nominee)	Mike Settingington (EDI)
Koonark Enoogoo (Arctic Bay HTO nominee)	Kim Poole (Consultant to QIA)
Michael Quanaq (Hamlet of Arctic Bay nominee)	

Dates and Location:

November 20–22, 2015

Sauniq Hotel (November 20) and Hamlet Chambers (November 21–22), Pond Inlet, Nunavut

Other Information:

At the beginning of the workshop, Baffinland presented details of the Phase 2 proposal and described the purpose and objectives of the workshop. The remainder of the workshop was spent discussing community concerns related to caribou and Phase 2, and potential ways to address those concerns. Potential mitigation and monitoring options for Phase 2 were also discussed, as were other topics. The workshop was facilitated by members of the Baffinland team. Workshop notes were recorded by Jason Prno. The workshop was observed by Kim Poole, a consultant to the QIA. Information provided in the workshop (included below) is attributed to individual participants or to group discussion where appropriate. Interpretation services were provided at different times by Joe Krimmerdjuar, Joe Tigullaraq, Tabitha Kasarnak, and Malachi Arreak.

Notes:

Introductory Workshop Presentation, Review of Agenda and Consent Form:

- [No comments or questions]

Current Site Activities and Phase 2 Overview:

- When was that photo [of Deposit #1] taken? [Joshua]
- Is that ore estimate only for Deposit #1? [Joshua]
- Who does your tote road surveys of caribou? Inuit? Inuit can see caribou that are far off in the distance. [Joshua]
- Half the people from Arctic Bay believe the road is affecting the caribou and preventing them from coming up to Arctic Bay. I don't believe that myself, but is there any way Baffinland can look at involving people from Arctic Bay in the caribou surveys so that our community can better understand what is actually happening? [Andrew]

- Where is that photo [of the caribou tote road monitoring] from? [Jimmy]
- How wide is the tote road right now? [Joshua]
- How can the caribou cross the road in that area? [Jimmy]
- There's a caribou trail. Caribou go through there in the fall. Right now there is hardly any caribou. [Elijah]
- Where will the airstrip at Milne Port go? [Kim]
- Are they going to build a new airstrip at Milne Port? [Michael]
- Are the ore stockpiles at Milne Port only for summer shipping? If Phase 2 is approved, where would you stockpile the ore? [Joshua]
- During the last workshop you said Phase 2 winter shipping will be 10 months long and now you're saying it will be 12 months? Can you clarify? [Abraham]
- There should be no shipping in June. [Jimmy]
- You had a delay this summer [i.e. Baffinland did not ship as much ore as originally planned]. Do you have a 'plan b' for filling up the ships if this happens again? You need to learn your lessons from your earlier mistake. [Abraham]
- If Phase 2 goes ahead, how many icebreakers are you expecting to use during the 10 month shipping season? [Andrew]
- What will the total amount of ore produced for Phase 2 be, in tonnes? [Joshua]
- If Phase 2 goes ahead, you'll be allowed to truck more ore down the tote road. But the railroad won't be built right away. Would the mine life be longer if you only used the tote road? How would this affect mine life? [Kim]
- Are you saying it will probably take longer than 21 years to mine all of the ore? [Jimmy]
- Can you provide a reasonable estimate on the new mine life? My rough math indicates that if the railroad isn't built for three years, your mine life will extend to 30 years. This is important for the group to understand, as trucking on the road will be extended through this time period. This estimate is only for Deposit #1, as well. [Kim]
- We have also heard that Baffinland will need to reapply to extend their mine life beyond 21 years. [Joshua].
- And those mine life estimates are only for Deposit #1. [Joshua]
- Can you give us an estimate of how big Deposits #2 and #3 are compared to Deposit #1? [Joshua]
- Have you started widening the tote road already? How fast do these trucks travel? Can they stop if they suddenly see caribou? [Joshua]
- How many more trucks are you talking about using in Phase 2? [Joshua]
- How many caribou can you see going from Mary River to Milne Inlet on the tote road? Can the truck drivers spot the caribou along the road? How far can they see from the truck? Sometimes the truck's windows are dirty. [Elijah]
- I understand the weather can affect traffic on the road. It affects us as hunters too. [Elijah]
- Can you point out the changes that will occur to the cross-section of the road once it is widened? How that will change the way the road looks if it is sliced in half? [Kim]
- The new road, in some areas, would have a steeper and longer slope. I just want to make sure people understand that. [Kim]
- That gives me an idea. Why don't you build two roads? One that goes up [north] and one that comes down [south]? Instead of widening the existing road? [Joshua]
- Snow can accumulate along the roads very quickly into snowbanks on the side of the road. [Joshua]
- I have a question for the caribou biologist. Knight Piésold has identified caribou trails from Mary River to Milne Inlet, the main trails. When you are observing caribou do you only pick one area to observe or do you use the Knight Piésold information and go to those areas to observe caribou? [Abraham]

- So you will need to install two new bridges [at that location]? You can't use one of the existing bridges for traffic going the other way? [Kim]
- The mid-way tote road camp will be built 60 km from Milne Inlet? Or Mary River? [Abraham]
- Are the tote road traffic estimates for one-way passages? [Joshua]
- This is regarding IQ. We have a small number of caribou right now, but we are expecting within 10 years that we will have more caribou migrating this way. This needs to be taken into consideration. There will be more caribou in this area in the next 10 years. [Joshua]
- When caribou move to new forage areas, they are very aggressive in the way they act and where they want to go. For example, when crossing an area or road to go to a new site, they will not be deterred by traffic in where they want to go. They will likely try and cross the road even though it may not be safe for them to do so. [Elijah]
- Before discussion of Phase 2 even started, these issues [on Slide 32 pertaining to more frequent traffic on the road (e.g. barrier/filter to wildlife movement, increased dust fall and effect on vegetation, traffic effects on use of public road for harvesting, collisions), year-round activity at Milne Port (e.g. disturbance to wildlife), and increased emissions (e.g. vegetation health)] already affected us. [Jimmy]

General Discussion:

- I do not have a lot of concern about caribou disturbance and Phase 2. I'm concerned about the cost to build the road. It might be better to build twinned roads instead. Caribou follow their food; they will travel to where there is food. A rail line in their way won't matter to them. In Arctic Bay right now there isn't much food available for caribou; that's why there is not a lot of caribou there right now. [Andrew]
- I have a concern about the dust. Can it be better controlled? When I was flying on Canadian North over the tote road, I could see the dust spreading along the tote road. Even from 20,000 feet. Can there be a better plan that you put in place? Can you cover the trucks? So that vegetation on the road won't be affected? You also mentioned three lakes along the tote road. Have there been any studies conducted on those lakes? To see if there are fish in those lakes? I know we're talking about caribou in this workshop, but there can be other effects on the environment along the road as well. Like on vegetation. [Abraham]
- I believe the caribou will gradually come back into the Mary River area. I would like to see an increase in monitoring and mitigation of that. My concern with the Phase 2 proposal still pertains to shipping in June. The community does not want any shipping in June. Period. We would even recommend that you not change the number of ships per year, but we don't want you to ship in June. Most residents of Pond Inlet would say 'no' to shipping though Eclipse Sound. More people would support Navy Board Inlet for winter shipping. We would prefer Navy Board Inlet. [Joshua]
- Regarding caribou, we've talked about widening the road. I've seen the road every year from Mary River to Milne Inlet. At Mary River the dust is formed from the wheels of the trucks. When it's raining it's not dusty. We need to discuss this. The HTO will need to discuss this. The roads need to be maintained. If the caribou ate contaminated vegetation, like lead or zinc, how long would it take them to get sick? We've studied the caribou population. They've moved from Pond Inlet towards Clyde River. In regards to Baffinland's shipping this past year, they began in the spring and it lasted about a month. The shipping happened fast this summer. If they ship in winter they will ship much more iron ore. The HTO discussed this matter. If the caribou eat the vegetation, how long will it take them to become contaminated with iron, lead, and zinc? Arctic char is a concern. In the 1960s they wanted to put the road in a different location in Milne Inlet. The road needs improvements. We are affected in Milne Inlet because we hunt in that area. Mary River was a camping ground and

was used for caribou hunting in summer time before the mine went in. The community doesn't go camping in that area anymore because there is so much activity around that area. Milne Inlet also used to be a camping area before. There used to be tents and whole groups of families. Some people in Pond Inlet are concerned about the Phase 2 proposal. [Elijah]

- I have a question regarding the tote road. As of right now, hunters can use the tote road from Milne Inlet to go to caribou hunting areas. Your presentation said there would be an increase in trucks on the tote road during Phase 2. Will hunters still be able to use the tote road in Phase 2? Will they be able to hop on a truck to travel down the road? Or would they use an ATV? Increased traffic presents a safety issue and a hunting issue for hunters. With the increase in traffic, my biggest fear is the safety of hunters travelling on an ATV, as it is a public road. I've never been on the tote road to hunt before. Elijah and Joshua are the only ones here who have been on that road. [Abraham]
- What is the current policy for people who want to travel on the tote road? [Kim]
- We need to speak with the liaison officer and he is supposed to tell someone at the mine site that people will be using the road. [Abraham]
- When we come into Milne Port on skidoo we use a slightly different route [than what has been proposed by Baffinland]. [Elijah]
- Our biggest concern in summer time is travelling on the tote road and through the mine site on ATVs. People prefer to hunt caribou in the summer. We do go caribou hunting in the winter also. We're less concerned about travelling in the winter, as there are more travel route options for us to use. Currently, there are two areas where we cross the tote road in winter. They both have bridges. However, these locations often get filled in with snow, snowbanks develop, and snow machines get stuck. These are obstacles for us. I was wondering if Baffinland could fix this. I can show you on the map where these are. One is at kilometre 15. [Elijah]
- [Group discussion around the map regarding current travel routes around Milne Port and Mary River]
- If you used Navy Board Inlet for winter shipping you would only need two ship track crossings. [Elijah]
- In the summer time, we only use the tote road to travel down to Mary River. We don't use other areas on our ATV. [Elijah]
- It's going to be a concern if Phase 2 starts on the tote road. If there are trucks every 3 minutes, that's going to block the caribou from crossing the road. That may be a big blow to the hunters. It will be a topic of discussion for the hunters. [Joshua]
- If a large herd is crossing the road, will that affect your trucking intervals? [Joshua]
- If a caribou was injured and was bleeding internally after being hit by a vehicle, it wouldn't be edible. Hunters don't really want bruised meat. We would have to be compensated for the kills, for the spoiled meat. If it's only dead overnight it's ok, if it's dead for a couple of days it's wasted meat. [Elijah]
- They should store the meat that was hit by a vehicle; that would be better. [Michael]
- This year we only have a 30 caribou hunting limit. Baffinland should think about further impacts on the caribou it might cause. [Elijah]
- I have a concern about trucks passing every 3 minutes. Especially in spring when females are giving birth. You will have watch out more during this period. This is usually in June. This is my main concern. [Andrew]
- This is the first time I've heard about these plans for trucking. I will need to ponder more about it. It will put barriers on the migration of caribou. We expect the caribou to start coming back more and more each year. The animals are very intelligent. They will adapt. I have not personally seen examples of caribou adapting to disturbance, but this is knowledge passed down from generations. They will adapt. [Joshua]

- I know for sure if there are vehicles every 3 minutes, there will be caribou hit by the vehicles. When caribou are going to their destinations, they do not stop. They will not stop. This is an issue you will need to consider. [Koonark]
- When I was younger I used to see caribou jump over an ATV trail. This was when they were individuals or in a small herd. Larger herds used to walk right across it. If they are going in one direction they won't stop no matter what. Even when trying to make them flee they will continue moving on. [Abraham]
- This occurred with snowmobile trails too. [Joshua]
- One time there were caribou that had never seen skidoo tracks before. They tried to go around the skidoo track. [Elijah]
- With trucks every 3 minutes, even if airbrakes were used they would probably still hit the caribou. [Michael]
- There was a time when a caribou jumped over my skidoo and I grabbed it and caught it. Caribou that travel in packs will not make a detour. [Elijah]
- The caribou will follow the leading caribou. They will not make a detour. They will follow the leader. When they are travelling in a large herd they are not scared of anything. When they are not a large herd they are scared easier. [Elijah]
- I would like to ask Elijah for a clarification. Will caribou know where the caribou are that are in front of them? And follow their trail until they reach their destination? [Abraham]
- Yes. If one caribou is travelling and they are being hunted they will run away. They will eventually catch up to the leader though. Even if there is a caribou on one side of a mountain, they will follow the herd that is on the other side of the mountain. They know they are over there. [Elijah]
- In August people liked to go hunting. When we used to wear caribou skins, people wanted to hunt when the caribou were fat, when the skin was nice and thin. We preferred to hunt caribou at this time. [Elijah]
- Can you tell who the leading caribou are? [Mike]
- Males will follow mothers with calves. All the caribou are watching the mothers with the calves. [Michael]
- The vehicles will be travelling every 3 minutes. If a big caribou herd is crossing the road and following the leader, can we stop the vehicles until the caribou have crossed the road? [Koonark]
- In the spring the females are travelling up in the land to give birth. In the fall they are going down south looking for the other herd. They will travel to the south to meet up with the other herd. They will gather and repopulate. The mothers and calves are up on the mountains where there are less mosquitos and to protect their young ones. In the fall they go back down to the beach and will look for their mate. One time at Mary River in the summer time I was walking and looking for caribou with my dog. Before Baffinland was established I would hunt inland for caribou. The elders have told us about hunting areas. We will use these areas to hunt caribou now; that information has been passed down from our ancestors. Inuksuks are built differently to indicate different things. They may have indicated a caribou trail or where caribou herds could be found. Or a cache of meat. The information from our ancestors is always truthful. When Inuit are telling stories we are helping each other out. This is why we tell stories. Before gas we survived with seal oil lamps and built huts without wood. We even used to have swings in our huts. I was born in a kamotik when we were travelling. My father stopped and built an igloo when we were travelling. I was born in an igloo. Our elders survived the harsh winters. [Elijah]
- I just want to express my appreciation for having this meeting with Arctic Bay and Pond Inlet to discuss caribou. [Koonark]

- We historically relied on the game, we still do. We still hunt to survive. We're still like that. It's part of our Inuit system. We still eat country food. If that were to be affected in some way we would be very concerned. [Joshua]
- What time of the year were you looking for caribou trails on the tote road? [Jimmy]
- Did you do an aerial survey or ground survey for caribou? [Jimmy]
- Is Baffinland going to open that [railway] route too? If so, would there still be a truck every 3 minutes? [Michael]
- If you used the train would it have more or less dust pollution than the trucks? [Michael]
- How fast would the trains travel? [Michael]
- What about disturbances by wolves, rather than humans or the mine? Did you look at this effect on caribou? [Abraham]
- Every time when these questions come up, I'm always curious to learn about the Red Dog Mine and the Meadowbank Mine; mines where there are caribou around. I'm interested to hear about what they're doing. [Abraham]
- With the Bathurst caribou herd, is the decrease in population due to the mine site or the harvesting that is occurring? [Jimmy]
- Have you ever done aerial surveys on the Borden Peninsula? Not just around Mary River? [Jimmy]
- Do I understand correctly that you studied the area you did to understand the impact of Mary River only? And the government surveys are done for other reasons? [Jimmy]
- Baffinland's estimate of the caribou population was based just on the study area? Or for all of North Baffin? [Jimmy]
- If caribou were affected by the project would that mean a greater likelihood of a caribou harvesting moratorium occurring? Like the one that was established already by the authorities? If a caribou ate contaminated food, like iron ore, and was affected, would I be compensated? [Michael]
- If the caribou was contaminated and I ate it, would I have health issues because of it? Would those issues be passed on to my children and their children? [Abraham]
- [Unrecorded comment]
- How are you going to monitor caribou? Through hunters? [Joshua]
- I would really like to see a person, or two people from the community, be a part of the Terrestrial Environment Working Group. This is because QIA is not communicating the results of those meetings back to the community well. During the NIRB hearing I requested to have representatives from Pond Inlet on that group and to this day there has been nothing happen. [Abraham]
- I will pass that comment on to the people I work for at the QIA. [Kim]
- In your study of caribou, did you study the vegetation that they eat? [Abraham]
- What season do caribou eat lichens? [Kim]
- They pretty well eat the lichen all year long. They also eat other vegetation depending on the season. It will vary during the year. They don't just eat lichen. During the day they will eat in higher elevations and in the mountains. They will eat lower down in the valleys later on. In the higher elevations and in rocky terrain, where the terrain hasn't been glaciated, there is black lichen on top of the rock. When they eat that lichen from the rock they start to get fat in the summer time. When they go to lower elevations and valleys they eat more leafy vegetation. There's a particular plant [unrecorded name]. They start to eat twigs and willows, like rabbits. In the night and evening, they start moving down from the higher elevations. [Elijah]
- The caribou have left our main area. Based on IQ we know there is a rough range of time when the caribou will return. We don't know an exact day, but know of rough years. IQ says there is a 60 year cycle. We know they will always return. We don't know the exact year, but know they will return when their food starts growing back. [Joshua]

- When hunters go hunting, we are always very observant of the caribou. In past years we had abundant caribou around Pond Inlet, in 1994 and 1995. The caribou then headed towards Clyde River for a 10 year period. They started moving south and into the fjords towards Clyde River. When the elders saw that they said 'uh oh', because they knew the caribou would not return for a while. They knew they would not return until the vegetation grew back. It can take a very long time for the vegetation to grow back. We conducted a caribou survey by helicopter at Mary River recently and only saw caribou on top of a mountain, on a high peak. That area had snow on the high peak already. Caribou seemed to be heading towards an area between Pond Inlet and Arctic Bay. It seems like it will be a few years before the main herd arrives. It seems like there are more caribou starting to migrate north again. Since time immemorial, we know that Big A Lake has been a gathering location for Inuit because that area always had caribou, even if there were no caribou elsewhere. They would wait for the herd to come there. Between Pond Inlet and Mary River there have been a few straggler caribou in the high areas. They seem to avoid that area. There are not a lot of caribou around Milne Inlet and Steensby Inlet. They seem to avoid that area. It could be because of the noise of the vehicles. When the caribou are down lower, they seem more skittish. They are less skittish when the herd is in larger numbers. We also have caribou that are different; they are a separate caribou population. We consider them mountain caribou and they are found on the northern Borden Peninsula. They are slightly different than the main North Baffin herd. The main herd is smaller in body size and have no eyelashes. We notice this because we harvest and butcher caribou. That's how we differentiate between caribou. This area always had caribou prior to the iron mine project. The area from Milne Inlet to Big A Lake was always known to have caribou all the time. With the constant traffic all the time now, however, it could be causing some impact. There are less caribou there now. There are other differences in caribou herds we have noticed. For one herd, it's like they are remnants of reindeer. Their fur is different, their colouration is different. It's more brown. [Elijah]
- The Keewatin people have also said they have noticed caribou that aren't originally from their region. [Joshua]
- The southern Borden Peninsula caribou population tend to move towards the Barnes Ice Cap. Caribou found towards the east of Milne Inlet tend to move towards Mary River in the fall. They will also move to Pond Inlet. Big A Lake used to have lots of caribou, but we haven't been there in the past two years because we know there will be none there now. [Elijah]
- We know the caribou follow their vegetation. Based on scientific evidence, we know it takes about 70 years for the lichen to grow and return. Our elders say it will take about 60-80 years for the caribou to return, which corresponds with the scientific predictions. Have Elijah or other residents noticed the stomach contents of caribou they have shot? What type of vegetation they have been eating? Were the stomach contents green or black? [Joe T.]
- Darker stomach contents are found in the caribou that occupy the higher elevations, in the mountains. They are the ones that eat the rock lichen. They fatten up on the rock lichen. Their meat is sweeter. Green vegetation is found in the lower elevations and valleys. The stomach contents of caribou that eat this are greener. In the spring their contents are greener, because the vegetation is new, new shoots. The stomach contents will change colour as the season progresses into fall. There is actually only a small stomach that caribou have; they have another location, a big bag to store the cud and rumen. If their stomach is not full, however, they will be starving, as they will not be getting enough nutrients from the cud. The small stomach makes a good hat. Once a caribou lies down, it will chew the cud. [Elijah]
- I used to work as a wildlife conservation officer for many years. In the 1990s Cape Dorset had a lot of caribou. One elder told me that once caribou first arrived in the winter their stomach contents were green because they weren't competing with one another. As the years went on, their stomach

contents became darker as food became scarce and they relied on rock lichen. A few years later the caribou migrated away altogether. In 1994-1995 there were so many caribou they were between the buildings in Pond Inlet. Their stomach contents were very black. Caribou stomach content changes because their food changes and they start running out of food. I've been told that when their stomach content colours change, the caribou will leave soon after. This happened in Pond Inlet. [Joe T.]

- That's very true and is the same here in Pond Inlet. You could see where the caribou had dug up the snow looking for caribou lichen. Everywhere around Pond Inlet you could see these dug up areas. We also started noticing that the caribou would be digging for food everywhere; some areas were very rough because of this. The caribou were no longer scared or skittish of humans during this time. [Elijah]
- In our area, in Arctic Bay, prior to migrating, we also noticed the stomach contents changed. An elder in Resolute Bay also told me the taste of the meat would change during this period. In Arctic Bay, I've noticed changes to the taste of caribou and the colour of stomach contents. [Koonark].
- Prince Charles Island is currently full of caribou. The caribou have started moving back onto Baffin Island. When caribou go to die they go to the Nettilling Lake area [pointed at the map to an area around the northwest corner of the lake]. It is very muddy. It is like a desert. You see thousands of antlers there. When the caribou start becoming overpopulated they start going to that area to die off. [Elijah]
- When caribou started moving east, we had caribou that migrated up from the mainland [Melville Peninsula] to Baffin Island. We saw tracks going right over to Somerset Island, too. [Koonark]
- Once in a while you will see tracks heading off to Greenland. [Elijah]
- We have slightly different caribou around Arctic Bay. In the northern Borden Peninsula, they are different. This area always has caribou; my grandfather said this. Even now there are caribou there. When they are in lower numbers they become more skittish and go to areas they otherwise wouldn't go in larger numbers. In larger numbers they no longer fear human activities. In low numbers they will try and avoid human activities and pollution. Through the internet we now are all interconnected and know where the caribou are. But we don't know when they will return in large numbers. [Andrew]
- There was a collared caribou that came all the way from [Nettilling?] Lake, through Mary River, and was shot around Arctic Bay. [Koonark]
- [Elijah confirmed the caribou movements shown on an existing map produced by Mike Settingington were correct].
- I have a question. When the caribou population density is low and the habitat is impacted, they are skittish. But they will move anywhere when the herd is large. If there is pollution from the tote road, will the increased population eat the vegetation? [Joshua]
- I would imagine so. Here in Pond Inlet, as there were more caribou coming in, they had to implement a speed limit for the water trucks to make sure they didn't hit caribou. In that large herd the caribou weren't afraid of the trucks. I imagine they will lose that fear at Mary River when the herd is large. Land animals will lose their fear once they realize they can't be harmed; they will be afraid at first though. Polar bears and some other land animals will attack anything that is moving when they are starving; this is different than caribou. When caribou start running out of food, they will go to the tote road if there is food there. [Elijah]
- In 1994 and 1995 in Pond Inlet when I worked as a conservation officer here, there were caribou that drank from the sewage outflow. We had to chase them away. The same thing happened in Baker Lake. People would not hunt in those communities, they would not hunt anything within a mile, because of health concerns. [Joe T.]

- Regarding the tote road, I'm not sure that we'll ever be able to prove the vegetation along the tote road is contaminated, unless it is being eaten. It is hard to hypothesise. [Joshua]
- I have a question with respect to unprocessed iron ore, which is basically just a part of the land. Caribou always have to eat at least a little bit of dust on the vegetation they consume. I'm not sure about iron ore though. Is there such thing as iron ore toxicity? [Elijah]
- If the trucks go up the mountain to pick up the iron ore, the tires will pick up iron ore dust and transport it down on the road. When the dust is red, that's a sign of iron ore. [Joshua]
- On that picture, I can see red on the road, but not on the other picture. How can you say that road has no iron ore dust, even though the road is red? [Abraham]
- That's where the frustration comes in. You're saying there is no dust on the road, but we're physically seeing dust on the road from trucks. [Abraham]
- If there are caribou right on the mountain, or in proximity to the blasting, that's what I was asking about. I'm not really worried about the tote road itself. I travel in that area quite a bit. I've seen the quarries that are used. There are reddish and greyish types of rock. We've known forever that rocks around Mary River have a reddish tinge. We had to wait to take off in our plane once until the blasting was completed at Mary River. The smoke was more brown than red. We used to see caribou right on the mountain at Mary River and the surrounding area. In the winter we are not so concerned about dust. We are more concerned in the summer season, when it becomes an issue. Dust comes from the wheels of the trucks. I'm more concerned about caribou eating the vegetation that is covered in dust around the mine site, rather than the tote road. [Elijah]
- Caribou in large numbers will be curious about all the noise at the mine site and will want to investigate. You might need fencing to make sure they don't come in and check once the population numbers become higher. [Elijah]
- When we were conducting the caribou population survey, we saw the ancient trails throughout the terrain. You can see trails all along the tote road, wherever there is soil. [West of the tote road], caribou tend to travel [south towards Big A Lake]. For the caribou [located towards Arctic Bay], you can also see trails heading [eastward towards Big A Lake]. [In the Mary River area, east of the tote road], you can see trails towards [Mary River]. Valleys will often be used as trails as well; these trails will head towards Mary River. That tends to be the migration pattern in this area. In spring, the caribou start migrating north. The females start moving north to calve. They move into the valleys and mountains in the spring time. Only lowlands have wolf tracks; they tend to avoid the highlands. There aren't a lot of wolves around Mary River. In the fall, the caribou start migrating [south in the Mary River area]. In the tote road area you could probably see caribou crossing all over the place, prior to mine development taking place. Up in the mountains [north of Mary River] we harvest most of our caribou. We rarely went south to Mary River itself. That was in the 70s and 80s. We spent more time in the Milne Inlet area. We only went down the tote road as far as we needed to. When we were chasing caribou, they would always flee towards the Mary River area. Caribou tend to flee to areas where they know there are existing herds. [In the area east of Big Lake], you have trails going east quite a distance. In [the area north and east of Big A Lake] you always have a lot of caribou over there. This past fall we overflew a valley [the Rowley River, southeast of Big A Lake] and we saw about 200 cows with calves. The area [south of Big A Lake] is almost impossible to traverse using ATV. There are lots of very big boulders. You have to take a longer trip [in the Rowley River area] to get around this. [Elijah]
- [Various caribou-related mapping began to occur with the workshop participants]
- As fall is progressing, hunters would wait on the hills for the caribou to come up to them. [Elijah]
- [The lakes south of Mary River]; there are lots of caribou trails there. These lakes are used as escape routes from predators like wolves. [Elijah]

- In fall, the caribou movements in this part of northern Baffin Island [indicated on map] are to the south. In the spring, they are to the north. In the Rowley River area, the caribou move north in the fall. [Elijah]
- When you see wide trails that is where hundreds of caribou have used the trails. When you see narrow trails there are fewer caribou that have gone through. [Elijah]
- From what we hear, caribou are starting to move north from where they are on Prince Charles Island, to near the Barnes Ice Cap. [Elijah]
- [The highlands north of Mary River] are good summer range for caribou. [Elijah]
- Caribou from the mainland [e.g. Melville Peninsula] tend to move north [towards Arctic Bay and the Borden Peninsula]. [Koonark]
- On the Borden Peninsula, there is not a lot of vegetation. The caribou migrate north in the fall and south in the spring. Caribou migrate north from the mainland, although some come from the east, the Baffin side, as well. [Koonark]
- [Northeastern Borden Peninsula] is used more by Pond Inlet for caribou harvesting than Arctic Bay. [Koonark]
- [In the lakes south of Arctic Bay], there have been lots of dead caribou carcasses found in the water in the past. This has occurred when the caribou have tried to cross thin ice in the fall. [Koonark]
- This past fall there were caribou [on northeastern Borden Peninsula]. [Jimmy]
- [In the general area south of Pond Inlet/around Mary River], the caribou migrate north in the spring, spend the summer in the [Oliver?] Sound area, and then migrate south in the fall. [Elijah]
- [At one particular location] there was a caribou trail that was wide and deep. That trail must have been used for a long time by the caribou. [Elijah]
- Caribou are great climbers. They can climb up the sides of mountains. [Michael]
- There is a person from Arctic Bay who has intimate knowledge of caribou [on the Borden Peninsula], but they were unable to attend. Koonook Oyukuluk and Ikey Kintikarjuk are two of our experts. [Koonark]
- People used to hike from the Tay Sound and Clyde River areas to meet [in an area east of Big A. Lake] in the fall. They would meet at this location and hunt caribou. People would also come from the Igloodik area and from the area [west of Big A. Lake]. The area they met in almost always had caribou. The caribou were used for food and winter clothing. [Elijah]
- My grandfather used to tell us about going there. [Michael]
- Sometimes hunters would have a home wife and a hunting wife. If you were a good hunter you could have more than one wife. You needed a wife on the trail to be a seamstress and fix worn out kamiks. Sometimes when a hunter died his wife would be taken on by another hunter. It was survival. Having more Inuit people alive allowed us all to have a greater chance of survival. [Elijah]
- I once saw a caribou that had been stuck in the water for three days. I went back to the caribou assuming it would be dead and frozen in but once I got to it, it was alive and got itself out of the water. I wasn't able to capture it. [Elijah]
- In attempts to get themselves out of the water, we would see caribou rub their knees raw. They would die from blood loss rather than hypothermia. [Elijah]
- Caribou will cross here in the spring and fall [lines drawn on map], but you can see caribou along the road anywhere. Spring and fall movements are more predictable when the herd is larger. [Elijah]
- I've seen caribou swim across from Baffin Island to Bylot Island in the past. There is a location where they are known to cross. [Elijah]
- There will be trucks on the road 24/7. [Michael]
- Phase 2 will have an impact on caribou. [Unrecorded respondent]
- Will there be issues with having trucks on the road at night? Will they be able to see the caribou? [Michael]

- If there is a lot of food available, caribou will stay in one spot. If not, they will move around and forage more. [Elijah]
- There are two major migration periods for caribou in the North Baffin. In the spring, in April and May, caribou cows move towards their calving grounds. In the fall, bulls start their rut. The bulls are looking for mates at this time of year. [Elijah]
- Caribou don't migrate long distances in the winter, although they will move short distances. [Elijah]
- In the spring, caribou will follow any large shapes that are moving. They assume it is another caribou. Especially when it is darker outside. [Elijah]
- To corral caribou in the past, they would make a 'U' with inuksuks. This would allow them to direct caribou to the waiting hunters. [Michael]
- This was in the old days when we had bows and arrow. We didn't have firearms. [Joshua]
- The fall migration of caribou occurs in September and October. [Elijah]
- I'm not too worried about caribou on the road in the dark. Often there is enough light from the moon and stars to see. [Elijah]
- Bulls will cross more frequently when looking for food. [Elijah]
- In the winter, caribou tend to be found more in the flat, valley areas, so they can see predators. [Elijah]
- Once you start to see many caribou on the tote road you need to be worried, as there will be more behind them. [Elijah]
- If there are one to three animals, they won't cross the road in front of the vehicles. Large herds will cross in front of vehicles, however. Truck drivers will need to be aware of this. [Elijah]
- A caribou herd will generally stay in the same area until all the food is gone. [Elijah]
- When caribou numbers are low, they will be very timid. When caribou numbers are high, they will be very curious. [Jimmy]
- No one sees caribou tracks and trails joining [the Milne Inlet area to the Borden Peninsula area]. There is no movement between these areas. [Elijah and Koonark]
- We are aware of certain areas where there are concentrations of caribou. [Elijah]

Contemporary Land Use Activities

- [Various caribou-related mapping occurred with the workshop participants]
- We only use the tote road in the summer. In the winter, we will use it if there is enough snow. Or we will use the river. [Elijah]
- All the [contemporary caribou harvesting travel route] lines on the map have been walked by Inuit in the past. [Elijah]
- We hunt for caribou by skidoo around Arctic Bay during November, December, March, and April. We hunt by ATV in August and September. In some locations, we transport our ATVs by boat first. [Michael]
- In the Pond Inlet area, there is not much caribou hunting that occurs in November. The meat doesn't taste good at this time of year, because the caribou are in the rut. [Joshua]
- When caribou are in higher numbers, there is more hunting that occurs. [Elijah]
- In Pond Inlet, the most popular time to hunt for caribou occurs at the end of November and in December. Caribou meat is harvested for the Christmas season. This is the peak hunting period. [Elijah]
- At the end of January and in early February, hunters will start hunting around Mary River. There is no caribou hunting around Mary River in April and May. [Jimmy and Elijah]
- In Arctic Bay, March and April are the peak caribou hunting periods. Hunters will travel to Igloodik and Hall Beach to harvest caribou. There are less caribou around now, however. [Michael]

- August is a popular time for Arctic Bay residents to harvest caribou [on the Borden Peninsula] by ATV. [Koonark]
- [Caribou hunting routes travelled by snow machine were marked in blue on the map. Caribou hunting routes travelled by ATV (e.g. in summer) were marked in red. Caribou hunting routes that are walked were marked in green on the map. All the routes marked on the map were noted to be main travel corridors and additional travel inland occurs off of these routes (which were not marked). The routes are not trails, per se, but general travel areas. The Arctic Bay hunting routes that were marked down are only the most popular routes. More popular hunting routes for Arctic Bay residents were located off of the map.]
- The most popular caribou hunting route for Pond Inlet residents used to be the Mary River tote road. This was previous to the development of the mine. [Unknown respondent]
- If caribou were found close by, we would not travel further to harvest caribou. We wouldn't need to. We would follow the caribou if needed though. [Elijah]
- The perception in the community is that Baffinland doesn't want us to hunt caribou around their mine. [Joshua]
- Baffinland should charter a plane to help us hunt caribou. [Michael]
- Some hunters might think about heading to Igloolik and Repulse Bay this spring to hunt. [Elijah]
- Only when Nunavut Quest runs from Pond Inlet to Igloolik, or Igloolik to Pond Inlet, do the racers cross the tote road. [Unrecorded respondent]

Mitigation and Monitoring Measures for Phase 2

- 'Mitigation' is not translated properly. [Joe and Elijah]
- Has a driver ever tried to use their horn to scare the caribou away? [Andrew]
- If the caribou start migrating in large numbers across the road, I think it would best to use the truck's horn to scare them away. But you shouldn't use the horn when there are only small numbers of caribou are present. That is because it will move them away from the area. [Andrew]
- What about other animals other than caribou on the road? Fox? Canada geese? What do you do in that case? [Abraham]
- Do you take the animals killed by vehicles to the incinerator? Or leave them on the side of the road? [Abraham]
- I know this is early stages for the monitoring of dust on the road area. Have you seen any differences to the plants yet along the road? Are they dying off? Or are they the same? Over the last couple of years? [Andrew]
- What about during exploration? Do you have any data from then? Before 2014? [Abraham]
- What is the plan for the next 21 years of mine life? Is Baffinland going to use the same vegetation studies? [Abraham]
- Studies in Alaska on dust from roads have shown some small changes occur in vegetation. Almost all changes occur within 5-20m from the road. Those studies haven't shown a lot of change to the vegetation as a result of dust from the road. [Kim]
- You've conducted past dust studies – What is the effect on humans? Can we use information on the effects on humans and extrapolate it to our communities? Are there any data on impacts to humans from dust? If there is, we could use that and bring that to our government to argue for dust control in our communities. [Joshua]
- Humans can cover their air passageway to prevent contaminants from entering their bodies; animals can't. Can the same effects on humans be extrapolated to understand effects on animals? [Joshua]
- There's a mistranslation on the EDI report slide. [Joshua]

- My comment pertains to monitoring. We're approaching fall. As it transitions to snow and freezing temperatures, we start seeing impacts on vehicles. We see wear and tear on the vehicles. There has to be more emphasis on checking the dust, especially during the transition from summer to fall. With respect to visibility, it can also create low visibility. This affects monitoring and your monitoring plan. You will need to make sure you maintain your vehicles; that will be important. Even in the community, you see seasons that have more wear and tear on the vehicles. Some seasons are dustier than others in the community. In some seasons you can't even read the street signs because they are covered in dust. Summer and winter aren't really an issue for dust. It's the transition seasons. With respect to wildlife, fall is the season where you see the most change. That's what you'll have to pay attention to. [Elijah]
- Dust is an ongoing concern for Pond Inlet. It is a health concern for some people, especially those with breathing issues. We have been told that dust is a part of the environment. We know that animals won't eat iron in its raw form; they won't eat rocks or metal. There is dust that emanates from the crushed iron ore, however. We may have issues with the particulates. With respect to the actual air quality, we aren't concerned. But we are worried about the animals. We know iron doesn't have the same properties as something like uranium, but it's still a concern for some people. Most of us have no idea about the agreements made between the government and Baffinland regarding wildlife. I would prefer that when you see caribou you call us to tell us, and we will go and harvest them. [Joshua]
- With respect to shipping, where exactly are the iron ore ships coming from? If ships are coming into the Arctic from non-Arctic waters, they may have wildlife, like rats, other pests, and insects that may come in on the ships. We don't want to see alien species like this arrive here in the Arctic. On ships coming into the community we have often seen spiders and other pests that aren't native to this area. With the increase in shipping and activity at Milne Inlet that is proposed, this may become an effect. [Abraham]
- The gravel on the tote road and the sand from Pond Inlet are fairly similar. We used to go caribou hunting on the tote road prior to traffic becoming too busy. The sand will quite easily go through your clothing and will coat your ATV, especially when it is wet. With the increase in traffic you're proposing on the tote road, it sounds like the road will be closed to any other vehicles. If it's going to be closed for public usage, I think you have to have a plan to offer us an alternative route. Because that is our main caribou hunting access route. We may be asking you to charter us in if we can't access the interior for our hunting. You will be creating a barrier to us. For Pond Inlet, we would like to see more tangible benefits, rather than just workshops like this. [Jimmy]
- We agree. [Joshua]
- This is not really concerning Baffinland, but refers to caribou. The infrastructure from the Nanisivik Mine was left behind. We tried to get the mine to clean it up but they didn't. There were fuel and diesel spills left behind. No one has cleaned it up. Seals have bad livers now because of what they were eating. Pond Inlet will need to worry about fuel and fuel clean up. The marine mammals can be affected because of this; we've seen the impacts in Arctic Bay from this. Just beware of all these promises the company makes. [Andrew]
- If there is a fuel spill, is there any way of reclaiming and using the spilled fuel? [Elijah]
- Are the annual monitoring reports you produce public documents? [Abraham]
- Do the prospectors have reports similar to those? Are there reports on the exploration work that is happening? [Abraham]
- If you're leasing the land from QIA, how come the reports don't go to QIA? Only AANDC? [Abraham]

- Regarding migratory birds monitoring – What about raptor studies? I thought I heard about a peregrine nest close to the mine site. Based on the information you have, are the raptor populations increasing or decreasing? [Andrew]
- Do local people differentiate between Gyr falcons and Peregrine falcons? Do they have different names for those? [Kim]
- Yes, we do. The name is similar, but different. [Andrew]
- With respect to the bird surveys, what about the spring geese, when they have goslings? Do you see families of geese crossing the tote road in the summer? Or do they avoid the road altogether? [Andrew]
- Have you contracted all of your monitoring out? Do you use different companies? Do you have standards that companies have to follow? [Joshua]
- Any kind of funds provided to communities and local businesses are always beneficial. There is interest in employment and business opportunities resulting from Mary River. There are a lot of people interested in these things. The barrier is that the opportunities aren't always disclosed and provided to the communities. [Andrew]
- A couple of years ago, Baffinland was sponsoring the environmental technology program here in the community. Have you been training anybody that will take over the environmental jobs at Baffinland? A beneficiary? [Abraham]
- If you found a different [environmental monitoring] contractor to do the work, would it change the work that needs to be completed? [Abraham]
- The main reason why I was asking that question is because the 2007 report on vegetation and the work that is being done now are very different. The databases are different. [Abraham]
- Yes, there have been changes to the types of studies and programs that have been conducted. The current programs have been improved and are now better. [Kim]
- Have you ever seen Inuit cultural skills and Inuit abilities for dealing with wildlife? We hear from our elders about wildlife movements and other knowledge. Sometimes we look at scholars and say 'you know nothing'. Inuit use the wildlife regularly and know a lot about it. That's why we question biologists. [Andrew]
- Apparently the environmental technology graduates only learned the basic skills. When we hear experts talk we sometimes say they know nothing, or that they only know about one animal and not the others. There have been so many specialists and scientists come up here and use our specialized information and knowledge. [Joshua]
- Regarding caribou monitoring, there are some aspects that I think can be improved. You seem to have been focused on aircraft-based population studies. I think you need more land-based wildlife studies and observations, using people on the ground. You should study the caribou populations according to the seasons. Some suggestions we've made have not been followed. In the fall or summer, the animals are widely dispersed. It may seem like the population is very low. But if you were aware of the behavioural tendencies of caribou, you would know. The spring, when caribou are easy to spot, is when we've asked for the studies to be conducted. But scientists want to do caribou studies in the fall and summer when they are very hard to spot. You also only want to focus on the project area. I think you need to listen to our suggestions. [Jimmy]
- Early spring is the best time for caribou studies. March, April, May, June. Their fur is darker at this time than later in the season. [Jimmy]
- The Baffin-wide survey is a government responsibility. But the Baffinland studies are the company's responsibility. [Jimmy]
- I want to provide some support to that comment. A lot of us have spent a lot of time on the land spotting caribou. A lot of us are very adept at seeing just a caribou tail behind the rocks. They can

be very camouflaged and hard to see. You might only see an ear or tail. It is better to conduct a survey with snow on the ground, as they are more visible. [Joshua]

- I was involved in a caribou study once. We were looking at caribou recruitment. Not caribou population numbers. [Elijah]
- I've learned a lot through television programs. I learned about wolves and their reintroduction to Yellowstone Park. They saw all sorts of changes they didn't expect when they were introduced. Humans aren't the only factors that affect caribou. I think you also need to monitor the wolves and their effects on caribou. When caribou populations increase, so do the wolf populations. We should not only look at the mine and human factors related to caribou; we also need to look at other factors related to caribou. The public shouldn't just blame the mine or the humans for the impacts. [Abraham]
- My grandfather used to tell me a story. He was dogsledding one winter checking his fur traps. He started seeing a meteor shower, or a shower of some sort. It was actually a shower of lemmings. He said as soon as he touched the lemmings they would turn into caribou. Once in a while there will be weird things that happen that scientists can't explain. Sometimes wildlife falls out of the sky. [Andrew]
- Your studies of animals and your maps don't tell you everything. As a hunter, you can see that animals start leaving the area once activities ramp up. You're the one responsible for moving them out. That's why we're interested in also knowing what's happening further away. The wolves may now be 100km away from the road, where they might have previously been 20km away. Hunters are already noticing that you are pushing the animals further away. By limiting your studies to a narrow band around the mine, you are not documenting the effects you are having on the wildlife farther away. Both you and we expect the caribou to return in the future. But, we are where we are in the current caribou cycle. A lot of our access to the interior revolves around Milne Inlet. We know we won't see any animals around Mary River because there is a lot of activity and noise pollution. A lot of your previous studies indicate there are fewer animals, but that could be because there are more flights overhead, more traffic, and more people around. Only when animals lose their fear will you start to see more animals around the mine site. That's one observation I have on something you can improve. I'm not trying to be anti-development or anything, but we're very observant about impacts. You need to look at the bigger picture, rather than the narrow scope of your studies. [Jimmy]
- A hunter and a scientist will have different foundations of knowledge. Although we may think we're talking about the same issue, we may be talking about different issues. Hunters should be included in any future studies. We often review the results of studies and notice that certain things could have been done differently, and would have resulted in completely different results. The studies could have been done better. [Jimmy]
- We would be more comfortable if Baffinland asked the HTO to nominate someone to participate in the caribou studies. [Jimmy]
- Depending on the terrain, you might not be able to see animals. Local individuals may be better able to do this. [Joshua]
- The Arctic Bay HTO always voiced their concerns about the Mary River aircraft. There is non-stop aircraft and helicopters flying over the project. Could you reduce the number of flights and rely more on ground transportation? Flights have an impact on wildlife? Can you reduce the number of flights you use? Especially for the studies you are conducting? [Andrew]
- With respect to the way Inuit search for caribou, it's pretty much the same way. We go up to a height of land and glass them. We will spend many hours up there looking. In the season when you can't see tracks, it is hard to follow them. Perhaps we can improve this. If there's a hill, perhaps we can have an encampment on top of the hill. This would help reduce the number of flights. I'm just

trying to think of ways to be less intrusive and bothersome to caribou. Like, if you had a person up high that was observing there very quietly. That would reduce the number of people being shuttled around. It is difficult to glass caribou in the winter, when it is too cold. When the sun starts to come back it gets easier. We know that when the snow first starts falling it is very difficult to spot caribou, from August to mid-September. When the coats change colour it can be practically impossible to spot them. If you had a tablet you could use it to mark down all the animals you see. Most of us elders are still writing with inuksuks. Our GPS is a harpoon, especially for the ice. It is our everything tool. It is our ice condition tool, ice breaker, and water maker. It can tell us when ice is safe. The avid caribou hunters are very good at finding caribou without a scope because they have the knowledge. You get used to seeing certain parts of the caribou that may flash at you. But if you've never seen caribou in this type of habitat you might not recognize them. Even when you're walking and caribou hunting, there may be caribou you didn't see for the past hour while you were walking, and they end up being right in front of you. They can be very difficult to see. It's not always a full moon. Sometimes you can have hazy snow and low visibility. Some of us know how to spot caribou in these conditions. I know it's hard to stop the studies that are currently happening, but I would like to find the least intrusive and invasive studies. There were some airborne surveys that happened that only saw some of the caribou that were on the ground. The ground-based observers noticed many more. It is hard to spot caribou when the sun is not bright. [Elijah]

- With respect to scientific studies, when we hear about caribou surveys, I've noticed that they only look at the mine footprint. You only seem to fly over and do your aerial surveys over the mine footprint. That's too close. Some caribou come from 100km away. You need to study outside of the mine site area. Doing this would allow you to see the trends. It would allow you to see caribou that are further to the west and east. Caribou are non-stop travellers. Not all of them stick around one location. This could help you improve your studies. [Jimmy]
- During these workshops and public meetings I sometimes become ashamed of my government and Inuit association, because they will depend on the reports that you produce. But you're inside the box. They shouldn't depend on you. [Abraham]
- Do you work with the HTO or hunters on your studies on caribou? Do you have any agreements in place? [Joshua]
- There are some areas that would be beneficial to cooperate on. For example, identifying which species should be studied and what seasons they should be studied. I was on a hunting trip one time and we tracked caribou cows all the way from [Steensby Inlet to the highlands around Mary River]. That was in the spring time. The cows generally tend to migrate towards the highlands in the spring time to deliver their calves. They will spend the spring and summer in that area where they calve. Around the end of August, the caribou start migrating southwards and they start looking for other caribou. [The area to the southeast of Mary River] tends to have more caribou. [The area around Barnes Ice Cap] also tends to have more caribou. The spring and fall migrations are fairly easy to predict. During the summer they usually stick around the same area and don't move far. The young caribou, the young bulls in particular, are great travellers. During buggy periods the caribou will go to windy plateaus to avoid the pests. In October all the caribou start congregating during the rut season. You'll start seeing caribou congregate into herds. That's the best time for surveys. [Elijah]
- Why is there a gap from October, November, and December on the road traffic slide? Why is that information missing? [Abraham]
- The area [directly to the east of Big A. Lake] is also a caribou calving area. [Elijah]
- A lot of what Jayko Aooloo stated [about caribou calving areas] is true, but is not complete. [Joshua]

- Jayko is knowledgeable but doesn't have the same level of knowledge about caribou as I do. There are people who know about caribou calving locations, but this is based on what others have told them. You need to go out and observe these areas yourself, like I have. Narwhal migration rarely varies. August 4,5,6, they arrive at Bruce Head. That has been pretty consistent from what we've observed at Bruce Head. The caribou calving period is pretty much the second week of May to the first week of June. Around the last week of May you start to see cow and calf combinations. Up here, the caribou tend to have the migration pattern of the cows moving to the highlands in spring. Towards the end of August, and the first week of September, is the best time to harvest caribou because the fur is perfect, the fat is perfect. I used to bring my nephew [Joshua Arreak] with me sometimes to hunt at this time. We would sometimes go to the Mary River area. [Elijah]
- Bull caribou, male caribou at this time of year [mid to late November]. No Inuk would want to eat a caribou at this time of year unless you're starving. The meat does not taste good. They start urinating on themselves and that permeates the meat. The meat does not taste good as a result. During that rut season you can actually go up and touch them while they are bedding. They are so exhausted from the rut. I've seen caribou bedding down that I thought were dead, but when I went back to them they were alive. [Elijah]
- We used to go caribou hunting a lot around 1969, the 70s, and 80s, when there were a lot of caribou [south of Pond Inlet down to Mary River]. They didn't go up [to that area south of Pond Inlet from Mary River] in one year, they took many years to move up that way. It took them a long time to eat all the food on the way up. In the 80s the caribou starting arriving in the Pond Inlet area. In the mid-90s they were right around Pond Inlet. [Joshua]
- When they are overpopulated in the South Baffin, they will also migrate into this area. There are two main herds. The South Baffin and the North Baffin herds. As long as the caribou were within a few hundred miles, [a fjord south of Pond Inlet] always had caribou. Now you won't see any tracks or sign of caribou. Those valleys were a little warmer and had more vegetation, which is why there are often caribou there. Because of the microclimate. [Elijah]
- We also experience this in Arctic Bay. We used to hunt caribou [on the southern Borden Peninsula], but they started moving north. It took them many years to do this. It took them almost 40 years to reach Arctic Bay. 45 years or so. [Koonark]
- Your slide [on temporal caribou movements] is correct. The caribou will move once they've eaten all the food. They have moved towards the south now. [Elijah]
- With the increase in traffic on the tote road due to Phase 2, do you have any suggestions that would allow the caribou to move across the road in an easier manner? Would truck convoys be useful? Would shutdowns? [Kim]
- They wanted to put some type of fencing or rail guard on a part of the road. If they added the rail guard and raised the height of the road, by creating an embankment, it would definitely create a barrier for animals. Animals like to continue going where they are heading and don't want to take detours. Except for safety reasons, it would be much better if there were no barriers. [Jimmy]
- I haven't heard much about the use of aircraft. Perhaps we can discuss the potential impacts caused by aircraft and helicopters. These may have a bigger impact than the tote road. We know there will be impacts from the mine's footprint and tote road. We also have a number of beneficiaries working at Mary River, including drivers. Prior to the caribou hunting ban, drivers on the tote road would notify people back home where they saw caribou and the people back home would come down and shoot the caribou. This can also be seen as an impact by Baffinland, as the public would then know where the caribou were. We may need to develop a communications protocol for workers as a result of this. [Joe T.]
- News from the workers filtering back to Pond Inlet is not too concerning to me. It may impact the workers, however. The issue here is the lack of caribou and inability to harvest caribou. This has

really impacted our community. We were blessed with caribou in the past. The hunters were happy there were caribou. When you're used to eating caribou, it is much more delectable than eating store-bought food. Some of the caribou hunters are very hard-pressed. They are tired of relying on social income and want to eat healthy food. [Jimmy]

- The perception is that Baffinland is negatively affecting the caribou population, whether this is true or not. The perception is that the caribou are staying away from the mining operations. There is a sense of blame associated with the mine. [Joe T.]
- Well, hunters actually observe that. It's very noticeable. What used to be migration areas where we could always find caribou are no longer the case. There always seems to be a missing perspective whenever there is information presented. It says the hunters are having an impact. It's not all about placing blame, but it's ensuring that you follow your promises in operating a certain way. This is where we start butting heads and blaming each other. What I'm trying to say is that hunters have almost always used that area for hunting and fishing. Because of the mine expanding to the size it is now, we can no longer access some of these areas. I'm not blaming Baffinland for that; it's just reality. [Jimmy]
- Ever since Baffinland has started operating we have been observing. Hunters and the organization. The caribou used to occupy [the area south of Milne Inlet] around 2004. In 2006 and 2007 the aircraft started using the area during exploration. They also had to land along the tote road. I think this suspicion started around then. The low flying helicopters may have pushed the caribou away. The disappearance of caribou coincided with the same time all this activity occurred. Just last fall we flew over [the area from Milne Inlet to Steensby Inlet] to see what caribou densities were like. Everything [to the area east of Big A Lake] had caribou, although in low densities. We saw no caribou [south of Big A Lake and around the tote road]. [The area north of Big A Lake] had some caribou. When caribou hear noise, they automatically flee. That's why hunters have been worried about the noise pollution. Caribou have much better hearing; it is better than human hearing. We were always catching caribou within 20 miles of Mary River. Some men appreciated hearing there were some caribou around Mary River. This is because they were excited that a major herd would start migrating in again. When you don't understand what is impacting the animals, you tend to blame whatever is most visible. Each caribou is an individual. Some are timid, some are bold. They have individual characteristics, like humans. If we work together on this, I don't think there are any issues we can't resolve. I think the 2-3 minute interval won't be too much of an issue, as long as the drivers are observant. The issue will be when the caribou numbers increase and they are no longer scared, and will cross the road. Based on IQ, we know there are population cycles and the caribou will return when their food returns. I'm personally concerned about the vegetation and whether any type of metal will impact the caribou. Whether there will be any toxicity associated with iron ore dust. On the road closest to Mary River, the rocks themselves are red rocks. Not all rocks are iron ore. Other rocks can look red too. There are rocks like this on Emerson Island. We need to differentiate this. Having a tarp over the ore on the trucks would help alleviate concerns. I know that the iron ore doesn't get lifted easily by the wind, not like sand. With regular sand and gravel you will see lots of dust associated with it. [Elijah]
- Animals at low population densities are more timid. We can't say the mine hasn't impacted the caribou. Especially in the summer months. Especially since we can't access that area for caribou hunting any more. That area has high winds. There can be sandstorms. That will need to be kept in mind. [Joshua]
- Local people should be included in the marine and terrestrial working groups. I would like to re-iterate that. It is hard to predict when the caribou will be coming back. On the main caribou trails along the tote road, there could be signs to caution people that caribou could be crossing the road.

- I agree with Andrew that the trucks should stop and allow the caribou to pass by. The first three caribou should be allowed to pass so that the others will follow. [Abraham]
- In Arctic Bay, we're not really impacted to the same extent as Pond Inlet is with regards to the tote road. We appreciate the opportunity to participate in this meeting. We didn't have this with Nanisivik. You're welcome to come to Arctic Bay for additional meetings. [Koonark]
 - There will be a report prepared that details our work from this meeting. [Elijah]
 - Regarding the vehicles every three minutes, I would suggest the vehicles travel in tandem or in groups, two or three trucks, to allow more space for caribou to cross the road. [Andrew]
 - There will be trucks every three minutes. Has Baffinland prepared any alternatives for hunter access? If the road is to be closed to the public? Something that would still allow Inuit to access their lands? [Jimmy]
 - What about the HTO cabin? What if there were any surplus vehicles like an ATV left at the cabin that could be used by hunters? If the caribou ever returned, that would be something useful for hunters to have. Some sort of toolkit to repair vehicles could be left at the cabin. [Joshua]
 - [Mike S. provided a summary of comments and findings from the workshop]
 - Instead of using the word 'effect', you should say 'impact to animal'. [Elijah]
 - There is a lot of other terminology we have related to caribou. For caribou characteristics, body conditions, etc. There is a term for everything dealing with caribou. [Elijah]
 - Is there a way to study the differences between the caribou herds? DNA? To prove they are different herds? [Joshua]
 - If there are caribou in Pond Inlet, migrating through this area, based on their vegetation and diet, would they have different blood chemistry? [Joshua]
 - The caribou near Clyde River smell more like Arctic hare. What the caribou eat will determine what they taste like. When you shoot a caribou that has been running, it tastes differently than one that has been sitting. Once an animal gets scared its blood chemistry can change and alter the taste of the meat. [Elijah]
 - The Baffin, Keewatin, and Kitikmeot caribou are all different. There are differences in taste, texture, and body type. You can tell which areas it came from. [Jimmy]

Closing Remarks

- I would like to express my gratitude for this meeting. I have been able to express some thoughts I had. Thank you to the elders who are here sharing information. Representatives from QIA should come into the community to gauge the sentiment of the community. We always seem to be an afterthought. The same goes for NTI and the GN. The only organization that consistently comes in is Baffinland. It would be useful for those groups to get a copy of the minutes from these meetings. [Abraham]
- I'm thankful for participating and want to support the people of Pond Inlet in their efforts with the Mary River Project. We need to minimize effects. These meetings have provided me with a lot of insight and knowledge. [Michael]
- I'm thankful we were provided with an opportunity to participate. We want to be included in future meetings. We never had opportunities like this with Nanisivik. It seems like things are very open here. [Andrew]
- I would also like to express my gratitude for attending. We had no opportunity to participate in these types of meetings for Nanisivik. We will continue to participate in these meetings when asked. [Koonark]

- I would like to see the tote road with my own eyes. Maybe for next meeting? Thank you to Baffinland for listening to our concerns. We have expressed disappointment with QIA as a lot of us don't think they are supporting our views here in Pond Inlet. [Joshua]
- I also express my gratitude. I've also learned a lot. I've been involved since 2004 with meetings on Mary River. I used to argue with Michael Zurowski. I told him that you cannot mine at Mary River unless you give us money. My anxieties and worries have lessened because of what I've heard from Baffinland. I am less worried and anxious now because of the path we have. I appreciate the cooperation we have had. I would like to see us work together down the road. [Elijah]
- I am appreciative of the time you have all taken to come and meet with us and that representatives from Arctic Bay were here. I would have thought that Igloolik would have been included in these meetings as well. They harvest caribou in the southern part of your map. That is the only thing I thought was missing. You don't hear a lot of bad news about Mary River in the news. This is because you work with the community and provide information to us on a regular basis. [Jimmy]
- I appreciate the opportunity to be here. I've learned a lot in the past few days. Perspectives of scientists and hunters can differ, but our end goal is the same – To minimize any impacts from the mine on wildlife. [Kim]

[End of workshop]

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #4: Caribou
- Open House Notes -

Participants:

Various members of the public (see sign-in sheet)
Jennifer St. Paul Butler (Baffinland)
Jason Prno (Jason Prno Consulting Services Ltd.)
Mike Settingington (EDI)
Peter Autut (QIA)

Date and Location:

May 8, 2016 (3:00 – 5:00 pm and 7:00 – 9:00 pm)
Community Hall, Pond Inlet, Nunavut

Other Information:

Following overview presentations of the Phase 2 caribou workshop that had been held, a number of discussions regarding Baffinland's Phase 2 proposal occurred with residents of Pond Inlet. Generally, these residents were interested in learning more about Baffinland's operations and plans for Phase 2, posed a number of questions to Baffinland, raised concerns, and made various suggestions. While the comments below are not an exhaustive account of the issues raised in the open house, they provide an overview of some of the key areas that were discussed with different individuals. Interpretation services were provided by a local interpreter.

Notes:

- What would happen if there was a human fatality? Would compensation be paid by Baffinland? \$750,000.00 might not be enough compensation.
- Hunters have expressed concerns about the ice breaking and their ability to cross the ship's track.
- Hunters have expressed concerns about the proposed railway and more ships in Eclipse Sound. A compromise could be reached by shipping through Navy Board Inlet instead.
- When would Phase 2 shipping occur? In what months? Can we change the months? How can we change the months?
- Has the Phase 2 approval process began yet?
- What route do you want to take for shipping?
- Do you use radio collaring for caribou surveys?
- Baffinland is proposing too many things. We're still digesting Phase 1.
- Hunters are worried about shipping ten months of the year. They're worried about crossing the ship's track safely. Multiple bridges would be needed. Fatalities could occur.
- We're not seeing benefits from the existing operations.
- I was let go at Mary River with no explanation. I suspect it was because I couldn't speak English.
- We think the caribou might be starting to return. We're seeing more tracks. More caribou are being seen.

- People from Arctic Bay and Pond Inlet used to meet up at Big A lake to camp.
- Caribou will always be found in the Big A lake area, as long as there are no disturbances.
- There used to be a lot of caribou at Big A lake.
- Caribou will move on to different areas once they've eaten all their food.
- There's too much dust at the mine site. I'm worried about the stockpile being out in the open. I would like to see it covered with a shed. I'm worried about iron ore dust being left behind on the land.
- Baffinland should hire more people from Pond Inlet.
- I don't think the caribou won't come back to the Mary River area because of the mine.
- I worked at Nanisivik and there were so many caribou that we couldn't even chase them away. They were like flies.
- What compensation would be made for caribou that are hit by trucks?
- What happens with the caribou meat when a caribou is hit by a truck?
- Will community concerns be dealt with in the environmental impact statement?
- Where will they discharge ballast water?
- There was murky water in Eclipse Sound last year. Was this due to Baffinland's ballast water?
- Ringed seal fur was of poor quality last year. This was possibly attributed to ballast water discharge.
- Have you met with the hunters? What do they say about the shipping route? Can you go through Navy Board Inlet?
- There should be more money provided to Pond Inlet if the shipping goes through Eclipse Sound.
- More consultation is needed on Phase 2.
- Navy Board Inlet is the preferred shipping route.
- Hunters wouldn't be able to travel and go to certain hunting areas because of the ship's track.
- How would you build a bridge over the ship's track if the ship goes back and forth all the time?
- There should be a sign for where the bridge and crossings are located.
- In the spring there is more daylight and there is more hunting that occurs.
- We don't even know if there are caribou around because people don't go out any more, because of the caribou hunting ban and quota.
- There were lots of people who used to go camping at Milne Inlet.

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #5: Phase 2 and Arctic Bay
-Invited Persons Workshop Notes-

Participants:

Sakiasee Qaunaq (Arctic Bay – Elder)	Tom Paddon (Baffinland)
Rhoda Tunraq (Hamlet of Arctic Bay)	Jennifer St. Paul Butler (Baffinland)
Qaumayuq Oyukuluk (Arctic Bay HTO)	Joe Tigullaraq (Baffinland)
Jobie Attitaq (Arctic Bay HTO)	Meena Oyukuluk (Baffinland)
Rosalina Naqitamr (Arctic Bay High School)	Jason Prno (Jason Prno Consulting Services Ltd.)
Letia Kalluk (Arctic Bay High School)	Mike Settingington (EDI)
Kikutikakjuk Shappa (Arctic Bay)	Peter Autut (QIA)

Dates and Location:

May 5–6, 2016
Hamlet Chambers, Arctic Bay, Nunavut

Other Information:

At the beginning of the workshop, Baffinland presented details of the Phase 2 proposal and described the purpose and objectives of the workshop. The remainder of the workshop was spent discussing the Phase 2 proposal and reviewing feedback obtained from previous community workshops. This included discussion on community concerns related to Phase 2 and potential ways to address those concerns. Potential mitigation and monitoring options for Phase 2 were also discussed, as were other topics. The workshop was facilitated by members of the Baffinland team. Workshop notes were recorded by Jennifer St. Paul Butler. The workshop was observed by Peter Autut of the QIA. Information provided in the workshop (included below) is attributed to individual participants or to group discussion where appropriate. Interpretation services were provided by Mishak Allurut.

Notes:

Introductory Workshop Presentation, Review of Agenda and Consent Form:

- On this handout, the Inuktitut syllabics are not correct in reference to Phase 2. The translation should be changed. [Jobie]
- Why is there no hamlet representative here? [Qaumayuq]
- Koonoo is probably a Hamlet representative but we have too many HTO members here. We need Hamlet representation. [Qaumayuq]
- I think we should create an agreement after the meeting. I am confused. What are we signing? We should sign it [consent form] after the meeting? [Sakiasee]
- Is it possible for me to sign the consent form after the workshop is over? I understand the intent, but I want to sign after the workshop is over. [Qaumayuq]
- Whatever I say, I want it exposed to anyone, anywhere. Whatever comment I make. I want it to be open for discussion. I don't want it to be confidential. [Qaumayuq]

- Earlier, during the introduction, I forgot to say that when Baffinland was starting off I was a Hamlet councillor so I was appointed to the Inuit knowledge working group back then. Jason was one of the consultants and we had those meetings where we used to go through the different sections. I still remember those guidelines that we came up with during those meetings. They originally planned to build a rail line from Steensby Inlet but due to financial constraints we are looking at different aspects of the project. There are probably Hamlet appointed people here, but I'm not sure who. [Sakiasee]
- [Rosalina, Quamayuq, and Sakiasee indicated they had previously travelled through the Mary River area]
- Are harbor pilots required in Milne Inlet? They're probably from overseas, and don't know the area really well. [Jobie]
- What do they load on the ship? [Letia]
- Is it easier to work in the light? [Rosalina]
- Is it harder to blast the rocks during the winter because the ground is frozen? [Letia]
- Does the shipping you presented include shipping in winter? [Jobie]
- If you wanted to add more shipping, then would that mean shipping in winter? [Jobie]
- That ship in the picture only had four cargo holds. The ship Nanisivik used had five cargo holds. So, there will be a bigger ship for trans-shipping. Is that the plan? [Sakiasee]
- Phase 2 isn't going to start this summer? Or will they start this year hauling to bigger ships? [Sakiasee]
- I'm glad to see the ships coming in for the whole summer. For Nanisivik, there were only five ships in a year. Since you have more ships, I know for certain that you'll be richer. [Sakiasee]
- I heard trans-shipping will be occurring somewhere between Baffin Island and Greenland. [Sakiasee]
- I understand now, we had concerns about the bigger ships breaking ice in Eclipse Sound. [Sakiasee]

Review of Results from Workshop #1: Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas

Ukiaksaq

- I don't know if people with ATVs can caribou hunt in this area at that time. [Kiqutikakjuk]
- For a number of years now we have not gone out, but that was late summer, not early fall. The elders were the main people that were going caribou hunting then. [Sakiasee]
- There's a fishing lake there [on the map] in the fall. Before the ice forms, we travel over land by ATV and go to the fishing lake towards Pond Inlet. It's the early fishing lake for Arctic Bay people to go to. [Jobie]
- Every year, I go there. It's a good trail to take when there's snow on the ground. I know for certain, I go every year. [Quamayuq]
- We used to go fishing there. Maybe it's been 20 years now since I've been there, but we used to go there. I haven't seen the area since then. Mostly in early spring. Before the ice freezes, those who want to go fishing for fresh char go here in the fall. When there's snow on the ground. When the ice forms, they go to a different fishing lake. [The travel route was marked on the map]. It's maybe the only trail to take. Joe probably used it yesterday. It's a very common trail. [Sakiasee]
- That's the only fishing lake I know of in that area. [Kiqutikakjuk]
- In Pond Inlet, it is their hunting ground. The ship, we were told, it will be a daily occurrence of this ship passing by. Both sides of the ship track will be rough ice. There will be piled ice at the edge of the track. It will be difficult to navigate or cross. If you could go up towards Navy Board Inlet, it would be better. [Sakiasee]

- Navy Board Inlet is not a narrow channel. If you are persistent, you can navigate through that channel. They can easily break up the ice so the ship should be able to make the turn with their propeller. Nanisivik used to do that with their ships. [Sakiasee]
- I will follow the Pond Inlet people. I will support whatever they want. [Sakiasee]
- In what part of the year does the multi-year ice come in? [Qaumayuq]
- Due to climate change, there used to be lots of multi-year ice but now there is not as much. It seems to be melting. [Sakiasee]

Ukiuq

- [Common travel routes from Arctic Bay were marked on the map]
- We try to avoid areas of rough ice. [Sakiasee]
- We don't go through Navy Board Inlet in the winter. Sometimes in the spring. [Jobie]
- When we had dog teams, we'd go through Navy Board Inlet, but now that we have snowmachines that can go inland, we use the land route. [Sakiasee]
- The number of travel parties fluctuates over time. I may have to develop skills over time in order to go to certain places. [Peter]
- He's not from here, so I'll explain. Arctic Bay people, when there's a trail they can go on, there's nothing to stop them from taking it. Pond Inlet people will visit family members. [Sakiasee]
- When there's narwhal stranded in the ice or when travelling for a funeral, it [travel route] might be used. March-May is more common for travel from Arctic Bay to Pond Inlet. [Jobie]
- Seals and caribou will be hunted along the way [while travelling on travel route]. This happens wherever you find them. We also take pictures of the scenery. It's very nice there. Back in the Nanisivik years, when the ship came in from the Lancaster area, they would make a straight line when they were toward Admiralty Inlet. We asked FedNav, who was operating the ship, if they could go in zig zags instead of straight lines so that the ice wouldn't completely break off and flow to the open water. We had to cross the cracked ice. Zig zags allowed us to cross the cracks. We didn't think of this before, because we didn't know until we experienced it. This is more in June when the ice is still there. The ship was the MV Arctic. [Jobie]
- The MV Arctic made [a ship track] like a road and was narrow, so that we could cross over. [Jobie]
- The MV Arctic was a big ore carrier but the Coast Guard were not helping them. All day it would try but only move a short distance. It would have to go back and forth, trying to go through the ice. By pushing ice with the prop, they would pile the ice. You could easily get by with a skidoo. I've seen a skidoo fall through the ice when it's small. They can control how they break the ice. [Sakiasee]

Upirngaksaq

- March to May is when we travel most to Pond Inlet using those same trails. [Kiqutikakjuk]
- [Trails were marked on the map]
- Like a train, you have to go on the same level to travel on for Nunavut Quest. [Jobie]
- People from Pond Inlet also use that trail to go caribou hunting. They used to go right up the peninsula. They'd probably go there today too. [Sakiasee]
- Hunters used to get together on that floe edge there for narwhal hunting. Once in a while. Not every year. In the 1980s during March – May. [Jobie]
- Around May, the ice starts moving around. Starting in May, the hunters need to come back to the solid landfast ice. [Sakiasee]
- You also mentioned the multi-year ice in Navy Board Inlet that is hazardous for shipping. It is close to our coast, the ice would drift close to us. There would be a separation of the ice. Some going east and some going west. [Jobie]

Upirngaaq

- I don't think we even bother to go there in that season. We go by plane. Trying to go to Pond Inlet; it is impassable. [Kiqutikakjuk]
- We don't bother during those months. [Jobie]
- We don't hunt in that area from May to July. When there was some caribou, we used to go hunting here before May when we had caribou in abundance. But now, we are no longer going caribou hunting there. We don't even fish very often there. [Sakiasee]
- We can't go to the area north of Navy Board Inlet in these months because it is dangerous to go there, because of the floe edge. [Sakiasee]

Aujaq

- People travel by boat through Navy Board Inlet. [Letia]
- My dad went that way to get gas when they were running out. [Rosalina]
- We cannot travel over land in July because there is no snow. Those of us who don't have a yacht, we don't go boating to that area even. We don't really go to the coast. It's been maybe 2-3 years that people haven't gone there because there's no caribou there now. The caribou range is not one specific area. [Sakiasee]
- There are no caribou now, but they will come back. We need to think of the future because they will eventually come back. [Kiqutikakjuk]
- In the winter, we went caribou hunting here. We were following caribou, we saw a lot of caribou tracks. Just before Christmas time, Pond Inlet people caught caribou. So by ATV we went there, but for a few years now, we haven't seen any caribou. We went to the area where Pond Inlet saw caribou but we didn't see anything ourselves. Right now it's vacant, empty land. [Qaumayuq]

Narwhal Migration and Life Cycle Activities

- I have no comment on narwhal as I have not been in there in the summer. [Sakiasee]
- Arctic Bay will be silent on issues pertaining to narwhal, because we don't go there then. In the past, they were engaged in hunting there. But, currently, we don't go there at all. They found a narwhal with a harpoon in it that was harpooned here, so we know they migrate from here to there. [Qaumayuq]
- In any season, if there's something we can hunt, we'll be there. Caribou or anything. [Jobie]

Review of Results from Workshop #2: Shipping Through Ice

- Do you have a plan to clean spills up? [Qaumayuq]
- Would the ballast water be drained before you approach, or would you bring equipment instead of ballast? Would you dump or discharge the ballast water before entering [Milne Inlet]? [Qaumayuq]
- I read in a report somewhere that ballast water had to be discharged at the port sometimes. [Peter]
- On the picture you showed of ice breaking in Labrador, that's thinner ice there. Here, we have thicker ice, like a bigger pan of ice. That's why when the propeller pushes the ice, you can travel on it [in Labrador]. Up here, we used to go polar bear hunting in the Lancaster Sound area. There's a difference in the ice here than in Labrador. Ballast water is a concern to me, but from experience with the MV Arctic, they emptied all that ballast in our ocean, but we didn't see anything. We still see the bottom feeders [e.g. sculpin] and narwhal still feeding on them. From my own experience, I don't see any reason to be concerned about the impact. [Sakiasee]
- Inuit are not concerned [about ballast water], but agencies like DFO, who have people who went to university, are more concerned about it. But, our only concern is what we heard from DFO, that's not our internal concern. [Qaumayuq]

- The MV Arctic, coming back from Nanisivik with a full load, they came back on the same ship track. It was broken in more pieces, and we were not able to cross. [Unrecorded comments]. MV Arctic only came in one time. Your ships will come in more frequently. I saw a video from Labrador, of them putting in an ice bridge. For Arctic Bay, we don't believe the ship track will freeze right away. There will be open water. [Jobie]
- After the first pass [of the ice breaker], we could cross almost right away. After the second voyage, with a full load, that's when it really broke up and we couldn't cross. [Jobie]
- The MV Arctic, later in June, it didn't have any problems getting through ice. It struggled in May to get through the ice. [Jobie]
- How long does it take to deploy the bridge? [Letia]
- When we went to a meeting in Pond Inlet, there was a person from Labrador and he reported on making these bridges. I like the idea, though. [Sakiasee]
- What about if the community or hunters want to buy that bridge, do they have to fundraise? [Rhoda]
- Early spring, when the ice is more flexible. We used to be out hunting narwhal in July. The ship would come in. We were able to get across. When it came back loaded, going back out, and the ice was in smaller pieces, it would not refreeze. In mid-winter, the ice would re-freeze. As soon as the ship would pass by, the small pieces would freeze over. The small pieces would pile up. We have a polynya near here because of the current. The water goes up on the ice around the polynya, builds up, piles up. The water on the ship track would do the same with passes. It builds up, freezes, and makes it difficult for travel. You could have scrapers or some equipment in areas where you're going to put an ice bridge, like a loader. I'm just saying this as a suggestion. [Sakiasee]
- Where would the crossings be? [Jobie]
- Ice breaking was always a concern. Early on we thought it was scaring away the narwhal. It turned out the ship was creating access for narwhal, and we used more than our quota. Real problems? No. [Sakiasee]
- I lost a snow machine. That was a problem for me. We talked with the company, they communicated well with us. The HTO was the first point of contact. We put drums out to mark the area for ships where there were less seals, for the ships to follow. We were able to travel easier beside the ship track because it created a drier area, because water drained off the ice [towards the end of the ice covered season]. As hunters, it was very beneficial to us. We were able to travel easier on the ice along the ship track. There was no problem because they were truthful about where they were coming in. We showed the track they could go through to avoid the baby seals. The lost equipment was the main concern for us. Right from the floe edge we would outline the track the ship could take. We carried a whole bunch of drums to put on the ice and the ship went right beside the drums. We brought in a scientist from DFO to look at seals, but he didn't find anything wrong. [Qaumayuq]
- Those people used to come before we travelled on the ice. They looked for public input, they informed the community. It was useful to us. If we had concerns, it was expressed to the company. [Jobie]
- The ice breaker came one time in May [for Nanisivik]. Afterwards it was June. It was also bringing in local supplies. It was bringing in equipment or supplies for the community too. I saw my truck on the ship. It was a big benefit for us. They should be doing that here too. They have to provide opportunity for communities to benefit. [Sakiasee]
- We have concerns similar to other communities [unrecorded comment]. [Kiqutikajuk]
- The bridges look helpful and easy. [Rosalina]

- Young people are travelling without regard to safety. A bridge would be a safe way to get across. If it's being used, it would provide a safe way to cross that ship track. Some of the young people are reckless. Protect yourself against liability. [Qaumayuq]
- Young people would use the bridge. Unless they are crazy. [Letia]
- Young people want to try new things. [Rosalina]
- We would keep the people informed. Through the HTO or whoever, to keep us informed as to where the bridge is located. We would encourage people to use the bridge. [Qaumayuq]
- When Nanisivik was bringing in the ice breaker, those of us that didn't know our lives, we were reckless. We were not concerned about our safety. Back then, we just tried to get across. With a bridge, our safety would be guaranteed. We could get across it safely. Without a bridge, it's not a guarantee. There was risk with crossing the Nanisivik ship's track. We didn't know then that a bridge was possible. Now we know we can take steps to be safer. [Jobie]
- Communication by radio and Facebook would be useful. People go on Facebook more often now. Youth use Facebook the most. [Letia]
- You could send us a map that would have the shipping route on it. We would know where it is. [Jobie]
- If people are going camping or something, there would need to be wider bridges for the qamutiks. [Rosalina]
- The zig zagging route in Arctic Bay [taken by the Nanisivik ice breaker] was mainly for the hunters, to keep the ice from breaking off. We didn't like the idea of a straight ship track. But that was for our own purpose. I don't know if it would fit in the Pond Inlet area. [Qaumayuq]
- I agree. In our area, the ship would go straight because our floe edge is here. It cuts across. With heavy ice, it will drift off. [Sakiasee]
- I noticed dead seals near the ship and they lost hearing too, so they gave us reports on that. Not too many though. We heard of reports of seals losing hearing. We report it to the conservation officer, who might have the reports. The seal was taken for testing. There were only 1-2 dead seals. Afterwards, there was a scientist working on seals and he was doing a study, but there were no real concerns. [Qaumayuq]
- The ship track was used by narwhal to migrate in because the ship was opening up the ice. But when the ice breaker came in the narwhals would scatter. After the ice breaker came in and things calmed down, the narwhal came back in. It had a very temporary impact. [Jobie]
- We didn't see any decrease year to year. We didn't notice any changes in the population or abundance of narwhal. There were no drastic changes to the numbers. [Sakiasee]
- It's not all negative. There are positive impacts with the ship track. It had a positive impact here. It was a benefit for us here too. The ship track was being used as a highway to the floe edge as well. [Jobie]
- We have experience and we know, there was more benefit to it than negatives. When you hear people saying it is negative or very bad to have the ship, most of us will say 'it was for the better'. If Pond Inlet people say it's all bad, we'll tell them there were more benefits than negatives. We got all sorts of reports from hunters. [Qaumayuq]
- In June and July, the water would drain off the surface and that's why the ship track became a highway. So smooth. Without that trail, it would take six hours. With the trail, it would take only two hours to get there. [Jobie]
- The ship came in May and early fall. That was it. [Sakiasee]
- It would have three major trips: spring, summer, fall. [Jobie]
- I have no further additions to those concerns [raised by Pond Inlet in a previous workshop]. [Kiqutikakjuk]
- Would you consider stopping shipping in winter? [Qaumayuq]

- We are relying on our own experience. We know what happens. In Pond Inlet, they are exaggerating certain things. Living here and experiencing ice breaking here, there were no real serious concerns. We don't really have a real opposition to this idea of winter shipping. During your open house, you may hear more opinions. The HTO was the main organization taking in these reports about ice breaking. We know from our experience and we are telling you the truth. As long as nothing bad happens to the ship. [Qaumayuq]
- The baby seals breed in March. Right now, in May, they are big enough to be acting like adults. In the winter, the seals would be migrating because they go from inlet to mouth of inlet. Animals migrate. Let's say if the ship came in the fall, the seals might avoid breeding in the space where they heard this noise. They might breed somewhere else. They can adapt to the conditions that are being brought to them. The seals already know there is too much activity, so they will go elsewhere to breed. If the ship is moving in the same place, the animals will know, they will only stick to the places where the ships aren't. They'll go a certain distance from the noise. The seals will avoid the area of activity. They are already prepared when the ice is frozen to give birth. [Sakiasee]
- We are discussing options. You mentioned Navy Board Inlet has multi-year ice. Perhaps you could say with confidence that it's true, if you provide more evidence. We want to know what you're saying is true. We have people that can be contracted that can say words against you. You'll be embarrassed if you can't prove that there is multi-year ice there. You need to be able to present to the opposition that it is true. [Jobie]
- [Unrecorded comments on employment for Inuit]
- There are two locations, Mary River and Milne Inlet, and there are a lot of jobs. The Inuit, we've got credentials and can still learn on the job, through apprenticeship or helping a qualified worker. They can learn a skill or trade, by being hands-on. We were being promoted because of our ability and skills we learned. Some young people here, if they aren't promoted from the job they applied for, they're not advancing. People will resign and not go back if they don't feel they are advancing. [Sakiasee]
- Going back to the comments on employment and criminal records; we are trying to reduce the qualification requirements. The Joint Management Committee is being used by QIA to work together with Baffinland. In Arctic Bay, for instance, we have listed the reasons why Inuit would not qualify or would apply. We think about ways to hire more Inuit people. We have to do it within the law too. We consider different ways to promote and recruit, and we will keep trying. Due to your questions, I wanted to clarify that we are doing something. [Peter]
- [Current Mary River mining operations video shown to workshop participants].
- In Nanisivik, they used to make concentrate. Those workers have passed on now. When they were loading the ship, there used to be dust. I understand this is different than Nanisivik concentrate. [Kiqutikakjuk]
- How long does it take to load the ship? [Letia]
- The Nanisivik concentrate was lighter. [Sakiasee]
- How many loads per day are trucked from Mary River to Milne Inlet? [Jobie]
- How many tonnes do the ships take? [Rosalina]
- At Mary River, they weigh the trucks on a scale, so they know how much they are carrying? [Sakiasee]
- You said it takes a long time to learn to drive the truck. At Meadowbank, we had training hours that we needed to complete to advance to other equipment. [Peter]
- How many times a day do they do blasting? [Letia]
- How many workers are there at Mary River? [Rosalina]
- For the shipping through the ice, with Nanisivik, they would at times throw garbage on the ice. Will that be restricted? I've seen garbage before. [Jobie]

- In Pond Inlet there are more travelers on the ice. The hunters that plan to go to that area, say. If a hunter leaves from Pond Inlet, there should be a bridge on the main trail. If it's possible, it will be very useful. In the spring time, especially, when the ice is eroding, it would be handy. It would be opposite when it's freezing time. [Kiqutikakjuk]
- [Jason asked the workshop participants how much travel occurs between Arctic Bay and Pond Inlet every season]
- In Ukiagsaaq there is only minimal travel. In Ukiuq people travel there only if they really have to. For example, if they are going there for Christmas, a funeral, or something else. There are under ten groups that travel to Pond Inlet during this time; a couple of families. Last December there was a pack of narwhals stuck in the ice, so a couple of guys went over during that time. There will be 2-3 families travel to Pond Inlet in December, visiting relatives for Christmas, or other events. In Upirngaksaaq there is Nunavut Quest occurring, so there can be people travelling to Pond Inlet. There might be hockey tournaments at this time too. April/May can have very heavy traffic. When the river starts melting, that's when we go a different route. April/May are the main travel months. There are at least ten groups that will travel, but there could be multiple snowmobiles. It is the busiest travel time of the year. In Upirngaaq the snow is melted on land so we don't travel. In Aujaq there are about five trips that occur. When Nanisivik was operating, more people would travel here to pick up their new boats and equipment. Now that it isn't operating, the travel is minimal. [Group discussion]

Review of Results from Workshop #3: Open Water Shipping

- Who runs the Bruce Head study? [Jobie]
- The open water shipping numbers you present – Do they include cruise ships and supply ships? Here in Arctic Bay, we would have no impact. But in Pond Inlet, I'm pretty sure Pond Inlet will have more concerns than Arctic Bay people. In summer, marine mammals will be dispersed more, so we know that Pond Inlet will have less marine mammals. When the Coast Guard is anchored in the bay, there are fewer seals. When the ship leaves, the marine mammals return. [Jobie]
- We had a tanker anchored here. We had killer whales come in close to the tanker. I don't think it's a big concern to the marine mammals. Maybe they're attracted to the ship more than they are scared of it. [Jobie]
- I think over time the marine mammals can get used to it. In the early days of the ships, animals used to go right to shore. We see seals behaving normally. It actually benefitted hunters because it herded narwhal close to shore. [Kiqutikakjuk]
- We know as HTO members that in the summer the marine mammals move at their own discretion wherever they feel like. They are like you and me. We don't want to be rammed by a ship, so we move out of the way. I'm worried about spill clean ups, but ramming will never happen. [Qaumayuq]
- I don't know if it was because of shipping, but narwhal got stuck for some reason. Maybe they were scared to get out of the inlet. I don't know if that's the reason, we just have not seen it too often in the past. We might just be guessing at what caused them to be stuck. Normally they don't get stuck in the inlets. [Jobie]
- In the summer, this [shipping] is the only way to do it. Today there are seals and narwhal moving about normally, they're used to it. They're not threatened. If they hear something they don't like, they're going to go away from it. In open water, they can go anywhere. Summer is not a problem to me. [Sakiasee]
- My question is about ballast water. I'm sure there will be studies in regards to this. [Peter]

- Ballast is not a concern. Ships need ballast. Any ship we know, it's part of their system to put in weight. It's not a concern to me. [Sakiasee]
- During open water shipping, is there training conducted for being on the tug boats? [Jobie]
- I'm looking at the project and it is very transparent to Inuit. They always consult with the communities. I like that aspect. [Rhoda]

Review of Results from Workshop #4: Caribou

- As a caribou biologist, what do you think of this proposed project? Will there be additional concerns? [Qaumayuq]
- Do you think caribou around Baffinland travel to the Kivalliq? [Letia]
- Caribou from the east and the proposed rail line, it was a concern that they can't move east to west. The elders here have been saying that the caribou from the Hall Beach area have migrated. They moved further to the west side, off your map. They don't go to Mary River, in the east. They go to the west. Have you started to verify that these are two different stocks of caribou? [Jobie]
- I'm not a caribou hunter but we have a caribou biologist here. If there's going to be a road, I'm not concerned about the road. Caribou will not suddenly appear. They will gradually come in small groups at a time. We need to plan before that and biologists need to do a good study. We had the Nanisivik mine here and everyday there was traffic going from Arctic Bay to Nanisivik, when there were caribou around. Caribou were in the way of trucks, they didn't worry about the road going there. They were moving about like the road wasn't there. Even the airport, they were on the runway. With that number of caribou, it's not going to happen overnight. I don't have any problem with that road now, maybe in 10 years. We go caribou hunting from here and they hardly see any around here anymore. Some of us say now, that when the vegetation grows back and when it becomes edible for caribou, they will be back. It's going to be another generation or so. Pond Inlet, Arctic Bay, and Baffinland can find a solution, as long as they work together and there is good communication. We would drive around caribou and they would hardly glance at us. There will be a lot more vehicles at Mary River, just make sure we're not running into them all the time. Mary River is very close to here and we can be there overnight on skidoo. Work together. We can look at each concern and consider ways to mitigate. Caribou are not coming back overnight. [Qaumayuq]
- Does climate change have anything to do with the lack of caribou? [Letia]
- I grew up living here, around Igloodik. In 1946, we moved to this area. Earlier, there was caribou around. The whole Baffin had lots of caribou. When we were growing up, there were no caribou in the Arctic Bay area. People would travel to collect caribou hides for clothing. In the fall, they'd head back to the coast. The west side had no caribou. In the year 2000, the caribou started coming to the west coast. Even to Bylot Island. I thought it would be permanent to have caribou around. Perhaps they went south. They moved down towards Repulse Bay. They'll eventually come back. [Sakiasee]
- Where I worked [Meadowbank], we had to stop and allow the caribou to cross and then move on. If a vehicle did hit a caribou, it took too long for them to get the meat to the community. It needs policies and procedures. Meat should be distributed so it can be consumed right away and not spoil. At that time, they were just collecting the kills and disposing them. [Peter]
- If a polar bear is shot at Milne Port, they have to pay. Have there been any kills? [Qaumayuq]
- We could make an agreement. We want to eat the meat. It should be given to the community. They could transport it easily. We won't be getting caribou, but we need to plan for it. [Qaumayuq]
- Resolute have been having reindeer. Would they come to Baffin? [Letia]
- What we are hearing now is the area was covered by dog team in 1962 when I was on a caribou hunting expedition. We went to a place near Clyde River where there was caribou. And we went to

Steensby Inlet. With faster vehicles, I'm sure they can go long distances in a short time. If they don't see caribou here, look elsewhere. For the first herd of caribou going into the area, we were told not to harass them. Let them go and then the others behind them will follow the first group. They will keep going, no matter what the obstacles are. They will continue using the same trails. A herd of caribou, when they start moving, they all move the same direction. Let the first ones go through. [Kiqutikakjuk]

- [Review of the caribou workshop maps occurred. Notes were not necessarily taken for all discussions as certain information was captured on the maps]
- When were the lines on the map drawn? [Qaumayuq]
- Why are the colours different? They represent different seasons? [Qaumayuq]
- We would use the trail to Igloodik. [Qaumayuq]
- When we didn't have caribou, her father and his father, they knew the place where there's caribou. His father, he was living here, when there was ice and snow, using a dog team. They would go here. Her father was my foster father. He lived in Igloodik in the summer time and would go here to collect hides for clothing. Her father used to say that this land might have caribou. We went there and sure enough there was caribou. When the caribou moved out, we would shift areas. [Sakiasee]
- Caribou are only found in very specific areas. Hall Beach is where we would go for caribou right now. [Jobie]
- If I had to go get caribou now, I would go to the store and get a beef steak. [Qaumayuq]
- Our wildlife department did a caribou count on Baffin Island. They said we're allowed 30 tags per community. Those communities with more caribou are using all their tags. We have a policy now. North Baffin is kind of restricted from hunting caribou right now. [Jobie]
- The dust from the land is not a problem. The vehicle and blasting dust have no effect. I don't have a concern. It's very dusty in Arctic Bay when the snow melts. Even the buildings will be covered. Our mountain will be covered. We're still alive, we're still healthy. We keep saying let's pave the road, but we live with dust. It's just natural. I don't have a concern with it. We had Nanisivik and the road was mixed with the concentrate and other contamination. When the truck was loaded with concentrate, it would scatter the concentrate on the road. You can see it, the black concentrate. That dust we're talking about at Mary River is natural and not contaminated. It's only dust from the earth. Even with blasting, there is very minimal dust and it falls down. It's confined to one area. [Sakiasee]
- For mitigation, speed limits and stopping zones could be used. If signs are posted regarding these, it might help the drivers. Put it in a policy. They need some signs that they can read in their vehicle. [Jobie]
- I'm agreeing with Pond Inlet on their concerns, because they are the closest community. They'll have the greatest impact. [Rhoda]
- When Nanisivik was here, dust scattered to the ice, and there was no smoke. At Mary River, there's no smoke, there's no processing. There is less concern than we had with Nanisivik's production. I agree with them. [Kiqutikakjuk]
- Perhaps in the future, if we start seeing caribou or are hitting caribou [on the road], we can get together and try to find a solution. But we want to be kept informed. If anything happens to the wildlife, let us know. Let us know the impact. Right now, we don't have any caribou so it's difficult to talk about. We don't have the evidence. We'll get together in the future, after a number of years. We'll do an actual case, if something happened. We can't really forecast what will happen. We don't have caribou now so it's hard to talk about. [Qaumayuq]
- I want to inform Arctic Bay that we will go back to the review after so many years. We will do another assessment. [Peter]

General Discussion

- Narwhal go through Pond Inlet first before they get to Arctic Bay. Whales are like that too. They migrate. We may have more narwhals and whales in our waters. Pond Inlet hunters are concerned, because they travel, trying to reach the inlets. In the fall, they start heading back along the coast. It's a cycle of migration. They are feeding. This area, Eclipse Sound, might have less whales and narwhals due to increased traffic going through. They may come more to the Arctic Bay area. We share the same stock of narwhals. We know from the past there are less narwhals there. We know there are already impacts, compared to the past. It's mainly about Pond Inlet. We can't really do anything here. For us, it's more benefit. We'll get more narwhals. But I'm sympathetic to Pond Inlet. It's mixed emotions. [Jobie]
- We are planning to look at the IIBA and it looks like it's going to be awhile for the mine to operate. In the Kivalliq, they have planned ahead on different aspects of the mining. Employment especially. When jobs will be created, you have to plan for them. If there's a position that's going to be created from the activity. You have to train the Inuit to be actively involved. They are part of the plans. Arctic Bay needs to know beforehand how many jobs will be created from the mining operation. You need a plan. You don't know in the beginning how much you need. You learn more later on, you get involved more later on. The impacts are different for each community. Some have more impacts, some have less. The skills in each community are different, too. For Phase 2, the plan should be to prepare the Inuit and to have more Inuit involved in employment. [Peter]
- Yes, youth talk about jobs at Mary River. They would like summer jobs. There should be more summer students. [Letia]
- I have friends that are interested in working as heavy equipment drivers. [Rosalina]
- We have to follow the regulations, but the young people can take a tour to see what kind of jobs there are. [Unrecorded comments]. If you don't know what jobs there are, you can't really figure out what you want to do. In the Kivalliq, students are taken on a tour so they can get an idea. To see if they have interest in a certain job. They can choose what job they want. They work longer and are more stable in the job if they actually pursue that job. If you are handed a job to do, it's not your choice and you don't really do it to the full extent of your abilities. [Peter]
- I thought about this a lot. The high school students, they drop out or stop school at the end of June. Nanisivik was a community, families moved there. They would go down south after high school and have to pay to go into a college or university. A lot of those students worked at Nanisivik to save up to go to college or university. Two Inuit were planning to go to higher education through Paul Okalik [unrecorded comments]. [Sakiasee]
- I'm graduating and I'm only 17. If I want to work with Baffinland, I have to be 18? [Letia]
- How many active mines are there in Canada? [Rosalina]
- What is the next step [for Baffinland]? [Jobie]

Closing Remarks

- As an HTO board member, I appreciate that we were acknowledged to participate in this workshop. We will be able to discuss further the information we heard. We will have a meeting again, before the NIRB hearing. Perhaps the community will be invited to the NIRB hearing. We hope for the best. We want to work with you. Thank you. [Jobie]
- I want to say that I hope to see you again in the near future, when we are looking at the final documents. We want to be kept informed of what is happening, as HTO, on items pertaining to wildlife. We want to know. Mary River is very close and I'm very grateful. We know more now.

This summer, take us to Mary River so we can see what you're talking about. We want to see with our eyes. [Qaumayuq]

- I want to thank you. We'll keep working on this. We're looking at the different aspects of the mining project. We have meetings with the Joint Management Committee every month. We have plans to have meetings with Arctic Bay as QIA. We'll keep working to represent you. [Peter]
- Thank you for having this workshop in Arctic Bay and for teaching me about what happens at Mary River. I had no idea what happened there. [Rosalina]
- Thank you for this opportunity to learn and experience. We would never have experienced it. Thanks for being so nice. [Letia]
- Thank you. I have no concerns. I was not even thinking of attending and I got a call and am here. I am happy to be here. I heard very good information. [Rhoda]
- I'm grateful too. I learned more too. I am also on an Inuit knowledge working group for Parks Canada and we look at the heritage and archaeological aspects and I'm happy to be part of this group. I didn't have much comment on what we heard, but we were able to express ourselves. I hope you found that useful, especially about the road. I hope they are looking at ways to mitigate the negative impacts that were discussed here. [Kiqutikakjuk]

[End of workshop]

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Workshop #5: Phase 2 and Arctic Bay
- Open House Notes -

Participants:

Various members of the public (see sign-in sheet)
Jennifer St. Paul Butler (Baffinland)
Meena Oyukuluk (Baffinland)
Jason Prno (Jason Prno Consulting Services Ltd.)
Mike Settingington (EDI)
Peter Autut (QIA)

Date and Location:

May 7, 2016 (3:00 – 5:00 pm and 7:00 – 9:00 pm)
Community Hall, Arctic Bay, Nunavut

Other Information:

Following overview presentations of the Phase 2 community workshops that had been held by Baffinland, discussions regarding Baffinland's Phase 2 proposal occurred with residents of Arctic Bay. Generally, these residents were interested in learning more about Baffinland's operations and plans for Phase 2, posed a number of questions to Baffinland, raised concerns, and made various suggestions. While the comments below are not an exhaustive account of the issues raised in the open house, they provide an overview of some of the key areas that were discussed with different individuals. Interpretation services were provided by a local interpreter.

Notes:

- I don't like plans being presented by Baffinland without communities first being consulted.
- The plans you are presenting are only verbal; we want to see firm commitments from Baffinland.
- I'm concerned about seals being pushed up and out from the water through seal holes when ships pass by. This would occur due to changing water pressures caused by the ships passing by. We saw this at Nanisivik too.
- At Nanisivik, they would spill concentrate into the water while they were loading the ship. I'm worried about this occurring at Mary River because of contamination and the wildlife that could consume it.
- Re: IIBA. Who signs it? Is there compensation for impacts included in it?
- What happens if there are negative impacts from Mary River? What will the company do?
- How long is the tote road?
- Will loading the ore onto a ship break the ship's hull?
- In the past, with Nanisivik, animals would flee to shore when the ship came. Eventually they got used to the ship and wouldn't flee.

- In the past, hunters would walk with the caribou for two days so the caribou would get used to them. On the third day, the hunters would hunt the caribou. Some caribou were more timid and needed a fourth day before they could be hunted.
- With Nanisivik, we saw more seals as a result of the ships that came in. However, the ice breakers cut off the goose hunting area we used to travel to. Our knowledge of that hunting area was lost as a result of this.
- Do you have contingency plans for spills that may occur from ships?
- When I was young I used to travel from Igloolik to Pond Inlet. We only saw caribou feces on the ground; there were no other markers.
- The biggest benefit of the Project is employment for young people and those in the future.
- Nanisivik expanded its mine life by 10 years; that was seen as a good thing in Arctic Bay.
- There are more Ski-Doos and ATVs as a result of Mary River.
- Mary River benefits women too. Women can sell their sewing to the mine site to later be sold to the workers. How would I bring my products to the mine site?
- Mary River could work with the heritage centre here in Arctic Bay to obtain arts and crafts to be sold at the mine site.

Baffinland Iron Mines Corporation
Mary River Project, Phase 2
Phase 2 Community Workshops Verification Meeting
-Meeting Notes-

Participants:

Joshua Arreak (Hamlet of Pond Inlet nominee)	Tom Paddon (Baffinland)
Elijah Panikpakoochoo (Pond Inlet HTO nominee)	Jennifer St. Paul Butler (Baffinland)
Jimmy Pitseolak (Pond Inlet HTO nominee)	Joe Tigullaraq (Baffinland)
Joanasie Mucpa (Pond Inlet HTO nominee)	Joe Krimmerdjuar (Baffinland)
Anonymous participant	Jason Prno (Jason Prno Consulting Services Ltd.)
Timothy Aksarjuk (QIA nominee)	Mike Settington (EDI)
Savannah Killiktee (Nasivvik High School nominee)	Enookie Inuarak (QIA)
Kunuk (David) Qamaniq (Nasivvik High School nominee)	Peter Autut (QIA)
Lindsey Qanguq (Nasivvik High School nominee)	

Dates and Location:

May 9–10, 2016
Hotel Boardroom (May 9) and Community Hall (May 10), Pond Inlet, Nunavut

Other Information:

At the beginning of the meeting, Baffinland presented details of the Phase 2 proposal and described the purpose and objectives of the meeting. The remainder of the meeting was spent discussing the Phase 2 proposal and reviewing/verifying information and feedback obtained from previous community workshops. This included discussion on community concerns related to Phase 2 and potential ways to address those concerns. Potential mitigation and monitoring options for Phase 2 were also discussed, as were other topics. Various maps produced during previous community workshops were verified with the meeting participants. The meeting was facilitated by members of the Baffinland team. Meeting notes were recorded by Jennifer St. Paul Butler. The meeting was observed by Peter Autut of the QIA. Information provided in the meeting (included below) is attributed to individual participants or to group discussion where appropriate. Interpretation services were provided by Morgan Arnakallak.

Notes:

Introductory Workshop Presentation, Review of Agenda and Consent Form:

- How heavy is the load that the ships carry? [Anonymous participant]
- Will you be talking about the proposed railway in the Phase 2 project description? [Enookie]
- If you were to ship through winter ice, would your trucks be able to keep up with the loads needed for the ships? [Elijah]
- Were the freighters [ships] able to keep up their quotas [last year]? [Joshua]
- People were complaining that many ships were waiting around [in Eclipse Sound/Milne Inlet], and they thought that was the usual waiting time for ships. It needs to be explained that this was not a normal operating year. [Joshua]

- Do you think there will be ships waiting around again like last year? [Anonymous participant]
- In the past we had discussed the ore trucks being covered with tarps? [Elijah]
- Will you still be shipping through Steensby Inlet with the 21 year mine life? [Enookie]
- When do you expect Steensby Inlet to go in to operation? [Enookie]
- It sounds like Steensby Inlet will be on hold for a long time. Community members of Pond Inlet will be the only affected community. I believe the planning for this part should be done in such a way that Pond Inlet gets the most IIBA benefits. The other communities won't be seeing the project. We here are still in control of our lives and we have people from down south planning the project. We will be the most affected. That needs to be considered and dealt with in the IIBA benefits. I myself will not want winter shipping through Eclipse Sound, but I wouldn't mind if it happened through Navy Board Inlet, and I will push this until I die. The planning commission needs to be informed about this shipping of iron ore by rail. [Anonymous participant]
- Our elders in our region, they know more about problems around here. They are more educated about these matters. Lots of people, including young people, don't know a lot about sea ice. This is information the elders can provide. [Timothy]
- Winter shipping to ship a larger amount of ore in the year. I'm not too concerned about winter shipping but the mining company is saying that because of low strength of the dollar they are not making much profit and they would need to ship in winter, and so they would be travelling through sea ice in the winter. The sea is continually refreezing, but the ship uses too much fuel travelling through sea ice. Would it need extra fuel for the motors working extra hard? Wouldn't that use too much money? Isn't winter shipping expensive for Baffinland? [Elijah]
- Eclipse Sound doesn't seem to be much of a problem because we don't get that much pack ice. With respect to what we saw with the ice breaker in Labrador, the area in Baffin Bay, closer to Baffin Island, the sea ice is continually moving towards us and the ship would not be able to travel through the moving ice. The current is always moving from Greenland to us, regardless of the year. It would continually be bringing pack ice into the area. It gets worse during the spring. Ships don't continually pass through Baffin Bay. Would you know about the sea ice conditions between us and Greenland? [Elijah]

Review of Results from Workshop #1: Contemporary Inuit Land Use in the Eclipse Sound and Navy Board Inlet Areas

[Note – Not all discussion on the contemporary land use maps has necessarily been captured in these notes. The final contemporary land use maps should be referred to for a more complete record of seasonal land use activities]

Ukiaksaq

- Everything is good, but you should mark the 2015 stranded narwhals. [Elijah]
- This map is okay. [Joshua]

Ukiuq

- Map is okay. [Elijah]

Upirngaksaq

- Also, last week, they were seeing narwhal down at the floe edge already. [Elijah]
- The map is good. The Arctic Bay people won't be taking the long route because the ice is already gone from there. [Anonymous participant]

Upirngaaq

- We don't go to Navy Board Inlet so much in the spring. [Anonymous participant]
- The middle of the sea ice usually has better conditions than the shoreline. [Elijah]
- It's very good. [Anonymous participant]

Aujaq

- The narwhal used to come into this area at that time of year. Only in August, they would not come before August. It is still the case today. [Anonymous participant]
- Usually around August 4-5. They follow their schedule closely. [Elijah]
- You need to stretch the blue area out. [Anonymous participant]
- They are doing a study to see if commercial fishing can occur in the ocean here. [Enookie]
- Fish would be sold in the community by the HTO. [Joshua]
- We haven't surveyed this area for caribou. Animals change their habitats and we'll change the map if necessary. [Elijah]

Narwhal Migration and Life Cycle Activities

- October as well [for narwhal to be found in the Milne Inlet area]. [Enookie]
- It's only March to April that the narwhal start migrating up from Pangnirtung. The tagged narwhal were tracked offshore of Clyde River. They don't go much further than that. [Anonymous participant]
- They spend the winter between Baffin and Greenland. In March, they start migrating, as spring approaches, even though it's still too cold, because they know spring will arrive with them. We know this through satellite tagging. [Elijah]

Other Comments

- The material we are discussing and have discussed, we care about the ocean in front of us because that's where our wildlife and food comes from. The ocean is like our farm. We live off what grows from there. For that reason, it's our life too. It's part of our culture. That's how we are different from southerners. We can come to agreements. We can become like-minded. We need to keep agreeing about things and we need to be informed about things. If we are not informed, our resentment may start to grow. We are all Canadians, we all live in Canada. I appreciate that people are getting jobs. They would be in harder situations if they didn't have jobs. The economic benefits are beneficial to our people. The problems have been less, or mitigated, and the community members know what's happening to their lives. [Anonymous participant]
- What you're planning to do and what we're trying to plan, we try to take the best route forward. We had planned in the past together and discussed the problems that had arisen. You can't tell what will happen in the future. You have to understand before there will be effects. If you don't experience it, you can say there will be this much effect, but we all need to keep looking at these things. These planning sessions will have to be geared towards mitigating problems for the people who will be working at the mine. We Inuit know we have full access to wildlife in the area, but when you're short of money, it's hard to keep up with the food. And you can only survive if you help each other with money. The youth are more centred on money nowadays. Before, we survived more on wildlife. [Elijah]

Seasonal Calendars

[Note – Not all discussion on the seasonal calendars has necessarily been captured in these notes. The final seasonal calendars themselves should be referred to for a more complete record of seasonal land use activities]

- Is early fall before fall? [Joshua]
- Early fall is when snow is on the ground. Seal hunting never stops. We are very dependent on hunting seals. There are no months that you are not hunting seals. It's only during winter that they stop hunting at the floe edge. They don't hunt in the sounds, only in the open areas where there is safe ice. [Anonymous participant]
- We don't stop hunting seals in July. That should extend to mid-July in Eclipse Sound. [Joshua]
- As long as there's open water, we do hunt. When sea ice is breaking up, we can't go out. [Enookie]
- There is an ice-breaking period that we can't go out. Once it's open, we're out there. [Joshua]
- [Unrecorded comments]. There's too much snow now on the sea ice. Nobody is hunting seal pups or teenagers. June is the main month for this year's seal pups. Seal hunting is ongoing. But the newborn pups, they are starting to get bigger. They are still quite incapable at this time. It's May now, snow will start melting off the sea ice and seals will start basking on the sea ice. [Elijah]
- In June, adult seals will be busy sleeping and people will not desire them as much. They'll be hunting the baby seals. Most people take their holidays in June. March/April are too cold. [Elijah]
- March/April says you're hunting seal pups. We may need to extend that. [Joshua]
- When seal pups are born they are very ignorant. They just stay in their dens. March/April is when seals are giving birth more. [Elijah]
- The floe edge will be occupied to July with people looking for narwhal. That will be the situation, right to July. [Elijah]
- You don't want to get caught on the floe edge at the end of July. It only goes to mid-July. [Joshua]
- The floe edge deteriorates earlier every year. [Timothy]
- We don't go to the floe edge in December too much. Not much ice down there. It's too dark to hunt seal. We mostly hunt at breathing holes in Eclipse Sound. [Elijah]
- If Baffinland goes ahead with winter shipping, they might say we don't use the floe edge. If they can, people will go there in November/December, but it's less. [Joshua]
- There's complete darkness. It's great to hunt but only at seal holes. [Anonymous participant]
- Once the narwhal return to the floe edge, people aren't concentrating on the seals. But seal hunting is practiced everywhere during the Christmas month of December. You see skidoo lights everywhere. The floe edge at that time, we don't go to it as much, because seals are in Eclipse Sound. Before narwhal arrive, we go to the floe edge to hunt seals, because it's easier. [Elijah]
- People hunt whatever they can catch. In May, hooded and bearded seals sometimes come into the area. [Joanasie]
- In June, they are less likely to hunt seals at the floe edge because if they discharge their weapons they may scare the narwhal away. [Joshua]
- March, April, May is when it is busier for polar bear hunting. [Elijah]
- We do have defensive kills for polar bear. [Anonymous participant]
- We see very few walrus. Only once in a while are they hunted. There doesn't seem to be an open and closed walrus season because of the lack of walrus. We don't hunt walrus in November. [Anonymous participant]
- There are no walrus in November, December, January. February to the end of June. [Joshua]
- For seal hunting at the floe edge, April and May is a peak too. [Enookie]

- There are not too many narwhal at the floe edge in March. It starts in April to mid-July. [Anonymous participant]
- Mid-May to mid-July are peak periods for narwhal at the floe edge. [Jimmy]
- Do the same that you did for Navy Board Inlet, for what it says for walrus in Eclipse Sound. [Joshua]
- Expand narwhal at Navy Board Inlet to June. [Jimmy]
- In Navy Board Inlet, that area gets busier for egg/goose hunting. People will hunt seals at the same time. May and June. You need to add an entry for seal hunting for Navy Board Inlet, not just at the floe edge. [Enookie]
- We only hunt polar bear there sometimes. The polar bear here are too close and we need to work on them first. If there is less polar bear in this area, they'd go elsewhere. They take the sport hunters over there sometimes, but this is only in spring – March. We don't necessarily hunt polar bear more in any month. [Elijah]
- [Unrecorded comments]. [Jimmy]
- Only if they see walrus will they hunt it. We don't get many. If you see one, you're going to go hunt it. [Anonymous participant]
- In the past we used to hunt caribou more often, but then we were told we were running out of caribou. Last year, a moratorium started. We are not hunting as much as we used to in the past. We have to go caribou hunting from here to the Igloodik area because there is a moratorium on Baffin Island. I can't really say what the situation is. We did a caribou survey in fall with a wildlife biologist. There is caribou in the area, but the wildlife management board have imposed the moratorium. It's hard to say if your graph is wrong. [Elijah]
- At the beginning of August we start the caribou hunt. They did allow us a summer hunt. The quota was immediately filled. We have not had a hunt after that. Until the end of September is the busy time for caribou hunting. [Jimmy]
- We start more in February and we don't hunt caribou as much in May, because the females are pretty skinny at that time. Before the moratorium, we used to go up to Mary River to hunt caribou. [Elijah]
- There's a fishing derby on Salmon River. [Lindsey]
- October, November and mid-December are busiest for fishing on lakes. January as it gets brighter up to April. No fishing in June, July, August, and then it gets busier in September. [Jimmy]
- The first two weeks of June will be light green. [Joshua]
- In August, we jig on moving pan ice. [Jimmy]
- They jig near the creeks when the fish are migrating. [Anonymous participant]
- We will jig on the sea ice for char in June, July, August, after the fish have migrated. That's about it. No fishing in May and the first half of June. We do have fish nets set up in September, but in August they migrate back up to the lake. [Joshua]
- In the summer, the fish are rarely available, so people aren't catching them as much. Starting from June to mid-August. [Anonymous participant]
- End of September to mid-April for ptarmigan hunting. September, October, November would be the busiest times. [Jimmy]
- Start from mid-May for Canadian geese and snow geese hunting. Pretty constant. [Jimmy]
- Snow geese egg harvesting beginning the second week of June. In May they start laying. [Enookie]
- To the end of June. [Joshua]
- Extend camping into August. There is a time in mid-July where there is break up and so people aren't going out. Some people spend it in their camps waiting for break up. [Joshua]
- Extend into September as well. In mid-July, there's still camping but it's closer to the community. [Enookie]
- [Some discussion unrecorded]

- For kayakers, lighter for September. [Joshua]
- The cruise ships tourists, I don't like them as much as I like the Baffinland people. They harass the wildlife more than Baffinland people. They also have bigger wakes. They go into any sound that they want. [Elijah]

Review of Results from Workshop #2: Shipping Through Ice

- I was amazed by how the ice didn't pile up on either side of the ship [in Labrador]. [Joshua]
- It moves very well. [Timothy]
- It's moving through the ice, instead of breaking it. [Enookie]
- I got very cold from the wind. The ice thickness is 4 ft. [Anonymous participant]

Discussion of Current Mary River Project Operations

- Do the vehicles make it back to Mary River from Milne Inlet with no accidents? [Timothy]
- It's not noticeable but there is small piece missing from Deposit 1. [Elijah]
- How many holds do those ships have? [Anonymous participant]
- Have you ever thought of bringing people from here for a tour? [Lindsey]
- What do you do if you find any metals or minerals [other than iron ore]? [Jimmy]

Review of Results from Workshop #2: Shipping Through Ice (Continued)

- After hearing those statements and recommendations [from the community workshops], where are you at now? [Anonymous participant]
- Did you hear about ballast water [in the community workshops]? [Peter]
- Winter shipping is part of the Early Revenue Phase. It makes you think all kinds of things. We have not experienced this yet. You had problems this summer with your shipping and whatever. We know that wildlife have been affected already during your summer operations. You would need to take in to consideration the effects. If you weren't to make money with the Early Revenue Phase, that would be a concern. If you ship during winter, you would use a little more money. [Elijah]
- We have that narwhal monitoring at Bruce Head and [unrecorded comments]. We know that in Milne Inlet, before Baffinland, we had a baseline of how mammals lived. Some of these animals that go up into the area have stopped going there or up to Koluktoo Bay. This summer we had the least amount of narwhal go up into those bays, according to our study. It is seals too. It is visible now. Before Baffinland, families used to live at Milne Inlet in the summer. This is non-existent now. It doesn't happen now. These impacts are visible. We are not trying to halt your project, but we will talk about the effects we see. [Elijah]
- If Phase 2 is approved, would the railroad be built? The [tote] road would still be accessible for hunters? [Jimmy]
- We have to cross that [tote] road at least once or twice, when travelling with skidoos. Would it be possible to cross over with a rail? [Jimmy]
- For example, during the summer, you make a mile of road towards Steensby Inlet. Maybe that would use less money? Do a section of road. Take that into consideration. [Timothy]
- We went to Labrador to see the icebreaker. Will we have the same type of ice breaker with cargo [for Phase 2]? [Anonymous participant]
- For shipping through ice, will there be trans-shipping too? [Jimmy]

Review of Results from Workshop #3: Open Water Shipping

- 'Mitigation' is not translated properly [Joshua]
- Study the food chain critters. The sculpin at Milne Inlet, do we know what caused them to die off? [Anonymous participant]
- We discussed winter shipping earlier. Has shipping during different months been considered? Have you considered which route you could take while the sea ice is still thin? It seems you are only considering Eclipse Sound. Once, we had an ice breaker trying to come through. From the ice breakers trail you could tell how thick or thin the ice was. How would you set your routes, as per ice thickness? Would you stick to Eclipse Sound? [Elijah]
- You need to look at that matter carefully. You can see the icebergs in Navy Board Inlet. That's how they come in to Eclipse Sound. [Anonymous participant]
- Spring time, around July, the ice gets considerably thinner. Once we can't get to the floe edge, ships could have free range in our area. I want this known, that I think it was 1963 or 1964 when we had an ice breaker travel through here and tried to go to Milne Inlet. It passed through but once it got to Mount Herodier it got stuck. It took all week to make it up to Milne Inlet. We saw that. It's obvious that the ships now will be bigger and stronger. That area can get really thick, up to seven feet. We did a test. We tried to make a hole in the sea ice. The ice was thicker than seven feet and we gave up on it. Where it's windiest is where the ice is thickest, because there is less snow cover. [Elijah]

Review of Results from Workshop #4: Caribou

[Note – Not all discussion on the caribou map has necessarily been captured in these notes. The final caribou map should be referred to for a more complete record.]

- The markings on the map are accurate. The yellow ones are during summer. They are spot on. We do have caribou in these areas during summer and spring. Last summer, we surveyed for caribou and we saw a lot. We fuelled up at Steensby Inlet. This area did not have many caribou. Certain areas couldn't be surveyed because the weather was bad the whole time. Caribou move from certain areas. Areas with grass were covered in tracks. [Elijah]
- This area has a lot of calves. This is the main concentration of the caribou. During the winter, they go to the lowlands. In the summer, they go to the highlands. [Anonymous participant]
- When I was a boy, we would hunt caribou and enter through a different bay. [Anonymous participant]
- The people from Igloodik would come to this area to meet and find women to marry. [Elijah]
- They would get caribou for clothing from this area, because that's where the female caribou would congregate around. [Joanasie]
- This is a great trail to go on [in the Big A Lake area]. Caribou won't be so negatively affected because they can move to different areas and they can hear a long ways. It's a different story for marine creatures. [Anonymous participant]
- In the summer survey, around the Tote Road, there was not any caribou in that area. [Elijah]
- If the caribou want to go somewhere, they'll go there. Nothing will stop them. Caribou tried to drink from the sewage lagoon in Pond Inlet once. They are harder to lecture than people. It might be aircraft traffic that scares them more. [Anonymous participant]
- When caribou are more numerous they might not worry about traffic, but the females with calves are more skittish. [Elijah]

- They would flee [from the helicopter during the summer survey], but when we would go ahead of them, they would just stop. [Elijah]
- The meat [from caribou that are killed by vehicle strikes] should be dressed for consumption by local Inuit, if possible, and compensation has to be paid. [Enookie]
- Yes, we are okay with this map. [Elijah]
- I don't have too many concerns for caribou. I do have marine concerns, as was said. If there were too many contaminants or minerals that affect the food of the caribou, how much caribou could you eat if they had eaten contaminated food? I'm not concerned about trucks hitting caribou if caribou numbers increase. The only concern to me that I have experienced is, I think around 2008 during the Bulk Sample, Joshua and I were on a trip. We saw caribou near Mary River and we caught it. You could hear blasting at Mary River. All the caribou would flee the blasting, more than traffic noise. Noise isn't really a deterrent to caribou. I'm not against the project, but we would need to know if the caribou were eating contaminated foods. [Elijah]
- How far away from the Tote Road or mine site would the caribou have to be to know they are safe to eat? They eat and drink from everywhere. [Elijah]
- There is a study to see if there is dust along the road. Are you going to be doing a study to see if you can mitigate dust? We usually go through Milne Inlet to go to Igloolik. Last year, we had a hard time. There was [unrecorded comments pertaining to slush and/or dust] along the Tote Road. [Enookie]
- When will we see the effects assessment for the railroad? We need to have a proper idea. [Enookie]
- I am giving a report to the hamlet. It says here that you wish to increase the number of beneficiaries taking part in the monitoring programs. That would be good to hear. How useful are Inuit Knowledge statements to you? How are you going to use these instructions? For example, GN is saying Inuit Knowledge is being implemented and used, but they are not actually. We feel you are using the information more than the GN. [Joshua]
- Why are we being so honest? Maybe in time, it could be bad for us and used against us? That was my concern before. We are still being helpful and honest. We express ourselves, even if we don't agree with everything that is being proposed. [Joshua]
- When the project was first beginning, we were only told how great the project is and nowadays you've taken all these issues into consideration. It will need to be well planned for you and for us. Today, we need to work equally for the start of your second phase. I know more clearly how your project stands. We didn't know what your plans were when you first started coming to the community. I will agree to some parts of the project, and not to some others. I will not hesitate to say no if I have to. [Anonymous participant]

Closing Remarks

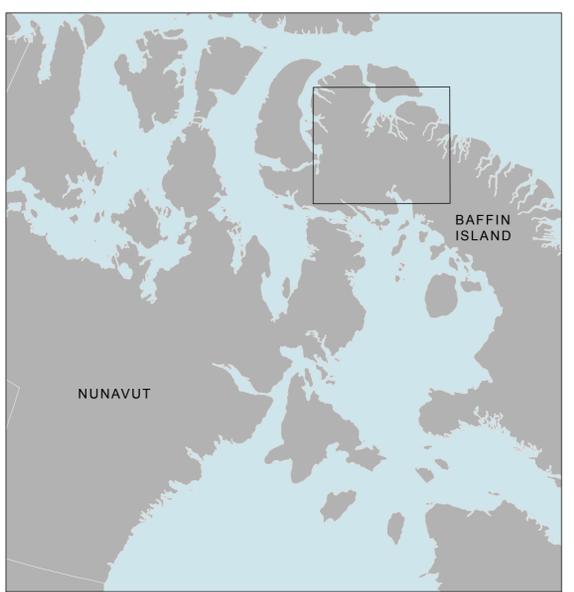
- Somebody needs to figure out why those sculpin died. If we understand what caused that, we can prevent it. When the small marine food chain species start dying off, we are concerned for all animals. We need to look into the sculpin situation. When they have natural die offs, they don't wash up on shore. This was not just in Milne Inlet. There was dead sculpin on one of the islands you wanted to use for trans-shipping. Wildlife do die off by themselves and that may have been the case. But I would like to hear more information about that. [Anonymous participant]
- Regarding Phase 2, during the Early Revenue Phase, Steensby Inlet needed to be paid for, so the Early Revenue Phase was started. When the Early Revenue Phase started, you started to work on Phase 2 and brought up winter shipping, because you may not be able to afford Steensby. This is a huge deal for the community of Pond Inlet. We don't want the mine to stop but the effects may be

huge and it is a concern. We need straight answers. Perhaps Steensby Inlet is being released bit by bit. I wanted to explain that. While Tom is here. I'm glad that you are here in the community. If ships do travel through Navy Board Inlet, we'd all be glad if you took that route. Can we do a study to see if we can ship through Navy Board Inlet? People would be even more supportive. People who are against the mine wouldn't be so negative. It would have effects but they would be less. We'd be able to sleep at night if you were to go through Navy Board Inlet. [Enookie]

- I don't have too many concerns. But the effects that have been coming up, if we have experts to study them, then we'll be able to work together to mitigate them. We don't need to bicker and can work together to solve issues, which would be the best way to go. If you're open and honest with what problems come up, people will trust you more. Being silent on issues is not helpful. The things we learn, we can always tweak or fix. I am okay with scientific studies continuing. Whatever negative effects there are, we can work together on them. You will learn new things your whole life. You will collect new things and use them. [Elijah]
- I have said this already, but I believe we should go up to Mary River to have meetings. You probably want to see how operations are run at the mine. You need to see how it works with your own eyes. It's good to see Inuit working. It is good to see community members from Pond Inlet working there. At QIA we've been working hard for the project. Not too many people are skilled or trained, to be able to take some of those jobs. We have people who want to work, but aren't skilled or educated enough, but we understand from applications we receive what education and skills are lacking. The people from Arctic Bay were in the same situation you guys were in, but they did work for Nanisivik and enjoyed working there. That can be the case for Pond Inlet too. The youth here are better educated than the past people. You would think that these young people would work for Mary River. I appreciate that you could all engage in dialogue. [Peter]
- I too am grateful. I appreciate the people that are able to come up here to deal with Pond Inlet's environment. The fact that the community members are not left in the cold, I really appreciate that. If the mine keeps going, I want money laid aside for our descendants. The area is a traditional area. Before we were born, the Inuit knew there was a material of substance there. Even if they didn't know it was the Mary River mine there. Because of that, southerners look for jobs, and I'm grateful for them, because it's something that will create jobs for us. That project may be ongoing for several years. For that reason, I want money set aside for Pond Inlet. [Joanasie]
- I wish to thank you for coming to the community and I am grateful. [Lindsey]
- I too am grateful that I was included in your meetings. [Savannah]

[End of meeting]

APPENDIX E: NORTH BAFFIN CARIBOU ECOLOGY AND HARVESTING INFORMATION – DETAILED FIGURE



Data sources:

Point, line and polygon data are a representation of land use and ecological information collected in the Mary River Project region. The information was gathered at a caribou workshop in Pond Inlet in November 2015, and confirmed at Arctic Bay and Pond Inlet in April 2016.

1:250,000 Topography - Canvec 1:250,000 Topographic Series [multiple computer files]. Government of Canada – Natural Resources Canada, 2012. Available at Geogratis: <http://www.geogratis.gc.ca> (Accessed in 2013 and 2015).

1:10,000,000 Bathymetry - National Atlas of Canada [computer files]. Government of Canada; Instituto Nacional de Estadística, Geografía e Informática (INEGI); U.S. Geological Survey, 2010. Available at <http://geogratis.gc.ca> (Accessed September 1, 2016).

Mine Tote Road Alignment Polyline and Project Areas Polygons [computer files]. Baffinland, 2013. Provided by Baffinland Iron Mines Corporation (Accessed in 2013).

Digital Elevation Model (DEM) - Canadian Digital Elevation Model (CDEM) [computer file]. Government of Canada – Natural Resources Canada, 2012. Available Geogratis: <http://www.geogratis.gc.ca> (Accessed in 2014).

Legend

- Points of Interest (Contemporary)
- Seasonal Movement by Caribou or Human
 - Caribou - Fall Movement
 - Caribou - Winter Movement
 - Caribou - Summer Movement
 - - - Human - Fall Travel
 - - - Human - Winter Travel
 - - - Human - Spring Travel
 - - - Human - Spring/Summer Travel
 - - - Human - Summer Travel
- Seasonal Caribou Locations
 - Fall
 - Winter
 - Spring
 - Summer
 - Summer and Winter
 - Year Round
 - Miscellaneous

North Baffin Caribou Ecology and Harvesting Information

0 10 20 40 60 80 100
Kilometres

Projection: North American Datum 1983, Lambert Conformal Conic
Scale: 1:1,000,000

Baffinland **EDI**

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Checked: MS (EDI)

Date: September 1, 2016

Caribou Workshop Line and Polygon Notations

Feature ID	Notes - Arctic Bay Workshop	Feature ID	Notes - Pond Inlet Workshop
AB 001	Line of interest	PI 007	Caribou crossing area
AB 002	winter/spring travel route; Snow machine	PI 008	Caribou in summer
AB 003	No comment	PI 009	Caribou in summer
AB 004	No comment	PI 010	Caribou corralling areas
AB 005	ATV	PI 011	Caribou corralling areas
AB 006	ATV	PI 012	Caribou corralling areas
PI 007	Caribou crossing area	PI 013	summer concentration of caribou - highlands
PI 008	Caribou in summer	PI 014	summer concentration of caribou - highlands
PI 009	Caribou in summer	PI 015	summer concentration of caribou - highlands
PI 010	Caribou corralling areas	PI 016	summer concentration of caribou - highlands
PI 011	Caribou corralling areas	PI 017	Used to hold a lot of caribou in the winter - height of land for drainage - NW/SE
PI 012	Caribou corralling areas	PI 018	Used to have caribou in winter - when the main herd was here, but saw some in 2014
PI 013	summer concentration of caribou - highlands	PI 019	Caribou - summer
PI 014	summer concentration of caribou - highlands	PI 020	Caribou in small groups in early spring
PI 015	summer concentration of caribou - highlands	PI 021	Caribou in small groups in early spring
PI 016	summer concentration of caribou - highlands	PI 022	Caribou in small groups in early spring
PI 017	Used to hold a lot of caribou in the winter - height of land for drainage - NW/SE	PI 023	Caribou in small groups in early spring
PI 018	Used to have caribou in winter - when the main herd was here, but saw some in 2014	PI 024	Caribou in small groups in early spring
PI 019	Caribou - summer	PI 025	Dangerous area - always flowing (travel)
PI 020	Caribou in small groups in early spring	PI 026	winter caribou concentration
PI 021	Caribou in small groups in early spring	PI 027	winter caribou concentration
PI 022	Caribou in small groups in early spring	PI 028	winter caribou concentration
PI 023	Caribou in small groups in early spring	PI 029	winter caribou concentration
PI 024	Caribou in small groups in early spring	PI 030	winter caribou concentration
PI 025	Dangerous area - always flowing (travel)	PI 031	winter caribou concentration
PI 026	winter caribou concentration	PI 032	Caribou in spring - 2 years ago
PI 027	winter caribou concentration	PI 033	Caribou in spring - 2 years ago
PI 028	winter caribou concentration	PI 034	winter caribou concentration
PI 029	winter caribou concentration	PI 035	Caribou here are the most delicious
PI 030	winter caribou concentration	PI 036	Caribou holding areas
PI 031	winter caribou concentration	PI 037	Caribou holding areas
PI 032	Caribou in spring - 2 years ago	PI 038	Test rings gathering spot - central area for caribou
PI 033	Caribou in spring - 2 years ago	PI 039	Caribou carcasses when trying to cross on this ice
PI 034	winter caribou concentration	PI 040	Caribou carcasses when trying to cross on this ice
PI 035	Caribou here are the most delicious	PI 041	Caribou in fall - recent
PI 036	Caribou holding areas	PI 042	Caribou summer and winter concentration
PI 037	Caribou holding areas	PI 043	Caribou summer and winter concentration
PI 038	Test rings gathering spot - central area for caribou	PI 044	Caribou summer and winter concentration
PI 039	Caribou carcasses when trying to cross on this ice	PI 045	Caribou summer and winter concentration
PI 040	Caribou carcasses when trying to cross on this ice	PI 046	Caribou tend to visit this area - even when scarce elsewhere
PI 041	Caribou in fall - recent	PI 047	winter caribou - on top of hills
PI 042	Caribou summer and winter concentration	PI 048	Caribou rarely leave this area - good escape, steep terrain
PI 043	Caribou summer and winter concentration	PI 049	Heaps of bones
PI 044	Caribou summer and winter concentration	PI 050	Caribou hunting
PI 045	Caribou summer and winter concentration	PI 051	Elijah P. has hunted caribou here in these two locations
PI 046	Caribou tend to visit this area - even when scarce elsewhere	PI 052	Elijah P. has hunted caribou here in these two locations
PI 047	winter caribou - on top of hills	PI 053	Caribou hunting
PI 048	Caribou rarely leave this area - good escape, steep terrain	PI 054	Caribou hunting
PI 049	Heaps of bones	PI 055	Heaps of bones
PI 050	Caribou hunting	PI 056	Heaps of bones
PI 051	Elijah P. has hunted caribou here in these two locations	PI 057	Heaps of caribou bones
PI 052	Elijah P. has hunted caribou here in these two locations	PI 058	Arctic Bay / Pond Inlet meeting spot
PI 053	Caribou hunting	PI 059	Hole in glacier and mudslide (not hunting area)
PI 054	Caribou hunting	PI 060	Snow machine; winter access
PI 055	Heaps of bones	PI 061	Snow machine; winter access
PI 056	Heaps of bones	PI 062	Snow machine; winter access
PI 057	Heaps of caribou bones	PI 063	Snow machine; winter access
PI 058	Arctic Bay / Pond Inlet meeting spot	PI 064	Snow machine; winter access
PI 059	Hole in glacier and mudslide (not hunting area)	PI 065	Snow machine; winter access
PI 060	Snow machine; winter access	PI 066	Snow machine; winter access
PI 061	Snow machine; winter access	PI 067	Snow machine; winter access
PI 062	Snow machine; winter access	PI 068	Snow machine; winter access
PI 063	Snow machine; winter access	PI 069	Snow machine; winter access
PI 064	Snow machine; winter access	PI 070	Snow machine; winter access
PI 065	Snow machine; winter access	PI 071	Snow machine; winter access
PI 066	Snow machine; winter access	PI 072	Snow machine; winter access
PI 067	Snow machine; winter access	PI 073	Snow machine; winter access
PI 068	Snow machine; winter access	PI 074	Snow machine; winter access
PI 069	Snow machine; winter access	PI 075	Snow machine; winter access
PI 070	Snow machine; winter access	PI 076	Snow machine; winter access
PI 071	Snow machine; winter access	PI 077	Walking for caribou harvest
PI 072	Snow machine; winter access	PI 078	Walking for caribou harvest
PI 073	Snow machine; winter access	PI 079	Walking for caribou harvest
PI 074	Snow machine; winter access	PI 080	Walking for caribou harvest
PI 075	Snow machine; winter access	PI 081	Walking for caribou harvest
PI 076	Snow machine; winter access	PI 082	Walking for caribou harvest
PI 077	Walking for caribou harvest	PI 083	Walking for caribou harvest
PI 078	Walking for caribou harvest	PI 084	Walking for caribou harvest
PI 079	Walking for caribou harvest	PI 085	Walking for caribou harvest
PI 080	Walking for caribou harvest	PI 086	Walking for caribou harvest
PI 081	Walking for caribou harvest	PI 087	Walking for caribou harvest
PI 082	Walking for caribou harvest	PI 088	Walking for caribou harvest
PI 083	Walking for caribou harvest	PI 089	Walking for caribou harvest
PI 084	Walking for caribou harvest	PI 090	Walking for caribou harvest
PI 085	Walking for caribou harvest	PI 091	ATV
PI 086	Walking for caribou harvest	PI 092	ATV
PI 087	Walking for caribou harvest	PI 093	ATV
PI 088	Walking for caribou harvest	PI 094	ATV
PI 089	Walking for caribou harvest	PI 095	Walking for caribou harvest
PI 090	Walking for caribou harvest	PI 096	Walking for caribou harvest
PI 091	ATV	PI 097	Snow machine; winter access
PI 092	ATV	PI 098	Snow machine; winter access
PI 093	ATV	PI 099	Snow machine; winter access
PI 094	ATV	PI 100	Snow machine; winter access
PI 095	Walking for caribou harvest	PI 101	Snow machine; winter access
PI 096	Walking for caribou harvest	PI 102	ATV
PI 097	Snow machine; winter access	PI 103	ATV
PI 098	Snow machine; winter access	PI 104	Snow machine; winter access
PI 099	Snow machine; winter access	PI 105	Walking for caribou harvest
PI 100	Snow machine; winter access	PI 106	Walking for caribou harvest
PI 101	Snow machine; winter access	PI 107	Walking for caribou harvest
PI 102	ATV	PI 108	ATV
PI 103	ATV	PI 109	ATV
PI 104	Snow machine; winter access	PI 110	ATV
PI 105	Walking for caribou harvest	PI 111	ATV
PI 106	Walking for caribou harvest	PI 112	ATV
PI 107	Walking for caribou harvest	PI 113	ATV
PI 108	ATV	PI 114	ATV
PI 109	ATV	PI 115	ATV
PI 110	ATV	PI 116	ATV
PI 111	ATV	PI 117	ATV
PI 112	ATV	PI 118	ATV
PI 113	ATV	PI 119	ATV
PI 114	ATV	PI 120	Snow machine; winter access
PI 115	ATV	PI 121	ATV
PI 116	ATV	PI 122	ATV
PI 117	ATV	PI 123	ATV
PI 118	ATV	PI 124	Walking for caribou harvest
PI 119	ATV	PI 125	Walking for caribou harvest
PI 120	Snow machine; winter access	PI 126	ATV
PI 121	ATV	PI 127	ATV
PI 122	ATV	PI 128	Walking for caribou harvest
PI 123	ATV	PI 129	Walking for caribou harvest
PI 124	Walking for caribou harvest	PI 130	Walking for caribou harvest
PI 125	Walking for caribou harvest	PI 131	Walking for caribou harvest
PI 126	ATV	PI 132	Snow machine; winter access
PI 127	ATV	PI 133	Snow machine; winter access
PI 128	Walking for caribou harvest	PI 134	Snow machine; winter access
PI 129	Walking for caribou harvest	PI 135	Snow machine; winter access
PI 130	Walking for caribou harvest	PI 136	Snow machine; winter access
PI 131	Walking for caribou harvest	PI 137	Snow machine; winter access
PI 132	Snow machine; winter access	PI 138	Snow machine; winter access
PI 133	Snow machine; winter access	PI 139	Snow machine; winter access
PI 134	Snow machine; winter access	PI 140	Snow machine; winter access - Also Nunavut Quest trail
PI 135	Snow machine; winter access	PI 141	Snow machine; winter access
PI 136	Snow machine; winter access	PI 142	ATV
PI 137	Snow machine; winter access	PI 143	ATV
PI 138	Snow machine; winter access	PI 144	ATV
PI 139	Snow machine; winter access	PI 145	ATV
PI 140	Snow machine; winter access - Also Nunavut Quest trail	PI 146	ATV
PI 141	Snow machine; winter access	PI 147	Snow machine; winter access
PI 142	ATV	PI 148	Snow machine; winter access
PI 143	ATV	PI 149	Snow machine; winter access
PI 144	ATV	PI 150	Snow machine; winter access - Also Nunavut Quest trail
PI 145	ATV	PI 151	Snow machine; winter access - When no caribou found, continue to Igloolik
PI 146	ATV	PI 152	ATV
PI 147	Snow machine; winter access	PI 153	ATV
PI 148	Snow machine; winter access	PI 154	ATV
PI 149	Snow machine; winter access	PI 155	ATV
PI 150	Snow machine; winter access - Also Nunavut Quest trail	PI 156	ATV
PI 151	Snow machine; winter access - When no caribou found, continue to Igloolik	PI 157	ATV
PI 152	ATV	PI 158	ATV
PI 153	ATV	PI 159	Snow machine; winter access
PI 154	ATV	PI 160	ATV
PI 155	ATV	PI 161	ATV
PI 156	ATV	PI 162	Snow machine; winter access - Nunavut Quest trail also.
PI 157	ATV	PI 163	Snow machine; winter access
PI 158	ATV	PI 164	Walking for caribou harvest
PI 159	Snow machine; winter access	PI 165	Snow machine; winter access
PI 160	ATV	PI 166	ATV
PI 161	ATV	PI 167	ATV
PI 162	Snow machine; winter access - Nunavut Quest trail also.	PI 168	ATV
PI 163	Snow machine; winter access	PI 169	ATV
PI 164	Walking for caribou harvest	PI 170	ATV
PI 165	Snow machine; winter access	PI 171	ATV
PI 166	ATV	PI 172	Walking for caribou harvest
PI 167	ATV	PI 173	ATV
PI 168	ATV	PI 174	Walking for caribou harvest
PI 169	ATV	PI 175	ATV
PI 170	ATV	PI 176	ATV
PI 171	ATV	PI 177	Snow machine; winter access - winter time travel for caribou hunting to Igloolik & Repulse Bay
PI 172	Walking for caribou harvest	PI 178	Snow machine; winter access - winter time travel for caribou hunting to Igloolik & Repulse Bay
PI 173	ATV	PI 179	ATV - Arctic Bay summer caribou hunting travel
PI 174	Walking for caribou harvest	PI 180	Nunavut Quest alternate route
PI 175	ATV	PI 181	Rough estimate of caribou movement in this area
PI 176	ATV	PI 182	Rough estimate of caribou movement in this area
PI 177	Snow machine; winter access - winter time travel for caribou hunting to Igloolik & Repulse Bay	PI 183	Rough estimate of caribou movement in this area
PI 178	Snow machine; winter access - winter time travel for caribou hunting to Igloolik & Repulse Bay	PI 184	Rough estimate of caribou movement in this area
PI 179	ATV - Arctic Bay summer caribou hunting travel	PI 185	Rough estimate of caribou movement in this area
PI 180	Nunavut Quest alternate route	PI 186	Rough estimate of caribou movement in this area
PI 181	Rough estimate of caribou movement in this area	PI 187	Rough estimate of caribou movement in this area
PI 182	Rough estimate of caribou movement in this area	PI 188	Rough estimate of caribou movement in this area
PI 183	Rough estimate of caribou movement in this area	PI 189	No comment
PI 184	Rough estimate of caribou movement in this area	PI 190	No comment
PI 185	Rough estimate of caribou movement in this area	PI 191	Tracks tend to trend northward to Borden Peninsula
PI 186	Rough estimate of caribou movement in this area	PI 192	No comment
PI 187	Rough estimate of caribou movement in this area	PI 193	No comment
PI 188	Rough estimate of caribou movement in this area	PI 194	No comment
PI 189	No comment	PI 195	No comment
PI 190	No comment	PI 196	No comment
PI 191	Tracks tend to trend northward to Borden Peninsula	PI 197	No comment
PI 192	No comment	PI 198	fall caribou movement
PI 193	No comment	PI 199	Travel route human - walking, historical
PI 194	No comment	PI 200	Walking trail human
PI 195	No comment	PI 201	Water crossing
PI 196	No comment	PI 202	Caribou movement, bidirectional
PI 197	No comment	PI 203	fall time movement when numerous + caribou corral - fall south, spring north
PI 198	fall caribou movement	PI 204	fall time movement when numerous + caribou corral - fall south, spring north
PI 199	Travel route human - walking, historical	PI 205	fall time movement when numerous + caribou corral - fall south, spring north
PI 200	Walking trail human	PI 206	fall time movement when numerous + caribou corral - fall south, spring north
PI 201	Water crossing	PI 207	fall time movement when numerous + caribou corral - fall south, spring north
PI 202	Caribou movement, bidirectional	PI 208	Caribou movement, bidirectional
PI 203	fall time movement when numerous + caribou corral - fall south, spring north	PI 209	Early spring (April/May)
PI 204	fall time movement when numerous + caribou corral - fall south, spring north	PI 210	No comment
PI 205	fall time movement when numerous + caribou corral - fall south, spring north	PI 211	Mid to late 80's caribou movement
PI 206	fall time movement when numerous + caribou corral - fall south, spring north	PI 212	No comment
PI 207	fall time movement when numerous + caribou corral - fall south, spring north	PI 213	Tend to use these valleys to migrate
PI 208	Caribou movement, bidirectional	PI 214	Spot to hunt caribou when crossing - Inukshuk to corral caribou, before guns
PI 209	Early spring (April/May)	PI 215	Caribou that migrate in the fall tend to go into very rough terrain
PI 210	No comment	PI 216	Tend to use these valleys to migrate
PI 211	Mid to late 80's caribou movement	PI	