

Nain Site Visit

15 April 2015

Final Report



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May 13, 2015

SEM File # 070-020

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1.0 INTRODUCTION

Baffinland Iron Mines Corporation (BIM) plans to seek approval for Phase II of the Mary River Project. Phase II, once permitted, will allow BIM to increase production at the mine site and would require a corresponding increase in shipping activity to export iron ore. To meet the increased shipping demand, Phase II operations would require shipping through landfast ice out of Milne Port. BIM engaged Sikumiut Environmental Management Ltd. (SEM) to host a contingent of Inuit from Baffin Island during a visit to Nain, Labrador, to observe the *MV Umiak I* on a transit through landfast ice to the Voisey's Bay Mine and Mill Project site (see Figure 1). This report documents the Nain Site Visit and provides an overview of the trip objectives, participants, discussions and outcomes.

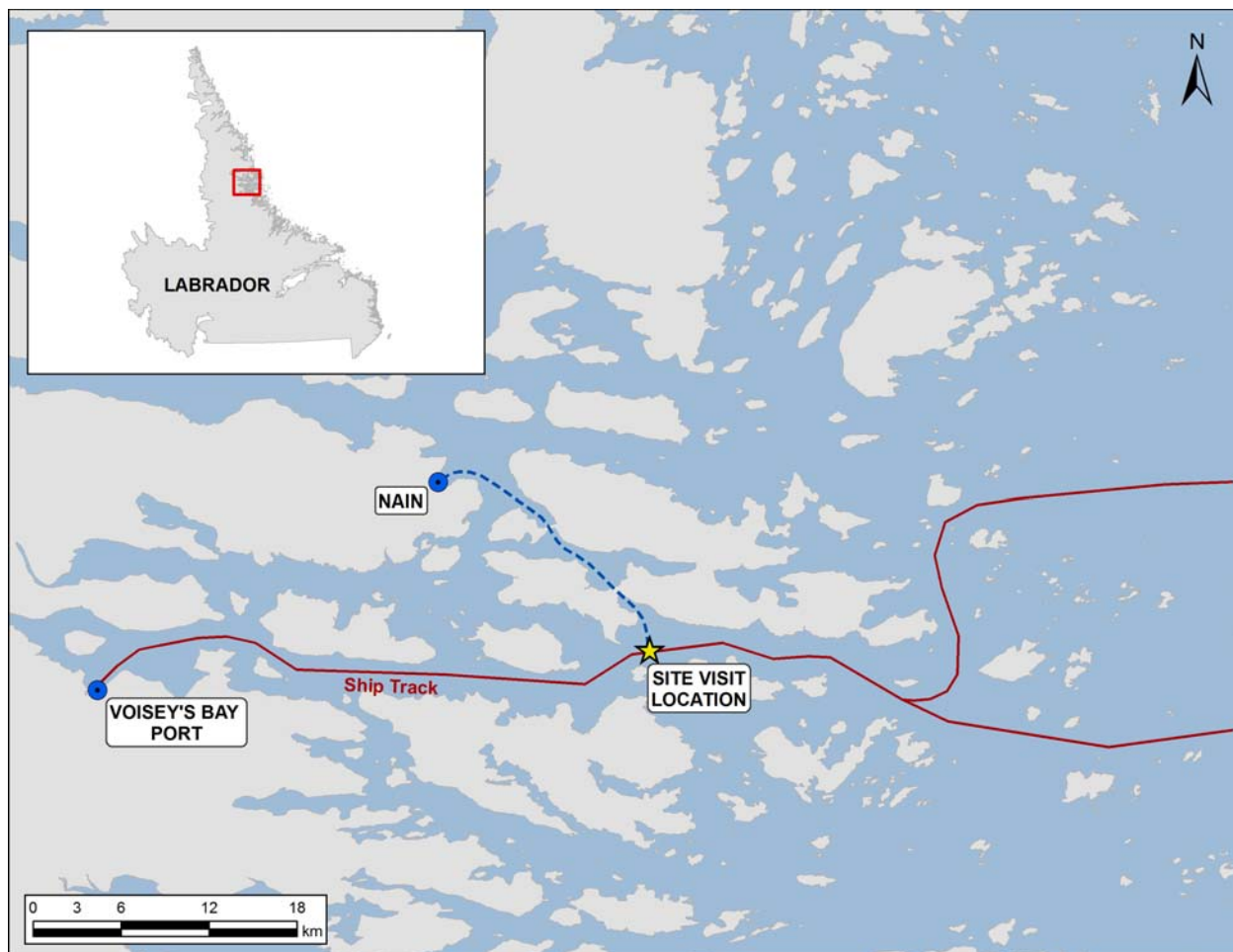


Figure 1 Nain Site Visit Location.

1.1 Objectives

The Nain Site Visit was intended to bring Inuit from Pond Inlet to Nain to observe the passage of the *MV Umiak I* through landfast ice. This would allow participants to directly experience winter shipping and related mitigation measures the Labrador Inuit employ to ensure they maintain safety and access to the area of the ship's track for traditional and recreational purposes (hunting, fishing, firewood collection and cabin usage). The visit also included a presentation and question and answer session which provided an opportunity for the visitors to learn about the winter shipping operations that occur in northern Labrador and to ask questions on all aspects of the Voisey's Bay Project, with an emphasis on winter shipping.

1.2 Participants

Inuit from Pond Inlet were the primary focus for the Nain Site Visit as the winter shipping planned for Phase II would interact with residents of that community. Other participants included Qikiqtani Inuit Association (QIA) representatives, BIM representatives, a Fednav representative and the SEM host. Table 1 provides the names and affiliations of the Nain Site Visit participants.

Table 1 Nain Site Visit Participants.

Name	Affiliation	Community
Elijah Panipakoocho	MHTO and MRCCG	Pond Inlet
Paniloo Sangoya	Elder	Pond Inlet
Rhoda Nutarak	Elder	Pond Inlet
Joshua Areak	Deputy Mayor	Pond Inlet
Jimmy Pitseolak	MHTO	Pond Inlet
Kunuk Qamaniq	Youth	Pond Inlet
Enookie Inuarak	QIA Representative	Pond Inlet
Morgan Arnakallak	Resident, Translator	Pond Inlet
PJ Akeeagok	QIA President	Iqaluit
Joe Tigullaraq	BIM, Senior Manager, Northern Affairs	Iqaluit
Tina Price	BIM, IIBA Coordination Manager	Iqaluit
Tom Paddon	BIM, President	Oakville
Tim Keane	Fednav, Operations Manager	Montreal
Leroy Metcalfe	SEM, President	St. John's
MHTO - Mittimatalik Hunters' and Trappers' Organization; MRCCG - Mary River Community Group		

2.0 PRESENTATION

On April 14, 2015, participants from Pond Inlet travelled via a scheduled flight to Iqaluit and met up with other participants based in that community. A chartered King Air 200 brought 11 participants (8 from Pond Inlet and 3 from Iqaluit) to Kuujuaq, Quebec, where they transferred to a chartered Twin Otter and were transported to Nain, Labrador. The other three trip participants also arrived in Nain on April 14, 2015. A trip schedule (Appendix A) was provided to all trip participants approximately two weeks prior to the trip.

The *MV Umiak I* was scheduled to begin its inbound transit to the Voisey's Bay Port early in the morning of April 15. The group originally planned to view the passage in the morning and then meet in the evening to discuss their observations. However, due to very high winds experienced on April 15, the SEM Ship Track Maintenance crew advised that they would delay departure from Nain to early afternoon to allow time for winds to subside.

The group adjusted its schedule and held the presentation and discussion beginning at 9AM, April 15. The participants gathered in the Pulapvik Boardroom provided by Parks Canada. Parks Canada also provided translation equipment for the meeting. The session was meant to be in a relaxed setting and allowed ample opportunity for questions and answers (Figure 2).



Figure 2 **Presenter's Point of View.**

At the beginning of the session, context was provided for the Nain Site Visit. Participant affiliations were identified. SEM owners were on hand; two of whom (Ron Webb and Gus Dicker) were interveners during the panel hearings for the Voisey's Bay Project Environmental Assessment and the third, Leroy Metcalfe, worked with the Labrador Inuit Association on addressing issues related to winter shipping following project approval. The Manager of Operations for Fednav was introduced as he was on hand to answer any questions regarding shipping. A brief overview of the Voisey's Bay Project was provided and it was indicated that BIM's president was General Manager for the Voisey's Bay mine site and was involved in working with Inuit and Innu on project approval and operations. The participants were also advised that Voisey's Bay has operated with year round shipping since 2005, with landfast ice present from approximately December to May.

The morning session was based around a brief presentation prepared by SEM (Appendix B) which outlined the experiences of the Labrador Inuit with the Voisey's Bay project as it underwent approval and subsequently went into operations. The emphasis was on winter shipping in landfast ice and related mitigation measures as this was a core concern the Labrador Inuit had with the project. It was made clear by SEM, and the Nunavut Inuit participants were clear in articulating, that the Labrador Inuit experience, geography and climate, as well as the Voisey's Bay Project were all different from the circumstances contemplated for Phase II and Pond Inlet. However, all recognized that the Nain Site Visit was a learning opportunity for Nunavut Inuit as they address issues related to BIM's plans for winter shipping. The presentation outlined how Labrador Inuit were initially opposed to winter shipping; how they explored the topic, in a stepwise fashion, of winter shipping (including a site visit to Raglan to witness winter shipping with the *MV Arctic*); and how the Inuit and the company ended up working together to address Inuit concerns about winter shipping. The presentation ended with an overview of SEM's innovative Pontoon Bridge system that allows snowmobilers to cross the ship's track shortly after the vessel passes by.

Throughout the session, numerous questions were posed by trip participants. A summary of these is provided below and is based on notes taken during the session by Tina Price with additional detail subsequently added by the SEM presenter and author of this report, Leroy Metcalfe.

Q: Enookie – Will we be able to hear from hunters and their experiences with the ship's track?

A: Yes, there are hunters from Nain in attendance – both Ron Webb and Gus Dicker are hunters first and environmental consultants second.

Q: PJ – What work has SEM done on the Mary River Project?

A: SEM's initial involvement was in assisting with document preparation for the Mary River Project Final Environmental Impact Statement and since then with environmental baseline studies for water, sediment and fish populations.

Q: PJ – What was the voter turnout for the Voisey's Bay IBA?

A: While unsure of the actual turnout, it was high. The vote was about 85% in favour of the IBA. Inuit voters were made aware that if the IBA was accepted that Inuit would also be consenting to winter shipping. With the IBA vote in favour, Inuit accepted winter shipping and worked closely with the company to ensure it occurred safely while meeting the commercial needs of the company and the traditional needs of the Inuit.

Presentation Highlight: Inuit worked with the company to put in place closure times – one in early winter to protect newly forming ice and another in the spring to protect seal birthing and peak human use times; we explored ways to mark the track for human safety and ways to get across the track. Fednav helped by facilitating a site visit to Raglan to see a vessel go to a mine site and in 2005 they brought the *MV Arctic* into landfast ice outside of Nain so we could observe for ourselves the effects that the ship had on the ice and to see how long the track took to refreeze. Prior to this our only experience was with Coast Guard ice breakers, and these were not always positive. In the past, a Nain resident was killed when their snowmobile collided with ice at the edge of a Coast Guard ship's track; we also knew that Coast Guard ice breakers cause a lot of damage to ice, creating large cracks that span out from the ship. Labrador Inuit acknowledged that the *MV Arctic* was different in that it cuts the ice, instead of breaking it.

Q: Joshua – How long has shipping been done for Voisey's Bay?

A: Since production started in 2005.

Q: PJ – Are there a limited number of winter shipments, how was this determined and was there collaboration on the topic between Inuit and the Company?

A: Issues related to the number of shipments and general safety (e.g., markers, ice crossings) were worked on and agreed to between the company and the Inuit. Once the idea of winter shipping was approved by the Inuit, the Inuit and the company worked closely on how all shipping, and winter shipping in particular, could be done to meet the needs of the company and the Inuit.

Q: Jimmy – Is the area flat ice (landfast ice) or pack ice?

A: From the Voisey's Bay Port, the ship's track runs east-west and, depending on the year, the track goes through about 60 or 70 kilometers of landfast ice, outside of that there is rough ice, also known as Arctic pack ice. The pack ice is kept outside by numerous islands and shoals on the Labrador coast.

Q: Jimmy – How thick is the ice?

A: About three to four feet, but averages at three.

Presentation Highlight: As part of the learning experiences for Labrador Inuit, we did a site visit to Raglan to see a ship go in there, we worked on a simulated ship's track outside of Nain to explore ways to mark a real ship's track when one occurs, and then we had the *MV Arctic* come into landfast ice outside of Nain to observe how the ship and the ice interacted and how the track refreeze occurred.

Q: How did the Raglan trip compare to the Labrador mining project?

A: Our people who visited Raglan found the trip helpful, but also recognized that conditions between the Quebec mine and the Labrador mine were different. Raglan had a much shorter track (7 km) and a lot colder winters. That's why the trip by the *MV Arctic* into ice near Nain prior to the start of Voisey's Bay shipping was very helpful – it allowed us to observe how an ore carrier, like the one planned for Voisey's Bay, would affect the ice and allowed us time to observe how the track would refreeze after the ship left.

Q: The map (see Figure 1) shows two routes, how does that work?

A: For our project there are two ways that the ship can approach the mine site and in some winters, it's easier to make the first passage to the mine by the northern route while in other years the southern route is better. Once a route is picked early in the year, that route is used for the rest of that year.

Q: Rhoda – Does the ship use the same track, or is there more than one track?

A: Most often the ship reuses the same track; when we go out later the ship will be coming though the same track that it has used three times already this year, today will be the fourth time in the same track.

Q: Elijah – How often does the ship pass through?

A: The ship makes four trips (8 passages) each winter. It comes approximately once a month from January to April. After the inbound trip it takes four or five days to load and then does its outbound trip. From there it takes another four or five days to get to Quebec City.

Q: What marine wildlife studies were done after the shipping occurred?

A: In the first season of winter shipping operations we did a ship noise study and in the first few years we did seal birthing lair studies. For the noise study, we knew from other work what noise levels could harm seal hearing, which noise levels would cause seals to avoid the noise source and what levels were not likely to cause any pain or avoidance reactions. We put microphones underneath the ice at 100 m, 500 m and 1 km away from the ship's track. Very close to the ship noise was high enough to cause pain, at the middle distance, the noise measured was loud enough to cause seals to temporarily leave the area and at 1 km noise was detected, but not likely loud enough to cause them to leave at all. Even though noise right next to the ship might cause the seal to have pain, they would have heard the ship coming and temporarily left the area to avoid the noise. For the seal birthing lair study, birthing lairs were found in the area of the active shipping, showing us that seals continue to use the area. SEM personnel have also frequently observed seals using the ships track to haul out over the years. Some hunters from Nain also follow along the track to hunt these seals.

Q: Enookie – How long does it take for the ship's track to refreeze?

A: In the coldest periods, when it's minus 25 or 30 and it is not snowing or drifting, the track freezes within about 10-12 hours. If there is snow cover or if the track drifts in, refreeze might take 3 or 4 days. In mild periods, we have seen the track go for two or three weeks without refreezing.

Q: Enookie – How cold does it get in Nain in winter?

A: For January and February the average is about minus 25 and it can get to minus 30.

Q: PJ – You said that seals remained, did baseline studies look at seal populations?

A: Seals do use the ship track area. The SEM crew has seen them in the ship's track a day or two after the ship passed and birthing lairs were still observed near the ship's track. Recently, the seal population seems to have dropped off, they aren't as numerous. This decline is not just in the area around the ship's track but is being noticed all along the Labrador coast.

Q: Enookie – Do you monitor wildlife other than seals?

A: As part of SEM's track marking and maintenance activities we do wildlife observations. The usual animals remained in the area (polar bears, seals, wolves, foxes, caribou). The caribou did something interesting. We expected them to fall into the water of the ship's track, but over the years we have seen their tracks. When they get to the track and if the ice is bad, they will walk along the track until they find a good crossing – they know if they can cross or not. SEM also did a breeding seabird study to assess how vessel passage affected nesting seabirds during open water. The birds were aware of the ship's passage and did at times leave their nests when the ship passed, but they also did this when small recreational boats, or even whales, passed by close to them. The birds continued to feed and do their regular activities. The colonies are still continuing uninterrupted after nearly ten years of operations.

Q: - PJ – Who is responsible for wildlife monitoring?

A: The company is ultimately responsible for conducting the monitoring, the work is usually contracted out to companies like SEM. SEM does monitoring of the freshwater environment,

others do marine environment monitoring and terrestrial monitoring. The reports are reviewed by regulators and shared with the Nunatsiavut Government.

Comment: PJ – I am surprised there is no seal population baseline data.

A: Seals were surveyed as part of the marine baseline data in the early to mid-nineties. The information from all monitoring programs is also shared with and reviewed with the Nunatsiavut Government. There haven't been any noticeable effects from shipping. The project has an Environmental Effects Monitoring program that looks at water quality, sediment quality and effects in mussels. If these were to show any effects, then the monitoring would be expanded to other organisms (e.g., fish, seals); but since there are no contaminants showing up at the low parts of the food web, none are expected at the higher levels. Monitoring occurs continually and will be done into the end of operations and into closure.

Q: Jimmy – Do you have whale monitoring?

A: No, because the whale population around Nain is very low, not like it is in Pond Inlet. We get minke and humpbacks, with an occasional beluga or narwhal.

Q: Enookie – Is the ice forming later in the fall or breaking up earlier in the spring because of the ship?

A: Not because of the ship, we have watched how the ice behaves around the ship track and the area is not different now than it was before shipping. However, the Labrador region is seeing differences in terms of when ice forms and melts. We used to get ice in December and see it melt in June, now we get ice from January to May. Also, the ice is different. One time during spring, water would stay on top of the ice for three days, now it drains down through almost right away. Joshua commented that they are noticing this in the Pond Inlet area as well.

Presentation Highlight: The test probe for the *MV Arctic* into waters near Nain was discussed; Nain Inuit noted how the vessel was different than a Coast Guard ice breaker. The ore carrier cut the ice pretty smoothly and was much more quiet than expected. This is still the way it is with the *MV Umiak I*.

Q: Joshua – Have you noticed any dead seals in the track caused by the ship?

A: No. We expected that this might occur, and we look for signs of this happening, but we have never seen it. We thought that new born pups might be killed by the ship, but they can swim by the time the ship passes through.

Q: Joshua – And this has been going on for 9 or 10 years?

A: Yes, for ten years.

Presentation Highlight: The Shipping Agreement was put in place to outline winter shipping activities; but in practice it is not the document that makes winter shipping safe, it is the people working closely with the company and good communications that makes the winter shipping activity safe.

Discussion Point: Since the issue of HTOs for Labrador came up on a couple of occasions, it was pointed out that the Labrador Inuit communities do not have HTOs. The Labrador Inuit Land Claims Agreement is unique in that it has self government for Inuit. Labrador Inuit have full control over Labrador Inuit lands and has co-management with the settlement area and a part of the marine area. In these shared areas, as well as in the Torngat Mountains National Park, things are run by co-management boards with Inuit representation. Since Inuit perspectives are built into self government, there wasn't really a need for HTOs. Furthermore, the Nunavut Land claims Agreement had provisions for the set up and operation of HTOs; the Labrador Inuit Land Claims Agreement has no such provisions, opting instead for self government and cooperative management.

Presentation Highlight: The group heard about implementation of winter shipping. The communications protocol was discussed. Nain residents have a website and a toll free telephone number they can check for updates on the ship track condition. There are also VHF radios available that tune into a continuous updated broadcast about the track, much like the Coast Guard's marine weather transmissions. SEM also posts a person near the main southbound snowmobile route during periods when the track is unsafe so people can always stop there on their way toward the ship track and learn whether a ship has been in recently and what condition the track is in. Most often, though, people call Ron and Gus because it is known that they are frequently in the area of the ship's track and they have more information

to share, including the track condition, the travelling conditions and whether there's certain wildlife around.

Q: Enookie – Has there been any emergency situations with the ship's track?

A: There have been none and we credit this to the good information that is available and the fact that people are careful to check the situation out before leaving Nain – people are using the available information and travelling with extra care; the mitigation measures are working. There are circumstances that occur beyond our control, though. For example, sometimes people from a community in the south travel over the ship track while intoxicated and this can be a concern.

Q: Rhoda – Are there plans in place for people who lose a snowmobile or equipment into the track?

A: There is nothing specific in place and nobody has ever lost anything in the track. It would be reasonable to assume they could get gear replaced. In the early days we joked that we could push a cheap beat up snowmobile into the track to get a brand new one, but in reality loss of or replacement of snowmobiles has not been an issue. People take the operation very seriously.

Observation: PJ – Voisey's Bay and the Labrador Inuit situation is different than what is proposed for Mary River. It is informative to get the concepts from Labrador, but what we need in Baffin would be different. The group discussed how these differences were recognized and that this trip was meant to give some helpful information, but that Baffin Inuit would have to work with BIM for the right solutions for their region.

Q: Enookie – Can we see the IBA for Voisey's Bay?

A: The IBA is a confidential document between the Nunatsiavut Government and Vale. Labrador Inuit Land Claims Beneficiaries can view it in the field offices, but cannot take copies with them. Sharing of the Voisey's Bay IBA with QIA would have to be a decision of the Nunatsiavut Government and Vale.

Q: PJ – I'm assuming that Nunatsiavut Government has ownership in the ship; what percentage do they own?

A: The ship is wholly owned by Fednav, but the Inuit did avail of an equity stake in the ship that was offered to them; they would get a corresponding proportion of profit from the shipping operation, but the actual percentage level was agreed between the Labrador Inuit Association (Nunatsiavut Government's predecessor) and Fednav.

Presentation Highlight: The Pontoon Bridge system was discussed. Once Labrador Inuit realized that natural refreeze was taking much longer than anyone had expected, we worked with the company to develop a floating bridge system. We use a system of bridges about 16 feet long and 8 feet wide that link together to span the width of the track. We then put ramps at each end and shortly after the ship passes, we can safely cross the track. Two such systems are now in place and at most people have to take a 10 or 15 kilometer detour to get over the newly formed track. When the track refreezes, ice bridges (naturally frozen areas smoothed down with tools so snowmobiles can cross easily) are also put in place. The company and the Inuit worked together and found a solution that worked for everybody.

Q: Jimmy – How many pieces are in each bridge and how many bridges are there? Are the bridges in different locations?

A: The Pontoon Bridge usually requires 6 pieces plus ramps to span across the track. Sometimes a seventh piece is needed, depending on the track width. We have 2 pontoon systems. We put solar lights at the Pontoon Bridges to assist with night time travelling. Also, we do ice bridges; usually five for the inbound passage and 8 following the outbound passage. The Pontoon Bridges are placed at two primary travel routes to accommodate as many travelers as possible while reducing, to the extent possible, the length of detours that travelers need to make to get to them. They are put in more or less the same place year after year so people know where safe crossings are nearly always available.

Q: Enookie – Can these be put out and used in the dark, because in Pond Inlet there will be constant darkness at times?

A: We limit the deployment of the Pontoon Bridges to daylight for safety reasons. However, with proper lighting systems, there is no reason why they couldn't be put out in the dark.

Q: Enookie – How many employees does SEM have for the ship track work?

A: 8 people full time in the winter to handle the ship track marking contract (safety markers, wildlife observations, crossings), with 2 or 3 extra hired during busy periods.

Q: Enookie – How many people would be required to work the pontoons?

A: At least 6 people for the bridges used in Labrador; the number of people depends on the size of the bridges and type of equipment used. Tom commented that we didn't want to pre-judge things for the Baffin region; that if a similar system were to be used for Baffin, it would need to be designed with Baffin Inuit and that bigger equipment would need to be used. Tom referenced that Erik Madsen is familiar with equipment used for winter road maintenance that would likely be good for use near Pond Inlet. Ron pointed out that frost can form on the pontoons and make them hard to move. He also noted that the weight of the pontoons and the gear type used affects time to deploy the system. With heavier equipment, larger bridges can be put out more easily.

Observation: Paniloo stated that he was not comfortable with the idea of winter shipping for Pond Inlet and that if it were to go ahead, it would have to be discussed further and the details worked out with Inuit there before moving forward.

Q: Jimmy – Are there icebergs in the Labrador area?

A: Yes, but because of the many islands and shoals along the coast, the ice bergs and pack ice are kept outside and we have landfast ice for 60 to 70 km eastward from the mine site port. Icebergs cannot get into the landfast ice area.

Q: PJ – Has there been any oil spills?

A: No, there has never been a spill; the Fednav ships are designed as zero discharge, so all garbage and bilge is taken off the vessel and disposed of properly, not at sea. The only concern, common to all ships, is that leakage can occur around the propeller shaft. For this area, Fednav vessels use an environmentally safe vegetable based lubricant, not a hydro carbon based lubricant. In addition, Fednav follows strict protocols for shipping in Arctic waters. Tim commented that in the 2005 *MV Arctic* test probe to Labrador and the subsequent

operations shipping, people seem to be surprised by how uneventful the shipping aspect has been.

Q: PJ – Has there been any issues with the ore carrier, has it ever needed help from the Coast Guard?

A: No, the vessel is designed for the conditions it faces and the coast of Labrador has some of the most challenging winter shipping conditions to be found anywhere in the world. The Arctic pack ice is pushed south by the Labrador Current and by onshore winds. The pack ice presses into the landfast ice and can form pressure ridges that can be 20 or 30 feet deep. The vessel has no issues in the 1 to 1.5 meter thick landfast ice, but it can be slowed down by the thick pressure ridges. While these conditions can be challenging, the *MV Umiak I* has never been put in a dangerous situation, she can handle such conditions. The issue of Coast Guard assistance was a touchy subject during the project planning. Coast Guard was asked to go into the area during the winter to collect information for project planning, but told the company that they would not enter the area. The ship built for the mine goes into areas where Coast Guard vessels cannot. From that point of view, the Fednav ice class vessels are operated independent of the Coast Guard; they are designed with plenty of power to handle themselves with no reliance on other vessels for support.

Q: Enookie – Does the *MV Umiak I* go through multi-year ice?

A: The ship is built to travel in the conditions known to exist in the Canadian Arctic, especially the coast of Labrador. It can handle impact with multi-year ice, but also has systems on board to help detect where multi-year ice is so it can be avoided.

The presentation and question and answer session ended at approximately 11:30 AM. This allowed participants time to have lunch and dress for a 1PM departure from Nain to observe the ship's transit.

3.0 OBSERVING THE SHIP

At 1PM, the group assembled at the SEM warehouse (Figure 3) where they were assigned snowmobiles and prepared to head to Taktok Island crossing, about an hour's drive southeast from Nain (Figure 1).



Figure 3 Preparing to Leave Nain.

The group was joined by 6 SEM employees that were working on the pontoon deployment for the day as well as three Parks Canada employees who were coming along to observe the vessel transit. Once at site, another group of five onlookers from Nain arrived to see the vessel. This was the largest assembly of observers of a vessel transit since winter shipping began in 2006.

The *MV Umiak I* was stopped awaiting the arrival of the SEM crew when the group arrived at Taktok Island at approximately 2PM. Tim went aboard the ship, accompanied by Tom, Elijah and Joshua. The vessel then commenced its westward passage toward the Voisey's Bay Project port. As the vessel had just commenced, it did not have the momentum to ride smoothly through the ice. When it was adjacent to the group of observers, the vessel advised that it had to back up. The group moved further away from the vessel as it completed this movement and carried on forward past the pontoon location. The vessel carried on to approximately one kilometer past the group and stopped once again to allow Tom, Elijah and Joshua to de-board and rejoin the rest of the visiting contingent.

In the meantime, the SEM crew commenced with the deployment of the pontoon bridge, placing one 16 foot unit at a time into the track and connecting the pieces as each was added (Figures 4 and 5).



Figure 4 Two Pieces of the Pontoon in Place.

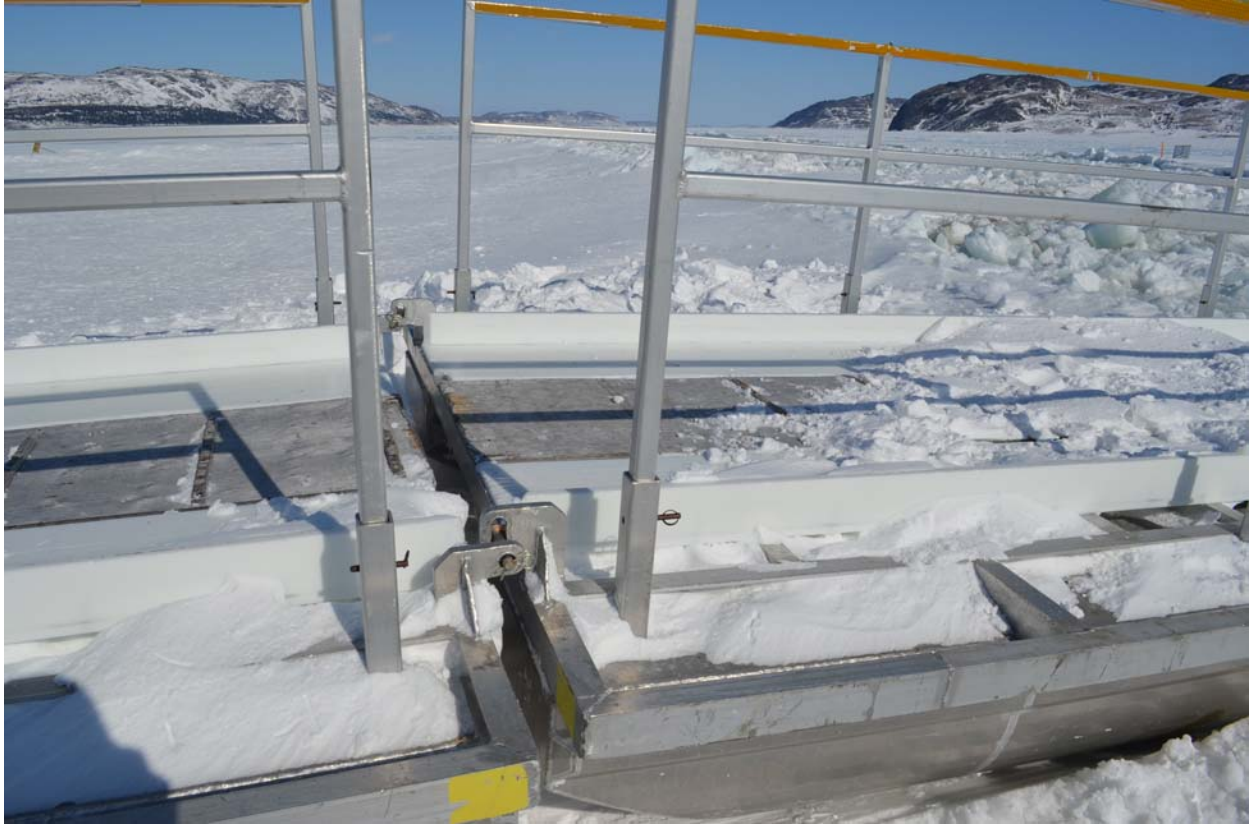


Figure 5 The Connection Points Between Units.

During the pontoon deployment, some of the visitors assisted by helping to dig snow away, in moving the winch cables around (Figure 6) and with lining up the connection points between pontoons.

During the time spent watching the vessel pass by and while the pontoons were being put into place, the group interacted with the SEM crew and shared commentary and discussions regarding the vessel, how it passed through the ice and about the pontoons. Given that there were over 20 people involved in the visit a complete record of various discussions and commentary was not possible to obtain for this report. It is recommended that a brief follow up survey be conducted to record each participant's views of the site visit for inclusion in the final report.



Figure 6 Lending a Hand.

Some discussions centered around ways to enlarge and more quickly deploy the Pontoon Bridges, which, it was pointed out by one visitor, would be required for usage in Pond Inlet. There were also questions regarding where the pontoons were manufactured (Fabtech Industries, in Glovertown, NL, where Silver Dolphin boats are also made). Several comments were made about the smoothness of the ship passing through the ice as well as the uniform nature of ice rubble left in the track, and not on the side of it, as the track was made. One observer noted that the vessel passage was awesome and inquired whether a Pontoon Bridge system would be put in place in Pond Inlet. It was noted that what happens in Pond Inlet would be up to the Inuit there and BIM to decide together.

The pontoons were deployed by approximately 4 PM and some of the participants walked across the Pontoon Bridge while others drove snowmobiles over it. At approximately 4:30 PM the group departed the area to return to Nain. Upon arrival in Nain, the group returned to the hotel for supper and general conversation regarding the day's events was held. The Deputy Mayor of Pond Inlet presented Leroy with the Hamlet flag and expressed thanks for the opportunity. In addition, Joe presented Leroy with a CD from Simeonie Keenainak as a token of thanks for a well planned trip. Leroy briefly thanked the group, pointing out that the trip was

made possible and funded by BIM, expressed thanks because the group was very easy to work with and noted that we were very fortunate that weather and scheduling turned worked out smoothly.

On the morning of April 16, the group returned to Iqaluit via chartered Twin Otter and the residents of Pond Inlet returned home via scheduled flights.

A workshop about winter shipping in planned for Pond Inlet from April 27-30, 2015, during which Leroy and Joe will provide an overview of the Nain Site Visit. This presentation, when complete, will be included as an appendix to this report.

4.0 ACKNOWLEDGEMENTS

SEM wishes to acknowledge Baffinland Iron Mines Corporation for making this trip possible. Air Labrador, based out of Happy Valley-Goose Bay, NL, provided the charter flights between Nain and Iqaluit, with the exception of the Iqaluit to Kuujuaq route which was covered by Air Nunavut, based out of Iqaluit, NU. Parks Canada provided its Pulpavik Boardroom and the translation equipment. Travel organization was supported by Stella Datsos of Meritbiz Travel. Tina Price, BIM's IIBA Coordination Manager, provided excellent note taking for the discussion session. Thanks to Morgan Arnakallak for translation services. Tim Keane of Fednav was on hand to handle any questions specific to the *MV Umiak I* and related shipping practices. Thanks to Tom Paddon, President of Baffinland Iron Mines Corporation, for attending the Nain Site Visit and providing information not only regarding BIM's operations, but also bringing the perspective from earlier days of the Voisey's Bay Project approval and operations which he managed. Thanks to Joe Tigullaraq, Baffinland Iron Mines' Northern Affairs Manager, for all his efforts to coordinate trip plans with participants and for providing efficient updates to participants as plans evolved and changed. Finally, thanks to the Inuit participants from Pond Inlet and Iqaluit, we hope that your trip to Labrador was informative for you and is of help as you continue to work with Baffinland Iron Mines Corporation on the operation of the Mary River Project.

Appendix A
Nain Schedule

Nain Site Visit

MV Umiak I Transit Through Landfast Ice

Day 1 – April 14, 2015

8:00 AM - Travel via scheduled flight from Pond Inlet to Iqaluit (First Air)

11:35 AM – Arrive Iqaluit

1:00 PM – Depart Iqaluit on Air Labrador Charter (Twin Otter)

3:15 PM – Arrive Kuujjuaq (2:20 Flying Time; Fuel Stop)

3:45 PM – Depart Kuujjuaq

6:20 PM – Arrive Nain (Note Time Zone change between Iqaluit and Labrador of 1 hour; this is 5:20 Eastern Time); check in at the Atsanik Lodge.

7:30 PM – Meet in hotel lobby to get update on plans for the next day.

Day 2 – April 15, 2015

6:15 AM – Depart Nain via snowmobile; travel to Taktok Island, approximately 40 minutes travel time.

7:00 AM – Meet up with Sikumiut Environmental Management Ltd. (SEM) Ship Track Marking crew and await arrival of the *MV Umiak I*.

Prior to ship's arrival, observe and discuss the ice at locations where the ship previously passed on the outward voyage.

Interact openly with the SEM group, ask questions, discuss the overall winter shipping program.

Point out the workings of the Inuit Shipping Advisor.

Upon ship's arrival, observe the SEM crew as the pontoon bridge system is deployed. Following pontoon bridge deployment, cross the bridge and observe how it works.

Questions and answers regarding the pontoon bridge system.

If time allows, head westward with the vessel and observe deployment of pontoon bridge system at Tabor Island location.

Collect photos and videos of the ship's passage through ice.

3:00 or 4:00 PM – Return to Nain

5:00 PM – Supper at the Atsanik Lodge

6:30 PM to 9:00 PM – Meet at the boardroom, SEM office building

- SEM Presentation on Winter Shipping – background and issues surrounding the Voisey’s Bay Project. Discussion of how winter shipping was a “show stopper” issue for the Mine owners and for the Labrador Inuit. Discussion about how issues were resolved
- Talk from Ms. Isabella Pain, Nunatsiavut Government. Ms. Pain was involved as Chief Negotiator for the Labrador Inuit for the Voisey’s Bay Inuit Impacts and Benefits Agreement and one of the lead negotiators for the Labrador Inuit Land Claims Agreement. She will discuss, from her point of view, what issues were faced and how they were resolved
- There will be time available for informal discussion about the Labrador Inuit experiences with facing and then accepting a mine development close to the community of Nain as well as to discuss and answer questions about any of the day’s events

Day 3 – April 16, 2015

8:30 AM - Depart Nain on Air Labrador Charter

9:00 AM – Arrive Kuujuaq (Fuel Stop)

9:15 AM – Depart Kuujuaq

11:45 AM – Arrive Iqaluit

2:00 PM – Depart Iqaluit on First Air scheduled flight

5:40 PM – Arrive Pond Inlet

Charter Flight:

The most effective means to bring a large group from Iqaluit to Nain was via Twin Otter – the Nain airstrip cannot accommodate any larger aircraft. As you know, there are no washroom facilities on board so plan accordingly prior to boarding and during fuel stops. We will make arrangements for snacks and non-alcoholic beverages to be available on the charter flights to and from Nain.

What To Bring:

Cold weather clothing for the snowmobile ride to and from the ship’s track and while at the ship’s track. This includes winter pants and parkas, mittens, boots and hats.

SEM will provide rented snowmobiles (while we are attempting to obtain one per individual, we may end up having to double). SEM will also provide snowmobile helmets (mandatory for insurance purposes) and Personal Flotation Devices (to be worn when close to open water at the ship’s track).

Safety Note:

For the most part, travel on the sea ice in the areas we will be visiting is very safe (1m plus thickness of ice). However, extreme caution must be taken anywhere near the ship's track. There are also a few areas of open water and areas of poor ice that are known by the local Inuit but may not be apparent to visitors. For this reason, the visiting group will at all times follow with the SEM crew that is familiar with the local ice conditions.

Honoraria:

The typical Baffinland honoraria amounts (\$250 per day; \$125 per half day) will be paid to Pond Inlet participants. SEM will have cheques for the planned three day event available and will pass them out on the morning of day three prior to the charter flight departure.

If the trip should be extended due to ship's schedule or weather delays, applicable honorarium amounts will be calculated and final cheques, if needed, will be mailed out.

Accommodations in Iqaluit:

As the trip is planned, there are no requirements for overnighting in Iqaluit. However, in the event of weather or other delay, we did attempt to book hotel rooms in case they might be needed. Because of the mining symposium, no rooms were available. As a back-up plan, participants from Pond Inlet are asked to arrange with a friend or family member to have a place to stay for the night in Iqaluit in case it might be needed.

Appendix B
Nain Presentation



Presentation Overview

- Sikumiut Background
- The Voisey's Bay Experience
- Discussions/Questions



Sikumiut Background



- Sikumiut Environmental Management Ltd. (SEM)
- Sikumiut – an Inuktitut word referring to “people of the sea ice”
- An incorporated environmental services company
- An Inuit Business as recognized by the Nunatsiavut Government
- 100% Inuit owned and operated
- Model: combining scientific and technical strengths with Inuit Knowledge to offer efficient and effective solutions to our clients
- Focus: Labrador; Nunavut



Sikumiut Background (cont'd)

- Offices in Newfoundland and Labrador – St. John's (14) and Nain (8)
- Primarily servicing mineral exploration and production sectors
- Focused on assisting clients with obtaining EA approval for projects
- Core services related to EIS preparation; baseline data collection (Marine & Freshwater); Environmental Effects Monitoring design and execution; Fisheries Act Authorizations (HADD Determination, Fish Habitat Compensation Planning, Fish Passage)
- Working In Newfoundland and Labrador and concentrating on expansion to Nunavut.



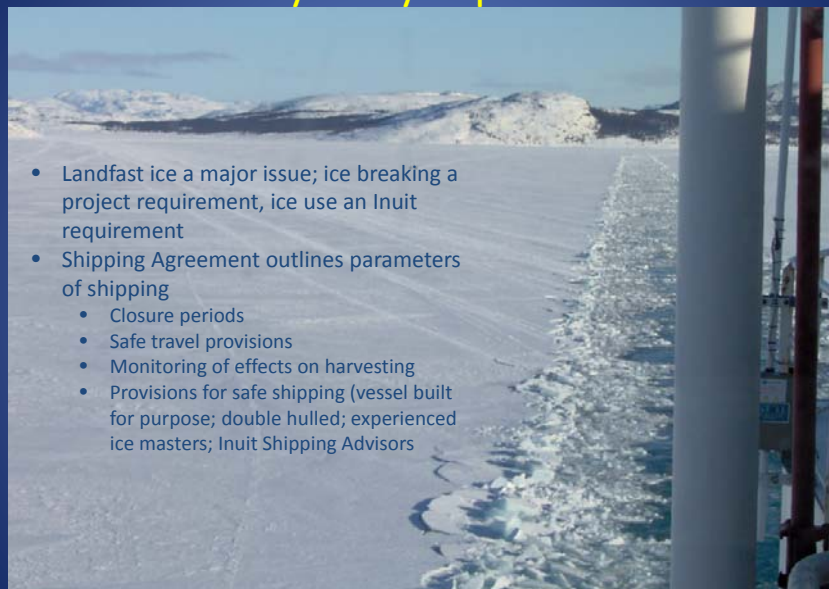
Voisey's Bay Project



- Discovered in 1996
- Project area within Labrador Inuit land Claim Area
- Project required Inuit approval before proceeding
- IBA required, negotiations ended with one issue – winter shipping



Voisey's Bay Experience



- Landfast ice a major issue; ice breaking a project requirement, ice use an Inuit requirement
- Shipping Agreement outlines parameters of shipping
 - Closure periods
 - Safe travel provisions
 - Monitoring of effects on harvesting
 - Provisions for safe shipping (vessel built for purpose; double hulled; experienced ice masters; Inuit Shipping Advisors)



Learning More



While negotiations for the IBA and the Shipping Agreement were underway, Sikumiut offered technical support to three important initiatives:

- Raglan Site Visit
- Simulated ship track marking exercise
- MV Arctic Test Probe



Raglan Site Visit



- SEM, along with LIA's Vice President, traveled to northern Canada to experience and document a winter shipment to the Raglan Mine Site.
- First direct exposure to winter shipping, began the thought process for safe and effective track marking and crossing alternatives.
- Demonstrated that Winter Shipping could occur safely and that the ship's track can be crossed shortly after the ship passes.



Simulated Track Marking



- SEM, investigated various methods of placing safety markers to show track location.
- Utilized highway markers, good visibility in day and night.
- Durable, fast and easy to place
- Can carry many at a time
- Color coded, red right return – all red on north side of track, all green on south side of track.



MV Arctic Probe

In the winter of 2005, the MV Arctic transited through some landfast ice near Nain, NL.

Allowed testing of track re-freeze time and use of selected track markers, lighting systems and communications protocols to be used in the event actual shipping occurred.

Showed that mitigation measures could be developed to facilitate safe winter shipping in the area specific to the project.



Shipping Agreement



- The successful negotiation of the Shipping Agreement provided mechanisms to reduce the effect of winter shipping on Inuit use of the landfast ice, and Inuit resource use and harvesting; and to ensure a minimum of four winter shipments can occur.
- Safety measures such as markers and effective communications about vessel movements were proposed.
- Safe crossings of the ship's track were contemplated to ensure minimal disruption to Inuit use of the area

Implementation



- In 2006, the first winter shipments from the project site occurred.
- The shipping lane passes through 70 Km of landfast ice heavily used by Inuit from Nain for hunting and travel.
- Sikumiut placed markers on both sides of the track and provided information into a communications protocol so the public was aware of vessel movements, the nature and use of markings and the set up and status of safe crossing locations.

Refining Mitigations

- By 2007 it was evident that mitigations used in the far north (natural re-freeze) were not always effective in the Voisey's Bay setting.
- With up to 14 days required for the track to re-freeze, Sikumiut initiated work with VBNC to develop an engineered snowmobile bridge.



The "Pontoon Crossing"



- We looked for a pre-fab system of floating bridges for snowmobiles
- Nothing available "off the shelf", Sikumiut designed and developed a floating dock system
- A prototype was developed and tested in the winter of 2007 and implemented in the winter of 2008.
- Now, within four hours of a vessel passage, Inuit can cross the ship's track safely
- Two systems built for use on the ship's track.



Conclusion



Through understanding issues and exploring mitigations with Inuit involvement and by incorporating Inuit perspectives and knowledge, a major project showstopper was overcome. A key ingredient in this was engaging Inuit in all aspects of the problem from identification to discussion to resolution and implementation.




“Through Sikumiut’s involvement in assisting key stakeholders to understand concerns and explore mitigations around winter shipping, we were able to address an issue central to Inuit approval for the Voisey’s Bay Nickel Project. Vale INCO NL is now using an Inuit business to continually improve its ability to conduct winter shipping safely and effectively.”

Bob Cooper, President
Vale INCO Newfoundland and Labrador Ltd.

