

Nunavut Impact Review Board August 2004

Final Hearing Report for the Doris North Gold Project

Nunavut Impact Review Board Members at Final Hearings in Taloyoak:



Photo 1a: Pauloosie Paniloo, Peter Paneak, Lucassie Arragutainaq and Albert Ehloak.

Photo 1b: Elizabeth Copland, Mary Avalak and Peter Akkikungnaq.



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Exploration Camp and Caribou - Miramar Hope Bay Ltd. (MHBL).

Roberts Bay - Indian and Northern Affairs Canada (INAC).

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¹ Source: NIRB.

² Source: Miramar Hope Bay Ltd.

Executive Summary

Pursuant to the Nunavut Land Claims Agreement (the “NLCA”), the function of the Nunavut Impact Review Board (the “Board”, “NIRB”) at this Hearing is to assess the extent of the regional environmental and socio-economic impacts of the Doris North Gold Mine project proposal to determine whether the Project should proceed, and if so, under what terms and conditions. In carrying out this function, the primary objective by law is at all times the protection and promotion of the existing and future well-being of the residents and communities of Nunavut and the protection of Nunavut’s ecosystemic integrity. In this matter, the Board has decided not to recommend this Project, for the reasons that follow.

The NLCA requires the Board to look at the management of Nunavut’s resources in a manner that recognizes its ecosystemic mandate by considering that there is interdependency between the different parts of the environment: air, land, water, wildlife and people. The Board must be satisfied that the impact assessment for the Project as a whole is complete before the project can be divided into its various components for regulatory approval. That is the essential purpose of an Article 12 review. Moreover, as stated in the Preamble of the NLCA, an objective of the NLCA is to provide for the right of Inuit to participate in decision making concerning the use, management and conservation of their land, water and resources, including the offshore. Without critical environmental assessment information available to NIRB, the parties, and in particular the Inuit, risk losing this right to participate in decision making concerning the use of their land because regulatory and other approval forums may not foster and protect this right to the same extent. This is an important consideration for the Board when determining whether the Part 5 impact assessment information requirements have been met.

In accordance with section 12.5.2 of the NLCA, the Board provided the Proponent with Environmental Impact Statement Guidelines (the “EIS Guidelines”). EIS Guidelines are provided to ensure that a full environmental review of the Project has been conducted and that the Board has the information necessary to conduct a review in accordance with the mandate established for the Board by Article 12, and in particular section 12.5.5. It is the responsibility of the Proponent to prepare an impact statement in accordance

with these Guidelines and the burden of persuading the Board that the Project should proceed rests with the Proponent.

On the basis of the Proponent's own evidence, the EIS Guidelines were not fully complied with. Generally the deficiencies at issue in this Report were not raised for the first time in the final submissions and Hearing presentations by the intervening parties. There is significant procedural history on many of these matters. Based on evidence provided in the Final Environmental Impact Statement, the supplementary documents, the submissions of intervening parties and evidence provided at the Hearings, and in particular considering the outstanding issues related to:

- the assessment of potential adverse impacts on wildlife, and related mitigation and monitoring,
- the Tail Lake water quality and water management strategy, and
- the consideration of alternatives to the use of Tail Lake,
- the jetty design, and
- deficiencies in the socio-economic impact assessment,

the Board has concluded that it has not been provided with the required information such that the Board is able to conduct a full review of the matters relevant to its mandate. Especially for a two year operating mine life, where the economic benefits are short lived but the environmental impacts are not. The record is not complete and the deficiencies for these issues, individually and collectively, are simply so significant that the Board cannot, in accordance with the goals of informed decision making under Article 12, conduct an informed assessment of the impacts of this Project.

Nor can these outstanding issues be delegated to regulatory bodies. The mandates are different. As stated above, an important objective of the NLCA is to provide for the right of Inuit to participate in decision making concerning the use, management and conservation of their land, water, resources, and the offshore. To delegate the Board's impact assessment responsibilities to regulatory bodies without the hearing and review that Article 12 provides risks depriving the Inuit of this right.

The Board believes that resources, such as gold, can be extracted from Nunavut. However, this cannot be done for economic prosperity alone. There are economic benefits associated with this Project but they are not without environmental and socio-

economic costs. In the absence of complete information on the environmental and socio-economic costs of development, the Board is forced to choose between short term economic benefits which may risk the ecosystem and loss to future generations, and the protection of the ecosystem which may risk postponing the realization of economic benefits to the Inuit people. The NLCA dictates that the Board must choose the latter.

For clarity, the Board is not saying this project should not eventually be built, but rather that there is a threshold level of information that Miramar Hope Bay Ltd. must table with the Board before that decision can be made. Miramar does have the option of re-filing its application. If so, that application need only focus on the outstanding environmental assessment matters; the FEIS could be supplemented through a new application accordingly.

Therefore, in accordance with NLCA section 12.5.6(a), this Report provides the Minister with the Board's assessment of the Project and its impacts based on the primary objectives of NIRB set out in section 12.2.5 and the matters to be taken into account when conducting a review as provided in section 12.5.5, and in particular 12.5.5(a), (b) and (d). On the basis of this assessment, and in accordance with 12.5.6(b), the Board recommends to the Minister that this Project should not proceed on the basis of the current application.

1. Background

1.1 Procedural (Project) History

On March 1, 2002, Miramar Hope Bay Ltd. (“MHBL”, the “Proponent” or “Hope Bay Joint Venture” at the time) submitted its Preliminary Project Description for the Doris Hinge Project (the “Project” later renamed the “Doris North Gold Project”) to the Nunavut Impact Review Board (“NIRB” or the “Board”).³

Following receipt of MHBL’s application, the Board sent its Screening Decision to then-Minister Robert Nault of the Department of Indian Affairs and Northern Development and proposed a review under Part 5 or 6 of Article 12 of the Nunavut Land Claims Agreement (“NLCA”).⁴ In reply, on August 27, 2002, Minister Nault referred the Project to the NIRB for a Part 5 Review.⁵

After soliciting input from the Distribution List,⁶ NIRB finalized Draft Environmental Assessment Guidelines for the Project.⁷ On October 15, 2002, the Board provided the Proponent with a set of Final Environmental Assessment Guidelines (the “EIS Guidelines”) for the Project.⁸ Additionally, and quite significantly, NIRB stipulated the requirements of 10 criteria to be included in the EIS.⁹

The Proponent filed the Draft Environmental Impact Statement (“DEIS”) on January 31, 2003.¹⁰ NIRB then wrote to the Distribution List on March 10, 2003 and set the dates for the Doris North Pre-Hearing Conference from April 14 - 16, 2003.¹¹ The communities

³ Hope Bay Joint Venture, *Preliminary Project Description: Doris Hinge Project*, March 2, 2002.

⁴ Letter from Elizabeth Copland, Chairperson, NIRB, to the Honourable Robert D. Nault, Minister, Indian Affairs and Northern Development, Re: Hope Bay Joint Venture Doris Hinge Gold Mine (Project), June 5, 2002.

⁵ Letter from the Honourable Robert D. Nault, Minister, Indian Affairs and Northern Development, to Elizabeth Copland, Chairperson, NIRB, August 27, 2002.

⁶ The Distribution List is comprised of various stakeholders and interested parties involved in the Project’s process and development.

⁷ NIRB, *Draft Environmental Assessment Guidelines for the Doris Hinge Project*, September 1, 2002.

⁸ NIRB, *Final Environment Assessment Guidelines for Doris North Project*, October 15, 2002 [hereinafter “EIS Guidelines”].

⁹ The NIRB 10 minimum EIS requirements were provided to the Proponent with the EIS Guidelines, these requirements include: 1) statement of consultation principles and practices, 2) project definition, 3) project purpose, 4) anticipated impacts analysis, 5) cumulative effects analysis, 6) significant effects analysis, 7) alternatives, 8) sustainability analysis, 9) monitoring and 10) transboundary effects. October 15, 2002.

¹⁰ Miramar Hope Bay Ltd., *Draft Environmental Impact Statement*, January 31, 2003.

¹¹ Letter from Stephanie Briscoe, Executive Director, NIRB, to Hugh Wilson, Miramar Hope Bay Ltd. and to Distribution List, March 10, 2003.

visited during the Pre-Hearings were Cambridge Bay, Kugluktuk, Gjoa Haven and Taloyoak. NIRB issued its Pre-Hearing Decision to the Proponent on June 12, 2003.¹²

The Proponent submitted the Final Environmental Impact Statement (“FEIS”) to NIRB on December 1, 2003.¹³ NIRB wrote to the Distribution List and requested comments on the adequacy of the FEIS and its compliance with the EIS requirements as found in the Pre-Hearing Decision.¹⁴ After reviewing the comments received, the Board noted information concerns by various parties and stated that they must be addressed before the Final Hearing Conference (the “Hearing”), which was set for June 13th to 18th, 2004.¹⁵ The Board also recommended that the Proponent hold technical meetings with parties to discuss outstanding issues and that supplementary information be provided to parties before the meetings, and by March 15, 2004. Finally, the letter stated that final supplemental information was to be filed by the Proponent on April 30, 2004, with final hearing submissions to be filed by all parties on May 28, 2004.

Technical meetings were held in Yellowknife, NWT, from March 30 – April 1, 2004. NIRB released its Conformity Assessment decision of the FEIS on April 8, 2004.¹⁶ The letter stated that supplemental information was to be filed by the Proponent at the end of April. Final information requests could be submitted to the company by May 10, 2004. A final response to parties by the company would be submitted May 17, 2004, eleven days before the date for receipt of final hearing submissions.

In response to letters received from Indian and Northern Affairs Canada (“INAC”) and Environment Canada (“EC”) asking for more information and for more time to review documents from the Proponent, the Board asked the parties to comment on the requests for additional time and information by May 17, 2004.¹⁷ Based on responses received

¹² NIRB, *Pre-Hearing Decision Considering the Doris North Project Draft Environmental Impact Statement Submitted by Miramar Hope Bay Ltd.*, June 12, 2003.

¹³ Miramar Hope Bay Ltd., *Final Environmental Impact Statement for the Doris North Project*, November 2003.

¹⁴ Letter from Stephanie Briscoe, Executive Director, NIRB, to Hugh Wilson, Miramar Hope Bay Ltd. and to Distribution List, Re: Hope Bay Gold Mine Final EIS, December 9, 2003.

¹⁵ Letter from Stephanie Briscoe, Executive Director, NIRB, to Hugh Wilson, Miramar Hope Bay Ltd. and to Distribution List, Re: Procedural direction and decision to set Final Hearing Date, February 19, 2004.

¹⁶ Letter with attachment (*NIRB Conformity Decision*) from Stephanie Briscoe, Executive Director, NIRB, to Hugh Wilson, Miramar Hope Bay Ltd. and to Distribution List, Re: Conformity Assessment Decision and Notice of Hearing, April 8, 2004 [hereinafter “Conformity Assessment”].

¹⁷ Letter from Stephanie Briscoe, Executive Director, NIRB, to Glen Stephens, Manager Environment, Indian and Northern Affairs Canada and Collette Meloche, Environmental Assessment Specialist, Environment

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from parties, the Board granted more time for the review of information and reset the Hearing dates for July 11 to 16, 2004,¹⁸ with final hearing submissions due June 25, 2004.¹⁹ In order to facilitate greater public participation in the Hearing, NIRB hired a Community Consultation Coordinator to visit the affected communities and notified parties of this by way of a letter.²⁰

The Hearing was held in the Kitikmeot communities of Cambridge Bay, Gjoa Haven, Taloyoak and Kugluktuk. The first three days were held in Cambridge Bay and focused on technical issues. The remaining three days were held in Gjoa Haven, Taloyoak and Kugluktuk respectively.

In Cambridge Bay, approximately 60 people attended the Hearings over the three days, with 10 from the public. In Gjoa Haven, approximately 90 people attended the Hearings, with 50 from the public. Approximately 70 people attended the Hearings in Taloyoak, with 40 from the public. In Kugluktuk, approximately 60 people attended the Hearings with 30 from the public.



Photo 2: Final Hearings in Gjoa Haven.

Canada, Re: Information Request Information Request (IR), Doris North Project, Miramar Hope Bay Ltd. (MHL), May 11, 2004.

¹⁸ Letter from Stephanie Briscoe, Executive Director, NIRB, to A. David Long, Vice-President Legal, Miramar Hope Bay Ltd., Re: Doris North Project – NIRB #02-MN-134, May 18, 2004.

¹⁹ Letter from Stephanie Briscoe, Executive Director, NIRB, to A. David Long, Vice-President Legal, Miramar Hope Bay Ltd. and to Distribution List, Re: Procedural direction and details on Final Hearing Dates, May 21, 2004.

²⁰ Letter from Dionne Filiatrault, NIRB/NWB Manager of Technical Services, NIRB, to Community Groups, Re: Community Consultation for the Doris North Public Hearing, May 6, 2004.



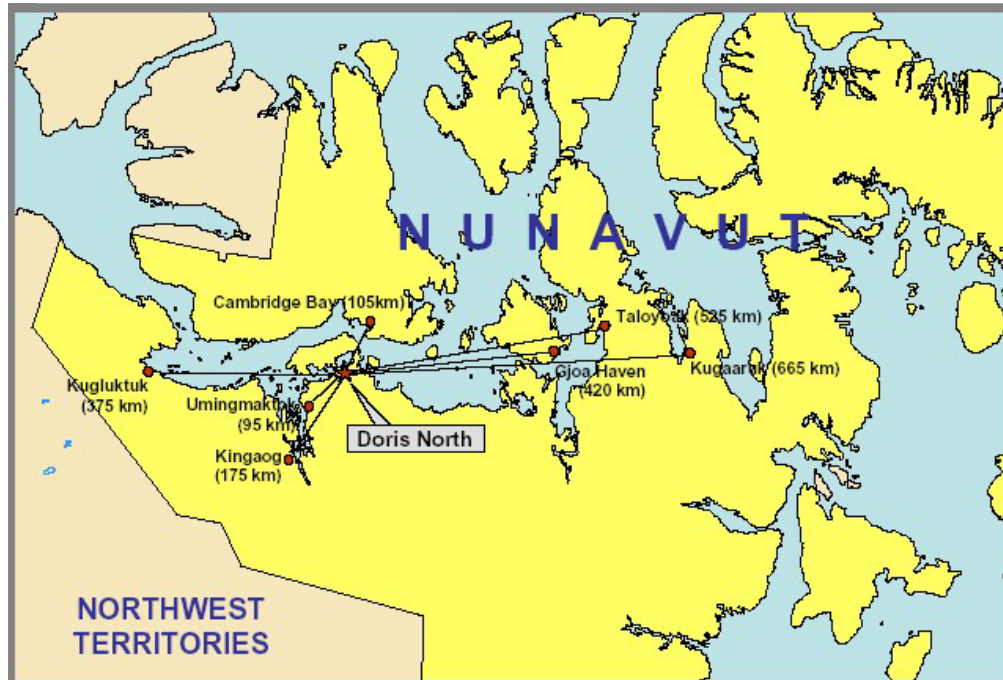
Photo 3: A member of the public (Jesse Idlout) commenting in Taloyoak.

1.2 Project Description

1.2.1 Site Features

The Project involves the construction and operation of a short-life underground gold mine on Inuit Owned Lands. The mine will be located at the north end of Doris Lake in Nunavut, approximately 160 km southwest of Cambridge Bay in the West Kitikmeot Region. The nearest communities to the Project are Umingmaktok, 65 km to the west, and Bathurst Inlet, located 110 km southwest. The site is 5 km south of the Arctic Coast (see *Figure 1*).

Figure 1: Doris North Gold Project Location

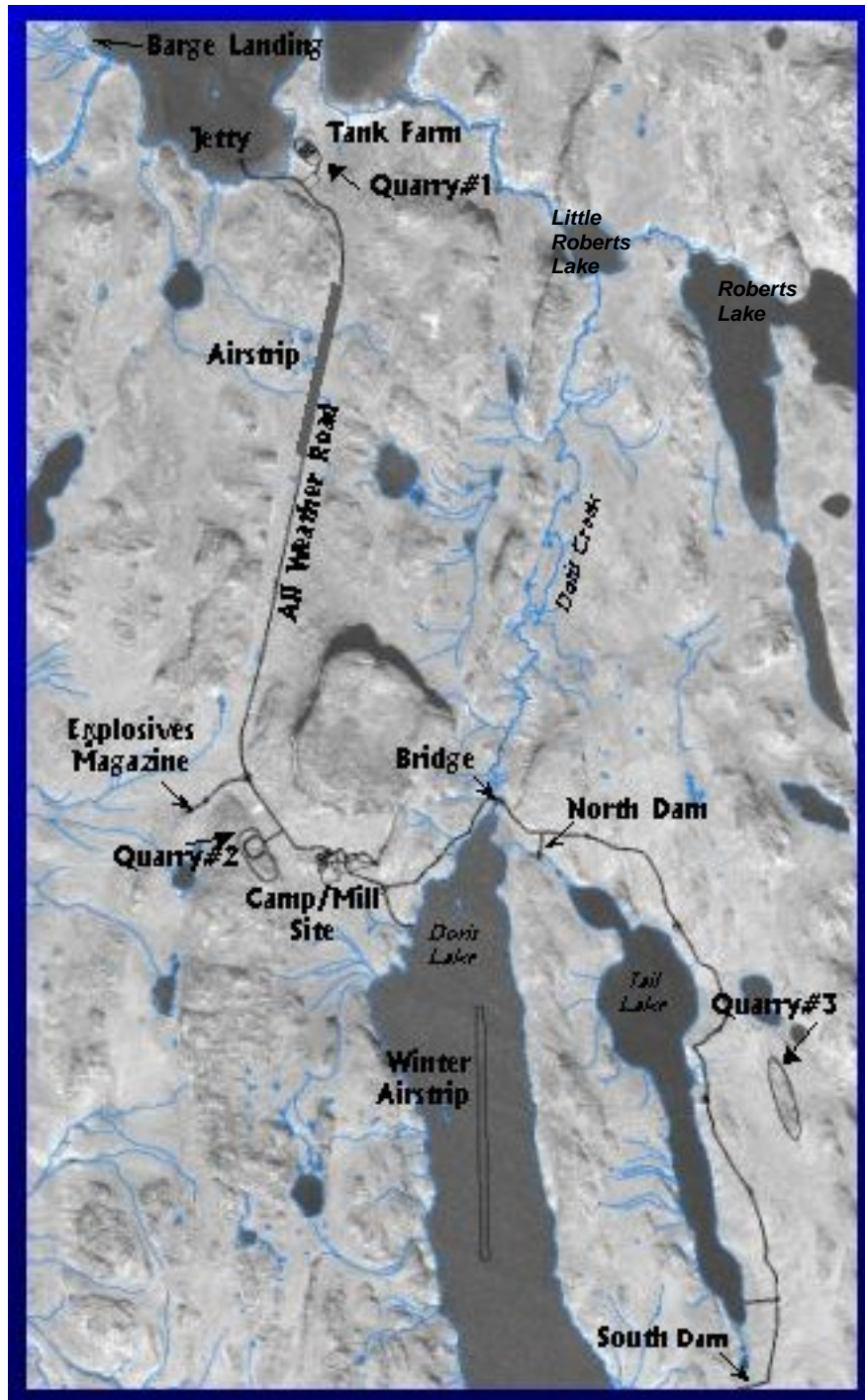


The Project is the first commercial mineral development proposed for the Hope Bay greenstone belt. It will be a small gold mine, extracting 458,000 tonnes of ore and processing it at a rate of 690 tonnes per day. The mine will yield 307,000 ounces of gold over a 24-month operating period.

Access to the underground mine will be through a tunnel into bedrock, ramping down approximately 36.5m below surface. The mine entrance will be located close to the ore processing plant and other surface facilities. Ore will be trucked to a surface stockpile, crushed and the gold extracted in the processing plant. Gold recovered from both the gravity and leach circuits will be smelted on site and shipped in the form of ore bars. The gold in the flotation concentrate will be extracted using dilute cyanide. The remaining cyanide will then be detoxified using the Caro's Acid process.

Tailings from ore processing will be discharged into Tail Lake and will be kept under water (see Figure 2).

Figure 2: Doris North Gold Project Site



A rock fill dam will be constructed at the outlet from Tail Lake to contain the deposited material. When practical, water will be reclaimed from Tail Lake as mill process water. A

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siphon pipe or pump will be installed to allow controlled annual releases of water from Tail Lake to the receiving environment during the open water period. All water discharged must be in accordance with discharge criteria set by the Nunavut Water Board in the project's water use license. Potable and process water will be pumped from Doris Lake.

Since the Project site is remote, materials and supplies will be transported by an annual sealift using conventional tug and barges. An 8-million litre fuel storage tank farm, supply lay down area, and barge off-loading causeway will be constructed at the south end of Roberts Bay. A 4.8 km all-weather road will be constructed to transport materials from Roberts Bay to the Project site. Employees will travel to the site by aircraft which will land on a 914m long all-weather airstrip built on a widened section of all-weather road.

Infrastructure at the site will consist of a 175 person capacity camp, office facilities, a sewage treatment plant, a potable water treatment plant, a workshop, a mill building, a crushing plant building, 4 x 1MW diesel generator units, a 0.5 million litre fuel storage tank farm, a 10,000 tonne ore stockpile area and a mill reagent storage area all strategically located on a rock fill pad. Food wastes from the camp will be incinerated to prevent attracting wildlife. A non-hazardous solid waste disposal site will be constructed at one of the quarry sites used to provide broken rock for the construction of the site infrastructure.

Photo 4: The Proponent in Kugluktuk (Robert Hornal, Alison Little, Brad Armstrong, Ben Hubert, Maritz Rykart, Gary Ash, David Long and Hugh Wilson).



1.2.2 Biophysical Environment

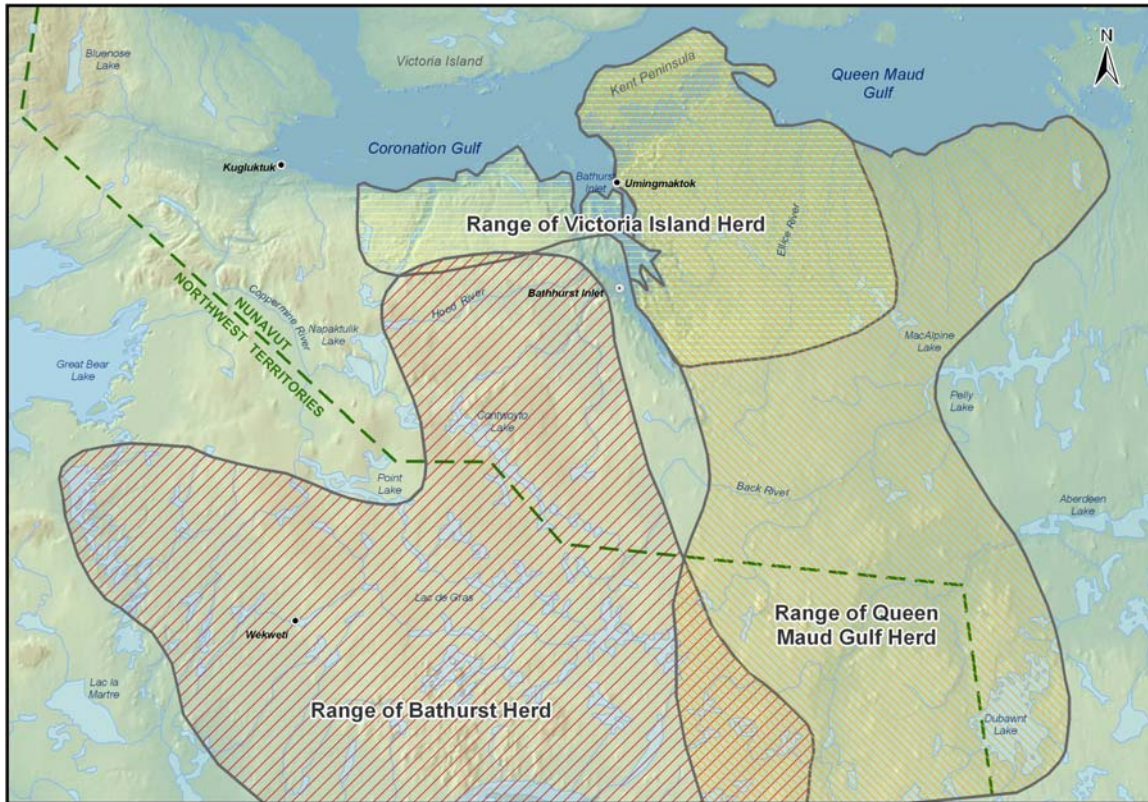
1.2.2.1 Baseline Conditions

The Proponent carried out environmental baseline studies between 1994 and 2003 on climate, hydrology, waste characterization, water quality and aquatic resources, wildlife, archaeological investigations, socioeconomic conditions, and traditional knowledge.

The topography in the Project area is of coastal lowland with numerous lakes and ponds and lies within continuous permafrost. The lakes in the area are soft water with neutral to slightly acid pH and low to moderate acid sensitivity.

The base line studies considered the presence of wildlife. The Hope Bay greenstone belt lies within the seasonal ranges of three barren ground caribou herds: the Bathurst, the Victoria Island (Dolphin Union) and the Queen Maud Gulf herds. MHL found that caribou are likely to be present within the Hope Bay belt area during any season of the year, however; their abundance varies considerably from season to season and year to year. In late summer and early winter, caribou presence in the area is low. Once the ocean has frozen, caribou from the Victoria Island migrate to the mainland and move through the area, dispersing so winter abundance in the project area is low. In recent years few if any of the Bathurst caribou herd have been present in the area. The Hope Bay belt may be on the northwest margin of the calving ground for the Queen Maud Gulf herd, however the core of the calving area is about 150 km southeast of the south end of the Hope Bay belt (see *Figure 3*).

Figure 3: Caribou Ranges in Project Area



A number of carnivore (wolves, foxes) dens were identified within the region, with none located in the immediate area of the Doris North Project. Muskox occupy the Hope Bay belt on a year round basis, however, their distribution is wide and uneven. There have been no polar bears observed in the area since mineral exploration started in the early 1990's. Grizzly bears are not common but are present and no dens were documented within the study area. Peregrine falcon, gyrfalcon, golden eagle, rough-legged hawk and common raven were observed in the study area. Up to 11 species of waterfowl were identified during aerial surveys.

The Proponent observed seven fish species to occur in the Doris North Project area: Arctic char, broad whitefish, cisco, lake trout, lake whitefish, least cisco and ninespine stickleback. Only lake trout and ninespine stickleback were found to inhabit Tail Lake. A natural barrier to fish (a waterfall) between Little Roberts Lake and Doris Lakes prevents access of diadromous species (Arctic char and broad whitefish) into Doris and other

lakes upstream. Little Roberts Lake was found to have the highest diversity of fish species, with Arctic char using it during their migrations between the lake and the ocean.

The Proponent found no plant, fish, bird, or mammal species in the Project area to be endangered or threatened.

1.2.2.2 Impact Assessment

MHBL has concluded that the Doris North Gold Project will have minor impacts on the existing environment in a regional context and low to moderate impacts in a site-specific context. The majority of the project interactions with the environment will be mitigated either through project design or through an environmental management system.

No significant impacts on the local or regional climate are expected. The terrain disturbance footprint of the Project will be 38.5 ha of land (23.0 ha for road and building pad construction plus 15.5 ha as rock quarries), with an additional 53.4 ha to be flooded by the final water level in Tail Lake. The effects on landscape and terrain will be local.

Air quality impacts will be associated with engine exhaust emissions from diesel powered generators/mobile equipment and from dust generated by project activities. As the project is small in size and mining will be carried out underground, air and noise impacts associated with the Project will be minor. Local hydrology will be affected through changes to existing runoff patterns due to infrastructure development, interruption in normal flow from Tail Lake, process water use from Doris and Tail Lake, and seasonal discharge by siphon pipe from Tail Lake directly into Doris Creek.

The use of Tail Lake as the tailings impoundment will result in the loss of the aquatic resources that currently inhabit Tail Lake. The Proponent has developed a fisheries habitat compensation plan. Mill effluent will be treated for cyanide detoxification before discharge into Tail Lake, but will result in impacts on water quality.

The Proponent stated that the wildlife habitat found in the project area is not unique and the area of disturbance is small in relation to the available habitat in the surrounding area. Within the context of large mammal and bird habitat, impacts will be low to minor.

With respect to cumulative impacts, the Proponent stated that only valued ecological components (“VEC”) with large ranges would potentially interact with the Project and other industrial activities on their range. The Project is one of several developments in the West Kitikmeot. The Jericho Diamond Project, located approximately 240 km southwest of the Project, was approved by the NIRB in February 2004.²¹ The Echo Bay Lupin Gold Mine is located on Contwoyto Lake, 250 km southwest of the Project. Potential mines in the area include, High Lake, Ulu, Izok Lake, George Lake and Goose Lake projects, as well as continued mineral exploration throughout the area. The Bathurst Inlet Port and Road Project (BIPAR) also falls within the region of the Doris North Gold Project (see Figure 4).

MHBL found that the Project is unlikely to increase the impacts associated with any of these other possible development projects due to the distance between them. The Bathurst Caribou herd is the resource most likely to share interactions; however, it is not expected to be affected by the Project because its range in recent years has not included the Project area.

Figure 4: Other Projects in the Kitikmeot



²¹ Final Hearing Report for the Jericho Diamond Mine Project, February 2004.

MHBL acknowledges that cumulative effects may occur from ongoing mineral exploration and development on the Hope Bay belt. Exploration to date has identified several gold deposits with development potential. These include the Doris Central and Doris Connector deposits, which are in the immediate vicinity under Doris Lake. The Suluk and Naartok deposits are 9 km south of the Doris North deposit, with Boston, the largest deposit, being 55 km south of the currently proposed project.

The Proponent states that all ore mined at new locations will be hauled to the Doris North site for milling, refining, and tailings disposal. The capacity in Tail Lake for sub-aqueous tailings disposal will be sufficient for mining gold resources currently estimated in the Hope Bay belt. No new tailings disposal areas are predicted. New infrastructure required to serve the mine sites could include all-season or winter roads; incremental fuel storage and laydown area at Roberts Bay; incremental mill, power generation, and camp capacity at Doris North; increased water consumption from Doris Lake; and incremental quarry areas as required.

Feasibility studies by MHBL on developing additional resources in the Hope Bay belt have not been completed to date nor are any in progress. MHBL acknowledges that developing additional gold resources would involve appropriate environmental screening and review processes as required by the Nunavut Land Claims Agreement.

1.2.2.3 Environmental Management & Post Closure

If the mine ceases operations after two years, post-closure plans include the removal of all buildings and associated infrastructure at the site. If further exploration and mining occurs, MHBL intends to leave the structures and equipment in place. The openings into the underground mine will be sealed. The rock fill pads and roads will be graded to restore natural runoff patterns. The camp, airstrip, jetty and quarries will remain. After mine closure, the water in Tail Lake will be treated until it meets licensed discharge criteria. The tailings dam will then be breached to allow natural runoff to drain through Tail Lake into Doris Lake using the current outflow. A minimum 3 m water cover will be maintained over the tailings by the construction of a permanent spillway.

A comprehensive monitoring program will be developed for the Doris North Gold Project as required by the terms and conditions appended to the Project's permits and licenses.

1.2.3 Socio-Economic Environment

1.2.3.1 Baseline Conditions

The Kitikmeot Region is one of three administrative regions in Nunavut located in the Central Arctic. The region's communities include the hamlets of Cambridge Bay (approximately 160 km northeast of the Project), Kugluktuk (approximately 360 km west of the Project), Gjoa Haven (approximately 432 km east of the Project) and Taloyoak (approximately 540 km northeast of the Project).

The population of the Region was 4,816 in 2001 and its economy is comprised of the wage economy, government transfer payments and subsistence harvesting. The wage economy is comprised of three main sectors: government (federal, territorial, municipal and other public organizations), service sector including tourism, and mineral exploration and mining.

1.2.3.2 Land Use & Heritage Resources

The Doris North Project is on land owned by the Kitikmeot Inuit Association ("KIA") with management authority for the minerals under those lands vested with Nunavut Tunngavik Incorporated ("NTI"). The only designated land use restriction in the Regional Land Use area is the Queen Maud Gulf Migratory Bird Sanctuary, 40 km east of the Project area.

To date, archaeological assessments of the Project area identified 127 new archaeological sites within the Hope Bay Belt area; 45 sites are within the local project area. Four archaeological sites were identified within or immediately adjacent to the development footprint, three associated with proposed quarry sites and one adjacent to the proposed road to Tail Lake. The Proponent states all have been mitigated in accordance with the Heritage Resources Protection Plan.

1.2.3.3 Traditional Knowledge

The Proponent held a traditional knowledge (Inuit Qaujimajatuqangit or "IQ") workshop with Kitikmeot Elders in Cambridge Bay in September of 2003. The workshop identified

VECs and Valued Social Economic Components (“VSECs”). These included climate and permafrost, air quality and noise, water quantity and quality, aquatic life and fish, vegetation and wildlife habitats, wildlife populations, employment opportunities, education and training, contract and business opportunities, community health, crime and demographic impact. The results from the traditional knowledge workshop were incorporated into the FEIS.

1.2.3.4 Socio-Economic Impacts

The Project is estimated to create 400 person years of employment over three years. MHBL concluded that major socio-economic impacts will relate to employment and business opportunities and these will be mostly positive throughout the life of the mine.

The mine is expected to have a moderately positive socio-economic impact on the population of the Kitikmeot Region, by creating jobs, business opportunities, and revenues to Government from taxes and royalties to NTI. Cumulative socio-economic impacts are expected to be negligible because of the small size of the Project and the mitigation measures available.

MHBL and the KIA agreed in principle to the terms of an Inuit Impact and Benefits Agreement (“IIBA”) in July of 2004.²² The IIBA aims to address socio-economic impacts from the Project and accentuate its positive impacts. The agreement outlines the benefits to be provided to the Kitikmeot Inuit as a result of the development and operation of the Project, by ensuring the availability of any employment, training and business opportunities. The IIBA outlines the special considerations and compensation that MHBL will provide regarding traditional, social and cultural matters, and effects on Inuit water rights. The IIBA will become effective upon its signing at a ceremony in Cambridge Bay after the completion of the NIRB Review of the Project.

2. Summary of the submissions from Parties

2.1 Kitikmeot Inuit Association and Nunavut Tunngavik Incorporated

Both the Kitikmeot Inuit Association (“KIA”) and Nunavut Tunngavik Incorporated (“NTI”) support the Project in principle. It is the first mine proposed on land where Inuit own the

²² MHBL Letter to NIRB presenting a summary of the Inuit Impact Benefits Agreement (IIBA), July 7, 2004.

mineral rights and thus the Project represents an important economic opportunity for the region. KIA and NTI concluded that the Project will not result in significant adverse affects to the environment that cannot be mitigated or compensated for and any socio-economic impacts can be mitigated by the IIBA. Therefore KIA and NTI support the Project moving on to the regulatory phase. This support is conditional on the imposition of environmental protection terms and conditions through the NIRB Project Certificate and Nunavut Water Board processes to address the outstanding concerns outlined in their submission as well as commitments made by the Proponent during the course of the proceedings.

On wildlife mitigation and monitoring, there is a risk that increased human presence may begin to act as a wildlife "sink" where certain species of wildlife are attracted, creating risks to human safety and increased mortality for wildlife which that can lead to implications at the regional and population level. Given the short duration of the Project, a degree of monitoring can and should be implemented to ensure data and information is collected that will contribute to the evaluation of predicted and unanticipated impacts resulting from the Project and provide empirical data which can be used to improve the prediction of potential project and cumulative impacts resulting from future projects in the area.

KIA submitted a number of recommendations on wildlife mitigation and monitoring, including ensuring that road designs are caribou friendly and that the No Net Loss plan for fish habitat be completed. KIA is satisfied that these issues can be addressed through a wildlife mitigation and monitoring MOU to be signed by MHL, the Government of Nunavut and KIA which would incorporate the respective roles and responsibilities for wildlife mitigation and monitoring developed through a wildlife mitigation and monitoring plan proposed to be filed by the Proponent by year end.

KIA is also concerned over the lack of site-specific baseline data to support the water balance for Tail Lake. This data is used to support key assumptions used in engineering design and construction details, raising questions on the adequacy of the impact assessment. Concern has also been raised with regards to the water quality data available for the Doris Lake outflow, and the effect that elevated levels of sensitive parameters will have on the ability to decant from Tail Lake. KIA provided specific

recommendations related to water to ensure there are no significant effects on the quality, quantity or flow of water on Inuit owned lands, with the exception of the destruction of Tail Lake for which compensation has been negotiated in the IIBA. On the matter of tailings disposal alternatives, KIA submitted that the only acceptable alternative is sub-aqueous disposal at this time; however, if the Project changes in the future KIA is willing to consider other tailing disposal methods.

As the landowner, KIA had higher expectations regarding the cumulative effects assessment in the FEIS for use as a regional planning tool, particularly since the Project may be a catalyst for future mineral exploration and resource development in the area. However, KIA believes that an incomplete/inadequate treatment of the concepts of cumulative environmental effects is not justification for further delays in the review process. Information needed for purposes of land management, can only be gained through the experience of evaluating potential adverse environmental effects through follow-up programs over the life of the project.

On other matters, prior to construction, KIA has requested that the NIRB Project Certificate require the completion of ground surveys along the entire footprint of the project infrastructure to assess and provide mitigation plans for all archaeological sites within 500 metres of the project footprint. In addition, KIA recommended that the Proponent be required to produce a detailed abandonment and reclamation plan as a precondition to Nunavut Water Board approval of a water license application. This should include re-vegetation of disturbed areas.

KIA submitted that it is the Designated Inuit Organization for purposes of Article 26 of the NLCA, and manages and regulates activities on Inuit Owned Lands (IOL) as the Regional Inuit Association under Articles 19 and 21 of the NLCA, and is responsible for the management and protection of water flowing in or through IOL pursuant to Article 20 of the NLCA. In this capacity KIA confirmed that an agreement in principle on an IIBA has been negotiated and will be signed pending the completion of the Review process. KIA also submitted that as the landowner it was satisfied it could incorporate the necessary terms and conditions into the lease to ensure the Proponent met the terms and conditions necessary for the Project to proceed.

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On socio-economic matters, KIA and NTI submitted that due to the limited project scale, employment, training and business opportunities to Inuit will only be of short duration. To address potential project effects, the scale and duration of the project require that existing mechanisms be relied on to deliver training programs and address potential negative effects. Literacy and education levels amongst residents need to be increased if Inuit are to be qualified for more of the entire range of employment opportunities afforded by this and future projects in the region. KIA confirmed that the socio-economic issues raised by the Hamlets were outside the scope of the IIBA and therefore recommended to NIRB that government agencies responsible for health, justice and education create plans to project the education, health, and justice needs resulting from this development and meet these needs.

Furthermore, while recognizing that MHLB conducted an IQ workshop, KIA recommended that future work on wildlife, fisheries, archaeology, socio-economic matters and site layout should include greater use of IQ.

Photo 5: Nunavut Tunngavik Incorporated (Keith Morrison, James Eetoolook and George Hakongak) presenting in Taloyoak.



2.2 Government of Nunavut, Department of the Environment

The Government of Nunavut, Department of Environment (“GNDOE”) has the primary responsibility for wildlife management in Nunavut. GNDOE concluded that MHLB has not submitted a satisfactory Wildlife Monitoring and Mitigation Plan as required by the NIRB EIS Guidelines, particularly sections 4.24 and 4.26. As a result of not conforming to these requirements, the GNDOE was unable to carry out an assessment of the Project’s potential direct and cumulative impacts on wildlife or the related mitigation

measures and monitoring programs. While the GNDOE supports sustainable economic development in Nunavut, the Department has a mandate to ensure that economic development projects do not leave a negative environmental legacy for future generations. Therefore, the GNDOE concluded that it was unable to support the Project moving forward to the regulatory stage until such time as the wildlife mitigation and monitoring plans are developed in conformity with the NIRB Guidelines, western science and traditional Inuit knowledge.

2.3 Department of Fisheries and Oceans

The Department of Fisheries and Oceans Canada (“DFO”) is the federal department responsible for the protection of fish and fish habitats. The DFO has outstanding information requirements on a number of the components for the Project that will affect fish habitat, including the destruction of Tail Lake and the impact of the jetty on fish habitat. While the DFO prefers to have information as early in the process as possible, the Proponent has quantified the Project’s impacts on fish habitat and has developed a draft framework through the No Net Loss plan to compensate for this impact. Given the DFO has a regulatory mechanism to ensure the information required to augment the No Net Loss plan is provided, the DFO submitted that its outstanding requirements can be met during the regulatory phase.

2.4 Environment Canada

Environment Canada (“EC”) identified a number of deficiencies in the FEIS, noting that many of these problems were identified in previous information requests.

Specifically, EC found that the Project area is important for migratory birds and raptors. The relatively high density of raptors and the inclusion of the area in the report *Wildlife Areas of Special Interest to the Department of Renewable Resources* by R.S. Ferguson (1987) indicate that portions of the Project area may warrant special conservation status. Thus, further and more reliable information on the importance of the area to migratory birds and perhaps other wildlife may be necessary in order to make informed decisions regarding the importance of the area for conservation of biodiversity.

Accordingly, EC found that insufficient baseline data has been collected to reach reliable conclusions on the potential impact of the Project on migratory birds and their habitat,

particularly wetlands. If the project is allowed to proceed, EC recommended that MHBL be required to carry out further studies, data analysis, assessment of the overall impact, preparation of mitigation measures/plans to reduce impacts, and monitoring and reporting of results for a wide range of issues, including a population census, breeding habitat, and wetland habitat for migratory birds and waterfowl. MHBL should also be required to design and carry out an effective mitigation plan to eliminate or reduce any potential negative effects of the use of Tail Lake on waterfowl and waterbirds, and monitor the results.

Furthermore, while agreeing with MHBL's conclusion that none of the bird or mammal species in the area are designated as endangered, EC identified Tundra Peregrine Falcon, Short-eared Owl, Polar Bear, Grizzly Bear, Wolverine and the Dolphin and Union population of the Barren-ground caribou herd as listed on Schedule 3 of the *Species at Risk Act* (SARA) as "species of special concern" and 17 species of bird that are listed as "sensitive" or "may be at risk" by the Government of Nunavut report titled *Nunavut Wild Species – General Status of Wild Species in Nunavut* (2000). Accordingly, EC recommended that in order to comply with the goal of SARA to ensure that species of special concern do not become threatened or endangered the precautionary principle should be applied and, if the project proceeds, MHBL should be instructed to design and carry out effective mitigation and monitoring plans for all species listed under SARA and all species listed as "sensitive" or "may be at risk" by the Government of Nunavut.

EC also found that although the FEIS acknowledges the importance of marine habitats to migratory birds and that a number of the project components, including the Roberts Bay causeway, the beach lay down area and tank farm, and marine barges and other sea going vessels, will interact with aquatic organisms and habitats of the marine environment, there is no discussion of the potential effects of the Project on the marine environment. EC biologists have been conducting field studies in the vicinity of the project for several years and have identified that Melville Sound, Elu Inlet, and Parry Bay are areas of some importance to Common Eiders and King Eiders. Therefore EC recommended that MHBL be instructed to design and carry out an effective mitigation plan of all of their proposed activities in the marine environment to eliminate potential effects of the project on migratory birds. EC further found that the documentation in support of the Environmental Spill Contingency Plan is fragmented and fails to

adequately demonstrate, to EC's expectations, the key elements of prevention, preparedness, response and recovery. EC recommended that a spill contingency plan should be provided for further review.

Regarding aquatic quality, EC is satisfied that mine water inflows will not be a concern as long as mining does not encroach on the talik beneath Doris Lake, and that the estimates of the quantity of seepage from the Tail Lake tailings impound area (TIA) are conservative. However, EC did recommend that the water quality modeling be reviewed prior to the regulatory phase. EC is also satisfied that the Tail Lake TIA is adequately sized for the immediate two year life but may not be for longer term development of the Doris North Project. EC recommended that, if issued, the NIRB Project Certificate limit the deposition of tailings into the Tail Lake TIA to the immediate two year life of the Doris North Project.

EC commended MHBL's commitment to monitoring air quality. On this matter, EC requested that the final design of the air quality monitoring program be developed in consultation with air quality experts from EC.

Finally, on cumulative effects assessment, EC stated that the proponent has not collected the necessary quantity and quality of baseline data, and has not proposed an adequate monitoring program to determine fully the potential cumulative effects of the project on all VECs and subsequently ensure their protection. EC recommended that MHBL address these deficiencies and take steps to be aware of ongoing developments under the Cumulative Effects Assessment and Management Strategy and Framework, as well as regional planning initiatives, especially the Draft West Kitikmeot Land Use Plan, and participate in these initiatives as opportunity arises.

2.5 Natural Resources Canada

Natural Resources Canada's ("NRCan") jurisdiction for the Project stems from the use of explosives in the mining process. While not the lead regulatory agency in many of the matters considered in the FEIS, as a support mechanism to other federal regulators NRCan provided a detailed technical review of the FEIS, supporting documents and supplemental information. NRCan identified a number of outstanding issues and, at the request of the Board, separated regulatory from environmental assessment issues,

resulting in the identification of three areas that it believes should be addressed before completion of the environmental assessment phase of the Project.

First, the information provided by the Proponent is not sufficient to determine that adequate material for construction of the fine-grained dam core can be extracted from borrow sources identified in the FEIS. Additional characterization of the borrow deposit as part of the final detailed dam design is necessary so that either an alternative dam design can be identified or an alternate source of borrow deposit can be located. Also in relation to the dam design, the second matter that requires resolution during the environmental assessment phase is the further characterization of the thermal and hydraulic properties of the dam, in particular the core and foundation materials, as well as a better assessment of the ice content to improve the evaluation of the dam's long term stability.

The third issue identified by NRCan as requiring resolution at the environmental assessment stage is the determination of the shoreline impacts of the jetty. NRCan's review, corroborated by MHL's geotechnical results, identified the need for a more comprehensive evaluation of currents at the head of Robert's Bay near the jetty and wharf prior to construction.

2.6 Indian and Northern Affairs Canada

Indian and Northern Affairs Canada ("INAC") is the lead federal authorizing agency for the environmental assessment of this Project. Its involvement was triggered because the proposed jetty requires MHL to seek land tenure from INAC. As well as regulatory jurisdiction, INAC has jurisdiction in the areas of water management and a mandate to help improve the lives of Nunavutmiut through economic and social development.

INAC conducted a detailed technical review of the FEIS and related documents. Through the course of the review it identified areas that it assessed as representing potential substantive negative environmental and social impacts for which adequate mitigation had not been identified by MHL. INAC identified three major areas of concerns, the first two of which were significant enough that INAC recommended to NIRB that further assessment be required prior to approving the Project to proceed.

The first concern is in regard to the management of water in Tail Lake and the associated impacts. Specifically, INAC submitted that the Proponent proposed a complex water management strategy without demonstrating that the strategy is feasible. INAC concluded MHBL had not demonstrated that it would meet the water quality commitments downstream and that this information is required to determine whether the impact analysis in the FEIS is correct. Furthermore, as the main tool to mitigate potential water quality related impacts, MHBL proposed to construct a dam in one winter season using a construction technique that INAC believes has not been previously attempted in the north with the type of soils MHBL proposes to use. Without proving the dam design is technically feasible, MHBL cannot demonstrate that the main mitigation techniques will be effective. Although the mine will only be operational for two years, water management will be required for many years beyond that, which heightens the need to ensure the water quality management strategy and related mitigation and monitoring is addressed at the environmental assessment phase.

The second concern is that the assessment of cumulative effects on the Dolphin-Union caribou herd is inadequate. At the time the environmental assessment was developed by MHBL, this herd was considered a “threatened” species by the Committee on the Status of Endangered Wildlife in Canada. The status was upgraded to species of “special concern” in May 2004. In their assessment of direct and cumulative effects, MHBL did not adequately consider project effects on the Dolphin-Union herd because the regional study area as defined by MHBL did not extend north to encompass the herd’s range on Victoria Island and because possible interactions with other local projects and activities were not considered. This is viewed by INAC as a critical omission on MHBL’s part and a critical missing component for completion of INAC’s review as there is at least as great a risk of project interactions and effects with the Dolphin-Union herd as with the Bathurst herd, which was considered by MHBL and the threatened/special concern status of the Dolphin-Union herd elevates concerns regarding project interactions. As a result, INAC recommended that MHBL develop an assessment of direct and cumulative effects related to the Dolphin-Union herd and provide this for technical review prior to EA approval. INAC also recommended that MHBL develop a comprehensive monitoring program, which should contribute to existing monitoring programs so that a cumulative impact picture can be built with clear, measurable indicators, before a NIRB project certificate is issued.

The third concern identified by INAC is that socio-economic impact assessment methodologies used by the Proponent are unclear. For example, INAC identified deficiencies such as use of the quantitative criteria in the absence of indicator's and appropriate quantitative data that would support the use of this method, and a lack of information on the methods used to identify VSECs and assess the VSECs that were chosen. This resulted in INAC having little confidence in the Proponent's socio-economic assessment, making it difficult to understand, predict, or evaluate the impact this proposed project will have on the existing and future well-being of residents in the Nunavut Settlement Area, or determine if the assessed mitigation will be effective in addressing these issues.

2.7 Hamlet of Cambridge Bay

The Hamlet recognizes that the Project can create employment and the potential for secondary industry development within the region and on that basis is willing to support the Project provided a number of outstanding issues are fully resolved prior to the project going forward. The main concern is that the existing processes, including the negotiation process for the IIBA, do not address the socio-economic issues affecting the people of Cambridge Bay and the Kitikmeot region.

In particular, health and wellness programs are not administered or funded by the KIA which negotiates the IIBA. Fly-in/fly-out projects increase demand for health and wellness programs which the Hamlet is responsible for administering and funding. Funding received from the Government of Nunavut and the Canadian government for these programs does not vary with demand for services, therefore the Hamlet is not compensated for the additional cost. The Hamlet asked that steps be taken by both NIRB and INAC to ensure these issues are addressed through negotiation with proponents. Cambridge Bay recommended the creation of a Regional Socio-Economic Committee made up of members of the community and KIA.

There also appears to be a substantial lack of understanding of the services and programs, such as alcohol and drug counselling and family violence counselling, offered by the Hamlet and there has been no effort made by the Proponent to meet with the Hamlet to discuss roles and responsibilities for administering mitigation programs.

Similarly, there are concerns that information gathered from Elders did not become part of the VSECs.

In addition, historically Cambridge Bay has experienced a loss of trained individuals to regional projects capable of offering higher salaries and benefits, leaving the Hamlet with the burden of rehiring and training, which is particularly challenging given the training programs are focused on training people for the mining camps. Negotiations are required between KIA and Cambridge Bay to address this issue.

Cambridge Bay would also like to see the region work together to take advantage of secondary and tertiary industry opportunities and wishes to work with the Government of Nunavut and MHL on infrastructure improvement including a warehouse and hanger facility to allow CB to be used as a staging area rather than Yellowknife.



Photo 6: Hamlet of Cambridge Bay presenting in Cambridge Bay (Chris King and Mayor Terry McCallum).

2.8 Hamlet of Gjoa Haven

The Hamlet of Gjoa Haven supports the development of the mine as it could have tremendous economic benefits for the community, including jobs, training and support for local businesses. Currently the Hamlet has a 58 percent unemployment rate, the highest in the Kitikmeot region. The Hamlet representatives encouraged the Board to consider how the employment and contractual opportunities could be dispersed to communities throughout the region, including designating Gjoa Haven as a point of hire.

Finally, the overall goal for the Project should be to ensure that MHL has a clean site where environmental protection is a priority as Inuit will rely on these resources long after the mine is closed, and the Inuit ways of life should not change as a result of the Project.

2.9 Hamlet of Kugluktuk

The Hamlet of Kugluktuk submitted that it has a wide capacity and mandate in the areas of social and health services. The community, which has participated in the operation of three mines and one exploration property, has direct pertinent experience with mine development and community impact. Accordingly, the Hamlet has generated a number of guiding documents and project initiatives to improve the health and prosperity of its residents. These documents set out the main economic, social and wellness issues in the community, including substance abuse, a decline in Innuinaqtun, high crime rates and low employment levels despite fairly abundant wage opportunities. The Hamlet believes that these social impacts will be accentuated with each new mine in the region.

While the Hamlet believed the FEIS does not reflect the importance of the relative community initiatives, the fault is not entirely the Proponents. Rather, it reflects broadly on the manner in which mining developments are approved and the actions of the groups and agencies involved. The Hamlet believes that the Proponent, as well as government and Inuit agencies, must work together to address the negative social and cultural impacts that will arise from development. The public and the institutions that represent the public must be in a position to weigh all known positive and negative impacts of these projects, in order to make an informed decision on whether these projects should proceed to capitalize on the intrinsic mineral wealth of our area.

It is also important to the Hamlet that benefits and social impacts receive equal study and consideration to the environmental impacts of development. In order to fully understand whether the Project is worth the social cost, the Hamlet also made recommendations related to increased consultation between Inuit organizations and the communities regarding the benefits arising from the IIBA and compensation such as subsurface land royalties. At this time the Hamlet does not have sufficient information to determine if the Project is worthwhile for its community, therefore it neither approves of nor opposes the Project.

2.10 KitNuna Corporation

KitNuna Corporation, an Inuit-owned Kitikmeot business whose head office is located in Cambridge Bay, made a verbal presentation to the Board. This presentation generally supported the Doris North Project as it saw welcoming business opportunities arising as a result of any approval. KitNuna concluded that the Project would bring significant economic benefits to the Kitikmeot Region and it too favours the Project moving forward.

2.11 Local Resident Jaida Ohokannoak

Jaida Ohokannoak, a local resident, submitted a number of recommendations on wildlife and fish. She submitted to the Board that Doris Lake is a pristine/undisturbed water body and as such should not be used for habitat compensation, rather habitat compensation should be provided in a comparable compensation area that is already disturbed. She also encouraged the use of traditional methods to deter caribou from the site, as well as recommending programs such as waste management, employee education and protocols for encountering wildlife to protect wildlife and people. While recognizing the proposed Project is a small project, Ms. Ohokannoak expressed concern there will be negative cumulative effects of development on the Bathurst Caribou Herd. She advised the Board and the Proponent that there is currently a working group that is assessing cumulative effects on the herd and she encouraged MHL to participate. Regarding waterfowl, she recommended a separate hydrocarbon contaminated soil and snow facility and mechanisms to deter waterfowl attracted to standing water, as well as greater assessment of the use of Tail Lake as a bird nesting/staging area.

Ms. Ohokannoak also requested more information on the Proponent's strategies related to water, including greater study on nitrate from blasting materials entering the watershed, consideration of molybdenum as a potential wildlife concern and management of hydrocarbon contaminated water and snow melt. She recommended that the baseline/reference control for water quality monitoring at the lake should be within the same watershed and that the water quality criteria for the annual release of excess water from Tail Lake be as close to the natural baseline condition as possible. Similarly, she questioned where the monitoring of water reaching the ocean would take place and whether criteria are in place so that discharged water is as close to the natural baseline condition as possible. She also expressed concern regarding ground water from the

mine being pumped during operations as there is potential for acid rock drainage (“ARD”) seepage during operations and after closure.

Ms. Ohokannoak recommended that an interim abandonment and restoration plan with specific closure criteria, including a post-closure monitoring program extending beyond five years and sufficient security provisions should be in place prior to approval. Lastly, she expressed concern that MHBL has not adequately considered the potential impact on area tourism, particularly the Elu Inlet Lodge.

3. Analysis

3.1 Issues to be decided

The function of the Board at this Hearing is to gauge and define the extent of the regional impacts of the Doris Gold Mine project proposal, including a review of the ecosystemic and socio-economic impacts of the project proposal, to determine whether the project should proceed, and if so, under what terms and conditions.²³ In carrying out this function, the primary objective by law is at all times the protection and promotion of the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Settlement Area.²⁴

The reporting parameters for the Board’s determination are found in section 12.5.6 of the NLCA:

After reviewing the project proposal, NIRB shall issue a report to the Minister and the proponent containing:

- (a) its assessment of the project and its impacts;
- (b) its determination as to whether or not the project should proceed based on its assessment under (a); and
- (c) in the event the project were to proceed, terms and conditions reflecting the primary objectives set out in Section 12.2.5.

3.2 Burden and standard of proof

The Board believes the burden of persuading its Members that the Doris North Gold Mine should proceed rests primarily upon MHBL. We do not believe the Inuit, or any

²³ See section 12.2.2(b), (c), and (d) of the NLCA.

²⁴ Section 12.2.5 of the NLCA, see also Article 12.5.5.

other party, has the burden to persuade the Board that MHL has not satisfactorily assessed the anticipated ecosystemic and socio-economic impacts and environmental effects of the project or that the steps to avoid and mitigate or compensate for adverse impacts are not sufficient. Rather, it is mainly the responsibility of the proponent, in whose interest this Application has been filed, to prepare an impact statement in accordance with NIRB issued guidelines such that the Board may conduct a full review of the matters relevant to its mandate.²⁵

The standard of proof in this Hearing requires a delicate balancing of all of the evidence presented. In other words, after all of the submissions are read and heard by the Board, this project will be forwarded to the Minister for approval only if the proponent, more than anyone else challenging the proposal, convinces the Board that it is consistent with the Board's mandate to approve the project.

3.3 Jurisdiction of the Board

The Board has jurisdiction over this application pursuant to Article 12, Part 5 (Review of Project Proposals by NIRB) and Part 12 (Application) of the NLCA. When a review is required under Part 5, section 12.10.1 of the NLCA prohibits the issuance of licenses or approvals required to allow a project to proceed until after the review has been completed and a NIRB project certificate has been issued.

3.4 Environmental Assessment Guidelines

In accordance with section 12.5.2 of the NLCA, NIRB provided the Proponent with the EIS Guidelines for the Project.²⁶ The accompanying letter set out for the Proponent the 10 Minimum EIS requirements in the NIRB Guide to the Preparation of Environmental Impact Statements.²⁷ In particular, this included the expectation of a comprehensive EIS

²⁵ See section 12.5.2 of the NLCA.

²⁶ *EIS Guidelines*, October 15, 2002.

²⁷ 1. Continue your consultations with locally affected persons; distribute any information that you collect, and resolve any disagreements especially with locally affected persons. Eventually, all comments from the public must be summarized, documented, and presented in the final EIS.
2. We are assuming you now have a proper definition of the project. If there are any connected projects to Doris (e.g. ice or other roads and mines), these should be discussed together in the EIS.
3. Include a statement of the need for, and the purpose of the project, based on the precautionary principle and sustainable development.
4. We expect your EIS to indicate a comprehensive impact assessment approach, including but not limited to discussing environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out. Following the broad parameters of NLCA section 12.5.2 (a) - (i), the EIS should eventually focus on adverse impacts or effects and

consistent with the rigorous impact assessment standards found in Part 5 NLCA reviews:

We expect your EIS to indicate a comprehensive impact assessment approach, including but not limited to discussing environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out. Following the broad parameters of NLCA section 12.5.2 (a) - (i), the EIS should eventually focus on adverse impacts or effects and their mitigation. By mitigation, we expect the analysis to include how the impact could be avoided, minimized, cured, eliminated, or even compensated. See e.g., NLCA section 12.5.2(f). By anticipated impacts (see NLCA sections 12.5.2 (b-c)) we mean short and long-term direct and indirect, positive and negative, and cumulative impacts as set out below. Socio-economic, archaeological and cultural impacts are included too.²⁸

their mitigation. By mitigation, we expect the analysis to include how the impact could be avoided, minimized, cured, eliminated, or even compensated. See e.g., NLCA section 12.5.2(f). By anticipated impacts (see NLCA sections 12.5.2 (b-c)) we mean short and long-term direct and indirect, positive and negative, and cumulative impacts as set out below. Socio-economic, archaeological and cultural impacts are included too.

5. Cumulative effects analysis (CEA). A project proposal causes a cumulative effect if, when added to other projects in the region, or projects reasonably foreseeable in the region, will cause an additive effect.
6. Significant effects analysis. Not all impacts are significant and do not have to be studied. Therefore, you should advise the Board which impacts are significant, based first from the project setting (how unique is the area of the project, for example), and second, based on how *severe* the impacts will be, taking into account public health, land use plans, protected areas, habitat, or species, public concern, etc. Ultimately, the Board will decide which effects are significant and report to the Minister accordingly.
7. Alternatives to the project. This 'Alternatives assessment' comes from numbers 2 and 3 above and must include listing the "no-go" alternative, as well as the proponent's "preferred" alternative. This requirement goes well beyond a study of the alternative means of carrying out the project that might be economically and technically feasible and the environmental effects of those alternative means. The "no-go" alternative is not only a potentially stand-alone option (i.e. the no-build may be the best option), it also serves as a baseline for comparison with other development alternatives that might reasonably be proposed in the circumstances of the Doris mine.
8. The ability of renewable resources affected by the Doris project to sustain current and future generations in Nunavut and Canada.
9. A discussion of monitoring or post-project analysis (PPA). See NLCA section 12.7.2. The purposes of the PPA is:
 - (a) to measure the relevant effects of projects on the ecosystemic and socio-economic environments the Nunavut Settlement Area;
 - (b) to determine whether and to what extent the land or resource use in question is carried out within the predetermined terms and conditions;
 - (c) to provide the information base necessary for agencies to enforce terms and conditions of land or resource use approvals; and
 - (d) to assess the accuracy of the predictions contained in the project impact statements.

10. An assessment of any significant adverse ecosystemic or socio-economic trans-boundary effects.

²⁸ Letter from Stephanie Briscoe, Executive Director, NIRB, to Mr. Hugh Wilson, Manager Environmental Affairs, Miramar Hope Bay Ltd., Re: Final EIS Guidelines Doris Hinge (Doris) Gold Mine, October 15, 2002.

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The EIS Guidelines are provided to the proponent in order to ensure that a full environmental review of the proposed project has been conducted and that the Board has the information necessary to conduct a review of a project in accordance with the mandate established for the Board by Article 12 of the NLCA. Consistent with the primary objective of the Board, discussed above, section 12.5.5 requires the Board to take into account all matters relevant to its mandate, including the following:

- (a) whether the project would enhance and protect the existing and future well-being of the residents and communities of the Nunavut Settlement Area, taking into account the interests of other Canadians;
- (b) whether the project would unduly prejudice the ecosystemic integrity of the Nunavut Settlement Area;
- (c) whether the proposal reflects the priorities and values of the residents of the Nunavut Settlement Area;
- (d) steps which the proponent proposed to take to avoid and mitigate adverse impacts;
- (e) steps the proponent proposes to take, or that should be taken, to compensate the interests adversely affected by the project;
- (f) posting of performance bonds;
- (g) the monitoring program that the proponent proposes to establish, or that should be established, for ecosystemic and socio-economic impacts; and
- (h) steps which the proponent proposes to take, or that should be taken, to restore ecosystemic integrity following project abandonment.

The Board is of the view that while these matters are listed separately, they are interrelated. Protecting the existing and future well-being of residents and communities cannot be considered independently from the potential prejudice to the ecosystemic integrity of the Settlement Area, nor can the steps which the proponent proposes to be taken to avoid and mitigate adverse impacts be adequately considered without first understanding the potential for prejudice to the ecosystemic integrity.

As set out by the Board in the Final Hearing Report for the Jericho Diamond Mine Project²⁹, this is consistent with the integrative meaning of the term “ecosystemic” which is defined in section 12.1.1 of the NLCA as “means relating to the complex of a natural

²⁹ NIRB, February 2004.

community of living organisms and its environment functioning as an ecological unit in nature.”

The term ecosystem is not new with the NLCA. The fundamental importance of protecting ecosystems has been established for decades.³⁰ In 1989, the Alberta-Pacific Environmental Impact Board (“AIPac”) in the context of reviewing a pulp mill proposal in Alberta with impacts in the Northwest Territories stated:

The principles of using an ecosystem approach to environmental management demands more holistic terms of reference for environmental reviews. (An ecosystem approach is one, which includes full consideration of all components of the environment and of the proposed development at once, rather than an approach which attempts to analyse different components in isolation.)³¹

Thus, the NLCA requires the Board to look at the management of Nunavut’s resources in a way that recognizes its ecosystemic mandate by considering that there is interdependency between the different parts of the environment: air, land, water, wildlife and people. This is consistent with other federal statutes such as the Canadian Environmental Protection Act (“CEPA”)³² and the Canadian Environmental Assessment Act (“CEAA”) which provides definitions based upon interacting components of the environment.³³

The Board believes that resources, such as gold, can be extracted from the Territory and promote regional economic prosperity, however, resource extraction cannot be done for economic prosperity alone. The Board’s analysis of the well-being of residents and communities, potential prejudice to ecosystemic integrity, and consistency with the priorities and values of the residents must take into account a much broader range of issues that, when considered together with proposals to avoid, mitigate and compensate for adverse impacts, satisfy all aspects of the Board’s mandate for conducting a review.

This range of issues and the multiple aspects of the review mandate are clearly reflected in the EIS Guidelines which were provided to the proponent very early in the review process. A number of parties to the Hearing gave evidence that, as of the date of the

³⁰ See for example the Brundtland Commission Report: The World Commission on Environment and Development, *Our Common Future*, (Oxford: Oxford University Press, 1987).

³¹ Pulp Mill Proposal, Alberta-Pacific Environmental Impact Review Board, 1989, p. 77.

³² RSC 1985, c. 16 (4th Supp) as am.

³³ RSC 1992, c. 32, s. 2 as am.

Hearing, the Final Environmental Impact Statement (“FEIS”) filed by MHBL did not comply with the EIS Guidelines. The obligation for MHBL to submit a complete FEIS is clearly set out in section 12.5.2. which states, in part, “It is the responsibility of the proponent to prepare an impact statement in accordance with any guidelines established by NIRB.” The information required by the EIS Guidelines forms the basis for the Board’s review. Thus, the first issue the Board must consider is a threshold issue. Has MHBL provided a FEIS which provides the required information such that the Board is able to conduct a full review of the matters relevant to its mandate?

3.5 Has MHBL provided a FEIS which provides the required information such that the Board is able to conduct a full review of the matters relevant to its mandate?

To answer this question a brief overview of the related procedural history is helpful. On October 15th, 2002 the final EIS Guidelines were issued by the Board. In accordance with the Guidelines, in February 2003 Miramar filed a draft EIS with the Board. NIRB held a pre-hearing conference meeting during the month of April 2003 in the communities of Cambridge Bay, Kugluktuk, Gjoa Haven and Taloyoak. In December 2003 Miramar filed the FEIS with the Board.

In a letter, dated December 9, 2003 and addressed to MHBL and all parties, the Board requested that all parties provide on or before February 2, 2004 their comments on the following question: “Has MHBL provided a FEIS which provides the required information such that the Board is able to conduct a full review of the matters relevant to its mandate?”

In MHBL’s letter to the Board dated December 22, 200[3], the Proponent raised concern regarding the impact of the February 2, 2004 comment date on the timing of the review process for the Project and advised the Board that:

In our view, the appropriate test at this time is whether the final EIS meets the basic requirements of the Guidelines and the issues raised in the Pre-Hearing Decision (i.e. does it address each of the necessary issues). The ultimate question of whether the Project will be approved of course will be determined through the public hearing and review process.³⁴ [Emphasis in the original.]

³⁴ Letter from Anthony Walsh, President and Chief Executive Officer, Miramar Hope Bay Ltd., to Stephanie Briscoe, Executive Director, NIRB, Re: Doris North Project – Your file #02-MN-134, December 22, 200[3].

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On February 19, 2004 the Board confirmed hearing dates of June 13 to 18, 2004 and further advised MHL and the parties of the FEIS information deficiencies that were identified and the process necessary to rectify the deficiencies. The Board warned:

The initial letter referenced concerns of parties and led the Board to conclude that further information from the proponent would be required, including further meetings between parties and staff in preparation for the Hearings. Please note that failure to meet the instructions that follow may delay the June hearing and/or result in a negative recommendation to the Minister at the end of the Hearings.

First, the Board notes the information concerns expressed by several parties and agrees with many of them. The Board notes several different information items are outstanding and must be addressed before the Final Hearings. These issues include, baseline data, Doris Lake Outflow, Roberts Bay Jetty, geomorphology, infrastructure, water management including talik assessment and tailings management, acid rock drainage, abandonment and reclamation, explosives management, anticipated life of the project, cumulative effects assessment, climate change, alternatives, human health effects, monitoring and social impact assessment.

Another concern is the Proponent's failure to fully meet NIRB's list of 10 minimum EIS requirements, as indicated in the letter sent on October 15, 2002. Several items on the list were not fully addressed. For instance the requirements, as restated in NIRB's Prehearing decision, required a full discussion of alternatives. This included alternatives for tailings disposal and also the option of a larger and fully operating mine. Another requirement was the assessment of cumulative effects within the Hope Bay Belt including marine and road traffic and changes to those patterns. The discussion of these items in the Final EIS (FEIS) is currently inadequate and more information is necessary to allow the Board to properly assess this project proposal.³⁵ [Emphasis in the original].

MHL heard the warning. In a letter to NIRB on April 5, 2004, MHL acknowledged "that it is the proponent's risk if the public hearings proceed without adequate information before the Board".³⁶

From March 29 to April 1, 2004 technical meetings were held in Yellowknife, N.W.T. to consider the FEIS and preliminary supplemental information provided by MHL. On April 8, 2004 the Conformity Assessment decision was sent to MHL. This document provided a detailed assessment of MHL's conformity with the EIS Guidelines, set out supplemental documentation required to address the outstanding information and

³⁵ Letter from Stephanie Briscoe, Executive Director, NIRB, to Hugh Wilson, Miramar Hope Bay Ltd. and to Distribution List, Re: Procedural direction and decision to set Final Hearing Date, February 19, 2004.

³⁶ Letter from Anthony Walsh, President and Chief Executive Officer, Miramar Hope Bay Ltd., to Stephanie Briscoe, Executive Director, NIRB, Re: Doris North Project -Your File #02-MN-134, April 5, 2004.

compliance issues and establish a timeline in order to ensure a focused and efficient hearing.

MHBL provided a response to the Conformity Assessment on April 30, 2004. Subsequently several parties involved in the technical review responded to the information submitted with a total of 26 information requests, and INAC and EC also requested additional time to review material provided in response to these requests.³⁷

MHBL set out its views on the outstanding information and request for additional time, in a letter to the NIRB dated May 14, 2004, stating:

We believe that the information filed by the Proponent to date provides the Nunavut Impact Review Board ("NIRB") with ample information to enable it to discharge its mandate under section 12.2.2 of the Nunavut Land Claims Agreement ("NLCA") and under the letter from Minister Nault, P.C., M.P. dated August 27, 2002 referring the Project to NIRB under Article 12, Part 5 of the NLCA. We have reviewed the letters from INAC and EC dated May 10 and 11, 2004 respectively. We will provide to NIRB supplemental information to address the issues raised in these letters, however, we do not believe that the information requested is material to NIRB discharging its mandate.

Subsequently, based on a review of the information yet-to-be-filed, the Board advised MHBL that the Hearing would be postponed, stating:

.....there are several matters that are still critical and that should be addressed before the hearing. In the Board's mind, these issues include cumulative effects especially regarding the caribou, water balance including the use of Tail Lake, and matters relating to the jetty; these matters are significant and should be further addressed before the final hearing. As a result, the Board believes that the hearing that was tentatively scheduled for next month should be delayed by a short period of time, which the Board now believes should be 4 weeks. Thus, the hearing is now formally scheduled for July 11-July 16th 2004, inclusive...³⁸ [Emphasis in the original].

Ten days later, on May 28, 2004, MHBL stated:

The Proponent believes that it has responded to all of the information requests received by the May 10, 2004 deadline and understands the information exchange process has now been completed.³⁹

³⁷ Letter from Stephanie Briscoe, Executive Director, NIRB, to Glen Stephens, Manager Environment, Indian and Northern Affairs Canada and Colette Melcohe Environmental Assessment Specialist, Environment Canada, Re: Information Request (IR), Doris North Project, Miramar Hope Bay Ltd. (MHBL), May 11, 2004.

³⁸ Letter from Stephanie Briscoe, Executive Director, NIRB, to A. David Long, Vice-President, Legal, Miramar Hope Bay Ltd., Re: Doris North Project-NIRB #02-MN-134, May 18, 2004.

³⁹ Letter from A. David Long, Vice-President, Legal, Miramar Hope Bay Ltd, to Stephanie Briscoe, Executive Director, NIRB, Re: Doris North Project -Your File #02-MN-134, May 28, 2004.

Final Hearing Submissions were due from all parties by June 25, 2004. During the course of the Hearing several parties are on record as stating that the FEIS is insufficient to permit the Board to fulfill its review mandate. On the other hand, MHBL believes that the FEIS and supplemental materials “provide more than adequate information for the Board to be able [to] discharge its mandate of assessing the environmental impacts of the Doris North Project”.⁴⁰ Thus, this threshold matter is now before the Board for determination on the basis of the evidence including the FEIS, the Hearing evidence and the record as of the date of the Hearing.

The Board is of the view that an appropriate approach to making this determination is to consider the outstanding information and key issues brought forward to the Hearing by the parties and ask a series of questions, including:

1. Did the Proponent’s response to the information requirements adhere to the intent of the NLCA in the preparation of the FEIS and related supplementary documents?
2. Did the Proponent respond to the specific information requirements set out in the EIS Guidelines?
3. Did the Proponent develop a reasonable range of alternatives to evaluate and were the appropriate techniques and methodologies used for evaluating alternatives?
4. Did the Proponent show evidence that they considered and responded to EIS concerns expressed by the parties?
5. Is critical technical data which would assist NIRB in the review process missing?
6. Do the FEIS and related supplementary documents serve as a sufficient tool for NIRB to make an informed decision on the issue?

Ultimately the decision is whether or not the Board can evaluate the significance of the adverse impacts on the basis of the information before us such that the goals of informed decision making under Article 12 of NIRB are achieved. The following five issues will be examined through the lens of these six questions.

⁴⁰ David Long, Vice-President, Legal, Miramar Hope Bay Ltd, Transcript Volume 1, July 11, 2004, p. 20, lines 18-22.

Issue #1: Has MHBL provided the required information regarding wildlife mitigation and monitoring?

Section 12.12.5 of the NLCA requires decisions pursuant to Article 12 to be designed, implemented and interpreted in a manner consistent with Articles 5 and 7. The objectives of Article 5 include the creation of a wildlife management system that is governed by and implements the principles of conservation.⁴¹ The principles of conservation are set out in Section 5.1.5:

The principles of conservation are:

- (a) the maintenance of the natural balance of ecological systems within the Nunavut Settlement Area;
- (b) the protection of wildlife habitat;
- (c) the maintenance of vital, healthy, wildlife populations capable of sustaining harvesting needs as defined in this Article; and
- (d) the restoration and revitalization of depleted populations of wildlife and wildlife habitat.

Section 4.24 of the EIS Guidelines required MHBL's FEIS to provide environmental management and mitigation plans to:

...prevent or mitigate all the potential impacts of the Project identified in Subsection 4.21, and shall identify residual effects. Mitigation is defined as the elimination, reduction, or control of the adverse effects of the Project....

...Management plans shall target at a minimum the following, as well as any other VECs or VSECs identified by the Proponent or any other stakeholder/interven[e]r/participant:

-
- caribou and their habitats;
- grizzly bears and other scavengers and wildlife potentially attracted to the site;
- other birds and wildlife species and their habitats;...

The Proponent shall evaluate the costs and economic and technical feasibility of the mitigation measures considered, specify who would be responsible for their implementation, and provide a timetable for implementing them.

The Proponent shall discuss the flexibility of the proposed environmental management plans to respond to changes in the mine development plan, the regulatory regime, the natural or socio-economic environment, technology, research results, or the understanding of Traditional Knowledge. It shall discuss how the results from the environmental management plans would be used in

⁴¹ Paragraph 5.1.3(b)(i), NLCA.

applying adaptive environmental management, and identify criteria or indicators to trigger management action.

The Proponent shall give a rationale for the proposed management plans and shall assess their likely effectiveness. It shall also give a rationale for the rejection of mitigation measures and justify trade-offs between cost savings and effectiveness. It shall provide a risk assessment of those economic or other conditions that might impair the effectiveness of mitigation measures.

Moreover, the Proponent shall discuss the negotiation of an agreement or agreements with the concerned communities that would permit them to participate fully in the planning, execution, and evaluation of mitigation measures.

The monitoring component of the wildlife mitigation and monitoring plan is required to comply with EIS Guidelines section 4.26 Monitoring and Follow-up. Generally, this section requires that a monitoring plan must set out a monitoring program, including what is to be monitored, why it needs to be monitored, and how it will be monitored, as well as a follow-up program to integrate the monitoring results into a coherent program of action and to evaluate the effectiveness of mitigation measures during operation and after the final closure of the project.

The Conformity Assessment provided to the Proponent on April 8, 2004 set out that the descriptions of biological environment required for wildlife (4.13.2) and birds (4.13.3) did not “conform” or even “generally conform” to the NIRB Guidelines, stating that the following information was required for wildlife: “MHBL shall provide NIRB with a complete Monitoring and Mitigation Plan to address wildlife issues.”⁴² Accordingly, section 4.24.2 was found to “generally conform” but conditional on the requirement that “MHBL shall provide a more complete Wildlife Monitoring and Mitigation Plan before the Final Hearing.”⁴³

The Proponent’s response to a direct question from the GNDOE on the requirement for wildlife monitoring and mitigation makes it clear that a wildlife mitigation and monitoring plan had not been developed or filed at the time of the Hearing “We acknowledge that a mitigation and monitoring plan is required, and we state that a mitigation and monitoring plan will be filed, will be developed.”⁴⁴

⁴² Conformity Assessment, p. 4, 4.13.2.

⁴³ Conformity Assessment, p. 6, 4.24.2.

⁴⁴ Ben Hubert, Miramar Hope Bay Ltd., Transcript, Volume 4, July 14, 2004, p. 933, lines 10-13.

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The Proponent, in its opening presentation to the Board, gave the following evidence on the status of the wildlife mitigation and monitoring plan:

The draft memorandum of understanding on wildlife mitigation and monitoring is under review between KIA, Department of Environment, GNW - - Department of Environment and the proponent. It includes incineration and garbage management generally, it includes traffic management, hunting. It deals with recording and reporting, monitoring caribou, raptors, wolverine populations. It addresses the sampling, opportunistic sampling of -- and tissue analysis, and it provides for independent review to include Elders and the Kitikmeot Hunters and Trappers Association. The full mitigation planned for the project is presented in supplementary document F1, I believe, and for the moment, we know that it will be supplemented and added to. But for the moment, that is a schedule that is presented and added to the MOU.⁴⁵

The GNDOE is the body responsible for terrestrial wildlife management within Nunavut.⁴⁶ It administers Nunavut's Environmental Protection Act and Wildlife Act and the associated regulations.⁴⁷ Accordingly, the main focus of the GNDOE's intervention was on the wildlife mitigation and monitoring plan. These impact topics are of significant concern to the Board because by definition, wildlife is part of the Board's mandate under section 12.2.5 and mitigation is a critical feature of impact assessment under 12.5.5 and monitoring is a stand alone requirement set out in section 12.7. Wildlife and fish protection are critical to the Kitikmeot culture, as several residents and Elders identified at the meeting.⁴⁸

The GNDOE stated that it was not involved in the drafting of the memorandum of understanding on wildlife mitigation and monitoring and that it only received a copy of the draft document outside of the NIRB processes on July 6, 2004.⁴⁹ Further, the GNDOE does not support the use of a memorandum of understanding process that is

⁴⁵ Ben Hubert, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 202, lines 9-26.

⁴⁶ Gladis Lemus, Government of Nunavut, Department of Environment, Transcript, Volume 2, July 12, 2004, pp. 485-486, lines 24-9.

⁴⁷ Gladis Lemus, Government of Nunavut, Department of Environment, Transcript, Volume 2, July 12, 2004, p. 490, lines 20-24.

⁴⁸ For example Johnny Lyall, a Cambridge Bay resident, said "At previous meetings this winter, I asked about regarding the fish population in that lake. We were told that there were no fish from the ocean...we don't want any of the fish population destroyed whatsoever in these lakes, whether they are skinny fish or thin fish or fish, and it is just the way some fish are naturally. They are not ocean-going fish, they stay landlocked. They stay thin if they are landlocked. We don't just abandon those and disregard them. Fish are still fish to us.", Transcript, Volume 2, July 12, 2004, p. 454, lines 13-21; and Gjoa Haven Elder Eddie Kikoak said "...if you are going to make a mine, might as well go right through, find out the safest way, the better way and more environmental friendlier so you could take the gold out of the ground safer for everyone, animals or humans." Transcript, Volume 4, July 14, 2004, p. 940, lines 8-12.

⁴⁹ Gladis Lemus, Government of Nunavut, Department of the Environment, Transcript, Volume 3, July 13, 2004, p. 558, lines 10-11.

outside the NIRB protocols because these protocols allow for the establishment of guidelines and allows all reviewing parties the opportunity to review and comment on the extent of the compliance with EIS guidelines.⁵⁰ Overall, the GNDOE's view is that "...the wildlife mitigation and monitoring plans are primary tools for us to assess impact predictions and cumulative effects on wildlife as a result of this project, so we consider them very significant tools that must be completed."⁵¹ On this point the GNDOE was correct, proving to the Board that the GNDOE understood the function of environmental assessment.

Moreover, the GNDOE's review of the FEIS found what it characterized as "significant deficiencies" in the impact predictions for wildlife, citing as an example the provision of baseline data for caribou but without additional discussion on potential or cumulative impacts.⁵² These impact predictions form the foundation of the mitigation monitoring plan. The effect of this type of deficiency is that incorrect conclusions on the impacts on wildlife will flow through to plans for the mitigation and monitoring (i.e. the plans may not mitigate or monitor the correct impacts). GNDOE's presentation included that:

MHBL has presented a PARTIAL Wildlife Mitigation Plan that does not address all aspects of NIRB guideline 4.24 and MHBL has NOT presented a Wildlife Monitoring Plan that addresses any aspects of the NIRB guideline 4.26.⁵³ [Emphasis in the original.]

As a result the GNDOE was unable to recommend to NIRB that the project be permitted to proceed to the regulatory stage:

...unfortunately, we are left in the position that a recommendation has to be that we are unable to support the continuation of this project until appropriate mitigation and monitoring programs are developed. That's our only choice.⁵⁴

It is clear from the Proponent's own evidence that it has not met its responsibility to submit a FEIS that complies fully with the EIS Guidelines. At the Hearing, the Proponent proposed that this matter be addressed through the Board supporting a continuation of

⁵⁰ Gladis Lemus, Government of Nunavut, Department of Environment, Transcript, Volume 2, July 12, 2004, pp. 490-491, lines 7-9. See also Exhibit No. 9, slide 7.

⁵¹ Mike Settingington, Government of Nunavut, Department of Environment, Transcript, Volume 2, July 12, 2004, p. 486, lines 18-23.

⁵² Mike Settingington, Government of Nunavut, Department of Environment, Transcript, Volume 2, July 12, 2004, p. 491, lines 24-18.

⁵³ Exhibit No. 9, slide 9.

⁵⁴ Mike Settingington, Government of Nunavut, Department of Environment, Transcript, Volume 2, July 12, 2004, p. 494, lines 7-11.

the project with a specific term and condition that the proponent file with NIRB a comprehensive outline for a wildlife mitigation and monitoring plan within 60 days and file a final plan, generated in consultation with the GNDOE and KIA, by December 31, 2004.⁵⁵ Although the exact status of the proposal is not clear as the Proponent did not include the proposal in its Preliminary Outline of Commitments, which was subsequently filed with the Board, the Board believes that the proposal merits consideration.⁵⁶ The GNDOE rejected this proposal on the basis that an informed recommendation on an environmental impact cannot be made without this information.⁵⁷ Ultimately, it is the Board that is charged with making the decision as to whether or not the project should be recommended to the Minister. In making its determination, the Board considered whether critical data that would assist the review process is missing and whether the FEIS and supplementary documents serve as a sufficient tool for the Board to make an informed decision.

During the discussion on the Proponent's proposal, NTI argued in favour of the proposal on the basis that the terms and conditions of surface leasing and exploration agreements are the "ultimate big stick" and thus provide adequate assurance that the matter will be resolved prior to the mine proceeding.⁵⁸ The Board respectfully disagrees with this position. It is not acceptable to plug environmental impact assessment holes later. Impact assessment works best as a planning tool, not a compliance mechanism. By the time compliance is an issue the environmental assessment is done.

In other words, the mandate of NIRB is unique and precedes that of other regulatory bodies. As evidenced by Article 12.5.2, the Board has an obligation to consider a wide range of matters in an integrated fashion and to base its consideration on information brought forward by a broad range of stakeholders and in a manner that is determined by the nature of the project and range of impacts. Only once the determination is made as to whether the project as a whole should proceed is it appropriate to divide the various components of the project out for approval by the multitude of regulatory agencies and organizations that will make detailed permitting and other authorizing decisions within

⁵⁵ David Long, Miramar Hope Bay Ltd., Transcript, Volume 3, July 13, 2004, p. 555, lines 12-23.

⁵⁶ Preliminary Outline of Commitments prepared by Miramar Hope Bay Ltd., Exhibit No. 36.

⁵⁷ Gladis Lemus, Government of Nunavut, Department of the Environment, Transcript, Volume 3, July 13, 2004, p. 575-576, lines 21-10.

⁵⁸ Keith Morrison, Nunavut Tunngavik Incorporated, Transcript, Volume 3, July 13, 2004, pp. 566-567, lines 7-12.

the scope of their particular mandate. It is for exactly this reason that Article 12.10.1 of the NLCA prohibits granting of licenses and approvals until such time as the requirements under Article 12 are complete and a NIRB project certificate is issued. The Board would fail in its mandate if it chose to delegate a matter that has the potential to significantly effect the ecosystemic integrity and well-being of the residents of Nunavut to one, or even several, regulatory bodies or organizations on the basis that the organization had sufficient power to “halt” the proposed project. Not only that, some of the regulatory bodies have constrained jurisdiction, for example the Nunavut Water Board deals only with fresh water, while NIRB’s jurisdiction includes fresh water and extends to marine water. Moreover, NIRB is largely the only public body authorized to consider and evaluate wildlife mitigation matters in the permitting process for industrial development in Nunavut.

The Proponent argued that the issues of the level of information needed for the environmental assessment process versus the regulatory process, are a matter of judgment and it is ultimately the decision of the Board whether the project is ready to go to the regulatory phase.⁵⁹ The Board agrees with the Proponent. But where there are key outstanding matters, it is properly within the mandate of the Board to assess how significant the outstanding matter is relative to the ability of the Board to fulfill its go/no-go mandate without the missing information. If the matter is not essential to the Board fulfilling its mandate, it is then appropriate for the Board to consider the availability and capacity of relevant regulatory bodies to address the matter.

The Board agrees with the GNDOE that the wildlife mitigation and monitoring plan is such a key matter; it is a very significant item in the review process because it is linked so strongly to Inuit culture, caribou and fish in particular. The Proponent argued that the wildlife monitoring and mitigation plan is not essential to the Board carrying out its mandate because the Proponent has provided mitigation plans and measures relating to all potential impacts throughout the FEIS.⁶⁰ The Board has at least two concerns with this statement, first that the evidence does not necessarily support the conclusion that all potential impacts have been identified in the FEIS, and secondly, that the mitigation

⁵⁹ Brad Armstrong, Miramar Hope Bay Ltd., Transcript, Volume 3, July 13, 2004, p. 781, lines 7-17.

⁶⁰ David Long, Miramar Hope Bay Ltd., Transcript. Volume 6, July 16, 2004, p. 1559, lines 25-2.

plans and measures relating to all potential impacts found throughout the FEIS may not satisfy, in either form or more importantly *substance*, the EIS Guidelines.

Considering the issue of the determination of potential impacts, the GNDOE's evidence on the significant deficiencies in the impact predictions for wildlife reliability of the impact assessment carried out by the Proponent was set out earlier in this section. INAC, in recommending that the Board not proceed with environmental assessment approval until several critical areas were resolved,⁶¹ also provided evidence that it was not satisfied with the cumulative effects assessment (CEA) undertaken for the Dolphin Union Caribou herd, a species considered threatened at the time of the FEIS,⁶² on the basis that the CEA did not consider projects or activities within the entire range of the herd.⁶³

On this important caribou issue, through the course of the hearing, various parties, including INAC, EC, KIA and the Proponent, submitted evidence and exhibits to the Board on the appropriate range, projects and activities, and literature that should be considered in this analysis. It appears to the Board that neither the Proponent nor the parties are in a position at this time to determine what the appropriate considerations are for the CEA for this herd. What is apparent to the Board is that the methodology and supporting evidence submitted in the FEIS itself is not sufficient at this time to support a sound cumulative impact assessment conclusion. Such an assessment is vital to NIRB's Part 5 mandate and it particularly should be done for such a short mine life with impacts that extend well beyond closure.

The Board is of the view that the 10 minimum EIS requirements established are at least equivalent to and exceed the CEAA standards and the Board, because of its ecosystem mandate, intends to be rigorous regarding their application. In *Friends of the West*

⁶¹ INAC recommended that: "1. MHL develop an assessment of direct and cumulative effects related to the Dolphin-Union herd and provide this for technical review prior to the Environmental Assessment "approval"; 2. MHL should re-evaluate its cumulative effects evaluation for grizzly bear and wolverine; and 3. MHL should be required to develop a comprehensive monitoring program before receiving its Project Certificate. This monitoring program should contribute to existing monitoring programs so that a cumulative impact picture can be built and should have clear measurable indicators." Indian and Northern Affairs Canada, Technical Review of the Final Environmental Impact statement of the Proposed Doris North Gold Mine, June 25, 2004, p. 79, para. 4-6; Exhibit No. 21, p. 8.

⁶² Stephen Traynor, Indian and Northern Affairs Canada, Transcript, Volume 3, July 13, 2004, p. 716, lines 22-25.

⁶³ Stephen Traynor, Indian and Northern Affairs Canada, Transcript, Volume 3, July 13, 2004, p. 717, lines 2-4.

Country Association, Rothstein, J.A. writing for the Federal Court of Appeal said the following regarding cumulative effects assessments under CEAA:

Implicit in a cumulative effects assessment under paragraph 16(1)(a) are effects from both the project as scoped and other projects or activities. Sunpine argued that if there were no adverse environmental effects from the project as scoped, there could be no cumulative effects as envisaged by that paragraph. While on its face this argument is compelling, I am not sure it is possible to rule out that a federal project, while creating no adverse effects itself, could exacerbate adverse effects of other projects. In any event, a finding of insignificant effects as was made here still implies some effects from the bridge projects themselves. It is not illogical to think that the accumulation of a series of insignificant effects might at some point result in significant effects. I do not say that is the case here. I only observe that a finding of insignificant effects of the scoped projects is sufficient to open the possibility of cumulative significant environmental effects when other projects are taken into account. For this reason, I do not think the insignificant effects finding precludes the application of the cumulative effects portion of paragraph 16(1)(a) or subsection 16(3) in this case.⁶⁴

While on record as supporting the Board's recommendation of the project to the Minister, KIA identified in its recommendations several concerns which the Board considers not only valid but serious deficiencies in the assessment of potential adverse effects of the project on wildlife:

But in general, these recommendations relate to the need for an improved wildlife mitigation and monitoring plan, which must be developed before construction of the mine commences. This plan must be able to *verify the impact predictions and determine if the project is acting as a sink for mortality to sensitive wildlife population*, such as grizzly bear and wolverine. The plan should also *include means to determine if and how the project affects caribou use of the project area*. This includes both the Ahiak and Dolphin Union Caribou herd.⁶⁵ [Emphasis added].

EC administers the Migratory Birds Convention Act and the Species at Risk Act which applies on all Federal Lands and to Nunavut until such times as the regulations for the Nunavut Wildlife Act are in place.⁶⁶ EC set out the following requirements for a mitigation and monitoring plan for migratory birds:

...detailed studies on migratory birds and their habitats; the design and implementation of better surveys to determine how important the area is for ducks, geese and swans; more information regarding wetland habitat in the area and how the project could affect this habitat; details on the potential effects and related impacts of the proponent's proposed activities in the marine environment

⁶⁴ *Friends of the West Country Assn. v. Canada (Minister of Fisheries and Oceans)* (C.A.), [2000] 2 F.C. 263, at para, 39.

⁶⁵ Geoff Clark, Kitikmeot Inuit Association, Transcript, Volume 3, July 13, 2004, p. 597, lines 23-9.

⁶⁶ Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 677, lines 4-7.

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on migratory birds, especially in relation to eiders; and that the project should monitor the use of Tail Lake by ducks, geese, swans and loons, and monitor these birds for signs of poor health or death.⁶⁷

EC also brought to the attention of the Board the importance of this area for migratory birds, and especially for raptors.⁶⁸ It was further recommended that “Miramar should discuss the importance of this habitat, including the number of birds found in this area, compared to other similar habitats.”⁶⁹

For species designated by the Species at Risk Act as “special concern” or “sensitive” by the Government of Nunavut, EC stated “...the proponent has provided some information on these species, and we recommend more information is required to see how many short-eared owls and caribou from the Dolphin and Union population are using the [project] area.”⁷⁰

Photo 7: Environment Canada (Colette Meloche) making a comment in Cambridge Bay.



⁶⁷ Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 678, lines 1-13. See also Environment Canada, Submission to the Nunavut Impact Review Board on the Doris North Gold Mine-Miramar Hope Bay Ltd. Public Hearing, June 2004, p.2, 3, 5, 6 and 8, and Exhibit No. 17, slide 9.

⁶⁸ Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 678, lines 19-21.

⁶⁹ Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 678, lines 22-24.

⁷⁰ Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 679, lines 12-16. See also Environment Canada, Submission to the Nunavut Impact Review Board on the Doris North Gold Mine-Miramar Hope Bay Ltd. Public Hearing, June 2004, p.7, and Exhibit No. 17, slide 9.

On CEA, EC found that “Miramar has not provided enough information in order to be able to determine all of the potential cumulative effects of this project. And we find this because the necessary quantity and quality of baseline data hasn’t been collected and that an adequate monitoring program has not been proposed.”⁷¹

Overall, EC’s conclusion was that the review of the project revealed potential negative environmental impact which could be mitigated through the development and implementation of the appropriate management and mitigation plans, ongoing monitoring, and the application of the cautionary principle.⁷² When questioned by the Proponent, EC stated that the implementation of the long-term monitoring program recommended for the CEA was a decision for the Board; however, EC was of the view that it could be accomplished as a term and condition in the project certificate.⁷³ On that point, given the preceding paragraph, the Board disagrees with EC.

It is relevant at this point in the Report to reiterate the burden of proof requirement. MHBL stated in its closing argument that:

While some of the parties to these proceedings raised questions about the details of methods of the environmental impact assessment, including the cumulative effects assessment, no party suggested or presented any evidence that there are likely to be significant environmental effects or cumulative environmental effects.⁷⁴

Whether the Board agrees with the statement or not, this statement reflects a misunderstanding by the Proponent of the burden of proof. It is the Proponent’s burden to persuade the Board that MHBL has satisfactorily assessed the anticipated environmental effects of the project, and that the proposed plans to avoid, mitigate or compensate for adverse impacts are sufficient.

After careful consideration of the overall evidence provided by the GNDOE, INAC, KIA and EC, the Board is not satisfied that the Proponent’s FEIS has adequately identified the potential adverse impacts of this project on wildlife. For clarity, the Board is not saying that the project will leave adverse impacts, or that any potential adverse impacts cannot someday be mitigated. Rather, the Board simply does not have before it the

⁷¹ Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 687, lines 17-24.

⁷² Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 689, lines 1-7.

⁷³ Colette Meloche, Environment Canada, Transcript, Volume 3, July 13, 2004, p. 698, lines 12-16.

⁷⁴ David Long, Miramar Hope Bay Ltd., Transcript, Volume 6, July 16, 2004, p. 1559, lines 3-10.

information that is necessary to fully assess under Article 12, and in particular section 12.5.5(d), the potential adverse effects of this project on wildlife.

Regarding the second consideration of the form and substance of the mitigation and monitoring plans, the Proponent's own evidence is that it has not met the formal requirement to submit to the Board a wildlife monitoring and mitigation plan. More importantly, as discussed earlier in this section, until the process of identifying the relevant adverse impacts is satisfactorily completed, it is difficult if not impossible to develop sound mitigation and monitoring plans. Certainly, when there are information gaps in the initial assessment of the potential adverse effects of a project, proceeding with the project on the basis of a mitigation and monitoring plan would only be possible if the Board was fully satisfied that the mitigation and monitoring plan could respond effectively to unforeseen effects.

Within this context, the Board acknowledges that the Proponent has met at least some of the substantive requirements for a wildlife mitigation plan within the FEIS. In particular, a wildlife mitigation plan related to the management of onsite interactions with wildlife was provided as supplementary document F-1. But even then, the exact status of this document is not entirely clear to the Board. It was noted by KIA that at the time of the Hearing this document remained under the cover of its author, Mr. McMullen, and when asked by KIA if Miramar has adopted all of the proposed mitigation measures and committed to them, Mr. Hubert, on behalf of MHL, replied: "That is the intent, and that will stay in its present form until the conclusion of the MOU, at which time it will be updated either under Miramar's cover or with the added impact of Mr. McMullen."⁷⁵ Assuming the document has been formally incorporated into the FEIS, the Board considered it appropriate to assess whether this plan might be sufficiently robust to compensate for the conclusion that a full assessment of the potential impacts of the project was not conducted.

Subsection 4.24.2 of the EIS Guidelines set out the following requirements for mitigation measures related to caribou management:

The present Subsection is only illustrative of what might be done. The Proponent should present specific measures for each VEC that is likely to be significantly impacted.

⁷⁵ Transcript, Volume 2, July 12, 2004, p. 264, lines 4-8.

4.24.2.1 Caribou

Mitigation measures for impacts on caribou could include:

- fencing of roads, landing strips, and other potentially dangerous areas;
- education of employees;
- speed restrictions (the Proponent must show how they will be enforced) during caribou migration to reduce the risk of vehicles' colliding with caribou; and
- designing roads and other infrastructure in ways that discourage caribou from interacting with them.

The Proponent shall integrate mitigation measures into a detailed caribou management and monitoring plan. The use of Traditional Knowledge in minimizing the effects of the Project on caribou (e.g., diverting caribou from tailings) and in establishing a monitoring programme shall be discussed. The Proponent shall discuss how it intends to use and/or support such initiatives as the Bathurst Caribou Management Committee.

At the Hearing KIA requested clarification from the Proponent on a number of the key elements of the caribou management required by the EIS Guidelines. This included specific information on the intended number and location of caribou crossings that will be built, the Proponent's capacity to address concerns about the steepness of the sides of the roads and the use of large boulders for subgrade which create a hazardous situation for caribou trying to get across the road when pursued by predators or scared off the road by vehicles, and the reason for the lack of a map of caribou trails in the area.⁷⁶

Geoff Clark, presenting on behalf of KIA, showed the Board two slides (see Photo 8⁷⁷ and Photo 9⁷⁸) one illustrating a "caribou friendly" road built at the Ekati mine site and the second showing a standard road which KIA suggests is a design similar to that proposed by MHL.⁷⁹ The "caribou friendly" design has roadside grades that are less steep and the size of the aggregate material is reduced so that caribou can freely cross the road at any point.⁸⁰ This is in contrast to the design proposed by the Proponent. This design, with the steep road edge combined with a face composed of large aggregate rock can present an increased risk of injury and subsequent predation to caribou.⁸¹

⁷⁶ For the questions and answers related to each issue, see respectively: Transcript, Volume 2, July 12, 2004, pp. 255-258, and pp. 261-263.

⁷⁷ Exhibit No. 13, slide 15.

⁷⁸ Exhibit No. 13, slide 16.

⁷⁹ Transcript, Volume 3, July 13, 2004, p. 599, lines 13-16.

⁸⁰ Transcript, Volume 3, July 13, 2004, p. 599, lines 21-25.

⁸¹ Transcript, Volume 3, July 13, 2004, p. 599, lines 6-9.



Photo 8: Illustration of a standard road.



Photo 9: Illustration of a "caribou friendly" road.

The Board notes, on the issue of large boulders and the hazard created for caribou, that the Proponent's response to this series of questions was wholly inadequate. In responding to the KIA question "I take it from your answer then that, of course, the reduction of risk is going to either be dependant on us to train the caribou to cross at the right spots or on the number of spots we create?"⁸², the Proponent stated: "The intent is and the understanding is that the caribou will be passing over at the crossing areas, and the remainder of the roadside slopes will be boulders."⁸³

The Board was also confused at some points by the evidence given by the Proponent regarding caribou management. For example, the following exchange left the Board unclear on when vehicles may be used to herd caribou:

Question from KIA: There was one element in the plan that causes me a certain amount of discomfort, and that was the suggestion that caribou might be herded by vehicles in certain situations. How often do you think that sort of thing might happen?

Answer from MHL: The only time I foresee that situation is a gentle hazing or herding of animals off the airstrip on the – on an approach by an aircraft, that's the only time I see person in vehicles having to move –move animals. And it would be done in such a way as to protect the caribou as much as avoid difficulty with the aircraft.

Question from KIA: The plan actually envisions the possibility of this happening on roads as well...I am wondering whether Miramar might be intending to push them off the roads just because they are inconveniently in the way.

Answer from MHL: I don't foresee that being a common – common practice, and I can't envision a situation where it would be that critical to have to do that. But I am sure there may be times when caribou are on the road and there is a vehicle approaching that there may be an interactionate (phonetic) response, and it is difficult to put in black and white a set of conditions and criteria that cover every possible interaction in the field.⁸⁴

There was other evidence presented that demonstrated that important data on caribou may not have been considered by the Proponent and that some mitigation activities were not fully considered. For example, GNDOE presented information on five years of satellite data, including seasonal range and migration information, collected on the

⁸² John Donihee, Kitikmeot Inuit Association, Transcript, Volume 2, July 12, 2004, p. 261, lines 11-15.

⁸³ Maritz Rykarrt, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 261, lines 18-22.

⁸⁴ John Donihee, Kitikmeot Inuit Association and Ben Hubert, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 264-265, lines 24-26.

Dolphin and Union Caribou herd.⁸⁵ This information has been publicly available since the winter of 2003.⁸⁶ A second example is MHBL's response to a question from the Board about barriers to prevent wildlife from taking water at Tail Lake:

This is a common and proper concern at the community level for the hunting communities and families that depend on meat from the land. The difficulty with fences is that that they work from both sides...so a preferable method might be to use a traditional Inukshuit (phonetic) or deflectors to have the animals shy away or move away from Tail Lake if they are passing through.⁸⁷

From an Inuit perspective, the importance of mitigation and monitoring plans cannot be underestimated. In fact, KIA has experienced several significant events with MHBL's existing operations:

In general, in terms of compliance, Miramar has tried to work closely with KIA to meet the requirements of our lease and license conditions. We have experienced, what KIA would consider, significant events related to accidents in areas related to where we have licenses. And I believe within the last 13 months, there have been three spills reported at the Windy and Boston camps, not at the Doris site. And there may have -- we believe there -- I believe there was another spill two years prior to that, but I can't recall if it was at the Windy or Boston camp. And we are working closely with Miramar to deal with this, and -- and as a -- you know, as a landowner, we are doing our best to make sure these situations don't occur... these are exploration sites, and in general, they do not receive the same level of spill contingency planning, other contingency planning that a permanent mine will have to deal with.⁸⁸

In this regard, the Board notes that EC has found:

...the environmental management system plan is not complete and does not adequately address all concerns in the area of prevention, preparedness, response and recovery. EC has requested on multiple occasions that MHBL provide a Spill Contingency plan for review.⁸⁹

This evidence is relevant to the Board's mandate, it goes directly to a number of matters the Board is required to consider under section 12.5.5, including paragraph (d) the steps which the proponent proposes to take to avoid and mitigate adverse impacts, and (f) the posting of performance bonds, and, ultimately, to the risk of undue prejudice to the ecosystemic integrity of the Settlement Area in accordance with paragraph (b).

⁸⁵ Monica Angohiatok, Government of Nunavut, Transcript, Volume 6, July 16, 2004, p. 1424-1425, lines 19-26.

⁸⁶ Gladis Lemus, Government of Nunavut, Transcript, Volume 6, July 16, 2004, p. 1426, lines 7-8.

⁸⁷ Ben Hubert, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, pp. 436-437, lines 25-9.

⁸⁸ Geoff Clark, Kitikmeot Inuit Association, Transcript, Volume 3, July 13, 2004, pp. 639-640, lines 8-6.

⁸⁹ Exhibit No. 17, slide 11.

In addition to the gaps in the mitigation plan identified by this evidence, the Proponent filed with the Board during the Hearing an 82 page draft memorandum of understanding related to wildlife mitigation and monitoring developed in conjunction with KIA.⁹⁰ This supports a finding that significant elements of the mitigation and monitoring plan are in the process of being developed outside of the NIRB process. The Board is concerned that the GNDOE only recently received this information and other parties, including the Board, received a copy at this Hearing. The Board accepts that this draft MOU may well provide the basis for complying with the EIS Guidelines, however, the substance of the MOU has not been reviewed by all parties, nor has it been integrated into the FEIS such that the EIS Guidelines are met.

Moreover, as stated in the Preamble of the NLCA, an objective of the NLCA is to provide for the right of Inuit to participate in decision making concerning the use, management and conservation of their land, water and resources, including the offshore. This right to participate is reflected in Parts 4 and 5 of the NLCA. Section 12.5.5 requires the Board to consider the priorities and values of the residents of the Nunavut Settlement area when fulfilling its mandate. Section 12.2.24(a)(i) requires the Board at public Hearings, to the extent consistent with the broad application of principles and natural justice and procedural fairness, to give due regard and weight to the tradition of Inuit oral communication and decision making. Without critical environmental assessment information available to NIRB, the parties, and in particular the Inuit, risk losing this right to participate in decision making concerning the use of their land because regulatory and other approval forums may not foster and protect this right to the same extent. This is an important consideration for the Board when determining whether the Part 5 impact assessment information requirements have been met.

In conclusion, the Board finds that there is sufficient evidence to determine that the wildlife mitigation plan filed with the FEIS does not meet the formal or substantive requirements of the EIS Guideline requirement for a wildlife monitoring and mitigation plan such that the Board has the required information necessary to complete its assessment in accordance with its mandate. Nor is the planning provided by the

⁹⁰ Exhibit No. 32.

Proponent sufficiently robust such that the Board could place confidence in the existing plan to effectively respond to unforeseen adverse environmental effects.

Overall, the Board believes the potential adverse impacts and cumulative impacts of this Project on wildlife, and in particular regional caribou herds are potentially significant, have not been properly analyzed, nor mitigated in accordance with the NLCA's Part 5 requirements. However, even if the Board were to find that the outstanding wildlife matters were not so significant that it prevented the Board from fulfilling its mandate, at this time the Board believes it is not a legally appropriate option to delegate this environmental assessment decision to the regulatory authorities.⁹¹ Specifically, the Board accepts the GNDOE's statement that since the Nunavut Wildlife Act is relatively new, and the Government of Nunavut is just in the process of developing regulations, it is in the best interests of the Board, and more importantly in the Board's view in the best interests of the existing and future well-being of the residents and communities of Nunavut, to address the important matter of wildlife well-being before proceeding to the regulatory process.⁹² The Board finds support for this decision in the Article 12.12.5 requirement to make its decisions in a manner consistent with not only Article 5 and the wildlife conservation principles contained therein, but also in the Article 12 definition of ecosystem within which wildlife play a critical role.

Issue #2: Has MHL provided the required information regarding Tail Lake water quality and water management strategy?

The Proponent has committed to meeting both the Metal Mines Effluent Regulations (MMER) criteria in Tail Lake prior to discharging water to Doris Creek, as well as the CCME Guidelines at the waterfall in Doris Creek after receiving water from Tail Lake such that water will be discharged from Tail Lake into Doris Creek only if the resulting discharge satisfies the relevant requirement for both the sending and receiving water bodies.⁹³ This means that if either one of these requirements cannot be met then water cannot be discharged from Tail Lake into Doris Creek. Instead the water must be held in Tail Lake.

⁹¹ See NLCA section 12.10.1.

⁹² Gladis Lemus, Government of Nunavut, Department of the Environment, Transcript, Volume 2, July 12, 2004, pp. 500-501, lines 24-4.

⁹³ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 124-125, lines 19-13.

The result is that the water management strategy proposed by the Proponent is, to say the least, complex. Generally from the evidence, the Board has identified four steps that must be considered to assess the overall feasibility of the Proponent's water management strategy. First, the Proponent must understand what mechanisms, from both the nature of the mine operations resulting in discharges to the lake and from subsequent natural processes occurring in and around the lake, will affect the water quality in Tail Lake so that the quality of the water that will need to be discharged from Tail Lake can be predicted. Second, the Proponent must show that given the pre-discharge or background water quality in Doris Creek it is feasible for water of the quality predicted for Tail Lake to be safely discharged into Doris Creek. Third, the Proponent must demonstrate an ability to eventually assess and monitor the water quality of both Tail Lake and Doris Creek in order to assess in a timely manner if the discharge of water is occurring consistent with its commitment to meet MMER and CCME requirements. Fourthly, the Proponent must show that if the discharge is not possible, that Tail Lake has the capacity to hold the water, including run-off into the lake, until discharge can safely take place.

On the first two steps, the Proponent identified copper as the metal of the most significant concern, both in terms of predicted water quality in Tail Lake and in the Doris Creek background water and it is likely the controlling parameter for the volume of discharge that can be achieved.⁹⁴ The Proponent in its presentation to the Board identified an issue with respect to the baseline water quality monitoring data that is available to date, resulting in doubts with respect to the actual copper concentration in the discharge from Doris Lake.⁹⁵ As a result, additional sensitivity analysis was completed by the Proponent and presented for the first time at the Hearing but not in enough time to convince either the parties or the Board this analysis was sound.

In response to the final submissions of INAC and in some cases other parties, including EC and NRCAN, the Proponent also read into the Hearing record⁹⁶ additional new, detailed information to assess a number of potential impacts, including: the loadings to Doris Lake and Tail Lake from the surface roads to be constructed, the road turnouts,

⁹⁴ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 126-127, lines 11-6.

⁹⁵ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 127, lines 19-13.

⁹⁶ At the request of the Board the written statement was filed with the Board as Exhibit No. 5 (hard copy) and Exhibit No. 6 (electronic copy).

the float plane dock and the emergency spill containment embankments⁹⁷; the use of brine in underground mine workings⁹⁸; the release of salinity from the permafrost meltback or thawing that would occur as the water level in Tail Lake rises⁹⁹; and the implications of explosive residue that would remain with the waste rock and underground workings.¹⁰⁰

On the matter of the third step, demonstration of the ability to monitor the water quality of both Tail Lake and Doris Creek in order to assess in a timely manner if the discharge of water is occurring consistent with its commitment to meet MMER and CCME requirements, INAC questioned the Proponent on the monitoring process that will be required for the four months each year that water is planned to be discharged. The Proponent agreed that a “carefully planned and worked out and managed discharge scenario is required”.¹⁰¹ This would include ongoing water sampling at Tail Lake and Doris Creek, lab analysis to quantify components such as copper in the water, and estimation of the creek flow, as well as the protocol for commencing and ceasing discharges as required to comply with the MMER and CCME criteria. The Proponent confirmed that there will have to be careful management of water discharges for at least nine years and possibly as long as 17 years.¹⁰²

The Board has three concerns with the evidence in the preceding two paragraphs. First, MHBL has not provided to the Board, in either the FEIS or in its evidence to the Board, the basic elements of the management plan or the potential adverse effects on the environment of discharges that are non-compliant. Second, by MHBL’s own testimony, their record on monitoring water quality may not be a strong one. When discussing predicted copper concentrations contained in the FEIS, the Proponent stated:

The interpretation of the data is correct as stated, however, we wish to state that there was some uncertainty with some of the baseline work that was done in the past, in particular, with the QA/QC work that was related to some of the samples that were undertaken. For that very reason, Miramar is undertaking a very extensive monitoring program this season, and that monitoring will be ongoing

⁹⁷ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 134-135, lines 11-24.

⁹⁸ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 135-137, lines 25-19.

⁹⁹ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 137-139, lines 22-19.

¹⁰⁰ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 139-141, lines 20-2.

¹⁰¹ Neil Hutchinson, Indian and Northern Affairs Canada, Hugh Wilson and Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 4, July 14, 2004, pp. 917-921, lines 3-22.

¹⁰² John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, pp. 309-310, lines 25-14.

throughout subsequent seasons to address any issues related with the baseline water quality.¹⁰³

Clearly, correct interpretations on incorrect data will not result in correct conclusions. The Board believes that both the baseline data necessary to determine if the discharge scenario is feasible from the outset, and the key elements of the water quality and discharge management plan, including an assessment of potential adverse environmental effects, should be in place as part of the environmental assessment process. Without this information, the Board cannot make the determination, as required by section 12.5.5(b), as to whether the project would unduly prejudice the ecosystemic integrity of the Settlement area.

Third, the Board acknowledges that the Proponent presented a significant number of additional assessments at this Hearing to respond to errors in the baseline data and to address water quality concerns raised in the submissions of the parties. Moreover, the Board accepts that this information may eventually satisfy the outstanding issues. However, the intervening parties raised concerns about their ability to receive and review that underlying data, the analysis and the resulting conclusions that were drawn by the Proponent in a short period of time with the limited resources available at the Hearing.¹⁰⁴ Through the course of the Hearing, the Proponent argued that if the water discharge to Doris Creek is not possible, Tail Lake has the capacity to hold the water, including run-off into the lake, until discharge can safely take place.¹⁰⁵ Moreover, there is a contingency proposal to treat the water if the situation arises where MHLB had to discharge water.¹⁰⁶ This leads to the fourth step in this analysis, the Proponent must show that if the discharge is not possible that Tail Lake has the capacity to hold the water, including run-off into the lake, until discharge can safely take place.

¹⁰³ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, pp. 318-319, lines 25-8.

¹⁰⁴ For example, KIA commented “And the concern I have on behalf of KIA is that unlike the company which has a small army here with it, and DIAND, who are not short of foot soldiers either, we have two people, and we are really not in a position to reassess this information on the short term. And so we certainly don’t –we would not support any kind of delay or adjournment of the hearing...But we would like to see that information and have an opportunity to think about it and then to reply in writing at a later date if our consultants indicate that this information has affected our position. So I would say finish what we are doing this week, get what we need from Miramar to explain what, if anything, in the material presented is new and any backup that the experts might need to assess that, and then give us an opportunity subsequently to reply in order that we can indicate how that affects the positions that we have advanced in the hearing. So that would be my suggestion, Mr. Chairman.” John Donihee, Kitikmeot Inuit Association, Transcript, Volume 2, July 12, 2004, p. 249, lines 2-24.

¹⁰⁵ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 319, lines 9-15.

¹⁰⁶ John Chapman, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 319, lines 16-20.

Holding water in Tail Lake is governed by the construction of two dams, one at the north and one at the south, to isolate the impoundment and ensure that no negative environmental impacts take place.¹⁰⁷ While it has generally been agreed by the Proponent and parties that the proposed frozen-core dams are appropriate for this project, INAC has expressed concern that the proposed construction methodology, including the physical properties of the materials that will be used for the core, which was presented by the Proponent as the ultimate line of defense against seepage, may impact the long term stability of the structures.¹⁰⁸ In particular, INAC is concerned about the unprecedented design of the structure:

The concern we have is that by constructing the dam core using the fine material, the glacial marine clays and silts, under winter conditions as they are proposed, you are not going to get the kind of core material that you would get if you built the dam under summertime, southern temperate-type conditions where you would have a fairly high-strength impervious core that is stable. Our concern is that under this scenario where the permafrost disappears, the excess ice in the core and the thawing of the foundation would lead to stability problems within the dam. So we have a potential impact of the structure not meeting its performance requirements. And so for that reason, our concern is the constructability with the glacial marine silts under Northern conditions, under winter conditions, which I don't think is preceded in the North.¹⁰⁹

MHBL has acknowledged all of the issues INAC has raised, including that the design is unique in that it uses fines as opposed to proven designs using coarse materials¹¹⁰, that the material is a key component of the dam and so must be appropriately characterized before it can be confirmed for use¹¹¹, and that there is a potential for excess ice in the

¹⁰⁷ Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 60-61, lines 12-2

¹⁰⁸ Holger Hartmaier, Indian and Northern Affairs, Transcript, Volume 2, July 12, 2004, p. 326, lines 15-20, and pp. 327-328, lines 18-9.

¹⁰⁹ Holger Hartmaier, Indian and Northern Affairs Canada, Transcript, Volume 2, July 12, 2004, pp. 334-335, lines 9-1. Specifically, INAC recommended that prior to environmental assessment MHBL should “1. Engage an independent third party dam engineering consultant in good standing with the NWT/Nunavut Association of Professional Engineers and Geoscientists (NAPEG), with experience constructing frozen core dams in the north, to review the proposed construction procedures in light of INAC’s concerns regarding dam construction feasibility and potential environmental impacts; 2. Provide conceptual design details that must address the potential for settlement and deformation in this area due to melting of excess ice in the foundation; and 3. Provisions for active freezing using thermosyphons, should be investigated by MHBL as a contingency to ensure that the core remains frozen, or use of an HDPE line to prevent water from reaching and warming the frozen core.” Indian and Northern Affairs Canada, Technical Review of the Final Environmental Assessment Impact Statement of the Proposed Doris North Gold Mine, June 25, 2004, p.25, para. 4-6, and Exhibit No. 21, p. 3.

¹¹⁰ Maritz Rykaart, , Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 335, lines 15-19.

¹¹¹ Michael Noel, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 332, lines 5-9.

material.¹¹² MHBL's position is that these concerns can either be compensated for through the design of the dam, or if the characterization of the material is such that the design cannot be achieved, then MHBL will convert back to a more conventional design as "this design, as proposed, is not the design that Miramar is necessarily banking on without doing the appropriate engineering."¹¹³

It is the Proponent's view that because the environmental impacts of the project are the same under either construction method the final engineering for the dam is not needed at the environmental assessment stage.¹¹⁴ Rather, it can be addressed further at the regulatory phase as a part of the application for a water license before the Nunavut Water Board.¹¹⁵

The Proponent cites the recent NIRB decision for Tahera, in particular recommendation 36, requiring more detailed engineering, design drawings and information about its dam and other structures to be submitted to the Nunavut Water Board as precedent for NIRB managing the transition from the environmental assessment decision to the regulatory authority.¹¹⁶ The Board concurs with MHBL and has demonstrated in the Tahera decision, that an option open to the Board is to make it a term and condition of the project certificate that the proponent shall do further studies for presentation to the Nunavut Water Board. However, as discussed in an earlier section of this report, the Board may do this only once it is satisfied it has fulfilled its own mandate, which is impact assessment. A term and condition to verify compliance is only appropriate if sufficient information is made available to first assess the environmental effects, it is not appropriate as a delegation of the environmental assessment process. In this case, the dam itself, which holds back Tail Lake, is a huge mitigation for all of the subsequent adverse effects on the environment.

As stated by INAC, a significant difference between the dam proposal in the recent Tahera FEIS and the MHBL dam proposal currently before the Board is that Tahera demonstrated to the satisfaction of the Board that the proposed design was a technically feasible structure that would mitigate the environmental impacts it was intended to

¹¹² Michael Noel, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 333, lines 10-13.

¹¹³ Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, pp. 336-338, lines 3-2.

¹¹⁴ David Long, Miramar Hope Bay Ltd., Transcript, Volume 6, July 16, 2004, p. 1543, lines 16-20.

¹¹⁵ David Long, Miramar Hope Bay Ltd., Transcript, Volume 6, July 16, 2004, pp. 1543-1544, lines 21-4.

¹¹⁶ Brad Armstrong, Miramar Hope Bay Ltd., Transcript, Volume 3, July 13, 2004, p.782, lines 16-24.

mitigate.¹¹⁷ In this case, the Board is concerned that the proposed construction of the dam is unique and unprecedented (and the Board notes this is despite David Long's statement to the Board in his presentation that no unproven techniques are being used at the Doris North Project¹¹⁸) such that additional information including characterization of the borrow source is required to determine the *technical feasibility* of the dam. NRCan stated that this characterization of the borrow source is also important because it may impact the selection or extent of the required borrow site:

We recommend, therefore, and support the proponent's commitment to conduct additional investigations to characterize the borrow deposit as part of their final detailed design for the dams. Now, if insufficient material -- or if sufficient material is not available at that site, the proponent must either locate a new site from which to extract this material or propose alternatives to the dam design. And it appears that they are committed to locating the borrow source area within the footprint of Tail Lake, and they have not indicated how they may design the dam in a different way if they could -- if they cannot find suitable material at that site.¹¹⁹

Further, the Board considered the potential adverse impacts that could occur if the dam is not stable, particularly for a mine requiring a lengthy post closure period with unknown environmental effects. These impacts include the risk of seepage, as well as a dam failure. In response to a question from INAC regarding the impact of a north dam failure the Proponent responded:

...there certainly would be an impact. The impact would be that the material of which the dam was constructed would result in a sediment load in Doris Creek and that would be an impact.¹²⁰

That was likely an understatement. The Board presumes that in addition to the sediment load, there is a potential for flood effects in Doris Creek, as well as the negative impacts resulting from the discharge of water that exceeds the MMER and/or CCME criteria discussed earlier in this report.

While the Proponent argues that the likelihood of a dam failure occurring is low, the Board cannot accept this conclusion without greater assurances that the plan for a

¹¹⁷ Stephen Traynor, Indian and Northern Affairs Canada, Transcript, Volume 3, July 13, 2004, p. 783, lines 1-16.

¹¹⁸ "We have conducted much work to assess the impact of the Doris North Project may have on the Environment. Because the Doris North project will be a small conventional gold mine, there will be no unproven techniques being used.", Transcript, Volume 1, July 11, 2004, p. 20, lines 10-12.

¹¹⁹ Sharon Smith, Natural Resources Canada, Transcript, Volume 2, July 12, 2004, p.515, lines 6-20.

¹²⁰ Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 295, lines 2-5.

sound and technically feasible dam design is in place. David Long, in his presentation of the project to the Board on behalf of MHBL, acknowledged the importance of determining a suitable borrow source in the assessment of alternatives for infrastructure components, stating:

As per the environmental assessment process, Miramar has taken a serious look at alternatives for all the various infrastructure components that has been adopted, critically reviewing all alternatives and reviewing the options that are left to them. Construction material borrow sources is an important aspect and a consideration to Miramar in the design of these components and carried a significant weight in the design of these components.¹²¹

Thus, the Board believes that the information necessary to determine the technical feasibility of the dam is most appropriately a key element at the environmental assessment stage. The Board further notes that its determination on this matter is consistent with recommendations to the Board by both NRCan¹²² and INAC¹²³ which the Board accepts.

A second issue related to the long term capacity of Tail Lake to contain water is the issue of shoreline stability. Both NRCan and INAC have raised concerns that rising water levels will have an impact on shoreline stability. NRCan provided the following evidence:

There is ice-rich material widespread around the periphery of Tail Lake. And as the lake level rises there is the potential that the permafrost will thaw. When these ice-rich marine sediments thaw, you would -- this can lead to erosion, solifluction and slumping, and an increased suspended sediment load to the lake, and this is important from the water quality point of view. We recommend -- we realize that the proponent has done a preliminary study of the sensitivity of the shoreline to erosion. They have produced a slope map, and they have indicated that the marine sediments are not located on the steeper slopes. We would suggest to them, however, that these slope movements can occur on much

¹²¹ Transcript, Volume 1, July 11, 2004, p. 45, lines 7-17.

¹²² "...Miramar must locate a suitable borrow deposit or propose alternatives to the dam design. We feel that...alternatives discussion of dam design is definitely needed at the EA phase. And not just a commitment to a contingency, but what is that contingency." John Ramsey, Natural Resources Canada, Transcript, Volume 3, July 13, 2004. p. 578, lines 13-18.

¹²³ "...we submit that the technical feasibility of the dam is an environmental assessment issue, because the Board needs to be convinced that this key mitigation tool will work in order for the impact analysis presented in the Final EIS to be correct. The mine is only going to operate for two years, but there will be a need for mitigation and management of the facility for many years beyond that in order for it to be...for it to continue to be effective. The dam will always need to hold back at least one metre of water. There will also be issues of shoreline erosion.", Stephen Traynor, Indian and Northern Affairs Canada, Transcript, Volume 6, July 16, 2004, p. 1514-1515, lines 25-11.

gentler slopes than shown on their map. We would recommend that they do the further detailed characterization of the sensitivity of shoreline to permafrost degradation and erosion.¹²⁴

INAC provided similar evidence, stating that:

...one can assume that all those slopes around Tail lake are in some state of mass movement, and our concern is that by changing the thermal regime in the permafrost, the ice lenses in the permafrost are going to melt out, create even more water in the slope, and that the extent of the stability – instability around the shoreline as predicted by Miramar is going to be -- they would underestimate the extent of potential instability.¹²⁵

The Proponent agreed that there is a significant shoreline that can be impacted, however, argued that there is no known method to accurately determine what the impact would be and that ongoing monitoring and mitigation will be required beyond the operational stage.¹²⁶ The lack of known methods to assess the impact was not disputed by the parties; in fact INAC agreed that this was the case.¹²⁷

The implications of this information are twofold. First, it emphasizes the importance of ongoing monitoring and related mitigation efforts that will be required at the site well beyond the short two years of operation. This in turn raises the issue of whether the cost implications of monitoring and mitigation to ensure shoreline stability have been considered in the assessment of tailing disposal alternatives at this stage.

The last issue related to water quality is the contingency proposal to treat the water if the situation arises where MHBL had to discharge water. The Proponent has committed to constructing a treatment plant should it be required, although it believes that this is an unlikely event.¹²⁸ A series of water treatment methods and strategies were proposed and a three year lead time given to design, implement and construct an appropriate facility.¹²⁹ The requirement for a treatment plant could have a significant impact on the post closure requirements for this project, including the physical construction of the plant as well as the on-site personnel and related facilities required for the ongoing operation of the

¹²⁴ Sharon Smith, Natural Resources Canada, Transcript, Volume 2, July 12, 2004, pp.515-526, lines 22-15.

¹²⁵ Holger Hartmaier, Indian and Northern Affairs Canada, Transcript, Volume 2, July 12, 2004, p. 344, lines 8-17.

¹²⁶ Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 346, lines 4-10.

¹²⁷ Stephen Traynor, Indian and Northern Affairs Canada, Transcript, Volume 2, July 12, 2004, p. 347, lines 26-3.

¹²⁸ Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 4, July 14, 2004, pp. 909-910, lines 15-4.

¹²⁹ Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 4, July 14, 2004, p. 910, lines 5-11.

plant. While it may not be possible to determine the exact requirements for such a facility at this time, the Board believes the EIS Guidelines requires specific consideration be given to the potential adverse environmental effects and socio-economic impacts of this alternative.

Issue #3: Has MHLB adequately considered alternatives to the use of Tail Lake for tailings disposal?

The requirement to assess alternatives to the project and alternative ways of carrying out the project, including assessing the economic, technical, biophysical, social, and cultural impacts, is set out in section 4.11 of the EIS Guidelines:

4.11 Alternatives

The Proponent shall describe alternatives to the Project, including the “No-go” or no-project alternative and other locations within the Kitikmeot Region or Nunavut, if any, where the Proponent could conduct the types of activities proposed. It shall also consider alternative ways of carrying out the Project (i.e., alternatives to Project components or activities, including different locations or timings for such activities or components, that might have differing environmental or socio-economic effects). In each case, the Proponent shall give the reasons for selecting the preferred alternative and for rejecting the others, including economic and technical analyses of each alternative and the associated biophysical, social, economic, and cultural impacts.

In the Proponent’s FEIS and supplementary documents a number of tailing disposals alternatives were considered, including on-land disposal, disposal into four different lakes (including the closure of Tail Lake as well as partial use of the Lake), submarine tailings disposal within Roberts Bay, and mine backfill.¹³⁰ MHLB concluded as a result of its assessment that Tail Lake is the most viable alternative for tailings disposal.¹³¹

As discussed in the previous section, the Board believes that the need to confirm the technical feasibility of the dam design, and in particular the availability of appropriate borrow sources, and consideration of the ongoing shoreline stability monitoring and mitigation costs may effect the outcome of the economic and technical assessments of the tailing disposal alternatives. Consideration of the potential environmental and socio-economic effects of a water treatment plant may also affect the outcome of the alternatives analysis.

¹³⁰ David Long, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 57-58, lines 16-25.

¹³¹ David Long, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 59, lines 11-16.

While the Proponent was fully satisfied with eliminating Tail Lake from the ecosystem as it is now, not all of the Elders or residents agree. On the basis of the evidence provided at the Hearing, the Board is concerned that the affected residents may not have been adequately consulted on the alternatives for tailings disposal. Johnny Lyall, a Cambridge Bay resident, told the Board:

...we don't want any of the fish populations destroyed whatsoever in these lakes...we have to really explore and not disregard fish...please pay high regard to this matter.¹³²

Photo 10: An Elder in Cambridge Bay (Johnny Lyall) making a comment.



On the same matter, Eddie Kikoak, an Elder at the Hearing in Gjoa Haven, stated:

Now, as Inuit, we look for food for us, and trout is our food source, and trout is our delicacy, that makes number one fish chowder for us...I don't believe that you are going to destroy a fish lake just to get two years of gold in there and take off and go somewhere else with your money. But us, what are we going to get, with no disrespect to your company and everyone else that's involved in this matter, I want to see more studies on Tail Lake. With the money you are going to make, why don't you create that open pit for discharging or cover it or do something with it so the birds don't get at it? From an Elder's point of view, 20 years...30 years, 50 years down the road, my great grandchildren, or your grandchildren or great-grandchildren will want to go fishing somewhere else, and we always look for lakes who have the best fish in it, don't forget that. Now, for two years worth of gold, to me it is not worth it. I would rather have my food source than the gold.¹³³

¹³² Transcript, Volume 2, July 12, 2004, pp. 454-455, lines 14-13.

¹³³ Transcript, Volume 4, July 14, 2004, pp. 873-874, lines 24-22.

Similarly at the Hearing in Kugluktuk, Peter Kamingoak stated:

...we talked about a river, that river, they want to use that river in the project, and within two years, you know, if you destroy a river just for two years, I don't agree with that destruction of the river. Our land should not be destroyed, whether it is from a mining company or not. That's not a good idea.¹³⁴

Moreover, several concerns have been raised regarding the No Net Loss Plan designed to mitigate the loss of fish habitat which will result from the closure of Tail Lake. Remember, this is a two year mine and from the evidence, it is not clear to the Board that the potential adverse effects of the Tail Lake closure on the wetlands at the confluence of the Tail Lake outflow, and Doris Lake on fish and fish habitat has been adequately assessed.¹³⁵ The testimony from MHBL is that the wetlands will not be destroyed but rather “temporarily suspended but, will be re-established once flow from Tail Lake to the Doris outflow area is re-established.”¹³⁶ Subsequent testimony established that the “temporary suspension” for some components will be approximately 17 years.¹³⁷ While it is arguable whether 17 years amounts to a “temporary suspension” or is in fact a destruction of the wetlands, the length of time is such that the Board believes that potential adverse impacts for fish and the related habitats from both Tail Lake and Doris Lake should be more thoroughly assessed for potential environmental effects and mitigation methods developed accordingly, as required by NIRB's Part 5 Review Standards. This information also must be carried forward and properly considered in the analysis of tailings disposal alternatives.

In its presentation, KIA gave evidence that it will not consider other alternatives for tailings disposal on Inuit owned lands,¹³⁸ and in particular for a two-year mine.¹³⁹ While the basis for this decision was not made clear to the Board,¹⁴⁰ the Board acknowledges

¹³⁴ Transcript, Volume 6, July 16, 2004, p.1361, lines 12-18.

¹³⁵ See the questions and answers on this matter between Tania Gordanier, Department of Fisheries and Gary Ash, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, pp. 366-368, lines 17-1.

¹³⁶ Ben Hubert, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 368, lines 4-9.

¹³⁷ Tania Gordanier, Department of Fisheries and Oceans and Ben Hubert, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 368, lines 13-17.

¹³⁸ Transcript, Volume 3, July 13, 2004, p. 603, lines 15-18.

¹³⁹ Charlie Evalik, Kitikmeot Inuit Association, Transcript, Volume 6, July 16, 2004, pp. 1497-1498, lines 24-2.

¹⁴⁰ In response to questioning on this aspect of KIA's presentation, John Donihee said “This is the instruction provided by Mr. Evalik and the KIA and his management team to us when we prepared and began discussing this development for reasons associated with difficulties in other areas of Nunavut. KIA is not interested in having land-based tailings disposal, and you know, that's our position.” Transcript, Volume 3, July 13, p. 614, lines 8-14.

that it is KIA's position and it is their decision as a landowner. KIA did, however, also state that "if, in the future, the project changes, KIA will consider other tailings disposal methods based on the information provided at that time."¹⁴¹ The Board hopes and is confident that KIA as the landowner and as an organization with obligations to the Inuit population will hear all of the evidence on the alternatives before making a final decision on the matter.

Issue #4: Has MHL provided the required information regarding the jetty design?

The project requires a jetty to be constructed through a shallow section of Roberts Bay in order to allow for barges to moor and off-load onto the site. The jetty will likely remain after the ceasing of operations in order to support ongoing exploration in the Hope Bay Belt and perhaps longer.¹⁴²

The jetty design is not final at this stage at all. While several alternatives are currently being considered, the Proponent believes that a final design decision can be taken at the regulatory phase because in their mind the impacts of the jetty are expected to be very small:

There is a number of alternative jetty designs that are under consideration. In the original Environmental Impact Statement submitted by Miramar, the jetty was proposed to be a complete rockfill structure as illustrated by the first slide. Subsequent to that, a number of the interveners raised some issues with regard to this design and requested that Miramar consider some alternative designs which may minimize any potential impacts that this jetty may have. The alternatives that has been presented and which have been documented in the supplemental information consists of a rockfill structure but allowing flow through the structure by placing a number of large diameter culverts. Alternatively, the structure can consist of a number of free-standing bridge segments which are supported by pile foundations...More alternatively by a combination of any of these methods. Miramar has not made a final decision as to which of these alternatives it will be constructing. It will be in negotiation with the relevant authorities to ensure that the appropriate design is being constructed. Miramar has committed, will be constructing a jetty that will minimize impacts. Although it should be said that based on the baseline information and all the information that's been gathered with regards to the potential impact of the jetty, it is understood, and it is Miramar's understanding that the interveners agree that the impact of the jetty is very small.¹⁴³

¹⁴¹ Charlie Evalik, Kitikmeot Inuit Association, Transcript, Volume 6, July 16, 2004, p. 1498, lines 2-5.

¹⁴² Larry Connell, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 168-169: lines 2-2.

¹⁴³ Maritz Rykaart, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 48-49, lines 16-23.

However, the DFO, with regard to fish habitat, and NRCan, with regard to shoreline impacts, do not agree with MHL that the impact of the jetty is “very small”. For example:

...DFO does not believe that the impact of the jetty is very small because that habitat that it will occupy and the surrounding area that it will affect has uses of a spawning area and other uses for various species. And there is also, I believe, that area that is prone to siltation and would have to receive consideration in that regard as well... with the closing of the mine, what happens to the jetty? Will that be reclaimed in some manner that is even more beneficial to fish? Will it be removed entirely, or what happens to the jetty at the time that the mine closes?¹⁴⁴

With regard to the DFO’s question on the reclamation plans for the jetty, MHL advised that this would be determined by the final design of the structure.¹⁴⁵

NRCan raised several issues with the Proponent which has resulted in commitments for further studies required to finalize the jetty design, including an evaluation of the foundation conditions (material beneath the jetty and the seabed), the storm surges, the wave heights, sea ice pressures, and pressures caused by the barges.¹⁴⁶ NRCan has also stated that there is potential for coastal shoreline erosion as a result of the jetty:

The jetty will act as a barrier to longshore transport of sediment. And what this means, because you are interrupting the current or the longshore current, you are also interrupting the movement of sediment. So on the down-drift side of the jetty, you can have enhanced erosion. However, there is insufficient information available to evaluate the potential for erosion. There is, however, a sand body in about five metres of water, and that suggests that perhaps the wave or current activity is sufficient to prevent fine sediment from depositing, so you could have erosion of that sediment. So what’s required from the proponent there is a more comprehensive evaluation of the currents at the head of Roberts Bay in the vicinity of the jetty, and that needs to be done prior to construction to examine the potential for erosion. And the proponent could also consider analyzing cores from this sand body, because you may get a record of extreme events in the magnitude of the currents that do occur in that area, so that may provide them with additional information on that.¹⁴⁷

Based on this evidence, and while the Board recognizes that NRCan was not providing evidence as the lead licensing authority,¹⁴⁸ NRCan’s evidence was sound; the Board

¹⁴⁴ Joachim Moenig, Department of Fisheries and Oceans, Volume 2, July 12, 2004, p. 375, lines 4-21.

¹⁴⁵ Hugh Wilson, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, pp. 375-376, lines 24-2.

¹⁴⁶ Sharon Smith, Natural Resources Canada, Volume 2, July 12, 2004, pp. 519-520, lines 25-5.

¹⁴⁷ Sharon Smith, Natural Resources Canada, Volume 2, July 12, 2004, pp. 521-522, lines 6-2.

¹⁴⁸ At the Hearing John Ramsey made it clear to the Board that NRCan’s involvement in these proceedings was triggered by the *Explosives Act* and that NRCan is not the lead agency in other matters. The Board

believes that the jetty may have more than the “very small impact” that was concluded by the Proponent. The jetty has implications for the assessment of environmental impacts on both fish habitat and the coastal shoreline.

The design of the jetty is evolving. The Proponent has described a number of alternatives with the expectation that the environmental effects of the infrastructure eventually chosen will be addressed at later stages of the regulatory process. The problem with this approach is that NIRB cannot fulfill its section 12.5.5 mandate because it cannot know or even glean from the information filed to date what the assessment of the future risks to the environment are based on, nor can the Board assess the adequacy of any steps that may be proposed to avoid or mitigate the adverse impacts. Therefore NIRB cannot perform its Part 5 review function and this is a duty that cannot be delegated.

On this matter, the Board concludes that the necessary evaluations must be undertaken so that the selection of the design of the jetty can be done and the potential environmental impacts assessed, with appropriate mitigation and monitoring measures established, during the environmental assessment phase.

Issue #5: Has MHL provided the required information regarding the socio-economic impacts of this project?

A major issue identified at the Hearing is that there is a lack of consideration of the socio-economic impacts on the residents and communities that will be affected by this project.

The Hamlet of Kugluktuk is currently participating in the operation of three mines and one advanced exploration property and has direct, pertinent experience with mine development.¹⁴⁹ The evidence provided by the Mayor Peter Taptuna of Kugluktuk provided the Board with a clear picture on how mining can affect the local community families, the work that is being done by the Hamlet to mitigate these impacts, and the challenges the community’s mitigation work faces:

appreciates the position under which NRCan gave evidence, and found the evidence as well as NRCan’s knowledge of impact assessment to be well put together.

¹⁴⁹ Peter Taptuna, Mayor, Hamlet of Kugluktuk, Transcript, Volume 6, July 16, 2004, p. 1454, lines 17-26.

Final Hearing Report for the Doris North Gold Project

Over the last seven years, the hamlet has generated a number of guiding documents and project initiatives in order to improve the health and prosperity of residents of this community... These documents clearly outline the main economic, social and wellness issues that exist in Kugluktuk, and the desires of our community to see improvement and change for the benefit of our residents.

Through these documents [the] community attempts to develop partnerships with other groups to meet the needs of our community. Recently, in the review of the Tahera diamond project, recently committed our community submission, clearly referenced these fundamental foundational documents and the social impacts that we are seeing in Kugluktuk from mining.

We have every reason to [believe] that these social impacts will continue to be accentuated with each and every new mine that is developed in the Kitikmeot, the Doris North mine included.

We have knowledge that the level of substance abuse in our community is high, Innuinaqtun use is declining, crime rates are high, employment levels remain relatively low in the face of fairly abundant wage opportunities. We do not know how much these issues have been made worse by increased wage employment, rotational shift work, and it appears no one near the IPGs, the government nor the proponent can provide the tools to manage a careful examination of this question.

We have knowledge that the supporting...our residents and businesses being involved in mining takes a great deal of effort and technical training, life skills training, family support and physical infrastructure. Making mining a successful and positive development for our community requires the work of not only the hamlets, the proponents, but many government and Inuit agencies.

It is unclear to our municipality how the Doris North mine project will relate to these main social issues affecting our community or assist us in our community development efforts. It is also unclear how successful the proponent could be in addressing negative social and cultural impacts from development since we do not know where the government program delivery agencies active in our community, such as the Department of Health and Social Services, Department of Justice, have any capacity or willingness to work with the company to achieve these results.

If the Doris North Final EIS does not reflect its importance on relevant community initiatives in the view of our council, it is not a direct failing of the project proponent, Miramar Hope Bay Limited, but rather, in part, reflects broadly on a manner in which mining developments are approved and actions of the groups and agencies involved.

It is our community experience that the process for allowing mine development in Nunavut has some faults that are shown in review of the Doris North Project. And I will be free to say that there is -- the faults are indicating are for every hearing, there is social problems that every community faces, and we don't see the Department of Social -- Health and Social Services here, the Department of Justice is not here. In order for our community or any other community to fully

consider whether a mine or any development should proceed requires full knowledge of potential cost and benefits of the project.

The public and the institutions that represent us must be in a position to weigh all known positive and negative impacts of the projects, such as the Doris North Project, in order to make an informed decision on whether these projects should proceed to capitalize on the intrinsic mineral wealth of our area. However, we find the consultative process and the structures guaranteed to us have not only been partly successful -- have only been partly successful in achieving this.¹⁵⁰

The presentation by the Hamlet of Cambridge Bay identified a number of specific community health and wellness issues that must be addressed, including community health and wellness issues such as no consultation on baseline data or existing programs available, the current case load for wellness programs or data presented as to effects on case loads from other “fly in/fly out” projects which are known to increase social problems, that information about family violence, suicide and elder abuse gathered from Elders did not become part of the VSECs, and while alcohol and drug abuse were identified as problems that develop from having more money in the community, there was no consultation with the Community Wellness Centre on possible mitigation.¹⁵¹ The Hamlet also raised concerns about existing Hamlet employees leaving to work at the mine site, causing the Hamlet to incur expenses related to replacing and retraining for those vacancies. Also noted was the need to create jobs, that do not require location on the mine site, such as human resources, payroll, finance and clerical positions, in one of the local communities, and provide cross-training to ensure employees that have held specialty jobs at the mine are employable after the mine closure.¹⁵²

The Hamlet of Cambridge Bay offered a number of recommendations, including the development of accurate baseline data through consultation with the Cambridge Bay Wellness Director, the Hamlet justice committee and RCMP, and company consultation with senior administration and the wellness, economic development and recreation committees of the Council to create mitigation measures, including through company

¹⁵⁰ Transcript, Volume 6, July 6, 2004, pp. 1454-1457, lines 7-18.

¹⁵¹ Exhibit No. 7, Hamlet of Cambridge Bay Presentation; also see Transcript, Volume 2, July 12, 2004, pp. 464-478.

¹⁵² Exhibit No. 7, Hamlet of Cambridge Bay Presentation; also see Transcript, Volume 2, July 12, 2004, pp. 464-478.

participation in community programs.¹⁵³ Regarding the adequacy of existing mitigation plans, the following general statement was made by Christopher King on behalf of the Hamlet:

...17 negative effects were identified. Mitigation identified in the plan is for community and company support, yet no plan has been developed with this community to do so.¹⁵⁴

The evidence provided by MHL at the Hearing regarding the extent of consultation with communities of Cambridge Bay, Kugluktuk, Gjoa Haven and Taloyoak is unclear. When asked to clarify that they had not specifically met with those groups to learn about their experience and impacts, the Proponent stated:

Yes, we have had consultation with those groups or have heard from those groups in the prehearing conferences and among other times, and Miramar staff have met with community representatives of Bathurst Inlet and Umingmaktok and other communities on several locations.¹⁵⁵

In other evidence regarding the Hamlet of Gjoa Haven, MHL stated that it has not met directly with representatives of the Hamlet.¹⁵⁶

INAC also expressed concern about the lack of consultation and findings related to individual families or other specified groups that might experience adverse effects.¹⁵⁷ Similarly, the Community Health VSEC groups together various different factors, for example factors relevant to individual and families are grouped together with those factors related to communities and populations, which has implications for the assessment methodology as well as the mitigation plan for effects that might arise amongst individuals and families.¹⁵⁸ Furthermore, while MHL made a general commitment to work with Kitikmeot communities, no specific commitments, such as a community liaison or community committee, have been made.¹⁵⁹

¹⁵³ Exhibit No. 7, Hamlet of Cambridge Bay Presentation; also see Transcript, Volume 2, July 12, 2004, pp. 464-478.

¹⁵⁴ Christopher King, Hamlet of Cambridge Bay, Transcript Volume 2, July 12, 2004, p. 473, lines 8-11.

¹⁵⁵ Robert Horal, Miramar Hope Bay Ltd., Transcript, Volume 2, July 12, 2004, p. 353, lines 21-26.

¹⁵⁶ Hugh Wilson, Miramar Hope Bay Ltd., Transcript, Volume 4, July 14, 2004, pp. 944-945, lines 25-2.

¹⁵⁷ Doug Brubaker, Indian and Northern Affairs Canada., Transcript, Volume 2, July 12, 2004, p. 354, lines 17-23.

¹⁵⁸ Doug Brubaker, Indian and Northern Affairs Canada., Transcript, Volume 2, July 12, 2004, p. 355, lines 6-22.

¹⁵⁹ Doug Brubaker, Indian and Northern Affairs Canada., Transcript, Volume 2, July 12, 2004, p. 357, lines 18-24.

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The Proponent has acknowledged that at least some of the concerns expressed by the Hamlets and INAC are valid:

Both Cambridge Bay and INAC were critical of the study methods used to obtain these impacts or examine these impacts. Many of the comments that they made are indeed very valid, on the other hand, when I looked at Alexandra Thomson's paper, which was, I believe, tabled document 4, I find that the comments from the community very closely reflect the issues that we dealt with in our report.¹⁶⁰

Moreover, the Proponent has acknowledged that cumulative socio-economic effects will occur:

There will be cumulative impacts as a result of the Doris North Project. As you know, at the same time as the Doris North Project plans to proceed, the Jericho project will be proceeding. The Snap Lake project in the NWT will be proceeding, and there will be continued high level of mineral exploration in the North Slave and on Victoria Island. All of these projects will be looking for people and services from the Kitikmeot region, and they will be competing. It is hard to say how much, what the cumulative impacts will be at this time, but I am convinced they will be in some cases moderate and could be severe. However, Miramar Hope Bay Limited is committed to work with the Kitikmeot communities and others to help them resolve the negative impacts, should they be negative, as they occur.¹⁶¹

From evidence provided by the Hamlets and KIA, the Board is aware that it cannot rely on the existence of an IIBA as the sole mechanism to mitigate socio-economic impacts.

From the Hamlet of Cambridge Bay's perspective:

...the primary concern is a lack of socio-economic agreement with the Hamlets...we have a concern that the Hamlet was excluded from the training-plan development we have been told is part of the IIBA. There has been no involvement with the Hamlets in establishing secondary and tertiary industry opportunities...another concern that we have is the reliance on the IIBA as the only document required to address socio-economic issues. Nunavut is unique, and it is the only region where the impact benefit agreements are negotiated with a body that is not responsible for social or wellness programs.¹⁶²

KIA agrees that this gap exists, stating that community health, crime and in-migration are VSECs considered by the company which would not be considered in a direct way in an IIBA.¹⁶³

¹⁶⁰ Robert Horal, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 229, lines 3-10.

¹⁶¹ Robert Horal, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 226, lines 11-26.

¹⁶² Christopher King, Hamlet of Cambridge Bay, Transcript Volume 2, July 12, 2004, pp. 463-464, lines 9-9.

¹⁶³ John Donihee, Kitikmeot Inuit Association, Transcript, Volume 3, July 13, 2004, pp. 594-595, lines 23-4.

The Board believes it is important at this stage of the Report to emphasize to the Proponent the importance of incorporating traditional knowledge into the FEIS. There is evidence in this section and in earlier sections of this report, such as wildlife mitigation methods and the consideration of alternatives to Tail Lake, that the Proponent may not be giving the same attention to traditional knowledge and Inuit views as to technical data and scientific analysis.

This is also reflected in the evidence provided by KIA:

Miramar did run a workshop on IQ....it is not immediately apparent from KIA's review of the FEIS what this IQ information was and how it was integrated into the impact assessment. It would have been helpful if Miramar had provided some details on the nature of the information derived from its research and workshop, how the IQ was used and how it actually affected the conclusions drawn in their FEIS.¹⁶⁴

This same concern is reflected in the evidence provided by Christopher King for the Hamlet of Cambridge Bay. He stated "In terms of IQ, we have some concerns. There was information gathered from Elders but [it] did not become part of the VSECs."¹⁶⁵

KIA's overall conclusion on the use of Inuit traditional knowledge is that "KIA is disappointed with the lack of consideration the proponent has granted Inuit traditional knowledge in the preparation of this assessment."¹⁶⁶ The Board agrees with KIA. The Board believes that gathering evidence from Elders, local residents and Hamlet representatives is an important part of complying with the FEIS requirements and for the conduct of the review process. This is consistent both with the NLCA objective of providing Inuit with input into decisions affecting their land, and with Article 12.¹⁶⁷

¹⁶⁴ Charlie Evalik, Kitikmeot Inuit Association, Transcript, Volume 6, July 16, 2004, p. 1400-1450, lines 13-1.

¹⁶⁵ Transcript, Volume 2, July 12, p. 467, lines 6-8.

¹⁶⁶ Geoff Clark, Kitikmeot Inuit Association, Volume 3, July 13, 2004, p. 607, 19-23.

¹⁶⁷ See in particular section 12.2.24(a)(i) and section 12.5.5(c).



Photo 11: Kitikmeot Inuit Association (Geoff Clark, Charlie Evalik and John Donihee) presenting in Taloyoak.

On the basis of the evidence provided at the Hearing, in order for the Board to fulfill the requirement in section 12.5.5(a) to take into account whether the project would enhance and protect the existing and future well-being of the residents and communities of Nunavut, the Board requires further and better information on the socio-economic aspects of this Project. In particular, the Hamlets must be consulted on potential adverse socio-economic effects and on related mitigation and monitoring plans.

The Board understands that the Proponent and the communities, even working together, may not be able to mitigate all of the adverse effects, nor is it the responsibility of the Proponent alone to mitigate all of the effects (e.g. the effects caused by others). However, the Board is of the view that it is necessary to understand the extent of the effects from a new mine in order to determine if the overall well-being of the residents and communities is being adequately protected and this must be done at the impact assessment stage. The Board also acknowledges that the project will also bring economic benefits to these communities and that these benefits must also be considered as part of the socio-economic equation.

3.6 Economic benefits

The Board accepts that this project would bring economic benefits to the communities. The Board understands that this is the first mine built on land where the Inuit own both

the surface rights and the mineral rights and that this means that the mine will generate extra benefits for the Inuit.¹⁶⁸ The surface land at the mine is administered by the KIA and the mine will generate revenue to KIA through payment of rent, quarry and other fees.¹⁶⁹ The mineral rights are administered by NTI and the mine will generate substantial revenue to NTI.¹⁷⁰ These are all positive benefits which are welcome in Nunavut, and which, frankly, are exciting.

As stated by the Proponent:

...the Doris North project can generate economic activity in the Kitikmeot region through jobs for Inuit and contracting opportunities for Inuit businesses. Over the last five years, Miramar Hope Bay has spent millions of dollars on exploration on the Hope Bay property, generating employment for the Inuit workers and contract for Inuit companies. We have worked together with the KIA to create an agreement in principle for Inuit Impact and Benefits Agreement for the Doris North Project pursuant to Article 26 of the Nunavut Land Claims Agreement. The IIBA has specific provisions for training and hiring Inuit and providing Inuit companies with the opportunity to participate in the project. The Doris North Project will broaden the economic base of communities in the Kitikmeot.¹⁷¹

The Board further accepts the Proponents evidence that this project has the potential to generate about 400 person years of employment over three years with greater than 2000 months of employment, representing 42 percent of the total workforce, available to Kitikmeot residents.¹⁷² This is important to communities such as Gjoa Haven where the unemployment rate is at 58 percent.¹⁷³ Moreover, the Proponent has stated that about 25 percent of the construction costs will be spent in the north, and 66 percent of the operating costs for the two years of operation will be spent in the North,¹⁷⁴ adding up to \$27.6 million to the Nunavut economy.¹⁷⁵

The Board also agrees with the Proponent that there is a price for these benefits, and that it is not possible to build and operate the Doris North Project with no disturbance to the environment.¹⁷⁶ Furthermore, the Board agrees with the Proponent's statement that

¹⁶⁸ David Long, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 17, lines 22-26.

¹⁶⁹ David Long, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 18, lines 1-4.

¹⁷⁰ David Long, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 18, lines 5-8.

¹⁷¹ David Long, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 18, lines 9-26

¹⁷² Robert Hornal, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 223, lines 3-4.

¹⁷³ Charlie Cahill, Gjoa Haven Hamlet Council, Transcript, Volume 4, July 14, 2004, p. 991, line 24.

¹⁷⁴ Robert Hornal, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 224, lines 2-5.

¹⁷⁵ Hugh Wilson, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, p. 236, lines 9-10.

¹⁷⁶ Transcript, Volume 1, July 11, 2004, p. 19, lines 13-23.

the Doris North Mine “must be seen as a success by both Miramar and the people of Nunavut and the Kitikmeot region... Our goal is to ensure that project will benefit all groups.”¹⁷⁷ And finally, the Board agrees with the Proponent that “...the process of reviewing the Doris North Project ...is an important fulfillment of one of the goals of the Land Claim Agreement, to provide the Inuit with a means for establishing control over the use of resources within Nunavut.”¹⁷⁸

This project clearly brings economic benefits to the people of Nunavut; however, the Proponent has acknowledged that these benefits do not come without cost. It is critical, to NIRB’s decision however, to highlight the fact that this mine will only operate for two years, but, the project has potential adverse effects which require mitigation and monitoring for a considerably long period of time, perhaps as long as 19 or 20 years.¹⁷⁹

Taking control over the use of resources within Nunavut means more than realizing economic benefits from a project. The NLCA is clear that the Board’s objective is first and foremost the protection and promotion of the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Settlement Area. As set out in section 12.5.5 the Board must consider matters beyond economic benefits. The definition of ecosystemic integrity demands it too. This cautious approach is not without precedent in environmental assessment involving Inuit in Canada. The Newfoundland and Labrador Supreme Court - Court of Appeal, in the *Labrador Inuit Association* case, said this, which NIRB adopts:

One of the primary initiatives taken by governments in rationalizing economic activity with environmental imperatives has been the enactment of statutes providing for environmental assessment. These measures have generally been aimed at moving away from correcting environmental problems ex post facto, towards preventing them from occurring ab initio or, at least, assuring that they are contained at tolerable levels. It is well to point out that this is not only environmentally sound but is economically desirable as well, inasmuch as the costs of rectifying long term effects often eclipse short term burdens. In any event, it appears just plain common sense to require development of resources

¹⁷⁷ David Long, Miramar Hope Bay Ltd., Transcript, Volume 1, July 11, 2004, pp. 16-17, lines 19-5.

¹⁷⁸ Transcript, Volume 1, July 11, 2004, p. 17, lines 10-14.

¹⁷⁹ Neil Hutchinson, Indian and Northern Affairs Canada, discussing information presented by the Proponent at the Hearing: “If I could show up slide 116 as well. This shows copper decreasing in Tail Lake water from the high of .011 at year 2 with and without discharge scenarios. And that shows that with discharge, you meet CCME at about the 12 or 13-year point. And with no discharge, you haven’t reached it by 19 or 20 years.” Transcript, Volume 2, July 12, 2004, p. 322, lines 6-16. See also Exhibit No.1 Miramar Hope Bay Ltd. Doris North Presentation slide #116.

to await the relatively short time that will be taken to allow adverse environment effects to be assessed and mitigated, if not eliminated.

Accordingly, it can be said that the process of environmental assessment is not a frill engrafted on the development process, nor should it be regarded as an administrative hurdle to be gotten over in the march towards economic development. It is, rather, an integral part of economic development.

Both the Parliament of Canada and the Newfoundland Legislature have enacted environmental assessment legislation: Canadian Environmental Assessment Act, S.C. 1992 c. 37 (CEAA); Environmental Assessment Act, R.S.N. 1990, c. E-13 (NEAA). The regimes created by these statutes represent a public attempt to develop an appropriate response that takes account of the forces which threaten the existence of the environment. If the rights of future generations to the protection of the present integrity of the natural world are to be taken seriously, and not to be regarded as mere empty rhetoric, care must be taken in the interpretation and application of the legislation. Environmental laws must be construed against their commitment to future generations and against a recognition that, in addressing environmental issues, we often have imperfect knowledge as to the potential impact of activities on the environment. One must also be alert to the fact that governments themselves, even strongly pro-environment ones, are subject to many countervailing social and economic forces, sometimes legitimate and sometimes not. Their agendas are often influenced by non-environmental considerations.

The legislation, if it is to do its job, must therefore be applied in a manner that will counteract the ability of immediate collective economic and social forces to set their own environmental agendas. It must be regarded as something more than a mere statement of lofty intent. It must be a blueprint for protective action.¹⁸⁰

MHBL argues that the benefits are clear and that development alternatives can be assessed later, but that is not true for the Board, it must make a decision today based on the information before it. The Board must choose today to either give way to short term economic benefits which may risk the ecosystem and loss to future generations, or to protect the ecosystem which may postpone the benefits to the Inuit people to some time into the future. The NLCA and the Board's mandate dictate that it must be the latter.

3.7 Connected projects

The second Minimum EIS Requirement includes a requirement to discuss any projects, such as roads, including ice roads, and mines, which are connected to this Project. While the application currently before the Board is solely for a mine that will operate for two-years, the evidence provided to the Board has raised a general concern about the CEA methodology as it relates to the interconnection between this Project and the

¹⁸⁰ [1997] N.J. No. 223, paras. 9-12.

exploration and future development of MHL's Hope Bay Belt properties.¹⁸¹ From the evidence cited earlier in this Report there will be sharing of infrastructure such as the jetty and storage tank farm between this Project and other MHL projects. In addition, there is some evidence that the Proponent may wish to extend the use of Tail Lake as a tailings impoundment area for future projects. Given the potential for "phased" development, this information should be included in the FEIS description for this Project. In addition, in order for the Proponent to comply with the CEA requirements set out in the fourth Minimum EIS Requirement, the Proponent is required to consider cumulative effects that may result from this Project when it is added to other projects in the region, or projects reasonably foreseeable in the region which will cause an additive effect.

3.8 Conclusion of the Board on its assessment of the project and its impacts

The Proponent is obligated under section 12.5.2 to prepare an impact statement in accordance with the Guidelines established by NIRB. The EIS Guidelines are provided to the Proponent in order to ensure that a full environmental review of the proposed project has been conducted and that the Board has the information necessary to conduct a review of a project in accordance with its mandate established by Article 12 of the NLCA.

This review is the second mining project review conducted by NIRB recently under Part 5 of the NLCA. The Board agrees with the Proponent that this review will establish important precedents for the review of future projects in Nunavut.¹⁸² The Board knows that this is only one of a number of areas on the Hope Bay property that MHL is actively working so this applies to future MHL projects in the Hope Bay Belt as well as to other developers. The experience gained by the Proponent and the Board will, as the Proponent observed, undoubtedly optimize the timing and process of future reviews.¹⁸³

¹⁸¹ Miramar Hope Bay Ltd set out its plan for expansion in a press release issued on June 30, 2004, stating "Miramar is hoping to sequentially develop the Hope Bay Belt from an initial high grade operation at Doris North, which is currently in the permitting process, which would serve as the processing and infrastructure centre for the belt....The planned goals in the implementation of this strategy include: 1. Development of a mine at Doris North to commence production during 2006, generating cash flow to pay for the mining infrastructure and to fund the continued exploration and development of the Hope Bay Belt.", Exhibit No. 26, page 2-3.

¹⁸² Transcript, Volume 1, July 11, 2004, p. 17, lines 15-18.

¹⁸³ Transcript, Volume 1, July 11, 2004, p. 17, lines 19-21.

What this Review has caused us to examine is the role of NIRB and the foundation of environmental assessment. It is, like the CEAA section 14 process, a planning process that must take place before decisions are made, not after. It is the “look before you leap” that is intended to avoid problems through foresight, not to delegate impact decision making requirements to other agencies. Environmental assessment *early* in the project planning process is required by the NLCA. This is apparent from the structure of Article 12 and from the section 12.10.1 requirement that no licenses or approvals be granted until a NIRB project certificate is issued. The role of NIRB is to consider environmentally significant aspects of a project; the whole of the NIRB record must demonstrate that the required information necessary to do so is available to the Board. NIRB is accountable under the NLCA to ensure that environmental assessment is complete before a project proceeds.

Not only the Proponent, but all parties have to understand and accept the institutional role of NIRB. During the course of the hearing this role was very well expressed by Peter Taptuna, speaking on behalf of the Hamlet of Kugluktuk:

The public and the institutions that represent the public must be in a position to weigh all known positive and negative impacts of these projects, in order to make an informed decision on whether these projects should proceed to capitalize on the intrinsic mineral wealth of our area.¹⁸⁴

Notably, and even though NIRB issues a project certificate, the mandate of the Board is markedly different from that of regulatory bodies. Fundamentally, the NLCA defines an environmental assessment process that must be integrated and comprehensive. It must consider social, economic, and cultural factors and reflect the Inuit’s spiritual relationship with the land. It must provide Inuit with an opportunity for meaningful participation in the decision making process. The Board must be satisfied that the environmental assessment for the project as a whole is complete before the project can be divided into its various components for regulatory approval. That is the essential purpose of an Article 12 review and again, this environmental assessment process in Nunavut is according to the NLCA, ecosystem-based, thorough, and it precedes, not delegates, impact assessment to other regulatory bodies. “Completeness” of impact assessment means key information is filed before hearings begin, not during or after.

¹⁸⁴ Transcript, Volume 6, July 16, 2004, p. 1457, lines 9-14.

In the *Friends of the Island Inc. v. Canada* (Minister of Public Works)¹⁸⁵, where the relevant issue was whether the Minister of Public works complied with section 12 of the Environmental Assessment and Review Process Guidelines Order, SOR/84-467 in relation to an environmental assessment of activities related to the proposed construction and operation of a toll bridge linking New Brunswick and Prince Edward Island, Reed J., in words that were subsequently adopted by the Supreme Court of Canada,¹⁸⁶ held that:

It is not disputed that it is preferable to identify potential environmental concerns relating to a project before private sector developers (or public sector developers for that matter) proceed to a final design. It is also desirable to use the process as a planning tool and to avoid duplication. I am not convinced however that it is useful to consider whether the Guidelines Order requires the assessment of [a] proposal at the concept stage or at a more specific design stage. What does seem clear is that the assessment is required to take place at a stage when environmental implications can be fully considered (s. 3) and when it can be determined whether there may be any potentially adverse environmental effects (s. 10(1)).¹⁸⁷

Reed, J. further held that:

In addition, the screening or assessment by the initiating department should take place at a time when both the proposal being assessed and the decision relating thereto, including the grounds on which it is based, can be released to the public...The object [of sections 15 and 16 of the Guidelines] is to allow for meaningful and comprehensive public discussion of the potential environmental impacts of the proposed structure being built or activity being engaged in.¹⁸⁸

The Board agrees with the principles stated by Justice Reed. In MHL's case, based on the current record, the Board finds that the benefits considered by MHL for a two year mine tend to distort the overall picture of the Project by favouring the immediate economic benefits over the longer term costs to the ecosystem. This includes the long term cost to wildlife, including caribou and migratory birds, and to fish. Without further and better information these components of the ecosystem may have been undervalued.

Generally the deficiencies at issue in this Report were not raised for the first time in the final submissions and Hearing presentations by the intervening parties. There is significant procedural history including technical meetings on many of these matters. There was also a significant amount of new, detailed information provided by the

¹⁸⁵ [1993]102 D.L.R. (4th) 696, Federal Court Trial Division [herein after "*Friends of the Island*"].

¹⁸⁶ *Quebec (Attorney General) v. Canada National Energy Board*, [1994] 1 S.C.R. 159, p. 198.

¹⁸⁷ *Friends of the Island*, p. 721.

¹⁸⁸ *Friends of the Island*, p. 721.

Proponent at the Hearings. Many of the outstanding matters are addressed in the new information, however, this information needs to be assessed by the parties and their recommendations adjusted accordingly. This process would likely take several months for the wildlife mitigation and monitoring plan, and the document will not likely be finalized until roughly December of this year.

In summary, based on evidence provided in the FEIS, the supplementary documents, the submissions of intervening parties and at the Hearings, and in particular considering the issues related to the assessment of potential adverse environmental impacts and related mitigation and monitoring for wildlife, the Tail Lake water quality and water management strategy and the consideration of alternatives to the use of Tail Lake, the jetty design, and to a lesser extent the socio-economic impact assessment, the Board has concluded that the MHBL has not provided the required information including greater use of IQ such that the Board is able to conduct a full review of the matters relevant to its mandate. The record is not complete and the deficiencies are so overwhelmingly significant that the Board cannot, in accordance with the goals of informed decision making under Article 12, conduct an informed assessment of the impacts of this Project on the basis of the information before us.

For clarity, the Board is not saying this project should not eventually be built. But there is a threshold level of information that proponents must table with the Board based on the NLCA section 12.5.2 and the related EIS Guidelines in order for the Board to consider the matters it is required to consider in accordance with section 12.5.5. The Board believes someday the mine can and perhaps should be built. That decision, one way or the other, is for another day. But in order to make that go/no-go determination as required by section 12.5.6 the environmental assessment process must be properly completed. The Board must be given the information necessary to make that determination and this did not happen in this Part 5 Review.

At this point in the process, the decision options available to the Board are limited to those set out in section 12.5.6. In these circumstances the NLCA does not permit the Board to recommend to the Minister that this matter be held in limbo. The Proponent was warned about the potential for a negative decision by the Board if the information requirements were not met and MHBL accepted the risk of proceeding. The option does

remain open for MHBL to proceed under a new application sent to the Board again for a new Part 4 screening.

In closing, the Board encourages MHBL to fill the gaps in environmental assessment and bring this project forward again for screening. In this regard the Board wishes to draw to the attention of the Proponent that section 12.5.3 permits the Board flexibility in the procedures used to conduct a review if that is the result of a new application and screening. The Board hopes that with the information exchanged during this review process and the diligence of all parties involved in this matter, the outstanding issues can be resolved without significant delay to the project.¹⁸⁹

MHBL has the choice to file or not to re-file their application. That choice is theirs to make, and it of course must await the Minister's decision under section 12.5.7 of the NLCA. If MHBL re-files, it should be with the knowledge that the Board will require the deficiencies in the current FEIS to be addressed consistent with the NLCA, the EIS Guidelines, recommendations filed by interested parties to the extent these recommendations are consistent with the EIS Guidelines and this Report, and in particular the existing Conformity Assessment and this Report.

4. Recommendation to the Minister

In accordance with paragraph 12.5.6(a) of the NLCA, the Nunavut Impact Review Board has completed its assessment of the Proponent's current application, including the FEIS, the Hearing evidence, and the record as of the date of the Hearing. In accordance with paragraph 12.5.6(b), as a result of inadequate information on significant environmental assessment categories which are vital parts of the ecosystem, including, individually and collectively:

- the wildlife mitigation and monitoring plan including cumulative effects assessment;
- the Tail Lake water quality and water management strategy;
- the assessment of alternatives to the use of Tail Lake for tailings disposal;

¹⁸⁹ To be clear, if the Proponent files a new application with information gaps filled and deficiencies addressed, the current record could be re-filed and the FEIS adjusted as necessary.

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- the design of the jetty and related issues including affects on fish habitat, shoreline erosion and the seabed; and
- the socio-economic impact of the project on affected residents and communities of Nunavut;

the Board has determined that based on the primary objectives of NIRB as set out in section 12.2.5 and the matters to be taken into account when conducting a review as provided in section 12.5.5, and in particular 12.5.5(a), (b) and (d), this project should not proceed on the basis of the current application.

Appendix 1 – List of Exhibits

- Exhibit No. 1: Miramar Hope Bay Ltd. Doris North Presentation
- Exhibit No. 2: Miramar Hope Bay Ltd. Doris North Electronic Presentation
- Exhibit No. 3: Kitnuna Construction Ltd. Presentation
- Exhibit No. 4: Community Consultation Report for the Doris North Project
- Exhibit No. 5: Miramar Hope Bay Project Hard Copy Notes by John Chapman in reference to slide 118.
- Exhibit No. 6: Miramar Hope Bay Project Electronic Notes by John Chapman in reference to slide 118.
- Exhibit No. 7: Hamlet of Cambridge Bay Presentation
- Exhibit No. 8: Letter from Miramar Hope Bay to Stephanie Briscoe dated July 7, 2004
- Exhibit No. 9: Government of Nunavut Presentation
- Exhibit No. 10: Natural Resources Canada Presentation dated July 12, 2004
- Exhibit No. 11: PDF Explosives Information from SRK Consulting dated June 25, 2004
- Exhibit No. 12: Slide Clarification by MHBL, Notes from Larry Connell, Michael Noel, Nathan Schmidt, Maritz Rykaart
- Exhibit No. 13: KIA Presentation
- Exhibit No. 14: Letter to Stephanie Briscoe from George Hakongak Re: NTI Submission
- Exhibit No. 15: NTI Speaking Notes of George Hakongak with Revised Written Submission
- Exhibit No. 16: NTI Powerpoint Presentation
- Exhibit No. 17: Presentation of Environment Canada
- Exhibit No. 18: KIA Submission – speaking notes of Charlie Evalik
- Exhibit No. 19: INAC Powerpoint Presentation
- Exhibit No. 20: Executive Summary – DIAND Intervention for the Doris North Project
- Exhibit No. 21: Summary of INAC's Recommendations for Submission to NIRB

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- Exhibit No. 22: Summary of INAC's Recommendations for Submission to NIRB
Translated in Three Languages
- Exhibit No. 23: Report by Johnson and Boyce entitled "A Quantitative Approach for
Regional Environmental Assessment: Application of a Habitat-Based
Population Viability Analysis to Wildlife of the Canadian Central Arctic"
- Exhibit No. 24: Canadian Manuscript for Fisheries and Aquatic Sciences
- Exhibit No. 25: NTI Gjoa Haven Revised Presentation
- Exhibit No. 26: Miramar Report dated June 30 entitled "Miramar reports Encouraging
Results from Goose Lake Drilling, Black River"
- Exhibit No. 27: INAC Short Presentation for Doris North Project for Gjoa Haven,
Taloyoak, Kugluktuk
- Exhibit No. 28: Department of Fisheries and Oceans' Summary Presentation presented
in Gjoa Haven
- Exhibit No. 29: Natural Resources Canada Summary Presentation Presented in Gjoa
Haven
- Exhibit No. 30: Speaking Notes of James Etoolook
- Exhibit No. 31: Letter from Gartner Lee Dated April 21, 2004 Re: Environmental
Assessment Process for the Wolfden Resources High Lake Project
- Exhibit No. 32: Draft Memorandum of Understanding
- Exhibit No. 33: Miramar Hope Bay Ltd. Expert Bios
- Exhibit No. 34: Documents entitled "Initial Shoreline Erosion in Permafrost Affected
Reservoir Southern Indian Lake, Canada", "Shoreline Erosion and
Restabilization in a Permafrost-Affected Impoundment", "Shoreline
Erosion and Recovery in Permafrost Conditions on the Southern Indian
Lake Reservoir"
- Exhibit No. 35: "Doris Creek Baseline Water Quality "Graph
- Exhibit No. 36: "Preliminary Outline of Commitments" prepared by Miramar Hope Bay
- Exhibit No. 37: Documents entitled "Permits Licenses and Other Authorizations Required
for the Doris North Project
- Exhibit No. 38: Environment Canada Supplemental Information – Responses to NIRB
Questions
- Exhibit No. 39: KIA Supplemental Information – Kitikmeot Inuit Association Land Use
Application Registry and Land Use License Information

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Exhibit No. 40: CD of “Animated Movements of Barren-Ground Caribou Tracked by Satellite”

Exhibit No. 41: INAC CVs of Experts that Provided Evidence

Exhibit No. 42: “Land Use Permits in Dolphin Union Caribou Area”

Exhibit No. 43: Newsletter from the Wildlife Research Group in the Kitikmeot Region, Nunavut