SUBMISSION TO THE NUNAVUT IMPACT REVIEW BOARD ON CONFORMITY WITH GUIDELINES AND ADEQUACY OF INFORMATION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR DORIS NORTH GOLD PROJECT

PREPARED BY INDIAN AND NORTHERN AFFAIRS CANADA

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EXECUTIVE SUMMARY

This conformity and information deficiency review of the Doris North Draft Environmental Impact Statement (draft EIS) was undertaken by Indian and Northern Affairs Canada (INAC) in response to the request of the Nunavut Impact Review Board (NIRB) to conduct a pre-hearing on these and other issues. INAC's regulatory responsibilities are for the administration of land tenure for the barge dock, as well as for the approval and enforcement of the water licence the project will require.

Generally, INAC found that Miramar Hope Bay Ltd. (MHBL) made an effort to conform to each of the requirements of the guidelines produced by NIRB, dated October 15, 2002, as well as to the ten items in the Board's letter to the proponent of the same date. The draft EIS was well organized and written in an easy to read style. The methodology exhibited for the assessment of environmental impacts was well laid out, clear and used appropriate criteria. There were, however, deficiencies in the information provided in the draft EIS which INAC believes impacts the department's ability to complete a technical review of the EIS and which should be addressed in the final EIS and prior to completion of NIRB's review of the project.

The following paragraphs provide a summary of the major deficiencies addressed in this submission.

Project Description/Summary

INAC finds that the project description does not adequately address requirements such as:

- characteristics of the mine with respect to permafrost conditions, groundwater, and hazards such as rockfalls;
- the position, location and configuration of the mining and exploration underground workings relative to significant environmental features such as Doris Lake and Tail Lake (INAC suggests MHBL prepare three-dimensional diagrams to illustrate these features);
- ore, waste rock and overburden stockpiles (including their size and the capacity of the ore stockpile pad to accommodate temporary waste rock), the geotechnical characteristics of the ore and waste rock, the plans for recovery, transport and placement of ore, waste rock either on surface or for backfilling underground, the volume of waste rock being placed underground and the capacity of the underground workings to accommodate it, management of runoff from the stockpiles;
- the design and management of the tailings containment system, including characterization of the tailings particle size, sedimentation efficiency, the predicted quality of water for mill reuse, and the storage capacity of the emergency tailings dump catch basins;
- management of water from quarries, with respect to permafrost, ground ice, and geochemistry;
- winter road transportation, including details on the type and volumes of materials being transported, routing, construction, maintenance, trip frequency; and
- future development and exploration, particularly the underground exploration from the Doris North mine below Doris Lake and the likely permafrost and groundwater conditions, the locations, methods of sampling, the volume and characteristics of waste rock and ore that may be stored, sampled, processed, and disposed of at the Doris facilities, and how this exploration will contribute to impacts.

Most, if not all, of these issues could be addressed in a mining plan that illustrates the characteristics of the plan and addresses these issues with respect to surface infrastructure, the underground mine and the exploration declines. This plan should also reflect the potential for variances to the management of the mine.

Other deficiencies noted from section one of the draft EIS include the following:

- Although the precautionary principle is mentioned, the proponent has not provided a discussion specific to the components of the Doris North project, including how it may relate to climate change;
- Public consultation has been undertaken by the proponent, but the draft EIS does not adequately describe the lessons learned from each of the consultations and how this was integrated into the project;
- The results of a traditional knowledge study are not yet available and may be important for allowing the Proponent to identify VECs, make relevant impact predictions, and provide significance assessment;
- The history of the Proponents ability to comply with government policies and regulations, and;
- In terms of project justification, the draft EIS has not demonstrated the viability of the project with an economic analysis that supports the claims made in the draft EIS. The Proponent should provide the entire feasibility study and supporting documentation rather than an executive summary; and, demonstrate that financing has been secured for all project phases, including reclamation.

Project Alternatives

To further the transparency of the intentions stemming from this review, the process of environmental assessment requires a documented description of all other alternatives considered for this project. Satisfaction of this requirement can be achieved if the following is addressed:

- provide meaningful analysis of the alternatives, including data, assumptions, and impacts of the alternatives;
- present how the preference was reached and who was consulted in arriving at their final decision; and
- the no-go option must be examined.

Environmental Baseline Conditions

In a number of cases (e.g. permafrost, geochemistry, surficial geology), the proponent has used data from Boston, located 55 km south of the Doris North site. Either data for Doris is required, or the proponent should demonstrate why it is adequate to use information from Boston to describe the environmental conditions at Doris.

Climate

- long-term climate data trends or global warming issues have not been considered;
- verification of climate data should be considered by installing a meteorological station at the Doris North site, while at the same time maintaining operation of the Boston Camp Station so that some degree of data correlation can be obtained.

Geology

- bedrock geology of the mine site with associated structural geology. This could be very important for issues/areas such as water management, the tailings containment area, etc.

Landscape and Terrain

- permafrost assessment should be carried out for all areas slated for significant development at the tailings disposal area, quarries, access roads, ore or waste rock storage areas, and the airstrip. Specific assessment requirements are for the potential of taliks under Doris and Tails Lakes and the potential sources of groundwater flow from these taliks. Ground temperature characteristics under water retention structures proposed for the tailings facility is also essential for review purposes, and;
- surficial geology maps of the Doris area have not been provided, but would be useful in determining probable ground conditions (including those related to permafrost and ground ice) to consider in mine design.

Hydrology

- data to model water balances for the Doris site do not appear reliable, and;
- new stations to monitor water flows and runoff are recommended to provide baseline flow data in the event that mine life will be extended or if other nearby mining opportunities are developed.

Water Quality

- geochemistry: loose surficial borrow materials should be tested for geochemical characteristics and the location from where samples have been taken for metal leaching characteristics testing needs to be defined. Further detail is required to characterize the extent of potential acid rock drainage and metal leaching issues with the ore and waste rock, and;
- groundwater conditions: clarification is required on actual location of underground workings, incoming groundwater and water quality and quantity values in relation to mine de-watering.

Socio-Economic Baseline

The identification of Valued Socio-Economic Components (VSECs) is key to the impact assessment. Thus the VSECs should be clearly identified and a justification for their selection provided. There would be value in linking the indicators to the specific VSECs to ensure they are adequate.

Environmental Impact Assessment

The methods and criteria for evaluating environmental impacts and significance for each of the valued ecosystem components (VECs) and their respective temporal and spatial boundaries have been well illustrated. However, the inadequacies in baseline data and project description, described above, do not allow for reliable predictions of impacts in a number of cases.

The environmental factors that require further information to adequately assess potential impacts, their significance and mitigation are the following:

Climate

- climate change impacts on residual features, such as the tailings containment area for the

post-closure monitoring phase, and;
- need detailed assessment on the size and return period of extreme precipitation events.

Landscape and Terrain
- the impacts of disturbance to permafrost through changes to surface conditions, and;
- the impacts of potential taliks on underground mine hazards and water.

Hydrology
- design work conducted on the tailings impoundment is required to assess the adequacy of the water balance;
- assumptions for the water balance need to be substantiated, cumulative changes in the water balance and impacts on the water budget of the basin need to be assessed;
- predicted flows and storm frequency should be included in the analysis;
- a reasonably detailed water balance model has not been developed for Doris Lake. The potential impacts on lake levels and downstream discharge have been based on gross assumptions, and;
- a site drainage plan is necessary especially for evaluating impacts from maximum use of explosives and storm water handling capability.

Water Quality
- water quality issues within Tails Lake include tailings characterization with respect to sedimentation rates (including a substantiation of the assumption of low suspended solid levels for decant water), the ability to re-use lake water for mill processing; there is no indication that water treatment might be considered should water quality not reach acceptable levels efficiently;
- the capacity of emergency tailings dump ponds has not been estimated for potential extended periods of malfunction from pumping facilities;
- mine water volumes, methods or potential impacts of this transfer to the management of Tails Lake;
- performance of proposed tailings containment structure and plans;
- seepage from Tail Lake's tailing containment area on water quality of Doris Lake and the receiving environment;
- analysis of the impact of sediments, ammonia and nitrogen from all potential sources, and metal levels from tailings on the water quality of Tails Lake and the receiving environment;
- pathways and settlement impacts of sediment contamination in downstream receiving environments and ultimately in marine environments and food chains;
- bioaccumulation of metals/ nutrients in the food chain;
- method of sewage treatment, effluent quality, effects of this quality on the anticipated existing quality of Tail Lake and an analysis of downstream effects, and;
- sewage spills should be addressed specifically in the Spill Contingency Plan.

Accidents and Malfunctions
- few specific mitigative measures are presented in the impact assessment; more details are required, for instance, with respect to spill contingency.

Cumulative Effects Assessment (CEA)

- the study areas in the cumulative effect assessment appear vague and the scale is too broad to analyse cumulative effects with respect to the VECs the Proponent has identified;
- identifying VECs that were more specific to the Local and Regional Study Areas for use in the CEA would have allowed more focus on the effects of other projects and activities that might have the potential to interact and impact with those of the Doris North project, and;
- the CEA also does not demonstrate that the full range of other past, existing, certain and reasonably foreseeable projects or activities has been identified and considered in the CEA. This is particularly important given that the EIS states that the MHBL "sees the opportunity for future development in the Hope Bay Belt as very good" (EIS pg 1-2).

Socio-Economic Impact Assessment

The assessment is weakened by the uncertainty regarding the identification of appropriate VSECs and indicators, described above. In addition, the potential impacts on communities of in-migration needs to be addressed in more detail to comply with the guidelines. The assessment should include the impact of individuals from other Nunavut communities outside the region seeking employment at the mine.

The proponent should justify why the economic model used in the draft EIS is considered comparable to the model suggested in the environmental assessment guidelines. Further, the model should be revised to provide assessment of all components of the specific impacts and benefits to Nunavut, separate from those to the NWT.

Environmental Management, Mitigation, and Monitoring

The plans for environmental management, mitigation, and monitoring are presented at the conceptual level. In some instances, more detail is necessary to ensure the MHBL is prepared to implement adequate mitigation. In the absence of a complete presentation of anticipated impacts, it is difficult to assess the appropriateness of the mitigation measures proposed for the project.

Specific deficiencies include the spill contingency plan, which should address contingency measures for acid rock drainage, accidents and malfunctions at the explosives facility, and for the tailings spills from the mill, particularly large spill events.

The management plan for waste rock should specify a plan for the classification of rock according to the acid rock drainage and metal leaching characteristics, including appropriate handling procedures.

Conceptual Mine Reclamation Plan

The proponent should submit a reclamation plan in accordance with the NIRB environmental assessment guidelines and the Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990). The proponent should be aware that INAC is in the process of updating the latter to reflect best management practices and the Nunavut Mine Site Reclamation Policy (2002).

Concerns that should be described further are climate change, global warming, and/or changes to climatic regime with particular respect to the long term closure phase of the mine.

The plan should present information on the final characteristics of the site in post closure phase, not only the mining and milling facilities, but of all site infrastructure.

More information is required on waste management plans for disposal in the quarries and underground. Further detail is required to justify the abandonment plan for the tailings facility.

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ᑕᒪᓐᓇ ᑐᐊᕋᐃ ᓄᐊᑦ ᐊᕙᑎᐅᑉ ᐊᑐᖅᑕᐅᑎᒋᓂᖓᓄᑦ ᐅᖃᐅᓯᓕᐊᓂᒋᐊᖕᖓᖅᓯᒪᔪᖏᓐᓂᒃ ᕿᒥᕐᕈᓂᐅᖅ ᒪᓕᑦᑕᐅᑦᓯᐊᖅᑎᒋᓂᖓᓄᑦ ᐊᒻᒪ ᑐᓴᐅᒪᔾᑦᑕᖅᑎᐊᖏᓐᓂᖓᓄᑦ ᐱᓕᕆᐊᕆᔭᐅᓚᐅᖅᑐᖅ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ ᕿᓄᔾᔭᑕᐅᓚᐅᖅᓯᒪᓂᖓ ᐱᓪᓗᒍ ᓄᓇᕗᒻᒥ ᐊᑦᑐᖅᑕᐅᔪᓄᑦ ᕿᒥᕐᕈᔨᖏᓐᓄᑦ ᑑᔭᐅᒥᐊᓕᒍᓪᓗᒋᑦ ᑕᒃᑯᐊ ᐊᓯᖏᓪᓗ. ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ ᒪᓕᒃᑎᒍᑦ ᑲᒪᔨᐅᒻᒪᑕ ᐊᐅᓚᑦᑎᒋᐊᖃᖅᑐᑎᒃ ᓄᓇᐅᑉ ᐊᑐᖅᑕᐅᓂᑦᓴᖓᓄᑦ ᑐᓚᑦᑕᕝᕕᑦᓴᒍᑦ, ᐊᒻᒪ ᑕᒪᑦᓯᒎᖓ ᐱᓕᕆᐊᒃᓴᐅᔫᑉ ᐃᒪᕐᒧᑦ ᓚᐃᓴᓐᓯᖃᓐᓇᖅᑲᓚᖓᓂᖓᑕ ᐊᖏᖅᑕᐅᒋᐊᖃᕐᓂᖓᓄᑦ ᐊᑐᓕᖅᑎᑕᐅᒋᐊᖃᕐᓂᖓᓄᓪᓗ.

ᑕᒪᐃᓐᓂᐸᓗᒃ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ ᖃᐅᔨᓚᐅᖅᑐᑦ ᒥᐅᕋᔾᔪᕐ Hᐅᐸᐸᐃᐅᐱᕋᐃᒃ ᓕᒥᑎᑦᑯᒃ (MHBL) ᐱᓇᓯᑦᑎᐊᓚᐅᕐᓂᖏᓐᓂᒃ ᒪᓕᑎᐊᖃᓯᑦᑐᑎᒃ ᑕᒪᒃᑭᓐᓂᒃ ᐱᔭᕇᖅᑐᓂᒃ ᑐᑭᒧᐊᑲᑎᓕᐊᖑᓚᐅᖅᓯᒪᔪᓂᒃ ᓄᓇᕗᒻᒥ ᐊᑦᑐᖅᑕᐅᔪᓄᑦ ᕿᒥᕐᕈᔨᖏᓐᓄᑦ, ᐅᑐᐱᕆ 15, 2002ᒥ, ᐊᒻᒪᑕᐅᖅ ᖁᓕᐅᔪᓂᒃ ᓇᓗᓇᐃᔭᖅᑕᐅᓚᐅᖅᓯᒪᔪᓂᒃ ᕿᒥᕐᕈᔨᒃᑯᑦ ᑎᑎᕋᓚᐅᖅᑕᖏᓐᓂᒃ ᔨᑯᓄᖓ ᑕᐃᑲᓂᑦᓴᐃᓐᓇᖅ ᐅᓪᓗᖓᓂ. ᐊᕙᑎᐅᑉ ᐊᑦᑐᖅᑕᐅᓂᖓᓄᑦ ᐅᖃᐅᓯᓕᐊᖑᕆᐊᖕᖓᖅᓯᒪᔪᑦ ≈ᖅᑭᑦᑎᒪᑦᓯᐊᓚᐅᖅᑐᑦ ᐊᒻᒪ ᑎᑎᖅᓯᒪᓂᖏᑦ ᐅᖃᓖᒐᓐᓂᑦᓯᐊᖅᑐᑎᒃ. ᖃᐅᔨᓴᕐᔪᓯᐅᓚᐅᖅᑐᑦ ᐊᕙᑎᐅᑉ ᐊᑦᑐᖅᑕᐅᑎᒋᓂᖓᓄᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᑎᑦᑎᐊᓚᐅᕐᒥᔪᑦ, ᑐᑭᓯᓇᑎᐊᖅᑐᑎᒃ ᐊᒻᒪ ᒪᓕᒋᐊᖃᓗᐊᑦᑕᖅᑐᓂᒃ ᐊᑐᑦᓯᐊᖅᑐᑎᒃ. ᑭᓯᐊᓂᑦᑕᐅᖅ, ᒫᔭᐃᓐᓇᑯᓘᓚᐅᖏᓪᓕᔦᑦ ᑐᓴᐅᒪᔭᐅᔪᓐᓇᖅᑲᖅᑐᐃᑦ ᐅᖃᐅᓯᓕᐊᓂᒋᐊᖕᖓᖅᓯᒪᔪᓂ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᓐᓄᑦ ᐊᑦᑐᐃᓂᖃᕐᓂᐊᖅᓯᒋᔭᐅᓗᓂ ᕿᒥᕐᕈᑦᓯᐊᒋᐊᖃᖅᑎᓗᒋᑦ ᐅᖃᐅᓯᓕᐊᖑᒋᐊᖕᖓᖅᓯᒪᔪᓂᒃ ᑕᐃᒪᐃᒻᒪᑦ ᑭᖑᓪᓕᖅᐸᖅᓯᐅᑎᑦᓴᖏᓐᓂ ᐅᖃᐅᓯᓕᐊᖑᓯᒪᔪᐃᑦ ᑐᓴᐅᒪᔪᐅᒃᑲᓂᓇᐊᓖᑦ ᐱᖃᓯᐅᑎᔭᐅᒋᐊᖃᕐᖓᑦ ᕿᒥᕐᕈᔾᔪᒃᑯᓗ ᐱᔭᓐᖅᓯᓚᐅᖏᓐᓂᖏᓐᓂ ᕿᒥᕐᕈᓂᓴᒥᓂᒃ ᐱᓕᕆᐊᖑᔪᒥᒃ.

ᐅᑯᐊ ᑎᑎᕋᖅᓯᒪᔪᐃᑦ ᓇᓗᓇᐃᔭᐃᔪᑦ ᐊᒥᓱᐊᖅᑐᓴᔭᐅᓚᐅᖅᑐᓂᒃ.

ᐱᓕᕆᐊᒃᓴᐅᔪᒧᑦ ᓇᓗᓇᐃᔭᕈᑎᑦ
ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ ᑐᑭᓕᐅᕆᓯᒪᕗᑦ ᐱᓕᕆᐊᒃᓴᒧᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓯᒪᔪᑦ ᐅᖃᐅᓯᖃᖕᖏᓗᐊᖅᓯᒪᓂᖏᓐᓂᒃ ᐱᔭᕆᐊᖃᖅᑐᓂᒃ ᒪᑯᓇᖕᖓᑦ ᖁᓗ:
- ᐅᔭᕋᓂᐊᕐᕕᐅᑉ ᖃᓄᐃᓕᖓᓂᖓᓂᒃ ᖁᓗ ᓄᓇᐅᑉ ᖁᐊᖑᔪᕆᓂᖓᓂᒃ, ᐃᒪᖃᖅᑎᕆᓂᖓᓂᒃ, ᐊᒻᒪ ᐊᑦᑕᓇᕈᓐᓇᖅᑐᓂᒃ ᖁᓗ ᑲᑕᒐᓚᕈᓐᓇᖅᑐᓂᒃ ᐅᔭᖅᑲᓂᒃ;
- ᓇᒧᑦ ᓴᓪᒥᖓᓐᓂᖓᓂᒃ, ᓈᓐᓂᕆᔭᖓᓂᒃ ᐊᒻᒪ ᐃᓂᓪᓚᖓᓂᖓᓂᒃ ᐅᔭᕋᓂᐊᖅᑐᖅᑕᖅᑎᓪᓗᒍ ᖃᐅᔨᓴᖅᑐᖅᑕᖅᑎᓪᓗᒍᓗ ᓄᓇᐅᑉ ᐊᔾᔨᓂ ᐃᓱᒪᒋᓪᓗᒍ ᐊᕙᑎᐅᑉ ᖃᓄᐃᓕᖓᓂᖓ ᑐᐊᕋᐃ ᑕᓯᖓᓂ ᑮᓗᒃᓯᕝᕕᐅᔫᓪᓗ (ᐃᓄᓕᕆᔨᑐᖃᒃᑯᑦ ᐃᓯᒪᒍᓱᐃᑦ ᔫᑯᐊ ᑲᓪᐸᓂᐅᔭᐃᑦ MHBL-ᑯᑦ ᑎᑎᕋᐅᔭᒍᓪᓗᒋᑦ ᓇᓗᓇᐃᖅᓯᔾᔪᑎᐅᔭᓐᓇᖅᑐᓂᒃ ᑕᒃᑯᓇᖕᖓᑦ ᐊᕙᑎᒥᑦᑐᓂᒃ);
- ᓴᕝᕋᔭᒃᓴᔭᐅᔪᒥᒃ, ᐊᑦᑕᖅᑕᐅᕙᑦᑐᓂᒃ ᐅᔭᖅᑲᓂᒃ ᐊᒻᒪ ᓄᐊᑕᐅᓂᑯᓂᒃ (ᐊᖏᑎᒋᓂᖏᓐᓂᓪᓗ ᐊᒻᒪᓗ ᖃᓄᐃᑦ ᐃᓚᐅᖅᓯᕙᐅᔪᓐᓇᖅᓂᖏᓐᓂᒃ ᐊᑦᑕᖃᑦᓴᐅᔪᒻᓂᐊᖅᑐᓂᒃ ᐅᔭᖅᑲᓂᒃ), ᓴᓇᒪᖏᓐᓂᓗ ᓴᕝᕋᔭᒃᓴᔭᐅᑉ ᐊᒻᒪ ᐊᑦᑕᖃᑦᓴᐅᓯᕙᑦᑐᐃ ᐅᔭᖅᑲᐃᑦ, ᐸᖅᓇᐅᑎᓕᐊᖑᔪᒪᔪᓂᓗ ᓇᕿᖅᑕᐅᖃᑦᑕᓂᑦᓴᖏᓐᓄᑦ ᓴᕝᕋᔭᒃᓴᔭᐃᑦ ᐅᔭᖃᐃᓪᓗ, ᓇᓕᐊᓐᓄᖃᖅᑕᐅᕙᓐᓂᕐᓗᑲᖅᑕᖏᑦᑕᓗ ᐊᒻᒪᓗ ᐃᓕᐅᖅᑲᖅᑕᐅᓂᕐᓗᑲᖅᑕᖏᑦᑕ ᓄᓇᐅᑉ ᖃᖓᓂᐅᕙᑦ ᐅᕙᔫᓐᓃᑦ ᓄᓇᐅᑉ ᐊᔾᔨᐅᕙᑦ, ᐊᖏᑎᒋᓂᖏᑕᓗ ᐊᑦᑕᖃᑦᓴᐅᔪᑦ ᐅᔭᖅᑲᐃᑦ ᓄᓇᐅᑉ ᐊᔾᔨ ᐃᓕᐅᖅᑲᖅᑕᐅᕙᑦᑐᑦ ᐊᒻᒪ ᖃᓄᑎ ᐱᓕᕆᐊᓂᐊᔪᐅᒐᖅᑎᒋᓂᖏᓐᓂᒃ ᓄᓇᐅᑉ ᐊᔾᔨ, ᖃᓄᖅ ᑲᒪᒋᔭᐅᕙᓪᓕᔪᕐᓂᖏᓐᓂᒃ ᑮᓪᓕᔭᕆᑉ ᓄᐊᑦᓯᖅᑕᐅᓯᒪᔪᑦ;
- ᓴᓇᒪᓂᖏᑦ ᑲᒪᒋᔭᐅᕙᓐᓂᖏᑦ ᑮᓗᒃᓯᕝᕕᖕᓄᑦ ᓵᓪᒥᔭᐅᑎᑦ, ᐱᖃᑦᑐᒃᓯᓗᒋᑦ ᖁᕝᕙᖅᑐᐊᕐᓂᖏᑦ ᑮᔭᐅᓯᕝᕕᐅᔫᓪᓗ, ᐅᔭᕋᒃᓯᒪᔪᓐᓂᖅ ᑲᒪᒋᔭᐅᓇᓐᓂᖓᓂᒃ ᖃᓄᐃᓕᖓᓂᖓᓂᒃ ᑭᓇᔭᐅᕙᑦᑐᑦ, ᐅᔭᖅᖑᒃᐸᓪᓕᐊᑎᕆᕙᓐᓂᖏᓐᓂᓗ ᑮᔭᐅᕙᑦᑐᑦ, ᖃᓄᖅᑎᒃᑲᓐᓂᕋᓐᓇᖅᑎᕆᓂᖓᓂᒃ ᐃᒪᖅᑲᑕ ᐃᓯᐊᕝᕕᐊᖕᒥ ᓴᕝᕋᔭᒃᓴᔭᓂᒃ, ᐊᒻᒪ ᖃᓄᑎ ᐃᓕᐅᖅᓯᕝᕕᐅᔪᓐᓇᖅᑎᕆᓂᖓᑕ ᑐᐊᕝᕙᓐᓇᑐᒃᑯᑦ ᑮᓗᒃᓯᕝᕕᐅᑎᐊᖅᓯᒪᕙᒃᑐᐃᑦ;
- ᐃᒪᐅᑉ ᑲᒪᒋᔭᐅᕙᓐᓂᖓ ᐅᔭᖅᑭᐊᕝᕕᐅᔪᓂ, ᐃᓱᒪᒋᓪᓗᒍ ᓄᓇᐅᑉ ᖁᐊᖑᔪᕆᓂᖓ, ᓂᓚᖅᑲᖅᓂᖓᓗ, ᐊᒻᒪ ᓄᓇᐅ ᖃᓄᐃᑦᑐᖅᑲᖅᓂᕐᔭᖓ;
- ᐊᑐᕐᓇᓚᐊᖑᔪᓯᒪᔪᒃᑯᑦ ᐅᑭᐅᒃᑯᑦ ᐃᖏᕐᕋᔾᔨᑕᐅᕙᑦᑐᑦ, ᖃᓄᐃᑦᑐᓂᒃ ᐊᒻᒪ ᖃᓄᖅ ᐊᖏᑎᔪᓂᒃ ᐃᖏᕐᕋᔾᔨᑎᖅ ᖑᓂᖏᓐᓂᒃ, ᐊᖅᑯᓯᓇᐊᖏᓐᓂᖓ ᓇᒧᑦ, ᓴᓇᔭᐅᕙᓐᓂᖏᓐᓂᖓ, ᑲᒪᒋᔭᐅᕙᓐᓂᖏᓐᓂᖓ, ᖃᑦᓯᐊᖅᑎᒧ ᐃᖏᕐᕋᔾᔨᕝᕕᐅᕙᓐᓂᖏᑦ;
- ᓯᕗᓂᑦᓯᒥ ᐱᕙᓪᓕᐊᔭᐅᓇᔭᖅᑐᐃᑦ ᕿᓂᕐᓂᐅᖃᑦᑕᔭᖅᑐᓪᓗ, ᐱᒧᐊᖅᑐᒥᒃ ᓄᓇᐅᑉ ᐊᔾᔨ ᕿᓂᕐᓂᐅᖃᑦᑕᔭᖅᑐᑦ ᑐᐊᕋᐃ ᐅᔭᕋᓂᐊᕐᕕᖕᖑᐊᓂᑦ ᑐᐊᕋᐃ ᑕᓯᖓᑕ ᐊᔾᔨᓄᑦ ᑎᑭᓪᓗᒍ ᐊᒻᒪ ᑲᒪᒋᔭᐅᕙᓪᓕᔭᖑᔪᐊᕐᓂᖓᑕ ᓄᓇᐅᑉ ᐊᔾᔨ

ᖁᐊᒪᓂᖏᑦ, ᓇ̈ᓐᓂᖏᑕ, ᖃᐅᔨᓴᖅᓯᓂᓪᓗ ᖃᓄᖅ ᖃᐅᔨᓴᕆᓯᖃᖅᑐᖅᓂᖏᓐᓂᒃ, ᐊᖏᑎᒋᓂᖏᓐᓂᓪᓗ ᖃᓄᐃᑦᑑᑎᒋᓂᖏᓐᓂᓪᓗ ᐊᑦᑕᖅᓯᐅᔭᐃᑦ ᐅᔾᔭᖅᑲᐃᑦ ᓯᕗᔾᔭᒃᓯᔭᐃᓪᓗ ᐆᒃᑲᖅᑕᐅᓚᔾᔪᑎᒃ, ᖃᐅᔨᓴᖅᓯᔾᔭᐅᓚᔾᔪᑎᒃ, ᐲᔭᐃᕕᐅᕙᓪᓚᐊᓚᔾᔪᑎᒃ, ᐊᒻᒪ ᐊᑦᑕᖅᑕᐅᓚᔾᔪᑎᒃ ᑐᐊᖅᓱᑦ ᐱᓕᕆᕕᒋᔭᖏᓐᓂ, ᐊᒻᒪ ᑕᒪᓇ ᕿᓂᕐᓂᐅᖃᑦᑕᔭᖅᑐᖅ ᐊᑐᐃᖃᑕᐅᓚᔭᕐᒪ ᐊᕙᒻᒥᑦ.

ᑕᒪᒥᐸᓗᒃ, ᐊᑕᖏᖏᒃᑯᑎᒃ, ᓇᓗᓇᐃᔭᖅᑕᐅᒍᓐᓇᖃᔭᖅᑐᑦ ᐅᔭᕋᓂᐊᕐᕕᖑᒥᑦ ᐸᕐᓇᐅᑎᐅᓯᒥ ᑲᑎᑦᓯᒍᑎᐅᓚᔭᖅᑐᓂᒃ ᖃᓄᐃᑦᑐᓂᖏᓐᓂᒃ ᐸᕐᓇᐅᑎ"ᑦᑐᑦ ᑕᒪᒃᑯᓇᓐᖓᓗ ᐅᖃᐅᓯᖃᕐᓗᑎᒃ ᐱᓗᐊᖅᑐᒥᒃ ᓄᓇᐅᑉ ᖄᖓᓂ ᐃᓂᓪᓚᖓᐅᑎᐅᓯᓂᒃ, ᓄᓇᐅᑉ ᐊᔅᓂ ᐅᔭᕋᑦᑕᓇᐊᕐᕕᐅᓯᒥᒃ ᐊᒻᒪ ᕿᓂᖅᐸᓐᓂᖏᓐᓂᖅᓴᐅᓕᕐᓂᖏᓐᓂᒃ. ᑕᒪᓇ ᐸᕐᓇᐅᑎᐅᓯᖅ ᑲᑎᑦᓯᒋᐊᖅᑲᕐᒥᐅᓯᖅ ᐊᓯᔾᔨᑯᑎᐅᓯᓐᓇᖅᑐᓂᒃ ᐊᐅᓚᑕᐅᓂᖓᓄᑦ ᐅᔭᕋᑦᑕᓇᐊᕐᕕᐅᓯᖅ.

ᐊᓯᖏᑦ ᐊᒥᒐᕈᑕᐅᓯᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓯᑦ ᐃᓛᒃᑰᖅᓯᒪᓯᖕᒋᑕ ᓯᕗᓪᓕᖅᐸᖏᓐᓂ ᐅᖃᐅᓯᓕᐊᖑᓯᒪᓯᐃᑦ ᒪᑯᐊᖑᔫᑲᓐᓂᕈᑦ:

- ᐅᔾᔨᖅᑐᕆᐊᖃᕐᓂᐅᓯᒧᑦ ᐱᓪᓗᐊᑕᓇᔭᐅᓯᖅ ᐅᖃᐅᓯᐅᓯᒪᒐᓗᐊᖅᑎᓪᓗᒍ, ᐅᔭᕋᑦᑕᓇᐊᖅᑎᑦ ᐅᖃᐅᓯᖅᓯᒪᖏᑦᑐᑦ ᑭᓯᓪᓗᐊᑕᓇᔭᐅᓯᓂᒃ ᑐᐊᖅᓱᑦ ᓄᐊᑦᒥ ᐱᓕᕆᐊᒃᓴᐅᓯᒧᑦ, ᐱᖃᓯᐅᒃᓗᒍ ᖃᓄᖅ ᐊᑐᐊᔭᐅᓂᖃᕐᒪ ᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᕙᓪᓕᐊᓂᖓᓄᑦ;
- ᑭᒃᑯᓕᒫᖅᑎᑦᓯᓂᕐᒥᒃ ᐱᒋᐊᖅᓯᒪᓯᒐᓗᐊᑦ, ᑭᓯᐊᓂ ᐅᖃᐅᓯᓕᐊᖑᒋᐊᖕᒐᖅᓯᒪᓯᓂ ᓇᓗᓇᐃᖅᓯᑎᐊᖅᓯᒪᖏᓪᒪᑕ ᐃᓕᑉᐹᓕᕈᑎᒋᓯᒪᔭᒥᓂᒃ ᑭᒃᑯᓕᒫᖅᑎᑦᓯᔭᕈᖕᒐᑕ ᐊᑐᓂ ᐊᒻᒪ ᖃᓄᖅ ᑕᒪᓇ ᐃᖅᑯᓪᓕᖃᓯᐅᑎᔭᐅᓂᕐᒪ ᑦ ᐱᓕᕆᐊᒃᓴᐅᓯᒧᑦ;
- ᐃᓄᐃᑦ ᖃᐅᔨᒪᓂᑐᖃᖏᓐᓂᒃ ᖃᐅᔨᓴᕈᑎᐅᓯᒪᓯᑦ ᓱᓕ ᐊᑐᐃᓐᓇᖑᖅᓯᒪᖏᑦᑐᑦ ᐱᒪᓇᐅᓚᔭᖅᐸᓪᓚᐃᓪᓗᑎᒃ ᓇᓗᓇᐃᔭᐃᓚᔭᖁᓪᓗᒋᑦ ᐱᓕᕆᓯᑦ ᐊᓯᔾᔨᕈᑎᒃᓴᓄᑦ ᐊᕙᑎᒥᒃ ᖃᐅᔨᓴᕐᓂᒥᒃ, ᐊᑑᑎᖃᖅᑐᓂᒃ ᐊᑐᐃᕈᑕᐅᓯᓐᓇᖅᑐᓂᒃ ᓇᓚᐅᑦᑎᓂᖅᓴᐅᕙᖁᓪᓗᒋᑦ, ᐊᒻ ᖃᐅᔨᓴᓪᓗᐊᓂᖅᓴᐅᕙᖁᓪᓗᒋᓪᓗ;
- ᐱᓕᕆᓯᑦ ᖃᓄᐃᖃᑦᑕᕐᓂᕆᓯᒪᔭᖏᓐᓂᒃ ᒪᓕᒋᐊᓕᓐᓂᒃ ᑲᕙᒪᒃᑯᑦ ᐊᑐᐊᒐᖏᓐᓂᒃ ᒪᓕᒐᖏᓐᓂᓪᓗ, ᐊᒻᒪ
- ᐱᓕᕆᐊᒃᓴᖅ ᐱᔾᔪᑎᖃᑦᑎᐊᖁᓗᐊᕆᐊᒃᓴᖓ ᐱᓪᓗᒍ, ᐅᖃᐅᓯᓕᐊᓐᖑᒋᐊᓐᖓᖅᓯᒪᓯᑦ ᑲᑎᑦᓯᓯᒪᖏᑦᑐᑦ ᑲᔪᓯᑎᐊᕆᓐᓇᖅᑎᒋᓂᖓ ᐱᓕᕆᐊᖑᔪᔅ ᑳᓇᐅᔭᓕᐅᕆᑎᒃᓯᑎᒍᑦ ᑐᓐᖓᕕᖃᕆᑎᐅᓯᓐᓇᖅᑐᓂᒃ ᐅᖅᑕᐅᓯᒪᓯᓄᑦ ᐅᖃᐅᓯᓕᐊᖑᒍᓯᒪᓯᓂ. ᐱᓕᕆᓯᑦ ᑕᒪᒥᓕᖅ ᐊᑐᐃᓐᓇᖃᖅᑎᑦᑎᔭᓇᐊᖃᖅᑐᑦ ᖃᐅᔨᓴᕆᓂᒃ ᐃᑲᔪᕐᓂᖃᖅᑐᓂᓪᓗ ᑎᑎᕋᖅᓯᒪᓯᓂᒃ ᓇᐃᖅᓯᒪᑐᐃᓐᓇᖏᑦᑐᓂᒃ; ᐊᒻᒪ, ᑲᑎᑦᑎᔪᓐᓇᕐᓗᑎᒃ ᑮᓇᐅᔭᖅᑎᑦᓯᔪᑎᑦᓴᐃᑦ ᓇᓕᒧᖅᑕᐅᓯᒪᑦᑎᐊᓕᕐᓂᖏᓐᓂᒃ ᐱᓕᕆᐊᒃᓴᐅᓯᒥ ᐱᕙᓪᓕᐊᔪᐅᓚᔪᖅᑐᓕᒧᑦ, ᐱᐅᓯᑎᑕᐅᒋᐊᖃᓕᕐᓂᓚᐅᖅᑕᖑ ᑎᑭᑦᑐᒍ.

ᐱᓕᕆᐊᒃᓯᒥ ᖃᓄᖅᑑᖓᓕᕈᑎᒃᓴᑦ

ᓇᓗᓇᕈᓐᓀᑦᑎᐊᕐᓗᑎᑦ ᐱᓇᓱᑦᑕᐅᓇᔭᖅᑐᑦ ᕿᒥᕐᕈᓂᐅᓯᒪᓯᓐ" ᖅᑐᑦ, ᐊᕙᑎᒥᒃ ᖃᐅᔨᓴᖅᐸᓪᓕᐊᓂᑦᓴᐃᑦ ᑎᑎᕋᕐᕕᒋᓯᒪᔭᓇᐊᖃᖅᑐᑦ ᓇᓗᓇᐃᔭᐃᔭᐅᓯᒃ ᐊᓯᖏᓐᓂᒃ ᖃᓄᖅᑑᖓᓕᕈᑎᒃᓴᐅᓯᒃ ᐱᓕᕆᐊᒃᓴᐅᓯᒧᑦ. ᓈᒻᒪᑦᑎᑦᓯᐊᓐᖑᐊᖅᑐᖅ ᑕᒪᒃᑯᐊ ᒪᓕᒋᐊᓕᑦ ᐱᓪᓗᒋᑦ ᐅᑯᐊ ᐅᖃᐅᓯᐅᓯᒪᔪᑎᒃ:

- ᐊᑐᐃᓐᓇᖃᕐᓗᑎᒃ ᐊᑐᕐᓂᖃᑦᑎᐊᖅᑐᓂᒃ ᖃᐅᔨᓴᕆᓂᒃ ᖃᓄᖅᑑᖓᓕᕆᐊᕈᑎᒃᓴᓂᒃ, ᑎᑎᖅᑕᐅᕙᒃᓯᒪᔭᓂᒃ, ᑲᖏᕆᔭᐅᔭᓂᓪᓗ, ᐊᒻᒪ ᑕᒪᒃᑯᐊ ᖃᓄᖅᑑᖓᓕᕆᐊᕈᑎᒃᓴᓄᑦ ᐊᑐᐃᕈᑕᐅᓯᓐᓇᖅᑐᓂᒃ;
- ᑲᑎᑦᓯᓗᑎᒃ ᖃᓄᖅ ᐱᒃᑰᒪᕆᔭᐅᔭᓄᑦ ᑐᖃᖅᐸᓪᓕᐊᓂᕐᒪ ʃ ᐊᒻᒪ ᑭᒃᑯᑦ ᐅᖃᖅᑲᑎᒋᔭᐅᓂᑰᒪ ʃ ᐃᓯᒪᓕᐅᖅᐸᓪᓕᐊᑎᓪᓗᒋᑦ; ᐊᒻᒪ
- ᓇᓖᕋᕈᑎᒃᓯᓂ ᑲᔪᓯᓐᖏᓐᓇᕈᑎᒃᓴᑦ ᕿᒥᕐᕈᔭᐅᒋᐊᖃᕐᒥᐅᖅ.

ᐊᕙᑎ"ᑦᑐᑦ ᖃᓄᐃᓐᓂᖏᑦ

ᐊᒥᓯᐅᖅᓱᑎᒃ (ᕐᓗ ᓄᓇᐅᑉ ᖁᐊᖅᓯᒪᑎᒋᓂᖓᓂᒃ, ᓄᓇᐅᑉ ᓴᓇᒪᓂᖓᓂᒃ, ᓄᓇᐅᑉ ᖃᖓᑕ ≈ᖅᑭᐅᒪᓂᖓᓂᒃ), ᐱᓕᕆᓯᑦ ᐊᑐᖅᑕᑦᑕᓂᖅᓴᐅᓯᒪᓯᑦ ᑎᑎᕋᖅᓯᒪᓯᓂᒃ ᐹᓯᑎᓐ ᐊᕙᑎ ᖓᓂᒃ, 55 ᓄᒪ ᐅᖓᓯᓐᓂᖅᑲᖅᑐᒥᒃ ᑐᐊᖅᓱ ᓄᐊᑦ ᓂᒋ ᖓᓂ. ᑐᐊᖅᓱᒥ ᑎᑎᕋᖅᓯᒪᓯᓂᒃ ᐱᔭᓇᐊᖅᑲᕐᓂᐊᖅᑐᑦ ᐅᕙᓗ ᐱᓕᕆᐅᑦ ᑲᑎᑦᓯᔭᓇᐊᖅᑲᕐᓂᐊᖅᑐᑦ ᖃᓄᐃᓪᒪᑦ ᐹᓯᑎᓐᒥ ᑐᓴᐅᒪᔪᒃᓴᐃᑦ ᓈᒻᒪᒻᒪ ʃ ᓇᓗᓇᐃᖅᓯᕈᑎᒋᓯᓐᓇᒥᓗᒋᑦ ᑐᐊᖅᓱ ᐊᕙᑎᖓᓂᒃ.

ᓯᓚ

- ᐊᑯᓂᒃᑯᑦ ᓯᓚᒥᒃ ᑎᑎᖃᐅᑎᐅᕙᓪᓚᐊᓯᑦ ᐅᖅᑰᓯᕙᓪᓚᐊᓂᕐᒧᖕᖓᓂᑦ ᐱᔾᔪᑎᖃᖅᑐᑦ ᐃᓯᒪᒃᓴᖅᓯᐅᕆᑕᐅᓂᖏᑦᑐᑦ;

- ᓇᓗᓇᐃᖅᓯᒍᑎᖃᕆᐊᖃᖅᑐᖅ ᓯᓚᒥᒃ ᑎᑎᕋᐅᑎᐅᑉᐸᓪᓕᐊᔪᓄᑦ ᓯᓚᓐᓂᐊᕐᕕᖕᒥᒃ ᓴᓇᔪᖃᕐᓗᓂ ᑐᐊᕐᓴ ᓄᐊᑦᒥ, ᓯᓚᓐᓂᐊᕐᕕᖃᕋᓗᐊᕐᓗᓂ ᐹᔅᑎᓐᒥ ᑕᒪᒃᑮᓐᓂᒃ ᓇᓚᕿᑎᒃᓴᖃᖅᐸᓛᕈᓪᓗᒍ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ.

ᓄᓇᐅᑉ ᓴᓇᒪᓂᖓ

- ᖃᐃᖅ ᑉ ᓴᓇᒪᓂᖓ ᐅᔭᕋᑦᑕᓇᐊᕐᕕᖕᒥ ᐃᓂᓪᓚᒪᓂᖓ ᐱᖃᓯᐅᒃᑯᒍ. ᑕᒪᓐᓇ ᐱᓪᒪᕆᐊᓘᓯᒍᓐᓇᕐᒪᑦ ᒪᑯᓄᖓ ᕐᓗ ᐃᒪᓕᕆᓂᕐᒧᑦ, ᓱᑭᕐᓇᖅᑐᖃᖅᑐᓄᓪᓗ ᑮᓇᕕᓐᓄᑦ.

ᓄᓇ ᖃᓄᐃᓕᖓᓂᖓ

- ᓄᓇᐅᑉ ᖁᐊᖅᓯᒪᑎᕆᓂᖓᓂᒃ ᖃᐅᔨᓴᕐᓂᖃᕆᐊᖃᖅᑐᖅ ᐱᓕᕆᐊᕝᕕᐅᓚᔪᖅᑐᓕᒫᓂ ᑮᓗᒃᓯᕝᕕᐅᓚᔪᖅᑐᓂ, ᐅᔭᖅᑭᐊᕐᕕᖕᓂ, ᐊᖅᑯᑎᓕᐅᖕᒍᓚᔪᖅᑐᓂ, ᓴᕕᖃᔭᒃᓴᔪᓄᑦ ᐅᔭᖅᑲᓄᓪᓘᓐᓃᑦ ᐊᑦᑕᕐᕕᐅᖃᑦᑕᖃᔪᖅᑐᓂ, ᐊᒻᒪᓗ ᒥᑦᑕᕐᕕᒃᓴᒥ. ᑭᓯᓪᓚᔾᔪᑦ ᖃᐅᔨᓴᕐᓂᐅᕆᐊᖃᖃᔪᖅᑐᑦ ᐃᓯᖅᓴᖃᐅᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᑐᐊᕐᓴ ᐊᔾᔨᓂ ᑕᓯᓪᓗᐃᓪᓗ ᐊᔾᔨᓂ ᐊᒻᒪᓗ ᐃᒪᖅᑕᖃᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᑰᑦᑐᓂᒃ. ᓄᓇᐅᑉ ᐊᔾᔨᓂ ᓂᓪᓚᓐᓇᖅᑎᕆᓂᖓ ᐃᒪᐃᑦ ᐊᔾᔨᓂ ᓴᓇᔭᐅᔪᒪᔪᓂ ᑮᓇᕕᑦᓴᓄᑦ ᕿᒥᕐᕈᔭᐅᕆᐊᖃᕐᓂᐊᕐᒥᔪᑦ; ᐊᒻᒪᓗ
- ᑐᐊᕐᒥ ᓄᓇᐅᑉ ᖄᖓᓂᒃ ᐃᓂᓪᓚᒪᓂᖓᓂᒃ ᓄᓇᙳᐊᓂᒃ ᐊᑐᐃᓐᓇᖅᑕᖅᓯᒪᕆᑦᑐᖅ, ᐊᑑᑎᖃᔪᖅᑐᑦᓴᐅᑎᓪᓗᒋᑦ ᓲᖅᑯᐃᖅᓯᔪᖃᕐᓱᒃᑯᓂ ᓄᓇᐅᑉ ᖃᓄᐃᓐᓂᕆᔭᖓᓂᒃ (ᓄᓇᐅᑉ ᖁᐊᖅᓯᒪᑎᕆᓂᖓᓂᒃ ᓂᓪᓚᖑᖅᓯᒪᔪᓂᓪᓘᓐᓃᑦ ᓄᓇᐅᑉ ᐊᔾᔨᓂ) ᐃᓯᒪᒥᔭᐅᒥᐊᖃᖅᓯᔪᖅᑐᓂᒃ ᐅᔭᕐᓂᐊᕐᕕᐅᑉ ᓴᓇᒪᓂᑦᓴᖓᓄᑦ.

ᐃᒪᖅ

- ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐃᒪᖅ ᖃᓄᐃᑕᐅᖃᑦᑕᖃᔪᕐᒪ ᑦ ᑐᐊᕐᒥ ᓯᓚᔪᓐᓇᓗᐊᖅᑑᔭᕆᑦᑐᑦ; ᐊᒻᒪᓗ
- ᐊᑐᓕᖁᔭᐅᔪᖅ ᓄᖏᓂᒃ ᖃᐅᔨᓴᕐᕕᖃᐅᖃᖁᓪᓗᒍ ᐃᒪᕐᒥᒃ ᑰᓚᓐᑐᖃᖅᑐᓂ ᑮᕕᐅᔪᓂᓪᓗ ᐊᑐᐃᓐᓇᖅᑕᖄᓐᓇᖅᒪᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐅᐃᒍᔭᐅᑎᐊᒃᑲᓐᓂᖁᔭᕐᓂᖅᐸᑦ ᐅᔭᕐᓂᐊᕐᕕᐅᑉ ᐊᑐᖅᑕᐅᓂᖓ ᐅᕝᕙᓗ ᖃᓂᒥᔭᖓᓂᒃ ᐊᔭᖅᑕᓇᐊᓯᒃᑲᓐᓂᖁᔭᕈᓂ.

ᐃᒪᐅᑉ ᐱᐅᑎᒋᓂᖓ

- ᓄᓇᐅᑉ ᓴᓇᒪᓂᖓ: ᖄᖓᓂ ᐸᖁᖓᓂᖓᓃᑦᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᒋᐊᖃᖅᑐᑦ ᓴᓇᒪᓂᖓᑦ ᖃᐅᔨᓴᐅᑦᓯᐊᕐᑯᓪᓗᒋᑦ ᓇᒃᐸᓐᓂᖏᑕᓗ ᓇᓚᕿᕕᐅᓯᒪᔪᓂ ᖃᐅᔨᓴᕐᓴᓄᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓗᑎᓪᓗ. ᓇᓗᓇᐃᔭᖅᓯᒪᔪᖃᒃᑲᓂᖅᑐᓂᒃ ᐱᑕᖃᒃᑲᓂᖃᕐᓂᖏᓐᓄᑦ ᖃᓄᑎᒋ ᐆᒍᑎᖃᖅᑐᒥᒃ ᑭ^ᔪᖃᑐᐃᓐᓇᖃᕆᐊᖃᕐᓂᖓᓂᒃ ᐊᒻᒪᓗ ᓴᕕᖃᔭᒃᓴᔭᐃᑦ ᐱᒍᑕᐅᑐᐃᓐᓇᖃᕆᐊᖃᕐᓂᖏᓐᓂᒃ ᓴᕕᖃᔭᒃᓴᔭᒥ ᐅᔭᖅᑲᓂᓪᓗ ᐊᑦᑕᖅᑕᐅᕙᑦᑐᓂᒃ; ᐊᒻᒪᓗ
- ᓄᓇᐅᑉ ᐊᔾᔨᓂ ᐃᒪᐃᑦ ᖃᓄᐃᓐᓂᖏ: ᑐᑭᓯᓇᖅᓯᔭᐅᒃᑲᓐᓂᖃᕐᓂᖏᑦ ᓇᓪᓚᑦᔾᔨᓂᖏᑦ ᓄᓇᐅᑉ ᐊᔾᔨᓂ ᖃᓄᐃᑉᐸᑦᑐᓂᒃ, ᓄᓇᐅᑉ ᐊᔾᔨᓂ ᐃᒪᐃᑦ ᑰᓚᑉᐸᓪᓕᐊᔪᑦ ᐱᐅᑎᒋᓂᖏᓐᓂᓪᓗ ᐊᒻᒪᓗ ᐊᖏᑎᒋᓐᓂᖏᑦ ᐃᓯᒪᒥᓪᓗᒍ ᐃᒪᐃᔭᐃᖃᑦᑕᕐᓂᐅᔪᖅ ᐅᔭᕐᓂᐊᕐᕕᖕᒥ.

ᐃᐤᓯᒃᑯᑦ-ᑮᓇᐅᔭᓕᐅᕿᑎᒃᓴᒃᑯᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ

ᓇᓗᓇᐃᖅᓱᖅᑕᐅᓯᒪᔪᑎᒃ ᖃᓄᖅ ᐱᑎᕆᔪᒥᒃ ᐃᐤᓯᒃᑯᑦ-ᑮᓇᐅᔭᓕᐅᕿᑎᒃᓴᒃᑯᑦ ᐊᑐᐊᓂᖃᖅᑐᑦ ᐊᑑᑎᖃᓪᒪᓂᒃᑲᖅᑐᖅ ᐊᑦᑐᕿᑕᐅᔪᓂᒃ ᖃᐅᔨᓴᖅᑐᖃᖅᑎᓪᓗᒍ. ᑕᒪᒃᑯᐊ ᓇᓗᓇᐃᖅᑐᓯᒪᑦᑎᐊᓂᐊᖃᖅᑐᖅ ᐊᒻᒪᓗ ᐱᔾᔪᑎᖏᑦ ᓇᓗᓇᐃᕐᒥᓗᑦ ᖃᓄᐃᓕᖓᓇᓯᓂᔭᐅᓂᖏᓐᓄᑦ. ᐃᑲᔫᑎᖃᕐᓴᕐᒪᑦ ᑲᓯᒃᑕᐅᓕᓪᓚᐊᓕᕿᑎᒃ ᖃᐅᔨᒪᔾᔪᑎᒃᓴᐅᔪᓐᓇᖅᑐᐃᑦ ᓇᓚᐊᓐᓄᓪᓚᑦᓯᖅ ᐊᑐᐊᕿᑕᐅᔪᓄᑦ ᐊᑕᖏᖅᓯᒪᑦᑎᐊᕐᒍᓪᓗᒋᑦ.

ᐊᓯᑎᒥ ᐊᑐᖅᑕᐅᔪᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ

ᐱᓇᓱᔪᓯᑦ ᒪᓕᒃᑕᐅᔪᑦᓴᐃᓪᓗ ᖃᐅᔨᓴᕿᑎᒃᓴᓄᑦ ᐊᓯᑎᒥ ᐊᑐᖅᑕᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐊᑐᓂ ᖃᓄᐃᑦᑎᕆᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᓯᒪᓂᖏᑎᒍᑦ ᐊᓯᑎᑦᑐᑦ ᐅᖃᐅᓯᐅᓯᒪᑦᑎᐊᖅᑐᑦ. ᑭᓯᐊᓂ, ᐊᒥᓲᓂᖏᓐᓄᑦ ᓈᓴᐅᑎᓪᓚᑦᓯᑎᒍᑦ ᑎᑎᕋᖅᓯᒪᔪᐃᑦ ᐱᓕᕆᐊᒍᓪᓗ ᓇᓗᓇᐃᔭᕐᑎᑦ, ᐅᖃᐅᓯᐅᖅᑐᑦ, ᓇᓚᐅᑦᓴᕐᑎᑦᓯᐊᕆᐅᓗᐊᖏᓪᒪᑕ ᐃᓚᖏᑦ ᐊᑐᐃᕿᑕᐅᔪᓂ.

ᐊᓯᑎᒥ ᐱᔾᔪᑕᐅᔪᑦ ᑐᑭᓯᔭᐅᕆᐊᒃᑲᓐᓂᖃᖅᑐᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᑦᓯᐊᕐᑯᓪᓗᒋᑦ ᐊᑐᐃᕿᑕᐅᔪᓐᓇᖅᑐᐃᑦ, ᖃᓄᐃᑦᑎᕆᓂᖏᑦ ᐱᒍᑕᐅᔪᓪᓗ ᐅᑯᐊᖑᒍᑦ:

ᓯᓚ

- ᓯᓚᐅᑉ ᐊᓯᔾᔨᐸᓪᓕᐊᓂᖓᓄᑦ ᐊᑦᑐᐃᑭᑕᐅᔪᑦ ᑭᓈᕕᐅᒐᔭᒃᑐᓂ, ᑭᓈᓗᒃᓯᕐᕕᖕᖏᑦᑐᓂᒃ ᒪᑐᔭᐅᓯᒋᐊᕆᓂ ᖃᐅᔨᓴᖅᑕᐅᓕᖁᔭᕐᓂᖏᓐᓄᑦ; ᐊᒻᒪᓗ
- ᓇᓗᓇᐃᔭᖅᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᕐᓂᖃᕆᐊᖃᖅᑐᖅ ᖃᐅᓯᕐᓇᖅᓯᔭᕿᖓ ᖃᓄᑎᑮᑉᐸᒻᒪ ᖃᖓᒃᑯᓪᓗ ᑕᐃᒪᐃᓕᔪᑉᐸᒻᒪ ᑦ.

ᓄᓇ ᐃᓂᓪᓚᖓᓂᖓ

- ᐊᑦᑐᐃᑭᑕᐅᔪᓂᒃ ᓄᓇᐅᑉ ᖁᐊᖅᓯᒪᓂᖓᓂᒃ ᓄᓇᐅᑉ ᖄᖓ ᐊᓯᔾᔨᑕᐅᕙᓪᓕᐊᕙᓐᓂᖓᓄᑦ; ᐊᒻᒪᓗ
- ᐊᑦᑐᐃᑭᑕᐅᔪᓂᒃ ᐃᓯᖅᓴᐅᓯᕙᒍᓐᓇᖅᑐᓂᒃ ᓄᓇᐅᑉ ᐊᔾᔨᓂ ᐊᑦᑕᓇᕈᓐᓇᖅᑐᓂᒃ ᐃᒪᒻᓯᓪᓗ.

ᐃᒪᖅ

- ᑭᓈᓗᒃᓯᕝᕕᑦ ᓴᓇᒪᓂᓪᓴᖏᑦ ᐱᓕᕆᐊᖕᒍᓯᒪᔪᑦ ᐱᑦᖃᕆᐊᖃᖅᑐᑦ ᖃᐅᔨᒪᔭᐅᑦᑎᐊᖅᐸᖁᓪᓗᒍ ᐃᒪᐅᑉ ᐊᐅᓚᑕᐅᑦᑎᐊᕆᐊᖃᕐᓂᖓᓄᑦ;
- ᑲᖕᑮ ᑕᐅᓯᒪᔪᑦ ᐃᒪᐅᑉ ᐊᐅᓚᑕᐅᑦᑎᐊᕆᐊᖃᕐᓂᖓᓄᑦ ᑐᓐᖓᕕᖃᒃᑲᓐᓂᕆᐊᖃᖅᑐᑦ, ᓄᐊᑉᐸᓪᓕᐊᕙᑦᑐᑦ ᐊᓯᔾᔨᔭᕐᓂᖏᑕᓗ ᐃᒥᕐᒥ ᐊᒻᒪ ᐊᑦᑐᐃᑭᑕᐅᔪᓂᒃ ᐃᒪᐅᑉ ᖃᓄᐃᑦᑎᒋᓂᖓᓂᒃ ᐊᔾᔨᓂ ᖃᐅᔨᓴᖅᑕᐅᒋᐊᖃᖅᑐᖅ;
- ᓇᓚᐅᑦᓵᖅᑕᐅᓯᒪᔪᑦ ᑰᕝᕕᐅᖃᑦᑕᖁᔭᖅᑐᑦ ᐊᒻᒪᓗ ᖃᖓᒃᑯᑦ ᓯᓚᑭᔪ ᖕᒍᒻᒪ ᕿᒥᕐᕿᖅᓯᐅᔾᔭᐅᒥᐊᖅᑐᑦ;
- ᓈᒻᒪᑦᑐᒥᒃ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᒥᒃ ᐆᑦᑐᕋᐅᑎᑦᓴᒥᒃ ᐃᒪᐅᑉ ᑲᒪᒋᔭᐅᖃᑦᑕᕐᓂᕆᒐᔭᖅᑕᖓᓄᑦ ᓴᓇᓯᒪᔭᖅᖏᑦᑐᖅ ᑐᐊᕐᓴ ᑕᓯᖓᓄᑦ. ᐊᑦᑐᐃᑭᑕᐅᑐᐃᓐᓇᕆᐊᖃᖅᑐᑦ ᑕᓯᐅᑉ ᐃᒪᖓᑕ ᖁᕝᕙᓯᑦᑎᒋᓂᖓᓄᑦ ᑰᓕᒍᓐᓇᕐᓂᖓᓄᓪᓗ ᓯᓚᔾᔨᓄᑦ ᑲᖕᑮᒃᓴᖅᑕᐅᓯᒪᑐᐃᓐᓇᖅᑐᑦ; ᐊᒻᒪᓗ
- ᐅᔭᕋᕐᓂᐊᕐᕕᖕᒥ ᑰᕝᕕᐅᖃᑦᑕᖁᔭᖅᑐᓄᑦ ᐸᕐᓇᐅᑎᖃᕆᐊᖃᖅᑐᖅ ᐱᓗᐊᖅᑐᒥᒃ ᖃᐅᔨᓴᖅᑕᐅᓂᐊᖅᑎᓪᓗᒋᑦ ᐊᑦᑐᐃᑭᑕᐅᔪᓐᓇᖅᑐᑦ ᖄᖅᑕᔫᑦ ᐊᑐᖅᑕᐅᒻᒪᕆᕙᓂᐊᖅᑎᓪᓗᒋ ᐊᒻᒪᓗ ᖃᓄᑎᒥ ᖃᐅᓯᕐᓇᓗᐊᓕᖅᑎᓪᓗᒍ ᑲᒪᒋᔭᖃᕈᓐᓇᖅᑎᒋᒻᒪ ᔾ.

ᐃᒪᐅᑉ ᐱᐅᑎᒋᓂᖓ

- ᐃᒪᐅᑉ ᐱᐅᑎᒋᓂᖏᑦ ᑭᓈᓗᒃᓯᕐᕕᐅ ᓂ ᐱᔾᔪᑎᖅ ᖕᒍᔪᑦ ᑭᓈᓗᕝᕕᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐅᔭᕋᖕᒍᖅᐸᓪᓕᐊᓐᓂᖏᑎᒍᑦ (ᑲᖕᑮᒋᔭᐅᔪᑦ ᑐᓐᖓᕕᖃᒃᓯᐊᖃᓗᐊᒋᐊᒃᓴᖏᓐᓂᒃ ᑎᓯᔪᖕᒍᖅᓯᒪᔪᓄᑦ ᑯᕕᒃᓴᖅᑕᐅᓯᒪᔪᓂ ᐃᒪᕐᓂ), ᐊᑐᓕᖅᑭᐸᑦᑎᒋᓂᖏᓐᓂᓪᓗ ᑕᓯᕐᒥᑦ ᐃᒪᕐᒥᒃ ᐋᔭᐃᕕᖕᒥ ᓴᕕᖃᔭᒃᓴᔭᓄᑦ; ᓇᓗᓇᐃᖅᓯᓯᒪᖕᒋᑦᑐᑦ ᐃᒪᖅ ᐱᐅᓴᖅᑕᐅᕙᒐᔪᖕᒪ ᑦ ᐃᒪᐅᑉ ᐱᐅᑎᒋᓂᖓ ᓈᒻᒪᓯᑦᓵᓕᖅᑲᑦᑕᔭᖕᒋᒃᑯᓂ;
- ᑭᓈᕕᐅᒍᓐᓇᖅᑎᒋᓂᖏᑦ ᑐᐊᕕᓐᓇᖅᑐᒍᑦ ᓇᓪᓕᐅᒃᑯᓖᑦ ᑕᓯᕐᓗᐃᑦ ᒥᑦᓴᐅᓯᖅᑕᐅᓯᒪᖕᒋᑦᑐᑦ ᐅᑯᓂᒃᑲᓐᓂᖅ ᒥᓪᓗᐊᕐᕕᖅᑐᑦ ᐊᔭᓕᖅᓯᒪᑦ ᔭᕐᓂᑭᑎᒃ;
- ᐅᔭᕋᕐᓂᐊᕐᕕᖕᒥ ᐃᒪᐃᑦ ᐊᖏᑎᒋᓂᖏᑦ, ᖃᓄᕐᓗ ᐱᔭᐅᕙᓐᓂᖏᑦ ᐅᕙᓗ ᖃᓄᖅ ᐊᑦᑐᐃᕙᓐᓂᖏᓐᓂᒃ ᑭᓈᓗᒃᓯᕐᕕᖕ ᖅᑕᐅᓂᖏᓐᓂ ᑕᓯᕐᓗᒍᑦ;
- ᖃᓄᐃᑦᑎᒋᓂᖏᑦ ᑭᓈᓗᒃᓯᕐᕕᐅᖁᔭᐅᕙᓄᑦ ᓴᐳᒃᓯᒪᓂᖏᑦ ᐸᕐᓇᐅᑎᓪᓗ;
- ᑭᓈᓗᒃᕕᖕᒥᑦ ᑭᓈᕙᓂᖏᑦ ᐃᒪᐅᑉ ᐱᐅᑎᒋᓂᖓᓄᑦ ᑐᐊᕐ ᑕᓯᖓᓄᑦ ᐊᕙᒻᒧᓪᓗ;
- ᕿᒥᕐᕈᔭᐅᓂᖏᑦ ᐊᑦᑐᐃᓂᖏᑕ ᐅᔭᕋᖕᒍᖅᓯᒪᔪᑦ, ᐊ ᓐᓂᐊᓗ ᐊᒻᒪ ᓇᐃᑐᖃᔨᓐ ᖃᓄᐃᕝᕕᐅᔪᓐᓇᖅᑐᓕᒫᓂᑦ, ᐊᒻᒪᓗ ᓴᕕᖃᔭᒃᓴᔭᑦ ᖁᐃᕈᓯᓐᓂᖏᑦ ᑭᓈᕕᐅᔪᓂᑦ ᑕᓯᕐᓄᑦ ᐊᕙᒻᒧᓪᓗ;
- ᐊᖅᑯᑕᐅᔪᑦ ᐃᓕᐅᖅᓯᕕᐅᕙᓪᓕᐊᔪᓪᓗ ᐊᑦᑐᖅᑕᐅᓂᖏᑦ ᐅᔭᕋᖕᒍᖅᓯᒪᔪᓄᑦ ᓱᑭᕐᓇᖅᑐᓄᑦ ᑰᕝᕕᐅᕙᓪᓕᐊᔪᓄᑦ ᐊᕙᑎᑦᑎᓐᓂ ᐊᒻᒪᓗ ᐃᒪᖅᑲᖅᑐᓄᑦ ᓂᕿᑦᓴᐅᔪᓄᓪᓗ;
- ᓴᕕᖃᔭᒃᓴᔭᑦ ᑭᓯᓪᓗ ᓄᐊᑉᐸᓪᓕᐊᕙᓐᓂᖏᑦ ᓂᕿᑦᓴᓄᑦ;
- ᖃᓄᖅ ᐱᐅᓴᖅᑕᐅᕙᓐᓂᖏᑦ ᐃᓄᓐᓅ ᖅᑐᑦ ᑭᓈᕖᑦ, ᐱᐅᑎᒋᕙᓐᓂᖏᓪᓗ, ᐊᑦᑐᐃᕙᑦᑎᒋᓂᖏᓪᓗ ᓂᕆᐅᒋᔭᐅᔪᓄᑦ ᐱᐅᑎᒋᓂᖕᒪᑕ ᑭᓈᓗᒃᓯᕐᕕᐅᑉ ᑕᓯᐅᑉ ᐊᒻᒪᓗ ᕿᒥᕐᕈᔭᐅᓂᖏᑦ ᑰᕝᕕᐅᔪᑦ; ᐊᒻᒪᓗ
- ᑭᓈᕕᐅᔪᑦ ᑯᕕᓯᕙᓐᓂᖏᑦ ᐃᓯᒪᒋᔭᐅᓪᓗᐊᕆᐊᖃᖅᑐᖅ ᑯᕕᔭᖅᑲᖅᐸᑦ ᐸᕐᓇᐅᑎᐅᔪᒧᑦ.

ᐱᕿᓗᐊᕿᐸᓐᓃᑦ ᐊᔪᓕᖅᐸᑐᓪᓗ

- ᖃᓄᖅᑑᖕᒐᒋᐊᕈᑎᒃᓴᓂᒃ ᐅᖃᐅᓯᐅᔪᖃᖅᓯᒪᐅᖕᒐᓗᐊᖅᑐᖅ ᐊᑦᑐᐃᑭᑕᐅᔪᓐᓇᖅᑐᓄᑦ ᖃᐅᔨᓴᑭᑎᒥ; ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖅᓴᓂᒃ ᐱᔭᕆᐊᖃᕐᓂᐊᖅᑐᖅ ᕐᓗ ᑯᕕᔭᖅᑲᕐᓂᖅᐸᑦ ᐸᕐᓇᐅᑎᒥᒃ.

ᑲᑎᑉᐸᓪᓕᐊᕙᑦᑐᑦ ᐊᑦᑐᐃᕙᓐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᑭᑎ

- ᖃᐅᔨᓴᕆᑎᐅᓯᒪᔪᑦ ᑲᑎᑉᐸᓪᓕᐊᕋᑦᑐᑦ ᐊᑦᑐᐃᕋᓐᓂᖏᓐᓄᑦ ᓇᓄᓇᐸᓗᒻᒪᑕ ᐊᒻᒪ ᑕᒪᐃᓐᓂᓕᖓᓗᐊᐸᓗᒃᑐᑎᒃ ᕿᒥᕿᔭᐅᑦᑎᐊᕐᖁᓪᓗᒋᑦ ᑲᑎᑉᐸᓪᓕᐊᕋᑦᑐᑦ ᐊᑦᑐᐃᕋᓐᓂᖏᓐᓂᒃ ᐃᓯᒪᒋᓪᓗᒋᑦ ᖃᓄᐃᑦᑎᒋᓂᖏᓐᓄᑦ ᓇᓄᓇᐃᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐊᕙᑎ"ᑦᑐᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᓂ ᐱᓕᕆᔪᓄᑦ;
- ᖃᓄᐃᑦᑎᒋᓂᖏᓐᓄᑦ ᓇᓄᓇᐃᖅᓱᖅᑕᐅᓯᒪᓂᖏᑎᒍᑦ ᐊᕙᑎ"ᑦᑐᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᑐᖀᖓᓂᖅᓴᐅᒐᔭᓚᐅᖅᑐᑦ ᖃᓂᒌᔭᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᒥᓪᓗ ᖃᐅᔨᓴᕐᕕᐅᓯᒪᔪᓂ ᐊᑐᖅᑐᑦᓴᐅᓗᑎᒃ ᑲᑎᑉᐸᓪᓕᐊᔪᓄᑦ ᐊᑦᑐᐃᕋᓐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᕆᑎᒃᓴᓄᑦ ᑕᑯᔾᔪᑎᑦᓴᐅᓂᖅᓴᐅᒐᔭᓚᐅᖅᑐᑦ ᐃᑦᑐᐃᕋᓐᓂᖏᓐᓄᑦ ᐊᓯᖏᑕ ᐱᓕᕆᐊᒃᓴᐅᔪᐃᑦ ᐱᖃᓯᐅᑎᓯᒍᓐᓇᖅᑐᓂᒃ ᐊᑦᑐᐃᓗᑎᓪᓗ ᑐᐊᕋᐠ ᓄᐊᑦ ᐱᓕᕆᐊᒃᓴᐅᔪᒍᑦ; ᐊᒻᒪ
- ᑲᑎᑉᐸᓪᓕᐊᔪᓄᑦ ᐊᑦᑐᐃᕋᓐᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᕆᑎ ᓇᓄᓇᐃᖅᓯᓯᒪᓪᓗᐊᖏᓕᒥᔪᖅ ᑕᒪᐃᓐᓂᒃ ᑭᖑᓂᐊᓂ, ᐅᓪᓗᒥᓗ, ᓯᕗᓂᕐᓂᐊᖅᑕᑎᓐᓂᓗ ᐱᓕᕆᐊᒃᓴᐅᓚᔪᓐᖑᐊᖅᑐᓂᒃ. ᑕᒪᓐᓇ ᐱᒻᒪᕆᐅᒻᒪᑦ ᐅᖃᐅᓯᓕᐊᖑᕆᐊᓐᖓᓚᖅᓯᒪᔪᓂ ᐅᖃᖅᑕᐅᓯᒪᒻᒪᑦ MHBL-ᑯᑦ "ᐱᕕᖃᖅᑐᓇᑦᑎᐊᕐᓂᖏᓐᓂᒃ ᓯᕗᓂᑦᓴᒥ ᐱᕋᓪᓕᐊᓂᖅᑕᖃᕐᓇᖅᓯᕐᓂᖓᓂᒃ Hᐆᑉ ᑲᖏᖅᑐᖓᓂ" (ᐅᖃᐅᓯᓕᐊᓂ ᒪᑉᐱᖓᖅ 1-2).

ᐃᓯᒃᑯᑦ-ᑮᓇᐅᔭᓕᐅᕆᑎᒃᓴᒃᑯᑦ ᐊᑦᑐᖅᑕᐅᓂᖏᓐᓄᑦ ᖃᐅᔨᓴᕆᑎ

ᖃᐅᔨᓴᕆᑎᐅᓯᓚᔪᖅ ᓴᓐᖑᕇᓪᓕᒥᐊᖅᓯᒪᓪᓚᑦ ᓇᓄᓇᖅᓯᓯᒪᓂᖓᓄᑦ ᓇᓄᓇᐃᖅᓯᓇᓯᓐᓂᐅᔪᖅ ᓇᓪᓕᖏᓐᓂᒃ ᖃᐅᔨᒪᔾᔪᑎᖃᕈᓐᓇᐊᖃᒪ ᑦ, ᖁᓖᓂ ᐅᖃᐅᓯᐅᓵᖅᑐᓂ. ᐊᒻᒪᑦᑕᐅᖅ, ᐊᑦᑐᐃᕆᑕᐅᑐᐃᓐᓇᕈᓇᐊᖃᖅᑐᑦ ᓄᓇᓕᓐᓄᑦ ᓄᓇᔅᐸᓪᓕᐊᔪᑦ ᐱᓪᓗᒋᑦ ᐅᖃᐅᓯᐅᓂᖅᓴᐅᔭᕈᓇᐊᖃᖅᑐᑦ ᒪᓕᑦᑕᐅᖁᓪᓗᒋᑦ ᐊᑐᐊᓚᐃᑦ. ᖃᐅᔨᓴᕆᑎ ᐱᖃᓯᐅᔾᔨᕆᐊᖃᖅᑐᖅ ᐊᑦᑐᐃᕆᑕᐅᔪᓄᑦ ᐃᓄᓐᓄᑦ ᐊᓯᖏᓐᓄᑦ ᓄᓇᕗᒥ ᐊᕕᑦᑐᖅᓯᒪᔫᓐ ᖅᑐᓄᑦ ᐃᖅᑲᓇᐃᔭᕆᒪᓚᔭᖅᑐᓄᑦ ᐅᔭᕋᓂᐊᕐᕕᖓᒥ.

ᐱᓕᕆᔪᑦ ᐱᔾᔪᑎᖃᑦᑎᐊᕆᐊᖃᖅᑐᑦ ᓱᒻᒪᑦ ᑮᓇᐅᔭᓕᐅᕆᑎᒃᓴᐅᔪᓐᓇᖅᑐᓄᑦ ᐆᑦᑐᕋᕆᑎᐅᔪᖅ ᐅᖃᐅᓯᓕᐊᓐᖑᕆᐊᓐᖓᓚᖅᓯᒪᔪᓂ ᐊᔾᔨᐸᓗᑐᐃᓐᓇᐅᓯᓇᔭᐅᒻᒪ ᐆᑦᑐᕋᕆᑎᐅᖁᔭᐅᓯᒪᔪᒍᑦ ᐊᕙᑎᒥᒃ ᐊᑦᑐᖅᑕᐅᔪᓄᑦ ᖃᐅᔨᓴᕆᑎᒃᓴᒍᑦ ᑐᑭᒧᐊᕆᑎᖏᓐᓂᒃ. ᓯᓚᓗ, ᐆᑦᑐᕋᐅᑎᐅᔪᖅ ᓄᓚᐅᖑᕆᐊᖅᑕᐅᔭᓇᖃᖅᑐᖅ ᖃᐅᔨᓴᕐᓂᖃᖅᔪᖃᓪᓗᒍ ᑕᒪᐃᓐᓂᒃ ᐊᑦᑐᐃᕆᑕᐅᔪᑦᔪᓄᑦ ᐃᑲᔪᕆᑎᐅᔪᓄᓪᓗ ᓄᓇᕗᒥᐅᓄᑦ, ᓄᓇᑎᐊ"ᑦᑐᑦ ᓯᓚᔪᓂ.

ᐊᕙᑎᓕᕆᓂᖅ, ᖃᓄᐃᓕᖓᓂᐊᕆᑎᓪᓗ, ᐊᒻᒪᓗ ᓇᐅᑦᓯᖅᑐᕆᑎᒃᓴᑦ

ᐸᕐᓇᐅᑎᑦ ᐊᕙᑎᓕᕆᓂᑦᓴᒍᑦ, ᖃᓄᐃᓕᖓᓂᐊᕆᑎᓂᓪᓗ, ᐊᒻᒪᓗ ᓇᐅᑦᓯᖅᑐᕆᑎᒃᓴᓄᑦ ᓴᖅᑭᑕᐅᓯᒪᔪᑦ ᐃᓯᒪᒋᔭᐅᕋᓪᓕᐊᓯᒪᔪᓂ. ᐃᓕᖏᓐᓂ, ᓇᓄᓇᐃᔭᖅᓯᒪᓂᖅᓴᓂᒃ ᐱᔭᓇᐊᖃᕐᓂᐊᖅᑐᖅ ᔫᒃᑯᐊ MHBL-ᑯᑦ ᐅᐸᓗᖓᐃᔭᖅᓯᒪᑦᑎᐊᕈᓪᓗᒋᑦ ᖃᓄᐃᓕᒥᐊᕆᑎᑦᓯᐊᕋᐅᔪᓂᒃ. ᐱᑕᖃᖅᑎᓇᒍ ᐊᑕᖏᖅᑐᓂᒃ ᓂᓇᐅᓇᕿᔭᓐᖑᐊᖅᑐᓂᒃ ᐊᑦᑐᐃᕆᑕᐅᔪᓂᒃ, ᐱᔭᕐᓂᓗᐊᖏᒻᒪᑦ ᖃᐅᔨᓴᑦᑎᐊᓇᐊᑦᓴᖅ ᓈᒻᒪᑦᑎᒋᓂᖏᑦᑕ ᖃᓄᐃᓕᖓᓂᐊᕆᑎᒃᓴᐅᓇᔭᖅᑐᐃᑦ ᐊᑐᓕᖁᔭᐅᔪᑦ ᐱᓕᕆᐊᒃᓴᒍᑦ.

ᑭᓯᐊᓪᓚᕝᕕᑦ ᐊᒥᓚᕆᑎᐅᔪᑦ ᐱᖃᓯᐅᔾᔨᔪᑦ ᑯᕕᔪᖃᕐᓂᖅᐸᑦ ᐸᕐᓇᐅᑎ, ᐅᖃᐅᓯᖃᓯᐅᑎᔪᓂᒃ ᖃᓄᐃᓕᖓᓂᐊᕆᑎᒃᓴᓂᒃ ᐆᒍᑎᖃᖅᑐᑦ ᑮᓈᓂᕿᓂ, ᐱᕿᓗᐊᕿᔪᖃᕐᓂᕿᓂ ᐊᒻᒪᓗ ᐊᔪᓕᖅᑐᖃᕐᓂᕿᓂ ᖄᖅᑕᔫᖃᕐᕕᐅᔪᓂ, ᐊᒻᒪᓗ ᑮᓇᕕᓐᓄᑦ ᑯᕕᔪᖃᕐᓂᕿᓂ ᐂᔭᐃᕕᐅᔪᒥᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᐊᖏᔩᑎᓂᒃ ᑯᕕᔪᖃᕐᓂᕿᓂ.

ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎ ᐅᔭᖅᑲᓄᑦ ᐊᑦᑕᕋᓯᐅᔪᓄᑦ ᓇᓄᓇᐃᖅᑕᐅᒥᐊᖃᖅᑐᖅ ᐸᕐᓇᐅᑎᒥᒃ ᖃᓄᐃᑑᓂᖏᑦᑕ ᐅᔭᖅᑲᐃᑦ ᐆᒍᑎᖃᖅᑐᑦ ᐃᓯᒪᒋᓪᓗᒋᑦ ᐊᒻᒪᓗ ᓴᕕᕋᔭᒃᓴᐅᑉ ᖃᓄᐃᑑᑎᒋᓂᖏᑦᑕ, ᓈᒻᒪᑦᑐᒥᓪᓗ ᑲᒪᒋᔭᐅᑲᑦᑕᕐᓂᓚᔭᖅᑕᖏᑦᑕ.

ᐃᓯᒪᒋᔭᐅᒥᐊᖅᓯᒪᔪᖅ ᐅᔭᕋᑦᑕᓇᐊᕐᕕᐅᑉ ᒪᑐᔭᐅᓂᑦᓴᓚᔭᖅᑕᖓᓄᑦ ᐸᕐᓇᐅᑎ

ᐱᓕᕆᔪᑦ ᑐᓂᓯᔭᓇᐊᖃᖅᑐᑦ ᒪᑐᓂᑦᓴᒍᑦ ᐸᕐᓇᐅᑎᒥᒃ ᒪᓕᓪᓗᒋᑦ ᓄᓇᕗᒥ ᕿᒥᕿᕐᔩᑦ ᐊᕙᑎᒍᑦ ᖃᐅᔨᓴᕆᑎᐅᔭᓇᐊᓕᓐᓄᑦ ᑐᑭᒧᐊᕆᑎᖏᑦ ᐊᒻᒪᓗ ᑐᑭᒧᐊᕆᑎᐅᔪᐃᑦ ᕿᒪᐃᓂᐊᕐᓗᓂ ᐱᐅᓯᑎᑦᓯᒥᐊᕐᓂᐊᕐᓗᓂᓗ ᐸᕐᓇᐅᑎᑦ ᐅᔭᖅᑲᕐᕕᐅᔪᓂ ᓄᓇᑦᑎᐊᒥ (1990). ᐱᓕᕆᔪᑦ ᐅᔾᔨᖅᑐᕆᐊᖃᖅᑐᑦ ᔫᒃᑯᐊ ᐃᓄᓕᕆᔩᑐᖃᒃᑯᑦ ᔫᑦᓯᒪᓐᖓᑦ ᑭᖑᓪᓕᖅᐹᖑᔪᒥᒃ ᓄᔫᖑᕆᐊᕆᓂᐅᓯᒪᑕ ᐃᓗᐊᓖᒥᒃ ᐊᐅᓚᔾᔪᓯᖃᖁᓪᓗᒍ ᐊᒻᒪᓗ ᓄᓇᕗᒥ ᒪᑐᓯᔪᖃᕐᓂᐊᕐᖓᑦ ᐅᔭᖅᑲᕐᕕᖕᓂᒃ ᐊᑐᐊᓚᕐᒥᒃ (2002).

ᐃᓰᒫᑎᑦ ᐅᖃᐅᓯᐅᒃᑲᓐᓂᐊᖃᕐᒥᔪᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᐸᓪᓕᐊᓂᖓᓄᑦ, ᐅᖁᓯᕋᓪᓕᐊᓂᖓᓄᑦ, ᐅᒪᔫᓐᓃᑦ ᐊᓯᔾᔨᖅᑕᐅᔪᓄᑦ ᓯᓚ ᐱᓪᓗᒍ ᐱᓗᐊᖅᑐᒥᒃ ᐃᑲᓂᒃᑲᓂᖅ ᒪᑐᔭᐅᕋᓪᓕᐊᓕᖃᓂ ᐅᔭᖅᑲᕐᕕᒃ.

ᐸᕐᓇᐅᑎ ᑐᓴᒃᓴᖃᓇᐊᖃᖅᑐᖅ ᖃᓄᐃᑑᓂᖏᓐᓂᒃ ᓇᔪᖅᑕᐅᑉ ᒪᑐᔭᐅᓯᒪᓕᖅᐸᑦ, ᐅᔭᖅᑲᕐᕕᑑᖏᑦᑐᒥᒃ ᓴᓇᕝᕕᐅᔪᓂᓪᓗ, ᑭᓯᐊᓂᑦᑕᐅᖅ ᓇᔪᖅᑕᐅᔪᒥ ᓴᓇᔭᐅᓯᒪᔪᓕᒫᓂᒃ ᐃᓂᓪᓚᖑᐅᑎᓐᓂᒃ.

⅁ϟᑲᖏᖏᓱᓂᐊᖏᕆᔨᖅ ᐊᑦᑕᖏᓴᓂᒃ ᐊᐅᓪᓚᑎᓂᖅᓗᑦ ᕿᖅᓇᐅᑎᓂᒃ ᐊᑦᑕᕋᑦᑕᐅᔨᓄᑦ ᐅᔭᖏᑭᖏᕕᐅᕙᑦᑕᑐᓂ ᐊᓱᒪ ᓄᓇᐅᑦ ᐊᔪᓂ. ᓇᓗᓇᐃᔭᖏᓯᒪᔨᓂᒃ ᐱᑕᖏᒃᖏᓂᓐᓂᖏᓂᒃ ᐱᓵᔨᑎᑦᓴᐅᔨᓇᖏᑐᓂᒃ ᖃᒪᓕᕆᑎᓂᑦᓴᒍᑦ ᕿᖅᓇᐅᑎᐅᔨᒍᑦ ᑭᓇᓕᓂᒃᑐᓂ.

NAITOMIK OKAKHIMAYUK

Ona naonaigotighak pihimayuk takoogijotigiyaitigot Doris tattip tunungani Avatiliginikot Kanogilijotaoniaktotigot Naonaigotighak Kavamatokait Enolilgiyiita kiojotigiplogo tughikhimakmata Avatiliginikmot Katimayiita (NIRB-kot) Inungnik tuhaktitiyumagamik hapkonatigot ihomaalotaoyotigot. Enoligiyitokat monagiyagikmajok nunap kanogilioktaonighaitigot omiakpaitlo tulaktakviitigut ovalo angigiakakmajok atanniktoktaonighait emalikinikot laisighat piyumayaoyot.

Enoligiyitokat ilittogihimayaat Miramar Hope Bay Ltd pihimayut malikatinahoakhotik NIRB-kot atokohimayainik okakhimayaat Aktopa 15-mi 2002-gotillogo okiok, talvalo kolit okakhimayait titigakhimayamikot talvoona holi oblokot okakhimayumi. Avatiliginikmot naonaiyaotaoyok titigkahimayuk naonaitomik taigogiami. Kanogijohigiyaa naonaiyaotaoyop titigakhimayuk nunamot kanok kinggoknakhitiniagiakhaanik titigatiakhimayok oinggaiktaohimayaagani, kanoklo atoktaoniaktot okatiakhimaplotik malikayaghallo malitiakhogit titigakhimayok. Kihimitaok elangagot nalaomatianggitoni titigakhimayokaktok naonaiyaotaoyomi avatiliginikot Enoligiyitokait hapkoa ilittogihimayait ehoinaakhimayot elanggit kihimi ehoaghatiaklogo okakhimayoghaoyok kinggolikpaami titikami naonaiyaotaoyomi okakhimayoghak NIRB-kot takoogijotiginahoaktait eniktinnagit.

Hapkoa naitomik titigakhimayot naonaigotighat ehoagiyaonggituk omani tuhaktaghami.

Havaagoyoghakot Naonaiyakhimayot/Naitomik
Enoligiyitokat ilittogihimayait havaagoyoghakot nakoatootiakhimaitot pitkoyaohimayotigot imaa:

- Kanok itjohia oyagakhiokvioyot kikaotigagot nunap iloani, nunamilo imak, hivoganaktollo oyakat kataktoghat;
- Hokpaniijohiit, nanilo inniakmagaagita oyagakhoikvioyot nalvaakhiokvioyollo nunap iloani havakvioyotigot hivoganakhotilo avatiliginikot pitjotaonahoaktot talvani tahikmi Doris Lake-mik kablonaatot taiyaovaktok, tahiklo kovigakvoiyok (Enoligiyitokat tiliyait oyagakhoktit naonaitomik titigakoplogit naonaigotighanik havaagoyoghat kanogijohighaitigot)
- Oyakat, oyakallo ikakoghat kaligiiktighimayot (kanoklo aktilaagit oyakallo kiligiiktighimayot ikakot oyakat atoktaolimaitot) hokpaniitaaghainiklo naonaiyatiakhimaitotik, ovalo okakhimaitotik kanoktot ilitkohiatot iliyaoniakmagaat taimaaktaokpat, akyaktaonighailo oyakat nalvaagohimayot kanoktollo piyaoniakmagaagita okakhimaitotik atogoigomikkiklo otiktiffaakniakmagaagita nunap iloanot kanoktollo oyakat kaligiiktighimayot monagiyaoniakmagaagita naonaitomik okakhimainmata;
- kanok itjohighaa monaktaonighaitigotlo ikkakooyot ikkakookvioyotlo, imaa knok itjohighaitigot, ehoitjohiitigotlo, kanoklo inniakmagaagita nigiogiyaoyot naonaigiiktaohimakmagaatloniit kanok imakmik atokniagiakhamiknik, totkoomavighailo oyakat atoktaolimaitot igitaoyoghat;
- oyakanit immat amigiyaonighait nunap iluanit, nunaplo iluani hiku, nunaplo kanogilioktaovalianingga;
- okiomi apkohiokhimayut akyaktakvioplotik, kanok ittaaghainik tamayatlo akyaktaktaoyot naonaiyatiakhimaitotik okakhimainmata, homotlo yakyaktaokmagaagita, hanayaovaliayotlo honatlikaa, kaffiiktukhotiklo akyakpakmagaagita oyagakhiokvioyonot; ovalo
- kakogo pivaliajotaonahoaktut nalvaakhioknighakot nunap iluanivalaakihumagiyaoyot kinikhiavionahoaktomi Doris tununggani hivogaanilo ihumagiyaokmata nunap kikaohia

homilo piniakmagaagita, kanoktollo naonaiyainiakmagaagita nalvaagiyamiknik, kanoklo aktigiyomik imakmik atokniakmagaagita oyakanik naonaiyaiplotik totkoktaonighaitigollo, hapkonatigot kanogiliokniakgiakhainik okatiaghimainmata kanoklo kingoknakhitiniakmagaat hanakijotaoyotigot nunami.

Hammavalaat, tamatkiomatinggitpata, ihumalogiyaoyut ehoaghinahoaktaghagiyait oyagakhioktit opalonggaiyaotigiyamikot kanoktot havaaginiakmagaagita kanoklo inniakmagaagita naonaiyatiaklogit okaotigiyaghait havaaginiaktamikot hanayaghamitigollo, nunaplo iloanut nalvaakhiogomahoigotigiyaktik. Talvalo opalonggaiyaotigiyaktik okakhimayoghaogaloak imaa kanoktot oyagakhiokvionahoaktok monagiyaoniakmagaat.

Alat tunaktaghami omani ehoagiyaonggitut avatiliginikut naonaigotigha okakhimayut:
- Kayaginiaktugiyugaloit holinahoagotigiyamikot, oyagakhioktit okakhimainmata kanogiliokniagiakhamingnik Doris tununggani havaagihaoaktamikot, imaa kanok okakhimainmat hilap alangokpalianingganot nalinmatiniakmagaat;
- Nunalingnik tuhaktititaakhimaliktugaloit, kihimi avatiliginikmut naonaigotighak kanoktut piniakmagaakmik okatiakhimainmat havaagoyoghatigollo;
- Talvalo inuit kaoyimayatokanggitigut naonaiyaotaohimayut holi tatja inikhimainmata oyagakhioktit atoktagiloaktaghagaloagikmatigik, kanogilivalianighamot naonaigotiginiakmatigik ehoaghainahoagotigiyamingnut havakviginahoaktamingni;
- Kanogiliokpaohiit malikatitiakpagiakhainiklo kavamat maligainik atukuhimayainiklo; ovalo
- Homilo atuktaghaotait kanoklo hivitotigiyomik havakvioniagiakhainik okakhimayokangginmat, tuhagotighak avatiliginikot naonaitiakhimainmat kanoktot piniakmagaamik manighioknighakollo pitjotaoyoghanik. Oyagakhioktit *naonaitiagotighanik titikatigot okakhimayoghaoyot kanogilijotaoniaktumotlo nunamot* naonaiyaitiagotighanik pihimayohaoyot kanoklo maniknik atokniagiamiknik inikhihimayaaghainik okagiikhimayoghaoyoogaloit omani naonaigotighami.

Havaagoyoghamot Himmaotaoginnagialgit
Naonaikpaaliotighat pihimayoghaoyot omangga takoogijotaoyomit, kanoktot *pihimaniakmagaata* avatiliginiop *mighaanot naonaigotaoyoghat ayongnaktokakat honanik* himmaohikniakmagaagita havaakyoagoyoghap mighaagot:
- tuhaktaghanik hakyaikhilotik kanogiliyokakat himmaohiotiyoghanik havaaghamot, naonaitiagotighaniklo, piyoginiaktamikniklo, kanoklo himmaohiotiyoghat kinguknakhitiniakmagaagita;
- tuhaktitilotik kanoktot himmaohiotiyoghat ehomaliogotaohimangmagaagita kitkollo ehomaghakhokataohimangmagaagita kanoklo ehomaliogotigiloaktatik inikhimangmagaagita; ovalo
- atugomahoiktatiklo ehomaliogotaohimayot naonaiyaktaotiagiakaknighait.

Avatiliginikmut Nunamutlo Kanogilijotiniaktut
Taimaahikmimaliktuk (imaa, nunap eloani kikomanik, homilo nunami, nunaplo kaagani), oyagakhioktit naonaigotighanik atukhimakyot Aimaokataaknit 55 km-goyok onggahiktilaaga hivogaani Doris tahikmi oyagakhiokvionahoaktomi. Oyagakhioktit naonaitiaklogo hongmat ona naonaiyaotigiyaktik ehoakmagaat nalliomatikmagaatloniit talvani havakviginahoaktamikni naonaigotaoyoghat kanogilioknighakot.

Hilap Kahogijohiginiaktaa
- hivitoyomik hilakot naonaigotighanik hilaplo alangokpalianingagot ehomagiyaohimaituk;
- alatkiiktunik hilalikotighanik pihimayakaktoghaogaloit oyagakhiokviginahoaktamikni aolahimaagotigiyamikniklo Aimaokataakni pihimalogo hilakot naotiktoinighakot.

Homi Nunami

- kaiktokaknikni oyagakhiokvionahoaktuk kanok inniakmagaat, ona pimmagioyok ehomagiloaktaghaoyok imalikinikot ehomaloknakniakmat kovigakvioyoghat halomailgokakniakmata alaniklo kayangnaktonik pikakniakmikmata.

Nunap Knanogijohia

- oyagakhiokvionahoaktomi nunap kikaotilaaga naotiktotaoyoghaoyok kanogilivaliakmagaat kovigakvioniaktonilo alatkiinotlo oyakanot pivioniaktoni, totkoktoivioniaktonilo, milvikakvikhaklo, kanoklika hapkoa naonaiyatiaktaghagiyait. Talvalo tatit amigiyaghagiyait hakvakvioniagiakhainik nunamitlo ima hakvaktuk naotiktohimalogo alaniklo nunap mighaanot piyoghanik naonaiyaitiakhimayoghaoyot, ovalo;
- nunamiituniklo nunaoyatigot naonaihihimayoghaoyonik pihimayakangginmata, hapkoa ekayoghiotihimaniaktut kanogilioknighakot (nunap kikaotilaaga naonaiktaohimayaakakniakmat hikoalo nunap eloani kanoginmagaat naonaikhimayaakaktaat) oyagakhiokvigiyomayaktik piyumagomiko.

Imakaknigit

- Naonaigotighak imakaohiagot Doris-mi oyagakhiokvinahoaktomi okakhimaitok, ovalo;
- Nutaamik imakaknikot naotiktoivighamik pihimayakanggitoni, koogaakyovaloitlo hakvaktot kanok naonaigotighanik okakhimayoknaggitoni oyagakhiokvioniaktomi kanoklo alangokpalianiakmagaat kinggoknakhitiniakat tahamni.

Imakaohik

- Nunami akilogait kanogittokagiakhaanik naonaiyatiaktaghagiyait homitlo pihimayaaghainik naonaiyagiikhimagomikik kanoklo inmagaagita naonaitiaklogit okaotigiyaghagiyait oyakallo kanoginmagaagita naotiktokhimalogit pihimayaghagiyait, ovalo;
- Nunami imak kanoginmagaak, okaotigilogo naonaitiakhimayaghagiyaat, nunaplo eloanit piyut, imagiagokmagaat naonaitiakhimayaghagiyaat.

Manighioknighakot

Naonaigotighanik Kanoktot Akitotiginiakmagaat kanoklo Manighiotaoniakmagaat hamna ilittughaotaoyoghakot naonaigotaoniakmat. Hamna okaotigitiaklogo naonaitiakhimayoghak honaniklo atokniakmagaakmik kanoklo atokniakmagaakmik. Okoa ehoaknighaoyokot naotiktootaoniaktut

Avatiliginiop Mighaanot Naonaiyaotit

Atoktaghaotit avatiliginikmot naonaiyaotaonahoaktoni nunaplo kanogijohiagot pitjotaoyoghat hokpaniitniakmagaatlo naotiktaoyok naonaiyatiakhimayaakaktok. Kihimi, naonaiyatiakhimaitot oma kolaani okakhimayot naloghaotaoniaktot kanok inniakmagaat havaakyoagoyoghakot.

Avatiliginikmot naonaikpaaliktaghat ehoagiakhainik piyaakanniaktot kanoktot nunami holijotaoyot kingoknakhitiniakmagaagita inggataginnaitomik imaatut pihimayoghaoyoogaloit:

Hilap Kahogijohiginiaktaa

- Hilap alangokpalianingagot kinggoknakhitiniaktut, hapkoa immakaa, halomailgovaliknit hakvakvioniaktut hivoagot naotiktokhimayaghagiyait, ovalo;
- Naonaitonik naotiktoijotighanik havakvoitillogit pihimalotik kanokl inniakmagaat kanogilivaliajotaoyotigot naonaigotighanik pilotik.

Nunap Knanogijohia

- Kanok kingoknahitiyut nunap eloani kikaotilaaganot nunaplo kaaganot kanogilijotaoyot, ovalo;
- Kanok kingoknahitiyut nunap eloani havakvioyokakat kayangnakniaktut imaknotlo kanogilijotaoniaktut.

Imakaknigit
- Hanakiyaohimayot kanoktot inniakmagaagita immap kokloakviginiaktait ehoaktomik pittiakhimayaaghainik naonaitiakhimalogit;
- Nigiogiyatiklo kanoktot imakmik atokniagiahamiknik immaplo kanok alanggotiginiaktainikloniit atoktaghamiknik naonaikhimalotik;
- Nigigiyakaklotik hilalogiakpat hakvalakivioniaktut omonga naonaigotighanot pikahiotihimalogit;
- Immap kanogijohighaagot naonaigotighanik okakhimalotik havakvioniaktomi Doris Lake-mi tahikmik. Kanogilijotiniaktollo tahikmot hakvakvioniakat havakvioyomit, ovalo;
- Hakvakvioniaktut naonaiyatiagiakkaktait kanoktot kinggoknakhitiniakmagaat nunamut ilittugimayaoyaakaktot hapkoa.

Imakaohik
- immap kanogijohighait okakhimaitut Tahiknot inniaktut hapkoa ehomagiyaakakmiyot (kanoktot inniakmagaagita ehomagiyaoniakat imaghitiniakatloniit) oval immap atoktaofaakniginiaktait oyagakhioktit halommakhiviinot oyakanik hapkoa naamagiakhainik naonaiktaohimayaakakmiyot;
- kanoktot aktigiyomik inggataomigotaoniaktonot okakhimaitok kanok piniakmagaamik hakvaktut inggataommikata paktaotillo nakoatot aolatiagoikaalakpata kanok hapkoa ehoaghaotighainik ehomaliokhimayokaka;
- Oyagakhiokvioyomit imak piyok tahikanot, kanok hapkoa monagiyaolotik amigiyaoniagivat;
- aolatiaknighait kovigakvioniaktut kanoklo ehoakotighainik opalonggaihimayokaka;
- hakvaktokalikat halomailgonik kovigakvioyomit tahikmit ovalo kanogiliniaka Doris Lake tahik hakvakviolíknigomi halomaitomit tahikanit;
- naonaigotighaniklo hakvaktokalikat alatkiinik halomaitonik kovigakvioyomit tahikmot talvalo kanogilijotiniakat nunamot halomanikmot;
- aolayaakvioyonotlo nunaliknotlo kanok hapkoa kinggoknakhitiniakat imangmiotanotlo angotighanot ehomaloknakniaka;
- katighokpaliayot haviklavaloit nunami angotighanit nikigiyaoyonot;
- kanoktot annanik kovigakvioyot halommaktiktaohimaniakat, kanoklo ehomagiyaovat nunamot kingoknakhitiniakmagaagita tattinotlo halomailgomik hakvaktokakat kookanotlo piyokakat, ovalo;
- annanot kovigakvioyot okaotigiyaaghaat Kovigainikot Opalonggaiyaotaoyomot

Pilloiliyokakat Ahigoktokakatloniit
- okakhimayokaktoogaloak pilloilitailinighakot kanoklo piyaoniakmagaagita taimaahiktokakat; kihimi naonaitiagotighanik pihimayaakakniakmiyot halomailgonik koviyokakat.

Katighokpaliayotigot Kingoknakhitiniaktunut Ilittughaotit
- naonaiyaktaohimayut katighokpaliayotigot ilittughaotit okatiakhimaitut kanok pihimakmagaakmi okoa oyagakhioktit okakhimayait kanogilioknighamikot;

- VEC-kotigot naonaiyakhimayogaloit aviktohimayotigotlo okoa CEA-kot pipkaihimaniaktogaloitlo holijotaoyotigot naonaikpaaliotighanik kanoklo tahafoma mighaagot kingoknakhitiniakmagaagita havakvioniaktoni;
- Talvalo CEA-kot okatiakhimainmata tamatkiotihimaitotiklo okakhimayait piyaghaotigaloamikot monakhinighamikollo kanoklo hivonighamikni kanogliogotiginiaktatik okakhimainmagit hapkoa tamaita naonaiyatiakhimalogit okaotigiyaghagaloagikmatigik pivaliajotikaktillogit Hope Bay pitjotigiyaitigot hapkoa nakoatot pittiakhimakmata (EIS pg 1-2)

Manighioknighakot Naonaiyaotit
Naonaiyaotaoyok hakoikpaaliotikaktok nalonghaotaoyotigot VSEC-kot naotiktoijotoayonik ovalo kanoktot inniakmagaat okatiakhimainnmi. Talvalo nunaliknot kanogilijotaoniaktonik naonaihihimayokanggitoni kanoklo atoktaghanik titigakhimayokanggitkiploni malikayaghatigot. Ona naonaiyaotaoyok pikahiojihimayoghaogaloak alanit nunaliknit Nunavut eloani havaaghakhoktonot.

Oyagakhioktit okaktoghaoyot hongmat maniit atoktaghat naonaiyaotigiyamikot naliommatiniakmagaagita avatiliginikot ilittoghaotaoyotigot malikayaghanot. Talvalo atoknahoaktaktik kanok ehoaghivaaligahoklogo titigafaaktaghagiyagaloanggat kanoktot kinggoknakhitiniakmagaat ekayohiotiniakat Nunavunmionot ahiagot Nunatiakmiot.

Avatiliginikmot Monakhinighak, Pittiaknighakollo Naotiktoihimanighaklo
Opalongaiyaotigiyait avatiliginikot monakhijotighat, pittiaknighakollo naotiktoijotighallo tohaktitaohimayot ehomaliogotaotiakhotik. Ilangagot naonaikpaaliotighanik piyaakaktut holi hakloviokhaitomik pihimayaagani Oyagakhioktinit talvalo iniktigitkoayoyot ehoaktonik atoktaghanik nalvaakhiokviginahoaktamikni pittiaknighaitigot. Taimaitonik naonaigotighaitpat ayongnakniaktok kanoktot pittiagahoaknighakot atoktaoyoghanik havaagonahoaktotigot.

Ehoagiyaonggitot hapkoa opalonggaiyatiakhimainmata koviyokakat nunamot halomaittonik kayangnaktonikloniit, pilloiliyokakat ahigoktokakatloniit kagaktakvioyoni, kovigakvionahoaktonilo hapkonatigot naonaitiagotighanik pihimayakaktoghaogaloit.

Monakhinighaktaok oyakanik ikkakoonahoaktonik titigakhimayoghaoyok kanoktot piniakmagaagita atoniiktiklogiloniit ikkaktaoyoghat ajikiingginmata kanoginniagiakhainik okakhimalogit kanoklo hanakiyaovakniakmagaagita naonaitiakhimayaghagiyait.

Kanoktot Oyagakhokvioyot Nunap Elitkohiatut Elioktaonighait
Oyagakhioktit opalonggaiyagiiktamiknik pipkaiyoghaoyot naonaigotighanik kanoktot nuna hanakihimaviktik elitkohianot piffagotighanik maliklogit NIRB-kot atokohimayait avatiliginiop mighaanot ovalo epigagomiko nalvaakhiokvigiyatik kanok nuna elitkohigaloaganot ilifaakniagiakhaanik imaa okagiikhimangmat oyagakhiokniktigot pitkoyaohimayot Nunatiami (1990) okiot atoktillogit. Oyagakhioktit ilittugimayoghaoyot enoligiyitokat Kaanatami maligakakmata titigakoiplotik oyagakhioknikot pittiagotighanik Nunavunmi oyagakhiokvionahoaktonik Pikoyak inikhimayok (2002-mi).

Ehomaalotaoloaktot okakhimayaghaoyot hilap alanggokpalianinggagot talvalo hila kaayongnaikpaliaginnakmat, kanoklo inniakmagaat oinggaihimayaghagiyaat hivitoyomik atoktaghammiknik naonaihihimanahoaklotik oyagakhioknighakot.

Opalonggaiyaotigiyaat naonaitiagotighanik pihimayoghaoyok oyagakhiokviginiaktamikni havakviginahoaktamiknilo nalvaakhiokvigilogo, eklokpaitlo hanayaoniaktut hannavighallo tamaita titigaklogit okaktaghagiyait.

Naonaikpaaliotighanik pihimayaakakniaktut ikkakooknighakot monaghittiaknighak, kovigaknighakollo kovvikookvighatigollo ovalo nunap iloanot algakniagomimk naonaitiagotighanik hapkonatigot pihimayaakaktot. Talvalo okatiakhimayaghagiyait ighinnagahoaligomikik oyagakhiokvigiyatik kanoktot oyakanik iakkookvigiyatik pihimaniagiakhainik.

CONTENTS

INTRODUCTION

Background

Indian and Northern Affairs Canada (INAC) received the Draft Environmental Impact Statement: Doris North Project, Nunavut Canada on February 18, 2003. The Nunavut Impact Review Board (NIRB) sent a letter dated February 17, 2003 proposing a pre-hearing in April and a number of items the pre-hearing would address. These included a discussion on how well the draft environmental impact statement (DEIS) conformed with the guidelines issued by NIRB and the adequacy of information provided. The Board sent a letter on March 12, 2003 confirming the date of the pre-hearing and reiterating the purpose.

This submission compares the DEIS with the Environmental Assessment Guidelines for the Doris Hinge Project (EAG or the guidelines), including the items described in the cover letter from NIRB to Miramar Hope Bay Ltd. (the proponent or MHBL), both dated October 15, 2002.

Section 3.2 of the guidelines require the proponent to develop the DEIS in a manner that reflects the intent of the guidelines (this is also an obligation in section 12.5.2 of the Nunavut Land Claims Agreement (NLCA)). This statement is interpreted to mean that where the draft impact statement has requested information, of a general or specific nature, and the proponent has failed to provide that information then they would have failed to meet the obligation set forth in both section 3.2 of the guidelines and section 12.5.2 of the NLCA. The review is intended to comment on the DEIS's ability to meet, as well as "observe the intent" of the guidelines. In some cases these comments relate to specific examples where improvements should be required; however, if the Board feels the proponent is not observing the intent, there may be a need for the proponent and the Board to discuss this, which might contribute to the final EIS conforming to the guidelines.

The department involved a number of reviewers, including staff and outside technical experts. A list of the consulting companies providing advice to INAC can be found in Appendix A. All were directed to review the DEIS for adequacy of information presented and conformity with the EAG. The reviewers were not asked to draw conclusions on the validity of the proponent's conclusions regarding impacts or their significance. INAC intends to present NIRB with this review at a later date. Our intention is to use the information requested in this submission in this further review.

Mandate

The Doris North project falls on Inuit Owned Lands (IOL) administered by the Kitikmeot Inuit Association. Subsurface mineral rights are owned by the Nunavut Tunngavik Inc. The only part of the project which falls on lands administered by INAC is the 90m barge dock being built into Roberts Bay. INAC will issue a water lot lease for the bed of Roberts Bay occupied by the dock under the *Territorial Lands Act.*

The remainder of the department's responsibilities for the project are related to the use of water and deposit of waste outlined in the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act.* The Minister will review the water licence issued by the Nunavut Water Board and INAC will enforce the terms of the licence.

Although DIAND has no direct responsibility for the majority of surface and sub-surface rights in the project area, surficial and bedrock geology are relevant to discussions regarding ARD and hydrogeology issues. Consequently, these areas have been reviewed by department officials. As well, the department will examine project economics in order to quantify the risk of the project adding to Canada's mine-related liabilities for water, as per the Nunavut Mine Reclamation policy.

DIAND also has a primary role to support Inuit in developing healthy, sustainable communities and achieving economic aspirations. This role predicates a key objective of *Gathering Strength* to support strong communities, people and economies. Additionally, the department has responsibilities laid out in its Sustainable Development Strategy that require, among other things, consideration of economic viability and social implication in decision making.

In terms of the environmental impact assessment and regulatory process the project is undergoing, the Minister has additional responsibilities laid out primarily in Articles 12 and 13 of the Nunavut Land Claims Agreement (NLCA). The comments that follow are based on these departmental responsibilities.

GENERAL COMMENTS

Major Strengths
On the whole the DEIS is well organized and laid out. The style of writing is easy to follow and, with a few exceptions mentioned below, uses appropriate tables, figures and maps. The proponent made an effort to conform to each of the guidelines provided by NIRB. The concordance table (table 1.14.1), while it contains some errors and omissions, was helpful in finding relevant information. The methodology used in the environmental impact assessment is appropriate, well described, well illustrated with tables, and uses clear criteria.

Major Weaknesses
Although the methodology used in the environmental impact assessment is appropriate, the DEIS suffers from parts of the project which are not well described, and some baseline information that is not adequate. If these issues are not addressed in the final EIS, it will be difficult for the department to complete a technical review of the impact assessment and have confidence the predicted impacts are reliable.

Other Issues
Wording
Some wording in the draft EIS text is confusing and could inadvertently mislead some readers who do not read the details of the supporting documents. Although there are a number of examples, the following provides one example. On page 5-27, paragraph 2 states that "Kinetic testing ... indicates that the time to onset of ARD ... is in excess of 50 years"; this should be qualified as it is in the consultant report in Supporting Document G that kinetic test data, in general, does not provide an accurate prediction of field conditions for a variety of reasons and that this data, in particular, is representative of alkaline laboratory conditions that may not be present in the field.

Although it is understood that space is limited in the DEIS, the proponent should, in future documents, be careful to ensure that conclusions drawn in the supporting documents are accurately reflected in the EIS.

Professional Engineering Designation
The Professional Engineer authorization provided on the documentation in Supporting Document G is a professional registered to practice in British Columbia and not in Nunavut. Reports on the Doris North Project should be authorized (stamped), where necessary or appropriate, by professionals registered to practice in Nunavut.

Diagrams
An understanding of the location and geometry of the underground mine and the exploration declines would be greatly enhanced by appropriate diagrams and maps.

CONFORMITY

It should be noted that MHBL made an attempt to meet each of the guidelines in the DEIS and in many cases, INAC feels, was successful in fully meeting the requirements. The DEIS was formatted in such a way to follow the guidelines in the order of presentation and thus made it relatively easy to locate necessary information. In cases where INAC found the DEIS did not conform to the guidelines or their intent, the reader is directed to comments on the adequacy of the information, provided in the next section.

DEFICIENCIES IN INFORMATION

DEIS 1.0 Introduction

1.1 Project Summary
The review of this section of the DEIS includes Supporting Documents A and B.

Mining Methods (SD A, section 2.2)
The Proponent has not summarized or described the proposed characteristics of the mine in sufficient detail to allow the reviewer to consider issues as they relate to the need to control hazards, such as rockfalls. These could be described in the context of a mine plan but no such plan has been provided.

The Proponent has summarized that little groundwater inflow is expected as a result of the continuous permafrost in the ground mass and the preservation of such a condition by not heating ventilation air. It is also noted that the proponent intends to extend some of the mine development for future exploration of the Doris Central resource and that this may be required below or near a lake. Limited regional information is provided in the DEIS to support the presence of continuous permafrost below a lake, and this could result in greater than anticipated groundwater inflows depending on depth and extent of the proposed development. In the absence of mine plan it is difficult for the reviewer to assess this assumed condition or if it ought to be a concern, nor is there discussion of the assumed sizing and handling procedures for underground water. There is no discussion of winter (or summer) operations as they pertain to the underground operation, limitations of access, summer-air temperature for ventilation, water handling in winter.

Recommendation:
The proponent provide a summary of the mine plan describing and illustrating the various characteristics of that plan and that addresses the issues noted above, especially as they are affected by assumptions regarding permafrost and operations to be carried out at different times of the year.

Waste Rock and Overburden Handling (SD A, section 2.4)
This section provides a description of the waste rock and overburden facilities. It notes that neither waste rock or overburden storage areas will be required for the project. However, there are indications that some waste rock may be sulphide-bearing.

There is no discussion of the physical size of ore stockpiles, stockpile pads or their capacity to store waste rock temporarily for the mine plan. The geotechnical characteristics of the ore and waste rock to be stored on surface have not been presented. Low durability material (if any exists) could present a problem in the recovery operation of frozen stockpiles and become a sediment problem if excess water was transported with the material.

No plans have been presented for recovery, transport and placement of ore or waste rock material on surface or for backfilling of the underground mine. For material being returned underground there is no discussion on the capacity of the mine in relation to the volume of waste rock, the potential and timing for the workings to fill with water and/or ice and the space available below

the active surface layer or if the ground conditions, layout, geometry and closure methods will facilitate . Climate change should be considered in the evaluation.

For the footprints areas of the mill site, tailings dam and quarry sites, it is likely that some form of overburden stripping will be required; possibly only for surficial organic soils bit also potentially for any ice-rich overburden materials.

Recommendations:

1. A mine plan should address the issues described above, including a description of the procedures to be used to recover the temporary surface waste rock pile, its transport and placement, the assumed geotechnical conditions during operations and after closure, and provide the physical and operating requirements for the transport and placement of waste rock as backfill in the mine. The mine plan should reflect on the potential for variances to the assumed characteristics and conditions.
2. A contingency plan should be provided for if any sulphide-bearing waste rock is encountered. The plan should include a description of where such material would stored, the type of facility, and how run-off from the facility would be handled and treated.
3. An overburden storage area and plan should be prepared for this project. This information request relates to the issues in this submission with regards to delineation of permafrost and ground ice conditions located under facility footprint areas.

Surface Crushing and Ore Processing Facility (SD A, section 2.3.1.2)
This section describes how the mill floor will consist of compacted rockfill, impermeable HDPE liner, covered with crushed fine rock.

Recommendation:
MHBL should describe the methods that will be used to ensure the liner is not compromised by wear and tear or freeze/thaw cycles.

Mill Tailings Containment Area and Management Plan (SD A, Section 2.5)
The text provided is too brief to fully describe most of the requirements of the guidelines. The figures provided are too conceptual to be able to estimate potential performance of proposed structures and plans. Since performance cannot be assessed due to lack of detailed information, it is not currently possible to assess potential impacts from these aspects.

A detailed conceptual design of the proposed tailings containment system has been completed by SRK Engineering Consultants Ltd., but has not been included in the supporting documents to the DEIS.

Recommendations:

1. MHBL should provide detailed descriptions, plans and cross-section outlining the requirements.
2. A reference was made to geotechnical investigations and design report noted as SRK Consulting (2002). The entire contents on this report should be submitted to facilitate the

review. It is hoped that this report will deal with issues including: sedimentation efficiency within Tail Lake; likelihood of adequate water quality (for mill water) at the north end of Tail Lake; adequacy of storage capacity of the emergency tailings dump catch basin.

Mill/Camp Storm Water Management (SD A, section 2.6.2)
The water runoff from the mill and camp areas will be collected in the first emergency tailings dump catch basin.

Recommendation:
MHBL should describe plans to ensure that the catch basin is managed (e.g. regularly drained) so that capacity to receive tailings is not reduced.

Sewage Treatment Facilities (SD A, section 2.9)
The sewage treatment technology is not described and the disposal of sludge is not addressed.

Recommendation:
MHBL should describe the sewage treatment technology and outline the method of sludge removal and disposal.

Quarries (SD A, Section 2.13)
This section provides a description of the proposed quarries. It focuses on the use of "clean" rock from the quarries. No mention is made of permafrost conditions, slope instability or melting and run-off issues. Any change to the surface condition (grading of the surface, removal of organic layer, placement of fill, excavation, changes to surface water flow regime, etc.) will impact the condition of the underlying permafrost. As such, baseline permafrost conditions including thermal regime, ground ice content and active layer depths needs to be understood so that changes and impacts resulting from surface changes can be predicted by the proponent. The significance of these impacts needs to be provided by the proponent.

Additional information on the chip sampling of quarries may be required; a limited number of chip samples may not give enough data. It is unclear whether the geologist ensured that the samples were fresh, unaltered rock.

Recommendations:
1. MHBL should provide information on permafrost conditions, slope instability or melting and run-off issues at quarries. This information request relates to the issue elsewhere in this document with regards to delineation of permafrost and ground ice conditions located under facility footprint areas.
2. MHBL should comment on the adequacy and methodology of the quarry sampling. These comments would apply to Supporting document G as well.

Winter Roads (SD A, section 2.16.6)

The proponent notes that ore and the camp from Boston will be brought by winter road to the Doris North site for processing, and fuel will be hauled to the Boston storage tank farm from Roberts Bay. No site map, information or impacts on that proposed activity is presented in the current material.

Recommendation:
MHBL should provide information regarding the winter road, including its location, construction, maintenance, frequency of use, type of vehicles, and approximate volumes of materials being hauled. Accident and incident reporting should be described.

Future Development (DEIS, section 1.1 and SD A, sections 2.2 and 2.20)
The DEIS references further exploration in section 1.1 and in supporting document A, but no details or diagrams are provided as to the methods or locations of the exploration, or volume of potential ore that may be sampled, processed or waste to be disposed of. More detail is required to assess the associated impacts of the exploration.

The Proponent has summarized that little groundwater inflow is expected as a result of the continuous permafrost in the ground mass and the preservation of such a condition by not heating ventilation air. It is also noted that the proponent intends to extend some of the mine development for future exploration of the Doris Central and Connector resources and that this may be required below or near a lake. Limited regional information is provided in the DEIS to support the presence of continuous permafrost below a lake, and this could result in greater than anticipated groundwater inflows depending on depth and extent of the proposed development. In the absence of a mine plan it is difficult for the reviewer to assess this assumed condition or if it ought to be a concern.

Recommendations:
1. A summary of the mine plan should include a figure that identifies major future developments and exploration and their proximity to lakes and water courses.
2. The final EIS should provide information on the locations and methods of exploration, the volume of ore that may be sampled and processed at the Doris facilities, and the waste that may be generated. In the impact assessment the proponent should describe how this exploration will contribute to impacts.
3. A discussion of the assumed permafrost conditions and the limitations of the assumptions with respect to the potential for the underground workings to develop greater water inflows over the life of the mine and/or period of additional exploration.

Technology (SD A, section 2.21)
The guidelines asked the proponent to describe state of the art of proposed technologies and evaluate the reliability of each, and discuss programmes to monitor developments in technology. The proponent may have misunderstood the intent of this guidelines as the DEIS only stated that no new processes or technologies are proposed for the project.

Recommendation:

MHBL may wish to clarify the intent of this guideline with NIRB and, if appropriate, provide any relevant information.

1.2 Proponent

Guideline 4.1 clearly lays out a number of requirements for MHBL to address. The DEIS does not provide information describing the proponent's past experience in exploration or mining, with particular reference to records of compliance with governmental policies and regulations.

Recommendation:
The final EIS should clearly address the complete requirements of this guideline.

1.4 Sustainable Development and the Precautionary Principle

The Proponent should discuss application of the precautionary principle to all phases of the project. The DEIS provides some general comments on the topic, including comments on mitigation measures and adaptive management plans. However, no site specific discussion is provided, including how the precautionary principle may relate to climate change, global warming and/or changes to climatic regime.

Recommendation:
The final EIS should provide more in-depth assessment of global warming and potential climate change impacts, especially for the long-term closure phase of the mine.

1.6 Traditional knowledge

MHBL states that Traditional Knowledge information is to be addressed in BHP-funded study, which is still not complete. The DEIS notes that the study will be available in mid 2003.
The guidelines require the proponent to describe how it treated TK in their collection of baseline data, impact prediction and significance assessment. Presumably until the TK study is available, the proponent will be unable to meet this requirement.

Recommendation:
As this information potentially is key to identifying, for instance, highly valued species, this deficiency should be addressed prior to completion of the NIRB review.

1.7 Public Consultation

The table provided to illustrate the proponent's efforts at community consultation demonstrates project reviews and updates rather than a dialogue between the Proponent and affected communities. This section should describe what was learned by the proponent during these consultations and how this affected the project.

Recommendation:
The final EIS should demonstrate what was learned through communications with community members and show how these consultations were integrated into the project.

1.9 Regulatory Regime

This section does not mention the Nunavut Mine Site Reclamation Policy or the Territorial Lands Act.

Recommendation:

The final EIS should include a demonstration that the proponent understands how the Nunavut Mine Site Reclamation Policy and the *Territorial Lands Act* influence the regulation of the project.

1.12 Project Justification

The guidelines state: "*The Proponent shall justify the need for the Project in terms of the economy of Nunavut and the Kitikmeot region in particular, its economic viability and potential. It shall submit any feasibility studies and supporting documentation. The Proponent shall also demonstrate that financing has been secured for all Project phases, including reclamation and security.*"

The current material in the Draft Environmental Impact Statement and supporting documentation fails to address the guidelines completely. Nothing in the material provided addresses the viability of the project nor does there appear to be any economic analysis that would support the claims made in the document, including the economic models that support the conclusion for development of the deposit.

The guidelines are quite explicit about what the expectations are for this section particularly the need for the project's feasibility study, which appears as an executive summary in Appendix P. This information will also be required for a meaningful analysis of project alternatives.

Recommendations:

1. MHBL and NIRB should clarify the Board's expectations for this requirement so the proponent and regulators are made fully aware of the Board's expectations.
2. It would be amenable to the Department of Indian Affairs and Northern Development for the mine to provide copies of the projects feasibility studies and supporting documentation in appendix P rather then just its executive summary.
3. The Proponent should demonstrate that financing has been secured for all project phases, including reclamation.

DEIS 2.0 Alternatives

The guidelines state: "*In each case the Proponent shall give the reasons for selecting the preferred alternative and rejecting the others, including economic and technical analysis of each alternative and associated biophysical, social, economic, and cultural impact.*

The Proponent shall present the preferences of those consulted respecting alternatives to the Project including the "no-go" alternative."

The proponent provides an analysis of alternatives, which fails to include the data, assumptions, and impacts of the alternatives. While this is not critical to all aspects of the project description, the economic feasibility of alternatives is often presented as the justification for their dismissal. Without the supporting details (e.g. feasibility study) there is little that can be done to assess their rational. The DEIS also fails to present how the preference was discerned and who was consulted in arriving at the final decision. Without this analysis it is difficult to see, for instance, the economic models for alternative mining methods that support the conclusion for development of the deposit and for using underground mining methods. Another example is the alternatives to the selection of Tail Lake for tailings, particularly considering its capacity is significantly larger than is required for the size and duration of this project.

Supporting Document P provides an executive summary of the feasibility work conducted on the project, but doesn't provide any specific information against which the economics of the alternatives can be evaluated.

The discussion of the "no-go" option does not adequately address the implications of the project proceeding or not proceeding on the socio-economic environment of the Kitikmeot region or its communities.

Recommendation:
The completed feasibility study and supporting studies should be included so that a meaningful evaluation of the alternatives can be conducted. This will also be required for the project justification of the project.

DEIS 3.0 Environmental Baseline Conditions

The following review incorporates information provided in section 3 of the DEIS and Supporting Documents C, D, G, I, J, K, M, and O.

3.1.1 Climate and Air Quality

Meteorologic data was adopted from Boston Camp location, 50 km south of project site. The data set is not continuous because of various operational problems that have been experienced. The temperature and rainfall data sets from the Boston Camp station were extended by correlation with regional stations. It appears that no snowfall undercatch correction factors have been applied to snowfall data. Snowfall depths from Boston Camp were viewed to be unreliable, so were based on estimates from the regional correlations with rainfall data. With respect to lake evaporation, only one year of five collected pan evaporation measurements was considered reliable (1997). The 1997 data were compared to regional data in an attempt to solidify estimates of average monthly evaporation for the project site. The estimated evaporation amounts were considered to be tentative, given the availability of only one year of record. Estimates of snow sublimation and evapotranspiration were not provided.

Extremes of precipitation events were analyzed only for annual daily rainfall maximums utilizing three regional data sets (Kugluktuk, Cambridge Bay and Lupin). Frequencies are provided for return periods of 2- to 500-years and titled "Design Rainfall Storm Events".

Given the apparent proposed short-term life of the project, the baseline meteorological data set, as presented, can likely be adequately utilized for the water balance analysis required as part of the EIS. However, at the same time, there appears to be some reasonable chance that the mine life will be extended, or that other nearby mine prospects will be developed.

No site-specific comments were provided on long term climate data trends or global warming issues. Section 5.3.1 reviews potential climate changes issues, but only in reference to the 24-month operations phase.

Recommendations: The final EIS should provide the following:

1. Confirm if snowfall undercatch correction factors have been applied to the derived values reported.
2. Review climate data and determine if significant trends to temperature and/or precipitation have occurred over the period of record.
3. Snowfall depths presented have been based as average-monthly values; further work is required in the prediction of extremes.
4. Short, small drainages associated with natural channels and proposed ditches associated with the project area will require rainfall-frequency estimates for durations of less than 24-hours.
5. Consideration should be given to installing a meteorological station at the Doris North site, while at the same time maintaining operation of the Boston Camp Station for at least two more years so that some degree of correlation of data can be undertaken. Having the station at an operating camp will ensure that snowfall depths are properly recorded. At the same time, a snow course or two could be established, along with measurement of summer evaporation.

6. Provide site-specific commentary on potential global warming issues with respect to the proposed development, including the longer time frame closure and post-closure monitoring phases.

3.1.4 Regional Geology

The depiction of the regional geology for the Doris site lacks sufficient detail to be of use for environmental assessment. The structural geology could be important with regard to infrastructure and water management within the mine footprint, the tailings containment area, for example.

Recommendation:
Detailed regional geology, including minor structures (faults, fractures) should be included in the EIS. Detailed figures depicting this should be included for the entire footprint.

3.1.4.1 Surficial Geology and Terrain

There is essentially no discussion or illustration of surficial geology of the Doris site in the DEIS or supporting documents I and J; virtually all of the data is derived from the Boston site, 55 km to the south. The surficial environment in each location may well be quite different; for example, Doris' proximity to the coast may result in greater amounts of marine sediments versus glacial materials. This may have implications for any aspect of the project situated on the sediments. The surficial geology maps in the supporting documents are of low quality.

Recommendation:
MHBL should provide information on the surficial geology of the Doris site.

3.1.4.2 Deposit Geology

In the discussion of the deposit geology it is noted that "sulphide content in the veins is generally low". It is uncertain if there are areas where content is high, and if so, if these form an ARD issue.

The understanding of the configuration of the ore body, and the portion of the deposit MHBL intends to extract, is hampered by a lack of adequate visual representations of the deposit.

Recommendation:
MHBL should provide:
1. More detail is required to characterize the extent of potential ARD issues with the ore.
2. Better diagrams and maps that show the layout and configuration of the deposit. Three dimensional figures may be useful for this purpose.

3.1.4.3 Permafrost

Section 2.3.2.5 of Supporting Document C on permafrost provides only general comments and makes no mention regarding specifics of taliks in the area (generally proximal to lakes and significant streams). Golder Associates (2001) refers to thermistor data from Boston, which is not specifically appropriate, and to the Doris Pit, which is no longer proposed. If the data from the

Doris pit is still appropriate to represent the underground mining conditions, this should be demonstrated. The report made recommendations concerning further work to delineate the extent of a possible depression in the permafrost table around Doris Lake. A report by EBA Engineering (1996) was completed for the Boston site and is not specifically appropriate for Doris North. Even in continuous permafrost, ground temperature and ice conditions are subject to local environmental controls. Since assessment of potential taliks has not been undertaken, assessment of any groundwater sources cannot be evaluated.

Recommendations:
MHBL should :

1. provide for site-specific studies on permafrost including an assessment of terrain units, relationship to potential ground ice content, assessment of taliks proximal to water bodies, assessment of stability issues in permafrost and relationship of active layer depth to various terrain units. In addition, an assessment of the salinity in permafrost overburden needs to be undertaken. This permafrost assessment should be carried out for all areas under significant developments including camp/mill, tailings area, access road and airstrip, quarries and barge landing facility and area.
2. Provide for thermistor readings and assessment of taliks under water retention structures proposed for the tailings facility.
3. Assess potential for taliks, specifically proximal to Doris and Tail Lakes and their outflows, including hydraulic connection between the two lakes and potential sources of groundwater flow from taliks.
4. Demonstrate an understanding of the extent of taliks/existence of permafrost relative to the ore body in terms of mine inflow and potential crown pillar stability.

3.1.4.4 Geochemistry

Most of the information on geochemistry is related to the potential for acid rock drainage (ARD) and metal leaching (ML) and is located in Supporting Documents C and G.

Supporting document G, section 2.3.2.6, discusses ABA reports completed for Boston. A report on the Boston ore by Rescan in 1999 suggested metal leaching (particularly As, Ni, and Cu) under neutral pH conditions.

In supporting document G, Integrated ARD Characterization Report 2002., the author makes a number of recommendations for additional testing and similar work in order to properly characterize ARD and ML issues at the Doris site. There is no indication any of these recommendations were implemented by the proponent. Some examples of the recommendation are as follows:

1. Page 20 of 79, para 1: recommends that additional testing of subgroup D2 of the mafic volcanic rock type be carried out.
2. Page IV of X , para. 3 and page 29 of 79, para. 1: recommends that an ARD screening system be initiated to delineate and designate rock types for appropriate uses or disposal.
3. Page 36 of 79, para. 3 and page 38 of 79, para. 2: recommends that additional testwork be conducted to investigate the influence of alkaline laboratory conditions on aluminum (and other metals) leachability.

4. Page 36 of 79, para. 4 and page 38 of 79, para. 4: recommends that baseline surface water quality data include at least aluminum and other metals of interest to the ARD/ML assessment.
5. Page 37 of 79, para. 2: recommends that a lower detection limit for cadmium be utilized in future testwork.
6. Page 76 of 79, para. 5: recommends that additional testing be carried out on materials proposed to be used in construction of mine infrastructure.

In the humidity cell test, two samples of "mafic volcanic" were tested for ML characteristics but there is no indication of what subgroup these samples were from, which is important as regards the highly variable ARD characteristics of the various subgroups.

In the EIS, page 5-38, there is reference to ABA testing of two streams of "mill tailings solids" but there is no description of methodology for sample collection. For example, it is not stated if the sample analysed is representative of the ARD/ML characteristics of Doris North tailings or of the stockpiled ore at Boston that is proposed to be milled at Doris North or of both.

The three proposed rock quarry areas are not clearly linked to the ARD information (i.e. samples Q1 to Q6) although the text states that two of the proposed quarry areas match. The DEIS states that the "third" rock quarry location will be tested and the consultant report in Supporting Document G recommends that additional testing be carried out on all of the proposed quarry sites to verify the results of the single samples analysed to date. There is also no ARD/ML testing on loose surficial borrow materials, as pointed out in the consultant report in Supporting Document G.

Recommendations:

The final EIS should contain information on the following:

1. A demonstration of the accuracy of extrapolating data from Boston to Doris
2. In addition to ABA, static testing should be further evaluated on the basis of kinetic test results.
3. Analysis to determine the effect of iron carbonates and overall determination of carbonate forms (as per written intervention submitted by DIAND during the 2001 Boston water licence renewal).
4. An indication of the interest in, or plan for, continued ARD/ML testing that comments on the recommendations of the technical consultant in supporting document G should be included in the EIS.
5. Clearly link the mafic volcanic samples used in the humidity cell tests to the subgroups described in the ARD testing and describe any implications that this has on the results or provide a clear reference to where this information is located in the EIS documentation.
6. For the ABA testing on tailings, clearly describe the sample methodology and how representative the samples are considered to be of the ore that is proposed to be milled or provide a clear reference to where this information is located in the EIS documentation.
7. Clearly state which of the ARD sample sites for borrow material (Q1 to Q6) are proposed as borrow/quarry areas.

8. Design and conduct testing of loose surficial borrow materials to determine their geochemical characteristics.

3.1.4.5 Groundwater Conditions

In previous experience with Northern mines, permafrost is often absent below lakes, such as Doris Lake, that do not freeze to the bottom. In Figures 3.1.1, 3.1.2, and 3.1.3, it appears that the main ore-bearing veins are under Doris Lake. The information provided is too general to provide clarity regarding which areas will be mined and whether mine water from deeper groundwater zones will have to be dealt with. This could have implications on water quantity (and quality) estimates for water storage in Tail Lake.

Recommendation:

Clarification is required on actual location of underground workings, possibility of groundwater influx by fracture flow or other physical hydrogeological processes and if so, what the resultant water quantity and quality values may be associated with mine dewatering. The lack of any documentation of that issue in the Concordance Table, Section 4.10.1.6 (Mine Dewatering) should be explained.

3.1.5 Hydrology

The hydrometric network established by the proponent essentially deals with outflows from various lakes, including Doris and Tail lakes. These are streams where flows are considerably influenced by lake storage. It appears that runoff from small, local streams has not been monitored, but then it further appears that mine site development will impact a relatively small area. Estimates of runoff for drainage ditch and holding pond designs from affected areas such as the mill site, roads and the runway will have to rely on snowmelt and rainfall data and appropriate runoff models.

Recommendations:

Because of the possibility that mining will extend beyond the two years presently indicated, it is recommended that the system of recording hydrometric stations established by the proponent continue to be operated for at least the length of mine life. As well, it is recommended that new stations be added to monitor flows: (1) released from Tail Lake; (2) pumped from Tail Lake as make-up water; and (3) on at least one local, small stream that has little or no lake storage. The latter will provide baseline flow data in the event that mine life will be extended, or if other nearby mine opportunities are developed.

DEIS 4.0 Socio-economic Baseline

Methodology

Selection of Valued Socio-Economic Components
The EAG require the proponent to " *describe the components of the socio-economic environment and the processes affecting them without the project so as to justify its selection of VSECs and to serve as a baseline against which the potential impacts of the Project can be measured. It shall present baseline against which the potential impacts of the project can be measured. It shall present baseline data on the community-by-community basis ...*

The indicators selected must be adequate to address all types of foreseeable impacts, including cumulative and residual impacts."

The proponent provides baseline information on individual components identified for the specific communities; however, it fails to clearly identify the valued socio-economic components (VSECs) in their impact statement or supporting documentation. This is understood to be a key aspect of the guidelines (section 4.19 through 4.21) and the impact assessment process that needs to be addressed in order to meaningfully evaluate the significance of specific, cumulative, and residual impacts related to the project.

The components that are identified lack justification and seem to limit themselves to those identified in the guidelines. There is also an indication from a preliminary review that the present state-of-knowledge suggests the list of potential VESCs is considerably longer than the components presented in the impact statement.

Recommendation:
1. The proponent should identify valued socio-economic components and provide justification and rationale as set forth in section 4.17 through 4.21 of the guidelines.
2. There would be value in linking the indicators to the specific VSECs to ensure that they are adequate for assessing any impacts.
3. A review of potential socio-economic components and VSECs should be done to ensure that the components that comprise the review of the socio-economic assessment are both applicable and broad enough to respect the intent of this directive.

DEIS 5.0 Environmental Impact Assessment

5.1 Methodology

Overall, the methodology for evaluating environmental impacts appears to be sound. The spatial and temporal boundaries are clearly defined in the impact assessment for each of the valued ecosystem components (VECs). The proponent has examined the impacts for all appropriate phases of the project. The criteria for determining the degree of impact and the significance of the residual impacts are clearly identified. The tables summarizing the proponent's view of impacts on each of the VECs for each project activity were useful . It would have, however, been helpful to have more pathway diagrams to show how the effects of project activities will be transferred to the VECs.

5.3 Physical and Biological Environmental Components

5.3.1 Climate

This section reviews potential climate changes issues, but only in reference to the 24- month operations phase. The impacts on residual features of the project (e.g. tailings impoundment area) are not considered following closure.

No detailed assessment is provided on the size and return period of extreme precipitation events or events such as the Probable Maximum Precipitation.

Recommendation:

1. Provide site-specific commentary on potential global warming issues with respect to the proposed development, including the longer time frame closure and post-closure monitoring phases.
2. Provide further evaluation of the precipitation record including severe climate such as extreme snowfall and rainfall events. In some cases, it is the combination of snowpack melting and rainfall that is the critical design case. Intensity-duration-frequency (IDF) should be provided for rainfall events and the sources of inferred data noted.

5.3.4 Landscape and Terrain

DEIS, Section 5.3.4.5 notes that no effects on permafrost are expected from any activities or facilities. However, any change to the surface condition (grading of the surface, removal of organic layer, placement of fill, excavation, changes to surface water flow regime, etc.) will impact the condition of the underlying permafrost. The impacts of this disturbance and the significance of these impacts needs to be provided by the proponent.

Recommendation:

Baseline permafrost conditions including thermal regime, ground ice content and active layer depths needs to be understood so that changes and impacts resulting from surface changes can be predicted by the proponent. This information request relates back to the first issue with regards to delineation of permafrost and ground ice conditions located under facility footprint areas.

5.3.5.2 Hydrology

Water Balance. The water balance provided is not substantiated with respect to assumptions on natural water flow, storm sizes or frequencies. Neither has it been shown to be robust to a range of environmental and site conditions and so cannot substantiate that site infrastructure is sufficient to handle flows. The EAG, section 4.21.2.3 require assessment of day to day runoff control and worst case scenarios.

Impact predictions do not account for cumulative changes in water balance. Impoundment of Tail Lake is said to represent 4% reduction in Doris Lake outflow – moderate impact proposed (para. 1 p. 5-23) but Table 5.3.9 says "minor". Water takings from Doris Lake represent 2.3% of Doris Lake outflow – Table 5.3.9 says "minor". Have not therefore predicted total project effects on hydrology. Effects to Doris Lake should be predicted as the sum of these two water takings.

Recommendations:
1. Provide predicted flows and storm frequency analysis
2. Substantiate water balance with assumptions regarding flows and operational/upset scenarios.
3. Predict effects on hydrology on the basis of total change in water budget.

Tailings impoundment. A monthly water balance model has been developed for Tail Lake that estimates water volumes and flows over a four year period. Model results were used to predict lake levels. Sedimentation rates in Tail Lake have apparently been estimated as it is suggested that the bottom of the lake will be in-filled with tailings sediment to an average depth of 1.6 m over mine-life. Mitigation of the impact on lake levels, Doris Lake levels and potential downstream flows has been based on model results. The performance of the tailings impoundment will, however, depend on the design and operation of the tailings impoundment and this is not provided in the draft EIS, thus it is difficult to assess the reliability of impact predictions.

Recommendation:
A copy of the SRK Engineering Consultants report must be provided in order to better assess estimated potential impacts of the proposed tailings impoundment design and to evaluate the adequacy of the water balance model.

Doris Lake. It appears that a reasonably detailed water balance model has not been developed for Doris Lake. Potential impacts on lake levels and downstream discharges have been based on gross assumptions.

Recommendation:
Develop a lake water balance model based on monthly flows. This model could be used to determine what the impact might be to lake outflow.

Control of surface runoff. It appears that no impact assessment has been undertaken with respect to the ability of the emergency tailings dump pond to absorb a situation where tailings have to be diverted as a result of pump shut-downs that extend over several days. The storage capacity of the

proposed 22 x 24 metre pond may be insufficient, particularly if the dump ponds are used in the winter and tailings freeze in place, thus reducing the capacity until the tailings thaw and can be excavated.

Recommendation:
Provide a discussion on the potential impacts of inadequate storage for the emergency tailings dump pond and how the situation will be addressed.

5.3.5.3 Water Quality

Ground water. The DEIS states that encountering permafrost in groundwater is unlikely and any minewater will be transferred to the mill, but does not provide the specifics of likely volumes, methods or the potential impacts of this transfer to the management of Tails Lake.

Tailings Containment Area. Water quality issues within Tail Lake, relative to the ability to re-use lake water for mill processing, or for water to be released downstream, appear to not have been addressed in any detail. There is no indication that water treatment might be considered should water quality not reach acceptable levels in a timely way. This is particularly important since the polishing pond has been removed from the project design.

The text and figures provided are too conceptual (and lacking real detail) to be able to estimate potential performance of proposed structures and plans. Since performance cannot be assessed due to lack of detailed information, it is not currently possible to assess potential impacts from these aspects.

The Proponent has indicated that significant amounts of ammonium-nitrate based explosives will be used during the construction and the operation of the mine and that nitrogen compounds (i.e. ammonia, nitrate, nitrite) associated with the tailings slurry, sewage treatment plant effluent, mine water and runoff from the ore storage pile will be discharged to Tail Lake during mine operation. Best management practices are alleged to reduce the residuals in waste rock but no substantiation is presented. An analysis of the impact of nitrogen compounds on the water quality of Tail Lake and the receiving environment in the area of the mine has not be provided in the DEIS. The assessment of residual nitrogen is a requirement of the guidelines.

The Proponent has indicated that tailings slurry will be discharge to Tail Lake. However, an analysis of the sedimentation of the tailings in Tail Lake and the potential impact on the receiving environment downstream of Tail Lake has not been provided in the DEIS.

The Proponent has undertaken water quality modelling to predict metal levels for the Tail Lake Tailings Containment Area and Doris Lake Outlet Stream. A key assumption in the water quality modelling is the concentration of metals in the tailings slurry. In the DEIS the proponent has indicated that " addition metallurgical testing to refine the ore processing flowsheet and to set design criteria and specifications " is being conducted. As part of this process " additional testing of the Caro's acid cyanide detoxification process is being conducted." Thus, the treated tailings slurry may contain metal levels that are different from those specified in the water quality modelling undertaken by the Proponent as part of the DEIS.

The Proponent has indicated that seepage from the Tail Lake Tailings Containment Area may have a potential impact on the water quality of Doris Lake. However, in the water balance prepared for the Tail Lake Tailings Impoundment Area the estimated seepage losses were specified to be 0 m^3 per year. No description of the hydrogeology of the Tail Lake Tailings Containment Area or rational for a seepage rate of 0 m^3 per year is provided in the DEIS.

As specified in Section 4.21.2.3 of the EAG, the Proponent is required to indicate where day to day operational problems might occur, particularly regarding runoff control and treatment, and to predict the effects of a worst-case scenario in which there is an uncontrolled release of contaminants. Although many potential scenarios were addressed by the Proponent in the DEIS, the Proponent did not consider a failure of the tailings slurry treatment plant and the subsequent impact on the water quality in the Tail Lake Tailings Containment Area and the proposed discharge strategy for the facility.

The DEIS has not considered pathway of sediment contamination in downstream receivers from metals released in mine water. Release of solids and metals will produce metals-contaminated sediments which will ultimately settle in Roberts Bay and enter marine benthic food chain.

The impact assessment does not consider loading of Hg to the downstream environment or entry into the food chain from Tail Lake. Effects are dismissed on the basis of dilution of ever-increasing Hg loading in Tail Lake and downstream environment (Fig. 5.3.8).

The impact assessment does not consider losses of sediment and associated metals from Tail Lake. Assumption of low solids in decant water should be substantiated through consideration of:
a) resuspension of solids in Tail Lake by wind prior to or during decant period and
b) delayed settling of solids frozen into mill waste such that they are part of decant water and
c) translocation of sediments frozen into ice due to shallow depth.

Recommendations:

1. Provide assessment of potential seepage pathways, amounts and contingency plans for seepage under retention dams and/or though taliks to other lakes.
2. Conduct an analysis of the impact of ammonia and nitrogen compounds on the water quality of Tail Lake and the receiving environment in the area of the mine from sources such as, but not limited to, the tailings slurry, sewage treatment plant effluent, runoff from the ore storage area, waste rock, quarry rock, and mine water.
3. Conduct an analysis of the sedimentation of the tailings in Tail Lake and the potential impact on the receiving environment downstream of Tail Lake.
4. Undertake water quality modelling to predict metal levels for the Tail Lake Tailings Containment Area and Doris Lake Outlet Stream using metals data from the optimized tailings slurry treatment process.
5. Provide a description of the hydrogeology of the Tail Lake Tailings Containment Area and the rational for a seepage rate of 0 m3 per year as specified in the water balance developed for the facility.

6. Consider a failure of the tailings slurry treatment plant and the subsequent impact on the water quality in the Tail Lake Tailings Containment Area and the proposed discharge strategy for the facility.
7. Provide assessment of sediment contaminant pathway.
8. Provide assessment of Hg bioaccumulation into food chain.
9. Provide assessment of discharge of sediments and associated metals from Tail Lake.

Site Runoff. No storage or treatment of runoff water is proposed during construction of the mine (p. 5-27).
This phase sees maximum disturbance of the site and maximum use of explosives but no provision is made for treatment and collection of storm water. In addition, no site drainage plan is provided.

Recommendations:
MHBL should provide:
1. sizing and location of storm water management facilities for the site.
2. details on site drainage.

Sewage. No details on sewage treatment, effluent quality or effects are provided to substantiate the conclusion of "minor impact" on p. 5-32.

Recommendation:
MHBL should provide method of sewage treatment, effluent quality, contribution to Tail Lake quality and analysis of downstream effects.

5.5 Accidents and Malfunctions
A more thorough consideration of accidents and malfunctions is required in the final EIS. Comments and specific recommendations on this topic are provided throughout this submission, but particularly in section 7, with respect to the Spill Contingency Plan.

5.6 Cumulative Effects Assessment
The CEA lacks an analysis that is both traceable and reproducable. For example, the CEA does not address both VECs and VSCs in a consistent manner. Cumulative socio-economic effects are addressed in the socio-economic support document, but not in a manner that follows the methodology of cumulative effects assessment advocated in the Cumulative Effects Assessment Practioner's Guide (1999).

The CEA does not explicitly identify the residual adverse effects on the VECs/VSCs that were considered in the CEA.

The study areas referred to in the CEA appear vague. Section 5.6 refers to "the region" and it is not clear whether the EIS is referring to a specific Regional Study Area for a discipline or the Hope Bay Belt region or some other area.

The VECs selected for the CEA are broad environmental components. Therefore the 'scale' of the CEA is too broad, inappropriate and not informative. VECs that were more specific to the Local and Regional Study Areas could have been identified for use in the CEA. This would allow for the CEA to focus more on the effects of other projects and activities that might have the potential to interact with those of the Doris North project. This would also allow the CEA to address the NIRB's Guidelines request that the proponent demonstrate how project-specific CEA fits into regional planning initiatives. The CEA does not provide such a discussion, nor does the assessment provide any information that would allow the NIRB to consider regional planning matters.

The CEA relies on the great distance of other projects from the Doris project and the lack of use of the same infrastructure as the primary rationale for discounting the potential for cumulative effects. The CEA does not have temporal dimension (i.e. it does not identify which other projects effects might overlap with the Doris North project residual effects over time).

The Final Guidelines for the proposed Doris Hinge Project (15 October 2002) required the proponent to set spatial boundaries for the cumulative effects assessment at the maximum range or distribution of the potential cumulative effects. The rationale for equating the Regional Study Area for Terrestrial Wildlife and Habitat to the Regional Study Area for Vegetation is not clear, particularly given the large home ranges of caribou herds in the area.

Table 5.6.1 indicates that the Victoria Island Caribou herd uses the area in the Winter and that the Doris North project is marginally within the active range of the Queen Maud Gulf Caribou Herd. Other projects or activities considered in the CEA that might also interact with these herds are Ulu, the Yellowknife-Kugluktuk All Weather Road and Arctic Coast Port. However, there is no cumulative effects analysis of these projects on these two herds.

Section 5.6 of the EIS Main Document states that "only projects or activities that have already been approved must be taken into account and environmental effects of uncertain or hypothetical projects or activities need not be considered". However the CEA Practitioners' Guide (1999) indicates that past and currently active action need to be considered, and that reasonably foreseeable actions can also include:

1. actions that are directly associated with the project under review,but is conditional on that project's approval (e.g. induced action for which some information is available)
2. actions identified in an approved development plan (and actions for which approval is imminent)
3. actions not directly associated with the project under review, but may proceed if that projects is approved (e.g. induced action for which some information is available).

The EIS has limited its consideration of other projects and activities to those identified in the NIRB's guidelines. The CEA does not demonstrate that the full range of other past, existing, certain and reasonably foreseeable projects or activities has been identified and considered in the CEA. For example, ongoing exploration activities, past, current and future (i.e. during and beyond the project life) and projects that may be induced by the Doris North project do not appear to be explicitly considered. This is particularly important given that the EIS states that the MHBL "sees the opportunity for future development in the Hope Bay Belt as very good" (EIS pg 1-2).

Moreover, an oversized tailings facility and the investment in project infrastructure suggests that the project site and vicinity might continue to be used well into the future.

Recommendations:

1. The CEA should explicitly identify the residual adverse effects of the Doris North project considered in the CEA and those similar effects resulting from other projects.
2. A consistent approach to the CEA should be taken with respect to the biophysical and socio-economic components of the environment.
3. The CEA should explicitly relate the location of each other projects and activities considered to the Regional Study Areas considered in the EIS.
4. A temporal dimension is required for the CEA. The analysis should related the expected duration of the residual adverse effects with those of other projects.
5. The proponent should demonstrate how project-specific CEA fits into regional planning initiatives. These regional planning initiatives need to be identified and described.
6. The rationale for equating the Regional Study Area for Terrestrial Wildlife and Habitat to the Regional Study Area for Vegetation requires justification.
7. A more detailed analysis of the Doris North Project in combination with the Ulu Mine, the Yellowknife-Kugluktuk All Weather Road and Arctic Coast Port on Victoria Island Caribou herd and the Queen Maud Gulf Caribou Herd is required
8. The EIS needs to clearly demonstrate that the full range of other past, existing, certain and reasonably foreseeable projects or activities has been identified and considered in the CEA. Other past, existing and future projects and activities within the local and regional study areas need to be identified and included in the CEA.

DEIS 6.0 Socio-economic Impact Assessment

General Comments
The outline of impacts provided lacks, for the most part, detail and justification. It is anticipated that gaps in the assessment model - VSECs that have not been addressed - will be identified in final EIS, based on a review from other northern mine projects.

The impact statement does not provide adequate treatment or enough detail to provide the public with a reasonable appreciation of the nature of both negative and positive social impacts on individuals, families and communities. The handling of employment and economic impacts is somewhat better, however the level of detail falls short of what is needed to anticipate how there may affect community and regional economies and the labour market.

Impact of In-migration
Guidelines state: "*If an urban centre ... is to serve as the main point of hiring ... Nunavummiut living there might suffer from the effects on In-migrations by job seekers, which could include housing shortages, prostitution, an increase in poverty, and strains on community resources to deal with such issues. Even if the foregoing are not considered to be probable direct effects of the proposed Project, they should be addressed in the assessment of its indirect and cumulative effects.*"

The impact statement should provide more detail on this specific issue and the potential increased demand on particular municipalities that have to deal with any immigration of interested individuals seeking work at the mine from other communities outside the region, but within Nunavut. (e.g. former employees of the Polaris and Nanisivik mines that are still interested in the employment of the mining sector.

Recommendation:
1. The impact statement should clearly address the issues and potential impacts of communities that will function as transportation hubs for the mine.
2. Efforts should be made to review the impact of job opportunities within Nunavut that reflect the current context of the territory.

Modelling of Economic Impacts
Guidelines states: "*It would be desirable to use an input-output model to assess potential economic impacts, including indirect and induced effects. The Kitikmeot Corporation commissioned the development of an economic Model for the Kitikmeot region by Drs Jack Stabler and Eric Howe, and the model is now complete. The Proponent shall employ it or a comparable model to the fullest possible extent.*"

The guidelines request the use of a specific model or an equivalent. To address this it appears that the company has employed the economic model for the Diavik Diamond Project in the NWT. There is no evaluation or comparison of the models to ensure that its use complies with the intent of the guidelines.

The proponent links both territories together, and while rationalized, should be revisited with a separate breakdown for each territory that reflects an appropriate and justifiable assumption, and has been done for components of the assessment such as Job opportunities.

Recommendations:

1. The proponent should provide some rationale for the use of the preferred economic model.
2. The model's use of a joint territorial component should be revised to address the specific impact to both regions.

DEIS 7.0 Environmental Management, Mitigation and Monitoring

General Comments
This section of the DEIS is presented at the conceptual level only. The lack of detail, in some cases, is acceptable at this stage of the assessment. Regulatory processes will ensure these plans are in place prior to activities occurring at the site that will result in impacts. In other cases, environmental management plans are necessary to the impact assessment to ensure the proponent is prepared to implement adequate mitigation.

Emergency Preparedness and Spill Contingency Plan
Supporting Document O presents the Spill Contingency Plan.

Section 3 of the plan does not provide contingency measures for acid rock drainage. Preventative measures should be in place to monitor the waste rock piles to enable early detection of a problem. Section 3 also does not address contingencies with respect to explosives facilities.

Section 4 does not address issues identified in the "Guidelines for Contingency Planning", which suggest that plans establish migratory paths for spills and include a site plan and plan drawings of relative facilities (conceptual at this stage), in addition, a detailed sequence of actions to properly contain, recover, and dispose of the spilled material, and follow-up restorative measures should be included.

No details on contingencies are provided concerning a tailings spill from the mill. One hour mill upset (~50 m^3) will be captured in tailings pipeline emergency dump pond (p. 5-29), but the capacity of the pond is not certain. There is also no consideration of contingencies for larger spills.

Recommendations:
1. The spill contingency plan should provide further detail to demonstrate that acidic drainage would be contained and analysed to determine the requirements for further treatment.
2. The Plan should provide clarification as to the design of the explosive facilities and how they will mitigate human health and environmental impacts.
3. The proponent should consider providing, at least in a general fashion, the information suggested in the "Guidelines for Contingency Planning". Greater detail will be required during the water licencing process.
4. Greater detail on contingency plans in the case of mill upset resulting in tailings release should be provided.

Management of Waste Rock
The "mafic volcanic" rock type was tested according to a number of subgroups which are shown to have highly variable ARD/ML characteristics. There is no indication of how the proponent intends to distinguish between these sub groups for classification during mining or whether the entire "mafic volcanic" rock type is intended to be handled as potentially acid generating material. For example, the descriptive difference between subgroups D1 (non acid generating) and D2 (potentially acid generating) that is provided is a difference in pyrite content less than 2% or

greater than 2% and there is no indication of how this determination will be made during segregation of rock during mining. The consultant report in Part G recommends that a plan be developed for the on site classification of waste rock according to geochemical characterization to enable appropriate handling procedures to be implemented but no clear statement is provided that such a plan is under development.

Recommendation: Develop a plan for the on site classification of waste rock according to ARD/ML characteristics and that describes the methods of handling that will be implemented with particular attention to the mafic volcanic rock group.

Management of Impact on Socio-Economic Environment

The guidelines state: " *The Proponent shall present policies and programs to minimize potential negative socio-economic effects and to optimize potential positive effects. The general areas that shall be considered are human resources, occupational health and safety, Nunavummiut involvement, public involvement, and IBAs.*"

Based on the EIS ability to meet some of the previous requisites defined in the guidelines there are concerns that the information presented is incomplete. While efforts have been made to conform to the guidelines the need to revisit the previous work to identify the VSECs and the potential impacts before further work on the management of the issues is dealt with.

Recommendation: Revisit the work previously identified in the guidelines to ensure that the impacts are identified. This should help in the identification of indicators to assess the Project's impact as well as ensure that the impact VSECs are appropriately mitigated.

DEIS 8.0 Conceptual Mine Reclamation Plan

General Comments

The NIRB guidelines asked for a plan that "respects all applicable regulations, standards and policies and addresses the mine, mine rock, overburden, and tailings disposal facilities and areas, water retention and diversion structures buildings and site infrastructure, fuel and hazardous materials storage facilities, wastes, borrow pits and quarries, roads and airport, and all disturbed areas." NIRB has asked for a fairly detailed reclamation plan, including a schedule that reflects progressive reclamation.

The mine reclamation plan should present information on what the final characteristics of the site will be in the post closure phase of not only the Doris North mining project, but when all of the site infrastructure is ready to be abandoned. Such a plan is required if, for some reason, the entire site infrastructure was abandoned either during, or immediately post mining.

While the Nunavut Mine Reclamation Policy is considered, some of its critical elements are missing, for even a conceptual level plan. For instance, the plan does not mention third party reclamation liability; it is assumed that the proponent will provide an annual update of their reclamation liability, however this should be included in the reclamation planning.

The overall objective of the proposed mine reclamation plan is not stated. For example, the end land use, as described in subsequent sections, appears to be ongoing use of the site and some of the site facilities to support regional mineral exploration activities rather than complete restoration to natural conditions and productivity.

Recommendations:

1. The proponent should submit a reclamation plan in accordance with the NIRB Guidelines and the Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990).
2. The proponent should be aware that INAC is in the process of updating these guidelines to reflect best management practices and the Mine Site Reclamation Policy (2002).
3. Provide a reclamation plan which deals with the final characteristics of the site once all infrastructure is abandoned.
4. Clearly state the overall objective of the reclamation plan in terms of anticipated end land use and clearly state what facilities are proposed to remain on site after reclamation for ongoing use.

Acid Rock Drainage

Section 3.5, the plan does not mention Acid Rock Drainage.

Recommendation:

The plan should have a long term contingency plan for acid generating waste rock.

Global Warming

No mention of potential global warming and therefore potential physical and chemical stability considerations are noted therein.

Recommendation:
Proponent needs to provide some consideration of global warming and climate change considerations for the closure phase of the project. Provide any modifications to the proposed plan if changes and impacts are forecast.

Tailings

The proposed long term closure of tailings is to provide 1 m water cover. There is no justification of 1 m as regards ARD/ML issues or as regards mobilization of tailings solids due to entrainment in ice or wave action.

Further, the closure plan assumes the long-term integrity of the 1 m water cover over tailings in Tail Lake.

Recommendations:
1. Provide a justification of 1 m water cover as being adequate for long term closure of the tailings as regards ARD/ML and remobilization issues.
2. Provide assessment of risk of dam failure and exposure of tailings in Tailing Lake.

Waste Disposal Site

There is no indication of what materials are proposed for permanent disposal in the quarry, no indication of the level of "cleaning" that is envisioned prior to disposal and no indication that the available storage volume is adequate (on a conceptual) level for the required volume of material. There is no indication of reclamation cover thickness or whether the reclamation approach is to provide permafrost encapsulation of the waste or to allow the waste to occupy the active layer.

Recommendations:
1. Provide some indication of the nature and volume of materials that are proposed for the waste disposal site and describe what level of cleaning is envisioned and how the volume required compares to the volume available. Provide a conceptual contingency plan if the volume available is close to the anticipated volume required.
2. Clearly state whether the waste materials are intended to be encapsulated into permafrost and, if not, any anticipated implications of seepage to surface from the facility.

Waste Rock and Quarries

There is a clear statement that development rock from the ore horizon will remain underground for use as backfill and that the majority of the waste rock to be brought to surface has a low AP and will be reclaimed on surface. There is no statement to indicate what criteria will be used to assess whether waste rock that is on surface at mine closure is acceptable for surface reclamation. The inference is that the control will be implemented during mine operations and no verification will be done during reclamation and that all rock on surface at mine closure will be pre-considered to be acceptable for surface reclamation.

The plan proposes that "any stockpiled material" will be used for surface reclamation. There is no indication of criteria or method for determining ARD characteristics and "acceptability" for use on surface.

Recommendation:
Provide an indication of what criteria will be used to determine whether rock on surface is acceptable for permanent disposal on surface and provide a contingency plan for rock that is considered to be unacceptable for on surface disposal.

Underground Mine

There is no clear statement whether the intention for disposal of materials in the underground mine is for encapsulation of the materials in permafrost. If this is the case, there is no reference to information on the thermal regime in the mine to support the selection of the most appropriate disposal locations in the mine.

Recommendation:
Provide an indication of whether encapsulation into permafrost is a primary intent for waste disposal in the mine and, if so, reference information on ground temperatures in the mine.

Closure Monitoring

There is a stated intention to "seek final clearance to permanently abandon the project area". This appears to conflict with the stated intention for ongoing use of some of the site facilities and infrastructure to support regional mineral exploration activities.

There is no indication of the post closure monitoring time frame that is envisioned by the proponent.

Recommendations:

1. Clearly state the ultimate objectives for the reclamation plan in terms of ongoing use of some facilities and infrastructure.
2. Provide an indication of the timeframes anticipated for post closure monitoring and incorporate an indication of the timelines for dismantling of various facilities and infrastructure that may remain for ongoing use after reclamation of the remainder of the facilities.

APPENDIX A: LIST OF CONSULTING COMPANIES

The following consultants aided INAC in preparing this submission:

Gartner Lee Ltd.
Northwest Hydraulics Consultants Ltd.
BGC Engineering Inc.