Indian and Northern Affairs Canada | Affaires indiennes et du Nord Canada

MEMO, Prepared for Nunavut Impact Review Board (NIRB)

Prepared by Peter Scholz, Environmental Assessment Coordinator for INAC Feb. 6, '04. Reviewed by attendees until Feb. 25.

Please note that the majority of these minutes are recorded in point form, and that they combine the comments from a number of persons so writing style is not consistent throughout.

Acronyms:

INAC – Indian and Northern Affairs Canada
EC – Environment Canada
DFO – Fisheries and Oceans Canada
GN_DSD – Government of Nunavut, Department of Sustainable Development
VEC – Valued Ecosystem Components
VSEC – Valued Socioeconomic Components
MHBL – Miramar Hope Bay Ltd.
FEIS – Final Environmental impact Statement
DEIS - Draft Environmental impact Statement
NIRB – Nunavut Impact Review Board
MMER – Metal Mines Effluent Regulations
CCME – Canadian Council for Minister's of the Environment
IQ – Inuit Qaujimajatuqangit
TK – Traditional Knowledge
EMS – Environmental Management System
CEPA – Canadian Environmental Protection Act
NWB – Nunavut Water Board
PM – Particulate Matter

Notes from meeting with MHBL Representatives related to the Doris North project's final Environmental Impact Statement
Feb. 4, 2004

Attending:
Miramar Hope Bay Ltd (MHBL).
Hugh R. Wilson, Manager, Environmental Affairs; MHBL
Gary Ash, Golder Associates, Consultant to MHBL on fisheries issues
Ben Hubert, Hubert and Associates, Consultant to MHBL on terrestrial wildlife and vegetation and assisted in the preparation of the final EIS.
Robert Eno, INAC Waters
Elizabeth Sherlock, INAC Waters
Joy Veller, INAC Waters

Julian Lim, INAC Environment
Peter Scholz, INAC Environment
Colette Meloche, EC
Mike Setherington, GN DSD
Jeff Holwell, INAC Lands
Robyn Abernethy-Gillis, INAC Environment
Stephanie Critch, DFO
Martyn Curtis, DFO
Carl McLean, INAC – Lands
Eric Hopkins, INAC – by teleconference

Meeting opened at 8:40am

The meeting opened with introductions to the project, attendee introductions and a PowerPoint presentation overview of the Doris North project's final EIS. The following points were made by federal staff during the presentation.

- MHBL is hoping for final hearings in late April/Early May
- Tail Lake has the capacity to accommodate additional tailings from continued development on the Hope Bay belt
- Discharge from Tail Lake will meet MMER standards
- Proven methods for permafrost construction will be utilized
- Up to 53.4 ha will be flooded by the raising of the water level in Tails Lake, but nests & grazing areas will be lost
- 3 caribou herds in the area
- Likely the best way to keep caribou away from dangerous areas may be to erect inukshuks
- Ongoing exploration, with several promising deposits in the Greenstone Belt
- Helen Tokganak assisted with socioeconomic studies
- Cleanup to begin summer 2008
- Twin Lakes and S. Windy Lake were alternatives for tailings disposal for Doris North project referenced by MHBL, but they are only sufficient enough for Doris North ores alone and future resource development would have to use other tailings disposal areas. The use of the preferred location (Tail Lake) would ensure containment of all known resources in the belt to date and is seen as the most environmentally acceptable.
- Water cover over the tailings will be ~6.1m, upon closure, the cover would be maintained at 3 meters.
- Doris Lake natural annual discharge is ~11.9m^3/a
- The 4.3 m high waterfall on Doris Creek prevents char access into Doris Lake from Roberts Bay
- Of the optimal 690 tonnes/day of ore processed, approximately 69 tonnes/day will be subjected to cyanidation. The solution from this circuit will go through a cyanide destruct circuit (caros acid process) and the

treated solution will be combined with the floatation tailings and discharged into Tail Lake.

After the presentation, there was a discussion facilitated by MHBL that was arranged by topic, in the order shown below. The bulleted points are comments written down by federal staff during the discussions.

Air Quality

- Primarily an occupational health and safety issue. Proponent is operating two partisol air samplers: a $PM_{2.5}$ and PM_{10}. INAC suggested concentrating on the $PM_{2.5}$ as this is the national standard for suspended particulates.
- EC reviewers have not completed their technical review or modeling
- Project should investigate best-use practices (ambient heat & power systems)
- INAC brought up issue of road dust control and the materials that are legal for use in controlling dust (this is, indirectly, a water quality issue). Referred proponent to the GNWT *Dust Suppression Guidelines*. INAC will forward a copy to them.

Noise

- Noise impacts will be minimal beyond a 2km radius from the mine site
- DFO expressed concern with respect to blasting and fish. DSD suggested that a more realistic calculation of the physical footprint of the mine site include the area in which the noise levels are above natural background (estimated to be approx. 3 to 4 km radius.)
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Jetty

- The jetty will remain following closure as part of the abandonment and restoration plan for the project, as digging it up would cause significant siltation and the jetty will act as a fish habitat feature.
- The jetty is expected to be used to support ongoing exploration activities, in the belt. MHBL stated that removal of the structure may be more intrusive to the environment, however; would revisit during operations and if and when permanent closure is anticipated.
- Carl felt that greater explanation should be provided on rationales for leaving the jetty in place.

Water: Hydrology

- Hydrological concerns were addressed much better in the FEIS than the DEIS
- INAC stated that using water from Doris & Tail Lakes to dilute for CCME guideline standards is not an appropriate solution. To clarify their position, MHBL stated that what is planned is that discharge from Tail Lake will meet MMER requirements, and will be discharged into Doris lake outflow (above the falls) and after mixing with Doris Creek water, CCME criteria are expected to be met below the falls.
- The increased water level of Tails Lk. could change groundwater flows.
- INAC stated that drilling underground exploration declines under Doris Lk. creates issues regarding the location and extent of groundwater flows and taliks. To clarify their position, MHBL mentioned that the exploration component of the Doris Connector and Doris Central (under Doris Lake) is not part of the Doris North project and as such concerns related to this should be excluded from the current project scope of Doris North only.
- INAC cannot state with confidence that it does not have concerns with the water mgmt. and flows on site at the present time: these will be become clear as the full review proceeds.
- MHBL is confident in its water quality projections
- EC reminded MHBL that NWB water standards could be more stringent than MMER.

Water: Fish

- DFO would like additional info on bridge across Doris Cr.

Permafrost

- Suggestion that a timeline for long-term prospecting and feasibility studies in the Greenstone Belt be developed.
- INAC's expert reviewers have stated that the soils in the area are the worst types of soils in terms of the potential environmental impacts associated with permafrost degradation. As such, excavation of drainage ditches should not occur. INAC is concerned that the drainage/collection ditches will cause serious problems to the soil regime in the area.
- Questions about how to maintain permafrost regime with the underground workings in place is an important and as yet unresolved issue.
- Concerns about thawing and slumping relating to the increased water level in Tails Lake.

Dams

- Construction with soils may be problematic re. structural integrity

- Frozen core design is currently planned, however; monitoring results during operations may require reverting back to the option of thermosiphons to maintain structural integrity.
- The 3km fetch, combined with strong northerly or southerly winds, at Tails Lake could affect dam stability, in addition to water turbidity.

ARD

- INAC indicated that the neutralizing potential around soils is poorly understood, and visual identification of ARD-potential rock is not an acceptable means of identifying ARD-potential rock.
- MHBL commented that the term "visual identification" appeared to be the problem and stated that geologists can with some certainty quantify the sulphide content, and use this information as an initial indicator of potential ARD rock management. For Doris north, it is expected that most, if not all, of the waste rock will remain underground as backfill, any waste rock stored on surface would be done in the appropriate manner until it is relocated underground as backfill.
- Kinetic tests are being conducted
- Selected aspects of alternatives for tailings disposal not adequately addressed (i.e. cost comparisons) – MHBL is preparing supplementary information.
- Tank farm moved to quarry area following site geotechnical investigations in 2003.

Terrestrial

- EC has concerns regarding migratory birds

Environmental Mgmt. System

- EC: lack of spill contingency plan in the EMS is a cause of concern. CEPA Secs. 8/9 require spill contingencies. MHBL states that a spill contingency plan is included in the final EIS.
- MHBL's consultants: Looking to develop cooperative agreements for spill response equipment that could include CCG, Ekati and Diavik on the winter road.
- INAC stated that the spill contingency plan is not complete. Furthermore, it is a generic plan and not site-specific as it should be.

Scope of EIS

- There appears to be some confusion here. The regulatory agencies are of the opinion that the proposed exploration operation under Doris Lake should be included as a part of the EIS, however, the proponent believes that this is a separate issue and one that will be dealt with when required, and that all reviewers should concentrate on the Doris North-only scenario.

- The proponent agreed that there needs to be some kind of timeline established with respect to future operations above and beyond the existing proposed works.
- The underlying question (posed by INAC) here is: "at what point in the 2 year life of the existing proposed works, will the proponent be in a position to determine with certainty, whether or not it is feasible to extend the operation to include other ore bodies in the immediate area (such as under Doris Lake)? Developing at least a rough timeline should be possible.

Project Alternatives

INAC noted that, in general, alternatives are poorly fleshed out. INAC then provided the proponent with an explanation of the holistic nature of VECs, VSECs, IQ, TK, community consultation, scientific knowledge, the "no go" option, and cumulative effects. The effort was to provide the proponent with a sense of where the FEIS is lacking the most. The discourse described the 4 information sources (IQ, TK, community consultation, and scientific knowledge).

The “no-go” alternative is, in essence, a description of existing socio-demographic and economic trends, and their projection into the near future. Most of this data is available and need merely be assembled by MHBL. The “no-go” then provides a clear socioeconomic baseline for VSEC impact assessment.

MHBL indicated that the NIRB guidelines are not especially clear on just how far they must go, in terms of examining the "no-go" alternative. In their experience, people in the communities already know the alternative of not having the mine: "a bleak future", with no jobs, no economic opportunities and no future for their children.

The GN disagreed with MHBL about the lack of direction with regard to project alternatives. MHBL felt that the GN’s inputs on this topic, to date, had not been detailed enough to assist in the EA process.

Cumulative Effects

The proponent indicated that they felt that the issue of cumulative effects as directed by NIRB is difficult to address and is difficult to determine; particularly because they are virtually the first major project in that particular area. DSD referred the proponent to a cumulative effects handbook. INAC encouraged the proponent to review this topic carefully in its conformity analysis, as it had made an effort to ensure full clarity of information requirements
Technical Hearings

The proponent is certain or at least working under the assumption that, the 90 day review period commenced on Feb 2. The proponent is anxious to have a technical meeting sometime in March. INAC stated that they could not commit to such a meeting at this early stage. It was further pointed out to the proponent that:

1. This exercise is a conformity review; the purpose of which is to identify information gaps in the FEIS.
2. Without this information, a proper review of the FEIS cannot be conducted.
3. Until such time as this information is provided by the proponent, the regulatory agencies (and their own experts) are unable to assess the efficacy of the final EIS.
4. Depending upon the magnitude of the gaps identified in the FEIS, the 90 day period may not necessarily commence on Feb 2; that it might commence at a later date to be established by NIRB and therefore the idea of a technical hearing in March may be premature.

The proponent mentioned that their interpretation of NIRB's letter is that Feb 2 is the commencement date and that we should shoot for a technical meeting in March. INAC, for their part, insisted that they could not commit to holding technical meetings in March; that the date of any such meeting would be dictated by the timing and completeness of the proponent's response to the issues identified in the conformity review.