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Department of Environment

Ministère de l'Environnement

December 04, 2006

Richard Dwyer
Licensing Trainee
Nunavut Water Board
Via email to: licensingtrainee@nunavutwaterboard.org

Re: Preliminary Review–Application for a Water License Doris North Gold Project

Dear Mr. Dwyer,

The Government of Nunavut, Department of Environment (DOE) thanks Nunavut Water Board (NWB) for the opportunity to comment on the completeness of the Miramar's water license application, we have the following comments

1. Conformity with Guidelines

DOE has conducted a general review of the application for conformity with the *NWB guidelines for the applicant* (27 October 2006), and have concluded that the application subject matter generally satisfies the requirement of the guidelines. It is important to note however, that given the time period and the volume of information, DOE was not able to undertake a technical evaluation on the adequacy of the material, but merely indicate whether Miramar had attempted to address all the issues identified by NWB in the guidelines. The following minor issues are not in conformity and need to be addressed.

Wildlife Monitoring

The NWB guidelines include a table which serves the following purpose ‘to guide the structure and format of the application. This TOC will act as a reference to where information, relevant to the water license application, has been filed.’

This table includes a requirement for Miramar to submit a wildlife monitoring plan (Section 7.10). The material provided by Miramar in support of the water license application includes a wildlife monitoring plan that lacks the detail inferred by the NWB guidelines. However, as part of the NIRB process DOE is currently working with Miramar to refine a Wildlife Mitigation and Monitoring Plan (WMMP) for the Doris North project. The NIRB Project Certificate condition (TC#29) related to this issue, requires NIRB approval of the WMMP prior to commencement of mine construction. DOE believes that due to the detailed technical nature of the water license process, the

WMMP that ultimately receives NIRB approval should fulfill the wildlife monitoring requirements for the project. If substantive changes to the project occur as a result of water licensing, DOE is confident that the fluid nature of the WMMP and the requirement for adaptive management should address these changes. DOE is therefore satisfied with the level of detail provided on wildlife monitoring in the water license.

Closure Monitoring and Maintenance

The NWB guidelines state '*MHBL is encouraged to develop design and water management beyond the conceptual and intermediate phases before the submittal of a water license application*'. Page 88 of the Mine Closure and Reclamation plan states '*The monitoring and maintenance programs discussed in this section are inherently generic at this stage of planning and will be developed in more detail in consultation with communities and regulators, and as project permitting advances*'.

Considering that the Doris North project proposes a mine life of 2 years and that we are now in the permitting stages of this project. Miramar should be developing their closure and post closure monitoring plans beyond the conceptual.

Spill Contingency Planning

Cumberland has submitted an Emergency Response and Contingency Plan. Spill response is dealt with in two sections. One section deals specifically with spill responses in Roberts Bay, and the other section is a general spill response plan. DOE is concerned about the level of generality of this latter plan. Spill response plans are typically site specific detailing information such as these below;

- ***A description of the facility including the location, size and storage capacity.***
This is important if persons are unfamiliar with the facility or the area. The description could include a map and/or diagrams.
- ***A description of the type and amount of contaminants normally stored on site.***
This would include chemical names and volumes or weights of the contaminants.
- ***A site map that is intended to illustrate the facilities relationship to other areas that may be affected by a spill.*** The map should be to scale and be large enough to include the location of your facility, nearby buildings or facilities, roads, culverts, drainage patterns, and any nearby bodies of water.
- ***A description of the training provided to employees to respond to a spill.*** A sound training program is necessary when dealing with an emergency situation.

Also: A list of local contractors or clean up specialists who may be called upon to assist with spills, and a list of emergency numbers such as fire, ambulance and police, should be provided. MSDS for each product or contaminant stored at the facility should also be included.

GN Guidelines and Regulations

Section 3.0 of the NWB Guidelines directs the proponent to a list of legislation, regulations and guidelines to be used as a tool to develop their application, but stresses that the list is not exhaustive. The GN has a series of relevant regulations and guidelines (which can be obtained on request) for ensuring that environmentally acceptable management procedures, emission levels and disposal methods are maintained. Some of these are included within the guidelines but not others. DOE asks that MHBL makes reference to and incorporates the appropriate GN guidelines where relevant. The table below indicates the relevant guidance and where they should be applied.

MHBL Document	GN Regulations & Guidelines
Emergency Response and Spill Contingency Plan	<i>Spill Contingency Planning and Reporting Regulations</i>
Hazardous Material Management Plan	<i>Disposal Guidelines for Fluorescent Lamp Tubes</i>
Air Quality Management Plan	<i>Nunavut Guidelines for Dust Suppression</i>
	<i>Nunavut Air Quality- Sulphur Dioxide & Suspended Particulates Guidelines</i>

2. Conformity with DOE comments on the Final Environmental Impact Statement

During the NIRB review of the Doris North project, DOE undertook a technical review of the FEIS, dealing specifically with areas that fall within our mandate under Nunavut's *Environmental Protection Act*, regulations, guidelines and Canada Wide Standards. There were a number of detailed issues identified by DOE during this process that we deferred to the later permitting stages for resolution. The Miramar water license application has attempted to address most of the issues raised; however, the following minor issues remain outstanding:

Hazardous Material Management Plan:

GN review indicated that Miramar should incorporate the "*Disposal Guidelines for Fluorescent Lamp Tubes*" in the HMMP.

Ground Water Contamination Management:

Miramar have stated that no water is expected from the underground mine because of the permafrost; however any such water that might occur would also be pumped to Tail Lake. This scenario is included in Miramar's water quality modeling. However, in our review of the FEIS, DOE indicated warming climate trends may result in degradation of permafrost and possible groundwater intrusion into the workings. We stated that '*Under*

this extreme warming scenario, the underground mine would slowly fill to about the level of Doris Lake. Under these conditions, migration of groundwater from the underground mine to surface water (i.e. Doris Lake) could take place, presumably at a very slow rate. MBHL states that the underground mine will not contain contaminated material such as hydrocarbon-contaminated soils. Therefore, the risk of groundwater contamination under these thawed conditions would relate to acid generation and metal leaching from mineralized backfill rock and wall rock. While acid generation and metal leaching could occur during the unsaturated period before the mine floods, this is considered to represent a very low risk to the surface environment because of the low probability of these climatic conditions becoming established and because of the anticipated low permeability of the rock mass surrounding the mine workings. The risk to the surface environment (including Doris Lake) via a ground water plume developing in the underground mine is very low. However the long term monitoring program should include recognition that, if climatic conditions were to warm to the point where permafrost in the underground mine was lost, monitoring of the rate of filling, quality and possible migration of water in the mine should be monitored and, if necessary, mitigated'.

We also stated that, *'this issue could be a condition associated with the permitting stage of the Doris North mine'*. From DOE's review of the current water license application, this issue does not seem to have been addressed.

Once again DOE thanks NWB for the opportunity to comment on Miramar's license application

Yours sincerely

Mike Atkinson,
Manager, Land Use Planning and Environmental Assessment