

NON-TECHNICAL EXECUTIVE SUMMARY

Contributing to the realization of sustainable development in Canada's North is a priority for Environment Canada (EC). The Department focuses on the provision of scientific expertise for incorporation into decisions on developments, such that all parties working together can ensure there is minimal impact on the natural environment, and for the continuance and preservation of ecosystem integrity. Toward these goals, EC has reviewed the Miramar Hope Bay Ltd. (MHBL) revised water licence application (April 2007) for the Doris North Project and the supplementary information that has been provided to the Nunavut Water Board (NWB).

Environment Canada's submission focuses on issues related to environmental effects on or related to aquatic quality and air quality, to the extent it may affect water quality. As directed by the NWB, EC's submission relates to aspects under the jurisdiction of the NWB and those that fall under EC's mandated responsibilities.

While the revised water licence application is greatly improved, EC has identified deficiencies.

MHLB has modeled tailings discharge water quality in Tail Lake and predicts that by managing discharge volumes in relation to flows in Doris Creek, water quality below the waterfall can be maintained at values which are at or below the Canadian Council of Ministers for the Environment (CCME) Guidelines for the protection of Freshwater Aquatic Life. EC supports this approach; however, there are still concerns about the water quality in the receiving environment. In the case of parameters where baseline concentrations are substantially below CCME guideline values, management objectives should be to maintain those parameters at the lowest possible concentrations in the receiving environment. EC recommends that compliance criteria in Doris Creek be set for a broader range of parameters, with receiving environment targets which are more site-specific. For parameters which do not have CCME guidelines it is recommended that MHBL set management targets within a range close to background levels. EC's recommendations on parameters are further discussed in our technical submission. In addition, EC recommends a limit be set for ammonia in the Tail Lake effluent outflow, that ammonia, nitrite, and nitrate concentrations from all sources be tracked, and water quality predictions be reviewed and revised on a periodic basis in order to be able to forecast trends which may affect discharge management.

The Monitoring and Follow-Up Plan (April 2007) and the November 2003 Final Report on Effluent and Aquatic Monitoring Study Design outline the monitoring program intended to meet the requirements of the federal legislation and focus on satisfying Environmental Effects Monitoring (EEM) requirements as set out in the Metal Mining Effluent Regulations (MMER). EC has identified several areas that are lacking within the program. Although EC recommended changes to the 2003 report under the environmental assessment process in 2005, it appears that these changes were not incorporated, and in fact that the program has not changed since the initial development in 2003. A revised Aquatic Effects Monitoring Program (AEMP) should be developed by the proponent. The AEMP should monitor water quality, sediments, benthic invertebrates, productivity and fish with the appropriate frequency, and provide annual reporting of results. The AEMP should be sufficiently comprehensive to detect effects which may not have been predicted. Examples of details that should be included are outlined in our recommendations.

The proponent plans on carrying out annual freshet surveys at seepage points where blast rock has been used, once construction is complete. In addition, should any field measurements be

elevated, lab analyses of appropriate parameters will follow. EC supports this monitoring approach and recommends that surveys include periodic sampling and analysis of seepage points and regular samples from reference sites that are not affected by mine influences.

Although incineration contaminants are initially released into the atmosphere, the dominant exposure pathways for wildlife are through vegetation, water and sediments. Contaminants that are deposited on soil will enter water bodies through runoff and/or erosion and are subsequently taken-up by wildlife. It is this deposition pathway that is of concern to EC. EC supports the commitments made by the proponent in the Air Quality Management Plan. However, to ensure that these commitments are met and incineration emissions are minimized, the proponent should develop an Incineration Management Plan in consultation with EC. The management plan should include annual reporting of incineration to demonstrate an ongoing commitment to minimizing emissions. Further details on the components to be included in the Incineration Management Plan are included in our recommendations.

Under the Landfill Management Plan (LMP) the proponent states that there will be open burning of wood waste that may have come in contact with contaminants used for plywood shipping crates. The LMP suggests that the contaminants will be destroyed by open burning. EC recommends that any type of contaminated wood be dealt with under the incineration management plan as some contaminants are not completely destroyed via open burning and will be dispersed through the air, ultimately leading to contamination of water bodies.

Environment Canada would like to thank the NWB for the opportunity to comment on the revised Doris North water licence application, and we hope that these technical comments and recommendations are useful to the NWB in their decision making process. Environment Canada respectfully requests the opportunity to submit additional written comments after the public hearings to address any new information brought forward at the hearings.