Environment Canada / Environnement Canada

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Environmental Protection Branch
Qimugjuk Building 969 P.O. Box 1870
Iqaluit, NU X0A 0H0
Tel: (867) 975-4639
Fax: (867) 975-4645

April 11, 2003

Our file: 4705 037 POLA

Dionne Filiatrault
Senior Technical Advisor
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

RE: Polaris Mine Reclamation and Closure Plan – Meltwater Control Procedures

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

TeckCominco Ltd. has submitted a plan to the Nunavut Water Board (NWB) for the control of meltwater now that the Polaris Mine has entered the reclamation and closure phase. Previously, any meltwater was recirculated to the Concentrator where it was used for processing, and the solids were directed to Garrow Lake along with the Tailings solids. However, the tailing thickener has now been demolished and the barge tailings pumps have been removed. Therefore, TeckCominco is proposing to remove as much snow as possible to the Main Snowdump, which is already rescheduled for soil remediation. To capture the remaining meltwater TeckCominco is proposing to use existing and newly developed ditches to intercept the meltwater above the areas of contamination and direct it laterally away from the worksite. Any water that originates from or enters any areas of known contamination that is not captured by the ditching system will be collected in a sump where particulates will be allowed to settle out and an oil skimmer used to reduce hydrocarbon contamination. Finally, this water will be pumped underground for final disposal.

Environment Canada recommends that the following conditions be applied throughout all phases of the project:

- Environment Canada requests information outlining where the soil excavated for the ditch system will be stored. Further, EC recommends that any soil excavated during the construction of new ditches from any areas of known hydrocarbon contamination be tested prior to disposal.
- Environment Canada recommends that all interceptor ditches be backfilled upon completion of the reclamation and abandonment plan and regraded to match the existing landscape.
- Environment Canada requests information regarding the size of containment sump to be used, its expected freeboard, and its location in relation to water. Further, at the end of meltwater control program (i.e. by Spring 2004), the proponent shall ensure that all contaminated particulate from the bottom of the sump is removed and treated prior to disposal, and that the sump is backfilled and recontoured to match the existing landscape.

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- TeckCominco Ltd. has indicated that there will be no need to pump meltwater underground after Summer 2003, as the barge, the concentrate storage shed, and the associated contaminated soils will have been remediated before Spring 2004. However, earlier in the letter, they indicate that the area of contamination includes the accommodations, barge, concentrate storage shed, and ancillary buildings. Unless the remediation of all contaminated areas is completed by Spring 2004, EC recommends that the meltwater control procedures be extended until the clean-up of all areas of contamination is complete.
- The proponent has stated that silt containment is not mandatory. However, according to the Fisheries Act, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited. The proponent shall not deposit, nor permit the deposit of sediment into any water body. Therefore, TeckCominco shall ensure that any meltwater that acquires additional sediment during its travel through newly excavated ditches receives treatment (such as the use of silt curtains or fences, or other similar preventative measures) prior to its release to the marine environment.
- Environment Canada requests that TeckCominco Ltd. measure and record the actual amount of water that will be pumped into the underground storage vault. The proposed procedure provides estimates; however, it would be valuable to know the actual amount in order to determine the remaining storage capacity during the reclamation process.
- In order to establish a baseline that can be used to respond to any potential accidents or malfunctions either with the piping system or the underground containment itself, EC recommends that TeckCominco Ltd. complete water chemistry testing of the meltwater to be disposed of underground.

If there are any changes to the proposed project, EC should be notified as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at colette.meloche@ec.gc.ca.

Yours truly,

Colette Meloche
Environmental Assessment Specialist

cc: (Mike Fournier, Northern Environmental Assessment Coordinator, Environment Canada, Yellowknife)