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Re: **Lupin Mine and Ulu Project - Technical Reviews of Plans - Water Licences**
NWB1LUP0008 and NWB1ULU0008

On behalf of Environment Canada (EC) Ed Collins and I have reviewed the above plans and offer the following comments:

Annual Geotechnical Inspection Final Report

Following review of the 2000 Annual Geotechnical Inspection Final Report, EC has no comments to offer. The report is stamped and signed by a Professional Engineer registered in the NWT and it appears that the major deficiencies have been corrected.

Contingency Plan

1. The Telephone Listing in Appendix 1 contains a contact list for government agencies. This list has numbers for the GNWT in Yellowknife and for DIAND in Yellowknife. Echo Bay should confirm that these contacts are still valid now that the mine is in Nunavut.
2. Section 8.0 describes the plans for responding to spills of the various materials at the mine. The sections dealing with the disposal of spilled petroleum products always mention the options of incineration and burial. Echo Bay should also consider the option of bioremediation especially for contaminated soils, which would involve the construction of a lined pit at the landfill. Ammonium nitrate already on site could be used as the fertilizer, and the heavy equipment at the site could be used for mixing and aerating.

Interim Abandonment and Restoration Plan

The Interim A&R Plan gives good general consideration to the various aspects of the final closure. Studies are underway to identify information needed for selecting closure methods for the Tailings Containment Area, and various closure technologies identified. EC encourages the ongoing development of test plots and monitoring in the TCA.

There are some minor questions which can be addressed in subsequent versions.



- With respect to fuel tank farm decommissioning, what will be done with tank sludges? Any fuel-laden sand should be remediated prior to disposal in the TCA unless it would be encapsulated and fully isolated.
- Has there been any natural re-vegetation of the old airstrip, which is esker material? Monitoring of this would be helpful for future predictions of revegetation.

2000 Annual Report

Part K includes a summary of data collected following the 1992 Spill into Long Lake. This data would be much more meaningful, and easier to interpret, if there had been a map showing the sampling locations. The write-up is very sketchy, and would benefit from inclusion of background information on the spill (volumes and quality) as well as quality assurance/quality control data. For example, were pH measurements done in the field or the lab? How reliable are some of the "outlier" measurements which weren't re-taken? This report leaves the reader with more questions than answers on the spill follow-up and estimated effects.

In the 2000 pumping report I note that the paste backfill is only using 26% of the tailings solids, where early projections were hoping for better than 50% to be directed back underground. Have reasons for this been identified, and can steps be taken to improve the proportion of tailings which are returned to the mine workings?

In 2000 there were 47,433 m³ of minewater directed to the sewage lakes. It was my understanding that most of the minewater was to be used in the mill as make-up water, and very little would be released to the sewage lakes. What was the total volume of minewater generated, i.e. was all minewater sent to the second sewage lake? EC encourages Echo Bay to maximise reuse of water, while reducing metals loadings to the environment.

Ulu Project 2000 Annual Report and Interim Abandonment and Restoration Plan

EC has not identified specific concerns upon review of the Ulu documents.

Please do not hesitate to contact me at (867) 669-4735 with any questions or comments regarding the foregoing.

Yours truly,



Anne Wilson
Water Pollution Specialist

cc: Steve Harbicht (Head, Assessment & Monitoring, EPB)
Ed Collins (Head, Environmental Engineering, EPB)
Laurence Ignace (EPB Iqaluit)
Paula Pacholek (Environmental Assessment Coordinator, EPB)