

# LUPIN MINE WATER LICENCE APPLICATION

AUGUST 2005

## EXECUTIVE SUMMARY

The Lupin Mine is owned by Echo Bay Mines Ltd., a subsidiary of Kinross Gold Corporation. Lupin is located on the west shore of Contwoyto Lake, approximately 285 km southeast of Kugluktuk, Nunavut. The Lupin underground gold mine was in operation from 1982 until February 2005, when mining operations were curtailed. The mine property is now in care and maintenance and reclamation of the tailings containment area is being conducted.

Lupin presently operates under a water licence granted by the Nunavut Water Board, NWB1LUP0008 (July 1, 2000 to June 30, 2008), which entitles the mine to use water and dispose of waste for a mining and milling undertaking and associated uses. The annual volume of water that the mine is permitted to use under the current water licence is 1,700,000 cubic metres. As Lupin is no longer an operating mine and has begun abandonment and restoration activities at the mine site and tailings containment area, it no longer qualifies for a "Type A" water licence.

Echo Bay Mines Ltd., Lupin Mine, therefore requests a cancellation of the current "Type A" water licence and, as per Schedule IV Column 3 of the Northwest Territories Water Regulations, hereby applies for a "Type B" water licence, for water use of 100 or more cubic metres per day and less than 300 cubic metres per day for an industrial undertaking.

The most significant issues with regard to the Water Licence are:

1. Water use,
2. Waste disposal, and
3. Reclamation upon completion of mining and milling activities.

### **Water Use**

The maximum annual volume of water used during the current licence term was dictated by the operating requirements of the mining and milling processes. As mining and milling have now been curtailed, no water will be required for process activities and only potable water use will be required. The potable water portion of the overall water use during the period 2000 to 2004 averaged 83,554 cubic metres per year, and did not exceed 105,000 cubic metres in any year during this period. These figures have been documented in the annual reports to the water board. This volume of water falls within the range of a Type B licence. Potable water use during abandonment and restoration activities will not exceed the maximum allowed by a Type B licence of 109,500 cubic metres per year.

The existing water supply infrastructure consists of a pumphouse located on the shore of Contwoyto Lake containing three 3-stage vertical turbine pumps mounted in a well into the lake. The pumps feed an 8-inch diameter insulated pipeline that runs 1600 metres from the lake to the potable water tank located at the camp. This water supply infrastructure will not change. It is possible to run the pumps and pipeline at the reduced volume required by a Type B licence. During the final stages of camp demolition, when reclamation of the water supply system is required, a portable camp will be serviced by a water truck.

### **Waste Disposal**

Ongoing disposal of waste effluent from the mine site now occurs in only one area. Camp waste (waters) is disposed of at the Sewage Lakes Disposal system and must meet the water licence effluent criteria upon discharge to the environment. Capacity of the sewage pond system is more than adequate to contain the annual volume of water permitted under a Type B licence. Mill wastes (solid tailings and process water) are no longer being produced. They were formerly discharged to the Tailings Containment Area (TCA) where the solids were contained and the liquid portion was decanted into a series of separate holding ponds. The water in these ponds is allowed to naturally degrade prior to discharge to the environment. Water already contained in the ponds will continue to be discharged during the summers of 2005 and 2006, following current licence guidelines. In past licence terms, the discharged water has consistently met all effluent standards, with only minor exceptions.

### **Reclamation**

It has been the objective of the Lupin Mine to reclaim all areas of the mine site and TCA in a progressive manner as they became available. Reclamation projects that have taken place include covering of completed cells in the TCA, recovery of unused tailings pipeline, clean-up at an historical spill site (1987), reclamation at the initial twin otter airstrip south of the Sewage Lakes and backfilling of the Centre Zone and East Zone Crown Pillar open stopes. As well, a number of kilometres of minor access roads have been taken out of service and reclaimed by removal of drainage pipes, grading and scarifying. Reclamation of the TCA has been the focus of a major project over the past number of years. Large portions of the tailings solids containment cells have been covered by a 1-metre thickness of esker sand. This project will continue through 2006, when all exposed tailings will be completely covered. A complete description of the activities involved in the reclamation of the tailings containment area are described in the document "2005 Abandonment and Restoration Plan, Lupin Tailings Containment Area", submitted to the board in June 2005.

In summary, water use requirements at the Lupin site no longer fall within the structure of a Type A water licence. Echo Bay Mines requests that the board approve the application for a Type B water licence for the Lupin property.