

## ຼຼວວ້ NUNAVUT WATER BOARD NUNAVUT IMALIRIYIN KATIMAYINGI

File: NWB1LUP0008/TR/D6(g)

February 7, 2005

By Email and Regular Mail

Mr. Michael Tansey
Reclamation Manager, Lupin
Kinross Gold Corporation
Lupin Operation
9818 Edmonton International Airport
Edmonton, Alberta T5T 2T2.

Subject: Echo Bay Mines Ltd; Water Licence No. NWB1LUP0008

**Annual Geotechnical Inspection - 2004** 

Dear Mr. Tansey:

The Nunavut Water Board ("NWB") has reviewed the 2004 Annual Geotechnical Inspection for the Perimeter Tailings Dams submitted under Part D, Item 6(g) of Water License NWB1LUP0008. The Report, along with the accompanying cover letter/Action Plan was made available to interested persons for review and comment during the period of November 25, 2004 through to January 4, 2005.

There were no significant concerns noted within the Report related to the performance of the perimeter dams. The minor remedial work required was summarized within the Site Inspection Memo presented to Kinross prior to Mr. Cassie's departure from the site. This work was identified in the cover letter as being completed in September 2004.

The following is a list of items that require clarification and revision.

### Water Elevation with the TCA Confirmation

Please confirm the water elevations reported in Table 1: Summary of Summer Water Levels within TCA.

- 1. This table indicates that in July and September, the water elevation within Pond No.2 was respectively 1.50m and 1.68m higher in elevation than the water elevation in Pond No.1. As it is understood that this is a gravity flow system, these figures require confirmation.
- 2. Pond No.2 water elevations: the data on the water elevations does not concur with the information that was reported within the summaries for each of the structures inspected with respect to the available freeboard at the dams. The information provided with the Photographic record also indicates a freeboard considerably more conservative than what the water elevations would suggest. (ie Photo 19 of Dam1A text indicates an approximate freeboard of 3.5 metres, whereas the water elevation reported of 484.38m would indicate a freeboard of 1.89m based on the crest elevation of 486.27m). The information for Dam1B also supports an error in the water elevation in that the calculated freeboard would be approximately 1.45m, however the dam height is reported as being 2.5m above the d/s tundra and that no water head is being retained by the structure.

3. Cell No.4 water elevations: the reported water elevation for Cell No.4 during June was 488.84m and 487.87m in July. The as-built crest elevation for the Dam is reported as being 489.59m. Assuming these elevations are correct, this would have resulted in a freeboard of only 0.75m in June, 2004.

## Dam 6 potential for erosion due to reduction in the freeboard

In the Report's Section 5: Findings and Conclusions, the individual summary report of Dam 6 as well as in the Site Inspection Memo, BGC has indicated that there is a concern with the resulting geometry of Dam 6 in terms of remaining freeboard after placement of tailings cover in Cell No.3. The cover letter included with the report indicated that a "berm had been added to the upstream edge of the cell to control spring run-off". Further investigation should be conducted in order to determine the flow direction during spring run-off and the potential for over-topping of the dam as suggested in the report.

### Other

In addition to the above, the photographic record of the facilities seems to indicate that there is an annual requirement to repair new "erosional gullies" formed by significant precipitation events. As they generally appear on the backslope of the dams, consideration for minimizing the longterm maintenance of the dams should be given by properly grading the crest slopes to prevent precipitation run-off from reaching the down stream slope of the dams. This would require a slight downslope towards the upstream side of the dam, encouraging the surface flow towards the upstream slope of the dam that is protected with coarse materials for stability.

The NWB requests that a summary of the findings for the required information be provided in the form of an addendum and/or an errata to the BGC Report within sixty (60) days in order to clarify questions that have been raised.

Should you have any questions regarding the above, please contact me at your earliest convenience.

Yours truly,

Original Signed by;

David Hohnstein, C.E.T. Technical Advisor Mining

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