

Attachment # 4

Department of Indian and Northern Affairs

By Michael Roy, dated October 26, 2001

Nunavut Regional Office
P.O. Box 2200
Iqaluit, NU, X0A 0H0

Your file - Votre référence

N4L3-0262

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October 26, 2001

Rita Becker
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0E 1J0

Polaris Mine Decommissioning and Reclamation Plan

Indian and Northern Affairs Canada (INAC), water management division, is pleased to present the following comments on Cominco's Decommissioning and Reclamation plan for Polaris Mines.

INAC believes that Cominco has conducted sufficient studies and have revised their Decommissioning and Abandonment plan sufficiently over the years to remove any major concern. The only small question we have remaining concerns a "worse case" scenario for Garrow Lake. Essentially, we would like a brief description of what Cominco plans to do should the layers of Garrow Lake suddenly mix, whether prior to or after the removal of the Garrow Lake Dam. Does Cominco plan on maintaining a dam indefinitely in such an event? Of course, since this represents more an emergency or worse case scenario, only a small paragraph or two would be required, not an overly detailed plan.

TeckCominco Response

-- *Environment Canada's submission contains questions regarding the stability of Garrow Lake. A comprehensive response has been provided that discusses the potential metals concentrations in the surface layer of Garrow Lake under several different mixing scenarios. Even in the unlikely case of mixing the top two metres of the halocline with the surface layer, the surface water quality of Garrow Lake would not cause harm to the aquatic environment and would require no contingency action. Refer to Attachment #9 in which Paul Erickson (AXYS Environmental Consulting Ltd.) discusses this issue in detail.*

Also, INAC is aware that Environment Canada (EC) recommends that Cominco maintain the dam for 5 years after drawing down Garrow Lake back to its original level. The purpose of this is to monitor Garrow Lake and see if the results of the draw down match those predicted by Cominco's models before removing the dam. Seeing how the draw down of Garrow Lake is an unusual procedure and the predicted results are in no way assured, there is definitely merit to EC's suggestion. However, asking Cominco to return with heavy equipment 5 years later to remove the dam may be impractical. Although a 5 year study is certainly preferred, INAC is willing to accept a compromise; maintain the dam until everything else has been dealt with during the abandonment and restoration process. The removal of Garrow Lake Dam would

therefore be the final step in the abandonment and restoration of Polaris Mine, just prior to the final evacuation of all the heavy equipment.

TeckCominco Response

- *The proponent agrees with the reviewer that leaving the dam in place for a 5-year period to monitor the lake is impractical. Removing the dam in 2004 does not represent a risk to the aquatic environment in the proponent's and consultants opinion as outlined in Attachment #3 (Submission from Environmental Protection Branch).*
- *The proponent has revised its Closure Plan so that the dam removal is scheduled for the spring of 2004 which is the final year that contractors are planned to be working at the site.*
- *TeckCominco has proposed to decommission the dam by removing only part of the dam. This preserves the ability to re-construct the dam more easily than if it were completely removed.*
- *In response to Environment Canada's submission, TeckCominco proposed that if monitoring results identify a significant departure from the predicted water quality over two successive sampling periods, TeckCominco will discuss with the Water Board and through it, to other regulatory agencies, the course of action that may be necessary. If there is concern for the water quality exceeding the applicable standards, then one of the options that will be considered is the re-construction of the dam for the purpose of temporarily preventing discharge while a solution is implemented.*

According to Cominco's closure schedule (Table 2.1), the draw down of Garrow Lake will end in 2002, when the waters level will be below its original level to allow the removal of the dam. The removal of the dam should take place in 2003, and the heavy equipment will be removed on November 30, 2004. With the compromise suggestion, Garrow Lake will hopefully be finished being drawn down to its natural level by early 2002, the lake could be monitored during the remainder of the season of 2002 and throughout 2003. In 2004, Cominco could finish drawing down the lake to levels adequate enough to remove the dam. The dam could therefore be removed in the fall of 2004 provided the accumulated data indicates the lake is stable.

TeckCominco Response

- *Drawing down Garrow Lake to restore its original elevation will not be completed until 2003 with removal of the dam planned to occur in 2004. This is the last year that TeckCominco will have equipment on the island.*
- *While dam removal is being proposed for the year following completion of draw down, there is a two year period between cessation of depositing tailings into the bottom of the lake and the removal of the dam. During this period, the concentrations of Zn in the surface layer of the lake will continue to decrease. In 2004, immediately following dam removal, even if the top two metres of the halocline were to mix with the surface layer (a highly improbable event), the resulting concentrations of Zn in the surface layer would be 0.31 ppm. This concentration is 38% below the concentration of Zn permitted under the current water licence (0.5 ppm).*

If you have any question, please feel free to contact me at your earliest convenience.

Sincerely,

Original Signed By:

Michael Roy
Baffin Regional Coordinator, Water Management
INAC - Nunavut Regional Office
P.O. Box 2200, Iqaluit, NU, X0A 0H0
(867) 975-4555
fax: (867) 975-4560
roymjp@inac.gc.ca