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Department of
Sustainable Development

Ikupigvilirijikkut

Ministère du Développement
Durable

October 25, 2001

Mr. Phillipe di Pizzo
Executive Director
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0E 1J0

Mr. Carl McLean
Manager, Land Administration
Indian and Northern Affairs Canada
P.O. Box 100
Iqaluit, NU
X0A 0H0

Re: Comments on the Polaris Mine Decommissioning & Reclamation Plan

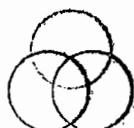
Dear Mr. Pizzo & Mr. McLean,

The Department of Sustainable Development has reviewed the proposed decommissioning and reclamation plan for the Polaris mine. In general the plan is found to be comprehensive and well thought out; however, a few points were identified that need to be addressed prior to acceptance and approval of the final plan. These points include permafrost encapsulation of waste material, hazardous materials management, and the SQRO study aspect of the plan, and are covered in more detail below.

Permafrost Encapsulation of Waste

Concerns were raised about the plan's proposal to encapsulate contaminated soil and material in permafrost under the assumption that permafrost is impermeable. This assumption may lead to serious errors in engineering designs and will reduce the overall effectiveness of the plan. Support for this is found in recent studies indicating that permafrost is not permeable and will allow the passage of contaminants through fissures, cracks, and other air voids and water within the frozen soil matrix. Further studies conducted in Alaska seem to indicate that contaminants, particularly hydrocarbons, have the ability to degrade permafrost. For this reason we are not convinced that

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permafrost encapsulation will provide a long-term and environmentally acceptable solution to containing contaminants.

In conjunction with the previous concern, questions have been raised as to whether BGC would be a suitable choice in assessing the competence of the proposed encapsulation method. These questions do not stem from BGC ability to do the work, but from the fact that they were solicited by Cominco, through Gartner Lee Limited, to assess the ability of the containment area to sustain permafrost conditions.

Hazardous Waste Management

Comments were made about the manner in which Cominco was going to dispose of the various types of material as listed in section 5.6 of the plan. In the past there have been instances where recipients have been unable to properly look after or dispose of certain materials when they were no longer in use. The proponent is obligated to ensure that the recipient of any hazardous materials (including excess fuel) is a responsible party who is fully capable of handling the material; this includes dealing with spills and ensuring proper disposal.

Our Department would like clarification on the following points:

- o The manner in which the di-electric fluids from non-PCB transformers will be disposed of.
- o The amount of freon that is expected to be recovered from the freezer units.
- o Whether there were any chlorinated solvents incinerated in the burning pit, and if so, an approximate amount.
- o Is there a marker indicating the fact that there is buried asbestos on site, and has the site been catalogued as such by the regulating authority.

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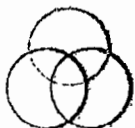
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Soil Quality Remediation Objectives Study

The quality of Cantrox Environmental Inc., Human Health and Ecological Risk Assessment has generated concern about their findings. This question was raised because they consistently overlooked or dismissed rudimentary facts on wildlife such as the endangered status of the Peary Caribou, or that they made the broad assumption that muskox are just large caribou; failing to take into consideration the differences in niches, the fact that they are more sedentary than caribou, and their increased ability to forage in hard snow



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