



Bruce J. Donald
Reclamation Manager

May 7, 2004

Department of Indian Affairs and Northern Development
Box 100
Iqaluit, NU X0A 0H0

Attention: Carl McLean, Manager, Land Administration

Nunavut Water Board
Box 119
Gjoa Haven, NU X0B 0H0

Attention: Phyllis Beaulieu, Manager of Licensing

Dear Carl and Phyllis;

Re: BGC Engineering Review of Polaris Mine 3rd and 4th Quarter Decommissioning and Reclamation Reports

In a letter report submitted to Mr. Carl McLean of Indian and Northern Affairs Canada (INAC) dated March 30, 2004 Mr. Holgar Hartmaier of BGC Engineering reviewed the Polaris Mine submission of their 3rd and 4th Quarter 2003 decommissioning and reclamation reports. Teck Cominco would like to comment on two issues raised in Mr. Hartmaier's review.

Subsidence Zone

In regard to Mr. Hartmaier's concern regarding the subsidence zone, I would like to make several comments and while I do not profess to be an expert in the field, I am a graduate mining engineer (P.Eng. registered in BC) with over 30 years of experience in mining, primarily at underground mining operations. At one of our mines, I was in charge of the mine engineering and rock mechanics department where control of subsidence was critical as we were mining underneath a prolific water bearing strata. For the past 12 years I have been working at the Sullivan Mine where substantial caving to surface is occurring, and I currently manage a number of closed mine sites, two of which (excluding Polaris) have near surface mine workings where stability of the ground surface have been a concern so my comments are not made without background experience in the subject.

I do not believe that the subsidence area presents a public safety concern. Mr. Hartmaier's concern is that as caving proceeds a bridge of ground will form over the opening creating an unstable zone that will suddenly collapse. The cone of subsidence related to the failure of the stope underlying the sinkhole area has already propagated through to surface. The overlying strata bridging this area has already failed which is why the sinkhole has formed in the first place. Gross movement of the ground surrounding the sinkhole area has occurred and in the future I believe that subsidence will be minor. If the subsidence were to continue to the point where it represented a public safety concern, regular inspections (as proposed by Teck Cominco) will identify this and the area would be marked and/or fenced until movements reduce further or cease, and the area collects surface runoff

and forms a pond. There is no practical method stopping the subsidence so that annual monitoring is the prudent action to take.

The recommendation to conduct exploratory drilling and a seismic program are very expensive and will not add sufficient information to justify their expenditures. However, Teck Cominco proposes to consult with geotechnical experts who specialize in mine rock mechanics and mine subsidence issues. The subsidence monitoring surveying planned for this spring will be conducted as soon as the snow melts sufficiently to allow the surveys to occur. The up to date survey information will be presented to the consultants so that they have the latest information to review. The resulting report will be submitted to the NWB and INAC.

Concentrate Storage Shed Remediation

Mr. Hartmaier identified that the Gartner Lee Ltd. close out report for the Concentrate Storage Shed area has a thin layer of residual concentrate dust over an area of bedrock that has been covered by a 0.5 m thick cap. Mr. Hartmaier also stated that the preferred approach would have been to isolate them by permafrost below the active zone which would require an additional 1 metre or so of fill. His concern was that over time, the zone of contamination would become mixed with the cover soils at progressively shallower and shallower depths resulting in eventual exposure of the zinc concentrate. Keeping in mind that there are only sporadic thin remnants of concentrate dusts that were not able to be recovered as they are trapped within the rough surface of the bed rock, even if through some undefined mechanism they were to become mixed with the cover materials, they would most certainly not be in sufficient concentration by the time they migrated to surface to exceed the remedial targets. Adding an additional metre of cover in this area would require approximately 6,000 cu.m. of fill. To do this, limestone would be blasted at LRD quarry and with the high cost of work at the site, this would cost be in excess of \$100,000 to complete. Additionally, with our tight earth excavation schedule at site, it increases the risk that work at site will not be completed this year which has substantial cost implications. Teck Cominco does not believe that there is a compelling reason to thicken the cap especially when there are significant cost and schedule implications.

If you have any questions regarding these comments, please contact me and I will be happy to respond to them.

Yours truly,

Original signed by B.Donald

Bruce Donald

Cc: Patrick Duxbury (NWB)
Joe Dahoy (Cascade Management)
Bob Hutchinson (Teck Cominco)
Trevor Feduniak (Teck Cominco)
John Lees (Cascade Management)