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July 22, 2003

Mr. John Knapp

Site Manager

Teck Cominco Ltd., Polaris Operations

P.O. Box 188

Resolute Bay, NU

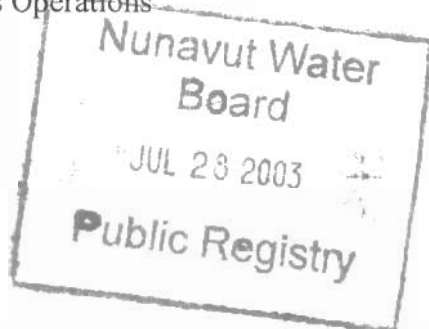
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Dear Mr. Knapp:

Polaris Mine Closure

DIAND Inspection

July 2 -3, 2003



Your file - Votre référence
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On July 2nd and 3rd, 2003 the departments inspector along with our technical advisor, Holger Hartmaier visited the Polaris site to review the progress of your abandonment and closure work to date. The site tour was arranged by DIAND to inspect the ongoing decommissioning, closure and reclamation work being carried out by Teck Cominco (TC), specifically as required by the approved closure plans, land leases and water licence. The assistance provided by your on site staff and contractors to our inspection was appreciated.

This letter will specifically address those areas that were identified to need further attention and followup during the inspection visit. I will attempt to link the areas with the specific parts of your approved restoration plan.

Operational Landfill

The landfill is being constructed according to the guidelines given in Volume 2 of the Polaris Mine Decommissioning and Reclamation Plan (GLL, 2001). The cover materials were selected to minimize erosion and remain stable over the long term. Liner permeability is not a concern for the Polaris Landfills as the waste is designed to be encapsulated by permafrost. The cover design is meant to promote permafrost aggradation and to limit the active zone to the cover itself. It was not clear who was responsible for inspecting construction of the cover material, since the GLL site staff are only involved with confirmation testing of the contaminated site reclamation aspects of the work. **TC must ensure that the landfill cover is inspected to ensure it meets the guidelines in the reclamation plan. Please forward information pertaining to the construction of the Operational Landfill to DIAND including thermistor readings, material testing results (moisture contents, grain size, density) and as-built drawings. The thermal analysis for the cover design assumed certain properties for the cover material(s). TC should verify that these assumptions are valid for the actual materials being placed. The**

final thickness of the cover should be based on the actual cover material properties.

Tailings Thickener

A considerable amount of loose Styrofoam and fibreglass insulation was noted in the debris around the tailings thickener pad. **This material is easily blown around and distributed over the site and must be cleaned up before the elements carry this material offsite. Once all of the contaminated fill is removed from the thickener pad and area TC must conduct confirmatory soil testing.**

The overflow lagoon adjacent to the tailings thickener contains a small area of lead-zinc contamination. A minor amount of meltwater was ponded within a portion of the lagoon. TC intends to remove the metals contaminated soils, but we were told on site that TC is considering using the inside of the lagoon to dispose of some of the ice-rich fill to be excavated next year from the Garrow Lake Dam.

This option has never been discussed with respect to the closure plan. The closure plan called for excavation and disposal of the Garrow Lake dam materials into the LRD Quarry. The reclamation of the tailings thickener facility included the removal of the foundation pad and grading of the surface to a stable slope to prevent ponding of surface water. No mention was made in the closure plan about retaining the lagoon and dikes, and filling with excavated spoil. If the lagoon remains, it will be a prominent embankment structure on the surface of the land, and hence will not satisfy the overall reclamation philosophy of returning the site to as natural a condition as possible. **TC should clarify their position in writing for approval by DIAND and the other regulators.**

Frustration Lake Jetty

The access road to the Frustration Lake jetty and freshwater intake and pumphouse was washed out by meltwater runoff. **Concern was noted by the inspection team about the erosion of the road due the meltwater runoff.** TC commented that the Frustration Lake access road had to be constantly maintained during the spring due to the numerous drainages crossing the road. The road was passable just a few days prior to the site visit. The decommissioning of the site access roads was briefly discussed. TC plans to flatten out the shoulders and generally contour the road to the surrounding terrain. **We remind TC to ensure that natural drainage courses are not blocked and that excessive erosion will not be initiated due to improper contouring.**

Little Red Dog Quarry

Under the joint authorization issued by DIAND/NWB on April 15, 2002, the landfill protocol called for minimization of void space as the waste was being placed. **The preferred method of tire disposal is to shred the tires. However, if shredding is not possible, TC should ensure**

that all tires be placed into the bottom of the pit so that there is no chance that they would work their way to the surface. The tires should be dispersed so that there isn't a concentration of tires in any one area. Tires should be placed flat to minimize void space and subsequent settlement. If a lot of tires remain to be disposed of, another option may be to place them into an underground drift, where the landfilling protocols would not be an issue.

The placement practices for the demolition debris do not conform to the protocols given in the joint authorization. A significant thickness of waste materials has been placed without any cover. The concern is that the voids will result in excessive settlement later. Although there is photo documentation and surveying being done of the material placed into the quarry, a lot of the material does not appear to be placed in a manner that minimizes voids. **This issue must be corrected immediately and placement practices must conform to the protocols given in the joint authorization.**

Standing water in one area of the bottom of the pit showed a surface skim of what appeared to be an orange-coloured fluid. At the time, it was suspected that it could be hydraulic oil that was left as a result of improperly drained or cleaned waste material. TC indicated that they would skim off the contaminated fluid. TC later confirmed by telephone (Trevor Feduniak to Holger Hartmaier, July 9, 2003) that the orange "fluid" was in fact some of the dye used in the ANFO bulk explosive and has been cleaned up by the contractor. **TC must ensure that they immediately implement a plan to cleanup any future spills or fluid releases within the LRD Quarry.**

In previous discussions with Bruce Donald of TC, the presence of standing water within the landfill during waste disposal did not seem to be a problem, and in fact, was considered to be beneficial. The water would freeze inside any voids and thereby reduce the potential for settlement. It should be noted however that contamination of the water by fluids may inhibit the freeze-back. **Therefore, it is important that TC ensure that wastes are clean of fluids before placing them into the LRD Quarry and that measures are in place to remove and deal with any contaminating fluids in the pit. We request that TC periodically conduct and record the results of confirmatory sampling of water quality, particularly for the presence of hydrocarbons and salts in the pit wastewater. These results must be provided to DIAND with the along with quarterly reports.**

TC must immediately ensure that the field supervisor(s) responsible for the protocols for the placement of debris in LRD quarry are reminded of the placement of debris protocols and directed to strictly adhere to these requirements.

TC must also provide DIAND with a quarterly report that includes an inventory of the material, locations of the material and photo documentation of the debris disposed of in LRD.

Mill/barge Complex

During demolition work, the north end of the barge rose a total of 1.4 m (56"). It is suspected that this is a result of unloading of the barge hull and buoyancy effects and/or frost heave due to the freeze-back of the talik surrounding the barge.

TC was not clear on the exact mechanism responsible for the shift in the barge. The fill under the barge should be frozen now, however it is possible that a zone of thawing had occurred around the barge due to heat losses during the mill operations. **TC should ensure that these conditions do not pose a threat to the safety of the demolition works underway.**

As noted at the tailings thickener, TC must collect all loose insulation and materials that can blow around. Regular policing of the grounds around areas of demolition would ensure that debris is not carried off site by the wind.

Meltwater Runoff Disposal Area

Under the terms of the approval letter from the NWB /DIAND (June 6, 2003), TC was required to take at least one meltwater sample for analysis for potential hydrocarbon and mineral sulfide contamination. **Please forward this information, as well as a revised description of the actual meltwater storage plan, to DIAND.**

Contaminated Soils Storage Area(s)

The remediation criteria for metals contaminated soils are 10,000 ppm for zinc and 2000 ppm for lead. The original volume estimate of lead-zinc contaminated soils was 92,350 m³. Hydrocarbon contaminated soils are eligible for underground disposal as long as there is no free product associated with the material. A total of 36,700 m³ of hydrocarbon contaminated soils was originally estimated. TC has indicated that the anticipated volume of contaminated soils being placed underground will exceed these estimates. **An updated estimate of the breakdown of contaminated soils placed underground must be provided to DIAND, as well as the locations being used for disposal.**

Ammonium Nitrate Storage Area

Bags of ammonium nitrate are stored on wooden pallets in a drift. TC estimates that the existing stockpile will be mostly consumed during the decommissioning period. The ammonium nitrate is used to make ANFO explosive, which is used for quarry blasting and will be used for removal of the frozen fill at Garrow Lake Dam.

DIAND's preferred method of disposing any unused amounts of ammonium nitrate is to mix it with diesel fuel into ANFO and detonate it on site at a safe location, rather than

landfilling. This will also get rid of some of the left over diesel fuel. This would also be subject to approval of the other regulators.

Reclamation Costs and Schedule

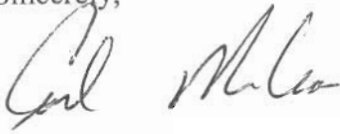
TC must submit monthly and quarterly statements of the cost tracking for the decommissioning and reclamation activities, including the percentage of work completed and estimated cost to complete, as required by their Water Licence. This is required for ongoing assessment of their closure bond and security requirements. It is understood that the projects costs have escalated from their original estimate.

Also related to this, it appears that some aspects of the planned timing for some of the reclamation activity has changed. **We request TC to submit an updated list of activities and timelines for all aspects of the reclamation.**

It was our observation that reclamation work is underway in all areas and is at various stages of completion. No one area is completely reclaimed yet at this time. Some of the details of the reclamation work differ from the methods originally proposed in the Decommissioning and Reclamation Plan. In some cases, the changes are an improvement over the original proposed method. In other cases they warrant a review by the appropriate regulators, as summarized in the above sections. In general, the overall impression is that TC is progressing very well towards their reclamation objectives and that no major problems or impediments are foreseen to completing the work within the anticipated schedule.

We look forward to receiving the information requested from TC in the near future. If you wish clarification or further information please feel free to give me a call at 867-975-4280.

Sincerely,



Carl McLean

Manager, Land Administration

cc. Bruce Donald
Reclamation Manager
Teck Cominco

Executive Director
Nunavut Water Board

Resource Management Officer
Qiqiktani Region
DIAND, Nunavut