

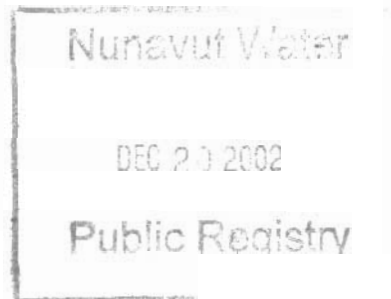
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Polaris Mine November 28, 2002

Mr. Peter Blackall,  
Director, Environmental Protection,  
Prairie and Northern Region,  
Environment Canada,  
4999 – 98<sup>th</sup> Ave.,  
Edmonton, AB T6B 2X3



Dear Mr. Blackall:

Pursuant to Section 32 (1)(a) of the Metal Mining Effluent Regulations, this letter is being written to advise that Teckcominco Ltd.'s Polaris Mine on Little Cornwallis Island, Nunavut, ceased operation on September 3, 2002. The final shipment of concentrate, via an ocean going bulk carrier, took place on September 28, 2002.

The Polaris Mine has now entered into a two-year Reclamation and Decommissioning phase. This project is presently expected to conclude early in the Fall of 2004. Additional site monitoring will continue until 2011 when Teckcominco Ltd.'s current land leases lapse. Providing the site meets the stipulated criteria, it is the company's intent to surrender the leases at that time. Included within the scope of this project and subsequent follow-up is provision to conduct biological monitoring as required under Section 32 (1)(c).

The Polaris Mine Business is owned by the Cominco Mining Partnership and Teck Cominco Ltd., as tenants in common, in their respective capacities as participants in a Venture relating to the Polaris Mine. The head office address is:

#600-200 Burrard Street,  
Vancouver, BC  
VIA 3E1

Records required by the MMER will remain on site until October, 2004 at which time they will be transferred to Teck Cominco's Sullivan Mine, in Kimberley, B.C., for long term storage.

Pursuant to Section 9 of the Metal Mining Effluent Regulations, please find attached the location, plans and specifications of the final discharge point of effluent from Garrow Lake, the tailings impoundment area for the mine.

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I would appreciate confirmation that this letter has been received. Further, I would appreciate notification of the date that Environment Canada will recognize the Polaris site to be a "Closed Mine" under the MMER regulations.

Please contact me by e-mail ([john.knapp@teckcominco.com](mailto:john.knapp@teckcominco.com)) or phone (867) 253-2201 / 2241) if you have questions or concerns about any aspect of the above. I will be onsite until December 4, and will be returning to site on January 4, following a break for R&R over the Christmas holidays. I look forward to hearing further from you in the future.

Yours truly,

***Cominco Mining Partnership,***



John B. Knapp,  
Manager,  
Polaris Operations.

Attachments (1)

cc: Philippe di Pizzo, NWB  
Bruce Donald, TCL  
Walter Kuit, TCL

## **POLARIS MINE OPERATIONS**

### **IDENTIFICATION OF DISCHARGE POINT**

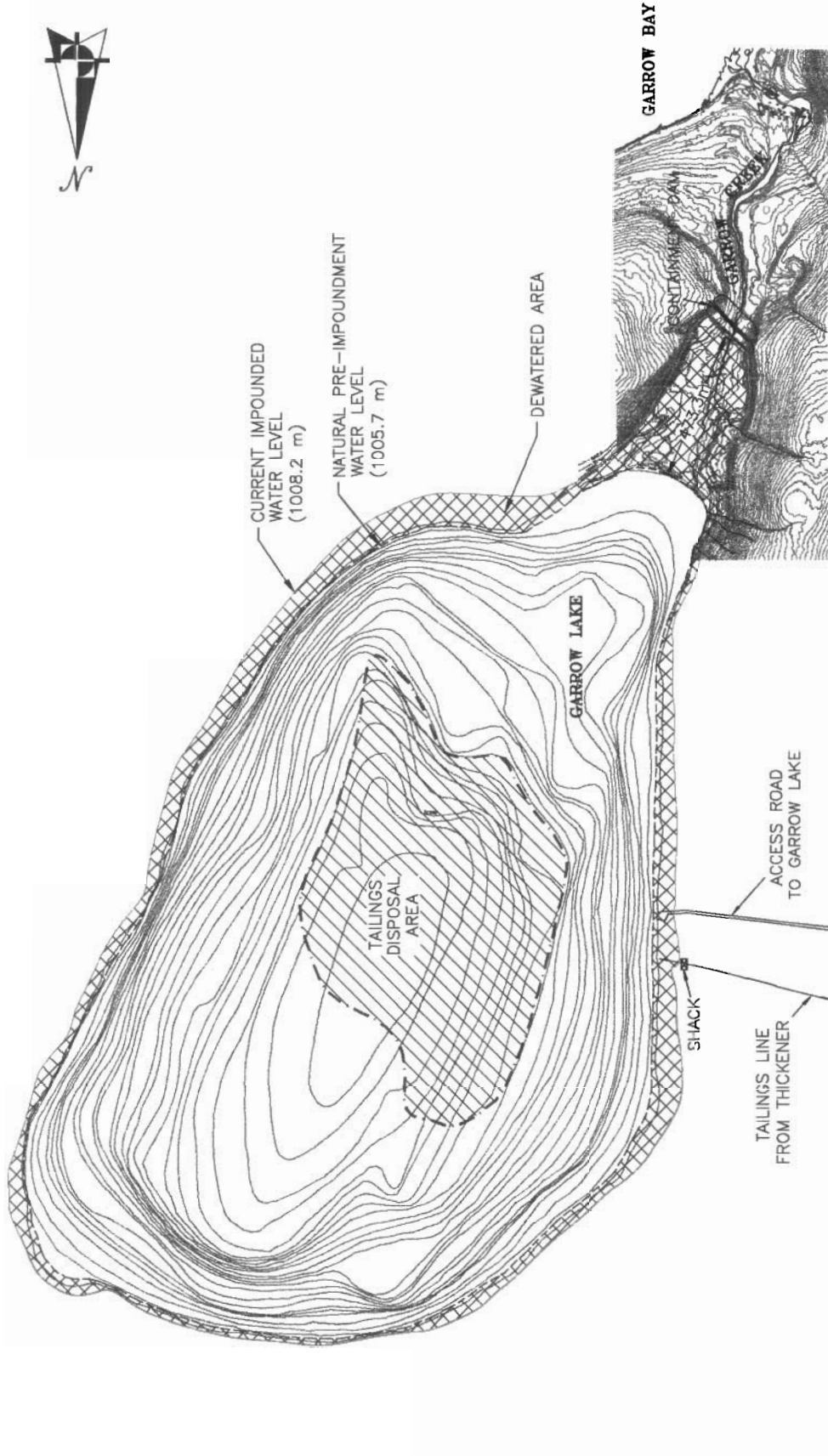
As required by Section 9 of the MMER, the owner is required to identify the final discharge point and submit in writing to the authorization officer no later than 60 days after the day on which the mine becomes subject to these Regulations, the following information:

- (a) Plan of Discharge Point:
  - Figure 1 titled 'Garrow Lake Detail' is a general arrangement drawing showing Garrow Lake and the containment dam (referred to as Garrow Dam) on Garrow Creek.
  - Figure 2 titled 'Garrow Creek Detail' is a general arrangement of the area extending from Garrow Lake along Garrow Creek, past the containment dam to Garrow Bay.
- (b) Specifications of Discharge Point:
  - Discharge from the tailings impoundment area is through a series of plastic gravity siphon lines.
  - The intake of the siphon lines are located within the surface layer of Garrow Lake.
  - The plastic lines are approximately 150 metres in length and range from 250 mm to 300 mm in diameter.
  - The sum of flow rates through the siphon lines is approximately 90,000 cu. m. per day.
  - The siphons discharge the water from Garrow Lake at a point just beyond the downstream toe of the dam. This is identified as the 'Discharge Point' of the tailing facility, as defined in the MMER, as the mine exercises no control over the effluent beyond this point.
- (c) General description of Discharge Point:
  - Garrow Lake was designated by the department of Fisheries and Oceans as a Tailings Impoundment Area in 1981 and is listed in Schedule 2 of the MMER.
  - The elevation of Garrow Lake has been increased by up to 2.5 metres as the discharge from the lake is constrained by a dam built on Garrow Creek.
  - Discharge from the lake occurs only during the summer when water from the surface layer of the lake is siphoned over the top of the dam.
  - The siphoning occurs between approximately the third week in July through until the end of September of each year. The remainder of the year, the lake and/or the discharge lines are frozen so that no discharge can occur.
  - For the past siphoning seasons, Garrow Lake has been gradually lowered by siphoning water from the surface layer in order to return the elevation of the lake to its pre-dam level. This process should be completed in 2003 and it is planned to decommission the Garrow Creek dam in the early spring of 2004.
  - Once the dam has been decommissioned, the lake will then be able to resume discharging surplus water from the lake naturally each spring after the ice cover on the lake melts sufficiently. The Discharge Point of the tailings impoundment area will then be at the original point of discharge of Garrow Lake into the headwaters of Garrow Creek

## Identification of Discharge Point

Page 2

- (d) Geo-referenced Location of Discharge Point
- 75° 22' 32 s Latitude, 96° 48' 37s Longitude
- (e) Description of how the Discharge Point is designed and maintained in respect of the deposit of deleterious substances:
- Garrow Lake is permanently stratified (meromictic) on the basis of natural salt content causing large variations in the density of the lake waters. The vertical profile of the lake has three well defined layers:
    1. The brackish surface layer is an active, well mixed aerobic layer extending to approximately 12 meters deep. This layer receives input from precipitation and run off from the areas surrounding the lake. Water from this layer is siphoned each year to maintain the elevation of the lake.
    2. The deep bottom layer was originally about 30 meters thick and has salinity approximately three times the adjacent marine waters. This layer is anoxic and contains hydrogen sulphide.
    3. A transition zone between the surface and the bottom layer called the halocline. This zone has rapidly increasing salinity with depth.
  - Tailings from the mill operations were discharged below the 26 metre depth of the lake into the lower part of the lake where they are confined to the bottom portion of the lake. As a result, the surface layer of Garrow Lake (and thus the discharge from the lake) contains metals concentrations that are within the authorized limits specified in Schedule 4 of the MMER.
  - On an annual basis, siphons are used to drain water in the surface layer of the lake. The siphons extend over top of the Garrow Dam and discharge into Garrow Creek just beyond the down stream toe of the dam. The siphon pipes discharge into metal troughs (corrugated culvert sections) and then onto a bed of rip-rap in Garrow Creek that prevents erosion of the creek channel. The effluent then flows along the original Garrow Creek channel (in excess of 600 metres) into Garrow Bay.
  - Discharge from the Garrow Dam siphons are regulated by a Water License, which requires regular monitoring and reporting of the water quality (metals concentration, ph, suspended solids and volumes discharged).



#### LEGEND

— MUSKEG  
— WATER

ELEVATIONS IN METRES MINE GRID COORDINATES

#### SOURCE OF DRAWING:

1. COMINCO DRAWING "GARROW LAKE TAILINGS DISCHARGE LOCATIONS" MODIF. DEC/99 1:5000 SCALE
2. COMINCO DRAWING "GARROW CREEK 0.5m CONTOURS.DWG" DATED MAY 13/02

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DRAWING INFORMATION:

REVIEWED BY: BF

DRAWN BY: CPW

DATE ISSUED: MAY, 2002

PROJECT NUMBER: 21-947

FILE NAME: 21947-D2-02R1.DWG

REVISION:

1

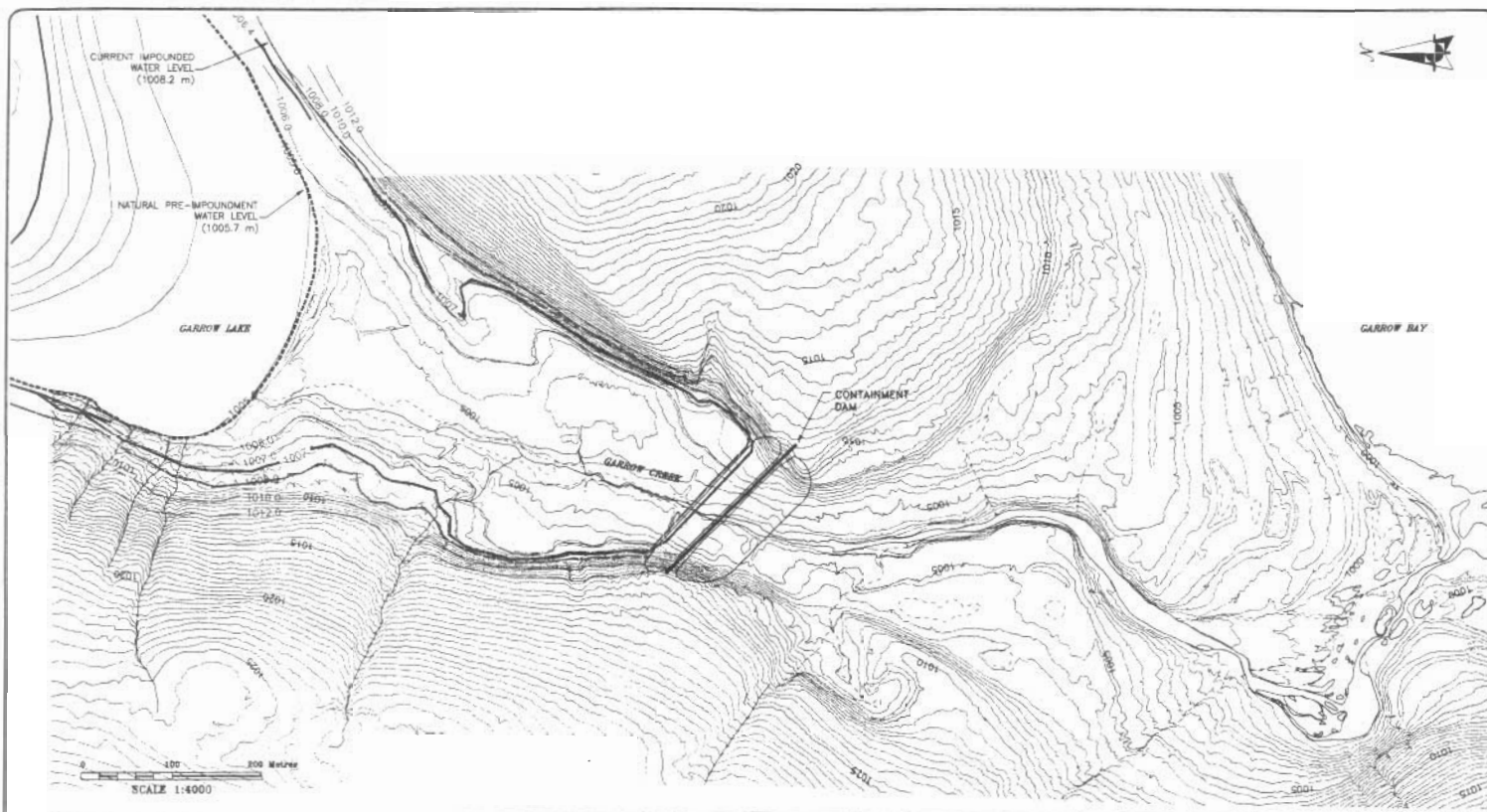
#### GARROW LAKE DETAIL

DECOMMISSIONING AND RECLAMATION PLAN  
POLARIS MINE  
TECK COMINCO LTD.



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Lee  
Limited

APPENDIX 9  
FIGURE 1



# LEGEND

----- MUSKES  
 ----- WATER

ELEVATIONS IN METRES WINE GRID COORDINATES

SOURCE OF DRAWING:  
 1. COMINCO DRAWING "GARROW LAKE DRAINAGE DISCHARGE LOCATIONS" MODIF. DEC/99 1:5000 SCALE  
 2. COMINCO DRAWING "GARROW CREEK 0.5m CONTOURS DWG" DATED MAY 13/02

**teckcominco**

DRAWING INFORMATION:  
 REVIEWED BY: BT  
 DRAWN BY: CPM  
 DATE ISSUED: MAY 2002  
 PROJECT NUMBER: 21-B47  
 FILE NAME: 21B47-02-01R1.DWG  
 REVISION: 1

## GARROW CREEK DETAIL

DECOMMISSIONING AND RECLAMATION PLAN  
 POLARIS MINE  
 TECK COMINCO LTD.



APPENDIX 9  
 FIGURE 2