

**BARRICK**

November 28, 2003

Ms. Phyllis Beaulieu  
Licensing Administrator  
Nunavut Water Board  
1 Water Street  
Gjoa Haven  
Nunavut



COPY

Dear Ms. Beaulieu:

**Re: Water License NWB1CUL0207 – Part C, 1d – Annual Geotechnical Report**

Attached please find one copy of the annual inspection report for the Tailings Containment Area at Cullaton Lake as required by the water license.

If you have any questions on the above, please contact me at 604-895-4410 or [vbetts@barrick.com](mailto:vbetts@barrick.com).

Yours truly,  
Barrick Gold Inc.

A handwritten signature in black ink, appearing to be "V. Betts".

Vernon Betts, CCEP  
Western Canada Environment Manager



## **Trow Associates Inc.**

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October 15, 2003

**Reference No. F-90132**

Mr. Vernon Betts  
Barrick Gold Inc.  
Box 164 - Suite 951  
409 Granville St.  
Vancouver, BC V6C 1T2



Dear Sirs:

### **2003 Tailings Dam Examination Cullaton Lake Gold Mine, Nunavut**

Further to your authorization, we have carried out a visual examination of the tailings impoundment facility at the above noted site. Reference should be made to the 1999 and 2001 Tailings Dam Examination Reports, for background information.

The field examination was carried out by Mr. Demetri Georgiou, P.Eng. on July 29, 2003. Photos 1 and 2, attached, show oblique views of the site taken from the air on the date of the site examination, July 29, 2003. The tailings area had been previously covered with local till as reported in Trow's previous inspection reports. Vegetation on the till covered tailings is small and sparse. However, it is noted that the density of the vegetation is increasing, based on the comparative visual observations of previous years.

#### **Tailings Dam No. 1**

Photos 3 and 4 show views of Dam No. 1. Typically, the embankment, which is constructed principally with local cohesionless till, is irregular in section and surface grade. Average side slopes of the upstream and downstream sides were typically about 3H:1V and 6H:1V, respectively. The downstream side was estimated to be as steep as about 3H:1V in a few areas. The dam height ranges up to about 4 m. Some small erosion scars were observed on both the upstream and downstream sides, however, as described below, they appear to be stabilizing with vegetation and self-armouring with larger rock particles from the till and previously placed mine waste rock. The crest width varies but is in the order of 15 m. No seepages were observed on the day of inspection.

Within the tailings pond itself, no unsubmerged tailings were observed. Photo 5 shows submerged tailings in the pond. Photo 6 shows that vegetation has taken hold on the dam slopes.



Photos 7 and 8 show views of the spillway channel. We note that the weir has been removed since our 2001 inspection. The Pond No. 1 level was estimated to be at an elevation of about 94.0 m, approximately at the spillway crest level and minor flow was occurring over the spillway, as can be seen in Photo 8. This is approximately the same water level that was observed in the 1994, 1996 and 2001 examinations when the levels were at about 94.0 m, and slightly higher than the 93.7 m estimated in 1999. The difference in water levels is likely due to natural seasonal hydrologic variations, including precipitation, infiltration, runoff and evaporation.

Based on the current as well as previous inspections and involvement with the project, the dam is not in any distress and is considered to be stable.

### **Tailings Dam No. 2**

Photos 9 and 10 show views of Dam No. 2. As with the No. 1 dam, the principal construction material is local cohesionless till. The dam section and surface grade is irregular, although less so than the No. 1 dam. The crest width varies but is in the order of 15 m. No seepages were observed on the day of examination. Based on our 2003 as well as previous inspections and involvement with the project, the dam is not in any distress and is considered to be stable.

### **Summary**

Based on the five visual inspections that Trow has performed between 1994 and 2003, it is considered that no detrimental erosional or other forces have diminished the integrity of the tailings dams at the Cullaton Lake Mine. The dams should continue to serve their intended functions of providing storage and water cover for the tailings in Pond No. 1 long into the future.

We trust that this letter is sufficient for your current requirements. Should you require clarification of some point, please contact the undersigned.

Yours truly,  
**Trow Associates Inc.**

Prepared by

Demetri N. Georgiou, M.A.Sc., P.Eng.  
Branch Manager/Principal Engineer

Reviewed by

Robert B. Dodds, Ph.D., P.Eng.  
Consulting Engineer

Attachments: photos



## Photographs



Photo 1: Tailings facility - looking east



Photo 2: Tailings pond No. 1 - looking northwest



Photo 3: Dam No. 1 - looking along crest



Photo 4: Downstream section of Dam No. 1

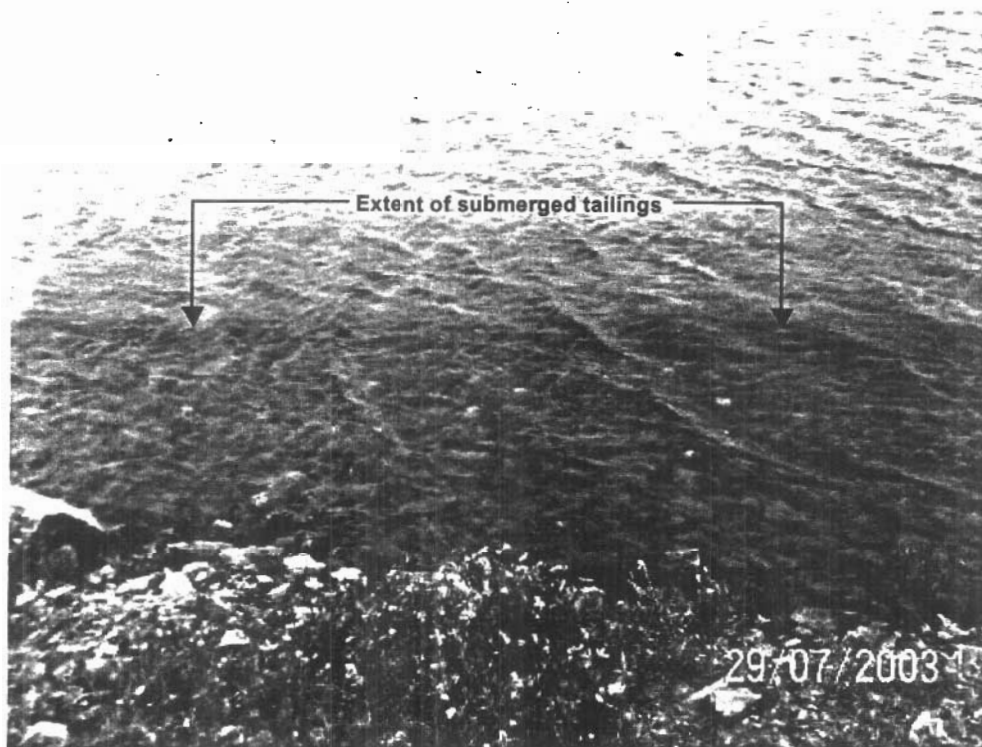


Photo 5: Upstream toe of Dam No. 1

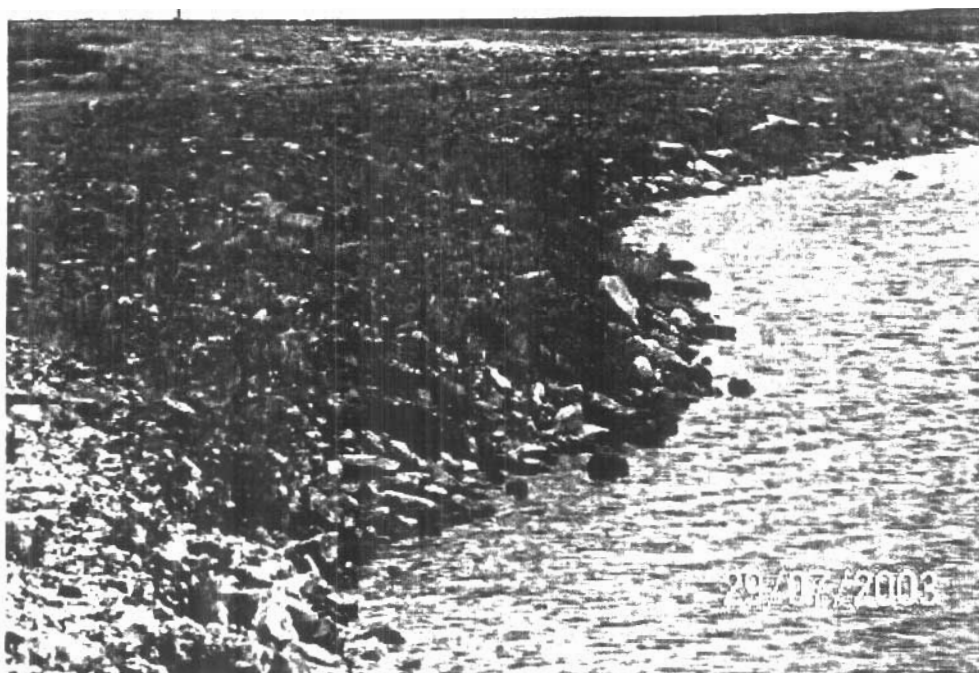


Photo 6: Upstream section of Dam No. 1 showing vegetation and self-armouring of the toe.





Photo 7: View of Dam No. 1 and spillway channel inlet



Photo 8: Dam No. 1 spillway channel looking downstream to Pond No. 2



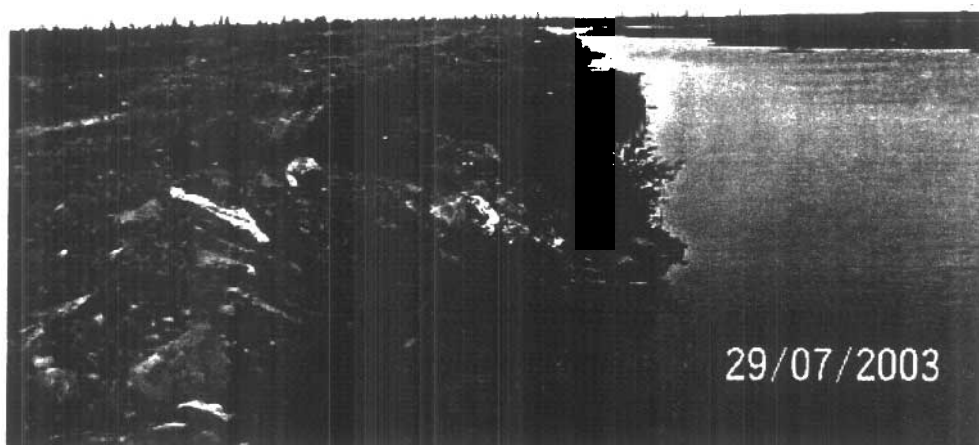


Photo 9: View of Dam No. 2 crest and pond



Photo 10: View of Dam No. 2 showing beach and vegetation