Barrick Gold Inc.

BCE Place, Canada Trust Tower
Suite 3700, 161 Bay Street
P. O. Box 212
Toronto, ON M5J 2S1

Tel: (416) 307-7488
Fax: (416) 861-0058

March 31, 2005

Mr. Philippe di Pizzo
Executive Director,
Nunavut Water Board
P. O. Box 119
Gjoa Haven, Nunavut
X0B 1J0

Dear Mr. di Pizzo:

Pursuant to Part C, Article 1d of Water License NWB1CUL0207, please find appended 2 paper copies of a report by Trow Associates entitled "2004 Tailings Dam Examination, Cullaton lake Gold Mine, Licence NWB1CUL0207". A third electronic copy has been e-mailed to you concurrent with this release.

The report recommends maintenance work to cover the exposed liner in the spillway through the No. 1 Pond tailings dam. This work has been incorporated into a larger maintenance program planned to take place during the 2005 site visit. The complete maintenance program is described in the annual water license report for 2004.

If you have any questions or wish to discuss this matter further, please do not hesitate to contact me.

Sincerely,

Paul Brugger

Paul Brugger
Site Manager, Cullaton Lake

Trow
Since 1957

1142 Roland Street
Thunder Bay, ON
P7B 5M4

Tel: 807–623–9495
Fax: 807–623–8070
thunderbay@trow.com

Buildings

Environment

Geotechnical

Infrastructure

Materials & Quality

www.trow.com

One Company.
One Contact.
One Stop.

February 9, 2005 Reference: F–90132

Mr. Paul Brugger
Barrick Gold Corporation
171 Copper Cliff Road East
Station F
Thunder Bay, ON P7C 5V5

2004 Tailings Dam Examination
Cullaton Lake Gold Mine, Nunavut
Licence NWB1CUL020

Dear Sirs:

Further to your authorization, we have carried out a visual examination of the tailings impoundment facility at the above noted site. The attached Dwg. No. 1 in Appendix A, (January 30, 1995) illustrates the general layout.

As requested by the Nunavut Water Board in a letter to Barrick dated June 9, 2004, commenting on the 2003 Tailings Dam Examination report, we have restructured this year's report to include a brief history and summary of previous inspection concerns.

Historical Summary

The site of the Cullaton Lake Gold Mine is located in Nunuvut at 61^{o} 16' north latitude and 98^{o} 30' west longitude. The site is geographically located relative to the following communities:

- 670 km north of Thompson, Manitoba
- 250 km west of Arviat, N.W.T.
- 416 km south of Baker Lake, N.W.T.
- 416 km northwest of Churchill, Manitoba

The site is at the tree line and in the zone of discontinuous permafrost.

Access to the property is normally gained by charter air flights from Thompson or Churchill, Manitoba to the 1460 m gravel airstrip located north of the mill site.

The mine site area features undulating terrain with shallow surficial soils overlying bedrock. The surficial deposits consist mainly of a bouldery glacial till with localized surface organic deposits. The soil matrix of the glacial till is a well-graded, silty sand with no clay to traces of clay (i.e. exhibit little or no plasticity).

The Cullaton Lake Gold Mines' construction and mill startup of a 300 tonnes per day complex was completed in early fall of 1981 with its first gold pour in December

1981. Total gold produced from the B-Zone and the Shear Lake zones to August, 1985 was over 100,000 ounces, when for economic reasons it was decided to put the property on temporary closure on a care-and-maintenance basis. The property has remained closed since September 1985.

Based on the mill records, a total of 373,000 tonnes of ore was processed, of which approximately 150,000 tonnes came from the B-Zone with the balance of 223,000 tonnes coming from the Shear Zone. Laboratory analyses previously showed that the tailings from the B-Zone have a relatively high acid generation potential; however, there was no evidence, either physical or chemical, that acid drainage had been taking place within the tailings impoundment area. This lack of effect was attributed to three main factors:

- the majority of the tailings are either submerged below water and/or saturated, such that there is a lack of oxygen required for oxidation
- the tailings are frozen for about eight months of the year, and when thawed, only near the top. This and the fact they remain saturated, limits water movement through the tailings, with resulting limited oxidation
- the acid kinetic reaction from the tailings impoundment becomes substantially diluted and is not detectable in the surrounding environment.

The principal concern of the Water Board, with respect to abandonment of the tailings impoundment facility, was the potential generation of acidic drainage. As part of the closure plan[1], the objectives were to minimize acid generation by:

- maintaining water cover over the tailings within the pond to prevent access by oxygen
- placement of cover material over the exposed tailings to reduce access by oxygen
- maintaining of the remaining tailings in a frozen state (permafrost), by thickening the cover material.

The homogeneous tailings dams were constructed in the late 1970s or early 1980s (presumably) with local silty sand and gravel till (there are no construction records). Maximum dam height was about 5.5 m above original ground. The dams included filter fabric and synthetic impermeable liners on the upstream faces.

The following inspections of the tailings dams and ponds have been performed and reported on by Trow since the preparation of the Closure Report. Note that ownership of the property has changed over the years. These reports should be on file with the Water Board and with Barrick.

[1] Abandonment and Restoration Plan, Cullaton Lake Gold Mines Ltd. Reference No. F-90132-A/E. May 7, 1991. Prepared for Corona Corporation by Trow Consulting Engineers Ltd.

August 1992 Inspection – Reported to Homestake Canada Ltd. (March 15, 1993)

The attached Drawings, No. 1 to 4 (Appendix B), are reproduced from the 1992 inspection report and serve to illustrate the conditions at the time. Observations with respect to the tailings impoundment included:

- the Pond 1 spillway exceeds the design requirements (wider channel and flatter slopes) given in the Closure Plan and was constructed with non-woven filter fabric on the cohesionless subgrade soil and covered with a rubber liner and about a 300 mm thick layer of graded waste rock
- a few minor seeps were observed on the downstream side of Dam 1
- no recommendations were made other than to conduct a detailed site survey.

June 1994 Inspection – Reported to Homestake Canada Ltd. (February 1, 1995)

A detailed survey of the tailings impoundment area and structures was completed. Observations with respect to the tailings impoundment included:

- the pond elevations of Pond 1 and 2 were 94.0 m and 89.4 m, respectively
- no seepage evidenced on the downstream side of either dam
- spillways in good condition
- dams appear stable
- no evidence of exposed tailings in Tailings Area 1
- no recommendations were made

September 1996 Inspection – Reported to Homestake Canada Ltd. (November 27, 1996)

Observations with respect to the tailings impoundment included:

- the tailings dams are presently stable, and in good condition with no signs of distress or erosion
- although there were a few wet areas near the downstream toe of Dam 1, no seeps were visible; wetness may have been due to recent rainfall accumulations
- the water level in Pond 1 was the same as it was in 1994
- there were no exposed tailings in the area
- it was recommended that some minor repair work be undertaken to address the exposed liner at the Dam 1 spillway, and that damaged and exposed sections of liner be removed from Dam 2.

July 1999 Inspection – Reported to Homestake Canada Ltd. (October 13, 1999)

Observations with respect to the tailings impoundment included:

- some small erosion scars were observed on both upstream and downstream sides of Tailings Dam 1, likely due to erosion of the previously flattened slopes
- upstream and downstream slopes of about 3H:1V and 6H:1V, respectively, and crest width varies up to 15 m
- Pond 1 level about 93.7 m, slightly lower than the 94.0 m of previous inspections
- no unsubmerged tailings observed
- no seepages observed at either dam
- both dams considered stable
- no recommendations were made

July 2001 Inspection – Reported to Homestake Canada Ltd. (February 6, 2002)

Observations with respect to the tailings impoundment included:

- similar observations as in 1999, except Pond 1 water level was about 0.3 m higher at elevation 94.0, similar to previous years.
- no recommendations were made

July 2003 Inspection – Reported to Barrick Gold Inc. (October 15, 2003)

- similar observations as in 2001
- the erosion scars previously identified appear to be naturally revegetating and self-armouring with larger rock particles from the dam fill
- the weir in the Dam 1 spillway had been removed subsequent to the 2001 inspection
- no recommendations were made

Current Inspection - July 2004

The field examination was carried out by Mr. Demetri Georgiou, P.Eng. on July 7, 2004. Photos 1 and 2, attached, show oblique views of the site taken from the air on the date of the site examination, July 7, 2004. 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 or exposed tailings were observed. Photo 5 shows submerged tailings in the pond.

Photo 6 shows a view of the spillway channel. 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 6. 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.

Portions of the rubber liner in the spillway channel were exposed, as they were in 1996. No repairs were made subsequent to the recommendation of 1996. We have not observed any change in the configuration since this was identified. However, at issue is the potential for the liner to degrade and expose the underlying cohesionless subsoil. This could conceivably subject the channel base to erosion during periods of high runoff, ultimately creating an erosion channel which would lower the nominal pond level, thereby exposing the tailings. At worst, an erosion breach could occur, resulting in the loss of tailings into Pond 2. Accordingly, it is considered prudent to restore the design configuration of the spillway channel.

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

Photo 7 shows a view 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. Photo 8 shows a view of the Dam 2 spillway channel. 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 six visual inspections that Trow has performed between 1994 and 2003, it is considered that no erosional or other detrimental 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.

It is recommended that the rubber liner in the Dam 1 spillway be repaired and restored to its original design configuration, to ensure that it is recovered with the appropriate rip-rap, such that erosion of the subbase does not occur.

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:

[Original signed by]

Demetri N. Georgiou, MASc., P.Eng.
Branch Manager/Principal Engineer

Reviewed by:

[Original signed by]

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

Attach: Photographs
Appendix A
Appendix B

PHOTOGRAPHS

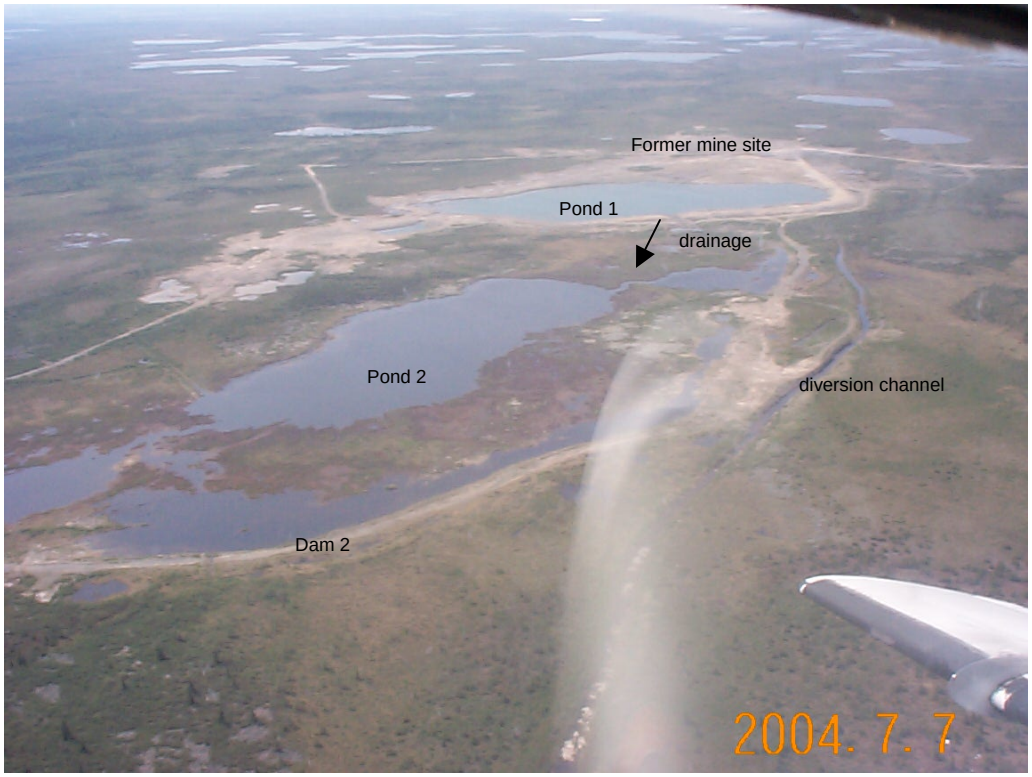


Photo 1: Tailings facility – looking west

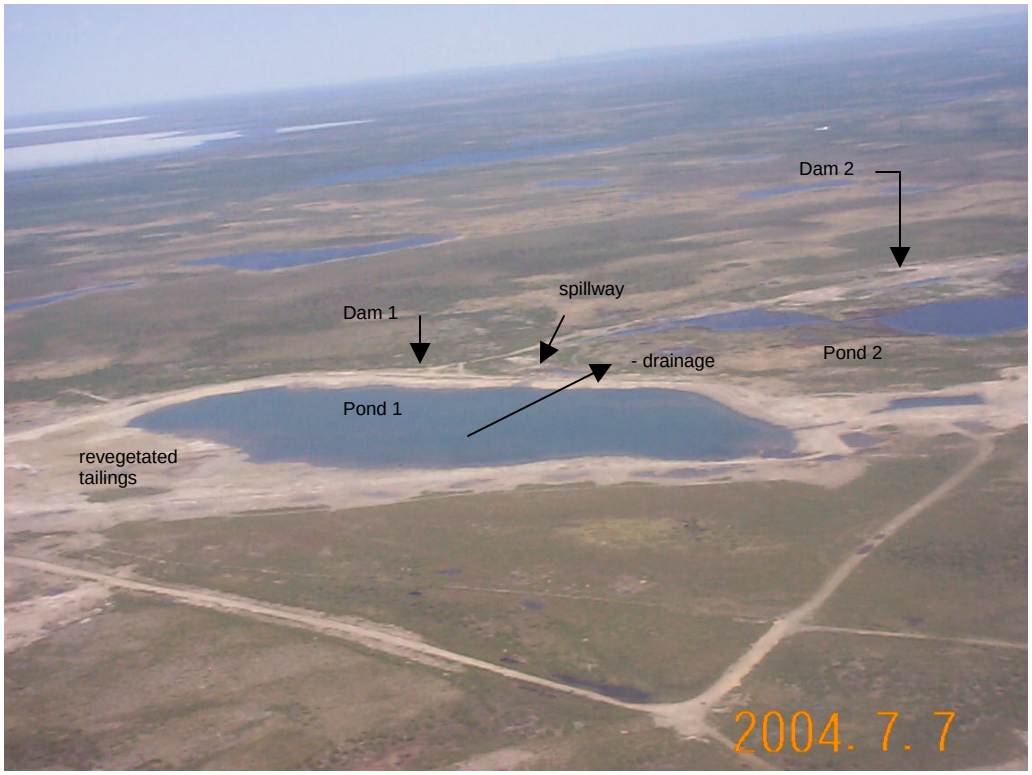


Photo 2: Tailings facility looking east

Photo 3: Dam No. 1 - looking northeast

Photo 4: Downstream section of Dam No. 1

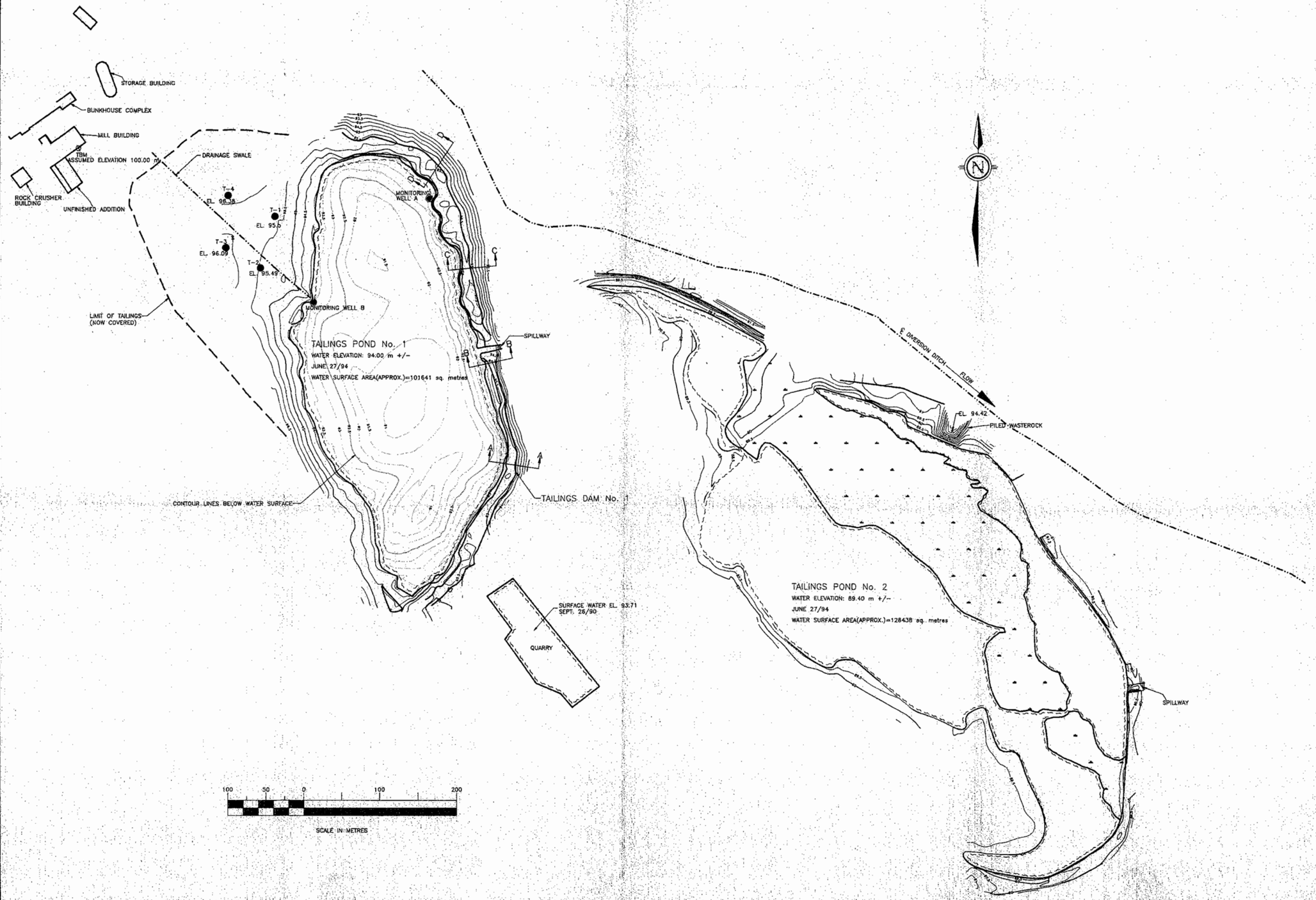
Photo 5: Edge of submerged tailing in Pond 1

Photo 6: Dam No. 1 Spillway Channel looking downstream to Pond 2

Photo 7: View of Dam 2 and pond

Photo 8: View of Dam 2 Spillway looking upstream

APPENDIX A



TROW CONSULTING ENGINEERS LTD.
Thunder Bay, Ontario, Canada

LEGEND

- MONITORING WELL
- BENCHMARK
- THERMOSTERS

NOTES:

1. DATA INTERPRETED FROM TROW ENGINEERING SURVEY(JUNE 27/94) AND SURVEY BY H.I.W. SURVEYS LTD.(NOV. 10/90).
2. BENCH MARK IS LOCATED ON CONCRETE SLAB AT NORTH EAST CORNER OF MILL BUILDING. ASSUMED ELEVATION: 100.00m
3. ALL ELEVATIONS ARE SHOWN IN METRES.

REVISIONS

No.	Date:	Revision

Client: HOMESTAKE CANADA

Project: CULLATON LAKE MINE CLOSURE

Title: TAILINGS POND SURVEY
CULLATON LAKE, N.W.T.

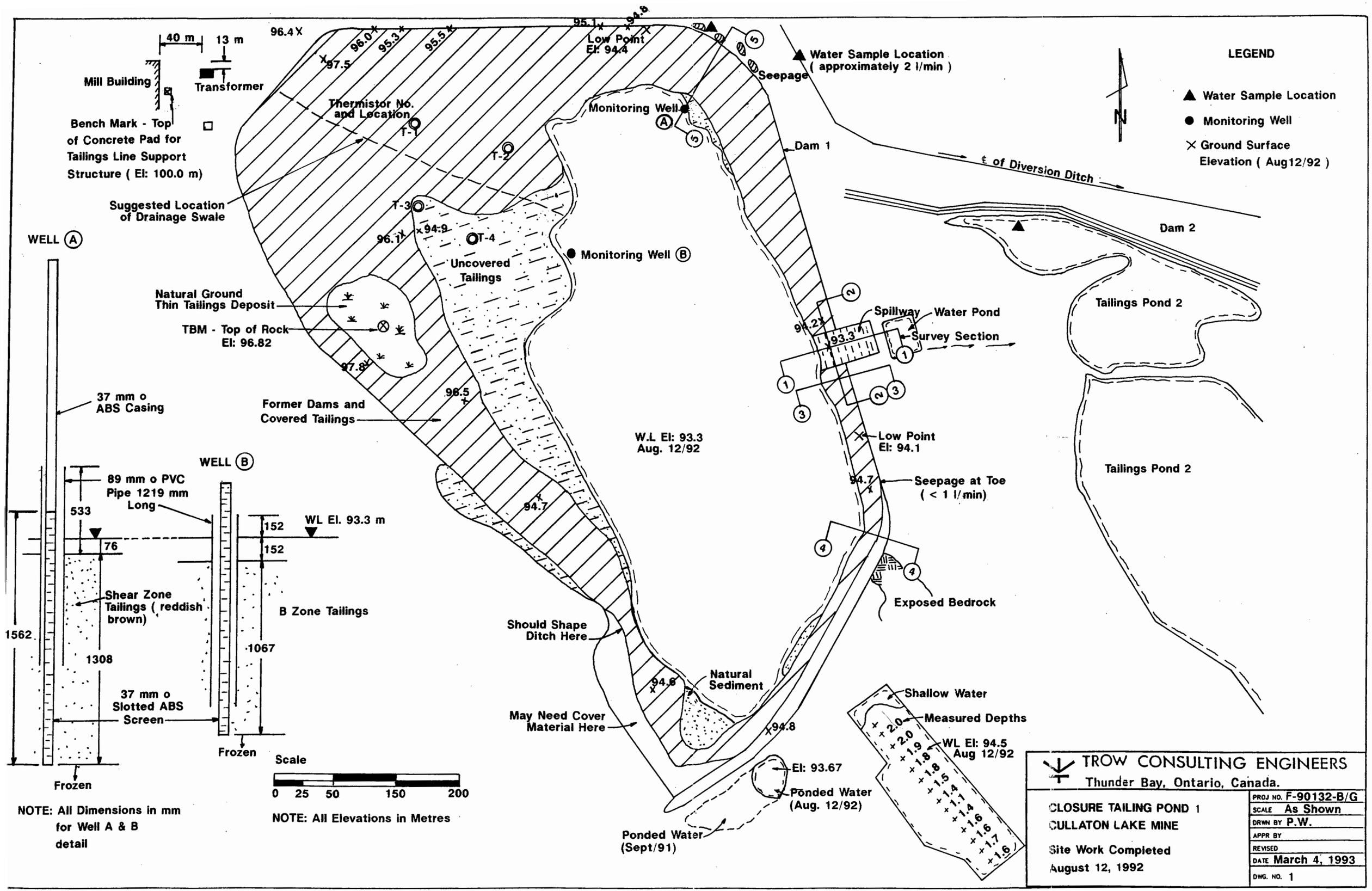
Project No.	Dwg. No.:
F-90132-A/G	1

Drawn By:	Reviewed By:
PW/DT	DK

Date: JANUARY 30, 1995

Scale: 1 : 2500

APPENDIX B



NOTE: All Dimensions in mm for Well A & B detail

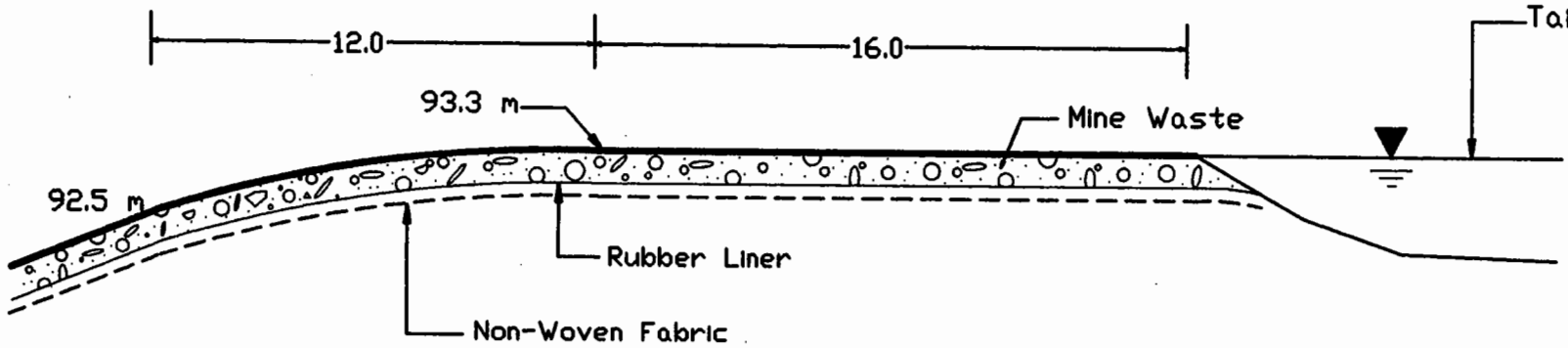
NOTE: All Elevations in Metres

TROW CONSULTING ENGINEERS
Thunder Bay, Ontario, Canada.

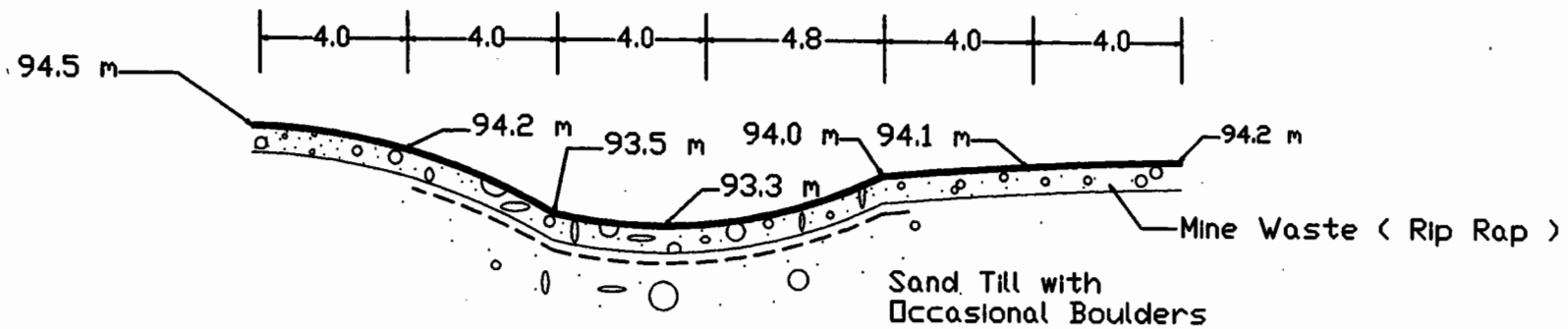
CLOSURE TAILING POND 1
CULLATON LAKE MINE

Site Work Completed
August 12, 1992

PROJ NO.	F-90132-B/G
SCALE	As Shown
DRWN BY	P.W.
APPR BY	
REVISED	
DATE	March 4, 1993
DWG. NO.	1

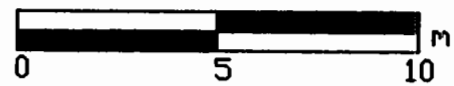


SECTION 1 - Longitudinal (Looking South)



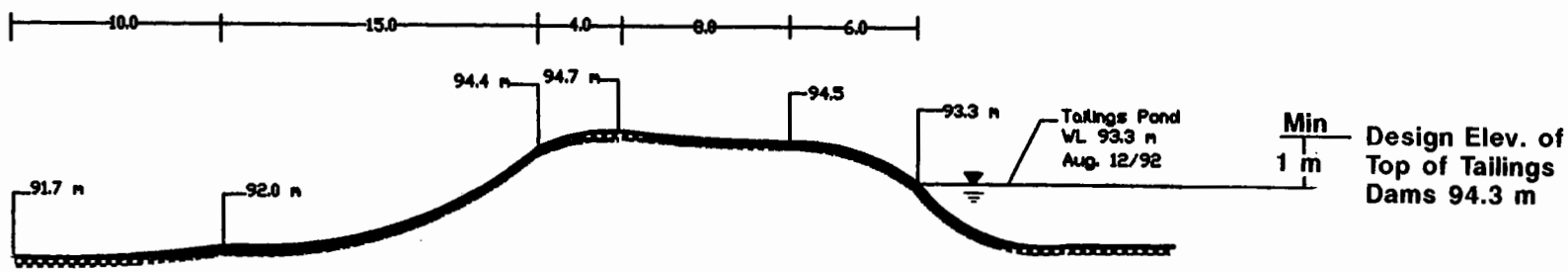
SECTION 2 _ Transverse (Looking East)

Vertical N.T.S.
Horizontal Scale

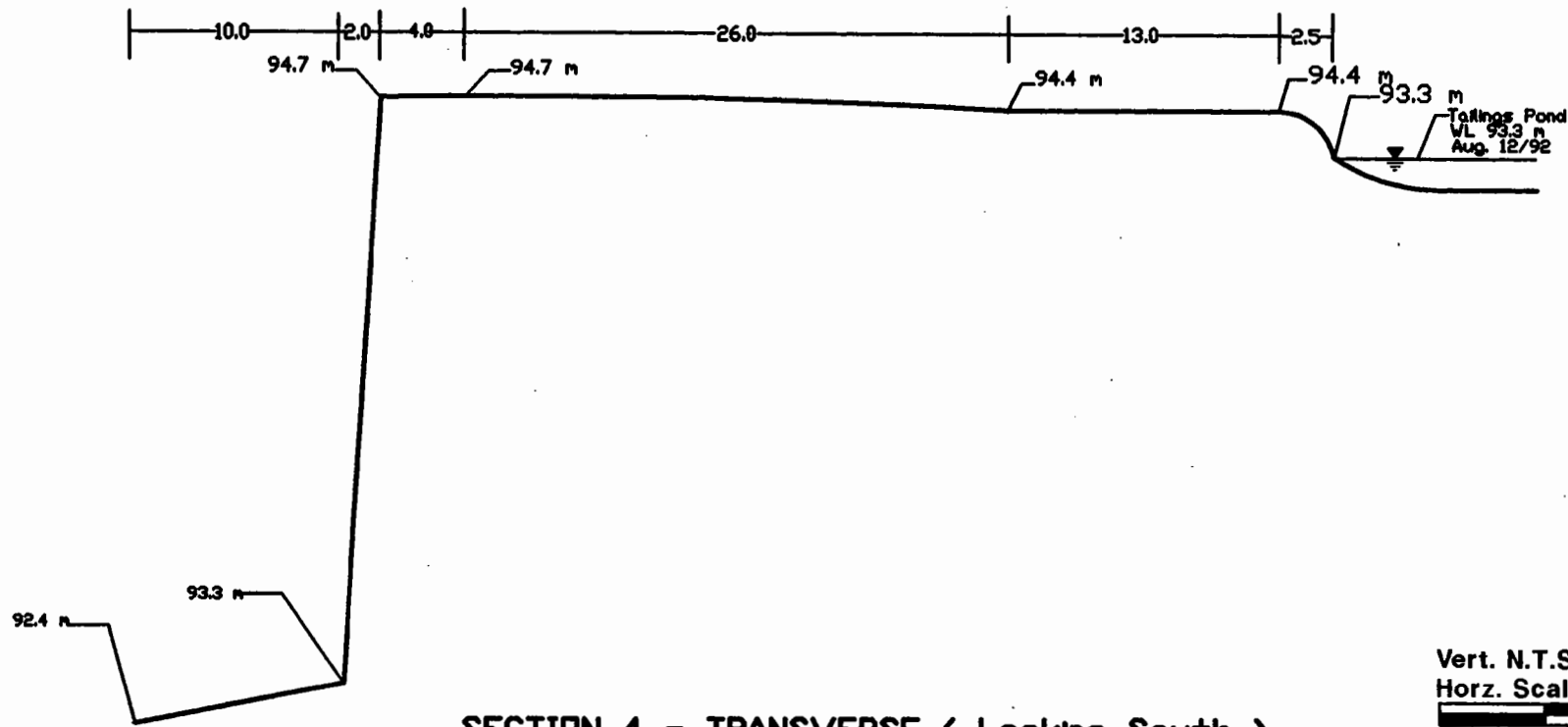


Reference No. F-90132-A/G

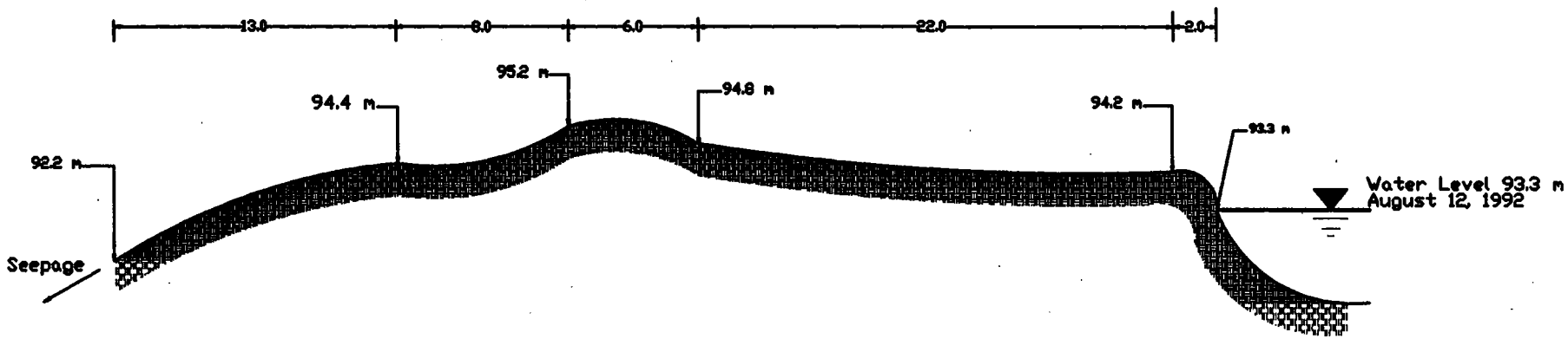
Drawing No. 2



SECTION 3 - TRANSVERSE (Looking South)



SECTION 4 - TRANSVERSE (Looking South)



SECTION 5 - TRANSVERSE (Looking East)

Vertical N.T.S.
Horizontal Scale

0 5 10 m