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MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
REPORT ON 2002 ANNUAL INSPECTION
(REF. NO. VA101-00001/3-1)

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(REF. NO. VA101-1/3-1)

EXECUTIVE SUMMARY

The annual inspection was completed to ensure that the safety and security of the Tailings Storage Facility and ancillary works remains high and to meet the guidelines of the Ministry of Energy, Mines and Northern Development. Mr. Ken Brouwer, P.Eng., conducted the annual inspection on June 27, 2002. In addition to this, MPMC has provided further instrumentation and water monitoring data from the inspection date through to March 2003, effectively expanding the review period to include this time.

The Mount Polley TSF has been categorized with a "HIGH" hazard classification (or consequence category). Therefore, the embankment has been designed to accommodate a maximum design earthquake (MDE) corresponding to 50% of the maximum credible earthquake (MCE) and the impoundment is sized to contain the probable maximum precipitation (PMP) storm event volume of 679,000 cubic metres.

Mount Polley Mining Corporation (MPMC) will issue the current revision of the Mount Polley Mine Operation, Maintenance and Surveillance Manual (including the Emergency Preparedness Plan) at the end of May 2003 as a separate report. The last third party review of the tailings dam was conducted by Mr. Chuck Brawner in 1999. A formal Dam Safety Review for the TSF is scheduled for 2006.

Note

TAILINGS STORAGE FACILITY

- No additional tailings have been deposited within the TSF since October 2001 when the mine ceased active operations. Mount Polley Mine is

currently in a phase of Care and Maintenance. The TSF remains fully operational.

- There have been no significant construction activities since the mine was placed on care and maintenance status in October 2001. The only construction activities were the construction and commissioning of additional surface water control ditches to allow surface runoff from the undisturbed catchment area immediately up-gradient from the TSF to be routed around the facility rather than into the tailings impoundment. These ditches were sized to divert runoff from a 1 in 100 year precipitation event, and were in good condition at the time of the inspection.
- The water balance developed for the TSF is updated regularly by MPMC. The water balance is updated with temperature, precipitation, evaporation, snow pack, ice cover and other relevant data. MPMC also conducts periodic surveys of the tailings pond surface to confirm the water storage capacity of the facility.
- The TSF has generally been operated in accordance with the objectives of the water balance during the care and maintenance period. The primary objective is to maintain sufficient storage capacity within the impoundment to accommodate inflows during extreme precipitation events while maintaining a suitable freeboard allowance for wave run-up. At the time of the inspection, the TSF pond elevation was 940.99 metres, which satisfies the water management objectives as discussed above.
- The TSF is required to have live storage capacity for runoff containment from the 24-hour PMP volume of 679,000 cubic metres at all times. The TSF design incorporates an allowance for pond level rise due to the 24-hour PMP event, regular inflows from other precipitation runoff (including the spring freshet), and 1 metre of freeboard for wave run-up. MPMC has typically operated the pond within these tolerances over the past year. The pond level is projected to temporarily rise to 941.2 m during the 2003 freshet period, which is 9 cm above the maximum pond level. This will result in a temporary reduction of the 1m freeboard allowance to 0.9m, while the full storage capacity for the PMP event is still maintained. The pond level will be reduced to below the target pond level by evaporation and on-going operation of the upstream toe drain during the summer months. Therefore, the temporary

reduction in the freeboard allowance is acceptable. This freeboard reduction is covered more fully in the Tailings Impoundment Freeboard Letter included in Appendix E.

- Two phases of pumping (Fall 2001 & Spring 2002) have been undertaken at the TSF to maintain the required PMP and freeboard allowance. TSF waters were pumped to the open pit for storage. MPMC are currently evaluating options and timing for removal of additional water prior to the 2004 freshet.
- The Seepage Collection Ponds were operating normally. Flow monitoring of the Foundation Drains and Upstream Toe Drains was carried out only twice during the past year due to the drains being submerged under a high seepage pond elevation. They were found to be within seasonal flow ranges, though.
- The results of external water quality monitoring have been reported by MPMC in the report "Annual Environmental and Reclamation Report 2001". All perimeter ditches were unobstructed and those that were flowing, had clear water.
- The TSF embankments were observed to be in good condition. No seepage or slumping was observed.
- No problems were observed regarding wind blown dusting from the tailings beaches.
- Piezometer data indicated that the embankments are performing as designed.
- Aside from the initial reading, only one slope inclinometer reading is currently available. It is recommended that monitoring with the inclinometer probe be undertaken annually and that a 'poor-boy' monitoring rod should be constructed for use monthly, during the care and maintenance period.
- Six survey monuments have been installed on the Stage 3B embankment crest following the 2001 construction period. These monuments are surveyed on an annual basis and will be surveyed again later this year.

ANCILLARY WORKS

The Tailings and Reclaim Pipeline System, Southeast Sediment Pond, Millsite Sump, and South Bootjack Dam were all observed to be in good condition and operating normally. No issues were identified.

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SECTION 1.0 – INTRODUCTION

The Mount Polley gold and copper mine is owned by Mount Polley Mining Corporation (MPMC). It is located in central British Columbia, 56 kilometres northeast of Williams Lake. Mount Polley mine stopped production in October 2001 and is currently managing the facilities with a skeleton staff for care and maintenance activities. An aerial photograph of Mount Polley Mine that was flown in summer 2001 is shown on Figure 1.1.

Regular on-going inspections of the Tailings Storage Facility (TSF) and Ancillary Works have been conducted to ensure the safety and security of the system and to meet the guidelines of the Ministry of Energy, Mines and Northern Development. Knight Piesold completed an annual inspection in 2001, which is described in KP Ref. 11162/14-2 (Report on 2000 and 2001 Annual Inspection) dated October 3, 2001.

Mr. Ken Brouwer, P.Eng., conducted an additional inspection on June 27, 2002. In addition to this, MPMC has provided further instrumentation and water monitoring data from the inspection date through to March 2003, effectively expanding the review period to include this time. A summary of the current site status, along with observations and recommendations are provided in the following sections of this report. It includes an evaluation of all pertinent data, as well as instrumentation and monitoring results collected over the past year. Selected photographs taken during the site inspection are included in Appendix A.

SECTION 2.0 – SITE OVERVIEW

2.1 GENERAL

Mount Polley mine began operations in June 1997. The mineral extraction process used a selective flotation process to produce a copper-gold concentrate. Approximately 20,000 tonnes (7.3 million tonnes per year) of ore were processed each day during the most recent operations. Active mining ceased in October 2001 and the mine has since been in a state of care and maintenance. All plant and facilities remain functional although the mill site and many ancillary facilities are not operating on a routine basis.

Waste materials (tailings) from the mill were piped to and discharged as slurry into the TSF, where the solids settled out of the slurry, and process fluids were then collected and recycled back to the mill for re-use in the milling process. The TSF has been designed, constructed and managed to provide for environmentally secure long-term storage of the tailings solids. A site plan showing the TSF is presented on Drawing 102.

On-going control and management of water is the most significant operational requirement during the care and maintenance period. Geotechnical and environmental monitoring programs have also been continued during the care and maintenance period in order to confirm the continued satisfactory performance of the various waste and water management facilities.

2.2 TAILINGS STORAGE FACILITY

The principal objectives of the TSF are to provide secure containment for tailings solids and to ensure that the regional groundwater and surface water flows are not adversely affected during or after mining operations. The design and operation of the TSF is integrated with the overall water management objectives for the entire mine development, in that surface runoff from disturbed catchment areas is controlled, collected and contained on site. An additional requirement for the TSF is to allow effective reclamation of the tailings impoundment and associated disturbed areas at closure.

The TSF has been categorized with a "HIGH" hazard classification (or consequence category). Therefore, the embankment has been designed to accommodate a maximum design earthquake (MDE) corresponding to 50% of the maximum credible earthquake (MCE) and the impoundment is sized to contain the probable maximum precipitation (PMP) storm event.

Some external facilities that are key to the operation of the TSF include the following:

- A pipeline system conveys tailings slurry via gravity from the Millsite to the TSF. This system includes movable discharge sections with multiple spigots to distribute the tailings along the embankment crests. It is also utilized to transfer surface runoff from the Millsite and Southeast waste dump to the TSF.
- A Millsite Sump and Southeast Sediment Pond collect surface runoff from the Millsite and Southeast Waste Dump respectively. Millsite runoff is directed from the Millsite Sump into the tailings line near the mill. Flows from the Southeast Sediment Pond enter the tailings pipeline at the reclaim booster pump station and the T2 Tailings Drop Box.
- A make-up water supply system previously provided extra water to the TSF during operations. This system included an intake and pump at Polley Lake along with a pipeline to convey water to the TSF near the West abutment of the Perimeter Embankment. However, this system has not been required during the current care and maintenance period and the pump station has been decommissioned.
- A reclaim water system comprising a reclaim barge, a booster pump station as well as the associated pipeworks allowed for continuous recycle of process water and site runoff to the mill processing circuit during operations. This system has remained dormant during the care and maintenance period, except for two short periods when it was utilized to remove some of the water that accumulated in the tailings impoundment due to ongoing precipitation and surface runoff. This excess water was routed to the open pit. MPMC also actively maintain this pumping capability during the care and maintenance period in order to allow excess water to be removed at short notice. This

maintenance program includes for operation of the air bubbler system during winter months in order to prevent freezing at the pump barge.

The tailings facility includes a series of components that are illustrated on Figure 2.1 and Drawings 250, 251, 254, 256, 258 and 259. These are briefly summarized as follows:

- Graded earthfill and rockfill embankments with internal filters and drains retain the tailings solids in the TSF. The tailings impoundment currently includes the 34.5 meter high Main Embankment, the 11.5 meter high Perimeter Embankment and the 1.5 meter high South Embankment as shown in the plan Drawing 102. The embankments have been raised in stages by a combination of centreline and modified centreline approaches as illustrated on Drawings 258 and 259. In general the embankments incorporate the following zones and materials:
  - Zone S - fine grained glacial till which provides the core zone.
  - Zone CS - cycloned sand is incorporated in the upstream shell.
  - Zone B - fine grained glacial till in embankment shell zones.
  - Zone F - processed gravel and sand is incorporated in filter zones, drainage zones and in the chimney drain.
  - Zone T – select well-graded rockfill, which provides a transition filter zone.
  - Zone C – rockfill in the downstream shell zone.
- A low permeability basin liner (natural and constructed) covers the base of the entire facility to provide containment of process fluids and to minimize the potential for seepage.
- A foundation drain and pressure relief well system is located downstream of the Stage 1B Main Embankment in order to prevent the build-up of excess pore pressure in the foundation and transfer groundwater and/or seepage to the collection ponds.
- Seepage collection ponds located downstream of the Main and Perimeter Embankments were excavated in low permeability soils, and store water collected from the embankment drains and from local runoff. Water from these ponds was pumped back into the TSF during operations, but is now being discharged to downgradient water courses. MPMC are actively

monitoring water quality and discharge rates and regularly report this information to the relevant regulatory authorities.

- Instrumentation in the tailings, embankments and foundations, includes vibrating wire piezometers, survey monuments, and a slope indicator. In addition embankment drain flows are monitored, along with the level of the tailings supernatant water pond.
- A system of monitoring wells installed around the TSF is used for groundwater quality monitoring.

These components were reviewed as part of the 2002 Annual Inspection.

There have been no significant construction activities since the mine was placed on care and maintenance status in October, 2001. The only construction activities were related to construction and commissioning of additional surface water control measures at the TSF, as illustrated on the ortho-photo in Figure 2.2. These additional surface water control ditches allow surface runoff from the undisturbed catchment area immediately up-gradient from the TSF to be routed around the facility rather than into the tailings impoundment as was the case during operations. This reduces the amount of water reporting to the Tailings Impoundment, which reduces the pumping costs associated with maintaining the required emergency storm water storage capacity and embankment freeboard.

SECTION 3.0 – WATER MANAGEMENT

3.1 GENERAL

Proper water management is one of the key requirements during the current care and maintenance period. MPMC mine personnel are required to complete on going surface water monitoring and water management activities in order to ensure compliance with current permits. In general, the fundamental objective has been to collect and contain runoff from disturbed mine development areas. MPMC has continued to implement procedures to contain water within the project area during the care and maintenance period, by pumping excess water for disposal in the Cariboo Pit. They have also constructed additional surface water ditches to divert clean runoff around the tailings impoundment, in order to reduce the on-going accumulation of water within the system.

The focus of this Annual Review is to evaluate the physical aspects of the water management program at the Mt Polley TSF. Knight Piesold has not reviewed the geochemical characteristics of the water management operations. Therefore, this report has focussed on those aspects of the water management plan that are significant from a dam safety perspective.

MPMC are currently discharging a small amount of surface water from the Main Embankment Seepage Recycle Pond. They have been closely monitoring the water quality and report that they have a permit in place for regulated discharge of this water provided that water quality objectives are met. It is noted that inflows to this pond include tailings seepage water from the embankment toe drains, groundwater recovered from the embankment foundation drains, and direct surface runoff from the area immediately downstream of the Main Embankment.

Similarly, MPMC have routed some of the runoff from the undisturbed catchment area above the tailings facility to flow into the Perimeter Embankment Seepage Recycle Pond where it overflows via the spillway culvert toward Hazeltine Creek. No water chemistry issues are anticipated at this location as inflows of tailings seepage water are minimal.

Additional water monitoring requirements during the care and maintenance period are related to assessing the performance of embankment drainage zones and foundation dewatering systems.

A summary of the various monitoring and water management activities is included in the following sections.

3.2 CLIMATIC AND WATER BALANCE REVIEW

The water balance developed for the TSF is updated regularly by MPMC. The water balance is updated with temperature, precipitation, evaporation, snow pack, ice cover and other relevant data as it becomes available. MPMC also conducts periodic surveys of the tailings surface above and below the supernatant pond to confirm the water storage capacity of the facility. Proper management of the overall water balance for the site is extremely important during operations and is used to determine make-up water requirements for the milling process, and is required to prevent the excessive accumulation of water within the impoundment. The objectives for the water balance have been simplified during the current care and maintenance period, as there is no longer a requirement to transfer sufficient make-up water into the system, but rather the objective is to minimize the on-going accumulation of water. Therefore, the Tailings Impoundment is currently experiencing a water surplus situation rather than the water deficit situation that occurs during operations.

The TSF has generally been operated in accordance with the objectives of the water balance during the Care and Maintenance period. The primary objective is to maintain sufficient storage capacity within the impoundment to accommodate inflows during extreme precipitation events while maintaining a suitable freeboard allowance for wave run-up. This is required to prevent overtopping and subsequent failure of the embankment. Figure 3.1 displays the past pond levels and predictions for future water levels along with the water pond level restrictions placed on the TSF.

At the time of the inspection, the TSF pond elevation was 940.99 metres, which satisfies the water management objectives as discussed in the following sections.

3.3 SURFACE WATER CONTROL

Surface water control at the mine site comprises the interception of runoff from the disturbed (and some undisturbed) catchment areas for diversion into the TSF. Surface water control structures include the following:

- Open pit and Mill Site areas; Surface water from the open pit and mill site areas are routed into the mill-site sump, and are then transferred to the TSF via the tailings pipeline.
- Waste rock storage area; Surface water is intercepted by runoff collection ditches and transferred to the Southeast Sediment Pond for transfer to the TSF via the tailings pipeline.
- TSF; Clean surface water runoff from the undisturbed catchment area above the impoundment is currently routed around the TSF in order to reduce the accumulation of water within the impoundment.

At the time of the inspection all surface water facilities were operating as designed and no issues have been identified. All flows were visually clear and free of suspended solids. No significant erosional features where observed in the embankments, spillways or channels associated with these structures.

3.4 IMPOUNDMENT FREEBOARD REQUIREMENTS

The TSF is required to have sufficient live storage capacity for containment of runoff from the 24-hour PMP volume of 679,000 cubic metres at all times. This volume of storm water would result in an incremental rise in the tailings pond level of 0.39 meters above the current pond level. The 24-hour PMP allowance is in addition to regular inflows from other precipitation runoff, including the spring freshet. The TSF design also incorporates an allowance of 1 metre of freeboard for wave run-up. Therefore, the maximum pond level can be determined by subtracting the 1 meter wave run-up requirement and the 0.39 meter PMP allowance from the embankment crest elevation of 942.5 meters. This results in a maximum pond elevation of 941.11 meters. In addition, the pond must include additional storage capacity for containment of routine storm events and for containment of runoff during the spring

freshet. This additional freeboard allowance for containment of runoff from the spring freshet is typically in the order of 0.50 meters. Therefore the maximum pond level prior to freshet is generally targeted to be at no more than 940.60 meters. In general, the pond elevation tends to increase during periods of heavy rainfall or snowmelt, but tends to decrease during the summer months due to evaporation losses and ongoing seepage from the upstream toe drain. MPMC has operated the pond within these tolerances over the past year, except that the pond level is currently slightly (9 cm) above the maximum target pond level as indicated on Figure 3.1. The pond elevation is projected to rise to 941.20 meters and will result in a temporary reduction of the 1 m freeboard allowance to 0.9m, while the full storage capacity for the PMP event is still maintained. The pond level is then projected to decrease below the target elevation by August 2003 due to the losses mentioned above. This freeboard reduction is covered more fully in the Tailings Impoundment Freeboard Letter included in Appendix E.

As the TSF is operating with a water surplus, in order to maintain the required PMP with freeboard allowance, two phases of pumping have been undertaken to reduce the level of the tailings pond. Both of the phases involved pumping water to the open pit for storage. Details of the two pumping phases are as follows:

- Fall pump (October 2001): 483,000 cubic metres to ensure capacity for the next spring freshet. The level of the TSF pond decreased from elevation 940.91 m to 940.55 m.
- Spring pump (May 2002): 513,000 cubic metres to maintain capacity requirements. The level of the TSF pond decreased from elevation 941.23 m to 941.08 m.

It should be noted that the reclaim pumping barge is continuously available and included on-going operation of the bubbler system during the winter months in order to prevent freezing and ice build up. The reclaim water system can be started up quickly in the event of a prolonged storm event that results in a significant rise in the tailings pond level. This capability provides an additional contingency for water management within the tailings impoundment.

As indicated on Figure 3.1, water will need to be removed prior to the freshet next year. The projected increase in pond elevation will rise above the maximum allowable level. MPMC plans to compile all water quality data during summer 2003 and present it to MWLAP to discuss discharging water from the TSF prior to spring 2004. This discharge application will likely be an amendment to MPMC's existing MWLAP permit, PE 11678. Using a siphon system to discharge water, the preferred location will be to pump over the Perimeter Embankment and discharge into Hazeltine Creek.

3.5 DRAIN FLOW DATA

Flows from the 5 Foundation Drains and 2 Upstream Toe Drains outlets at the Main Embankment are monitored (when possible) on a monthly basis during the Care and Maintenance period. To date, all drains have performed as designed. The upstream toe drain flow rates vary with the level of the TSF pond as expected. The foundation drain flows have continued to be clear and free of suspended solids. The results are presented on the outlet drain data graph, Figure C-1 in Appendix C. Figure C-2 presents a graph of the foundation drain data. Locations of the drains are shown on Drawing 11162-13-250. MPMC intend to collect additional readings on these outlet drain flows.

The main embankment foundation drain flows, are not influenced by the level of the TSF pond. However, the flow rate is influenced by precipitation and runoff which percolates through the fill and into the drains. The main embankment drains have not been monitored with the desired frequency due to submergence during high TSF pond levels. MPMC has proposed to install a valve between the decant manhole and the pond, thereby allowing for more frequent monitoring. This valve should be installed this summer. It should be noted that the peaks of Figure C-2 (October 2001, and April 2002) are attributed to high precipitation or snowmelt events. Samples from the Foundations Drains and the Upstream Toe Drain are collected by MPMC for water quality testing. The results are available from MPMC and are reported in the Annual Environmental reports, submitted to the appropriate agencies (Ministry of Environment, Lands and Parks and Ministry of Energy, Mines and Northern Development).

3.6 SEEPAGE

No unexpected seepage associated with the embankments was observed during the inspection.

3.7 EXTERNAL WATER

MPMC staff carries out water quality monitoring of external water regularly. Monitoring includes surface water quality from ditches, streams, creeks and lakes, as well as groundwater quality from monitoring wells. The results of the water quality monitoring have been reported by Mount Polley in the report "Annual Environmental and Reclamation Report 2001". This report has been submitted to the appropriate agencies (Ministry of Water, Land and Air Protection and Ministry of Energy, Mines and Northern Development).

SECTION 4.0 – ANNUAL INSPECTION

4.1 TAILINGS STORAGE FACILITY

The supernatant pond was at elevation 490.99 meters at the time of Mr. Brouwer's inspection on June 27, 2002. During the current phase of care and maintenance, the TSF remains fully functional although no tailings have been deposited since October 2001. Pertinent observations regarding the operating condition of the TSF are as follows:

- No signs of instability were observed in the embankment fill slopes.
- The seepage collection ponds were observed to be in good condition with no observed erosion activity.
- No unexpected or uncontrolled seepage was observed from the embankments including fill slope and foundations.
- All perimeter surface water diversion ditches were unobstructed and those that were flowing, had clear water.
- No problems were observed or reported regarding wind blown dustings from the tailings beaches.

In general, the TSF was observed to be in a good condition with no geotechnical issues outstanding. Selected photographs of the TSF are presented in Appendix A.

4.2 ANCILLARY WORKS

4.2.1 Tailings and Reclaim Pipeline Corridor

The tailings and reclaim pipelines comprise 7 km of HDPE pipe of varying diameters and pressure ratings to convey tailings from the mill site to the TSF and reclaim water in the reverse direction. At the time of the inspection the section of the tailings pipeline on the embankment crest has been decommissioned for the period of care and maintenance, where several flanges were disconnected to prevent ice damage during cold periods.

The reclaim pipeline remains operational and was utilized during the two TSF pumping periods. There have been no reported problems with the reclaim pipeline. During the inspection, the pipeline was observed to be in sound condition but was not being utilized at the time.

Selected photographs of the reclaim pipeline are shown in Appendix A.

4.2.2 Southeast Sediment Pond

The Southeast Sediment Pond collects runoff from the Southeast Waste Dump via the Southeast Waste Dump runoff ditch. Water from the pond is then transferred to the reclaim or tailings line through a series of sumps and pipelines.

Observations made at the Southeast Sediment Pond and Southeast Waste Dump runoff ditch are:

- No seepage was observed for the embankments.
- Water flowing in the ditch was clear.
- The overflow culvert for the pond was clear of obstructions.
- The embankment fill slopes (inside and outside) looked to be in very good shape, with no signs of instability. No cracks were observed on the crest. No seepage or slumping of the slopes was observed.
- Grassy re-vegetation has become well established on the downstream embankment slopes.

MPMC staff carry out monthly inspections of the Southeast Sediment Pond. Observations are recorded on an inspection sheet. The pond is inspected weekly during the spring freshet or after heavy rainfall.
Selected photos of the Southeast Sediment Pond are included in Appendix A.

4.2.3 Millsite Sump

The embankments at the Millsite Sump were observed to be in good shape and grassy re-vegetation appeared to be reasonably well established. No

cracks, seepage or slumping was noted. The emergency overflow culvert was clear of obstructions. The culvert was installed to prevent overtopping of the embankments in the unlikely event of a prolonged shut down of the pump coupled with a blockage of the drain into the tailings pipeline. MPMC had not made any modifications to the Millsite Sump since the last inspection.

4.2.4 South Bootjack Dam

The South Bootjack Dam was observed to be in good condition at the time of the inspection. Observations included:

- The water level was low.
- Both upstream and downstream fill slopes were in good condition, with no evidence of seepage or slumping.
- No cracks were observed on the dam crest.
- The spillway contained some minor vegetation, but was generally unobstructed.

SECTION 5.0 – INSTRUMENTATION

5.1 PIEZOMETER DATA

5.1.1 General

A total of 56 vibrating wire piezometers have been installed at the TSF to date, which include several replacement piezometers. The piezometer locations are shown on Drawings 250, 251, 254, 256, 258 and 259. The piezometers are grouped into tailings piezometers, foundation piezometers, embankment fill piezometers and drain piezometers. The results from each group are discussed below. It should be noted that the Mount Polley Mining Corporation has implemented a proactive monitoring program with weekly or monthly readings of the instrumentation.

A summary of the piezometer monitoring data is presented on Table 3.1.

5.1.2 Tailings Piezometers

A total of 9 piezometers have been installed in the tailings mass to date, of which seven remain in operation. Three of these piezometers are present in mechanically placed Zone CS fill. Three piezometers are located on each of Plane A, B and C, as shown on Drawings 250 and 258. The non-functioning ones are on Plane C and are identified as C0-PE2-01 and C0-PE2-02.

Timeline plots of the tailings piezometer data are included in Appendix B1. The results show that the pore pressures are below the pond level in the TSF. This confirms that the tailings mass at these locations is draining and consolidating as intended.

5.1.3 Embankment Foundation Piezometers

A total of 20 piezometers have been installed in the embankment foundations to date. Eighteen are currently in operation. These piezometers are located on Planes A through F, as shown on Drawings 11162-13-250, 251, 254, 258

and 259. The non-functioning ones are on Planes C and F and are identified as C2-PE2-01 and F2-PE2-01.

Artesian conditions are present in the foundation under the Main Embankment. The piezometers in this area are used to monitor the pore pressures and to confirm that they remain below the threshold level of 6 metres above ground level (KP Ref. No. 1162/7-2). No unexpected high pore pressure increases were noted during the reporting period. The table below summarizes the maximum artesian head values (above ground surface level) reached during the reporting period.

Piezometer	Maximum Artesian Pressure Attained (m)
A2-PE2-01	3.2
A2-PE2-02	-0.39
A2-PE2-06	2.61
A2-PE2-07	2.84
A2-PE2-08	0.12
B2-PE1-03	-0.57
B2-PE2-01	1.55
B2-PE2-02	4.22
B2-PE2-06	-0.72
C2-PE1-03	0.2
C2-PE2-02	1.7
C2-PE2-02	0.35
C2-PE2-02	-0.65
C2-PE2-02	-1.12
D2-PE2-02	-1.37
E2-PE2-01	-1.12
E2-PE2-02	-1.31

Although the highest level recorded is 4.22 m, none have reached the foundation piezometer trigger level of 6.0 m artesian pressure relative to original ground. All stability analyses completed at the Main Embankment (KP Ref. No. 1162/7-2) use an artesian pressure of 6.0 m for the

glaciolacustrine unit. As a result, these calculations are still suitably conservative since all recorded values during the last year are below the trigger level.

It has been noted that artesian pressures have typically developed in the deeper piezometers, at elevations below El. 910 m. This corresponds roughly to the top of the glaciolacustrine/glaciofluvial material and these artesian pressures are therefore not unexpected (Planes A, B and C). It should also be noted that no artesian conditions have been encountered at Plane E, where coarser glaciofluvial material is present.

During operation of the mine, a trend that developed was that many of the pore pressures of the foundation piezometers increased slightly over time. This was likely due to tailings deposition and a rising pond level. While in the period of Care and Maintenance, this trend has levelled off, and the foundation piezometer levels have become steady.

Timeline plots of the embankment foundation piezometers are included in Appendix B2.

5.1.4 Embankment Fill Piezometers

A total of 16 piezometers have been installed in the embankment fill materials to date. These include 12 in Zones S or B (glacial till) and 4 in Zone T. Of the 16 piezometers installed, 14 remain in operation (10 in Zones S or B and 4 in Zone T). These piezometers are located in Planes A through D, as shown in the plan view on Drawings 11162-13-250 and 251. Drawings 11162-13-258 and 259 show the piezometer installation locations and the latest piezometric elevation readings in section views of the embankments.

Plane A Piezometers

Piezometer A2-PE1-02 is located in the upper portion of the Main Embankment in Zone S, upstream of the internal chimney drain. The piezometric time plot is shown in red on Figure B3-1. These data indicate:

- The piezometric elevation comprises a combination of undrained construction pore pressures from two stages of embankment construction and steady state pore pressures from the surface water pond.

The construction pore pressures continue to dissipate with time and have fallen below the current pond elevation for the first time since installation. Piezometer A2-PE2-03 is located in the central portion of the Main Embankment in Zone S, upstream of the internal chimney drain. The piezometric time plot is shown in green on Figure B3-1. These data indicate:

- The piezometric elevation comprises a combination of undrained construction pore pressures from four stages of embankment construction and steady state pore pressures from the surface water pond.
- The construction pore pressures appear to have fully dissipated from one construction stage to the next.
- The remaining steady state pore pressures at the end of each stage have increased from stage to stage as a result of the increasing TSF pond level.
- At present, the piezometric elevation of 927.60 m is approximately 13 m below the current surface water pond elevation of 941.20 m, which illustrates the expected head loss as seepage migrates through the low permeability fill before it is collected in the chimney drain.

Piezometer A2-PE2-05 is located in glacial till, downstream of the internal chimney drain and between Outlet Drains OD-1 and OD-2. The piezometric time plot is shown in orange on Figure B3-1 and has remained at an approximate constant elevation head value of 922 m (no piezometric head) since its installation. This illustrates the effectiveness of the chimney drain at dissipating any potential pore pressures.

Piezometer A2-PE1-01 is located in Zone T fill at the downstream toe of the embankment and is shown in brown on Figure B3-1. This piezometer shows

zero or negative pore pressures, which confirms that the fill is freely drained in this area, as expected.

Plane B Piezometers

Piezometer B2-PE1-02 is located in the upper portion of the Main Embankment in Zone S, upstream of the internal chimney drain. The piezometric time plot is shown in green on Figure B3-2. These data indicate:

- The piezometric elevation comprises a combination of undrained construction pore pressures from two stages of embankment construction and steady state pore pressures from the surface water pond.
- The construction pore pressures are dissipating with time.
- The piezometric level is expected to decrease below the current surface water pond elevation when all construction pore pressures have fully dissipated. Currently the piezometric head is at 942.16 m.

Piezometer B2-PE2-03 is located in the central portion of the Main Embankment in Zone S, upstream of the internal chimney drain. The piezometric time plot is shown in orange on Figure B3-2. These data indicate:

- The piezometric elevation comprises a combination of undrained construction pore pressures from seven stages of embankment construction and steady state pore pressures from the surface water pond.
- This piezometer reacted strongly to fill placement during initial construction. Pore pressures did not dissipate in the periods following fill placement, but remained constant. This is in direct contrast to other instruments located nearby. This trend changed in 1999, when B2-PE2-03 began to show dissipation at the completion of fill placement. This new trend has been repeated three times, with approximately the same dissipation rate after each stage of construction, with an increase in pore pressure between 50 and 100% of the increase in total stress. It appears that drainage paths were

limited in the very low permeability glacial till fill around this piezometer and pore pressures are still equilibrating.

Piezometer B2-PE2-04 is located in the central portion of the Main Embankment in Zone S, upstream of the internal chimney drain and downstream of piezometer B2-PE2-03. The piezometric time plot is shown in pale green on Figure B3-2. These data indicate:

- The piezometric elevation comprises a combination of undrained construction pore pressures from four stages of embankment construction and steady state pore pressures from the surface water pond.
- The construction pore pressures fully dissipated following Stage 1 Construction (El. 934 m) and Stage 2A Construction (El. 936 m). The pore pressures following Stage 3A construction (El. 942.5 m) are a combination of construction pore pressures and steady state conditions.
- The remaining steady state pore pressures at the end of each stage have increased from stage to stage as a result of the increasing surface water pond level.
- At present, the piezometric elevation of 929.16 m is approximately 12 m below the current surface water pond elevation of 941.20 m, which illustrates the expected head loss as seepage migrates through the low permeability fill before it is collected in the chimney drain.

Piezometer B2-PE2-05 is located in glacial till, downstream of the internal chimney drain. This piezometer is located in the same stratigraphic position of the embankment as piezometer A2-PE2-05; however, piezometer B2-PE2-05 is far away from any outlet drains. The piezometric time plot is shown in pink on Figure B3-2. These data show:

- The construction pore pressures fully dissipated following Stage 1 and 3A Construction phases.
- At present, the piezometric elevation of 921.86 m that is approximately the same elevation as the piezometer tip. The low to

zero pore pressures illustrate the effectiveness of the chimney drain in controlling the phreatic surface within the dam.

- Piezometer B2-PE1-01 is located in Zone T fill at the downstream toe of the embankment and is shown in blue on Figure B3-2. This piezometer shows near zero or negative pore pressures that indicate that the fill is freely drained in this area.

Plane C Piezometers

Piezometer C2-PE1-02 is located in the upper portion of the Main Embankment in Zone S, upstream of the internal chimney drain. The piezometric time plot is shown in green on Figure B3-3. These data indicate:

- The piezometric elevation comprises a combination of undrained construction pore pressures (now fully dissipated) from two stages of embankment construction and steady state pore pressures from the surface water pond.

Piezometer C2-PE2-03 is located in glacial till, upstream of the internal chimney drain and downstream of piezometer C2-PE2-05. The piezometric time plot is shown in pale green on Figure B3-3. These data indicate:

- The current piezometric elevation is very close to the installation elevation of the tip. In general, we would expect higher pore pressures to be recorded by this instrument and it may be influenced by localized preferential drainage directly into the chimney drain. This slightly anomalous reading is not considered to be a problem.

Piezometer C2-PE1-01 is located in Zone T fill at the downstream toe of the embankment and is shown in light purple on Figure B3-3. This piezometer confirms near zero or negative pore pressures that indicate that the fill is appropriately drained in this area.

Piezometer C2-PE2-05 has not functioned since December 2000.

periods between probe monitoring on a monthly basis, during the Care and Maintenance period.

A 'poor-boy' rod simply consists of a two (2) metre long steel bar (10, 20 or 30 mm in Diameter) connected to a lowering rope. The 'poor-boy' is lowered down the inclinometer bore to ensure that soil movement associated with settlement or instability has not deformed the inclinometer casing. Should resistance or blockage be encountered it is imperative that the inclinometer probe be utilized at the earliest opportunity to confirm the magnitude of displacements and to assess any potential instability.

5.3 SURVEY MONUMENT DATA

The survey monuments installed on the embankment crests are monitored on an annual basis. Six (6) survey monuments have been installed on the Stage 3B embankment crest following the 2001 construction at Planes A through D, Plane G and Plane H. Drawings 11162-13-250, 251, 258 and 259 show the locations of these monuments, while Drawing 11162-13-256 displays the details of the monuments.

The surveyed coordinates of the monuments from September 17, 2002 have been included in Appendix D. The survey monuments are measured on an annual basis and an additional set of readings will be obtained later in 2003. If any significant movements (greater than 5 mm) are detected, additional monitoring on a monthly basis will be appropriate.

Page 22 missing

SECTION 6.0 - SUMMARY AND RECOMMENDATIONS

6.1 GENERAL

The annual inspection reported herein was completed to ensure that the safety and security of the TSF and ancillary works remains high and to meet the guidelines of the Ministry of Energy, Mines and Northern Development. Ken Brouwer, P.Eng undertook the annual inspection on June 27, 2002.

6.2 TAILINGS STORAGE FACILITY

Significant points related to the TSF are summarized below:

- No additional tailings have been deposited within the TSF since October 2001 when the mine ceased active operations. Mount Polley Mine is currently in a phase of care and maintenance. The TSF remains fully operational.
- The TSF is currently operating with a water budget surplus, as total inflows from precipitation and surface runoff exceed losses from evaporation and seepage removal.
- Drainage channels have been excavated west of the tailings facility in order to prevent undisturbed surface water reaching the TSF.
- Two phases of pumping have been undertaken at the TSF to maintain the required PMP and freeboard allowance. TSF waters were pumped to the open pit for storage.
- The TSF embankments were observed to be in good condition. No seepage or slumping was observed.
- The Seepage Collection Ponds were operating normally. Flow monitoring of the Foundation Drains and Upstream Toe Drain was carried out throughout the past year and were found to be within seasonal flow ranges.
- Piezometer data indicated that the embankments are performing as designed.
- The facility is being operated in accordance with the water management requirements of the design. The specified capacity for temporarily storing runoff from the design storm and the minimum freeboard wave run-up has generally been maintained. The current water level slightly exceeds the

target maximum water level, but is predicted to be reduced below the target pond elevation by August 2003 due to pond evaporation and removal of seepage via the upstream toe drain.

Recommendations for on-going operations of the TSF are summarized below:

- Continue regular monthly monitoring of the vibrating wire piezometers and drain flows (Foundation Drains and Upstream Toe Drain) during the Care and Maintenance period.
- Continue regular monitoring of the water quality and levels in the surrounding groundwater wells. Continue regular water quality monitoring of the Foundation Drains.
- It is recommended that the inclinometer be monitored with the 'poor-boy' rod as part of the monthly instrumentation rounds. Should resistance or blockage be encountered it is imperative that the inclinometer probe be obtained and utilized at the earliest opportunity to assess any potential instability. A discussion on the construction of a 'poor-boy' monitoring rod is presented in Section 6.2.
- Water will need to be removed prior to next freshet. MPMC plans to compile all water quality data during summer 2003 and present it to MWLAP to discuss discharging water from the TSF prior to spring 2004. The preferred method and location of discharge will be over the Perimeter Embankment into Hazeltine Creek. This will be accomplished using a siphon system.

MPMC staff are currently implementing the above recommendations.

6.3 ANCILLARY WORKS

6.3.1 General

Summaries and recommendations for the Ancillary Works presented in this annual report are summarized below.

6.3.2 Tailings and Reclaim Pipeline System

The tailings pipeline has been decommissioned for the period of care and maintenance. No issues were identified. The reclaim pipeline system continues to function satisfactorily and no actions are required.

6.3.3 Southeast Sediment Pond

The pond level was at the normal operating level at the time of the inspection. The embankment fill slopes are in good condition, with no signs of instability.

6.3.4 Millsite Sump

The embankments at the Millsite Sump were observed to be in good shape. No cracks, seepage or slumping was noted. No issues have been identified.

6.3.5 South Bootjack Dam

The dam is in good condition and the spillway was observed to contain some vegetation but was clear of any obstructions. The pond level was low. No issues have been identified.

No issues have been identified within the ancillary works areas. Remedial actions are not required.

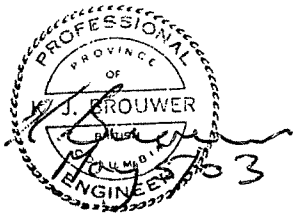
The current revision of the Mount Polley Mine Operation, Maintenance and Surveillance Manual (including the Emergency Preparedness Plan) will be issued at the end of May 2003 under a separate report cover.
A formal Dam Safety Review for the TSF is scheduled for 2006.

SECTION 7.0 – CERTIFICATION

This report was prepared and approved by the undersigned.

Prepared by: Brad Griffin

Brad Griffin
Scientific Technician



Approved by:

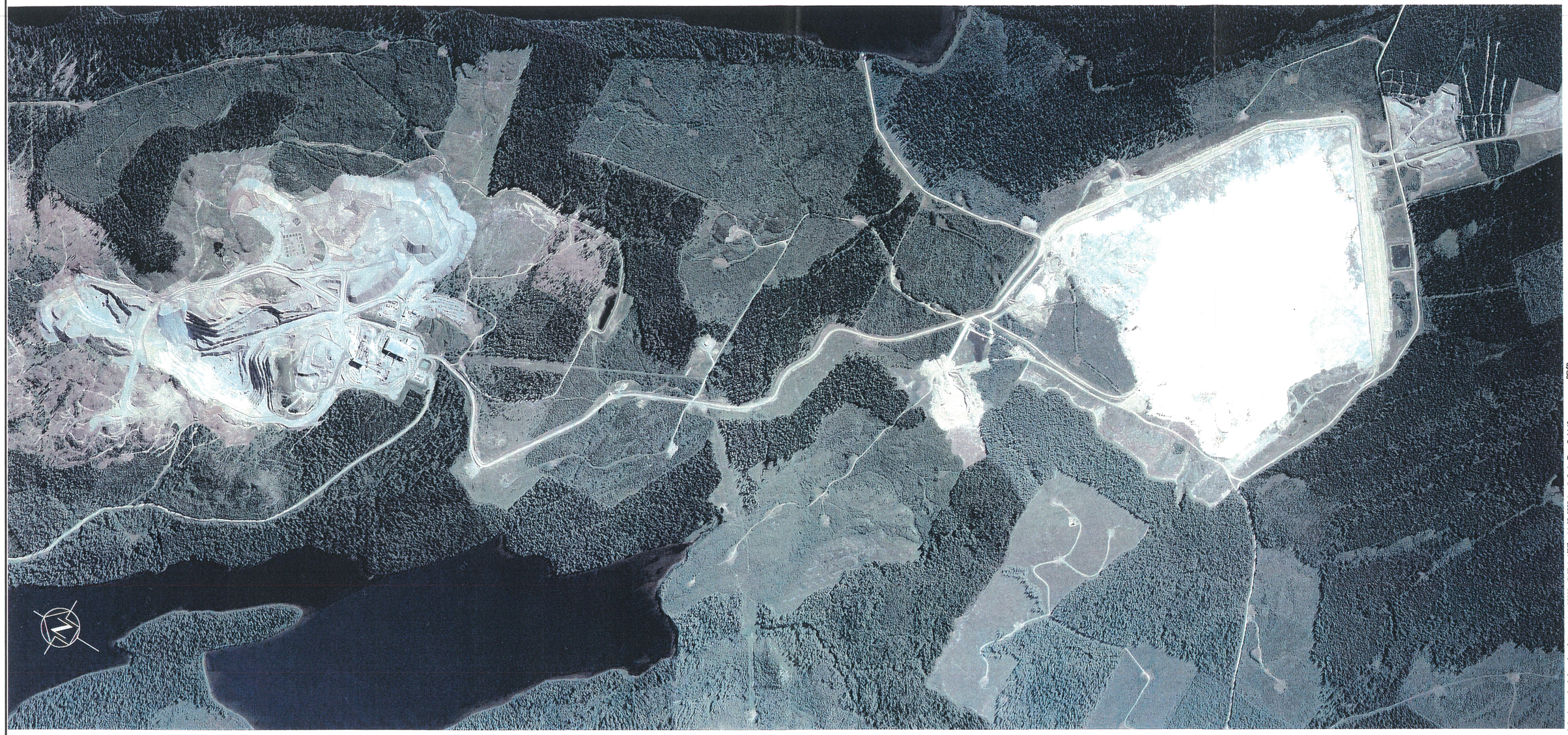
Ken J. Brouwer, P.Eng.
President

Knight Piésold
CONSULTING

TABLE 3.1
MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
PIEZOMETERS MONITORING DATA
SUMMARY

Printed: 12-Aug-2002
I:\1\01\00001\01\A\Data\piezos\[PIEZOTABLES_R0.xls]Tab 3.1 R 0
Revised: 02-Jul-2002

AREA	PIEZOMETER NO.	LOCATION	TIP EL. (m)	COMMENTS (piezometric trends 2002)
TAILINGS STORAGE FACILITY	A0-PE1-01	Plane A	938.54	Tailings draining and consolidating as intended - no change 2002
	A0-PE2-01	Plane A	928.03	Tailings draining and consolidating as intended - no change 2002
	A0-PE2-02	Plane A	927.87	Tailings draining and consolidating as intended - no change 2002
	B0-PE1-01	Plane B	939.40	Tailings draining and consolidating as intended - construction pore pressures fully dissipated
	B0-PE2-01	Plane B	927.30	Tailings draining and consolidating as intended - no change 2002
	B0-PE2-02	Plane B	927.18	Tailings draining and consolidating as intended - no change 2002
	C0-PE1-01	Plane C	938.00	Tailings draining and consolidating as intended - no change 2002
	C0-PE2-01	Plane C	927.80	No longer functioning
	C0-PE2-02	Plane C	927.48	No longer functioning
EMBANKMENT FOUNDATION PIEZOMETERS	A2-PE1-03	Plane A	909.34	Artesian Pressure - no significant change 2002
	A2-PE2-01	Plane A	903.68	Artesian Pressure - no significant change 2002
	A2-PE2-02	Plane A	909.77	No significant change 2002
	A2-PE2-06	Plane A	898.01	Artesian Pressure - no significant change 2002
	A2-PE2-07	Plane A	902.81	Artesian Pressure - no significant change 2002
	A2-PE2-08	Plane A	907.56	Small artesian Pressure - approx. 1.0 m drop in max. pressure 2002
	B2-PE1-03	Plane B	914.05	No significant change 2002
	B2-PE2-01	Plane B	901.98	Artesian Pressure - no significant change 2002
	B2-PE2-02	Plane B	909.51	Artesian Pressure - no significant change 2002
	B2-PE2-06	Plane B	914.59	No significant change 2002
	C2-PE1-03	Plane C	912.59	Small artesian Pressure - no significant change 2002
	C2-PE2-01	Plane C	907.48	No longer functioning
	C2-PE2-02	Plane C	910.53	Artesian Pressure - no significant change 2002
	C2-PE2-06	Plane C	906.84	Small artesian Pressure - approx. 0.8 m drop in max. pressure 2002
	C2-PE2-07	Plane C	912.29	No significant change 2002
	C2-PE2-08	Plane C	914.03	No significant change 2002
	D2-PE2-02	Plane D	927.32	No significant change 2002
	E2-PE2-01	Plane E	914.21	No significant change 2002
	E2-PE2-02	Plane E	909.66	No significant change 2002
	F2-PE2-01	Plane E	909.66	No longer functioning
EMBANKMENT FILL PIEZOMETERS	A2-PE1-01	Plane A, Zone T	912.90	Zero or negative piezometric head. Fill is freely draining - no change 2002
	A2-PE1-02	Plane A, Glacial Till	938.47	Steady state pore pressure from pond - construction pressures have fully dissipated 2002
	A2-PE2-03	Plane A, Glacial Till	919.43	Stage 3A pore pressures dissipating - gradual decrease in pressure 2002
	A2-PE2-04	Plane A, Glacial Till	926.07	No longer functioning
	A2-PE2-05	Plane A, Glacial Till	921.87	Increasing very slowly as pond level rises - no significantly change 2002
	B2-PE1-01	Plane B, Zone T	916.27	Zero or negative piezometric head. Fill is freely draining - no change 2002
	B2-PE1-02	Plane B, Glacial Till	939.40	Stage 3A pore pressures dissipating - gradual decrease in pressure 2002
	B2-PE2-03	Plane B, Glacial Till	921.00	Stage 3A pore pressures dissipating - gradual decrease in pressure 2002
	B2-PE2-04	Plane B, Glacial Till	921.00	Steady state pore pressure from pond - construction pressures have fully dissipated 2002
	B2-PE2-05	Plane B, Glacial Till	921.66	Slight steady state pore pressure from pond - construction pressures have fully dissipated 2002
	C2-PE1-01	Plane C, Zone T	915.02	Zero or negative piezometric head. Fill is freely draining - no change 2002
	C2-PE1-02	Plane C, Glacial Till	938.00	Steady state pore pressure from pond - construction pressures have fully dissipated 2002
	C2-PE2-03	Plane C, Glacial Till	921.00	Slight piezometric head. Fill is freely draining - no change 2002
	C2-PE2-05	Plane C, Glacial Till	924.80	No longer functioning
	D2-PE1-01	Plane D, Zone T	930.42	Zero or negative piezometric head. Fill is freely draining - no change 2002
	D2-PE2-01	Plane D, Glacial Till	931.00	Steady state pore pressure from pond - no significant change 2002
DRAIN PIEZOMETERS	A1-PE1-01	Foundation Drain FD-3.	913.00	Near zero pore pressure - drains are functioning as intended. No change 2002
	A1-PE1-02	Foundation Drain FD-4.	912.10	Near zero pore pressure - drains are functioning as intended. No change 2002
	A1-PE1-03	Chimney Drain.	917.20	Near zero pore pressure - drains are functioning as intended. No change 2002
	A1-PE1-04	Upstream Toe Drain	936.25	Near zero pore pressure - drains are functioning as intended. No change 2002
	B1-PE1-01	Foundation Drain FD-1.	917.30	Near zero pore pressure - drains are functioning as intended. No change 2002
	B1-PE1-02	Foundation Drain FD-2.	915.95	Near zero pore pressure - drains are functioning as intended. No change 2002
	B1-PE1-03	Chimney Drain.	918.70	Near zero pore pressure - drains are functioning as intended. No change 2002
	C1-PE1-01	Foundation Drain FD-1.	914.70	Near zero pore pressure - drains are functioning as intended. No change 2002
	C1-PE1-02	Chimney Drain.	916.60	Near zero pore pressure - drains are functioning as intended. No change 2002
	C1-PE1-04	Foundation Drain FD-5.	914.30	Near zero pore pressure - drains are functioning as intended. No change 2002
	D1-PE1-02	Outlet Drain OD-4.	928.76	Near zero pore pressure - drains are functioning as intended. No change 2002



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MOUNT POLLEY MINING CORPORATION

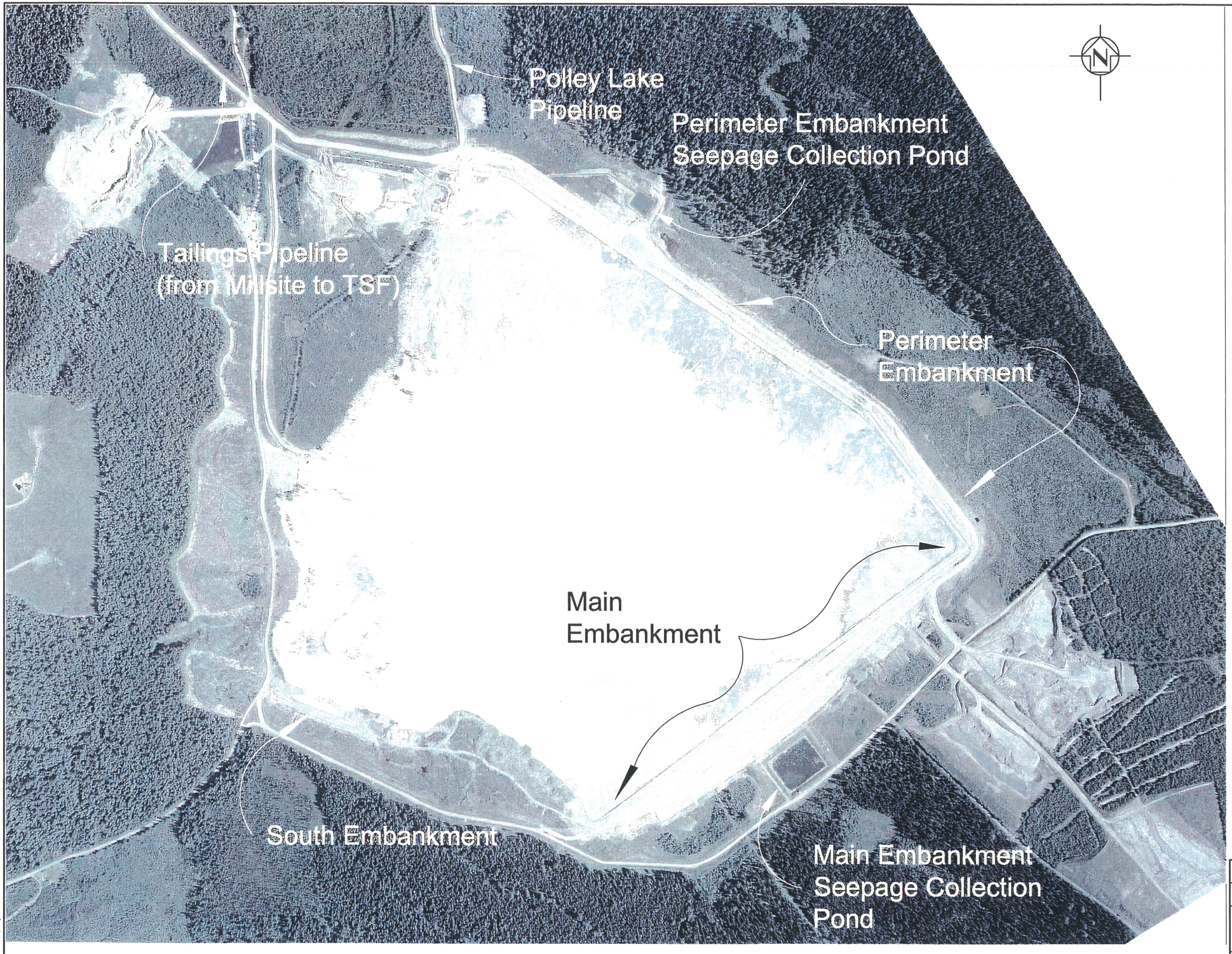
MOUNT POLLEY MINE

MOUNT POLLEY MINE
AERIAL PHOTOGRAPH

Knight Piésold CONSULTING

PROJECT/ASSIGNMENT NO.	REF. NO.	REV.
VA101-1/3	1	0

FIGURE 1.1



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MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TSF GENERAL ARRANGEMENT

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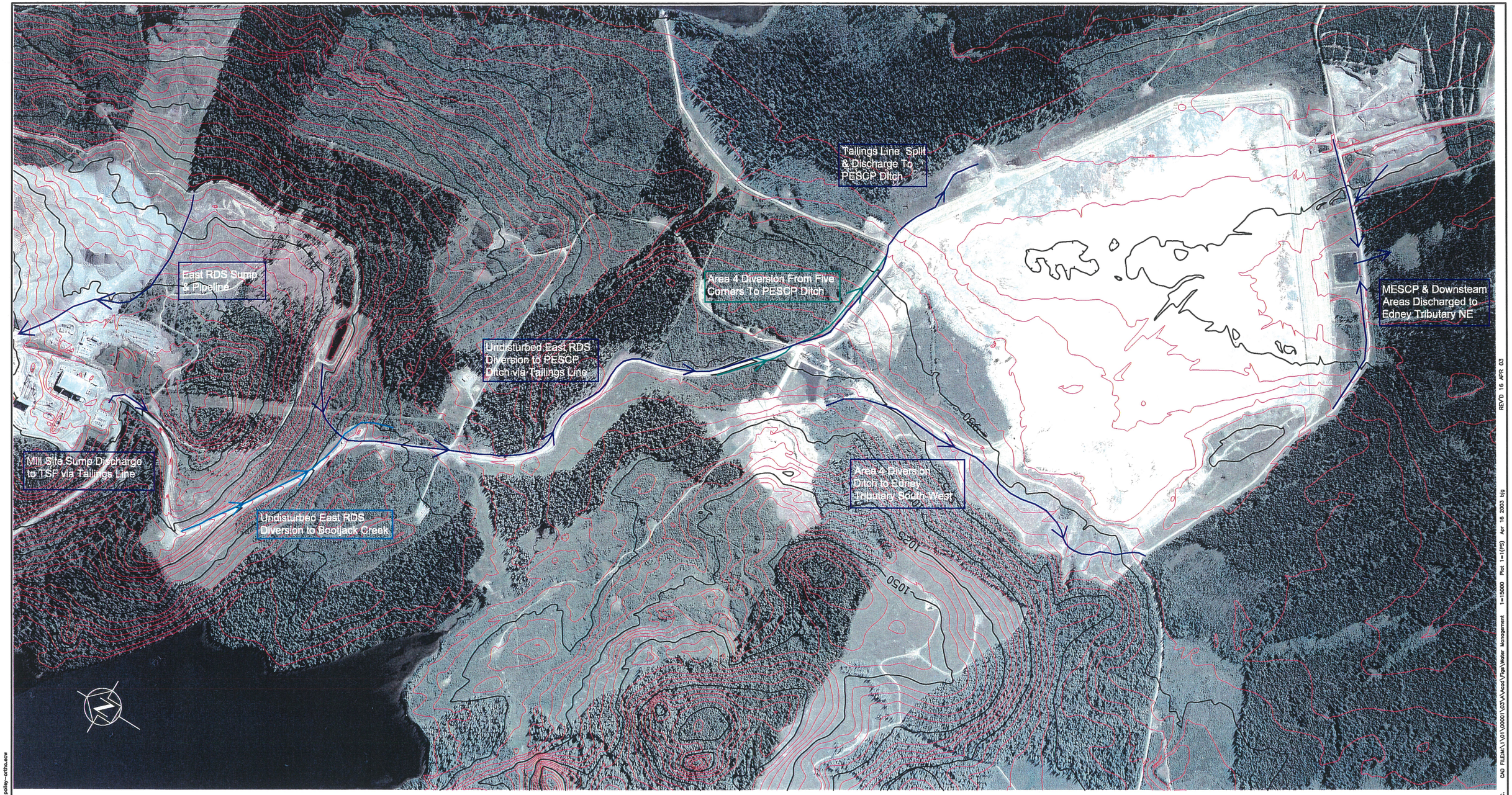
PROJECT/ASSIGNMENT NO.	REF. NO.	REV.
VA101-1/3	1	0

FIGURE 2.1



Note: Contours are for original ground.

Scale 150 0 150 300 450 600 750 m

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MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TSF WATER MANAGEMENT CARE & MAINTENANCE PERIOD

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PROJECT/ASSIGNMENT NO.	REF. NO.	REV.
VA101-1/3	1	0

FIGURE 2.2

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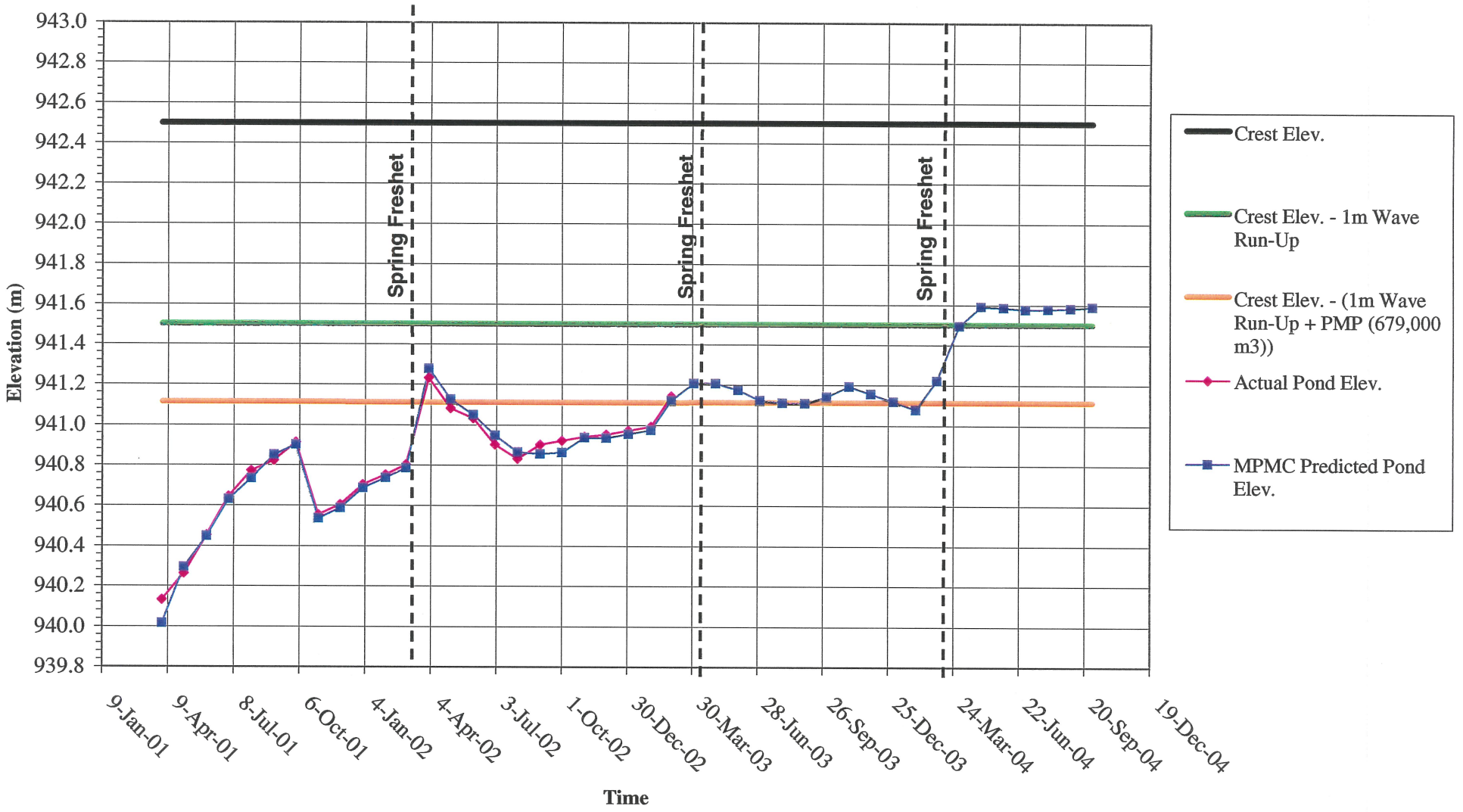
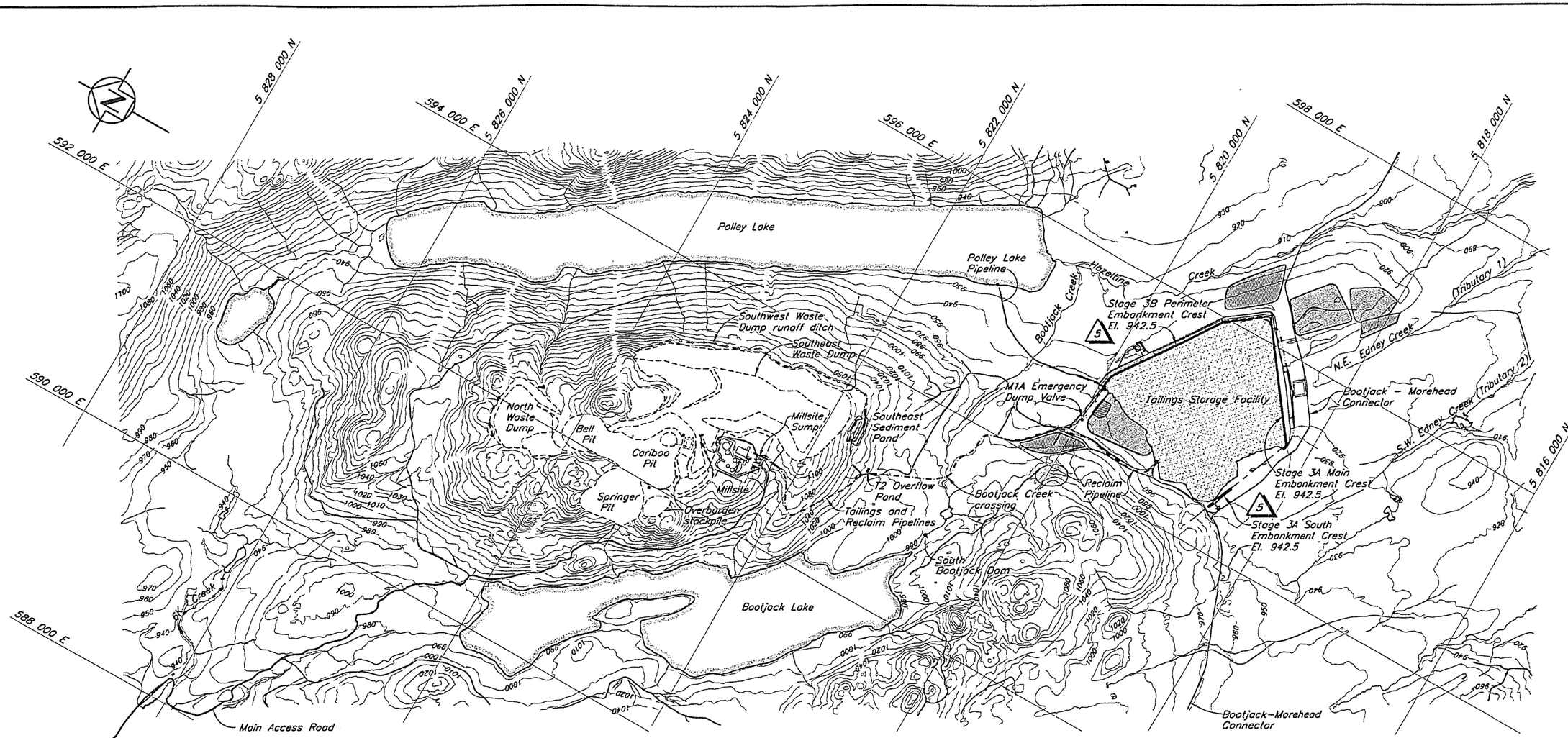


Note:

1) Pumping took place during Oct 2001 (483,000 cubic metres) & May 2002 (513,000 cubic metres).

MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
WATER BALANCE APRIL 2001 TO OCTOBER 2004			
Knight Piésold CONSULTING	PROJECT NO. 101-1/3	REF NO. 1	REV. 0
	FIGURE 3.1		

Rev 0 - Issued for Annual Report



NOTES

1. *Open Pits and Waste Dumps are shown in their final configurations.*
2. *Topography at TSF generated from points and break lines sent from MPMC in July 1999. The topography outside the TSF area is from 1997 flyover. UTM, NAD83, ZONE 10.*
3. *Current size and location of potential and existing Borrow Areas and Topsoil Stockpiles are to be confirmed.*
4. *All dimensions in millimetres with elevations in metres, unless noted otherwise.*
5. *No work was completed at the Main and South Embankments during Stage 3B construction.*

Scale 400 0 400 800 1200 1600 2000 m

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
5	05OCT'01	STAGE 3A/3B – AS CONSTRUCTED	CWM	TAM	CWM	KJB
4	13SEPT'01	ISSUED FOR 2000 & 2001 ANNUAL INSPECTON REPORT	CWM	TAM	CWM	KJB
3	08MAY01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
2	26JAN'01	STAGE 3B CREST EL. 945	JRK	TAM	JMTW	KJB
1	2JUN'00	ISSUED FOR CONSTRUCTION	MDB	TAM	ABW	KJB
0	14APR'00	ISSUED FOR TENDER	MDB	TAM	JRK	KJB

REVISIONS

DRG. NO.	DESCRIPTION

REFERENCE DRAWINGS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MUIR

DESIGNED MDB | CHECKED JRK | DRAWN TAM | APPROVED KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY STAGE 3 TAILINGS EMBANKMENT OVERALL SITE PLAN

Knight Piésold CONSULTING

SCALE AS SHOWN | REVISION 5

DRAWING NO. 11162-13-100

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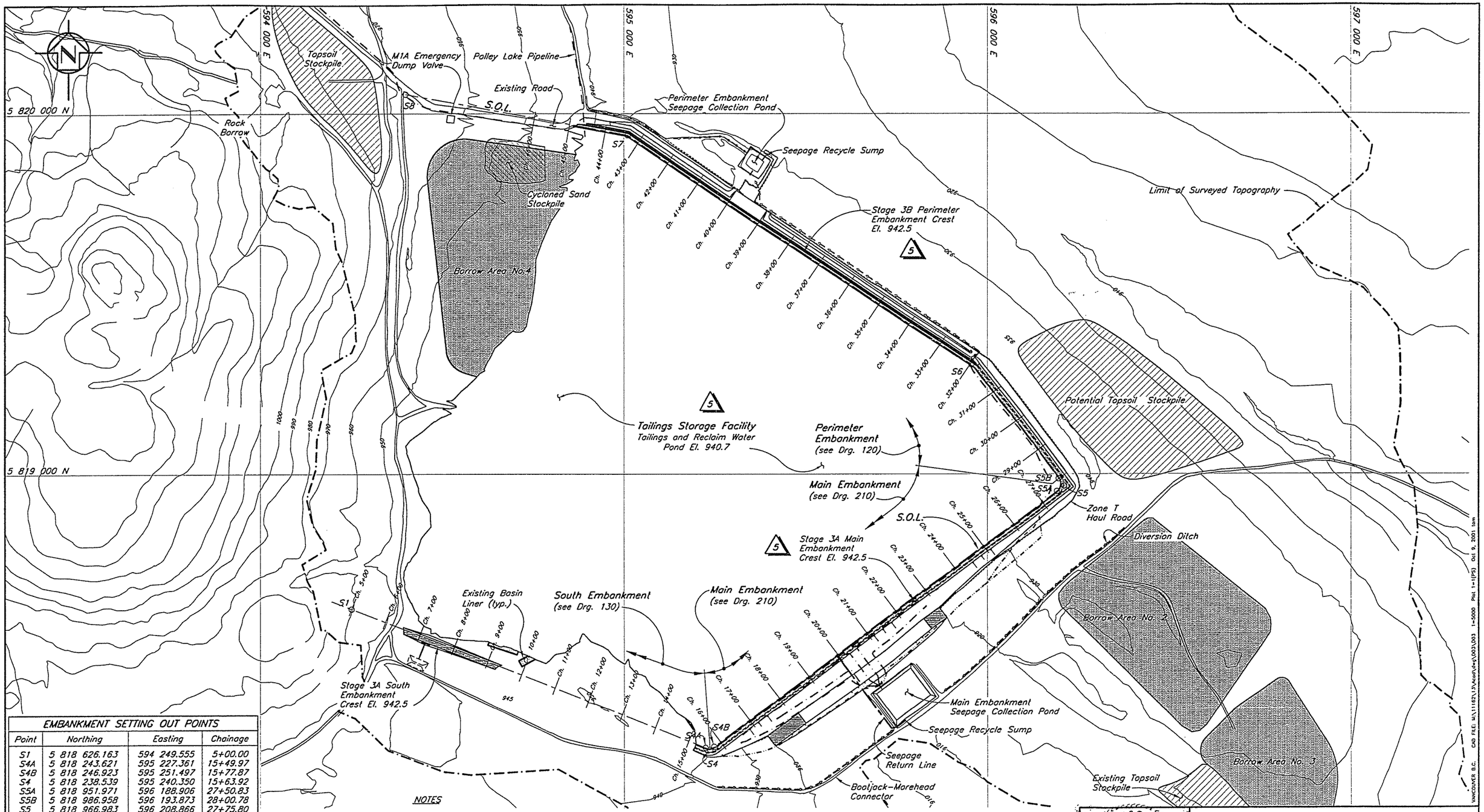


EMBANKMENT SETTING OUT POINTS

Point	Northing	Easting	Chainage
S1	5 818 626.163	594 249.555	5+00.00
S4A	5 818 243.621	595 227.361	15+49.97
S4B	5 818 246.923	595 251.497	15+77.87
S4	5 818 238.539	595 240.350	15+63.92
S5A	5 818 951.971	596 188.906	27+50.83
S5B	5 818 986.958	596 193.873	28+00.78
S5	5 818 966.983	596 208.866	27+75.80
S6	5 819 304.035	595 955.881	31+97.23
S7	5 819 939.748	595 010.249	43+36.69
S8	5 820 053.034	594 396.471	49+60.83

NOTES

1. Topography at TSF generated from points and break lines sent from MPMC in July 1999. The topography outside the TSF area is from 1997 flyover. UTM, NAD83, Zone 10.
2. Current size and location of potential and existing Borrow Areas and Topsoil Stockpiles are to be confirmed.
3. All dimensions in millimetres with elevations in metres, unless noted otherwise.
4. No work was completed at the Main and South Embankments during Stage 3B construction.

Scale 100 0 100 200 300 400 500 m

DRG. NO.	DESCRIPTION
210	T.S.F. – STAGE 3 MAIN EMBANKMENT – PLAN
130	T.S.F. – STAGE 3 SOUTH EMBANKMENT – PLAN AND SECTION
120	T.S.F. – STAGE 3 PERIMETER EMBANKMENT – PLAN

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
5	05OCT'01	STAGE 3A/3B – AS CONSTRUCTED	CWM	TAM	KJB	KJB
4	SEPT14'01	ISSUED FOR 2000 & 2001 ANNUAL INSPECTION REPORT	CWM	TAM	KJB	KJB
3	08MAY'01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
2	26JAN'01	STAGE 3B – CREST EL. 945	JRK	TAM	JMTW	KJB
1	2JUN'00	ISSUED FOR CONSTRUCTION	MDB	TAM	ABW	KJB
0	14APR'00	ISSUED FOR TENDER	MDB	NSD	JRK	KJB

REVISIONS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MOUR

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
STAGE 3 TAILINGS EMBANKMENT
GENERAL ARRANGEMENT

DESIGNED	CHECKED
MDB	JRK
DRAWN	APPROVED
TAM	KJB

Knight Piésold CONSULTING

SCALE AS SHOWN

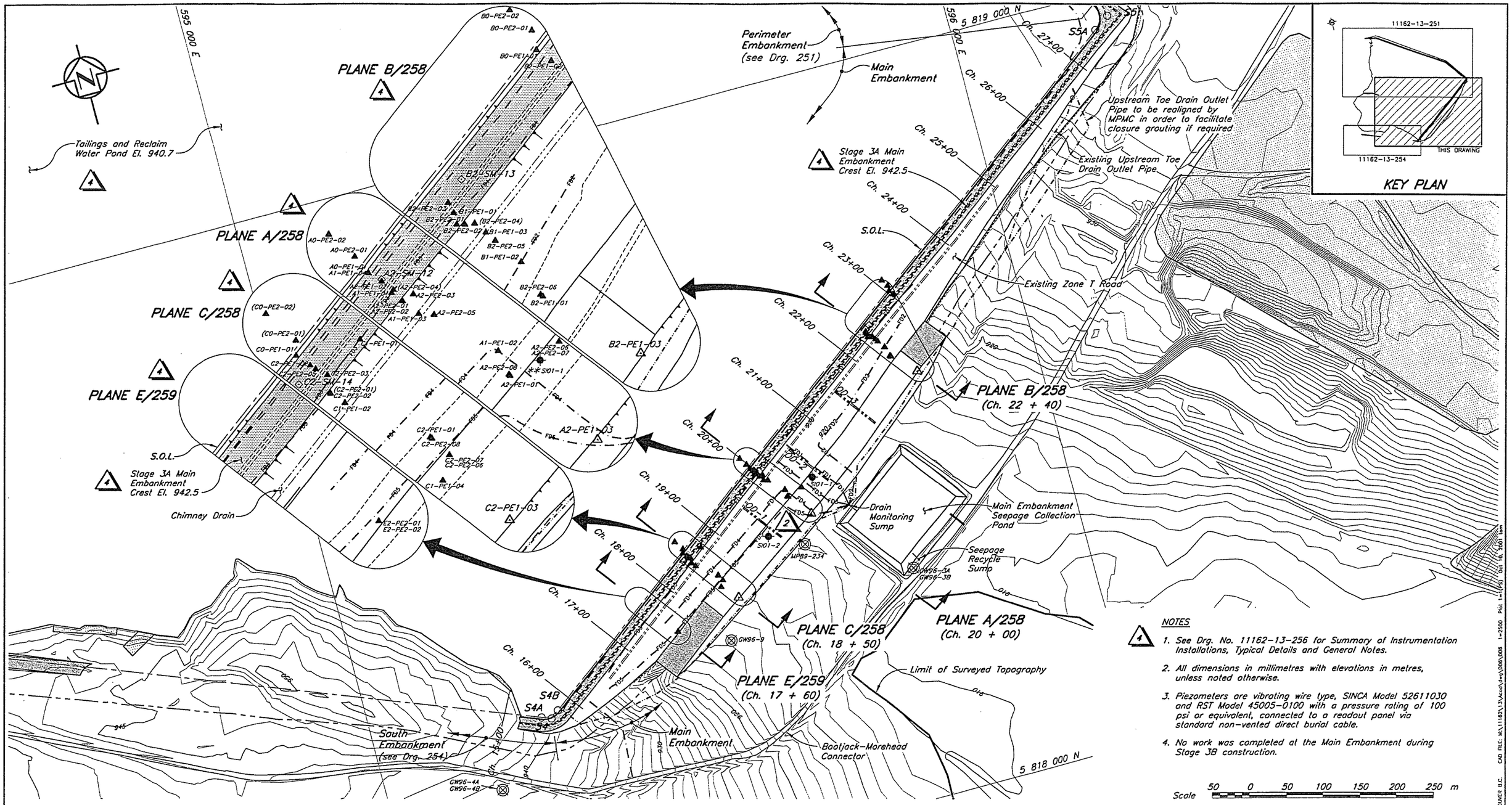
REVISION 5

DRAWING NO. 11162-13-102

XREF FILE: TOPO99, AS-BUILT

CAD FILE: M:\11162\13\Acad\Dwg\003\003 Plot 1=1(PS) Oct 9, 2001 tam

VANCOUVER B.C.



NOTES

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details and General Notes.
2. All dimensions in millimetres with elevations in metres, unless noted otherwise.
3. Piezometers are vibrating wire type, SINCA Model 52611030 and RST Model 45005-0100 with a pressure rating of 100 psi or equivalent, connected to a readout panel via standard non-vented direct burial cable.
4. No work was completed at the Main Embankment during Stage 3B construction.

LEGEND

- GW96-9 Groundwater Monitoring Well
- A1-PE1-01 Previously installed Piezometer
- A2-PE2-06 New Stage 3 Piezometer
- A2-SM-01 New Embankment Survey Monument
- SI01-1 Slope Inclinometer

DRG. NO.	DESCRIPTION
259	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS - SHEET 2 OF 2
258	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS - SHEET 1 OF 2
256	TSF-STAGE 3 TAILINGS EMBANKMENT-INSTRUMENTATION-SUMMARY OF INSTALLATION AND TYPICAL DETAILS
254	TSF - STAGE 3 SOUTH EMBANKMENT - INSTRUMENTATION - PLAN
251	TSF - STAGE 3 PERIMETER EMBANKMENT - INSTRUMENTATION - PLAN

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
4	05OCT'01	STAGE 3A/3B - AS CONSTRUCTED	CWM	TAM	ABW	KJB
3	SEPT14'01	ISSUED FOR 2000 & 2001 ANNUAL INSPECTION REPORT	CWM	TAM	KJB	KJB
2	08MAY'01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
1	26JAN'01	STAGE 3B - CREST EL. 945	JRK	TAM	JMTW	KJB
0	2JUN'00	ISSUED FOR CONSTRUCTION	JRK	TAM	ABW	KJB

REVISIONS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MUIR

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
STAGE 3 MAIN EMBANKMENT
INSTRUMENTATION
PLAN

DESIGNED	CHECKED
JRK	ABW
DRAWN	APPROVED
NSD	KJB

Knight Piésold CONSULTING

SCALE AS SHOWN | REVISION 4

DRAWING NO. 11162-13-250

XREF FILE : 1OP099, STOCK99, STAGE3B_AS-BUILT

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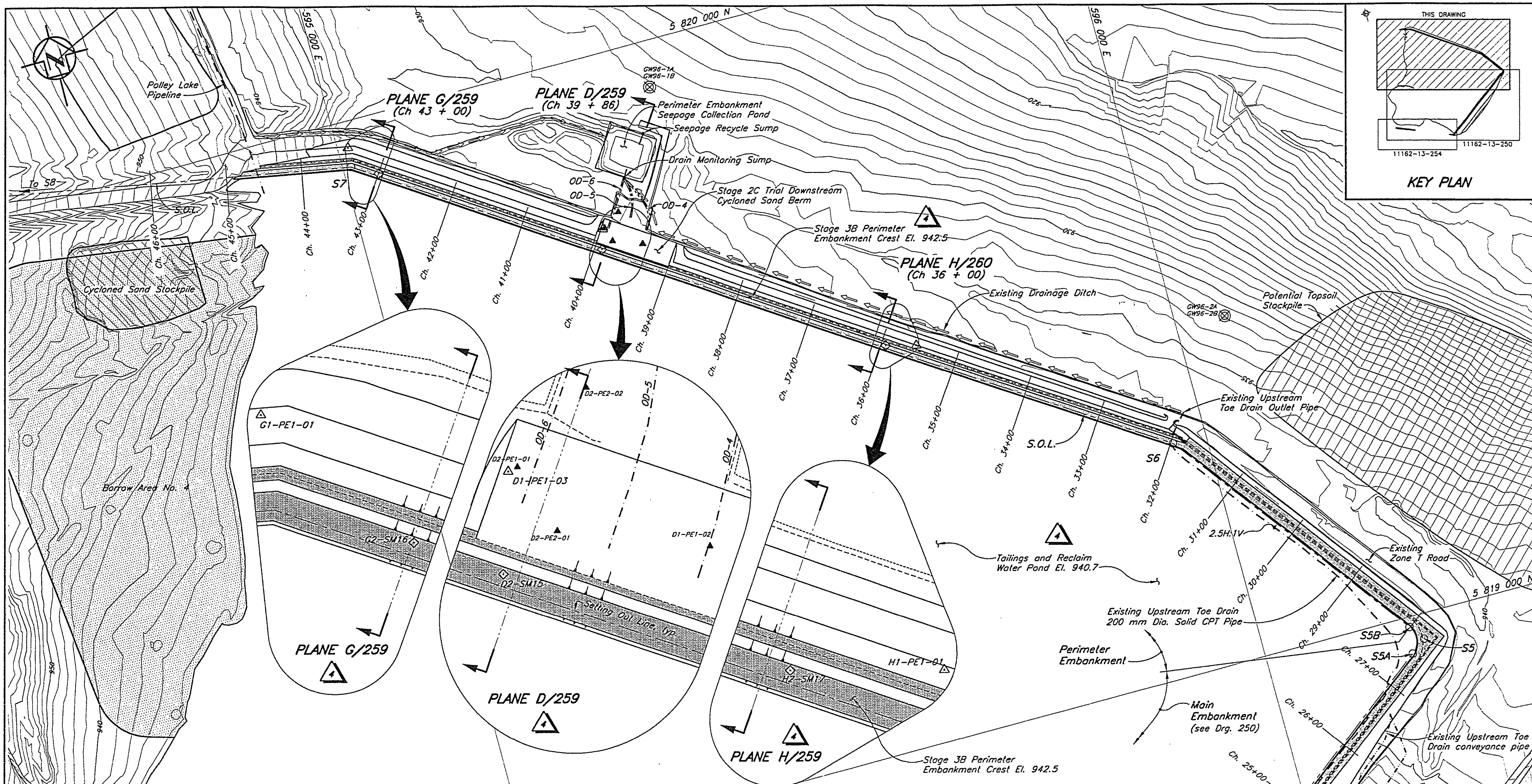
VANCOUVER B.C.



LEGEND

- GW96-9 Groundwater Monitoring Well
- ▲ A1-PE1-01 Previously installed Piezometer
- △ A2-PE2-06 New Stage 3 Piezometer
- ◇ A2-SM-01 New Embankment Survey Monument

NOTES

1. Chainage defined by Setting Out Point S1 at Ch. 5+00.
2. Topography generated from points and break lines provided by MPMC on July 20, 1999. Topography outside the TSF area is from 1997 flyover.
3. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details and General Notes.
4. All dimesnions in millimetres with elevations in metres, unless noted otherwise.
5. Piezometers are vibrating wire type, SINCA Model 52611030 and RST Model 45005-0100 with a pressure rating of 100 psi or equivalent, connected to a readout panel via standard non-vented direct burial cable.

DRG. NO.	DESCRIPTION
259	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS - SHEET 2 OF 2
258	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS - SHEET 1 OF 2
250	TSF - STAGE 3 MAIN EMBANKMENT - INSTRUMENTATION - PLAN

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
4	05OCT'01	STAGE 3A/3B - AS CONSTRUCTED	CWM	TAM		
3	14SEPT'01	ISSUED FOR 2000 & 2001 ANNUAL INSPECTION REPORT	CWM	TAM	LJB	KJB
2	08MAY'01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
1	09MAR'01	STAGE 3B - CREST EL. 945	JRK	NSD	JMTW	KJB
0	20OCT'00	ISSUED FOR CONSTRUCTION	JRK	NSD	JMTW	KJB

REVISIONS

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — C.W. MUIR

DESIGNED	CHECKED
JRK	ABW
DRAWN	APPROVED
NSD	KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

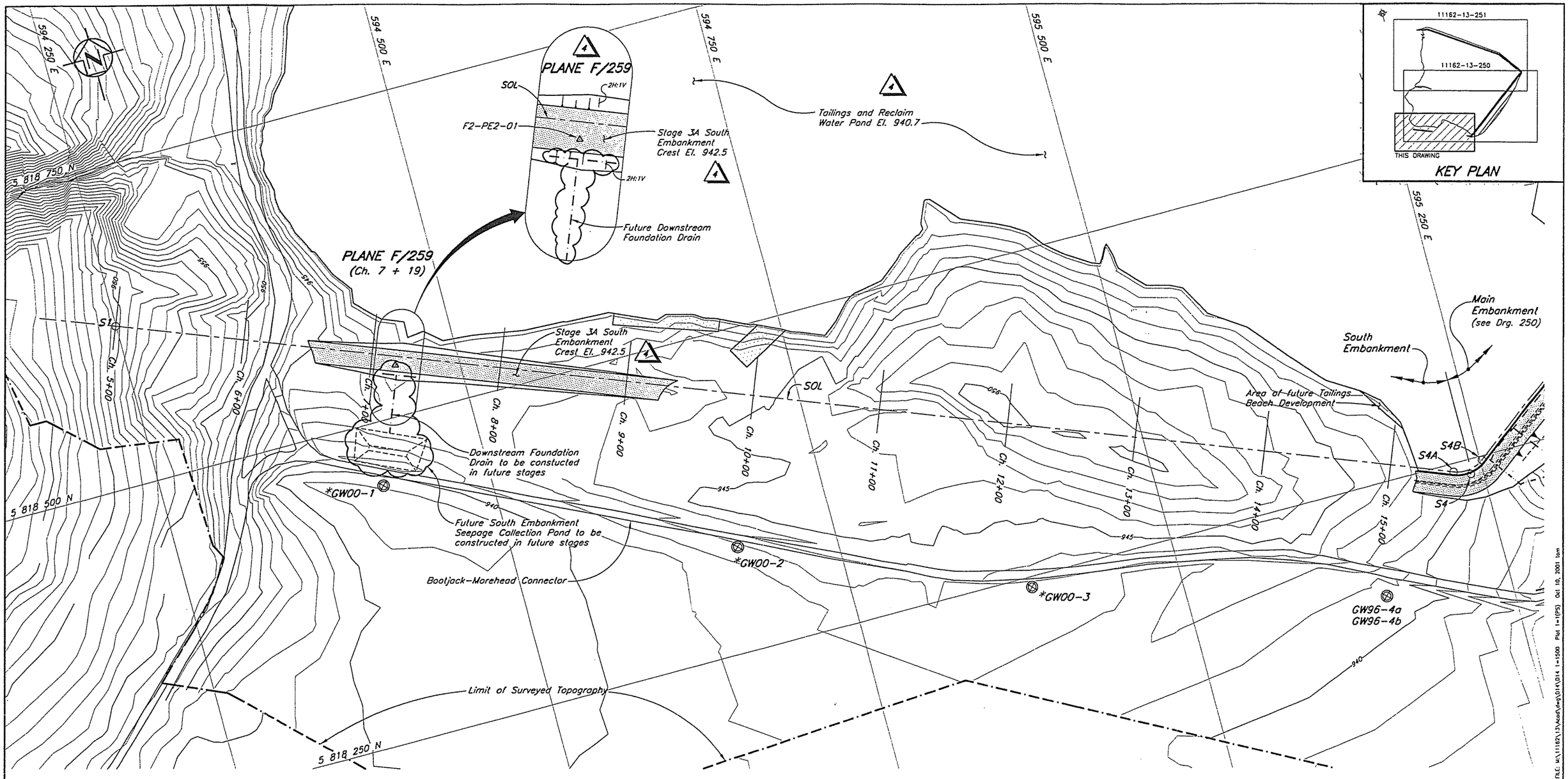
TAILINGS STORAGE FACILITY
STAGE 3 PERIMETER EMBANKMENT
INSTRUMENTATION PLAN

Knight Piésold CONSULTING

SCALE: AS SHOWN — REVISION: 4

DRAWING NO. 11162-13-251

XREF FILE : TOPO99, STOCK99, STAGE3B_PLAN



LEGEND

- ⊗ GW96-9 — Groundwater Monitoring Well
- ▲ A1-PE1-01 — Previously installed Piezometer
- △ A2-PE2-06 — New Stage 3 Piezometer
- ◇ A2-SM-01 — New Embankment Survey Monument

NOTES

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details and General Notes.
2. All dimensions in millimetres with elevations in metres, unless noted otherwise.
3. No work was completed at the South Embankment during Stage 3B construction.
4. Piezometers are vibrating wire type, SINCA Model 52611030 and RST Model 45005-0100 with a pressure rating of 100 psi or equivalent, connnected to a readout panel via standard non-vented direct burial cable.

Scale 30 0 30 60 90 120 150 m

DRG. NO.	DESCRIPTION
259	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION SECTIONS - SHEET 2 OF 2
256	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SUMMARY OF INSTALLATION AND TYPICAL DETAILS
250	TSF - STAGE 3 MAIN EMBANKMENT - INSTRUMENTATION - PLAN

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
4	05OCT'01	STAGE 3A/3B - AS CONSTRUCTED	CWM	TAM		
3	14SEPT'01	ISSUED FOR 2000 & 2001 ANNUAL INSPECTION REPORT	CWM	TAM	JDG	KJB
2	08MAY'01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
1	26JAN'01	STABE 3B - CREST EL. 945	JRK	TAM	JMTW	KJB
0	2JUN'00	ISSUED FOR CONSTRUCTION	JRK	TAM	ABW	KJB

REVISIONS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MUIR

DESIGNED JRK | CHECKED ABW | DRAWN NSD | APPROVED KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
STAGE 3 SOUTH EMBANKMENT
INSTRUMENTATION PLAN

Knight Piésold CONSULTING

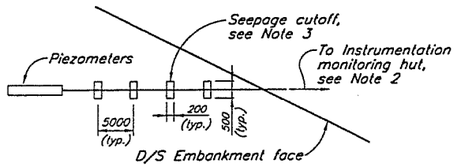
SCALE AS SHOWN | REVISION 4

DRAWING NO. 11162-13-254

XREF FILE : TOPO99, STAGE3B_PLAN

CAD FILE: M:\11162\13\Acad\dwg\014\D14 1=1500 Plot 1=1(PS) Oct 10, 2001 (am

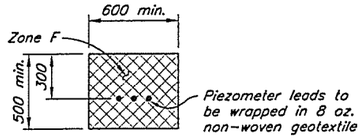
VANCOUVER B.C.



DETAIL A/258

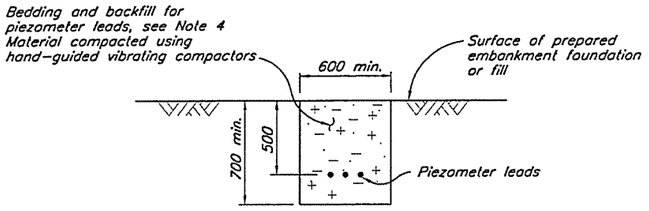
TYPICAL INSTALLATION DETAIL OF SEEPAGE CUTOFF FOR PIEZOMETER LEADS IN GLACIAL TILL

NTS

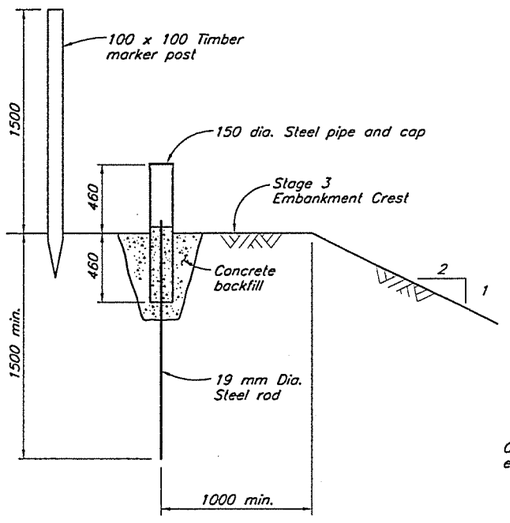


DETAIL B/258

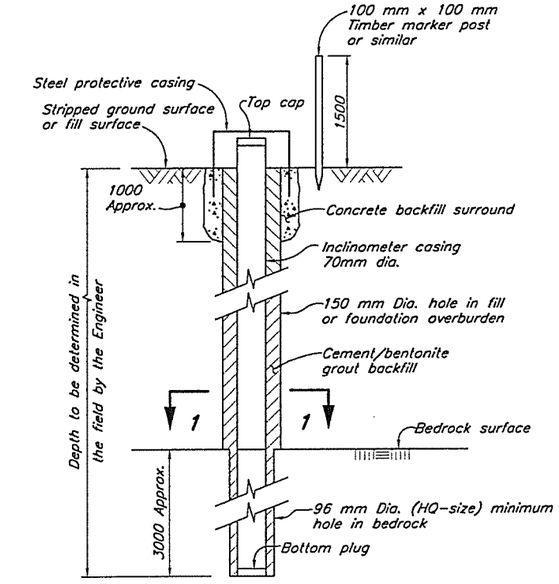
TYPICAL INSTALLATION DETAIL FOR PIEZOMETER LEADS IN ZONE F



TYPICAL SECTION THROUGH PIEZOMETER LEAD TRENCH IN PREPARED EMBANKMENT FOUNDATION OR FILL

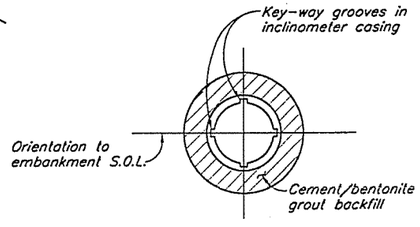


TYPICAL DETAIL OF SURFACE MOVEMENT MONUMENT



TYPICAL INCLINOMETER INSTALLATION IN BOREHOLE

N.T.S.



SECTION 1

N.T.S.

SUMMARY OF INSTRUMENTATION INSTALLATIONS

PIEZOMETER ID	NORTHING	EASTING	ELEV.	DATE INSTALLED
A0-PE1-01	5 818 495.773	595 588.746	938.542	25/02/00
A0-PE2-01	5 818 502.850	595 585.398	928.03	09/03/98
A0-PE2-02	5 818 513.042	595 578.418	927.87	09/03/98
A1-PE1-01	5 818 486.650	595 595.060	912.99	27/08/96
A1-PE1-02	5 818 456.420	595 626.250	912.14	27/08/96
A1-PE1-03	5 818 476.822	595 602.380	917.17	22/10/96
A1-PE1-04	5 818 495.773	595 588.746	936.5	01/11/99
A2-PE1-01	5 818 446.550	595 628.010	912.89	26/08/98
A2-PE1-02	5 818 491.574	595 592.678	938.474	27/02/00
A2-PE1-03	5 818 423.31	595 663.2	909.3	19/07/00
A2-PE2-01	5 818 482.710	595 598.140	903.7	25/07/96
A2-PE2-02	5 818 482.710	595 598.140	909.8	25/07/96
A2-PE2-03	5 818 484.196	595 602.354	919.43	12/02/97
(A2-PE2-04)	5 818 487.510	595 595.995	926.07	22/02/97
A2-PE2-05	5 818 475.061	595 607.560	921.87	22/02/97
A2-PE2-06	5 818 453.926	595 648.458	898.03	21/06/98
A2-PE2-07	5 818 453.926	595 648.458	902.83	21/06/98
A2-PE2-08	5 818 447.045	595 627.758	907.57	23/06/98
A2-SM-09	NOT INSTALLED		942.5	
A2-SM-12	5 818 492.317	595 592.84	942.5	
B0-PE1-01	5 818 681.542	595 831.874	939.05	20/02/00
B0-PE2-01	5 818 688.820	595 832.067	930.00	06/03/98
B0-PE2-02	5 818 697.980	595 826.160	927.18	06/03/98
B1-PE1-01	5 818 632.550	595 787.910	917.27	10/09/96
B1-PE1-02	5 818 609.040	595 806.770	915.95	10/09/96
B1-PE1-03	5 818 622.780	595 797.260	918.69	22/10/96
B2-PE1-01	5 818 594.940	595 811.260	916.272	26/08/98
B2-PE1-02	5 818 676.310	595 836.050	939.536	20/02/00
B2-PE1-03	5 818 572.78	595 847.27	914.1	19/07/00
B2-PE2-01	5 818 628.270	595 787.880	902.00	25/07/96
B2-PE2-02	5 818 627.470	595 790.660	909.50	25/07/96
B2-PE2-03	5 818 636.530	595 786.970	921.00	22/10/96
(B2-PE2-04)	5 818 626.940	595 794.190	921.00	22/10/96
B2-PE2-05	5 818 619.014	595 799.804	921.70	14/03/97
B2-PE2-06	5 818 595.767	595 810.605	914.59	23/06/98
B2-SM-10	NOT INSTALLED		942.5	
B2-SM-13	5 818 643.472	595 793.692	942.54	
SI01-1	5 818 463.54	595 666.536	916.923	
SI01-2	5 818 400.999	595 588.808	918.152	

SUMMARY OF INSTRUMENTATION INSTALLATIONS (con't)

PIEZOMETER ID	NORTHING	EASTING	ELEV.	DATE INSTALLED
C0-PE1-01	5 818 408.969	595 469.750	939.267	26/02/00
(C0-PE2-01)	5 818 414.319	595 471.099	927.80	09/03/98
(C0-PE2-02)	5 818 426.495	595 463.101	927.48	09/03/98
C1-PE1-01	5 818 410.500	595 496.070	914.70	28/09/96
C1-PE1-02	5 818 387.690	595 482.400	916.60	22/10/96
C1-PE1-04	5 818 351.420	595 509.060	914.31	03/04/98
C2-PE1-01	5 818 367.670	595 508.900	915.016	26/08/98
C2-PE1-02	5 818 404.117	595 473.754	939.26	26/02/00
C2-PE1-03	5 818 327.18	595 530.51	912.6	12/07/00
(C2-PE2-01)	5 818 392.410	595 478.240	907.50	25/07/96
C2-PE2-02	5 818 392.410	595 478.240	910.50	25/07/96
C2-PE2-03	5 818 399.106	595 478.824	920.97	12/02/97
C2-PE2-05	5 818 402.343	595 475.326	924.84	12/02/97
C2-PE2-06	5 818 359.734	595 513.663	906.84	18/06/98
C2-PE2-07	5 818 359.734	595 513.663	912.28	18/06/98
C2-PE2-08	5 818 367.087	595 509.351	914.03	19/06/98
C2-SM-11	NOT INSTALLED		942.5	
C2-SM-14	5 818 398.488	595 468.018	942.54	
D1-PE1-02	5 819 742.03	595 353.980	928.76	30/01/98
D1-PE1-03	5 819 774.953	595 307.851	933.323	20/07/01
(D2-PE1-01)	5 819 775.449	595 310.522	930	26/08/98
D2-PE2-01	5 819 756.360	595 316.210	931.00	15/12/96
D2-PE2-02	5 819 791.103	595 333.275	922	22/06/98
D2-SM-15	5 819 749.019	595 299.627	942.421	04/10/01
E2-PE2-01	5 818 307.454	595 435.983	908	17/06/98
E2-PE2-02	5 818 307.454	595 435.983	913	17/06/98
G1-PE1-01	5 818 9665.212	595 012.935	933.19	20/07/01
G2-SM-16	5 819 922.045	595 042.824	942.643	04/10/01
H1-PE1-01	5 819 517.62	595 667.86	936.8	20/07/01
H2-SM-17	5 819 528.085	595 628.739	942.342	04/10/01

( ) Piezometer no longer functioning.

LEGEND

A0-PE1-01
- Plane I.D. (A, B etc.)
- Area (0-Tailings, 1-Drain, 2-Embankment)
- Number I.D.
- Pressure Rating (1-Low, 2-High)
- Type of Instrumentation (PE-Piezometer electric, SM-Survey Monument)

A1-PE1-01 ▲ Previously installed Piezometer

D2-PE1-02 △ New Stage 3 Piezometer

A2-SM-12 ◇ New Embankment Survey Monument

GW96-9 ⊗ Groundwater Monitoring Well

SI01-1 ⊕ Slope Inclinometer

NOTES

1. All dimensions in millimetres with elevations in metres, unless noted otherwise.
2. Piezometer leads extended as directed by the Engineer.
3. Seepage cutoffs placed at 5 m intervals with 10% bentonite added to fine grained till backfill.

Scale 1000 500 0 1000 2000 mm

REFERENCE DRAWINGS	
DRG. NO.	DESCRIPTION
259	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS - SHEET 2 OF 2
258	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS - SHEET 1 OF 2
254	TSF - STAGE 3 SOUTH EMBANKMENT - INSTRUMENTATION - PLAN
251	TSF - STAGE 3 PERIMETER EMBANKMENT - INSTRUMENTATION - PLAN
250	TSF - STAGE 3 MAIN EMBANKMENT - INSTRUMENTATION - PLAN

REVISIONS						
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS						
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
4	05OCT'01	STAGE 3A/3B - AS CONSTRUCTED	CWM	TAM	JRK	KJB
3	08MAY'01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
2	26JAN'01	STAGE 3B - CREST ELEVATION 945	JRK	WAL	JMTW	KJB
1	20OCT'00	PERIMETER EMBANKMENT INSTRUMENTATION ADDED	JRK	NSD	JMTW	KJB
0	2JUN'00	ISSUED FOR CONSTRUCTION	JRK	TAM	JDC	KJB

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MUIR

DESIGNED	CHECKED
JRK	JDC
DRAWN	APPROVED
DSR	KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
STAGE 3 TAILINGS EMBANKMENT
INSTRUMENTATION
SUMMARY OF INSTALLATION & TYPICAL DETAILS

Knight Piésold CONSULTING

SCALE: AS SHOWN

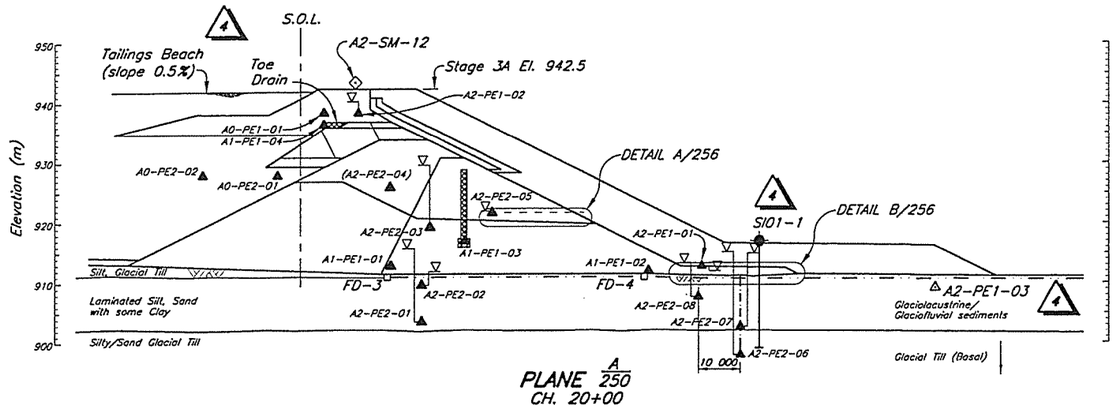
REVISION: 4

DRAWING NO.: 11162-13-256

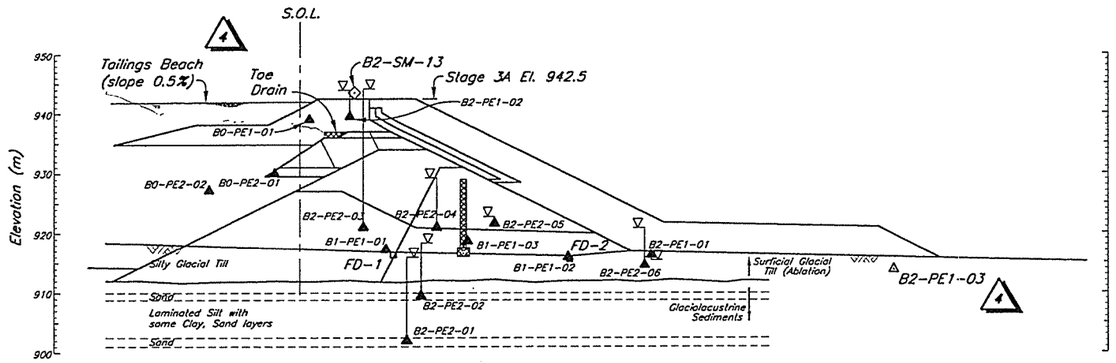
XREF FILE :

CAD FILE: M:\11162\13\Acad\Dwg\015\015 1=20 Plot 1-1(PS) Oct 10, 2001 tam

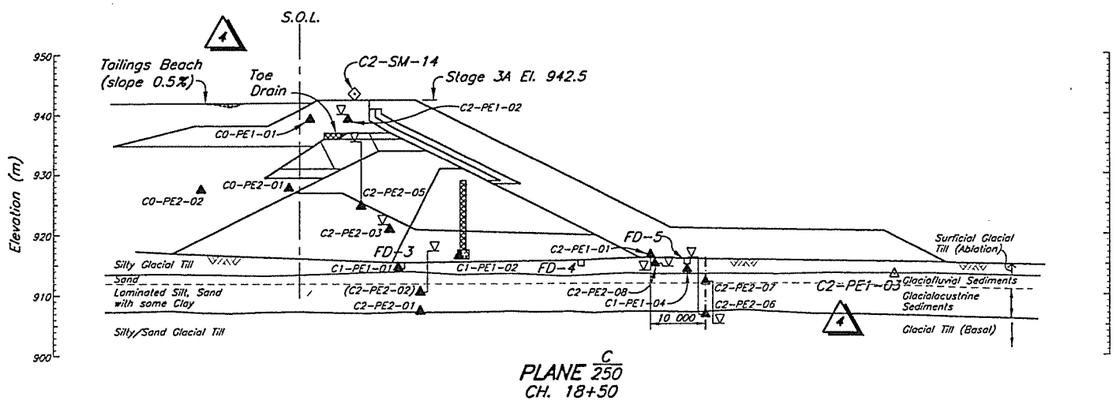
VANCOUVER B.C.



PLANE A/250
CH. 20+00



PLANE B/250
CH. 22+40



PLANE C/250
CH. 18+50

LEGEND

- Water level readings Apr. 21, 2001
- ▲ A1-PE1-01 Previously installed Piezometer
- △ A2-PE2-06 New Stage 3 Piezometer
- ◇ A2-SM-01 New Embankment Survey Monument
- SI01-1 Slope Inclinometer

NOTES

1. Piezometers are vibrating wire type, SINCA Model 52611030 and RST Model 45005-0100 with a pressure rating of 100 psi or equivalent, connected to a readout panel via standard non-vented direct burial cable.
2. Piezometer leads extended as directed by the Engineer.
3. Zone fill materials and drain pipes not shown in drawing for clarity. For Details see Drg. 215.
4. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details and General Notes.
5. All dimensions in millimetres with elevations in metres, unless noted otherwise.
6. No work was completed at the Main Embankment during Stage 3B construction.

Scale 10 0 10 20 30 40 50 m

CAD FILE: M:\11162\13\Acad\Dwg\D10\D10 1=500 Plot 1=1(FS) Oct 10, 2001 tam
VANCOUVER B.C.

XREF FILE :

DRG. NO.	DESCRIPTION
259	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS 2 OF 2
256	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SUMMARY OF INSTALLATION & TYP. DETAILS
250	TSF - STAGE 3 MAIN EMBANKMENT - INSTRUMENTATION - PLAN

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
4	05OCT'01	STAGE 3A/3B - AS CONSTRUCTED	CWM	TAM	KJB	
3	13SEPT'01	ISSUED FOR 2000 & 2001 ANNUAL INSPECTION REPORT	CWM	DSR	KJB	
2	08MAY'01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
1	26JAN'01	STAGE 3B - CREST ELEVATION 945	JRK	AW	JMTW	KJB
0	2JUN'00	ISSUED FOR CONSTRUCTION	JRK	TAM	JDC	KJB

REVISIONS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MOIR 25151 OCT 15/01

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY STAGE 3 TAILINGS EMBANKMENT INSTRUMENTATION SECTIONS - SHEET 1 OF 2

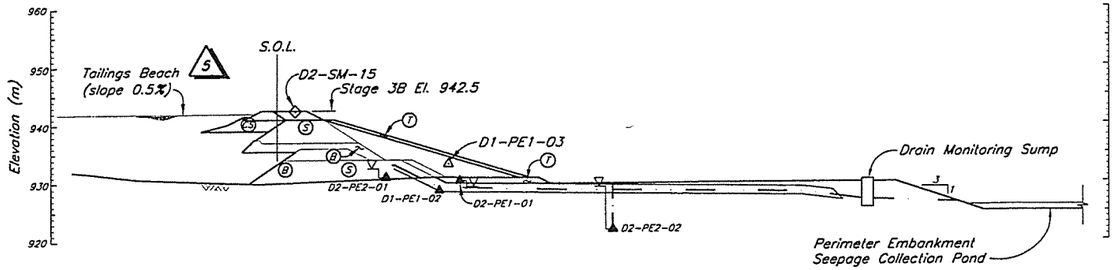
DESIGNED	CHECKED
JRK	JDC
DRAWN	APPROVED
DSR	KJB

Knight Piésold CONSULTING

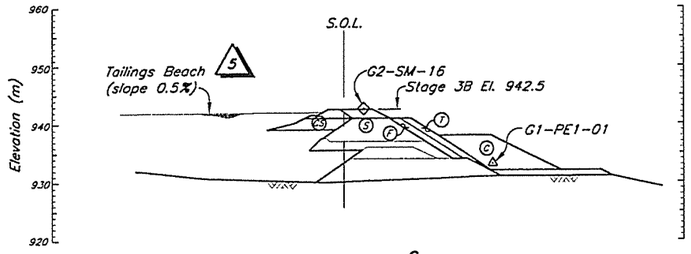
SCALE AS SHOWN

REVISION 4

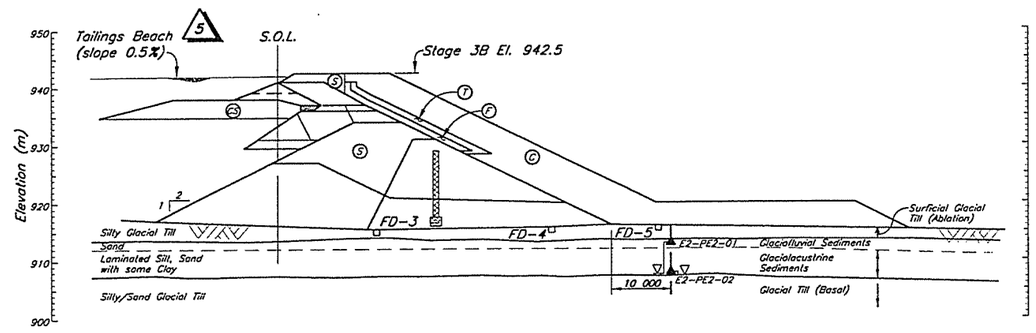
DRAWING NO. 11162-13-258



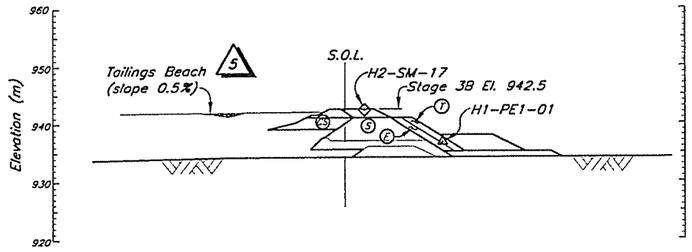
PLANE $\frac{D}{251}$
CH. 39+86



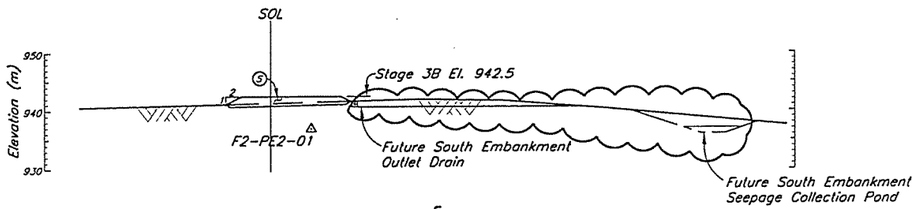
PLANE $\frac{G}{251}$
CH. 43+00



PLANE $\frac{E}{250}$
CH. 17+60



PLANE $\frac{H}{251}$
CH. 36+00



PLANE $\frac{F}{254}$
CH. 7+19

5 NOTES

1. Piezometers are vibrating wire type, SINCA Model 52611030 and RST Model 45005-0100 with a pressure rating of 100 psi or equivalent, connected to a readout panel via standard non-vented direct burial cable.
2. Piezometer leads extended as directed by the Engineer.
3. Zone fill materials and drain pipes not shown in drawing for clarity. For Details see Drg. 215.
4. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details and General Notes.
5. All dimensions in millimetres with elevations in metres, unless noted otherwise.
6. No work was completed at the Main and South Embankments during Stage 3B construction.

5 LEGEND

- Water level readings Apr. 21, 2001
- ▲ A1-PE1-01 Previously installed Piezometer
- △ A2-PE2-06 New Stage 3 Piezometer
- ◇ A2-SU-01 New Embankment Survey Monument

Scale 10 0 10 20 30 40 50 m

DRG. NO.	DESCRIPTION
256	TSF – STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
254	TSF – STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN
251	TSF – STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN
250	TSF – STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
5	05OCT'01	STAGE 3A/3B – AS CONSTRUCTED	CWM	TAM	KJB	KJB
4	14SEPT'01	ISSUED FOR 2000 & 2001 ANNUAL INSPECTION REPORT	CWM	TAM	KJB	KJB
3	08MAY'01	ISSUED FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
2	26JAN'01	STAGE 3B – CREST ELEVATION 945	JRK	AW	JMTW	KJB
1	20OCT'00	PEREMETER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
0	2JUN'00	ISSUED FOR CONSTRUCTION	JRK	TAM	ABW	KJB

REVISIONS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MUIR
DATE 05 OCT 01

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
STAGE 3 TAILINGS EMBANKMENT
INSTRUMENTATION
SECTIONS – SHEET 2 OF 2

DESIGNED	CHECKED
JRK	ABW
DRAWN	APPROVED
DSR	KJB

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SCALE AS SHOWN | REVISION 5
DRAWING NO. 11162-13-259

XREF FILE :

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VANCOUVER B.C.

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APPENDIX A

(Rev 0)

2001/2002 ANNUAL INSPECTION PHOTOGRAPHS

PHOTO 1: Southeast Sediment Control Pond

PHOTO 2: Perimeter Embankment

PHOTO 3: Main Embankment and Seepage Collection Pond

PHOTO 4: Main Embankment

PHOTO 5: South Embankment

PHOTO 6: Main Embankment Seepage Recycle Pond

PHOTO 7: Tailings Impound beach

PHOTO 8: Tailings Impound – south view

PHOTO 9: Slope Inclinometer at toe of Main Embankment

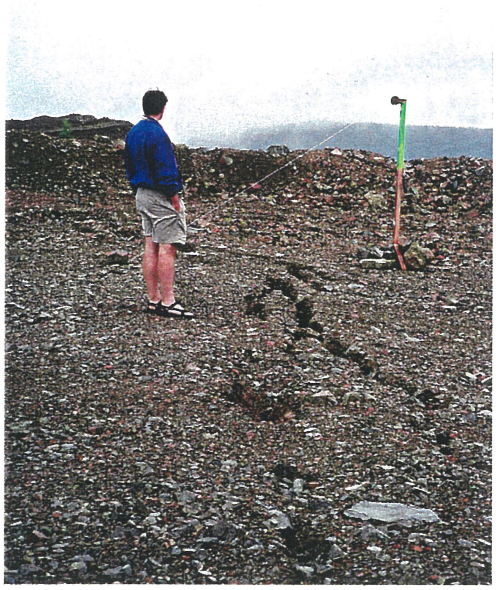

PHOTO 10: Tension cracks along east side of Waste Dump

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APPENDIX B

(Rev 0)

PIEZOMETER RECORDS

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APPENDIX B1

(Rev 0)

TAILINGS PIEZOMETER RECORDS

(101-1/1)	Figure B1-1, Rev.0	Plane A Tailings Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B1-2, Rev.0	Plane B Tailings Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B1-3, Rev.0	Plane C Tailings Piezometers – Elevation Head vs. Time.

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane A.xls Fig B1-1 R0

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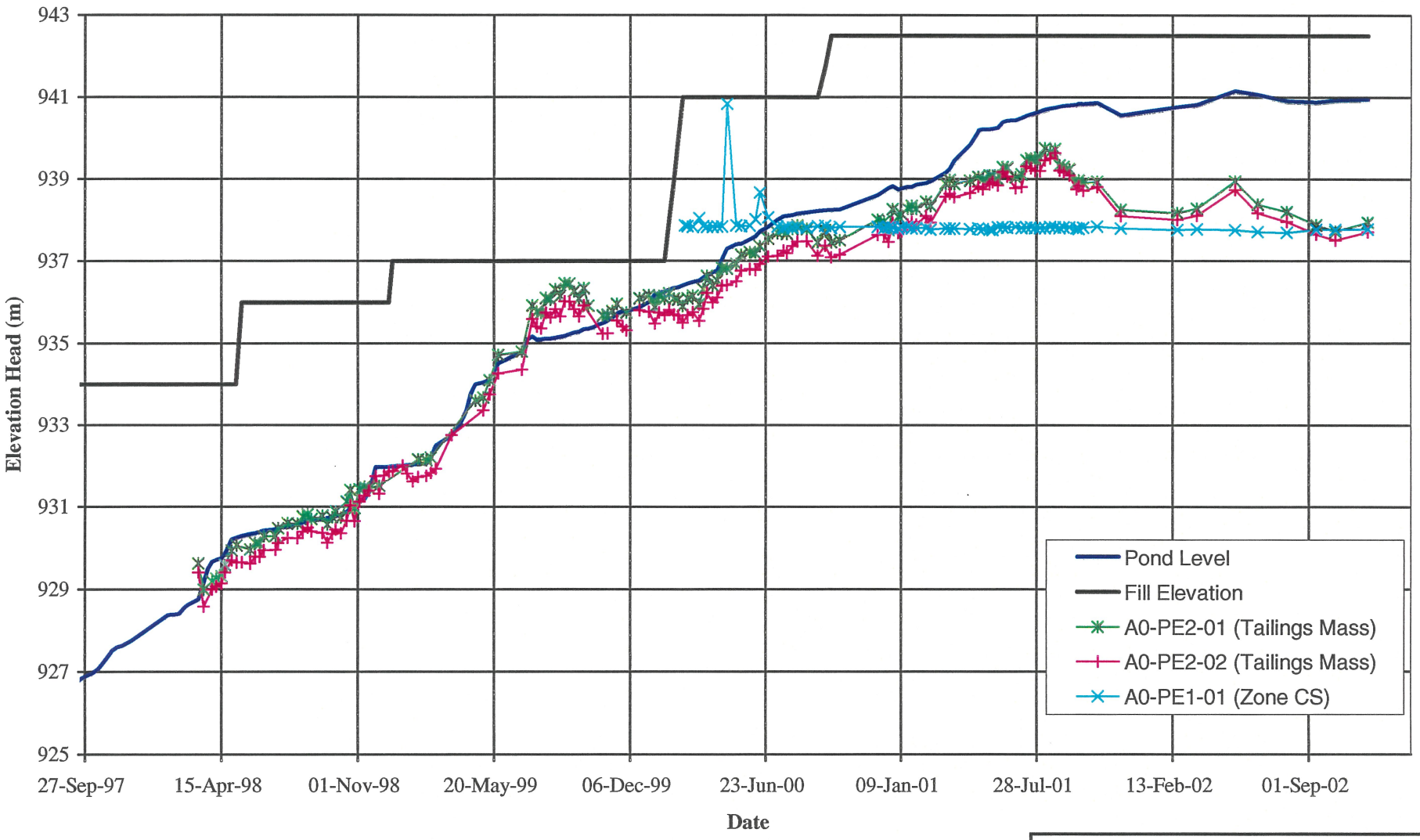
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE A TAILINGS PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B1-1

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane B.xls Fig B1-2 R0

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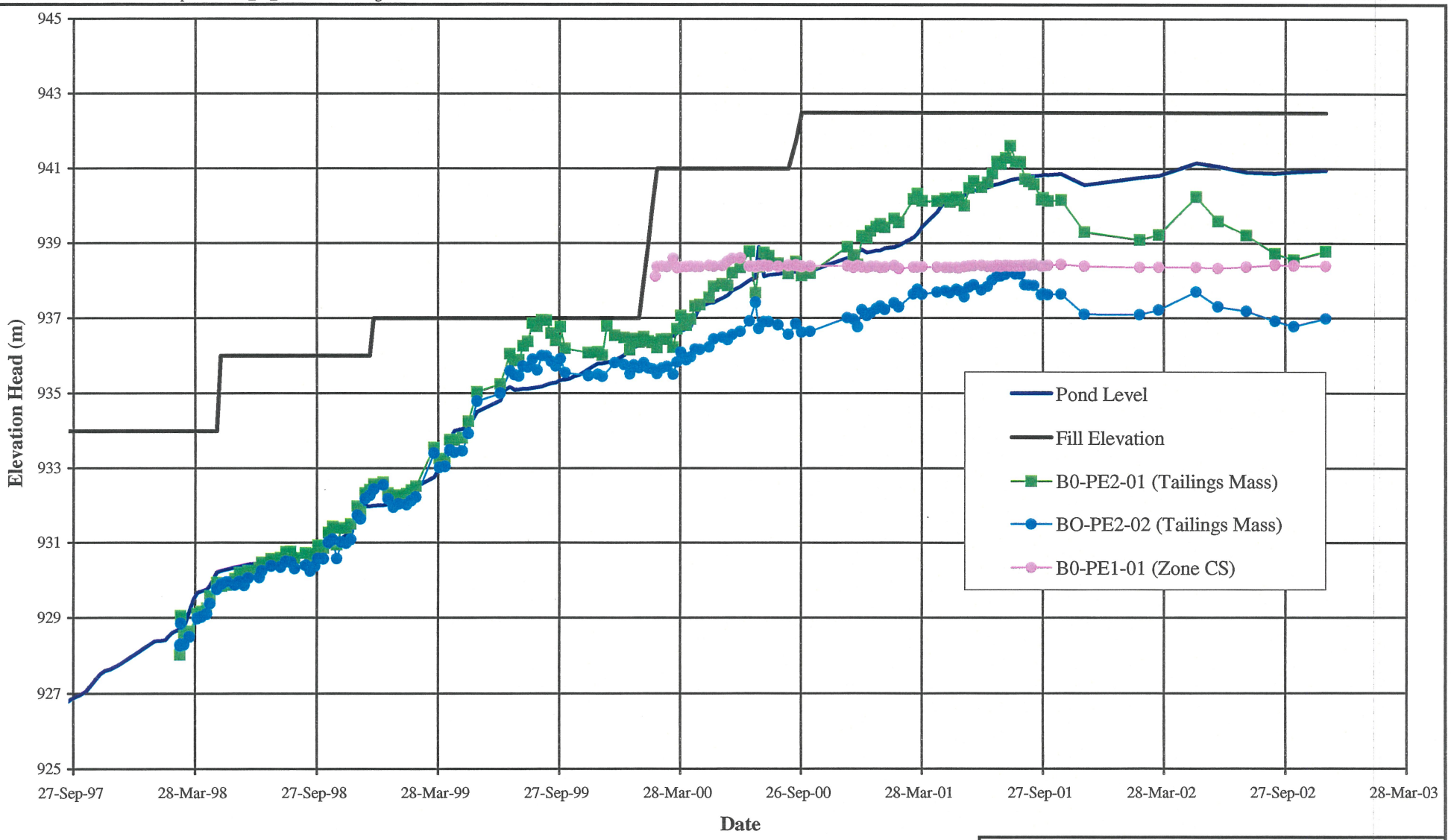
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE B TAILINGS PIEZOMETERS
ELEVATION HEAD vs TIME

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PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B1-2

Rev 0 - Issued for Report

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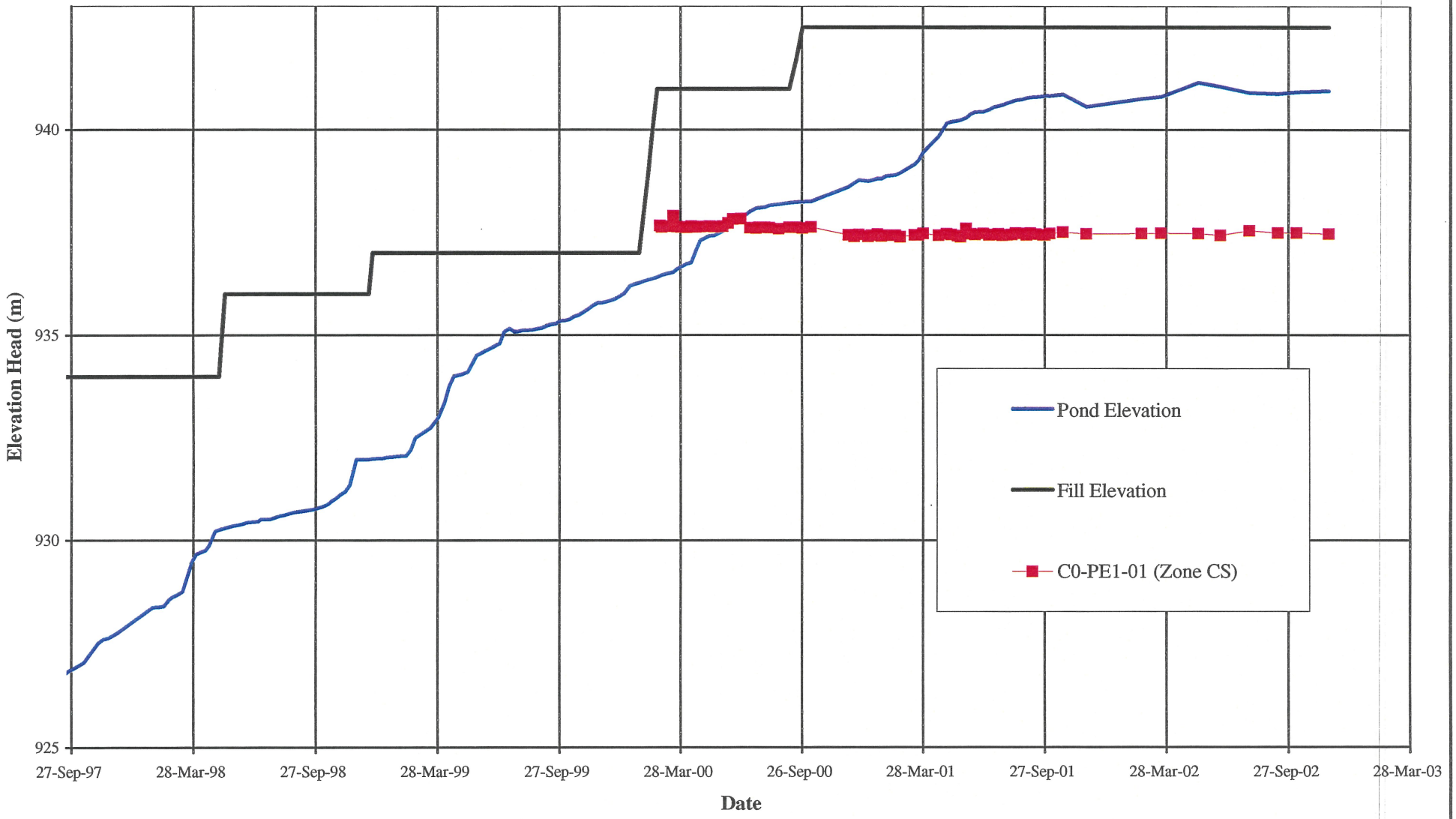

MOUNT POLLEY MINIG CORPORATION

MOUNT POLLEY MINE

PLANE C TAILINGS PIEZOMETERS
ELEVATION HEAD vs. TIME

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PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B1-3

Rev 0 - Issued for Report

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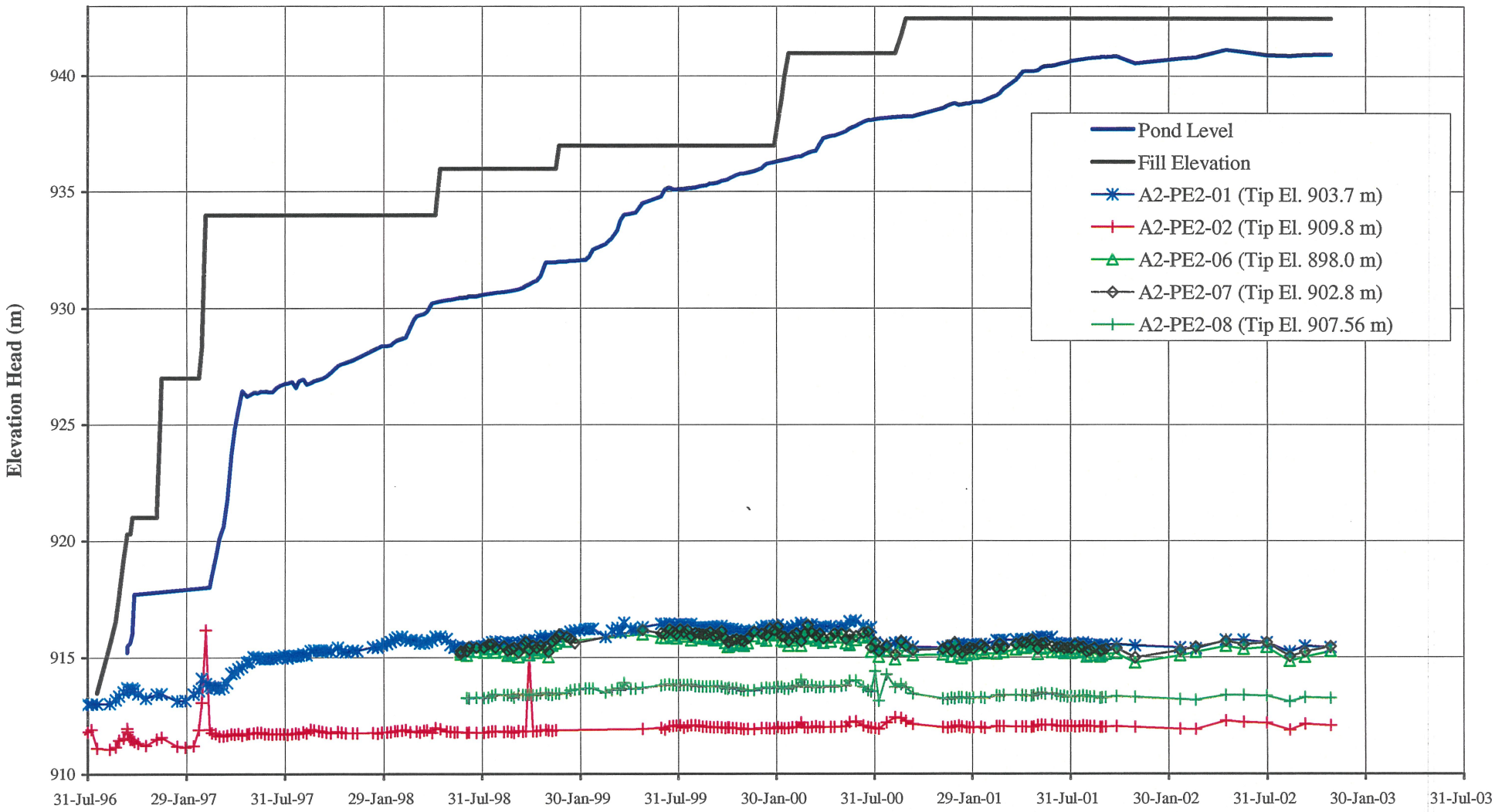
APPENDIX B2

(Rev 0)

EMBANKMENT FOUNDATION PIEZOMETER RECORDS

(101-1/1)	Figure B2-1, Rev.0	Plane A Foundation Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B2-2, Rev.0	Plane B Foundation Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B2-3, Rev.0	Plane C Foundation Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B2-4, Rev.0	Plane D Foundation Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B2-5, Rev.0	Plane E Foundation Piezometers – Elevation Head vs. Time.



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE A FOUNDATION PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B2-1

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane B.xls Fig B2-2 R0

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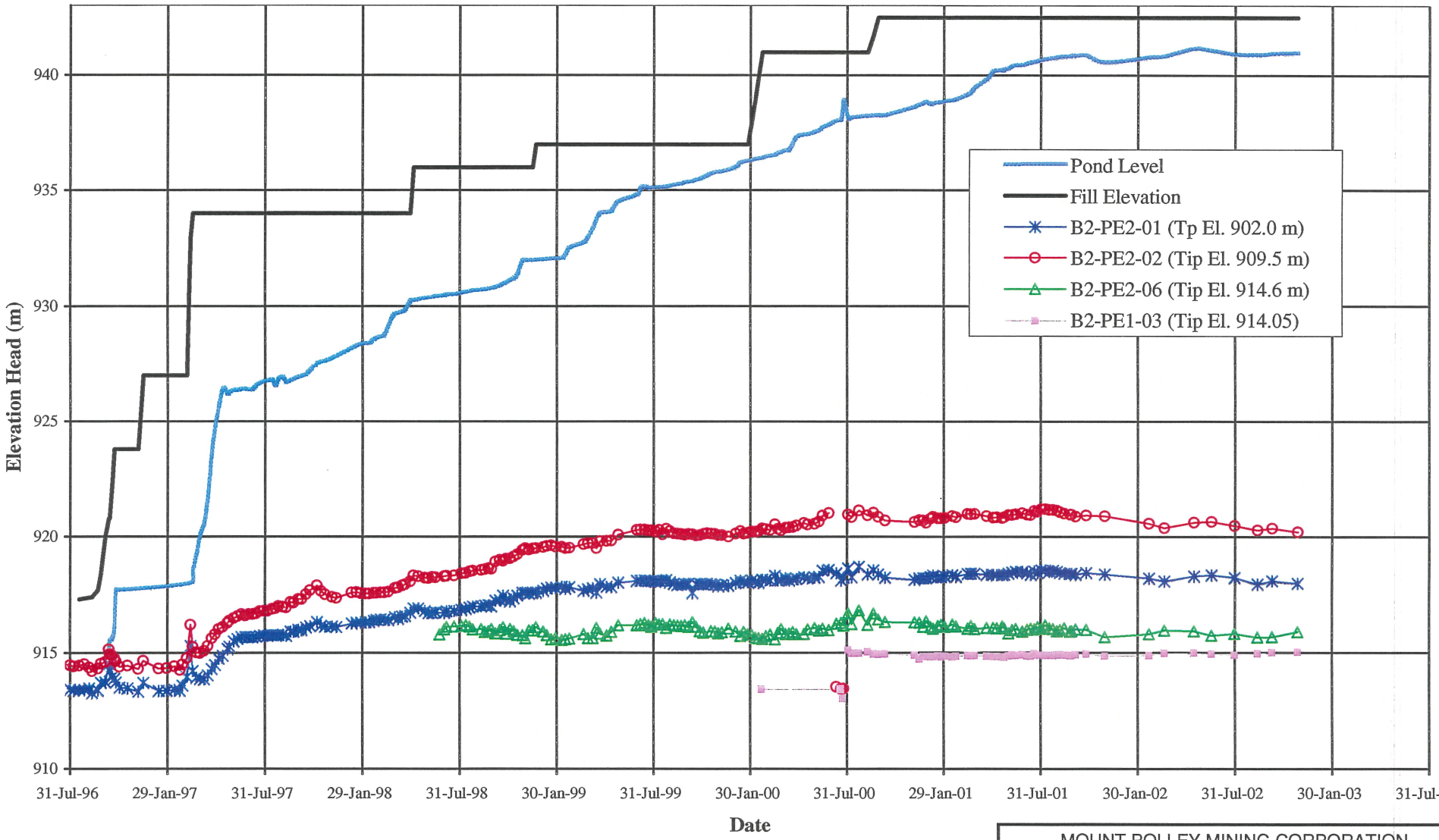
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE B FOUNDATION PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B2-2

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane C.xls Fig B2-3 R0

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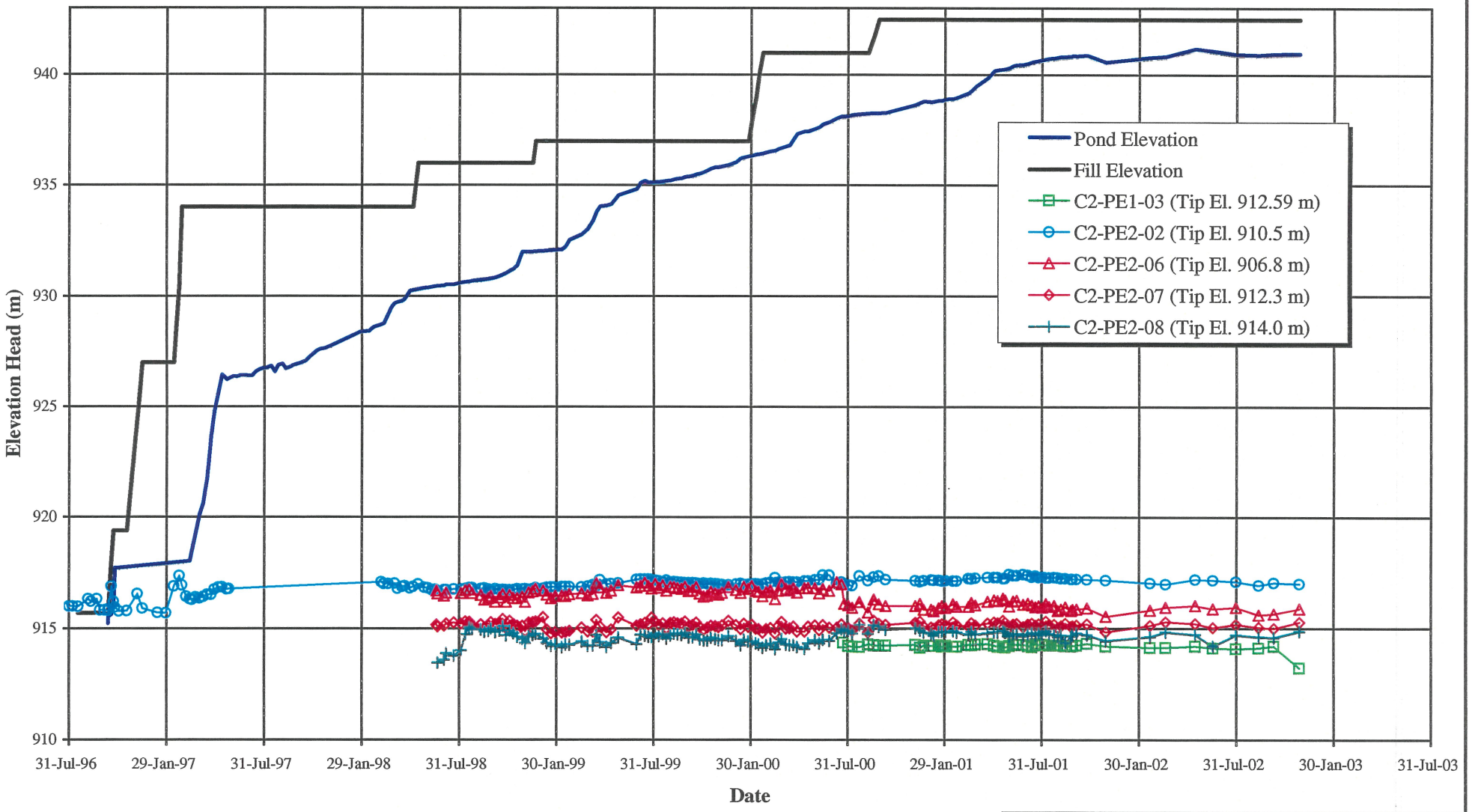
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE C FOUNDATION PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B2-3

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane D.xls Fig B2-4 R0

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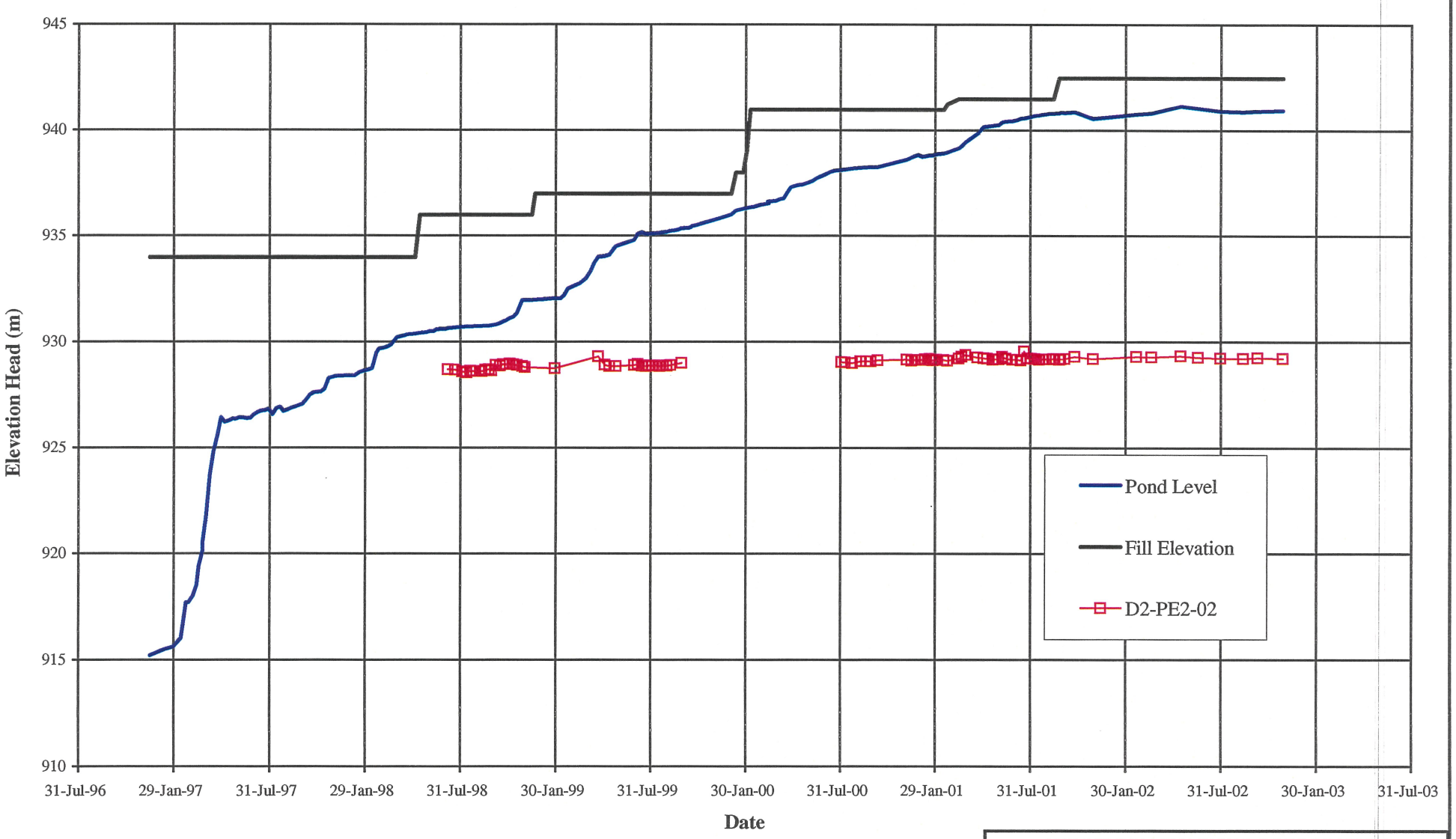

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE D FOUNDATION PIEZOMETERS
ELEVATION HEAD vs. TIME

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PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B2-4

Rev 0 - Issued for Report

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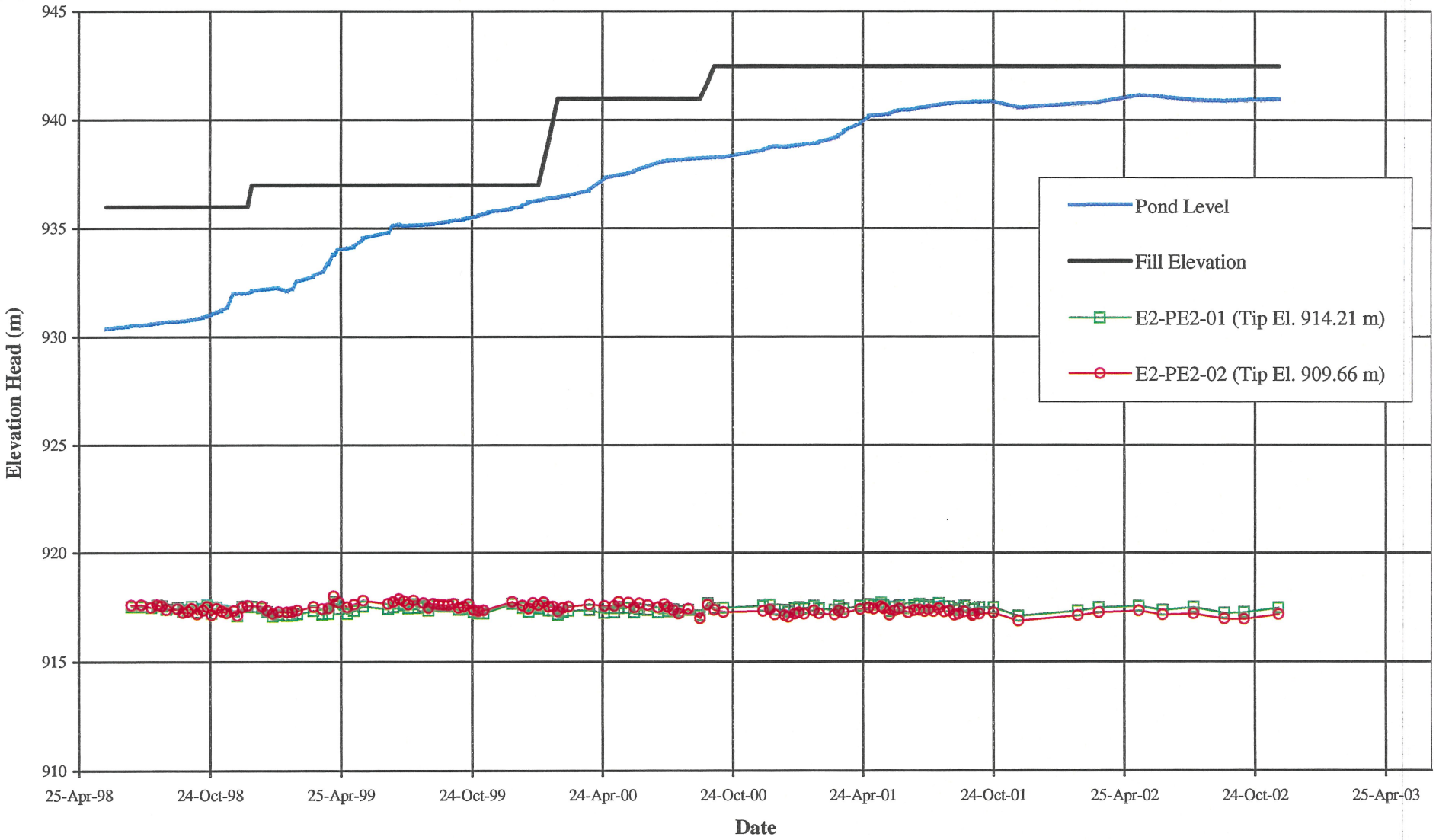
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE E FOUNDATION PIEZOMETERS
ELEVATION HEAD vs. TIME

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PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B2-5

Rev 0 - Issued for Report

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CONSULTING

APPENDIX B3

(Rev 0)

EMBANKMENT FILL PIEZOMETER RECORDS

(101-1/1)	Figure B3-1, Rev.0	Plane A Fill Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B3-2, Rev.0	Plane B Fill Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B3-3, Rev.0	Plane C Fill Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B3-4, Rev.0	Plane D Fill Piezometers – Elevation Head vs. Time.

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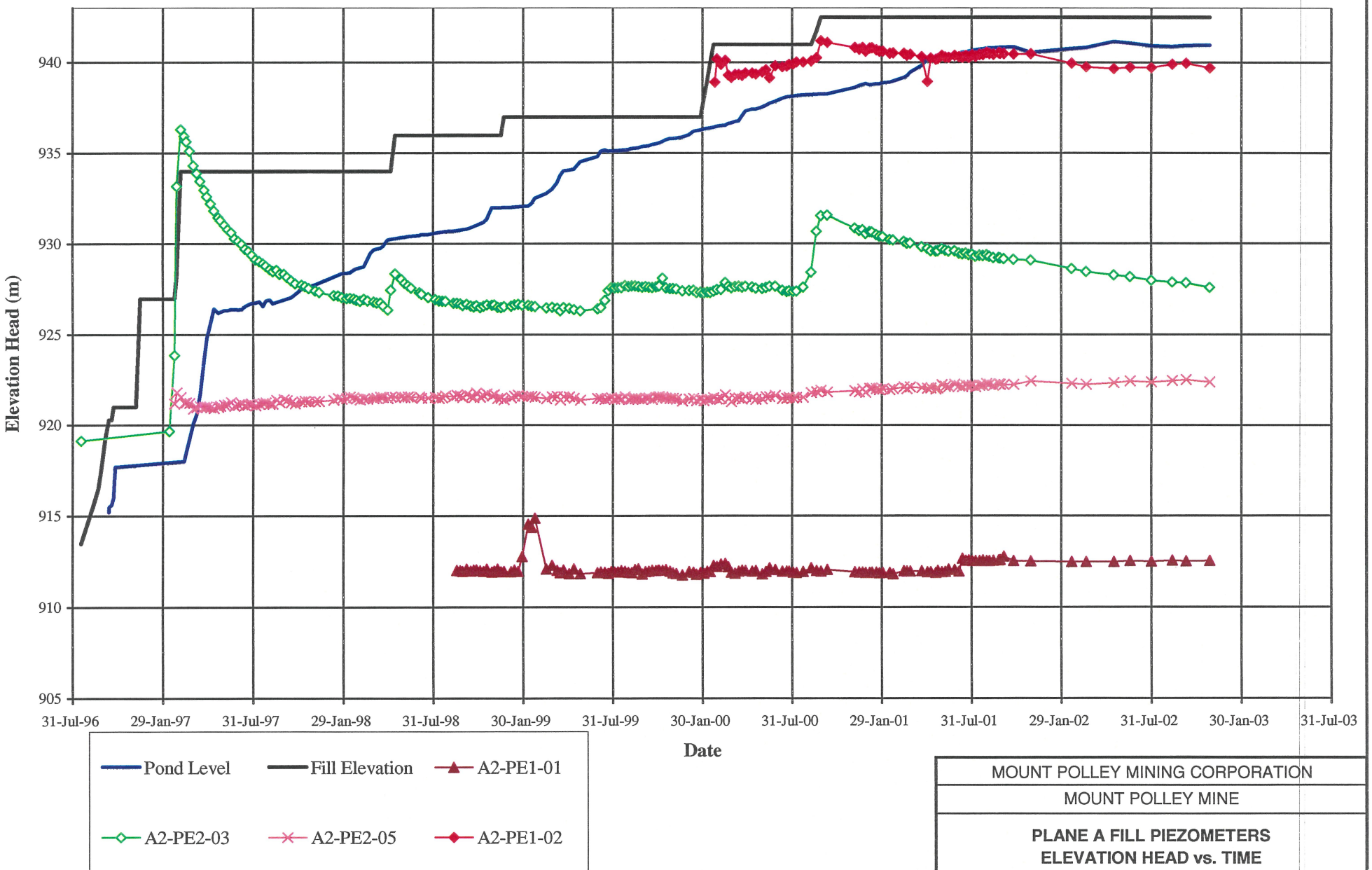
M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane A.xls Fig B3-1 R0

Rev'd 03/27/03



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MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE A FILL PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B3-1

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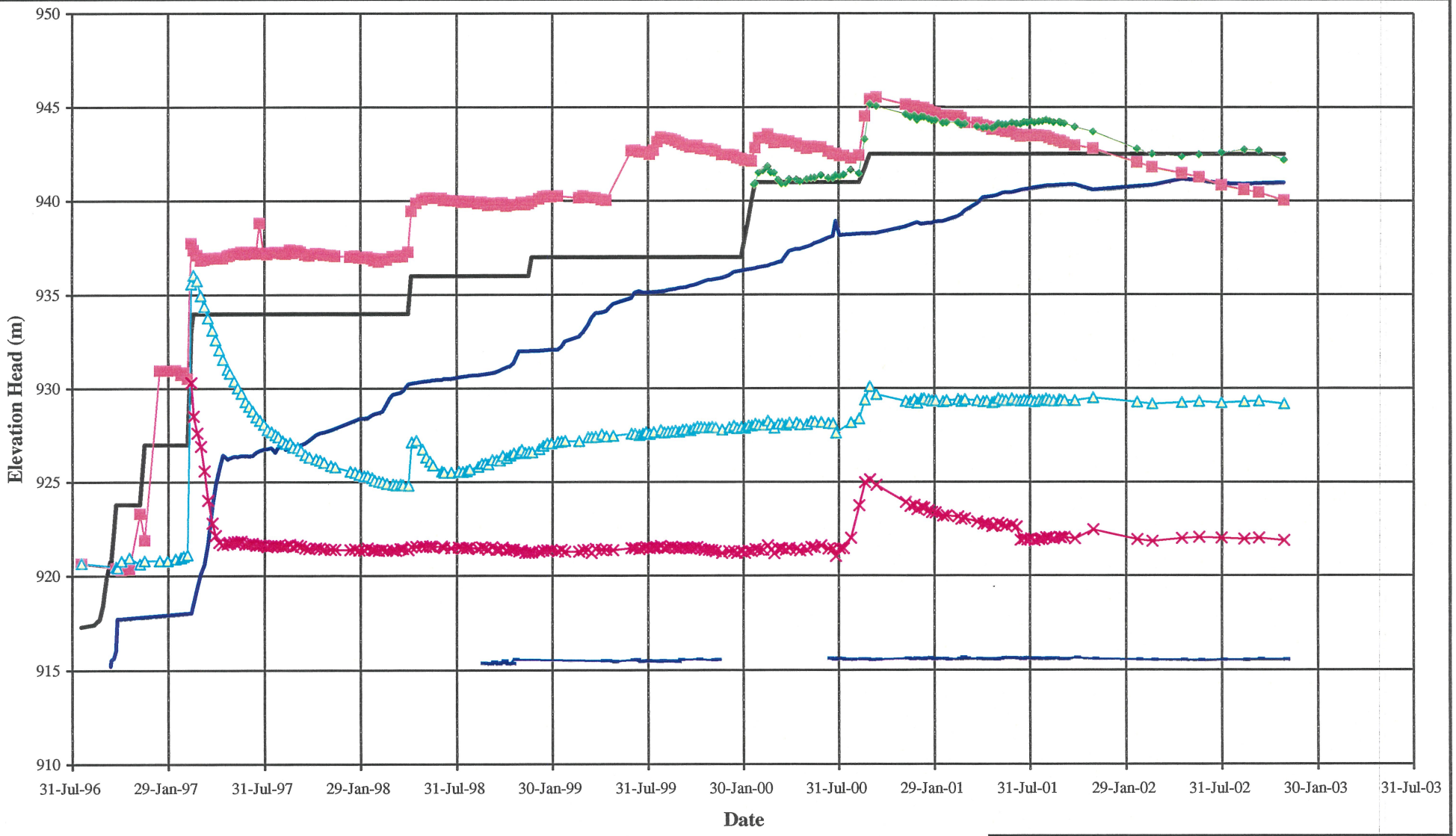
M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane B.xls Fig B3-2 R0

Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

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PLANE B FILL PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B3-2

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane C.xls Fig B3-3 R0

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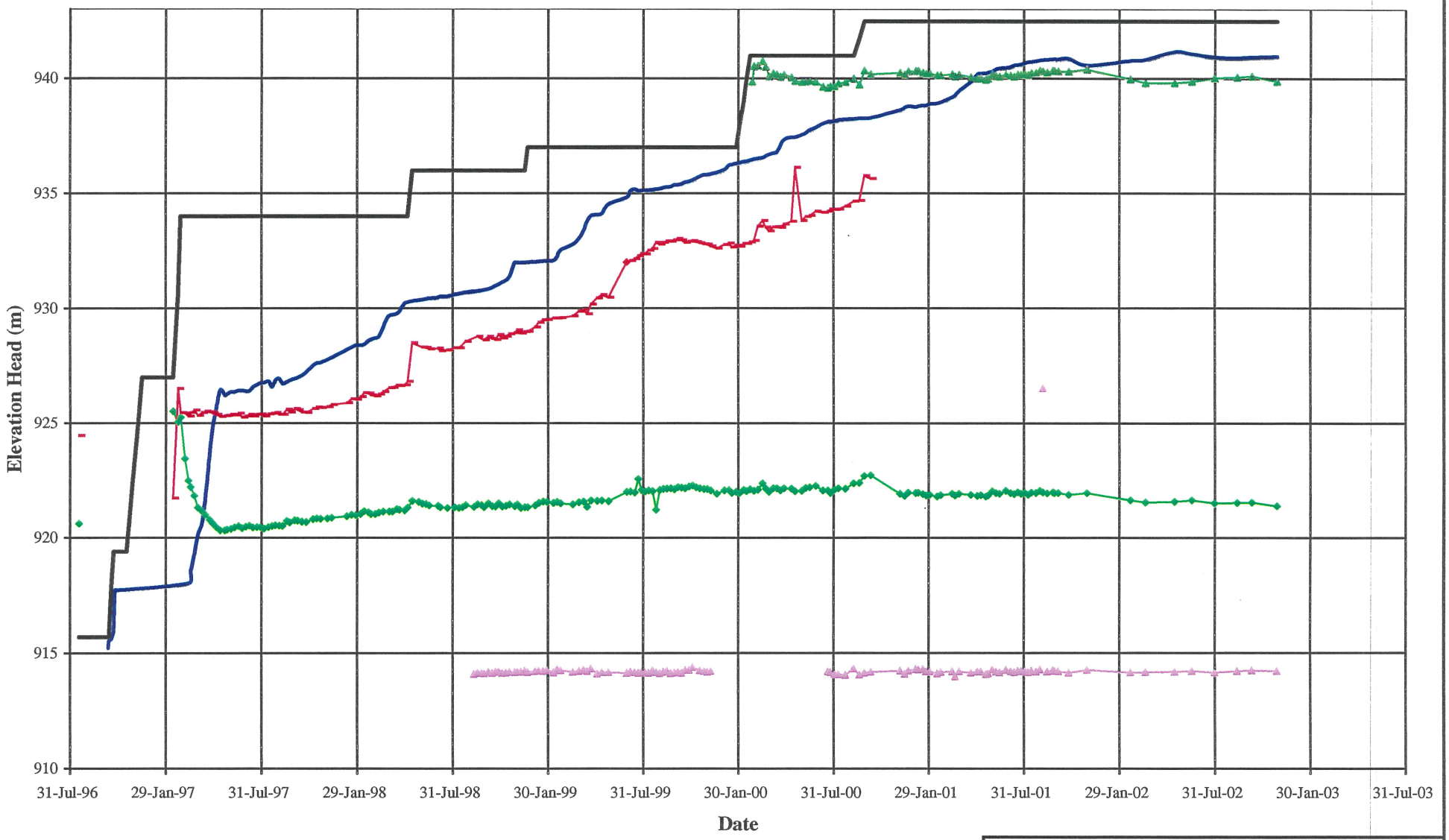

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE C FILL PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B3-3

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane D.xls Fig B3-4 R0

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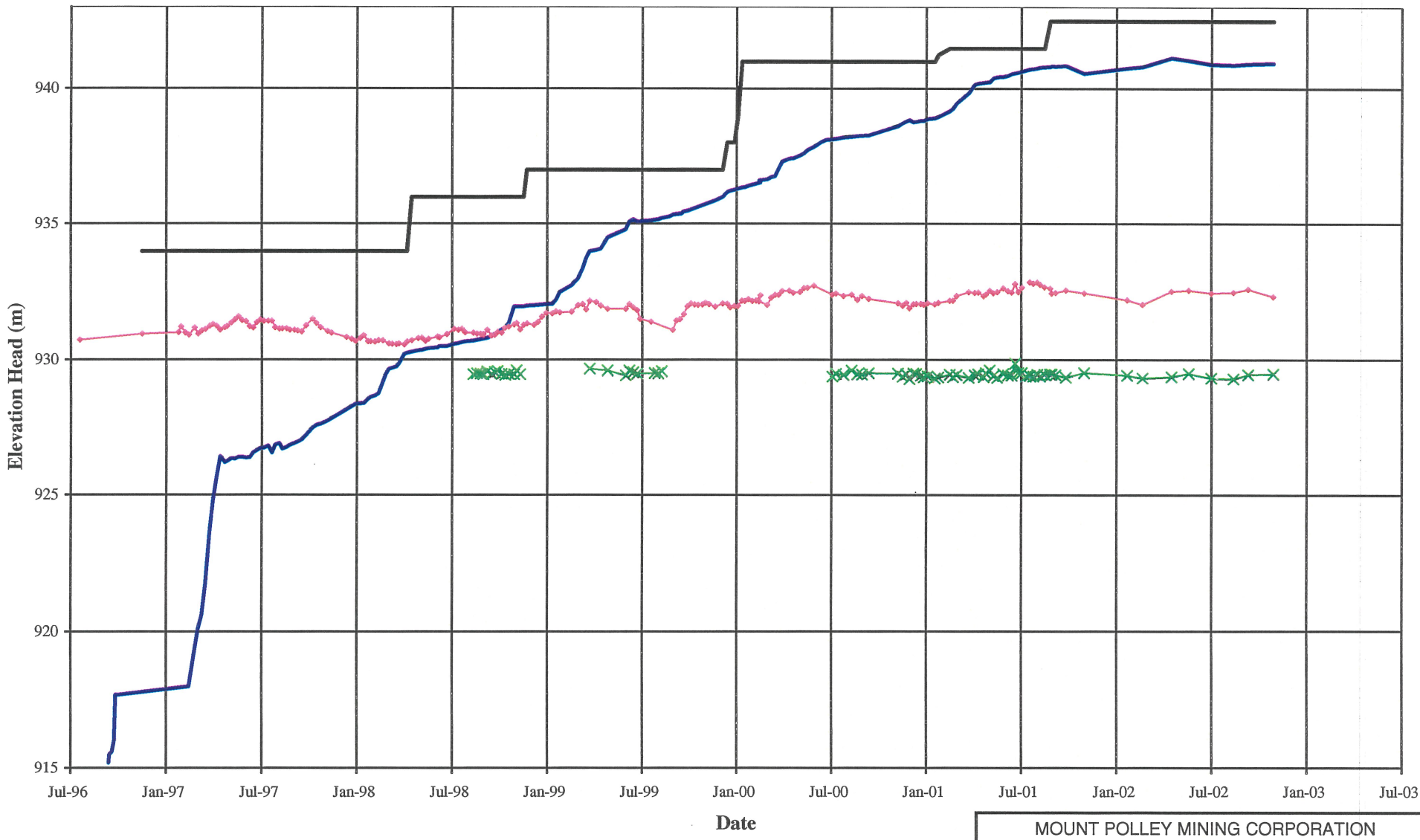
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE D FILL PIEZOMETERS
ELEVATION HEAD vs. TIME

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PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B3-4

Rev 0 - Issued for Report

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APPENDIX B4

(Rev 0)

DRAIN PIEZOMETER RECORDS

(101-1/1)	Figure B4-1, Rev.0	Plane A Drain Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B4-2, Rev.0	Plane B Drain Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B4-3, Rev.0	Plane C Drain Piezometers – Elevation Head vs. Time.
(101-1/1)	Figure B4-4, Rev.0	Plane D Drain Piezometers – Elevation Head vs. Time.

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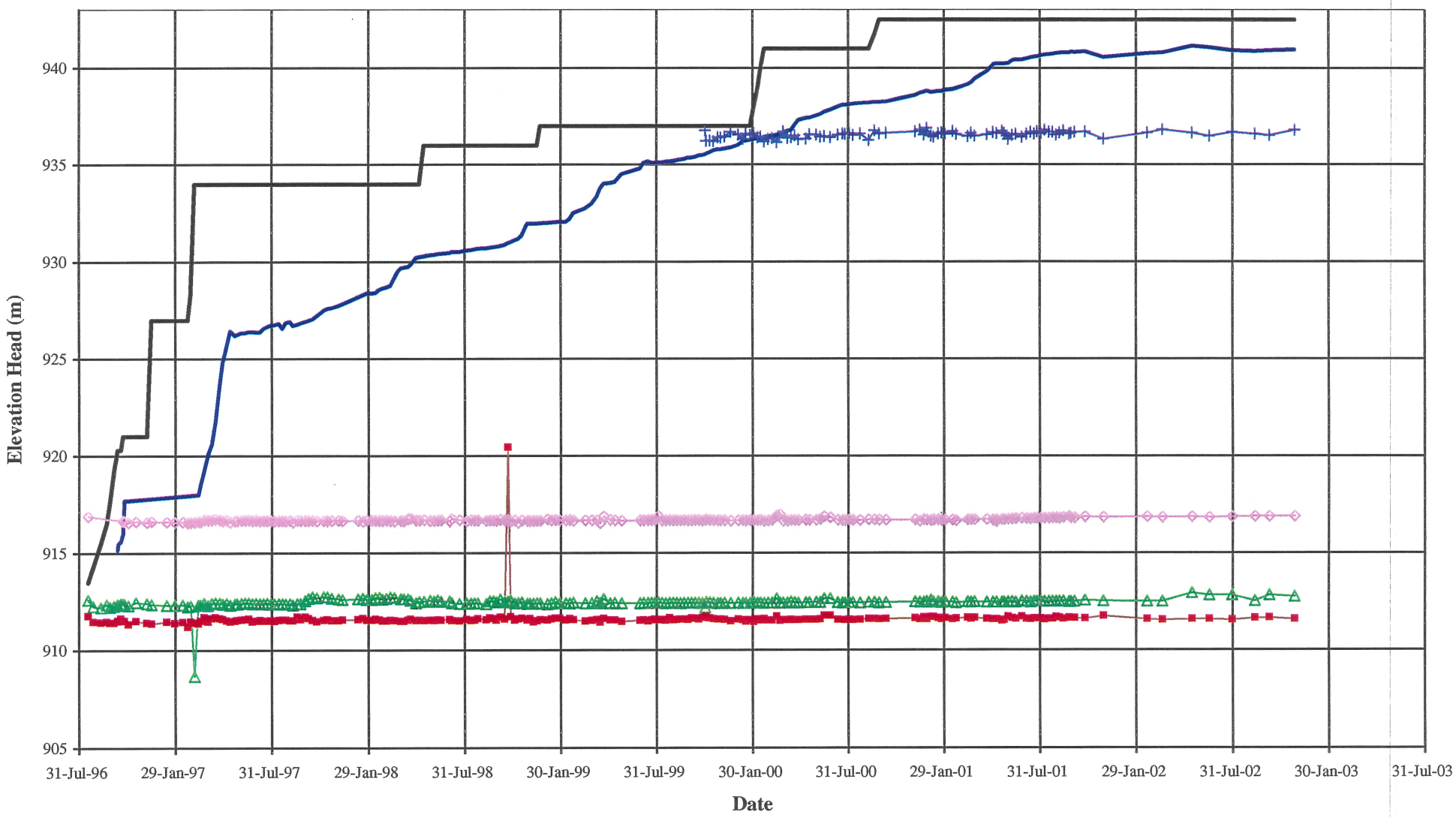
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE A DRAIN PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B4-1

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane B.xls Fig B4-2 R0

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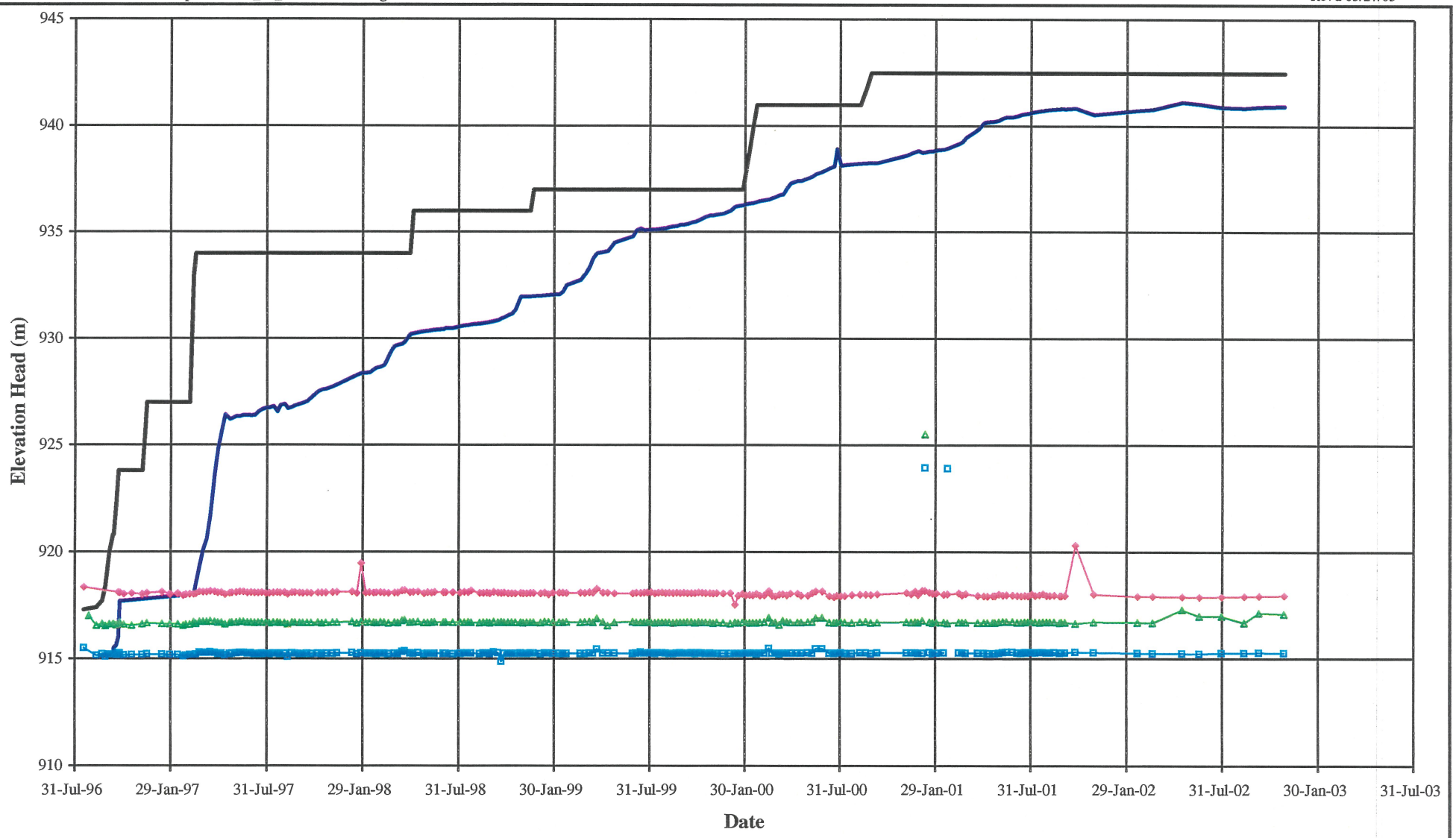
Rev'd 03/27/03



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MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE B DRAIN PIEZOMETERS
ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B4-2

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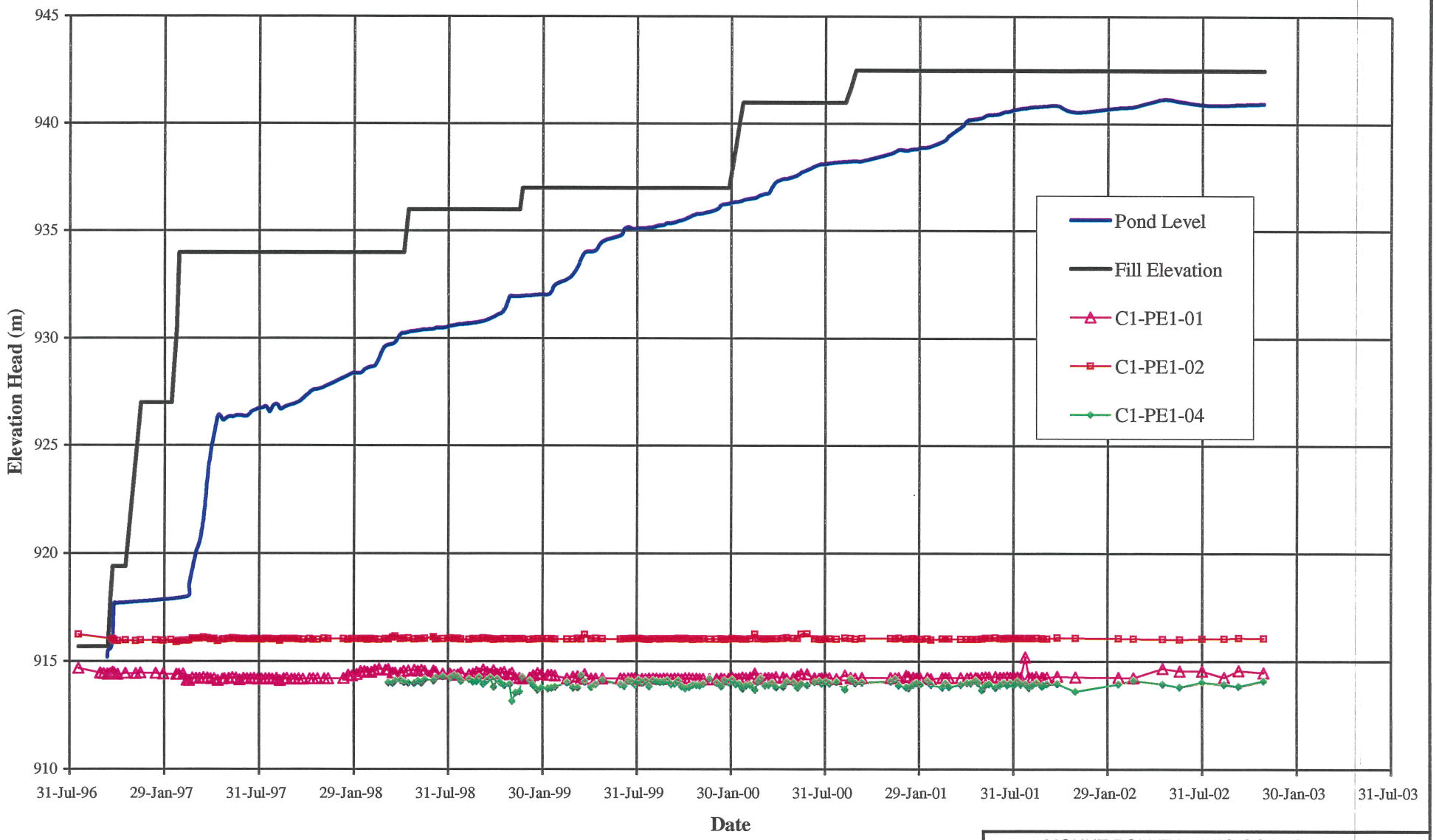
Rev'd 03/27/03



MOUNT POLLEY MINIG CORPORATION

MOUNT POLLEY MINE

PLANE C DRAIN PIEZOMETERS
ELEVATION HEAD vs. TIME

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PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B4-3

Rev 0 - Issued for Report

M:\1\01\00001\01\A\Data\piezos\2002_07_03\Plane D.xls Fig B4-4 R0

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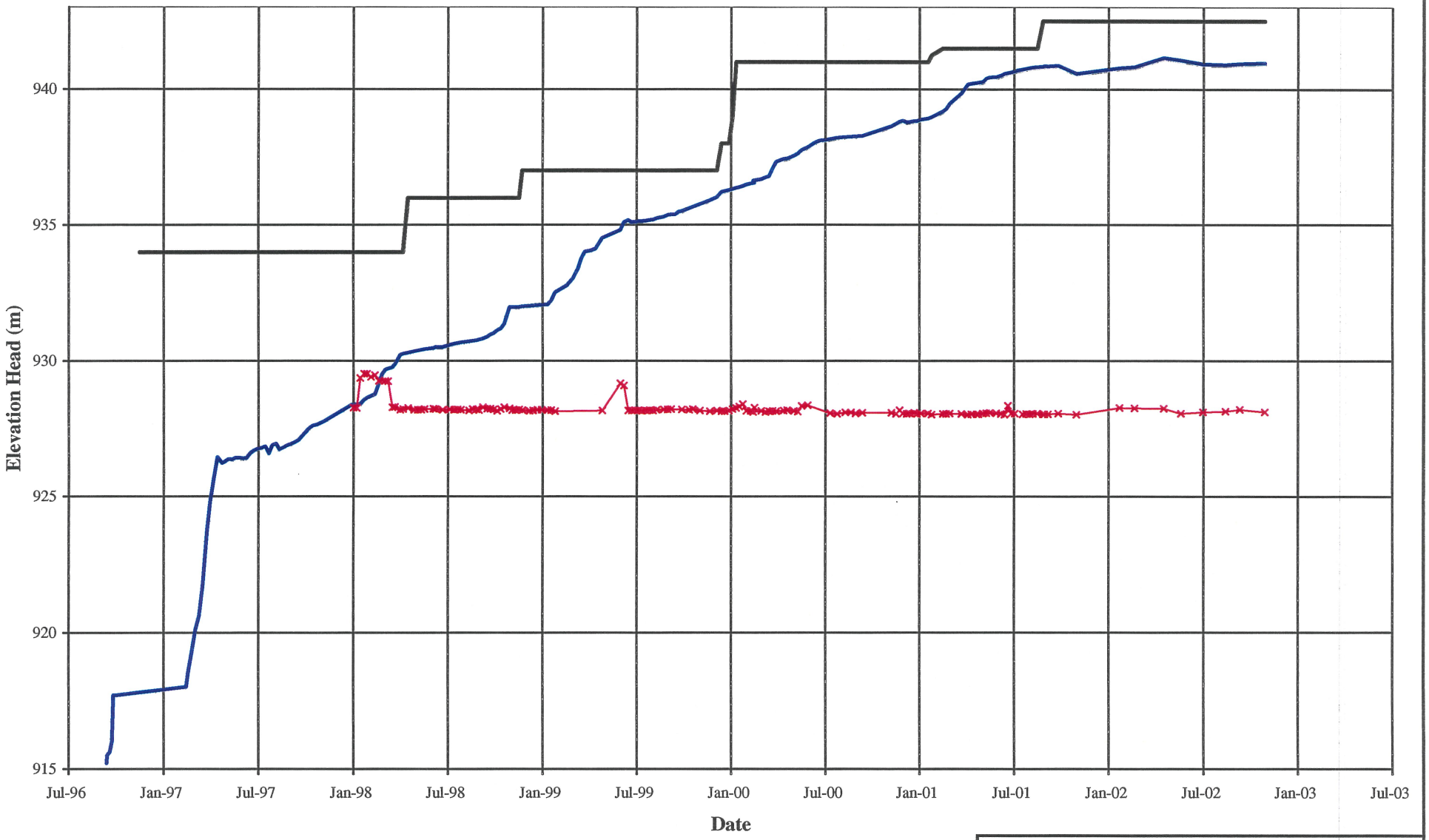
Rev'd 03/27/03



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

PLANE D DRAIN PIEZOMETERS
ELEVATION HEAD vs. TIME

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PROJECT / ASSIGNMENT	REF NO.	REV.
101-1/1	1	0

FIGURE B4-4

Rev 0 - Issued for Report

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APPENDIX C
(Rev 0)

DRAIN FLOW RECORDS

(101-1/1)	Figure C-1, Rev.0	Tailings Storage Facility – Upstream Toe Drain Flows.
(101-1/1)	Figure C-2, Rev.0	Tailings Storage Facility – Main Embankment Foundation Drain Flows.

M:\1\01\00001\01\A\Data\drains\FD-mon OD-mon-Working Copy.xls TD-Graph

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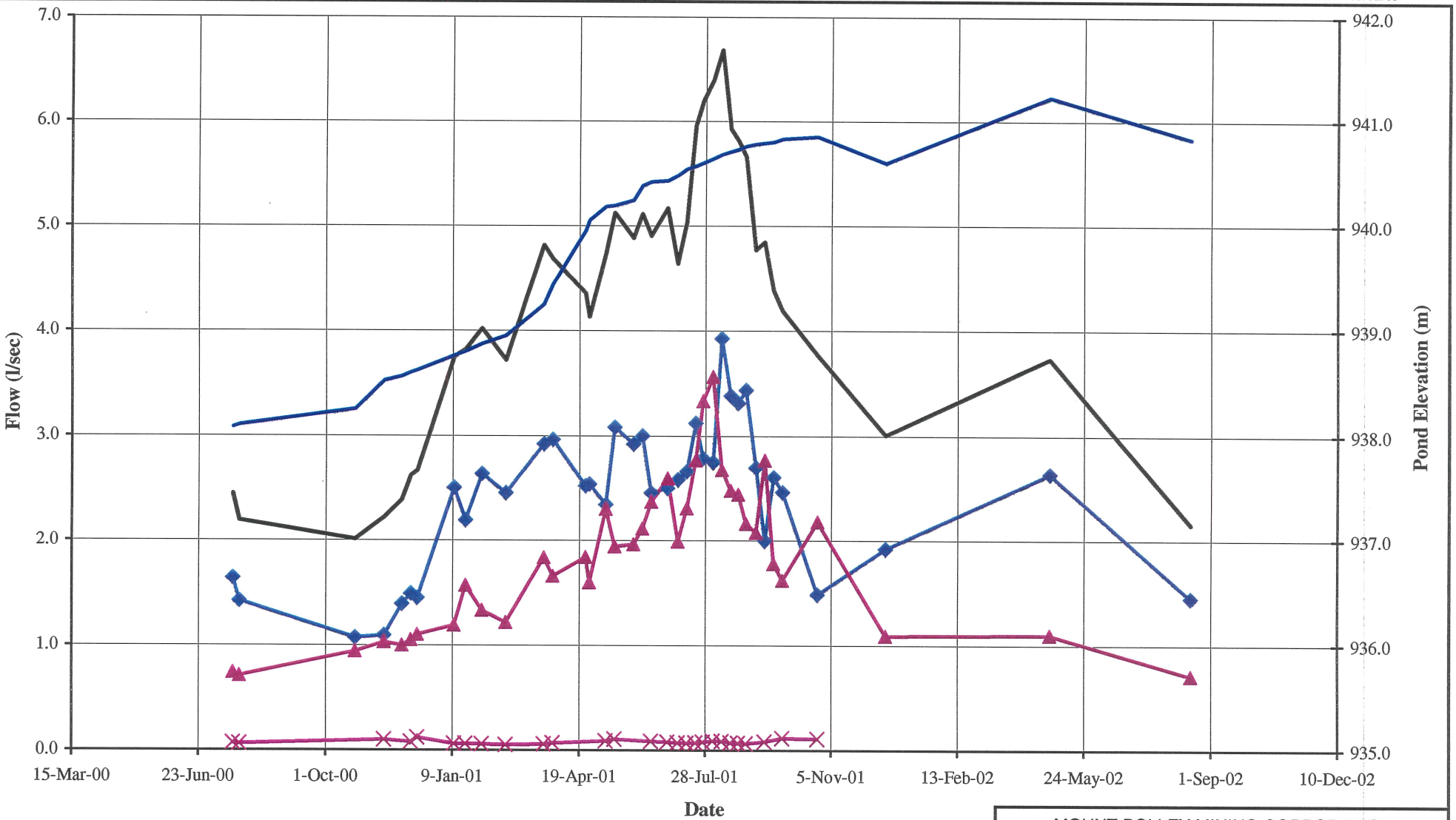
Rev'd 05/02/03



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MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

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PROJECT NO.	NO.	REV.
101-1/1	1	0

FIGURE C-1

M:\1\01\00001\01\A\Data\drains\FD-mon OD-mon-Working Copy.xls FD-Graph

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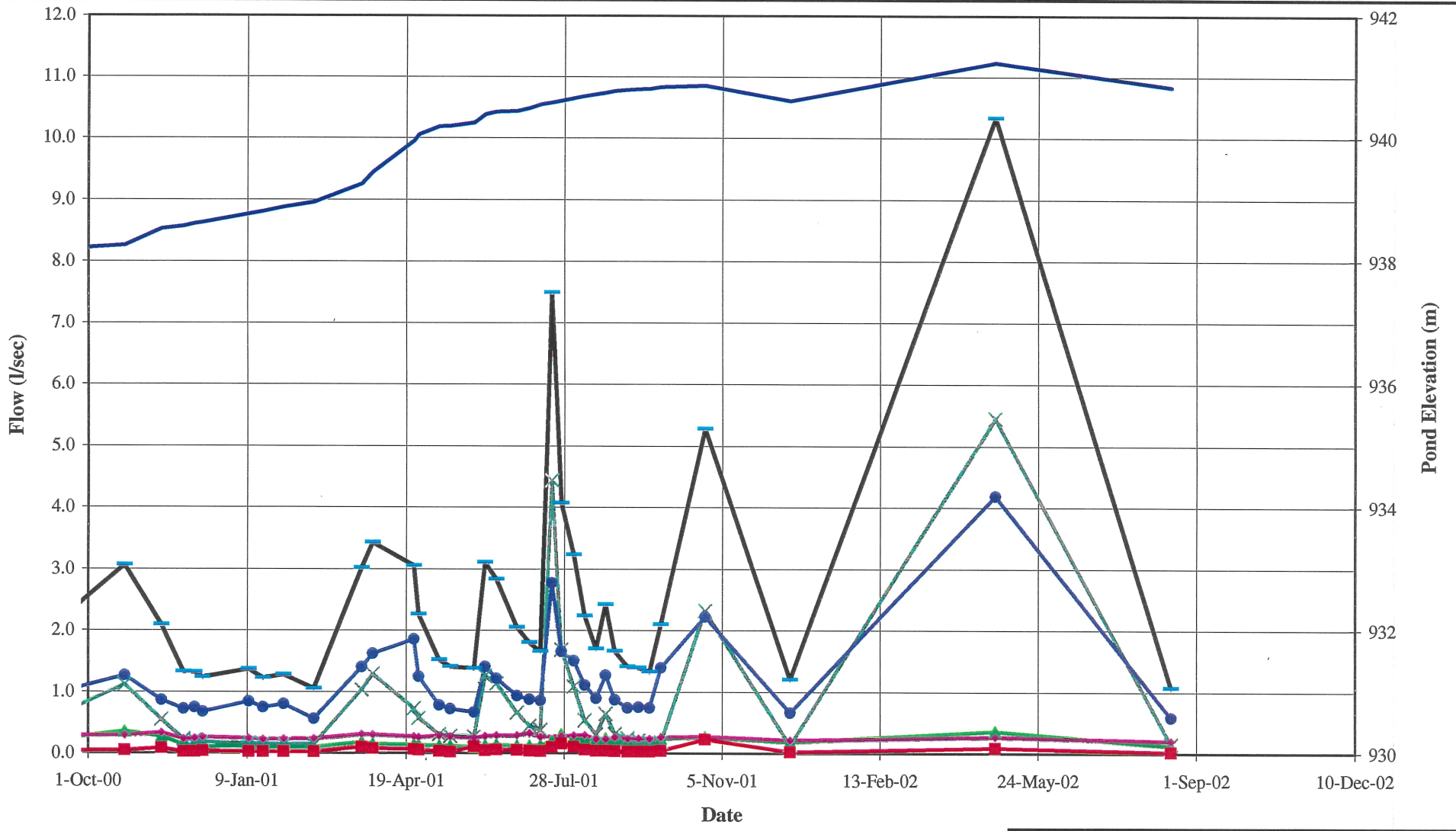

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT FOUNDATION DRAIN FLOWS

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PROJECT NO.	REF NO.	REV.
101-1/1	1	0

FIGURE C-2

Rev 0 - Issued for Annual Report

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APPENDIX D

(Rev 0)

MOVEMENT MONITORING

D1, Rev.0	Inclinometer SI01-01 Vectored Cumulative Deviations
D2, Rev.0	Inclinometer SI01-01 A and B face Cumulative Deviations
D3, Rev.0	Inclinometer SI01-02 Vectored Cumulative Deviations
D4, Rev.0	Inclinometer SI01-02 A and B face Cumulative Deviations
D5, Rev.0	Survey Monument Data

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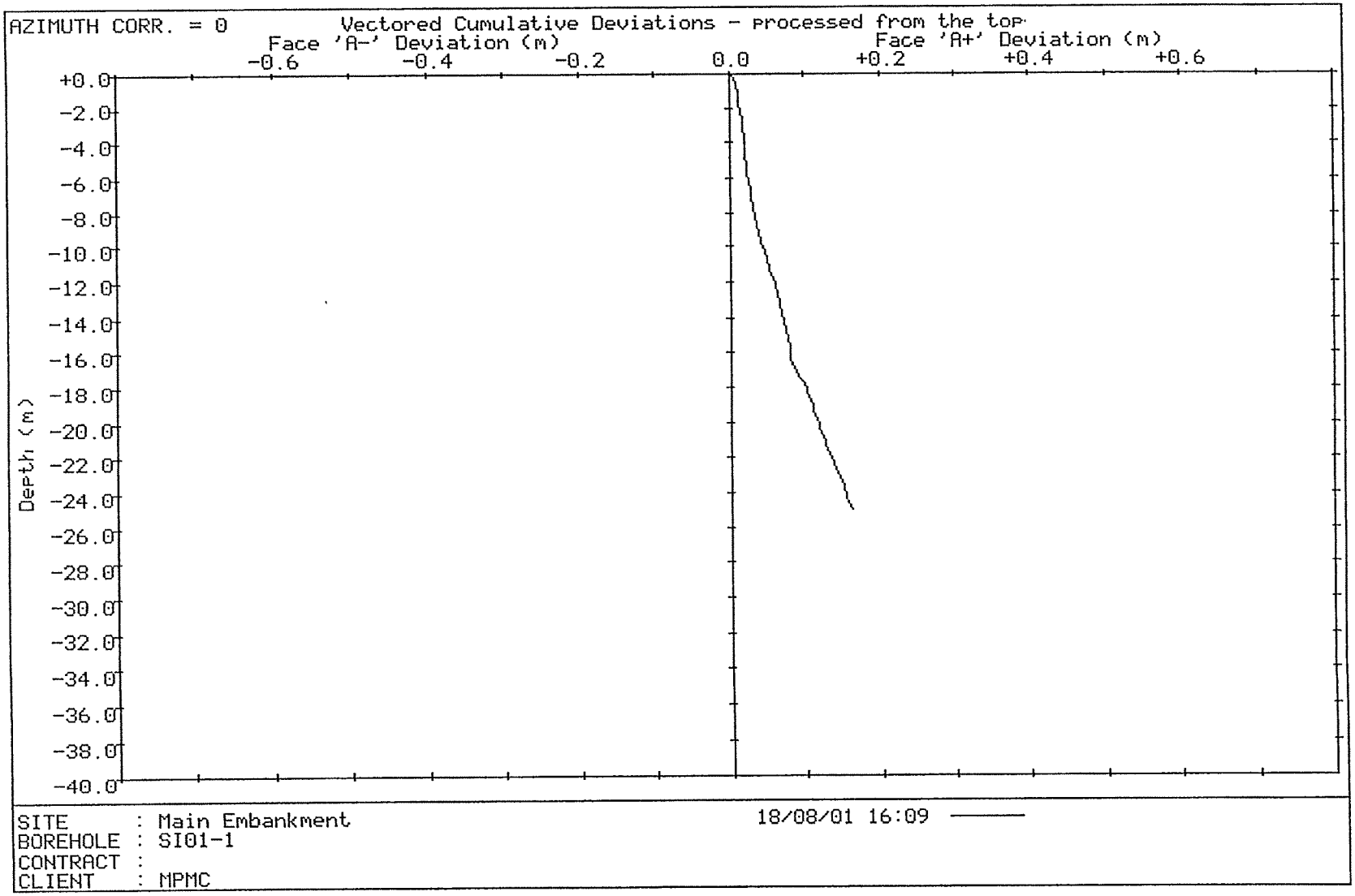
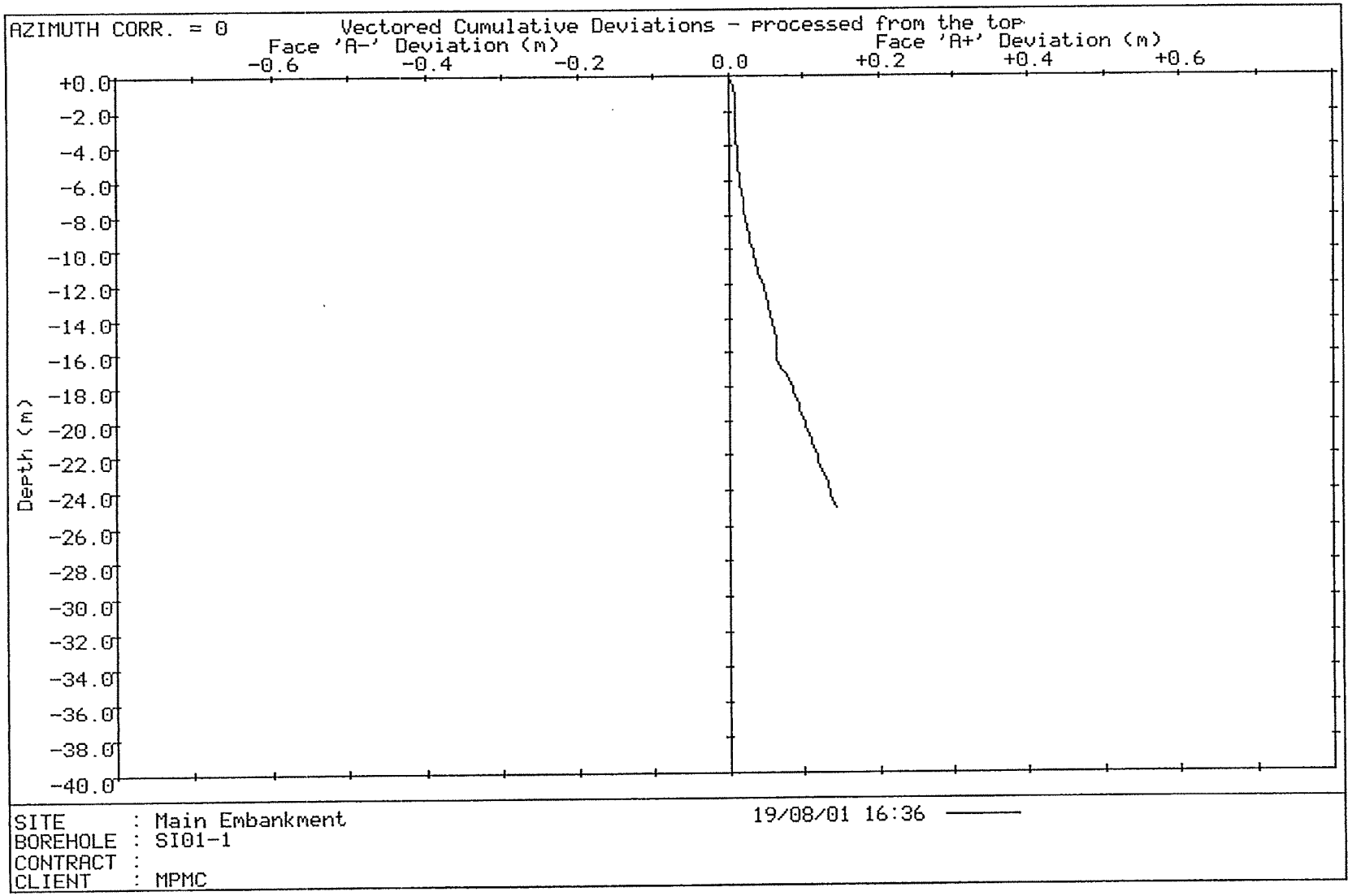
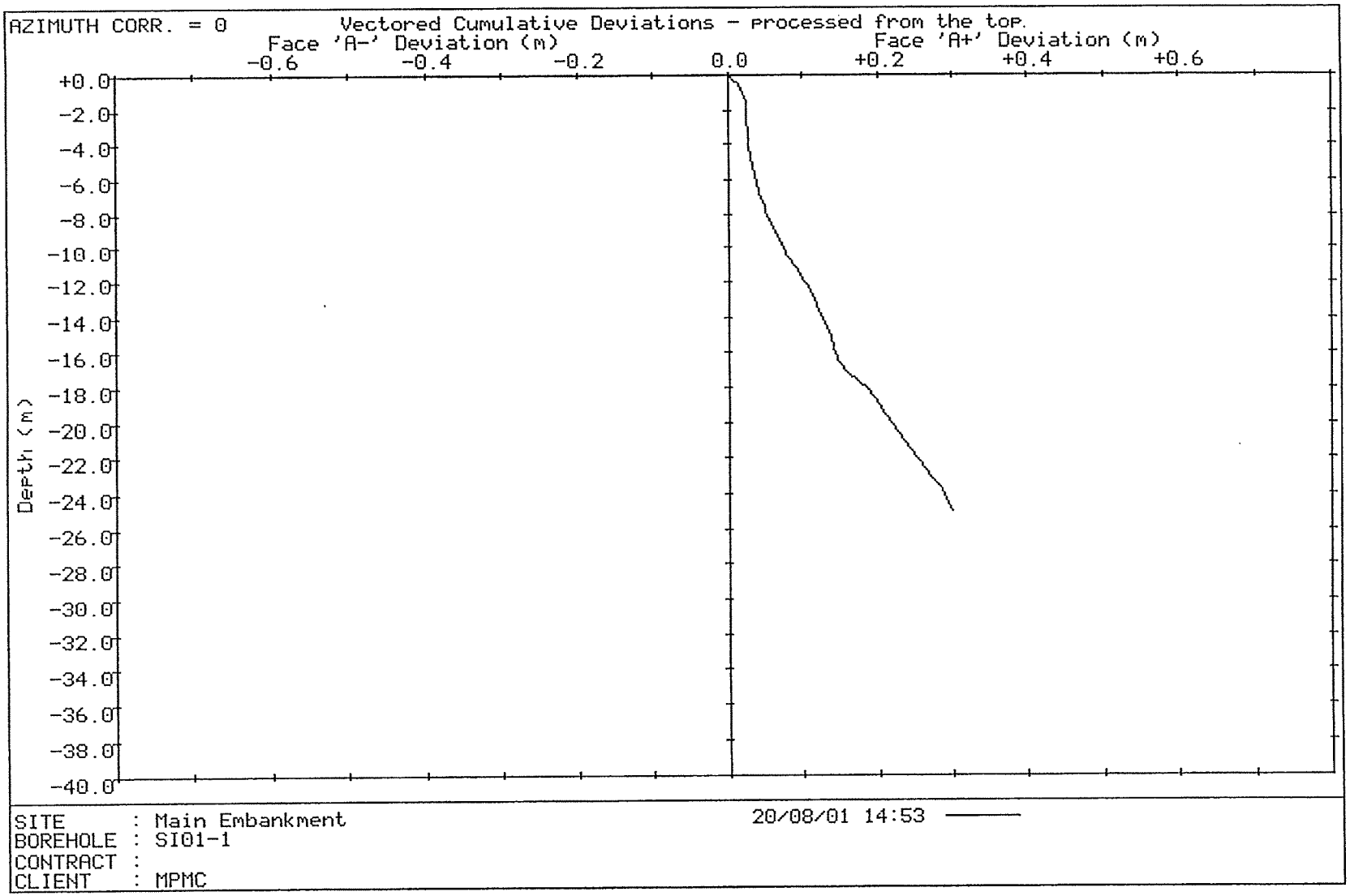
APPENDIX D1

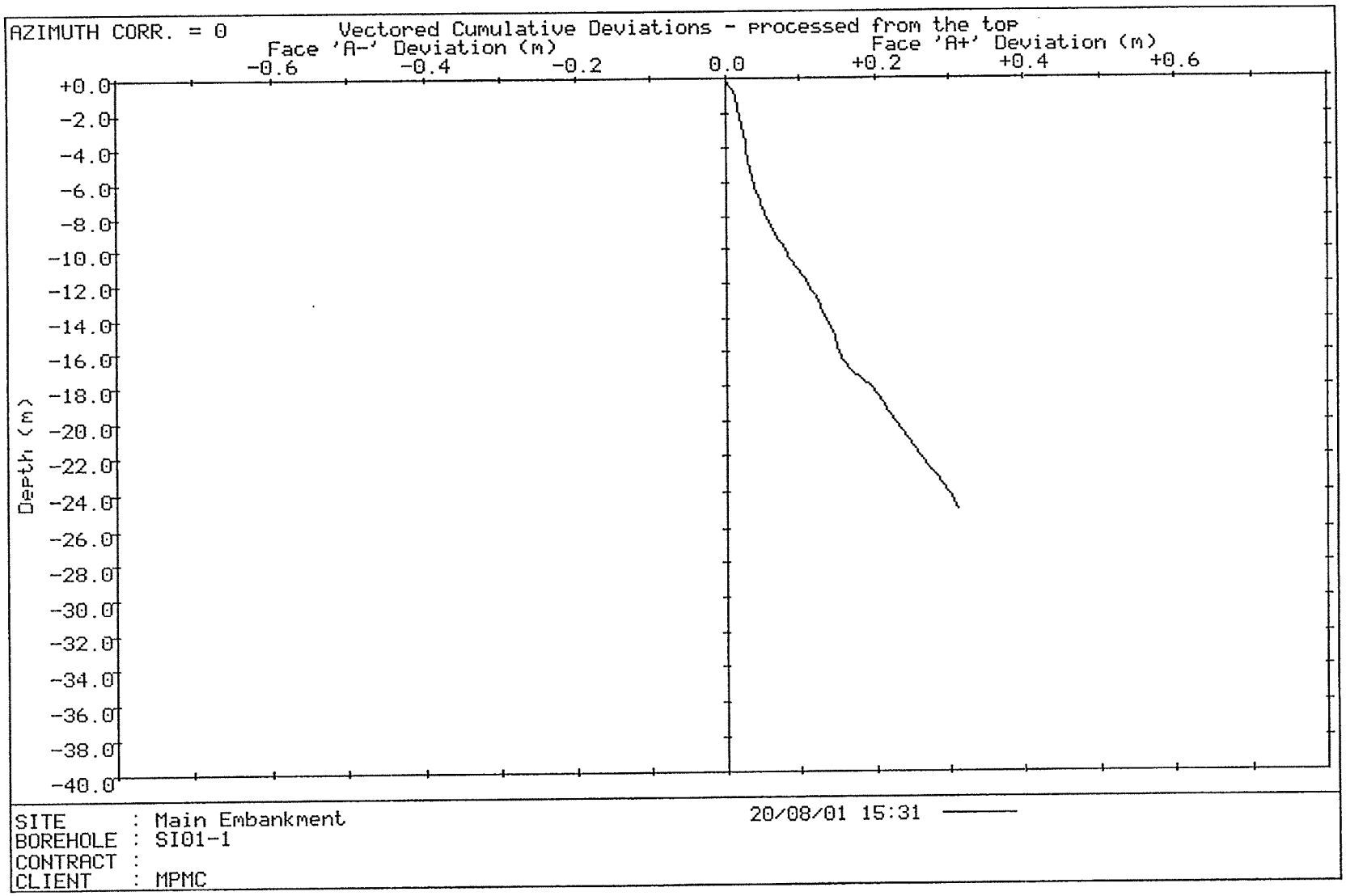
(Rev 0)

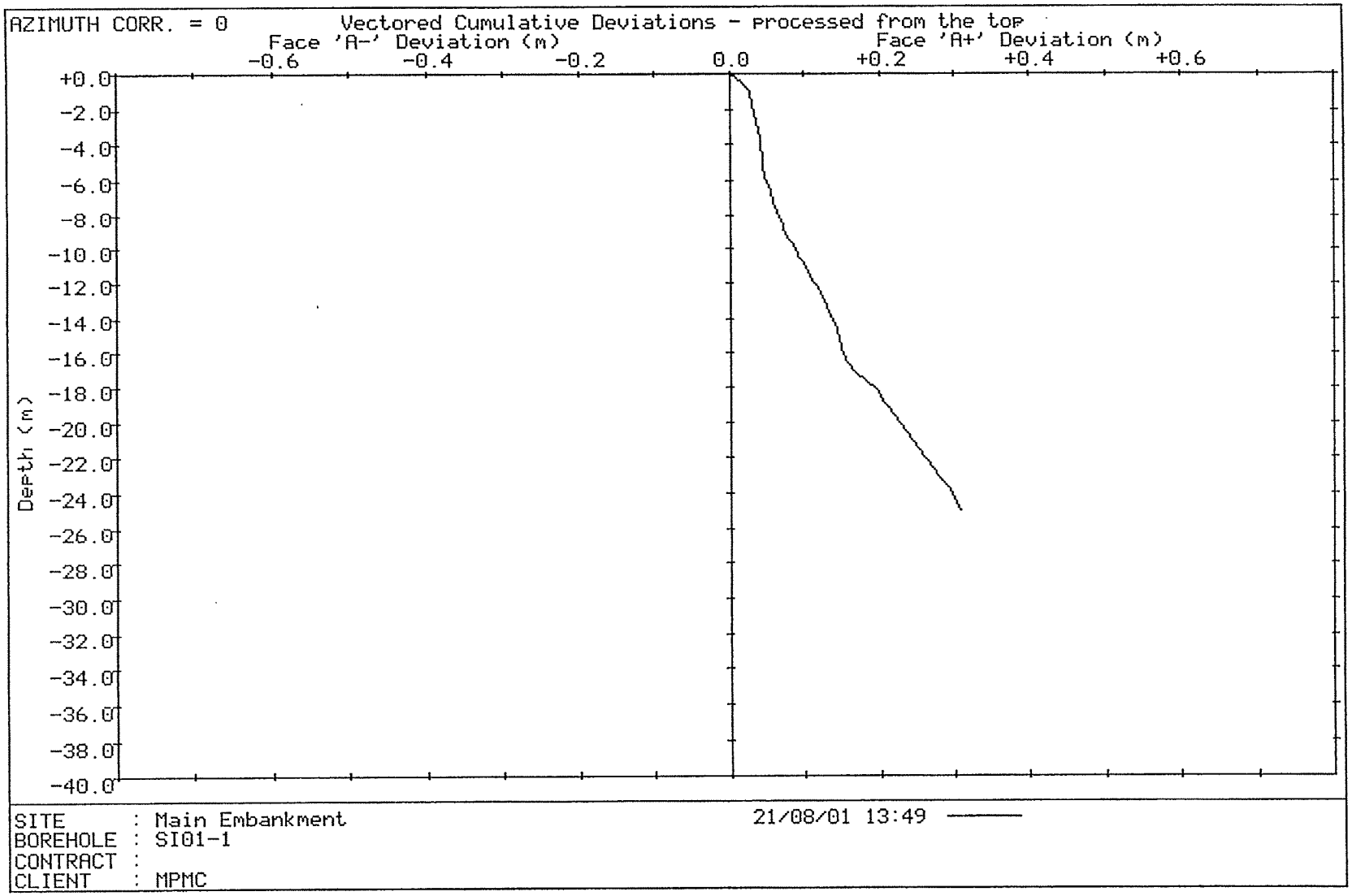
INCLINOMETER SI01-01 VECTORED CUMULATIVE DEVIATIONS
(D1-1 TO D1-7)

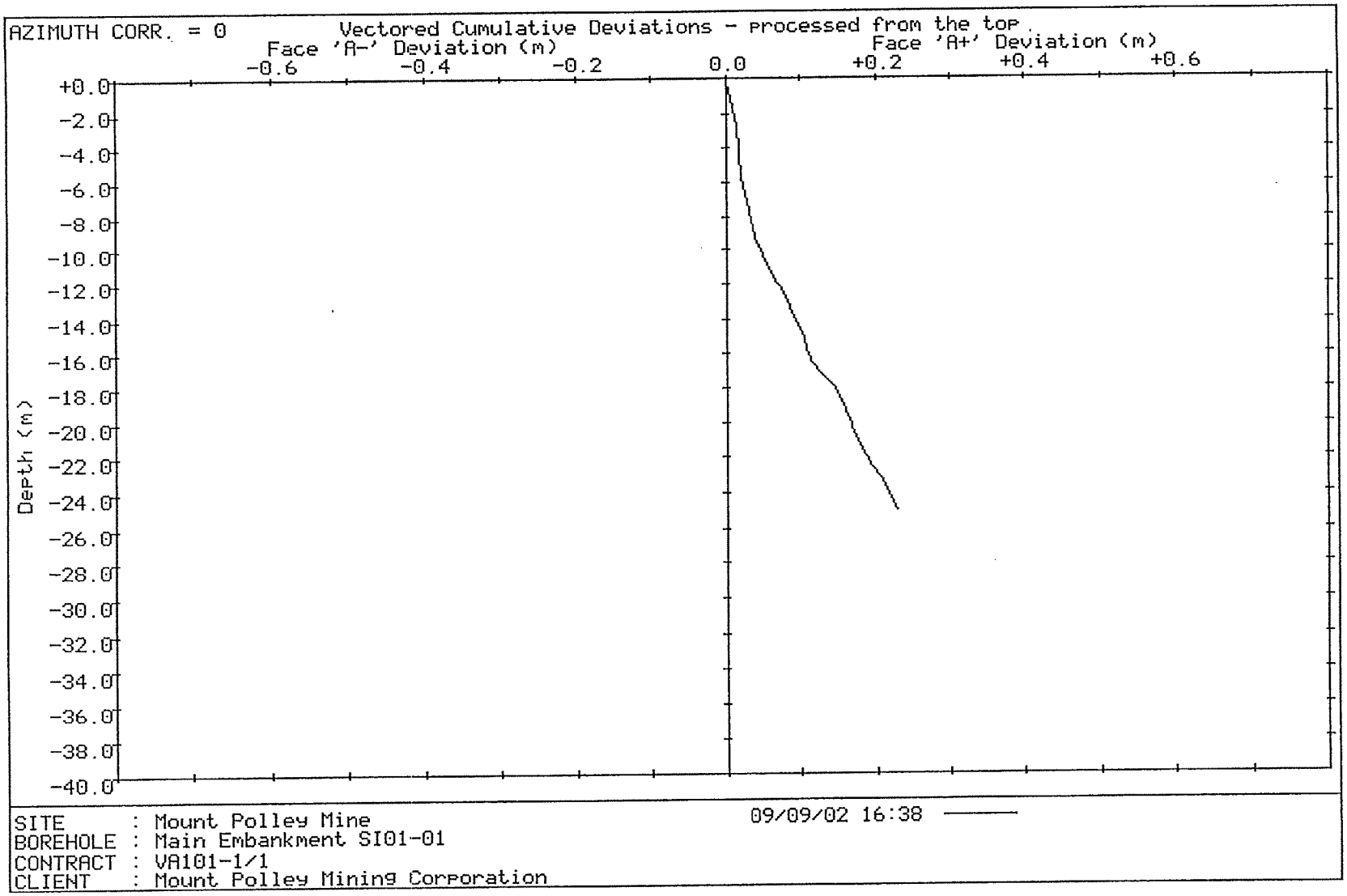

AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
18/08/01 16:09

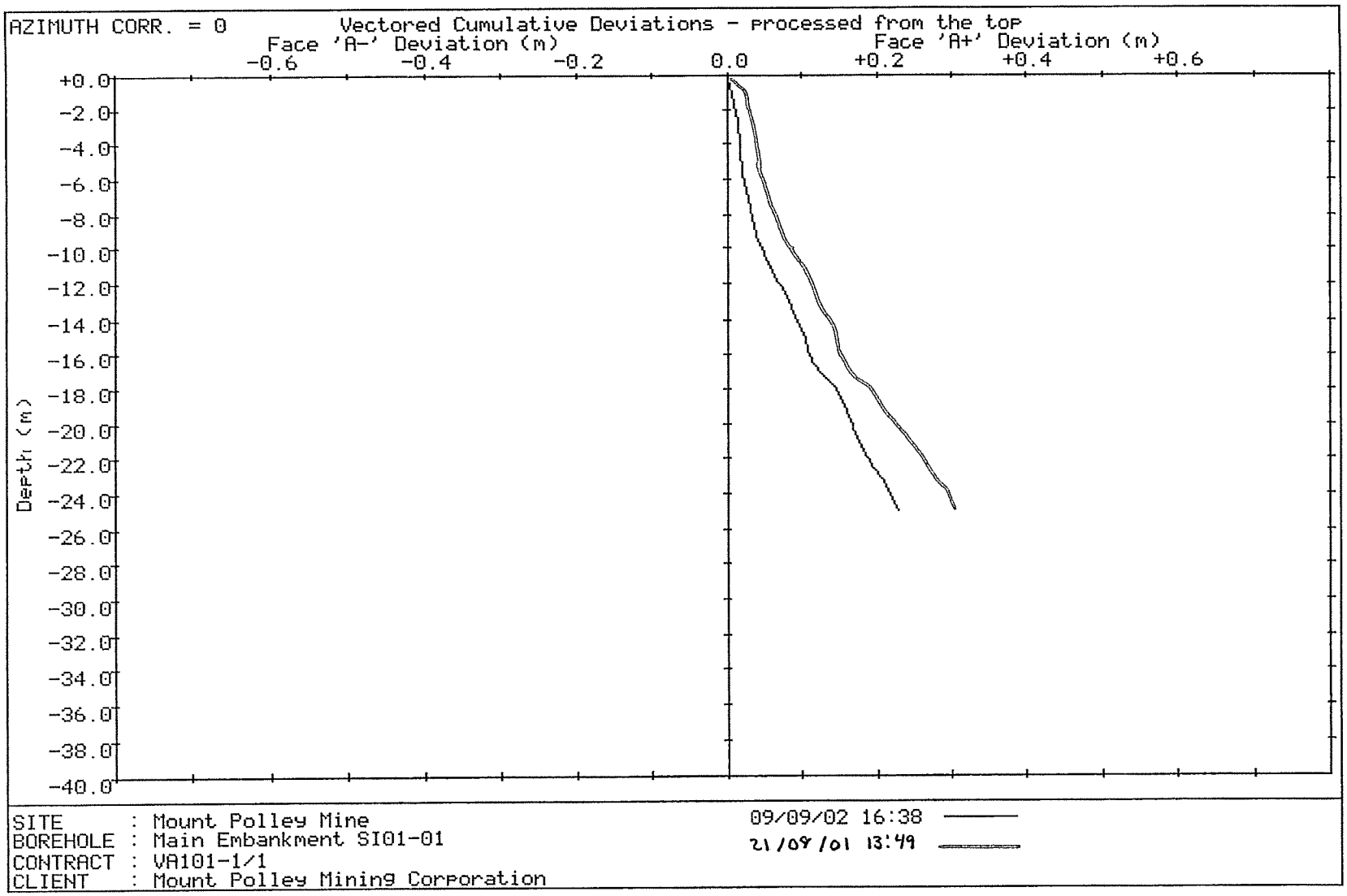

AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
19/08/01 16:36


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top.
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
20/08/01 14:53


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
20/08/01 15:31


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
21/08/01 13:49


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
09/09/02 16:38
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-01
CONTRACT : VA101-1/1
CLIENT : Mount Polley Mining Corporation


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-01
CONTRACT : VA101-1/1
CLIENT : Mount Polley Mining Corporation
09/09/02 16:38
21/09/01 13:49

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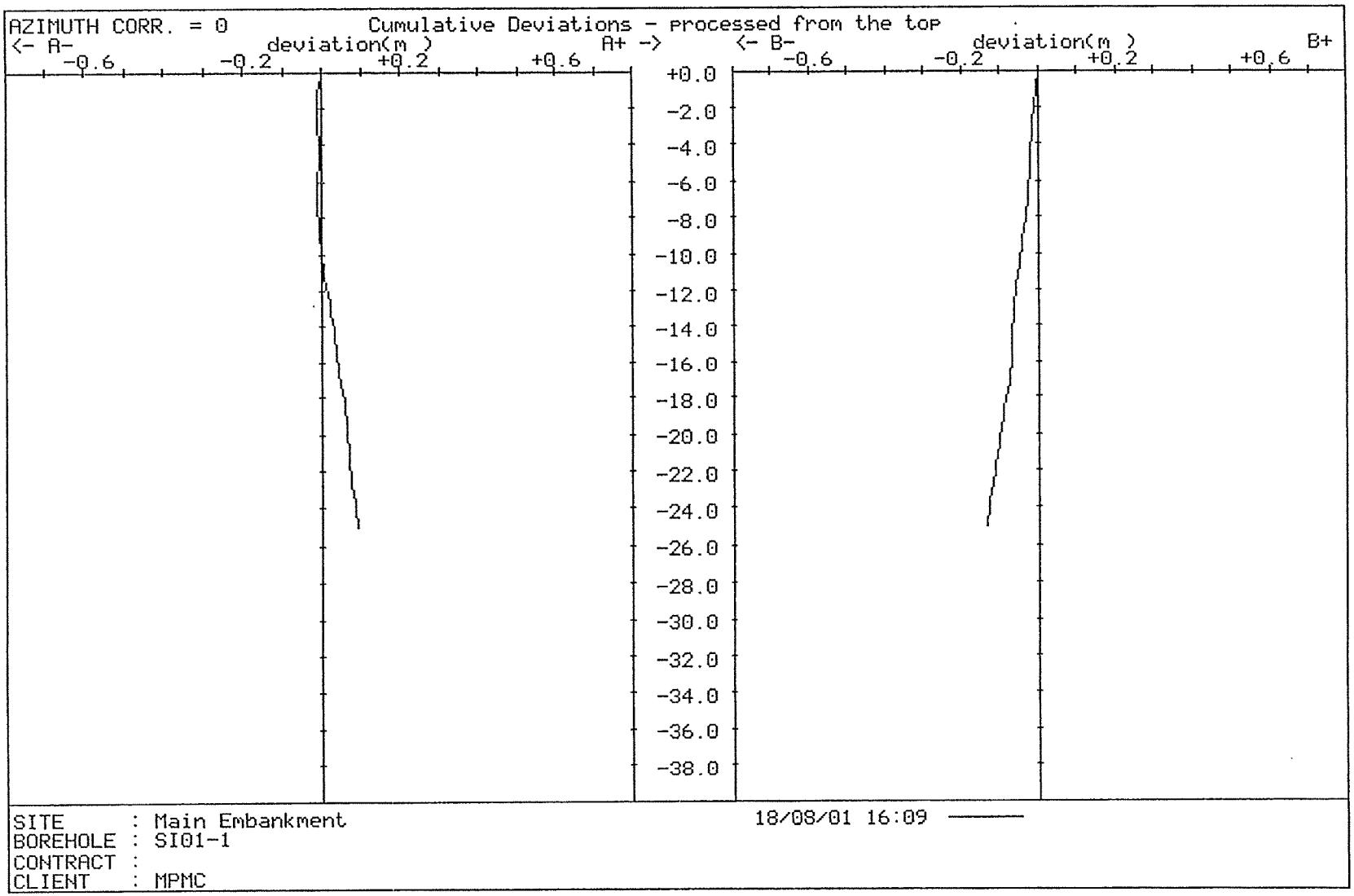
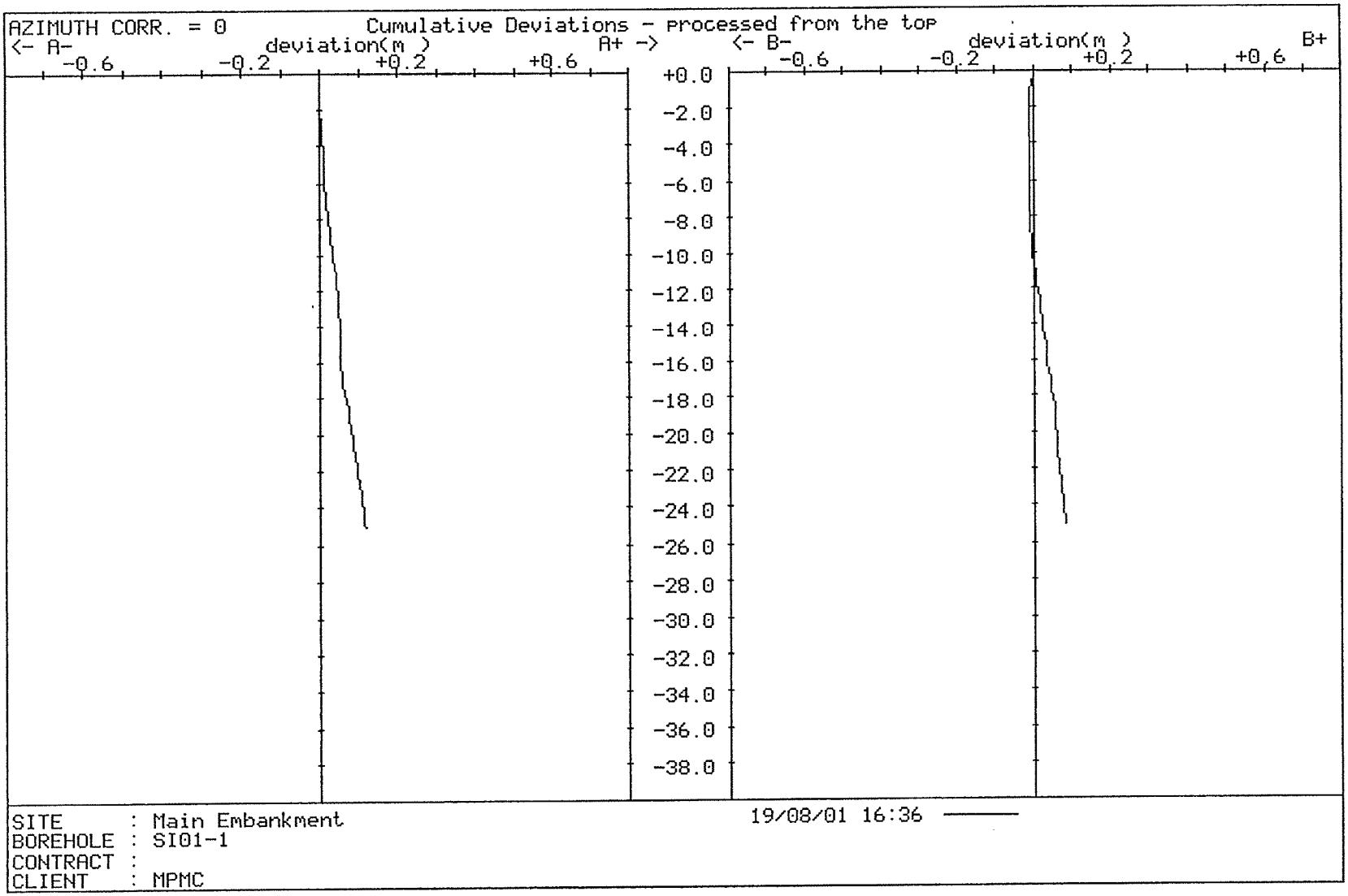
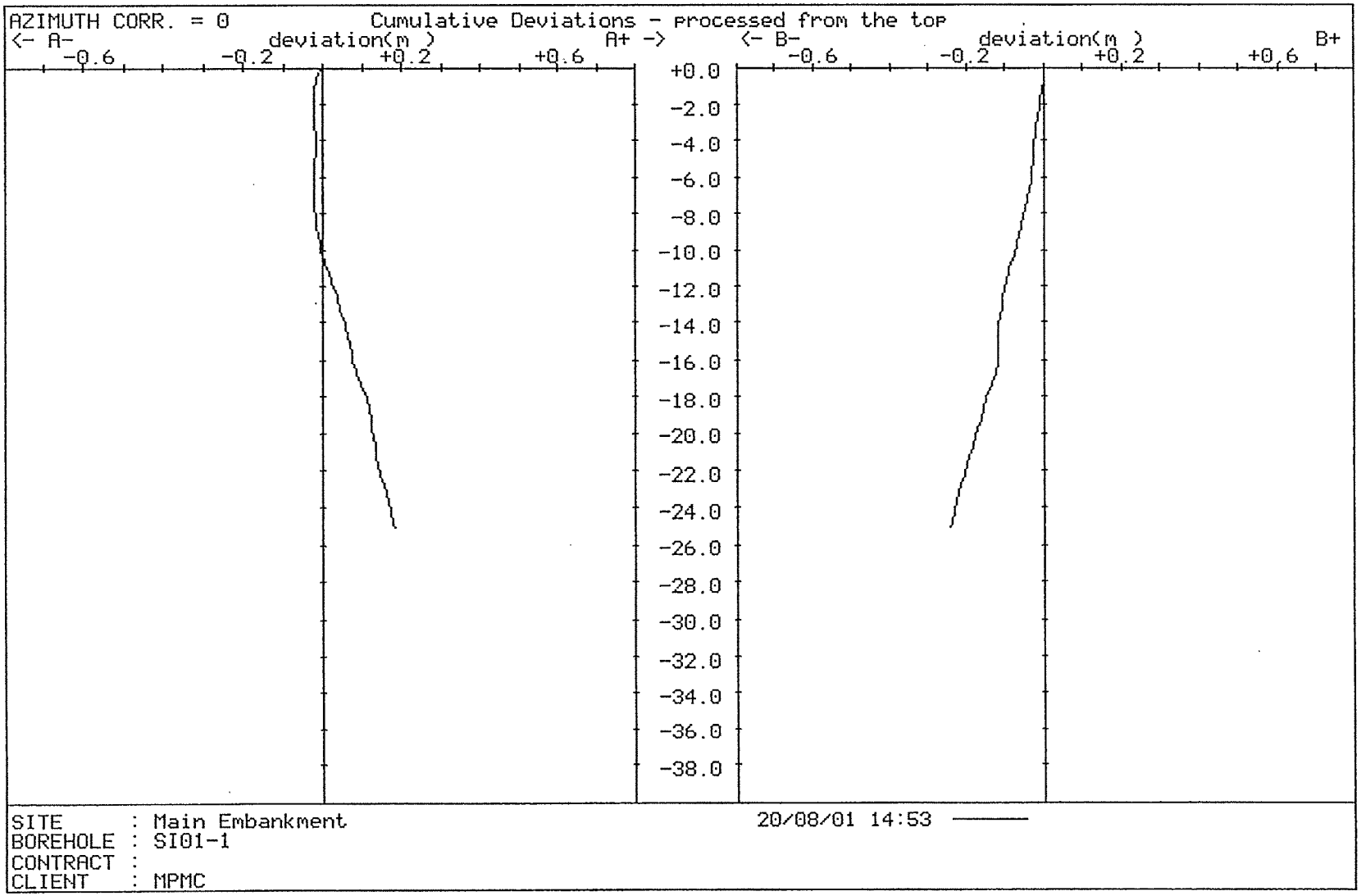
APPENDIX D2

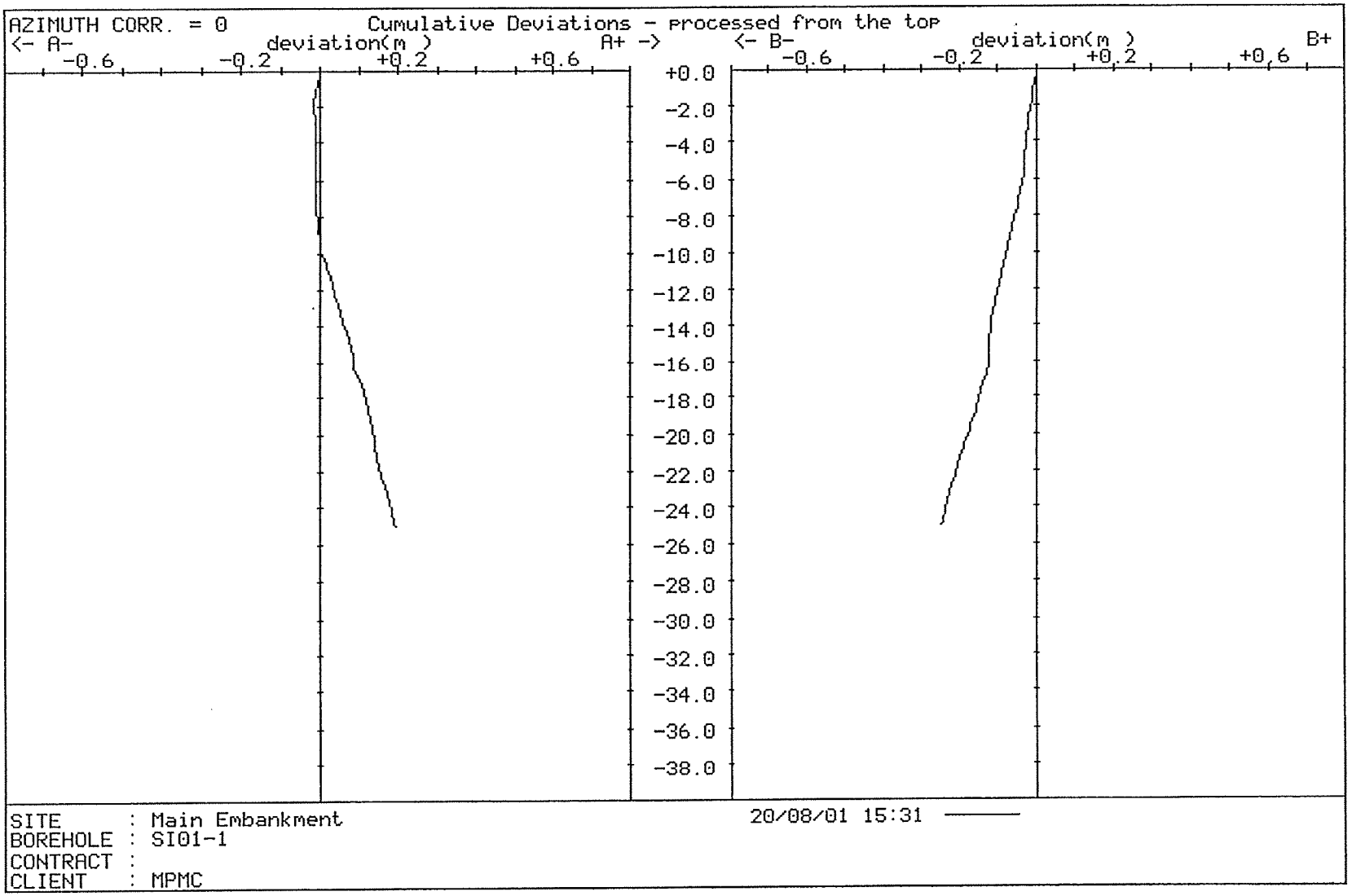
(Rev 0)

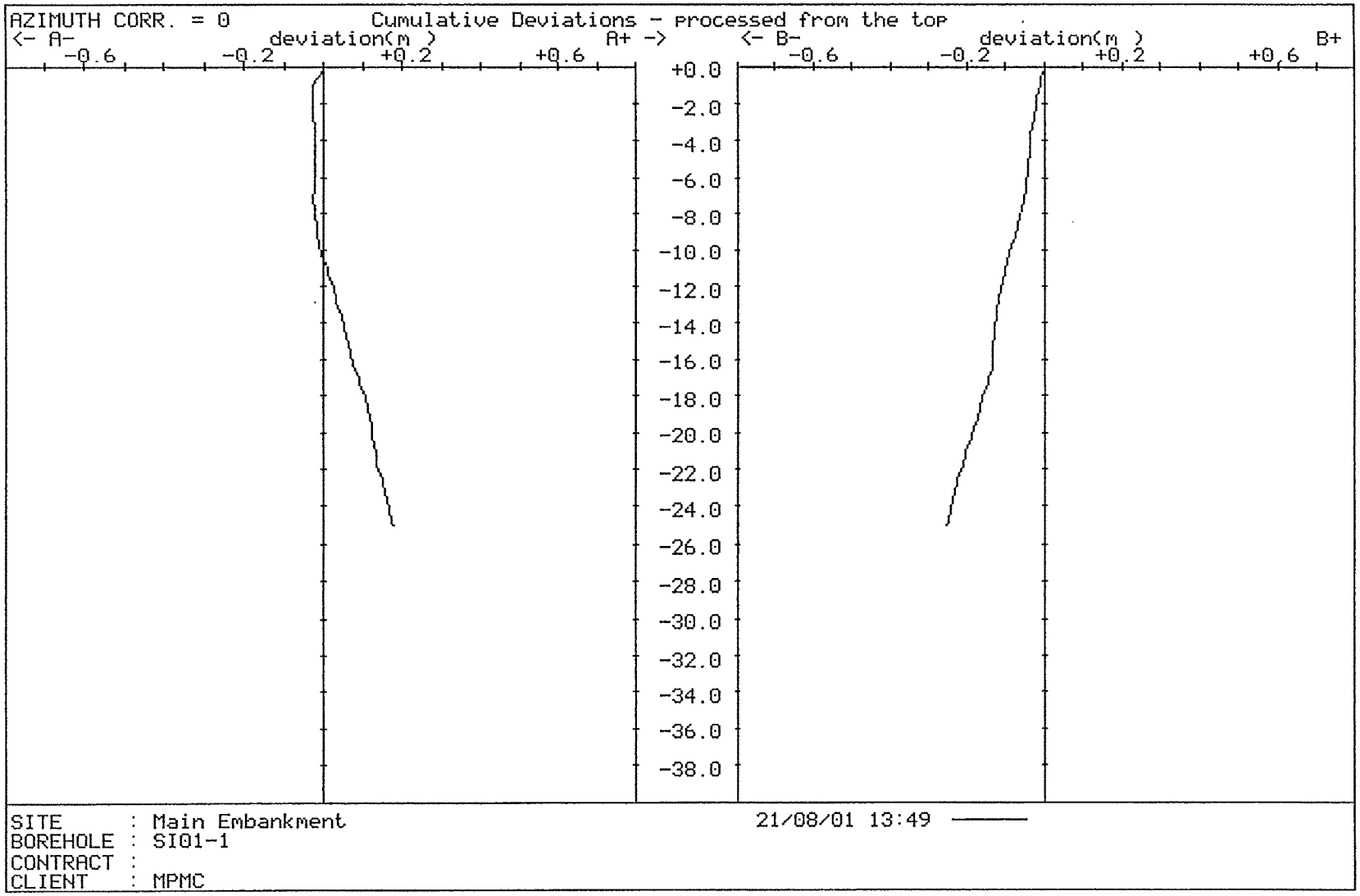
INCLINOMETER SI01-01 A AND B FACE CUMULATIVE DEVIATIONS
(D2-1 to D2-7)

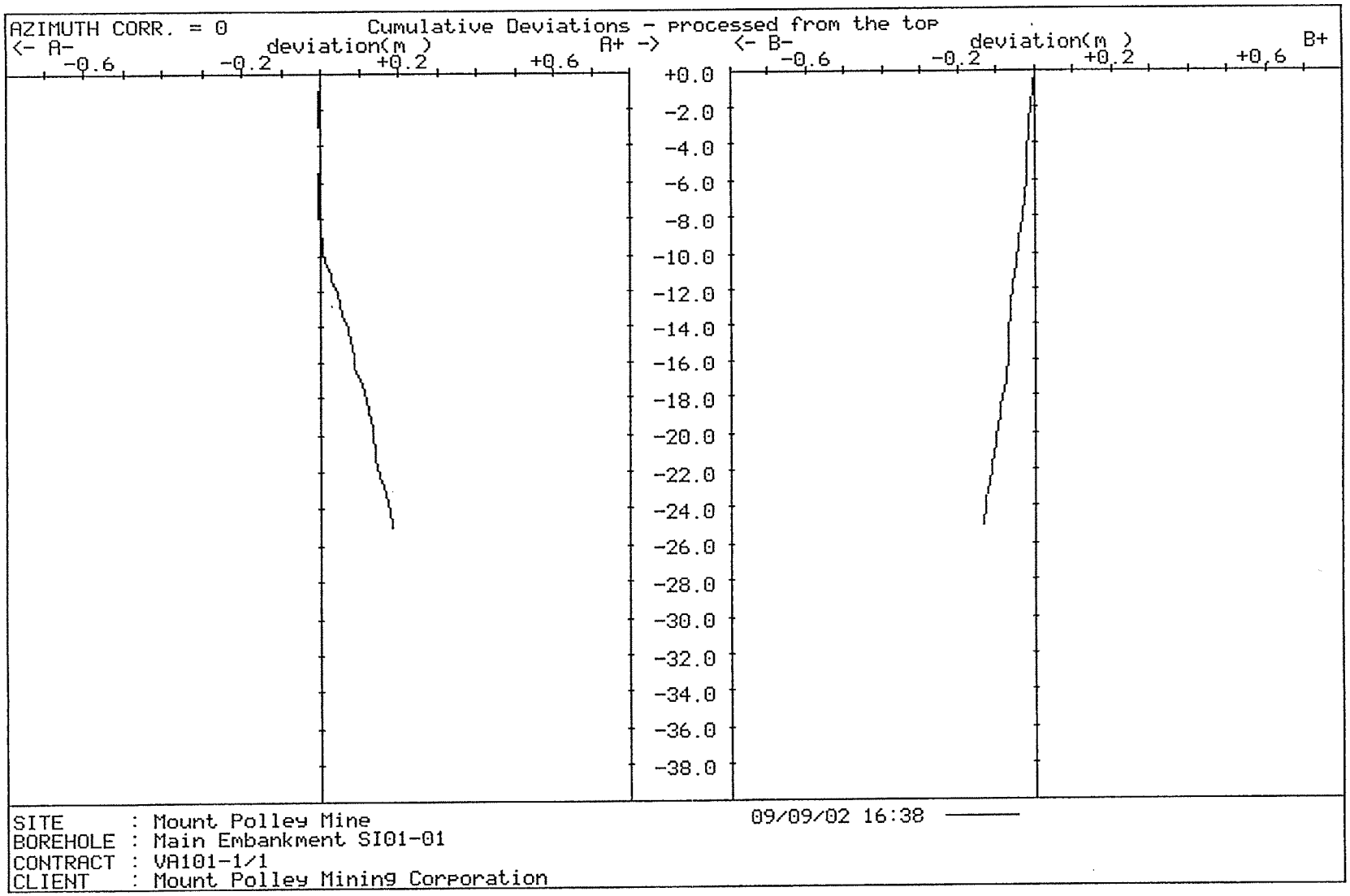

AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
18/08/01 16:09

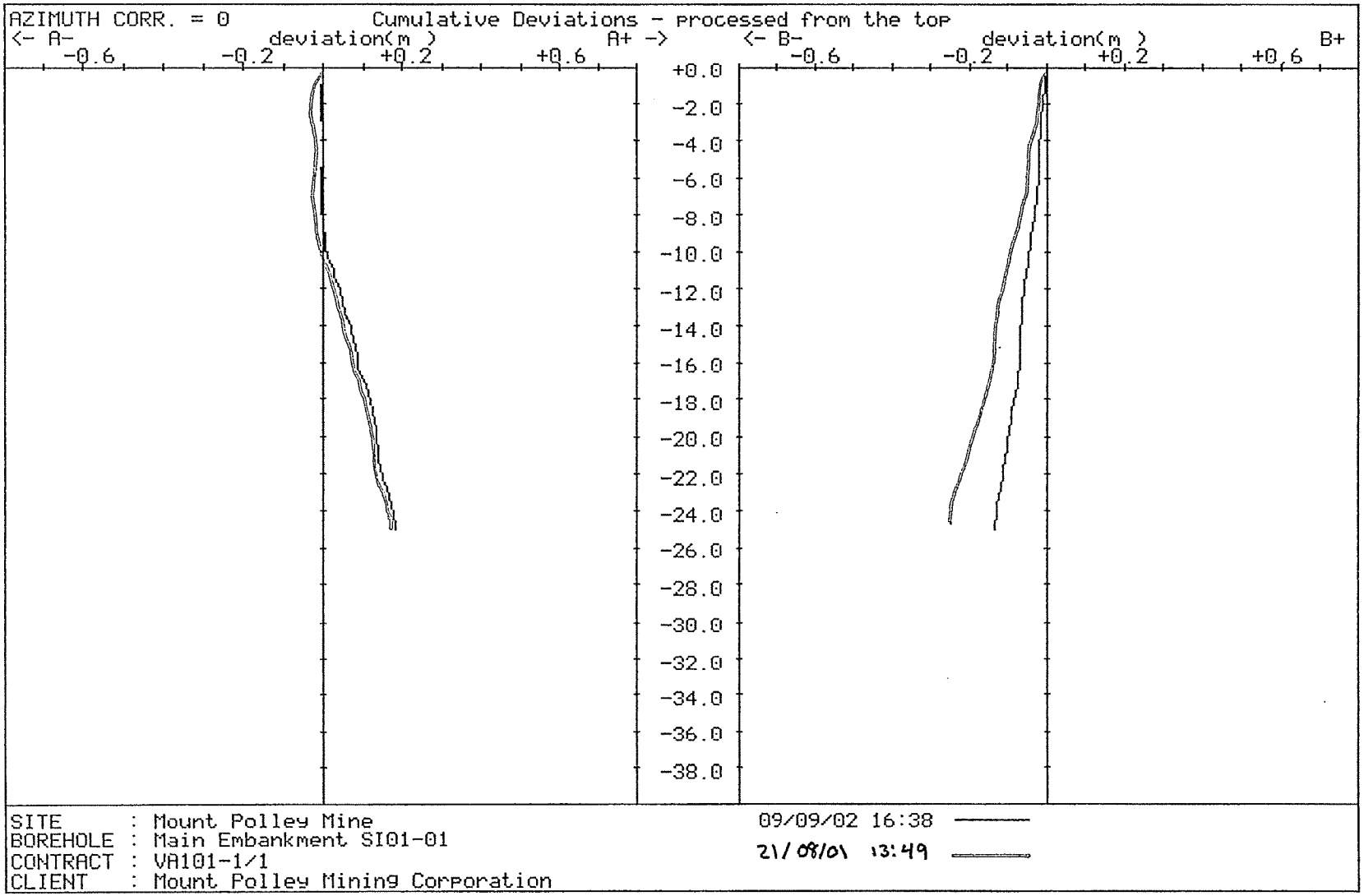

AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
19/08/01 16:36


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
20/08/01 14:53


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
20/08/01 15:31


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
-0.6
-0.2
+0.2
+0.6
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-1
CONTRACT :
CLIENT : MPMC
21/08/01 13:49


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
09/09/02 16:38
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-01
CONTRACT : VA101-1/1
CLIENT : Mount Polley Mining Corporation


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-01
CONTRACT : VA101-1/1
CLIENT : Mount Polley Mining Corporation
09/09/02 16:38
21/08/01 13:49

DZ-7

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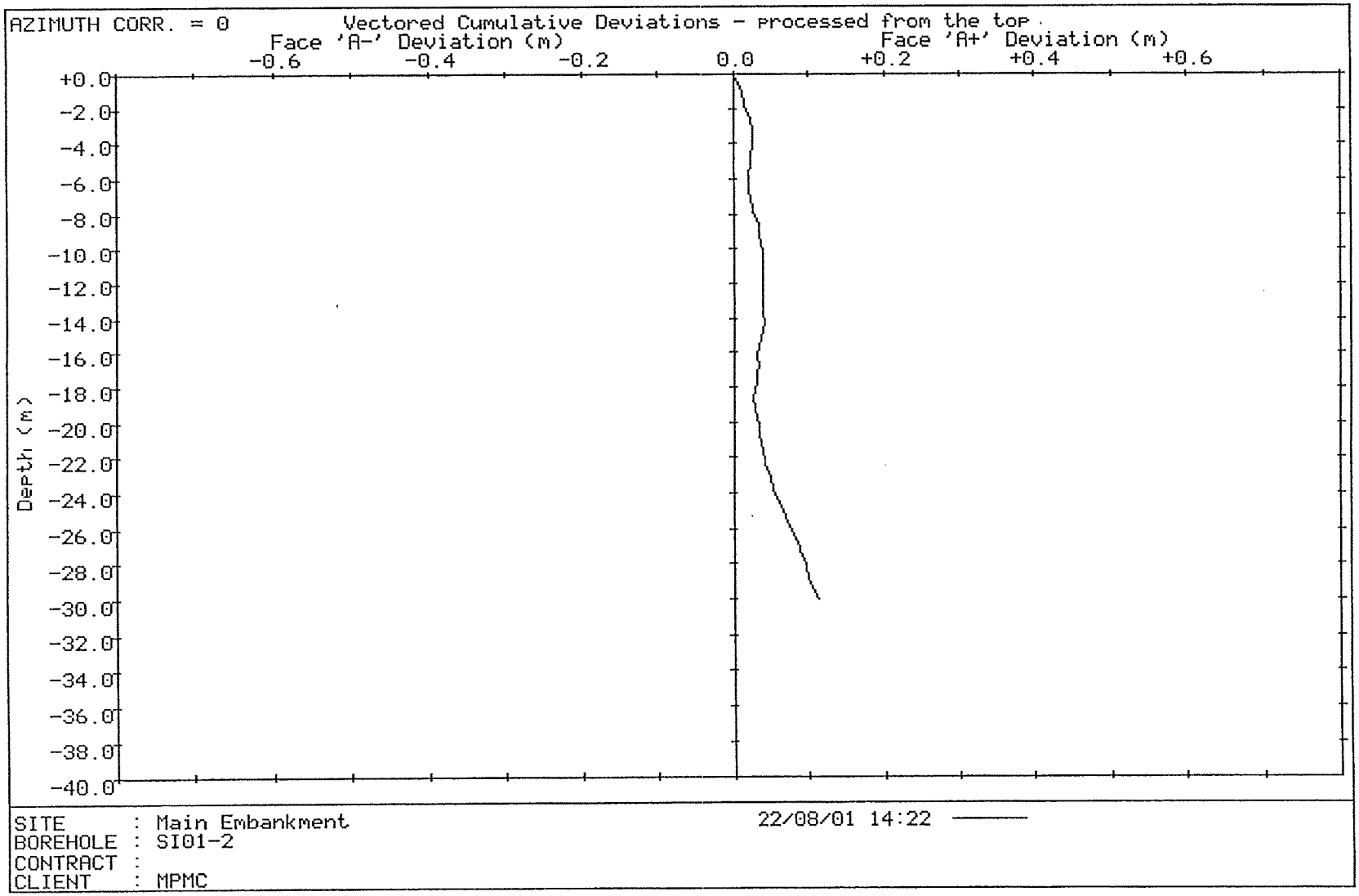
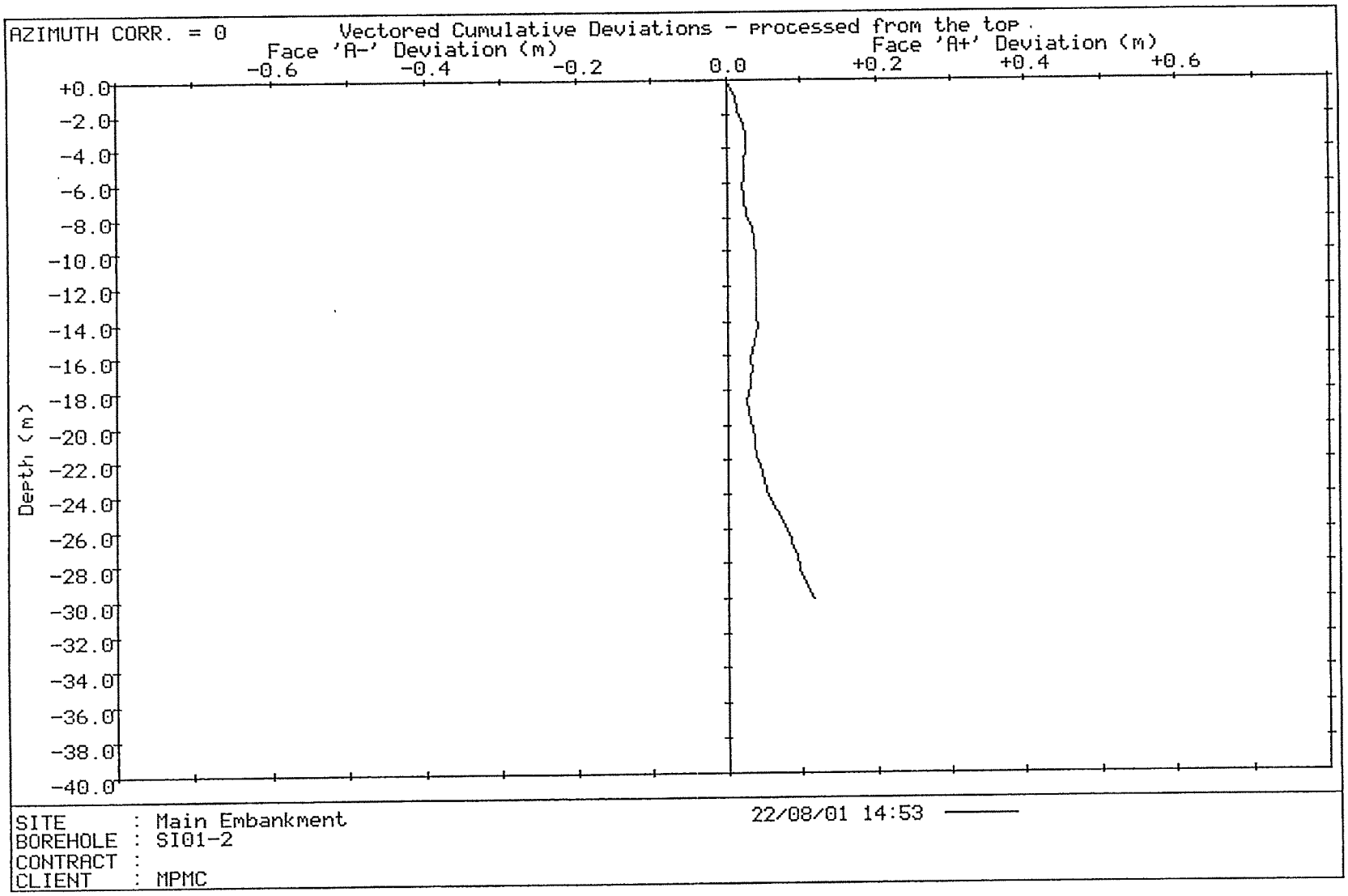
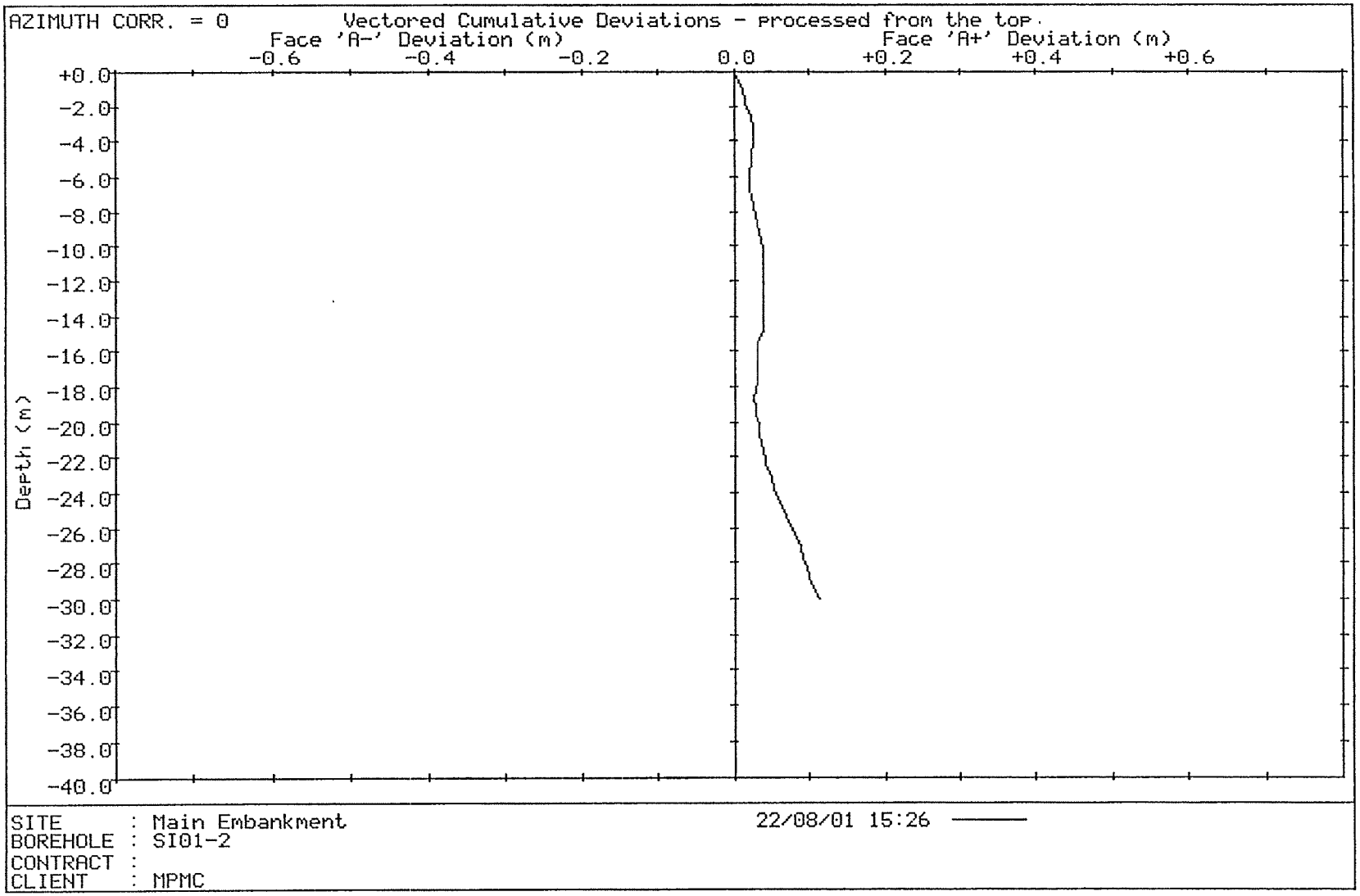
APPENDIX D3

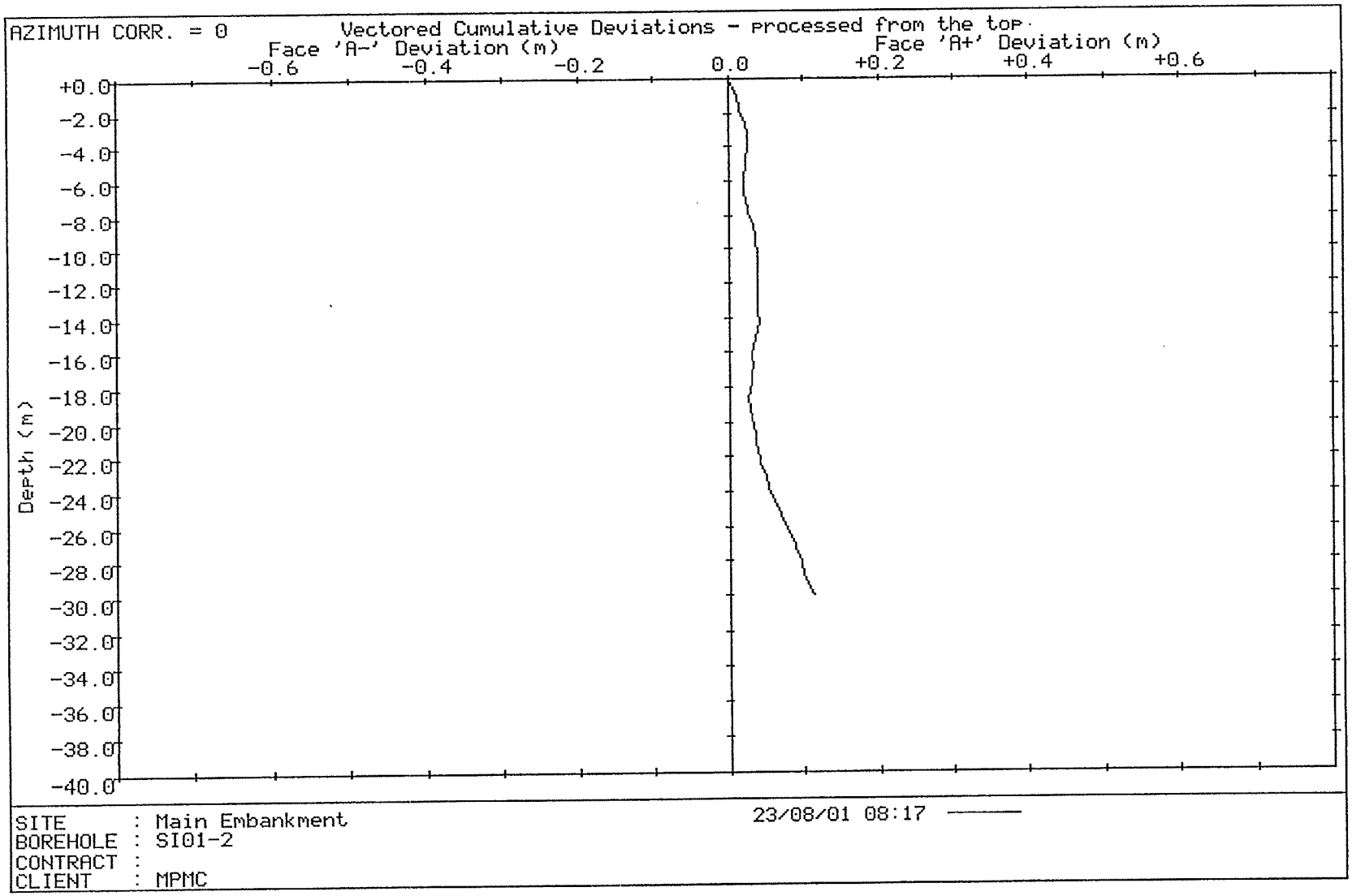
(Rev 0)

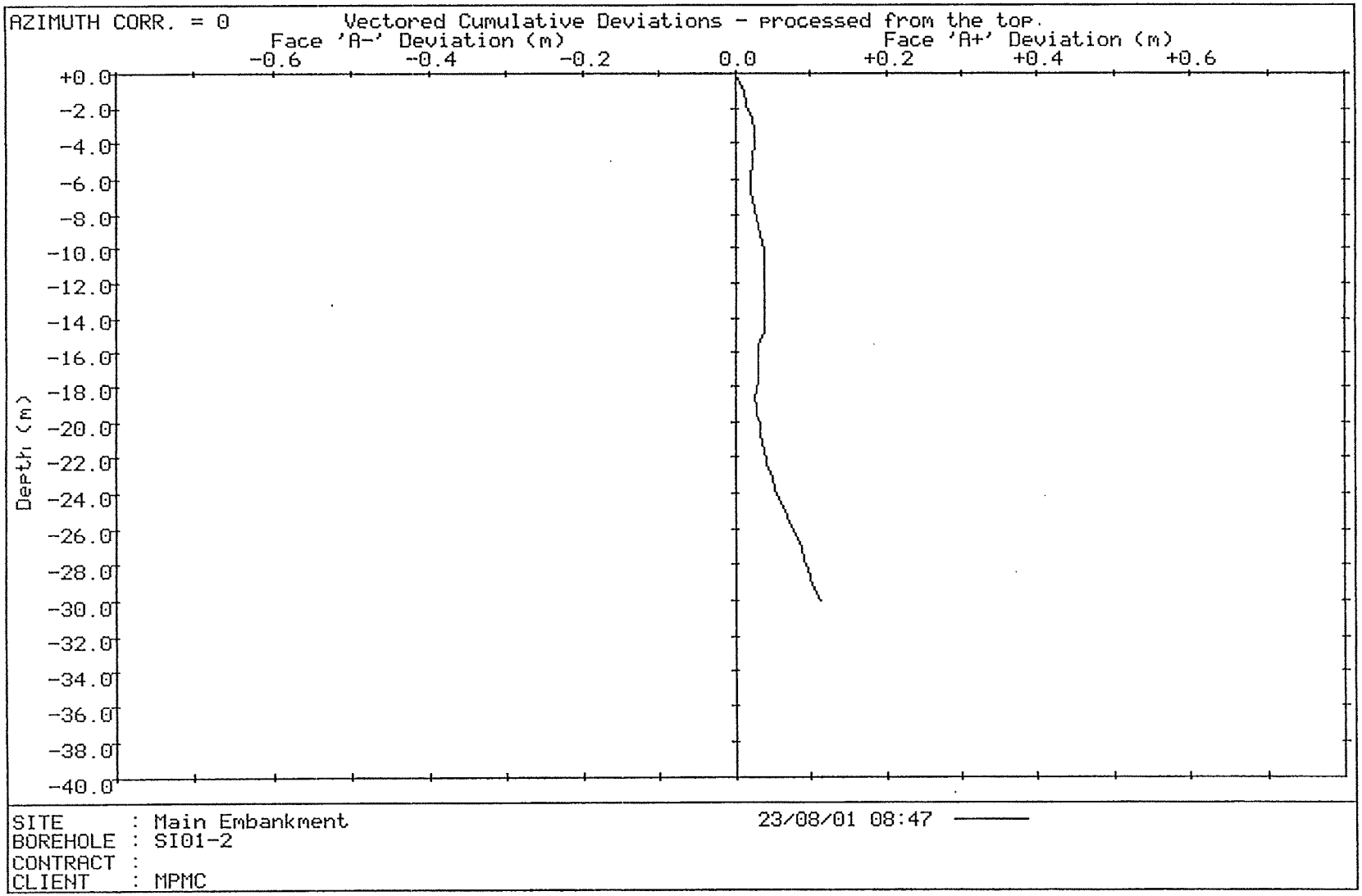
INCLINOMETER SI01-02 VECTORED CUMULATIVE DEVIATIONS
(D3-1 TO D3-7)

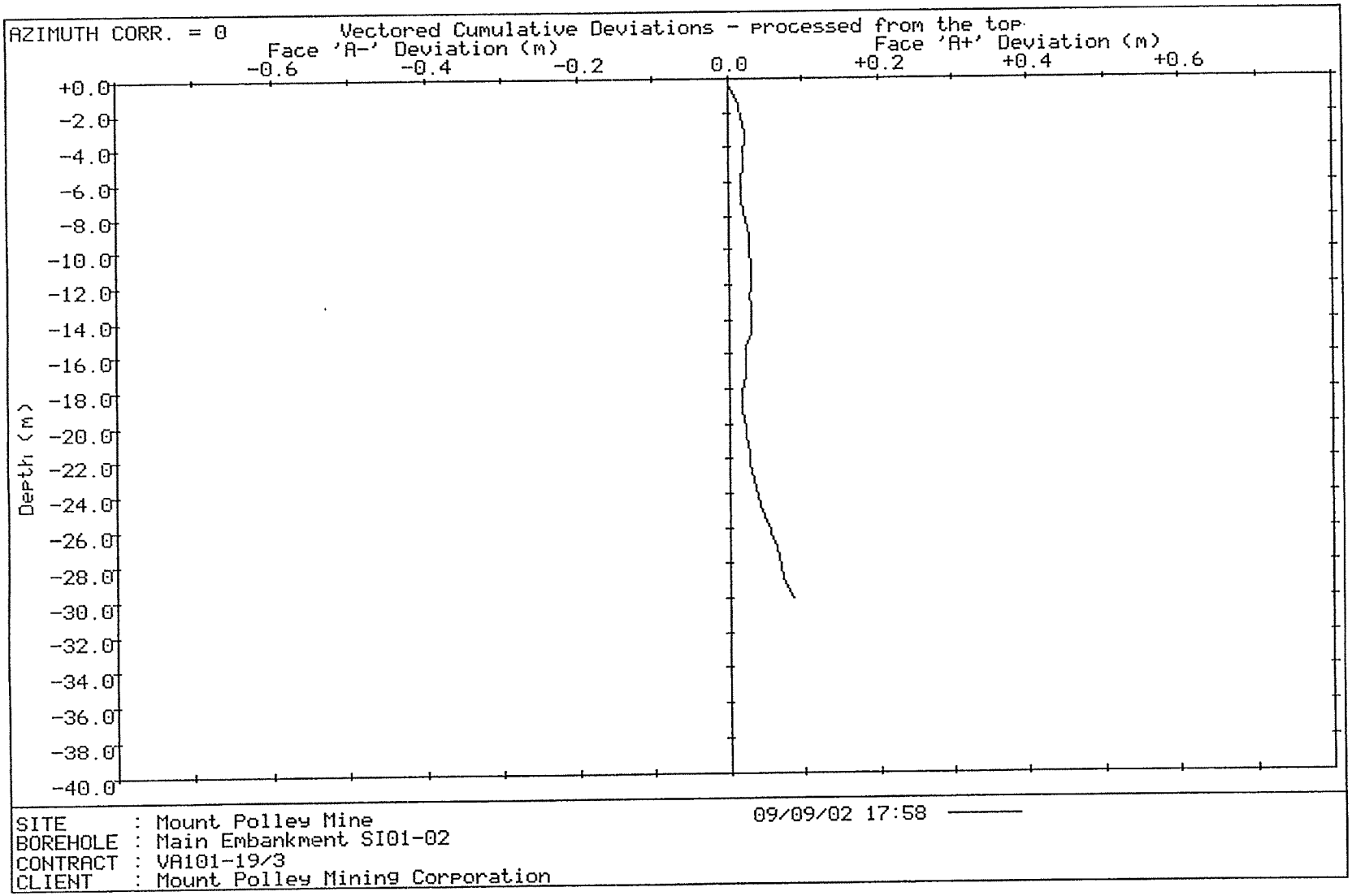

AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
22/08/01 14:22

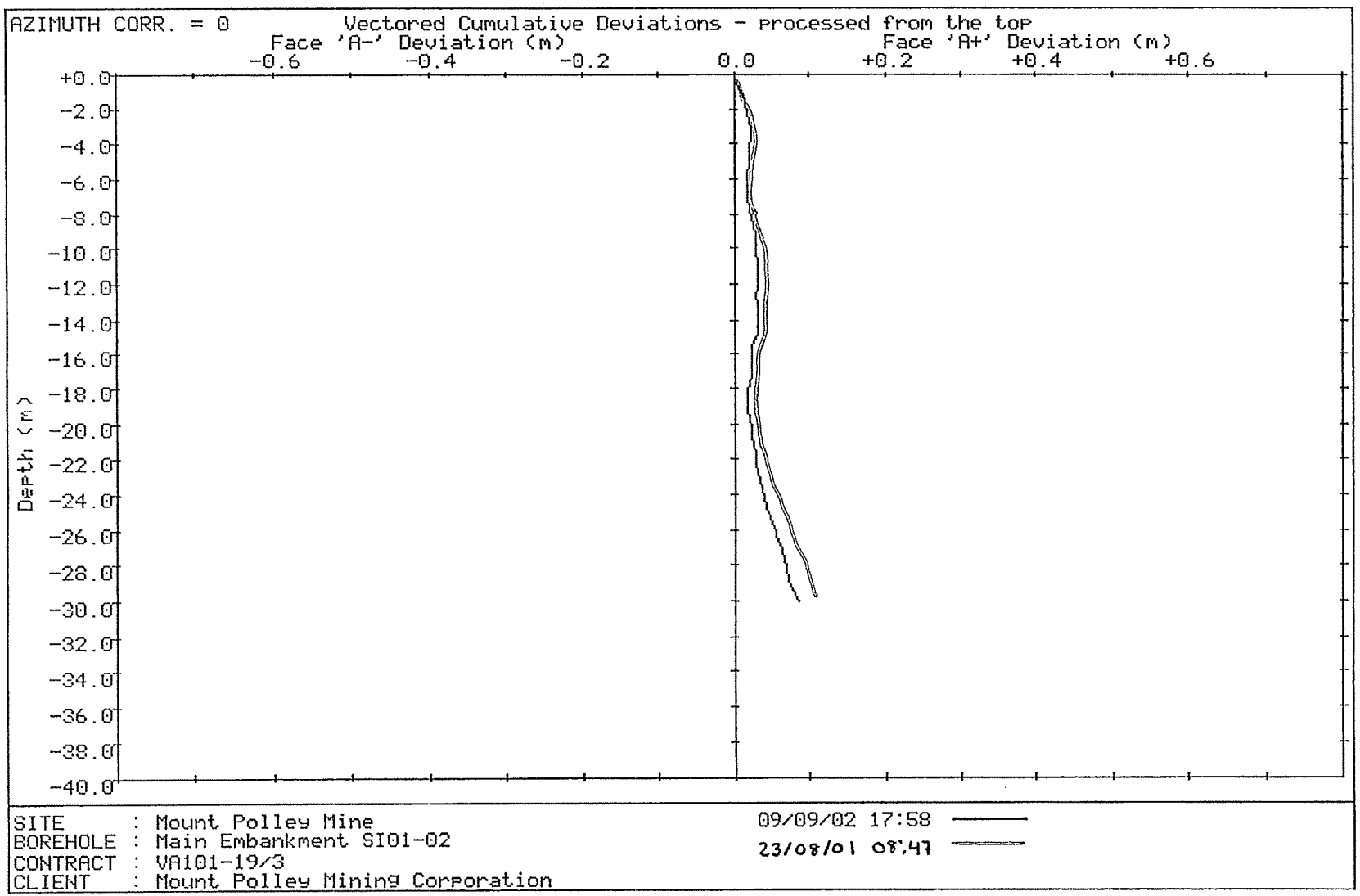

AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
22/08/01 14:53


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top.
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
22/08/01 15:26


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
23/08/01 08:17


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top.
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
23/08/01 08:47


AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
09/09/02 17:58
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-02
CONTRACT : VA101-19/3
CLIENT : Mount Polley Mining Corporation

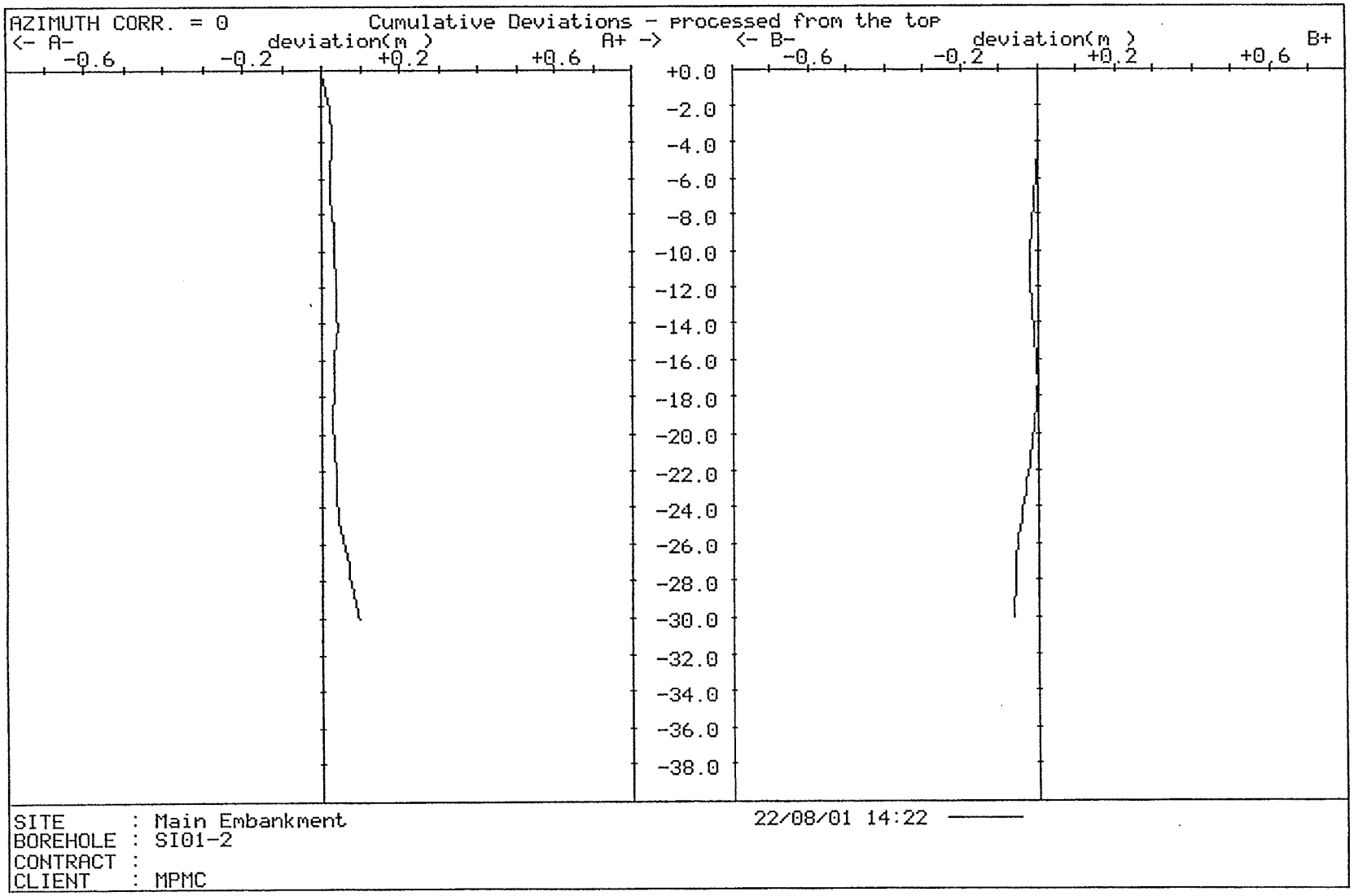

AZIMUTH CORR. = 0
Vectored Cumulative Deviations - processed from the top
Face 'A-' Deviation (m)
Face 'A+' Deviation (m)
-0.6
-0.4
-0.2
0.0
+0.2
+0.4
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
-40.0
Depth (m)
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-02
CONTRACT : VA101-19/3
CLIENT : Mount Polley Mining Corporation
09/09/02 17:58
23/08/01 08:47

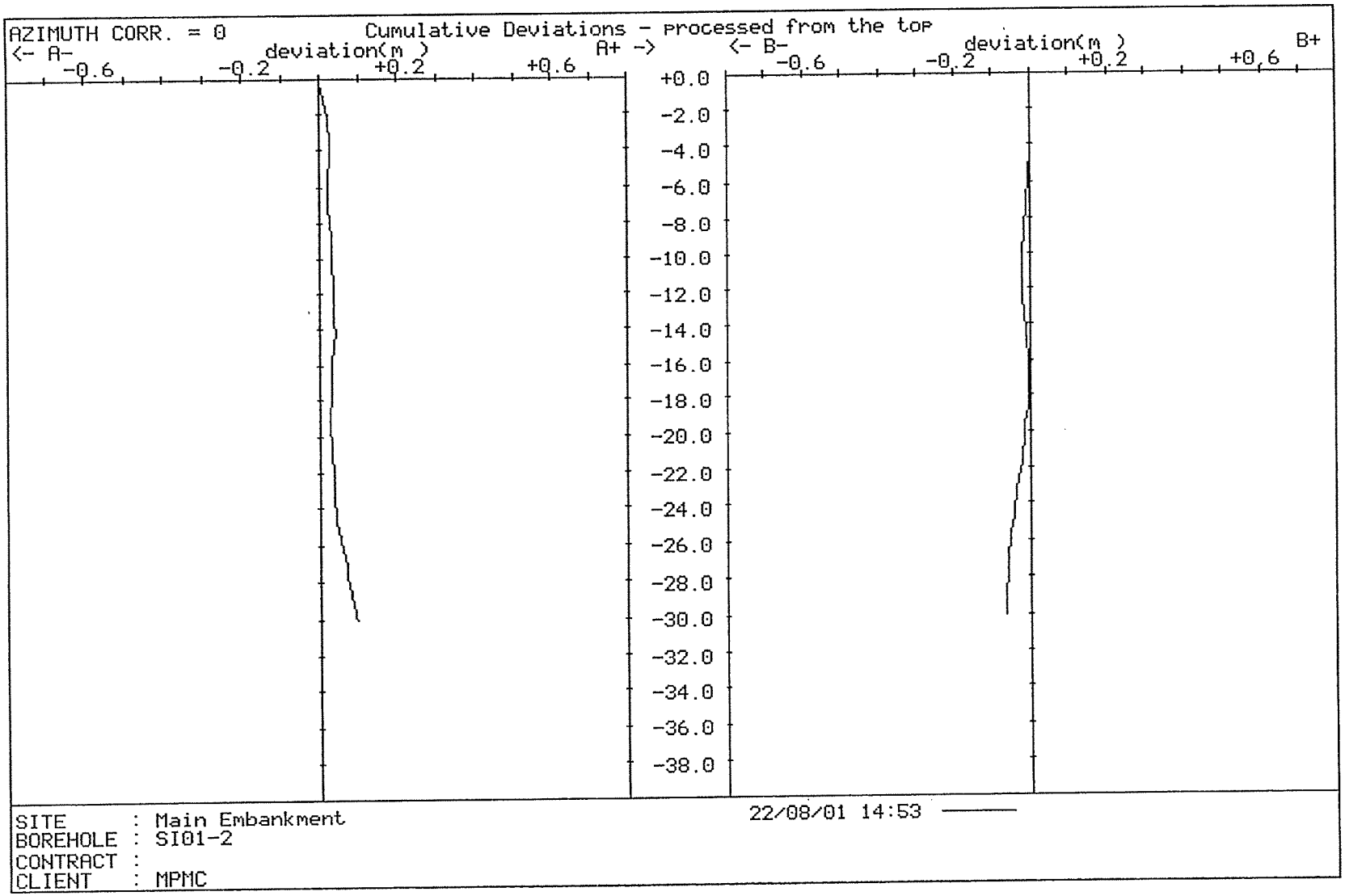
Knight Piésold
CONSULTING

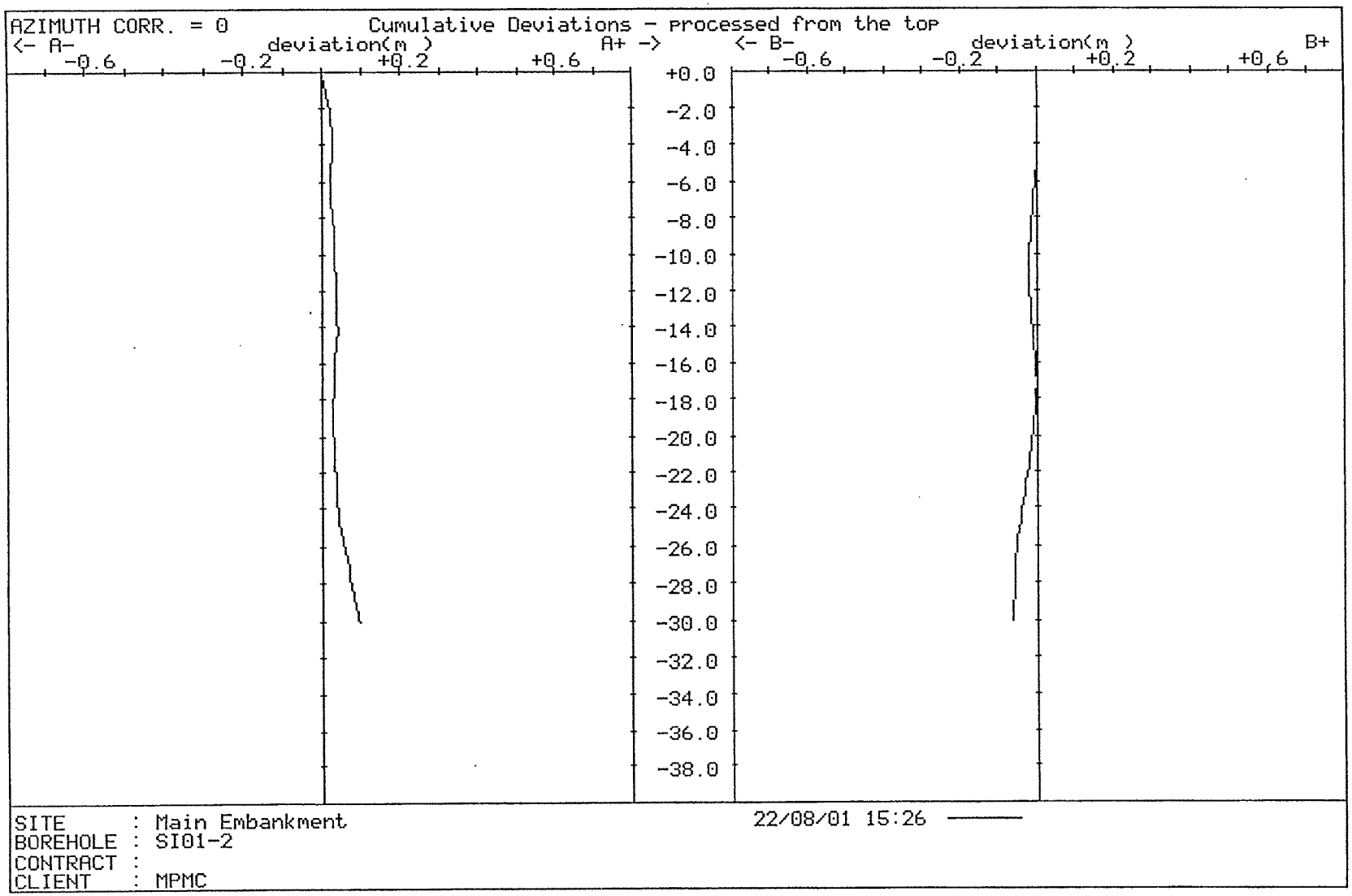
APPENDIX D4

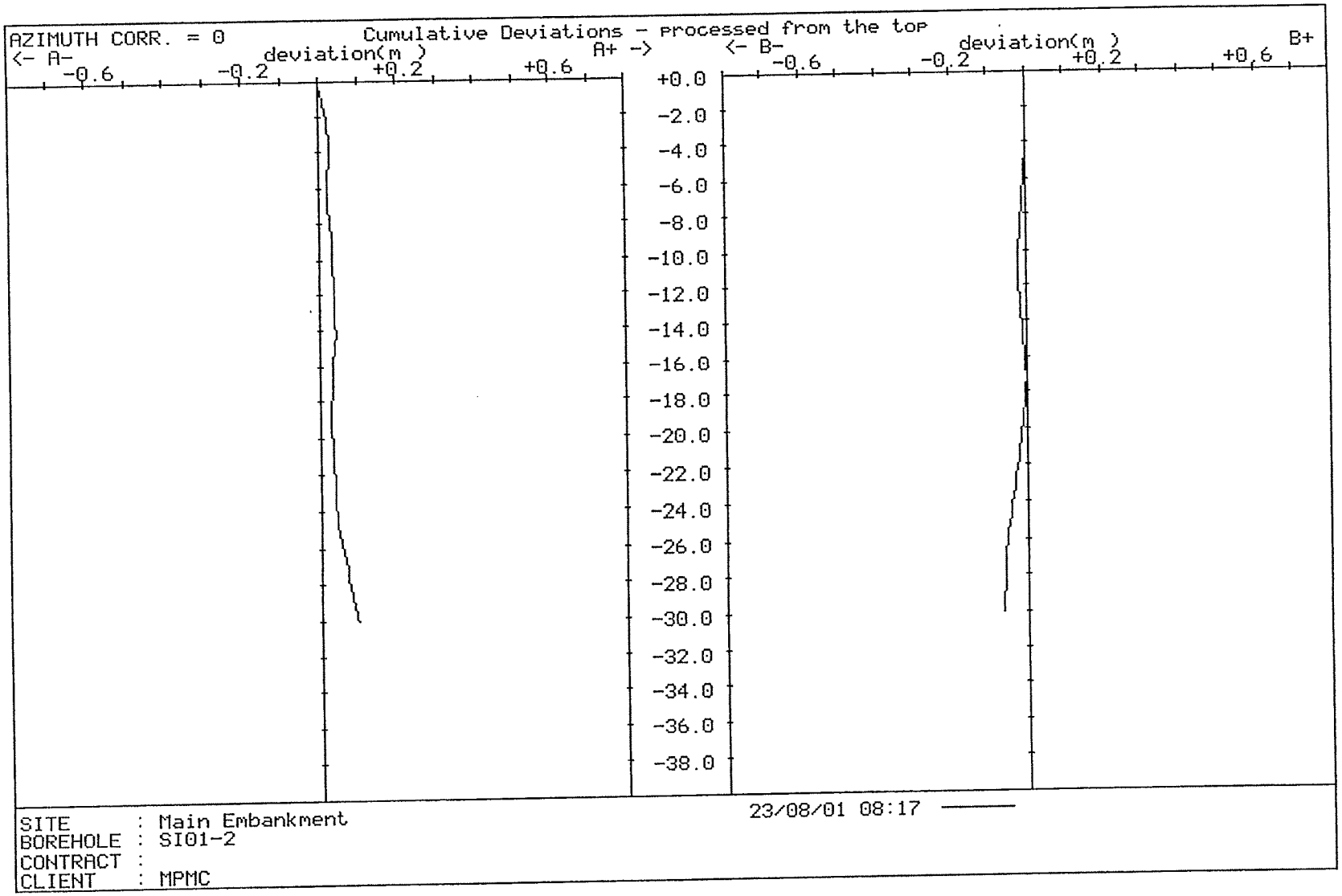
(Rev 0)

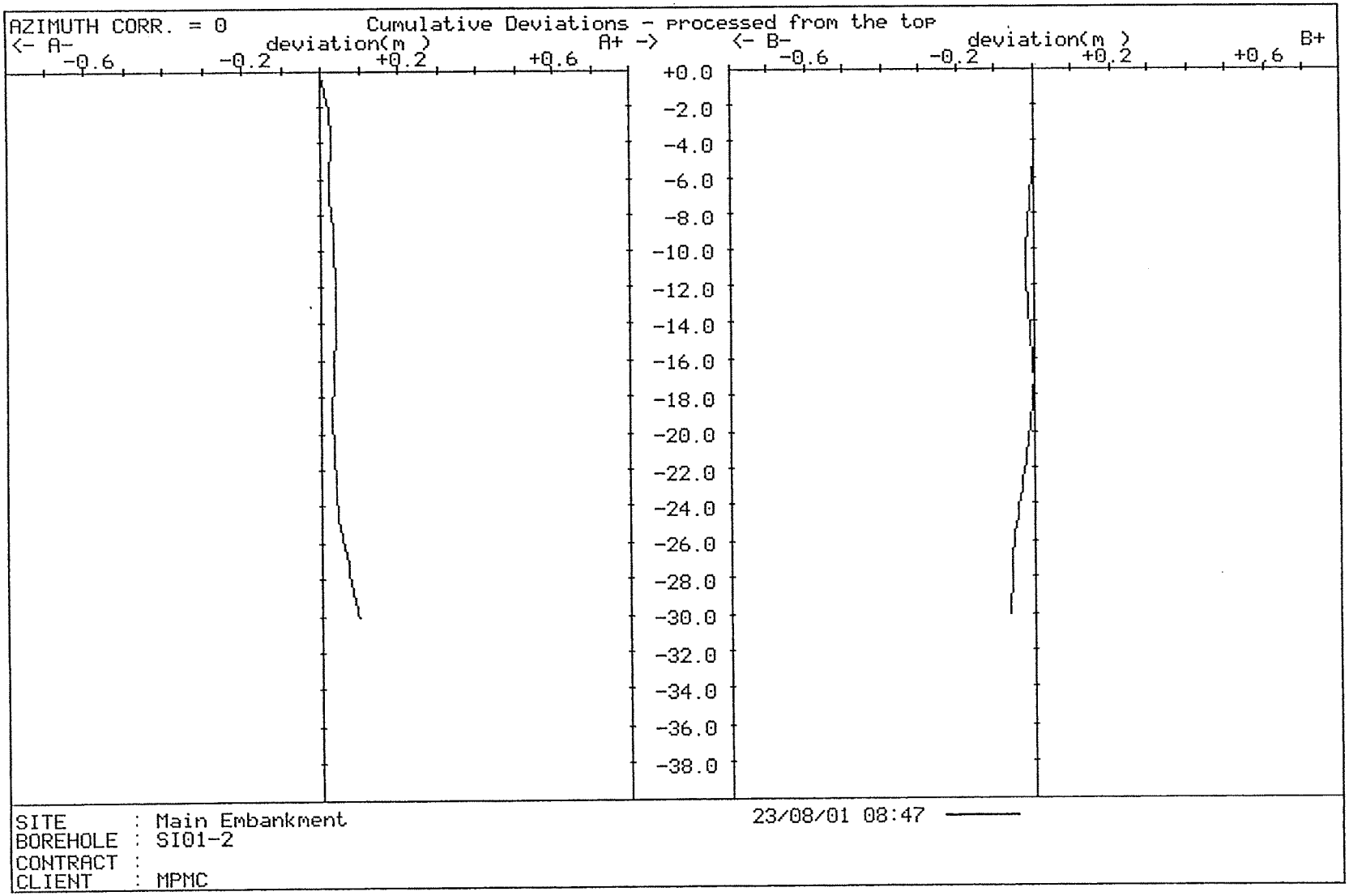
INCLINOMETER SI01-02 A AND B FACE CUMULATIVE DEVIATIONS
(D4-1 TO D4-7)

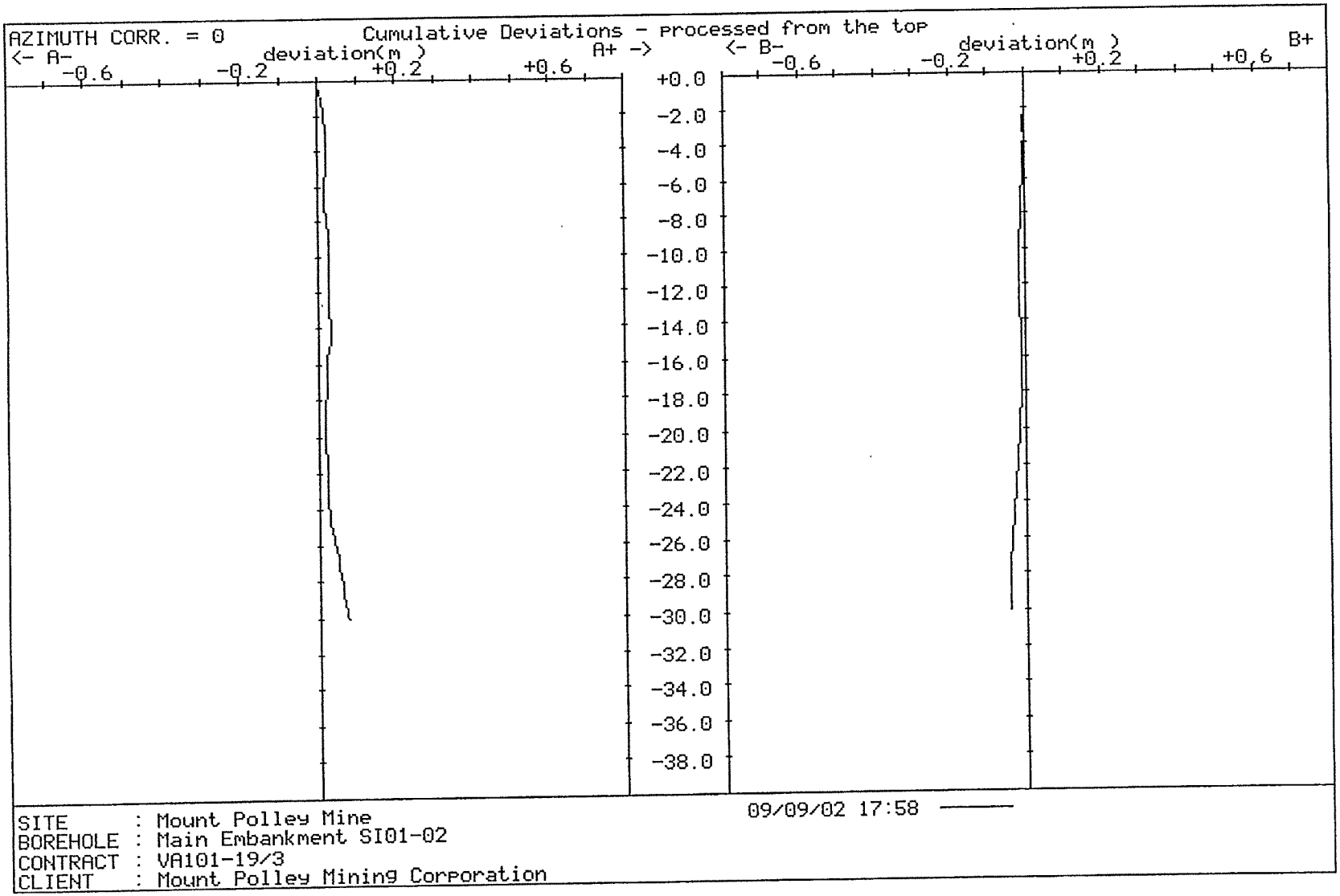

AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
22/08/01 14:22

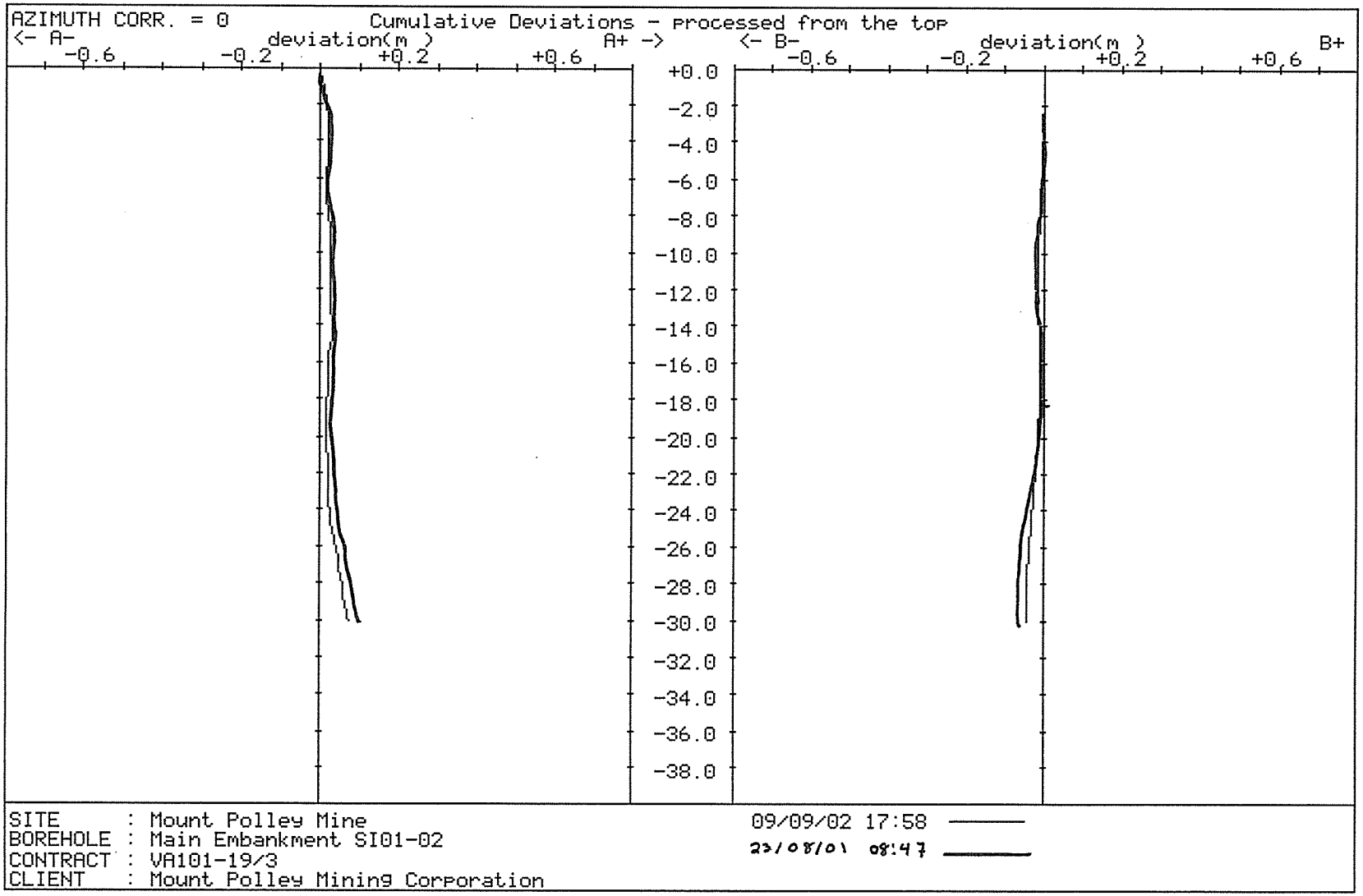

AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
22/08/01 14:53


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
22/08/01 15:26


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
23/08/01 08:17
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Main Embankment
BOREHOLE : SI01-2
CONTRACT :
CLIENT : MPMC
23/08/01 08:47


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
09/09/02 17:58
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-02
CONTRACT : VA101-19/3
CLIENT : Mount Polley Mining Corporation


AZIMUTH CORR. = 0
Cumulative Deviations - processed from the top
<- A-
deviation(m)
A+ ->
-0.6
-0.2
+0.2
+0.6
<- B-
deviation(m)
B+
-0.6
-0.2
+0.2
+0.6
+0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
-18.0
-20.0
-22.0
-24.0
-26.0
-28.0
-30.0
-32.0
-34.0
-36.0
-38.0
SITE : Mount Polley Mine
BOREHOLE : Main Embankment SI01-02
CONTRACT : VA101-19/3
CLIENT : Mount Polley Mining Corporation
09/09/02 17:58
23/08/01 08:47

Knight Piésold
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APPENDIX D5
(Rev 0)

SURVEY MONUMENT DATA

Table D5-1, Rev.0 Survey Monument Data

TABLE D5-1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

SURVEY MONUMENT DATA

Print May/02/03 15:36:42

M:\1\01\00001\01\A\Data\survey monuments\[2002 Survey Monument Data1.xls]2002 Survey Monument Data

Rev'd Apr/14/03

Station	East	North	Elevation (ft)
A2SM12	595,592.29	5,818,492.66	942.65
B2SM13	595,793.18	5,818,643.72	942.81
C2SM14	595,467.52	5,818,398.80	942.92
D2SM15	595,299.63	5,819,749.02	942.46
G2SM16	595,042.83	5,819,922.04	942.64
H2SM17	595,628.79	5,819,528.08	942.39

Notes:

1 - Survey was performed on September 17, 2002

2 - Line G2SM16 - D2SM15 was used as the baseline & a compass rule adjustment was applied to the field observations (due to a low Relative Precision of 1:11,000)

3 - Monument G2SM16 was used as the benchmark for elevations

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Knight Piésold
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APPENDIX E

(Rev 0)

TAILINGS IMPOUNDMENT FREEBOARD LETTER

Knight Piésold
CONSULTING

KNIGHT PIESOLD LTD.				
IN / OUT 4/30/03				
Name	Routing	Date Read	Action By	Reply Date
JPH				
BSB				
KJB	1	KJB		
TFK	3			
TAV				
156	2	Ec.		
AH				
WJ				
EG				
YP				
FILE				

Knight Piésold Ltd.
Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8
Telephone: (604) 685-0543
Facsimile: (604) 685-0147
E-mail: vancouver@knightpiesold.com

Our Reference: VA101-1/3-A.01
Continuity No.: 3-0479

April 29, 2003

Mr. Brian Kynoch
Imperial Metals Corporation
200 – 580 Hornby Street
Vancouver, BC V6C 3B6

Dear Mr. Kynoch,

Re: Mount Polley Tailings Impoundment Freeboard Requirement

Mount Polley Mining Corporation (MPMC) has operated the Tailings Storage Facility (TSF) in accordance with the water balance objectives during the past year, while the TSF has been in a Care and Maintenance period. The TSF is required to have sufficient live storage capacity for containment of 679,000 cubic meters of runoff from the entire contributing catchment area during a 24-hour PMP event. This volume of stormwater would result in an incremental rise in the tailings pond level of 0.39 meters above the current pond level of 941.20 meters. The TSF design also incorporates an allowance of 1 metre of freeboard for wave run-up. Subtracting these requirements from the crest elevation of 942.50 meters, the maximum target pond level is therefore 941.11 metres. As indicated on Figure 3.1, MPMC has operated the pond within these tolerances over the past year, except that the pond level is currently slightly (9 cm) above the maximum target pond level. This pond level is projected to decrease below the target elevation by August 2003 due to evaporation losses and ongoing seepage from the upstream toe drain that takes place during the summer months.

It is noted that the reclaim pumping barge is continuously available. The reclaim water system can be started up quickly in the event of a prolonged storm event that results in a significant rise in the tailings pond level. This capability provides an additional contingency for water management within the tailings impoundment. It is also recognized that MPMC has constructed a series of diversion ditches to route surface water runoff around the facility. This further reduces the volume of water that will enter the TSF. However, it is assumed that these ditches will breach during an extreme precipitation event and therefore no reduction in the PMP runoff volume has been applied. The presence of the ditches does, however, add additional conservatism to the water management plan.

MPMC has monitored the prevailing wind directions and speeds during 2001 and 2002. The maximum-recorded wind speed during this period was 7 meters per second (25km/hr) and the dominant direction was approximately 335 degrees. At this bearing, the maximum fetch on the tailings pond is approximately 1.6 km. Using this data, and Table 6-7 given in the United States Department of the Interior's "Design of Small Dams," the predicted wave height would be

approximately 0.6 meters. However, it is noted that the extensive relatively flat sandy tailings beaches would tend to moderate the influence of wave action on the tailings embankments, so that the actual wave height impacting the dam would be significantly less than this maximum theoretical value. Therefore, the implications of a temporary reduction in the wave allowance from 1.0m to 0.9 meters after PMP flooding are not considered to be significant.

The water balance information illustrated on Figure 3.1 indicates that the pond elevation will increase above the maximum allowable level during the spring freshet of 2004. Therefore MPMC will be required to discharge water from the tailings impoundment prior to this period. MPMC plans to compile all water quality data during summer 2003 and present it to MWLAP to discuss options for discharging water from the TSF prior to spring 2004. This discharge application will likely be an amendment to MPMC's existing MWLAP permit PE 11678. We understand that a concept MPMC is currently considering is to use a siphon system to allow for controlled discharge of pond water over the Perimeter Embankment and into Hazeltine Creek during high flow periods when adequate dilution is available. Knight Piésold will be pleased to assist in evaluating the viability of this option and in supporting application for a discharge permit.

Please feel free to contact me if you have any comments or questions.

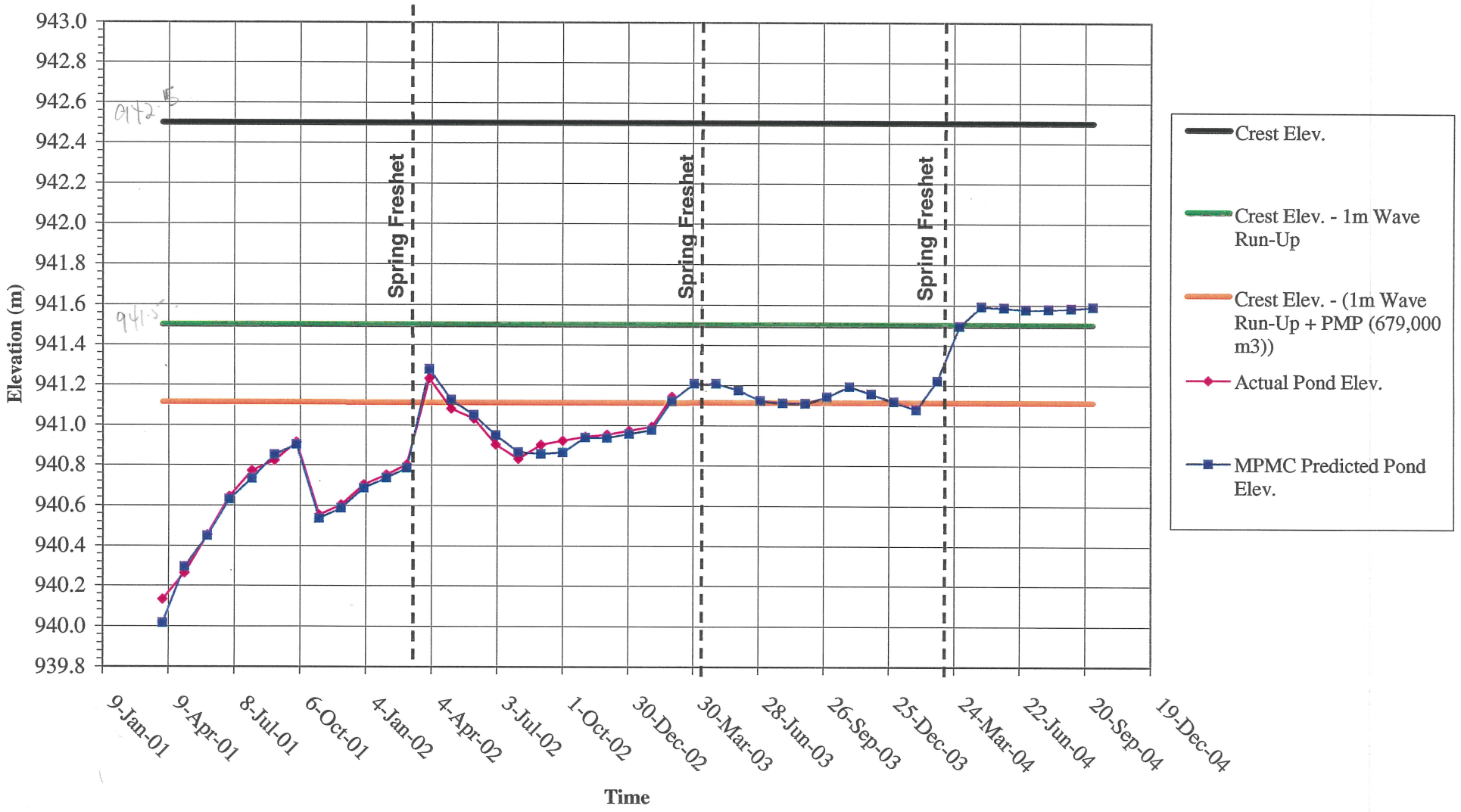
Yours truly,

KNIGHT PIESOLD LTD.

Ken Brouwer, P.Eng.
Managing Director

Encl: Figure 3.1 Rev 0 Water Balance – April 2001 to October 2004

/kjb



Note:

1) Pumping took place during Oct 2001 (483,000 cubic metres) & May 2002 (513,000 cubic metres).

MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
WATER BALANCE APRIL 2001 TO OCTOBER 2004			
Knight Piésold CONSULTING	PROJECT NO. 101-1/3	REF NO. 1	REV. 0
	FIGURE 3.1		

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E-3