→ G.H. 11 H/14 745-20/MTP 1/6

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DATE:	September 12, 2001	**FILE NO.:**	11162/14
TIME:		**REF NO.:**	1/3321
OPERATOR:	DM	**PAGES:**	1 of 26
SENDER:	DM	**APPROVED:**	

TO:	Ministry of Energy and Mines	**FAX :**	250-952-0481
ATTN:	Chris Carr		
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site		
SUBJECT:	Final Progress Report No. 19, Rev. 1		

Dear Mr. Carr,

Please find attached a copy of Progress Report #19 from August 13 to 24, 2001. If you have any questions, please do no hesitate to contact me, Wilson Muir or Ken Brouwer in our Vancouver office.

Regards,

Denny Ma
Staff Engineer
Knight Piésold Consulting

MP00022

Construction
Monitoring Reports
for TMF
September 1, 2000 to
September 12, 2001

~~- missing reports 5+6~~

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MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 19 – AUGUST 13 TO AUGUST 24, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) completed Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes placement of Zones S, F and T to El. 942.5 m on the Perimeter Embankment (Ch. 28+00 to 44+50). Zone S was completed up to El. 942.5 m on August 19, 2001. MPMC carried out the majority of this work. Material haulage only was completed by sub-contractors.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer (left site August 17, 2001).
- Denny Ma, KP Staff Engineer (arrived on site August 16, 2001)

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

No new contract developments took place over the reporting period.

1.3 DESIGN DEVELOPMENTS

No new design developments occurred during the reporting period.

1.3 WEATHER

Conditions were warm and sunny with clouds and showers towards the end of the week. Maximum daytime highs reached about +28 °C and nightly lows sinking to as low as +8 °C.

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1.4 SAFETY

No new safety incidents occurred over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 19+00 to obtain a well developed, even beach in this area. The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270, 1 Hitachi EX 400
- Haul Trucks: 1 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992B
- Dozers: 1 Caterpillar D6, 1 Caterpillar D8K, 1Caterpillar D7G
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Service, water and fuel trucks
- Lake Excavating: 6 dump trucks and 1 Caterpillar 966 loader

MPMC carried out the following activities during the reporting period:

- Placement of Zone F, Perimeter Embankment: Ch. 37+50 to 40+00, El. 934.0 to 942.5 m.
- Placement of Zone S, Perimeter Embankment: Ch. 36+50 to 39+25, El. 941.3 to 942.5 m and Ch. 39+25 to 44+50, El. 942.0 to 942.5 m.
- Placement of Zone T, Perimeter Embankment: Ch. 36+25 to 39+00, El.934.0 to 942.5 m.

Zone S, from Chainage 37+75 to 38+88, was placed and compacted to specification but haul trucks formed ruts in this area after placement. It will be graded and recompacted at MPMC's earliest convenience.

MPMC also wishes to leave the access ramps in place along the Perimeter Embankment between the Zone T haul road and the crest of the dam. This will allow access to the crest in the future. The ramps were cut into Zone T fill material and appear to be stable.

Zone F was delivered from the stockpile at the millsite and Zone S originated from Borrow Area 2. Zone T was delivered from the Rock Borrow. Zone F was placed in a 1 m thick lift on the downstream embankment slope over stiff Zone S, while Zone S was placed in 300 mm horizontal lifts. Zone T was placed in 1 m thick lifts over Zone F.

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SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones F, S and T.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Record sampling and testing of embankment fill materials.
- Preparation of progress reports.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- R-ZS-3-8
- R-ZS-3-9
- R-ZF-42
- R-ZT-18

The record tests completed during the reporting period proved suitable for their respective zones. The results of the tests are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed during the reporting period.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.8. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. Generally, these piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Readings at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on August 17, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.9 and 5.10, respectively. The timescale on Figure 5.9 has been shortened to help magnify the data recorded in July, 2001. The spike in foundation drain flows around mid July is a result of heavy rainfall. It has since decreased.

5.4 SLOPE INCLINOMETERS

The equipment used to monitor and record the data from the slope inclinometers arrived on site on August 16, 2001. Five (5) base readings have been taken from each of SI01-1 and SI01-2 to establish a base file for each hole. The equipment was returned to RST on August 23, 2001. Monitoring of these instruments will continue in approximately December 2001. Subsequent reading intervals will be specified in the Operation, Maintenance and Surveillance Manual.

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SECTION 6.0 - ONGOING ITEMS

The 2000 and 2001 Inspection Report, Report on Stage 3 Construction, and the Operation, Maintenance and Surveillance manual will be submitted to MPMC in the coming weeks.

Submitted by,

Denny Ma, E.I.T.
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.2

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION

ZONE F RECORD TEST SUMMARY SHEET

M:\01162\01\Accounting\001_08_27\Report\Stage 3B Construction\Records\[R-ZF-Summary.xls]Data Sheet

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SHEET : 1 of 1

PERIOD : August 6 to August 23, 2001

PROJECT NO. : 11162/14

AREA : TSF

PROJECT MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL Zone F - Filter Sand

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	C1 LL %	C1 PI %	C2 Field wet %	LI %	C3 (Particle Size Distribution) 100.0 mm	75.0 mm	38.1 mm	25.4 mm	19.05 mm	12.7 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07366 mm	0.005 mm	C4 Standard Proctor Max. Dry Density kg/m³	C4 Standard Proctor Optimum wat. %	D5 Specific Gravity
									4"	3"	1.5"	1"	0.75"	0.5"	0.375"	#4	#8	#16	#30	#50	#100	#200	Clay			
									100.0	100.0	100.0	100.0	95.0	85.0	75.0	51.8	34.5	23.1	15.3	10.4	6.1	3.1	-	-	-	-
R-ZF-3-1	7-Aug-00	38+10	935.0	-	-	-	-	-																		
R-ZF-3-2	10-Aug-00	17+80	932.0	-	-	-		-	100.0	100.0	100.0	100.0	95.0	85.0		50	35	24.5	16.7	11.9	7.9	4.2	-	-	-	-
R-ZF-3-3	14-Aug-00	20+40	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	80.1		46.6	33.8	27.7	24.9	20.1	8.4	3	-	-	-	-
R-ZF-3-4	15-Aug-00	30+05	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	88.3		53.7	30.8	15	16.1	10.5	6.8	5.3	-	-	-	-
R-ZF-3-5	16-Aug-00	25+30	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	81.6		43.1	27.3	17.3	14.6	8.3	5.2	3.1	-	-	-	-
R-ZF-3-6	19-Aug-00	19+00	935.0	-	-	-	-	-	100.0	100.0	100.0	99.1		82.4		47.5	32.3	23.3	14.7	10.3	6.8	3.3	-	-	-	-
R-ZF-3-7B	8-Sep-00	19+00	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0		64.0		47.7	29.8	15.5	8.5	5.6	3.3	2.4	-	-	-	-
R-ZF-3-8	8-Sep-00	19+80	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.4		42.0	27.1	18.2	11.6	6.7	3.9	2.6	-	-	-	-
R-ZF-3-9	23-Aug-00	24+50	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		78.9		45.5	30.4	21.1	14.7	10.0	6.8	3.8	-	-	-	-
R-ZF-3-10	23-Aug-00	23+40	936.0	-	-	-	-	-	100.0	100.0	100.0	100.0		78.8		38.3	24.4	15.2	9.6	6.5	4.5	2.7	-	-	-	-
R-ZF-3-11	30-Aug-00	23+80	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		83.2		48.7	35.4	29.6	22.4	11.1	5.6	3.6	-	-	-	-
R-ZF-3-12	6-Sep-00	16+20	940.0	-	-	-	-	-	100.0	100.0	100.0	100.0		77.7		39.0	26.9	18.5	13.6	7.3	4.0	2.1	-	-	-	-
R-ZF-3-13	7-Sep-00	21+30	940.0	-	-	-	-	-	100.0	100.0	100.0	99.7		75.6		37.9	24.0	14.6	10.2	5.5	3.9	3.3	-	-	-	-
R-ZF-3-14	8-Sep-00	16+40	938.0	-	-	-	-	-	100.0	100.0	100.0	100.0		81.0		43.2	26.5	17.4	7.0	4.6	3.2	2.1	-	-	-	-
R-ZF-3-15	8-Sep-00	17+50	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		77.9		30.7	22.3	17.2	7.6	5.0	3.6	2.3	-	-	-	-
R-ZF-3-16	8-Sep-00	18+30	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		76.6		31.6	17.4	9.8	6.6	4.3	3.6	2.4	-	-	-	-
R-ZF-3-17	10-Sep-00	22+40	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		84.1		45.6	30.6	20.3	13.9	9.0	6.0	3.4	-	-	-	-
R-ZF-3-18	10-Sep-00	22+20	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.1		45.1	31.2	19.8	13.8	9.1	5.4	2.6	-	-	-	-
R-ZF-3-19	11-Sep-00	25+50	938.0	-	-	-	-	-	100.0	100.0	100.0	100.0		76.4		44.6	32.4	23.0	13.4	9.3	6.4	3.7	-	-	-	-
R-ZF-3-20	11-Sep-00	22+80	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.1		43.5	27.6	15.5	7.8	4.6	3.2	2.2	-	-	-	-
R-ZF-3-21	13-Sep-00	22+00	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		77.5		51.5	34.3	22.4	14.1	8.3	4.5	2.4	-	-	-	-
R-ZF-3-22	15-Sep-00	29+20	938.0	-	-	-	-	-	100.0	100.0	100.0	100.0		83.3		53.7	33.0	25.5	17.8	11.5	7.1	3.3	-	-	-	-
R-ZF-3-23	16-Sep-00	17+80	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		85.6		49.7	35.8	29.4	13.8	8.9	5.6	3.7	-	-	-	-
R-ZF-3-24	15-Sep-00	25+20	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		88.7		48.3	31.9	21.5	14.3	9.3	5.1	2.1	-	-	-	-
R-ZF-3-25	20-Sep-00	20+60	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		89.1		34.3	26.4	24.3	16.2	9.4	4.7	1.7	-	-	-	-
R-ZF-3-26	21-Sep-00	19+30	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		84.6		44.1	30.5	25.7	20.1	14.5	9.3	4.8	-	-	-	-
R-ZF-3-27	21-Sep-00	23+80	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.7		43.5	25.0	19.4	13.0	8.9	5.0	3.3	-	-	-	-
R-ZF-3-28	4-Dec-00	25+00	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		85.6		58.0	34.3	23.0	15.6	12.6	9.2	6.7	-	-	-	-
R-ZF-3-29	6-Dec-00	23+80	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		73.8		42.8	29.1	19.9	14.3	11.7	6.6	3.6	-	-	-	-
R-ZF-3-30	5-Dec-00	24+25	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		83.9		51.6	33.3	24.4	19.3	17.1	12.3	6.1	-	-	-	-
R-ZF-11	28-Mar-01	29+40, 0.5 m DS of Zone S	941.8	-	-	-	6.0	-	100.0	100.0	100.0	100.0	97.5		73.3	49.1	35.9	25.8	19.7	15.0	13.6	9.1	-	-	-	-
R-ZF-32	23-May-01	33+00, 0.5 m DS of Zone S	936.0	-	-	-	6.1	-	100.0	100.0	100.0	100.0	97.9		68.4	44.0	31.8	22.3	16.9	12.8	9.9	7.7	-	-	-	-
R-ZF-33	13-Jun-01	42+00, 0.5 m DS of Zone S	936.0	-	-	-	7.0	-	100.0	100.0	100.0	100.0	97.9		66.8	44.1	25.8	17.8	13.2	10.5	9.5	6.9	-	-	-	-
R-ZF-34	20-Jun-01	35+00, 0.5 m DS of Zone S	935.0	-	-	-	5.6	-	100.0	100.0	100.0	100.0	99.3		67.5	37.8	27.0	18.1	14.0	11.0	8.6	6.3	-	-	-	-
R-ZF-35	30-Jun-01	45+00, 0.5 m DS of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.4		70.2	46.6	32.6	23.0	17.2	13.7	10.6	8.5	-	-	-	-
R-ZF-36	10-Jul-01	53+50, 0.5 m DS of Zone S	939.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.5		72.6	50.4	36.5	26.3	17.6	12.4	9.2	7.0	-	-	-	-
R-ZF-37	10-Jul-01	63+00, 0.5 m DS of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.4		66.6	41.5	28.6	21.4	16.9	13.5	9.4	6.9	-	-	-	-
R-ZF-38	19-Jul-01	53+00, 1.0 m DS of Zone S	938.0	-	-	-	8.4	-	100.0	100.0	100.0	100.0	99.4		73.8	50.6	36.5	26.3	19.7	15.7	13.0	9.4	-	-	-	-
R-ZF-39	28-Jul-01	43+00, 1.0 m DS of Zone S	941.0	-	-	-	3.3	-	100.0	100.0	100.0	100.0	94.9		57.6	36.3	26.8	17.7	13.6	10.4	9.5	5.3	-	-	-	-
R-ZF-40	28-Jul-01	33+00, 1.0 m DS of Zone S	943.0	-	-	-	6.3	-	100.0	100.0	100.0	100.0	100.0		73.2	44.8	31.7	22.0	15.1	10.4	7.5	2.1	-	-	-	-
R-ZF-41	1-Aug-01	35+25, 1.0 m DS of Zone S	940.0	-	-	-	4.2	-	100.0	100.0	100.0	100.0	99.7		63.6	42.4	30.9	22.6	14.9	13.6	10.6	8.6	-	-	-	-
R-ZF-43D	3-Aug-01	mean	-	-	-	-	5.3	-	100.0	100.0	100.0	100.0	97.5	85.3	68.0	47.6	32.1	23.8	16.9	13.6	11.0	8.4	-	-	-	-

11162/14-08005.10

Rev/Mod: 1

8/11/01

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

M:\1\162\14\[illegible]Stage 3B Construction\[illegible]\R-ZF-[illegible] Data Sheet

8/11/01

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PROJECT.	MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION	SHEET :	1 of 1
		PERIOD :	August 6 to August 23, 2001
		PROJECT NO. :	11162/14
MATERIAL.	Zone F - Filter Sand	AREA :	TSF

Sample No.	Date Sampled	Location	EL (m)	C1			C2		C3 (Particle Size Distribution)															C4		C6
				Atterberg Limits			Field m/c %	LI %	101.6	76.2	38.1	25.4	19.05	12.7	9.525	4.75	2.36	1.18	0.6	0.3	0.14986	0.07366	0.002	Standard Proctor		Specific Gravity
				PL %	LL %	PI %			4	3	1.5	1	0.75	0.5	0.375	0.187	0.0937	0.0469	0.0236	0.0118	0.0059	0.0029	—	Max Dry Density kg/m³	Optimum m/c %	
									4	3	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Clay			
R-ZF-42	16-Aug-01	39+36, 3 m D/S of Zone S	942.5	-	-	-	8.1	-	100.0	100.0	100.0	100.0	99.5		79.4	55.9	36.5	20.7	13.6	9.6	6.8	4.6		-	-	-
			MEAN	#DIV/0!	#DIV/0!	#DIV/0!	5.0	#DIV/0!	100.0	100.0	100.0	100.0	98.5	83.3	69.4	46.3	32.6	22.7	16.9	13.1	10.3	7.6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
			MEDIAN	#NUM!	#NUM!	#NUM!	4.5	#NUM!	100.0	100.0	100.0	100.0	99.2	83.3	69.8	46.6	32.6	23.5	16.9	12.8	9.4	7.0	#NUM!	#NUM!	#NUM!	#NUM!
			MAXIMUM (*)	0.0	0.0	0.0	8.4	0.0	100.0	100.0	100.0	100.0	100.0	83.3	79.4	59.9	38.9	30.6	24.4	19.5	15.6	12.6	0.0	0.0	0.0	0.0
			MINIMUM (*)	0.0	0.0	0.0	2.3	0.0	100.0	100.0	100.0	100.0	94.9	83.3	57.6	30.2	26.0	17.3	13.6	9.6	6.8	2.7	0.0	0.0	0.0	0.0

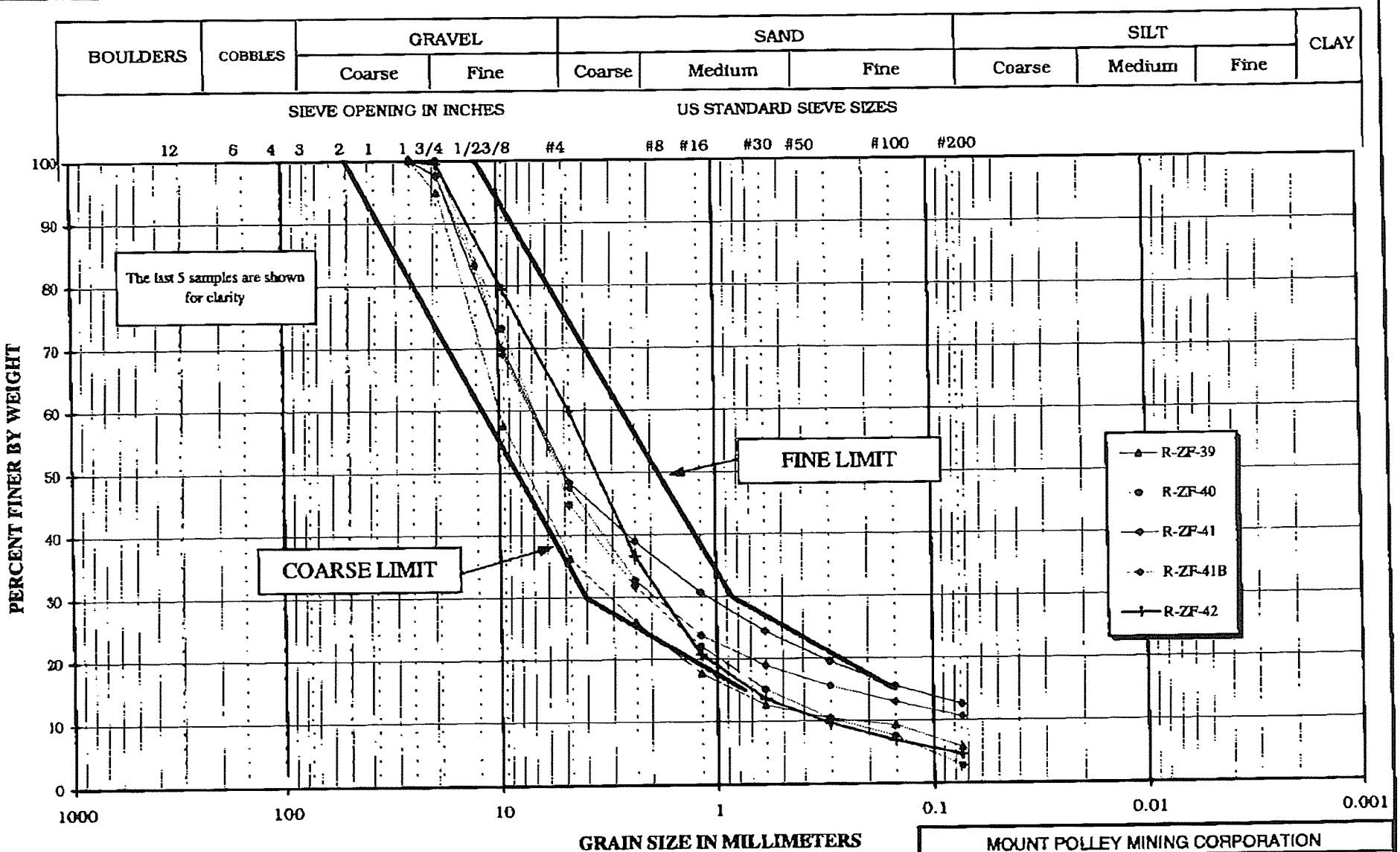
Note : These are 100% fails.

Values with strikethrough indicate that re-testing was successful. These samples will be stricken from the record in the following report.

IP - In progress

Collection of Stage 3A data in progress, samples R-ZF-8, 28, 29 and 30 are outstanding

R1	Atterberg Limits (ASTM D4318)
R2	Moisture Content (ASTM D2216)
R3	Particle Size Distribution (ASTM D422)
R4	Laboratory Compaction (ASTM D1557)
R6	Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION - ZONE F RECORD SAMPLES GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11152/14		

FIGURE 4.2

TABLE 4.6

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE S RECORD TEST SUMMARY SHEET

Knight Piésold CONSULTING

SHEET :	1 of 1
PERIOD :	July 30 to August 23, 2001
PROJECT NO. :	VA101-254
AREA :	TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone S - Glacial Till

Sample No.	Date Sampled	Location	ID No.	R1 Atterberg Limits LL %	R1 Atterberg Limits PL %	R1 Atterberg Limits PI %	R2 Field moisture %	LI %	R3 Particle Size Distribution 100.0 mm	80.0 mm	50.0 mm	40.0 mm	20.0 mm	14.0 mm	10.0 mm	5.0 mm	2.5 mm	1.25 mm	0.630 mm	0.315 mm	0.160 mm	0.080 mm	R4 Standard Proctor Max Dry Density kg/m³	R4 Standard Proctor Optimum moisture %	R4 Standard Proctor Field Density kg/m³	R4 Standard Proctor Field moisture %	R4 Standard Proctor Percent Compaction %	R5 Specific Gravity
									150	125	75	63	37.5	28	20	5	2.5	1.25	0.630	0.315	0.160	0.080						
									6	5	3	2.5	1.5	1 1/2	1	3/4	3/8	#4	#8	#16	#30	#50	#100	#200	Clay					
R-ZS-S-1	10-Sep-00	Ch. 17+00	041.2	18.9	34.5	10.8	9.8	-	100.0	100.0	100.0	98.9	95.0	90.5	84.1	78.8	75.4	68.1	60.7	57.2	44.9	-	2110	8.8	2105	9.8	99.7	2.4850
R-ZS-S-2	11-Sep-00	Ch. 18+00	041.0	18.0	34.4	10.8	9.5	-	100.0	100.0	98.8	95.9	93.0	87.9	83.3	68.1	75.2	70.0	62.8	58.9	48.7	-	2118	9.8	2083	9.5	103.7	2.4926
R-ZS-S-3	12-Sep-00	Ch. 12+00	041.0	18.7	34.4	10.7	9.9	-	100.0	100.0	100.0	97.0	95.4	89.4	83.5	78.9	74.2	69.8	58.5	50.7	44.8	-	2189	8.4	2143	9.9	99.6	2.4936
R-ZS-S-4	28-Sep-00	Ch. 6+00	-	14.6	23.6	9.0	9.8	-	100.0	100.0	99.1	95.9	93.4	88.0	83.9	78.7	74.5	70.2	64.4	58.9	45.1	-	2141	7.5	2092	9.0	97.7	2.4739
R-ZS-S-5	30-Sep-00	S.E. Zone S TSF	-	15.4	22.5	9.1	8.8	-	100.0	100.0	97.7	95.0	92.6	85.6	77.9	72.7	68.3	63.0	54.2	43.5	38.6		2140	7.3	2059	9.0	104.5	2.4674
R-ZS-S-6	29-Jun-01	Ch. 32+00	041.3	-	-	-	10.5	-	100.0	100.0	100.0	100.0	97.2	91.7	85.0	84.8	82.0	74.7	68.0	62.3	56.9	-	2078	10.6	2034	10.5	99.3	
R-ZS-S-7	03-Jul-01	20+15.3 m Dtl from US Toe	041.3	-	-	-	11.4	-	102.6	102.6	100.0	100.0	96.0	87.8	79.5	75.1	71.4	67.8	63.7	55.8	48.3	-	2088.0	9.8	2047.0	10.3	98.3	-
R-ZS-S-8	13-Aug-01	Ch. 42+15.4 m Dtl from US Toe	041.4	-	-	-	10.9	-	100.0	100.0	98.3	97.4	93.9	76.9	64.3	59.0	57.3	53.8	38.4	33.7	25.6	-	2265.0	6.0	2181.0	9.6	102.2	-
R-ZS-S-9	14-Aug-01	Ch. 38+11.5 m Dtl from US Toe	041.5	-	-	-	10.7	-	100.0	100.0	100.0	100.0	93.5	86.5	79.2	69.4	63.6	60.8	54.2	43.5	40.2	-	2150.0	8.4	2134.0	9.6	97.4	-
MEAN*				15.7	29.7	30.0	10.0	#DIV/0!	100.0	100.0	99.3	98.3	93.4	87.3	80.0	76.2	73.8	67.3	62.0	55.3	44.9	#DIV/0!	2142.9				100.5	2.4
MEDIAN				15.7	29.4	30.0	9.9	#NUM!	100.0	100.0	99.6	97.8	95.3	87.6	82.5	78.3	73.4	68.3	63.5	56.1	44.3	#NUM!	2118.0				99.9	2.4
MAXIMUM (*)				18.9	34.5	30.8	11.4	0.0	100.0	100.0	100.0	100.0	97.2	91.7	85.0	84.8	82.0	74.7	68.0	62.3	56.9	-	2265.0				104.5	2.7
MINIMUM (*)				13.4	22.5	9.0	8.8	0.0	100.0	100.0	98.3	97.4	93.9	76.9	64.3	59.0	57.3	53.8	38.4	33.7	25.6	-	2078.0				97.4	2.4

Note: There are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

SF - In progress

R1 Atterberg Limits (ASTM D4318)

R2 Moisture Content (ASTM D2216)

R3 Particle Size Distribution (ASTM D422)

R4 Laboratory Compaction (ASTM D1557)

R5 Specific Gravity (ASTM D854)

VA101-254/14-D3CD-19
Revision 1
9/11/01

m:\11632\2\report\2\R-ZS-summ.xls\Fig A3-2

8/11/01 8:45 AM

BOULDERS	COBBLES	GRAVEL		SAND			SILT			CLAY
		Coarse	Fine	Coarse	Medium	Fine	Coarse	Medium	Fine	

SIEVE OPENING IN INCHES — US STANDARD SIEVE SIZES

12 6 4 3 2 1 1 3/4 1/23/8 #4 #8 #16 #30 #50 #100 #200

PERCENT FINER BY WEIGHT

100 90 80 70 60 50 40 30 20 10 0

1000 100 10 1 0.1 0.01 0.001

GRAIN SIZE IN MILLIMETERS

FINE LIMIT

COARSE LIMIT

R-ZS-3-4
R-ZS-3-5
R-ZS-3-6
R-ZS-3-7
R-ZS-3-8
R-ZS-3-9

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE S RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO. 11162/14 | REF NO. | REV.

FIGURE 4.6

TABLE 4.4

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION

ZONE T RECORD TEST SUMMARY SHEET

M:\11\1627\14\Inventory\2001_09_27\Reports\Stage 3B Construction\lab\record\[R-ZT-all.xls]Data Sheet

Knight Piésold CONSULTING

SHEET: 1 of 1

PERIOD: July 30 to August 23, 2001

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

PROJECT NO.: 11162/14

MATERIAL: Zone T - Transition Zone

AREA: TSF

Sample No.	Date Sampled	Location	El. (m)	I1 Atterberg Limits PL %	LL %	PI %	I2 Field mc %	LI %	I3 Particle Size Distribution 152.4 mm 6 in	76.2 mm 3 in	38.1 mm 1.5 in	19.05 mm 0.75 in	9.525 mm 0.375 in	4.75 mm #4	2.36 mm #8	1.18 mm #16	0.6 mm #30	0.3 mm #50	0.149 mm #100	0.0735 mm #200	0.002 mm Clay	I4 Standard Proctor Max Dry Density kg/m³	I4 Standard Proctor Optimum mc %	I5 Specific Gravity
B-ZT-1	3-Jun-00	-	-	-	-	-	-	-	90.0	80.0	59.9	40.2	26.7	18.5	13.2	9.9	7.7	5.7	3.9	2.8	-	-	-	-
B-ZT-2	16-Jul-00	-	-	-	-	-	-	-	100.0	86.0	67.0	42.8	29.0	21.3	15.9	11.8	9.1	7.3	6.1	5.1	-	-	-	-
B-ZT-3	25-Jul-00	-	-	-	-	-	-	-	100.0	86.1	57.3	44.2	30.0	20.0	14.1	10.0	7.3	4.6	2.7	1.6	-	-	-	-
B-ZT-4	27-Jul-00	-	-	-	-	-	-	-	100.0	78.0	48.3	33.9	23.5	13.0	-	5.3	3.7	2.5	1.0	0.5	-	-	-	-
B-ZT-5	28-Aug-00	19+50	939.0	-	-	-	-	-	100.0	62.8	51.4	35.6	25.7	20.9	16.1	12.0	7.8	-	4.6	3.3	-	-	-	-
B-ZT-6	23-Aug-00	25+00	-	-	-	-	-	-	100.0	65.5	54.3	-	-	25.5	19.4	13.3	9.7	6.0	3.9	1.5	-	-	-	-
B-ZT-7	25-Aug-00	30+00	933.0	-	-	-	-	-	100.0	95.0	93.1	-	-	37.8	25.3	16.0	9.8	5.2	3.3	1.8	-	-	-	-
B-ZT-8	9-Sep-00	13+80	936.0	-	-	-	-	-	100.0	80.0	70.1	44.3	30.3	12.9	8.3	6.3	4.5	-	3.2	2.0	-	-	-	-
B-ZT-9	9-Sep-00	26+00	940.0	-	-	-	-	-	100.0	90.0	70.5	46.9	27.3	17.7	10.7	7.0	4.6	-	3.1	1.8	-	-	-	-
B-ZT-10	11-Sep-00	30+60	941.0	-	-	-	-	-	100.0	80.0	67.5	-	-	27.4	20.8	14.2	10.3	5.5	1.6	0.8	-	-	-	-
B-ZT-11	4-Dec-00	30+60	941.0	-	-	-	-	-	100.0	80.0	67.4	51.9	32.7	27.3	14.8	9.8	6.7	3.5	3.4	0.3	-	-	-	-
B-ZT-12	3-Jun-01	42+50, 1.8 m DS of Zone S	953.5	-	-	-	6.6	-	100.0	80.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	-	-	-	-
B-ZT-13	23-Jun-01	32+50, 1.8 m DS of Zone S	957.0	-	-	-	3.0	-	100.0	76.3	49.7	34.5	22.9	14.6	9.7	6.6	4.3	2.4	-	-	-	-	-	-
B-ZT-14	9-Jul-01	35+80, 3 m DS of Zone S	958.0	-	-	-	1.4	-	100.0	76.9	57.9	38.3	22.6	12.2	7.3	4.5	3.1	2.2	1.6	1.2	-	-	-	-
B-ZT-15	23-Jul-01	40+25, 3 m DS of Zone S	958.0	-	-	-	3.6	-	100.0	68.3	43.5	29.5	18.8	11.4	7.2	5.1	3.9	2.8	-	-	-	-	-	-
B-ZT-16	28-Jul-01	43+60, 3 m DS of Zone S	949.5	-	-	-	4.0	-	100.0	77.3	45.8	26.2	15.8	9.9	6.8	4.9	3.4	-	-	-	-	-	-	-
B-ZT-17	5-Aug-01	46+00, 3 m DS of Zone S	948.0	-	-	-	3.2	-	100.0	82.3	47.4	33.3	23.4	16.6	-	7.8	5.0	3.3	-	1.4	-	-	-	-
B-ZT-18	23-Aug-01	36+27, 3 m DS of Zone S	940.0	-	-	-	4.3	-	100.0	100.0	69.1	50.7	34.8	26.5	17.9	11.2	6.8	4.3	2.8	3.1	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!	3.4	#DIV/0!		99.4	79.9	60.3	39.4	25.2	19.0	13.7	9.3	6.4	4.4	3.5	1.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#NUM!	#NUM!	#NUM!	3.6	#NUM!		100.0	80.0	57.9	38.3	23.4	18.3	13.7	9.8	6.2	4.5	3.2	1.8	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)	0.0	0.0	0.0	4.6	0.0		100.0	100.0	99.1	58.1	38.8	37.8	25.1	16.5	12.3	7.3	6.1	5.1	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0	1.4	0.0		90.0	62.8	43.5	25.1	15.8	9.9	6.9	4.5	3.1	2.2	1.0	0.3	0.0	0.0	0.0	0.0

Note: These are 100% fines.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

P - In progress

I1 Atterberg Limits (ASTM D4318)

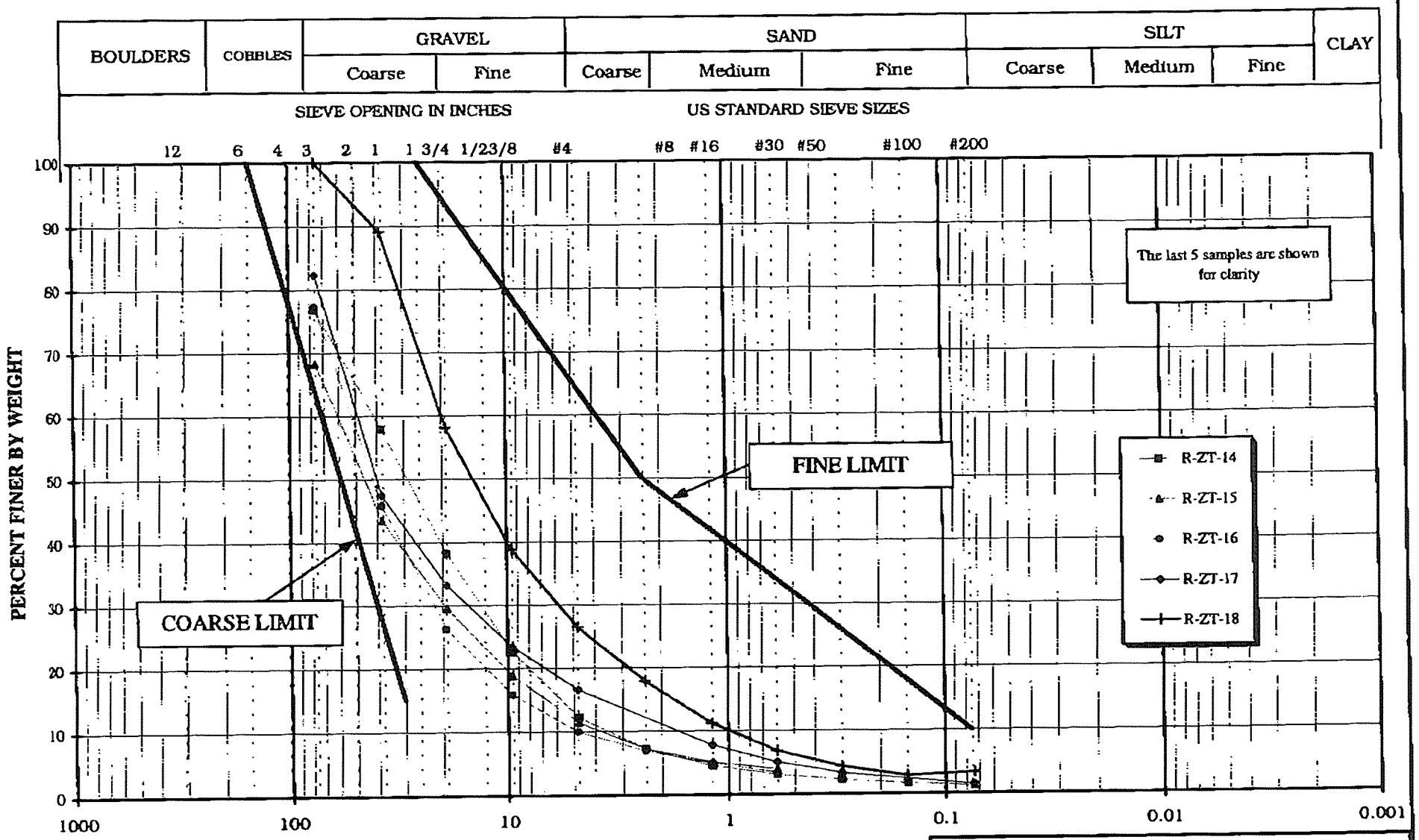
I2 Moisture Content (ASTM D2216)

I3 Particle Size Distribution (ASTM D422)

I4 Laboratory Compaction (ASTM D1557)

I5 Specific Gravity (ASTM D854)

11162/14-6(CB-1)P
Revision 1
9/11/01



MOUNT POLLEY MINING CORPORATION

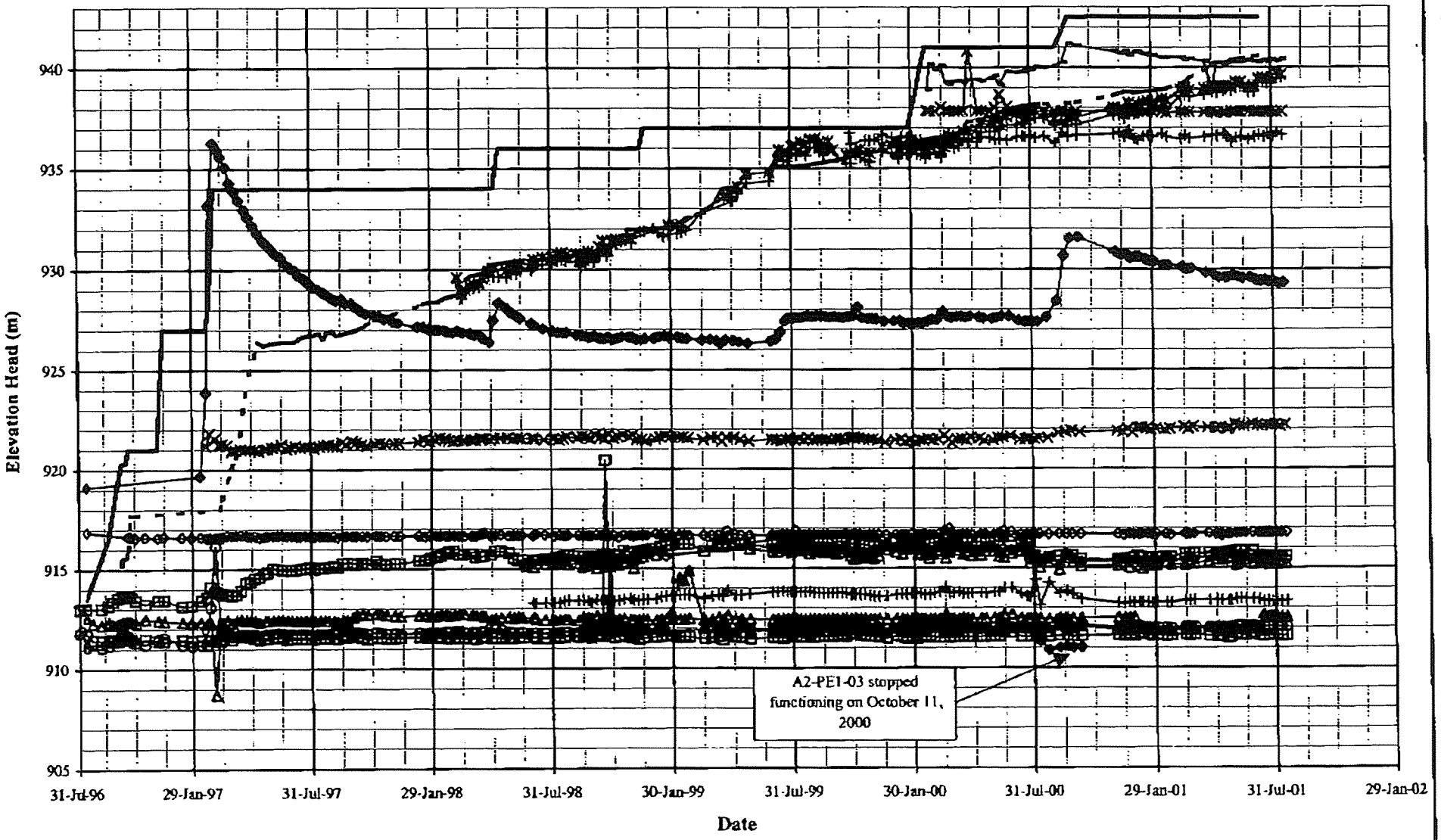
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE T RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV
1162/14		

FIGURE 4.4



MOUNT POLLEY MINING CORPORATION

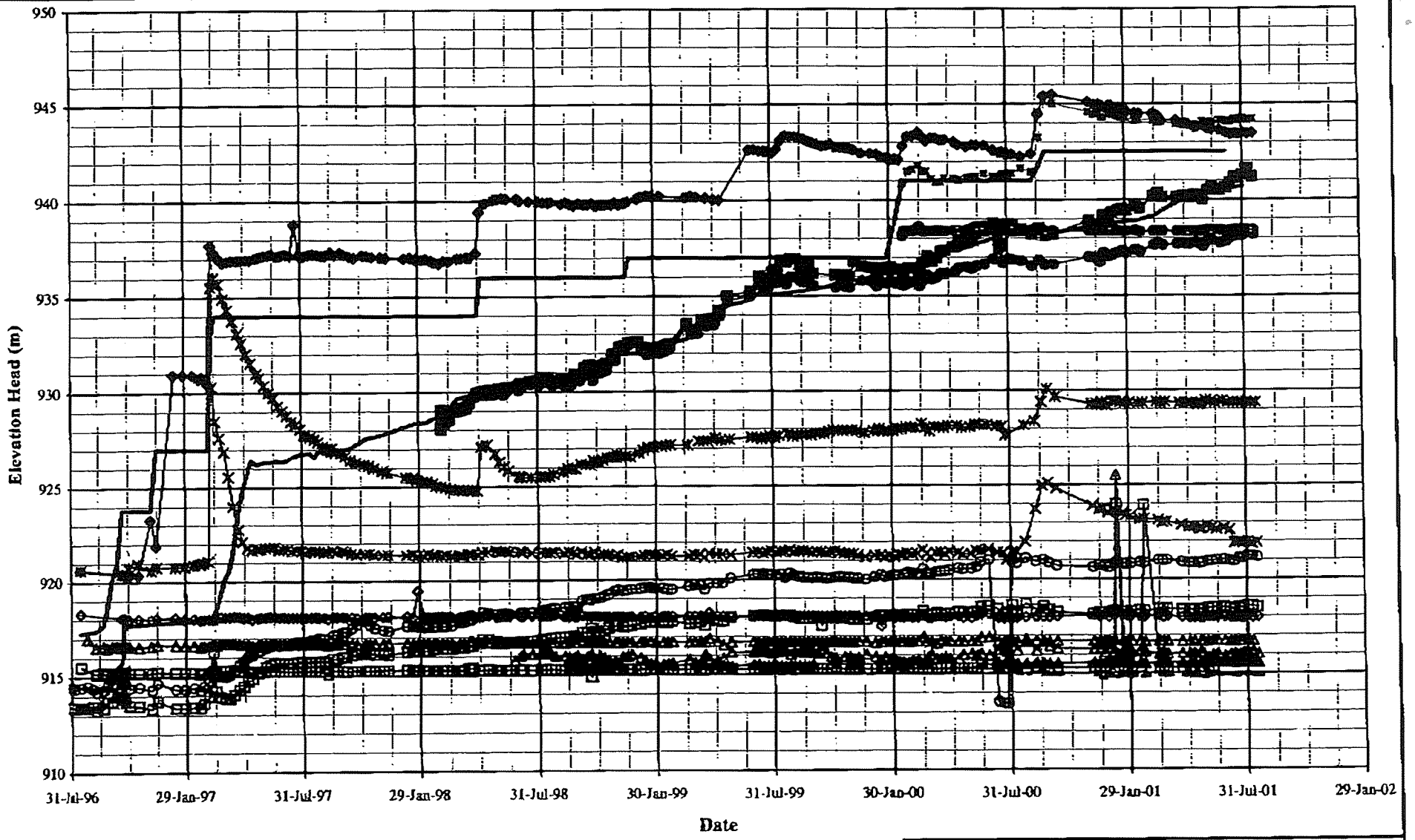
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF NO	REV.
11162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

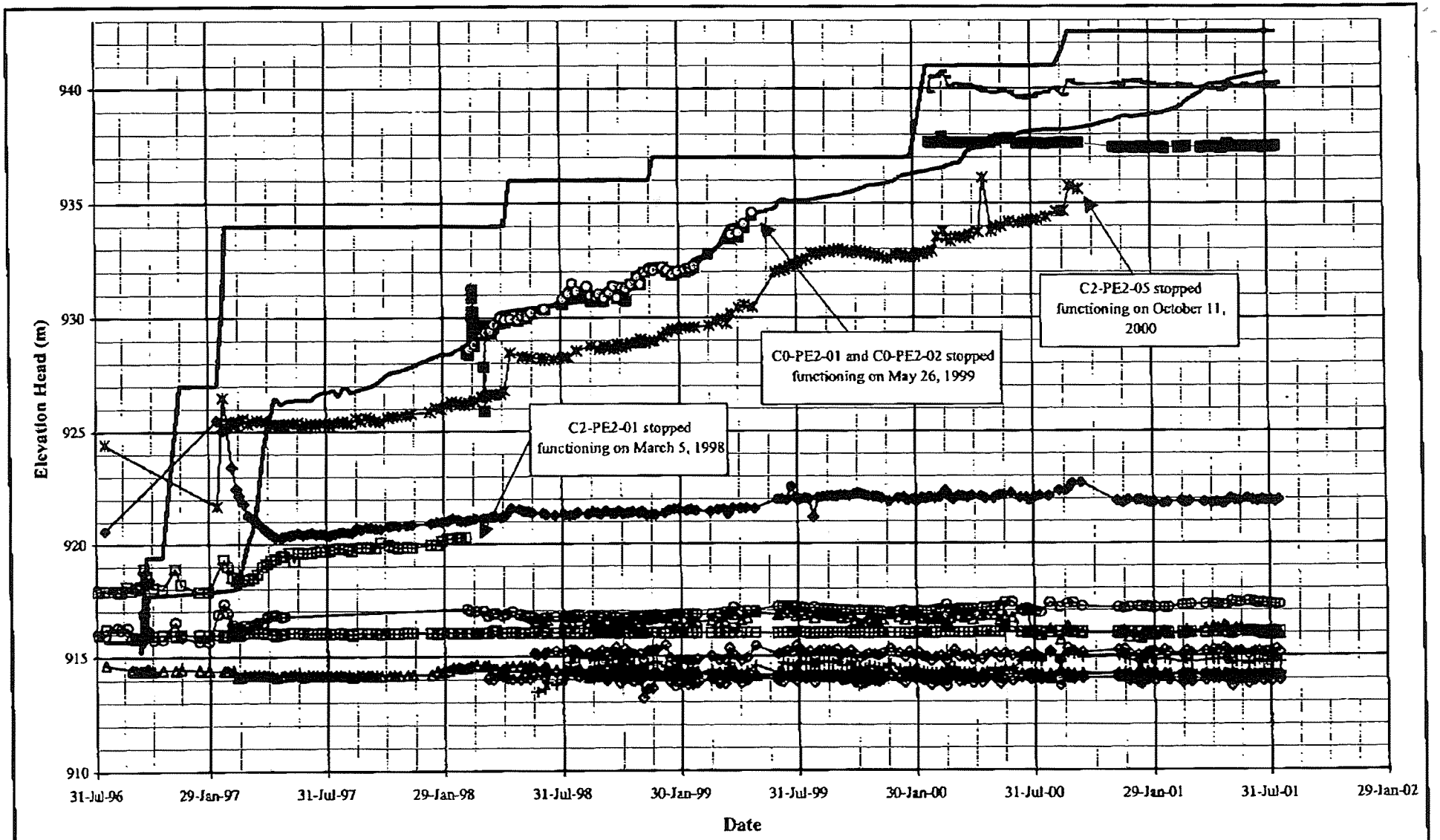
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE B PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV
11162/14		

FIGURE 5.2



MOUNT POLLEY MINING CORPORATION

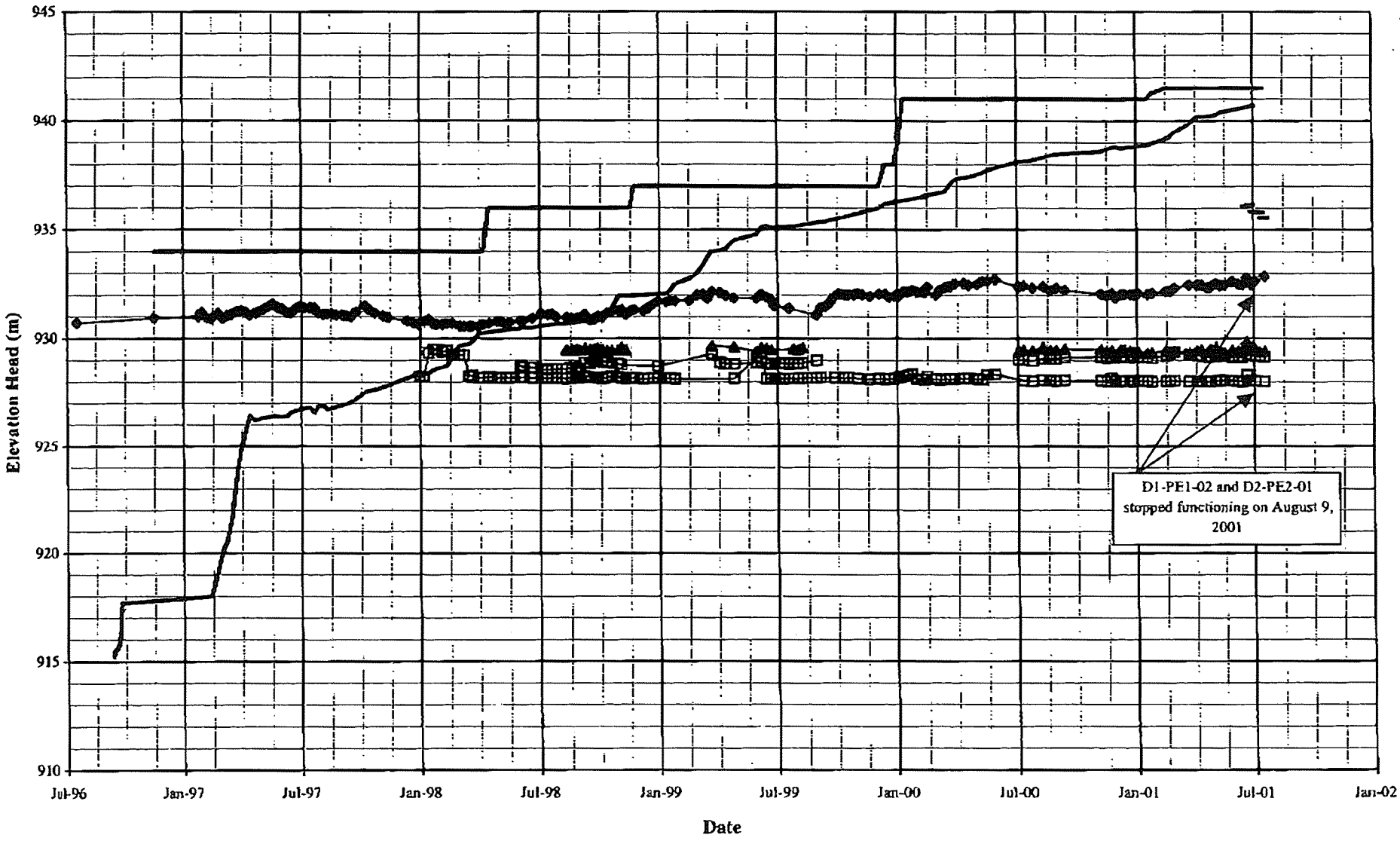
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

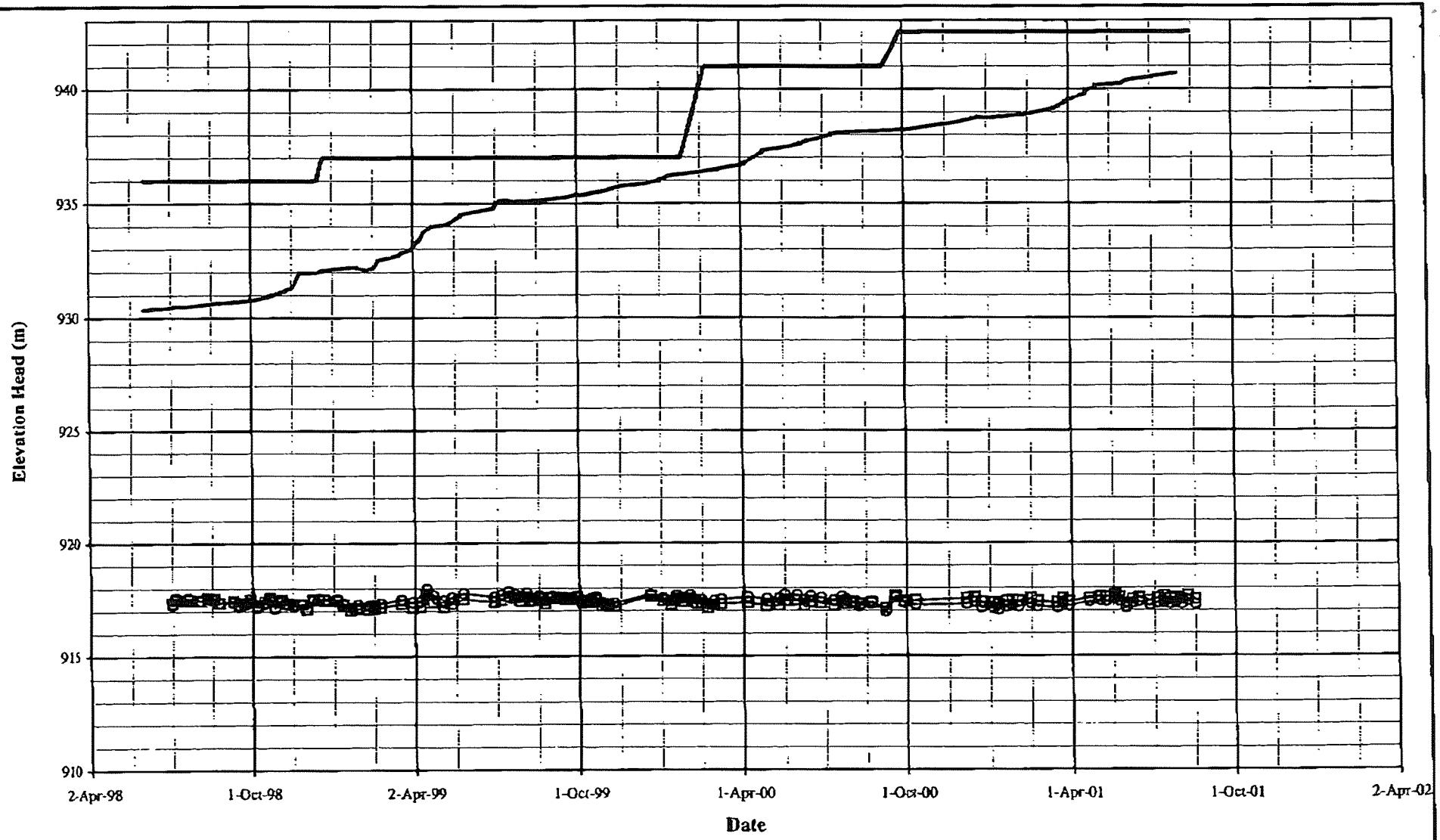
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO	REF. NO	REV.
11162/14		

FIGURE 5.4



MOUNT POLLEY MINING CORPORATION

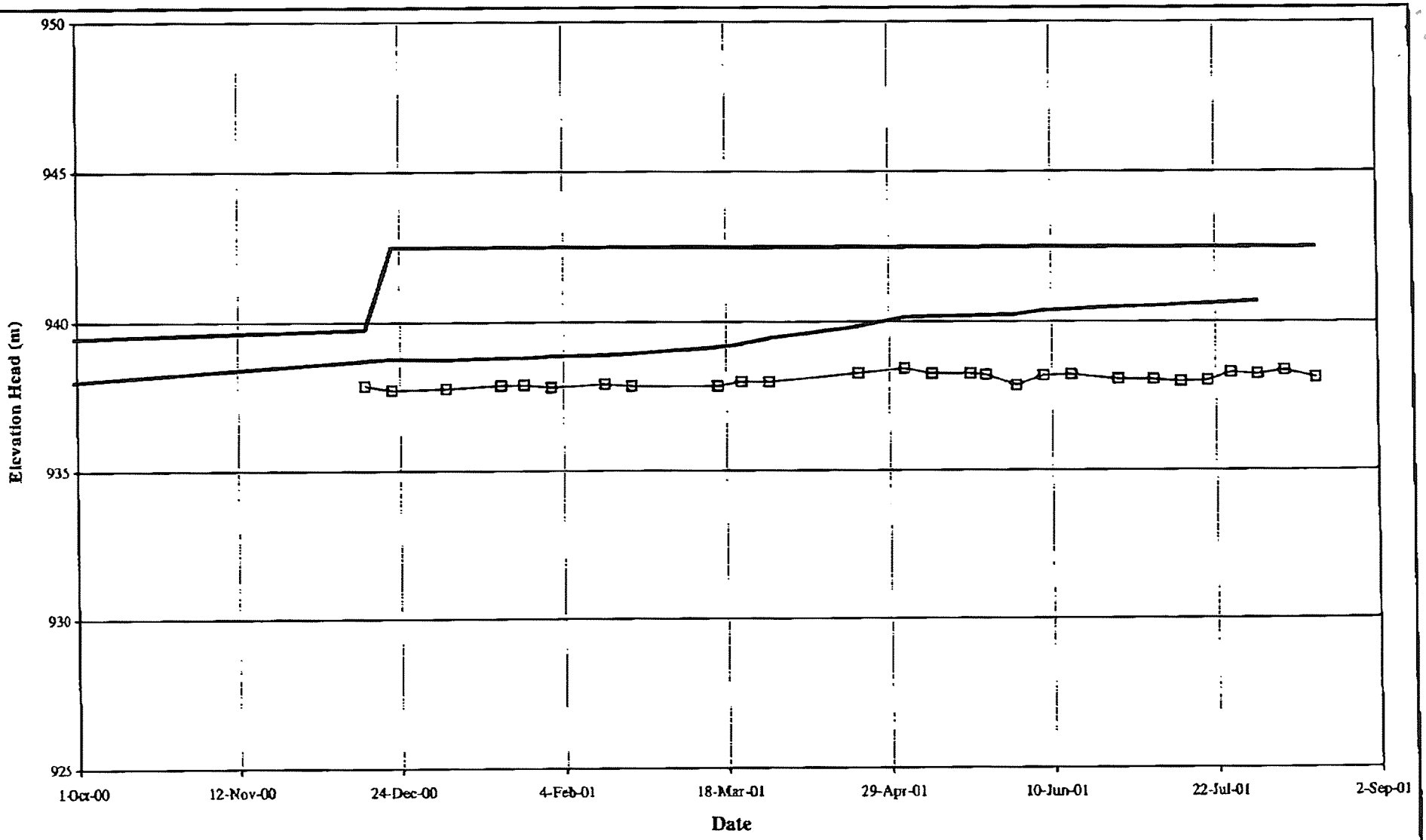
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE E PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV.
1116/14		

FIGURE 5.5



MOUNT POLLEY MINING CORPORATION

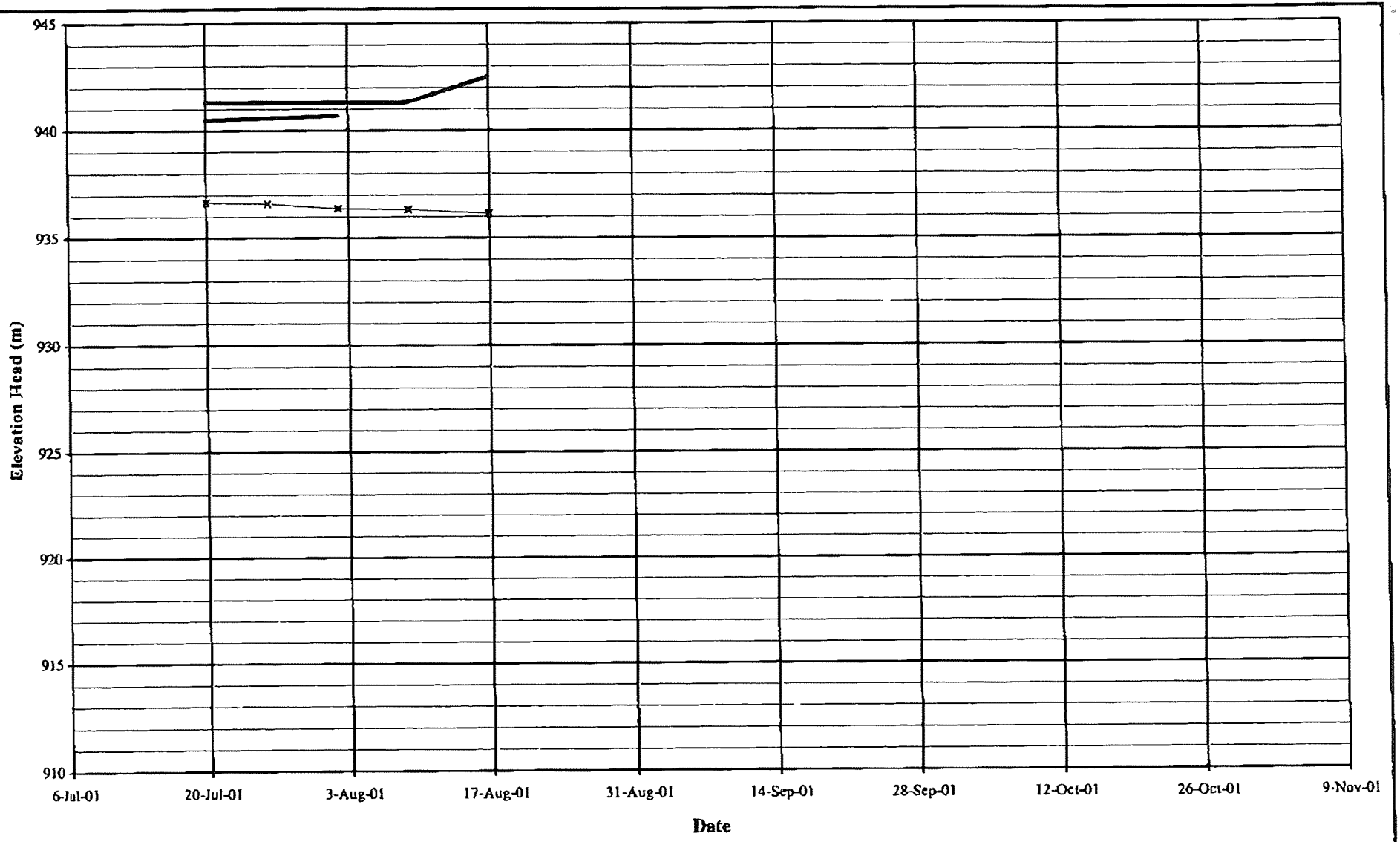
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE F PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV.
1116/14		

FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

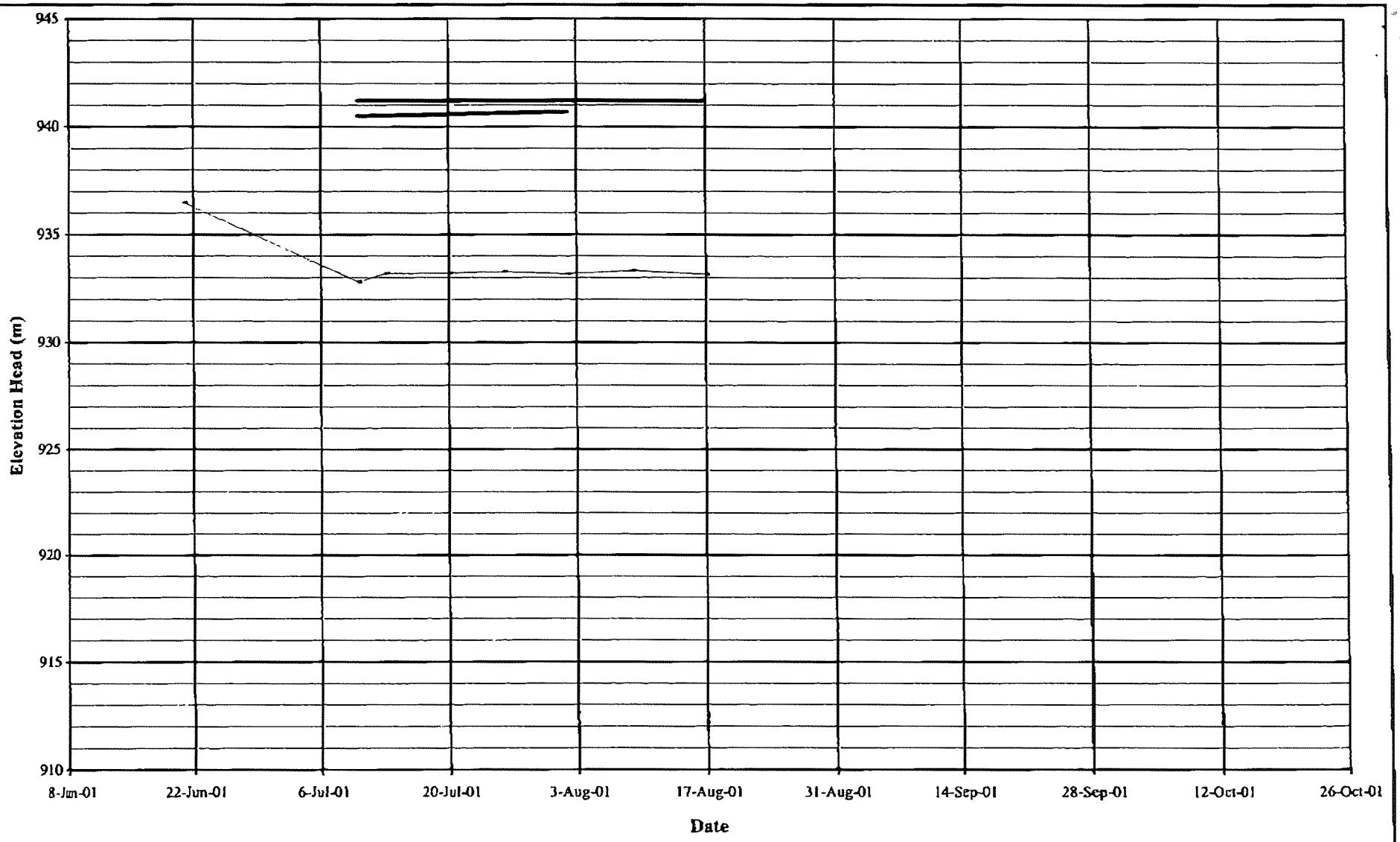
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE G PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO	REF. NO.	REV
11162/14		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION

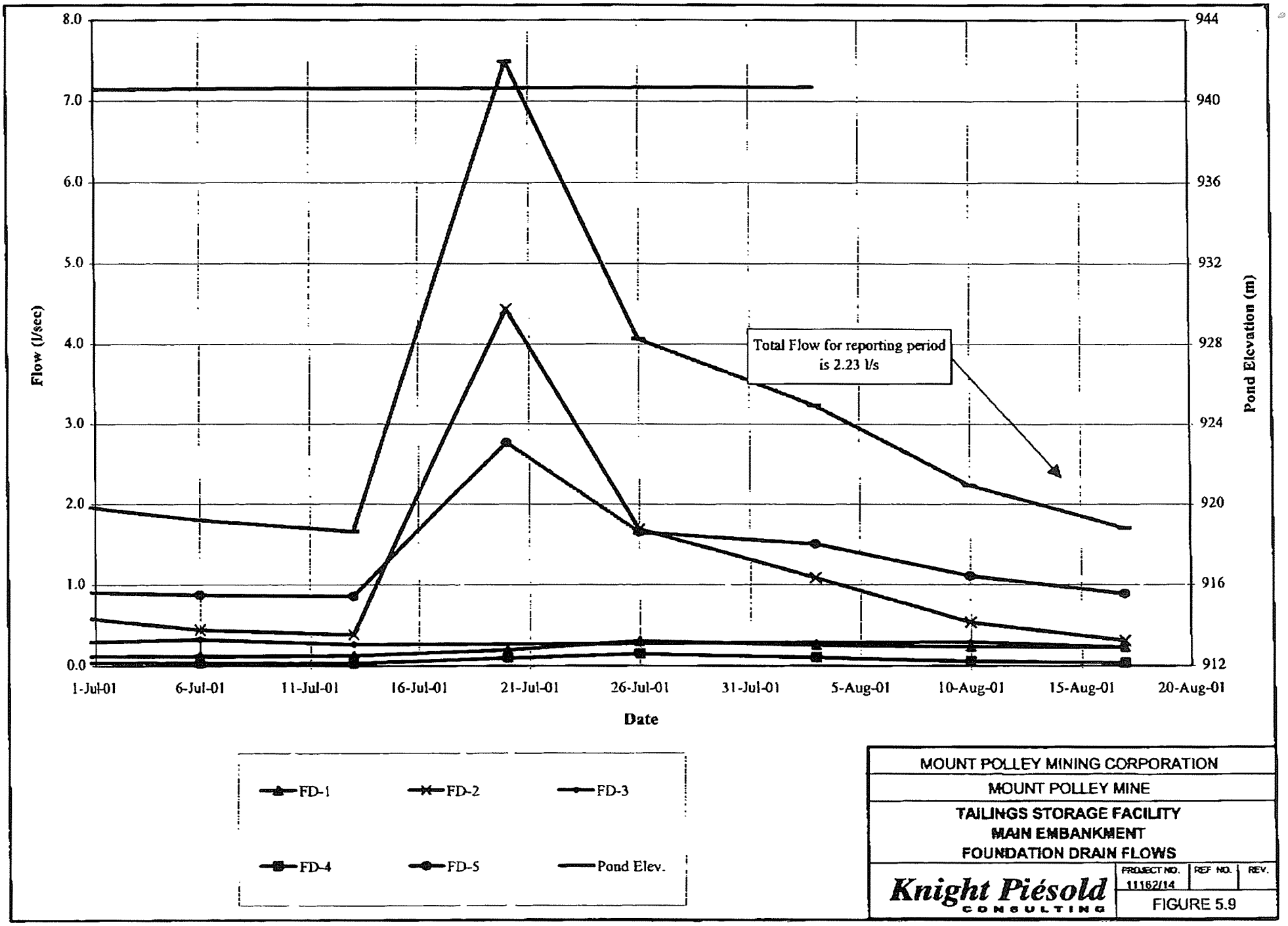
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE H PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO	REV
11162/14		

FIGURE 5.8



MOUNT POLLEY MINING CORPORATION

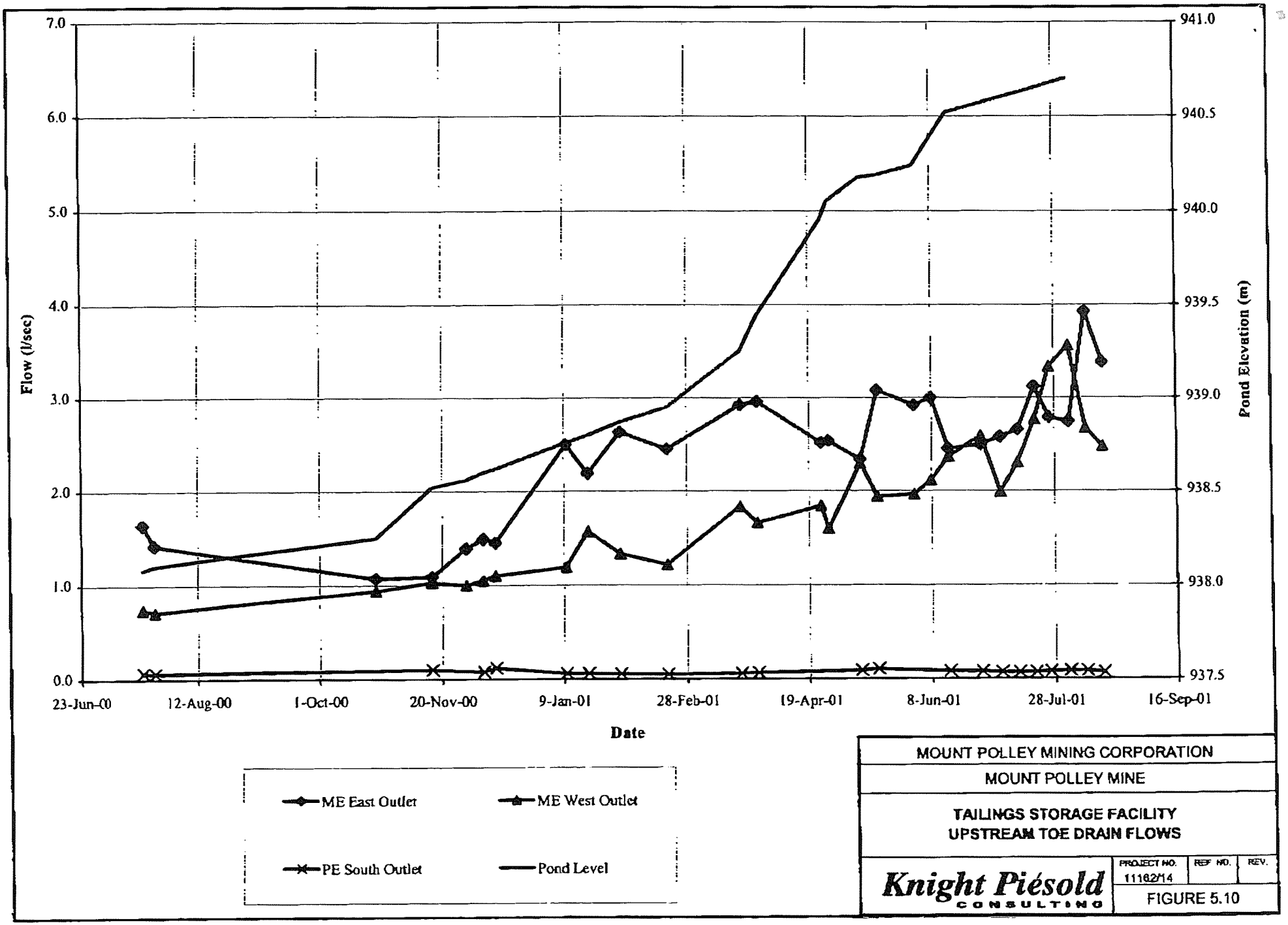
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV.
11162/14		

FIGURE 5.9



MOUNT POLLEY MINING CORPORATION

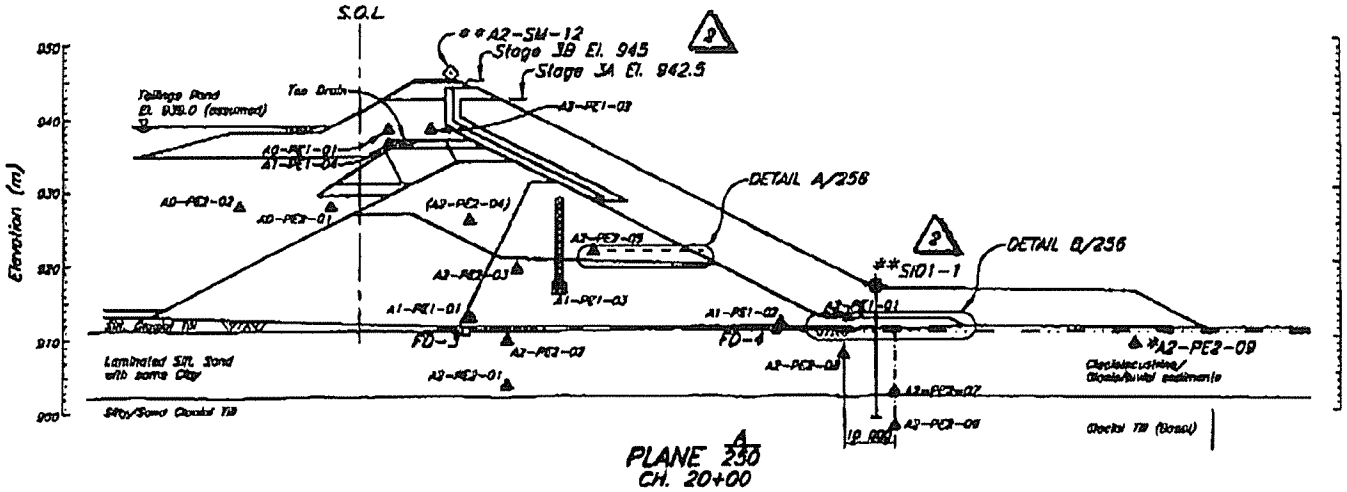
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

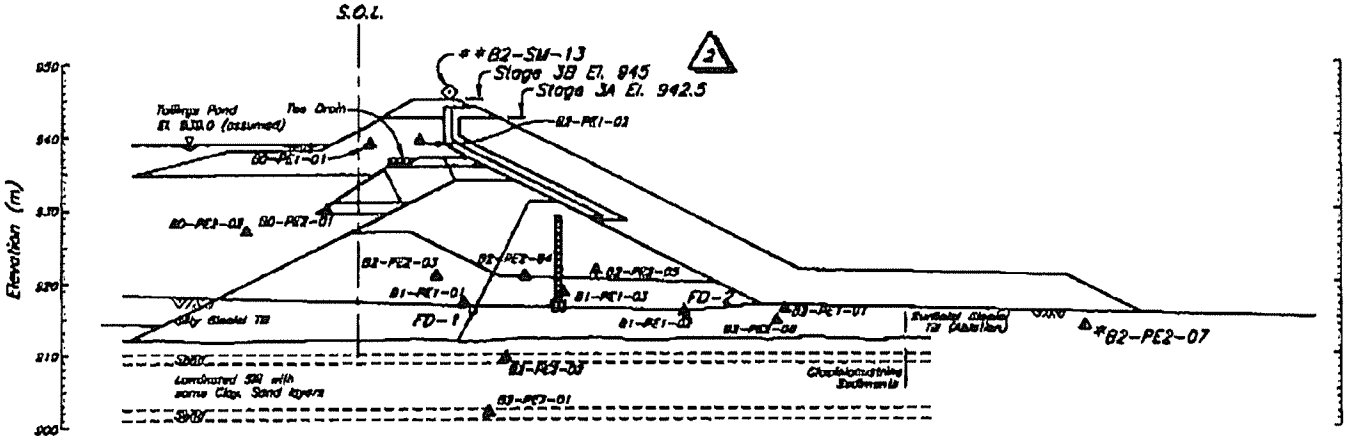
Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV.
11162/14		

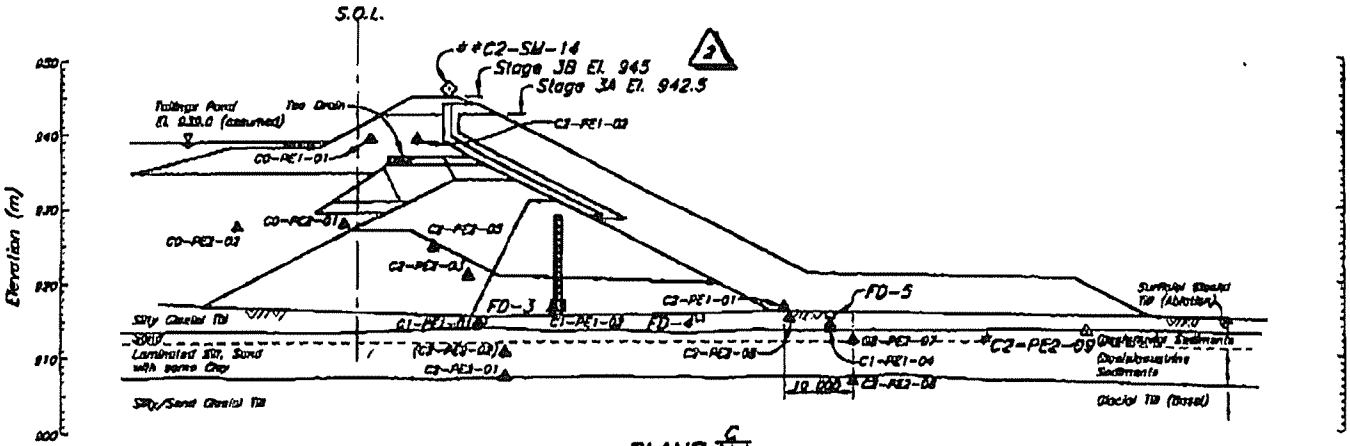
FIGURE 5.10



PLANE A/250
CH. 20+00

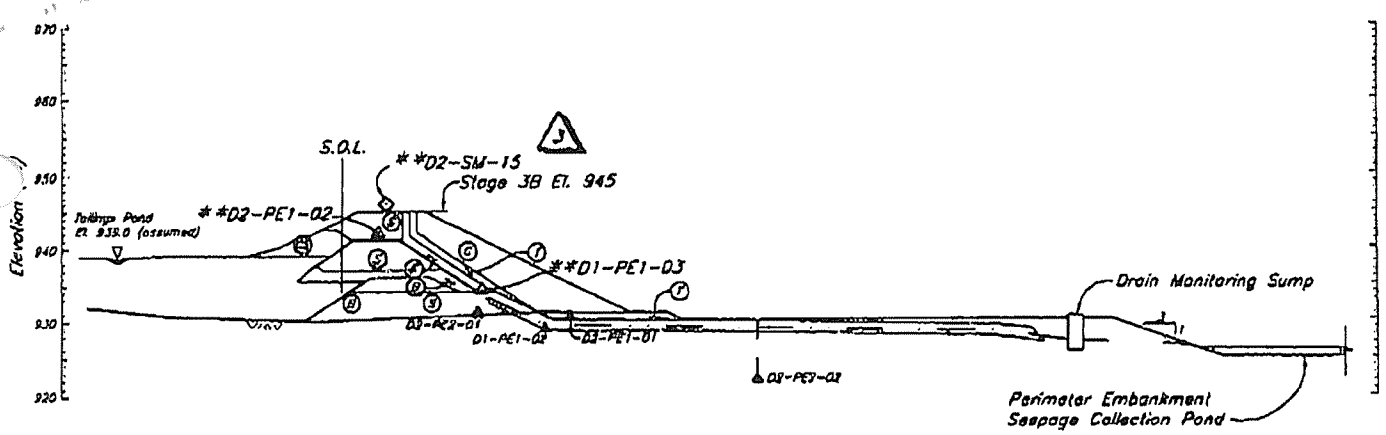


PLANE B/250
CH. 22+40

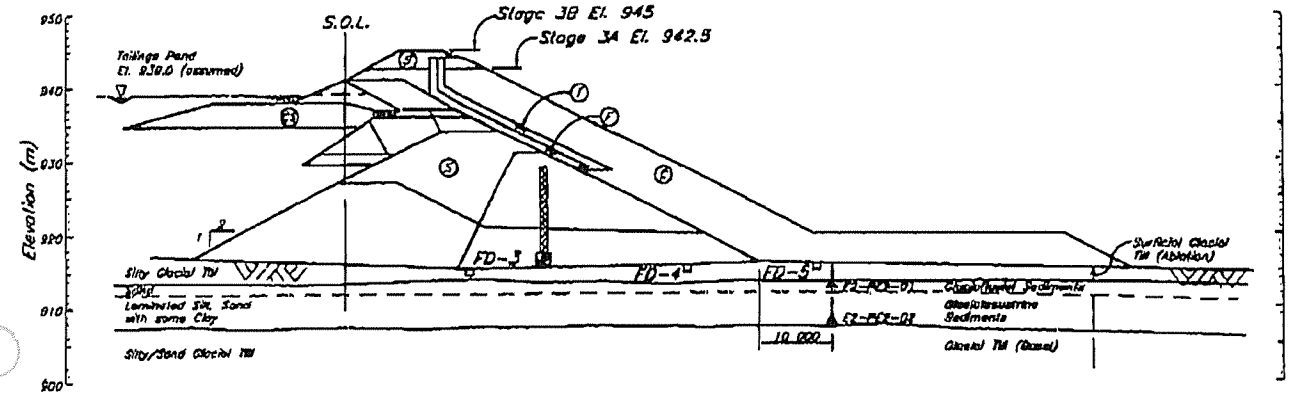


PLANE C/250
CH. 18+50

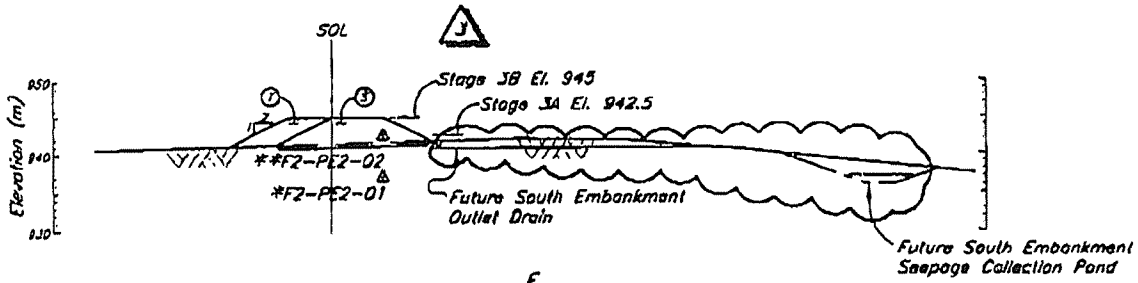
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2									3	00MAY'01	ISSUED FC
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS									1	26JAN'01	ISSUED ST
STAGE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN									0	2JUN'00	ISSUED FC
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE		
REFERENCE DRAWINGS	REVISIONS										



PLANE $\frac{D}{231}$
CH. 39+86



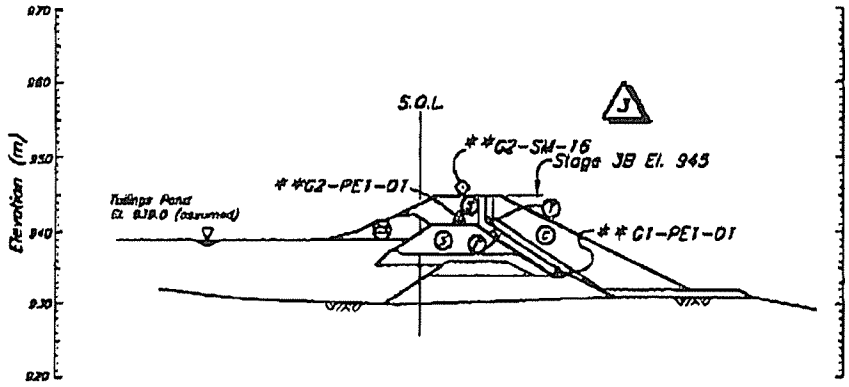
PLANE $\frac{E}{250}$
CH. 17+60



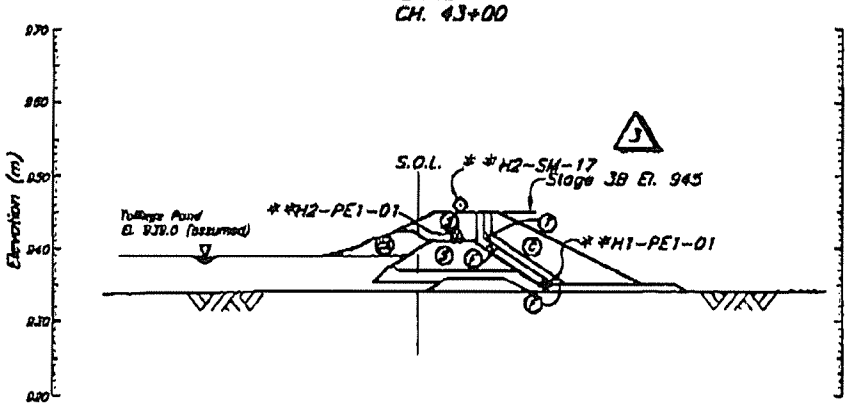
PLANE $\frac{F}{254}$
CH. 7+19

REFERENCE DRAWINGS
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN

REVISIONS									
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	
							3	08MAY'01	ISSUED FO
							2	26JAN'01	STAGE 3B
							1	20OCT'00	PERIMETER
							0	2JUN'00	ISSUED FO



PLANE G
CH. 43+00



PLANE N
CH. 36+00

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicates placement during Stage 3B construction.

Scale 10 0 10 20 30 40 50 m

REVISIONS	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
2	FOR STAGE 3B TENDER - CREST ELEVATION 945	CWM	DSR	JMTW	KJB
1	FOR EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
0	FOR CONSTRUCTION	JRK	TAM	ABW	KJB

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

DESIGNED JRK | CHECKED ABW | DRAWN DSR | APPROVED KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

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

Knight Piésold CONSULTING

SCALE AS SHOWN | REVISION 3

DRAWING NO. 11162-13-258

COVER LETTER

DATE 09/12 16:42

TO: 250 952 0481
FROM: KNIGHT PIESOLD LTD VANCOUVER
TEL NO. 604 685 0147

TOTAL PAGES 027 (INCLUDE THIS PAGE)

Knight Piésold CONSULTING	**DATE:** August 14, 2001	**FILE NO.:**	11162/14.F01/.F02/ .F04/.F05/.F08
	TIME:	**REF NO.:**	01-30
Mount Polley Site Office *Fax: (250) 790-2268* www.knightpiésold.com	**OPERATOR:**	**PAGES:**	1 of 25
	SENDER: Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C.	**FAX :**	250-952-0481
ATTN:	Chris Carr		
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site		
SUBJECT:	Progress Report No. 18		

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 18 from August 6 to August 12, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 18 – AUGUST 6 TO AUGUST 12, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes placement of Zones S, F, T and C to El. 942.5 m on the Perimeter Embankment (Ch. 28+00 to 44+50). MPMC is carrying out the majority of this work. Material haulage only is being completed by sub-contractors.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

No new contract developments took place over the reporting period.

1.3 DESIGN DEVELOPMENTS

No new design developments occurred during the reporting period.

1.3 WEATHER

Conditions were warm and sunny during the reporting period with maximum daytime highs reaching about +28 °C and nightly lows sinking to as low as +8 °C.

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1.4 SAFETY

No new safety incidents occurred over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 19+00 to obtain a well developed, even beach at the Main Embankment. The tailings line will then be moved to the ridge between the Main and South Embankments. It is anticipated that tailings will form a substantial beach in this area by discharging at this location.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270, 1 Hitachi EX 400
- Haul Trucks: 2 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992B
- Dozers: 1 Caterpillar D6, 1 Caterpillar D8K, 1Caterpillar D7G
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Service, water and fuel trucks
- Lake Excavating: 6 dump trucks and 1 Caterpillar 966 loader

MPMC carried out the following activities during the reporting period:

- Placement of Zone F, Perimeter Embankment: Ch. 37+00 to 39+50, El. 934.0 to 938.0 m.
- Placement of Zone S, Perimeter Embankment: Ch. 32+00 to 36+00, El. 941.3 to 942.5 m

Zone F was delivered from the stockpile at the millsite and Zone S originated from Borrow Area 2. Zone F was placed in a 1 m thick lift on the downstream embankment slope over stiff Zone S, while Zone S was placed in 300 mm horizontal lifts.

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SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones F and S.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.
- Preparation of the Annual Report and the Stage 3 Construction Report

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- R-ZF-41B
- C-ZF-46

The lone Zone F record sample was a re-test of R-ZF-41, which was on the fine side of the specification on the #100 sieve. The re-test proved that the material was suitable for Zone F fill. The original sample will be stricken from the record since it is deemed that there was an error in testing this sample. The control test completed during the reporting period proved suitable for Zone F also. All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed during the reporting period.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.8. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. Generally, these piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Readings at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on August 9, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.9 and 5.10, respectively.

5.4 SLOPE INCLINOMETERS

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The equipment to monitor, record and evaluate the data from the slope inclinometers is expected to be on site during the second week of August. Exact depths of the inclinometers will be determined and calibration measurements will be carried out at that time.

SECTION 6.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 942.5 m.
- The slope inclinometers will be measured and calibrated.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE F CONTROL TEST SUMMARY SHEET

H:\ENG\DATA\Engdocs\Geotechnical\Reports\Stage 3B Construction\Revised\[C-ZF-3xxxx.xls]Data Sheet 9/3/01

Knight Piésold CONSULTING

SHEET: 1 of 1
PERIOD: August 6 to August 12, 2001
PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
PROJECT NO.: 11162/14
MATERIAL: Zone F - Filter Sand
AREA: Zone F Stockpile

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	12.7 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14736 mm	0.07366 mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	Optimum m/c %	C5 Specific Gravity
									4"	3"	1.5"	1"	0.75"	0.5"	0.375"	0.187"	0.0937"	0.0469"	0.0234"	0.0165"	0.0059"	0.0029"				
									#4	#8	#16	#30	#50	#100	#200	Clay										
C-ZF-3-1	17-Jul-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		72.8		39.8	28.7		9.5		8.3	2.9	-	-	-	-
C-ZF-3-2	19-Jul-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		67.6		39.1	33.2	29.7	14.9	10.0	6.2	3.7	-	-	-	-
C-ZF-3-3	19-Jul-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		79.5		38.6	23.7	14.1	10.8	7.0	4.0	2.4	-	-	-	-
C-ZF-3-4	20-Jul-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		88.1		50.1	33.9	20.6	13.8	9.5	5.8	3.1	-	-	-	-
C-ZF-3-5	21-Jul-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		83.0		39.0	25.4	18.8	11.7	7.8	3.3	1.0	-	-	-	-
C-ZF-3-6	24-Aug-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		76.9		39.5	25.8	17.3	12.2	5.3	2.8	1.5	-	-	-	-
C-ZF-3-7	24-Aug-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		7.3		29.2	17.0	11.0	7.5	4.8	2.6	1.5	-	-	-	-
C-ZF-3-8	25-Aug-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		86.2		53.3	35.3	21.5	14.2	9.0	4.0	2.3	-	-	-	-
C-ZF-3-9	6-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		82.1		41.6	30.0	19.6	13.3	7.7	4.0	1.6	-	-	-	-
C-ZF-3-10	6-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		80.3		36.6	23.1	16.1	11.3	7.0	3.3	1.1	-	-	-	-
C-ZF-3-11	8-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		78.1		39.3	23.6	14.5	9.2	5.4	2.9	1.3	-	-	-	-
C-ZF-3-12	9-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		81.7		46.5	30.5	19.5	12.1	6.7	3.2	1.2	-	-	-	-
C-ZF-3-13	9-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		87.0		52.9	35.3	22.7	14.3	8.2	4.2	1.7	-	-	-	-
C-ZF-3-14	9-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		82.5		44.5	30.0	19.5	12.3	6.7	3.1	1.1	-	-	-	-
C-ZF-3-15	12-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		76.3		34.5	25.7	18.2	13.5	9.3	5.2	2.6	-	-	-	-
C-ZF-3-16	13-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		78.7		39.9	26.0	16.6	10.0	5.3	3.0	1.6	-	-	-	-
C-ZF-3-17	13-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		90.8		55.3	38.6	27.3	19.1	12.6	7.8	4.0	-	-	-	-
C-ZF-3-18	13-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		90.9		55.0	37.0	24.9	16.2	10.0	45.7	3.0	-	-	-	-
C-ZF-3-19	15-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		91.9		60.1	41.6	27.1	17.1	9.9	5.2	2.2	-	-	-	-
C-ZF-3-20	17-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		82.4		41.4	28.0	19.1	12.3	6.4	3.0	1.5	-	-	-	-
C-ZF-3-21	17-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		85.1		38.7	19.6	12.4	8.4	5.1	2.6	1.5	-	-	-	-
C-ZF-3-22	18-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		87.9		35.1	16.6	10.1	6.8	4.5	3.1	2.0	-	-	-	-
C-ZF-3-23	18-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		92.0		51.8	30.2	18.2	12.0	7.3	3.6	1.5	-	-	-	-
C-ZF-3-24	18-Sep-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		87.7		42.0	24.5	15.7	10.6	6.6	3.6	1.8	-	-	-	-
C-ZF-3-25	11-Nov-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		83.3		50.8	34.0	27.5	15.2	9.5	4.6	2.1	-	-	-	-
C-ZF-3-26	29-Nov-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		79.7		44.7	29.7	20.0	14.1	10.2	5.0	2.8	-	-	-	-
C-ZF-3-27	4-Dec-00	Zone F Stockpile	-	-	-	-	-	-	100.0	100.0	100.0	100.0		86.3		58.0	42.8	31.3	23.9	17.5	11.1	6.8	-	-	-	-
																							-	-	-	-
C-ZF-3-31	28-Mar-01	Zone F Stockpile	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	99.6		84.0	61.6	43.0	25.5	21.3	16.5	12.7	10.0	-	-	-	-
C-ZF-3-32	28-May-01	Zone F Stockpile	-	-	-	-	4.0	-	100.0	100.0	100.0	100.0	99.4		78.9	59.5	43.4	29.6	21.9	16.8	13.1	10.4	-	-	-	-
C-ZF-3-33	28-May-01	Zone F Stockpile	-	-	-	-	2.9	-	100.0	100.0	100.0	100.0	98.7		56.0	28.1	17.6	12.8	10.1	7.8	6.1	4.8	-	-	-	-

11162/14-0600-18
Revision 0
August 13, 2001

TABLE 4.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE F CONTROL TEST SUMMARY SHEET

H:\ENG\DATA\Engdocs\Geotechnical\kpsite\Stage 3B Construction\Mt polley mine\[C-ZF-summary.xls]Data Sheet

6/13/01

Knight Piésold CONSULTING

SHEET:	1 of 1
PERIOD:	August 6 to August 12, 2001
PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION	PROJECT NO.: 11162/14
MATERIAL: Zone P - Filter Sand	AREA: Zone P Stockpile

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field w/c %	LL %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	12.7 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14956 mm	0.07566 mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum w/c %	C6 Specific Gravity
									4"	3"	1.5"	1"	0.75"	0.5"	0.375"	0.187"	0.0937"	0.0469"	0.021H	0.0165"	0.0059"	0.0029"				
									4	3	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Clay			
C-ZF-3-34	11-Jun-01	Zone F Stockpile	-	-	-	-	3.7	-	100.0	100.0	100.0	100.0	99.3		96.2	35.0	24.2	15.0	10.5	7.8	6.1	4.8	-	-	-	-
C-ZF-3-35	11-Jun-01	Zone F Stockpile	-	-	-	-	4.2	-	100.0	100.0	100.0	100.0	97.9		89.3	34.7	24.7	15.3	10.6	8.0	6.4	5.1	-	-	-	-
C-ZF-3-36	12-Jun-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	97.7		90.6	37.0	24.2	16.5	12.2	9.4	7.1	5.6	-	-	-	-
C-ZF-3-37	3-Feb-01	Zone F Stockpile	-	-	-	-	1.5	-	100.0	100.0	100.0	100.0	95.9		86.3	34.9	23.7	16.1	11.5	8.9	4.2	2.2	-	-	-	-
C-ZF-3-38	3-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	98.5		76.7	55.6	40.0	27.2	19.0	12.9	6.5	3.3	-	-	-	-
C-ZF-3-39	3-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	99.5		75.4	41.2	24.5	14.3	9.8	6.7	3.7	1.9	-	-	-	-
C-ZF-3-40	4-Jul-01	Zone F Stockpile	-	-	-	-	3.6	-	100.0	100.0	100.0	100.0	99.3		68.8	48.7	30.2	18.8	12.3	6.9	3.2	1.5	-	-	-	-
C-ZF-3-41	4-Jul-01	Zone F Stockpile	-	-	-	-	5.5	-	100.0	100.0	100.0	100.0	99.2		77.0	56.2	36.7	21.3	11.9	6.3	3.7	1.8	-	-	-	-
C-ZF-3-42	13-Jul-01	Zone F Stockpile	-	-	-	-	5.3	-	100.0	100.0	100.0	100.0	96.9		69.4	45.3	27.4	16.9	10.3	5.9	3.9	-	-	-	-	-
C-ZF-3-43	13-Jul-01	Zone F Stockpile	-	-	-	-	5.5	-	100.0	100.0	100.0	100.0	99.1		79.1	57.4	39.0	26.0	16.7	9.1	4.5	-	-	-	-	-
C-ZF-3-44	28-Jul-01	Zone F Stockpile	-	-	-	-	6.9	-	100.0	100.0	100.0	100.0	99.1		80.2	60.7	50.1	39.5	30.8	23.6	18.8	14.9	-	-	-	-
C-ZF-3-45	29-Jul-01	Zone F Stockpile	-	-	-	-	8.1	-	100.0	100.0	100.0	100.0	93.0		60.7	43.6	32.5	24.5	19.3	15.6	12.6	10.2	-	-	-	-
C-ZF-3-46	9-Aug-01	Zone F Stockpile	-	-	-	-	6.4	-	100.0	100.0	100.0	100.0	100.0		86.4	52.6	32.2	21.7	17.1	14.0	11.5	9.5	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!		4.3	#DIV/0!	100.0	100.0	100.0	100.0	98.5	#DIV/0!	70.5	46.8	32.1	21.5	15.3	11.0	7.5	6.1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#NUM!	#NUM!	#NUM!		4.1	#NUM!	100.0	100.0	100.0	100.0	99.1	#NUM!	72.4	45.0	31.2	20.1	12.3	8.6	6.3	5.0	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)	0.0	0.0	0.0		8.1	0.0	100.0	100.0	100.0	100.0	102.0	0.0	86.4	61.6	50.1	39.5	30.8	23.6	18.8	14.9	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0		1.5	0.0	100.0	100.0	100.0	100.0	93.0	0.0	56.0	28.1	17.6	12.8	9.8	5.9	3.2	1.5	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

C1 Atterberg Limits (ASTM D4318)
C2 Moisture Content (ASTM D2216)
C3 Particle Size Distribution (ASTM D422)
C4 Laboratory Compaction (ASTM D1557)
C6 Specific Gravity (ASTM D854)

11162/14-0600-16
Revision 0
August 13, 2001

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

H:\ENGDATA\Projects\Geotechnical\Spillz\Stage 3B Construction\lab\records\[R-ZF-summary.xls]Data Sheet

Knight Piésold CONSULTING

SHEET :	1 of 1
PERIOD :	August 6 to August 12, 2001
PROJECT NO. :	11162/14
AREA :	TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone F - Filter Sand

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C7 Field w/c %	LI %	C1 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	12.7 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07366 mm	0.002 mm Clay	C4 Standard Proctor Max Dry Density kg/m³	Optimum w/c %	C6 Specific Gravity
									4	3	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200				
R-ZF-3-1	19-Aug-00	26+10	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	88.6		51.8	34.5	23.2	15.5	10.4	6.1	3.1	-	-	-	-
R-ZF-3-2	20-Aug-00	17+00	932.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	86.6		50	35	24.5	16.7	11.9	7.8	4.2	-	-	-	-
R-ZF-3-3	21-Aug-00	20+00	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	80.1		46.6	31.8	21.7	14.9	10.1	6.4	3	-	-	-	-
R-ZF-3-4	23-Aug-00	20+05	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	88.2		53.7	35.8	15	16.1	10.6	6.8	3.3	-	-	-	-
R-ZF-3-5	24-Aug-00	25+50	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	81.6		42.1	27.3	17.8	11.6	8.2	5.2	3.1	-	-	-	-
R-ZF-3-6	25-Aug-00	19+00	935.0	-	-	-	-	-	100.0	100.0	100.0	98.1		82.4		47.8	32.2	21.3	14.7	10.1	6.8	3.7	-	-	-	-
R-ZF-3-3B	8-Sep-00	19+00	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0		86.0		47.7	29.8	15.5	8.5	5.6	3.8	2.4	-	-	-	-
R-ZF-3-8	8-Sep-00	19+00	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0											-	-	-	-
R-ZF-3-9	28-Aug-00	24+50	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		78.9		45.5	30.4	21.1	14.7	10.0	6.8	3.6	-	-	-	-
R-ZF-3-10	29-Aug-00	23+40	936.0	-	-	-	-	-	100.0	100.0	100.0	100.0		78.8		38.3	24.4	15.2	9.6	6.5	4.5	2.7	-	-	-	-
R-ZF-3-11	30-Aug-00	23+80	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		68.2		48.7	30.6	19.6	12.4	8.1	5.6	3.6	-	-	-	-
R-ZF-3-12	6-Sep-00	16+20	940.0	-	-	-	-	-	100.0	100.0	100.0	100.0		77.7		39.0	26.9	18.5	12.4	7.3	4.0	2.1	-	-	-	-
R-ZF-3-13	7-Sep-00	21+30	940.0	-	-	-	-	-	100.0	100.0	100.0	98.7		75.6		37.5	24.6	16.6	10.2	5.5	3.9	2.3	-	-	-	-
R-ZF-3-14	8-Sep-00	16+40	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		81.0		45.2	24.5	12.4	7.0	4.6	3.2	2.1	-	-	-	-
R-ZF-3-15	8-Sep-00	17+50	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		77.9		39.7	22.3	12.2	7.6	5.0	3.6	2.3	-	-	-	-
R-ZF-3-16	8-Sep-00	18+50	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		76.8		31.6	17.4	9.9	6.6	45.6	3.6	2.4	-	-	-	-
R-ZF-3-17	10-Sep-00	21+60	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		64.1		46.6	30.4	20.3	13.9	9.0	6.0	3.4	-	-	-	-
R-ZF-3-18	10-Sep-00	22+20	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.1		45.3	27.2	19.8	13.8	9.3	5.4	2.4	-	-	-	-
R-ZF-3-19	11-Sep-00	25+50	938.0	-	-	-	-	-	100.0	100.0	100.0	100.0		76.4		44.6	32.4	22.0	13.4	9.3	6.4	3.7	-	-	-	-
R-ZF-3-20	11-Sep-00	22+80	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.7		43.6	27.6	15.5	7.8	4.6	3.2	2.2	-	-	-	-
R-ZF-3-21	12-Sep-00	22+00	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		87.5		51.5	34.2	22.4	14.1	8.3	4.5	2.4	-	-	-	-
R-ZF-3-22	15-Sep-00	19+00	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		82.3		53.7	37.0	25.5	17.8	11.5	7.1	3.3	-	-	-	-
R-ZF-3-23	16-Sep-00	17+60	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		85.6		49.7	33.9	23.4	15.8	9.9	5.4	2.7	-	-	-	-
R-ZF-3-24	19-Sep-00	26+20	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		88.7		48.3	31.9	21.5	14.8	9.2	5.1	2.1	-	-	-	-
R-ZF-3-25	20-Sep-00	20+60	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		89.1		54.3	36.4	24.3	16.2	9.4	4.7	1.7	-	-	-	-
R-ZF-3-26	21-Sep-00	21+20	941.0		-	-	-	-	100.0	100.0	100.0	100.0		84.4		44.1	30.3	23.7	20.1	14.5	9.3	4.8	-	-	-	-

11162/14-0693-17
Revision 0
8/13/01

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

H:\ENG\DATA\Engdocs\Construction\Ipsite\Stage 3B Construction\Lib\record\[R-ZF-summ.xls]Data Sheet

Knight Piésold CONSULTING

SHEET : 1 of 1
PERIOD : August 6 to August 12, 2001
PROJECT NO. : 11162/14
AREA : TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
MATERIAL: Zone F - Filter Sand

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	12.7 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14936 mm	0.07366 mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	Optimum m/c %	C6 Specific Gravity
									4	3	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Clay			
R-ZF-3-27	11-Sep-00	22+80	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.7		63.5	29.0	19.4	13.0	8.9	5.0	2.3	-	-	-	-
																							-	-	-	-
R-ZF-31	28-Mar-01	29+00, 0.5 m D/S of Zone S	941.8	-	-	-	4.0	-	100.0	100.0	100.0	100.0	97.5		71.5	48.1	35.9	25.8	19.7	15.0	11.6	9.1	-	-	-	-
R-ZF-32	28-May-01	37+00, 0.5 m D/S of Zone S	935.0	-	-	-	4.1	-	100.0	100.0	100.0	100.0	98.7		68.4	46.0	31.9	22.5	16.9	12.8	9.9	7.7	-	-	-	-
R-ZF-33	17-Jun-01	42+00, 0.8 m D/S of Zone S	936.0	-	-	-	7.0	-	100.0	100.0	100.0	100.0	97.9		68.8	44.7	28.8	17.8	13.2	10.6	8.5	6.9	-	-	-	-
R-ZF-34	20-Jun-01	35+00, 0.8 m D/S of Zone S	935.0	-	-	-	3.6	-	100.0	100.0	100.0	100.0	99.2		61.5	37.8	27.0	18.7	14.0	11.0	8.6	6.8	-	-	-	-
R-ZF-35	20-Jun-01	43+00, 0.8 m D/S of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.4		70.8	46.6	32.6	23.0	17.2	13.7	10.6	8.5	-	-	-	-
R-ZF-36	10-Jul-01	33+50, 0.8 m D/S of Zone S	939.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.5		72.6	50.4	36.5	24.8	17.6	12.4	9.2	7.0	-	-	-	-
R-ZF-37	10-Jul-01	45+00, 0.8 m D/S of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.6		65.6	41.3	26.8	21.4	16.9	13.5	9.4	6.4	-	-	-	-
R-ZF-38	19-Jul-01	35+00, 1.0 m D/S of Zone S	935.0	-	-	-	8.4	-	100.0	100.0	100.0	100.0	99.4		73.8	50.6	36.5	26.1	19.7	15.3	12.0	9.6	-	-	-	-
R-ZF-39	28-Jul-01	43+00, 1.0 m D/S of Zone S	941.0	-	-	-	2.3	-	100.0	100.0	100.0	100.0	94.9		57.6	36.2	26.0	17.7	12.6	10.4	9.3	5.7	-	-	-	-
R-ZF-40	28-Jul-01	33+00, 1.0 m D/S of Zone S	941.0	-	-	-	6.3	-	100.0	100.0	100.0	100.0	100.0		73.2	44.8	31.7	22.0	15.1	10.4	7.5	2.7	-	-	-	-
~~R-ZF-41~~	~~5-Aug-01~~	~~33+25, 1.0 m D/S of Zone S~~	~~940.0~~	-	-	-	~~4.3~~	-	~~100.0~~	~~100.0~~	~~100.0~~	~~100.0~~	~~97.7~~		~~69.8~~	~~48.4~~	~~38.9~~	~~30.6~~	~~24.4~~	~~19.5~~	~~15.6~~	~~12.6~~	-	-	-	-
R-ZF-41B	9-Aug-01	retest	-	-	-	-	3.8	-	100.0	100.0	100.0	100.0	97.5	83.3	69.0	47.6	32.7	23.8	18.9	15.6	13.0	10.6	-	-	-	-
		MEAN		#DIV/0!	#DIV/0!	#DIV/0!	4.8	#DIV/0!	100.0	100.0	100.0	100.0	98.4	83.3	68.5	45.1	32.3	22.9	17.2	13.4	10.4	7.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN		#NUM!	#NUM!	#NUM!	4.4	#NUM!	100.0	100.0	100.0	100.0	99.0	83.3	69.4	45.7	32.3	22.8	17.1	13.2	9.7	7.4	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)		0.0	0.0	0.0	8.4	0.0	100.0	100.0	100.0	100.0	100.0	83.3	73.8	50.6	38.9	30.6	24.4	19.5	15.6	12.6	0.0	0.0	0.0	0.0
		MINIMUM (*)		0.0	0.0	0.0	2.3	0.0	100.0	100.0	100.0	100.0	94.9	83.3	57.6	36.2	26.0	17.7	12.6	10.4	7.5	2.7	0.0	0.0	0.0	0.0

Note : These are 100% limits.

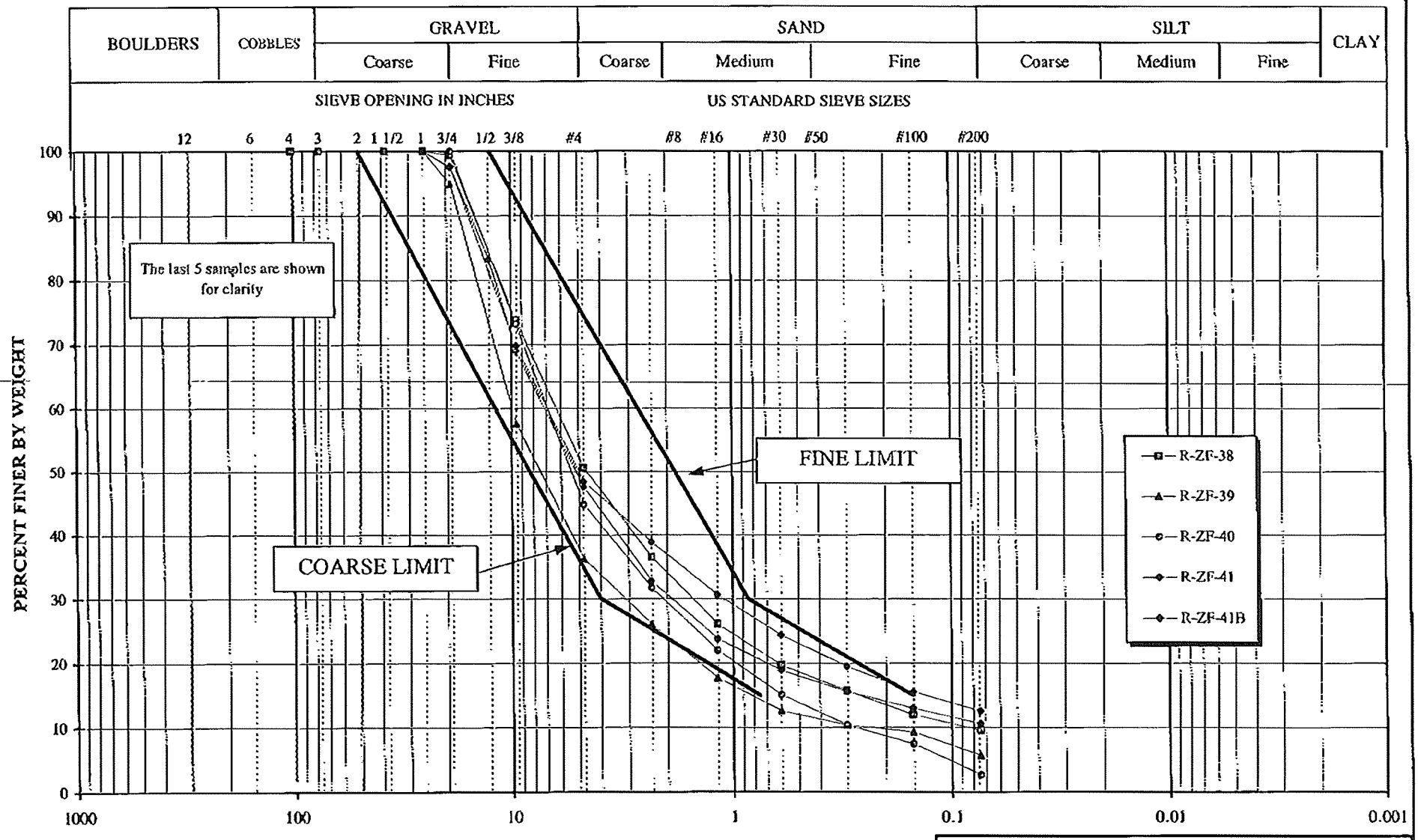
Values with strikethrough indicate that re-testing was successful. These samples will be stricken from the record in the following report.

IP - In progress

Collection of Stage 3A data in progress, samples R-ZF-8, 28, 29 and 30 are outstanding

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)

11162/14-0600-17
Revision 0
8/13/01



MOUNT POLLEY MINING CORPORATION

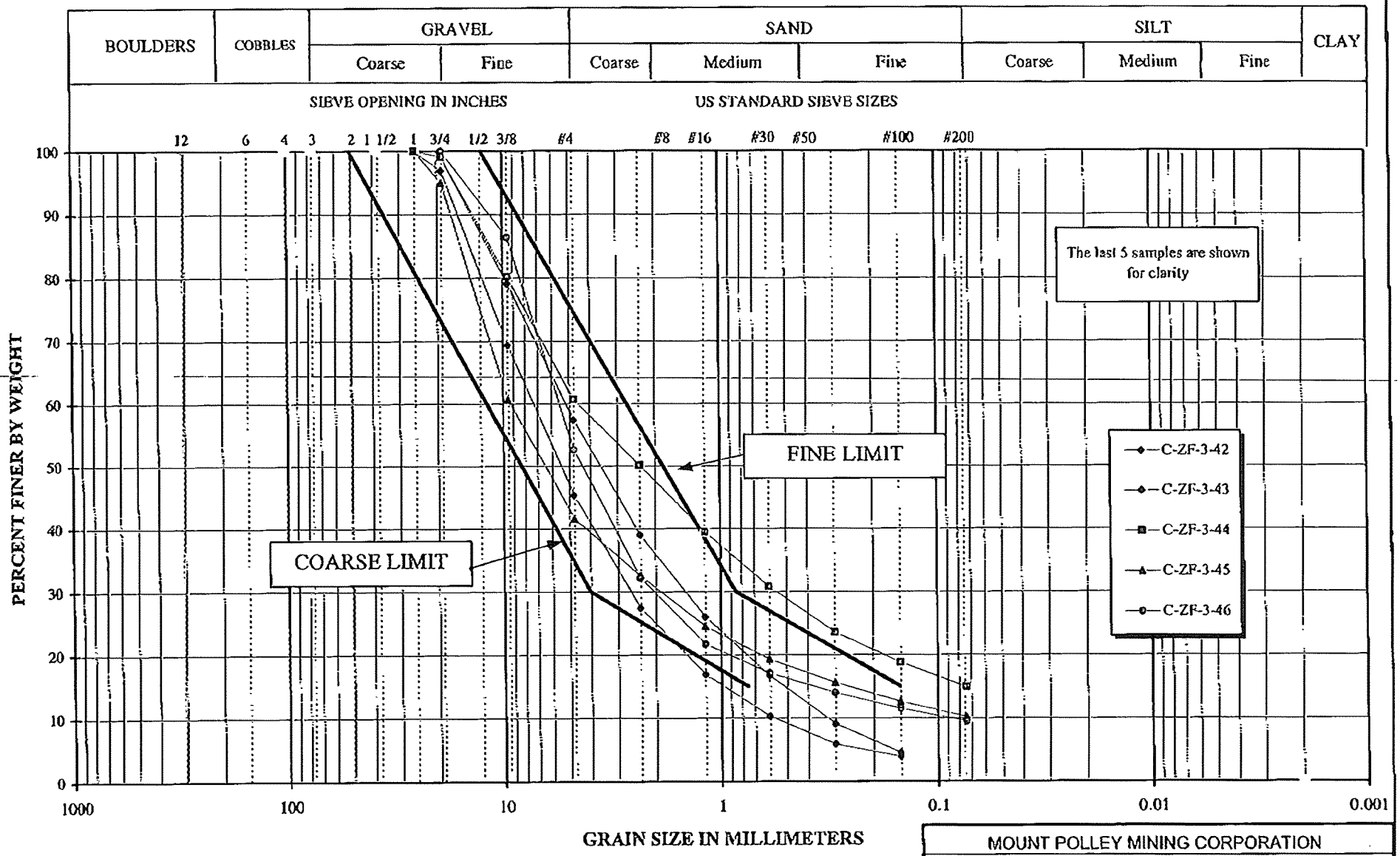
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO	REV.
11162/14		

FIGURE 4.2



MOUNT POLLEY MINING CORPORATION

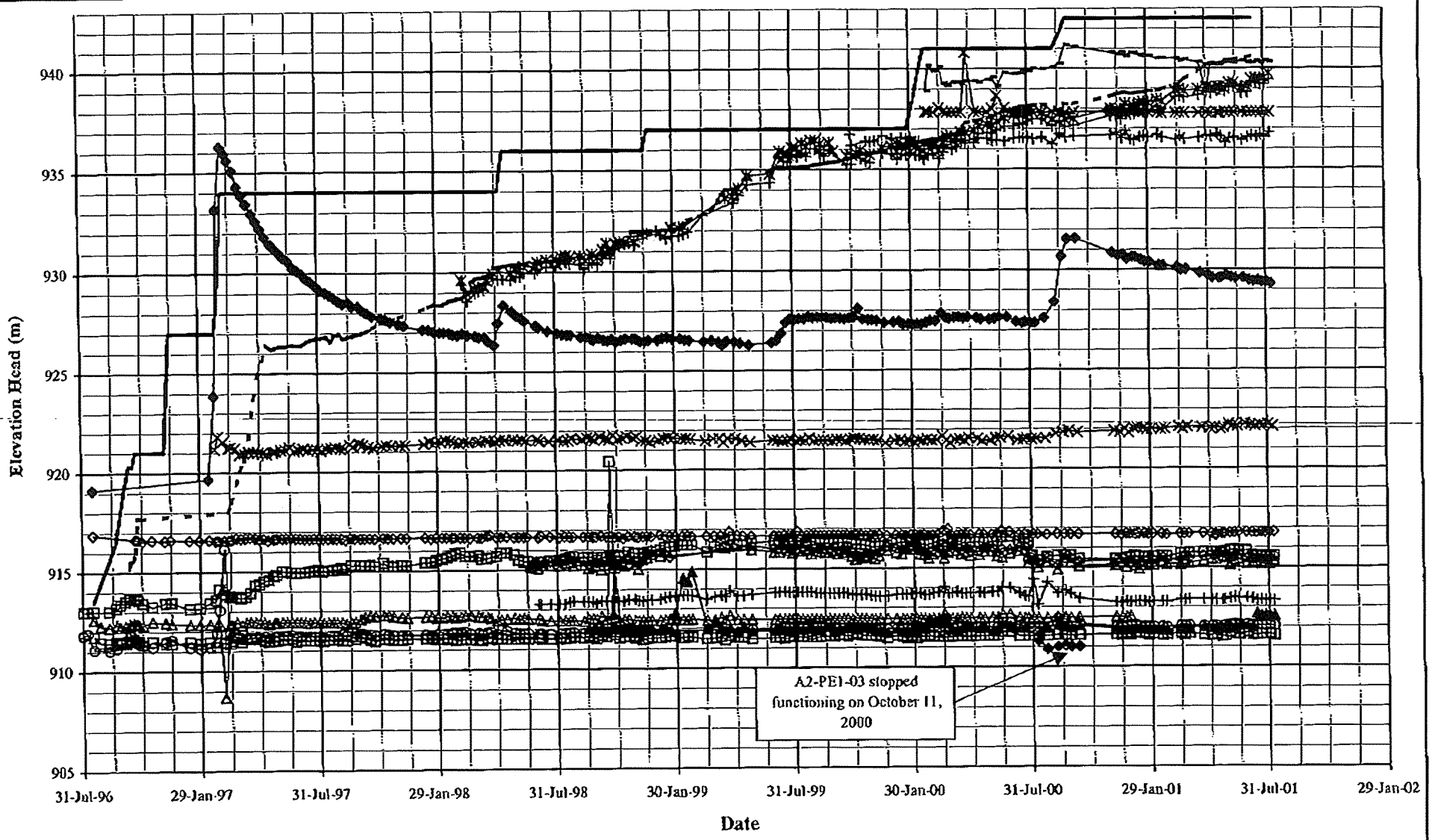
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F CONTROL SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.1



MOUNT POLLEY MINING CORPORATION

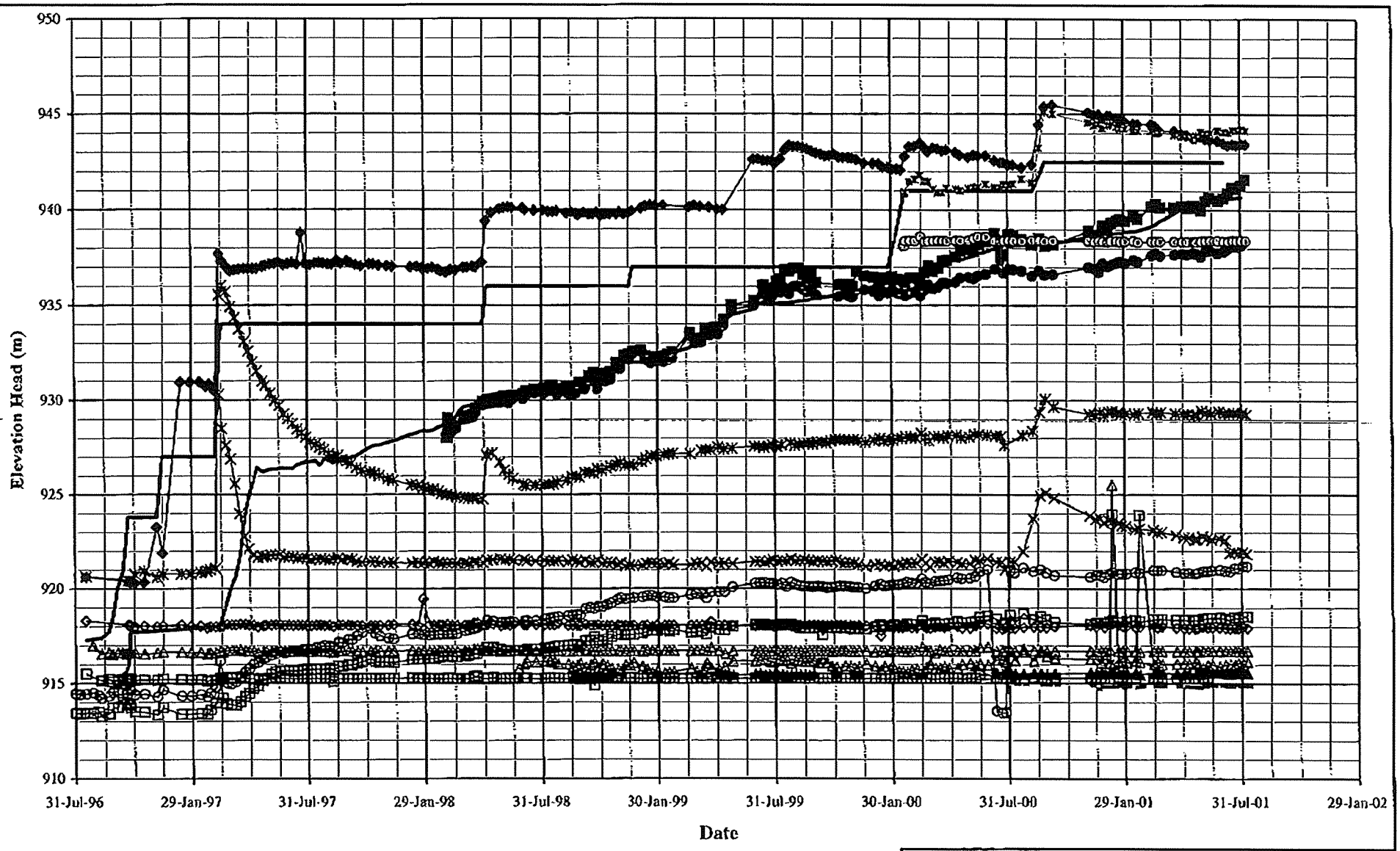
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

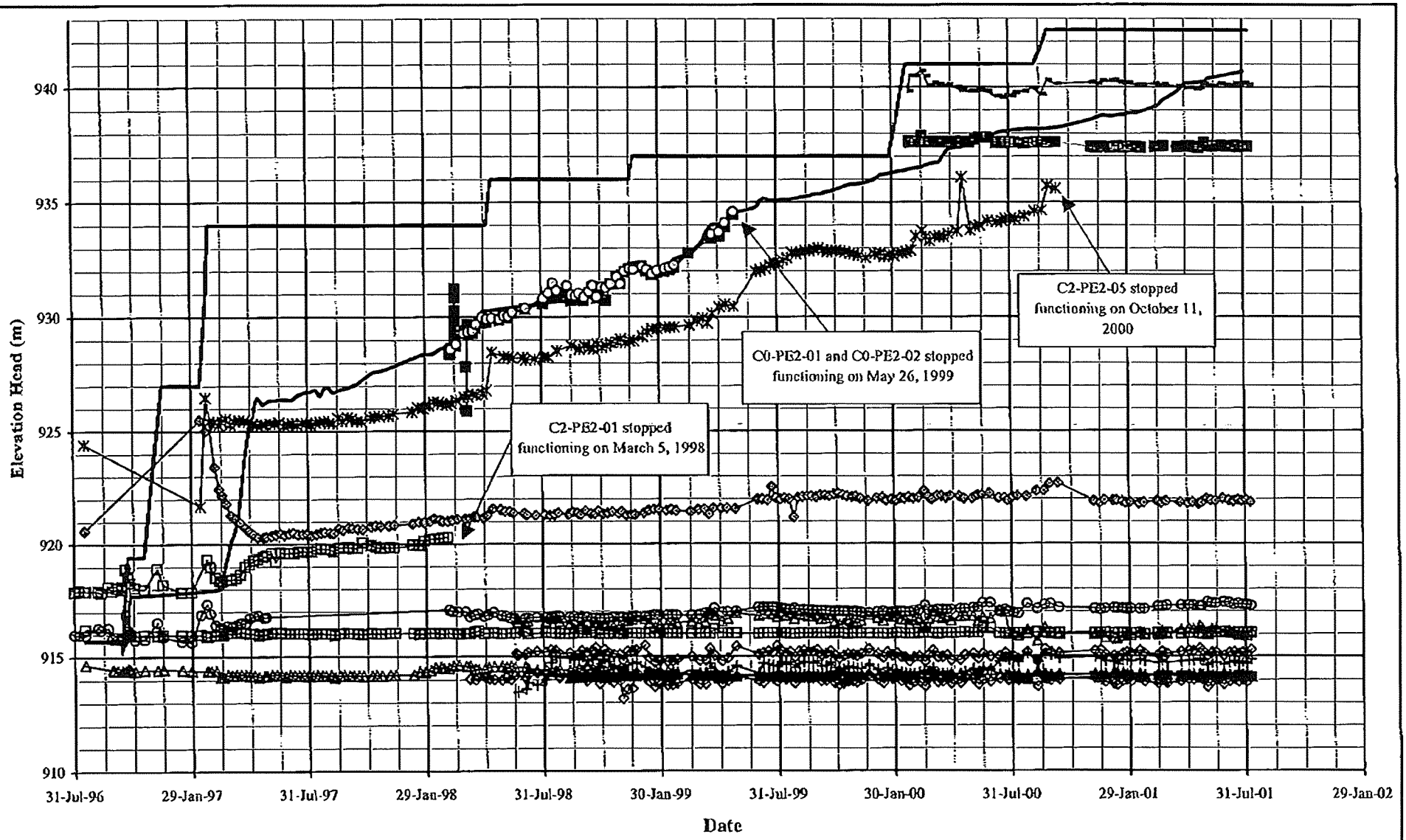
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE B PIEZOMETERS GRAPH OF ELEVATION HEAD vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
	FIGURE 5.2		



MOUNT POLLEY MINING CORPORATION

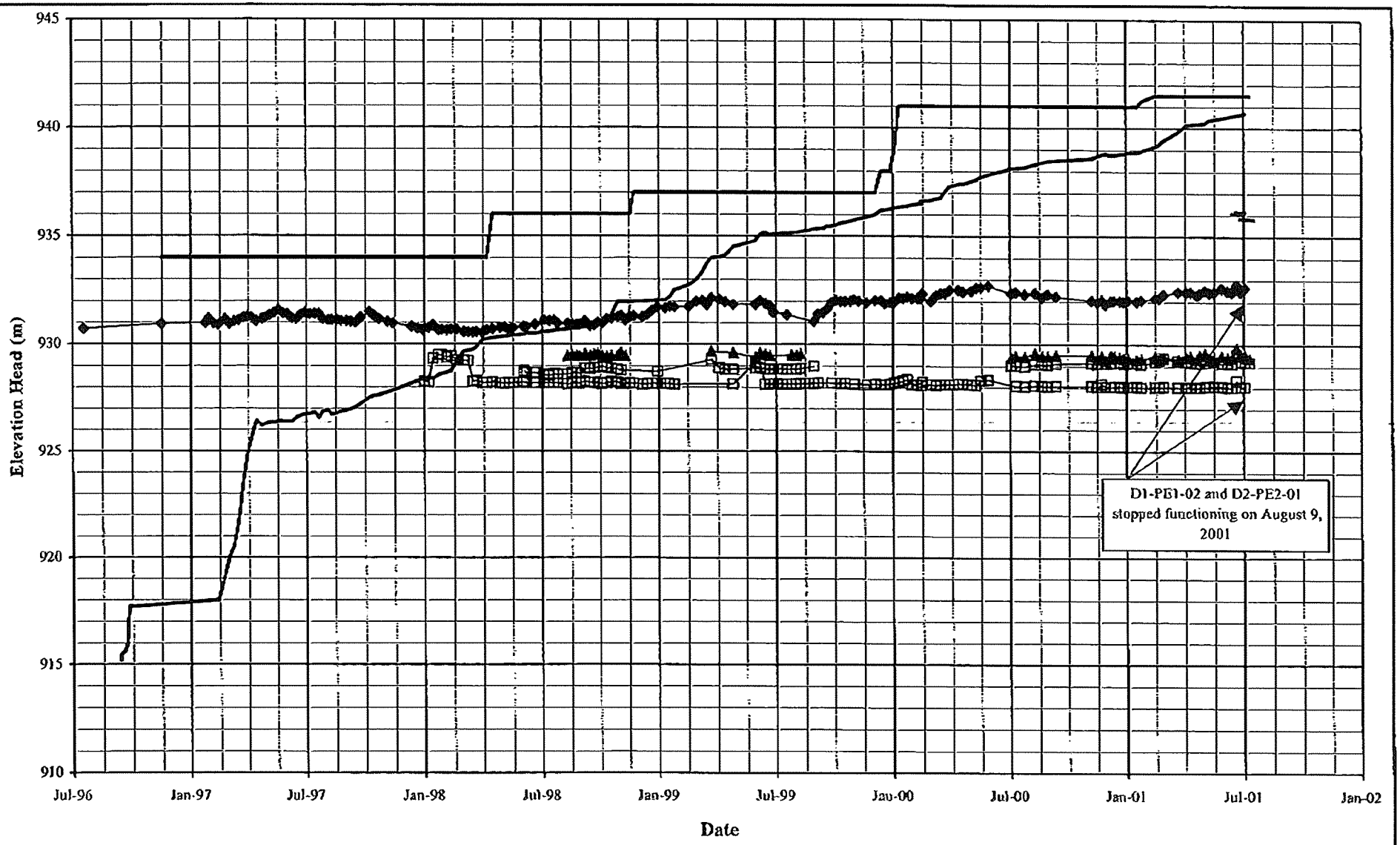
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

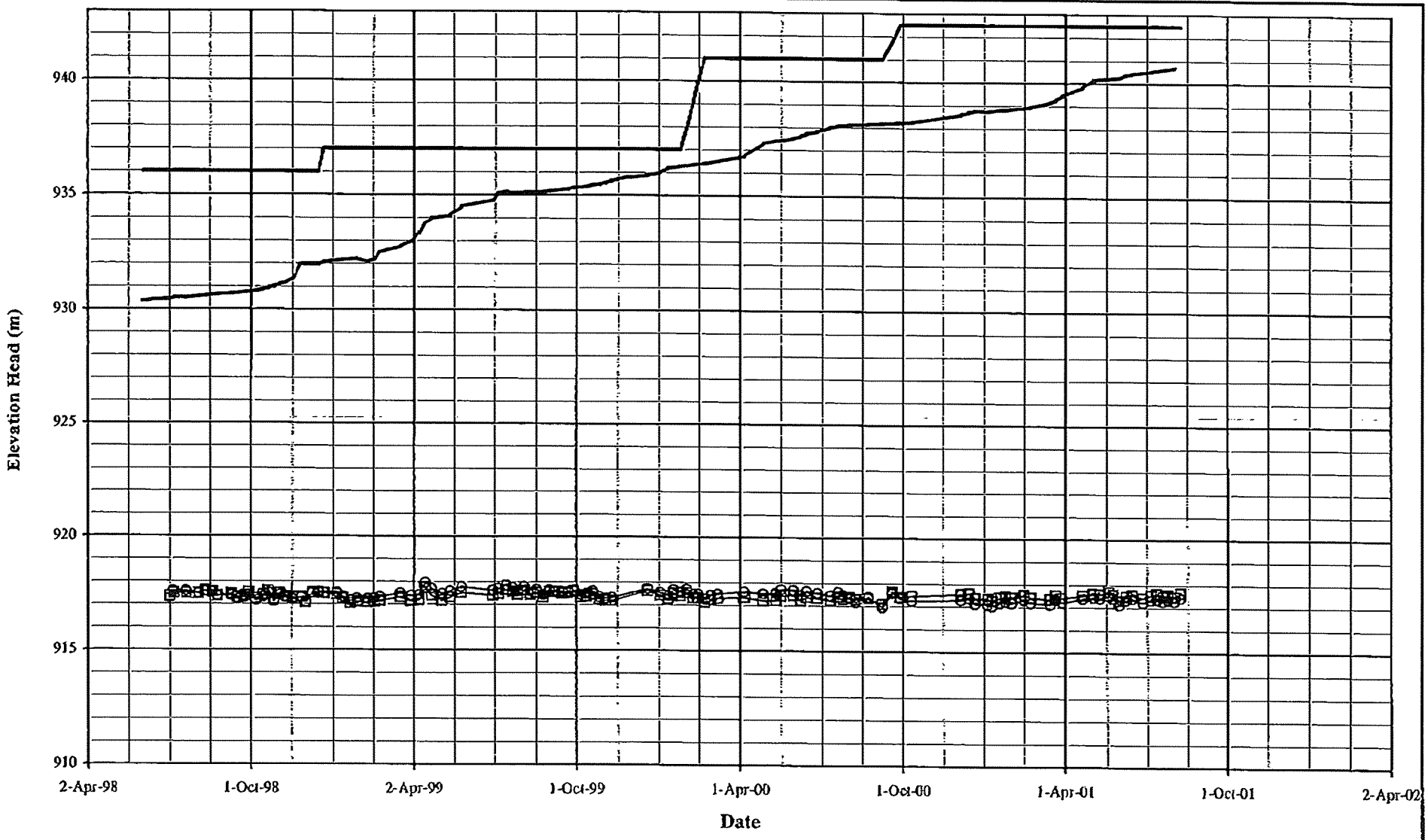
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

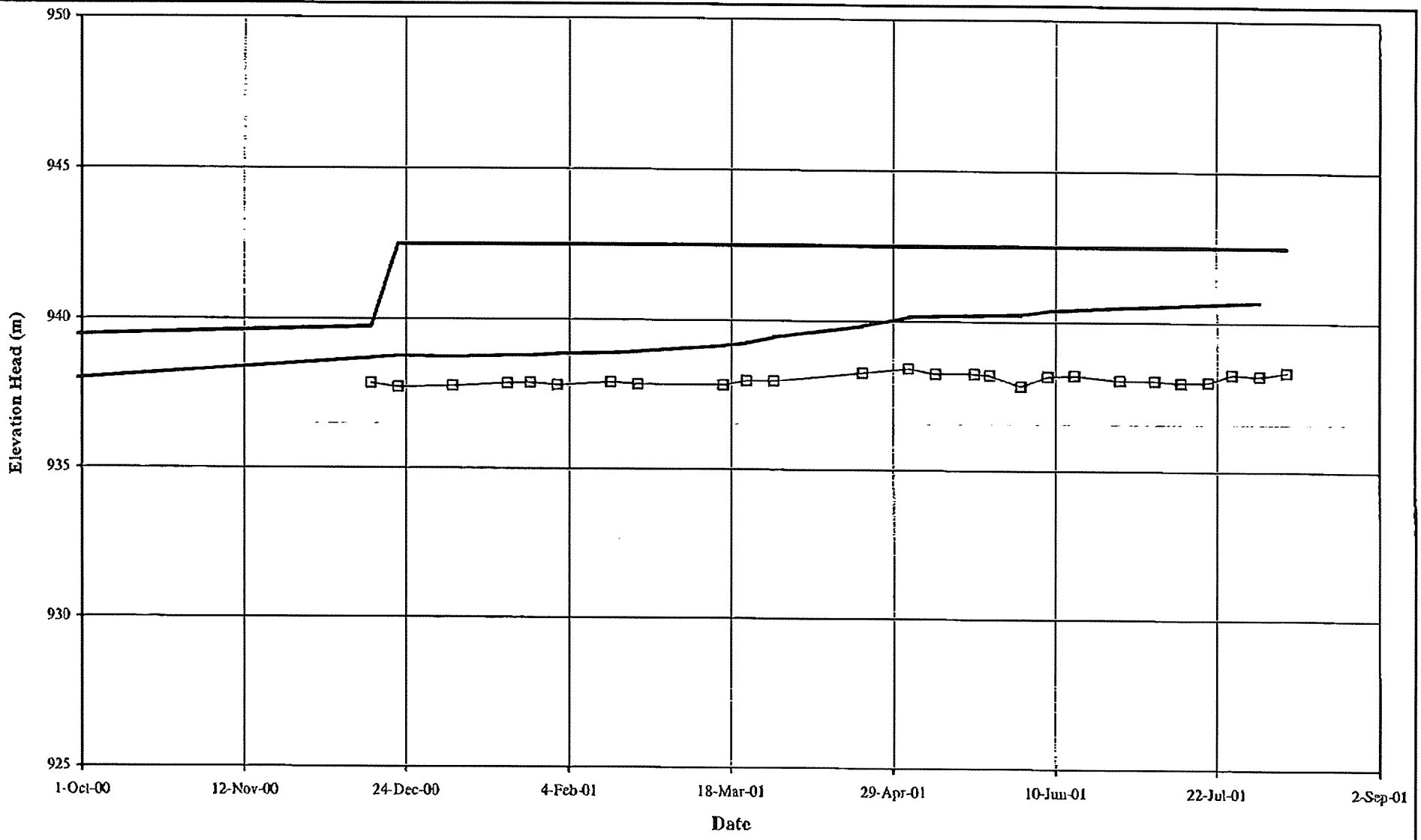
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

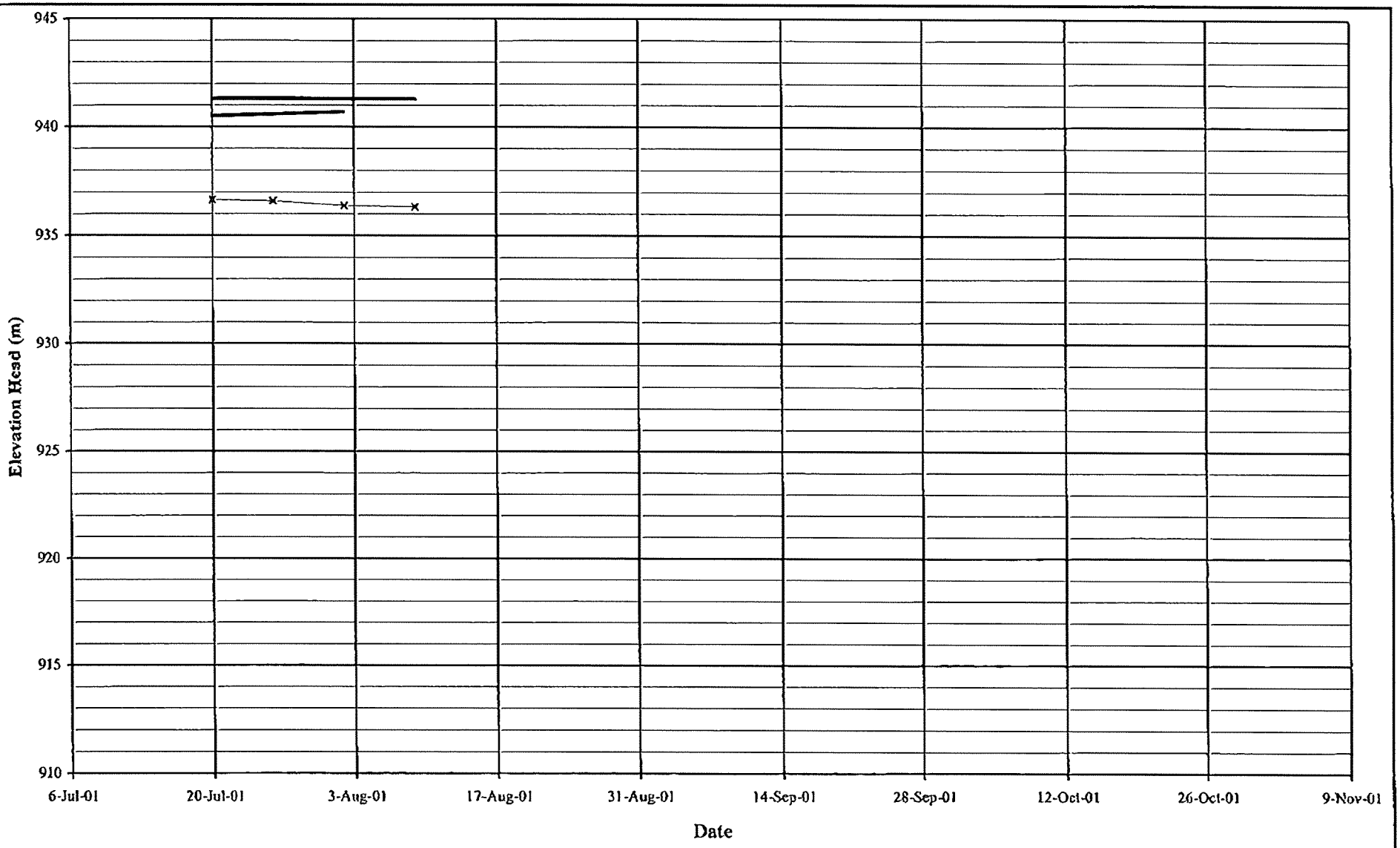
FIGURE 5.4



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE E PIEZOMETERS GRAPH OF ELEVATION HEAD vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
	FIGURE 5.5		



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE F PIEZOMETERS GRAPH OF ELEVATION HEAD vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
	FIGURE 5.6		



MOUNT POLLEY MINING CORPORATION

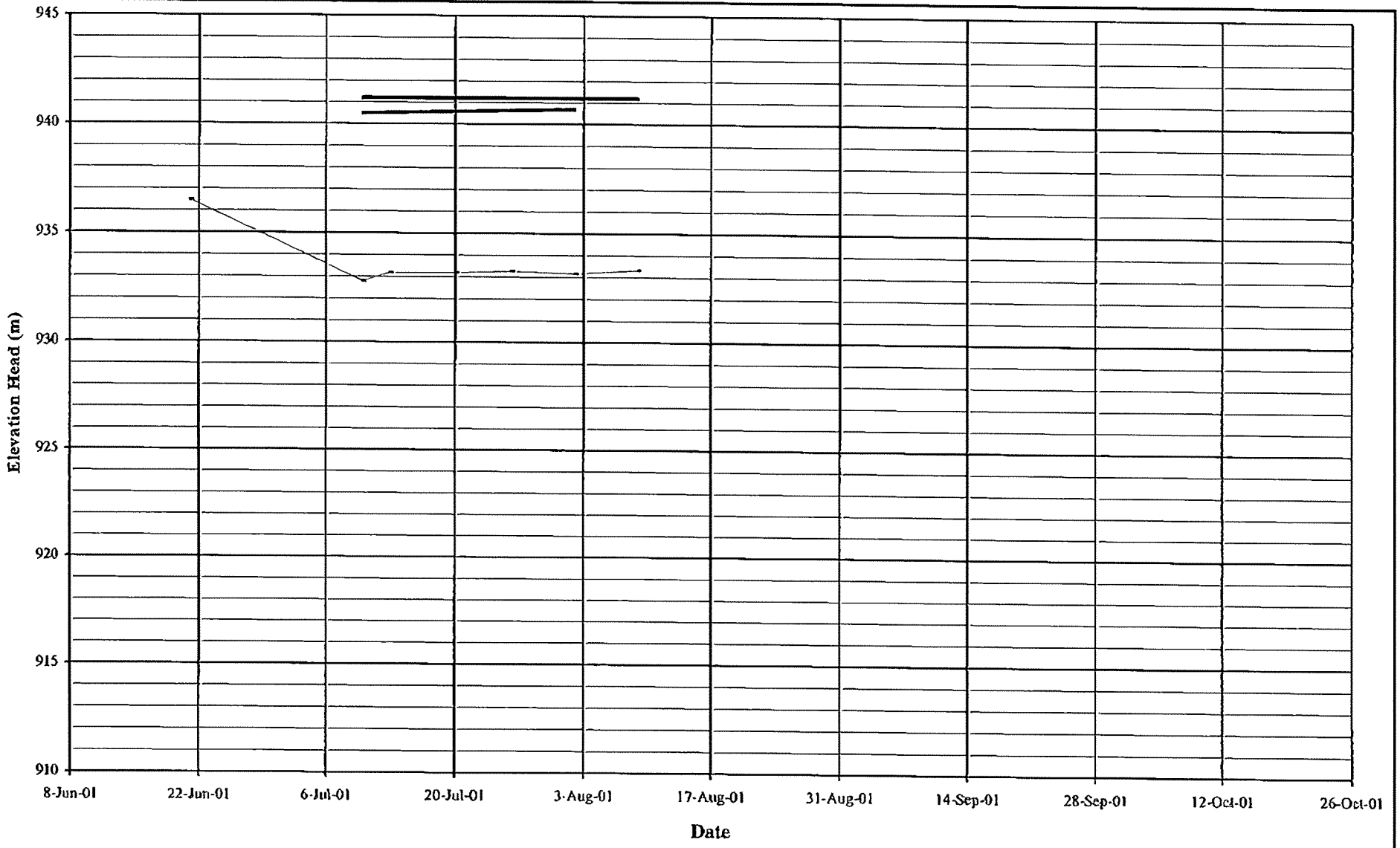
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE G PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

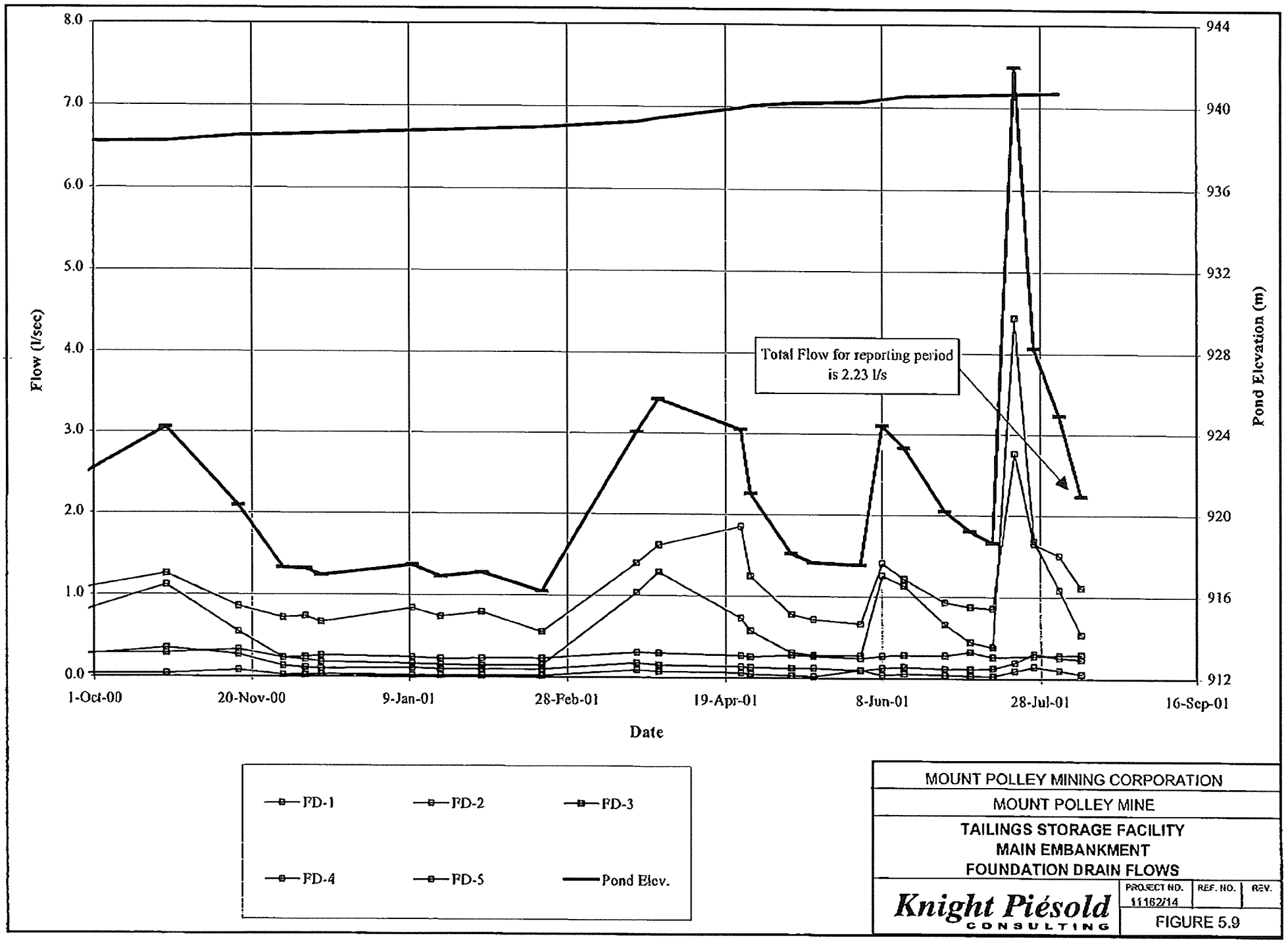
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE H PIEZOMETERS GRAPH OF ELEVATION HEAD vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
	FIGURE 5.8		



MOUNT POLLEY MINING CORPORATION

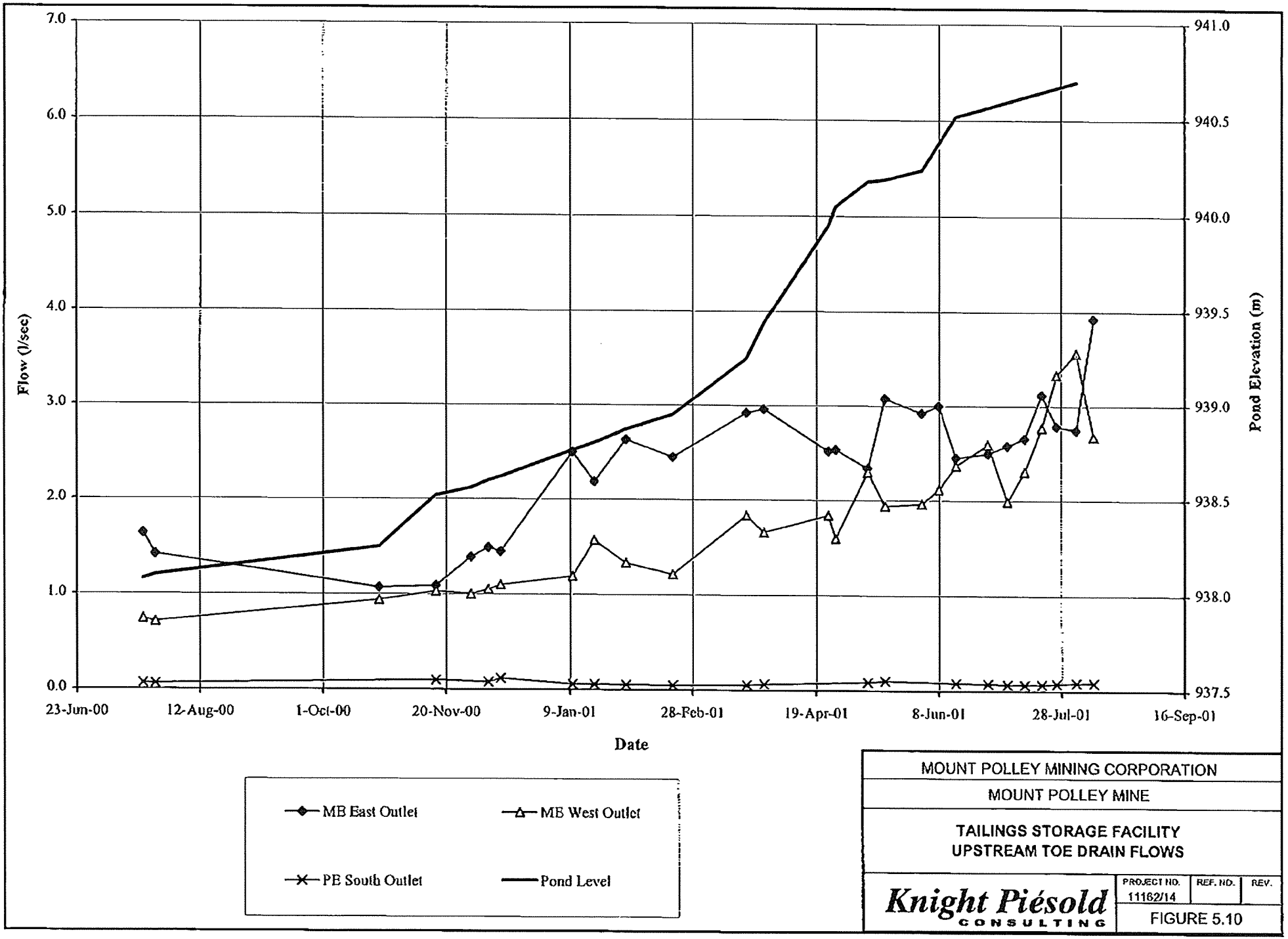
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.9



MOUNT POLLEY MINING CORPORATION

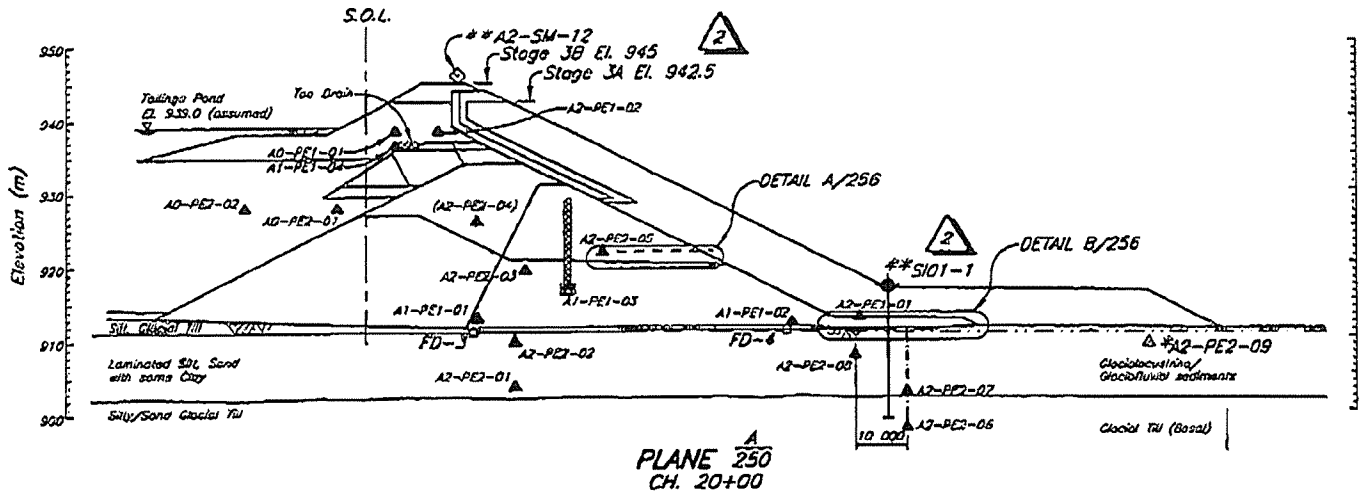
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

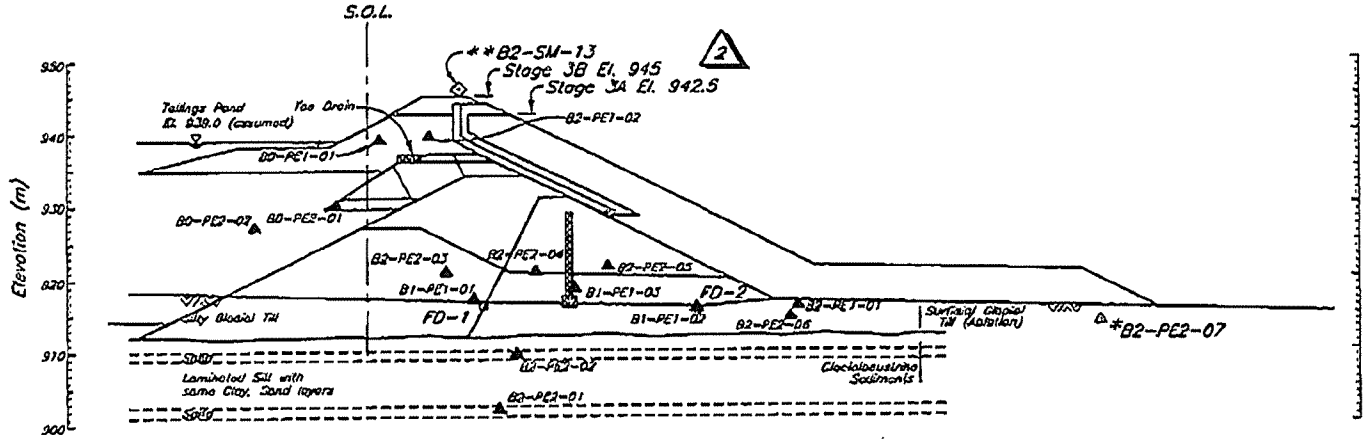
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

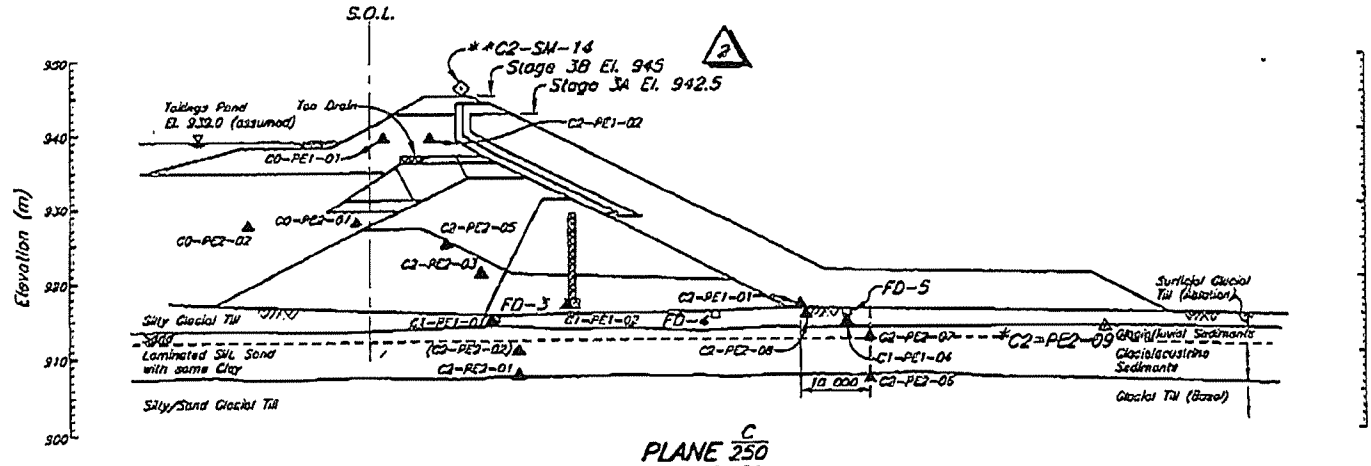
FIGURE 5.10



PLANE A/250
CH. 20+00



PLANE B/250
CH. 22+40



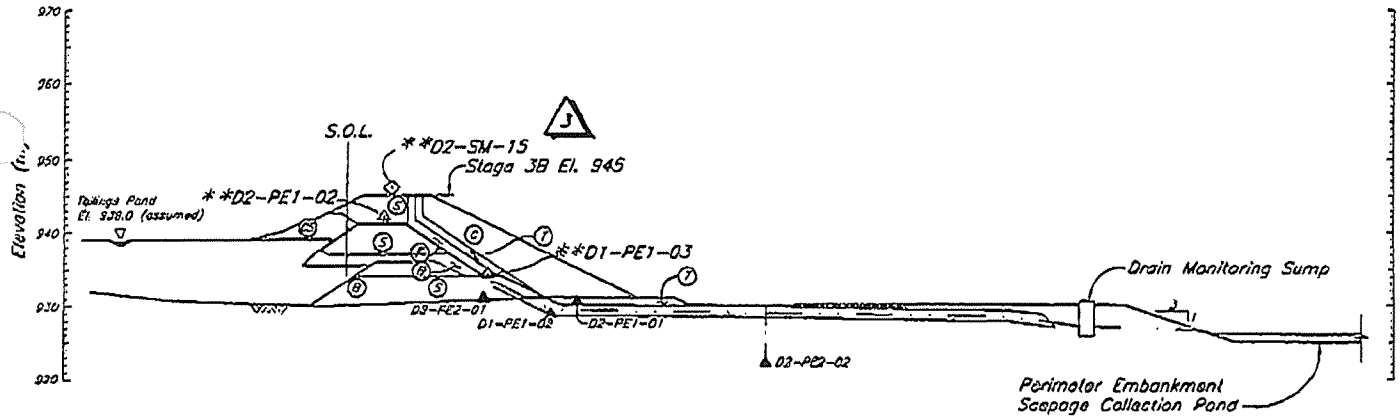
PLANE C/250
CH. 18+50

STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS
- STAGE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN

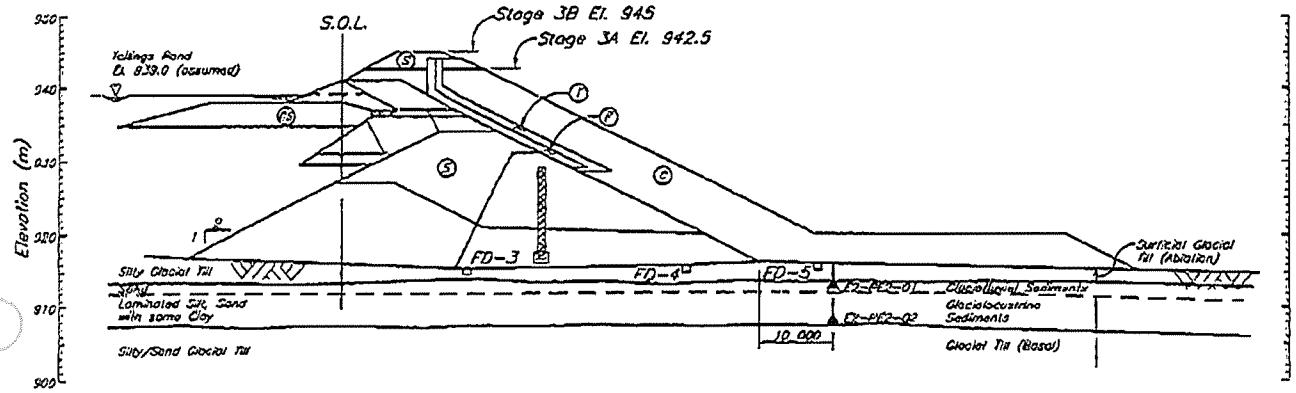
REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
2	08MAY'01	ISSUED				
1	26JAN'01	STAGE 3				
0	2JUN'00	ISSUED				

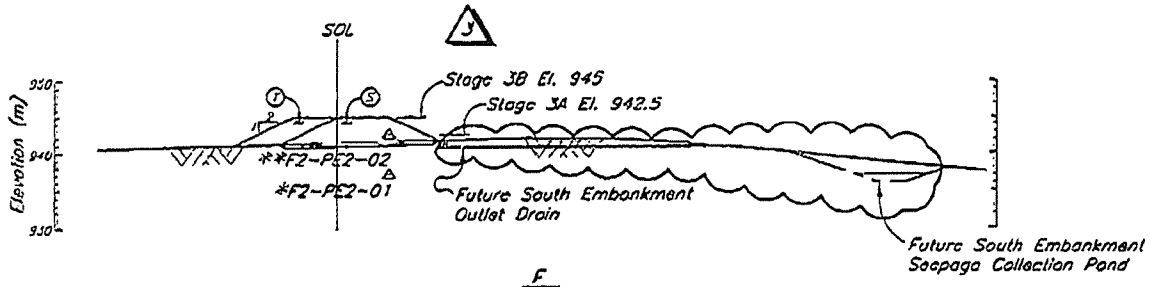
REVISIONS



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



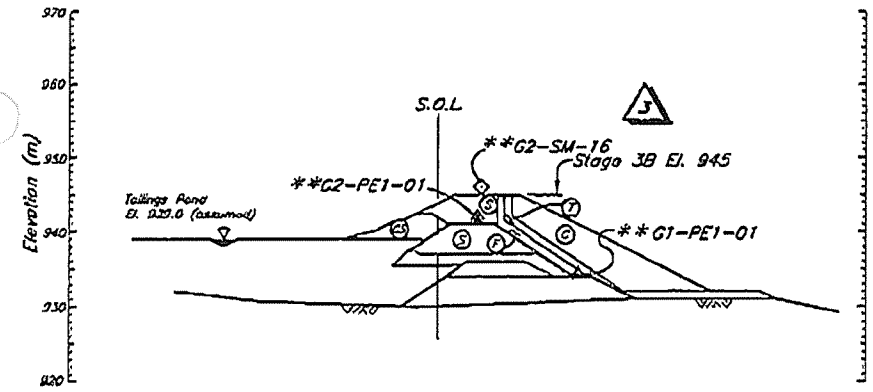
PLANE $\frac{E}{250}$
CH. 17+60



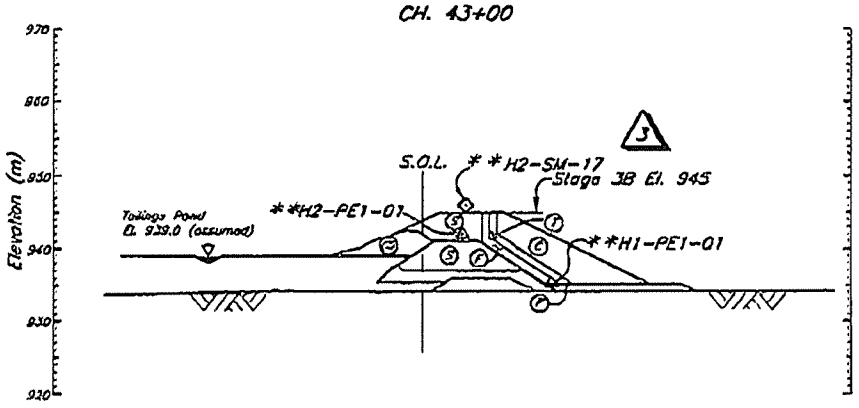
PLANE $\frac{F}{254}$
CH. 7+19

REFERENCE DRAWINGS
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN

REVISIONS									
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	DESCRIPTION
							3	08MAY'01	ISSUED FO
							2	26JAN'01	STAGE 3B
							1	20OCT'00	PERIMETER
							0	2JUN'00	ISSUED FO



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



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

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

Scale 10 0 10 20 30 40 50 m

KNIGHT PIÉSOLD LTD. DWG FILE: E:\11162\13\Acad\Dwg\DWG\11162-13.dwg 1:500 PLOT: 1=1(PS) May 4, 2001 asd

REVISIONS	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
	FOR STAGE 3B TENDER	CWM	OSR	JRK	KJB
	3B - CREST ELEVATION 945	JRK	AW	JMTW	KJB
	TER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
	FOR CONSTRUCTION	JRK	TAM	ABW	KJB

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

DESIGNED	CHECKED
JRK	ABW
DRAWN	APPROVED
OSR	KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

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

Knight Piésold CONSULTING

SCALE	REVISION
AS SHOWN	3
DRAWING NO.	
11162-13-259	

aug 4 MV14

14745 /MTPO/01

Knight Piésold CONSULTING *Mount Polley Site Office* *Fax: (250) 790-2268* www.knightpiésold.com	**DATE:** August 7, 2001 **TIME:** **OPERATOR:** **SENDER:** Wilson Muir	**FILE NO.:** 11162/14.F01/.F02/ .F04/.F05/.F08 **REF NO.:** 01-26 **PAGES:** 1 of 25

TO:	Ministry of Energy and Mines, Victoria B.C. **FAX :** 250-952-0481
ATTN:	Chris Carr
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site
SUBJECT:	Progress Report No. 17

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 17 from July 30 to August 5, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION PROGRESS REPORT NO. 17 – JULY 30 TO AUGUST 5, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes placement of Zones S, F, T and C to El. 942.5 m on the Perimeter Embankment (Ch. 28+00 to 44+50). MPMC is carrying out the majority of this work. Hauling of Zone F from the millsite to the TSF and hauling of Zone S from the borrow area to the TSF is being completed by sub-contractors.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

MPMC has decided to contract out the majority of the Zone S haul between the borrow area and the TSF using highway dump trucks. MPMC will still be responsible for loading, spreading, grading and compaction of the Zone S material.

1.3 DESIGN DEVELOPMENTS

No new design developments occurred during the reporting period.

1.3 WEATHER

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Conditions were unsettled during the reporting period with periods of rainy, cloudy and sunny conditions. Maximum daytime highs reached about +20 °C and nightly lows sank to as low as +7 °C.

1.4 SAFETY

No new safety incidents occurred over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 23+00 to obtain a well developed, even beach at the Main Embankment. The tailings line will then be moved to the ridge between the Main and South Embankments. It is anticipated that tailings will form a substantial beach in this area by discharging at this location.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270, 1 Hitachi EX 400
- Haul Trucks: 2 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992B
- Dozers: 1 Caterpillar D6, 1 Caterpillar D8K, 1Caterpillar D7G
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Service, water and fuel trucks
- Lake Excavating: 3 dump trucks and 1 Caterpillar 966 loader

MPMC carried out the following activities during the reporting period:

- Placement of Zone F fill, Perimeter Embankment: Ch. 36+75 to 37+00 and 40+00 to 40+50, El. 933.0 to 941.0 m.
- Placement of Zone S fill, Perimeter Embankment: Ch. 44+50 to 44+75, El. 941.0 to 942.0 m
- Placement of Zone T rip rap, Perimeter Embankment, upstream of the Zone CS: Ch. 43+50 to 44+50
- Placement of Zone T fill, Perimeter Embankment: Ch. 40+00 to 42+50, El. 934 to 941.0 m.
- Development of the Rock Borrow for Zone T material.

Zone T was supplied from the Rock Borrow, Zone F was delivered from the stockpile at the millsite and Zone S originated from Borrow Area 2. Zone F was placed in a 1 m thick lift on the downstream embankment slope over stiff Zone S, while Zone T was placed upon Zone F in a 1 metre thick lift. Zone S was placed in 300 mm horizontal lifts.

The Zone S placement was a remedial measure taken to stop water from seeping through the upstream Zone T fill, over the Zone S and into the filter zones on the downstream sides of the embankment. The source of this seepage was tailings water from the impoundment. The tailings beach in this area is elevated due to continued tailings discharge from dump valve M1A. As a result, tailings flow came very close to the upstream fill zones, water became trapped against the upstream face of the embankment and began to seep through the permeable Zone T. In areas where Zone CS was placed as the upstream fill zone, there was a concern of the tailings flow eroding the Zone CS. The Zone T rip rap was placed to minimize the concern of erosion.

The seepage exited the downstream toe of the tailings embankment at Ch. 43+00, entered the ditch at the toe of the embankment and reported to the Perimeter Embankment seepage collection pond. All tailings water was collected and returned to the tailings impoundment.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones F, T and S.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.
- Preparation of the Annual Report and the Stage 3 Construction Report

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- R-ZF-41
- R-ZT-17

Both record tests completed during the reporting period proved suitable for their respective zones. All tests carried out during the reporting period are presented in the attached tables and figures.

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SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed during the reporting period.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.8. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the remaining foundation piezometers with the exception of B2-PE2-02, which increased slightly.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. Generally, these piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

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Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Readings at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on August 2, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.9 and 5.10, respectively.

5.4 SLOPE INCLINOMETERS

The equipment to monitor, record and evaluate the data from the slope inclinometers is expected to be on site during the first week of August. Exact depths of the inclinometers will be determined and calibration measurements will be carried out at that time.

SECTION 6.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 942.5 m.
- The slope inclinometers will be measured and calibrated.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

I:\ENG\DATA\Engineering\Geotechnical Inputs\Stage 3D Construction\Processed Data\[R-ZF-xxxxx.xls]Data Sheet

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SHEET: 1 of 1
PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3D CONSTRUCTION
PERIOD: July 30 to August 5, 2001
MATERIAL: Zone F - Filter Sand
PROJECT NO.: 1116/16
AREA: TSF

Sample No	Date Sampled	Location	El. (m)	C1 Atterberg Limits LL %	C1 PL %	C1 PI %	C2 Field moisture %	J1 %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.0 mm	19.05 mm	12.5 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.150mm	0.075mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum moisture %	C5 Specific Gravity
									4	3	1.5	1	0.75	0.5	0.375	0.187	0.0937	0.0469	0.0232	0.0116	0.0059	0.0029	----			
									4	3	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Clay			
R-ZF-3-1	30-Aug-00	26+10	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	88.6		51.1	34.5	23.1	15.5	10.4	6.1	3.3	-	-	-	-
R-ZF-3-2	30-Aug-00	27+00	932.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	86.8		50	35	24.5	16.7	11.9	7.8	4.2	-	-	-	-
R-ZF-3-3	31-Aug-00	28+00	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	90.1		66.6	39.8	27.7	14.9	10.1	6.4	3	-	-	-	-
R-ZF-3-4	31-Aug-00	29+00	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	88.5		58.1	36.8	15	14.1	10.6	6.8	3.3	-	-	-	-
R-ZF-3-5	31-Aug-00	29+50	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	81.6		62.1	37.3	27.1	14.6	9.2	5.2	3.1	-	-	-	-
R-ZF-3-6	25-Aug-00	19+00	935.0	-	-	-	-	-	100.0	100.0	100.0	99.1		82.4		67.8	39.2	21.3	11.7	10.1	6.8	3.7	-	-	-	-
R-ZF-3-7(1)	8-Sep-00	19+00	935.0	-	-	-	-	-	100.0	100.0	100.0	100.0		84.0		47.1	29.5	15.5	8.5	5.6	3.8	2.4	-	-	-	-
R-ZF-3-8	8-Sep-00	19+00	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0											-	-	-	-
R-ZF-3-9	28-Aug-00	31+50	930.0	-	-	-	-	-	100.0	100.0	100.0	100.0		78.9		65.5	50.4	21.1	11.7	10.0	6.8	3.8	-	-	-	-
R-ZF-3-10	29-Aug-00	33+40	936.0	-	-	-	-	-	100.0	100.0	100.0	100.0		78.8		58.3	34.4	15.2	9.6	6.5	4.5	2.7	-	-	-	-
R-ZF-3-11	30-Aug-00	31+80	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		83.2		63.7	30.6	19.6	12.4	8.1	5.6	3.6	-	-	-	-
R-ZF-3-12	6-Sep-00	36+30	940.0	-	-	-	-	-	100.0	100.0	100.0	100.0		77.7		39.0	26.9	15.5	12.4	7.3	4.6	2.3	-	-	-	-
R-ZF-3-13	7-Sep-00	21+30	943.0	-	-	-	-	-	100.0	100.0	100.0	96.7		75.6		37.9	23.6	16.6	10.2	5.5	3.9	2.3	-	-	-	-
R-ZF-3-14	6-Sep-00	16+40	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		83.0		49.2	24.5	12.6	7.0	4.6	3.2	2.1	-	-	-	-
R-ZF-3-15	8-Sep-00	17+50	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		73.9		39.7	22.3	12.2	7.6	5.0	3.6	2.3	-	-	-	-
R-ZF-3-16	8-Sep-00	18+50	943.0	-	-	-	-	-	100.0	100.0	100.0	100.0		75.8		39.6	17.4	9.9	6.5	4.8	3.6	2.4	-	-	-	-
R-ZF-3-17	10-Sep-00	21+40	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		84.3		46.6	30.4	20.3	13.9	9.0	6.0	3.4	-	-	-	-
R-ZF-3-18	10-Sep-00	22+20	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.1		45.3	27.3	17.8	11.1	9.3	5.4	2.8	-	-	-	-
R-ZF-3-19	11-Sep-00	25+50	930.0	-	-	-	-	-	100.0	100.0	100.0	100.0		76.4		44.6	32.4	23.0	13.4	9.3	6.4	3.1	-	-	-	-
R-ZF-3-20	11-Sep-00	27+80	933.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.7		43.8	27.6	19.3	7.8	4.6	3.2	2.3	-	-	-	-
R-ZF-3-21	12-Sep-00	22+60	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		82.5		51.5	34.2	23.4	14.1	8.3	4.5	2.4	-	-	-	-
R-ZF-3-22	15-Sep-00	19+00	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		84.3		52.7	37.0	26.5	17.8	11.5	7.1	3.3	-	-	-	-
R-ZF-3-23	16-Sep-00	17+60	939.0	-	-	-	-	-	100.0	100.0	100.0	100.0		85.6		60.0	38.9	23.4	15.8	9.5	5.6	2.7	-	-	-	-
R-ZF-3-24	19-Sep-00	26+20	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		88.5		68.3	31.9	21.5	14.8	9.2	5.1	2.1	-	-	-	-
R-ZF-3-25	20-Sep-00	20+60	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		88.1		58.3	36.4	26.3	15.2	9.4	4.7	1.7	-	-	-	-
R-ZF-3-26	21-Sep-00	21+20	941.0	-	-	-	-	-	100.0	100.0	100.0	100.0		84.4		62.3	33.3	23.3	20.1	14.5	9.3	4.8	-	-	-	-
R-ZF-3-27	11-Sep-00	27+20	937.0	-	-	-	-	-	100.0	100.0	100.0	100.0		80.5		63.5	29.0	19.4	13.0	8.9	5.0	2.3	-	-	-	-
R-ZF-31	22-May-01	29+00, 0.3 m D/S of Zone S	941.5	-	-	-	4.0	-	100.0	100.0	100.0	100.0	97.5		71.5	49.1	33.9	23.8	19.7	13.0	11.6	9.1	-	-	-	-
R-ZF-32	26-May-01	33+00, 0.5 m D/S of Zone S	936.0	-	-	-	4.1	-	100.0	100.0	100.0	100.0	98.7		68.4	45.0	31.9	22.5	16.9	12.8	9.9	7.3	-	-	-	-
R-ZF-33	27-May-01	42+00, 0.8 m D/S of Zone S	934.0	-	-	-	2.0	-	100.0	100.0	100.0	100.0	97.9		64.8	41.7	28.1	17.6	13.3	10.6	8.5	6.9	-	-	-	-
R-ZF-34	30-May-01	55+00, 0.8 m D/S of Zone S	933.0	-	-	-	3.6	-	100.0	100.0	100.0	100.0	99.2		68.5	37.8	27.0	18.7	14.0	11.0	8.6	6.6	-	-	-	-
R-ZF-35	30-May-01	63+50, 0.8 m D/S of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.6		70.8	46.6	32.6	23.0	17.7	13.7	10.6	8.5	-	-	-	-
R-ZF-36	30-May-01	33+50, 0.8 m D/S of Zone S	938.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.5		72.6	50.6	36.5	24.8	17.6	12.4	9.3	7.0	-	-	-	-
R-ZF-37	30-May-01	43+50, 0.8 m D/S of Zone S	939.0	-	-	-	6.5	-	100.0	100.0	100.0	100.0	99.6		65.6	41.9	28.8	21.4	16.9	13.5	9.6	6.8	-	-	-	-
R-ZF-38	30-May-01	53+50, 1.0 m D/S of Zone S	938.0	-	-	-	8.4	-	100.0	100.0	100.0	100.0	99.6		53.8	30.6	24.5	20.1	19.3	15.3	12.0	9.6	-	-	-	-
R-ZF-39	31-May-01	63+50, 1.0 m D/S of Zone S	941.0	-	-	-	2.3	-	100.0	100.0	100.0	100.0	94.9		51.6	36.2	26.0	21.7	12.6	10.6	9.3	5.3	-	-	-	-
R-ZF-40	31-May-01	73+50, 1.0 m D/S of Zone S	943.0	-	-	-	6.3	-	100.0	100.0	100.0	100.0	100.0		73.1	45.8	31.7	22.0	15.1	10.6	7.5	2.3	-	-	-	-
R-ZF-41	1-Aug-01	37+25, 1.0 m D/S of Zone S	943.0	-	-	-	6.2	-	100.0	100.0	100.0	100.0	97.7		69.8	48.4	34.9	30.6	24.4	19.5	15.6	12.6	-	-	-	-

1116571-0003-11
Revision 0
8/9/01

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

I:\UNGDATA\Engineering\Geotechnical\Mount Polley\Stage 3B Construction\Submitted\R-ZF-summary1).xls Test Sheet

Knight Piésold CONSULTING

SHEET: 1 of 1
PERIOD: July 30 to August 5, 2001
PROJECT NO.: 1116/14
AREA: TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone F - Filter Sand

Sample No.	Date Sampled	Location	EL. (m)	C1 Atterberg Limits LL %	PL %	PI %	C2 Field m/c %	LL %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	12.7 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm	0.05 mm	0.02 mm	0.005 mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum m/c %	C6 Specific Gravity
									4	3	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200						
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	4.5	#DIV/0!	100.0	100.0	100.0	100.0	98.5	#DIV/0!	68.5	42.9	32.2	22.8	17.0	13.2	10.2	7.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	4.5	#NUM!	100.0	100.0	100.0	100.0	99.2	#NUM!	67.8	44.3	33.9	22.3	16.9	12.8	9.4	7.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	5.4	0.0	100.0	100.0	100.0	100.0	100.0	0.0	73.8	50.6	38.9	30.6	24.4	19.5	13.6	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	3.3	0.0	100.0	100.0	100.0	100.0	94.9	0.0	57.6	36.2	26.0	17.3	12.6	10.4	7.5	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

Collection of Stage 3A data in progress, samples R-ZF-8, 28, 29 and 30 are outstanding.

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)

TABLE 4.4

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE T RECORD TEST SUMMARY SHEET

H:\ENG\DATA\Engdocs\Geotechnical\kpsite\Stage 3B Construction\lab\record\[R-ZT-summ.xls]Data Sheet

Knight Piésold CONSULTING

SHEET : 1 of 1
PERIOD : July 30 to August 5, 2001
PROJECT NO. : 11162/14
AREA : TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
MATERIAL: Zone T - Transition Zone

Sample No.	Date Sampled	Location	El (m)	R1 Atterberg Limits PL %	LL %	PI %	R2 Fines m/c %	LI %	R3 (Particle Size Distribution) 152.4 mm 6	76.2 mm 3	38.1 mm 1.5	19.05 mm 0.75	9.525 mm 0.375	4.75 mm #4	2.36 mm #8	1.18 mm #16	0.6 mm #30	0.3 mm #50	0.14956 mm #100	0.07466 mm #200	0.002 mm Clay	R4 Standard Proctor Max Dry Density kg/m³	Optimum m/c %	R6 Specific Gravity
R-ZT-1	3-Dec-00	-	-	-	-	-	-	-	90.0	80.0	59.9	40.2	26.7	18.5	13.2	9.9	7.7	5.7	3.9	2.6	-	-	-	-
R-ZT-2	16-Jul-00	-	-	-	-	-	-	-	100.0	89.0	62.0	42.8	29.0	21.3	15.9	11.8	9.1	7.3	6.1	5.1	-	-	-	-
R-ZT-3	23-Jul-00	-	-	-	-	-	-	-	100.0	86.1	57.7	44.2	30.0	20.0	14.1	10.0	7.2	4.6	2.7	1.6	-	-	-	-
R-ZT-4	27-Jul-00	-	-	-	-	-	-	-	100.0	78.0	48.2	33.9	21.5	13.0	-	5.8	3.7	2.5	1.0	0.5	-	-	-	-
R-ZT-5	21-Aug-00	19+50	939.0	-	-	-	-	-	100.0	62.8	51.4	35.6	26.7	20.9	16.1	12.0	7.8	-	4.6	1.8	-	-	-	-
R-ZT-6	22-Aug-00	23+00	-	-	-	-	-	-	100.0	65.5	56.3	-	-	25.5	19.4	13.5	9.7	6.0	3.5	1.5	-	-	-	-
R-ZT-7	29-Aug-00	20+00	932.0	-	-	-	-	-	100.0	95.0	91.1	-	-	37.8	25.1	16.0	9.6	5.7	3.3	1.8	-	-	-	-
R-ZT-8	9-Sep-00	18+00	936.0	-	-	-	-	-	100.0	80.0	70.1	44.2	20.3	12.5	8.2	6.3	4.5	-	3.2	2.0	-	-	-	-
R-ZT-9	9-Sep-00	26+00	940.0	-	-	-	-	-	100.0	90.0	70.8	46.9	27.3	17.7	10.7	7.0	4.6	-	3.1	1.8	-	-	-	-
R-ZT-10	21-Sep-01	20+60	941.0	-	-	-	-	-	100.0	80.0	67.5	-	-	27.4	20.8	16.2	12.3	5.5	1.6	0.8	-	-	-	-
R-ZT-12	3-Jun-01	42+50, 1.8 m D/S of Zone S	933.5	-	-	-	4.4	-	100.0	80.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.3	-	-	-	-
R-ZT-13	23-Jun-01	32+50, 1.8 m D/S of Zone S	937.0	-	-	-	3.0	-	100.0	76.2	49.7	31.5	22.9	14.6	9.7	6.4	4.1	2.4	-	-	-	-	-	-
R-ZT-14	9-Jul-01	33+00, 3 m D/S of Zone S	938.0	-	-	-	1.4	-	100.0	76.9	57.9	38.2	22.6	12.2	7.2	4.5	3.1	2.2	1.6	1.2	-	-	-	-
R-ZT-15	23-Jul-01	40+25, 3 m D/S of Zone S	938.0	-	-	-	3.6	-	100.0	68.3	43.5	29.5	18.8	11.4	7.2	5.1	3.9	2.8	-	-	-	-	-	-
R-ZT-16	29-Jul-01	43+00, 3 m D/S of Zone S	940.5	-	-	-	4.0	-	100.0	77.3	45.8	26.2	15.8	9.9	6.9	4.5	3.3	-	-	-	-	-	-	-
R-ZT-17	5-Aug-01	40+00, 3 m D/S of Zone S	940.0	-	-	-	3.2	-	100.0	82.3	47.4	33.2	23.4	16.6		7.8	5.0	3.3		1.4	-	-	-	-
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	3.3	#DIV/0!	99.4	78.7	57.9	33.1	23.6	18.4	13.3	9.0	6.3	4.3	3.2	1.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	3.4	#NUM!	100.0	80.0	51.0	35.6	22.9	17.1	12.0	7.7	5.3	4.4	3.2	1.8	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	4.4	0.0	100.0	95.0	91.1	45.9	30.0	37.8	25.1	16.2	12.3	7.3	6.1	5.1	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	1.4	0.0	90.0	62.8	43.5	26.2	15.8	9.9	6.9	4.5	3.1	2.2	1.0	0.5	0.0	0.0	0.0	0.0

Note : These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

TABLE 4.4

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
ZONE T RECORD TEST SUMMARY SHEET

H:\ENGDATA\Engdocs\Geotechnical\Upsite\Stage 3B Construction\lab\records\[R-ZT-9.xls]Data Sheet

Knight Piésold CONSULTING

SHEET :	1 of 1		
PERIOD :	July 30 to August 5, 2001		
PROJECT NO. :	11162/14		
AREA :	TSF		

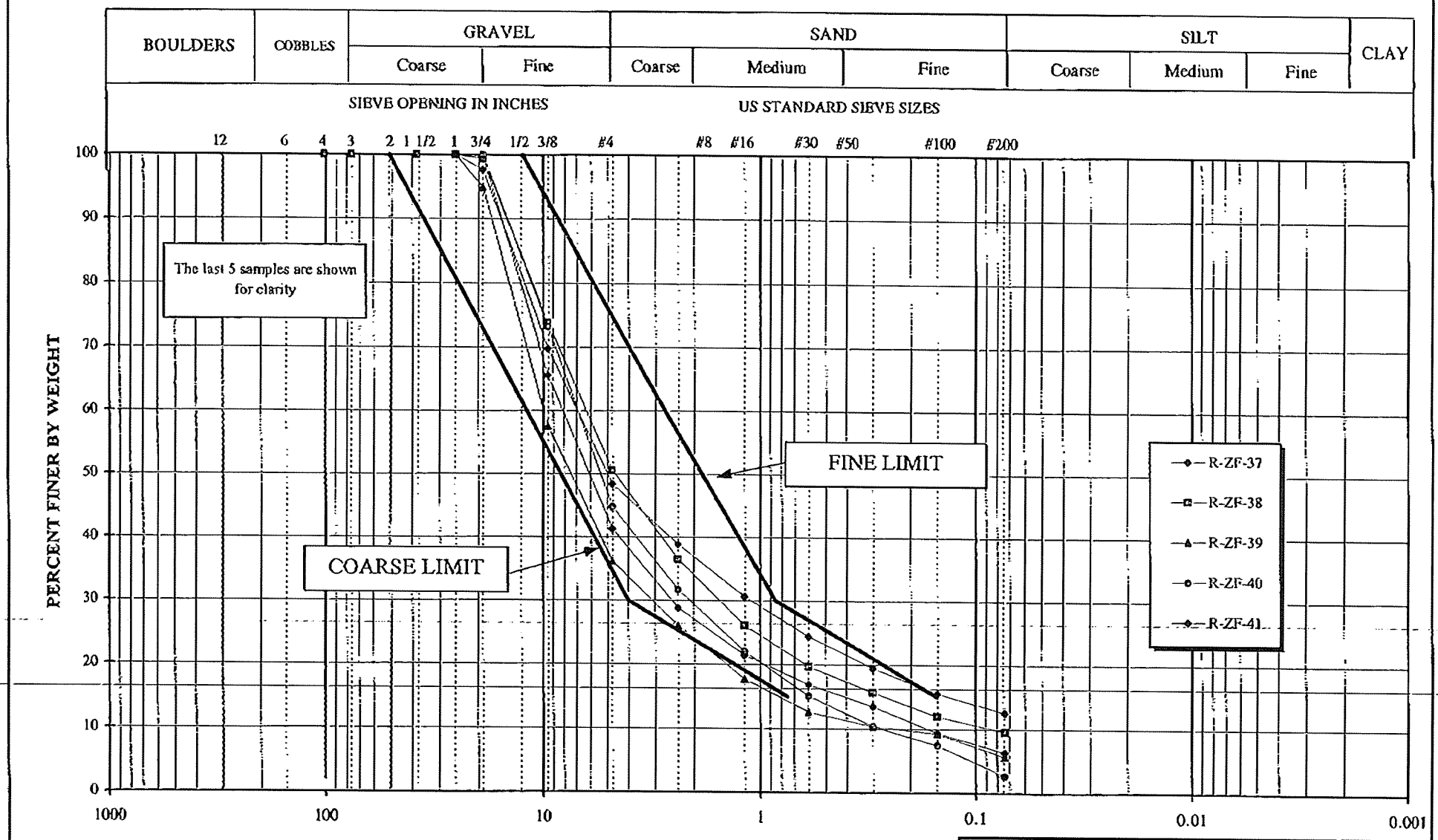
PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone T - Transition Zone

Sample No.	Date Sampled	Location	El. (m)	R1 Atterberg Limits PL %	LL %	PI %	R2 Field w/c %	LI %	R3 (Particle Size Distribution) 152.4 mm	76.2 mm	38.1 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07356 mm	0.002 mm	R4 Standard Proctor Max Dry Density kg/m³	Optimum w/c %	R6 Specific Gravity
									6	3	1.5	0.75	0.375	0.187	0.0937	0.0469	0.0236	0.0165	0.0059	0.0029	Clay			
									6	3	1 1/2	3/4	3/8	#4	#8	#16	#30	#50	#100	#200	Clay			

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)

11162/14-0500-17
Revision 0
8/9/01



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.2

m:\11832\12\report\12\R-ZT-psizes.xls\Fig 4.3.2

8/9/01 7:48 AM

BOULDERS	COBBLES	GRAVEL		SAND			SILT			CLAY
		Coarse	Fine	Coarse	Medium	Fine	Coarse	Medium	Fine	

SIEVE OPENING IN INCHES | US STANDARD SIEVE SIZES

12 6 4 3 2 1 1/2 1 3/4 1/2 3/8 #4 #8 #16 #30 #50 #100 #200

PERCENT FINER BY WEIGHT

100 90 80 70 60 50 40 30 20 10 0

1000 100 10 1 0.1 0.01 0.001

GRAIN SIZE IN MILLIMETERS

The last 5 samples are shown for clarity

FINE LIMIT

COARSE LIMIT

R-ZT-13
R-ZT-14
R-ZT-15
R-ZT-16
R-ZT-17

MOUNT POLLEY MINING CORPORATION

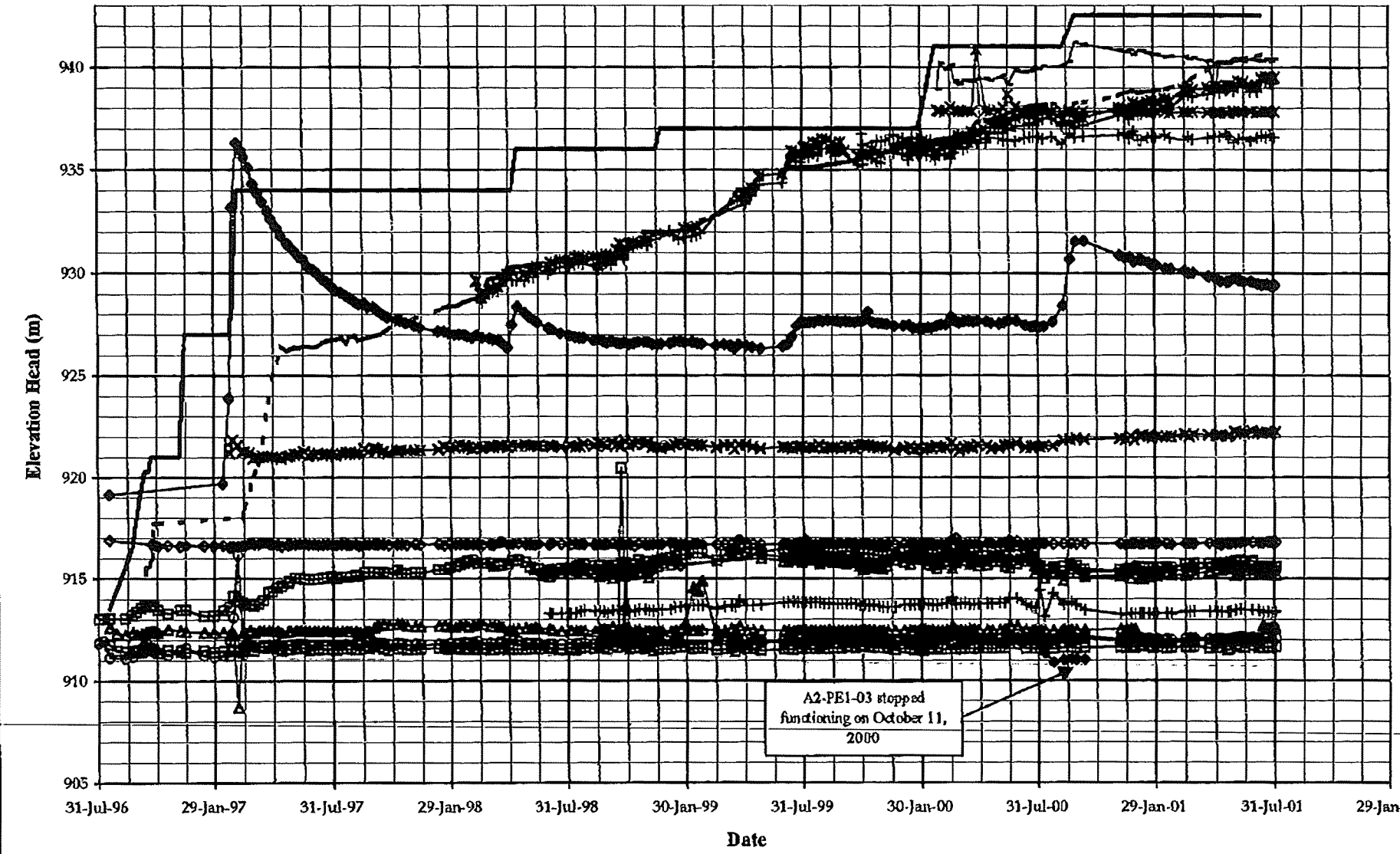
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE T RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO. 1116/2/14 | REF. NO. | REV.

FIGURE 4.4



MOUNT POLLEY MINING CORPORATION

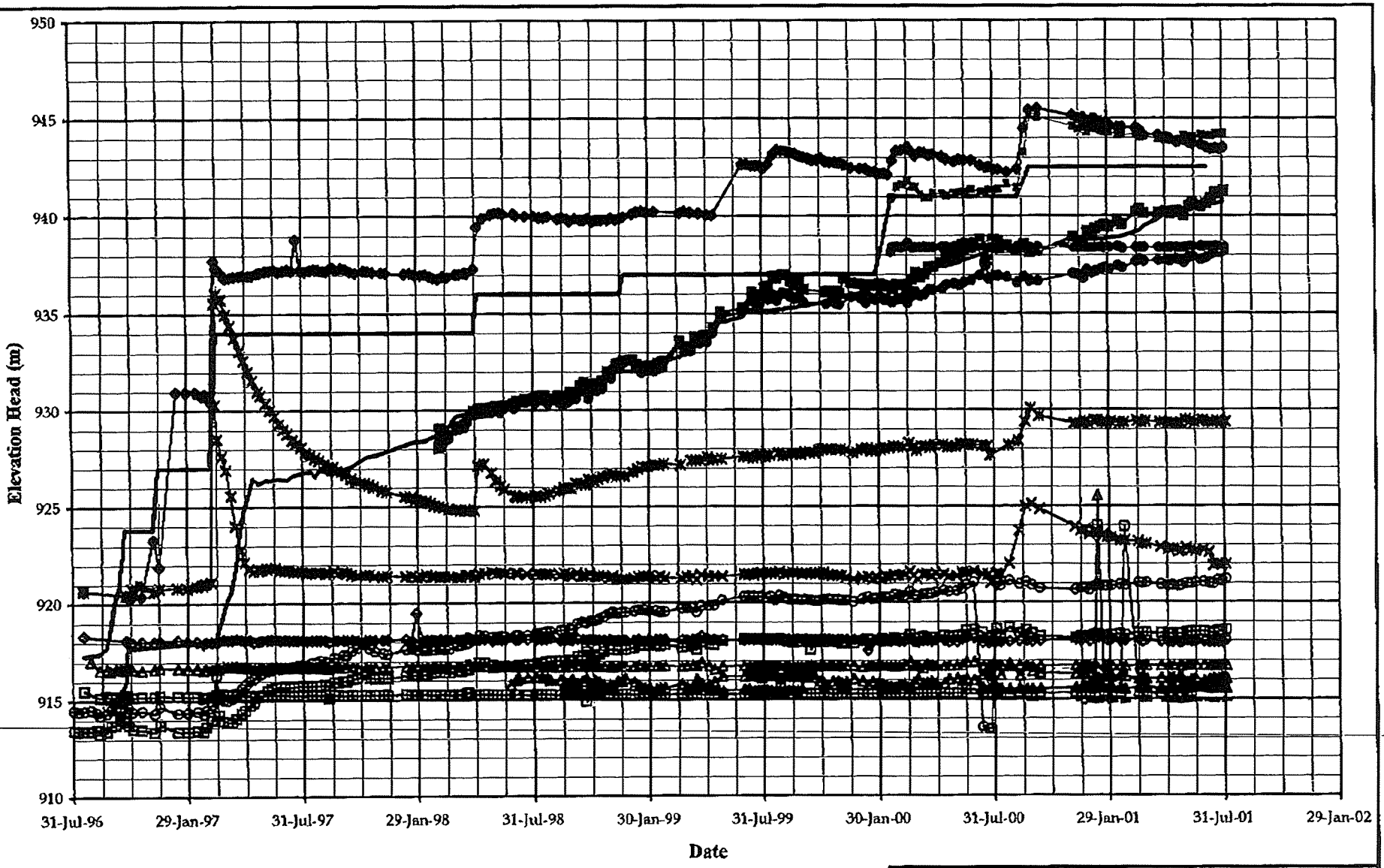
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

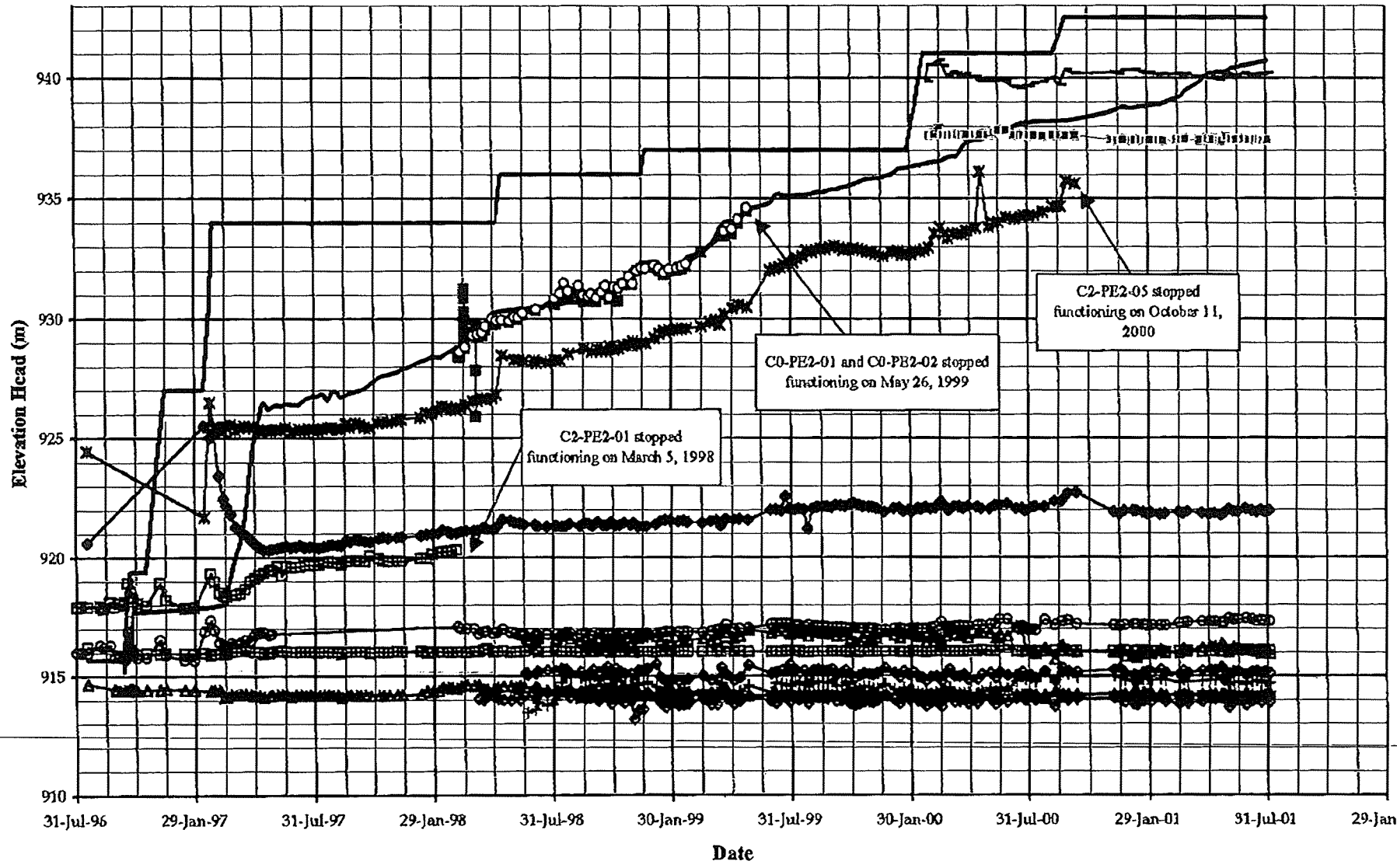
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE B PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.2



MOUNT POLLEY MINING CORPORATION

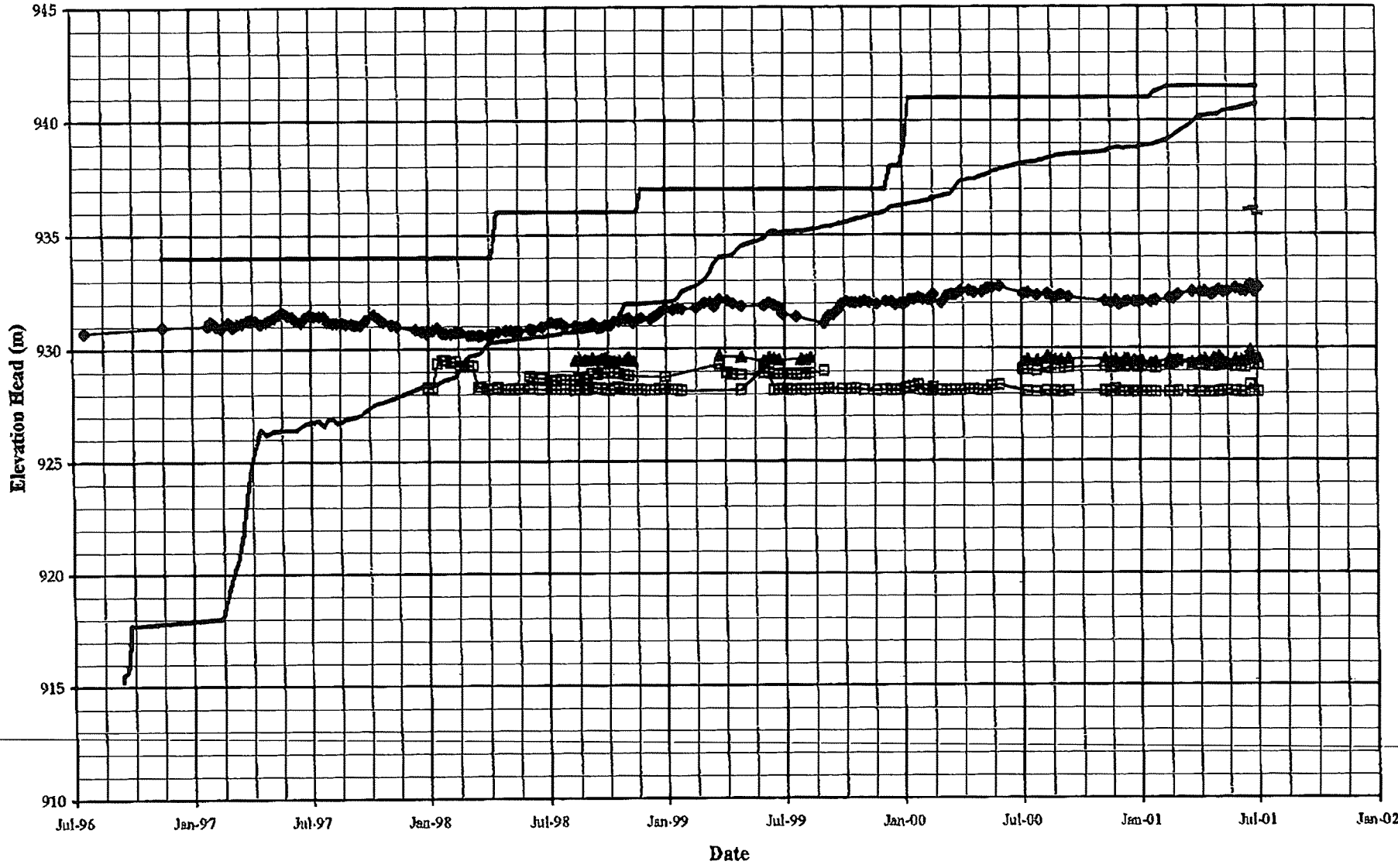
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

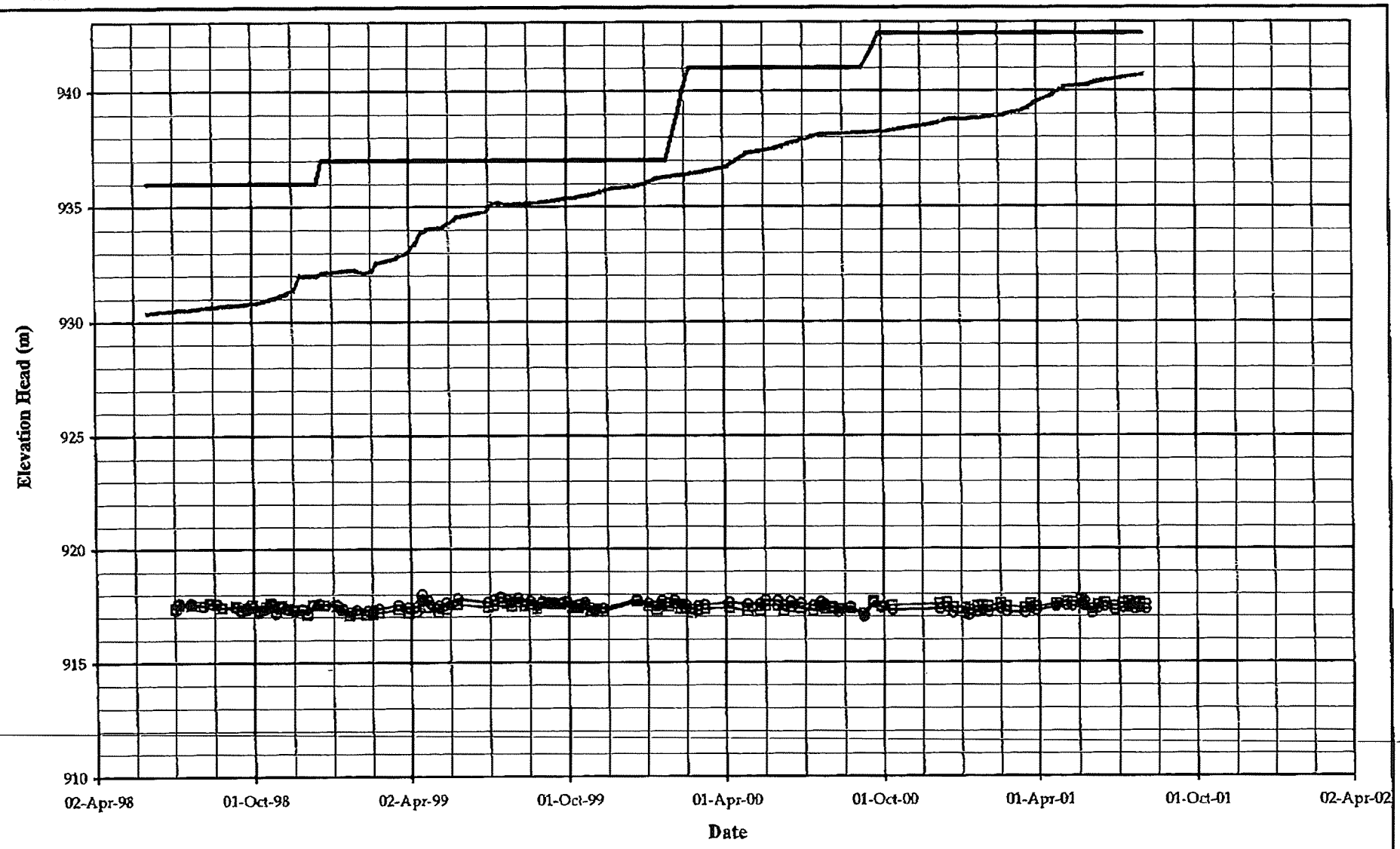
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.4



MOUNT POLLEY MINING CORPORATION

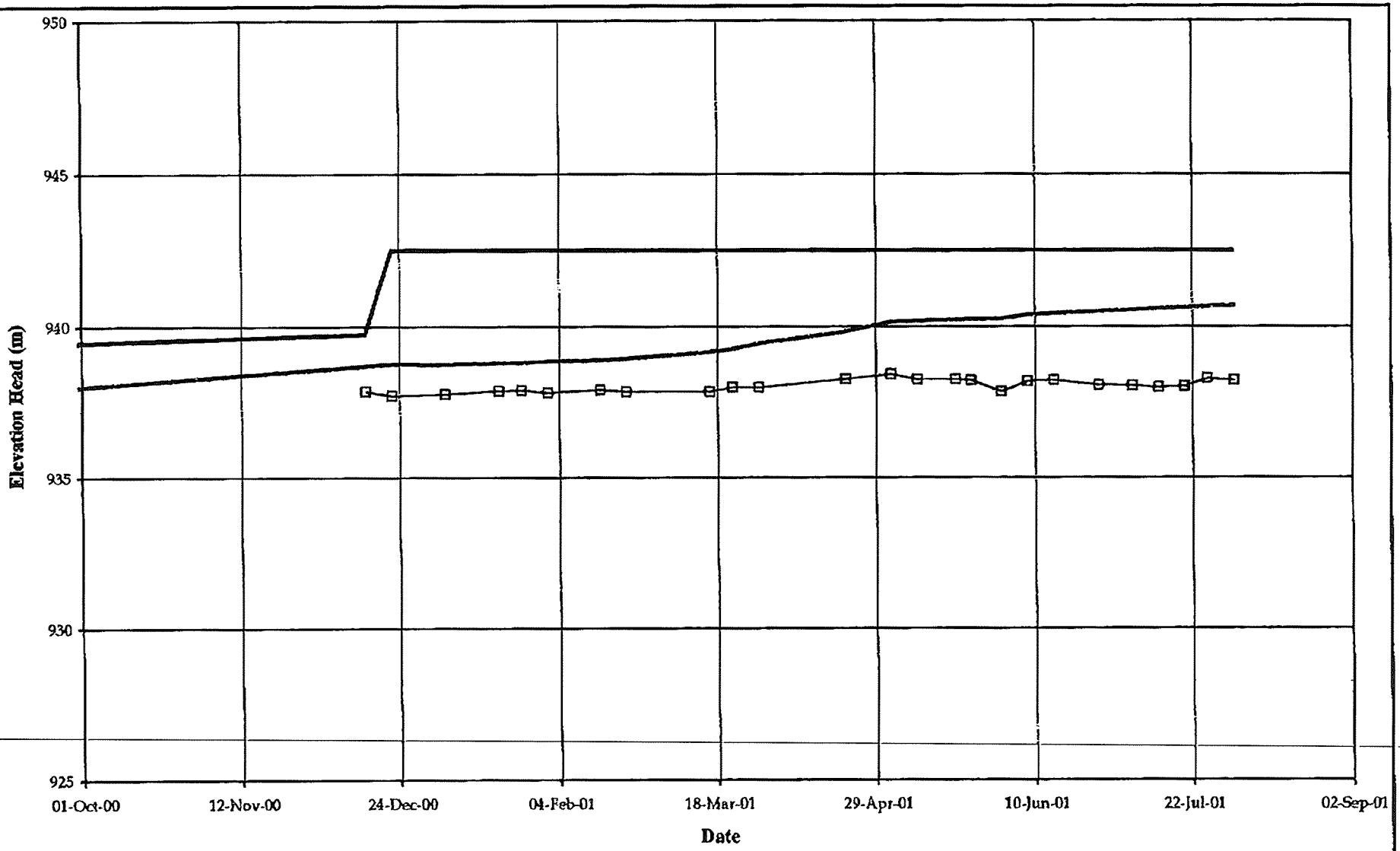
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE E PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.5



MOUNT POLLEY MINING CORPORATION

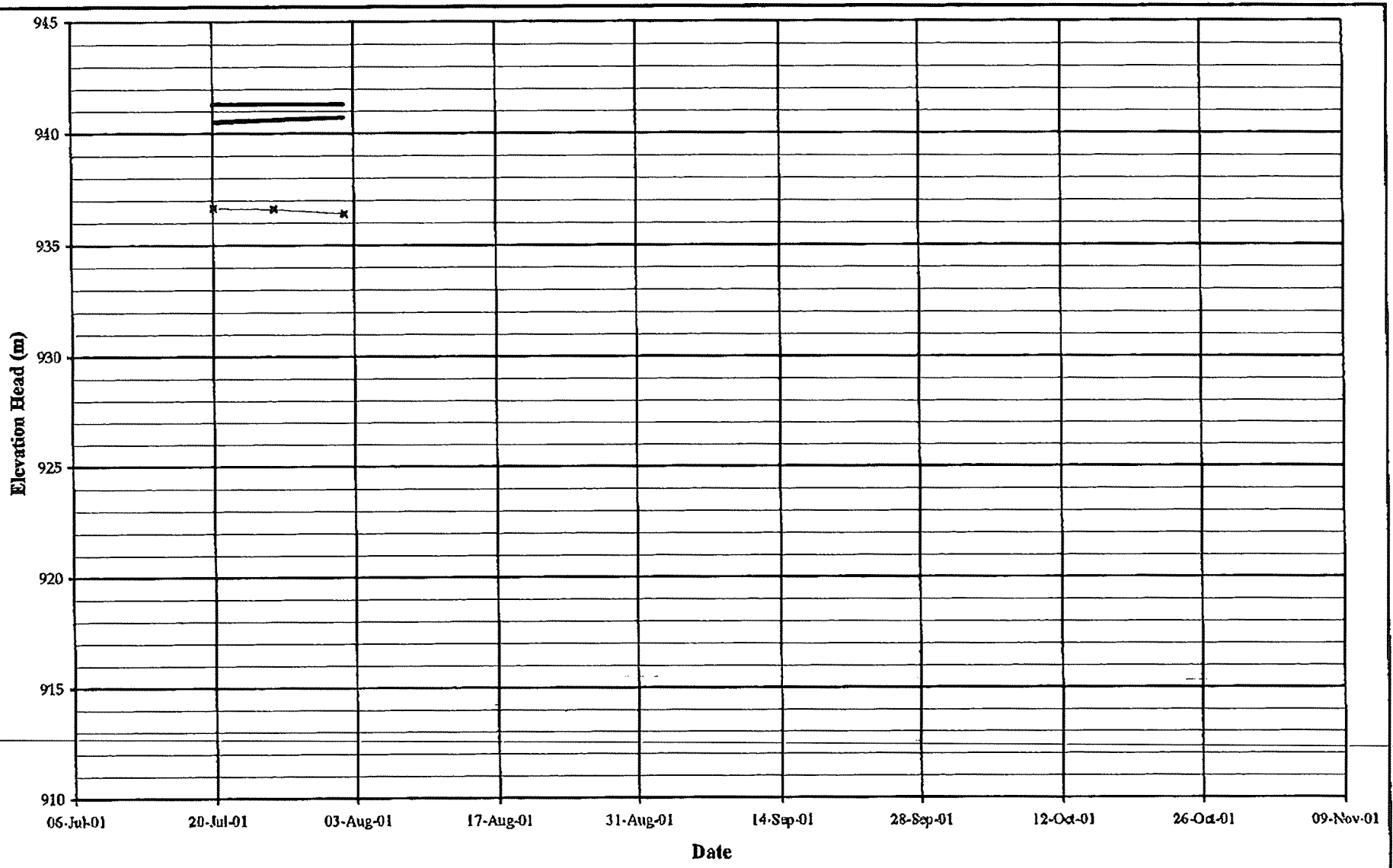
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE F PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

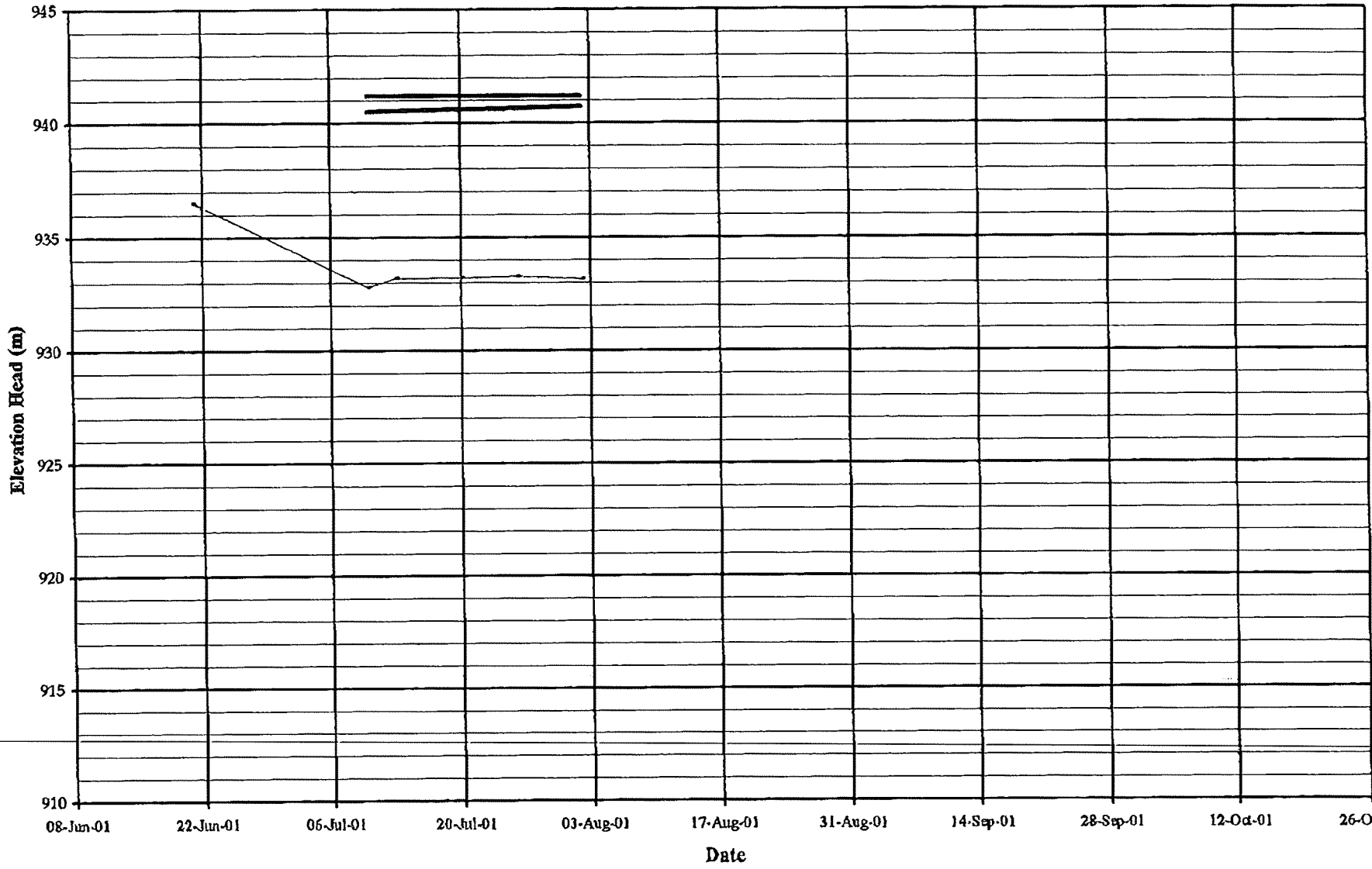
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE G PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION

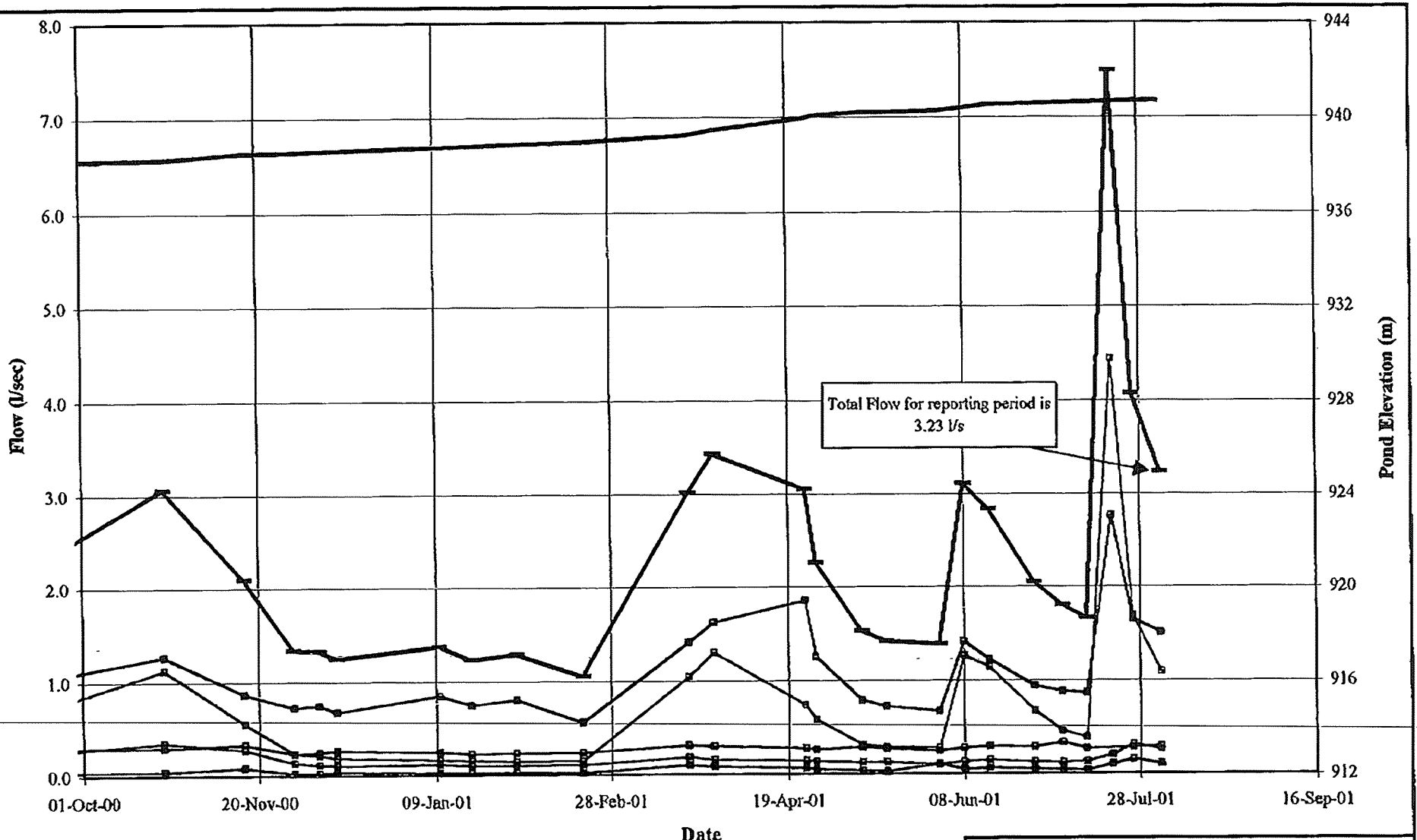
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE H PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5:8



MOUNT POLLEY MINING CORPORATION

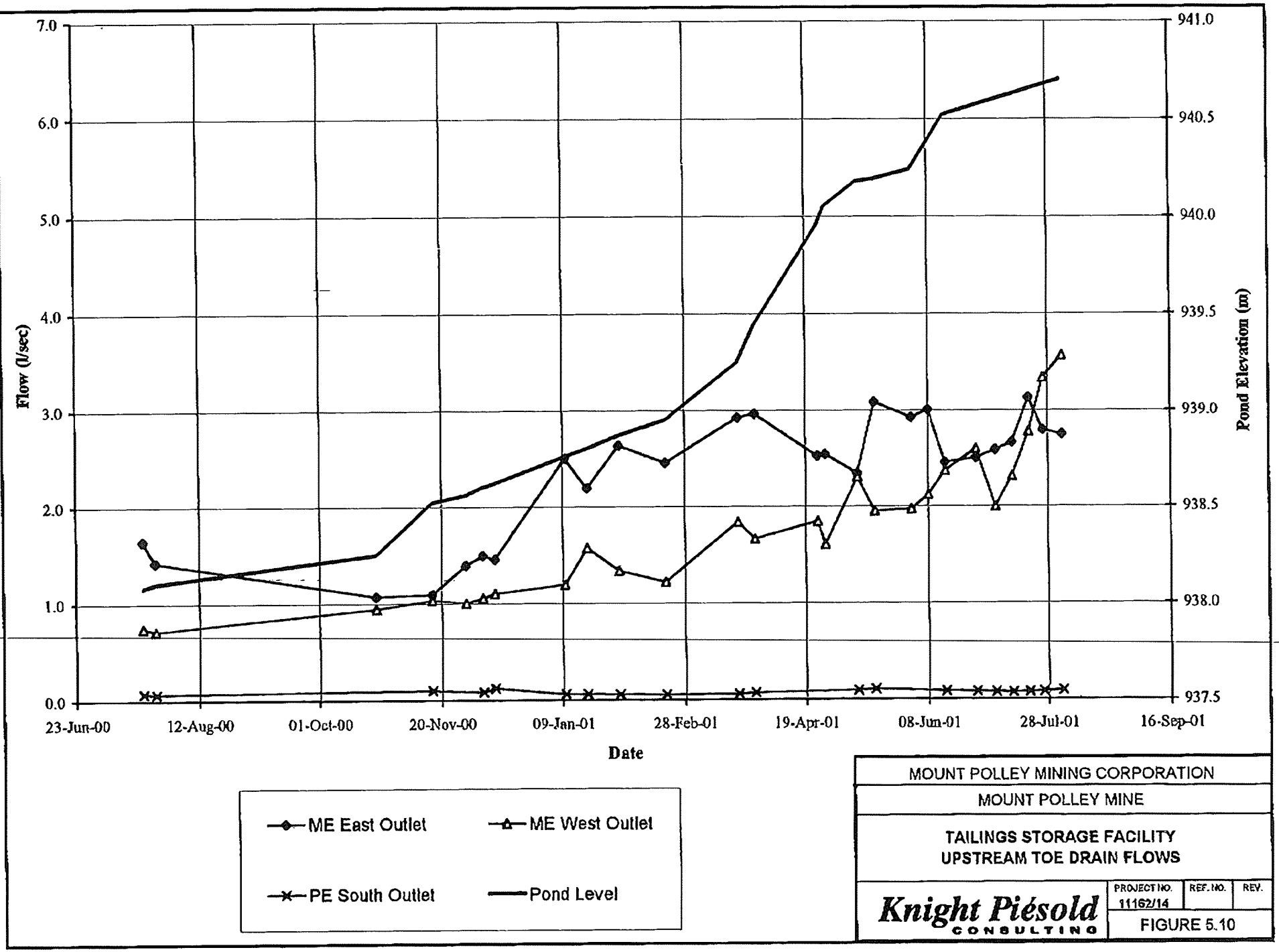
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.9



MOUNT POLLEY MINING CORPORATION

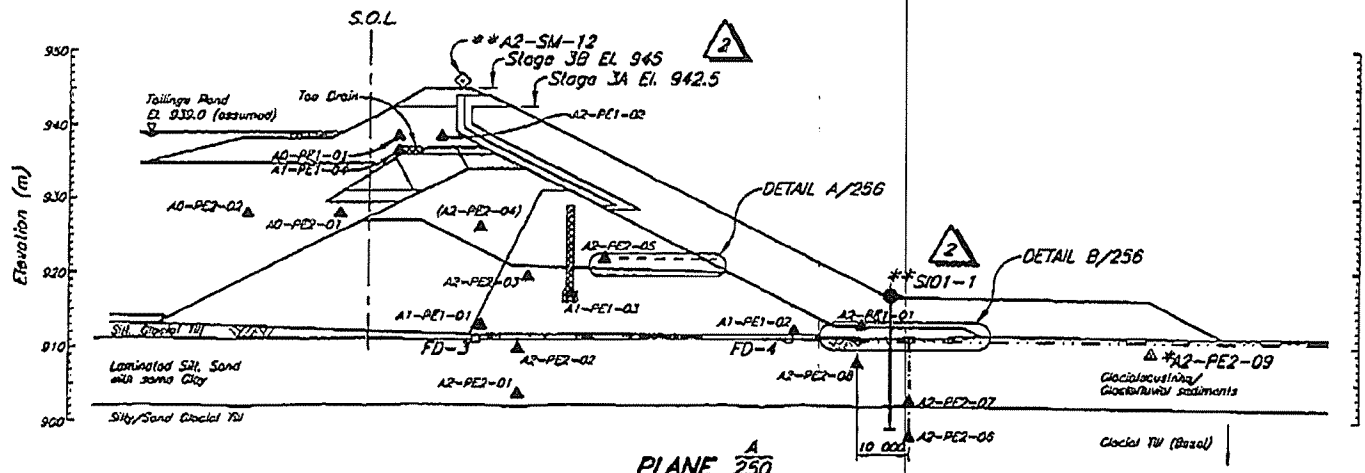
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

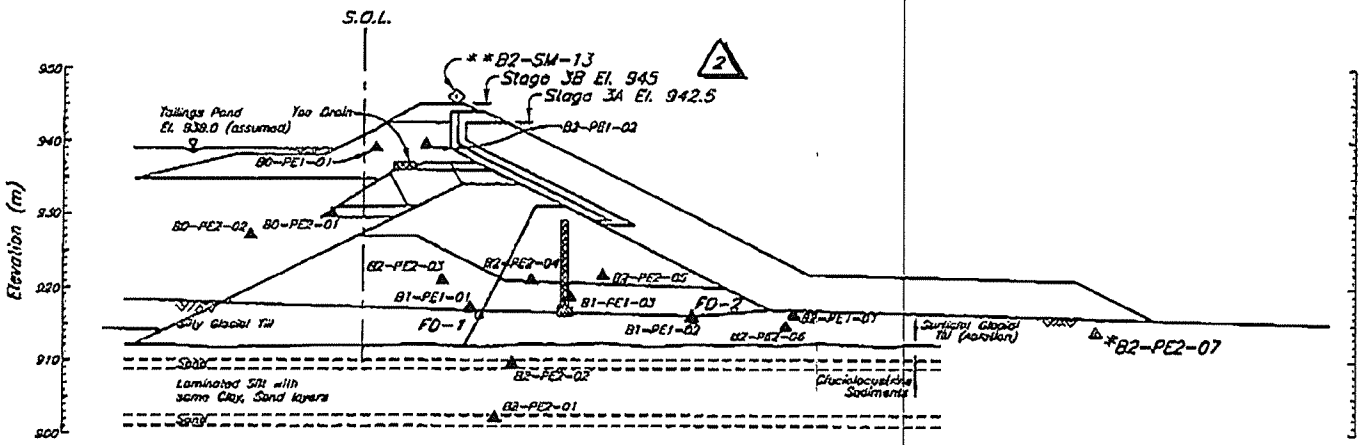
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

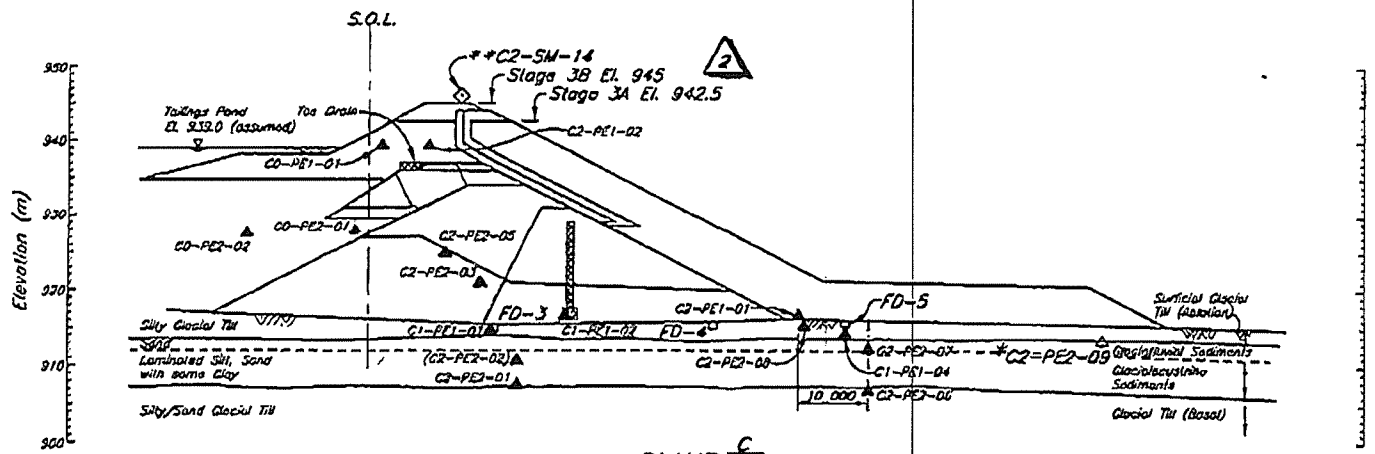
FIGURE 5.10



PLANE A/250
CH. 20+00



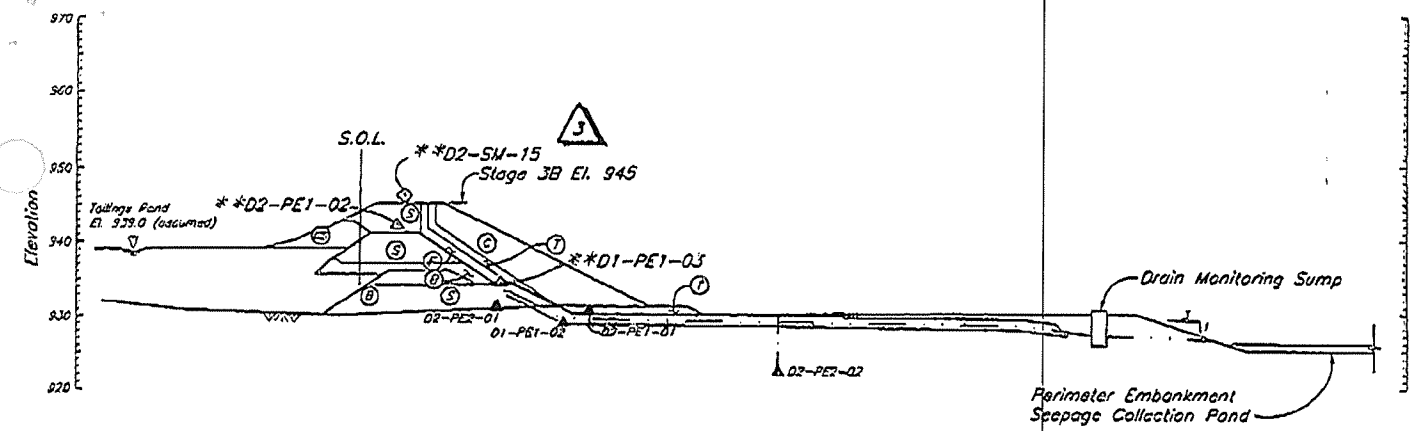
PLANE B/250
CH. 22+40



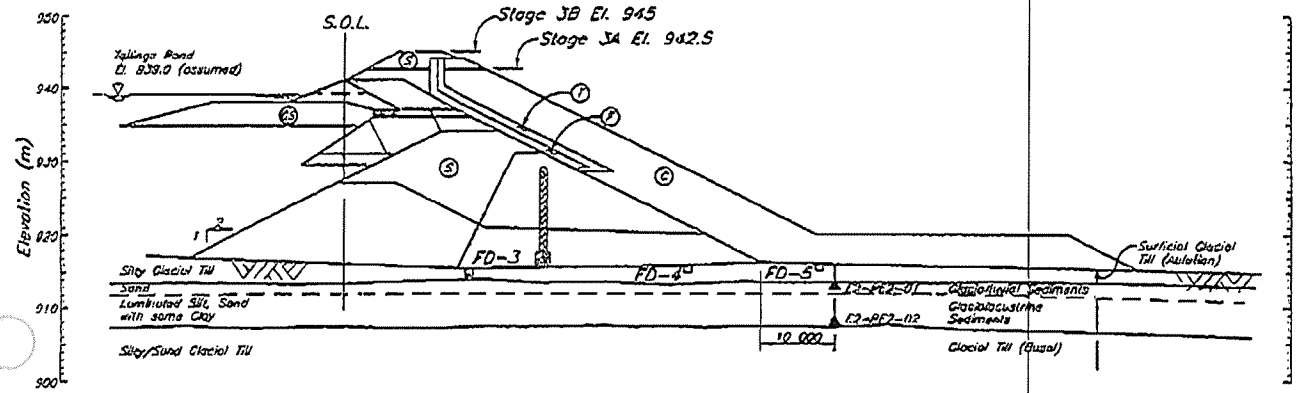
PLANE C/250
CH. 18+50

REFERENCE DRAWINGS
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS
STAGE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN

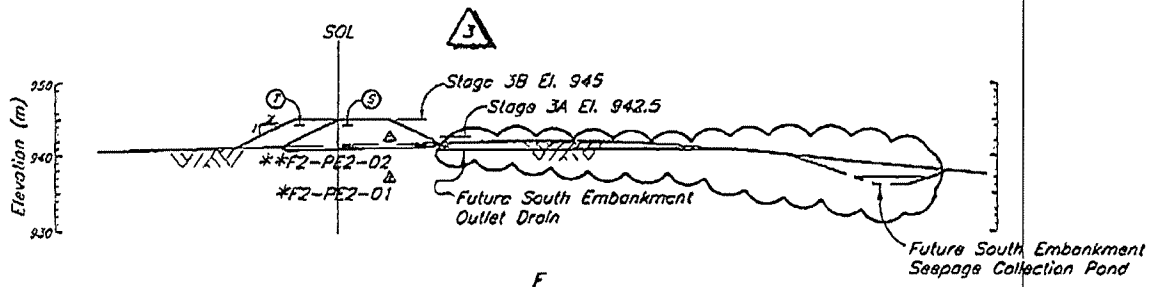
REVISIONS							
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
2	09MAY'01	ISSUED FC					
1	26JAN'01	STAGE 3B					
0	2JUN'00	ISSUED FC					



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



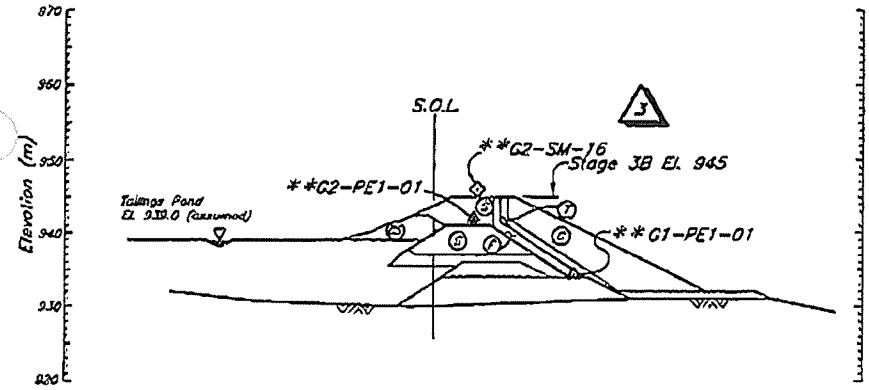
PLANE $\frac{E}{250}$
CH. 17+60



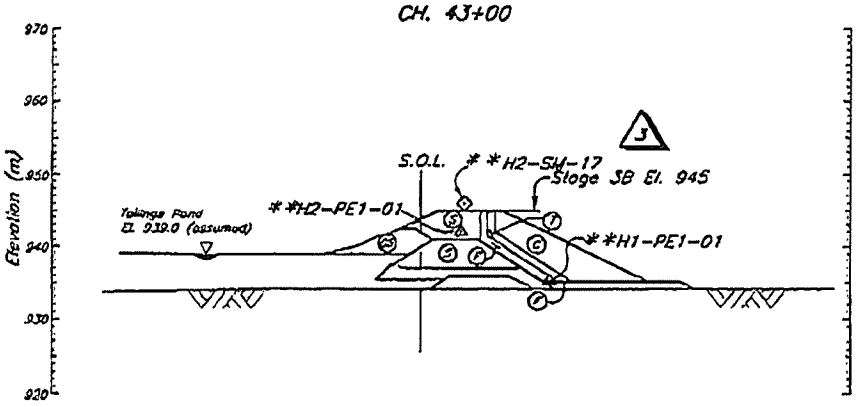
PLANE $\frac{F}{254}$
CH. 7+19

REFERENCE DRAWINGS
3 TAILINGS EMBANKMENT - INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
E 3 TAILINGS EMBANKMENT - SOUTH EMBANKMENT - INSTRUMENTATION PLAN
STAGE 3 PERIMETER EMBANKMENT - INSTRUMENTATION PLAN
STAGE 3 TAILINGS EMBANKMENT - MAIN EMBANKMENT - INSTRUMENTATION PLAN

REVISIONS									
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	
							3	08MAY'01	ISSUED FO
							2	26JAN'01	STAGE 3B
							1	20OCT'00	PERIMETER
							0	2JUN'00	ISSUED FO



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



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

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

REVISIONS				
DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
STAGE 3B TENDER	CWM	OSR	JRK	KJB
3B – CREST ELEVATION 945	JRK	AW	JMTW	KJB
ER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
FOR CONSTRUCTION	JRK	TAM	ABW	KJB

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

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
OSR	KJB

Knight Piésold CONSULTING

SCALE: AS SHOWN | REVISION: 3

DRAWING NO.: 11162-13-259

Aug 24

Knight Piésold CONSULTING	**DATE:** July 31, 2001	**FILE NO.:**	11162/14.F01/.F02/ .F04/.F05/.F08
	TIME:	**REF NO.:**	01-25
Mount Polley Site Office *Fax: (250) 790-2268* www.knightpiésold.com	**OPERATOR:**	**PAGES:**	1 of 25
	SENDER: Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C. **FAX :** 250-952-0481
ATTN:	Chris Carr
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site
SUBJECT:	Progress Report No. 16

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 16 from July 23 to July 29, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

MINISTRY OF
ENERGY AND MINES
REC'D JUL 3 1 2001

Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 16 – JULY 23 TO JULY 29, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes placement of Zones S, F, T and C to El. 942.5 m on the Perimeter Embankment (Ch. 28+00 to 44+50). MPMC is carrying out the majority of this work. Hauling of Zone F from the millsite to the TSF and hauling of Zone S from the borrow area to the TSF is being completed by sub-contractors.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

MPMC has decided to contract out the majority of the Zone S haul between the borrow area and the TSF. MPMC will still be responsible for spreading, grading and compaction of the Zone S material.

1.3 DESIGN DEVELOPMENTS

No new design developments occurred during the reporting period.

1.3 WEATHER

Conditions were generally rainy with cloudy and sunny periods during the reporting period. Maximum daytime highs reached about +20 °C and nightly lows sank to as low as +7 °C.

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1.4 SAFETY

No new safety incidents occurred over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 26+00 to obtain a well developed, even beach at the Main Embankment. The tailings line will then be moved to the ridge between the Main and South Embankments. It is anticipated that tailings will form a substantial beach in this area by discharging at this location.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270, 1 Hitachi EX 400
- Haul Trucks: 2 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992B
- Dozers: 1 Caterpillar D6, 1 Caterpillar D8K, 1Caterpillar D7G
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Service, water and fuel trucks

MPMC carried out the following activities during the reporting period:

- Placement of Zone F fill, Perimeter Embankment: Ch. 33+00 to 36+75 and 40+50 to 43+00, El. 933.0 to 941.0 m.
- Crushing of Zone F at the millsite.
- Placement of Zone T fill, Perimeter Embankment: Ch. 42+50 to 43+25, El. 932 to 941.0 m.
- Cleaning of existing slopes in preparation for Zone F material.
- Development of the Rock Borrow for Zone T material.

Zone T was supplied from the Rock Borrow, while Zone F was delivered from the stockpile at the millsite. Zone F was placed in a 1 m thick lift on the downstream embankment slope over stiff Zone S, while Zone T was placed upon Zone F in a 1 metre thick lift.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

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KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones F and T.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- C-ZF-44 and 45
- R-ZF-39 and 40
- R-ZT-16

C-ZF-44 failed on the fine side of the gradation specification for Zone F. The pile was re-mixed with a dozer and C-ZF-45 was collected and tested. The results from this testing showed that the material was acceptable for Zone F.

R-ZF-39 failed the grain size specification for Zone F on the coarse side. However, it has been shown previously that the filter relationship criteria remains with the Zone S and Zone T materials for Zone F samples of this type. Re-testing of this material is not required due to these circumstances.

The remaining record tests completed during the reporting period proved suitable for their respective zones. All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed during the reporting period.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.8. Locations of the piezometers are presented on the attached Drawings.

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Foundation Piezometers

No substantial changes were noted in the remaining foundation piezometers with the exception of Plane D piezometers, which decreased slightly.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. Generally, these piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on July 26, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.9 and 5.10, respectively. The flows from the

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foundation drains decreased significantly, as rainfall was substantially less than the last reporting period.

5.4 SLOPE INCLINOMETERS

The equipment to monitor, record and evaluate the data from the slope inclinometers is expected to be on site during the first week of August. Exact depths of the inclinometers will be determined and calibration measurements will be carried out at that time.

SECTION 6.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 942.5 m.
- The slope inclinometers will be measured and calibrated.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.1

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE F CONTROL TEST SUMMARY SHEET

[I:\ENG\DATA\Dry Steel Gen\Stage3\Stage3B Construction\Lab\[C-ZF-sum.xls]Data Sheet

Knight Piésold CONSULTING

SHEET: 1 of 1

PERIOD: July 23 to July 29, 2001

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

PROJECT NO.: VI162/14

MATERIAL: Zone F - Filter Sand

AREA: Zone F Stockpile

Sample No.	Date Sampled	Location	EL. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm %	76.2 mm %	38.1 mm %	25.4 mm %	19.05 mm %	9.525 mm %	4.75 mm %	2.36 mm %	1.18 mm %	0.6 mm %	0.3 mm %	0.14926 mm %	0.07366 mm %	0.002 mm %	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum m/c %	C6 Specific Gravity
C-ZF-31	28-May-01	Zone F Stockpile	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.0	28.5	21.3	16.5	12.7	10.0	-	-	-	-
C-ZF-32	28-May-01	Zone F Stockpile	-	-	-	-	4.0	-	100.0	100.0	100.0	100.0	99.4	78.9	58.9	43.8	29.6	21.9	16.8	13.1	10.4	-	-	-	-
C-ZF-33	28-May-01	Zone F Stockpile	-	-	-	-	2.9	-	100.0	100.0	100.0	100.0	98.7	56.0	28.1	17.6	12.8	10.1	7.8	6.1	4.8	-	-	-	-
C-ZF-34	31-Aug-01	Zone F Stockpile	-	-	-	-	3.7	-	100.0	100.0	100.0	100.0	98.3	59.2	35.0	24.2	15.0	10.5	7.8	6.1	4.8	-	-	-	-
C-ZF-35	31-Aug-01	Zone F Stockpile	-	-	-	-	4.2	-	100.0	100.0	100.0	100.0	97.9	58.3	34.7	24.7	15.3	10.6	8.0	6.4	5.1	-	-	-	-
C-ZF-36	12-Aug-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	93.7	60.6	37.0	25.2	16.5	12.2	9.4	7.1	5.6	-	-	-	-
C-ZF-37	03-Jul-01	Zone F Stockpile	-	-	-	-	1.5	-	100.0	100.0	100.0	100.0	95.0	56.3	34.9	23.7	16.3	11.5	8.9	6.2	2.2	-	-	-	-
C-ZF-38	03-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	93.5	76.2	55.6	40.0	27.2	19.0	12.9	6.5	5.3	-	-	-	-
C-ZF-39	03-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	99.3	75.4	64.2	24.5	14.3	9.8	6.7	3.7	1.9	-	-	-	-
C-ZF-40	04-Jul-01	Zone F Stockpile	-	-	-	-	3.6	-	100.0	100.0	100.0	100.0	97.3	68.8	44.7	30.2	18.8	12.3	6.9	5.2	1.5	-	-	-	-
C-ZF-41	04-Jul-01	Zone F Stockpile	-	-	-	-	5.5	-	100.0	100.0	100.0	100.0	99.2	73.0	54.7	36.7	21.3	11.9	6.3	3.7	1.8	-	-	-	-
C-ZF-42	13-Jul-01	Zone F Stockpile	-	-	-	-	5.3	-	100.0	100.0	100.0	100.0	96.9	69.4	45.3	23.4	16.9	10.1	5.9	3.9	-	-	-	-	-
C-ZF-43	13-Jul-01	Zone F Stockpile	-	-	-	-	5.5	-	100.0	100.0	100.0	100.0	99.1	79.1	57.4	35.0	26.0	16.3	9.1	4.5	-	-	-	-	-
C-ZF-44	24-Jul-01	Zone F Stockpile	-	-	-	-	6.9	-	100.0	100.0	100.0	100.0	99.1	89.2	60.7	50.1	39.3	30.6	23.6	18.6	14.9	-	-	-	-
C-ZF-45	24-Jul-01	Zone F Stockpile	-	-	-	-	8.3		100.0	100.0	100.0	100.0	96.0	60.0	41.6	32.5	24.5	19.3	15.6	12.6	10.2	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!	4.2	#DIV/0!		100.0	100.0	100.0	100.0	98.3	69.4	45.4	32.8	21.5	15.2	10.8	7.5	5.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#VALUE!	#VALUE!	#NUM!	4.0	#VALUE!		100.0	100.0	100.0	100.0	98.3	69.4	45.3	30.2	18.8	12.2	8.0	6.1	4.8	#VALUE!	#VALUE!	#VALUE!	#VALUE!
		MAXIMUM (*)	0.0	0.0	0.0	8.3	0.0		100.0	100.0	100.0	100.0	99.6	84.0	61.6	50.1	39.3	30.6	23.6	18.6	14.9	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0	1.5	0.0		100.0	100.0	100.0	100.0	95.0	56.0	28.1	17.6	12.8	9.8	5.9	3.7	1.5	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

C1 Atterberg Limits (ASTM D4318)
C2 Moisture Content (ASTM D2216)
C3 Particle Size Distribution (ASTM D422)
C4 Laboratory Compaction (ASTM D1557)
C6 Specific Gravity (ASTM D854)

TABLE 4.1

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE F RECORD TEST SUMMARY SHEET

Knight Piésold CONSULTING

SHEET: 1 of 1

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

PERIOD: July 23 to July 29, 2001

MATERIAL: Zone F - Filter Sand

PROJECT NO.: 1116214

AREA: TSF

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field w/c %	L3 %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14936 mm	0.07936 mm	0.060 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Optimum w/c %	C6 Specific Gravity
									6"	3"	1.5"	1"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200	Clay			
R-ZF-31	22-May-01	2+900, 0.5 m DS of Zone S	941.8	-	-	-	4.0	-	100.0	100.0	100.0	100.0	93.5	71.5	69.1	35.9	25.8	19.3	15.0	11.6	9.1	-	-	-	-
R-ZF-32	28-May-01	3+700, 0.5 m DS of Zone S	936.0	-	-	-	4.1	-	100.0	100.0	100.0	100.0	91.7	68.4	66.0	31.9	22.5	16.9	12.8	9.9	7.7	-	-	-	-
R-ZF-33	17-May-01	4+160, 0.8 m DS of Zone S	936.0	-	-	-	3.0	-	100.0	100.0	100.0	100.0	93.9	68.8	66.7	24.8	17.8	13.2	10.6	8.5	6.9	-	-	-	-
R-ZF-34	20-May-01	3+460, 0.8 m DS of Zone S	933.0	-	-	-	3.6	-	100.0	100.0	100.0	100.0	99.2	61.5	59.8	27.0	18.7	14.0	11.0	8.6	6.8	-	-	-	-
R-ZF-35	20-May-01	4+160, 0.8 m DS of Zone S	933.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.4	70.8	68.6	32.6	23.0	17.3	13.7	10.6	8.5	-	-	-	-
R-ZF-36	10-May-01	3+450, 0.8 m DS of Zone S	939.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.5	72.6	70.4	36.5	24.8	17.6	12.4	9.2	7.0	-	-	-	-
R-ZF-37	10-May-01	4+350, 0.8 m DS of Zone S	933.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.6	63.6	61.3	28.8	21.4	16.9	13.5	9.8	6.4	-	-	-	-
R-ZF-38	19-May-01	3+160, 1.0 m DS of Zone S	936.0	-	-	-	8.4	-	100.0	100.0	100.0	100.0	99.4	73.8	70.6	36.5	26.1	19.7	15.7	12.0	9.6	-	-	-	-
R-ZF-39	28-May-01	4+160, 1.0 m DS of Zone S	941.0	-	-	-	2.3	-	100.0	100.0	100.0	100.0	98.9	53.6	51.2	25.0	17.7	12.6	9.4	9.3	5.7	-	-	-	-
R-ZF-40	24-May-01	3+450, 1.0 m DS of Zone S	941.0	-	-	-	6.3	-	100.0	100.0	100.0	100.0	100.0	73.2	68.8	31.3	22.0	15.1	10.4	7.5	7.3	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	4.9	#DIV/0!	100.0	100.0	100.0	100.0	98.6	68.4	66.5	31.6	22.0	16.3	12.5	9.7	7.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#NUM!	#NUM!	#NUM!	#NUM!	4.5	#NUM!	100.0	100.0	100.0	100.0	99.3	69.8	67.7	31.8	23.1	16.9	12.6	9.4	7.0	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)	0.0	0.0	0.0	0.0	8.4	0.0	100.0	100.0	100.0	100.0	100.0	73.8	70.6	36.5	26.1	19.7	15.7	12.0	9.6	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0	0.0	2.3	0.0	100.0	100.0	100.0	100.0	94.9	53.6	51.2	25.0	17.7	12.6	9.4	7.5	5.7	0.0	0.0	0.0	0.0

Note : These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)

R2 Moisture Content (ASTM D2216)

R3 Particle Size Distribution (ASTM D422)

R4 Laboratory Compaction (ASTM D1557)

R6 Specific Gravity (ASTM D854)

TABLE 4.4

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE T RECORD TEST SUMMARY SHEET

H:\ENG\DATA\Engdocs\Geotechnical\Upsite\Stage 3B Construction\lab\record\[R-ZT-summ.xls]Data Sheet

Knight Piésold CONSULTING

PROJECT:	MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION	SHEET:	1 of 1
MATERIAL:	Zone T - Transition Zone	PERIOD:	July 23 to July 29, 2001
		PROJECT NO.:	1116214
		AREA:	TSF

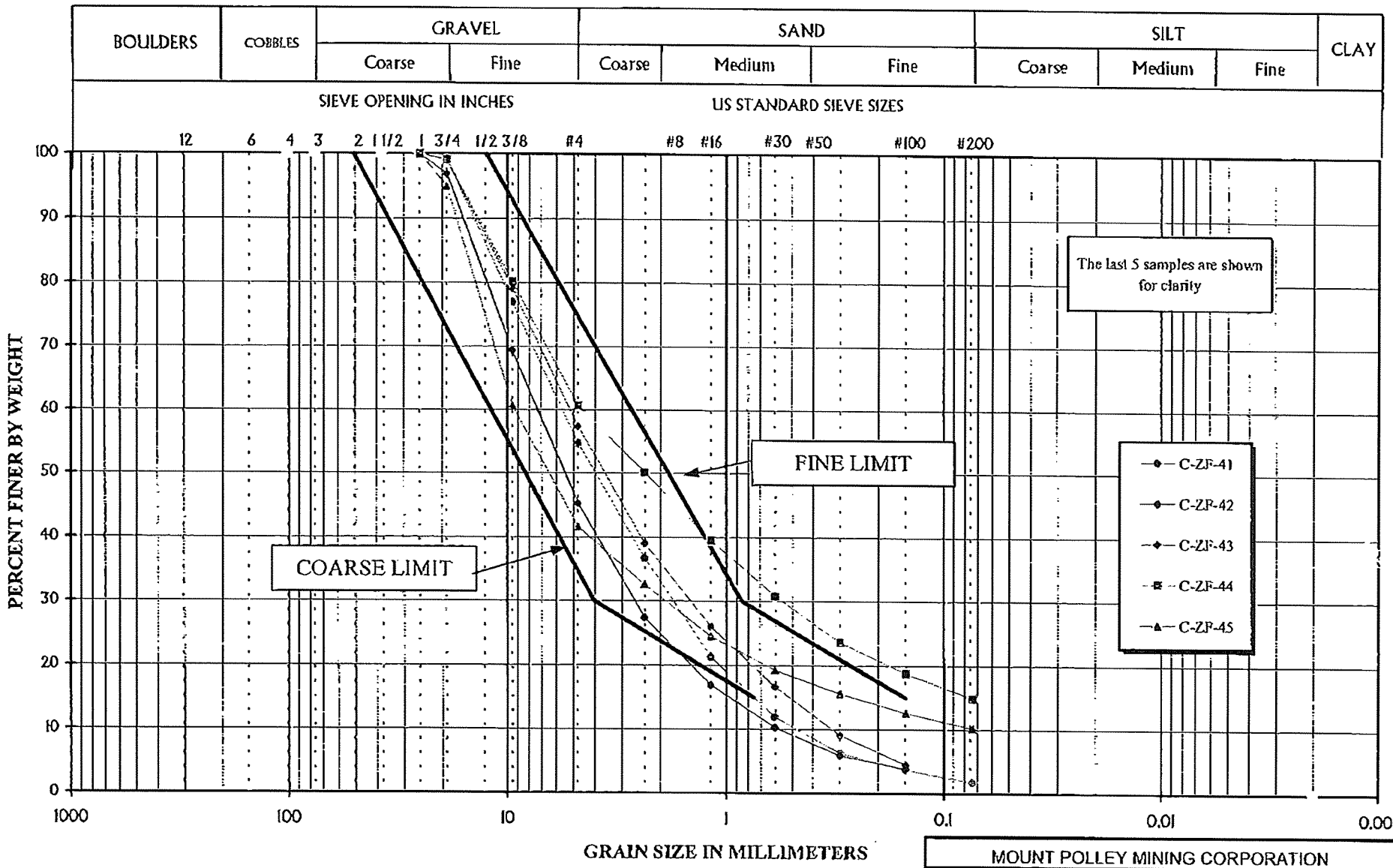
Sample No.	Date Sampled	Location	El. (m)	R1 Atterberg Limits LL %	PI %	R2 Field w/c %	R3 (Particle Size Distribution) 19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.15 mm	0.075 mm	0.002 mm	R4 Standard Proctor Max Dry Density kg/m³	R4 Standard Proctor Optimum w/c %	R6 Specific Gravity
R-ZT-12	03-Jun-01	42+50, 1.6 m U/S of Zone S	933.5	-	-	4.4	80.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	-	-	-	-
R-ZT-13	23-Jun-01	32+50, 1.8 m D/S of Zone S	933.0	-	-	3.0	76.7	49.7	34.5	22.9	14.6	9.7	6.4	4.1	2.4	-	-	-	-	-	-
R-ZT-14	09-Jul-01	35+00, 3 m D/S of Zone S	933.0	-	-	3.4	76.9	51.9	38.2	22.6	12.2	7.2	4.5	3.1	2.2	1.6	1.2	-	-	-	-
R-ZT-15	23-Jul-01	40+25, 3 m D/S of Zone S	933.0	-	-	3.6	68.3	43.5	29.5	18.8	11.4	7.2	5.1	3.9	2.8	-	-	-	-	-	-
R-ZT-16	29-Jul-01	43+00, 3 m D/S of Zone S	942.5	-	-	4.0	77.3	45.8	26.2	15.8	9.9	6.9	4.9	3.4	-	-	-	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!	3.3	#DIV/0!	#DIV/0!	75.7	48.7	32.1	20.4	12.6	8.4	5.7	4.0	2.9	2.4	1.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#NUM!	#NUM!	#NUM!	3.6	#NUM!	#NUM!	76.9	46.4	32.3	22.0	12.2	7.2	5.1	3.9	2.6	2.4	1.9	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)	0.0	0.0	0.0	4.4	0.0	0.0	80.0	51.9	38.2	22.9	14.9	10.8	7.6	5.6	4.2	3.2	2.5	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0	1.4	0.0	0.0	68.3	43.5	26.2	15.8	9.9	6.9	4.5	3.1	2.2	1.6	1.2	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

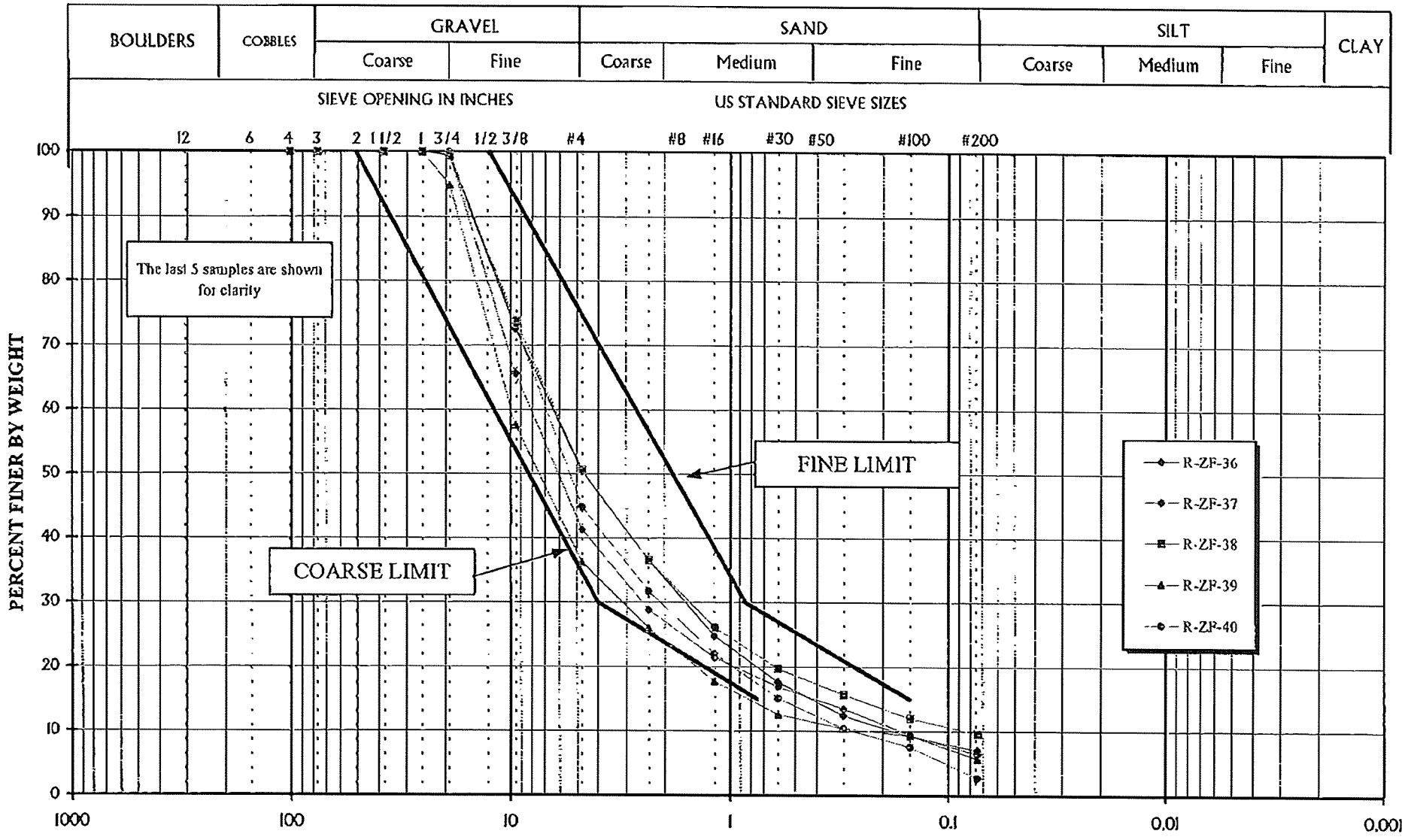
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F CONTROL SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.1



MOUNT POLLEY MINING CORPORATION

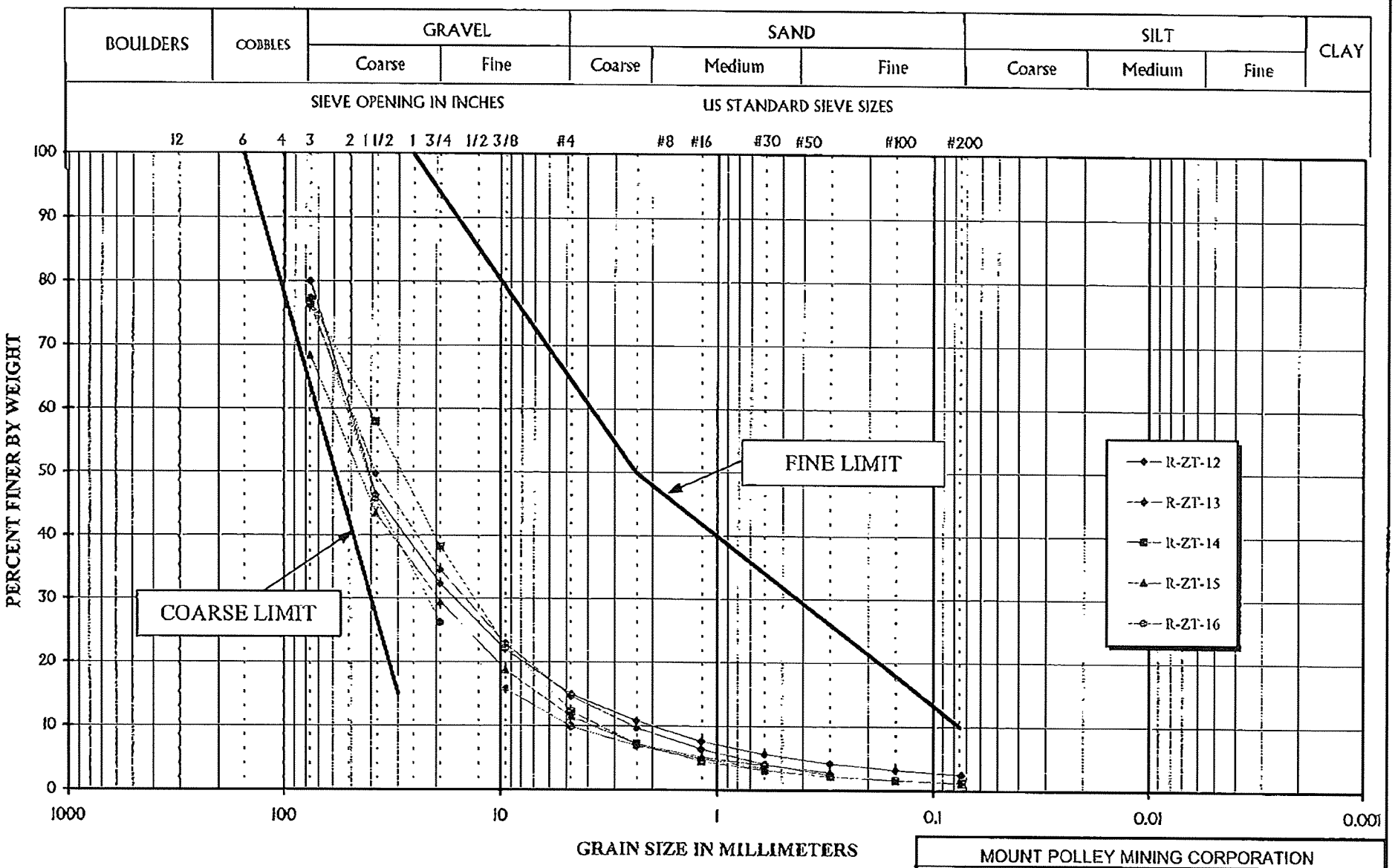
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.2



MOUNT POLLEY MINING CORPORATION

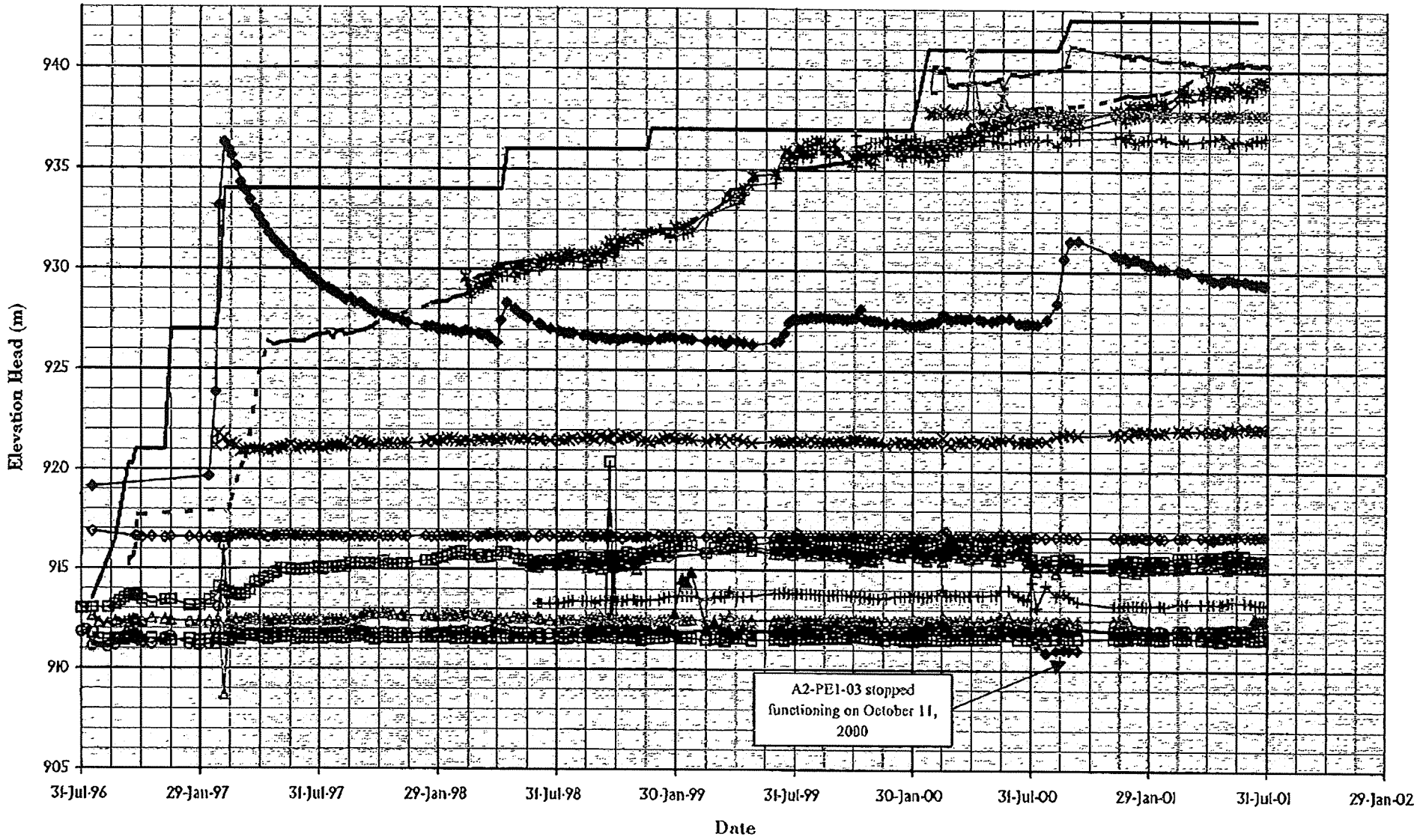
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE T RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
1116/2/14		

FIGURE 4.4



MOUNT POLLEY MINING CORPORATION

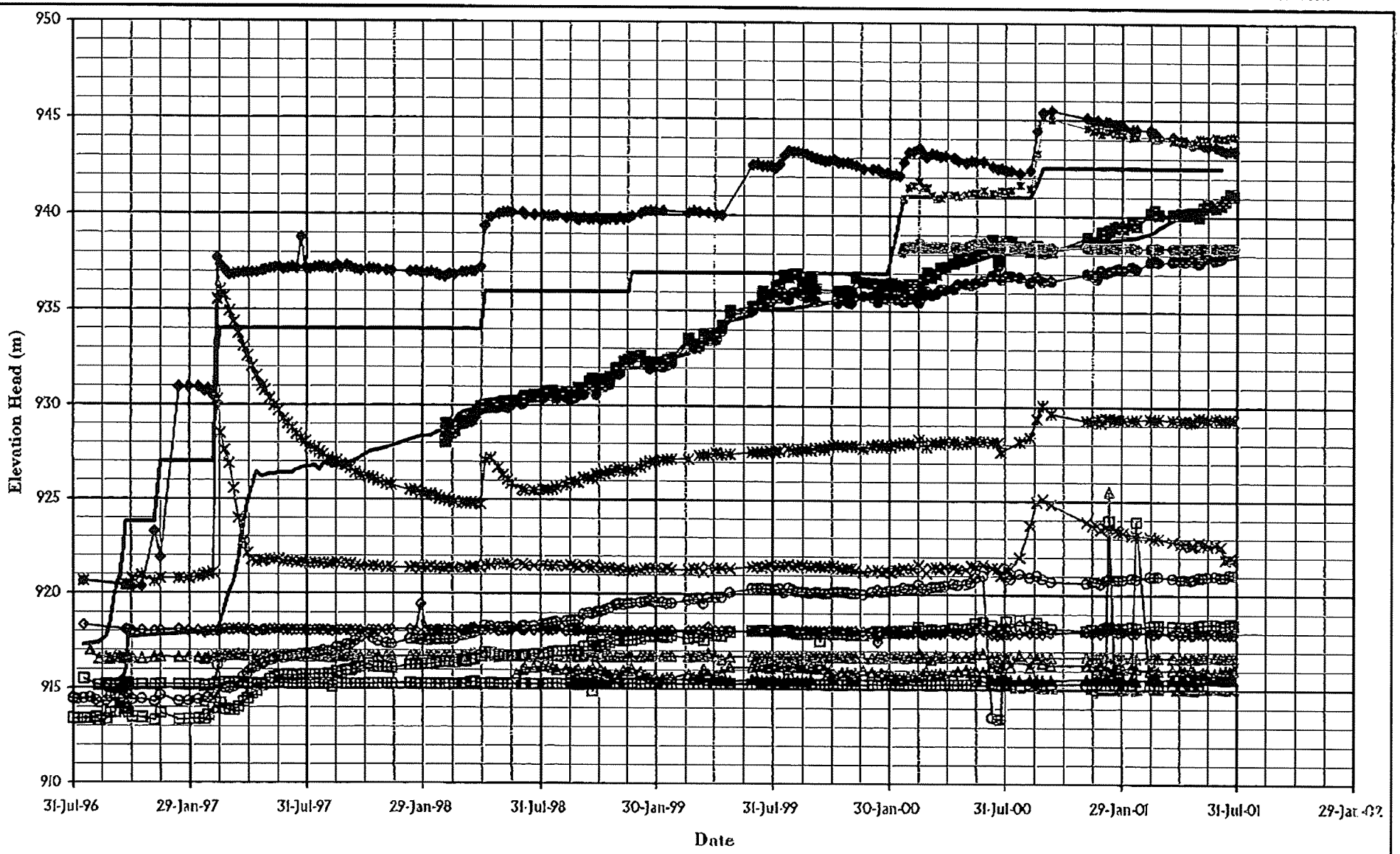
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
1116214		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

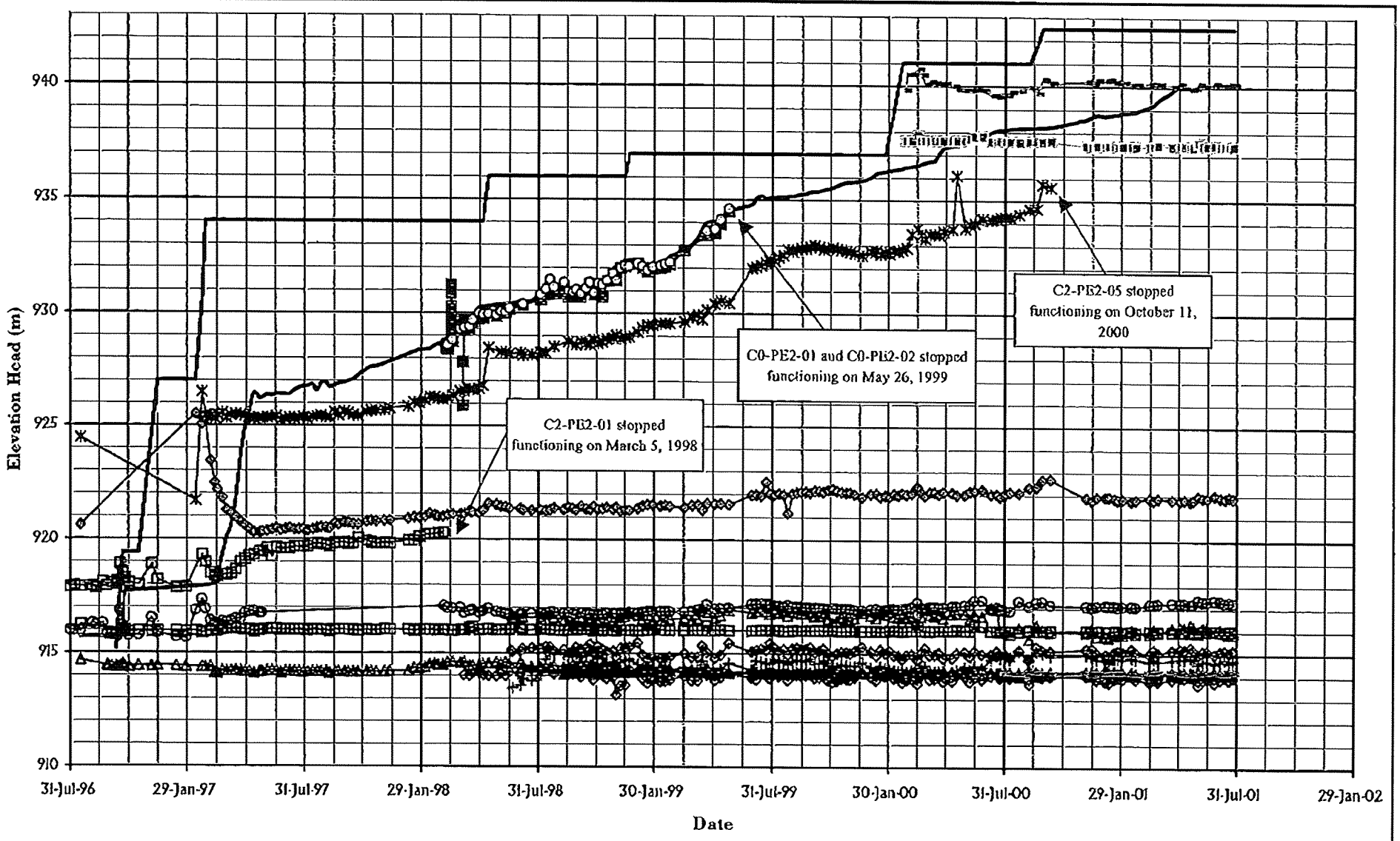
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE B PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.2



MOUNT POLLEY MINING CORPORATION

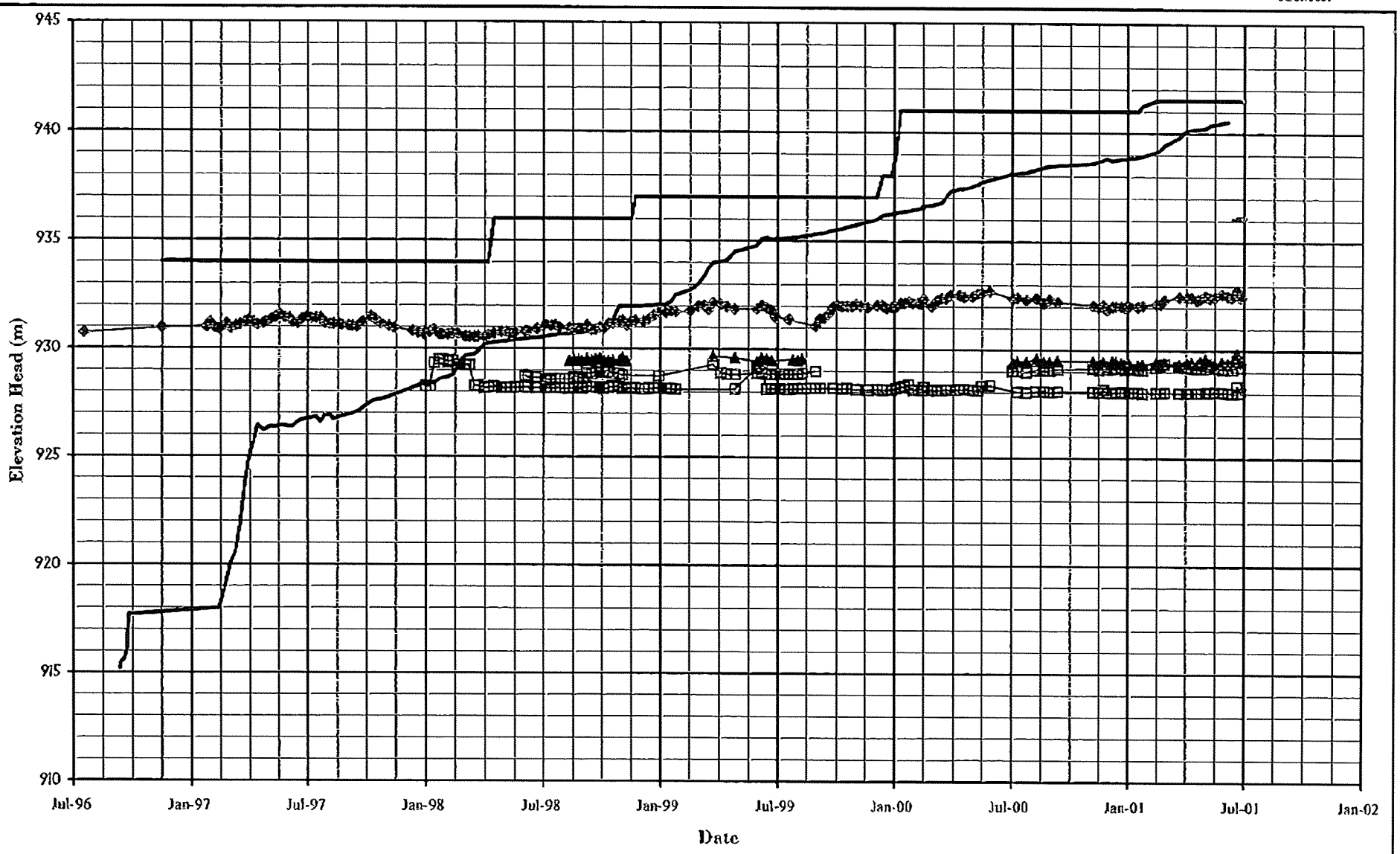
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

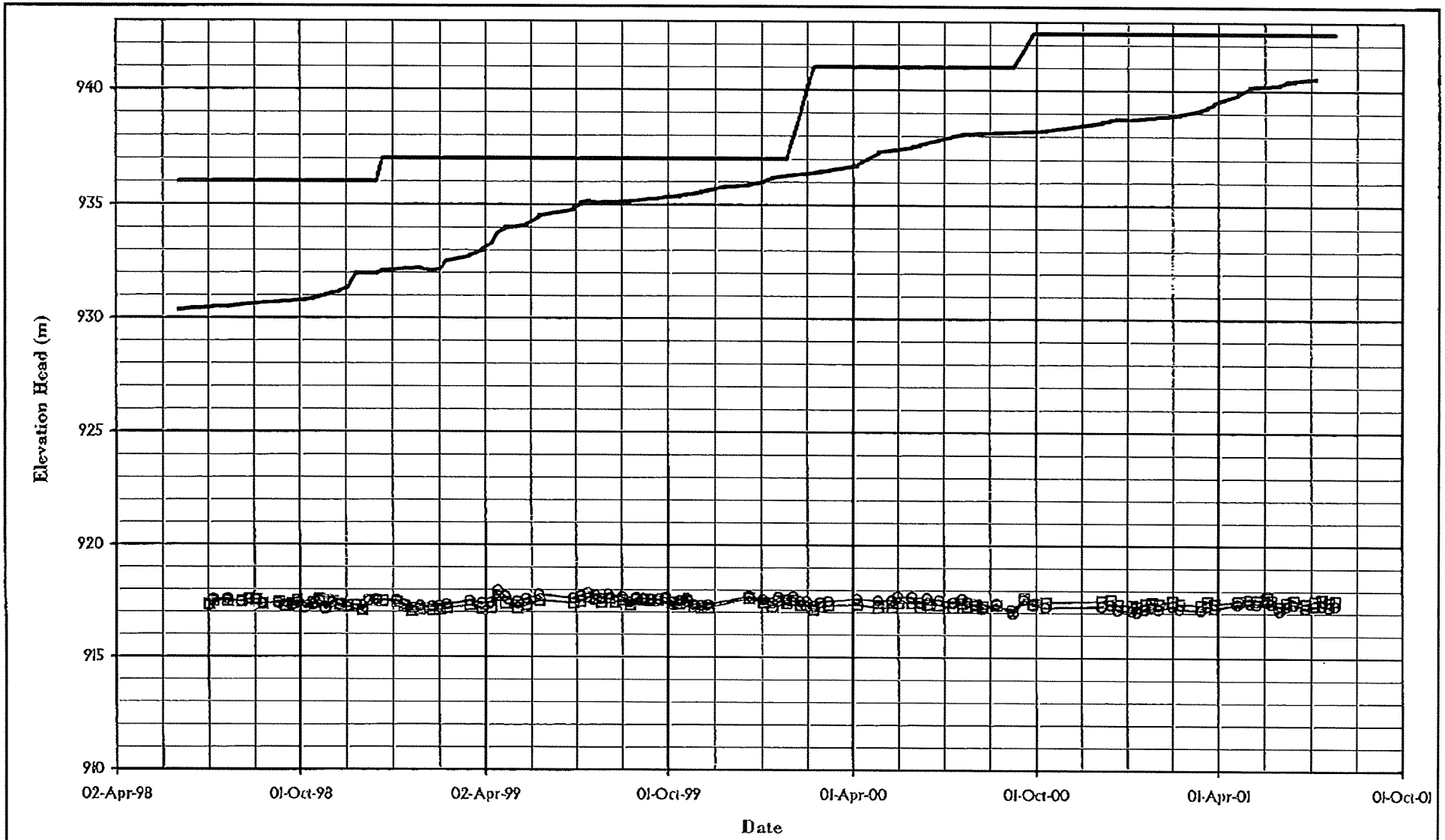
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

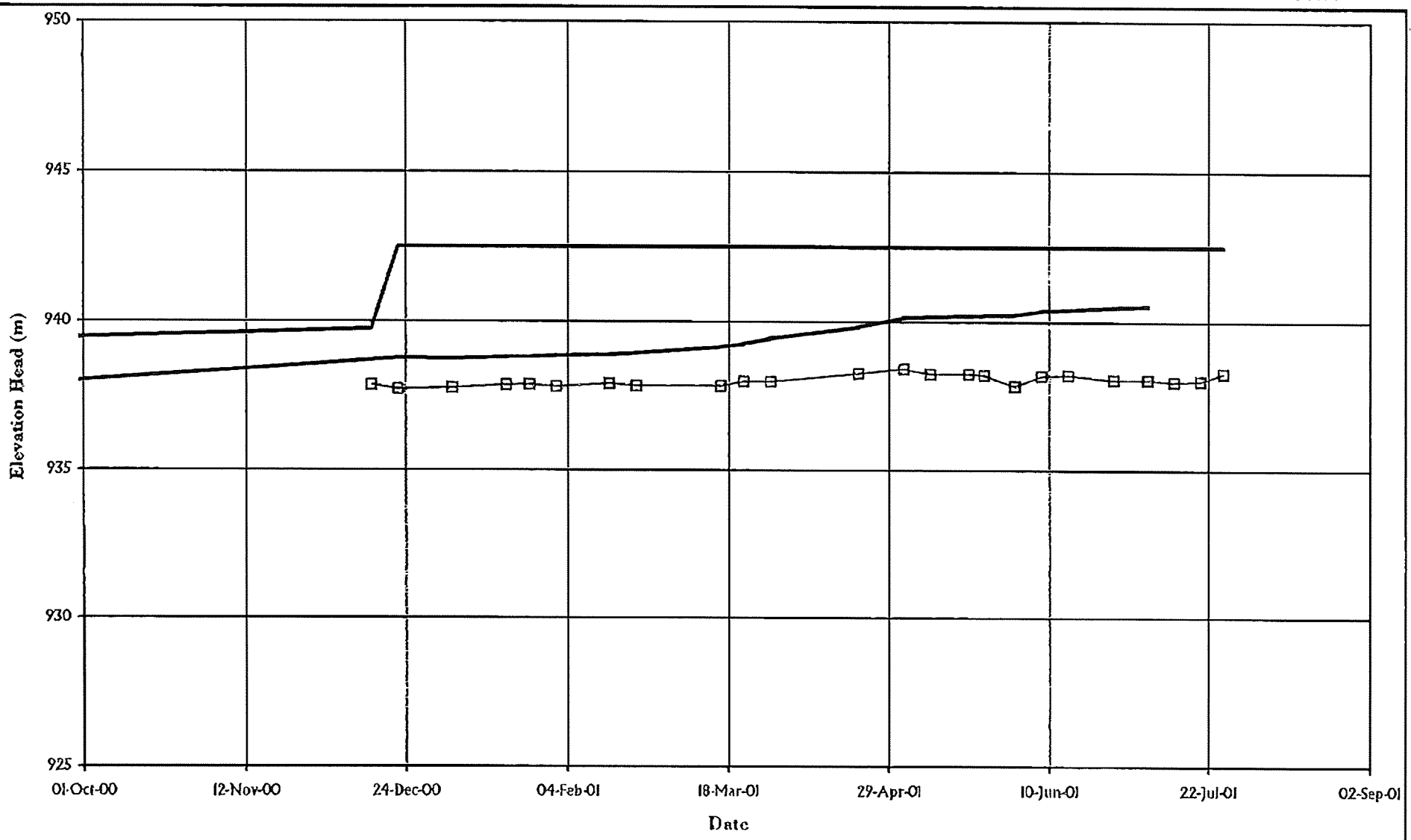
PROJECT NO.	REF. NO.	REV.
11162/14		

Knight Piésold CONSULTING

FIGURE 5.4



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE E PIEZOMETERS GRAPH OF ELEVATION HEAD vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
	FIGURE 5.5		



MOUNT POLLEY MINING CORPORATION

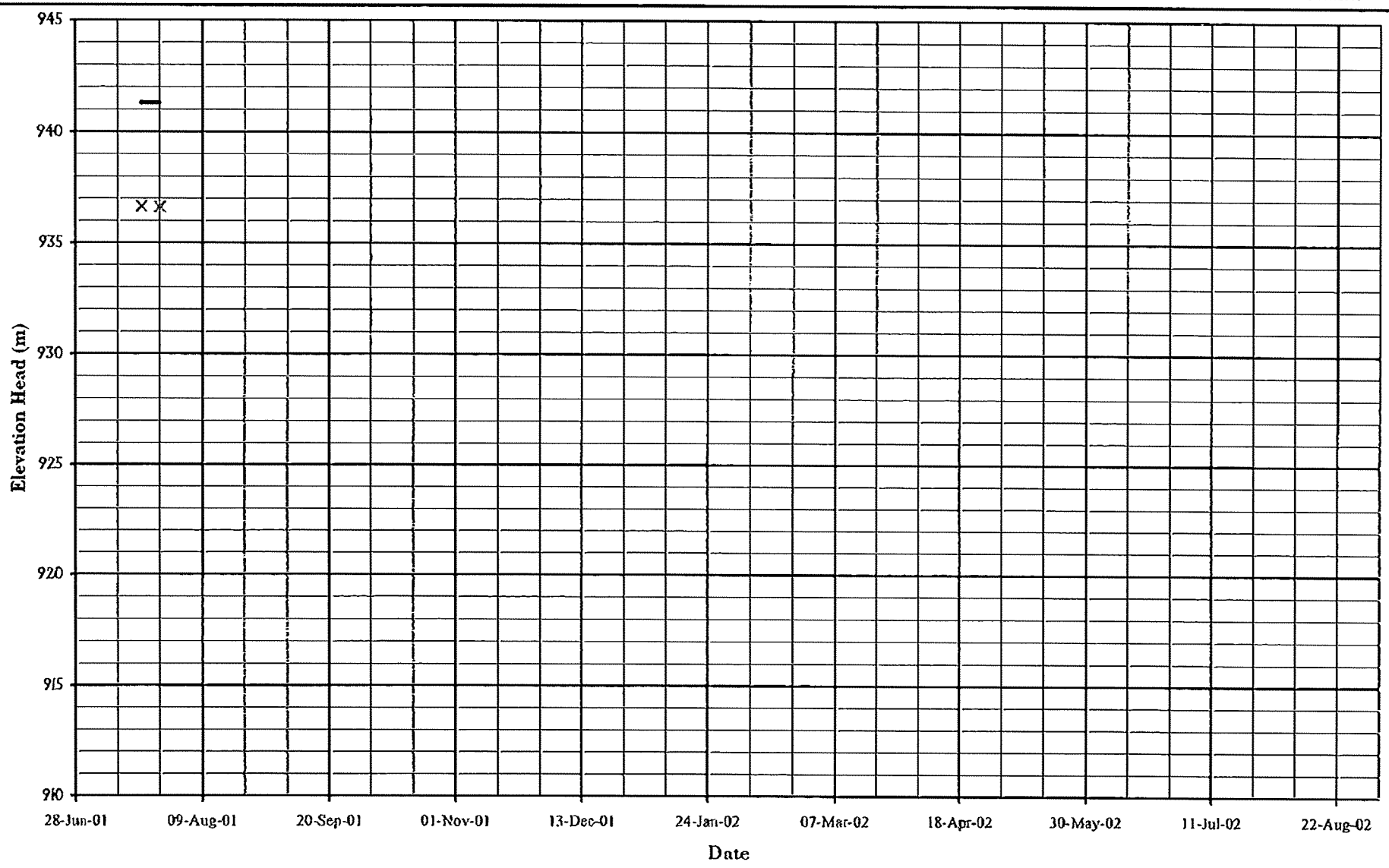
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE F PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

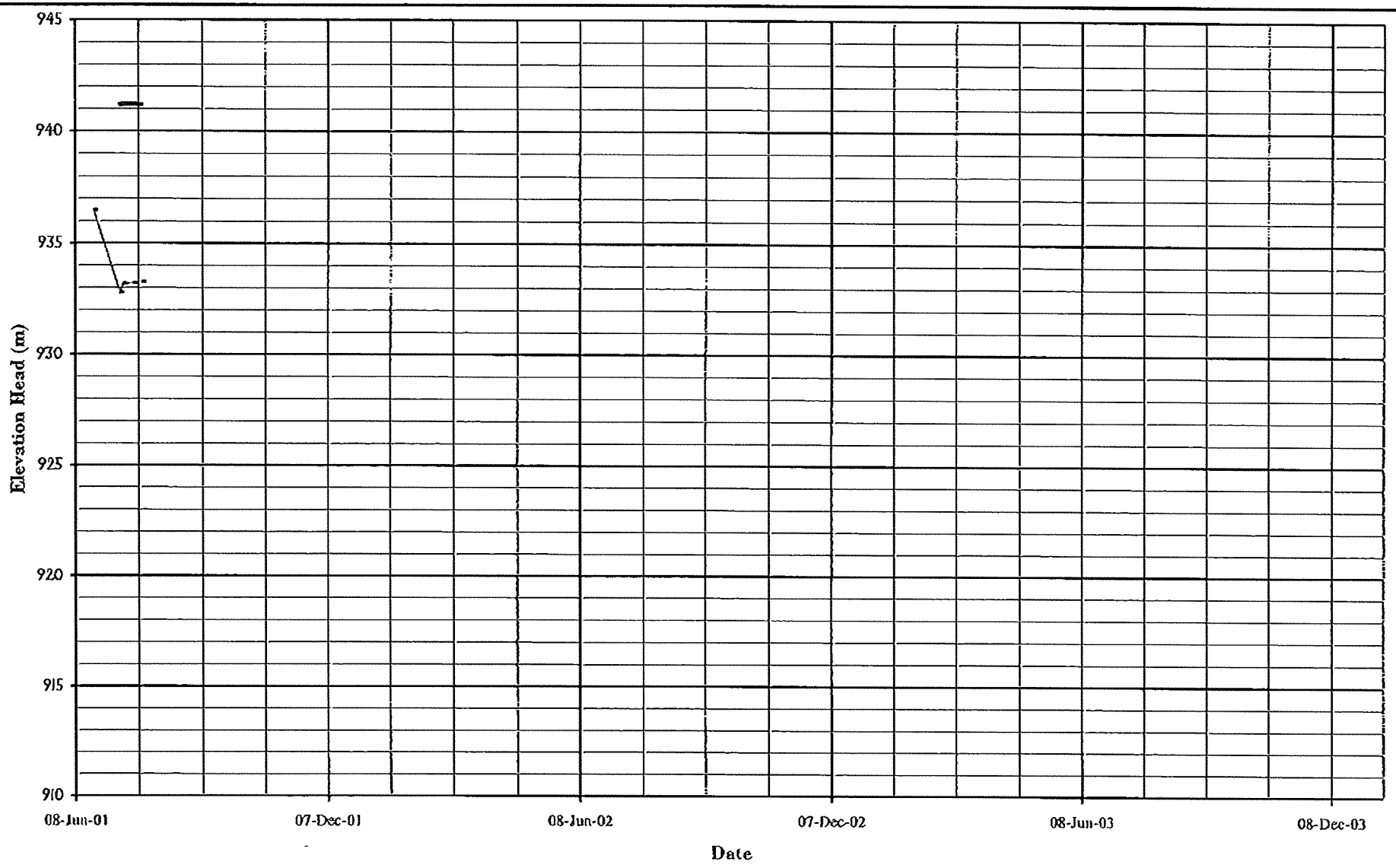
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE G PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION

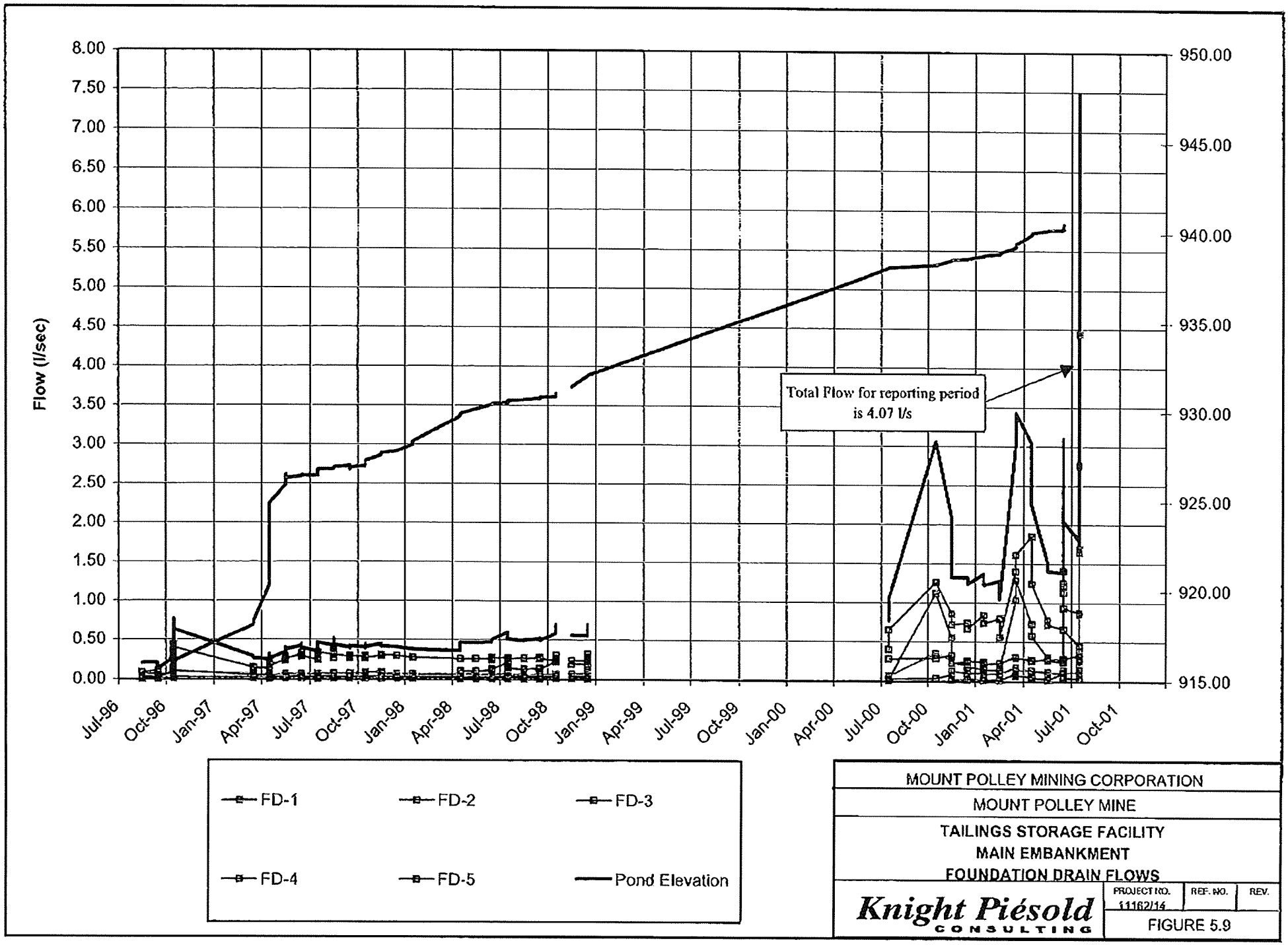
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE H PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

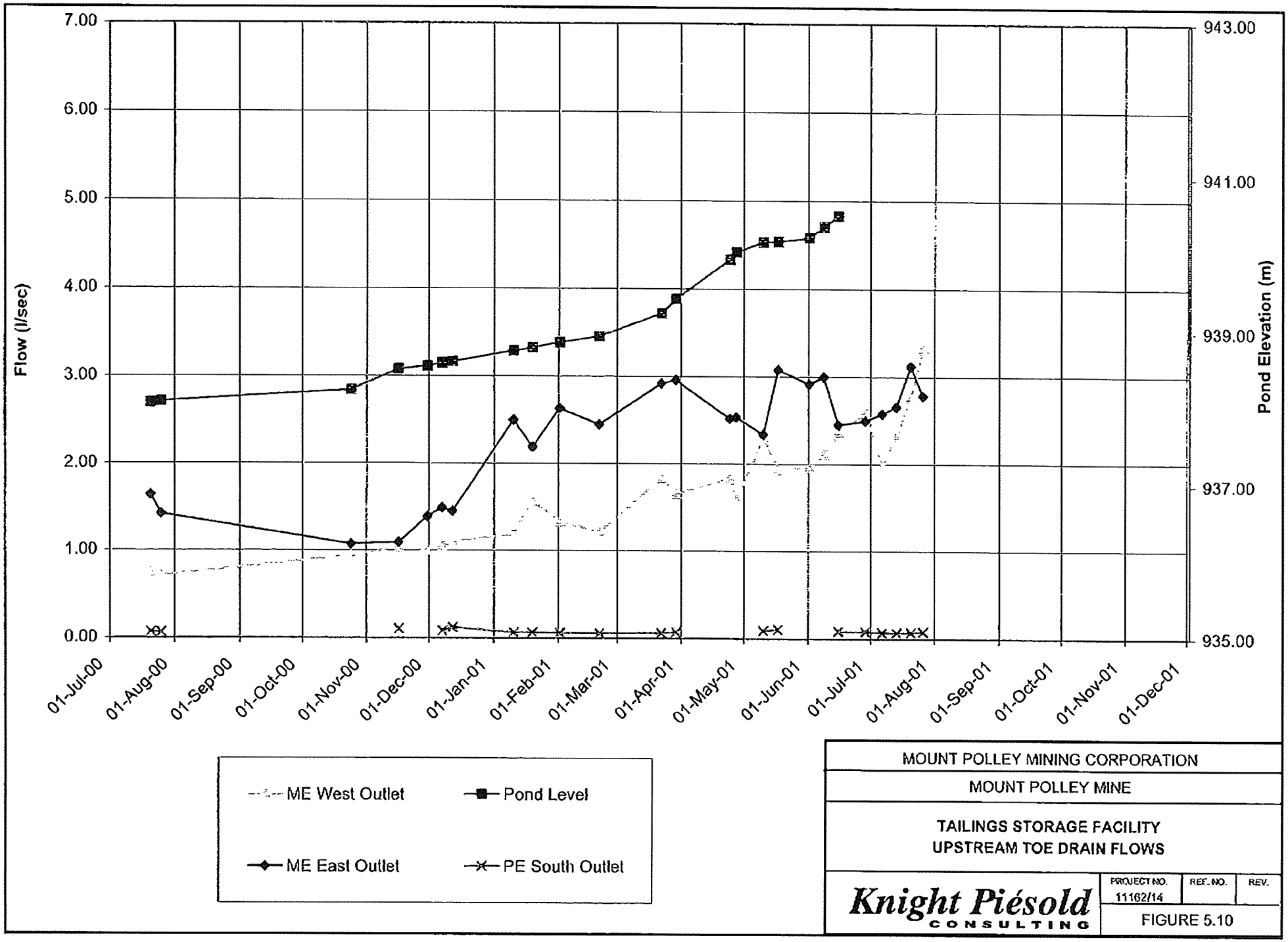
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.8



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY MAIN EMBANKMENT FOUNDATION DRAIN FLOWS			
Knight Piésold CONSULTING	PROJECT NO. 1116214	REF. NO.	REV.
	FIGURE 5.9		



MOUNT POLLEY MINING CORPORATION

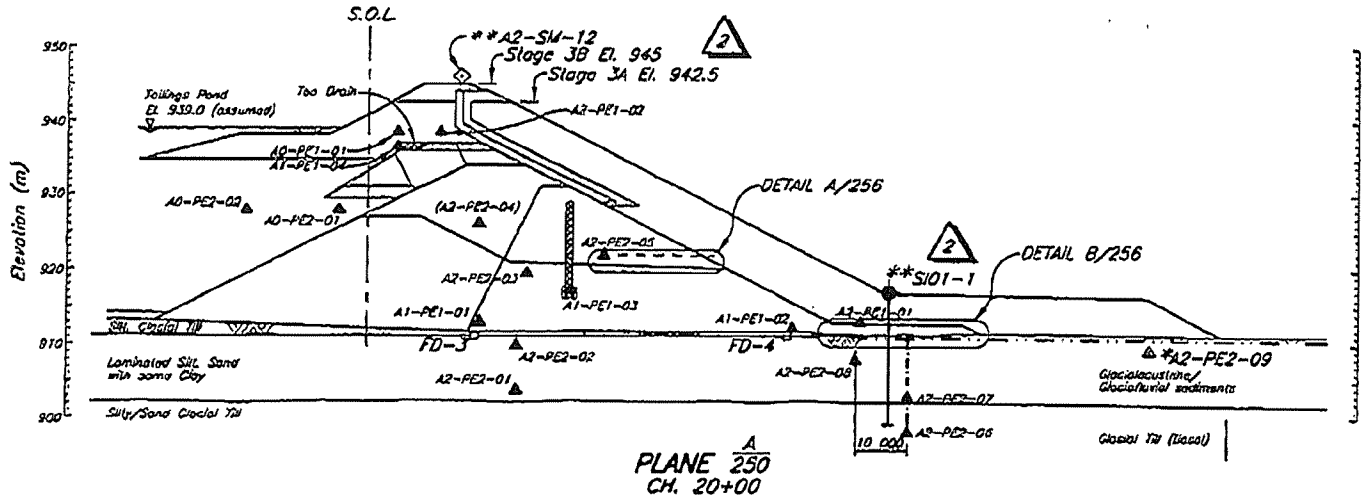
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

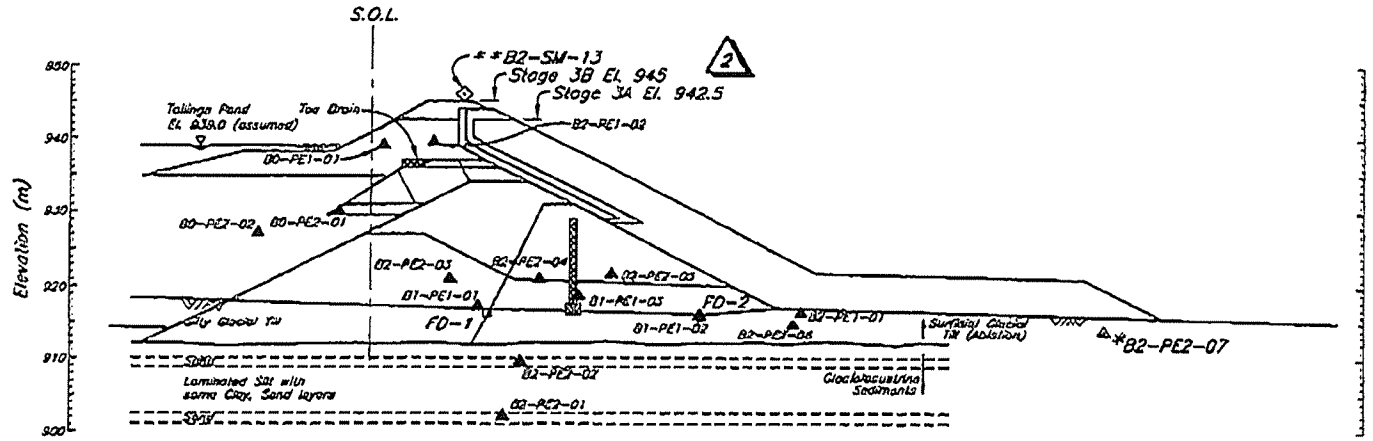
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

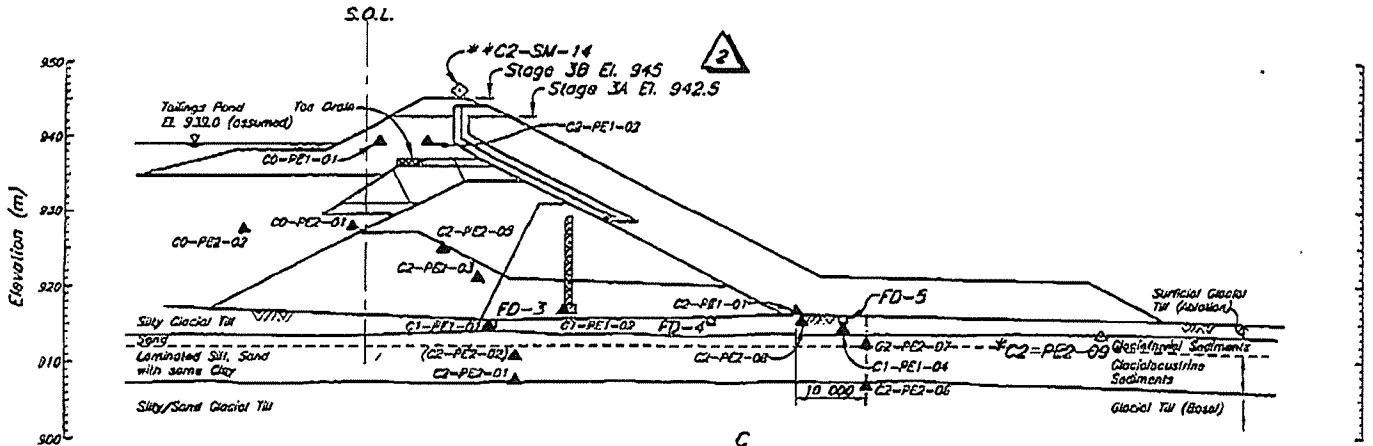
FIGURE 5.10



PLANE A/250
CH. 20+00

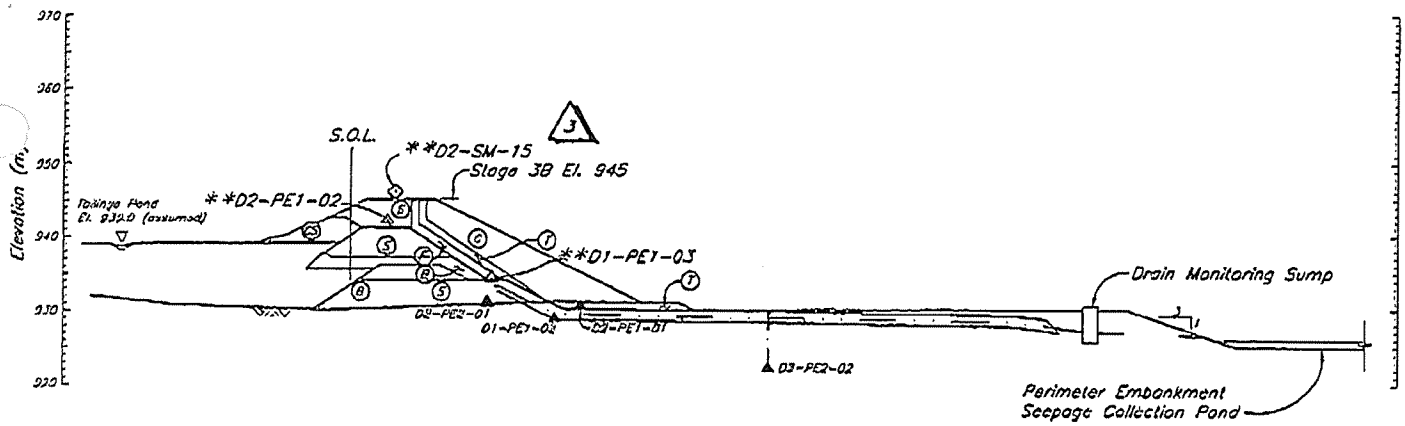


PLANE B/250
CH. 22+40

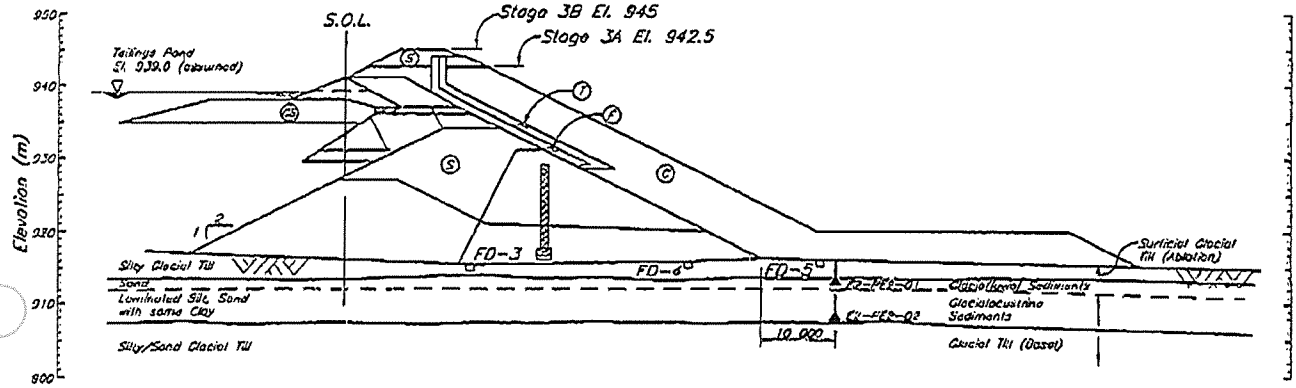


PLANE C/250
CH. 18+50

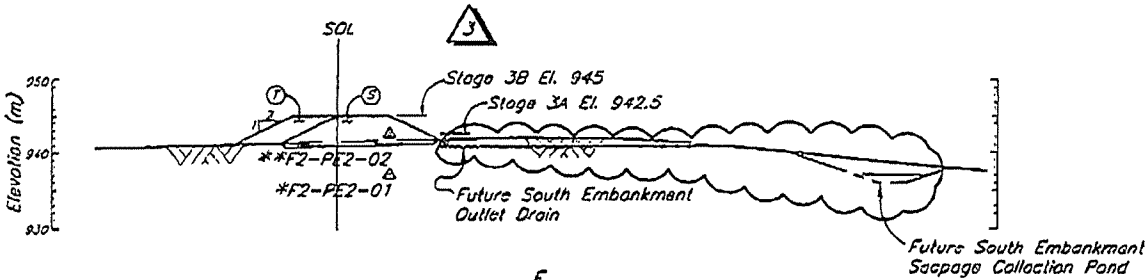
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2									2	08MAY'01	ISSUED FO
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS									1	26JAN'01	STAGE 3B
STAGE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN									0	2JUN'00	ISSUED FO
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE		
REFERENCE DRAWINGS	REVISIONS										



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

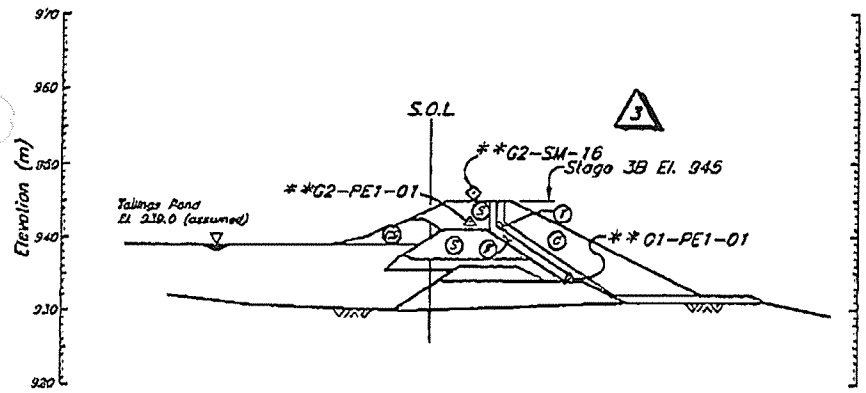


PLANE $\frac{E}{250}$
CH. 17+60

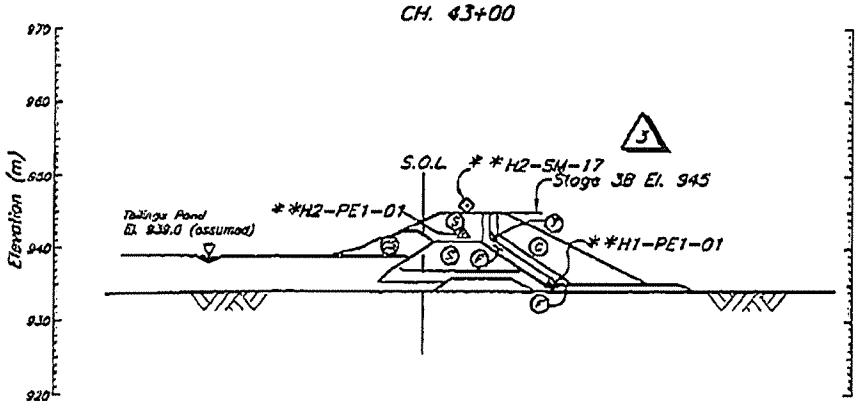


PLANE $\frac{E}{254}$
CH. 7+19

E 3 TAILINGS EMBANKMENT – INSTRUMENTATION: SUMMARY OF INSTALLATION & TYPICAL DETAILS									3	08MAY'01	ISSUED FO
STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN									2	26JAN'01	STAGE 3B
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN									1	20OCT'00	PERIMETER
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN									0	2JUN'00	ISSUED FO
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE		
REFERENCE DRAWINGS	REVISIONS										



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



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

NOTE

1. See Org. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

3

Scale 10 0 10 20 30 40 50 m

REVISIONS	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
	FOR CONSTRUCTION	JRK	TAM	ABW	KJB
	ER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
	B - CREST ELEVATION 945	JRK	AW	JMTW	KJB
	FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
C.W. MUTR
McCully 01

DESIGNED JRK | CHECKED ABW
DRAWN DSR | APPROVED KJB

Knight Piésold CONSULTING

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

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

SCALE AS SHOWN | REVISION 3
DRAWING NO. 11162-13-259

Knight Piésold CONSULTING *Mount Polley Site Office* *Fax: (250) 790-2268* www.knightpiésold.com	**DATE:** July 24, 2001 **TIME:** **OPERATOR:** **SENDER:** Wilson Muir	**FILE NO.:** 11162/14.F01/.F02/ /.F04/.F05/.F08 **REF NO.:** 01-23 **PAGES:** 1 of 21	

TO:	Ministry of Energy and Mines, Victoria B.C.	**FAX :**	250-952-0481
ATTN:	Chris Carr		
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site		
SUBJECT:	Progress Report No. 15		

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 15 from July 16 to July 22, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 15 – JULY 16 TO JULY 22, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes placement of Zones S, F, T and C to El. 942.5 m on the Perimeter Embankment (Ch. 28+00 to 44+50). MPMC is carrying out this work with the exception of filter sand hauling between the millsite and the TSF, which is being completed by sub-contractors.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

No new contract developments occurred over the reporting period.

1.3 DESIGN DEVELOPMENTS

No new design developments occurred during the reporting period.

1.3 WEATHER

Conditions were generally rainy with cloudy periods during the reporting period. Maximum daytime highs reached about +20 °C and nightly lows sank to as low as +7 °C.

1.4 SAFETY

Knight Piésold
CONSULTING

A haul truck came into contact with a power line while dumping on July 16. No injuries took place and no damage occurred to either the power line or the haul truck. However, power to the mill was shut down for several hours to affect the required checks.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 26+00 to obtain a well developed, even beach at the Main Embankment. The tailings line will then be moved to the ridge between the Main and South Embankments. It is anticipated that tailings will form a substantial beach in this area by discharging at this location.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270, 1 Hitachi EX 400
- Haul Trucks: 2 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992B
- Dozers: 1 Caterpillar D6, 1 Caterpillar D8K, 1Caterpillar D7G
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Service, water and fuel trucks

MPMC carried out the following activities during the reporting period:

- Placement of Zonr F fill, Perimeter Embankment: Ch. 32+00 to 33+50, 40+00 to 40+50 and 43+00 to 43+25, El. 932 to 940.5 m.
- Placement of Zone T fill, Perimeter Embankment: Ch. 32+00 to 33+50, 40+00 to 40+50 and 43+00 to 43+25, El. 932 to 940.5 m.
- Placement of Zone C fill, Perimeter Embankment: Ch. 43+00 to 43+50, El. 934 to 936 m.
- Cleaning of existing slopes in preparation for Zone F material.
- Sloping of the existing Zone C to a 2H:1V slope.
- Development of the Rock Borrow for Zones T and C materials.

Zones T and C were supplied from the Rock Borrow, while Zone F was delivered from the stockpile at the millsite. Zone F was placed in a 1 m thick lift on the downstream embankment slope over stiff Zone S, Zone T was placed upon Zone F in a 1 metre thick lift and Zone C was placed in 1 m thick, horizontal lifts.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

Knight Piésold
CONSULTING

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones F, T and C.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- R-ZF-38

The Zone F record test completed during the reporting period proved suitable Zone F fill.

All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

Piezometers D1-PE1-03 and G1-PE1-01 were installed over the reporting period. Both are situated in the Zone F fill. The locations of these new piezometers are presented in the attached Drawings.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.8. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the remaining foundation piezometers with the exception of D2-PE2-01, which increased slightly.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. Generally, these piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on July 20, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.9 and 5.10, respectively. The flows from the foundation drains were quite high, reflecting the large amount of rainfall that occurred during the reporting period.

5.4 SLOPE INCLINOMETERS

The equipment to monitor, record and evaluate the data from the slope inclinometers is expected to be on site during the first week of August. Exact depths of the inclinometers will be determined and calibration measurements will be carried out at that time.

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SECTION 6.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 942.5 m.
- The slope inclinometers will be measured and calibrated.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

H:\ENGDATA\Eng\docs\Geotechnical\reports\Stage 3B Construction\lab\record\[R-ZF-rum.xls]Data Sheet 12/07/2001

Knight Piésold CONSULTING

SHEET: 1 of 1
PERIOD: July 16 to July 22, 2001
PROJECT NO.: 11162/14
AREA: TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone F - Filter Sand

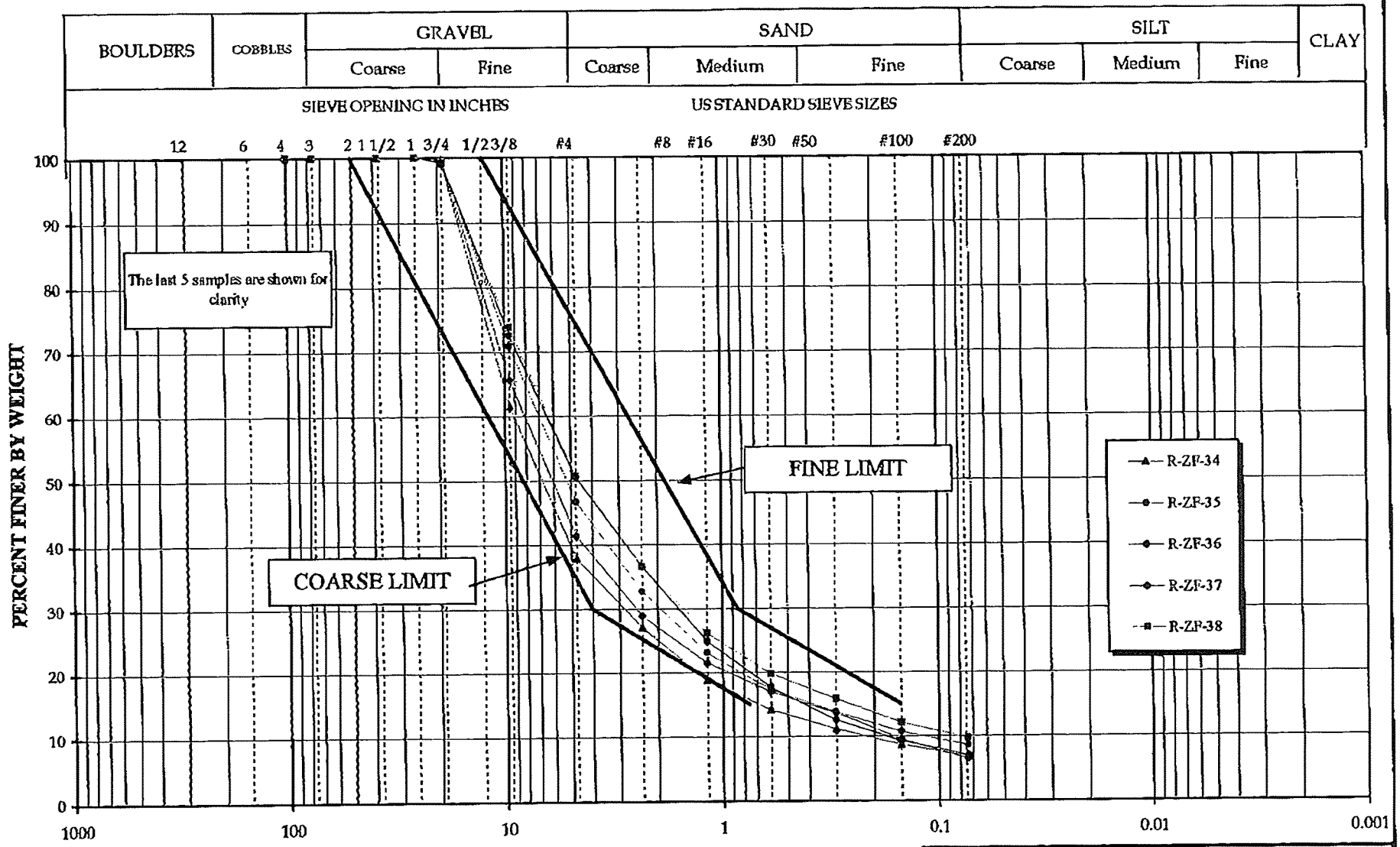
Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07346 mm	0.002 mm Clay	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum m/c %	C6 Specific Gravity
									4	3	1.5	1	0.75	0.375	0.187	0.0937	0.0469	0.0234	0.0165	0.0059	0.0029	micro			
									4	3	1 1/2	1	3/4	3/8	#4	#8	#16	#30	#50	#100	#200	Clay			
R-ZF-31	28-May-01	29+00, 0.5 m D/S of Zone S	941.8	-	-	-	4.0	-	100.0	100.0	100.0	100.0	97.5	71.5	49.1	35.9	23.8	19.7	15.0	11.6	9.1	-	-	-	-
R-ZF-32	28-May-01	37+02, 0.5 m D/S of Zone S	936.9	-	-	-	4.1	-	100.0	100.0	100.0	100.0	98.7	68.6	41.0	31.9	22.5	16.9	12.8	9.9	7.7	-	-	-	-
R-ZF-33	17-Jun-01	42+00, 0.8 m D/S of Zone S	936.0	-	-	-	7.0	-	100.0	100.0	100.0	100.0	97.9	68.8	44.7	28.8	17.8	13.2	10.6	8.5	6.9	-	-	-	-
R-ZF-34	20-Jun-01	35+00, 0.8 m D/S of Zone S	935.0	-	-	-	8.6	-	100.0	100.0	100.0	100.0	99.2	61.5	37.8	27.0	18.7	14.0	11.6	8.6	6.8	-	-	-	-
R-ZF-35	20-Jun-01	43+00, 0.8 m D/S of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.4	70.8	46.6	33.6	23.0	17.2	13.7	10.6	8.5	-	-	-	-
R-ZF-36	10-Jul-01	33+50, 0.8 m D/S of Zone S	939.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.5	72.6	50.4	36.5	24.8	17.6	12.4	9.2	7.0	-	-	-	-
R-ZF-37	10-Jul-01	43+00, 0.8 m D/S of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.6	65.6	41.3	28.8	21.4	16.9	13.5	9.4	6.4	-	-	-	-
R-ZF-38	19-Jul-01	33+00, 1.0 m D/S of Zone S	938.0	-	-	-	8.4	-	100.0	100.0	100.0	100.0	99.4	73.8	50.6	36.5	26.1	19.7	15.7	12.0	9.6	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!		5.1	#DIV/0!	100.0	100.0	100.0	100.0	99.9	69.1	45.6	33.3	22.5	16.9	13.1	10.0	7.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#N/A!	#N/A!	#N/A!		4.5	#N/A!	100.0	100.0	100.0	100.0	99.5	69.8	45.5	32.3	22.8	17.1	13.2	9.7	7.4	#N/A!	#N/A!	#N/A!	#N/A!
		MAXIMUM (*)	0.0	0.0	0.0		8.4	0.0	100.0	100.0	100.0	100.0	99.6	73.8	50.6	36.5	26.1	19.7	15.7	12.0	9.6	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0		3.6	0.0	100.0	100.0	100.0	100.0	97.5	61.5	33.8	27.0	17.8	13.2	10.6	8.5	6.4	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

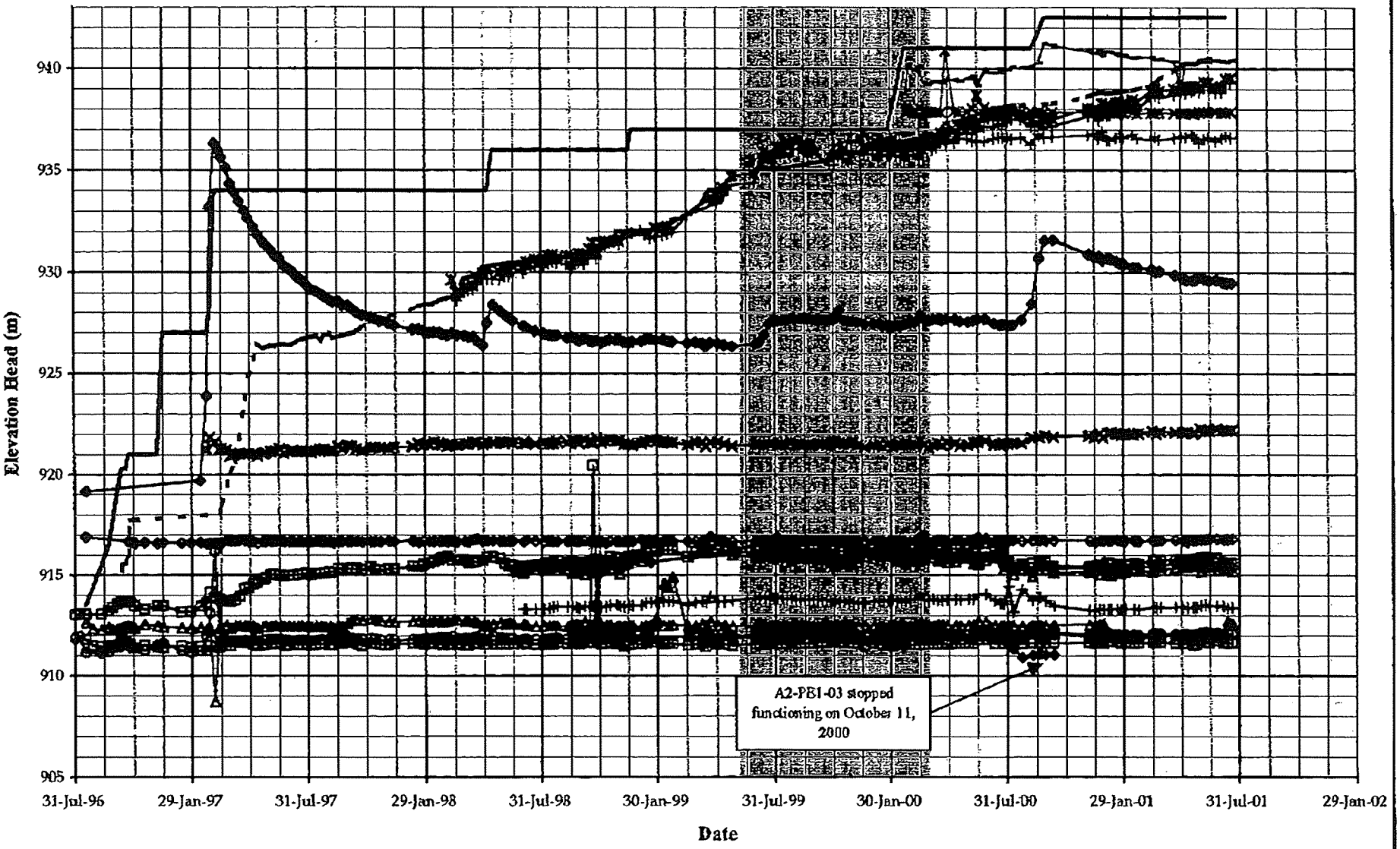
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.2



MOUNT POLLEY MINING CORPORATION

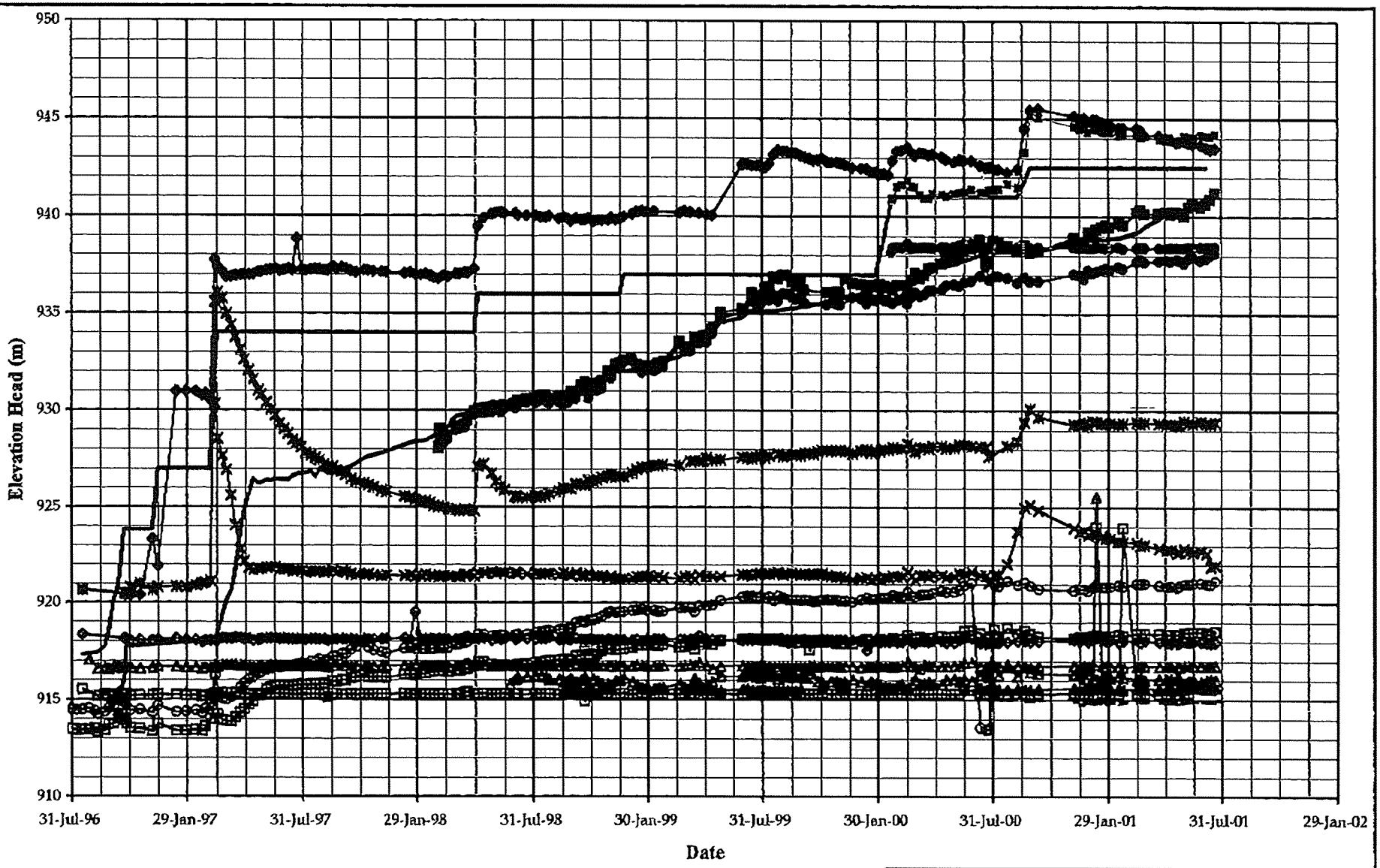
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

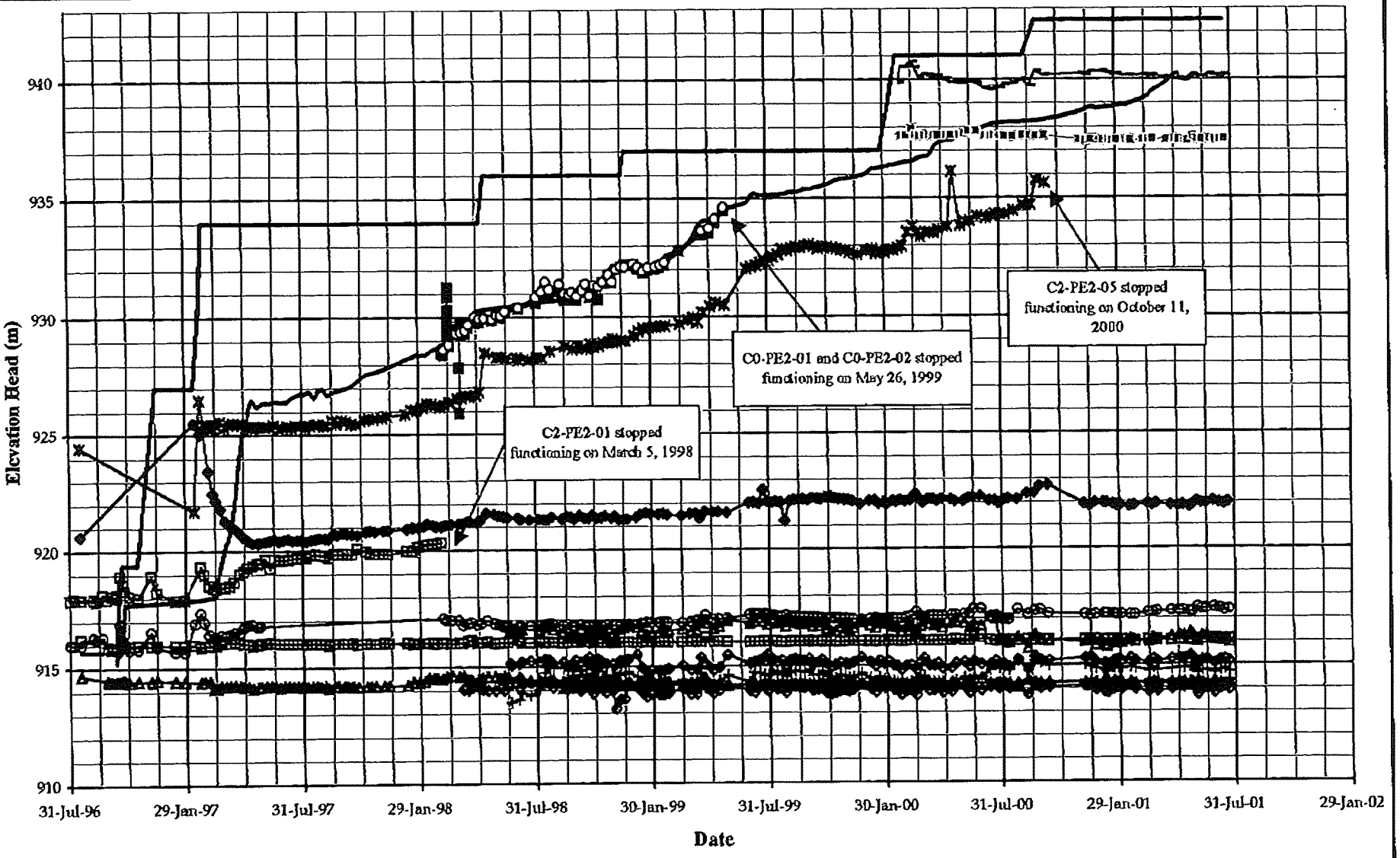
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE B PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.2



MOUNT POLLEY MINING CORPORATION

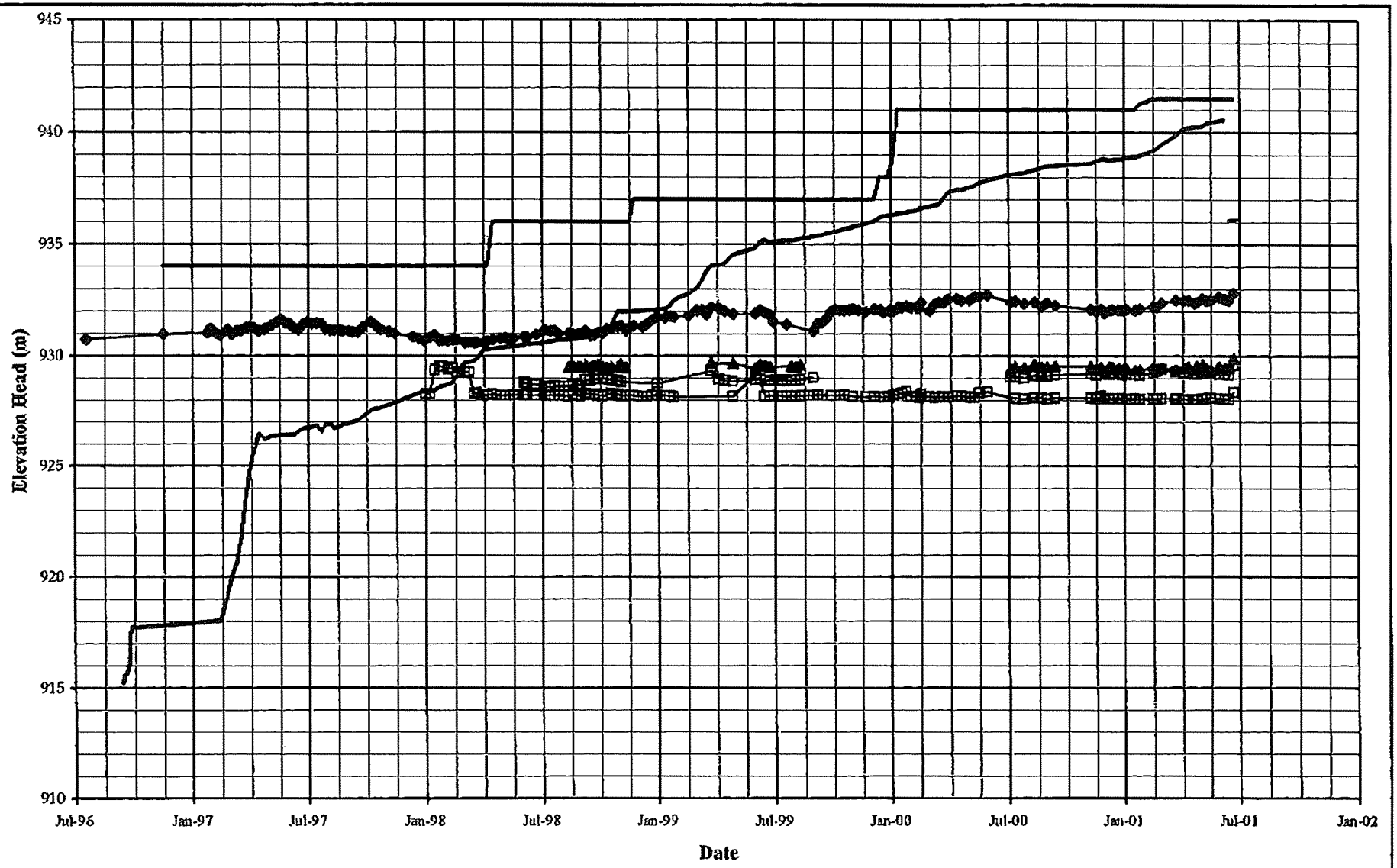
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

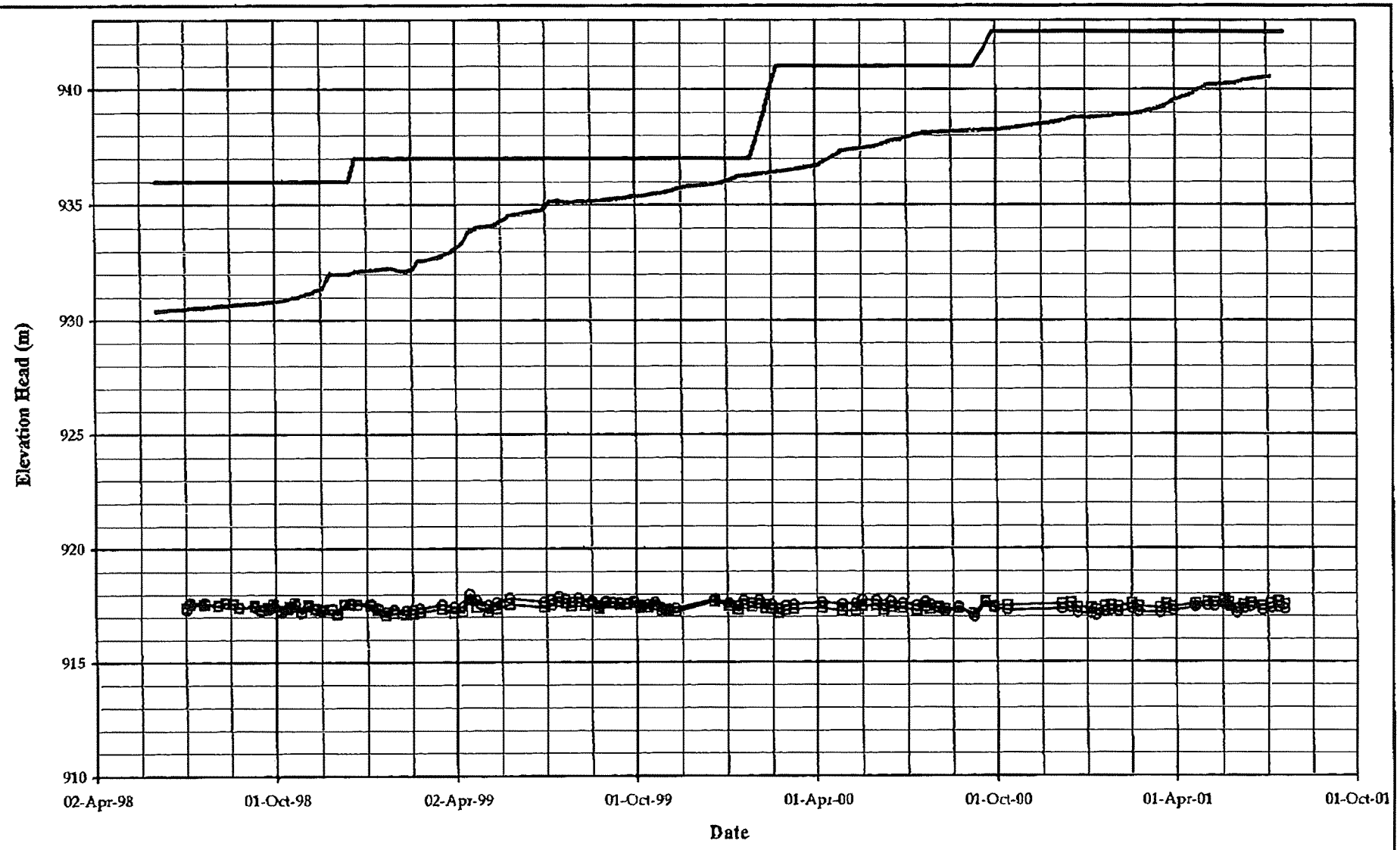
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

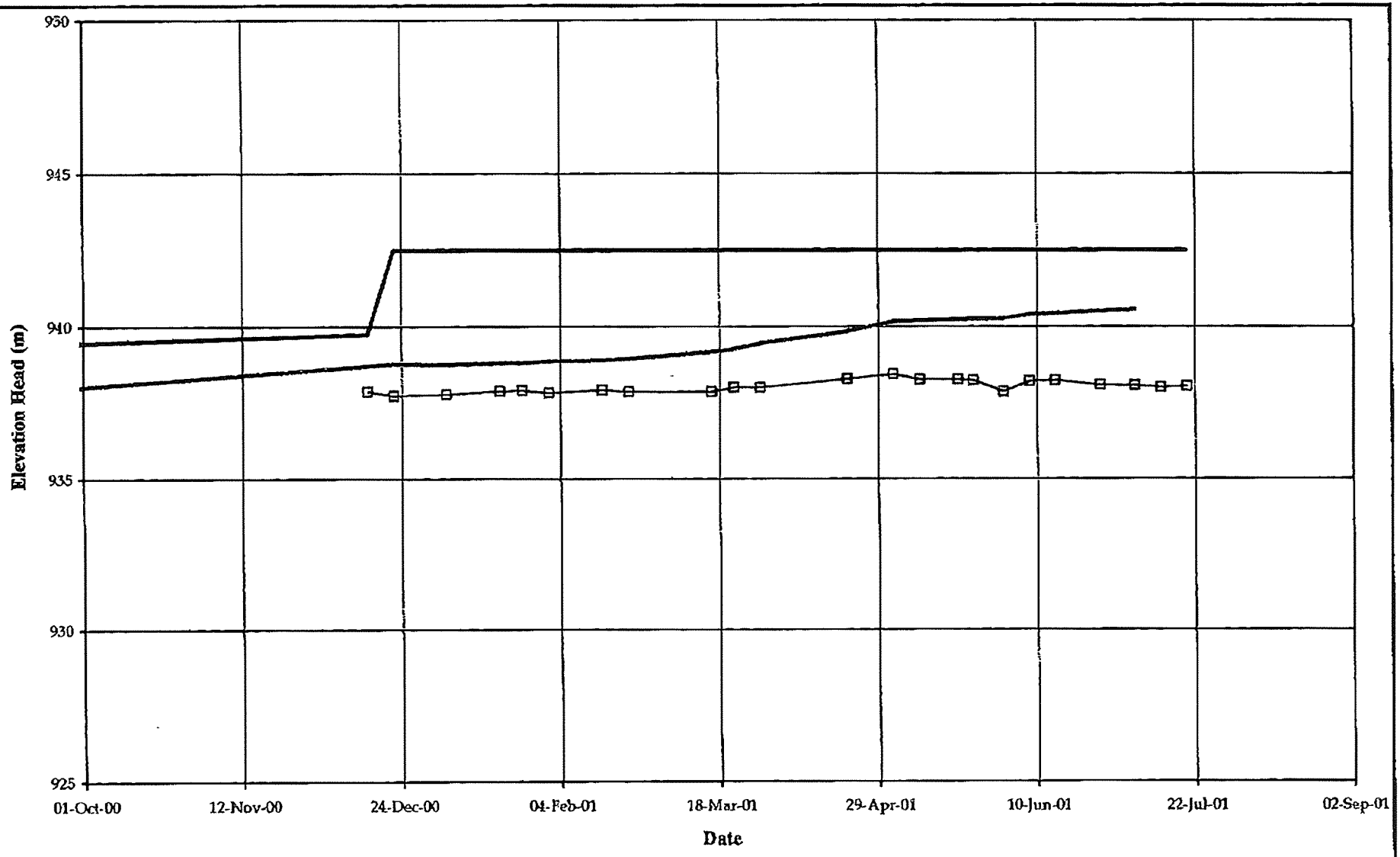
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.4



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE E PIEZOMETERS GRAPH OF ELEVATION HEAD vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
	FIGURE 5.5		



MOUNT POLLEY MINING CORPORATION

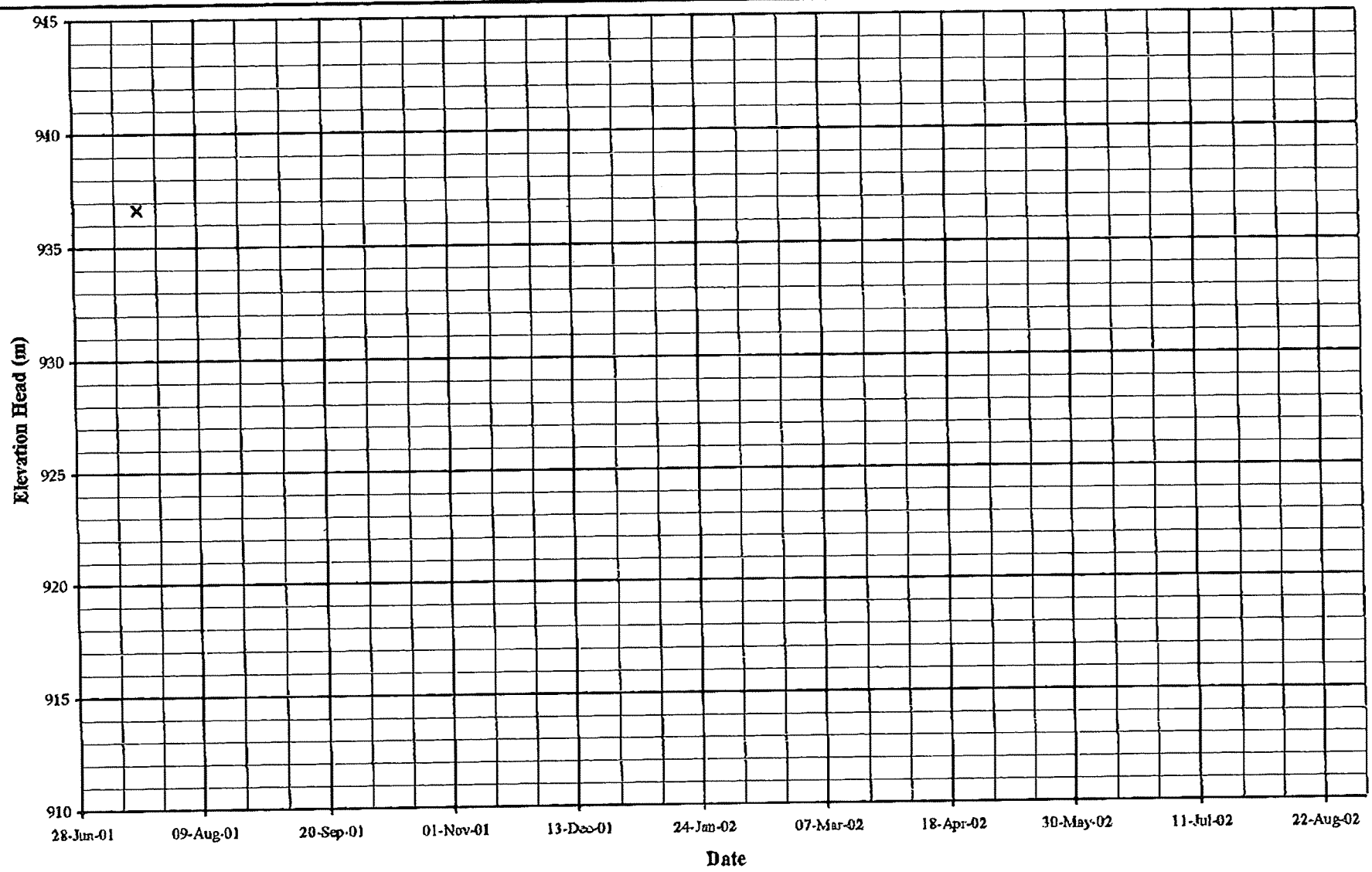
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE F PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

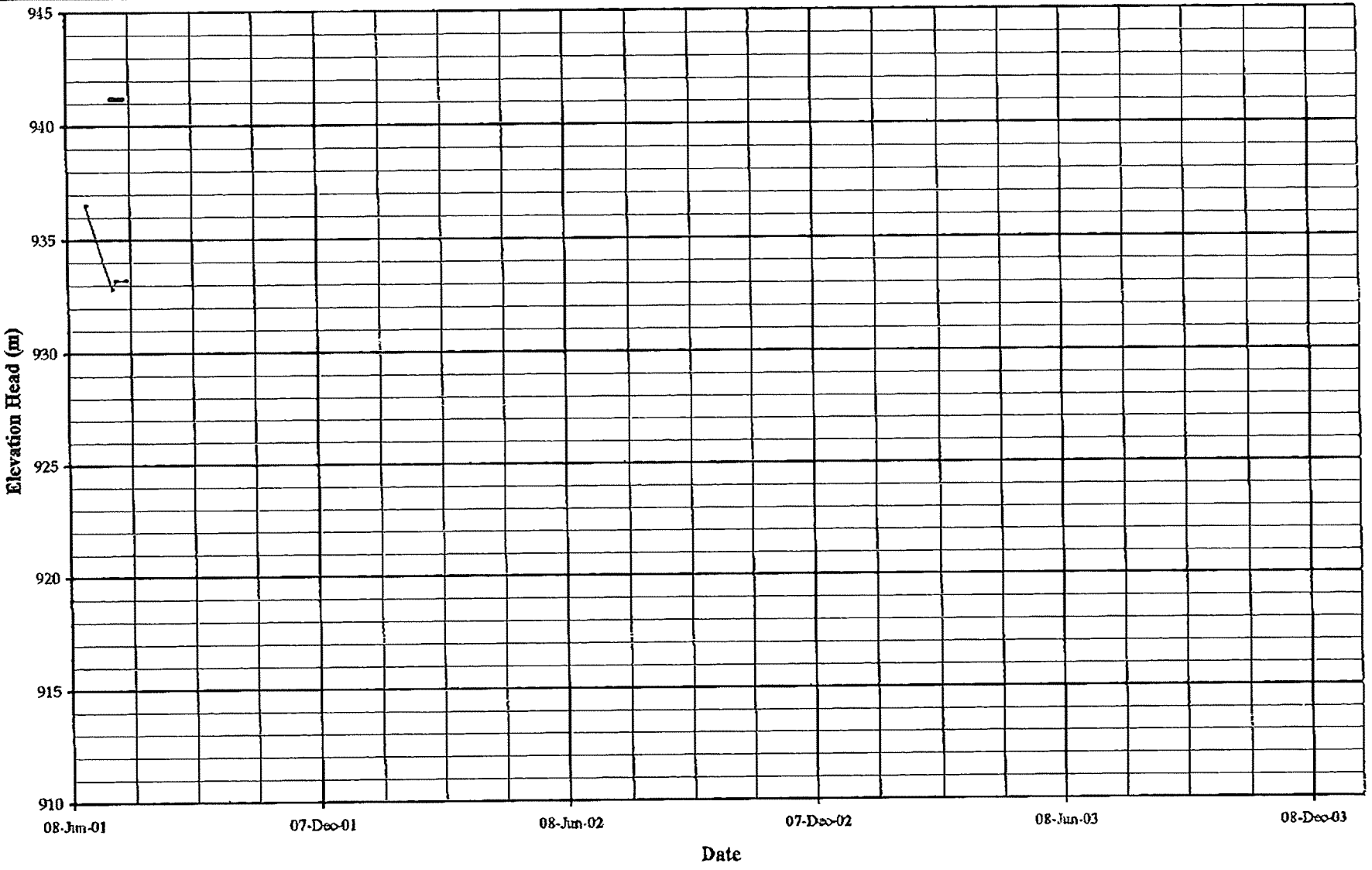
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE G PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION

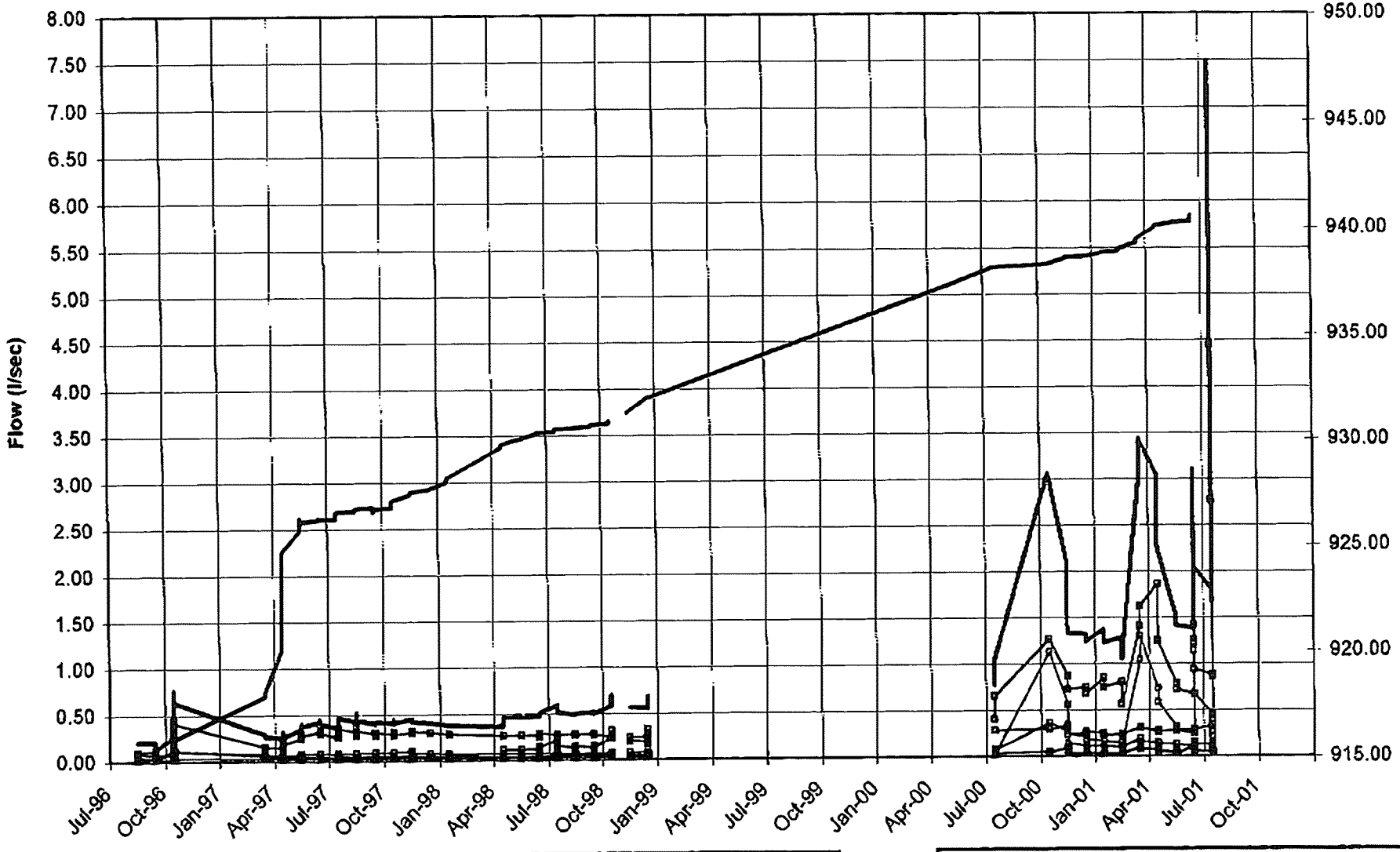
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE H PIEZOMETERS
GRAPH OF ELEVATION HEAD vs. TIME

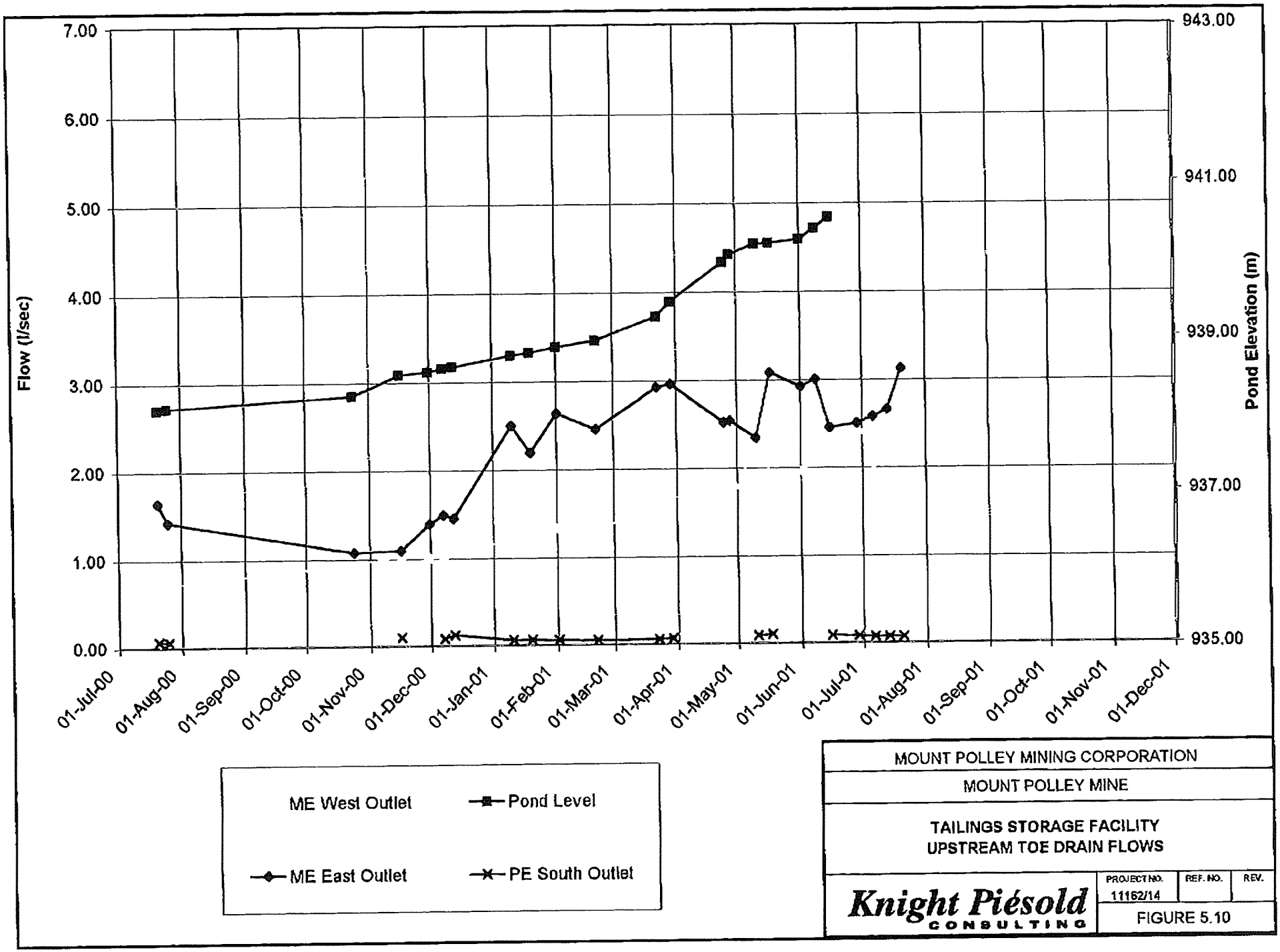
Knight Piésold CONSULTING

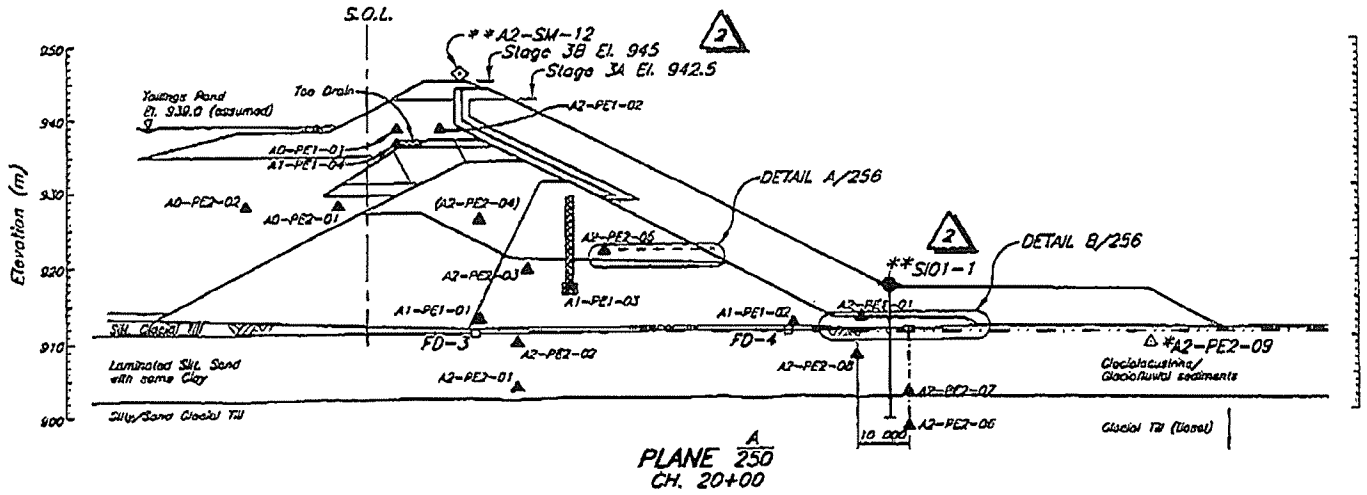
PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.8

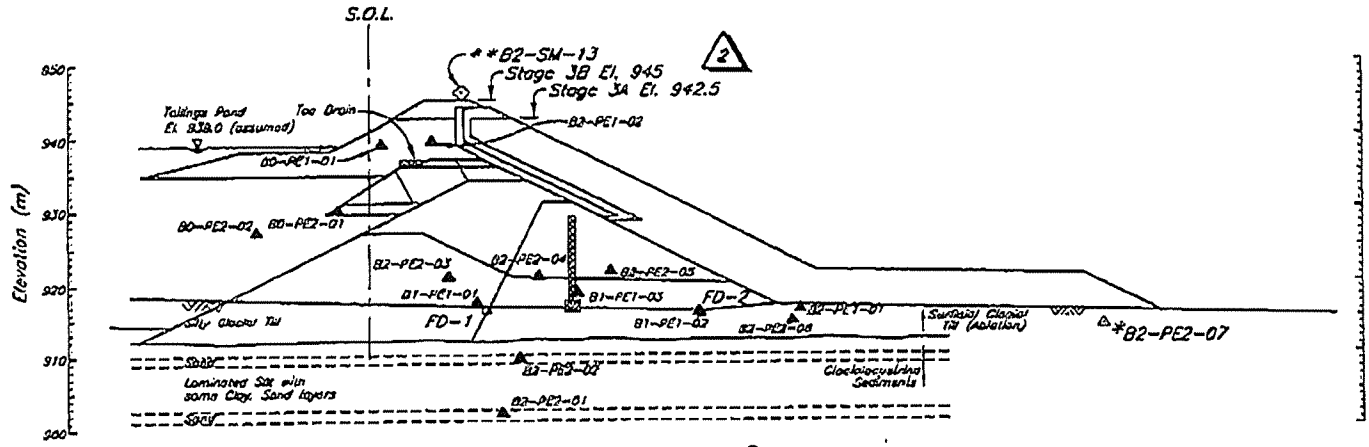


MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY MAIN EMBANKMENT FOUNDATION DRAIN FLOWS			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
	FIGURE 5.9		

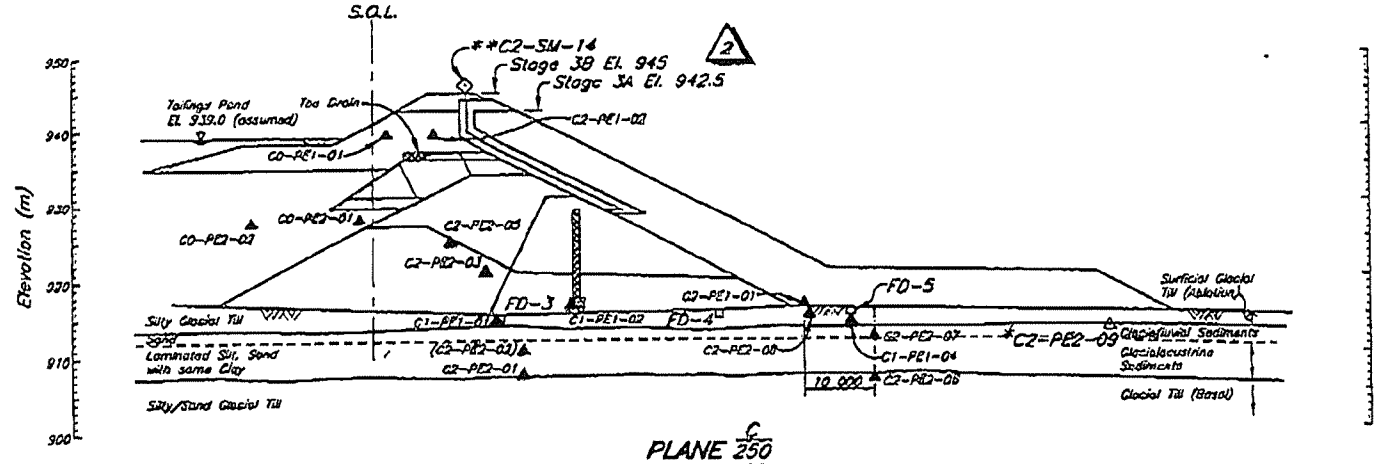




PLANE A/250
CH. 20+00



PLANE B/250
CH. 22+40



PLANE C/250
CH. 18+50

STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS
STAGE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN

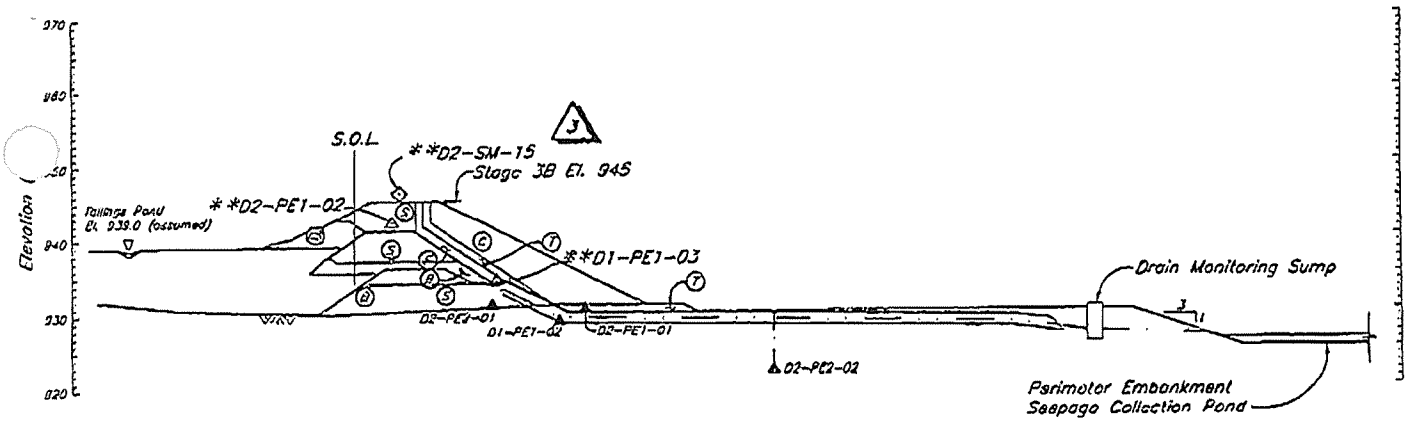
DESCRIPTION

REFERENCE DRAWINGS

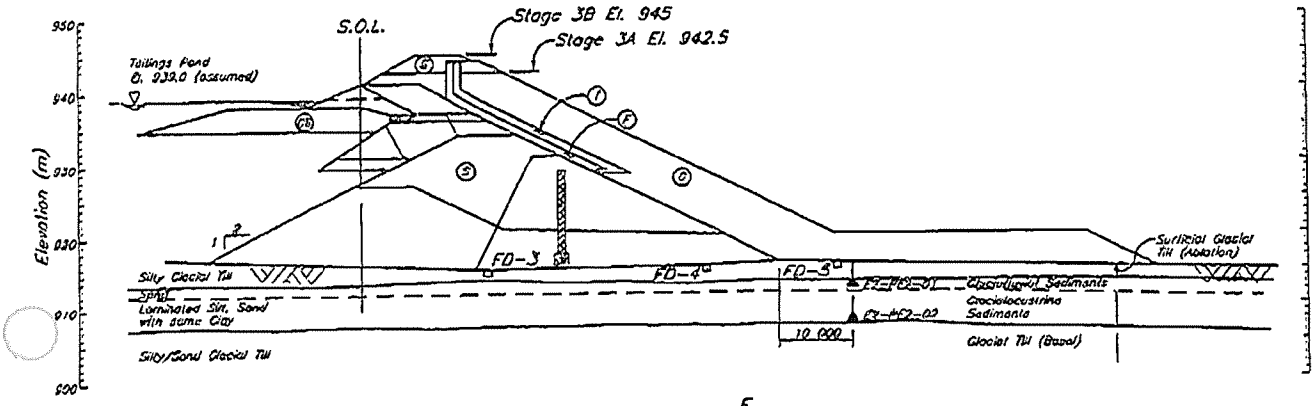
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D

REVISIONS

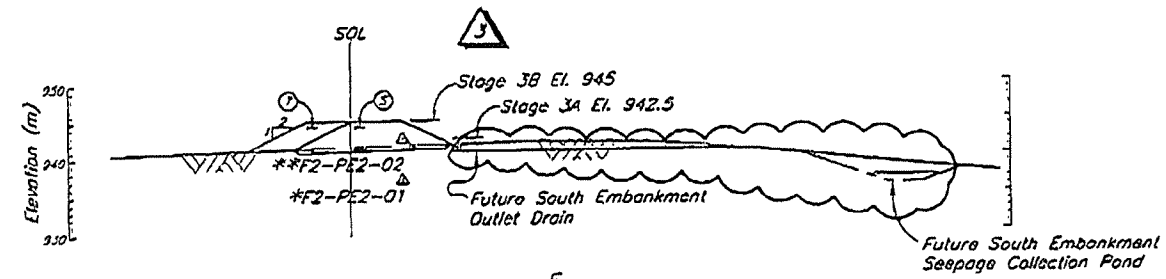
REV.	DATE	
2	08MAY'01	ISSUED FC
1	26JAN'01	STAGE 3B
0	2JUN'00	ISSUED FC



PLANE D/251
CH. 39+86



PLANE E/250
CH. 17+60



PLANE F/254
CH. 7+19

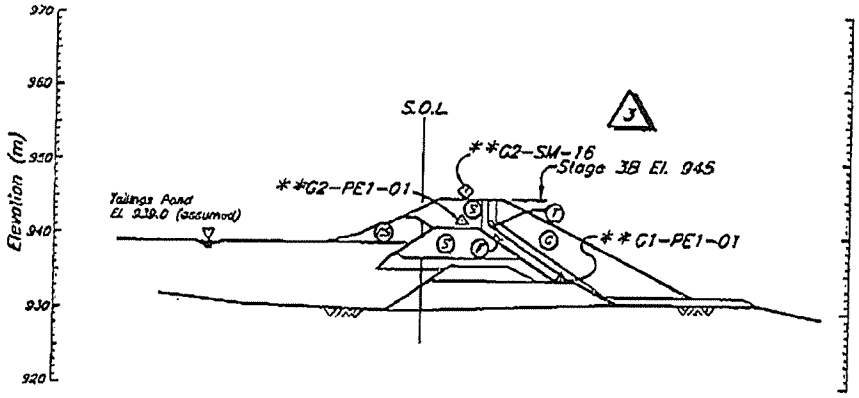
								3	08MAY'01	ISSUED FO
								2	26JAN'01	STAGE 3B
								1	20OCT'00	PERIMETER
								0	2JUN'00	ISSUED FO
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE		

REVISIONS

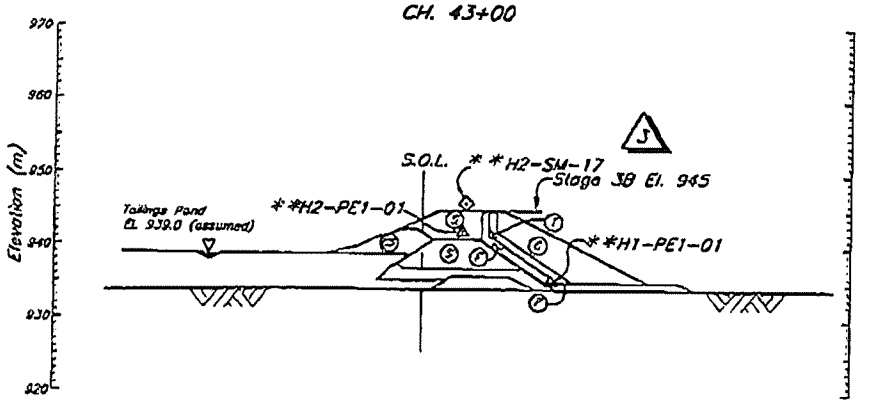
DESCRIPTION

REFERENCE DRAWINGS

- E 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
- STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN
- STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN
- STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN



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



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

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

3

Scale 10 0 10 20 30 40 50 m

VANCOUVER B.C. CAD FILE: K:\11111\Civil\Dwgs\11162-13\Dwg 1-600 PLOT 1-1[FS] May 9, 2001 am

REVISIONS	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
3	STAGE 3B TENDER	CWM	DSR	JRK	KJB
2	3B - CREST ELEVATION 945	JRK	AW	JMTW	KJB
1	ER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
0	FOR CONSTRUCTION	JRK	TAM	ABW	KJB

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MUIR

DESIGNED	CHECKED
JRK	ABW
DRAWN	APPROVED
DSR	KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

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

Knight Piésold CONSULTING

SCALE	REVISION
AS SHOWN	3

DRAWING NO. 11162-13-259

Knight Piésold CONSULTING

Mount Polley Site Office *Fax: (250) 790-2268*
www.knightpiésold.com

DATE:	July 17, 2001	**FILE NO.:**	11162/14.F01/.F02/ /.F04/.F05/.F08
TIME:		**REF NO.:**	01-22
OPERATOR:		**PAGES:**	1 of 24
SENDER:	Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C. **FAX :** 250-952-0481
ATTN:	Chris Carr
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site
SUBJECT:	Progress Report No. 14

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 14 from July 9 to July 15, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

July 17/01.

Note: Permit to 945 m.
This report indicates construction to 942.5 m.
∴ departure from plan of work system or program requires written authorization from Chief Inspector.

Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 14 – JULY 9 TO JULY 15, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes placement of Zones S, F, T and C to El. 942.5 m on the Perimeter Embankment (Ch. 28+00 to 44+50). MPMC is carrying out this work with the exception of filter sand hauling between the millsite and the TSF, which is being completed by sub-contractors.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Larry Raymond — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

MPMC selected Lake Excavating Ltd., of Williams Lake, B.C., to place the latest crush pile of Zone F. The placement of this material is expected to take place from July 16 to 18, 2001.

1.3 DESIGN DEVELOPMENTS

A design change for the Perimeter Embankment was submitted and approved during the reporting period. The change minimizes capital expenditures while maintaining the integrity of the embankment. Zone C will be constructed to a minimum El. 935.0 m. Zones F and T will be placed over the exposed Zone S to El. 941.0 m. Zone S will be constructed to El. 942.5 m.

A preliminary spillway conceptual arrangement for the TSF has been produced by KP. The arrangement will be finalized into a design in the coming months.

1.3 WEATHER

Conditions were generally sunny with cloudy periods during the reporting period. Maximum daytime highs reached about +25 °C and nightly lows sank to as low as +10 °C.

Knight Piésold
CONSULTING

1.4 SAFETY

No safety incidents were reported over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 19+00. The tailings line will be moved to the east to approximate Ch. 22+00 to obtain a well developed, even beach at the Main Embankment. The tailings line will then be moved to the ridge between the Main and South Embankments. It is anticipated that tailings will form a substantial beach in this area by discharging at this location.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270, 1 Caterpillar 235, 1 Hitachi EX 400
- Haul Trucks: 2 Caterpillar 777 85T
- Dozers: 1 Caterpillar D6, 1 Caterpillar D8K
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Service, water and fuel trucks

MPMC carried out the following activities during the reporting period:

- Crushing of Zone F material at the millsite.
- Placement of Zone S fill, Perimeter Embankment: Ch. 28+00 to 32+00, El. 941 to 942.5 m. Embankment construction is now complete in this area.
- Placement of Zone T fill, Perimeter Embankment: Ch. 32+50 to 34+00, El. 936 to 940.5 m.
- Cleaning of existing slopes in preparation for Zone F material.
- Development of the Rock Borrow for Zones T and C materials.

Zone T was supplied from the Rock Borrow, while Zone S was delivered from Borrow Area 2. Zone S was placed in 300 mm thick lifts, while Zone T was placed upon Zone F in a 1 metre thick lift.

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SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones S and T.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- C-ZF-42 and 43
- R-ZF-36 and 37
- R-ZS-7

Control sample C-ZF-42 failed the grain size specification. The pile was thoroughly mixed with a dozer following this testing. Subsequent control sample C-ZF-43 met the grain size specification and the pile was approved for fill placement.

All record tests completed during the reporting period proved suitable for their respective zones. The Maximum Dry Density for R-ZS-7 was found to 2080 kg/m^3 at 9.0 % moisture content.

All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed over the reporting period.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.7. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the remaining foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. These piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on July 13, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.8 and 5.9.

5.4 SLOPE INCLINOMETERS

The equipment to monitor, record and evaluate the data from the slope inclinometers will be on site soon. Exact depths of the inclinometers will be determined and calibration measurements will be carried out at that time.

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SECTION 6.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 942.5 m.
- The slope inclinometers will be measured and calibrated.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE F CONTROL TEST SUMMARY SHEET

H:\ENGDATA\Engineer\Geotechnical\Reports\Stage 3B Construction\lab\control\[C-ZF-summ.xls]Data Sheet

Knight Piésold CONSULTING

SHEET: 1 of 1
PERIOD: July 9 to July 15, 2001
PROJECT NO.: 11162/14
AREA: Zone F Stockpile

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
MATERIAL: Zone F - Filter Sand

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07366 mm	0.0072 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum m/c %	C6 Specific Gravity
									4	3	1.5	1	0.75	0.375	0.187	0.0937	0.0469	0.0234	0.0165	0.0059	0.0029	coarse Clay			
									4	3	1 1/2	1	3/4	3/8	#4	#8	#16	#30	#50	#100	#200				
C-ZF-31	28-Mar-01	Zone F Stockpile	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.0	28.5	21.3	16.5	12.7	10.0	-	-	-	-
C-ZF-32	22-May-01	Zone F Stockpile	-	-	-	-	4.0	-	100.0	100.0	100.0	100.0	99.4	78.9	59.9	43.4	29.6	21.9	16.8	13.1	10.4	-	-	-	-
C-ZF-33	28-May-01	Zone F Stockpile	-	-	-	-	2.9	-	100.0	100.0	100.0	100.0	98.7	56.0	28.1	17.6	12.8	10.1	7.8	6.1	4.8	-	-	-	-
C-ZF-34	11-Jun-01	Zone F Stockpile	-	-	-	-	3.7	-	100.0	100.0	100.0	100.0	99.2	59.2	35.0	24.2	15.0	10.5	7.8	6.1	4.8	-	-	-	-
C-ZF-35	11-Jun-01	Zone F Stockpile	-	-	-	-	4.2	-	100.0	100.0	100.0	100.0	97.9	59.3	34.7	24.7	15.3	10.6	8.0	6.4	5.1	-	-	-	-
C-ZF-36	12-Jun-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	97.7	60.6	37.0	25.2	16.5	12.2	9.4	7.1	5.6	-	-	-	-
C-ZF-37	03-Jul-01	Zone F Stockpile	-	-	-	-	1.5	-	100.0	100.0	100.0	100.0	96.0	56.3	34.9	23.7	16.1	11.5	8.0	4.2	2.2	-	-	-	-
C-ZF-38	03-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	98.5	76.2	55.6	40.0	27.2	19.0	12.9	6.5	3.3	-	-	-	-
C-ZF-39	03-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	99.5	75.4	48.2	26.5	14.3	9.8	6.7	3.7	1.9	-	-	-	-
C-ZF-40	04-Jul-01	Zone F Stockpile	-	-	-	-	3.6	-	100.0	100.0	100.0	100.0	99.3	68.8	44.7	30.2	18.8	12.3	6.9	3.2	1.5	-	-	-	-
C-ZF-41	04-Jul-01	Zone F Stockpile	-	-	-	-	5.5	-	100.0	100.0	100.0	100.0	99.2	77.0	54.7	36.7	21.3	11.9	6.3	3.7	1.8	-	-	-	-
C-ZF-42	13-Jul-01	Zone F Stockpile	-	-	-	-	5.3	-	100.0	100.0	100.0	100.0	96.9	69.4	45.3	27.4	16.9	10.3	5.9	3.9	-	-	-	-	-
C-ZF-43	13-Jul-01	Zone F Stockpile	-	-	-	-	5.5	-	100.0	100.0	100.0	100.0	99.1	79.1	57.4	39.0	26.0	16.7	9.1	4.5	-	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	3.7	#DIV/0!	100.0	100.0	100.0	100.0	98.5	69.2	45.6	30.7	19.9	13.7	9.4	6.2	4.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#NUM!	#NUM!	#NUM!	#NUM!	3.7	#NUM!	100.0	100.0	100.0	100.0	99.1	69.4	44.7	27.4	16.9	11.9	8.0	6.1	4.8	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)	0.0	0.0	0.0	0.0	5.5	0.0	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.4	29.6	21.9	16.8	13.1	10.4	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0	0.0	1.5	0.0	100.0	100.0	100.0	100.0	96.0	56.0	28.1	17.6	12.8	9.8	5.9	3.2	1.5	0.0	0.0	0.0	0.0

Note : These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

C1 Atterberg Limits (ASTM D4318)
C2 Moisture Content (ASTM D2216)
C3 Particle Size Distribution (ASTM D422)
C4 Laboratory Compaction (ASTM D1557)
C6 Specific Gravity (ASTM D854)

TABLE 4.2

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE F RECORD TEST SUMMARY SHEET

H:\ENG\DATA\Engineer\Construction\Reports\Stage 3B Construction\lab\record\[R-ZF-sum.xls]Data Sheet

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SHEET: 1 of 1
PERIOD: July 9 to July 15, 2001
PROJECT NO.: 1116/14
AREA: TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
MATERIAL: Zone F - Filter Sand

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.16/0.08 mm	0.07/0.063 mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	Optimum m/c %	C6 Specific Gravity
									4	3	1.5	1	3/4	3/8	#4	#8	#16	#30	#50	#100	#200	Clay			
R-ZF-31	28-May-01	29+00, 0.5 m D/S of Zone S	941.8	-	-	-	4.0	-	100.0	100.0	100.0	100.0	97.5	71.5	49.1	35.9	25.8	19.7	15.0	11.6	9.1	-	-	-	-
R-ZF-32	28-May-01	37+00, 0.5 m D/S of Zone S	936.0	-	-	-	4.1	-	100.0	100.0	100.0	100.0	98.7	68.4	44.0	31.9	22.5	16.9	12.8	9.9	7.7	-	-	-	-
R-ZF-33	17-Jun-01	42+00, 0.8 m D/S of Zone S	936.0	-	-	-	7.0	-	100.0	100.0	100.0	100.0	97.9	69.8	44.7	28.8	17.8	13.2	10.6	8.5	6.9	-	-	-	-
R-ZF-34	20-Jun-01	35+00, 0.8 m D/S of Zone S	935.0	-	-	-	3.6	-	100.0	100.0	100.0	100.0	99.2	61.3	37.8	27.0	18.7	14.0	11.0	8.6	6.8	-	-	-	-
R-ZF-35	20-Jun-01	43+00, 0.8 m D/S of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.0	70.8	46.6	32.6	23.0	17.2	13.7	10.6	8.5	-	-	-	-
R-ZF-36	10-Jul-01	33+50, 0.8 m D/S of Zone S	939.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.5	72.6	50.4	365.5	28.8	17.6	12.4	9.2	7.0	-	-	-	-
R-ZF-37	10-Jul-01	43+00, 0.8 m D/S of Zone S	937.0	-	-	-	4.5	-	100.0	100.0	100.0	100.0	99.6	65.6	41.3	28.8	21.4	16.9	13.5	9.4	6.4	-	-	-	-
		MEAN		#DIV/0!	#DIV/0!	#DIV/0!	4.6	#DIV/0!	100.0	100.0	100.0	100.0	98.8	68.5	44.8	78.6	22.0	16.5	12.7	9.7	7.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN		#NUM!	#NUM!	#NUM!	4.5	#NUM!	100.0	100.0	100.0	100.0	99.2	68.8	44.7	31.9	22.5	16.9	12.8	9.4	7.0	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)		0.0	0.0	0.0	7.0	0.0	100.0	100.0	100.0	100.0	99.6	72.6	50.4	365.5	28.8	19.7	15.0	11.6	9.1	0.0	0.0	0.0	0.0
		MINIMUM (*)		0.0	0.0	0.0	3.6	0.0	100.0	100.0	100.0	100.0	97.5	61.5	37.8	27.0	17.8	13.2	10.6	8.5	6.4	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)

TABLE 4.6

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE S RECORD TEST SUMMARY SHEET

B:\GEODATA\Stgdocs\Geol-rbt\and\kp\Stage 3B Construction\lab\record\[R-ZS-summary.xls]Data Sheet

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CONSULTING

PROJECT:	MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
MATERIAL:	Zone S - Glacial Till
SHEET:	1 of 1
PERIOD:	July 9 to July 15, 2001
PROJECT NO.:	11162/14
AREA:	TSF

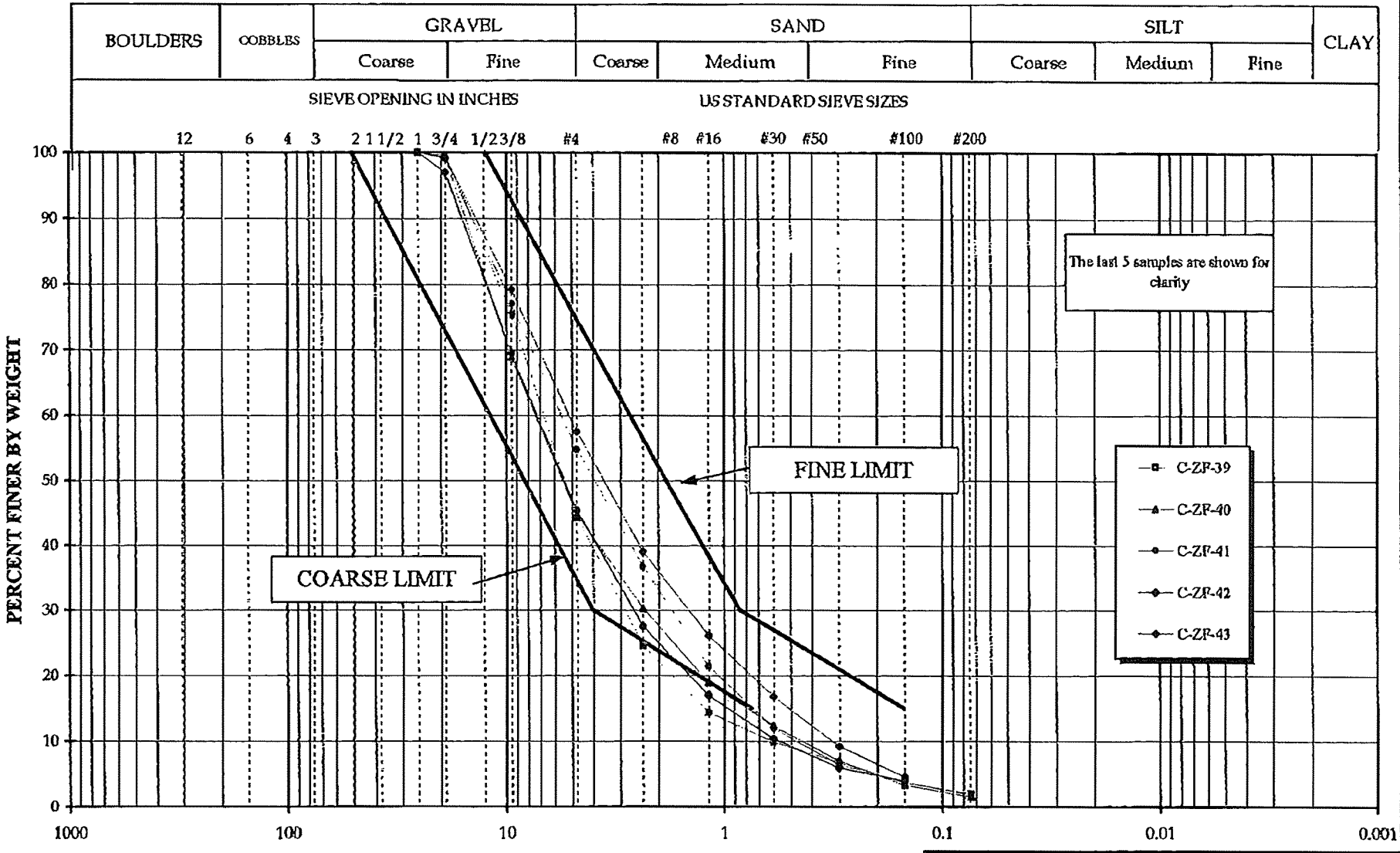
				R1			R2		R3 (Particle Size Distribution)															R4					R6
Sample No.	Date Sampled	Location	El (m)	Atterberg Limits			Field		101.6	76.2	38.1	25.4	19.05	9.525	4.75	2.36	1.18	0.6	0.3	0.14936	0.07361	0.002	Standard Proctor					Specific Gravity
				PL %	LL %	PI %	m/c %	LI %	4	3	1.5	1	0.75	0.375	0.187	0.0937	0.0469	0.0234	0.0165	0.0059	0.0029	—	Max Dry Density kg/m³	Optimum m/c %	Field Density kg/m³	Field m/c %	Percent Compaction %	
									4	3	1 1/2	1	3/4	3/8	#4	#8	#16	#30	#50	#100	#200	Clay						
R-ZS-7	12-Jul-01	23+23, 3 m D/S from U/S Toe	941.3	-	-	-	11.4	-	100.0	100.0	100.0	100.0	96.0	87.6	79.6	75.4	71.6	67.8	62.7	55.8	48.2	-	2080.0	9.0	1938.6	10.7	93.2	-
																						-						-
																						-						-
																						-						-
																						-						-
			MEAN	#DIV/0!	#DIV/0!	#DIV/0!	11.4	#DIV/0!	100.0	100.0	100.0	100.0	96.0	87.6	79.6	75.4	71.6	67.8	62.7	55.8	48.2	#DIV/0!	2080.0				93.2	#DIV/0!
			MEDIAN	#NUM!	#NUM!	#NUM!	11.4	#NUM!	100.0	100.0	100.0	100.0	96.0	87.6	79.6	75.4	71.6	67.8	62.7	55.8	48.2	#NUM!	2080.0				93.2	#NUM!
			MAXIMUM (*)	0.0	0.0	0.0	11.4	0.0	100.0	100.0	100.0	100.0	96.0	87.6	79.6	75.4	71.6	67.8	62.7	55.8	48.2	0.0	2080.0				93.2	0.0
			MINIMUM (*)	0.0	0.0	0.0	11.4	0.0	100.0	100.0	100.0	100.0	96.0	87.6	79.6	75.4	71.6	67.8	62.7	55.8	48.2	0.0	2080.0				93.2	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1	Atterberg Limits (ASTM D4318)
R2	Moisture Content (ASTM D2216)
R3	Particle Size Distribution (ASTM D422)
R4	Laboratory Compaction (ASTM D1557)
R6	Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

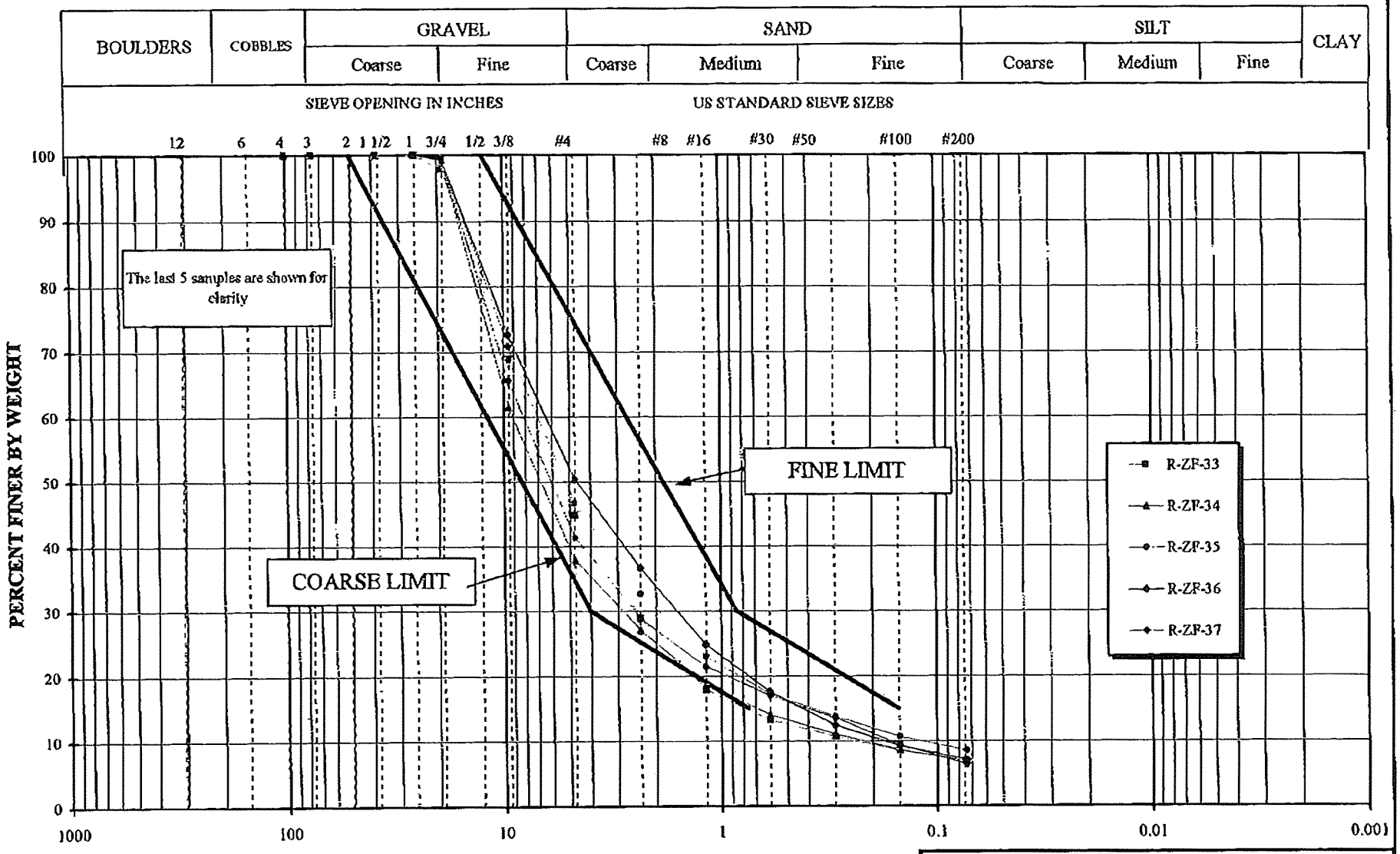
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F CONTROL SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.1



MOUNT POLLEY MINING CORPORATION

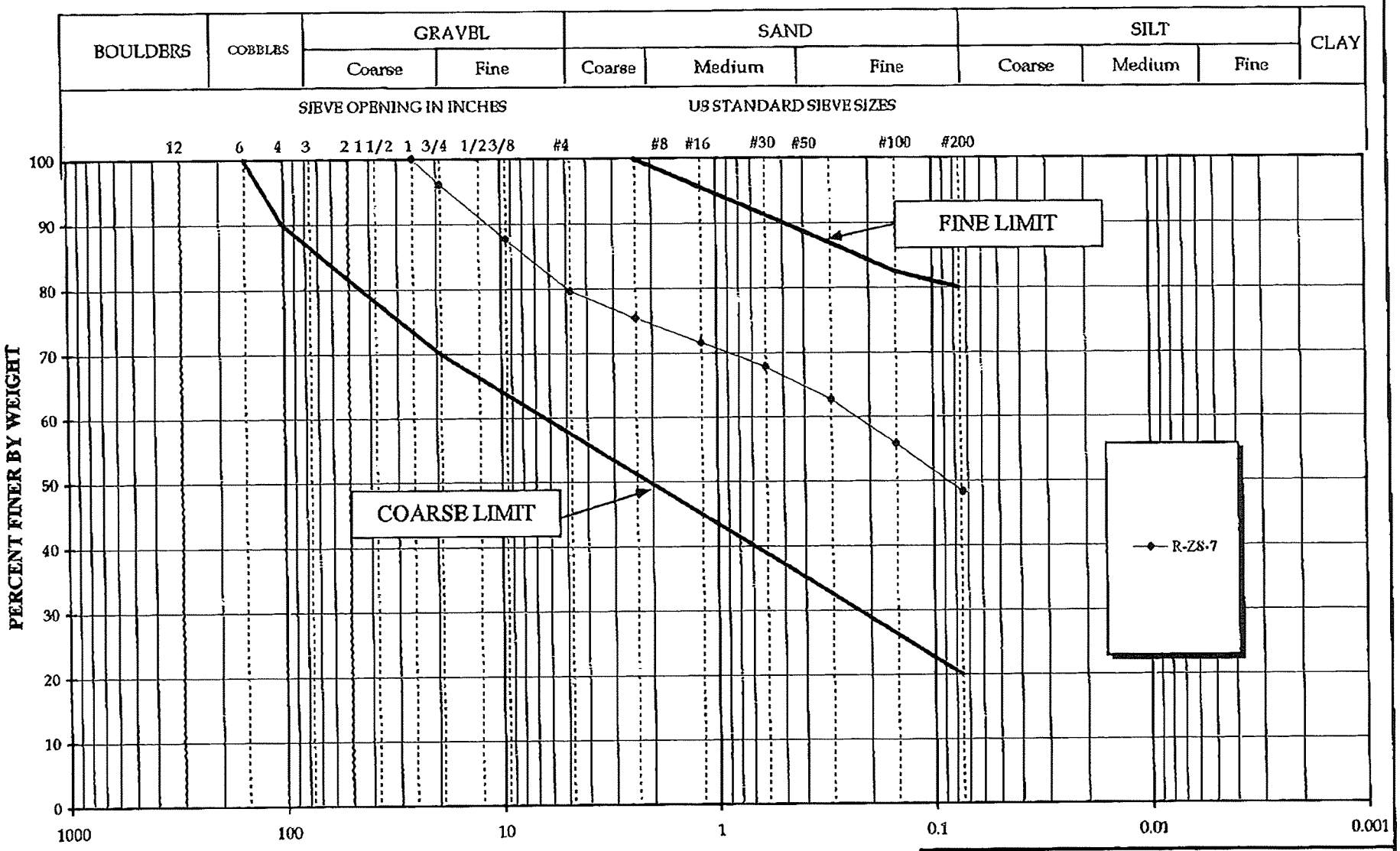
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.2



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION - ZONE S RECORD SAMPLES GRADATION CURVES			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV.
FIGURE 4.6			

Pond Level
Fill Elevation
A0-PE2-01
A0-PE2-02
A1-PE1-01
A1-PE1-02
A1-PE1-03
A2-PE1-01
A2-PE2-01
A2-PE2-02
A2-PE2-03
A2-PE2-05
A2-PE2-06
A2-PE2-07
A2-PE2-08
A1-PE1-04
A2-PE1-02
A0-PE1-01
A2-PE1-03

MOUNT POLLEY MINING CORPORATION

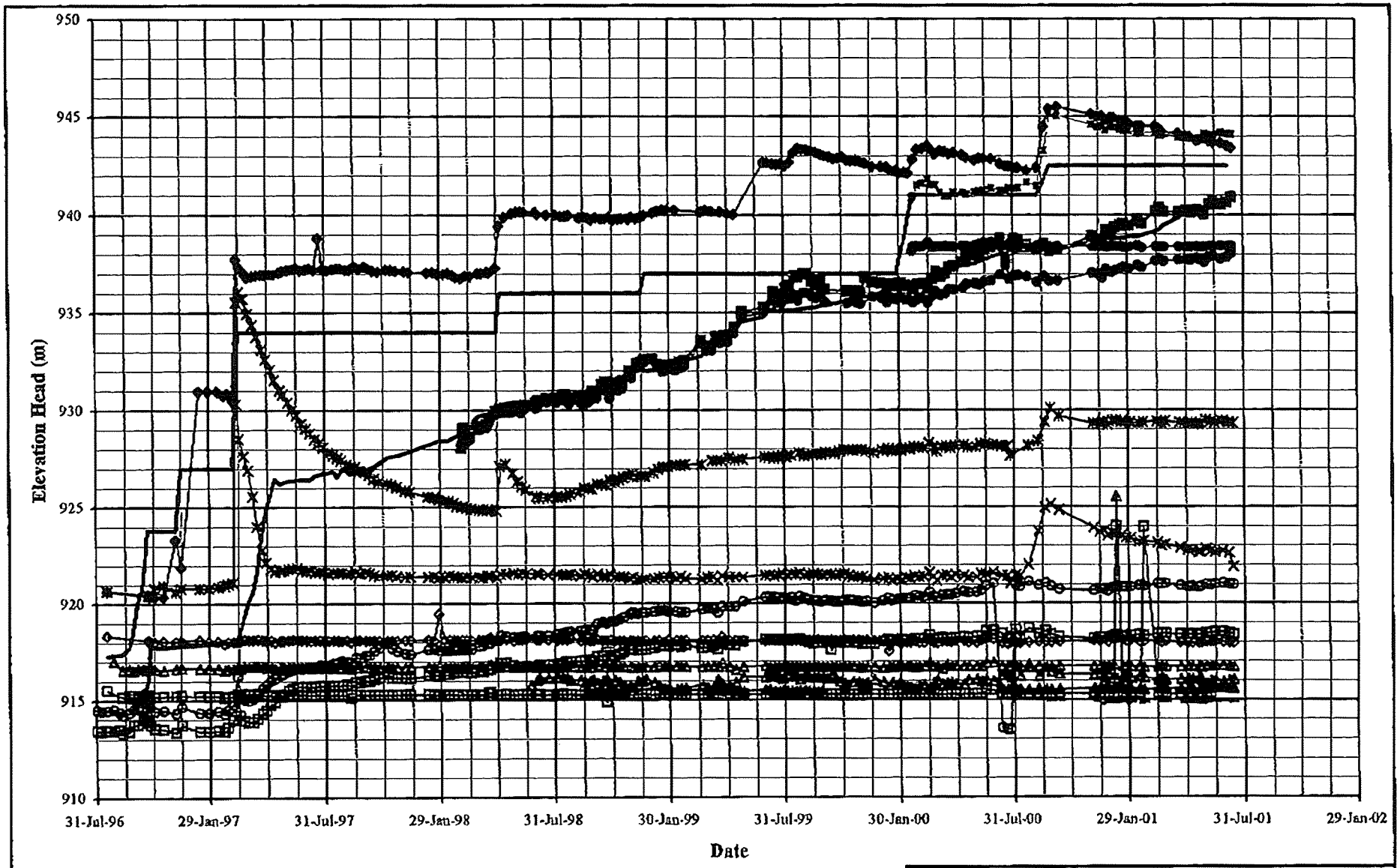
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
1162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

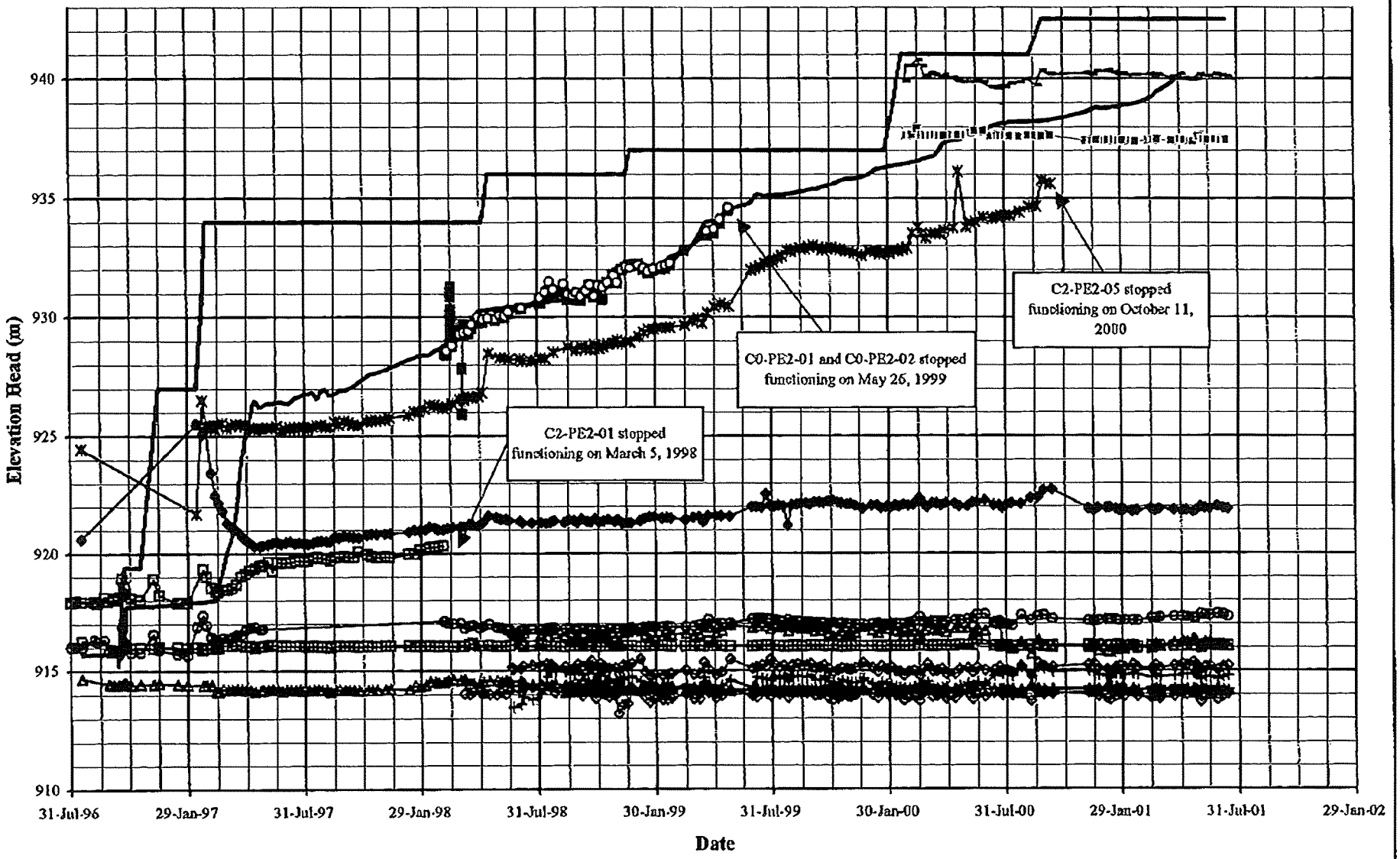
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE B PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.2



MOUNT POLLEY MINING CORPORATION

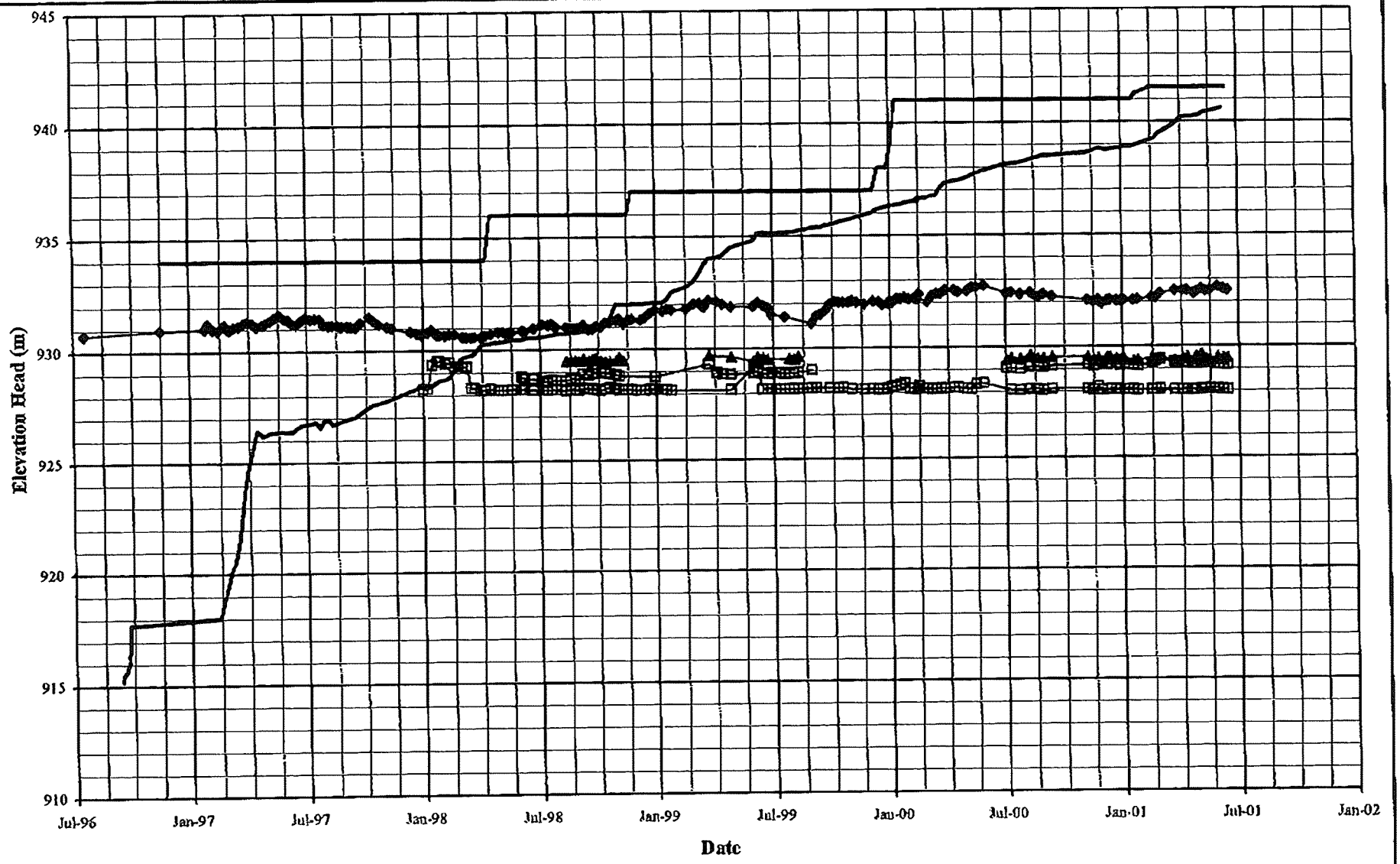
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

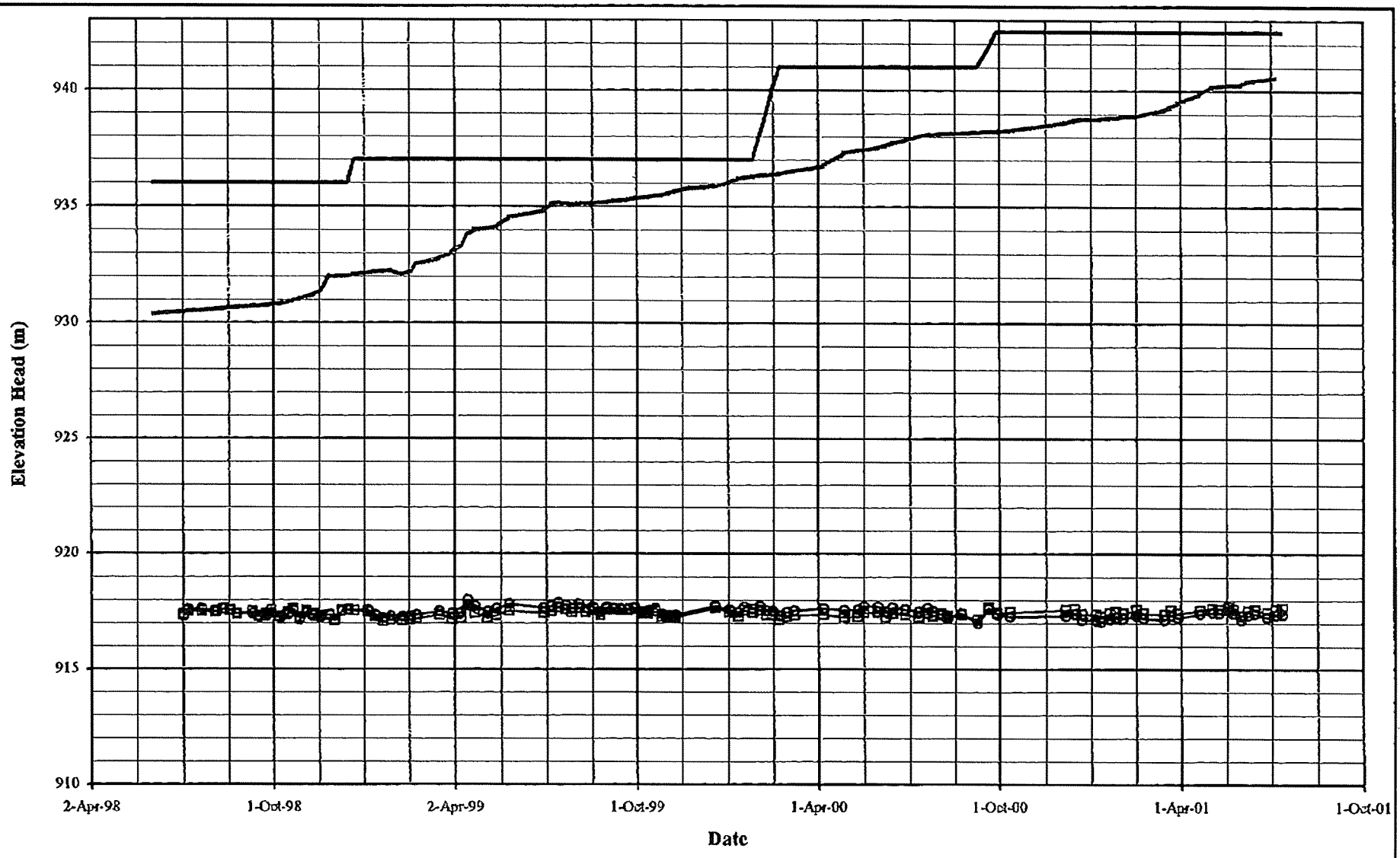
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.4



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE E PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

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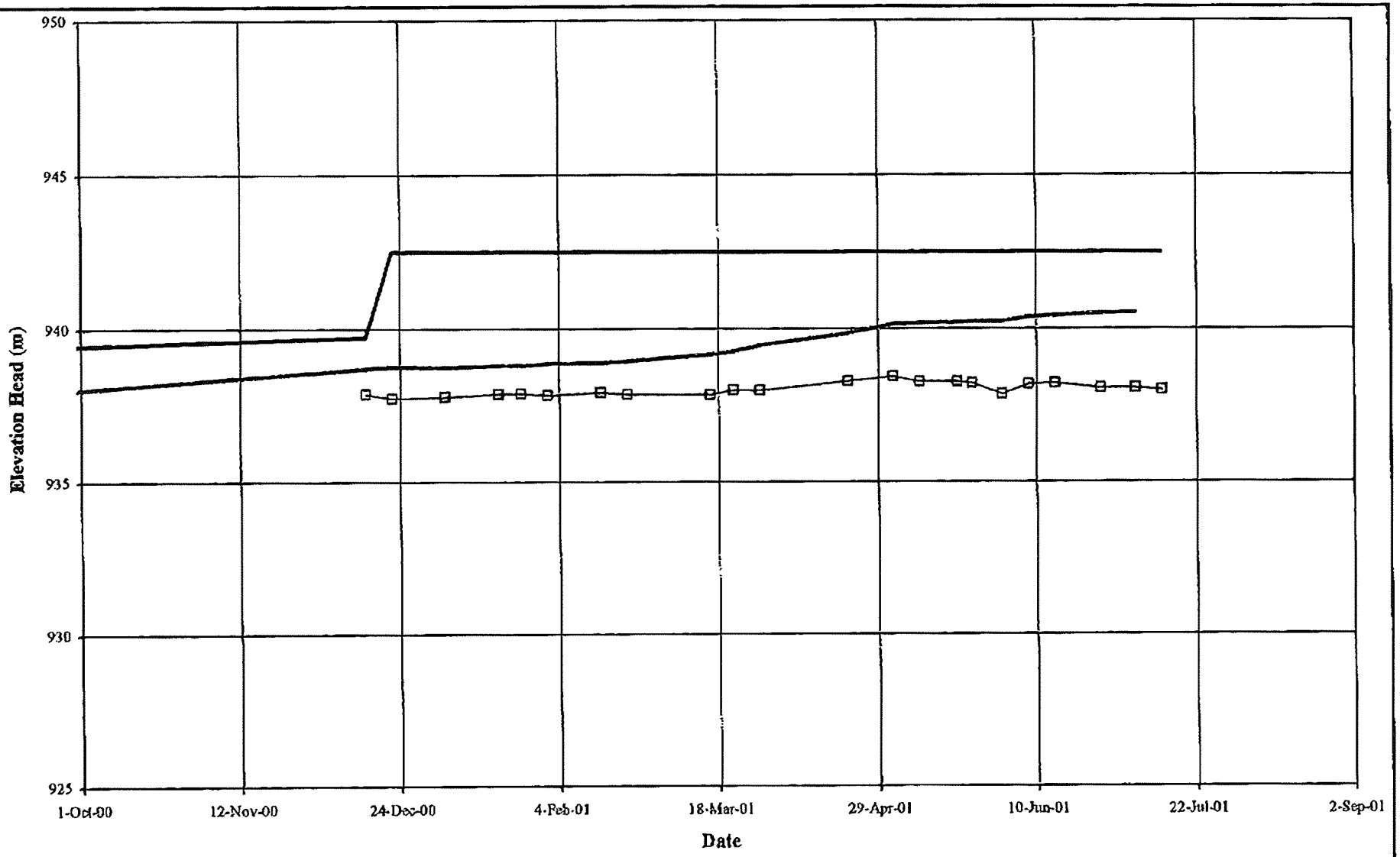
PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.5



MOUNT POLLEY MINING CORPORATION

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TAILINGS STORAGE FACILITY
PLANE F PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

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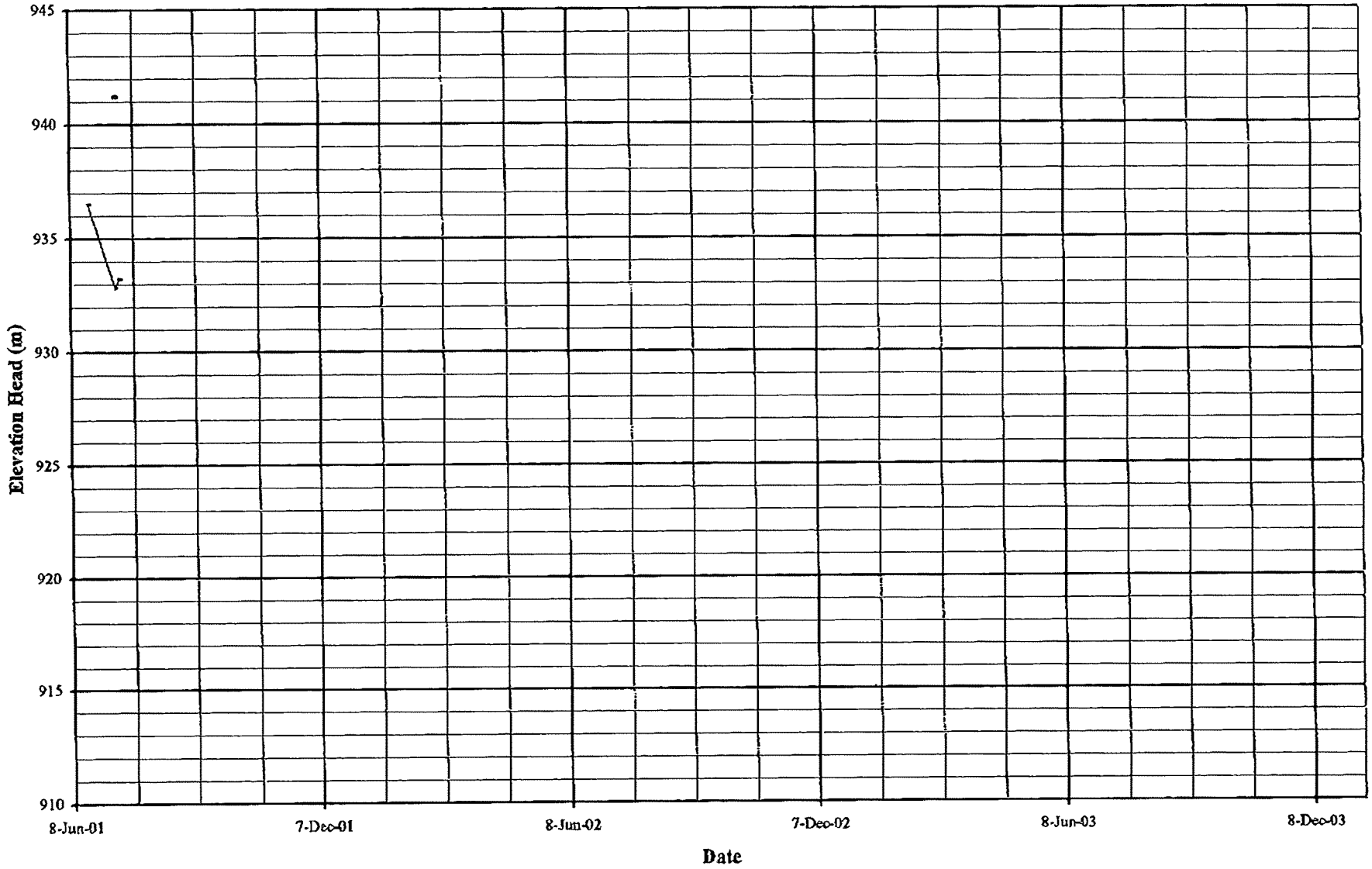
PROJECT NO	REF. NO.	REV.
11162/14		

FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE H PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

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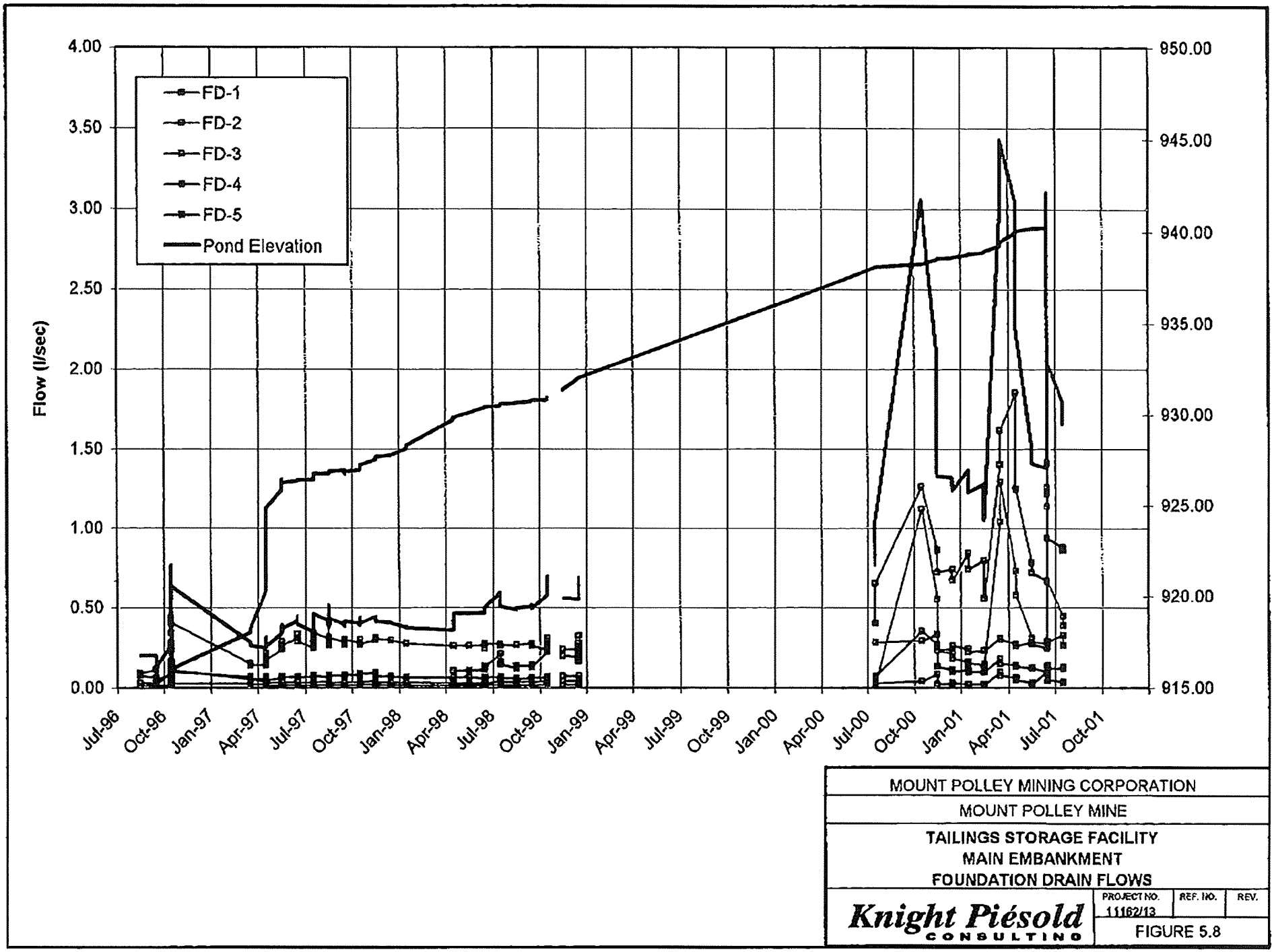
PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION

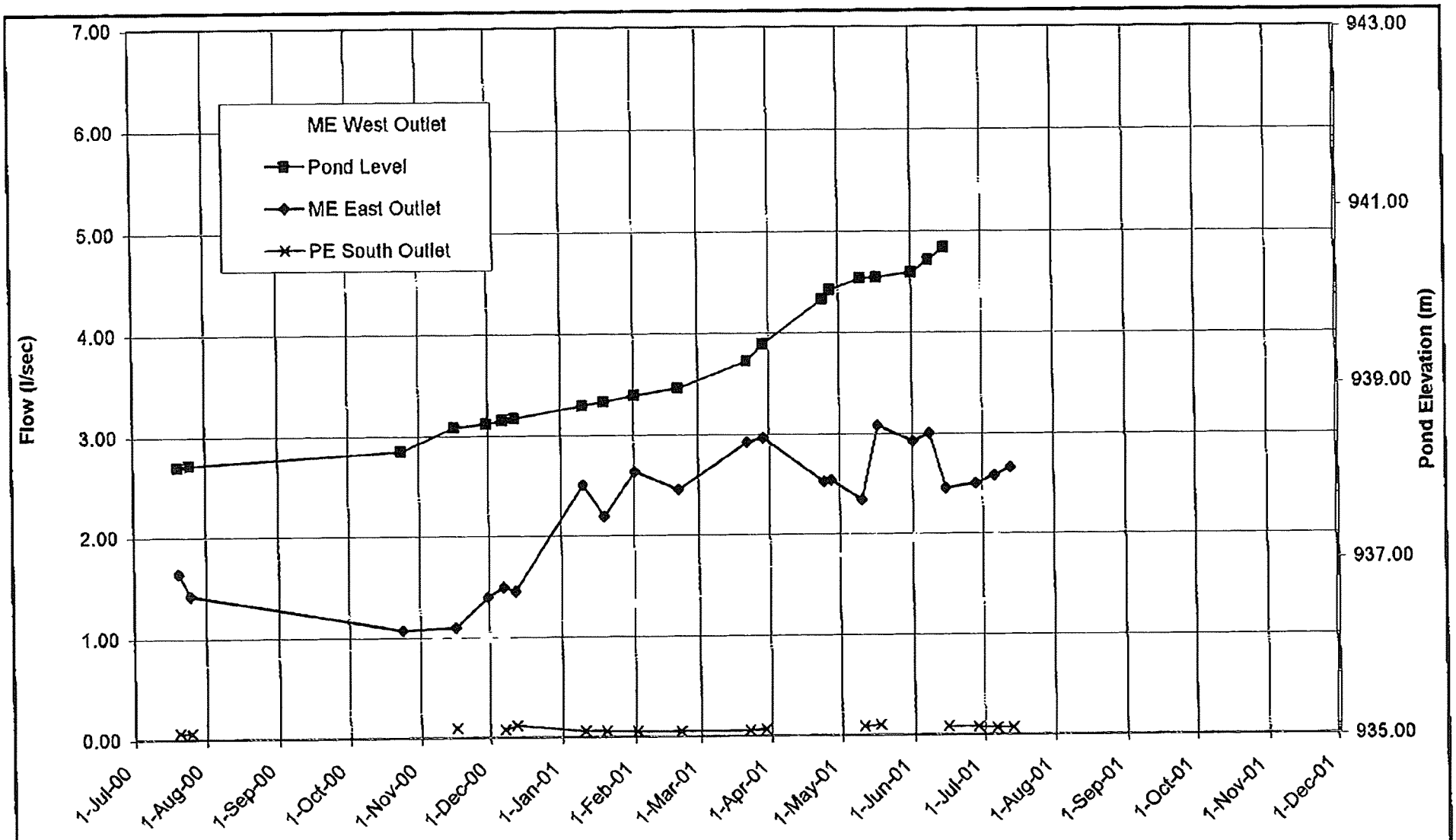
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		

FIGURE 5.8



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

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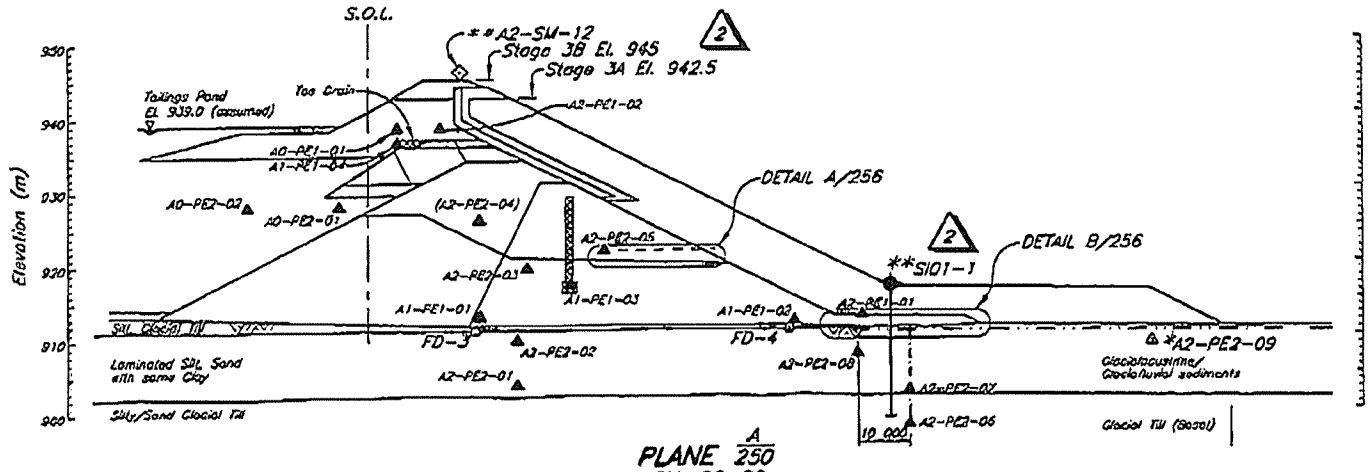
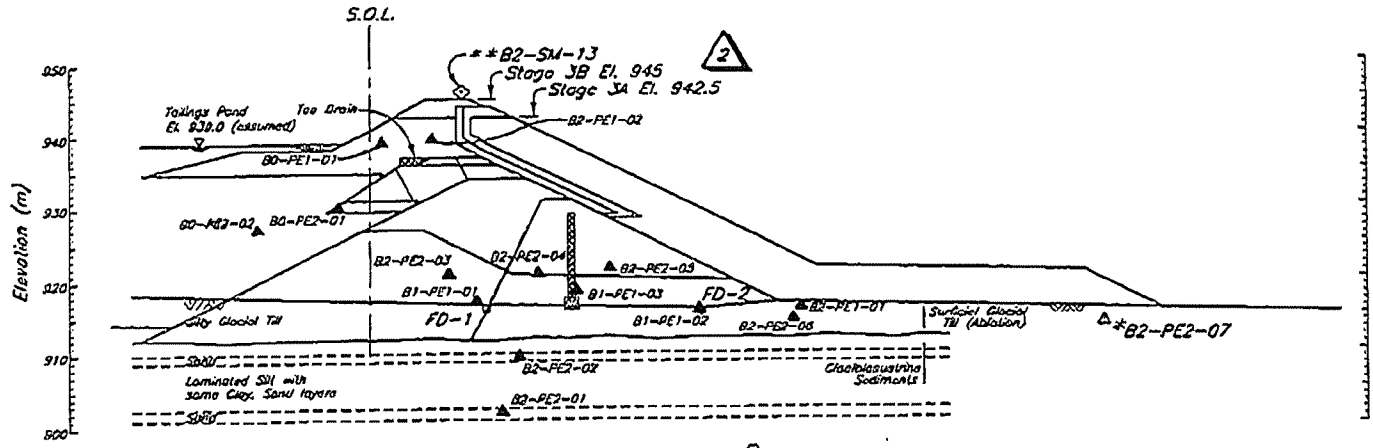
PROJECT NO.	REF. NO.	REV.
11162/13		

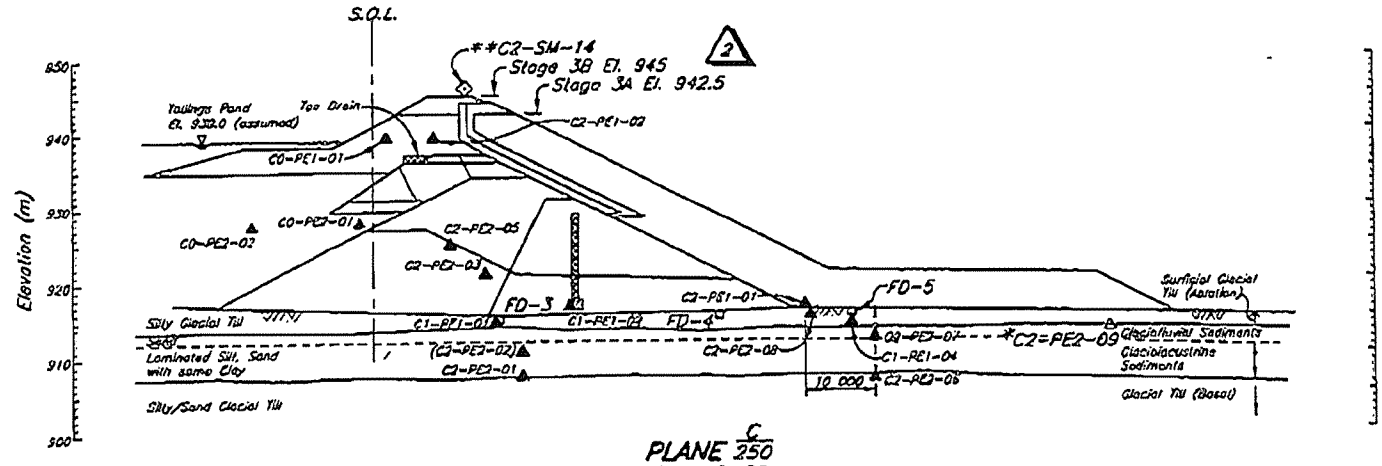
FIGURE 5.9



PLANE A 250
CH. 20+00



PLANE B 250
CH. 22+40



PLANE C 250
CH. 18+50

STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS
- STAGE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN

DESCRIPTION

REFERENCE DRAWINGS

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

REVISIONS

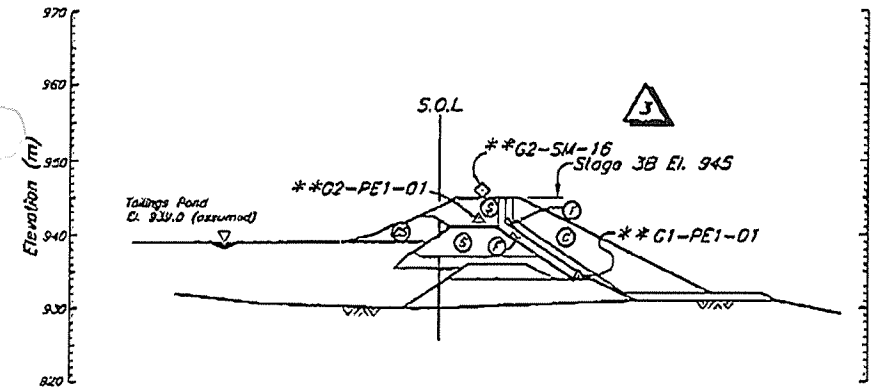
REV.	DATE	
2	08MAY'01	ISSUED FC
1	26JAN'01	STAGE 3B
0	2JUN'00	ISSUED FC

PLANE $\frac{0}{251}$
CH. 39+86

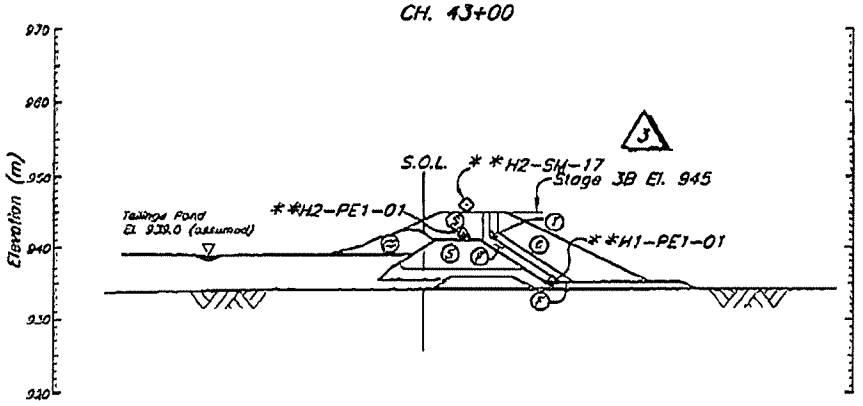
PLANE $\frac{E}{250}$
CH. 17+60

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

E 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS										3	08MAY'01	ISSUED FOI
GE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN										2	26JAN'01	STAGE 3B
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN										1	20OCT'00	PERIMETER
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN										0	2JUN'00	ISSUED FOI
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE			
REFERENCE DRAWINGS	REVISIONS											



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



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

NOTE

1. *See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.*
2. *Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.*

3 *Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.*

Scale 10 0 10 20 30 40 50 m

DWG FILE: K:\11162\13\Dwg\Dwg\11162-13-259.dwg 1:500 PLOT 1:1(PS) May 4, 2001 sd

REVISIONS				
DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
FOR CONSTRUCTION	JRK	TAM	ABW	KJB
TER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
3B – CREST ELEVATION 945	JRK	AW	JMTW	KJB
STAGE 3B TENDER	CWM	DSR	JRK	KJB

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MARTIN

DESIGNED JRK | CHECKED ABW
DRAWN DSR | APPROVED KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

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

Knight Piésold CONSULTING

SCALE AS SHOWN | REVISION 3
DRAWING NO. 11162-13-259

14745-40 / MTP01

Knight Piésold CONSULTING

Mount Polley Site Office *Fax: (250) 790-2268*
www.knightpiésold.com

DATE:	July 10, 2001	**FILE NO.:**	11162/14.F01/.F02/ /.F04/.F05/.F08
TIME:		**REF NO.:**	01-21
OPERATOR:		**PAGES:**	1 of 19
SENDER:	Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C.	**FAX :**	250-952-0481
ATTN:	Chris Carr		
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site		
SUBJECT:	Progress Report No. 13		

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 13 from July 2 to July 8, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

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CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 13 – JULY 2 TO JULY 8, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes placement of Zones S, F, T and C to El. 942.5 m on the Perimeter Embankment (Ch. 28+00 to 44+50). MPMC is carrying out this work with the exception of filter sand hauling between the millsite and the TSF, which is being completed by sub-contractors.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

MPMC chose Lake Excavating Ltd., of Williams Lake, B.C., to place the latest crush pile of Zone F. Geotech Drilling Ltd., of Prince George, B.C. was selected to install two slope inclinometers at the downstream toe of the Main Embankment.

1.3 DESIGN DEVELOPMENTS

MPMC announced a shut down of mine operations for the end of September on Friday June 29, 2001. The mine will go on Care and Maintenance following the shut down. The water balance was reviewed following this announcement. As a result of this analysis, it was found that a final TSF elevation of 942.5 m at all embankments is adequate through the freshet of 2002. A spillway design will be completed by Knight Piésold in the coming weeks.

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The Main and South Embankments require no further work as a result of the planned shut down. A modified Perimeter Embankment construction to El. 942.5 m is currently being evaluated to minimize expenditures.

1.3 WEATHER

Conditions were generally sunny with cloudy periods during the reporting period. Maximum daytime highs reached about +21 °C and nightly lows sank to as low as +7 °C.

1.4 SAFETY

No safety incidents were reported over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 17+00. It is anticipated that tailings will form a substantial beach upstream of the ridge between the Main and South Embankments by discharging at this location.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270, 1 Caterpillar 235
- Haul Trucks: 3 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992
- Dozers: 1 Caterpillar D7G, 1 Caterpillar D8R, 1 Caterpillar D6, 1 Caterpillar D8K
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Service and fuel trucks
- Lake Excavating: 4 highway dump trucks and Caterpillar 966 loader
- Geotech Drilling: 1 Mobile C59 ODEX truck mounted drill and service truck

MPMC carried out the following activities during the reporting period:

- Crushing of Zone F material at the millsite.
- Placement of Zone F fill, Perimeter Embankment: Ch. 39+00 to 40+00, El. 931 to 940 m and Ch. 34+00 to 37+00, El. 935 to 940 m.
- Placement of Zone T fill, Perimeter Embankment: Ch. 34+00 to 37+00, El. 936 to 940.5 m.
- Development of the Rock Borrow for Zones T and C materials.
- Drilling and installation of Slope Inclinometers SI-01-01 and 02

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Zones T and C were supplied from the Rock Borrow, while Zone F was delivered from the crushed stockpile at the millsite. Zone F was placed up the slope on top of the existing Zone S in a 1 metre thick lift, while Zone T was placed upon Zone F in a 1 metre thick lift.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones F and T.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.
- Geotechnical logging of drill holes for slope inclinometers.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- C-ZF-37, 38, 39, 40 and 41

Control samples C-ZF-37, 38 and 39 from the latest filter sand crush failed the grain size specification. The pile was thoroughly mixed with a dozer following this testing. Subsequent control samples C-ZF-40 and 41 met the grain size specification and the pile was approved for fill placement.

All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed over the reporting period.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.7. Locations of the piezometers are presented on the attached Drawings.

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Foundation Piezometers

No substantial changes were noted in the remaining foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. These piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on July 6, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.8 and 5.9.

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5.4 SLOPE INCLINOMETERS

As mentioned above, slope inclinometers SI-01-01 and 02 were installed during the reporting period. SI-01-01 was drilled to approximately 29 metres and the inclinometer was installed to an approximate depth of 28 metres. SI-01-02 was drilled to approximately 25 metres and the inclinometer was installed to an approximate depth of 24 metres. SPT testing was carried out and chips from the drill were examined to log the boreholes. Six inch steel casing was left in the upper 6 metres of each hole to protect the inclinometer casing from the settlement of coarse rockfill and to minimize the amount of grout required to anchor the inclinometer casing.

The equipment to monitor, record and evaluate the data from the slope inclinometers will be on site soon. Exact depths of the inclinometers will be determined and calibration measurements will be carried out at that time.

SECTION 6.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 942.5 m.
- The slope inclinometers will be measured and calibrated.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE F CONTROL TEST SUMMARY SHEET

H:\ENGTD\AYA\Engineering\Technical Drgs\Stage 3B Construction\Mtly control\[C-ZF-summ.xls]Data Sheet

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SHEET: 1 of 1
PERIOD: July 2 to July 8, 2001
PROJECT NO.: 1162/14
AREA: Zone F Stockpile

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone F - Filter Sand

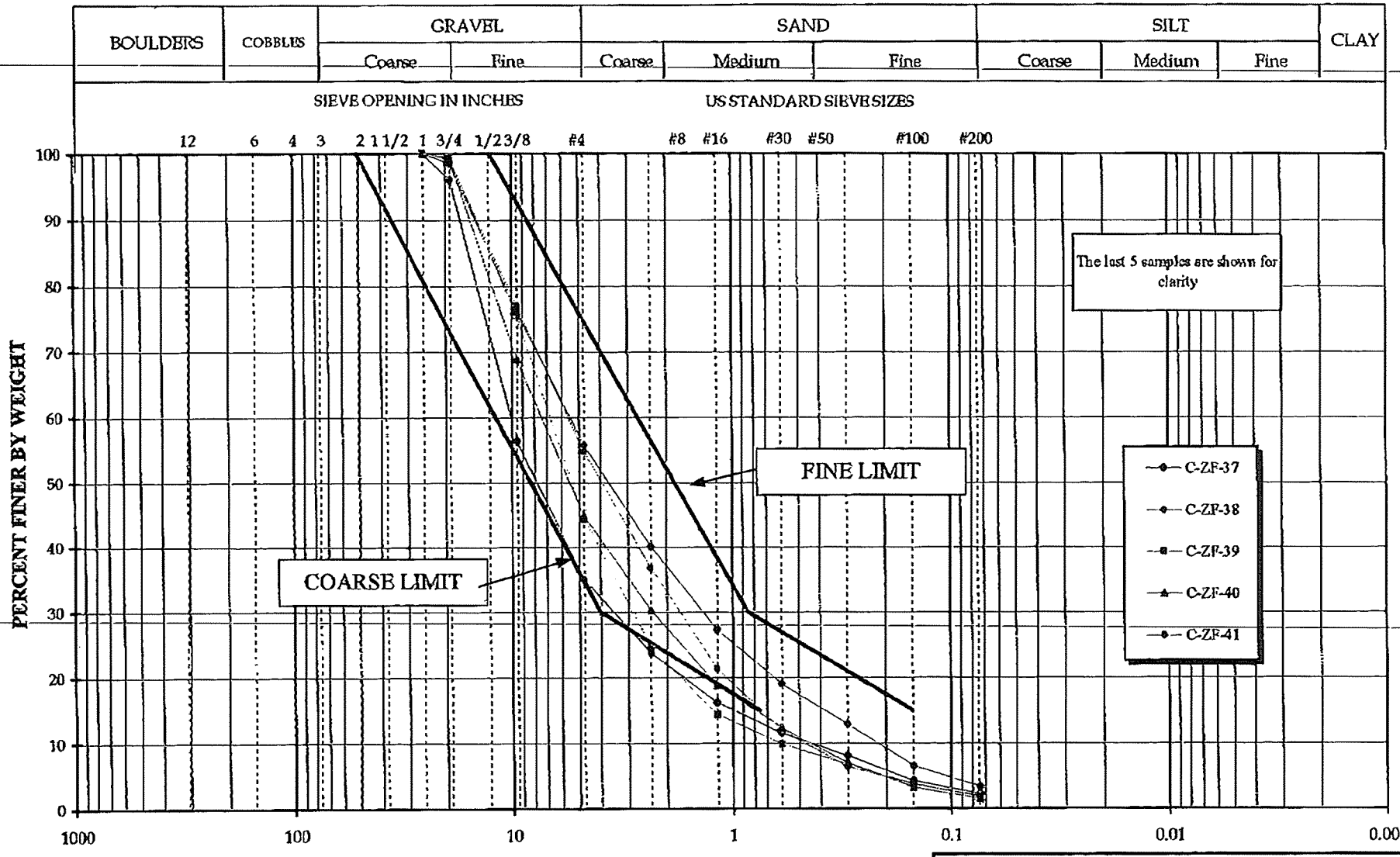
Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm 4	76.2 mm 3	38.1 mm 1.5	25.4 mm 1	19.05 mm 0.75	9.525 mm 0.375	4.75 mm #4	2.36 mm #8	1.18 mm #16	0.6 mm #30	0.3 mm #50	0.14986 mm #100	0.07366 mm #200	0.002 mm Clay	C4 Standard Proctor Max Dry Density kg/m³	Optimum m/c %	C6 Specific Gravity
C-ZF-31	28-May-01	Zone F Stockpile	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.0	28.5	21.3	16.5	12.7	10.0	-	-	-	-
C-ZF-32	28-May-01	Zone F Stockpile	-	-	-	-	4.0	-	100.0	100.0	100.0	100.0	99.4	78.9	59.9	43.4	29.6	21.9	16.8	13.1	10.4	-	-	-	-
C-ZF-33	28-May-01	Zone F Stockpile	-	-	-	-	2.9	-	100.0	100.0	100.0	100.0	98.7	56.0	28.1	12.6	12.8	10.1	7.8	6.1	4.8	-	-	-	-
C-ZF-34	11-Jun-01	Zone F Stockpile	-	-	-	-	3.7	-	100.0	100.0	100.0	100.0	99.3	59.2	35.0	24.2	15.0	10.5	7.8	6.1	4.8	-	-	-	-
C-ZF-35	11-Jun-01	Zone F Stockpile	-	-	-	-	4.2	-	100.0	100.0	100.0	100.0	97.9	59.3	34.7	24.7	15.3	10.6	8.0	6.4	5.1	-	-	-	-
C-ZF-36	12-Jun-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	97.7	60.6	37.0	24.2	16.5	12.2	9.4	7.1	5.6	-	-	-	-
C-ZF-37	3-Jul-01	Zone F Stockpile	-	-	-	-	1.5	-	100.0	100.0	100.0	100.0	94.0	56.3	34.9	23.7	16.1	11.5	8.0	4.2	2.2	-	-	-	-
C-ZF-38	3-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	98.5	76.2	55.6	40.0	27.2	19.0	12.9	6.5	3.3	-	-	-	-
C-ZF-39	3-Jul-01	Zone F Stockpile	-	-	-	-	2.6	-	100.0	100.0	100.0	100.0	99.5	75.4	44.2	24.5	14.3	9.8	6.7	3.7	1.9	-	-	-	-
C-ZF-40	4-Jul-01	Zone F Stockpile	-	-	-	-	3.6	-	100.0	100.0	100.0	100.0	99.3	68.8	44.7	30.2	18.8	12.3	8.9	5.2	1.3	-	-	-	-
C-ZF-41	4-Jul-01	Zone F Stockpile	-	-	-	-	5.5	-	100.0	100.0	100.0	100.0	99.2	77.0	54.7	36.7	23.3	11.9	6.3	3.7	1.8	-	-	-	-
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	3.4	#DIV/0!	100.0	100.0	100.0	100.0	98.6	68.3	44.6	30.2	19.6	13.7	9.7	6.6	4.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	3.6	#NUM!	100.0	100.0	100.0	100.0	99.2	68.8	44.2	24.7	16.5	11.9	8.0	6.1	4.8	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	5.5	0.0	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.4	29.6	21.9	16.8	13.1	10.4	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	1.5	0.0	100.0	100.0	100.0	100.0	96.0	56.0	28.1	17.6	12.8	9.8	6.3	3.2	1.5	0.0	0.0	0.0	0.0

Note : These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

C1 Atterberg Limits (ASTM D4318)
C2 Moisture Content (ASTM D2216)
C3 Particle Size Distribution (ASTM D422)
C4 Laboratory Compaction (ASTM D1557)
C6 Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

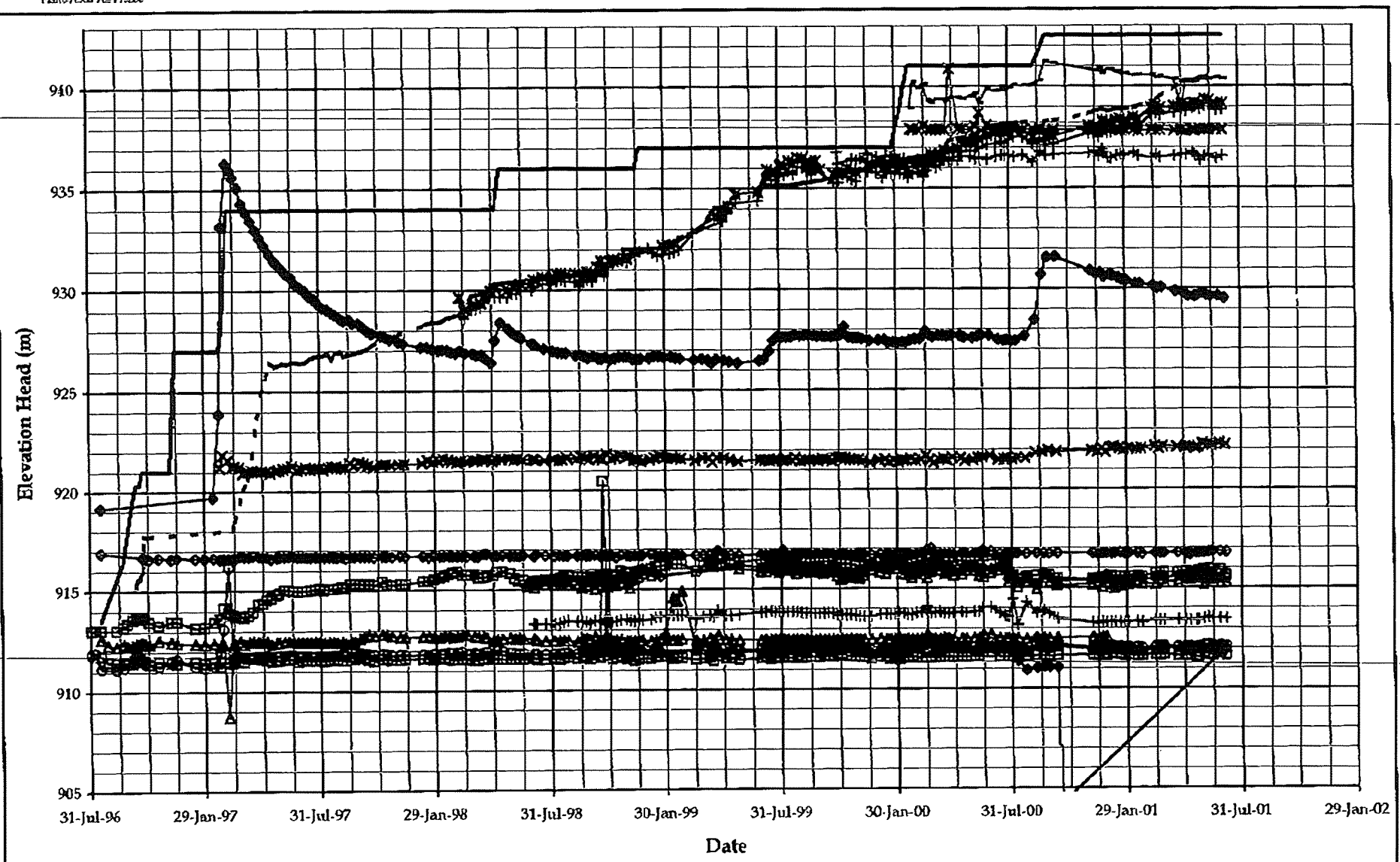
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F CONTROL SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 4.1



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

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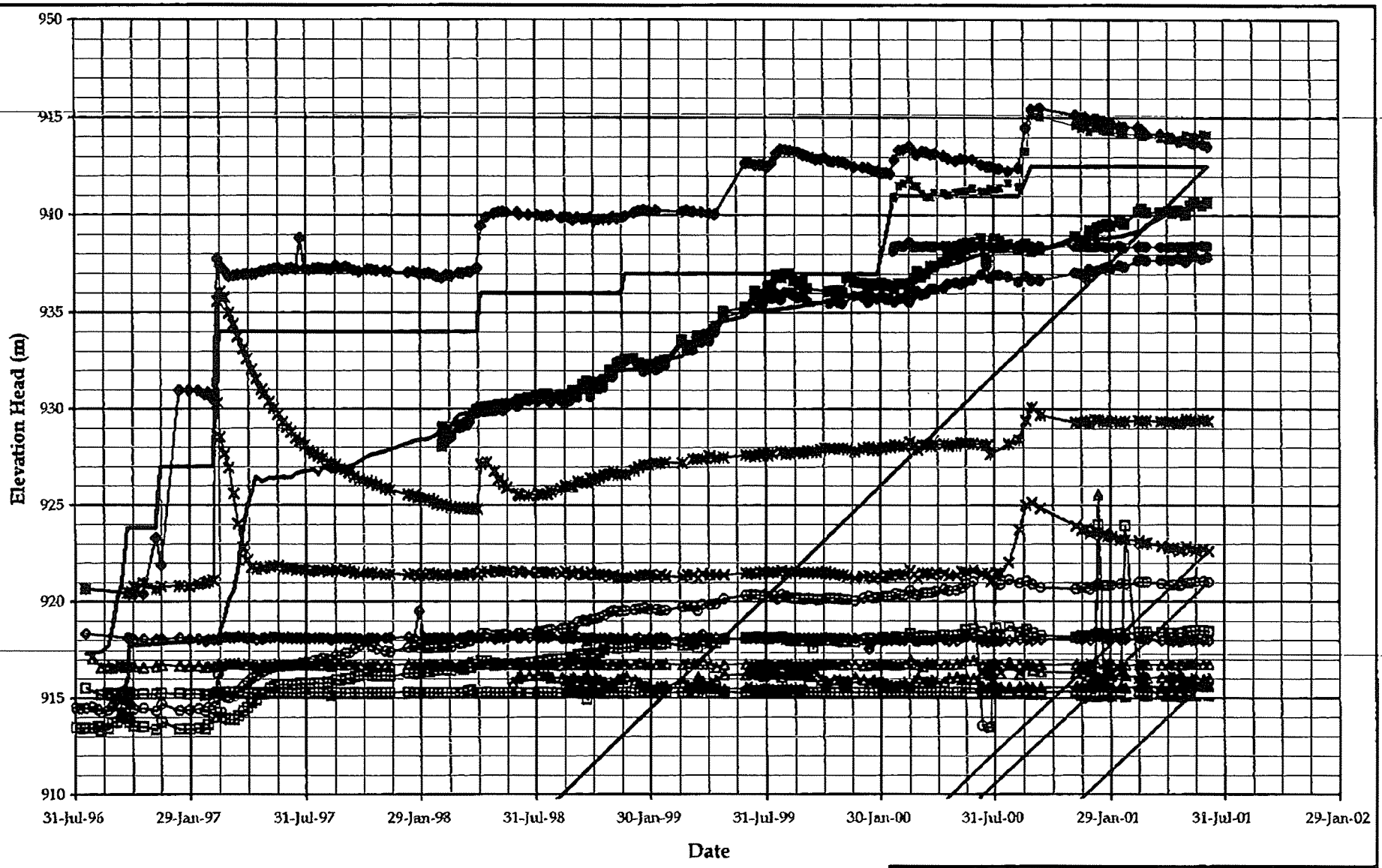
PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE B PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

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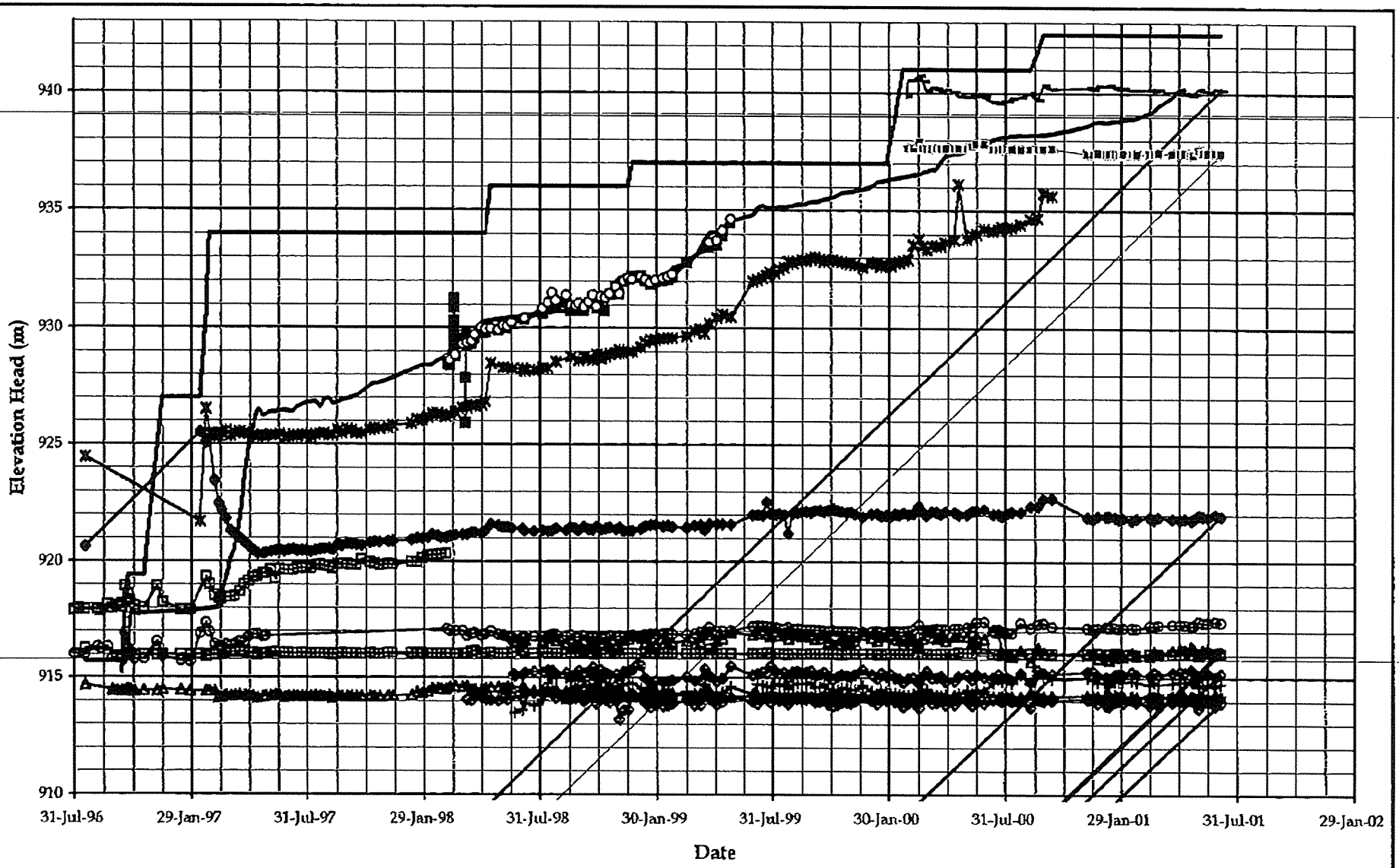
PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.2



MOUNT POLLEY MINING CORPORATION

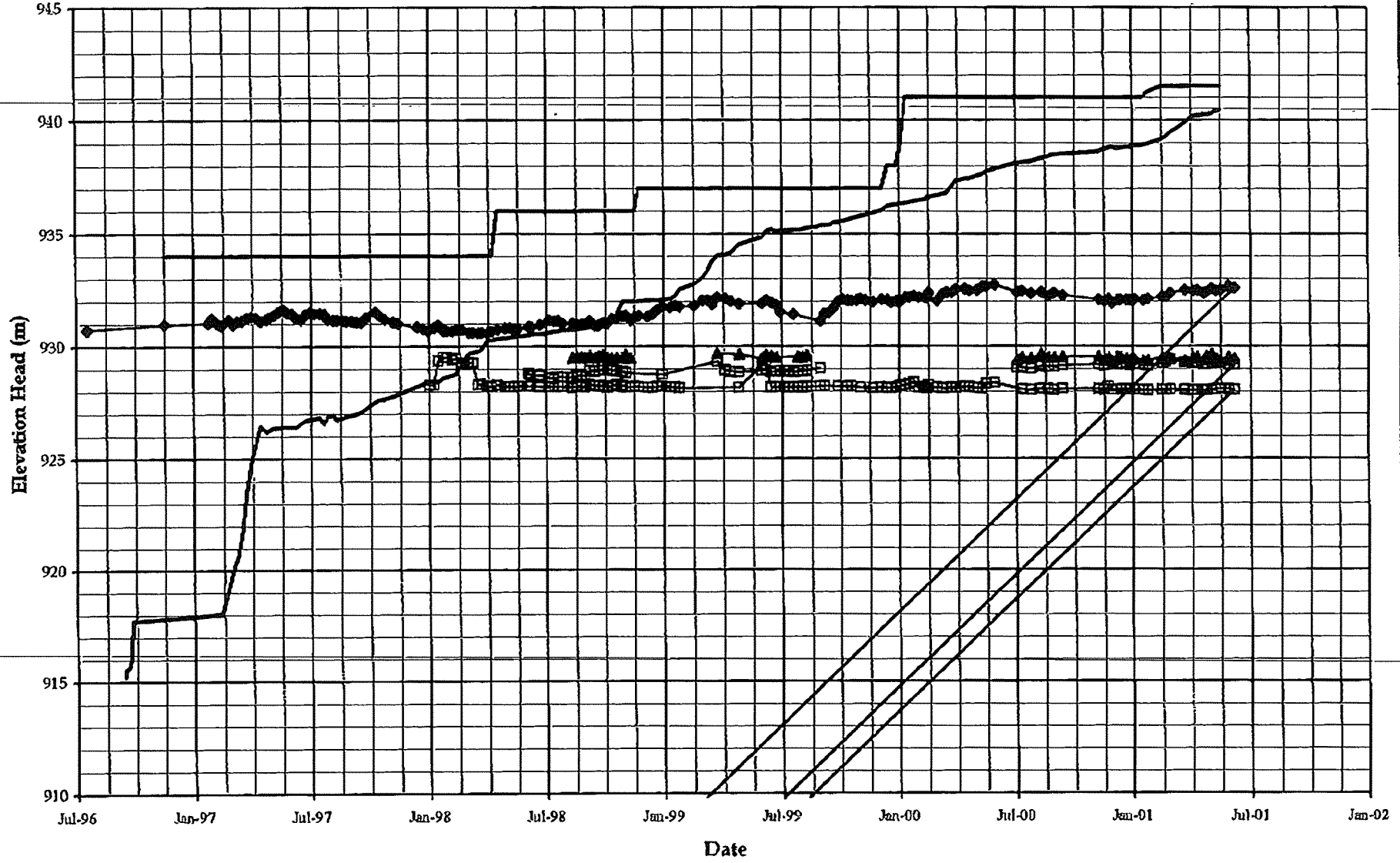
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

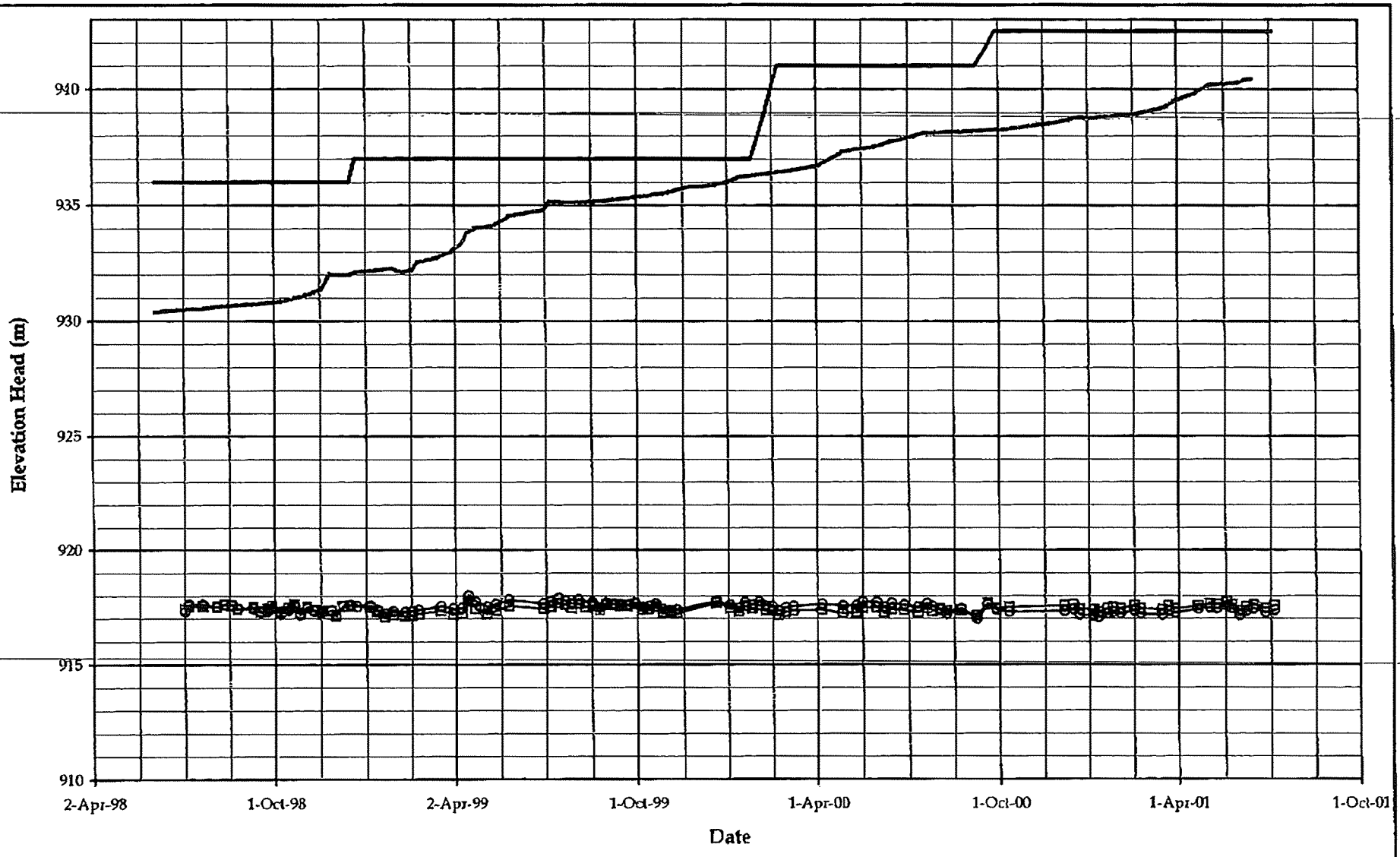
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.4



MOUNT POLLEY MINING CORPORATION

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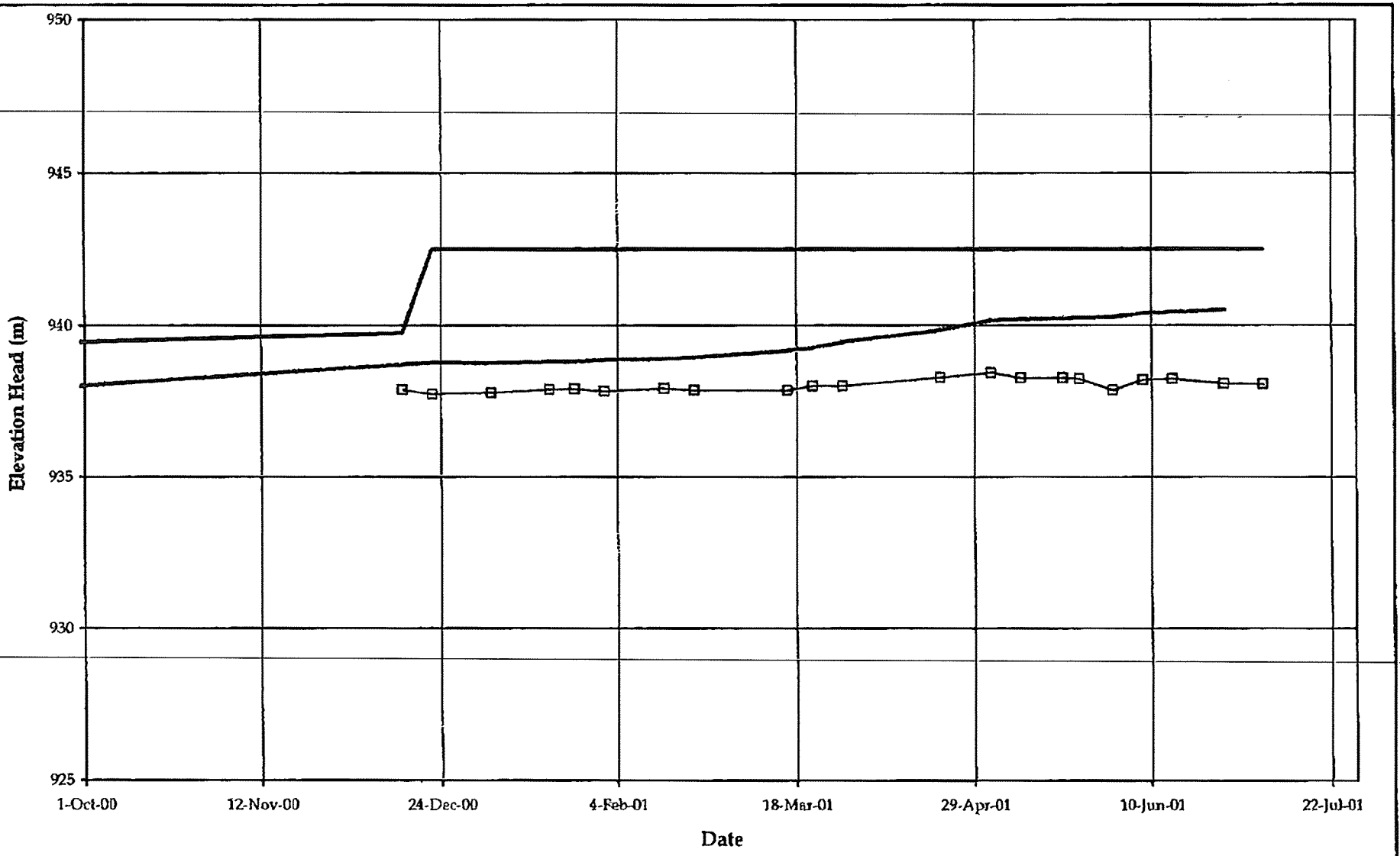
TAILINGS STORAGE FACILITY
PLANE E PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.5



MOUNT POLLEY MINING CORPORATION

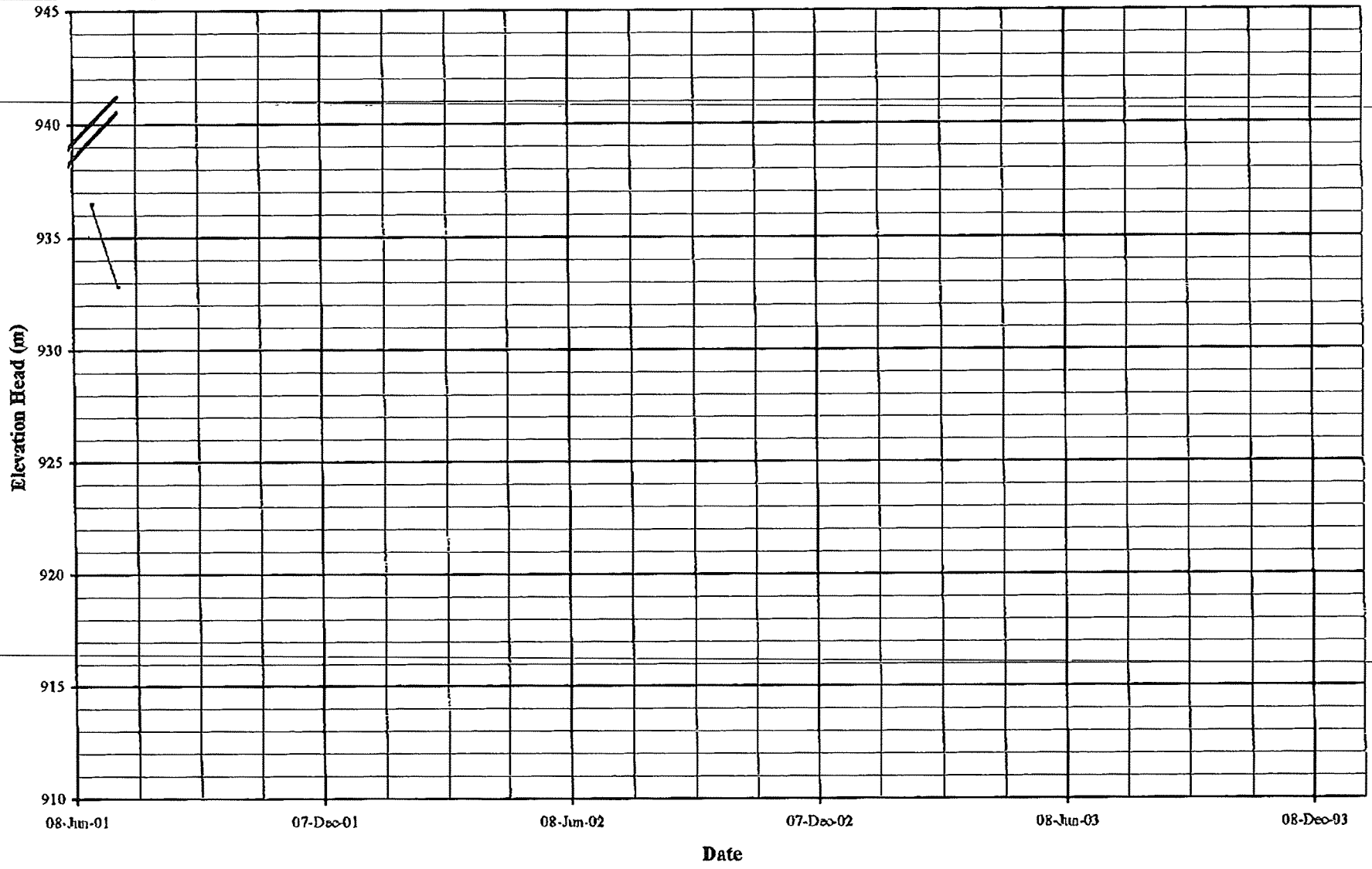
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE F PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

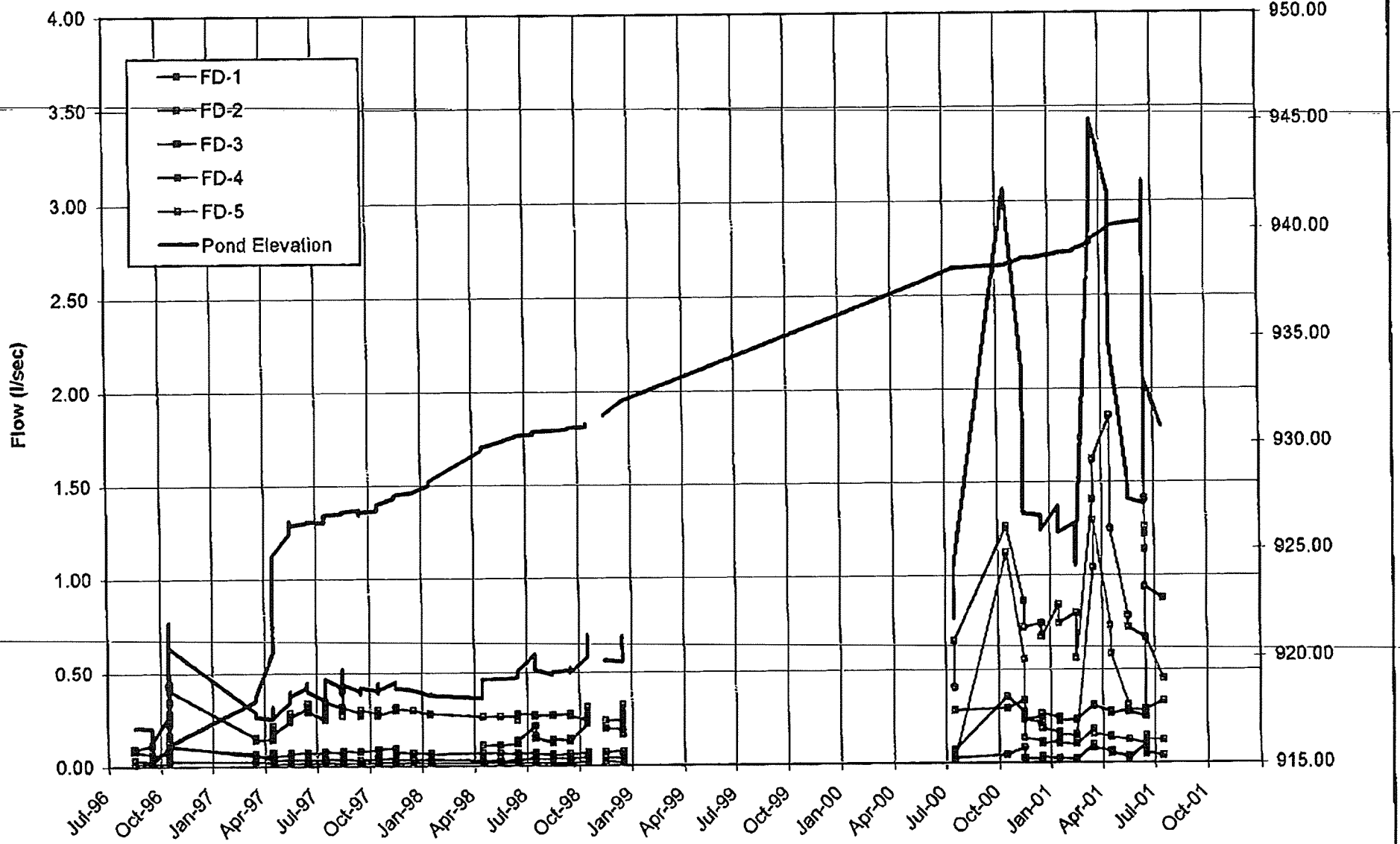
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE H PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

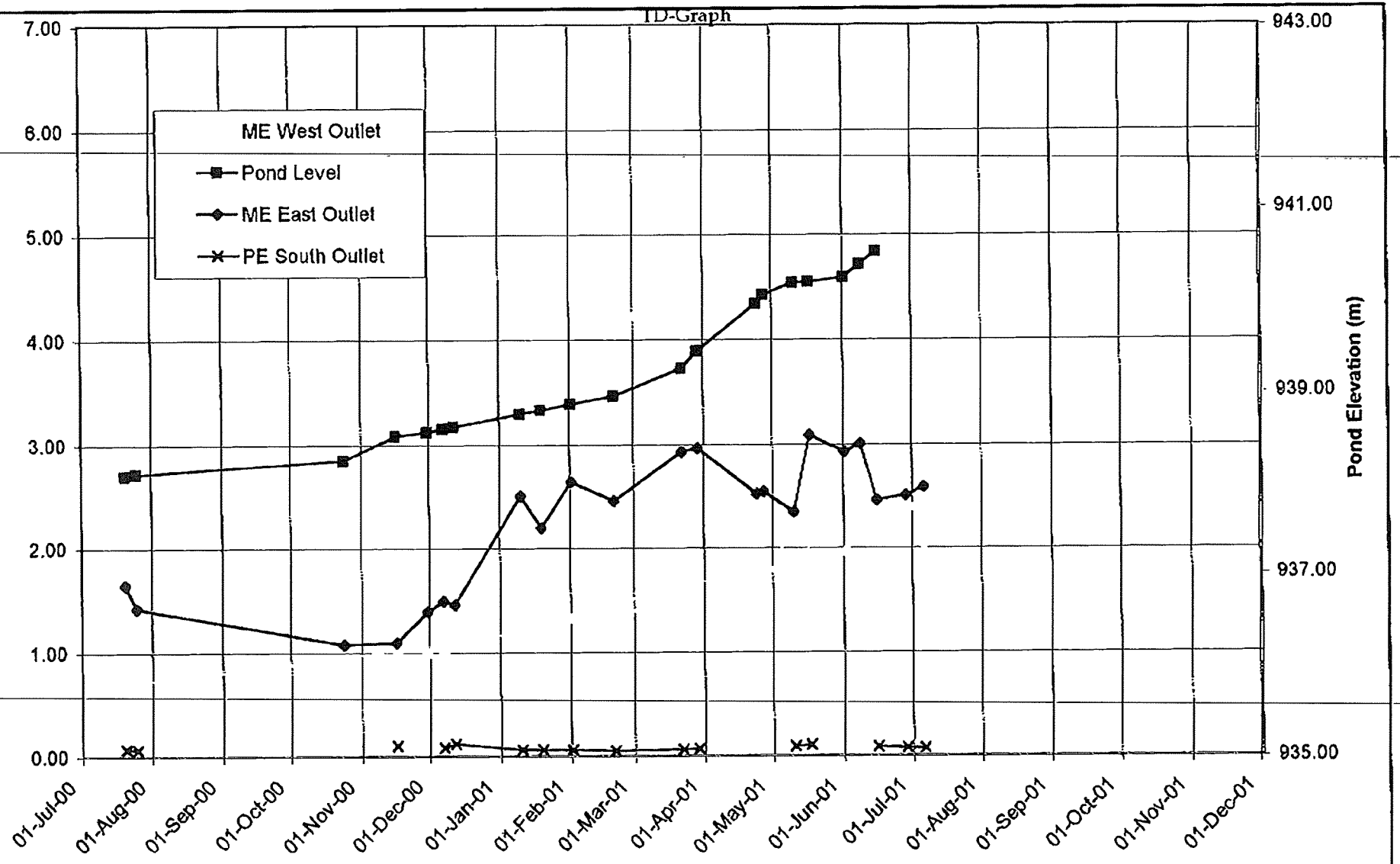
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY MAIN EMBANKMENT FOUNDATION DRAIN FLOWS			
Knight Piésold CONSULTING	PROJECT NO. 11162/13	REF. NO.	REV.
	FIGURE 5.8		



MOUNT POLLEY MINING CORPORATION

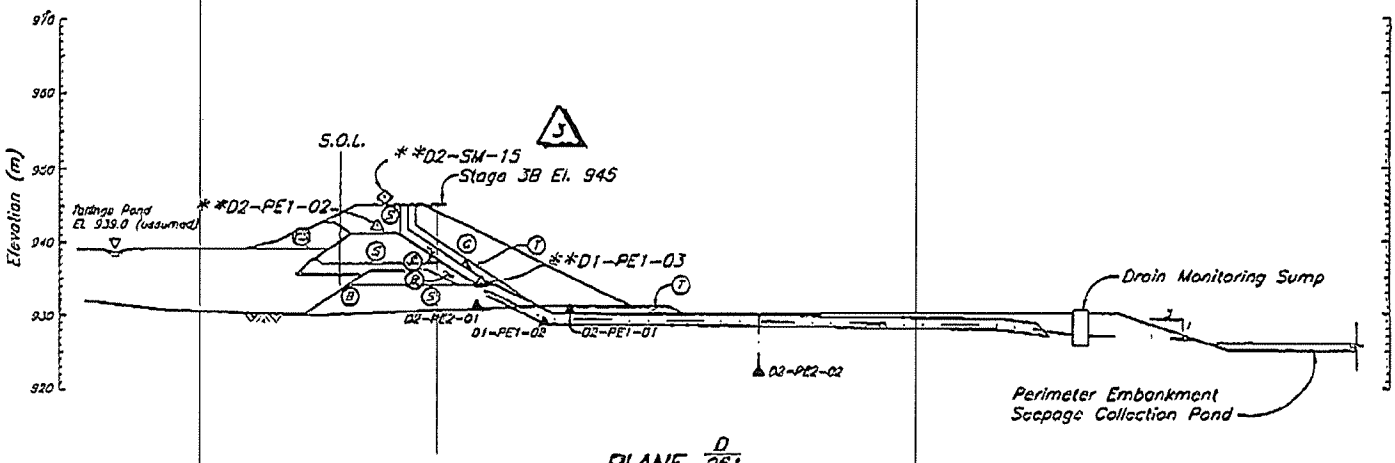
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

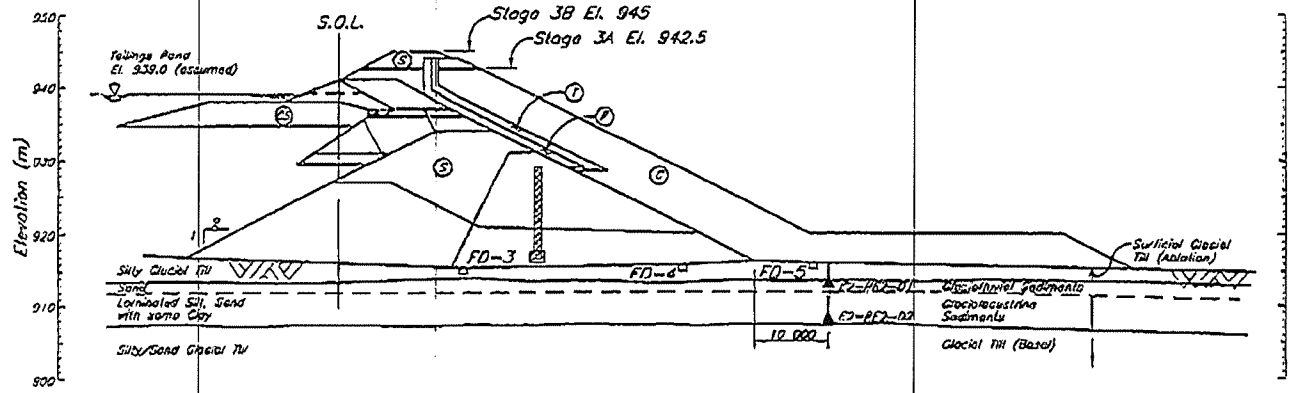
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		

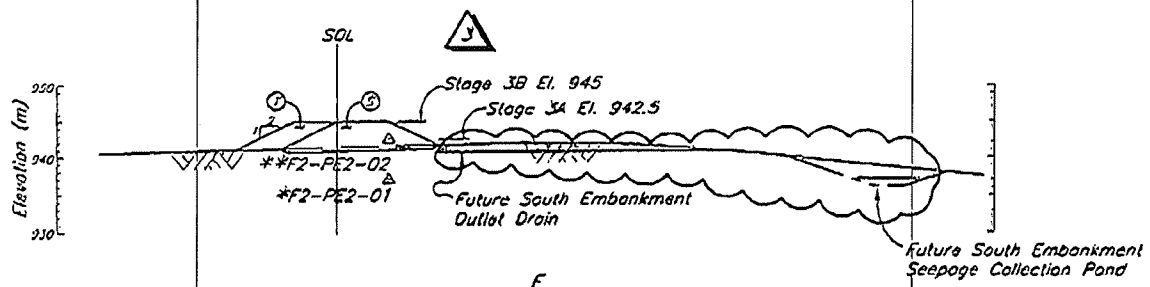
FIGURE 5.9



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

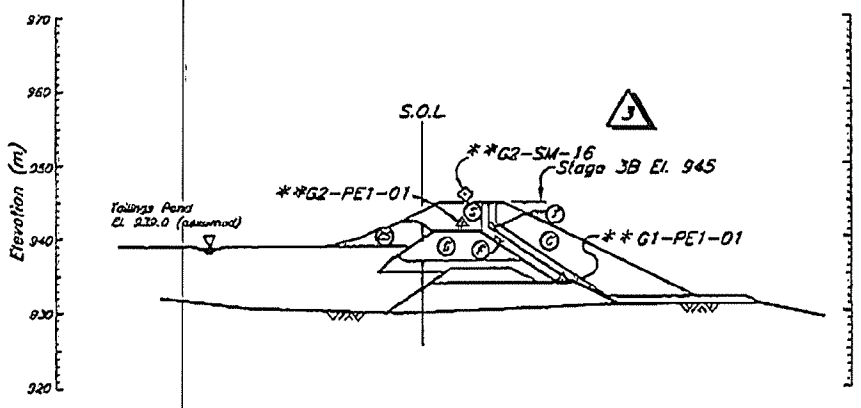


PLANE $\frac{E}{250}$
CH. 17+60

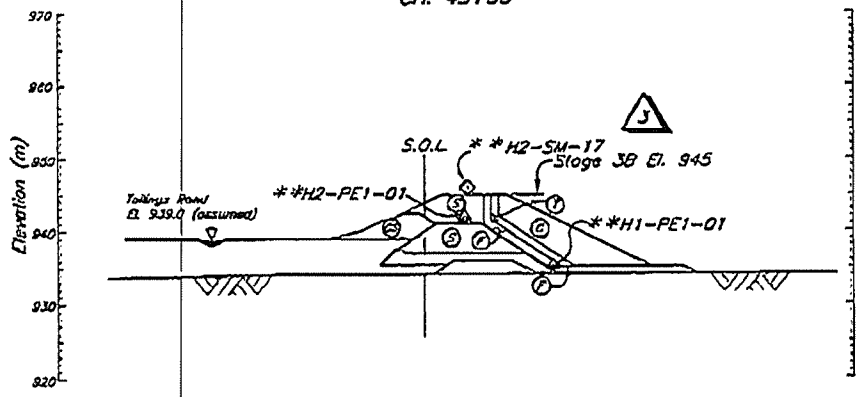


PLANE $\frac{F}{254}$
CH. 7+19

REFERENCE DRAWINGS			REVISIONS							
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	
STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS								3	08MAY'01	ISSUE
STAGE 3 TAILINGS EMBANKMENT - SOUTH EMBANKMENT - INSTRUMENTATION PLAN								2	26JAN'01	STAGE
STAGE 3 PERIMETER EMBANKMENT - INSTRUMENTATION PLAN								1	20OCT'00	PEREMETER
STAGE 3 TAILINGS EMBANKMENT - MAIN EMBANKMENT - INSTRUMENTATION PLAN								0	2JUN'00	ISSUED FOR



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



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

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

3

Scale 10 0 10 20 30 40 50 m

REVISIONS				
DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
FOR STAGE 3B TENDER	CWM	DSR	JRK	KJB
3B - CREST ELEVATION 945	JRK	ASW	JMTW	KJB
ER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
FOR CONSTRUCTION	JRK	TAM	ASW	KJB

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MAHR

DESIGNED	CHECKED
JRK	ASW
DRAWN	APPROVED
DSR	KJB

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MOUNT POLLEY MINE

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

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SCALE	REVISION
AS SHOWN	3

DRAWING NO. 11162-13-259

Knight Piésold CONSULTING

Mount Polley Site Office *Fax: (250) 790-2268*
www.knightpiésold.com

DATE:	July 4, 2001	**FILE NO.:**	11162/14.F01/.F02/ /.F04/.F05/.F08
TIME:		**REF NO.:**	01-19
OPERATOR:		**PAGES:**	1 of 20
SENDER:	Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C. **FAX :** 250-952-0481
ATTN:	Chris Carr
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site
SUBJECT	Progress Report No. 12

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 11 from June 18 to July 1, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

MINISTRY OF ENERGY AND MINES
REC'D JUL - 4 2001

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MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 12 – JUNE 18 TO JULY 1, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes:

1. Placement of Zones F, T and C to approximate El. 941.5 m on the Perimeter Embankment (Ch. 32+00 to 44+50). MPMC is carrying out this work with the exception of filter sand hauling between the millsite and the TSF, which is being completed by sub-contractors.
2. Placement of Zones CBL, S, F, T and C on the Main, Perimeter and South Embankments to El. 945 m. This work will be carried out under contract. A Contractor for this work has yet to be determined.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

On behalf of MPMC, Knight Piesold commenced writing of the Tender Documents for Stage 3B Construction.

1.3 DESIGN DEVELOPMENTS

A design change was submitted and approved by the KP design office. This design change takes the minimum Zone F thickness from 1000 mm to 500 mm over the downstream cycloned sand trial berm only. The area covered due to this change is Ch 39+00 to 40+00, El. 931 to 941.5 m.

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1.3 WEATHER

Conditions were unsettled during the reporting period. This included periods of cloud, rain and sunshine. Maximum daytime highs reached about +23 °C and nightly lows sank to as low as +5 °C.

1.4 SAFETY

No safety incidents were reported over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 17+00. It is anticipated that tailings will form a substantial beach upstream of the ridge between the Main and South Embankments by discharging at this location.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270
- Haul Trucks: 3 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992
- Dozers: 1 Caterpillar D7G, 1 Caterpillar D8R, 1 Caterpillar D6
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G
- Drills: 1 Svedala STK and 1 Driltec 25K
- Service and fuel trucks
- 153 Mile Contracting: 6 highway dump trucks and Caterpillar 966 loader

MPMC carried out the following activities during the reporting period:

- Placement of Zone F fill, Perimeter Embankment: Ch. 40+50 to 43+25, El. 933 to 937 m.
- Placement of Zone T fill, Perimeter Embankment: Ch. 32+00 to 39+00, El. 931 to 937 m and 40+50 to 45+50, El. 933 to 941.5 m.
- Placement of Zone C fill, Perimeter Embankment, Ch. 32+00 to 39+00, El. 931 to 937 m and Ch. 40+50 to 42+50, El 933 to 937 m.
- Development of the Rock Borrow for Zones T and C materials.

Zones T and C were supplied from the Rock Borrow, while Zone F was delivered from the crushed stockpile at the millsite. Zone F was placed up the slope on top of the existing Zone S in

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a 1 metre thick lift, while Zone T was placed upon Zone F in a 1 metre thick lift. Zone C was placed in 1 metre thick, horizontal lifts to the downstream toe of the Stage 3B Perimeter Embankment.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of fill placement of Zones F and T.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.

Knight Piesold personnel were not on site during Zone C fill placement. This zone is considered to be a bulk fill that requires little supervision in order to achieve the specifications. The dates that KP personnel were away from site were June 25 to June 30, 2001.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- R-ZF-34 and 35
- R-ZT-13

Both Zone F record tests failed the grain size specification on the # 16 sieve only. This material was allowed to remain in place since this type of material maintains filter relationship criteria with the Zone S fills. The crushing of further waste rock will be adjusted to achieve the specification and a filter relationship with the cycloned sand.

The Zone T record test proved suitable for Zone T fill.

All tests carried out during the reporting period are presented in the attached tables and figures.

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SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

Piezometer H1-PE1-01 at Ch. 35+75 was installed over the reporting period. This piezometer is located in the Zone F material, as shown on the attached Drawings.

Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.6. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the remaining foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. These piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

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All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on June 27, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.7 and 5.8.

SECTION 5.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 941.5 m.
- MPMC will select a Contractor to construct the embankments to El. 945 m.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.2

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE F RECORD TEST SUMMARY SHEET

I:\...\DATA\Engdesc\Geotechnical\Reports\Stage 3B Construction\Lab records\[R-ZF-summ.xls]Data Sheet

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SHEET :	1 of 1
PERIOD :	June 18 to June 24, 2001
PROJECT NO. :	1116/2/14
AREA :	TSF

PROJECT : MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL : Zone F - Fine Sand

Sample No.	Date Sampled	Location	El (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field w/c %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	50.1 mm	25.4 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07366 mm	0.022 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum w/c %	C6 Specific Gravity
									4"	3"	2"	1"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200	Clay			
[illegible]-27-31	28-May-01	29+00, 0.5 m D/S of Zone S	941.8	-	-	-	4.0	-	100.0	100.0	100.0	100.0	99.5	71.5	49.1	35.9	25.8	19.7	15.0	11.6	9.1	-	-	-	-
[illegible]-32	25-May-01	37+00, 0.5 m D/S of Zone S	936.0	-	-	-	4.1	-	100.0	100.0	100.0	100.0	98.3	68.4	44.0	31.9	22.5	16.9	12.8	9.9	7.7	-	-	-	-
[illegible]-33	17-Jun-01	42+00, 0.8 m D/S of Zone S	936.0	-	-	-	7.0	-	100.0	100.0	100.0	100.0	97.9	68.8	44.7	28.8	17.8	13.2	10.6	8.5	6.9	-	-	-	-
[illegible]-34	20-Jun-01	35+00, 0.8 m D/S of Zone S	935.6	-	-	-	3.6		100.0	100.0	100.0	100.0	99.2	61.5	35.8	27.0	18.7	14.0	11.0	8.6	6.8	-	-	-	-
[illegible]-35	20-Jun-01	43+00, 0.8 m D/S of Zone S	937.0		-	-	4.5	-	100.0	100.0	100.0	100.0	99.4	70.8	46.6	32.6	23.0	17.2	13.7	10.6	8.5	-	-	-	-
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	4.6	#DIV/0!	100.0	100.0	100.0	100.0	98.5	68.2	44.4	31.2	21.6	16.2	12.6	9.8	7.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	4.1	#NUM!	100.0	100.0	100.0	100.0	98.7	68.8	44.7	31.9	22.5	16.9	12.8	9.9	7.7	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	7.0	0.0	100.0	100.0	100.0	100.0	99.4	71.5	49.1	35.9	25.8	19.7	15.0	11.6	9.1	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	3.6	0.0	100.0	100.0	100.0	100.0	97.5	61.5	37.8	27.0	17.8	13.2	10.6	8.5	6.8	0.0	0.0	0.0	0.0

Note These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)

R2 Moisture Content (ASTM D2216)

R3 Particle Size Distribution (ASTM D422)

R4 Laboratory Compaction (ASTM D1557)

R6 Specific Gravity (ASTM D854)

TABLE 4.4

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE T RECORD TEST SUMMARY SHEET

I:\Geo\DATA\Engdocs\Geotechnical\Kp\site\Stage 3B Construction\lab\record\[R-ZT-sum00.xls]Data Sheet

Knight Piésold CONSULTING

SHEET :	1 of 1
PERIOD :	June 18 to June 24, 2001
PROJECT NO. :	1116214
AREA :	TSF

MOUNT POLLEY TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone T - Transition Zone

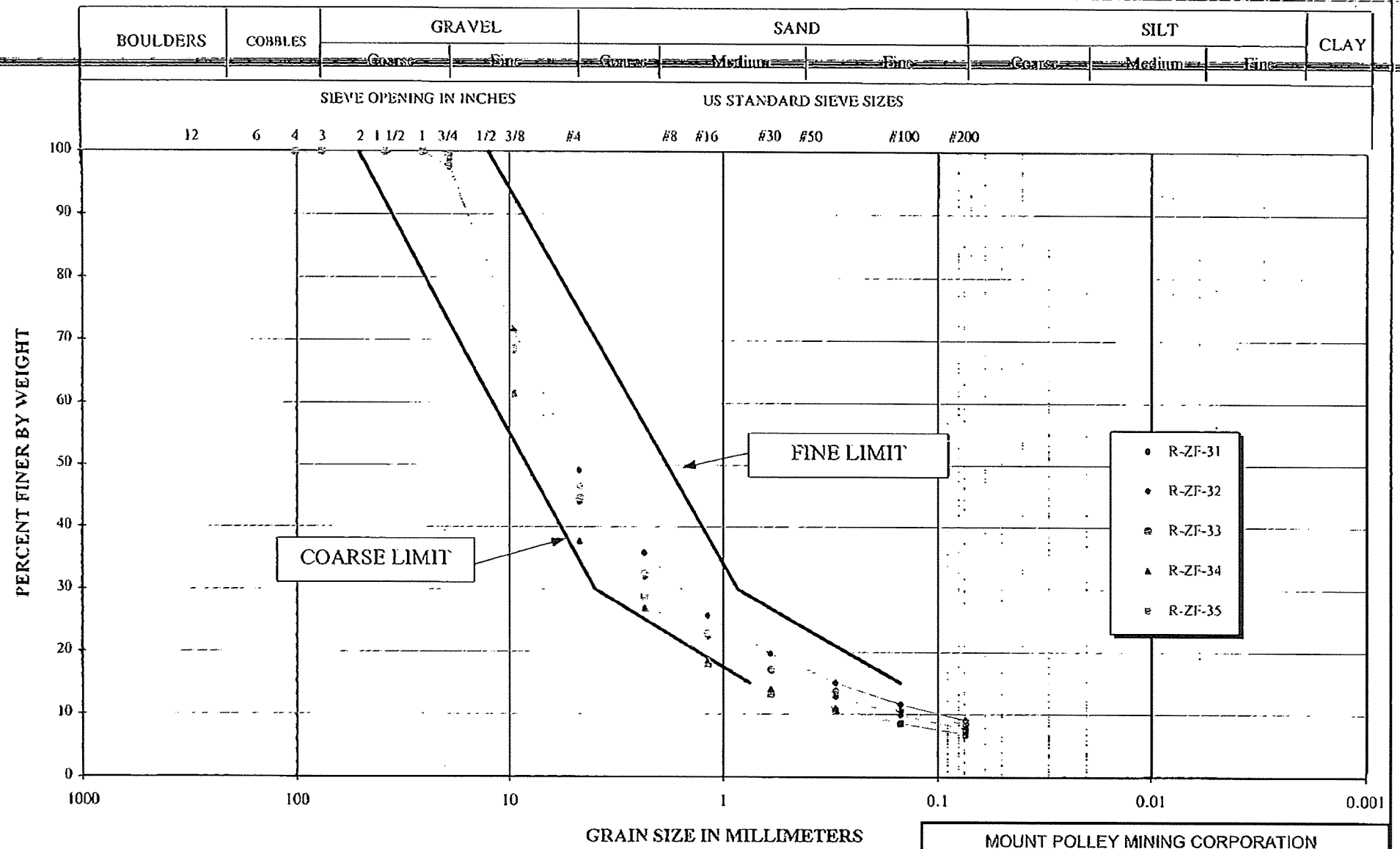
Sample No.	Date Sampled	Location	El. (m)	R1 Atterberg Limits PL %	LL %	PI %	R2 Field mc %	LI %	R3 (Particle Size Distribution) #1.0	#3	#4	#8	#16	#30	#50	#100	#200	Clay	R4 Standard Proctor Max Dry Density kg/m³	Optimum mc %	R6 Specific Gravity
[illegible]	03-Jun-01	42+50, 1.5 m D/S of Zone S	933.5	-	-	-	4.4	-	-	80.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	-	-	-	-
[illegible]	23-Jun-01	42+50, 1.5 m D/S of Zone S	937.0	-	-	-	3.0	-	-	76.2	49.7	34.5	22.9	14.6	9.7	6.4	4.1	2.4	-	-	-	-	-	-
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	3.7	#DIV/0!	#DIV/0!	78.1	48.1	33.4	22.5	14.8	10.3	7.0	4.9	3.3	3.2	2.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	3.7	#NUM!	#NUM!	78.1	48.1	33.4	22.5	14.8	10.3	7.0	4.9	3.3	3.2	2.5	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	4.4	0.0	0.0	80.0	49.7	34.5	22.9	14.9	10.8	7.6	5.6	4.2	3.2	2.5	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	3.0	0.0	0.0	76.2	46.4	32.3	22.0	14.6	9.7	6.4	4.1	2.4	3.2	2.5	0.0	0.0	0.0	0.0

Note : These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

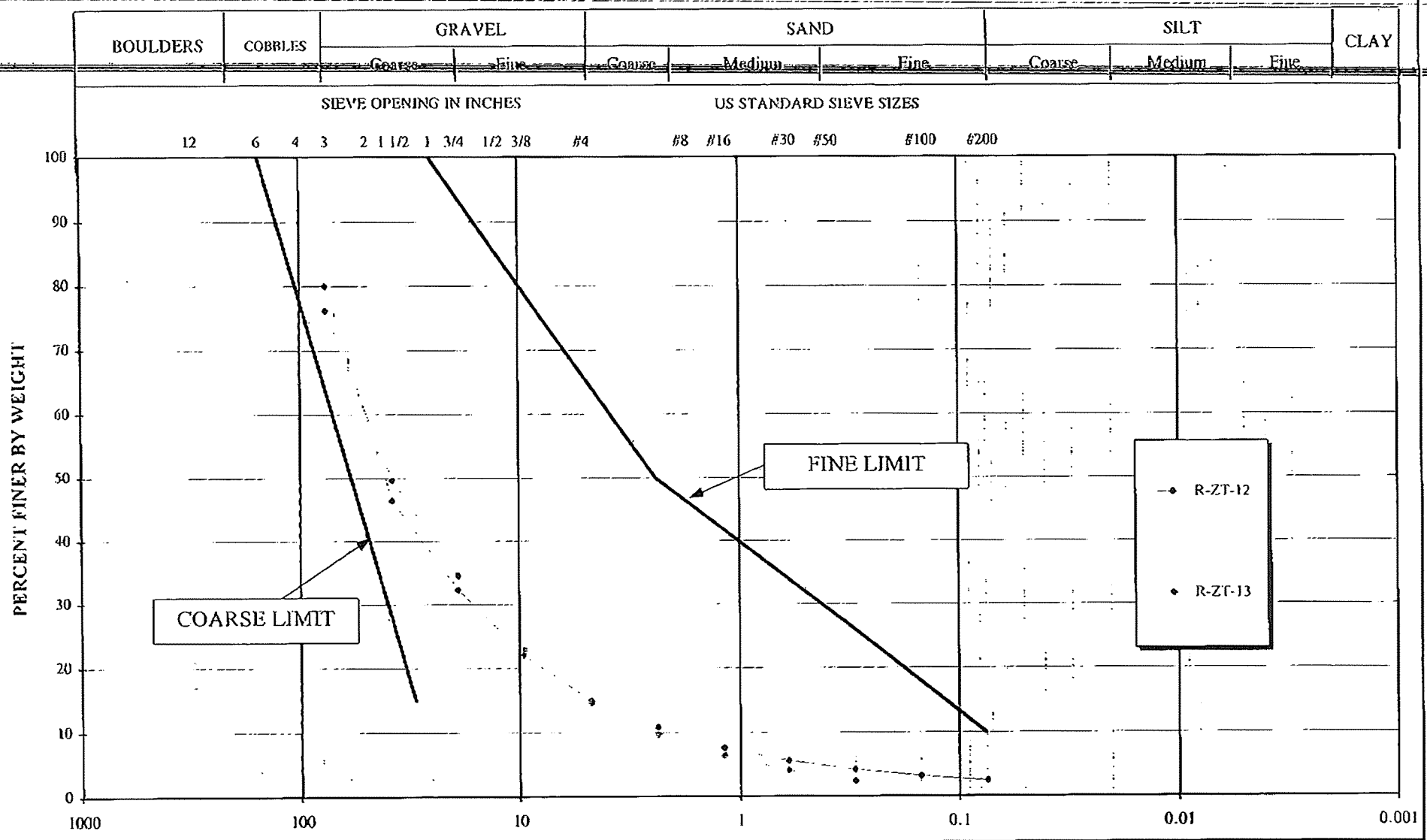
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

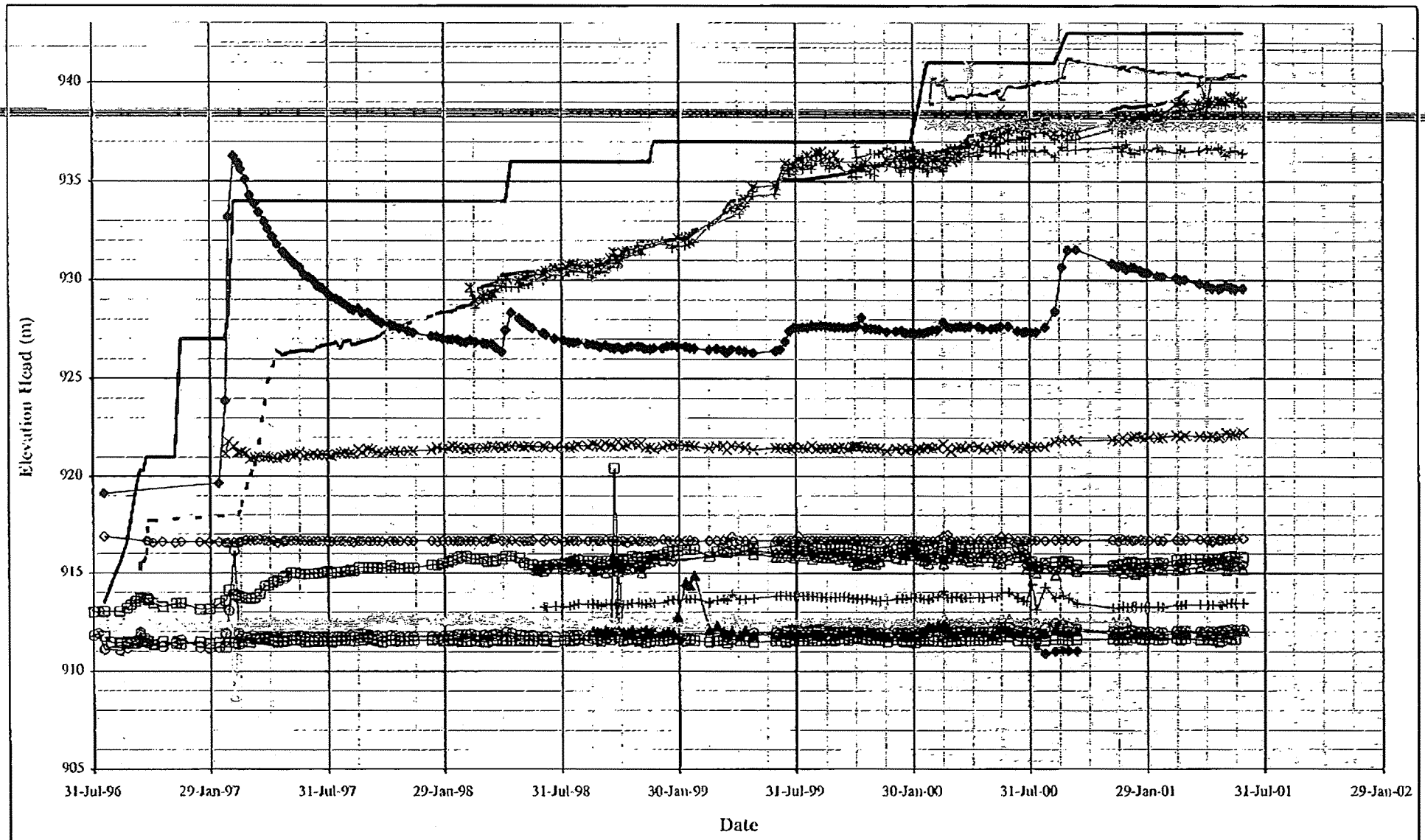
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV
11162/14		

FIGURE 4.2



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION - ZONE T RECORD SAMPLES GRADATION CURVES			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF NO.	REV.
	FIGURE 4.4		



MOUNT POLLEY MINING CORPORATION

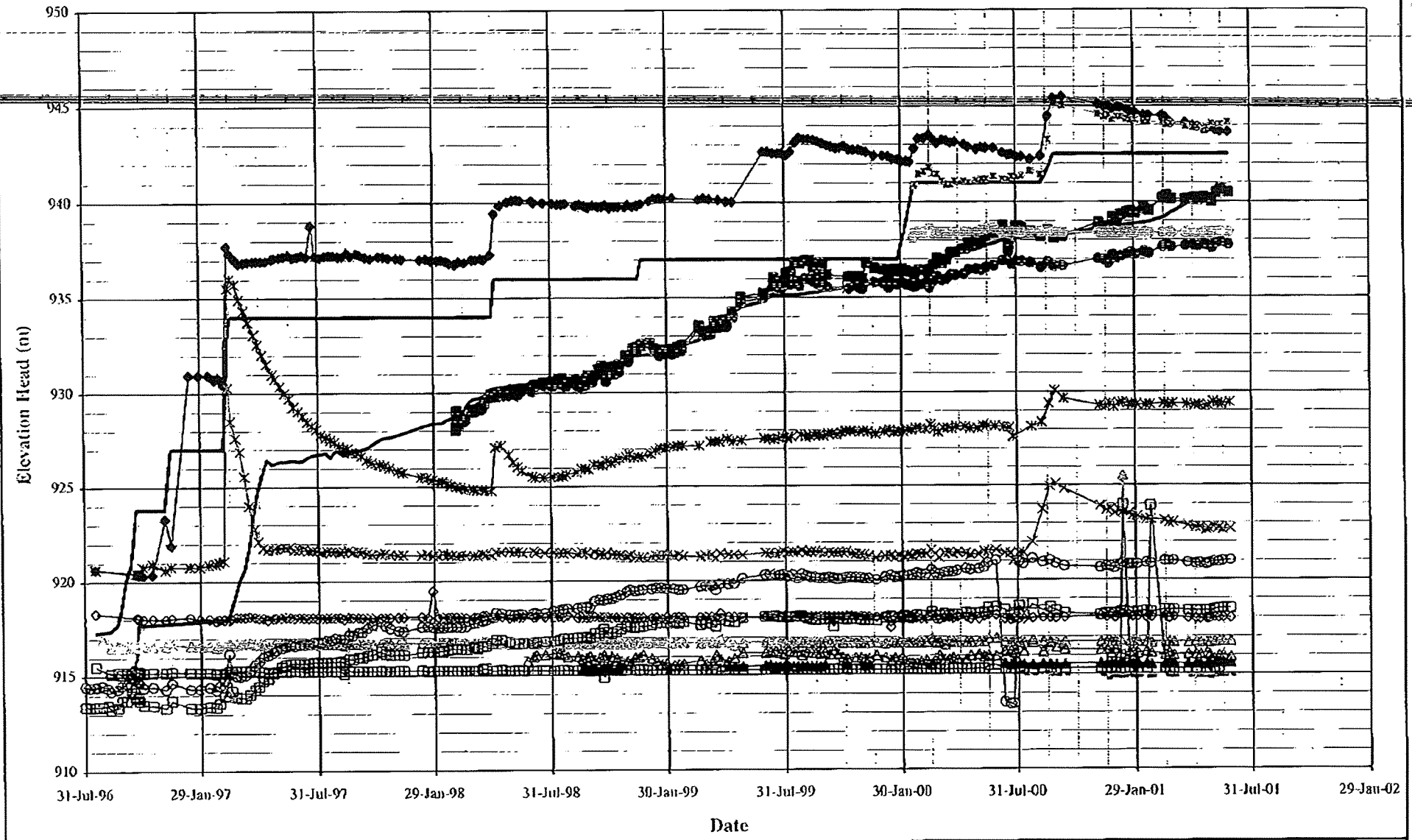
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV
11162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

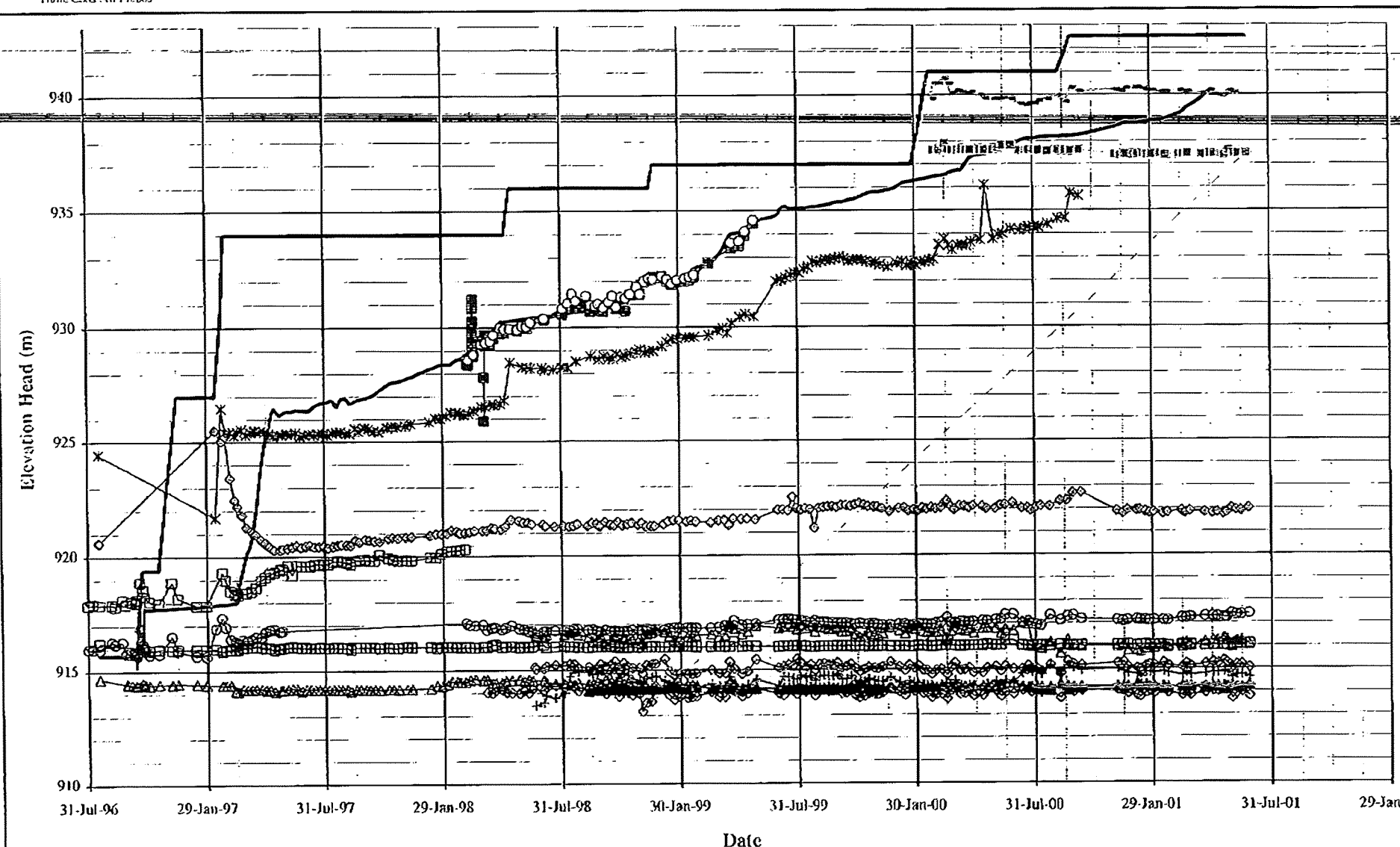
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE B PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

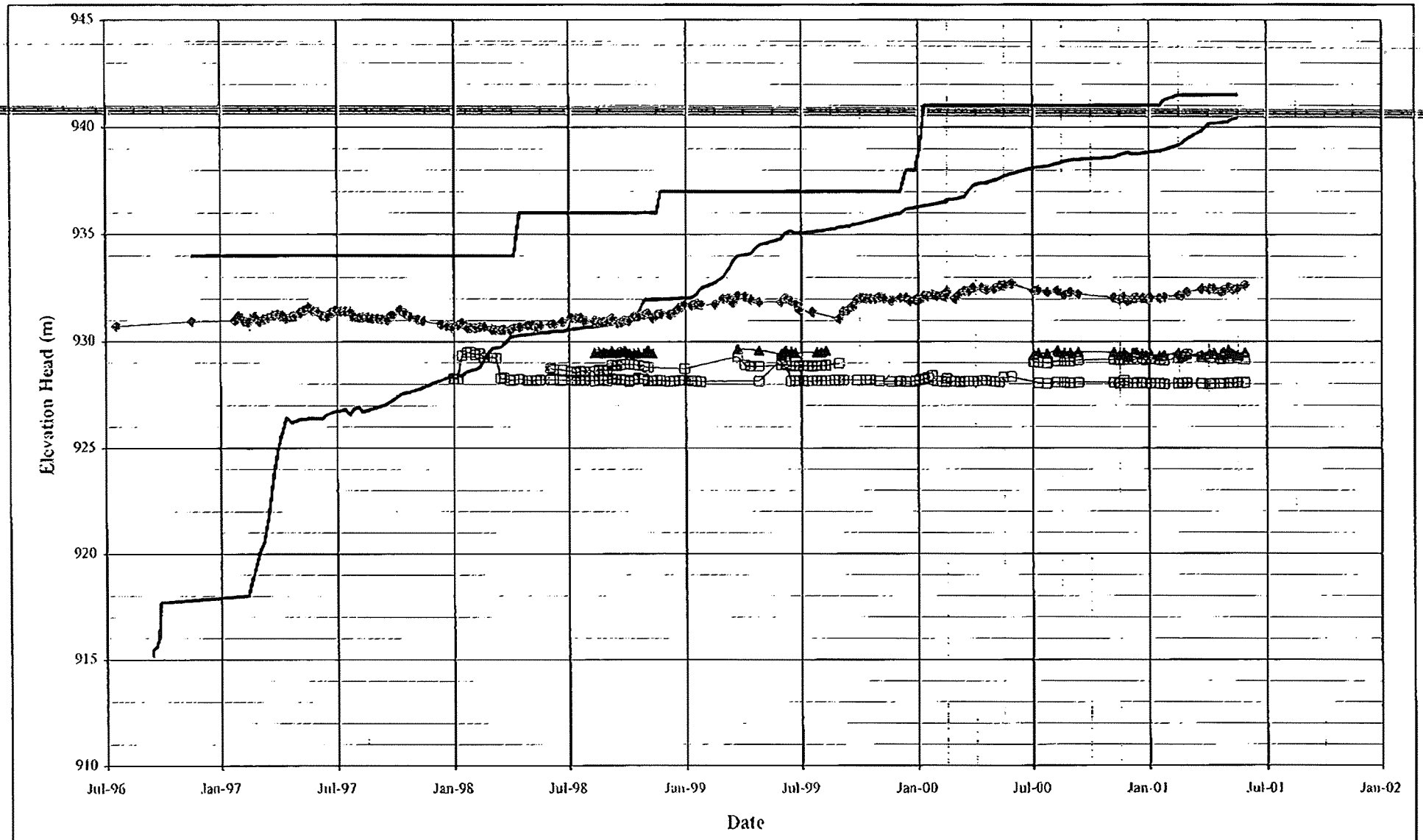
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV
11162/14		

FIGURE 5.2



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE C PIEZOMETERS GRAPH OF ELEVATION vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV
	FIGURE 5.3		



MOUNT POLLEY MINING CORPORATION

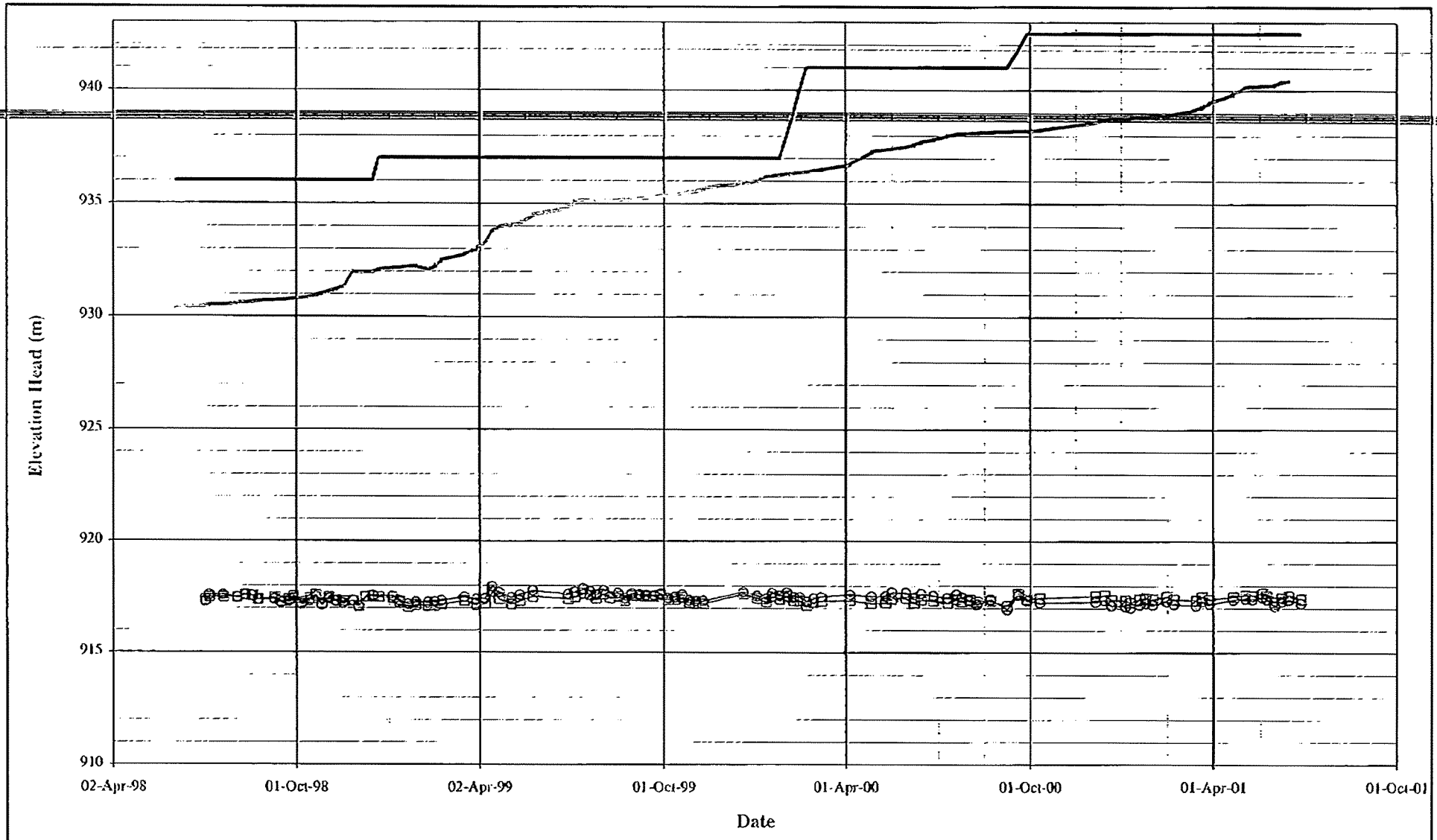
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

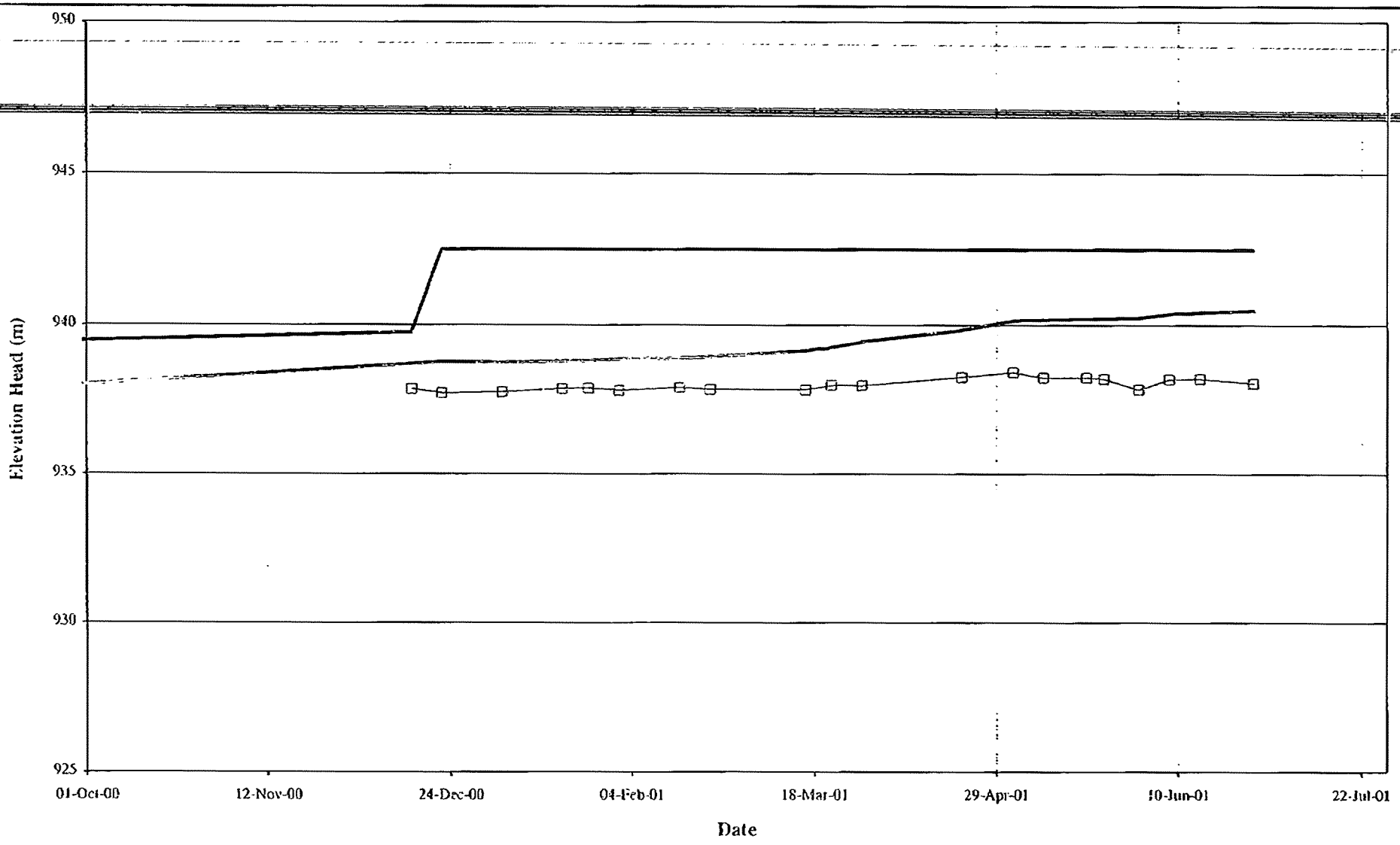
Knight Piésold CONSULTING

PROJECT NO.	REF NO	REV
11162/14		

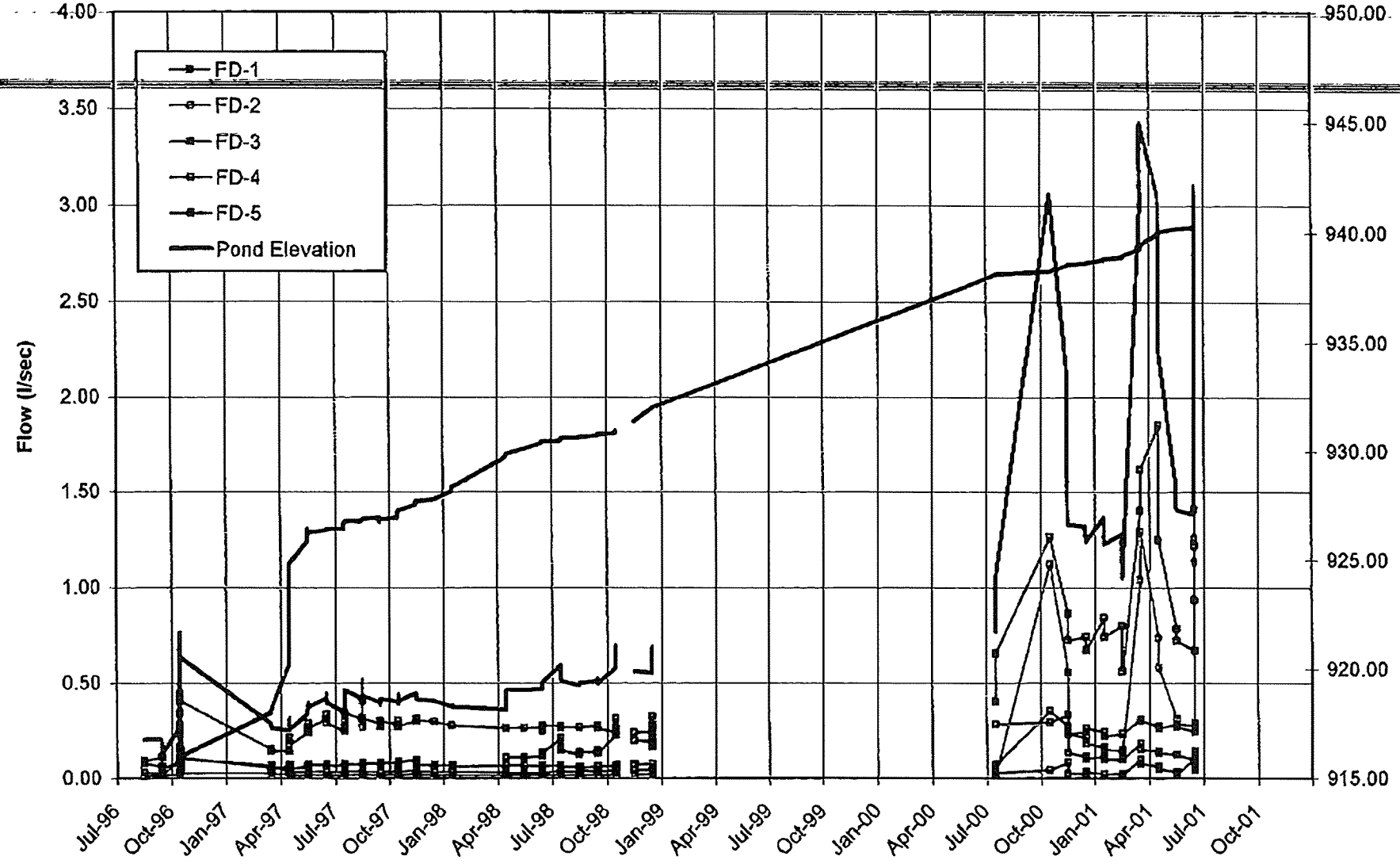
FIGURE 5.4



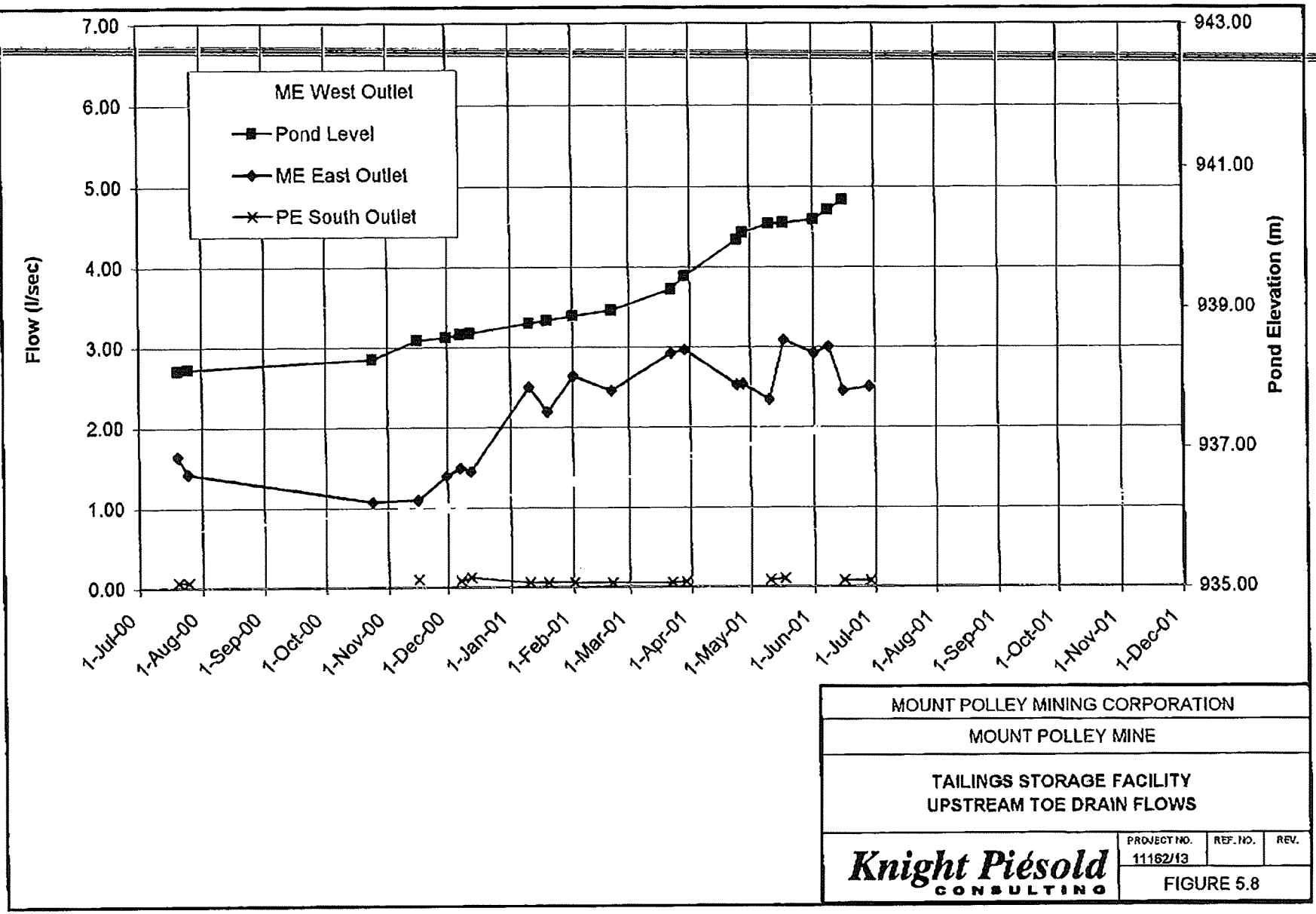
MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE E PIEZOMETERS GRAPH OF ELEVATION vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF NO.	REV
	FIGURE 5.5		



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE F PIEZOMETERS GRAPH OF ELEVATION vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 1116214	REF. NO.	REV.
	FIGURE 5.6		



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY MAIN EMBANKMENT FOUNDATION DRAIN FLOWS			
Knight Piésold CONSULTING	PROJECT NO. 11162/13	REF. NO.	REV.
	FIGURE 5.7		



MOUNT POLLEY MINING CORPORATION

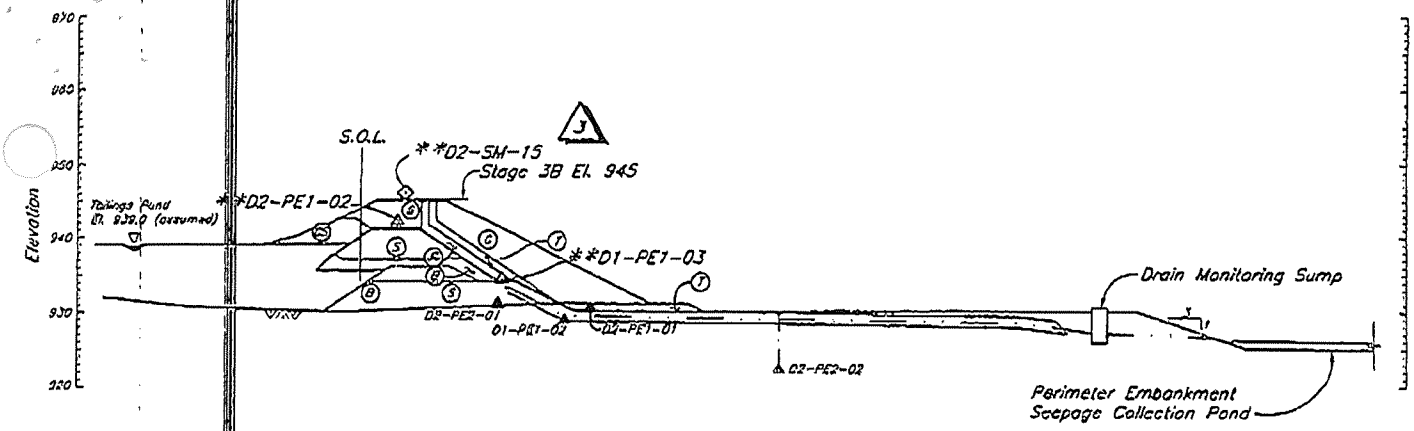
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

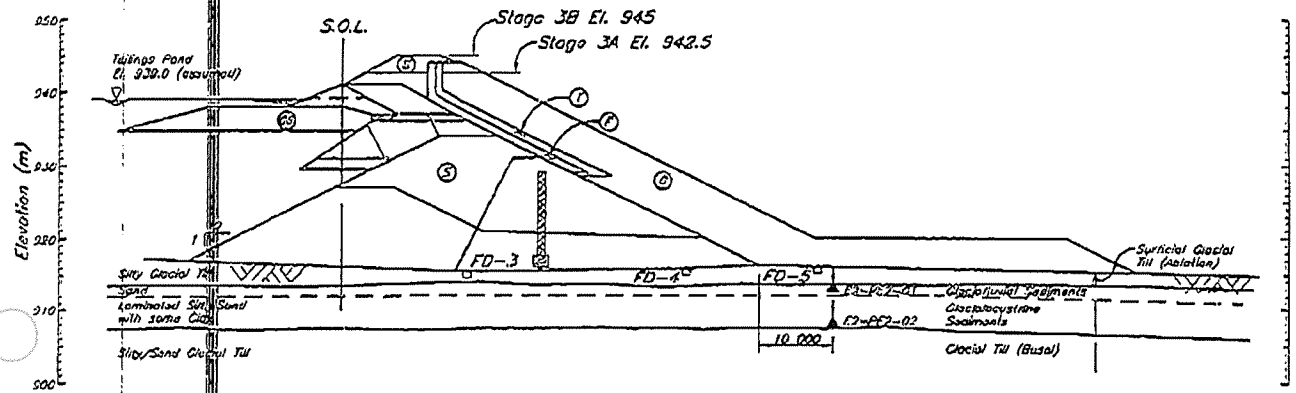
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		

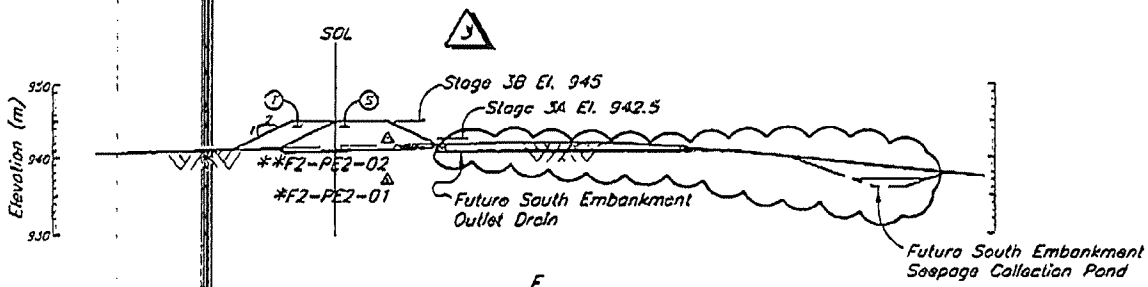
FIGURE 5.8



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

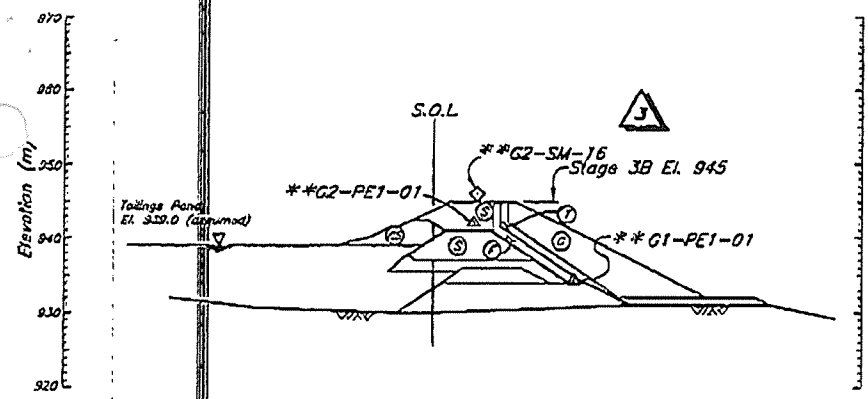


PLANE $\frac{E}{250}$
CH. 17+60

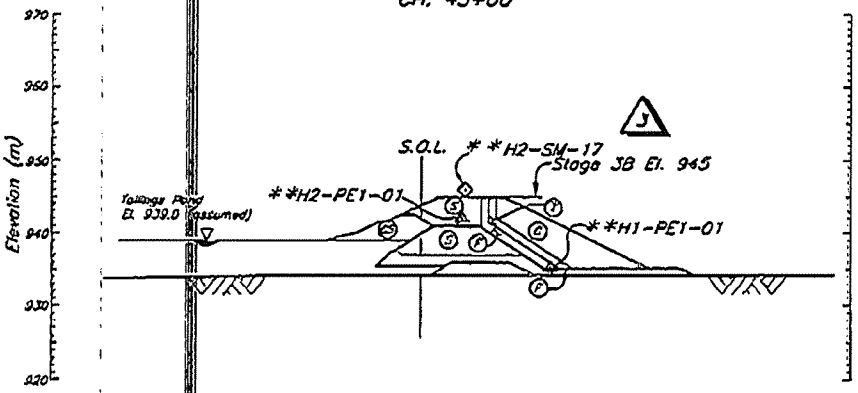


PLANE $\frac{F}{254}$
CH. 7+19

REFERENCE DRAWINGS		REVISIONS								
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS								3	08MAY'01	ISSUED FOR
STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN								2	26JAN'01	STAGE 3B
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN								1	20OCT'00	PERIMETER
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN								0	2JUN'00	ISSUED FOR



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



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

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

Scale 10 0 10 20 30 40 50 m

VANCOUVER B.C. DWG FILE: N:\11162\13\Dwg\11162-13-259.dwg 1:500 PLOT 1:1(2) May 4, 2001 AM

REVISIONS	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
3	STAGE 3B TENDER	CWM	DSR	JRK	KJB
2	3 - CREST ELEVATION 945	JRK	AW	JMTW	KJB
1	ER EMBANKMENT SECTIONS ADDED	JRK	NSO	JMTW	KJB
0	FOR CONSTRUCTION	JRK	TAM	ABW	KJB

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA C.W. MANN

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 3

DRAWING NO. 11162-13-259

file

Knight Piésold
CONSULTING

Mount Polley Site Office *Fax: (250) 790-2268*
www.knightpiésold.com

DATE:	June 20, 2001	**FILE NO.:**	11162/14.F01/.F02/ /.F04/.F05/.F08
TIME:		**REF NO.:**	01-12
OPERATOR:		**PAGES:**	1 of 20
SENDER:	Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C. **FAX :** 250-952-0481
ATTN:	Chris Carr
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site
SUBJECT:	Progress Report No. 11

Dear Mr. Carr,

Please find enclosed a copy of Progress Report No. 11 from June 11 to June 17, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

MINISTRY OF
ENERGY AND MINES
REC'D JUN 20 2001

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MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 11 – JUNE 11 TO JUNE 17, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes:

1. Placement of Zones F, T and C to approximate El. 941.5 m on the Perimeter Embankment (Ch. 32+00 to 44+50). MPMC is carrying out this work with the exception of filter sand hauling between the millsite and the TSF, which is being completed by sub-contractors.
2. Placement of Zones CBL, S, F, T and C on the Main, Perimeter and South Embankments to El. 945 m. This work will be carried out under contract. A Contractor for this work has yet to be determined.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons — Mine Superintendent
- Eric LeNeve — Tailings Coordinator
- Charlie O'Hara — General Foreman
- Don Jameson — Site Foreman
- Ron Gale — Site Foreman

1.2 CONTRACT DEVELOPMENTS

153 Mile Contracting won the contract for the filter sand haul between the millsite and the TSF. 153 Mile Contracting is responsible for loading, transporting and dumping material only. MPMC is responsible for crushing, placement and compaction. As mentioned above, a Contractor will be chosen to complete the Stage 3B embankment raise from approximate El. 941.5 m to 945 m.

MPMC has completed a preliminary construction schedule for the project. The target is to complete the required work by September 30, 2001. The schedule calls for MPMC to complete

their portion of work by July 15, 2001. The Contractor is to begin work on July 15 and to finish on September 30, 2001. This schedule is subject to modification; however, the schedule will be ultimately governed by freeboard concerns at the TSF.

1.3 DESIGN DEVELOPMENTS

No new design developments have occurred over the reporting period.

1.3 WEATHER

Conditions were unsettled during the reporting period. This included periods of cloud, rain and sunshine. Maximum daytime highs reached about +20 °C and nightly lows sank to as low as +2 °C.

1.4 SAFETY

No safety incidents were reported over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 19+00 and 17+00. The 200 m extension of the pipeline was completed on June 16. Tailings were present upstream of the Main Embankment at all areas on June 14. It is anticipated that tailings will form a substantial beach upstream of the ridge between the Main and South Embankments by discharging at Ch. 17+00.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 270
- Haul Trucks: 2 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992
- Dozers: 1 Caterpillar D7G, 1 Caterpillar D8R
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Graders: 1 Caterpillar 14G, 1 Caterpillar 16G
- Drills: 1 Svedala STK
- Service and fuel trucks
- 153 Mile Contracting: 6 highway dump trucks and Caterpillar 980B and 966 loaders

MPMC carried out the following activities during the reporting period:

- Removal of saturated fill from the downstream face of the Perimeter Embankment, Ch. 43+00 to 40+50, El. 937 to 940 m.
- Placement of Zone F fill on the Perimeter Embankment: Ch. 43+25 to 45+50, El. 936 to 941.5 m and Ch. 34+00 to 35+50, El. 934 to 937 m.
- Placement of Zone C fill on the Perimeter Embankment, Ch. 40+00 to 43+25, El. 932 to 934 m and Ch. 35+75 to 38+50, El 932.5 to 934 m.
- Development of the Rock Borrow for Zones T and C materials.

Zone C was supplied from the Rock Borrow, while Zone F was delivered from the crushed stockpile at the millsite. Zone C was placed in 1 metre thick, horizontal lifts to the downstream toe of the Stage 3B Perimeter Embankment. Zone F was placed up the slope on top of the existing Zone S.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of saturated material removal and fill placement of Zones C and F.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- C-ZF-34, 35 and 36
- R-ZF-33

All three control samples carried out on Zone F failed the grain size specification on the #'s 8, 16 and 30 sieves. The curves were sent to the KP Vancouver office for filter relationship analyses. The results of the analyses show that the latest Zone F samples have a filter relationship with the Zone S that is present in the Perimeter Embankment but do not have a filter relationship with the cycloned sand. As a result, KP gave permission to MPMC to use this material against the Zone S.

The subsequent record test failed the grain size specification on the # 16 sieve only. Due to the above discussion, this material was allowed to remain in place.

All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed over this period. Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.6. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the remaining foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. These piezometers are now fully dissipated, as a constant, horizontal trend has been showing for some time now.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be

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noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on June 15, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.7 and 5.8.

SECTION 5.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 941.5 m.
- MPMC will select a Contractor to construct the embankments to El. 945 m.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE F CONTROL TEST SUMMARY SHEET

I:\ENG DATA\Engdocs\Geotechnical\Kpitd\Stage 3B Construction\Laboratory\[C-ZF-summ.xls]Data Sheet

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SHEET : 1 of 1

PROJECT : MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

PERIOD : June 11 to June 17, 2001

MATERIAL : Zone F - Filter Sand

PROJECT NO. : 1162/14

AREA : Zone F Stockpile

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field moisture %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07366 mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum moisture %	C6 Specific Gravity
									4"	3"	1.5"	1"	0.75"	0.375"	0.187"	0.0937"	0.0469"	0.0234"	0.0165"	0.0059"	0.0029"	Clay			
									4"	3"	1 1/2"	1"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200	Clay			
ZF-01	28-May-01	Zone F Stockpile	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.0	28.5	21.3	16.5	12.7	10.0	-	-	-	-
ZF-02	28-May-01	Zone F Stockpile	-	-	-	-	4.0	-	100.0	100.0	100.0	100.0	99.4	78.9	59.9	43.4	29.6	21.9	16.8	13.1	10.4	-	-	-	-
ZF-03	28-May-01	Zone F Stockpile	-	-	-	-	3.9	-	100.0	100.0	100.0	100.0	98.7	56.0	28.1	17.6	12.8	10.1	7.8	6.1	4.8	-	-	-	-
ZF-04	11-Jun-01	Zone F Stockpile	-	-	-	-	3.7	-	100.0	100.0	100.0	100.0	99.3	59.2	35.0	24.2	15.0	10.5	7.8	6.1	4.8	-	-	-	-
ZF-05	11-Jun-01	Zone F Stockpile	-	-	-	-	4.2	-	100.0	100.0	100.0	100.0	97.9	59.3	34.7	24.7	15.3	10.6	8.0	6.4	5.1	-	-	-	-
ZF-06	12-Jun-01	Zone F Stockpile	-	-	-	-	3.6	-	100.0	100.0	100.0	100.0	97.7	60.6	37.0	24.2	16.5	12.2	9.4	7.1	5.6	-	-	-	-
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	3.6	#DIV/0!	100.0	100.0	100.0	100.0	98.8	66.3	42.7	29.5	19.6	14.4	11.1	8.6	6.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	3.9	#NUM!	100.0	100.0	100.0	100.0	99.0	60.0	36.0	24.5	15.9	11.4	8.7	6.8	5.4	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (%)				0.0	0.0	0.0	4.2	0.0	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.4	29.6	21.9	16.8	13.1	10.4	0.0	0.0	0.0	0.0
MINIMUM (%)				0.0	0.0	0.0	3.6	0.0	100.0	100.0	100.0	100.0	97.7	56.0	28.1	17.6	12.8	10.1	7.8	6.1	4.8	0.0	0.0	0.0	0.0

Note These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

C1 Atterberg Limits (ASTM D4318)
C2 Moisture Content (ASTM D2216)
C3 Particle Size Distribution (ASTM D422)
C4 Laboratory Compaction (ASTM D1557)
C6 Specific Gravity (ASTM D854)

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

I:\ENGDATA\Engdocs\Geotechnical\Specific\Stage 3B Construction\labrecord\[R-ZF-xxxx.xls]Data Sheet

6/15/01

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SHEET :	1 of 1
PERIOD :	June 11 to June 17, 2001
PROJECT NO. :	1116214
AREA :	TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

MATERIAL: Zone F - Filter Sand

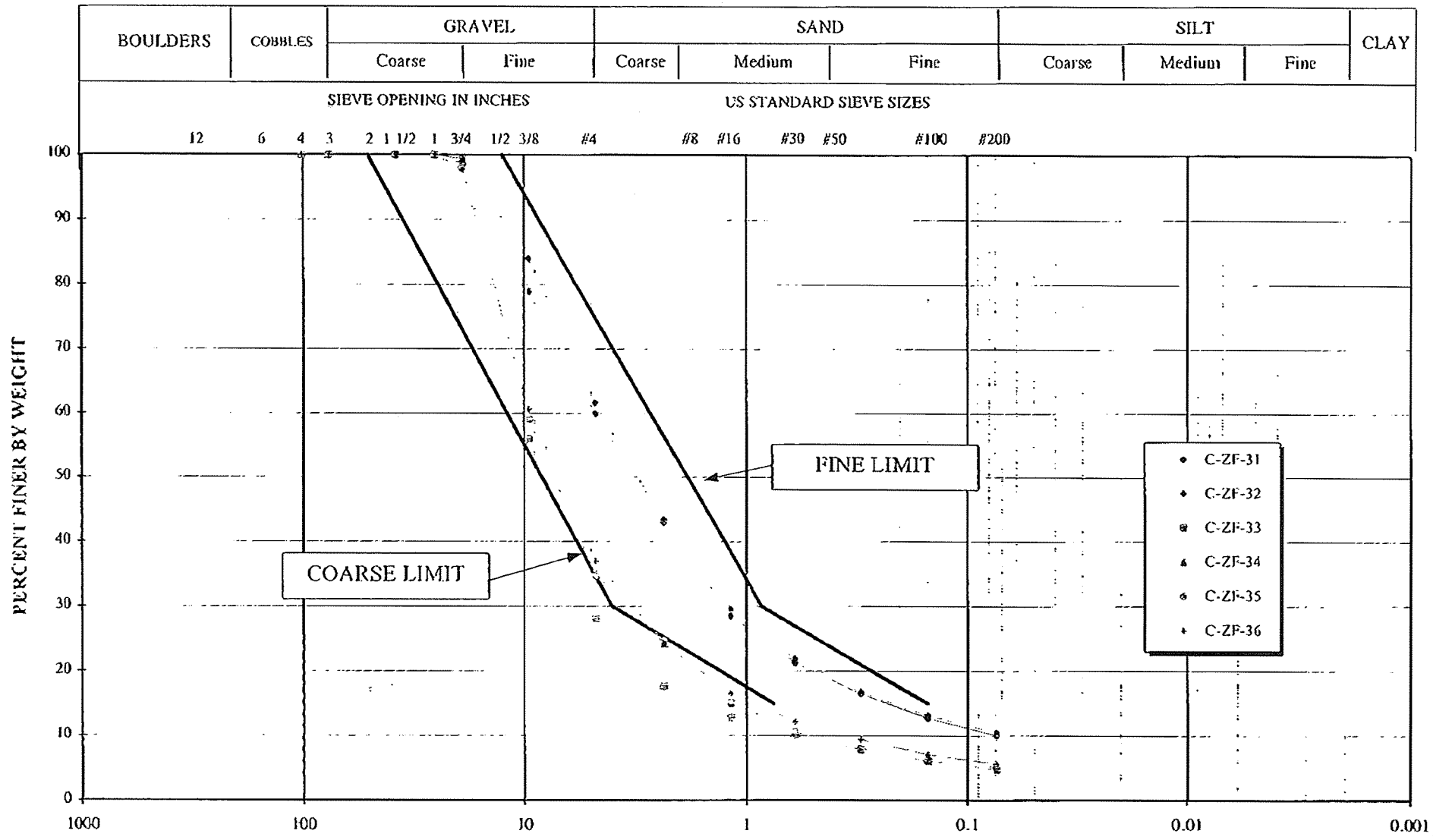
Sample No	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field m/c %	LI %	C3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	25.4 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07366 mm	0.002 mm	C4 Standard Proctor Max Dry Density kg/m³	C4 Standard Proctor Optimum m/c %	C6 Specific Gravity
> ZF-01	28-May-01	20+00. 0 S m DS of Zone S	-	-	-	-	4.9	-	100.0	100.0	100.0	100.0	97.5	71.5	49.1	35.9	25.8	19.7	15.0	11.6	9.1	-	-	-	-
< ZF-02	28-May-01	32+00. 0 S m DS of Zone S	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	98.7	68.4	44.0	31.9	22.5	16.9	12.8	9.9	7.7	-	-	-	-
> ZF-03	17-Jun-01	44+00. 0 S m DS of Zone S	-	-	-	-	7.0	-	100.0	100.0	100.0	100.0	92.9	68.8	44.7	28.8	17.8	13.2	10.6	8.5	6.9	-	-	-	-
		MEAN	#DIV/0!	#DIV/0!	#DIV/0!		5.0	#DIV/0!	100.0	100.0	100.0	100.0	95.0	69.6	45.9	32.2	22.0	16.6	12.8	10.0	7.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
		MEDIAN	#NUM!	#NUM!	#NUM!		4.9	#NUM!	100.0	100.0	100.0	100.0	97.5	68.8	44.7	31.9	22.5	16.9	12.8	9.9	7.7	#NUM!	#NUM!	#NUM!	#NUM!
		MAXIMUM (*)	0.0	0.0	0.0		7.0	0.0	100.0	100.0	100.0	100.0	98.7	71.5	49.1	35.9	25.8	19.7	15.0	11.6	9.1	0.0	0.0	0.0	0.0
		MINIMUM (*)	0.0	0.0	0.0		4.0	0.0	100.0	100.0	100.0	100.0	97.5	68.4	44.0	28.8	17.8	13.2	10.6	8.5	6.9	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

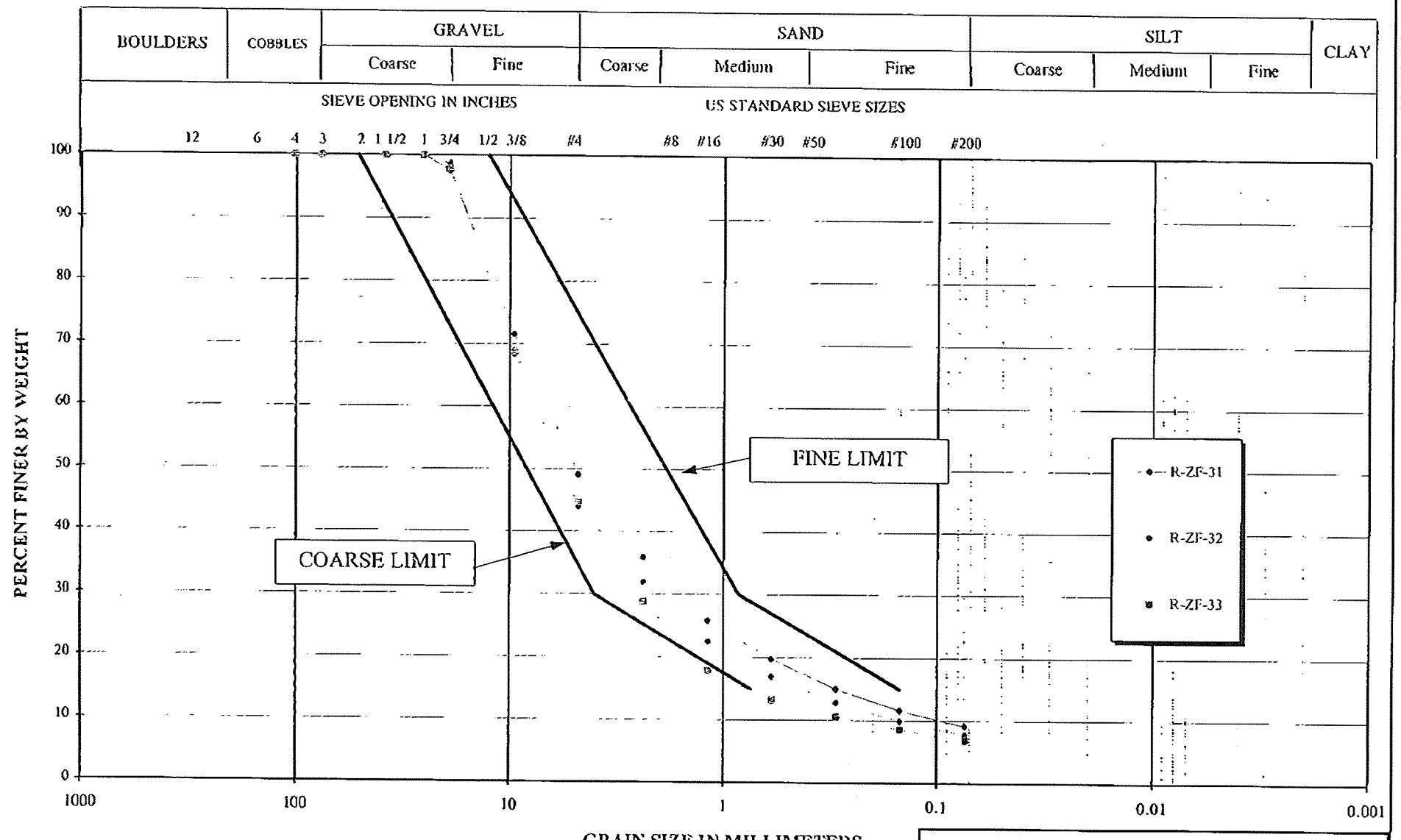
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F CONTROL SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO	REF NO.	REV.
11162/14		

FIGURE 4.1



MOUNT POLLEY MINING CORPORATION

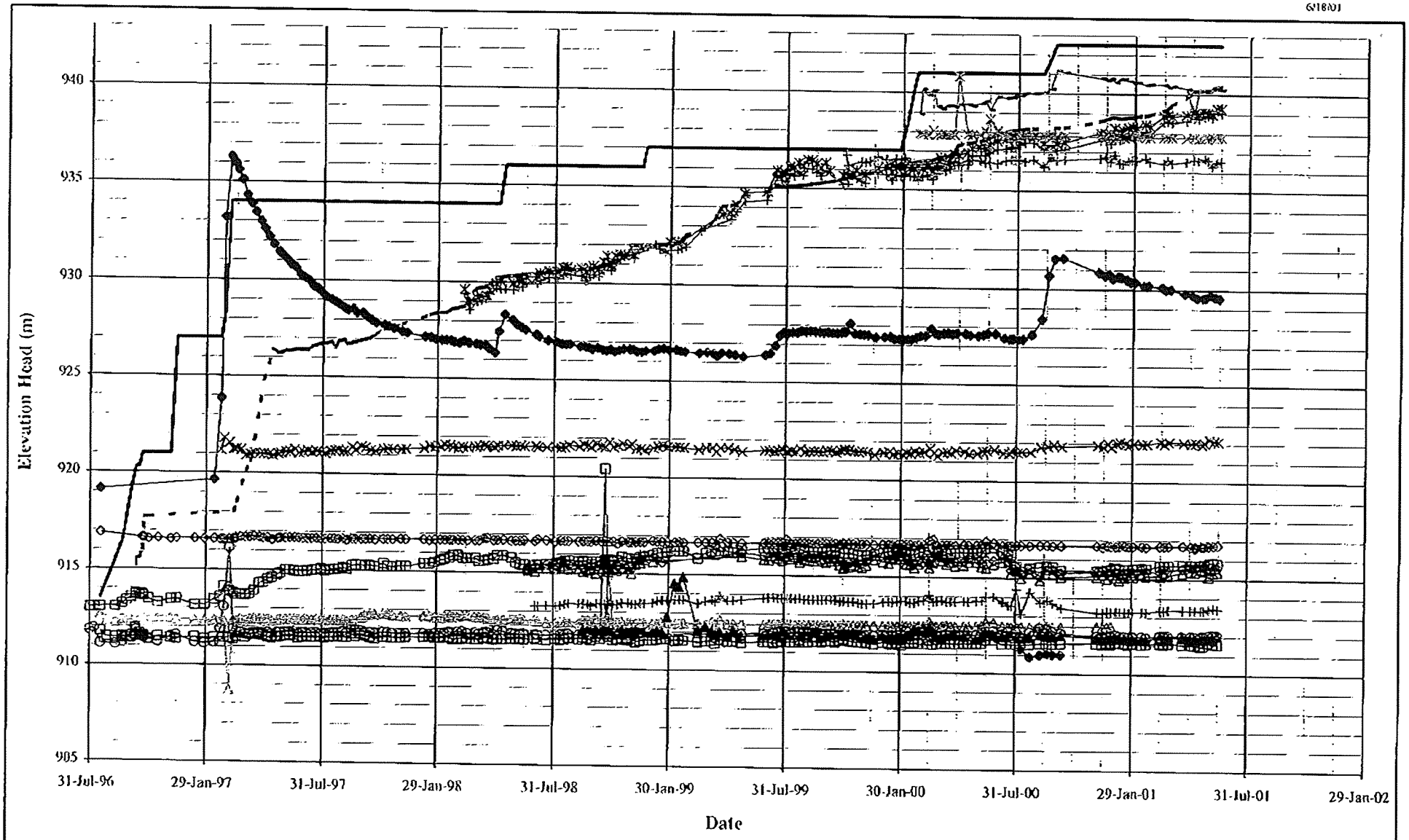
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV
11162/14		

FIGURE 4.2



MOUNT POLLEY MINING CORPORATION

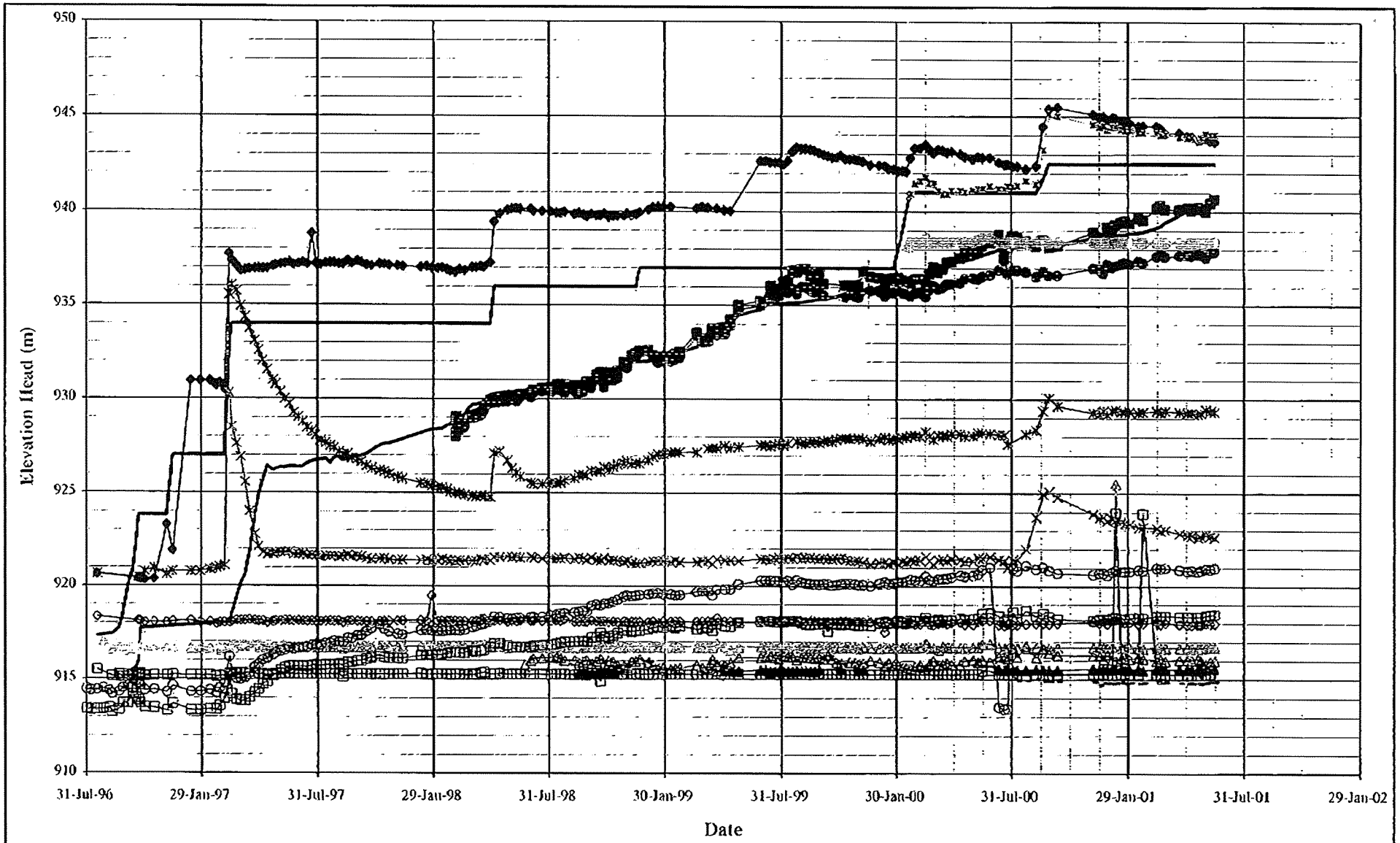
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE A PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

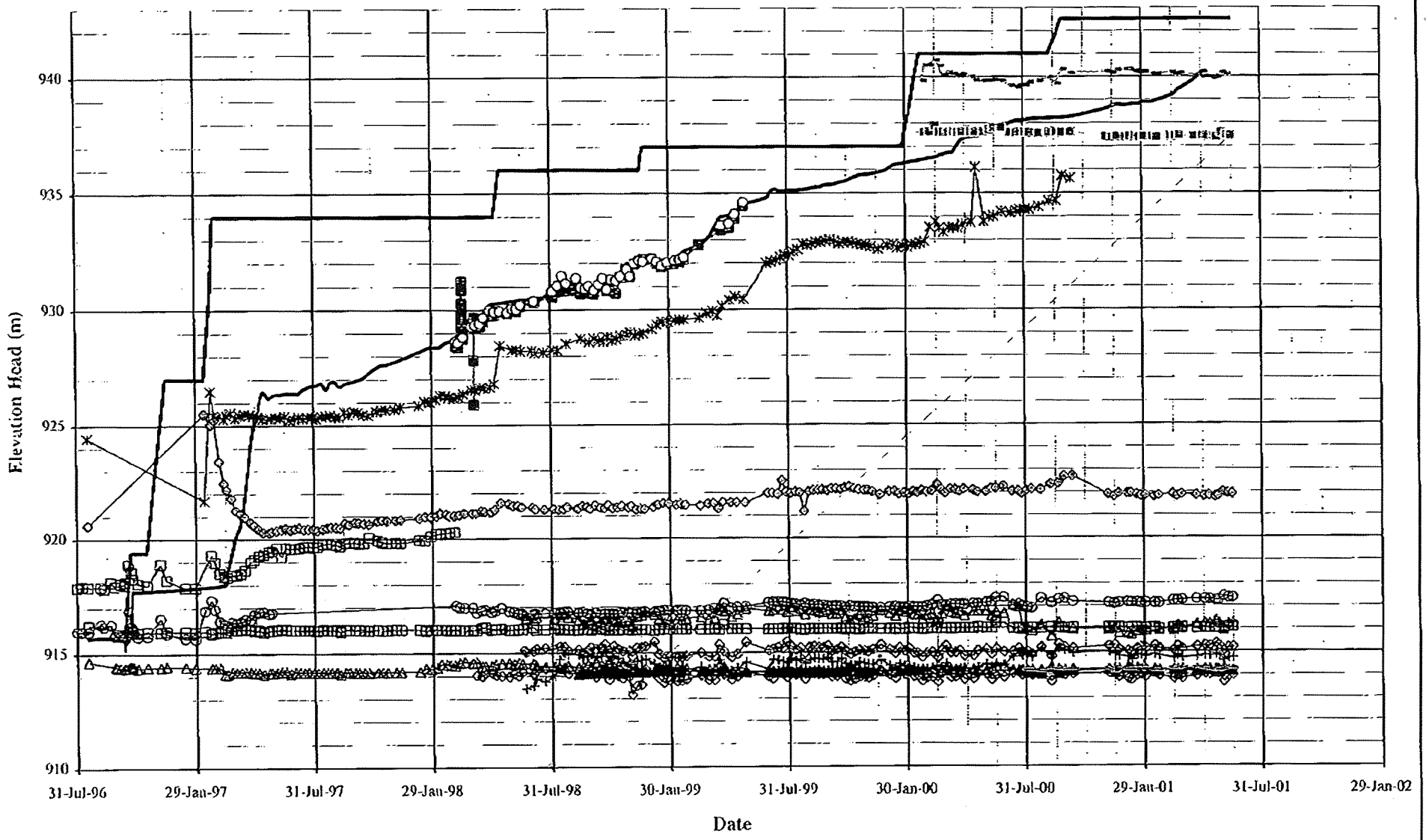
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE B PIEZOMETERS GRAPH OF ELEVATION vs. TIME			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF NO.	REV.
	FIGURE 5.2		



MOUNT POLLEY MINING CORPORATION

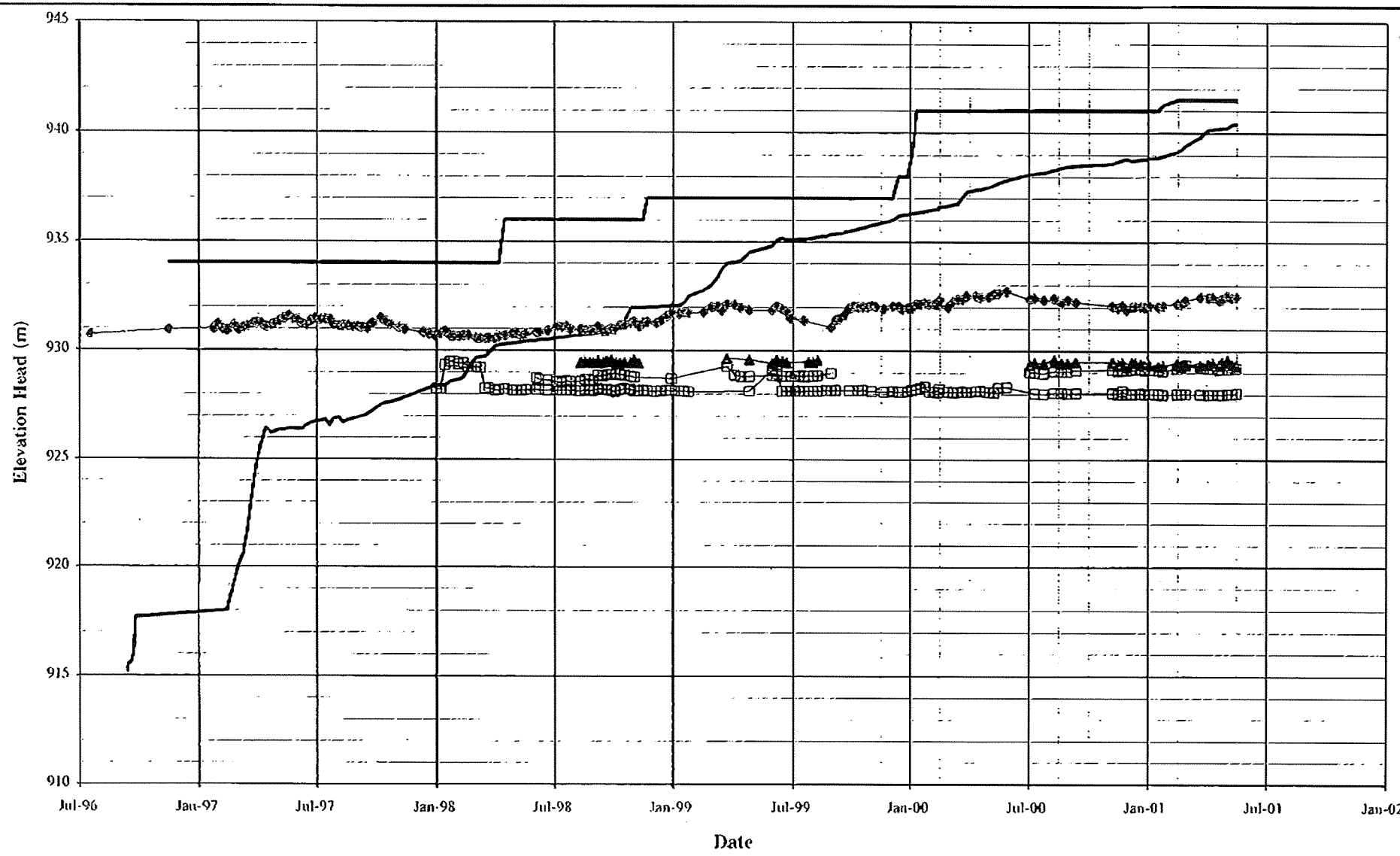
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE C PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO	REV
11162/14		

FIGURE 5.3



MOUNT POLLEY MINING CORPORATION

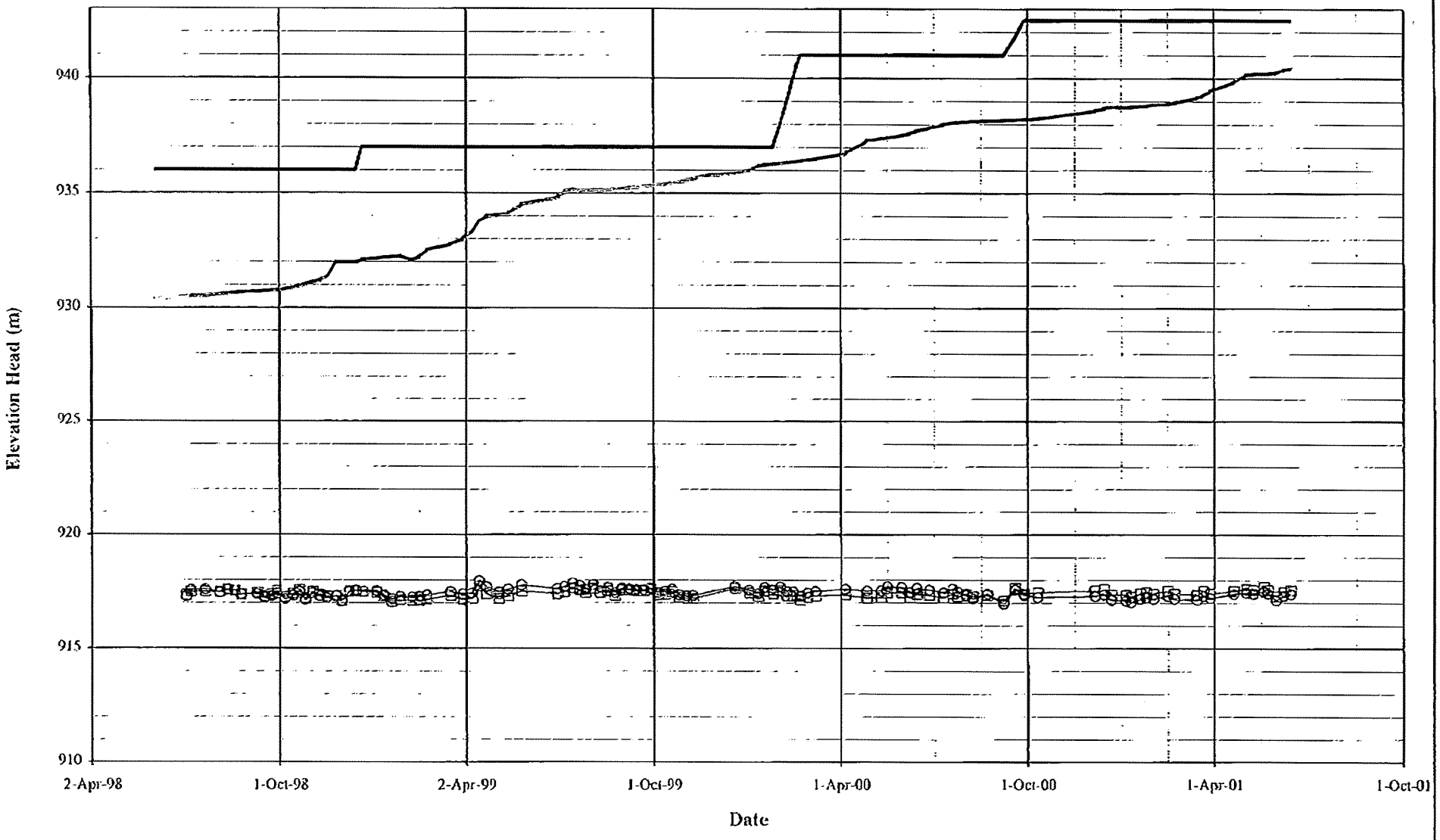
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE D PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

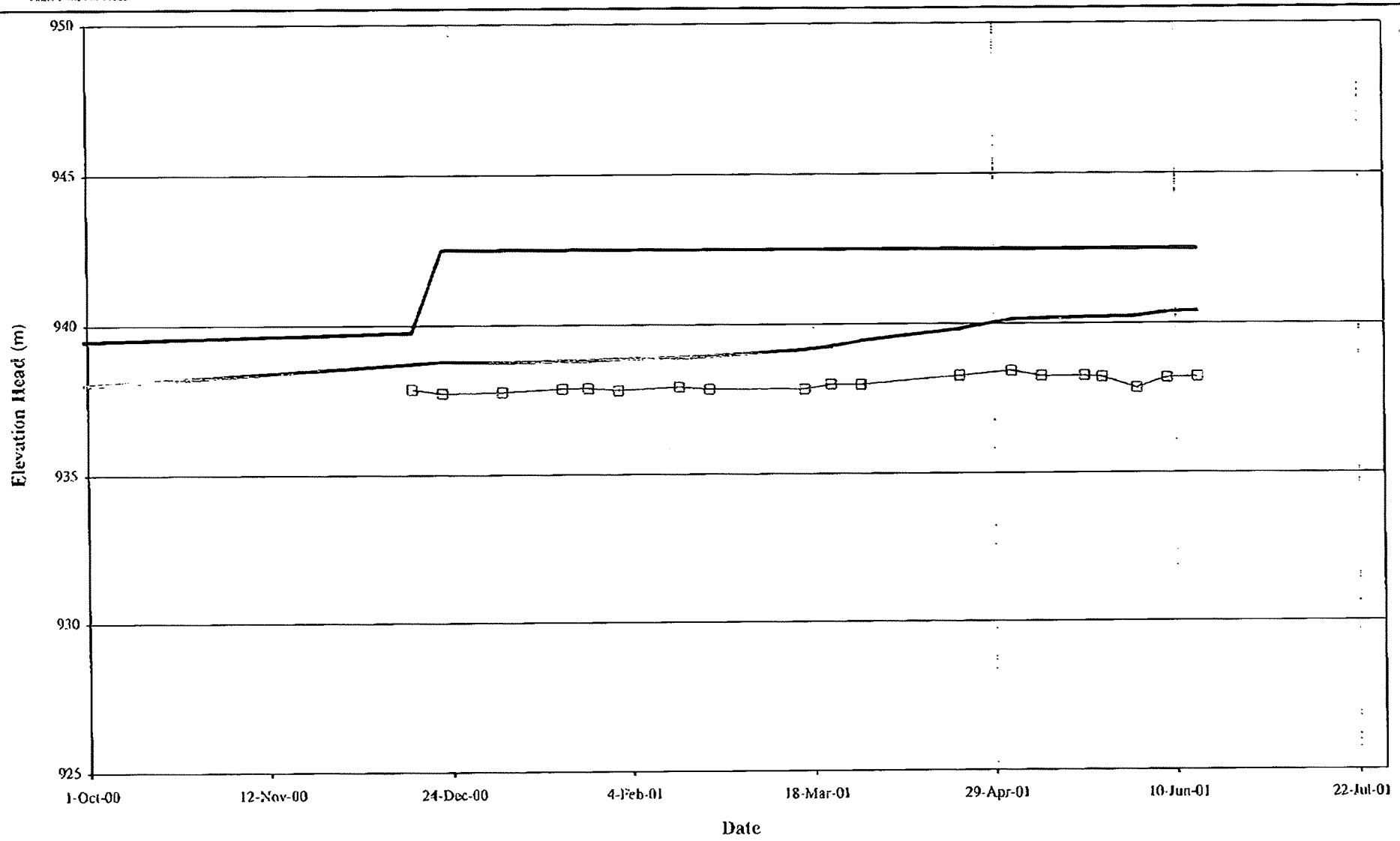
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/14		

FIGURE 5.4



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY PLANE E PIEZOMETERS GRAPH OF ELEVATION vs. TIME			
Knight Piésold CONSULTING	PROJECT NO 11162/14	REF NO.	REV.
	FIGURE 5.5		



MOUNT POLLEY MINING CORPORATION

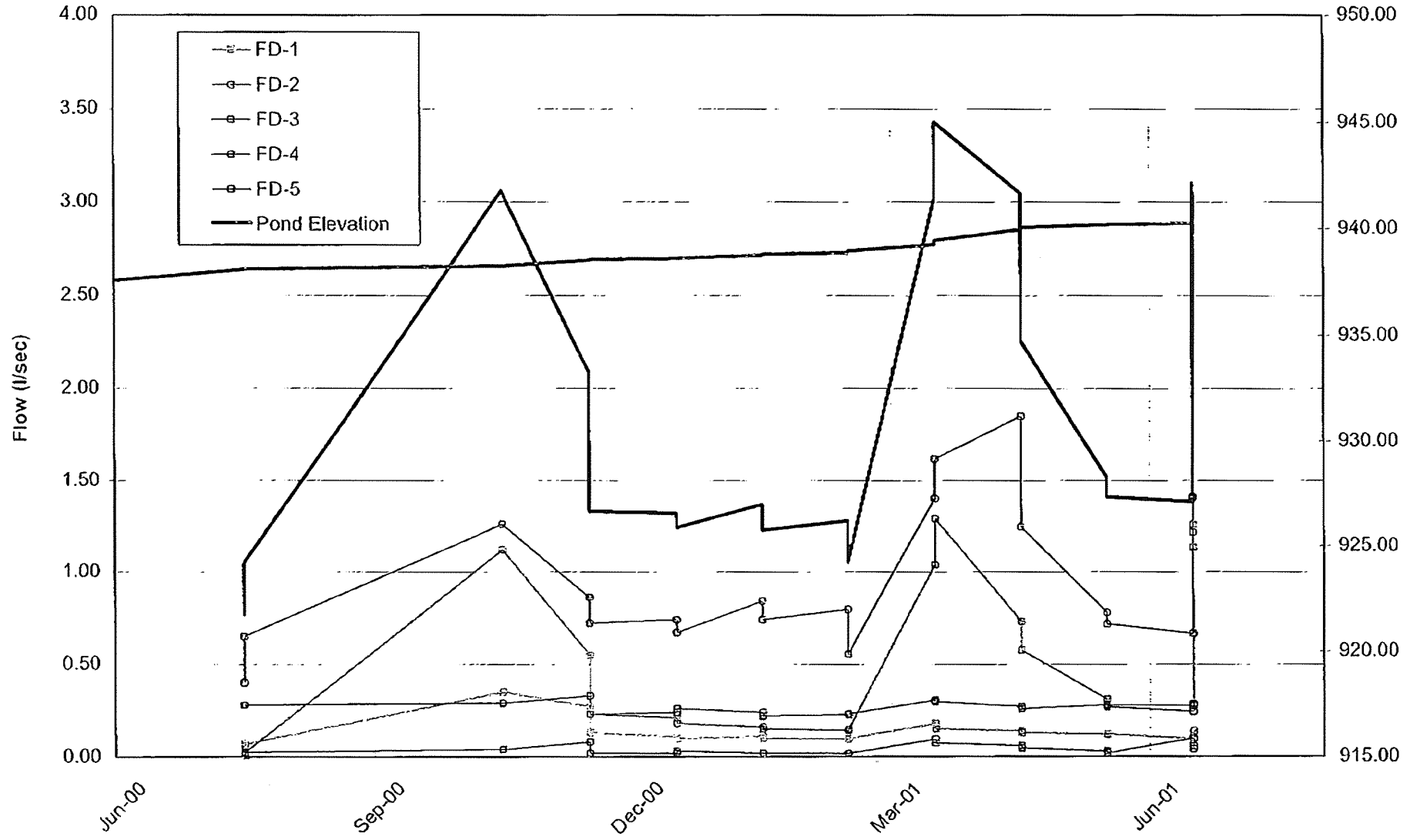
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
PLANE F PIEZOMETERS
GRAPH OF ELEVATION vs. TIME

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV
11162/14		

FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

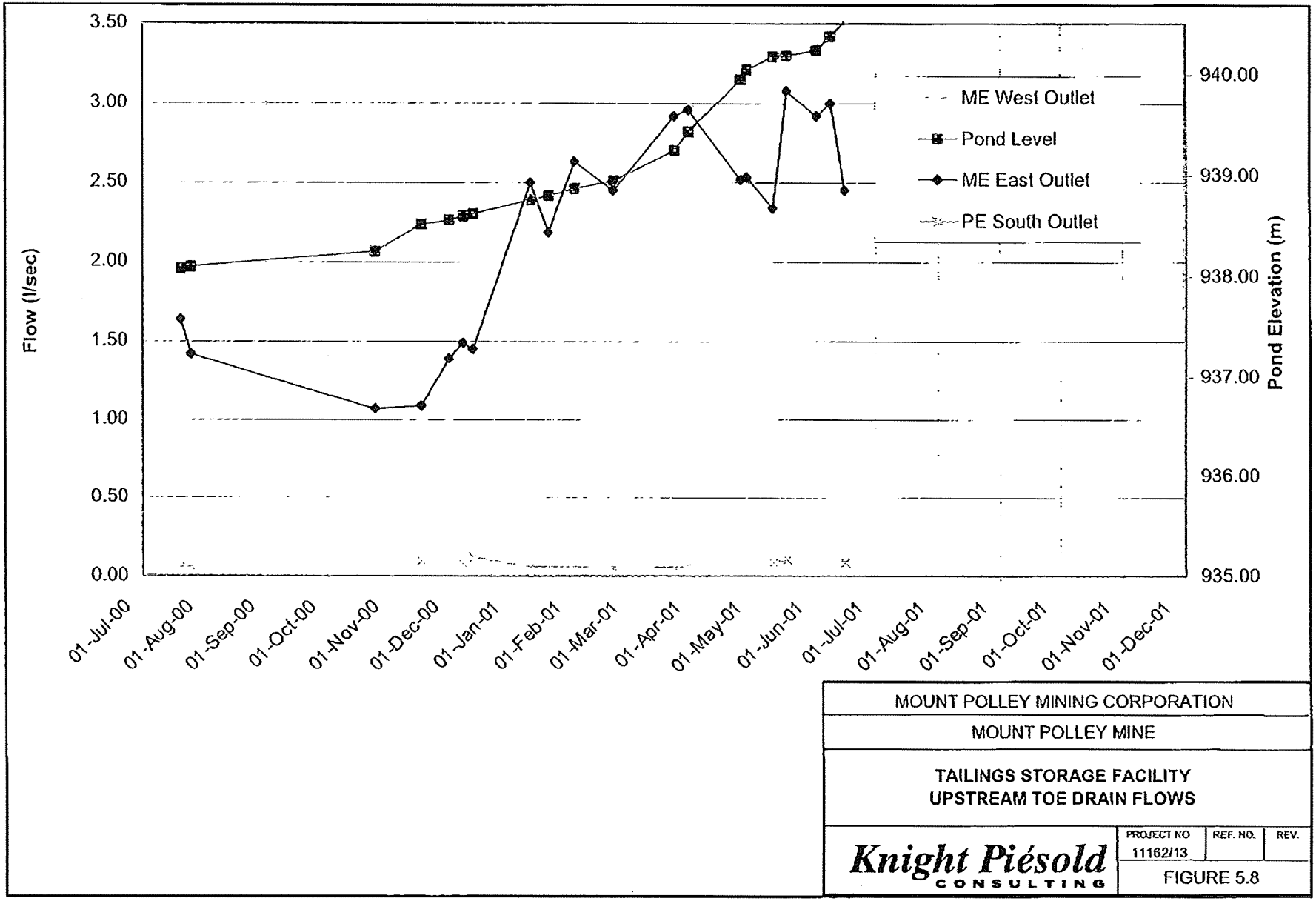
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

Knight Piésold CONSULTING

PROJECT NO	REF. NO.	REV
11162/13		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

PROJECT NO	REF. NO.	REV.
11162/13		

Knight Piésold CONSULTING

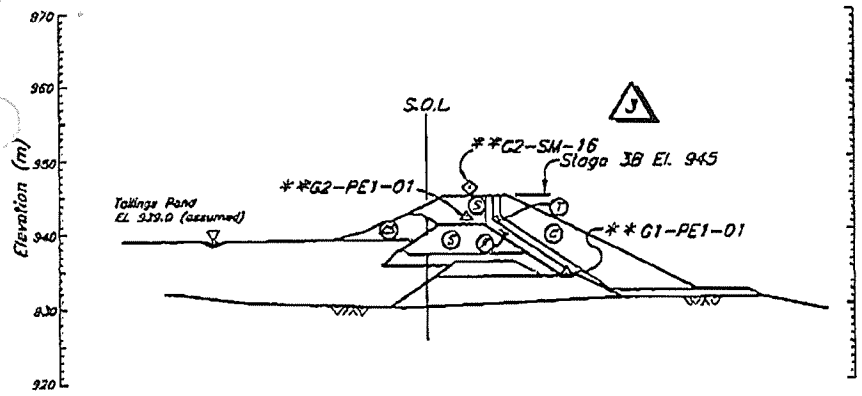
FIGURE 5.8

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

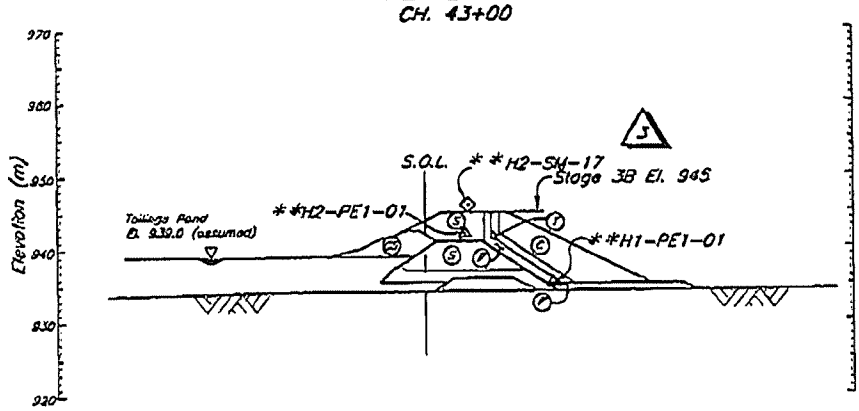
PLANE $\frac{E}{250}$
CH. 17+60

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

GE 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS									3	08MAY'01	ISSUED FO
STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN									2	26JAN'01	STAGE 3B
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN									1	20OCT'00	PERIMETER
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN									0	2JUN'00	ISSUED FO
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE		
REFERENCE DRAWINGS	REVISIONS										



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



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

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

Scale 10 0 10 20 30 40 50 m

REVISIONS				
DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
FOR STAGE 3B TENDER	CWM	DSR	[illegible]	[illegible]
3B - CREST ELEVATION 945	JRK	AW	JMTW	KJB
TER EMBANKMENT SECTIONS ADDED	JRK	NSO	JMTW	KJB
FOR CONSTRUCTION	JRK	TAM	ABW	KJB

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

DESIGNED JRK | CHECKED ABW | DRAWN DSR | APPROVED KJB

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

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

Knight Piésold CONSULTING

SCALE AS SHOWN | REVISION 3

DRAWING NO. 11162-13-259

Knight Piésold
CONSULTING

Mount Polley Site Office *Fax: (250) 790-2268*
www.knightpiésold.com

DATE:	June 15, 2001	**FILE NO.:**	11162/14.F01/.F02/ /.F04/.F05/.F08
TIME:		**REF NO.:**	01-09
OPERATOR:		**PAGES:**	1 of 20
SENDER:	Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C. **FAX :** 250-952-0481
ATTN:	Chris Carr
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site
SUBJECT:	Progress Report No. 10

Dear Mr. Carr,

Please find enclosed a copy of Progress report No. 10 from June 3 to June 10, 2001. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION PROGRESS REPORT NO. 10 – JUNE 4 TO JUNE 10, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes:

1. Placement of Zones F, T and C to approximate El. 941.5 m on the Perimeter Embankment (Ch. 32+00 to 44+50). MPMC will carry out this work.
2. Placement of Zones CBL, S, F, T and C on the Main, Perimeter and South Embankments to El. 945 m. This work will be carried out under contract. A Contractor for this work has yet to be determined.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons, Mine Superintendent
- Eric LeNeve, Tailings Coordinator
- Charlie O'Hara, General Foreman
- Don Jameson, Site Foreman

1.2 CONTRACT DEVELOPMENTS

No new contract developments occurred during the reporting period. As mentioned above, a Contractor will be chosen to carry out a portion of the Stage 3B embankment raise.

MPMC has completed a construction schedule for the project. All work is to be complete by September 30, 2001. The schedule calls for MPMC to complete their portion of work by July 15, 2001. The Contractor is to begin work on July 15 and to finish on September 30, 2001. This schedule is subject to modification; however, the schedule will be ultimately governed by freeboard concerns at the TSF.

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1.3 DESIGN DEVELOPMENTS

No new design developments have occurred over the reporting period.

1.3 WEATHER

Conditions were unsettled during the reporting period. This included periods of cloud, rain and sunshine. Maximum daytime highs reached about +20 °C and nightly lows sank to as low as 0 °C.

1.4 SAFETY

No safety incidents were reported over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 19+00. Beach development is being accelerated at the southwest corner of the impoundment in order to establish tailings beaches behind the Main and South Embankments. It is expected that the Main Embankment will have a continuous beach by June 17. Pipe fusing was carried out over the reporting period to extend the tailings line to Ch. 17+00.

The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 400 and 1 Hitachi EX 270
- Haul Trucks: 2 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992
- Dozers: 1 Caterpillar D9N, 1 Caterpillar D8R
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Service and fuel trucks

MPMC carried out the following activities during the reporting period:

- Removal of saturated fill from the downstream face of the Perimeter Embankment, Ch. 43+25 to 44+75, El. 937 to 941.5 m.
- Placement of Zone C fill on the Perimeter Embankment, Ch. 40+00 to 43+25, El. 930 to 932.5 m.

- Development of the Rock Borrow for Zones T and C materials.
- Crushing of mine waste at the mill for Zone F material.

Zone C was supplied from the Rock Borrow. Zone C was placed in 1 metre thick, horizontal lifts to the downstream toe of the Stage 3B Perimeter Embankment.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of saturated material removal and fill placement of Zone C.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- C-ZT-1
- R-ZT-12

All samples tested proved suitable for Zone T. All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed over this period. Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.6. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

A2-PE2-01, A2-PE2-02 and F2-Pe2-01 increased slightly. No substantial changes were noted in the remaining foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. The piezometers are beginning to show a constant trend following the stop in construction and subsequent dissipation.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

5.3 DRAIN FLOWS

Drains flows were recorded on June 8, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.7 and 5.8.

Knight Piésold
CONSULTING

SECTION 5.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 941.5 m.
- MPMC will select a Contractor to construct the embankments to El. 945 m.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.3

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE T CONTROL TEST SUMMARY SHEET

...\DATA Engineering\Geotechnical\Tailings Stage 3B Construction\Control\[C-ZT-summary.xls]Data Sheet

Knight Piésold CONSULTING

SHEET :	1 of 1		
PERIOD :	June 4 to June 10, 2001		
PROJECT :	MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION	PROJECT NO. :	1116214
MATERIAL :	Zone T - Transition Zone	AREA :	Rock Borrow

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	LL %	PI %	C2 Field mc %	LI %	C3 (Particle Size Distribution) 101.6 mm %	76.2 mm %	38.1 mm %	19.05 mm %	9.525 mm %	4.75 mm %	2.36 mm %	1.18 mm %	0.6 mm %	0.3 mm %	0.14956 mm %	0.07366 mm %	0.002 mm %	C4 Standard Proctor Max Dry Density kg/m³	C4 Optimum mc %	C6 Specific Gravity
ZT-1	02-Jun-01	Rock Borrow	-	-	-	-	6.8	-	-	80.4	69.8	55.8	39.3	27.3	19.3	12.6	8.8	6.3	4.6	1.7	-	-	-	-
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	6.8	#DIV/0!	#DIV/0!	80.4	69.8	55.8	39.3	27.3	19.3	12.6	8.8	6.3	4.6	1.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	6.8	#NUM!	#NUM!	80.4	69.8	55.8	39.3	27.3	19.3	12.6	8.8	6.3	4.6	1.7	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	6.8	0.0	0.0	80.4	69.8	55.8	39.3	27.3	19.3	12.6	8.8	6.3	4.6	1.7	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	6.8	0.0	0.0	80.4	69.8	55.8	39.3	27.3	19.3	12.6	8.8	6.3	4.6	1.7	0.0	0.0	0.0	0.0

Note These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

C1 Atterberg Limits (ASTM D4318)
C2 Moisture Content (ASTM D2216)
C3 Particle Size Distribution (ASTM D422)
C4 Laboratory Compaction (ASTM D1557)
C6 Specific Gravity (ASTM D854)

TABLE 4.4

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

ZONE T RECORD TEST SUMMARY SHEET

H:\...NG\DATA\Engdocs\Geotechnical\Mpmine\Stage 3B Construction\lab\record\[R-ZT-sumin.xls]Data Sheet

Knight Piésold CONSULTING

SHEET :	1 of 1
PERIOD :	June 4 to June 10, 2001
PROJECT NO. :	1162/14
AREA :	TSF

PROJECT: MOUNT POLLEY - TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

SOIL TYPE: Zone T Transition Zone

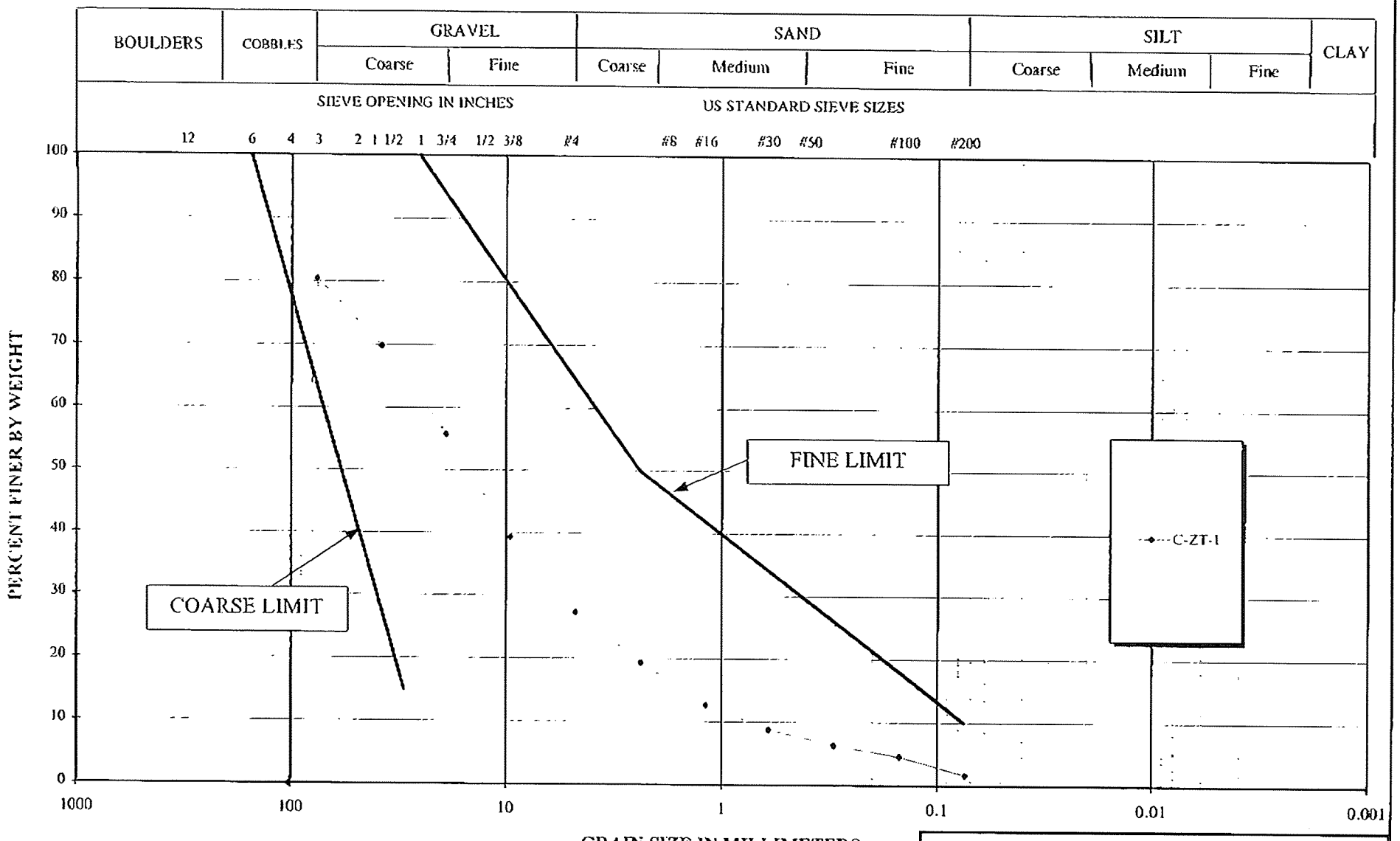
Sample No.	Date Sampled	Location	El (m)	R1 Atterberg Limits PL %	LL %	PI %	R2 Field mc %	LI %	R3 (Particle Size Distribution) 101.6 mm	76.2 mm	38.1 mm	19.05 mm	9.525 mm	4.75 mm	2.36 mm	1.18 mm	0.6 mm	0.3 mm	0.14986 mm	0.07366 mm	0.002 mm	R4 Standard Proctor Max Dry Density kg/m³	R4 Optimum mc %	R6 Specific Gravity
									4"	3"	1.5"	0.75"	0.375"	0.187"	#8	#16	#30	#50	#100	#200	Clay			
[illegible]-12	02-Jun-01	Rock Borrow	-	-	-	-	4.4	-	-	100.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	-	-	-	-
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	4.4	#DIV/0!	#DIV/0!	100.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	4.4	#NUM!	#NUM!	100.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM(*)				0.0	0.0	0.0	4.4	0.0	0.0	100.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	0.0	0.0	0.0	0.0
MINIMUM(*)				0.0	0.0	0.0	4.4	0.0	0.0	100.0	46.4	32.3	22.0	14.9	10.8	7.6	5.6	4.2	3.2	2.5	0.0	0.0	0.0	0.0

Note: These are 100% limits.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION

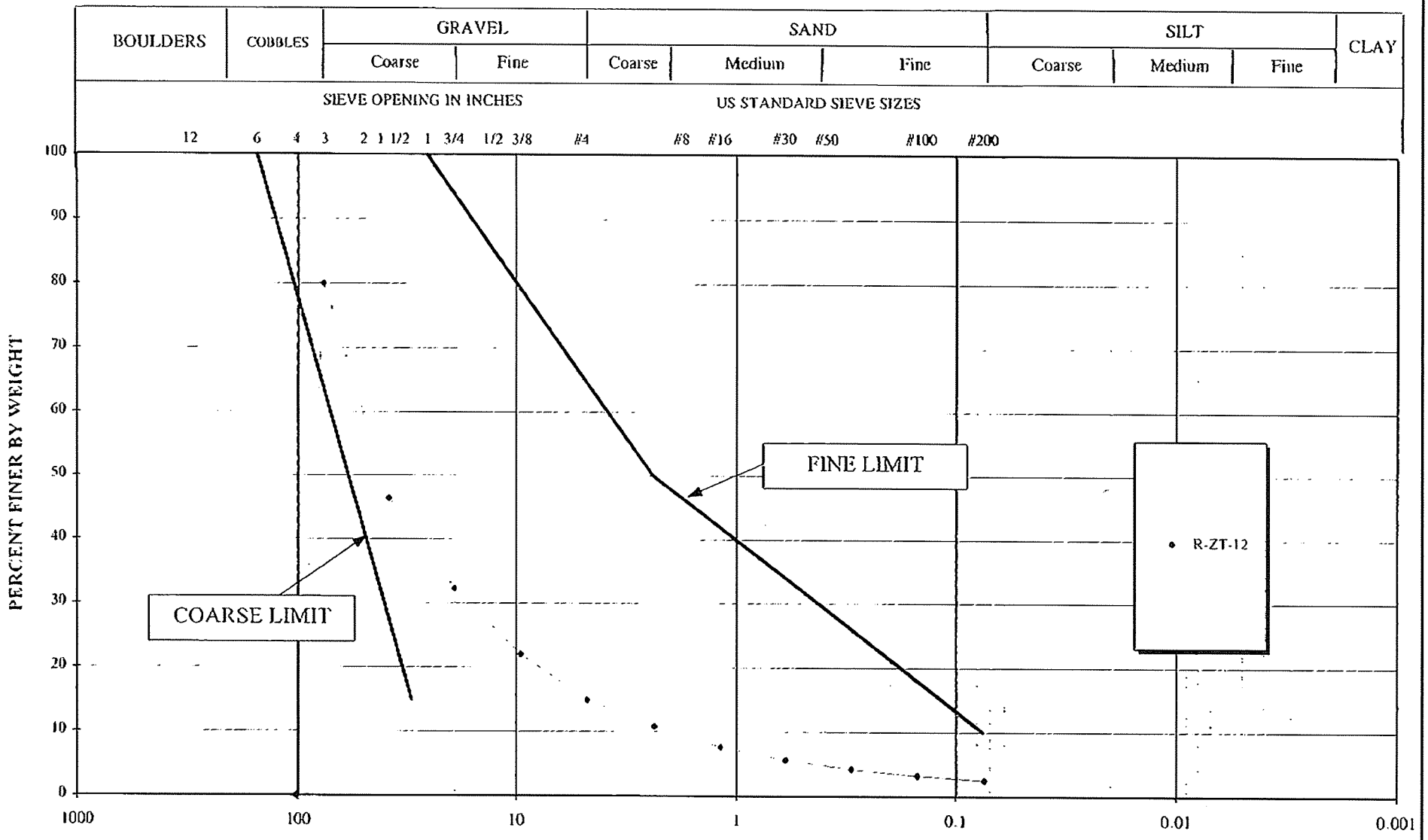
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE T CONTROL SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV.
11162/14		

FIGURE 4.3



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE T RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO	REF NO.	REV
11162/14		

FIGURE 4.4

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

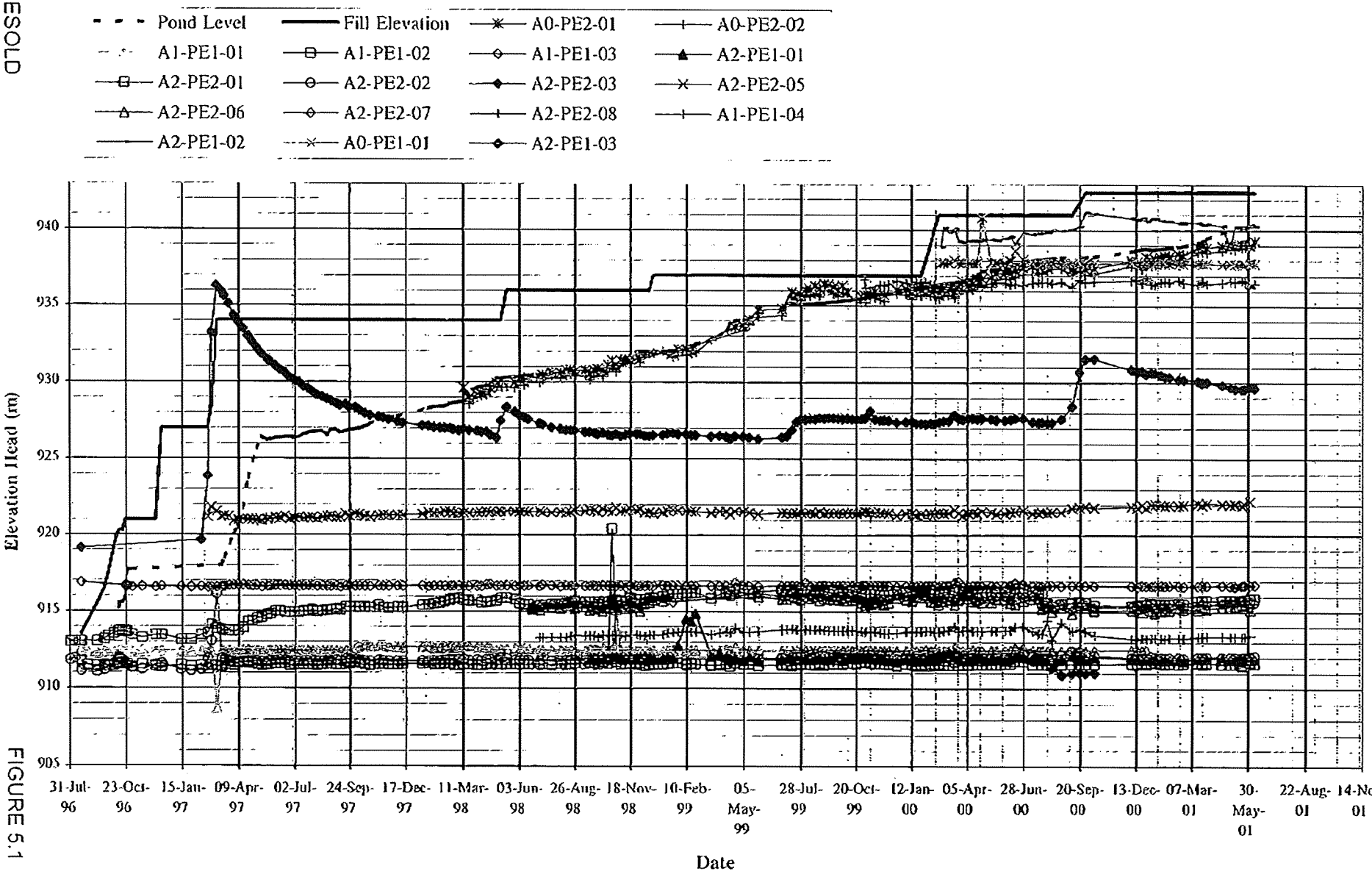


FIGURE 5.1

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

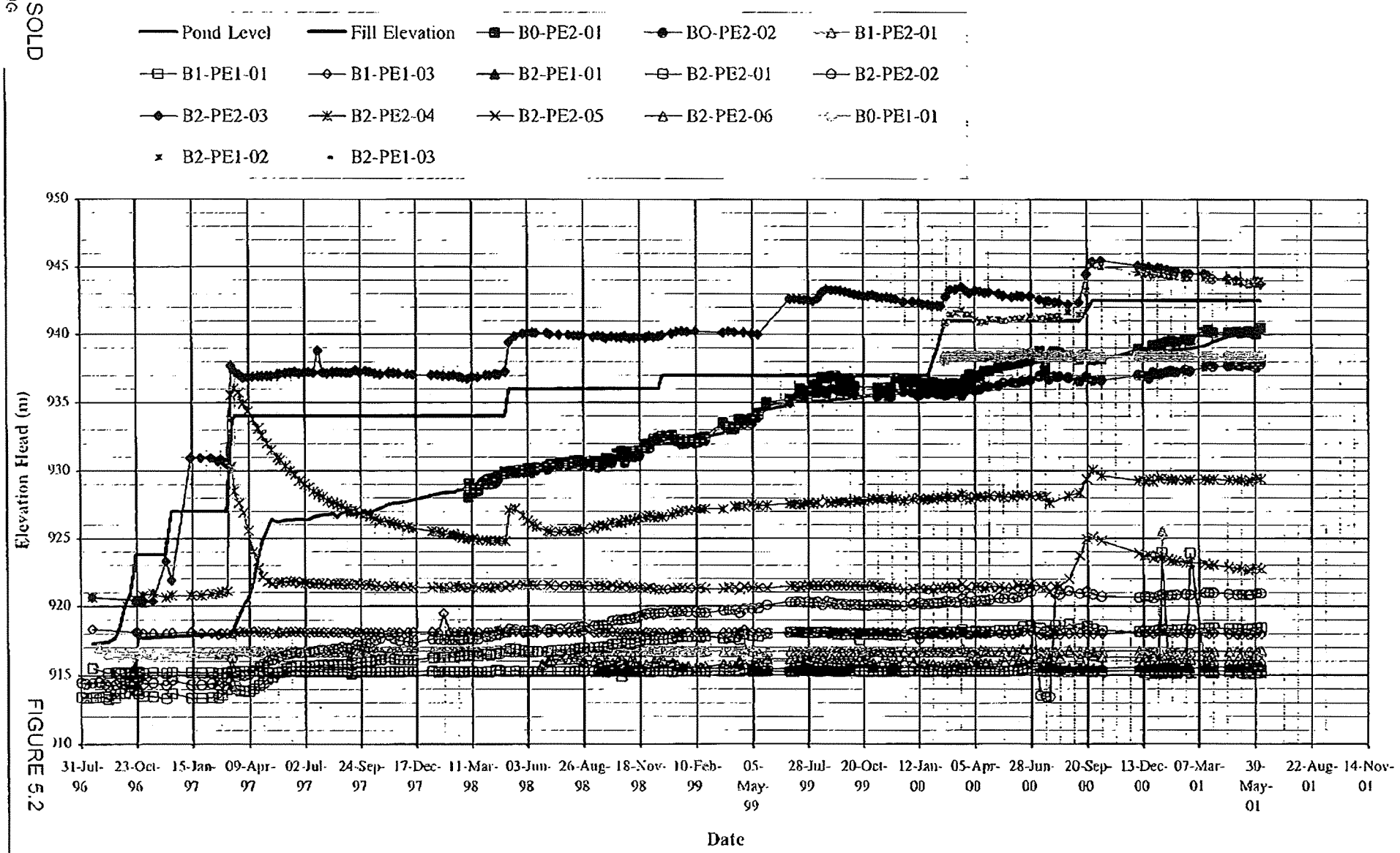


FIGURE 5.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

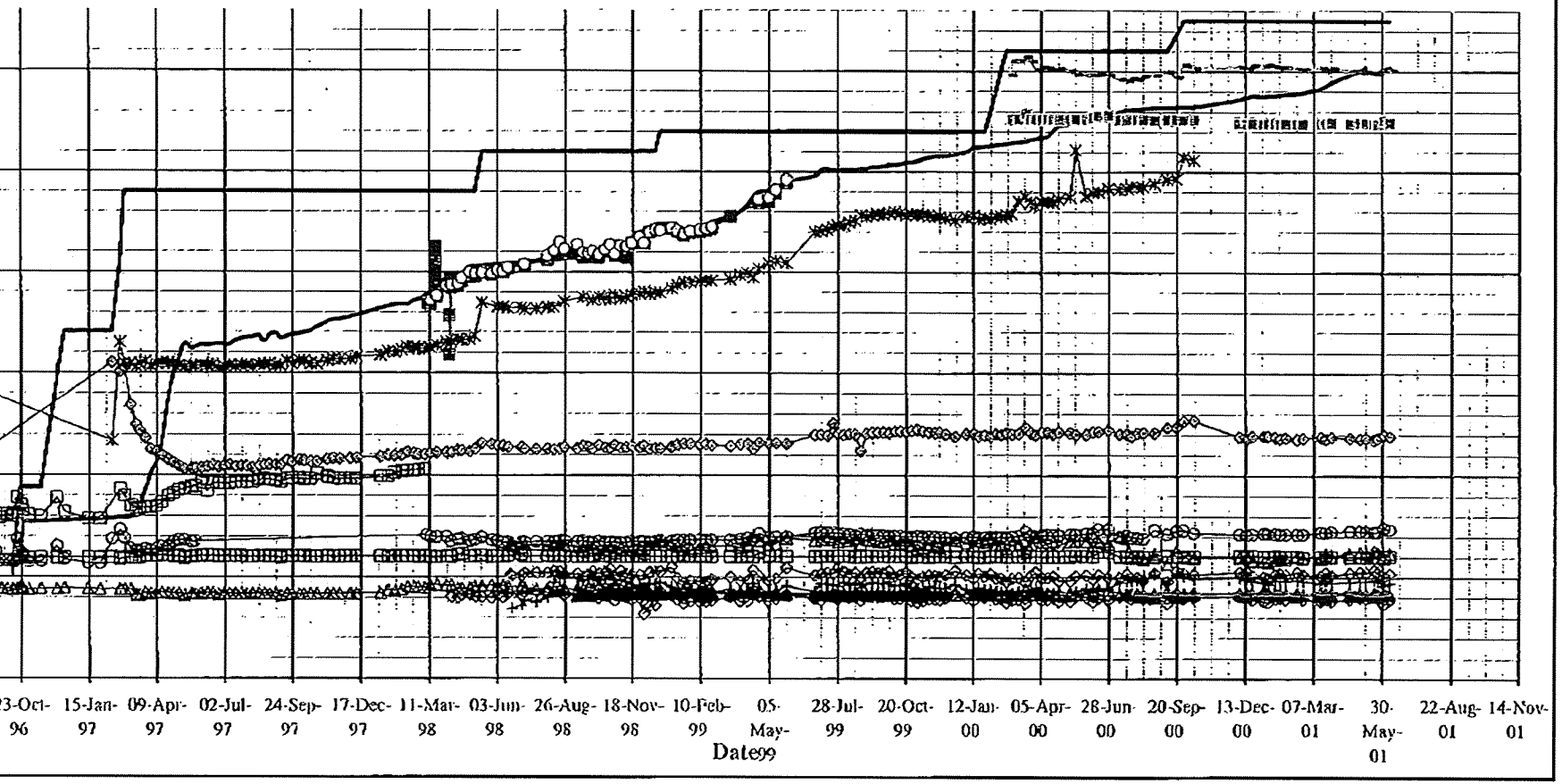


FIGURE 5.3

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

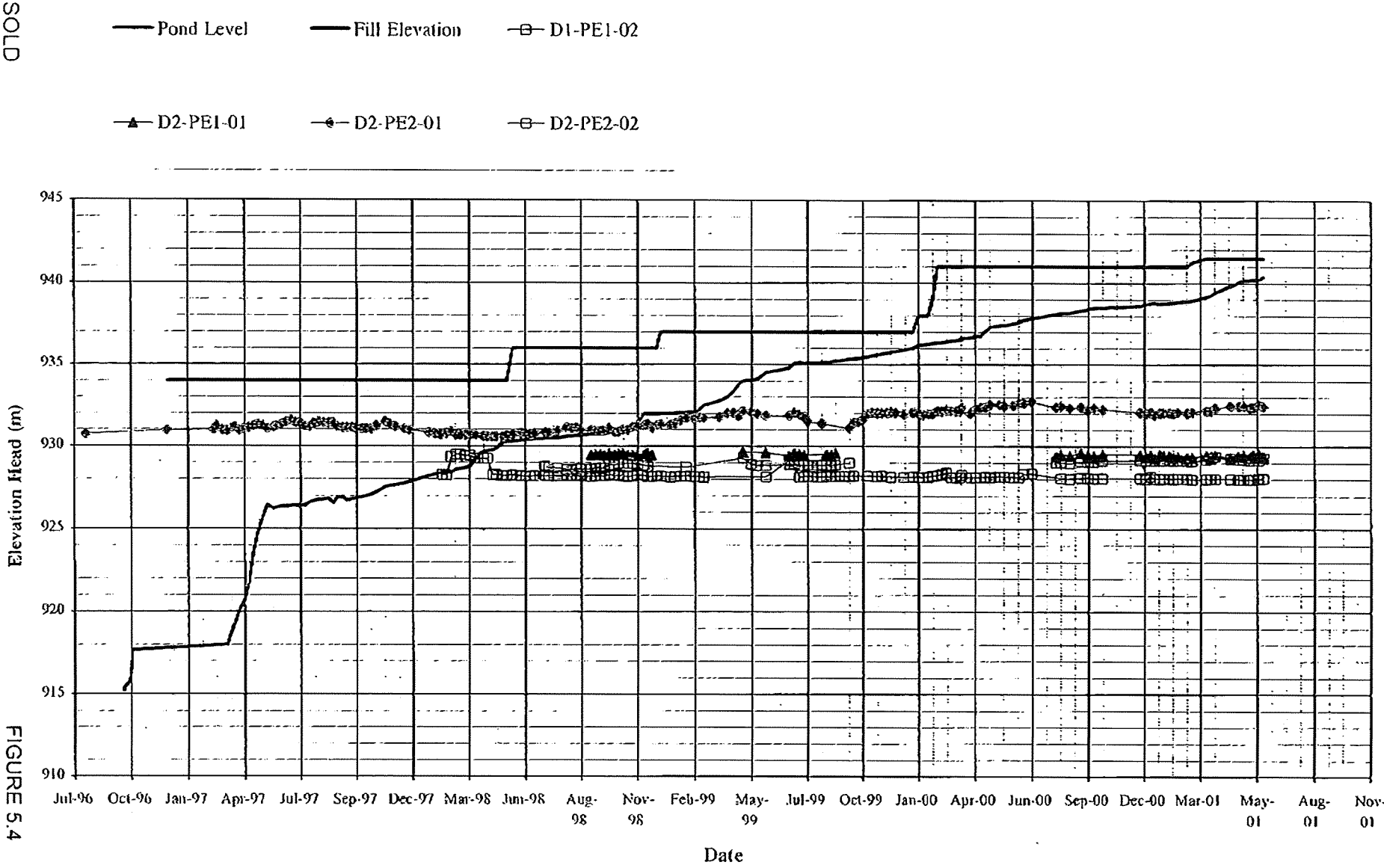


FIGURE 5.4

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

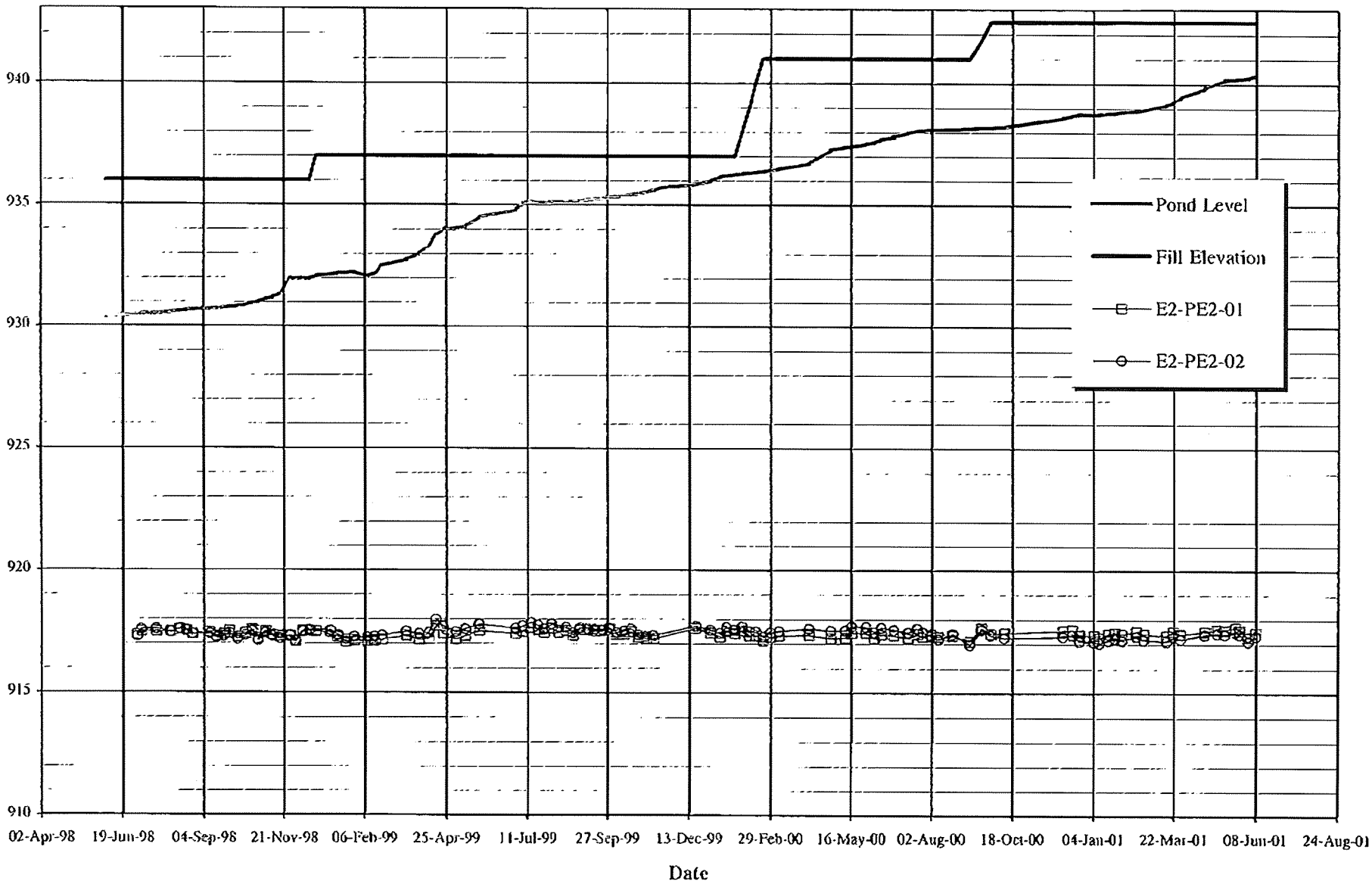


FIGURE 5.5

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE F PIEZOMETERS

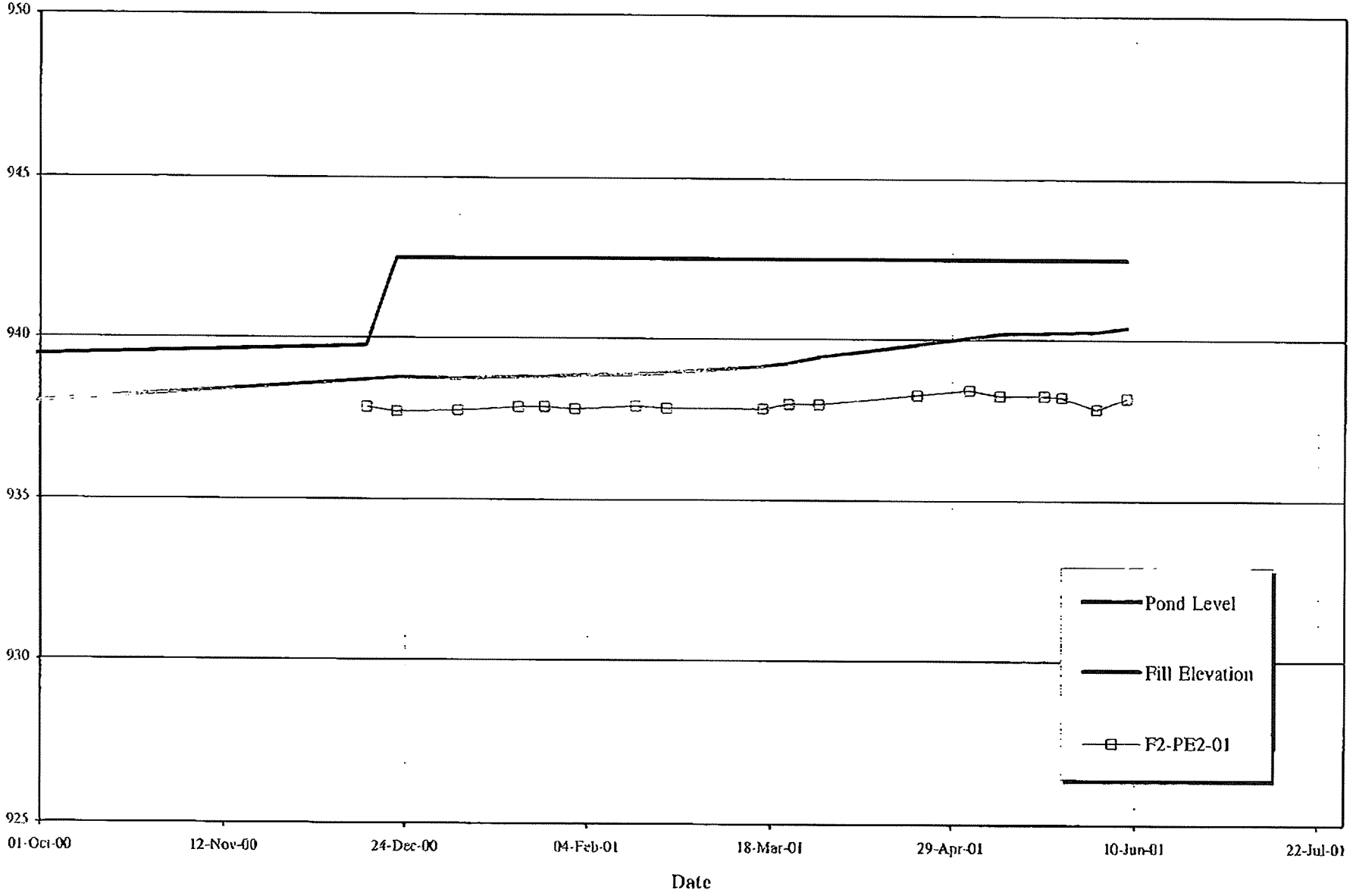
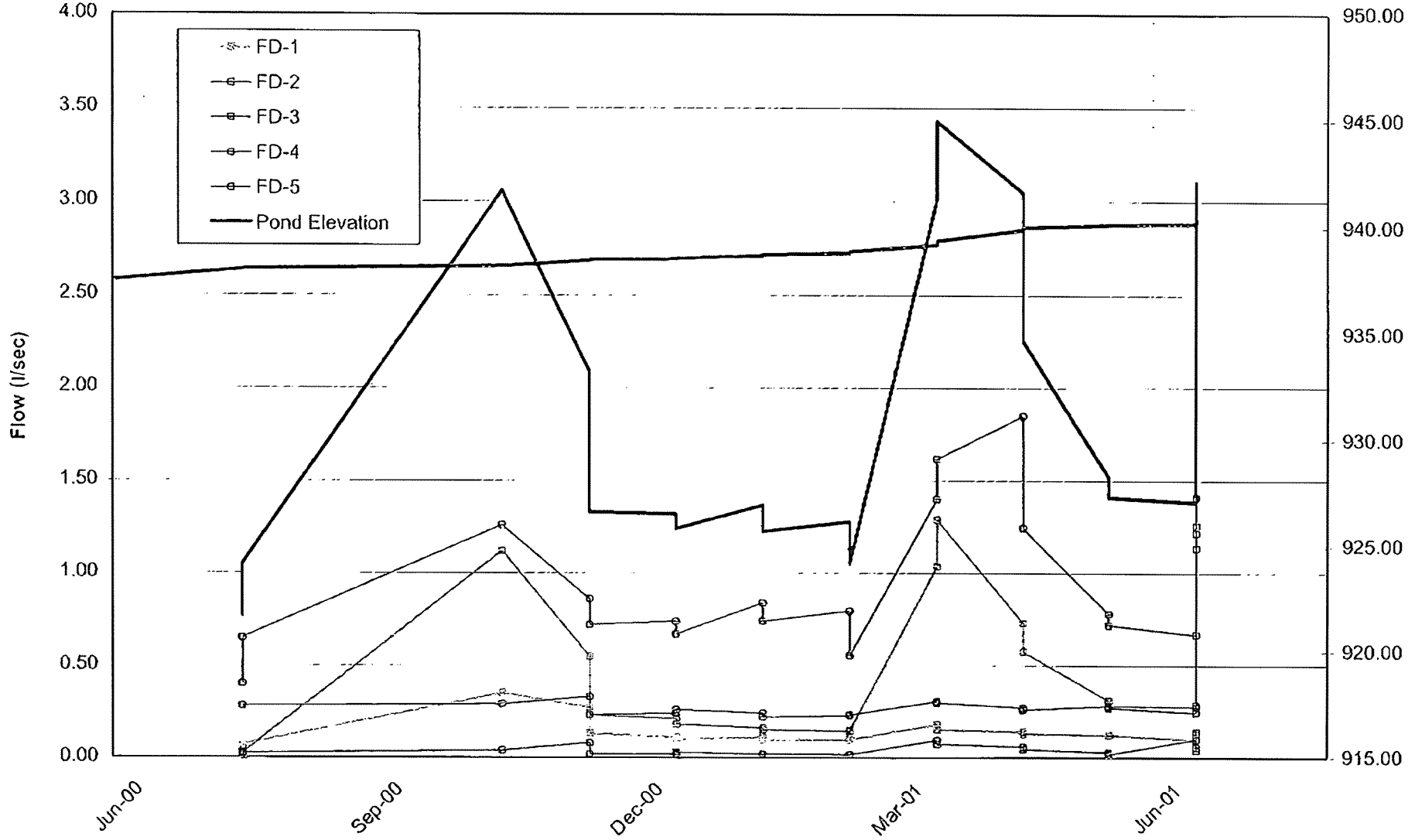


FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

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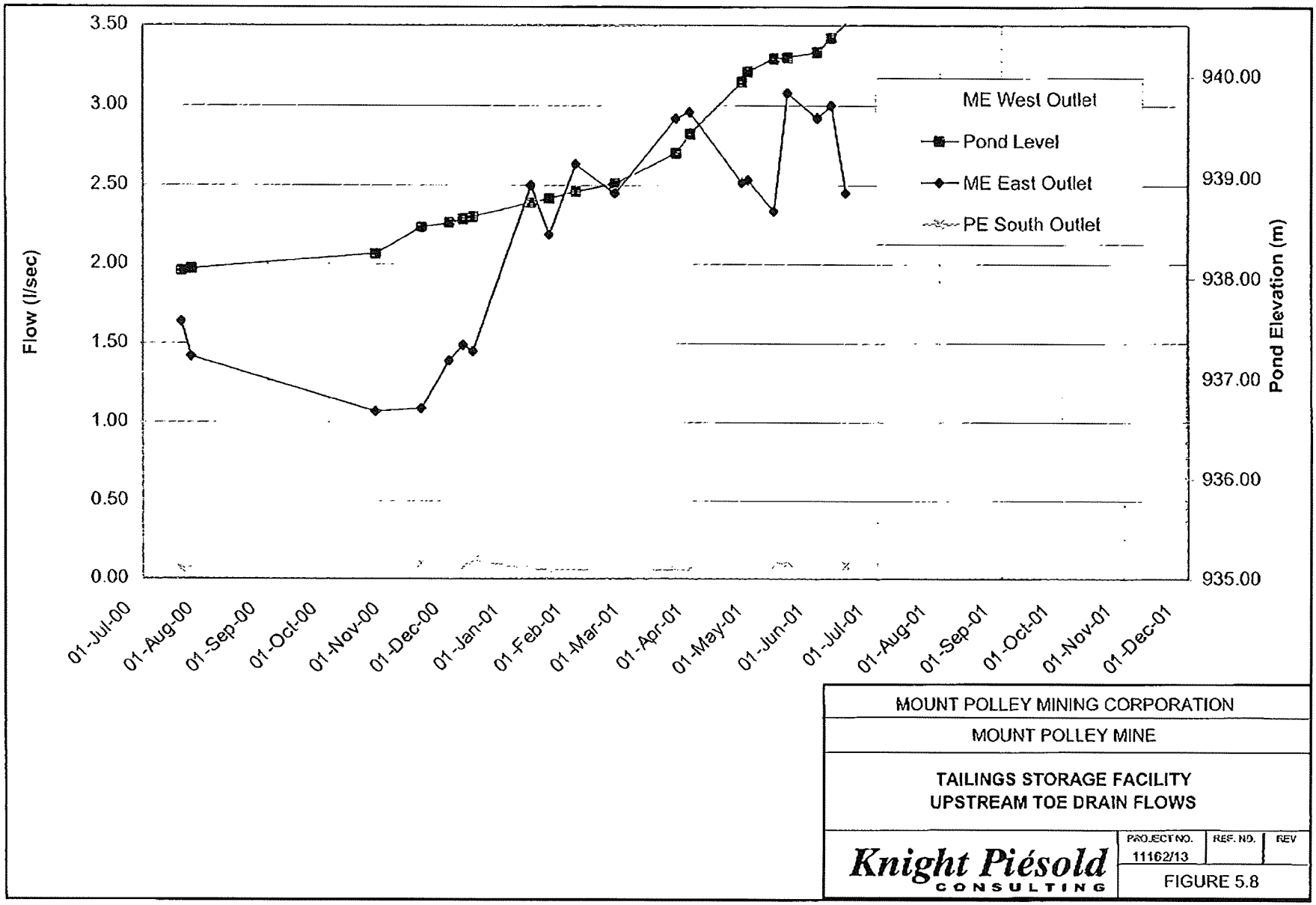
PROJECT NO.	REF NO.	REV
11162/13		

FIGURE 5.7



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV
1116213		

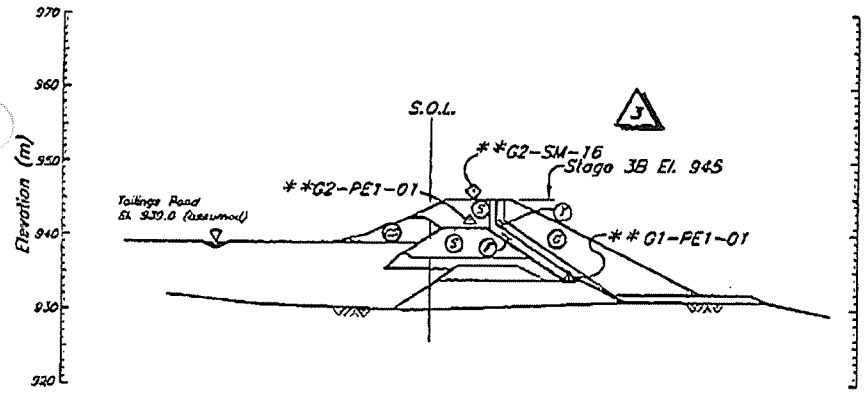
FIGURE 5.8

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

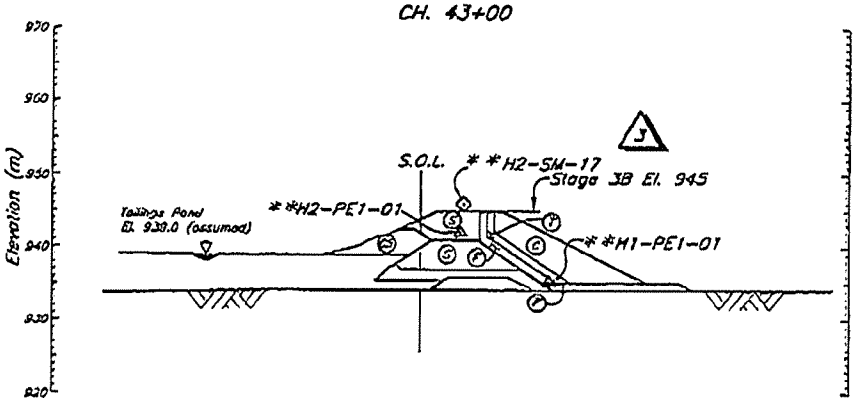
PLANE $\frac{E}{250}$
CH. 17+60

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

E 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS									3	08MAY'01	ISSUED FOR
AGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN									2	25JAN'01	STAGE 3B
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN									1	20OCT'00	PERIMETER
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN									0	2JUN'00	ISSUED FOR
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APV'D	REV.	DATE		
REFERENCE DRAWINGS	REVISIONS										



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



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

NOTE

1. See Drg. No. 11162-13-256 for Summary of Instrumentation Installations, Typical Details, General Notes and Legend.
2. Instrumentation with one asterisk indicates placement during Stage 3A construction. Instrumentation with 2 asterisks indicate placement during Stage 3B construction.

Scale 10 0 10 20 30 40 50 m

REVISIONS				
DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
FOR CONSTRUCTION	JRK	TAM	ABW	KJB
ER EMBANKMENT SECTIONS ADDED	JRK	NSD	JMTW	KJB
B – CREST ELEVATION 945	JRK	AW	JMTW	KJB
STAGE 3B TENDER	CWM	DSR	JRK	KJB

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
C.W. MINTER

DESIGNED JRK | CHECKED ABW
DRAWN DSR | APPROVED KJB

Knight Piésold CONSULTING

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

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

SCALE AS SHOWN | REVISION 3
DRAWING NO. 11162-13-259

Knight Piésold
CONSULTING

Mount Polley Site Office *Fax: (250) 790-2268*
www.knightpiésold.com

DATE:	June 6, 2001	**FILE NO.:**	11162/14.F01/.F02/ /.F04/.F05/.F08
TIME:		**REF NO.:**	01-04
OPERATOR:		**PAGES:**	1 of 20
SENDER:	Wilson Muir		

TO:	Ministry of Energy and Mines, Victoria B.C. **FAX :** 250-952-0481
ATTN:	Chris Carr
CC:	Ken Brouwer, KP Vancouver Don Parsons / Eric LeNeve, MPMC Site
SUBJECT:	Progress Report No. 9

Dear Mr. Carr,

Please find enclosed a copy of Progress report No. 9. If you have any questions, please do not hesitate to contact me on site or Ken Brouwer in our Vancouver office.

Regards,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting

MINISTRY OF
ENERGY AND MINES
REC'D JUN 0 6 2001

Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 9 - MAY 28 TO JUNE 3, 2001

SECTION 1.0 - GENERAL

Mount Polley Mining Corporation (MPMC) commenced Stage 3B construction activities. Knight Piésold Ltd. (KP) carried out QA/QC activities during the reporting period.

The scope of work includes:

1. Placement of Zones F, T and C to approximate El. 941.5 m on the Perimeter Embankment (Ch. 32+00 to 44+50). MPMC will carry out this work.
2. Placement of Zones CBL, S, F, T and C on the Main, Perimeter and South Embankments to El. 945 m. This work will be carried out under contract. A Contractor for this work has yet to be determined.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Wilson Muir, Resident Engineer.

The following MPMC personnel were on site during the reporting period:

- Don Parsons, Mine Superintendent
- Eric LeNeve, Tailings Coordinator
- Charlie O'Hara, General Foreman
- Don Jameson, Site Foreman

1.2 CONTRACT DEVELOPMENTS

No new contract developments occurred during the reporting period. As mentioned above, a Contractor will be chosen to carry out a portion of the Stage 3B embankment raise.

1.3 DESIGN DEVELOPMENTS

The permit to construct the embankments to El. 945 m has been approved by the Ministry of Energy and Mines. This elevation will provide tailings and storm water storage through August, 2002. The Perimeter Embankment will be constructed with a downstream rockfill shell zone, instead of cycloned sand.

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1.3 WEATHER

Conditions were unsettled during the reporting period. This included periods of cloud, rain and sunshine. Maximum daytime highs reached about +20 °C and nightly lows sank to as low as 0 °C.

1.4 SAFETY

No safety incidents were reported over the reporting period.

SECTION 2.0 - TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings were spigotted along the Main Embankment crest during the reporting period at approximate Chainage 19+00. Beach development is being accelerated at the southwest corner of the impoundment in order to establish tailings beaches behind the Main and South Embankments. The Tailings Pond remains a significant distance from the Perimeter Embankment.

SECTION 3.0 - CONSTRUCTION ACTIVITIES

3.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators: 1 Hitachi EX 400 and 1 Hitachi EX 270
- Haul Trucks: 2 Caterpillar 777 85T
- Loaders: 1 Caterpillar 992
- Dozers: 1 Caterpillar D9N, 1 Caterpillar D8R, 1 Caterpillar D7G and 1 Caterpillar D6H
- Compactors: 1 Caterpillar CS 563 10T vibratory smooth drum
- Drills: 1 Svedala STK
- Service and fuel trucks

MPMC carried out the following activities during the reporting period:

- Removal of saturated fill from the downstream face of the Perimeter Embankment.
- Placement of Zone F fill on the Perimeter Embankment, Ch. 40+00 to 44+50, El. 929 to 934 m, Ch. 35+00 to 39+00, El. 932 to 935 m.
- Placement of Zone T fill on the Perimeter Embankment, Ch. 40+00 to 44+50, El. 929 to 934 m.
- Placement of Zone C fill on the Perimeter Embankment, Ch. 40+00 to 44+50, El. 929 to 931 m.
- Development of the Rock Borrow for Zones T and C materials.

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Zones T and C were supplied from the Rock Borrow. Zone F was supplied from the processed filter sand pile at the millsite. Zones F and T were placed in 1 metre thick lifts, prior to compaction, directly on the downstream slope of the Perimeter Embankment. Segregation of the materials during placement was monitored and deemed to be minimal. Zone C was placed in 1 metre thick, horizontal lifts to the downstream toe of the Stage 3B Perimeter Embankment.

SECTION 4.0 - KNIGHT PIÉSOLD ACTIVITIES

4.1 GENERAL

KP activities over the reporting period included the following:

- Monitoring and inspection of saturated material removal and fill placement of Zones F, T and C.
- Submission of daily summaries of QA/QC and construction activities to MPMC.
- Control and Record sampling and testing of embankment fill materials.
- Ongoing discussions and correspondence with MPMC and KP Vancouver with regard to current and future design.
- Preparation of progress reports.

4.2 Laboratory Testing

The following samples were processed during the reporting period:

- C-ZF-31, 32 and 33
- R-ZF-31 and 32

All samples tested proved suitable for Zone F, with the exception of C-ZF-33. This sample was taken from a portion of the pile that was not mixed. MPMC was informed that the pile needed to be mixed prior to fill placement. All tests carried out during the reporting period are presented in the attached tables and figures.

SECTION 5.0 - MONITORING

5.1 GENERAL

Instrumentation was monitored during the reporting period. Data collected to date indicates that the TSF is performing well within design tolerances.

5.2 VIBRATING WIRE PIEZOMETERS

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No new piezometers were installed over this period. Piezometer readings are taken on a weekly basis. The results from the monitoring are shown on Figures 5.1 to 5.6. Locations of the piezometers are presented on the attached Drawings.

Foundation Piezometers

No substantial changes were noted in the foundation piezometers.

Fill Piezometers

The majority of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3A fills with increasing pore pressures. The piezometers continue to decrease following the stop in construction.

Two piezometers located within the Stage 1A glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 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 fill around this piezometer and pore pressures are still equilibrating.

Piezometer C2-PE2-05 is also located in the Stage 1A glacial till fill. This instrument historically showed little or no reaction to construction, but indicated a slow, steady increase in pore pressure over time. This suggests that pore pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by this piezometer is approximately 10 m. This is similar to other piezometers located in comparable locations in the glacial till fill.

Drain Piezometers

All drain piezometers have remained static and at very low head indicating free draining conditions within the embankment drainage systems.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

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5.3 DRAIN FLOWS

Drains flows were recorded on June 1, 2001. The results from the foundation drains and upstream toe drain are shown on Figures 5.7 and 5.8.

SECTION 5.0 - ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to construct the Stage 3B Perimeter Embankment to El. 941.5 m.
- MPMC will select a Contractor to construct the embankments to El. 945 m.
- KP will continue to provide QA/QC and site supervision activities in accordance with the technical specifications.

Submitted by,

C. Wilson Muir, P.Eng.
Resident Engineer
Knight Piésold Consulting.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC Site
Don Parsons, Mine Superintendent, MPMC Site
Chris Carr, Ministry of Energy and Mines, Victoria, B.C.
Ken Brouwer, KP Vancouver

TABLE 4.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE F CONTROL TEST SUMMARY SHEET

DATA Engdocs Geotechnical Spec Stage 3B Construction 3b control [C-ZF-summ.xls] Data Sheet

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MOUNT POLLEY - TAILINGS STORAGE FACILITY STAGE 3B CONSTRUCTION

Zone F Filter Sand

SHEET :	1 of 1
PERIOD :	May 28 to June 3, 2001
PROJECT NO. :	11162/14
AREA :	Zone F Stockpile

Sample No.	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL %	C1 LL %	C1 PI %	C2 Field m.c. %	LI %	C3 (Particle Size Distribution) 101.6 4 4	76.2 3 3	38.1 1.5 1 1/2	25.4 1 1	19.05 0.75 3/4	9.525 0.375 3/8	4.75 0.187 #4	2.36 0.0937 #8	1.18 0.0469 #16	0.6 0.0234 #30	0.3 0.0165 #50	0.14986 0.0059 #100	0.07366 0.0029 #200	0.002 ---- Clay	C4 Standard Proctor Max Dry Density kg/m³	C4 Optimum m/c %	C6 Specific Gravity
ZF-[illegible]	28-May-01	Zone F Stockpile	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.0	28.5	21.3	16.5	12.7	10.0	-	-	-	
ZF-[illegible]	28-May-01	Zone F Stockpile	-	-	-	-	4.0	-	100.0	100.0	100.0	100.0	99.4	78.9	59.9	43.4	29.6	21.9	16.8	13.1	10.4	-	-	-	-
ZF-[illegible]	28-May-01	Zone F Stockpile		-		-	2.9	-	100.0	100.0	100.0	100.0	98.7	56.0	28.1	17.6	12.8	10.1	7.8	6.1	4.5	-	-	-	
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	3.7	#DIV/0!	100.0	100.0	100.0	100.0	99.2	73.0	49.9	34.7	23.6	17.8	13.7	10.6	8.4	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	4.0	#NUM!	100.0	100.0	100.0	100.0	99.4	78.9	59.9	43.0	28.5	21.3	16.5	12.7	10.0	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	4.1	0.0	100.0	100.0	100.0	100.0	99.6	84.0	61.6	43.4	29.6	21.9	16.8	13.1	10.4	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	2.9	0.0	100.0	100.0	100.0	100.0	98.7	56.0	28.1	17.6	12.8	10.1	7.8	6.1	4.5	0.0	0.0	0.0	0.0

Note These are 100% results.

Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

C1	Atterberg Limits (ASTM D4318)
C2	Moisture Content (ASTM D2216)
C3	Particle Size Distribution (ASTM D422)
C4	Laboratory Compaction (ASTM D1557)
C6	Specific Gravity (ASTM D854)

TABLE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION
ZONE F RECORD TEST SUMMARY SHEET

Knight Piésold CONSULTING

SHEET:	1 of 1
PERIOD:	May 28 to June 3, 2001
PROJECT NO.:	1116214
AREA:	TSF

MOUNT POLLEY TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION

Zone F - Filter Sand

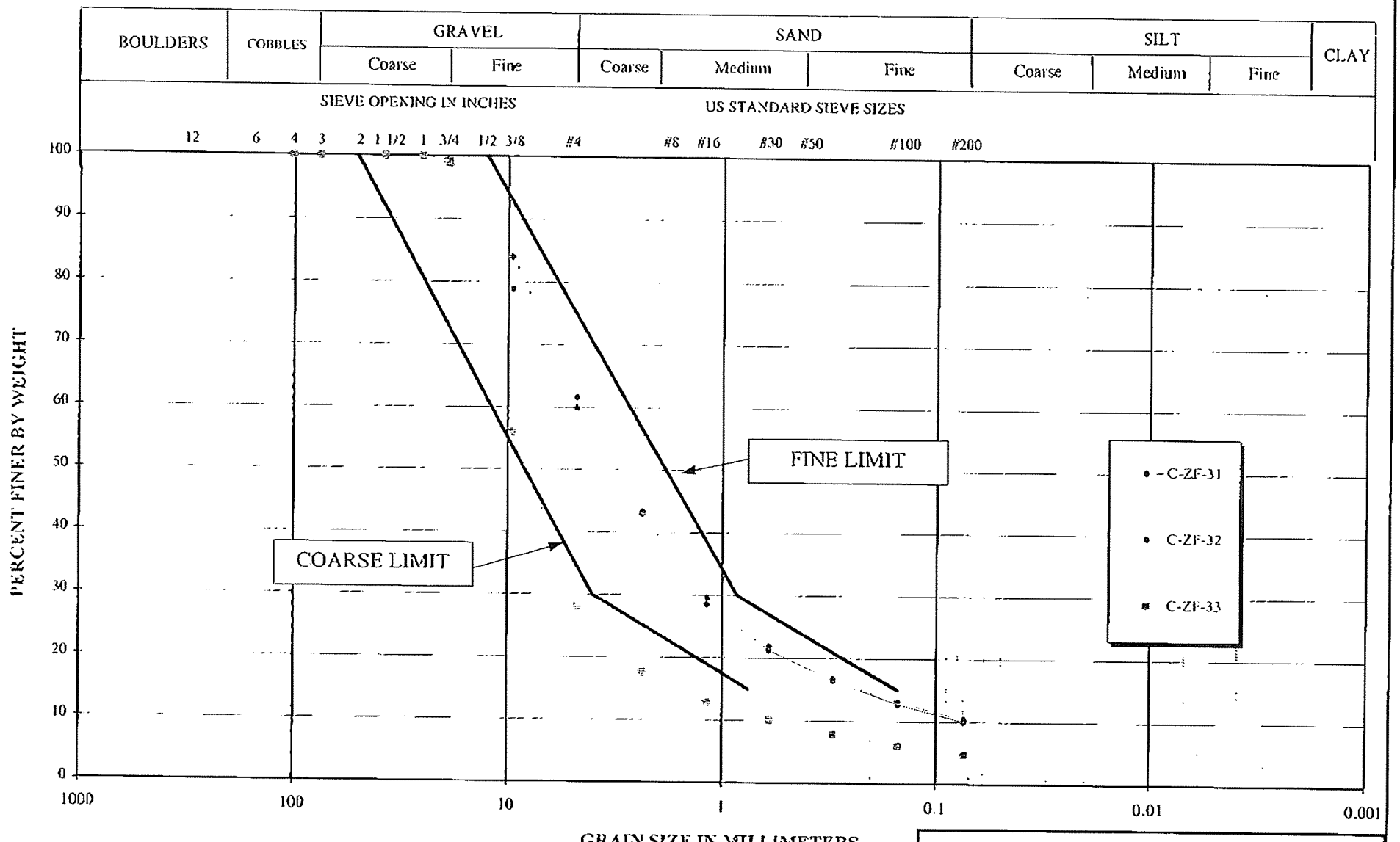
Sample	Date Sampled	Location	El. (m)	C1 Atterberg Limits PL (%)	C1 LL (%)	C1 PI (%)	C2 Field m c (%)	LI (%)	C3 (Particle Size Distribution) 101.6 mm (%)	76.2 mm (%)	25.1 mm (%)	25.4 mm (%)	19.05 mm (%)	9.525 mm (%)	4.75 mm (%)	2.36 mm (%)	1.18 mm (%)	0.6 mm (%)	0.3 mm (%)	0.14986 mm (%)	0.07366 mm (%)	0.002 mm (%)	C4 Standard Proctor Max Dry Density (kg/m³)	C4 Standard Proctor Optimum m/c (%)	C6 Specific Gravity
									4"	3"	1"	1"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200	Clay			
[illegible]	25-May-01	25+00, 0.5 m D/S of Zone S	-	-	-	-	4.0	-	100.0	100.0	100.0	100.0	97.5	71.5	49.1	35.9	25.8	19.7	15.0	11.6	9.1	-	-	-	
[illegible]	28 May-01	25+00, 0.5 m D/S of Zone S	-	-	-	-	4.1	-	100.0	100.0	100.0	100.0	98.2	68.4	44.0	31.9	22.5	16.9	12.8	9.9	7.7	-	-	-	
MEAN				#DIV/0!	#DIV/0!	#DIV/0!	4.1	#DIV/0!	100.0	100.0	100.0	100.0	98.1	70.0	46.6	33.9	24.2	18.3	13.9	10.8	8.4	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MEDIAN				#NUM!	#NUM!	#NUM!	4.1	#NUM!	100.0	100.0	100.0	100.0	98.1	70.0	46.6	33.9	24.2	18.3	13.9	10.8	8.4	#NUM!	#NUM!	#NUM!	#NUM!
MAXIMUM (*)				0.0	0.0	0.0	4.1	0.0	100.0	100.0	100.0	100.0	98.2	71.5	49.1	35.9	25.8	19.7	15.0	11.6	9.1	0.0	0.0	0.0	0.0
MINIMUM (*)				0.0	0.0	0.0	4.0	0.0	100.0	100.0	100.0	100.0	97.5	68.4	44.0	31.9	22.5	16.9	12.8	9.9	7.7	0.0	0.0	0.0	0.0

Note - These are 100% limits.

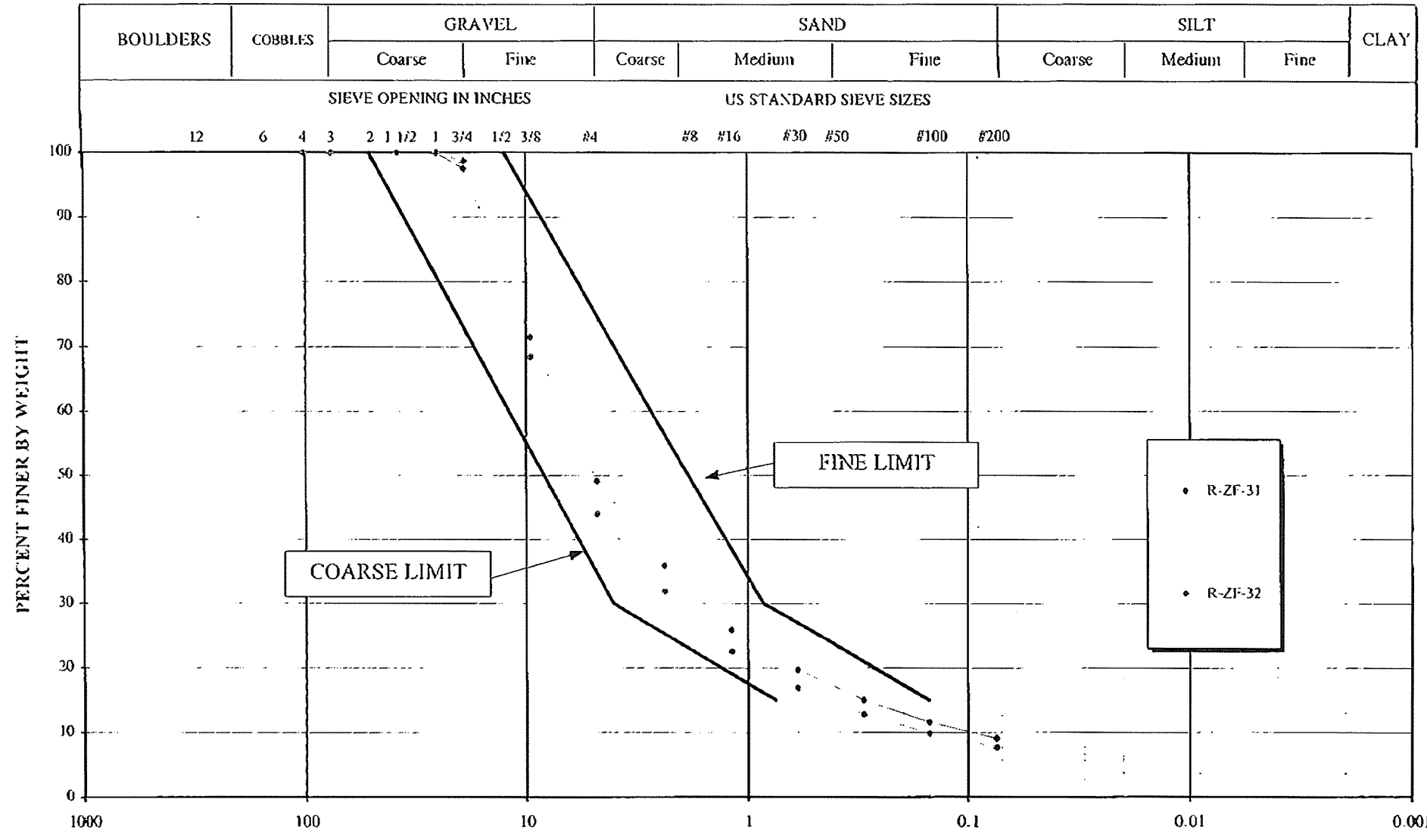
Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.

IP - In progress

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Specific Gravity (ASTM D854)



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY - STAGE 3B CONSTRUCTION - ZONE F CONTROL SAMPLES GRADATION CURVES			
Knight Piésold CONSULTING	PROJECT NO. 11162/14	REF. NO.	REV
FIGURE 4.1			



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY - STAGE 3B
CONSTRUCTION - ZONE F RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO	REF NO	REV
11162/14		

FIGURE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

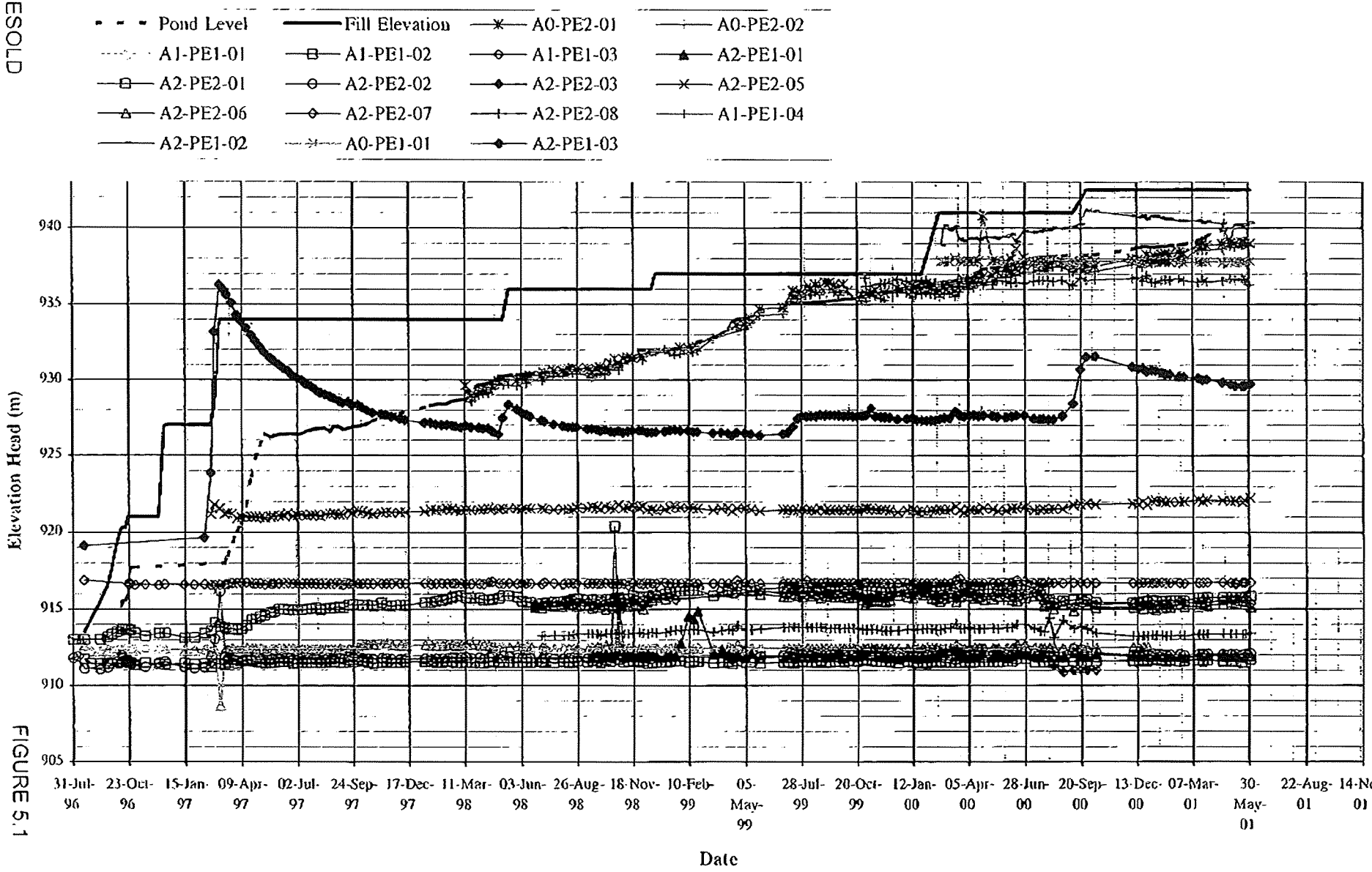


FIGURE 5.1

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

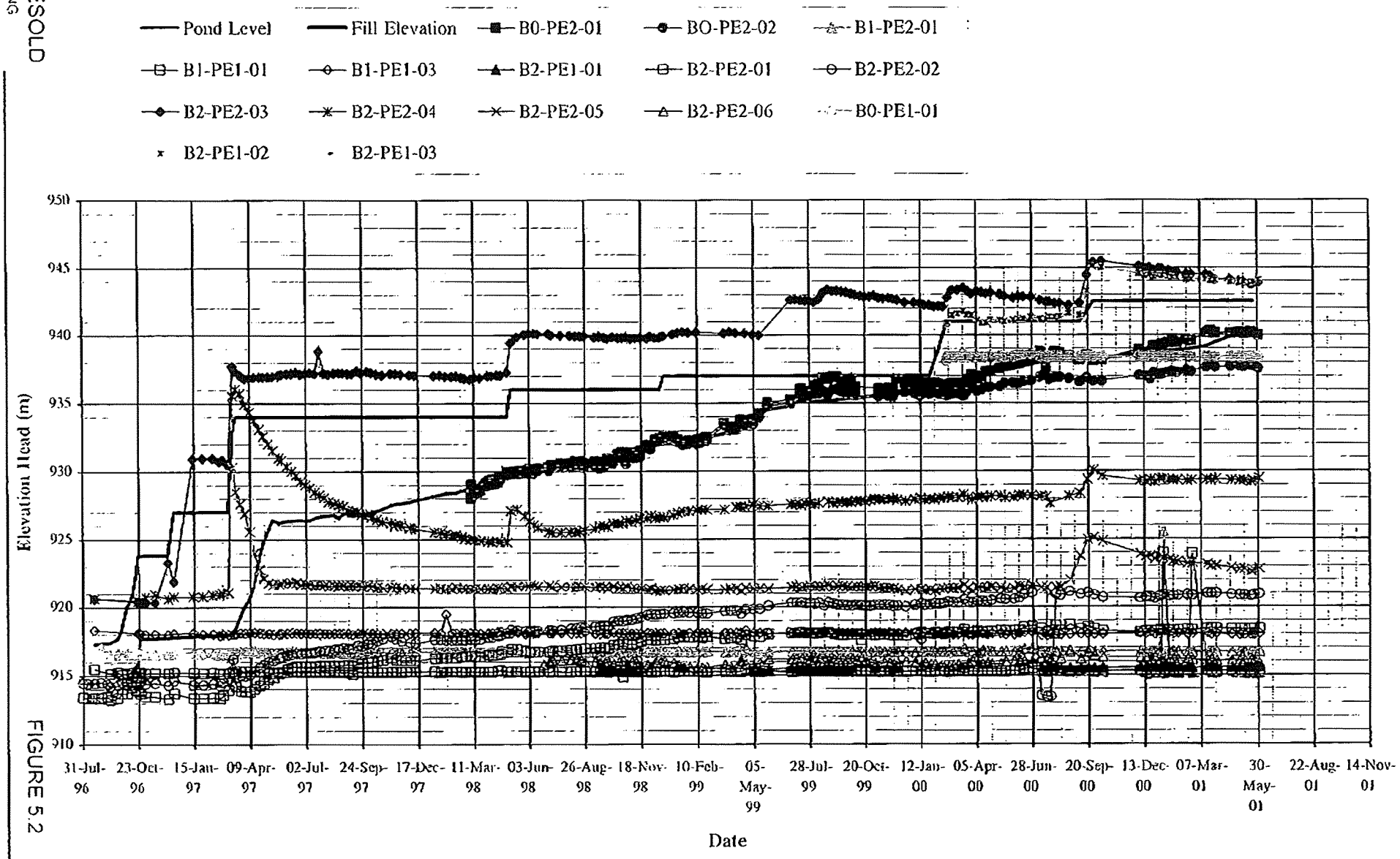


FIGURE 5.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

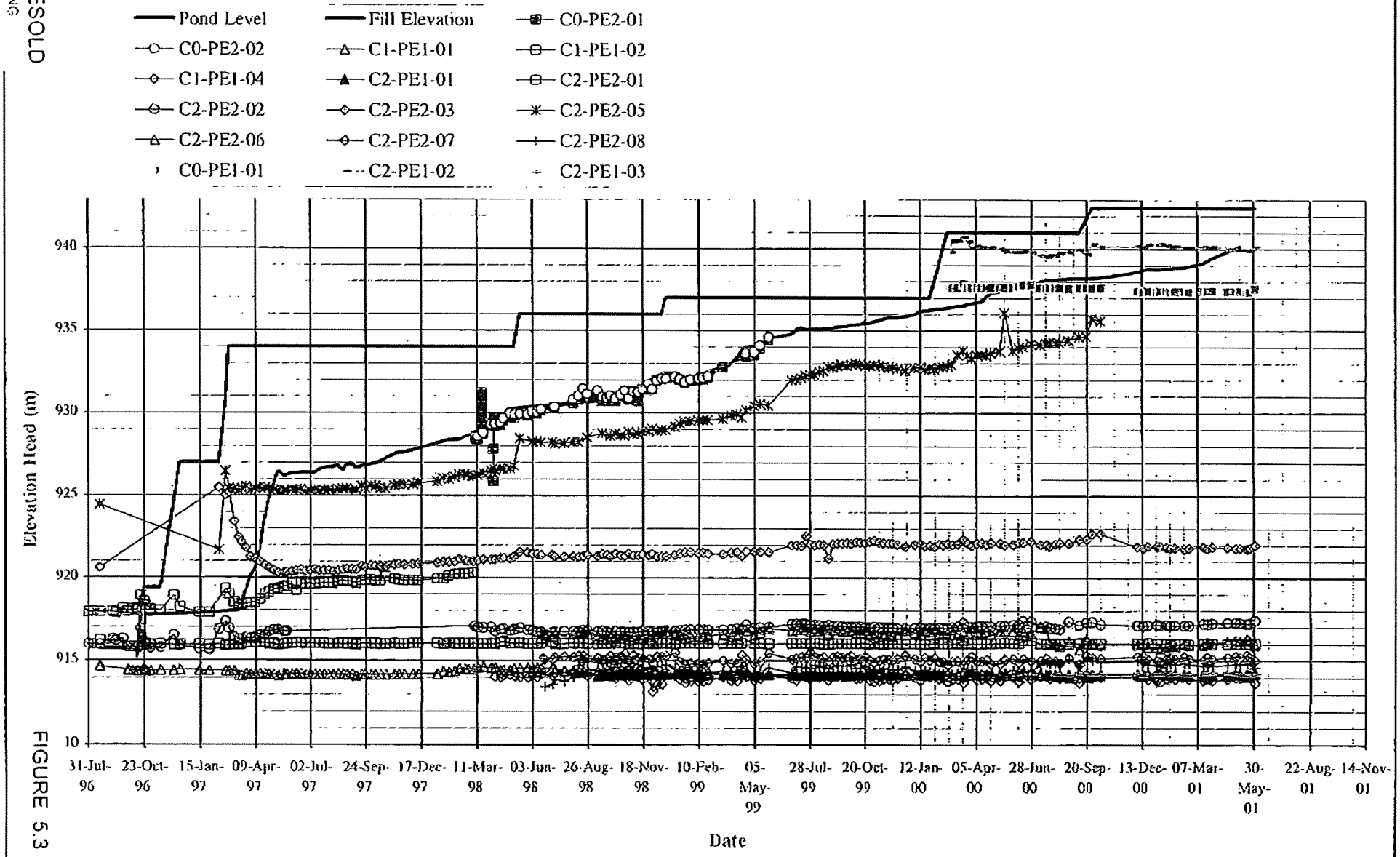


FIGURE 5.3

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

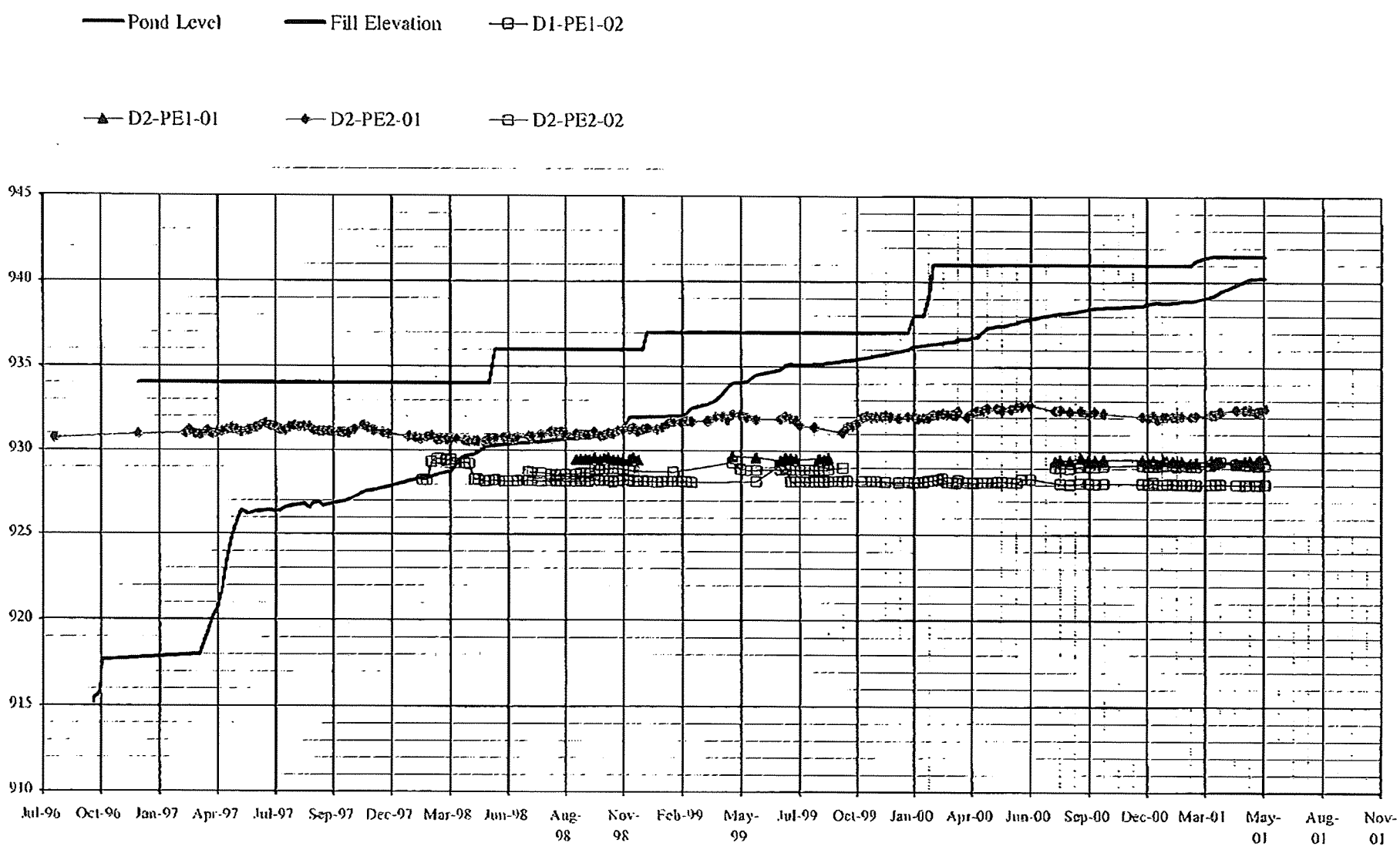
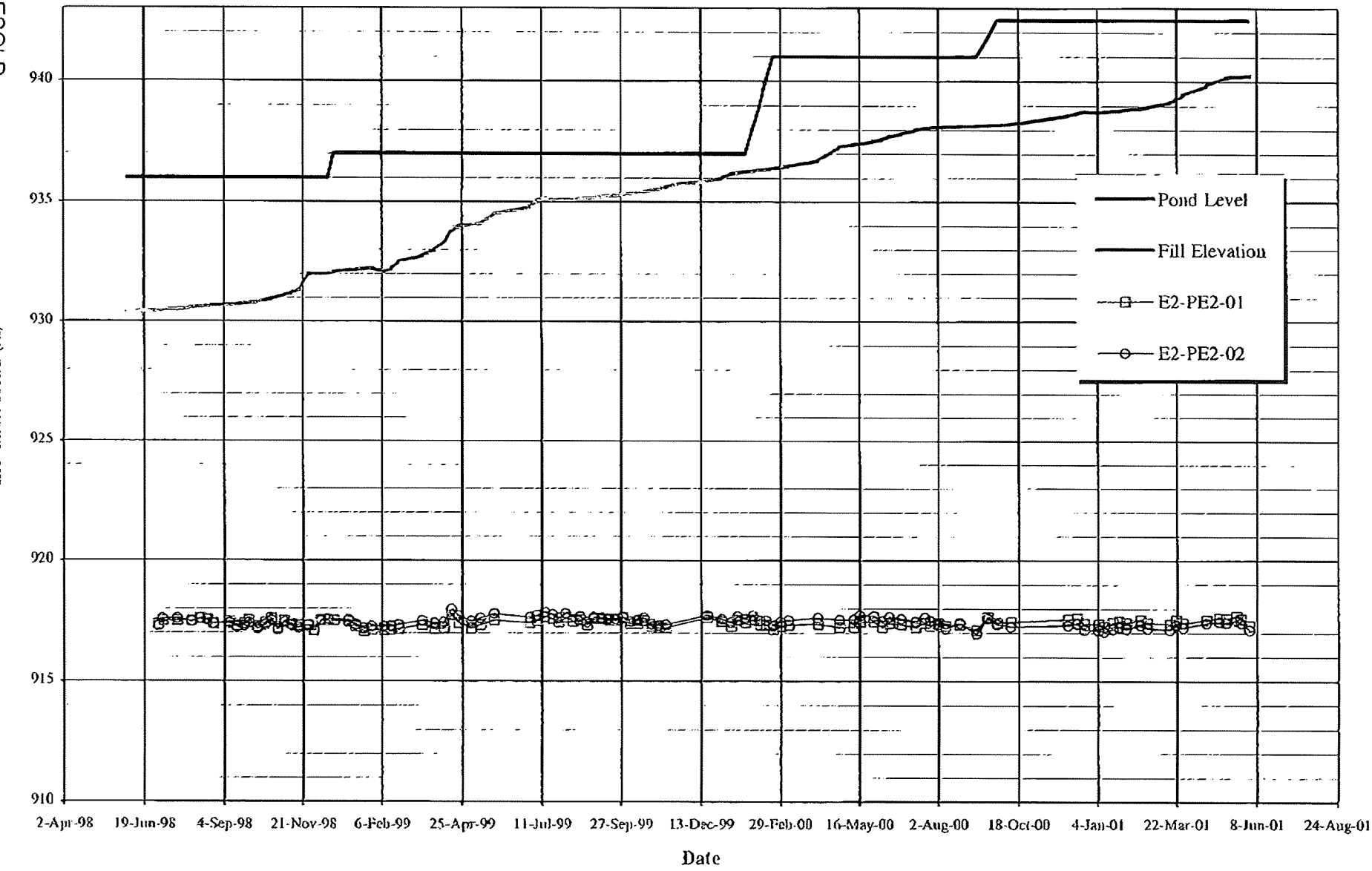


FIGURE 5.4

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS



KNIGHT PIESOLD CONSULTING

FIGURE 5.5

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE F PIEZOMETERS

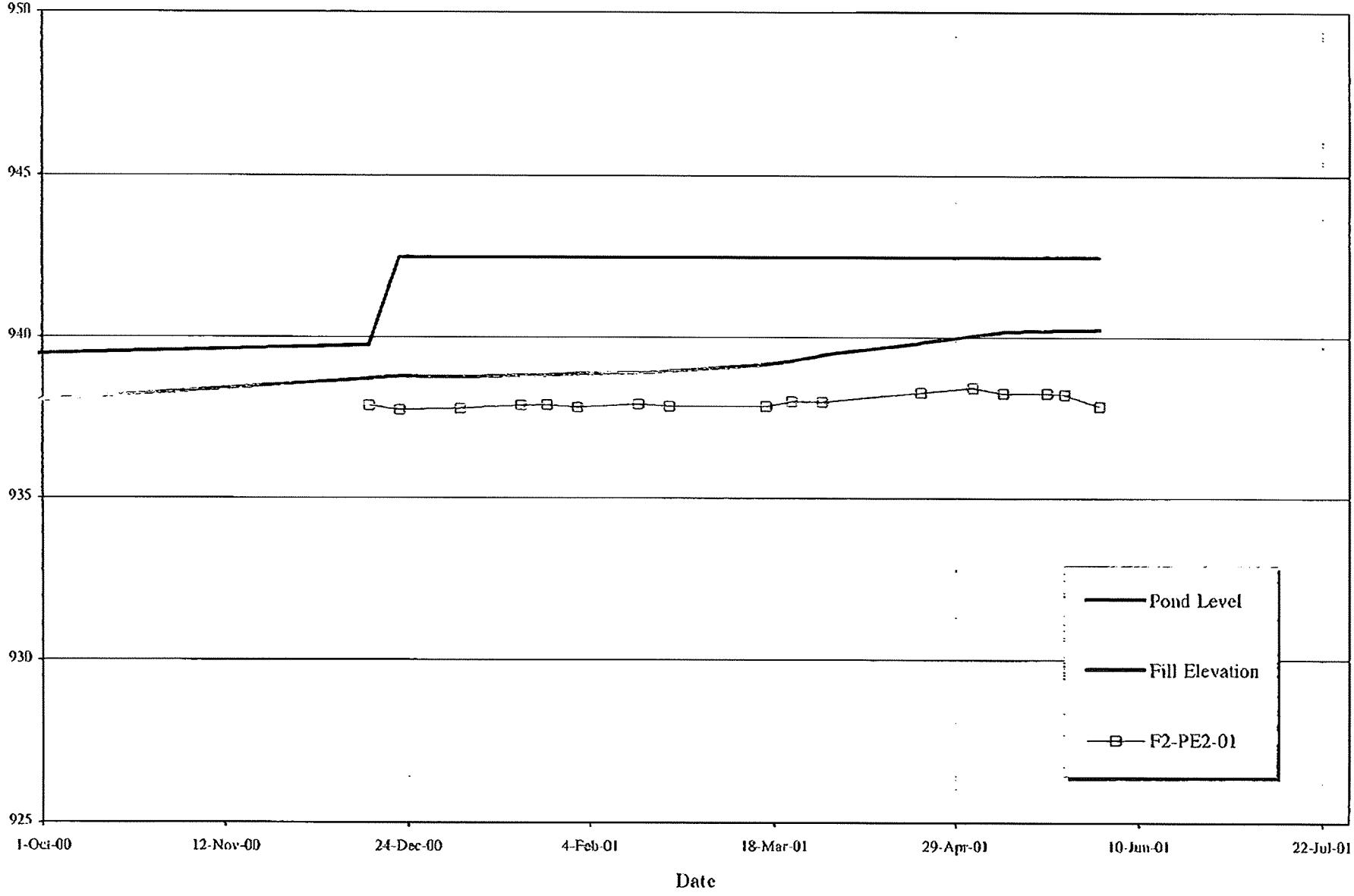
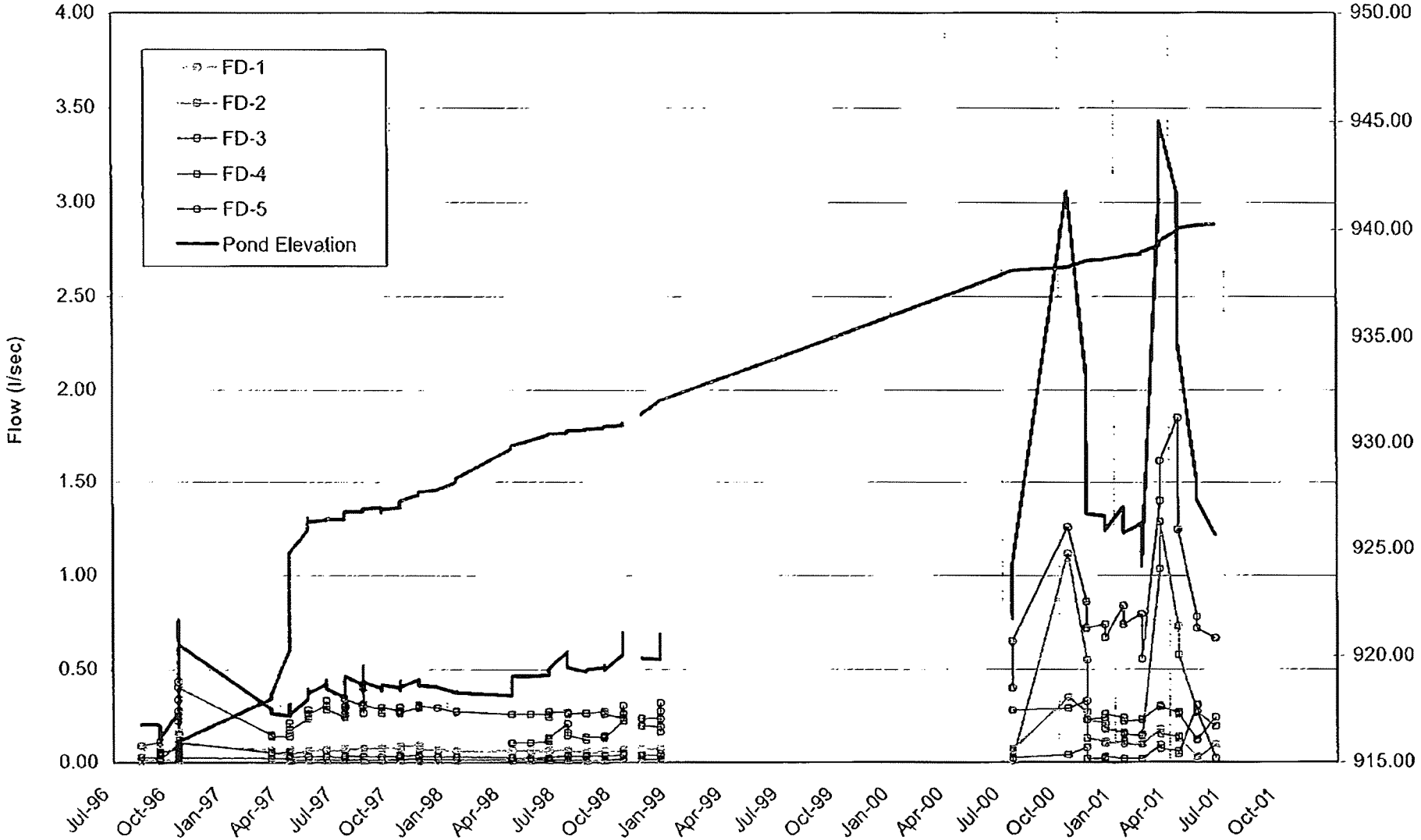


FIGURE 5.6



MOUNT POLLEY MINING CORPORATION

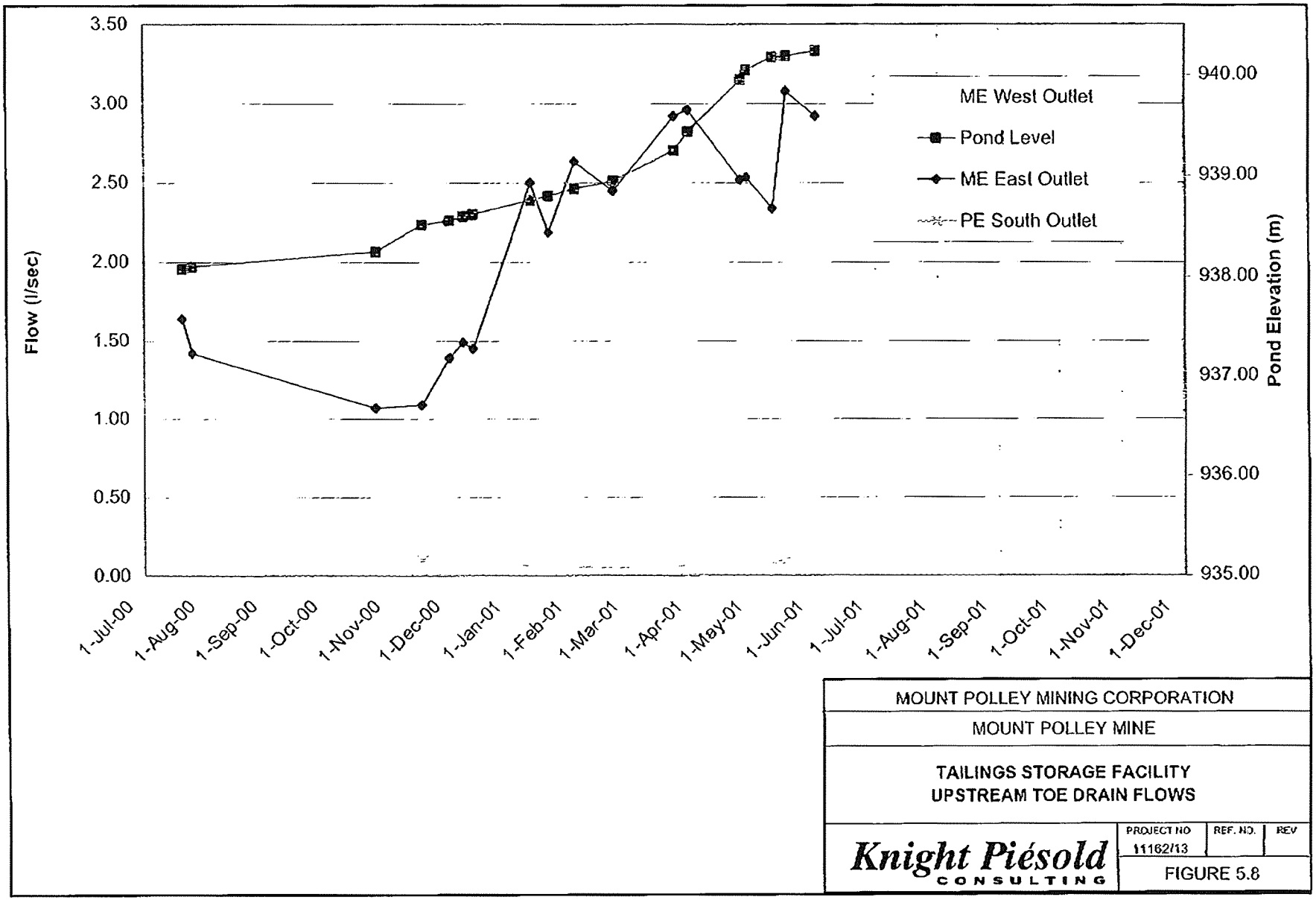
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

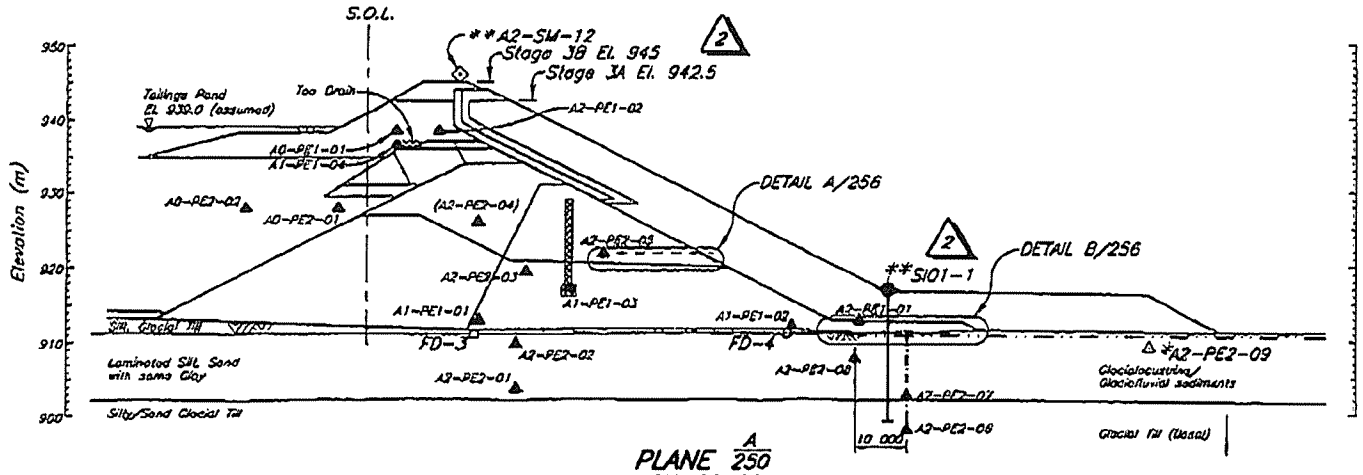
Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV.
11162/13		

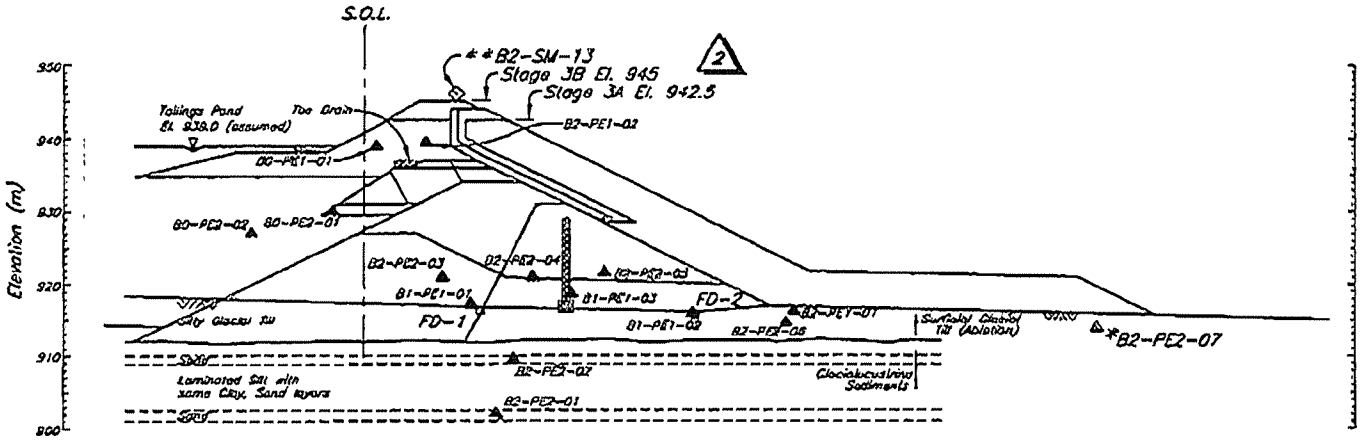
FIGURE 5.7



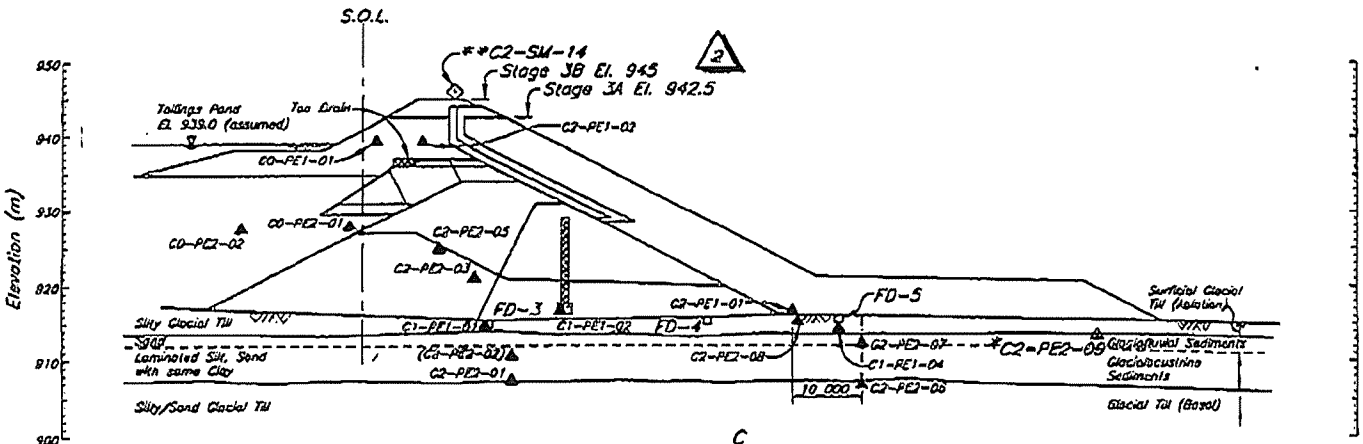
MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY UPSTREAM TOE DRAIN FLOWS			
Knight Piésold CONSULTING	PROJECT NO 11162/13	REF. NO.	REV
	FIGURE 5.8		



PLANE A/250
CH. 20+00

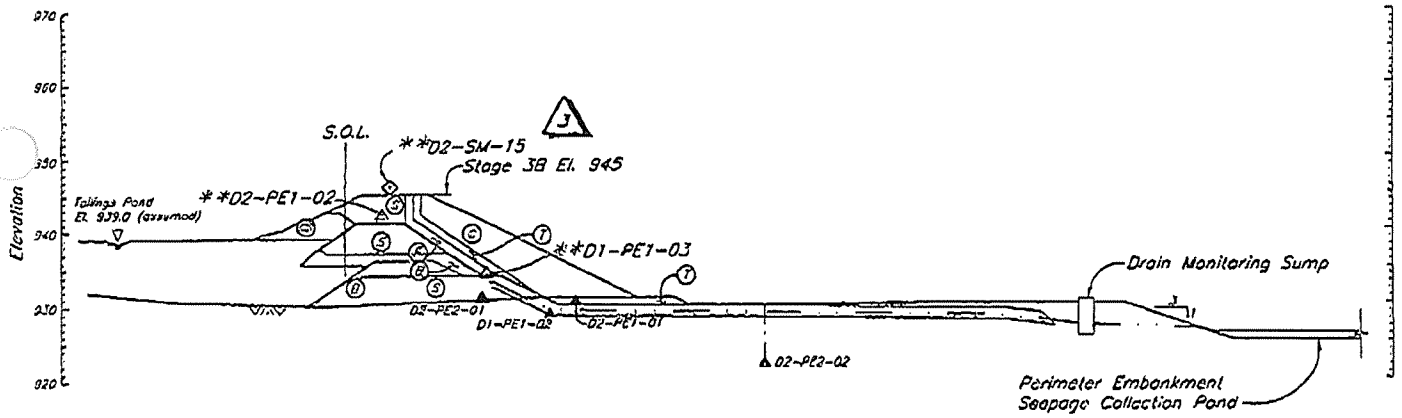


PLANE B/250
CH. 22+40

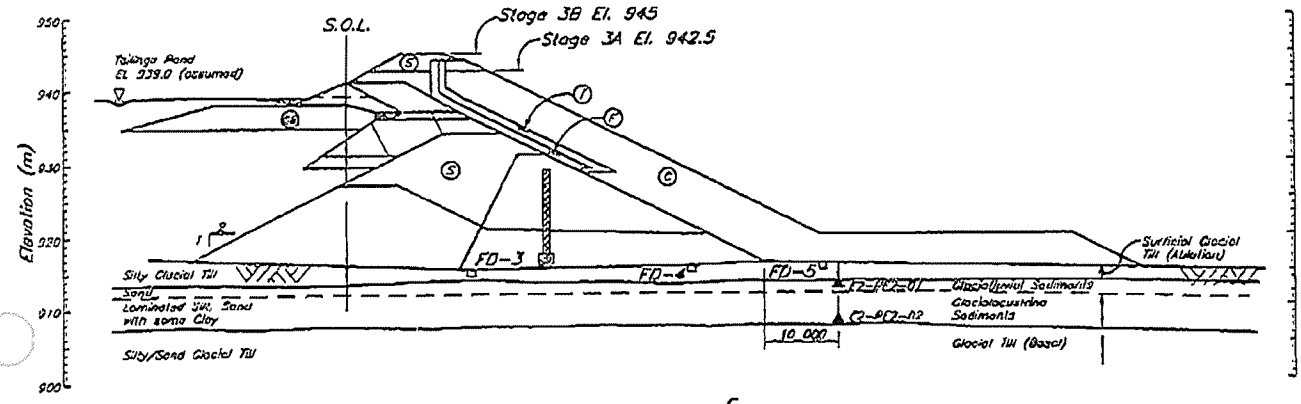


PLANE C/250
CH. 18+50

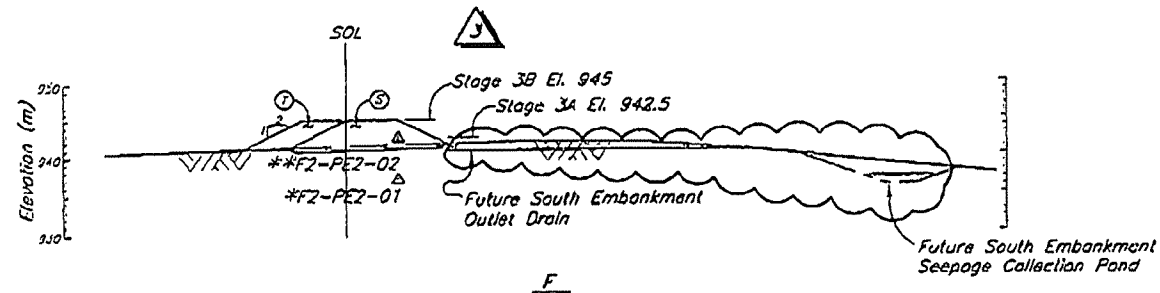
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2									2	08MAY'01	ISSUED FC
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS									1	26JAN'01	STAGE 3B
STAGE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN									0	2JUN'00	ISSUED FC
DESCRIPTION	REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE		
REFERENCE DRAWINGS	REVISIONS										



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



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



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

REFERENCE DRAWINGS
STAGE 3 TAILINGS EMBANKMENT – INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
STAGE 3 TAILINGS EMBANKMENT – SOUTH EMBANKMENT – INSTRUMENTATION PLAN
STAGE 3 PERIMETER EMBANKMENT – INSTRUMENTATION PLAN
STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN

REVISIONS								
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	DESCRIPTION
							3	08MAY'01	ISSUED FO
							2	26JAN'01	STAGE 3B
							1	20OCT'00	PEREMETER
							0	3JUN'00	ISSUED FO

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DATE:	February 5, 2001	**FILE NO.:**	11162/14.01
TIME:		**REF NO.:**	1/0386
OPERATOR:		**PAGES:**	1 of 23
SENDER:	Wilson Muir	**APPROVED:**	EJB.

TO:	MPMC	**FAX :**	(250) 790-2268
ATTN:	Eric LeNeve		
CC:	Chris Carr, MEMND (250) 952-0481		
SUBJECT:	Mount Polley TSF - Progress Report No. 8		

CAZ → [illegible] → File
2/2/01

MINISTRY OF
ENERGY AND MINES
REC'D FEB 0 6 2001

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

PROGRESS REPORT NO. 8 – January 16 to January 29, 2001

SECTION 1.0 –GENERAL

Construction of the Stage 3a raise for the Tailings Storage Facility Perimeter Embankment, from Chainage 32+00 to 45+00, was resumed on January 16, 2001. The scope of work includes:

1. Removal of frozen Zone S with observed ice lenses and frozen cycloned sand that had accumulated on the Zone S crest during cycloning operations in the fall of 2000.

2. Placement of Zone S to Elevation 941.3 m. The excavated surface ranged from El. 940.2 to 940.8 m.

1.1 PERSONNEL

Mount Polley Mining Corporation (MPMC) management personnel overseeing the Stage 3 work are as follows:

Eric LeNeve, Tailings Coordinator
Don Parsons, Mine Superintendent
Charie O'Hara, General Foreman
Don Jameson, Site Foreman

The following Knight Piesold Ltd. (KP) representatives were on site during the reporting period:

Wilson Muir, Site Engineer – Arrived on site January 15, left site January 29, 2001.
Harvey Dew, Senior Engineer – Arrived on site January 24, left site January 25, 2001.

1.2 WEATHER

Weather conditions over the period were variable, with a mix of sun and clouds and occasional periods of light snow. Temperatures ranged from about -10°C to +1°C during the day.

Work was stopped during the afternoon of January 28 until the end of the reporting period due to heavy snowfalls.

1.3 DESIGN DEVELOPMENTS

Recent review of the project water balance indicates that a core zone elevation of 941.0 m is sufficient to provide storage for tailings, supernatant water and the 24 hour PMP event until the end of May, 2001. An additional 1 m is required for wave run-up protection, and this may be achieved with cycloned sand or rockfill. Constructing the Zone S to 941.3 m will provide storage until the end of August.

The filling schedule indicates that a crest elevation of 945 m is sufficient to meet storage and freeboard requirements through August 2002. This is 1 m higher than the currently permitted crest elevation of 944 m. Revisions to the construction drawings are currently in progress, and a request to revise the existing permit will be issued to MEMND upon completion.

A review of embankment stability is underway. Work to date comprised a review of pore water pressure data. The stability model will be revised to reflect updated conditions since the last comprehensive review during Stage 3 design in 1999. The goals of the review include:

- Verification that existing pore water pressures in the embankment fill and foundations are less than those incorporated into the stability model;
- Review of piezometer trigger levels. These were reviewed in 1999 and it was not necessary to revise them. The placement of rockfill in 2000 increased embankment stability, thus increasing the conservatism of the trigger levels.
- Assessment of the requirement for inclinometers or similar displacement monitoring instrumentation at the Main Embankment. Inclinometers were recommended in the Report on On-going Construction Requirements (10162/9-3, 1998) and the use of rockfill as opposed to cycloned sand in the downstream Stage 3 fill facilitates their installation and continued use. These instruments would typically be installed in

downstream embankment fill and extend into the overconsolidated glaciolacustrine foundation materials.

- Verification of the stability of the Stage 4 Tailings Embankments (El. 948 m).

The review of embankment stability is part of the Annual Inspection and the results will be presented in the 2000 Annual Inspection Report.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

Harvey Dew, KP Senior Engineer and Eric LeNeve, MPMC Tailings Coordinator, carried out a thorough inspection and evaluation of the tailings pipeline from January 24 to 25. It was discovered that a large quantity of pressurized air was in the pipeline, restricting tailings flow in the line. Manual air release valves were added to the existing gauge setups at 4 locations; immediately downstream of the T2 dropbox, immediately upstream of the Bootjack Creek crossing, between the two aforementioned locations, and at the M1A upper dump valve. This system allows for the release of pressurized air and permits the tailings within the pipeline to flow more efficiently. Flow velocity at the exit of the line (approximate Ch. 25+00) is observed to be more consistent and backups have been eliminated. It is believed that this improvement will allow MPMC to extend the pipeline towards the South Embankment and begin to release tailings in this area.

1.5 SAFETY

No safety incidents were reported for the period.

SECTION 2.0 – CONSTRUCTION ACTIVITIES

2.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavators – 1 Hitachi EX 270, 1 Hitachi EX400 and 1 Cat 330RB
- Haul Trucks – 4 Moxy 30T articulated
- Dozers – 1 Cat D7, 1 Cat D8, 1 Cat D6, 1 Cat D10
- Compactors – 1 10T Cat CS563
- Sand truck, service trucks, fuel trucks

2.2 ACTIVITIES

The major construction activities for the reporting period are summarized below.

Perimeter Embankment

Removal of snow, ice, Zone S with observed ice lenses and frozen cycloned sand, Ch. 32+20 to 44+00, El. 940.2 to 941.0 m. Sections were cleaned with dozers and excavators.

Following cleaning and approval of the excavated surface, Zone S placement was carried out from Ch. 32+20 to 43+20, El. 940.2 to 941.3 m.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

3.1 GENERAL

KP site activities over the reporting period included the following:

- Inspection and documentation of construction activities.
- QA/QC collection and testing of Zone S record samples.
- Preparation of daily inspection reports.
- Review of embankment monitoring data provided by MPMC.
- Assistance to MPMC in the surveys carried out at the embankment.

3.2 LABORATORY TESTING

The following samples were collected and tested on site over the reporting period:

- Zone S record sample R/ZS-6

The results of the testing are provided on Table 3.1 and Figure 3.1.

The results show that the Zone S record sample meets the specifications for particle size distribution.

SECTION 4.0 – EMBANKMENT MONITORING

Monitoring of tailings embankment instrumentation over the reporting period indicates that the embankment is performing well within design tolerances.

4.1 VIBRATING WIRE PIEZOMETERS

Piezometer readings are obtained on a weekly basis. The results of the monitoring are shown on Figures 4.1 to 4.5, and are summarized below. Locations of the piezometers are shown on attached drawings.

Foundation Piezometers

The Main Embankment foundation piezometers have typically shown slight fluctuations in pore water pressure since December 6th. The largest increases have been about 0.9 m in Plane B.

No substantial changes were noted in the Perimeter Embankment (Plane D) or South Embankment (Plane F) foundation piezometers.

Fill Piezometers

Most of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3 fills with increasing pore pressures. Since the last set of readings the piezometers have shown either slight fluctuations, or a continuing decreasing trend.

Two piezometers located within Stage 1a glacial till fill have historically registered anomalous values, and warrant discussion.

Piezometer B2-PE2-03 reacted strongly to fill placement during initial construction. Pore water pressures did not dissipate in the periods following fill placement, but remained steady. This is in direct contrast to other similarly located instruments. 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 rate of dissipation after each stage of construction. In each case, the period of dissipation was interrupted by the next stage of construction, with an increase in pore water pressure between 100 and 50 percent of the increase in total stress. It appears that drainage paths were limited in the fill around B2-PE2-03 and pore water pressures are still equilibrating.

Piezometer C2-PE2-05 is also located within Stage 1a glacial till fill. This instrument historically showed little or no reaction to construction, but rather indicated a slow, steady increase in pore water pressure over time. This suggests that pore water pressures in the fill around C2-PE2-05 are reaching a steady state condition as the phreatic surface moves through the fill. It should be noted that the pressure head registered by C2-PE2-05, approximately 10 m, is similar to other piezometers located in comparable positions within glacial till fill.

Plots of elevation head and r_u with time for B2-PE2-03 and C2-PE2-05 are presented in Figures 4.7 and 4.8.

Drain Piezometers

All drain piezometers have remained static and at a very low head indicating free draining conditions within the embankment drainage system.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

4.2 DRAIN FLOWS

Results of foundation drain outlet monitoring are shown on Figure 4.9. Results of monitoring of the upstream toe drains outlets are shown on Figure 4.10.

The readings from January 19 indicate that the fill is draining and that the flow rates are normal.

The readings in all cases show a significant decrease from the anomalous high values observed on October 24, although some of the readings still remain slightly above the range of previously recorded values. There has been no visible sediment in the flows from the foundation drains.

Monitoring of the upstream toe drain shows slight fluctuations in flows, likely due to the increasing pond level as well as the changing tailings slurry discharge locations.

SECTION 5.0 – ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to monitor the Perimeter Embankment at the completion of the current construction activities.
- MPMC and KP will continue to review the Perimeter Embankment construction scheduling.
- KP Personnel will visit the site as necessary for construction inspections.

Submitted by:

C. Wilson Muir P.Eng.
Resident Engineer
Mount Polley Site

Distribution:

Eric LeNeve, Don Parsons	Mount Polley Mining Corporation
Chris Carr	Ministry of Energy, Mines and Northern Development
Ken Brouwer	Knight Piesold Ltd., Vancouver

TABLE 3.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE S RECORD TEST SUMMARY SHEET

Revised: 05-Feb-01
Date Printed: 05-Feb-01

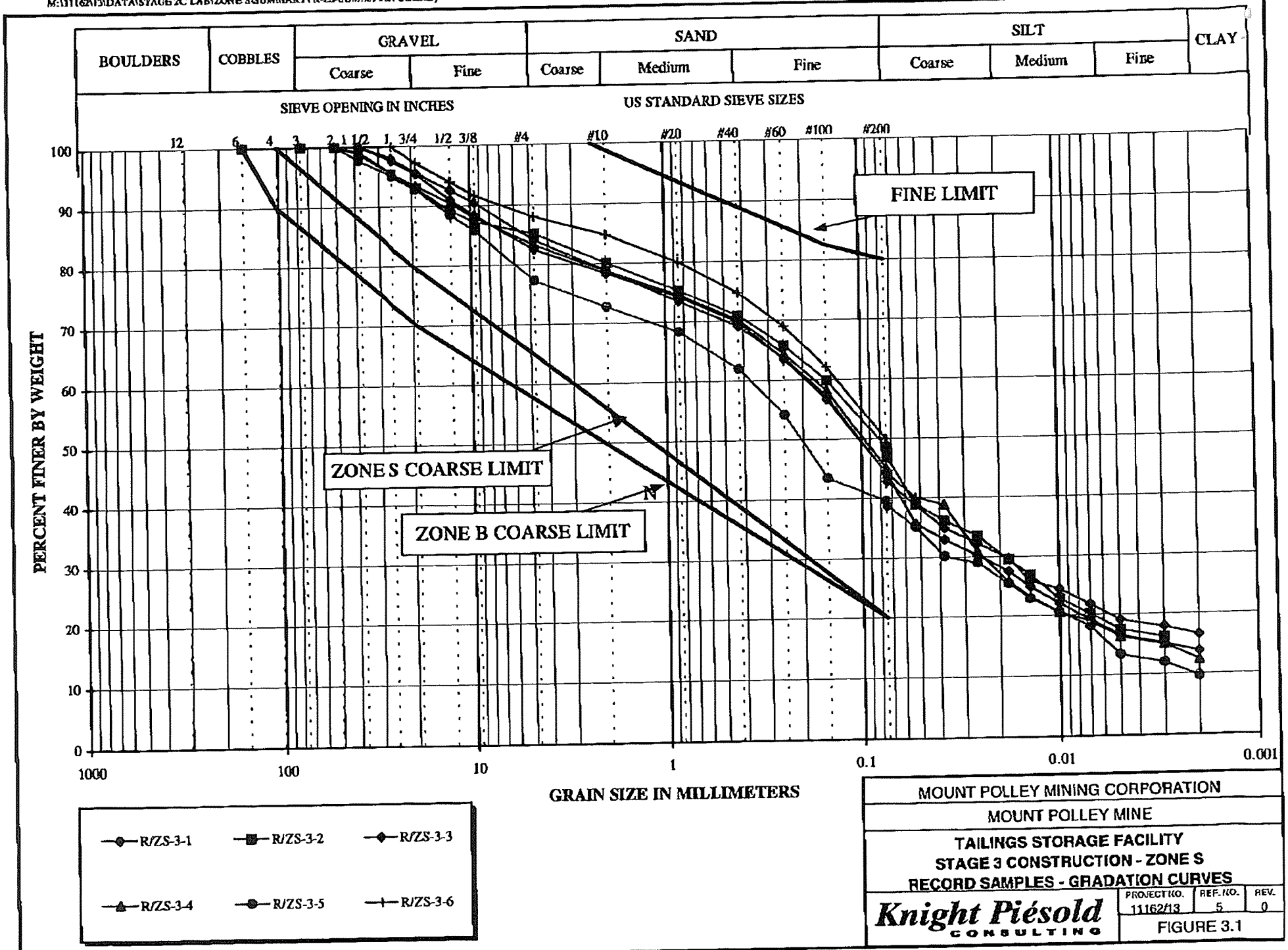
\\WestProj_Sfs\111\ADMIN\ADProj\Stage3A\Site Files\Lab Testing\Zone S\[R-ZS-1.XLS]Summary Table

Date Sampled	Sample No.	Location	Elev. (m)	R1 Atterberg Limits PL %	LL %	PI %	R2 Field m/c %	R3 (Particle Size Distribution) 152.4 6	76.2 3	50.8 2	38.1 1.5	25.4 1.000	19.05 0.750	12.7 0.500	9.525 0.375	4.75 #4	2 #10	0.85 #20	0.425 #40	0.25 #60	0.15 #100	0.075 #200 Clay	R4 Standard Proctor Max Dry Density kg/m³	Optimum m/c %	R6 Specific Gravity	R7 Field Density Dry Density kg/m³	Compaction %
								6	3	2	1.5	1.000	0.750	0.500	0.375	#4	#10	#20	#40	#60	#100	#200					
				%	%	%	%	6	3	2	1 1/2	1	3/4	1/2	3/8	#4	#10	#20	#40	#60	#100	Clay					
19-Sep-00	R-ZS-3-1	Ch. 27+00	941.2	13.9	24.5	10.6	9.8	100.0	100.0	100.0	100.0	98.0	95.6	93.6	90.5	84.1	78.8	73.4	69.1	63.7	57.2	44.3	2110	8.8	1.636	2108	99.9
21-Sep-00	R-ZS-3-2	Ch. 16+00	941.0	13.6	24.4	10.8	9.5	100.0	100.0	100.0	98.8	95.3	93.0	89.2	87.3	83.2	80.1	75.2	70.9	65.8	59.9	48.7	2018	9.6	2.623	2091	103.7
22-Sep-00	R-ZS-3-3	Ch. 22+60	941.6	13.7	24.4	10.7	9.9	100.0	100.0	100.0	100.0	97.6	95.4	91.0	88.4	82.5	78.3	74.2	69.8	63.5	56.7	44.3	2109	8.4	2.655	2142	101.6
23-Sep-00	R-ZS-3-4	Ch. 8+40	-	14.0	22.1	8.8	9.6	100.0	100.0	100.0	99.1	95.4	93.4	90.5	88.0	83.3	78.7	74.5	70.2	64.4	58.2	45.1	2161	7.8	2.673	2092	97.7
26-Sep-00	R-ZS-3-5	S.E. Zone S Fill	-	13.4	22.1	9.1	8.0	100.0	100.0	100.0	97.7	93.0	92.8	88.5	85.8	77.3	72.7	68.3	62.0	54.2	43.5	39.6	2140	7.2	2.674	2236	104.5
22-Jan-01	R-ZS-3-6	Ch. 33+00	941.3	-	-	-	10.5	100.0	100.0	100.0	100.0	100.0	97.2	94.0	91.7	88.0	84.8	80.0	74.7	69.0	62.1	50.0	2075	10.8	-	2064	99.5
			MEAN	14	24	10	9.6	100.0	100.0	100.0	99.3	96.9	94.6	91.0	88.6	83.4	78.9	74.3	69.5	63.4	56.3	45.3	2099	8.8	2.44	2122	101.1
			MEDIAN	14	24	11	9.7	100.0	100.0	100.0	99.6	96.5	94.4	90.8	88.2	83.7	78.8	74.4	70.0	64.1	57.7	44.7	2110	8.6	2.67	2100	100.7
			MAXIMUM	14	25	11	10.5	100.0	100.0	100.0	100.0	100.0	97.2	94.0	91.7	88.0	84.8	80.0	74.7	69.0	62.1	50.0	2141	10.8	2.67	2236	104.5
			MINIMUM	13	23	9	8.0	100.0	100.0	100.0	97.7	95.0	92.8	88.5	85.8	77.3	72.7	68.3	62.0	54.2	43.5	39.6	2018	7.2	1.64	2064	97.7

Notes:

1. Values for Standard Proctor maximum dry density and optimum moisture content include oversize correction.
2. R-ZS-3-6 tested in MPMC laboratory using 3", 1 1/2", 1", 3/4", 3/8", #4, #8, #16, #30, #50, #100, #200 sieves. Values in above table are interpolated where necessary.

R1 Atterberg Limits (ASTM D4318)
R2 Moisture Content (ASTM D2216)
R3 Particle Size Distribution (ASTM D422)
R4 Laboratory Compaction (ASTM D1557)
R6 Bulk Specific Gravity (ASTM C127)
R7 Field Density by Nuclear Methods (ASTM D2922)



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION - ZONE S
RECORD SAMPLES - GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13	5	0

FIGURE 3.1

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

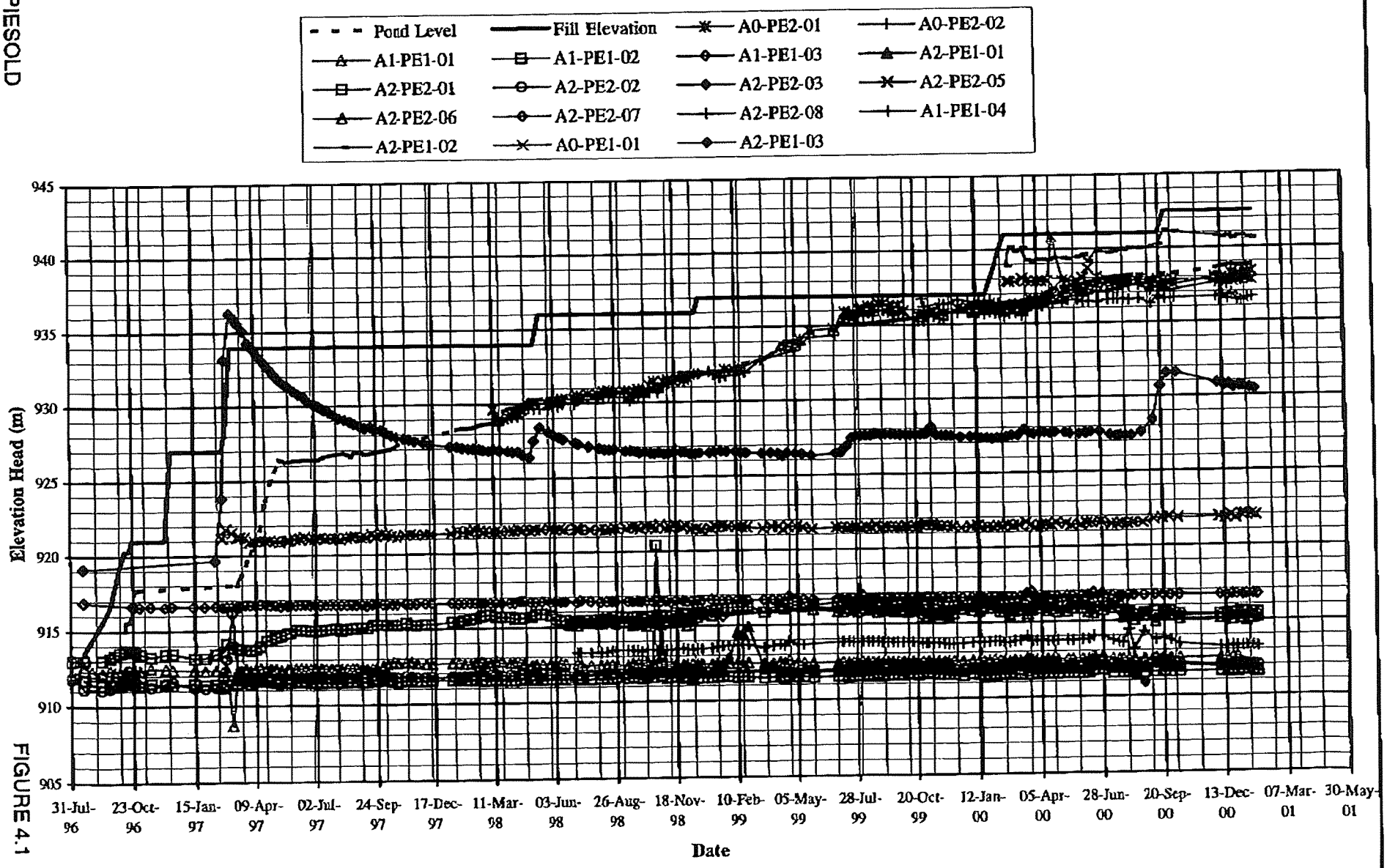


FIGURE 4.1

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

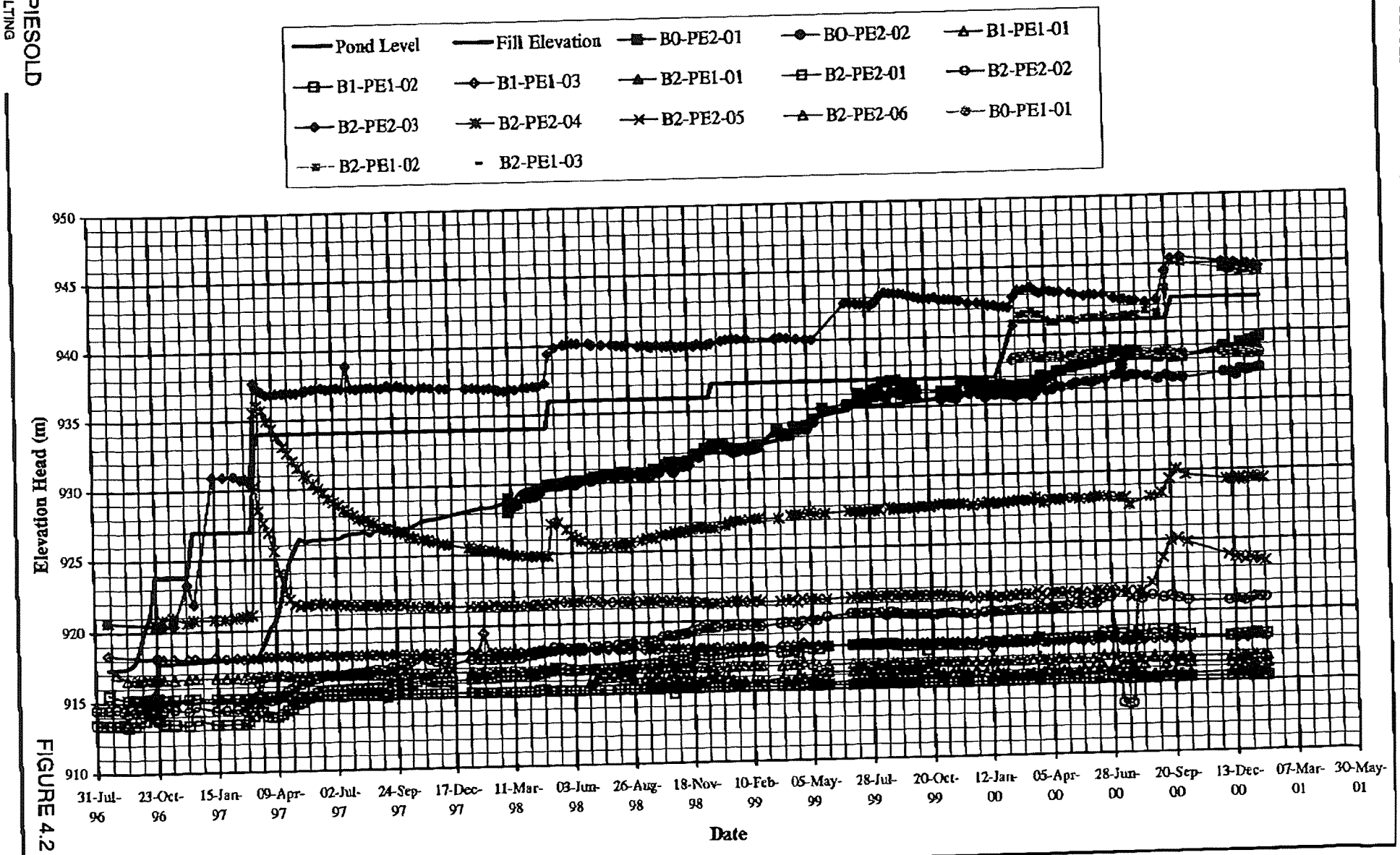


FIGURE 4.2

KNIGHT PIESOLD
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MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

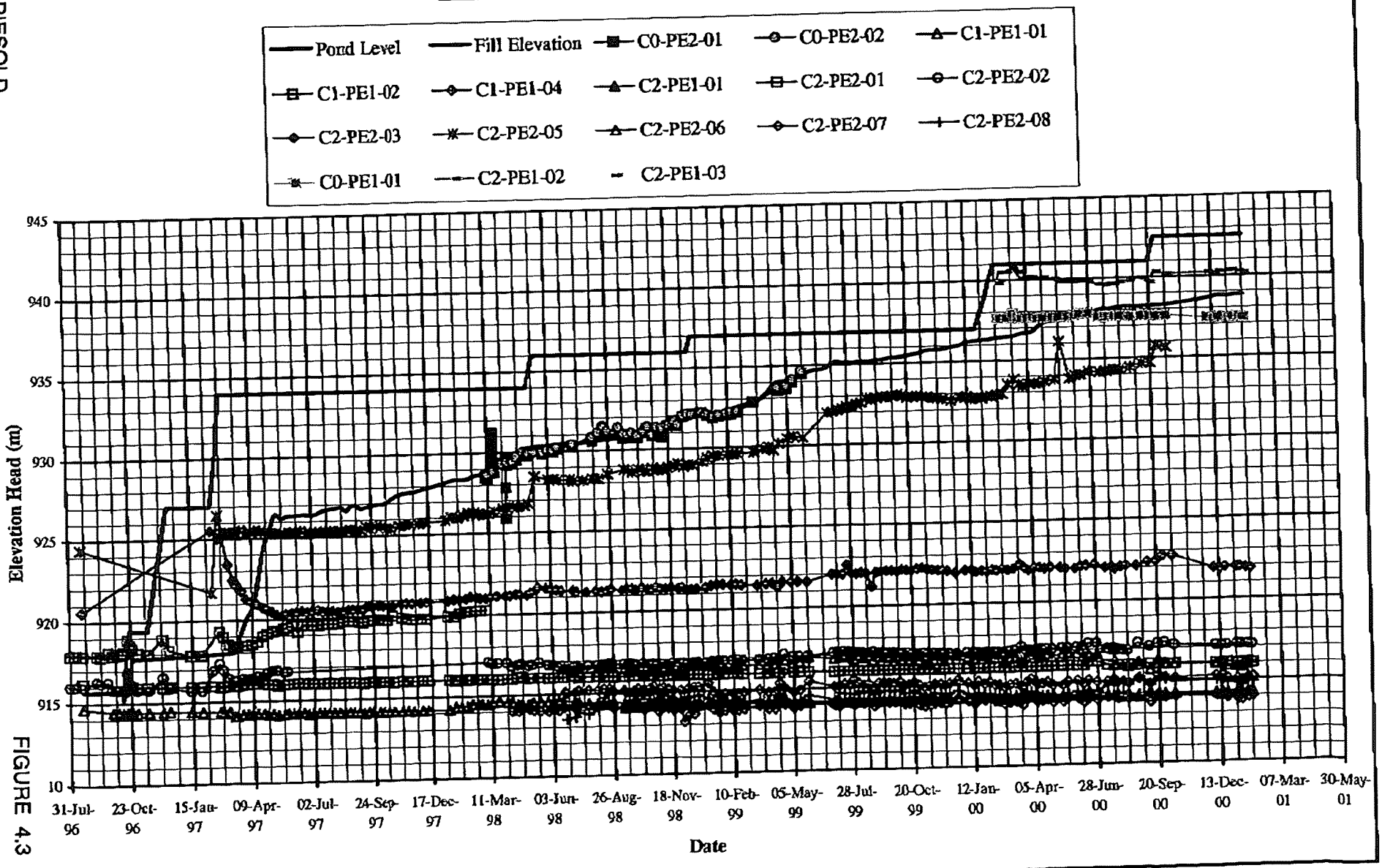


FIGURE 4.3

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

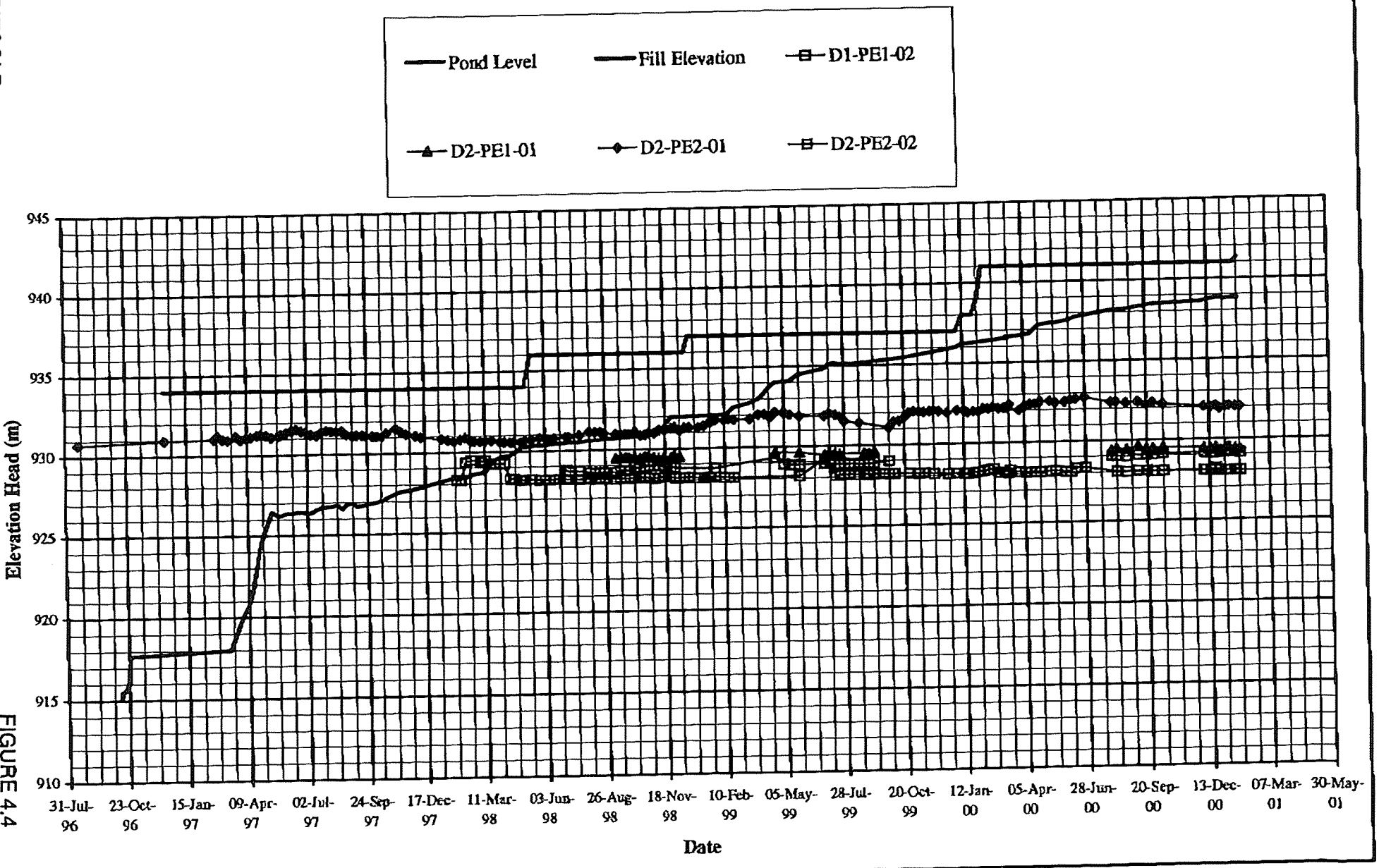


FIGURE 4.4

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

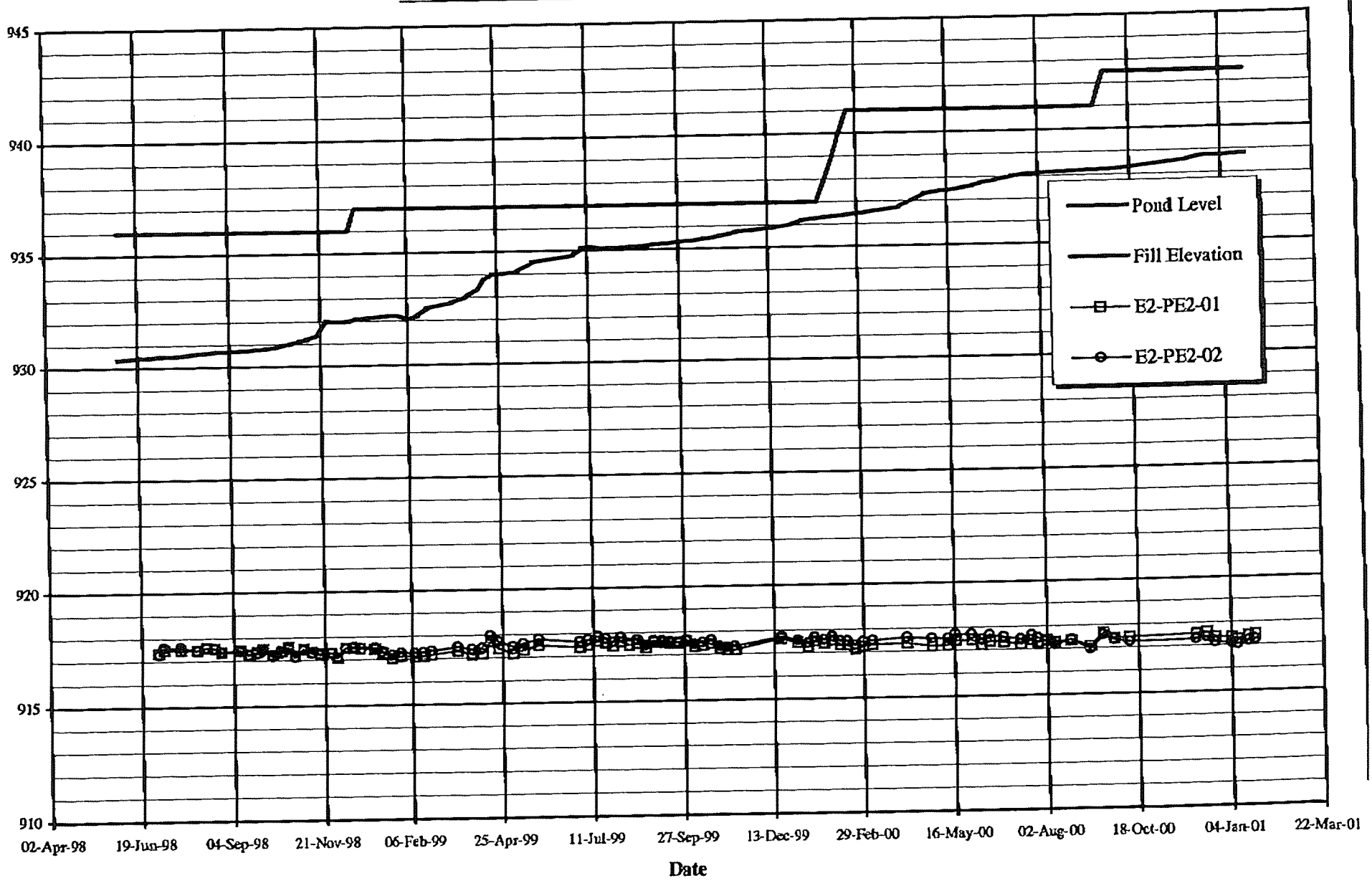


FIGURE 4.5

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE F PIEZOMETERS

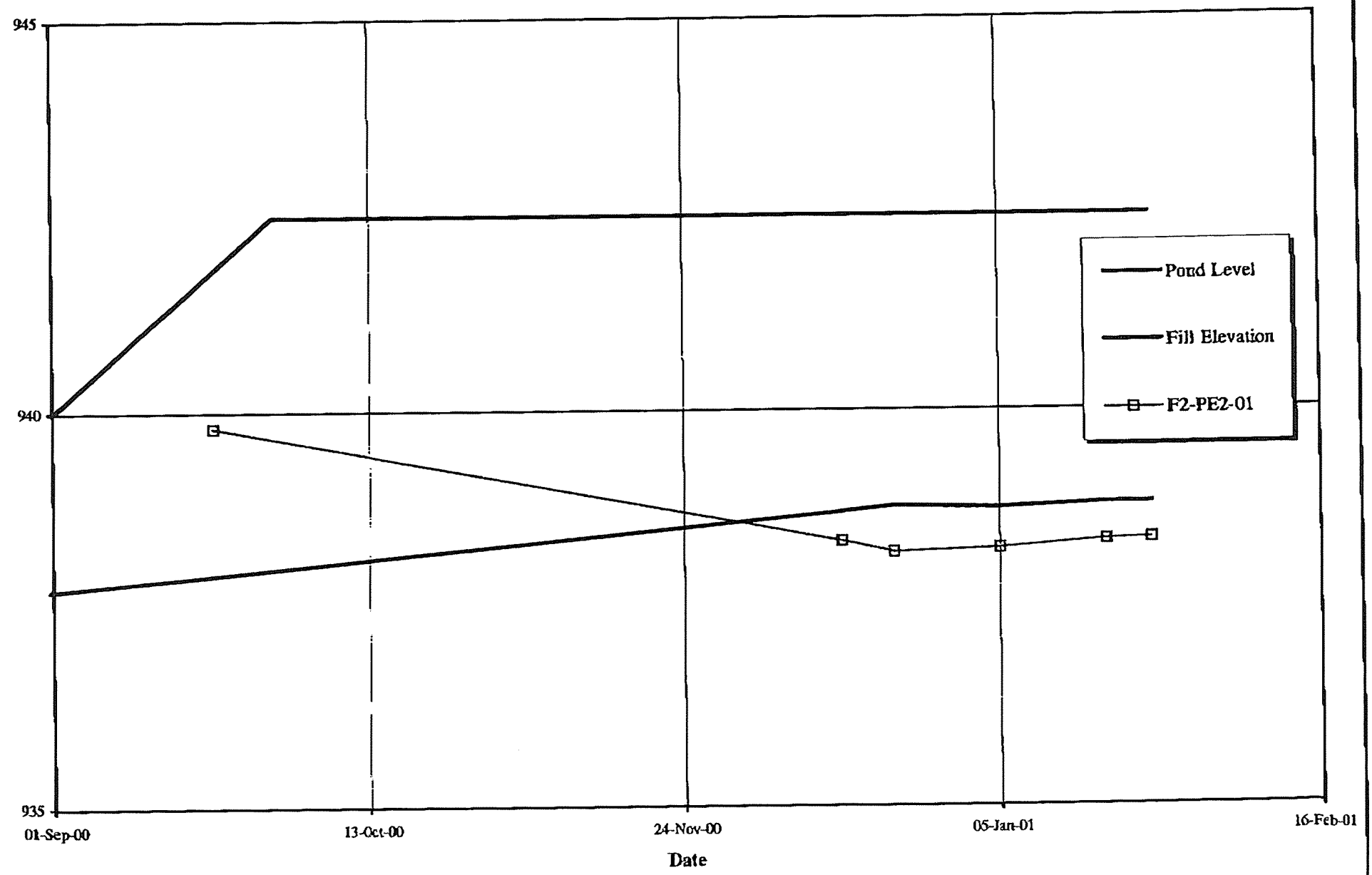
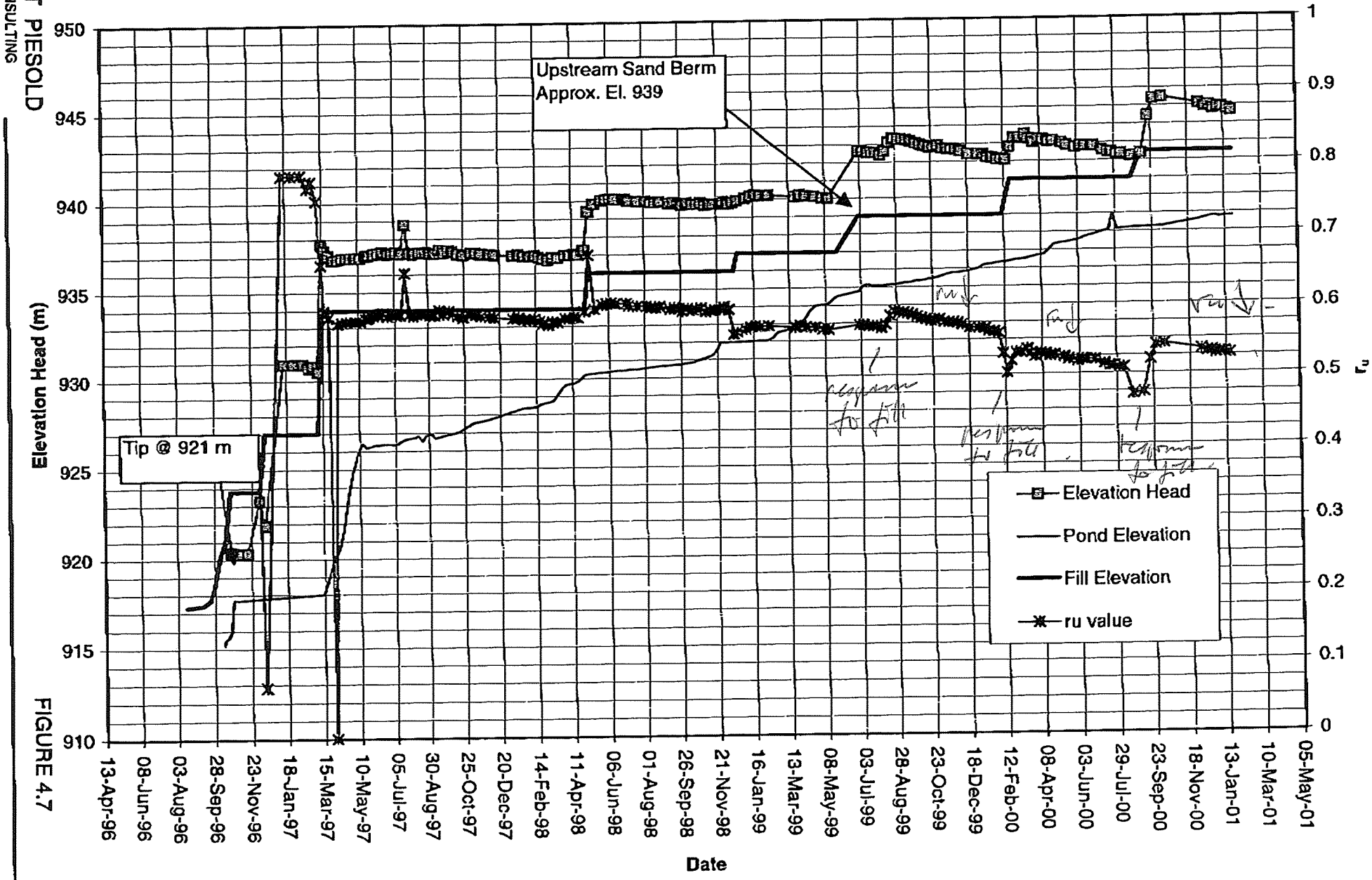


FIGURE 4.6

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT
PIEZOMETER B2-PE2-03
(Glacial Till Fill El. 921.0 m)



KNIGHT PIESOLD CONSULTING

FIGURE 4.7

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT
PIEZOMETER C2-PE2-05
(Glacial Till Fill El. 924.8 m)

KNIGHT PIESOLD CONSULTING

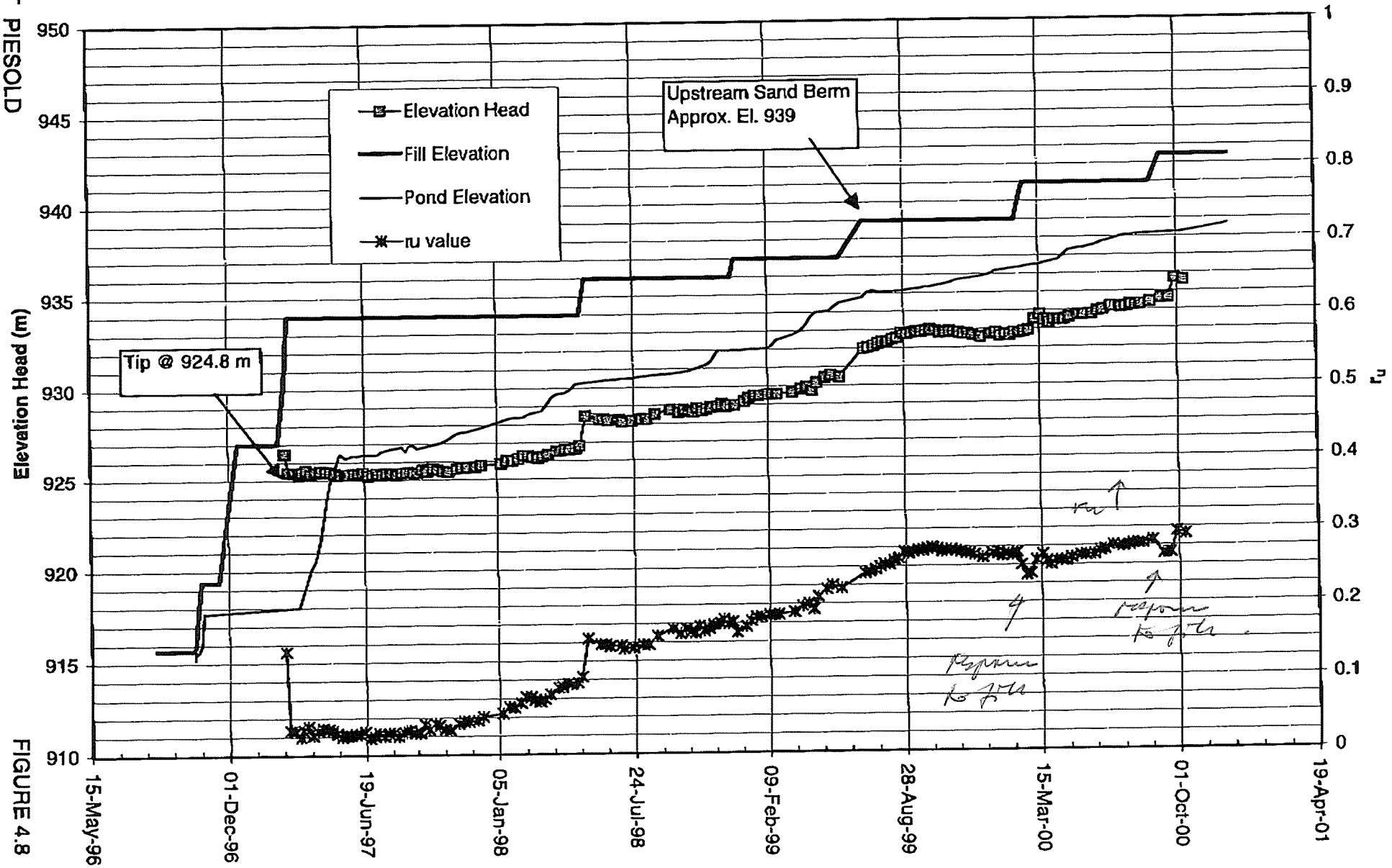
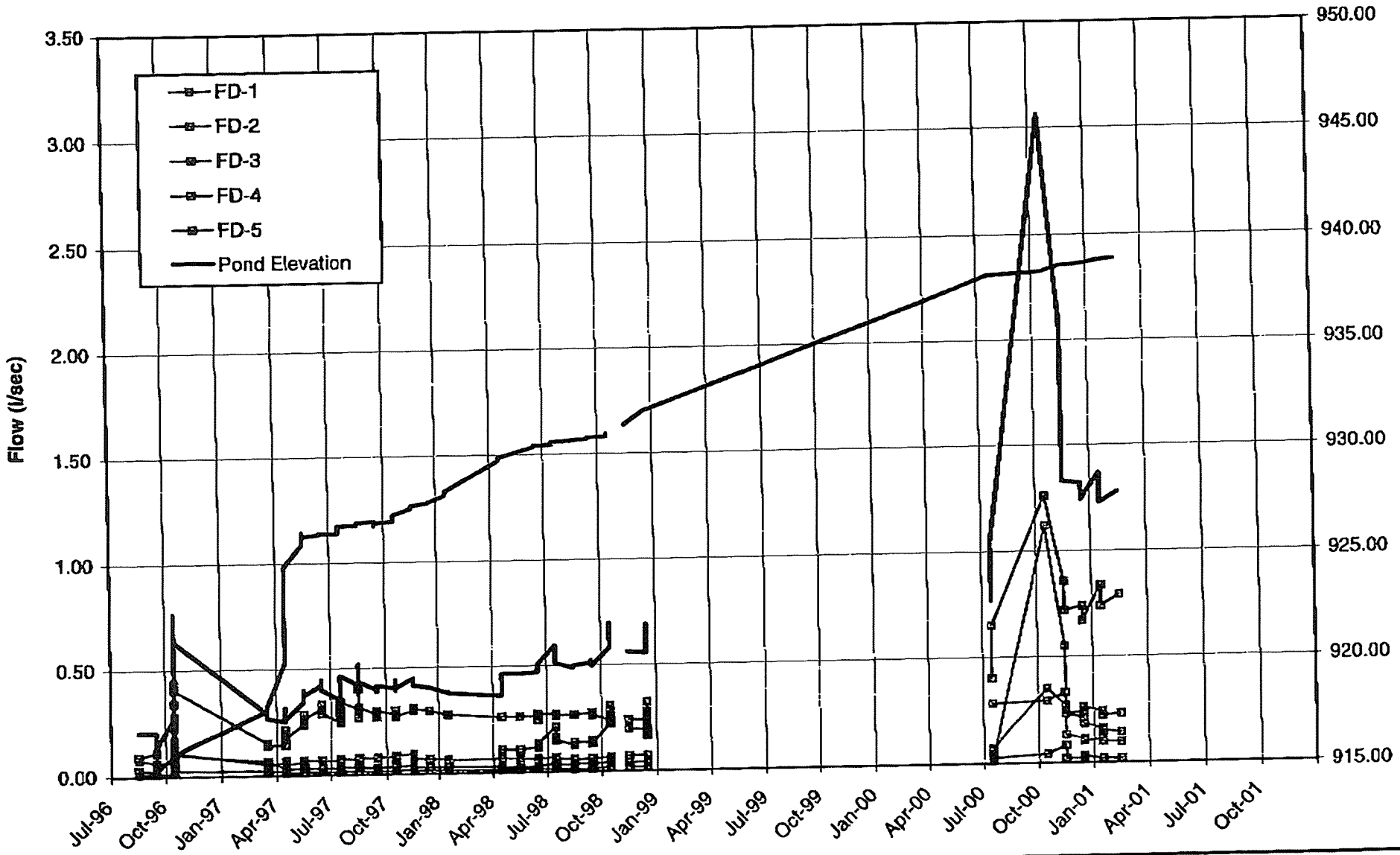


FIGURE 4.8

J:\JOB\DATA\10162-10\MONITOR\FD-mon OD-mon-Working Copy.xls

-2001



MOUNT POLLEY MINING CORPORATION

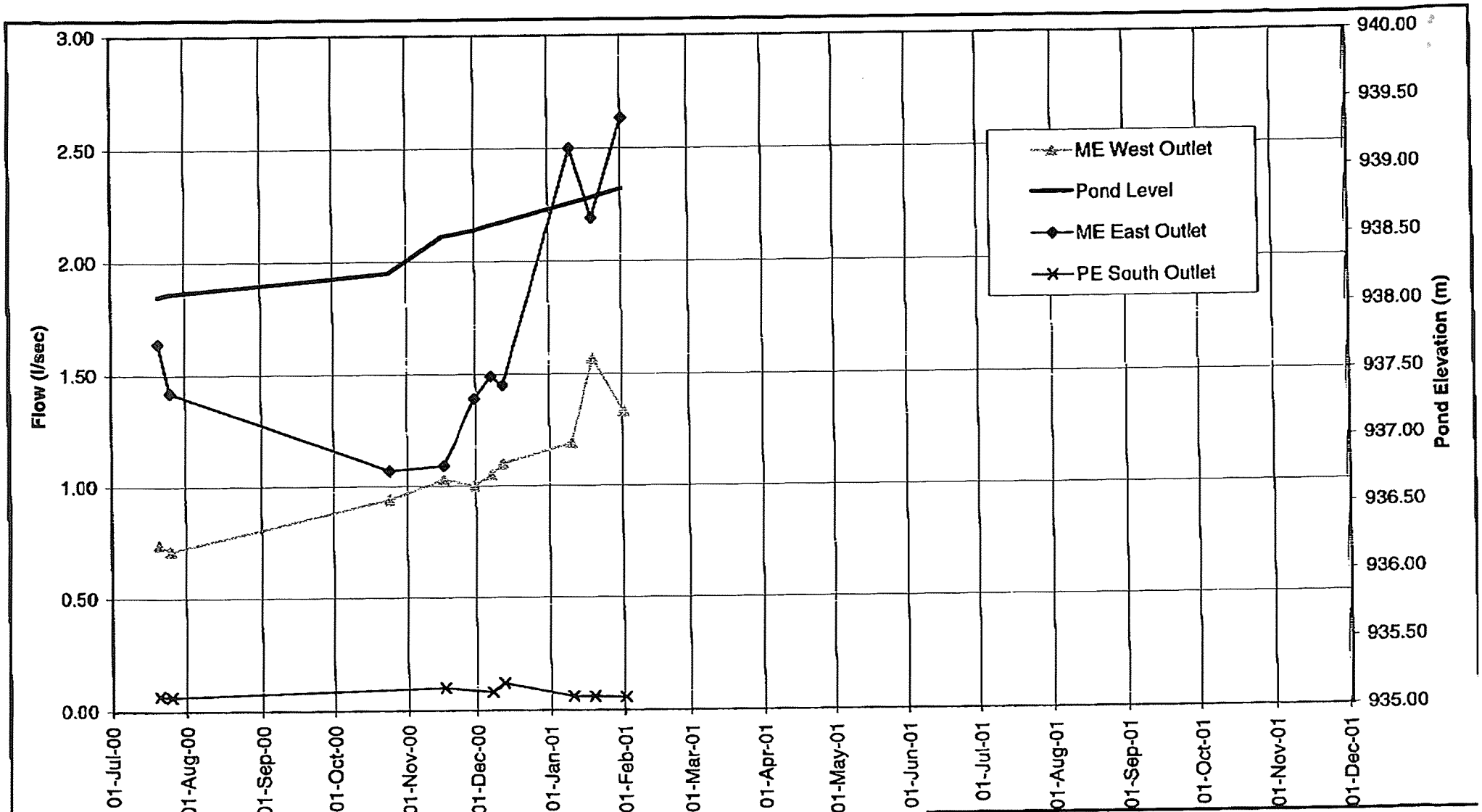
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
MAIN EMBANKMENT
FOUNDATION DRAIN FLOWS

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		

FIGURE 4.9



MOUNT POLLEY MINING CORPORATION

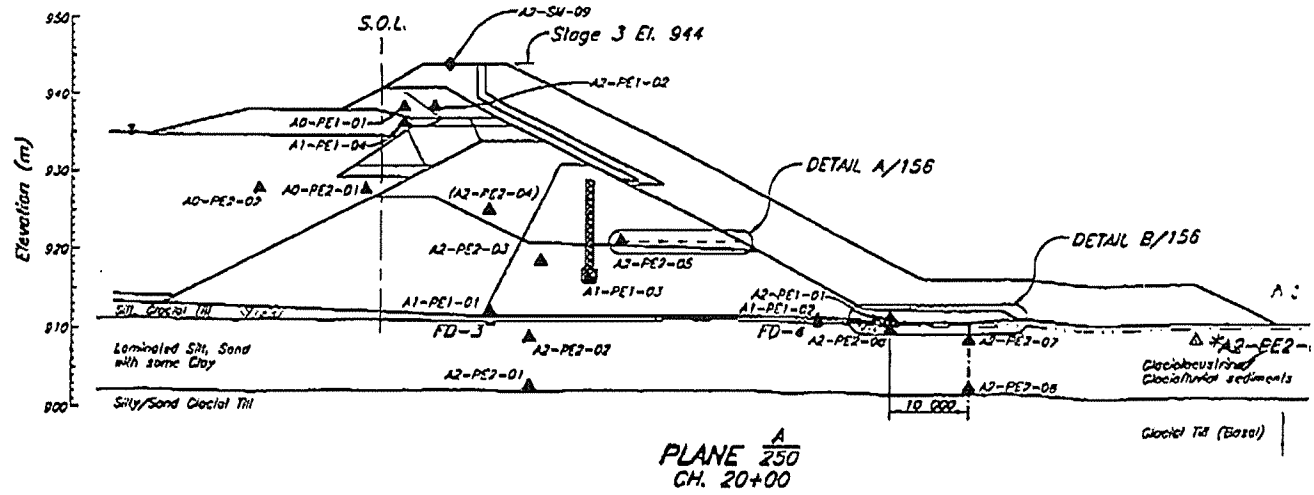
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

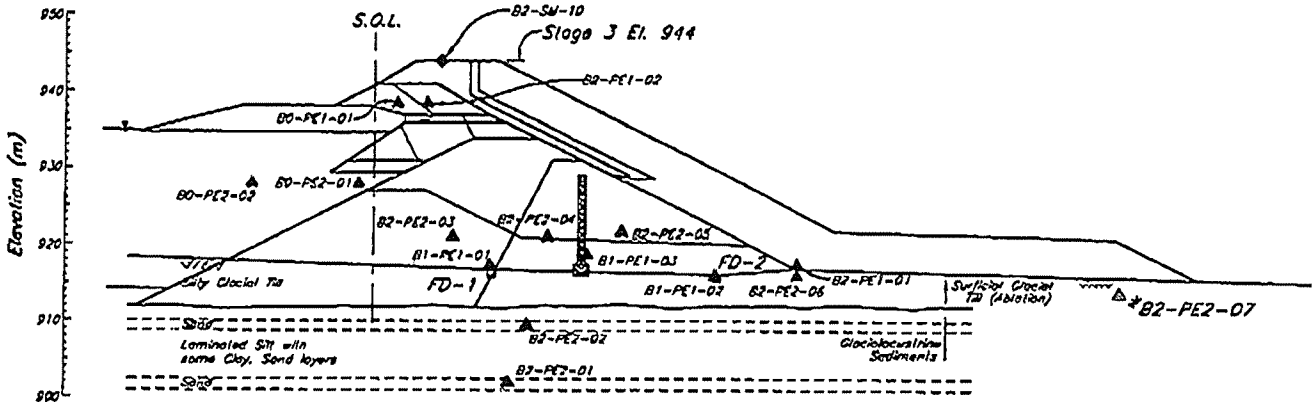
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		

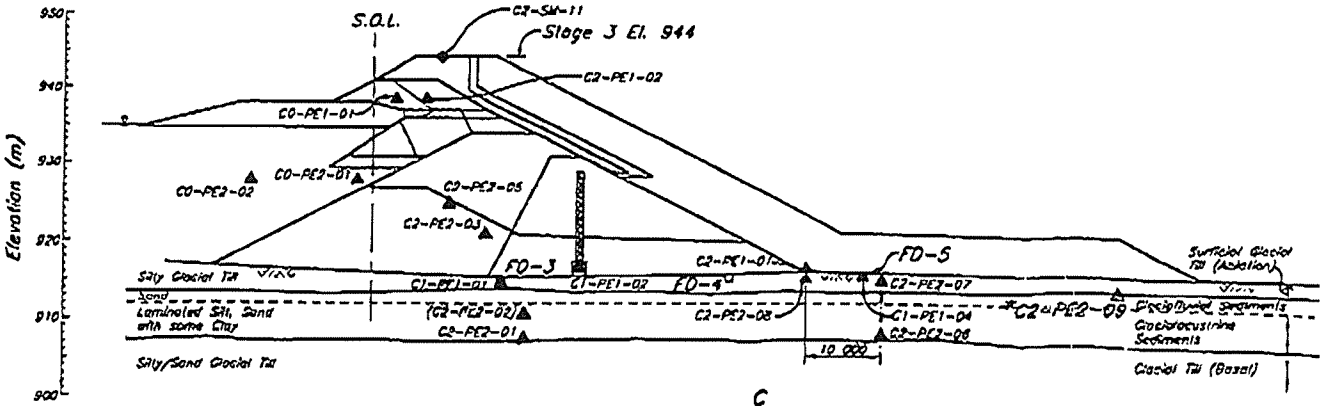
FIGURE 4.10



PLANE $\frac{A}{250}$
CH. 20+00



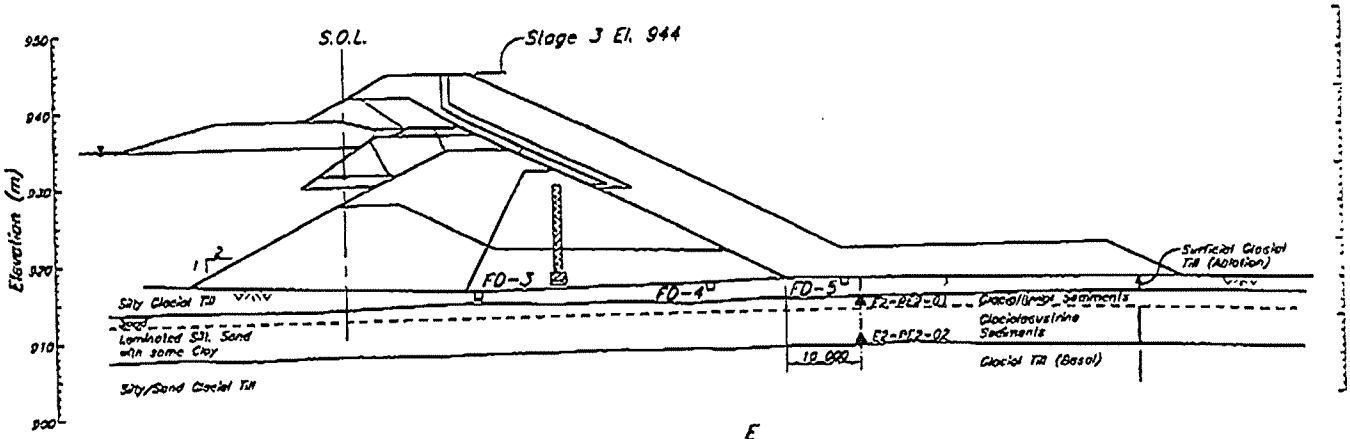
PLANE $\frac{B}{250}$
CH. 22+40



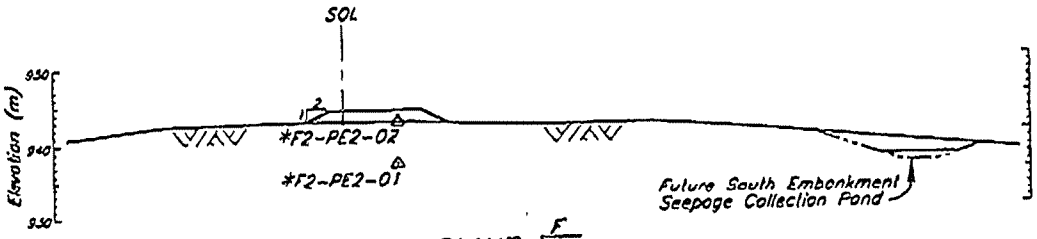
PLANE $\frac{C}{250}$
CH. 18+50

REFERENCE DRAWINGS
E 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2
E 3 TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS
GE 3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN

REVISIONS									
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	
							D	2JUN'00	ISSUED FOR



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



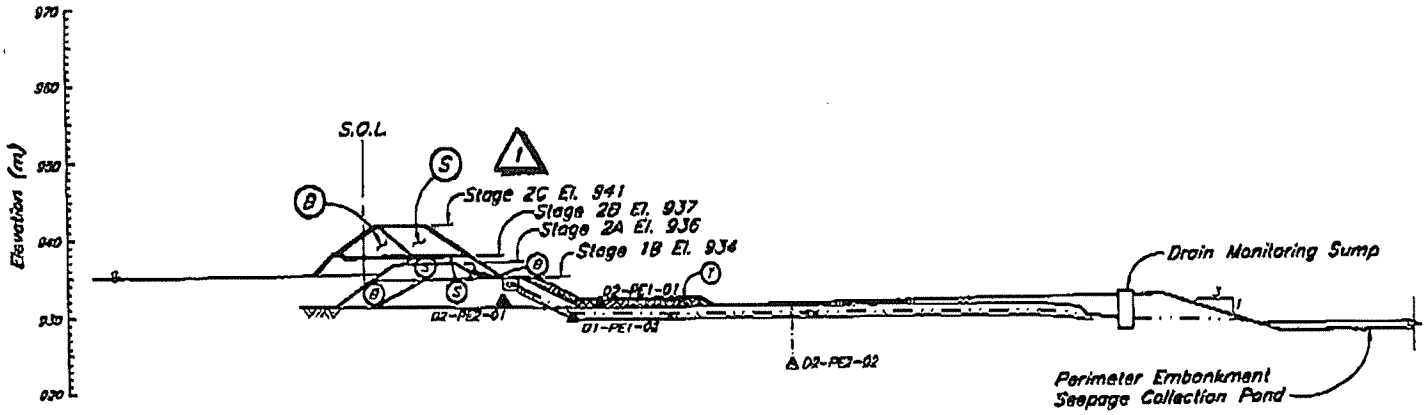
PLANE $\frac{F}{254}$
CH. 7+19

DWG. NO.	DESCRIPTION
258	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
254	TSF - STAGE 3 TAILINGS EMBANKMENT - SOUTH EMBANKMENT - INSTRUMENTATION PLAN
250	TSF - STAGE 3 TAILINGS EMBANKMENT - MAIN EMBANKMENT - INSTRUMENTATION PLAN
130	TSF - STAGE 3 SOUTH EMBANKMENT - PLAN AND SECTION
215	TSF - STAGE 3 MAIN EMBANKMENT - SECTIONS AND DETAILS

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CH.

REVISIONS



PLANE $\frac{D}{151}$
CH. 39+86

DRG. NO.	DESCRIPTION
152	TSF - STAGE 2C EXPANSION - INSTRUMENTATION SECTIONS - SHEET 1 OF 2
151	TSF - STAGE 2C EXPANSION - PERIMETER EMBANKMENT INSTRUMENTATION - PLAN
150	TSF - STAGE 2C EXPANSION - MAIN EMBANKMENT INSTRUMENTATION - PLAN

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D

REVISIONS

SHEET FILE :

17/01/01 → File

Knight Piésold CONSULTING

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www.knightpiésold.com

DATE:	15 January, 2001	**FILE NO.:**	11162/14.01
TIME:		**REF NO.:**	1/0120
OPERATOR:		**PAGES:**	1 of 25
SENDER:	Sarah Griffiths	**APPROVED:**	KJB

TO:	MPMC	**FAX :**	(250) 790-2268
ATTN:	Don Parsons, Eric Leneve, Greg Smyth		
CC:	Chris Carr – MEMD 250-952-0481		
SUBJECT:	Mount Polley Stage 3A		

Please find following Progress Report No. 7 (Revised).

Regards,

Sarah Griffiths.

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

PROGRESS REPORT NO. 7 – November 24 to December 6, 2000

SECTION 1.0 –GENERAL

Construction of the Stage 3a raise for the Tailings Storage Facility Perimeter Embankment has been on-going since the last reporting period (October 24, 2000). MPMC continued construction of the upstream cycloned sand berm between Ch. 32+00 and Ch. 43+50 until late November when freezing conditions made further cycloning impractical.

Over this reporting period the downstream portion of the embankment was raised between Ch. 28+00 and 32+00 using filter sand and Zones T and C rockfill. The fill was completed to the target elevation of 942.5 m on December 6.

1.1 PERSONNEL

Mount Polley Mining Corporation (MPMC) management personnel overseeing the Stage 3 work are as follows:

Eric Leneve, Tailings Coordinator
Don Parsons, Mine Superintendent

The following Knight Piesold Ltd. (KP) representatives were on site during the reporting period:

Sarah Griffiths, Site Engineer – Arrived on site November 24, left site December 6.

1.2 WEATHER

Weather conditions over the period were variable, with a mix of sun and clouds and occasional periods of light snow. Temperatures ranged from about -10°C to +1°C.

Work was delayed November 24 and December 2 due to heavy snowfall.

1.3 DESIGN DEVELOPMENTS

Recent review of the project water balance indicates that a core zone elevation of 941.0 m is sufficient to provide storage for tailings, supernatant water and the 24 hour PMP event. An additional 1 m is required for wave run-up protection, and this may be achieved with cycloned sand or rockfill. Options for construction of the Perimeter Embankment were discussed in detail in Progress Report No. 6.

freeboard?

Cycloned sand has been hydraulically placed between Ch. 32+00 and Ch. 43+50 (Setting Out Points S6 and S7). The sand will be mechanically shaped and compacted as required to form the approximate configuration shown on Figure 1.2.

? check compaction required.

MPMC has provided the required freeboard between Ch. 28+00 and Ch. 32+00 by downstream placement of rockfill and filter sand to the configuration shown on Figure 1.3.

A transition will be required between the upstream cyclone sand berm and downstream rock fill, and may consist of a temporary rock or sand berm constructed across the crest and between the fills to El. 942.5. The berm would be removed during the next stage of construction.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

ch28 ch32

Prior to construction between S5 and S6 on the Perimeter Embankment, the tailings were being discharged from the beach in this area. During construction, the tailings were discharged from the north end of the tailings facility. Work to relocate the pipeline and begin discharging near the south end of the facility was ongoing.

1.5 SAFETY

No safety incidents were reported for the period.

SECTION 2.0 – CONSTRUCTION ACTIVITIES

2.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Loader - 1 Cat 992
- Excavator – 1 Hitachi EX 270
- Haul Trucks – 2 Cat 777's
- Dozers – 1 Cat D7, 1 Cat D8, 1 Cat D6
- Compactors – Cat CS583
- Sand truck, Grader, service trucks, fuel trucks

2.2 ACTIVITIES

The major construction activities for the reporting period are summarized below.

Perimeter Embankment

The Perimeter Embankment Zones T and C have been constructed to El. 942.5 m between Ch. 28+00 to Ch. 32+00, as shown on Figure 1.3. The Zone F chimney drain has been constructed to 941.0 m in this area, and will be extended as necessary during the next stage of construction.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

3.1 GENERAL

KP site activities over the reporting period included the following:

- Inspection and documentation of construction activities.
- QA/QC collection and testing of Zone F and T control and record samples.
- Preparation of daily inspection reports.
- Review of embankment monitoring data provided by MPMC.

3.2 LABORATORY TESTING

The following samples were collected and tested on site over the reporting period:

- Zone T record sample R/ZT-1
- Zone F control samples C/ZF-1 to 3
- Zone F record samples R/ZF-1 to 3

The results of the testing are provided on the summary Tables 3.1 to 3.3 and gradation plot Figures 3.1 to 3.3.

The results show that the Zone T record sample meets the specifications for particle size distribution.

The Zone F control sample results show that sample C/ZF-2 was too coarse to meet the gradation specifications. This sample was taken during initial crushing, however, before crushing materials were adjusted to produce a finer product. Sample C/ZF-2a was subsequently obtained, and meets the required specifications. All of the Zone F record samples meet the specifications.

SECTION 4.0 – EMBANKMENT MONITORING

Monitoring of tailings embankment instrumentation over the reporting period indicates that the embankment is performing well within design tolerances.

4.1 VIBRATING WIRE PIEZOMETERS

Piezometer readings were obtained on December 6. The results of the monitoring are shown on Figures 4.1 to 4.5, and are summarized below. Locations of the piezometers are shown on attached drawings.

Foundation Piezometers

The Main Embankment foundation piezometers have typically shown slight fluctuations or slight decreases in pore water pressure since the previously reported October 11th readings. The largest decreases have been about 0.9 m in Plane C.

No substantial changes were noted in the Perimeter Embankment (Plane D) foundation piezometers.

Fill Piezometers

Most of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3 fills with increasing pore pressures. Since the last set of readings the piezometers have shown either slight fluctuations, or a continuing decreasing trend with the largest decreases between 0.7 to 0.9m.

Drain Piezometers

All drain piezometers have remained static and at a very low head indicating that the drains are free-draining and functioning as designed.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

4.2 DRAIN FLOWS

Results of foundation drain outlet monitoring are shown on Figure 4.6. Results of monitoring of the upstream toe drains outlets are shown on Figure 4.7.

As noted in Progress Report No. 6, drain flows recorded on October 24 showed anomalously high flow rates for several of the Foundation drains, possibly due to surface water inflows or to a high pond level in the Main Embankment Seepage Collection Pond (MESCP) which is believed to have caused water to back up and flood the drains and backfill. Four sets of readings have been obtained since, with the latest set taken

December 12. These latter readings indicate that the fill is draining and the rates are returning to previous low rates.

The readings in all cases show a significant decrease from the anomalous values, although some of the readings still remain slightly above the range of previously recorded values. There has been no visible sediment in the flows from the foundation drains.

Monitoring of the upstream toe drain shows slight fluctuations in flows, likely due to the increasing pond level as well as the changing tailings slurry discharge locations.

SECTION 5.0 – ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to monitor the Perimeter Embankment for signs of instability
- MPMC and KP will continue to review the Perimeter Embankment construction scheduling.
- KP Personnel will visit the site as necessary for construction inspections.

Submitted by:

Sarah Griffiths
Knight Piesold Ltd.

Distribution: Eric Leneve, Don Parsons – MPMC
Chris Carr – MEMND
Ken Brouwer – KP Vancouver

TABLE 3.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE T RECORD TESTS - SUMMARY SHEET

Printed 12/15/00 16:15
Rev'd 12-Dec-00

#N/A

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
4-Dec-00	R/ZT-1	Zone T Fill, Chainage 31+20, Elevation 940.5	20.0	58.8	21.0	0.3
		MEAN	20.0	58.8	21.0	0.3
		MEDIAN	20.0	58.8	21.0	0.3
		MAXIMUM	20.0	58.8	21.0	0.3
		MINIMUM	20.0	58.8	21.0	0.3

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

Rev 0 - Issued with Progress Report

TABLE 3.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F CONTROL TESTS - SUMMARY SHEET

Date Printed 15-Dec-00

M:\1116\13\Data\Stage 3A Site Files\Stage 3A PE Site Files\Zone F\[Zone F Summary.xls]Record Summary Rev'd: 14-Dec-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
22-Nov-00	C/ZF-1	Stockpile, Right Face	0.0	49.2	48.7	2.1
29-Nov-00	C/ZF-2	Conveyor	0.0	71.3	26.5	2.3
29-Nov-00	C/ZF-2a	Conveyor	0.0	55.3	41.9	2.8
4-Dec-00	C/ZF-3	Stockpile	0.0	42.0	51.2	6.8
		MEAN	0.0	54.5	42.1	3.5
		MEDIAN	0.0	52.3	45.3	2.5
		MAXIMUM	0.0	71.3	51.2	6.8
		MINIMUM	0.0	42.0	26.5	2.1

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

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TABLE 3.3

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F RECORD TESTS - SUMMARY SHEET

Date Printed 15-Dec-00

M:\11162\13\Data\Stage 3A Site Files\Stage 3A PE Site Files\Zone F\[Zone F Summary.xls]Record Summary Rev'd: 14-Dec-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
28-Nov-00	R/ZF-1	Zone F Fill, Chainage 29+50, Elevation 940.5	0.0	50.0	45.3	4.7
4-Jan-00	R/ZF-2	Zone F Fill, Chainage: 30+60, Elevation 928.3	0.0	57.2	39.2	3.6
4-Dec-00	R/ZF-3	Zone F Fill, Chainage: 31+85, Elevation 940m	0.0	48.4	45.5	6.1
		MEAN	0.0	51.9	43.3	4.8
		MEDIAN	0.0	50.0	45.3	4.7
		MAXIMUM	0.0	57.2	45.5	6.1
		MINIMUM	0.0	48.4	39.2	3.6

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

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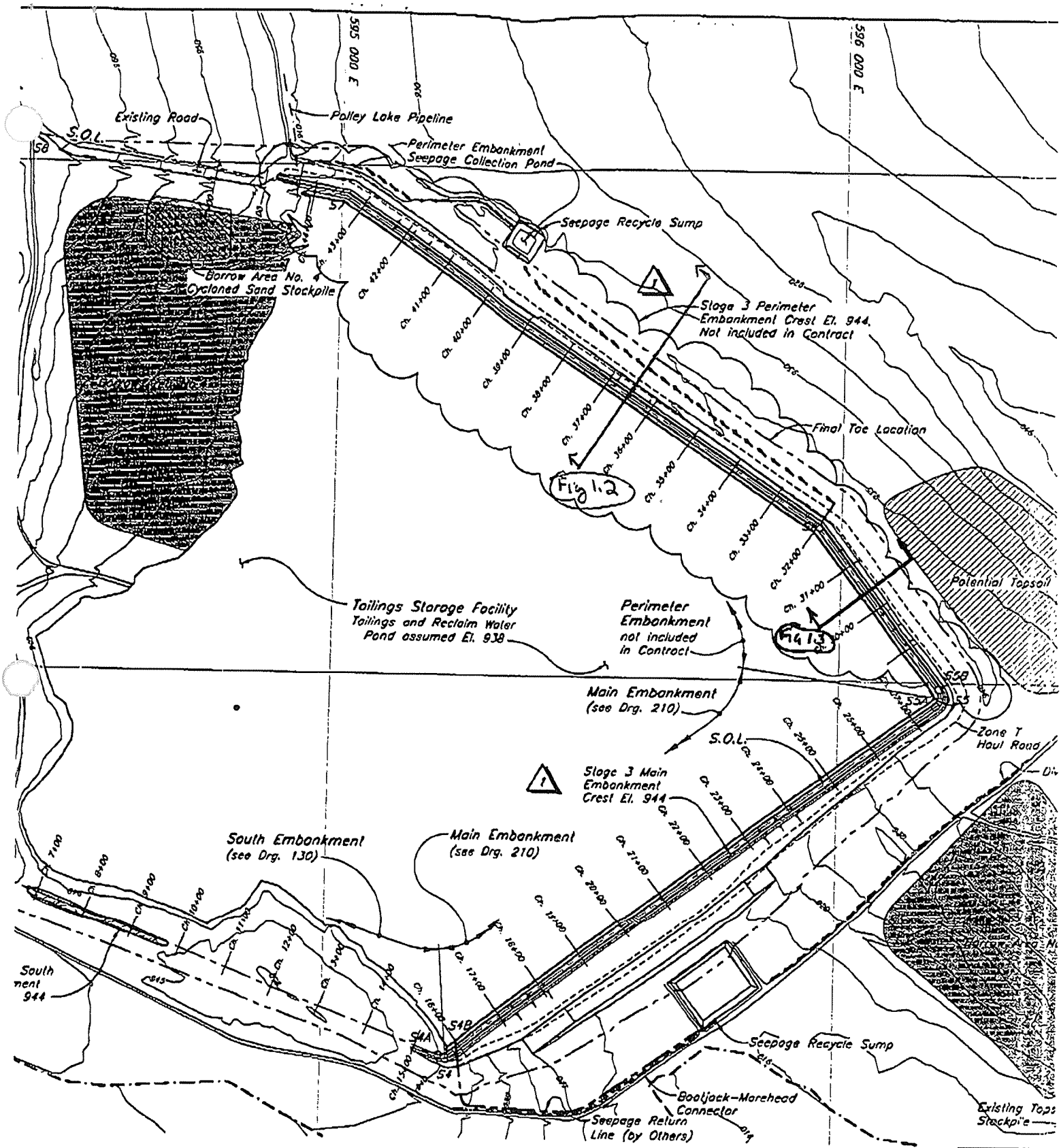


NOTES

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.
2. Current size and location of potential and existing Borrow Areas and Topsoil Stockpiles are to be confirmed.

Figure 1.1

Scale 100 0 100 200 300 400 500 m

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
1	2JUN'00	ISSUED FOR CONSTRUCTION	MDB	TAM		
0	14APR'00	ISSUED FOR TENDER	MDB	NSO	JRK	KJB

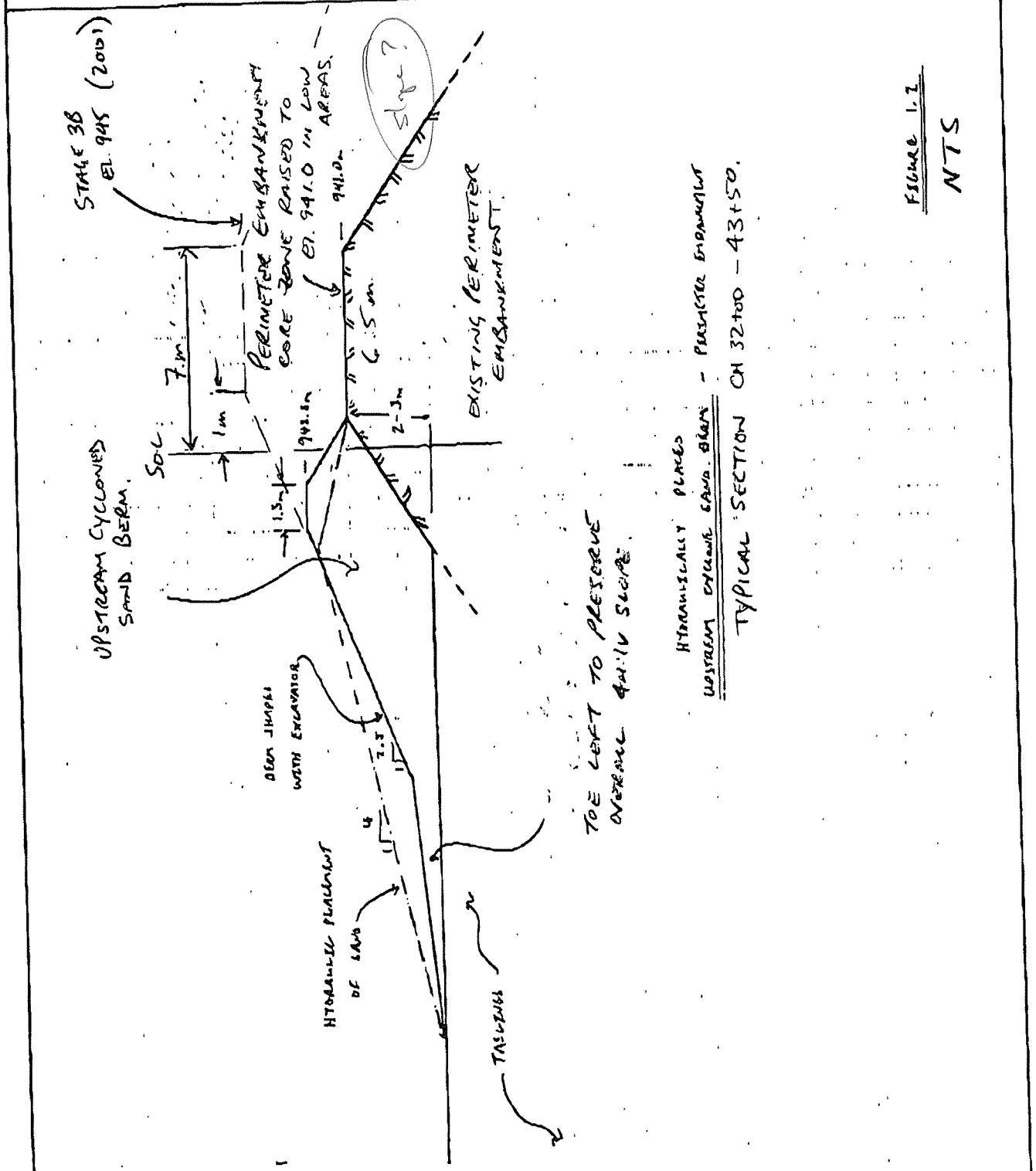
REVISIONS

DESIGNED MDB
DRAWN TAM

Knight Piésold Ltd.
CONSULTING ENGINEERS

Project: MT. POLLEY - STAGE 3 CONSTRUCTION
Calculations for:
Calculations by: JDC
Checked by: Date:

Project No.: 1116/13
Date: OCT. 20/00
Sheet of



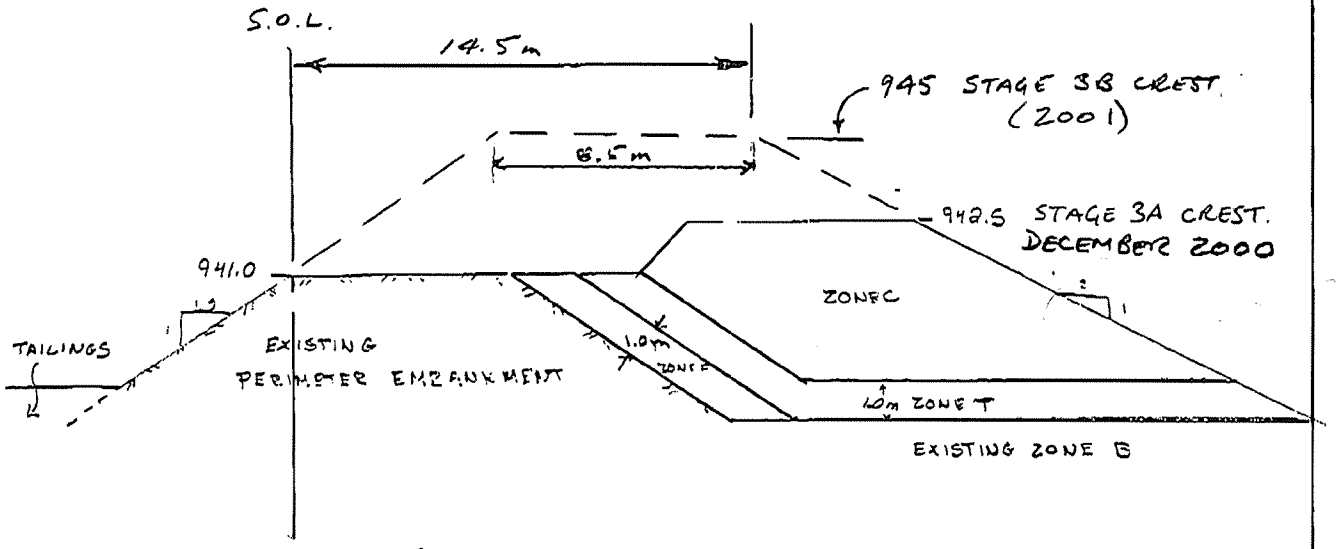
TYPICAL SECTION CH 32+00 - 43+50.

FIGURE 1.1
NTS

Knight Piésold Ltd.
CONSULTING ENGINEERS

Project: MT POLLEY - STAGE 3A CONSTRUCTION
Calculations for:
Calculations by: SEG
Checked by: Date:

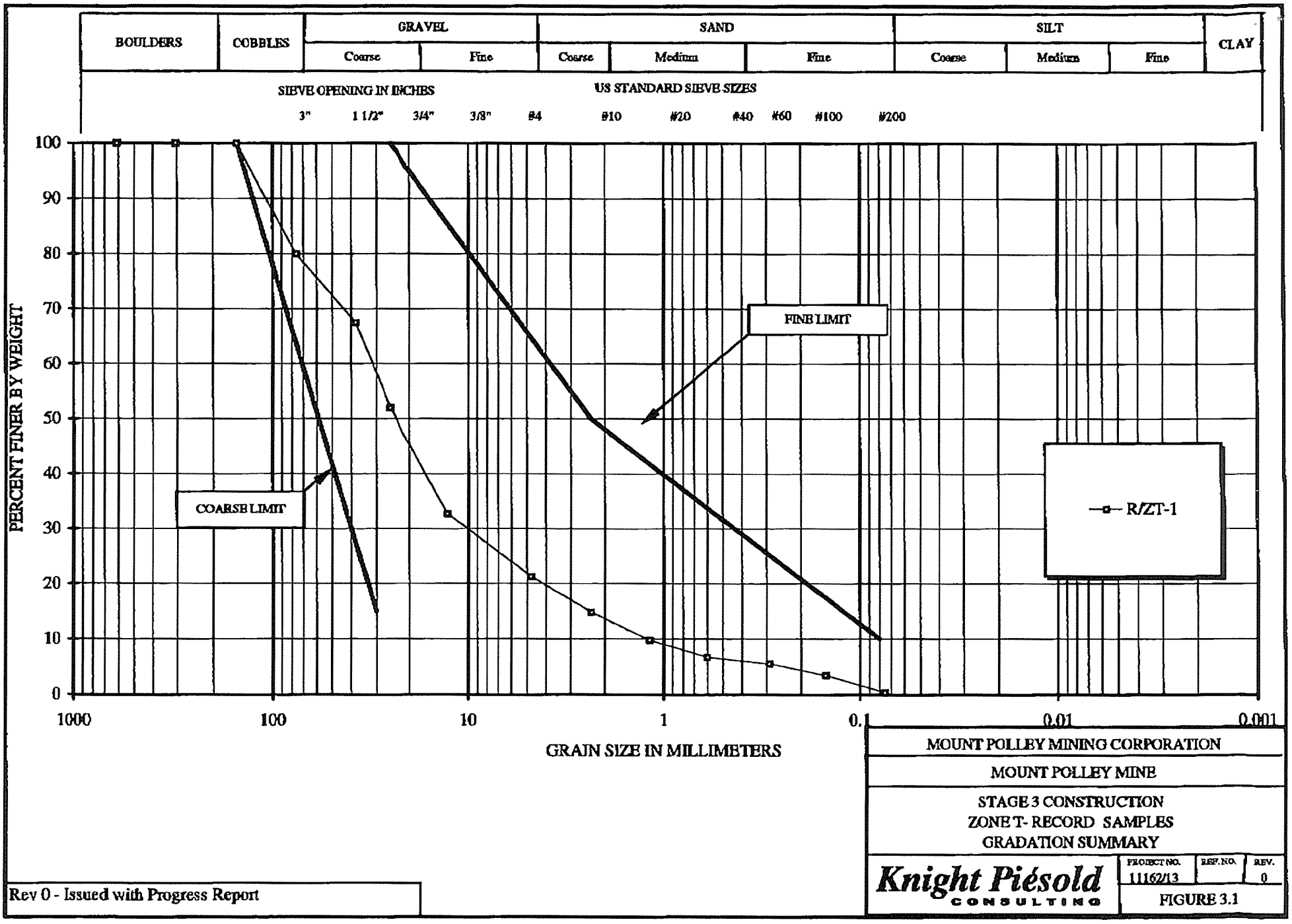
Project No.: 1116/13
Date: Jan 5/01
Sheet of



PERIMETER EMBANKMENT
BETWEEN SS & SG
CH 28+00 - 32+00
TYPICAL SECTION

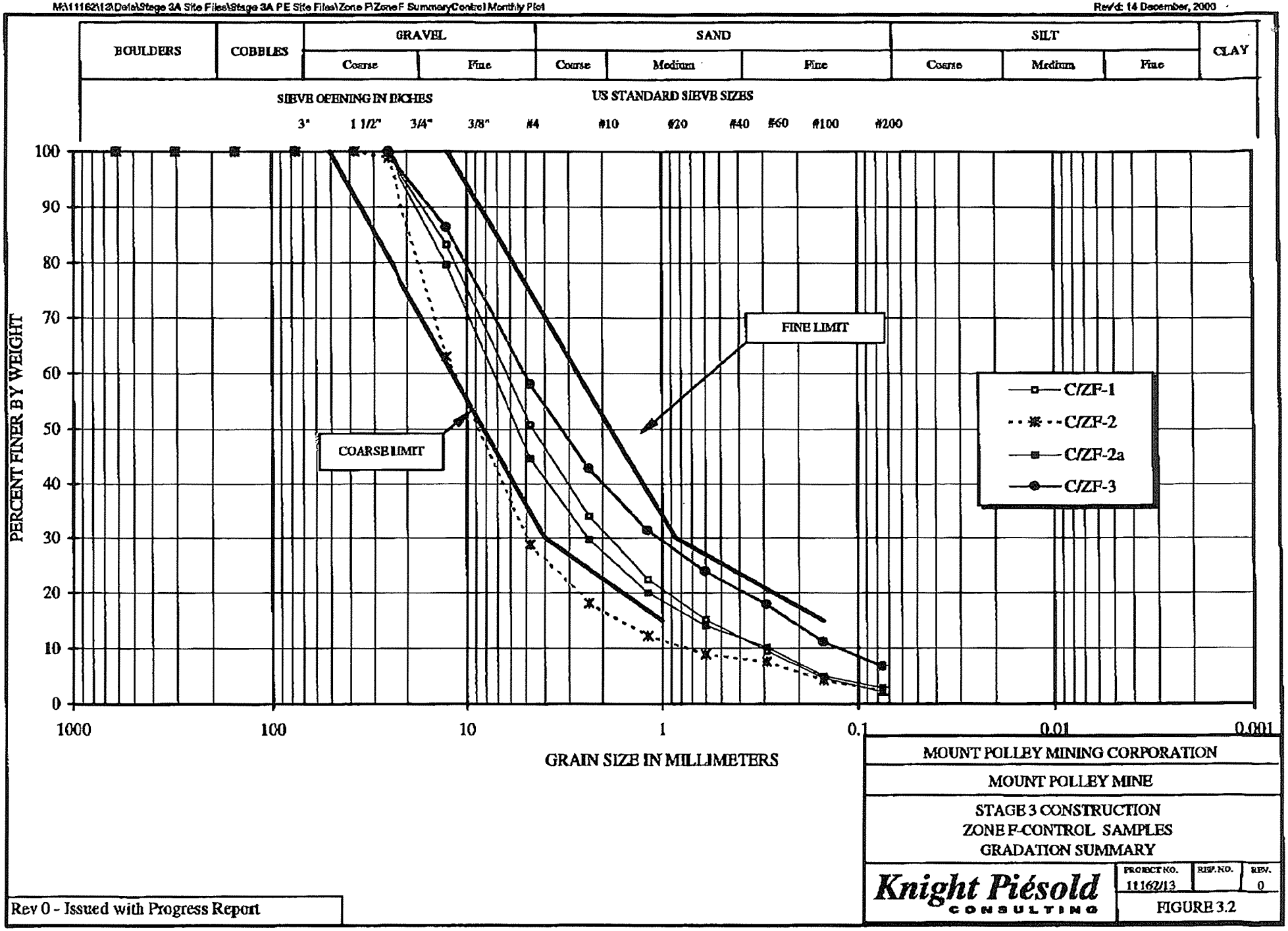
This is not as per design given in May 2000

FIGURE 1.3
N.T.S.



MOUNT POLLEY MINING CORPORATION	
MOUNT POLLEY MINE	
STAGE 3 CONSTRUCTION ZONE T- RECORD SAMPLES GRADATION SUMMARY	
Knight Piésold CONSULTING	PROJECT NO. 1162/13 · REF. NO. · REV. 0
	FIGURE 3.1

Rev 0 - Issued with Progress Report



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

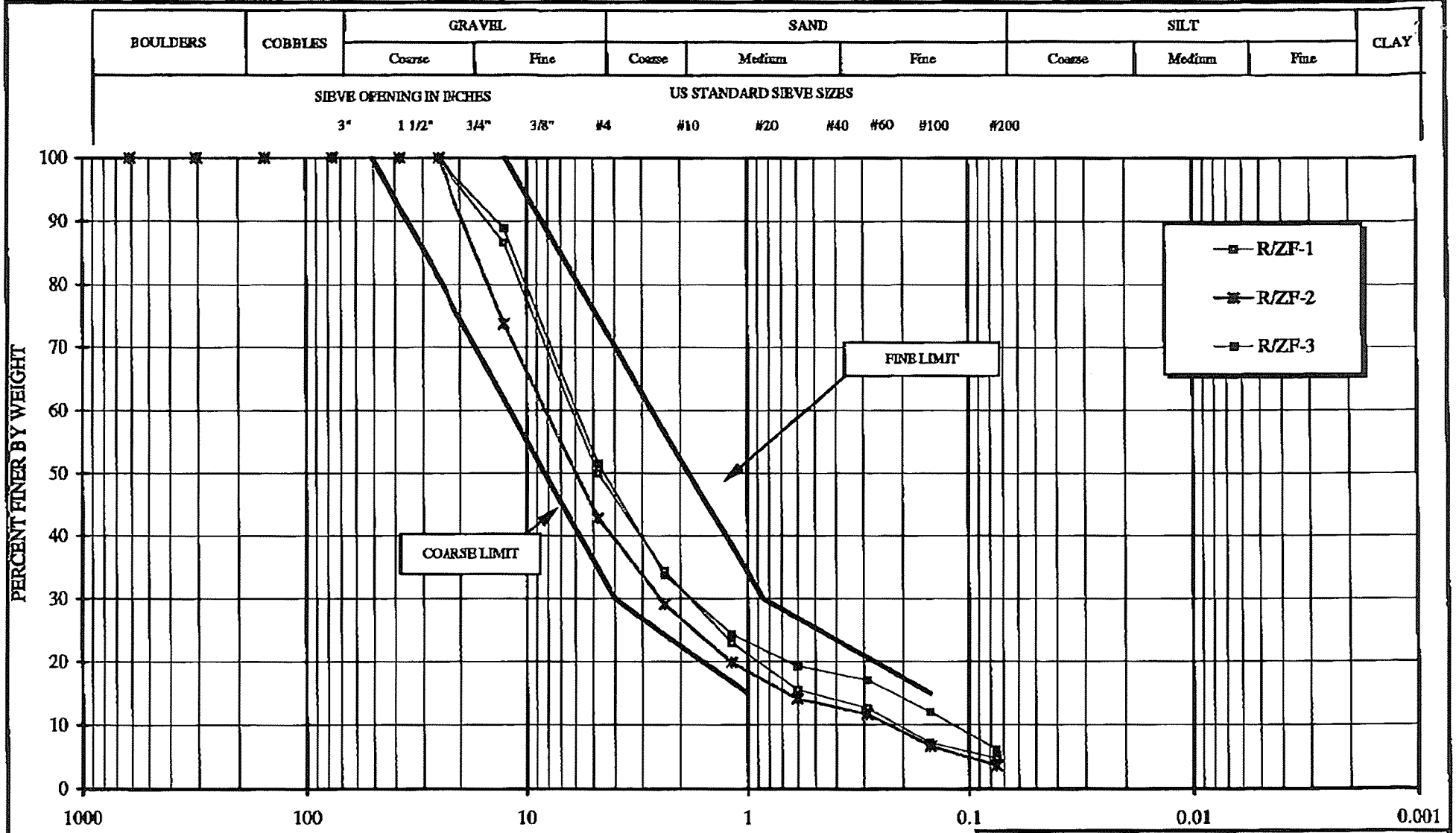
STAGE 3 CONSTRUCTION
ZONE F-CONTROL SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.2

Rev 0 - Issued with Progress Report



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE F- RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.3

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KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

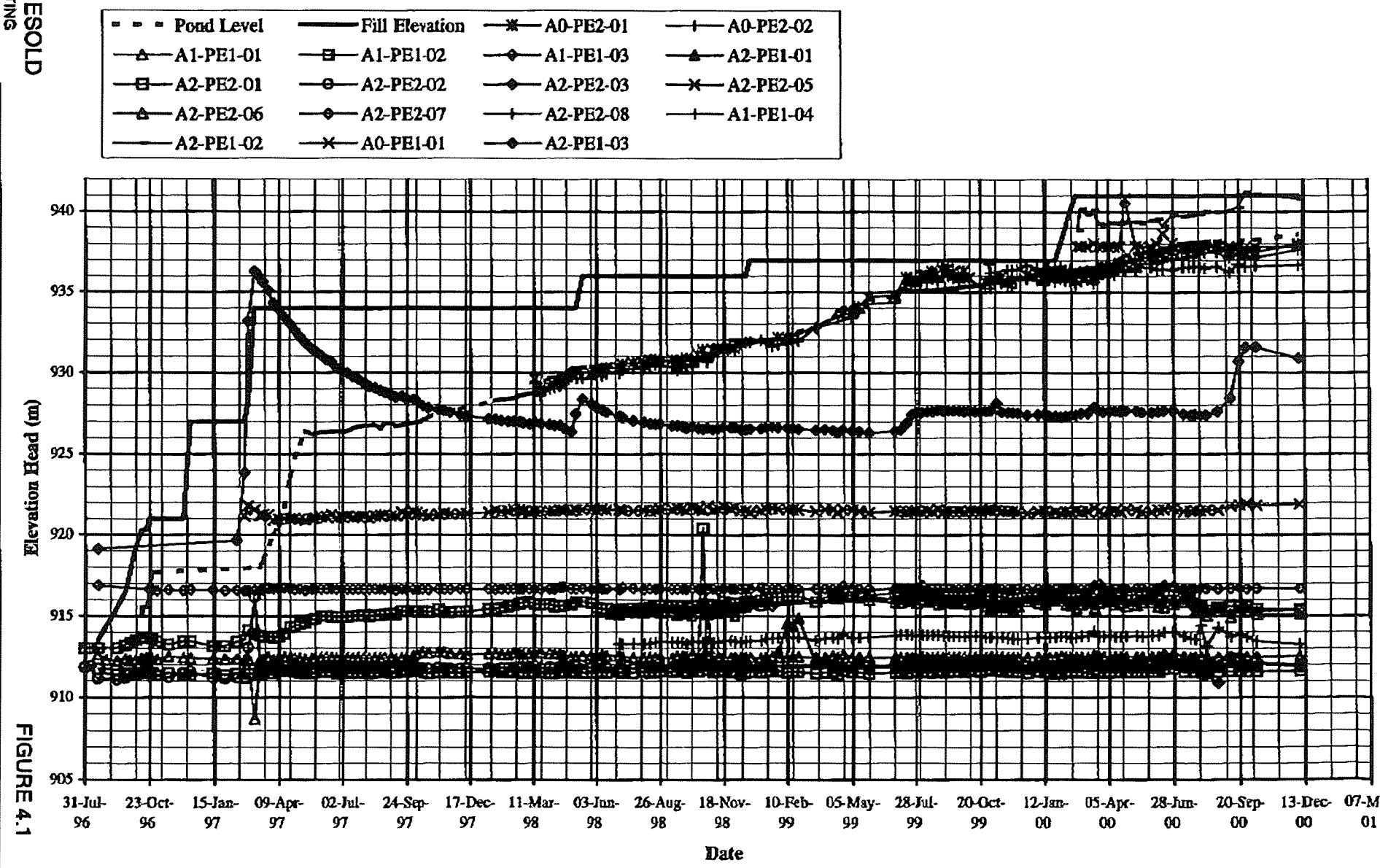


FIGURE 4.1

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

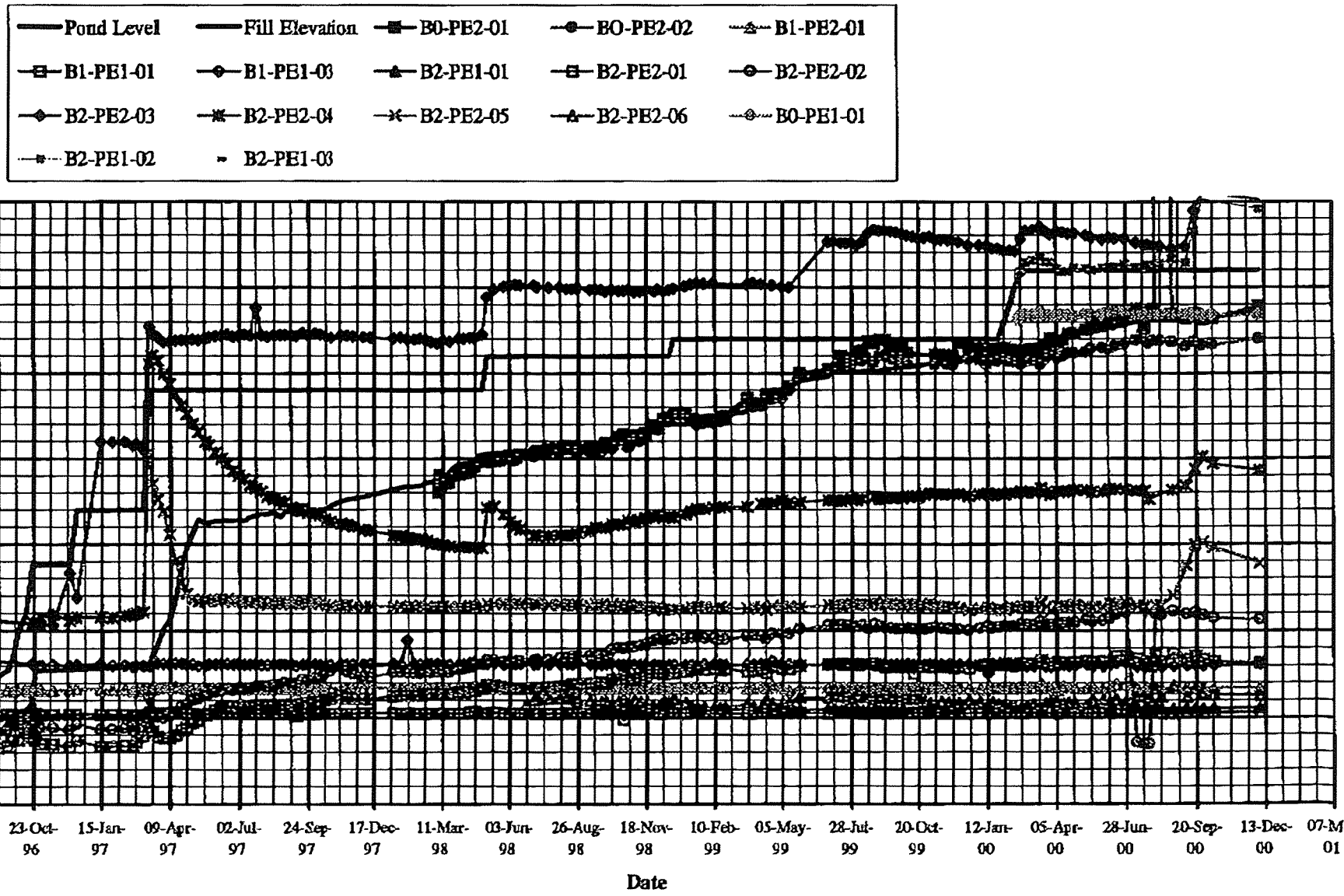


FIGURE 4.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

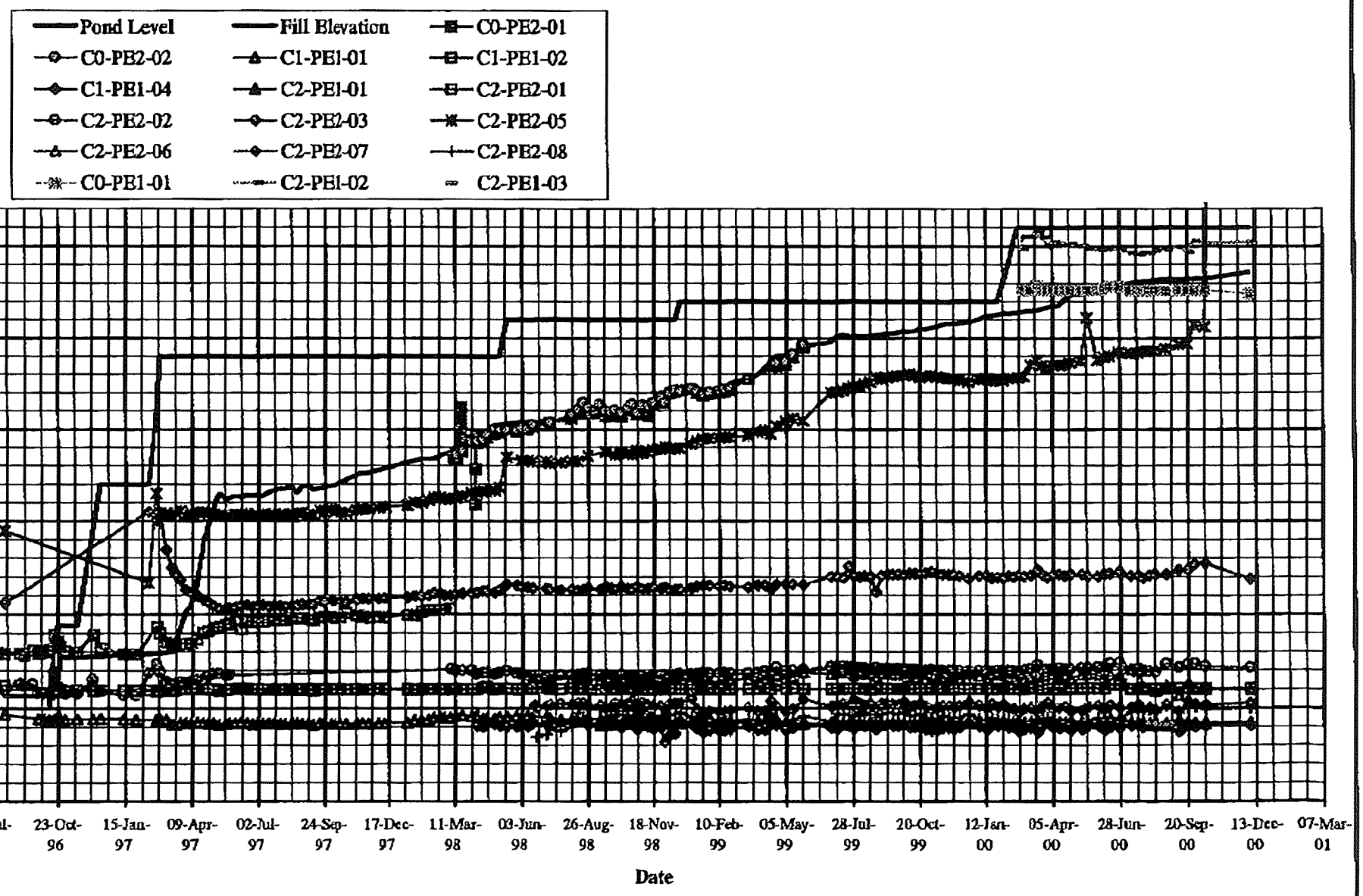


FIGURE 4.3

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

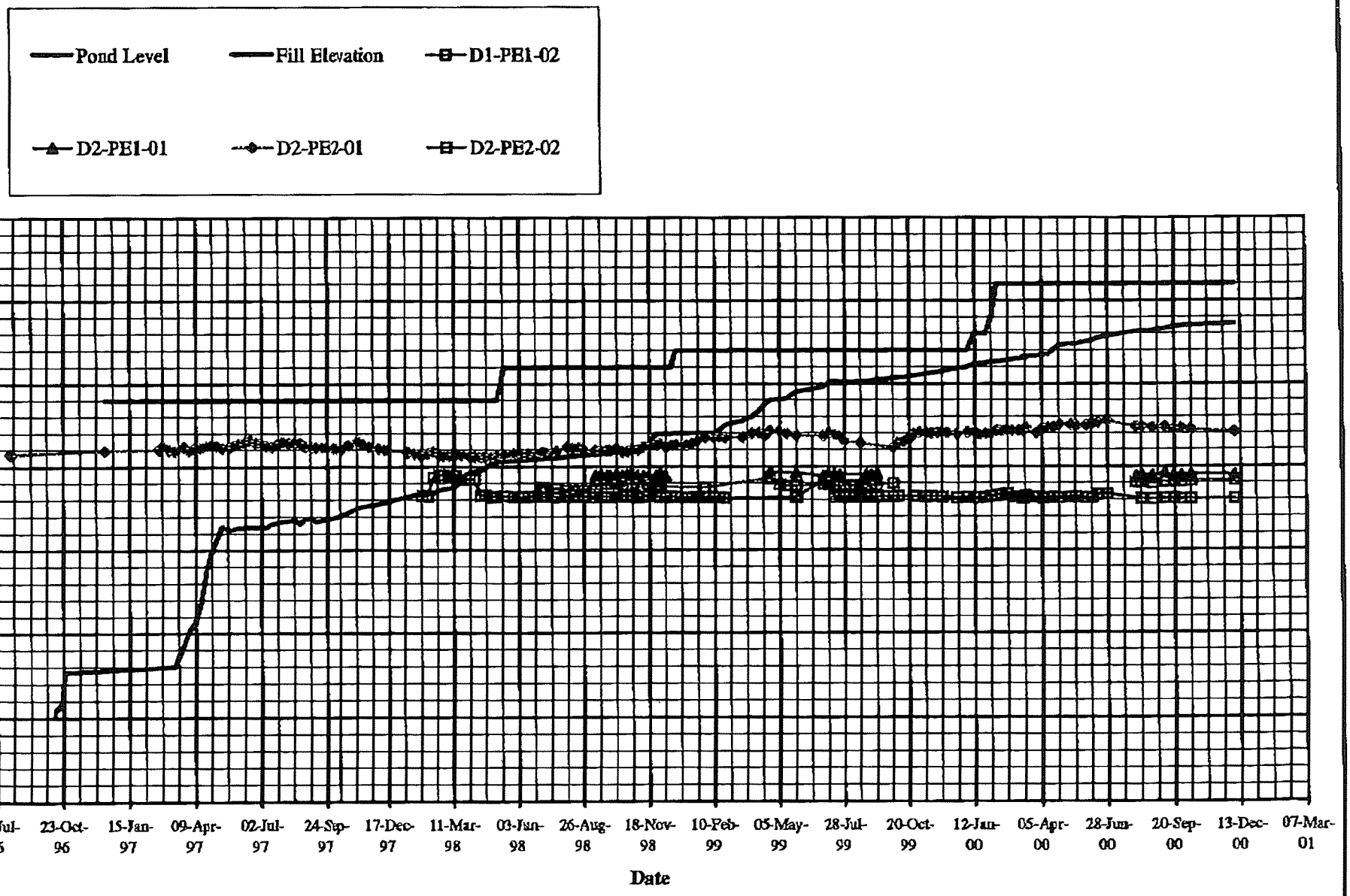


FIGURE 4.4

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

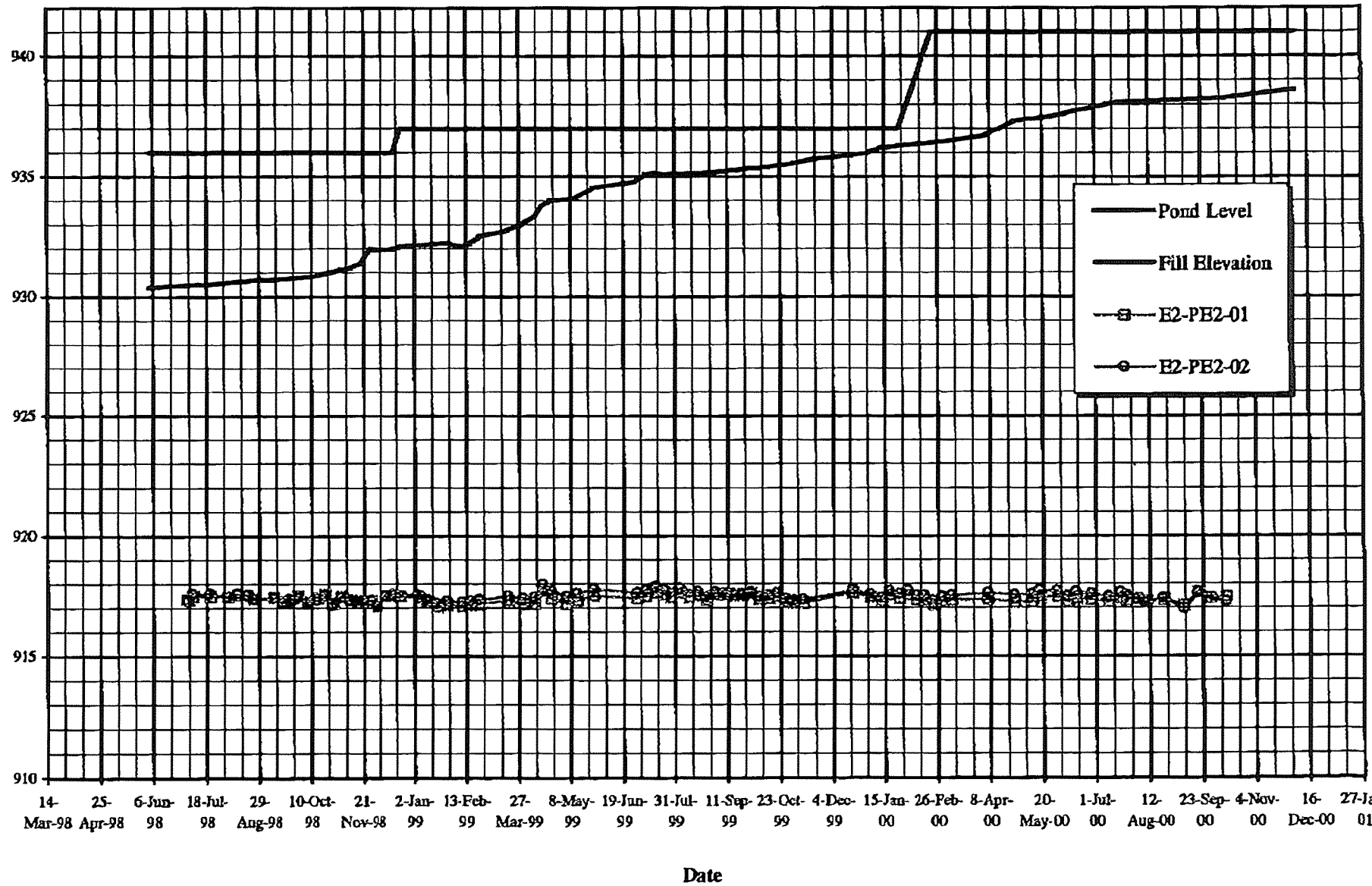
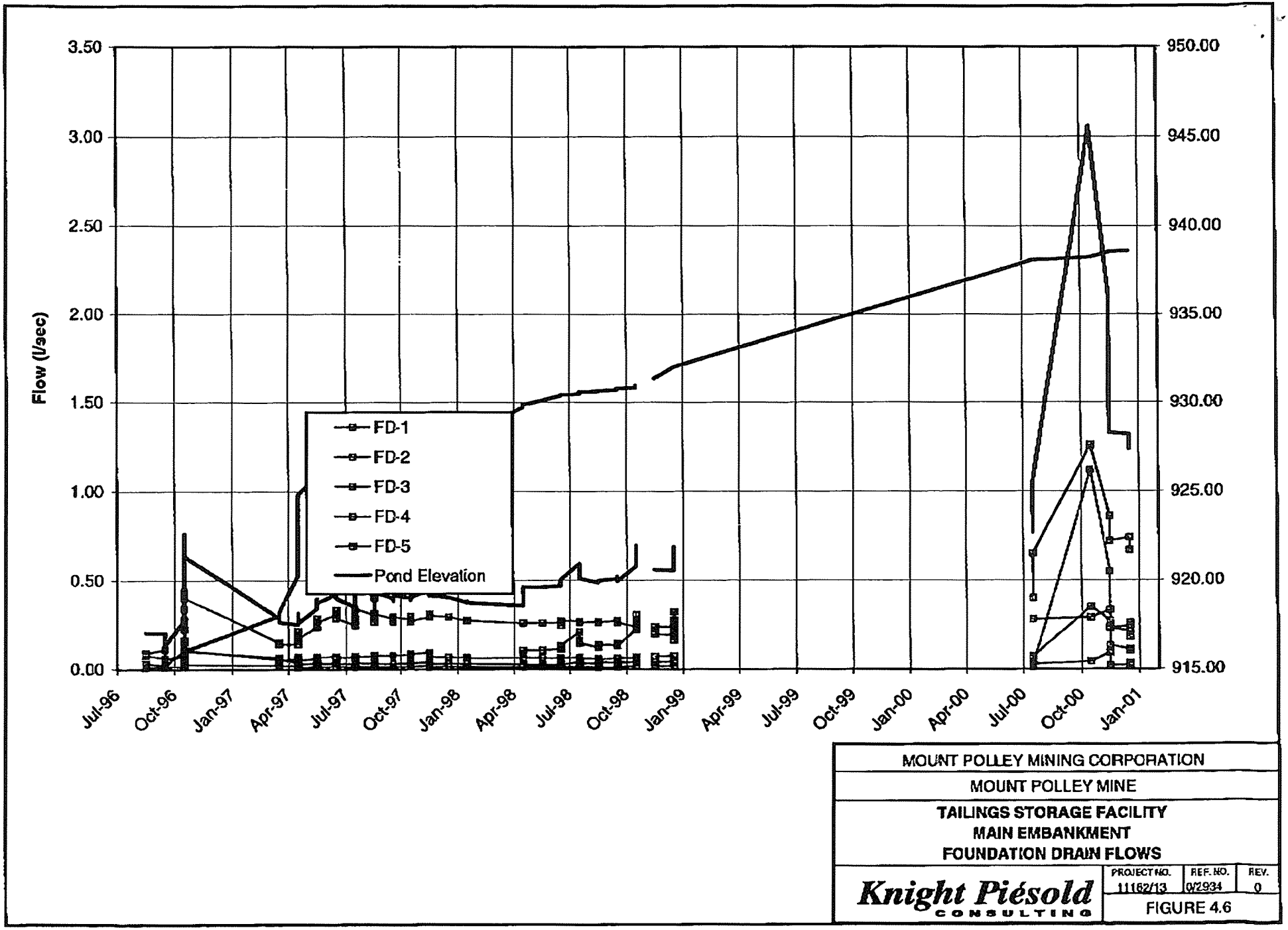
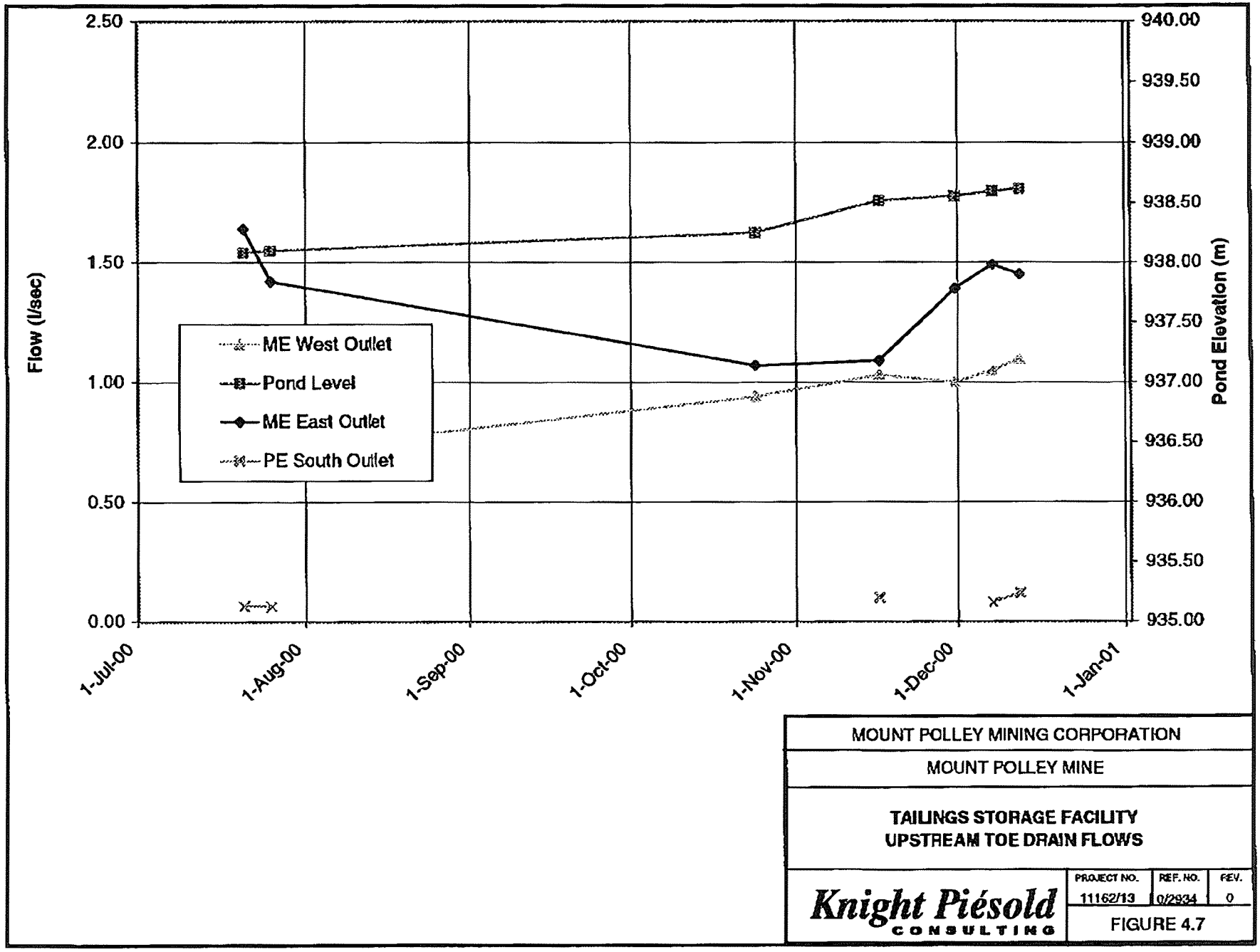


FIGURE 4.5



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY **MAIN EMBANKMENT** **FOUNDATION DRAIN FLOWS**			
Knight Piésold CONSULTING	PROJECT NO. 11162/13	REF. NO. 0/2934	REV. 0
	FIGURE 4.6		



MOUNT POLLEY MINING CORPORATION

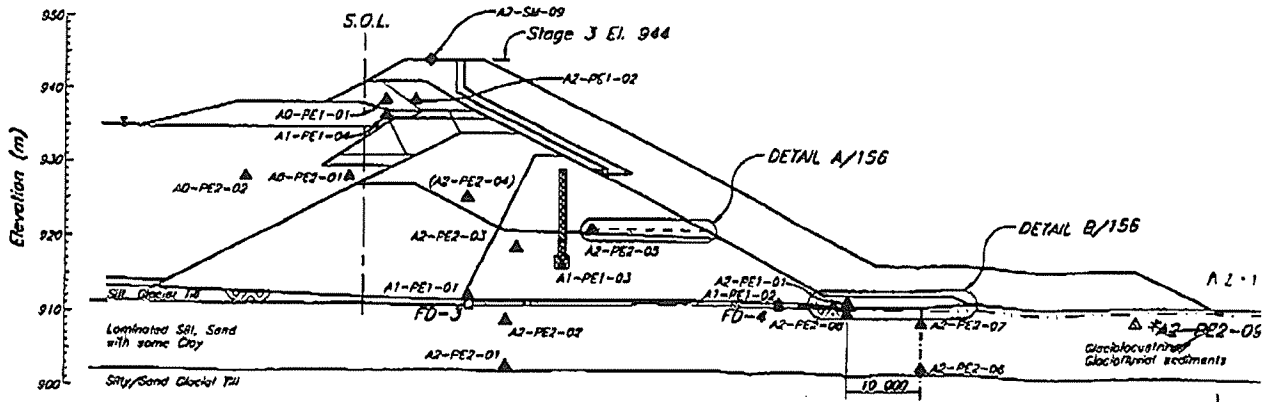
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
UPSTREAM TOE DRAIN FLOWS

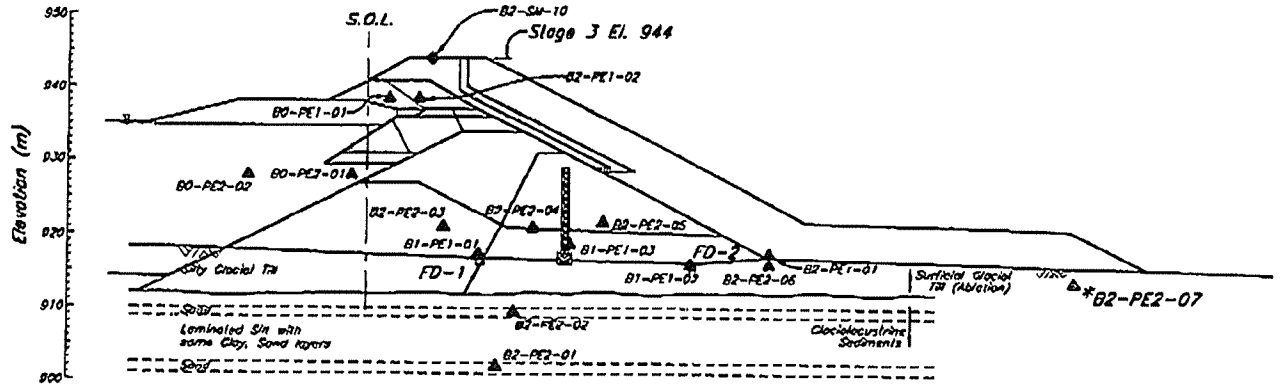
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13	0/2934	0

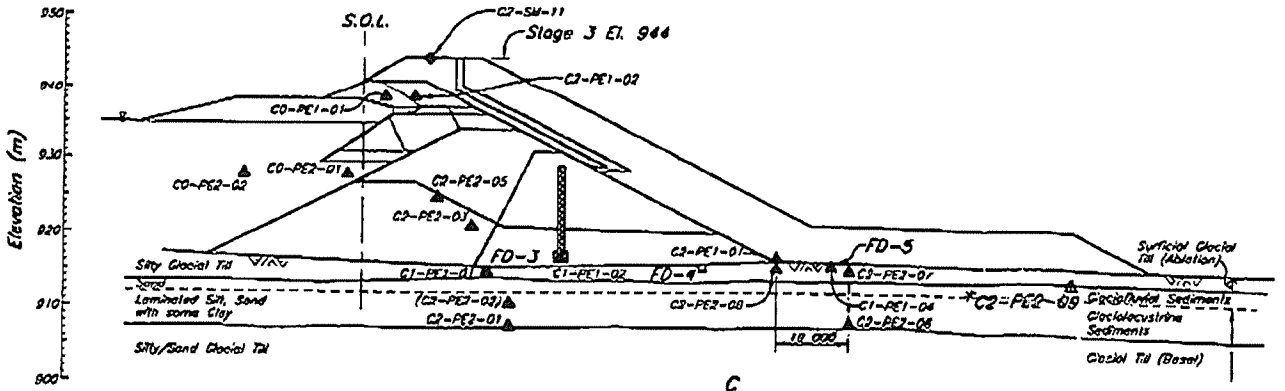
FIGURE 4.7



PLANE $\frac{A}{250}$
CH. 20+00



PLANE $\frac{B}{250}$
CH. 22+40



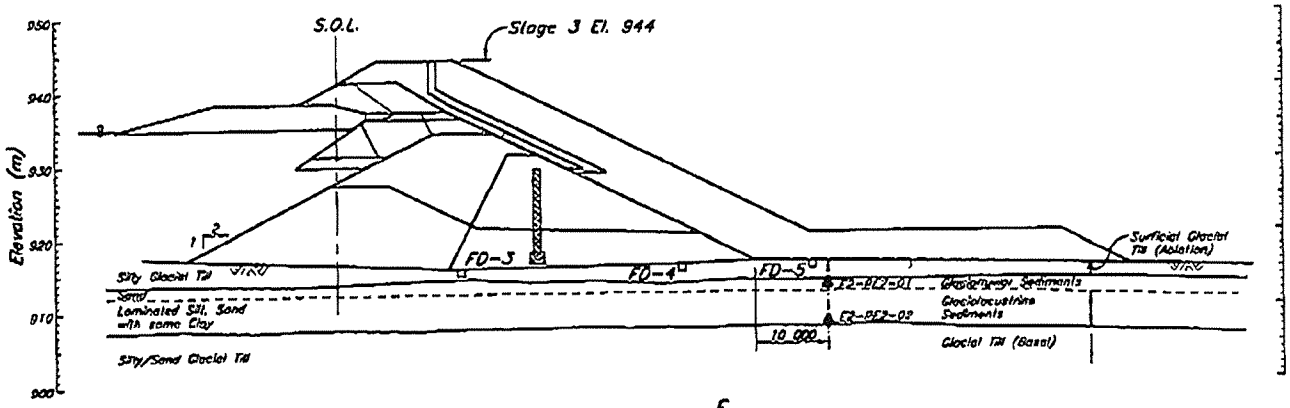
PLANE $\frac{C}{250}$
CH. 18+50

3 TAILINGS EMBANKMENT – INSTRUMENTATION – SECTIONS 2 OF 2
) TAILINGS EMBANKMENT – INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS
3 MAIN EMBANKMENT – INSTRUMENTATION – PLAN

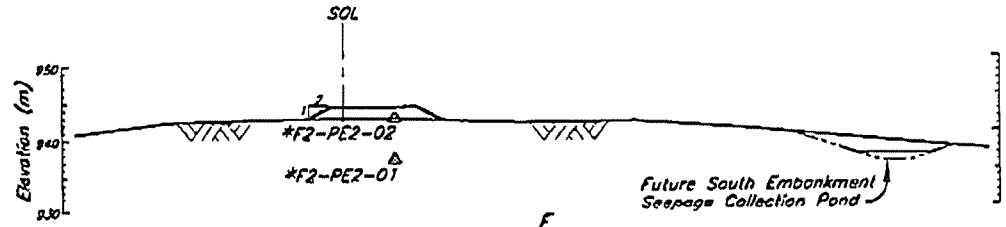
DESCRIPTION
REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
0	2JUN'00	ISSUED FOR CO				

REVISIONS



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



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

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
250	TSF - STAGE 3 TAILINGS EMBANKMENT - MAIN EMBANKMENT - INSTRUMENTATION PLAN
130	TSF - STAGE 3 SOUTH EMBANKMENT - PLAN AND SECTION
215	TSF - STAGE 3 MAIN EMBANKMENT - SECTIONS AND DETAILS

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D

REVISIONS

Mount Polley. Stage 3A.
Progress Report No. 7.

1. Letting out points on plan
2. Transition between u/s cyclone sand beach + downstream rock fill. Info required.
3. Why piezo levels for BZ-PEZ-03
   CZ-PEZ-05
4. Continue to monitor for signs of instability
   How?

Phone call from Eric Leneve on Jan 11/01.
- progress report #7 to be reissued - mistakes present.
- call Jeremy Kinch (Knight Piesold) re geot questions
-

CAZ 9/01/01 → File.

Knight Piésold
CONSULTING

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Fax: +1 (604) 687-2203
www.knightpiésold.com

DATE:	05 January, 2001	**FILE NO.:**	11162/13.01
TIME:		**REF NO.:**	0/2934
OPERATOR:		**PAGES:**	1 of 24
SENDER:	Sarah Griffiths	**APPROVED:**	RJB.

TO:	MPMC	**FAX :**	(250) 790-2268
ATTN:	Don Parsons, Eric Leneve, Greg Smyth		
CC:	George Headley – MEMD 250-952-0481		
SUBJECT:	Mount Polley Stage 3A		

Please find following Progress Report No. 7.

Regards,

Sarah Griffiths.

Phoned Sarah Griffiths 9/01/01.
– with Send out requested.

MINISTRY OF ENERGY AND MINES
REC'D JAN - 8 2001

GRT 3417

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

PROGRESS REPORT NO. 7 – November 24 to December 6, 2000

SECTION 1.0 –GENERAL

Construction of the Stage 3a raise for the Tailings Storage Facility Perimeter Embankment has been on-going since the last reporting period (October 24, 2000). MPMC continued construction of the upstream cycloned sand berm along the north 800m of the embankment until late November when freezing conditions made further cycloning impractical.

Over this reporting period the downstream portion of the embankment was raised along the south 400m using filter sand and Zones T and C rockfill. The embankment was completed to the target elevation of 942.5 m on December 6.

1.1 PERSONNEL

Mount Polley Mining Corporation (MPMC) management personnel overseeing the Stage 3 work are as follows:

Eric Leneve, Tailings Coordinator
Don Parsons, Mine Superintendent

The following Knight Piesold Ltd. (KP) representatives were on site during the reporting period:

Sarah Griffiths, Site Engineer – Arrived on site November 24, left site December 6.

1.2 WEATHER

Weather conditions over the period were variable, with a mix of sun and clouds and occasional periods of light snow. Temperatures ranged from about -10°C to +1°C.

11162/13-0920-7
Revision 0
December 14, 2000

GRIT 3417

Work was delayed November 24 and December 2 due to heavy snowfall.

1.3 DESIGN DEVELOPMENTS

Options for construction of the Perimeter Embankment were discussed in detail in Progress Report No. 6.

Where are the Setting out pts on plan ?

Cycloned sand has been hydraulically placed along the north 800m of the embankment between Setting Out Points S6 and S7. The sand will be mechanically shaped and compacted into the approximate configuration shown on Figure 1.1 to provide the necessary 1.0m freeboard for wave run-up.

Along the south 400m, between Setting Out Points S5 and S6, MPMC has provided the required freeboard by downstream placement of filter sand and rockfill to the configuration shown on Figure 1.2.

A transition will be required between the upstream cyclone sand berm and downstream rock fill, and may consist of a temporary rock or sand berm constructed across the crest and between the fills to El. 942.5. The berm would be removed during the next stage of construction.

~~Upstream~? More info required

MPMC is currently preparing for till placement to raise the low sections of the Perimeter Embankment core zone to the required El. 941.0m.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

Prior to construction between S5 and S6 on the Perimeter Embankment, the tailings were being discharged from the beach in this area. During construction, the tailings were discharged from the north end of the tailings facility. Work to relocate the pipeline and begin discharging near the south end of the facility was ongoing.

1.5 SAFETY

No safety incidents were reported for the period.

SECTION 2.0 – CONSTRUCTION ACTIVITIES

2.1 EQUIPMENT

MPMC used the following equipment over the reporting period:

- Excavator – 1 Hitachi EX 1200
- Haul Trucks – 2 Cat 777's
- Dozers – 1 Cat D7, 1 Cat D8, 1 Cat D6
- Compactors – Cat CS583
- Sand truck, Grader, service trucks, fuel trucks

2.2 ACTIVITIES

The major construction activities for the reporting period are summarized below.

Perimeter Embankment

The Perimeter Embankment Zones T and C have been constructed to El. 942.5 m between setting out points S5 and S6 as shown on Figure 1.2. The Zone F chimney drain has been constructed to 941.0 m in this area, and will be extended as necessary during the next stage of construction.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

3.1 GENERAL

KP site activities over the reporting period included the following:

- Inspection and documentation of construction activities.
- QA/QC collection and testing of Zone F and T control and record samples.
- Preparation of daily inspection reports.
- Review of embankment monitoring data provided by MPMC.

3.2 LABORATORY TESTING

The following samples were collected and tested on site over the reporting period:

- Zone T record sample R/ZT-1
- Zone F control samples C/ZF-1 to 3
- Zone F record samples R/ZF-1 to 3

The results of the testing are provided on the summary Tables 3.1 to 3.3 and gradation plot Figures 3.1 to 3.3.

The results show that the Zone T record sample meets the specifications for particle size distribution.

The Zone C control sample results show that sample C/ZF-2 was too coarse to meet the gradation specifications. This sample was taken during initial crushing, however, before crushing materials were adjusted to produce a finer product. Sample C/ZF-2a was subsequently obtained, and meets the required specifications. All of the Zone F record samples meet the specifications.

SECTION 4.0 – EMBANKMENT MONITORING

Monitoring of tailings embankment instrumentation over the reporting period indicates that the embankment is performing well within design tolerances.

4.1 VIBRATING WIRE PIEZOMETERS

Piezometer readings were obtained on December 6. The results of the monitoring are shown on Figures 4.1 to 4.5, and are summarized below. Locations of the piezometers are shown on attached drawings.

Foundation Piezometers

The Main Embankment foundation piezometers have typically shown slight fluctuations or slight decreases in pore water pressure since the previously reported October 11th readings. The largest decreases have been about 0.9 m in Plane C.

No substantial changes were noted in the Perimeter Embankment (Plane D) foundation piezometers.

Fill Piezometers

Most of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3 fills with increasing pore pressures. Since the last set of readings the piezometers have shown either slight fluctuations, or a continuing decreasing trend with the largest decreases between 0.7 to 0.9m.

check B2-PE2-03
C2-PE2-05

Drain Piezometers

All drain piezometers have remained static and at a very low head indicating that the drains are free-draining and functioning as designed.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level, except at the Main Embankment, where the upstream toe drain has resulted in a depressed phreatic surface.

4.2 DRAIN FLOWS

Results of foundation drain outlet monitoring are shown on Figure 4.6. Results of monitoring of the upstream toe drains outlets are shown on Figure 4.7.

As noted in Progress Report No. 6, drain flows recorded on October 24 showed anomalously high flow rates for several of the Foundation drains, possibly due to surface water inflows or to a high pond level in the Recycle Pond which is believed to have caused water to back up and flood the drains and backfill. Four sets of readings have been obtained since, with the latest set taken December 12. These latter readings indicate that the fill is draining and the rates are returning to previous low rates.

The readings in all cases show a significant decrease from the anomalous values, although some of the readings still remain slightly above the range of previously recorded values. There has been no visible sediment in the flows from the foundation drains.

Monitoring of the upstream toe drains shows slight fluctuations in flows, likely due to the increasing pond level as well as the changing tailings slurry discharge locations.

SECTION 5.0 – ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC will continue to monitor the Perimeter Embankment for signs of instability.
- MPMC and KP will continue to review the Perimeter Embankment construction scheduling.

- KP Personnel will visit the site as necessary for construction inspections.

Submitted by:

Sarah Griffiths
Knight Piesold Ltd.

Distribution: Eric Leneve, Don Parsons – MPMC
George Headley – MEMND
Ken Brouwer – KP Vancouver

TABLE 3.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE T RECORD TESTS - SUMMARY SHEET

Printed 12/15/00 16:15
Rev'd 12-Dec-00

#N/A

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
4-Dec-00	R/ZT-1	Zone T Fill, Chainage 31+20, Elevation 940.5	20.0	58.8	21.0	0.3
		MEAN	20.0	58.8	21.0	0.3
		MEDIAN	20.0	58.8	21.0	0.3
		MAXIMUM	20.0	58.8	21.0	0.3
		MINIMUM	20.0	58.8	21.0	0.3

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

Rev 0 - Issued with Progress Report

TABLE 3.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F CONTROL TESTS - SUMMARY SHEET

Date Printed 15-Dec-00

M:\11162\13\Data\Stage 3A Site Files\Stage 3A PE Site Files\Zone F\[Zone F Summary.xls]Record Summary

Rev'd: 14-Dec-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
22-Nov-00	C/ZF-1	Stockpile, Right Face	0.0	49.2	48.7	2.1
29-Nov-00	C/ZF-2	Conveyor	0.0	71.3	26.5	2.3
29-Nov-00	C/ZF-2a	Conveyor	0.0	55.3	41.9	2.8
4-Dec-00	C/ZF-3	Stockpile	0.0	42.0	51.2	6.8
		MEAN	0.0	54.5	42.1	3.5
		MEDIAN	0.0	52.3	45.3	2.5
		MAXIMUM	0.0	71.3	51.2	6.8
		MINIMUM	0.0	42.0	26.5	2.1

Notes:

1) C3 (Particle Size Distribution) - ASTM D422

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TABLE 3.3

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F RECORD TESTS - SUMMARY SHEET

Date Printed 15-Dec-00

M:\11162\13\Data\Stage 3A Site Files\Stage 3A PE Site Files\Zone F\[Zone F Summary.xls]Record Summary

Rev'd: 14-Dec-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
28-Nov-00	R/ZF-1	Zone F Fill, Chainage 29+50, Elevation 940.5	0.0	50.0	45.3	4.7
4-Jan-00	R/ZF-2	Zone F Fill, Chainage: 30+60, Elevation 928.3	0.0	57.2	39.2	3.6
4-Dec-00	R/ZF-3	Zone F Fill, Chainage: 31+85, Elevation 940m	0.0	48.4	45.5	6.1
		MEAN	0.0	51.9	43.3	4.8
		MEDIAN	0.0	50.0	45.3	4.7
		MAXIMUM	0.0	57.2	45.5	6.1
		MINIMUM	0.0	48.4	39.2	3.6

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

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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.
2. Current size and location of potential and existing Borrow Areas and Topsoil Stockpiles are to be confirmed.

Figure 1.1

Scale 100 0 100 200 300 400 500 m

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
1	2JUN'00	ISSUED FOR CONSTRUCTION	MDB	TAM		
0	14APR'00	ISSUED FOR TENDER	MDB	NSO	JRK	KJB

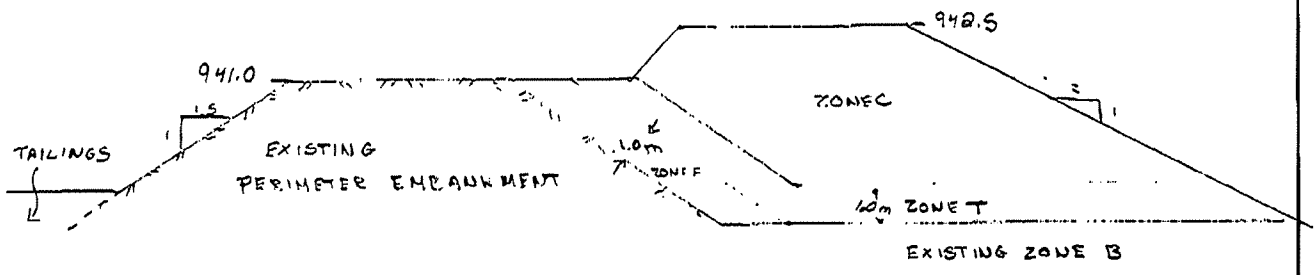
REVISIONS

DESIGNED MDB
DRAWN TAM

Knight Piésold Ltd.
CONSULTING ENGINEERS

Project: MT. POLLEY - STAGE 3A CONSTRUCTION
Calculations for:
Calculations by: SEG
Checked by: Date:

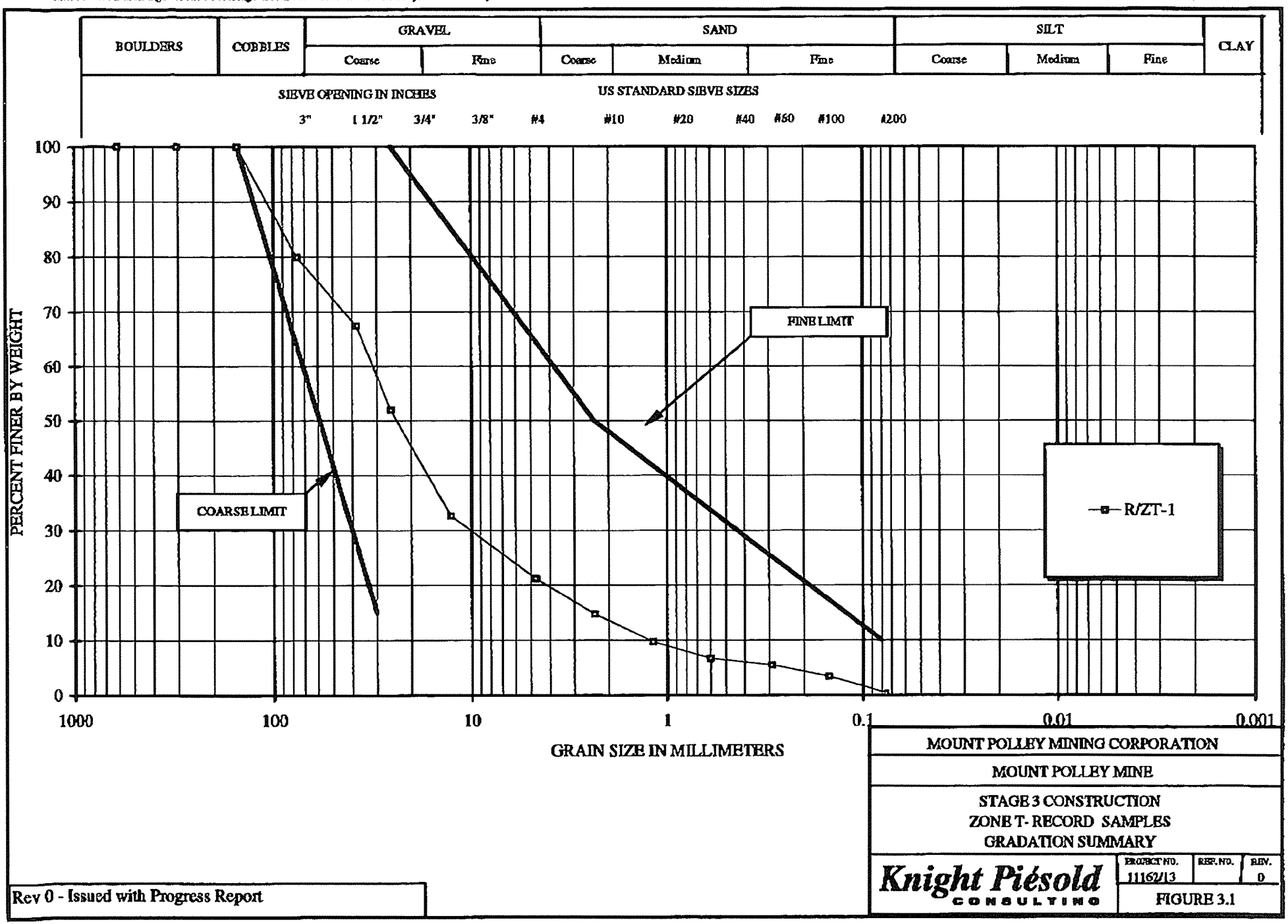
Project No.: 1116/113
Date: Jan 5/01
Sheet of



PERIMETER EMBANKMENT
BETWEEN SS & SG

FIGURE 1.2

Printed: 12/15/00
Rev'd: 14 December, 2000



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

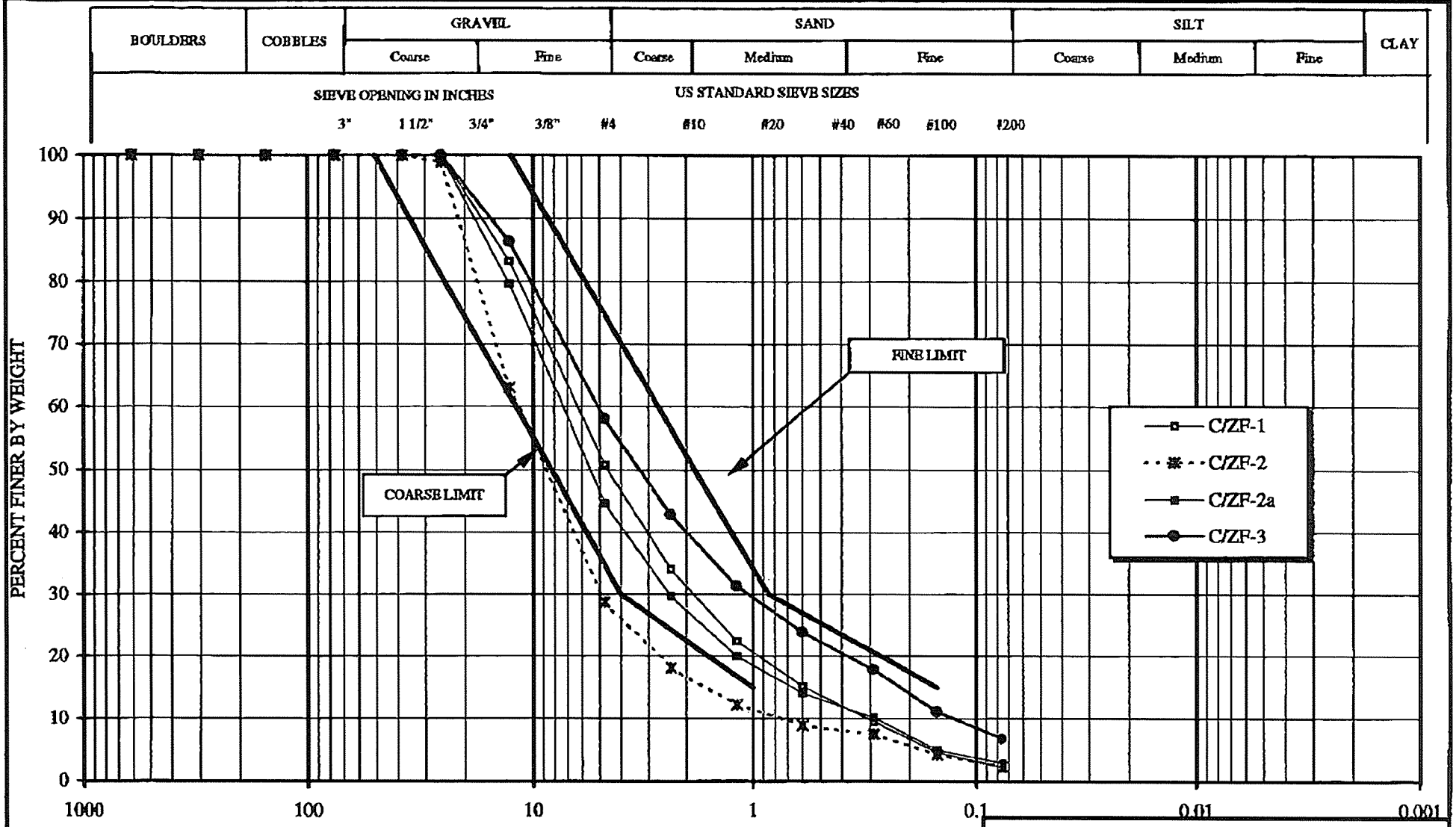
STAGE 3 CONSTRUCTION
ZONE T- RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.1

Rev 0 - Issued with Progress Report



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

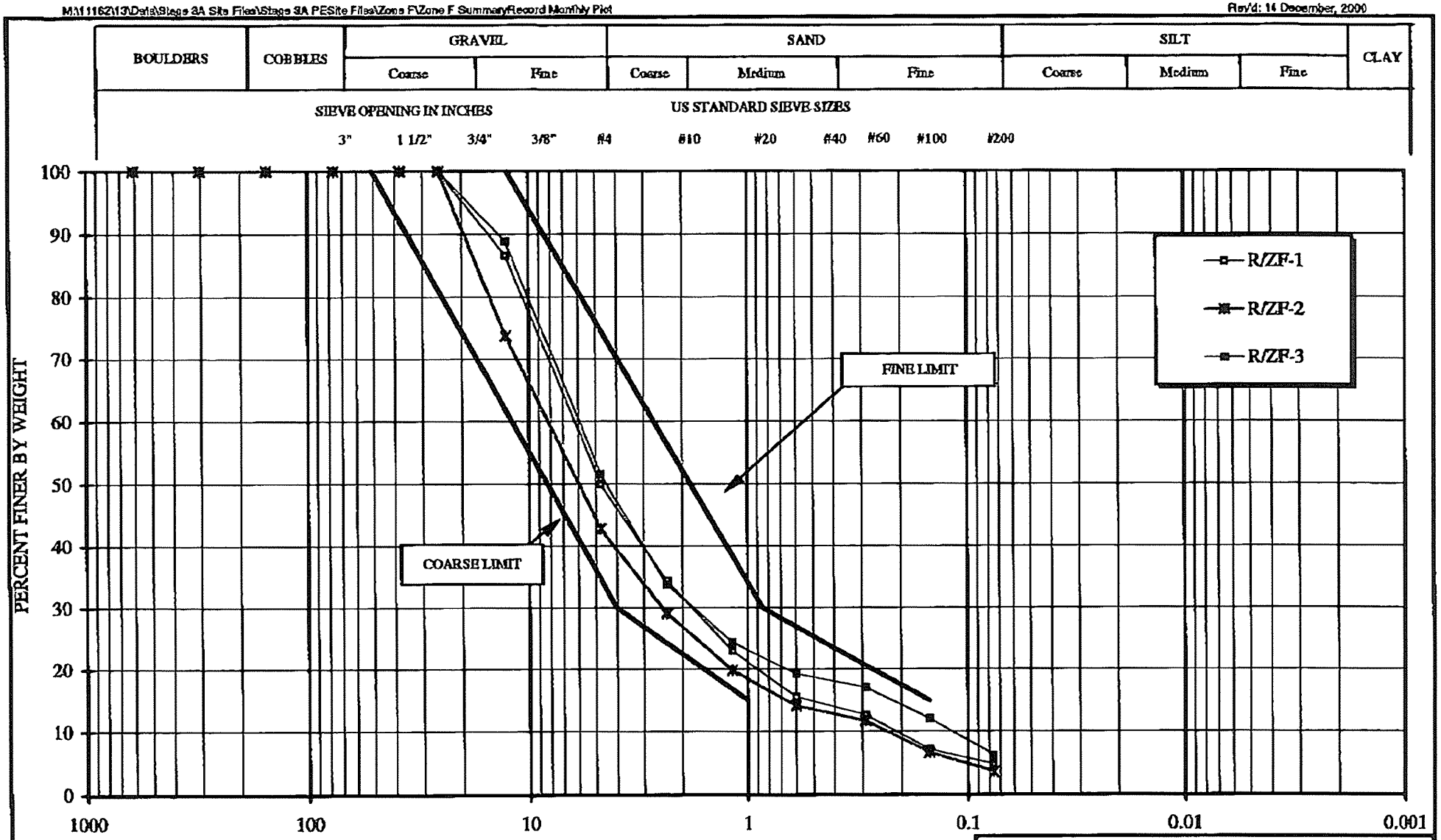
STAGE 3 CONSTRUCTION
ZONE F-CONTROL SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.2

Rev 0 - Issued with Progress Report



MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
STAGE 3 CONSTRUCTION ZONE F- RECORD SAMPLES GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	BSR NO.	REV.
1162/13		0

FIGURE 3.3

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MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

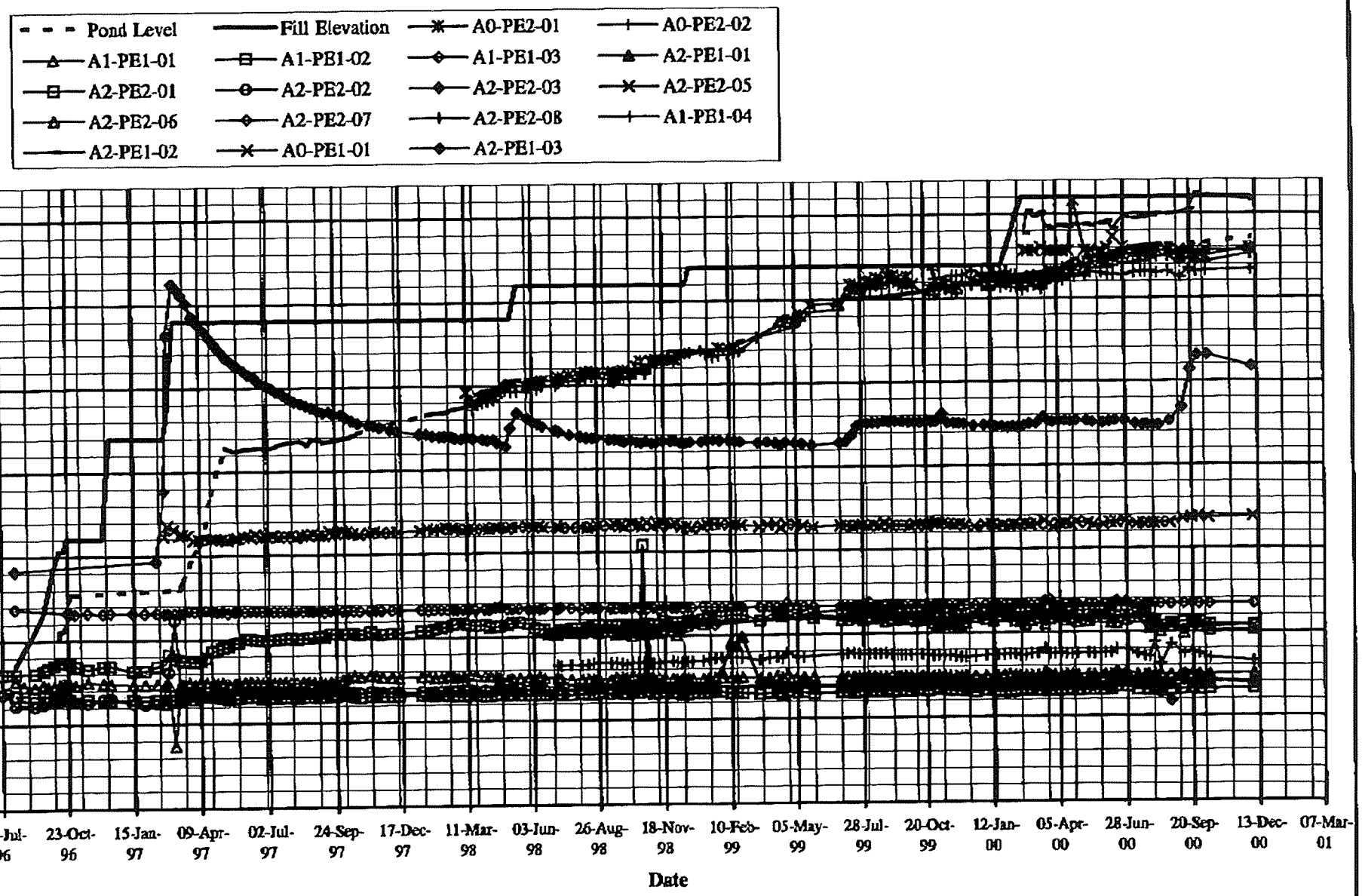
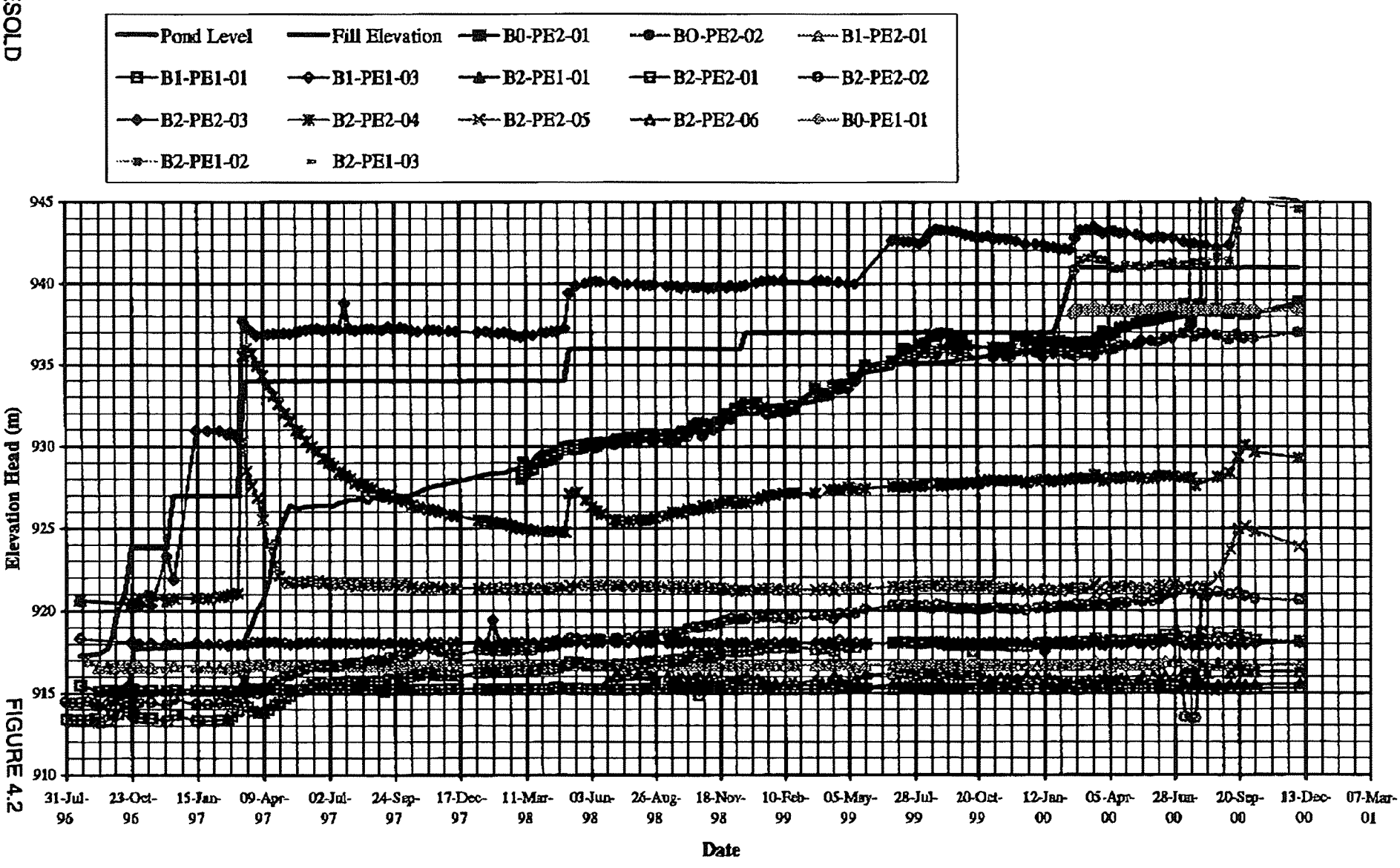


FIGURE 4.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS



KNIGHT PIESOLD CONSULTING

FIGURE 4.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

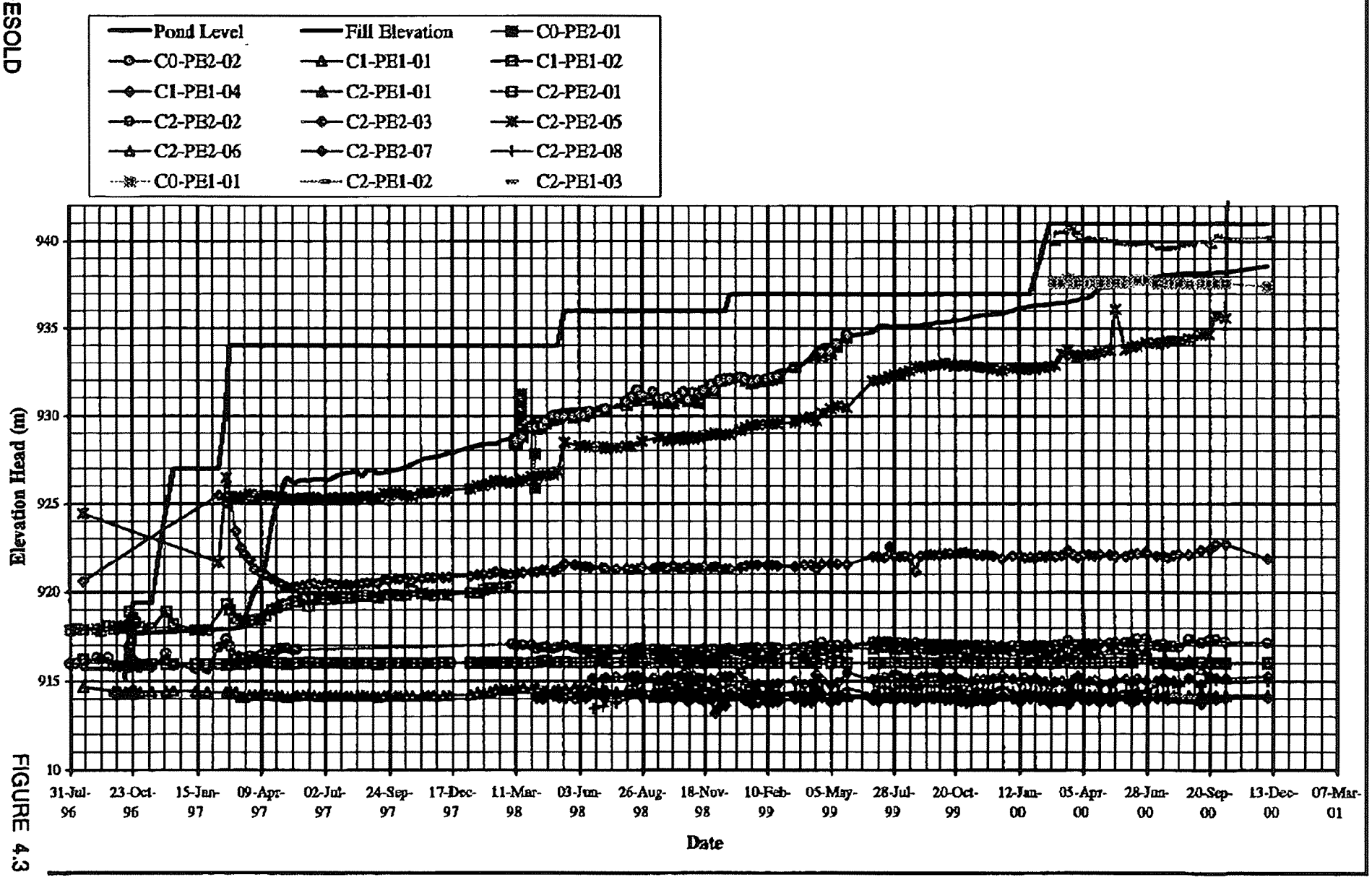


FIGURE 4.3

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MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

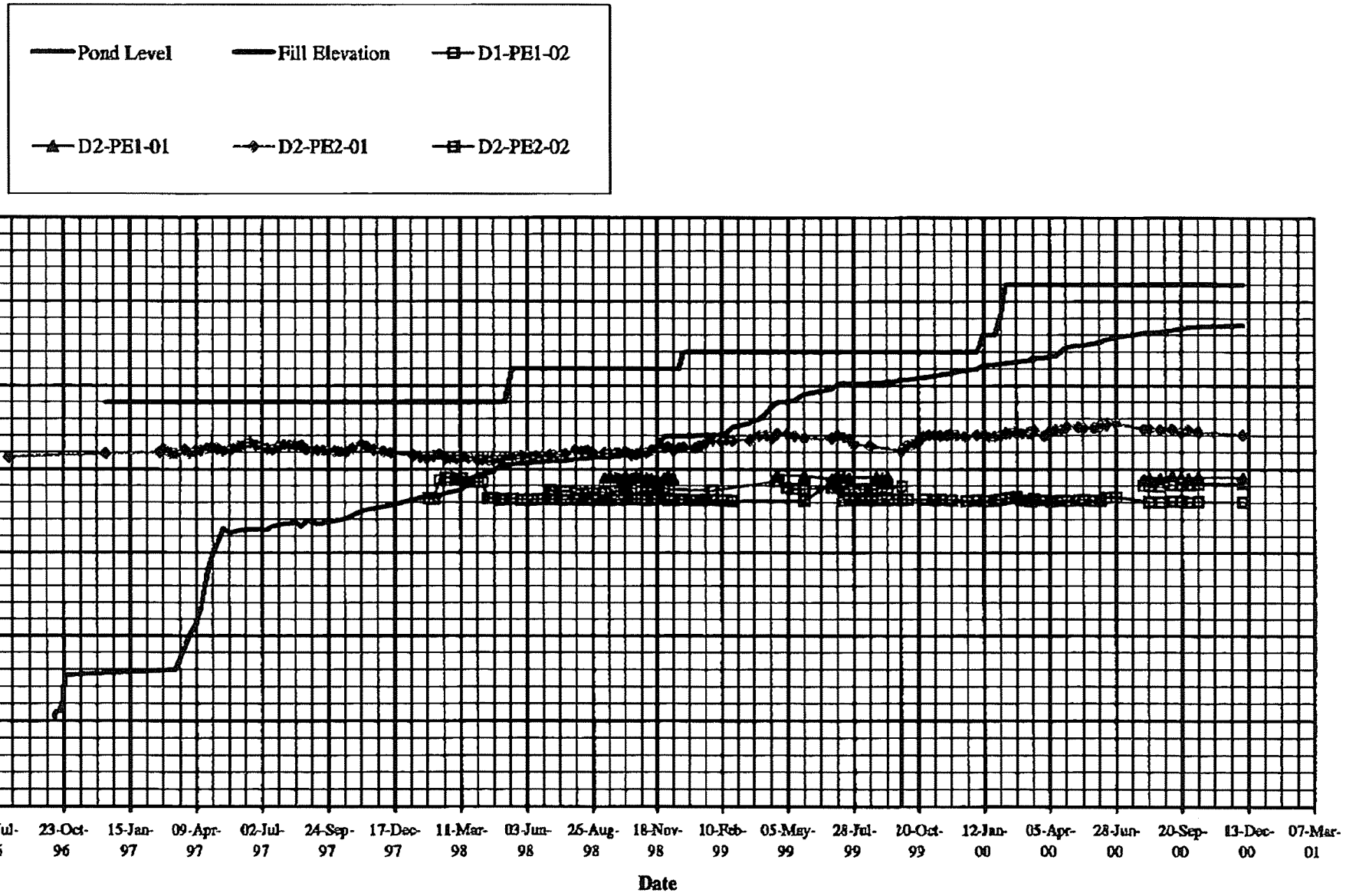
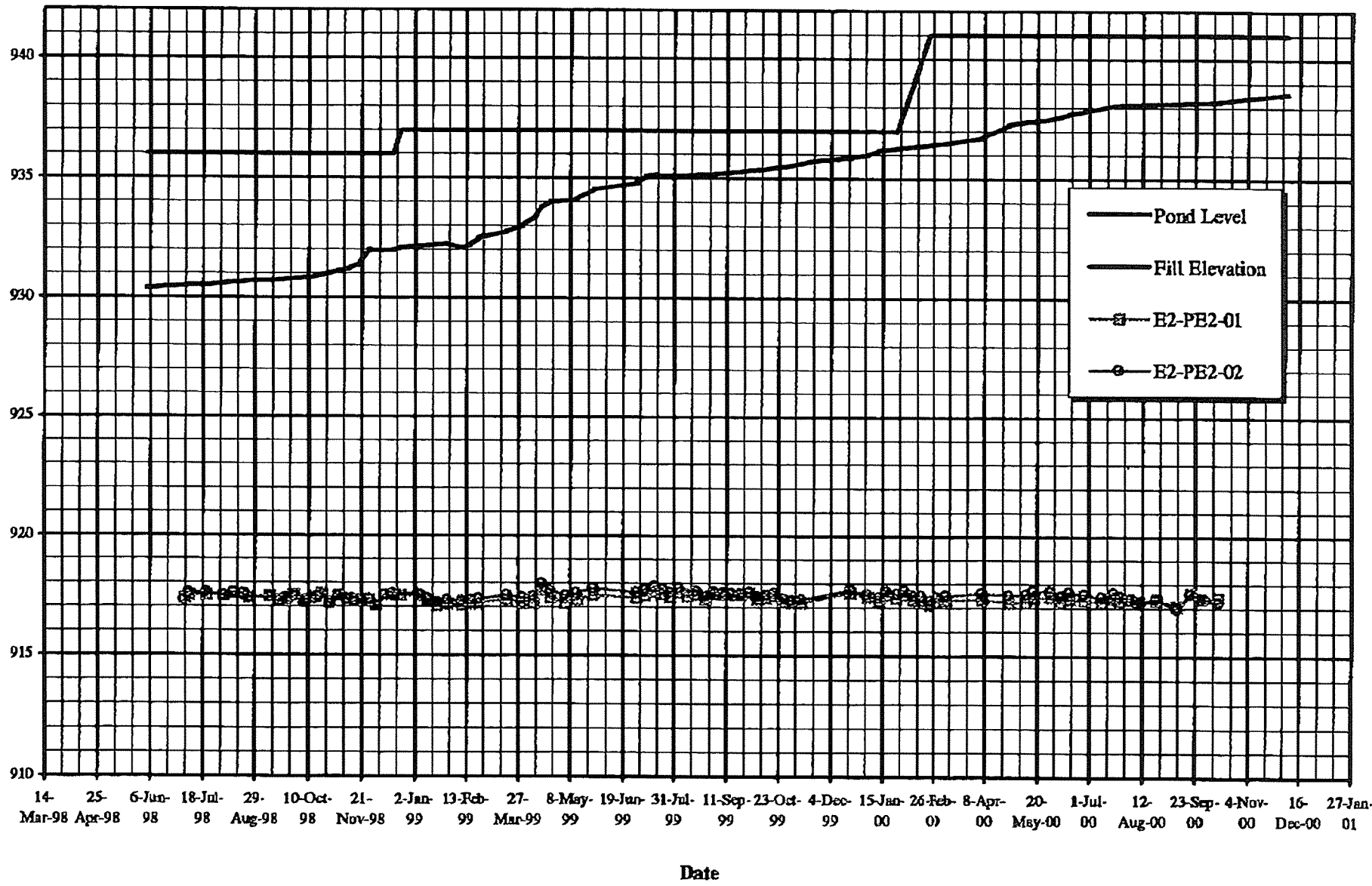


FIGURE 4.4

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

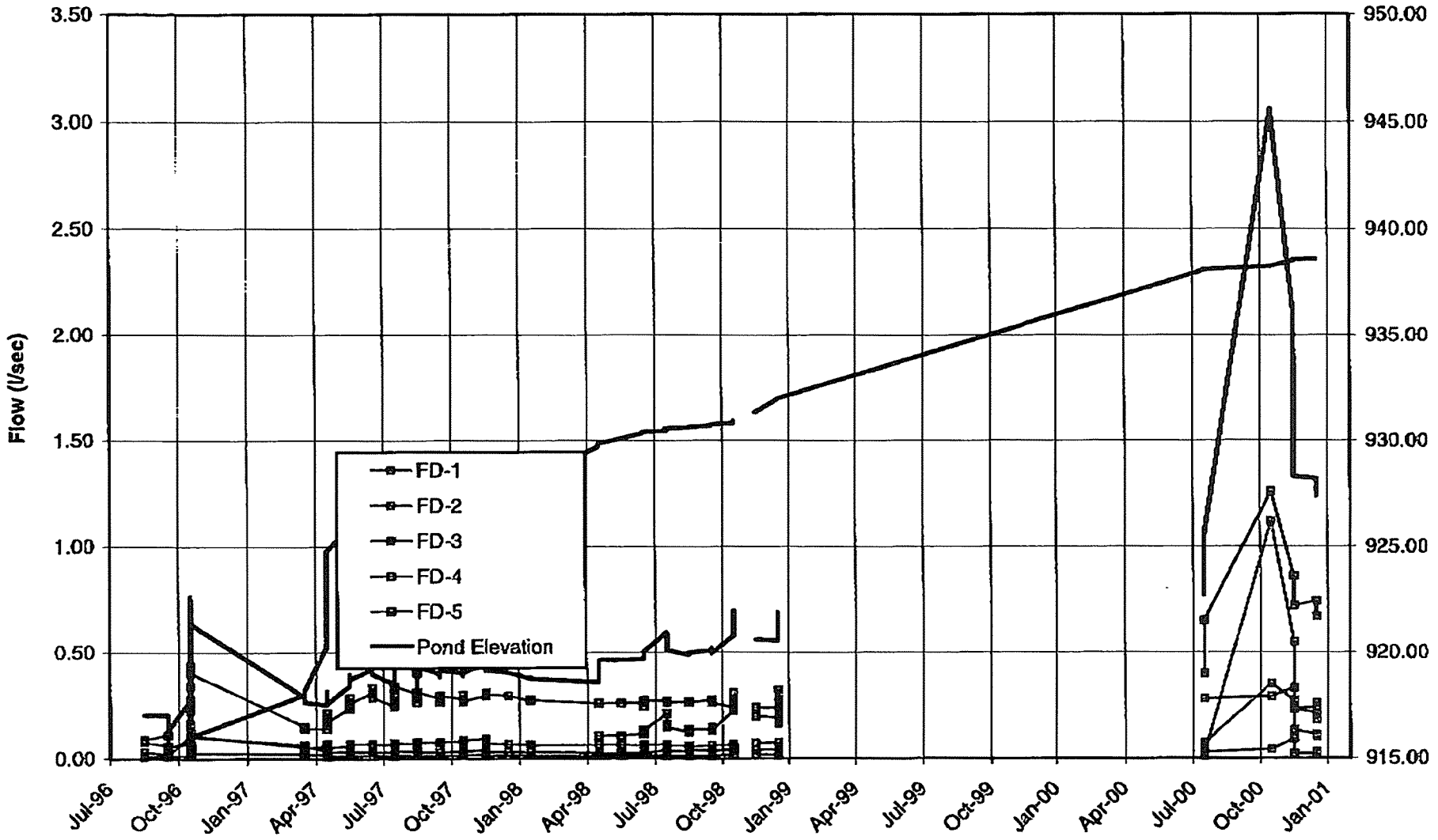


KNIGHT PIESOLD CONSULTING

FIGURE 4.5

M:\11162\13\Data\Drain Flows\FD-mon OD-mon-Working Copy FD-Graph

Printed: 1/3/01
Rev'd: Jan 03, 2001



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY MAIN EMBANKMENT FOUNDATION DRAIN FLOWS			
Knight Piésold CONSULTING	PROJECT NO. 11162/13	REF. NO. 0/2934	REV. 0
	FIGURE 4.6		

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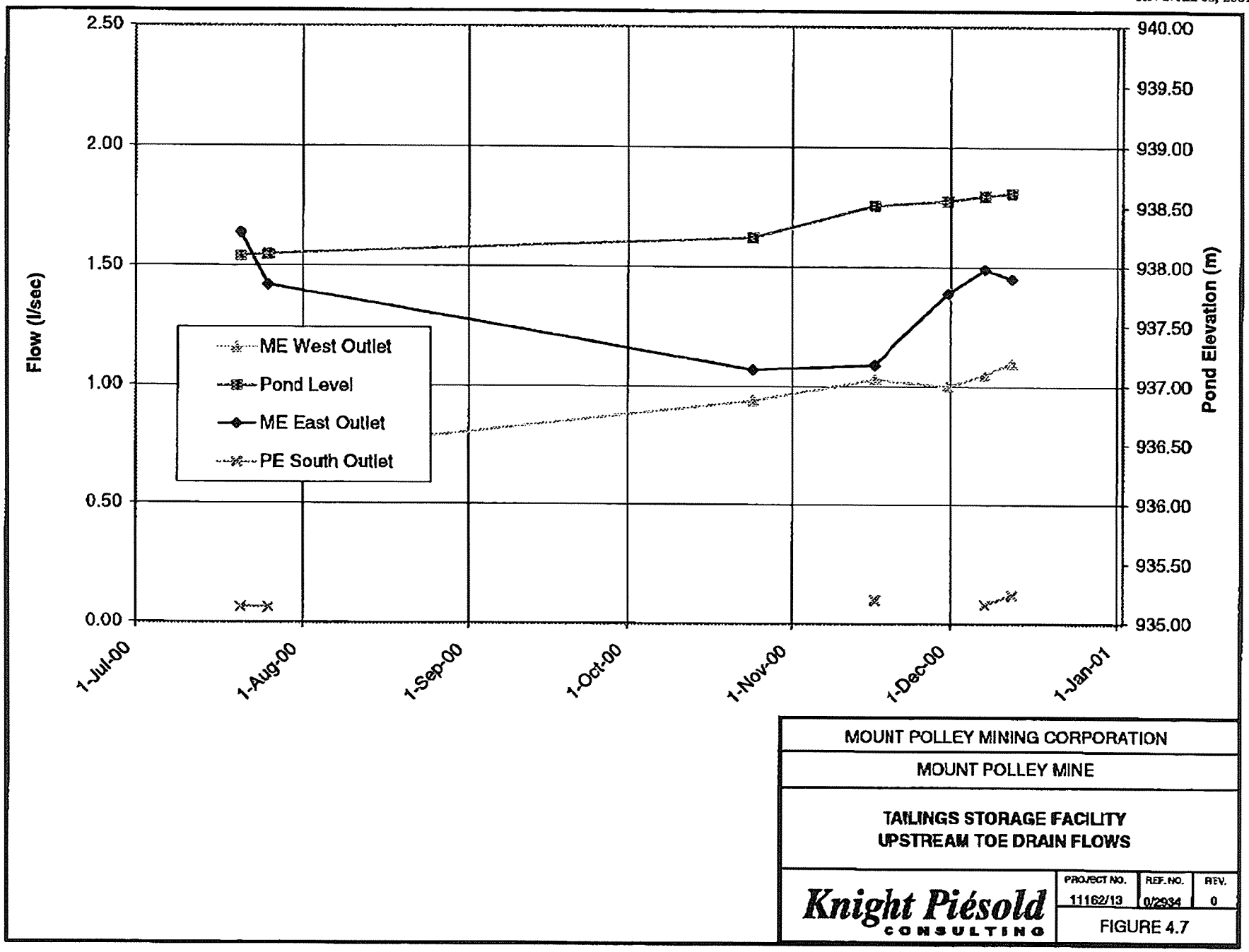
Printed: 1/3/01
Rev'd: Jan 03, 2001



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY UPSTREAM TOE DRAIN FLOWS			
Knight Piésold CONSULTING	PROJECT NO. 11162/13	REF. NO. 0/2934	REV. 0
	FIGURE 4.7		

PLANE A/250
CH. 20+00

PLANE B/250
CH. 22+40

PLANE C/250
CH. 18+50

REFERENCE DRAWINGS
3 TAILINGS EMBANKMENT - INSTRUMENTATION - SECTIONS 2 OF 2
GE 3 TAILINGS EMBANKMENT - INSTRUMENTATION - SUMMARY OF INSTALLATION & TYP. DETAILS
AGE 3 MAIN EMBANKMENT - INSTRUMENTATION - PLAN

REVISIONS										
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D	REV.	DATE	
							D	2JUN'00	ISSUED FOR

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

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

DRG. NO.	DESCRIPTION
236	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
254	TSF - STAGE 3 TAILINGS EMBANKMENT - SOUTH EMBANKMENT - INSTRUMENTATION PLAN
250	TSF - STAGE 3 TAILINGS EMBANKMENT - MAIN EMBANKMENT - INSTRUMENTATION PLAN
130	TSF - STAGE 3 SOUTH EMBANKMENT - PLAN AND SECTION
215	TSF - STAGE 3 MAIN EMBANKMENT - SECTIONS AND DETAILS

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK

REVISIONS

DRT FILE :

14-145-40/MTP0/01

Jeff Clarke, Site Engineer (dayshift) – Left site on October 24.
Sarah Griffiths, Site Engineer (nightshift) – Left site on September 26 following the completion of nightshift operations.

Jeremy Kinch was on site September 18 to 21 to substitute for Jeff Clarke and to discuss with MPMC construction sequencing for the Perimeter Embankment.

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DATE:	**Nov. 3, 2000**	**FILE NO.**	**11162/13.01**
TIME:		**REF. NO.**	
OPERATOR:		**PAGES:**	**32**
SENDER:	**Jeff Clarke**	**APPROVED:**	

TO:	**MPMC**	**FAX NO.:**	**250 790-2268**
ATTENTION:	**Don Parsons, Eric Leneve, Greg Smyth**		
Cc:	**George Headley - MEMND 250-952-0481**		
	Ken Brouwer, Jeremy Kinch – KP Vancouver		
SUBJECT:	**Mount Polley Stage 3A**		

Please find following Progress Report No. 6 (revised).

Regards,

Jeff Clarke
Knight Piésold
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

PROGRESS REPORT NO. 6 – September 17 to October 24, 2000

SECTION 1.0 –GENERAL

The Stage 3A construction of the Tailings Storage Facility Main and South Embankments was completed on September 28. The embankments have been raised to the target elevation of 942.5 m.

Construction of the raise for the Perimeter Embankment is ongoing. MPMC has intensified cycloning operations along the upstream face to complete this work prior to the onset of freezing conditions. MPMC and KP have been reviewing the construction sequencing and scheduling for the embankment, as discussed in detail in Section 1.3.

1.1 PERSONNEL

Mount Polley Mining Corporation (MPMC) management personnel overseeing the Stage 3 work are as follows:

Eric Leneve, Tailings Coordinator
Don Parsons, Mine Superintendent

The following Knight Piesold Ltd. (KP) representatives were on site during the reporting period:

Jeff Clarke, Site Engineer (dayshift) – Left site on October 24.

The following Tercon Contractors Ltd. (TCL) representatives were on site during the reporting period:

Doug Bain, Site Manager
Bill Soare, Dayshift Foreman
Tyrl Summers, Nightshift Foreman

The TCL crew left site on upon completion of the Main and South Embankments.

1.2 WEATHER

Weather conditions over the period have generally been sunny, with occasional periods of rainfall and sleet. Temperatures have been decreasing, with freezing conditions developing overnight. Current temperatures have been ranging from about -5°C to +10°C.

There have been no weather related work delays.

1.3 DESIGN AND CONTRACT DEVELOPMENTS

1.3.1 Contract

TCL has completed construction of the Main and South Embankments to the required elevation and to the contract specifications, and is currently working on as-built drawings and volume calculations for final payment.

MPMC will be providing TCL with a list of deficiencies to be addressed prior to completion of the contract. The deficiencies include implementing drainage in Borrow Area No. 2, repair of the toe drain conveyance pipe at the right abutment of the Main Embankment, and scaling of the rock borrow.

1.3.2 Design

MPMC and KP have continued to review the construction sequencing and scheduling required for the Perimeter Embankment. MPMC wishes to minimize the construction requirements and associated costs for the remainder of this stage.

MPMC's planned construction program is discussed below and shown on the attached Figures 1.1 to 1.4. The figures are based on the currently permitted embankment design.

Storage Requirement

The design storage requirement for the Tailings Facility is to provide sufficient capacity for tailings and supernatant water, as well as for the 24 hour PMP event.

MPMC has revisited the Tailings Facility water balance calculations, with the purpose of evaluating methods to maintain a lower pond volume and thereby reduce the required embankment core elevation. Based on this review, MPMC has determined that a core zone elevation of 941.0 m will serve to provide the design storage requirements through to the end of July 2001. The analysis is based on the following:

- Constructing diversion ditches to control upstream runoff (Area 4) and direct it into or away from the Tailings Facility as required. The ditches will be sized by MPMC to accommodate runoff from the PMP event.

- Deferring pumping from Polley Lake until after the next phase of construction in Summer 2001.

- Using groundwater wells for makeup water to the maximum extent possible.

MPMC also plans to conduct an on-going check of the water balance against actual conditions through the 2001 freshet to confirm that conditions are as expected.

A survey of the Perimeter Embankment carried out by MPMC shows that some sections of the crest are below El. 941.0 m. The lowest point is at about 940.5 m. MPMC plans to raise these sections to 941.0 m using Zone S glacial till.

Freeboard Requirement

1.0 m of freeboard is required for wave run-up. MPMC plans to provide the freeboard by construction of a cycloned sand berm upstream of the core zone. The berm will be constructed to El. 942.5 m., although the water balance calculations indicate that freeboard is only required to 942.0 m. The additional 0.5 m will provide freeboard in the event that Zone S must be raised to provide additional storage capacity.

It is planned that the cycloned sand berm will be constructed along the entire length of the embankment by hydraulic placement followed by mechanical shaping, as shown on Figure 1.2. Based on current rates of cycloning, MPMC expects to have construction of the berm complete by early November.

If, however, freezing conditions prevent cycloning and completion of the berm by this method, the section of the embankment between setting out points S5 and S6 will be constructed by one of the two methods shown on Figure 1.3. The first method (A) involves mechanical placement of the upstream sand berm, using a coarse bearing layer as necessary to support construction traffic. The second method (B) involves downstream construction of Zone F, T, and C fills, or cycloned sand, and may include raising of the embankment Zone S core against the downstream fill.

At the north abutment of the embankment, an approximately 75 m long section of the berm has been constructed from fine rockfill (Zone T material) to the approximate configuration shown on Figure 1.4. The reason for this is that the cyclones could not properly reach this area and were trapping water and slimes against the abutment.

Knight Piesold has carried out an upstream stability analysis to confirm the stability of the sand berm. The liquefaction potential of the tailings was assessed for the two design earthquakes, the Operational Basis Earthquake (OBE) and the Maximum Design Earthquake (MDE). The analyses indicate adequate Factors of Safety against loss of freeboard following the OBE.

Construction Sequence

The proposed construction sequence for raising of the Perimeter Embankment is as listed below. The work will be carried out in sections, such that construction can progress on each section as cycloning is completed.

- Move tailings line and prepare foundation at north abutment of embankment. Construct upstream rockfill berm to configuration shown on Figure 1.4.

- Construct ramps on downstream side of embankment as necessary to access embankment crest.

- Complete cycloning along designated embankment section. Remove cyclones from crest and smooth out top of hydraulically placed sand.

- Move tailings line onto sand.

- Prepare crest of existing embankment (grade off unsuitable material) in preparation for Zone S placement along low areas.

- Place Zone S till on crest as required to raise to 941.0 m.

- Shape upstream sand berm to configuration shown on Figure 1.2.

- If freezing conditions do not permit completion of hydraulically placed upstream berm, raise section between S6 and S5 using one of the methods shown on Figure 1.3.

Downstream Stability

KP has also carried out an analysis to evaluate the downstream stability of the embankment. The analysis indicates that the embankment has an overall Factor of Safety of 1.4 against large failures causing loss of freeboard. This meets the requirements for current operations (minimum required F.S. of 1.3), but does not meet the requirements for closure (minimum required F.S. of 1.5). However, the analysis also indicates that, due to the relatively steep 1.5H:1.0V downstream slope on the embankment, the Factor of Safety against shallow failures is only 1.1.

To mitigate this concern, KP recommended that a downstream cyclone sand or rockfill buttress be constructed to at least El. 935.5 m in fall 2000. The buttress would also serve to facilitate flattening of the oversteep slope to meet the closure stability requirements, when required.

Due to budget constraints, MPMC has indicated that the buttress will only be constructed this year if sufficiently warm weather conditions permit cycloning downstream after construction of the upstream berm. MPMC is instead planning on a rigorous inspection schedule to monitor for downstream instability, and to repair any surface sloughing as necessary. The inspections will involve visual inspections of the downstream face and crest, removing snow from the crest, as well as bi-weekly monitoring of survey monuments on the crest. Stockpiles

of cyclone sand and Zone T rockfill will be made readily available for any required repair work.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

As noted, MPMC has intensified cycloning operations along the upstream face of the Perimeter Embankment. Twelve separators on six stands are currently in operation. The stands are moved along the embankment such that just enough material is placed at each location to construct the upstream berm. Fill is being placed along about 25 m of embankment per day.

During a scheduled mill shut-down on September 19, MPMC relocated the reclaim barge approximately 200 m up the barge channel. Repairs to the tailings line above the T2 dropbox were also completed.

Due to concerns of wear in the tailings line above the dropbox, MPMC has fused additional sections of pipeline together to repair any sections of the tailings line as necessary. The extra pipe sections are from reclaim barge moves.

The seepage recycle pipeline has been reinstated at the Main Embankment Seepage Collection Pond. The pond is being pumped down as necessary.

1.5 SAFETY

No safety incidents were reported for the period.

SECTION 2.0 – CONSTRUCTION ACTIVITIES

2.1 EQUIPMENT

TCL used the following equipment over the reporting period:

- Excavators – 1 Hitachi EX 1100, 1 Cat 375, 1 Cat 322B
- Haul Trucks – 5 Cat 773's
- Dozers – 1 Cat D8R, 1 Cat D8N (rental), 1 Cat D6D
- Graders – 1 Cat 16G

- Compactors – 1 Cat CS583, 1 Cat CS563 (rental), 1 Cat 825G
- Water truck, service trucks, fuel trucks, forklift

Since completion of TCL construction activities, most of the equipment has not yet been demobilized and remains on site.

2.2 ACTIVITIES

The major construction activities for the reporting period are summarized below. Dayshift and nightshift crews were in operation during the TCL activities.

Main Embankment (TCL)

The Main Embankment Zones C, T and S have been raised to El. 942.5 m. The Zone F chimney drain has been constructed to 941.0 m, and will be extended as necessary during the next stage of construction by excavating down to the top of the drain.

TCL constructed a haul road into the southeast portion of Borrow Area No. 2 to access drier glacial till for the Zone S placement. This material was used for construction of both the Main and South Embankments, as well as for basin liner.

Basin liner was placed within the impoundment at the right abutment of the Main Embankment to cover weathered bedrock exposed during previous site preparation work. The liner consisted of three 150 mm thick lifts placed and compacted with a smooth drum vibratory roller, followed by a 300 mm thick frost protection layer spread with a bulldozer.

South Embankment (TCL)

Foundation preparation was completed for the South Embankment. Soft, wet material was graded off down to competent glacial till. Sub-excavation was carried out in three small areas to remove softer material where rainwater had ponded. The material was replaced with compacted glacial till. The entire foundation area was rolled with a smooth drum vibratory compactor followed by the Cat 825G.

Excavation for installation of foundation piezometer F2-PE2-01 encountered weathered volcanic bedrock below the embankment at 1.3 m depth.

Between September 23 and 26, the embankment Zone S was raised to El. 942.5 using compacted glacial till.

Perimeter Embankment (MPMC)

Cycloning for the upstream sand berm along the Perimeter Embankment has been completed along roughly 50% of the section between the north abutment and setting out point S6.

Rock Borrow

MPMC has drilled and blasted an additional 40,000 m^3 of Zone T material in the rock borrow. The material will be additional inventory to be used in construction as necessary.

Miscellaneous

MPMC has removed the Polley Lake pipeline from within the Perimeter Embankment crest. The excavation was backfilled with compacted glacial till from Borrow Area No. 2.

MPMC excavated several test pits in the cyclone sand stockpile in Borrow Area No. 4 to confirm the suitability (moisture content) of the material for use in construction. The material was found to be suitable, extending in depth beyond the reach of the excavator.

During completion of the downstream rockfill at the right abutment of the Main Embankment, construction traffic broke and 'punched-up' a section of the upstream toe drain outlet / conveyance pipe. The damaged section was excavated and repaired.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

3.1 GENERAL

KP site activities over the reporting period have included the following:

- Inspection and documentation of construction activities.
- QA/QC collection and testing of Zone F, T, C, and S control and record samples.

- Field density testing of Zone S fills.
- Installation of Stage 3 piezometers, organizing piezometer leads.
- Ongoing discussions and correspondence with MPMC and KP Vancouver.
- Preparation of daily inspection reports and bi-weekly Progress Reports.
- Collection and review of embankment monitoring data.

3.2 LABORATORY TESTING

The following samples were collected and tested on site over the reporting period:

- Zone T record sample R/ZT-3-10
- Zone C record samples R/ZC-3-4 and 5
- Zone F control samples C/ZF-3-20 to 24
- Zone F record samples R/ZF-24 to 27

The results of the testing are provided on the summary Tables 3.1 to 3.4 and gradation plot Figures 3.1 to 3.4.

The results show that the Zone T and C record samples meet the specifications for particle size distribution.

The results for the Zone F control tests show that control samples C/ZF-3-20, 23, and 24 met the required gradation specifications, but that samples C/ZF-21 and 22 fell below the bottom of the coarse envelope. All of the record samples from this material meet the specifications, however. This may be due in part to the control samples being collected prior to the filter sand stockpile being blended with a bulldozer. MPMC also sourced and included a significant proportion of weathered material in the crush operations, and the record tests likely indicate some breakdown of the material during handling, placement and compaction.

Five record samples of Zone S material, R/ZS-3-1 to 5, were also collected over the reporting period. These samples have been sent to Materials Testing Services Ltd. in

Prince George, and are currently being analyzed for particle size distribution, laboratory compaction characteristics, moisture content, Atterberg Limits and Specific Gravity.

3.3 FIELD DENSITY TESTING

Field density tests with a nuclear gauge were carried out on the Zone S and basin liner fills placed at the Main and South Embankments. The purpose was to check that the fills met the required compaction specifications of 95% and 92% of Standard Proctor Maximum Dry Density for Zone S and basin liner, respectively. A total of approximately 200 tests were carried out and confirm that fill placement meets the design objectives.

SECTION 4.0 – EMBANKMENT MONITORING

Monitoring of tailings embankment instrumentation over the reporting period is discussed in the following sections.

4.1 VIBRATING WIRE PIEZOMETERS

Piezometer F2-PE2-01 was installed to 1.3 m depth in the foundation of the South Embankment. The trench for the piezometer lead was excavated to 1.0 m depth to the downstream toe of the embankment, and backfilled with compacted glacial till. Readings from the piezometer will be included in future monitoring records.

KP has worked on organizing the leads for the piezometers. The leads have been extended to more accessible locations and wired into panel boxes to make monitoring more efficient.

Piezometer readings were obtained on September 19 and 28, as well as on October 11. The results of the monitoring are shown on Figures 4.1 to 4.5, and are summarized below. Locations of the piezometers are shown on attached drawings.

Foundation Piezometers

The Main Embankment foundation piezometers have typically shown a slight decreasing trend in pore water pressure since the previously reported September 8 readings. The largest decreases have been about 0.4 m.

No substantial changes were noted in the Perimeter Embankment (Plane D) foundation piezometers.

Fill Piezometers

Most of the Main Embankment glacial till piezometers responded to construction of the overlying Stage 3 fills with increasing pore pressures. The largest total increase was 4.18 m at A2-PE2-03. Since completion of construction, most of these pore pressures have started to decrease again.

Piezometers installed in Zone T and Cyclone Sand zones of the embankment have shown no response to fill placement and remain at very low head, indicating free-draining conditions in these materials.

Drain Piezometers

All drain piezometers have remained static and at a very low head indicating that the drains are free-draining and functioning as designed.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level.

4.2 DRAIN FLOWS

MPMC has pumped down the Main Embankment Seepage Collection Pond and the drain outlets in the sump are exposed. A monitoring stand was installed in the sump.

Drain flows were measured on October 24. Several of the readings were higher than expected, possibly as a result of surface water inflows or due to the high pond level

causing water to back into the drains and saturate the drain trench backfill (the drains may not have time to discharge the excess water before the readings were taken). Additional monitoring is being undertaken to clarify the cause of these results

4.3 SURVEY MONUMENTS

Survey monuments are to be installed by MPMC on the Main Embankment crest at Monitoring Planes A, B, and C. Surveys of the monuments will be included in the Tailings Facility monitoring program to measure any embankment movements.

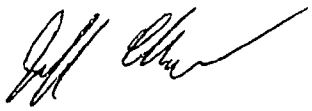
Additional survey monuments will be installed at three locations along the downstream edge of the Perimeter Embankment crest. These monuments are to be surveyed once every two weeks to check for any surface sloughing, as discussed in Section 1.3.

SECTION 5.0 – ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC and KP will continue to review the Perimeter Embankment construction scheduling.
- KP personnel will visit the site as necessary for construction inspections.

Submitted by:



Jeff Clarke
Knight Piesold Ltd.

Distribution: Eric Leneve, Don Parsons – MPMC
George Headley – MEMND
Ken Brouwer – KP Vancouver

NOTES

1. Topography of TSF generated from points and break lines sent from MPMC in July 1999. The topography outside the TSF area is from 1997 flyover.
2. Current size and location of potential and existing Borrow Areas and Topsoil Stockpiles are to be confirmed.

FIGURE 1.1

Scale 100 0 100 200 300 400 500 m

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
1	2JUN'00	ISSUED FOR CONSTRUCTION	MDB	TAM		
0	14APR'00	ISSUED FOR TENDER	MDB	NSD	JAK	KJB

REVISIONS

DESIGNED MDB

REVISIONS
KNIGHT PIÉSOLD 7054748095 11/03 '00 12:18 NO.121 13/30

Knight Piésold Ltd.
CONSULTING ENGINEERS

Project: MT. POLLEY - STAGE 3 CONSTRUCTION
Calculations for:
Calculations by: JDG
Checked by: Date:

Project No.: 11162/13
Date: OCT. 20/00
Sheet of

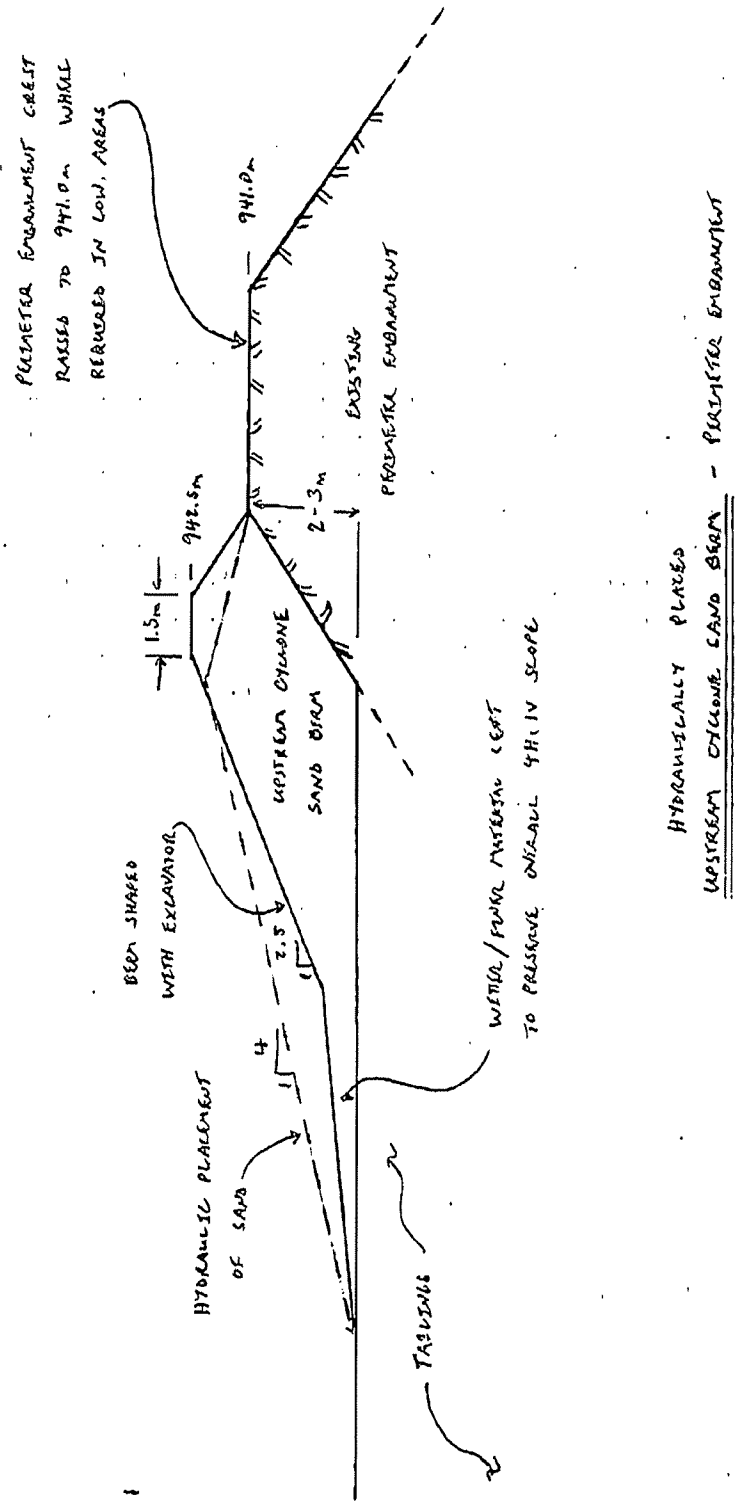
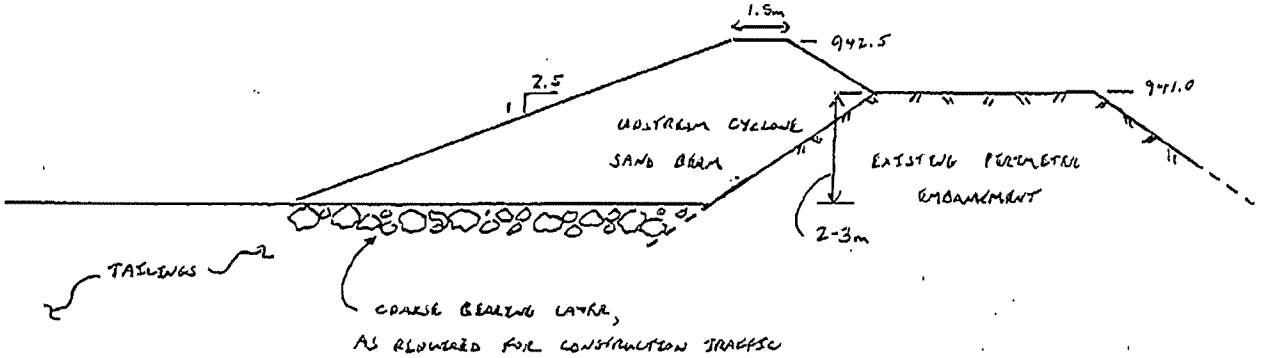


FIGURE 1.2

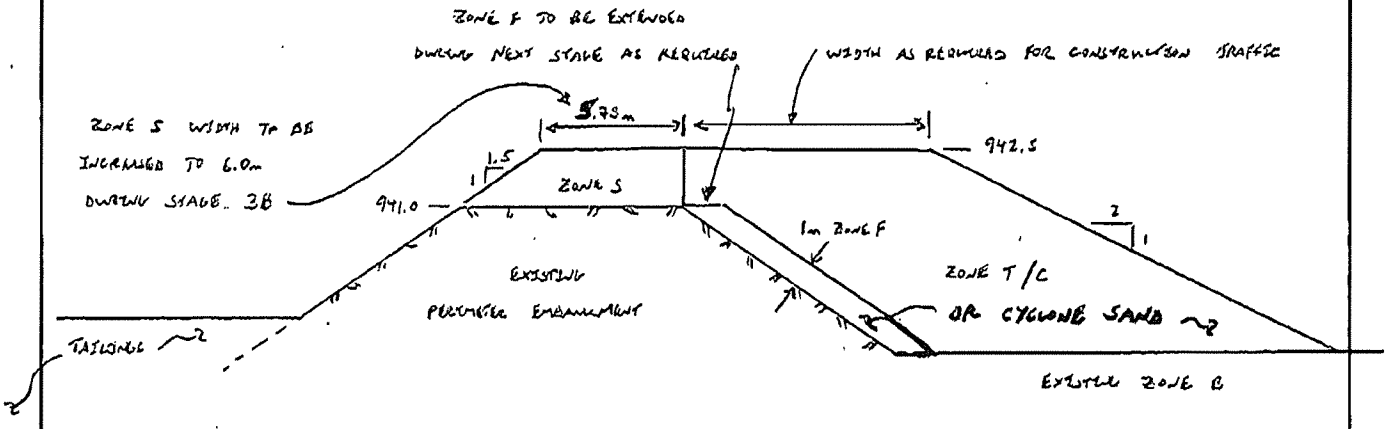
Knight Piésold Ltd.

CONSULTING ENGINEERS

Project: MT. POLLEY - STAGE 3 CONSTRUCTION
Project No.: 11162/13
Calculations for:
Date: OCT. 20/00
Calculations by: JDC
Sheet ____ of ____
Checked by: ____ Date: ____



A/ MECHANICALLY PLACED UPSTREAM CYCLONE SAND BERM



B/ DOWNSTREAM ROCKFILL

ALTERNATIVE OPTIONS FOR RAISING OF PERIMETER EMBANKMENT BETWEEN SS 5 & SS 6

FIGURE 1.3

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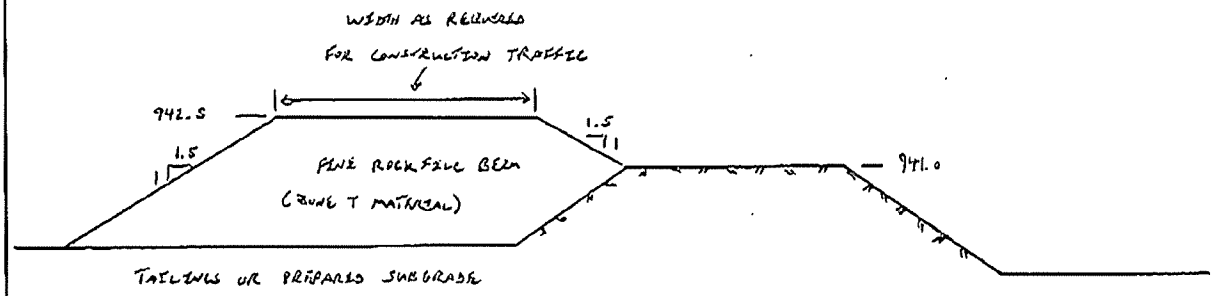
CONSULTING ENGINEERS

Project: MT. POLLEY - STAGE 3 CONSTRUCTION
Calculations for:
Calculations by: JDC
Checked by: Date:

Project No.: 1116Z/13
Date: OCT. 20/00
Sheet of



UPSTREAM ROCKFILL BERM AT
NORTH ABUTMENT PERIMETER EMBANKMENT

FIGURE 1.4

TABLE 3.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE T RECORD TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone T\[Zone T Summary.xls]Record Data — Date Printed 13-Oct-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
3-Jun-00	R/ZT-3-1	Zone T Fill	20.0	61.5	15.7	2.8
16-Jul-00	R/ZT-3-2	Zone T Fill	20.0	58.7	16.2	5.1
25-Jul-00	R/ZT-3-3	Zone T Fill	13.9	66.1	18.4	1.6
27-Jul-00	R/ZT-3-4	Zone T Fill	22.0	65.0	12.5	0.5
22-Aug-00	R/ZT-3-5	Zone T Fill , Chainage: 23+00, Elevation: 929 m	37.2	36.1	24.9	1.8
20-Aug-00	R/ZT-3-6	Zone T Fill, Chainage: 19+50, Elevation: 929 m	34.5	40.0	24.0	1.5
29-Aug-00	R/ZT-3-7	Zone T Fill, Chainage: 20+00, Elevation: 932 m	5.0	57.2	36.0	1.8
9-Sep-00	R/ZT-3-8	Zone T Fill, Chainage : 18+00, Elevation: 936 m	20.0	59.7	18.3	2.0
12-Sep-00	R/ZT-3-9	Zone T Fill, Chainage: 26+00, Elevation: 940 m	10.0	62.7	25.5	1.8
21-Sep-00	R/ZT-3-10	Zone T Fill, Chainage: 26+00, Elevation: 940 m	20.0	52.6	26.6	0.8
		MEAN	20.3	56.0	21.8	2.0
		MEDIAN	20.0	59.2	21.2	1.8
		MAXIMUM	37.2	66.1	36.0	5.1
		MINIMUM	5.0	36.1	12.5	0.5

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

TABLE 3.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE C RECORD TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone C\[Zone C Summary.xls]Record Summary — Date Printed 13-Oct-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution) Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
2-Aug-00	R/ZC-3-1	Zone C Fill	56.4	34.7	8.4	0.5
21-Aug-00	R/ZC-3-2	Zone C Fill, Chainage: 22+55, Elevation 928.3	50.6	36.3	12.8	0.3
24-Aug-00	R/ZC-3-3	Zone C Fill, Chainage: 22+40, Elevation 929m	48.6	35.5	15.3	0.5
17-Sep-00	R/ZC-3-4	Zone C Fill, Chainage: 17+00, Elevation 938m	50.0	35.8	13.7	0.5
23-Sep-00	R/ZC-3-5	Zone C Fill, Chainage: 16+00, Elevation 941m	50.0	32.6	16.7	0.7
		MEAN	51.1	35.0	13.4	0.5
		MEDIAN	50.0	35.5	13.7	0.5
		MAXIMUM	56.4	36.3	16.7	0.7
		MINIMUM	48.6	32.6	8.4	0.3

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

TABLE 3.4

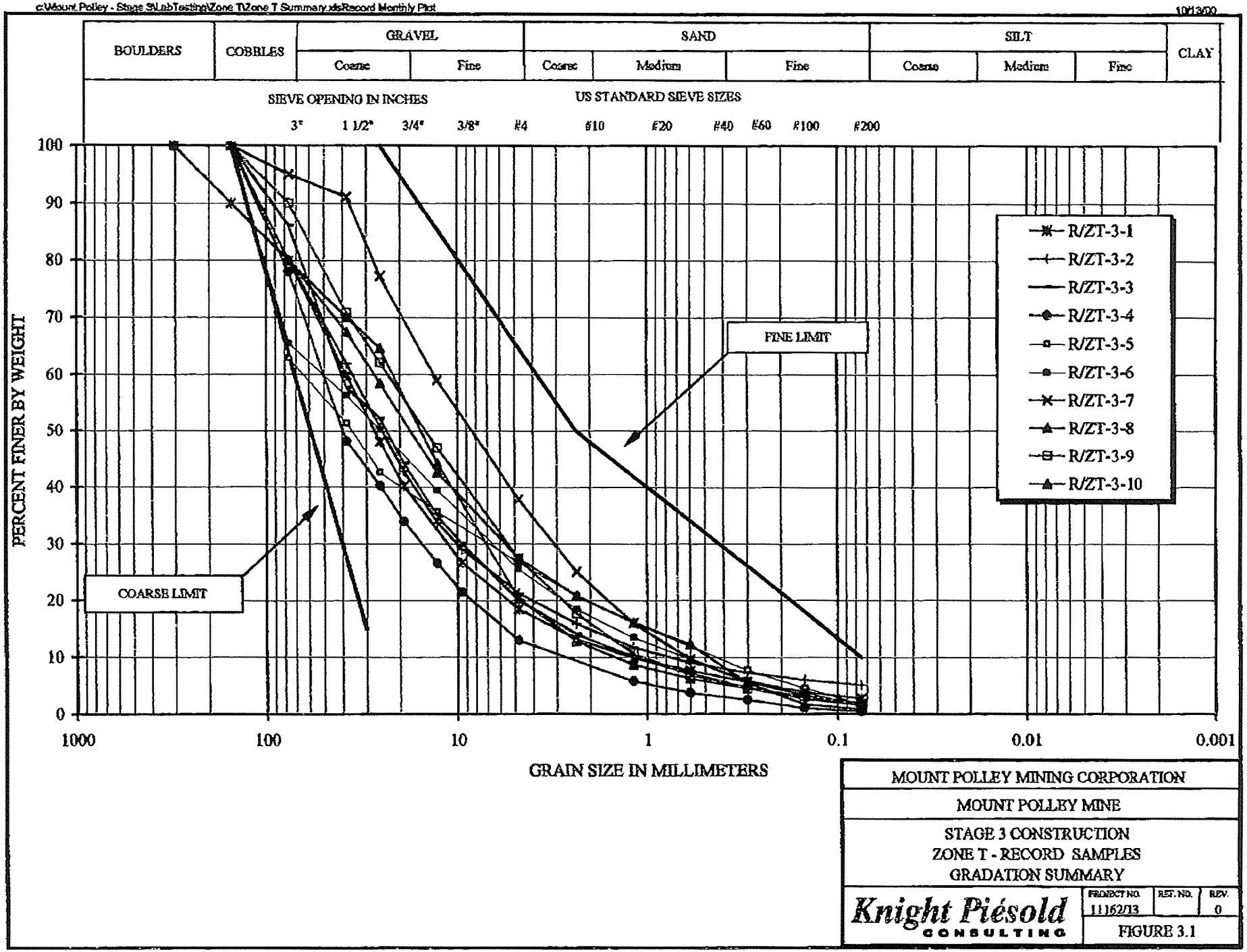
MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F RECORD TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone F\[Zone F Summary.xls]Record Summary — Date Printed 13-Oct-00

Date Sampled	Sample No.	Location	Chainage	Elevation	C3 (Particle Size Distribution)			
					Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
19-Aug-00	R/ZF-3-1	Zone F Fill	26+10	935 m	0.0	48.2	48.7	3.1
20-Aug-00	R/ZF-3-2	Zone F Fill	17+10	935 m	0.0	50.0	45.8	4.2
21-Aug-00	R/ZF-3-3	Zone F Fill	20+00	933 m	0.0	53.4	43.6	3.0
23-Aug-00	R/ZF-3-4	Zone F Fill	20+05	935 m	0.0	46.3	50.4	3.3
24-Aug-00	R/ZF-3-5	Zone F Fill	25+50	935 m	0.0	57.9	39.0	3.1
26-Aug-00	R/ZF-3-6	Zone F Fill	19+00	935 m	0.0	52.2	44.1	3.7
26-Aug-00	R/ZF-3-7	Zone F Fill	21+60	935 m	0.0	53.6	45.7	0.7
27-Aug-00	R/ZF-3-8	Zone F Fill	22+00	935 m	0.0	58.0	39.6	2.4
28-Aug-00	R/ZF-3-9	Zone F Fill	24+50	937 m	0.0	54.5	41.7	3.8
29-Aug-00	R/ZF-3-10	Zone F Fill	23+40	936 m	0.0	61.7	35.6	2.7
30-Aug-00	R/ZF-3-11	Zone F Fill	21+80	937 m	0.0	51.3	45.1	3.6
6-Sep-00	R/ZF-3-12	Zone F Fill	16+20	940 m	0.0	61.0	36.9	2.1
7-Sep-00	R/ZF-3-13	Zone F Fill	21+30	940 m	0.0	62.1	35.5	2.3
8-Sep-00	R/ZF-3-14	Zone F Fill	16+40	939 m	0.0	56.8	41.0	2.1
8-Sep-00	R/ZF-3-15	Zone F Fill	17+50	937 m	0.0	60.3	37.4	2.3
8-Sep-00	R/ZF-3-16	Zone F Fill	18+50	937 m	0.0	68.5	29.1	2.4
9-Sep-00	R/ZF-3-17	Zone F Fill	21+40	937 m	0.0	53.4	43.1	3.4
9-Sep-00	R/ZF-3-18	Zone F Fill	22+20	937 m	0.0	54.7	42.9	2.4
10-Sep-00	R/ZF-3-19	Zone F Fill	25+50	938 m	0.0	55.4	40.9	3.7
10-Sep-00	R/ZF-3-20	Zone F Fill	22+80	937 m	0.0	56.4	41.4	2.2
12-Sep-00	R/ZF-3-21	Zone F Fill	22+00	939 m	0.0	48.5	49.1	2.4
14-Sep-00	R/ZF-3-22	Zone F Fill	19+00	939 m	0.0	46.3	50.4	3.3
14-Sep-00	R/ZF-3-23	Zone F Fill	17+50	939 m	0.0	50.3	46.9	2.8
19-Sep-00	R/ZF-3-24	Zone F Fill	26+20	941 m	0.0	51.7	46.1	2.1
20-Sep-00	R/ZF-3-25	Zone F Fill	20+60	941 m	0.0	45.8	52.5	1.7
21-Sep-00	R/ZF-3-26	Zone F Fill	21+20	941 m	0.0	55.9	39.3	4.8
23-Sep-00	R/ZF-3-27	Zone F Fill	18+80	941 m	0.0	56.5	41.1	2.3
				MEAN	0.0	54.5	42.7	2.8
				MEDIAN	0.0	54.5	42.9	2.7
				MAXIMUM	0.0	68.5	52.5	4.8
				MINIMUM	0.0	45.8	29.1	0.7

Notes:
1) C3 (Particle Size Distribution) - ASTM D422



MOUNT POLLEY MINING CORPORATION

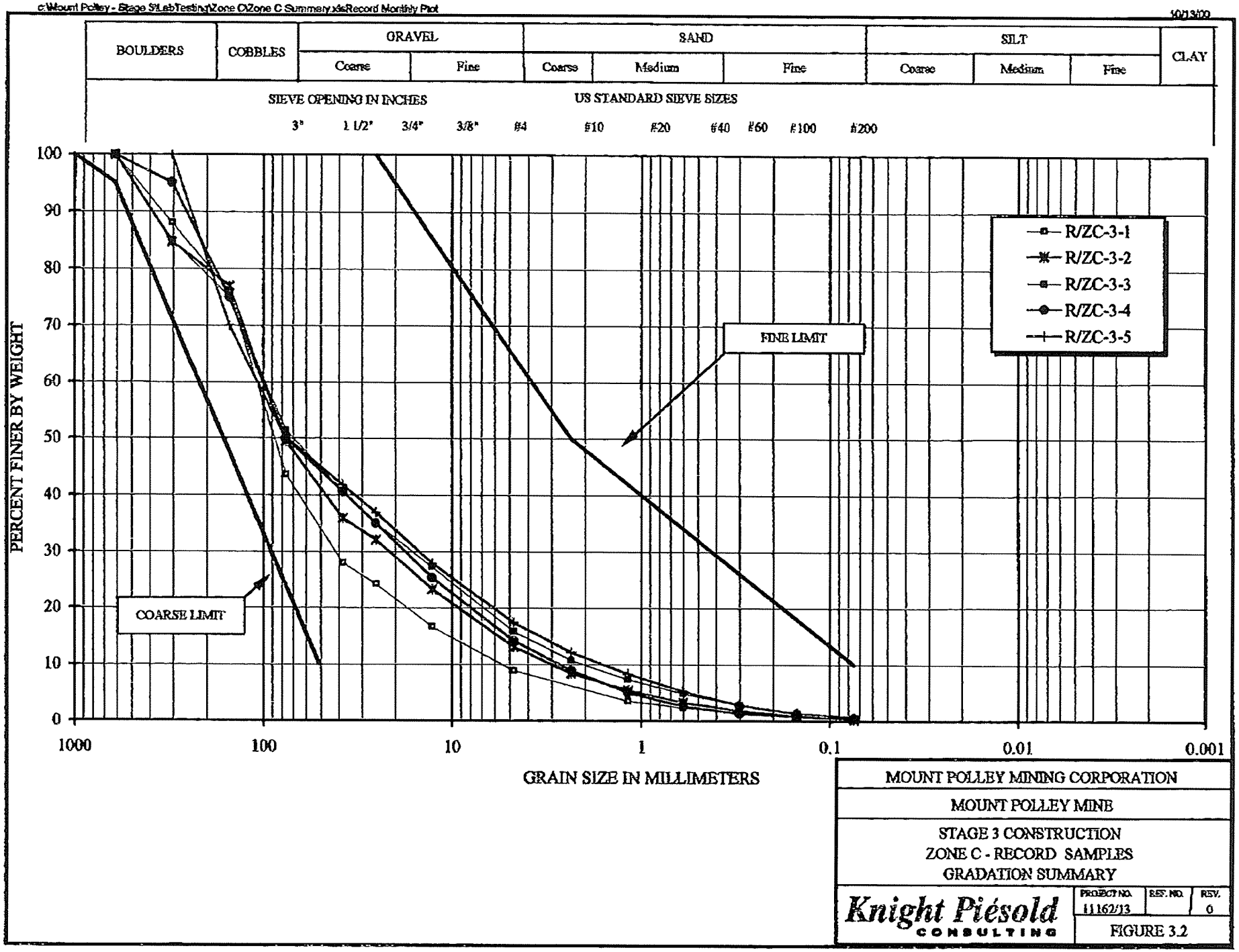
MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE T - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.1



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE C - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.2

C:\Mount Polley - Stage 3\Lab Testing\Zone F\Zone F Summary.xls\Control Monthly Plot

10/13/00

BOULDERS	COBBLES	GRAVEL		SAND			SILT			CLAY
		Coarse	Fine	Coarse	Medium	Fine	Coarse	Medium	Fine	

SIEVE OPENING IN INCHES: 3" | 1 1/2" | 3/4" | 3/8" | #4 | #10 | #20 | #40 | #60 | #100 | #200

US STANDARD SIEVE SIZES

PERCENT FINER BY WEIGHT

100 90 80 70 60 50 40 30 20 10 0

1000 100 10 1 0.1 0.01 0.001

GRAIN SIZE IN MILLIMETERS

FINE LIMIT

COARSE LIMIT

C/ZF-3-1
C/ZF-3-2
C/ZF-3-3
C/ZF-3-4
C/ZF-3-5
C/ZF-3-6
C/ZF-3-7
C/ZF-3-8
C/ZF-3-9
C/ZF-3-10
C/ZF-3-11
C/ZF-3-12
C/ZF-3-13
C/ZF-3-14
C/ZF-3-15
C/ZF-3-16
C/ZF-3-17
C/ZF-3-18
C/ZF-3-19
C/ZF-3-20
C/ZF-3-21
C/ZF-3-22
C/ZF-3-23
C/ZF-3-24

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE F - CONTROL SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.3

c:\Mount Polley - Stage 3\Lab Testing\Zone F\Zone F Summary.xls\Record Monthly Plot

12/13/00

BOULDERS	COBBLES	GRAVEL		SAND			SILT			CLAY
		Coarse	Fine	Coarse	Medium	Fine	Coarse	Medium	Fine	

SIEVE OPENING IN INCHES — US STANDARD SIEVE SIZES

3" 1 1/2" 3/4" 3/8" #4 #10 #20 #40 #60 #100 #200

PERCENT FINER BY WEIGHT

100 90 80 70 60 50 40 30 20 10 0

1000 100 10 1 0.1 0.01 0.001

GRAIN SIZE IN MILLIMETERS

COARSE LIMIT

FINE LIMIT

R/ZF-3-1
R/ZF-3-2
R/ZF-3-3
R/ZF-3-4
R/ZF-3-5
R/ZF-3-6
R/ZF-3-7
R/ZF-3-8
R/ZF-3-9
R/ZF-3-10
R/ZF-3-11
R/ZF-3-12
R/ZF-3-13
R/ZF-3-14
R/ZF-3-15
R/ZF-3-16
R/ZF-3-17
R/ZF-3-18
R/ZF-3-19
R/ZF-3-20
R/ZF-3-21
R/ZF-3-22
R/ZF-3-23
R/ZF-3-24
R/ZF-3-25
R/ZF-3-26
R/ZF-3-27

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE F - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.4

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

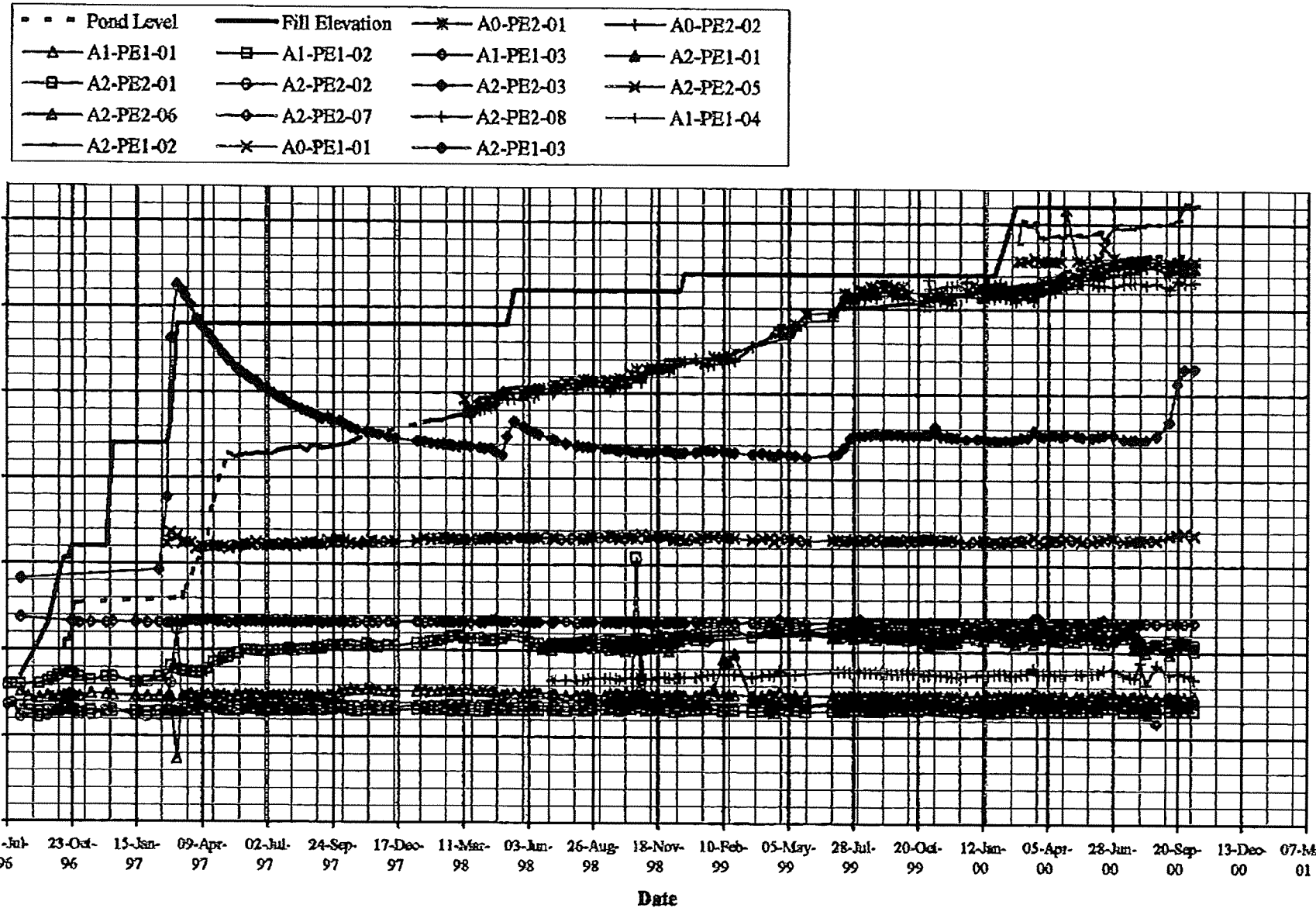


FIGURE 4.1

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

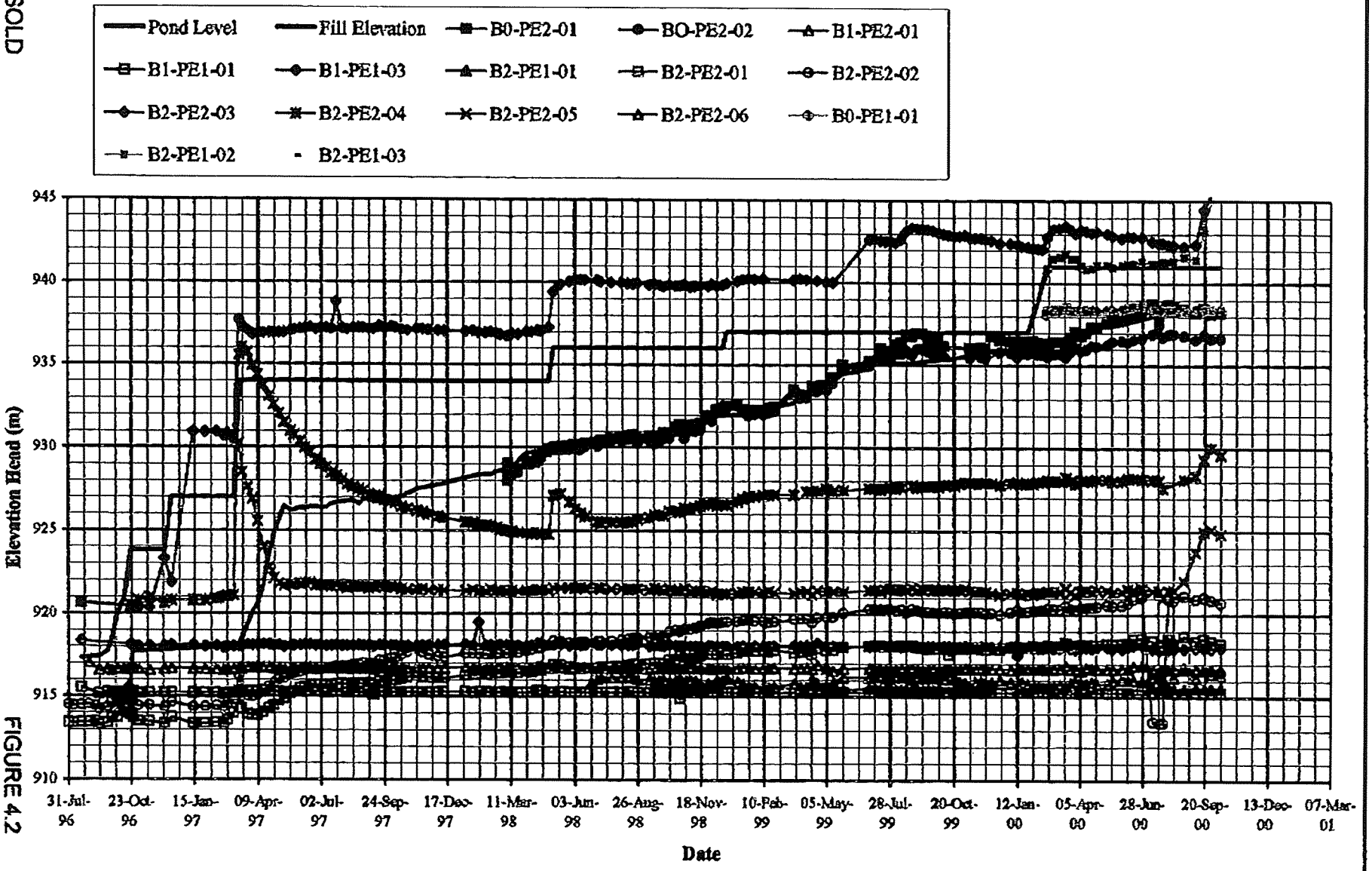


FIGURE 4.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

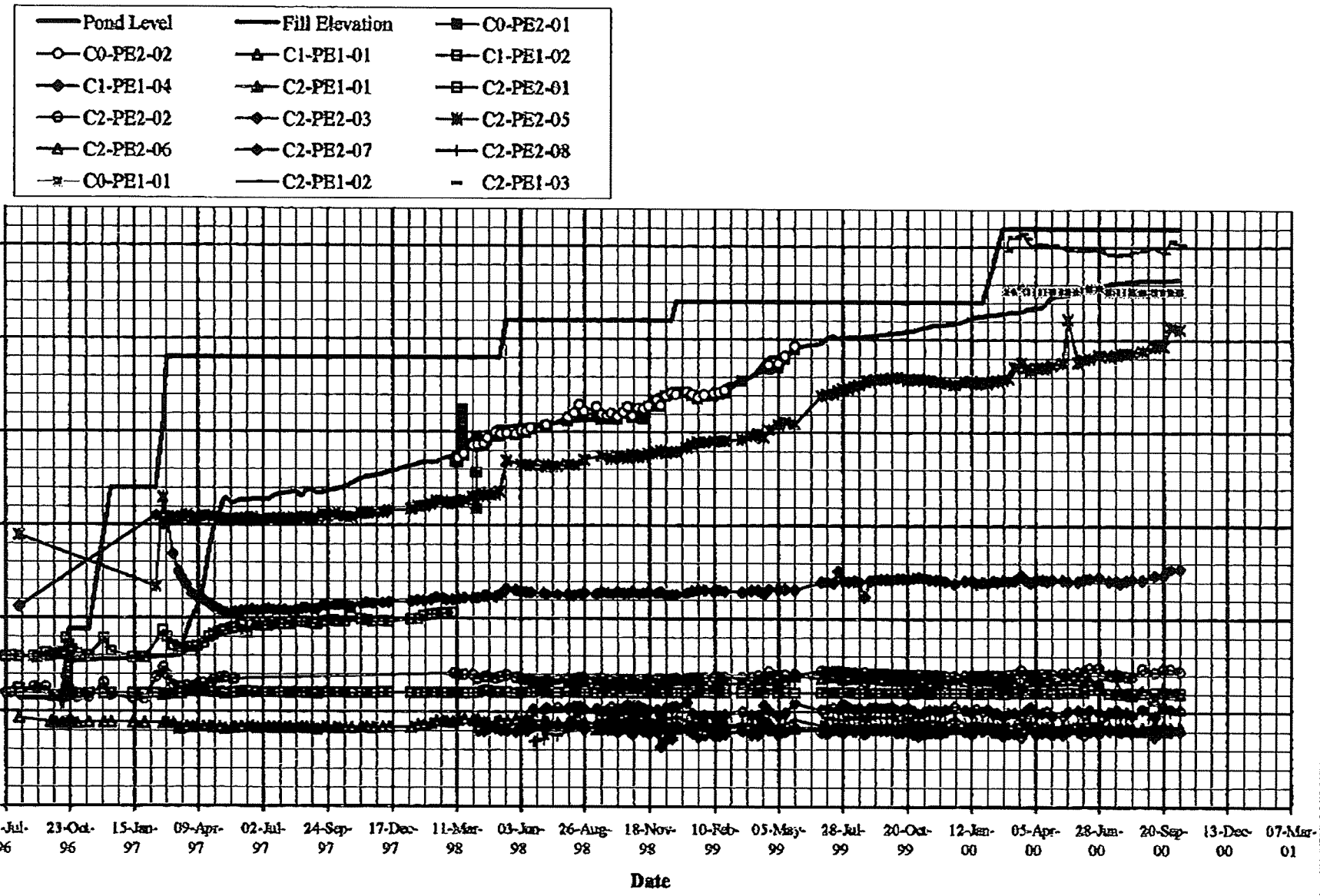


FIGURE 4.3

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

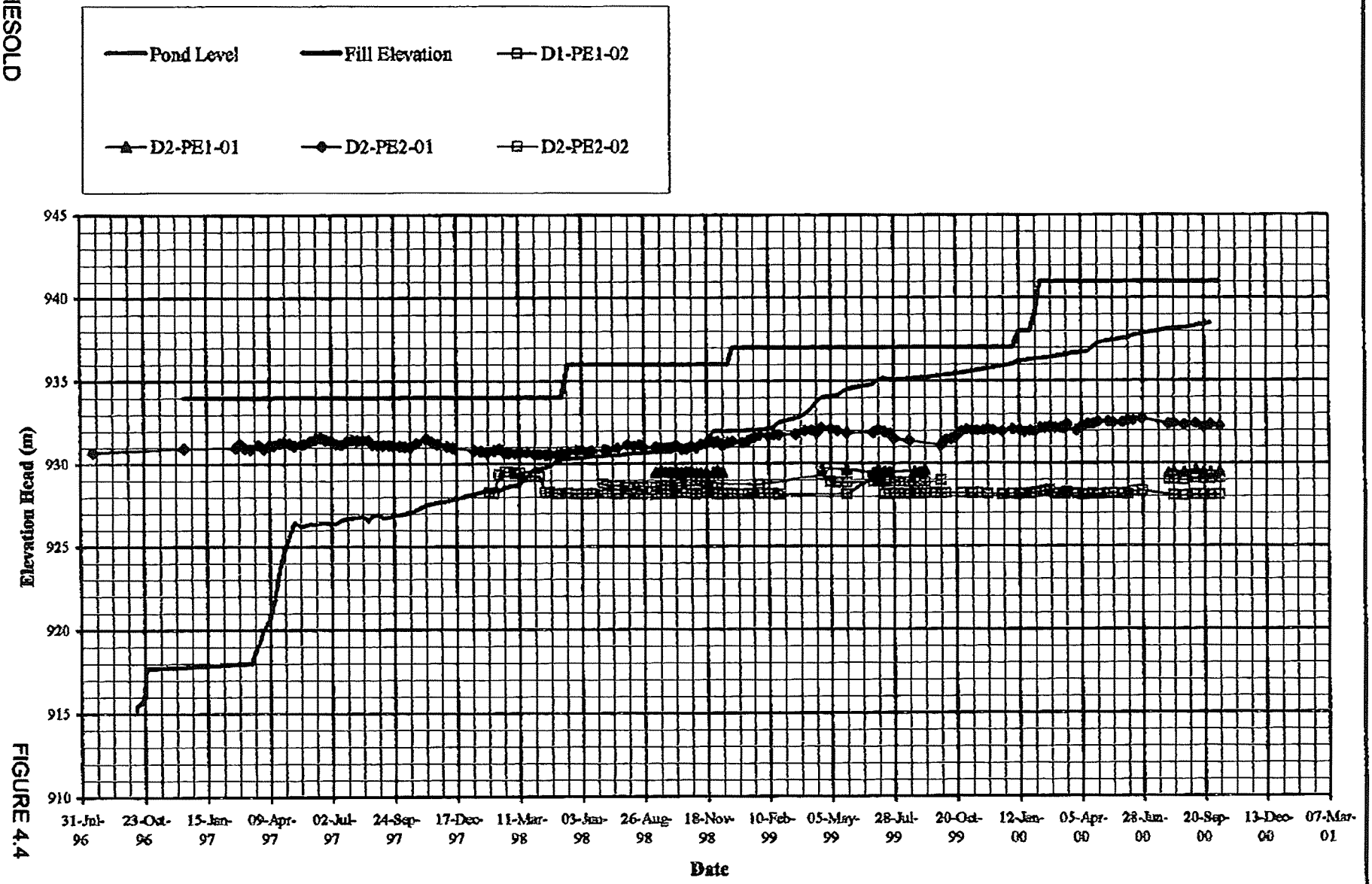


FIGURE 4.4

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

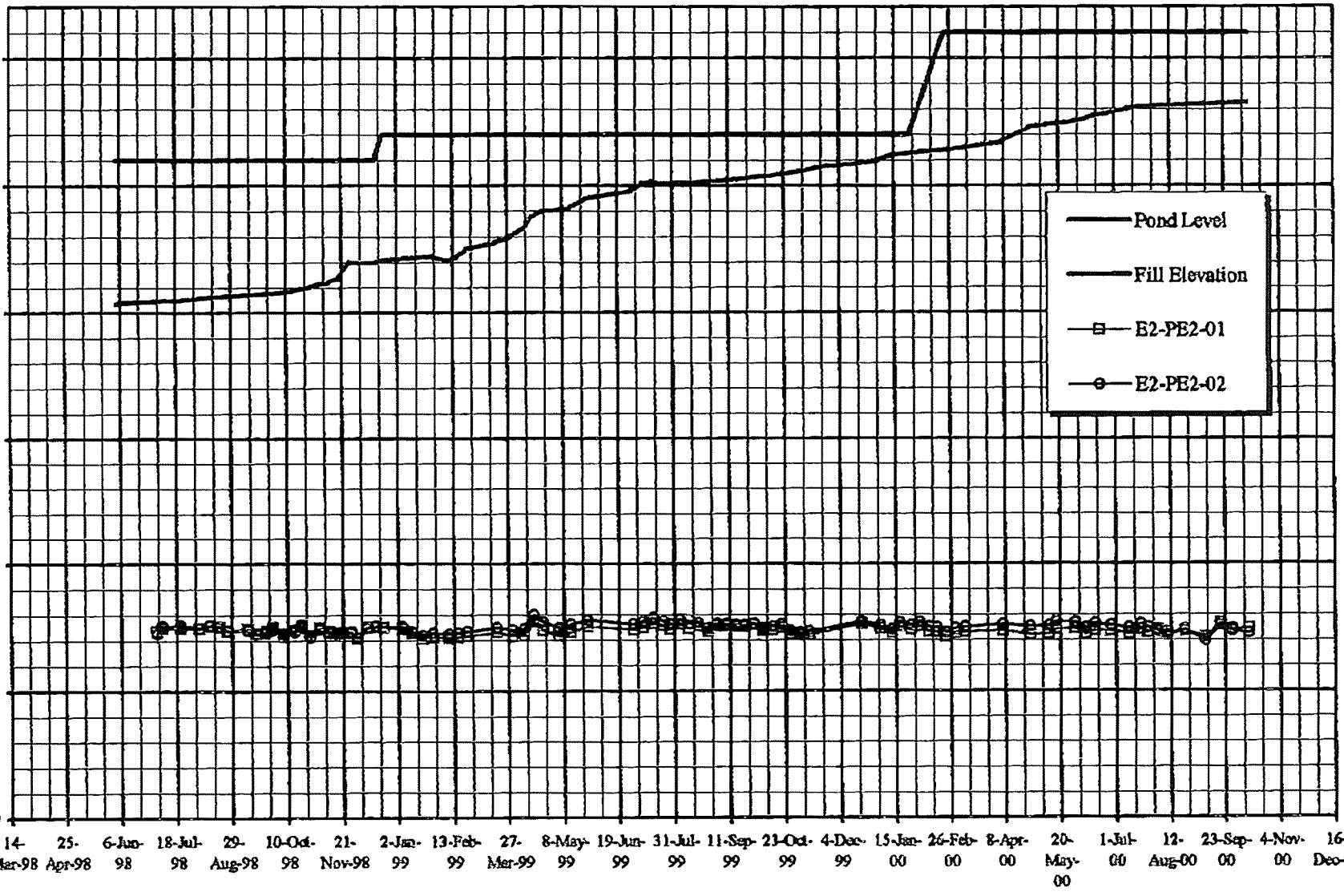
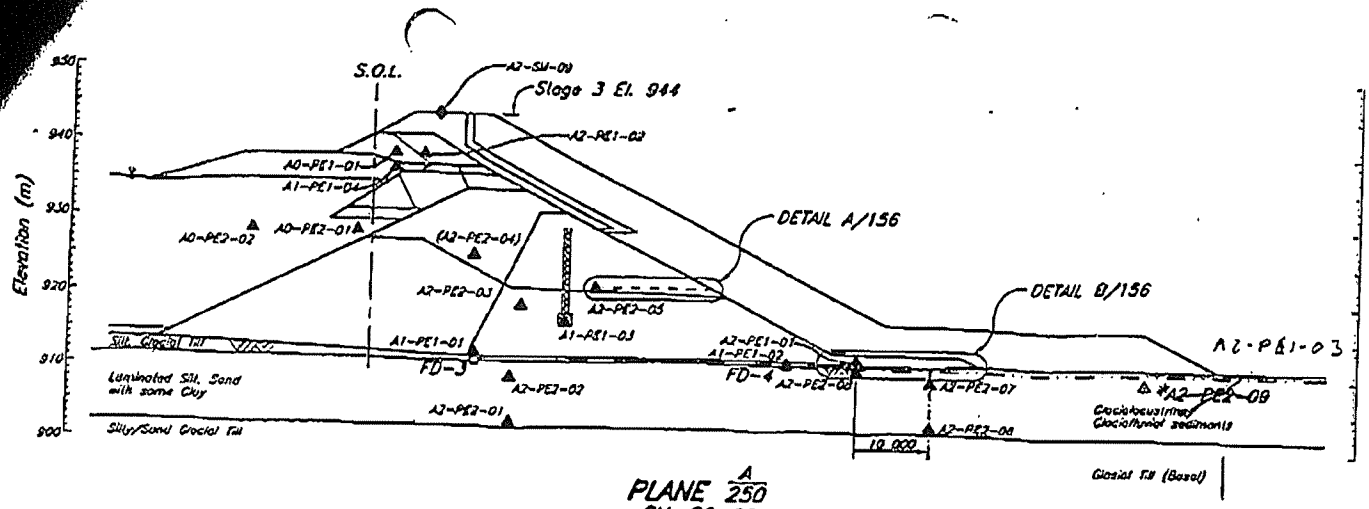
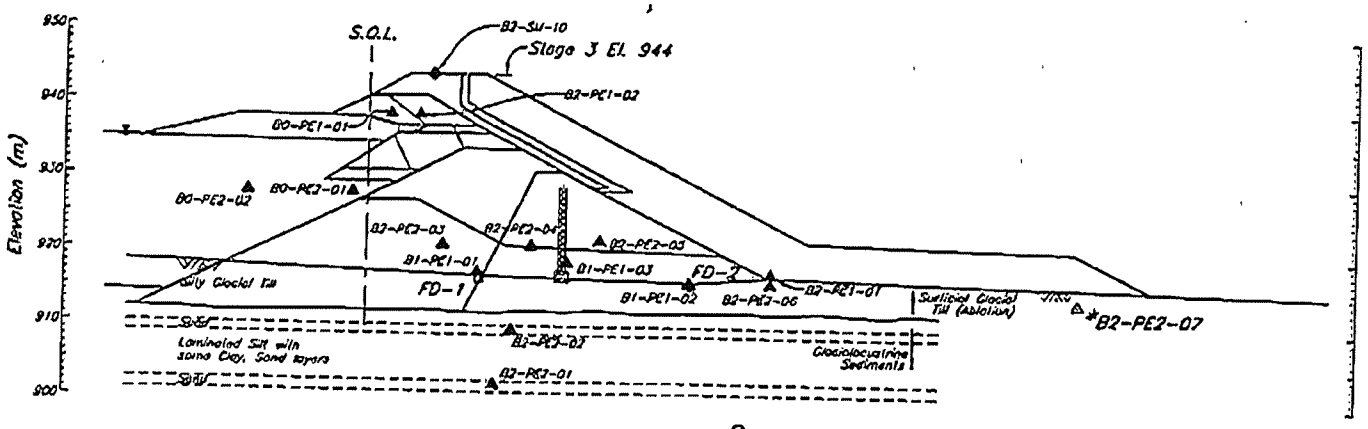


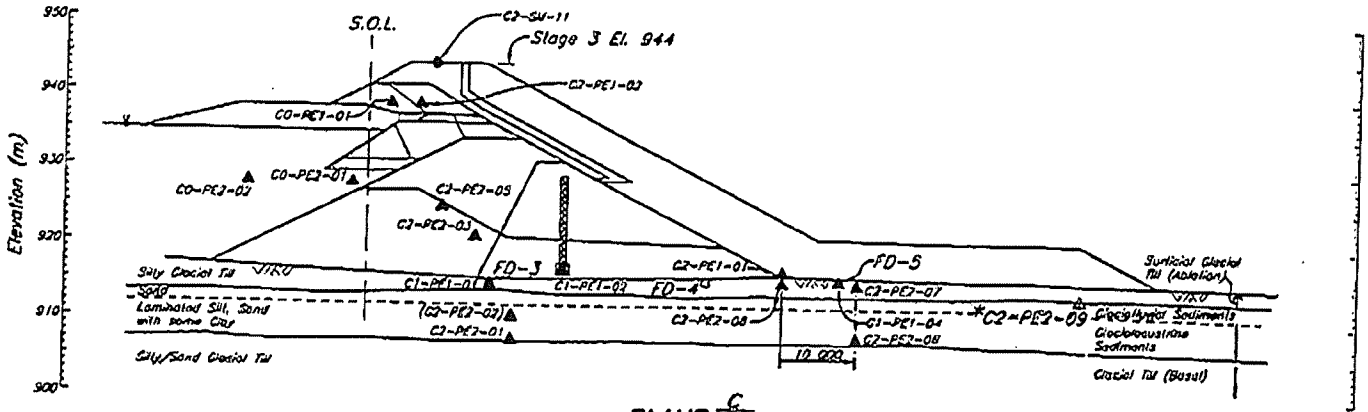
FIGURE 4.5



PLANE $\frac{A}{250}$
CH. 20+00



PLANE $\frac{B}{250}$
CH. 22+40

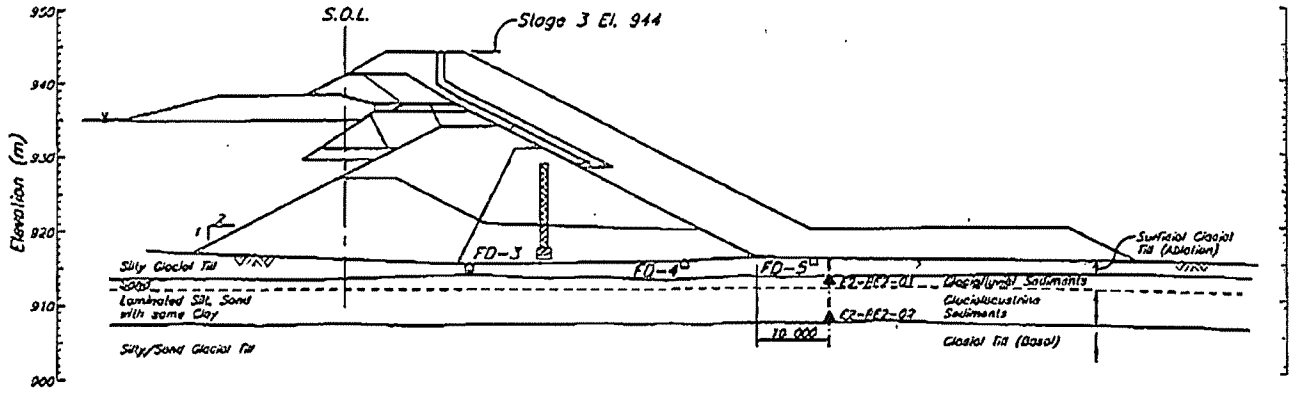


PLANE $\frac{C}{250}$
CH. 18+50

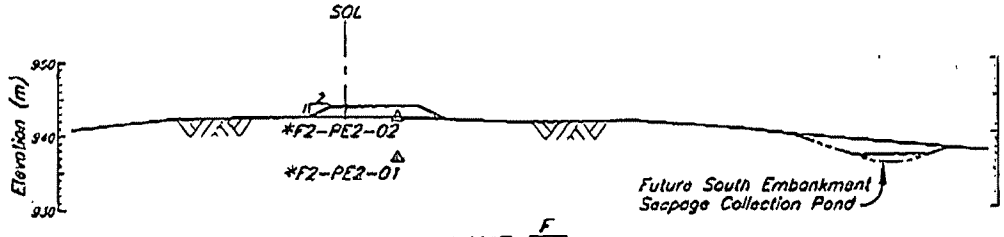
INSTRUMENTATION – SECTIONS 2 OF 2
INSTRUMENTATION – SUMMARY OF INSTALLATION & TYP. DETAILS
INSTRUMENTATION – PLAN
DESCRIPTION
DRAWINGS

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

REV.	DATE	DESCRIPTION
0	2JUN'00	ISSUED FOR CONSTRUCTION
		REVISIONS



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



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

DRG. NO.	DESCRIPTION
258	TSF - STAGE 3 TAILINGS EMBANKMENT - INSTRUMENTATION SUMMARY OF INSTALLATION & TYPICAL DETAILS
254	TSF - STAGE 3 TAILINGS EMBANKMENT - SOUTH EMBANKMENT - INSTRUMENTATION PLAN
250	TSF - STAGE 3 TAILINGS EMBANKMENT - MAIN EMBANKMENT - INSTRUMENTATION PLAN
130	TSF - STAGE 3 SOUTH EMBANKMENT - PLAN AND SECTION
213	TSF - STAGE 3 MAIN EMBANKMENT - SECTIONS AND DETAILS

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D

REVISIONS

14-145-40/MTPO 101

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DATE:	Sept. 21, 2000	**FILE NO.:**	11162/13.F01.F05
TIME:		**REF NO.:**	00-036
OPERATOR:		**PAGES:**	1 of 25
SENDER:	Jeff Clarke	**APPROVED:**	

TO:	KP Vancouver	**FAX :**	(604) 685-0147
ATTN:	Ken Brouwer / Jeremy Kinch		
cc:	George Headley, MEMND (250) 952-0481 Eric Leneve, Don Parsons, MPMC		
SUBJECT:	Mount Polley Stage 3 TSF Construction – Progress Report No. 5		

21/10/2000

→ G. Headley

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

PROGRESS REPORT NO. 5 – September 1 to 16, 2000

SECTION 1.0 – GENERAL

Construction activities over the reporting period have steadily progressed towards completion of the Stage 3 contract for the Main Embankment. Major activities have included continued placement of Zone C, T and F fill zones, as well as the start of Zone S placement on the embankment crest.

As part of the Stage 3 raise at the Perimeter Embankment, MPMC has commenced cycloning operations along the upstream face of the embankment.

1.1 PERSONNEL

Mount Polley Mining Corporation (MPMC) management personnel overseeing the Stage 3 contract are as follows:

Eric Leneve, Tailings Coordinator
Don Parsons, Mine Superintendent

The following Knight Piesold Ltd. (KP) representatives were on site during the reporting period:

Jeff Clarke, Site Engineer (dayshift)
Sarah Griffiths, Site Engineer (nightshift)

The following Tercon Contractors Ltd. (TCL) representatives were on site during the reporting period:

Doug Bain, Site Superintendent
Bill Soare, Dayshift Foreman

Tyrl Summers, Nightshift Foreman

1.2 WEATHER

Weather conditions over the period have been variable, with mixed sun, clouds and rain. There were no weather related delays in the work.

1.3 DESIGN AND CONTRACT DEVELOPMENTS

1.3.1 Contract

Following their brief shutdown, TCL resumed full production (dayshift and nightshift operations) on September 7. Filter sand was placed on September 5 and 6 to allow for advancement of the Zone F fill ahead of the Zone T and C rockfill.

A contract meeting was held on September 15. Construction progress indicates that the contract for the Main Embankment will be complete by the end of September. In terms of total quantities, as shown on Table 2.1, the contract is currently about 92% complete.

1.3.2 Design

MPMC and KP have re-reviewed the scheduling requirements for construction of the Stage 3 raise. The updated water balance and filling schedule indicate that construction of the embankment crests to elevation 942 5 m will provide sufficient freeboard through the 2001 freshet. MPMC therefore plans to construct to 942.5 m this year, and to defer construction above this level until summer 2001.

The change in the construction scheduling does not affect the overall embankment design. Reasons for the change in the filling schedule include a lower than anticipated throughput over the past year, as well as a slightly higher tailings dry density.

MPMC and KP are currently working on finalizing the construction sequence for the Perimeter Embankment.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

MPMC commenced cycloning upstream along the Perimeter Embankment on September 10. Six separators set up on three stands are currently installed in the tailings line, and MPMC are working on setting up and installing the remaining units. Discharge from the separators has so far been discontinuous. MPMC is planning operational trials to optimize use of the separators.

MPMC is planning a mill shutdown and reclaim barge move for September 19. Repairs to the tailings line above the T2 dropbox will also be carried out at this time.

The Main Embankment Seepage Collection Pond was pumped down during the TCL shutdown. The recent rainfall has caused a rising pond level again, however. MPMC has extended the depths of the pumps at the facility to further lower the pond during pumping. The recycle pipeline will be reinstated and the pond pumped down again once construction of the Main Embankment is complete.

1.5 SAFETY

No safety incidents were reported for the period.

SECTION 2.0 – CONSTRUCTION ACTIVITIES

2.1 EQUIPMENT

TCL is maintaining the following equipment on site:

- Excavators – 1 Hitachi EX1100, 1 Cat 375, 1 Cat 322B
- Haul trucks - 5 Cat 773's (1 rental)
- Dozers – 1 Cat D8R, 1 Cat D8N (rental), 1 Cat D6D
- Graders – 1 Cat 16G
- Compactors – 1 Cat CS583, 1 Cat CS563 (rental), 1 Cat 825G
- Water truck, service trucks, fuel trucks, forklift

The Cat 825G compactor was brought to site in preparation for placement of Zone S glacial till.

2.2 ACTIVITIES

The major construction activities for the reporting period are summarized below. Dayshift and nightshift crews have been in operation. A summary of the contract quantities completed over this period and to date is provided on Table 2.1.

Main Embankment (TCL)

The Zones F, T and C fill are being raised up the embankment face to the level at which the zones extend vertically upwards (above approx. El. 939m). Construction above this level has typically proceeded as follows:

- The downstream portion of the existing 2C embankment is cut down and out over the Zone F and Zone T (wide enough for the haul trucks) and compacted in two lifts. Glacial till is then placed to raise the Zone S back up to 941 m.

- The downstream slope of the glacial till is cut vertically using a dozer back to where the upstream edge of the Zone F fill will be located (11.5 m offset from the S.O.L.). The till is incorporated into the Zone C rockfill.

- Zone T and C rockfill is placed adjacent to the glacial till.

The Zone rockfill along the west half of the embankment has been raised to El. 940.5 m. Along the east half it is currently between 936 to 939 m. Construction of the vertical Zone F drain will start once the rockfill is raised to 941 m. The drain will be constructed by excavating down through the placed Zone S and Zone T fills to the top of the sloping portion of the drain, then by placing and compacting filter sand in the trench up to grade.

Placement of the Zone S glacial till began on September 15. The material is being excavated from the northwest portion of Borrow Area No. 2. The till from this area is slightly wet, however, and TCL's equipment is having difficulty travelling over the placed material. Test pits excavated in the southeast portion of the borrow indicate drier material, and TCL is planning to construct a haul road into this area.

South Embankment (TCL)

- No work was completed in this area over the reporting period.

Perimeter Embankment (MPMC)

- As noted previously, MPMC is currently cycloning upstream along the Perimeter Embankment. The cyclones are being moved periodically to discharge to new locations.

Rock Borrow

- TCL is carrying out ongoing drilling and blasting in the borrow.

Miscellaneous

- MPMC has received the results of the analyses on the water sample obtained from the bedrock seepage at the toe of the Main Embankment right abutment (Ch. 15+86). The results differ markedly from the supernatant pond water, and indicate that the seepage is not directly related to water from the pond. Natural seepage from the bedrock is commonly encountered in this area.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

3.1 GENERAL

KP site activities over the reporting period have included the following:

- Inspection and documentation of construction activities.
- QA/QC collection and testing of Zone F control samples, and Zone F, T and C record samples.
- Density testing of Zone S fill.
- Test pits and sample collection in borrow areas.
- Extension of piezometer leads through Stage 3 fill zones.
- Ongoing discussions and correspondence with MPMC and KP Vancouver.
- Preparation of daily inspection reports and bi-weekly Progress Reports.
- Collection and review of embankment monitoring data.

3.2 LABORATORY TESTING

The following samples were collected and tested over the reporting period:

- Zone T record samples R/ZT-3-7 to 9
- Zone F control samples C/ZF-3-9 to 19
- Zone F record samples R/ZF-10 to 23
- Glacial till moisture content samples from Borrow Area No. 2

The results of the testing are provided on the summary Tables 3.1 to 3.4 and gradation plots Figures 3.1 to 3.4.

The results show that the Zone T samples meet the specifications for particle size distribution.

The results for the Zone F record tests show that samples R/ZF-3-14 to 16 fell below the coarse limit of the specified gradation envelope by a maximum of about 6%. This was a result of a filter sand crush completed by MPMC on September 5, where more competent waste rock was incorporated in the crush. However, other control and record samples taken from this material fell within the envelope. The material was also typically included in only one of the two Zone F lifts along the sloping portion of the drain. MPMC has included a blend of more weathered material in subsequent filter sand crush operations, which has resulted in a finer product which falls closer to the centre of the gradation envelope.

SECTION 4.0 – EMBANKMENT MONITORING

Monitoring of tailings embankment instrumentation over the reporting period indicates that the embankment is performing well within design tolerances.

Groundwater monitoring wells GW00-1 to 3, installed between August 28 and September 1, were developed by Aqua Installations Inc. of Williams Lake. MPMC will obtain baseline water quality data from the wells and incorporate them into the groundwater monitoring program.

4.1 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed over the reporting period. Piezometer leads have been extended as necessary through the advancing Stage 3 fills.

The most recent piezometer readings were obtained on September 8. The results of the monitoring are shown on Figures 4.1 to 4.5, and are summarized below. Locations of the piezometers are shown on the attached drawings.

Foundation Piezometers

Most of the Main Embankment foundation piezometers have shown slight decreases in pore water pressure following completion of the downstream buttress.

- Plane A: Largest decrease of 0.54 m at A2-PE2-08 (Below Zone C rockfill). A2-PE2-02 registered an increase of 0.23 m.
- Plane B: Largest decrease of 0.62 m at B2-PE2-06 (Below Zone C rockfill). All other piezometers show decreases of less than 0.5 m.
- Plane C: Largest decrease of 0.48 m at C2-PE2-06 (Below Zone C rockfill). All other piezometers show decreases of less than 0.4 m, except for C2-PE1-03, which registered an increase of 0.11 m.
- Plane E: Largest decrease of 0.44 m at E2-PE2-02.

No changes were noted in the Perimeter Embankment (Plane D) foundation piezometers.

Fill Piezometers

Fill piezometers generally remained static or showed slight increases (less than 0.3 m) in the glacial till. The exception was an increase of 1.73 m at B2-PE2-05 (in glacial till below the Stage 3 rockfill).

Drain Piezometers

All drain piezometers have remained static and at a very low head indicating that the drains are free-draining and functioning as designed.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level.

4.2 DRAIN FLOWS

Drain outlets in the Main Embankment Seepage Collection Pond drain sump have been submerged due to the rising water level in the pond. Monitoring of the flows will resume once MPMC pumps down the pond following completion of the Main Embankment.

SECTION 5.0 – ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC is planning trials with the Linatex separators to optimize cycloning operations along the Perimeter Embankment.
- MPMC and KP are continuing to review the requirements and scheduling for construction of the Perimeter Embankment.
- MPMC is planning for removal of the Polley Lake Pipeline from within the Perimeter Embankment crest (at El. 940 m) as part of the Stage 3 work.

Submitted by:

Jeff Clarke
Knight Piesold Ltd.

Distribution: Eric Lenieve, Don Parsons – MPMC
George Headley – MEMND
Ken Brouwer – KP Vancouver

TABLE 2.1

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

SUMMARY OF CONTRACT QUANTITIES - To September 16, 2000

C:\Mt. Polley - Stage 3\Progress Reports\[Table 2.1 - Quantities.xls]Sheet1 17-Sep-00

Material / Item	Quantity Over Reporting Period		Quantity to Date		Contract Quantity		Percent Complete (%)
Removal of Topsoil /Unsuitable Foundation Material	0	m^3	46,528	m^3	49,500	m^3	100.0
Removal of Unsuitable from Embankment Slopes	14,820	m^3	20,020	m^3	11,000	m^3	100.0
Supply and Place Zone T and C	85,990	m^3	372,846	m^3	388,000	m^3	96.1
Supply and Place Zone F	8,000	m^3	21,500	m^3	24,500	m^3	87.8
Supply and Place Zone S	4,000	m^3	4,000	m^3	26,200	m^3	15.3
Totals			458,846	m^3	499,200	m^3	91.9

Notes:

1. Volumes are based on both survey information and load counts.
2. Volumes for Zone F are assumed based on an estimated placement rate of 1,000 m^3 per shift.
3. Volumes for contract quantities are for both the Main and South Embankments.
4. Volumes for contract quantities have been revised based on a crest elevation of 942.5 m.

TABLE 3.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE T RECORD TESTS - SUMMARY SHEET

#N/A

Date Printed 17-Sep-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
3-Jun-00	R/ZT-3-1	Zone T Fill	20.0	61.5	15.7	2.8
16-Jul-00	R/ZT-3-2	Zone T Fill	20.0	58.7	16.2	5.1
25-Jul-00	R/ZT-3-3	Zone T Fill	13.9	66.1	18.4	1.6
27-Jul-00	R/ZT-3-4	Zone T Fill	22.0	65.0	12.5	0.5
22-Aug-00	R/ZT-3-5	Zone T Fill , Chainage: 23+00, Elevation: 929 m	37.2	36.1	24.9	1.8
20-Aug-00	R/ZT-3-6	Zone T Fill, Chainage: 19+50, Elevation: 929 m	34.5	40.0	24.0	1.5
29-Aug-00	R/ZT-3-7	Zone T Fill, Chainage: 20+00, Elevation: 932 m	5.0	57.2	36.0	1.8
9-Sep-00	R/ZT-3-8	Zone T Fill, Chainage : 18+00, Elevation: 936 m	20.0	59.7	18.3	2.0
12-Sep-00	R/ZT-3-9	Zone T Fill, Chainage: 26+00, Elevation: 940 m	10.0	62.7	25.5	1.8
		MEAN	20.3	56.3	21.3	2.1
		MEDIAN	20.0	59.7	18.4	1.8
		MAXIMUM	37.2	66.1	36.0	5.1
		MINIMUM	5.0	36.1	12.5	0.5

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

TABLE 3.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE C RECORD TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone C\[Zone C Summary.xls]Record Summary — Date Printed 17-Sep-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution) Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
2-Aug-00	R/ZC-3-1	Zone C Fill	56.4	34.7	8.4	0.5
21-Aug-00	R/ZC-3-2	Zone C Fill, Chainage: 22+55, Elevation 928.3	50.6	36.3	12.8	0.3
24-Aug-00	R/ZC-3-3	Zone C Fill, Chainage: 22+40, Elevation 929m	48.6	35.5	15.3	0.5
		MEAN	51.9	35.5	12.2	0.4
		MEDIAN	50.6	35.5	12.8	0.5
		MAXIMUM	56.4	36.3	15.3	0.5
		MINIMUM	48.6	34.7	8.4	0.3

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

TABLE 3.3

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F CONTROL TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone F\[Zone F Summary.xls]Record Summary Date Printed 17-Sep-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution) Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
17-Jul-00	C/ZF-3-1	Conveyor	0.0	64.2	32.9	2.9
19-Jul-00	C/ZF-3-2	Stockpile	0.0	50.9	45.4	3.7
19-Jul-00	C/ZF-3-3	Conveyor	0.0	61.4	36.2	2.4
20-Jul-00	C/ZF-3-4	Stockpile	0.0	49.9	47.0	3.1
1-Aug-00	C/ZF-3-5	Stockpile	0.0	61.0	38.0	1.0
25-Aug-00	C/ZF-3-6	Conveyor	0.0	60.5	38.0	1.5
25-Aug-00	C/ZF-3-7	Stockpile	0.0	70.2	27.7	2.1
25-Aug-00	C/ZF-3-8	Stockpile	0.0	46.7	51.0	2.3
6-Sep-00	C/ZF-3-9	Stockpile	0.0	55.4	42.8	1.8
6-Sep-00	C/ZF-3-10	Stockpile	0.0	63.4	35.5	1.1
8-Sep-00	C/ZF-3-11	Stockpile	0.0	60.7	37.9	1.3
9-Sep-00	C/ZF-3-12	Stockpile	0.0	53.5	45.3	1.2
9-Sep-00	C/ZF-3-13	Stockpile	0.0	47.1	51.2	1.7
9-Sep-00	C/ZF-3-14	Stockpile	0.0	55.5	43.4	1.1
12-Sep-00	C/ZF-3-15	Stockpile	0.0	65.5	31.9	2.6
12-Sep-00	C/ZF-3-16	Stockpile	0.0	60.1	38.3	1.6
13-Sep-00	C/ZF-3-17	Stockpile	0.0	44.7	51.2	4.0
13-Sep-00	C/ZF-3-18	Stockpile	0.0	45.0	51.9	3.0
14-Sep-00	C/ZF-3-19	Stockpile	0.0	39.9	57.8	2.2
		MEAN	0.0	55.6	42.3	2.2
		MEDIAN	0.0	55.5	42.8	2.1
		MAXIMUM	0.0	70.2	57.8	4.0
		MINIMUM	0.0	39.9	27.7	1.0

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

TABLE 3.4

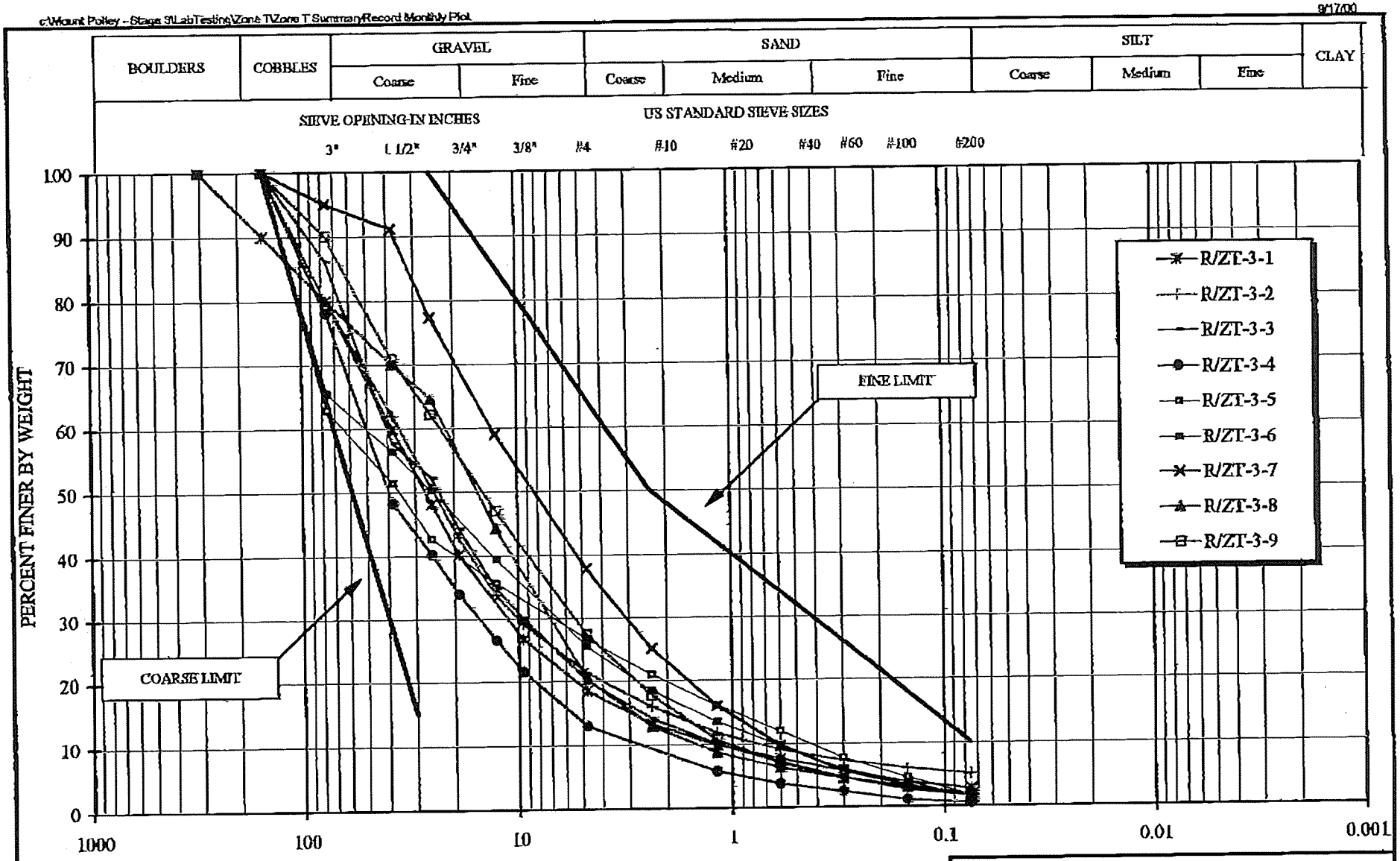
MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F RECORD TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone F\[Zone F Summary.xls]Record Summary — Date Printed 17-Sep-00

Date Sampled	Sample No.	Location	Chainage	Elevation	C3 (Particle Size Distribution) Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
19-Aug-00	R/ZF-3-1	Zone F Fill	26+10	935 m	0.0	48.2	48.7	3.1
20-Aug-00	R/ZF-3-2	Zone F Fill	17+10	935 m	0.0	50.0	45.8	4.2
21-Aug-00	R/ZF-3-3	Zone F Fill	20+00	933 m	0.0	53.4	43.6	3.0
23-Aug-00	R/ZF-3-4	Zone F Fill	20+05	935 m	0.0	46.3	50.4	3.3
24-Aug-00	R/ZF-3-5	Zone F Fill	25+50	935 m	0.0	57.9	39.0	3.1
26-Aug-00	R/ZF-3-6	Zone F Fill	19+00	935 m	0.0	52.2	44.1	3.7
26-Aug-00	R/ZF-3-7	Zone F Fill	21+60	935 m	0.0	53.6	45.7	0.7
27-Aug-00	R/ZF-3-8	Zone F Fill	22+00	935 m	0.0	58.0	39.6	2.4
28-Aug-00	R/ZF-3-9	Zone F Fill	24+50	937 m	0.0	54.5	41.7	3.8
29-Aug-00	R/ZF-3-10	Zone F Fill	23+40	936 m	0.0	61.7	35.6	2.7
30-Aug-00	R/ZF-3-11	Zone F Fill	21+80	937 m	0.0	51.3	45.1	3.6
6-Sep-00	R/ZF-3-12	Zone F Fill	16+20	940 m	0.0	61.0	36.9	2.1
7-Sep-00	R/ZF-3-13	Zone F Fill	21+30	940 m	0.0	62.1	35.5	2.3
8-Sep-00	R/ZF-3-14	Zone F Fill	16+40	939 m	0.0	56.8	41.0	2.1
8-Sep-00	R/ZF-3-15	Zone F Fill	17+50	937 m	0.0	60.3	37.4	2.3
8-Sep-00	R/ZF-3-16	Zone F Fill	18+50	937 m	0.0	68.5	29.1	2.4
9-Sep-00	R/ZF-3-17	Zone F Fill	21+40	937 m	0.0	53.4	43.1	3.4
9-Sep-00	R/ZF-3-18	Zone F Fill	22+20	937 m	0.0	54.7	42.9	2.4
10-Sep-00	R/ZF-3-19	Zone F Fill	25+50	938 m	0.0	55.4	40.9	3.7
10-Sep-00	R/ZF-3-20	Zone F Fill	22+80	937 m	0.0	56.4	41.4	2.2
12-Sep-00	R/ZF-3-21	Zone F Fill	22+00	939 m	0.0	48.5	49.1	2.4
14-Sep-00	R/ZF-3-22	Zone F Fill	19+00	939 m	0.0	46.3	50.4	3.3
14-Sep-00	R/ZF-3-23	Zone F Fill	17+50	939 m	0.0	50.3	46.9	2.8
				MEAN	0.0	54.8	42.3	2.8
				MEDIAN	0.0	54.5	42.9	2.8
				MAXIMUM	0.0	68.5	50.4	4.2
				MINIMUM	0.0	46.3	29.1	0.7

Notes:
1) C3 (Particle Size Distribution) - ASTM D422



MOUNT POLLEY MINING CORPORATION

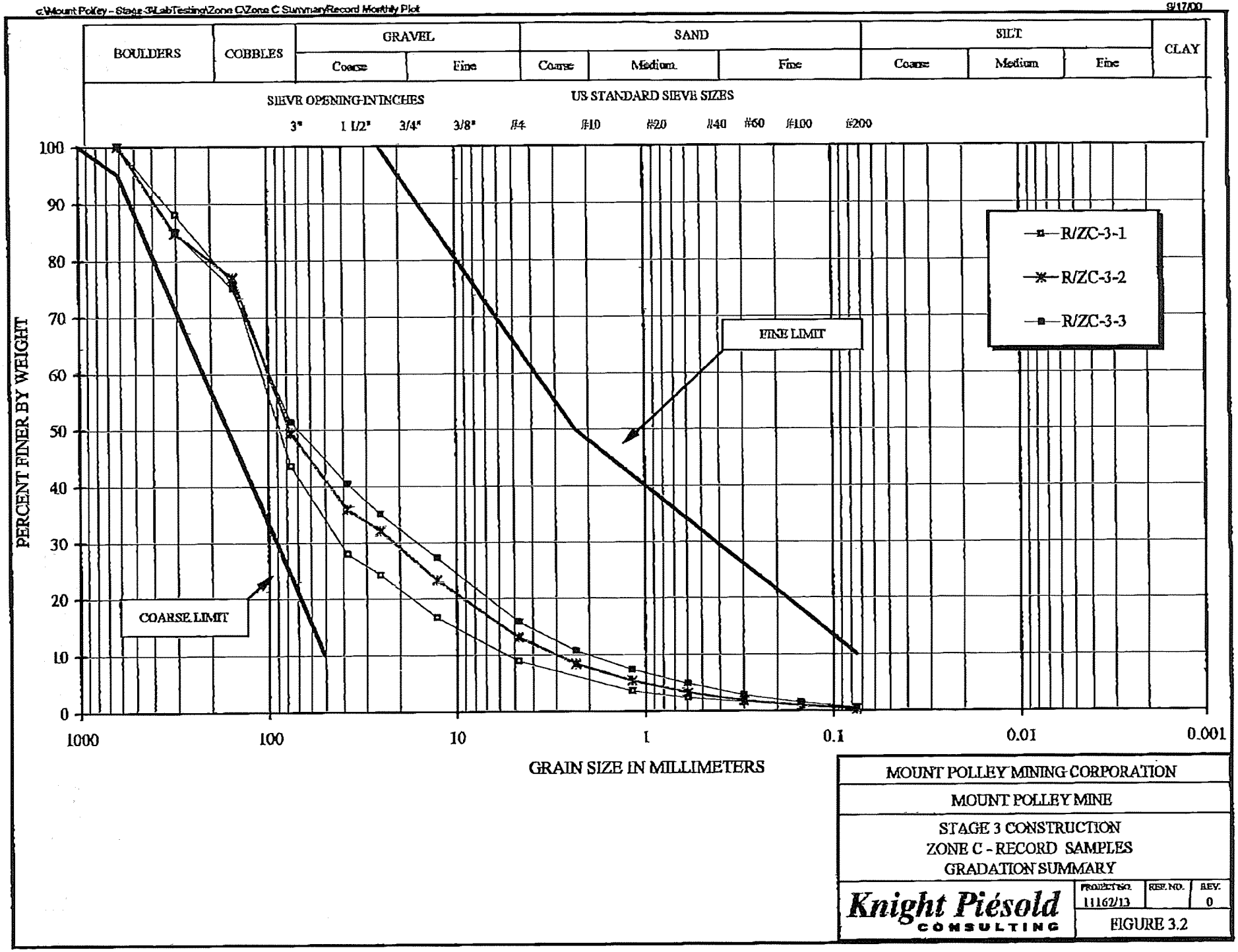
MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE T - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
1162/13		0

FIGURE 3.1



MOUNT POLLEY MINING CORPORATION

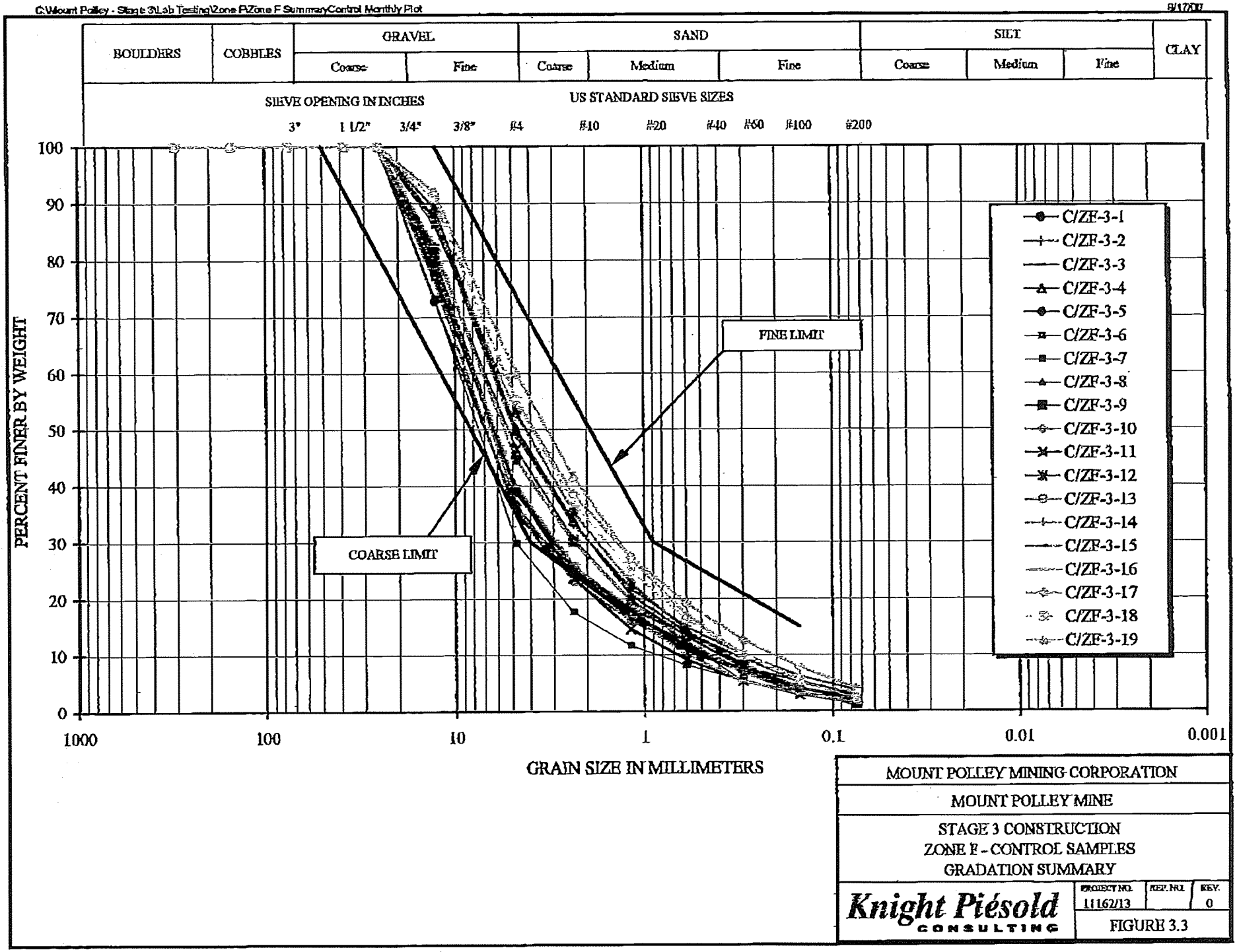
MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE C - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.2



MOUNT POLLEY MINING CORPORATION

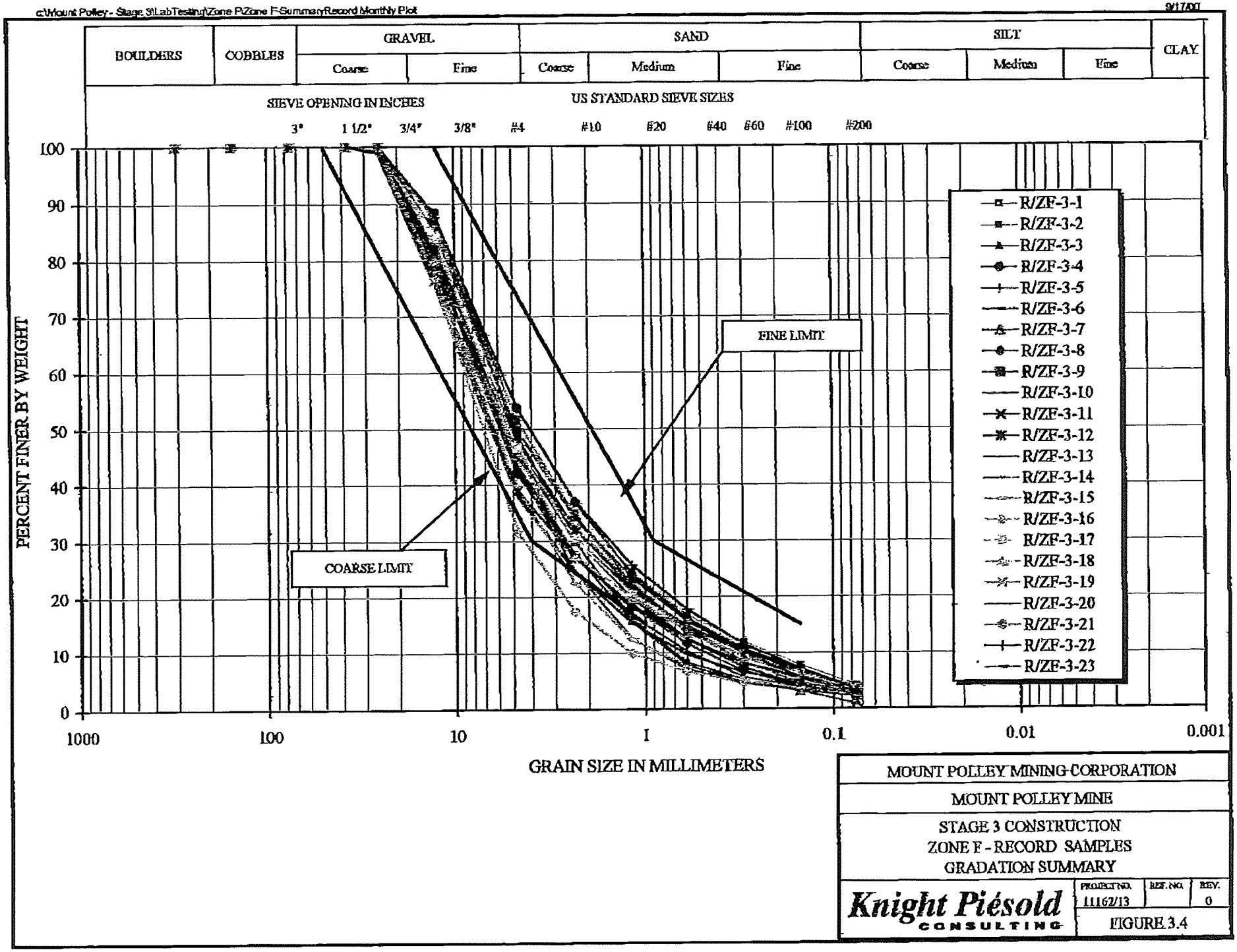
MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE F - CONTROL SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.3



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE F - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.4

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

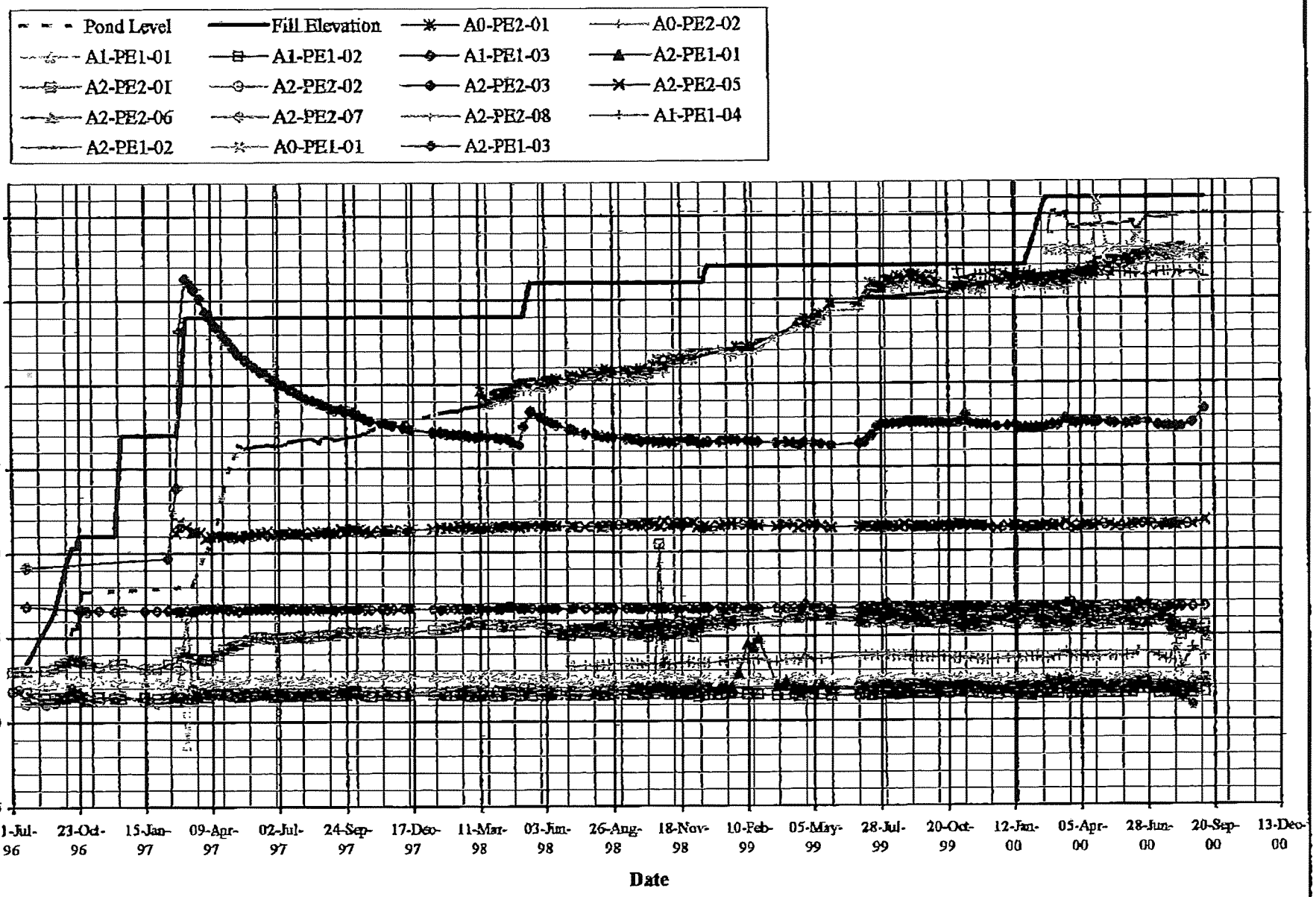


FIGURE 4.1

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

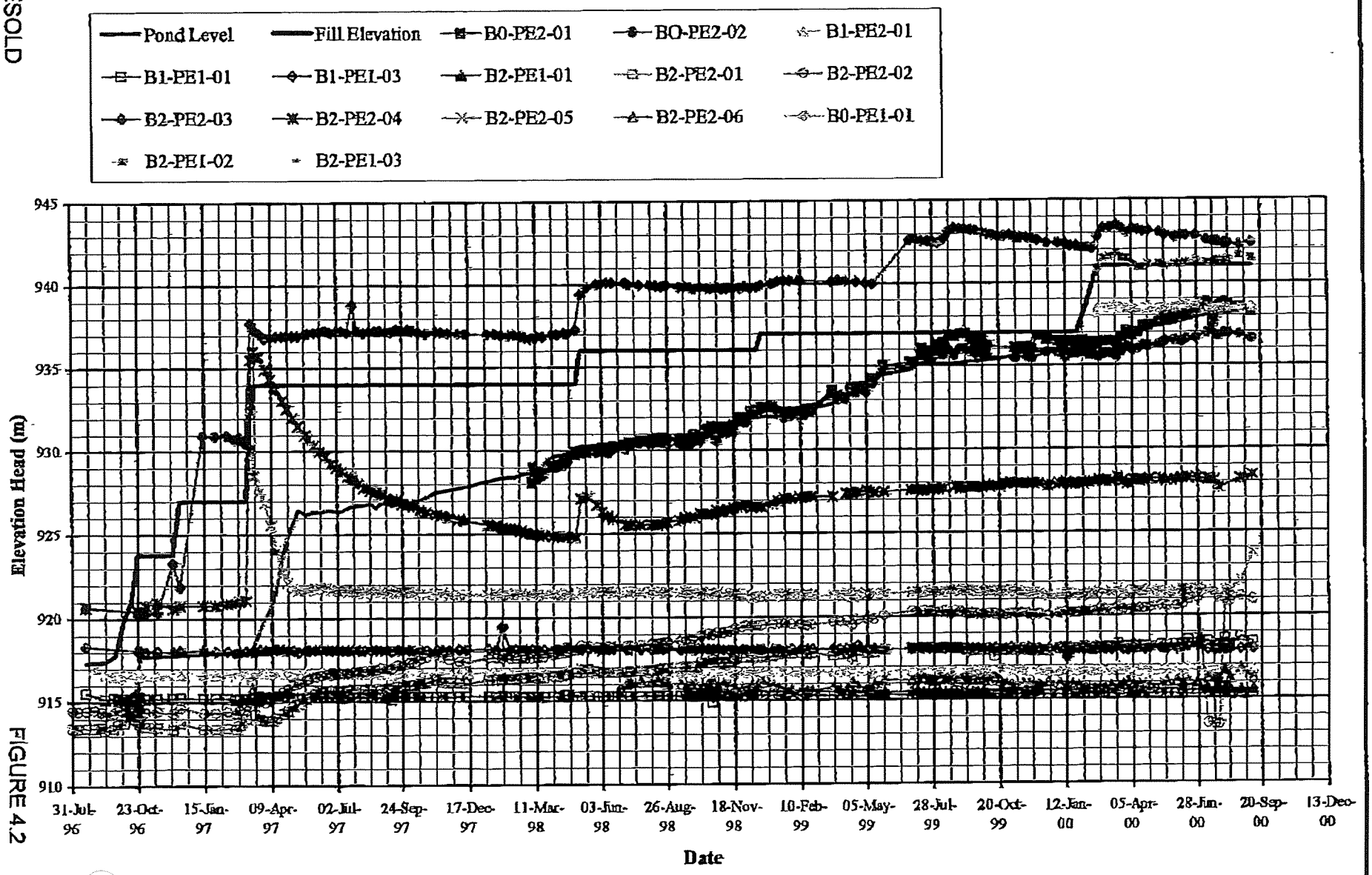


FIGURE 4.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

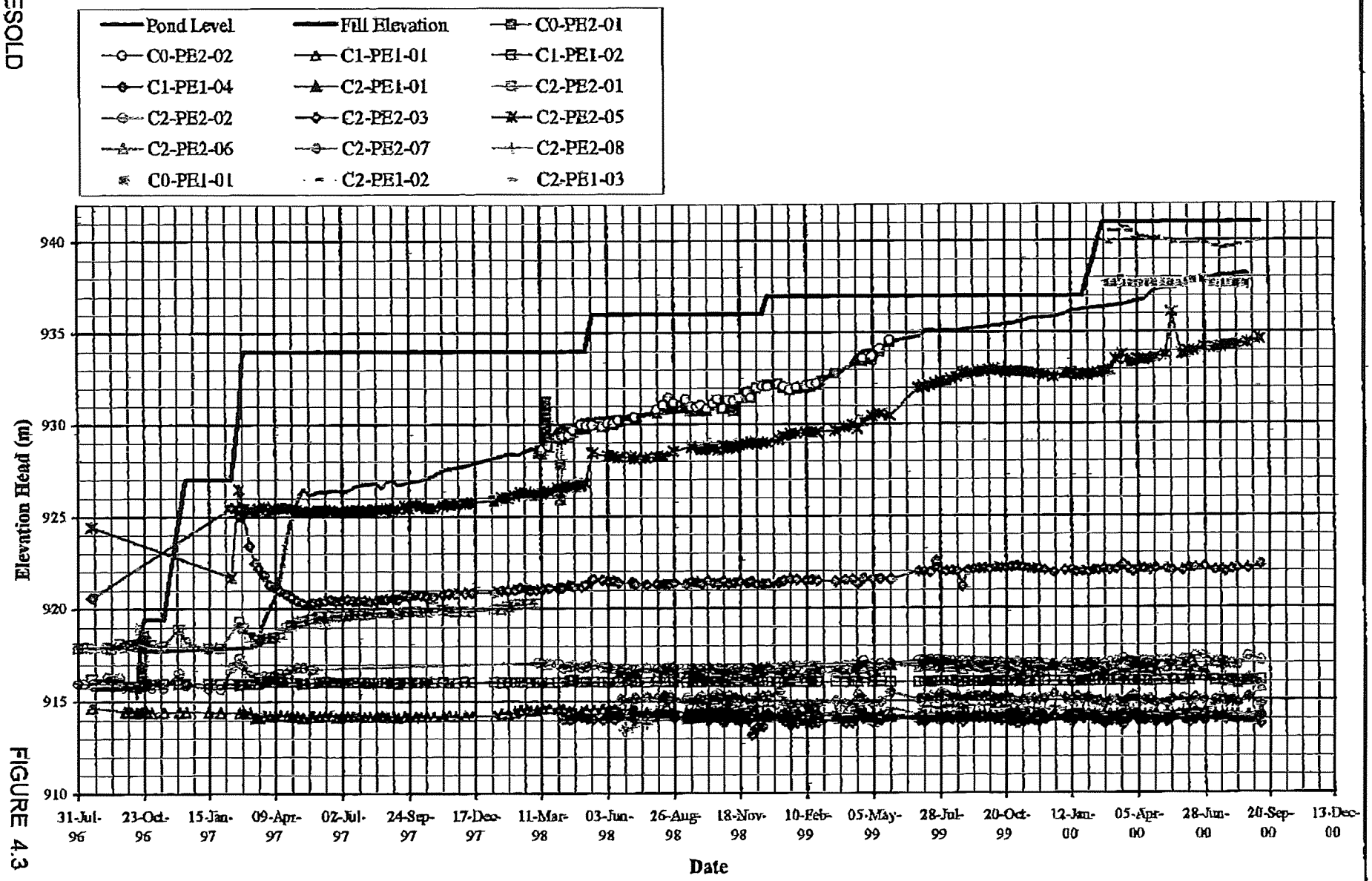


FIGURE 4.3

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

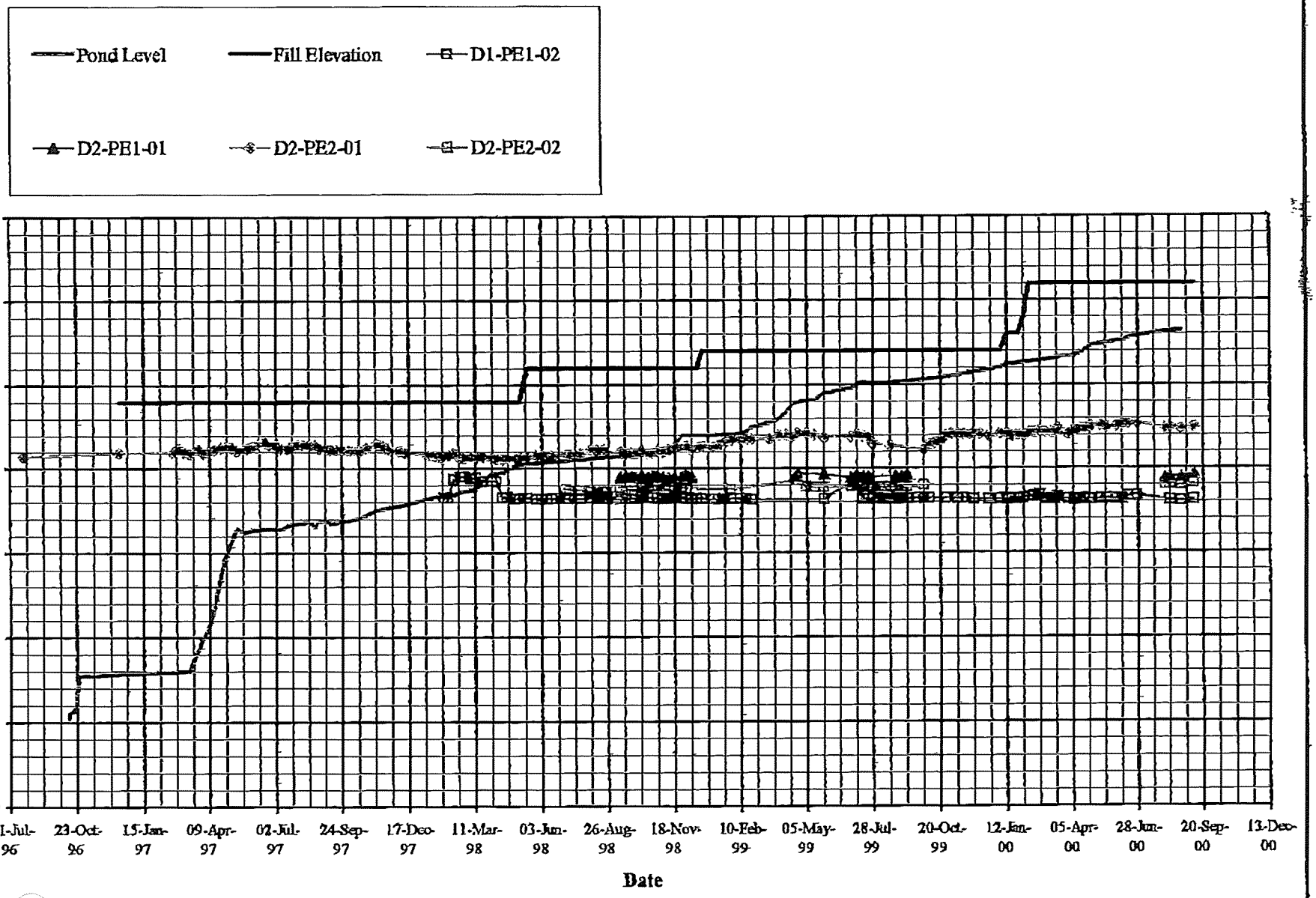


FIGURE 4.4

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

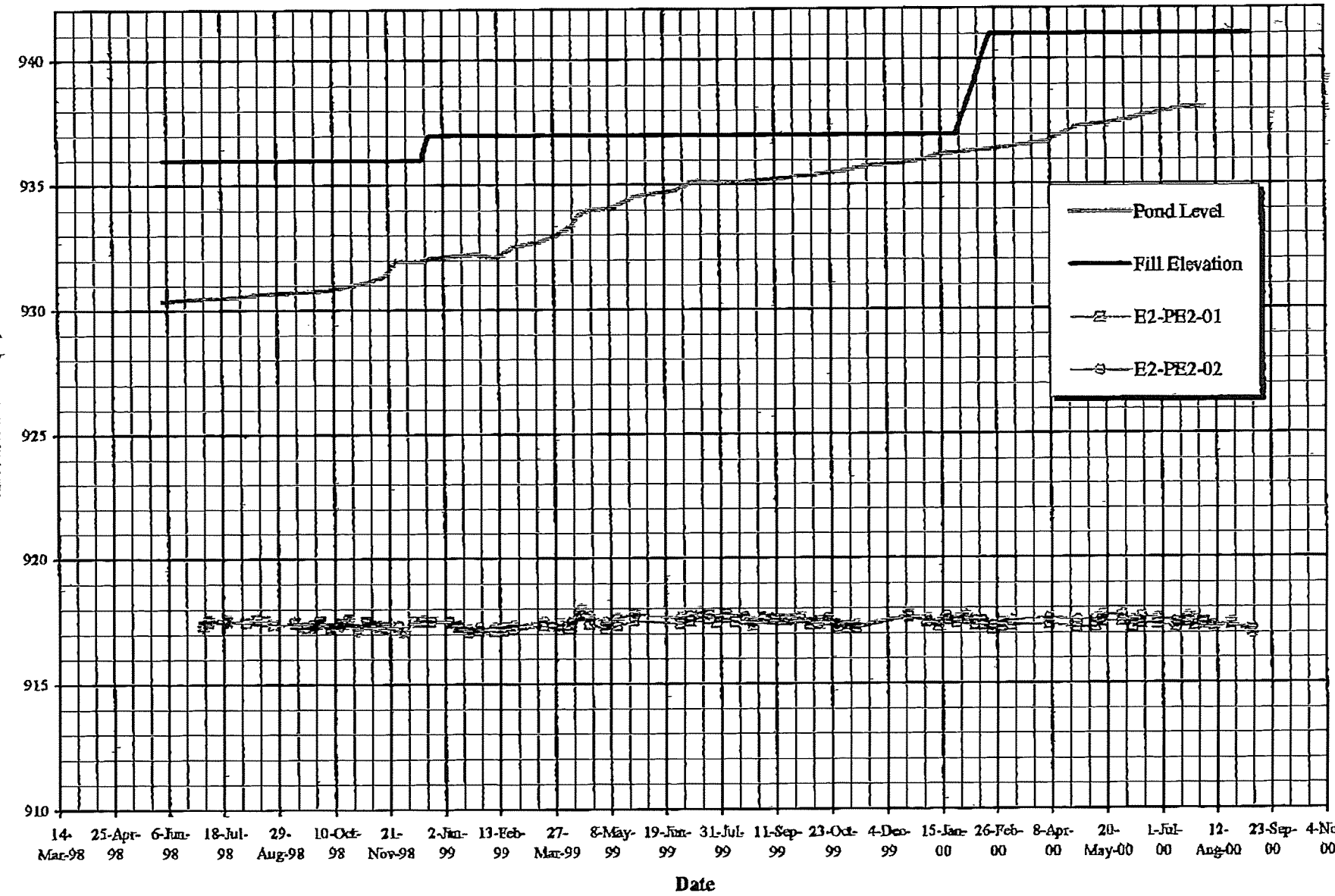
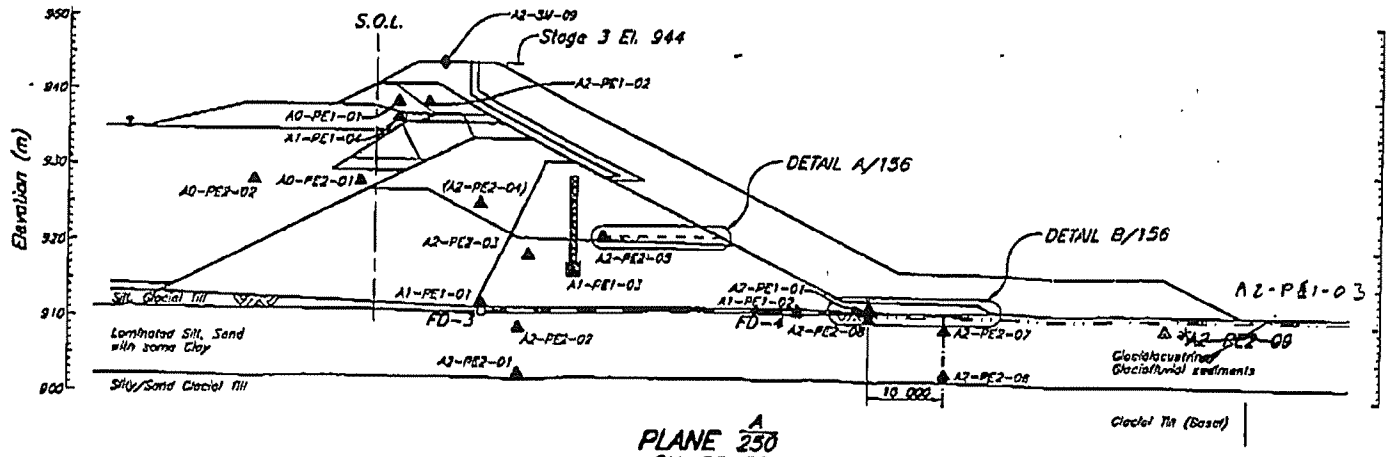
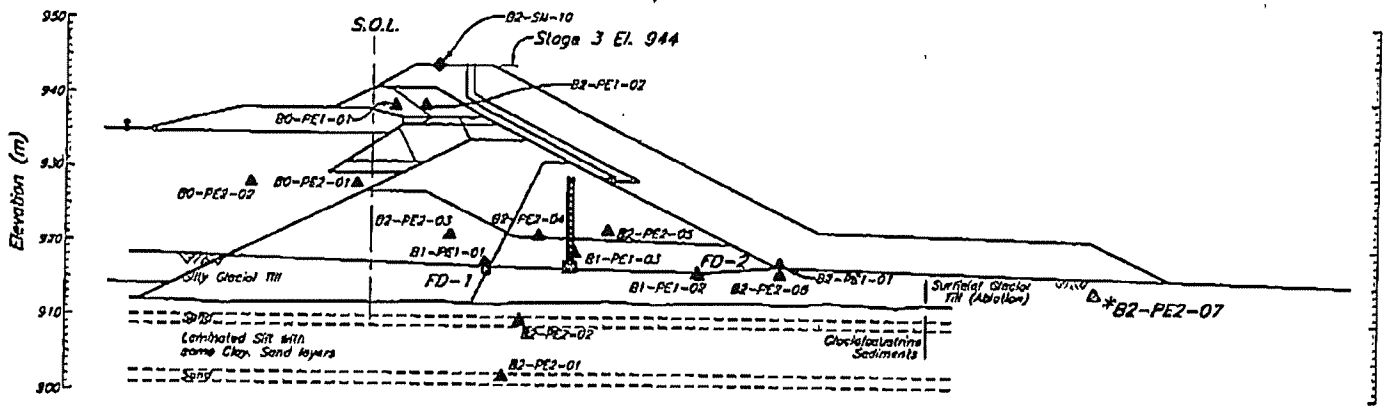


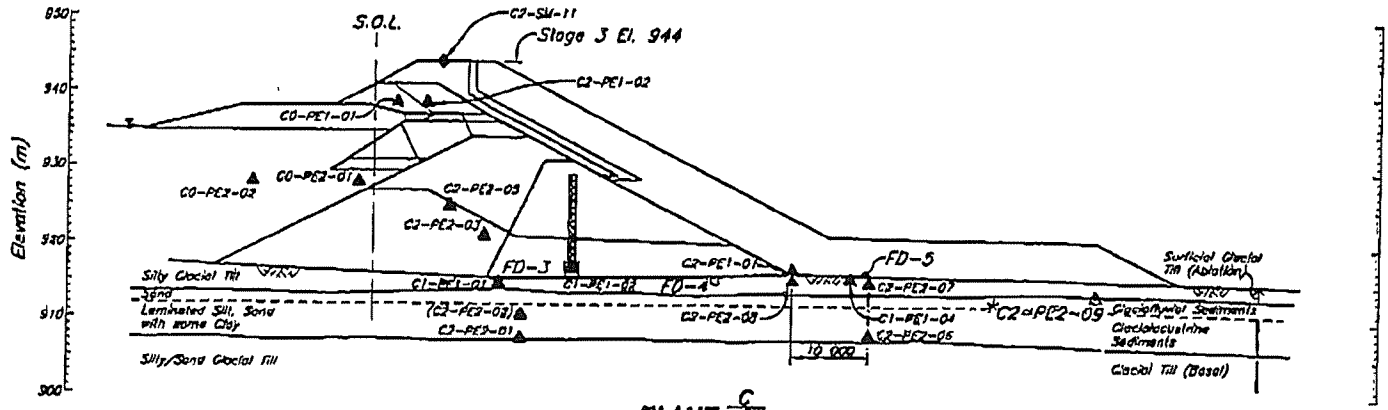
FIGURE 4.5



PLANE A/250
CH. 20+00



PLANE B/250
CH. 22+40



PLANE C/250
CH. 18+50

IT - INSTRUMENTATION - SECTIONS 2 OF 2
IT - INSTRUMENTATION - SUMMARY OF INSTALLATION & TYP. DETAILS
IT - INSTRUMENTATION - PLAN

DESCRIPTION
RENCE DRAWINGS

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

REV.	DATE	DESCRIPTION
0	2JUN'00	ISSUED FOR CONSTRUCTION
		REVISIONS

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

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

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
250	TSF - STAGE 3 TAILINGS EMBANKMENT - MAIN EMBANKMENT - INSTRUMENTATION PLAN
130	TSF - STAGE 3 SOUTH EMBANKMENT - PLAN AND SECTION
219	TSF - STAGE 3 MAIN EMBANKMENT - SECTIONS AND DETAILS

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D

REVISIONS

Knight Piésold CONSULTING

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DATE:	Sept. 1, 2000	**FILE NO.:**	11162/13.F01.F05
TIME:		**REF NO.:**	00-034
OPERATOR:		**PAGES:**	1 of 26
SENDER:	Jeff Clarke	**APPROVED:**	

TO:	KP Vancouver	**FAX :**	(604) 685-0147
ATTN:	Ken Brouwer / Jeremy Kinch		
cc:	George Headley, MEMND (250) 952-0481 Eric Leneve, Don Parsons, MPMC		
SUBJECT:	Mount Polley Stage 3 TSF Construction – Progress Report No. 4		

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

PROGRESS REPORT NO. 4 – August 7 to September 1, 2000

SECTION 1.0 –GENERAL

Stage 3 construction has steadily progressed over the reporting period. Major activities have included placement of Zone C, T and F fill zones at the Main Embankment, and preparation work at the Perimeter and South Embankments.

1.1 PERSONNEL

Mount Polley Mining Corporation (MPMC) management personnel overseeing the Stage 3 contract are as follows:

Eric Leneve, Tailings Coordinator
Don Parsons, Mine Superintendent

The following Knight Piesold Ltd. (KP) representatives were on site during the reporting period:

Jeremy Kinch, Site Engineer – Left site August 14.
Jeff Clarke, Site Engineer – Arrived August 14.
Sarah Griffiths, Site Engineer – Arrived August 19 to monitor nightshift construction.

The following Tercon Contractors Ltd. (TCL) representatives were on site during the reporting period:

Doug Bain, Site Superintendent
Bill Soare, Dayshift Foreman
Tyrl Summers, Nightshift Foreman

Mr. George Headley of Ministry of Energy and Mines and Northern Development (MEMND) visited the site on August 17.

Mr. Ken Brouwer, Project Director for KP visited the site on August 31.

1.2 WEATHER

Weather conditions were generally sunny and warm up until August 17. Conditions have been variable since then, with mixed sun, clouds and rain. There were no weather related delays in the work.

1.3 DESIGN AND CONTRACT DEVELOPMENTS

1.3.1 Contract

TCL have indicated that the construction contract for the Main Embankment will be complete by about the end of September. In terms of total quantities, as shown on Table 2.1, the contract is currently about 70% complete.

TCL have requested payment for as-built quantities of Zone F material, on the basis that the irregular, stripped face of the embankment and difficulties with survey layout will lead to overbuild of this zone. They have also requested payment for foundation preparation on the embankment face. MPMC and KP have reviewed the contract information, and found that changes in payment for these items are not warranted.

TCL shut down nightshift rockfill placement on August 26. Dayshift rockfill placement shut down on August 30. Placement of the Zone T and C fills was proceeding at a faster rate than Zone F, which is being placed only on nightshift (the Zone F filter sand is being hauled from the mine by a subcontractor, Lake Excavating Ltd. of Williams Lake). The purpose of the shutdown is to allow for advancement of the Zone F fill ahead of the rockfill, as well as to provide a break for the TCL crew. TCL will maintain a skeleton crew on site for spreading and compacting the Zone F fill during the shutdown. Full production will resume again on September 7.

TCL has expressed concern over the haul route from the rock borrow (Zone T road) which will be affected by construction activities at the Perimeter Embankment. MPMC will inform

TCL of the scheduling for the Perimeter Embankment construction as it is finalized (see Below).

1.3.2 Design

MPMC and KP are currently re-reviewing the scheduling requirements for construction of the Perimeter Embankment. MPMC have updated the Tailings Facility water balance, and have provided the information to KP Vancouver for review in conjunction with the filling schedule.

During his visit to site, Mr. Headley inquired about placement of Zone C rockfill directly against the Main Embankment glacial till below elevation 928.5 m. His concern was related to filter relationships in this area. KP will issue a letter addressing this concern.

At the request of MPMC, KP have mapped exposed walls in the rock borrow and carried out a stability assessment and design. The results of this work have been provided in a letter report to MPMC dated August 22.

There were no design changes over this period.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

Tailings discharge into the facility continued from the Main Embankment until August 18, when MPMC moved discharge to the middle of the Perimeter Embankment due to the line sanding up. Tailings beach is currently exposed upstream all along the Perimeter Embankment and along the Main Embankment west to Ch. 18+50. From 18+50 to the right abutment the pond is against the embankment. The tailings line has subsequently been removed from the crest of the Main Embankment in preparation for construction.

MPMC is currently working on setting up the Linatex separators for installation and subsequent cycloning along the Perimeter Embankment.

The recent rainfall has caused rising water levels in the Seepage Collection Ponds below both embankments. MPMC is currently pumping from the Perimeter Embankment Collection Pond, and is planning to pump from the Main Embankment Pond during the TCL shutdown.

1.5 SAFETY

No safety incidents were reported for the period.

MPMC have completed construction of safety berms along haul routes.

In response to recommendations from the Mines Inspector, Tercon has installed single lane traffic signs on the access road from the rock borrow.

MPMC is working with an excavator to slope back the top of the rock borrow, and is planning on scaling the walls.

TCL have completed spindle checks on the three rental haul trucks. All of the trucks passed inspection.

SECTION 2.0 – CONSTRUCTION ACTIVITIES

2.1 EQUIPMENT

TCL has used the following equipment to carry out work over this period:

- Excavators – 1 Hitachi EX1100, 1 Cat 375, 1 Cat 322B
- Haul trucks - 7 Cat 773's (3 rentals)
- Dozers – 1 Cat D8R, 1 Cat D8N (rental), 1 Cat D6D
- Graders – 1 Cat 16G
- Compactors – 1 Cat CS583, 1 Cat CS563 (rental)
- Water truck, service trucks, fuel trucks, forklift

The Hitachi EX1100 was put into service in the rock borrow on August 12, replacing the Cat 375 and increasing rockfill production rates.

2.2 ACTIVITIES

The major construction activities for the reporting period are summarized below. Dayshift and nightshift crews have been in operation. A summary of the contract quantities completed over this period and to date are provided on Table 2.1.

Main Embankment (TCL)

- Zone C rockfill Placement – the Main Embankment downstream buttress was completed on August 10, and Zone C placement subsequently began up the embankment face. The elevation of the rockfill is currently between El. 930 to 935 m. Placement of the rockfill is typically at a rate of about 3,500 to 5,000 m^3 per shift.

- Stripping of Main Embankment Face – the downstream face was stripped above El. 929.0 m to remove unsuitable, loose material in preparation for Zone F placement. A total of about 20,000 m^3 was removed and hauled to the spoil area near Borrow No.2.

- Zone F filter sand placement – Zone F placement commenced on August 17. The material is being hauled down from the mill site on nightshift by a subcontractor, Lake Excavating Ltd. of Williams Lake, and stockpiled along the dam. TCL is placing the material by pushing it upslope as far as practicable in two 0.5 m lifts. Each lift is compacted by multiple passes of a vibratory compactor. Zone F is extended further upslope as the adjacent Zone T and C rockfills are raised. Approximately 1000 m^3 is being placed per shift.

- Zone T rockfill placement – Zone T is being placed adjacent to Zone F, and comprises the finer material from the rock borrow. It is typically being placed by pushing it upslope a short distance (6 m), and is compacted using the vibratory compactor and by routing the haul trucks over it as the adjacent Zone C is raised (Zone C is placed parallel to the dam axis).

South Embankment (TCL)

- Foundation Excavation – stripping of the embankment footprint continued until August 10. Some work is still required in this area.

Perimeter Embankment (MPMC)

- The entire downstream face of the embankment has been stripped to remove unsuitable, loose and wet material in preparation for construction. The material has been hauled to the waste dump adjacent to the Polley Lake Pipeline road.

Rock Borrow

- TCL is carrying out ongoing drilling and blasting in the borrow.
- MPMC have pulled back the tops of the slopes in the rock borrow. Scaling of the walls is still required.

Miscellaneous

- A wet area was noted in the Stage 2A Zone T haul road at the downstream toe of the Main Embankment right abutment (Ch. 15+86) near the Upstream Toe Drain Outlet Pipe. Upon excavation, it was found that the water is emerging from the volcanic bedrock foundation. To allow for collection and drainage of the water, Foundation Drain FD-5 was exposed and the drain was extended into this area. MPMC has obtained a sample of the seepage water for analysis.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

3.1 GENERAL

KP site activities over the reporting period have included the following:

- Inspection and documentation of construction activities.
- QA/QC collection and testing of Zone F control samples, and Zone F, T and C record samples.
- Structural mapping of rock borrow.
- Supervision of drilling and installation of groundwater monitoring wells.
- Extension of piezometer leads through Stage 3 fill zones.
- Ongoing discussions and correspondence with MPMC and KP Vancouver.
- Preparation of daily inspection reports and bi-weekly Progress Reports.
- Collection and review of embankment monitoring data.

3.2 LABORATORY TESTING

The following samples were collected and tested over the reporting period:

- Zone T record samples R/ZT-3-5 to 6
- Zone C record samples R/ZC-3-2 to 3
- Zone F control samples C/ZF-3-6 to 8
- Zone F record samples R/ZF-1 to 9

The results of the testing are provided on the summary Tables 3.1 to 3.4 and gradation plots Figures 3.1 to 3.4.

The results show that all of the Zone C and Zone T samples meet the specifications for particle size distribution.

Results for some of the Zone F control samples have fallen marginally below the bottom of the specified coarse limit. The Zone F record samples fit within the gradation envelope, however, indicating some breaking down of the material during handling, placement and compaction such that it meets the desired specifications. The exception is sample R/ZF-3-7. A re-check of this sample will be carried out.

SECTION 4.0 – EMBANKMENT MONITORING

Monitoring of tailings embankment instrumentation over the reporting period indicates that the embankment is performing well within design tolerances.

Groundwater monitoring wells GW00-1 to 3 were installed between August 28 and September 1. The drill contractor was Geotech Drilling Ltd. of Prince George. Two wells were installed at each location; a shallow well in the overburden deposits and a deeper well extending 30 to 40 ft into the underlying volcanic bedrock. The deep wells extend to between 70 and 80 ft depth, and the shallow wells to between 35 and 40 ft depth. The wells consist of 2" PVC pipe. MPMC will obtain baseline water quality data from the wells and incorporate them into the groundwater monitoring program.

4.1 VIBRATING WIRE PIEZOMETERS

No new piezometers were installed over the reporting period. Piezometer leads have been extended as necessary through the advancing Stage 3 fills.

The most recent piezometer readings were obtained on August 23. The results of the monitoring are shown on Figures 4.1 to 4.5, and are summarized below. Locations of the piezometers are shown on the attached drawings.

Foundation Piezometers

Most of the Main Embankment foundation piezometers have shown slight increases in pore water pressure as a result of fill placement.

- Plane A: Largest increase of 1.13 m at A2-PE2-08 (Below Zone C rockfill) All other piezometers show increases of less than 0.3 m.
- Plane B: Largest increase of 0.60 m at B2-PE2-06 (Below Zone C rockfill). All other piezometers show increases of less than 0.5 m.
- Plane C: Largest increase of 0.44 m at C2-PE2-02 (Below Stage 1 embankment). All other piezometers show increases of less than 0.4 m.
- Plane E: Largest increase of 0.22 m at E2-PE2-02.

No changes were noted in the Perimeter Embankment (Plane D) foundation piezometers.

Fill Piezometers

Fill piezometers generally remained static or showed slight increases (less than 0.3 m) in the glacial till. The exception was an increase of 0.56 m at B2-PE2-05 (in glacial till below the Stage 3 rockfill).

Drain Piezometers

All drain piezometers have remained static and at a very low head indicating that the drains are free-draining and functioning as designed.

Tailings Piezometers

Water levels at the tailings piezometers continue to mimic the pond level.

4.2 DRAIN FLOWS

Drain outlets in the Main Embankment Seepage Collection Pond drain sump have been submerged due to the rising water level in the pond. Monitoring of the flows will resume once MPMC pumps down the pond during the TCL shutdown.

SECTION 5.0 – ONGOING ITEMS

The following items will be addressed during upcoming reporting periods:

- MPMC continues to focus on difficulties with the tailings discharge line in terms of depositing along the west portion of the Main Embankment. Repairs to the line above the T2 dropbox are scheduled and may help eliminate this problem.

- MPMC is planning for removal of the Polley Lake Pipeline from within the Perimeter Embankment crest (at El. 940 m) as part of the Stage 3 work.

Submitted by:

Jeff Clarke
Knight Piesold Ltd.

Distribution: Eric Leneve, Don Parsons – MPMC
George Headley – MEMND
Ken Brouwer – KP Vancouver

TABLE 2.1

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION

SUMMARY OF CONTRACT QUANTITIES - To August 27, 2000

C:\Mt. Polley - Stage 3\Progress Reports\[Table 2.1 - Quantities.xls]Sheet1

1-Sep-00

Material / Item	Quantity Over Reporting Period		Quantity to Date		Contract Quantity		Percent Complete (%)
Removal of Topsoil /Unsuitable Foundation Material	0	m^3	46,528	m^3	45,000	m^3	100.0
Removal of Unsuitable from Embankment Slopes	14,820	m^3	20,020	m^3	11,000	m^3	100.0
Supply and Place Zone T and C	148,706	m^3	272,090	m^3	399,000	m^3	68.2
Supply and Place Zone F	13,500	m^3	13,500	m^3	27000	m^3	50.0
Supply and Place Zone S	0	m^3	0	m^3	37000	m^3	0.0
Totals			352,138	m^3	519,000	m^3	67.8

Notes:

1. Volumes are based on both survey information and load counts.
2. Volumes for Zone F are assumed based on an estimated placement rate of 1,000 m^3 per shift.

TABLE 3.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE T RECORD TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone T\[Zone T Summary.xls]Record Summary — Date Printed 30-Aug-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution) Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
3-Jun-00	R/ZT-3-1	Zone T Fill	20.0	61.5	15.7	2.8
16-Jul-00	R/ZT-3-2	Zone T Fill	20.0	58.7	16.2	5.1
25-Jul-00	R/ZT-3-3	Zone T Fill	13.9	66.1	18.4	1.6
27-Jul-00	R/ZT-3-4	Zone T Fill	22.0	65.0	12.5	0.5
22-Aug-00	R/ZT-3-5	Zone T Fill , Chainage: 23+00, Elevation: 929	37.2	36.1	24.9	1.8
20-Aug-00	R/ZT-3-6	Zone T Fill, Chainage: 19+50, Elevation: 929	34.5	40.0	24.0	1.5
		MEAN	24.6	54.6	18.6	2.2
		MEDIAN	21.0	60.1	17.3	1.7
		MAXIMUM	37.2	66.1	24.9	5.1
		MINIMUM	13.9	36.1	12.5	0.5

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

Revised On: August 28, 2000
Revision 0

TABLE 3.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE C RECORD TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone C\[Zone C Summary.xls]Record Summary Date Printed 30-Aug-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
2-Aug-00	R/ZC-3-1	Zone C Fill	56.4	34.7	8.4	0.5
21-Aug-00	R/ZC-3-2	Zone C Fill, Chainage: 22+55, Elevation 928.3	50.6	36.3	12.8	0.3
24-Aug-00	R/ZC-3-3	Zone C Fill, Chainage: 22+40, Elevation 929m	48.6	35.5	15.3	0.5
		MEAN	51.9	35.5	12.2	0.4
		MEDIAN	50.6	35.5	12.8	0.5
		MAXIMUM	56.4	36.3	15.3	0.5
		MINIMUM	48.6	34.7	8.4	0.3

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

Revised On: August 28, 2000
Revision 0

TABLE 3.3

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F CONTROL TESTS - SUMMARY SHEET

C:\Mt. Polley - Stage 3\Lab Testing\Zone F\[Zone F Summary.xls]Control Summary — Date Printed 30-Aug-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)			
			Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
17-Jul-00	C/ZF-3-1	Conveyor	0.0	64.2	32.9	2.9
19-Jul-00	C/ZF-3-2	Stockpile	0.0	50.9	45.4	3.7
19-Jul-00	C/ZF-3-3	Conveyor	0.0	61.4	36.2	2.4
20-Jul-00	C/ZF-3-4	Stockpile	0.0	49.9	47.0	3.1
1-Aug-00	C/ZF-3-5	Stockpile	0.0	61.0	38.0	1.0
25-Aug-00	C/ZF-3-6	Conveyor	0.0	60.5	38.0	1.5
25-Aug-00	C/ZF-3-7	Stockpile	0.0	70.2	27.7	2.1
25-Aug-00	C/ZF-3-8	Stockpile	0.0	46.7	51.0	2.3
		MEAN	0.0	58.1	39.5	2.4
		MEDIAN	0.0	60.8	38.0	2.4
		MAXIMUM	0.0	70.2	51.0	3.7
		MINIMUM	0.0	46.7	27.7	1.0

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

Revised On: August 28, 2000
Revision 0

TABLE 3.4

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F RECORD TESTS - SUMMARY SHEET

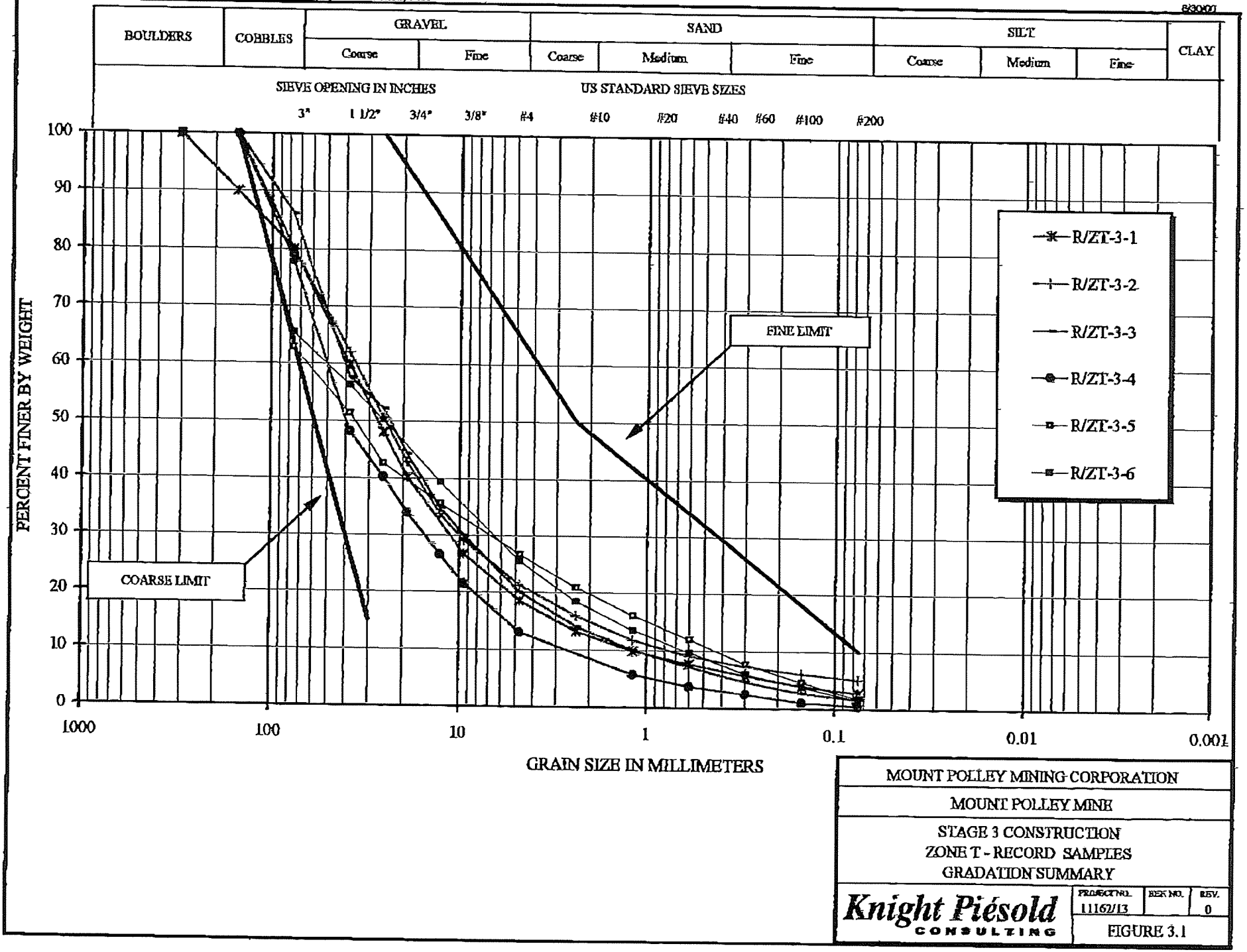
C:\Mt. Polley - Stage 3\Lab Testing\Zone F\[Zone F Summary.xls]Record Summary

Date Printed 30-Aug-00

Date Sampled	Sample No.	Location	Chainage	Elevation	C3 (Particle Size Distribution)			
					Cobbles % > 3 inch	Gravel % 3 inch to #4	Sand % #4 to #200	Silt/Clay % < #200
19-Aug-00	R/ZF-3-1	Zone F Fill	26+10	935 m	0.0	48 2	48.7	3.1
20-Aug-00	R/ZF-3-2	Zone F Fill	17+10	935 m	0.0	50.0	45.8	4.2
21-Aug-00	R/ZF-3-3	Zone F Fill	20+00	933 m	0.0	53.4	43.6	3.0
23-Aug-00	R/ZF-3-4	Zone F Fill	20+05	935 m	0 0	46.3	50.4	3.3
24-Aug-00	R/ZF-3-5	Zone F Fill	25+50	935 m	0.0	57.9	39.0	3.1
26-Aug-00	R/ZF-3-6	Zone F Fill	19+00	935 m	0.0	52.2	44.1	3.7
26-Aug-00	R/ZF-3-7	Zone F Fill	21+60	935 m	0.0	53.6	45.7	0.7
27-Aug-00	R/ZF-3-8	Zone F Fill	22+00	935 m	0.0	58.0	39 6	2.4
28-Aug-00	R/ZF-3-9	Zone F Fill	24+50	937m	0.0	54.5	41.7	3.8
				MEAN	0.0	52.7	44.3	3.0
				MEDIAN	0.0	53.4	44.1	3.1
				MAXIMUM	0.0	58.0	50.4	4.2
				MINIMUM	0.0	46.3	39 0	0.7

Notes:
1) C3 (Particle Size Distribution) - ASTM D422

Revised On: August 28, 2000
Revision 0



MOUNT POLLEY MINING CORPORATION

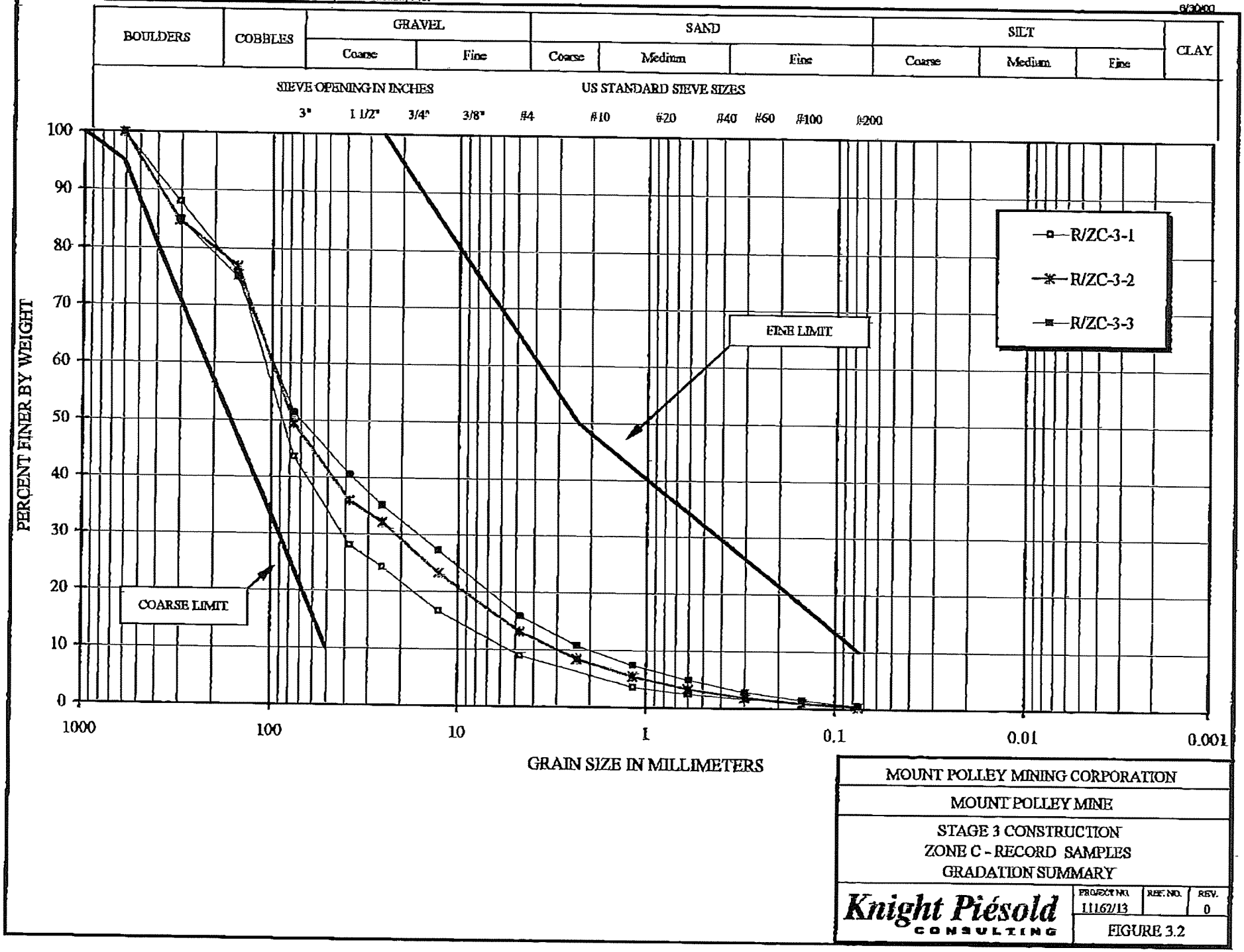
MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE T - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF NO.	REV.
11162/13		0

FIGURE 3.1



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE C - RECORD SAMPLES
GRADATION SUMMARY

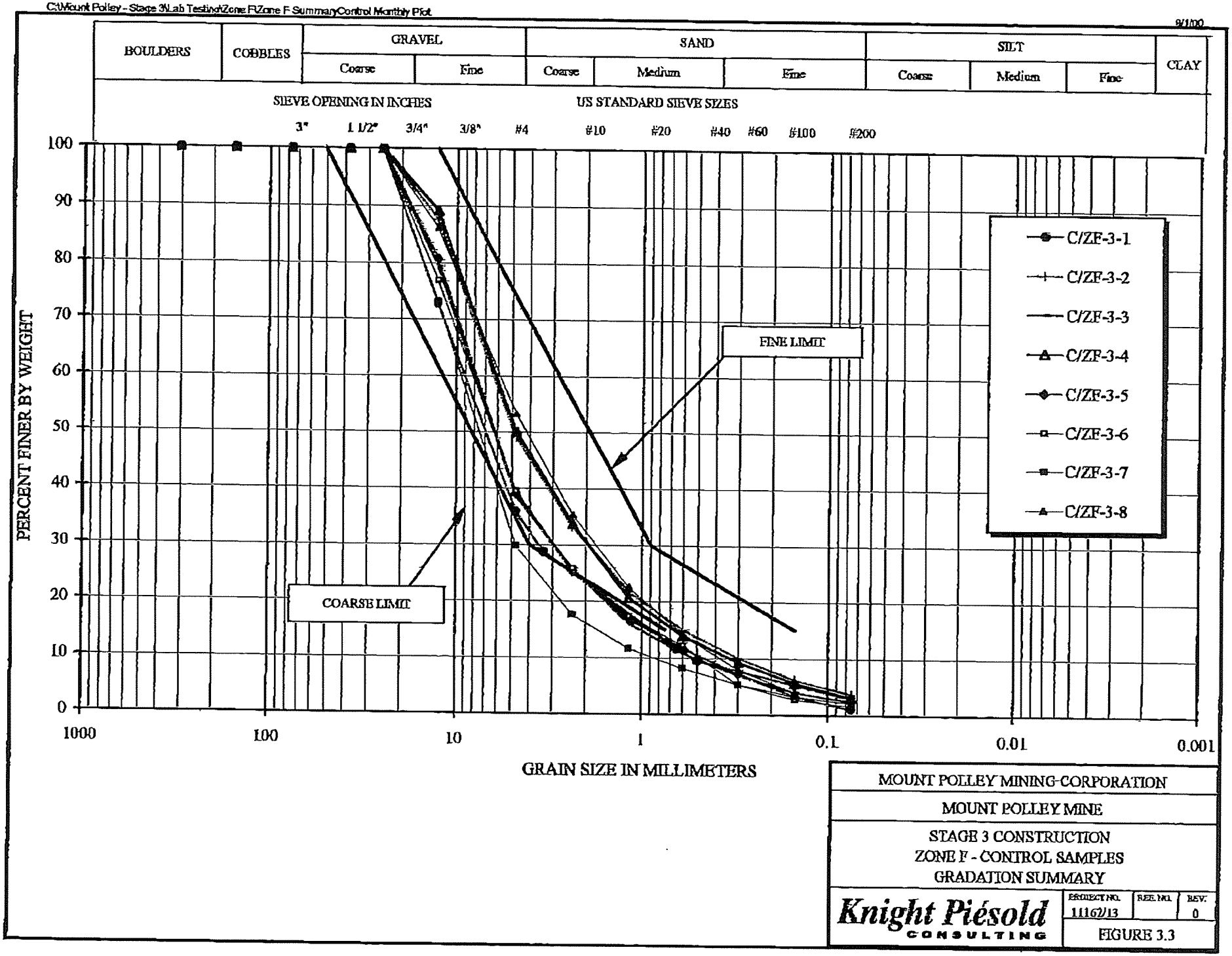
Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		0

FIGURE 3.2

C:\Mount Polley - Stage 3\Lab Testing\Zone F\Zone F Summary\Control Monthly Plot

9/1/00



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE F - CONTROL SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
1116213		0

FIGURE 3.3

c:\Mount Polley - Stage 3\Lab Testing\Zone F\Zone F Summary\Record Monthly Plot

9/1/00

BOULDERS	COBBLES	GRAVEL		SAND			SILT			CLAY
		Coarse	Fine	Coarse	Medium	Fine	Coarse	Medium	Fine	

SIEVE OPENING IN INCHES — US STANDARD SIEVE SIZES

3" 1 1/2" 3/4" 3/8" #4 #10 #20 #40 #60 #100 #200

PERCENT FINER BY WEIGHT

100 90 80 70 60 50 40 30 20 10 0

1000 100 10 1 0.1 0.01 0.001

GRAIN SIZE IN MILLIMETERS

COARSE LIMIT

FINE LIMIT

R/ZF-3-1
R/ZF-3-2
R/ZF-3-3
R/ZF-3-4
R/ZF-3-5
R/ZF-3-6
R/ZF-3-7
R/ZF-3-8
R/ZF-3-9

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

STAGE 3 CONSTRUCTION
ZONE F - RECORD SAMPLES
GRADATION SUMMARY

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
1162/13		0

FIGURE 3.4

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

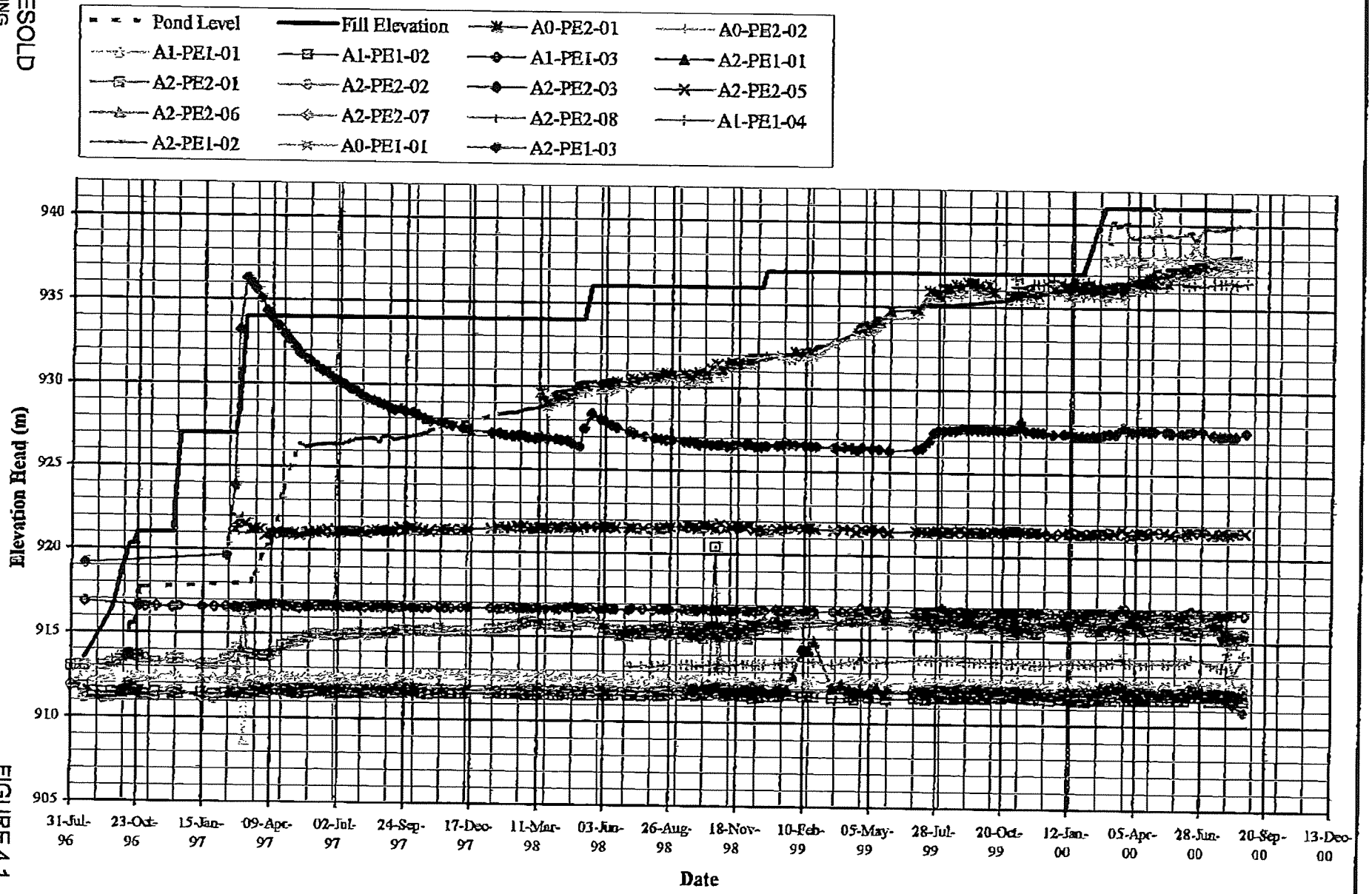


FIGURE 4.1

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

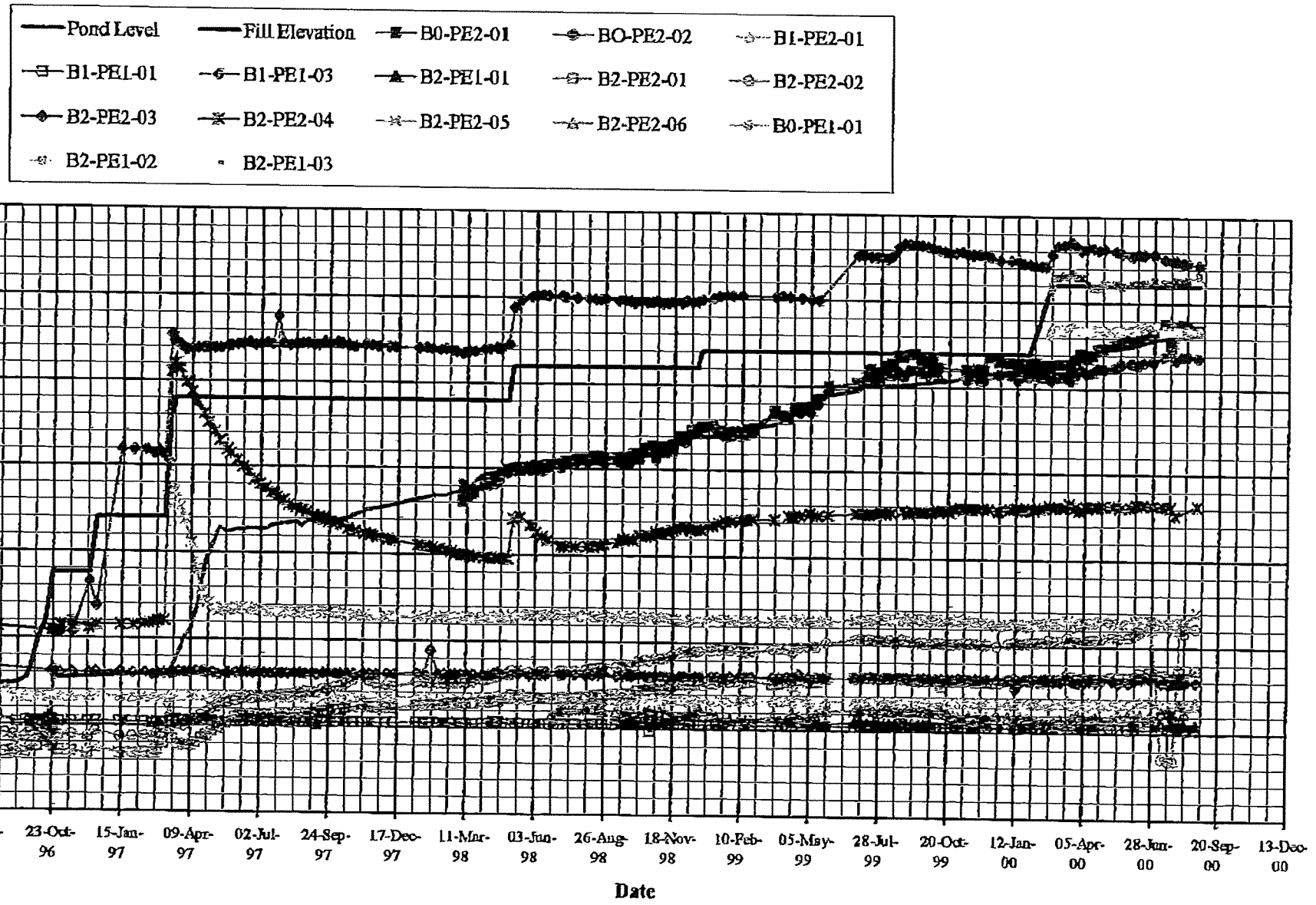


FIGURE 4.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

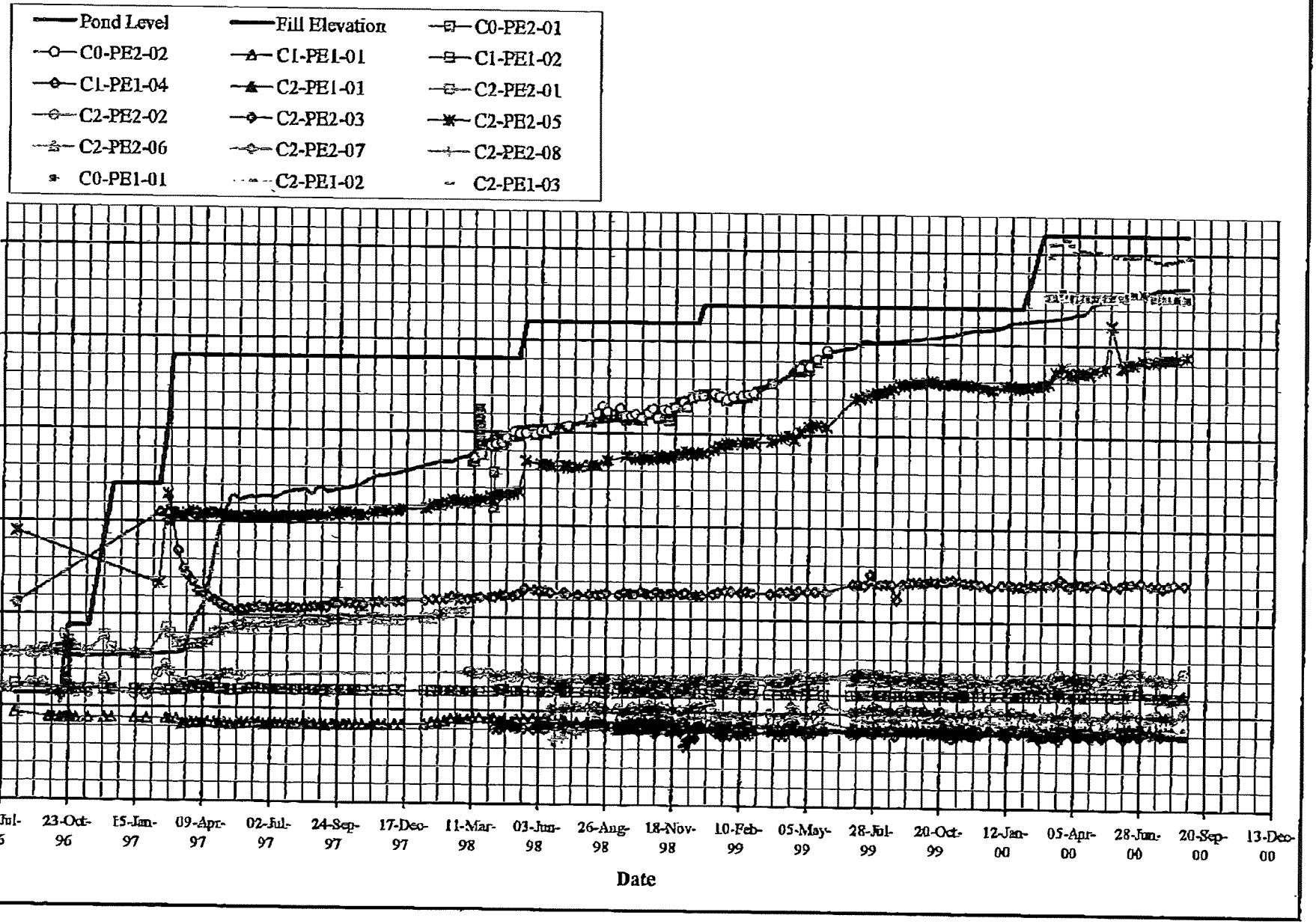


FIGURE 4.3

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

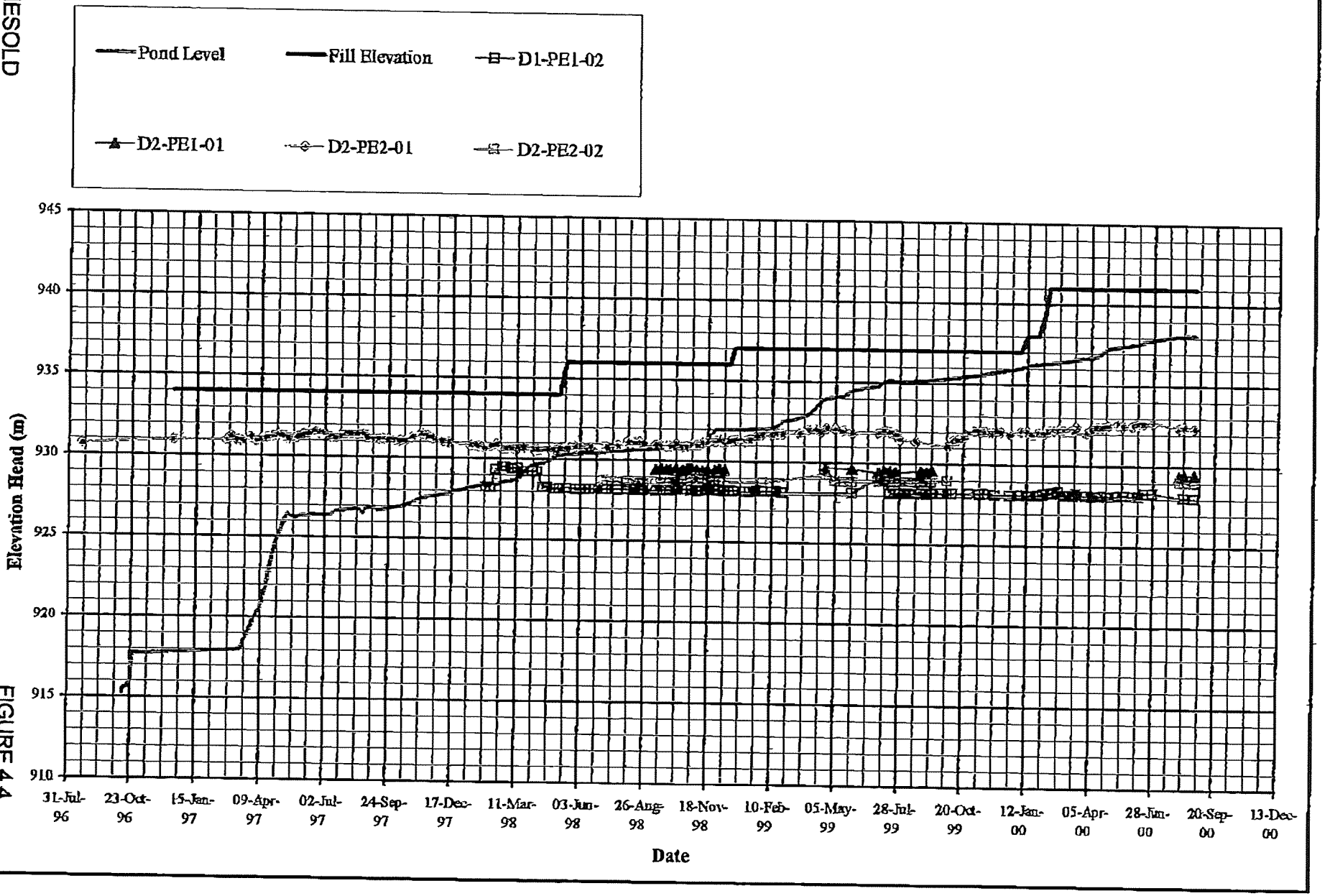


FIGURE 4.4

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

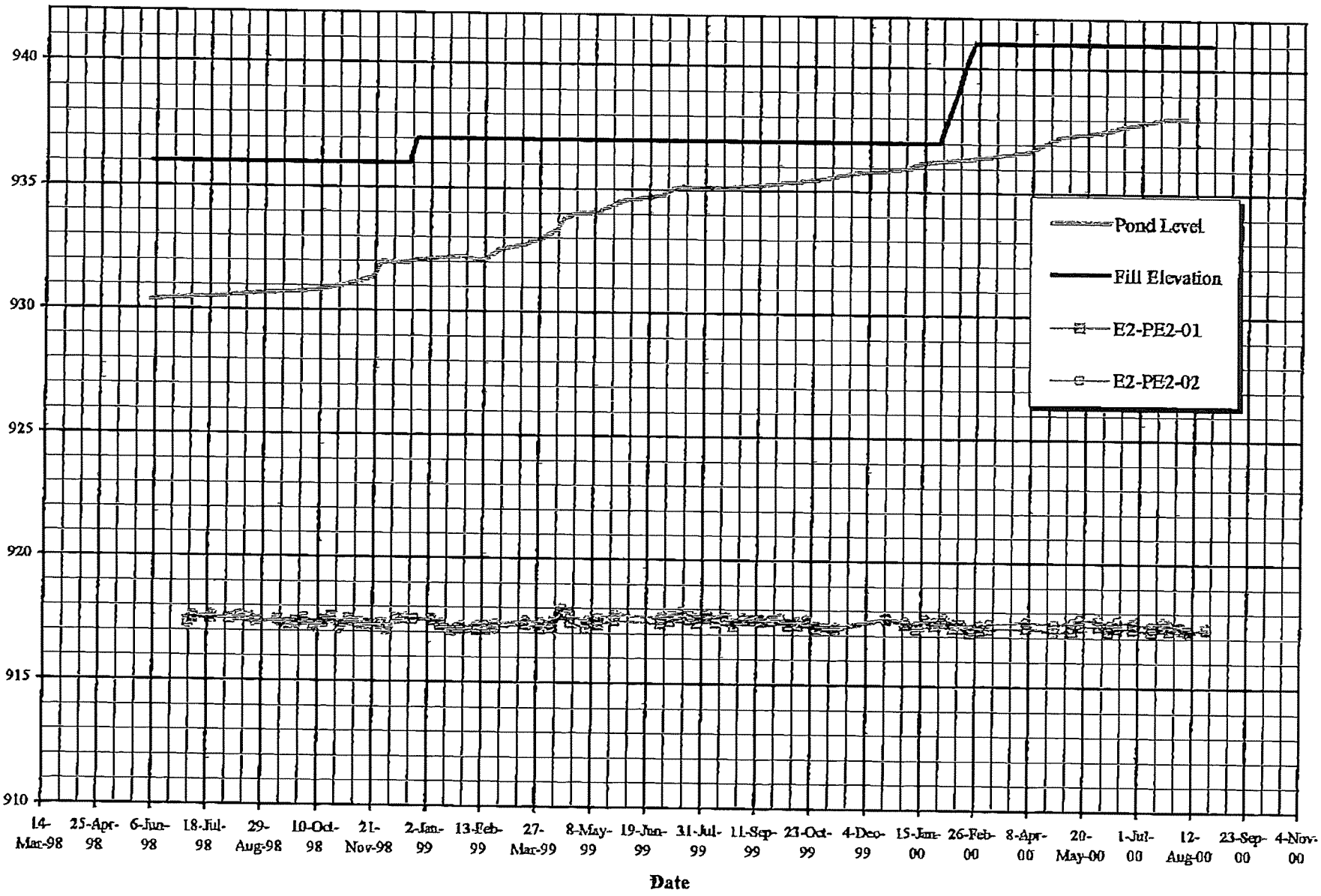
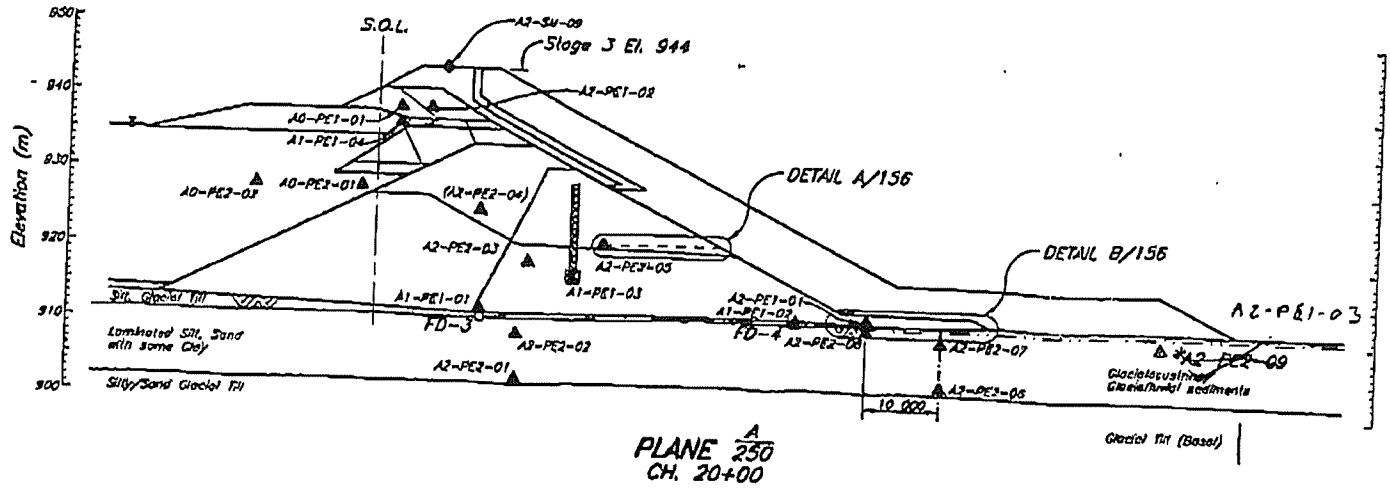
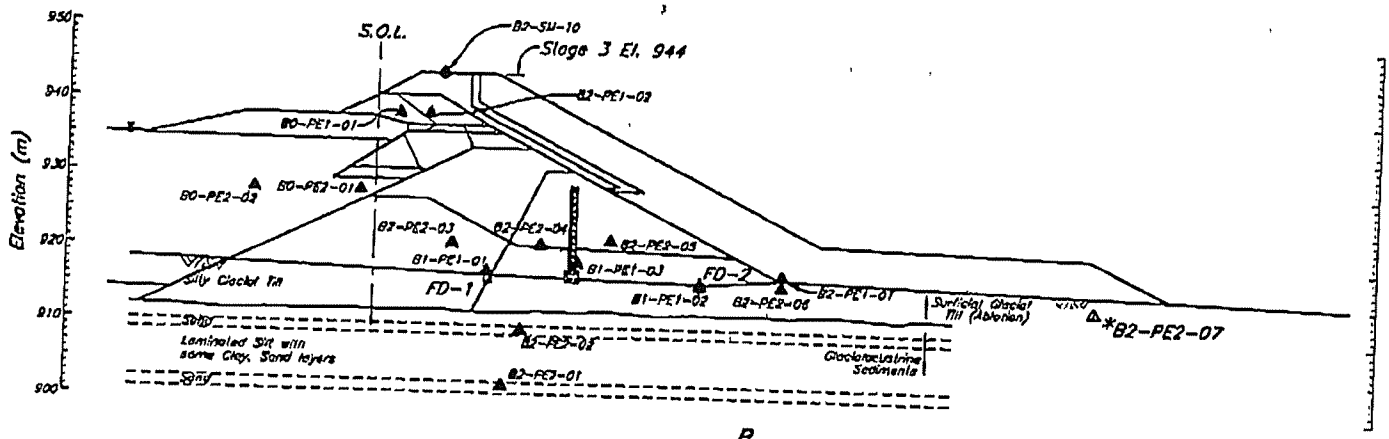


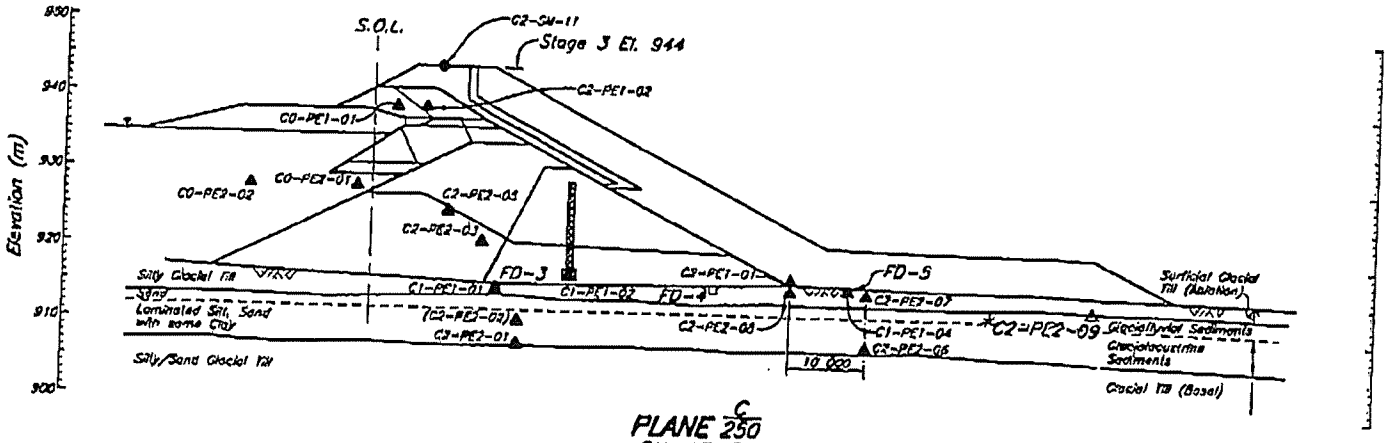
FIGURE 4.5



PLANE A/250
CH. 20+00



PLANE B/250
CH. 22+40



PLANE C/250
CH. 18+50

- INSTRUMENTATION - SECTIONS 2 OF 2
- INSTRUMENTATION - SUMMARY OF INSTALLATION & TYP. DETAILS
- INSTRUMENTATION - PLAN

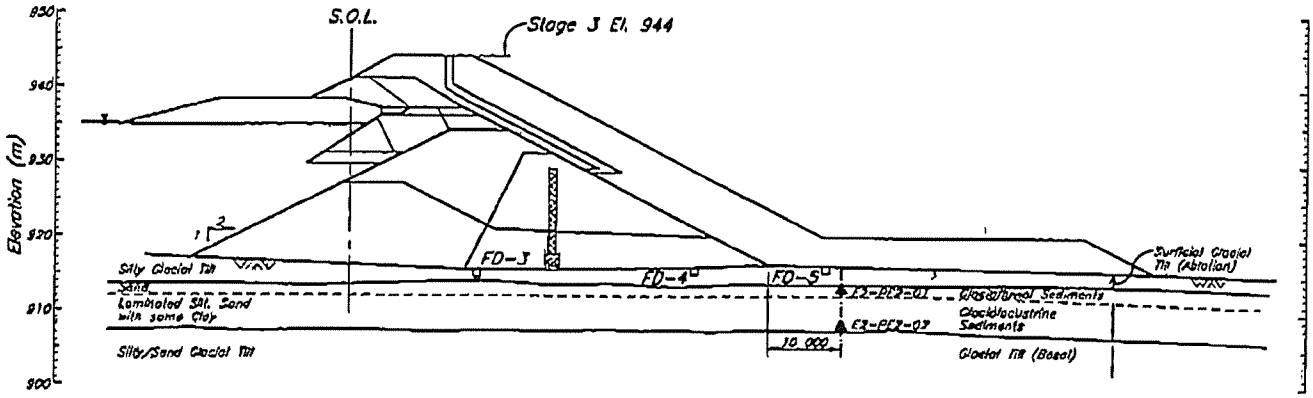
DESCRIPTION

NCE DRAWINGS

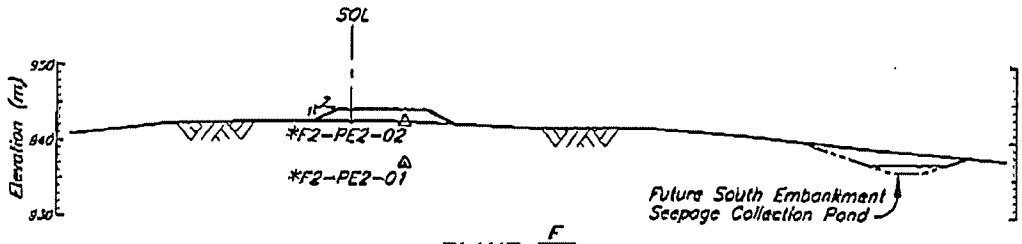
REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
0	2JUN'00	ISSUED FOR CONSTRUCTION				

REVISIONS

REV. DATE DESCRIPTION
REVISIONS



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



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

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
250	TSF – STAGE 3 TAILINGS EMBANKMENT – MAIN EMBANKMENT – INSTRUMENTATION PLAN
130	TSF – STAGE 3 SOUTH EMBANKMENT – PLAN AND SECTION
215	TSF – STAGE 3 MAIN EMBANKMENT – SECTIONS AND DETAILS

REFERENCE DRAWINGS

REV.	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D

REVISIONS

August 16, 2000

Knight Piésold CONSULTING *Knight Piésold, Mt. Polley Site* *Fax: (600) 700-9075* *Phone: (600) 700-1879*	**DATE:** August 10, 2000	**FILE NO.:**	11162/13.F01
	TIME:	**REF NO.:**	00-032
	OPERATOR: Jeff Clarke for	**PAGES:**	1 of 19
	SENDER: Jeremy Kinch	**APPROVED:**	

TO:	KP Vancouver	**FAX :**	604-685-0147
ATTN:	Ken Brouwer		
CC:	George Headley, MEM (250) 952-0481 Don Parsons, MPMC Eric LeNeve, MPMC		
SUBJECT:	Mount Polley Stage 3 TSF Construction - Progress Report No. 3		

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 3
JULY 24 TO AUGUST 6, 2000

SECTION 1.0 – GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3 construction activities for the Main and South Embankment with Tercon Contractors Ltd. (TCL) construction efforts at the Main Embankment and South Embankments. Knight Piésold Ltd. (KP) carried out QA/QC activities as required.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Jeremy Kinch (JRK): On site July 24 through August 3.

The following MPMC management personnel were on site during the reporting period:

- Eric LeNeve, Tailings Coordinator: Left site July 28.
- Charlie O'Hara, Acting Mine Superintendent

1.2 WEATHER

Conditions were generally clear and warm during the reporting period, with occasional showers and thunderstorms. There were no weather related delays in the work.

1.3 DESIGN AND CONTRACT DEVELOPMENTS

Design modifications and contractual developments over the reporting period were as follows:

- TCL worked a skeleton crew on dayshift only from August 3 until the end of the reporting period. Full production is scheduled to resume on August 10.
- TCL rented MPMC's 14G grader.
- TCL hauled rock to a new spoil dump near the left abutment of the Perimeter Embankment.

There were no design changes during the reporting period.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

MPMC extended the tailings header to approximately CH 22+00 to facilitate beach development at the southwest end of the Main Embankment. Sanding problems continue to prevent discharge between CH 16+00 and CH 20+00.

The return pipeline from Main Embankment Seepage Collection Pond (MESCP) was reinstated on August 3. The release of water from Borrow Area No. 2 raised the pond level

above the foundation drain outlets. The pond level has been reduced and flow readings can resume. MPMC is in the process of installing a platform inside the drain monitoring sump.

The new Linatex Separators arrived on site. Assembly is expected to commence in the next two weeks.

2.0 CONSTRUCTION ACTIVITIES

Construction activities for most of the reporting period consisted of foundation preparation and placement of Zones T and C. TCL has the following equipment on site for execution of the work:

- Seven Caterpillar 773 rock trucks (3 rentals)
- One Caterpillar 16G grader
- One Hitachi EX1100 backhoe
- One Caterpillar 375 backhoe
- One Caterpillar 322 backhoe
- One Caterpillar 583 packer
- One Caterpillar D8R dozer
- One Caterpillar D6D dozer
- One Caterpillar IT28B forklift
- One Caterpillar D8N dozer (rental)
- One Caterpillar CS563 packer (rental)
- One Hitachi EX700 backhoe (rental)
- Sevice, Fuel, and Water Trucks

The Hitachi EX1100 backhoe and three additional 773 rock trucks will be put into service on August 10. The D8N dozer was brought in to replace a rented D9N, which has been returned. CS563 packer was brought in as a temporary replacement for the CS583, which broke down.

The major activities during the reporting period are summarized below:

- Completion of foundation preparation and placement of geotextile filter fabric between CH 21+10 and 23+00. Filter sand was used in place of filter fabric between CH 21+80 and CH 23+00.
- Drilling and blasting in the Rock Borrow Area to produce Zone C and Zone T rock.
- Placement of Zone T rockfill on the prepared surface of the Main Embankment foundation between CH 21+10 and CH 23+00. Zone T was also spread on the existing downstream slope of the Main Embankment from CH 21+00 to CH 24+80.
- Placement of Zone C rockfill in the Main Embankment downstream buttress from CH 18+50 to CH 23+00. The buttress is essentially on grade.
- Trimming completed downstream slopes.
- Stripping the Main Embankment footprint between CH 15+00 and CH 15+50.
- Stripping the South Embankment footprint.
- Removal of unsuitable material from the existing downstream slope of the Main Embankment between CH 15+50 and CH 16+50, and between CH 24+80 and CH 28+26. Loose, saturated till was removed with the 375 and 322 excavators and hauled to spoil.
- Standing water was drained from Borrow Area No. 2. Water was collected by the existing sediment control system and routed into the MESCP.
- The MPMC tailings crew removed unsuitable material from the downstream slope of the Perimeter Embankment from CH 37+00 to CH 44+80. The material was removed from the slope with Hitachi 270 and 400 excavators and haul to spoil using a CAT 777 rock truck.

The following summarizes the excavation and fill placement quantities completed during the reporting period and to date:

Material	Volume over Reporting Period (m^3)	Total Volume to Date (m^3)	Total Volume Required (m^3)	Percent Complete (%)
Main Embankment				
Foundation Exc.	2,752	46,528	45,000	103
Zone C	48,941	77,167	348,000	22
Zone F	0	0	27,000	0
Zone S	0	0	37,000	0
Zone T	15,560	37,174	51,000	73
Unsuitable from Emb. Slopes	6,400	6,821	11,000	62
South Embankment				
Foundation Excavation	3,600[2]	3,600	4,500	80
Zone S	0	0	8,300	0

Notes: 1. Fill volumes are based on load counts and are supplied by MPMC.

2. South Embankment foundation excavation completed with bulldozer.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

KP activities over the reporting period included the following:

- Completion of quality control testing of Zone C and Zone T samples.

- Monitoring of Main and South Embankment foundation preparation.
- Monitoring of embankment slope preparation.
- Monitoring placement of geotextile filter fabric and filter sand on approved foundations.
- Monitoring of Zone T and C placement in the downstream buttress of Main Embankment.
- Monitoring of Rock Borrow Area development and materials available for fill placement.
- Attendance of progress meetings.
- Monitoring of flows from Main Embankment foundation and toe drain outlets.
- Reviewing piezometer data.
- Completion of daily reports summarizing QA/QC and construction activities.

SECTION 4.0 – EMBANKMENT MONITORING

On-going monitoring of instrumentation was continued over the reporting period. Data collected indicates that the TSF is performing well within design tolerances.

4.1 VIBRATING WIRE PIEZOMETERS

Initial data was collected for three new vibrating wire piezometers, A2-PE1-03, B2-PE1-03 and C2-PE1-03, installed in foundation soils during the previous reporting period. Two piezometers on Plane D, which have not been monitored since September 1999, were reinstated. These comprised D2-PE1-01 (Zone T) and D2-PE2-02 (Foundation). Readings taken on August 2 were unchanged from those taken in 1999.

The following observations of the vibrating wire piezometer data are based on the summary data provided on Figures 1 through 5.

- Foundation Piezometers

Three foundation piezometers indicated slight increases in pore water pressure in response to fill placement.

- A2-PE2-08: increase of 0.87 m
- B2-PE2-06: increase of 0.54 m
- B2-PE1-03: new piezometer, increase of 1.04 m

The remaining foundation piezometers remained static during the reporting period.

- Fill Piezometers

Fill piezometers generally remained static with the exception of C2-PE2-05, which continues to show gradual increases in the measured pore water pressures.

- Drain Piezometers

All piezometers located within the drains have remained static and at very low head indicating that the drains are free draining and are functioning as designed.

- Tailings Piezometers

Readings from piezometers installed in the tailings continue to mimic the pond level.

4.2 DRAIN FLOWS

The water level in the MESCP exceeded the height of the drain outlets during the reporting period. It has since been pumped down, and flow measurements can resume. The results of July 25 measurements are summarized below.

Drain	Flow (l/min)	Comments
FD-1	4.2	Clear.
FD-2	1.4	Clear.
FD-3	16.8	Clear.
FD-4	1.5	Clear.
FD-5	39.0	Clear. Top of drain exposed during foundation excavation and is intercepting surface runoff.
FD Total	62.9	
ME East TD Outlet	85.2	Clear. Higher flow (compared to west outlet) may be due to active tailings deposition on the east side of the impoundment.
ME West TD Outlet	42.6	Clear
PE South TD Outlet	3.8	Clear.
Toe Drain Total	131.6	
Grand Total	194.5	

The water level in GW96-9 was observed to be approximately 30 cm below the top of the well casing. It decreased slightly during the Stage 3 foundation excavation.

5.0 – LABORATORY TESTING

A total of three (3) record samples (two Zone T and one Zone C) were collected during the reporting period. Test results, summarized on Tables 5.1 and 5.2, and Figures 5.1 and 5.2, show that both samples meet the specification for particle size distribution.

6.0 – ONGOING ISSUES

The following issues are to be addressed during the upcoming or future reporting periods:

- MPMC continues to focus on difficulties with the tailings discharge line.
- MPMC will assemble the new Linatex Separators.
- Production is expected to increase significantly with the larger EX1100 excavator and three additional trucks.
- Collection and evaluation of monitoring data will continue.
- Groundwater monitoring wells downstream of the South Embankment to be installed.

Submitted by

Jeremy Kinch

Knight Piésold Ltd.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC, Site

Don Parsons, Mine Superintendent, MPMC, Site

George Headley, Ministry of Energy and Mines, Victoria, B.C.

Ken Brouwer, Project Director, KP Vancouver

TABLE 5.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE T RECORD TESTS - SUMMARY SHEET

C:\Mt Polley Stage 3\data\lab\Zone T\[Zone T Summary.xls]Table — Date Printed: 09-Aug-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)[1] Cobble %	Gravel %	Sand %	Silt and Clay %
05-Jul-00	R/ZT-3-1	Zone T Fill	20.0	61.5	15.7	2.8
15-Jul-00	R/ZT-3-2	Zone T Fill	20.0	58.7	16.1	5.1
24-Jul-00	R/ZT-3-3	Zone T Fill - 20+20, El. 912 (approx.)	13.9	66.1	18.4	1.6
27-Jul-00	R/ZT-3-4	Zone T Fill - 22+00, El. 915 (approx)	22.0	65.0	12.5	0.5
		MEAN	19.0	62.8	15.7	2.5
		MEDIAN	20.0	63.3	15.9	2.2
		MAXIMUM[2]	22.0	66.1	18.4	5.1
		MINIMUM[2]	13.9	58.7	12.5	0.5

Notes:
1. C3 (Particle Size Distribution) - ASTM D422
2. These are 100 % limits.

Revised On: July 23, 2000
Revision 0

TABLE 5.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE C RECORD TESTS - SUMMARY SHEET

C:\Mt Polley Stage 3\data\lab\Zone C\[Zone C Summary.xls]Table

Date Printed: 09-Aug-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)[1]				
			Boulder %	Cobble %	Gravel %	Sand %	Silt and Clay %
02-Aug-00	R/ZC-3-1	Zone C Fill, CH 20+10	19.0	37.4	34.7	8.4	0.5
		MEAN	19.0	37.4	34.7	8.4	0.5
		MEDIAN	19.0	37.4	34.7	8.4	0.5
		MAXIMUM[2]	19.0	37.4	34.7	8.4	0.5
		MINIMUM[2]	19.0	37.4	34.7	8.4	0.5

Notes:
1. C3 (Particle Size Distribution) - ASTM D422
2. These are 100 % limits.

Revised On: July 23, 2000
Revision 0

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

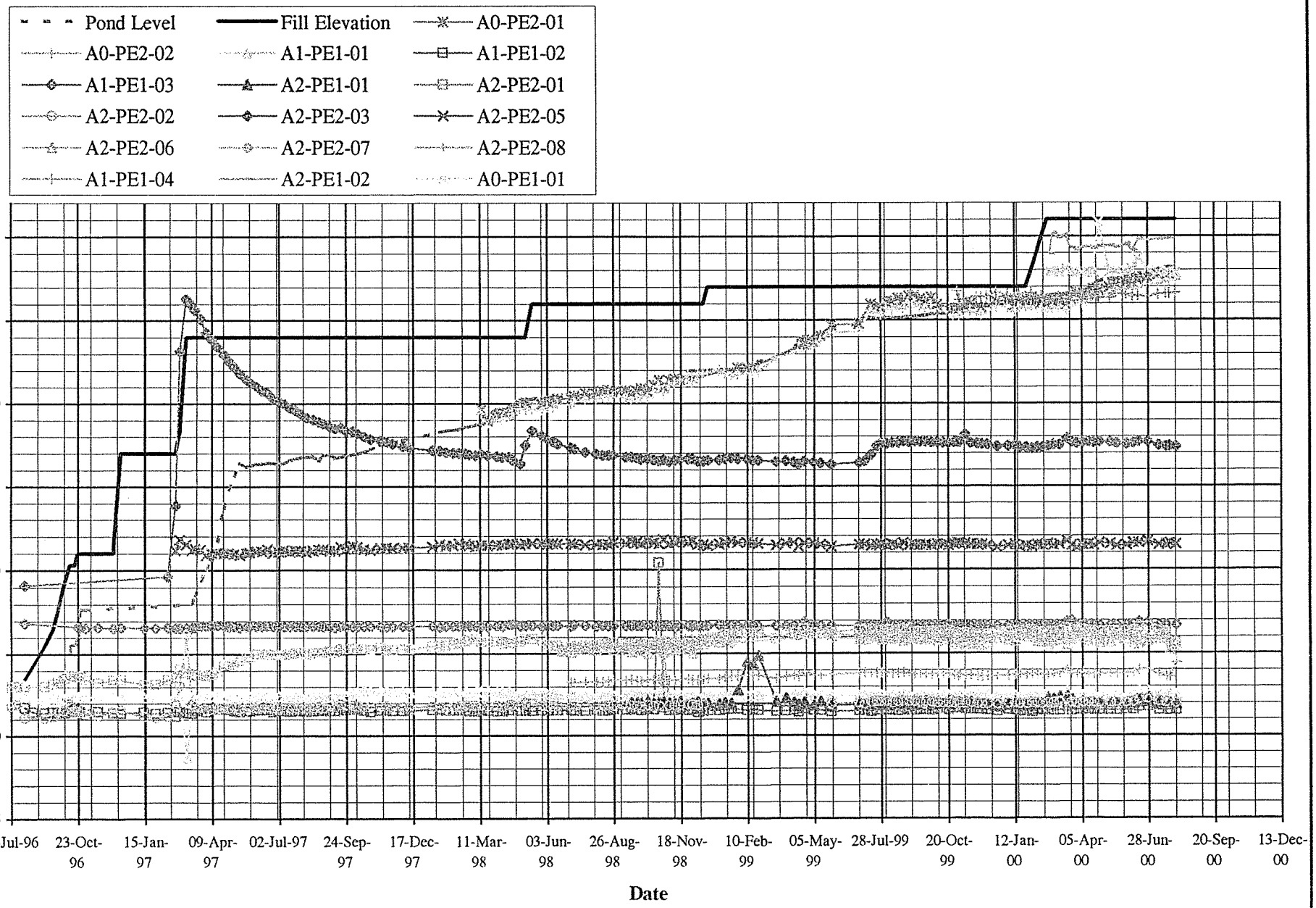


FIGURE 4.1

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

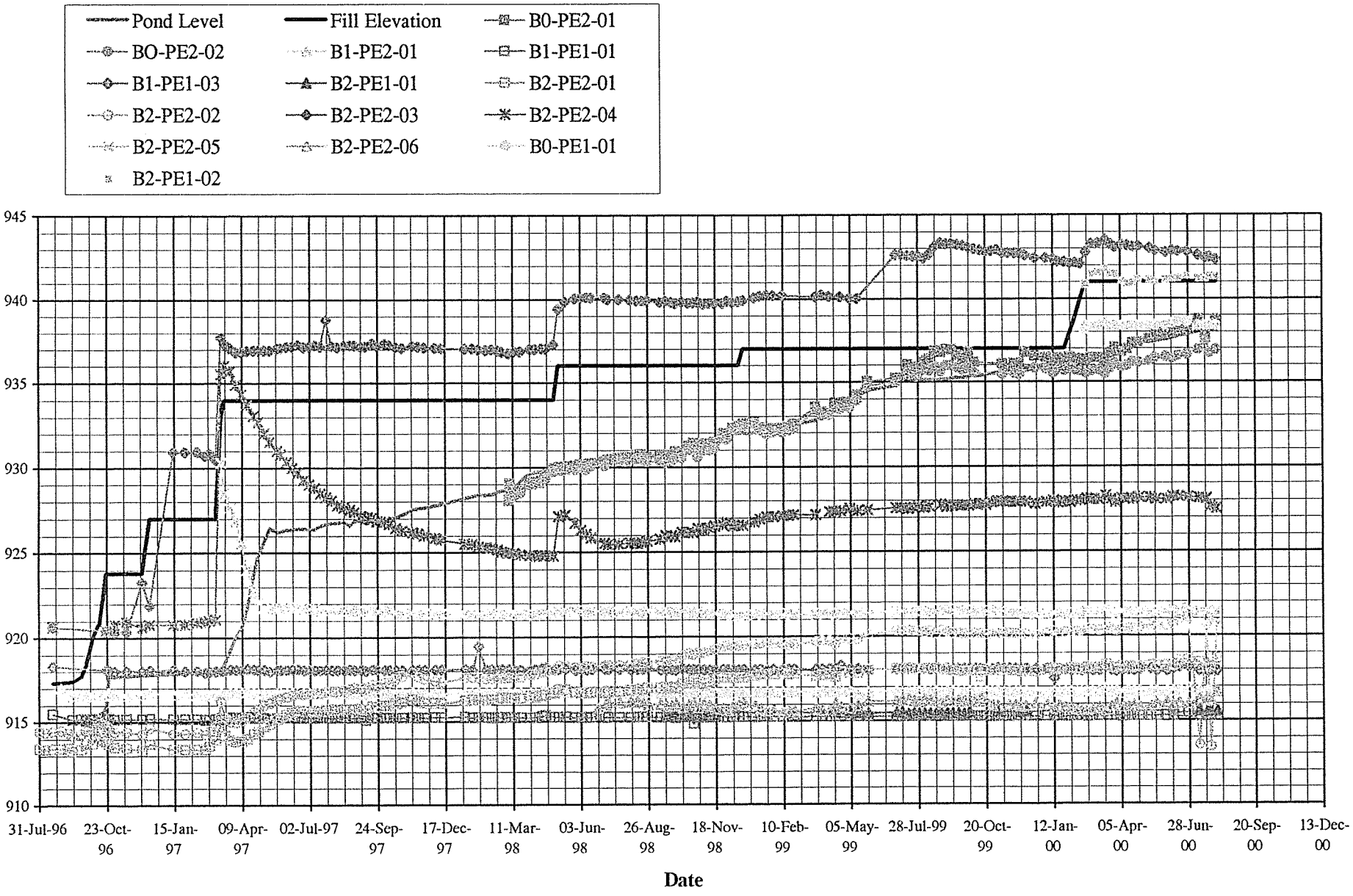


FIGURE 4.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

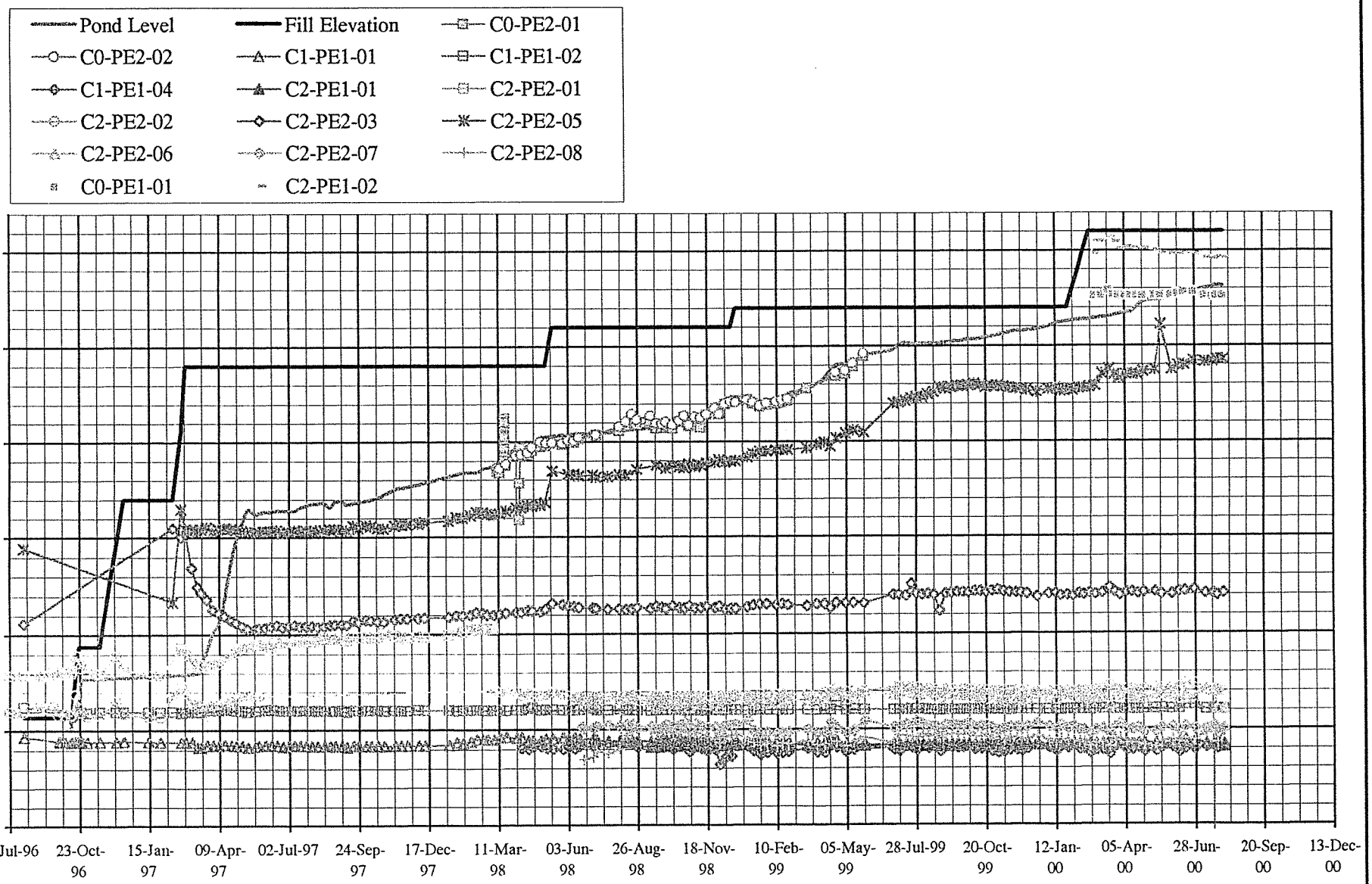


FIGURE 4.3

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

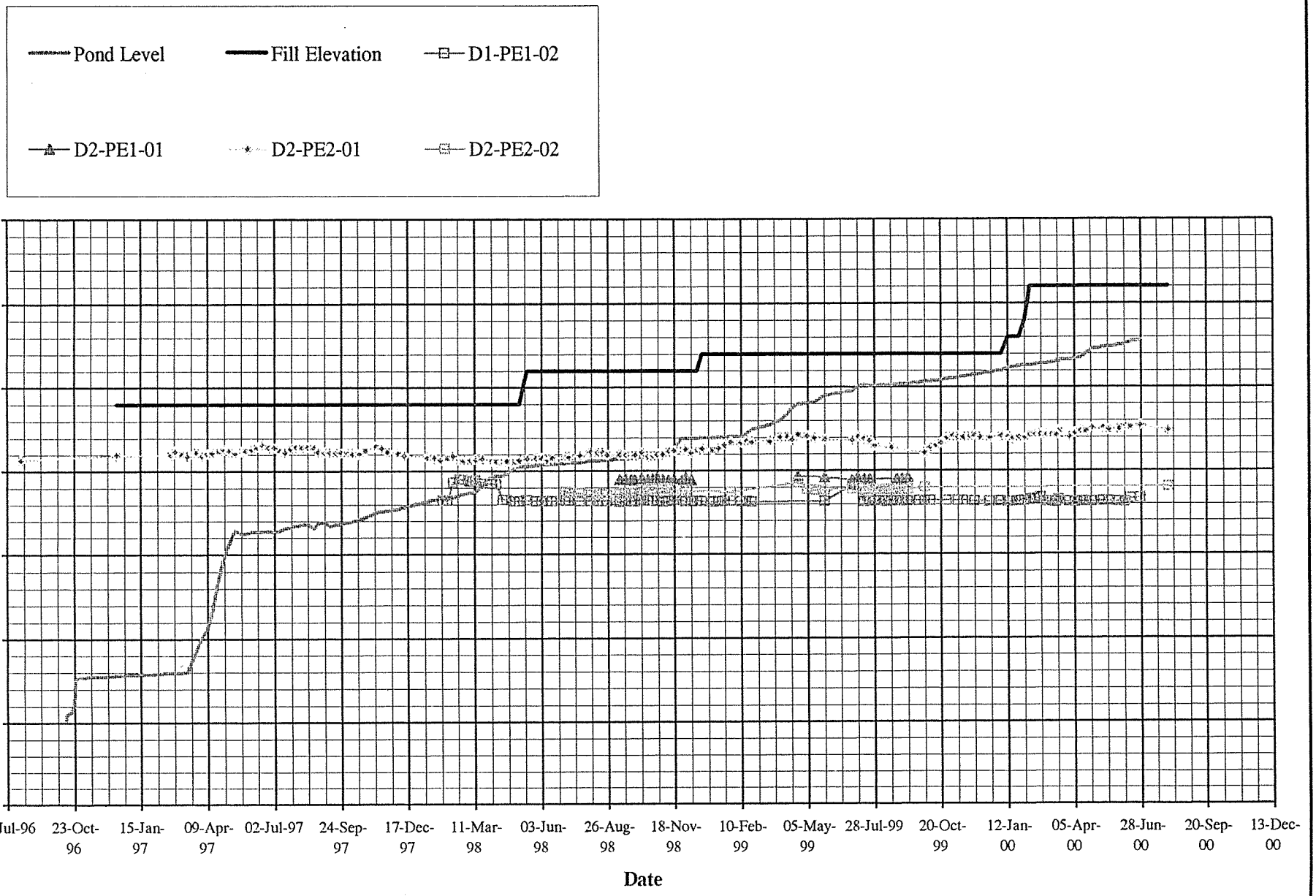


FIGURE 4.4

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

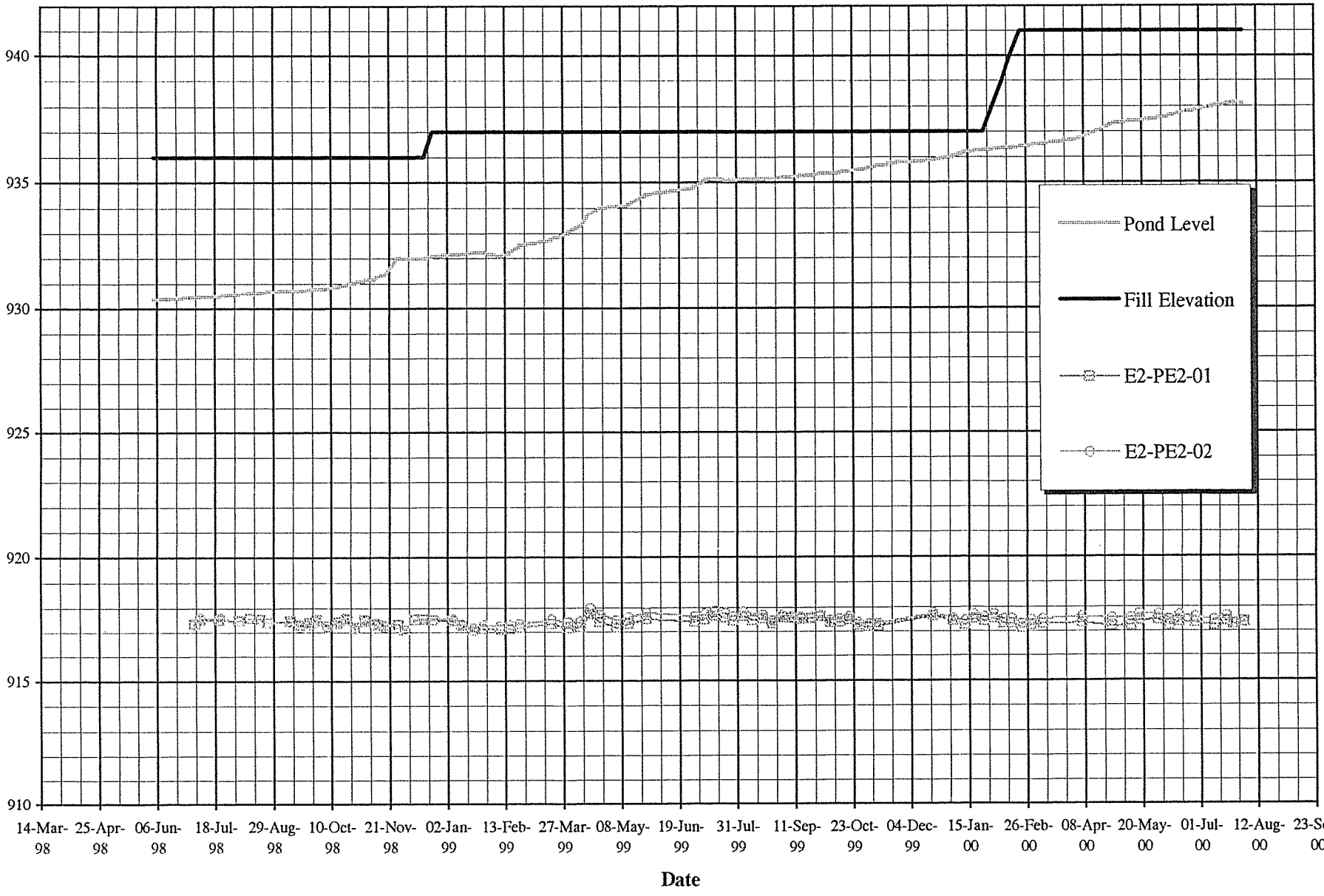
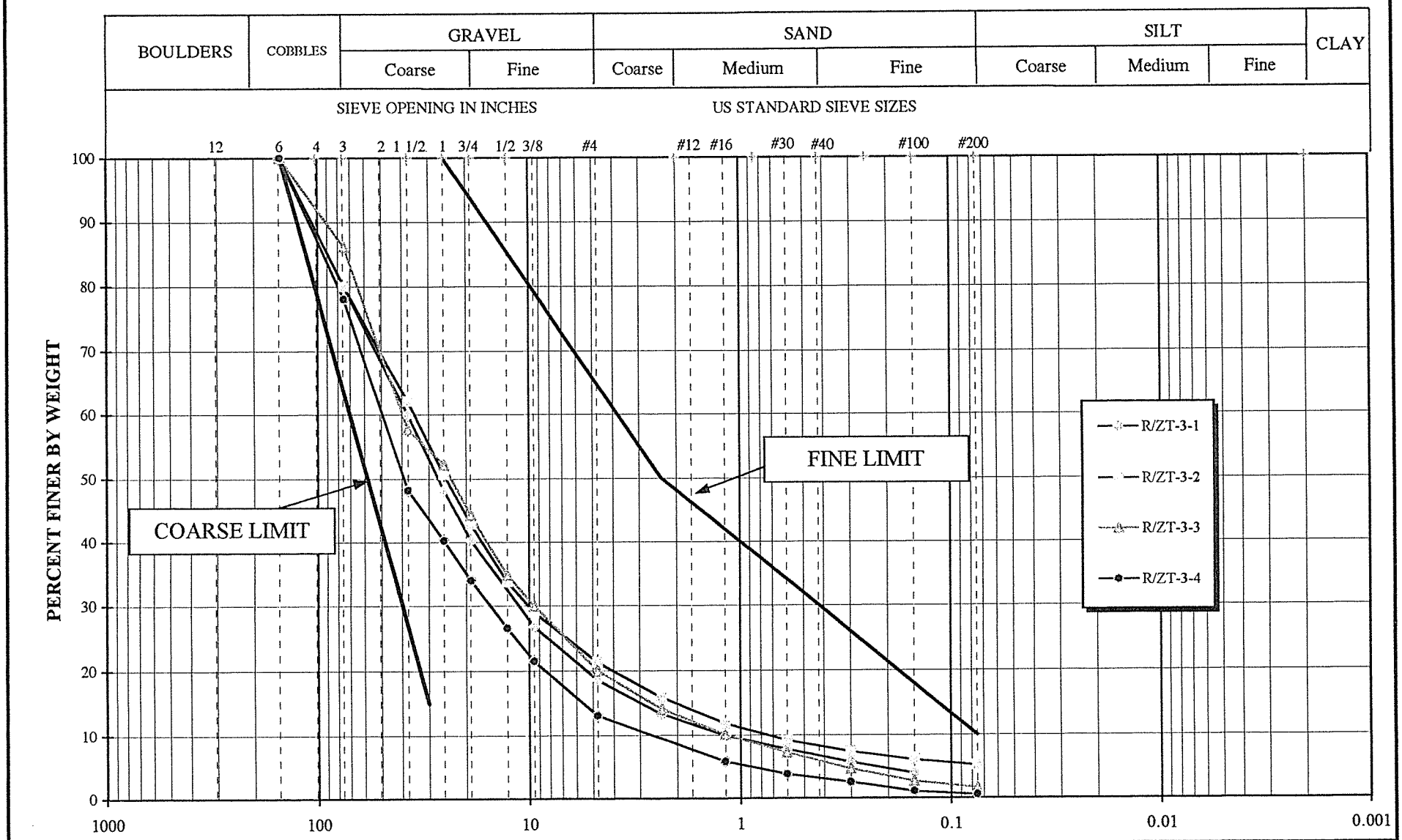


FIGURE 4.5



MOUNT POLLEY MINING CORPORATION

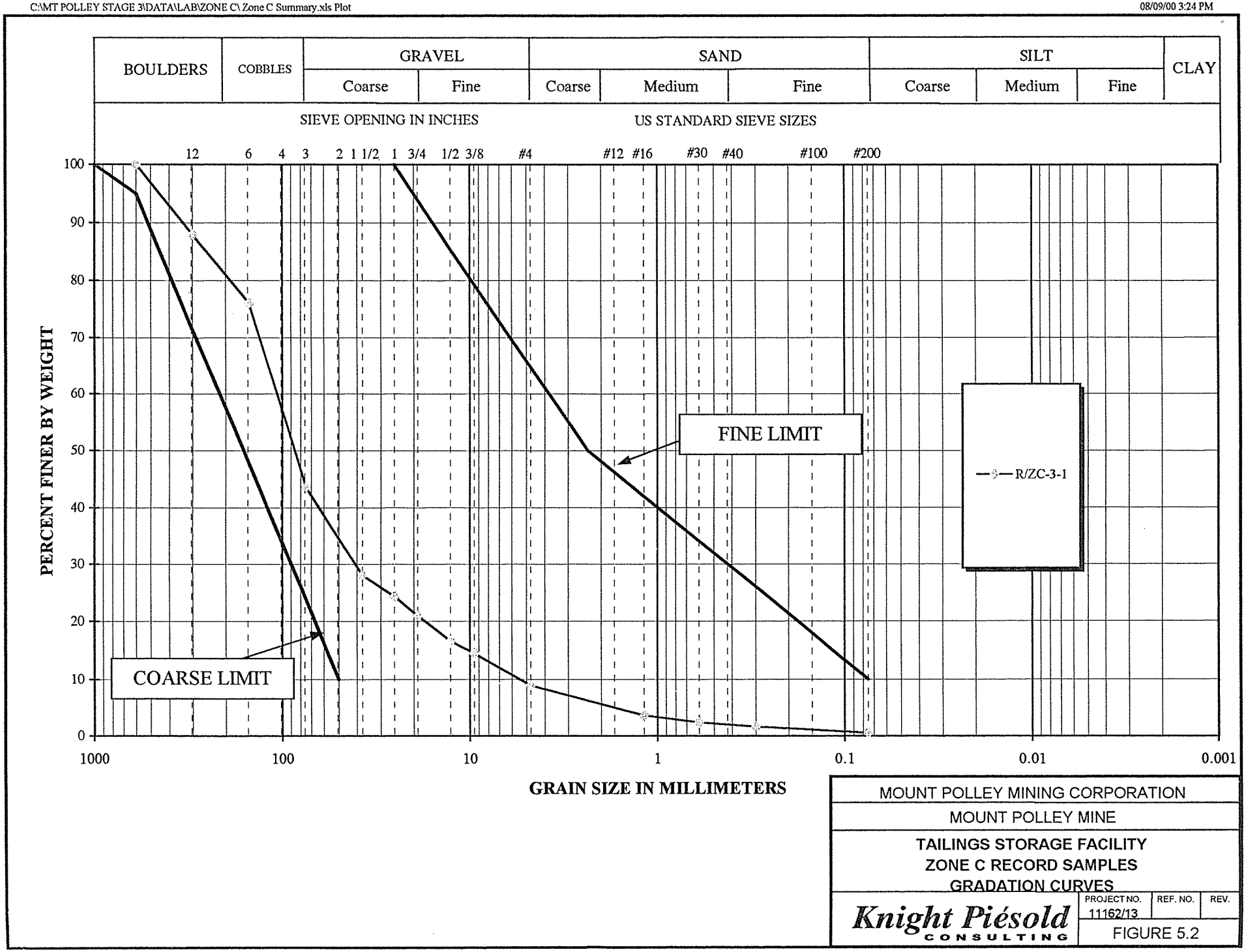
MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
ZONE T RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
TAILINGS STORAGE FACILITY ZONE C RECORD SAMPLES GRADATION CURVES			
Knight Piésold CONSULTING	PROJECT NO. 11162/13	REF. NO.	REV.
	FIGURE 5.2		

14745-40/MTP0/01

Knight Piésold CONSULTING

Knight Piésold, Mt. Polley Site
Fax: (250) 790-2268
Phone: (250) 790-2215

DATE:	July 25, 2000	**FILE NO.:**	11162/13.F01
TIME:		**REF NO.:**	00-026
OPERATOR:		**PAGES:**	1 of 19
SENDER:	Jeremy Kinch	**APPROVED:**	

TO:	KP Vancouver	**FAX:**	604-685-0147
ATTN:	Ken Brouwer		
CC:	George Headley, MEM (250) 952-0481 Eric LeNeve, MPMC Charlie O'Hara, MPMC		
SUBJECT:	Progress Report No. 2		

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY PROJECT

TAILINGS STORAGE FACILITY
STAGE 3 CONSTRUCTION
PROGRESS REPORT NO. 2
JULY 10 TO JULY 23, 2000

SECTION 1.0 – GENERAL

Mount Polley Mining Corporation (MPMC) continued Stage 3 construction activities for the Main and South Embankment with Tercon Contractors Ltd. (TCL) construction efforts at the Main Embankment. Knight Piesold Ltd. (KP) carried out QA/QC activities as required.

1.1 PERSONNEL

The following KP personnel were on site during the reporting period:

- Andrew Wallace (ABW): left site July 18.
- Jeremy Kinch (JRK): arrived on site July 17.
- Jeff Clarke (JDC): On site July 17 and 18

The following MPMC management personnel were on site during the reporting period:

- Eric LeNeve, Tailings Coordinator
- Don Parsons, Mine Superintendent

1.2 WEATHER

Scattered showers at the beginning of the reporting period preceded sunny and warm conditions. There were no weather related delays in the work.

1.3 DESIGN AND CONTRACT DEVELOPMENTS

Design modifications and contractual developments over the reporting period were as follows:

- The limits of geotextile filter fabric to be placed on the foundation of the downstream buttress were revised to reflect foundation conditions. The design change allowed Zone T material to be placed directly on the glacial till foundation within 5 m of the downstream toe between CH 19+00 and CH 21+00. The downstream limit of the filter fabric was reduced further from CH 21+00 to CH 23+00. The entire Stage 3 footprint was covered between CH 17+00 and CH 19+00, where glaciofluvial sediments and artesian pressures were observed.

1.4 TAILINGS FACILITY OPERATION AND MAINTENANCE

MPMC continues to discharge tailings from a single point at CH 27+00 on the Main Embankment. Discharge from CH 16+00 to CH 20+00 is prevented by on-going problems with pressure build-up and sanding in the tailings pipeline. MPMC is working to resolve the problems and establish a beach at the southwest end of the Main Embankment.

The water level in the Main Embankment Seepage Collection Pond (MESCP) has been reduced following modifications to one of the pumps. The foundation and toe drain outlets are now above the pond level and monitoring can continue. The MESCP return pipeline was

disassembled and removed from the Stage 3 footprint after the pond was pumped down. It will be reinstated as required.

2.0 CONSTRUCTION ACTIVITIES

Construction activities for most of the reporting period consisted of foundation preparation and placement of Zones T and C. TCL has the following equipment on site for execution of the work:

- Four Caterpillar 773 rock trucks
- One Caterpillar 16G grader
- One Caterpillar 375 backhoe
- One Caterpillar 322 backhoe
- One Caterpillar 583 packer
- One Caterpillar D8R dozer
- One Caterpillar D6D dozer
- One Caterpillar IT28B forklift
- One Caterpillar D9N dozer (rented from Peterson Contracting)
- One Hitachi EX700 backhoe (rented from Peterson Contracting)
- Sevice, Fuel, and Water Trucks

The major activities during the reporting period are summarized below:

- Construction of a haul road into the Borrow Area No. 2 spoil area using Zone C type material from the rock borrow.
- Removal of unsuitable material from the Stage 3 Main Embankment footprint from CH 20+50 to CH 23+00. The excavation was completed with the CAT 375 backhoe equipped with a cleanup bucket, leaving a contoured, water resistant surface.

- Placement of geotextile filter fabric on the approved foundation between CH 17+00 and CH 21+10. New filter fabric was overlapped 500 mm with the existing filter fabric at the toe of the Zone T haul road.
- Placement of Zone T on the prepared surface of the Main Embankment foundation between CH 17+00 and CH 21+10. The material consisted of select shot rock from the Rock Borrow Area.
- Placement of Zone C rockfill from CH 17+00 to CH 20+40.
- Grading completed downstream slopes.
- Extension of piezometers leads on Instrumentation Planes A, B, C and E.
- Installation of vibrating wire piezometers in the foundation materials of the Main Embankment on Planes A, B and C.

The following summarizes the excavation and fill placement quantities completed during the reporting period and to date:

Material	Volume over Reporting Period (m^3)	Total Volume to Date (m^3)	Total Volume Required (m^3)	Percent Complete (%)
Main Embankment				
Foundation Exc.	28,928	43,776	45,000	97
Zone C	28,226	28,226	348,000	8
Zone F	0	0	27,000	0
Zone S	0	0	37,000	0
Zone T	16,148	21,524	51,000	42
Unsuitable from Emb. Slopes	0	421	11,000	4

South Embankment				
Foundation Excavation	0	0	4,500	0
Zone S	0	0	8,300	0

Notes: 1. Fill volumes are based on load counts and are supplied by MPMC.

Night shift commenced on July 14.

SECTION 3.0 – KNIGHT PIESOLD ACTIVITIES

KP activities over the reporting period included the following:

- Completion of quality control testing of Zone F and Zone T samples.
- Monitoring of Main Embankment foundation excavations.
- Monitoring placement of geotextile filter fabric on approved foundation.
- Monitoring of Zone T and C placement in the downstream buttress of Main Embankment.
- Evaluation of Owner requested design changes and submission of same to KP Vancouver.
- Monitoring of Rock Borrow Area development and materials available for fill placement.
- Attendance of progress meetings.
- Monitoring of flows from Main Embankment foundation and toe drain outlets.
- Completion of daily reports summarizing QA/QC and construction activities.

SECTION 4.0 – EMBANKMENT MONITORING

On-going monitoring of instrumentation was continued over the reporting period. Data collected indicates that the TSF is performing well within design tolerances

4.1 VIBRATING WIRE PIEZOMETERS

Three new vibrating wire piezometers, A2-PE1-03, B2-PE1-03 and C2-PE1-03, were installed in foundation soils during the reporting period. Each instrument was installed in a test pit approximately 1.5 m deep, and was surveyed prior to burial. Data collected from these piezometers will be included in the bi-weekly summaries as trends develop.

The following observations of the vibrating wire piezometer data are based on the summary data provided on Figures 1 through 5.

- Foundation Piezometers

  Foundation piezometers remained static during the reporting period.

- Fill Piezometers

  The majority of fill piezometers remain static, with the exception of C2-PE2-05, which continue to show gradual increases in the measured pore water pressures.

- Drain Piezometers

All piezometers located within the drains have remained static and at very low head indicating that the drains are free draining and are functioning as designed.

- Tailings Piezometers

Readings from piezometers installed in the tailings continue to mimic the pond level.

4.2 DRAIN FLOWS

The MESCP was pumped down during the reporting period, permitting the measurement of flows from the foundation drains for the first time since December 22, 1998. Flows from the upstream toe drain outlets were measured for the first time. The results of July 18 measurements are summarized below.

Drain	Flow (l/min)	Comments
FD-1	3.6	Clear. Flow unchanged.
FD-2	0.6	Clear. Flow unchanged.
FD-3	16.8	Clear. Flow unchanged.
FD-4	1.2	Clear. Slight decrease in flow since 1998.
FD-5	24.0	Water is slightly turbid. Flow approximately double historic average. Top of drain exposed during foundation excavation and is intercepting surface runoff.
FD Total	46.2	
ME East TD Outlet	98.4	Clear. Higher flow (compared to west outlet) may be due to active tailings deposition on the east side of the impoundment.
ME West TD Outlet	44.4	Clear
PE South TD Outlet	4.0	Clear.

Toe Drain Total	146.8	
Grand Total	193.0	

The water level in GW96-9 was observed to be approximately 5 cm below the top of the well casing. It decreased slightly during the Stage 3 foundation excavation.

5.0 – LABORATORY TESTING

A total of six (6) control samples of Zone F material were collected and tested during the reporting period. MPMC crushes Zone F material at the mill. The results of particle size analyses indicate that the material is marginal, typically meeting or slightly exceeding the maximum D_{15}. Samples that met the specification were mixed by equipment prior to sampling. MPMC may adjust the crushing operation to achieve a finer product. Test results are summarized on Table 5.1 and Figure 5.1.

A total of two (2) record samples of Zone T material have been collected during the reporting period. Both samples came from material blasted by MPMC prior to Stage 3 construction. Test results, summarized on Table 5.2 and Figure 5.3, show that both samples meet the specification for particle size distribution.

6.0 – ONGOING ISSUES

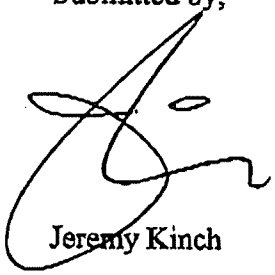
The following issues are to be addressed during the upcoming or future reporting periods:

- MPMC continues to focus on difficulties with the tailings discharge line.
- TCL will experiment with removal of unsuitable material from the downstream slope of the Main Embankment and placement of Zone F material above El. 928.5 m. TCL hopes to place Zone F from CH 16+00 to CH 17+00 and from CH 26+00 to CH 28+00 by

pushing material up the slope. This placement method will be evaluated to ensure proper compaction.

- Fill placement at the Main Embankment downstream buttress will continue.
- Collection and evaluation of monitoring data will continue.
- Groundwater monitoring wells downstream of the South Embankment to be installed.

Submitted by,



Jeremy Kinch

Knight Piésold Ltd.

Distribution: Eric LeNeve, Tailings Coordinator, MPMC, Site

Don Parsons, Mine Superintendent, MPMC, Site

George Headley, Ministry of Energy and Mines, Victoria, B.C.

Ken Brouwer, Project Director, KP Vancouver

TABLE 5.1

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE F CONTROL TESTS - SUMMARY SHEET

C:\Mt Polley Stage 3\data\lab\Zone F\[Zone F Summary.xls]Table — Date Printed: 24-Jul-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)[1] Gravel %	Sand %	Silt and Clay %
17-Jul-00	C/ZF-3-1	Sampled from conveyor	64.2	32.9	2.9
19-Jul-00	C/ZF-3-2	Filter sand stockpile - July 17 crush	50.9	45.4	3.7
19-Jul-00	C/ZF-3-3	Sampled from conveyor	61.4	36.2	2.4
20-Jul-00	C/ZF-3-4	Filter sand stockpile - July 19 crush	49.9	47.0	3.1
29-Jun-00	C/ZF-3-5	Filter sand stockpile	61.0	38.0	1.0
29-Jun-00	C/ZF-3-6	Filter sand stockpile	59.7	37.2	3.1
		MEAN	57.9	39.5	2.7
		MEDIAN	60.4	37.6	3.0
		MAXIMUM[2]	64.2	47.0	3.7
		MINIMUM[2]	49.9	32.9	1.0

Notes:
1. C3 (Particle Size Distribution) - ASTM D422
2. These are 100 % limits.

Revised On: July 23, 2000
Revision 0

TABLE 5.2

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE - TAILINGS STORAGE FACILITY

STAGE 3 CONSTRUCTION
ZONE T RECORD TESTS - SUMMARY SHEET

C:\Mt Polley Stage 3\data\lab\Zone T\[Zone T Summary.xls]Table

Date Printed: 24-Jul-00

Date Sampled	Sample No.	Location	C3 (Particle Size Distribution)[1] Cobble %	Gravel %	Sand %	Silt and Clay %
05-Jul-00	R/ZF-3-1	Zone T Fill	20.0	61.5	15.7	2.8
15-Jul-00	R/ZF-3-2	Zone T Fill	20.0	58.7	16.1	5.1
		MEAN	20.0	60.1	15.9	4.0
		MEDIAN	20.0	60.1	15.9	4.0
		MAXIMUM[2]	20.0	61.5	16.1	5.1
		MINIMUM[2]	20.0	58.7	15.7	2.8

Notes:
1. C3 (Particle Size Distribution) - ASTM D422
2. These are 100 % limits.

Revised On: July 23, 2000
Revision 0

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE A PIEZOMETERS

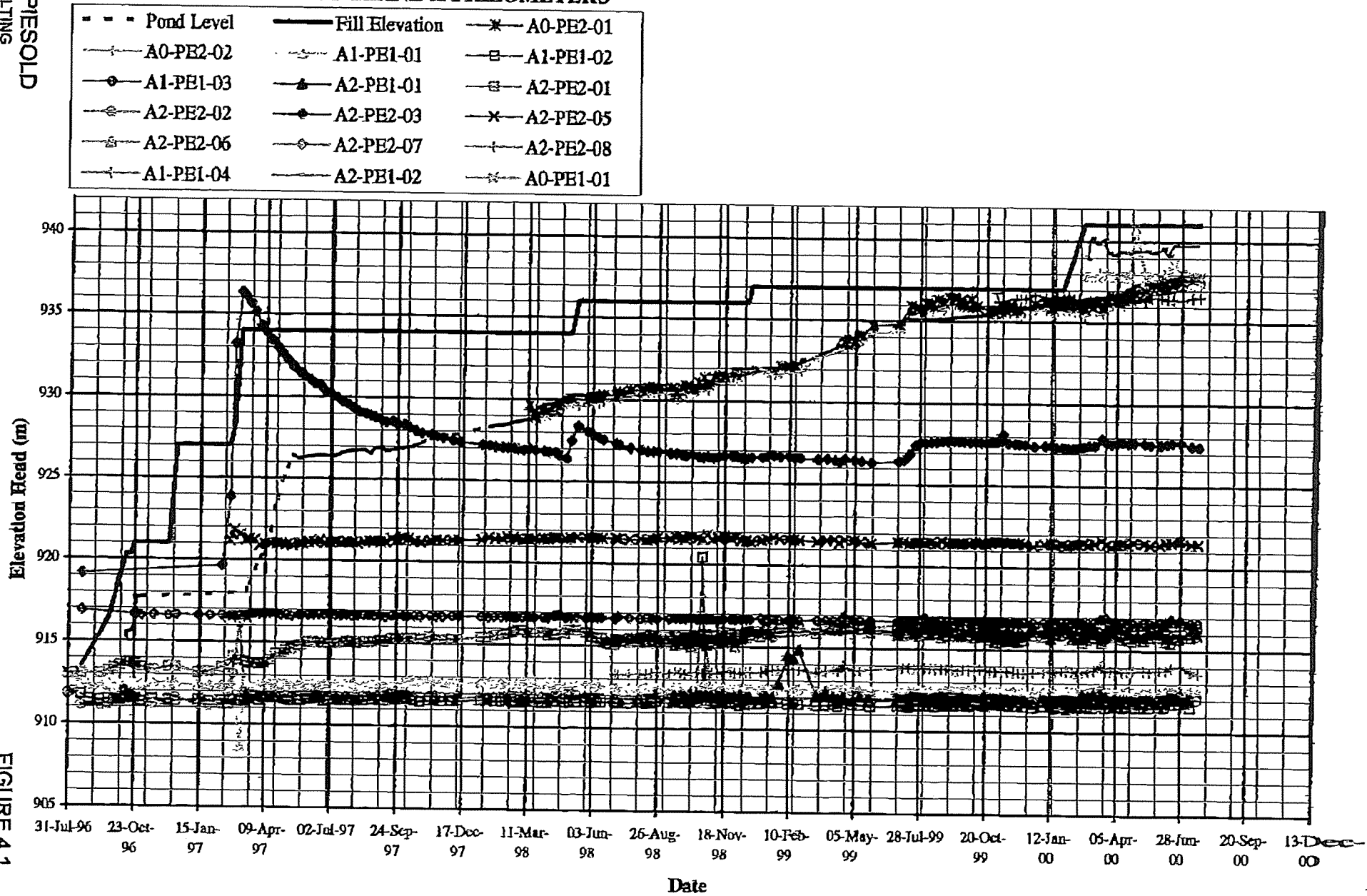


FIGURE 4.1

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE B PIEZOMETERS

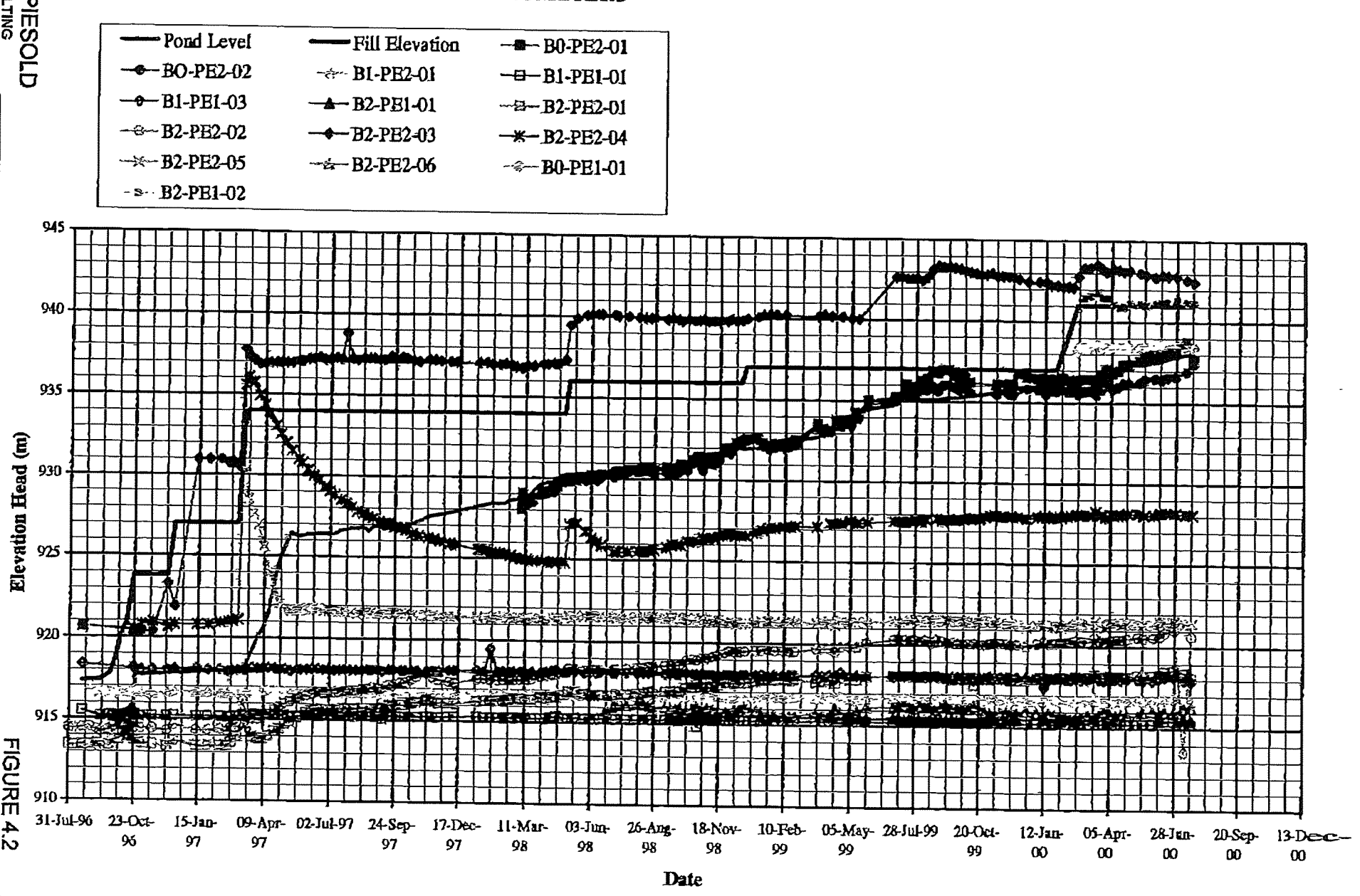


FIGURE 4.2

KNIGHT PIESOLD CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE C PIEZOMETERS

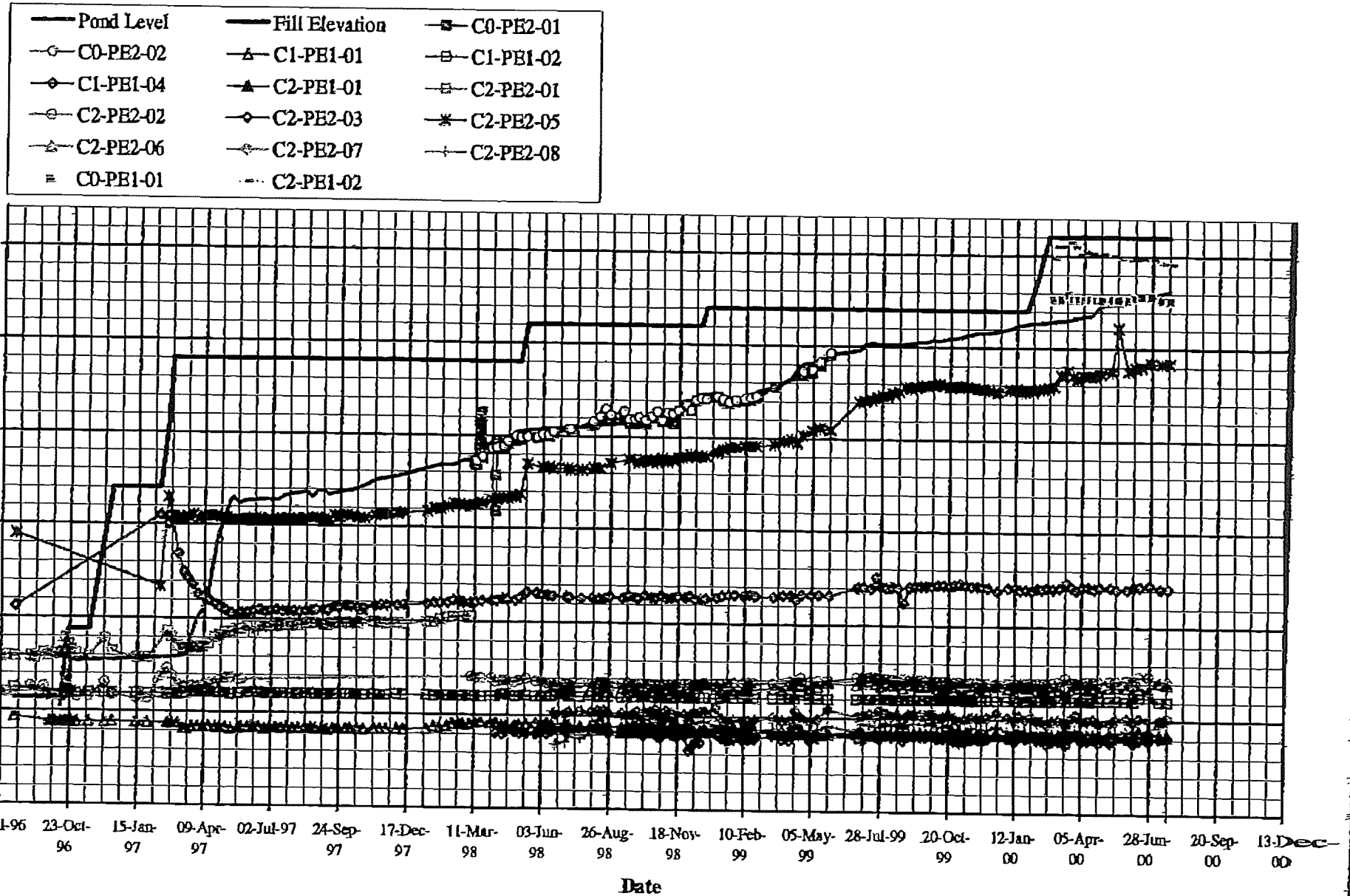


FIGURE 4.3

KNIGHT PIESOLD
CONSULTING

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE D PIEZOMETERS

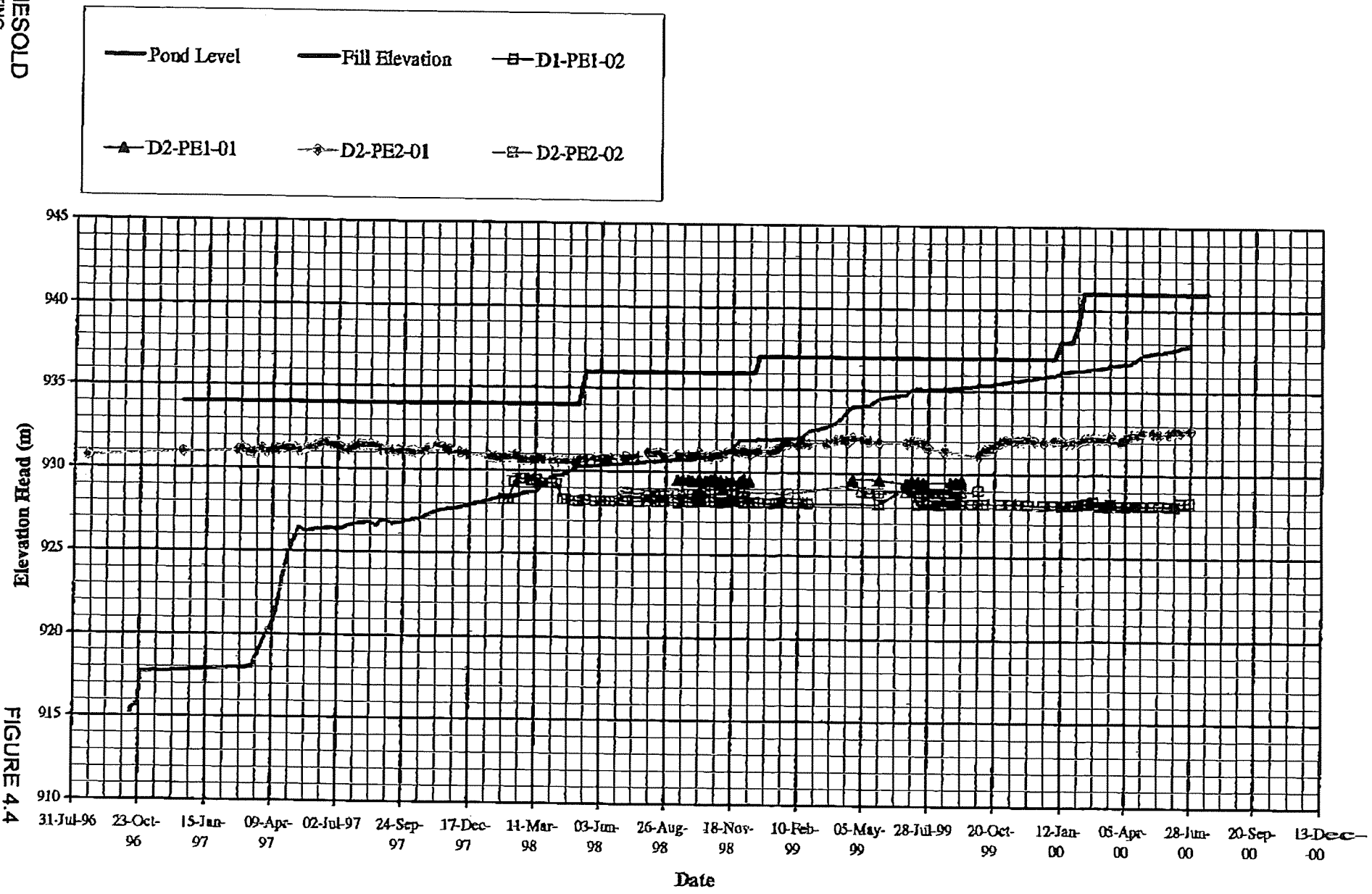


FIGURE 4.4

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MOUNT POLLEY MINE
TAILINGS STORAGE FACILITY
SUMMARY PLOT OF PLANE E PIEZOMETERS

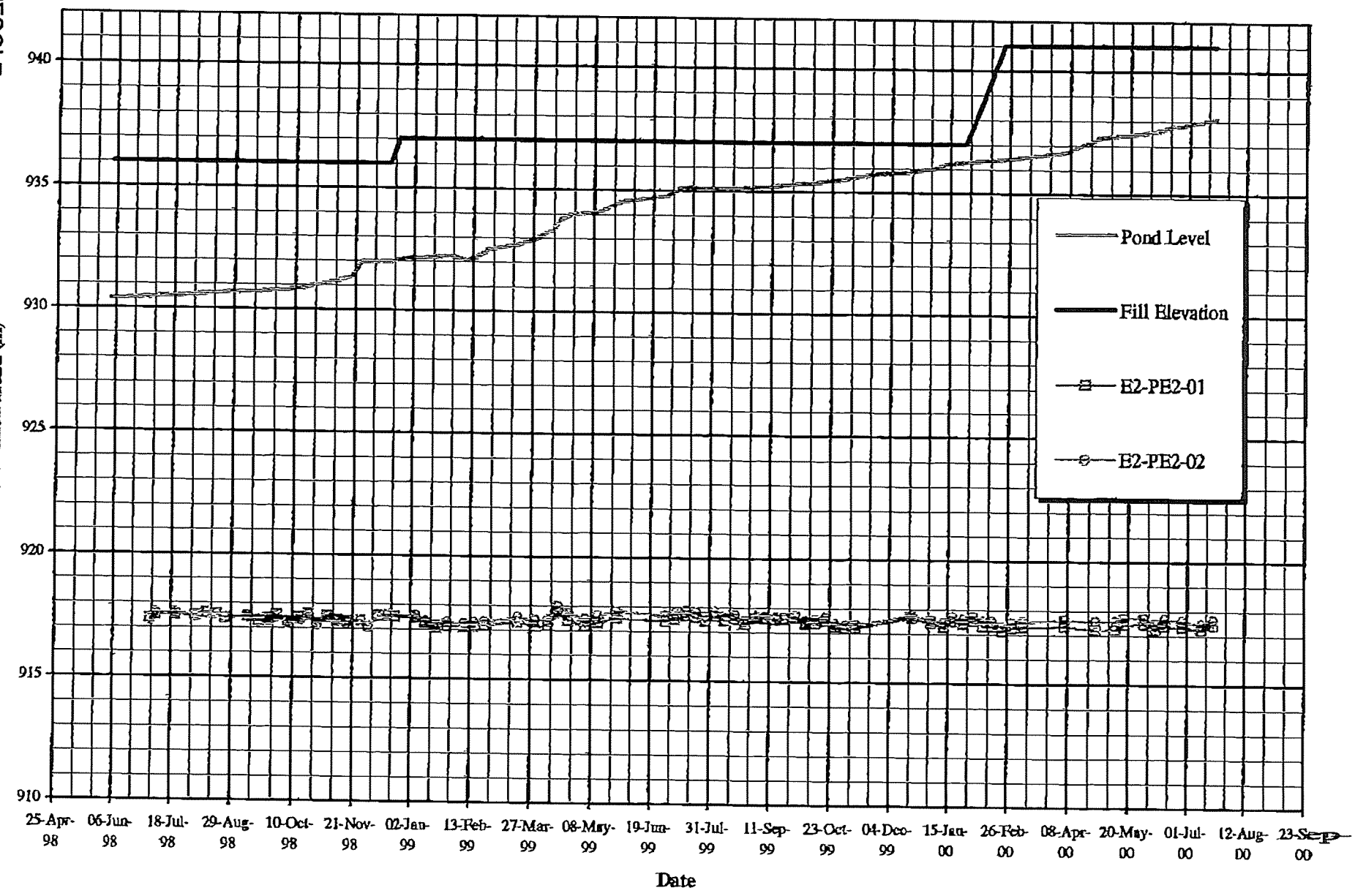

FIGURE 4.5

C:\MT POLLEY STAGE 3\DATA\LAB\ZONE F\Zone F Summary.xls Plot

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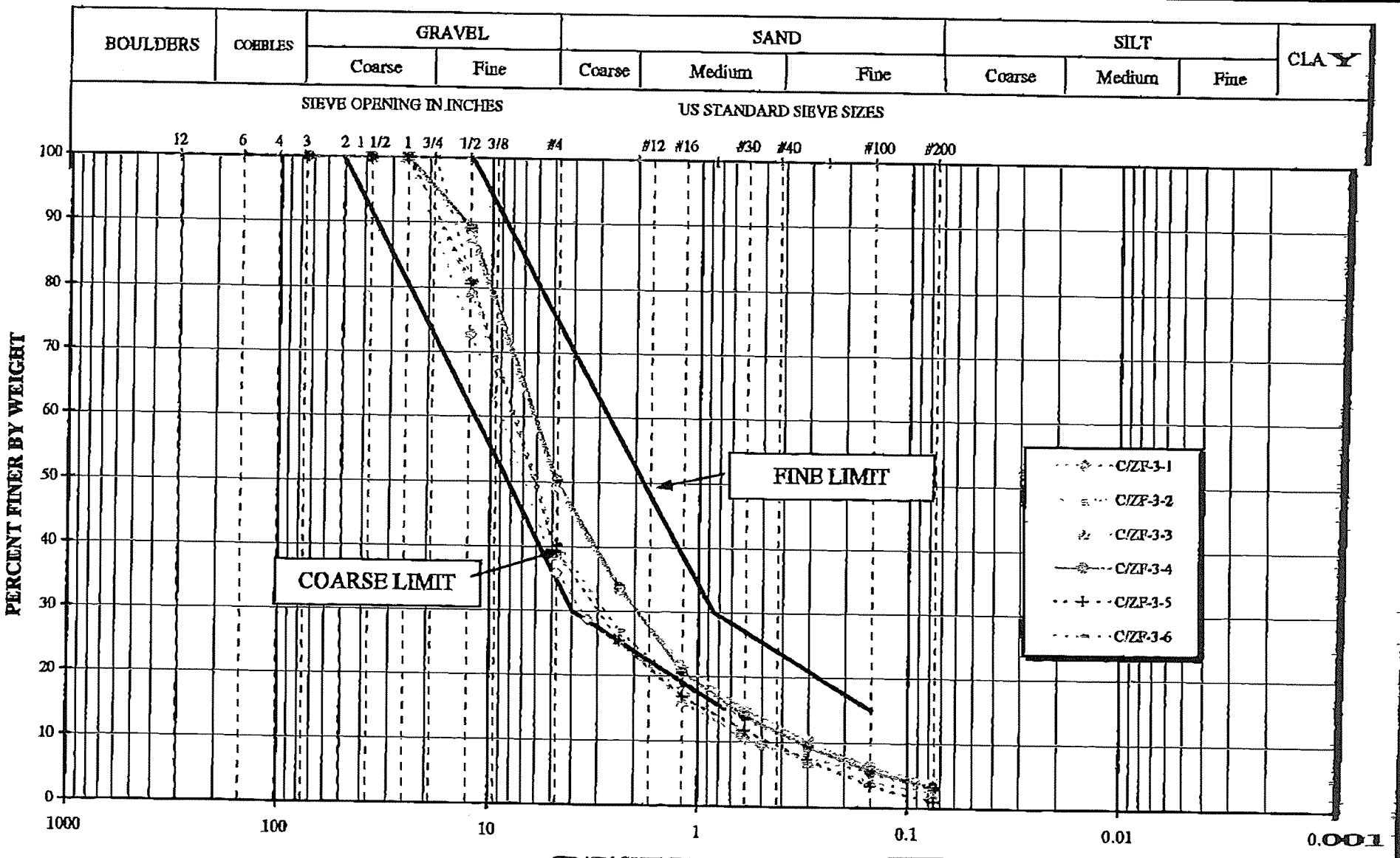

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TAILINGS STORAGE FACILITY
ZONE F CONTROL SAMPLES
GRADATION CURVES

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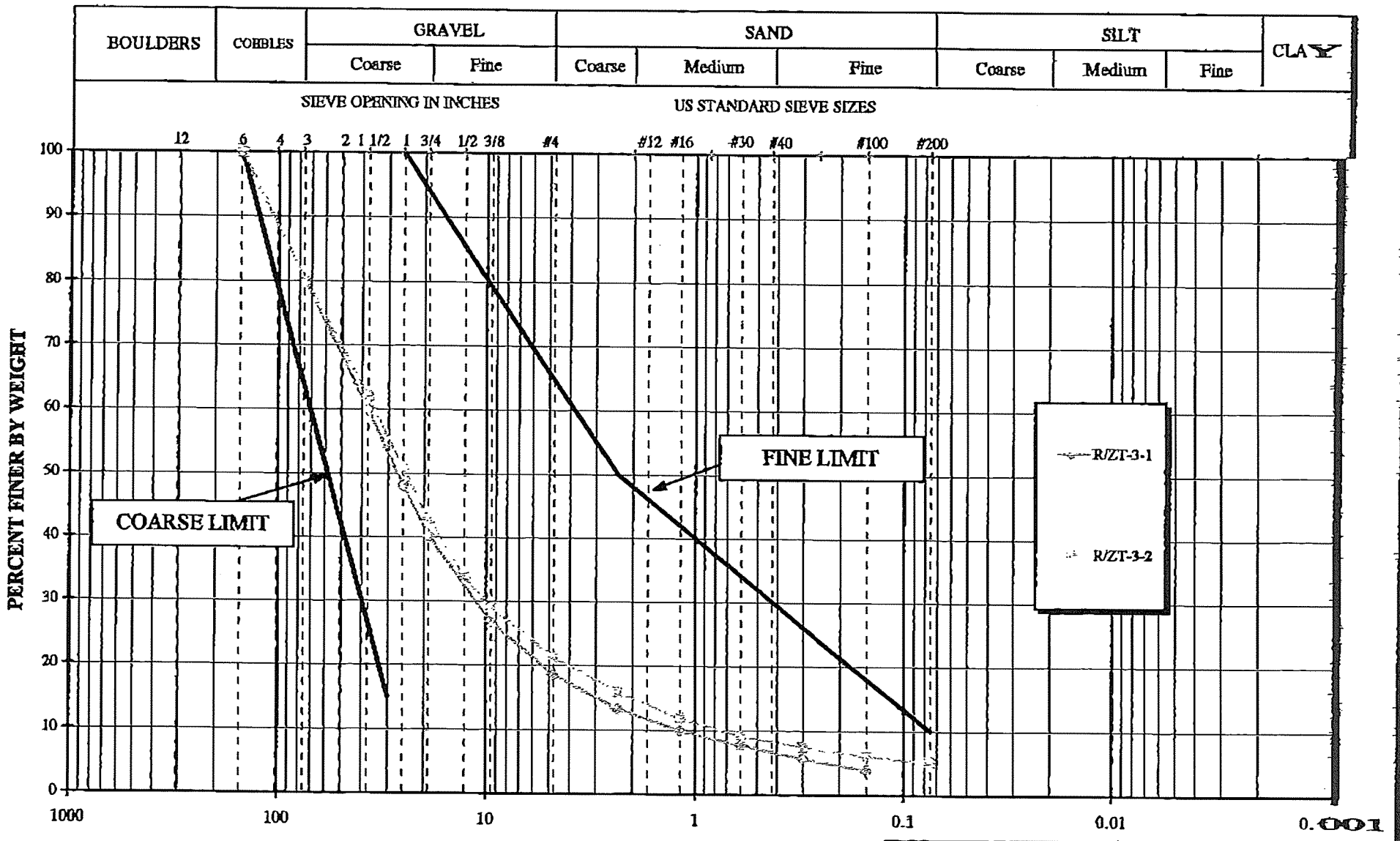
PROJECT NO. 1115213 | REF. NO. | REV.

FIGURE 5.1



MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

TAILINGS STORAGE FACILITY
ZONE T RECORD SAMPLES
GRADATION CURVES

Knight Piésold CONSULTING

PROJECT NO.	REF. NO.	REV.
11162/13		

FIGURE 5.2

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FAX COVER SHEET

MOUNT POLLEY MINING CORPORATION
A DIVISION OF IMPERIAL METALS CORPORATION

DATE: SEPT. 1/00

ATTENTION TO: GEORGE HEADLY

COMPANY NAME: MEMPR.

FAX NO:

NUMBER OF PAGES:
INCLUDING COVER 13

FROM: ERIC LENEVE

PHONE: 250-790-2215
OR VANCOUVER LINES
604-602-7569
604-602-1793

FAX NO: 250-790-2268

LOG NUMBER: 11527

REMARKS: ☐ URGENT ☐ FOR YOUR INFORMATION ☐ REPLY ASAP ☑ PLEASE COMMENT

SUBJECT: GEORGE; TSF ROCK BORROW & ALL DESIGN COMMENTS, APPROVAL?

E. Leneve

Knight Piésold
CONSULTING

Knight Piésold Ltd.
Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: (604) 685-0543
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E-mail: kpl@knightpiesold.com

Mr. Don Parsons
Mine Superintendent
Mount Polley Mining Corporation
Box 12
Likely, BC V0L 1N0

Our Reference: 11162/13.01
Number: 0/1854
August 22, 2000

Dear Mr. Parsons,

Re: Mount Polley Mine
Tailings Storage Facility
Rock Borrow Bench Stability Assessment

1.0 INTRODUCTION

Mount Polley Mining Corporation (MPMC) is currently constructing the Stage 3 raise of the Tailings Storage Facility. Fill materials for the downstream shell zone of the Main Embankment comprise drilled and blasted rock taken from the Rock Borrow, which is located northwest of the facility. Drilling and blasting is carried out by the principal contractor, Tercon Contractors Ltd. (TCL), following initial development by MPMC.

Knight Piésold was requested to assess the stability of the Rock Borrow after the first bench face was exposed. The assessment included a review of the proposed bench design, surface mapping and evaluation of geotechnical data. The results of the assessment, with recommendations regarding bench design, are provided herein.

2.0 ROCK BORROW LAYOUT

The Rock Borrow layout comprises northwest, southwest and southeast walls as shown in plan on Figure 2.1. The proposed development plan consists of the formation of a 20 m high double bench with a 10 m berm and 70 degree bench-face slope. The design inter-ramp slope is 49 degrees. The ultimate height of the borrow walls will be approximately 46 m. Access is from the southeast.

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The geology of the Rock Borrow primarily consists of megacrystic granite, characterized by large feldspar phenocrysts with a distinct augen shape. The granite is cut by dykes of varying composition, including monzonite, red granite, and a white volcanic.

3.0 GEOTECHNICAL DATA

3.1 Geotechnical Data Collection

Surface mapping of the exposed face on the El. 1020 bench was conducted by Mr. Jeremy Kinch on August 12 and 14, 2000. The investigation included measurements of dip and dip direction as well as qualitative assessment of exposed rock joints. A total of 94 structures were measured along a 180 m traverse. A photographic log was also compiled.

3.2 Rock Mass Structure

The results of surface mapping on the El. 1020 bench are shown in stereographic projection on Figure 3.1. The rock is highly jointed. Joints are typically closely spaced and continuous, with smooth, planar to slightly undulating surfaces. Clay gouge was observed along 25 percent of joints. Dykes, faults and shears were also identified. Four dominant joint planes were identified:

- Plane A dips at 49 degrees toward the southeast and daylights in the northwest wall, as shown in Photograph 1.
- Plane B dips at 81 degrees toward the northeast and strikes sub-parallel to the southwest wall, as shown in Photograph 2.
- Plane C dips at 38 degrees toward the north-northwest.
- Plane D dips at 85 degrees toward the southwest.

The noted dip angles represent average values and the average orientations are included in Figure 3.1. Minor faults and shears within the rock are oriented parallel

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Planes A, B and C. The orientation of dykes is somewhat random. These structures are characterized by highly fractured rock.

No water was observed in the face, although staining was observed on joint surfaces. Clay gouge was typically dry to moist. The more heavily fractured fault zones and dykes may act as conduits for water, as several holes drilled from the El. 1020 bench were wet. Anecdotal evidence also indicates wet zones within the rock mass.

4.0 BENCH STABILITY ASSESSMENT AND DESIGN

4.1 Northwest Wall

The type of instability along the northwest wall is characterized by planar sliding due to Plane A that strikes sub-parallel to and dips out of this wall as illustrated in Photograph 1. This type of instability results in slabs sliding into the Rock Borrow, although the close joint spacing of Plane A limits the size of the slabs. The proposed MPMC design bench configuration with a 10m berm (and bench height 20m) results in an inter-ramp angle approximately equal to the average dip of Plane A (49 degrees). The proposed design can be expected to give rise to further sliding and slabbing with subsequent excavation of the lower benches.

In order to minimize the size and occurrence of slabs along this wall it is recommended that MPMC adopt a 13m wide berm that results in an inter-ramp angle of 45 degrees. This flatter slope will decrease the number of joint planes that will daylight along this wall and instabilities, if at all, will be limited to the partial loss of the crest of the berm. This expected occurrence of instability should not manifest into any type of larger significant failure along this wall. Access along this wall may however not be possible and should not be planned.

4.2 Southwest Wall

Instability along the southwest wall is characterized by ravelling due to Plane B that strikes sub-parallel to this wall. Planes A and C combine to form shallow dipping wedges along the southwest wall. Small wedges have been dislodged with blasting, however no unstable large wedges were observed or are anticipated as the close

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spacing of Plane B limits the size of the wedges. This is illustrated in Photographs 2 and 3. The current MPMC design bench configuration with a berm width of 10m will serve to catch all small wedges and ravelling along the southwest wall.

4.3 Southeast Wall

No types of failure or instabilities have been observed or are anticipated along the southeast wall since the dominant joint sets are favourably oriented as shown in Photograph 4.

5.0 RECOMMENDATIONS

A minimum 13m wide berm should be provided along the northwest wall between the 20m high benches. Excavation along the northwest wall will then only result in the localized loss of the crests of the berm. It is not recommended that this area of the Rock Borrow be used or planned for access.

The southwest wall will continue to ravel but no large-scale failures are anticipated. The 10 m wide berm should be sufficient to catch ravelling and small wedges. The favourable orientation of the southeast wall will allow for a narrower berm width than 10 m. The 8 m minimum width required by the Mines Act is considered to be sufficient. This wall is also the most favourable location for access ramps.

The recommended bench configurations for each of the walls are shown in Figure 5.1. Controlled bench blasting in terms of closely spaced holes and/or reduced charge weights along the final row of holes for the northwest and southwest walls will minimize the amount of loose slabs and ravelling respectively.

A follow-up inspection of the stability of each of the benches should be carried out after further excavation. This inspection can be conducted by Jeff Clarke, who is currently on site, or by Jeremy Kinch who will replace Jeff in October.

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We trust that this letter report satisfies your requirements. Please do not hesitate to contact us if you have any questions or concerns.

Yours truly,
KNIGHT PIÉSOLD LTD.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
D. R. BROX

Dean R. Brox, P.Eng.
Senior Geotechnical Engineer

Ken J. Brouwer, P.Eng.
Principal

/jrk

Enclosures

MOUNT POLLEY MINING CORPORATION

MOUNT POLLEY MINE

ROCK BORROW

REV.	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D
0	22AUG'00	ISSUED FOR LETTER REPORT	JAK	NSD		

REVISIONS

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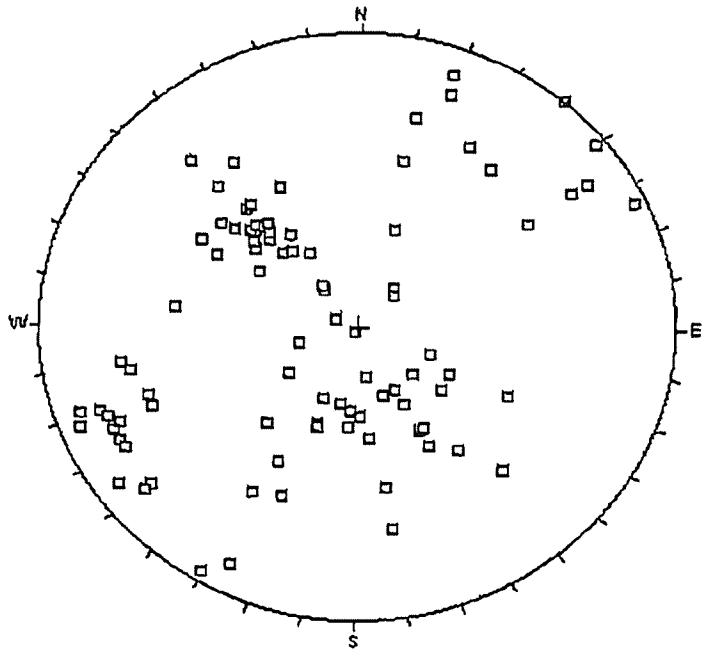
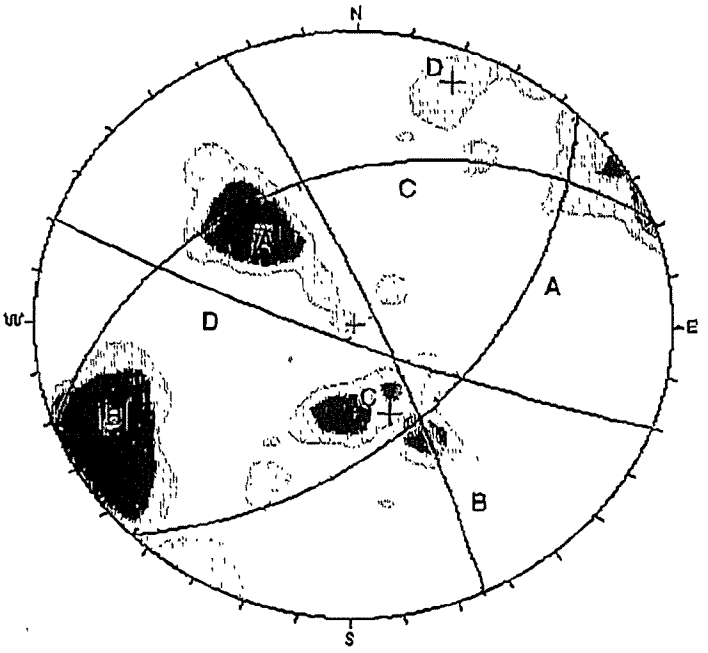
PROJECT NO.	REF. NO.	REV.
11162/13	8	0

FIGURE 2.1





Peak Joint Sets

Plane	Dip/Dip Direction
A	49 / 134
B	81 / 065
C	38 / 336
D	85 / 202

Equal Angle - Lower Hemisphere
No Bias Correction
94 Poles
94 Entries
All Structures

MOUNT POLLEY MINING CORPORATION			
MOUNT POLLEY MINE			
ROCK BORROW MEASURED JOINT ORIENTATIONS AND CONTOURED STEREONET			
Knight Piésold CONSULTING	PROJECT NO. 11162/13	REF NO. B	REV. 0
	FIGURE 3.1		

NORTHWEST WALL

NOTE: Plane A dipping at 49° out of northwest wall may result in partial loss of berm.

SOUTHWEST WALL

SOUTHEAST WALL

Scale 5 0 5 10 15 20 25 m

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ROCK BORROW STABILITY ASSESSMENT
RECOMMENDED BENCH DESIGN

REV.	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D
0	22AUG'00	ISSUED FOR LETTER REPORT	JKK	NSD		

REVISIONS

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PROJECT NO.	REF NO.	REV.
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FIGURE 5.1

Photograph 1: Northwest Wall. 70 degree bench face angle undercuts Joint Set A causing sliding and slabbing.

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Photograph 2: Southwest Wall. Joint Set B strikes sub-parallel to the wall and forms a back plane for small wedges.

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Photograph 3: Raveling typically occurs on Southwest Wall.

Photograph 4: Southeast wall. Joint sets dip into the wall.