

Rio Algom Mining Corp.

Marvin D. Freeman
Vice President

January 28, 1997

Return Receipt Requested P 144 785 120

Mr. Joe Holonich
Nuclear Regulatory Commission
Uranium Recovery Branch
Division of Low Level Waste Management & Decommissioning
Mail Stop T7J9
11555 Rockville Pike
Rockville, MD 20850

Dear Mr. Holonich:

Re: License SUA-1119
Docket # 40-8084
Tailing Settlement Monitoring

As per license condition 45.J., Rio Algom implemented the NRC approved tailing settlement monitoring program at the Lisbon facility to document the rate of tailings settlement. This program was implemented to show that approximately 90% of the tailings settlement is completed prior to placement of the erosion protection layer over the reclaimed tailings.

The initial baseline survey was conducted on July 25, 1995 by an independent surveyor licensed by the State of Utah. The contract surveyor then conducted six (6) quarterly surveys over the following 1½ years. The location map for the twenty-six (26) survey monuments and the elevation data collected over the 18-month period are attached as Figure 1 and Table 1 respectively.

The settlement of the 13 monuments on the upper tailing impoundment averaged 0.04 feet over the 18-month period (0.03 feet/year) and settlement of the 13 monuments on the lower tailings impoundment averaged 0.03 feet (0.02 feet/year). Only five (5) of the twenty-six (26) monuments had a total settlement greater than 0.05 feet over the 18-month period. Four of these five monuments were located on the berms of the evaporation cells used in the groundwater CAP program. All four of these monuments are located on the side slope portion of the berms. These side slopes may not have been compacted as well as the core of the berms and it is believed that this may be the cause of the slightly higher settlement values in the monuments on the evaporation cell berms.

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Mr. Joe Holonich

January 28, 1997

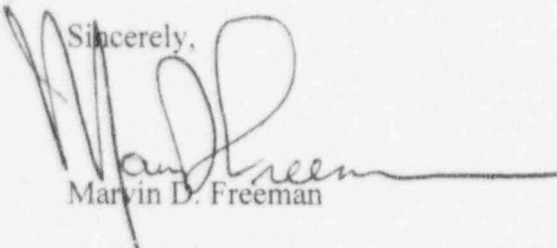
Page 2

If data for the monuments on the berms of the evaporation cells are excluded from the analysis, the average settlement was only 0.02 feet/year for the upper tailing impoundment and was less than 0.02 feet/year for the lower tailing ponds.

Rio Algom believes the settlement survey data which has an overall average settlement of 0.024 feet/year (less than 0.02 feet/year if monuments on the berms of the evaporation cells are excluded), demonstrates that over 90% of the tailing settlement has occurred.

This conclusion is supported by the Lisbon tailings consolidation analysis prepared by EarthFax and submitted to NRC in the 1989 tailings reclamation plan. In that analysis, EarthFax projected that the Lisbon tailings (with five foot of cover) would settle at a relatively constant rate of about 0.10 feet/year (1.2 inches/year) until 90% of settlement was completed. Then after a transition period, the average settlement would decrease to a rate of about 0.02 feet/year (Figure 4-8A). The average Lisbon tailings settlement rate documented by the surveys is clearly this latter range. Based on the above, Rio Algom is hereby requesting NRC approval to terminate the settlement monitoring program and to proceed with the approved tailings reclamation program. Figure 4-8A of the 1989 EarthFax report is attached for easy reference. The survey data for the individual survey monuments is also presented in graphical form in the attachments.

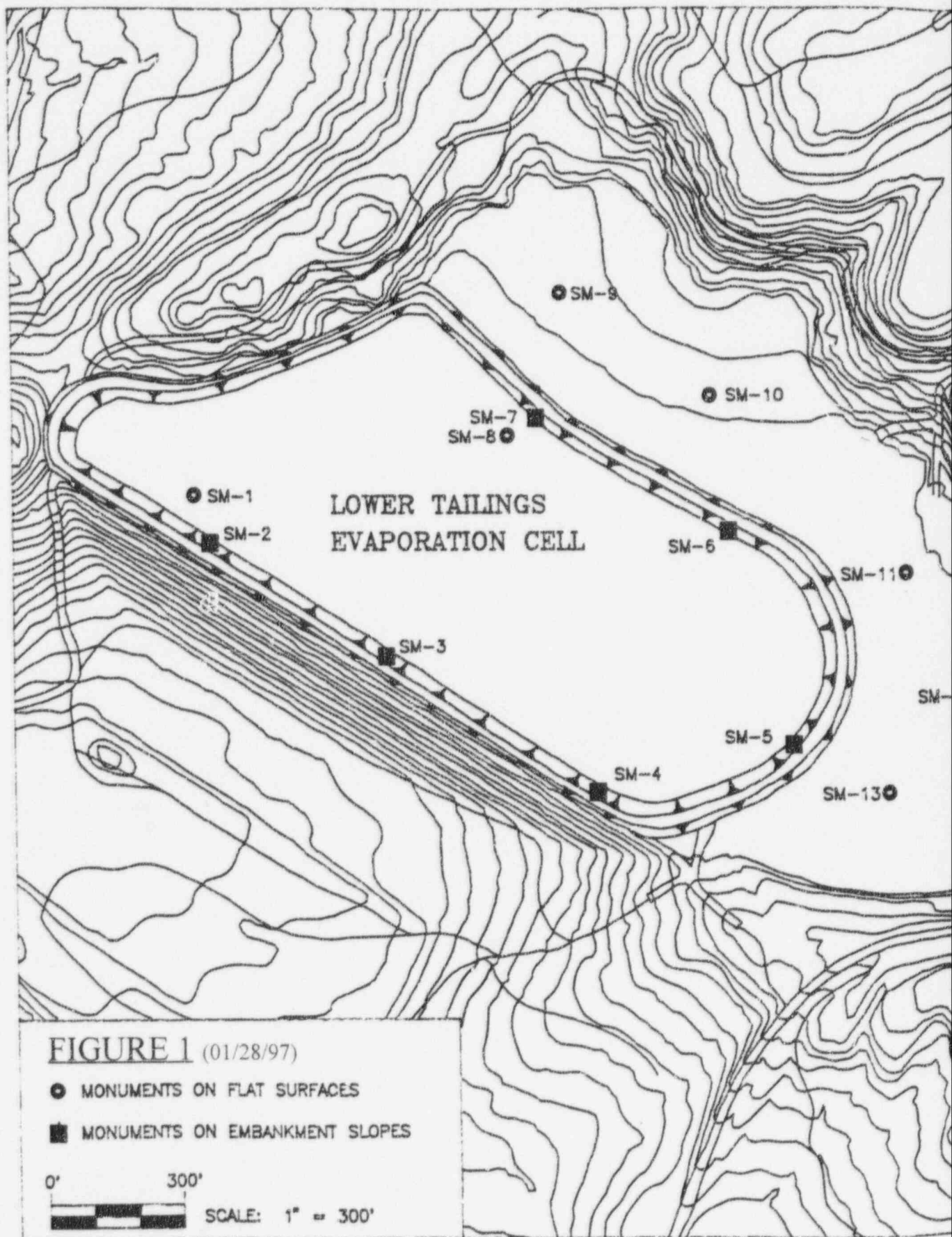
Sincerely,

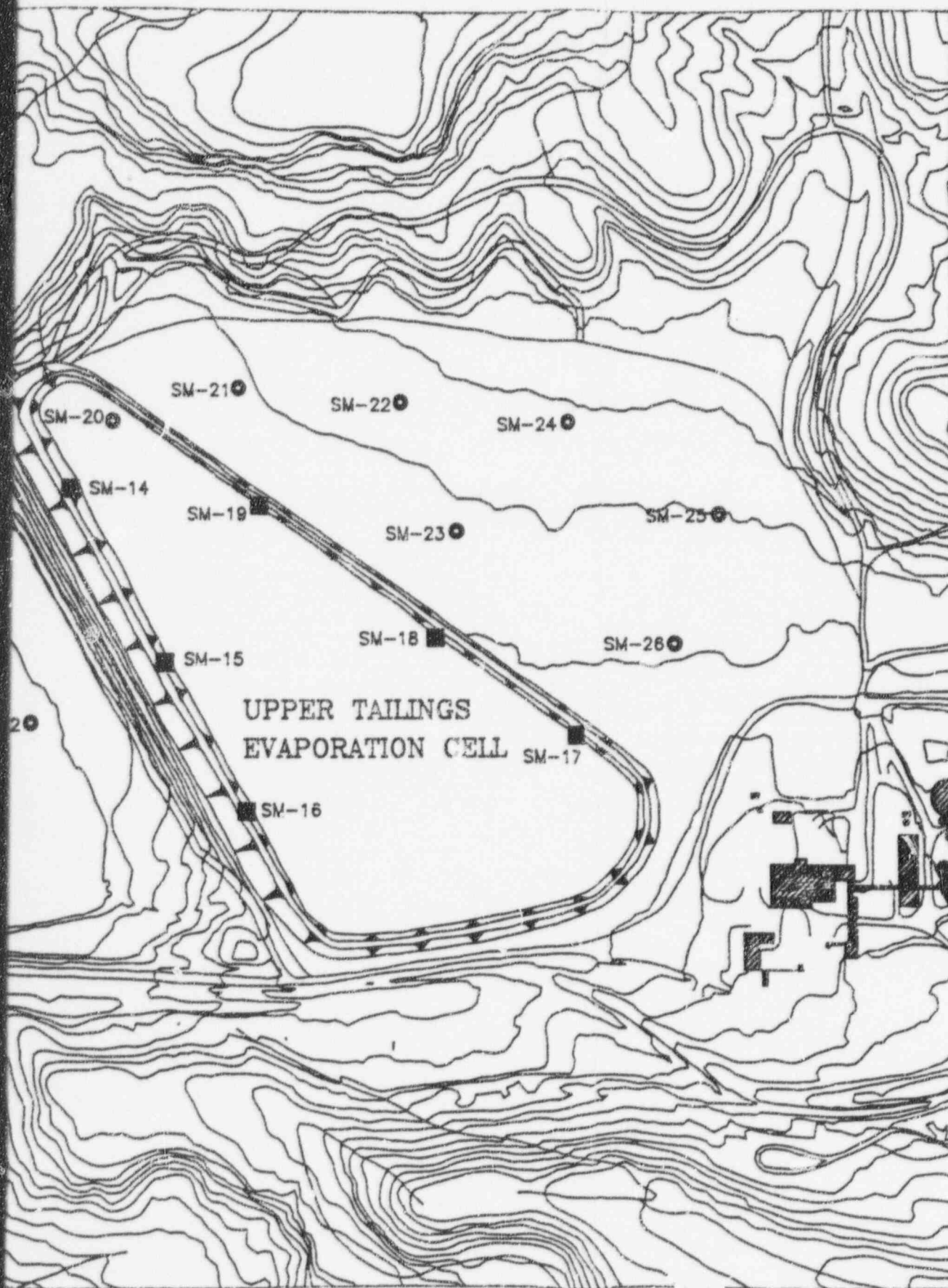


Marvin D. Freeman

MDF:kfb

cc: L. Axtell (RAMC-Lisbon)
F. Fossey (RAMC-Lisbon)
NRC - (Div. Of Radiation Safety and Safeguards) Arlington, TX
File





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TABLE 1

SETTLEMENT MONITOR SURVEY DATA
Lisbon Tailing Impoundment
Rio Algom Mining Corp.

Monument Elevation - Feet Above MSL

	Survey Date							Chg. from
	07/25/95*	10/17/95	01/25/96	04/25/96	08/19/96	11/07/96	01/15/97	Baseline Ft.
Lower Tailing Impoundment								
SM-1	6651.95	6651.95	6651.95	6651.95	6651.91	6651.90	6651.94	0.01
SM-2	6654.49	6654.51	6654.49	6654.51	6654.50	6654.46	6654.48	0.01
SM-3	6653.72	6653.73	6653.72	6653.73	6653.69	6653.65	6653.67	0.05
SM-4	6654.59	6654.60	6654.59	6654.60	6654.59	6654.57	6654.58	0.01
SM-5	6654.49	6654.50	6654.49	6654.50	6654.48	6654.46	6654.47	0.02
SM-6**	6655.80	6655.81	6655.80	6655.81	6655.75	6655.70	6655.71	0.09
SM-7**	6656.58	6656.58	6656.58	6656.58	6656.54	6656.48	6656.52	0.05
SM-8	6657.60	6657.62	6657.60	6657.62	6657.60	6657.56	6657.58	0.02
SM-9	6658.26	6658.28	6658.26	6658.28	6658.29	6658.25	6658.26	0.00
SM-10	6662.38	6662.39	6662.38	6662.39	6662.39	6662.35	6662.36	0.02
SM-11	6654.10	6654.10	6654.10	6654.10	6654.06	6654.03	6654.05	0.05
SM-12	6652.46	6652.46	6652.46	6652.46	6652.44	6652.41	6652.44	0.02
SM-13	6651.73	6651.72	6651.71	6651.69	6651.70	6651.67	6651.71	0.02
Average settlement for all monuments								0.03
Average settlement without monument on berms								0.02
Upper Tailing Impoundment								
SM-14	6698.98	6698.99	6698.97	6698.97	6698.97	6698.97	6698.98	0.00
SM-15	6697.31	6697.32	6697.30	6697.29	6697.29	6697.28	6697.30	0.01
SM-16	6697.16	6697.17	6697.16	6697.15	6697.15	6697.15	6697.16	0.00
SM-17*	6698.45	6698.45	6698.44	6698.43	6698.40	6698.40	6698.40	0.05
SM-18*	6698.85	6698.85	6698.82	6698.79	6698.75	6698.74	6698.71	0.14
SM-19*	6700.26	6700.25	6700.24	6700.23	6700.18	6700.19	6700.17	0.09
SM-20	6697.44	6697.44	6697.44	6697.44	6697.44	6697.44	6697.43	0.01
SM-21	6700.05	6700.07	6700.06	6700.04	6700.04	6700.02	6700.02	0.03
SM-22	6703.71	6703.69	6703.68	6703.67	6703.67	6703.66	6703.68	0.03
SM-23	6699.86	6699.83	6699.83	6699.81	6699.78	6699.79	6699.78	0.08
SM-24	6705.28	6705.28	6705.26	6705.26	6705.25	6705.25	6705.24	0.04
SM-25	6703.11	6703.09	6703.10	6703.08	6703.06	6703.07	6703.08	0.03
SM-26	6697.49	6697.49	6697.48	6697.46	6697.44	6697.45	6697.46	0.03
Average settlement for all monuments								0.04
Average settlement without monument on berms								0.03

* Initial (Baseline) Survey

** Monuments on downwind inside berm of evaporation cell

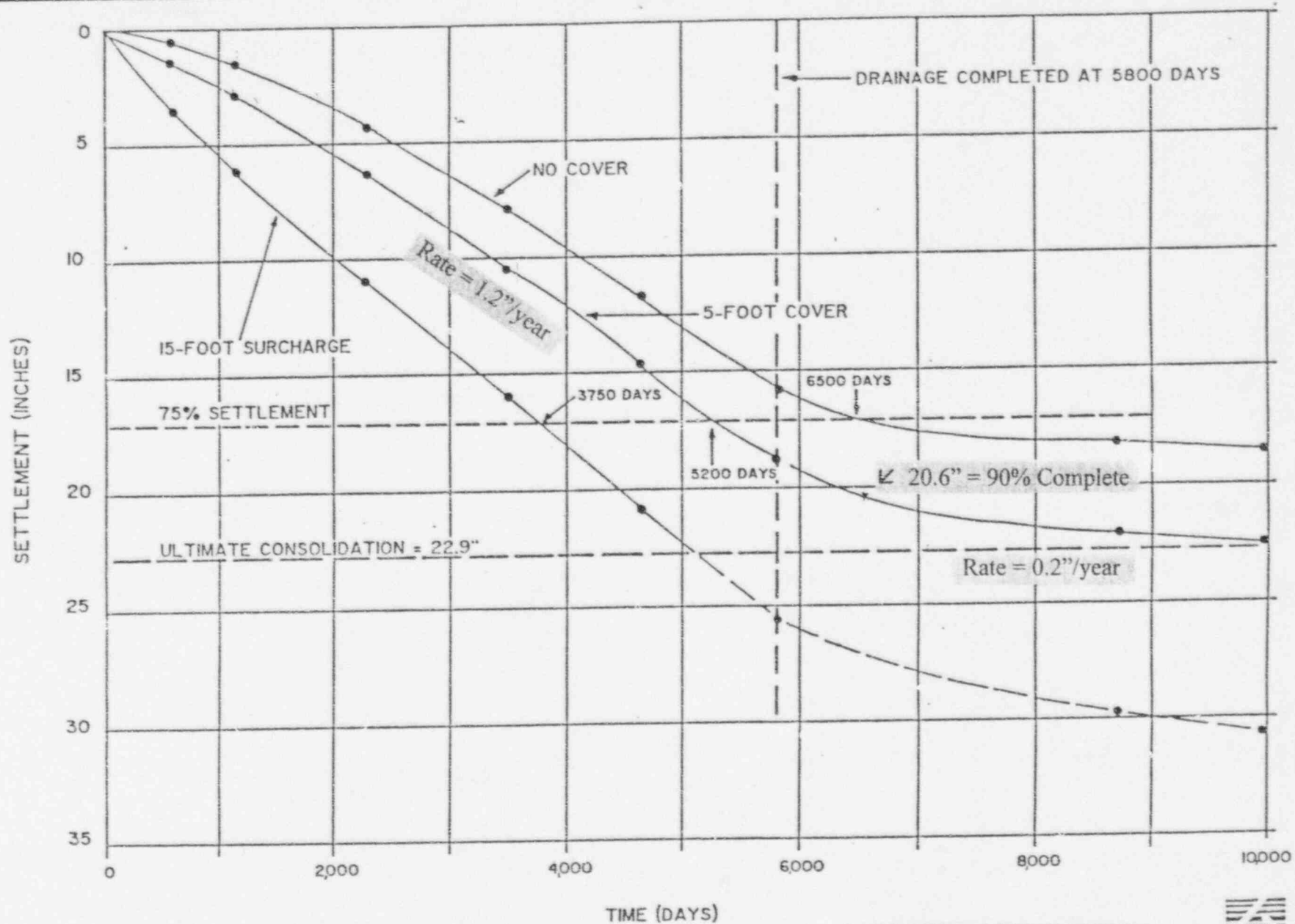
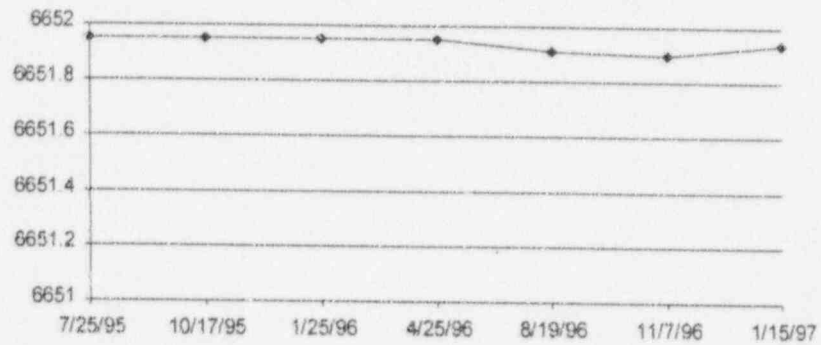


FIGURE 4-8A. TIME RATE OF CONSOLIDATION OF TAILINGS

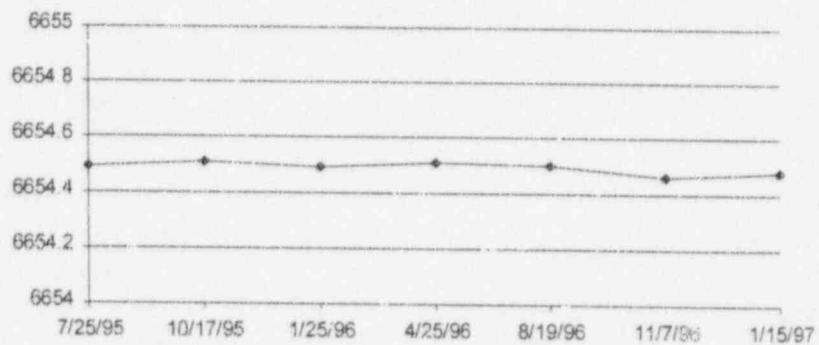
SETTLEMENT MONITOR SURVEY DATA

Lower Tailing Impoundment

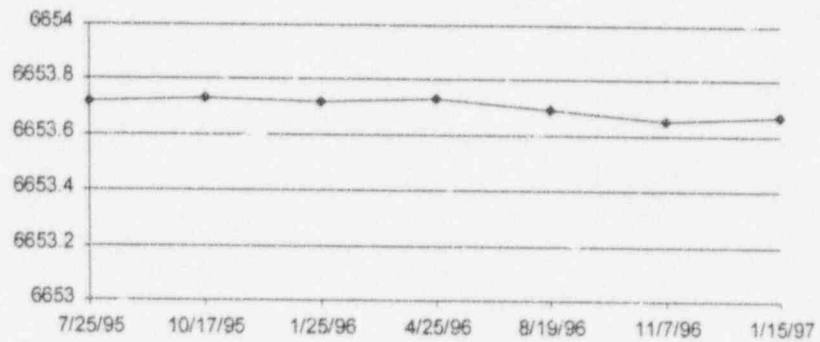
Settlement Monument
SM-1



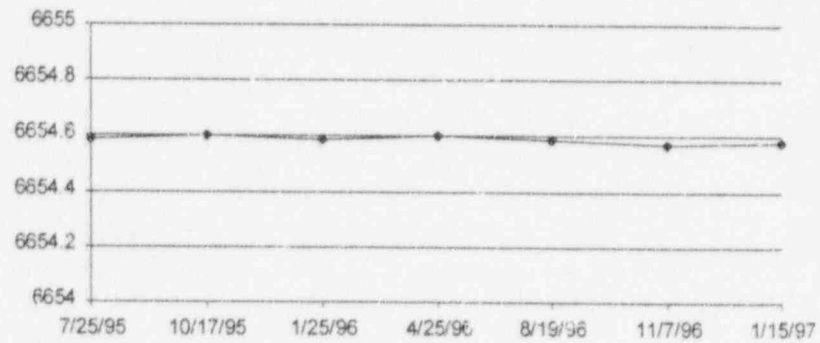
Settlement Monument
SM-2



Settlement Monument
SM-3



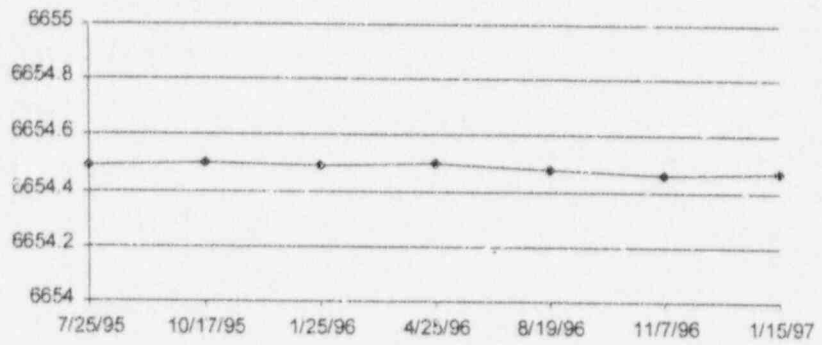
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SM-4



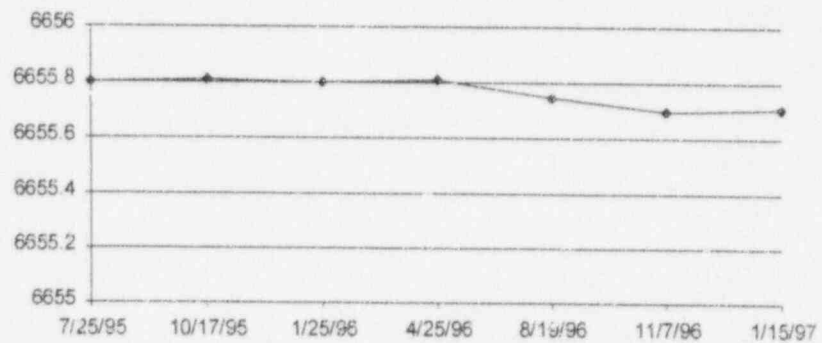
SETTLEMENT MONITOR SURVEY DATA

Lower Tailing Impoundment

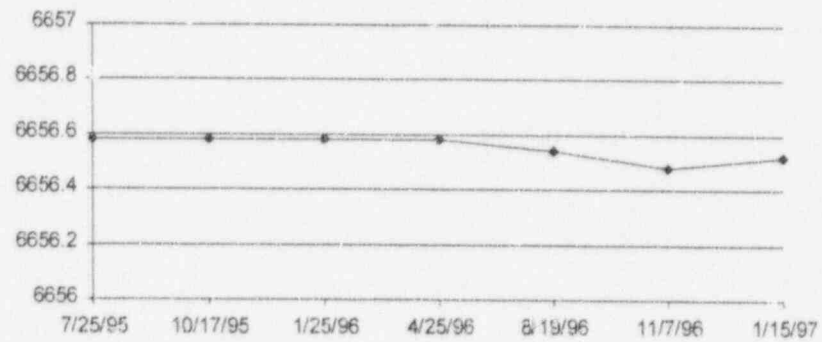
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SM-5



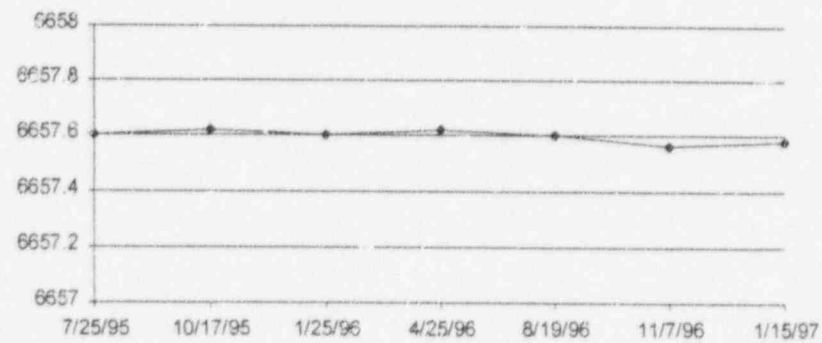
Settlement Monument
SM-6



Settlement Monument
SM-7



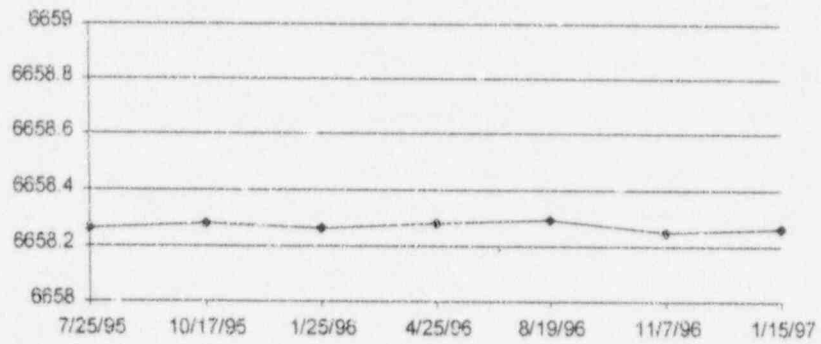
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SM-8



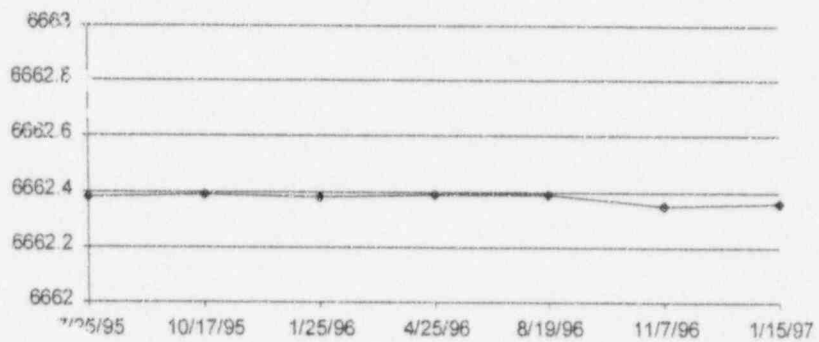
SETTLEMENT MONITOR SURVEY DATA

Lower Tailing Impoundment

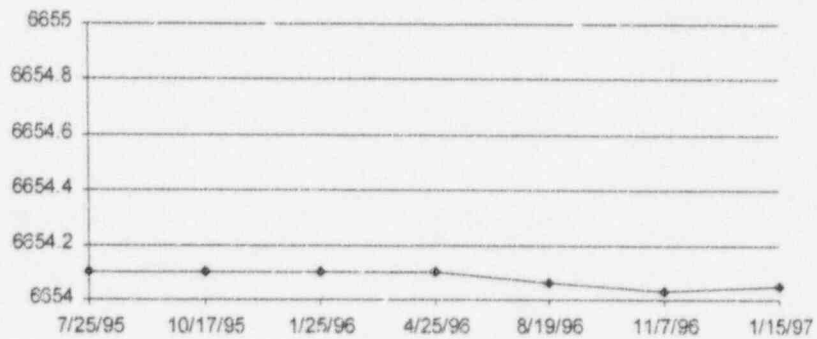
Settlement Monument
SM-9



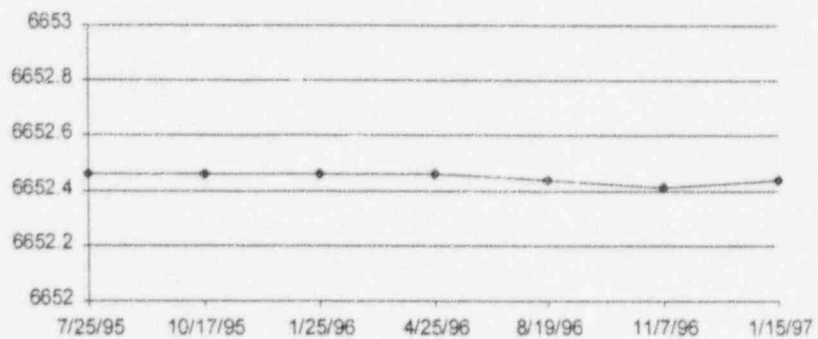
Settlement Monument
SM-10



Settlement Monument
SM-11

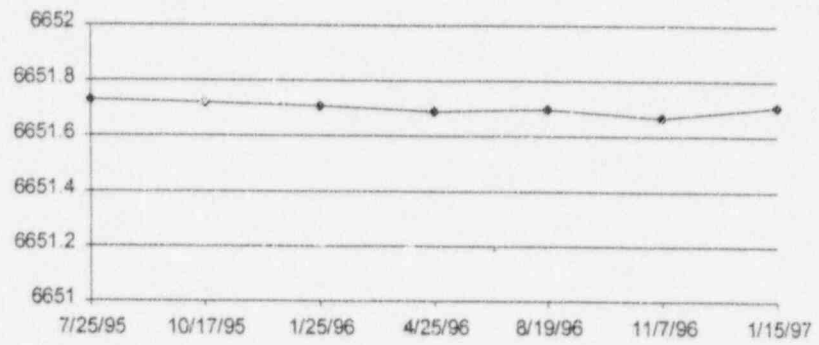


Settlement Monument
SM-12



SETTLEMENT MONITOR SURVEY DATA
Lower Tailing Impoundment

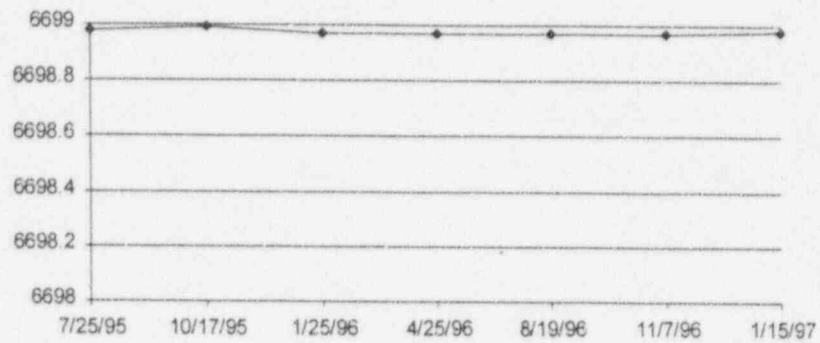
Settlement Monument
SM-13



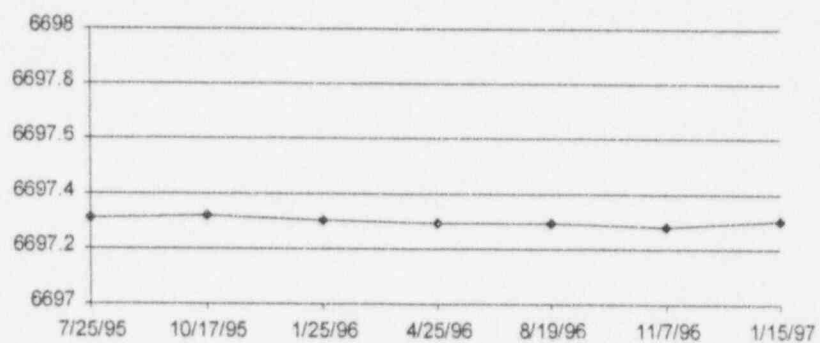
SETTLEMENT MONITOR SURVEY DATA

Upper Tailing Impoundment

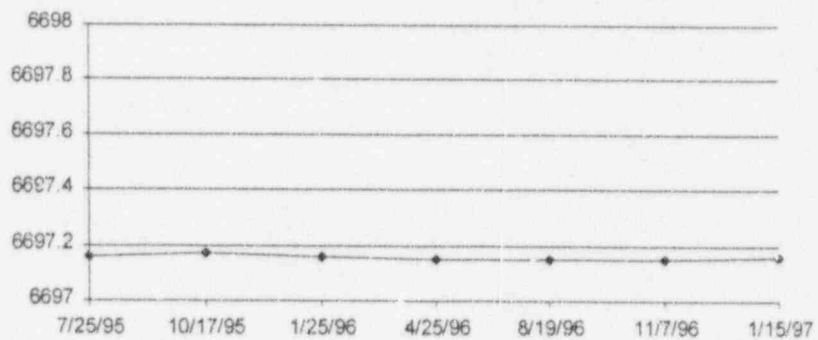
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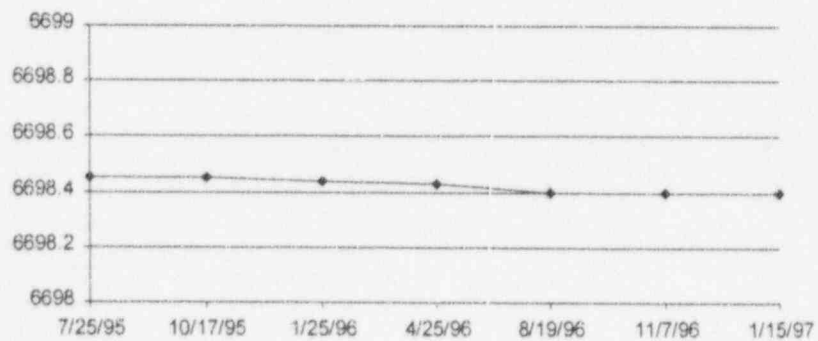
Settlement Monument
SM-15



Settlement Monument
SM-16



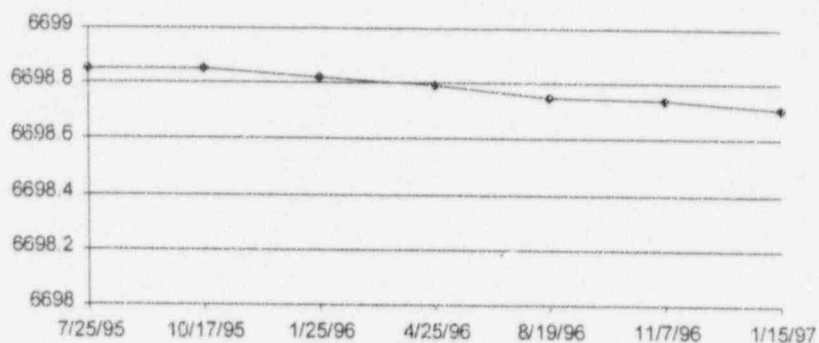
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SM-17



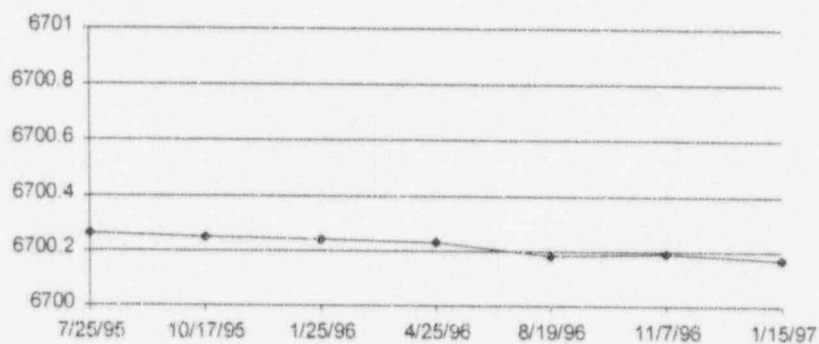
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Upper Tailing Impoundment

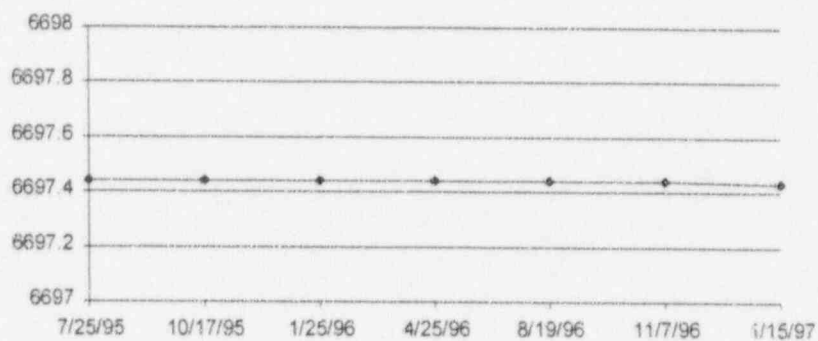
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SM-18



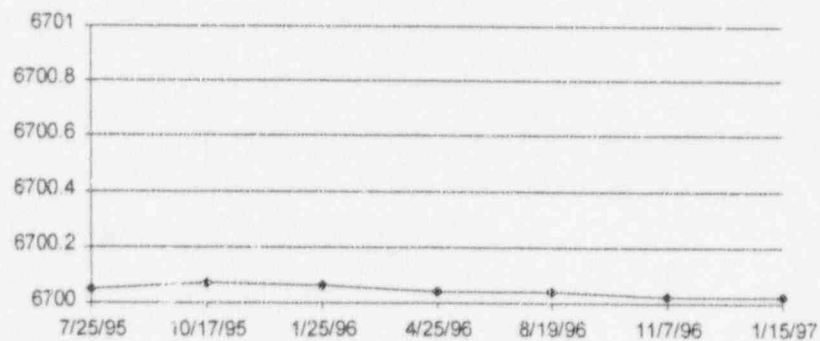
Settlement Monument
SM-19



Settlement Monument
SM-20



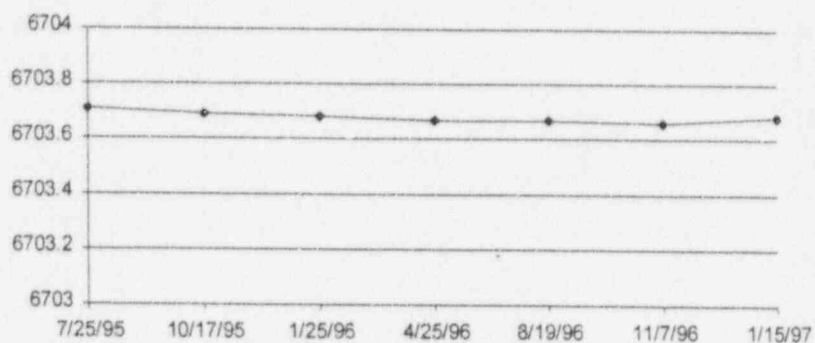
Settlement Monument
SM-21



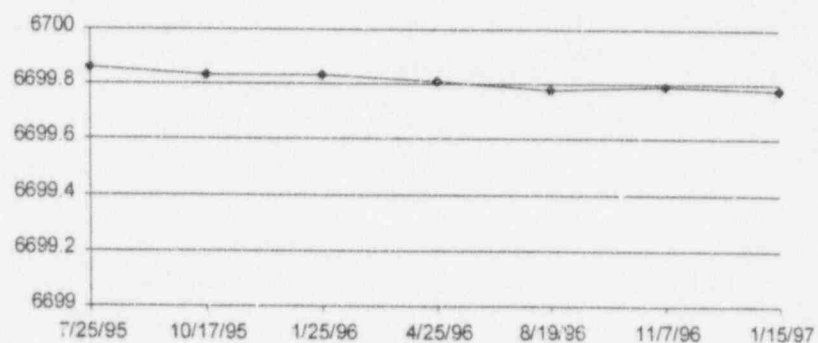
SETTLEMENT MONITOR SURVEY DATA

Upper Tailing Impoundment

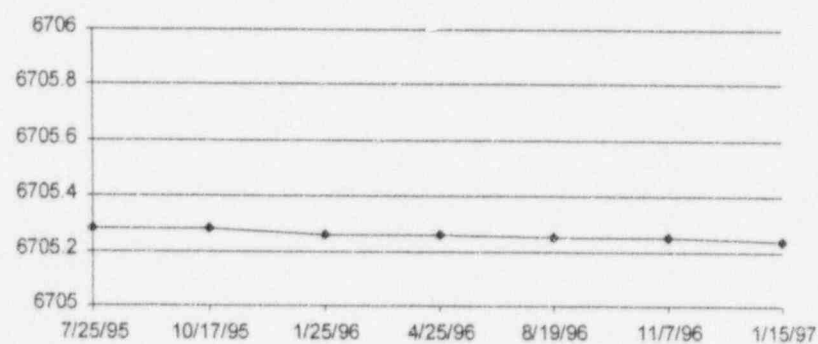
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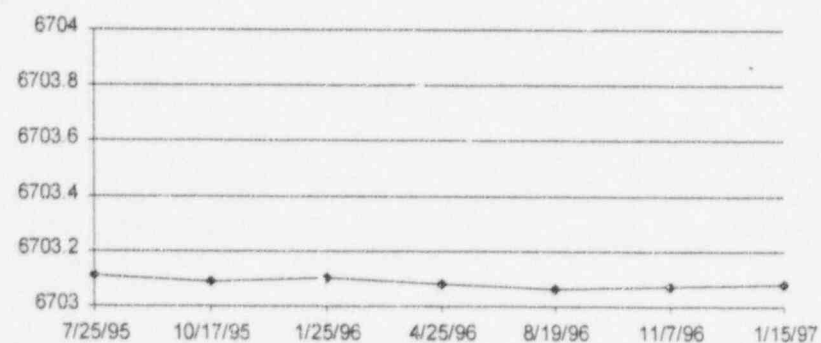
Settlement Monument
SM-23



Settlement Monument
SM-24



Settlement Monument
SM-25



SETTLEMENT MONITOR SURVEY DATA

Upper Tailing Impoundment

Settlement Monument
SM-26

