FIRST QUARTER PERFORMANCE REPORT
CHROMIUM MITIGATION PROGRAM
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

APRIL 13, 1988

Submitted in Accordance with:

Chromium Mitigation Program
Consent Order

Prepared by:

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Senior Hydrologist
Engineering Services Division
Kerr-McGee Corporation

KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

FIRST QUARTER PERFORMANCE REPORT
CHROMIUM MITIGATION PROGRAM

INTRODUCTION

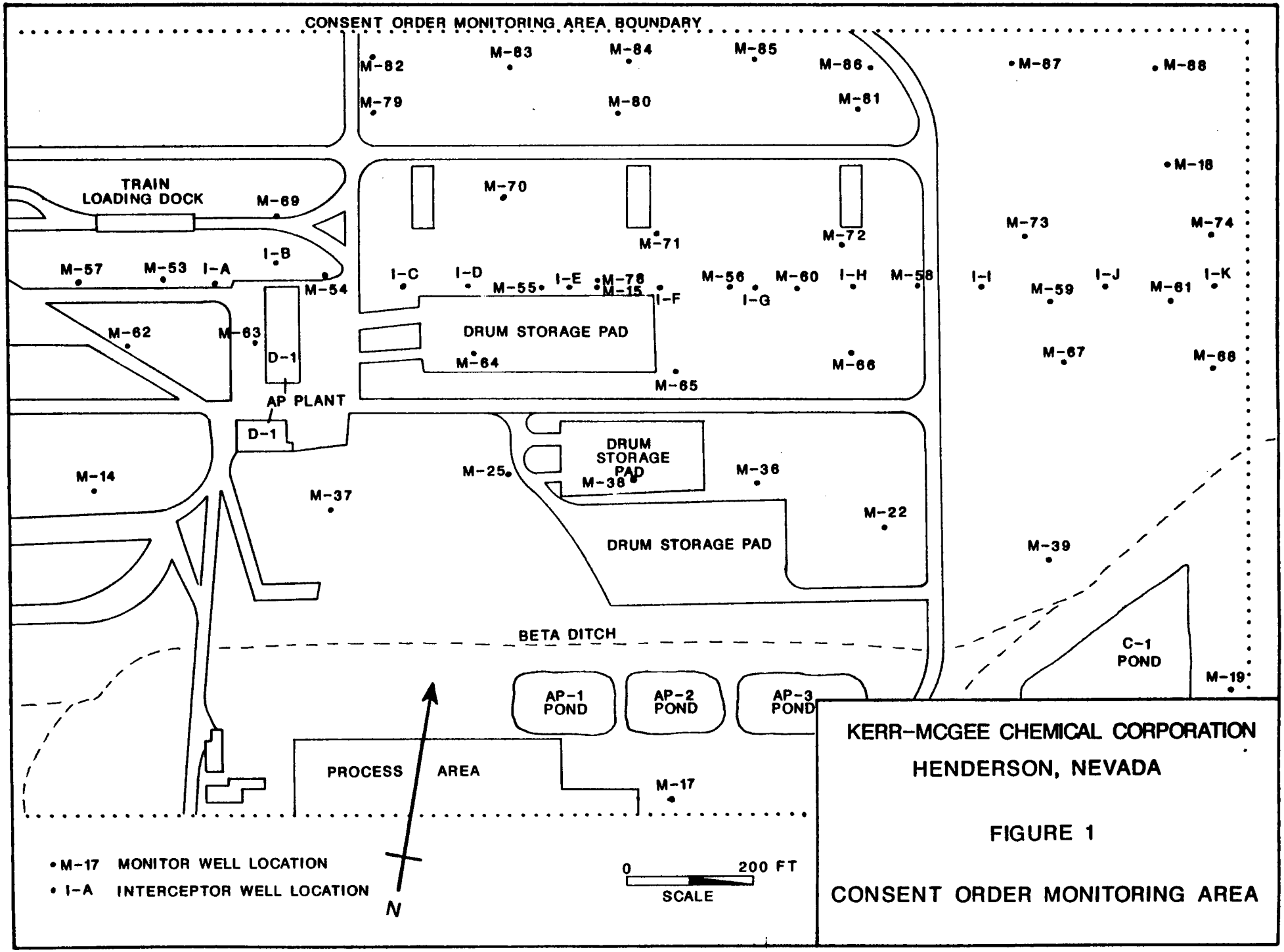
In accordance with the Consent Order for cleanup of chromium contaminated groundwater at the Henderson facility, finalized September 9, 1986, Kerr-McGee Chemical Corporation prepared a recovery system performance report on November 18, 1987, for submission to the Nevada Department of Environmental Protection. The November report stated that discharge of non-contact cooling water into the beta ditch, upgradient from the groundwater interceptor trench, resulted in significant infiltration to the groundwater, which had an adverse effect on the groundwater intercept system. Based on this finding, the discharge of cooling water into the ditch was discontinued on November 13, 1987. Groundwater elevations were recorded approximately monthly thereafter, and a summary report was submitted December 28, 1987, detailing progress to that date. This submittal reports progress in the chromium mitigation program for the first quarter of 1988.

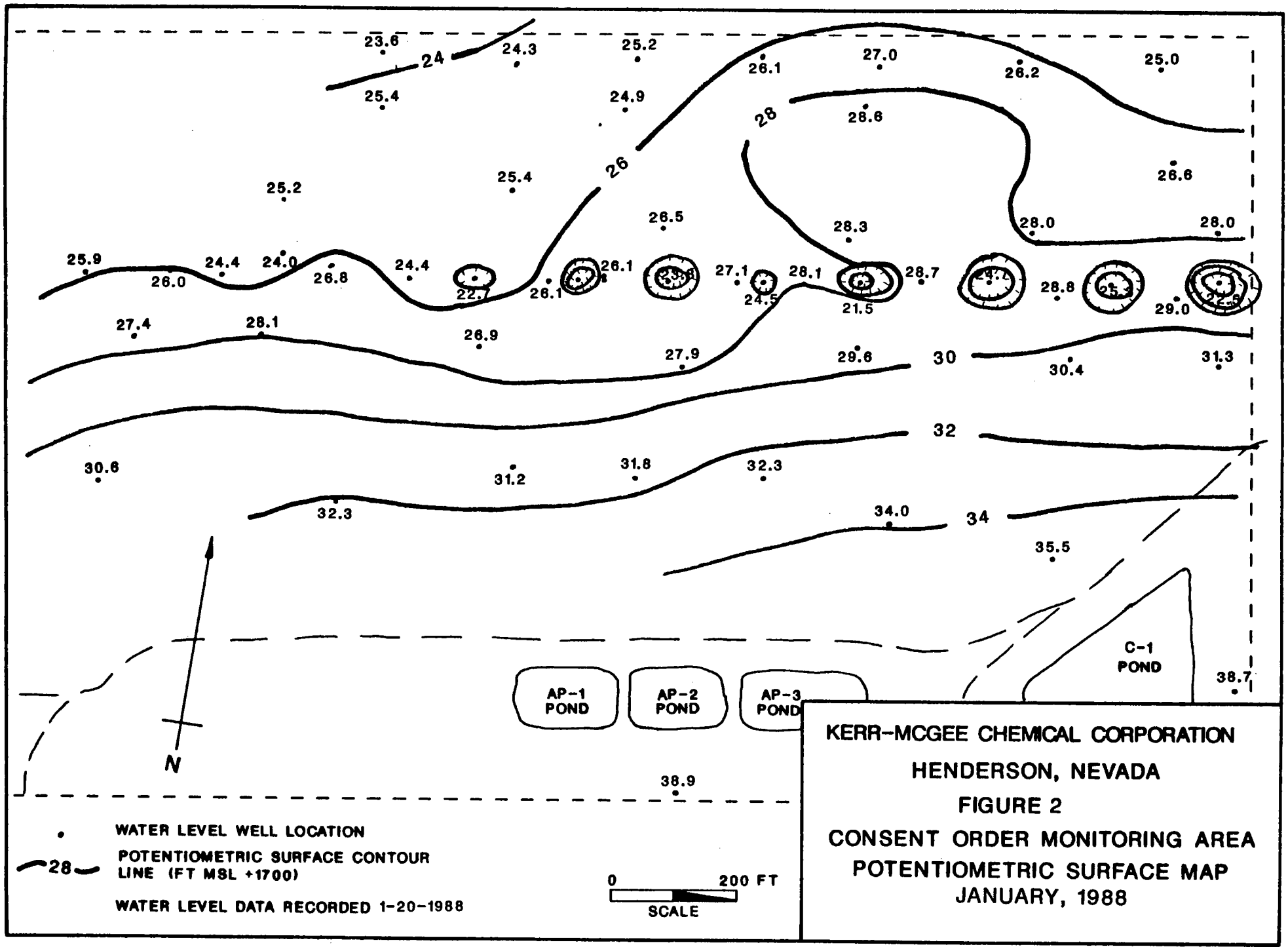
GROUNDWATER SURFACE CONFIGURATION

Figure 1 illustrates the consent order monitoring area as defined in Appendix D of the Consent Order, and shows the locations of all groundwater recovery and monitor wells installed within this area by KMCC. Appendix A lists all groundwater elevations recorded since September 1987 in wells within the consent order area. Water levels are currently recorded monthly and during semi-annual sampling events.

Figure 2 illustrates the potentiometric surface within the consent order monitoring area in January, based on data recorded January 20, 1988. Figure 3 presents a cross-section of the interceptor line, illustrating the drawdown on that date, created by pumping the interceptor wells continuously. The static water level shown on Figure 3 represents the reference elevation recorded on September 14, 1987, just prior to the startup of the groundwater recovery system. Figures 4 and 5 present a potentiometric surface map and cross-section for water level data recorded February 8, 1988. Figures 6 and 7 present the same views as reflected by data obtained March 1, 1988.

Appendix A clearly shows that water levels throughout the consent order monitoring area have been declining since the discharge of water to the beta ditch was discontinued in November, 1987. Between the time the groundwater recovery


CONSENT ORDER MONITORING AREA BOUNDARY
M-82
M-83
M-84
M-85
M-86
M-87
M-88
M-79
M-80
M-81
M-18
TRAIN LOADING DOCK
M-69
M-70
M-71
M-72
M-73
M-74
I-B
M-57
M-53
I-A
M-54
I-C
I-D
M-55
I-E
M-78
M-15
I-F
M-56
M-60
I-G
I-H
M-58
I-I
M-59
I-J
M-61
I-K
M-62
M-63
D-1
DRUM STORAGE PAD
M-64
M-65
M-66
M-67
M-68
AP PLANT
D-1
M-14
M-25
DRUM STORAGE PAD
M-38
M-36
M-37
M-22
DRUM STORAGE PAD
M-39
BETA DITCH
C-1 POND
M-19
AP-1 POND
AP-2 POND
AP-3 POND
PROCESS AREA
M-17
N
• M-17 MONITOR WELL LOCATION
• I-A INTERCEPTOR WELL LOCATION
0
200 FT
SCALE
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
FIGURE 1
CONSENT ORDER MONITORING AREA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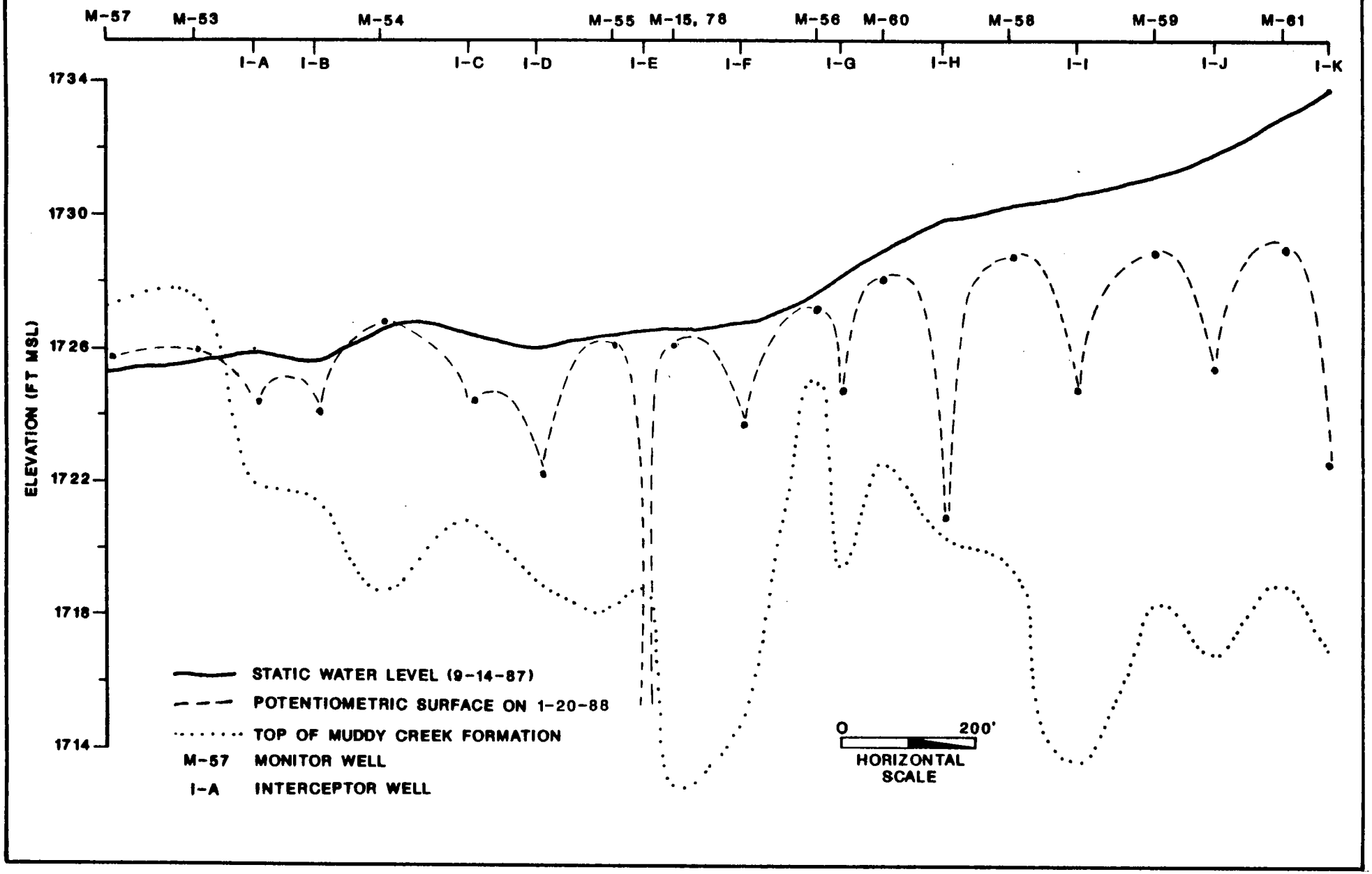
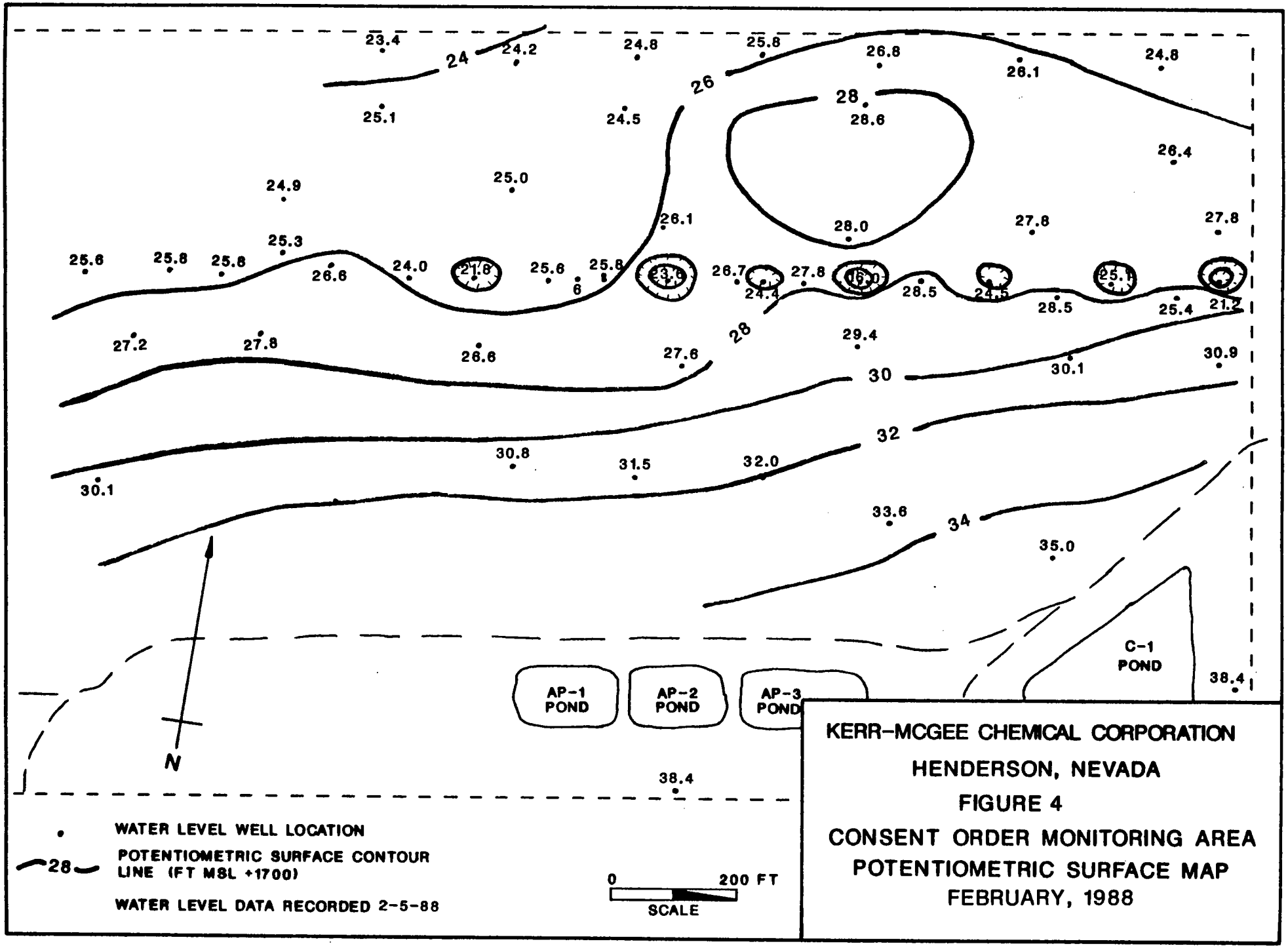
32.3
34.0
34
35.5
C-1
POND
38.7
AP-1
POND
AP-2
POND
AP-3
POND
N
38.9
WATER LEVEL WELL LOCATION
28
POTENTIOMETRIC SURFACE CONTOUR
LINE (FT MSL +1700)
WATER LEVEL DATA RECORDED 1-20-1988
0
200 FT
SCALE
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
FIGURE 2
CONSENT ORDER MONITORING AREA
POTENTIOMETRIC SURFACE MAP
JANUARY, 1988

KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
GROUNDWATER INTERCEPTOR LINE CROSS-SECTION
FIGURE 3




23.4
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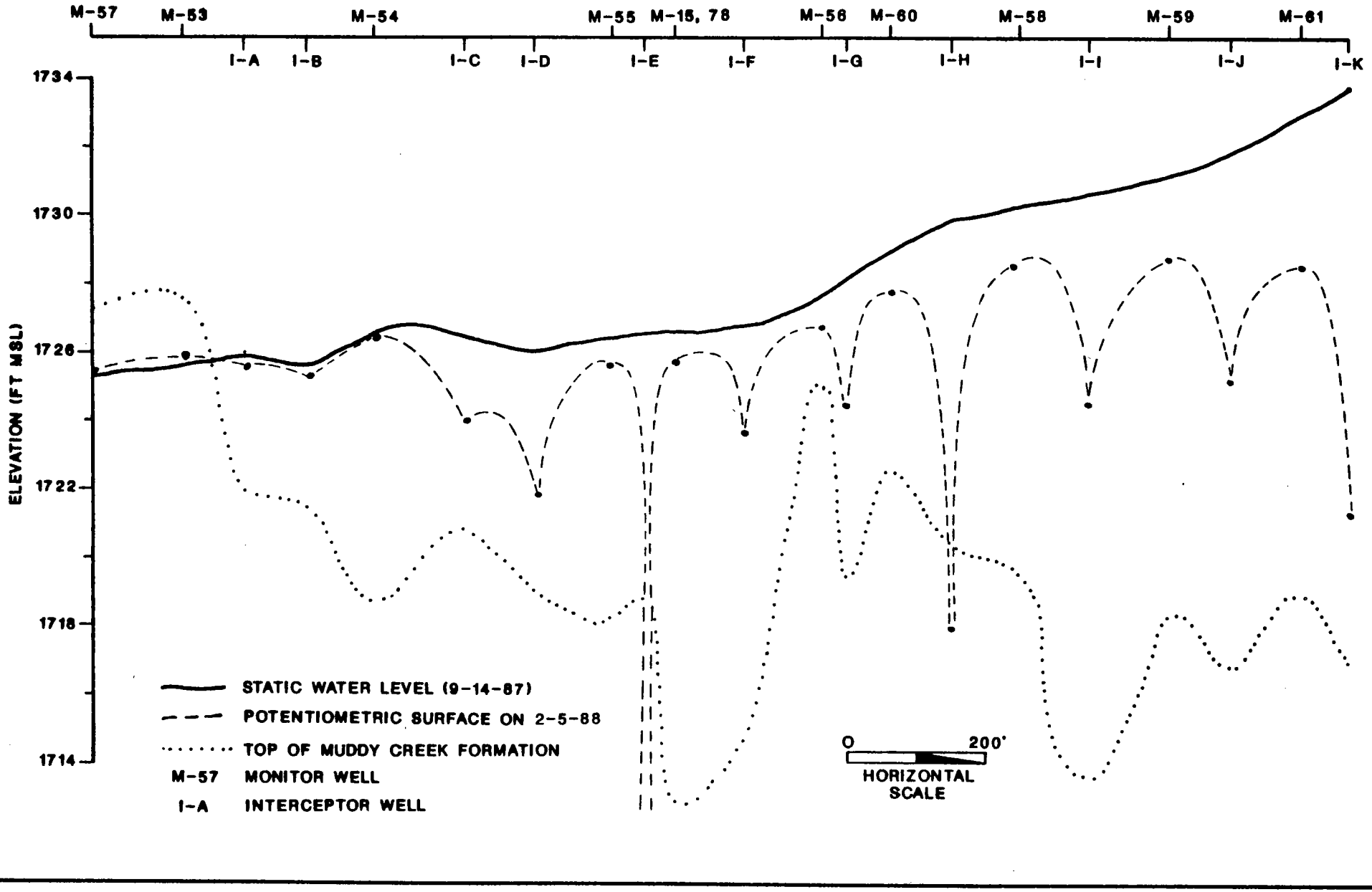
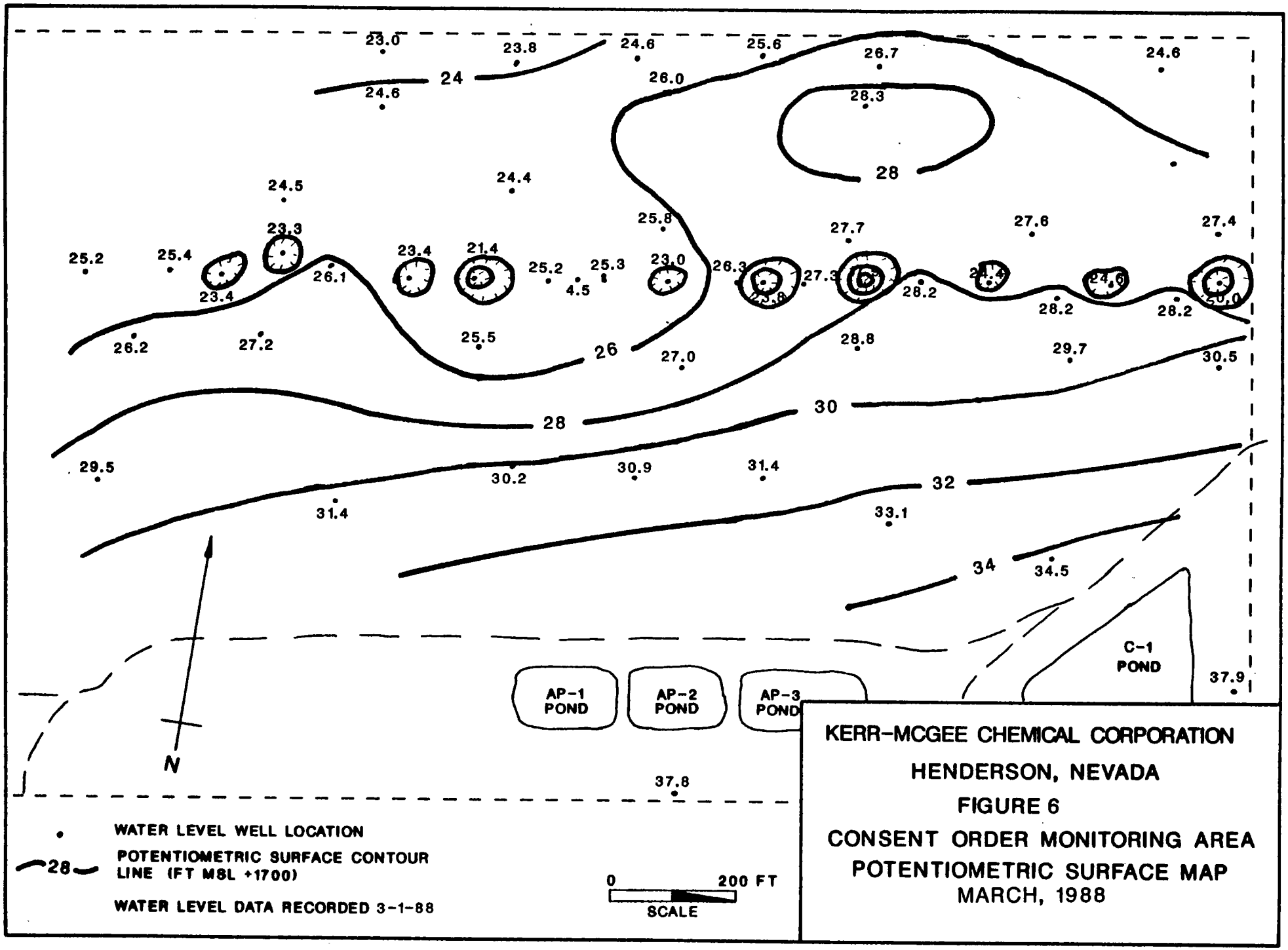
33.6
34
35.0
C-1
POND
38.4
AP-1
POND
AP-2
POND
AP-3
POND
N
38.4
WATER LEVEL WELL LOCATION
28
POTENTIOMETRIC SURFACE CONTOUR LINE (FT MSL +1700)
WATER LEVEL DATA RECORDED 2-5-88
0
200 FT
SCALE
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
FIGURE 4
CONSENT ORDER MONITORING AREA
POTENTIOMETRIC SURFACE MAP
FEBRUARY, 1988

KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
GROUNDWATER INTERCEPTOR LINE CROSS-SECTION
FIGURE 5




23.0
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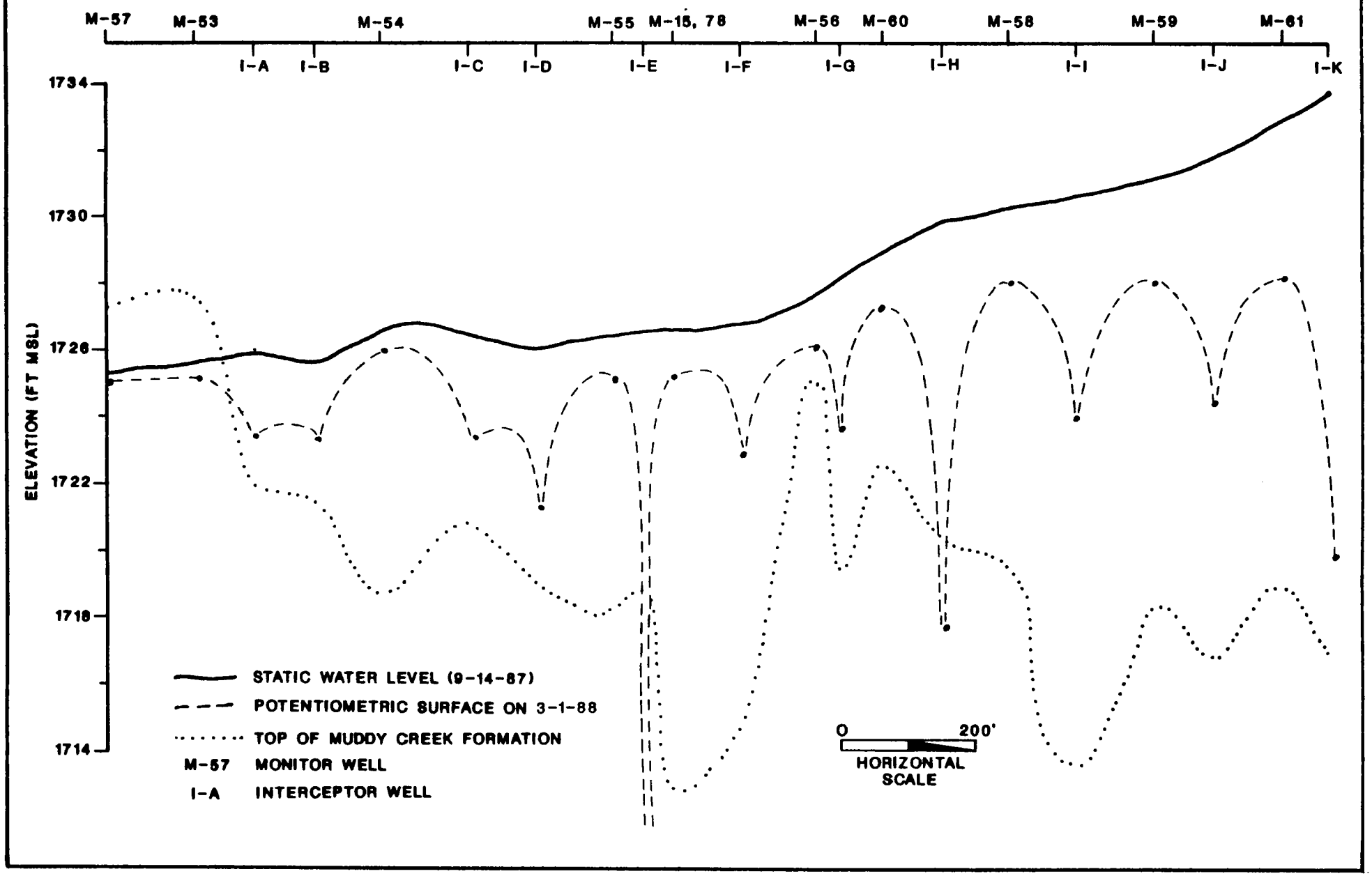
31.4
32
31.4
33.1
34
34.5
C-1
POND
37.9
AP-1
POND
AP-2
POND
AP-3
POND
N
37.8
WATER LEVEL WELL LOCATION
28
POTENTIOMETRIC SURFACE CONTOUR LINE (FT MSL +1700)
WATER LEVEL DATA RECORDED 3-1-88
0
200 FT
SCALE
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
FIGURE 6
CONSENT ORDER MONITORING AREA
POTENTIOMETRIC SURFACE MAP
MARCH, 1988

KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
GROUNDWATER INTERCEPTOR LINE CROSS-SECTION
FIGURE 7



program was initiated and November, 1987, when cooling water discharge to the beta ditch was halted, water levels had risen substantially throughout the area. Cross-sectional views of drawdown based on data obtained during the cooling water discharge time interval did not demonstrate groundwater control. However, Figures 2 through 7 document the increasing effectiveness of the groundwater interceptor system as groundwater levels throughout the facility declined following cessation of cooling water discharge.

CONTINUOUS WATER LEVEL RECORDERS

Wells M-78 and M-80 (Figure 1) are equipped with continuous water level recorders. Appendix B consists of copies of the recorder charts obtained during the first quarter of 1988. These charts illustrate the decline in water level that has been continuing since cooling water discharge to the beta ditch was discontinued on November 13, 1987. Water levels declined approximately 2.0 feet in well M-80 (near the recharge trench), and approximately 2.8 feet in well M-78, located in the interceptor line. Continuing declines are being observed at this time.

INTERCEPTOR SYSTEM PERFORMANCE

Kerr-McGee Chemical Corporation maintains that, as groundwater elevations decline, drawdown relative to static levels recorded September 14, 1987 will continue to increase in response to pumping of the interceptor wells. Kerr-McGee will monitor the continuing decline in groundwater elevations, and update the potentiometric surface maps on a monthly basis to evaluate groundwater interception. A report will be issued after the second quarter of 1988, detailing progress in the performance of the groundwater interceptor system.

IMPACT OF DISPOSAL SYSTEM ON WATER LEVELS

Appendix J of the Consent Order, the Disposal System Contingency Plan, identifies specific monitor wells that are to be utilized to evaluate the impact of the downgradient recharge of treated water into the groundwater. In addition, Kerr-McGee Chemical Corporation identified wells in Appendix J that would be sampled and analyzed for chromium on a quarterly basis. Figure 8 illustrates the location of the Appendix J wells.

Appendix A of this report shows that groundwater elevations in the Appendix J monitor wells downgradient from the disposal system (M-47, M-23, and M-49) have declined. This decline has occurred in spite of the fact that groundwater elevations in those wells located immediately adjacent to the groundwater disposal system (M-82, M-84, M-86, and M-88) have risen in response to the reinjection of approximately 110 gpm of treated water. In addition, no surface wetting downgradient from the disposal trenches has been observed. KMCC is confident that there exists no undesirable impact to groundwater elevations downgradient from the disposal system due to the reinjection of treated water.

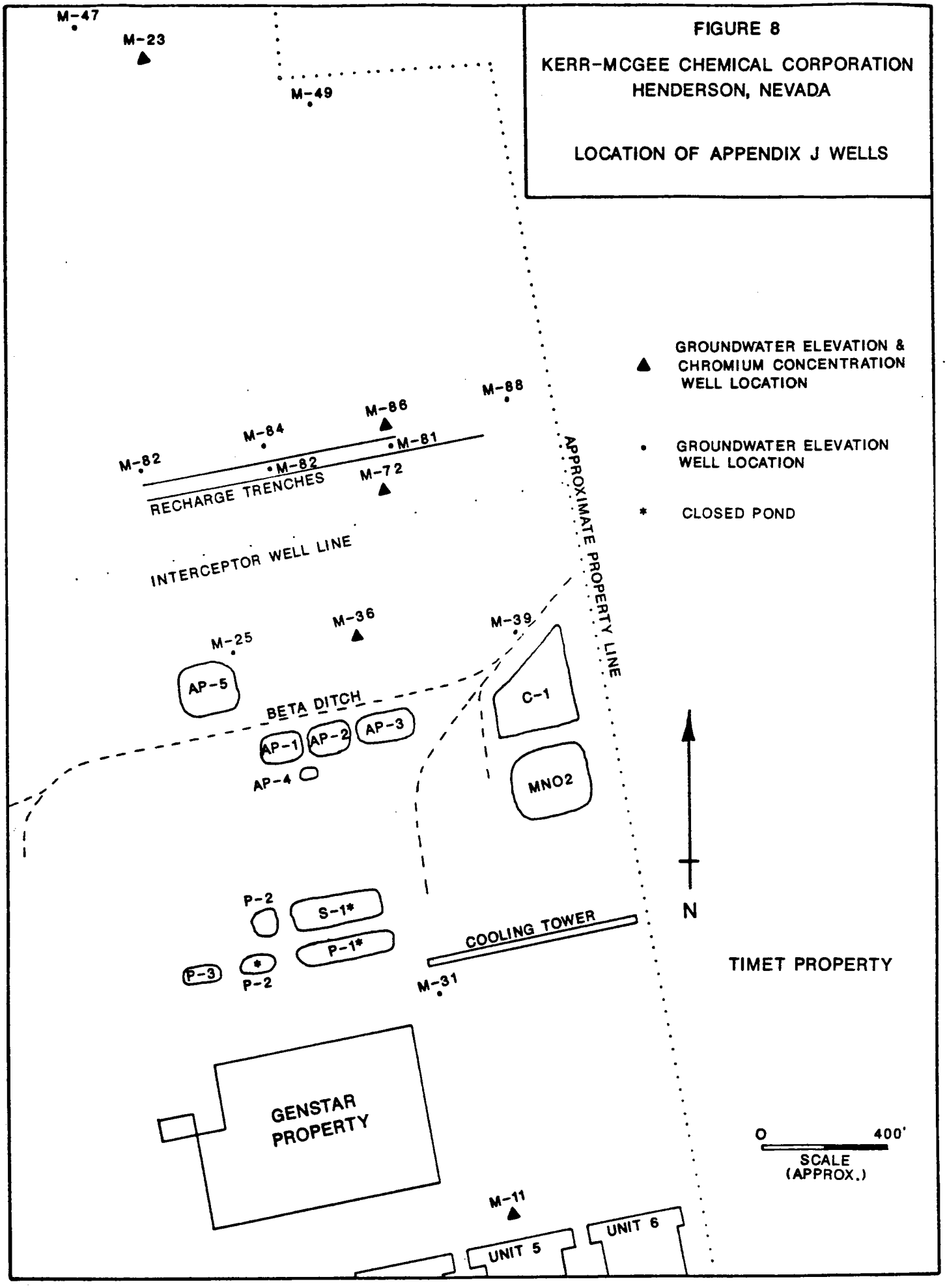


FIGURE 8
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
LOCATION OF APPENDIX J WELLS
GROUNDWATER ELEVATION & CHROMIUM CONCENTRATION WELL LOCATION
GROUNDWATER ELEVATION WELL LOCATION
CLOSED POND
M-47
M-23
M-49
M-88
M-86
M-84
M-81
M-82
M-82
M-72
RECHARGE TRENCHES
INTERCEPTOR WELL LINE
APPROXIMATE PROPERTY LINE
M-36
M-39
M-25
AP-5
BETA DITCH
AP-1
AP-2
AP-3
AP-4
C-1
MNO2
N
P-2
S-1*
P-1*
P-3
P-2
COOLING TOWER
M-31
TIMET PROPERTY
GENSTAR PROPERTY
M-11
UNIT 5
UNIT 6
0
400'
SCALE (APPROX.)

CHROMIUM TREATMENT SYSTEM EFFECTIVENESS

Each week since initiation of the groundwater recovery system (September 14, 1987), the discharge from the water treatment plant has been sampled at least three times per week. These samples have been analyzed for total and hexavalent chromium.

The Consent Order specifies the following concentration limits for the discharge water: Total Chromium 1.7 mg/l and Hexavalent Chromium 0.05 mg/l as a monthly average; Total Chromium 3.4 and Hexavalent Chromium 0.1 mg/l as a maximum single value on composite samples. Two consecutive monthly exceedences of these limits triggers implementation of the Treatment System Contingency Plan. During the fourth quarter, 1987, physical modifications to the treatment plant were made to increase its efficiency and reliability. This included adding to the inventory of critical spare parts so that down-time due to equipment failure can be reduced.

Table 1 lists treatment plant feed and discharge data for the period January 4, 1988, through March 31, 1988. Table 1 indicates that no exceedences of the discharge limits occurred thus far during the first quarter of 1988.

TABLE 1
GROUNDWATER TREATMENT ANALYSIS
CHROMIUM MITIGATION PROGRAM
HENDERSON, NEVADA

WEEK OF	VOLUME TREATED (M gal.)	FEED CHROMIUM (mg/l)	TREATED EFFLUENT TOTAL (mg/l)	HEXAVALENT (mg/l)
Jan. 4 - Jan. 8	1168	2.75	1.89	0.002
Jan. 11 - Jan. 17	1204	2.74	0.063	0.0013
Jan. 18 - Jan. 24	1129	2.76	0.064	0.0018
Jan. 25 - Jan. 30	1217	2.76	0.038	0.0012
January, 1988 Average		2.75	0.51	0.0016
Feb. 1 - Feb. 7	1060	2.80	0.068	0.015
Feb. 8 - Feb. 14	1036	2.99	0.020	0.018
Feb. 15 - Feb. 21	1130	2.96	0.028	0.011
Feb. 22 - Feb. 28	1063	2.70	0.024	0.003
February, 1988 Average		2.86	0.035	0.012
Feb. 29 - Mar. 6	1133	2.55	0.075	0.004
Mar. 7 - Mar 13	1140	2.82	0.020	0.002
Mar. 14 - Mar 20	897	2.66	0.054	0.046
Mar. 21 - Mar. 27	1102	2.52	0.022	0.001
Mar. 28 - Mar. 31	990	2.56	0.11	0.082
March, 1988 Average		2.62	0.056	0.027

The effectiveness of the groundwater treatment system in reducing chromium levels downgradient of the intercepted groundwater plume will be determined by the levels of chromium in the Consent Order Appendix J wells. The first set of analytical data was obtained from these wells during a December 22, 1988 sampling event. Total chromium levels in the five wells specified for sampling for chromium concentration in Appendix J of the Consent Order are displayed in Table 2.

Total chromium levels will be monitored quarterly and presented graphically to aid in evaluating the influence of the treatment system on downgradient groundwater quality.

TABLE 2

TOTAL CHROMIUM CONCENTRATION
IN CONSENT ORDER APPENDIX J WELLS
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

WELL	TOTAL CHROMIUM (ppm)		
	Jan. 88	Feb. 88	Mar. 88
M-11 (near source)	20	17	55
M-36	5.5	5.4	5.1
M-72	0.65	0.75	1.0
M-86	1.2	1.1	1.1
M-23	0.40	0.35	0.17

(Well locations are shown on Figure 8)

CONCLUSIONS

Kerr-McGee Chemical Corporation continues to monitor declining regional (facility-wide) water levels in the interceptor system area. Monthly water elevations will be recorded, and groundwater control development will be monitored. KMCC is confident that groundwater interception will continue and effective control achieved. Subsequent reports will continue to address this subject.

Treatment facility discharge concentrations, following physical modifications to some elements of the treatment plant and addition to the inventory of critical spare parts, have consistently remained below discharge limits. No further design modifications to the treatment plant facility are contemplated at this time, other than those that will facilitate maintenance. Discharge concentrations will continue to be monitored.

No adverse impacts to downgradient groundwater elevations have been observed as a result of returning treated groundwater to the near surface aquifer via the recharge trenches. Consent Order Appendix J wells will continue to be monitored; groundwater elevation changes downgradient from the reinjection system will be reported in the second quarter performance report.

APPENDIX A

GROUNDWATER ELEVATIONS

KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA FACILITY
GROUNDWATER ELEVATIONS

	M-11		M-14		M-15		M-17		M-18		M-19		M-22		M-23		M-25		M-27		M-31		M-36	
TOC--->	1813.46		1758.83		1749.36		1769.54		1738.28		1766.26		1757.76		1712.78		1757.82		1740.47		1788.06		1757.94	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87			29.42	1729.41	23.23	1726.13	28.56	1740.98	10.65	1727.63	25.18	1741.08	20.50	1737.26			25.69	1732.13	18.28	1726.19			23.67	1734.27
19-Oct-87			28.89	1729.94	22.36	1727.00			11.00	1727.28			20.37	1737.39			24.66	1733.16	14.80	1729.67			22.93	1735.01
29-Oct-87			28.77	1730.06	22.15	1727.21	27.89	1741.65	10.93	1727.35	24.94	1741.32	20.66	1737.10			24.72	1733.10	14.74	1729.73			23.15	1734.79
09-Nov-87			28.58	1730.25	21.84	1727.52	27.43	1742.11	10.17	1728.11	24.41	1741.85	20.10	1737.66			24.50	1733.32	14.39	1730.08			22.81	1735.13
16-Dec-87	44.84	1768.62	28.26	1730.57	22.35	1727.01	30.58	1738.96	11.24	1727.04	26.61	1739.65	22.68	1735.08			25.73	1732.09	14.30	1730.17			24.52	1733.42
20-Jan-88	44.78	1768.68	28.56	1730.27	23.29	1726.07	30.64	1738.90	11.73	1726.55	27.60	1738.66	23.78	1733.98			26.63	1731.19	15.36	1729.11	39.34	1748.72	25.62	1732.32
05-Feb-88	44.78	1768.68	28.70	1730.13	23.59	1725.77	31.12	1738.42	11.87	1726.41	27.88	1738.38	24.20	1733.56	14.58	1698.20	27.07	1730.75	15.70	1728.77	39.53	1748.53	25.95	1731.99
01-Mar-88	44.76	1768.70	29.36	1729.47	24.03	1725.33	31.72	1737.82	12.13	1726.15	28.36	1737.90	24.65	1733.11	14.52	1698.26	27.66	1730.16	15.88	1728.59	39.68	1748.38	26.50	1731.44

	M-37		M-38		M-39		M-46		M-47		M-49		M-53		M-54		M-55		M-56		M-57		M-58	
TOC--->	1759.28		1757.88		1759.31		1716.08		1716.51		1718.78		1751.56		1748.93		1749.35		1749.60		1752.29		1749.25	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	26.39	1732.89	24.35	1733.53	20.00	1739.31							25.79	1725.77	22.15	1726.78	22.72	1726.63	21.86	1727.74	26.91	1725.38	18.87	1730.38
19-Oct-87	25.57	1733.71	23.36	1734.52	20.17	1739.14							25.69	1725.87	21.88	1727.05	22.27	1727.08	21.41	1728.19	26.61	1725.68	18.92	1730.33
29-Oct-87	25.50	1733.78	23.66	1734.22	20.42	1738.89							25.53	1726.03	21.70	1727.23	22.05	1727.30	21.32	1728.28	26.49	1725.80	18.95	1730.30
09-Nov-87	25.27	1734.01	23.38	1734.50	19.77	1739.54							25.25	1726.31	21.38	1727.55	21.83	1727.52	21.05	1728.55	26.28	1726.01	18.63	1730.62
16-Dec-87	26.17	1733.11	24.94	1732.94	22.92	1736.39	12.34	1703.74	13.20	1703.31	12.56	1706.22	25.25	1726.31	21.63	1727.30	22.51	1726.84	21.72	1727.88	26.22	1726.07	19.81	1729.44
20-Jan-88	26.98	1732.30	26.04	1731.84	23.80	1735.51	12.61	1703.47	13.08	1703.43	12.53	1706.25	25.60	1725.96	22.14	1726.79	23.27	1726.08	22.48	1727.12	26.44	1725.85	20.58	1728.67
05-Feb-88	27.28	1732.00	26.37	1731.51	24.32	1734.99	12.55	1703.53	13.04	1703.47	12.49	1706.29	25.73	1725.83	22.31	1726.62	23.74	1725.61	22.87	1726.73	26.67	1725.62	20.80	1728.45
01-Mar-88	27.87	1731.41	26.99	1730.89	24.81	1734.50			13.00	1703.51	12.47	1706.31	26.21	1725.35	22.88	1726.05	24.15	1725.20	23.35	1726.25	27.10	1725.19	21.09	1728.16

	M-59		M-60		M-61		M-62		M-63		M-64		M-65		M-66		M-67		M-68		M-69		M-70	
TOC--->	1743.01		1750.13		1745.55		1752.92		1750.59		1749.76		1752.88		1752.33		1744.98		1747.44		1748.77		1746.96	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	11.80	1731.21	21.08	1729.05	12.53	1733.02	25.67	1727.25	22.52	1728.07	22.21	1727.55	24.03	1728.85	20.82	1731.51	11.45	1733.53	10.96	1736.48	24.04	1724.73	21.47	1725.49
19-Oct-87	12.49	1730.52	20.66	1729.47	14.34	1731.21	25.39	1727.53	22.32	1728.27	21.84	1727.92	23.63	1729.25	20.72	1731.61	12.17	1732.81	12.60	1734.84	23.98	1724.79	21.03	1725.93
29-Oct-87	12.52	1730.49	20.63	1729.50	14.25	1731.30	25.28	1727.64	22.17	1728.42	21.69	1728.07	23.56	1729.32	20.78	1731.55	12.26	1732.72	12.39	1735.05	23.85	1724.92	20.77	1726.19
09-Nov-87	12.01	1731.00	20.38	1729.75	13.38	1732.17	25.01	1727.91	21.85	1728.74	21.51	1728.25	23.26	1729.62	20.49	1731.84	11.66	1733.32	11.38	1736.06	23.44	1725.33	20.45	1726.51
16-Dec-87	13.54	1729.47	21.16	1728.97	15.82	1729.73	25.00	1727.92	22.13	1728.46	22.17	1727.59	24.09	1728.79	21.82	1730.51	13.72	1731.26	15.27	1732.17	23.39	1725.38	21.00	1725.96
20-Jan-88	14.22	1728.79	22.06	1728.07	16.60	1728.95	25.51	1727.41	22.54	1728.05	22.91	1726.85	24.97	1727.91	22.69	1729.64	14.59	1730.39	16.12	1731.32	23.61	1725.16	21.61	1725.35
05-Feb-88	14.48	1728.53	22.38	1727.75	17.12	1728.43	25.74	1727.18	22.78	1727.81	23.15	1726.61	25.24	1727.64	22.97	1729.36	14.90	1730.08	16.53	1730.91	23.84	1724.93	21.97	1724.99
01-Mar-88	14.86	1728.15	22.80	1727.33	17.34	1728.21	26.18	1726.74	23.43	1727.16	23.87	1725.89	25.89	1726.99	23.54	1728.79	15.33	1729.65	16.96	1730.48	24.31	1724.46	22.53	1724.43

KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA FACILITY
GROUNDWATER ELEVATIONS

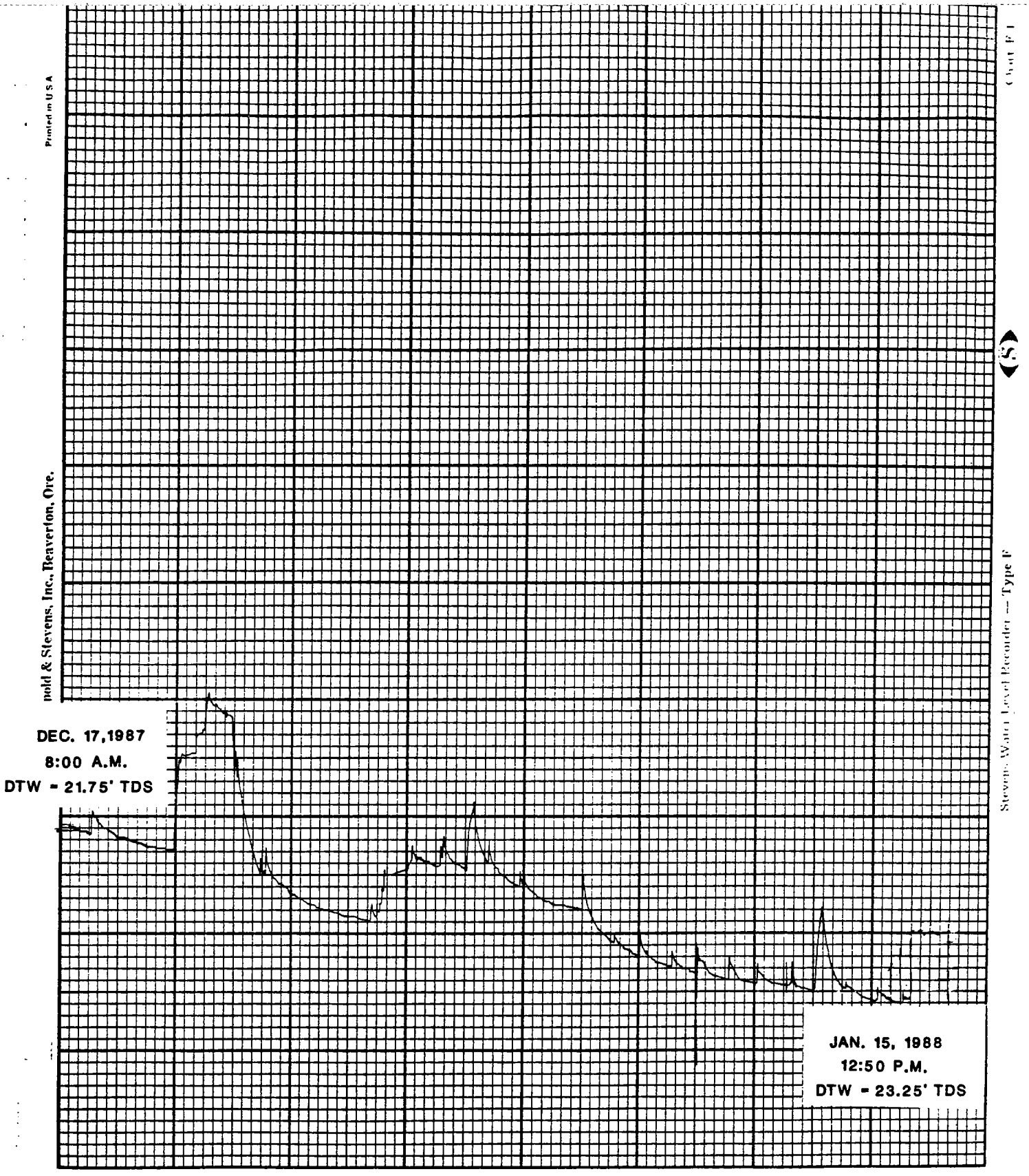
	M-71		M-72		M-73		M-74		M-78		M-79		M-80		M-81		M-82		M-83		M-84		M-85	
TOC--->	1745.88		1745.49		1740.05		1743.42		1751.01		1742.93		1745.73		1743.73		1739.38		1740.83		1739.63		1741.19	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	20.42	1725.46	17.12	1728.37	10.71	1729.34	12.44	1730.98	24.88	1726.13	20.02	1722.91	22.67	1723.06	18.70	1725.03	17.64	1721.74	18.86	1721.97	17.24	1722.39	18.44	1722.75
19-Oct-87	18.50	1727.38	16.06	1729.43	10.85	1729.20	13.82	1729.60	24.01	1727.00	19.22	1723.71	18.44	1727.29	14.64	1729.09	16.76	1722.62	16.47	1724.36	13.85	1725.78	14.63	1726.56
29-Oct-87	18.48	1727.40	16.04	1729.45	10.84	1729.21	13.69	1729.73	23.80	1727.21	19.02	1723.91	18.53	1727.20	14.37	1729.36	16.59	1722.79	16.03	1724.80	13.80	1725.83	14.49	1726.70
09-Nov-87	18.15	1727.73	15.66	1729.83	10.30	1729.75	13.81	1729.61			18.25	1724.68	18.21	1727.52	13.94	1729.79	15.98	1723.40	15.85	1724.98	14.46	1725.17	14.11	1727.08
16-Dec-87	16.20	1729.68	16.43	1729.06	11.41	1728.64	14.71	1728.71	24.00	1727.01	17.66	1725.27	18.05	1727.68	14.00	1729.73	15.58	1723.80	15.73	1725.10	14.37	1725.26	14.04	1727.15
20-Jan-88	19.37	1726.51	17.22	1728.27	12.02	1728.03	15.40	1728.02	24.94	1726.07	17.54	1725.39	20.80	1724.93	15.13	1728.60	15.74	1723.64	16.52	1724.31	14.42	1725.21	15.14	1726.05
05-Feb-88	19.77	1726.11	17.46	1728.03	12.27	1727.78	15.63	1727.79	25.24	1725.77	17.88	1725.05	21.23	1724.50	15.18	1728.55	15.98	1723.40	16.64	1724.19	14.82	1724.81	15.36	1725.83
01-Mar-88	20.11	1725.77	17.77	1727.72	12.50	1727.55	16.00	1727.42	25.68	1725.33	18.37	1724.56	19.72	1726.01	15.46	1728.27	16.37	1723.01	17.05	1723.78	15.00	1724.63	15.63	1725.56

	M-86		M-87		M-88	
TOC--->	1742.73		1742.27		1737.99	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	18.37	1724.36	17.12	1725.15	13.05	1724.94
19-Oct-87	15.33	1727.40	16.06	1726.21	13.87	1724.12
29-Oct-87	16.18	1726.55	15.92	1726.35	13.79	1724.20
09-Nov-87	14.65	1728.08	15.13	1727.14	12.15	1725.84
16-Dec-87	14.83	1727.90	15.62	1726.65	12.59	1725.40
20-Jan-88	15.71	1727.02	16.10	1726.17	13.02	1724.97
05-Feb-88	15.96	1726.77	16.15	1726.12	13.19	1724.80
01-Mar-88	16.00	1726.73	16.32	1725.95	13.41	1724.58

	I-A		I-B		I-C		I-D		I-E		I-F		I-G		I-H		I-I		I-J		I-K	
TOC--->	1751.06		1750.69		1750.44		1750.54		1750.22		1747.58		1750.42		1751.07		1743.36		1747.95		1743.97	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	25.06	1726.00	24.98	1725.71	23.86	1726.58	24.36	1726.18	23.53	1726.69	20.73	1726.85	22.13	1728.29	21.12	1729.95	12.67	1730.69	16.08	1731.87	10.21	1733.76
19-Oct-87	27.18	1723.88	26.73	1723.96	24.58	1725.86	26.48	1724.06	36.80	1713.42	22.99	1724.59	23.63	1726.79	24.90	1726.17	15.35	1728.01	20.51	1727.44	17.15	1726.82
29-Oct-87	27.01	1724.05	26.45	1724.24	24.33	1726.11	26.20	1724.34	35.80	1714.42	22.99	1724.59	24.19	1726.23	24.96	1726.11	15.48	1727.88	20.52	1727.43	16.89	1727.08
09-Nov-87																						
16-Dec-87	26.45	1724.61	26.49	1724.20	25.55	1724.89	27.66	1722.88	45.58	1704.64	23.17	1724.41	24.59	1725.83	27.10	1723.97	17.63	1725.73	21.75	1726.20	19.92	1724.05
20-Jan-88	26.63	1724.43	26.66	1724.03	26.06	1724.38	28.29	1722.25	45.76	1704.46	23.81	1723.77	25.62	1724.80	30.07	1721.00	18.65	1724.71	22.62	1725.33	21.48	1722.49
05-Feb-88	25.42	1725.64	25.40	1725.29	26.46	1723.98	28.72	1721.82	46.20	1704.02	23.99	1723.59	26.06	1724.36	33.08	1717.99	18.87	1724.49	22.90	1725.05	22.75	1721.22
01-Mar-88	27.70	1723.36	27.38	1723.31	26.99	1723.45	29.16	1721.38	45.68	1704.54	24.55	1723.03	26.59	1723.83	33.20	1717.87	19.30	1724.06	23.39	1724.56	24.02	1719.95

APPENDIX B

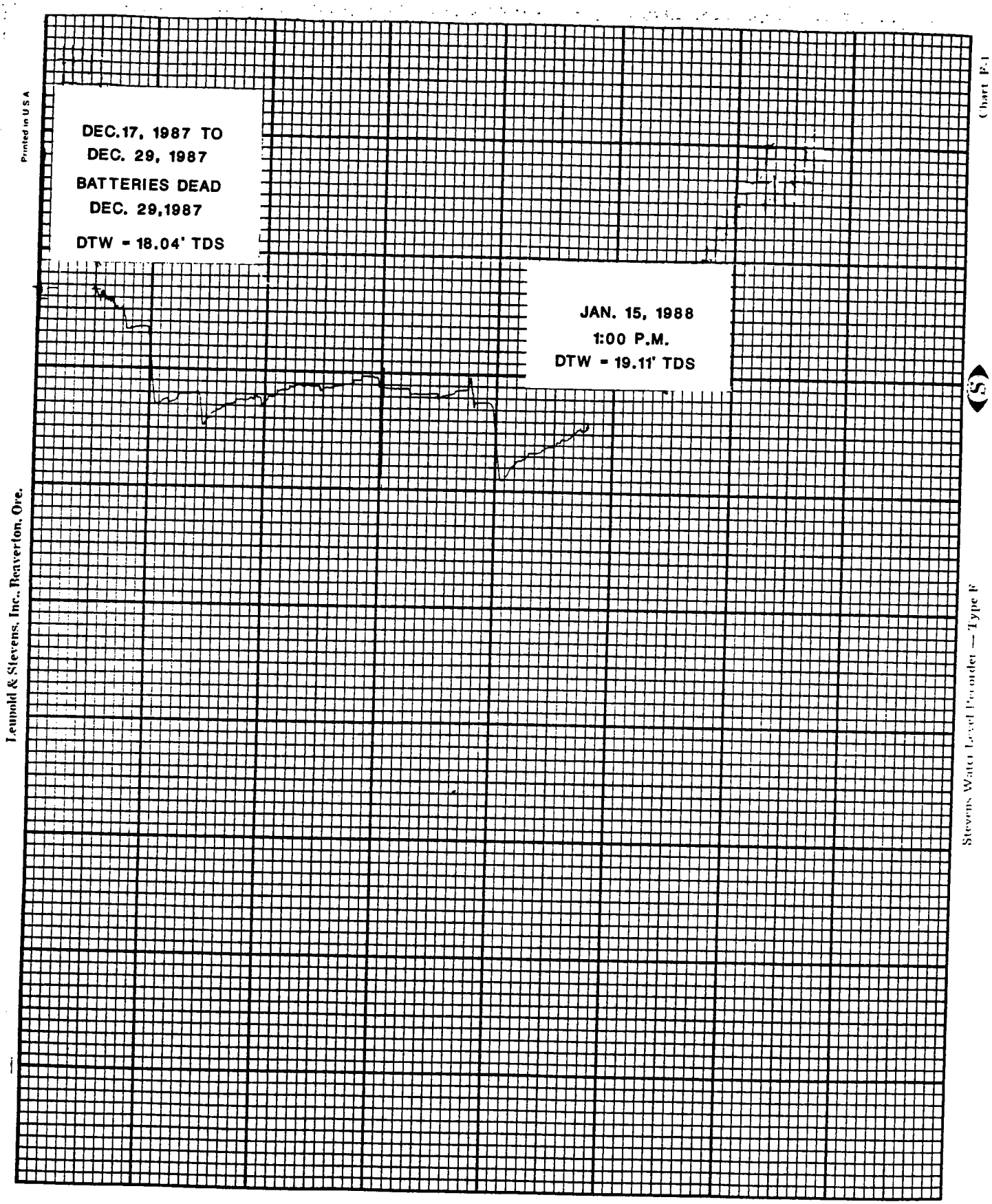
CONTINUOUS WATER LEVEL RECORDER CHARTS



CONTINUOUS WATER LEVEL RECORDER CHART

WELL #M-78

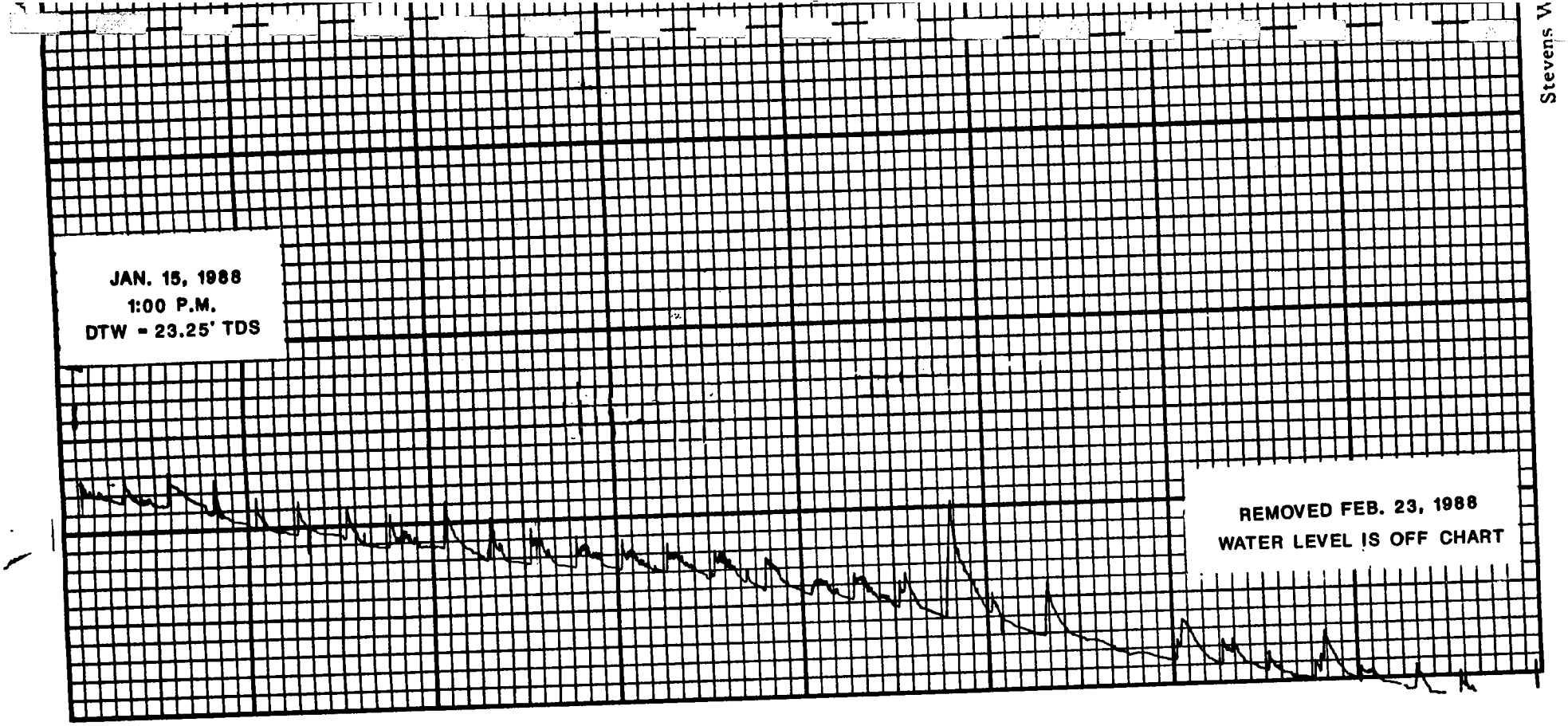
12-17-87 TO 1-15-88



CONTINUOUS WATER LEVEL RECORDER CHART

WELL #M-80

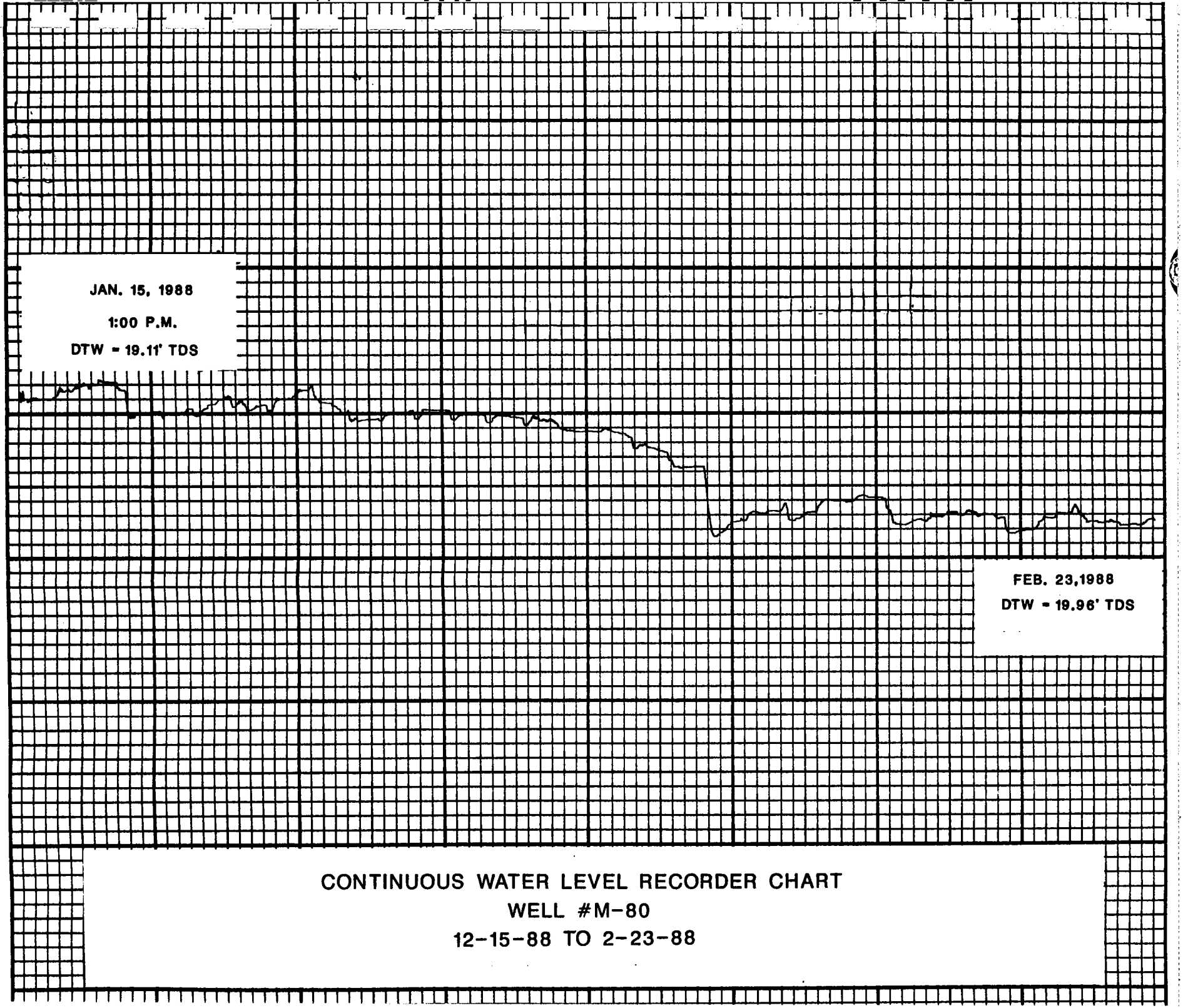
12-29-87 TO 1-15-88



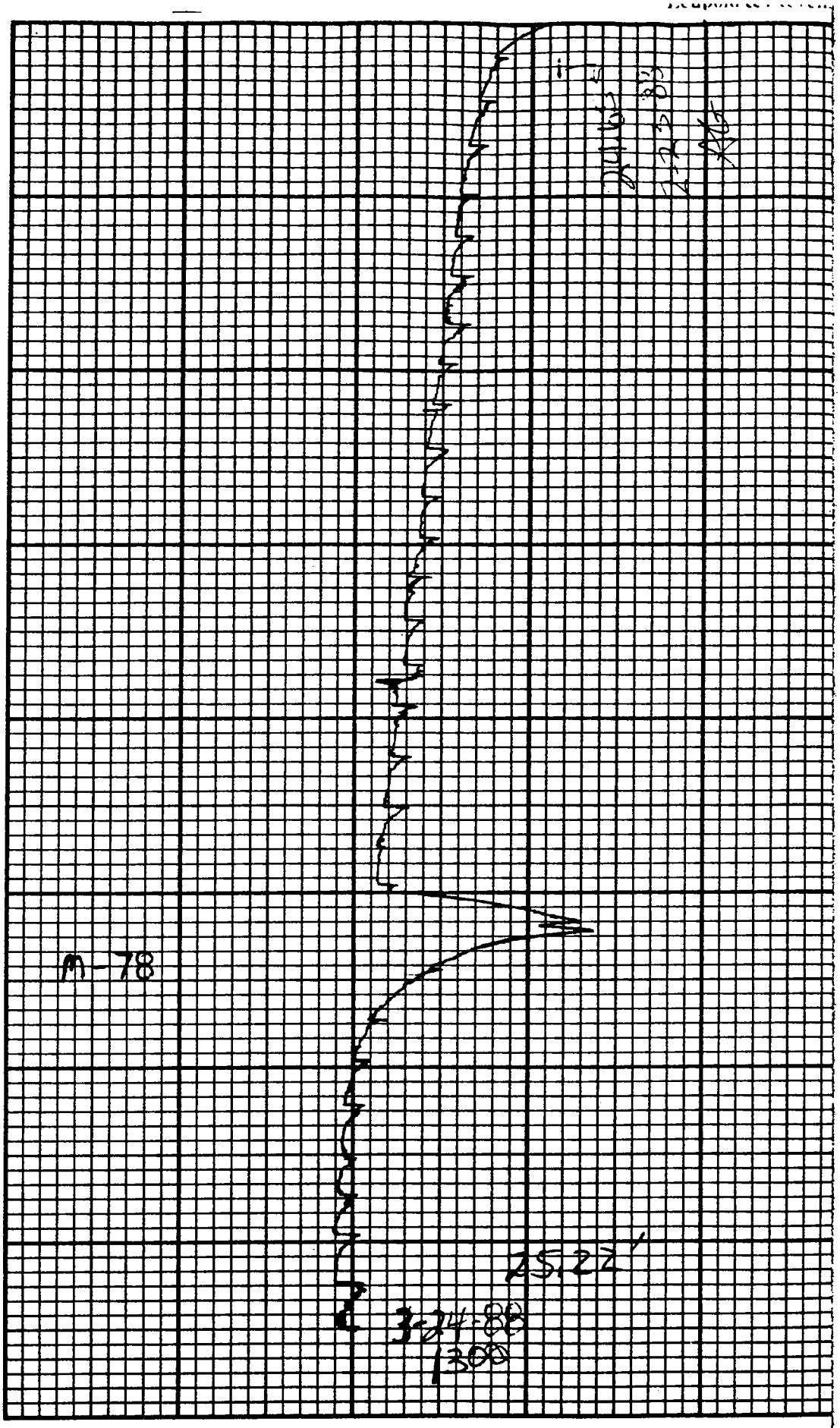
CONTINUOUS WATER LEVEL RECORDER CHART

WELL #M-78

1-15-88 TO 2-23-88


JAN. 15, 1988
1:00 P.M.
DTW = 19.11' TDS
FEB. 23,1988
DTW = 19.96' TDS
Leupold & Stevens, Inc., Beaverton, Ore.
CONTINUOUS WATER LEVEL RECORDER CHART
WELL #M-80
12-15-88 TO 2-23-88

Stevens Water Level Recorder — Type F


M-78
3-24-88
1300
Stevens Water Level Recorder