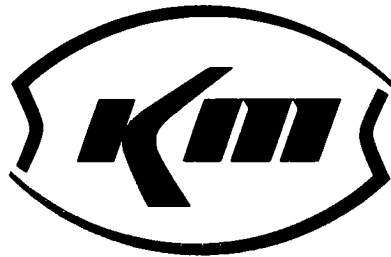


KERR-McGEE CORPORATION

SEMI-ANNUAL PERFORMANCE REPORT
CHROMIUM MITIGATION PROGRAM
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

JANUARY - JUNE, 1990

July 27, 1990



Engineering Services

SEMI-ANNUAL PERFORMANCE REPORT
CHROMIUM MITIGATION PROGRAM
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

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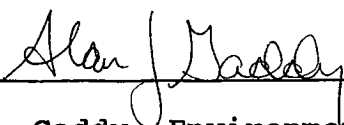
Submitted in Accordance with:

Chromium Mitigation Program
Consent Order
September 9, 1986

Prepared by:

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July 27, 1990



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SEMI-ANNUAL PERFORMANCE REPORT
CHROMIUM MITIGATION PROGRAM
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

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 (KMCC) submits this semi-annual performance report to the Nevada Department of Environmental Protection. This report, covering January through June, 1990, summarizes performance data for the groundwater treatment plant and evaluates the effectiveness of the groundwater interception and treatment system installed to carry out the chromium mitigation program.

GROUNDWATER SURFACE CONFIGURATION

Figure 1 illustrates the chromium treatment system monitoring area as defined in Appendix D of the Consent Order, and shows the locations of all groundwater interceptor and monitor wells installed by KMCC within this area. Appendix A lists monthly groundwater elevations recorded since January 1988 in wells within the Consent Order area. Appendix B presents the water table configuration in two formats for the first half of 1990, reflecting quarterly groundwater level measurements.

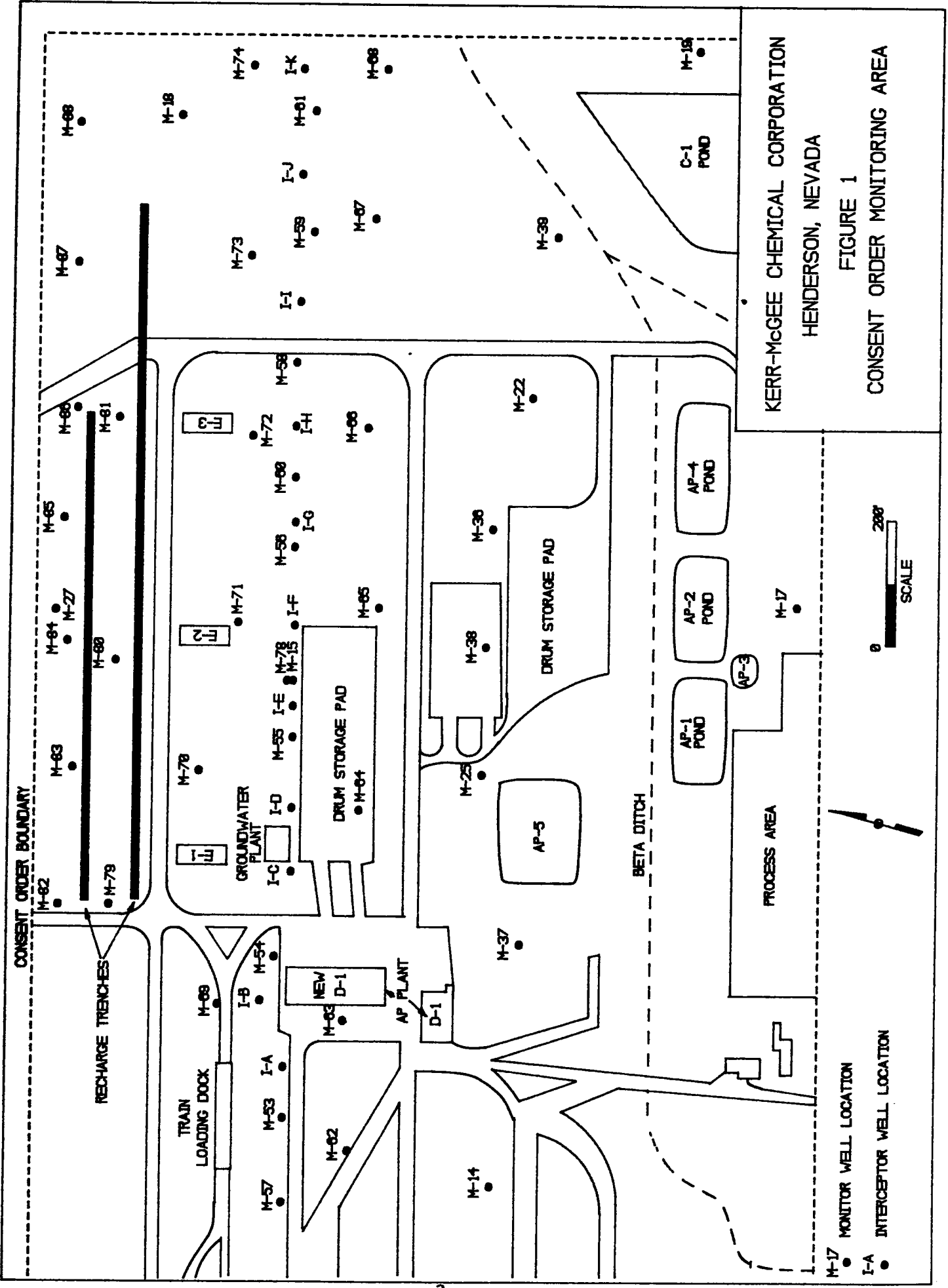
Figure B-1 in Appendix B illustrates the potentiometric surface within the consent order monitoring area for the first quarter of 1990. Groundwater elevation data was recorded on February 23, 1990. Figure B-2, presents a cross-section of the groundwater interceptor line for the same date. Figures B-3 and B-4 present the same maps for the second quarter of 1990, based on groundwater elevation data recorded July 11, 1990. The static water level shown on the cross-sections represents the Consent Order reference groundwater elevation, established September 14, 1987, prior to startup of the interception system.

Groundwater elevations, listed in Appendix A, continue to confirm that water levels throughout the Consent Order monitoring area have stabilized since the discharge of cooling water to the beta ditch was discontinued in November, 1987. Figures B-1 through B-4 show that groundwater interception has been optimized with the existing groundwater interception system.

KERR-MCGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA

FIGURE 1

CONSENT ORDER MONITORING AREA



- M-17 ● MONITOR WELL LOCATION
- I-A ● INTERCEPTOR WELL LOCATION



CONTINUOUS WATER LEVEL RECORDERS

Wells M-78 and M-80 (Figure 1) are equipped with continuous water level recorders. Appendix C contains copies of the recorder charts generated during the first half of 1990. The current hydrologic configuration has stabilized throughout both the interception and recharge areas.

INTERCEPTOR SYSTEM PERFORMANCE

Figures B-1 through B-4, attached as Appendix B, show the potentiometric surface configuration in the interceptor area during the first half of 1990. Cross-sections show that drawdown consistently exceeded the one foot below reference water level criterion across the entire interceptor well line.

Although the potentiometric surface maps (Figures B-1 and B-3) do not show overlapping drawdown cones along the interceptor line, the cross-sections show that all interceptor wells are drawn down to the Muddy Creek Clay. Drawdowns to this degree indicates that the alluvium is being depleted of water locally and production of groundwater has been maximized. Therefore, interception of groundwater has been optimized with this recovery system. Any leakage beyond the line is rapidly diluted and meets the concentration requirements at the recharge line.

The effectiveness of the groundwater interception and treatment system in reducing chromium levels in the groundwater is demonstrated by review of chemical analyses of treatment plant effluent and downgradient monitor well samples (wells M-86 and M-23). KMCC is monitoring chromium concentrations in five Consent Order Appendix J wells, located up and downgradient from the plume interceptor line (Figure 2). Hexavalent chromium concentrations in the five Appendix J wells sampled and analyzed for chromium are displayed in Table 1. Appendix D portrays this data graphically.

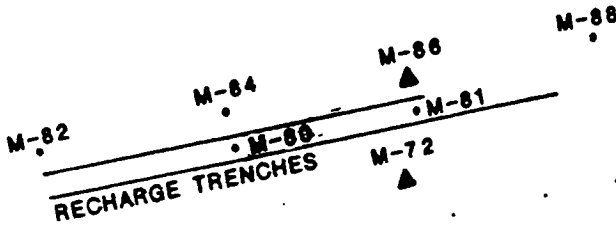
M-47

M-23

M-49

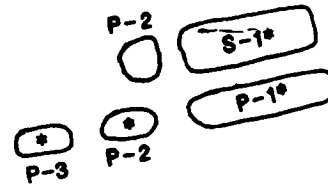
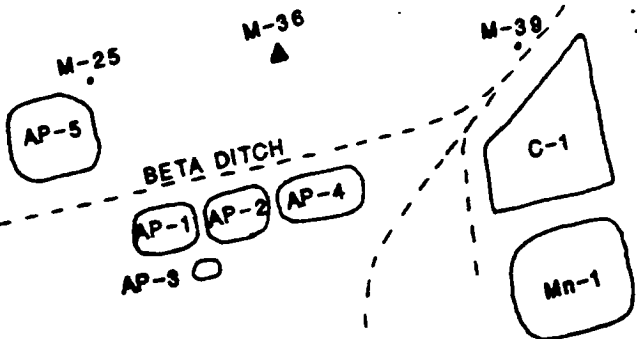
FIGURE 2
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
LOCATION OF APPENDIX J WELLS

- ▲ GROUNDWATER ELEVATION & CHROMIUM CONCENTRATION WELL LOCATION
- GROUNDWATER ELEVATION WELL LOCATION
- * CLOSED POND

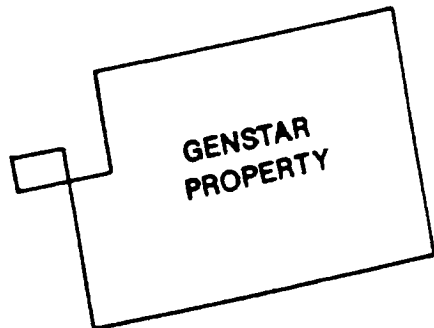


INTERCEPTOR WELL LINE

APPROXIMATE PROPERTY LINE



TIMET PROPERTY



M-11

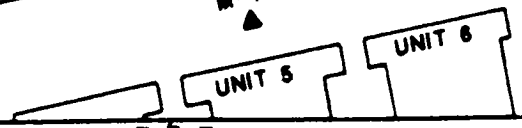


TABLE 1
TOTAL CHROMIUM CONCENTRATION (mg/l)
IN APPENDIX J WELLS

MONTH	WELL #				
	M-11	M-36	M-72	M-86	M-23
DEC 1988	54.00	2.90	1.40	0.12	4.90
JAN 1989	6.70	2.90	1.40	0.31	4.60
FEB 1989	40.00	3.10	1.20	0.06	4.10
MAR 1989	42.00	3.80	1.40	0.19	3.80
APR 1989	43.00	3.50	1.40	0.42	3.30
MAY 1989	44.00	3.60	1.40	0.27	3.20
JUN 1989	35.00	3.90	1.16	0.20	2.70
JUL 1989	34.00	4.00	1.28	0.13	2.70
AUG 1989	36.00	4.20	1.40	0.38	2.70
SEP 1989	35.00	3.80	1.30	0.17	2.30
OCT 1989	35.00	4.30	1.60	0.12	2.40
NOV 1989	33.00	4.00	1.80	0.13	2.30
DEC 1989	35.00	4.40	1.90	0.14	2.10
JAN 1990	34.00	4.50	2.60	0.14	2.00
FEB 1990	32.00	4.90	2.90	0.10	2.00
MAR 1990	31.00	5.00	3.00	0.25	1.80
APR 1990	30.00	5.10	3.20	0.12	1.70
MAY 1990	34.00	4.90	3.50	0.07	1.60
JUN 1990	33.00	5.10	3.50	0.06	1.50

M-11 is 2500 ft. upgradient of interceptor line.
M-36 is 550 ft. upgradient of interceptor line.
M-72 is Between interceptor line and recharge trench.
M-86 is Immediately downgradient of recharge trench.
M-23 is 1350 ft. downgradient of recharge trench.

Well M-11 was selected for monitoring the upgradient concentration of chromium because it is nearest the identified source. Figure D-1 shows that the chromium concentration in M-11 has not declined significantly. The slow rate of decline is due to the slow release of chromium laterally from the low permeability Muddy Creek Clay, the horizon in which the basement of the building that was the source of chromium resides.

Well M-36, located approximately 350 feet upgradient from the interceptor line, shows a gradual increase in chromium concentration with time (Figure D-2). This is due to the normal downgradient progression of chromium from the source, near M-11, to the interception line.

Well M-72 (Figure D-3), which is located between the interceptor line and the recharge trench, had exhibited a steady decline in chromium concentration until October, 1988. The concentration increase that began in October is approaching 4.0 mg/l and reflects some slight flowthrough of groundwater in the vicinity of well I-H. The drawdown at well I-H has been maximized to reduce potential flowthrough. Figure B-2 shows well I-H is drawn down to the Muddy Creek Clay.

In response to the concerns raised by the increasing trend of chromium concentration in monitor well M-72, KMCC performed chromium analysis on groundwater samples from the following monitor wells: M-71, M-73, M-82, M-84, and M-86 (Figure 1).

Table 2 lists the total chromium concentration of groundwater taken from each of these wells.

The data shows that the elevated levels of chromium seen in monitor well M-72 (3.5 mg/l) is a localized phenomenon. KMCC believes there must be a channel in the Muddy Creek Clay, hydrologically isolated from interceptor well I-H, that is conducting a small quantity of groundwater through the interceptor line. This is only possible when the formation is extensively dewatered, as is now the situation. The fact that none of the four monitor wells downgradient from the recharge trenches displays greater than 0.5 mg/l total chromium shows that any flowthrough is insignificant, and that downgradient groundwater quality is acceptable. KMCC will continue to monitor chromium levels in wells M-71, M-73, M-86, and M-88 as long as monitor well M-72 shows these relatively high chromium levels.

Well M-86 (Figure D-4), located immediately downgradient from the recharge trench, continues to show a decreasing trend in chromium concentration. Prior to the installation of the groundwater treatment system, the chromium concentration at well M-86 was near 5.0 mg/l. At no time since December 1987 has the chromium concentration at this location exceeded 0.5 mg/l. The consent order stipulates that treated water discharged to the ground must have an average chromium concentration of 1.7 mg/l or lower. Cleanup conditions are therefore well within criteria. With chromium levels in well M-86 typically below 0.3 mg/l, the

TABLE 2
TOTAL CHROMIUM CONCENTRATION (mg/l)
IN SELECTED GROUNDWATER MONITOR WELLS

DATE	M-71	M-73	M-82	M-84	M-88
MAY 1990	0.31	0.82	0.11	0.03	0.34

interception and treatment system installed at the facility is effectively lowering the chromium concentration of the groundwater and is meeting the Chromium Mitigation Program objectives.

Well M-23 (Figure D-5), the farthest downgradient of the Appendix J wells, shows a continued decreasing trend in chromium concentration. The fact that the chromium concentration at well M-23 continues to decrease provides definitive evidence that groundwater quality is being restored. This trend, which demonstrates the overall effectiveness of the chromium mitigation program, is expected to continue.

KMCC instituted a management program to assure maximization of groundwater removal at the individual well locations along the interceptor line that exhibit the highest chromium concentrations. Figure D-6 presents the chromium concentration in each of the interceptor well discharges. Discharge rates for each recovery well are continually monitored and adjusted for maximum groundwater recovery, on the basis of the potentiometric surface configuration, individual well chromium concentrations, and well production capabilities. Table 3 lists the pumping rate of each interceptor well measured June, 1990.

Cross-sections in Appendix B show that the interceptor wells are drawn down to the Muddy Creek Clay, minimizing both groundwater and chromium flow through the interceptor line.

TABLE 3
INTERCEPTOR WELL DISCHARGE RATES

WELL #	DISCHARGE RATE (GPM)			
	SEP. 14 1987	DEC. 19 1988	DEC. 7 1989	JUNE 1990
I-A	2.0	3.0	3.0	2.7
I-B	2.0	3.0	2.9	2.2
I-C*	2.5	8.8	5.5	4.4
I-D*	20.0	18.0	8.0	3.3
I-E*	5.0	2.4	5.2	1.8
I-F*	30.0	26.0	13.4	13.1
I-G	7.0	5.0	4.0	4.2
I-H*	8.0	3.0	7.8	2.4
I-I	15.0	15.0	16.0	11.8
I-J	10.0	8.0	8.0	5.3
I-K	10.0	8.2	7.5	7.5
	111.5	100.4	81.3	58.7

* - Wells containing the highest chromium concentrations (see Figure D-6 in Appendix D).

IMPACT OF DISPOSAL SYSTEM ON DOWNGRAIENT WATER LEVELS

Appendix J of the Consent Order, the Disposal System Contingency Plan, identifies specific monitor wells that are to be utilized to evaluate any impact from recharge of treated water into the alluvium. Fifteen wells are monitored monthly for groundwater levels. Kerr-McGee Chemical Corporation selected 5 of these wells in Appendix J of the Consent Order for quarterly chromium analysis. These wells have been sampled and analyzed monthly. Figure 2 illustrates the location of the Consent Order Appendix J wells.

Appendix A of this report shows that groundwater elevations have stabilized in that portion of the facility that lies downgradient from the recharge system (evidenced by wells M-47, M-23, and M-49), and are lower than in January, 1988. No surface wetting downgradient from the recharge trenches has been observed. KMCC is confident that there exists no undesirable impact to groundwater levels downgradient from the recharge trench.

CHROMIUM TREATMENT SYSTEM EFFECTIVENESS

The Consent Order specifies the following effluent concentration limits for the treatment plant discharge water: Total Chromium 1.7 mg/l and Hexavalent Chromium 0.05 mg/l as a monthly average; Total Chromium 3.4 mg/l and Hexavalent Chromium 0.1 mg/l as a maximum single value on a composite sample.

Table 4 lists treatment plant feed and discharge chromium concentration data for January through June, 1990. The discharge concentration of hexavalent chromium for the week of February 20 through February 25, 1990 was 1.476 mg/l. This value caused the February average to exceed the 0.05 mg/l limit, with a recorded 0.298 mg/l value.

This elevated concentration was caused by the need to replace the electrodes in one of the electrolytic cells. The standby electrolytic cell is placed into service when laboratory data shows an increase in discharge chromium concentration due to deteriorating electrodes within the cell. The laboratory results are not received for several days after discharge sampling. The wrong combination of sampling and turnaround times at cell exhaustion time can result in two samples displaying high chromium concentrations in the same week. This can result in a high weekly discharge chromium concentration value.

Switchover to the standby cell occurs on a scheduled basis to minimize to the extent possible occurrences of elevated chromium

TABLE 4
GROUNDWATER TREATMENT ANALYSIS

WEEK OF	VOLUME TREATED (M gal.)	FEED CHROMIUM (mg/l)	TREATED TOTAL (mg/l)	EFFLUENT HEXAVALENT (mg/l)
Jan. 1 - Jan. 7	752	3.40	0.018	0.0035
Jan. 8 - Jan. 14	703	2.70	0.170	0.0474
Jan. 15 - Jan. 21	479	2.90	0.035	0.0010
Jan. 22 - Jan. 29	736	2.40	0.038	0.0020
January, 1990 Average		2.85	0.0635	0.0135
Jan. 30 - Feb. 4	723	2.90	0.073	0.00275
Feb. 5 - Feb. 11	731	2.90	0.040	0.0022
Feb. 12 - Feb. 19	731	4.05	0.060	0.0044
Feb. 20 - Feb. 25	732	3.45	1.490	1.476 ^A
Feb. 26 - Mar. 4	727	3.10	0.035	0.00275
February, 1990 Average		2.68	0.3396	0.298 ^A
Mar. 5 - Mar. 11	713	3.15	0.082	0.0042
Mar. 12 - Mar. 18	731	3.25	0.076	0.0054
Mar. 19 - Mar. 25	702	3.50	0.338	0.0886
Mar. 26 - Apr. 1	554	3.20	0.068	0.0046
March, 1990 Average		3.275	0.141	0.0257

A- Cell switchover required on February 21, 1990.

concentration. The normal period of efficient operation of the electrolytic cells is 20 days. However, since the life of the electrodes is dependent upon several variables, such as temperature, flowrate, and adjusted amperage, it is not possible to accurately predict the life of the electrodes. To the extent possible, electrodes are replaced prior to receiving discharge data showing elevated concentrations.

TABLE 4 (cont.)
GROUNDWATER TREATMENT ANALYSIS

WEEK OF	VOLUME TREATED (M gal.)	FEED CHROMIUM (mg/l)	TREATED TOTAL (mg/l)	EFFLUENT HEXAVALENT (mg/l)
Apr. 2 - Apr. 8	702	3.05	0.038	0.001
Apr. 9 - Apr. 15	590	3.35	0.130	0.013
Apr. 16 - Apr. 22	605	3.35	0.104	0.022
Apr. 23 - Apr. 29	641	3.20	0.178	0.015
April, 1990 Average		3.24	0.1115	0.0128
Apr. 30 - May 6	659	3.45	0.172	0.055
May 7 - May 13	653	3.30	0.084	0.019
May 14 - May 20	694	3.40	0.074	0.027
May 21 - May 27	634	3.30	0.020	0.0024
May, 1990 Average		3.363	0.0875	0.1259
May 28 - June 3	624	3.90	0.127	0.005
June 4 - June 10	594	3.45	0.040	0.016
June 11 - June 17	603	3.70	0.202	0.0076
June 18 - June 24	568	No Sample	0.100	0.0032
June 25 - July 1	512	3.34	0.058	0.0020
June, 1990 Average		3.598	0.105	0.0085

ADDITIONAL WORK PERFORMED

Approximately every twenty days, the electrodes in the treatment plant's electrolytic cells deteriorate to the point they require replacement. During the first half of 1990, electrodes were replaced February 21, March 15, April 10, April 27, May 24, and June 20, 1990. Each time, the cell that was on standby replaced the disconnected cell in the treatment circuit.

Engine hour meters are being used to determine the average number of hours per day individual pumps are running. Six of the interceptor wells utilize a time-marking device that shuts the pump off for a pre-determined amount of time if the well runs dry. If a pump spends a significant amount of time shut down, recovery can be increased by decreasing the pump rate, allowing discharge to occur a greater percentage of the time. Well discharge rates are adjusted periodically, as engine hour meters show either continuous pumping or a low percentage of pumping time.

All interceptor wells are checked for operation each day; flow rates are recorded for each well twice weekly. Flowmeter readings (total volume) are recorded for each time-marking well twice weekly. These records indicate when a pump needs to be replaced or a flowrate adjusted. For example, the pump for well I-B failed on June 29, and was replaced July 2, 1990.

PROPOSED FUTURE ACTIVITIES

KMCC will continue to record all water levels in the consent order area on a quarterly basis. Quarterly potentiometric surface maps and cross-sections will be developed, and the water level recorders on monitor wells M-78 and M-80 will continue to operate.

Electronic pressure transducers are being placed in a number of groundwater monitor wells stationed between recovery wells. A telephone-addressable datalogger will record the pressure head in each of the wells at a regular interval and convert the pressure head to groundwater elevation. KMCC anticipates that this format of groundwater elevation monitoring will provide more accurate data and will replace the continuous water level recorder currently used in well M-78. This water level monitoring system will also yield the same data as the current monthly manual recording of groundwater elevations throughout the consent order monitoring area. Provisions for discontinuing the use of the continuous water level recorder are given in Section 6 of the Consent Order.

CONCLUSIONS

KMCC is confident that effective groundwater interception and treatment are being attained. The effect of changing the pumping rates of the interceptor wells will continue to be monitored, and appropriate responses (i.e.- future pump rate adjustments) will be taken to assure optimal drawdown and plume interception.

Treatment facility discharge chromium concentrations are consistently below established requirements. No adverse impacts to downgradient groundwater levels have been observed as a result of returning treated groundwater to the near-surface aquifer via the recharge trenches. No other design modifications to the treatment plant facility are contemplated at this time.

APPENDIX A
GROUNDWATER ELEVATIONS

APPENDIX A
 ERBB-ROGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

TOC-->	M-11		M-14		M-15		M-17		M-18		M-19		M-22		M-22R		M-23		M-25	
	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.
05-Jan-88	44.76	1768.88	28.58	1730.27	23.29	1726.40	30.64	1738.90	11.73	1726.55	27.60	1738.95	23.78	1734.35			14.58	1698.20	28.63	1731.52
05-Feb-88	44.76	1768.88	28.70	1730.13	23.59	1726.10	31.12	1738.42	11.87	1726.41	27.88	1738.87	24.20	1733.93			14.52	1698.26	27.07	1731.06
01-Mar-88	44.76	1768.70	29.36	1729.47	24.03	1725.66	31.72	1737.82	12.13	1726.15	28.36	1738.19	24.65	1733.48			14.67	1698.11	27.66	1730.49
19-Apr-88	45.17	1768.29	30.14	1728.89	24.62	1725.07	32.42	1737.12	12.73	1725.55	28.92	1737.63	25.25	1732.88			14.94	1697.84	28.33	1729.82
18-May-88	45.13	1768.33	30.48	1728.35	25.05	1724.64	32.90	1736.64	13.08	1725.20	29.34	1737.21	25.61	1732.52			15.05	1697.73	28.75	1729.40
07-Jun-88	45.39	1768.07	30.67	1728.16	25.24	1724.85	33.03	1736.51	13.30	1724.98	29.54	1736.91	26.19	1731.94			15.29	1697.49	29.00	1729.15
14-Jul-88	46.16	1767.30	31.06	1727.77	25.83	1723.86	33.96	1735.58	13.73	1724.55	29.98	1736.57					15.73	1697.05	29.60	1728.55
06-Aug-88	46.20	1767.26	31.36	1727.47	25.94	1723.75	34.18	1735.36	13.91	1724.37	29.24	1737.31					15.45	1697.33	29.65	1728.50
03-Sep-88	46.12	1767.34	31.32	1727.51	25.95	1723.74	34.30	1735.24	13.40	1724.88	29.75	1736.80					15.50	1697.28	30.10	1728.05
10-Oct-88	45.40	1768.06	31.50	1727.33	28.00	1723.69	34.40	1735.14	14.30	1723.98	29.70	1736.85					15.55	1697.23	30.15	1728.00
28-Nov-88	41.65	1771.81	31.65	1727.10	27.10	1722.58	34.30	1735.24	14.40	1723.88	29.90	1736.65					16.85	1695.93	30.70	1727.45
15-Dec-88	46.19	1767.36	37.70	1721.13	30.18	1719.51	33.75	1735.79	14.00	1724.28	30.40	1736.15					15.10	1697.68	30.70	1727.45
19-Jan-89	46.15	1767.31	31.80	1727.03	25.05	1724.64	34.75	1734.79	14.80	1723.48	30.60	1735.95					16.45	1696.33	30.95	1727.20
23-Feb-89	45.27	1768.19	32.15	1726.68	28.35	1721.34	35.00	1734.54	15.35	1722.93	30.60	1735.75					16.50	1696.28	32.10	1726.05
23-Mar-89	45.90	1767.56	32.20	1726.63	28.40	1721.29	35.10	1734.44	15.70	1722.58	31.00	1735.55					16.60	1696.18	32.20	1725.95
23-Apr-89	46.10	1767.36	32.30	1726.53	28.40	1721.29	35.10	1734.44	15.85	1722.43	31.00	1735.55					16.00	1696.78	32.00	1725.15
09-May-89	44.95	1768.51	32.40	1726.43	27.80	1721.89	35.00	1734.54	16.00	1722.28	31.00	1735.55					16.10	1696.58	32.30	1725.85
01-Jun-89	45.50	1767.96	32.50	1726.33	28.50	1721.19	35.25	1734.29	16.25	1722.03	31.30	1735.25					16.20	1696.58	32.00	1725.15
03-Jul-89	45.00	1768.46	32.60	1726.23	27.60	1722.09	35.35	1734.19	16.55	1721.73	31.45	1735.10					16.20	1696.58	32.10	1726.05
16-Aug-89	48.00	1767.46	32.70	1726.13	28.30	1721.39	35.50	1734.04	16.85	1721.43	34.55	1732.00					16.20	1696.58	32.00	1725.15
12-Sep-89	45.30	1768.16	32.55	1726.28	28.55	1721.14	35.55	1733.99	16.80	1721.48	36.60	1729.75					16.20	1696.58	32.00	1725.15
25-Oct-89	45.00	1768.46	32.60	1726.23	28.40	1721.29	35.35	1734.19	17.10	1721.18	31.60	1734.95					16.20	1696.58	32.65	1725.50
17-Nov-89	44.10	1769.36	32.00	1726.63	30.00	1719.69	35.35	1734.19	17.10	1721.18	31.60	1734.95					16.85	1695.93	32.60	1725.55
07-Dec-89	45.00	1768.46	32.85	1726.98	28.30	1721.39	35.15	1734.39	17.10	1721.18	31.20	1735.35					16.85	1695.93	32.80	1725.35
12-Jan-90	45.05	1768.41	32.95	1725.88	28.40	1721.39	35.35	1734.19	17.25	1721.03	31.85	1734.70					16.95	1695.83	32.55	1726.80
23-Feb-90	45.30	1768.16	32.99	1725.93	28.40	1721.29	35.55	1733.99	17.55	1720.73	31.70	1734.85					17.10	1695.68	32.75	1725.40
11-Jul-90	44.60	1768.86	33.45	1725.38	29.45	1720.24	37.00	1732.54	18.20	1720.88	32.20	1734.06					16.65	1696.13	33.30	1724.85

APPENDIX A
 KERR-McGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

TOC-->	M-27		M-31		M-36		M-37		M-38		M-39		M-47		M-49		M-53		M-54	
	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.	DYW	ELEV.
20-Jan-88	15.36	1725.11	39.34	1749.05	25.62	1732.32	26.98	1732.30	26.04	1731.84	23.60	1735.51	13.08	1703.43	12.53	1706.25	25.60	1725.96	22.14	1728.79
05-Feb-88	15.70	1724.77	39.53	1748.66	25.95	1731.99	27.28	1732.00	28.37	1731.51	24.32	1734.99	13.04	1703.47	12.49	1706.29	25.73	1725.83	22.31	1726.82
01-Mar-88	15.88	1724.59	39.66	1748.71	26.50	1731.44	27.67	1731.41	26.99	1730.89	24.81	1734.50	13.00	1703.51	12.47	1706.31	26.21	1725.35	22.86	1726.05
19-Apr-88	16.45	1724.02	40.08	1748.31	27.14	1730.80	28.62	1730.66	27.60	1730.28	25.42	1733.89	13.10	1703.41	12.60	1706.16	26.75	1724.81	23.50	1725.43
10-May-88	16.95	1723.52	40.36	1748.03	27.50	1730.38	28.90	1730.38	28.00	1729.88	25.63	1733.46	13.29	1703.22	12.84	1705.84	27.09	1724.47	23.80	1725.33
07-Jun-88	17.21	1723.26	40.50	1747.89	27.73	1730.21	29.16	1730.12	28.27	1729.61	26.07	1733.24	13.47	1703.04	13.09	1705.69	27.25	1724.31	23.63	1725.10
14-Jul-88	17.52	1722.95	40.70	1747.69	28.60	1729.34	29.80	1729.68	28.75	1729.13	26.50	1732.81	13.72	1702.79	13.35	1705.43	27.60	1723.96	24.50	1724.43
06-Aug-88	17.67	1722.60	40.53	1747.66	28.45	1729.49	29.86	1729.42	28.94	1728.94	26.77	1732.54	14.07	1702.44	13.81	1704.97	27.94	1723.62	24.52	1724.41
03-Sep-88	16.66	1723.81	40.52	1747.87	29.50	1728.44	29.80	1729.48	29.20	1728.68	26.71	1732.60	13.72	1702.79	13.35	1705.43	28.12	1723.44	24.46	1724.45
10-Oct-88	16.30	1722.17	40.15	1748.24	28.80	1729.14	30.10	1729.18	29.50	1728.38	26.80	1732.51	13.65	1702.86	13.60	1705.18	28.30	1723.26	24.99	1724.03
26-Nov-88	16.60	1721.87	40.30	1748.09	29.00	1728.94	29.90	1729.38	29.30	1728.58	26.90	1732.41	13.80	1702.71	13.10	1705.68	28.10	1723.46	25.10	1723.83
15-Dec-88	16.75	1721.72	39.83	1748.56	29.40	1728.54	31.90	1727.38	29.70	1728.18	26.75	1732.56	13.75	1702.76	13.75	1705.03	28.60	1722.96	28.60	1723.33
19-Jan-89	16.75	1721.72	40.15	1748.24	29.80	1728.14	30.40	1728.88	29.90	1727.98	26.85	1732.46	14.10	1702.41	14.10	1704.68	28.85	1722.71	24.45	1724.48
23-Feb-89	19.75	1720.72	40.47	1747.92	30.50	1727.44	30.65	1728.63	32.70	1725.18	27.65	1731.66	14.45	1702.96	14.23	1704.55	28.90	1722.66	25.90	1723.03
23-Mar-89	19.75	1720.72	40.80	1747.59	30.30	1727.64	30.70	1728.58	30.30	1727.58	27.65	1731.46	14.65	1701.81	14.30	1704.48	28.40	1721.66	26.30	1722.63
23-Apr-89	19.65	1720.62	40.80	1747.59	30.50	1727.44	31.75	1727.53	30.40	1727.48	27.90	1731.41	14.70	1701.81	14.40	1704.38	29.40	1721.18	26.40	1722.53
09-May-89	19.60	1720.67	39.90	1748.49	30.20	1727.74	30.70	1728.58	30.40	1727.48	28.05	1731.28	14.80	1701.71	14.50	1704.28	29.75	1721.81	26.40	1722.53
01-Jun-89	19.70	1720.77	40.35	1748.04	30.35	1727.59	30.40	1728.48	30.45	1727.43	28.20	1731.11	14.60	1701.91	14.65	1704.13	29.75	1721.81	26.60	1722.33
03-Jul-89	19.85	1720.62	40.30	1748.09	31.70	1726.24	30.80	1728.48	30.40	1727.48	28.30	1731.01	15.00	1701.51	14.60	1704.18	30.00	1721.56	26.55	1722.38
16-Aug-89	20.25	1720.22	41.00	1747.39	30.50	1727.44	30.90	1728.38	30.65	1727.23	28.50	1730.81	20.50	1696.01	20.25	1698.53	30.10	1721.46	26.75	1722.18
12-Sep-89	20.50	1719.97	40.55	1747.84	30.70	1727.24	30.90	1728.38	30.65	1727.23	28.50	1730.81	19.50	1697.01	20.30	1698.48	30.10	1721.46	26.75	1722.18
25-Oct-89	20.75	1719.72	39.20	1749.19	30.80	1727.14	31.00	1728.28	30.55	1727.33	28.50	1730.81	26.50	1699.01	20.60	1699.18	30.35	1721.21	27.25	1721.68
17-Nov-89	21.10	1719.37	39.80	1748.59	30.40	1727.54	31.00	1728.28	30.55	1727.33	28.75	1730.56	15.80	1700.71	15.35	1703.43	29.00	1722.56	27.10	1721.83
07-Dec-89	20.80	1719.67	40.25	1748.14	30.55	1727.39	31.05	1728.23	30.60	1727.28	28.60	1730.71	15.70	1700.81	15.50	1703.28	30.50	1721.06	27.40	1721.53
12-Jan-90	21.00	1719.47	41.05	1747.34	30.60	1727.34	31.10	1728.18	30.65	1727.23	28.75	1730.56	15.85	1700.66	15.65	1703.13	30.60	1720.96	28.50	1720.43
23-Feb-90	21.10	1719.37	40.75	1747.64	31.50	1726.44	31.20	1728.08	30.70	1727.18	28.50	1730.81	15.80	1700.71	15.65	1703.13	30.65	1720.91	27.60	1721.33
11-Jul-90	22.05	1718.42	41.10	1747.29	32.20	1725.74	31.60	1727.68	31.10	1726.78	29.30	1730.81	16.35	1700.16	16.05	1702.73	31.05	1720.51	28.30	1720.63

APPENDIX A
 KERR-MCGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

TOC-->	M-55		M-56		M-57		M-58		M-59		M-60		M-61		M-62		M-63		M-64	
	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.	DTH	ELEV.
20-Jan-88	23.27	1726.08	22.40	1727.12	26.44	1725.85	20.58	1728.67	14.22	1728.79	22.06	1728.07	16.60	1728.95	25.51	1727.41	22.54	1728.05	22.91	1728.86
05-Feb-88	23.74	1725.61	22.87	1726.73	26.67	1725.62	20.80	1728.45	14.46	1728.53	22.38	1727.76	17.12	1728.43	25.74	1727.18	22.78	1728.81	23.15	1728.81
01-Mar-88	24.15	1725.20	23.35	1726.25	27.10	1725.19	21.09	1728.16	14.86	1728.15	22.80	1727.33	17.34	1728.21	26.18	1726.74	23.43	1727.16	23.87	1725.89
18-Apr-88	24.75	1724.60	24.94	1725.58	27.58	1724.71	21.67	1727.58	15.54	1727.47	23.54	1726.59	17.81	1727.74	26.77	1726.15	24.08	1726.51	24.52	1725.24
18-May-88	25.05	1724.30	24.97	1725.03	27.88	1724.41	22.12	1727.13	15.83	1727.18	23.82	1726.31	18.16	1727.39	27.05	1725.87	24.40	1726.19	24.74	1725.02
07-Jun-88	25.27	1724.00	24.68	1724.92	27.97	1724.32	22.35	1726.90	16.08	1726.93	24.01	1726.12	18.35	1727.20	27.25	1725.67	24.55	1726.04	25.00	1724.78
14-Jul-88	25.78	1723.57	25.14	1724.46	28.32	1723.97	22.90	1726.35	16.57	1726.44	24.48	1725.65	18.78	1726.77	27.63	1725.29	24.88	1725.71	25.50	1724.28
06-Aug-88	25.91	1723.44	25.33	1724.27	28.61	1723.68	23.24	1726.01	16.78	1726.23	24.69	1725.44	19.05	1726.50	27.99	1724.93	25.20	1725.39	25.66	1724.10
08-Sep-88	26.20	1723.15	25.30	1724.30	28.62	1723.67	23.15	1726.10	16.57	1726.44	20.80	1729.33	16.50	1729.05	27.99	1724.93	25.30	1725.29	25.80	1723.98
10-Oct-88	26.40	1722.95	25.65	1723.95	28.75	1723.54	23.30	1725.95	16.60	1726.41	25.00	1725.13	19.20	1726.35	28.10	1724.82	25.15	1725.44	25.90	1723.66
20-Nov-88	26.80	1722.55	25.80	1723.80	28.85	1723.44	23.30	1725.95	16.80	1726.11	25.00	1725.13	19.80	1726.95	28.20	1724.72	25.20	1725.39	26.20	1723.66
15-Dec-88	28.75	1720.60	31.00	1718.60	29.10	1723.19	26.90	1722.35	17.30	1725.71	26.40	1723.73	19.25	1726.30	28.60	1724.32	31.50	1719.09	29.45	1720.31
19-Jan-89	24.20	1725.15	26.50	1723.10	29.10	1723.19	24.10	1725.15	17.70	1725.31	25.00	1725.13	19.70	1725.85	28.75	1724.17	25.85	1724.74	26.65	1723.11
23-Feb-89	27.80	1721.55	26.95	1722.65	29.40	1722.89	24.75	1724.50	18.40	1724.61	26.15	1723.98	22.50	1723.05	28.80	1724.12	26.15	1724.44	27.35	1722.41
23-Mar-89	26.80	1722.55	27.00	1722.60	29.60	1722.69	25.00	1724.25	18.60	1724.41	26.30	1723.83	20.80	1724.95	29.00	1723.92	26.55	1724.04	27.40	1722.36
23-Apr-89	27.65	1721.50	27.15	1722.45	29.65	1722.64	24.95	1724.30	18.80	1724.21	26.40	1723.73	20.70	1724.85	29.10	1723.82	26.40	1724.19	27.50	1722.26
09-May-89	27.85	1721.50	26.60	1723.00	29.80	1722.49	25.10	1724.15	18.70	1724.31	26.40	1723.73	20.60	1724.95	29.25	1723.67	26.65	1723.94	27.45	1722.31
01-Jun-89	27.90	1721.45	27.15	1722.45	29.85	1722.44	25.50	1723.75	19.10	1723.91	26.60	1723.53	21.05	1724.50	29.30	1723.62	26.70	1723.89	27.60	1722.16
03-Jul-89	27.85	1721.50	27.15	1722.45	30.00	1722.29	25.75	1723.50	19.40	1723.61	26.70	1723.43	21.35	1724.20	29.30	1723.62	26.85	1723.94	27.50	1722.26
16-Aug-89	28.20	1721.15	27.60	1722.00	30.15	1722.14	25.80	1723.45	19.55	1723.46	26.95	1723.18	21.50	1724.05	29.55	1723.37	26.95	1723.64	27.80	1721.96
12-Sep-89	28.35	1721.00	27.70	1721.90	30.15	1722.14	25.90	1723.35	19.50	1723.51	27.05	1723.08	20.80	1724.75	29.55	1723.37	26.90	1723.69	27.90	1721.86
25-Oct-89	28.45	1720.90	27.65	1721.95	30.25	1722.04	26.10	1723.15	19.65	1723.36	27.15	1722.98	21.55	1724.00	29.70	1723.22	27.15	1723.44	28.05	1721.71
17-Nov-89	28.30	1721.05	27.20	1722.40	31.00	1721.29	26.10	1723.15	19.50	1723.51	26.90	1723.23	21.40	1724.15	30.20	1722.72	27.10	1723.49	28.00	1721.76
07-Dec-89	28.45	1720.90	27.75	1721.85	30.40	1721.89	26.15	1723.10	19.90	1723.11	27.30	1722.83	21.85	1723.70	29.85	1723.07	27.30	1723.29	28.10	1721.66
12-Jan-90	28.55	1720.80	27.65	1721.95	30.50	1721.79	26.30	1722.95	20.15	1722.86	27.30	1722.83	22.15	1723.40	29.95	1722.97	27.40	1723.29	28.20	1721.56
23-Feb-90	28.65	1720.70	28.00	1721.60	30.55	1721.74	26.40	1722.85	20.05	1722.96	27.50	1722.63	21.85	1723.70	30.00	1722.92	27.50	1723.09	28.35	1721.41
11-Jul-90	29.45	1719.90	28.60	1721.00	30.90	1721.39	26.95	1722.30	20.60	1722.41	28.15	1721.98	22.55	1723.00	30.40	1722.52	28.00	1722.59	29.00	1720.76

APPENDIX A
 KERR-MCGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

TOC----	M-65		M-66		M-67		M-68		M-69		M-70		M-71		M-72		M-73		M-74	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
20-Jan-88	24.97	1727.91	22.69	1729.64	14.59	1730.39	16.12	1731.32	23.61	1725.16	21.61	1725.35	19.37	1726.51	17.22	1728.27	12.02	1728.03	15.40	1728.02
05-Feb-88	25.24	1727.64	22.97	1729.36	14.90	1730.08	16.53	1730.91	23.84	1724.93	21.97	1724.99	19.77	1726.11	17.46	1728.03	12.27	1727.78	15.63	1727.79
01-Mar-88	25.89	1726.99	23.54	1728.79	15.33	1729.65	16.96	1730.48	24.31	1724.46	22.53	1724.43	20.11	1725.77	17.77	1727.72	12.50	1727.55	16.00	1727.42
19-Apr-88	26.58	1726.30	23.92	1728.41	15.81	1729.17	17.50	1729.48	24.82	1723.95	23.10	1723.86	20.75	1725.13	18.31	1727.18	13.12	1726.99	16.96	1726.86
10-May-88	27.00	1725.86	24.33	1728.00	16.18	1728.80	17.84	1729.60	25.07	1723.70	23.34	1723.62	21.30	1724.58	18.73	1726.76	13.55	1726.50	16.80	1726.62
07-Jun-88	27.24	1725.64	24.52	1727.81	16.44	1728.54	18.08	1729.36	25.34	1723.43	23.55	1723.41	21.55	1724.33	18.97	1726.52	13.82	1726.23	17.05	1726.37
14-Jul-88	27.85	1725.03	25.85	1727.28	16.93	1728.05	18.46	1728.98	24.54	1724.23	23.95	1723.01	22.04	1723.84	19.49	1728.00	14.30	1725.75	17.47	1725.95
03-Sep-88	27.97	1724.91	25.20	1727.13	17.20	1727.76	18.76	1728.66	26.02	1722.75	24.26	1722.70	22.25	1723.63	19.40	1728.09	14.30	1725.75	17.71	1725.71
10-Oct-88	28.25	1724.63	25.35	1726.96	17.00	1727.98	17.95	1729.49	25.90	1722.87	24.40	1722.56	22.15	1723.73	19.70	1725.79	14.30	1725.75	17.00	1726.42
03-Nov-88	28.65	1724.23	25.40	1726.93	17.10	1727.86	16.80	1730.64	26.00	1722.77	24.80	1722.16	22.80	1723.08	20.25	1725.24	14.85	1725.20	18.00	1725.42
26-Nov-88	28.90	1723.98	25.70	1726.63	17.80	1727.18	19.00	1728.44	26.25	1722.52	25.35	1720.61	23.20	1722.68	20.10	1725.39	15.00	1725.05	18.30	1725.12
15-Dec-88	26.75	1726.13	25.95	1726.38	17.60	1727.38	18.75	1728.69	29.55	1719.22	26.65	1720.31	24.10	1721.78	21.55	1723.94	14.60	1725.45	17.90	1725.52
19-Jan-89	30.00	1722.86	26.10	1726.23	18.00	1726.98	19.00	1728.44	26.00	1722.77	25.55	1721.41	24.10	1721.78	20.00	1725.49	14.70	1725.35	18.00	1725.42
23-Feb-89	30.40	1722.48	26.70	1725.63	18.45	1726.53	19.40	1728.04	26.50	1722.27	25.90	1721.06	24.75	1721.13	21.40	1724.09	16.30	1723.75	18.90	1724.52
23-Mar-89	30.30	1722.58	26.90	1725.43	18.70	1726.26	19.85	1727.59	28.35	1720.42	26.00	1720.96	24.65	1721.23	21.70	1723.79	16.60	1723.45	19.30	1724.12
23-Apr-89	30.55	1722.33	27.00	1725.33	18.80	1726.18	20.00	1727.44	27.40	1721.37	26.00	1720.86	24.70	1721.18	21.00	1723.69	16.80	1723.25	19.40	1724.02
09-May-89	30.35	1722.53	27.15	1725.18	18.80	1726.18	20.15	1727.29	27.70	1721.07	26.10	1720.86	24.65	1721.23	22.00	1723.49	16.80	1723.25	19.50	1723.92
01-Jun-89	30.50	1722.30	27.35	1724.98	19.10	1725.86	20.35	1727.09	27.70	1721.02	26.15	1720.81	24.70	1721.18	22.20	1723.29	17.10	1722.95	19.75	1723.67
03-Jul-89	30.55	1722.33	27.55	1724.76	19.35	1725.63	20.60	1726.84	27.95	1720.82	26.15	1720.81	24.75	1721.13	22.55	1722.94	17.50	1722.55	20.00	1723.42
16-Aug-89	30.95	1721.93	27.70	1724.63	19.45	1725.53	20.70	1726.74	28.20	1720.57	26.35	1720.61	25.25	1720.63	22.65	1722.84	17.60	1722.45	20.25	1723.17
12-Sep-89	31.10	1721.78	27.75	1724.58	19.45	1725.53	20.30	1727.14	28.00	1720.77	26.55	1720.41	25.50	1720.38	22.85	1722.64	17.70	1722.35	19.80	1723.62
25-Oct-89	29.60	1722.18	PLUGGED		19.55	1725.43	20.85	1726.59	28.65	1720.12	26.90	1720.06	25.25	1720.63	23.05	1722.44	17.90	1722.15	20.50	1722.92
17-Nov-89	30.70	1722.18	PLUGGED		19.40	1725.58	20.85	1726.59	28.00	1720.77	25.80	1721.16	25.00	1720.88	23.80	1721.69	17.85	1722.20	20.40	1723.02
07-Dec-89	30.70	1722.18	27.60	1724.73	19.65	1725.33	21.00	1726.44	28.95	1719.82	26.85	1720.11	25.25	1720.63	23.15	1722.34	18.05	1722.00	20.65	1722.77
12-Jan-90	30.75	1722.13	27.75	1724.58	20.00	1724.98	21.20	1726.24	29.10	1719.67	27.00	1719.96	25.25	1720.63	23.30	1722.19	18.35	1721.75	20.95	1722.47
23-Feb-90	30.95	1721.93	27.80	1724.53	19.75	1725.23	20.70	1726.74	29.30	1719.47	27.10	1719.86	25.40	1720.48	23.50	1721.99	18.35	1721.70	20.75	1722.67
11-Jul-90	31.80	1721.06	28.40	1723.93	20.40	1724.58	21.70	1725.74	30.15	1718.62	27.90	1719.06	26.45	1719.43	24.15	1721.34	18.90	1721.15	21.45	1721.97

APPENDIX A
 KERR-MCGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

TOC-->	M-78		M-79		M-80		M-81		M-82		M-83	
	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.	DYN	ELEV.
20-Jan-88	24.94	1726.07	17.54	1725.39	20.80	1724.93	15.13	1728.60	15.74	1723.64	16.52	1724.31
05-Feb-88	25.24	1725.77	17.88	1725.05	21.23	1724.50	15.18	1728.55	15.98	1723.40	16.54	1724.19
01-Mar-88	25.68	1725.33	18.37	1724.56	19.72	1726.01	15.46	1728.27	16.37	1723.01	17.05	1723.78
19-Apr-88	24.75	1726.26	18.07	1724.06	20.41	1725.32	16.08	1727.65	16.85	1722.53	17.54	1723.29
10-May-88	26.23	1724.78	19.47	1723.46	21.05	1724.68	16.80	1726.93	17.28	1722.10	18.00	1722.83
07-Jun-88	26.23	1724.78	19.47	1723.46	21.05	1724.68	17.11	1726.62	17.47	1721.91	18.24	1722.59
14-Jul-88	26.80	1724.21	20.00	1722.93	21.50	1724.23	17.55	1726.18	17.67	1721.71	18.45	1722.38
06-Aug-88	26.97	1724.04	20.42	1722.51	21.53	1724.20	17.79	1725.94	18.07	1721.31	19.00	1721.83
03-Sep-88	27.10	1723.91	20.10	1722.83	21.02	1724.71	17.40	1726.33	17.50	1721.88	17.87	1722.96
10-Oct-88	27.62	1723.39	20.50	1722.43	22.50	1723.23	18.15	1725.58	18.30	1721.08	19.20	1721.63
26-Nov-88	23.20	1727.81	20.75	1722.18	28.10	1717.63	17.75	1725.98	18.50	1720.88	19.30	1721.53
15-Dec-88	28.65	1722.36	22.45	1720.48	23.60	1722.13	18.25	1725.48	23.40	1715.98	24.10	1716.73
18-Jan-89	29.05	1721.96	20.18	1722.78	23.50	1722.23	18.80	1724.93	17.90	1721.48	18.85	1720.98
23-Feb-89	29.40	1721.61	20.20	1722.73	23.83	1721.90	19.90	1723.83	18.70	1720.68	20.25	1720.58
23-Mar-89	29.40	1721.61	21.20	1721.73	23.85	1721.88	20.00	1723.73	18.85	1720.53	20.30	1720.53
23-Apr-89	29.50	1721.51	21.25	1721.68	23.90	1721.83	19.80	1723.93	18.70	1720.68	20.20	1720.63
09-May-89	29.40	1721.61	21.05	1721.08	24.00	1721.88	20.35	1723.38	19.30	1720.08	20.45	1720.38
01-Jun-89	29.40	1721.61	22.00	1720.93	23.85	1721.88	20.50	1723.23	19.40	1719.98	20.40	1720.43
03-Jul-89	29.50	1721.51	22.25	1720.68	24.10	1721.63	20.55	1723.18	19.60	1719.78	20.35	1720.48
16-Aug-89	30.05	1720.96	22.50	1720.43	24.50	1721.23	21.00	1722.73	19.85	1719.53	20.75	1720.08
12-Sep-89	30.10	1720.91	22.85	1720.08	24.70	1721.03	21.40	1722.33	20.15	1719.23	21.00	1719.83
25-Oct-89	29.80	1721.21	23.00	1719.93	25.10	1720.63	21.70	1722.03	20.35	1719.03	21.40	1719.43
17-Nov-89	30.20	1720.81	23.00	1719.93	24.50	1721.23	22.00	1721.73	20.00	1719.38	21.90	1718.93
07-Dec-89	29.00	1722.01	23.15	1719.78	25.15	1720.58	21.75	1721.96	20.50	1718.88	21.55	1719.28
12-Jan-90	30.00	1721.01	23.35	1719.58	25.25	1720.48	22.00	1721.68	20.70	1718.68	21.65	1719.18
23-Feb-90	30.10	1720.91	23.15	1719.78	25.30	1720.43	22.10	1721.63	20.80	1718.58	21.65	1719.18
11-Jul-90	31.40	1719.61	24.80	1718.13	26.15	1719.58	23.10	1720.63	22.00	1717.38	22.80	1718.03

APPENDIX A
 KERR-McSEE CHEMICAL CORPORATION
 HENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

TOC----	M-84		M-85		M-86		M-87		M-88	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
20-Jan-88	14.42	1725.21	15.14	1726.05	15.71	1727.02	16.16	1726.17	13.02	1724.97
05-Feb-88	14.82	1724.81	15.36	1725.83	15.96	1726.12	16.15	1726.12	13.19	1724.80
01-Mar-88	15.00	1724.63	15.63	1725.56	16.00	1726.73	16.32	1725.95	13.41	1724.58
19-Apr-88	15.56	1724.07	16.23	1724.96	16.62	1726.11	16.87	1725.40	13.93	1724.06
18-May-88	16.00	1723.63	16.80	1724.39	16.23	1726.50	17.31	1724.96	14.41	1723.58
07-Jun-88	16.32	1723.31	17.11	1724.08	17.50	1725.23	17.63	1724.64	14.57	1723.42
14-Jul-88	16.62	1723.01	17.42	1723.77	17.93	1724.80	18.15	1724.12	14.97	1723.02
06-Aug-88	17.03	1722.60	17.80	1723.39	18.21	1724.52	18.20	1724.07	15.08	1722.91
03-Sep-88	15.80	1723.83	16.90	1724.29	17.74	1724.99	17.80	1724.47	14.56	1723.43
10-Oct-88	17.30	1722.33	18.30	1722.89	18.90	1723.83	18.60	1723.67	15.60	1722.39
26-Nov-88	17.95	1721.68	18.35	1722.84	18.10	1724.63	18.25	1724.02	15.75	1722.24
15-Dec-88	23.80	1715.83	19.05	1722.14	18.55	1724.16	18.85	1723.42	15.60	1722.39
19-Jan-89	18.30	1721.33	19.10	1722.09	16.30	1726.43	19.35	1722.92	15.30	1722.69
23-Feb-89	18.77	1720.86	19.60	1721.59	20.15	1722.50	24.35	1717.92	16.70	1721.29
23-Mar-89	18.75	1720.88	19.55	1721.64	21.50	1721.23	20.60	1721.67	17.00	1720.99
23-Apr-89	18.75	1720.88	19.45	1721.74	20.15	1722.58	20.75	1721.52	17.10	1720.89
09-May-89	18.90	1720.79	19.75	1721.44	20.60	1722.13	20.70	1721.57	17.25	1720.74
01-Jun-89	18.75	1720.86	19.65	1721.54	20.50	1722.23	21.20	1721.07	17.55	1720.44
03-Jul-89	18.90	1720.73	19.60	1721.59	20.75	1721.98	21.55	1720.72	17.85	1720.14
16-Aug-89	19.30	1720.33	20.15	1721.04	21.00	1721.73	21.70	1720.57	18.10	1719.89
12-Sep-89	19.55	1720.08	20.50	1720.69	21.50	1721.23	21.95	1720.32	18.20	1719.79
25-Oct-89	19.60	1719.83	20.75	1720.44	21.65	1721.08	22.35	1719.92	18.40	1719.59
17-Nov-89	20.00	1719.63	20.50	1720.69	22.00	1720.73	22.30	1719.97	18.50	1719.49
07-Dec-89	19.90	1719.73	20.70	1720.49	21.75	1720.98	22.45	1719.82	18.60	1719.39
12-Jan-90	20.05	1719.58	20.85	1720.34	22.00	1720.73	22.65	1719.62	18.85	1719.14
23-Feb-90	20.05	1719.58	21.00	1720.19	22.10	1720.63	22.75	1719.52	18.95	1719.04
11-Jul-90	21.10	1718.53	22.10	1719.09	22.90	1719.83	23.40	1718.87	19.60	1718.39

APPENDIX A
 HERR-MCSEE CHEMICAL CORPORATION
 BENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

TOC-->	I-A		I-B		I-C		I-D		I-E		I-F	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
20-Jan-88	26.63	1724.43	26.66	1724.03	26.86	1724.38	28.29	1722.25	45.76	1704.46	23.81	1723.77
05-Feb-88	25.42	1725.64	27.46	1723.98	26.46	1723.98	28.72	1721.82	46.20	1704.02	23.99	1723.59
01-Mar-88	27.70	1723.36	27.38	1723.31	26.99	1723.45	29.16	1721.38	45.88	1704.54	24.55	1723.03
19-Apr-88	28.42	1722.64	27.89	1722.80	27.75	1722.69	29.79	1720.75	29.69	1720.53	25.21	1722.37
18-May-88	28.83	1722.23	28.07	1722.62	26.03	1724.41	30.06	1720.48	32.22	1718.00	25.74	1721.84
07-Jun-88	29.12	1721.94	28.30	1722.39	26.25	1724.19	30.43	1720.11	32.76	1717.46	25.87	1721.71
14-Jul-88	29.69	1721.37	27.02	1723.67	26.37	1724.07	33.12	1717.42	34.60	1715.62	26.50	1721.08
06-Aug-88	29.80	1721.26	28.94	1721.75	26.49	1723.95	32.06	1718.48	33.10	1717.12	26.60	1720.98
09-Sep-88	31.10	1719.96	28.30	1721.79	26.60	1723.84	35.10	1715.44	32.70	1717.52	26.75	1720.83
10-Oct-88	26.75	1724.31	27.60	1723.09	26.80	1723.64	27.35	1723.19	29.00	1721.22	26.80	1720.78
26-Nov-88	25.60	1725.46	29.40	1721.29	36.20	1714.24	32.20	1718.34	38.10	1712.12	27.80	1719.78
15-Dec-88	30.00	1721.06	29.65	1721.04	37.75	1712.69	45.40	1705.14	41.50	1708.72	33.65	1713.93
19-Jan-89	28.18	1722.96	42.90	1707.54	42.90	1707.54	39.55	1710.99	40.65	1709.57	28.20	1719.38
23-Feb-89	28.28	1722.86	44.10	1706.34	41.10	1706.34	44.55	1705.99	45.70	1704.52	31.00	1716.58
23-Mar-89	31.00	1720.06	41.00	1709.44	41.00	1709.44	32.20	1718.34	30.80	1719.42	29.10	1718.48
23-Apr-89	30.70	1720.36	28.90	1721.54	28.90	1721.54	40.00	1710.54	35.70	1714.52	29.90	1717.68
09-May-89	38.70	1712.36	28.60	1721.84	29.00	1721.84	37.20	1713.34	39.10	1711.12	29.00	1718.58
01-Jun-89	29.25	1721.81	29.00	1721.44	29.00	1721.44	39.40	1711.14	40.35	1709.87	29.00	1718.58
03-Jul-89	29.30	1721.76	29.10	1721.34	29.10	1721.34	40.30	1710.24	42.90	1707.32	29.10	1718.48
16-Aug-89	30.30	1720.76	28.60	1721.84	28.60	1721.84	44.10	1706.44	33.55	1716.67	30.60	1716.98
12-Sep-89	30.70	1720.36	29.00	1721.44	29.00	1721.44	44.20	1706.34	34.00	1716.22	30.85	1716.73
25-Oct-89	31.25	1719.81	43.85	1706.59	43.85	1706.59	44.20	1706.34	36.25	1713.97	28.75	1718.83
17-Nov-89	32.00	1719.06	41.00	1709.69	42.00	1708.44	31.95	1718.59	37.00	1713.22	29.00	1718.58
07-Dec-89	42.00	1709.06	48.00	1702.69	50.00	1700.44	31.60	1718.94	39.00	1711.22	28.80	1718.78
12-Jan-90	44.00	1707.06	36.00	1714.69	36.20	1714.24	31.60	1718.94	45.50	1704.72	28.45	1719.13
23-Feb-90	44.00	1707.06	48.00	1702.69	44.00	1706.44	36.85	1713.69	34.95	1715.27	28.85	1718.73
11-Jul-90	46.00	1705.06	41.00	1703.69	37.20	1713.24	34.20	1716.34	40.00	1710.22	29.00	1718.58

APPENDIX A
 KBRP-MCGRRE CHEMICAL CORPORATION
 HENDERSON, NEVADA FACILITY
 GROUNDWATER ELEVATIONS

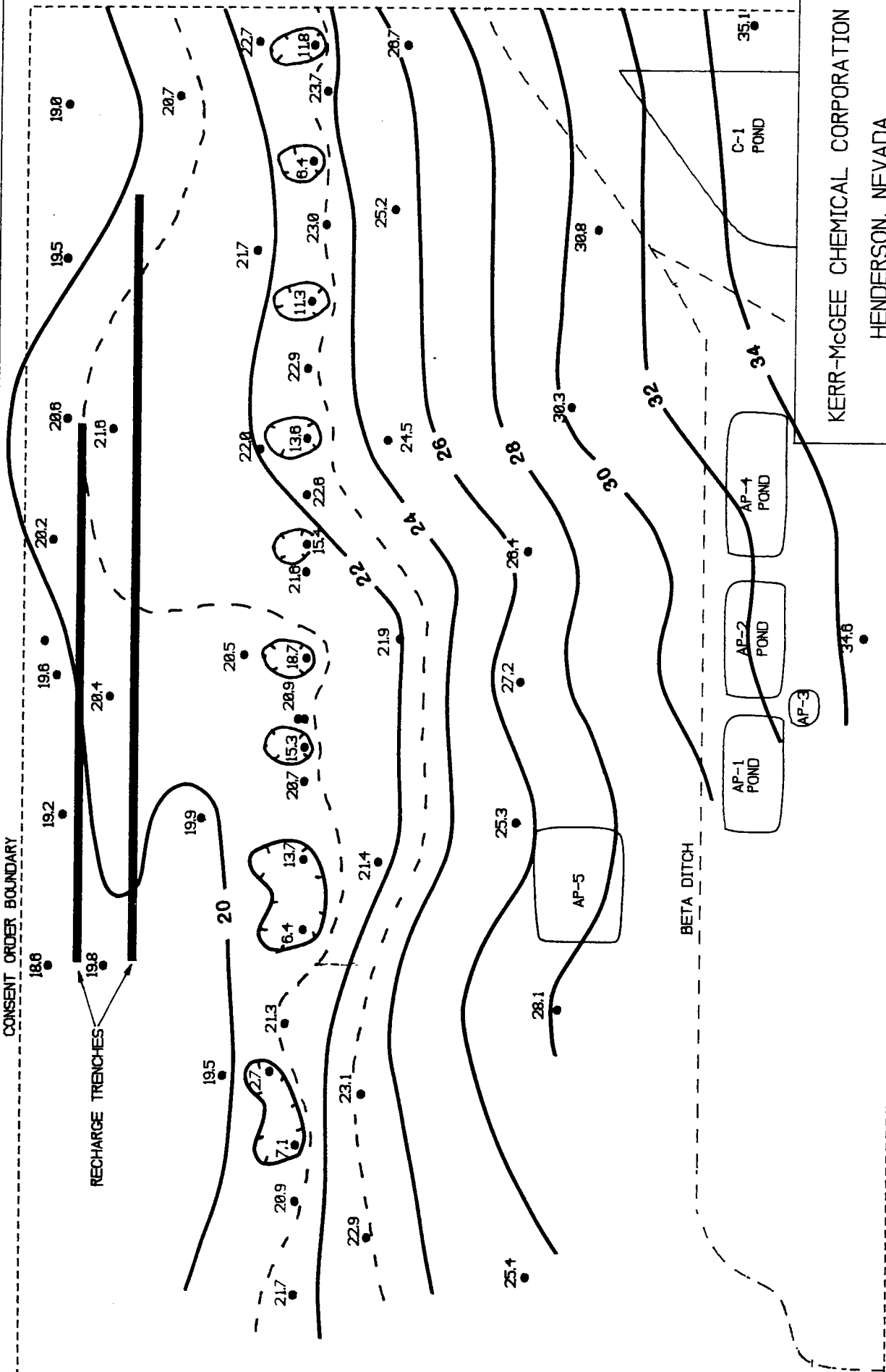
70C-->	I-6		I-B		I-1		I-J		I-K	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
20-Jan-88	25.52	1724.80	30.07	1721.00	18.65	1724.71	22.62	1725.33	21.48	1722.49
05-Feb-88	26.06	1724.36	33.08	1717.99	16.87	1724.49	22.90	1725.05	22.75	1721.22
01-Mar-88	26.59	1723.83	33.20	1717.87	19.30	1724.06	23.39	1724.56	24.02	1719.95
19-Apr-88	27.93	1722.59	28.54	1722.53	20.02	1723.34	23.50	1724.45	22.17	1721.80
18-May-88	29.13	1721.29	30.12	1720.95	20.30	1723.06	23.62	1724.33	22.79	1721.18
07-Jun-88	37.40	1713.02	30.85	1720.22	19.80	1723.56	23.87	1724.08	25.20	1718.77
14-Jul-88	37.50	1712.92	32.97	1718.10	21.40	1721.96			25.00	1718.97
06-Aug-88	38.01	1712.41	31.45	1719.62	21.48	1721.88	24.65	1723.30	27.40	1716.57
03-Sep-88	40.50	1709.92	38.60	1712.27	21.12	1722.24	23.54	1724.41	23.75	1720.22
10-Oct-88	30.30	1720.12	27.90	1723.17	20.25	1723.11	24.00	1723.95	24.25	1719.72
26-Nov-88	27.50	1722.92	26.70	1724.37	21.60	1721.76	25.60	1722.35	28.00	1715.97
15-Dec-88	40.65	1709.77	34.90	1716.17	21.60	1721.76	26.70	1721.25	22.35	1721.62
19-Jan-89	37.00	1713.42	29.65	1721.42	25.40	1717.96	26.00	1721.95	22.95	1721.02
23-Feb-89	28.00	1722.42	31.00	1720.07	28.00	1715.36	26.57	1721.38	25.35	1718.62
23-Mar-89	29.00	1721.42	30.60	1720.47	24.80	1718.56	25.20	1722.75	27.00	1716.97
23-Apr-89	28.00	1722.42	22.00	1729.07	29.80	1713.56	24.00	1723.95	29.50	1714.47
09-May-89	27.60	1722.82	42.00	1709.07	28.40	1714.96	22.00	1725.95	30.50	1713.47
01-Jun-89	27.90	1722.52	28.90	1722.17	27.80	1715.56	26.60	1721.15	30.50	1713.47
03-Jul-89	27.95	1722.47	28.80	1722.27	28.80	1714.56	28.00	1719.95	34.20	1709.77
16-Aug-89	29.70	1720.72	29.20	1721.87	31.00	1712.36	29.35	1718.60	34.00	1709.97
12-Sep-89	30.45	1719.97	29.00	1722.07	30.00	1713.36	27.35	1720.60	18.55	1725.42
25-Oct-89	30.25	1720.17	28.65	1722.42	26.80	1716.56	26.30	1721.65	31.10	1712.87
17-Nov-89	32.80	1717.62	31.85	1719.22	25.00	1718.36	24.20	1723.75	32.60	1711.37
07-Dec-89	37.00	1713.42	43.30	1707.77	28.10	1715.26	36.10	1711.85	34.40	1709.57
12-Jan-90	28.40	1722.02	42.60	1708.47	34.00	1709.36	39.00	1708.95	33.00	1710.97
23-Feb-90	35.00	1715.42	37.45	1713.62	32.10	1711.26	41.60	1706.35	32.20	1711.77
11-Jul-90	35.10	1715.32	44.50	1706.57	32.90	1710.46	36.20	1711.75	36.00	1707.97

APPENDIX B
POTENTIOMETRIC SURFACE MAPS
INTERCEPTOR AREA CROSS-SECTIONS

CONSENT ORDER BOUNDARY

RECHARGE TRENCHES

BIETA DITCH



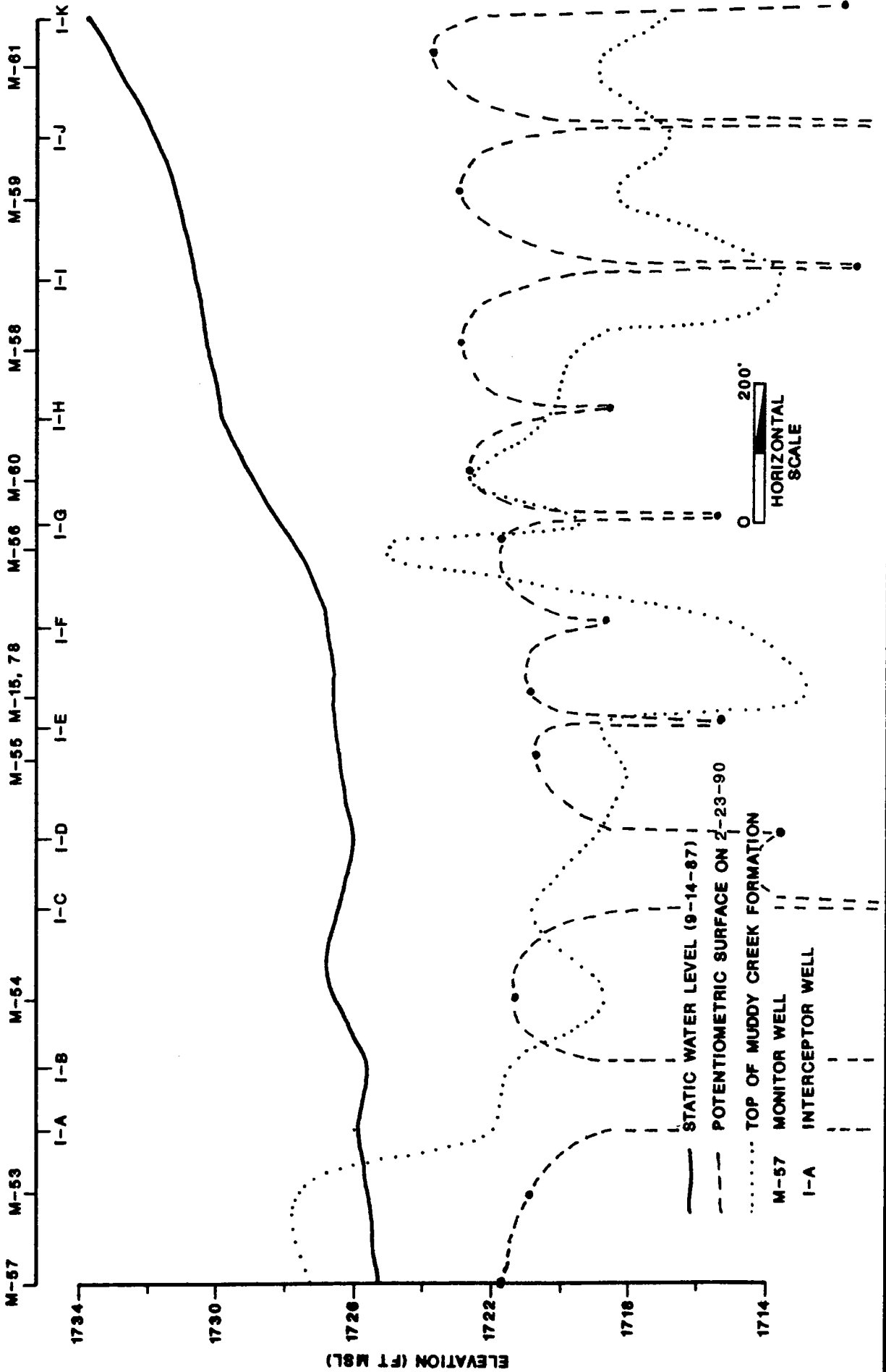
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

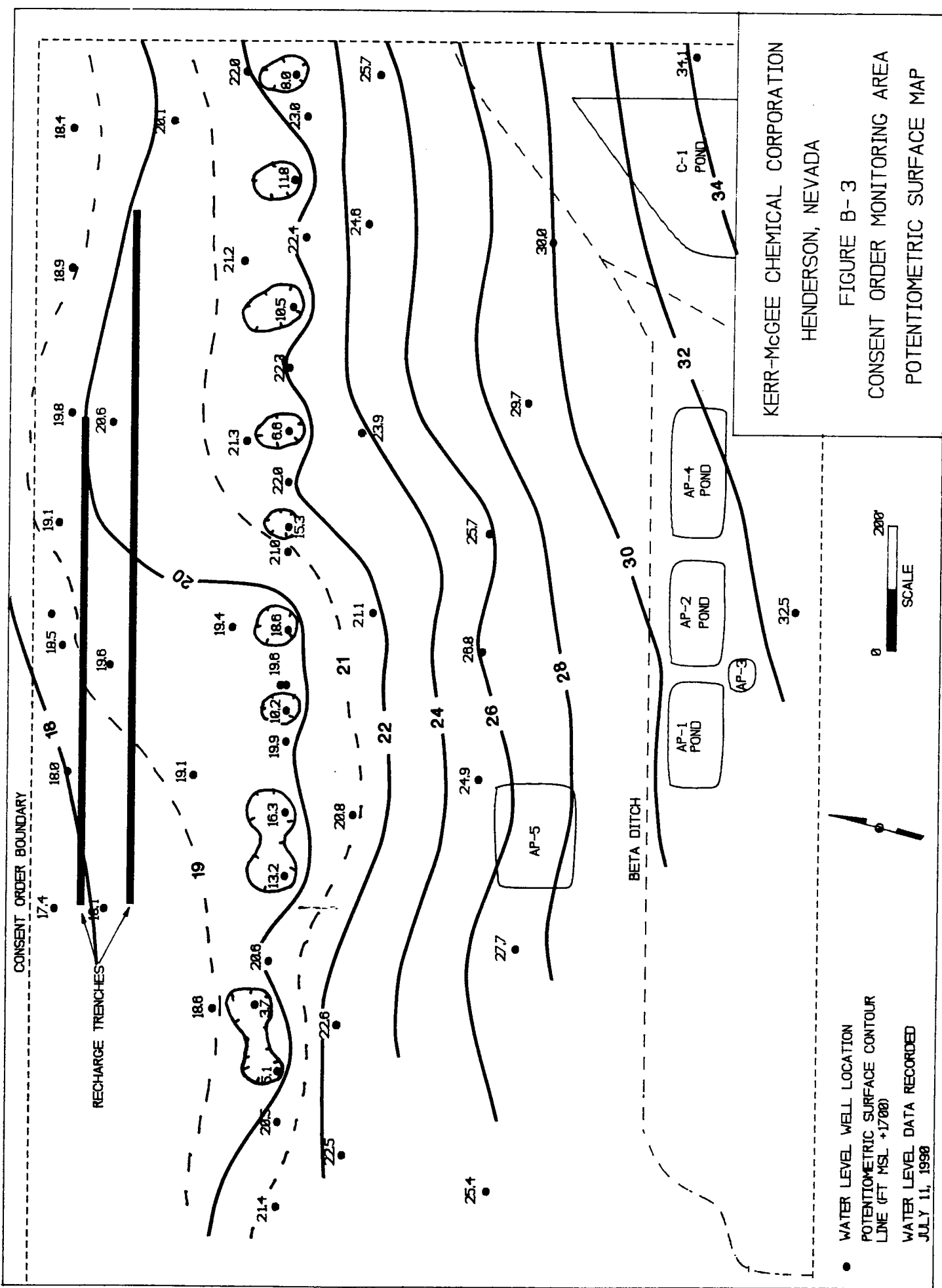
FIGURE B-1
CONSENT ORDER MONITORING AREA
POTENTIOMETRIC SURFACE MAP



- WATER LEVEL WELL LOCATION
- POTENTIOMETRIC SURFACE CONTOUR LINE (FT MSL +1700)
- WATER LEVEL DATA RECORDED FEBRUARY 23, 1998

KERR-MCGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA
 GROUNDWATER INTERCEPTOR LINE CROSS-SECTION
 FIGURE B-2



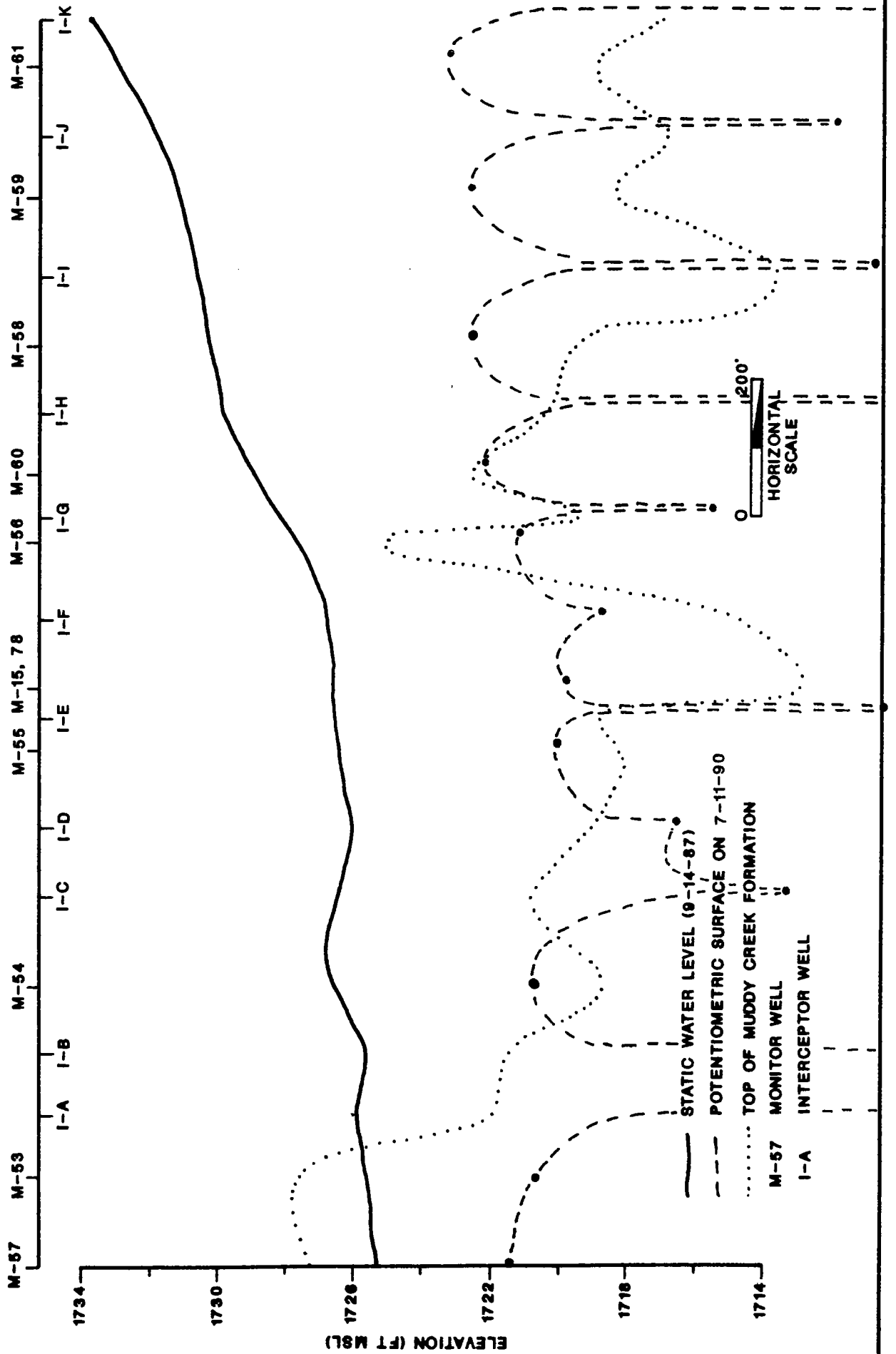


KERR-MCGEE CHEMICAL CORPORATION
 HENDERSON, NEVADA

FIGURE B-3
 CONSENT ORDER MONITORING AREA
 POTENTIOMETRIC SURFACE MAP

- WATER LEVEL WELL LOCATION
- POTENTIOMETRIC SURFACE CONTOUR LINE (FT MSL +17/00)
- WATER LEVEL DATA RECORDED JULY 11, 1998

KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
GROUNDWATER INTERCEPTOR LINE CROSS-SECTION
FIGURE B-4



APPENDIX C
CONTINUOUS WATER LEVEL RECORDER CHARTS

DEPTH TO WATER AT 0800 - 29.85'
JANUARY 3, 1990

DEPTH TO WATER AT 3:00 - 30.10'
FEBRUARY 2, 1990

Printed in U.S.A.

S. Inc., Beaverton, Ore.



- Type B

CONTINUOUS WATER LEVEL RECORDER CHART

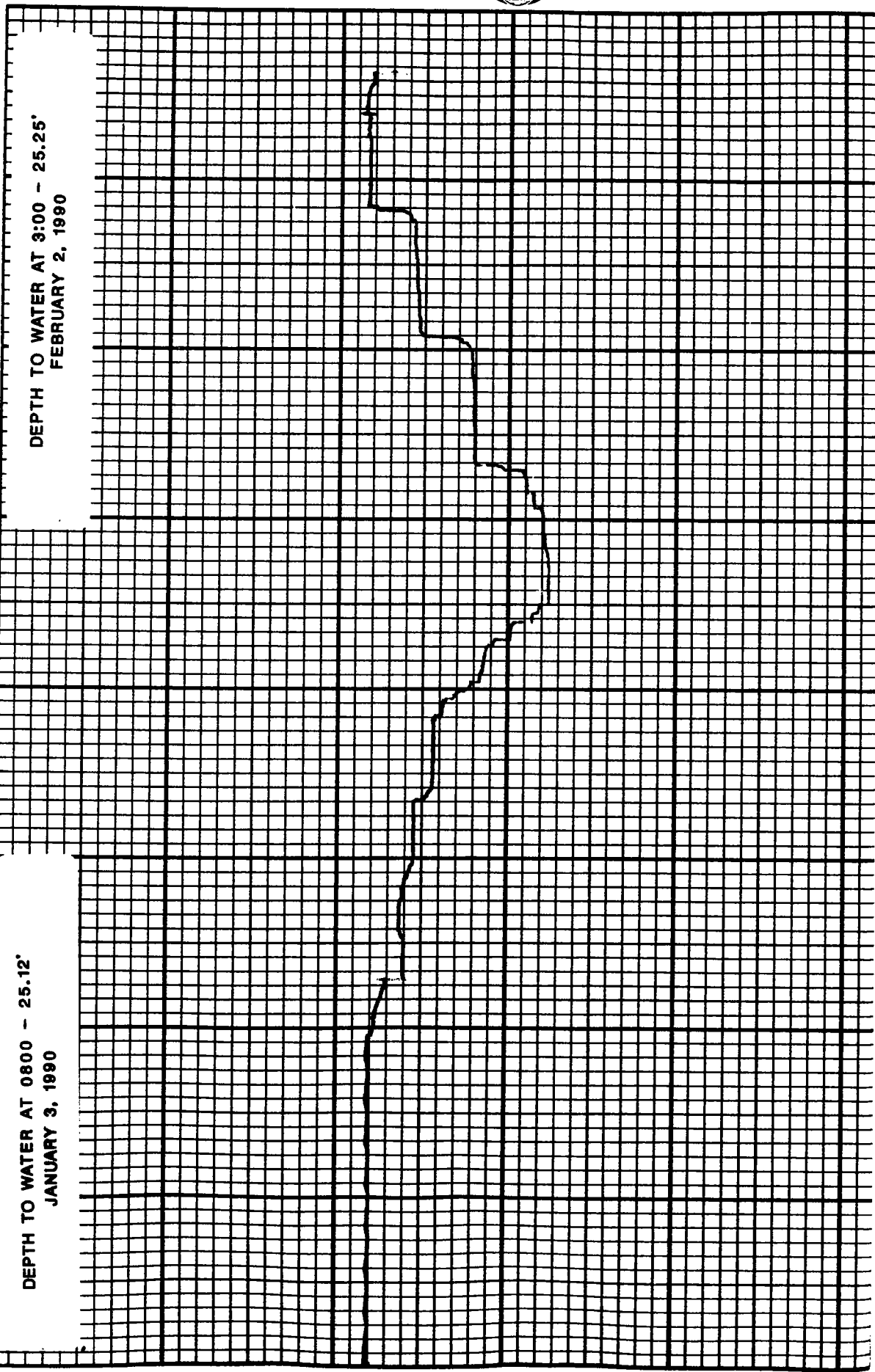
WELL M-78

1-3-90 TO 2-2-90

FIGURE C-1

DEPTH TO WATER AT 0800 - 25.12'
JANUARY 3, 1990

DEPTH TO WATER AT 9:00 - 25.25'
FEBRUARY 2, 1990



Printed in U.S.A.

Inc., Beaverton, Ore.



-Type R

Chart F-1

CONTINUOUS WATER LEVEL RECORDER CHART

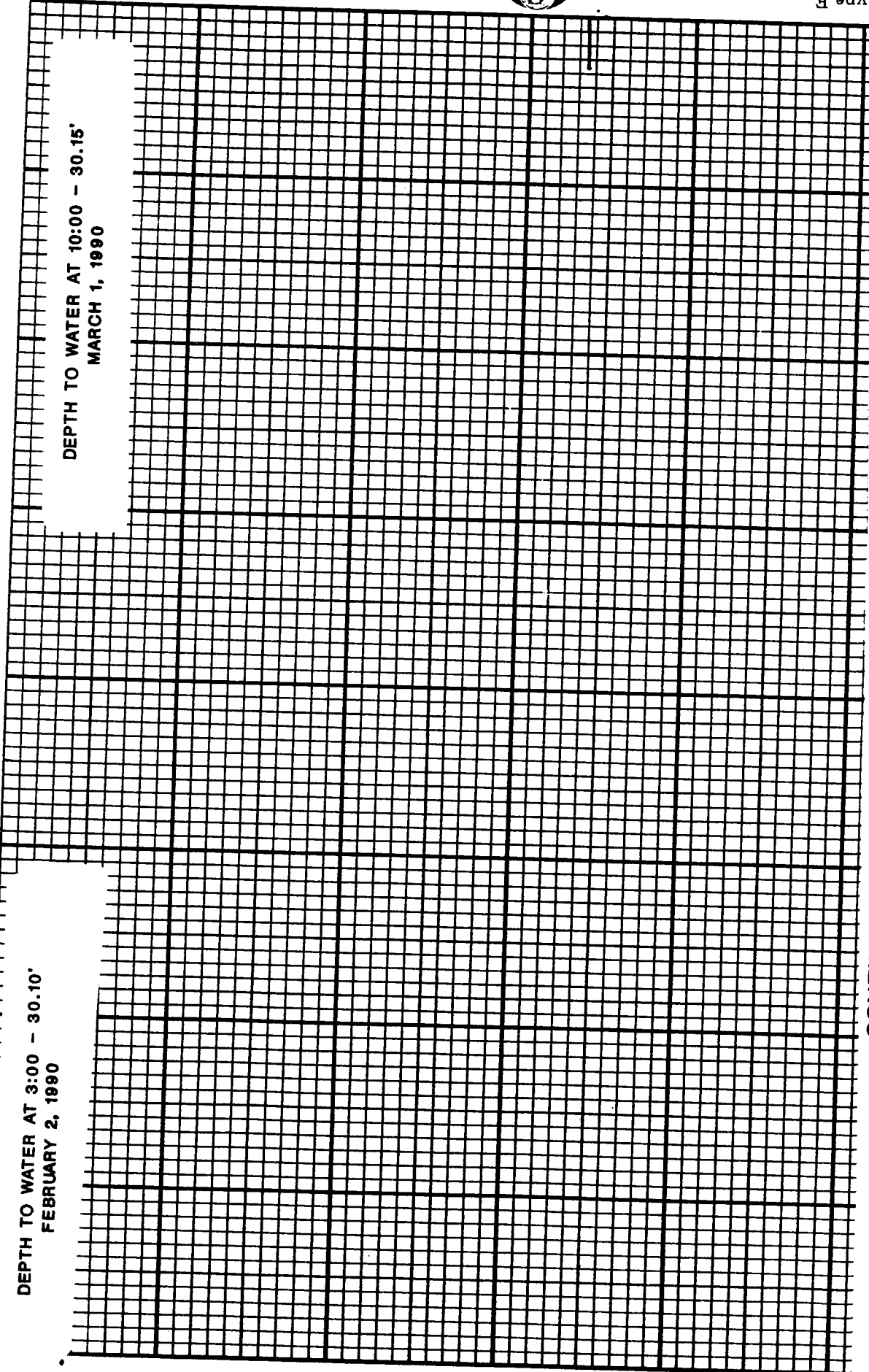
WELL M-80

1-3-90 TO 2-2-90

FIGURE C-2

DEPTH TO WATER AT 3:00 - 30.10'
FEBRUARY 2, 1990

DEPTH TO WATER AT 10:00 - 30.15'
MARCH 1, 1990



Printed in U S A

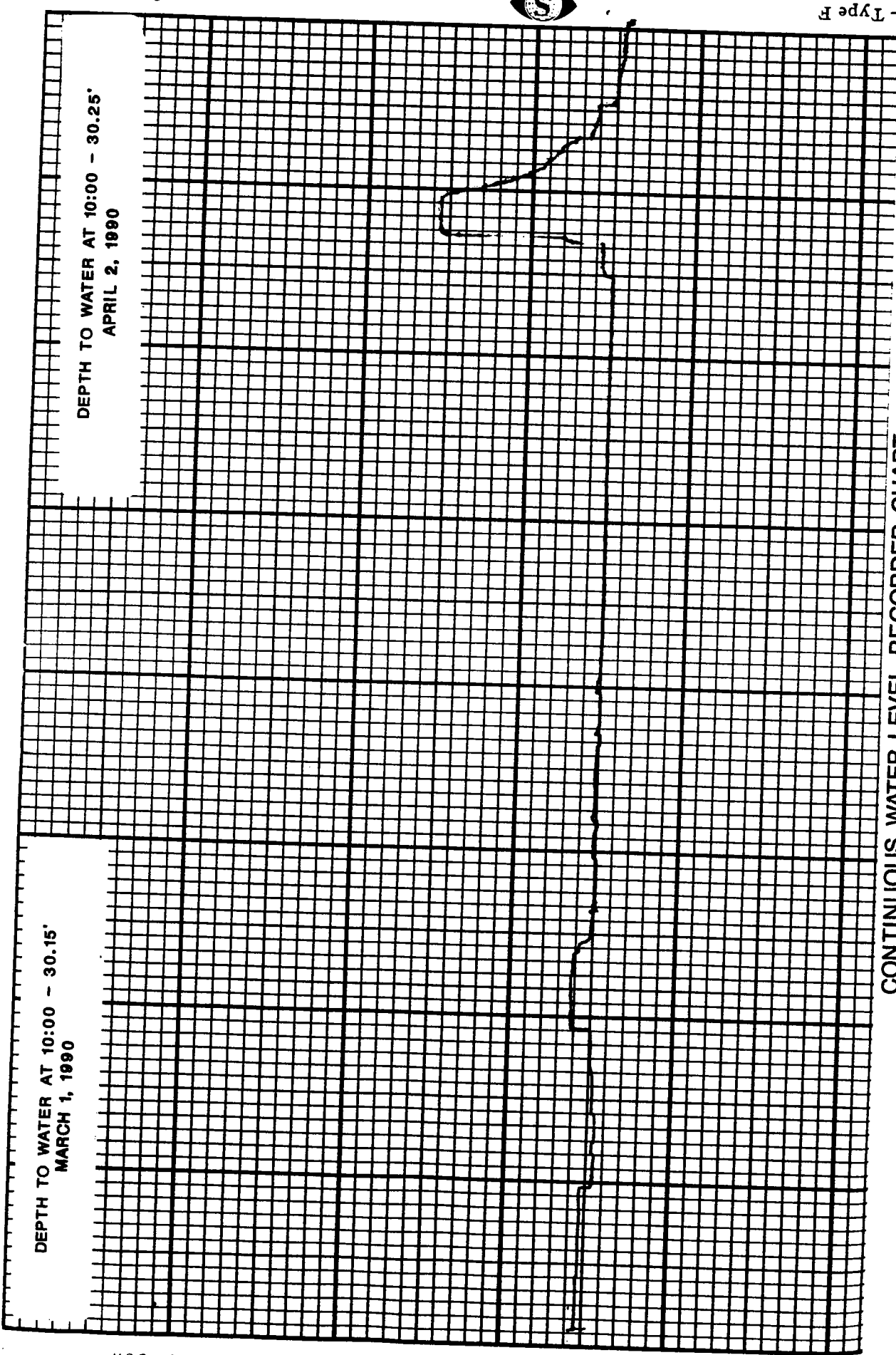
Inc., Beaverton, Ore.

CONTINUOUS WATER LEVEL RECORDER CHART
WELL M-78

2-2-90 TO 3-1-90
FIGURE C-3

Type R





- Type F



Chart F-1

CONTINUOUS WATER LEVEL RECORDER CHART

WELL M-78
3-19-90 TO 4-2-90
FIGURE C-5

DEPTH TO WATER AT 10:00 - 30.15'
MARCH 1, 1990

DEPTH TO WATER AT 10:00 - 30.25'
APRIL 2, 1990

Printed in U.S.A.

. Inc., Beaverton, Ore.

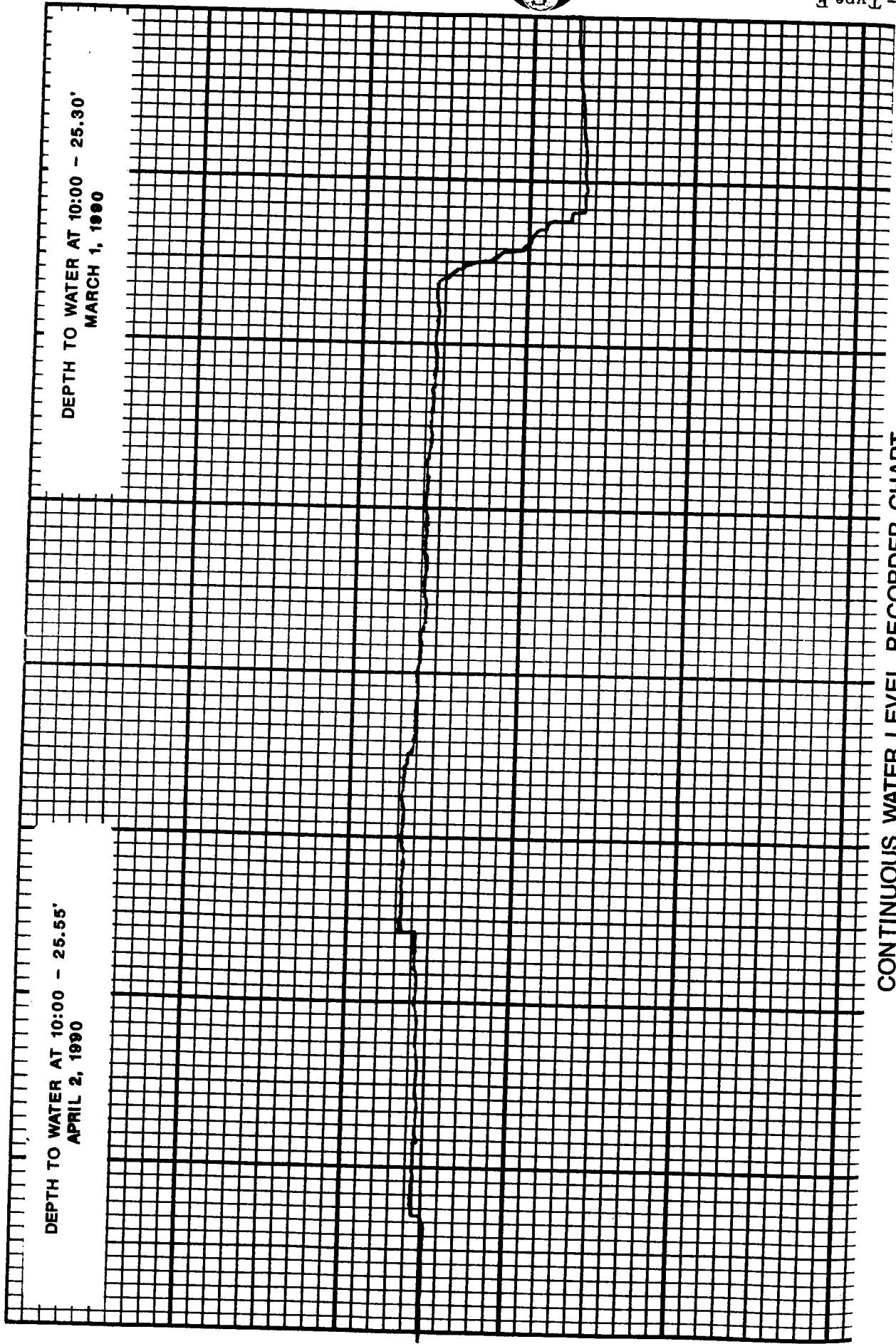


Chart F-1



-Type F

CONTINUOUS WATER LEVEL RECORDER CHART

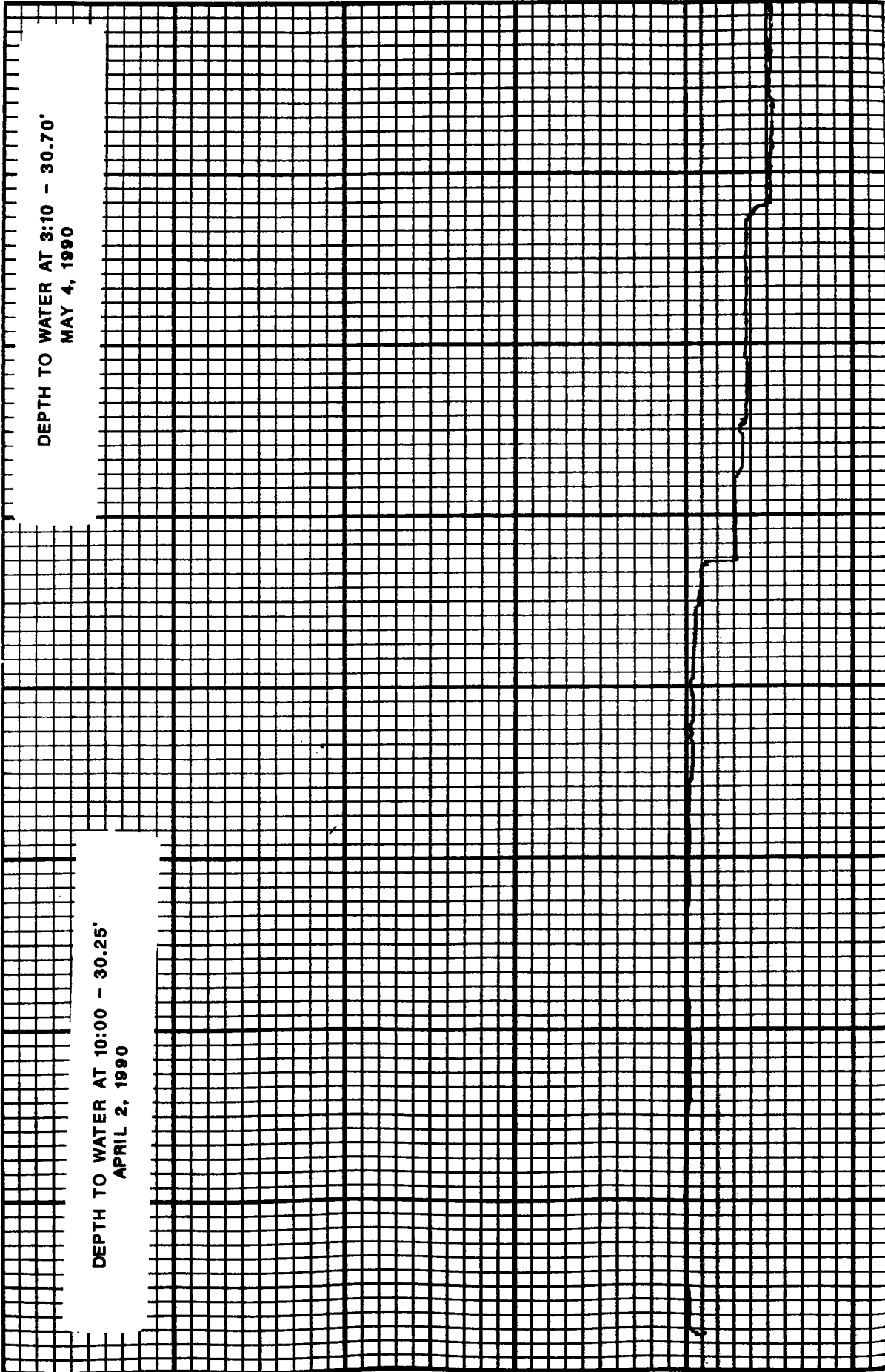
WELL M-80

3-19-90 TO 4-2-90

FIGURE C-6

Printed in U.S.A.

Inc. Beaverton, Ore.



DEPTH TO WATER AT 10:00 - 30.25'
APRIL 2, 1990

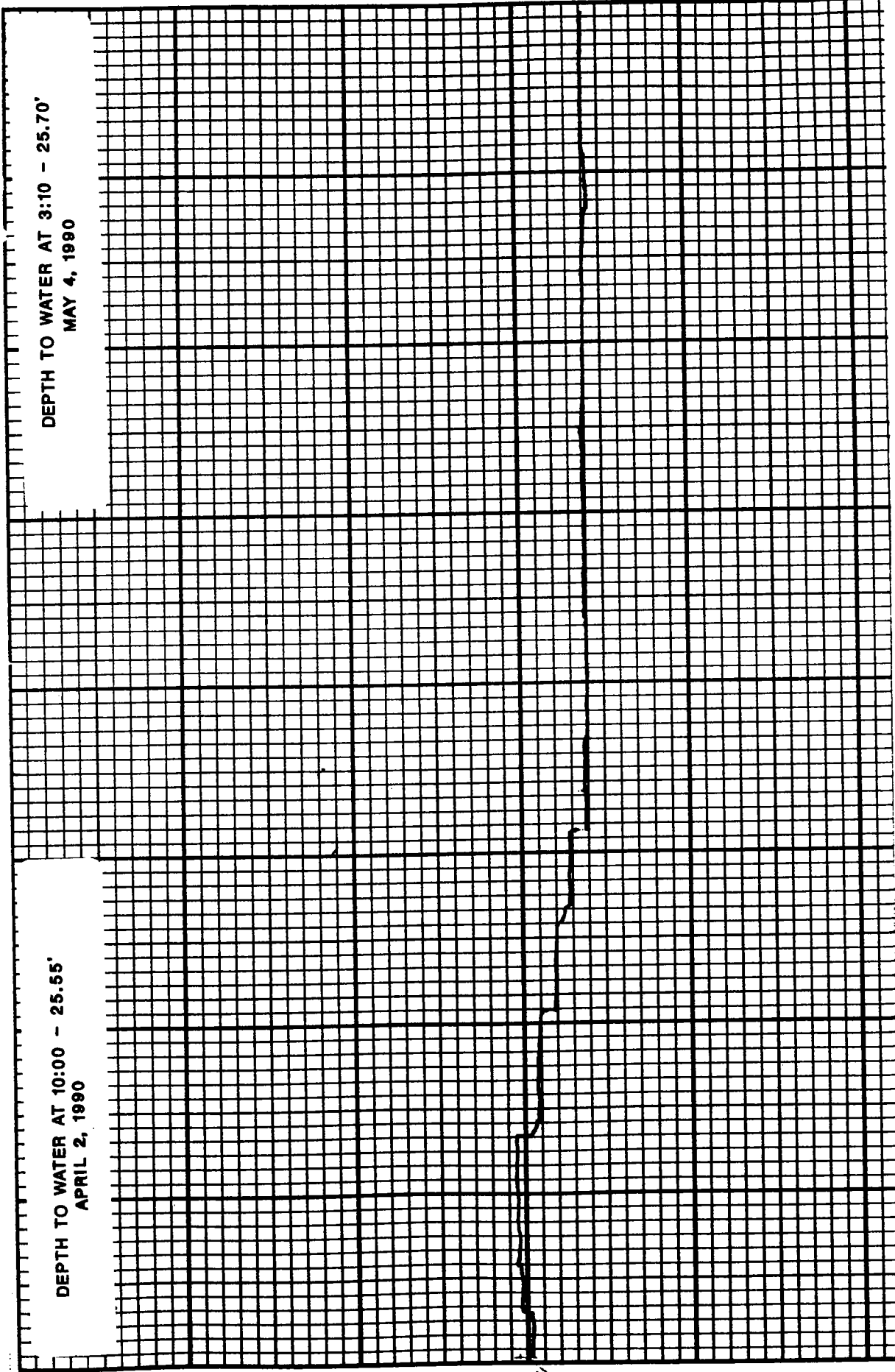
DEPTH TO WATER AT 3:10 - 30.70'
MAY 4, 1990

CONTINUOUS WATER LEVEL RECORDER CHART

WELL M-78

4-2-90 TO 5-4-90

FIGURE C-7



DEPTH TO WATER AT 10:00 - 25.55'
APRIL 2, 1990

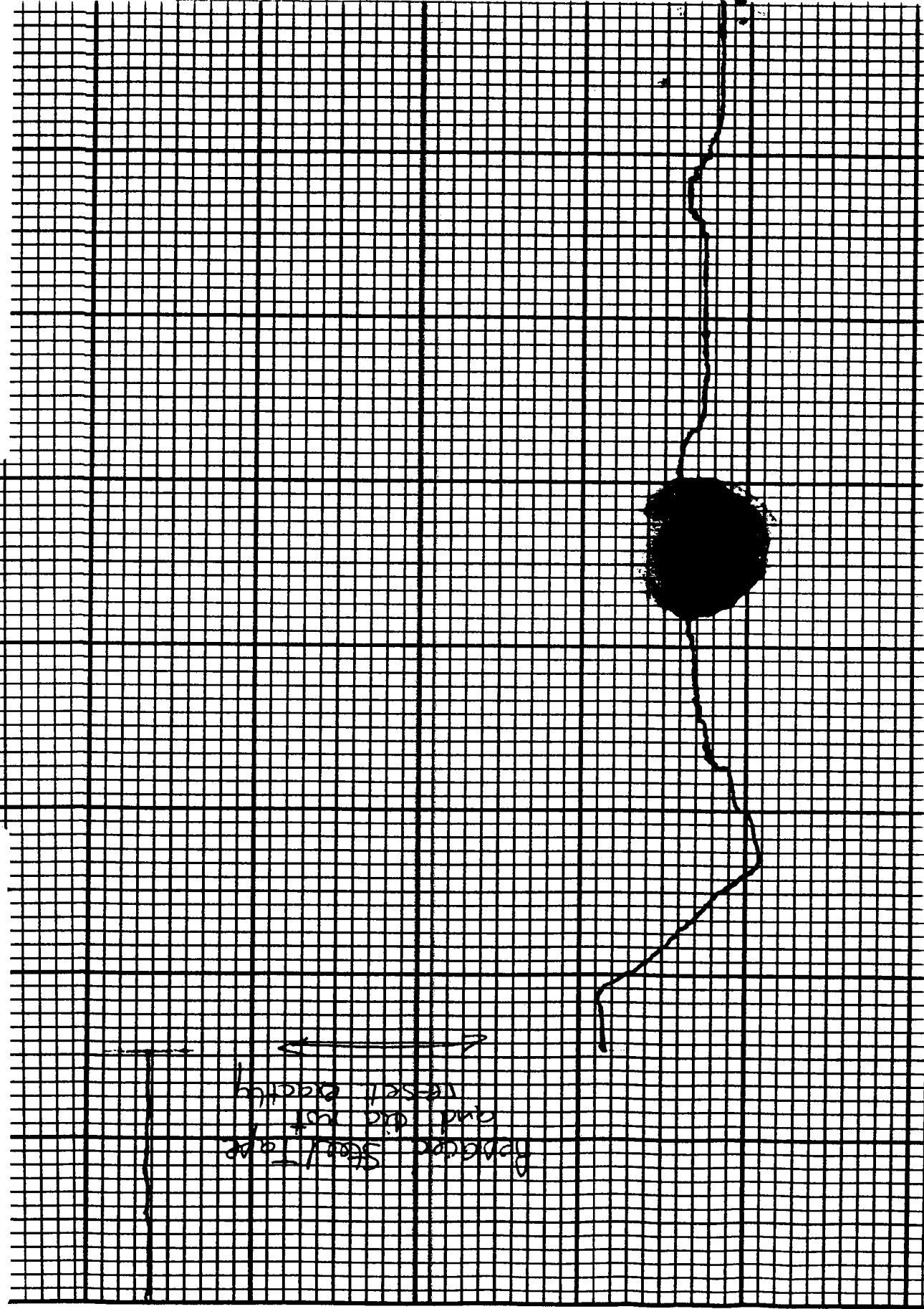
DEPTH TO WATER AT 3:10 - 25.70'
MAY 4, 1990

CONTINUOUS WATER LEVEL RECORDER CHART
WELL M-80
4-2-90 TO 5-4-90
FIGURE C-8

WELL M-80
5-4-90 TO 6-14-90
FIGURE C-10

DEPTH TO WATER AT 3:20 - 25.70'
MAY 4, 1990

DEPTH TO WATER AT 11:30 - 26.00'
JUNE 14, 1990

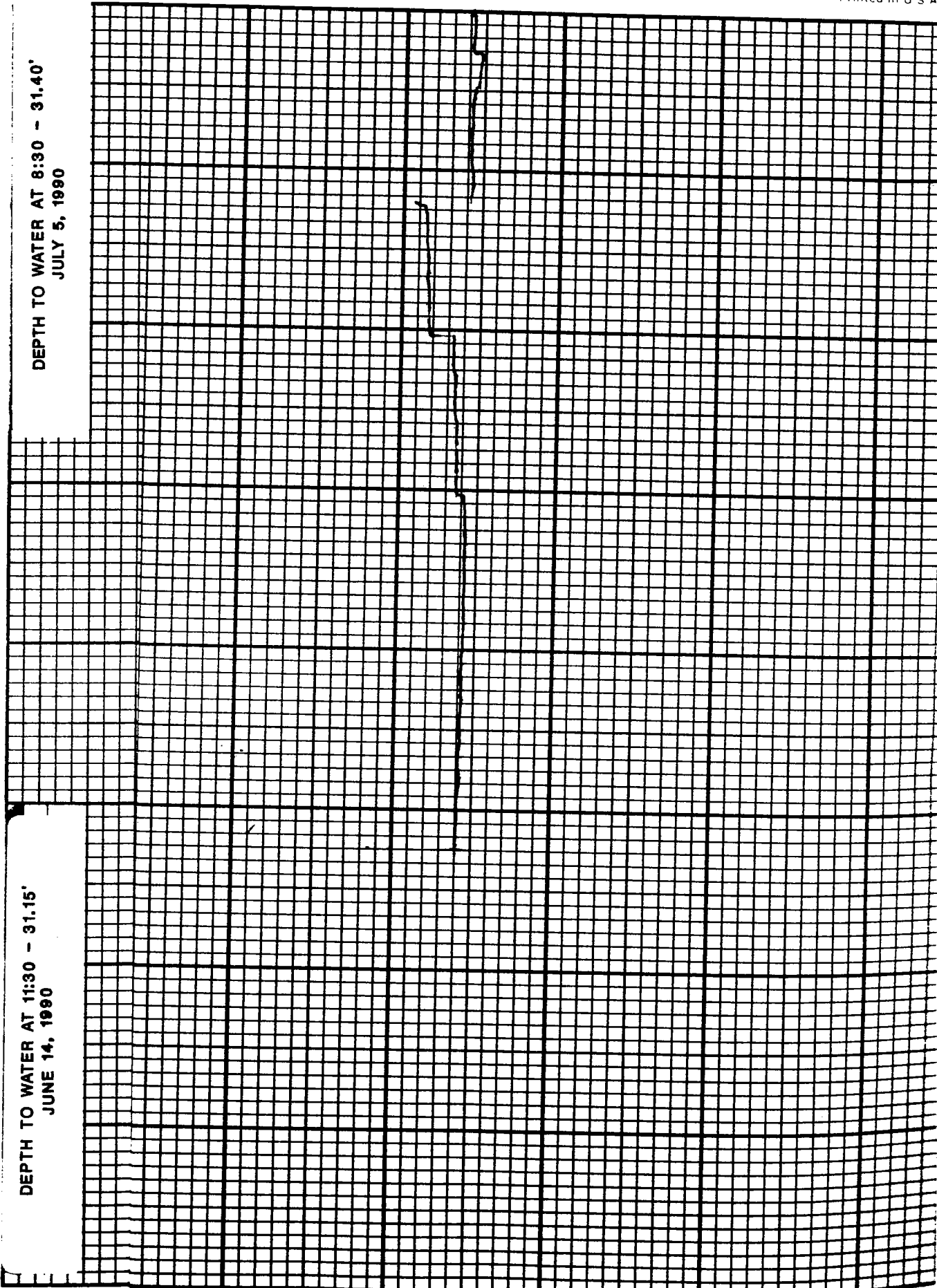


CC NU 3 W R EL CO R C RT

WELL M-78

6-14-90 TO 7-5-90

FIGURE C-11



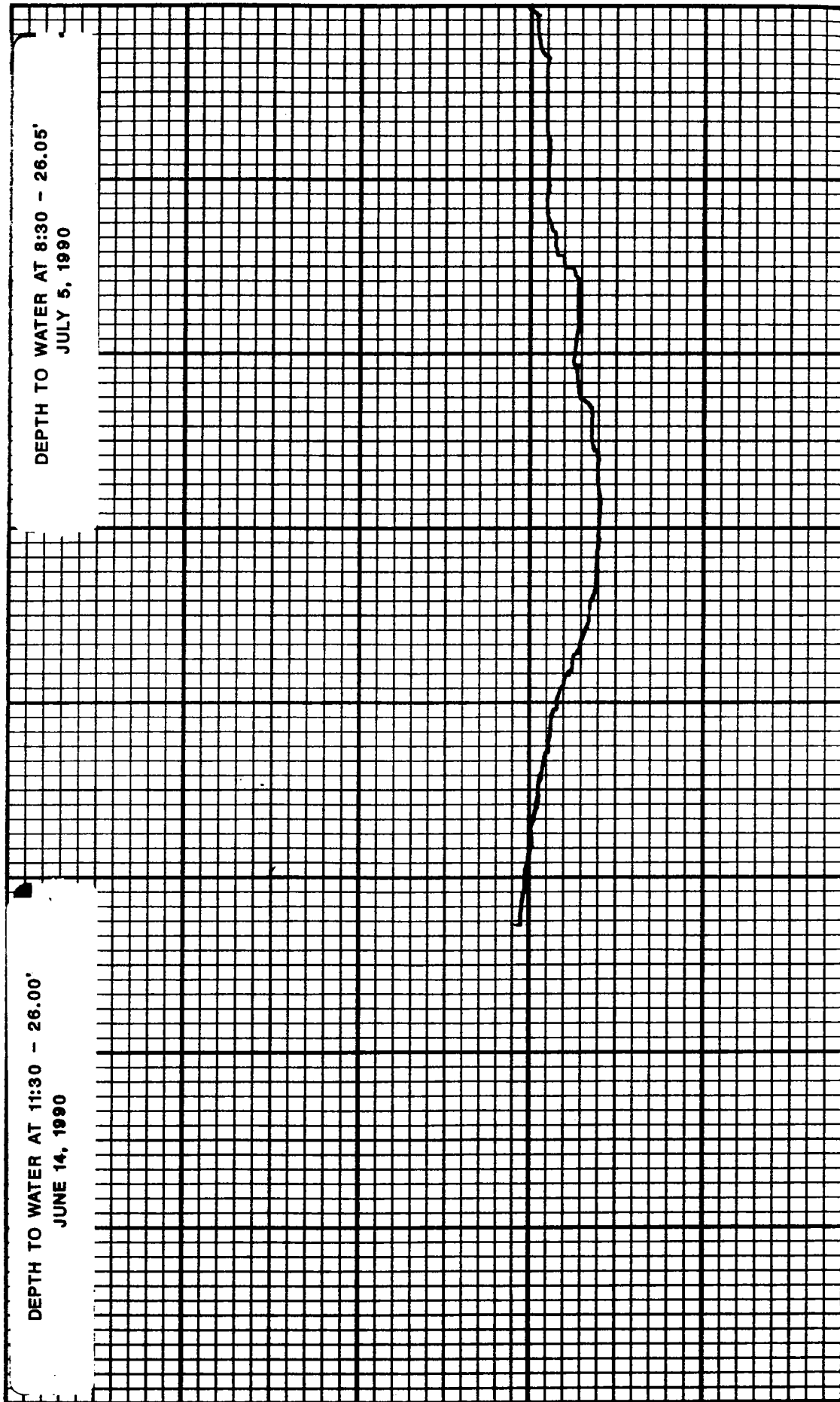
order — Type F



Ch#

CC NU 3 W ER 'EL CO ER RT

WELL M-80
6-14-90 TO 7-5-90
FIGURE C-12



APPENDIX D
CHROMIUM CONCENTRATIONS IN
APPENDIX J AND INTERCEPTOR WELLS

FIGURE D-1

APPENDIX J WELL CHROMIUM CONCENTRATION

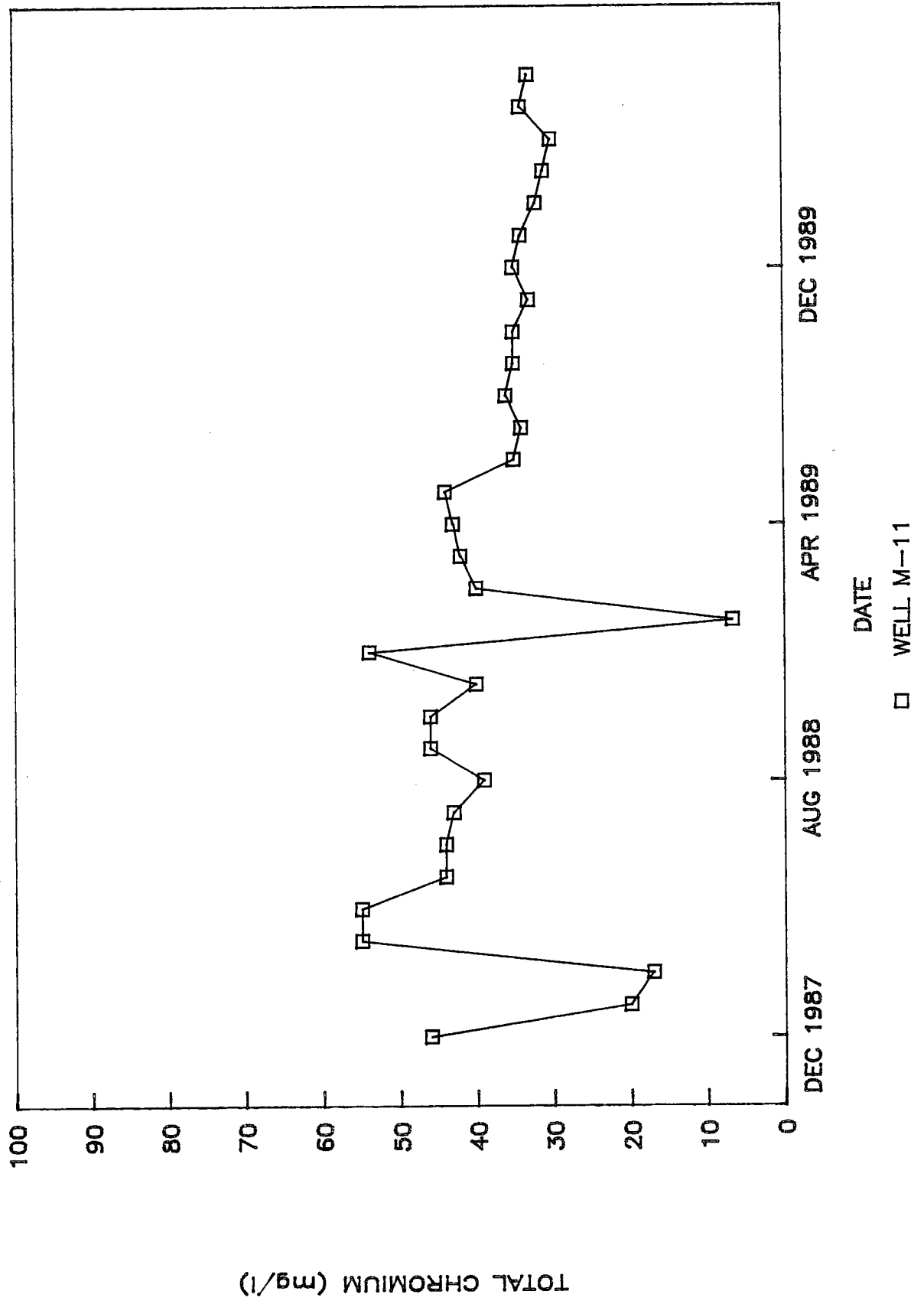


FIGURE D-2

APPENDIX J WELL CHROMIUM CONCENTRATION

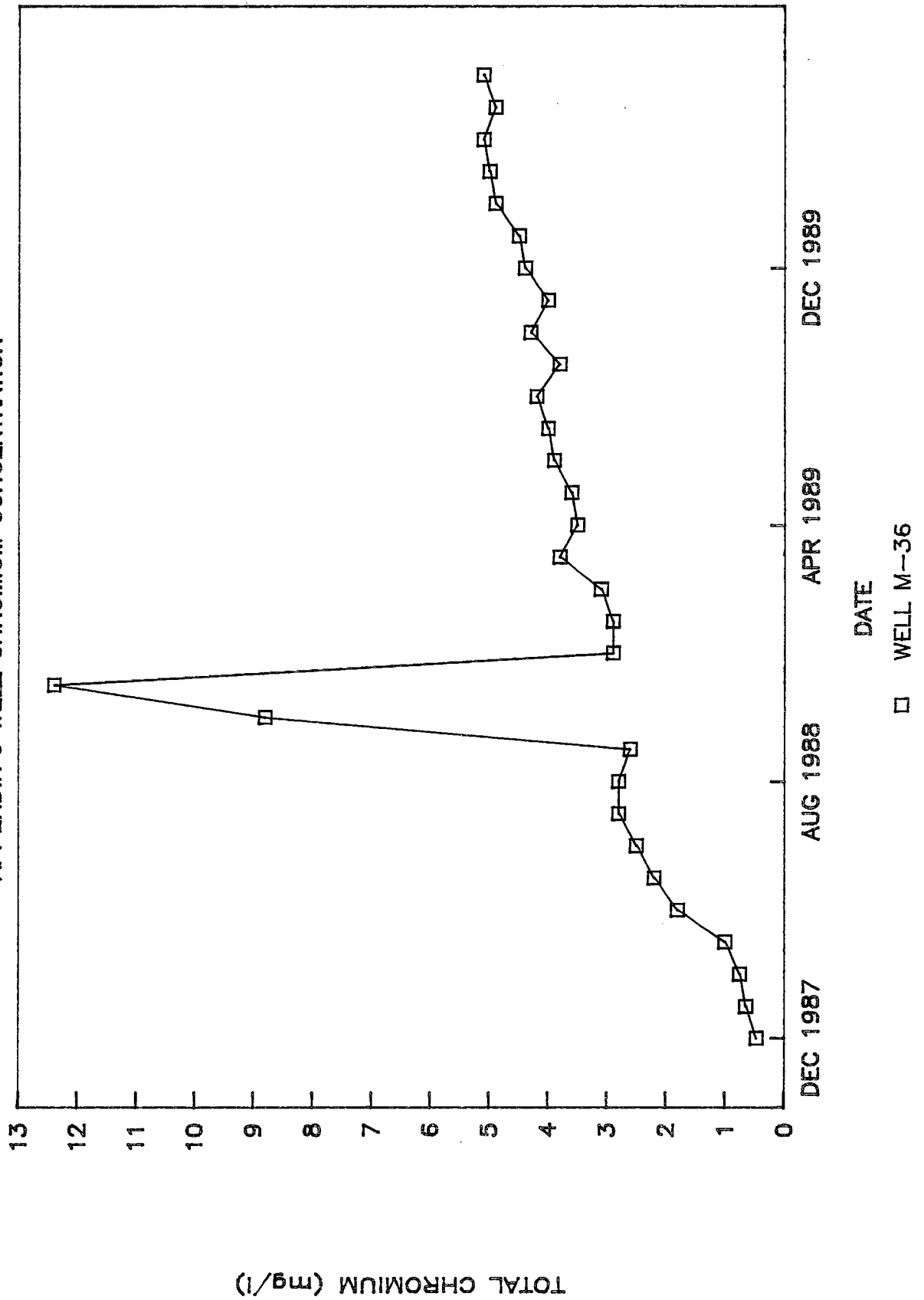


FIGURE D-3

APPENDIX J WELL CHROMIUM CONCENTRATION

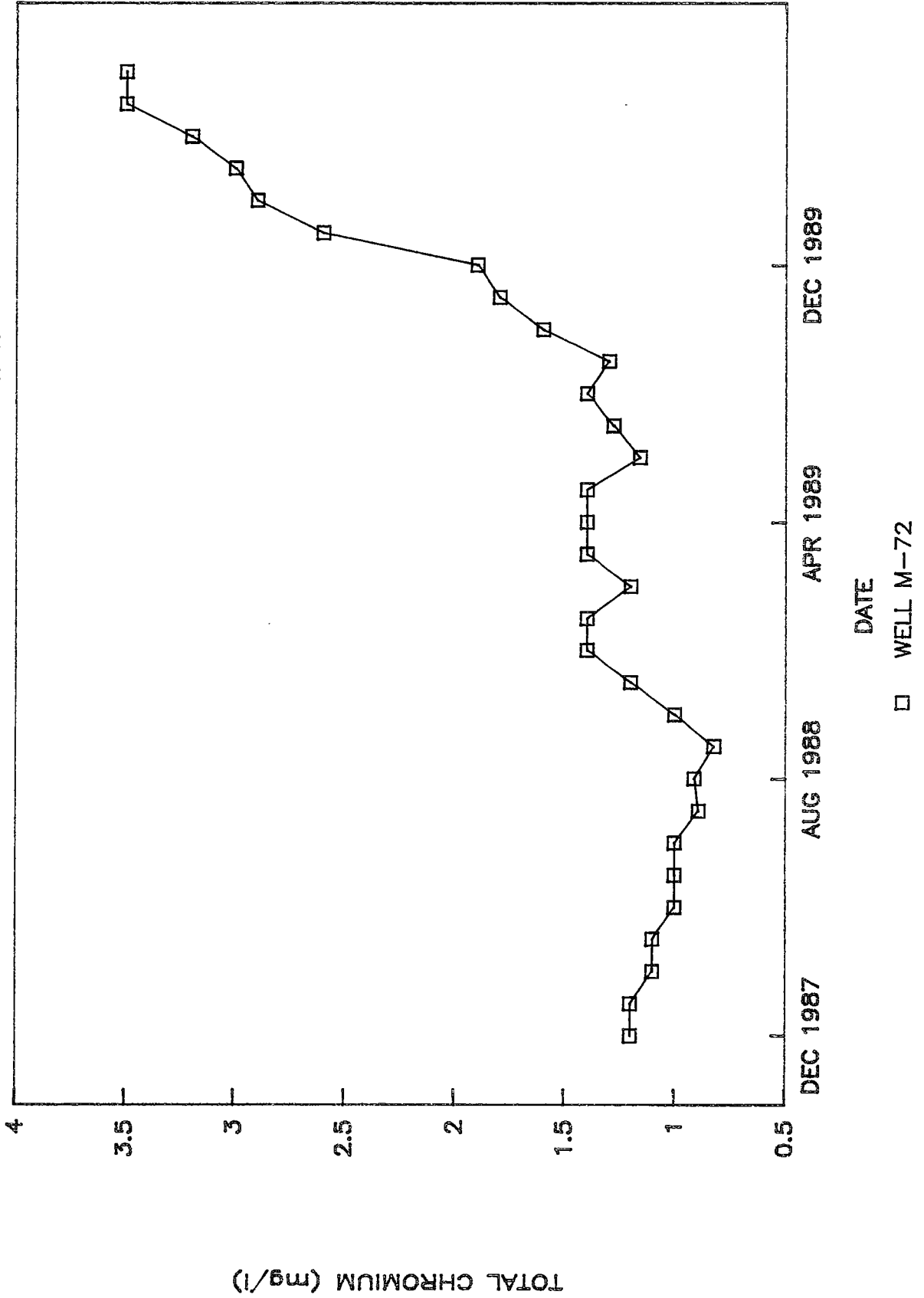


FIGURE D-4

APPENDIX J WELL CHROMIUM CONCENTRATION

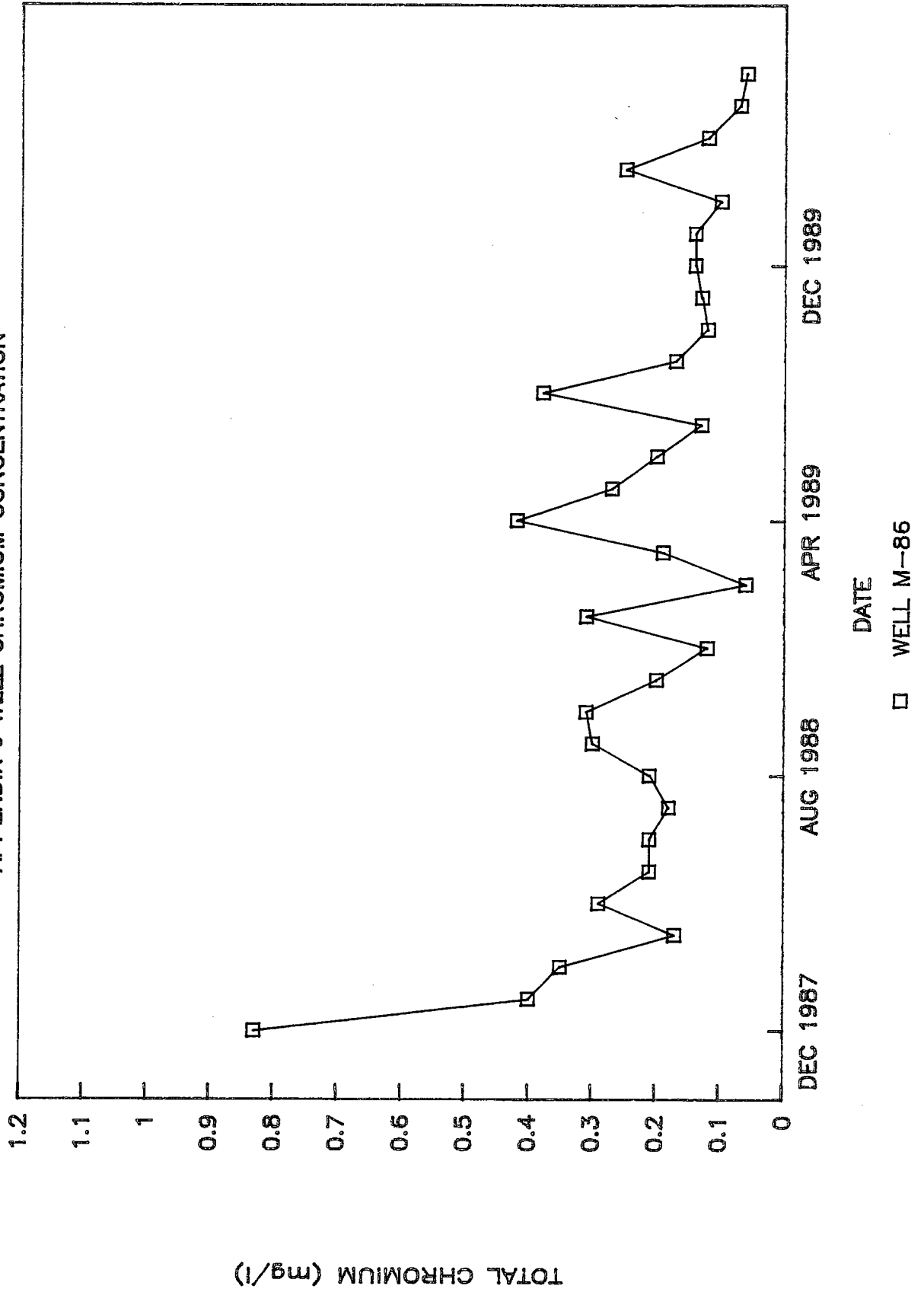


FIGURE D-5

APPENDIX J WELL CHROMIUM CONCENTRATION

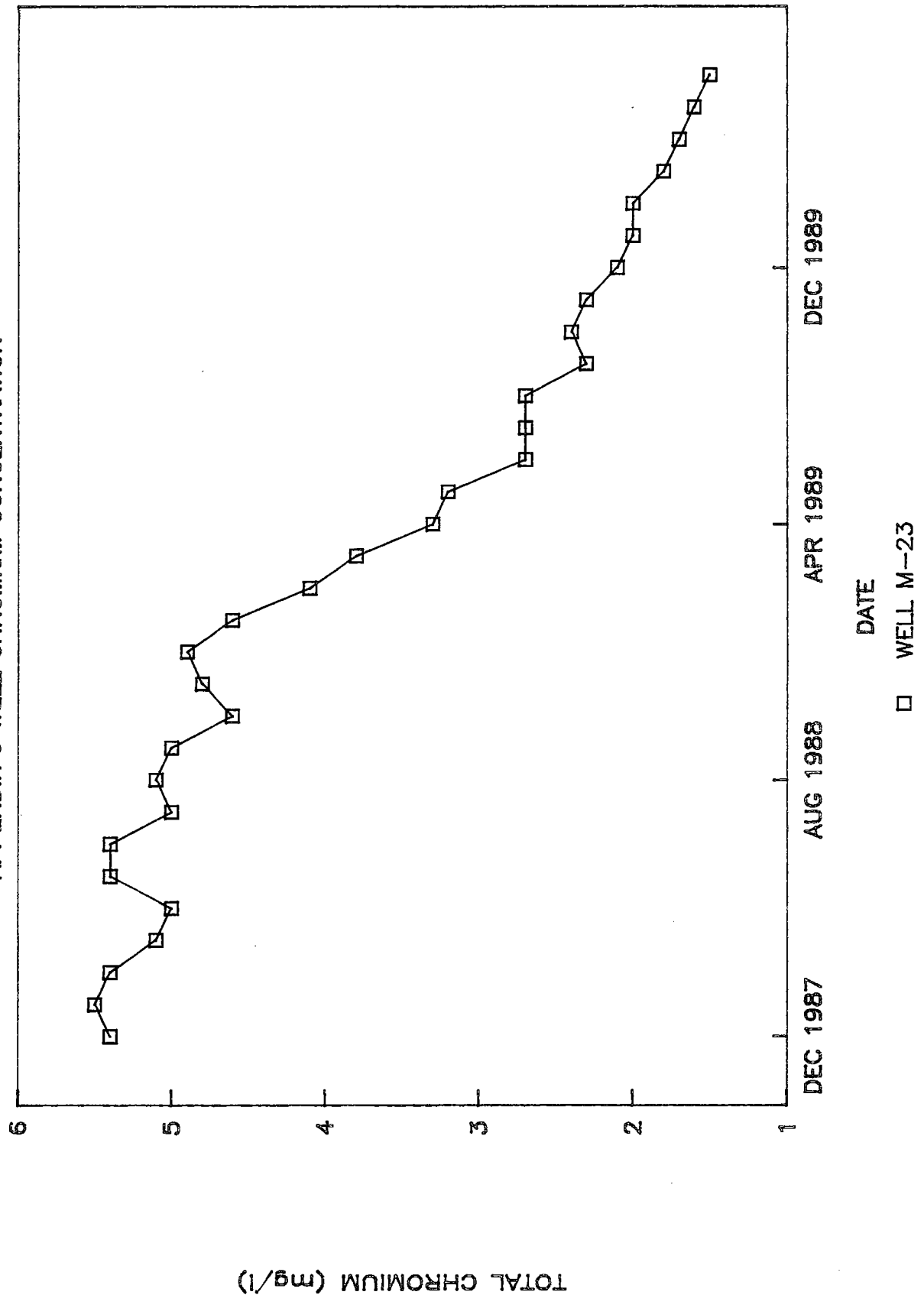
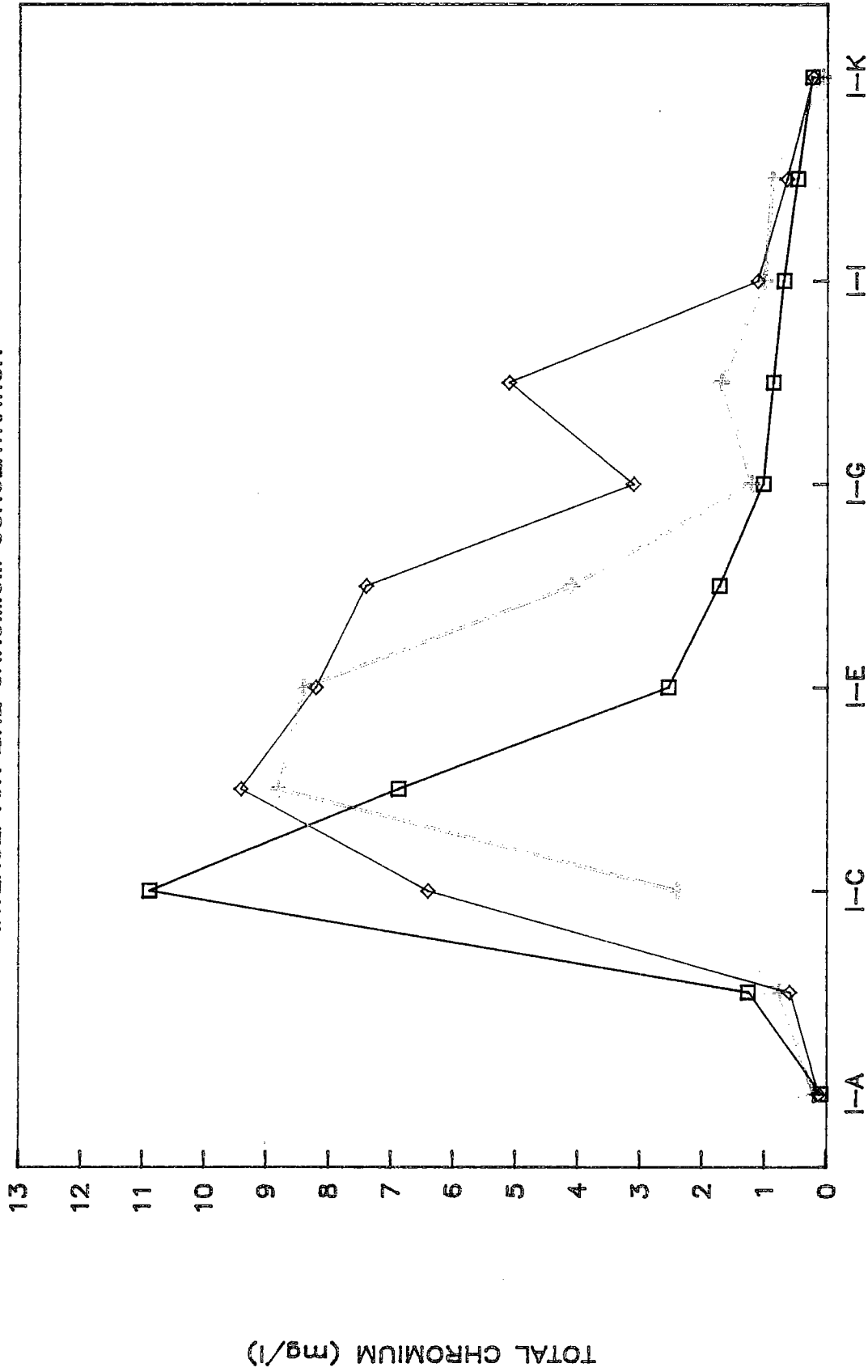


FIGURE D-6

INTERCEPTOR LINE CHROMIUM CONCENTRATION



INTERCEPTOR WELL NUMBER

□ JAN 1988 ♦ JUN 1990