KERR-McGEE CORPORATION

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

OCTOBER - DECEMBER, 1988

Engineering Services

FOURTH QUARTER PERFORMANCE REPORT
CHROMIUM MITIGATION PROGRAM
KERR-McGEE CHEMICAL CORPORATION
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OCTOBER - DECEMBER, 1988

Submitted in Accordance with:

Chromium Mitigation Program
Consent Order
September 9, 1986

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FOURTH QUARTER 1988 PERFORMANCE REPORT
CHROMIUM MITIGATION PROGRAM
KERR-McGEE CHEMICAL CORPORATION
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INTRODUCTION

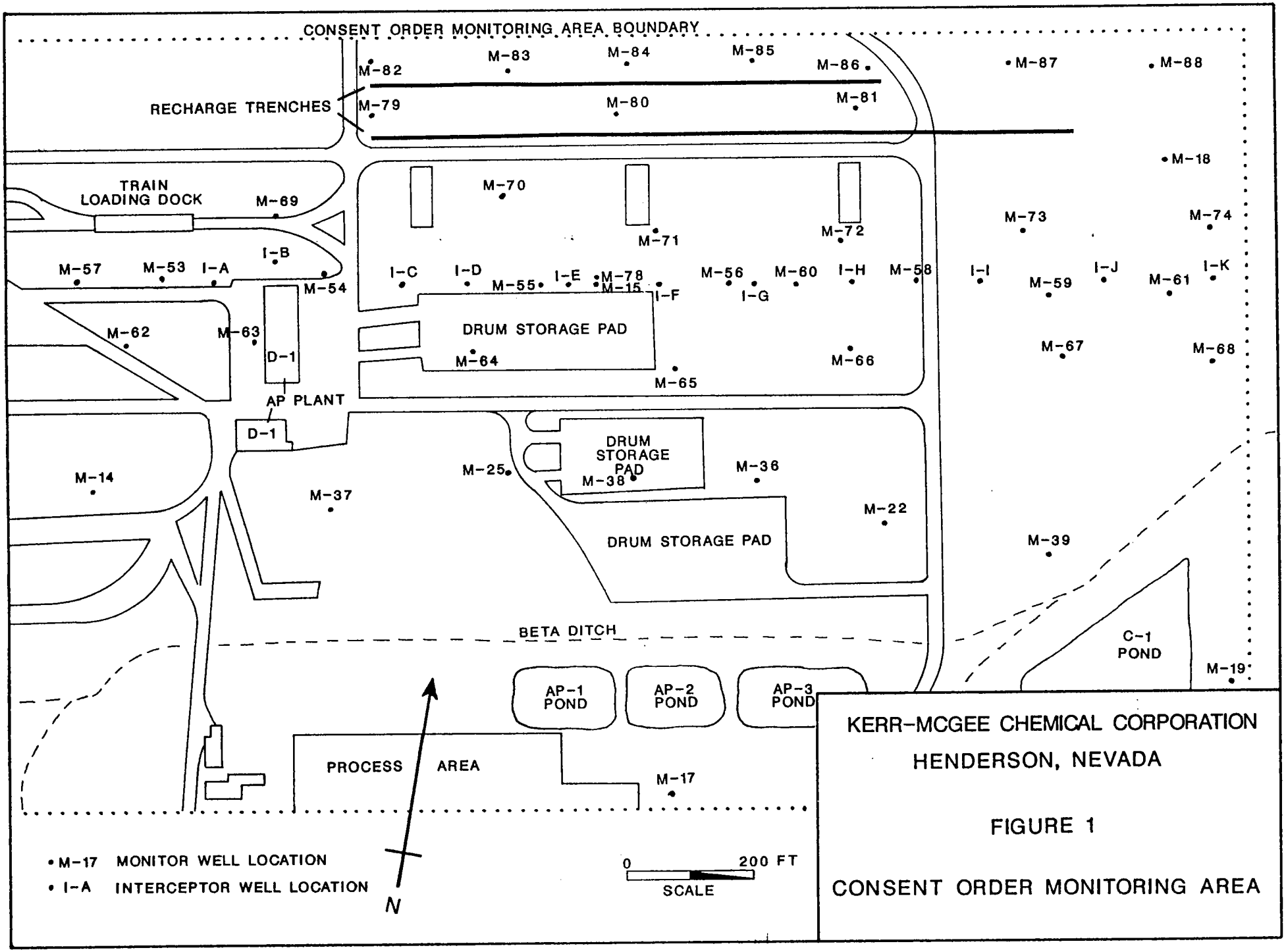
In accordance with the Consent Order for cleanup of chromium contaminated groundwater at the Henderson facility, finalized September 9, 1986, Kerr-McGee Chemical Corporation (KMCC) submits this quarterly performance report to the Nevada Department of Environmental Protection. This report for the fourth quarter of 1988 summarizes performance data for the groundwater treatment plant and evaluates the effectiveness of the groundwater interception 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 of this report presents an inventory of all wells installed by KMCC at this facility. Appendix B lists all groundwater elevations recorded since September 1987 in wells within the Consent Order area. Appendix C graphically presents the drawdown configuration during the fourth quarter of 1988, reflecting each month's water level measurements.

Figure C-1 illustrates the potentiometric surface within the consent order monitoring area on October 10, 1988. Figure C-2 presents a cross-section along the groundwater interceptor line, reflecting the drawdown on that date. This drawdown is a result of pumping of the interceptor wells. The static water level shown on Figure C-2 represents the Consent Order reference elevation established September 14, 1987, just prior to startup of the groundwater interception system. Figures C-3 and C-4 present a potentiometric surface map and cross-section for water level data recorded November 26, 1988. Figures C-5 and C-6 present water level data recorded December 15, 1988.

Groundwater elevations, listed in Appendix B, show that water levels throughout the Consent Order monitoring area have begun to


CONSENT ORDER MONITORING AREA BOUNDARY
RECHARGE TRENCHES
M-82
M-83
M-84
M-85
M-86
M-87
M-88
M-79
M-80
M-81
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M-69
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M-72
M-73
M-74
I-B
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I-A
M-54
I-C
I-D
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I-E
M-78
M-15
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M-61
I-K
DRUM STORAGE PAD
M-62
M-63
D-1
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

stabilize since the discharge of cooling water to the beta ditch was discontinued in November, 1987. Figures C-1 through C-6 show the reconfiguration of the potentiometric surface as groundwater levels have dropped throughout the monitoring area. This groundwater level decline is a response to the lowering of the regional water table due to the cessation of cooling water discharge, which provided upgradient recharge from the beta ditch. The significant lowering of interceptor line water level elevations in December also reflects increased pumpage from several of the interceptor wells.

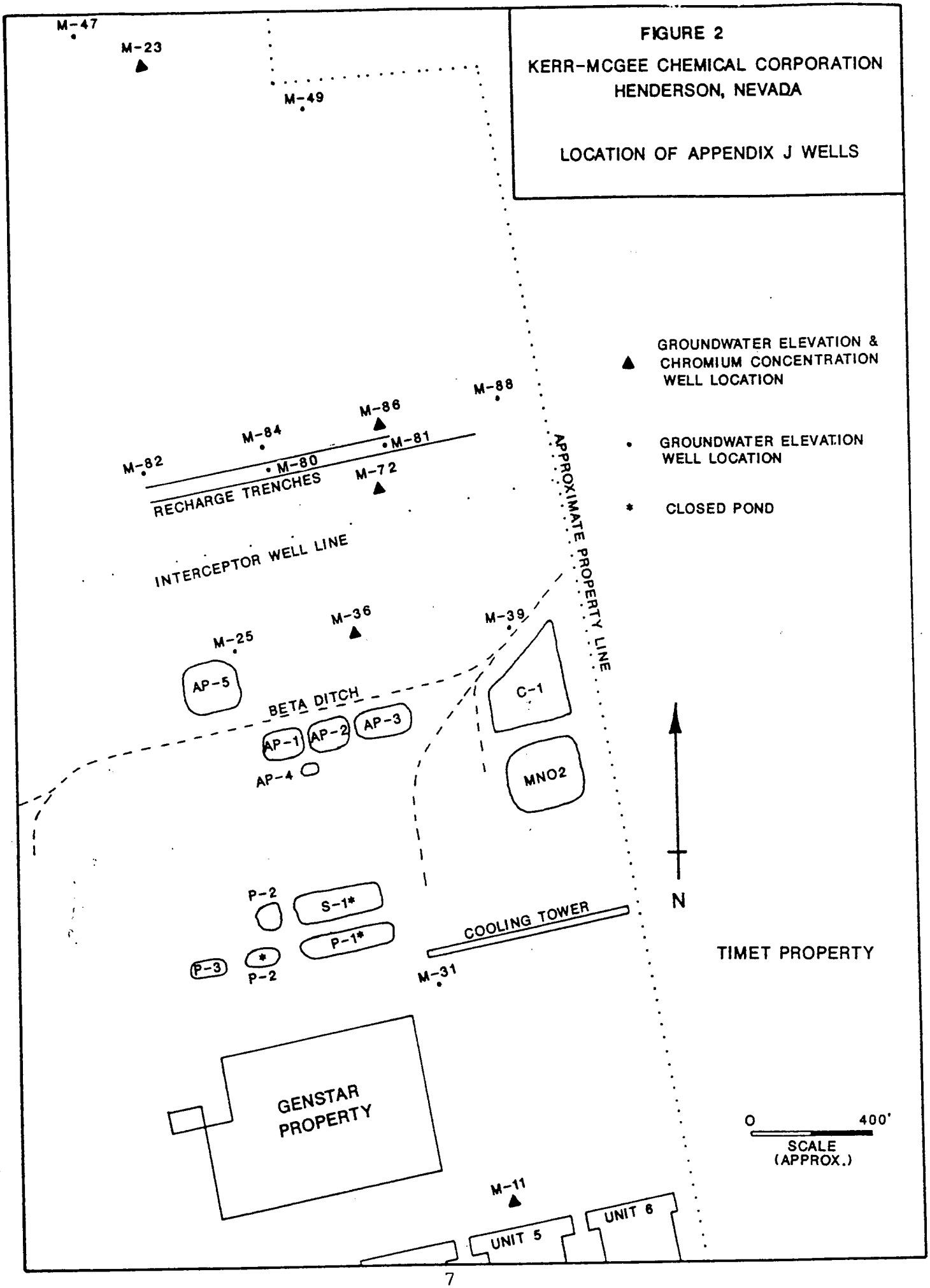
FIGURE 2
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
LOCATION OF APPENDIX J WELLS
GROUNDWATER ELEVATION & CHROMIUM CONCENTRATION WELL LOCATION
GROUNDWATER ELEVATION WELL LOCATION
CLOSED POND
M-47
M-23
M-49
M-88
M-86
M-84
M-81
M-82
M-80
M-72
RECHARGE TRENCHES
INTERCEPTOR WELL LINE
APPROXIMATE PROPERTY 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.)

TABLE 1

TOTAL CHROMIUM CONCENTRATION (mg/l)
IN APPENDIX J WELLS
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA

MONTH	WELL # M-11	M-36	M-72	M-86	M-23
DEC 1987	46.00	0.47	1.20	0.83	5.40
JAN 1988	20.00	0.65	1.20	0.40	5.50
FEB 1988	17.00	0.75	1.10	0.35	5.40
MAR 1988	55.00	1.00	1.10	0.17	5.10
APR 1988	55.00	1.80	1.00	0.29	5.00
MAY 1988	44.00	2.20	1.00	0.21	5.40
JUN 1988	44.00	2.50	1.00	0.21	5.40
JUL 1988	43.00	2.80	0.89	0.18	5.00
AUG 1988	39.00	2.80	0.91	0.21	5.10
SEP 1988	46.00	2.60	0.82	0.30	5.00
OCT 1988	46.00	8.80	1.00	0.31	4.60
NOV 1988	40.00	12.40	1.20	0.20	4.80
DEC 1988	54.00	2.90	1.40	0.12	4.90

Well M-23 (Figure E-5), the farthest downgradient of the Appendix J wells, also shows a continuing decreasing trend in chromium concentration. This trend, which indicates the effectiveness of the chromium mitigation program, is expected to continue.

Since chromium levels continue to decrease in well M-86 and are below 0.2 mg/l, KMCC believes the interception and treatment system is effectively reducing the chromium concentration of the groundwater and is meeting the Chromium Mitigation Program objectives. Prior to the installation of the groundwater treatment system, the concentration at well M-86 was near 5.0 mg/l. The fact that the chromium concentration at well M-23 is decreasing provides further evidence that the groundwater is being restored.

In addition to increasing the treatment plant feed rate, KMCC instituted a program based on information available at the December project evaluation meeting, that provides for maximization of groundwater removal at those locations along the interception line that have the highest chromium concentrations. Figure E-6 presents the chromium concentration in each of the interceptor well discharges. On the basis of the potentiometric surface configuration and chromium concentrations, new pump rates for each recovery well were established. Table 2 lists each recovery well, its initial pumping rate, the pumping rate proposed in the Third Quarter Performance Report, and its current pumping rate. The changes reflected in the December potentiometric

TABLE 2
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
INTERCEPTOR WELL DISCHARGE RATES

	DISCHARGE RATE (GPM)			
WELL #	SEP. 14 1987	OCT. 1 1988	PROPOSED DEC. 1988	DEC. 19 1988
I-A	2.0	4.0	4.0	3.0
I-B	2.0	2.5	2.5	3.0
I-C	2.5	5.0	7.0	8.8
I-D	20.0	23.0	23.0	18.0
I-E	5.0	2.2	2.2	2.4
I-F	30.0	21.0	21.0	26.0
I-G	7.0	4.2	4.2	5.0
I-H	8.0	2.8	2.8	3.0
I-I	15.0	15.0	17.5	15.0
I-J	10.0	5.9	8.5	8.0
I-K	10.0	5.7	8.5	8.2
TOTAL GPM	113.5	91.3	101.2	100.4

surface map are due to these changes in the pumping rates of individual wells.

Figure C-6 shows that nearly every interceptor well is now drawn down to the Muddy Creek Clay, so that flowthrough has been minimized. Further monitoring of wells M-72 and M-86 is expected to provide more conclusive evidence concerning the effectiveness of the interception system.

The groundwater mound created at the recharge trench is becoming more distinct as the program continues and is believed to reflect the reduction in saturated thickness of the alluvial aquifer.

IMPACT OF DISPOSAL SYSTEM ON DOWNGRADIENT 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 of the Consent Order that would be sampled and analyzed for chromium on a quarterly basis. Figure 2 illustrates the location of the Consent Order Appendix J wells.

Appendix B of this report shows that groundwater elevations are stabilizing in the Appendix J monitor well area downgradient from the recharge system (M-47, M-23, and M-49), and are lower than when monitoring began in December. No surface wetting downgradient from the recharge trenches has been observed. KMCC is confident that there exists no undesirable impact to groundwater elevations 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 3 lists treatment plant feed and discharge flow/concentration data for October 1, 1988 through December 30, 1988. Table 3 shows one exceedence of the discharge limits, occurring the week of October 22-28, 1988. The hexavalent chromium concentration of the treatment plant discharge for that week is 0.133 mg/l. However, since the total chromium concentration for the same period is 0.148 mg/l, KMCC believes this disproportionately high ratio of hexavalent to total chromium is due to an error in the laboratory analysis and not an inefficiency in the treatment facility, which has a history of effective chromium reduction performance.

TABLE 3
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)
Oct. 1 - Oct. 7	927	3.00	0.041	0.030
Oct. 8 - Oct. 14	870	3.19	0.028	0.0024
Oct. 15 - Oct. 21	935	3.235	0.026	0.002
Oct. 22 - Oct. 28	859	3.55	0.148	0.133
Oct. 29 - Nov. 4	813	3.98	0.214	0.0376
October, 1988 Average		3.391	0.0914	0.0406
Nov. 5 - Nov. 11	821	3.51	0.028	0.002
Nov. 12 - Nov. 18	878	3.50	0.030	0.002
Nov. 19 - Nov. 25	983	3.56	0.040	0.016
Nov. 26 - Dec. 2	856	3.69	0.042	0.014
November, 1988 Average		3.565	0.035	0.0085
Dec. 3 - Dec. 9	879	3.84	0.076	0.0184
Dec. 10 - Dec. 16	928	4.60	0.064	0.0404
Dec. 17 - Dec. 23	981	3.81	0.030	0.0024
Dec. 24 - Dec. 30	991	3.80	0.0225	0.0020
December, 1988 Average		4.01	0.048	0.0158

See P. 15

ADDITIONAL WORK PERFORMED

During inspection of the piping in the treatment plant during the fourth quarter a check valve and adjoining piping was discovered to have been nearly totally plugged by deposition of iron oxide scale. This restriction resulted in a decrease in treatment plant capacity. The check valve was replaced. Upon restart, the treatment plant was able to process the full design flow of the interceptor system (approximately 100 gallons per minute). A regular maintenance schedule to detect potential future reoccurrence was added to the operations procedures.

The discharges of wells I-C, I-I, I-J, and I-K were increased, as proposed in the Third Quarter Performance Report, to produce greater drawdowns. Table 3 lists the adjusted discharge rates.

Additionally, as discussed earlier, the discharge rate at a number of interceptor wells was adjusted on the basis of potentiometric surface and chromium concentration monitoring. Early in December, when Kerr-McGee personnel reviewed the status of the groundwater interception system, further adjustments to well pumping rates were implemented. The discharges of I-A, I-D, I-I, I-J, and I-K were reduced slightly. The drawdown of I-D was excessive, and the discharges of I-I, I-J, and I-K were reduced slightly to allow for increased discharge from wells producing water with higher chromium concentrations. The pump rates of wells I-C, I-E, I-F, I-G, and I-H were then increased. The result was a slight

decrease in the average total flow to the treatment plant, but a greater interception in areas capable of removing water with higher chromium concentrations. The effects of these changes on drawdown will be followed closely.

APPENDIX A

MONITOR WELL INVENTORY

APPENDIX A
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
WELL INVENTORY

WELL NO.	PURPOSE	DATE INSTALLED	WELL DEPTH FT. FROM TOC	CASING TYPE	SCREEN SIZE/TYPE	SCREENED INTERVAL (TOC)	GRAVEL PACK INTERVAL (TOC)	ELEVATION TOC (MSL)	ELEVATION TOP OF MUDDY CREEK	REMARKS
HR-1	RECOVERY WELL	9-30-86	47.0	6 IN. PVC	.020/SLOT	13.6-43.6	11.6-47.0	1751.07	1720.5	RENAMED I-H
HR-2	RECOVERY WELL	10-1-86	47.0	6 IN. PVC	.020/SLOT	17.8-44.8	14.3-47.0	1750.69	1721.5	RENAMED I-B
HR-3	RECOVERY WELL	10-1-86	47.0	6 IN. PVC	.020/SLOT	15.8-44.8	10.7-47.0	1750.54	1719.0	RENAMED I-D
HR-4	RECOVERY WELL	9-30-86	50.0	6 IN. PVC	.020/SLOT	11.7-43.7	11.0-50.0	1747.58	1714.8	RENAMED I-F
HR-5	RECOVERY WELL	12-11-86	42.5	6 IN. PVC	.020/SLOT	21.2-40.8	6.0-42.5	1751.06	1722.0	RENAMED I-A
HR-6	RECOVERY WELL	12-11-86	44.5	6 IN. PVC	.020/SLOT	13.1-42.5	10.4-44.5	1750.44	1720.8	RENAMED I-C
HR-7	RECOVERY WELL	12-11-86	49.0	6 IN. PVC	.020/SLOT	14.2-43.5	10.2-49.0	1750.22	1718.7	RENAMED I-E
HR-8	RECOVERY WELL	12-12-86	43.5	6 IN. PVC	.020/SLOT	9.5-39.1	7.0-43.5	1750.42	1719.4	RENAMED I-G
HR-9	RECOVERY WELL	12-10-86	45.0	6 IN. PVC	.020/SLOT	11.3-40.6	8.4-45.0	1743.36	1713.7	RENAMED I-I
HR-10	RECOVERY WELL	12-9-86	45.0	6 IN. PVC	.020/SLOT	11.2-40.6	8.7-45.0	1747.95	1716.9	RENAMED I-J
HR-11	RECOVERY WELL	12-12-86	43.0	6 IN. PVC	.020/SLOT	6.7-35.6	6.0-43.0	1743.97	1717.1	RENAMED I-K
I-A	RECOVERY WELL	12-11-86	42.7	6 IN. PVC	.020/SLOT	21.4-41.0	6.2-42.7	1751.06	1722.0	WAS HR-5
I-B	RECOVERY WELL	10-01-86	47.1	6 IN. PVC	.020/SLOT	17.9-44.9	14.4-47.1	1750.69	1721.5	WAS HR-2
I-C	RECOVERY WELL	12-11-86	44.4	6 IN. PVC	.020/SLOT	13.2-42.6	10.5-44.6	1750.44	1720.8	WAS HR-6
I-D	RECOVERY WELL	10-01-86	47.5	6 IN. PVC	.020/SLOT	16.3-45.3	11.2-47.5	1750.54	1719.0	WAS HR-3
I-E	RECOVERY WELL	12-11-86	49.0	6 IN. PVC	.020/SLOT	14.2-43.5	10.2-49.0	1750.22	1718.7	WAS HR-7
I-F	RECOVERY WELL	9-30-86	50.5	6 IN. PVC	.020/SLOT	12.2-44.2	11.5-50.5	1747.58	1714.8	WAS HR-4
I-G	RECOVERY WELL	12-12-86	44.3	6 IN. PVC	.020/SLOT	10.3-39.9	7.8-44.3	1750.42	1719.4	WAS HR-8
I-H	RECOVERY WELL	9-30-86	47.5	6 IN. PVC	.020/SLOT	14.1-44.1	12.1-47.5	1751.07	1720.5	WAS HR-1
I-I	RECOVERY WELL	12-10-86	45.5	6 IN. PVC	.020/SLOT	11.8-41.1	8.9-45.5	1743.36	1713.7	WAS HR-9
I-J	RECOVERY WELL	12-09-86	46.0	6 IN. PVC	.020/SLOT	12.2-41.6	9.7-46.0	1747.95	1716.9	WAS HR-10
I-K	RECOVERY WELL	12-12-86	44.1	6 IN. PVC	.020/SLOT	7.8-36.7	7.1-44.1	1743.97	1717.1	WAS HR-11

EXPLANATION:
TOC - TOP OF CASING
MSL - MEAN SEA LEVEL

NOTE: WHEN PUMPS WERE INSTALLED IN RECOVERY (INTERCEPTOR) WELLS, WELLS WERE RENAMED AND SANITARY SEALS WERE INSTALLED. TOC ELEVATION CHANGED WHEN SANITARY SEALS WERE INSTALLED. TOC-BASED MEASUREMENTS CHANGED CORRESPONDINGLY.

APPENDIX A
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
WELL INVENTORY

WELL NO.	PURPOSE	DATE INSTALLED	WELL DEPTH FT. FROM TOC	CASING TYPE	SCREEN SIZE/TYPE	SCREENED INTERVAL (TOC)	GRAVEL PACK INTERVAL (TOC)	ELEVATION TOC (MSL)	ELEVATION TOP OF MUDDY CREEK	REMARKS
M-1	UPGDNT TO P&S PONDS	11-81	45.38	5 IN. STEEL	.040/SLOT	34.8-44.8	34.3-51.3	1798.68	1751	YIELD 1/2 GPM
M-2	DWNGDNT TO P&S PONDS	11-81	40.69	5 IN. STEEL	.040/SLOT	31.4-41.4	29.4-45.4	1781.20	1739	YIELD 15 GPM
M-3	DWNGDNT TO P&S PONDS	11-81	40.44	5 IN. STEEL	.040/SLOT	30.7-40.7	28.7-45.7	1780.46	1739	YIELD 15 GPM
M-4	DWNGDNT TO P&S PONDS	11-81	41.34	5 IN. STEEL	.040/SLOT	31.4-41.4	29.4-47.4	1780.41	1744	YIELD 3 GPM
M-5	UPGDNT HAZ WST FILL	6-1-82	40.25	5 IN. STEEL	.040/SLOT	29.8-39.8	28.9-43.9	1747.86	1721	
M-6	DWNGDNT HAZ WST FILL	6-2-82	35.90	5 IN. STEEL	.040/SLOT	26.1-36.1	26.1-44.1	1729.15	1696	
M-7	DWNGDNT HAZ WST FILL	6-3-82	35.23	5 IN. STEEL	.040/SLOT	26.0-36.0	24.0-38.0	1729.81	1699	
M-8	DWNGDNT TO P&S PONDS	6-14-82	40.96	5 IN. STEEL	.040/SLOT	31.2-41.2	29.2-46.2	1782.06	1735	
M-9	DWNGDNT TO P&S PONDS	6-15-82	39.83	5 IN. STEEL	.040/SLOT	30.4-40.4	28.4-45.4	1780.30	1744	
M-10	UPGDNT FROM PLANT	5-83	69.45	5 IN. STEEL	.090/SLOT	45.1-65.1	38.1-77.1	1834.76	1795	
M-11	DWNGDNT FROM UNIT 5	5-83	~58.0	5 IN. STEEL	.090/SLOT	35.2-55.2	27.2-62.2	1813.46	1775	
M-12	DWNGDNT FROM UNIT 4	5-83	49.90	5 IN. STEEL	.090/SLOT	39.5-49.5	34.5-67.5	1816.18	1778	
M-13	DWNGDNT FROM UNIT 3	5-83	54.76	5 IN. STEEL	.090/SLOT	29.9-49.9	26.9-56.9	1815.21	1775	
M-14	DWNGDNT FROM AP POND	5-83	39.24	2 IN. PVC	.020/SLOT	24.4-39.4	20.4-39.4	1758.83	1728	
M-15	DWNGDNT FROM AP POND	5-83	42.55	2 IN. PVC	.020/SLOT	28.4-43.4	22.4-43.4	1749.36	1713	TOC- WELL WIZARD
M-16	DWNGDNT FROM AP POND	5-83	~37.0	2 IN. PVC	.020/SLOT	~22- 37	~16-37		1729	DESTROYED
M-17	UPGDNT FROM AP PONDS	5-83	37.00	2 IN. PVC	.020/SLOT	29.8-44.8	20.8-44.8	1769.54	1712	
M-18		8-10-83	29.80	2 IN. PVC	.020/SLOT	16.1-26.1	10.1-30.1	1738.28	1712	
M-19		8-10-83	41.20	2 IN. PVC	.020/SLOT	17.8-37.8	16.3-45.3	1766.26	1729	TOC- WELL WIZARD
M-20		8-11-83	46.55	2 IN. PVC	.020/SLOT	25.4-45.4	20.0-50.0	1798.21	1756	
M-21		8-11-83	44.74	2 IN. PVC	.020/SLOT	22.2-42.2	20.2-47.2	1790.50	1751	
M-22		8-11-83	36.70	2 IN. PVC	.020/SLOT	13.1-33.1	13.3-39.3	1757.76	1726	TOC- WELL WIZARD
M-22R	REPLACEMENT FOR M-22	9-9-88	36.92	2 IN. PVC	.020/SLOT	16.92-36.92	8.0-36.92	1758.35	1726	
M-23		8-11-83	44.47	2 IN. PVC	.020/SLOT	9.4-37.4	8.6-45.6	1712.78	1672	TOC- WELL WIZARD
M-24		5-14-84	42.69	2 IN. PVC	.020/SLOT	27.2-42.2		1788.54	1750	
M-25	AP-5 MONITOR WELL	5-14-84	41.47	2 IN. PVC	.020/SLOT	28.0-43.0		1757.82	1727	TOC- WELL WIZARD
M-26		5-14-84	37 G.E.	2 IN. PVC	.020/SLOT				1729	

EXPLANATION:
TOC - TOP OF CASING
MSL - MEAN SEA LEVEL

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KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
WELL INVENTORY

WELL NO.	PURPOSE	DATE INSTALLED	WELL DEPTH FT. FROM TOC	CASING TYPE	SCREEN SIZE/TYPE	SCREENED INTERVAL (TOC)	GRAVEL PACK INTERVAL (TOC)	ELEVATION TOC (MSL)	ELEVATION TOP OF MUDDY CREEK	REMARKS
M-27		5-14-84	30.92	2 IN. PVC	.020/SLOT	21.8-36.8		1740.47	<1699	
M-28	UNIT 6 MONITOR WELL	7-23-84	47.61	2 IN. PVC	.010/SLOT	29.8-49.8	30.8-48.8	1810.68	1780	
M-29	UNIT 6 MONITOR WELL	7-13-84	41.74	2 IN. PVC	.010/SLOT	22.4-39.4	15.4-42.8	1806.60	1785	
M-30	UNIT 6 MONITOR WELL	7-17-84	43.32	2 IN. PVC	.010/SLOT	32.0-44.7	31.8-44.8	1811.27	1786	
M-31	CR PLUME MONITOR	6-85	47.60	2 IN. PVC	.010/SLOT	32.4-47.4		1788.06	1748	
M-32	CR PLUME MONITOR	6-85	46.76	2 IN. PVC	.010/SLOT	31.9-46.9		1787.48	1752	
M-33	CR PLUME MONITOR	6-85	46.78	2 IN. PVC	.010/SLOT	32.0-47.0		1786.98	1750	
M-34	CR PLUME MONITOR	6-85	41.83	2 IN. PVC	.010/SLOT	26.9-41.9		1776.10	1739	
M-35	CR PLUME MONITOR	6-85	42.33	2 IN. PVC	.010/SLOT	26.9-41.9		1775.01	1740	
M-36	CR PLUME MONITOR	6-85	37.85	2 IN. PVC	.010/SLOT	22.9-37.9		1757.94	1728	
M-37	CR PLUME MONITOR	6-85	37.18	2 IN. PVC	.010/SLOT	22.2-37.2		1759.28	1730	
M-38	CR PLUME MONITOR	6-85	37.44	2 IN. PVC	.010/SLOT	22.6-37.6		1757.94	1728	
M-39	CR PLUME MONITOR	6-85	42.60	2 IN. PVC	.010/SLOT	22.6-37.6		1759.31	1723	
M-40	CR PLUME MONITOR	6-85	47.40	2 IN. PVC	.010/SLOT	32.4-47.4		1797.89	1764	
M-41	CR PLUME MONITOR	7-85	37.52	2 IN. PVC	.010/SLOT	7.6-37.6		1695.60	1669	
M-42	CR PLUME MONITOR	7-85	37.02	2 IN. PVC	.010/SLOT	4.4-34.4		1696.24	1668	
M-43	CR PLUME MONITOR	7-85	37.56	2 IN. PVC	.010/SLOT	4.9-34.9		1696.16	1669	
M-44	CR PLUME MONITOR	7-85	37.65	2 IN. PVC	.010/SLOT	5.1-35.1		1696.74	1674	
M-45	CR PLUME MONITOR	7-85	36.59	2 IN. PVC	.010/SLOT	4.2-34.2		1697.13	1668	
M-46	CR PLUME MONITOR	7-85	46.89	2 IN. PVC	.010/SLOT	4.2-44.2		1716.08	1672	
M-47	CR PLUME MONITOR	7-85	42.59	2 IN. PVC	.010/SLOT	0.1-40.0		1716.51	1672	
M-48	CR PLUME MONITOR	7-85	38.59	2 IN. PVC	.010/SLOT	6.1-36.1		1719.05	1685	
M-49	CR PLUME MONITOR	7-85	46.50	2 IN. PVC	.010/SLOT	4.0-44.0		1718.78	1680	
M-50	CR PLUME MONITOR	7-85	62.15	2 IN. PVC	.010/SLOT	39.6-59.6		1793.87	1751	
M-51	CR PLUME MONITOR	7-85	36.62	2 IN. PVC	.010/SLOT	3.9-33.9		1695.34	1667	
M-52	CR PLUME MONITOR	7-85	47.38	2 IN. PVC	.010/SLOT	34.5-44.5		1798.70	1764	

EXPLANATION:
TOC - TOP OF CASING
MSL - MEAN SEA LEVEL

APPENDIX A
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
WELL INVENTORY

WELL NO.	PURPOSE	DATE INSTALLED	WELL DEPTH FT. FROM TOC	CASING TYPE	SCREEN SIZE/TYPE	SCREENED INTERVAL (TOC)	GRAVEL PACK INTERVAL (TOC)	ELEVATION TOC (MSL)	ELEVATION TOP OF MUDDY CREEK	REMARKS
M-53	INT'CPT MONITOR	9-27-86	41.0	2 IN. PVC	.010/SLOT	20.8-40.7	19.0-41.0	1751.56	1727.6	
M-54	INT'CPT MONITOR	9-29-86	46.0	2 IN. PVC	.010/SLOT	14.8-44.7	13.0-46.0	1748.93	1718.9	
M-55	INT'CPT MONITOR	9-29-86	45.0	2 IN. PVC	.010/SLOT	14.6-44.4	13.0-45.0	1749.35	1718.3	
M-56	INT'CPT MONITOR	9-28-86	40.0	2 IN. PVC	.010/SLOT	15.1-40.0	13.0-40.0	1746.60	1725.1	
M-57	INT'CPT MONITOR	9-30-86	41.0	2 IN. PVC	.010/SLOT	20.8-40.1	18.0-41.0	1752.29	1727.3	
M-58	INT'CPT MONITOR	9-30-86	45.0	2 IN. PVC	.010/SLOT	15.0-44.8	13.0-45.0	1749.25	1719.7	
M-59	INT'CPT MONITOR	9-28-86	40.0	2 IN. PVC	.010/SLOT	5.0-39.8	4.0-40.0	1743.01	1718.5	
M-60	INT'CPT MONITOR	12-10-86	43.0	2 IN. PVC	.010/SLOT	17.8-42.8	16.0-43.0	1750.13	1722.6	
M-61	INT'CPT MONITOR	12-9-86	41.0	2 IN. PVC	.010/SLOT	9.3-39.0	7.5-41.0	1745.55	1719.0	
M-62	INT'CPT MONITOR	12-17-86	33.0	2 IN. PVC	.010/SLOT	18.1-33.0	16.0-33.0	1752.92	1729.8	
M-63	INT'CPT MONITOR	12-18-86	40.0	2 IN. PVC	.010/SLOT	19.6-39.6	18.0-40.0	1750.59	1723.3	
M-64	INT'CPT MONITOR	12-19-86	38.0	2 IN. PVC	.010/SLOT	12.7-37.5	11.0-38.0	1749.76	1727.0	
M-65	INT'CPT MONITOR	12-16-86	40.0	2 IN. PVC	.010/SLOT	14.4-39.2	13.0-40.0	1752.88		
M-66	INT'CPT MONITOR	12-15-86	43.0	2 IN. PVC	.010/SLOT	17.5-42.5	16.0-43.0	1752.33	1727.7	
M-67	INT'CPT MONITOR	12-12-86	38.0	2 IN. PVC	.010/SLOT	7.8-37.6	6.0-38.0	1744.98	1740.5	
M-68	INT'CPT MONITOR	12-11-86	41.0	2 IN. PVC	.010/SLOT	11.2-41.0	10.2-41.0	1747.44	1720.9	
M-69	INT'CPT MONITOR	12-17-86	40.0	2 IN. PVC	.010/SLOT	19.9-39.5	18.0-40.0	1748.77	1717.3	
M-70	INT'CPT MONITOR	12-16-86	41.0	2 IN. PVC	.010/SLOT	15.3-40.2	14.0-41.0	1746.96	1714.5	
M-71	INT'CPT MONITOR	12-16-86	43.0	2 IN. PVC	.010/SLOT	17.5-42.2	16.0-43.0	1745.88	1711.2	
M-72	INT'CPT MONITOR	12-16-86	36.0	2 IN. PVC	.010/SLOT	10.1-35.0	9.0-36.0	1745.49	1719.0	
M-73	INT'CPT MONITOR	12-15-86	36.0	2 IN. PVC	.010/SLOT	11.0-36.0	9.0-36.0	1740.05	1694.7	
M-74	INT'CPT MONITOR	12-11-86	39.0	2 IN. PVC	.010/SLOT	9.2-39.0	8.0-39.0	1743.42	1717.4	
M-75	DWNGDNT TO P&S PONDS	8-20-87	53.9	2 IN. PVC	.010/SLOT	37.0-51.7	33.4-53.9			M-3 REPLACEMENT
M-76	DWNGDNT TO P&S PONDS	8-20-87	54.6	2 IN. PVC	.010/SLOT	37.8-52.5	37.0-54.6			M-4 REPLACEMENT
M-77		8-20-87	47.8	2 IN. PVC	.010/SLOT	30.9-45.6	29.6-47.8			M-20 REPLACEMENT
M-78	WTR LVL RECORDER	8-26-87	43.6	4 IN. PVC	.010/SLOT	21.5-41.5	14.0-43.6	1751.01		TOC- STEEL PLATE
M-79	RECHARGE MONITOR	8-21-87	37.6	2 IN. PVC	.010/SLOT	10.8-35.4	9.0-37.6	1742.93		

EXPLANATION:
TOC - TOP OF CASING
MSL - MEAN SEA LEVEL

APPENDIX A
KERR-McGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
WELL INVENTORY

WELL NO.	PURPOSE	DATE INSTALLED	WELL DEPTH FT. FROM TOC	CASING TYPE	SCREEN SIZE/TYPE	SCREENED INTERVAL (TOC)	GRAVEL PACK INTERVAL (TOC)	ELEVATION TOC (MSL)	ELEVATION TOP OF MUDDY CREEK	REMARKS
M-80	WTR LVL RECORDER	8-26-87	43.7	4 IN. PVC	.010/SLOT	11.5-41.5	9.2-43.7	1745.73		TOC- STEEL PLATE
M-81	RECHARGE MONITOR	8-21-87	42.9	2 IN. PVC	.010/SLOT	11.2-40.7	8.6-42.9	1743.73		
M-82	RECHARGE MONITOR	8-24-87	33.3	2 IN. PVC	.010/SLOT	11.1-31.1	10.0-33.3	1739.38		
M-83	RECHARGE MONITOR	8-24-87	42.5	2 IN. PVC	.010/SLOT	10.8-40.3	10.0-42.5	1740.83		
M-84	RECHARGE MONITOR	8-24-87	36.6	2 IN. PVC	.010/SLOT	11.8-34.1	8.5-36.6	1739.63		
M-85	RECHARGE MONITOR	8-25-87	37.1	2 IN. PVC	.010/SLOT	10.4-34.9	9.2-37.1	1741.19		
M-86	RECHARGE MONITOR	8-25-87	43.0	2 IN. PVC	.010/SLOT	11.3-40.8	9.9-43.0	1742.73		
M-87	RECHARGE MONITOR	8-25-87	41.0	2 IN. PVC	.010/SLOT	9.3-38.3	8.6-41.0	1742.27		
M-88	RECHARGE MONITOR	8-26-87	39.0	2 IN. PVC	.010/SLOT	7.3-36.8	6.6-39.0	1737.99		
M-6A	DWNGDNT LANDFILL	12-18-86	46.0	2 IN. PVC	.010/SLOT	26.8-41.5	24.0-46.0			
M-7A	DWNGDNT LANDFILL	12-18-86	39.0	2 IN. PVC	.010/SLOT	20.1-35.1	18.0-39.0			

APPENDIX B

GROUNDWATER ELEVATIONS

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

	M-11		M-14		M-15		M-17		M-18		M-19		M-22		M-22R		M-23		M-25	
TOC--->	1813.46		1758.83		1749.69		1769.54		1738.28		1766.55		1758.13		1758.68		1712.78		1758.15	
	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	1726.46	28.56	1740.98	10.65	1727.63	25.18	1741.37	20.50	1737.63					25.69	1732.46
19-Oct-87			28.89	1729.94	22.36	1727.33			11.00	1727.28			20.37	1737.76					24.66	1733.49
29-Oct-87			28.77	1730.06	22.15	1727.54	27.89	1741.65	10.93	1727.35	24.94	1741.61	20.66	1737.47					24.72	1733.43
09-Nov-87			28.58	1730.25	21.84	1727.85	27.43	1742.11	10.17	1728.11	24.41	1742.14	20.10	1738.03					24.50	1733.65
16-Dec-87	44.84	1768.62	28.26	1730.57	22.35	1727.34	30.58	1738.96	11.24	1727.04	26.61	1739.94	22.68	1735.45					25.73	1732.42
20-Jan-88	44.78	1768.68	28.56	1730.27	23.29	1726.40	30.64	1738.90	11.73	1726.55	27.60	1738.95	23.78	1734.35					26.63	1731.52
05-Feb-88	44.78	1768.68	28.70	1730.13	23.59	1726.10	31.12	1738.42	11.87	1726.41	27.88	1738.67	24.20	1733.93			14.58	1698.20	27.07	1731.08
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			14.52	1698.26	27.66	1730.49
19-Apr-88	45.17	1768.29	30.14	1728.69	24.62	1725.07	32.42	1737.12	12.73	1725.55	28.92	1737.63	25.25	1732.88			14.67	1698.11	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			14.94	1697.84	28.75	1729.40
07-Jun-88	45.39	1768.07	30.67	1728.16	25.24	1724.45	33.03	1736.51	13.30	1724.98	29.64	1736.91	26.19	1731.94			15.05	1697.73	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					15.29	1697.49	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					15.73	1697.05	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					15.45	1697.33	30.10	1728.05
10-Oct-88	45.40	1768.06	31.50	1727.33	26.00	1723.69	34.40	1735.14	14.30	1723.98	29.70	1736.85			26.50	1732.18	15.50	1697.28	30.15	1728.00
26-Nov-88	41.65	1771.81	31.65	1727.18	27.10	1722.59	34.30	1735.24	14.40	1723.88	29.90	1736.65			36.20	1722.48	15.55	1697.23	30.70	1727.45
15-Dec-88	46.10	1767.36	37.70	1721.13	30.18	1719.51	33.75	1735.79	14.00	1724.28	30.40	1736.15			26.90	1731.78	16.85	1695.93	30.70	1727.45

	M-27		M-31		M-36		M-37		M-38		M-39		M-46		M-47		M-49		M-53	
TOC--->	1740.47		1788.39		1757.94		1759.28		1757.88		1759.31		1716.08		1716.51		1718.78		1751.56	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	18.28	1726.19			23.67	1734.27	26.39	1732.89	24.35	1733.53	20.00	1739.31							25.79	1725.77
19-Oct-87	14.80	1729.67			22.93	1735.01	25.57	1733.71	23.36	1734.52	20.17	1739.14							25.69	1725.87
29-Oct-87	14.74	1729.73			23.15	1734.79	25.50	1733.78	23.66	1734.22	20.42	1738.89							25.53	1726.03
09-Nov-87	14.39	1730.08			22.81	1735.13	25.27	1734.01	23.38	1734.50	19.77	1739.54							25.25	1726.31
16-Dec-87	14.30	1730.17			24.52	1733.42	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
20-Jan-88	15.36	1729.11	39.34	1749.05	25.62	1732.32	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
05-Feb-88	15.70	1728.77	39.53	1748.86	25.95	1731.99	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
01-Mar-88	15.88	1728.59	39.68	1748.71	26.50	1731.44	27.87	1731.41	26.99	1730.89	24.81	1734.50			13.00	1703.51	12.47	1706.31	26.21	1725.35
19-Apr-88	16.45	1728.02	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	1706.18	26.75	1724.81
18-May-88	16.95	1727.52	40.36	1748.03	27.50	1730.44	28.90	1730.38	28.00	1729.88	25.83	1733.48			13.29	1703.22	12.94	1705.84	27.09	1724.47
07-Jun-88	17.21	1727.26	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
14-Jul-88	17.52	1726.95	40.70	1747.69	28.60	1729.34	29.60	1729.68	28.75	1729.13	26.50	1732.81			13.72	1702.79	13.35	1705.43	27.60	1723.96
06-Aug-88	17.67	1726.80	40.53	1747.86	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
03-Sep-88	16.66	1727.81	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
10-Oct-88	18.30	1726.17	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
26-Nov-88	18.60	1725.87	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
15-Dec-88	19.30	1725.17	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

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

	M-54		M-55		M-56		M-57		M-58		M-59		M-60		M-61		M-62		M-63	
TOC--->	1748.93		1749.35		1749.60		1752.29		1749.25		1743.01		1750.13		1745.55		1752.92		1750.59	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	22.15	1726.78	22.72	1726.63	21.86	1727.74	26.91	1725.38	18.87	1730.38	11.80	1731.21	21.08	1729.05	12.53	1733.02	25.67	1727.25	22.52	1728.07
19-Oct-87	21.88	1727.05	22.27	1727.08	21.41	1728.19	26.61	1725.68	18.92	1730.33	12.49	1730.52	20.66	1729.47	14.34	1731.21	25.39	1727.53	22.32	1728.27
29-Oct-87	21.70	1727.23	22.05	1727.30	21.32	1728.28	26.49	1725.80	18.95	1730.30	12.52	1730.49	20.63	1729.50	14.25	1731.30	25.28	1727.64	22.17	1728.42
09-Nov-87	21.38	1727.55	21.83	1727.52	21.05	1728.55	26.28	1726.01	18.63	1730.62	12.01	1731.00	20.38	1729.75	13.38	1732.17	25.01	1727.91	21.85	1728.74
16-Dec-87	21.63	1727.30	22.51	1726.84	21.72	1727.88	26.22	1726.07	19.81	1729.44	13.54	1729.47	21.16	1728.97	15.82	1729.73	25.00	1727.92	22.13	1728.46
20-Jan-88	22.14	1726.79	23.27	1726.08	22.48	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
05-Feb-88	22.31	1726.62	23.74	1725.61	22.87	1726.73	26.67	1725.62	20.80	1728.45	14.48	1728.53	22.38	1727.75	17.12	1728.43	25.74	1727.18	22.78	1727.81
01-Mar-88	22.88	1726.05	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
19-Apr-88	23.50	1725.43	24.75	1724.60	24.04	1725.56	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
18-May-88	23.60	1725.33	25.05	1724.30	24.57	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
07-Jun-88	23.83	1725.10	25.27	1724.08	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
14-Jul-88	24.50	1724.43	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
06-Aug-88	24.52	1724.41	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
03-Sep-88	24.48	1724.45	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	28.10	1724.82	25.30	1725.29
10-Oct-88	24.90	1724.03	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
26-Nov-88	25.10	1723.83	26.80	1722.55	25.80	1723.80	28.85	1723.44	23.30	1725.95	16.90	1726.11	25.00	1725.13	19.60	1725.95	28.20	1724.72	25.20	1725.39
15-Dec-88	28.60	1720.33	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

	M-64		M-65		M-66		M-67		M-68		M-69		M-70		M-71		M-72		M-73	
TOC--->	1749.76		1752.88		1752.33		1744.98		1747.44		1748.77		1746.96		1745.88		1745.49		1740.05	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	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	20.42	1725.46	17.12	1728.37	10.71	1729.34
19-Oct-87	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	18.50	1727.38	16.06	1729.43	10.85	1729.20
29-Oct-87	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	18.48	1727.40	16.04	1729.45	10.84	1729.21
09-Nov-87	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	18.15	1727.73	15.66	1729.83	10.30	1729.75
16-Dec-87	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	16.20	1729.68	16.43	1729.06	11.41	1728.64
20-Jan-88	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	19.37	1726.51	17.22	1728.27	12.02	1728.03
05-Feb-88	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	19.77	1726.11	17.46	1728.03	12.27	1727.78
01-Mar-88	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	20.11	1725.77	17.77	1727.72	12.50	1727.55
19-Apr-88	24.52	1725.24	26.58	1726.30	23.92	1728.41	15.81	1729.17	17.50	1729.94	24.82	1723.95	23.10	1723.86	20.75	1725.13	18.31	1727.18	13.12	1726.93
18-May-88	24.74	1725.02	27.00	1725.88	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
07-Jun-88	25.00	1724.76	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
14-Jul-88	25.50	1724.26	27.85	1725.03	25.05	1727.28	16.93	1728.05	18.46	1728.98	24.54	1724.23	23.95	1723.01	22.04	1723.84	19.49	1726.00	14.30	1725.75
06-Aug-88	25.66	1724.10	27.97	1724.91	25.20	1727.13	17.20	1727.78	18.76	1728.68	26.02	1722.75	24.26	1722.70	22.25	1723.63	19.40	1726.09	14.51	1725.54
03-Sep-88	25.80	1723.96	28.25	1724.63	25.35	1726.98	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
10-Oct-88	25.90	1723.86	28.65	1724.23	25.40	1726.93	17.10	1727.88	16.80	1730.64	26.00	1722.77	24.80	1722.16	22.80	1723.08	20.25	1725.24	14.85	1725.20
26-Nov-88	26.20	1723.56	28.90	1723.98	25.70	1726.63	17.80	1727.18	19.00	1728.44	26.25	1722.52	25.35	1721.61	23.20	1722.68	20.10	1725.39	15.00	1725.05
15-Dec-88	29.45	1720.31	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

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

	M-74		M-78		M-79		M-80		M-81		M-82	
TOC--->	1743.42		1751.01		1742.93		1745.73		1743.73		1739.38	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	12.44	1730.98	24.88	1726.13	20.02	1722.91	22.67	1723.06	18.70	1725.03	17.64	1721.74
19-Oct-87	13.82	1729.60	24.01	1727.00	19.22	1723.71	18.44	1727.29	14.64	1729.09	16.76	1722.62
29-Oct-87	13.69	1729.73	23.80	1727.21	19.02	1723.91	18.53	1727.20	14.37	1729.36	16.59	1722.79
09-Nov-87	13.81	1729.61			18.25	1724.68	18.21	1727.52	13.94	1729.79	15.98	1723.40
16-Dec-87	14.71	1728.71	24.00	1727.01	17.66	1725.27	18.05	1727.68	14.00	1729.73	15.58	1723.80
20-Jan-88	15.40	1728.02	24.94	1726.07	17.54	1725.39	20.80	1724.93	15.13	1728.60	15.74	1723.64
05-Feb-88	15.63	1727.79	25.24	1725.77	17.88	1725.05	21.23	1724.50	15.18	1728.55	15.98	1723.40
01-Mar-88	16.00	1727.42	25.68	1725.33	18.37	1724.56	19.72	1726.01	15.46	1728.27	16.37	1723.01
19-Apr-88	16.56	1726.86	24.75	1726.26	18.87	1724.06	20.41	1725.32	16.08	1727.65	16.85	1722.53
18-May-88	16.80	1726.62	26.23	1724.78	19.47	1723.46	21.05	1724.68	16.80	1726.93	17.28	1722.10
07-Jun-88	17.05	1726.37	26.23	1724.78	19.70	1723.23	21.20	1724.53	17.11	1726.62	17.47	1721.91
14-Jul-88	17.47	1725.95	26.80	1724.21	20.00	1722.93	21.50	1724.23	17.55	1726.18	17.67	1721.71
06-Aug-88	17.71	1725.71	26.97	1724.04	20.42	1722.51	21.53	1724.20	17.79	1725.94	18.07	1721.31
03-Sep-88	17.00	1726.42	27.10	1723.91	20.10	1722.83	21.02	1724.71	17.40	1726.33	17.50	1721.88
10-Oct-88	18.00	1725.42	27.62	1723.39	20.50	1722.43	22.50	1723.23	18.15	1725.58	18.30	1721.08
26-Nov-88	18.30	1725.12	23.20	1727.81	20.75	1722.18	28.10	1717.63	17.75	1725.98	18.50	1720.88
15-Dec-88	17.90	1725.52	28.65	1722.36	22.45	1720.48	23.60	1722.13	18.25	1725.48	23.40	1715.98

	M-83		M-84		M-85		M-86		M-87		M-88	
TOC--->	1740.83		1739.63		1741.19		1742.73		1742.27		1737.99	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	18.86	1721.97	17.24	1722.39	18.44	1722.75	18.37	1724.36	17.12	1725.15	13.05	1724.94
19-Oct-87	16.47	1724.36	13.85	1725.78	14.63	1726.56	15.33	1727.40	16.06	1726.21	13.87	1724.12
29-Oct-87	16.03	1724.80	13.80	1725.83	14.49	1726.70	16.18	1726.55	15.92	1726.35	13.79	1724.20
09-Nov-87	15.85	1724.98	14.46	1725.17	14.11	1727.08	14.65	1728.08	15.13	1727.14	12.15	1725.84
16-Dec-87	15.73	1725.10	14.37	1725.26	14.04	1727.15	14.83	1727.90	15.62	1726.65	12.59	1725.40
20-Jan-88	16.52	1724.31	14.42	1725.21	15.14	1726.05	15.71	1727.02	16.10	1726.17	13.02	1724.97
05-Feb-88	16.64	1724.19	14.82	1724.81	15.36	1725.83	15.96	1726.77	16.15	1726.12	13.19	1724.80
01-Mar-88	17.05	1723.78	15.00	1724.63	15.63	1725.56	16.00	1726.73	16.32	1725.95	13.41	1724.58
19-Apr-88	17.54	1723.29	15.56	1724.07	16.23	1724.96	16.62	1726.11	16.87	1725.40	13.93	1724.06
18-May-88	18.00	1722.83	16.00	1723.63	16.80	1724.39	16.23	1726.50	17.31	1724.96	14.41	1723.58
07-Jun-88	18.24	1722.59	16.32	1723.31	17.11	1724.08	17.50	1725.23	17.63	1724.64	14.57	1723.42
14-Jul-88	18.45	1722.38	16.62	1723.01	17.42	1723.77	17.93	1724.80	18.15	1724.12	14.97	1723.02
06-Aug-88	19.00	1721.83	17.03	1722.60	17.80	1723.39	18.21	1724.52	18.20	1724.07	15.08	1722.91
03-Sep-88	17.87	1722.96	15.80	1723.83	16.90	1724.29	17.74	1724.99	17.80	1724.47	14.56	1723.43
10-Oct-88	19.20	1721.63	17.30	1722.33	18.30	1722.89	18.90	1723.83	18.60	1723.67	15.60	1722.39
26-Nov-88	19.30	1721.53	17.95	1721.68	18.35	1722.84	18.10	1724.63	18.25	1724.02	15.75	1722.24
15-Dec-88	24.10	1716.73	23.80	1715.83	19.05	1722.14	18.55	1724.18	18.85	1723.42	15.60	1722.39

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

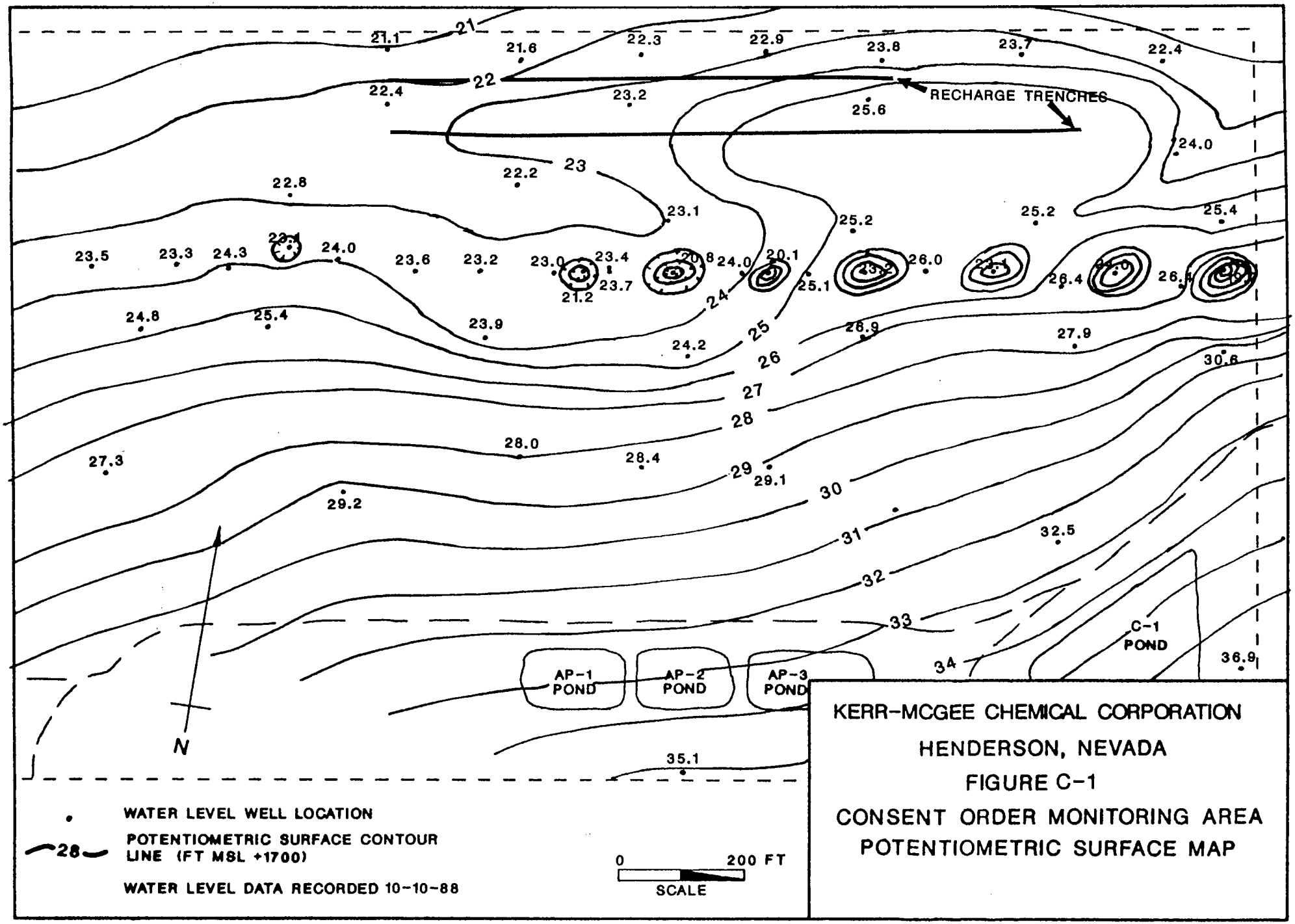
	I-A		I-B		I-C		I-D		I-E		I-F	
TOC--->	1751.06		1750.69		1750.44		1750.54		1750.22		1747.58	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	25.06	1726.00	24.98	1725.71	23.86	1726.58	24.36	1726.18	23.53	1726.69	20.73	1726.85
19-Oct-87	27.18	1723.88	26.73	1723.96	24.58	1725.86	26.48	1724.06	36.80	1713.42	22.99	1724.59
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
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
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
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
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
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
03-Sep-88	31.10	1719.96	28.90	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

	I-G		I-H		I-I		I-J		I-K	
TOC--->	1750.42		1751.07		1743.36		1747.95		1743.97	
	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
14-Sep-87	22.13	1728.29	21.12	1729.95	12.67	1730.69	16.08	1731.87	10.21	1733.76
19-Oct-87	23.63	1726.79	24.90	1726.17	15.35	1728.01	20.51	1727.44	17.15	1726.82
29-Oct-87	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	24.59	1725.83	27.10	1723.97	17.63	1725.73	21.75	1726.20	19.92	1724.05
20-Jan-88	25.62	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	18.87	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	27.83	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	38.80	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

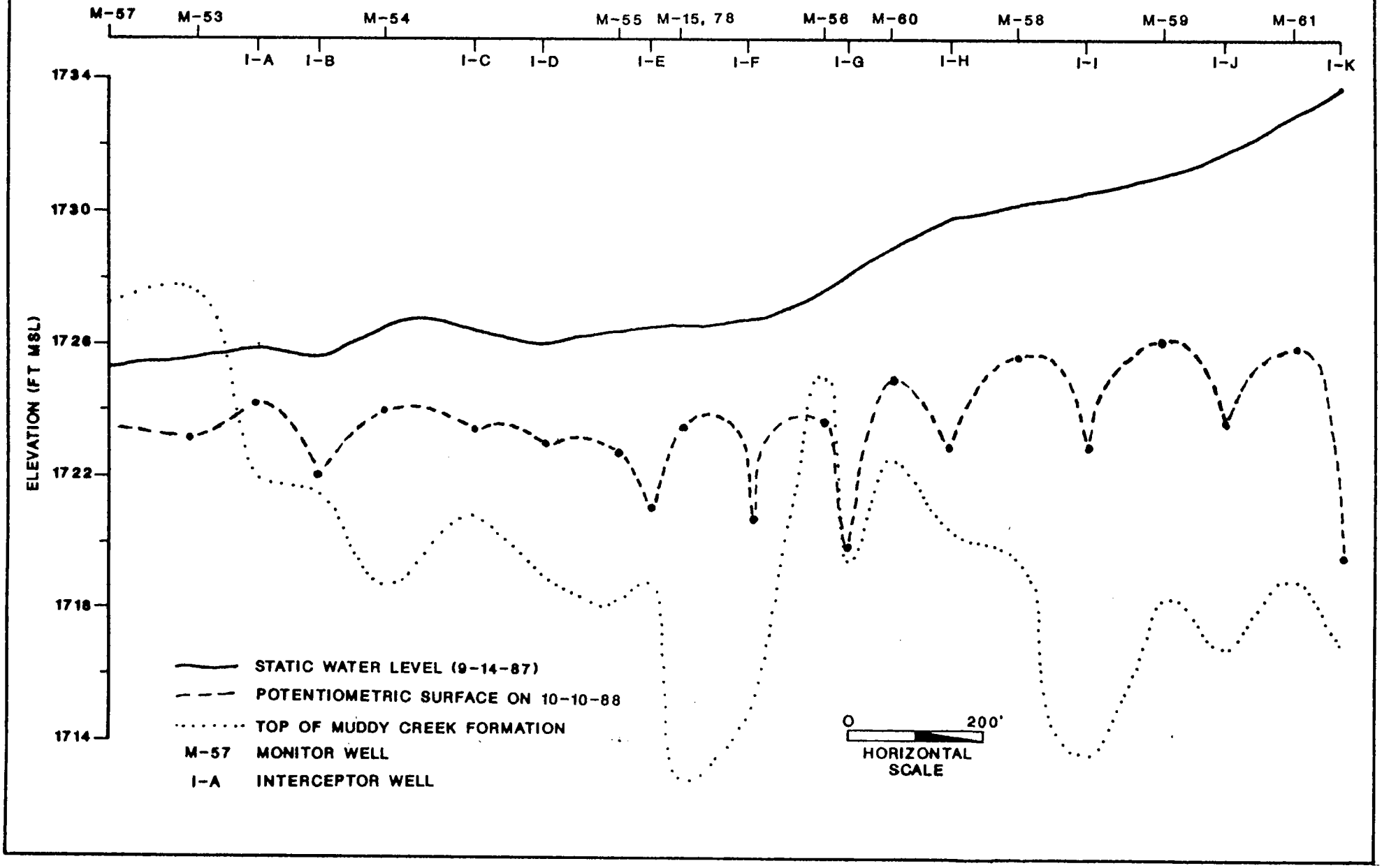
APPENDIX C

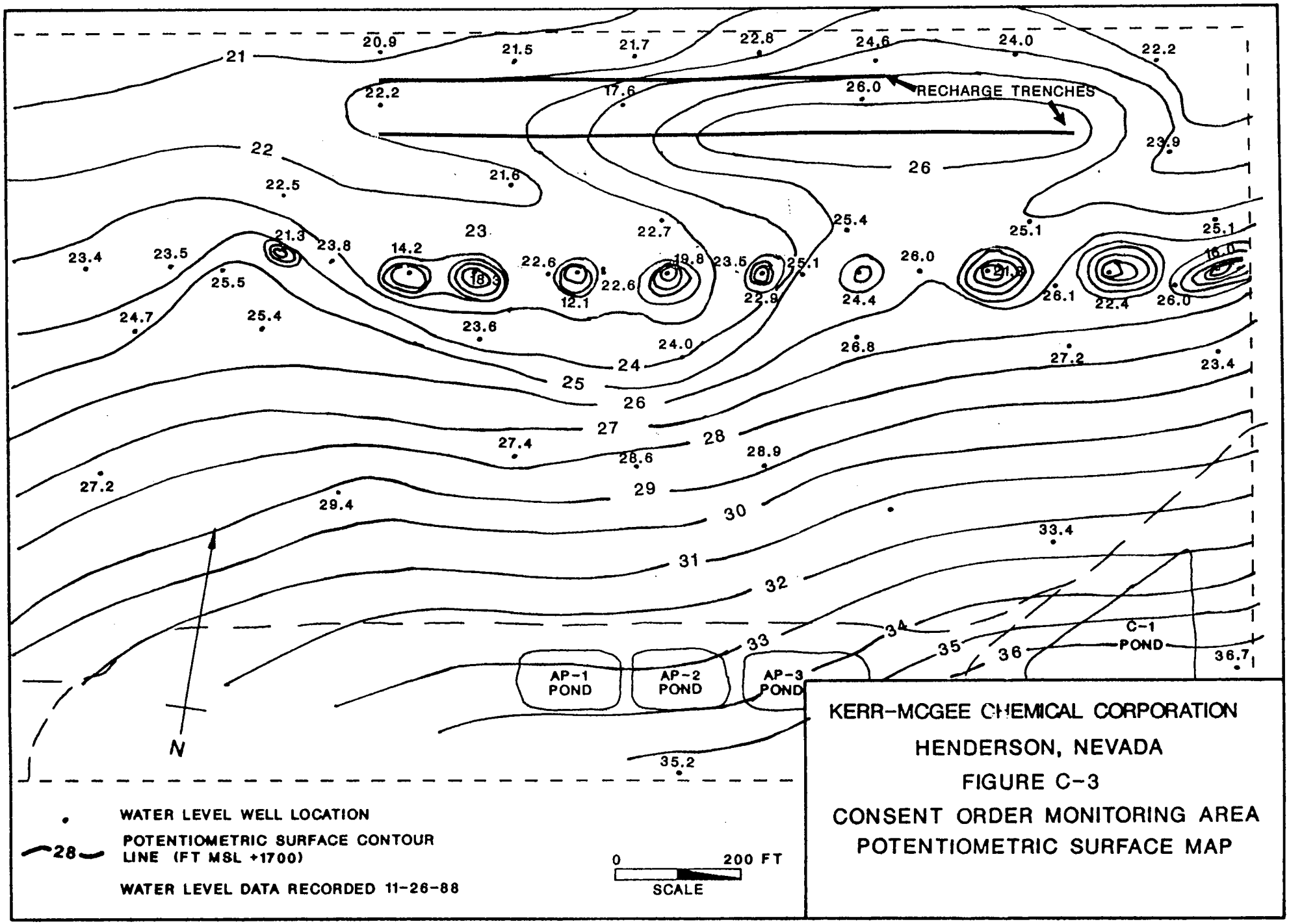
POTENTIOMETRIC SURFACE MAPS

INTERCEPTOR AREA CROSS-SECTIONS

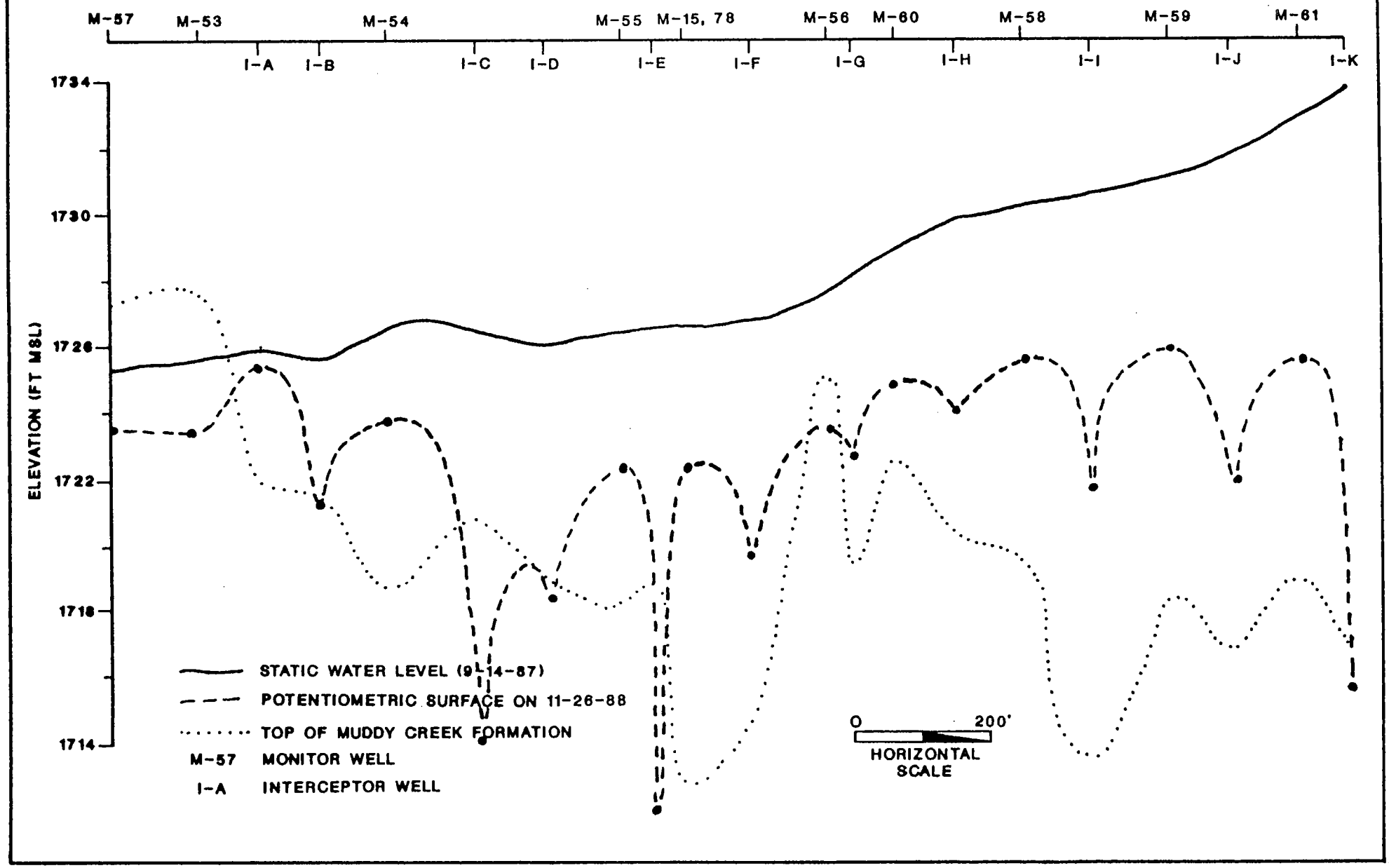

RECHARGE TRENCHES
AP-1 POND
AP-2 POND
AP-3 POND
C-1 POND
N
WATER LEVEL WELL LOCATION
28 POTENTIOMETRIC SURFACE CONTOUR LINE (FT MSL +1700)
WATER LEVEL DATA RECORDED 10-10-88
0 200 FT
SCALE
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
FIGURE C-1
CONSENT ORDER MONITORING AREA
POTENTIOMETRIC SURFACE MAP

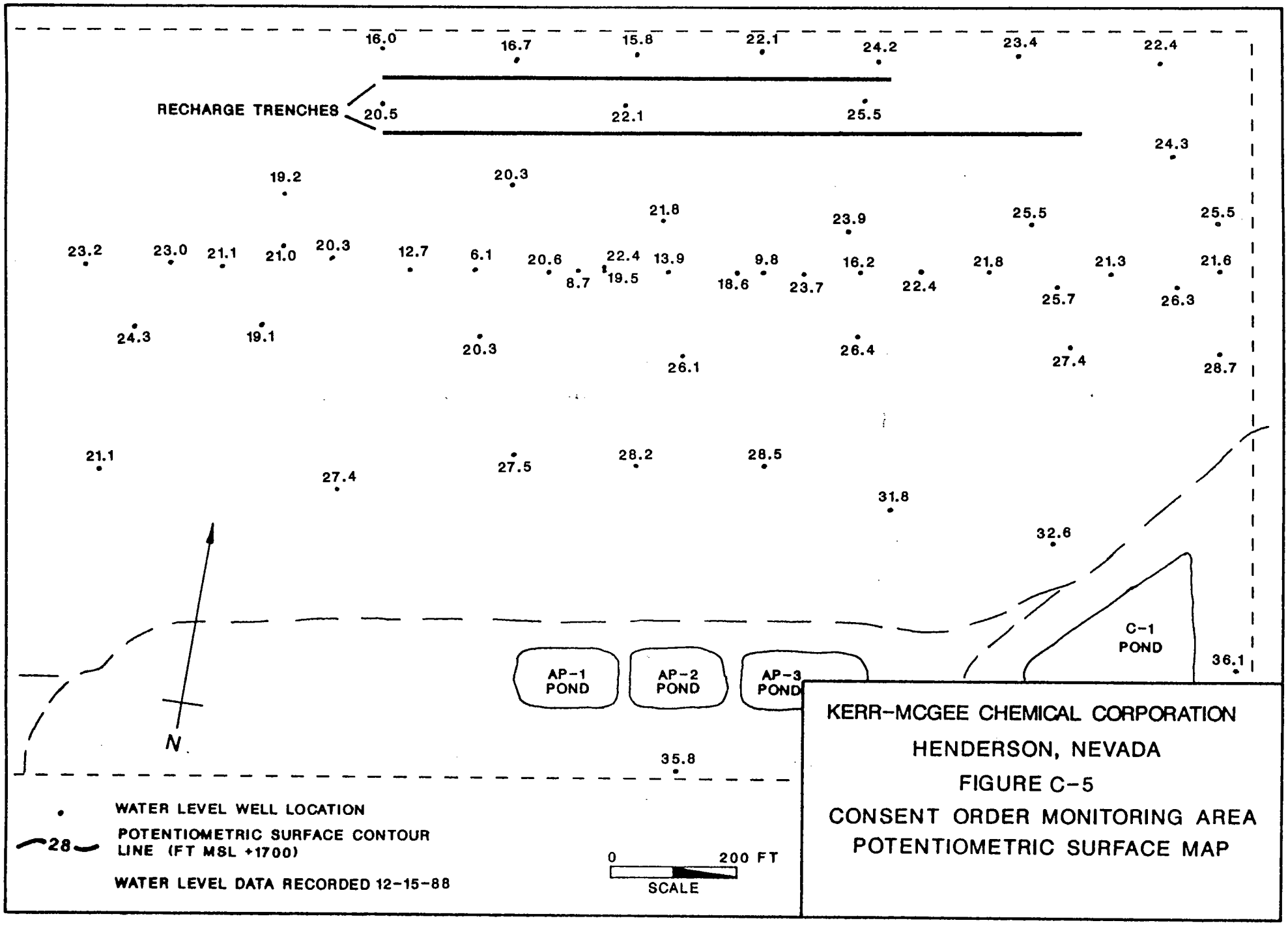
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
GROUNDWATER INTERCEPTOR LINE CROSS-SECTION
FIGURE C-2



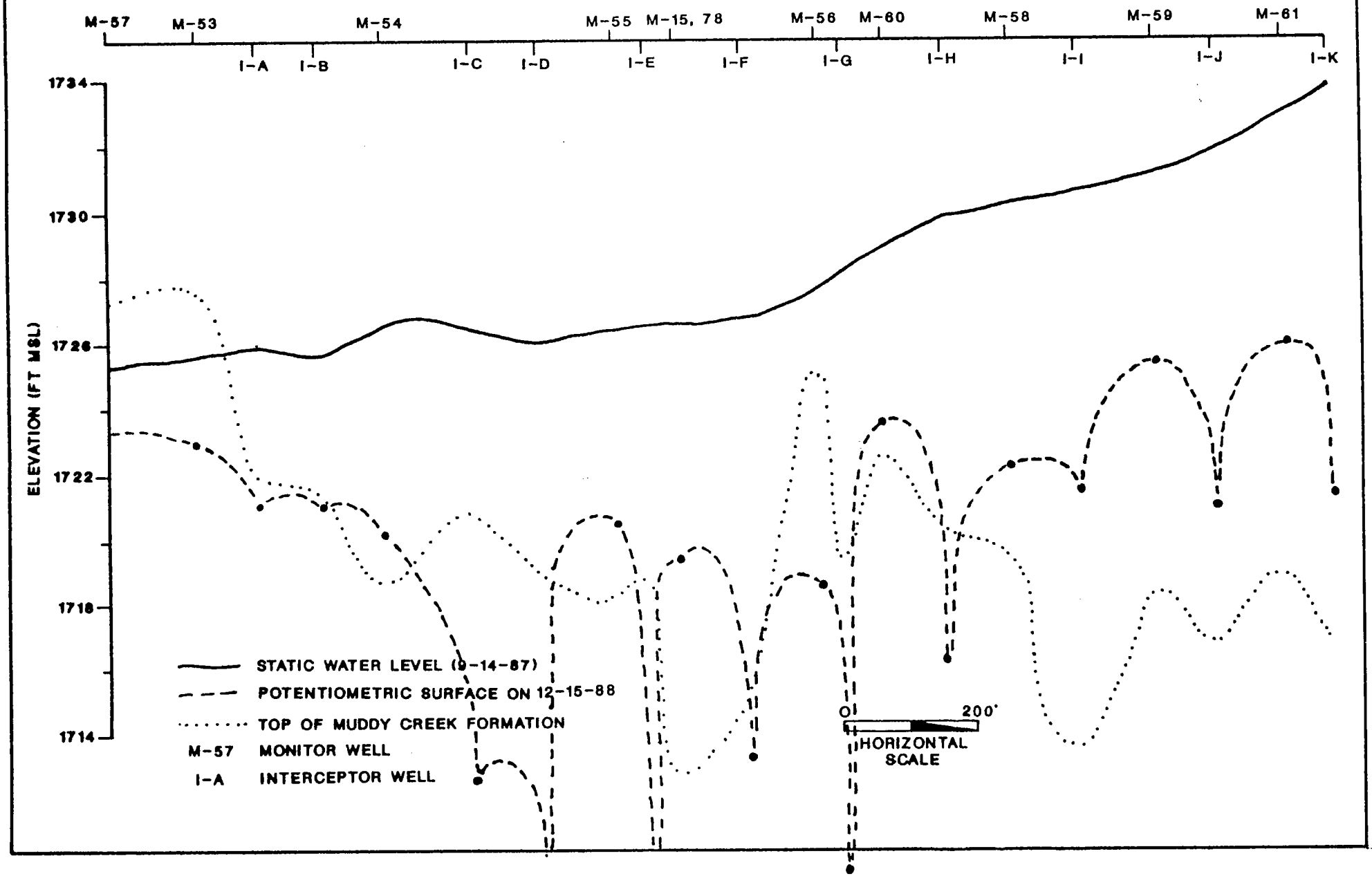

RECHARGE TRENCHES
AP-1 POND
AP-2 POND
AP-3 POND
C-1 POND
N
WATER LEVEL WELL LOCATION
28 POTENTIOMETRIC SURFACE CONTOUR LINE (FT MSL +1700)
WATER LEVEL DATA RECORDED 11-26-88
0 200 FT
SCALE
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
FIGURE C-3
CONSENT ORDER MONITORING AREA
POTENTIOMETRIC SURFACE MAP

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



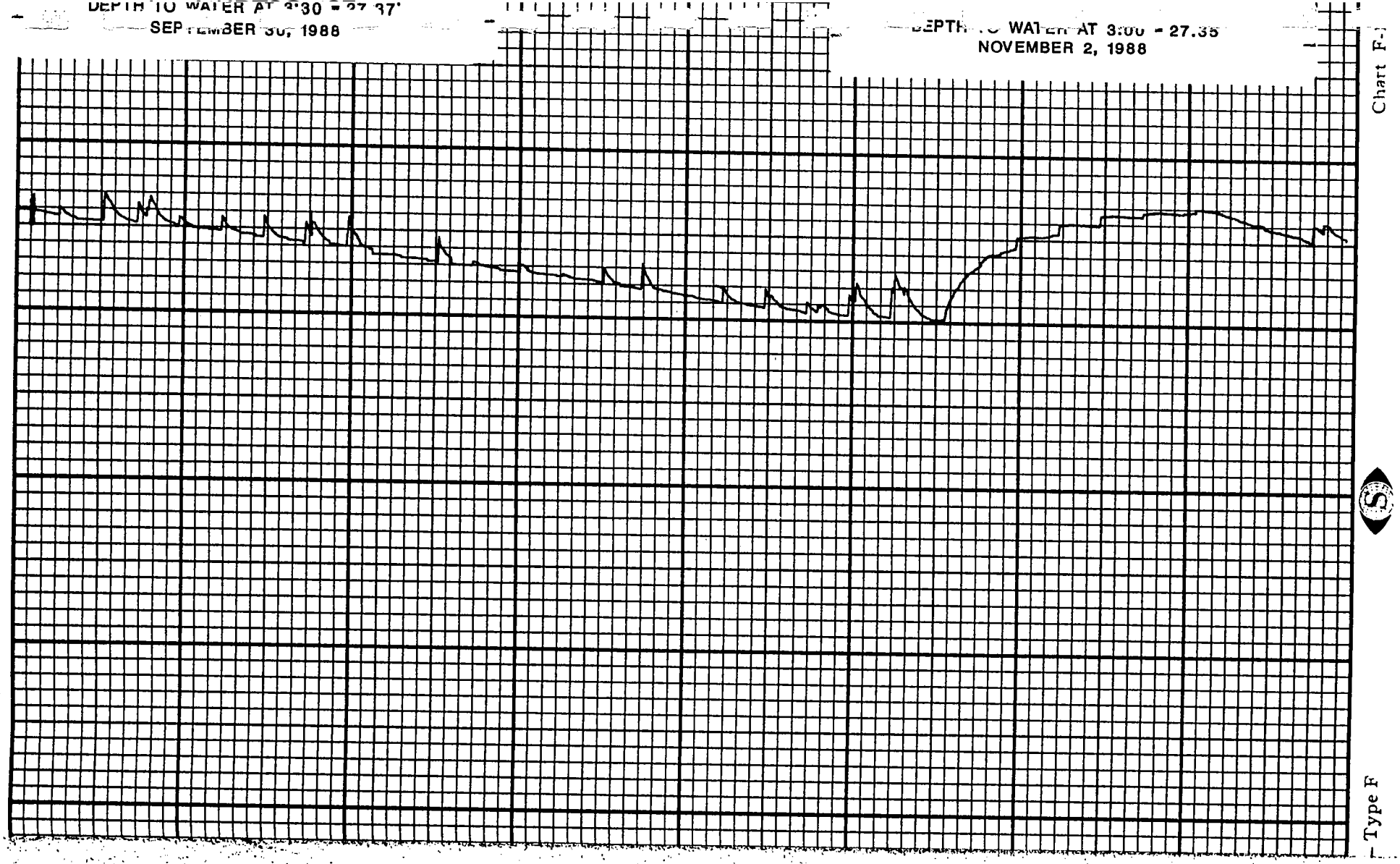

RECHARGE TRENCHES
16.0
16.7
15.8
22.1
24.2
23.4
22.4
20.5
22.1
25.5
24.3
19.2
20.3
21.8
23.9
25.5
25.5
23.2
23.0
21.1
21.0
20.3
12.7
6.1
20.6
22.4
13.9
9.8
16.2
21.8
21.3
21.6
8.7
19.5
18.6
23.7
22.4
25.7
26.3
24.3
19.1
20.3
26.1
26.4
27.4
28.7
21.1
27.4
27.5
28.2
28.5
31.8
32.6
AP-1 POND
AP-2 POND
AP-3 POND
C-1 POND
36.1
35.8
N
WATER LEVEL WELL LOCATION
28
POTENTIOMETRIC SURFACE CONTOUR LINE (FT MSL +1700)
WATER LEVEL DATA RECORDED 12-15-88
0
200 FT
SCALE
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
FIGURE C-5
CONSENT ORDER MONITORING AREA
POTENTIOMETRIC SURFACE MAP

KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA
GROUNDWATER INTERCEPTOR LINE CROSS-SECTION
FIGURE C-6



APPENDIX D

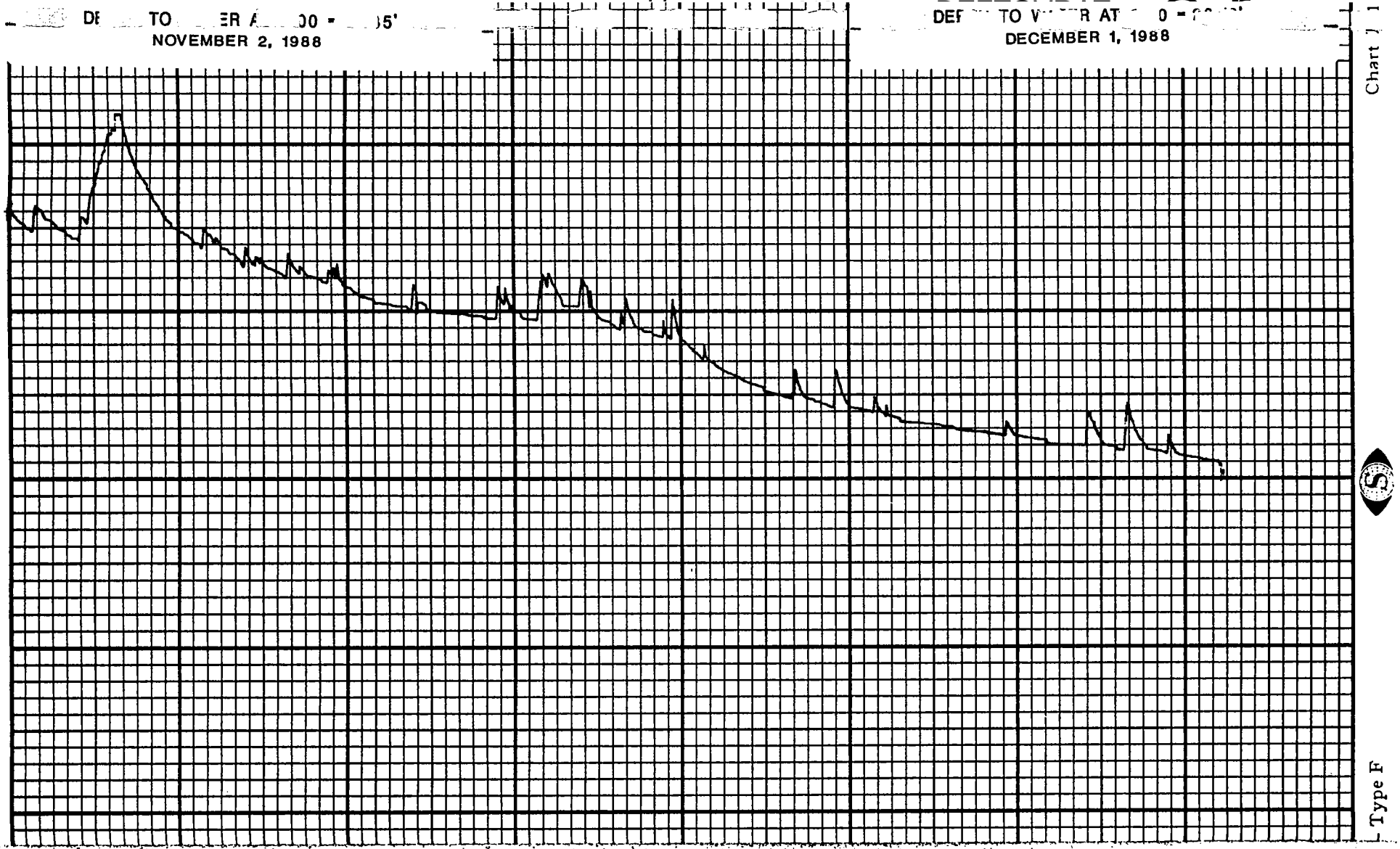
CONTINUOUS WATER LEVEL RECORDER CHARTS



CONTINUOUS WATER LEVEL RECORDER CHART

WELL M-78

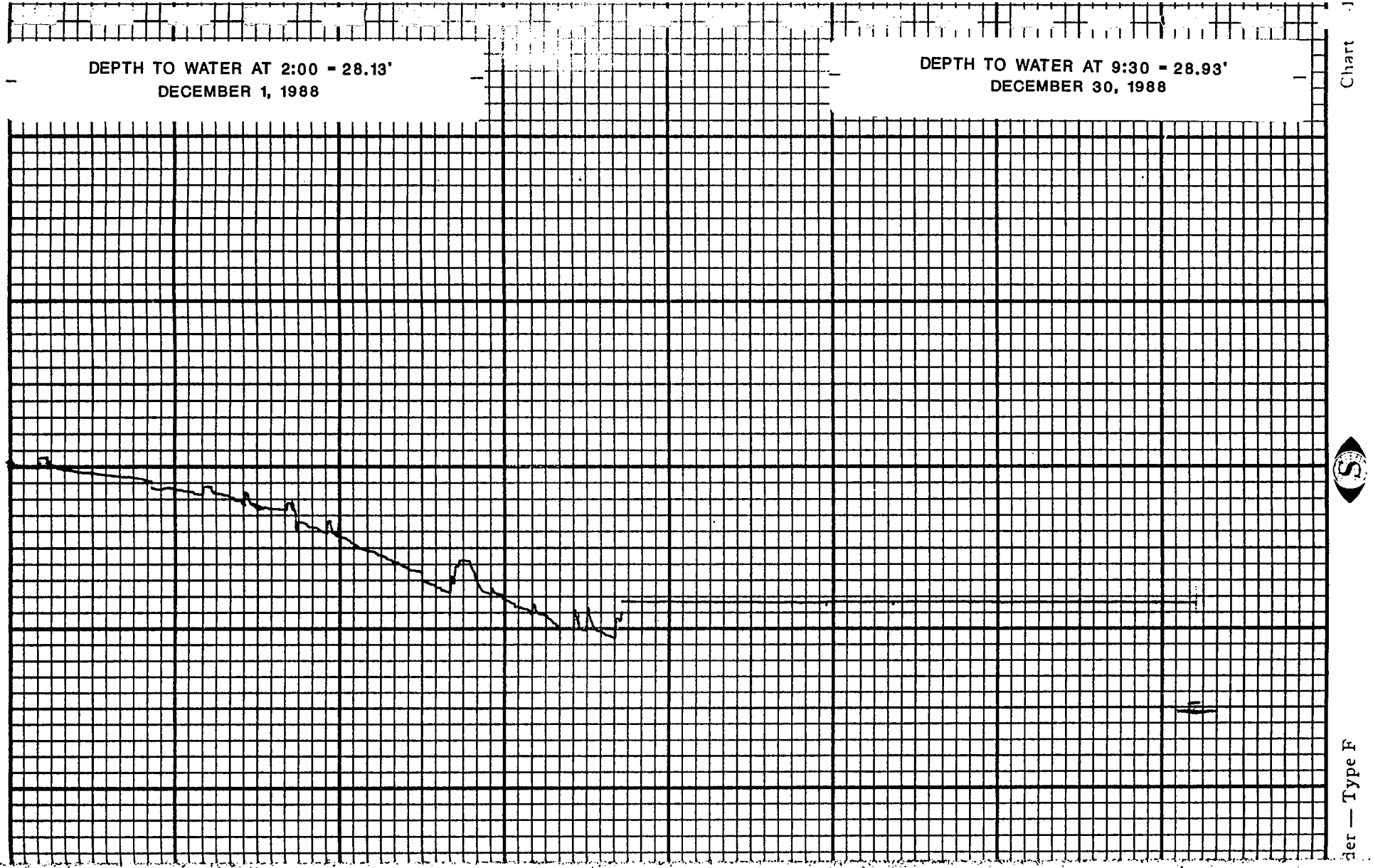
9-30-88 TO 11-2-88



CONTINUOUS WATER LEVEL RECORDER CHART

WELL M-78

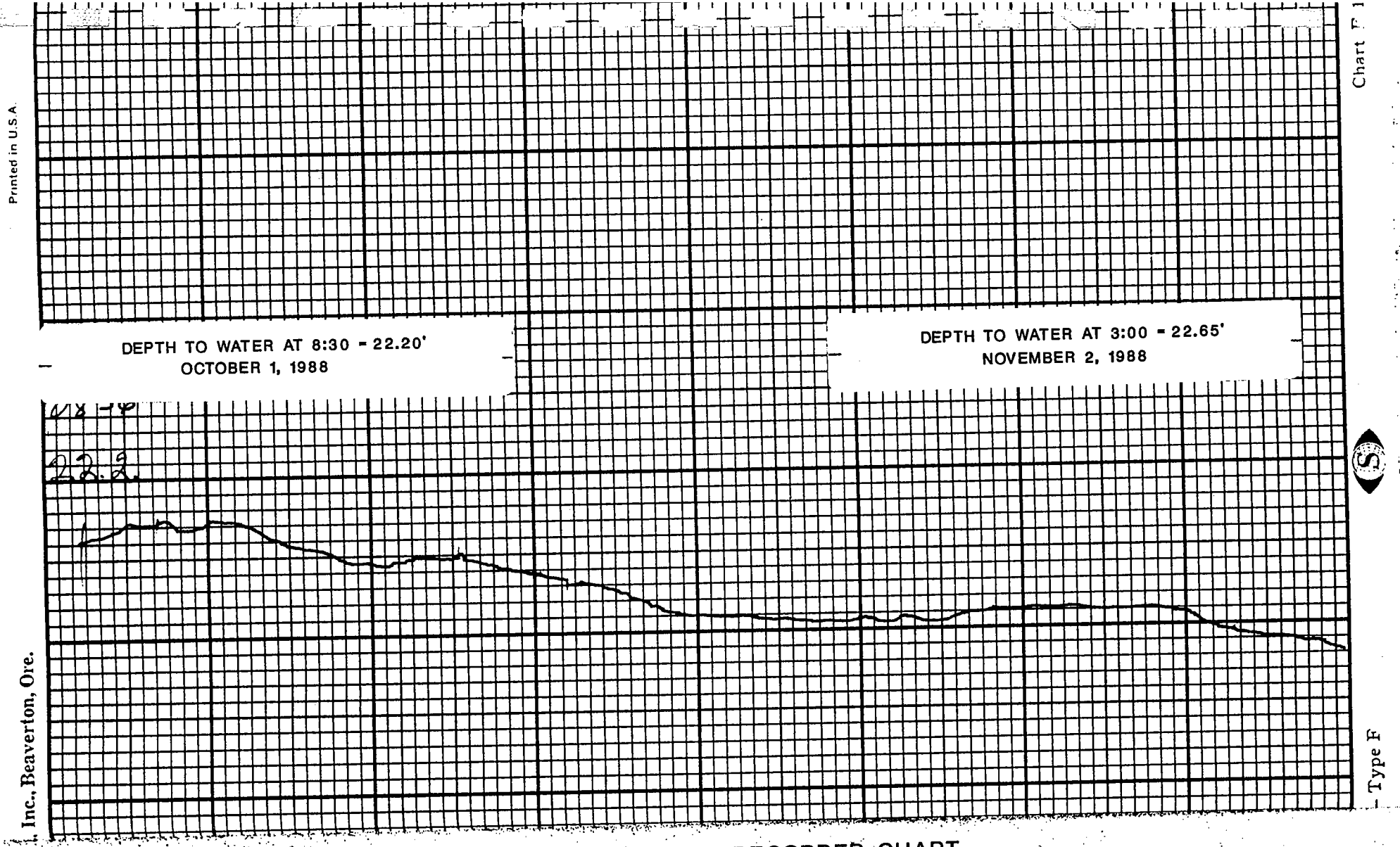
11-2-88 TO 12-1-88



CONTINUOUS WATER LEVEL RECORDER CHART

WELL M-78

12-1-88 TO 12-30-88

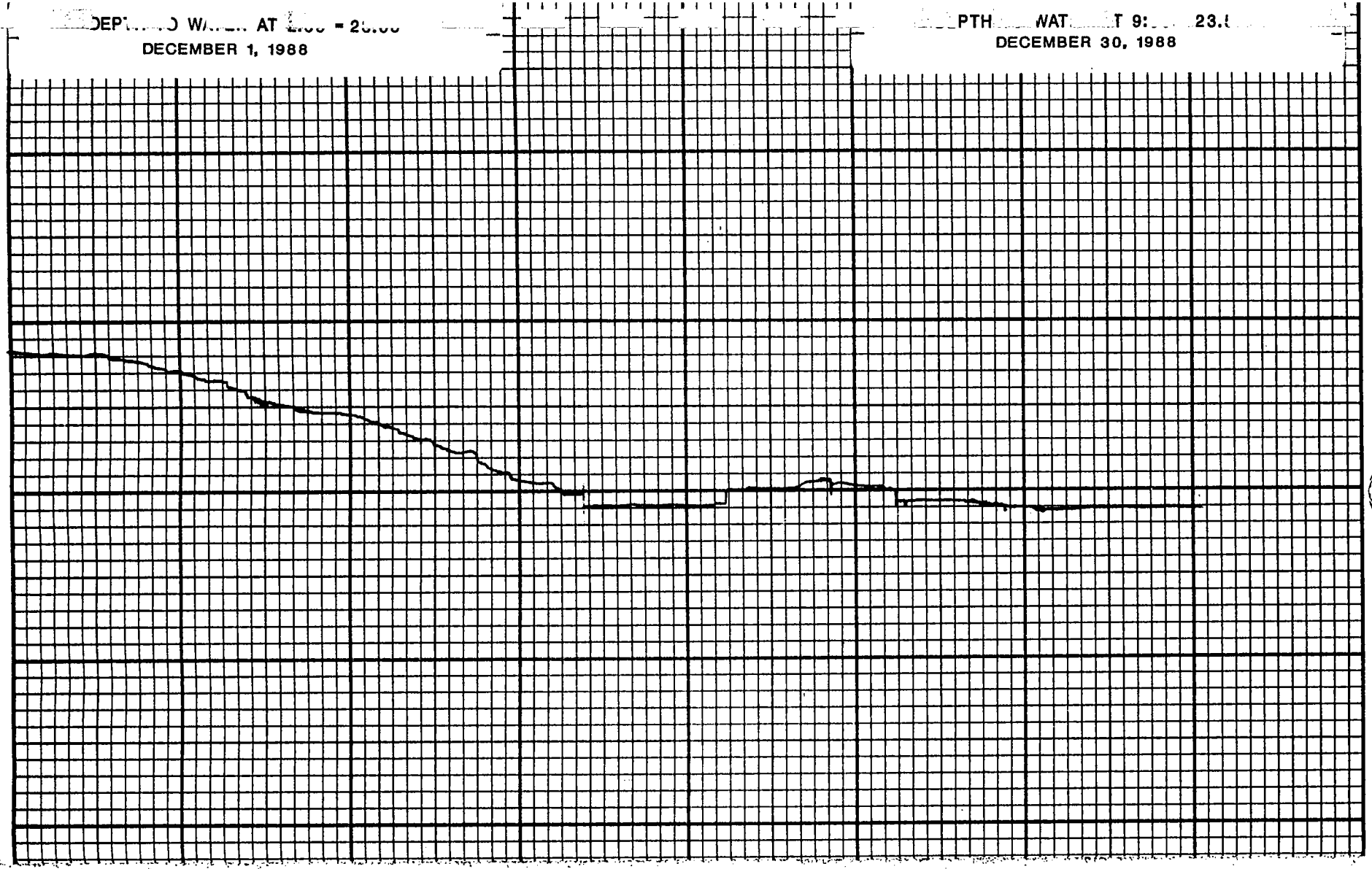


CONTINUOUS WATER LEVEL RECORDER CHART

WELL M-80

10-1-88 TO 11-2-88

Stevens Water Level Recorder — Type F
DEPTH TO WATER AT 2:00 = 23.08'
DECEMBER 1, 1988
CONTINUOUS WATER LEVEL
RECORDER CHART
WELL M-80
11-2-88 TO 12-1-88
DEPTH TO WATER AT 3:00 = 26.65'
NOVEMBER 2, 1988
Leupold & Stevens, Inc., Beaverton, Ore.



CONTINUOUS WATER LEVEL RECORDER CHART

WELL M-80

12-1-88 TO 12-30-88

APPENDIX E

CHROMIUM CONCENTRATIONS IN APPENDIX J AND INTERCEPTOR WELLS

FIGURE E-1

APPENDIX J WELL CHROMIUM CONCENTRATION

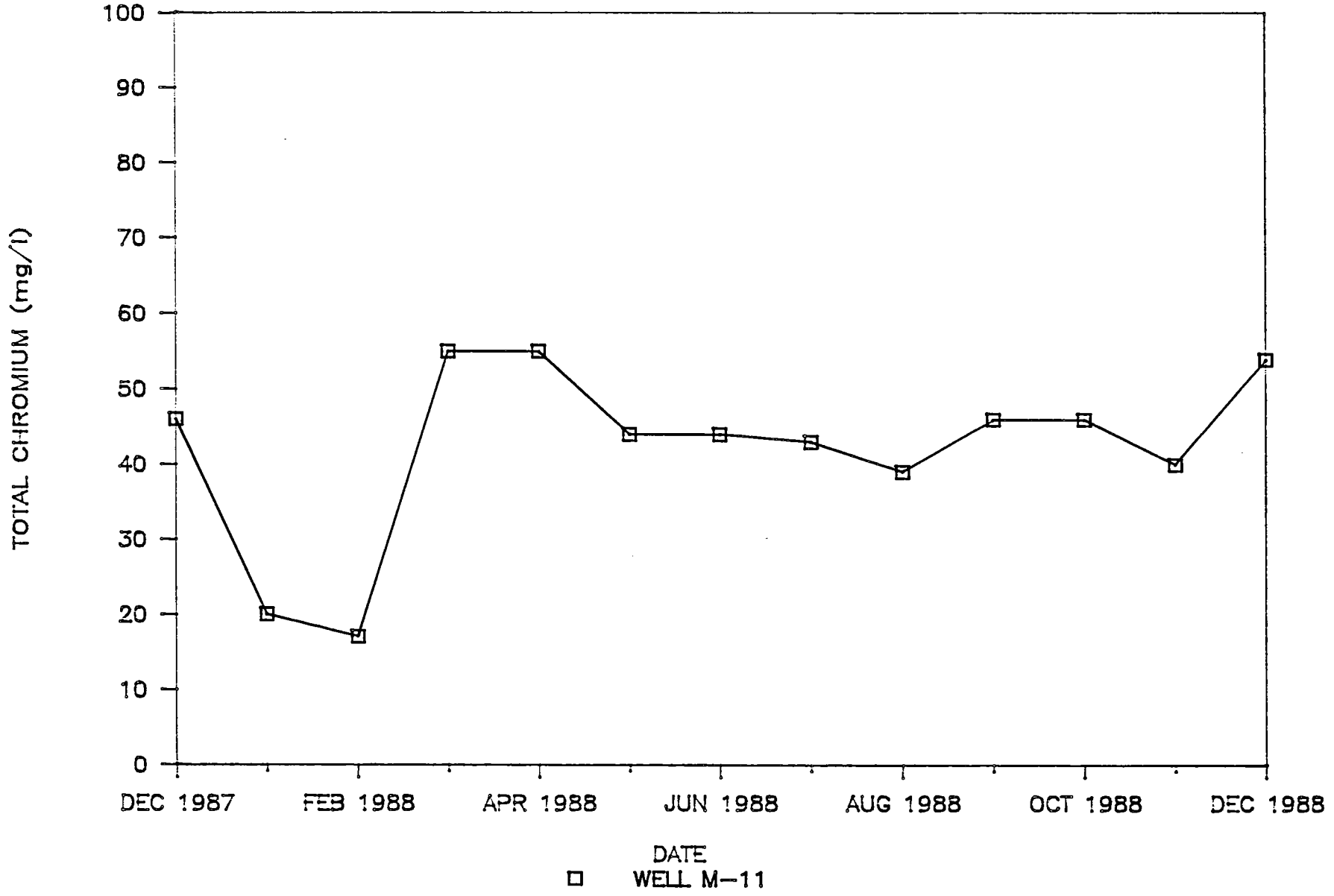


FIGURE E-2

APPENDIX J WELL CHROMIUM CONCENTRATION

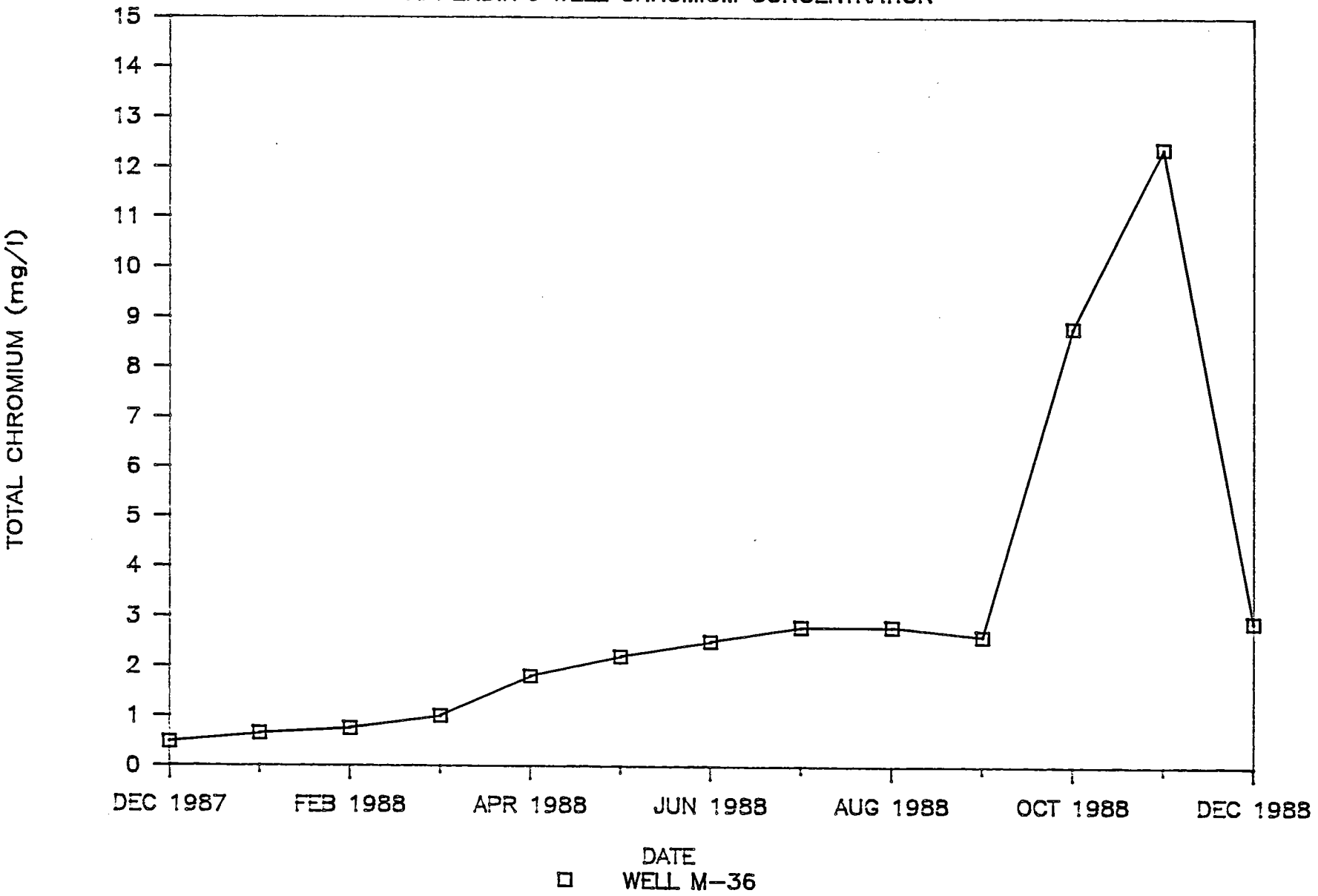


FIGURE E-3

APPENDIX J WELL CHROMIUM CONCENTRATION

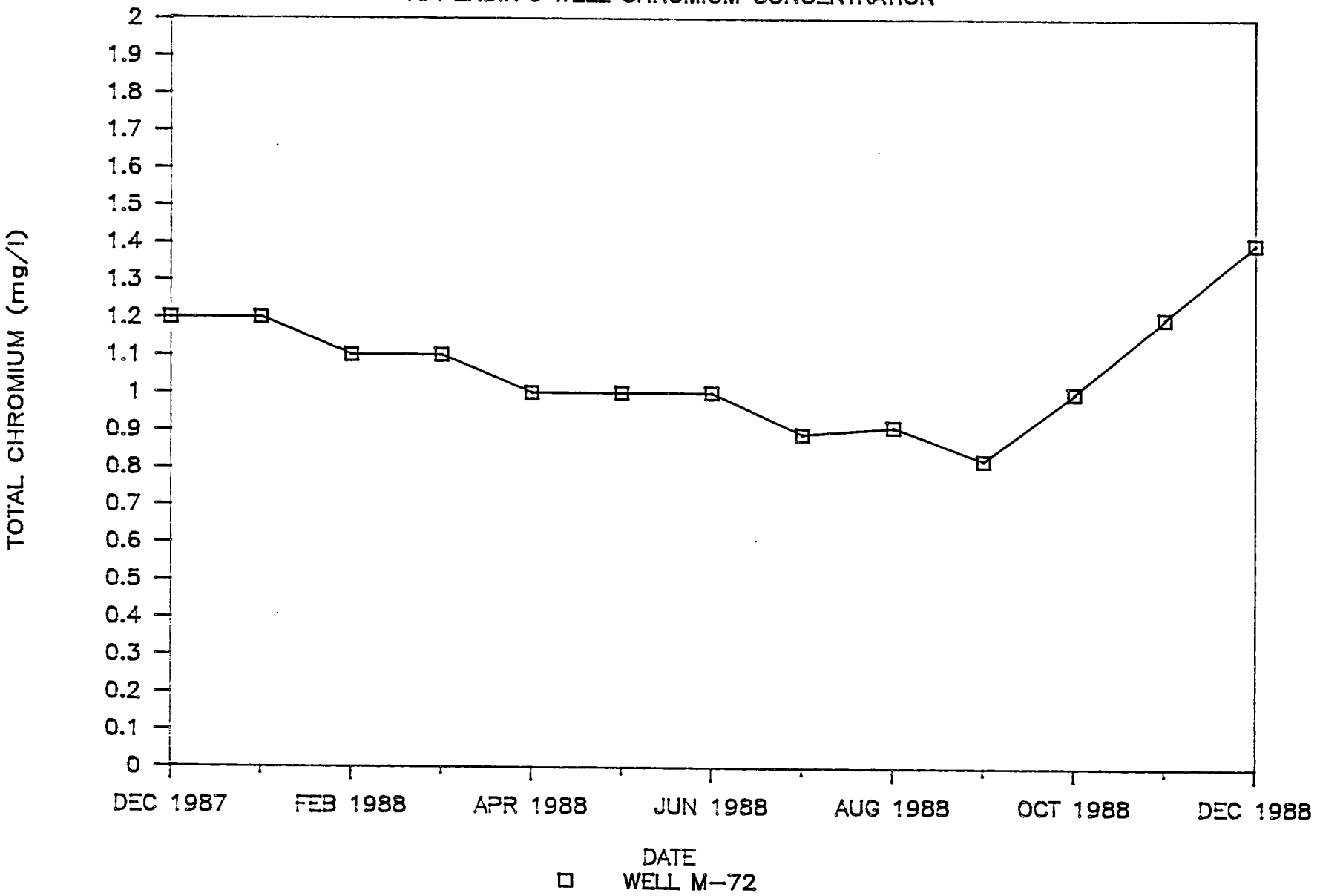


FIGURE E-4

APPENDIX J WELL CHROMIUM CONCENTRATION

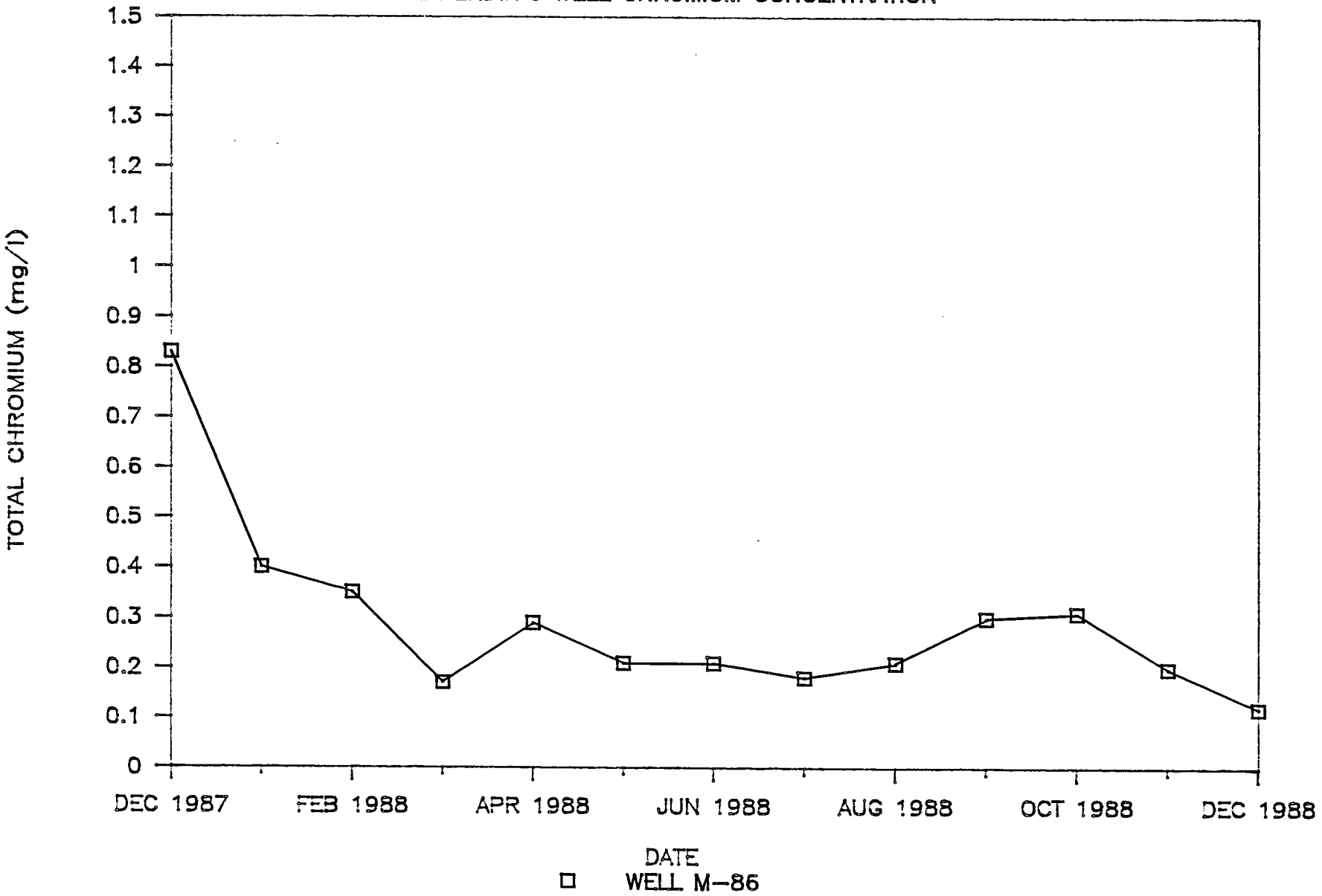


FIGURE E-5

APPENDIX J WELL CHROMIUM CONCENTRATION

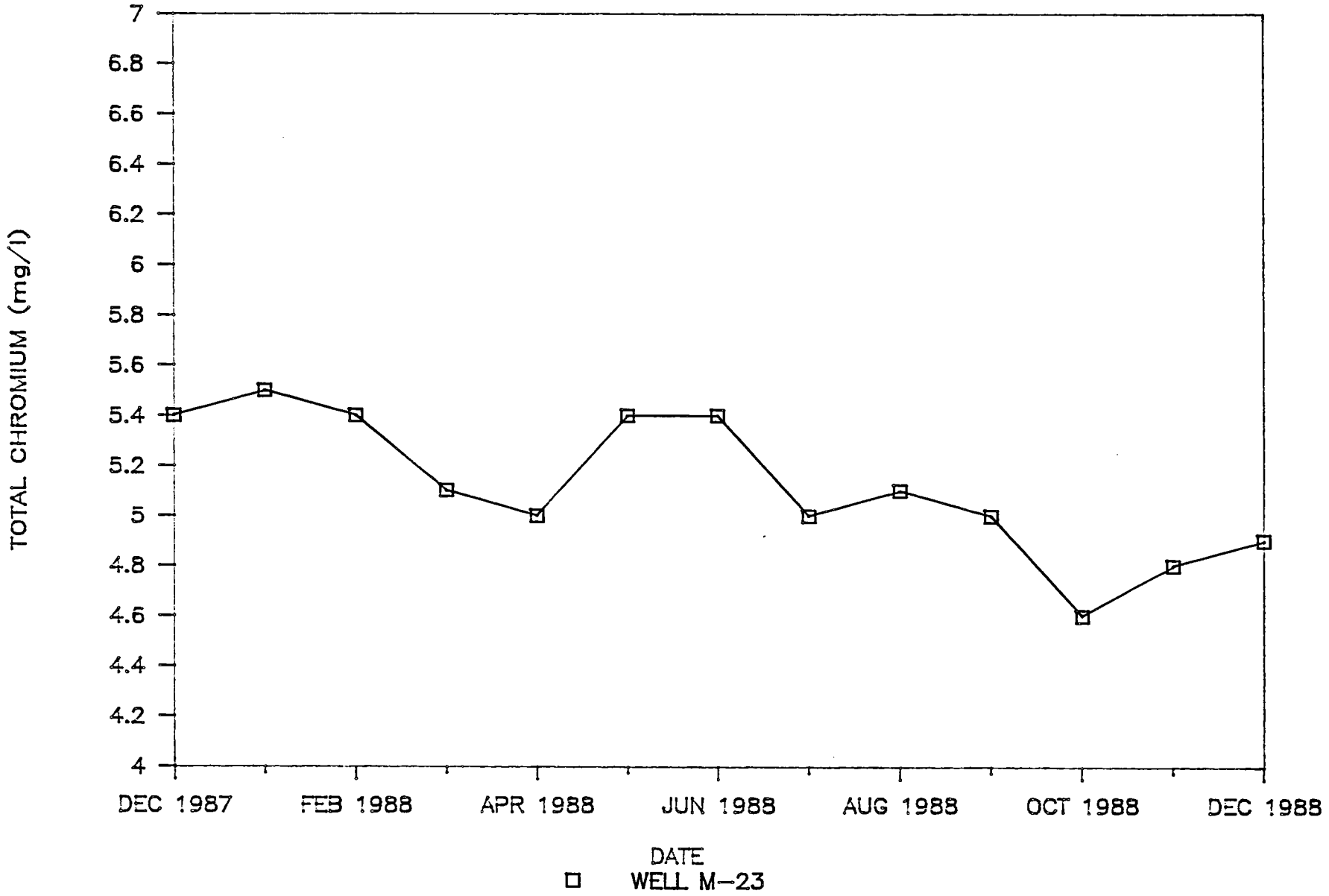
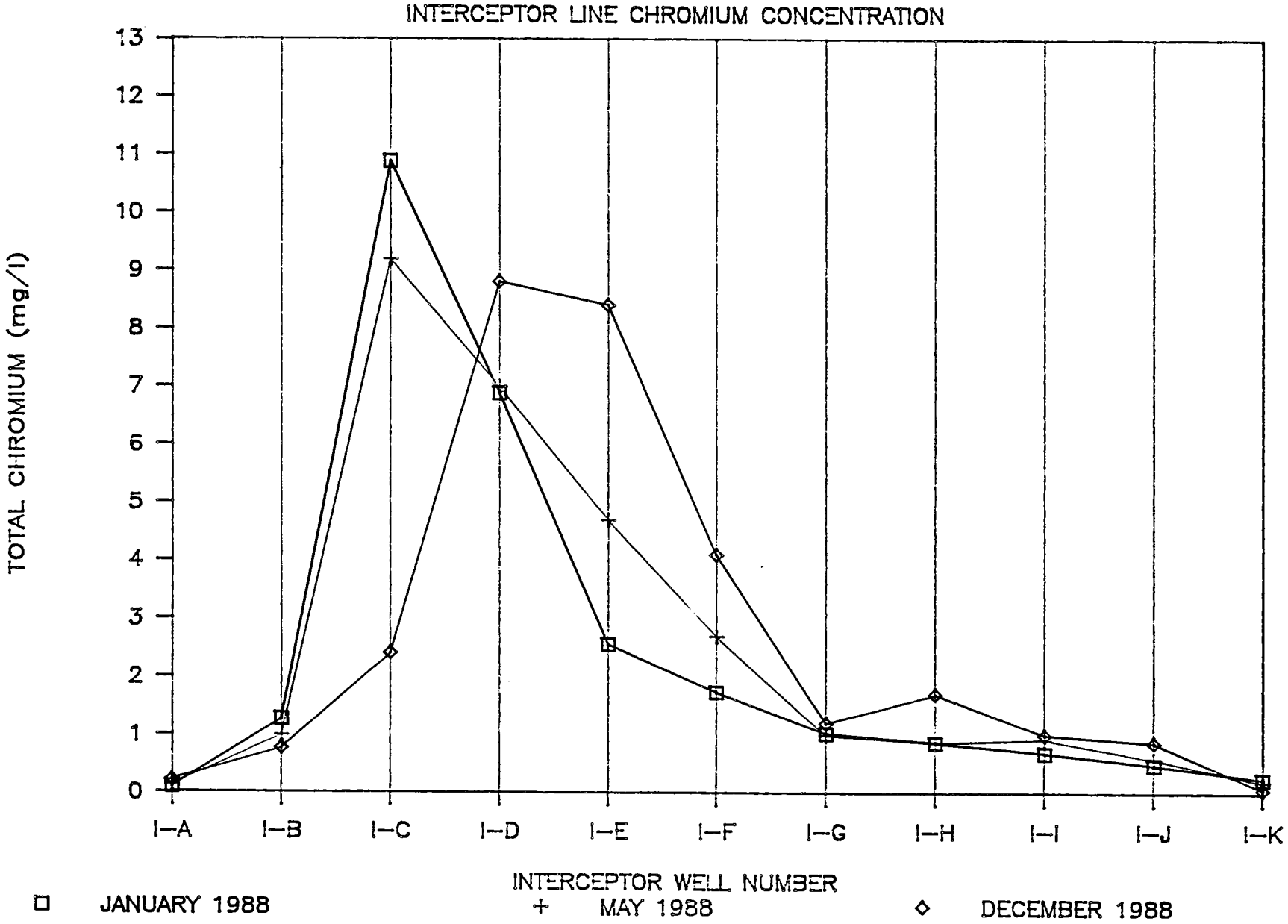


FIGURE E-6


INTERCEPTOR LINE CHROMIUM CONCENTRATION
TOTAL CHROMIUM (mg/l)
13
12
11
10
9
8
7
6
5
4
3
2
1
0
I-A
I-B
I-C
I-D
I-E
I-F
I-G
I-H
I-I
I-J
I-K
INTERCEPTOR WELL NUMBER
JANUARY 1988
MAY 1988
DECEMBER 1988