

OGLE PETROLEUM INC.

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April 20, 1981

PLEASE DIRECT REPLY TO:

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Casper, Wyoming 82601  
(307) 266-6456

Mr. Ed Francis  
Land Quality Division  
Department of Environmental Quality  
401 West Nineteenth Street  
Cheyenne, Wyoming 82002

and

Mr. Dan Martin  
Uranium Recovery Licensing Branch  
Division of Waste Management  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555



RE: License to Explore No. 38  
(terminated) and  
Permit to Mine No. 504

and

Source Material License No.  
SUA-1336, Docket No. 40-8693

SUBJECT: Special Report on Monitor  
Well Analytical Results

Gentlemen:

Ogle Petroleum Inc. (OPI) is submitting this special report on monitor well analytical results to report on conditions at horizontal excursion monitor well 303-6-M 2 (hereinafter referred to as well M 2). For a history of the problem at well M 2, please refer to the special report on monitor well analytical results dated March 25, 1981.

As stated in the March 25, 1981 report, well M 2 (see Figure 1 for location) was technically out of excursion status on March 23, 1981. At that time, the chloride level was one mg/l below its upper control limit (UCL) while the carbonate plus bicarbonate level, which showed some decline, remained above its UCL.

The analytical results from the routine bi-weekly sampling of monitor wells on April 1, 1981 indicated that well M 2 was again in an apparent horizontal (lateral) excursion. These results, received verbally on April 7, showed that the chloride level had risen to 55 mg/l (two mg/l above the UCL) and that the carbonate plus bicarbonate was still above its UCL (see Figures 2 through 9 and Table 1).

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Well Analytical Results  
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PAGE TWO


In view of the past history and data collected at well M 2, OPI elected to collect only one confirming sample rather than sampling for a seven-day period to confirm an excursion. It was felt that sampling for seven days would only aggravate the problem if well M 2 was indeed back in excursion status.

The confirmation sample was collected on April 8, 1981 and delivered to a commercial laboratory in Casper for analysis. Results from the confirmation sample were received by OPI on April 13 and showed that well M 2 was not in excursion status. The chloride value was shown to be 38 mg/l (15 mg/l below the UCL) and the carbonate plus bicarbonate value was 137 mg/l (6 mg/l above the UCL). Since an excursion was not indicated by the confirmation sample, OPI will resume monitoring well M 2 as per the normal bi-weekly sampling schedule while operating the R & D wellfield unless advised differently by the DEQ or the NRC.

Sincerely,

OGLE PETROLEUM INC.

  
\_\_\_\_\_  
Gary A. Saunders  
Environmental Engineer

  
\_\_\_\_\_  
Glenn J. Catchpole, Vice President  
and Uranium Project Manager

GAS:jm

Enclosures

CC: Tony Mancini, Water Quality Division, w/Enclosures  
Region IV, NRC, w/Enclosures  
Dr. Minton Kelly, ORNL, w/Enclosures  
Document Management Branch w/Enclosures —

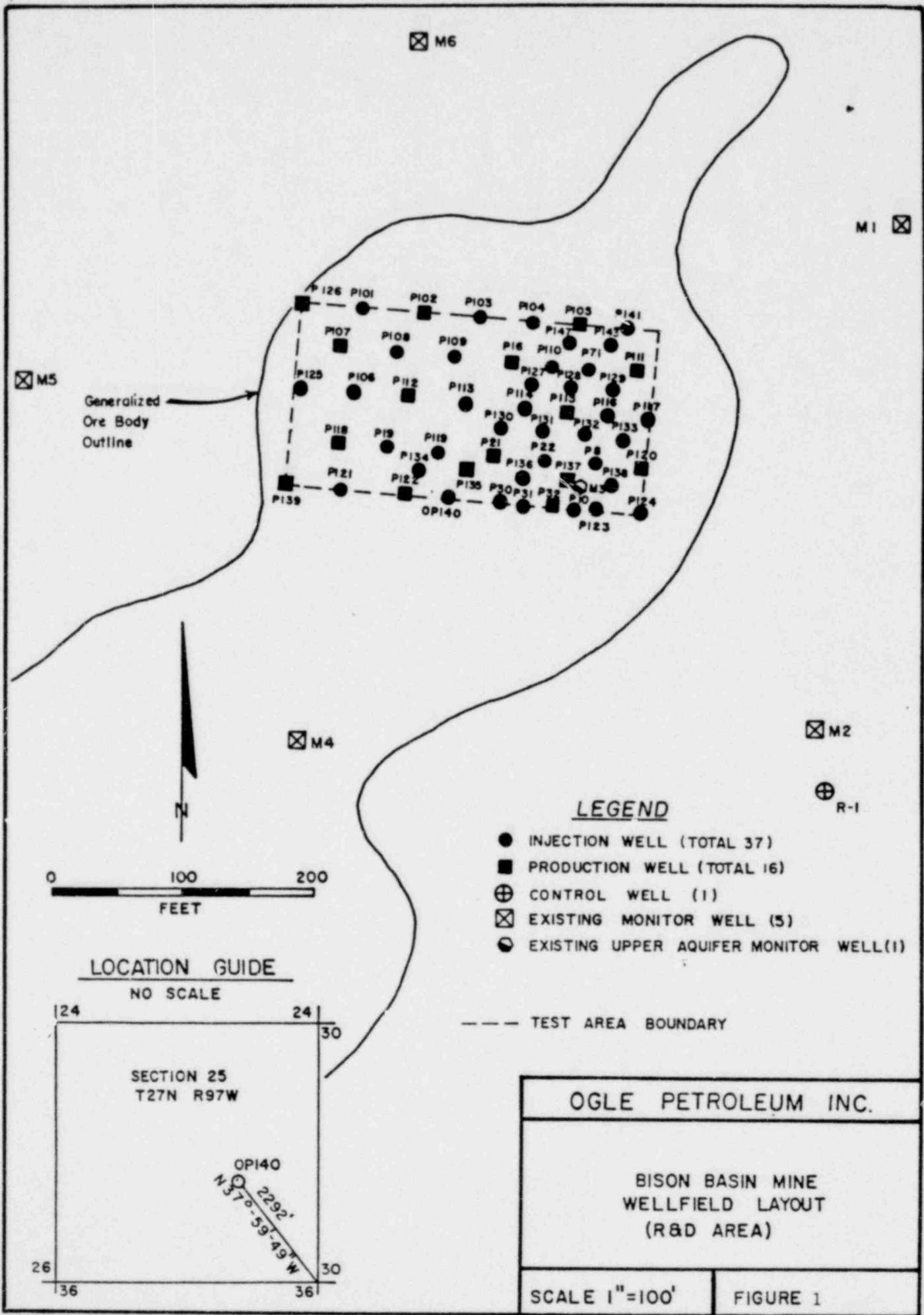
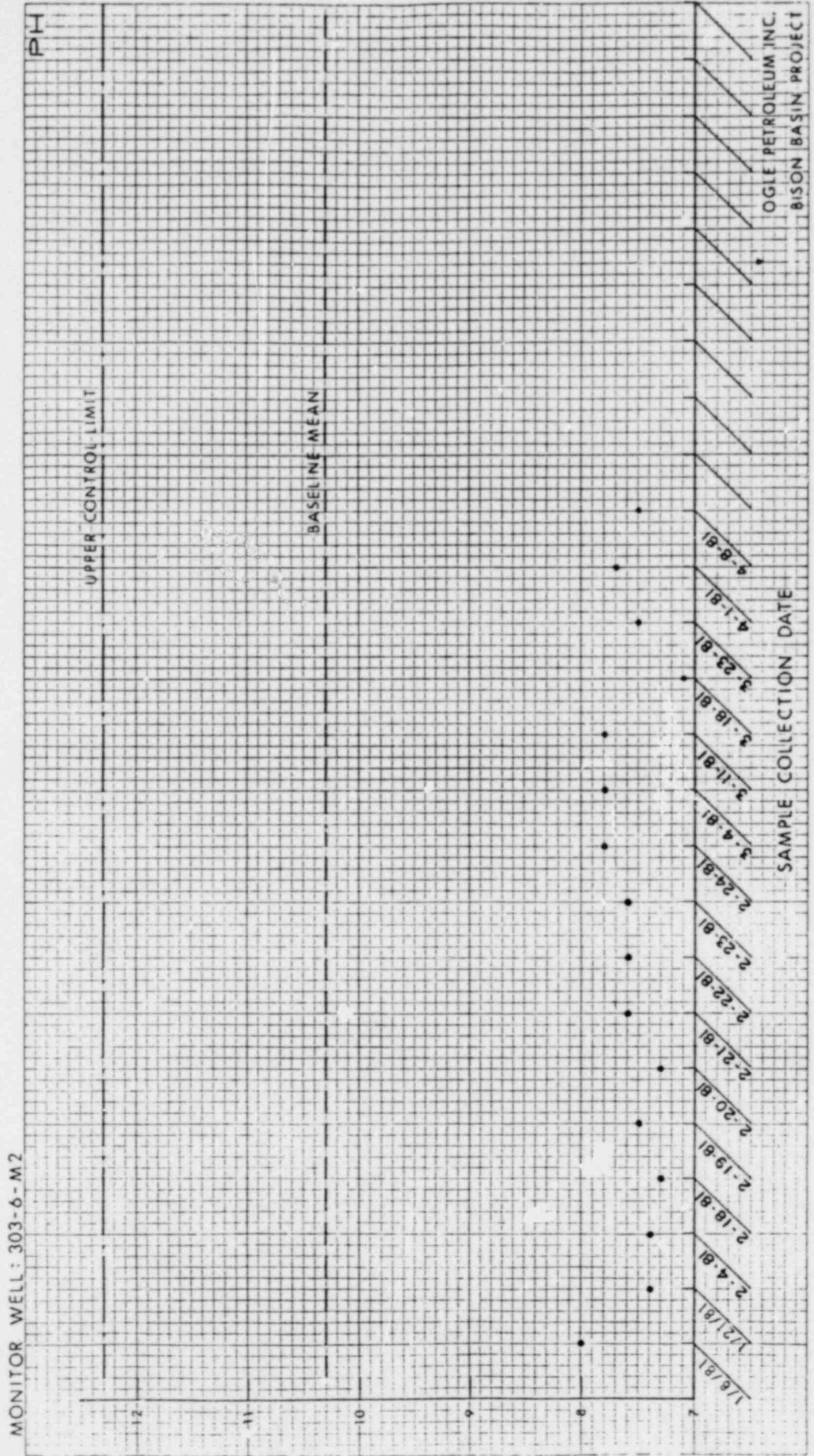


FIGURE 2

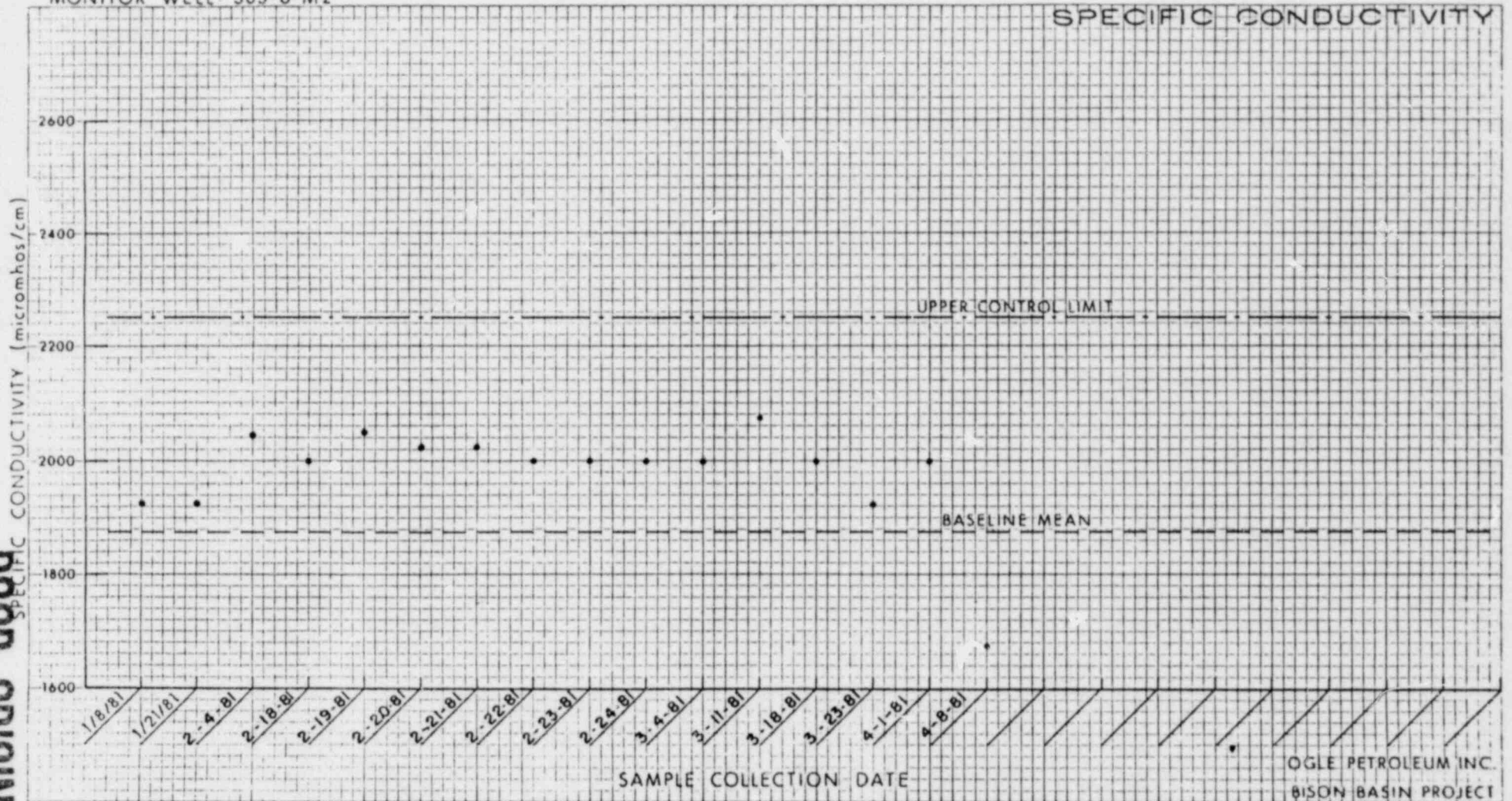


POOR ORIGINAL

FIGURE 3

MONITOR WELL: 303-6-M2

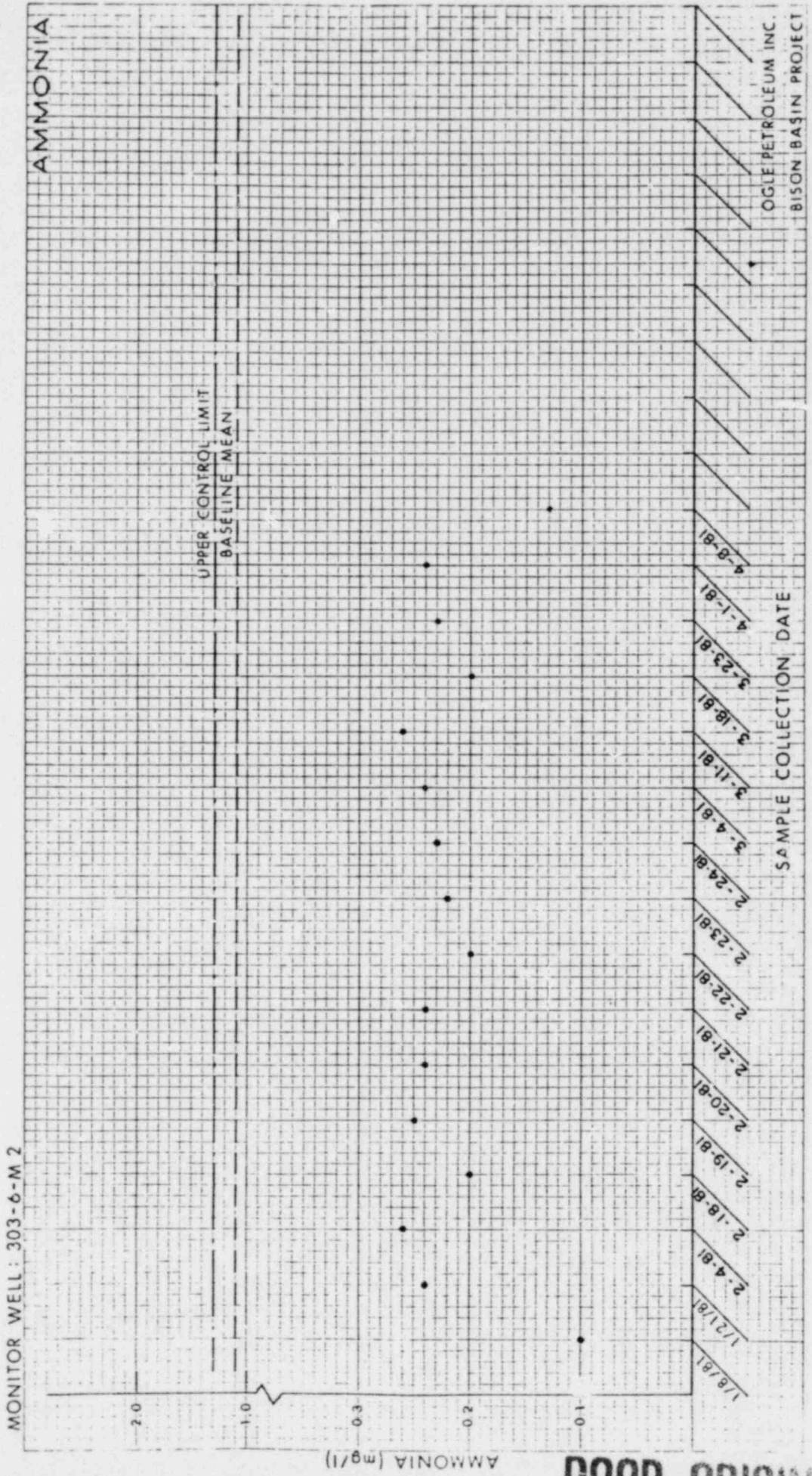
SPECIFIC CONDUCTIVITY



OGLE PETROLEUM INC.  
BISON BASIN PROJECT

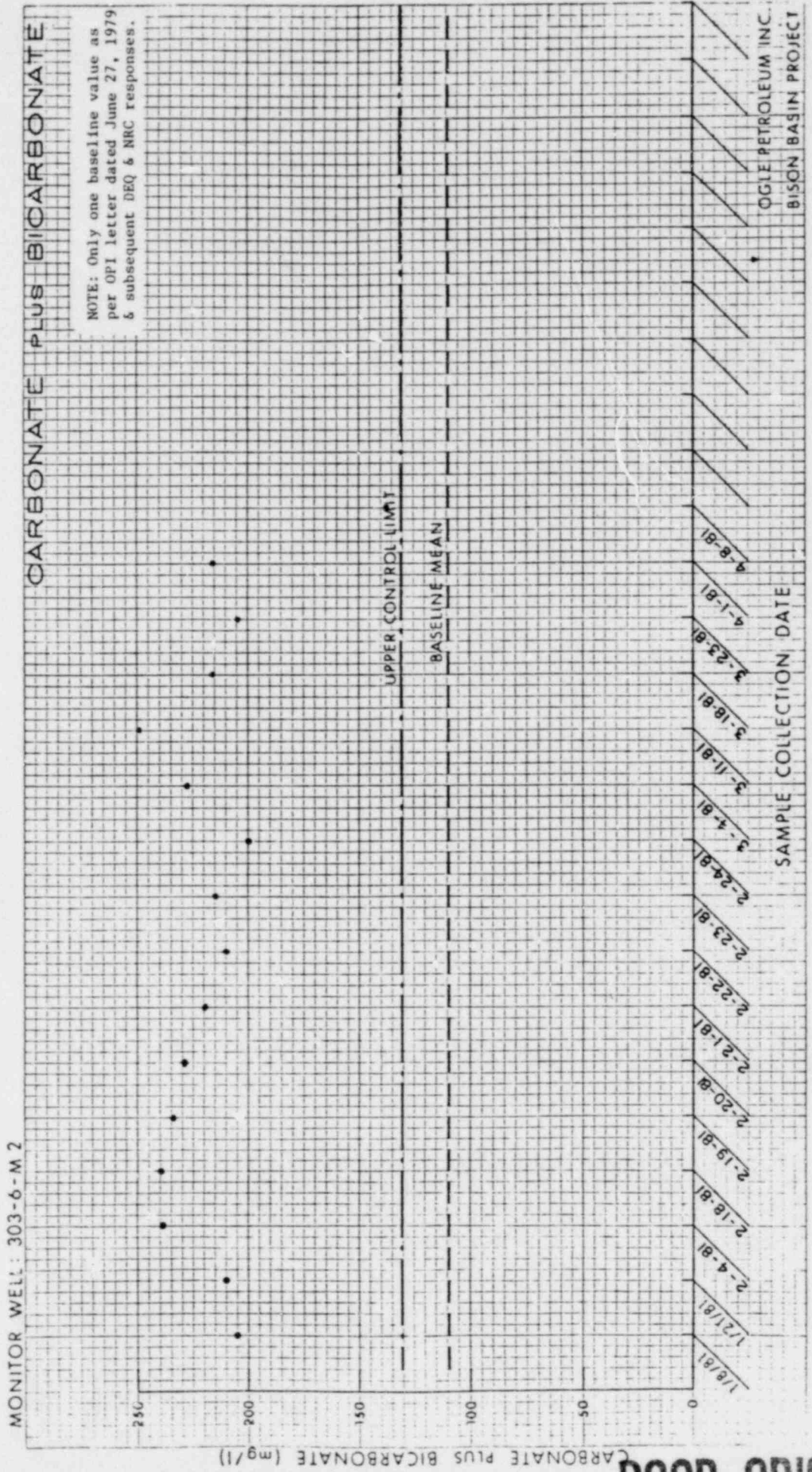
POOR ORIGINAL

FIGURE 4



POOR ORIGINAL

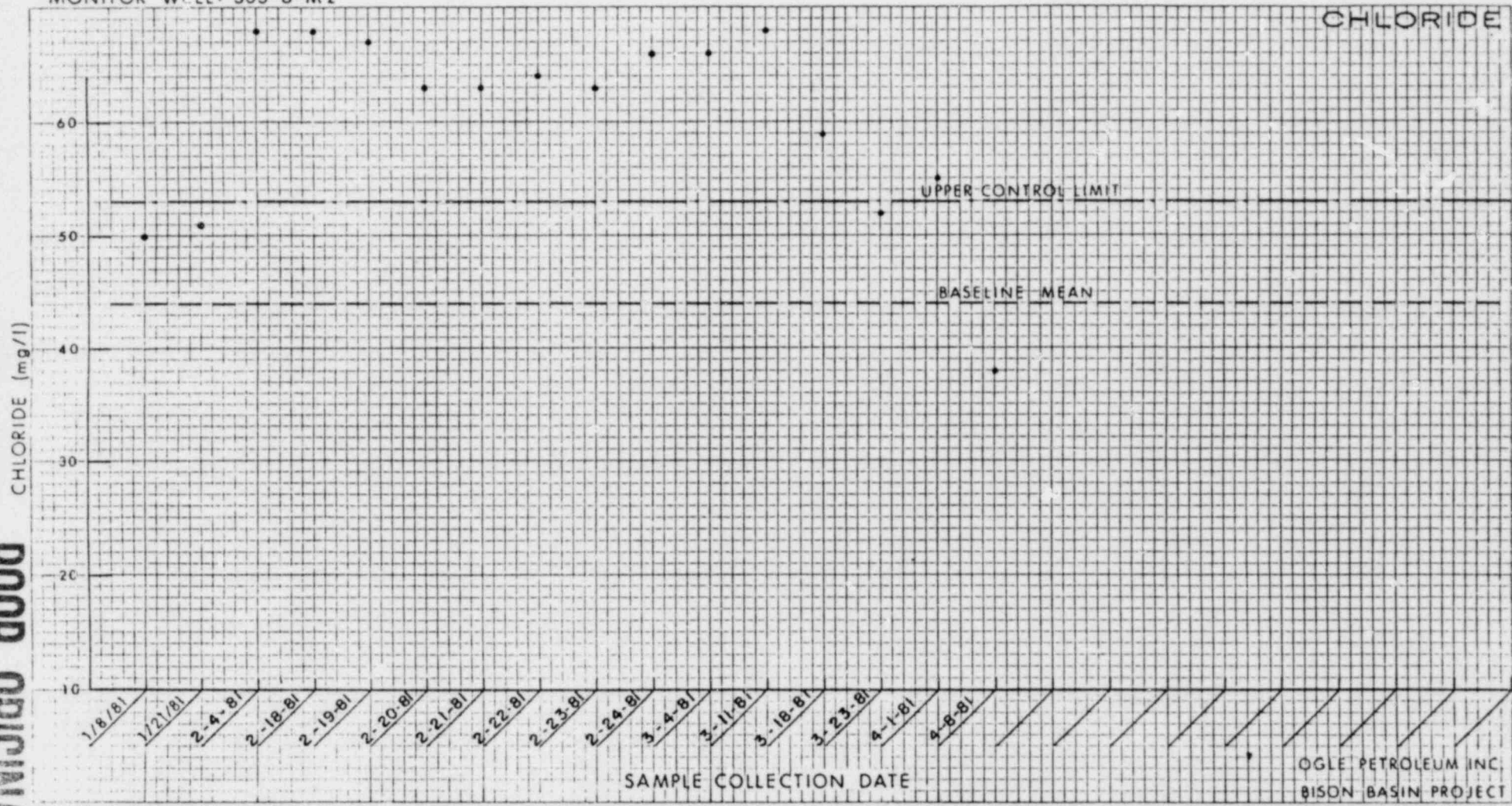
FIGURE 5



POOR ORIGINAL

FIGURE 6

MONITOR WELL: 303-6-M2

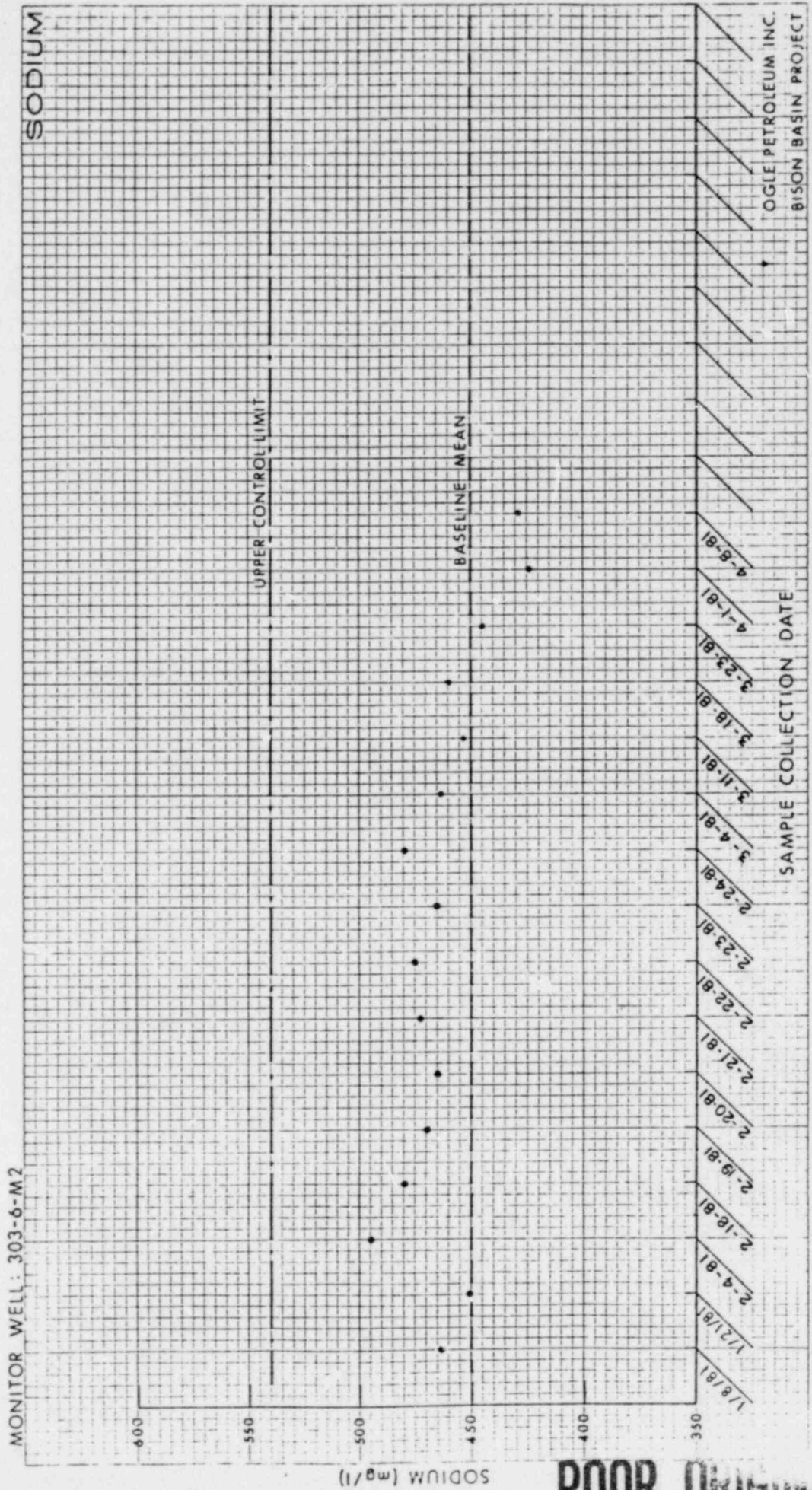


OGLE PETROLEUM INC.  
BISON BASIN PROJECT

POOR ORIGINAL

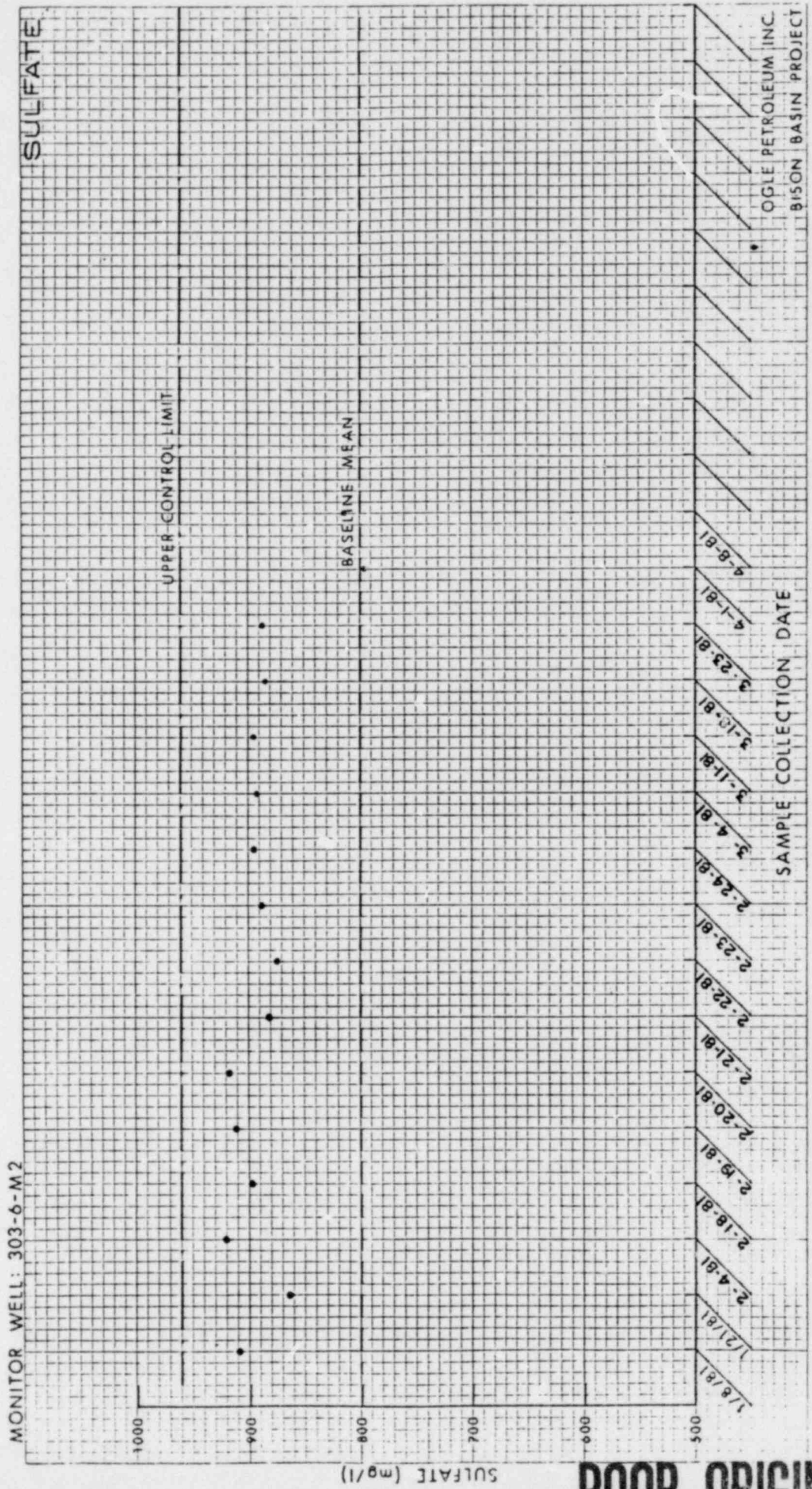


FIGURE 7



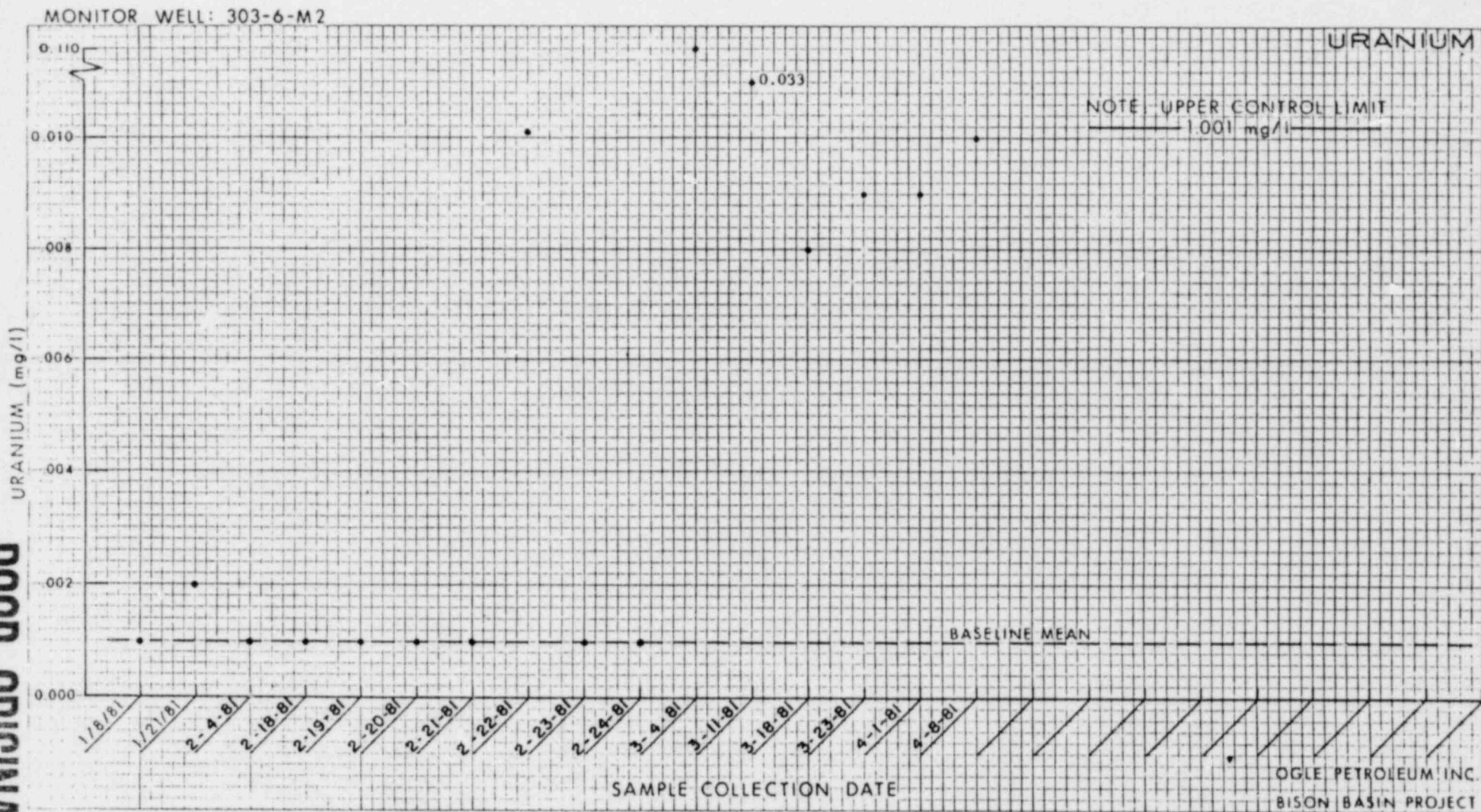
POOR ORIGINAL

FIGURE 8



POOR ORIGINAL

FIGURE 9



OGLE PETROLEUM INC.  
BISON BASIN PROJECT

POOR ORIGINAL

TABLE 1  
MONITOR WELL M 2

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE COLLECTED 01-08-81	SAMPLE COLLECTED 01-21-81	SAMPLE COLLECTED 02-04-81	SAMPLE COLLECTED 02-18-81	SAMPLE COLLECTED 02-19-81	SAMPLE COLLECTED 02-20-81	SAMPLE COLLECTED 02-21-81	SAMPLE COLLECTED 02-22-81
PH (pH units)	10.3	12.3	8.0	7.4	7.4	7.3	7.5	7.5	7.6	7.6
Total Dissolved Solids			1488		1628					
*Specific Conductance (mhos/cm)	1875	2250	1925	1925	2050	2000	2050	2025	2025	2000
*Ammonia (as N)	1.1	1.3	0.17	0.24	0.26	0.20	0.25	0.24	0.24	0.20
Nitrate (as N)			-0.01		0.01					
Nitrate (as N)			-0.01		-0.01					
Carbonate	48	58	0	0	0	0	0	0	0	0
Bicarbonate	61	73	205	210	238	241	234	229	220	210
*Carbonate+Bicarbonate <sup>1</sup>	109	131	205	210	238	241	234	229	220	210
Calcium			45		54					
*Chloride	44	53	50	51	68	68	67	63	63	64
Boron			- 1.0		- 1.0					
Fluoride			1.12		0.94					
Magnesium			11		13					
Potassium			5		7					
*Sodium	450	540	469	451	495	480	471	467	473	475
*Sulfate	802	962	910	864	922	897	912	917	883	875
Aluminum			- 0.1		- 0.1					
Arsenic			-0.01		-0.01					
Barium			-0.05		-0.05					
Cadmium			-0.01		-0.01					
Chromium			-0.05		-0.05					
Copper			-0.02		-0.02					
Iron			-0.03		0.04					
Lead			-0.05		-0.05					
Manganese			-0.01		-0.01					
Mercury			-0.001		-0.001					
Nickel			-0.04		-0.04					
Selenium			-0.01		-0.01					
Zinc			-0.01		-0.01					
Molybdenum			- 0.1		- 0.1					
Vanadium			-0.05		-0.05					
*Uranium	-0.001	1.001	-0.001	0.002	-0.001	-0.001	-0.001	-0.001	-0.001	0.011
Radium 226 (pCi/l)	2.75		N/A		N/A					
Thorium 230 (pCi/l)	6.19		N/A		N/A					

NOTES: All values in mg/l except as otherwise noted.

- Means not detected at levels indicated.

\*Excursion parameters.

<sup>1</sup>NOTE: Only one baseline value as per OPI letter dated June 27, 1979 & subsequent DEQ & NRC responses.

TABLE 1  
MONITOR WELL M 2

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE COLLECTED 02-23-81	SAMPLE COLLECTED 02-24-81	SAMPLE COLLECTED 03-04-81	SAMPLE COLLECTED 03-11-81	SAMPLE COLLECTED 03-18-81	SAMPLE COLLECTED 03-23-81	SAMPLE COLLECTED 04-01-81	SAMPLE COLLECTED 04-08-81
pH (pH units)	10.3	12.3	7.6	7.6	7.8	7.8	7.1	7.5	7.7	7.5
Total Dissolved Solids										
*Specific Conductance (mhos/cm)	1875	2250	2000	2000	2000	2075	2000	1925	2000	1675
*Ammonia (as N)	1.1	1.3	0.22	0.23	0.24	0.26	0.20	0.23	0.24	0.13
Nitrate (as N)										
Nitrate (as N)										
Carbonate	48	58	0	0	0	0	0	0	0	0
Bicarbonate	61	73	215	200	227	249	217	205	217	137
*Carbonate+Bicarbonate	109	131	215	200	227	249	217	205	217	137
Calcium										
*Chloride	44	53	63	66	66	68	59	52	55	38
Boron										
Fluoride										
Magnesium										
Potassium										
*Sodium	450	540	465	479	463	453	460	445	424	428
*Sulfate	802	962	889	895	893	894	885	889	796	815
Aluminum										
Arsenic										
Barium										
Cadmium										
Chromium										
Copper										
Iron										
Lead										
Manganese										
Mercury										
Nickel										
Selenium										
Zinc										
Molybdenum										
Vanadium										
*Uranium	-0.001	1.001	-0.001	-0.001	0.110	0.033	0.008	0.009	0.009	0.010
Radium 226 (pCi/l)	2.75									
Thorium 230 (pCi/l)	6.19									

NOTES: All values in mg/l except as otherwise noted.

- Means not detected at levels indicated.

\*Excursion parameters.