

OGLE PETROLEUM INC.

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TELEX No. 658-430

P.O. Box 5549
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SANTA BARBARA, CALIFORNIA 93108

March 3, 1981

PLEASE DIRECT REPLY TO:

150 North Nichols Avenue
Casper, Wyoming 82601
(307) 266-6456

Land Quality Division
Department of Environmental Quality
401 West Nineteenth Street
Cheyenne, Wyoming 82001

and

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



RE: Permit to Mine No. 504

and

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

SUBJECT: Quarterly Report

Gentlemen:

In accordance with the referenced licenses, Ogle Petroleum Inc. herewith submits the Quarterly Report for its pilot (R & D) in-situ uranium solution mining operation in the Bison Basin area of Wyoming. The period covered by this report is November 1, 1980 through January 31, 1981.

1. OPERATIONAL SUMMARY

During this reporting period, mining has continued in the one-acre R & D wellfield using a sodium carbonate/bicarbonate based lixiviant with oxygen being used as the primary oxidant. An additional twelve wells were completed (see Figure 1) in the one-acre test area for continued research.

During the period covered by this report, the wellfield operated at an average flow rate of 80.19 gallons per minute (gpm). The total product recovered between startup (June 24, 1980) and January 31, 1981, based on metallurgical calculations, is approximately 9,557 pounds of uranium (as U_3O_8). The average grade of uranium in the pregnant leach solution during this reporting period was 55.5 ppm.

THIS DOCUMENT CONTAINS
POOR QUALITY PAGES

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2. AVERAGE FLOW RATES TO THE PROCESSING PLANT

The average flow rates to the processing plant during this reporting period, by month, are as follows:

November, 1980	88.49 gpm
December, 1980	81.43 gpm
January, 1981	89.72 gpm

3. AVERAGE FLOW RATES TO THE POND

The average flow rates to the evaporation pond during this reporting period, by month, are as follows:

November, 1980	0.34 gpm
December, 1980	0.41 gpm
January, 1981	0.45 gpm

4. TOTAL NUMBER OF GALLONS INJECTED AND RECOVERED

The total number of gallons injected and recovered during this reporting period are as follows:

Injected	10,515,049 gallons
Recovered	10,567,858 gallons

5. WASTE VOLUMES GENERATED

The total volume of liquid waste effluent discharged to the evaporation pond during this reporting period was 52,809 gallons. The quality of the effluent is reflected in the analytical results of the monthly plant bleed samples presented in Table 1.

6. MONITOR WELL ANALYTICAL RESULTS

The analytical results of the required monitor well sampling program are presented in tabular form in Tables 2 through 8 and in graphical form on Figures 2 through 49. The locations of the monitor wells are shown on Figure 1.

7. MONITOR WELL WATER LEVELS

As required by the referenced licenses, the depth to the water surface in each monitor well was measured each time the well was sampled. These measure-

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ments were taken prior to pumping the well for the water quality sample collection. The results of these water surface measurements are presented graphically on Figures 50 through 55.


8. ENVIRONMENTAL MONITORING

During this reporting period, three 48-hour air samples were collected and analyzed for radon-222. The data for these samples are shown in Table 9. Also collected were three 24-hour air particulate samples for thorium-230, radium-226, and uranium. The data from these samples are shown in Table 10. These samples were collected at TLD stations 1, 2, and 3 which are shown on the TLD Station Location Map (Figure 56). Quarterly results from the 22 environmental TLDs are shown in Table 11 with the locations shown on Figure 56.


Please contact our Casper office if additional information concerning this report or the R & D operation is desired.

Sincerely,

OGLE PETROLEUM INC.



Gary A. Saunders
Environmental Engineer



Glenn J. Catchpole, Vice President
and Uranium Project Manager

GAS:jm

Enclosures

CC: Region IV, NRC w/Enclosures
Dr. Minton Kelly, ORNL w/Enclosures
Document Management Branch w/Enclosures ✓

TABLE 1

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PLANT BLEED WATER QUALITY

PARAMETER	SAMPLE ROUND NUMBER 1 Collected 06-01-79	SAMPLE ROUND NUMBER 2 Collected 07-06-79	SAMPLE ROUND NUMBER 3 Collected 08-03-79	SAMPLE ROUND NUMBER 4 Collected 07-24-80	SAMPLE ROUND NUMBER 5 Collected 08-21-80	SAMPLE ROUND NUMBER 6 Collected 09-18-80	SAMPLE ROUND NUMBER 7 Collected 10-30-80	SAMPLE ROUND NUMBER 8 Collected 11-25-80
Total Dissolved Solids	5278	4966	4084	3106	17008	33041	44312	39375
Specific Conductance (mhos/cm)	7150	7400	5525	3850	21700	40000	53800	46500
Uranium	32.0	21.0	6.40	0.35	28.0	44.5	24.5	22.0
Radium 226 (pCi/l)	75.6±3.22	240±4.97	492±8	3.8±1.1	48.5±2.9	526.8±6.4	368±5.9	501±7.6
Selenium	-0.01	-0.01	-0.01	-0.01	1.15	5.5	6.85	6.40
Arsenic	0.09	0.02	-0.01	0.09	0.03	0.04	- 0.01	- 0.01
Sulfate	1850	470	925	850	1785	3600	8071	9347

NOTES: All values in mg/l unless otherwise noted.

- means not detected at level indicated.

Blank space means data not yet available from commercial laboratory.

TABLE 1

Page 2 of 2

PLANT BLEED WATER QUALITY

PARAMETER	SAMPLE ROUND NUMBER 9 Collected 12-22-80	SAMPLE ROUND NUMBER 10 Collected 01-21-81	SAMPLE ROUND NUMBER 11 Collected	SAMPLE ROUND NUMBER 12 Collected	SAMPLE ROUND NUMBER 13 Collected	SAMPLE ROUND NUMBER 14 Collected	SAMPLE ROUND NUMBER 15 Collected	SAMPLE ROUND NUMBER 16 Collected
Total Dissolved Solids	45172	19124						
Specific Conductance (mhos/cm)	50000	22200						
Uranium	4.5	18.0						
Radium 226 (pCi/l)								
Selenium	8.75	2.4						
Arsenic	0.33							
Sulfate	11850	5660						

NOTES: All values in mg/l unless otherwise noted.

- means not detected at level indicated.

Blank space means data not yet available from commercial laboratory.

TABLE 2
MONITOR WELL 303-6-M 1
OPERATIONAL WATER QUALITY DATA

Page 1 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 05-15-79	SAMPLE ROUND 2 Collected 06-01-79	SAMPLE ROUND 3 Collected 06-13-79	SAMPLE ROUND 4 Collected 06-26-79	SAMPLE ROUND 5 Collected 07-10-79	SAMPLE ROUND 6 Collected 07-24-79	SAMPLE ROUND 7 Collected 08-07-79	SAMPLE ROUND 8 Collected 06-11-80	SAMPLE ROUND 9 Collected 07-10-80	SAMPLE ROUND 10 Collected 07-24-80
pH (pH units)	9.6	11.6	10.3	9.5	8.0	8.5	9.5	9.2	8.8	9.7	8.9	8.6
Total Dissolved Solids				1680		1330		1316				1386
*Specific Conductance (mhos/cm)	1860	2232	1775	1825	1825	1750	1785	1750	1775	1800	1750	1925
*Ammonia (as N)	0.31	0.37	0.31	0.38	0.32	0.31	0.1	- 0.1	- 0.1	0.22	0.19	0.17
Nitrate (as N)				1.5		4.0		0.03				-0.01
Nitrite (as N)				-0.01		-0.01		-0.01				-0.01
Carbonate	32	38	48	36	24	24		24	19	19	14	12
Bicarbonate	67	80	- 1	37	49	37		24	46	54	68	98
*Carbonate+Bicarbonate	99	118	49	73	73	61	73	48	65	73	82	110
Calcium			22	12	14	14		17				25
*Chloride	44	53	38	40	36	30	32	32	34	38	38	32
Boron				- 1.0		- 1.0		- 1.0				- 1.0
Fluoride				1.1		1.2		0.064				1.23
Magnesium				4	6	6		9				9
Potassium				9	9	9		9				9
*Sodium	441	529	434	443	430	438	424	420	436	419	415	409
*Sulfate	845	1014	815	795	800	851	812	825	805	798	835	831
Aluminum				0.10		-0.05		-0.05				-0.01
Arsenic				-0.01		-0.01		-0.01				-0.01
Barium				-0.05		-0.05		-0.05				-0.05
Cadmium				-0.002		-0.002		-0.002				-0.01
Chromium				-0.01		-0.01		-0.01				-0.05
Copper				-0.01		-0.01		-0.01				-0.02
Iron				0.01		0.01		-0.01				-0.03
Lead				-0.05		-0.05		-0.05				-0.05
Manganese				-0.01		-0.01		-0.01				-0.01
Mercury				-0.001		-0.001		-0.001				-0.001
Nickel				-0.04		-0.04		-0.04				-0.04
Selenium				-0.01		-0.01		-0.01				-0.01
Zinc				-0.01		0.02		-0.01				-0.01
Molybdenum				-0.05		-0.05		-0.05				- 0.1
Vanadium						0.05		-0.05				-0.05
*Uranium	0.004	1.004	0.006	0.001	0.002	0.002	0.007	0.001	0.003	-0.001	0.035	0.002
Radium 226 (pCi/l)	1.13				1.71±0.28	3.36±0.63		1.17±0.25				1.0±2.8
Thorium 230 (pCi/l)	2.40				8.32±2.29	4.51±4.55		8.78±3.17				0.0±1.2

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 2
MONITOR WELL 303-6-M 1
OPERATIONAL WATER QUALITY DATA

Page 2 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 11 Collected 08-07-80	SAMPLE ROUND 12 Collected 08-21-80	SAMPLE ROUND 13 Collected 09-04-80	SAMPLE ROUND 14 Collected 09-18-80	SAMPLE ROUND 15 Collected 10-02-80	SAMPLE ROUND 16 Collected 10-16-80	SAMPLE ROUND 17 Collected 10-30-80	SAMPLE ROUND 18 Collected 11-13-80	SAMPLE ROUND 19 Collected 11-25-80	SAMPLE ROUND 20 Collected 12-11-80
pH (pH units)	9.6	11.6	8.4	8.2	8.5	8.5	7.7	8.3	8.3	7.9	7.9	8.4
Total Dissolved Solids				1366		1384		1404		1352		1390
*Specific Conductance (mhos/cm)	1860	2232	1800	1755	1755	1755	1755	1825	1775	1750	1775	1775
*Ammonia (as N)	0.31	0.37	0.22	0.25	0.21	0.22	0.20	0.15	0.19	0.15	0.23	0.20
Nitrate (as N)				0.31		0.01		-0.01		-0.01		-0.01
Nitrite (as N)				-0.01		-0.01		-0.01		-0.01		-0.01
Carbonate	32	38	0	17	7	17	0	0	10	0	0	7
Bicarbonate	67	80	124	98	107	95	107	117	107	124	128	122
*Carbonate+Bicarbonate	99	118	124	115	114	112	107	117	117	124	128	129
Calcium				27		33		30		35		33
*Chloride	44	53	30	30	29	30	30	30	29	32	31	23
Boron				- 1.0		- 1.0		- 1.0		- 1.0		1.4
Fluoride				1.08		1.04		1.07		1.03		1.10
Magnesium				10		9		10		9		8
Potassium				8		11		7		7		3
*Sodium	441	529	408	450	419	414	403	405	420	410	417	410
*Sulfate	845	1014	825	882	866	899	843	875	856	844	846	809
Aluminum				-0.01		-0.01		-0.10		-0.10		- 0.1
Arsenic				-0.01		-0.01		-0.01		-0.01		-0.01
Barium				-0.05		-0.05		-0.05		-0.05		-0.05
Cadmium				-0.01		-0.01		-0.01		-0.01		-0.01
Chromium				-0.05		-0.05		-0.01		-0.05		-0.05
Copper				-0.02		-0.02		-0.02		-0.02		-0.02
Iron				0.11		0.06		-0.03		-0.03		-0.03
Lead				-0.05		-0.05		-0.05		-0.05		-0.05
Manganese				-0.01		-0.01		-0.01		-0.01		-0.01
Mercury				-0.001		-0.001		-0.001		-0.001		-0.001
Nickel				-0.04		-0.04		-0.04		-0.04		-0.04
Selenium				0.01		-0.01		-0.01		-0.01		-0.01
Zinc				-0.01		-0.01		-0.01		0.01		-0.01
Molybdenum				-0.10		- 1.0		-0.10		-0.10		-0.10
Vanadium				-0.05		-0.05		-0.05		-0.05		-0.05
*Uranium	0.004	1.004	0.008	0.005	-0.001	-0.001	-0.001	-0.001	0.004	0.001	0.003	0.002
Radium 226 (pCi/l)	1.13			1.9±0.6		1.4±0.4		1.4±0.7		2.5±0.7		0.15±0.41
Thorium 230 (pCi/l)	2.40			3.2±2.4		5.4±2.3	*	3.7±3.2		1.8±1.3		0.22±2.4

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 2
MONITOR WELL 303-6-M 1
OPERATIONAL WATER QUALITY DATA

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PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 21 Collected 12-22-80	SAMPLE ROUND 22 Collected 01-08-81	SAMPLE ROUND 23 Collected 01-21-81	SAMPLE ROUND 24 Collected	SAMPLE ROUND 25 Collected	SAMPLE ROUND 26 Collected	SAMPLE ROUND 27 Collected	SAMPLE ROUND 28 Collected	SAMPLE ROUND 29 Collected	SAMPLE ROUND 30 Collected
pH (pH units)	9.6	11.6	8.7	8.5	8.2							
Total Dissolved Solids				1344								
*Specific Conductance (mhos/cm)	1860	2232	1900	1750	1775							
*Ammonia (as N)	0.31	0.37	0.17	0.16	0.20							
Nitrate (as N)				-0.01								
Nitrite (as N)				-0.01								
Carbonate	32	38	10	17	10							
Bicarbonate	67	80	100	100	110							
*Carbonate+Bicarbonate	99	118	110	117	120							
Calcium				33								
*Chloride	44	53	32	30	30							
Boron				- 1.0								
Fluoride				1.26								
Magnesium				8								
Potassium				5								
*Sodium	441	529	438	415	411							
*Sulfate	845	1014	872	838	832							
Aluminum				- 0.1								
Arsenic				-0.01								
Barium				-0.05								
Cadmium				-0.01								
Chromium				-0.05								
Copper				-0.02								
Iron				-0.03								
Lead				-0.05								
Manganese				-0.01								
Mercury				-0.001								
Nickel				-0.04								
Selenium				-0.01								
Zinc				-0.04								
Molybdenum				- 0.1								
Vanadium				-0.05								
*Uranium	0.004	1.004	-0.001	-0.001	0.003							
Radium 226 (pCi/l)	1.13			N/A								
Thorium 230 (pCi/l)	2.40			N/A								

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 3
MONITOR WELL 303-6-M 2
OPERATIONAL WATER QUALITY DATA

Page 1 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 05-15-79	SAMPLE ROUND 2 Collected 06-01-79	SAMPLE ROUND 3 Collected 06-12-79	SAMPLE ROUND 4 Collected 06-26-79	SAMPLE ROUND 5 Collected 07-10-79	SAMPLE ROUND 6 Collected 07-24-79	SAMPLE ROUND 7 Collected 08-07-79	SAMPLE ROUND 8 Collected 06-11-80	SAMPLE ROUND 9 Collected 07-10-80	SAMPLE ROUND 10 Collected 07-24-80
pH (pH units)	10.3	12.3	9.1	8.5	8.5	8.4	8.8	8.8	8.7	9.0	8.3	8.5
Total Dissolved Solids				1508		1370		1354				1406
*Specific Conductance (mhos/cm)	1875	2250	1775	1820	1850	1775	1785	1750	1850	1800	1850	1775
*Ammonia (as N)	1.1	1.3	0.24	- 0.1	- 0.1	0.12	0.1	-0.01	- 0.1	-0.10	0.18	0.22
Nitrate (as N)				1.5		5.6		0.03				-0.01
Nitrite (as N)				-0.01		-0.01		-0.01				-0.01
Carbonate	44	53	24	12	24	24		24	22	7	12	7
Bicarbonate	15	18	85	110	85	61		85	95	83	83	88
*Carbonate+Bicarbonate	109	131	109	122	109	85	109	109	117	90	95	95
Calcium			32	27	28	27		21				23
*Chloride	44	53	40	38	36	30	30	34	32	34	24	30
Boron				- 1.0		- 1.0		- 1.0				- 1.0
Fluoride				1.0		1.3		0.66				1.06
Magnesium				7	7	9		6				10
Potassium				8	8	8		8				9
*Sodium	450	540	428	429	434	417	430	417	436	415	412	411
*Sulfate	802	962	827	880	810	809	823	833	850	812	848	851
Aluminum				0.09		-0.05		-0.05				- 0.1
Arsenic				-0.01		-0.01		-0.01				-0.01
Barium				-0.05		-0.05		-0.05				-0.05
Cadmium				-0.002		-0.002		-0.002				-0.01
Chromium				-0.01		-0.01		-0.01				-0.05
Copper				-0.01		-0.01		-0.01				-0.02
Iron				0.01		0.03		-0.01				-0.03
Lead				-0.05		-0.05		-0.05				-0.05
Manganese				-0.01		-0.01		-0.01				-0.01
Mercury				-0.001		-0.001		-0.001				- 0.001
Nickel				-0.04		-0.04		-0.04				-0.04
Selenium				-0.01		-0.01		-0.01				-0.01
Zinc				-0.01		0.02		-0.01				-0.01
Molybdenum				-0.05		-0.05		-0.05				- 0.1
Vanadium				-0.05		-0.05		-0.05				-0.05
*Uranium	0.001	1.001	0.007	-0.001	0.002	-0.001	0.002	-0.001	0.003	-0.001	-0.001	-0.001
Radium 226 (pCi/l)	2.75				5.58±0.51	2.54±0.42		2.36±0.29				0.93±0.29
Thorium 230 (pCi/l)	6.19				9.61±5.25	1.80±2.49		0.43±0.99				0.10±3.2

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 2
MONITOR WELL 303-6-M 2
OPERATIONAL WATER QUALITY DATA

Page 2 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 11 Collected 08-07-80	SAMPLE ROUND 12 Collected 08-21-80	SAMPLE ROUND 13 Collected 09-04-80	SAMPLE ROUND 14 Collected 09-18-80	SAMPLE ROUND 15 Collected 10-02-80	SAMPLE ROUND 16 Collected 10-16-80	SAMPLE ROUND 17 Collected 10-30-80	SAMPLE ROUND 18 Collected 11-13-80	SAMPLE ROUND 19 Collected 11-25-80	SAMPLE ROUND 20 Collected 12-11-80
pH (pH units)	10.3	12.3	8.1	8.1	8.3	8.3	8.1	8.0	8.2	8.0	7.9	7.8
Total Dissolved Solids				1360		1390		1420		1394		1538
*Specific Conductance (mhos/cm)	1875	2250	1750	1825	1775	1775	1750	1750	1775	1850	1875	1925
*Ammonia (as N)	1.1	1.3	0.22	0.22	0.21	0.22	0.18	0.15	0.18	0.16	0.22	0.18
Nitrate (as N)				0.45		-0.01		-0.01		0.02		-0.01
Nitrite (as N)				-0.01		-0.01		-0.01		-0.01		-0.01
Carbonate	44	53	0	0	5	0	0	0	0	0	0	0
Bicarbonate	15	18	127	115	107	117	112	112	115	112	166	198
*Carbonate+Bicarbonate	109	131	127	115	112	117	112	112	115	112	166	198
Calcium				28		35		32		32		45
*Chloride	44	53	18	28	29	33	30	30	32	36	41	48
Boron				- 1.0		- 1.0		- 1.0		- 1.0		- 1.0
Fluoride				1.03		1.03		1.03		0.96		1.02
Magnesium				10		9		9		9		10
Potassium				8		11		8		7		3
*Sodium	450	540	414	388	425	428	412	402	425	431	449	444
*Sulfate	802	962	849	799	882	932	853	882	881	865	863	833
Aluminum				-0.01		-0.10		-0.10		-0.10		-0.10
Arsenic				-0.01		-0.01		-0.01		-0.01		-0.01
Barium				-0.05		-0.05		-0.05		-0.05		-0.05
Cadmium				-0.01		-0.01		-0.01		-0.01		-0.01
Chromium				-0.05		-0.04		-0.01		-0.05		-0.05
Copper				-0.02		-0.02		-0.02		-0.02		-0.02
Iron				0.07		-0.03		-0.03		-0.03		-0.03
Lead				-0.05		-0.05		-0.05		-0.05		-0.05
Manganese				-0.01		-0.01		-0.01		-0.01		-0.01
Mercury				-0.001		-0.001		-0.001		-0.001		-0.001
Nickel				-0.04		-0.04		-0.04		-0.04		-0.04
Selenium				0.01		0.01		-0.01		0.01		-0.01
Zinc				0.03		-0.01		-0.01		-0.01		-0.01
Molybdenum				-0.10		-0.10		-0.10		-0.10		-0.10
Vanadium				-0.05		-0.05		-0.05		-0.05		-0.05
*Uranium	-0.001	1.001	0.004	0.001	-0.001	-0.001	0.002	0.002	-0.001	0.002	0.001	0.008
Radium 226 (pCi/l)	2.75			1.6±0.8		1.6±0.39		1.1±0.7		0.6±0.7		3.4±0.7
Thorium 230 (pCi/l)	6.19			0.6±1.6		3.1±5.8		2.4±1.7		6.7±2.6		2.0±1.7

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 3
MONITOR WELL 303-6-M 2
OPERATIONAL WATER QUALITY DATA

Page 3 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 21 Collected 12-22-80	SAMPLE ROUND 22 Collected 01-08-81	SAMPLE ROUND 23 Collected 01-21-81	SAMPLE ROUND 24 Collected	SAMPLE ROUND 25 Collected	SAMPLE ROUND 26 Collected	SAMPLE ROUND 27 Collected	SAMPLE ROUND 28 Collected	SAMPLE ROUND 29 Collected	SAMPLE ROUND 30 Collected
pH (pH units)	10.3	12.3	8.3	8.0	7.4							
Total Dissolved Solids				1488								
*Specific Conductance (mhos/cm)	1875	2250	2050	1925	1925							
*Ammonia (as N)	1.1	1.3	0.19	0.17	0.24							
Nitrate (as N)				-0.01								
Nitrite (as N)				-0.01								
Carbonate	44	53	0	0	0							
Bicarbonate	15	18	183	205	210							
*Carbonate+Bicarbonate	109	131	183	205	210							
Calcium				45								
*Chloride	44	53	47	50	51							
Boron				- 1.0								
Fluoride				1.12								
Magnesium				11								
Potassium				5								
*Sodium	450	540	459	469	451							
*Sulfate	802	962	935	910	864							
Aluminum				- 0.1								
Arsenic				-0.01								
Barium				-0.05								
Cadmium				-0.01								
Chromium				-0.05								
Copper				-0.02								
Iron				-0.03								
Lead				-0.05								
Manganese				-0.01								
Mercury				-0.001								
Nickel				-0.04								
Selenium				-0.01								
Zinc				-0.01								
Molybdenum				- 0.1								
Vanadium				-0.05								
*Uranium	-0.001	1.001	-0.001	-0.001	0.002							
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.

TABLE 4
MONITOR WELL 303-6-M 3
OPERATIONAL WATER QUALITY DATA

Page 1 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 05-15-79	SAMPLE ROUND 2 Collected 05-30-79	SAMPLE ROUND 3 Collected 06-13-79	SAMPLE ROUND 4 Collected 06-27-79	SAMPLE ROUND 5 Collected 07-10-79	SAMPLE ROUND 6 Collected 07-24-79	SAMPLE ROUND 7 Collected 08-07-79	SAMPLE ROUND 8 Collected 06-11-80	SAMPLE ROUND 9 Collected 07-10-80	SAMPLE ROUND 10 Collected 07-24-80
pH (pH units)	8.4	10.4	8.6	8.4	8.2	8.3	8.1	8.1	8.1	8.2	8.2	8.1
Total Dissolved Solids	1866			1946		1818		1804				1730
*Specific Conductance (mhos/cm)	2225	2670	2275	2250	2325	2225	2350	2250	2225	2050	2150	2250
*Ammonia (as N)	1.13	1.37	0.24	- 0.1	- 0.1	0.14	0.1	- 0.1	- 0.1	0.17	0.22	0.18
Nitrate (as N)				1.9		3.6		0.03				-0.01
Nitrite (as N)				-0.01		-0.01		-0.01				-0.01
Carbonate	12	14	12	24	12	12		0	0	0	5	0
Bicarbonate	98	118	85	73	85	85		110	110	127	105	124
*Carbonate+Bicarbonate	110	132	97	97	97	97	110	110	110	127	110	124
Calcium			59	55	56	56	110	61				48
*Chloride	18	22	24	22	22	16	16	16	16	20	20	20
Boron				- 1.0		- 1.0		- 1.0				- 1.0
Fluoride				1.2		1.2		0.70				1.08
Magnesium				18		18		17				17
Potassium						10		11				11
*Sodium	532	638	532	496	518	505	532	500	548	472	479	458
*Sulfate	1209	1451	1179	1210	1185	1160	1194	1165	1175	1068	1087	1068
Aluminum				0.11		-0.05		-0.05				- 0.1
Arsenic				-0.01		-0.01		-0.01				-0.01
Barium				-0.05		-0.05		-0.05				-0.05
Cadmium				-0.002		-0.002		-0.002				-0.01
Chromium				-0.01		-0.01		-0.01				-0.05
Copper				-0.01		-0.01		-0.01				-0.02
Iron				0.02		0.03		0.09				-0.03
Lead				-0.05		-0.05		-0.05				-0.05
Manganese				-0.01		-0.01		-0.01				-0.01
Mercury				-0.001		-0.001		-0.01				-0.001
Nickel				-0.04		-0.04		-0.04				-0.04
Selenium				-0.01		-0.01		-0.01				0.01
Zinc				-0.01		-0.01		-0.01				-0.01
Molybdenum				-0.05		-0.05		-0.05				- 0.1
Vanadium				-0.05		-0.05		-0.05				-0.05
*Uranium	-0.001	1.001	0.002	0.004	-0.001	-0.001	0.004	0.003	0.002	-0.001	-0.001	-0.001
Radium 226 (pCi/l)	1.44				1.39±0.27	0.75±0.29		5.47±0.46				0.64±0.24
Thorium 230 (pCi/l)	5.78				72.1±22.9	11.26±8.49		8.26±3.95				0.24±2.2

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 4
MONITOR WELL 303-6-M 3
OPERATIONAL WATER QUALITY DATA

Page 2 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 11 Collected 08-07-80	SAMPLE ROUND 12 Collected 08-21-80	SAMPLE ROUND 13 Collected 09-04-80	SAMPLE ROUND 14 Collected 09-18-80	SAMPLE ROUND 15 Collected 10-02-80	SAMPLE ROUND 16 Collected 10-16-80	SAMPLE ROUND 17 Collected 10-30-80	SAMPLE ROUND 18 Collected 11-13-80	SAMPLE ROUND 19 Collected 11-25-80	SAMPLE ROUND 20 Collected 12-11-80
pH (pH units)	8.4	10.4	7.8	8.1	8.3	8.1	7.9	8.0	7.8	7.5	7.9	8.2
Total Dissolved Solids	1866			1626		1856		1730		1704		1732
*Specific Conductance (mhos/cm)	2225	2670	2050	1925	2050	2025	2050	2075	2100	2075	2125	2075
*Ammonia (as N)	1.13	1.37	0.18	0.24	0.19	0.18	0.18	0.15	0.18	0.15	0.22	0.21
Nitrate (as N)				0.11		0.01		-0.01		-0.01		-0.01
Nitrite (as N)				-0.05		-0.01		-0.01		-0.01		-0.01
Carbonate	12	14	0	0	7	0	0	0	0	0	0	0
Bicarbonate	98	118	127	127	120	127	122	122	103	107	105	109
*Carbonate+Bicarbonate	110	132	127	127	127	127	122	122	103	107	105	109
Calcium				46		51		54		56		55
*Chloride	18	22	18	18	16	22	19	20	22	20	36	32
Boron				- 1.0		- 1.0		- 1.0		- 1.0		- 1.0
Fluoride				1.02		1.05		1.03		1.03		1.08
Magnesium				17		17		16		16		17
Potassium				10		15		9		10		4
*Sodium	532	638	468	450	482	469	468	469	510	503	472	444
*Sulfate	1209	1451	1050	1015	1086	1125	1072	1090	1114	1119	1120	1125
Aluminum				-0.10		-0.10		-0.10		-0.10		-0.10
Arsenic				-0.01		-0.01		-0.01		-0.01		0.01
Barium				-0.05		-0.05		-0.05		-0.05		-0.05
Cadmium				-0.01		-0.01		-0.01		-0.01		-0.01
Chromium				-0.05		-0.05		-0.01		-0.05		-0.05
Copper				-0.02		-0.02		-0.02		-0.02		-0.02
Iron				0.06		0.04		-0.03		-0.03		-0.03
Lead				-0.05		-0.05		-0.05		-0.05		-0.05
Manganese				-0.01		-0.01		-0.01		-0.01		0.01
Mercury				-0.001		-0.001		-0.001		-0.001		-0.001
Nickel				-0.04		-0.04		-0.04		-0.04		-0.04
Selenium				0.01		0.01		0.01		0.02		0.02
Zinc				0.03		-0.01		-0.01		-0.01		-0.01
Molybdenum				-0.10		-0.10		-0.10		-0.10		-0.10
Vanadium				-0.05		-0.05		-0.05		-0.05		-0.05
*Uranium	-0.001	1.001	0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.003	-0.001	-0.001	0.002
Radium 226 (pCi/l)	1.44			0.75±0.70		7.1±0.7		1.3±0.6		0.6±0.4		0±0.5
Thorium 230 (pCi/l)	5.78			2.2±2.1		3.2±1.8		4.9±2.5		0.18±0.62		2.0±4.0

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 4
MONITOR WELL 303-6-M 3
OPERATIONAL WATER QUALITY DATA

Page 3 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 21 Collected 12-22-80	SAMPLE ROUND 22 Collected 01-08-81	SAMPLE ROUND 23 Collected 01-21-81	SAMPLE ROUND 24 Collected	SAMPLE ROUND 25 Collected	SAMPLE ROUND 26 Collected	SAMPLE ROUND 27 Collected	SAMPLE ROUND 28 Collected	SAMPLE ROUND 29 Collected	SAMPLE ROUND 30 Collected
pH (pH units)	8.4	10.4	8.5	8.0	7.9							
Total Dissolved Solids	1866			1610								
*Specific Conductance (mhos/cm)	2225	2670	2000	2000	2050							
*Ammonia (as N)	1.13	1.37	0.18	0.17	0.25							
Nitrate (as N)				0.16								
Nitrite (as N)				-0.01								
Carbonate	12	14	7	0	0							
Bicarbonate	98	118	90	122	116							
*Carbonate+Bicarbonate	110	132	97	122	116							
Calcium				48								
*Chloride	18	22	29	22	20							
Boron				- 1.0								
Fluoride				1.24								
Magnesium				15								
Potassium				7								
*Sodium	532	638	469	487	469							
*Sulfate	1209	1451	1077	1075	1065							
Aluminum				0.1								
Arsenic				-0.01								
Barium				-0.05								
Cadmium				-0.01								
Chromium				-0.05								
Copper				-0.02								
Iron				-0.03								
Lead				-0.05								
Manganese				-0.01								
Mercury				-0.001								
Nickel				-0.04								
Selenium				0.01								
Zinc				-0.01								
Molybdenum				-0.30								
Vanadium				-0.05								
*Uranium	-0.001	1.001	-0.001	-0.001	-0.001							
Radium 226 (pCi/l)	1.44			N/A								
Thorium 230 (pCi/l)	5.78			N/A								

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 5
MONITOR WELL 303-6-M 4
OPERATIONAL WATER QUALITY DATA

Page 1 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 05-15-79	SAMPLE ROUND 2 Collected 05-30-79	SAMPLE ROUND 3 Collected 06-12-79	SAMPLE ROUND 4 Collected 06-27-79	SAMPLE ROUND 5 Collected 07-10-79	SAMPLE ROUND 6 Collected 07-24-79	SAMPLE ROUND 7 Collected 08-07-79	SAMPLE ROUND 8 Collected 06-11-80	SAMPLE ROUND 9 Collected 07-10-80	SAMPLE ROUND 10 Collected 07-24-80
pH (pH units)	9.4	11.4	9.5	9.1	8.8	8.7	8.8	8.7	8.5	9.3	8.3	8.7
Total Dissolved Solids				1690		1332		1347				1298
*Specific Conductance (mhos/cm)	1712	2054	1800	1785	1800	1750	1785	1825	1850	1700	1700	1800
*Ammonia (as N)	2.6	3.1	0.21	0.17	- 0.1	- 0.1	0.1	- 0.1	- 0.1	-0.10	0.22	0.16
Nitrate (as N)				1.7		3.5		0.03				-0.01
Nitrite (as N)				-0.01		-0.01		-0.01				-0.01
Carbonate	28	34	36	25	36	24		24	19	26	12	12
Bicarbonate	81	97	61	85	73	73		85	95	61	100	85
*Carbonate+Bicarbonate	109	131	97	110	109	97	134	109	114	87	112	97
Calcium			24	20	18	21		26				20
*Chloride	38	46	40	36	36	29	30	30	28	42	40	32
Boron				- 1.0		- 1.0		- 1.0				- 1.0
Fluoride				1.3		1.3		0.62				1.12
Magnesium				6		8		7				9
Potassium				9		10		9				8
*Sodium	425	510	429	432	415	417	427	418	436	407	407	391
*Sulfate	778	934	816	880	810	818	789	807	805	803	797	799
Aluminum				0.05		-0.05		-0.05				- 0.1
Arsenic				-0.01		-0.01		-0.01				-0.01
Barium				0.05		-0.05		-0.05				-0.05
Cadmium				-0.002		-0.002		-0.002				-0.01
Chromium				-0.01		-0.01		-0.01				-0.05
Copper				-0.01		-0.01		-0.01				-0.02
Iron				0.013		0.05		0.05				-0.03
Lead				-0.05		-0.05		-0.05				-0.05
Manganese				-0.01		-0.01		-0.01				-0.01
Mercury				-0.001		-0.001		-0.001				-0.001
Nickel				-0.04		-0.04		-0.04				-0.04
Selenium				-0.01		-0.01		-0.01				-0.01
Zinc				-0.01		-0.01		-0.01				-0.01
Molybdenum				-0.05		-0.05		-0.05				- 0.1
Vanadium				-0.05		-0.05		-0.05				-0.05
*Uranium	0.002	1.002	0.009	0.014	0.008	-0.001	0.010	0.001	0.008	-0.001	0.008	0.002
Radium 226 (pCi/l)	79.43				39.7±1.72	83.75±3.01		67.6±2.83				55.1±2.57
Thorium 230 (pCi/l)	7.58				99.1±43.1	2.12±2.62		7.56±3.25				0.10±4.0

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 5
MONITOR WELL 303-6-M 4
OPERATIONAL WATER QUALITY DATA

Page 2 of 3

PARAMETER	BASLINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 11 Collected 08-07-80	SAMPLE ROUND 12 Collected 08-21-80	SAMPLE ROUND 13 Collected 09-04-80	SAMPLE ROUND 14 Collected 09-18-80	SAMPLE ROUND 15 Collected 10-02-80	SAMPLE ROUND 16 Collected 10-16-80	SAMPLE ROUND 17 Collected 10-30-80	SAMPLE ROUND 18 Collected 11-13-80	SAMPLE ROUND 19 Collected 11-25-80	SAMPLE ROUND 20 Collected 12-11-80
pH (pH units)	9.4	11.4	8.5	8.2	8.9	8.5	8.2	8.2	8.6	8.5	7.7	8.3
Total Dissolved Solids				1286		1310		1366		1282		1334
*Specific Conductance (mhos/cm)	1712	2054	1725	1600	1725	1650	1650	1675	1725	1675	1700	1700
*Ammonia (as N)	2.6	3.1	0.17	0.20	0.20	0.17	0.16	0.16	0.20	0.16	0.19	0.22
Nitrate (as N)				-0.01		-0.01		-0.01		-0.01		-0.01
Nitrite (as N)				-0.01		-0.01		-0.01		-0.01		-0.01
Carbonate	28	34	12	0	14	17	0	0	8	10	0	7
Bicarbonate	81	97	85	127	110	90	127	127	104	115	129	111
*Carbonate+Bicarbonate	109	131	97	127	124	107	127	127	112	125	129	118
Calcium				23		27		28		27		34
*Chloride	38	46	32	32	34	33	34	34	34	34	36	32
Boron				- 1.0		- 1.0		- 1.0		- 1.0		- 1.0
Fluoride				1.06		1.08		1.10		1.05		1.13
Magnesium				9		8		7		7		7
Potassium				8		11		7		7		3
*Sodium	425	510	408	400	403	403	398	403	418	403	414	392
*Sulfate	778	934	816	732	793	882	802	835	798	794	798	799
Aluminum				-0.01		-0.10		-0.10		-0.10		0.1
Arsenic				-0.01		-0.01		-0.01		-0.01		-0.01
Barium				-0.05		-0.05		-0.05		-0.05		-0.05
Cadmium				-0.01		-0.01		-0.01		-0.01		-0.01
Chromium				-0.05		-0.05		-0.01		-0.05		-0.05
Copper				-0.02		-0.02		-0.02		-0.02		-0.02
Iron				0.06		-0.03		-0.03		-0.03		-0.03
Lead				-0.05		-0.05		-0.05		-0.05		-0.05
Manganese				-0.01		-0.01		-0.01		-0.01		0.01
Mercury				-0.001		-0.001		-0.001		-0.001		-0.001
Nickel				-0.04		-0.04		-0.04		-0.04		-0.04
Selenium				0.01		-0.01		-0.01		0.01		-0.01
Zinc				-0.01		-0.01		-0.01		-0.01		-0.01
Molybdenum				-0.10		-0.10		-0.10		-0.10		-0.10
Vanadium				-0.05		-0.05		-0.05		-0.05		-0.05
*Uranium	0.002	1.002	0.005	0.001	-0.001	-0.001	0.002	-0.001	0.005	0.004	-0.001	0.003
Radium 226 (pCi/l)	79.43			62.7±3.3		82.2±2.6		77.7±4.0		195±5.0		167±4.3
Thorium 230 (pCi/l)	7.58			0.8±1.3		9.1±3.4		4.4±1.6		0.54±0.60		3.6±2.3

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 5
MONITOR WELL 303-6-M 4
OPERATIONAL WATER QUALITY DATA

Page 3 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 21 Collected 12-22-80	SAMPLE ROUND 22 Collected 01-08-81	SAMPLE ROUND 23 Collected 01-21-81	SAMPLE ROUND 24 Collected	SAMPLE ROUND 25 Collected	SAMPLE ROUND 26 Collected	SAMPLE ROUND 27 Collected	SAMPLE ROUND 28 Collected	SAMPLE ROUND 29 Collected	SAMPLE ROUND 30 Collected
pH (pH units)	9.4	11.4	8.6	8.4	8.1							
Total Dissolved Solids				1256								
*Specific Conductance (mhos/cm)	1712	2054	1675	1725	1725							
*Ammonia (as N)	2.6	3.1	0.16	0.18	0.21							
Nitrate (as N)				0.22								
Nitrite (as N)				-0.01								
Carbonate	28	34	2	12	10							
Bicarbonate	81	97	115	107	112							
*Carbonate+Bicarbonate	109	131	117	119	122							
Calcium				30								
*Chloride	38	46	36	36	33							
Boron				- 1.0								
Fluoride				1.29								
Magnesium				7								
Potassium				5								
*Sodium	425	510	428	424	392							
*Sulfate	778	954	809	840	767							
Aluminum				- 0.1								
Arsenic				-0.01								
Barium				-0.05								
Cadmium				-0.01								
Chromium				-0.05								
Copper				-0.02								
Iron				-0.03								
Lead				-0.05								
Manganese				-0.01								
Mercury				-0.001								
Nickel				-0.04								
Selenium				-0.01								
Zinc				-0.01								
Molybdenum				-0.10								
Vanadium				-0.05								
*Uranium	0.002	1.002	0.001	0.002	0.001							
Radium 226 (pCi/l)	79.43			N/A								
Thorium 230 (pCi/l)	7.58			N/A								

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 6
MONITOR WELL 303-6-M 5
OPERATIONAL WATER QUALITY DATA

Page 1 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 05-15-79	SAMPLE ROUND 2 Collected 06-01-79	SAMPLE ROUND 3 Collected 06-12-79	SAMPLE ROUND 4 Collected 06-26-79	SAMPLE ROUND 5 Collected 07-10-79	SAMPLE ROUND 6 Collected 07-24-79	SAMPLE ROUND 7 Collected 08-07-79	SAMPLE ROUND 8 Collected 06-11-80	SAMPLE ROUND 9 Collected 07-10-80	SAMPLE ROUND 10 Collected 07-24-80
pH (pH units)	8.8	10.8	9.0	8.6	8.6	8.4	8.6	8.3	8.2	8.7	8.6	8.3
Total Dissolved Solids				1390		1334		1322				1326
*Specific Conductance (mhos/cm)	1750	2112	1800	1825	1800	1750	1785	1775	1850	1700	1750	1775
*Ammonia (as N)	0.19	0.23	0.20	- 0.1	0.12	- 0.1	0.1	- 0.1	- 0.1	-0.10	0.20	0.13
Nitrate (as N)				1.8		4.2		0.02				-0.01
Nitrite (as N)				-0.01		-0.01		-0.01				-0.01
Carbonate	18	22	12	36	12	12		12	0	19	12	7
Bicarbonate	116	139	110	73	110	98		122	122	81	90	107
*Carbonate+Bicarbonate	134	161	122	109	122	110	122	134	122	100	102	114
Calcium			19	25	25	25		47				20
*Chloride	32	38	34	36	34	28	28	32	28	36	32	32
Boron				- 1.0		- 1.0		- 1.0				- 1.0
Fluoride				1.6		1.3		0.70				1.11
Magnesium				6		7		3				9
Potassium				9		9		8				9
*Sodium	440	528	438	432	436	417	425	416	425	409	407	389
*Sulfate	802	962	830	810	920	814	832	814	850	785	810	756
Aluminum				0.08		-0.05		-0.05				- 0.1
Arsenic				-0.01		-0.01		-0.01				-0.01
Barium				-0.05		-0.05		-0.05				-0.05
Cadmium				-0.002		-0.002		-0.002				-0.01
Chromium				-0.01		-0.01		-0.01				-0.05
Copper				-0.01		-0.01		-0.01				-0.02
Iron				0.01		0.05		0.02				-0.03
Lead				-0.05		-0.05		-0.05				-0.05
Manganese				-0.01		-0.01		-0.01				-0.01
Mercury				-0.001		-0.001		-0.001				-0.001
Nickel				-0.04		-0.04		-0.04				-0.04
Selenium				-0.01		-0.01		-0.01				-0.01
Zinc				-0.01		0.02		-0.01				-0.01
Molybdenum				-0.05		-0.05		-0.05				- 0.1
Vanadium				-0.05		-0.05		-0.05				-0.05
*Uranium	0.002	1.002	-0.001	0.003	0.002	0.002	0.006	-0.001	0.010	-0.001	0.007	-0.001
Radium 226 (pCi/l)	7.05				2.59±0.55	4.48±0.61		4.17±0.39				2.7±0.45
Thorium 230 (pCi/l)	5.33				27.3±13.2	17.89±3.39		1.09±1.20				0.0±3.2

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 6
MONITOR WELL 303-6-M 5
OPERATIONAL WATER QUALITY DATA

Page 2 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 11 Collected 08-07-80	SAMPLE ROUND 12 Collected 08-21-80	SAMPLE ROUND 13 Collected 09-04-80	SAMPLE ROUND 14 Collected 09-18-80	SAMPLE ROUND 15 Collected 10-02-80	SAMPLE ROUND 16 Collected 10-16-80	SAMPLE ROUND 17 Collected 10-30-80	SAMPLE ROUND 18 Collected 11-13-80	SAMPLE ROUND 19 Collected 11-25-80	SAMPLE ROUND 20 Collected 12-11-80
pH (pH units)	8.8	10.8	8.3	8.2	8.3	8.3	8.2	8.1	8.3	8.2	8.3	8.2
Total Dissolved Solids				1276		1328		1388		1322		1338
*Specific Conductance (mhos/cm)	1760	2112	1725	1650	1725	1775	1675	1675	1725	1725	1700	1725
*Ammonia (as N)	0.19	0.23	0.16	0.21	0.15	0.16	0.15	0.16	0.18	0.16	0.19	0.20
Nitrate (as N)				-0.01		0.02		-0.01		-0.01		-0.01
Nitrite (as N)				-0.01		-0.01		-0.01		-0.01		-0.01
Carbonate	18	22	0	0	7	0	0	0	5	0	0	0
Bicarbonate	116	139	122	124	107	137	129	132	112	134	128	123
*Carbonate+Bicarbonate	134	161	122	124	114	137	129	132	117	134	128	123
Calcium				23		30		28		28		31
*Chloride	32	38	32	32	30	33	28	37	23	34	34	30
Boron				- 1.0		- 1.0		- 1.0		- 1.0		- 1.0
Fluoride				1.06		1.06		1.08		1.07		1.13
Magnesium				10		8		8		8		7
Potassium				8		11		7		7		3
*Sodium	440	528	433	400	394	401	409	398	407	409	407	399
*Sulfate	802	962	865	799	799	900	812	790	807	812	813	799
Aluminum				-0.10		-0.10		-0.10		- 0.1		0.1
Arsenic				-0.01		-0.01		-0.01		-0.01		-0.01
Barium				-0.05		-0.05		-0.05		-0.05		-0.05
Cadmium				-0.01		-0.01		-0.01		-0.01		-0.01
Chromium				-0.05		-0.05		-0.01		-0.05		-0.05
Copper				-0.02		-0.02		-0.02		-0.02		-0.02
Iron				0.05		0.03		-0.03		-0.03		-0.03
Lead				-0.05		-0.05		-0.05		-0.05		-0.05
Manganese				-0.01		-0.01		-0.01		-0.01		0.01
Mercury				-0.001		-0.001		-0.001		-0.001		-0.001
Nickel				-0.04		-0.04		-0.04		-0.04		-0.04
Selenium				-0.01		-0.01		-0.01		-0.01		0.01
Zinc				0.10		-0.01		-0.01		-0.01		-0.01
Molybdenum				-0.10		-0.10		-0.10		-0.10		-0.10
Vanadium				-0.05		-0.05		-0.05		-0.05		-0.05
*Uranium	0.002	1.002	0.003	0.001	-0.001	-0.001	-0.001	-0.001	0.001	-0.001	-0.001	0.002
Radium 226 (pCi/l)	7.05			3.5±1.2		4.9±0.6		3.1±0.8		3.5±1.1		3.2±0.7
Thorium 230 (pCi/l)	5.33			3.7±3.6		5.6±2.9		4.5±2.8		5.2±1.5		7.9±3.1

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

- Means not detected at levels indicated

*Reported as maximum

TABLE 6
MONITOR WELL 303-6-M 5
OPERATIONAL WATER QUALITY DATA

Page 3 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 21 Collected 12-22-80	SAMPLE ROUND 22 Collected 01-08-81	SAMPLE ROUND 23 Collected 01-21-81	SAMPLE ROUND 24 Collected	SAMPLE ROUND 25 Collected	SAMPLE ROUND 26 Collected	SAMPLE ROUND 27 Collected	SAMPLE ROUND 28 Collected	SAMPLE ROUND 29 Collected	SAMPLE ROUND 30 Collected
pH (pH units)	8.8	10.8	8.6	8.3	8.2							
Total Dissolved Solids				1310								
*Specific Conductance (mhos/cm)	1760	2112	1750	1700	1675							
*Ammonia (as N)	0.19	0.23	0.16	0.15	0.24							
Nitrate (as N)				-0.01								
Nitrite (as N)				-0.01								
Carbonate	18	22	12	5	7							
Bicarbonate	116	139	82	120	113							
*Carbonate+Bicarbonate	134	161	94	125	120							
Calcium				30								
*Chloride	32	38	32	36	32							
Boron				- 1.0								
Fluoride				1.19								
Magnesium				7								
Potassium				5								
*Sodium	440	528	404	419	403							
*Sulfate	802	962	833	831	807							
Aluminum				- 0.1								
Arsenic				-0.01								
Barium				-0.05								
Cadmium				-0.01								
Chromium				-0.05								
Copper				-0.02								
Iron				-0.03								
Lead				-0.05								
Manganese				-0.01								
Mercury				-0.001								
Nickel				-0.04								
Selenium				-0.01								
Zinc				-0.01								
Molybdenum				-0.10								
Vanadium				-0.05								
*Uranium	0.002	1.002	-0.001	-0.001	-0.001							
Radium 226 (pCi/l)	-7.05			N/A								
Thorium 230 (pCi/l)	5.33			N/A								

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 7
MONITOR WELL 303-6-M 6
OPERATIONAL WATER QUALITY DATA

Page 1 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 05-15-79	SAMPLE ROUND 2 Collected 06-01-79	SAMPLE ROUND 3 Collected 06-12-79	SAMPLE ROUND 4 Collected 06-27-79	SAMPLE ROUND 5 Collected 07-10-79	SAMPLE ROUND 6 Collected 07-24-79	SAMPLE ROUND 7 Collected 08-07-79	SAMPLE ROUND 8 Collected 06-11-80	SAMPLE ROUND 9 Collected 07-10-80	SAMPLE ROUND 10 Collected 07-24-80
pH (pH units)	8.7	10.7	8.7	8.6	8.5	8.4	8.6	8.5	8.3	9.2	8.8	8.8
Total Dissolved Solids				1448		1342		1342				1290
*Specific Conductance (mhos/cm)	1792	2150	1800	1900	1850	1725	1800	1800	1825	1700	1460	1675
*Ammonia (as N)	0.16	0.19	0.22	- 0.1	0.12	- 0.1	0.1	-0.01	- 0.1	-0.10	0.30	0.24
Nitrate (as N)				1.4		4.0		0.02				-0.01
Nitrite (as N)				-0.01		-0.01		-0.01				-0.01
Carbonate	21	25	12	24	12	48		12	24	36	5	12
Bicarbonate	119	143	122	85	122	37		122	98	51	81	51
*Carbonate+Bicarbonate	140	168	134	109	134	85	122	134	122	87	86	63
Calcium			28	28	29	26		42				16
*Chloride	33	40	34	34	32	30	28	30	30	34	38	32
Boron				- 1.0		- 1.0		- 1.0				- 1.0
Fluoride				1.5		0.80		0.70				1.14
Magnesium				9		9		6				6
Potassium				8		8		9				9
*Sodium	428	514	422	432	426	417	423	428	436	414	407	389
*Sulfate	810	972	832	855	900	820	832	811	810	803	801	766
Aluminum				-0.05		-0.05		-0.05				- 0.1
Arsenic				-0.01		-0.01		-0.01				-0.01
Barium				-0.05		-0.05		-0.05				-0.05
Cadmium				-0.002		-0.002		-0.002				-0.01
Chromium				-0.01		-0.01		-0.01				-0.05
Copper				-0.01		-0.01		-0.01				-0.02
Iron				0.01		0.02		0.01				0.17
Lead				-0.05		-0.05		-0.05				-0.05
Manganese				-0.01		-0.01		-0.01				-0.01
Mercury				-0.001		-0.001		-0.001				-0.001
Nickel				-0.04		-0.04		-0.04				-0.04
Selenium				-0.01		-0.01		-0.01				-0.01
Zinc				-0.01		-0.01		-0.01				-0.01
Molybdenum				-0.05		-0.05		-0.05				- 0.1
Vanadium				-0.05		-0.05		-0.05				-0.05
*Uranium	0.006	1.006	0.025	0.025	0.025	0.004	0.016	0.003	0.009	-0.001	0.010	0.008
Radium 226 (pCi/l)	22.03				3.06±0.67	5.48±0.66		5.66±0.43				4.7±0.54
Thorium 230 (pCi/l)	4.73				2.65±1.06	5.01±5.50 ¹		0±3.99				4.3±2.6

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

- Means not detected at levels indicated.

*Excursion parameters.

1) - Corrected

TABLE 7
MONITOR WELL 103-6-M 6
OPERATIONAL WATER QUALITY DATA

Page 2 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 11 Collected 08-07-80	SAMPLE ROUND 12 Collected 08-21-80	SAMPLE ROUND 13 Collected 09-04-80	SAMPLE ROUND 14 Collected 09-18-80	SAMPLE ROUND 15 Collected 10-02-80	SAMPLE ROUND 16 Collected 10-16-80	SAMPLE ROUND 17 Collected 10-30-80	SAMPLE ROUND 18 Collected 11-13-80	SAMPLE ROUND 19 Collected 11-25-80	SAMPLE ROUND 20 Collected 12-11-80
pH (pH units)	8.7	10.7	8.7	8.8	8.8	9.0	9.0	8.5	8.7	8.3	8.2	8.6
Total Dissolved Solids				1308		1408		1364		1402		1368
*Specific Conductance (mhos/cm)	1792	2150	1725	1825	1775	1675	1650	1675	1725	1725	1700	1725
*Ammonia (as N)	0.16	0.19	0.22	0.17	0.16	0.18	0.16	0.15	0.17	0.14	0.20	0.18
Nitrate (as N)				0.06		0.01		-0.01		-0.01		-0.01
Nitrite (as N)				-0.01		-0.01		-0.01		-0.01		-0.01
Carbonate	21	25	24	17	14	26	14	19	13	0	0	19
Bicarbonate	119	143	44	73	73	63	93	88	93	132	124	90
*Carbonate+Bicarbonate	140	168	68	90	87	89	107	107	106	132	124	109
Calcium				14		23		25		28		30
*Chloride	33	40	32	32	30	31	34	31	36	36	32	33
Boron				- 1.0		- 1.0		- 1.0		- 1.0		- 1.0
Fluoride				1.08		1.01		1.03		1.01		1.16
Magnesium				8		7		8		8		7
Potassium				8		12		8		7		3
*Sodium	428	514	398	400	393	412	418	402	415	418	399	401
*Sulfate	810	972	792	786	783	906	819	852	816	815	811	799
Aluminum				-0.10		-0.10		-0.10		- 0.1		- 0.1
Arsenic				-0.01		-0.01		-0.01		-0.01		-0.01
Barium				-0.05		-0.05		-0.05		-0.05		-0.05
Cadmium				-0.01		-0.01		-0.01		-0.01		-0.01
Chromium				-0.05		-0.05		-0.01		-0.05		-0.05
Copper				-0.02		-0.02		-0.02		-0.02		-0.02
Iron				0.03		-0.03		-0.03		-0.03		-0.03
Lead				-0.05		-0.05		-0.05		-0.05		-0.05
Manganese				-0.01		-0.01		-0.01		-0.01		-0.01
Mercury				-0.001		-0.001		-0.001		-0.001		-0.001
Nickel				-0.04		-0.04		-0.04		-0.04		-0.04
Selenium				0.01		-0.01		-0.01		-0.01		0.03
Zinc				-0.01		-0.01		-0.01		-0.01		-0.01
Molybdenum				-0.10		-0.10		-0.10		-0.10		-0.10
Vanadium				-0.05		-0.05		-0.05		-0.05		-0.05
*Uranium	0.006	1.006	0.002	-0.001	-0.001	-0.001	-0.001	-0.002	0.002	0.002	-0.001	0.003
Radium 226 (pCi/l)	22.03			2.4±0.7		3.55±0.61		4.5±1.1		5.7±1.0		3.3±0.9
Thorium 230 (pCi/l)	4.73			2.2±2.5		1.9±1.2		0.97±0.95		1.1±1.1		2.7±0.8

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 7
MONITOR WELL 303-6-M 6
OPERATIONAL WATER QUALITY DATA

Page 3 of 3

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 21 Collected 12-22-80	SAMPLE ROUND 22 Collected 01-08-81	SAMPLE ROUND 23 Collected 01-21-81	SAMPLE ROUND 24 Collected	SAMPLE ROUND 25 Collected	SAMPLE ROUND 26 Collected	SAMPLE ROUND 27 Collected	SAMPLE ROUND 28 Collected	SAMPLE ROUND 29 Collected	SAMPLE ROUND 30 Collected
pH (pH units)	8.7	10.7	8.7	8.4	8.3							
Total Dissolved Solids				1298								
*Specific Conductance (mhos/cm)	1792	2150	1675	1725	1725							
*Ammonia (as N)	0.16	0.19	0.15	0.16	0.22							
Nitrate (as N)				0.10								
Nitrite (as N)				-0.01								
Carbonate	21	25	12	12	12							
Bicarbonate	119	143	95	105	105							
*Carbonate+Bicarbonate	140	168	107	117	117							
Calcium				28								
*Chloride	33	40	32	34	31							
Boron				- 1.0								
Fluoride				1.17								
Magnesium				8								
Potassium				5								
*Sodium	428	514	432	422	401							
*Sulfate	870	972	849	846	803							
Aluminum				- 0.1								
Arsenic				-0.01								
Barium				-0.05								
Cadmium				-0.01								
Chromium				-0.05								
Copper				-0.02								
Iron				-0.03								
Lead				-0.05								
Manganese				-0.01								
Mercury				-0.001								
Nickel				-0.04								
Selenium				-0.01								
Zinc				-0.01								
Molybdenum				-0.10								
Vanadium				-0.05								
*Uranium	0.006	1.006	0.035	-0.001	-0.001							
Radium 226 (pCi/l)	.22.03			N/A								
Thorium 230 (pCi/l)	4.73			N/A								

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

- Means not detected at levels indicated.

*Excursion parameters.

TABLE 3

EVAPORATION POND LEAK DETECTION MONITOR WELL.

WELL 303-M 7

(Units: mg/l unless otherwise indicated)

[illegible]

TABLE 8 (cont)

WELL 303-M 7

PARAMETER	BASELINE VALUES		OPERATIONAL VALUES									
	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round	Sample Round
	Number 1 10-21-78	Number 2 10-28-78	Number 1 07-24-79	Number 2 11-05-79	Number 3 02-05-80	Number 4 05-06-80	Number 5 08-07-80	Number 6 11-13-80	Number 7	Number 8	Number 9	Number 10
Barium	-0.05	-0.05										
Cadmium	-0.002	-0.002										
Chromium	-0.01	-0.01										
Copper	-0.01	-0.01										
Iron	0.18	-0.01	0.01	0.56	0.23	0.1	0.04	0.13				
Lead	-0.05	-0.05	-0.05	0.11	-0.05	-0.05	-0.05	-0.05				
Manganese	-0.01	-0.01										
Mercury	-0.001	-0.001										
Nickel	-0.04	-0.04										
Selenium	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01				
Zinc	0.12	0.06	0.12	0.1	0.03	0.32	0.1	0.04				
Molybdenum	-0.05	-0.05										
Vanadium	-0.05	-0.05										
Uranium	0.006	-0.001	0.031	0.04	0.041	0.019	0.018	0.009				
Radium-226 (pCi/l)	1.2±0.4	0.67±0.32	9.8±1.2	29.8±6.9	1.60±1.10	3.52±0.52	1.76±0.38	2.1±0.7				
Thorium-230 (pCi/l)	14.7±3.0	1.0±0.7										

NOTES: Blank space indicates analysis of parameter not required.

- means not detected at level indicated.

TABLE 9

ATMOSPHERIC RADON 222 DATA (pCi/l)

48-Hour Sample Collection Date	SAMPLE LOCATION		
	TLD Station 1 Plant Site	TLD Station 2 R & D Wellfield Site	TLD Station 3 Evaporation Pond Site
04/03/78-04/05/78	5.9±0.4	4.8±0.4	3.6±0.4
07/05/78-07/07/78	0.20	0.27±0.15	1.2±0.4 ¹
10/28/78-10/29/78	0.16±0.08	0.14±0.05	0.22±0.09
03/17/79-03/19/79	0.11±0.04	0.06±0.03	0.12±0.02
09/10/80-09/12/80	0.4±0.20		
09/12/80-09/14/80			0.30±0.15
09/17/80-09/19/80		0.07±0.08	
12/10/80-12/12/80	0.130±0.225		
12/12/80-12/14/80		0.545±0.232	
12/14/80-12/16/80			0.748±0.255

1) Sample collected on 07/05/78-07/07/78 at TLD Station 3 could not be analyzed because of leaky container. Value given is for sample collected on 07/25/78-07/28/78.

TABLE 10

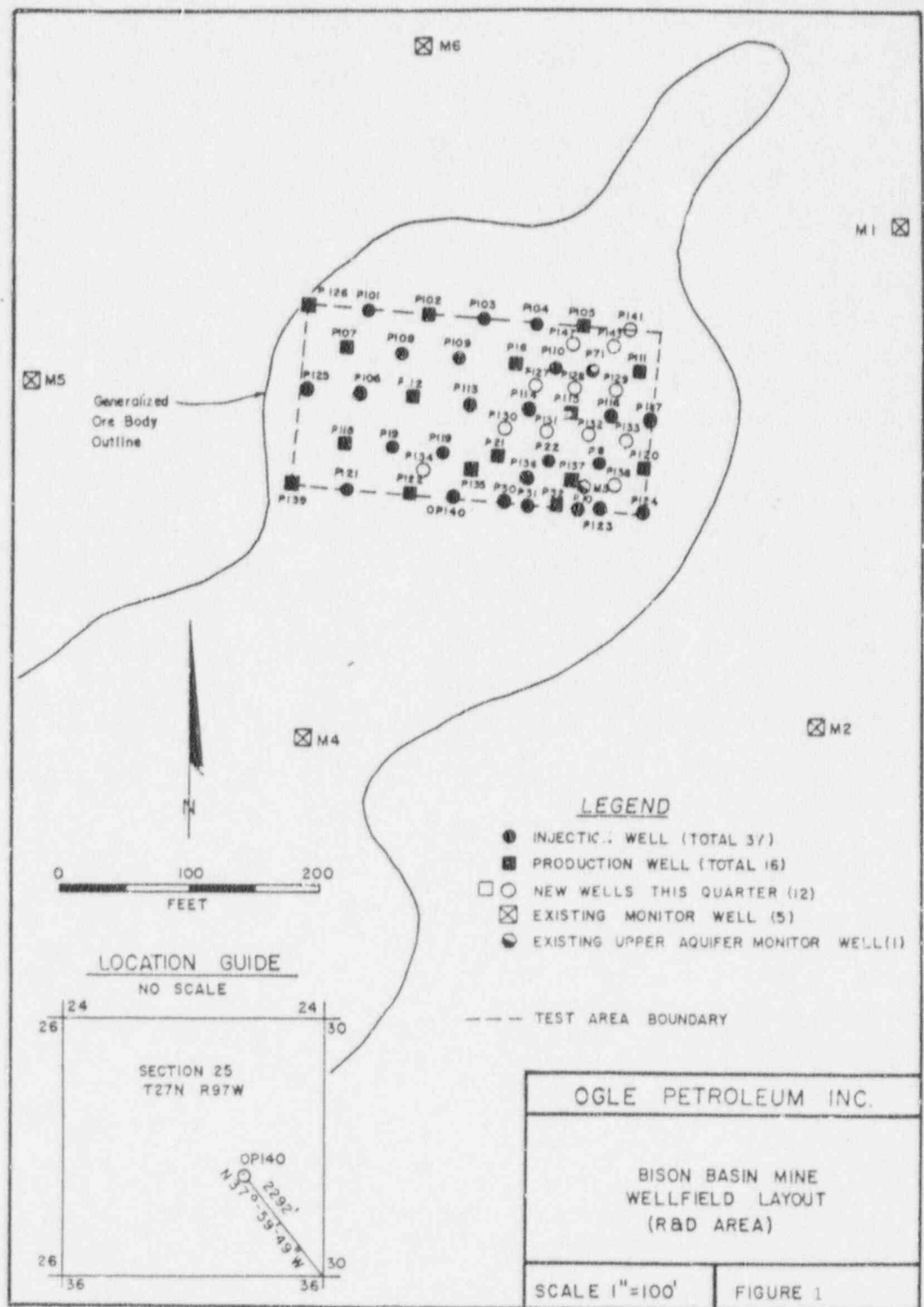
24-HOUR AIR PARTICULATE SAMPLES

24-Hour Sample COLLECTION DATE	PARAMETER	TLD STATION 1 Plant Site	TLD STATION 2 R & D Wellfield	TLD STATION 3 Evaporation Pond
09/03/80 through 09/04/80	Ra 226 Th 230 U Natural	$6.6 \pm 2.8 \times 10^{-7}$ $3.1 \pm 7.1 \times 10^{-7}$ 9.2×10^{-7}		
09/04/80 through 09/05/80	Ra 226 Th 230 U Natural		$8.6 \pm 3.1 \times 10^{-7}$ $2.22 \pm 1.3 \times 10^{-6}$ 7.6×10^{-7}	
09/05/80 through 09/06/80	Ra 226 Th 230 U Natural			$3.9 \pm 2.5 \times 10^{-7}$ $8.8 \pm 4.9 \times 10^{-7}$ 9.7×10^{-7}
12/09/80 through 12/10/80	Ra 226 Th 230 U Natural	$4.1 \pm 1.0 \times 10^{-7}$ $15.3 \pm 0.4 \times 10^{-7}$ 6.3×10^{-7}		
12/10/80 through 12/11/80	Ra 226 Th 230 U Natural		$3.9 \pm 2.0 \times 10^{-7}$ $17.9 \pm 3.1 \times 10^{-7}$ 2.4×10^{-7}	
12/11/80 through 12/12/80	Ra 226 Th 230 U Natural			$6.7 \pm 1.7 \times 10^{-7}$ $5.8 \pm 2.3 \times 10^{-7}$ 2.7×10^{-7}
	Ra 226 Th 230 U Natural			
	Ra 226 Th 230 U Natural			
	Ra 226 Th 230 U Natural			

TABLE 11
ENVIRONMENTAL DOSIMETRY DATA
(mREM/Week)

TLD STATION NO.	REPORTING PERIODS											
	01/20/78- 04/05/78	04/01/78- 07/18/78	07/01/78- 10/27/78	10/01/78- 02/06/79	01/01/79- 06/02/79	04/01/79- 07/27/79	07/01/79- 11/01/79	10/01/79- 03/03/80	01/01/80- 05/16/80	04/01/80- 07/08/80	07/01/80- 10/07/80	10/01/80- 01/12/81
Control	2.13	1.93	1.88	3.28	2.01	2.59	2.63	2.63	2.42	2.81	3.06	3.01
0001	2.73	2.69	2.98	4.23	1.98	2.58	3.31	----	2.53	2.94	3.13	3.12
0002	2.95	----	3.74	4.34	2.22	2.73	2.96	4.15	2.56	3.21	3.68	4.39
0003	2.20	2.82	3.02	4.97	2.31	2.98	2.81	3.54	2.71	2.95	2.74	3.47
0004	----	----	2.68	6.29	2.65	2.64	2.81	4.06	2.46	3.36	3.01	4.35
0005	----	----	3.64	4.57	2.46	2.55	2.93	4.11	2.96	3.15	3.28	3.57
0006	----	2.81	3.12	4.36	1.90	2.75	2.83	3.15	2.52	2.91	2.93	3.42
0007	----	2.55	2.96	3.57	1.90	2.69	2.78	3.23	2.63	2.80	3.31	3.52
0008	3.04	3.02	3.26	3.92	2.25	2.84	3.07	3.27	2.72	2.84	3.33	4.30
0009	2.91	3.05	3.00	3.88	2.06	2.50	3.18	3.43	2.61	2.89	3.11	3.47
0010	2.99	2.86	3.06	3.53	1.68	2.59	3.36	2.86	2.45	3.00	2.89	3.28
0011	2.95	3.42	2.90	4.79	2.28	2.77	2.97	3.41	2.81	2.74	2.96	3.64
0012	3.06	2.92	3.28	5.66	2.72	2.80	3.16	3.95	3.10	2.90	3.45	3.69
0013	3.04	3.10	3.01	4.69	2.43	2.65	2.85	3.22	2.94	2.90	3.26	3.38
0014	2.80	2.94	3.14	4.55	2.16	2.75	3.08	3.13	2.77	2.99	3.19	3.47
0015	3.08	3.06	2.72	4.79	2.12	2.84	2.88	3.53	2.37	2.83	2.81	3.45
0016	----	2.88	2.79	4.85	2.51	2.76	3.01	3.63	2.89	2.55	2.91	3.09
0017	----	----	3.17	4.84	2.65	2.70	3.13	3.52	2.93	3.01	0.00	3.49
0018	----	----	3.11	4.62	2.54	2.78	3.07	3.94	3.10	2.90	3.01	3.72
0019	----	----	2.98	5.32	2.83	2.80	3.05	3.69	3.39	2.95	2.11	3.64
0020	----	2.97	2.76	4.93	2.73	2.54	2.90	3.39	3.01	2.80	2.93	3.81
0021	3.45	3.02	3.20	4.33	2.55	2.79	3.23	3.32	2.77	2.59	6.69	3.22
0022	2.82	2.68	2.96	3.55	2.14	2.59	2.76	3.34	2.85	2.48	2.55	3.02

NOTE: -- indicates data not collected.



POOR ORIGINAL

FIGURE 2

POOR ORIGINAL

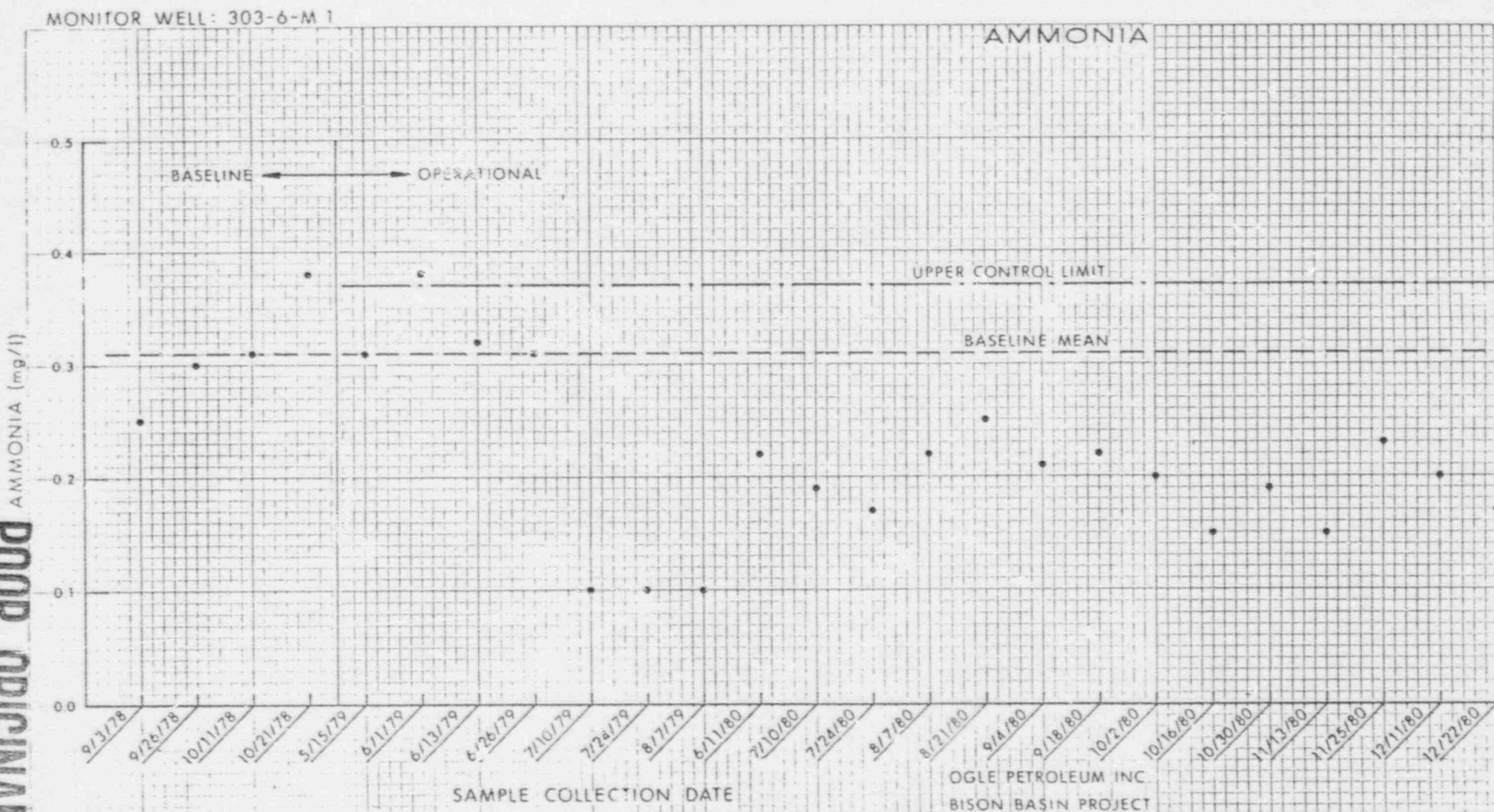


FIGURE 2

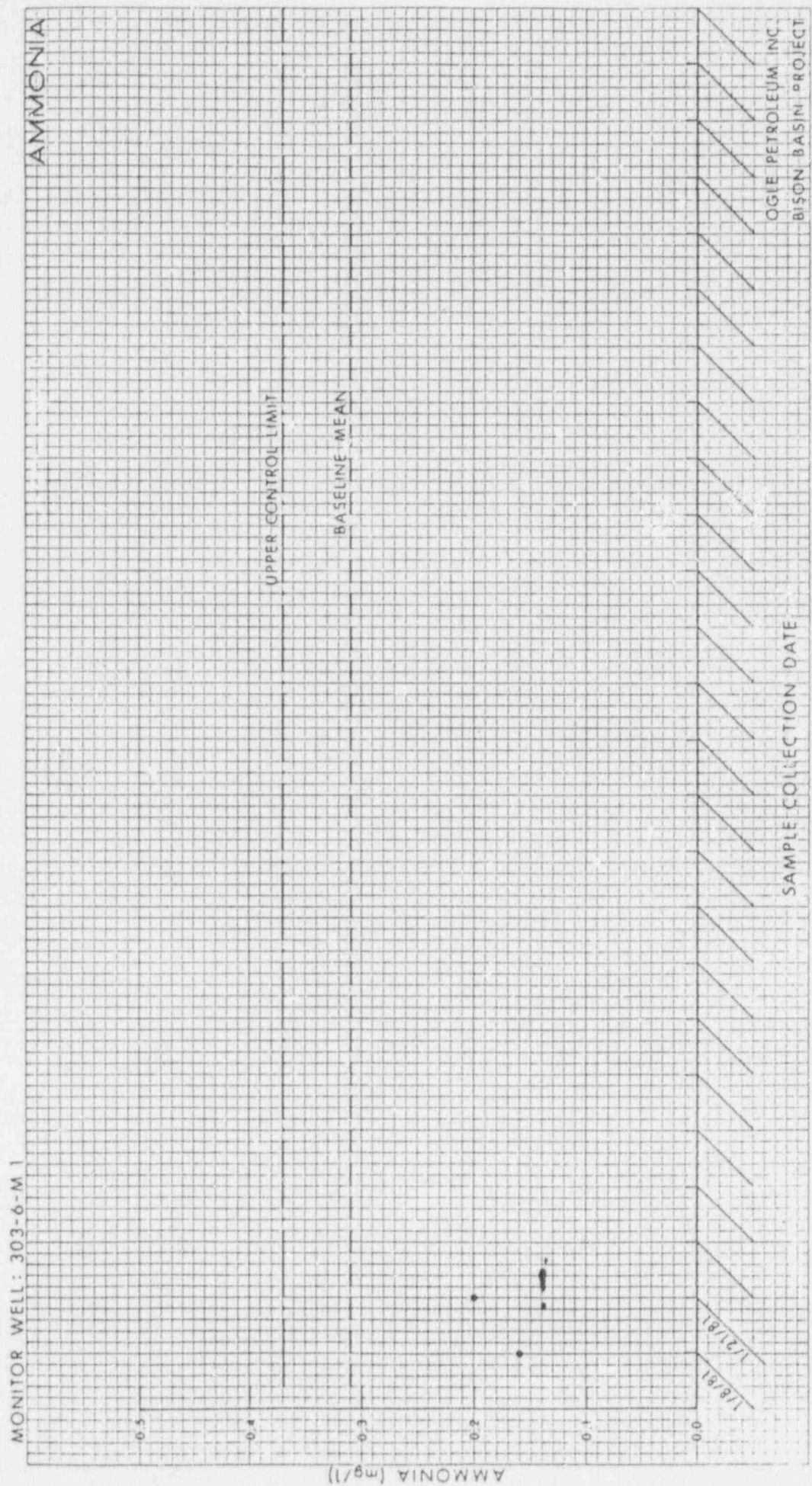


FIGURE 3

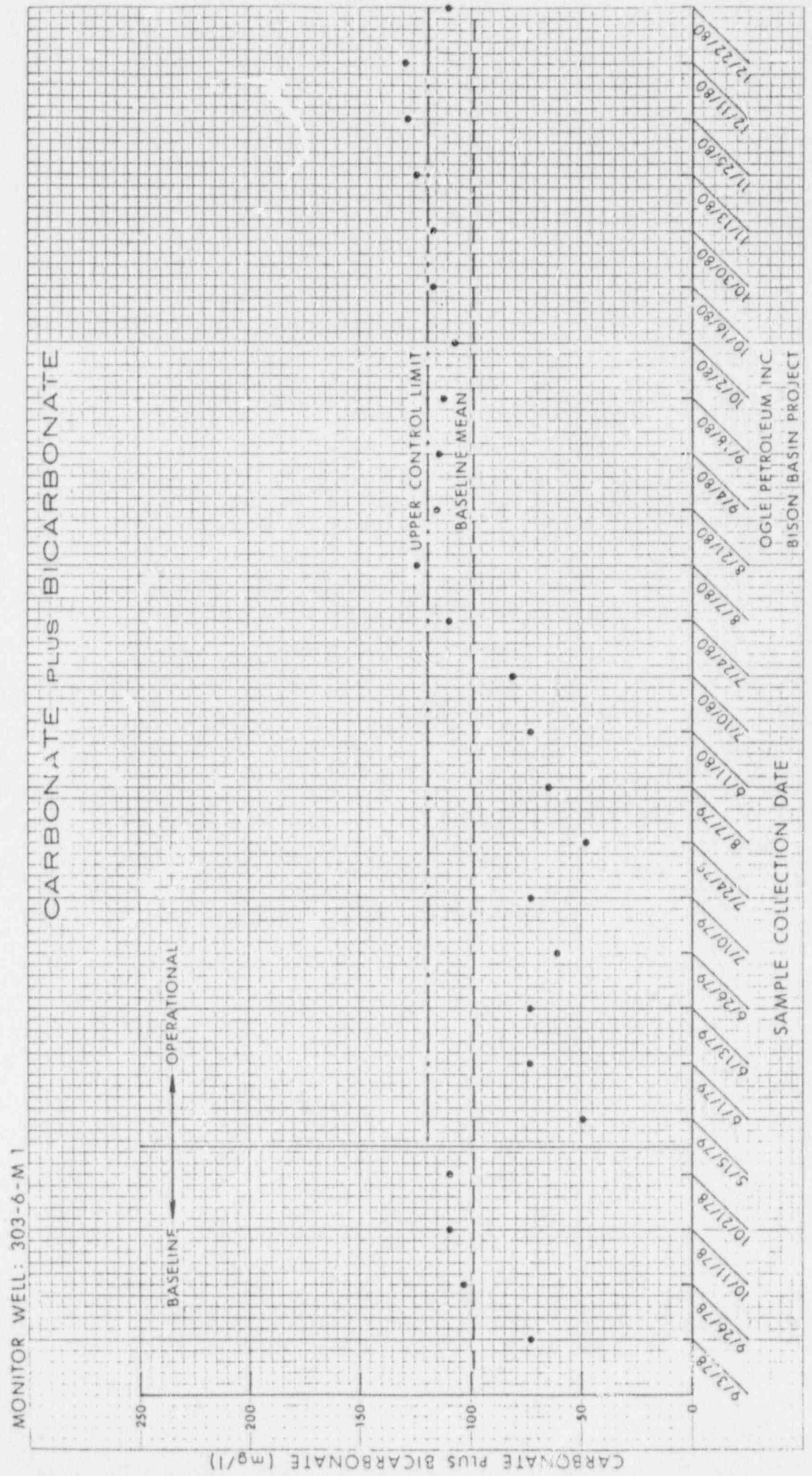


FIGURE 3

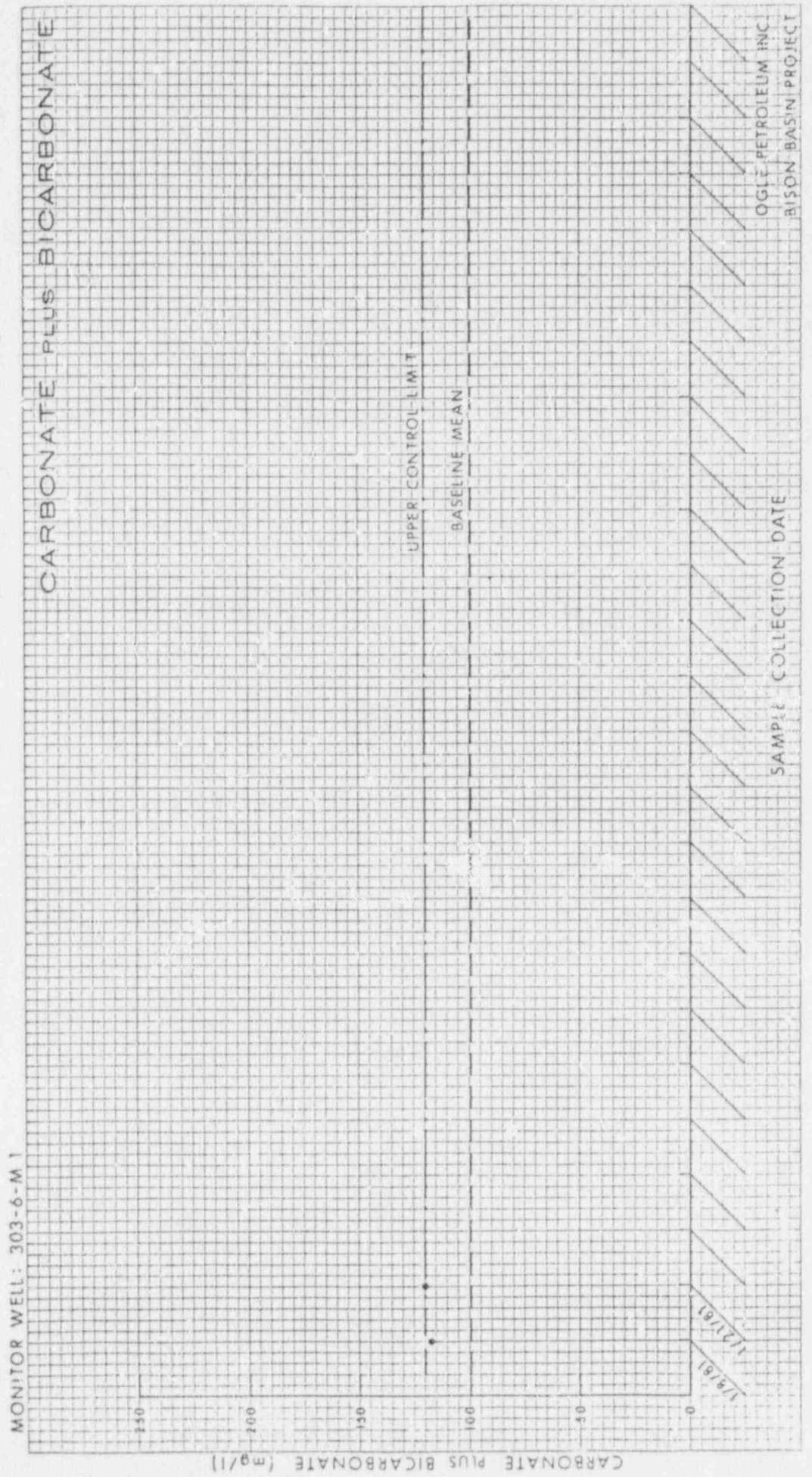


FIGURE 4

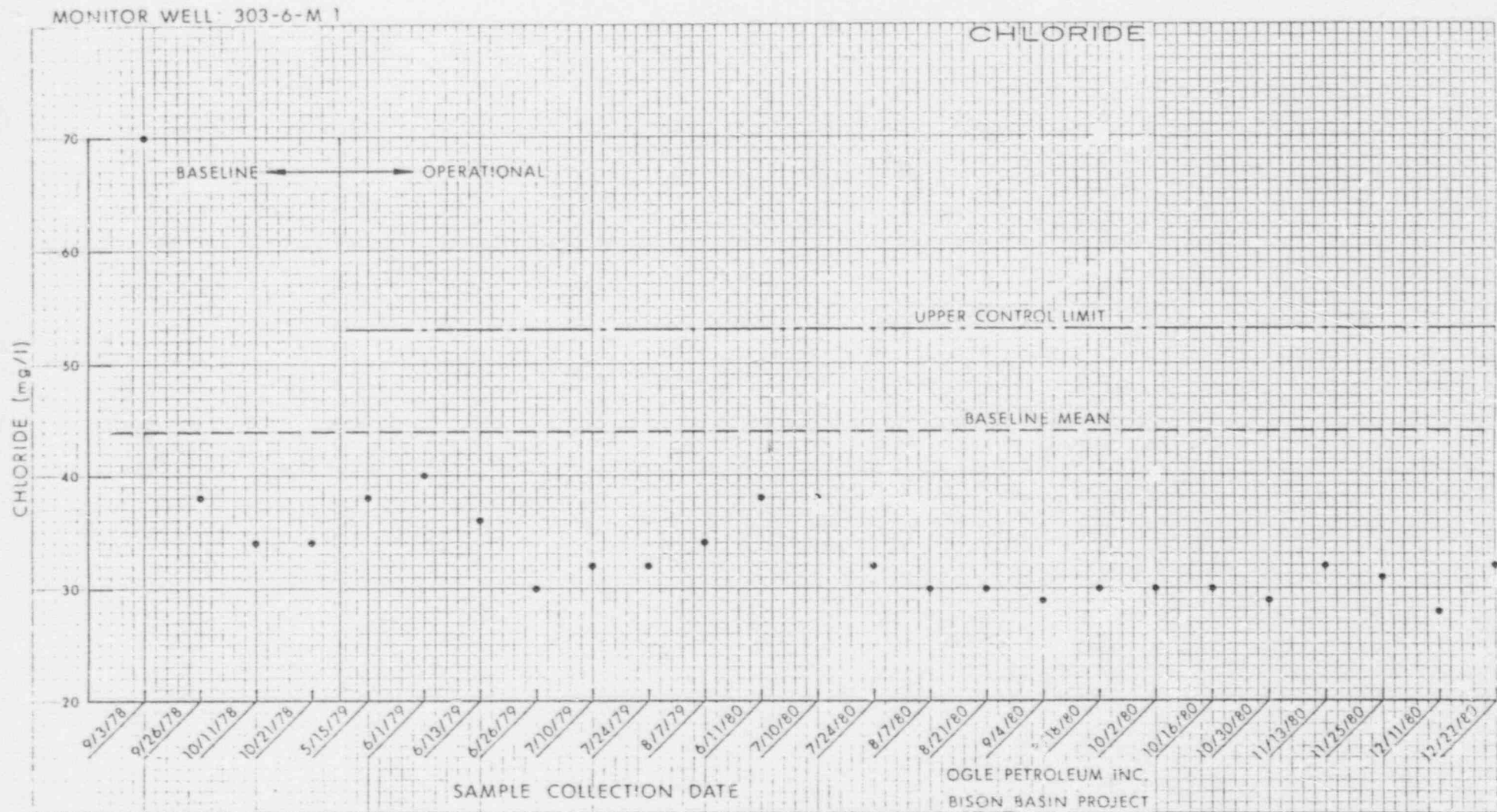


FIGURE 4

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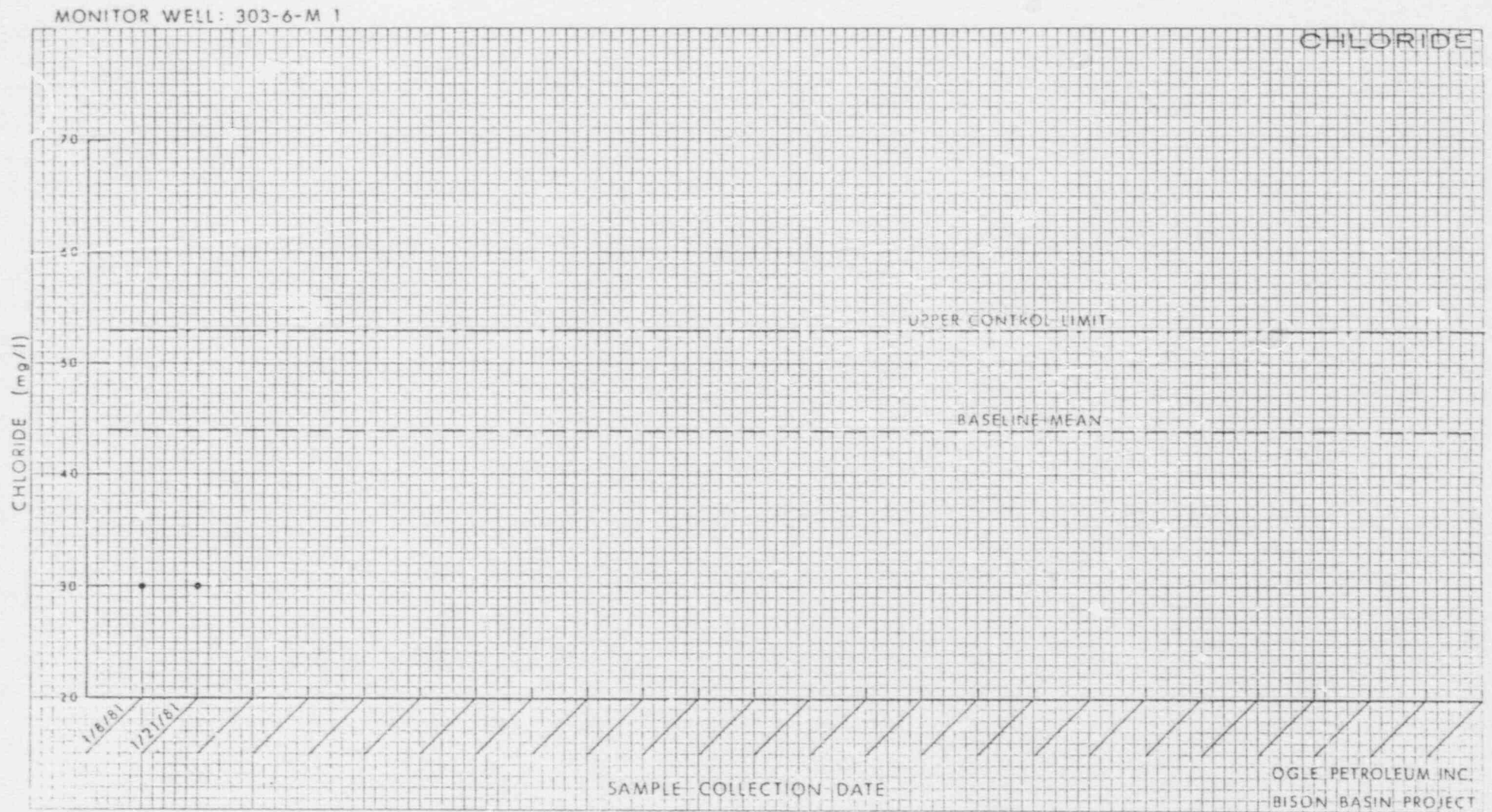


FIGURE 5

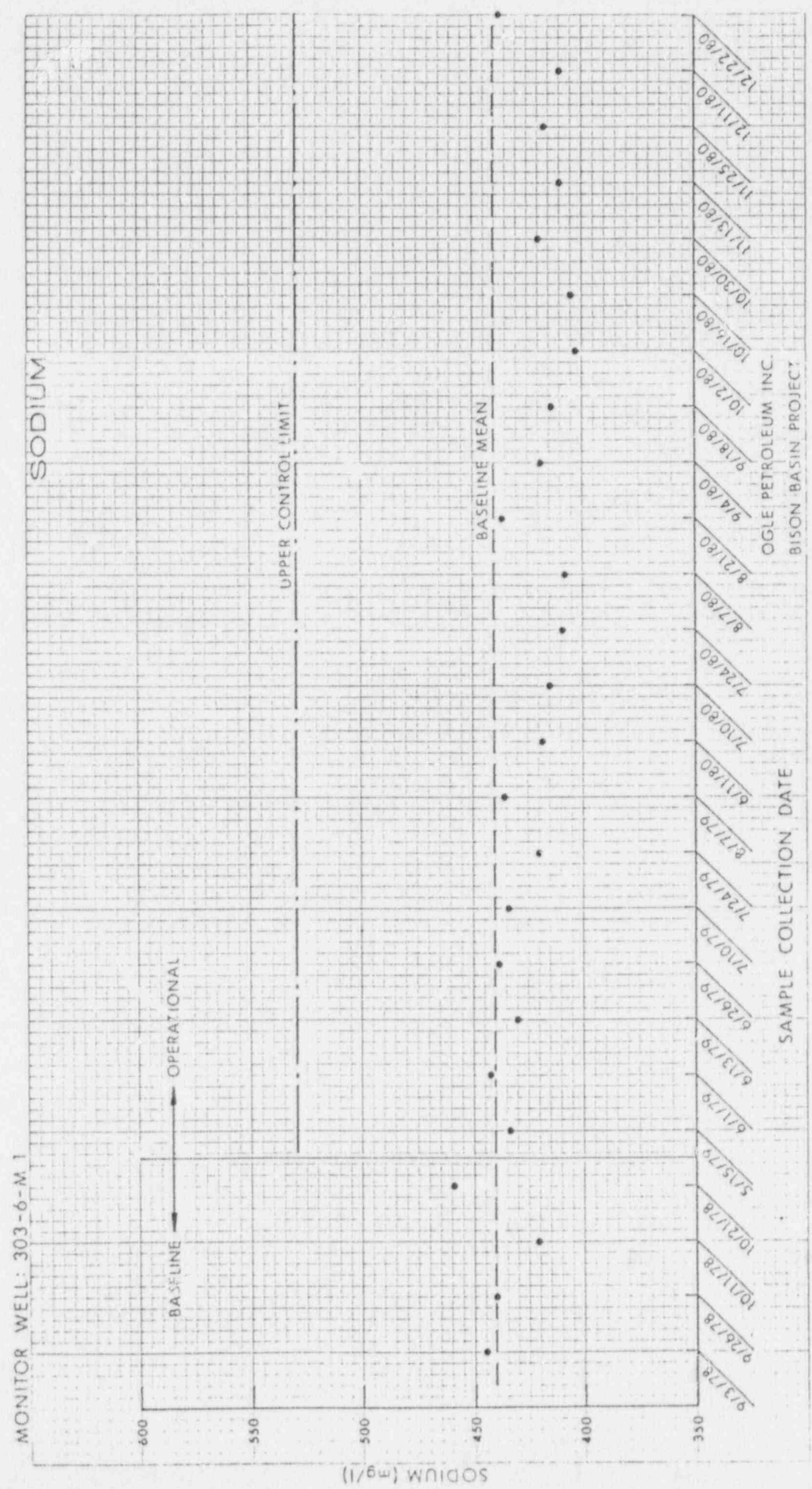


FIGURE 5

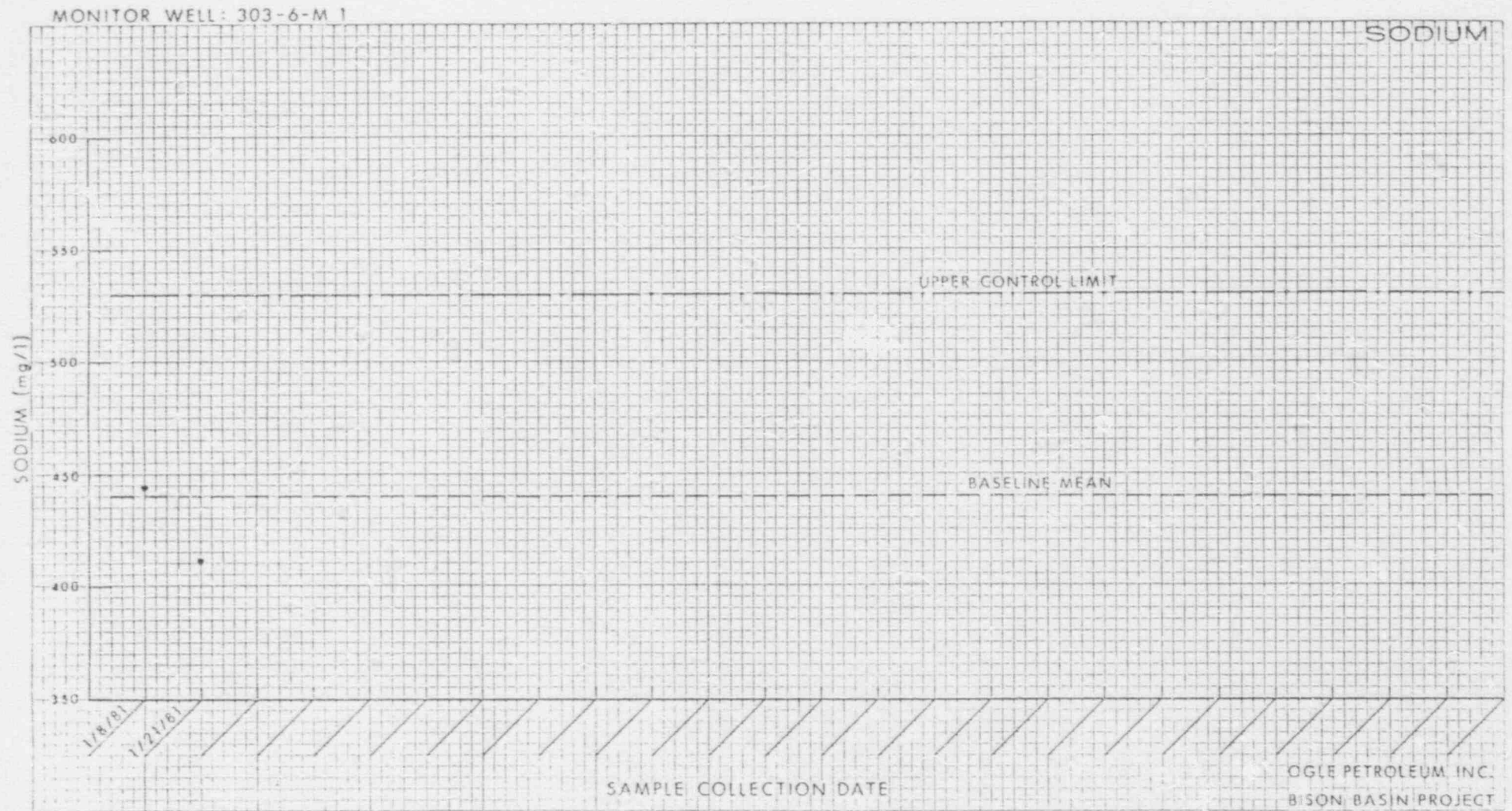


FIGURE 6

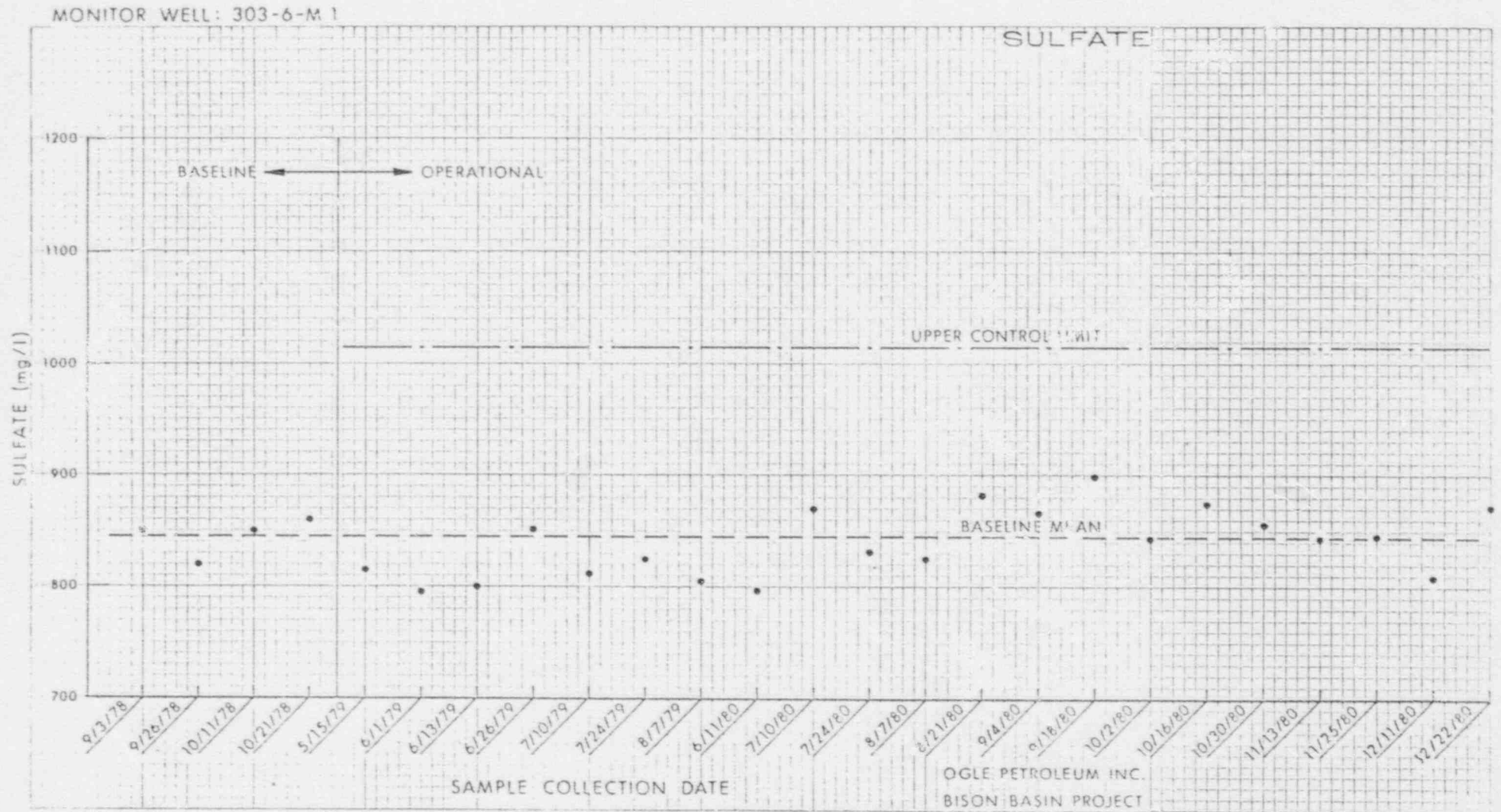


FIGURE 6

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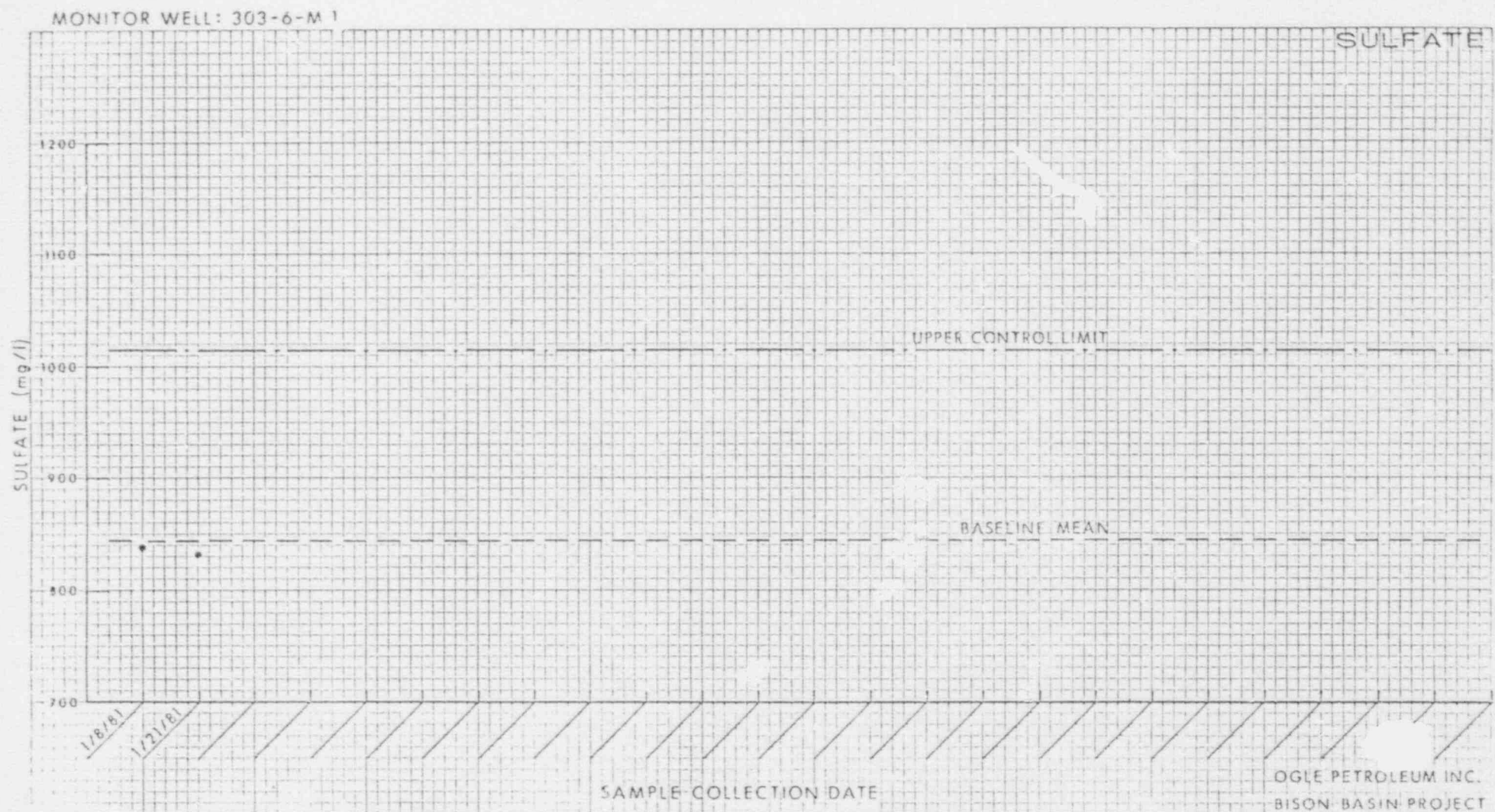


FIGURE 7

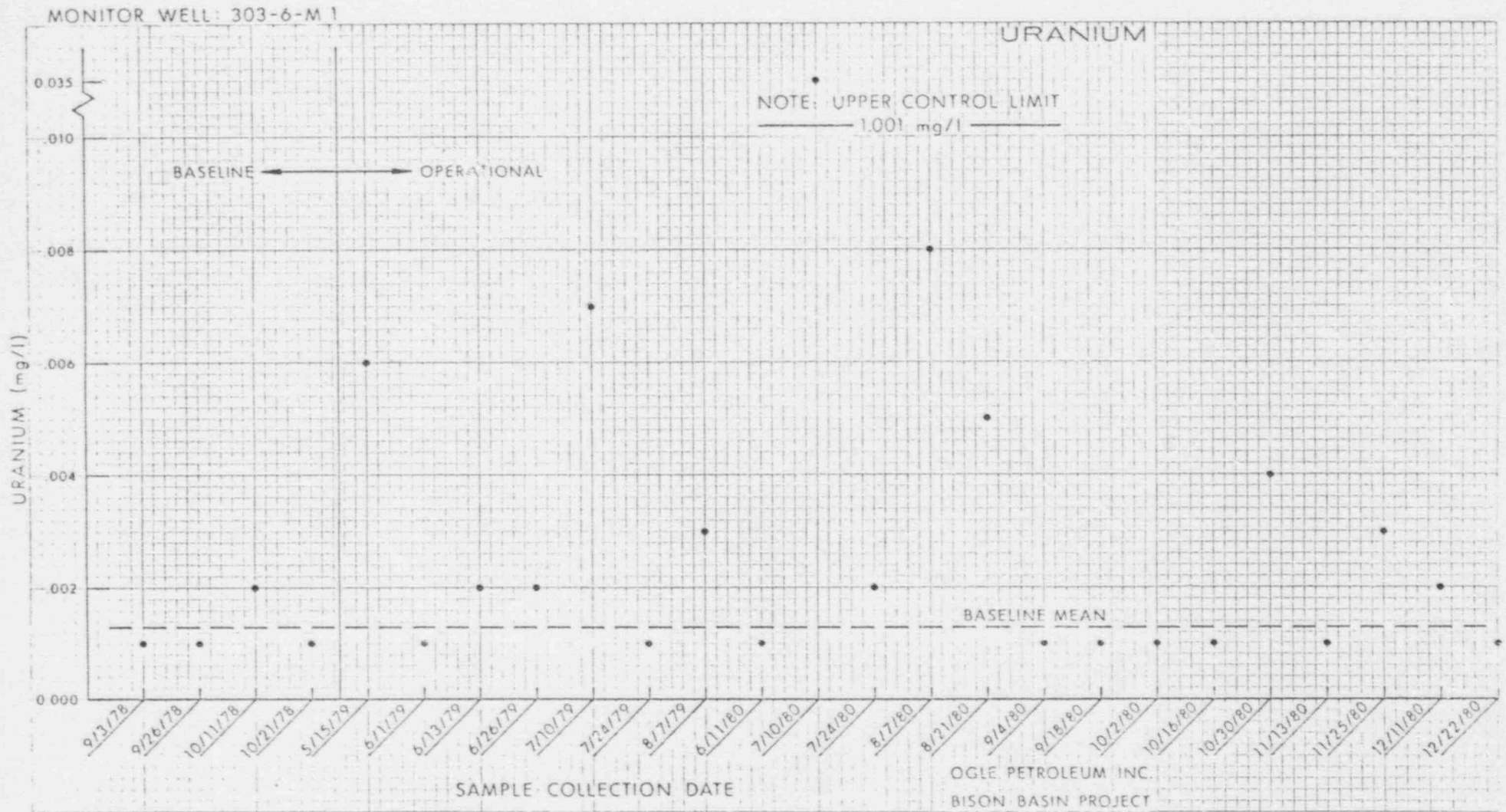


FIGURE 7

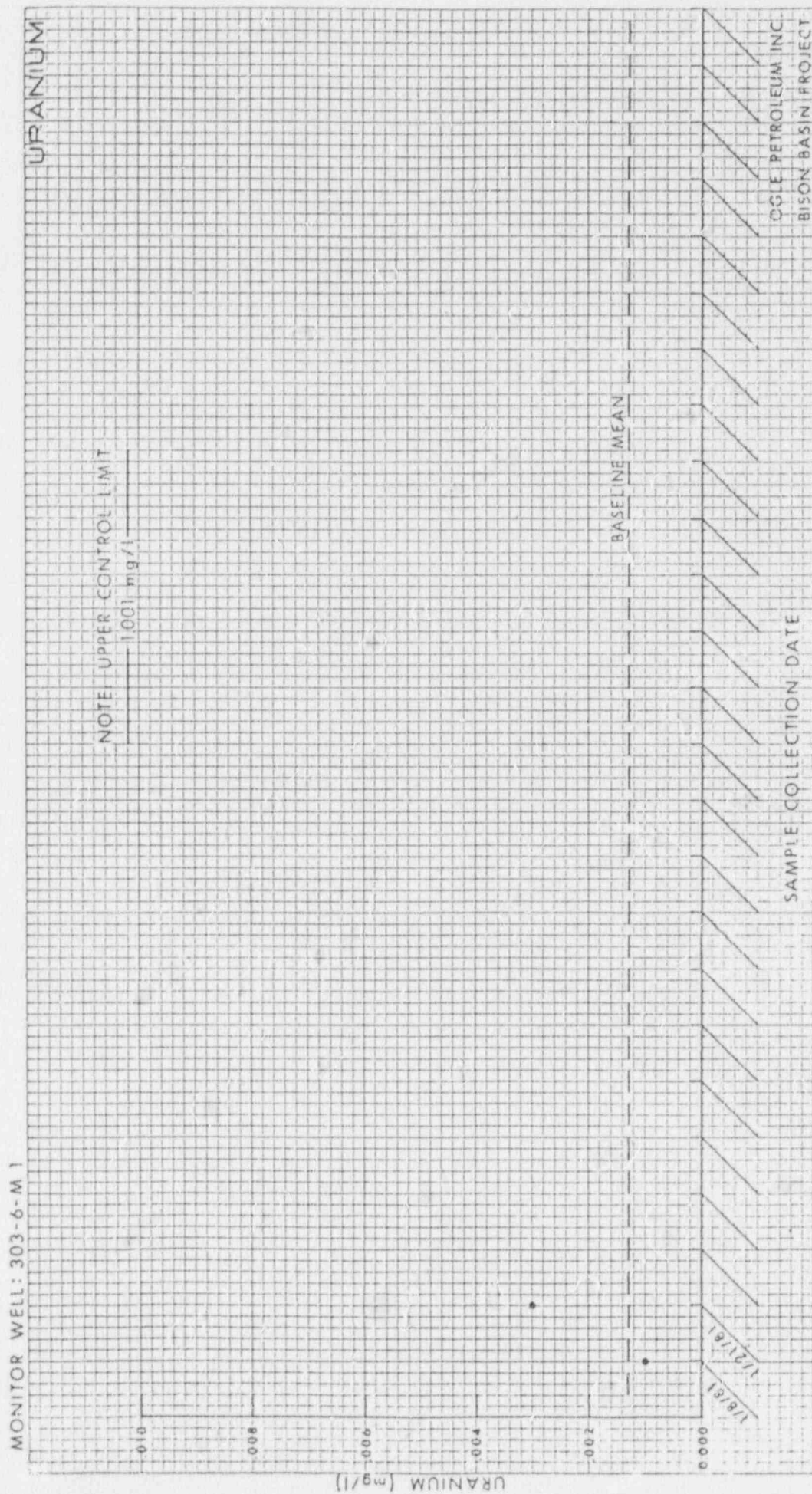


FIGURE 8

MONITOR WELL: 303-6-M 1

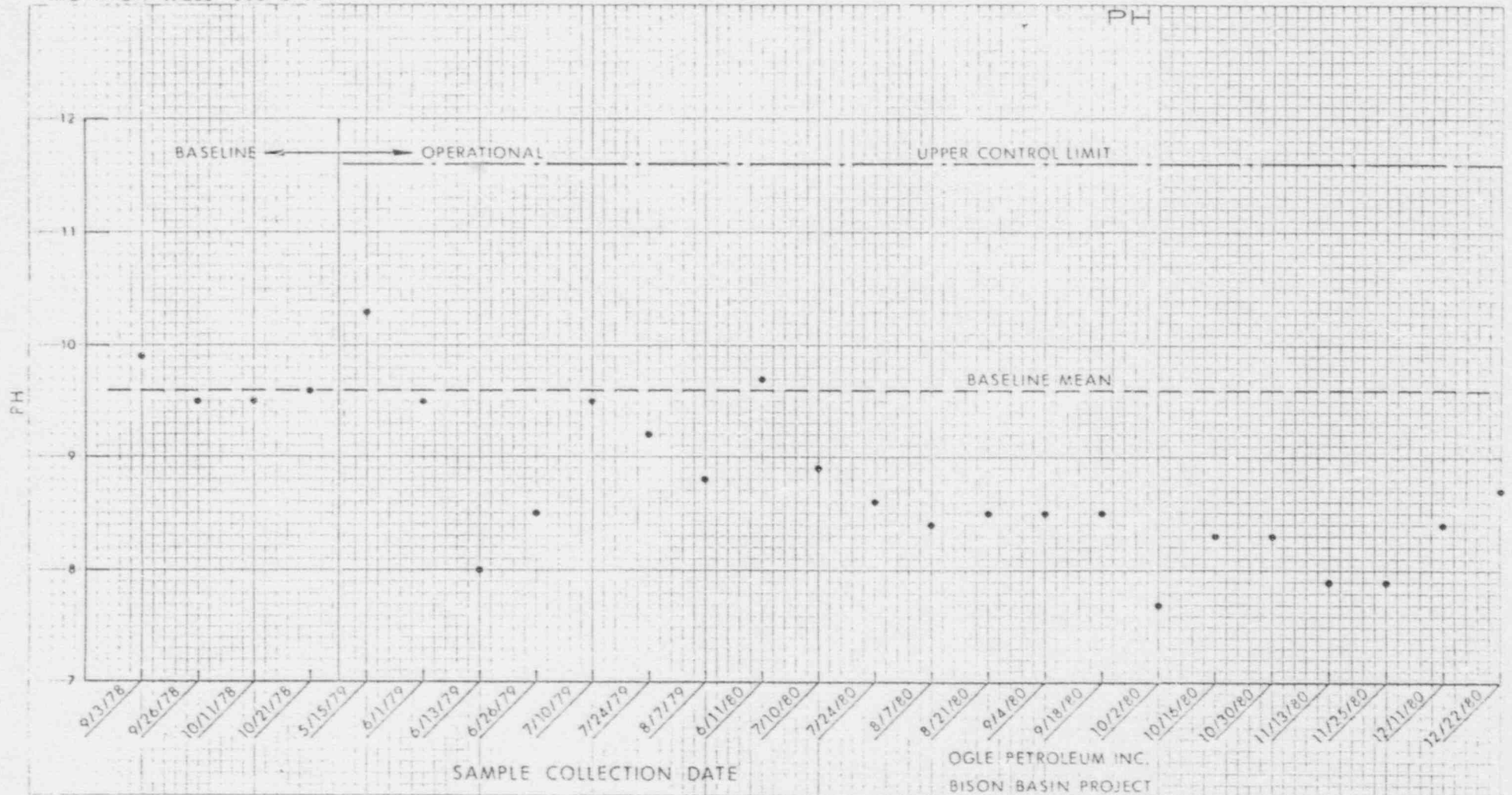


FIGURE 8

Page 2 of 2

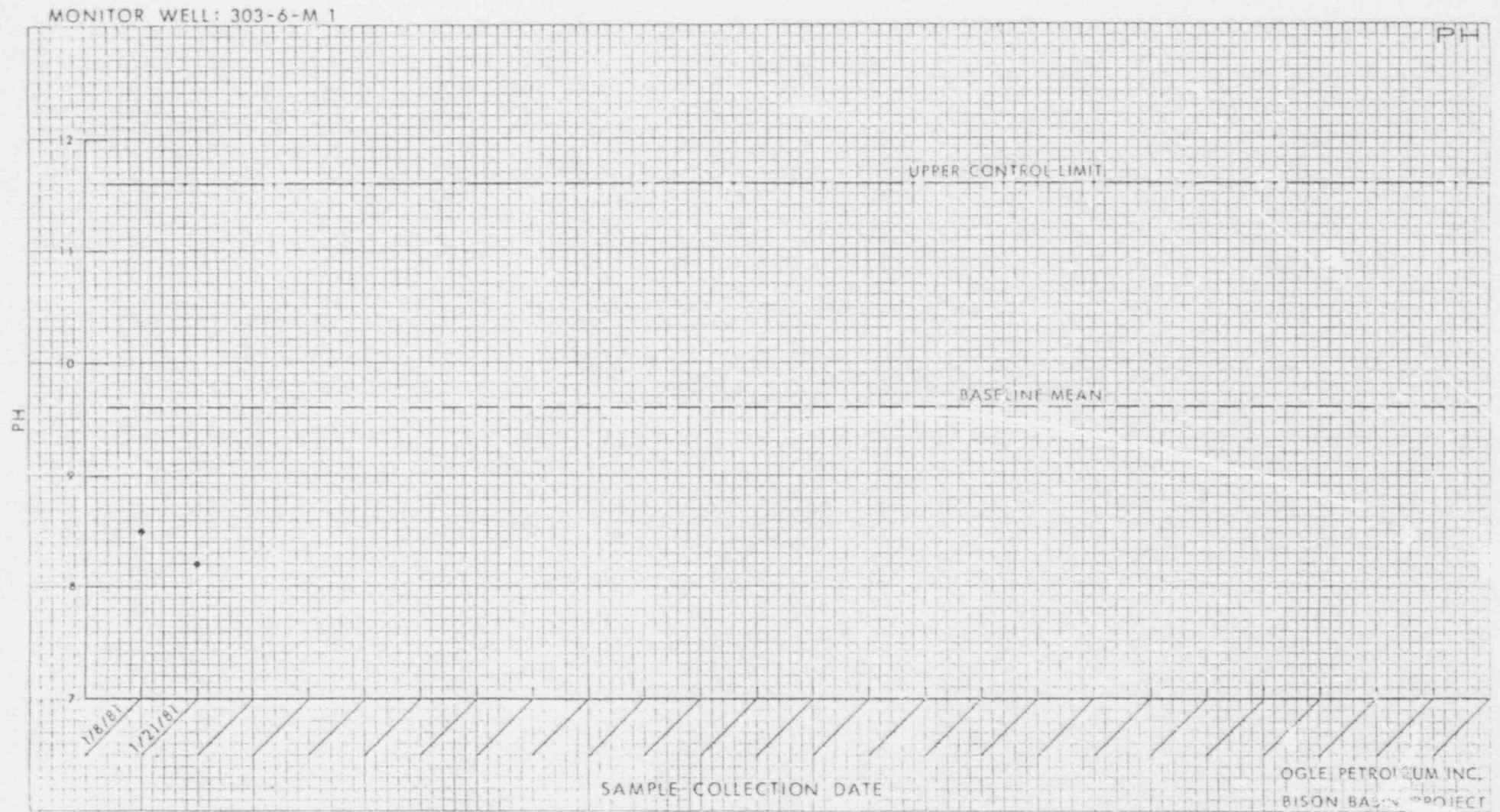


FIGURE 9

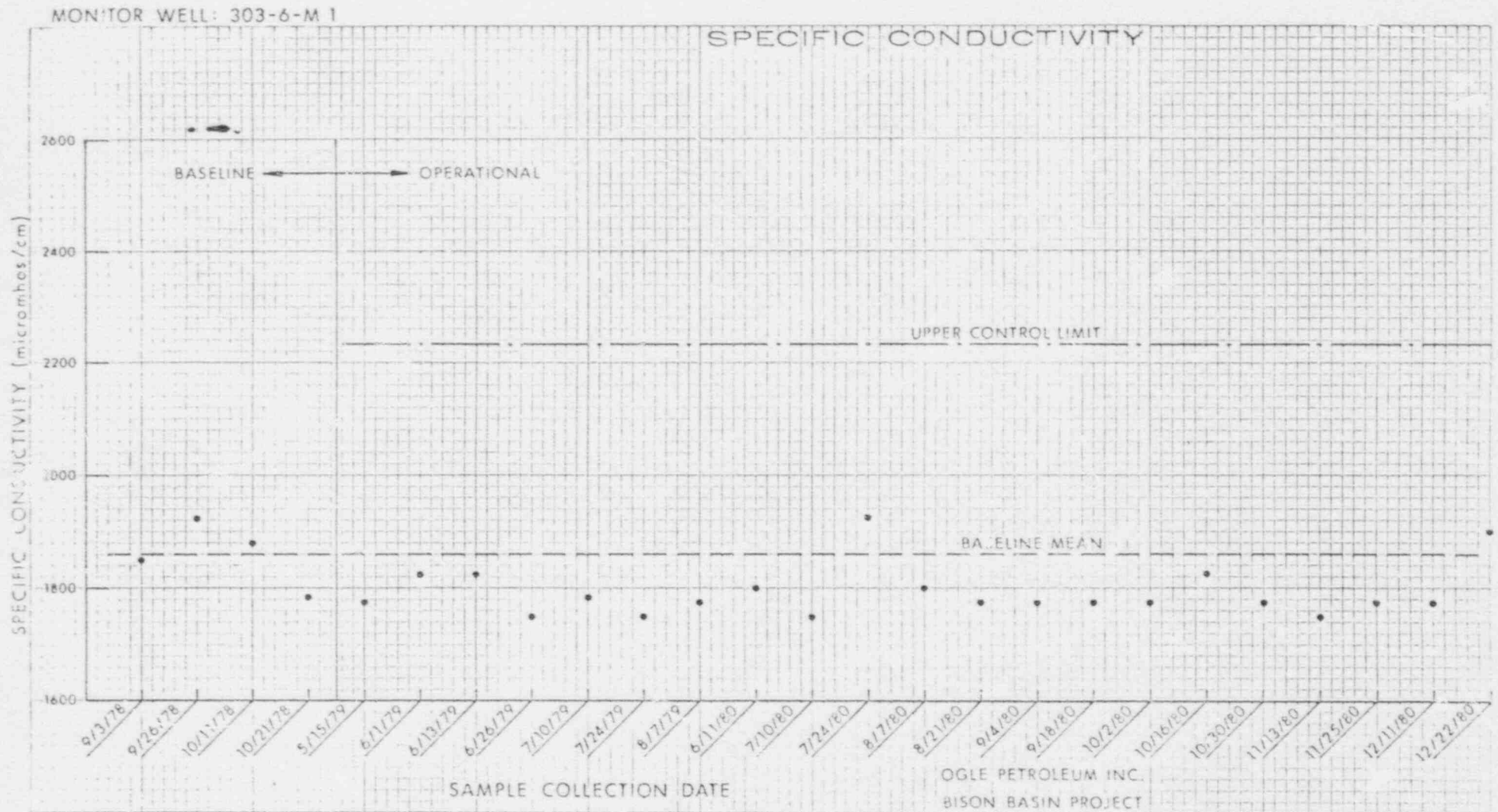


FIGURE 9

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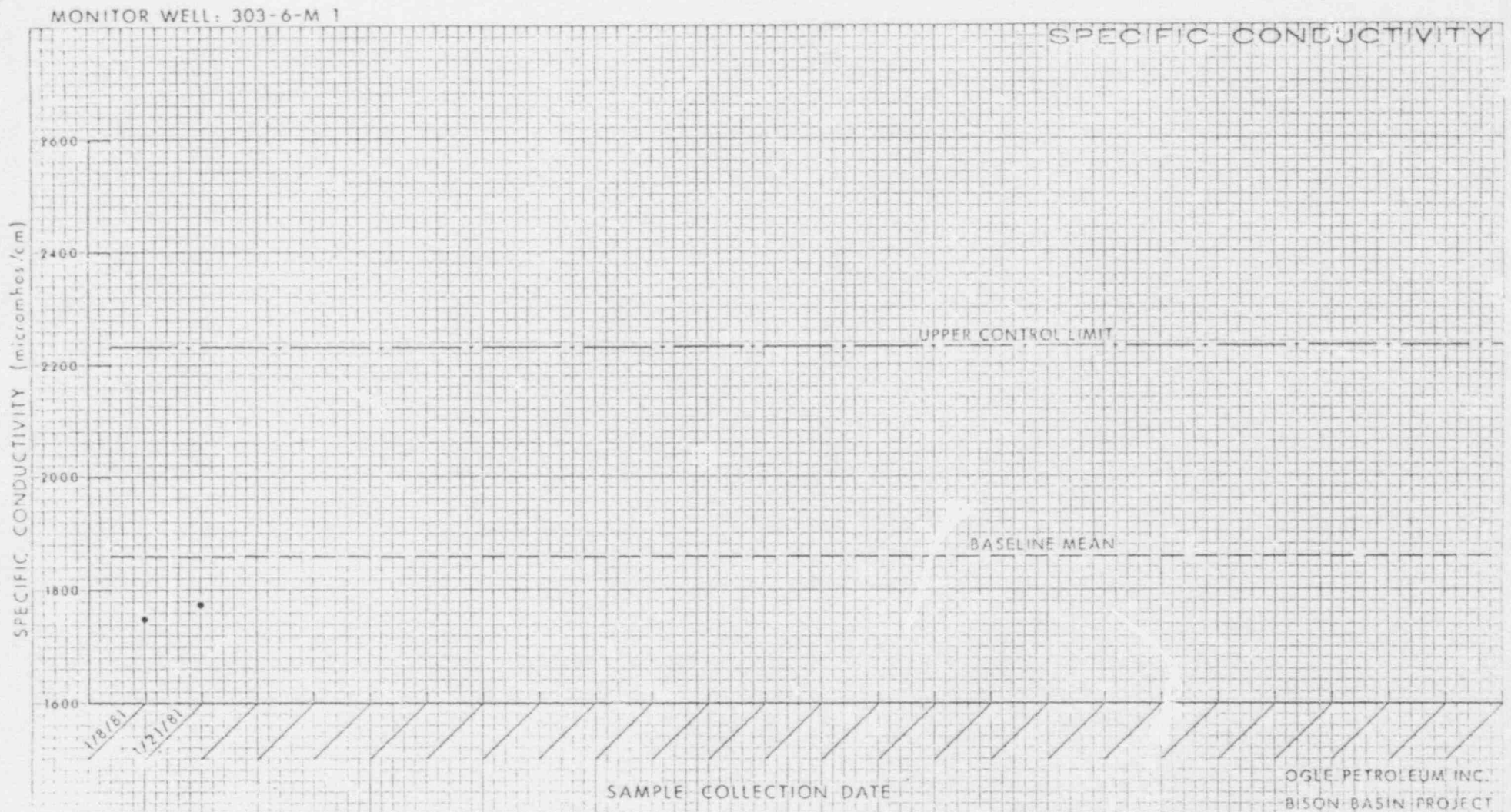


FIGURE 10



MONITOR WELL: 303-6-M 2

FIGURE 10

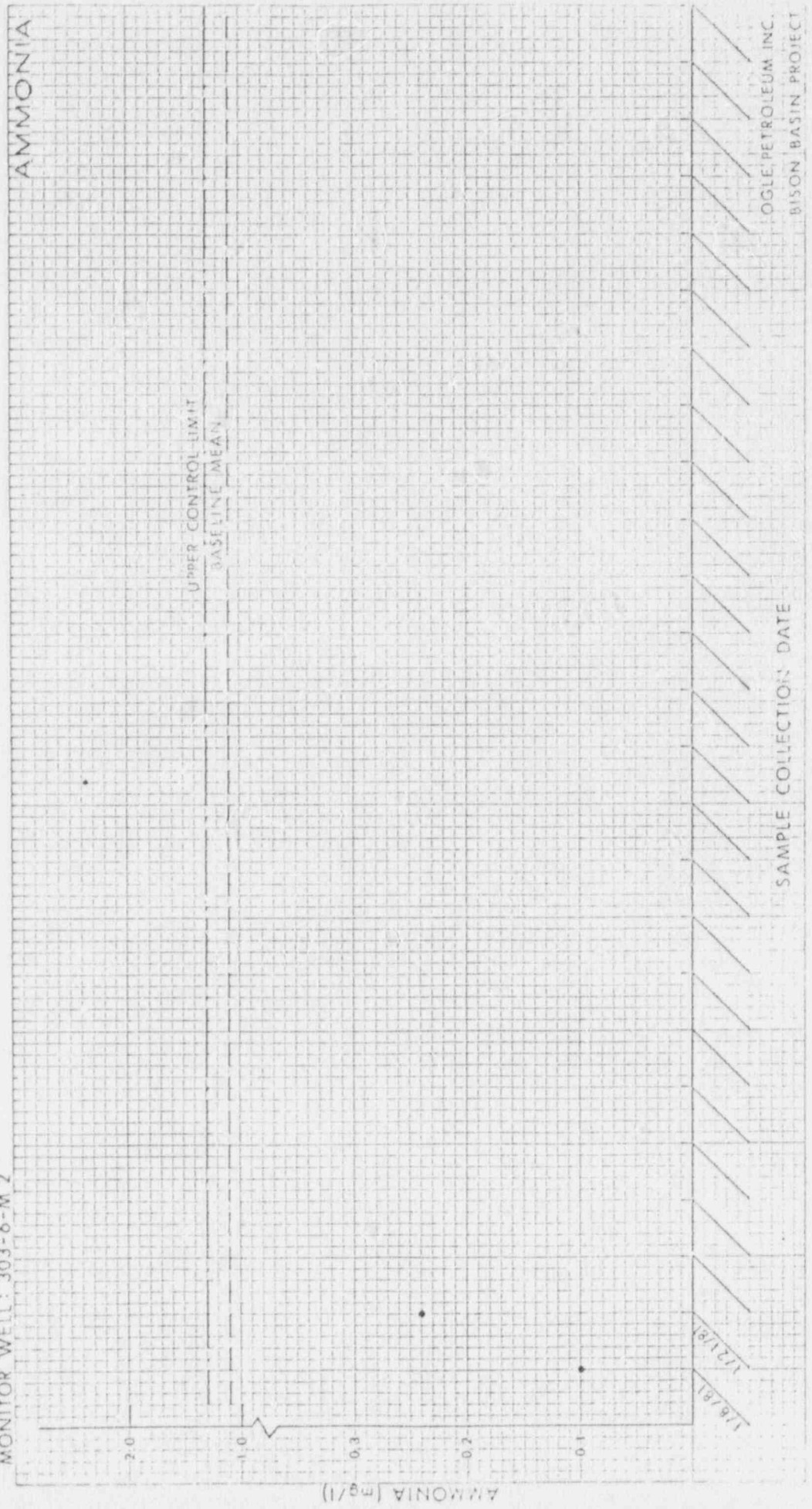


FIGURE 11



FIGURE 11

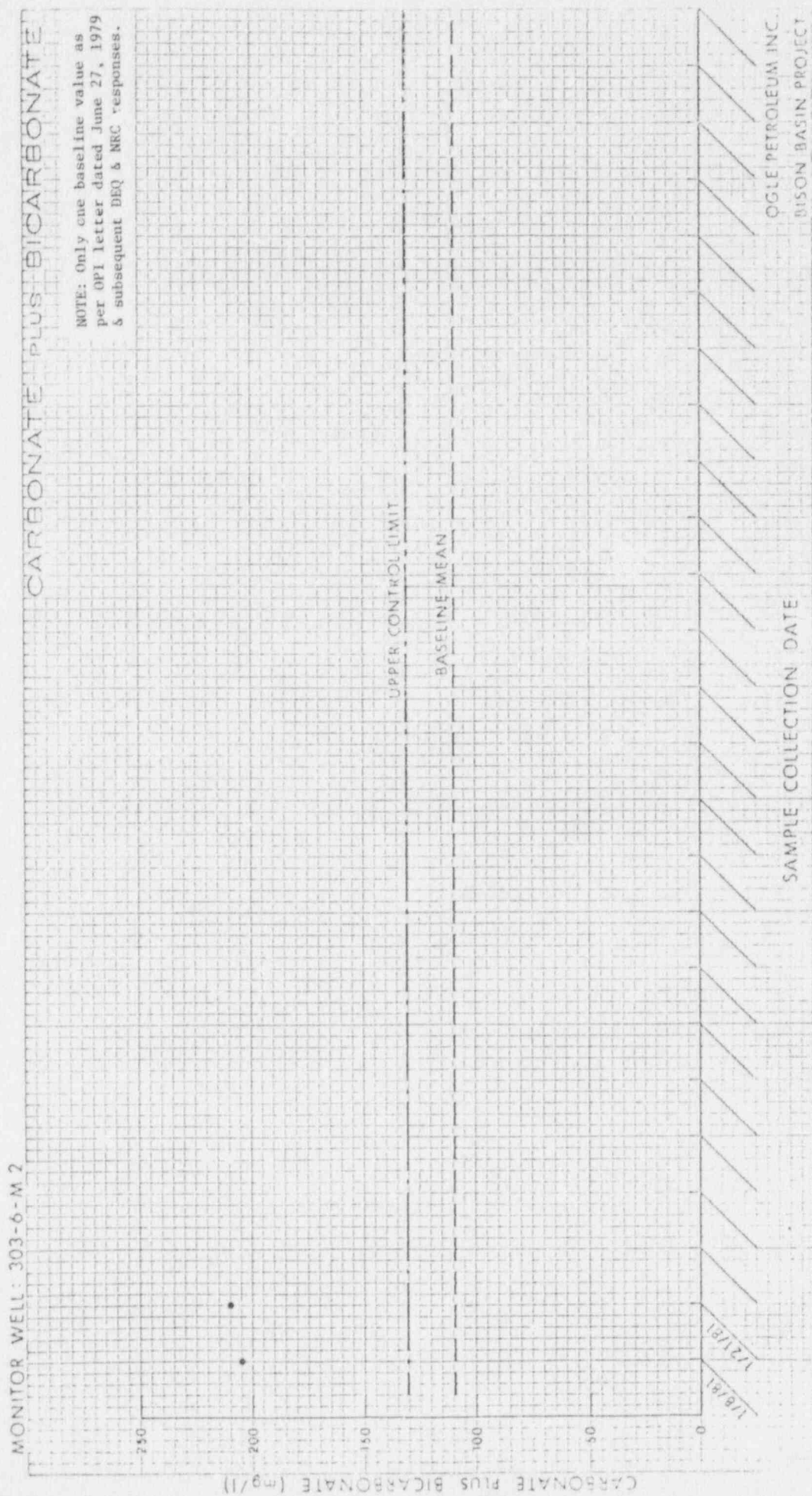


FIGURE 12

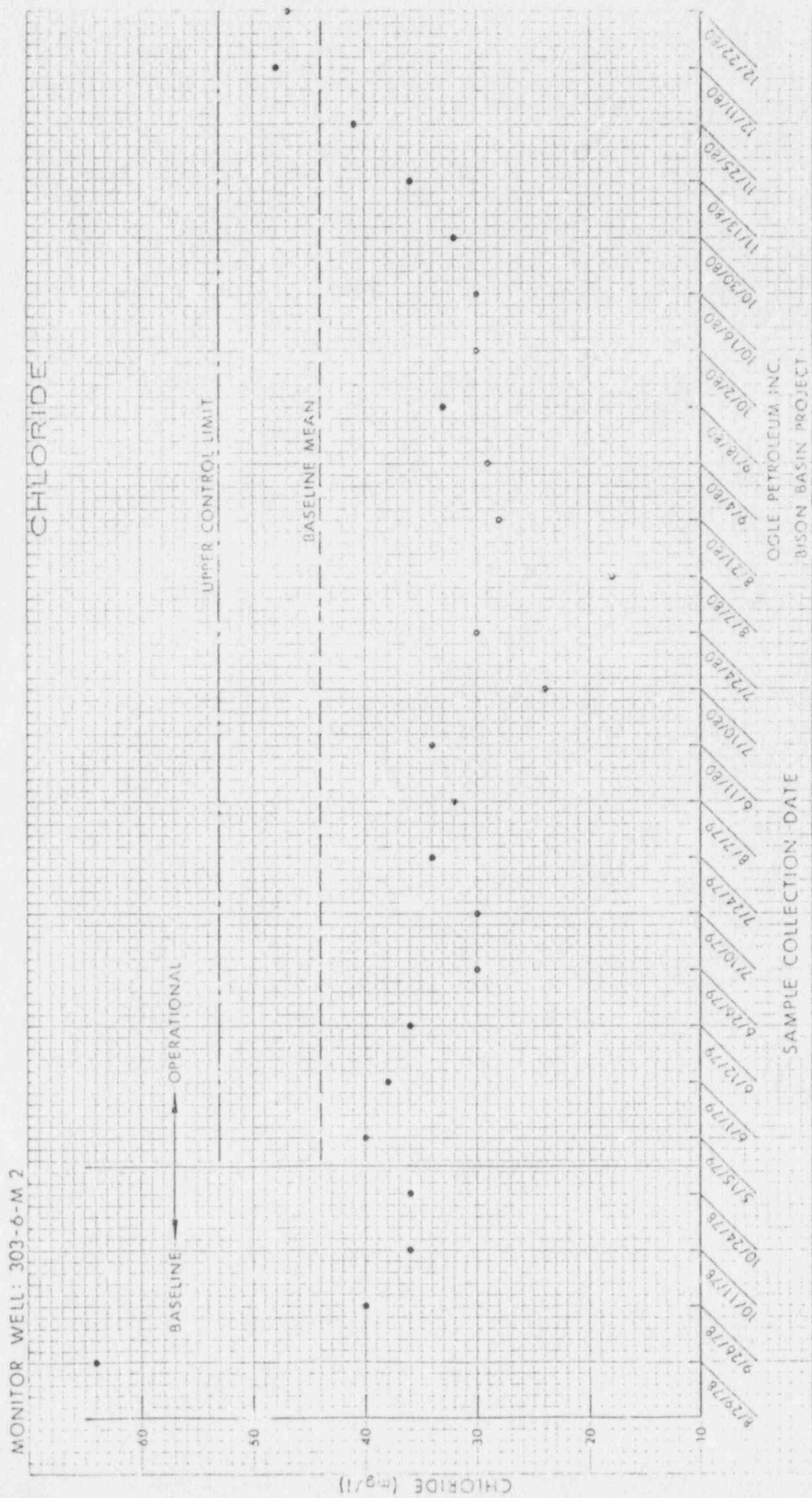


FIGURE 12

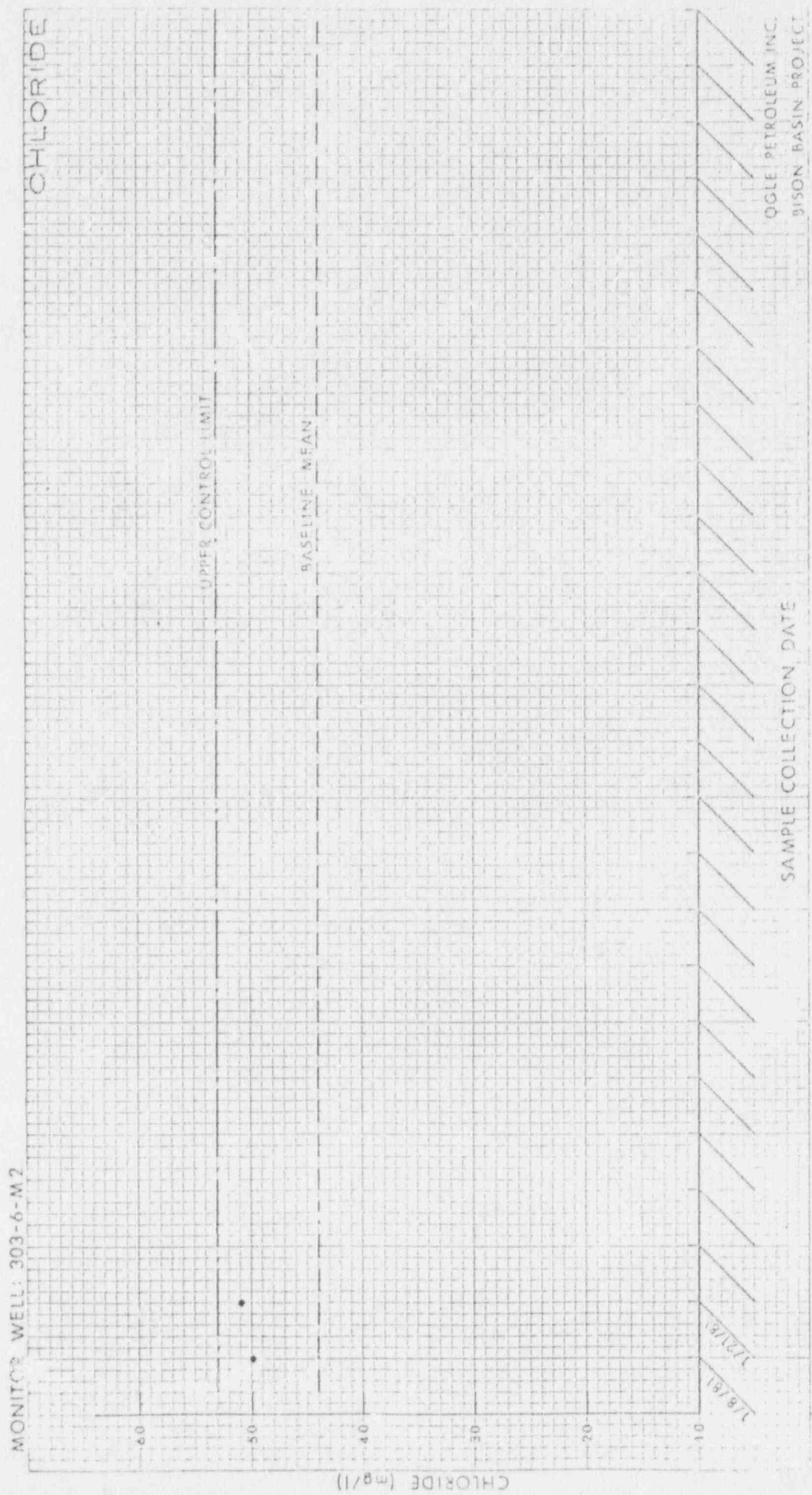


FIGURE 13

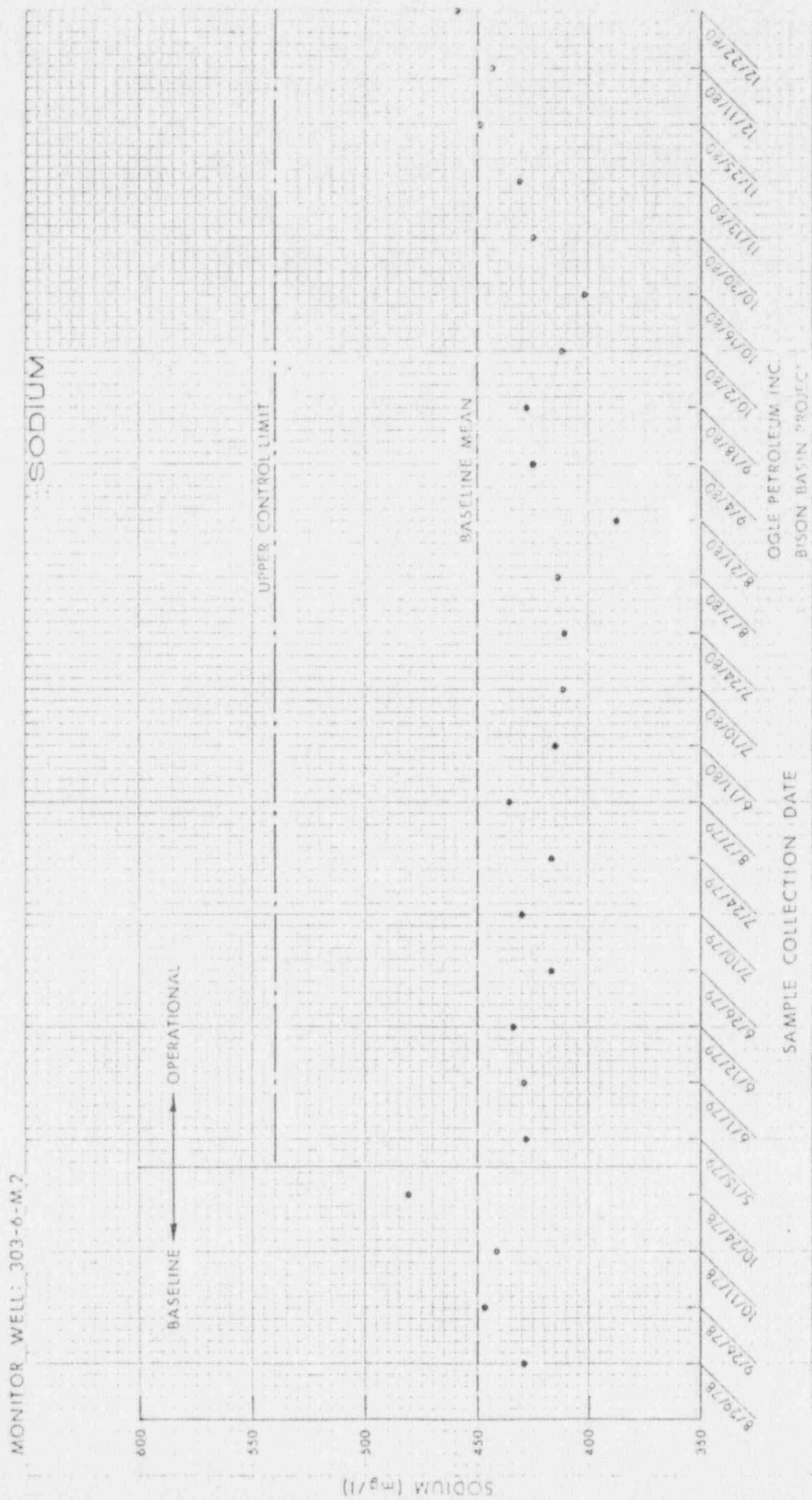


FIGURE 13

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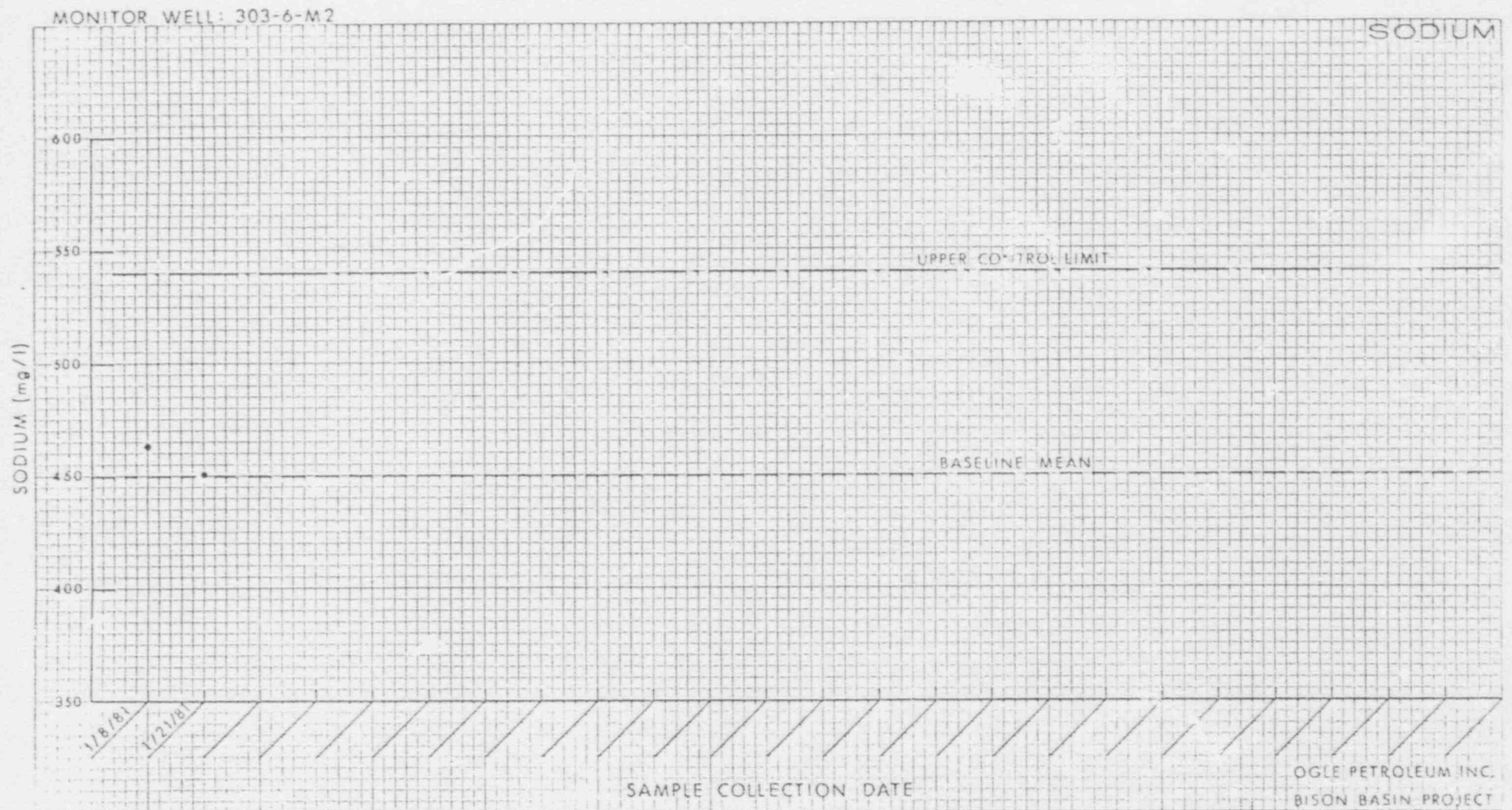


FIGURE 14

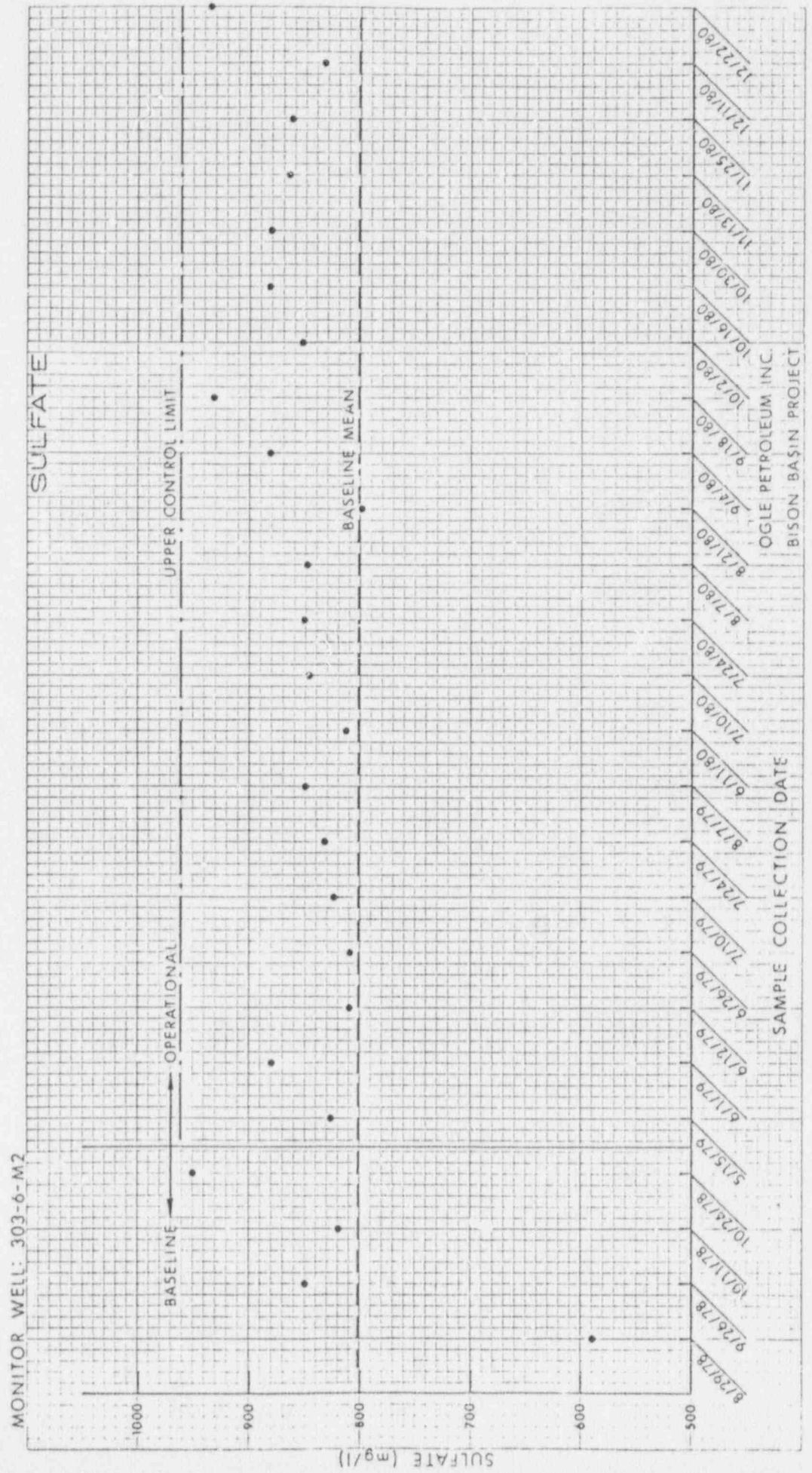


FIGURE 15

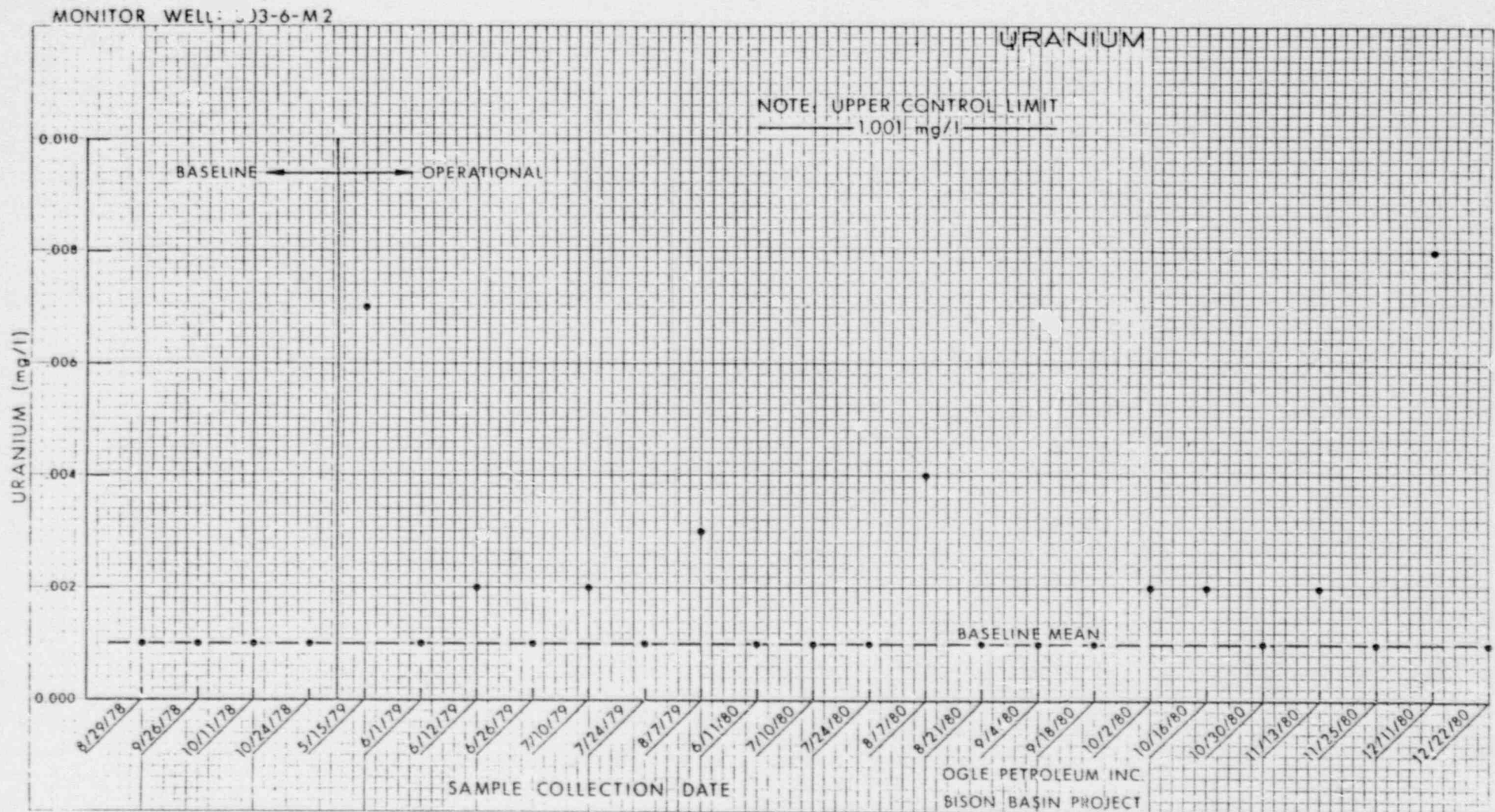


FIGURE 15

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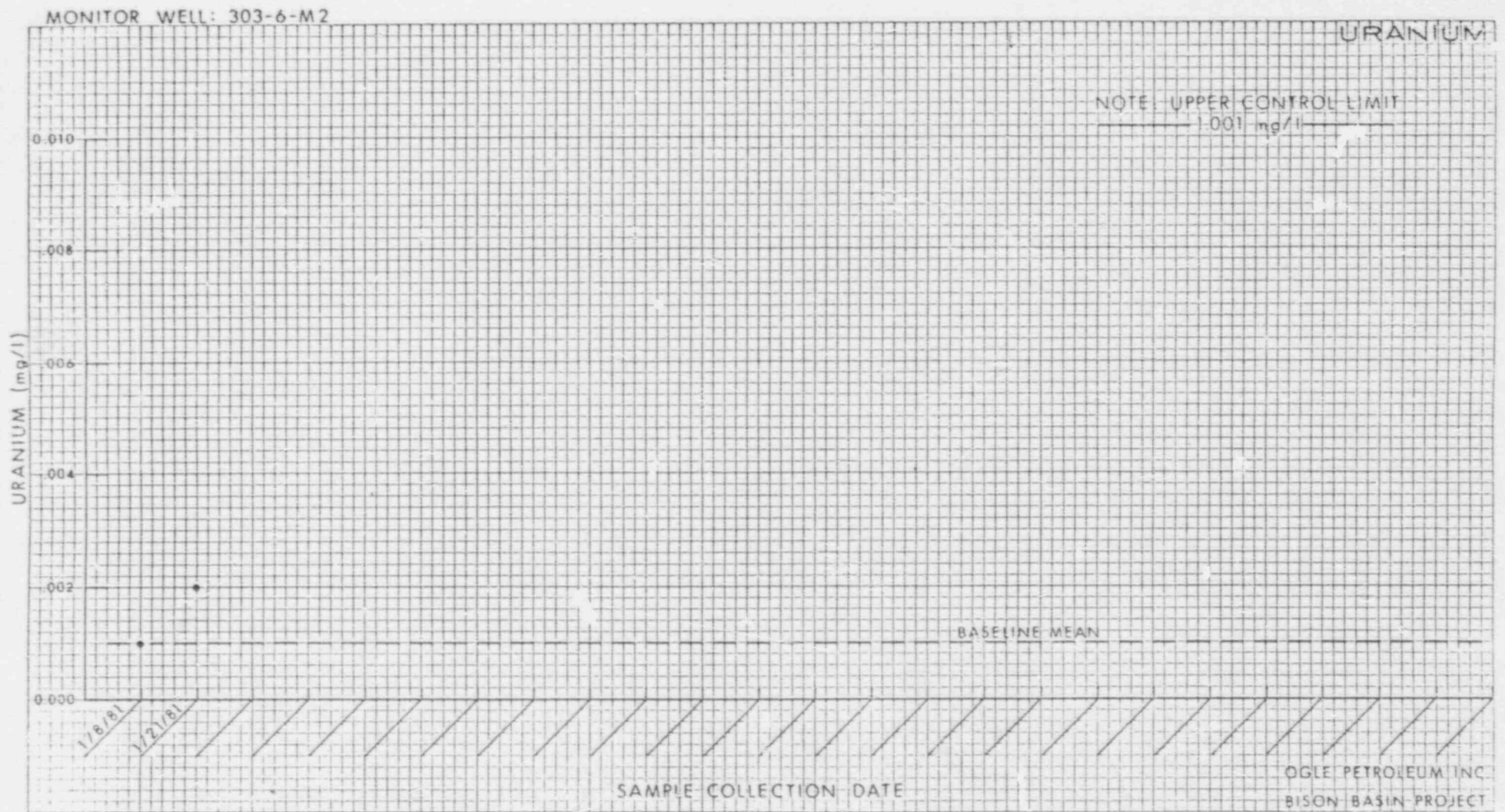


FIGURE 16

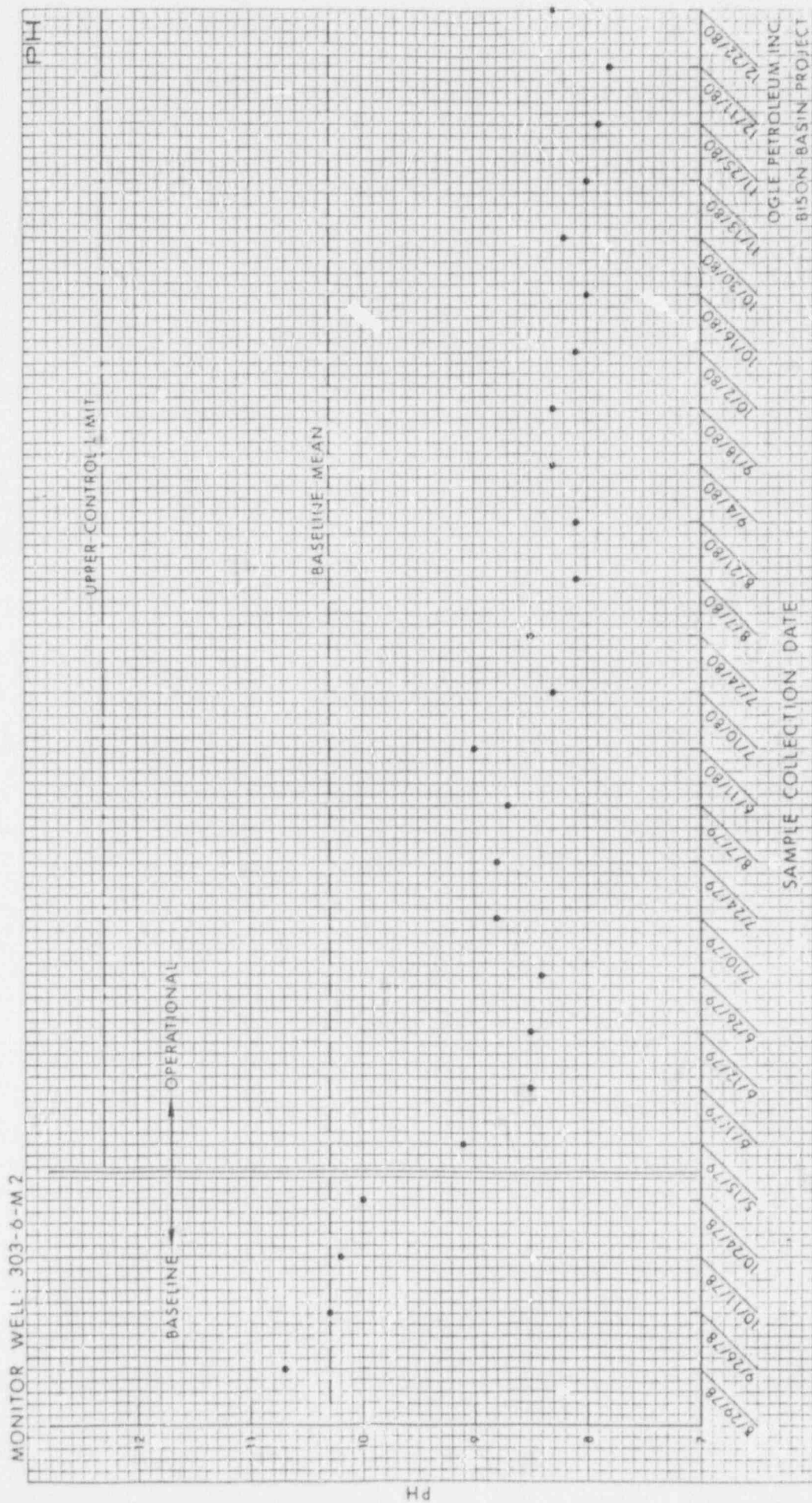


FIGURE 16

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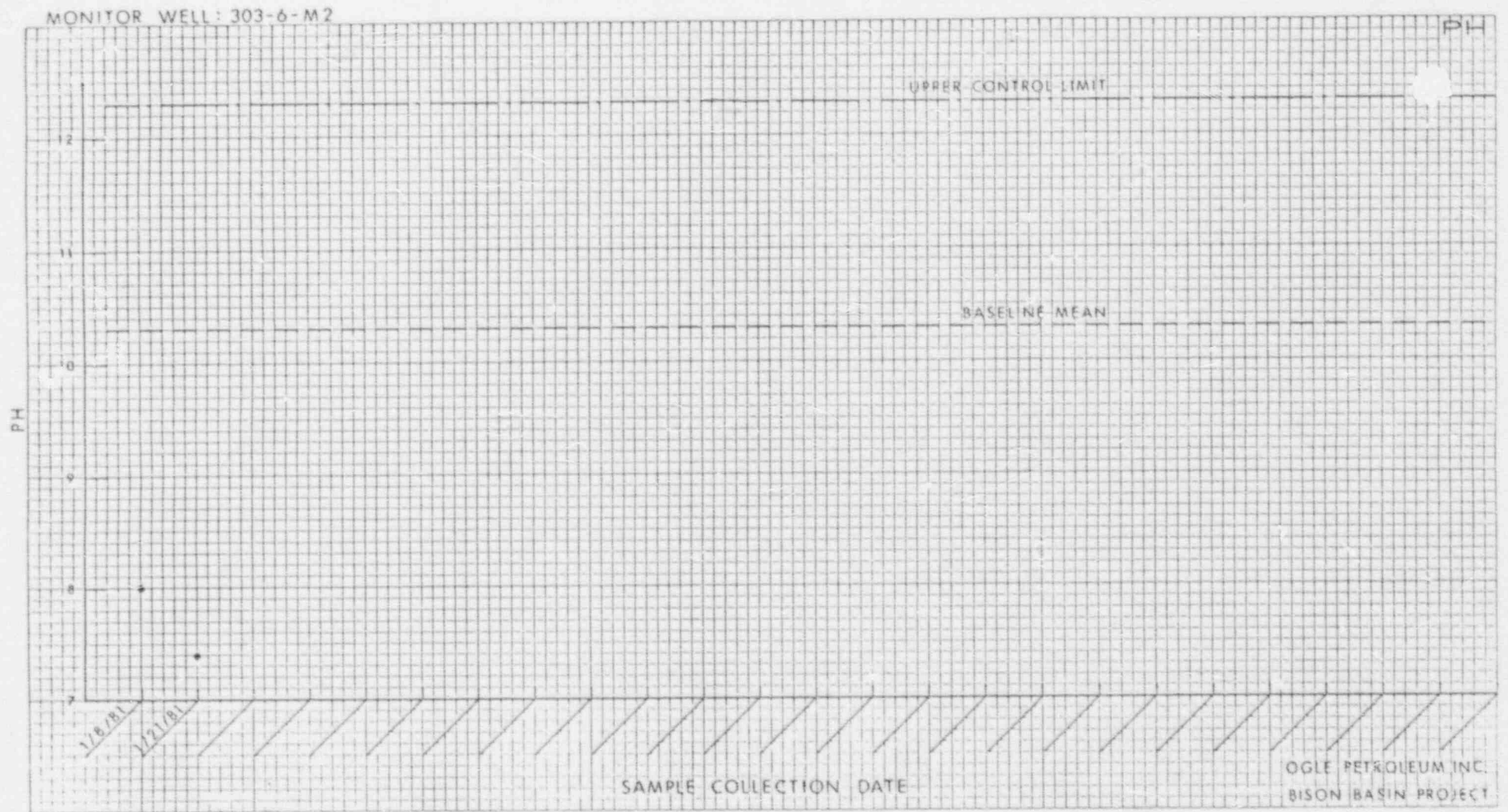


FIGURE 17

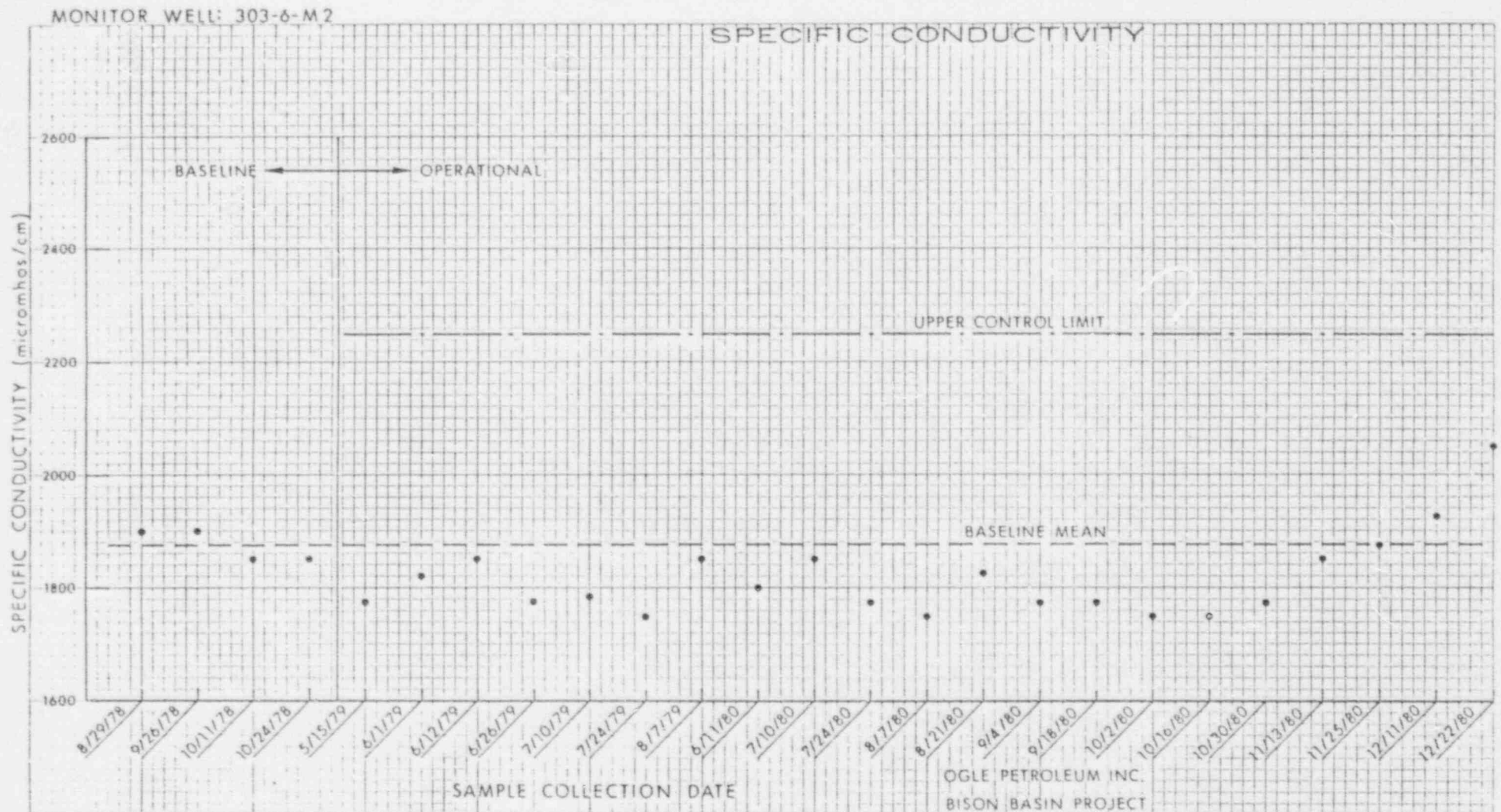


FIGURE 17

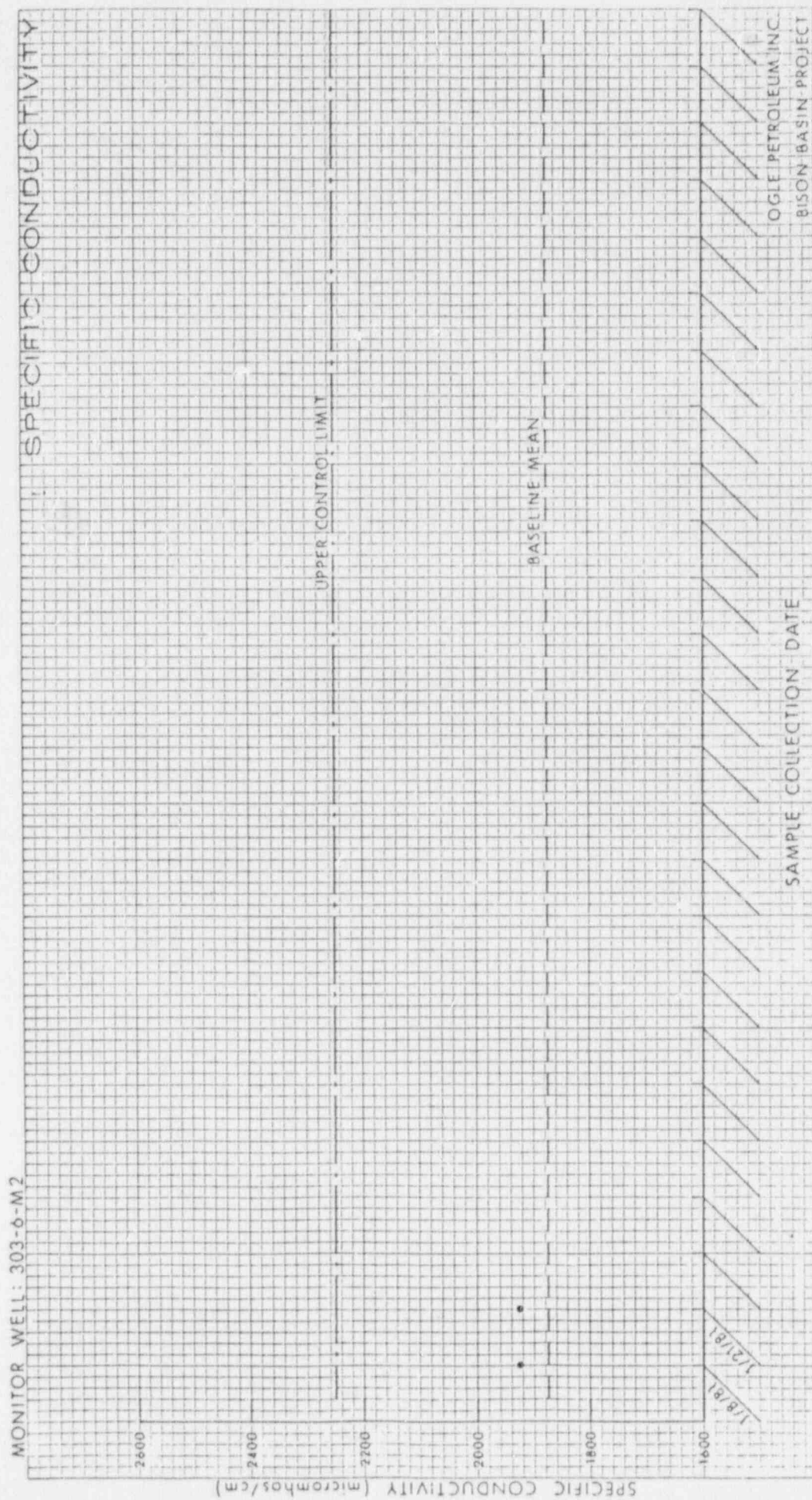


FIGURE 1B



FIGURE 18

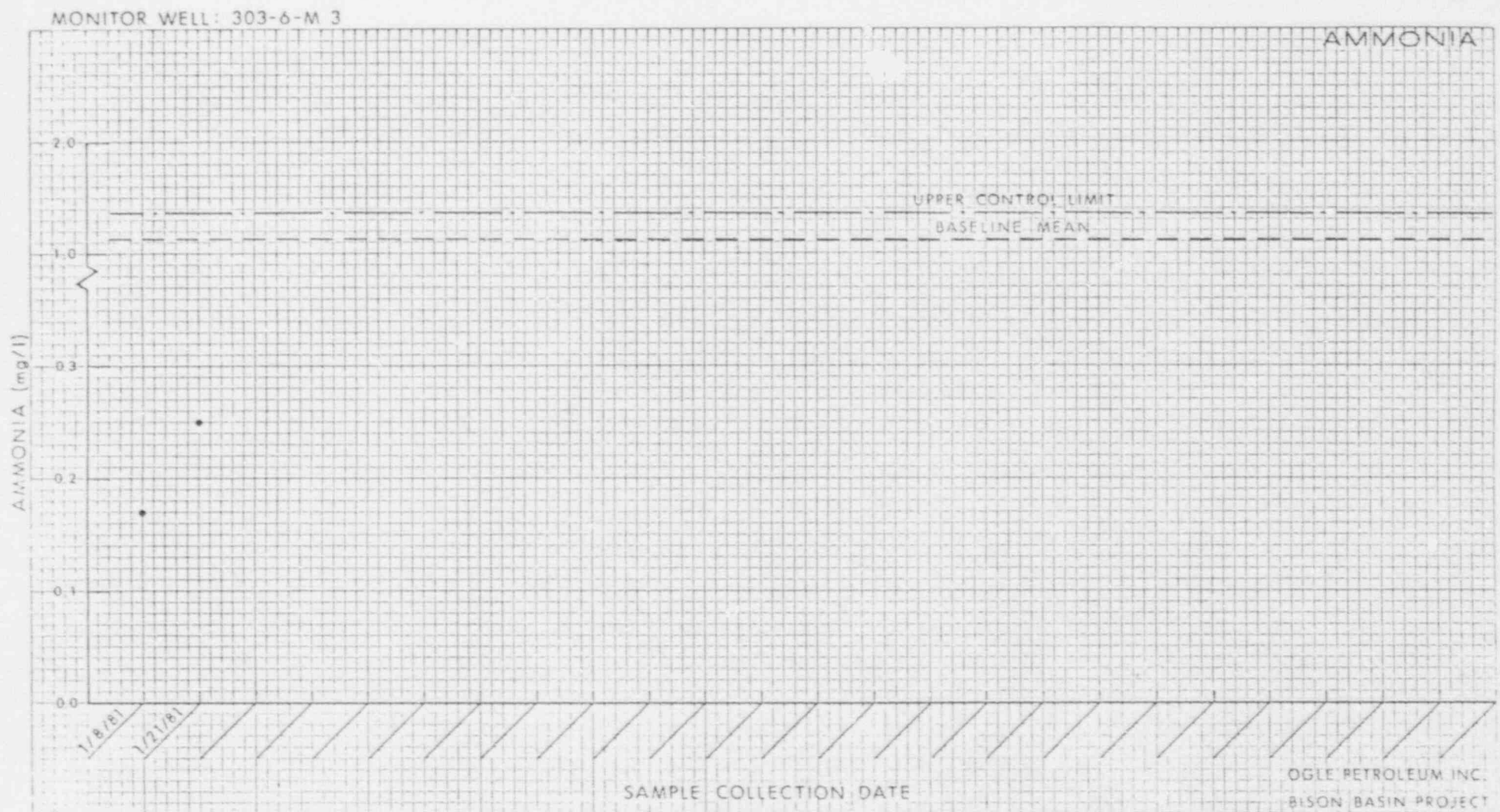


FIGURE 19

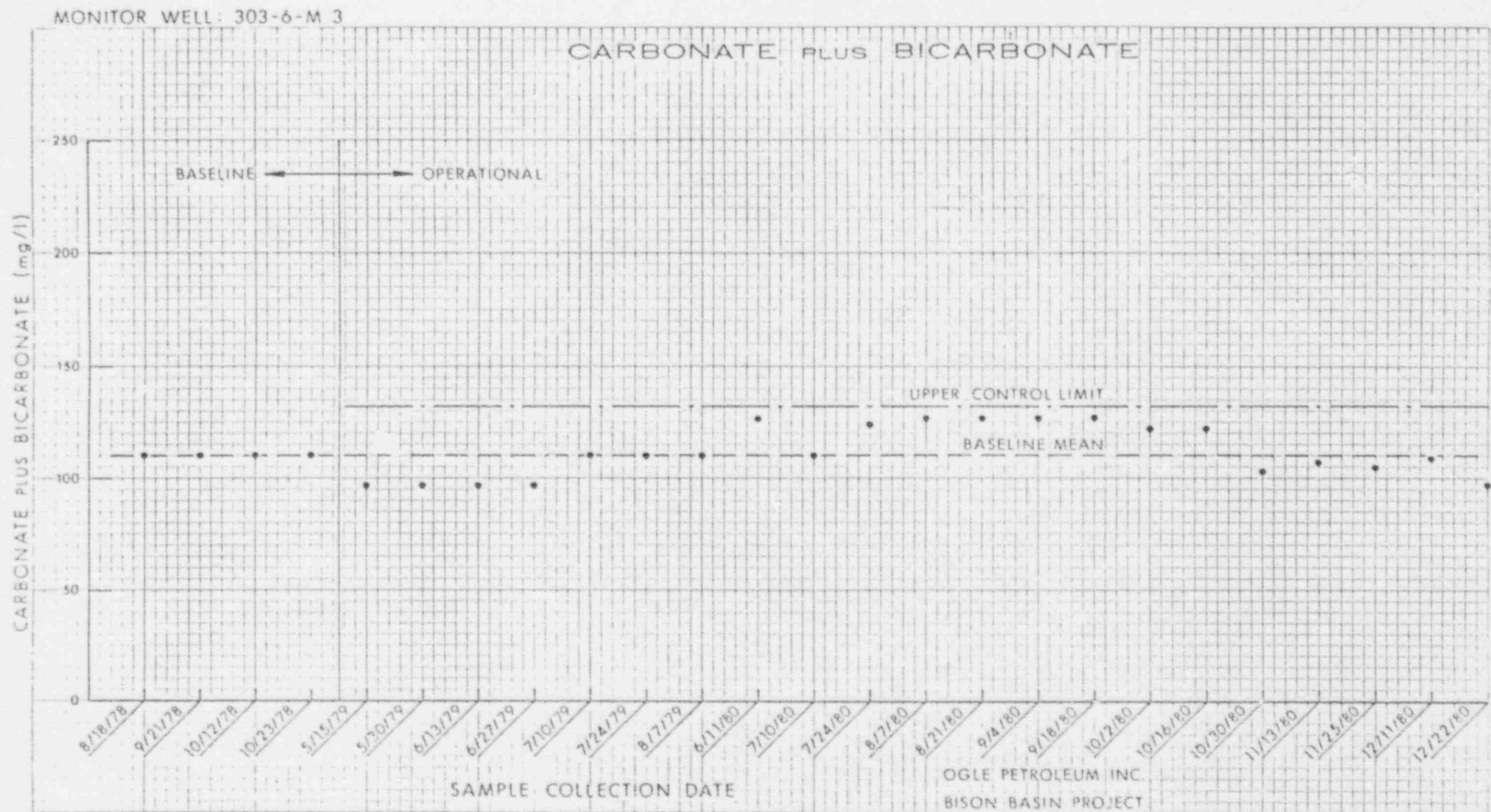


FIGURE 19

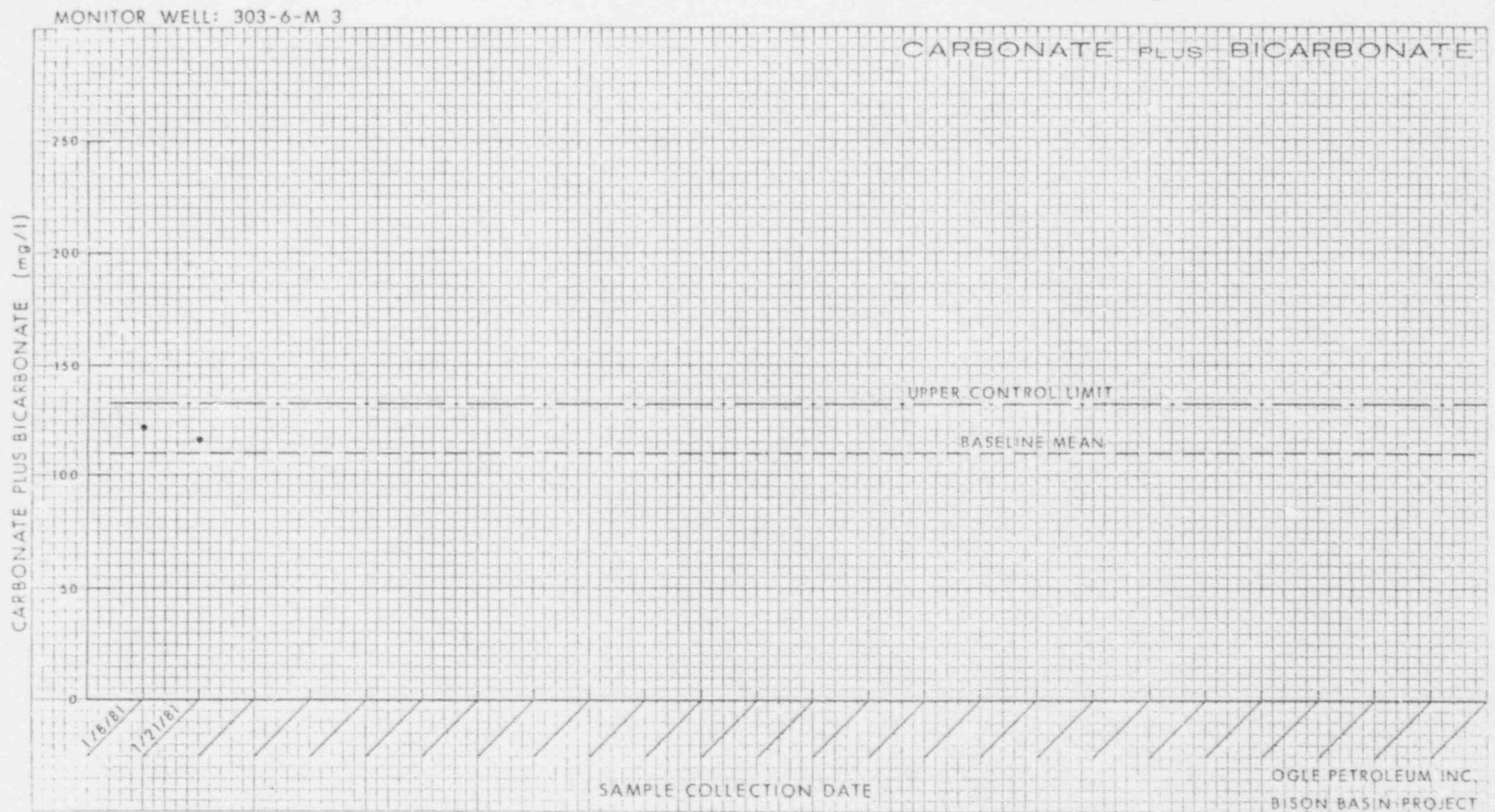


FIGURE 20

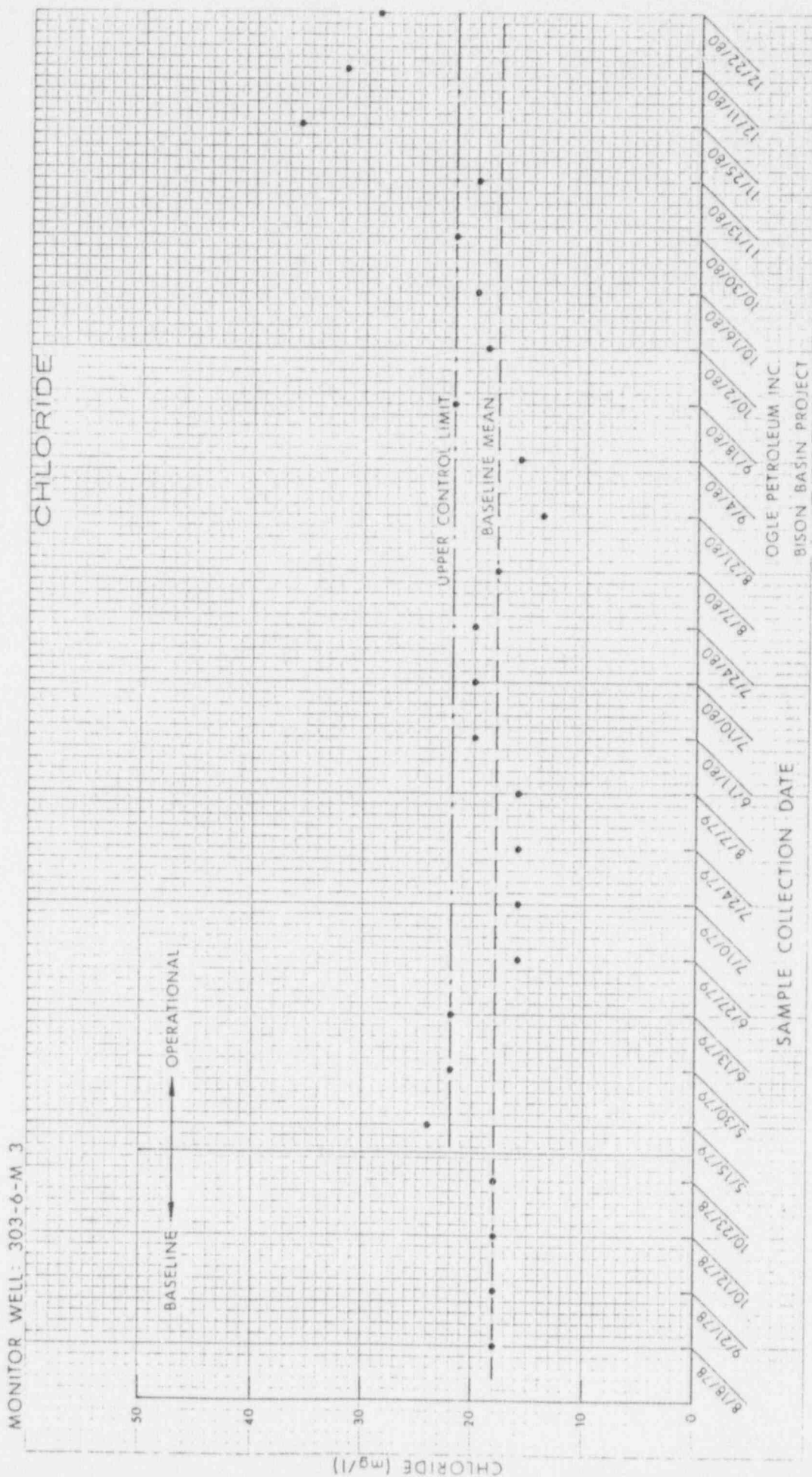


FIGURE 20

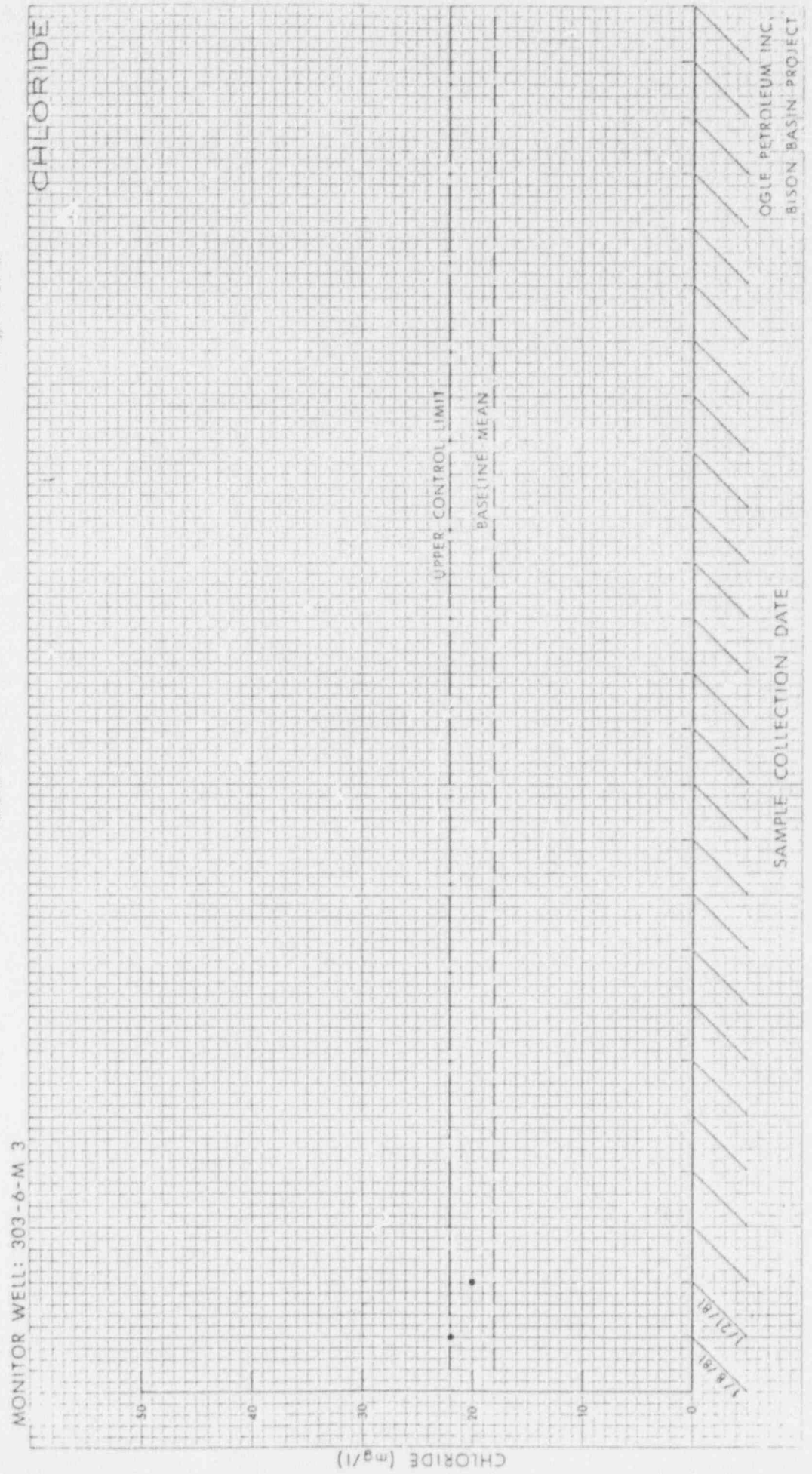


FIGURE 21

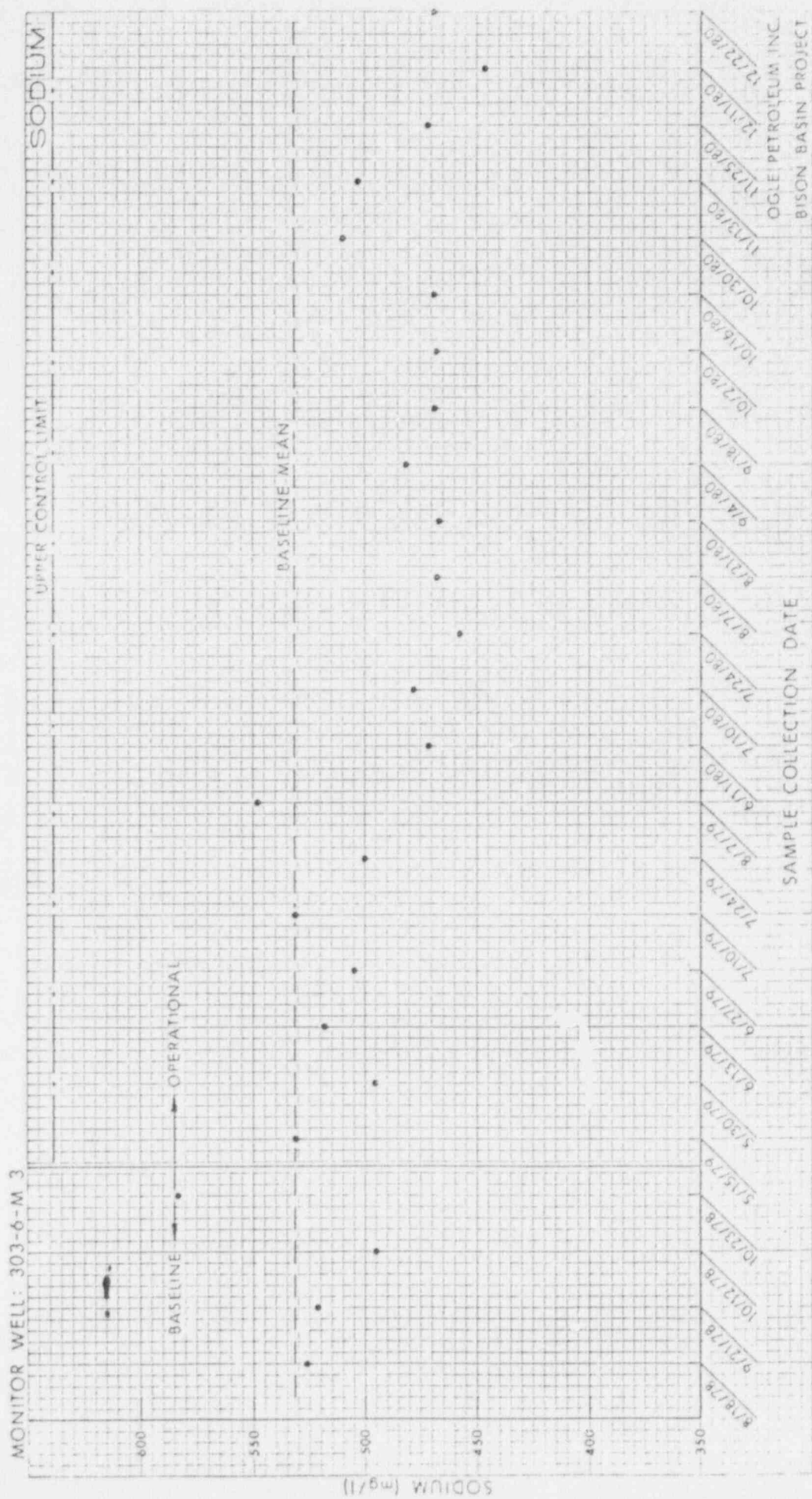


FIGURE 21

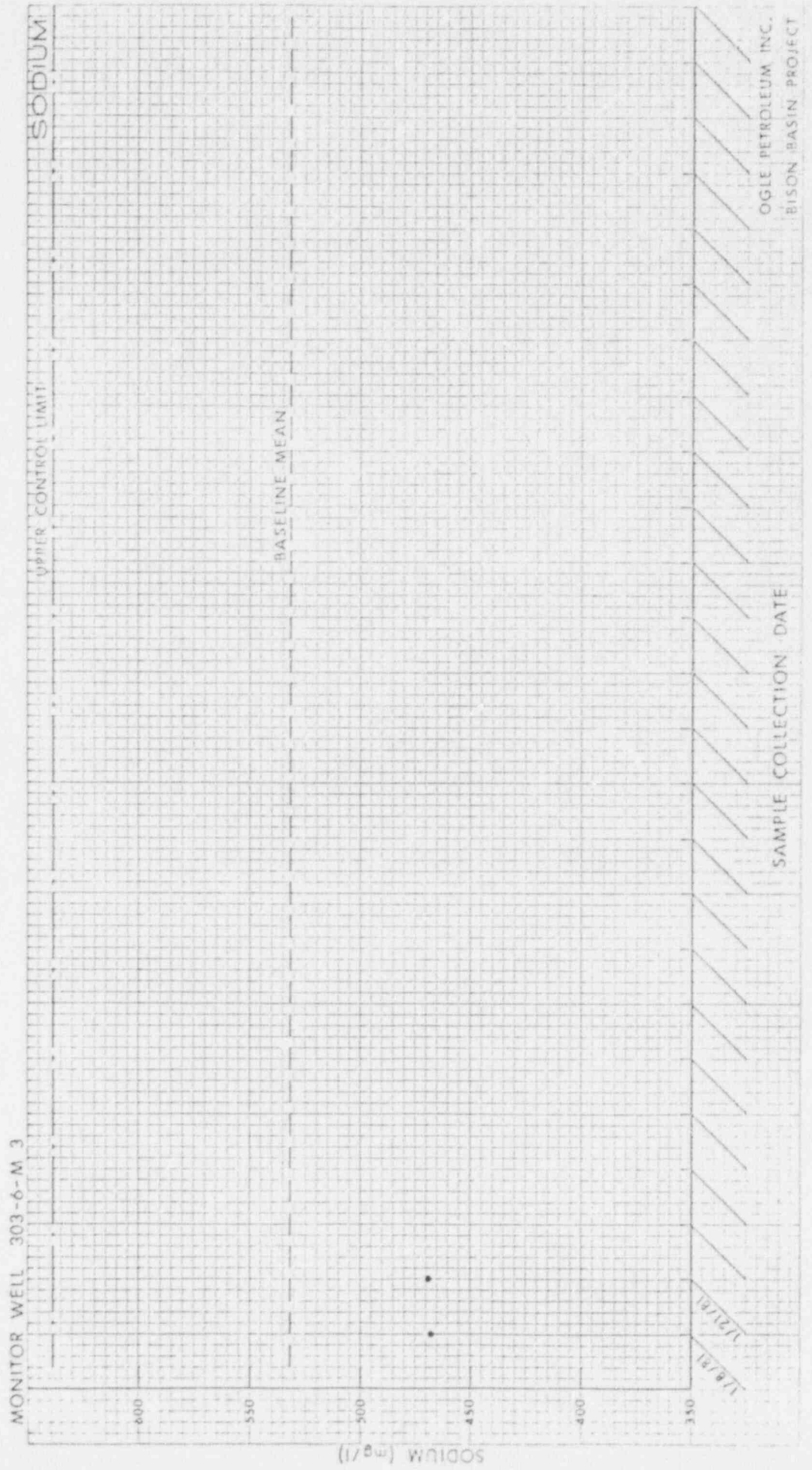


FIGURE 22

MONITOR WELL: 303-6-M 3

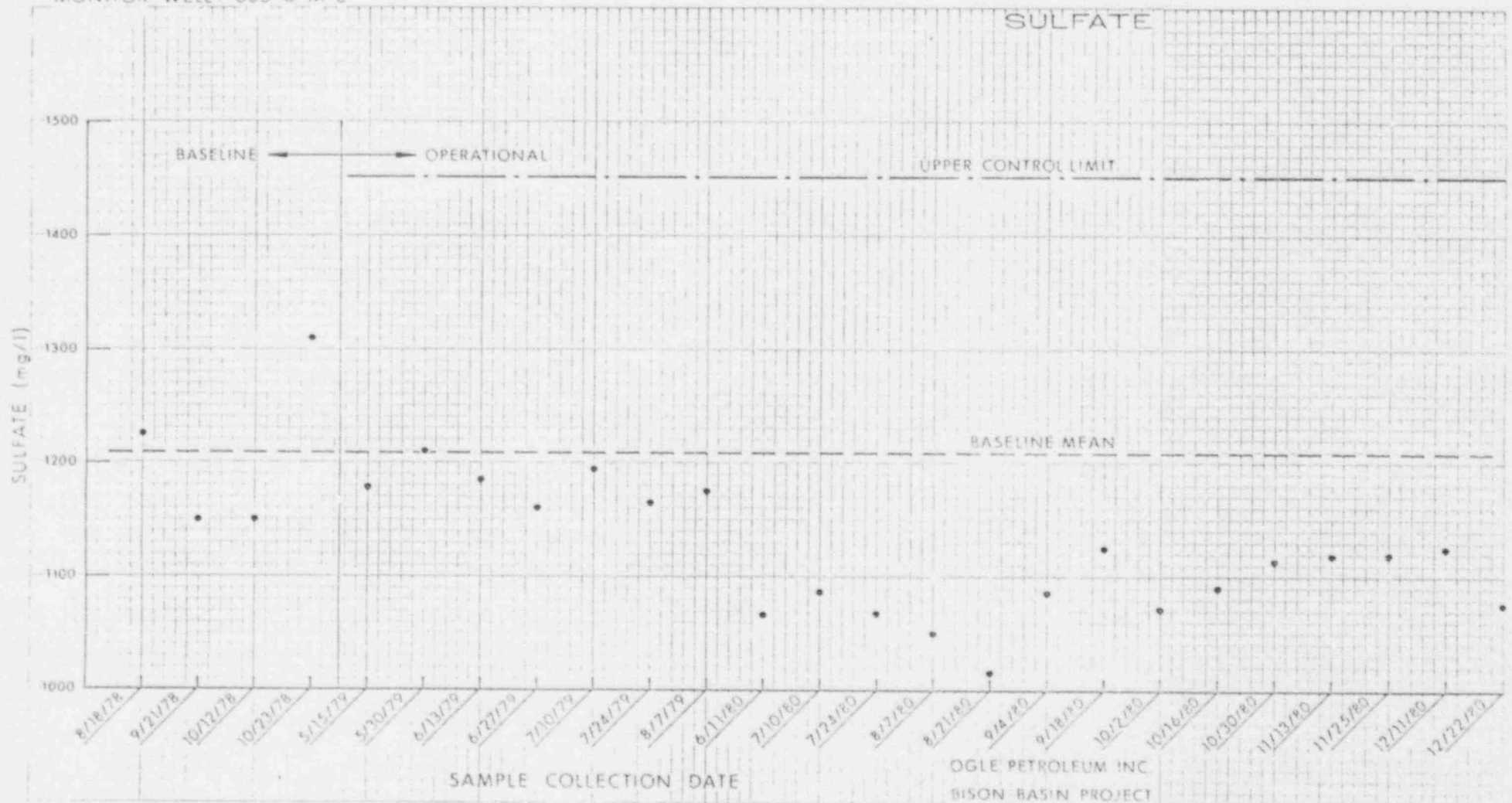


FIGURE 22

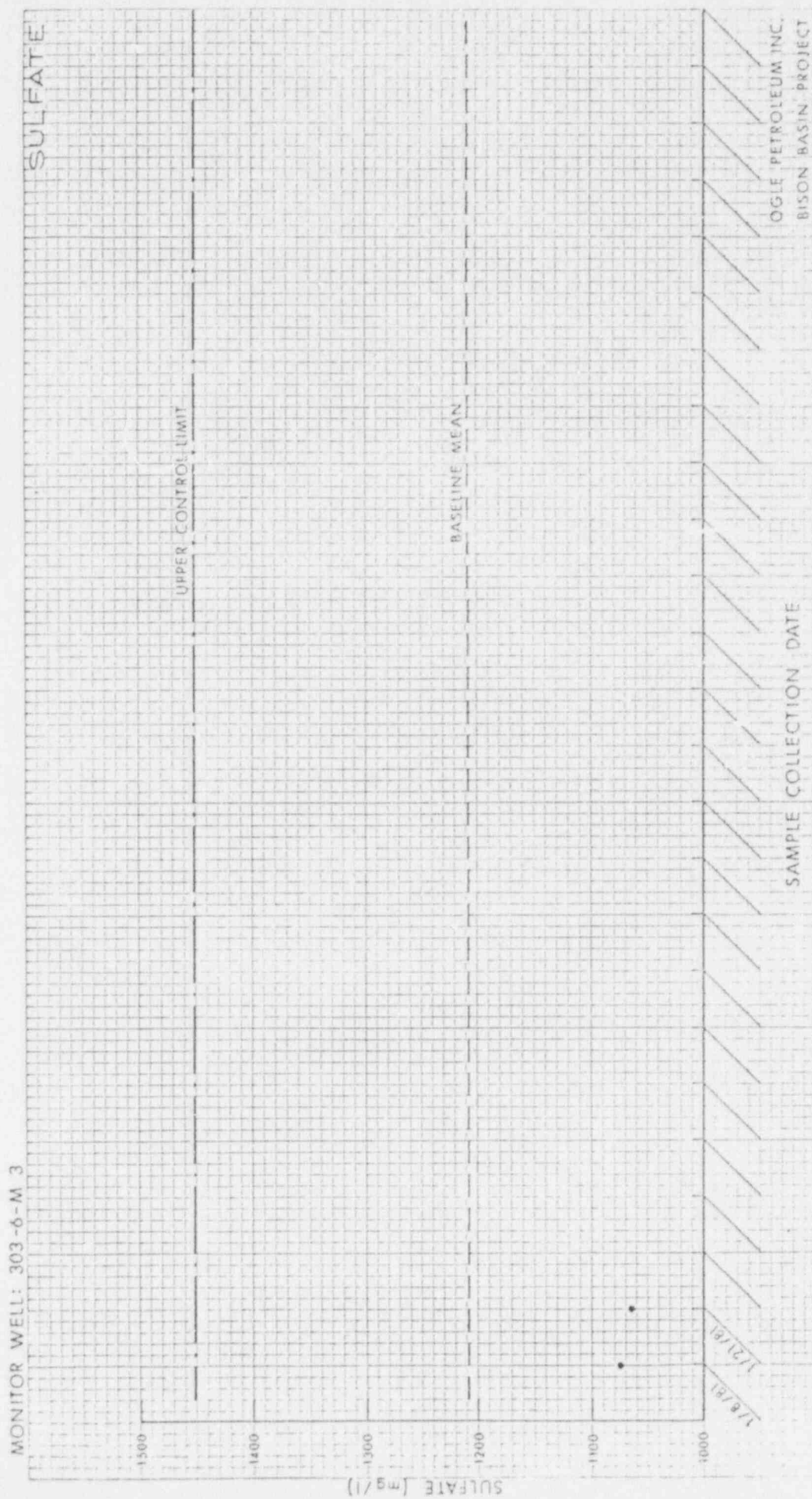


FIGURE 23



FIGURE 23

MONITOR WELL : 303-6-M 3

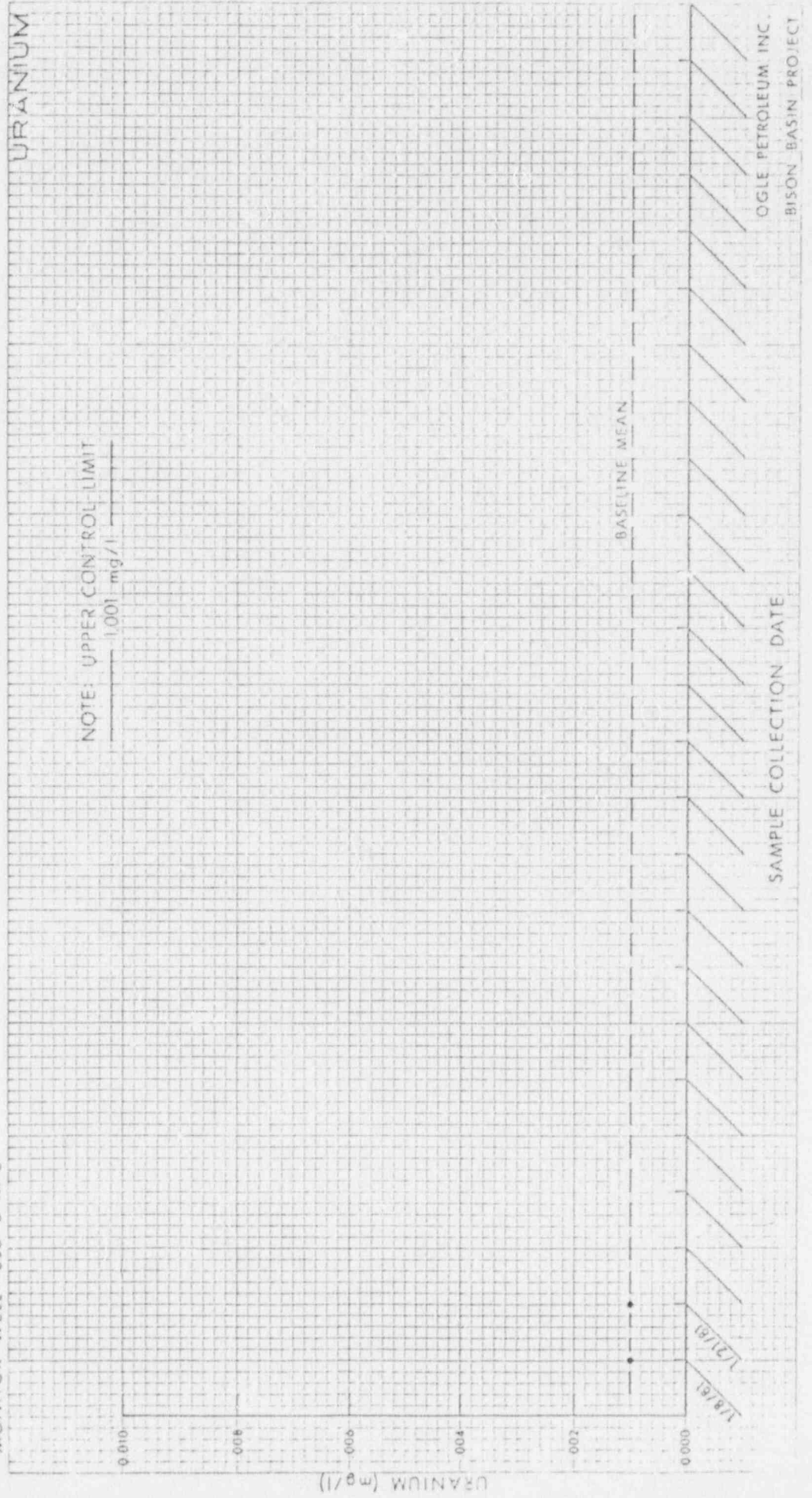


FIGURE 24

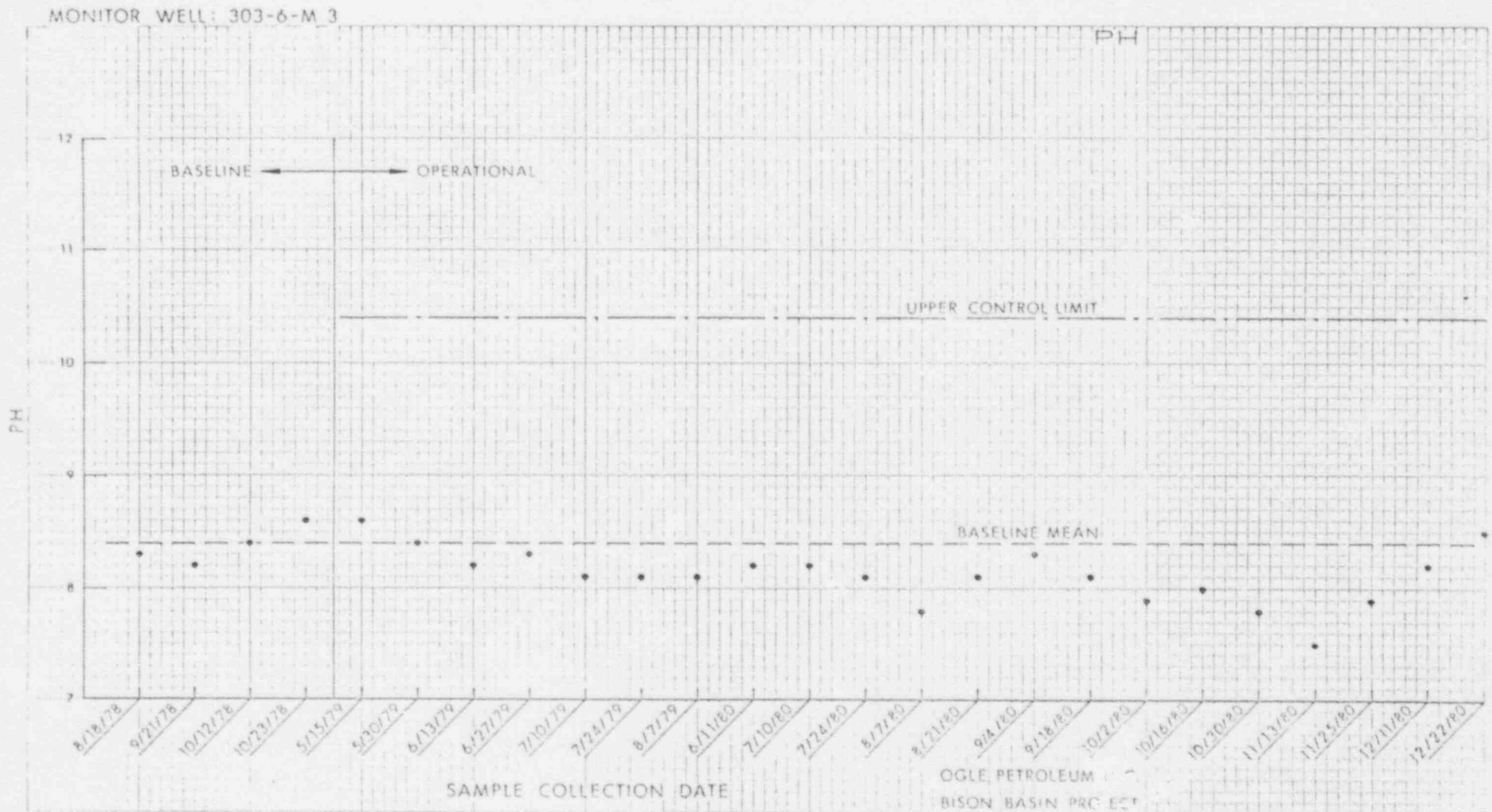


FIGURE 24

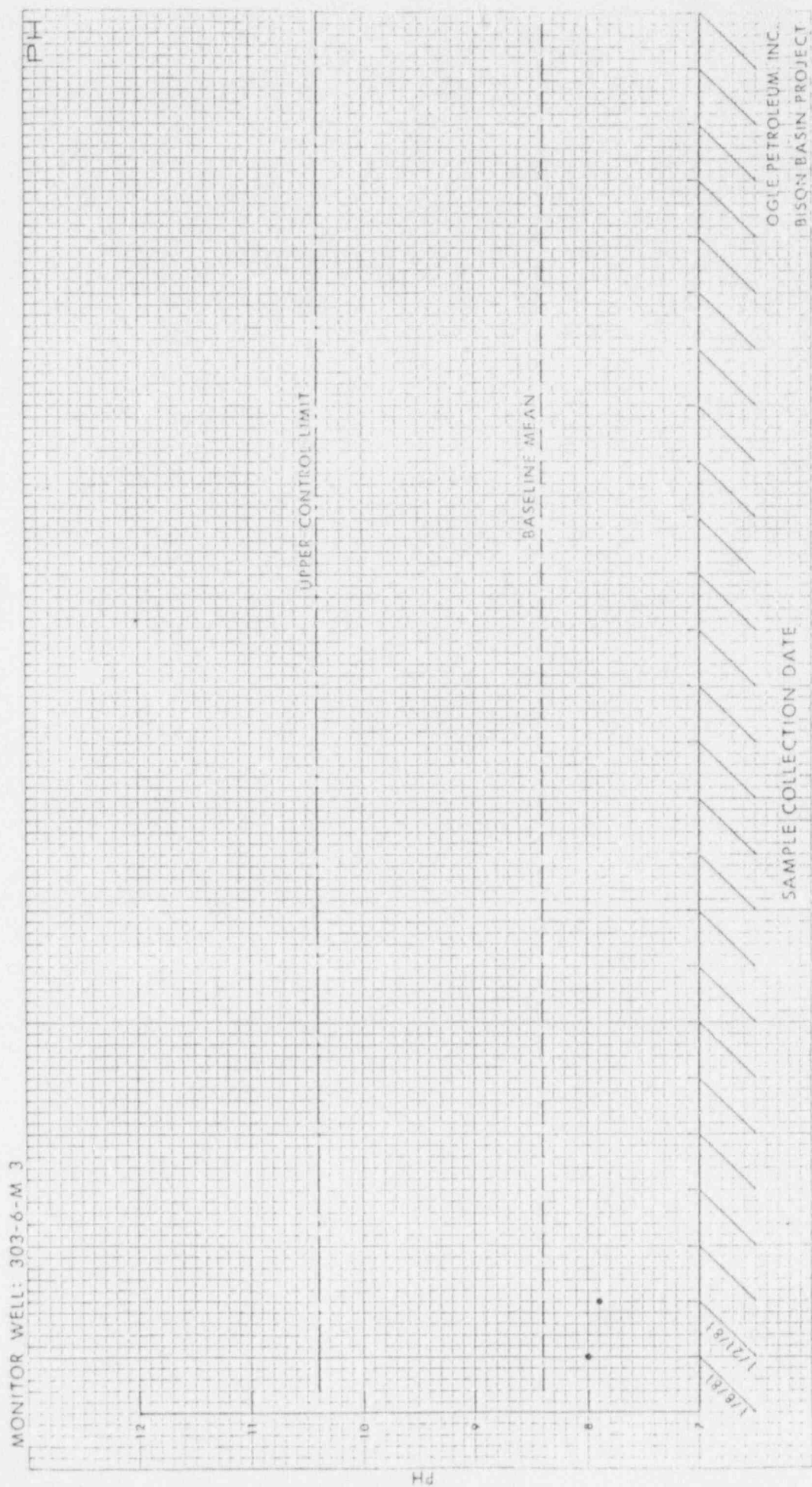


FIGURE 2/5

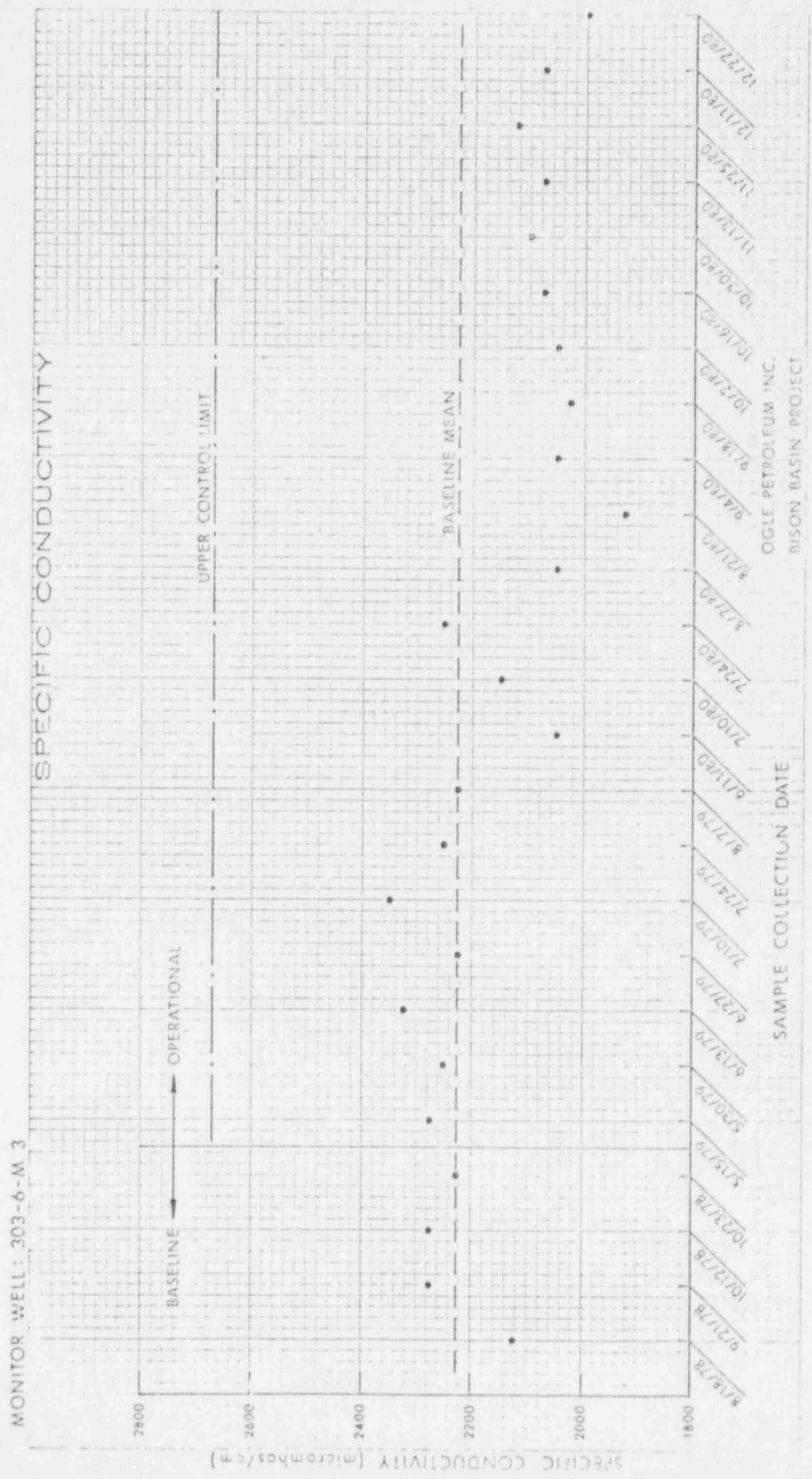


FIGURE 25

MONITOR WELL: 303-6-M.3

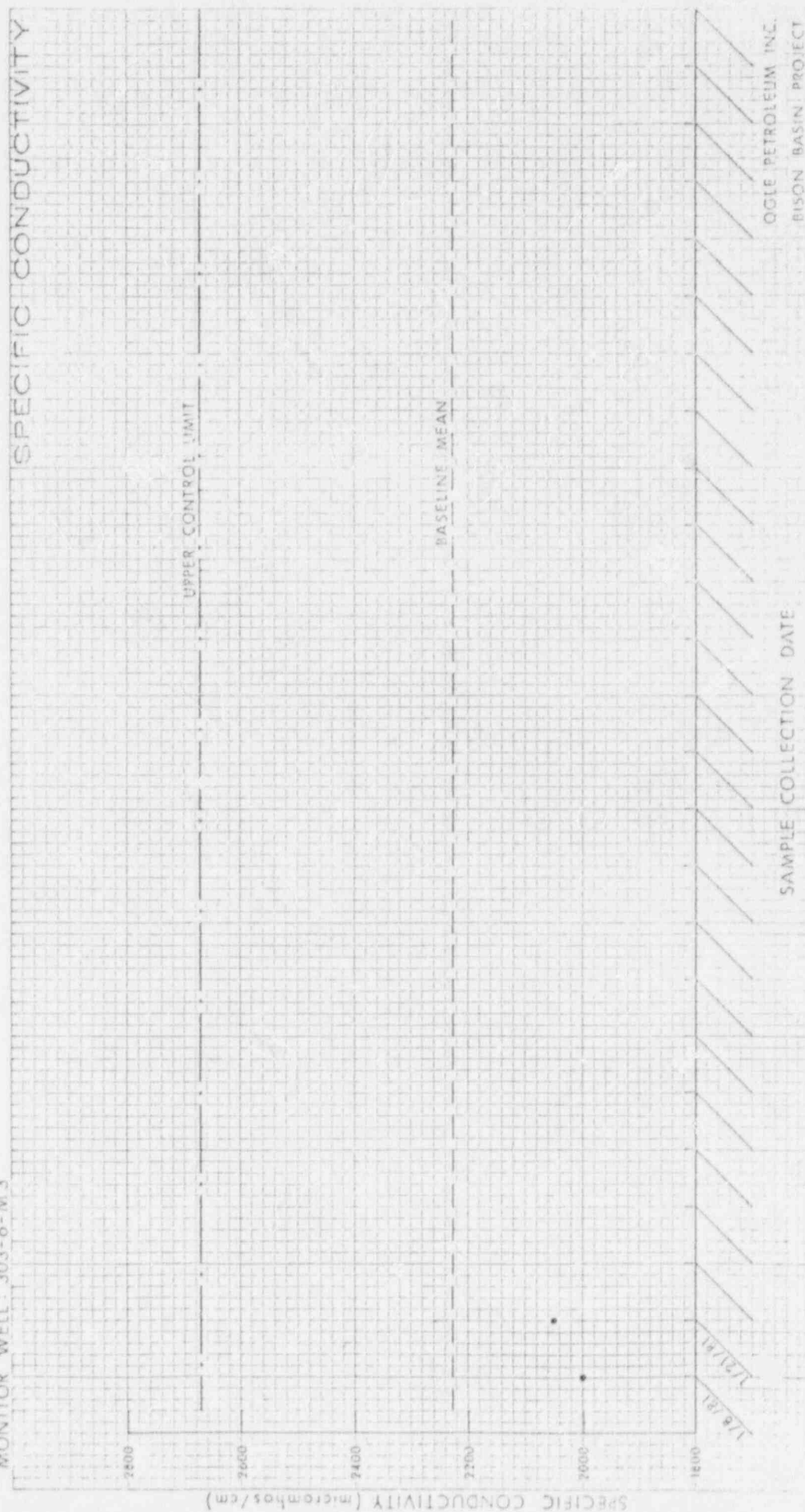


FIGURE 26

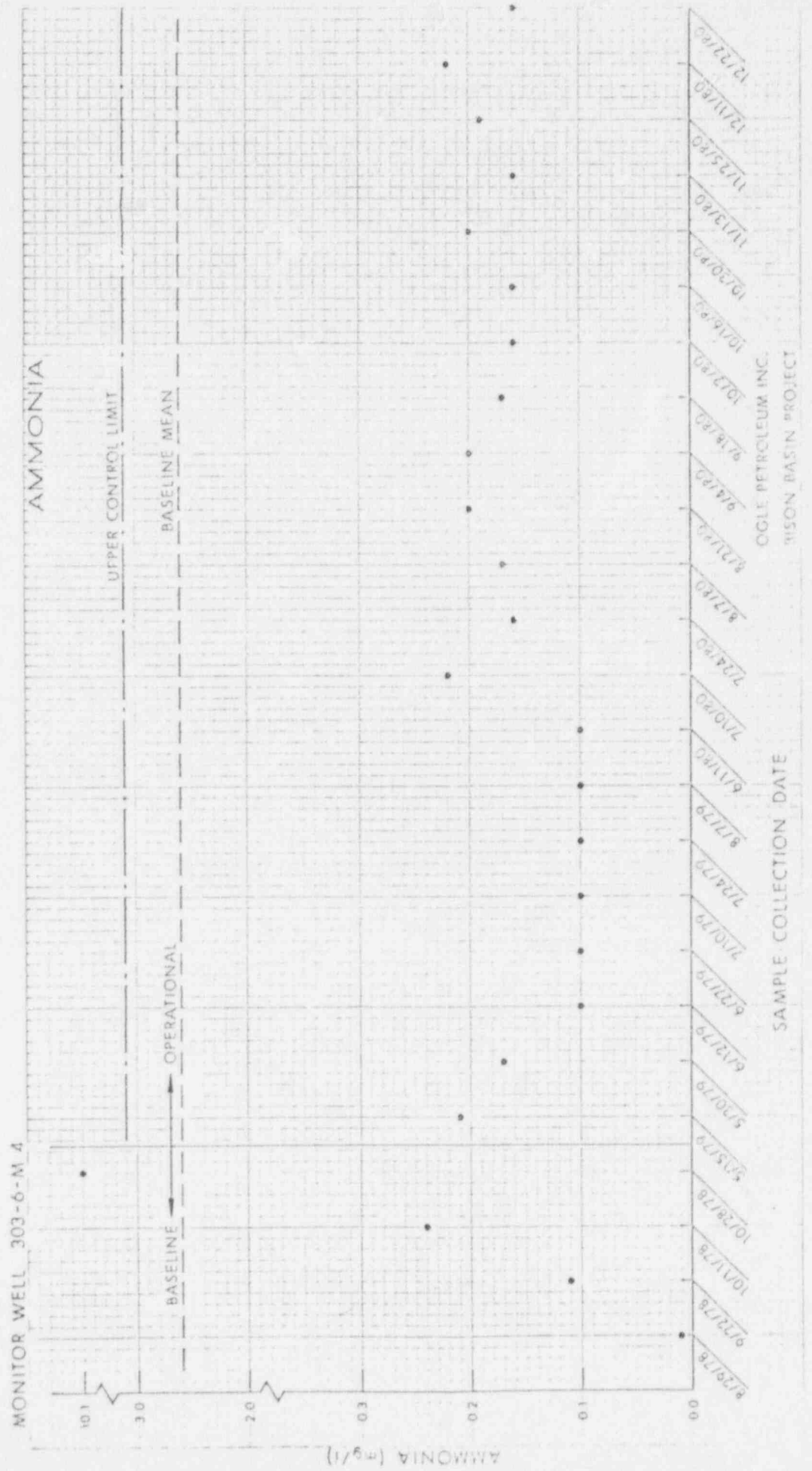


FIGURE 26

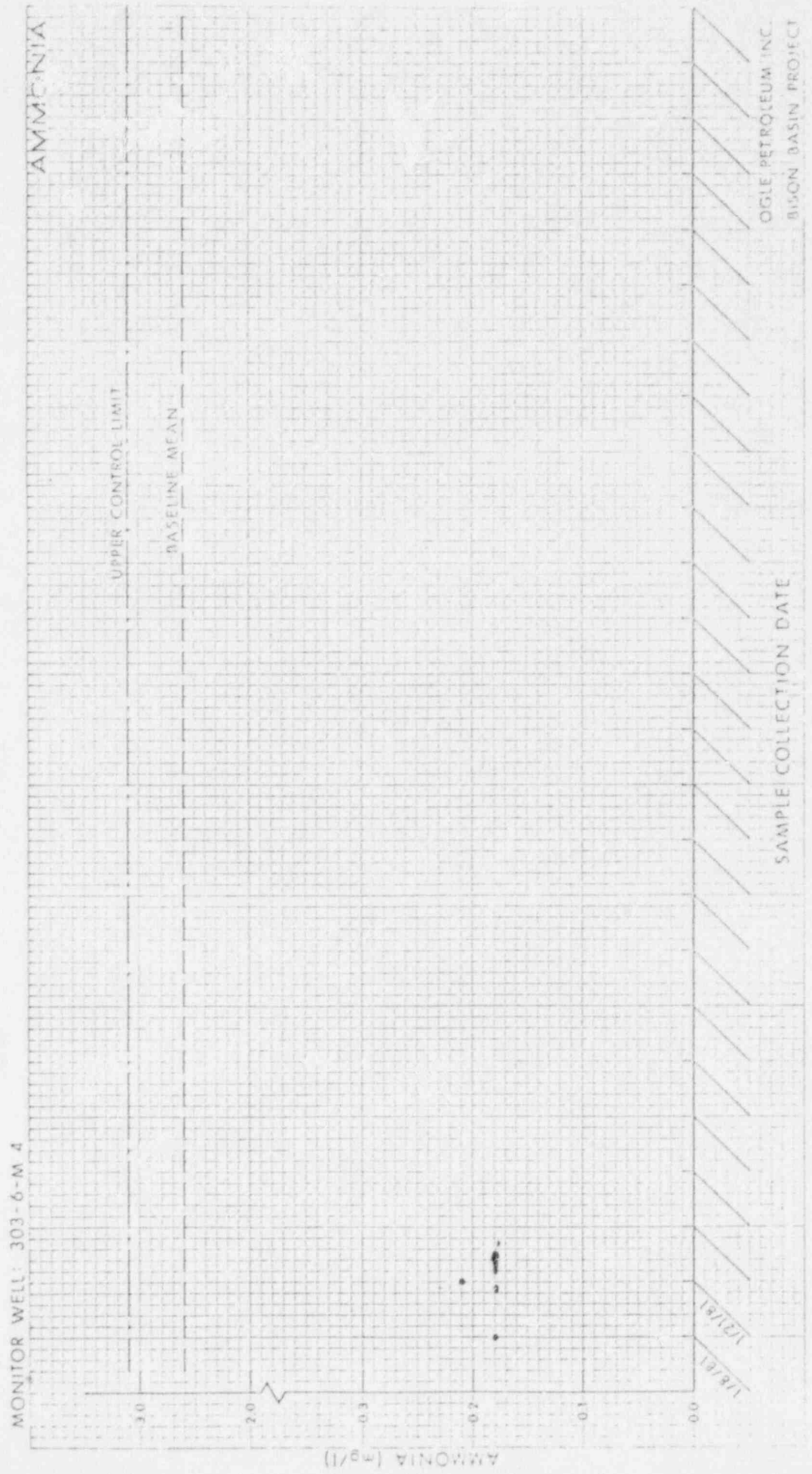


FIGURE 27

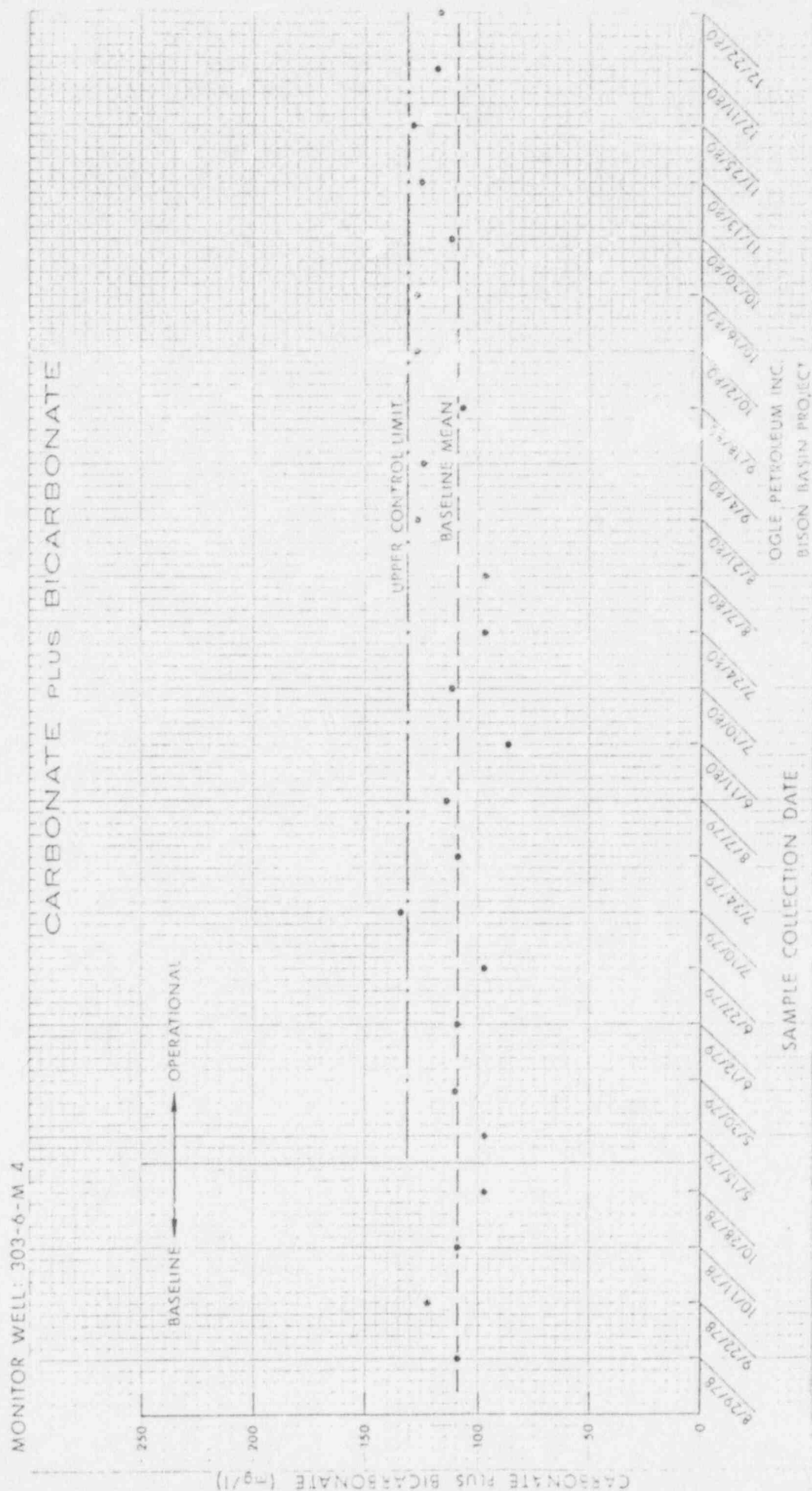


FIGURE 27

MONITOR WELL: 303-6-M-4

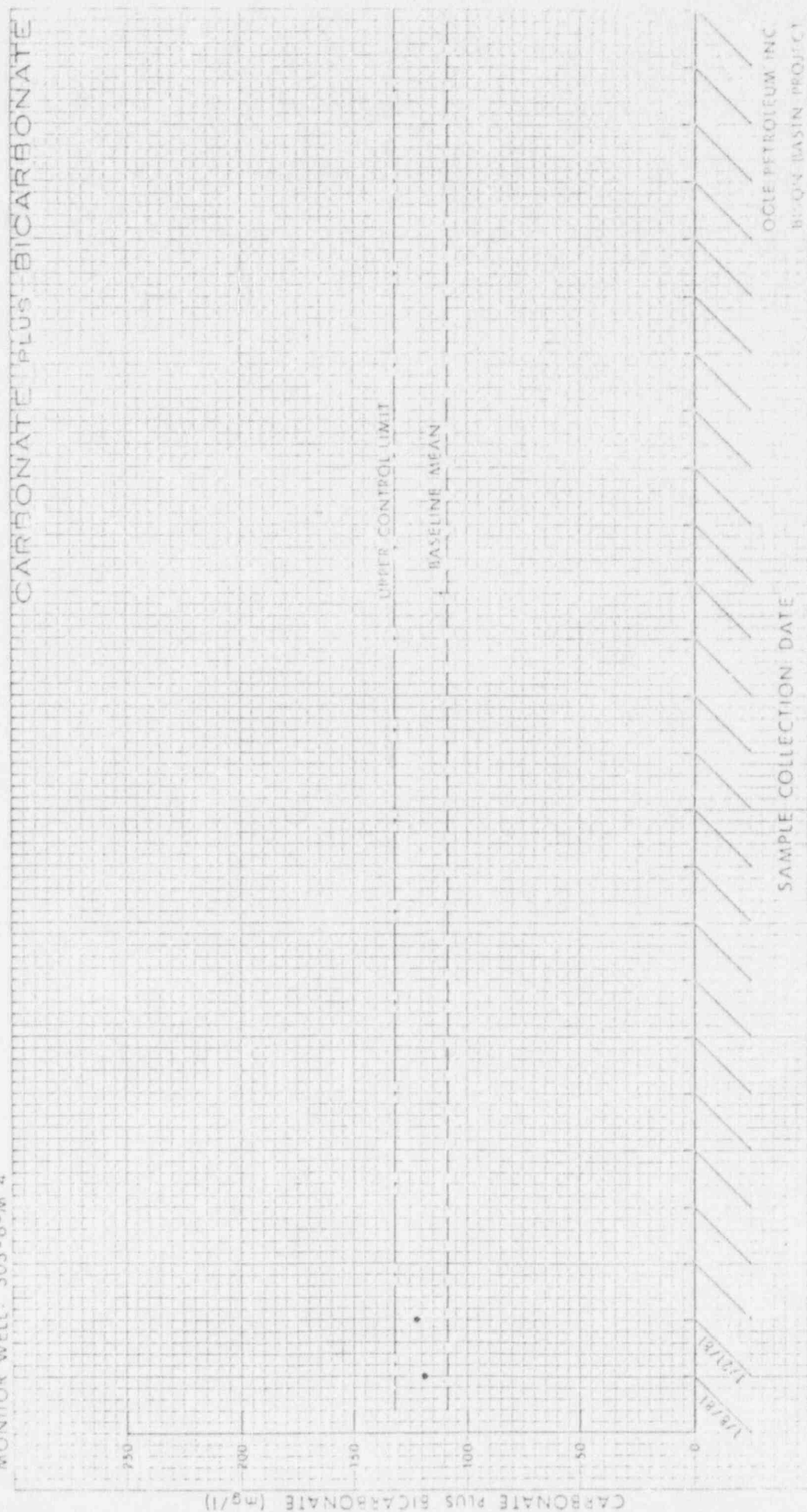


FIGURE 2B

MONITOR WELL 303-6-M 4

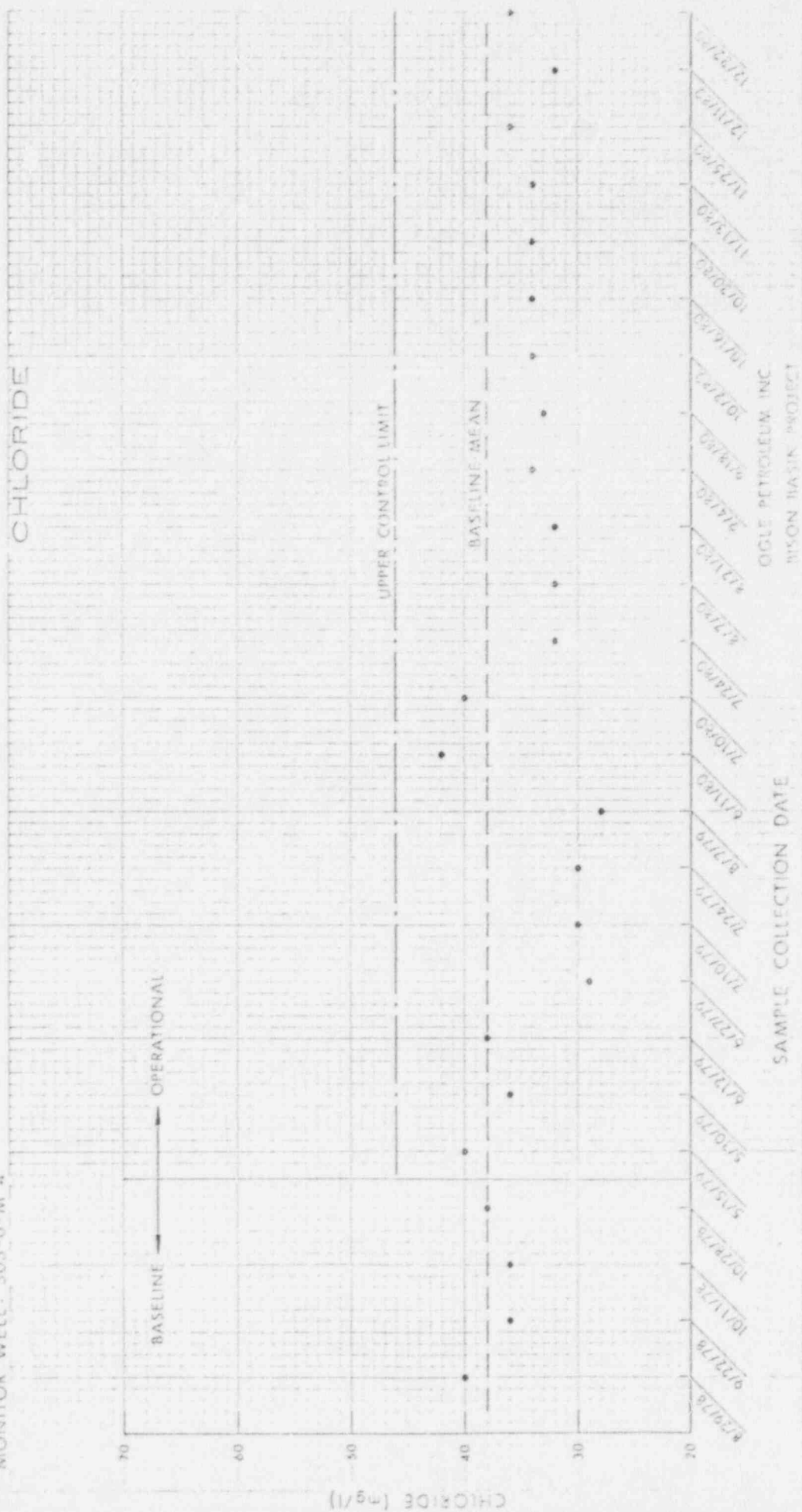


FIGURE 28

MONITOR WELL: 303-6-M 4

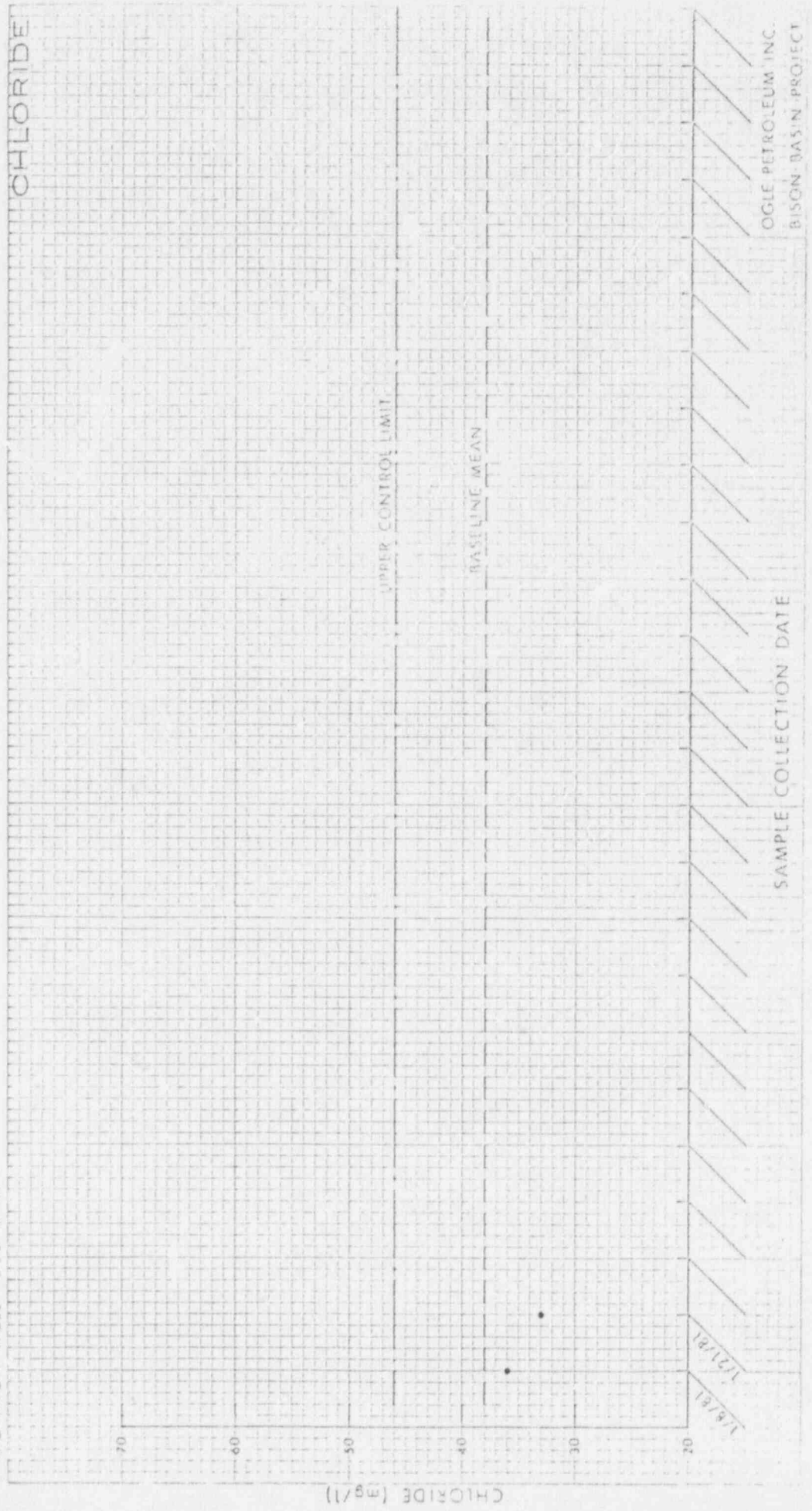


FIGURE 2c



FIGURE 29

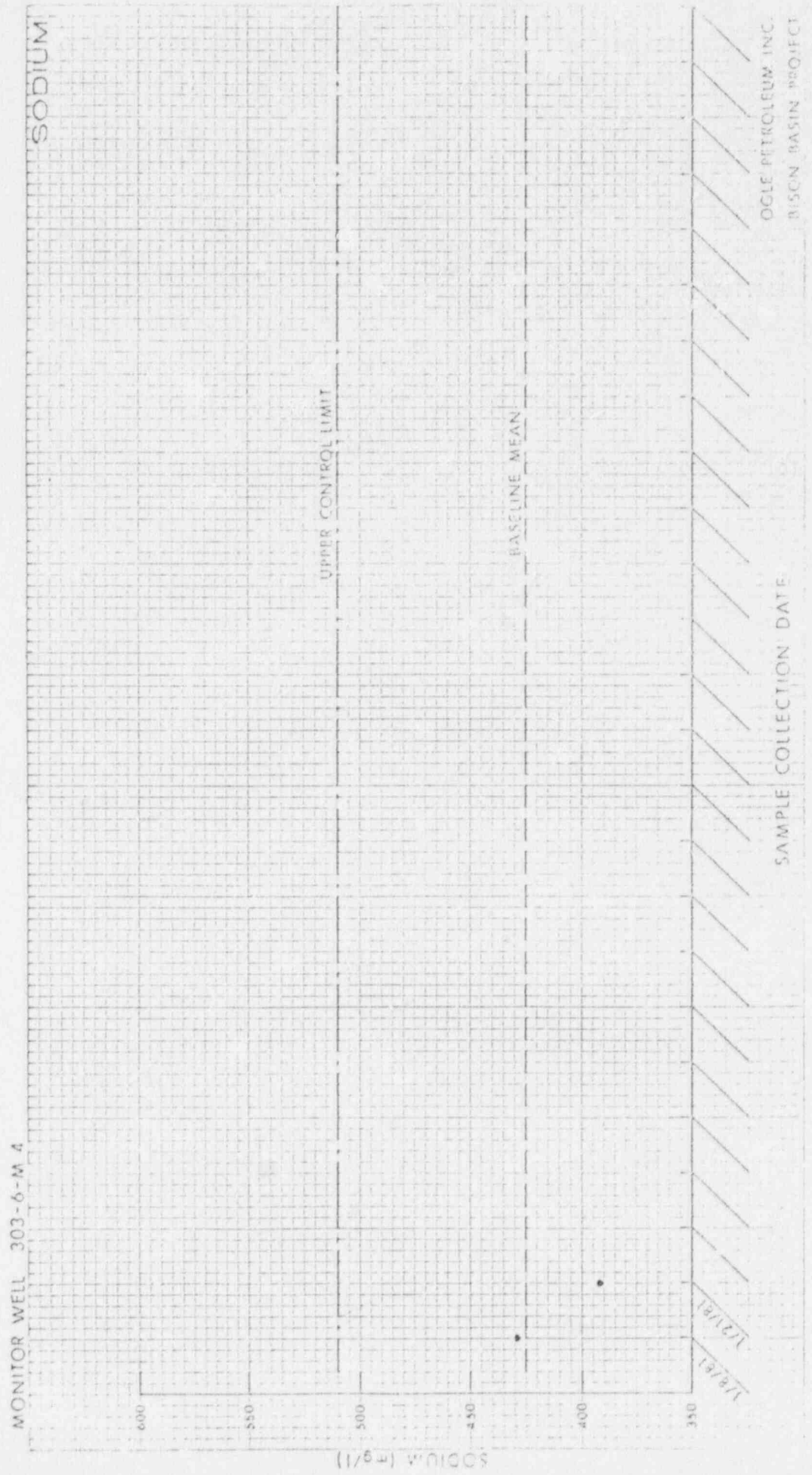


FIGURE 10

MONITOR WELL: 303-6-M 4



FIGURE 30

MONITOR WELL: 303-6-M 4

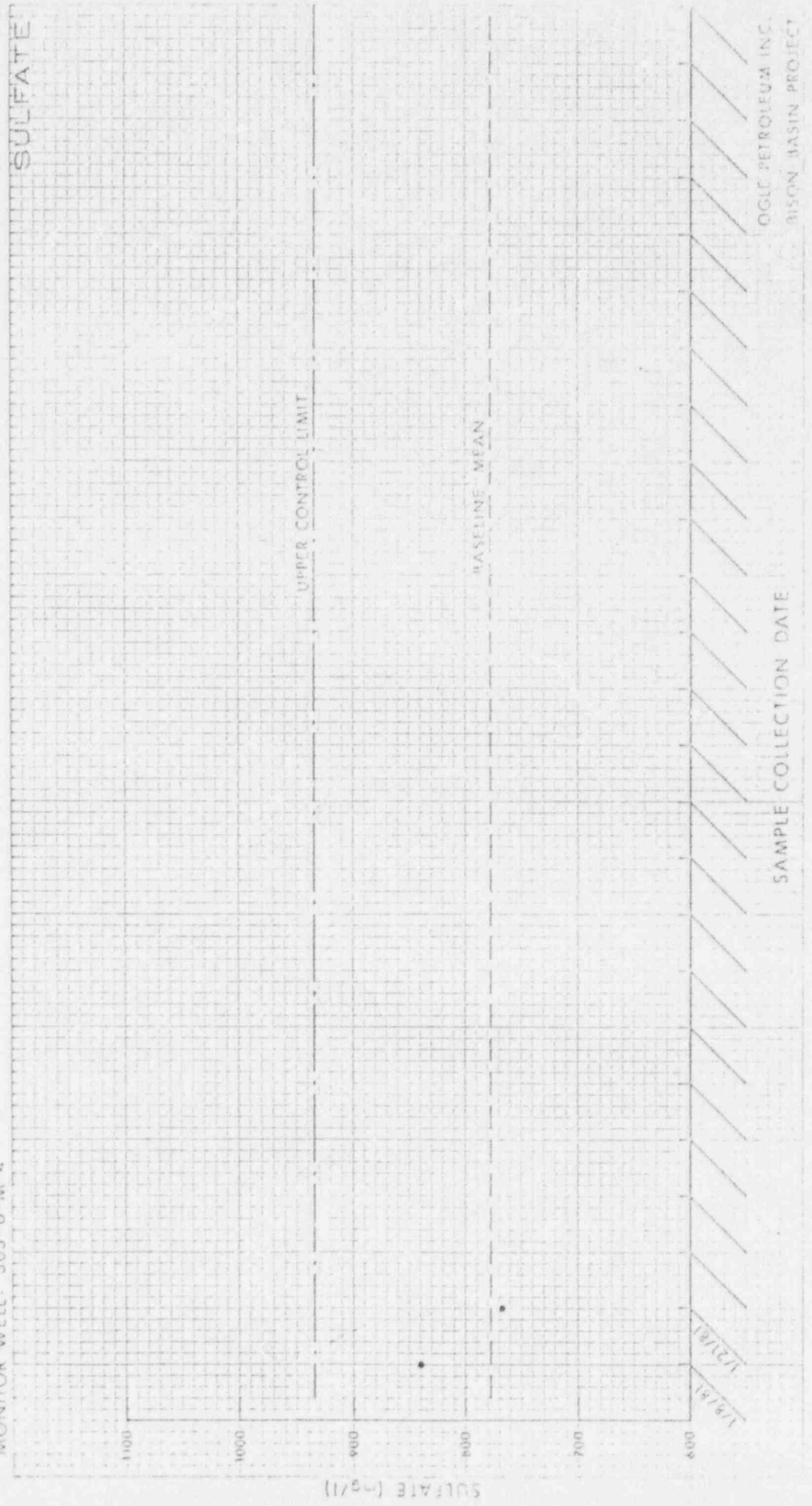


FIGURE 11

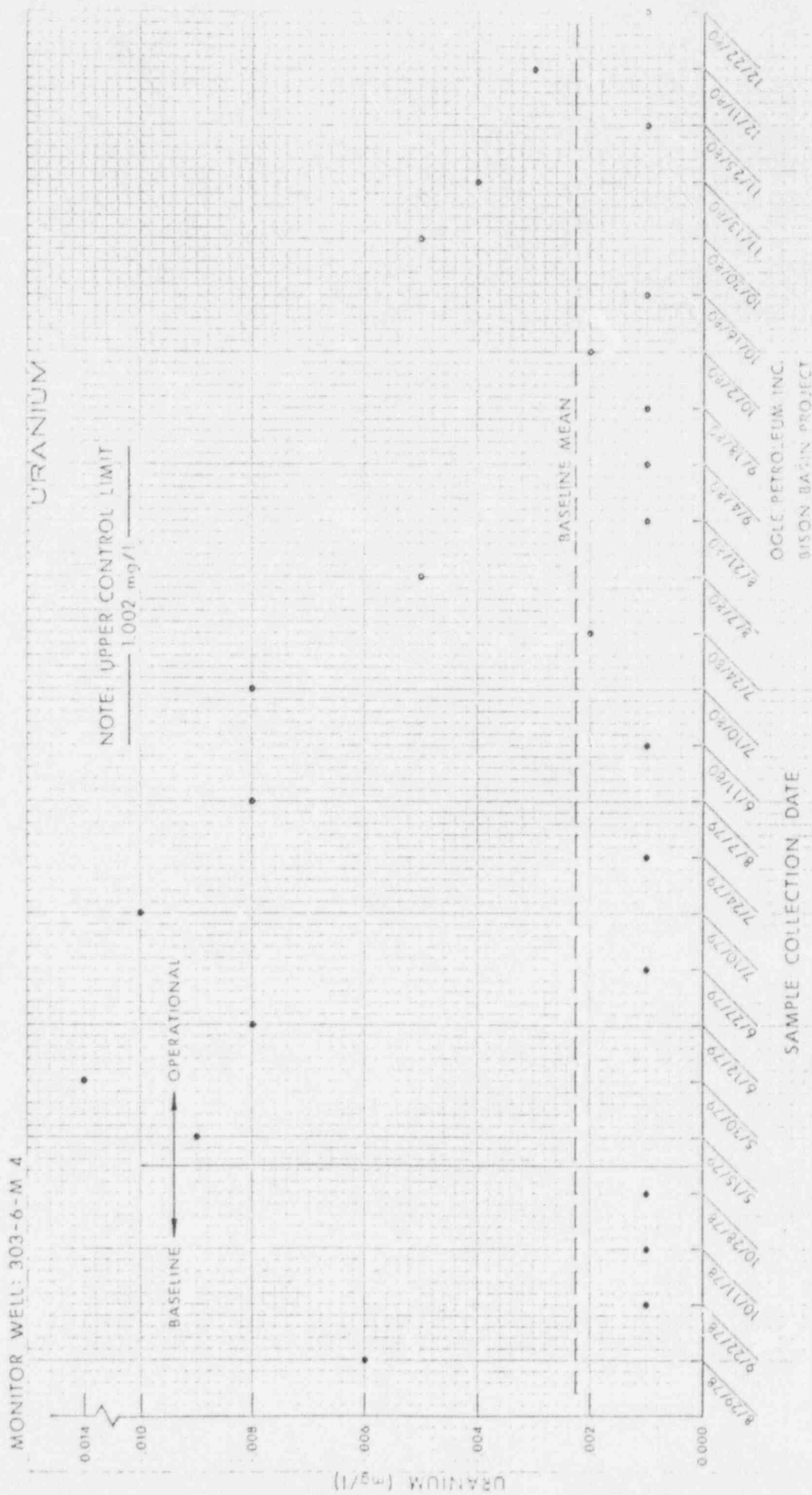


FIGURE 11

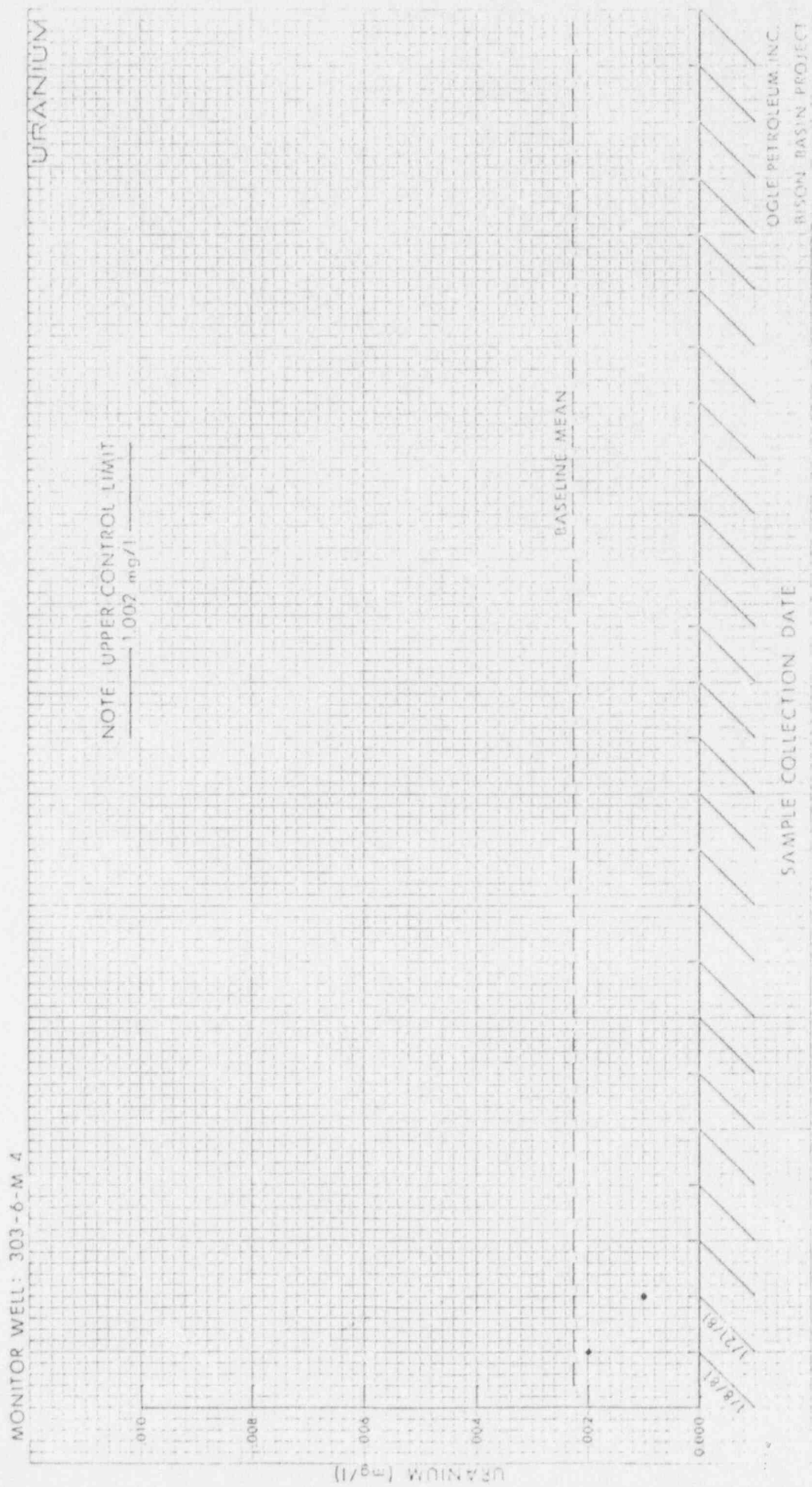


FIGURE 32

MONITOR WELL: 303-6-M 4

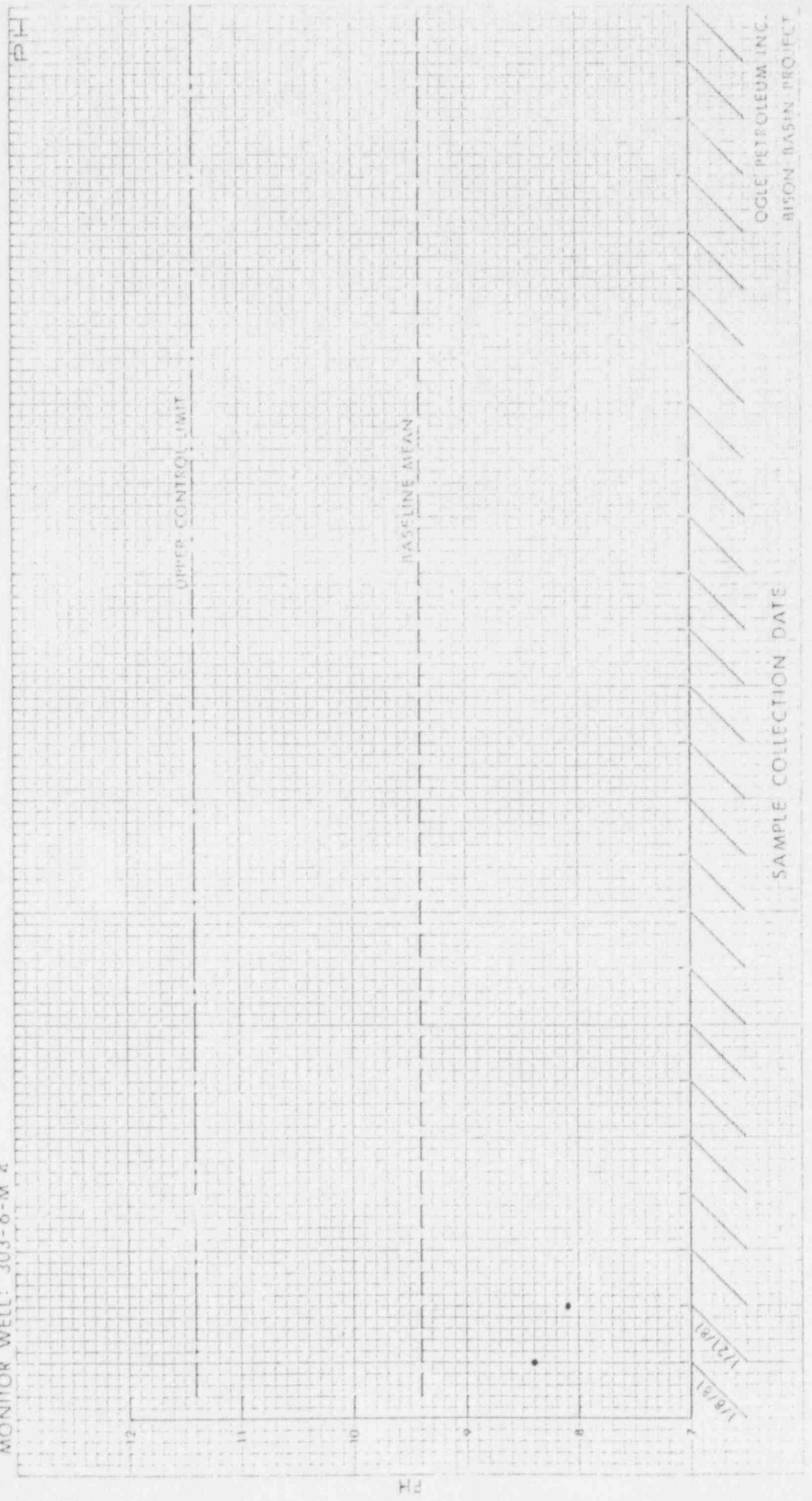


FIGURE 33



FIGURE 33

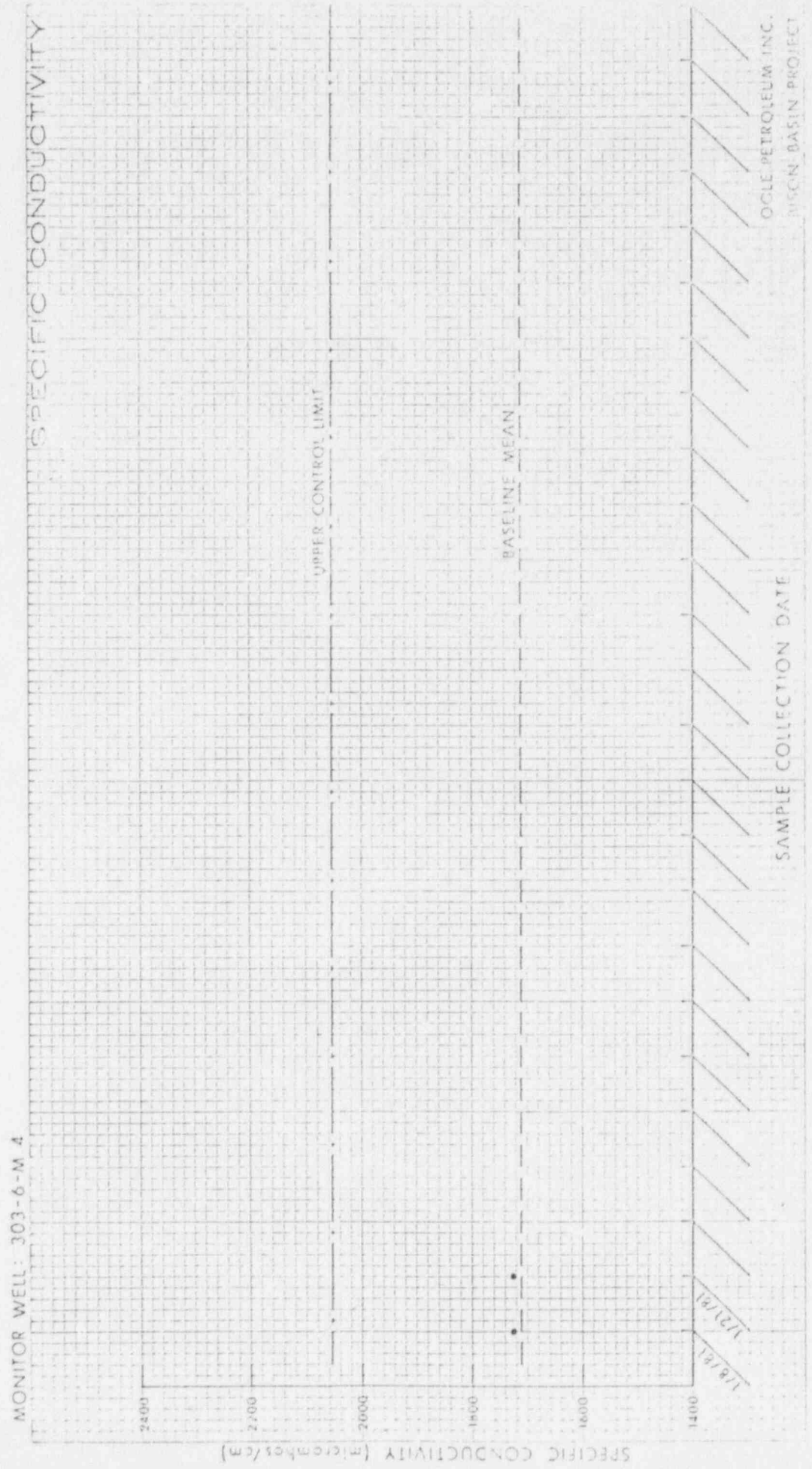


FIGURE 3A

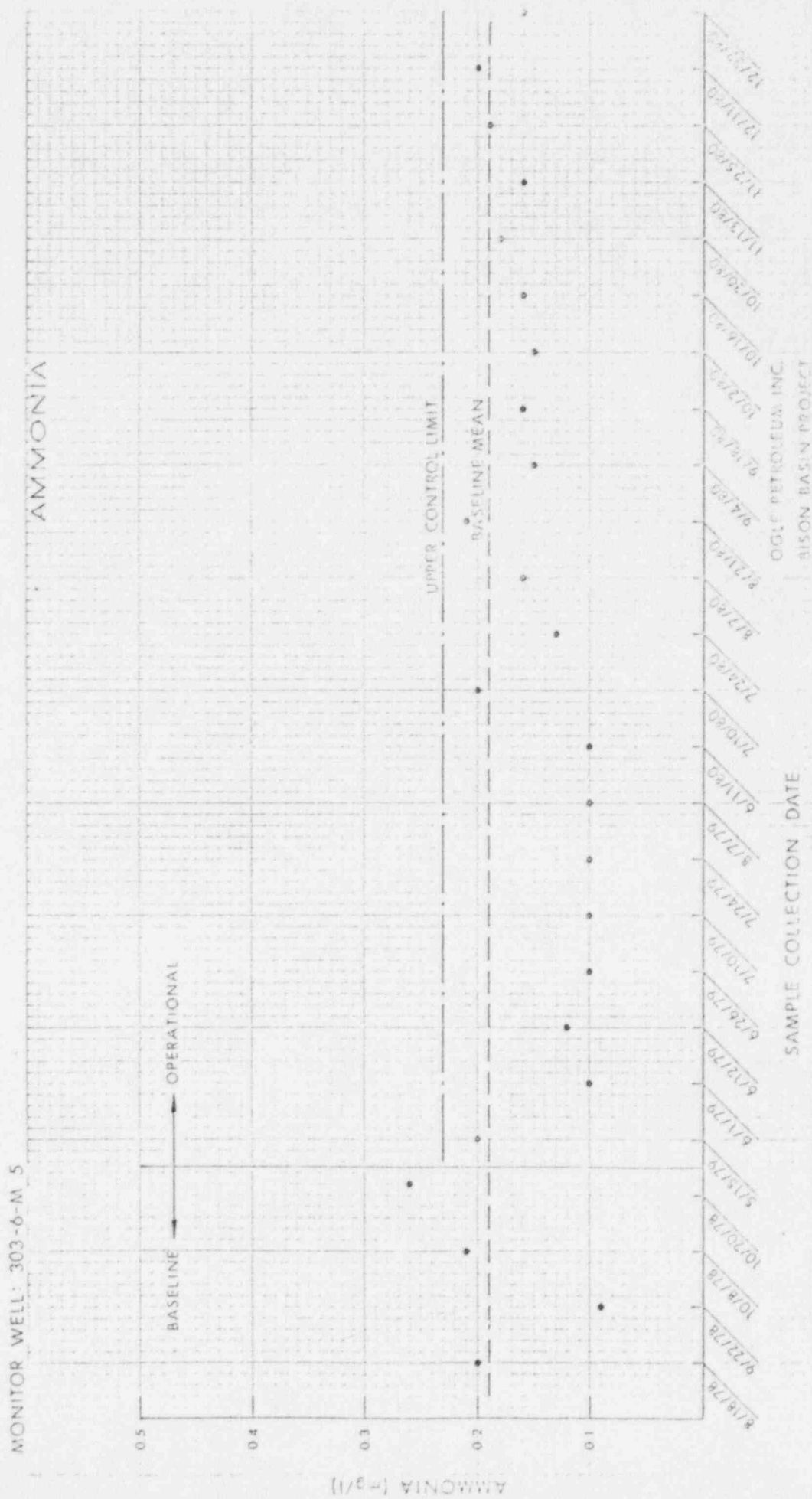


FIGURE 16

MONITOR WELL: 303-6-M 5

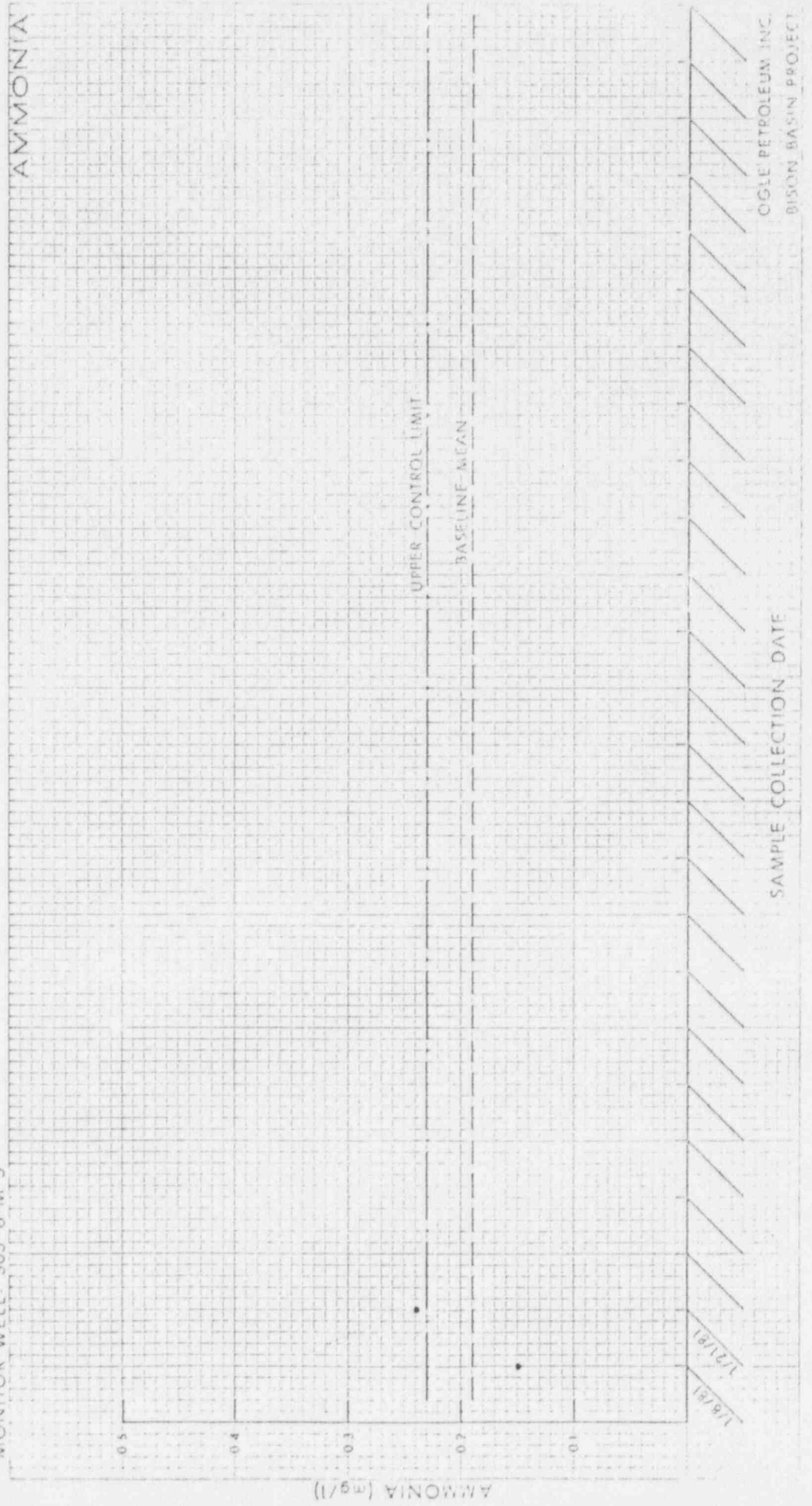


FIGURE 35



FIGURE 35

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MONITOR WELL: 303-6-M 5

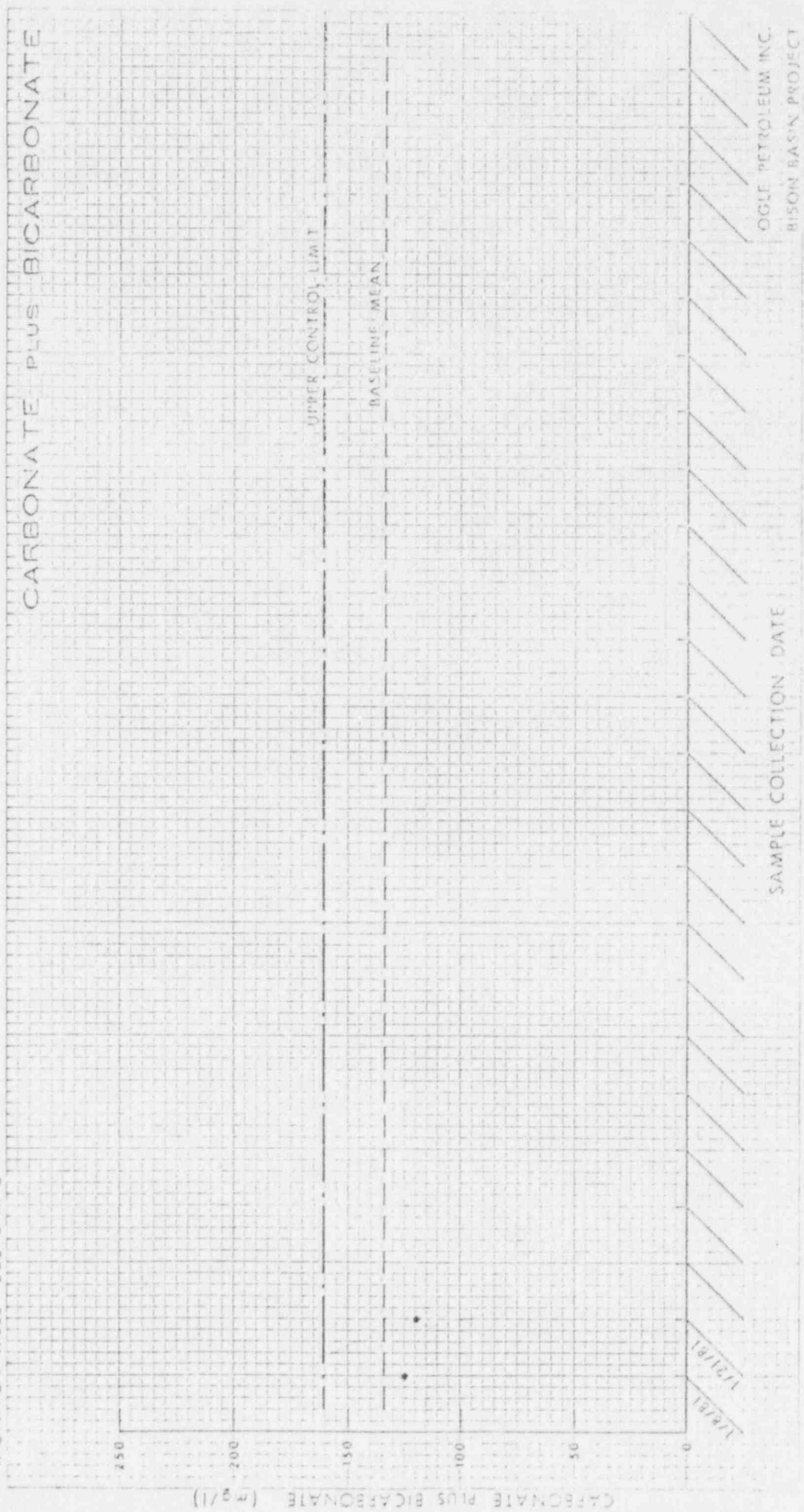


FIGURE 36

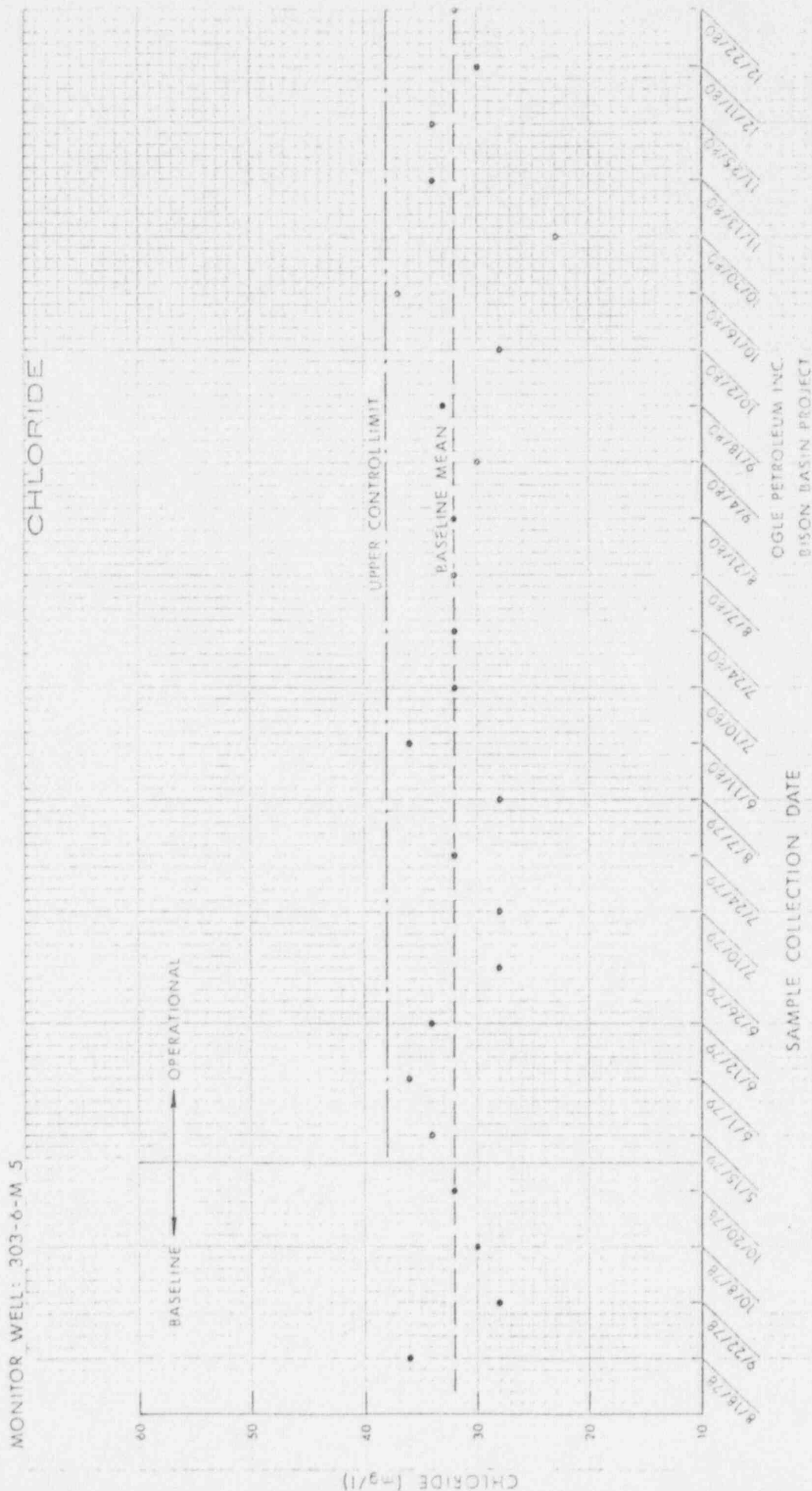


FIGURE 16

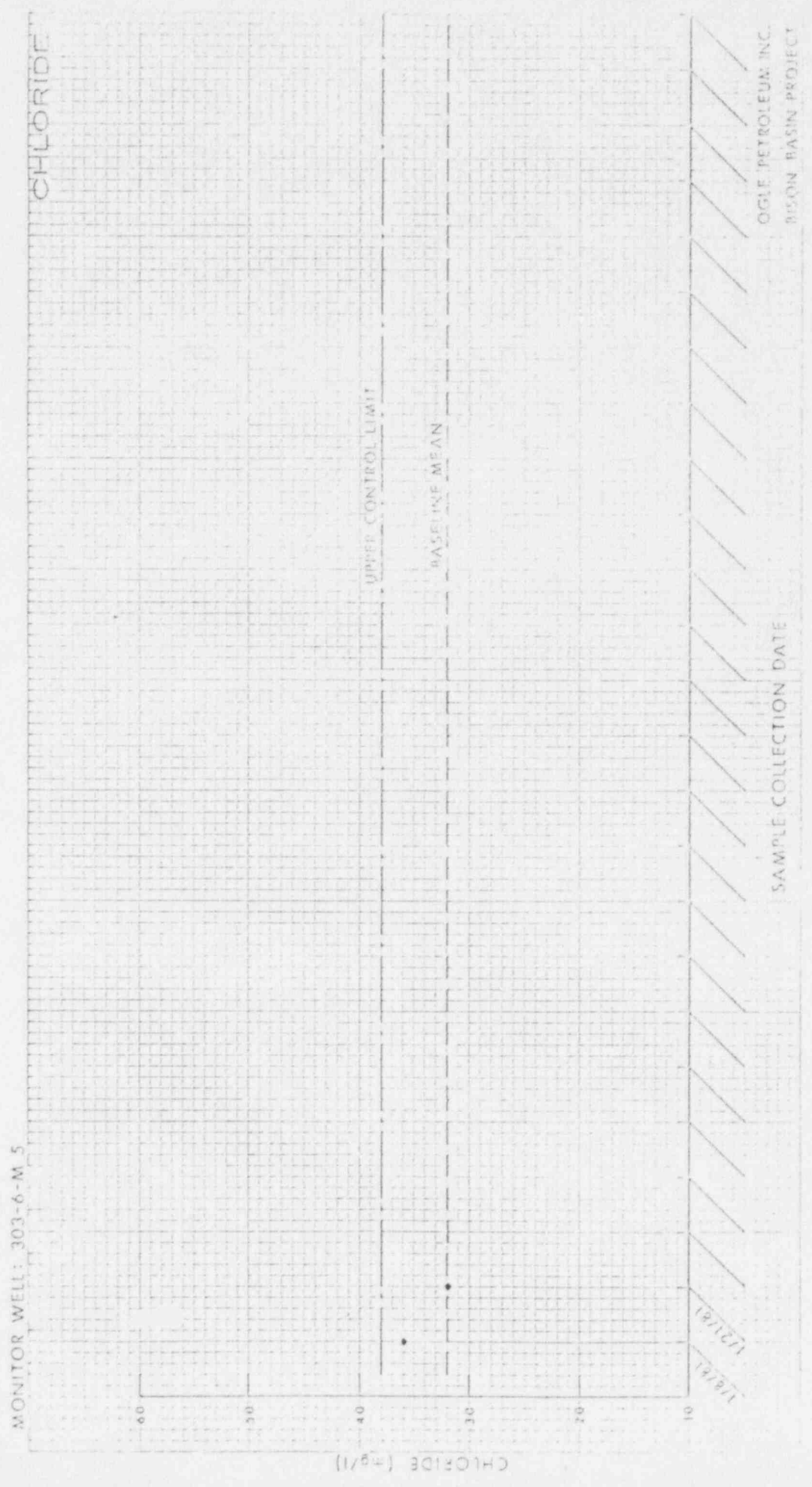


FIGURE 37



FIGURE 37

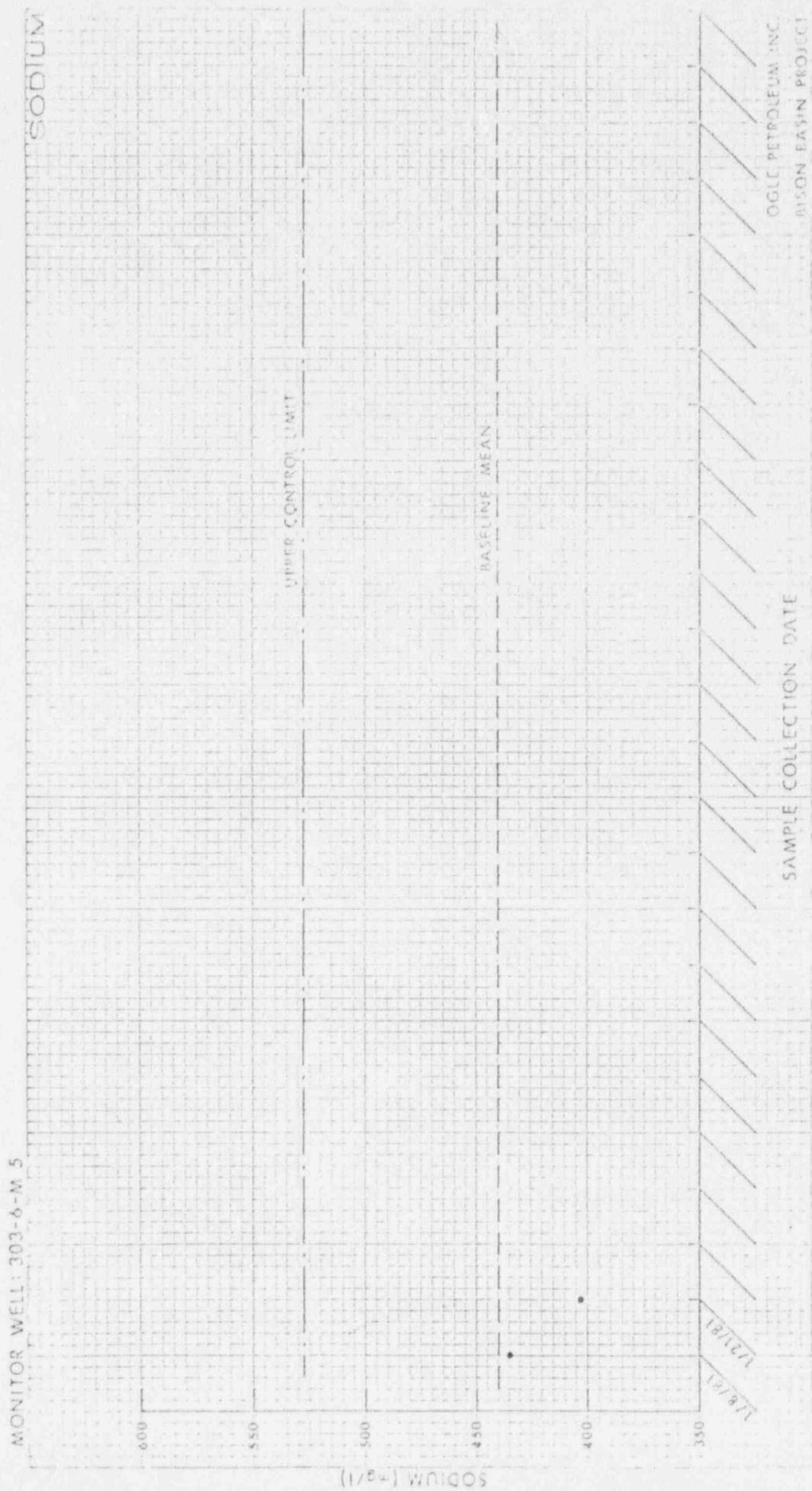


FIGURE 1B

MONITOR WELL: 303-6-M 5

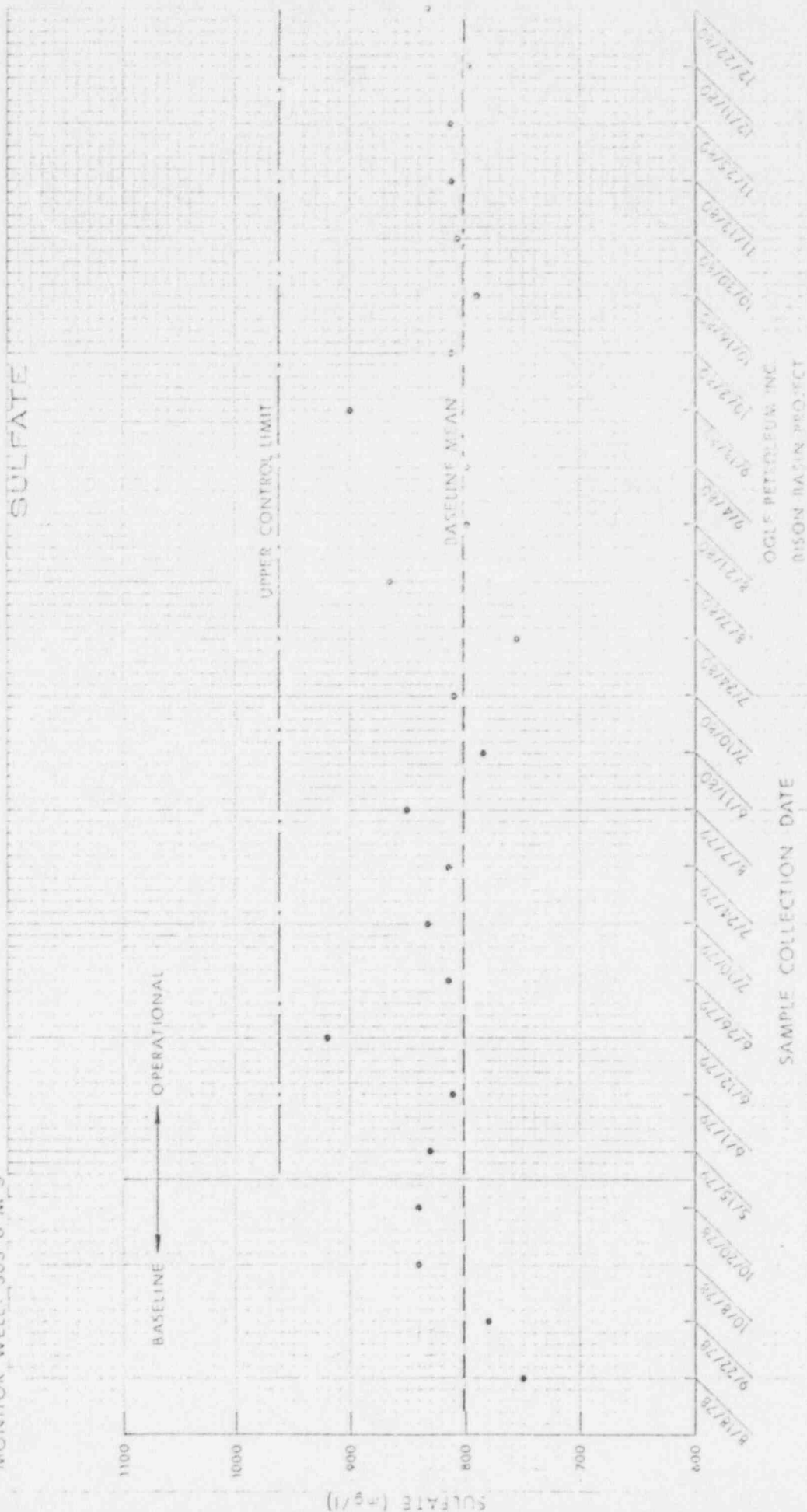


FIGURE 19

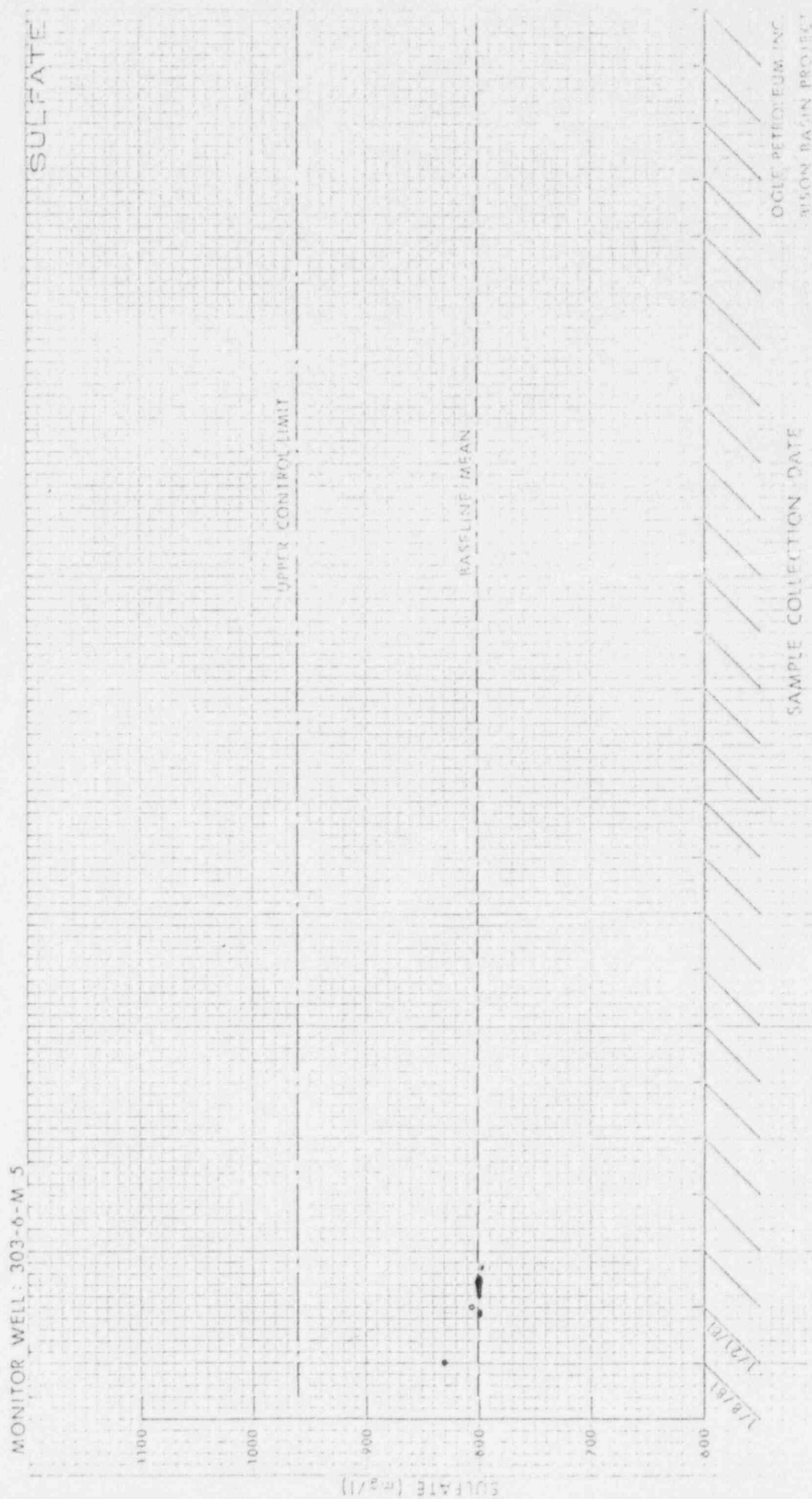


FIGURE 39

MONITOR WELL: 303-6-M-5

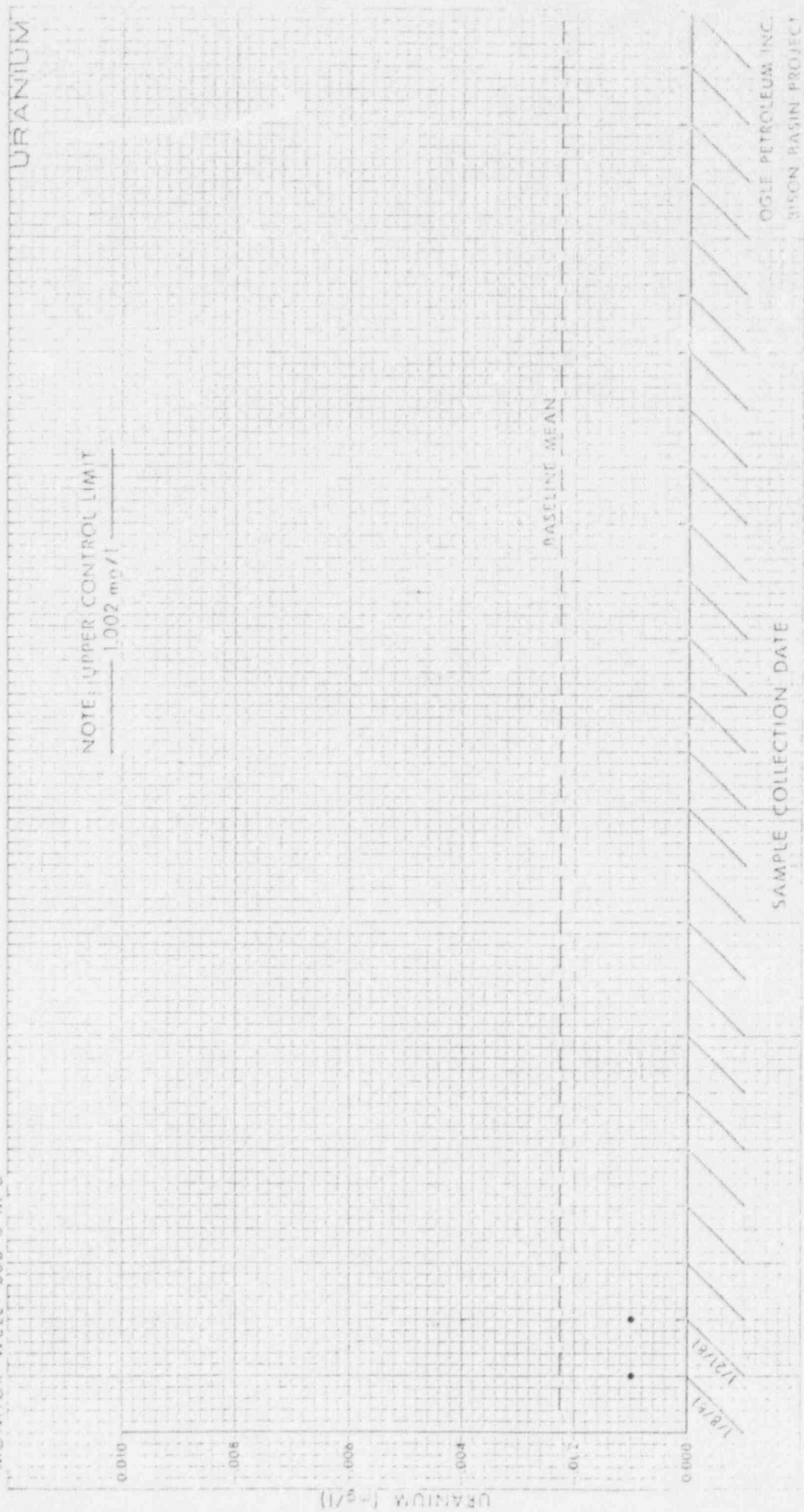


FIGURE 40

MONITOR WELL: 303-6-M 5

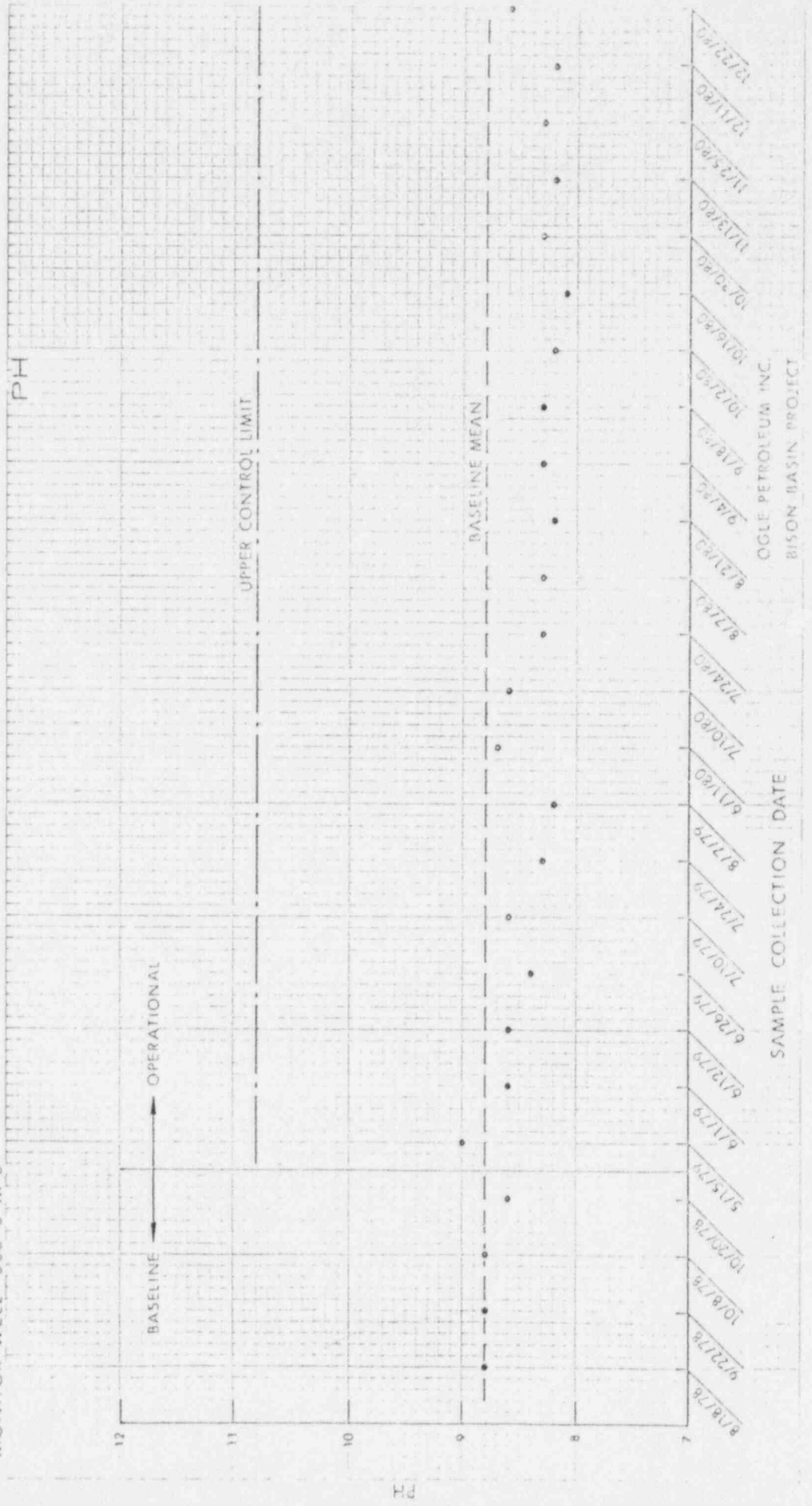


FIGURE 40

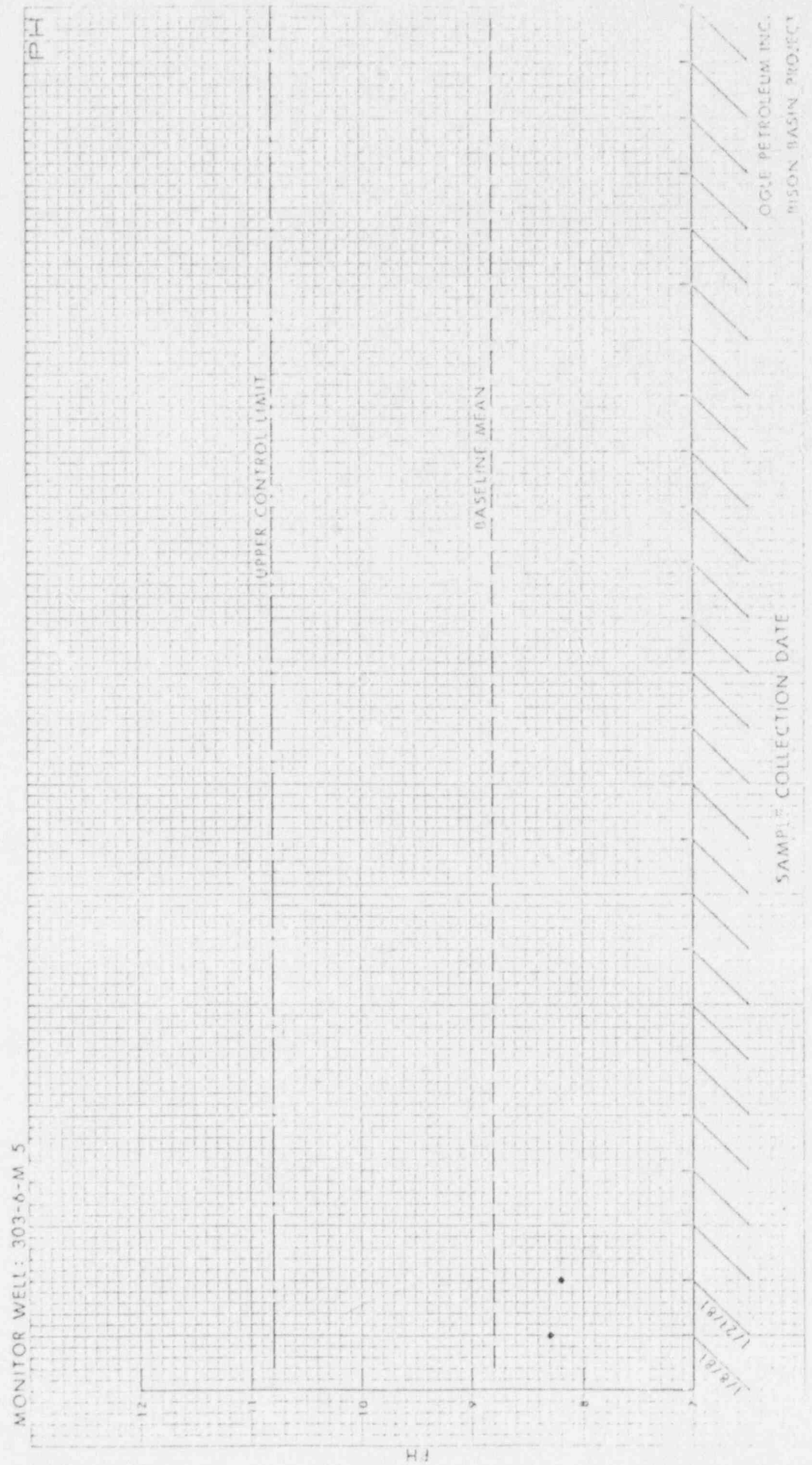


FIGURE 4.1

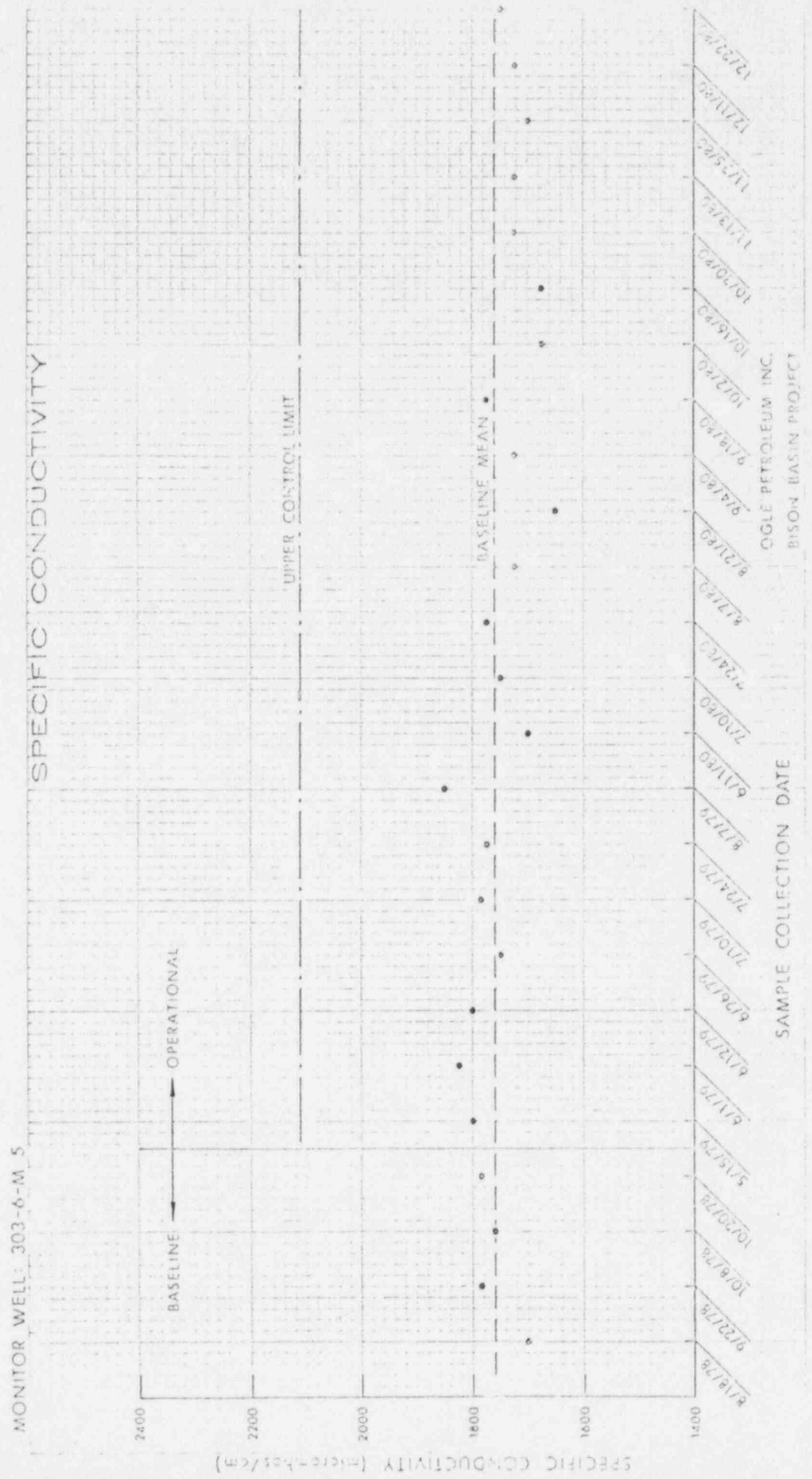


FIGURE 41

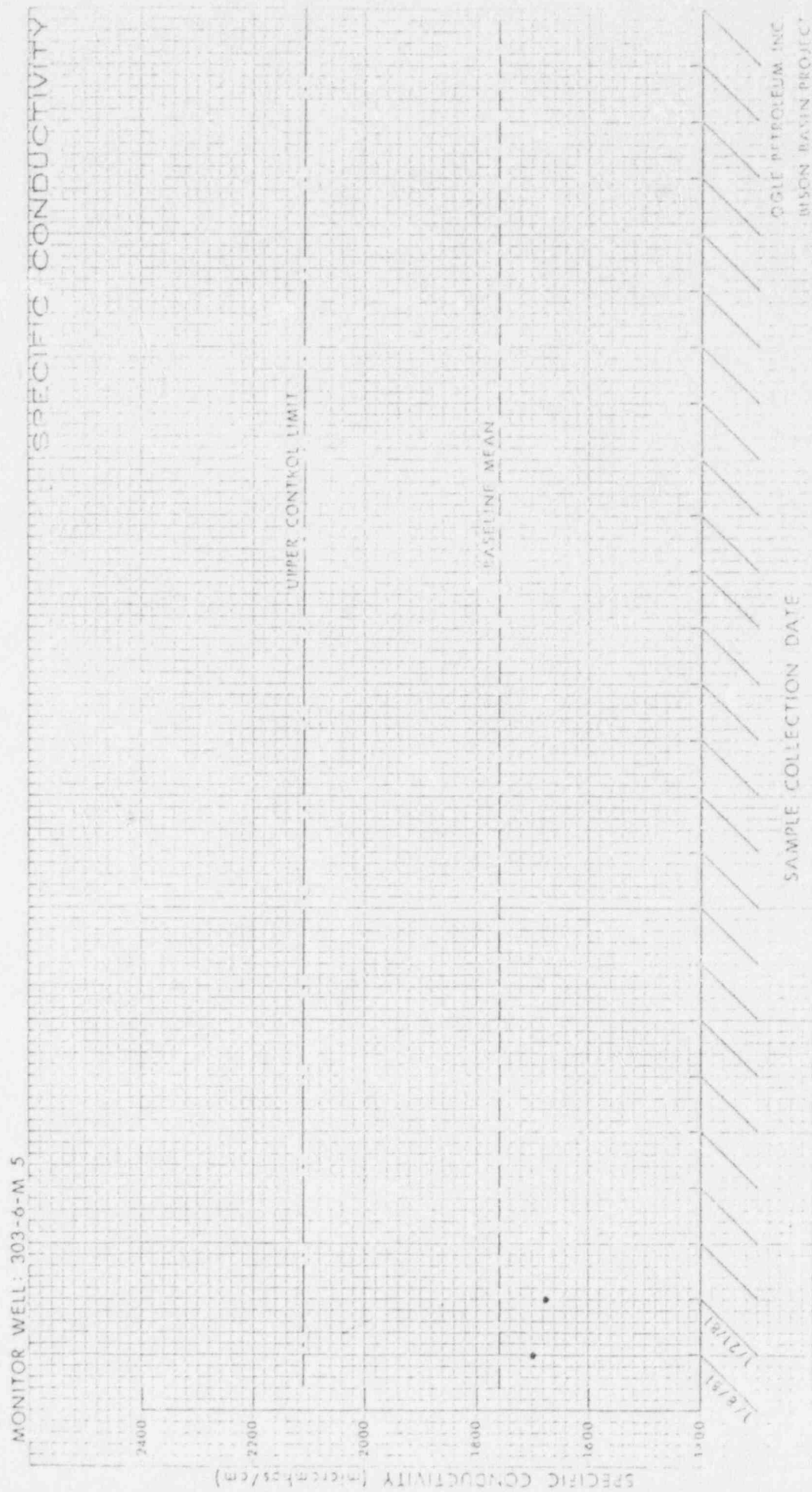


FIGURE 4.2



FIGURE 4.2

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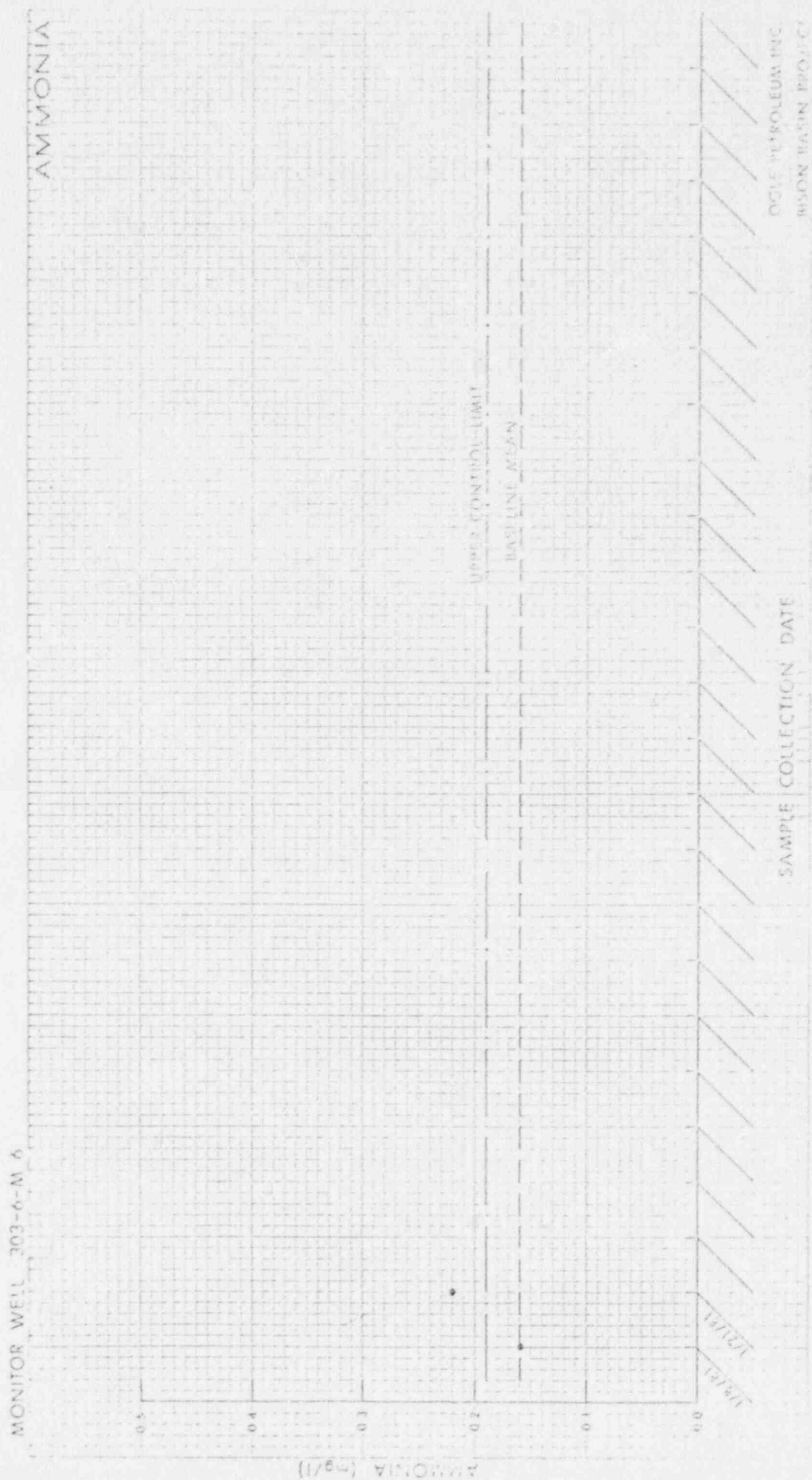


FIGURE 4.3

MONITOR WELL : 303-6-M-6

CARBONATE PLUS BICARBONATE



FIGURE 4.3

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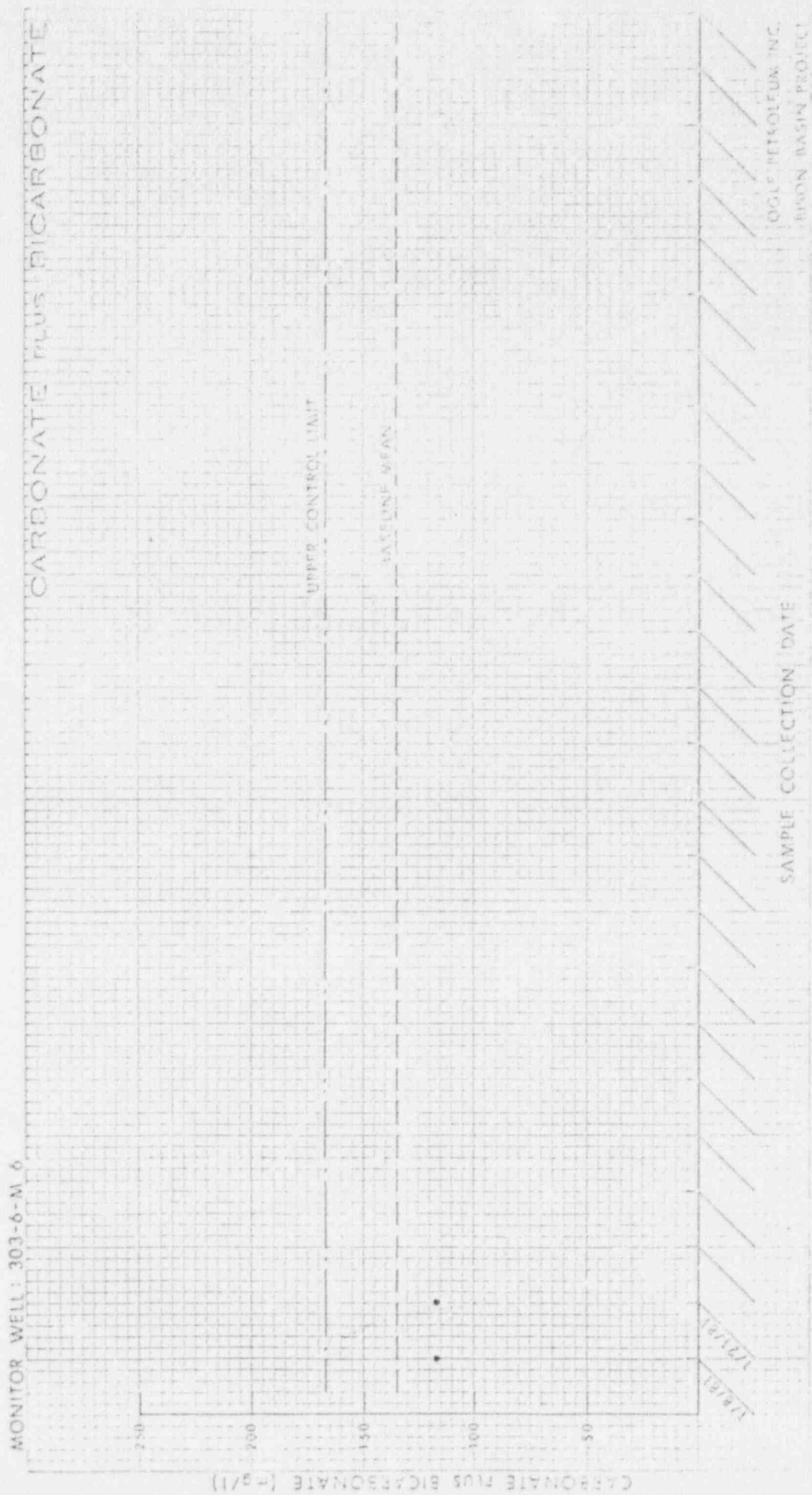


FIGURE 44

MONITOR WELL: 303-6-M 6

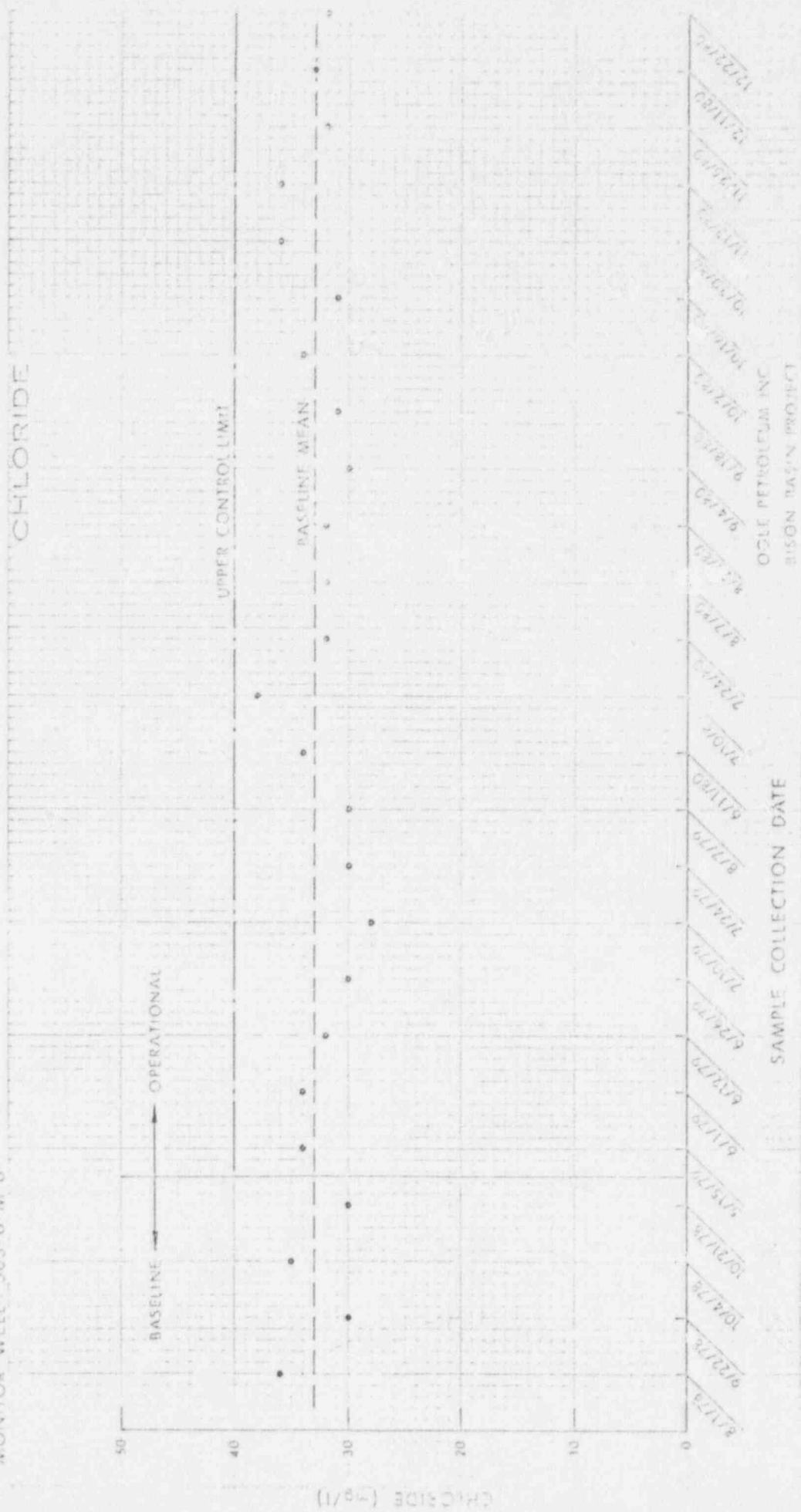


FIGURE 44

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MONITOR WELL : 303-6-M 6

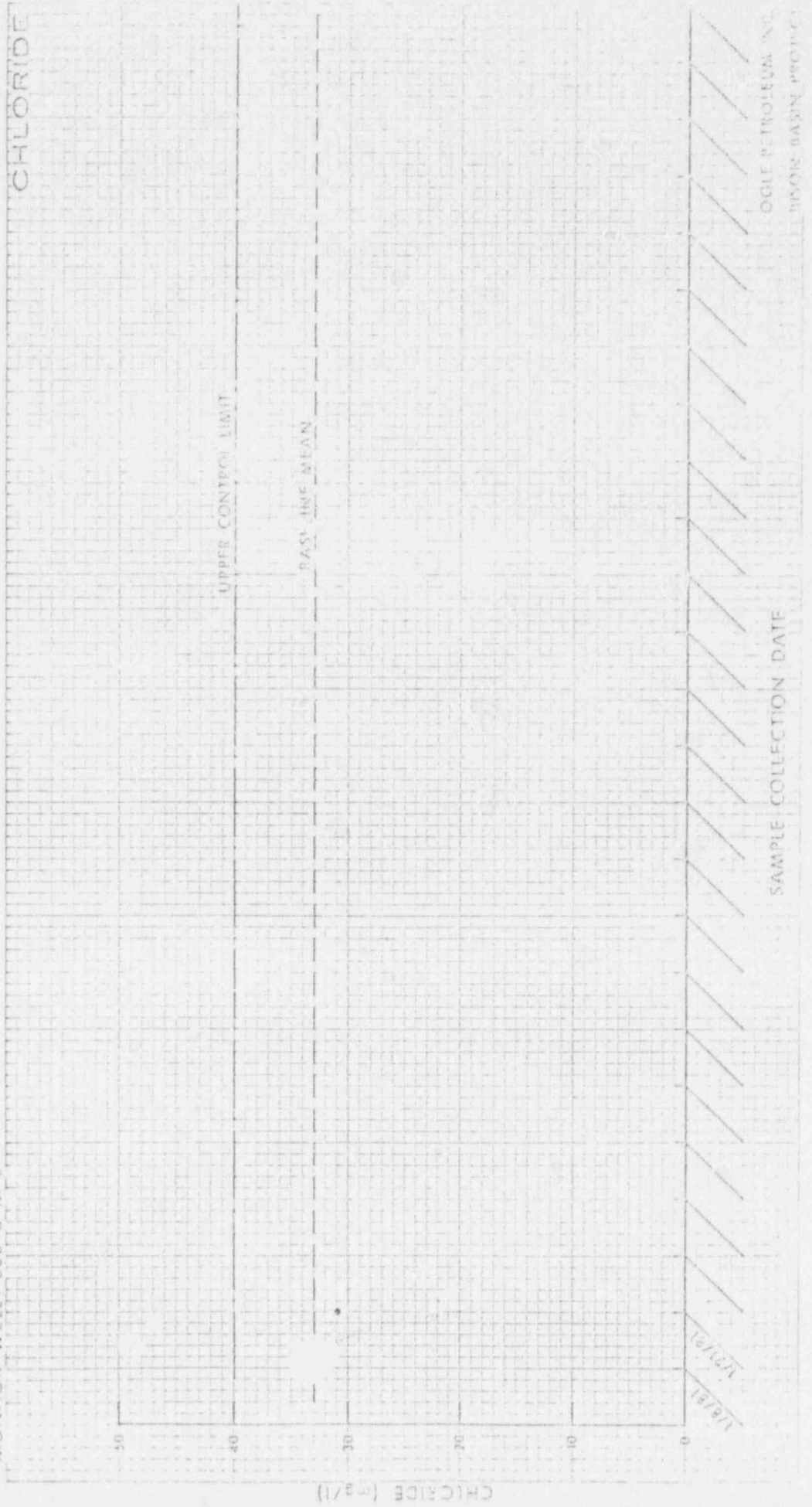


FIGURE 4.5



FIGURE 45

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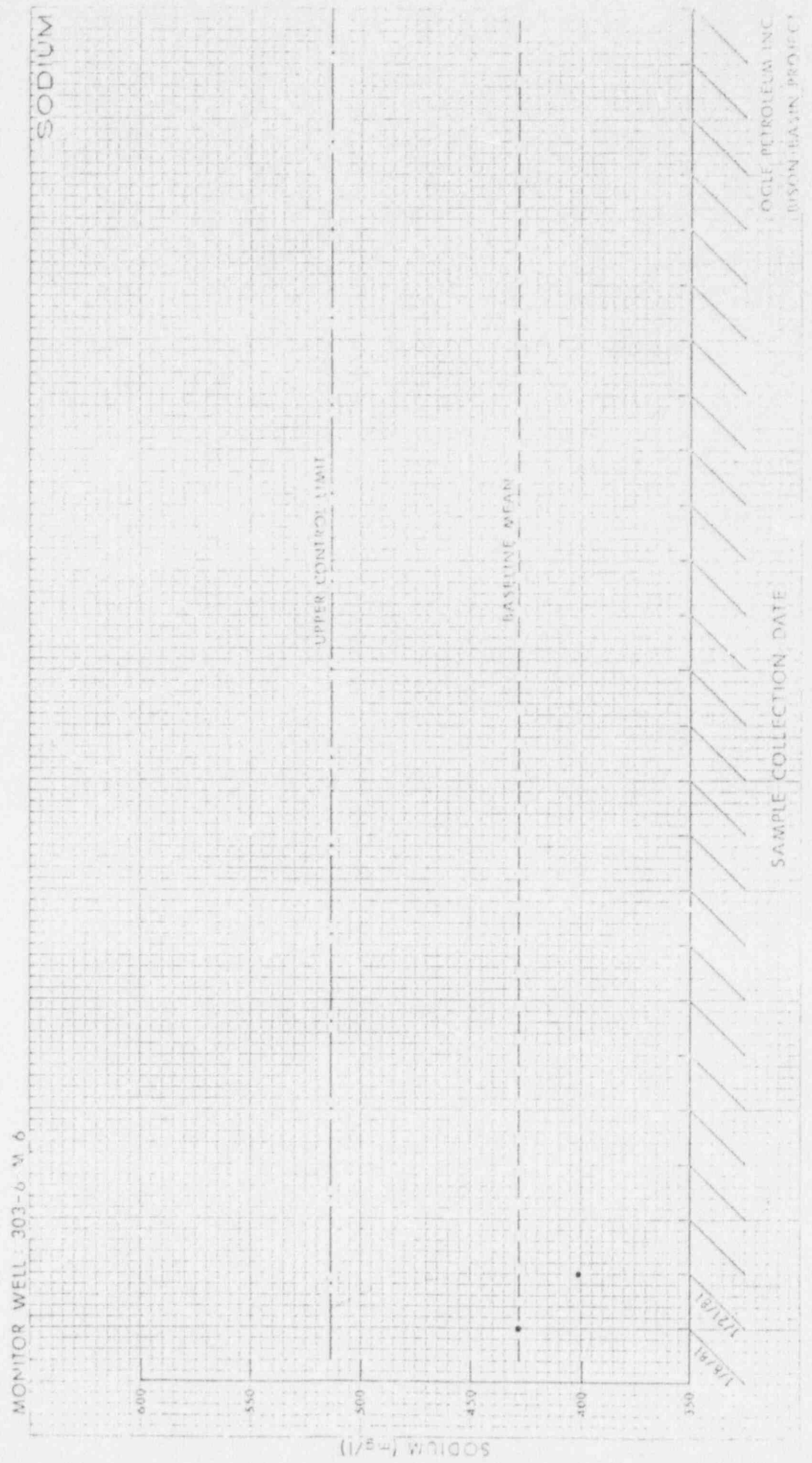


FIGURE 46



FIGURE 46

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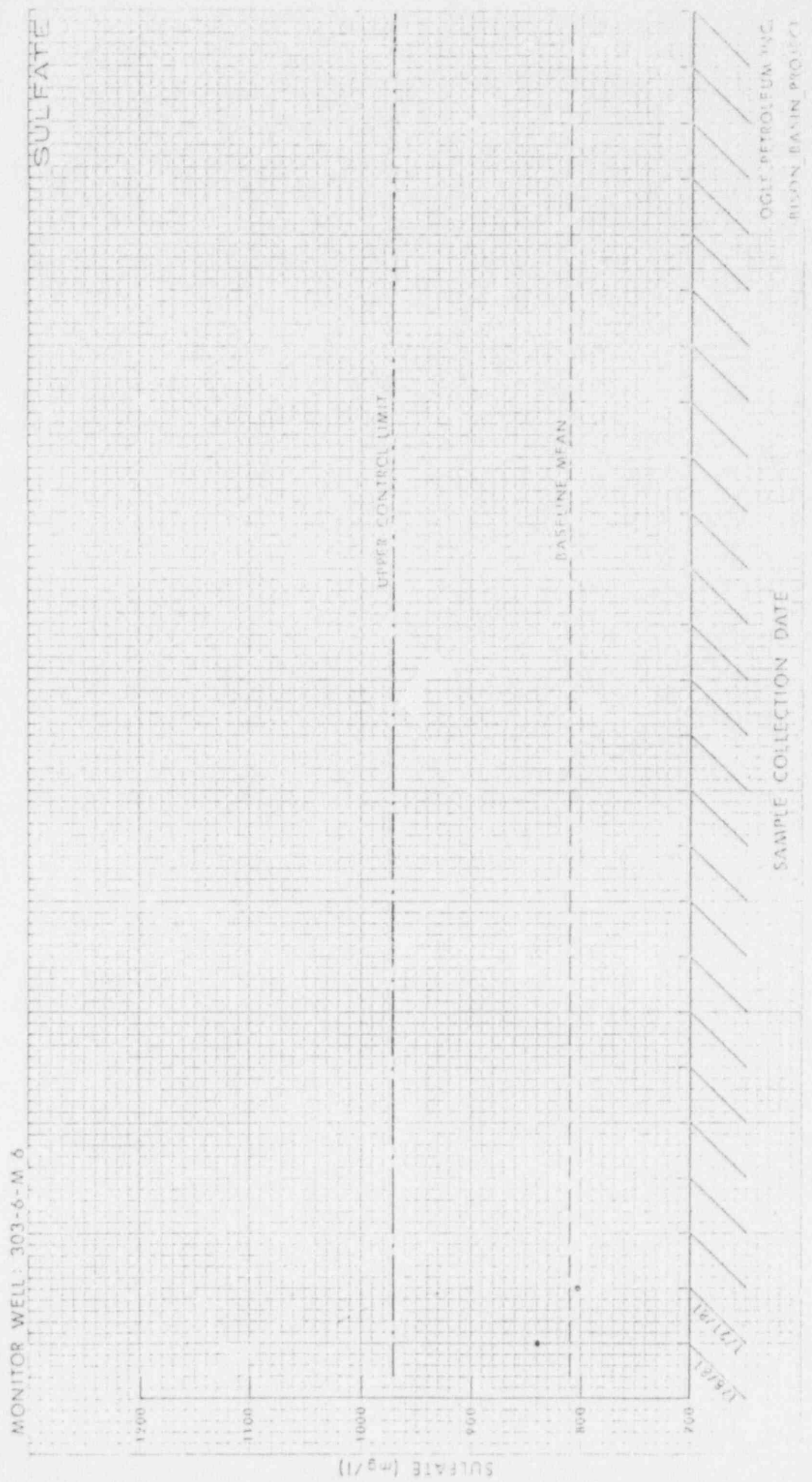


FIGURE 47

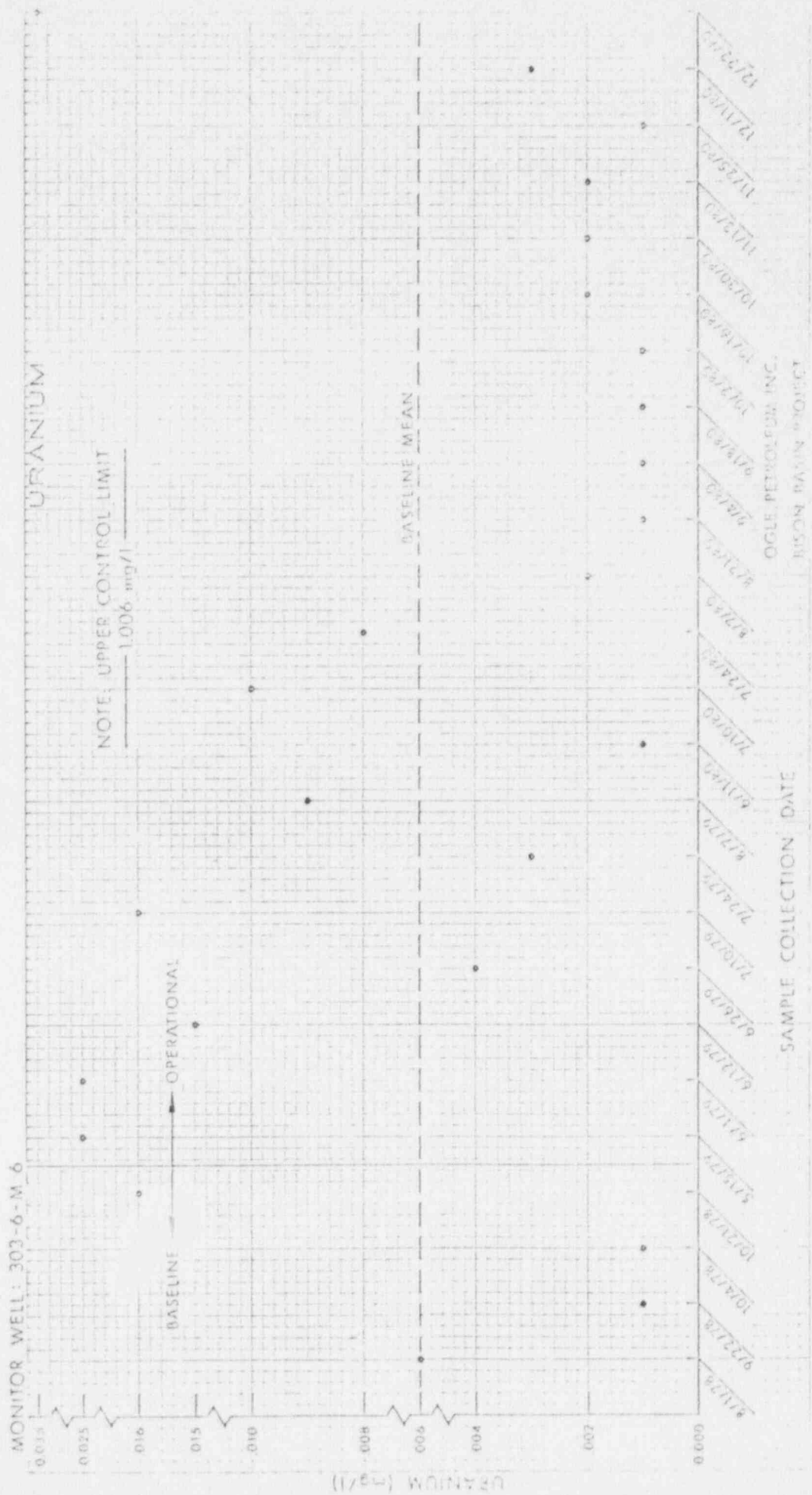


FIGURE 47

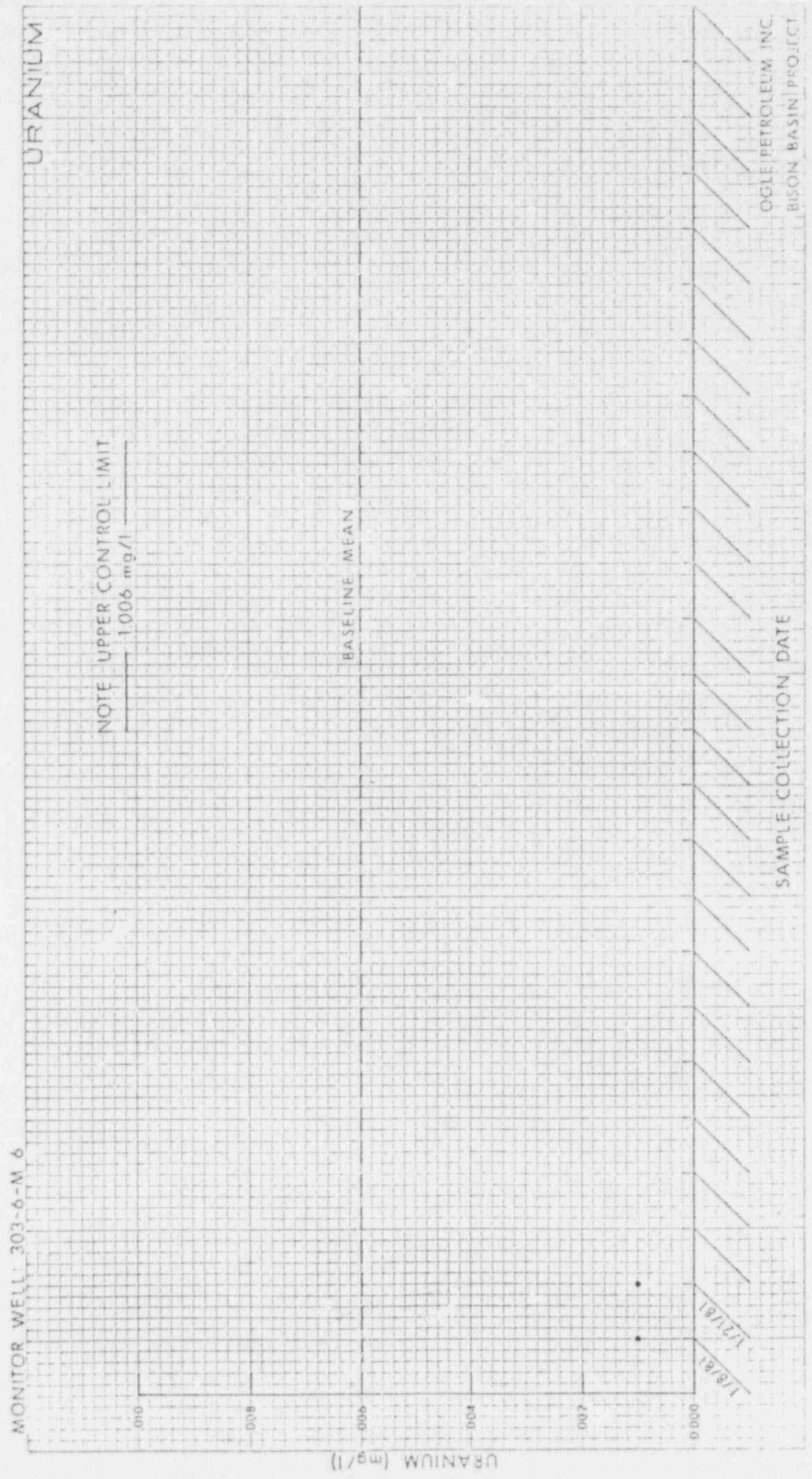


FIGURE 48



FIGURE 48

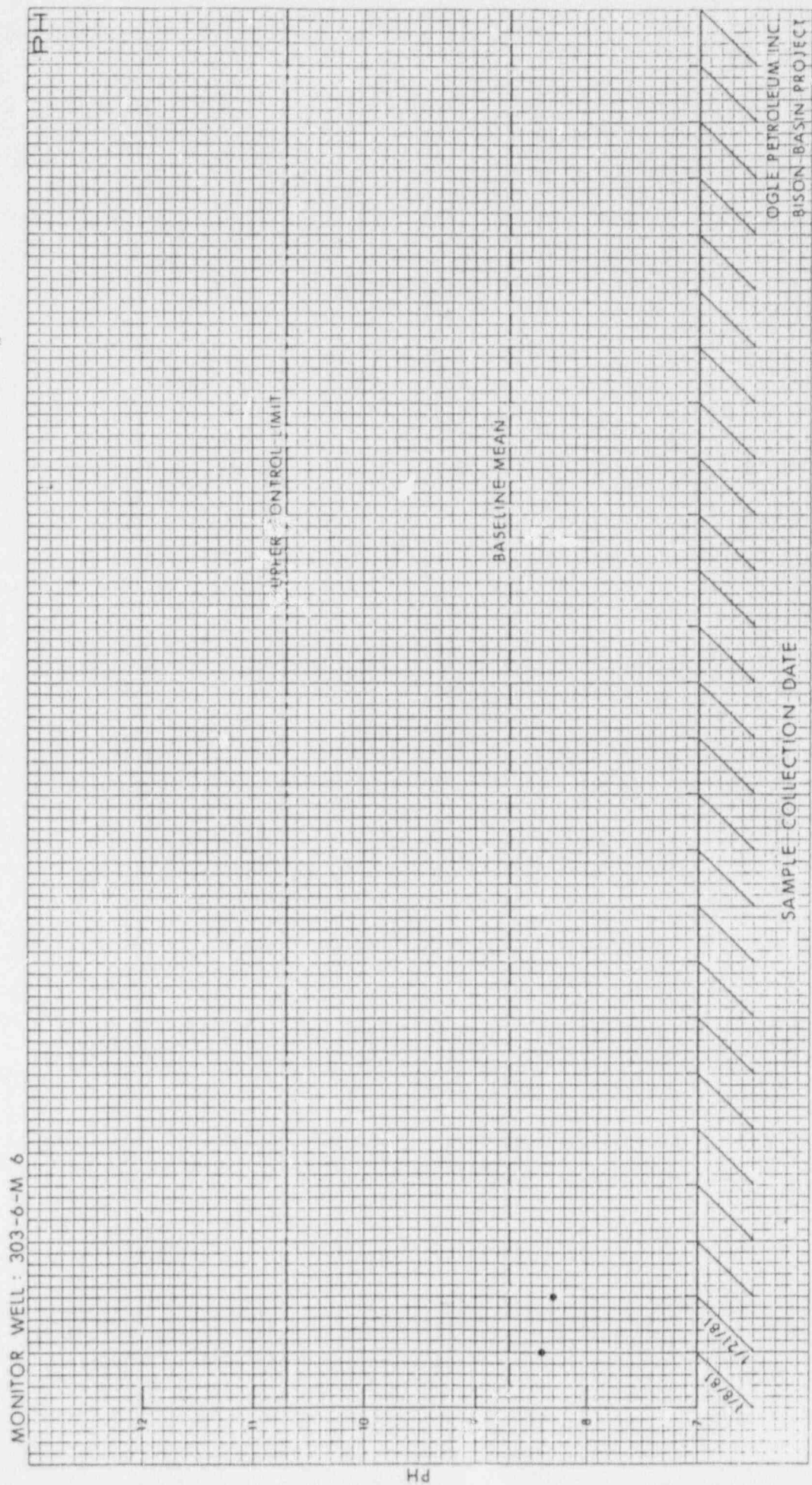


FIGURE 49

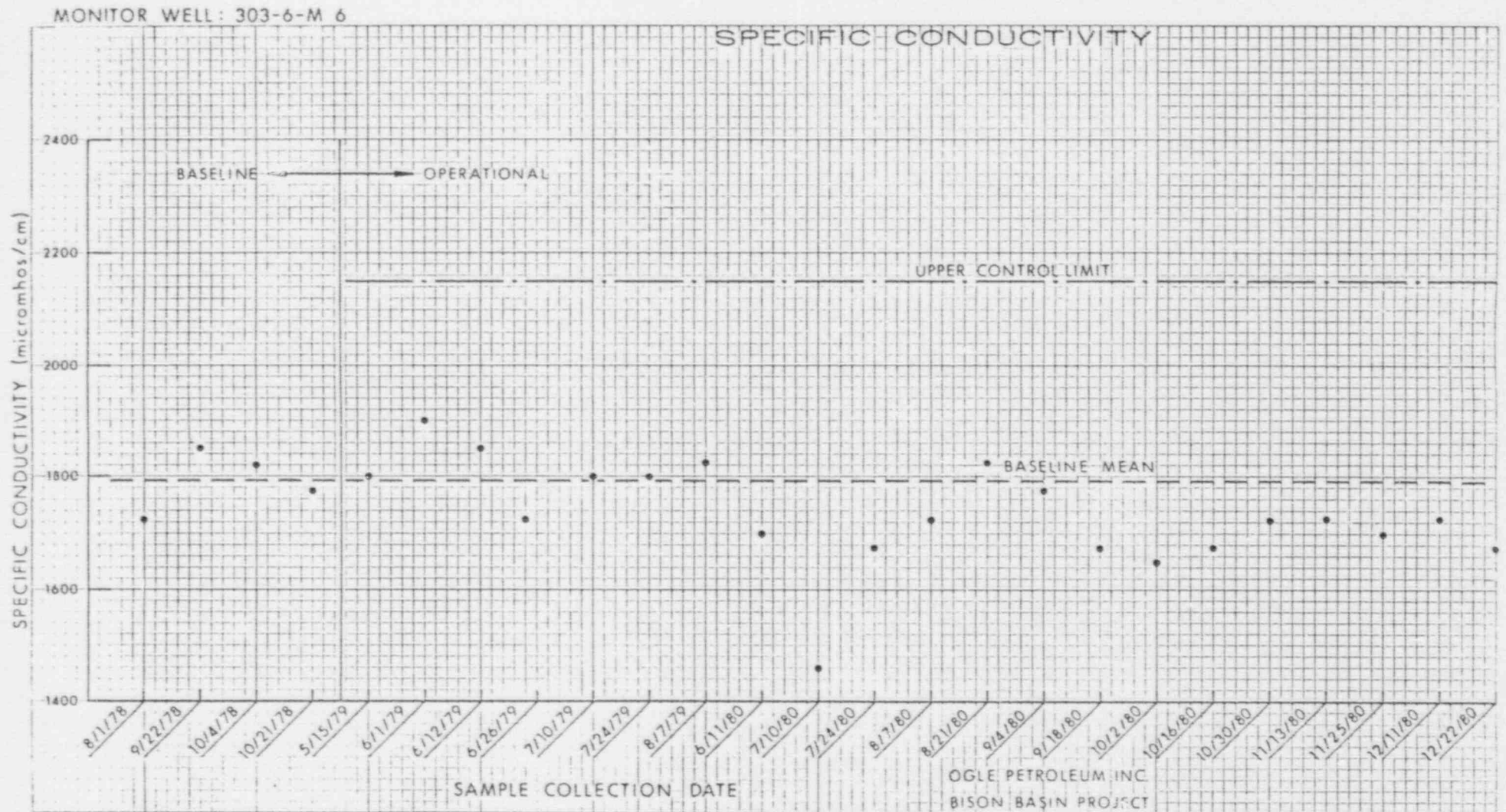


FIGURE 49

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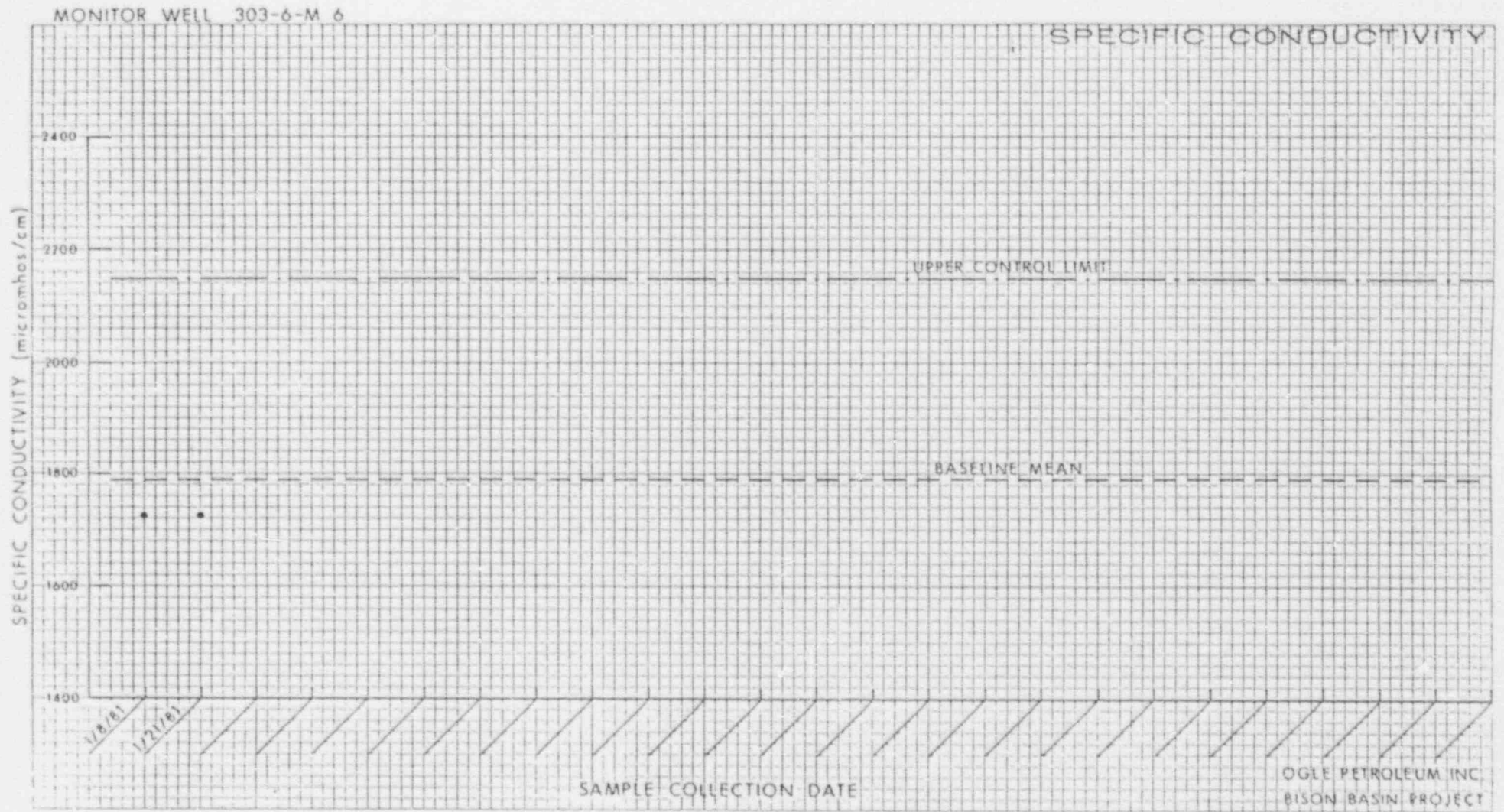
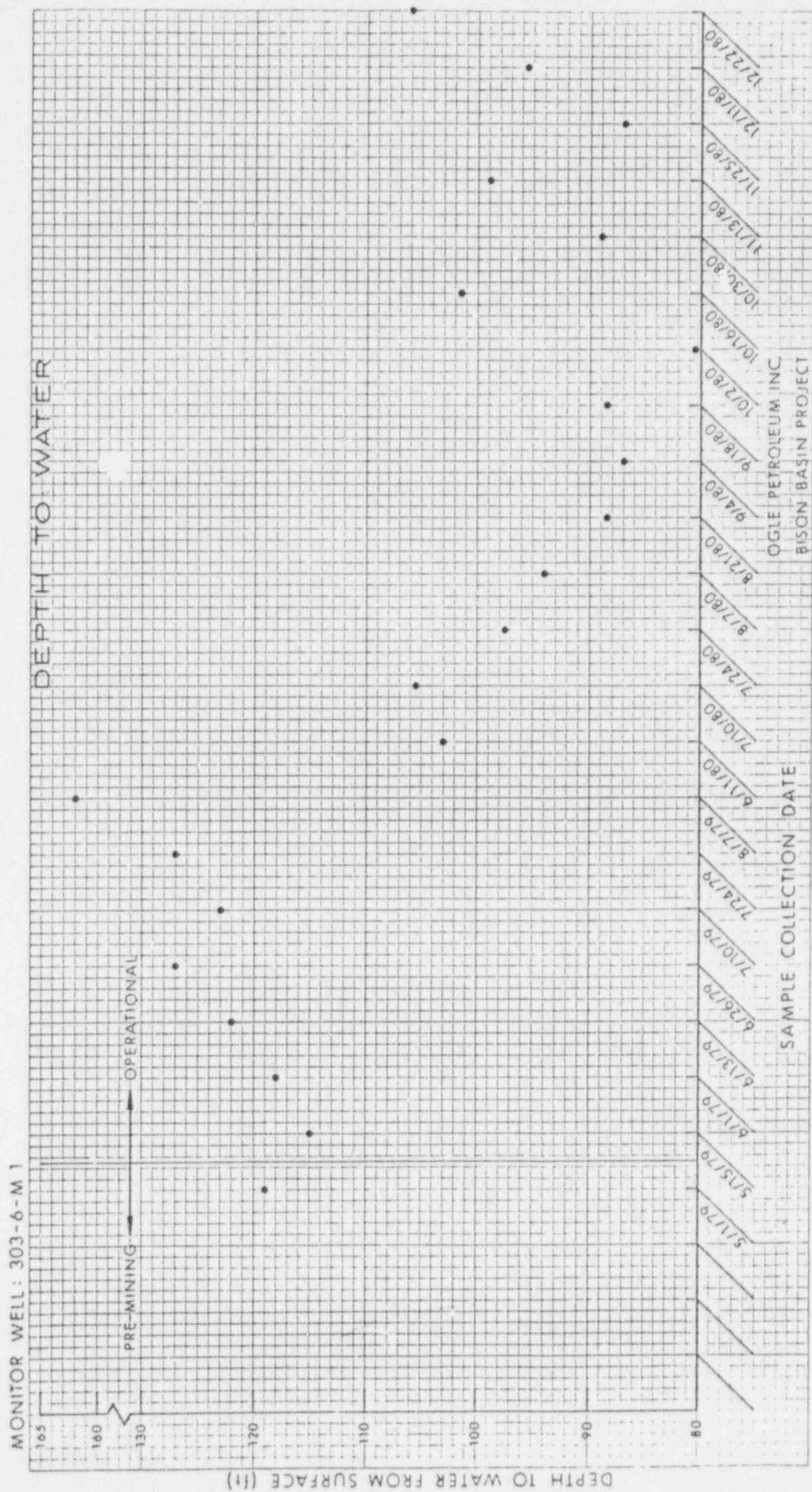


FIGURE 50



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FIGURE 51

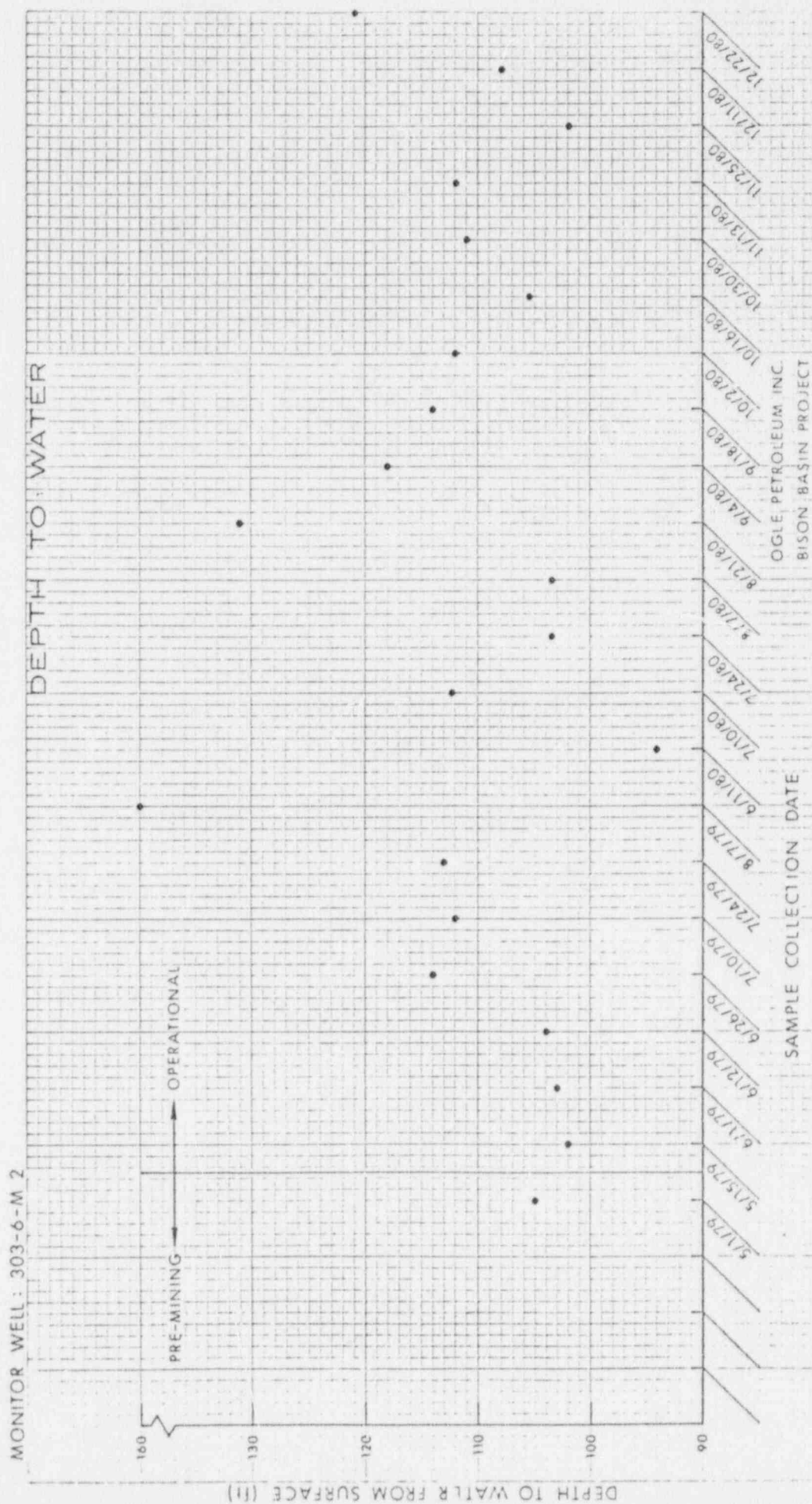


FIGURE 51

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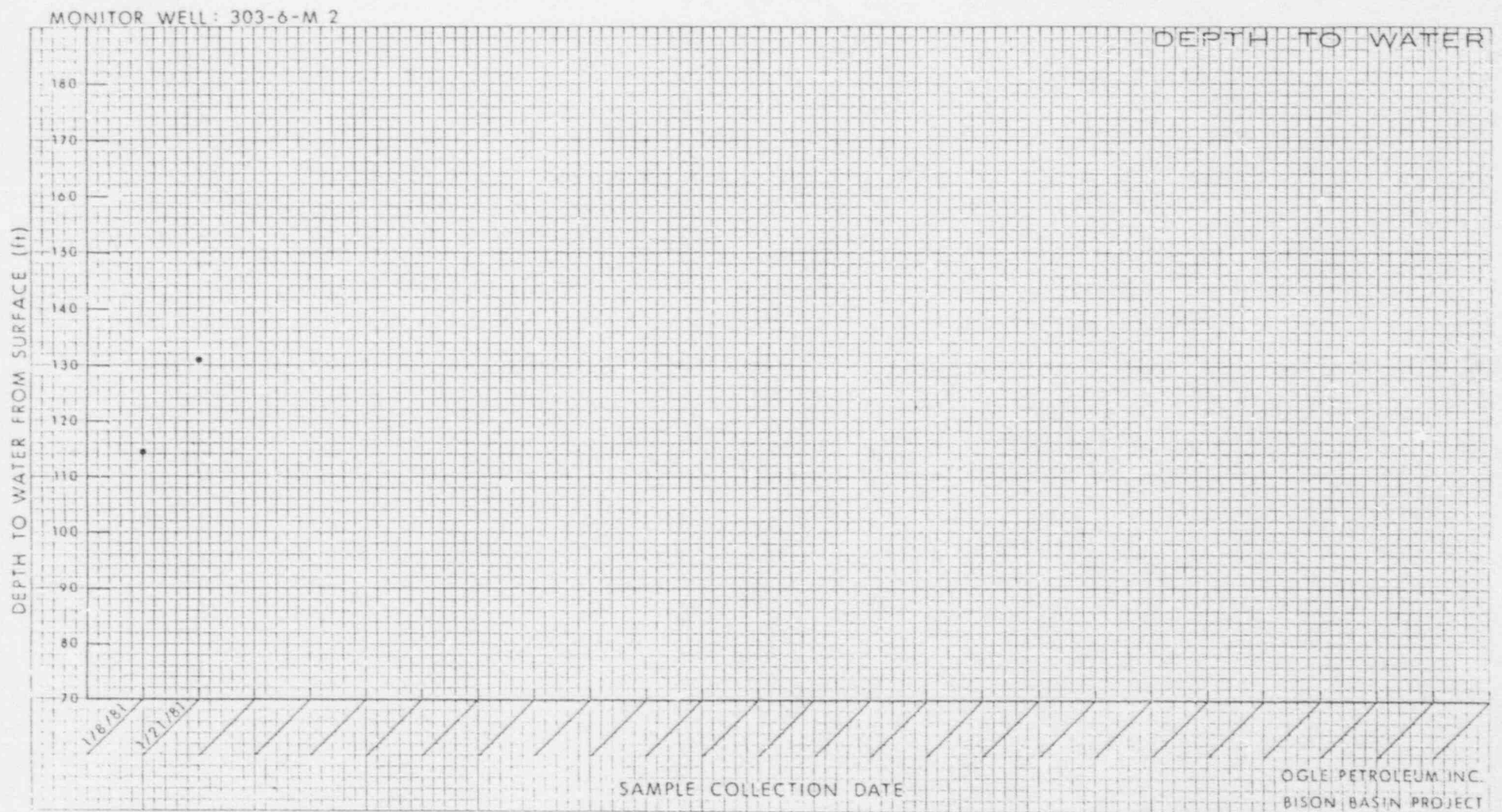


FIGURE 52

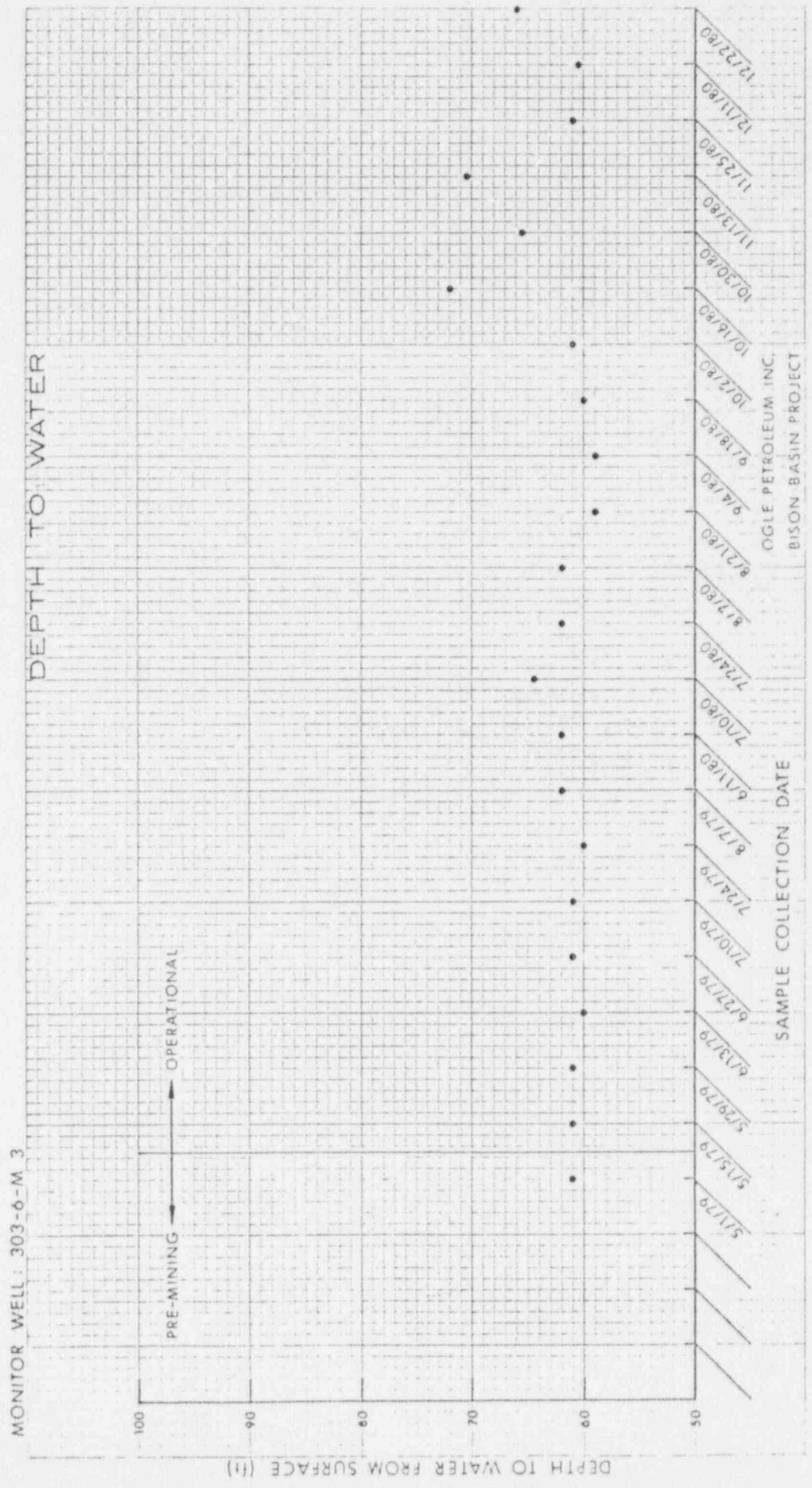


FIGURE 52

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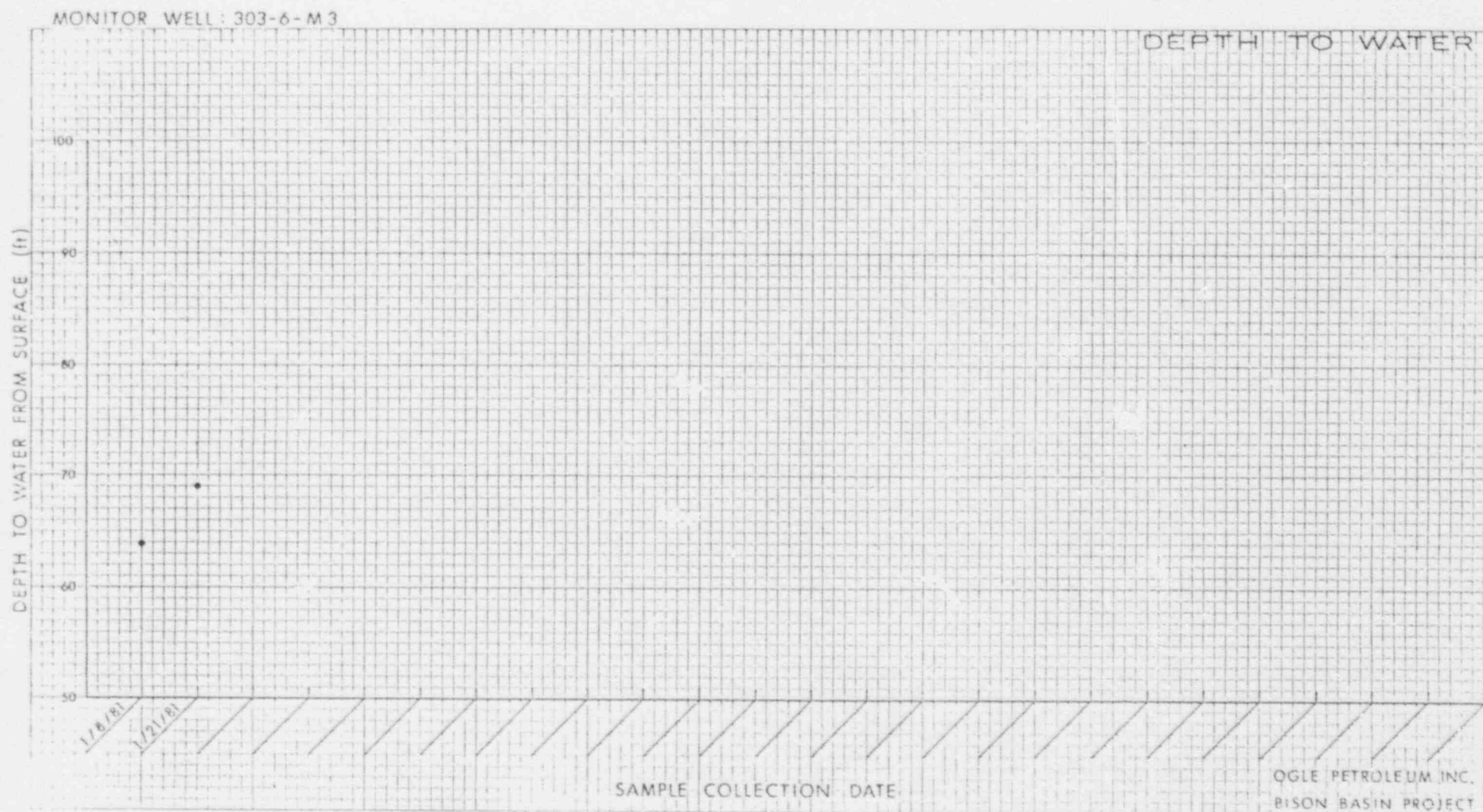


FIGURE 53

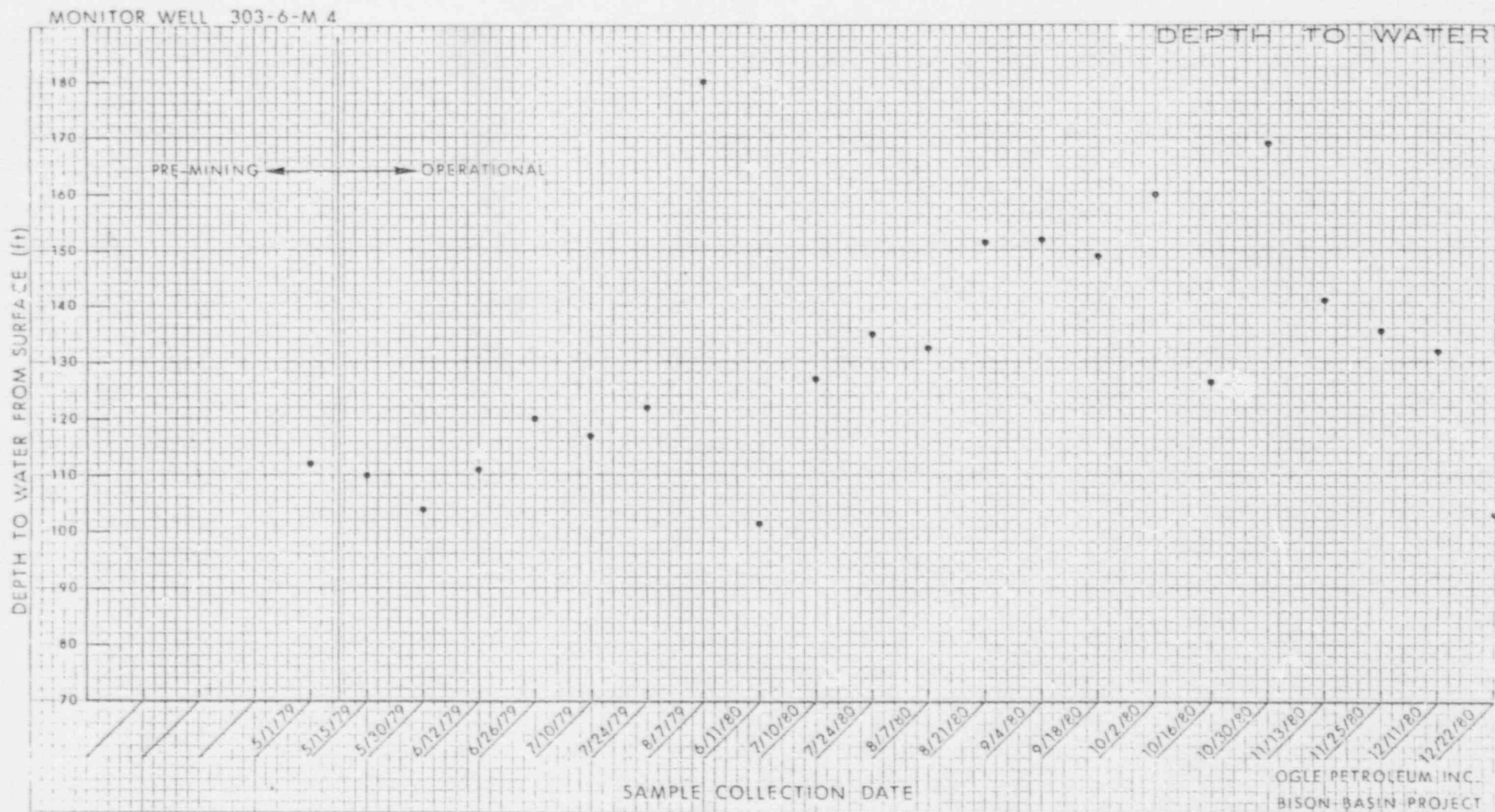


FIGURE 53

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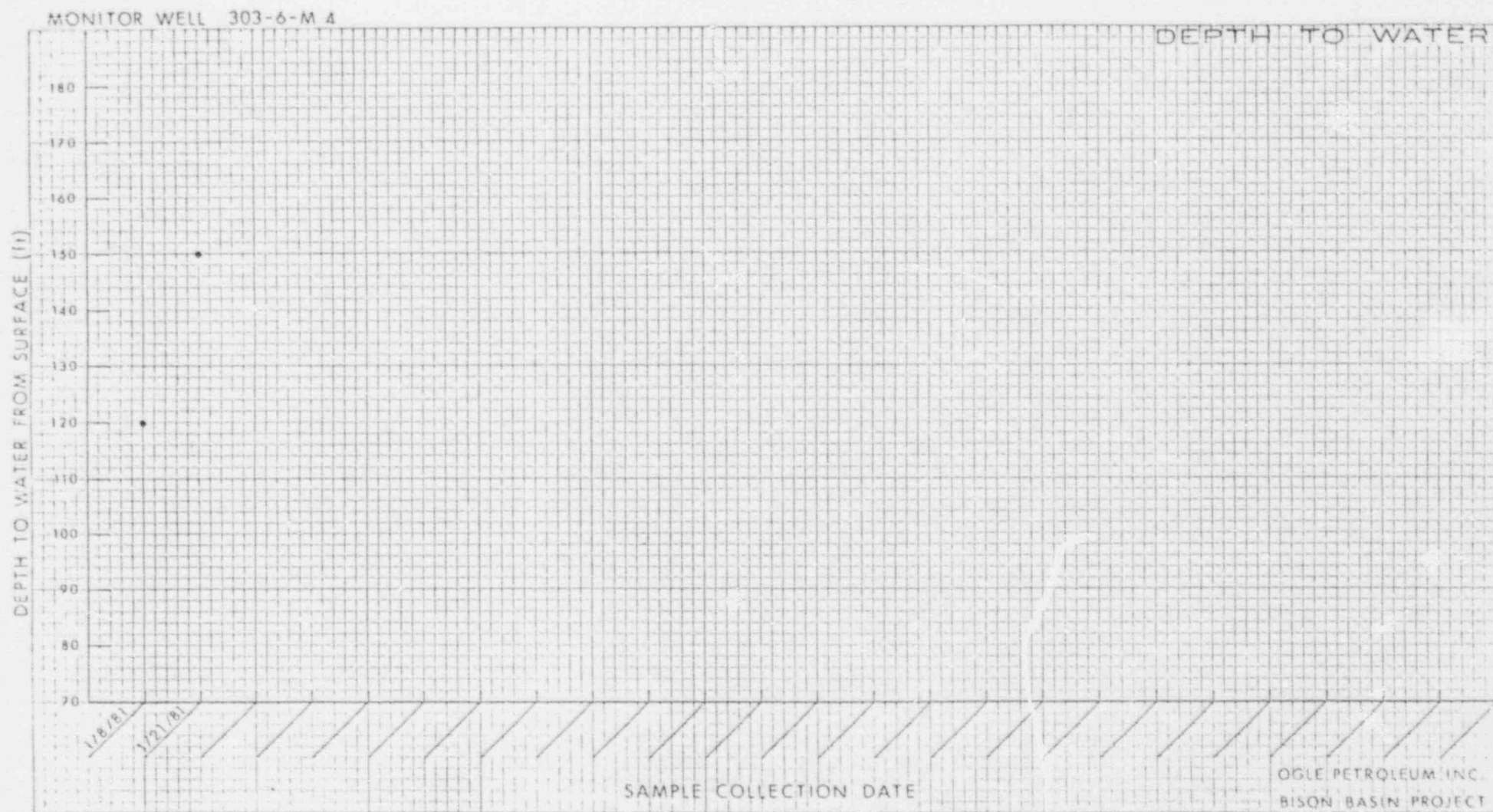


FIGURE 54

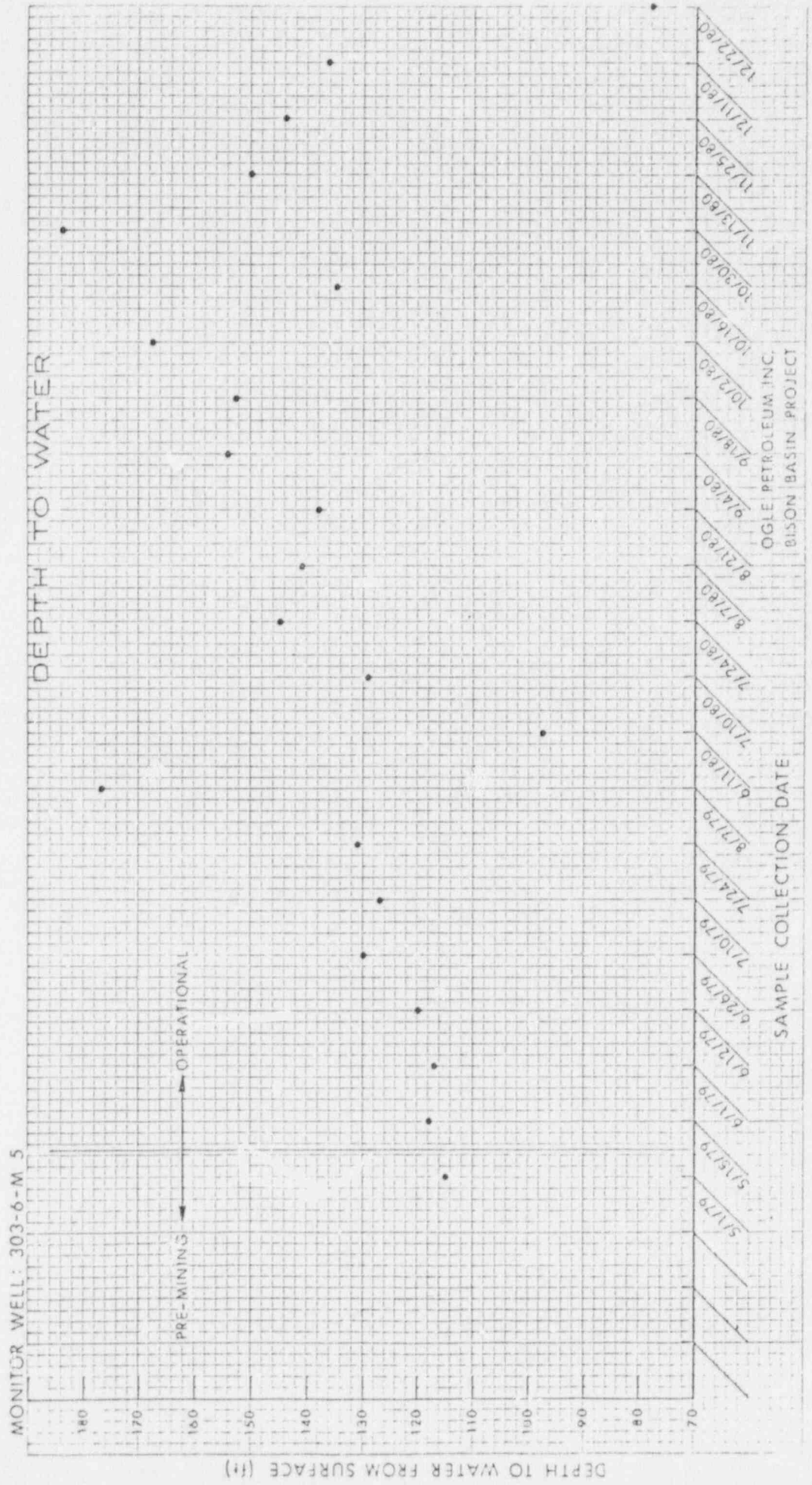


FIGURE 54

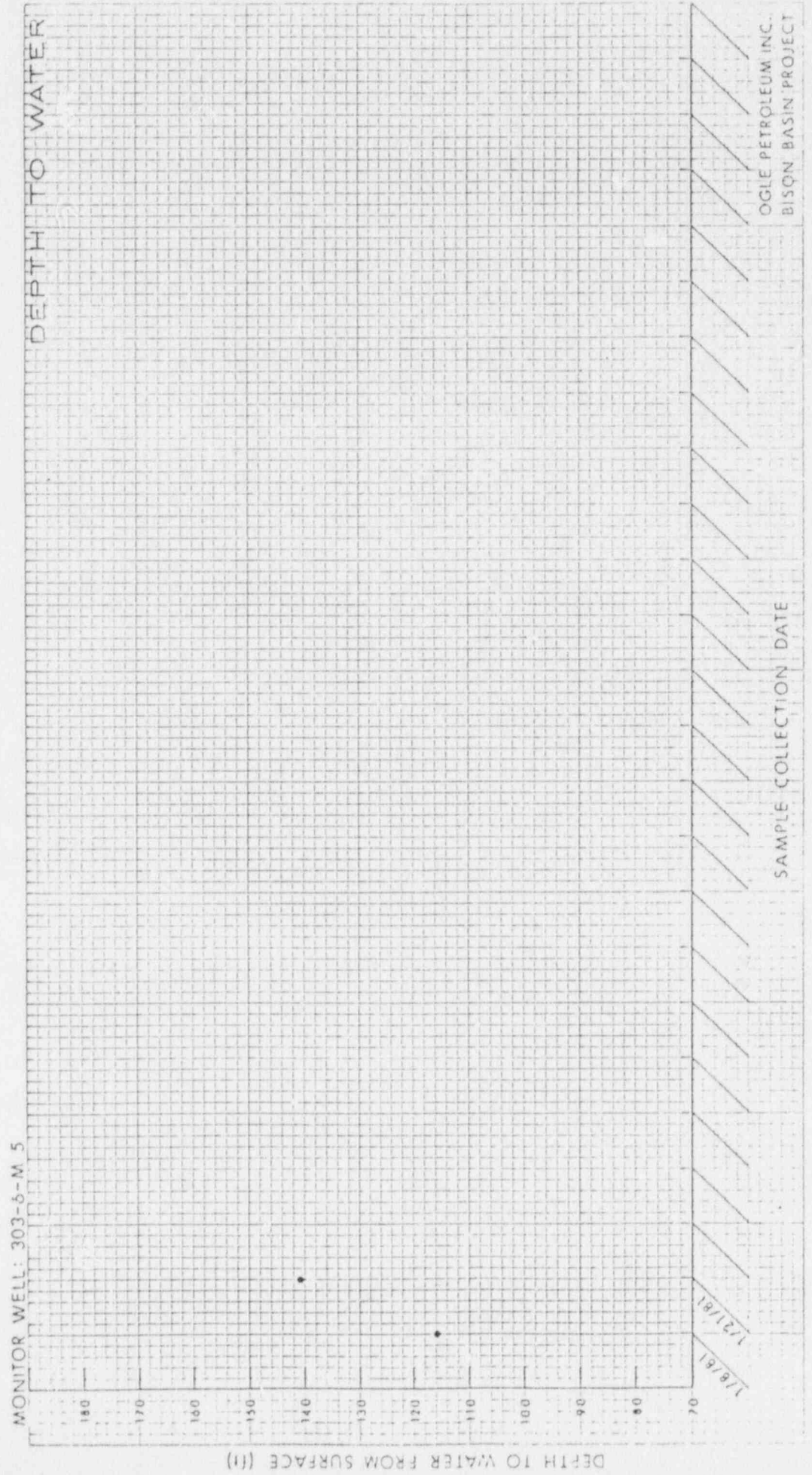
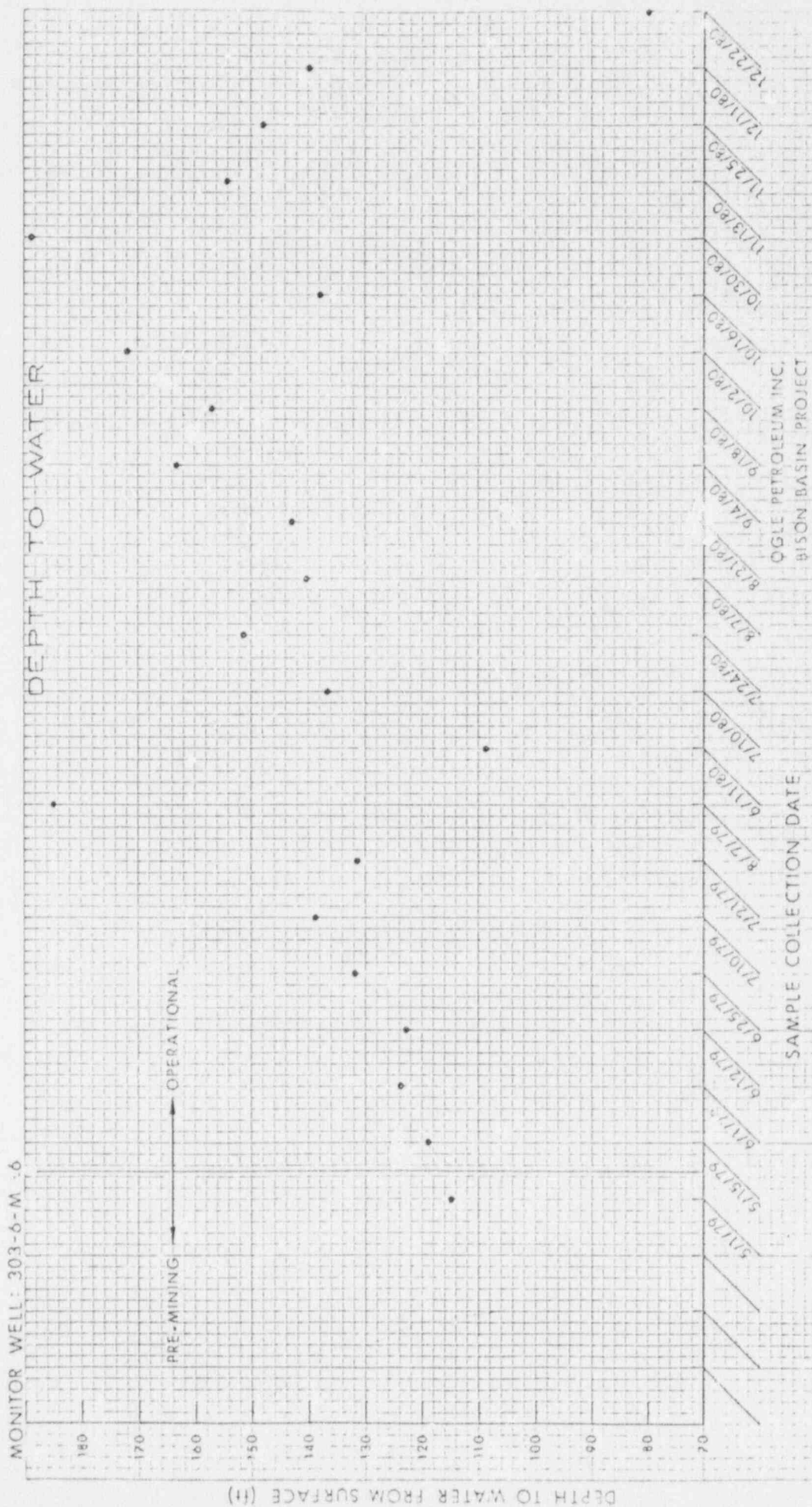
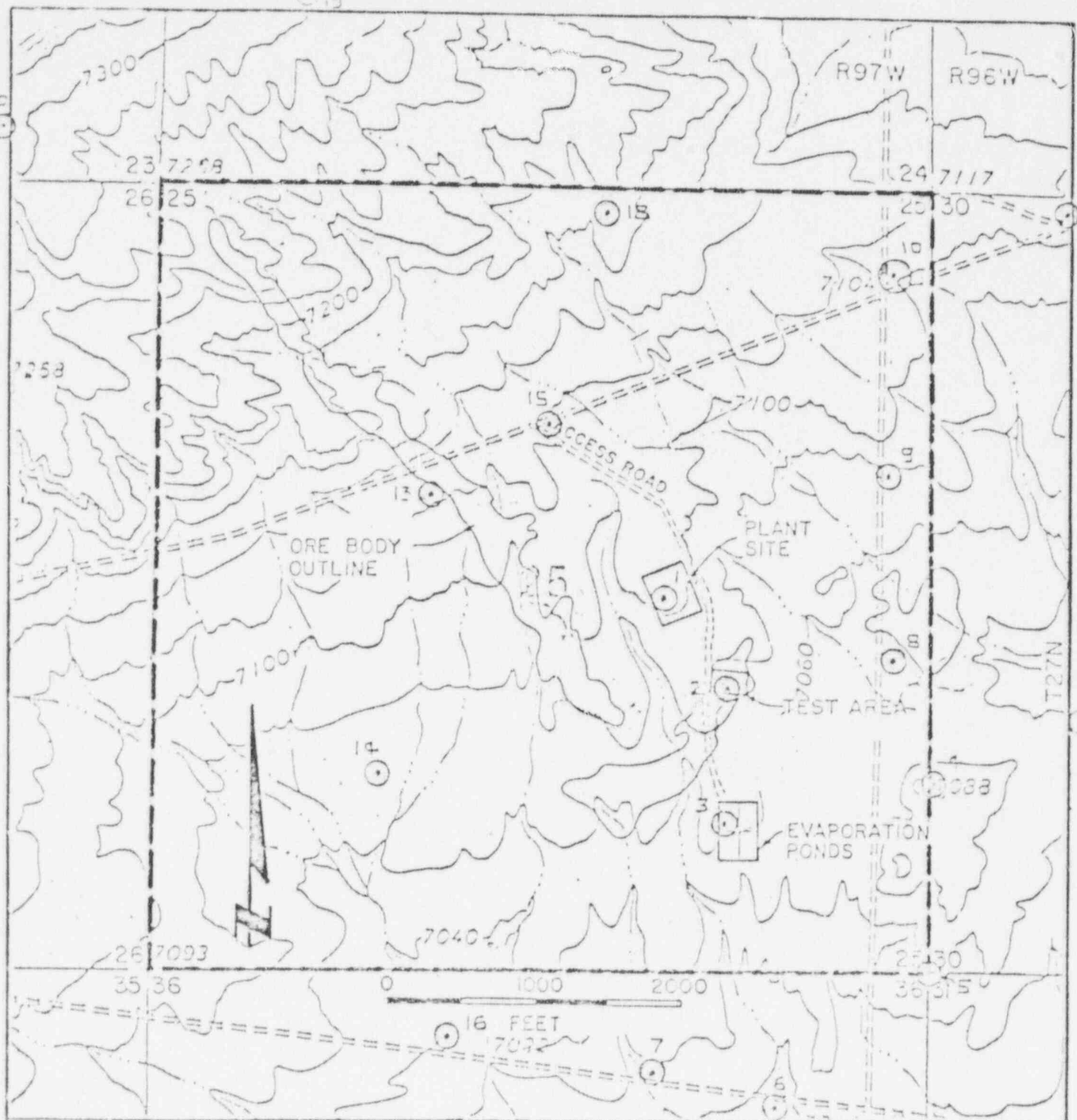


FIGURE 55





EXPLANATION

--- PROJECT AREA BOUNDARY
 7 TLD STATION

STATION 21 - INTERSECTION BISON BASIN OIL
 FIELD ROAD AND BISON BASIN MINE ROAD.
 STATION 22 - INTERSECTION US 287 AND
 BISON BASIN OIL FIELD ROAD

OGLE PETROLEUM INC.

BISON BASIN PROJECT
 BISON BASIN MINE

TLD STATION LOCATION MAP

FIGURE 56