OGLE PETROLEUM INC.

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TELEX No. 658-430

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SANTA BARBARA, CALIFORNIA 93108

PLEASE DIRECT REPLY TO:

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

August 22, 1980

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: License to Explore No. 38

and

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

SUBJECT: Quarterly Report

Gentlemen:

In accordance with the referenced Licenses, Ogle Petroleum Inc. (OPI) herewith presents 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 May 1, 1980 through July 31, 1980.

1. OPERATIONAL SUMMARY

During May and the first part of June, OPI drilled 25 additional wells in the one-acre test area (see Figure 55). OPI resumed mining in the one-acre test area on June 26, 1980 using a sodium carbonate/bicarbonate-based lixiviant. Oxygen is being used as the primary oxidant, and hydrogen peroxide is being used as a backup oxidant.

The wellfield was planned to operate at a flow rate of 100 gallons per minute (gpm). Due to brief periods of shutdown for equipment reasons, the average flow rate for the 36 days of operation during the three month reporting period was 87.1 gpm.

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S
1/1

The total product recovered as of July 31, 1980, based on metallurgical calculations, is approximately 702 pounds of yellowcake (U_3O_8). The average grade of uranium in the pregnant leach solution during the 36-day operating period was 19.1 mg/l.

2. AVERAGE FLOW RATES TO THE PROCESSING PLANT

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

May, 1980	0 gpm
June, 1980	86.5 gpm
July, 1980	87.3 gpm

3. AVERAGE FLOW RATES TO THE POND

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

May, 1980	0 gpm
June, 1980	0.43 gpm
July, 1980	0.44 gpm

4. TOTAL NUMBER OF GALLONS INJECTED AND RECOVERED

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

Injected	4,496,666 gallons
Recovered	4,519,262 gallons

5. WASTE VOLUMES GENERATED

The total volume of liquid waste effluent discharged to the evaporation pond during the reporting period was 22,596 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 in Figures 1 through 48. The locations of the monitor wells are shown on Figure 55.

7. MONITOR WELL WATER LEVELS

As required by the referenced Licenses, OPI measured the depth to the water surface in each monitor well each time the well was sampled. These measurements were taken prior to pumping the well for the water quality sample collection. The results of these water surface measurements are presented graphically in Figures 49 through 54.

Please contact our Casper office if additional information concerning OPI's 100 gpm R & D operation is desired.

Sincerely,

OGLE PETROLEUM INC.

Gary A. Saunders
Environmental Engineer

Glenn J. Catchpole
Project Manager

GAS:jm

Enclosures

CC: Region IV, NRC
Dr. Minton Kelly, ORNL
Document Management Branch

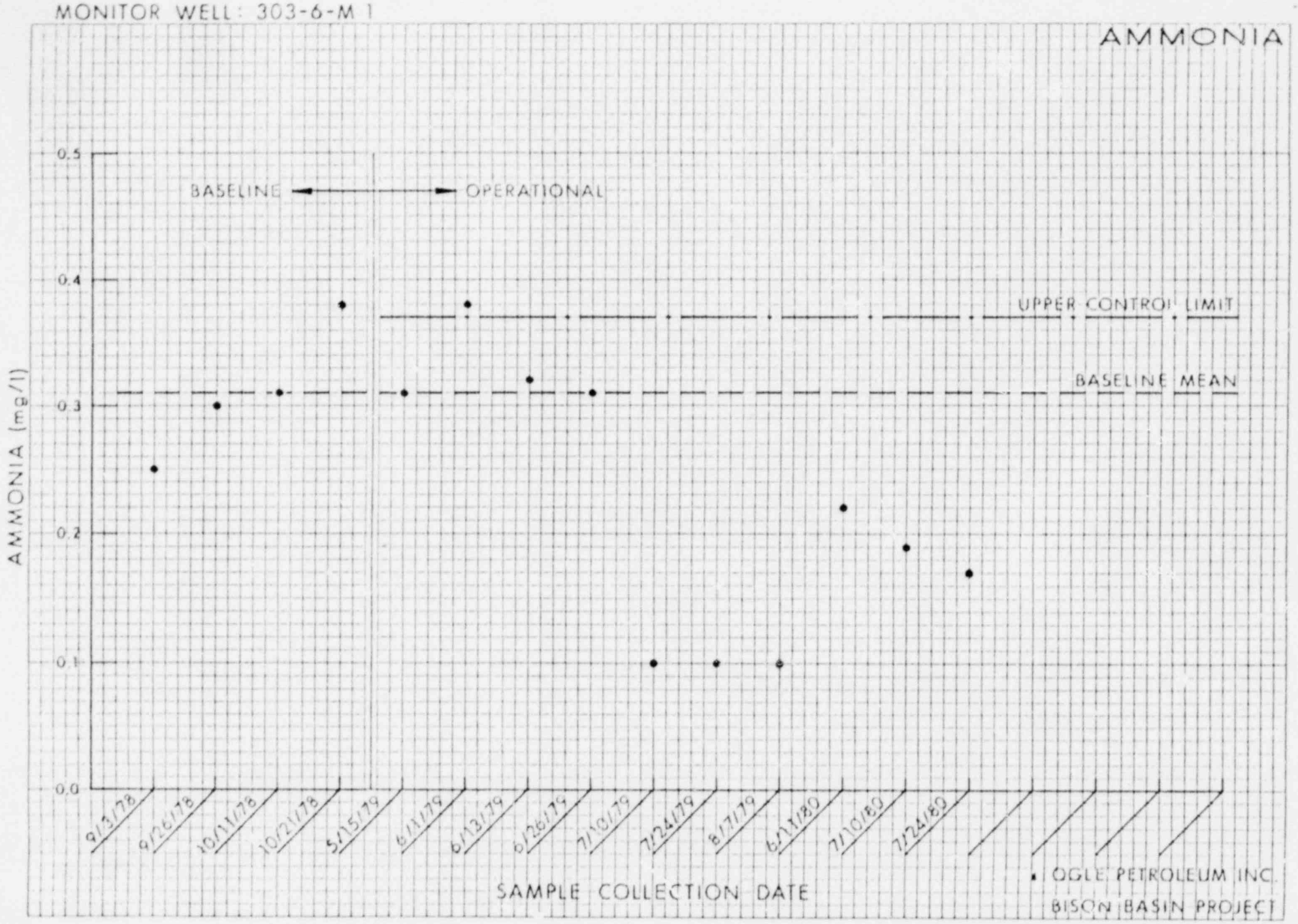
MONITOR WELL: 303-6-M 1
AMMONIA
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
AMMONIA (mg/l)
0.5
0.4
0.3
0.2
0.1
0.0
9/13/78
9/26/78
10/11/78
10/21/78
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 1

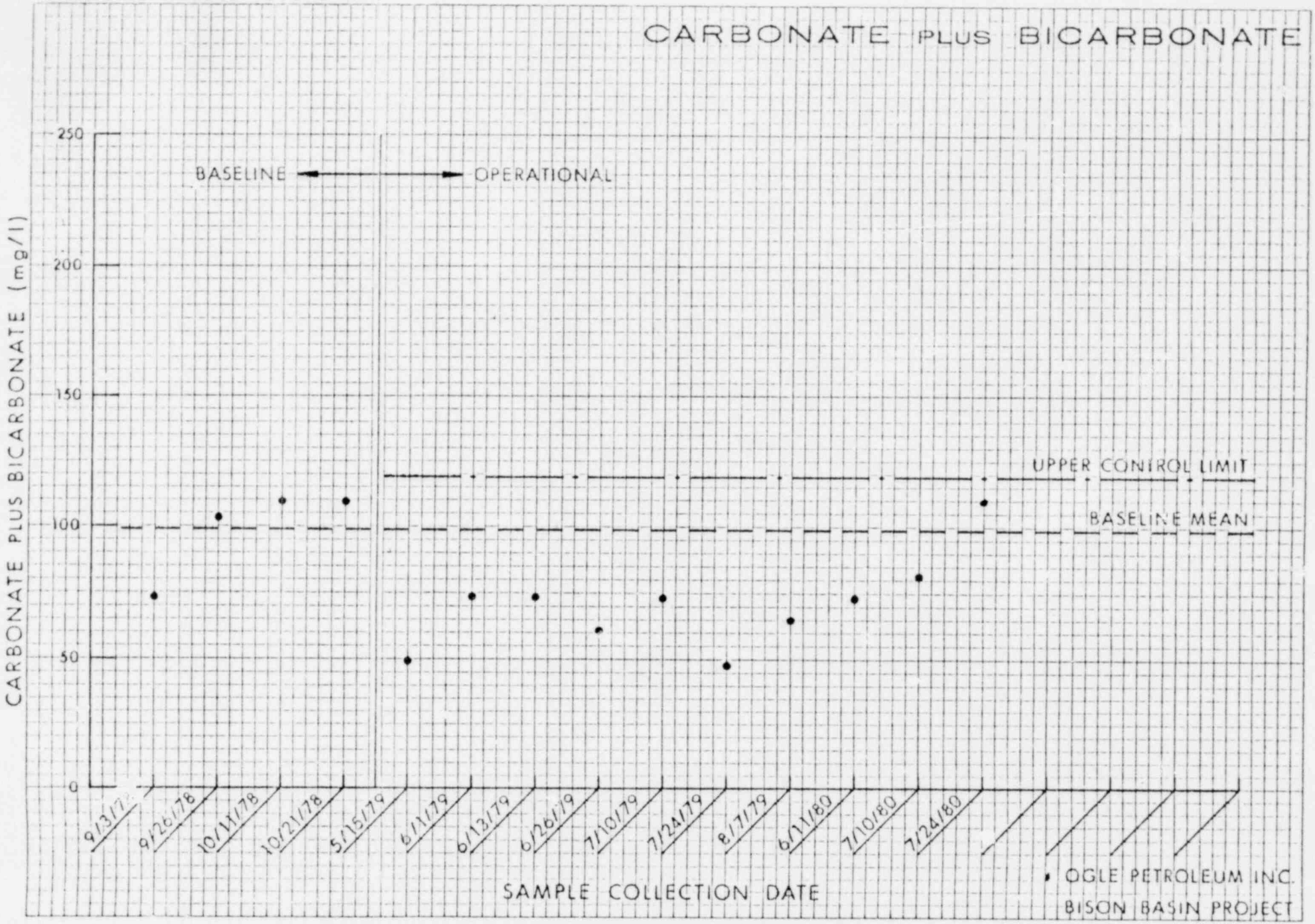
MONITOR WELL: 303-6-M 1
CARBONATE PLUS BICARBONATE
CARBONATE PLUS BICARBONATE (mg/l)
250
200
150
100
50
0
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
9/13/78
9/26/78
10/11/78
10/21/78
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 2

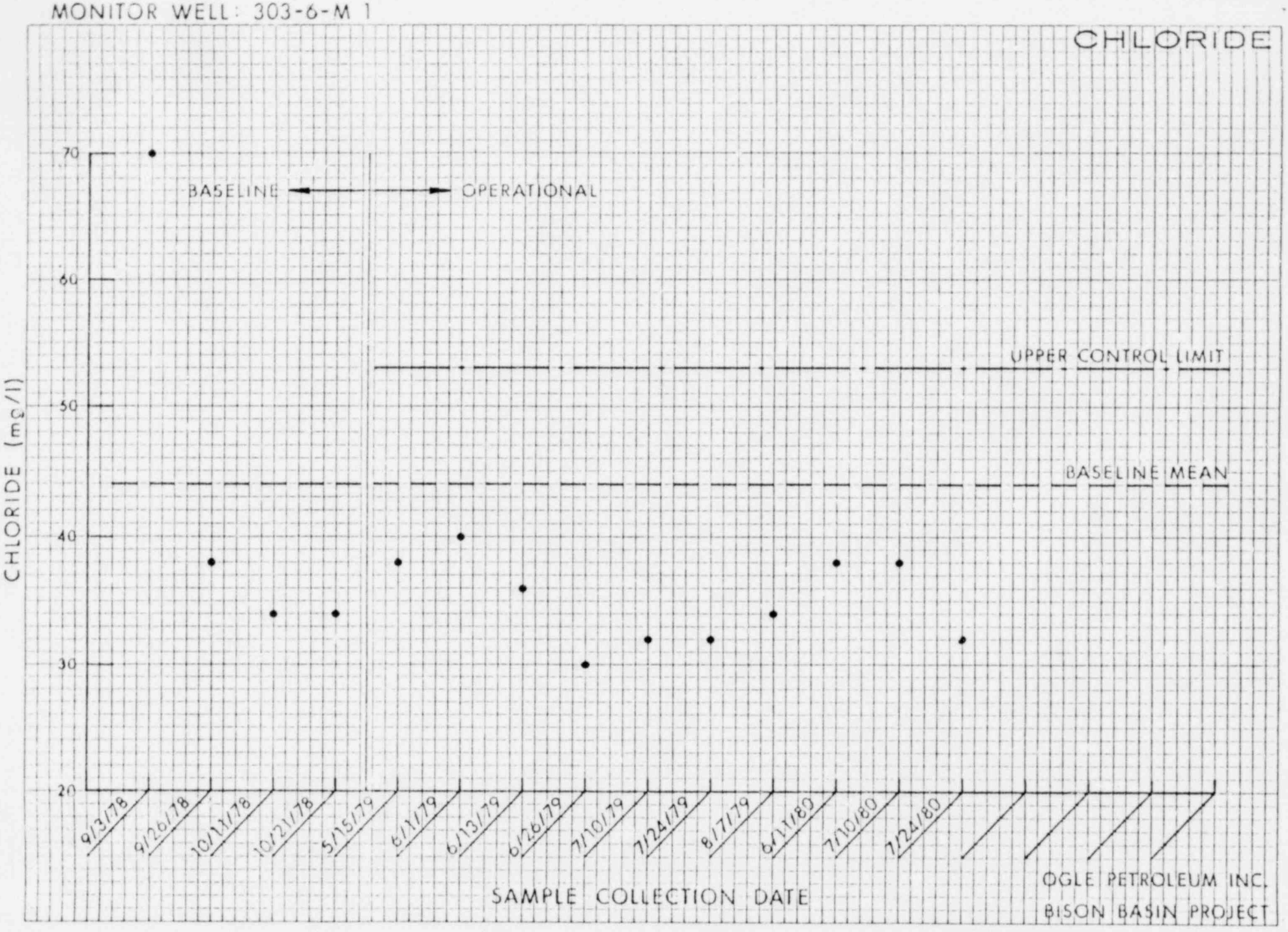
MONITOR WELL: 303-6-M 1
CHLORIDE
70
60
50
40
30
20
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CHLORIDE (mg/l)
9/3/78
9/26/78
10/11/78
10/21/78
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
8/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 3

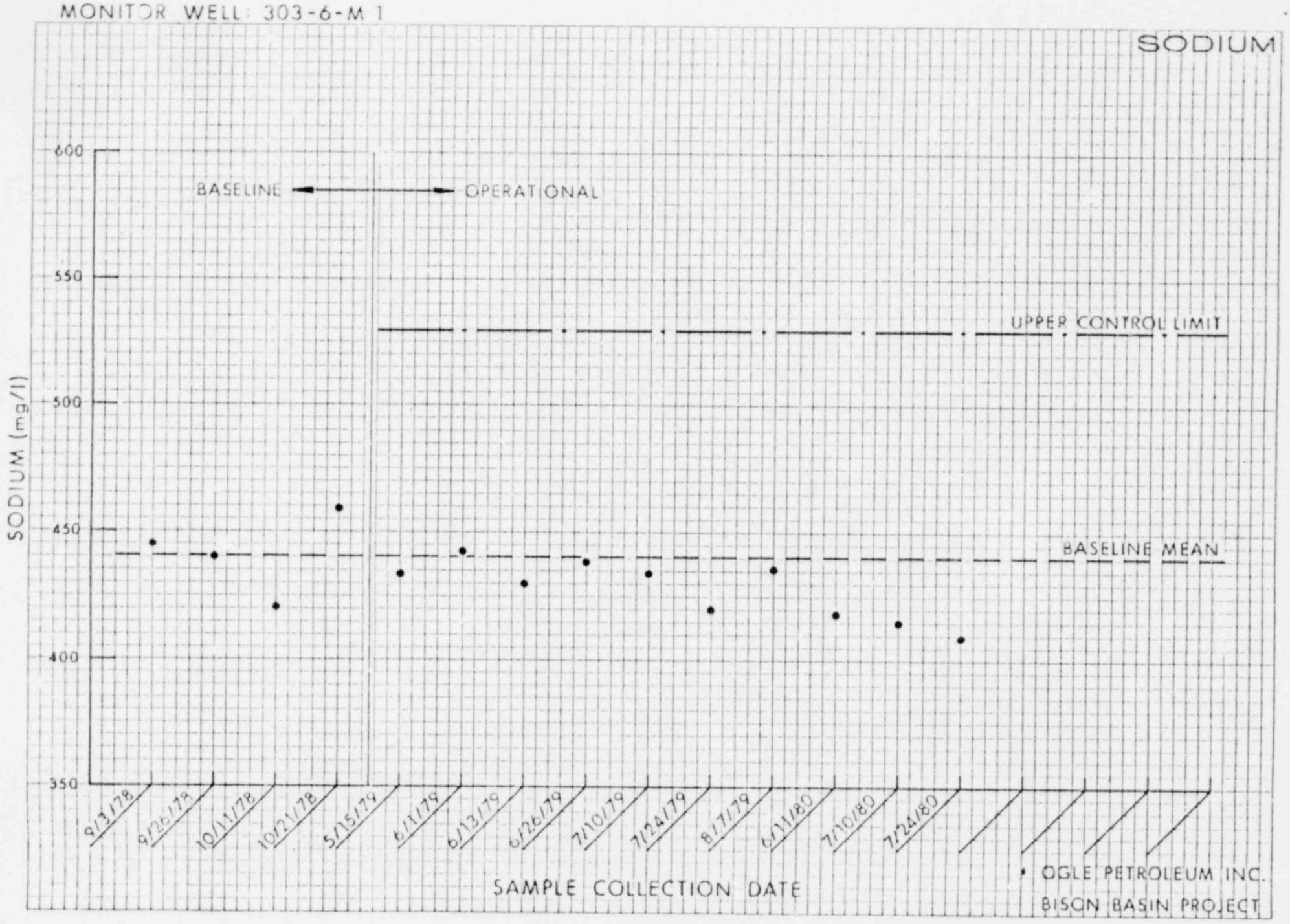
MONITOR WELL: 303-6-M 1
SODIUM
600
550
500
450
400
350
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SODIUM (mg/l)
9/3/78
9/26/78
10/11/78
10/21/78
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 4

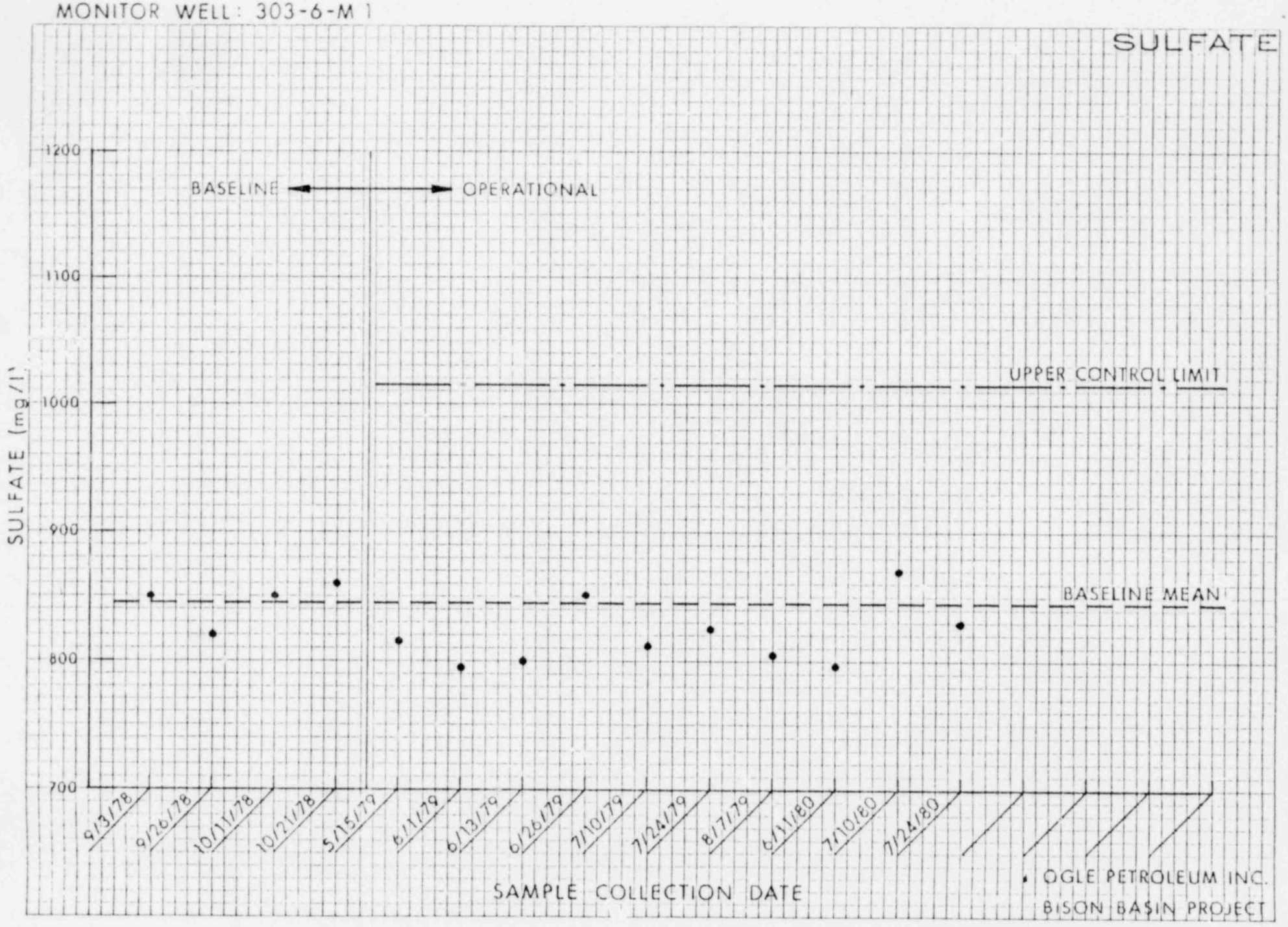
MONITOR WELL: 303-6-M 1
SULFATE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SULFATE (mg/l)
1200
1100
1000
900
800
700
9/13/78
9/26/78
10/11/78
10/21/78
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 5

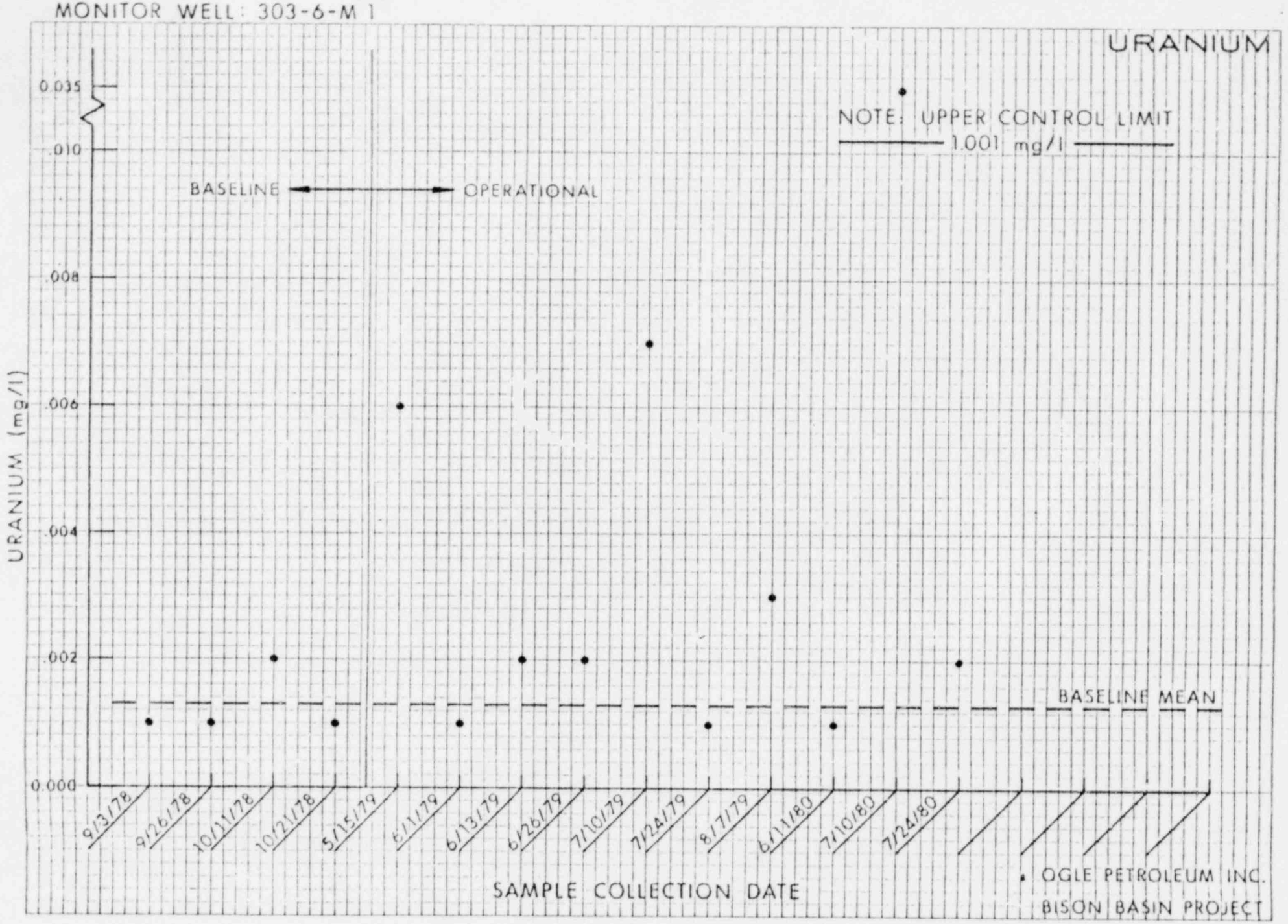
MONITOR WELL: 303-6-M 1
URANIUM
NOTE: UPPER CONTROL LIMIT
1.001 mg/l
BASELINE
OPERATIONAL
0.035
.010
.008
.006
.004
.002
0.000
URANIUM (mg/l)
BASELINE MEAN
9/13/78
9/26/78
10/11/78
10/21/78
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 6

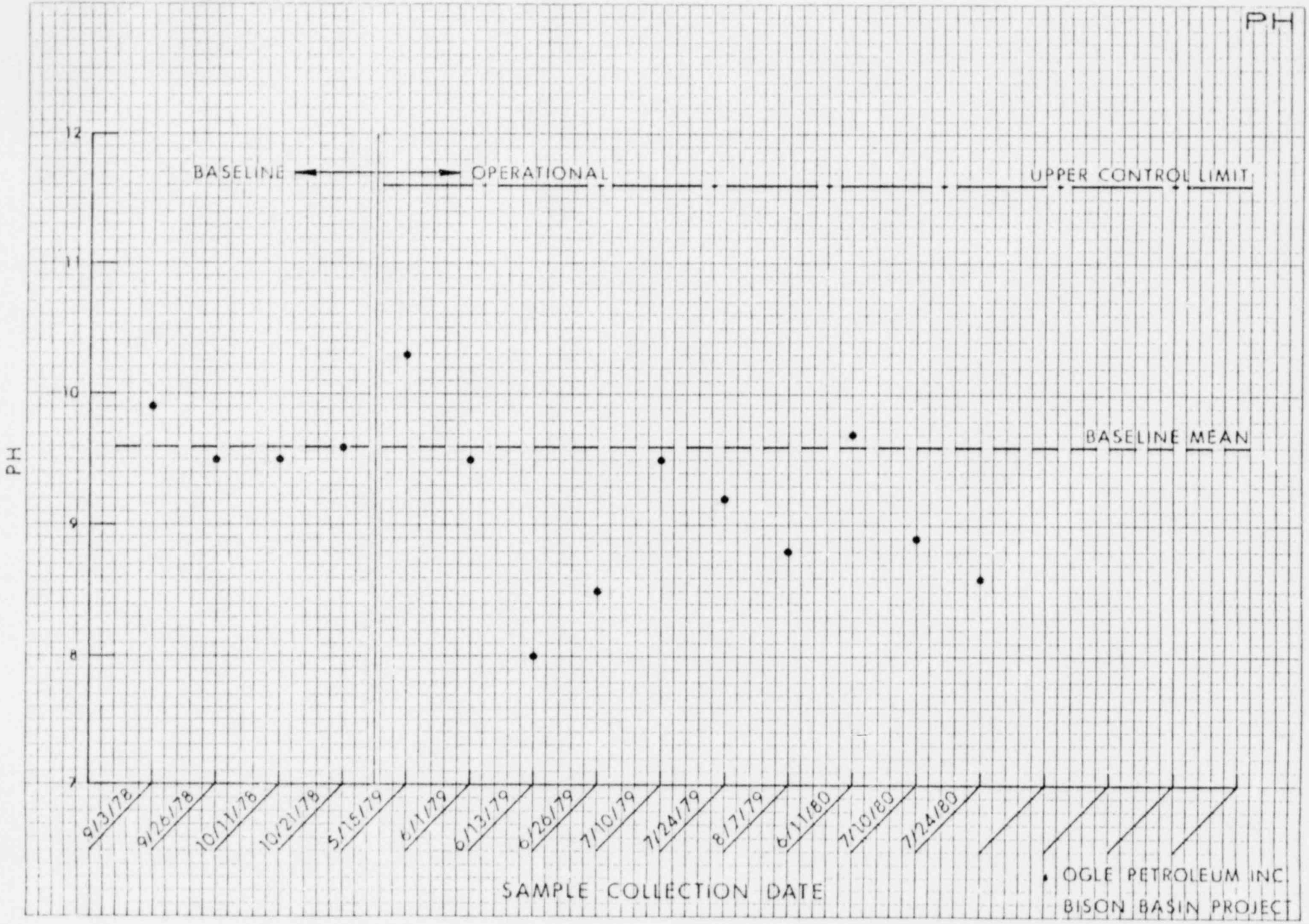
MONITOR WELL: 303-6-M 1
PH
12
11
10
9
8
7
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
9/13/78
9/26/78
10/11/78
10/21/79
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 7

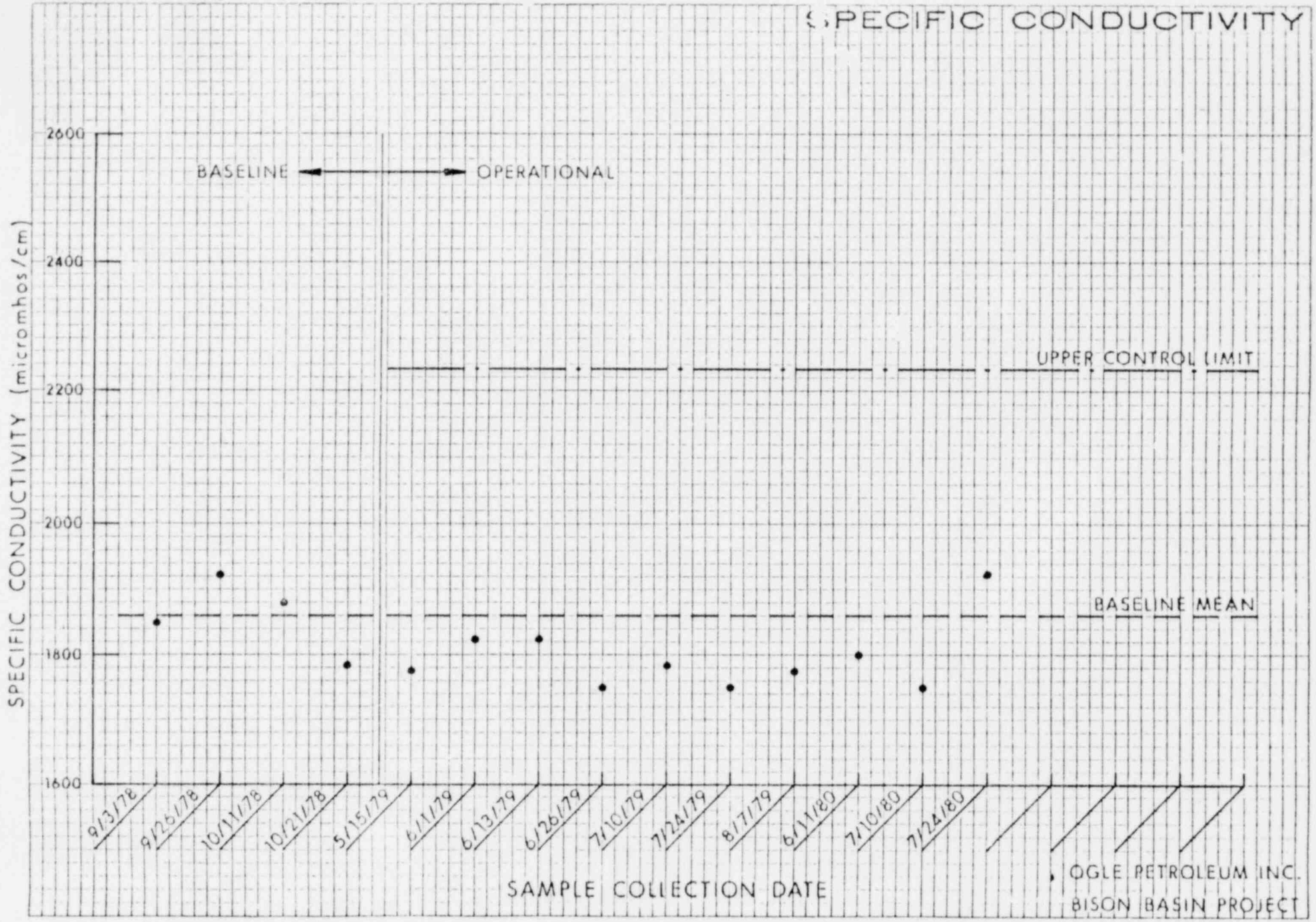
MONITOR WELL: 303-6-M 1
SPECIFIC CONDUCTIVITY
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SPECIFIC CONDUCTIVITY (micromhos/cm)
2600
2400
2200
2000
1800
1600
9/13/78
9/26/78
10/11/78
10/21/78
5/15/79
6/1/79
6/13/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 8

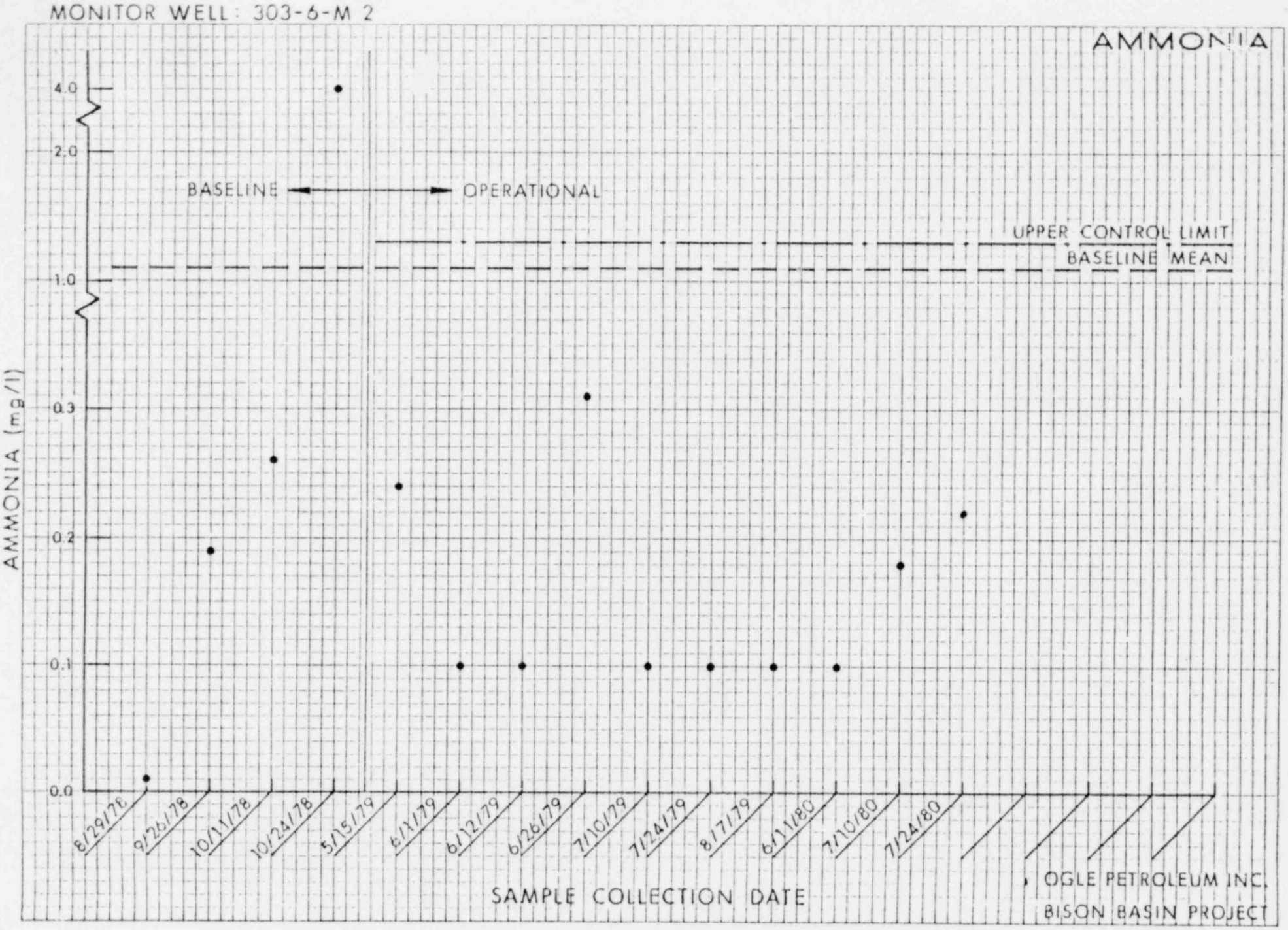
MONITOR WELL: 303-6-M 2
AMMONIA
4.0
2.0
1.0
0.3
0.2
0.1
0.0
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
AMMONIA (mg/l)
8/29/78
9/26/78
10/11/78
10/24/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 9

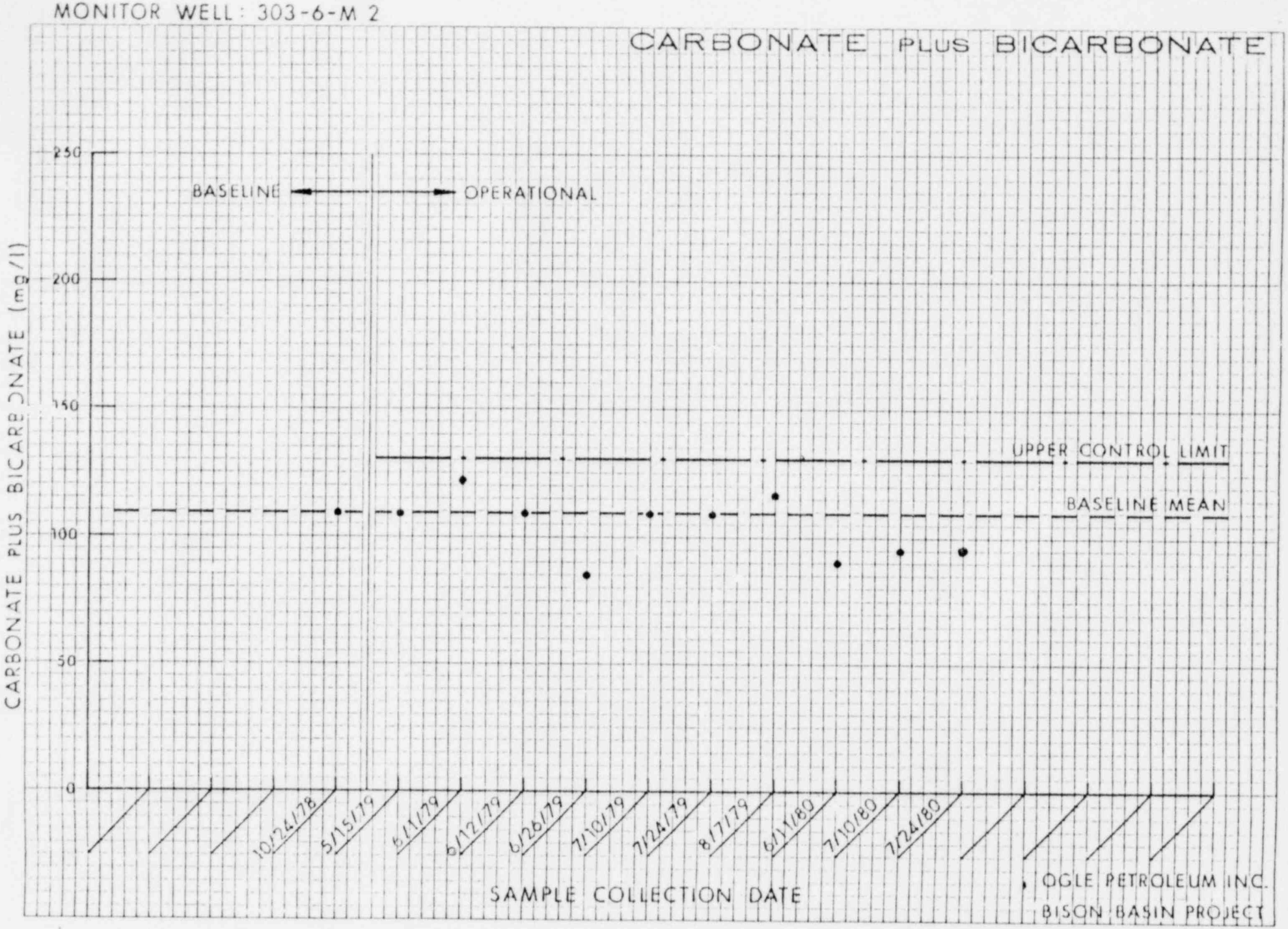
MONITOR WELL: 303-6-M 2
CARBONATE PLUS BICARBONATE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CARBONATE PLUS BICARBONATE (mg/l)
250
200
150
100
50
0
10/24/78
5/15/79
6/11/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1X/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 10

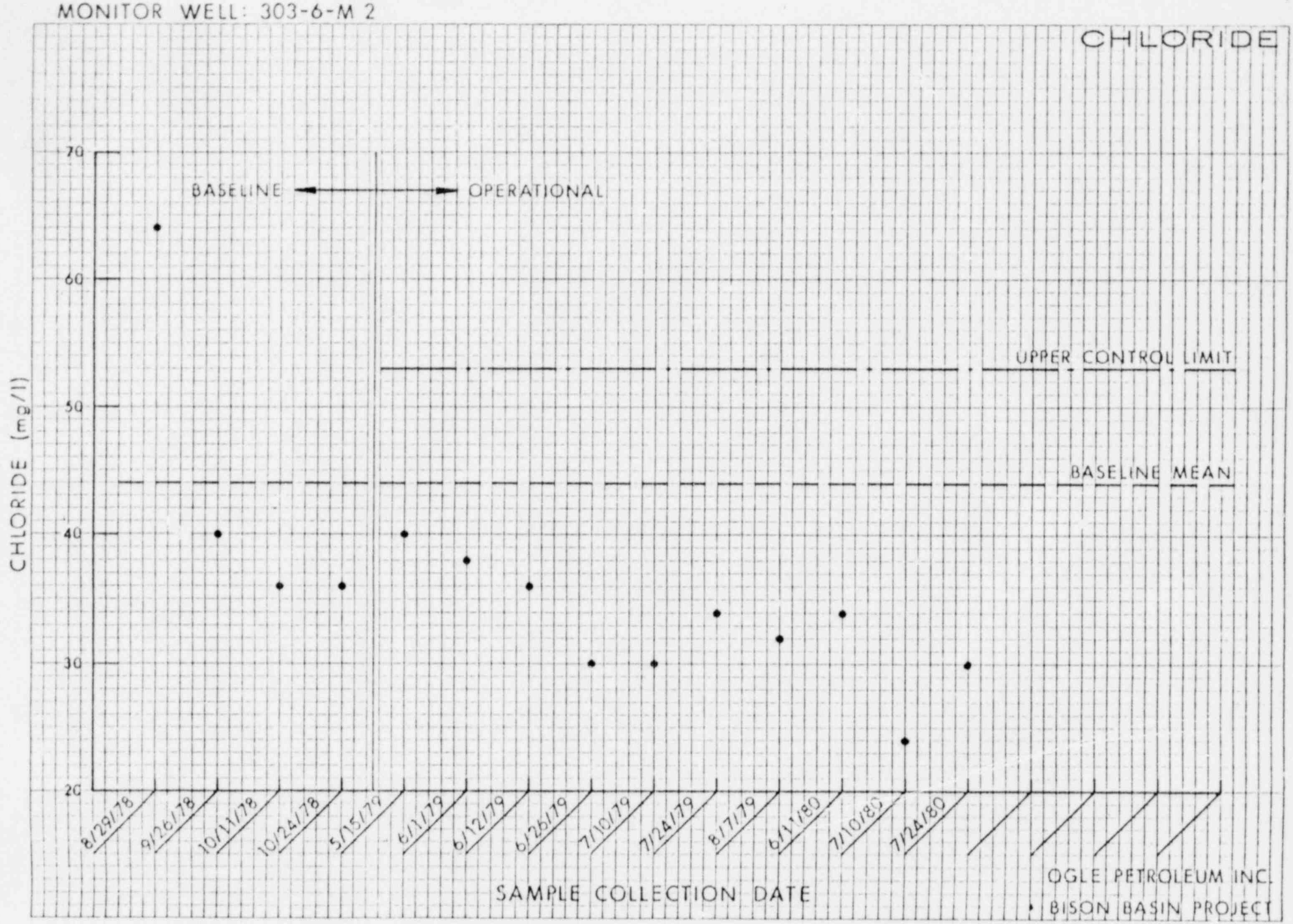
MONITOR WELL: 303-6-M 2
CHLORIDE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CHLORIDE (mg/l)
70
60
50
40
30
20
8/29/78
9/26/78
10/11/78
10/24/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 11

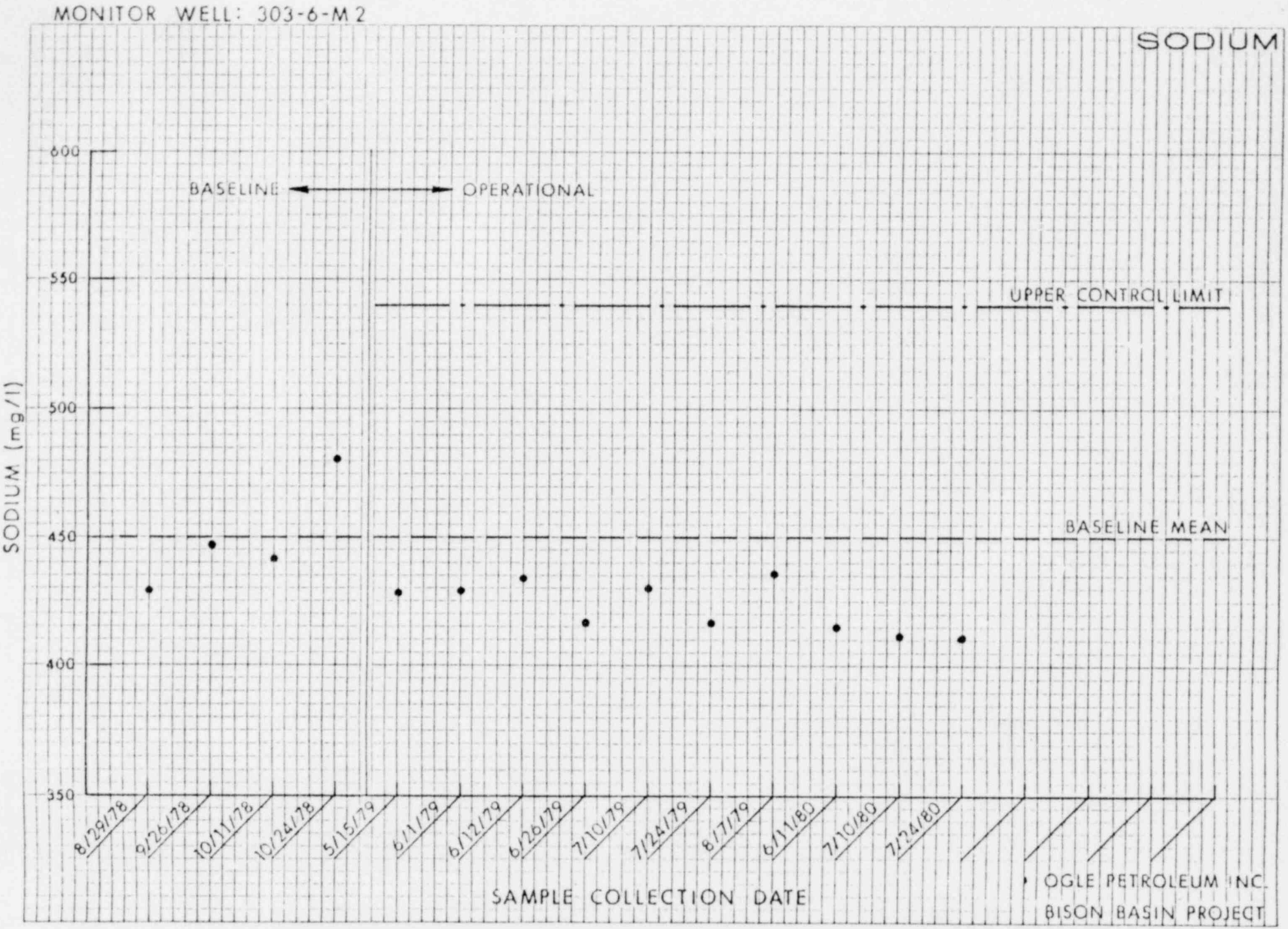
MONITOR WELL: 303-6-M 2
SODIUM
600
550
500
450
400
350
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SODIUM (mg/l)
8/29/78
9/26/78
10/31/78
10/24/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 12

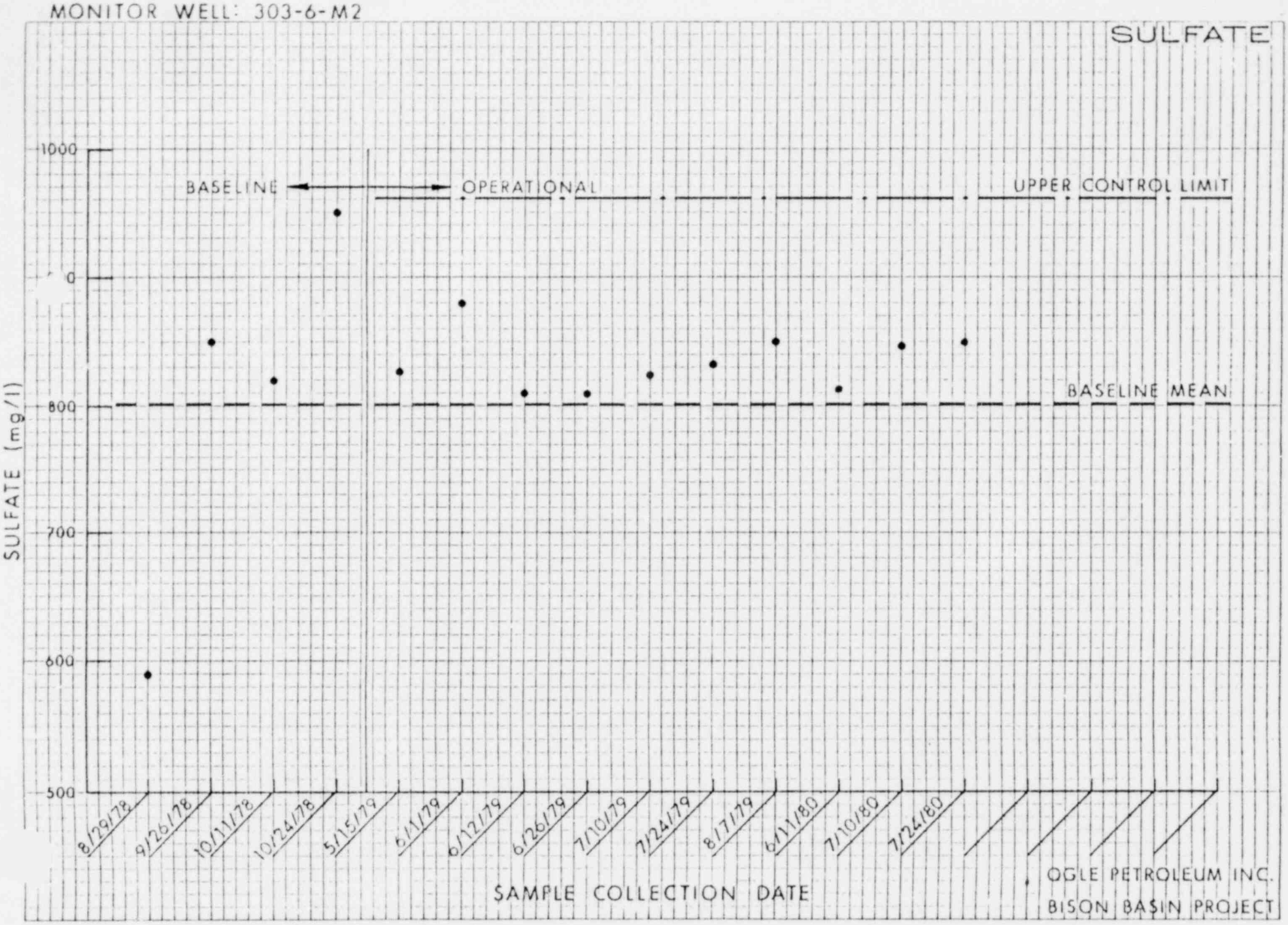
MONITOR WELL: 303-6-M2
SULFATE
1000
0
800
700
600
500
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SULFATE (mg/l)
8/29/78
9/26/78
10/11/78
10/24/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 13

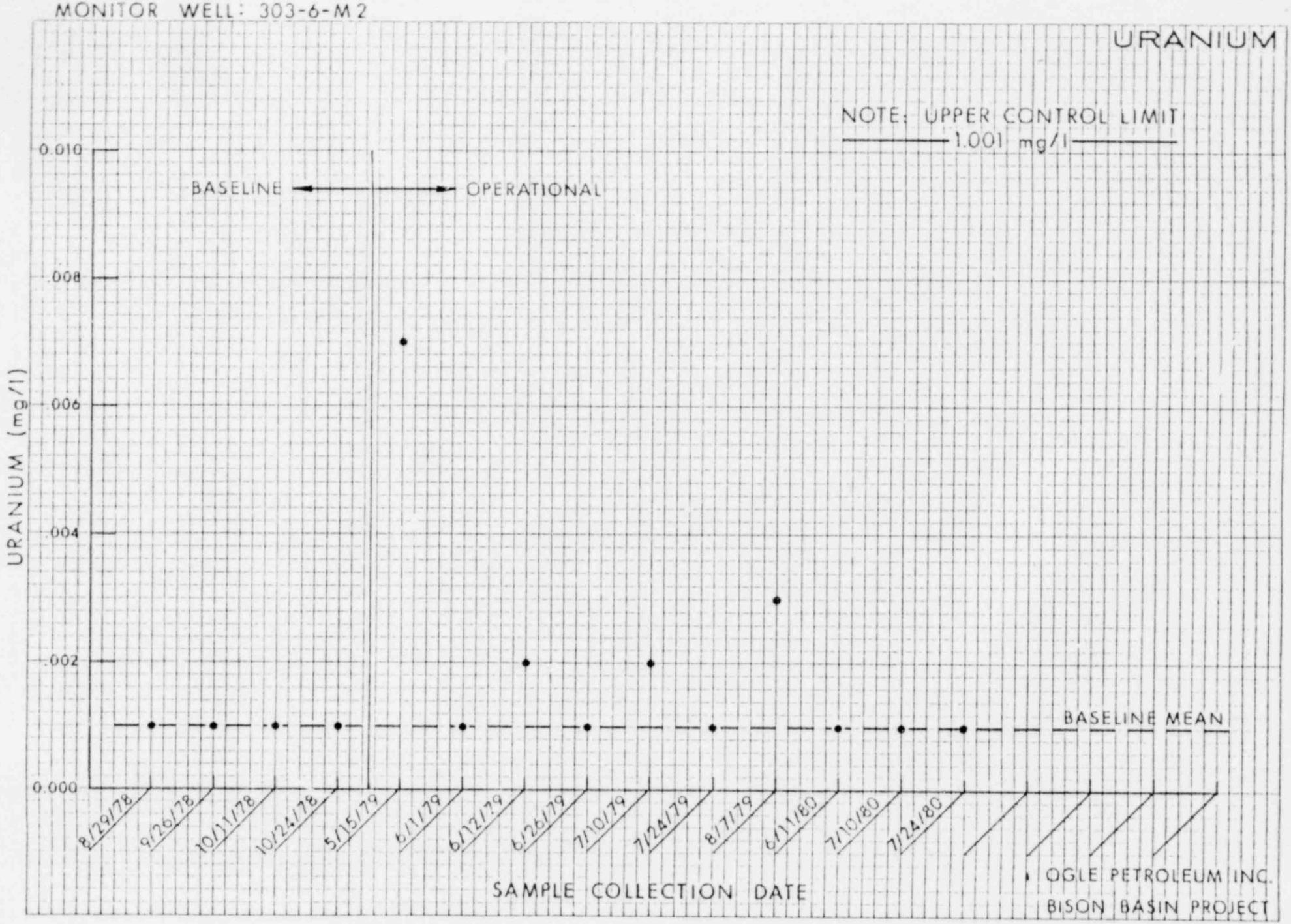
MONITOR WELL: 303-6-M 2
URANIUM
NOTE: UPPER CONTROL LIMIT
1.001 mg/l
BASELINE
OPERATIONAL
0.010
.008
.006
.004
.002
0.000
URANIUM (mg/l)
BASELINE MEAN
8/29/78
9/26/78
10/31/78
10/24/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 14

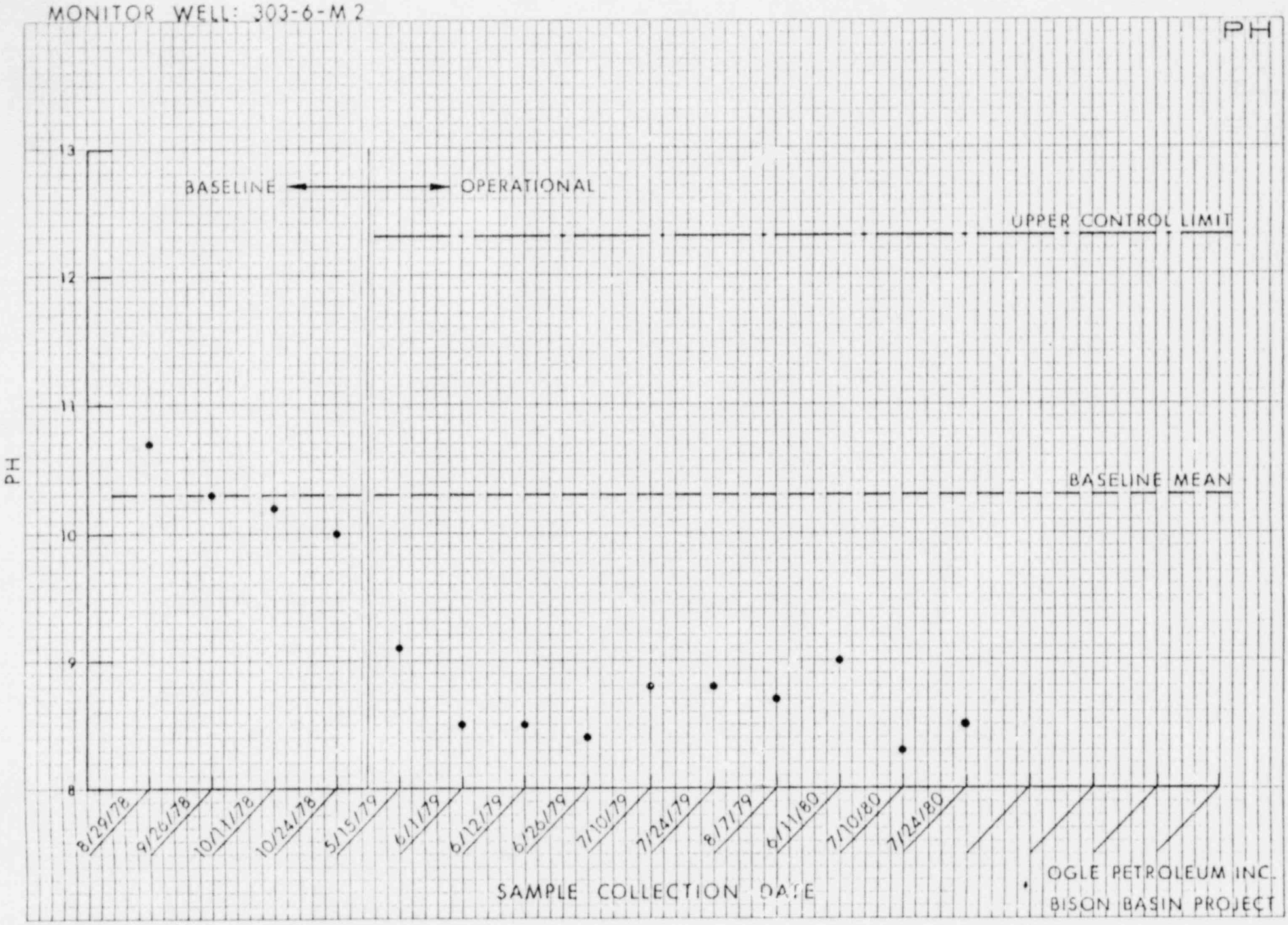
MONITOR WELL: 303-6-M 2
PH
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
PH
13
12
11
10
9
8
8/29/78
9/26/78
10/11/78
10/24/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
8/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 15

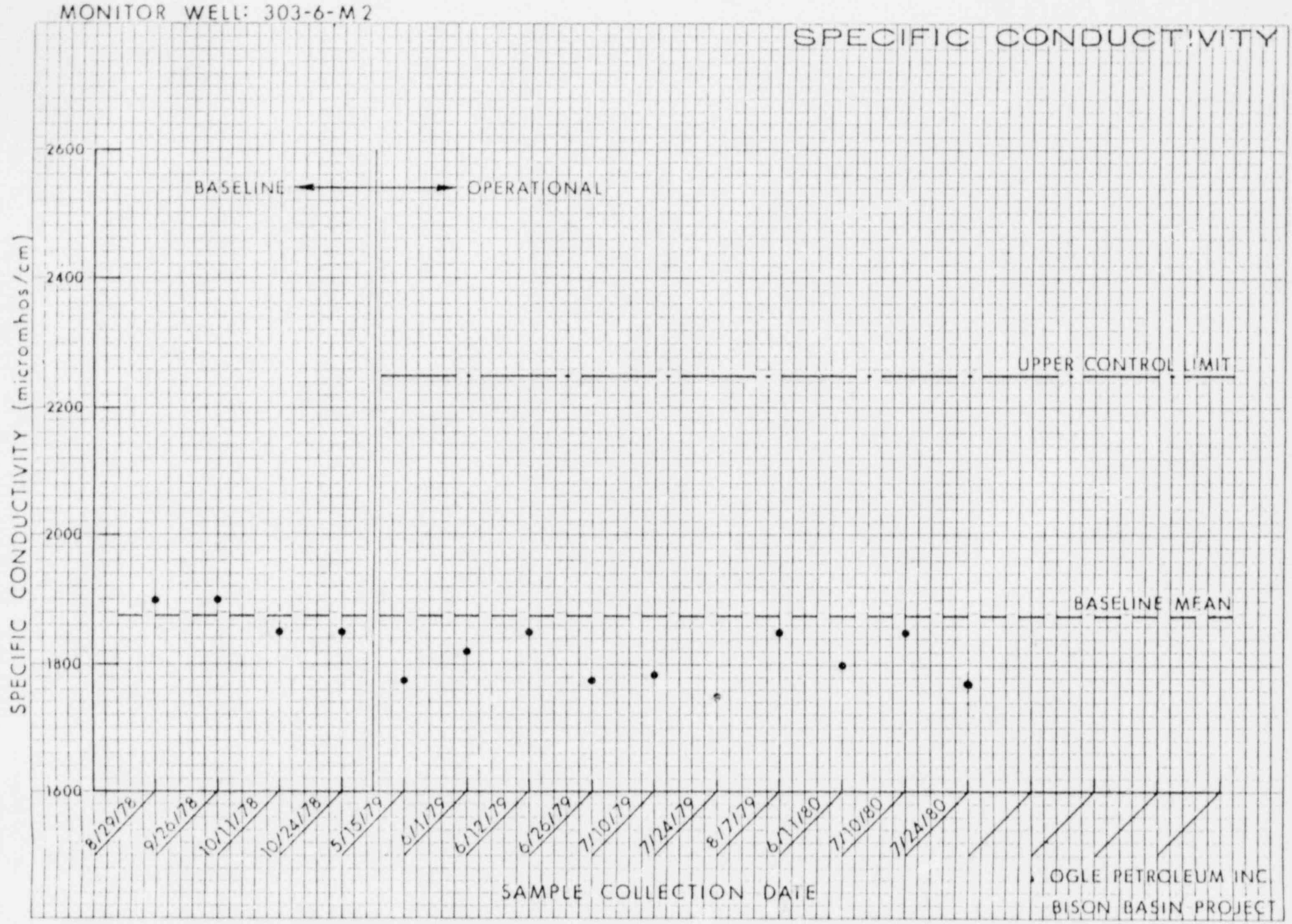
MONITOR WELL: 303-6-M2
SPECIFIC CONDUCTIVITY
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SPECIFIC CONDUCTIVITY (micromhos/cm)
2600
2400
2200
2000
1800
1600
8/29/78
9/26/78
10/11/78
10/24/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
8/11/80
7/18/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
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FIGURE 16

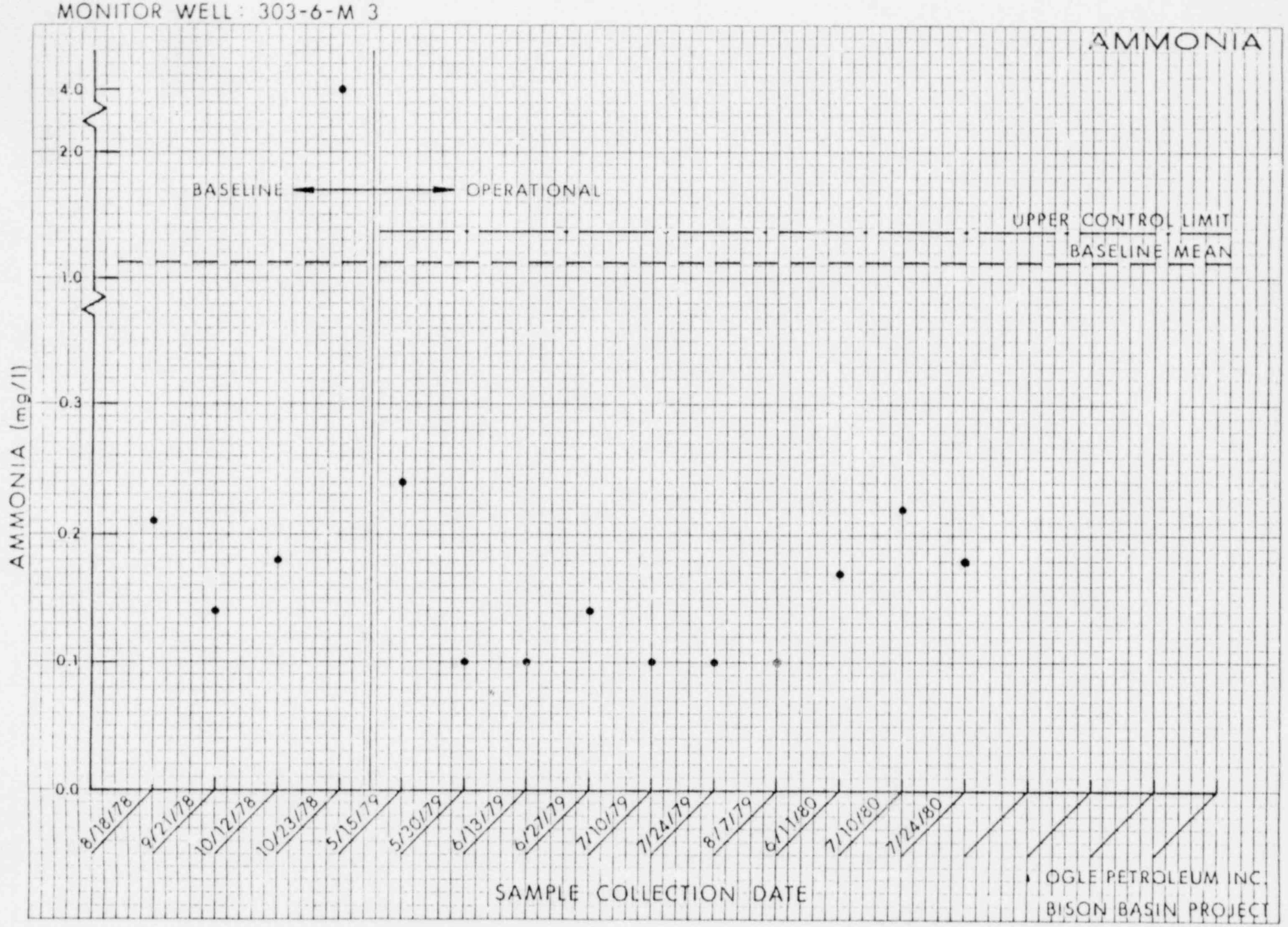
MONITOR WELL: 303-6-M 3
AMMONIA
4.0
2.0
1.0
0.3
0.2
0.1
0.0
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
AMMONIA (mg/l)
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
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FIGURE 17

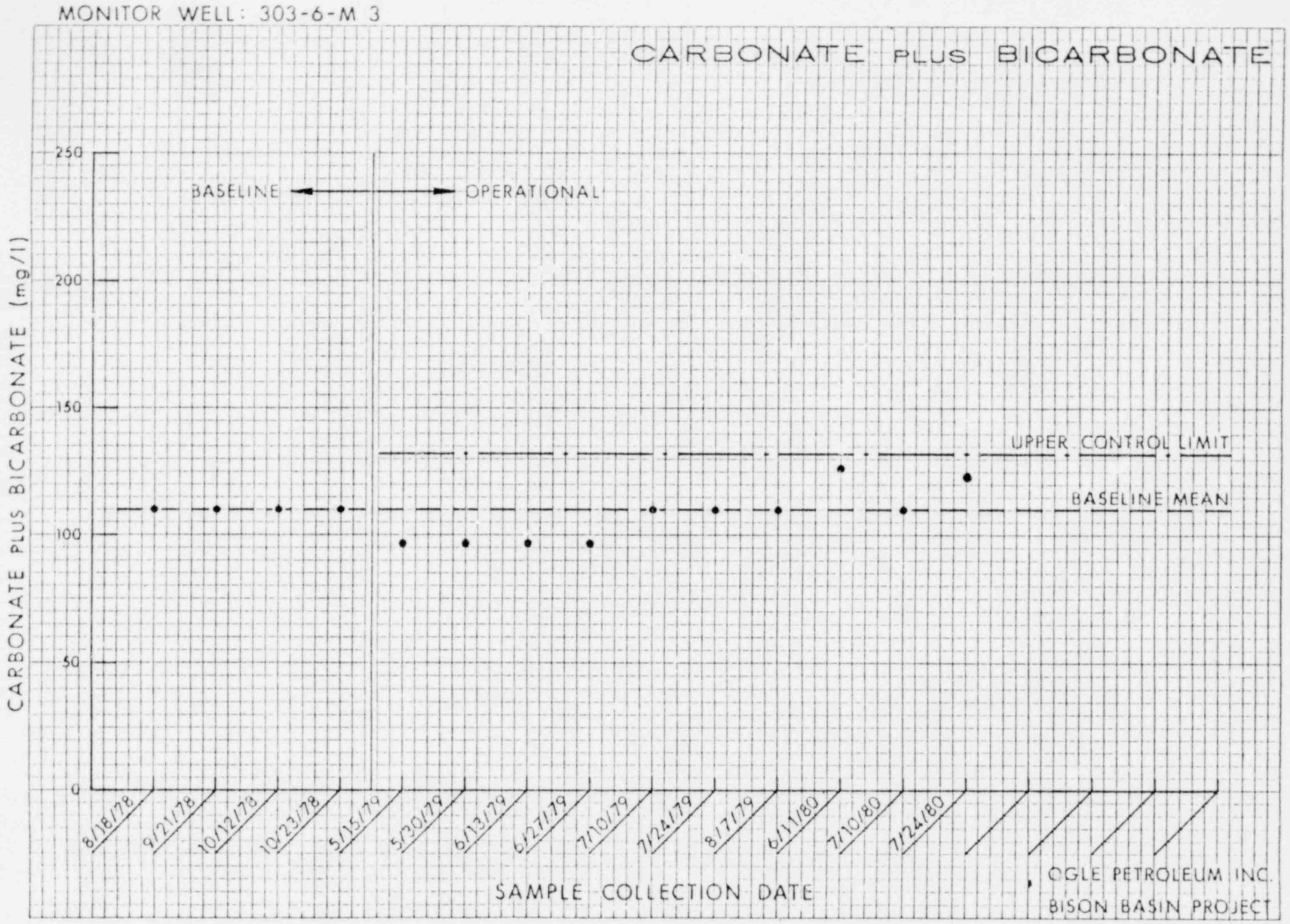

MONITOR WELL: 303-6-M 3
CARBONATE PLUS BICARBONATE
CARBONATE PLUS BICARBONATE (mg/l)
250
200
150
100
50
0
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 18

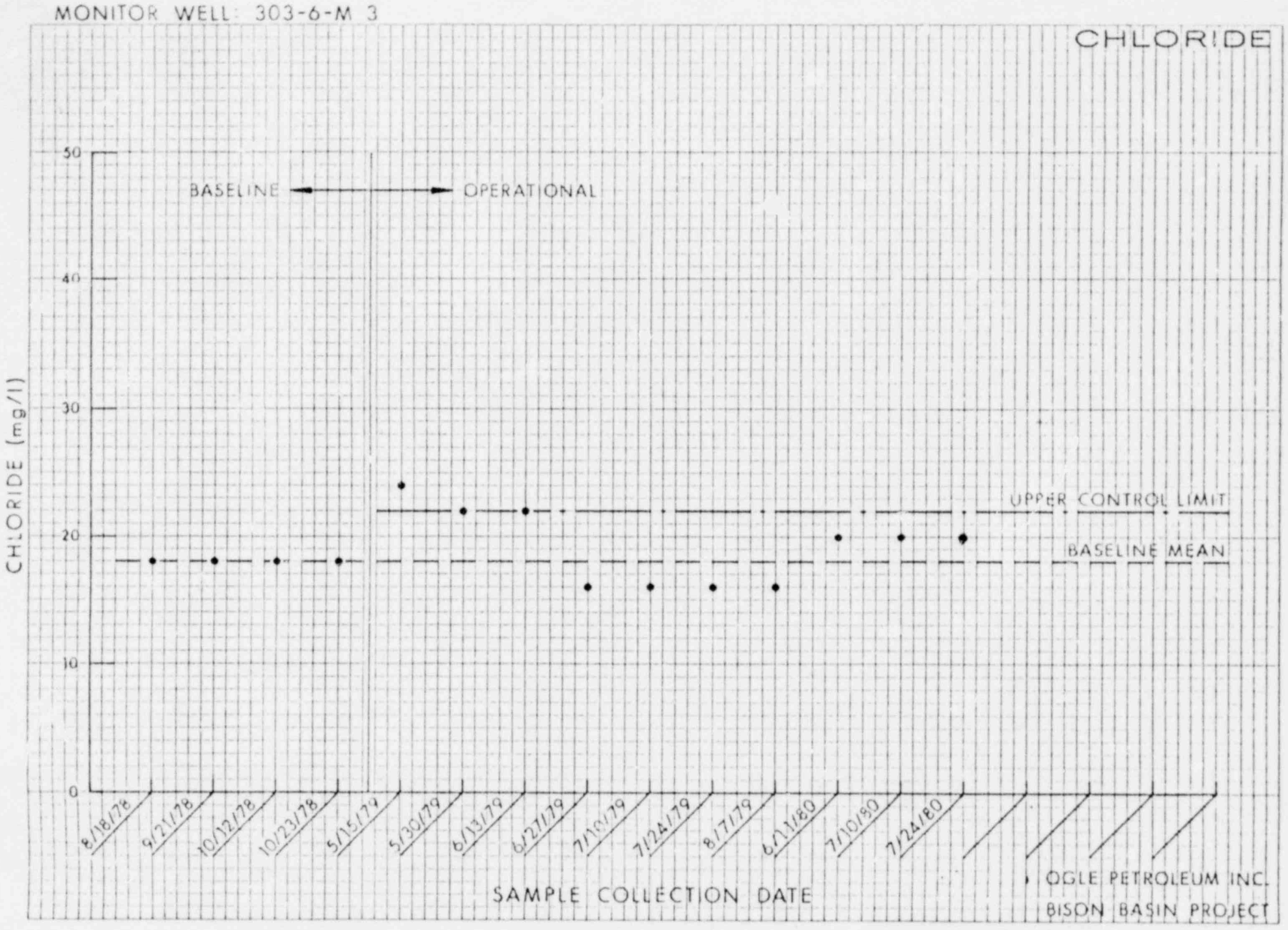

MONITOR WELL: 303-6-M 3
CHLORIDE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CHLORIDE (mg/l)
50
40
30
20
10
0
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/27/79
7/18/79
7/24/79
8/7/79
8/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 19

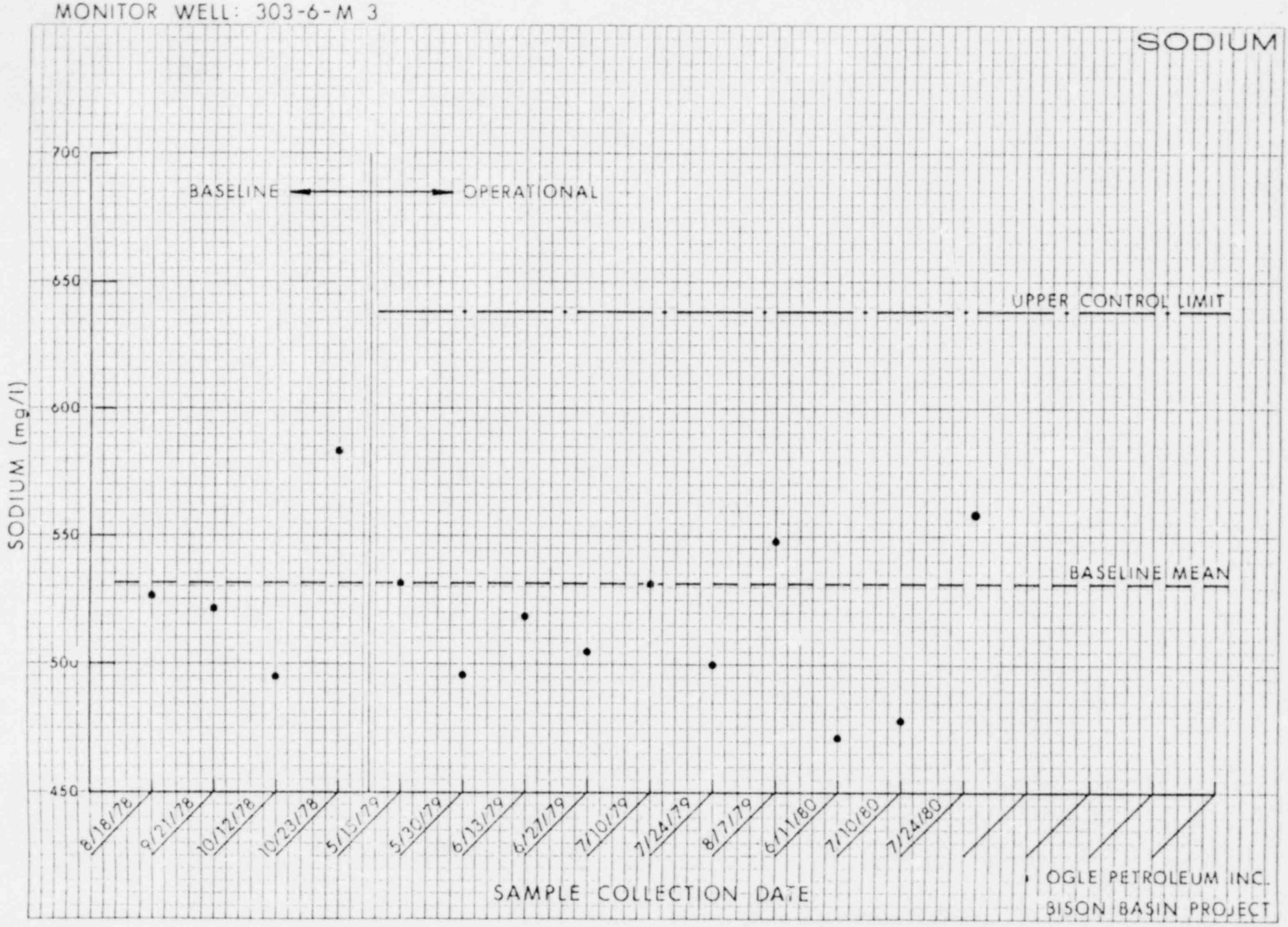

MONITOR WELL: 303-6-M 3
SODIUM
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SODIUM (mg/l)
700
650
600
550
500
450
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/21/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 20

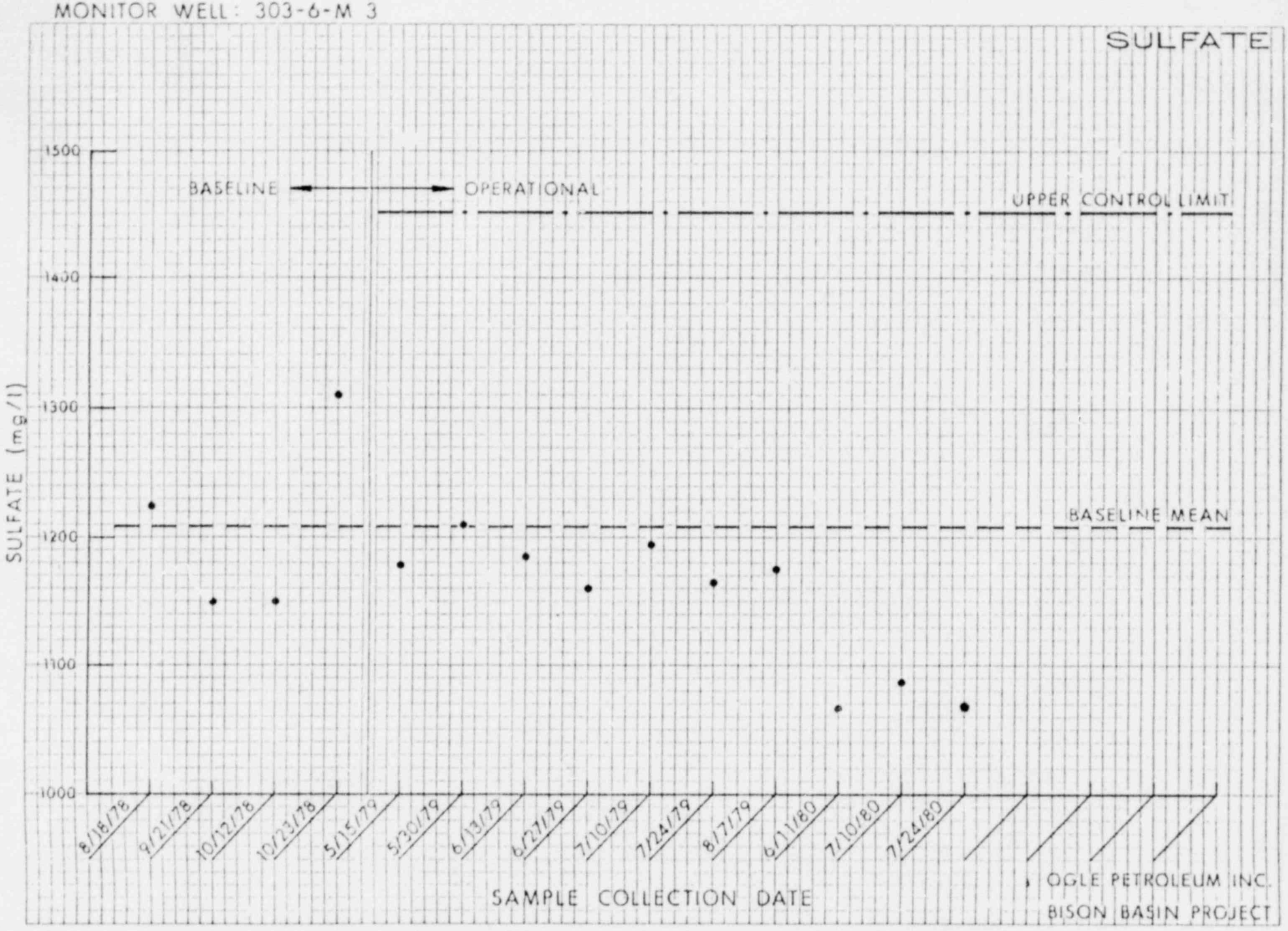

MONITOR WELL: 303-6-M 3
SULFATE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
1500
1400
1300
1200
1100
1000
SULFATE (mg/l)
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/27/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 21

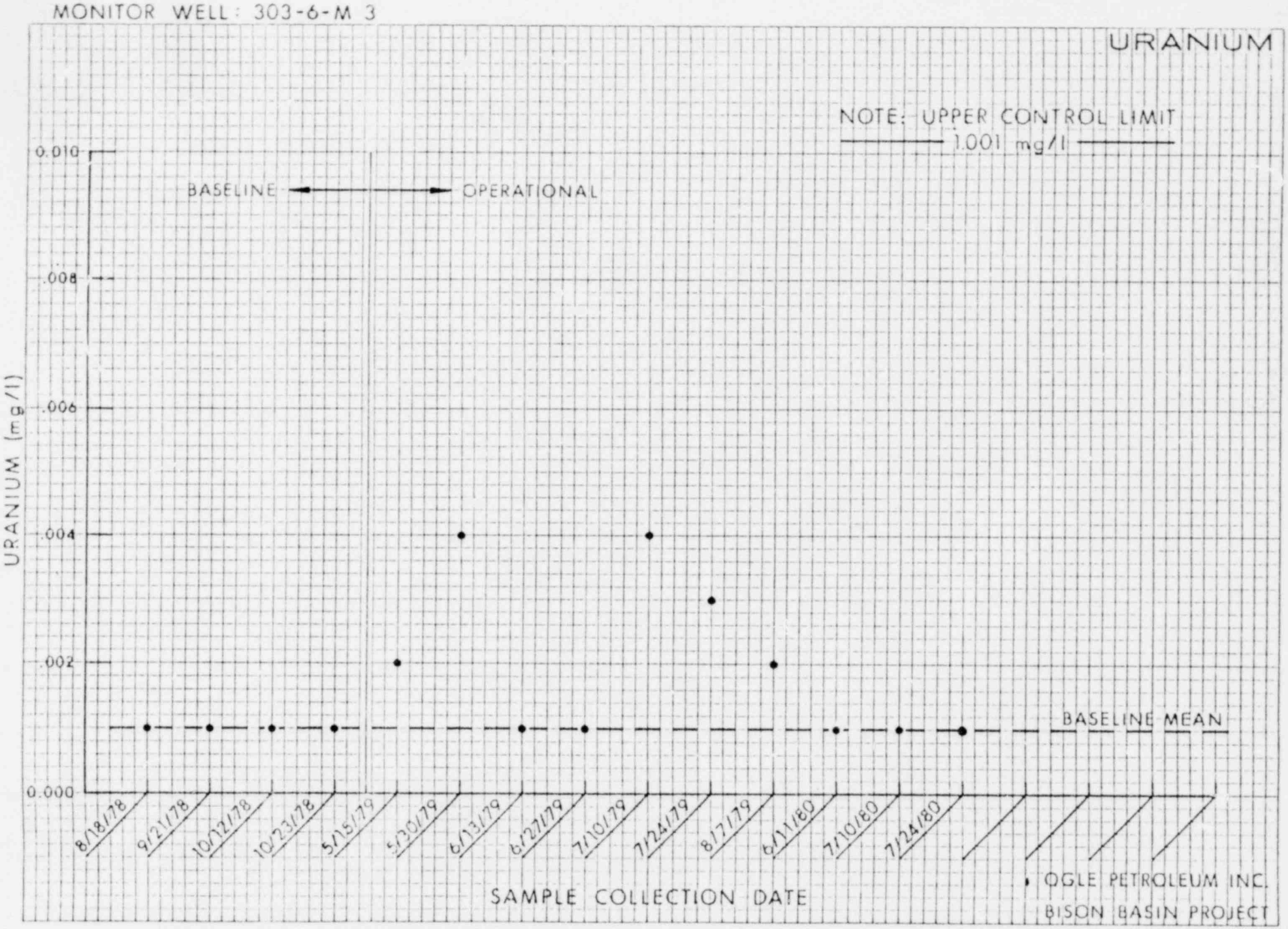

MONITOR WELL : 303-6-M 3
URANIUM
NOTE: UPPER CONTROL LIMIT
1.001 mg/l
BASELINE
OPERATIONAL
0.010
.008
.006
.004
.002
0.000
URANIUM (mg/l)
BASELINE MEAN
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/27/79
7/10/79
7/24/79
8/7/79
6/XX/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 22

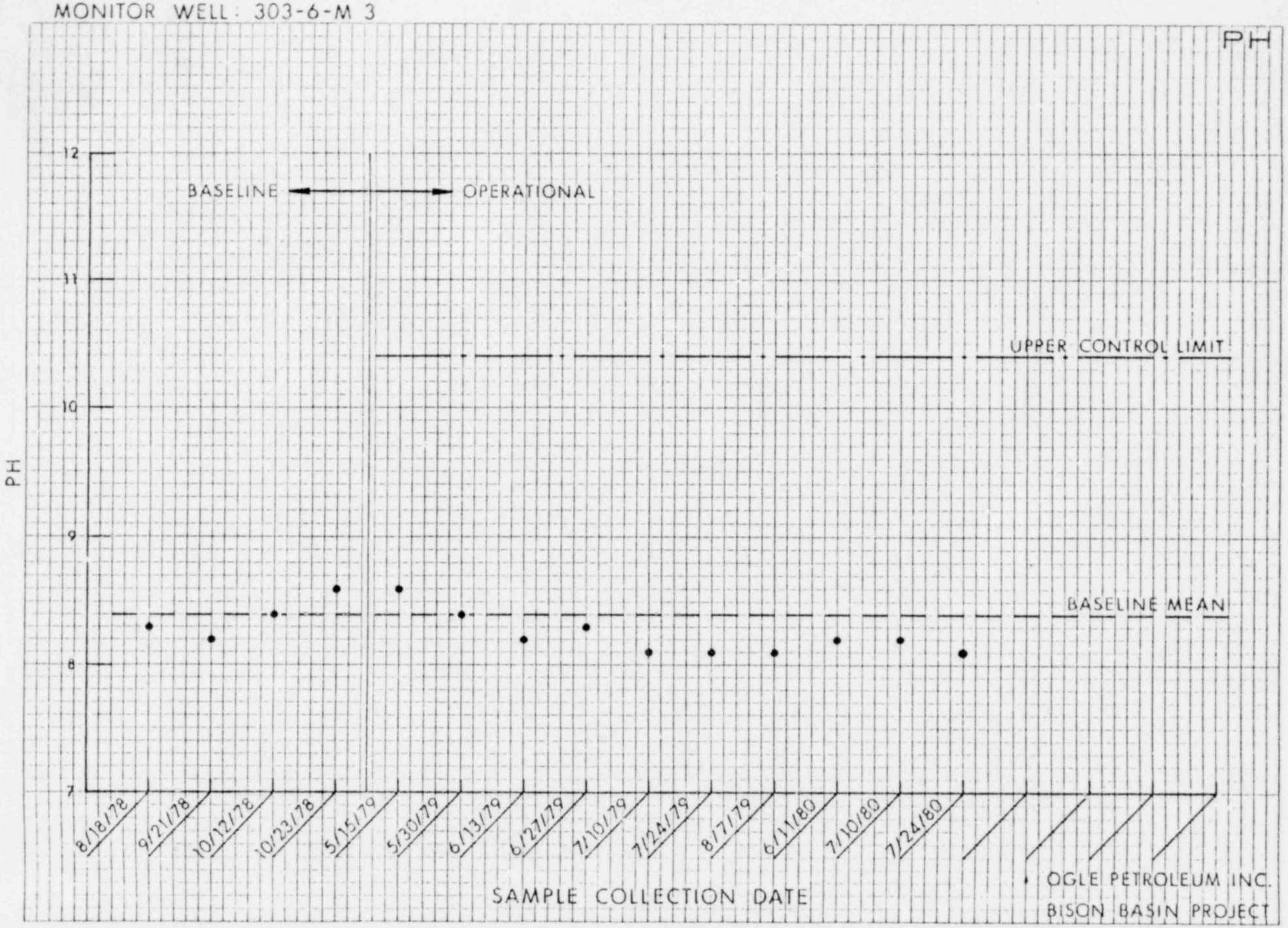

MONITOR WELL: 303-6-M 3
PH
12
11
10
9
8
7
PH
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 23

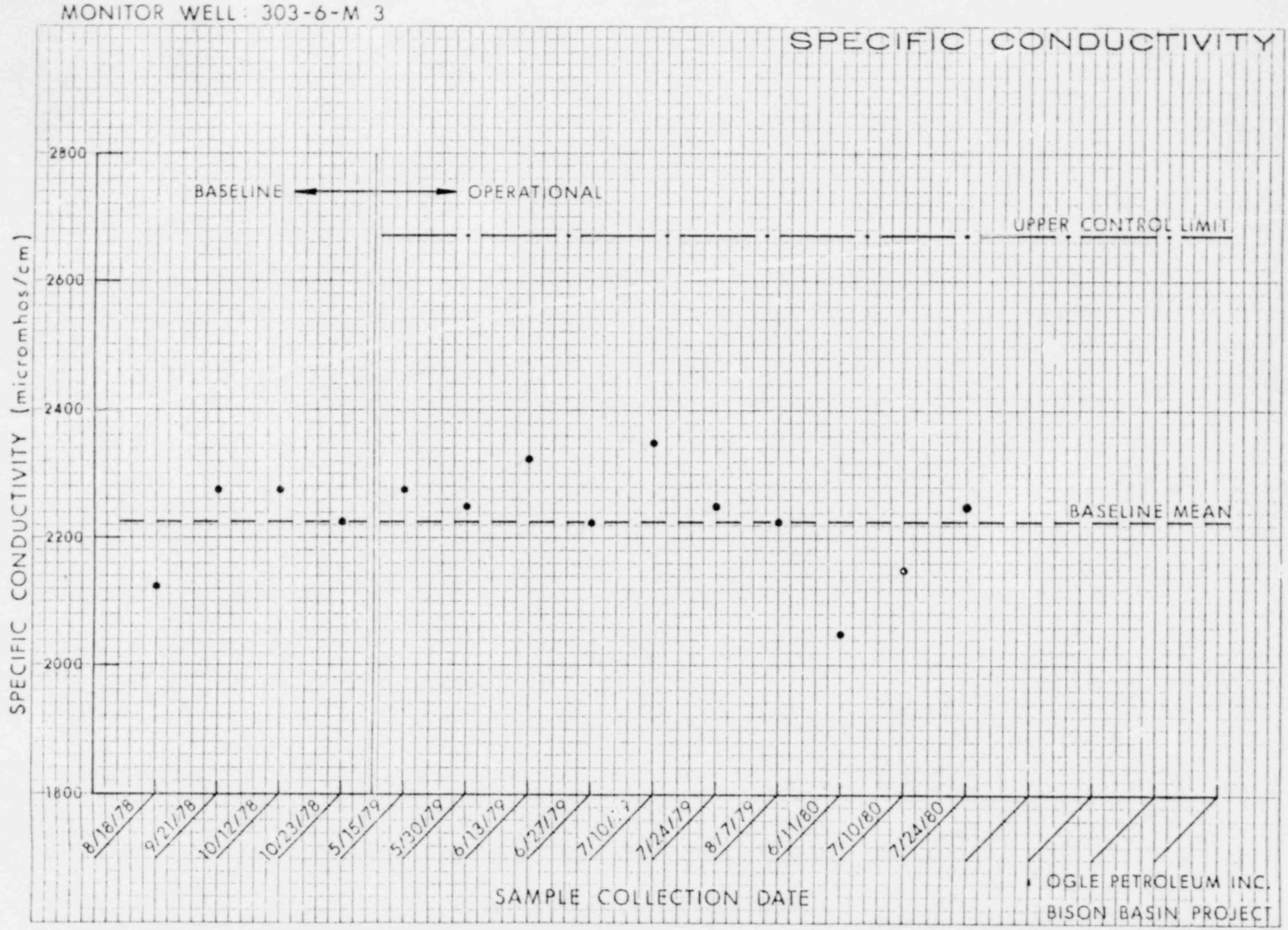

MONITOR WELL: 303-6-M 3
SPECIFIC CONDUCTIVITY
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SPECIFIC CONDUCTIVITY (micromhos/cm)
2800
2600
2400
2200
2000
1800
8/18/78
9/21/78
10/12/78
10/23/78
5/15/79
5/30/79
6/13/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 24

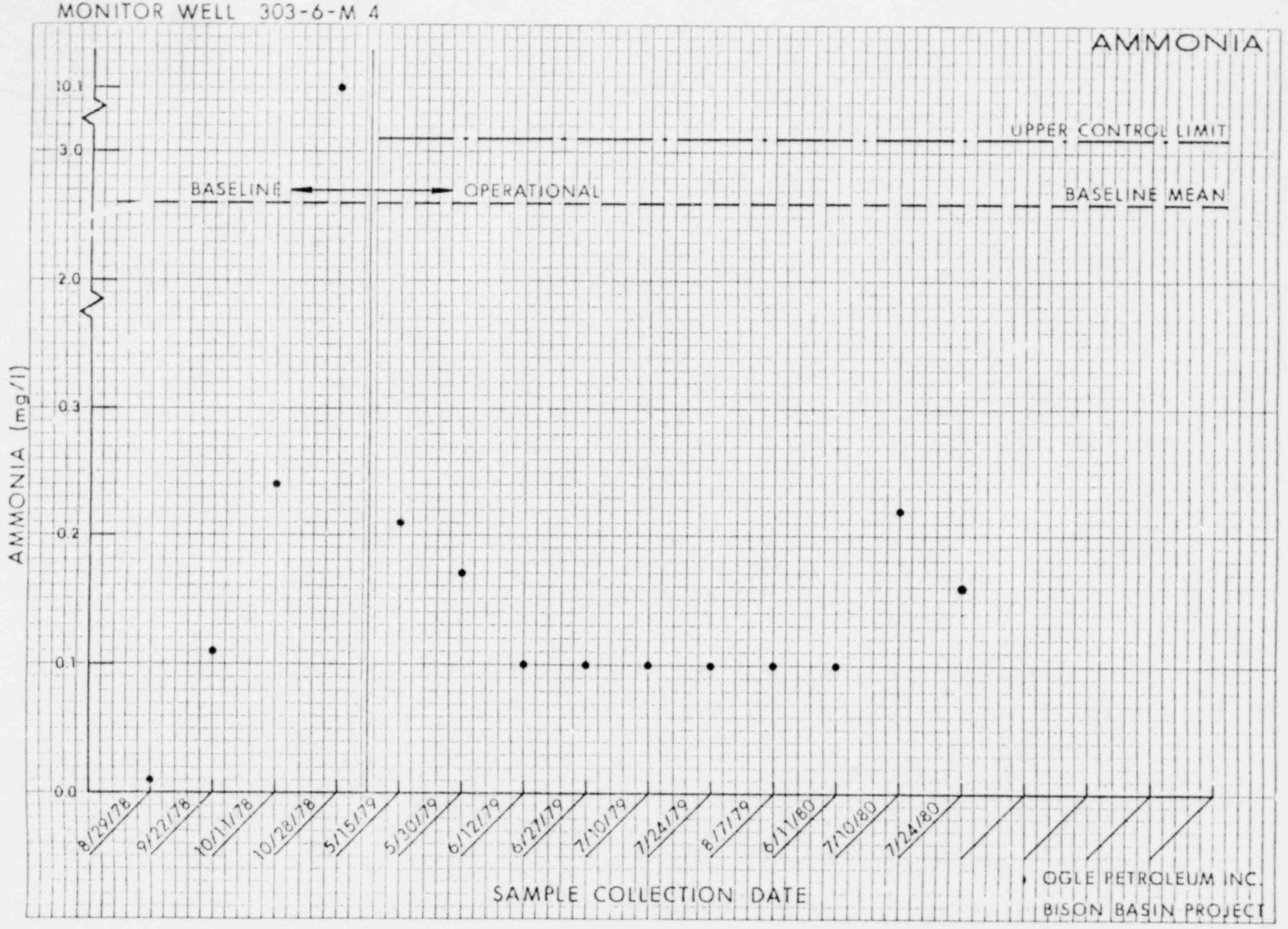

MONITOR WELL 303-6-M 4
AMMONIA
UPPER CONTROL LIMIT
BASELINE
OPERATIONAL
BASELINE MEAN
10.1
3.0
2.0
0.3
0.2
0.1
0.0
AMMONIA (mg/l)
8/29/78
9/22/78
10/11/78
10/28/78
5/15/79
5/30/79
6/12/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 25

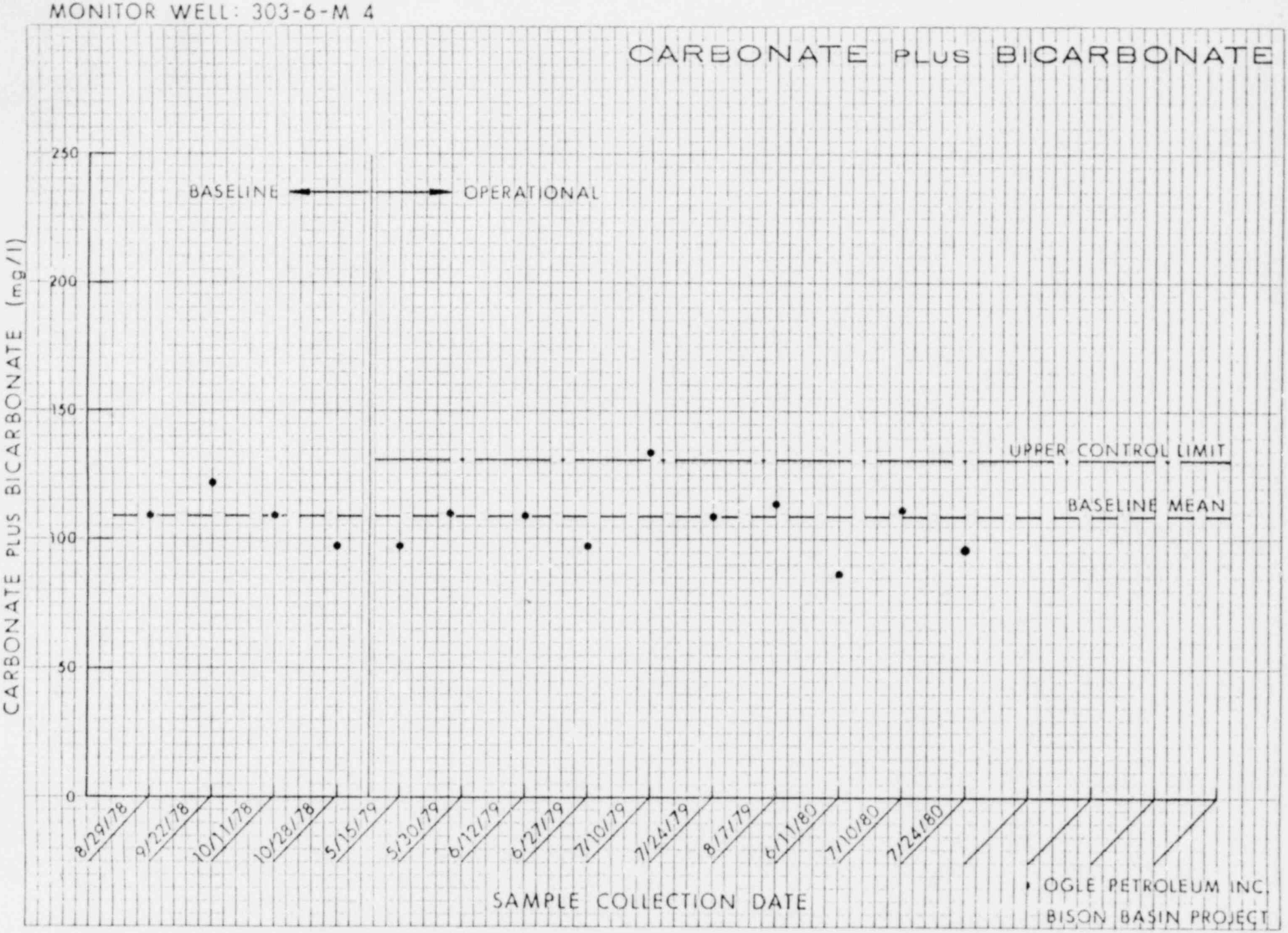

MONITOR WELL: 303-6-M 4
CARBONATE PLUS BICARBONATE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CARBONATE PLUS BICARBONATE (mg/l)
250
200
150
100
50
0
8/29/78
9/22/78
10/11/78
10/28/78
5/15/79
5/30/79
6/12/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 26

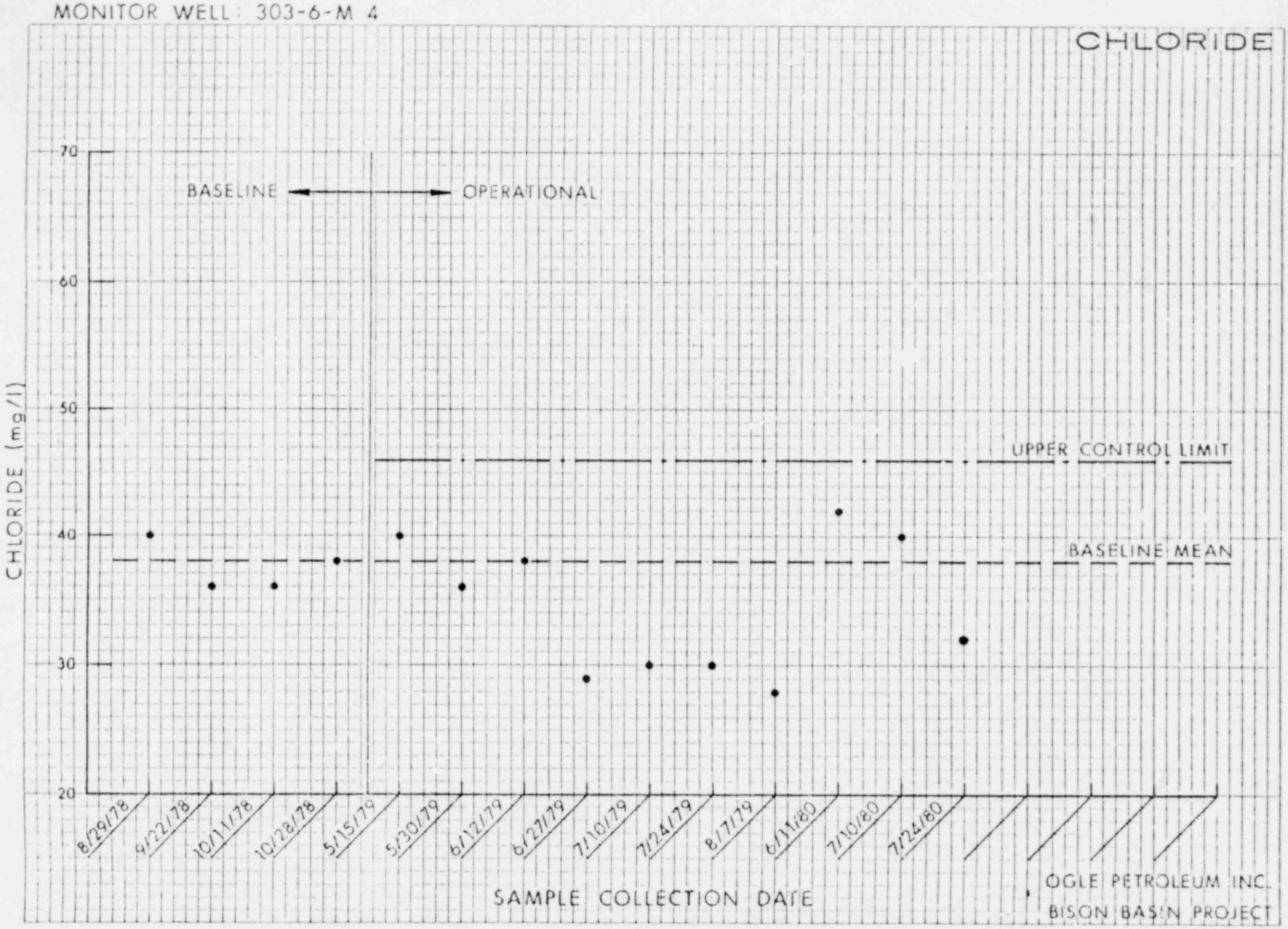

MONITOR WELL: 303-6-M 4
CHLORIDE
70
60
50
40
30
20
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CHLORIDE (mg/l)
8/29/78
9/22/78
10/11/78
10/28/78
5/15/79
5/30/79
6/12/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 27

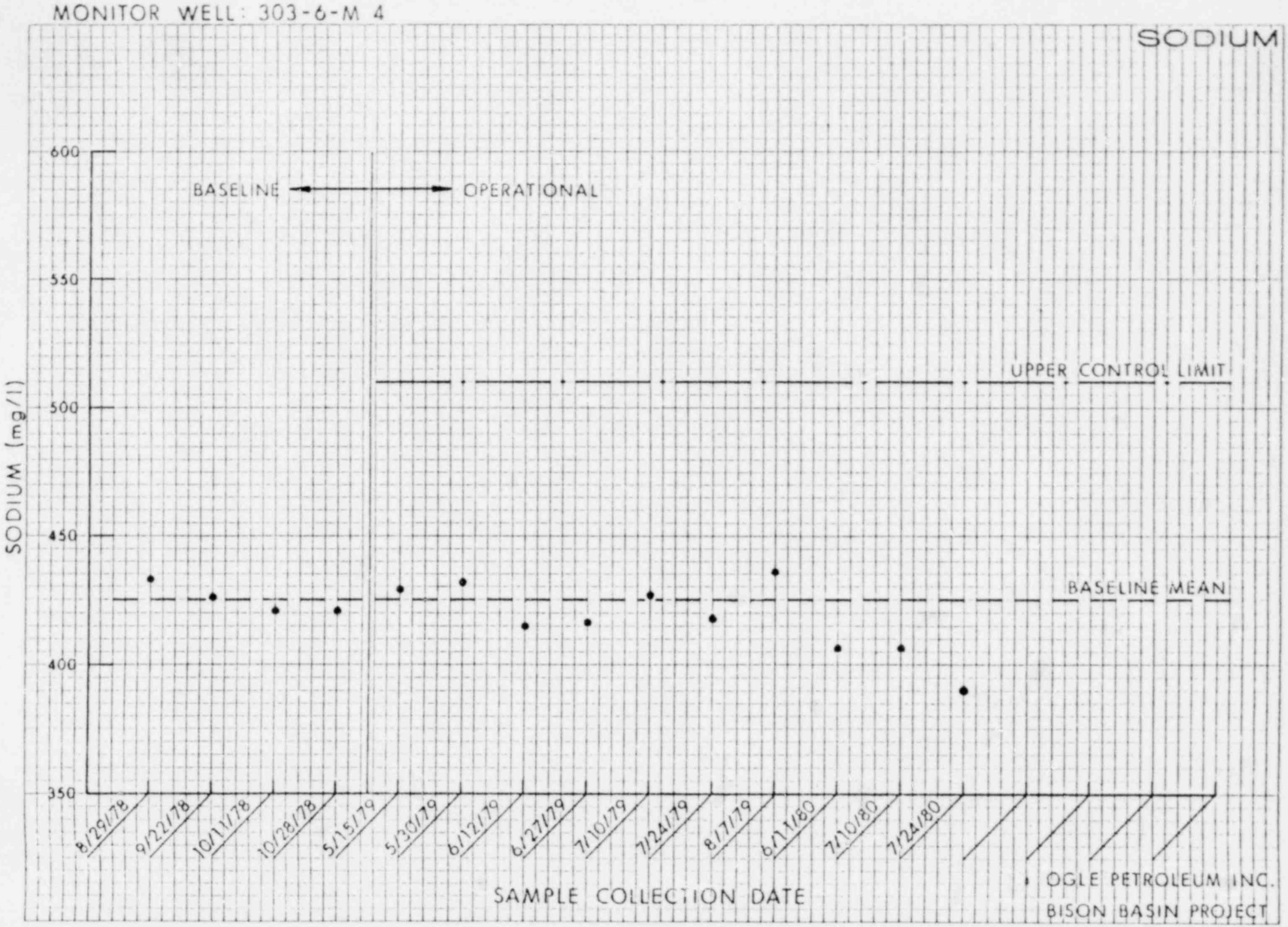

MONITOR WELL: 303-6-M 4
SODIUM
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SODIUM (mg/l)
600
550
500
450
400
350
8/29/78
9/22/78
10/11/78
10/28/78
5/15/79
5/30/79
6/12/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 28

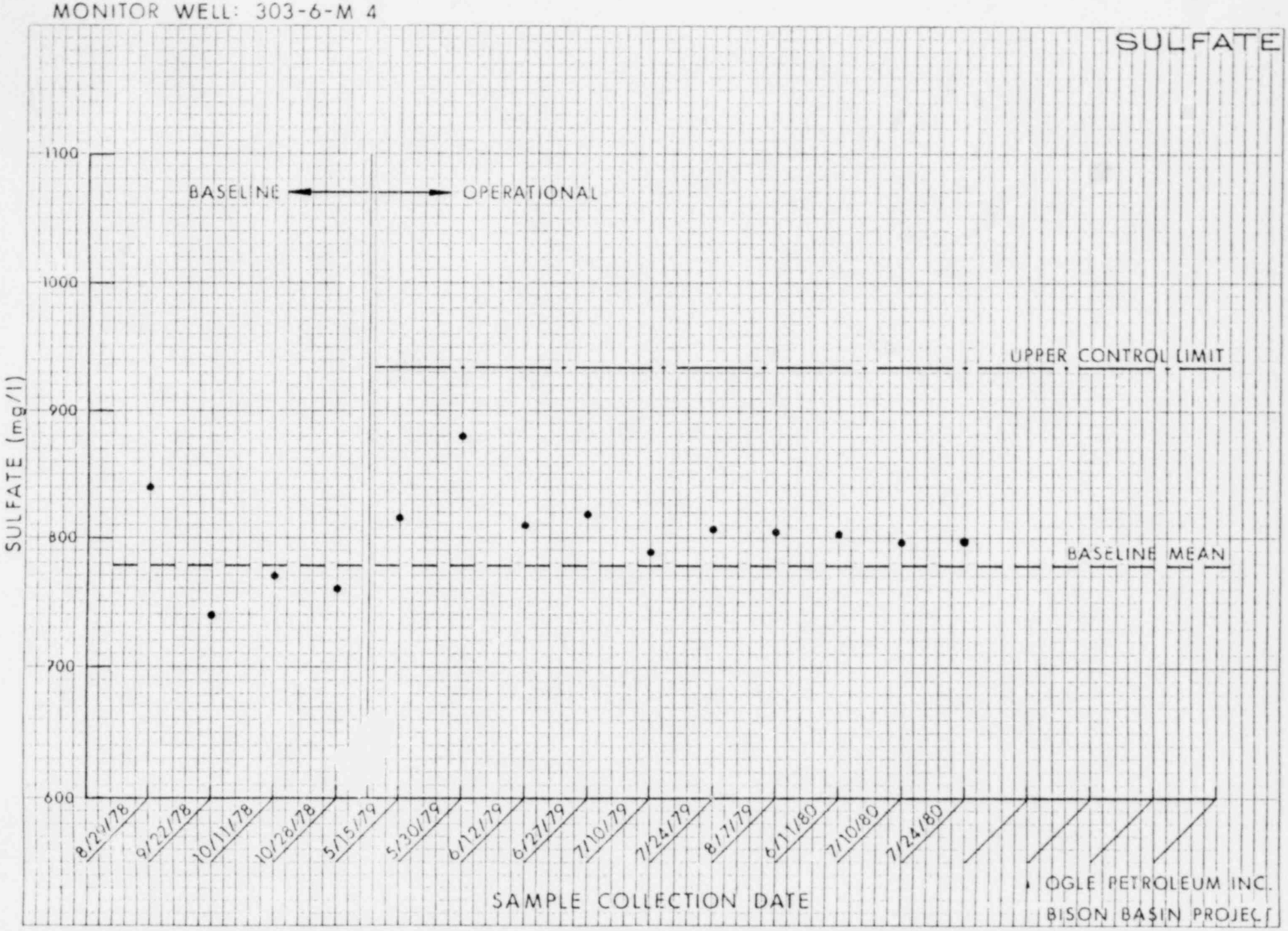

MONITOR WELL: 303-6-M 4
SULFATE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SULFATE (mg/l)
1100
1000
900
800
700
600
8/24/78
9/22/78
10/11/78
10/26/78
5/15/79
5/30/79
6/12/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 29

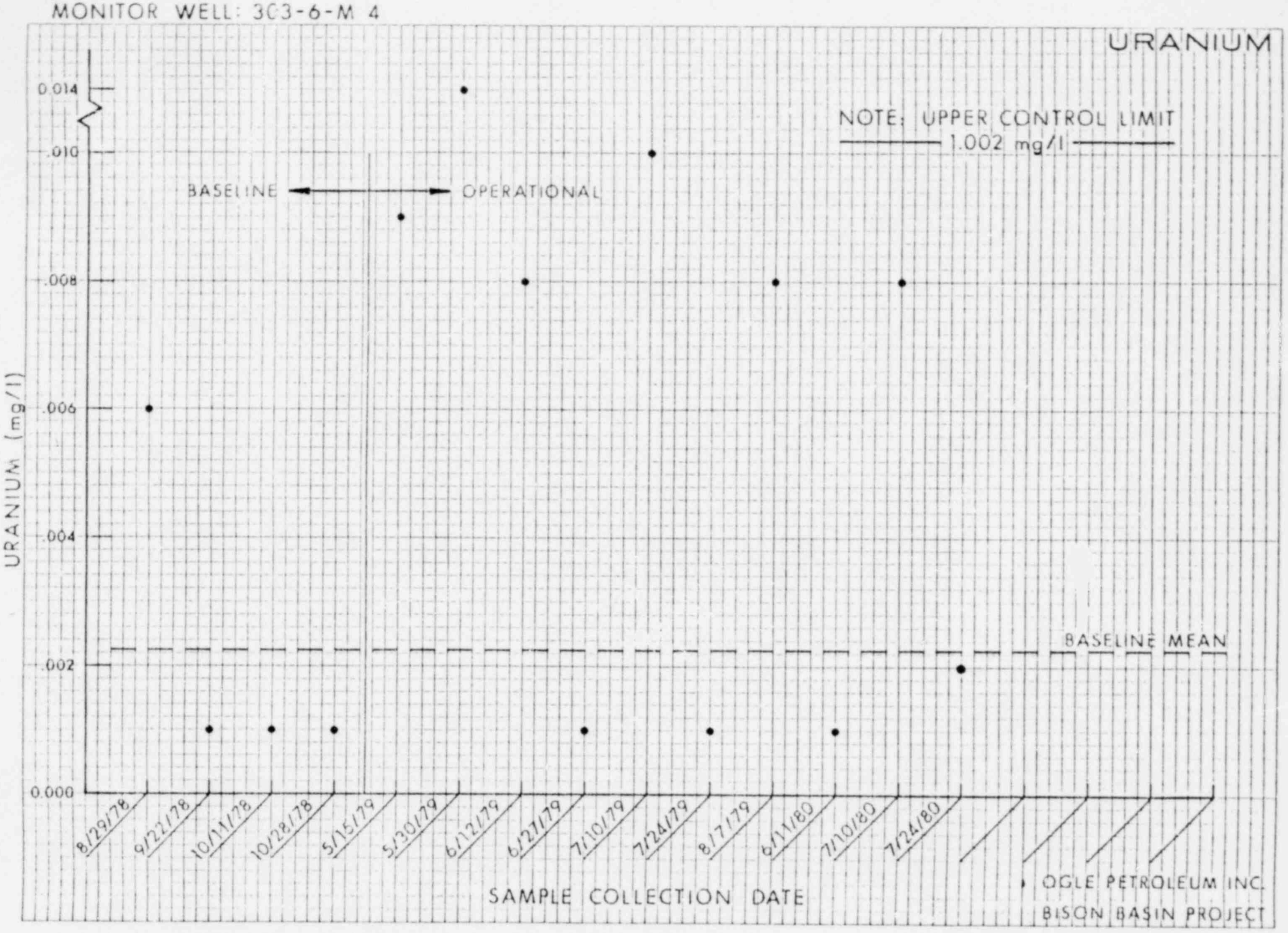

MONITOR WELL: 3C3-6-M 4
URANIUM
NOTE: UPPER CONTROL LIMIT
1.002 mg/l
BASELINE
OPERATIONAL
BASELINE MEAN
URANIUM (mg/l)
0.014
.010
.008
.006
.004
.002
0.000
8/29/78
9/22/78
10/11/78
10/28/78
5/15/79
5/30/79
6/12/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 30

MONITOR WELL: 303-6-M 4

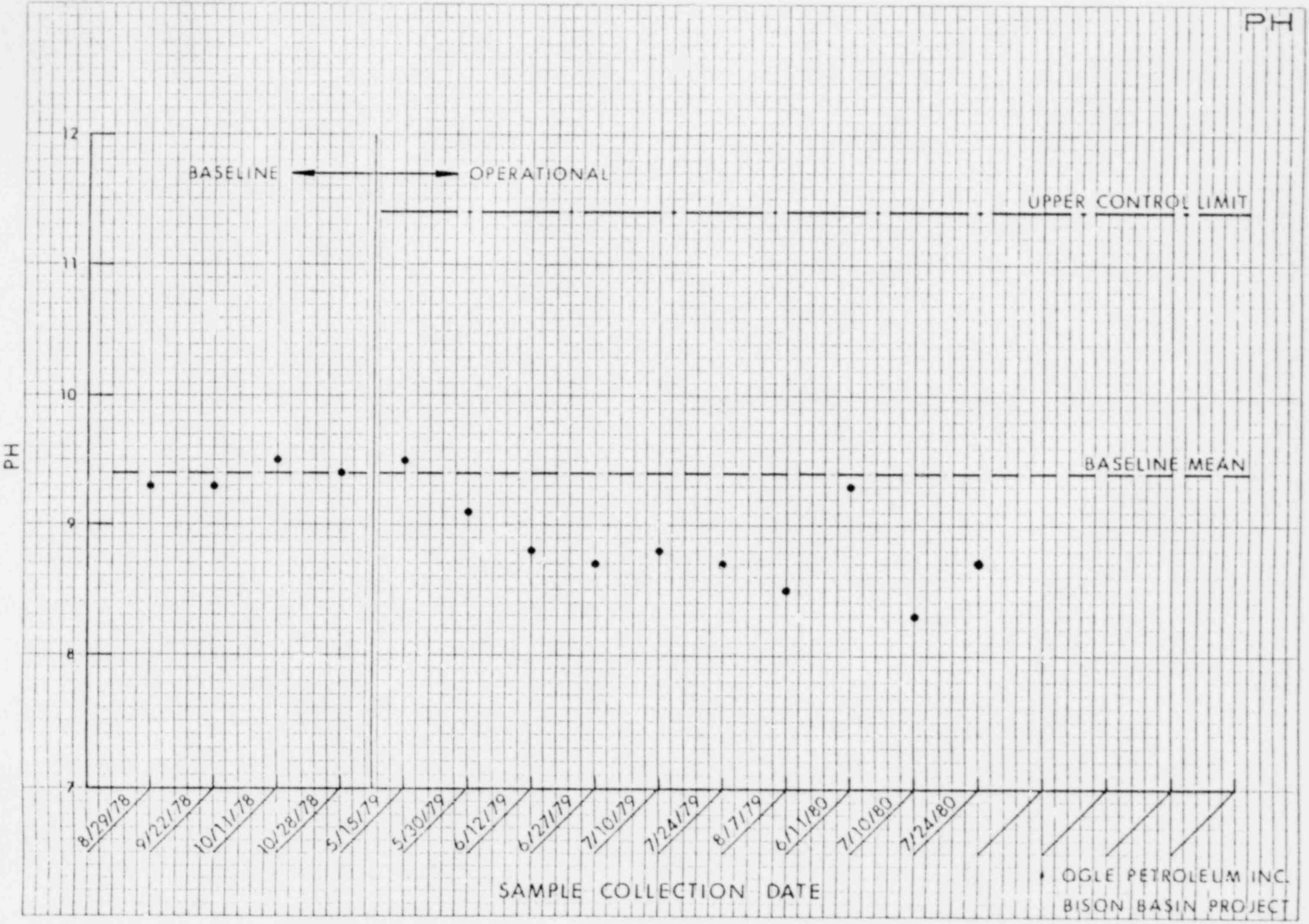


FIGURE 31

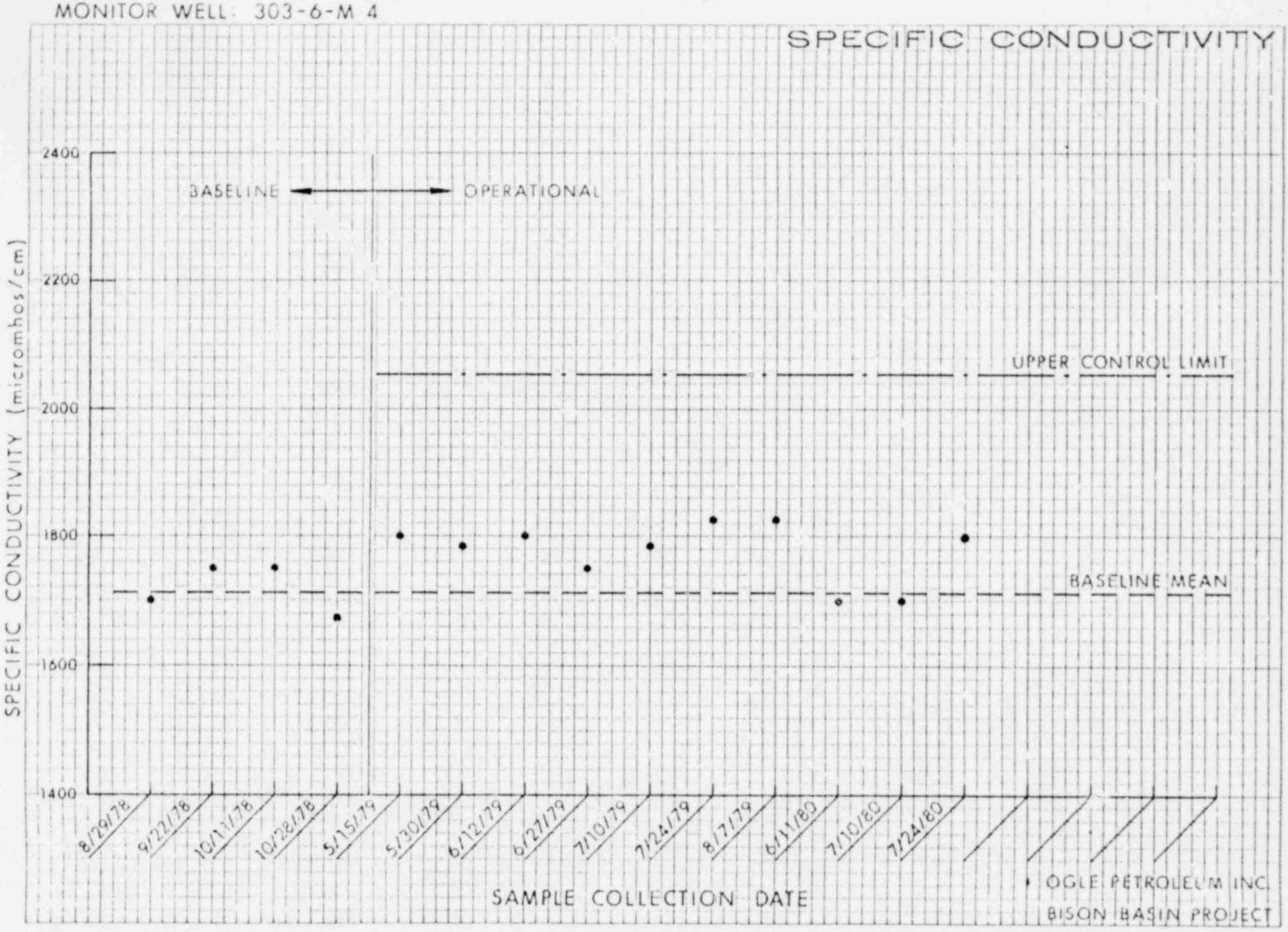

MONITOR WELL: 303-6-M 4
SPECIFIC CONDUCTIVITY
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SPECIFIC CONDUCTIVITY (micromhos/cm)
2400
2200
2000
1800
1600
1400
8/29/78
9/22/78
10/11/78
10/28/78
5/15/79
5/30/79
6/12/79
6/27/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 32

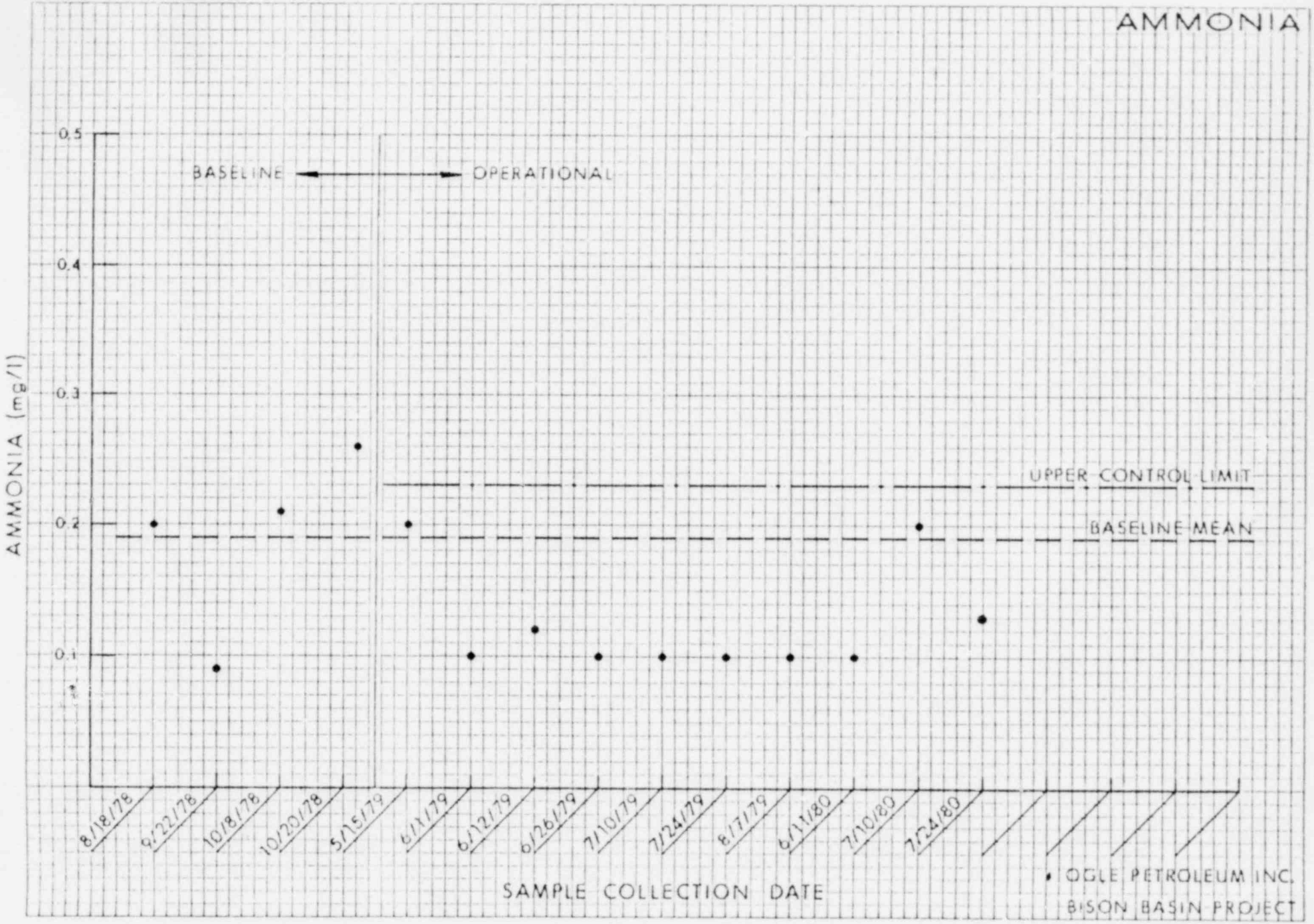

MONITOR WELL: 303-6-M 5
AMMONIA
BASELINE
OPERATIONAL
0.5
0.4
0.3
0.2
0.1
AMMONIA (mg/l)
UPPER CONTROL LIMIT
BASELINE MEAN
8/18/78
9/22/78
10/18/78
10/20/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 33

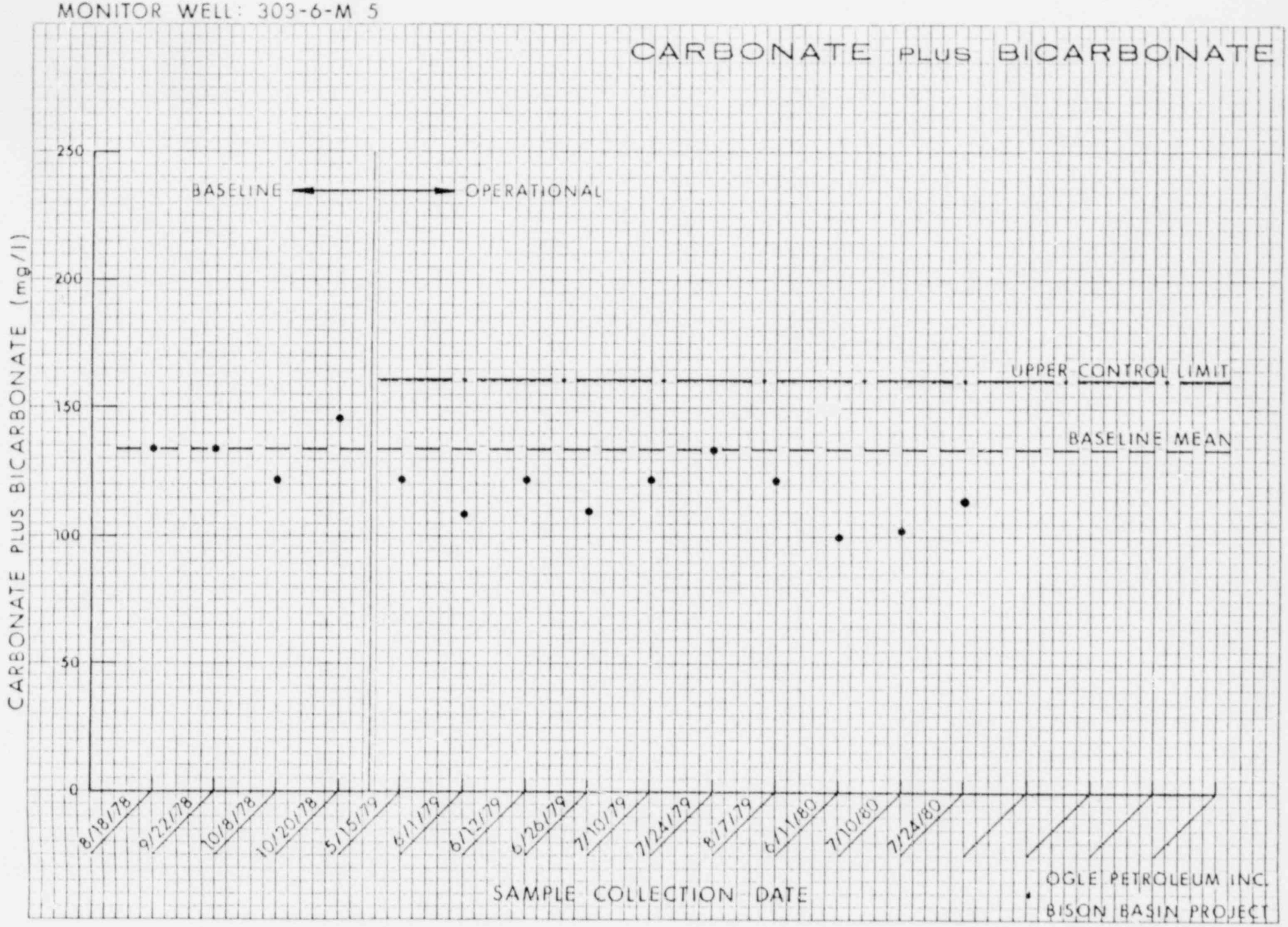

MONITOR WELL: 303-6-M 5
CARBONATE PLUS BICARBONATE
CARBONATE PLUS BICARBONATE (mg/l)
250
200
150
100
50
0
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/18/78
9/22/78
10/8/78
10/20/78
5/15/79
6/1/79
6/12/79
6/26/79
7/13/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 34

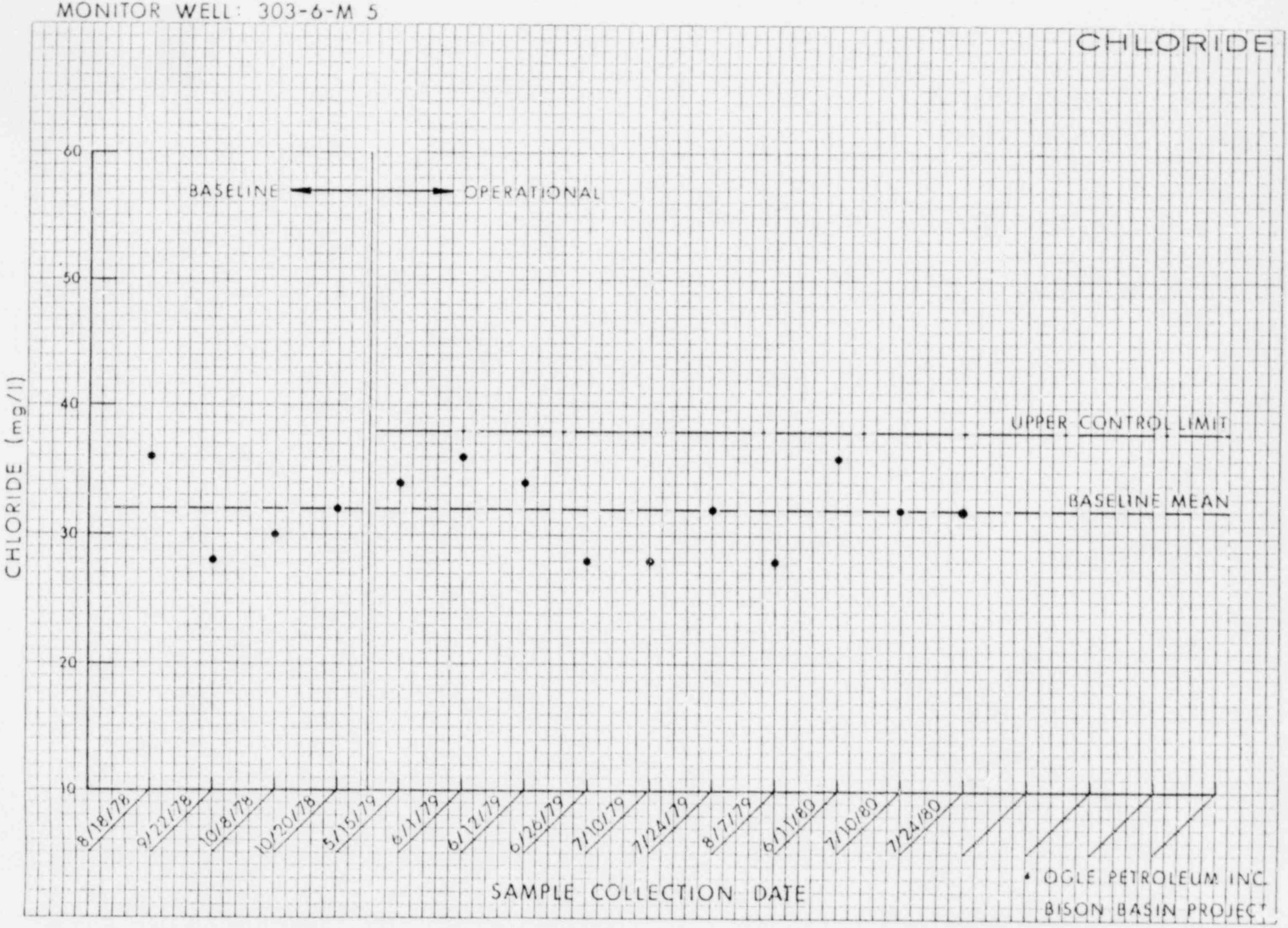

MONITOR WELL: 303-6-M 5
CHLORIDE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CHLORIDE (mg/l)
60
50
40
30
20
10
8/18/78
9/22/78
10/8/78
10/20/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
8/21/80
9/10/80
9/24/80
SAMPLE COLLECTION DATE
• OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 35

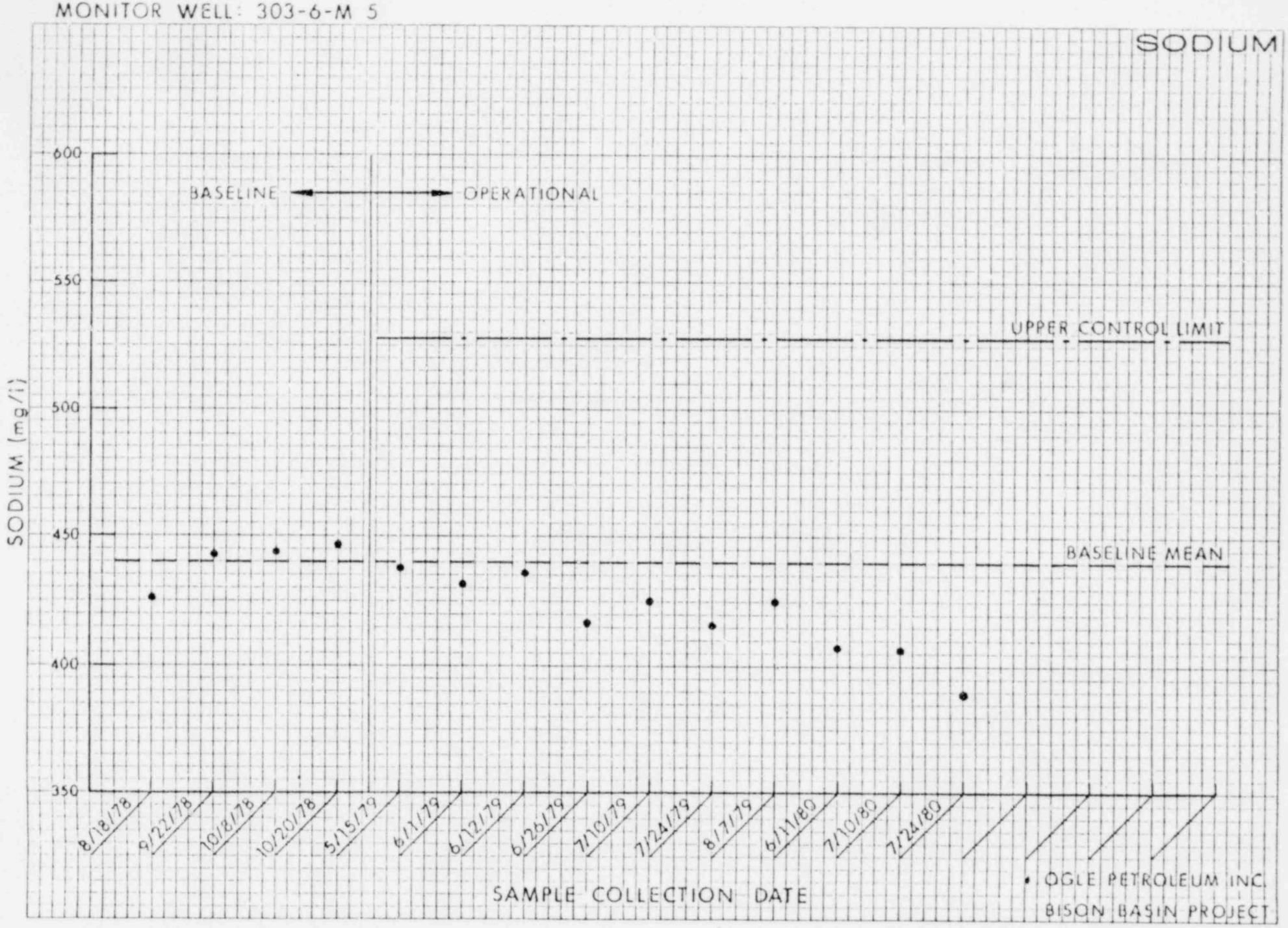

MONITOR WELL: 303-6-M 5
SODIUM
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SODIUM (mg/l)
600
550
500
450
400
350
8/18/78
9/23/78
10/8/78
10/20/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
8/31/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
• OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 36

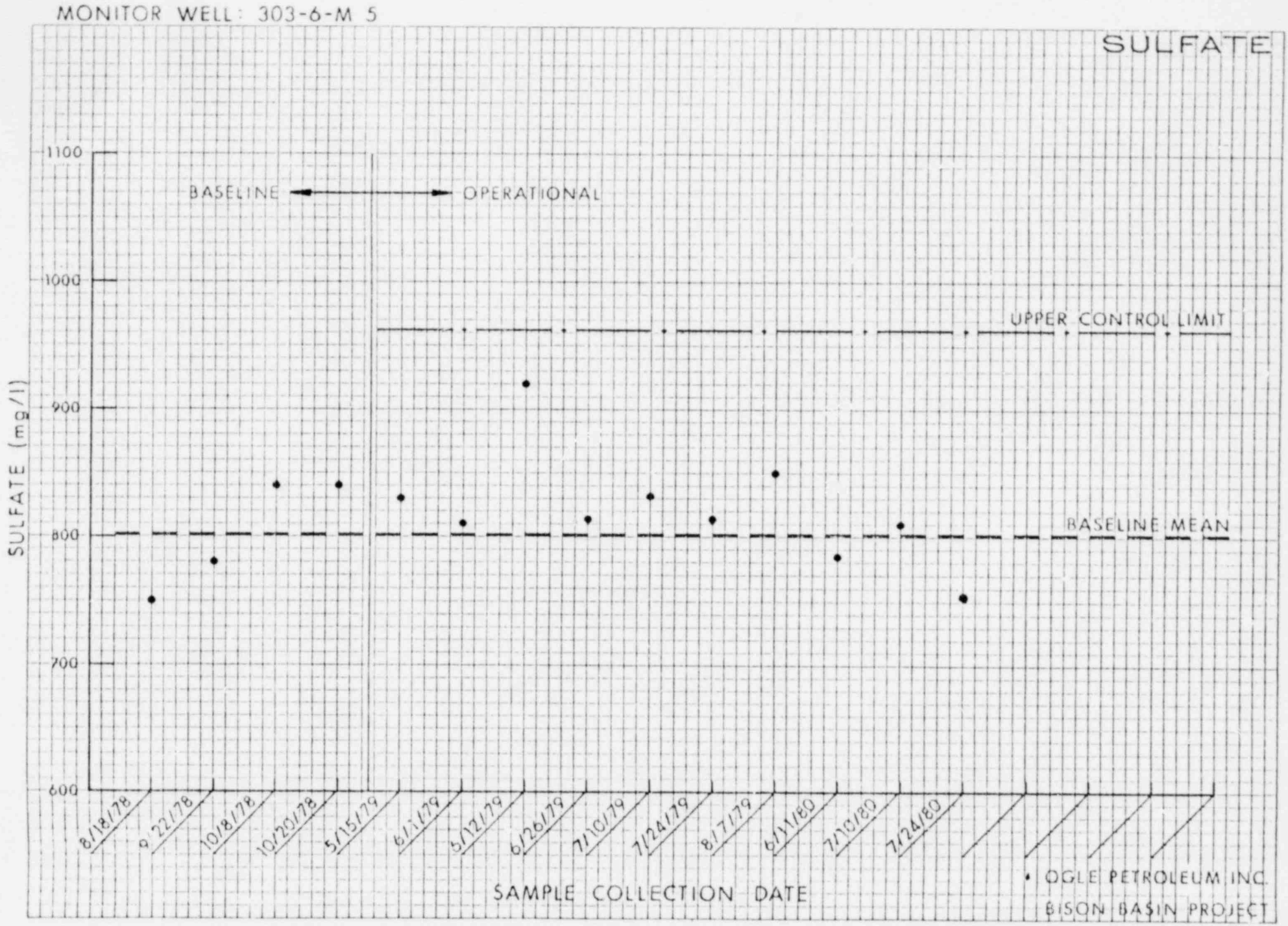

MONITOR WELL: 303-6-M 5
SULFATE
1100
1000
900
800
700
600
SULFATE (mg/l)
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/18/78
9/22/78
10/18/78
10/20/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
• OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 37

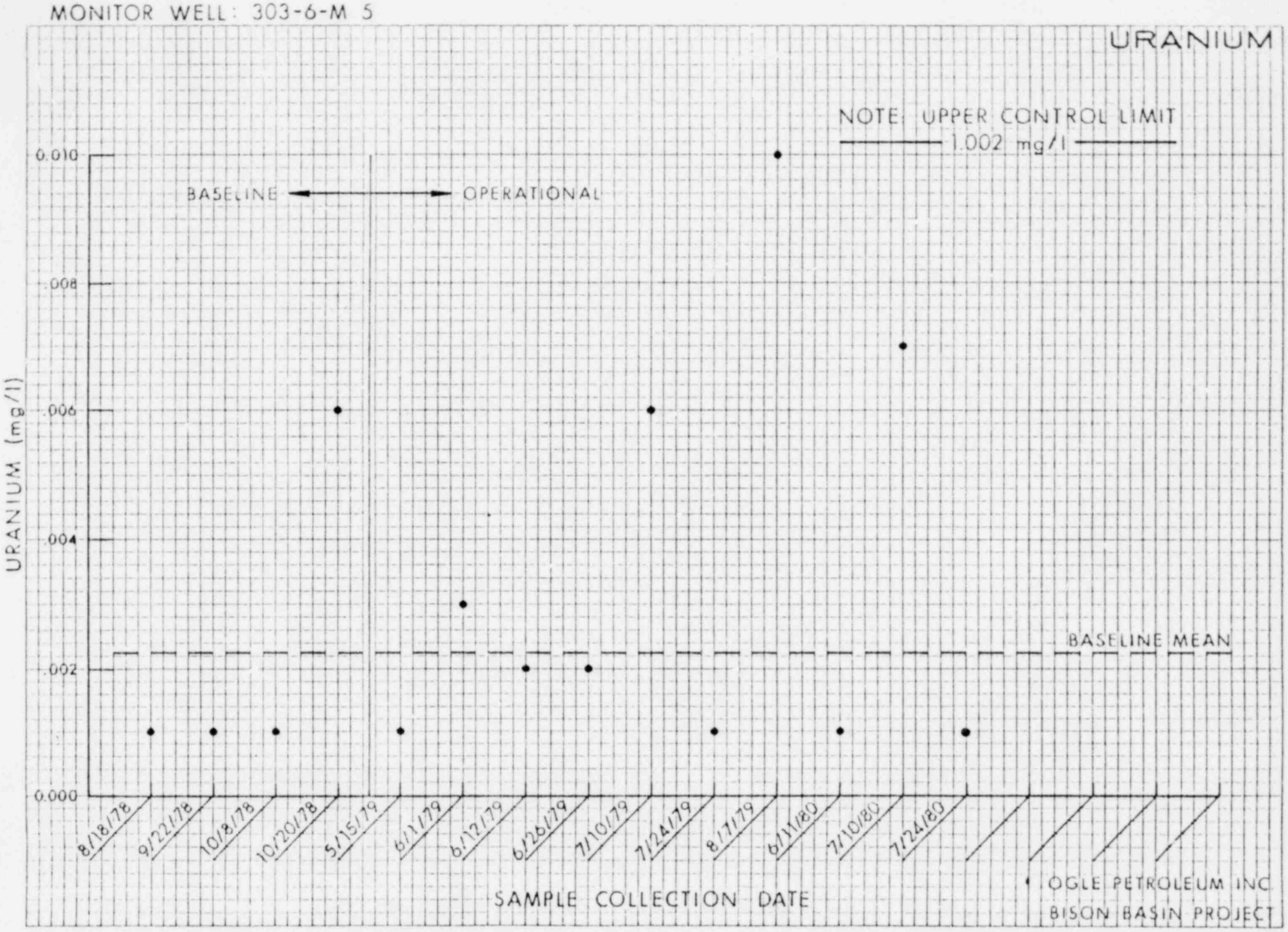

MONITOR WELL: 303-6-M 5
URANIUM
NOTE: UPPER CONTROL LIMIT
1.002 mg/l
BASELINE
OPERATIONAL
BASELINE MEAN
URANIUM (mg/l)
0.010
.008
.006
.004
.002
0.000
8/18/78
9/22/78
10/8/78
10/20/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/1/79
8/31/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC
BISON BASIN PROJECT

FIGURE 38

MONITOR WELL : 303-6-M 5

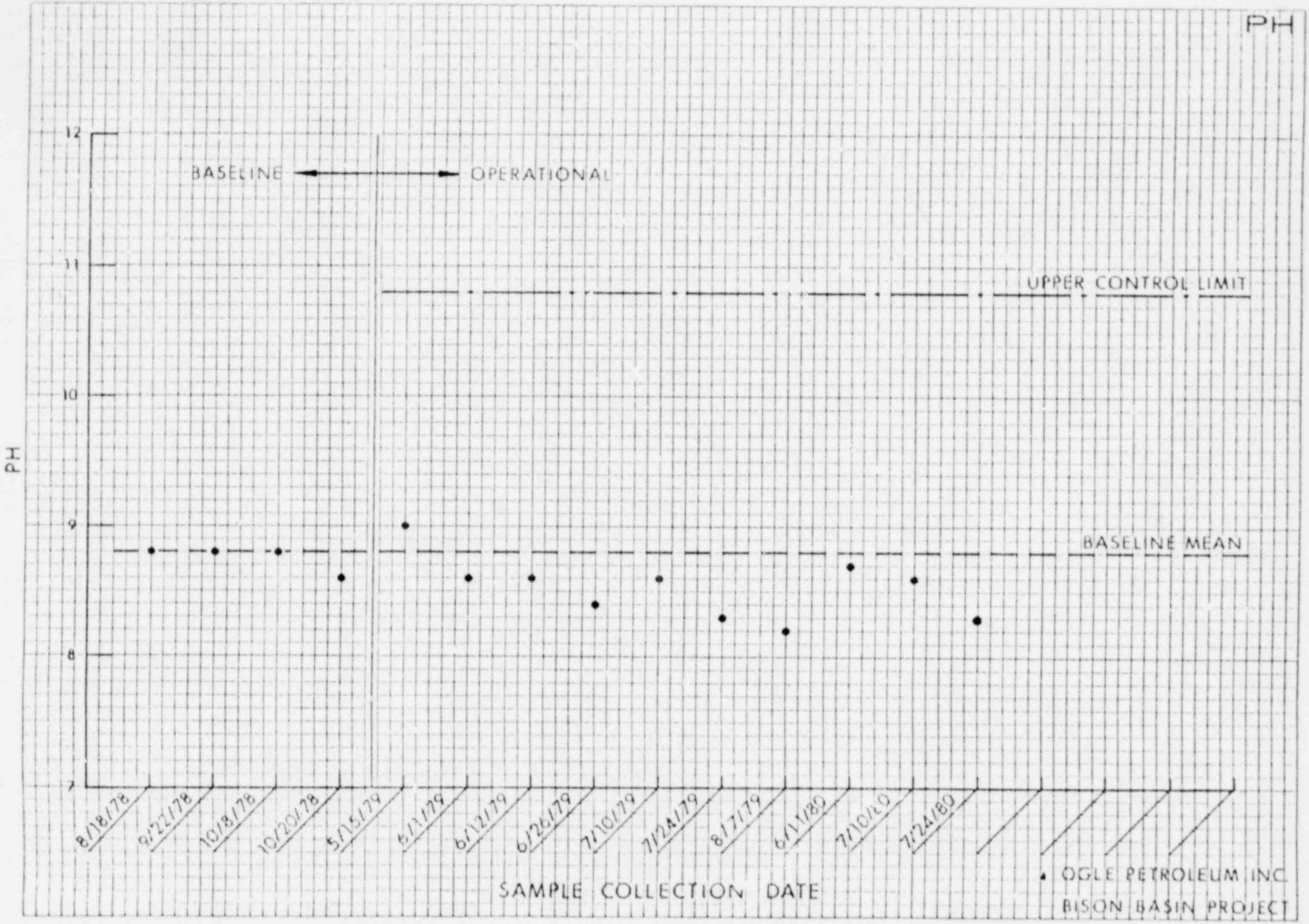


FIGURE 39

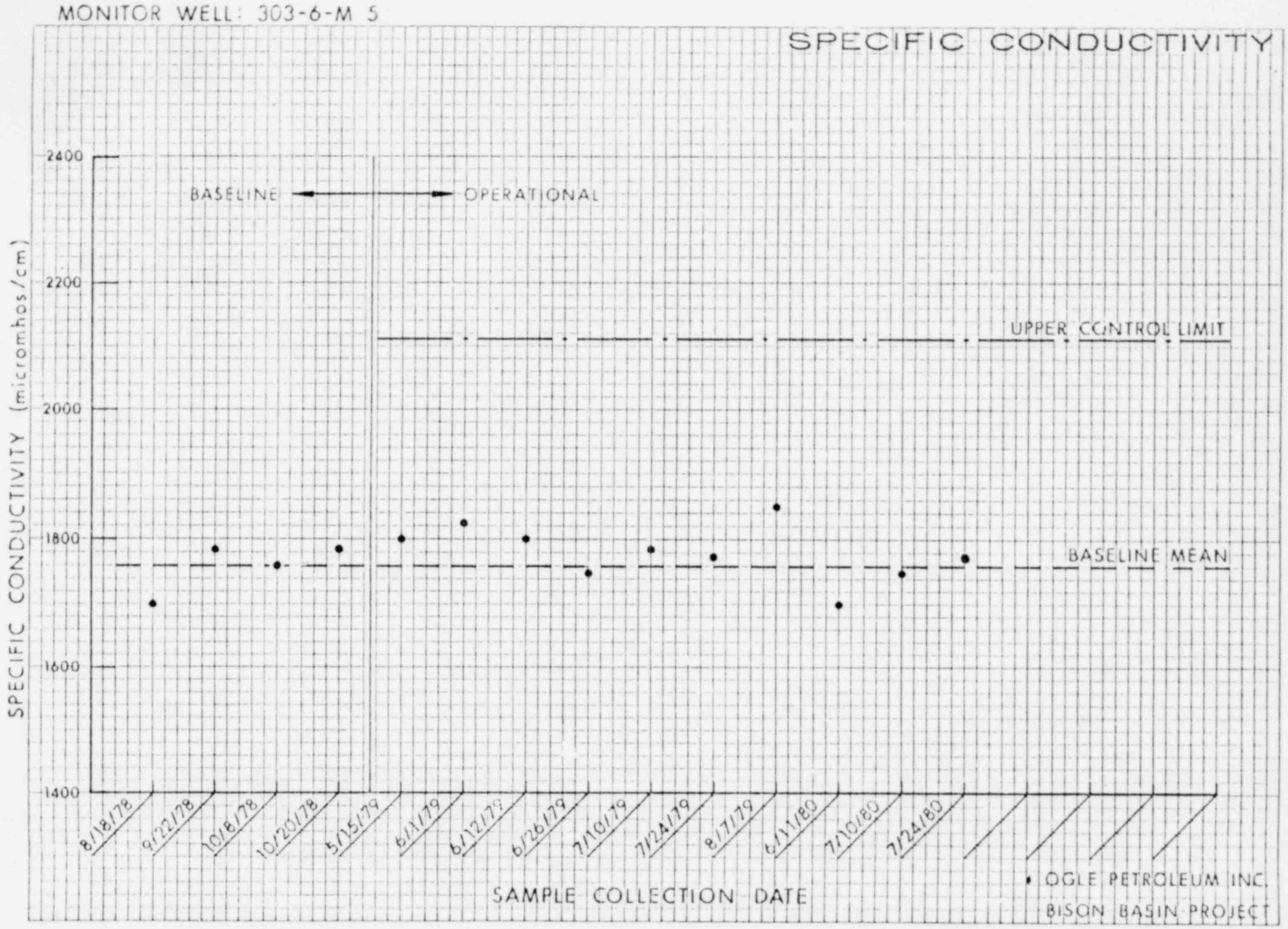

MONITOR WELL: 303-6-M 5
SPECIFIC CONDUCTIVITY
SPECIFIC CONDUCTIVITY (micromhos/cm)
2400
2200
2000
1800
1600
1400
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/18/78
9/22/78
10/8/78
10/20/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 40

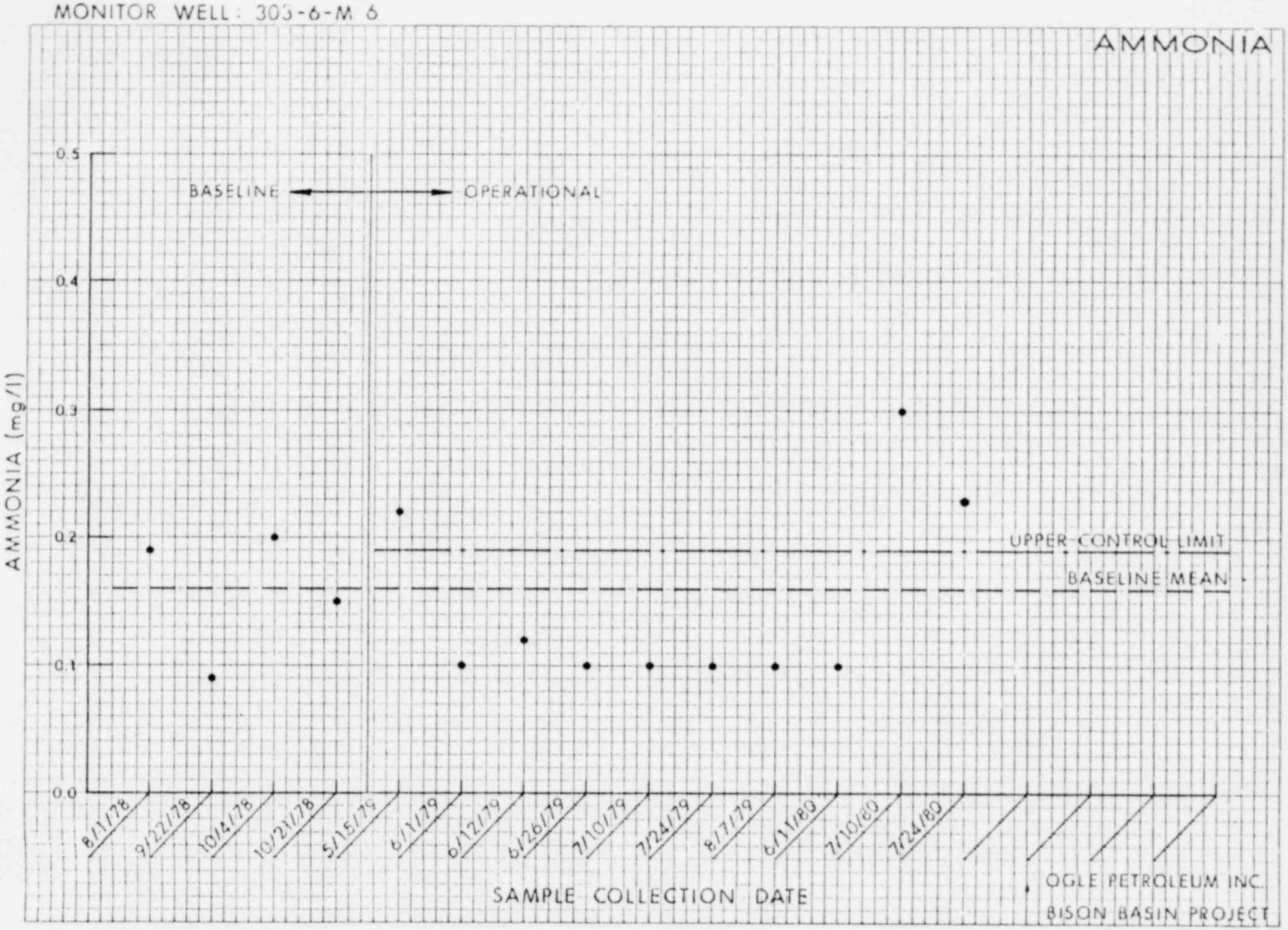

MONITOR WELL: 303-6-M 6
AMMONIA
BASELINE
OPERATIONAL
0.5
0.4
0.3
0.2
0.1
0.0
AMMONIA (mg/l)
UPPER CONTROL LIMIT
BASELINE MEAN
8/1/78
9/22/78
10/4/78
10/23/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 41

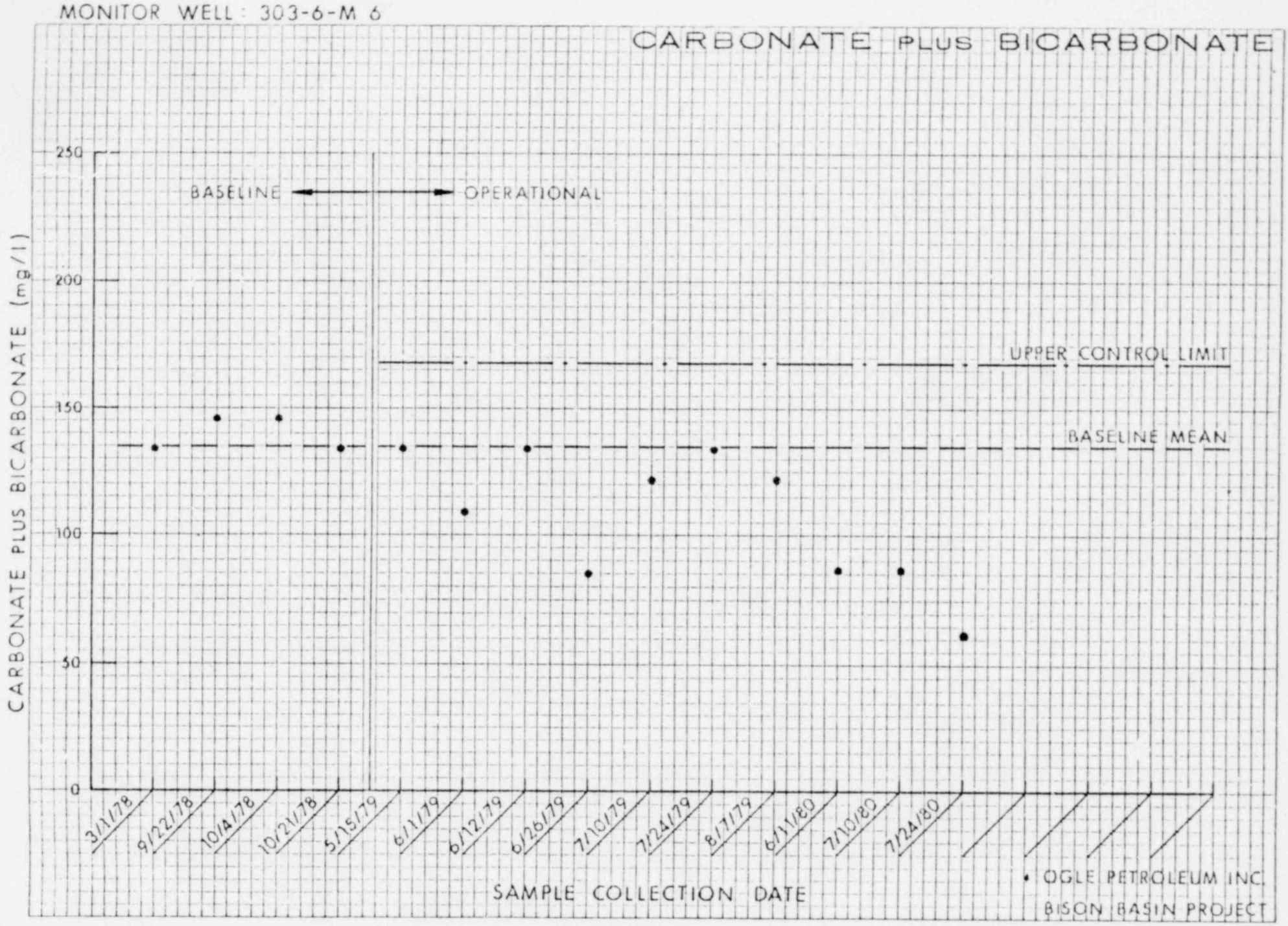

MONITOR WELL : 303-6-M 6
CARBONATE PLUS BICARBONATE
CARBONATE PLUS BICARBONATE (mg/l)
250
200
150
100
50
0
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
3/1/78
9/22/78
10/4/78
10/21/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
• OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 42

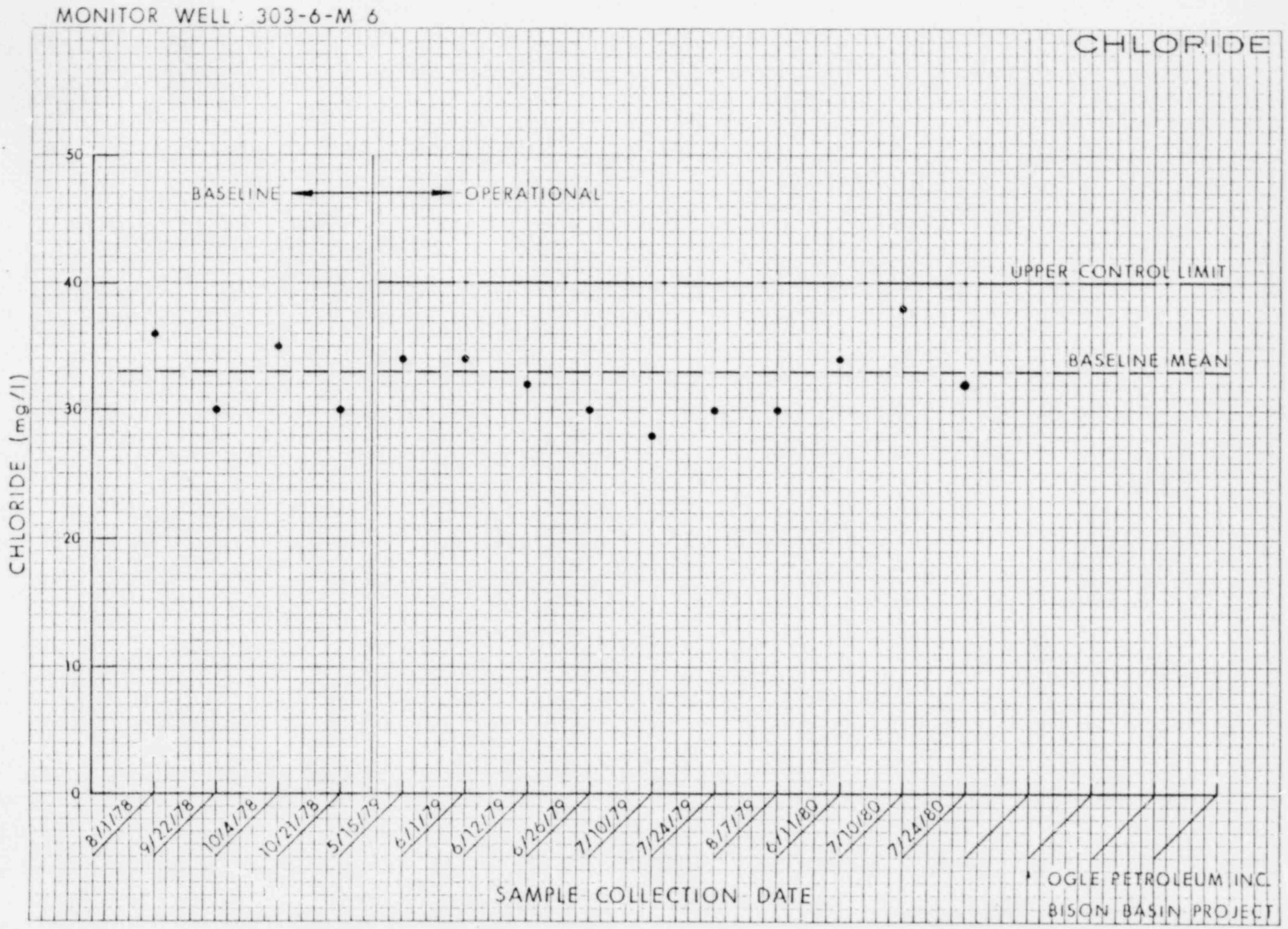

MONITOR WELL : 303-6-M 6
CHLORIDE
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
CHLORIDE (mg/l)
50
40
30
20
10
0
8/1/78
9/22/78
10/4/78
10/23/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 43

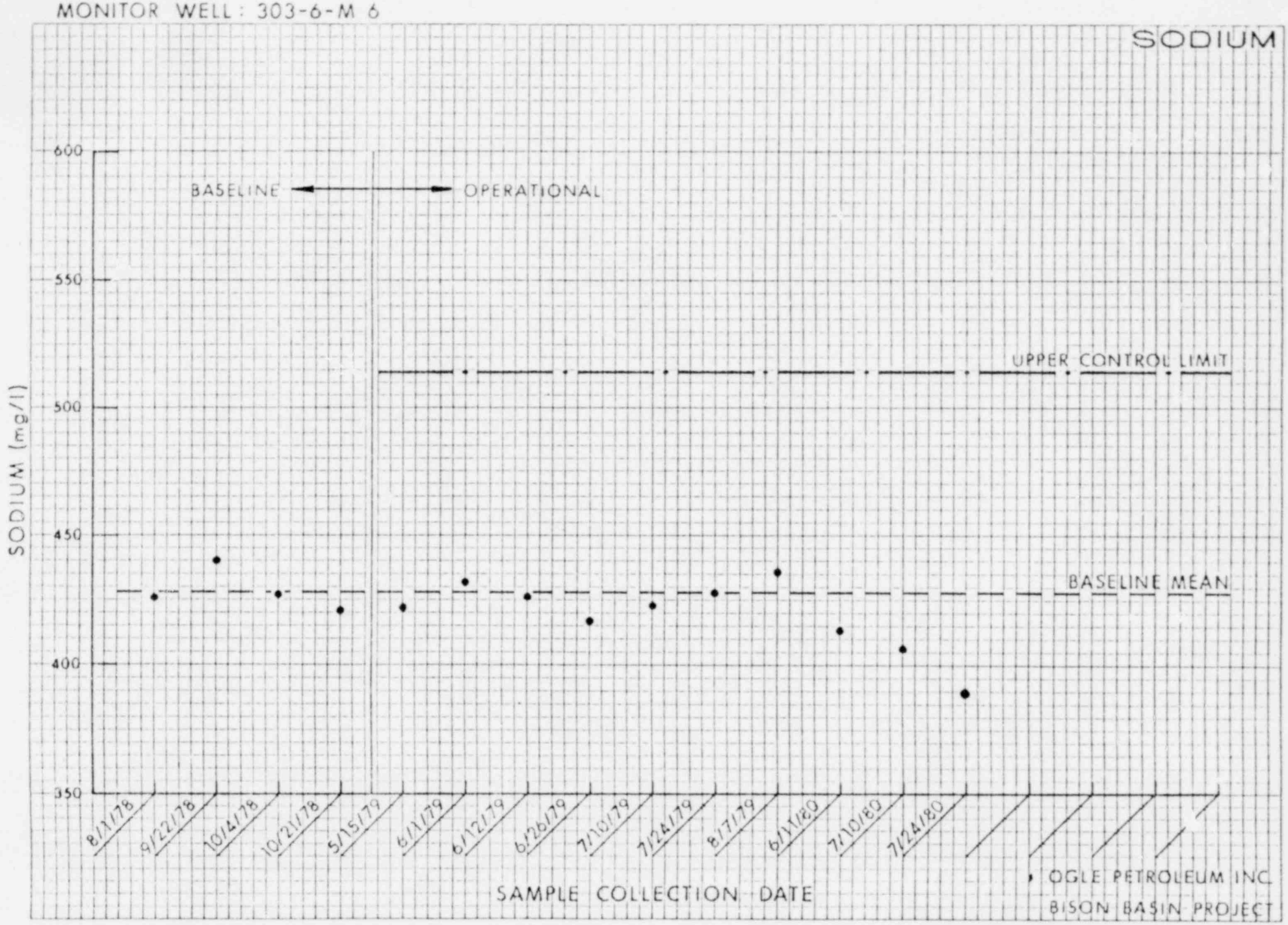

MONITOR WELL: 303-6-M 6
SODIUM
600
550
500
450
400
350
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
SODIUM (mg/l)
8/1/78
9/22/78
10/4/78
10/21/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 44

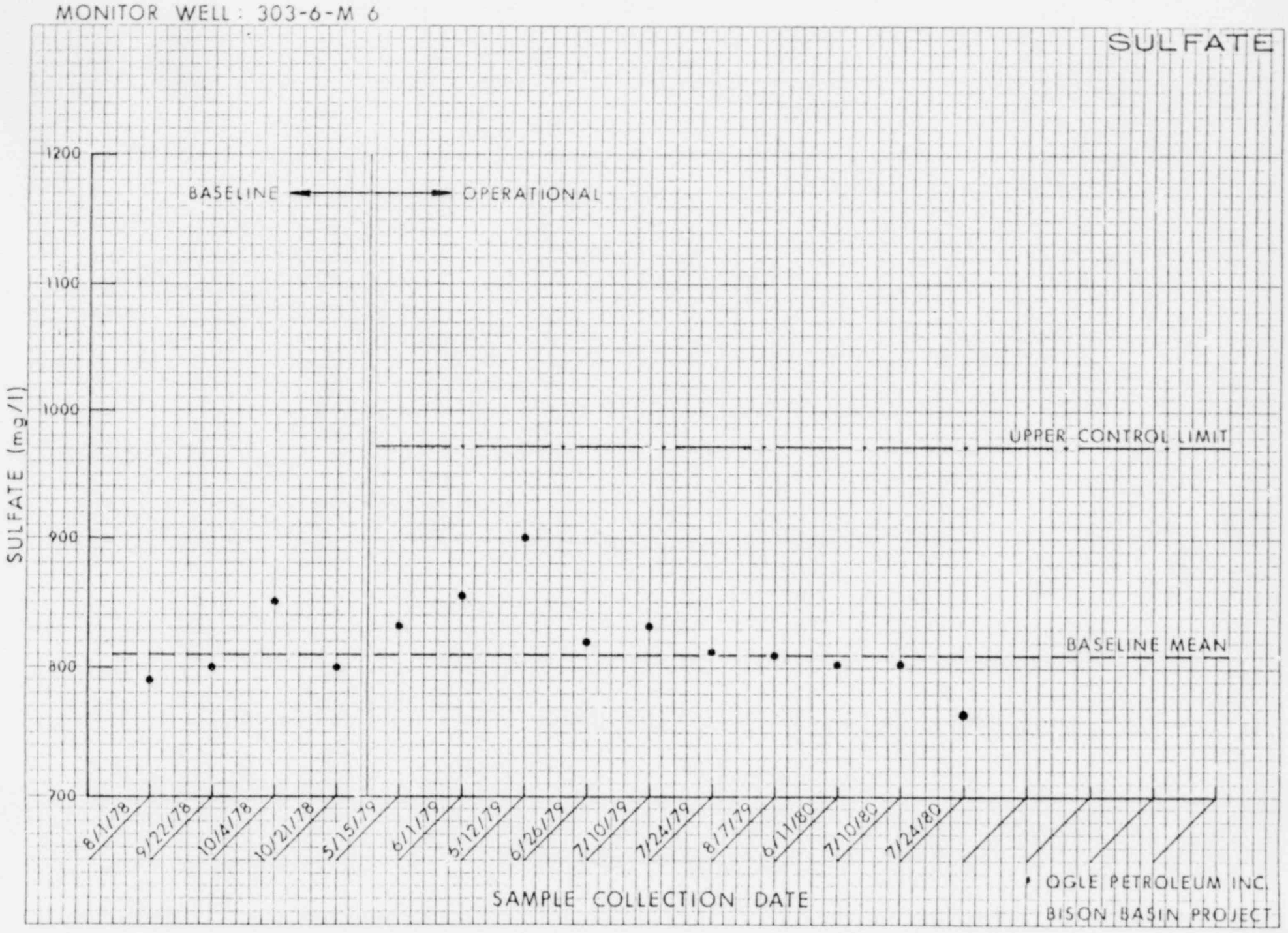

MONITOR WELL : 303-6-M 6
SULFATE
1200
1100
1000
900
800
700
SULFATE (mg/l)
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/1/78
9/22/78
10/4/78
10/21/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 45

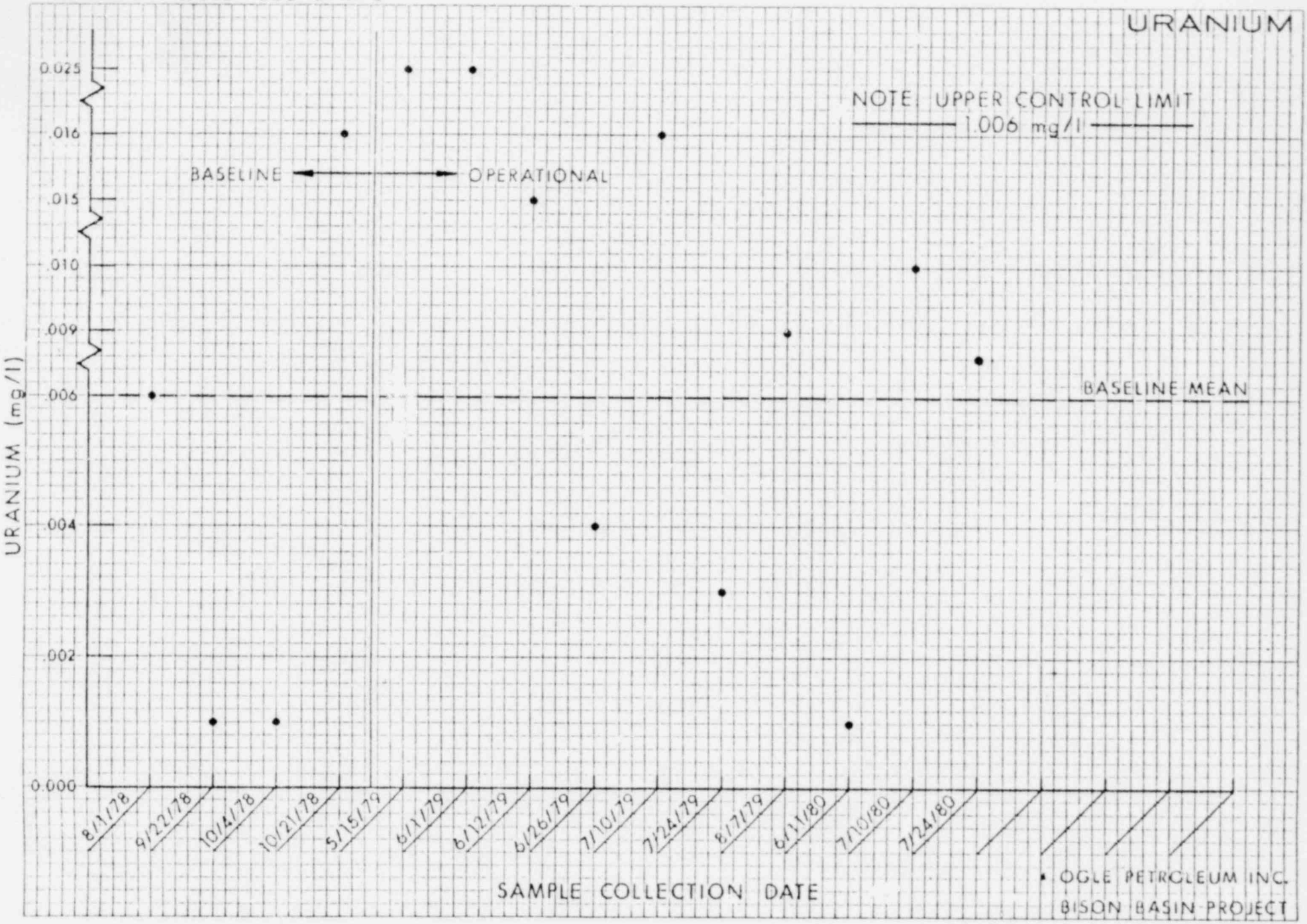

MONITOR WELL : 303-6-M 6
URANIUM
NOTE: UPPER CONTROL LIMIT
1.006 mg/l
BASELINE
OPERATIONAL
BASELINE MEAN
URANIUM (mg/l)
0.025
.016
.015
.010
.009
.006
.004
.002
0.000
8/1/78
9/22/78
10/4/78
10/21/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 46

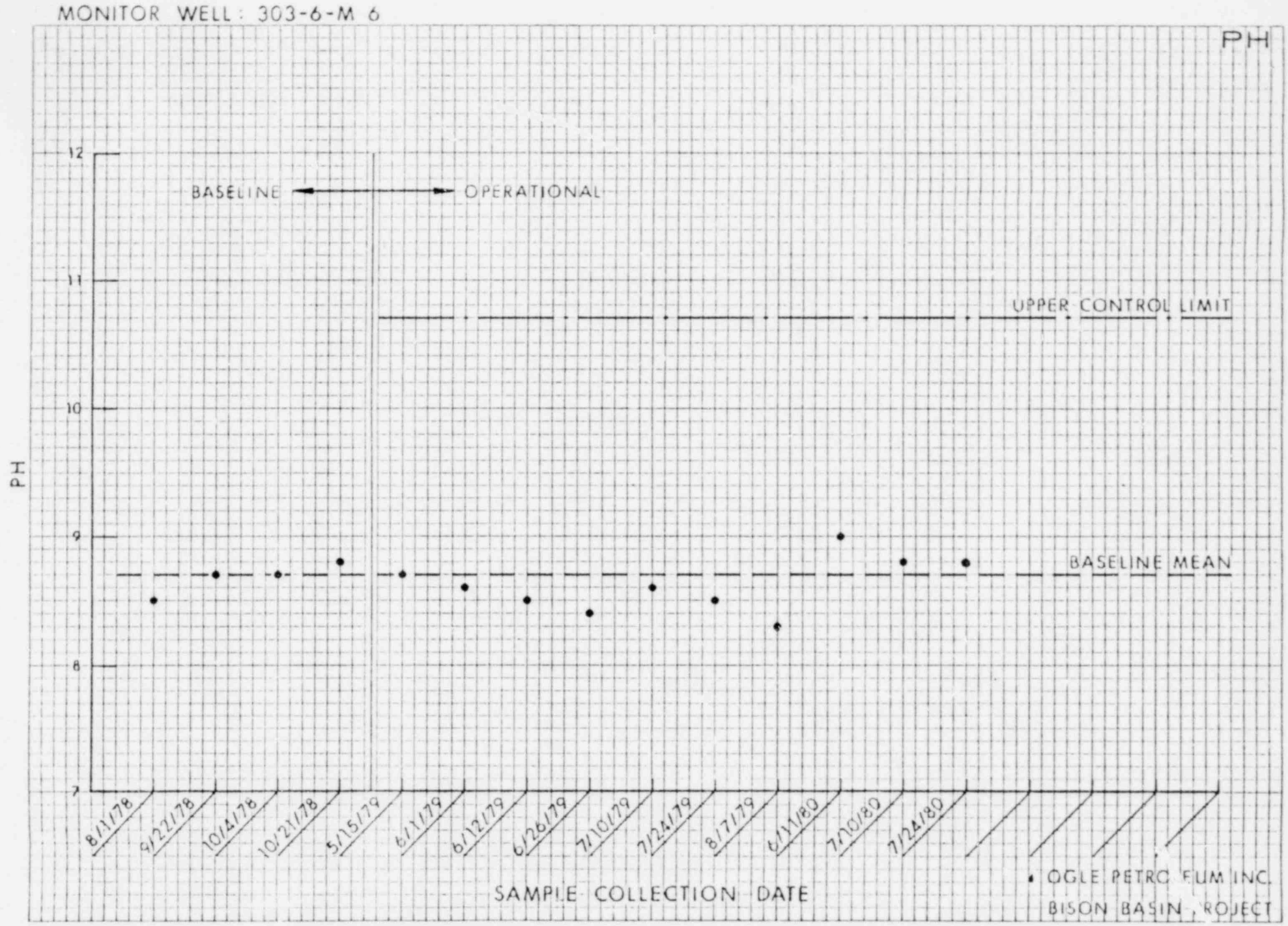

MONITOR WELL: 303-6-M 6
PH
12
11
10
9
8
7
pH
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/1/78
9/22/78
10/4/78
10/21/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 47

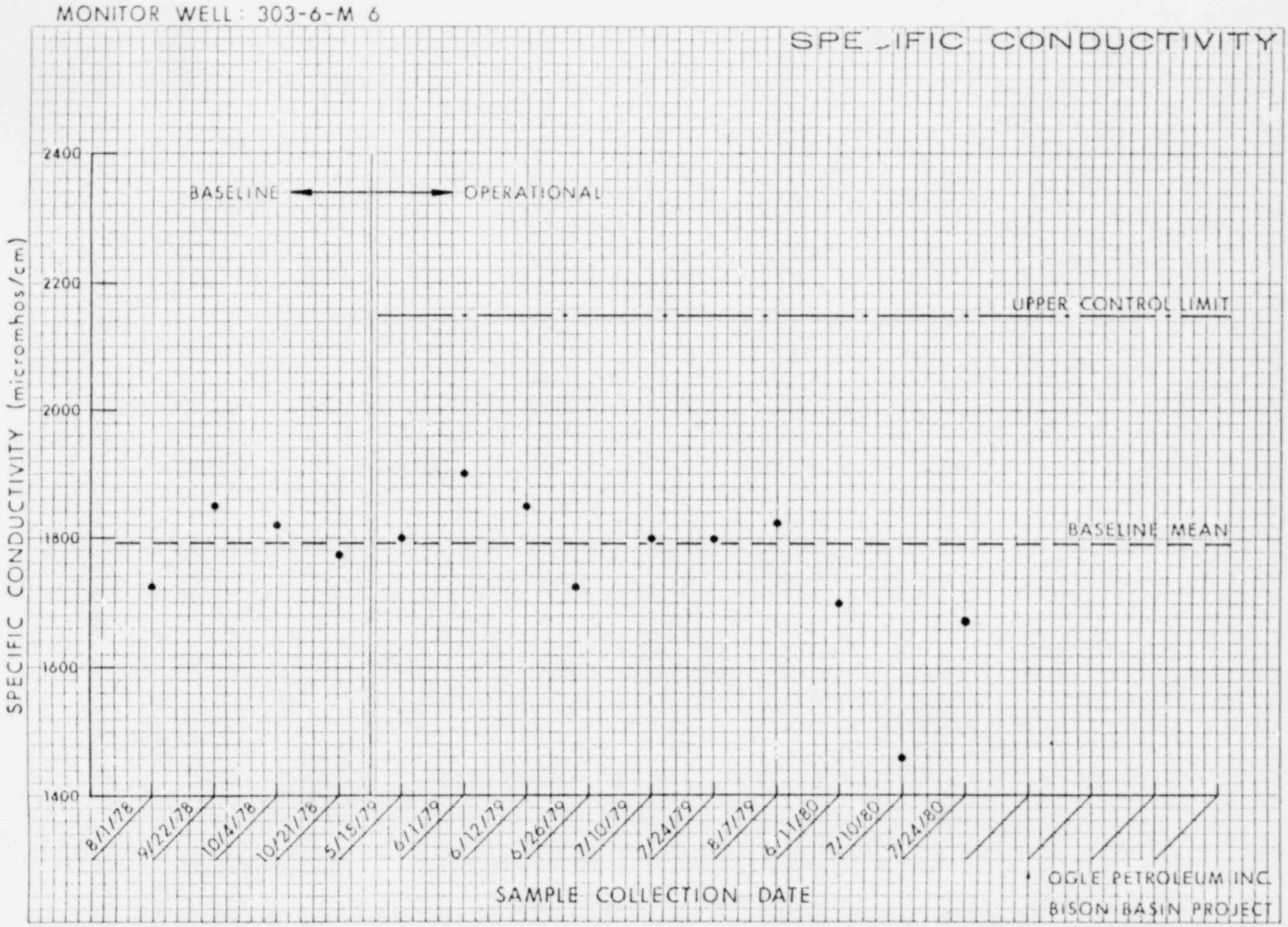

MONITOR WELL: 303-6-M 6
SPECIFIC CONDUCTIVITY
SPECIFIC CONDUCTIVITY (micromhos/cm)
2400
2200
2000
1800
1600
1400
BASELINE
OPERATIONAL
UPPER CONTROL LIMIT
BASELINE MEAN
8/1/78
9/22/78
10/4/78
10/21/78
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 48

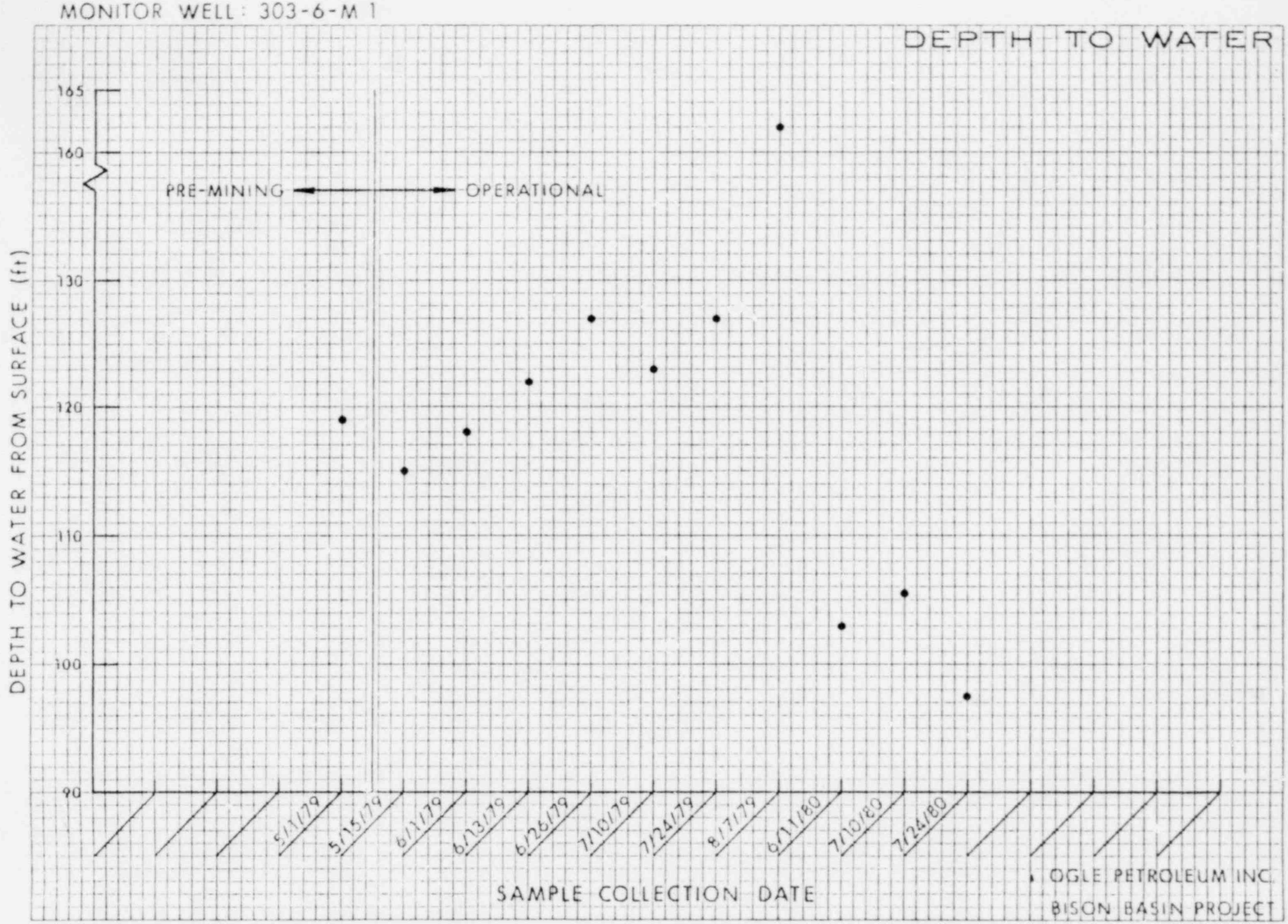

MONITOR WELL: 303-6-M 1
DEPTH TO WATER
165
160
130
120
110
100
90
PRE-MINING
OPERATIONAL
DEPTH TO WATER FROM SURFACE (ft)
5/1/79
5/15/79
6/1/79
6/13/79
6/26/79
7/16/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 49

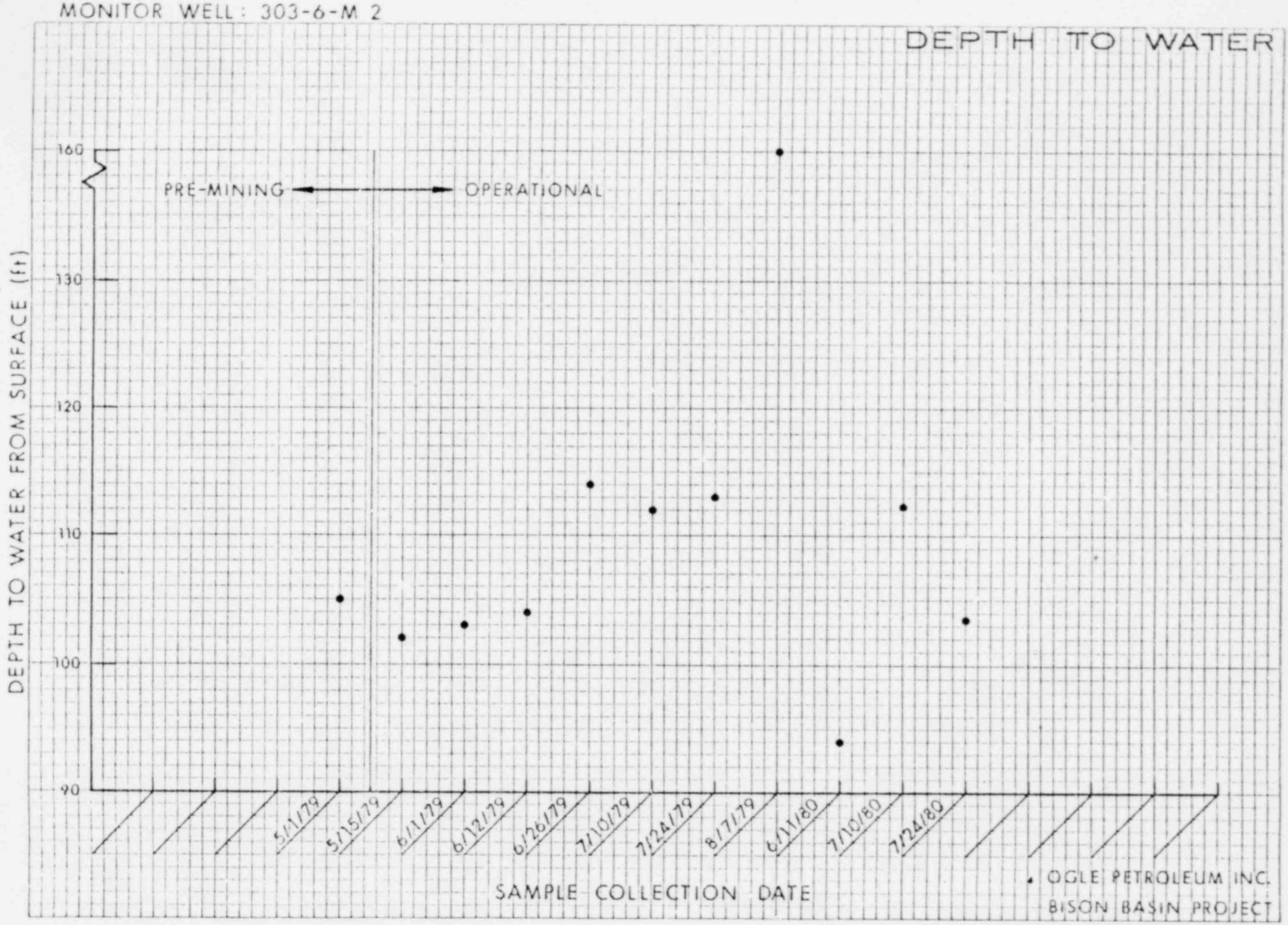

MONITOR WELL: 303-6-M 2
DEPTH TO WATER
PRE-MINING
OPERATIONAL
DEPTH TO WATER FROM SURFACE (ft)
160
130
120
110
100
90
5/1/79
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 50

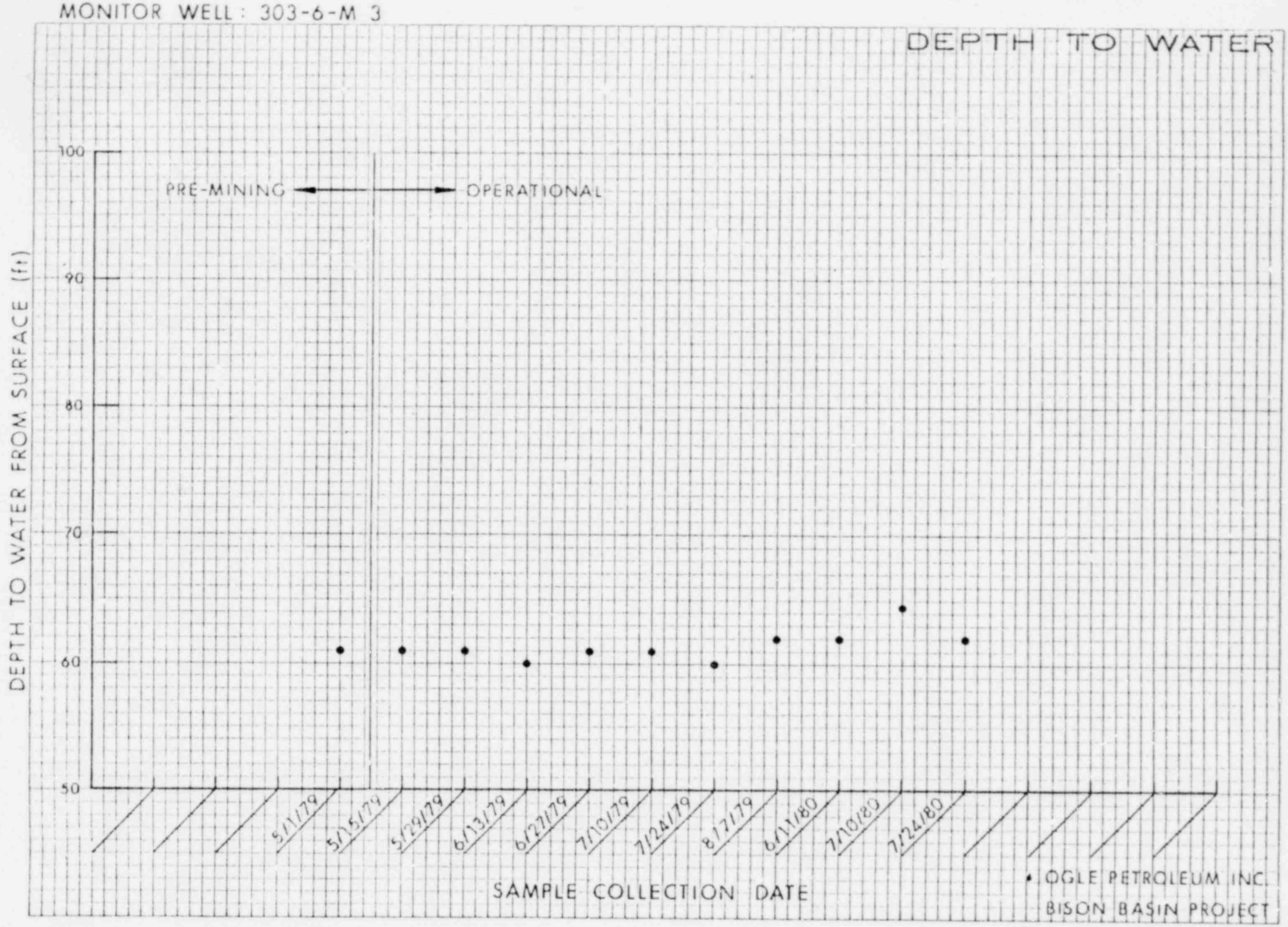

MONITOR WELL : 303-6-M 3
DEPTH TO WATER
PRE-MINING
OPERATIONAL
DEPTH TO WATER FROM SURFACE (ft)
100
90
80
70
60
50
5/1/79
5/15/79
5/29/79
6/13/79
6/27/79
7/10/79
7/24/79
8/7/79
8/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 51

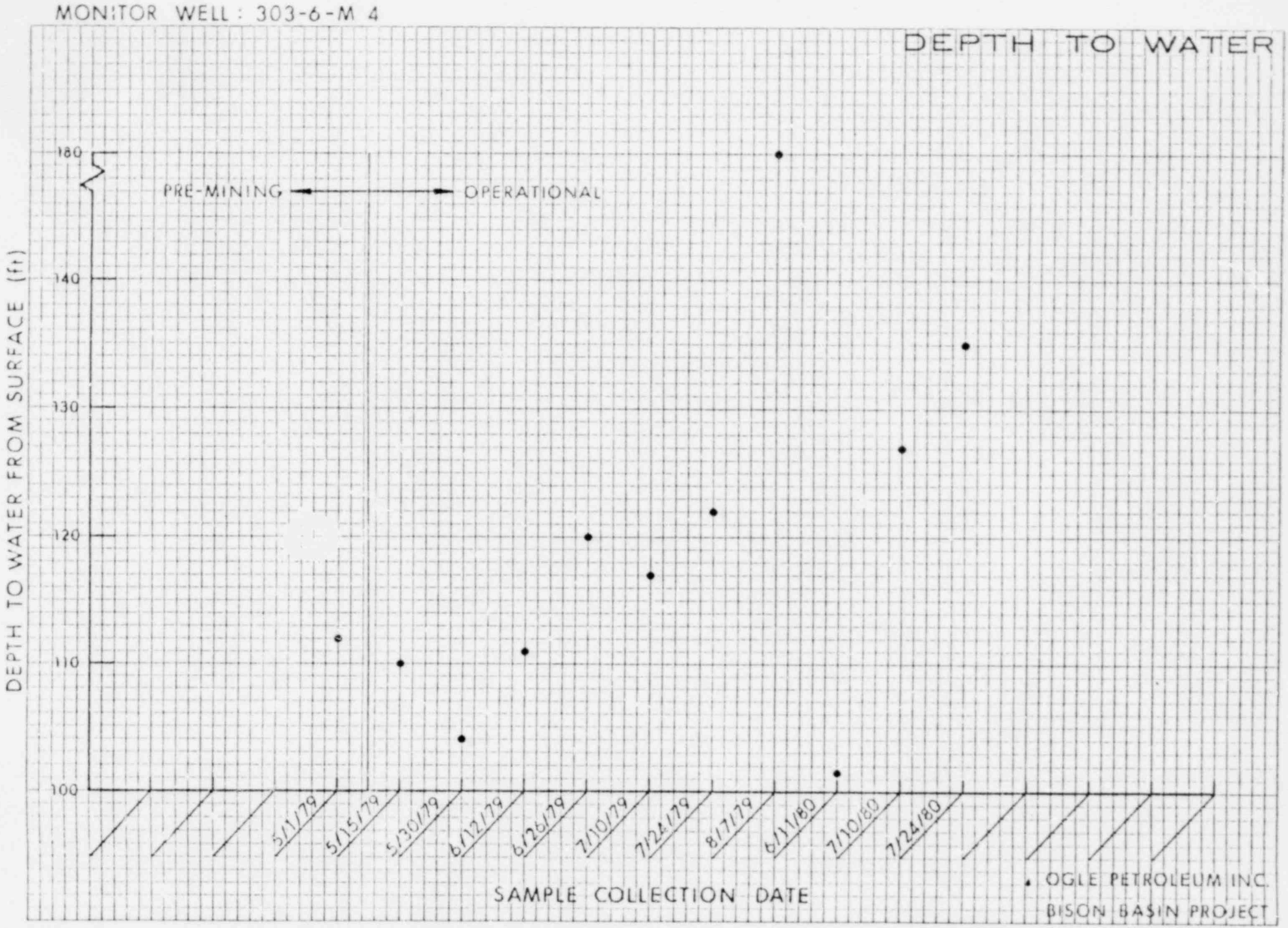

MONITOR WELL : 303-6-M 4
DEPTH TO WATER
DEPTH TO WATER FROM SURFACE (ft)
180
140
130
120
110
100
PRE-MINING
OPERATIONAL
5/1/79
5/15/79
5/30/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 52

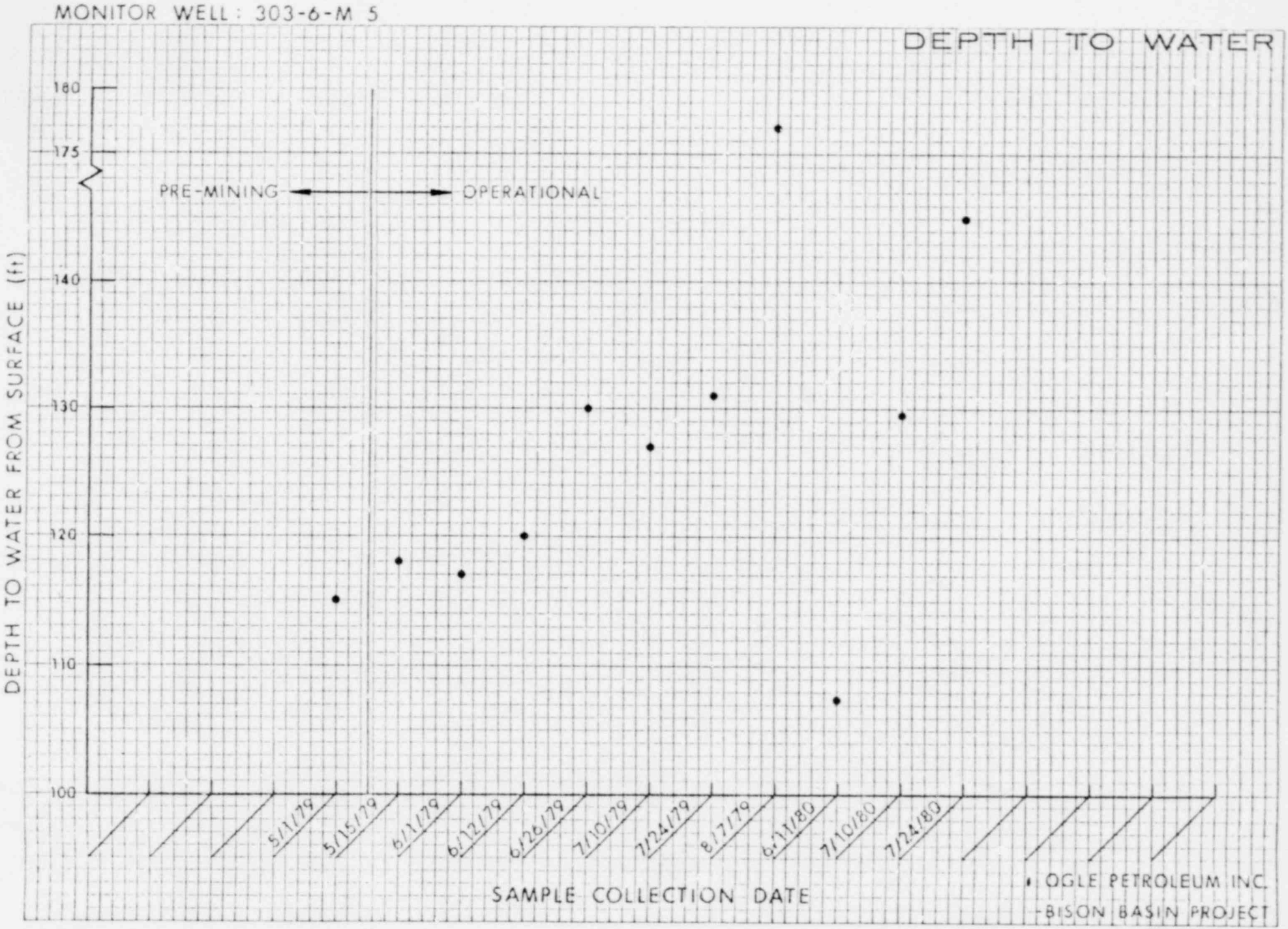

MONITOR WELL : 303-6-M 5
DEPTH TO WATER
DEPTH TO WATER FROM SURFACE (ft)
180
175
140
130
120
110
100
PRE-MINING
OPERATIONAL
5/1/79
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/1/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
-BISON BASIN PROJECT

FIGURE 53

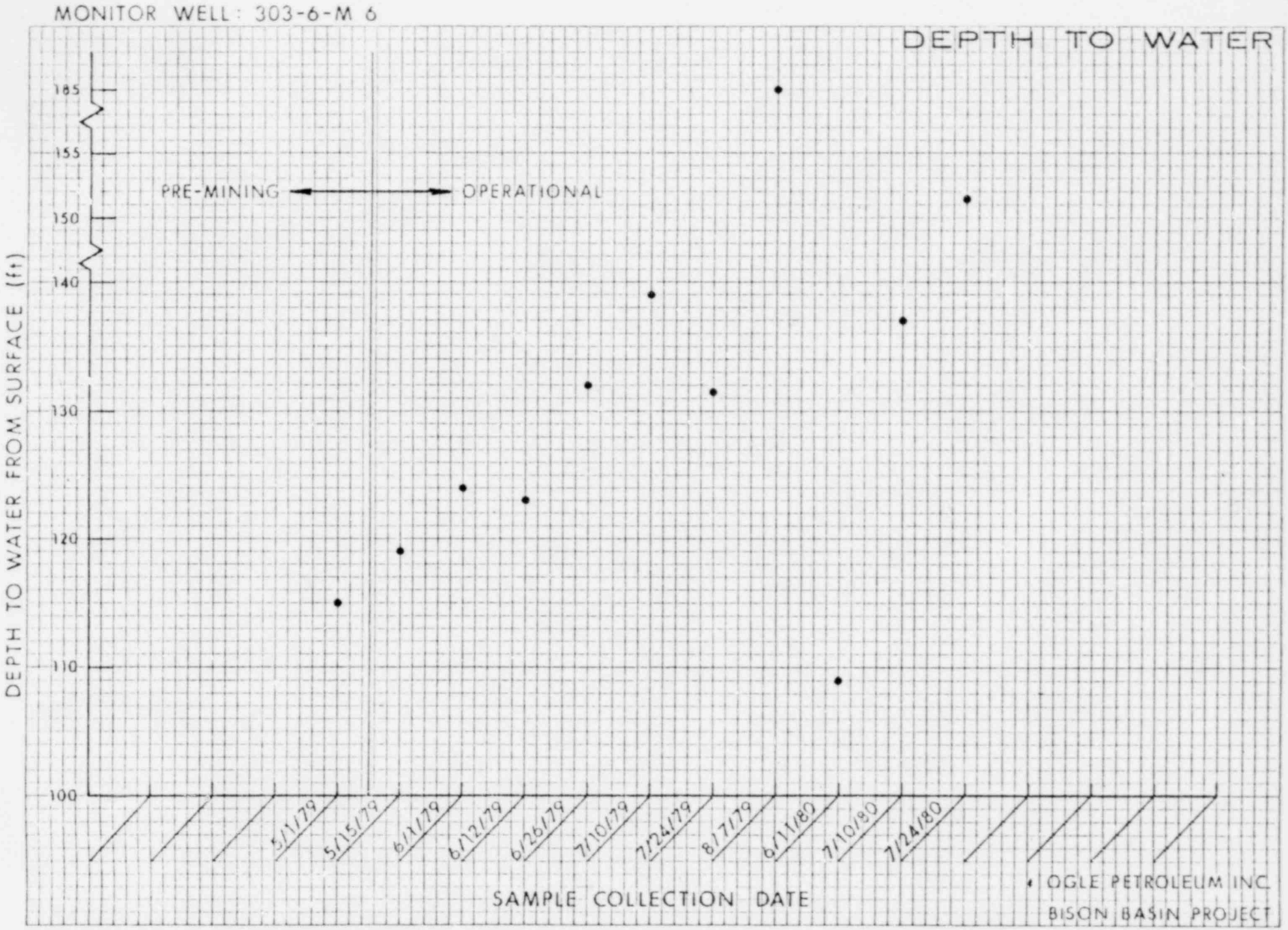
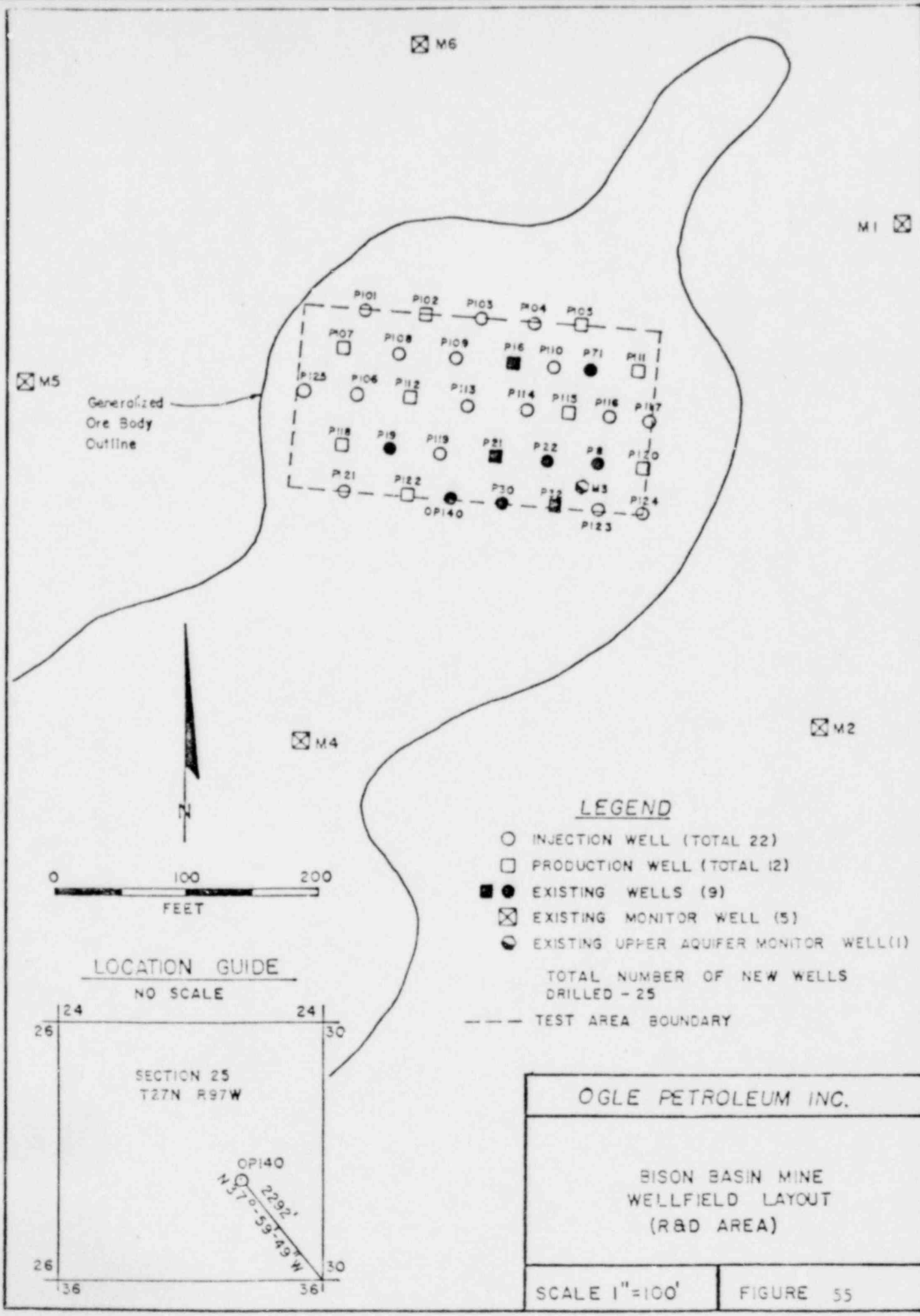

MONITOR WELL: 303-6-M 6
DEPTH TO WATER
DEPTH TO WATER FROM SURFACE (ft)
185
155
150
140
130
120
110
100
PRE-MINING
OPERATIONAL
5/1/79
5/15/79
6/1/79
6/12/79
6/26/79
7/10/79
7/24/79
8/7/79
6/11/80
7/10/80
7/24/80
SAMPLE COLLECTION DATE
OGLE PETROLEUM INC.
BISON BASIN PROJECT

FIGURE 54



OGLE PETROLEUM INC.

BISON BASIN MINE
WELLFIELD LAYOUT
(R&D AREA)

SCALE 1"=100'

FIGURE 55

TABLE 1

PLANT BLEED WATER QUALITY

PARAMETER	SAMPLE ROUND ONE (Collected 6-01-79)	SAMPLE ROUND TWO (Collected 7-06-79)	SAMPLE ROUND THREE (Collected 8-03-79)	SAMPLE ROUND FOUR (Collected 7-24-80)
Total Dissolved Solids	5278	4966	4084	3106
Specific Conductance (mhos/cm)	7150	7400	5525	3850
Uranium	32.0	21.0	6.40	0.35
Radium-226 (pCi/l)	75.6 ± 3.22	240 ± 4.97	492 ± 8	N/A
Selenium	-0.01	-0.01	-0.01	-0.01
Arsenic	0.09	0.02	-0.01	0.09
Sulfate	1850	470	925	850

NOTE: All values in mg/l unless otherwise noted.
- Means not detected at levels indicated.
Blank space means data not yet available from commercial laboratory.

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

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 5-15-79	SAMPLE ROUND 2 Collected 6-01-79	SAMPLE ROUND 3 Collected 6-13-79	SAMPLE ROUND 4 Collected 6-26-79	SAMPLE ROUND 5 Collected 7-10-79	SAMPLE ROUND 6 Collected 7-24-79	SAMPLE ROUND 7 Collected 8-07-79	SAMPLE ROUND 8 Collected 06-11-80	SAMPLE ROUND 9 Collected 7-10-80	SAMPLE ROUND 10 Collected 7-24-80
*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	434	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				N/A
Thorium 230 (pCi/l)	2.40				8.32±2.29	4.51±4.55		8.78±3.17				N/A

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

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 5-15-79	SAMPLE ROUND 2 Collected 6-01-79	SAMPLE ROUND 3 Collected 6-12-79	SAMPLE ROUND 4 Collected 6-26-79	SAMPLE ROUND 5 Collected 7-10-79	SAMPLE ROUND 6 Collected 7-24-79	SAMPLE ROUND 7 Collected 8-07-79	SAMPLE ROUND 8 Collected 6-11-80	SAMPLE ROUND 9 Collected 7-10-80	SAMPLE ROUND 1 Collected 7-24-80
*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				N/A
Thorium 230 (pCi/l)	6.19				9.01±5.25	1.80±2.49		0.43±0.99				N/A

NOTES: All values in mg/l except as otherwise noted.
- Means not detected at levels indicated.
* Excursion Parameter(s)

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

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 5-15-79	SAMPLE ROUND 2 Collected 5-30-79	SAMPLE ROUND 3 Collected 6-13-79	SAMPLE ROUND 4 Collected 6-27-79	SAMPLE ROUND 5 Collected 7-10-79	SAMPLE ROUND 6 Collected 7-24-79	SAMPLE ROUND 7 Collected 8-07-79	SAMPLE ROUND 8 Collected 6-11-80	SAMPLE ROUND 9 Collected 7-10-80	SAMPLE ROUND 10 Collected 7-24-80
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		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		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	-.001	1.001	.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				N/A
Thorium 230 (pCi/l)	5.78				72.1±22.9	11.26±8.49		8.26±3.95				N/A

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 4
OPERATIONAL WATER QUALITY DATA

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 5-15-79	SAMPLE ROUND 2 Collected 5-30-79	SAMPLE ROUND 3 Collected 6-12-79	SAMPLE ROUND 4 Collected 6-27-79	SAMPLE ROUND 5 Collected 7-10-79	SAMPLE ROUND 6 Collected 7-24-79	SAMPLE ROUND 7 Collected 8-07-79	SAMPLE ROUND 8 Collected 6-11-80	SAMPLE ROUND 9 Colected 7-10-80	SAMPLE ROUND 10 Collected 7-24-80
*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	1650	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	38	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				N/A
Thorium 230 (pCi/l)	7.58				99.1±43.1	2.12±2.62		7.56±3.25				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 5
OPERATIONAL WATER QUALITY DATA

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 5-15-79	SAMPLE ROUND 2 Collected 6-01-79	SAMPLE ROUND 3 Collected 6-12-79	SAMPLE ROUND 4 Collected 6-26-79	SAMPLE ROUND 5 Collected 7-10-79	SAMPLE ROUND 6 Collected 7-24-79	SAMPLE ROUND 7 Collected 8-07-79	SAMPLE ROUND 8 Collected 6-11-80	SAMPLE ROUND 9 Collected 7-10-80	SAMPLE ROUND 10 Collected 7-24-80
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)	1760	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				N/A
Thorium 230 (pCi/l)	5.33				47.3±13.2	17.89±3.39		1.09±1.20				N/A

NOTES: All values in mg/l except as otherwise noted.
- Means not detected at levels indicated.
* Extension Parameters.

Table 6

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

PARAMETER	BASELINE MEAN	UPPER CONTROL LIMIT	SAMPLE ROUND 1 Collected 5-15-79	SAMPLE ROUND 2 Collected 6-01-79	SAMPLE ROUND 3 Collected 6-12-79	SAMPLE ROUND 4 Collected 6-26-79	SAMPLE ROUND 5 Collected 7-10-79	SAMPLE ROUND 6 Collected 7-24-79	SAMPLE ROUND 7 Collected 8-07-79	SAMPLE ROUND 8 Collected 6-11-80	SAMPLE ROUND 9 Collected 7-10-80	SAMPLE ROUND 10 Collected 7-24-80
*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				N/A
Thorium 230 (pCi/l)	4.73				2.65±1.06	5.01±5.50 (corrected)		0±3.99				N/A

NOTES: All values in mg/l except as otherwise noted.
- Means not detected at levels indicated.
* Excursion Parameters.

Table 7

TABLE 8

EVAPORATION POND LEAK DETECTION MONITOR WELL

WELL 303-M 7

(Units: mg/l unless otherwise indicated)

PARAMETER	BASELINE VALUES		OPERATIONAL VALUES									
	Sample Round Number 1 10-21-78	Sample Round Number 2 10-28-78	Sample Round Number 1 07-24-79	Sample Round Number 2 11-05-79	Sample Round Number 3 02-05-80	Sample Round Number 4 05-06-80	Sample Round Number 5	Sample Round Number 6	Sample Round Number 7	Sample Round Number 8	Sample Round Number 9	Sample Round Number 10
pH (pH units)	7.9	7.7	7.4	7.4	7.4	7.5						
Total Dissolved Solids	928	946	726	850	823	888						
Specific Conductivity (micromhos/cm)	1050	1060	965	1125	1050	1100						
Ammonia (as N)	0.54	4.6	- 0.1	- 0.1	0.22	-0.1						
Nitrate (as N)	0.54	0.15	3.5	0.04	0.06	0.18						
Nitrite (as N)	-0.01	-0.01	-0.01	-0.01	0.03	-0.01						
Bicarbonate	220	207	195	205	205	200						
Carbonate	0	0	0	0	0	0						
Calcium	175	175	137	146	156	150						
Chloride	16	14	8	14	44	10						
Boron	- 1.0	- 1.0										
Fluoride	0.12	0.44										
Magnesium	28	34	31	27	37	42						
Potassium	10	12	9	7	16	10						
Sodium	67	63	59	64	49	65						
Sulfate	490	520	388	459	420	480						
Aluminum	-0.05	-0.05										
Arsenic	-0.01	-0.01										

TABLE 8

EVAPORATION POND LEAK DETECTION MONITOR WELL
WELL 303-M 7
(Units: mg/l unless otherwise indicated)

PARAMETER	BASELINE VALUES		OPERATIONAL VALUES									
	Sample Round Number 1 10-21-78	Sample Round Number 2 10-28-78	Sample Round Number 1 07-24-79	Sample Round Number 2 11-05-79	Sample Round Number 3 02-05-80	Sample Round Number 4 05-06-80	Sample Round Number 5	Sample Round Number 6	Sample Round Number 7	Sample Round Number 8	Sample Round Number 9	Sample Round Number 10
pH (pH units)	7.9	7.7	7.4	7.4	7.4	7.5						
Total Dissolved Solids	928	946	726	850	823	888						
Specific Conductivity (micromhos/cm)	1050	1060	965	1125	1050	1100						
Ammonia (as N)	0.54	4.6	- 0.1	- 0.1	0.22	-0.1						
Nitrate (as N)	0.54	0.15	3.5	0.04	0.06	0.18						
Nitrite (as N)	-0.01	-0.01	-0.01	-0.01	0.03	-0.01						
Bicarbonate	220	207	195	205	205	200						
Carbonate	0	0	0	0	0	0						
Calcium	175	175	137	146	156	150						
Chloride	16	14	8	14	44	10						
Boron	- 1.0	- 1.0										
Fluoride	0.12	0.44										
Magnesium	28	34	31	27	37	42						
Potassium	10	12	9	7	16	10						
Sodium	67	63	59	64	49	65						
Sulfate	490	520	388	459	420	480						
Aluminum	-0.05	-0.05										
Arsenic	-0.01	-0.01										

TABLE 8 (con't)
WELL 303-M 7

PARAMETER	BASELINE VALUES		OPERATIONAL VALUES									
	Sample Round Number 1 10-21-78	Sample Round Number 2 10-28-78	Sample Round Number 1 07-24-79	Sample Round Number 2 11-05-79	Sample Round Number 3 02-05-80	Sample Round Number 4 05-06-80	Sample Round Number 5	Sample Round Number 6	Sample Round Number 7	Sample Round Number 8	Sample Round Number 9	Sample Round 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						
Lead	-0.05	-0.05	-0.05	0.11	-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						
Zinc	0.12	0.06	0.12	0.1	0.03	0.32						
Molybdenum	-0.05	-0.05										
Vanadium	-0.05	-0.05										
Uranium	0.006	-0.001	0.031	0.04	0.041	0.019						
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						
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.