



Metropolitan Edison Company
Post Office Box 480
Middletown, Pennsylvania 17057
717 944-4041

May 22, 1981
LL2-81-0144

1981 MAY 26 AM 10 17

U.S. NUCLEAR
REGULATORY COMMISSION

TMI Program Office
Attn: Mr. Lake Barrett, Deputy Director
U.S. Nuclear Regulatory Commission
c/o Three Mile Island Nuclear Station
Middletown, Pennsylvania 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operation License No. DPR-73
Docket No. 50-320
Containment Integrity Assessment Program

Previously we have submitted, on an approximately monthly basis, the status of our groundwater monitoring program which was established to provide detection of radioactive water leakage from the containment. During the past few months we have been reviewing methods to augment the groundwater monitoring program. Based on this review we have established a new program which we have termed a containment integrity assessment program. This new program includes groundwater monitoring, cork seal water level and radiation monitoring, tendon access gallery monitoring, containment outer wall monitoring, and reactor building sump level data. Periodic reports on results of this program will be submitted to the NRC in place of the original groundwater monitoring program reports. This report is the first such periodic report. The status of the various portions of this program is discussed below.

Groundwater Monitoring

The following groundwater monitoring data are attached:

1. Computer tables (Tables 1 and 2) of all tritium data up to and including March 4, 1981.
2. Individual computer graphs of tritium concentration for each monitoring station (Figure 1).
3. Computer tables (Tables 3 and 4) of gamma scan data up to and including April 8, 1981.
4. A computer table (Table 5) indicating water levels within the monitoring stations.

*0002
5/11 Send
Drawing To
Reg File*

*Make
Aperture Card
Distribution*

5. A graph showing the gamma scan results from Monitoring Station MW-2 (Figure 2).
6. A composite drawing showing all monitoring locations with a graph of the tritium concentration for each station.

The latest tritium concentrations for most of the monitoring stations were within the range of values seen in previous samples. However, Monitoring Stations OW-9 and MW-4 indicated higher concentrations than were previously measured. The OW-9 change is attributed to the presence of excavated soil from the Borated Water Storage Tank (BWST) area being placed adjacent to this monitoring station. The cause of the change in MW-4 concentrations is presently being investigated.

As reported in our letter LL2-81-0090 dated April 9, 1981 the gamma scans of all monitoring station samples for the period February 18, 1981 through March 4, 1981 indicated levels below detectable limits, with the exception of MW-2. Therefore expedited gamma scans of the latest MW-2 samples (March 25, 1981 to April 8, 1981) were performed. These gamma scans show cesium levels are now below detectable limits. No sample was taken from MW-2 on March 18, 1981 due to an inoperative pump in the well.

In addition to the above listed data we have also performed some additional actions that are related to groundwater monitoring. These items include:

1. The BWST piping enclosure is now functional, although some minor construction details remain. Our letter LL2-81-0043 dated February 23, 1981 identified the BWST as the primary source of the increased radionuclide levels in the groundwater at TMI-2 and, therefore, the enclosure has been built to contain this source.
2. An analysis was performed to determine the amount of tritium in excess of background in the ground on Three Mile Island and resulted in a calculated value of approximately 1000 uCi.

This analysis was based on the following assumptions:

- 1) Background tritium concentration in TMI groundwater is 178 pCi/liter. (This is the average tritium concentration in the Susquehanna River.)
- 2) Only that portion of the island above the average lowest river level (elevation 267' at the south end of the island) was considered.
- 3) Tritium concentrations decrease linearly with distance from the measured monitoring stations to the river.

This calculation was based on some assumptions which cannot be confirmed and possibly are non-conservative. Nevertheless, this very low calculated amount of tritium (even if accurate within only an order of magnitude) is very illuminative, because it concludes that tritium concentrations at levels detected in TMI-2 wells can be caused by very small leakages (tens of gallons) from sources such as the BWST.

3. An assessment was made of the possibility of TMI groundwater reaching residential wells offsite. Figure 4 illustrates that the groundwater stored within TMI and the surrounding ground beyond the Susquehanna River drains to the river. This is the preferred seepage direction for groundwater because the river is the lowest drainage point available. Hence, while TMI groundwater tends to flow toward the river it is not likely to pass under or beyond the river because such flow is prevented by the higher groundwater levels and opposing flow which exist beneath the surrounding terrain.

An extensive data base has been established for the groundwater monitoring portions of the Containment Integrity Assessment program which effectively defines groundwater conditions at TMI. Based on this, and the expansion of our overall program as discussed herein, We plan to reduce the sampling frequency of the groundwater monitoring stations from weekly to monthly.

Cork Seal, Tendon Access Gallery, and Containment Outer Wall Radiation

Monitoring

A study of possible leak paths was made from a detailed investigation of containment building design and construction. From this study, as discussed in our letter LL-81-0068 dated March 12, 1981, it was decided that the tendon access gallery, the cork seals, and the intersection of the reactor building wall and mat would be monitored. We have begun gathering baseline data for these weekly surveys.

1. Table 6 presents the results of the first two (2) weeks of outer wall and cork seal monitoring.
2. Table 7 presents the results' of the first two (2) weeks of tendon access gallery monitoring.

These data are presented as gross counts per minute because an initial radiation level survey indicated less than detectable radiation levels in most areas and thus was not suitable for establishing a baseline. No effort is made to analyze the difference in data between survey points because the purpose of this program is to establish a baseline at each point and then to monitor for increasing trends that could indicate a leak from the containment.

Cork Seal Water Level

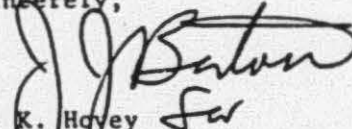
In our letter LL2-81-0068 dated March 12, 1981 we stated we would begin to monitor cork seal water levels in an attempt to establish a time dependence. Figure 3 presents the level data through April 24, 1981, which at present indicates that the cork seal water level is decreasing slightly with time. There appears to be no correlation between cork seal water level and precipitation (see Table 9), but precipitation has been light since the commencement of this program and therefore the effects of heavy precipitation cannot presently be evaluated.

To prevent potential in-leakage of rainwater into the cork seams, however, the roof seal and flashing system will be repaired. The scope of this work is more extensive than originally anticipated and will take several months to complete as stated in our letter LL2-81-0068, thus adversely impacting the original schedule stated in our letter LL2-81-0014 dated January 19, 1981.

Reactor Building Sump Water Level

An unexplained decrease in reactor building sump water level would be a primary indication of a sizeable containment leak. Therefore sump water level monitoring has been ongoing since May, 1979. Table 8 presents sump level data for the period April 1, 1981 to April 27, 1981. Changes in sump level thus far correspond to calculated leak rates of the RCS which are verified by makeup requirements.

Sincerely,



G. K. Hovey
Vice President and Director, TMI-2

GKH:JJB:be

cc: Dr. B. J. Snyder, Program Director, TMI Program Office

ATTACHMENTS

List of Tables

- Table 1: Tritium Concentrations of Monitoring Station Samples from MW-1 to MW-8
- Table 2: Tritium Concentrations of Monitoring Station Samples from OW-9 to OW-17
- Table 3: Cesium-137 Concentrations of Monitoring Station Samples from MW-1 to MW-8
- Table 4: Cesium-134 Concentrations of Monitoring Station Samples from MW-1 to MW-8
- Table 5: Water Levels of Monitoring Stations (with reference elevations)
- Table 6: Outer Wall and Cork Joint Survey Data
- Table 7: Tendon Access Gallery Survey Data
- Table 8: Direct Reactor Building Water Level Record, April 1981
- Table 9: TMI Meteorological Tower Precipitation

List of Figures

- Figure 1: Graphs of Tritium Concentrations of Monitoring Station Samples versus Time
- Figure 2: Gamma Scan Results for Monitoring Station MW-2 versus Time
- Figure 3: Cork Seal Water Level
- Figure 4: East-West Cross Section - Three Mile Island & Vicinity

Drawing

- * Groundwater Tritium Concentrations at Site Liquid Monitoring Stations

REPORT NO. 10

DATE: April 10, 1981

PAGE 1 OF 3

CPU ENVIRONMENTAL CONTROLS GROUP
-RITUM CONCENTRATION (PCI/L)

| DATE | M.U. 1 | M.U. 2 | M.U. 3 | M.U. 4 | M.U. 5 | M.U. 6 | M.U. 7 | M.U. 8 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| January 26, 1980 | | | | | 170 | 70 | | |
| February 20, 1980 | | | 800 | 00 | | | | |
| February 25, 1980 | 1630 | .50 | | | | | | |
| February 29, 1980 | | | | | | | 886 | 90 |
| March 5, 1980 | | | | 258 | 50 | | | |
| March 7, 1980 | | | | | | | | 160 |
| March 11, 1980 | 200 | 50 | | | | | | |
| March 26, 1980 | | | | 200 | 80 | | | 300 |
| March 27, 1980 | | | 370 | 80 | 380 | 80 | | |
| March 27, 1980 | | | 560 | 110 | | | | |
| March 28, 1980 | 2500 | .80 | | | | | 950 | 188 |
| March 28, 1980 | | | | | | | 560 | 198 |
| April 1, 1980 | 900 | 100 | | | | | | |
| April 2, 1980 | 1650 | 100 | 300 | 80 | | | 430 | 88 |
| April 2, 1980 | 1700 | 140 | 240 | 90 | | | 310 | 80 |
| April 3, 1980 | | | | | | 292 | 70 | |
| April 3, 1980 | | | | | | | 332 | 78 |
| April 9, 1980 | 1630 | 160 | 770 | 110 | | | 82 | 78 |
| April 11, 1980 | | | | | | | 330 | 80 |
| April 12, 1980 | | | | | | | | 250 |
| April 13, 1980 | | | | | | | | 80 |
| April 14, 1980 | | | | | | | | |
| April 15, 1980 | | | | | | | | |
| April 16, 1980 | | | | | | | | |
| April 17, 1980 | | | | | | | | |
| April 17, 1980 | | | | | | | | |

TABLE 1, PAGE 1

CPU EMULSIONAL CONTROL GROUP
TRAP-UP CONCENTRATION (P.C.I.L)

| DATE | M.U. 1 | F.U. 2 | N.L. 3 | M.L. 4 | M.U. 5 | M.U. 6 | M.U. 7 | F.U. 8 | | | | | | |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|-----|-----|-----|-----|-----|-----|
| DATE | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | | | | | | |
| DATE | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | | | | | | |
| April 19, 1980 | 180 | 320 | 755 | 400 | 284 | 180 | 196 | 180 | 378 | 200 | 352 | 180 | 785 | 428 |
| May 2, 1980 | 130 | 480 | 1000 | 00 | 360 | 70 | 350 | 70 | 910 | 80 | 310 | 80 | 710 | 103 |
| May 8, 1980 | 850 | 910 | 860 | 00 | 380 | 80 | 250 | 80 | 920 | 90 | 280 | 80 | 630 | 93 |
| May 15, 1980 | 130 | 670 | 980 | 100 | 310 | 90 | 130 | 80 | 703 | 100 | 270 | 100 | 570 | 70 |
| May 23, 1980 | 170 | 880 | 1270 | 130 | 520 | 130 | 200 | 90 | 753 | 110 | 300 | 1:0 | 750 | 113 |
| May 30, 1980 | 140 | 850 | 920 | 80 | 820 | 100 | 850 | 80 | 730 | 110 | 200 | 80 | 540 | 130 |
| June 6, 1980 | 230 | 950 | 1250 | 130 | 670 | 120 | 870 | 80 | 870 | 80 | 380 | 1:0 | 680 | 130 |
| June 13, 1980 | 230 | 710 | 1200 | 100 | 580 | 80 | 370 | 80 | 580 | 110 | 660 | 1:0 | 640 | 70 |
| June 20, 1980 | 150 | 1400 | 140 | 470 | 470 | 120 | 230 | 50 | 640 | 120 | 280 | 90 | 550 | 130 |
| June 27, 1980 | 240 | 1480 | 1370 | 120 | 400 | 80 | 320 | 80 | 320 | 80 | 320 | 80 | 410 | 80 |
| July 7, 1980 | 240 | 1300 | 1400 | 00 | 450 | 70 | 120 | 60 | 420 | 90 | 440 | 90 | 630 | 70 |
| July 15, 1980 | 180 | 1900 | 1330 | 130 | 500 | 130 | 250 | 50 | 360 | 110 | 370 | 1:0 | 800 | 80 |
| July 25, 1980 | 180 | 2000 | 1350 | 140 | 560 | 130 | 290 | 90 | 410 | 120 | 310 | 1:0 | 480 | 120 |
| July 30, 1980 | 150 | 1930 | 1370 | 160 | 300 | 1:0 | 250 | 90 | 320 | 110 | 330 | 1:0 | 490 | 120 |
| August 8, 1980 | 180 | 2560 | 1590 | 170 | 420 | 120 | 250 | 90 | 370 | 110 | 340 | 1:0 | 640 | 120 |
| August 17, 1980 | 130 | 1350 | 1840 | 180 | 440 | 130 | 280 | 90 | 350 | 110 | 250 | 50 | 350 | 110 |
| August 20, 1980 | 130 | 1000 | 1840 | 180 | 400 | 70 | 240 | 90 | 340 | 110 | 270 | 30 | 400 | 130 |
| August 27, 1980 | 180 | 2010 | 1810 | 180 | 500 | 130 | 370 | 110 | 310 | 110 | 310 | 110 | 650 | 120 |
| September 3, 1980 | 600 | 2050 | 1470 | 150 | 920 | 90 | 270 | 90 | 370 | 110 | 250 | 30 | 530 | 130 |
| September 10, 1980 | 240 | 4480 | 1890 | 180 | 1050 | 100 | 770 | 100 | 430 | 90 | 380 | 70 | 570 | 90 |
| September 17, 1980 | 370 | 4380 | 2840 | 140 | 970 | 150 | 450 | 90 | 780 | 160 | 740 | 80 | 500 | 100 |
| September 24, 1980 | 980 | 4040 | 2880 | 130 | 1030 | 130 | 600 | 90 | 950 | 100 | 470 | 30 | 520 | 90 |
| October 1, 1980 | 170 | 4890 | 1080 | 170 | 920 | 100 | 880 | 80 | 300 | 80 | 450 | 80 | 480 | 80 |
| October 8, 1980 | 180 | 3540 | 1770 | 180 | 730 | 110 | 880 | 90 | 260 | 110 | 350 | 110 | 410 | 120 |

TABLE 1, PAGE 2

GPU ENVIRONMENTAL CONTROLS OMOP
TITANIUM CONCENTRATION (PCI/L)

| DATE | M.U. 1 | M.U. 2 | M.U. 3 | M.U. 4 | M.U. 5 | M.U. 7 | M.U. 8 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|
| October 15, 1980 | 170 | 3880 | 520 | 1770 | 870 | 740 | 800 |
| October 22, 1980 | 160 | 3920 | 440 | 1870 | 810 | 780 | 800 |
| October 29, 1980 | 160 | 3170 | 480 | 1670 | 850 | 810 | 300 |
| November 5, 1980 | 158 | 3080 | 310 | 1620 | 840 | 570 | 850 |
| November 12, 1980 | 188 | 2400 | 360 | 2050 | 310 | 740 | 190 |
| November 19, 1980 | 278 | 2520 | 200 | 2250 | 140 | 590 | 310 |
| November 26, 1980 | 128 | 2950 | 440 | 2020 | 540 | 310 | 170 |
| December 3, 1980 | 268 | 3410 | 230 | 2120 | 180 | 450 | 230 |
| December 10, 1980 | 118 | 2750 | 410 | 2030 | 310 | 470 | 270 |
| December 17, 1980 | 138 | 2110 | 320 | 2380 | 310 | 420 | 300 |
| December 24, 1980 | 148 | 2510 | 300 | 2000 | 350 | 350 | 310 |
| December 31, 1980 | 178 | 2480 | 370 | 2220 | 310 | 310 | 300 |
| January 7, 1981 | 158 | 2720 | 200 | 2330 | 140 | 340 | 370 |
| January 14, 1981 | 120 | 2180 | 180 | 2260 | 180 | 360 | 300 |
| January 21, 1981 | 180 | 2980 | 130 | 2020 | 310 | 340 | 370 |
| January 28, 1981 | 220 | 1990 | 140 | 2120 | 320 | 420 | 210 |
| February 4, 1981 | 130 | 2550 | 160 | 1580 | 240 | 300 | 280 |
| February 11, 1981 | 140 | 2360 | 190 | 1920 | 250 | 360 | 310 |
| February 18, 1981 | 150 | 2820 | 180 | 1550 | 220 | 440 | 260 |
| February 25, 1981 | 150 | 2400 | 130 | 1910 | 150 | 480 | 200 |
| March 4, 1981 | 140 | 2150 | 90 | 2450 | 120 | 350 | 280 |

TABLE 1, PAGE 3

ENVIRONMENTAL CONTROLS GROUP
MILITUM CONCENTRATION (PC/L)

| DATE | O.U. 9 | O.U. 10 | O.U. 13B | O.U. 14 | O.U. 15 | O.A. 16 | O.J. 17 |
|--------------------|--------|---------|----------|---------|---------|---------|---------|
| OF SAMPLE | H-3 | H-3 | H-3 | H-3 | H-3 | H-3 | H-3 |
| April 25, 1980 | 8610 | 180 | 1480 | 00 | 00 | 00 | 00 |
| May 2, 1980 | 375 | 90 | 170 | 00 | 00 | 00 | 00 |
| May 8, 1980 | 320 | 70 | 430 | 00 | 00 | 00 | 00 |
| May 16, 1980 | 440 | 80 | 360 | 70 | 440 | 70 | 440 |
| May 23, 1980 | 890 | 130 | 360 | 110 | 360 | 110 | 360 |
| May 30, 1980 | 360 | 110 | 430 | 180 | 400 | 120 | 350 |
| June 6, 1980 | 370 | 110 | 390 | 110 | 350 | 110 | 350 |
| June 14, 1980 | 870 | 130 | 460 | 80 | 300 | 90 | 750 |
| June 20, 1980 | 320 | 110 | 380 | 110 | 350 | 110 | 350 |
| June 27, 1980 | 490 | 80 | 300 | 90 | 300 | 90 | 300 |
| July 7, 1980 | 560 | 110 | 910 | 80 | 410 | 80 | 540 |
| July 18, 1980 | 540 | 130 | 680 | 120 | 370 | 110 | 670 |
| July 25, 1980 | 490 | 110 | 340 | 110 | 290 | 90 | 510 |
| July 30, 1980 | 550 | 130 | 880 | 80 | 360 | 110 | 510 |
| August 6, 1980 | 410 | 110 | 180 | 80 | 430 | 110 | 430 |
| August 13, 1980 | 570 | 130 | 220 | 20 | 440 | 110 | 440 |
| August 20, 1980 | 810 | 80 | 420 | 120 | 470 | 110 | 470 |
| August 27, 1980 | 840 | 140 | 1000 | 190 | 330 | 110 | 530 |
| September 3, 1980 | 910 | 90 | 1050 | 200 | 340 | 110 | 780 |
| September 10, 1980 | 1100 | 100 | 830 | 110 | 520 | 120 | 1030 |
| September 17, 1980 | 1850 | 100 | 590 | 80 | 490 | 90 | 1170 |
| September 24, 1980 | 1320 | 100 | 330 | 70 | 930 | 90 | 1380 |
| October 1, 1980 | 1870 | 100 | 280 | 80 | 730 | 80 | 1370 |
| October 8, 1980 | 1800 | 130 | 180 | 130 | 640 | 180 | 1370 |
| October 15, 1980 | 1200 | 180 | 1150 | 110 | 510 | 50 | 1270 |

TABLE 2, PAGE 1

OP-ENVIRONMENTAL CONTROLS GROUP
 TRIVILM CONCENTRATION (C/L)

| DATE | O.U. 9 | C.U. 10 | O.U. 11 | O.U. 12 | O.U. 13 | O.U. 14 | O.U. 15 | O.U. 16 | O.U. 17 |
|-------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| DATE | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 | M-3 |
| DATE | 8070 | 810 | 810 | 810 | 810 | 810 | 810 | 810 | 810 |
| October 28, 1980 | 310 | 800 | 810 | 810 | 810 | 810 | 810 | 810 | 810 |
| October 29, 1980 | 810 | 810 | 810 | 810 | 810 | 810 | 810 | 810 | 810 |
| November 5, 1980 | 850 | 840 | 840 | 840 | 840 | 840 | 840 | 840 | 840 |
| November 12, 1980 | 840 | 820 | 820 | 820 | 820 | 820 | 820 | 820 | 820 |
| November 15, 1980 | 780 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| November 26, 1980 | 340 | 830 | 830 | 830 | 830 | 830 | 830 | 830 | 830 |
| December 3, 1980 | 1040 | 1090 | 120 | 340 | 68 | 500 | 100 | 880 | 140 |
| December 12, 1980 | 1030 | 1300 | 200 | 260 | 88 | 370 | 90 | 3200 | 480 |
| December 17, 1980 | 1340 | 1350 | 200 | 280 | 88 | 390 | 90 | 3810 | 460 |
| December 24, 1980 | 1340 | 1060 | 200 | 200 | 88 | 470 | 100 | 3850 | 460 |
| December 31, 1980 | 780 | 1390 | 210 | 300 | 98 | 300 | 90 | 3630 | 540 |
| January 7, 1981 | 770 | 1620 | 240 | 240 | 88 | 340 | 90 | 3530 | 570 |
| January 14, 1981 | 1160 | 2360 | 360 | 300 | 58 | 370 | 90 | 3850 | 580 |
| January 21, 1981 | 1310 | 1910 | 200 | 260 | 88 | 200 | 80 | 2800 | 420 |
| January 28, 1981 | 1180 | 1570 | 240 | 320 | 98 | 430 | 130 | 4100 | 620 |
| February 4, 1981 | 700 | 900 | 110 | 330 | 98 | 370 | 80 | 4000 | 610 |
| February 11, 1981 | 1810 | 900 | 80 | 870 | 88 | 360 | 50 | 3860 | 100 |
| February 18, 1981 | 2680 | 400 | 200 | 200 | 88 | 500 | 120 | 3200 | 100 |
| February 25, 1981 | 8310 | 870 | 130 | 350 | 90 | 280 | 80 | 3810 | 240 |
| March 4, 1981 | 2080 | 810 | 130 | 300 | 80 | 530 | 120 | 3000 | 200 |

TABLE 2, PAGE 2

TABLE 3

| REPORT NO. 1 | DATE, April 26, 1981 | PAGE 1 OF 1 |
|---|----------------------|-------------|
| G-1 ENVIRONMENTAL CONTRACTS GROUP CESIUM-137 CONCENTRATION (POI/L) | | |
| DATE | M.U. 1 | M.U. 2 |
| OF SAMPLE | CS-137 | CS-137 |
| February 28, 1980 | < | < |
| March 28, 1980 | < | < |
| April 2, 1980 | < | < |
| April 8, 1980 | < | < |
| April 9, 1980 | < | < |
| April 11, 1980 | < | < |
| April 12, 1980 | < | 7 |
| April 13, 1980 | < | < |
| April 14, 1980 | < | < |
| April 15, 1980 | < | < |
| April 16, 1980 | < | < |
| April 17, 1980 | < | < |
| April 18, 1980 | < | < |
| April 19, 1980 | < | < |
| May 2, 1980 | < | < |
| May 5, 1980 | < | < |
| May 6, 1980 | 9.19 | 4.87 |
| May 23, 1980 | < | < |
| May 26, 1980 | 9.58 | 4.98 |
| June 6, 1980 | < | < |
| June 12, 1980 | < | < |
| June 20, 1980 | MC SAMPLE | < |
| June 27, 1980 | < | < |
| July 7, 1980 | < | < |

TABLE 3 (Cont'd)

| REPORT NO. 1 | DATE | M.U. 1 | M.U. 2 | M.U. 3 | M.U. 4 | M.U. 5 | M.U. 6 | M.U. 7 | M.U. 8 |
|--------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| REPORT NO. 1 | DATE | CS-137 | CS-137 | CS-137 | CS-137 | CS-137 | CS-137 | CS-137 | CS-137 |
| 1 | July 19, 1981 | | | | | | | | |
| 2 | July 25, 1981 | | | | | | | | |
| 3 | July 30, 1981 | | | | | | | | |
| 4 | August 6, 1981 | | | | | | | | |
| 5 | August 12, 1981 | | | | | | | | |
| 6 | August 20, 1981 | | | | | | | | |
| 7 | August 27, 1981 | | | | | | | | |
| 8 | September 3, 1981 | | | | | | | | |
| 9 | September 10, 1981 | | | | | | | | |
| 10 | September 17, 1981 | | | | | | | | |
| 11 | September 24, 1981 | | | | | | | | |
| 12 | October 1, 1981 | 13.4 | 6.3 | | | | | | |
| 13 | October 8, 1981 | 34.9 | 6.3 | | | | | | |
| 14 | October 15, 1981 | | | | | | | | |
| 15 | October 22, 1981 | | | | | | | | |
| 16 | October 29, 1981 | | | | | | | | |
| 17 | November 5, 1981 | | | | | | | | |
| 18 | November 12, 1981 | 94.7 | 9.5 | | | | | | |
| 19 | November 19, 1981 | | | | | | | | |
| 20 | November 26, 1981 | | | | | | | | |
| 21 | December 3, 1981 | 5.8 | 8.26 | | | | | | |
| 22 | December 10, 1981 | 39.8 | 4.8 | | | | | | |
| 23 | December 17, 1981 | 85.1 | 8.8 | | | | | | |
| 24 | December 24, 1981 | 24.1 | 5.0 | | | | | | |

TABLE 3, PAGE 2

TABLE 3 (Cont'd)

REPORT NO. 1 DATE: April 18, 1981
PAGE 1 OF 1

GPU ENVIRONMENTAL CONTROLS GROUP
CES:UM-137 CONCENTRATION (PCI/L)

| DATE | M.U. 1 | M.U. 2 | M.U. 3 | M.U. 4 | M.U. 5 | M.U. 6 | M.U. 7 | M.U. 8 |
|-------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| OF SAMPLE | CS-137 +/- | CS-137 +/- | CS-137 +/- | CS-137 +/- | CS-137 +/- | CS-137 +/- | CS-137 +/- | CS-137 +/- |
| December 31, 1980 | < | | | | | | | |
| January 7, 1981 | 18.9 | 5.0 | | | | | | |
| January 14, 1981 | 81.4 | 7.8 | | | | | | |
| January 21, 1981 | 13.7 | 4.5 | | | | | | |
| January 28, 1981 | 7.7 | 4.1 | | | | | | |
| February 4, 1981 | 12.7 | 3.5 | | | | | | |
| February 11, 1981 | 371 | 37 | | | | | | |
| February 18, 1981 | 189 | 18.5 | | | | | | |
| February 25, 1981 | 58.2 | 5.5 | | | | | | |
| March 4, 1981 | < | | | | | | | |
| March 11, 1981 | 19.5 | 4.5 | | | | | | |
| March 18, 1981 | NO SAMPLE | | | | | | | |
| March 25, 1981 | < | | | | | | | |
| April 1, 1981 | < | | | | | | | |
| April 8, 1981 | < | | | | | | | |

TABLE 4

| REPORT NO. 3 | DATE: APRIL 16, 1981 | PAGE 1 OF 1 | OPU ENVIRONMENTAL CONTROLS GROUP | | | | | |
|-------------------|----------------------|-------------|----------------------------------|--------|--------|--------|--------|--------|
| DATE | P.U. 1 | P.U. 2 | P.U. 3 | P.U. 4 | P.U. 5 | P.U. 6 | P.U. 7 | P.U. 8 |
| OF SAMPLE | CS-134 | CS-134 | CS-134 | CS-134 | CS-134 | CS-134 | CS-134 | CS-134 |
| | MIN | MIN | MIN | MIN | MIN | MIN | MIN | MIN |
| February 15, 1980 | C | C | C | C | C | C | C | C |
| March 28, 1980 | C | C | C | C | C | C | C | C |
| April 2, 1980 | C | C | C | C | C | C | C | C |
| April 8, 1980 | C | C | C | C | C | C | C | C |
| April 5, 1980 | C | C | C | C | C | C | C | C |
| April 11, 1980 | C | C | C | C | C | C | C | C |
| April 18, 1980 | C | C | C | C | C | C | C | C |
| April 13, 1980 | C | C | C | C | C | C | C | C |
| April 14, 1980 | C | C | C | C | C | C | C | C |
| April 15, 1980 | C | C | C | C | C | C | C | C |
| April 16, 1980 | C | C | C | C | C | C | C | C |
| April 17, 1980 | C | C | C | C | C | C | C | C |
| April 18, 1980 | C | C | C | C | C | C | C | C |
| April 19, 1980 | C | C | C | C | C | C | C | C |
| May 2, 1980 | C | C | C | C | C | C | C | C |
| May 8, 1980 | C | C | C | C | C | C | C | C |
| May 16, 1980 | C | C | C | C | C | C | C | C |
| May 23, 1980 | C | C | C | C | C | C | C | C |
| May 30, 1980 | C | C | C | C | C | C | C | C |
| June 5, 1980 | C | C | C | C | C | C | C | C |
| June 12, 1980 | C | C | C | C | C | C | C | C |
| June 20, 1980 | C | C | C | C | C | C | C | C |
| June 27, 1980 | C | C | C | C | C | C | C | C |

TABLE 4 (Cont'd)

| REPORT NO. 1 | DATE | GPU ENVIRONMENTAL CONTROLS GROUP | CONCENTRATION (CO/L) | DATE | GPU ENVIRONMENTAL CONTROLS GROUP | CONCENTRATION (CO/L) |
|--------------|--------------------|----------------------------------|----------------------|--------------------|----------------------------------|----------------------|
| 1 | July 7, 1980 | M.U. 1 | 18.0 | July 7, 1980 | M.U. 1 | 18.0 |
| 2 | July 18, 1980 | M.U. 2 | 18.0 | July 18, 1980 | M.U. 2 | 18.0 |
| 3 | July 25, 1980 | M.U. 3 | 18.0 | July 25, 1980 | M.U. 3 | 18.0 |
| 4 | July 30, 1980 | M.U. 4 | 18.0 | July 30, 1980 | M.U. 4 | 18.0 |
| 5 | August 6, 1980 | M.U. 5 | 18.0 | August 6, 1980 | M.U. 5 | 18.0 |
| 6 | August 12, 1980 | M.U. 6 | 18.0 | August 12, 1980 | M.U. 6 | 18.0 |
| 7 | August 20, 1980 | M.U. 7 | 18.0 | August 20, 1980 | M.U. 7 | 18.0 |
| 8 | August 27, 1980 | M.U. 8 | 18.0 | August 27, 1980 | M.U. 8 | 18.0 |
| 9 | September 3, 1980 | M.U. 9 | 18.0 | September 3, 1980 | M.U. 9 | 18.0 |
| 10 | September 12, 1980 | M.U. 10 | 18.0 | September 12, 1980 | M.U. 10 | 18.0 |
| 11 | September 17, 1980 | M.U. 11 | 18.0 | September 17, 1980 | M.U. 11 | 18.0 |
| 12 | September 24, 1980 | M.U. 12 | 18.0 | September 24, 1980 | M.U. 12 | 18.0 |
| 13 | October 1, 1980 | M.U. 13 | 18.0 | October 1, 1980 | M.U. 13 | 18.0 |
| 14 | October 8, 1980 | M.U. 14 | 18.0 | October 8, 1980 | M.U. 14 | 18.0 |
| 15 | October 15, 1980 | M.U. 15 | 18.0 | October 15, 1980 | M.U. 15 | 18.0 |
| 16 | October 22, 1980 | M.U. 16 | 18.0 | October 22, 1980 | M.U. 16 | 18.0 |
| 17 | October 29, 1980 | M.U. 17 | 18.0 | October 29, 1980 | M.U. 17 | 18.0 |
| 18 | November 5, 1980 | M.U. 18 | 18.0 | November 5, 1980 | M.U. 18 | 18.0 |
| 19 | November 12, 1980 | M.U. 19 | 18.0 | November 12, 1980 | M.U. 19 | 18.0 |
| 20 | November 19, 1980 | M.U. 20 | 18.0 | November 19, 1980 | M.U. 20 | 18.0 |
| 21 | November 26, 1980 | M.U. 21 | 18.0 | November 26, 1980 | M.U. 21 | 18.0 |
| 22 | December 3, 1980 | M.U. 22 | 18.0 | December 3, 1980 | M.U. 22 | 18.0 |
| 23 | December 10, 1980 | M.U. 23 | 18.0 | December 10, 1980 | M.U. 23 | 18.0 |

REFERENCE ELEVATIONS USED TO DERIVE WELL WATER LEVELS

| <u>WELL #</u> | <u>REFERENCE POINT ELEVATION (FEET, MSL)</u> |
|---------------|--|
| 1 | 306.27 |
| 2 | 306.74 |
| 3 | 305.64 |
| 4 | 303.63 |
| 5 | 304.86 |
| 6 | 304.35 |
| 7 | 305.07 |
| 8 | 304.56 |
| 9 | 306.42 |
| 10 | 306.92 |
| 13B | 304.01 |
| 14 | 306.62 |
| 15 | 287.18 |
| 16 | -303.89 (present) |
| 17 | 306.56 |

GPU ENVIRONMENTAL CONTROL GROUP
WATER LEVEL (MEAN SEA LEVEL)

| DATE | N.W. 1 | N.W. 2 | N.W. 3 | N.W. 4 | N.W. 5 | N.W. 6 | N.W. 7 |
|---------------|--------|--------|--------|--------|--------|--------|--------|
| May 9, 1960 | 284.28 | 284.07 | 284.81 | 284.83 | 284.11 | 284.84 | 284.81 |
| May 12, 1960 | 284.06 | 284.7 | 284.81 | 284.12 | 283.78 | 283.0 | 284.4 |
| May 13, 1960 | 284.81 | 286.08 | 284.44 | 284.97 | 287.04 | 283.89 | 284.62 |
| May 14, 1960 | 284.49 | 284.81 | 286.28 | 284.81 | 283.81 | 284.07 | 284.81 |
| May 16, 1960 | 284.52 | 284.81 | 284.28 | 283.66 | 283.85 | 284.08 | 284.76 |
| May 19, 1960 | 284.23 | 284.08 | 284.16 | 283.51 | 283.75 | 283.0 | 284.56 |
| May 21, 1960 | 284.87 | 285.08 | 284.82 | 282.81 | 284.73 | 283.70 | 284.52 |
| May 22, 1960 | 284.48 | 285.08 | 284.16 | 283.57 | 283.81 | 283.89 | 284.66 |
| May 23, 1960 | 284.49 | 284.02 | 284.29 | 283.53 | 283.81 | 283.81 | 284.64 |
| May 29, 1960 | 284 | 284.38 | 283.84 | 283.6 | 284.4 | 283.56 | 284.22 |
| May 31, 1960 | 284.08 | 284.32 | 283.76 | 283.54 | 283.35 | 283.5 | 284.12 |
| June 2, 1960 | 284.11 | 284.29 | 283.83 | 283.4 | 283.21 | 283.26 | 284.02 |
| June 4, 1960 | 283.58 | 284.2 | 283.53 | 283.24 | 283.18 | 283.26 | 283.84 |
| June 6, 1960 | 283.59 | 283.89 | 283.4 | 283.19 | 283.05 | 283.11 | 283.82 |
| June 7, 1960 | 283.56 | 283.99 | 283.31 | 283.15 | 283 | 283.09 | 283.81 |
| June 20, 1960 | 283.73 | 283.72 | 283.08 | 282.12 | 282.74 | 282.78 | 283.68 |
| June 23, 1960 | 283.3 | 284.23 | 282.87 | 282.39 | 282.07 | 282.07 | 283.06 |
| June 27, 1960 | 283.81 | 284.42 | 283.06 | 282.79 | 282.62 | 283.05 | 283.94 |
| June 29, 1960 | 283.65 | 283.78 | 282.87 | 282.38 | 282.63 | 282.73 | 283.89 |
| June 28, 1960 | 283.68 | 283.88 | 282.83 | 282.49 | 282.31 | 282.44 | 283.55 |
| June 27, 1960 | 283.62 | 283.24 | 282.58 | 282.38 | 282.17 | 282.38 | 283.48 |
| July 7, 1960 | 283.77 | 282.78 | 281.99 | 281.89 | 281.69 | 281.6 | 282.41 |
| July 18, 1960 | 282.97 | 282.49 | 281.84 | 281.5 | 281.11 | 280.93 | 281.81 |
| July 25, 1960 | 282.48 | 282.75 | 282.19 | 281.55 | 281.38 | 281.53 | 283.06 |
| July 26, 1960 | 282.27 | 282.81 | 282.06 | 281.73 | 281.31 | 281.59 | 282.77 |

TABLE 5, PAGE 2

GPU ENVIRONMENTAL CONTROL GROUP
WATER LEVEL (MEAN SEA LEVEL)

| DATE | M.U. 1 | M.U. 2 | M.U. 3 | M.U. 4 | M.U. 5 | M.U. 6 | M.U. 7 | M.U. 8 |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| DATE | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL |
| August 6, 1980 | 282.58 | 283.16 | 281.06 | 281.53 | 281.1 | 281.38 | 282.31 | 282.47 |
| August 13, 1980 | 282.1 | 282.84 | 282.31 | 281.73 | 281.38 | 282.07 | 282.47 | 283.03 |
| August 20, 1980 | 282.1 | 282.48 | 281.84 | 281.51 | 281.17 | 281.51 | 282.97 | 282.46 |
| August 27, 1980 | 282.08 | 281.85 | 281.1 | 280.89 | 280.46 | 280.07 | 281.43 | 281.51 |
| September 3, 1980 | 282.73 | 281.82 | 281.3 | 280.78 | 280.46 | 280.8 | 281.15 | 281.18 |
| September 10, 1980 | 282.07 | 281.38 | 280.89 | 280.61 | 280.26 | 280.3 | 282.71 | 281.18 |
| September 17, 1980 | 282.27 | 281.26 | 280.79 | 280.27 | 280.08 | 280.1 | 282.65 | 280.82 |
| September 24, 1980 | 281.91 | 281.17 | 280.68 | 280.47 | 280.02 | 280.05 | 282.63 | 280.79 |
| October 1, 1980 | 281.56 | 281 | 280.64 | 280.33 | 280.57 | 280.35 | 281.47 | 280.43 |
| October 8, 1980 | 281.32 | 282.04 | 280.64 | 279.48 | 281.42 | 280.5 | 282.35 | 280.42 |
| October 15, 1980 | 281.37 | 280.54 | 280.54 | 280.3 | 279.95 | 279.78 | 282.27 | 280.46 |
| October 22, 1980 | 281.16 | 281.62 | 280.2 | 279.55 | 279.58 | 279.5 | 282.23 | 280.15 |
| October 29, 1980 | 281.77 | 280.85 | 280.85 | 280.28 | 280.04 | 280.1 | 281.32 | 281.2 |
| November 5, 1980 | 281.92 | 281.25 | 280.65 | 280.13 | 279.85 | 280.12 | 282.04 | 281.01 |
| November 12, 1980 | 281.61 | 281.37 | 280.46 | 280.22 | 279.78 | 279.87 | 280.64 | 280.7 |
| November 19, 1980 | 281.37 | 281.36 | 280.49 | 279.85 | 279.61 | 279.7 | 280.49 | 282.61 |
| November 26, 1980 | 282.37 | 282.14 | 281.26 | 280.55 | 280.51 | 280.45 | 282.15 | 282.91 |
| December 3, 1980 | 282.53 | 282.32 | 281.14 | 280.82 | 280.64 | 281.15 | 281.08 | 283.01 |
| December 10, 1980 | 282.88 | 282.48 | 281.34 | 281 | 281.68 | 281.1 | 281.77 | 282 |
| December 17, 1980 | 282.38 | 282.84 | 282.19 | 282.21 | 282.00 | 282.28 | 281.87 | 281.75 |
| December 24, 1980 | 282.88 | 282.39 | 282.88 | 282.88 | 282.91 | 282.25 | 281.52 | 281.67 |
| December 31, 1980 | 281.63 | 282.16 | 281.64 | 281.78 | 282.61 | 281.55 | 281.17 | 281.38 |
| January 7, 1981 | 281.16 | 282.06 | 281.77 | 281.82 | 282.41 | 281.78 | 281.15 | 281.87 |
| January 14, 1981 | 281.87 | 281.67 | 281.69 | 281.82 | 282.68 | 281.7 | 280.88 | 280.95 |
| January 21, 1981 | 281 | 282.48 | 281.73 | 281.82 | 282.61 | 281.87 | 280.76 | 280.74 |

TABLE 5, PAGE 3.

TABLE 5 (Cont'd)

REPORT NO. 1
DATE: APRIL 7, 1981
PAGE 3 OF 3

OPU ENVIRONMENTAL CONTROLS GROUP
WATER LEVEL (MEAN SEA LEVEL)

| DATE | M.W. 1 | M.W. 2 | M.W. 3 | M.W. 4 | M.W. 5 | M.W. 6 | M.W. 7 | M.W. 8 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| January 29, 1981 | 280.72 | 281.39 | 281.86 | 281.83 | 282.7 | 281.85 | 280.57 | 280.55 |
| February 4, 1981 | 281.83 | 281.88 | 281.84 | 282.07 | 282.72 | 281.75 | 281.01 | 280.81 |
| February 11, 1981 | 281.45 | 281 | 281.43 | 281.38 | 283.01 | 282.38 | 281.27 | 281.24 |
| February 19, 1981 | 282.67 | 282.08 | 283.07 | 282.4 | 283.35 | 283.16 | 282.75 | 282.8 |
| February 25, 1981 | 284.57 | 284.75 | 284.55 | 284.41 | 284.86 | 284.35 | 284.45 | 284.57 |
| March 4, 1981 | 283.55 | 284.09 | 283.84 | 284.94 | 284.95 | 284.84 | 283.7 | 284.88 |
| March 11, 1981 | 284.27 | 284.01 | 284.84 | 282.83 | 284.76 | 284.68 | 284.55 | 284.53 |
| March 18, 1981 | 283.85 | 284.88 | 284.59 | 284.43 | 284.38 | 284.35 | 284.27 | 284.20 |
| March 25, 1981 | 283.58 | 284.45 | 284.06 | 283.98 | 283.92 | 283.91 | 283.81 | 284.06 |
| April 1, 1981 | 283.85 | 283.98 | 283.44 | 283.37 | 283.41 | 283.3 | 283.25 | 283.18 |

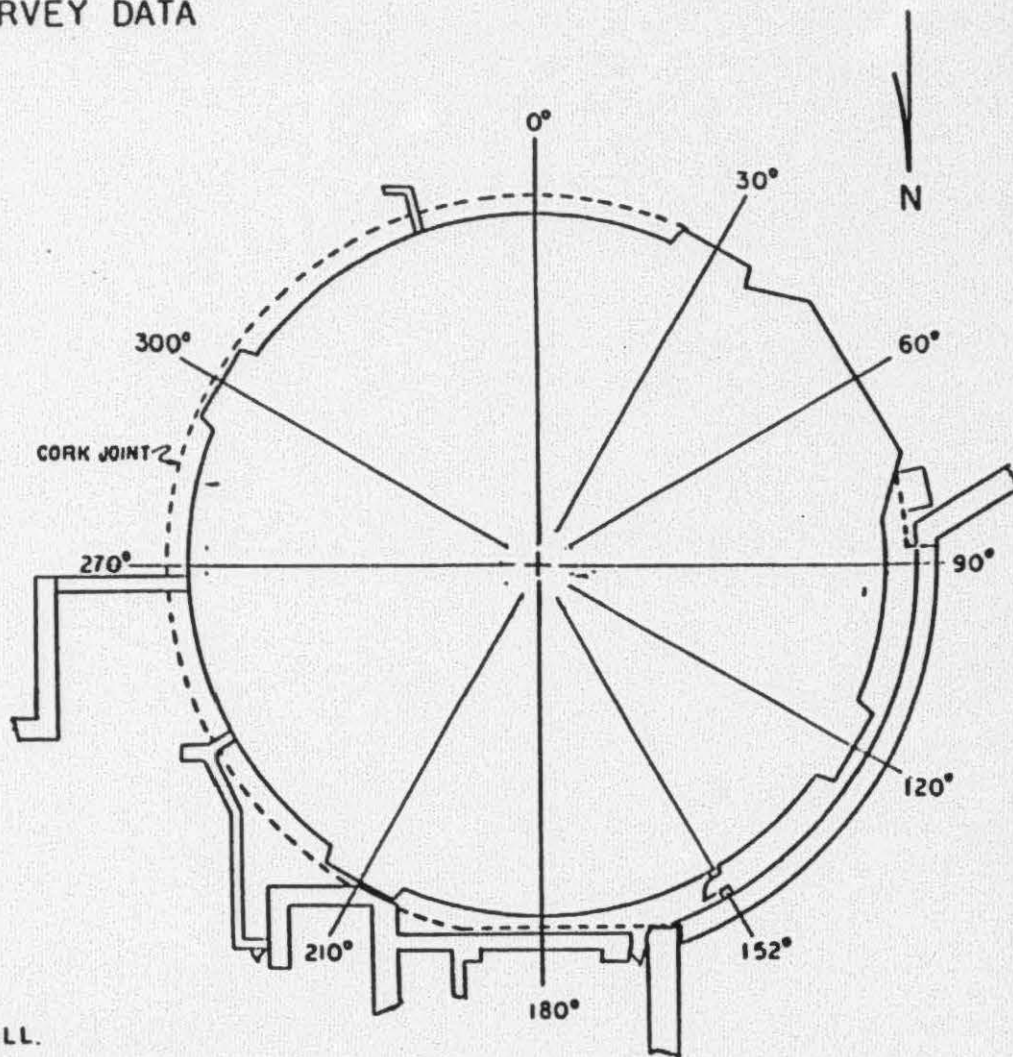
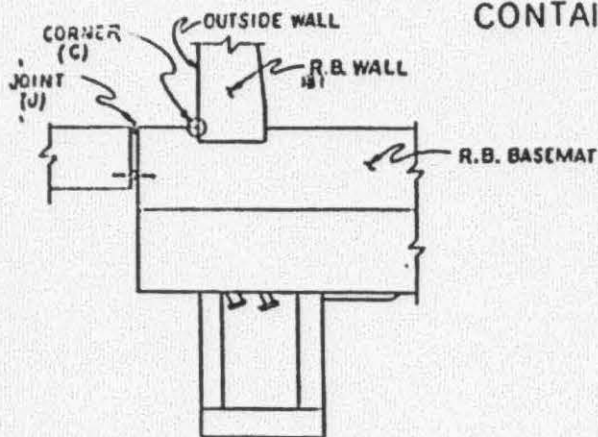
ENVIRONMENTAL CONTROL'S ORO-P
WATER LEVEL (FEET SEA LEVEL)

| DATE | WATER LEVEL (FEET SEA LEVEL) | O.U. 9 | O.U. 10 | O.U. 11 | O.U. 12 | O.U. 13 | O.U. 14 | O.U. 15 | O.U. 16 | O.U. 17 |
|---------------|------------------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| May 8, 1980 | 285.11 | 284.26 | 284.71 | 278.95 | 287.84 | | | | | |
| May 12, 1980 | 284.52 | 284.83 | 284.35 | 275.81 | 288.25 | | | | | |
| May 13, 1980 | 285.88 | 284.31 | 284.62 | 275.88 | 287.99 | | | | | |
| May 14, 1980 | 285.49 | 284.43 | 284.78 | 275.31 | 288.49 | | | | | |
| May 16, 1980 | 285.37 | 284.37 | 284.78 | 275.33 | 287.99 | | | | | |
| May 19, 1980 | 285.88 | 284.81 | 284.47 | 275.22 | 288.29 | | | | | |
| May 21, 1980 | 287.81 | 284.15 | 284.44 | 275.88 | 287.99 | | | | | |
| May 22, 1980 | 285.85 | 284.91 | 284.58 | 275.38 | 288.61 | | | | | |
| May 23, 1980 | 285.47 | 284.94 | 284.35 | 275.34 | 288.30 | | | | | |
| May 30, 1980 | 284.43 | 284.81 | 284.17 | 274.37 | 288.11 | | | | | |
| May 31, 1980 | 284.38 | 284.48 | 283.8 | 273.82 | 287.26 | | | | | |
| June 2, 1980 | 284.4 | 285.05 | 283.45 | 273.32 | 288.75 | | | | | |
| June 4, 1980 | 284.39 | 284.2 | 283.53 | 272.36 | 288.4 | | | | | |
| June 6, 1980 | 284.18 | 284.13 | 283.87 | 272.36 | 288.4 | | | | | |
| June 7, 1980 | 284.38 | 284.06 | 283.78 | 272.55 | 288.16 | | | | | |
| June 10, 1980 | 285.48 | 283.99 | 283.46 | 272.36 | 288.4 | | | | | |
| June 13, 1980 | 284.3 | 283.71 | 283.36 | 272.06 | 289.2 | | | | | |
| June 17, 1980 | 285.29 | 283.79 | 282.66 | 272.09 | 289.54 | | | | | |
| June 20, 1980 | 284.74 | 283.05 | 283.42 | 271.77 | 289.92 | | | | | |
| June 26, 1980 | 283.43 | 283.39 | 283.4 | 271.5 | 289.69 | | | | | |
| June 27, 1980 | 283.81 | 283.34 | 283.57 | 270.43 | 289.79 | | | | | |
| July 7, 1980 | 282.5 | 282.89 | 282.34 | 270.80 | 289.80 | | | | | |
| July 12, 1980 | 282.89 | 282.87 | 281.49 | 270 | 289.89 | | | | | |
| July 25, 1980 | 283.85 | 282.9 | 282.8 | 270.76 | 289.89 | | | | | |
| July 30, 1980 | 285.02 | 283.47 | 282.39 | 270.38 | 289.23 | | | | | |

| REPORT NO. 39 | DATE: April 13, 1981 | PAGE 2 OF 3 | | | |
|----------------------------------|----------------------|-------------|-------------|-------------|-------------|
| GPJ ENVIRONMENTAL CONTROLS GROUP | | | | | |
| WATER LEVEL (MEAN SEA LEVEL) | | | | | |
| DATE | O.U. 9 | O.V. 139 | O.U. 4 | O.U. 15 | O.U. 17 |
| DATE | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL |
| August 6, 1980 | 283.42 | 282.88 | 283.03 | 273.81 | 289.00 |
| August 13, 1980 | 282.89 | 282.84 | 282.71 | 291.34 | 282.87 |
| August 20, 1980 | 282.52 | 282.66 | 282.28 | 290.87 | 282.56 |
| August 27, 1980 | 281.4 | 281.5 | 281.19 | 289.91 | 281.29 |
| September 3, 1980 | 281.67 | 281.72 | 280.79 | 289.53 | 281.58 |
| September 10, 1980 | 281.37 | 281.48 | 280.5 | 290.24 | 281.43 |
| September 17, 1980 | 281.02 | 281.32 | 280.55 | 290.41 | |
| September 24, 1980 | 281.17 | 281.18 | 280.48 | 289.94 | 281.29 |
| October 1, 1980 | 280.74 | 280.92 | 279.29 | 289.54 | 280.61 |
| October 8, 1980 | 280.65 | 280.78 | 280.11 | 289.04 | 280.8 |
| October 15, 1980 | 280.75 | 280.87 | 280.01 | 289.04 | 280.76 |
| October 22, 1980 | 280.68 | 280.63 | 279.81 | 288.88 | 280.56 |
| October 29, 1980 | 281.22 | 281.3 | 280.74 | 288.97 | 281.3 |
| November 5, 1980 | 281.28 | 281.32 | 280.61 | 289.04 | 281.31 |
| November 12, 1980 | 281.18 | 281.84 | 280.27 | 288.4 | 281.13 |
| November 19, 1980 | 280.94 | 281.38 | 280.44 | 288.56 | 281.28 |
| November 26, 1980 | 282.34 | 282.45 | 280.58 | 289.37 | 282.25 |
| December 3, 1980 | 282.52 | 282.42 | 280.61 | 288.79 | 282.43 |
| December 10, 1980 | 282.47 | 282.59 | 280.43 | 288.49 | 282.49 |
| December 17, 1980 | 282.82 | 282.63 | 280.81 | 288.57 | 282.57 |
| December 24, 1980 | 282.37 | 282.37 | 280.81 | 288.29 | 282.67 |
| December 31, 1980 | 282.19 | 282.89 | 280.81 | 288.29 | 281.93 |
| January 7, 1981 | 282.12 | 282.16 | 280.78 | 288.07 | 282.07 |
| January 14, 1981 | 281.77 | 281.73 | 280.81 | 286.59 | 281.86 |
| January 21, 1981 | 281.54 | 281.53 | 280.3 | 286.77 | 281.47 |

| REPORT NO. 19 | | DATE: April 12, 1981 | | PAGE 3 OF 3 | |
|-------------------------------------|------------------|----------------------|------------------|------------------|------------------|
| GPU ENVIRONMENTAL CONTROL-S OR-CLUP | | | | | |
| DATE | O.M. 8 | O.M. 13B | O.M. 14 | O.M. 15 | O.M. 17 |
| DATE | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL | WATER LEVEL |
| | (MEAN SEA LEVEL) | (MEAN SEA LEVEL) | (MEAN SEA LEVEL) | (MEAN SEA LEVEL) | (MEAN SEA LEVEL) |
| January 29, 1981 | 281.44 | 288.12 | 286.7 | 284.4 | 281.38 |
| February 4, 1981 | 281.57 | 288.12 | 286.84 | 287.07 | 281.66 |
| February 11, 1981 | 282.24 | 288.89 | 285.84 | 287.39 | 281.72 |
| February 18, 1981 | 283.03 | 283.39 | 282.87 | 287.79 | 283.02 |
| February 25, 1981 | 284.75 | 284.06 | 284.44 | 288.01 | 284.84 |
| March 4, 1981 | 284.92 | 284.41 | 284.82 | 287.87 | 285.02 |
| March 11, 1981 | 285.02 | 284.06 | 284.53 | 284.98 | 284.93 |
| March 18, 1981 | 284.69 | 283.79 | 284.52 | 284.38 | 284.59 |
| March 25, 1981 | 284.27 | 283.19 | 282.8 | 283.38 | 284.36 |
| April 1, 1981 | 283.82 | 282.53 | 283.34 | 288.1 | 283.8 |

CONTAINMENT INTEGRITY ASSESSMENT PROGRAM OUTER WALL AND CORK JOINT SURVEY DATA

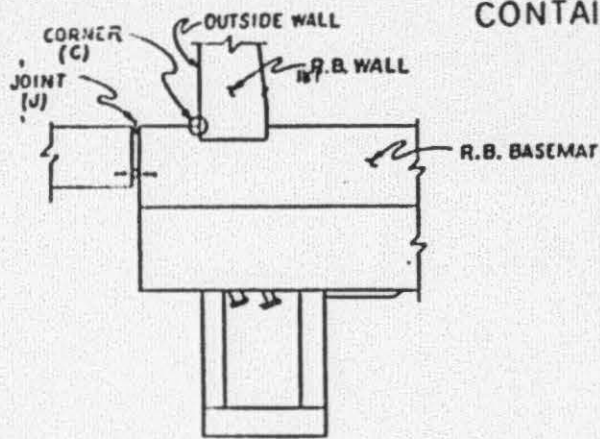


| SURVEY POINT | GROSS CPM | | | | |
|--------------|-----------|---------|--|--|--|
| | 4/17/81 | 4/25/81 | | | |
| 0 J | 60 | 60 | | | |
| 0 C | 40 | 40 | | | |
| 27 C | | 20 | | | |
| 27 J | | 20 | | | |
| 37 C | | 2900 | | | |
| 37 J | | 50 | | | |
| 40 C | | 50 | | | |
| 45 CJ | | 50 | | | |
| 65 CJ | | 1800 | | | |
| 70 CJ | | 1200 | | | |
| 75 CJ | | 250 | | | |
| 85 J | | 150 | | | |
| 85 C | | 100 | | | |
| 93 | 100 | 100 | | | |
| 93 C | | | | | |
| 93 J | | " | | | |

NOTE :

1. SURVEY POINT CORRESPONDS TO DEGREE POSITION OF WALL.
2. CJ = COMMON CORNER & CORK JOINT.

CONTAINMENT INTEGRITY ASSESSMENT PROGRAM OUTER WALL AND CORK JOINT SURVEY DATA



| SURVEY POINT | GROSS CPM | |
|--------------|-----------|---------|
| | 4/17/18 | 4/25/81 |
| 97 C | | 20 |
| 247 J | | 35 |
| 247 C | | 300 |
| 255 C | | 170 |
| 255 J | | 35 |
| 265 C | | 650 |
| 277 C | | 1500 |
| 279 C | | 1000 |
| 279 J | | 1000 |
| 287 J | 300 | 280 |
| 287 C | | 200 |
| 295 J | | 200 |
| 295 C | 140 | 200 |
| 300 J | 20 | 120 |
| 300 C | | 140 |
| 304 C | 20 | 40 |

NOTE:

1. SURVEY POINT CORRESPONDS TO DEGREE POSITION OF WALL.
2. CJ = COMMON CORNER & CORK JOINT.

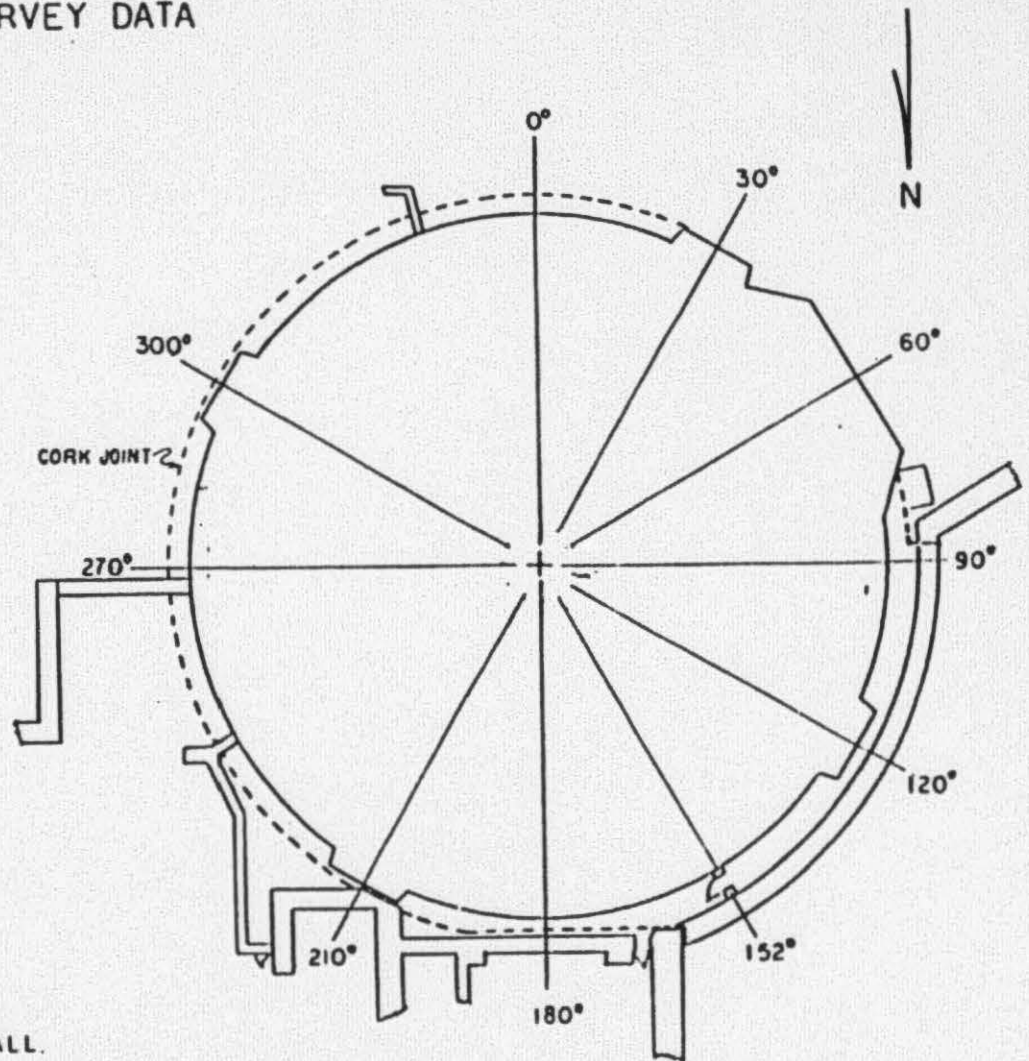
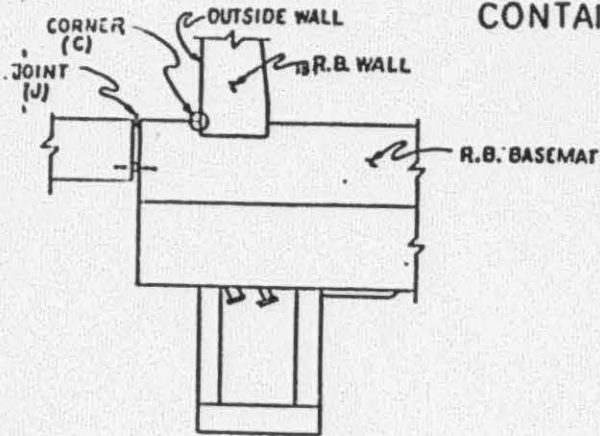


TABLE 6, PAGE 2

CONTAINMENT INTEGRITY ASSESSMENT PROGRAM OUTER WALL AND CORK JOINT SURVEY DATA



| SURVEY POINT | GROSS CPM | |
|--------------|-----------|---------|
| | 4/17/81 | 4/25/81 |
| 304 J | | 40 |
| 310 C | 20 | 80 |
| 310 J | | 40 |
| 31A J | 20 | 60 |
| 31B C | | 80 |
| 330 C | 20 | 20 |
| 330 J | | 60 |
| 355 J | 20 | 80 |
| 355 C | | 60 |
| 295 C | 200 | 200 |
| 340 J | | 20 |
| 340 C | | 600 |
| | | |
| | | |
| | | |
| | | |

NOTE :

1. SURVEY POINT CORRESPONDS TO DEGREE POSITION OF WALL.
2. CJ = COMMON CORNER & CCRK JOINT.

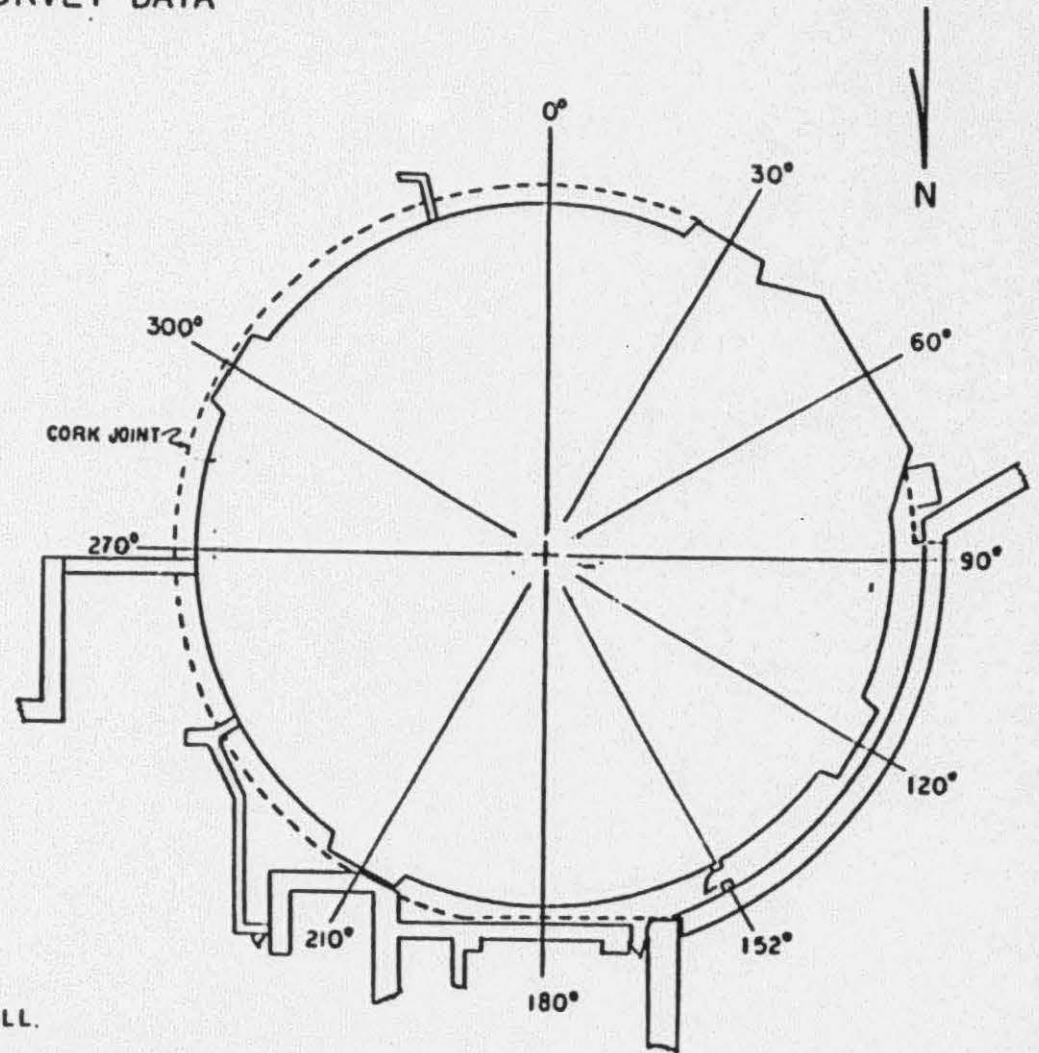
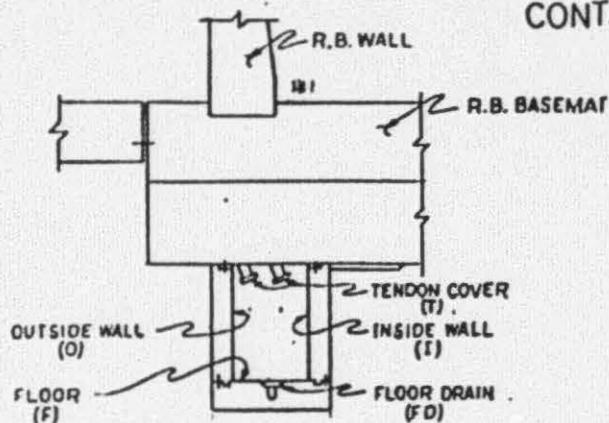


TABLE 6, PAGE 3

CONTAINMENT INTEGRITY ASSESSMENT PROGRAM TENDON ACCESS GALLERY SURVEY DATA

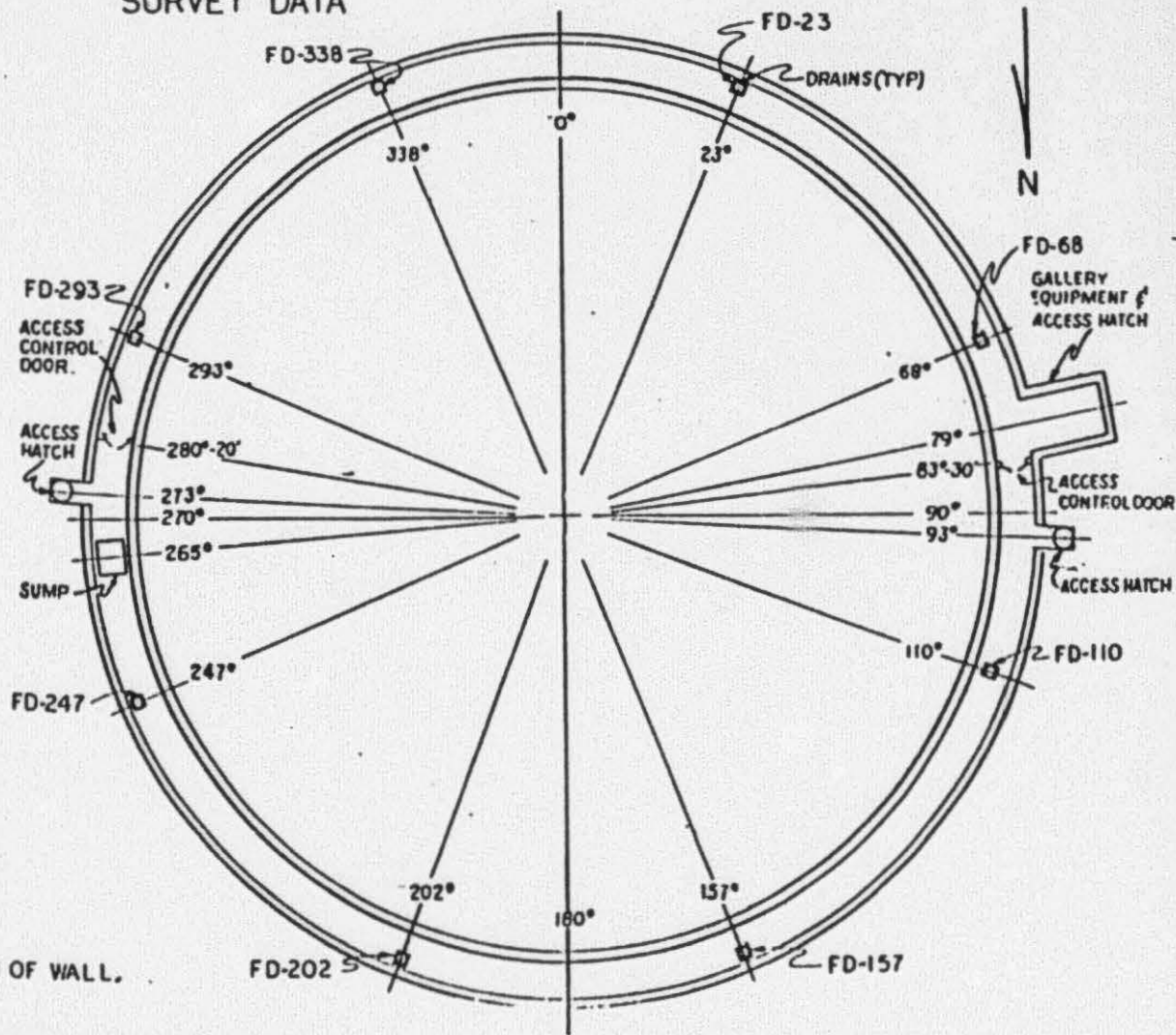


| SURVEY POINT | GROSS CPM | | | | |
|--------------|-----------|---------|--|--|--|
| | 8/17/R1 | 8/25/R1 | | | |
| 9 I | 20 | 20 | | | |
| 10 T | 40 | 60 | | | |
| 10 F | 40 | 40 | | | |
| 11 O | 70 | 20 | | | |
| 20 FI | 20 | 20 | | | |
| 23 | 60 | 100 | | | |
| 27 O | 20 | 60 | | | |
| 42 FI | 60 | 30 | | | |
| 47 FI | 40 | 20 | | | |
| 48 O | 20 | 20 | | | |
| 55 I | 60 | 40 | | | |
| 67 F | 20 | 20 | | | |
| 67 I | 20 | 20 | | | |
| 68 FI | 60 | 40 | | | |
| 68 | 100 | 600 | | | |
| 81 O | 40 | 60 | | | |

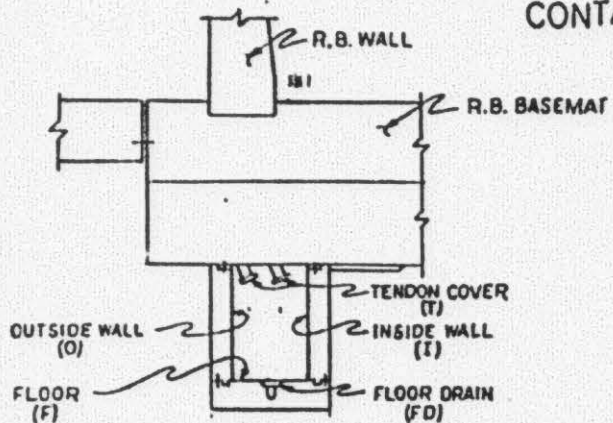
NOTE:

1. SURVEY POINT CORRESPONDS TO DEGREE POSITION OF WALL.
2. FI = COMMON FLOOR & INSIDE WALL (CORNER).

TABLE 7, PAGE 1



CONTAINMENT INTEGRITY ASSESSMENT PROGRAM TENDON ACCESS GALLERY SURVEY DATA



| SURVEY POINT | | GROSS CPM | | | |
|--------------|------|-----------|---------|--|--|
| | | 4/17/81 | 4/25/81 | | |
| 83 | I | 20 | 20 | | |
| 90 | I | 40 | 60 | | |
| 90 | I | 50 | 50 | | |
| 90 | O | 20 | 80 | | |
| 93 | (AM) | 20 | 40 | | |
| 93 | I | 40 | 40 | | |
| 94 | O | 40 | 60 | | |
| 105 | O | 60 | 40 | | |
| 110 | FD | 1200 | 1200 | | |
| 130 | O | 30 | 40 | | |
| 140 | O | 20 | 40 | | |
| 154 | FD | 200 | 240 | | |
| 157 | FD | 1400 | 1200 | | |
| 158 | F | 1400 | 1000 | | |
| 160 | O | 20 | 50 | | |
| 170 | O | 20 | 40 | | |

NOTE:

1. SURVEY POINT CORRESPONDS TO DEGREE POSITION OF WALL.
2. FI = COMMON FLOOR & INSIDE WALL (CORNER).

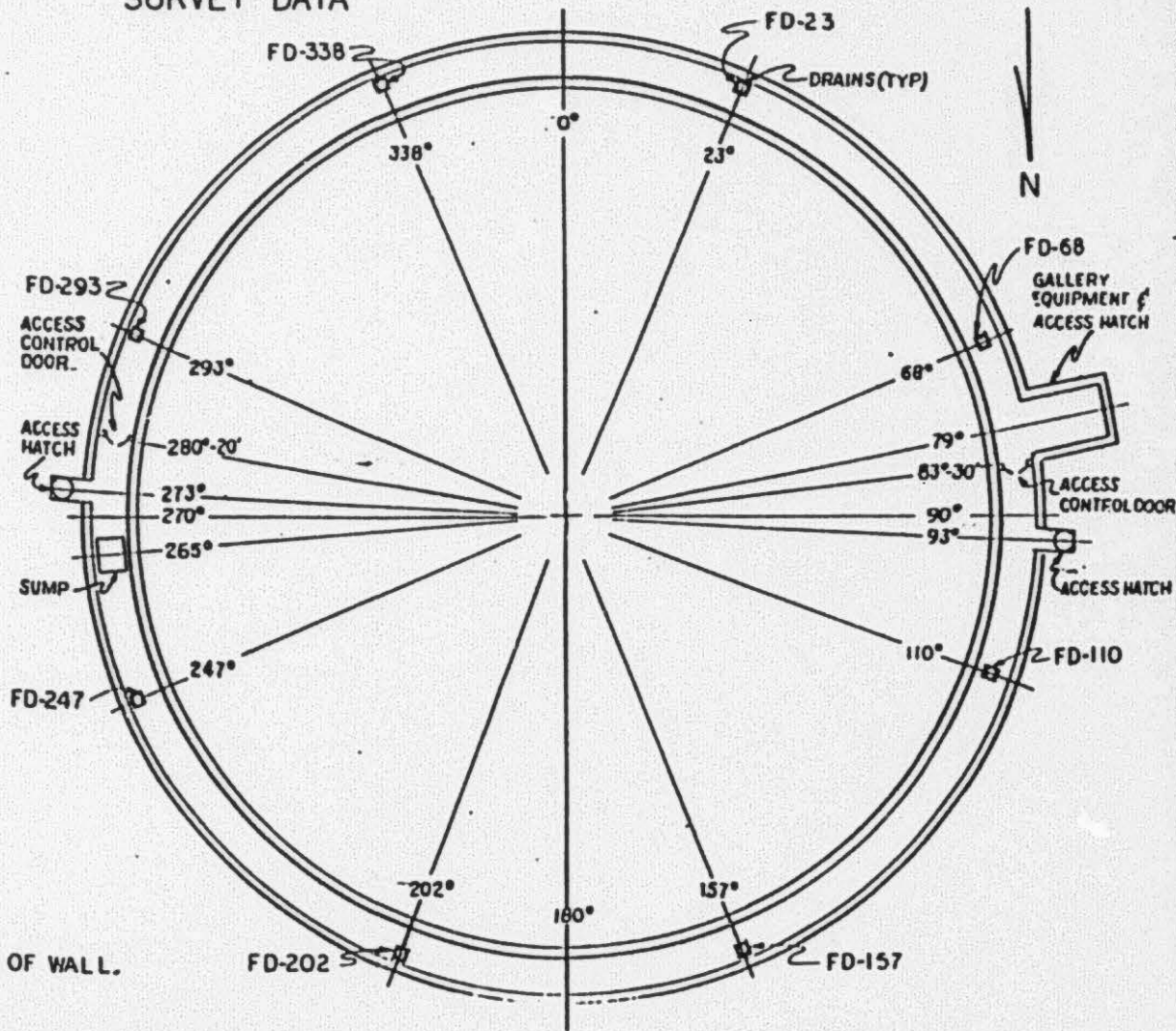
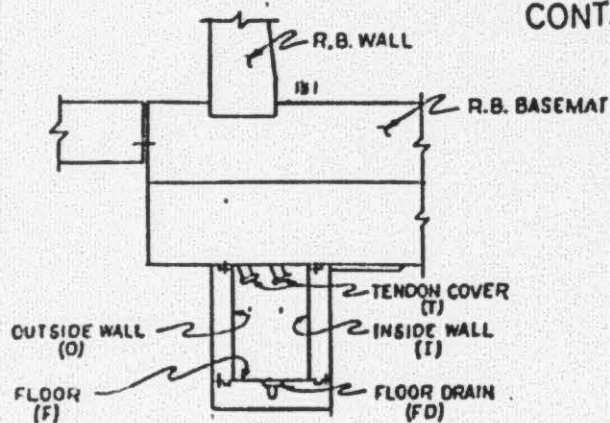


TABLE 7, PAGE 2

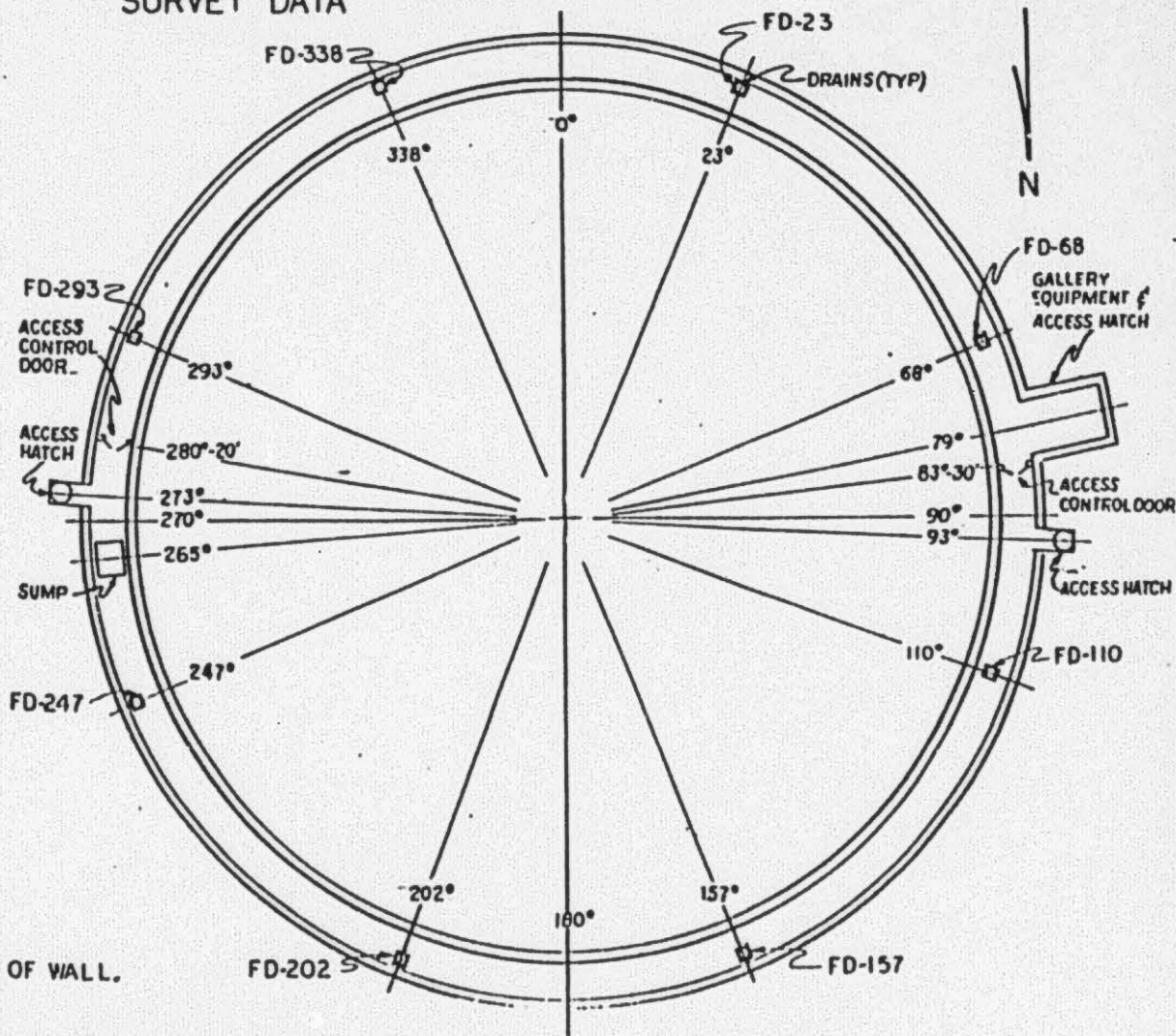
CONTAINMENT INTEGRITY ASSESSMENT PROGRAM TENDON ACCESS GALLERY SURVEY DATA



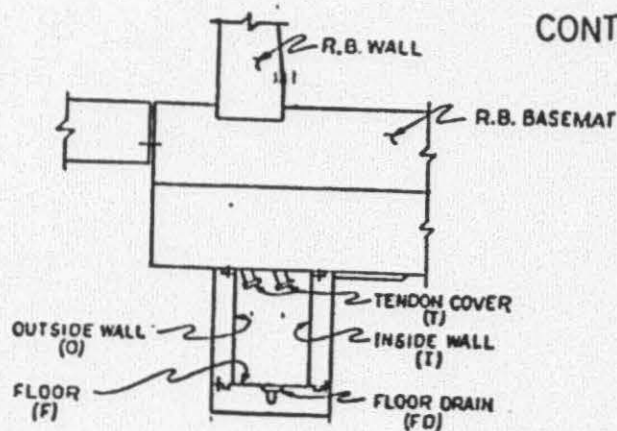
| SURVEY POINT | GROSS CPM | | |
|--------------|-----------|---------|-----|
| | 4/17/81 | 4/25/81 | |
| 180 | T | 20 | 60 |
| 182 | FI | 40 | 60 |
| 185 | FI | 20 | 40 |
| 120 | O | 40 | 40 |
| 195 | I | 40 | 60 |
| 200 | F | 20 | 60 |
| 202 | FD | 100 | 120 |
| 220 | O | 60 | 20 |
| 223 | O | 40 | 60 |
| 236 | O | 60 | 20 |
| 245 | F | 40 | 40 |
| 247 | | 200 | 200 |
| 255 | FI | 20 | 20 |
| 260 | O | 20 | 60 |
| 265 | | 100 | 100 |
| 270 | I | 40 | 20 |

NOTE:

1. SURVEY POINT CORRESPONDS TO DEGREE POSITION OF WALL.
2. FI = COMMON FLOOR & INSIDE WALL (CORNER).



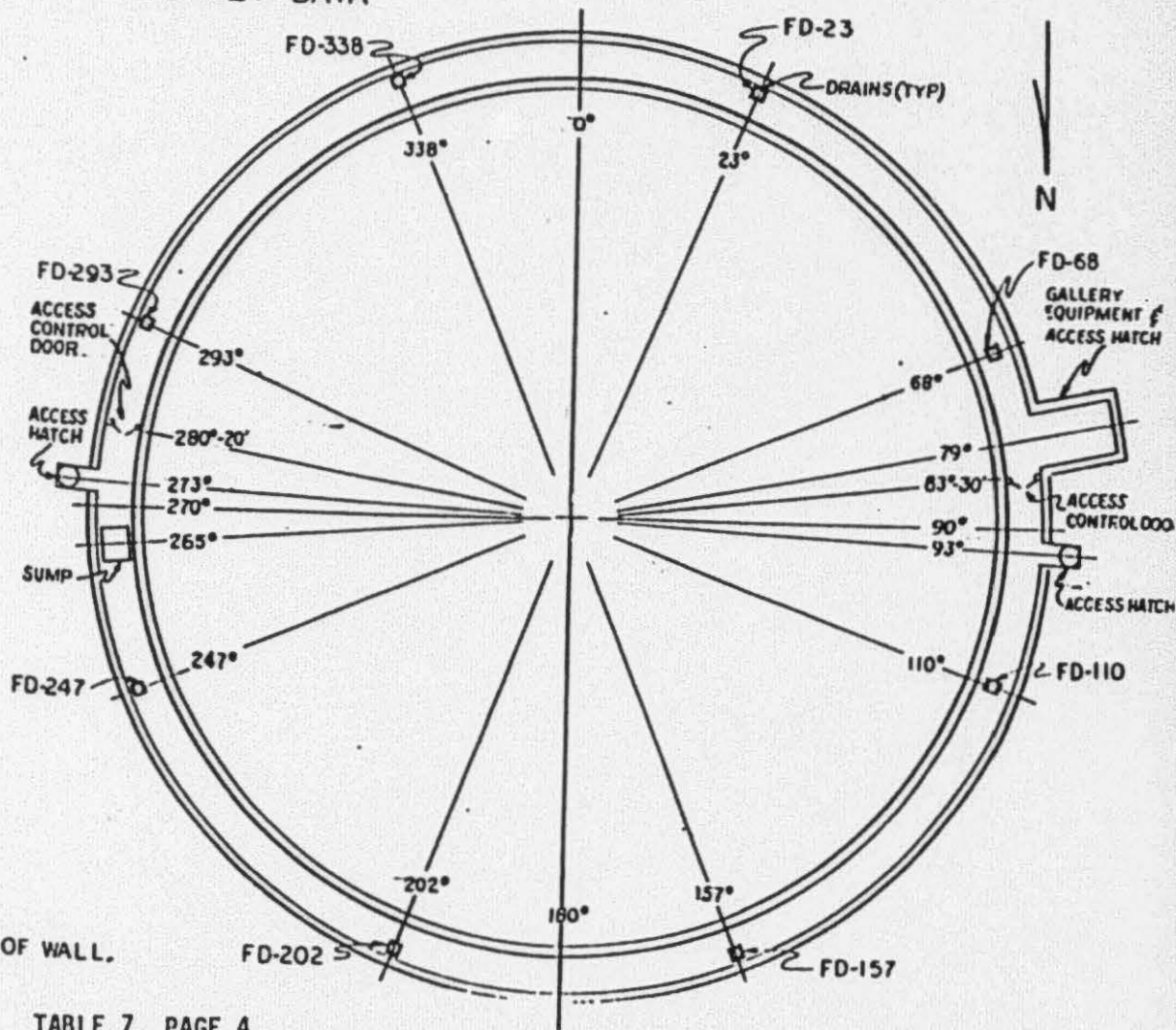
CONTAINMENT INTEGRITY ASSESSMENT PROGRAM
TENDON ACCESS GALLERY
SURVEY DATA



| SURVEY POINT | GROSS | | CPM |
|--------------|---------|---------|-----|
| | 4/17/81 | 4/25/81 | |
| 273 (AH) | 40 | 80 | |
| 285 F | 40 | 80 | |
| 293 FD | 120 | 40 | |
| 300 FI | 40 | 20 | |
| 305 FD | 80 | 40 | |
| 308 FI | 60 | 40 | |
| 315 FI | 40 | 40 | |
| 317 I | 60 | 40 | |
| 318 FD | 60 | 70 | |
| 319 F | 100 | 60 | |
| 311 FI | 50 | 100 | |
| 352 O | 20 | 40 | |

NOTE:

1. SURVEY POINT CORRESPONDS TO DEGREE POSITION OF WALL.
2. FI = COMMON FLOOR & INSIDE WALL (CORNER).



DIRECT REACTOR BUILDING WATER LEVEL RECORD, APRIL 1981

| <u>DATE</u> | <u>TIME</u> | <u>DEPTH IN FEET</u> (Above RB Floor at EL 282'6") |
|-------------|-------------|--|
| 4/1/81 | 1045 | 8.18 |
| 4/2/81 | 1000 | 8.22 |
| 4/3/81 | 915 | 8.18 |
| 4/4/81 | 900 | 8.19 |
| 4/5/81 | 952 | 8.22 |
| 4/6/81 | 1143 | 8.21 |
| 4/7/81 | 920 | 8.21 |
| 4/8/81 | 1200 | 8.18 |
| 4/9/81 | | 8.21 |
| 4/10/81 | 1310 | 8.24 |
| 4/11/81 | 1000 | 8.16 |
| 4/12/81 | 845 | 8.22 |
| 4/13/81 | 1125 | 8.19 |
| 4/14/81 | 1130 | 8.18 |
| 4/15/81 | 1030 | 8.17 |
| 4/16/81 | 1000 | 8.18 |
| 4/17/81 | 1130 | 8.22 |
| 4/18/81 | 900 | 8.21 |
| 4/19/81 | 1000 | 8.19 |
| 4/20/81 | 1330 | 8.21 |
| 4/21/81 | 1230 | 8.18 |
| 4/22/81 | 1230 | 8.23 |

MEMORANDUM

Date: 04/09/81

Ref:

File:

Copies:

TO: Tom Walsh

FROM: Mark Abrams

SUBJECT: TMI Meteorological Tower Precipitation
3/1/81 - 4/8/81

| <u>Date</u> | <u>Precipitation (inches)</u> |
|-------------|-----------------------------------|
| 03/01/81 | None |
| 03/02/81 | None |
| 03/03/81 | None |
| 03/04/81 | None |
| 03/05/81 | 0.08 |
| 03/06/81 | None |
| 03/07/81 | None |
| 03/08/81 | None |
| 03/09/81 | None |
| 03/10/81 | None |
| 03/11/81 | 0.04 |
| 03/12/81 | None |
| 03/13/81 | None |
| 03/14/81 | None |
| 03/15/81 | None |
| 03/16/81 | 0.26 |
| 03/17/81 | None |
| 03/18/81 | None |
| 03/19/81 | None |
| 03/20/81 | None |
| 03/21/81 | None |
| 03/22/81 | None |
| 03/23/81 | None |
| 03/24/81 | None |
| 03/25/81 | None |
| 03/26/81 | None |
| 03/27/81 | None |
| 03/28/81 | None |
| 03/29/81 | None |
| 03/30/81 | 0.19 |
| 03/31/81 | None |
| 04/01/81 | 0.30 |
| 04/02/81 | None |
| 04/03/81 | None |
| 04/04/81 | None |
| 04/05/81 | 0.32 |
| 04/06/81 | 0.02 |
| 04/07/81 | None |
| 04/08/81 | None |

Precipitation Total: 1.21 inches

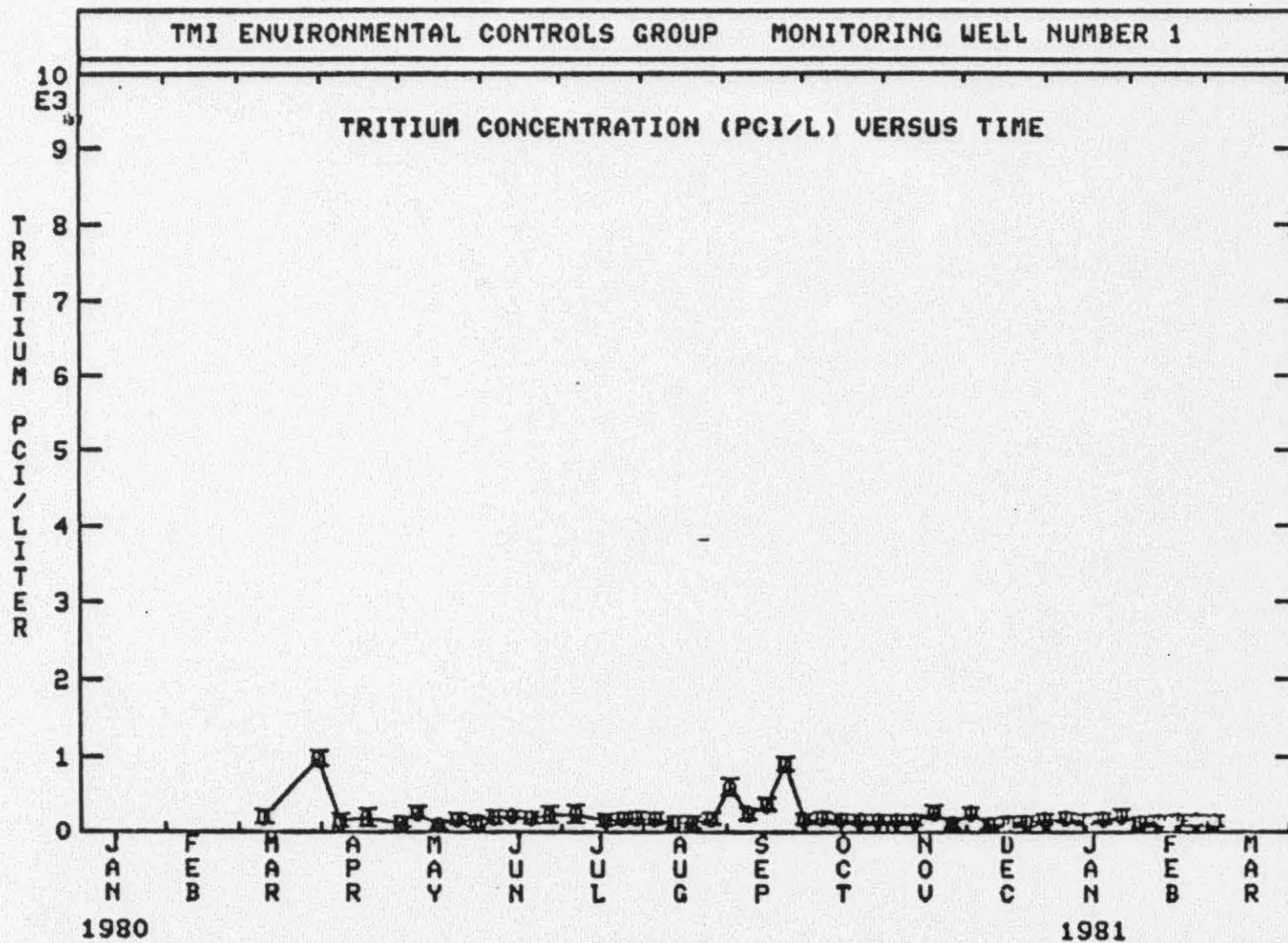


FIGURE 1, PAGE 1

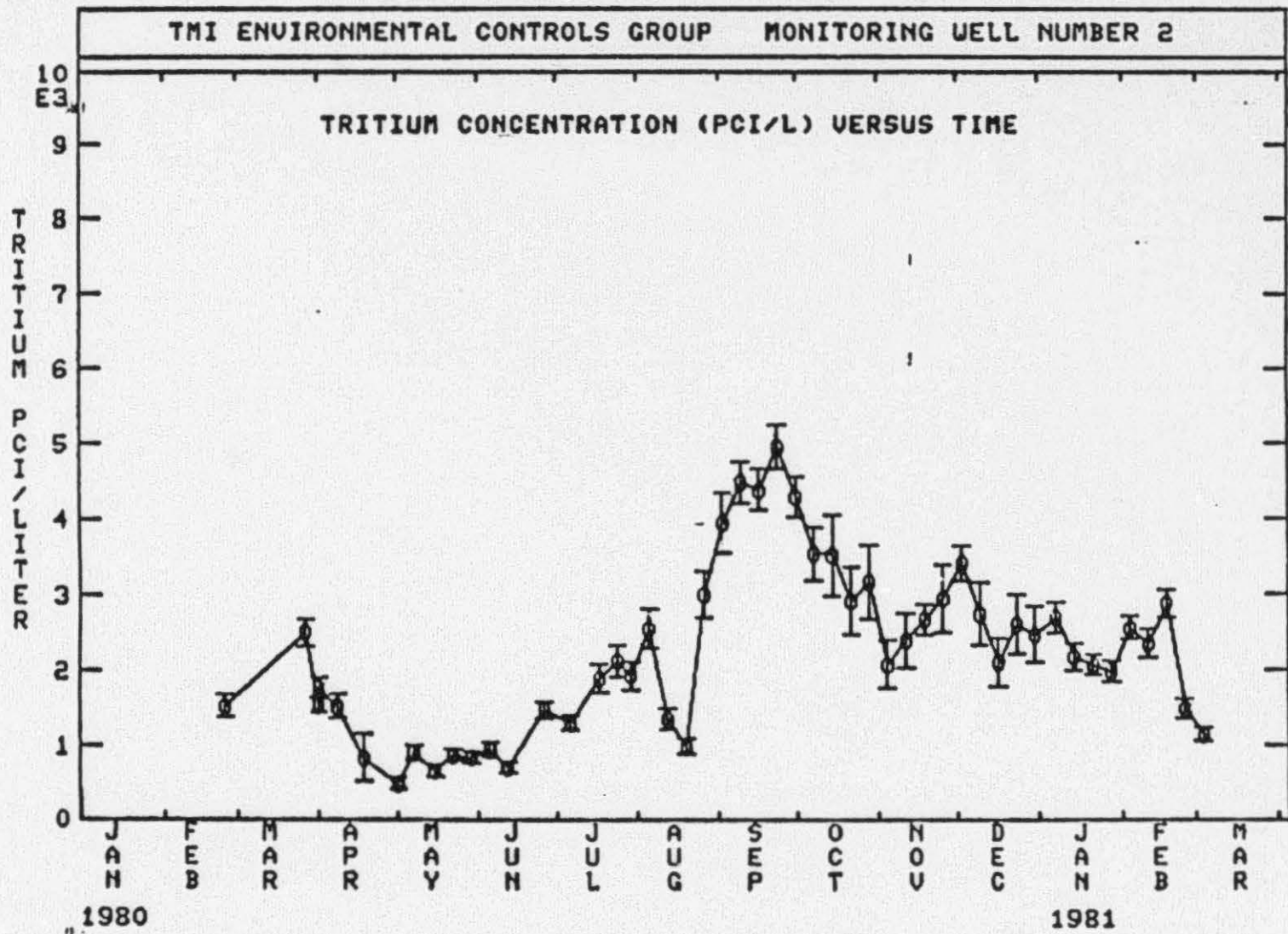


FIGURE 1, PAGE 2

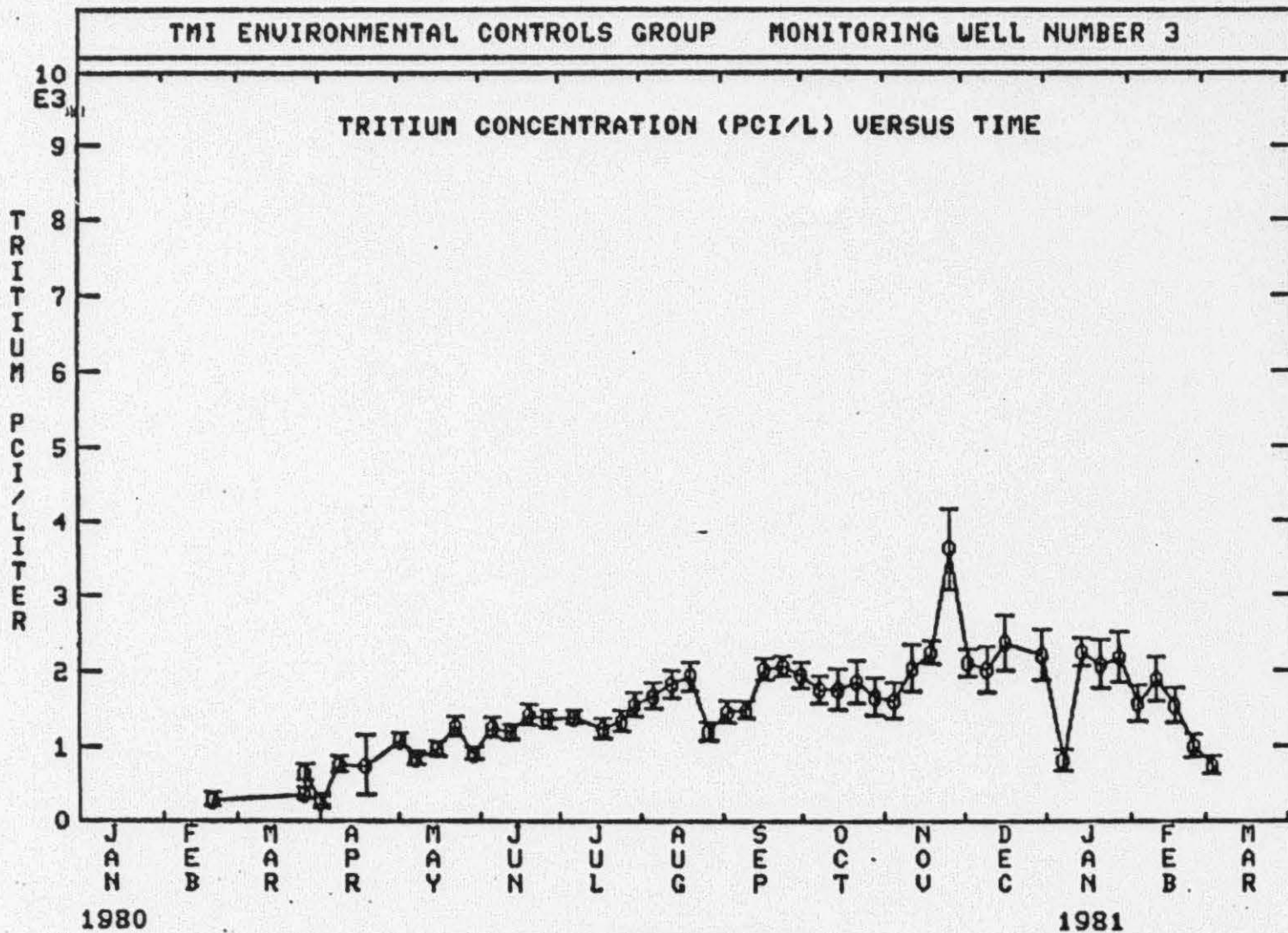


FIGURE 1, PAGE 3

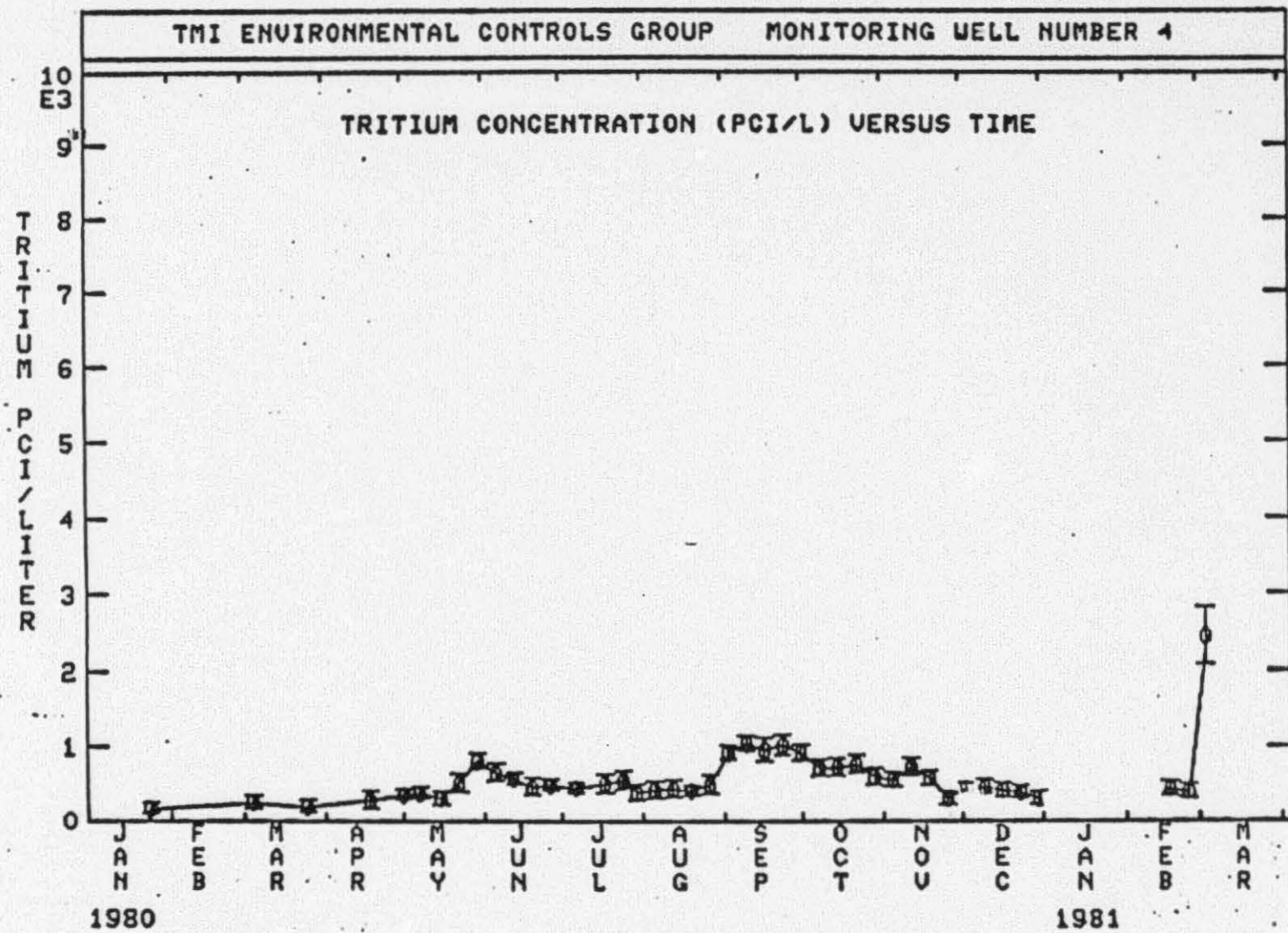


FIGURE 1, PAGE 4

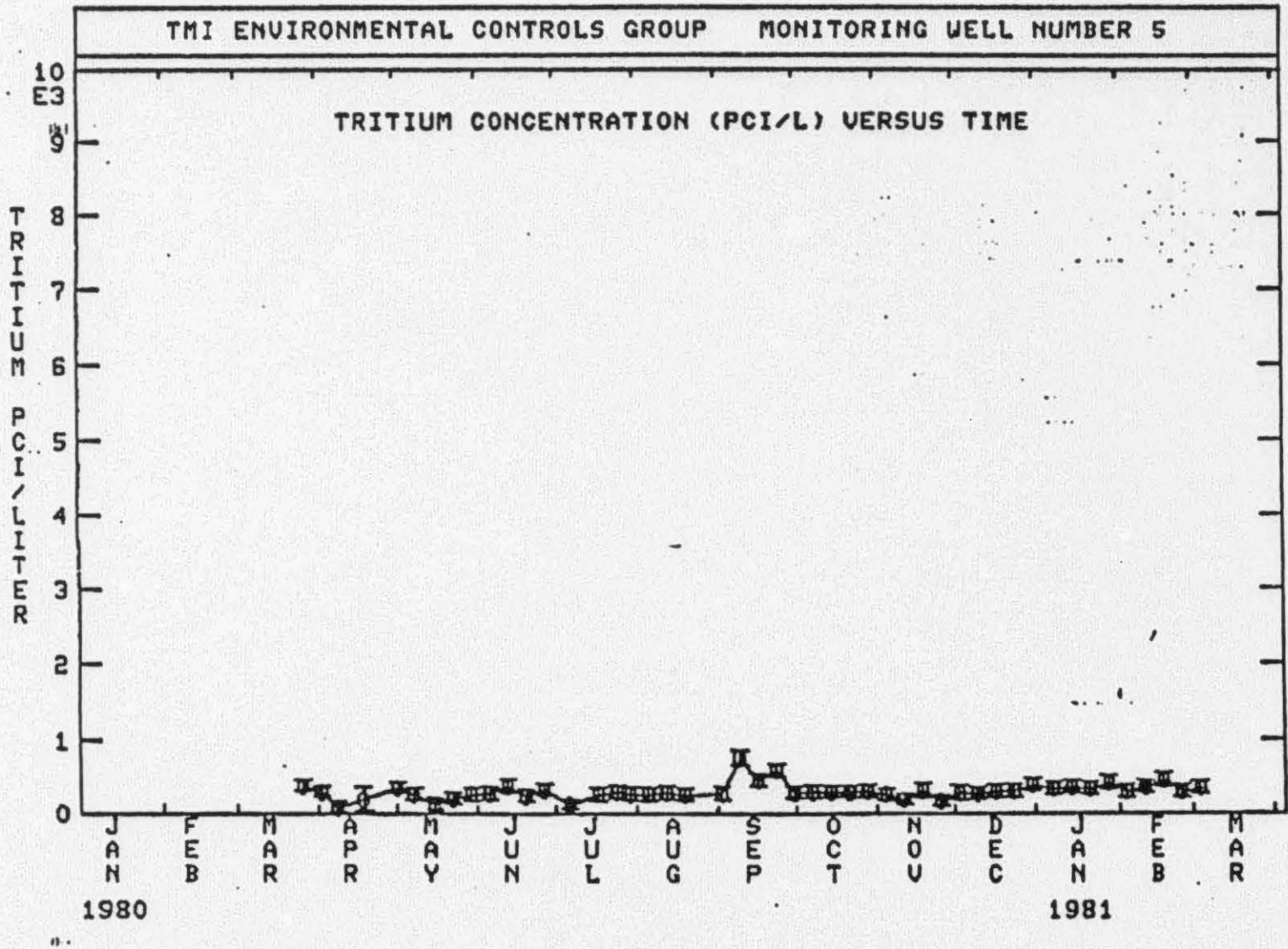


FIGURE 1, PAGE 5

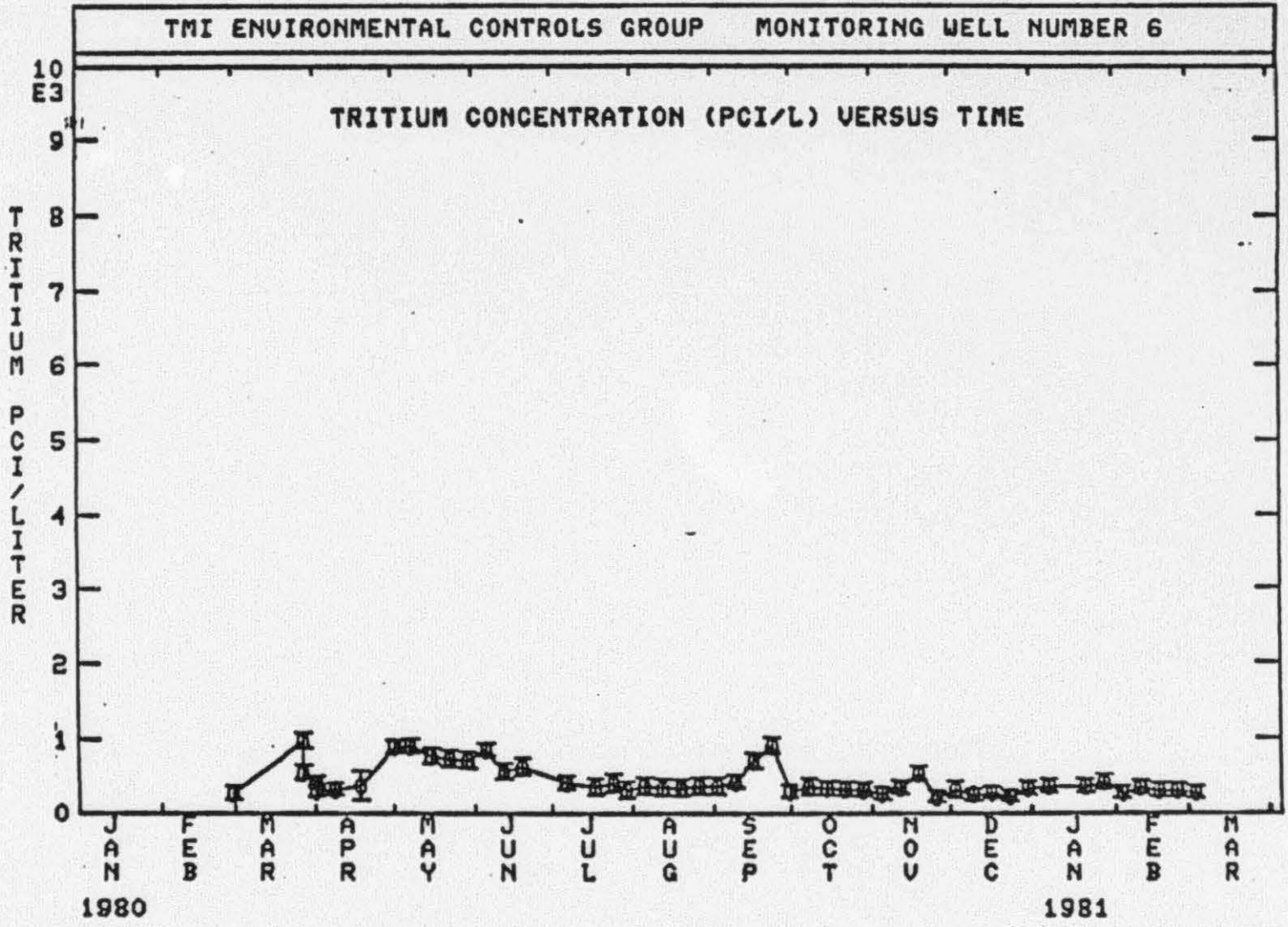


FIGURE 1, PAGE 6

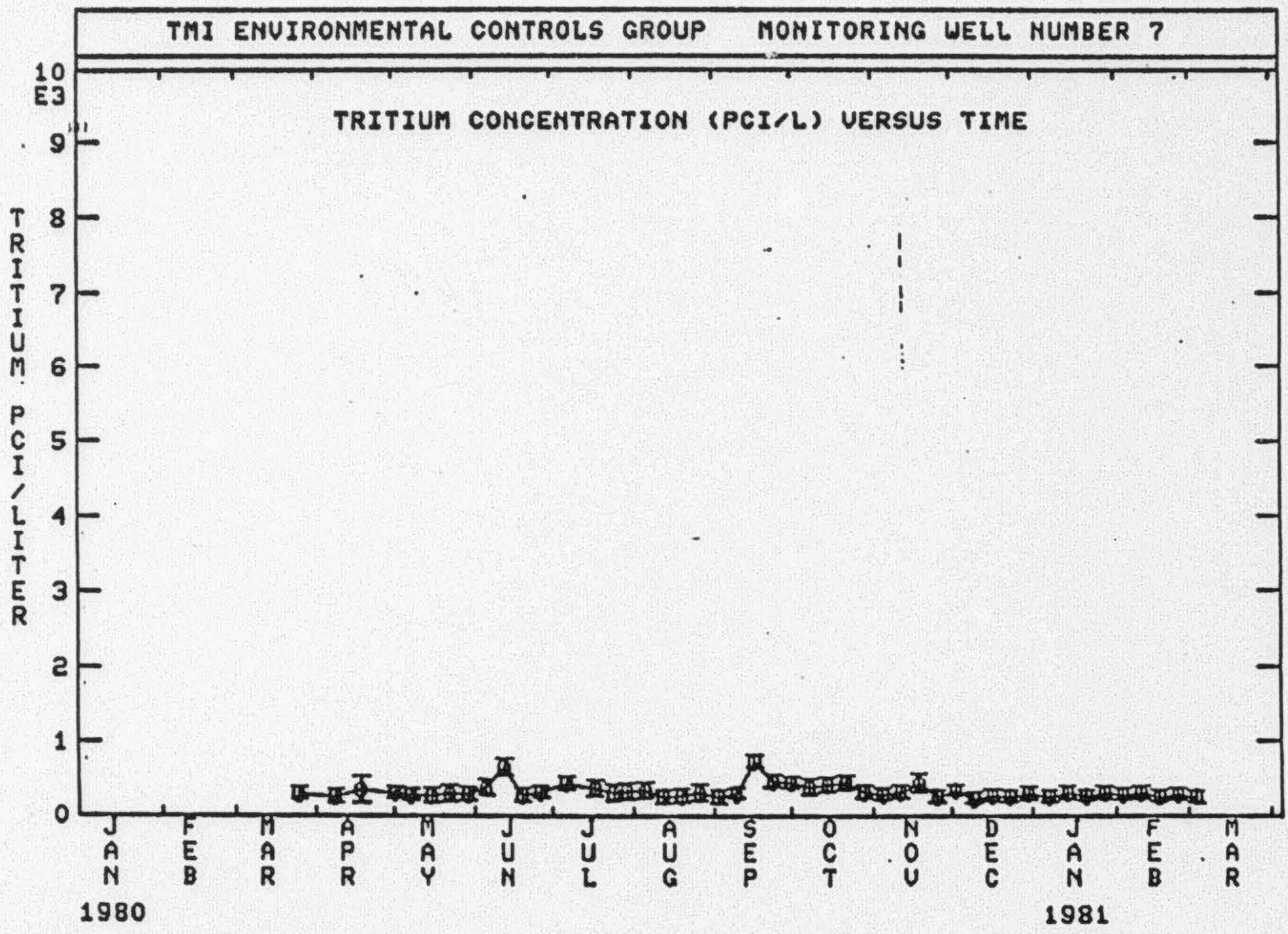


FIGURE 1, PAGE 7

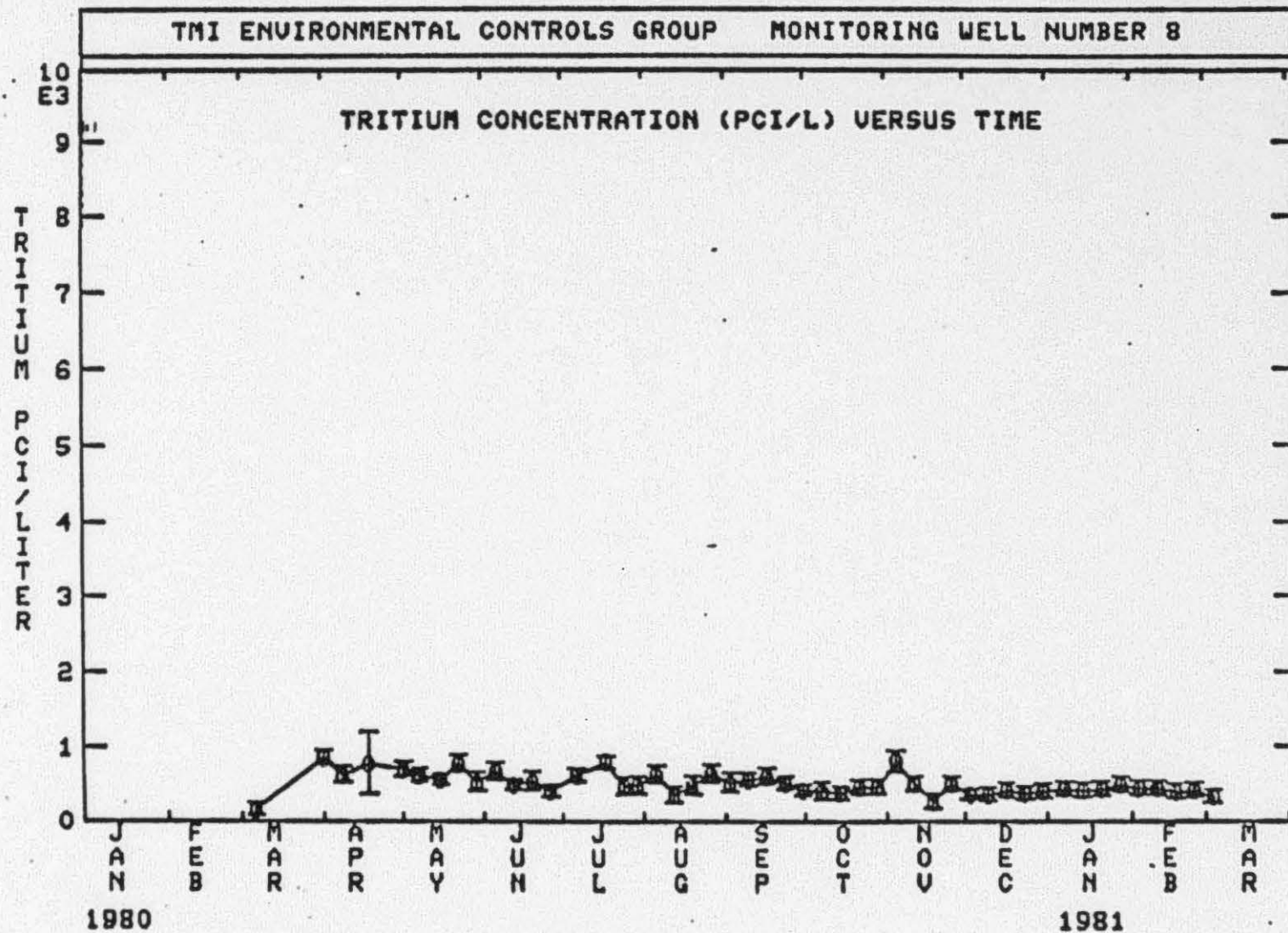


FIGURE 1, PAGE 8

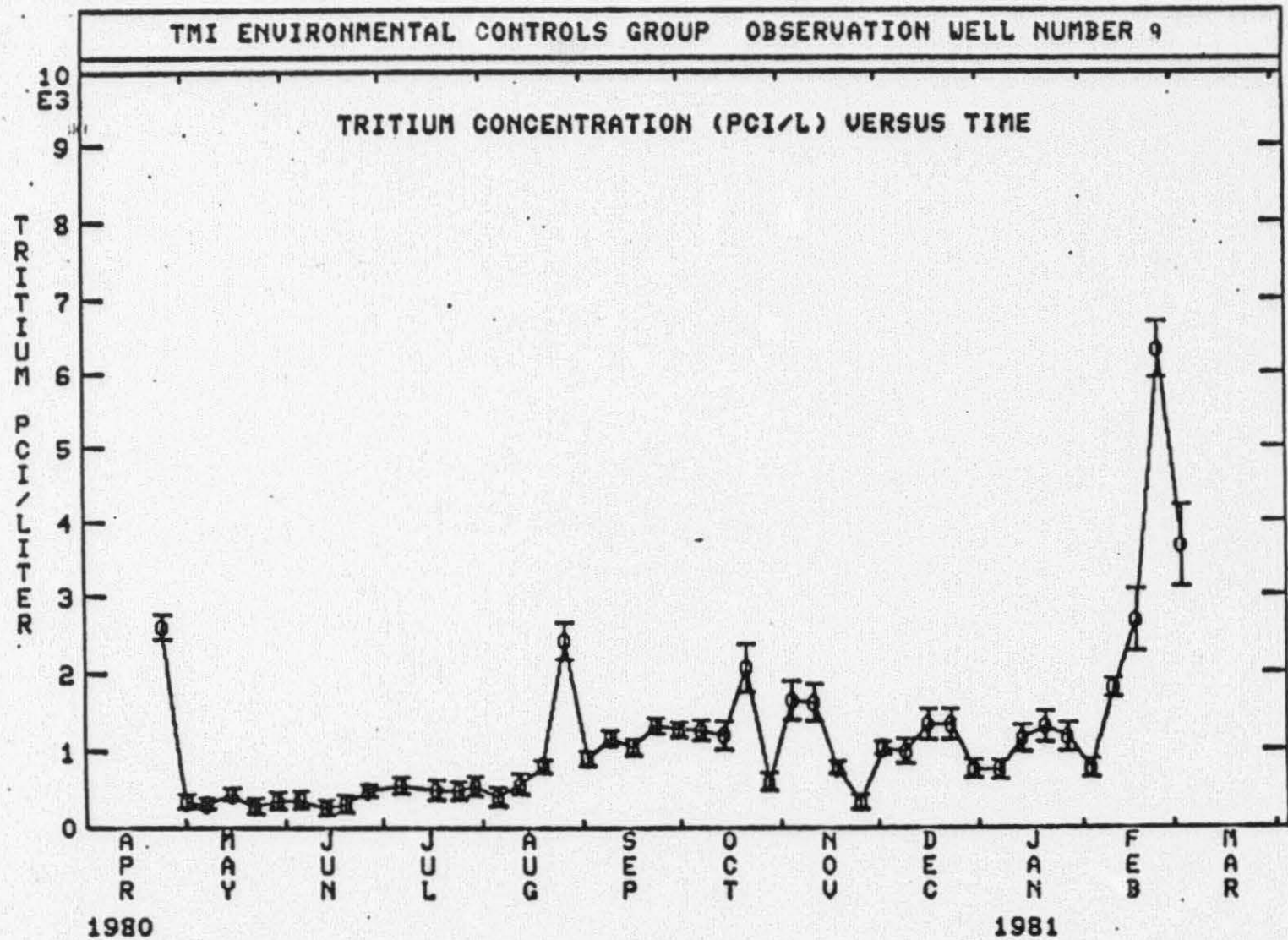


FIGURE 1, PAGE 9

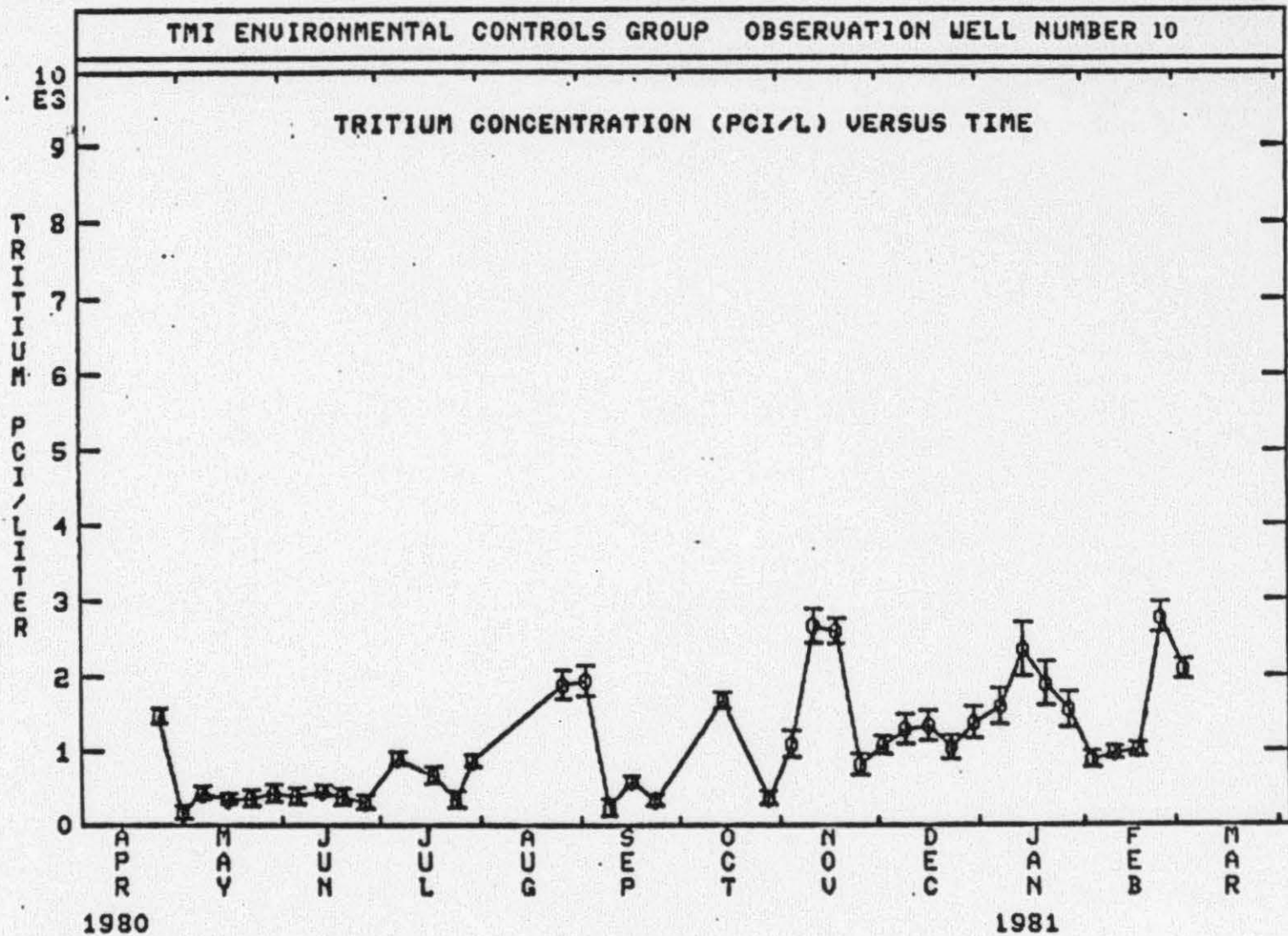


FIGURE 1, PAGE 10

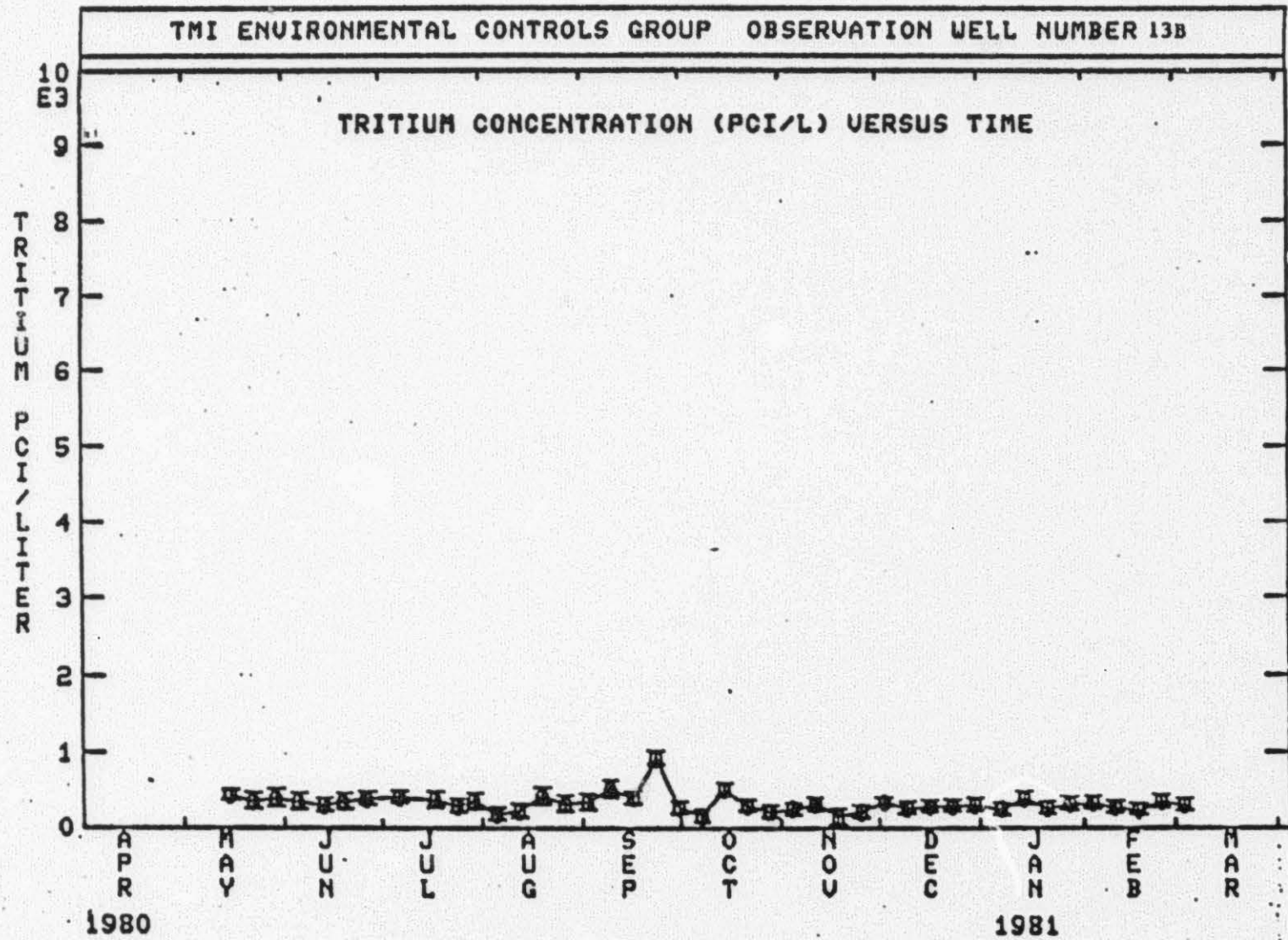


FIGURE 1, PAGE 11

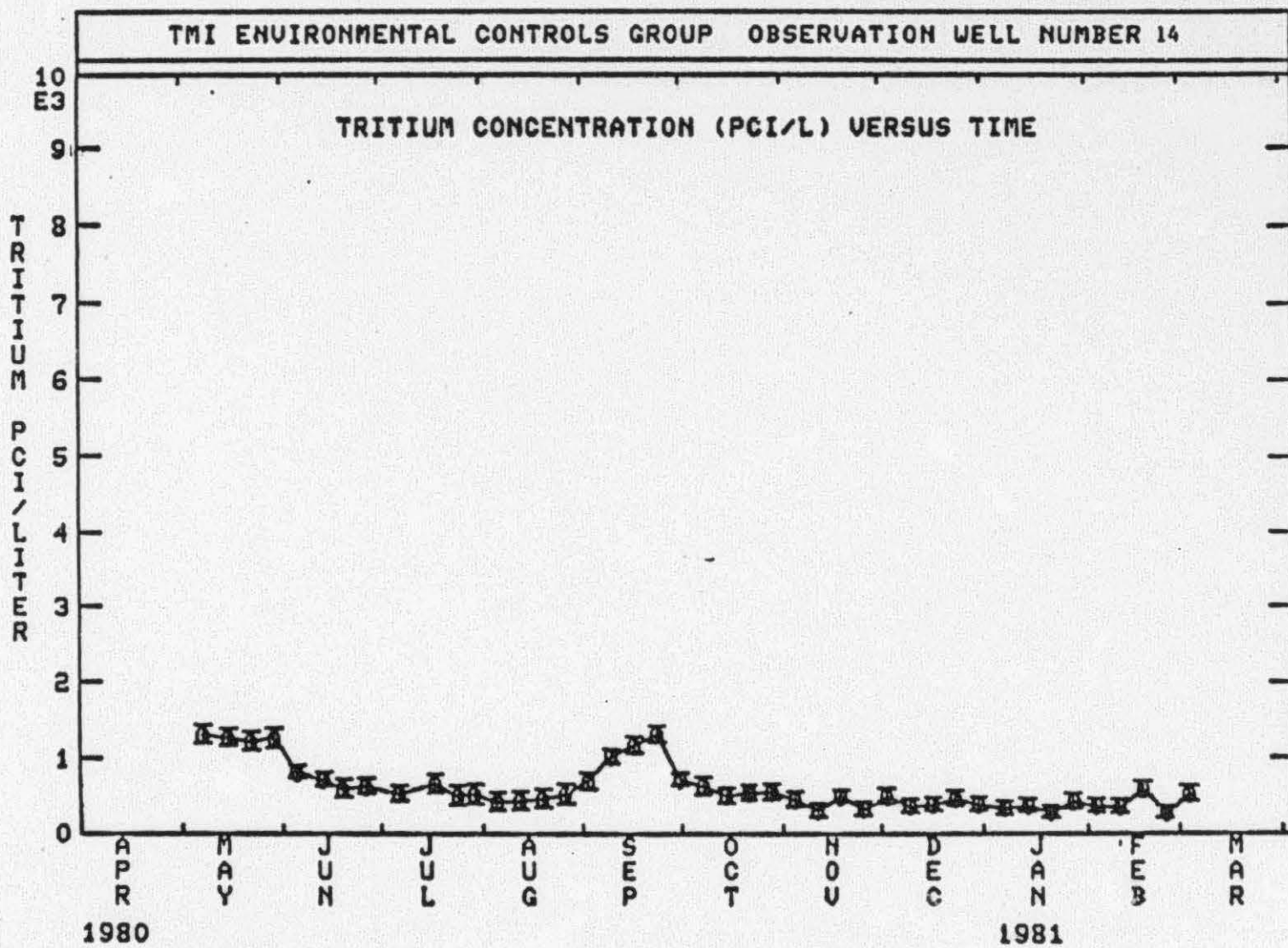


FIGURE 1, PAGE 12

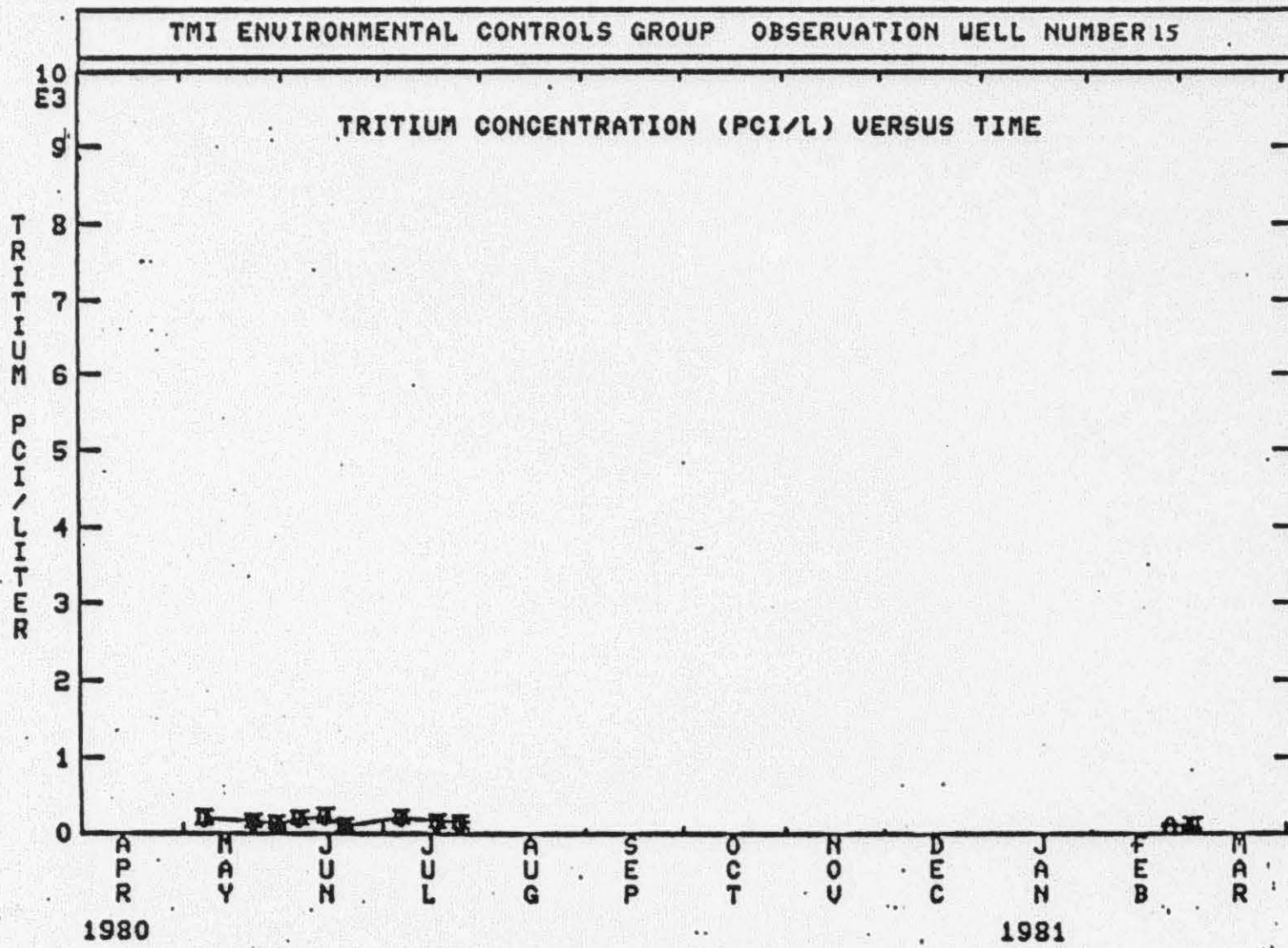


FIGURE 1, PAGE 13

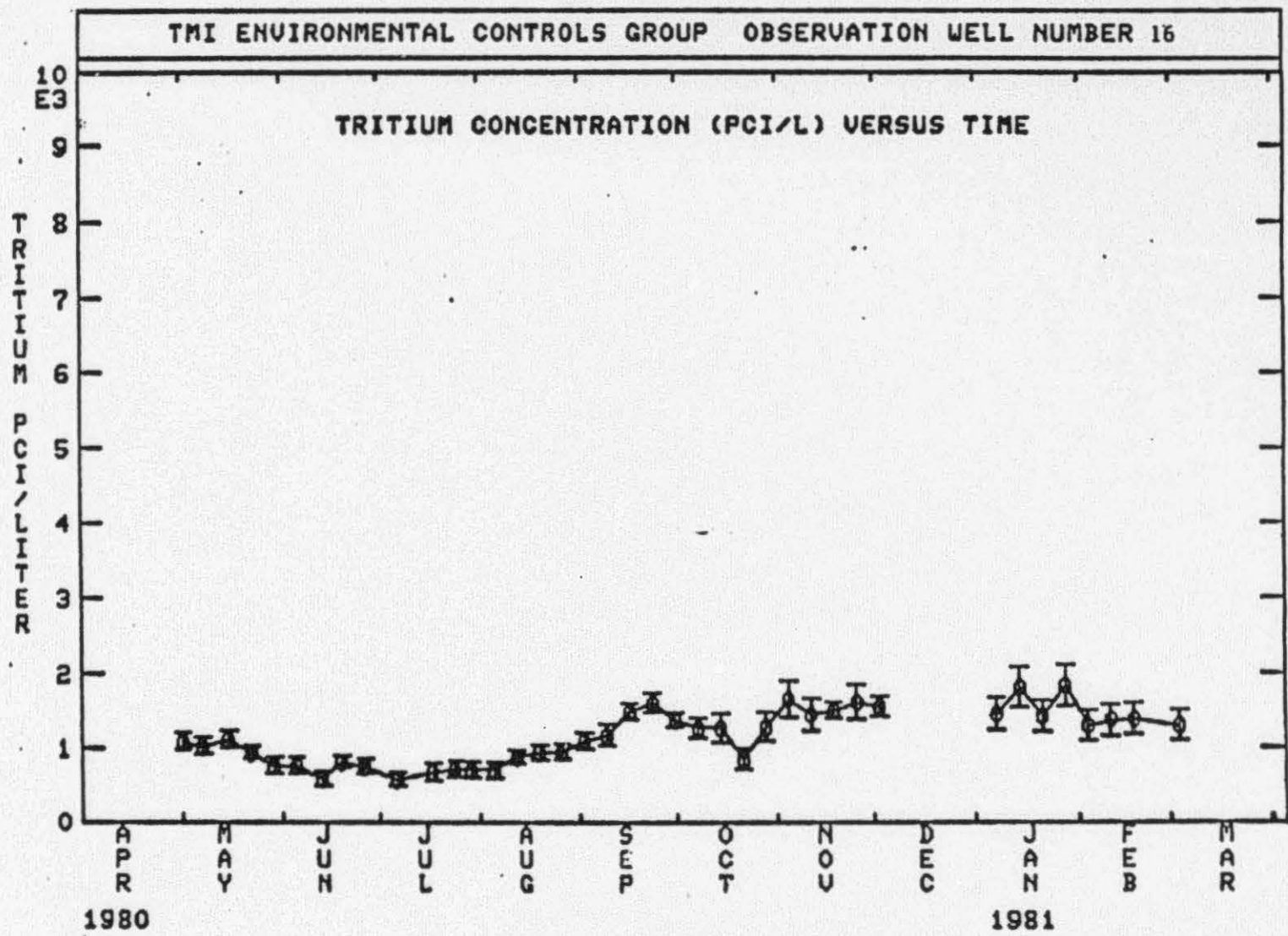


FIGURE 1, PAGE 14

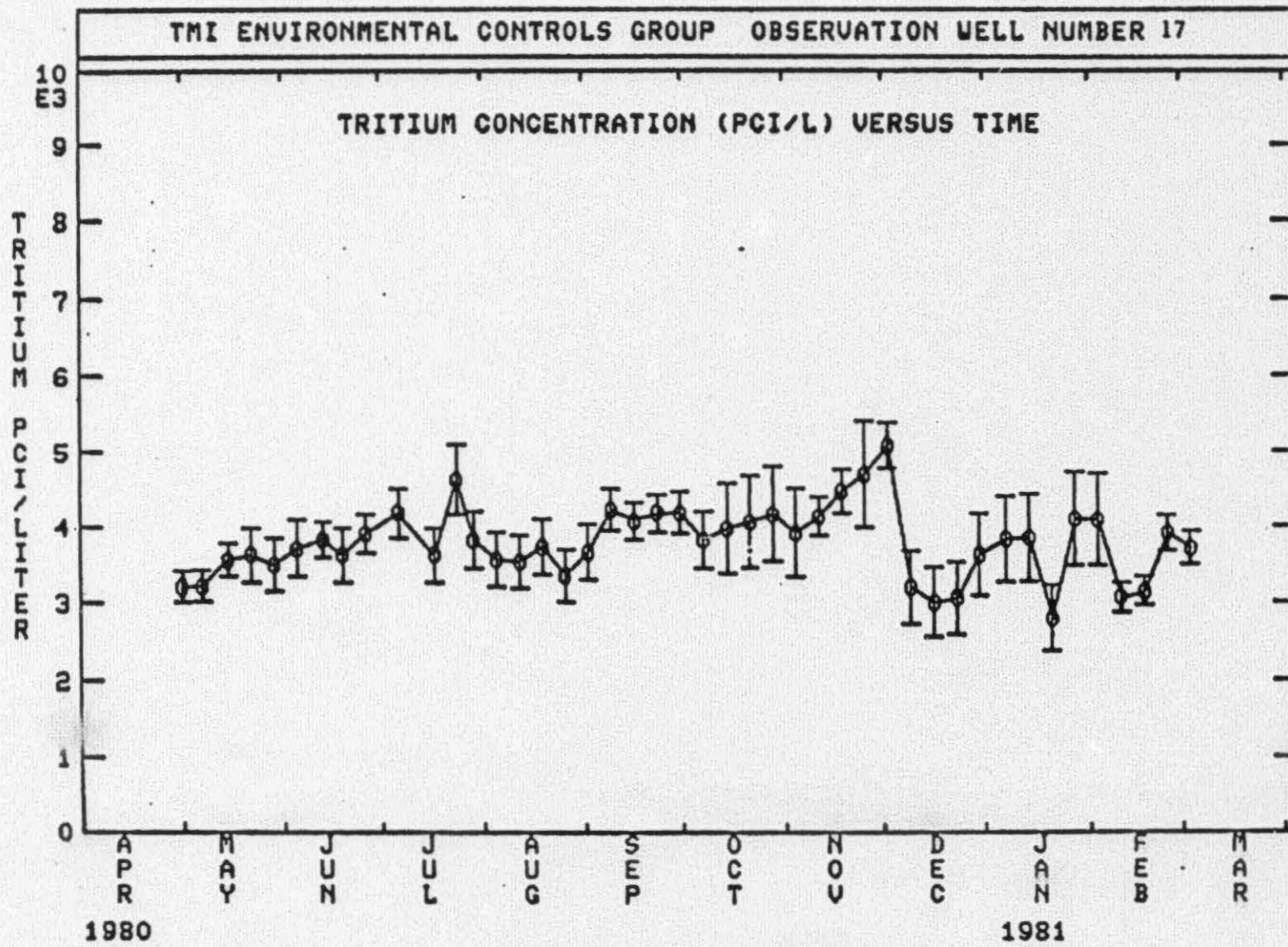


FIGURE 1, PAGE 15

CONTAINMENT INTEGRITY ASSESSMENT PROGRAM
TMI-2 GROUNDWATER MONITORING
GAMMA SCAN RESULTS
FOR
LIQUID MONITORING STATION MW-2

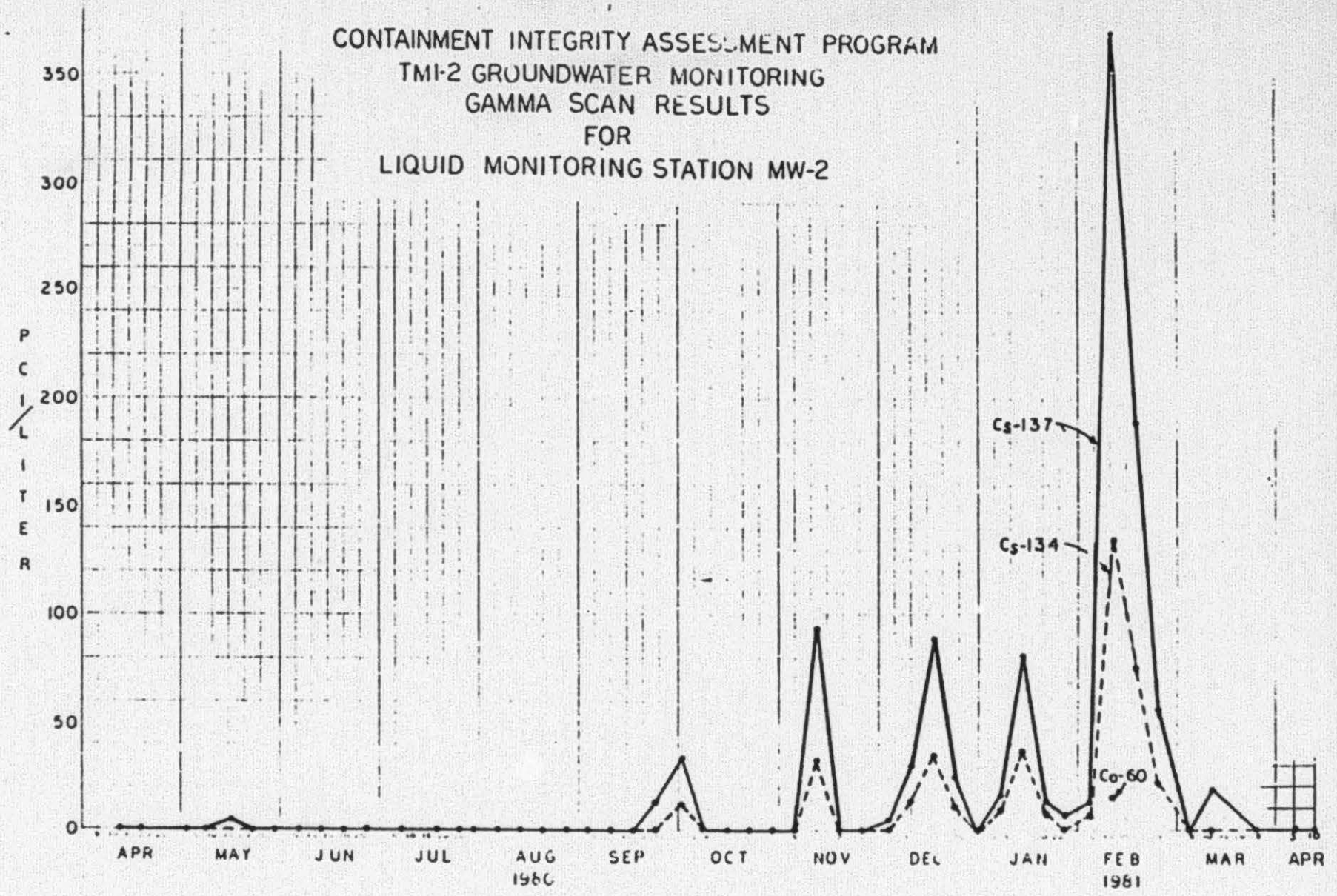


FIGURE 2, 1 of 1

CONTAINMENT INTEGRITY ASSESSMENT PROGRAM CORK SEAL WATER LEVEL

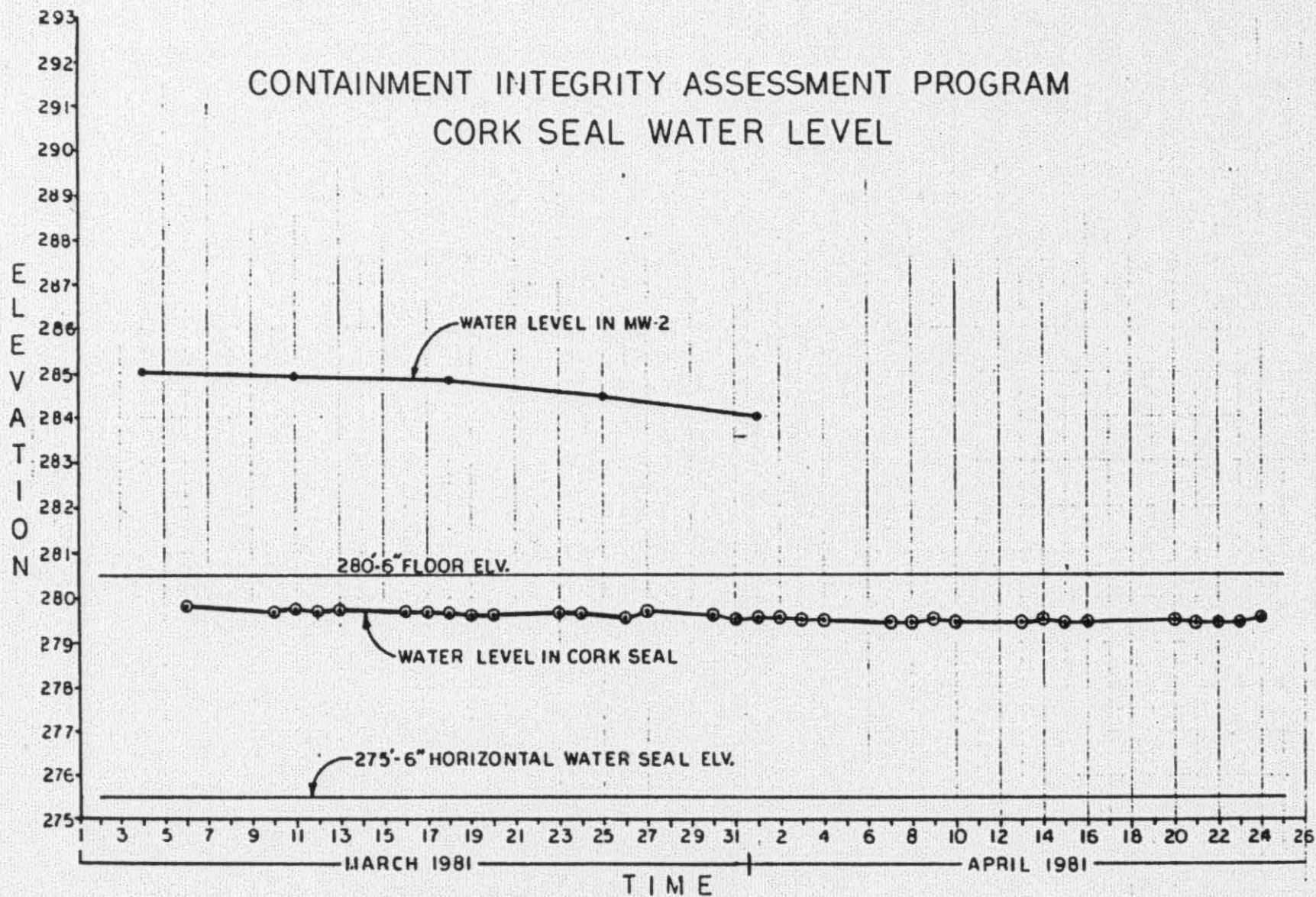


FIGURE 3, 1 of 1

GWT FILE NO. 80507

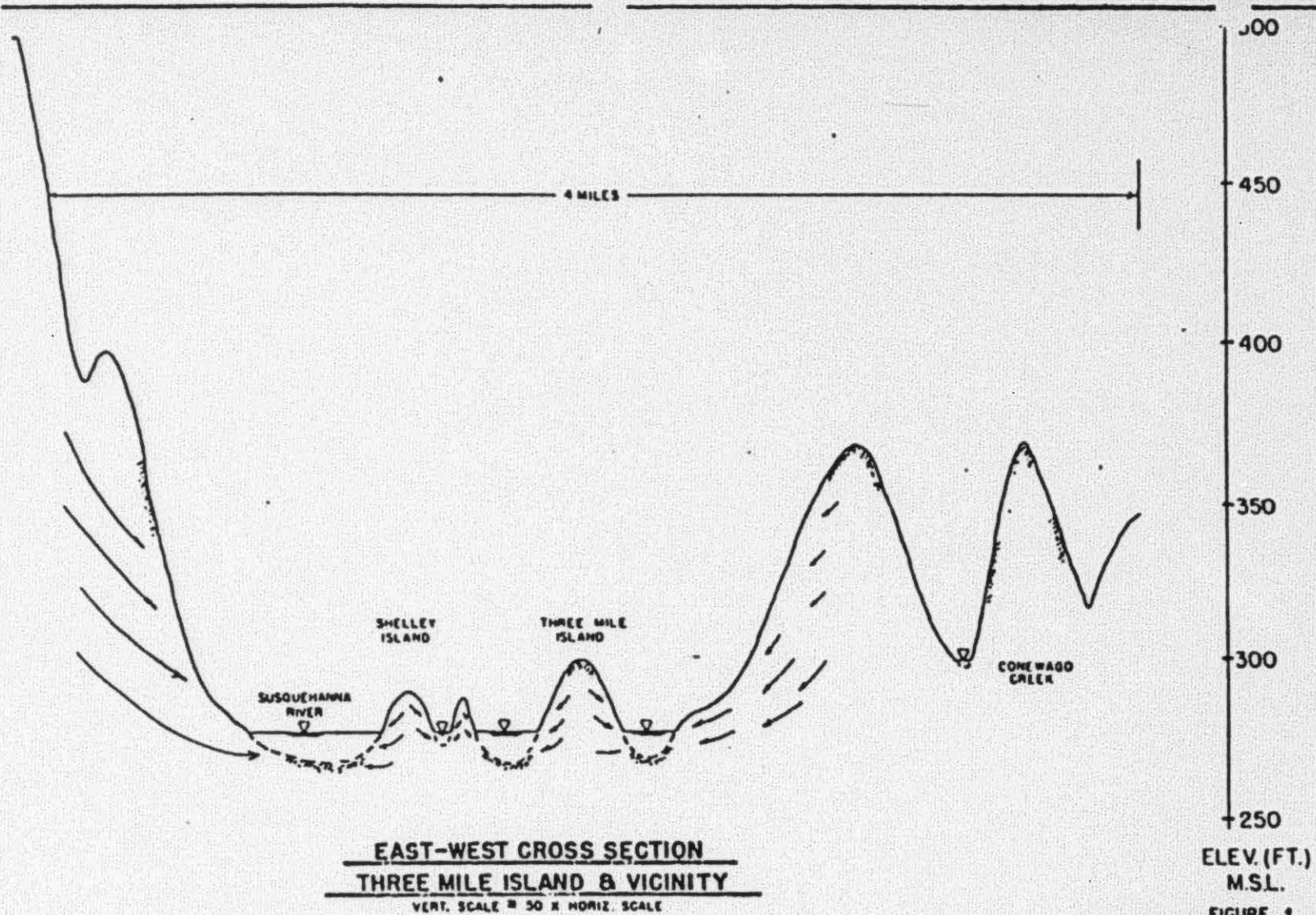


FIGURE 1
GROUNDWATER TECHNOLOGY, INC.

FIGURE 4, 1 of 1