



Metropolitan Edison Company
Post Office Box 480
Middletown, Pennsylvania 17057

Writer's Direct Dial Number

February 20, 1981
LL2-81-0042

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)
Operating License No. DPR-73
Docket No. 50-320
Three Mile Island Groundwater Monitoring Program

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Attached are the groundwater monitoring data updated to include the period of November 12, 1980 to December 24, 1980. This is a continuation of periodic reporting, formerly directed to Mr. Carlyle Westland of Pennsylvania Department of Environmental Resources.

The gamma scan results are shown in Table 1. Well samples from MW-2, OW-14, and OW-16 had detectable cesium levels. All other well samples had nondetectable levels.

The computer graphs of tritium concentrations differ from those of previous reports in that the same tritium scale is used for all graphs. This change has been made to provide better perspective of relative tritium concentrations for the monitoring well array. Attached also is an initial draft of composite drawing showing all well locations with the graph of tritium concentrations for each well. This is provided to give a perspective of the total site tritium distribution.

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Most tritium concentrations remained fairly constant over the reporting period. However, MW-2 tritium concentrations indicate a downward trend and MW-3 indicates an upward trend. This suggests a stabilization of levels in the area after the perturbation caused by the extended pump testing done in August and September of 1980. The tritium levels in MW-3 are expected to increase after MW-2 because it is on the hydraulic gradient downstream from MW-2.

A preliminary assessment of potential sources of radionuclides found in the ground of TMI will be forwarded to you shortly.

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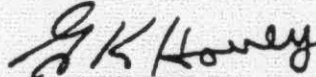
Mr. Lake Barrett

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If you have any questions, please contact Mr. J. C. Devine, Jr. at 948-8313.

Sincerely,

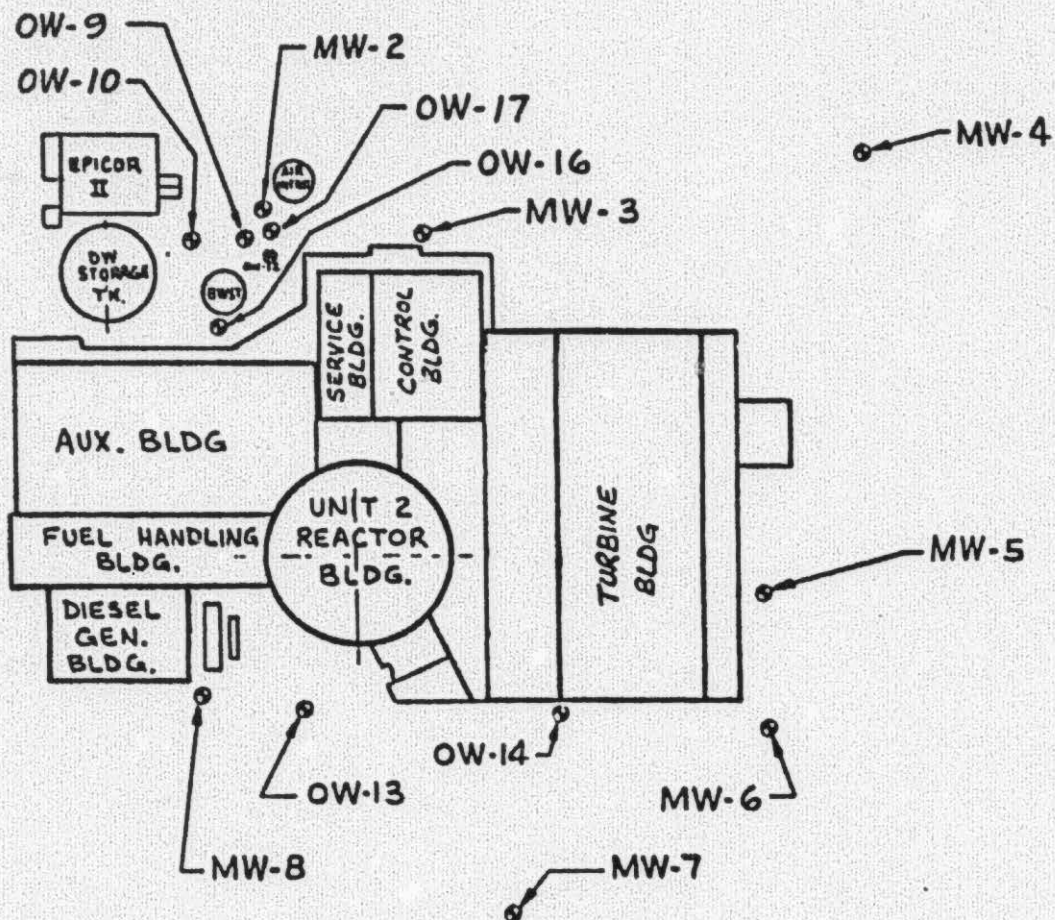


G. K. Hovey
Vice-President and
Director, TMI-2

GKH:JJB:djb

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

WELL LOCATIONS



COMMENTS:

1. MW-1 LOCATED IN NORTH PARKING LOT @ COORDINATES
2. OW-15 LOCATED ON SOUTH END OF ISLAND @ COORDINATES

N 301,460.04
E 2,286,538.94

N 292,985.44
E 2,287,765.09

HISTORY OF GROUNDWATER PROGRAM AT TMI

In January 1980, the development of eight wells to monitor groundwater quality at TMI began. Five of the monitoring wells were located around the Unit 2 containment structure with two additional wells placed outside the Unit 2 secured area fence. An eighth well was located at the north end of the Island.

During the development of each monitoring well, groundwater samples were obtained for tritium and gamma isotopic analyses. With the complete installation of the eight monitoring wells in April 1980, groundwater sampling on a weekly basis was initiated.

In addition to the monitoring wells, seven observation wells were drilled during the end of April and beginning of May 1980. Six of the observation wells are located inside the Unit 2 secured area while a seventh is positioned at the south end of the Island.

During the first week of May 1980, the groundwater monitoring program was expanded to include the observation wells as sampling locations. Consequently, fifteen wells are now sampled on a weekly basis to monitor groundwater conditions at TMI.

GAMMA SCAN RESULTS

Test results received for the November 12, 1980 to December 17, 1980 reporting period were negative with the exceptions listed below in Table 1. MW-2 results are listed through January 28, 1981. The other well results have not been received.

Table 1

Date	Well #	Cs-134 (pCi/l)	Cs-137 (pCi/l)
November 12, 1980	2		9.62±4.42
November 12, 1980	16*		8.98±4.96
November 26, 1980	14*		6.67±2.95
December 3, 1980	2		5.90±2.36
December 10, 1980	2	12.9±6.2	30.2±4.2
December 17, 1980	2	35.0±4.9	88.1±8.8
December 24, 1980	2	10.5±3.9	24.1±5.9
December 31, 1980	2	<9.0	<10.0
January 7, 1981	2	9.68±4.28	16.9±5.9
January 14, 1981	2	36.6±5.0	81.4±7.8
January 21, 1981	2	7.71±3.62	13.7±4.5
January 28, 1981	2	<5.0	7.70±4.36

*Sample being reanalyzed

GP - ENVIRONMENTAL CONTROL'S GROUP
TALLIUP CONCENTRATION (PCI/L)

DATE	M.I.	P.U. 2	P.U. 3	P.U. 4	P.U. 5	P.U. 6	P.U. 7	P.U. 8
OF SAMPLE	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3
January 25, 1980			170	70				
February 20, 1980		290	90					
February 25, 1980	1530							
February 29, 1980					280	90		
March 5, 1980			250	90				150
March 7, 1980								
March 11, 1980	200							
March 26, 1980			200	80			332	83
March 27, 1980		370	80		380	80		
March 27, 1980		660	110					
March 28, 1980	2500	183						
March 28, 1980						990	100	
March 28, 1980							560	100
April 1, 1980	990	188						
April 2, 1980		1550	100	300	80		430	80
April 2, 1980		1770	140	240	90		310	80
April 3, 1980					290	70		
April 3, 1980					300	70		
April 9, 1980	180	1520	100	770	110		330	80
April 11, 1980								840
April 12, 1980								
April 13, 1980								
April 14, 1980								
April 15, 1980								
April 16, 1980								
April 17, 1980								

POOR ORIGINAL

**30U ENVIRONMENTAL CONTROLS GROUP
TRITIUM CONCENTRATION (PC/L)**

DATE	N.U. 1	N.U. 2	N.U. 3	N.U. 4	N.U. 5	N.U. 6	N.U. 7	N.U. 8
DATE	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3
April 18, 1980	120	838	120	758	400	284	120	196
April 19, 1980	190	70	490	90	1090	362	70	350
May 2, 1980	130	80	910	80	860	380	80	260
May 8, 1980	250	60	670	90	980	310	90	130
May 16, 1980	100	30	880	80	1270	520	130	200
May 23, 1980	170	80	850	80	920	820	100	250
May 30, 1980	140	90	950	100	1250	670	120	270
June 6, 1980	200	60	710	80	1200	580	80	370
June 13, 1980	220	80	1480	110	1370	450	80	320
June 20, 1980	170	120	1310	100	1400	450	70	120
June 27, 1980	230	80	1900	190	1250	510	130	250
July 7, 1980	240	80	2130	210	1350	560	130	290
July 18, 1980	160	80	1930	190	1570	350	110	260
July 25, 1980	180	80	850	250	1680	480	120	850
July 30, 1980	190	80	1360	140	1840	440	120	280
August 6, 1980	180	80	1000	100	1940	410	70	240
August 13, 1980	130	80	3010	300	1210	500	130	370
August 20, 1980	130	120	3050	400	1470	930	90	270
August 27, 1980	180	80	4480	270	1520	650	130	770
September 3, 1980	580	80	4380	280	2040	970	150	460
September 10, 1980	240	90	4940	300	2880	620	130	600
September 17, 1980	370	90	4200	280	1980	930	100	280
September 24, 1980	920	70	3540	150	1720	730	110	290
October 1, 1980	170	80	3540	150	1720	730	110	290
October 8, 1980	190	80	3540	150	1720	730	110	290

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OPT ENVIRONMENTAL CONTROLS GROUP
Iodine Concentration (P-131)

DATE	N.U. 1	N.J. 2	N.U. 3	N.J. 4	N.J. 5	N.U. 6	N.U. 8									
DATE	H-2	H-3	H-3	H-3	H-3	H-3	H-3									
October 15, 1960	170	70	350	530	1770	270	740	200	80	340	50	420	100	380	90	
October 22, 1960	168	70	2950	440	1870	280	780	200	290	80	320	80	450	100	100	
October 29, 1960	168	70	3170	480	1670	250	610	120	300	90	320	50	320	90	470	100
November 5, 1960	165	70	2880	310	1620	240	570	100	250	80	270	80	290	80	810	140
November 12, 1960	160	70	2430	360	2050	310	740	200	190	70	350	90	320	90	510	100
November 19, 1960	270	90	2680	280	2250	140	590	100	310	100	540	100	440	130	270	100
November 26, 1960	120	70	2950	440	3620	540	310	90	170	70	220	80	260	80	510	100
December 3, 1960	260	70	3410	210	3120	180	450	70	280	100	320	110	340	70	360	70
December 10, 1960	110	70	2750	410	3030	300	470	100	270	80	250	80	230	80	360	90
December 17, 1960	130	70	2110	330	2380	360	420	100	300	90	280	80	270	80	420	100
December 24, 1960	140	70	2610	370	3000	390	390	90	310	90	210	80	250	80	380	90

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REPORT NO. 15

DATE: February 7, 1981

PAGE 1 OF 2

GPU ENVIRONMENTAL CONTROLS GROUP
METHIUM CONCENTRATION (PCI/L)

DATE	O.U. 9	C.U. 18	J.M. 13B	O.U. 14	O.U. 15	O.U. 16	O.U. 17
OF SAMPLE	M-3	M-3	M-3	M-3	M-3	M-3	M-3
April 25, 1980	2610	1480	100				
May 2, 1980	350	170	30			1080	110
May 8, 1980	328	430	90	1320	200	1030	110
May 16, 1980	442	350	70	1280	110	1120	110
May 23, 1980	298	368	110	1230	120	950	80
May 30, 1980	363	430	120	1270	130	770	110
June 6, 1980	378	390	110	830	80	770	110
June 14, 1980	278	460	80	730	50	590	100
June 20, 1980	323	380	110	810	120	820	80
June 27, 1980	490	310	90	640	100	760	100
July 7, 1980	563	910	90	510	100	580	90
July 18, 1980	500	680	120	870	120	680	120
July 25, 1980	498	340	110	510	130	720	110
July 30, 1980	552	800	80	530	130	710	110
August 6, 1980	418	180	80	430	120	720	110
August 13, 1980	578	220	90	440	120	850	90
August 20, 1980	810	420	220	470	120	950	100
August 27, 1980	2480	190	320	530	130	960	100
September 3, 1980	910	1550	200	700	110	1100	110
September 10, 1980	1160	820	110	830	90	1180	140
September 17, 1980	1050	590	80	1170	100	1490	110
September 24, 1980	1320	330	70	1320	110	1610	130
October 1, 1980	1270	100	260	730	80	1370	100
October 8, 1980	1260	300	160	640	120	1270	130
October 15, 1980	1300	1630	110	510	100	1270	100
October 22, 1980	1300	1630	110	510	100	1270	100

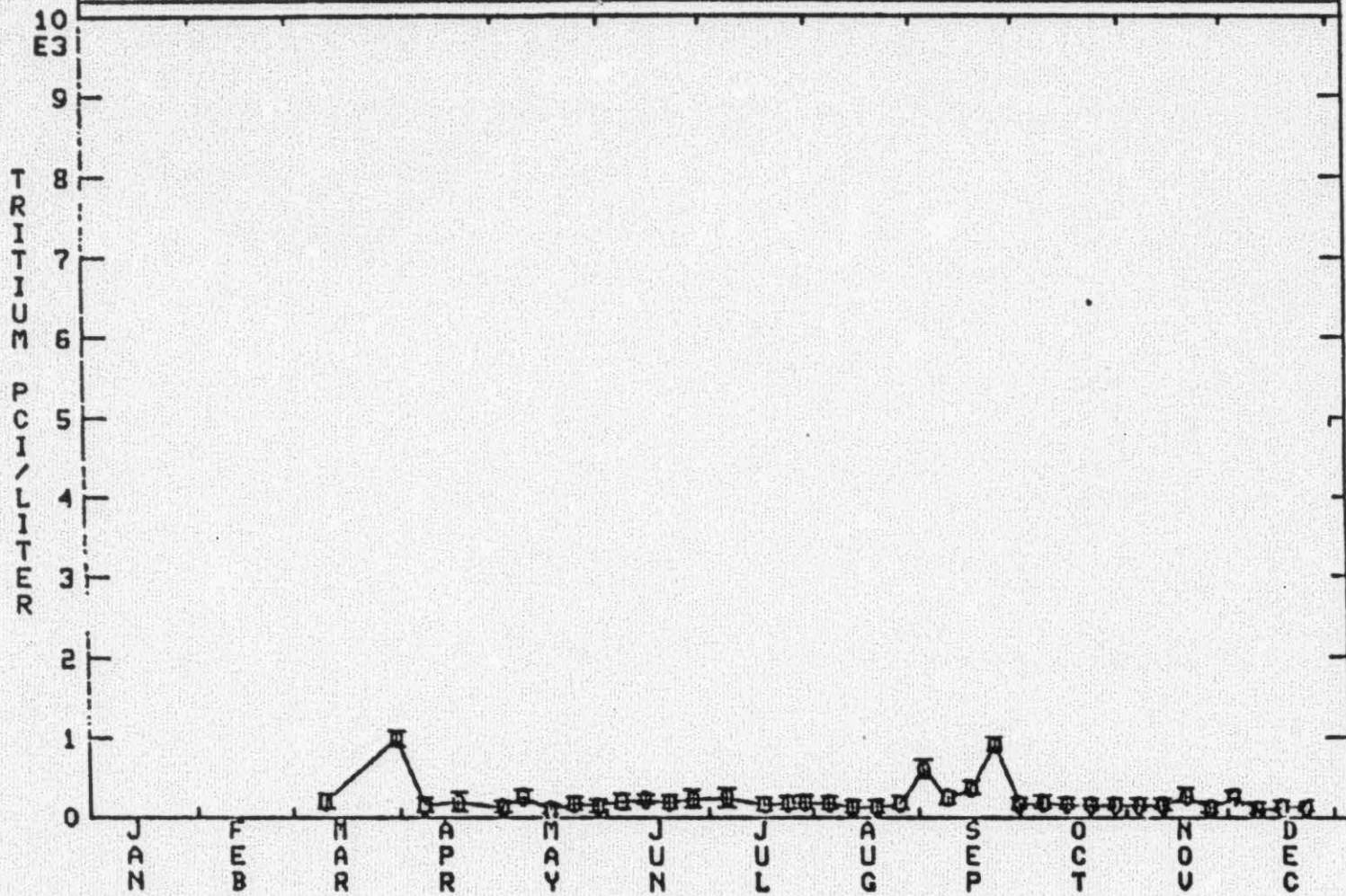
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OPC ENVIRONMENTAL CONTROLS GROUP
 TAP LUP CONCENTRATION (PC/L)

DATE	C.U. 9	C.U. 10	C.U. 11	C.U. 12	C.U. 13	C.U. 14	C.U. 15	C.U. 16	C.U. 17
DATE	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3	M-3
October 22, 1980	2670	310	290	80	550	100	860	140	1340
October 25, 1980	610	120	360	90	210	80	560	100	1290
November 5, 1980	1650	250	1100	170	240	80	460	100	1660
November 12, 1980	1620	240	2670	320	310	90	310	90	1450
November 19, 1980	700	90	2600	160	140	100	500	80	1310
November 25, 1980	340	90	830	140	210	80	330	90	1820
December 3, 1980	1040	80	1090	120	240	60	500	100	1560
December 10, 1980	1000	150	1300	210	560	80	370	90	3200
December 17, 1980	1340	200	1350	280	280	80	390	90	3010
December 24, 1980	1340	200	1060	160	290	80	470	100	3950

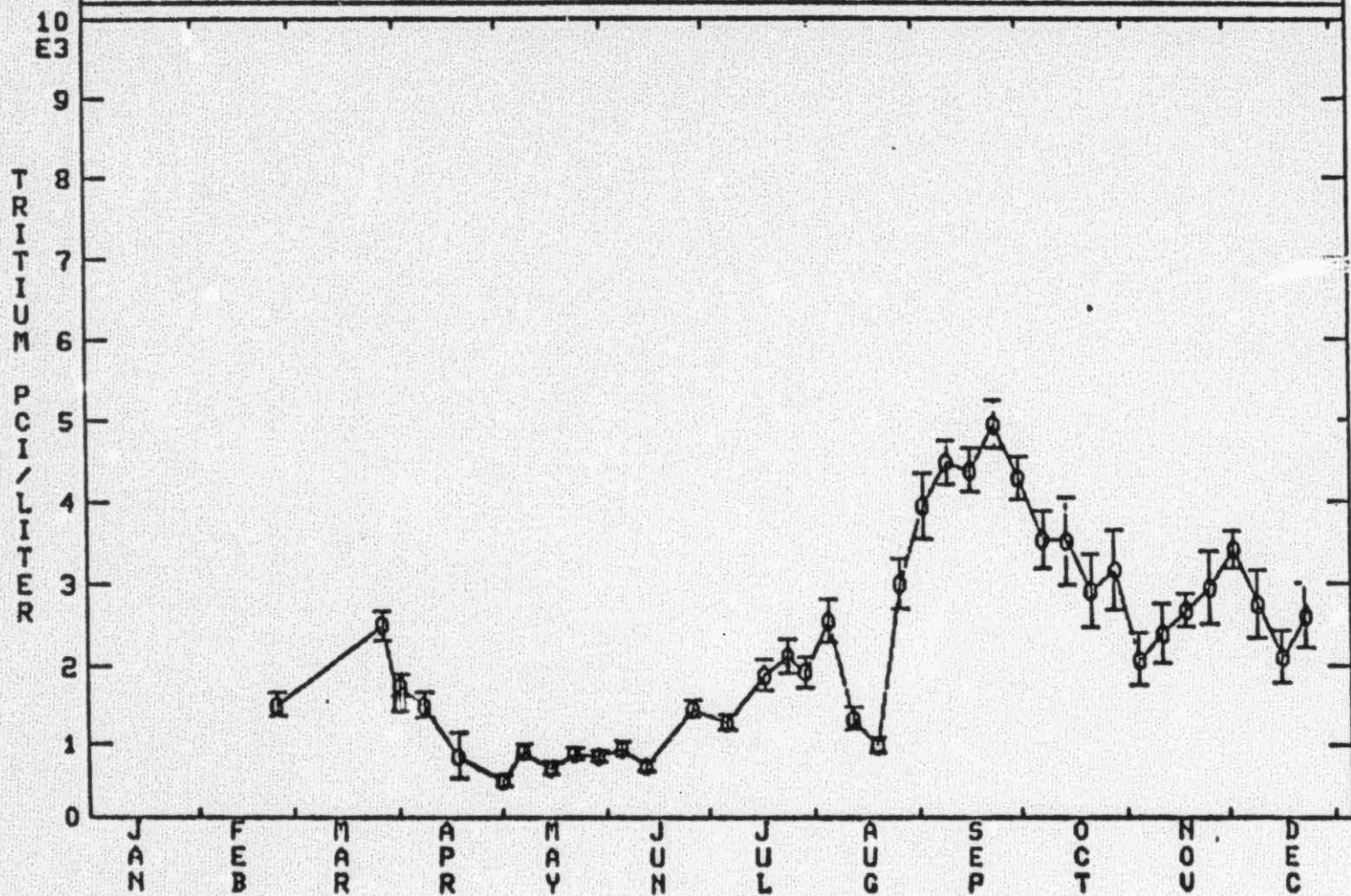
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TRITIUM CONCENTRATION, MONITORING WELL NUMBER 1



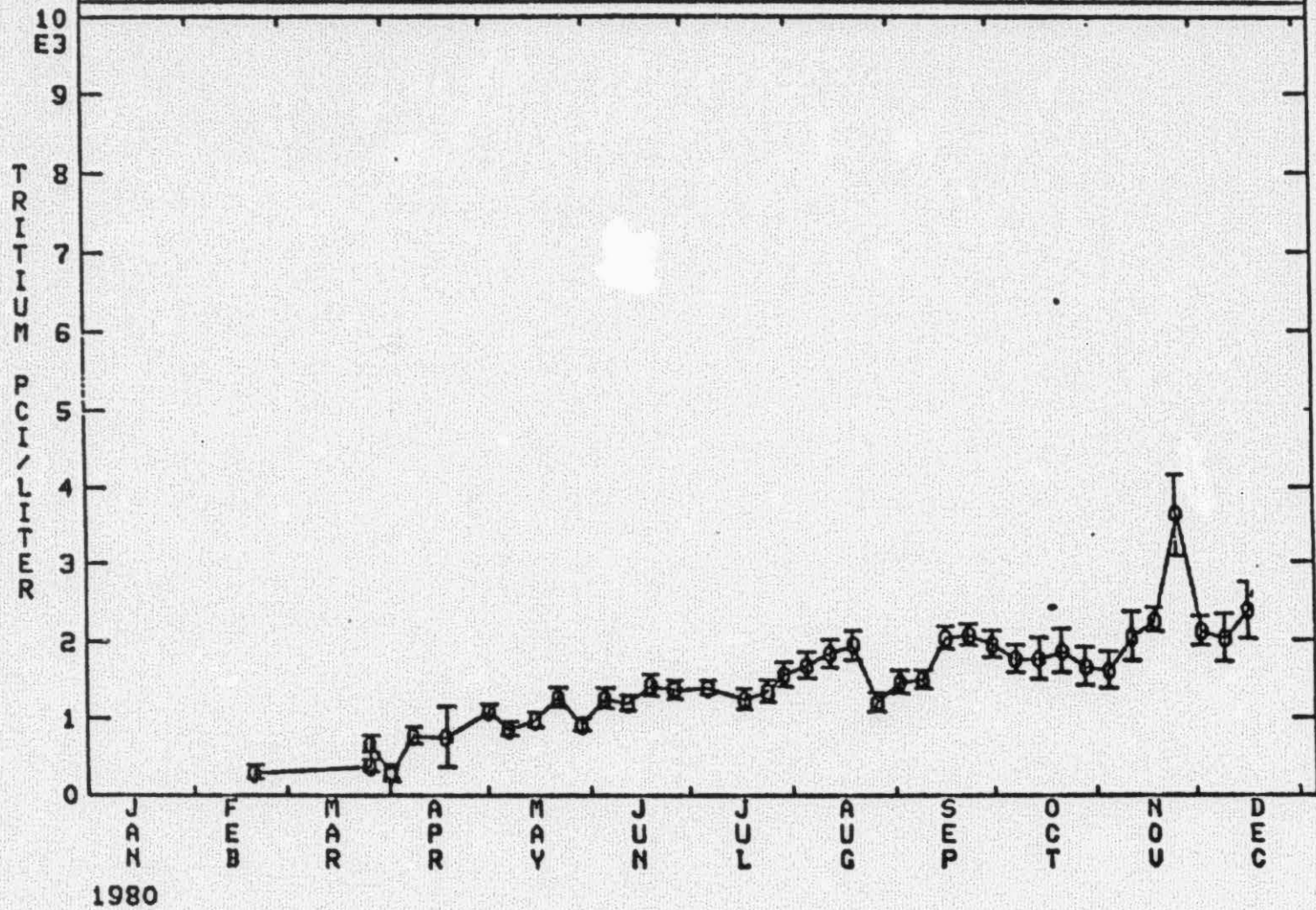
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TRITIUM CONCENTRATION, MONITORING WELL NUMBER 2

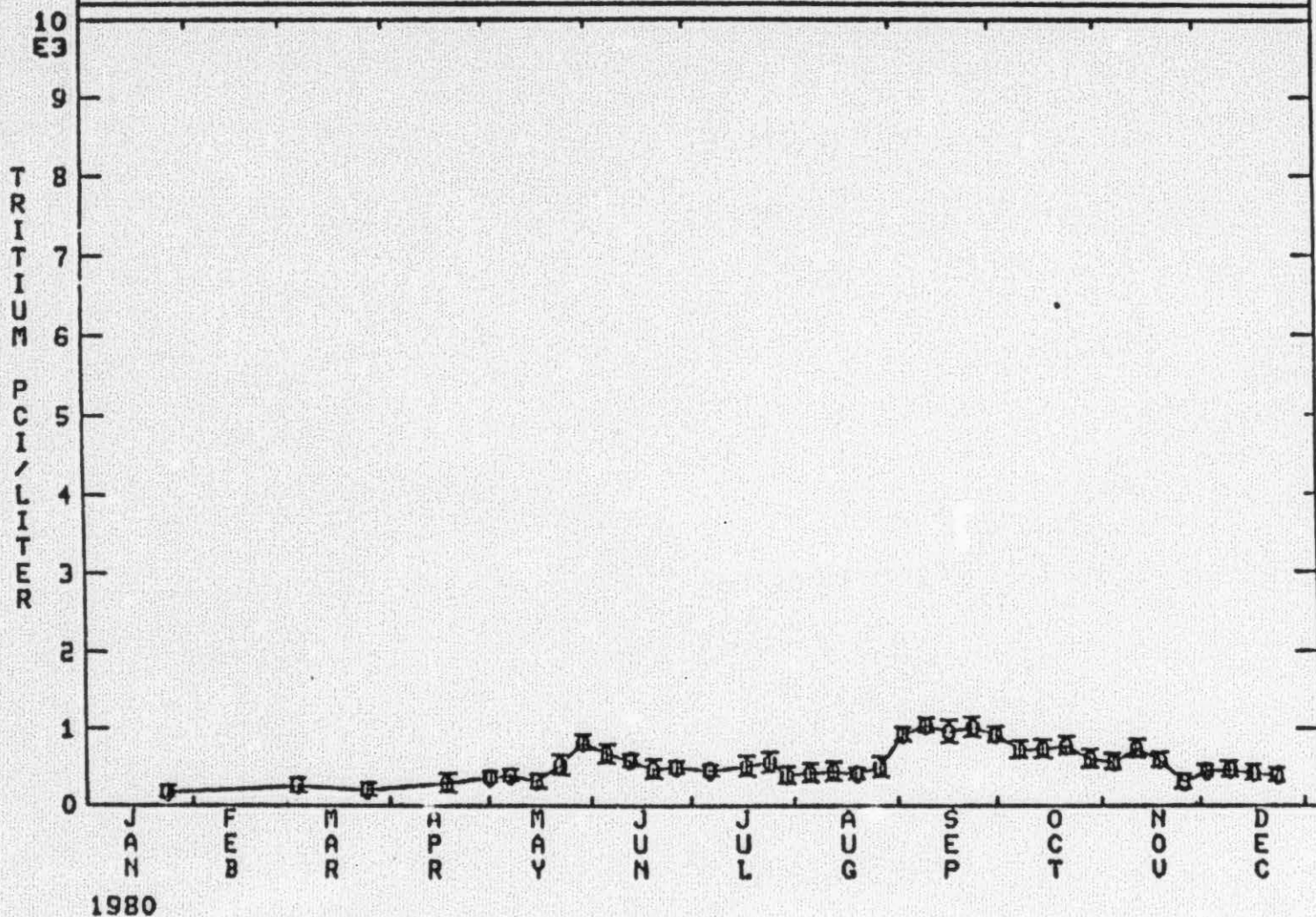


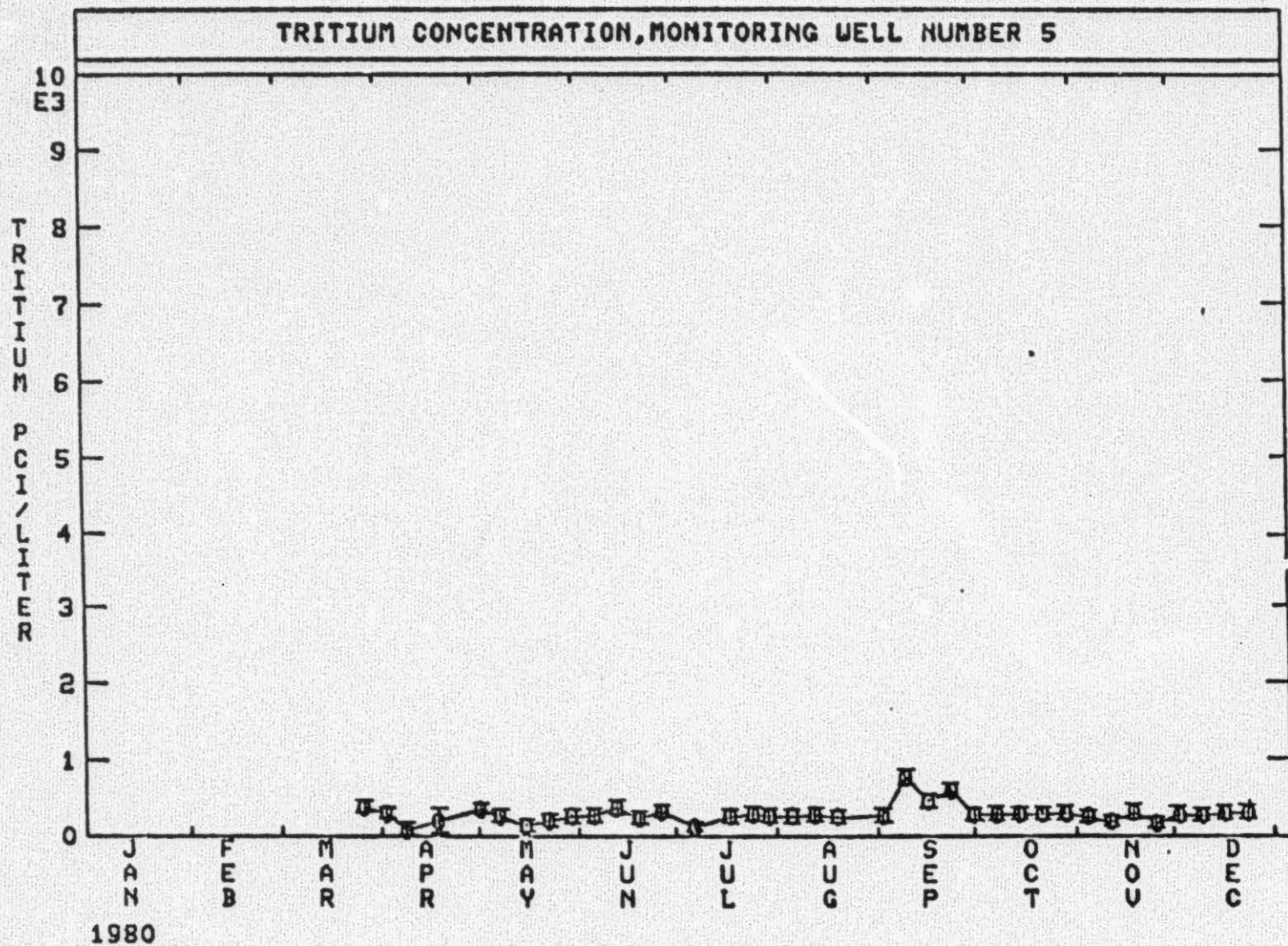
1980

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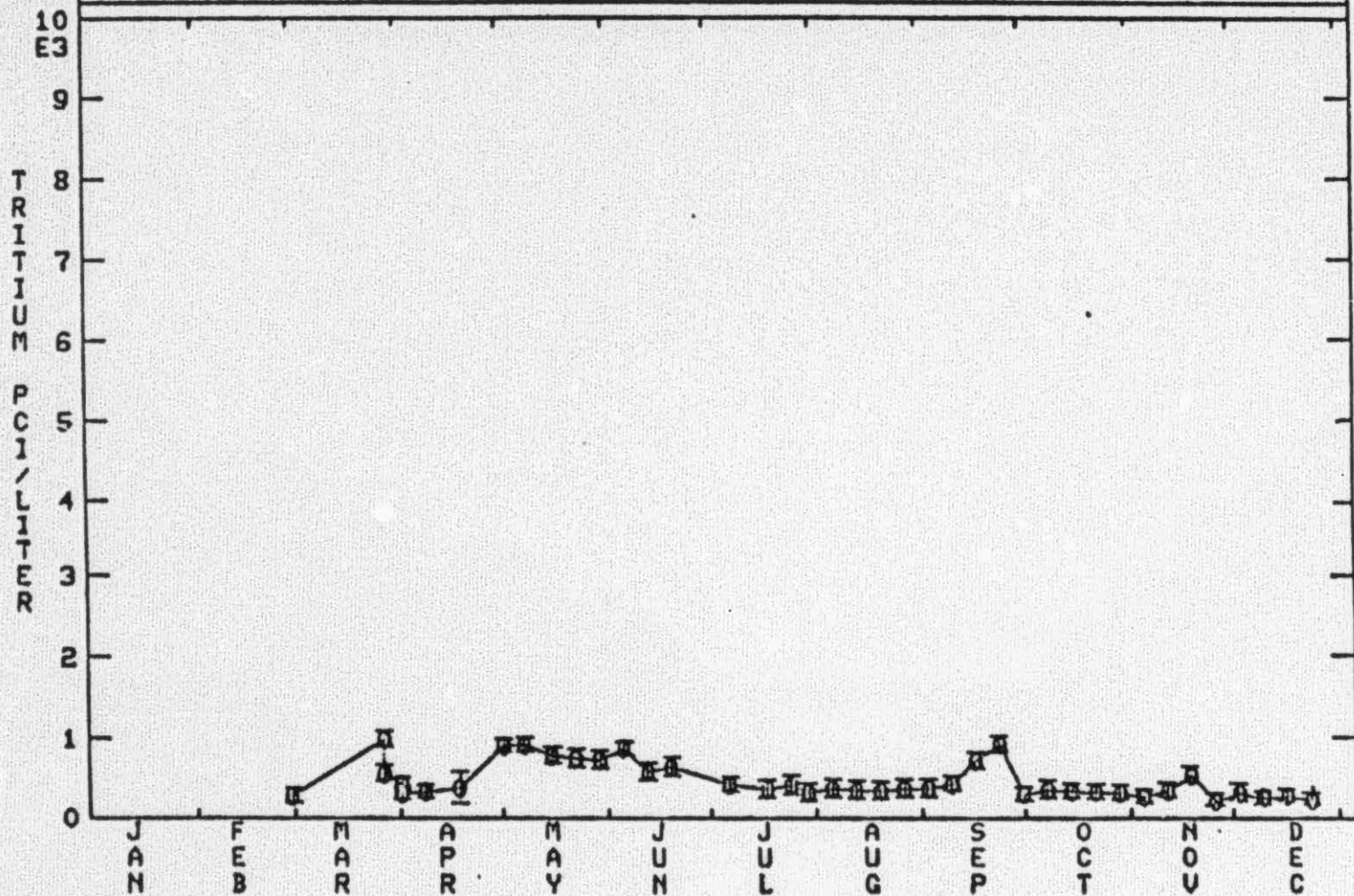


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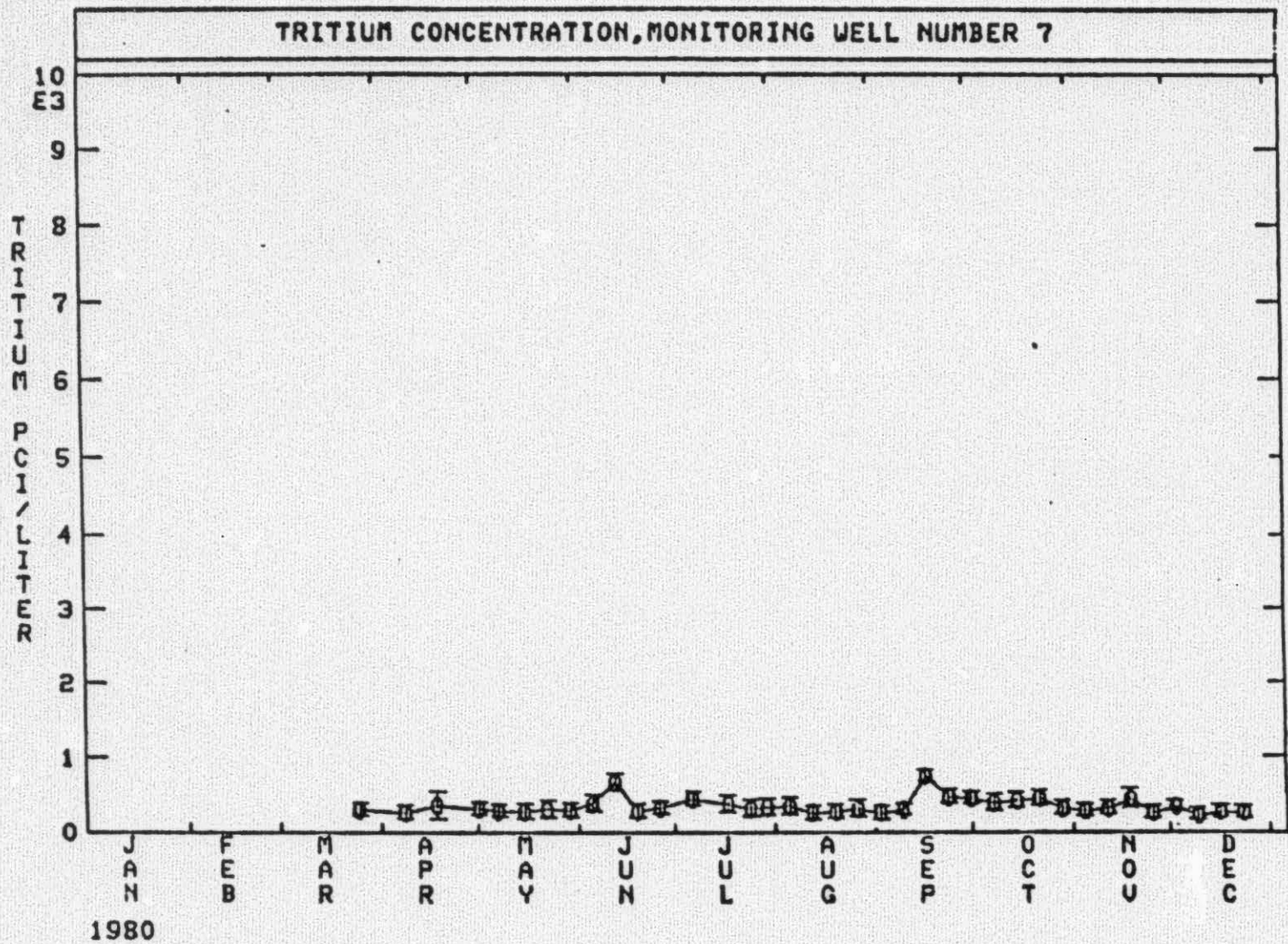


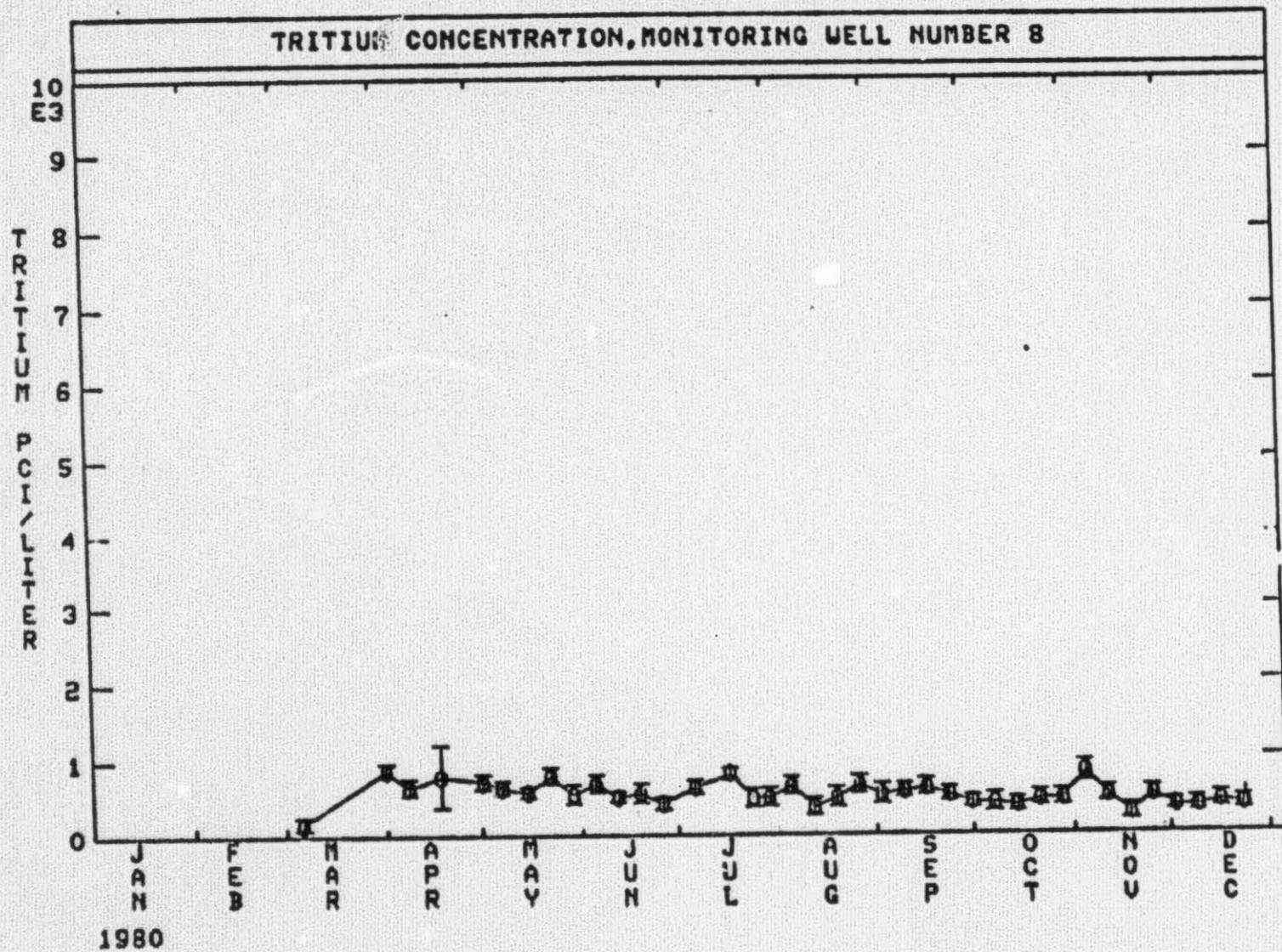


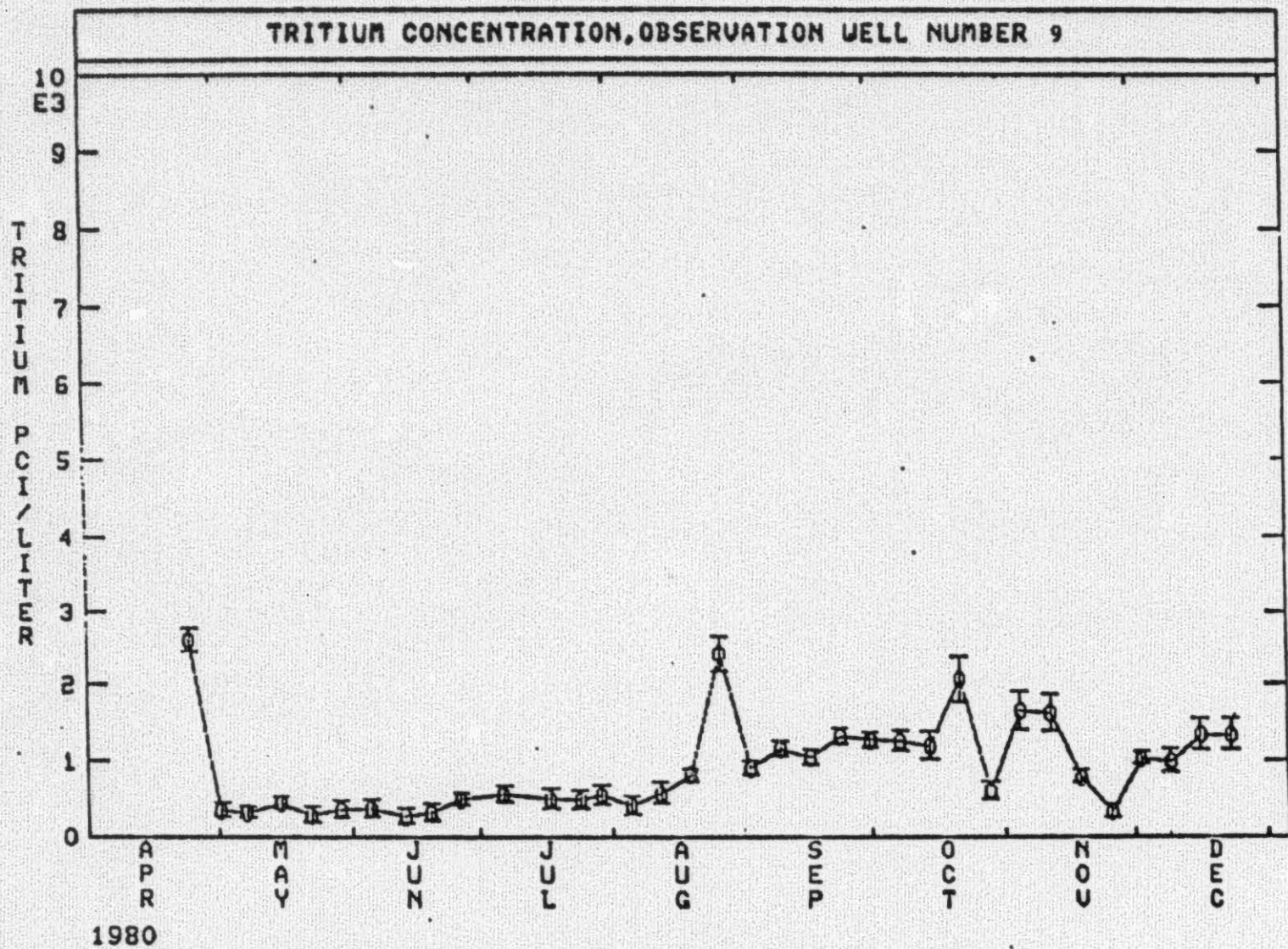
TRITIUM CONCENTRATION, MONITORING WELL NUMBER 6



1980







TRITIUM CONCENTRATION, OBSERVATION WELL NUMBER 10

