



GPU Service Corporation
Three Mile Island Nuclear Station
Post Office Box 480
Middletown, Pennsylvania 17057

September 16, 1980
WER-559

50-289
50-320 R

Mr. Carlyle Westland
Bureau of Water Quality Management
P. O. Box 2063
Harrisburg, PA 17120

Dear Mr. Westland:

Attached are the tritium results from TMI Groundwater and soil samples. This report includes tritium values of groundwater samples obtained on May 30, July 7, July 18, and July 25, 1980. Also, contained within the report are the results of the analyses performed on the soil samples from OW-13B, OW-14, and OW-17. All soil samples from the drilling of the Observation Wells have now been analyzed.

Groundwater results will continue to be reported on a bimonthly basis. If there are any questions or if you require additional information, please contact T. J. Walsh of my staff at 944-1768.

Sincerely,

W. E. Riethle
TMI Environmental Controls Manager

WER/TJW/slw

Attachments

cc: See attached list
File: 2249.2.1

1007
S.I.C.

8009800

550 R

cc:

William S. Bivins
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Jay Lee
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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Ground/Water Technology, Inc.
40 Ford Road
P. O. Box 99
Denville, NJ 07834

Richard I. McLean
State of Maryland
Department of Natural Resources
Energy & Coastal Zone Administration
Radiation Section-Div. Envir. Chem.
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Baltimore, MD 21203

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Middletown, PA 17057

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U.S. Nuclear Regulatory Commission
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Trailer 3
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Middletown, PA 17057

American Nuclear Insurers
The Exchange, Suite 245
270 Farmington Avenue
Farmington, CT 06032
Attn: Ronald Sanacore, P.E.

Comments

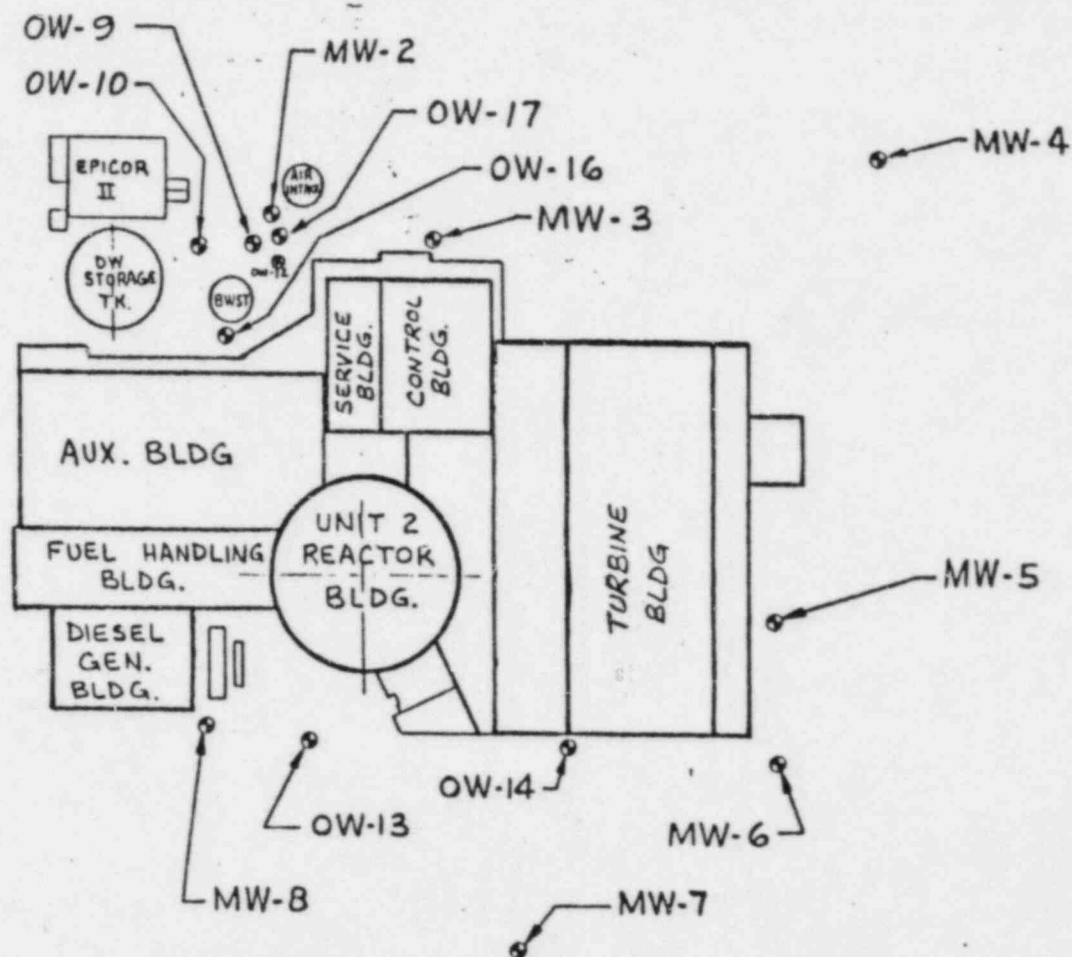
1. All gamma scan results for the groundwater samples were normal with the exception of a sample obtained from MW-1 on May 30, 1980. The value reported for Cs-137 was 9.52 ± 4.43 pCi/l. This value is slightly above the lower limit of detection for the Cs-137 isotope.
2. In July, tritium levels in groundwater samples from MW-2 and MW-3 continued an upward trend while samples from OW-10 showed fluctuating tritium values. The remaining wells showed fairly constant tritium levels.
3. OW-17 groundwater samples continue to have the highest tritium levels of all the wells.
4. All gamma scan results for the soil samples from OW-13B, OW-14 and OW-17 were normal.
5. The gamma scan performed on the 0-1ft. level soil sample from OW-15 located at the South end of TMI (tritium levels for OW-15 were issued in the August 28, 1980, report) showed a Cs-137 value of $.388 \pm .070$ pCi/gm. Since this value was found only in the 0-1ft. level of the samples obtained from OW-15, it is probably due to fallout-from atmospheric nuclear weapons testing.
6. The highest tritium levels in the soil results reported this week are in the 23-27 ft. levels of OW-17. The 25-27 ft. value was reported as 4190 ± 260 pCi/l.
7. Soil results from OW-14 show high tritium concentrations in both the upper layers of the soil and the 25 to 30 ft. level. The 0-1 ft. level had a tritium value of 1820 ± 110 pCi/l while the 27.5-29.5 ft. level showed a value of 2270 ± 150 .

Correction

As described in the last groundwater report dated August 28, 1980, the location of OW-12 was incorrect. The well's location should be listed as "was 5 ft. West of OW-17." The Groundwater Well Locations Map was, however, correct in its depiction of OW-12.

WELL LOCATIONS

NORTH 



COMMENTS:

1. MW-1 LOCATED IN NORTH PARKING LOT @ COORDINATES
N 301,460.04
E 2,286,538.94
2. OW-15 LOCATED ON SOUTH END OF ISLAND @ COORDINATES
N 292,985.44
E 2,287,765.09

Tritium
Monitoring Well Results
(pCi/liter)

Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	Pond
1/24	-	-	-	-	-	-	-	-	-
1/25	-	-	-	170± 70	-	-	-	-	-
2/20	-	-	290± 90	-	-	-	-	-	-
2/25	-	(a) 1530±150	-	-	-	-	-	-	-
2/29	-	-	-	-	-	280± 90	-	-	-
3/5	-	-	-	250± 90	-	-	-	-	-
3/7	-	-	-	-	-	-	-	160± 80	-
3/11	200± 90	-	-	-	-	-	-	-	-
3/26	-	-	-	(e) 200± 80	-	-	300±80	-	-
3/27	-	-	370± 80/660±110	-	380± 80	-	-	-	-
3/28	-	2500±180	-	-	-	990±100/560±100	(f)	-	-
4/1	990±100	-	-	-	-	-	-	-	-
4/2	-	1550±100/1770±140	(b) 300± 80/240± 90	(d)	-	430± 80/310± 80(g)	-	870± 90	-
4/3	-	-	-	-	290± 70/300±70(e)	-	-	-	-
4/9	150± 90	1530±160	770±110	<170	80± 70	330± 80	260±90	640±110	-
4/11	210± 90	1010±110	700± 80	320± 80	120± 70	320± 80	240±80	1060±100	190±70
4/12	250± 80	920±110	720±100	350± 80	260± 70	440± 80	270±80	1020±100	<100
4/13	150± 70	980±110	690± 90	350± 80	330±100	530± 80	380±80	790±100	100±80
4/14	170± 70	1010±100	590± 90	270± 80	230± 70	430± 80	480±80	860±100	90±80
4/15	290± 70	610± 80	1040±100	290± 80	210± 70	370± 80	300±60	570± 90	110±80
4/16	100± 90	670± 90	580± 80	230± 80	130± 80	200± 70	320±90	410± 70	<100
4/17	170± 70	730±110	1080± 90	290±110	240±150	430± 90	490±90	830± 80	<100
4/18	160± 80	890±100	860±100	160± 80	130± 60	300± 80	270±70	660±100	-
4/19	210± 90	720±100	550± 90	300± 80	120± 80	380± 80	420±90	870±100	<130
5/2	130± 70	490± 80	1090± 90	360± 70	350± 70	910± 80	310±80	710±100	-
5/8	260± 80	910±100	860± 90	380± 80	260± 80	920± 90	280±80	630± 90	-
5/16	100± 60	670± 90	980±100	310± 90	130± 80	790±100	270±100	570± 70	-
5/23	170± 80	880± 80	1270±130	520±130	200± 80	750±110	300±110	790±110	-
5/30	140± 80	950±100	920± 80	820±100	250± 90	730±110	290± 90	540±130	-
6/6	200± 90	950±100	1260±130	670±120	270± 90	870± 80	380±110	680±120	-
6/13	220± 60	710± 80	1200±100	580± 80	370±100	580±110	660±110	500± 70	-

(a) recheck = 1600±120

(b) samples for 8:00 & 8:40 a.m.

(c) samples for 9:00 & 9:45 a.m.

(d) samples for 8:19 & 8:23 a.m.

(e) samples for 11:25 a.m. & 12:35 p.m.

(f) samples for 10:30 a.m. & 11:30 a.m.

(g) samples for 8:55 & 9:00 a.m.



19 1 10 101 CONTINUED 45 0011-48



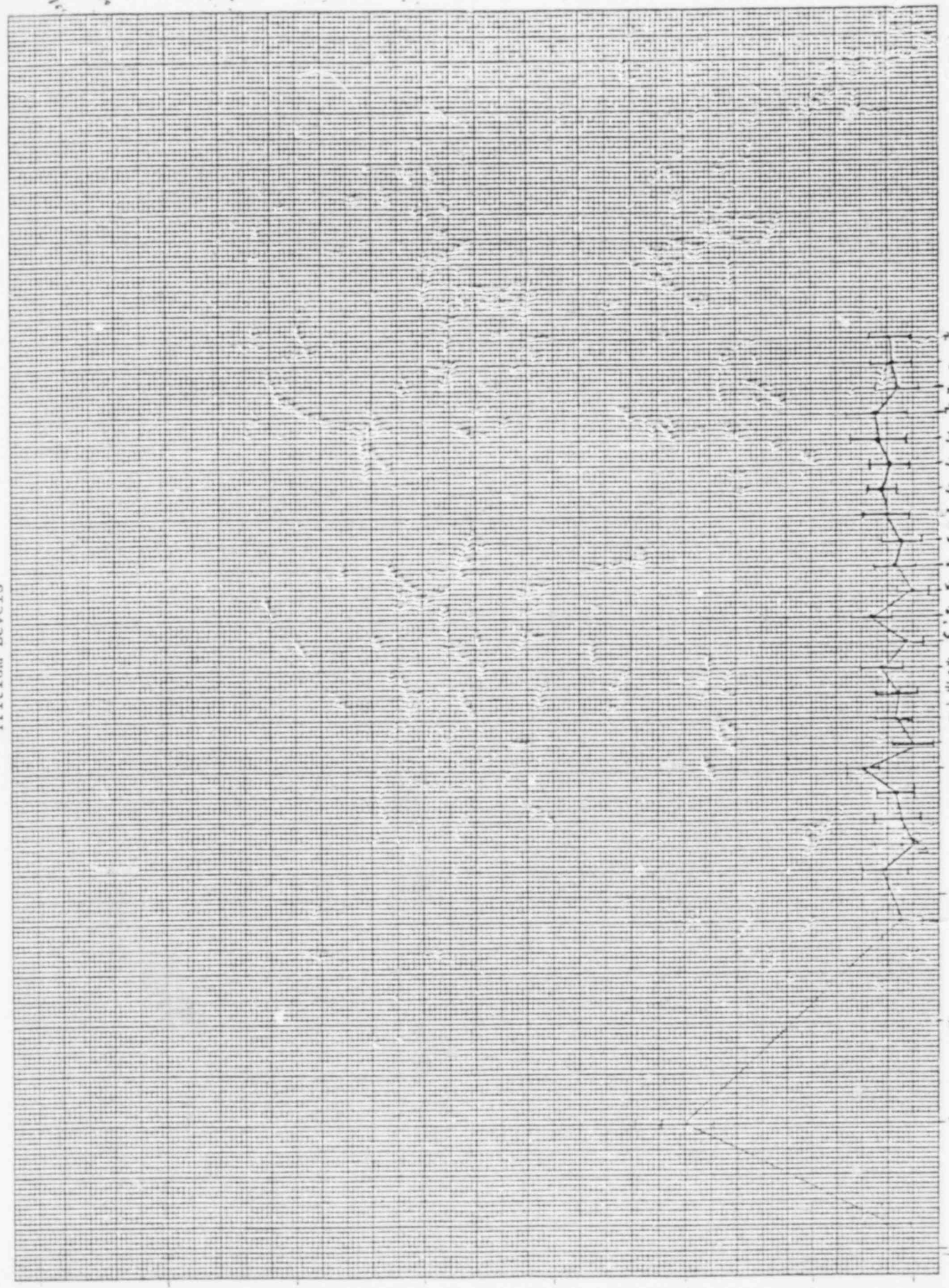
MONITORING WELL 1

4

GRAPHIC CONTROL & CONSTRUCTION
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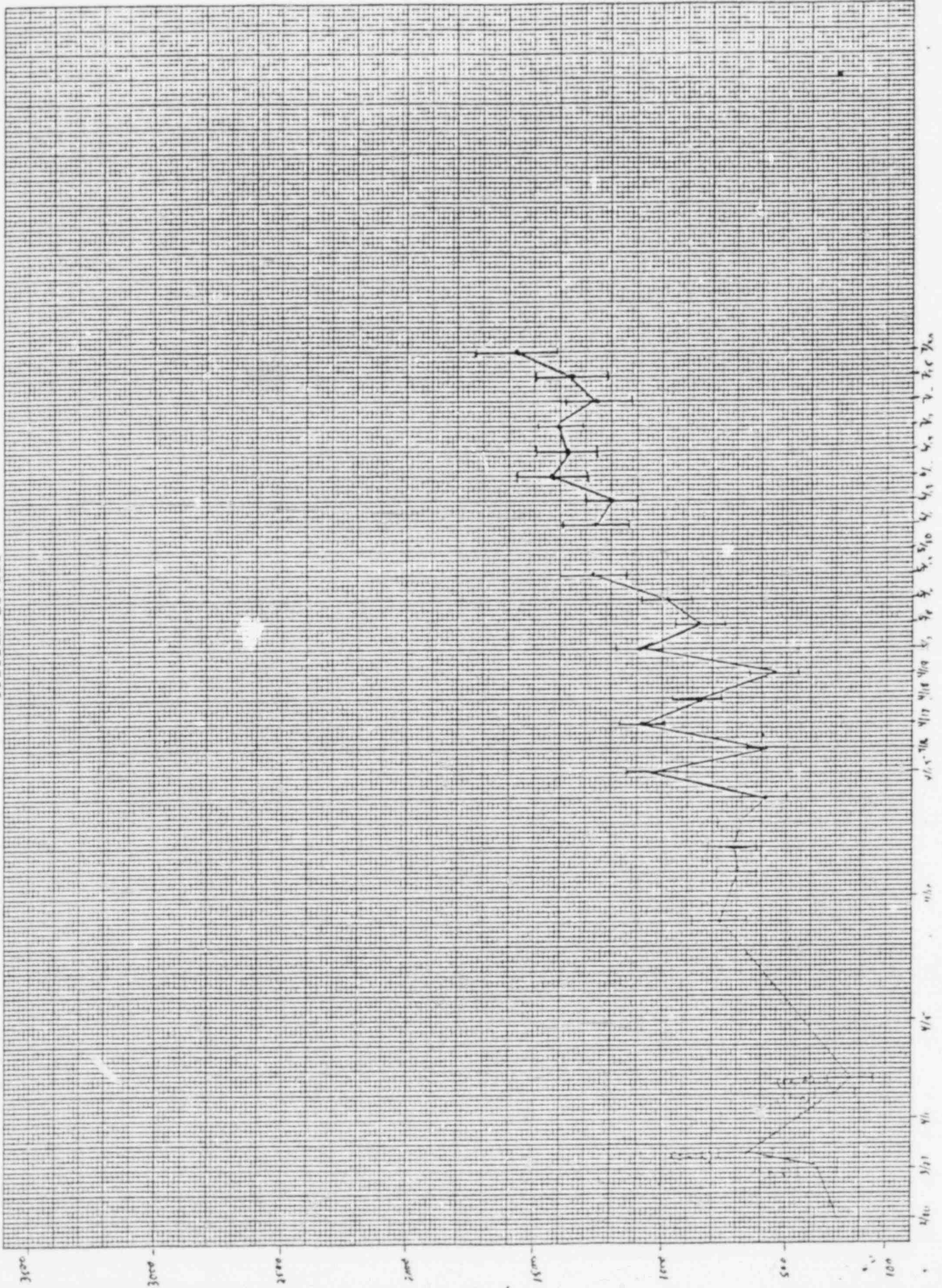


Tritium Levels



1000
2000

MONITORING WELL 3 Tritium Levels

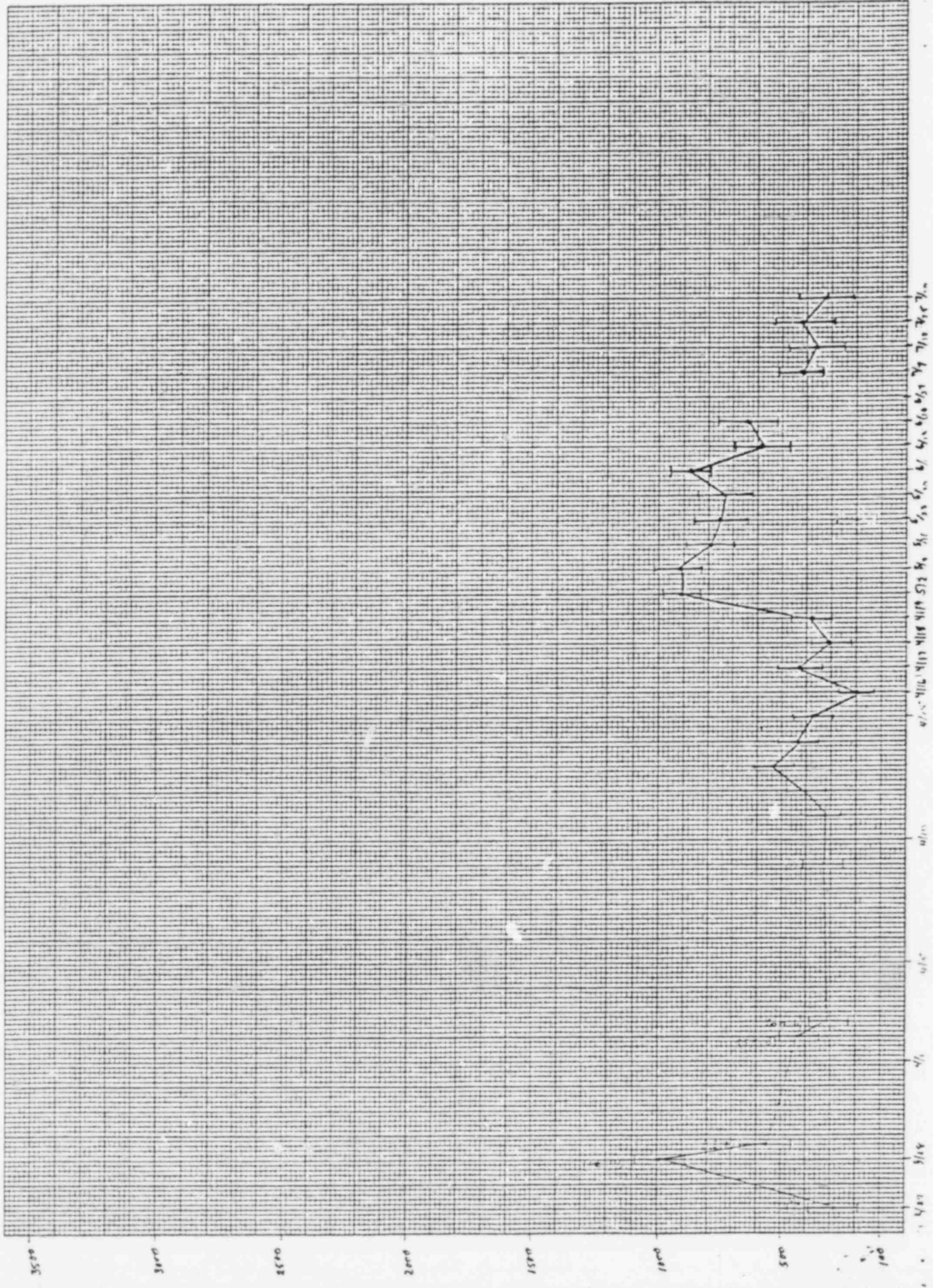


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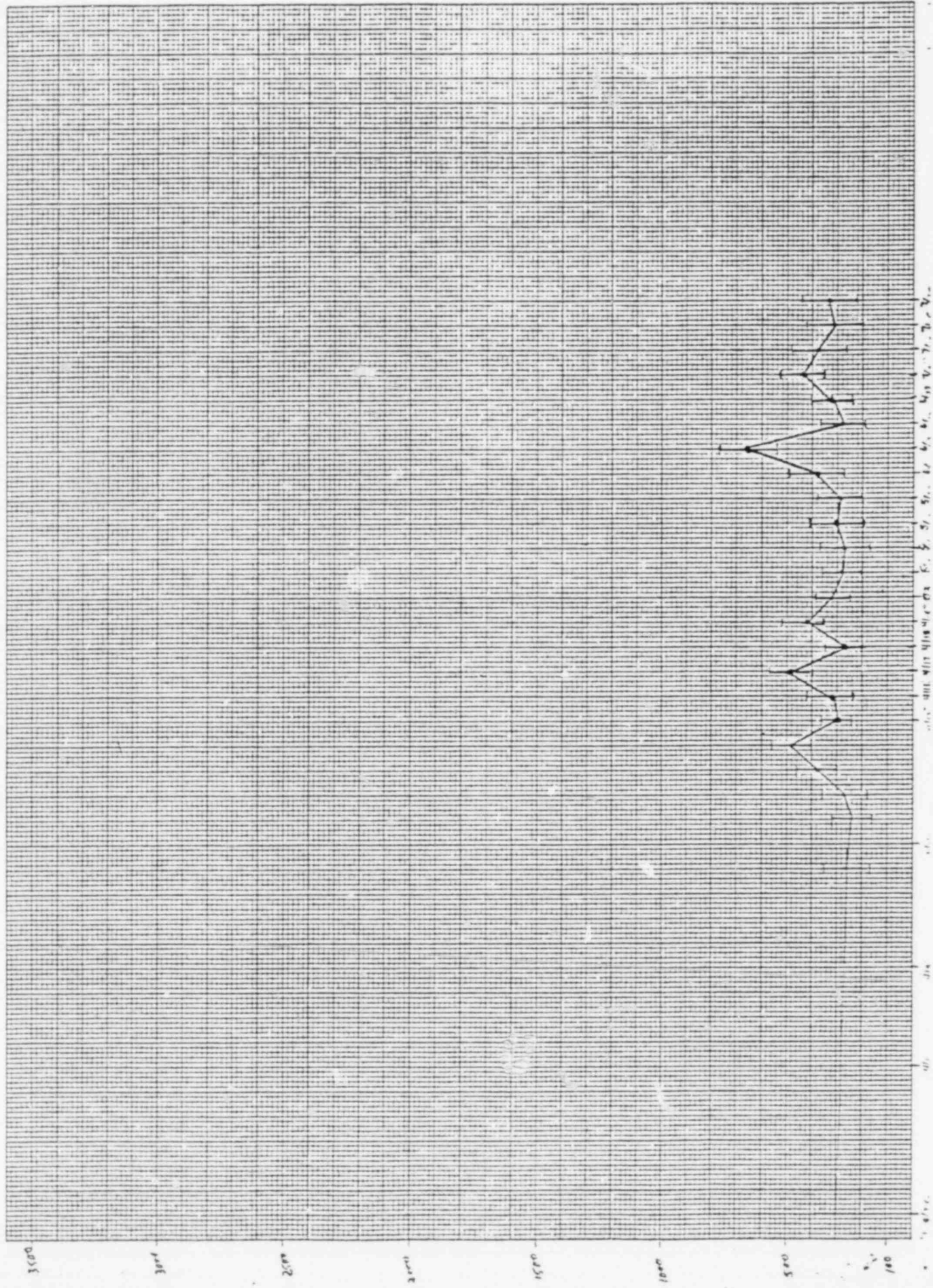


SQUARE - 10 X 10 (CONTINUED) AS 8871-48

MONITORING WELL 6 Tritium Levels

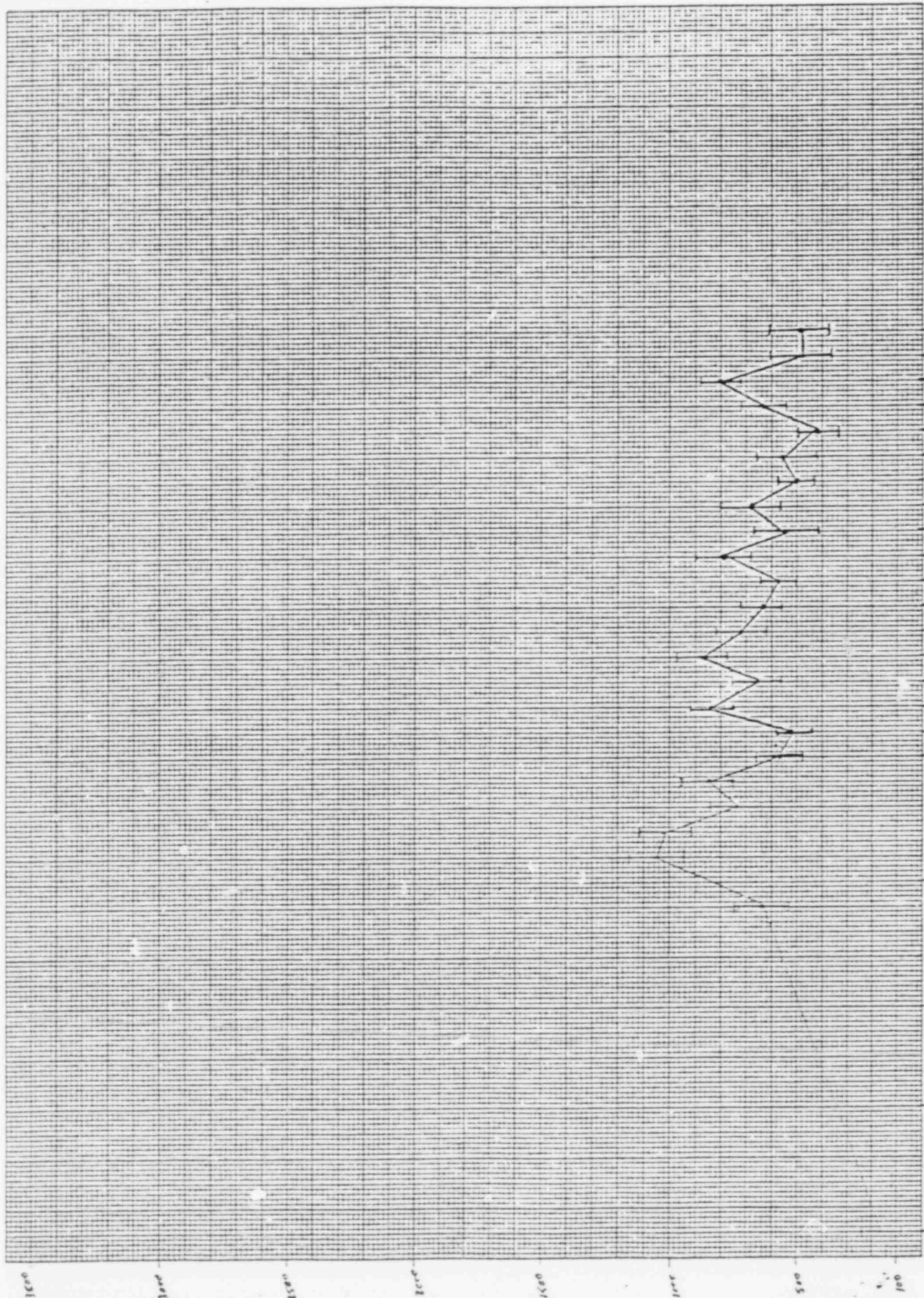


MONITORING WELL 7 Tritium Levels



Monitoring Well 8 Tritium Levels

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1000
 900
 800
 700
 600
 500
 400
 300
 200
 100
 0

1/1/77
 2/1/77
 3/1/77
 4/1/77
 5/1/77
 6/1/77
 7/1/77
 8/1/77
 9/1/77
 10/1/77
 11/1/77
 12/1/77
 1/1/78
 2/1/78
 3/1/78
 4/1/78
 5/1/78
 6/1/78
 7/1/78



FIGURE 10 X 10 CENTIMETER AS 8817-88

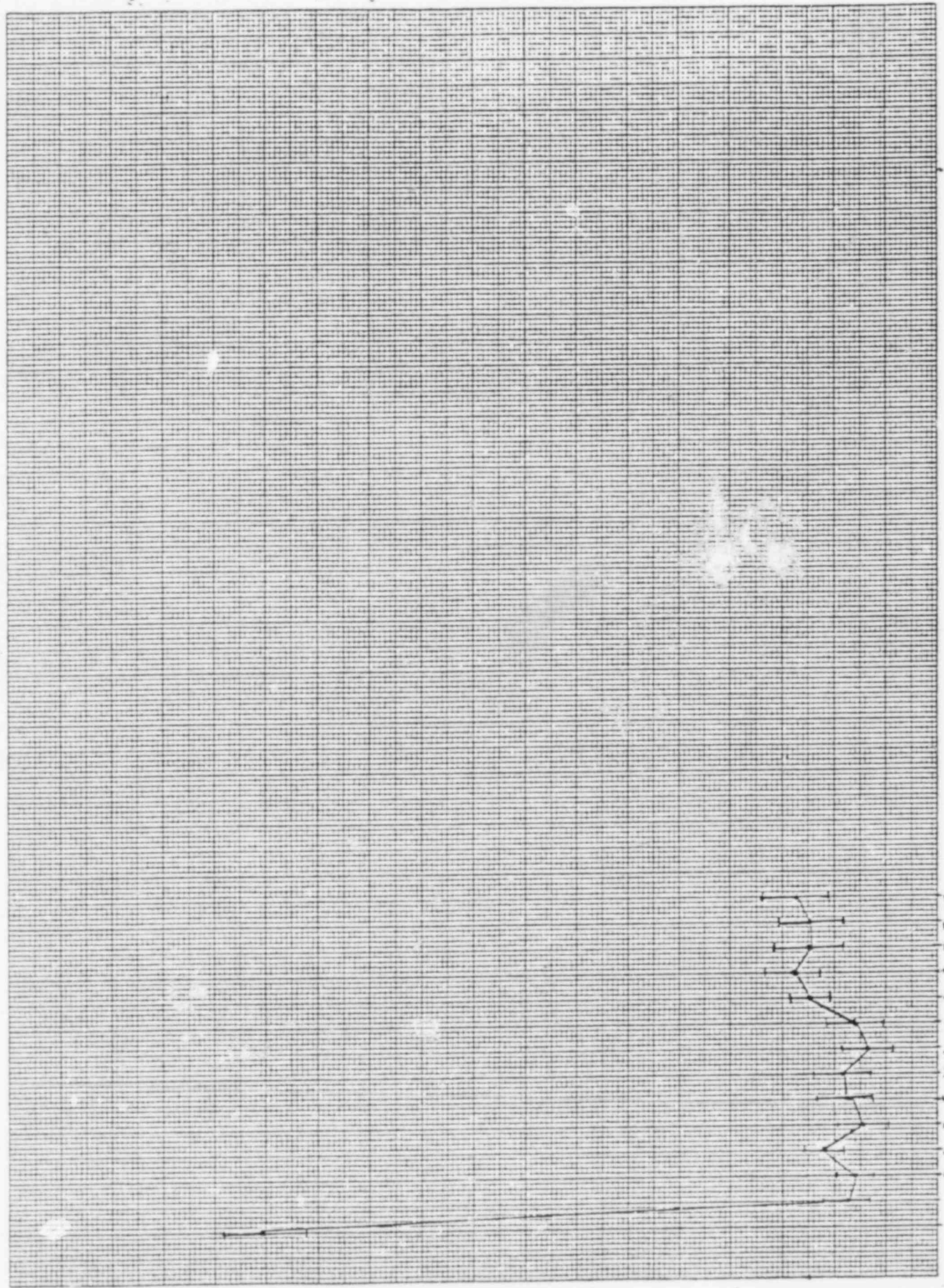


Buffalo, New York

GRAPHIC CONTROLS CORP. Printed in U.S.A.



OBSERVATION WELL 9
Tritium Levels



1/15 2/15 3/15 4/15 5/15 6/15 7/15

500

300

200

100

50

10

1

0.1

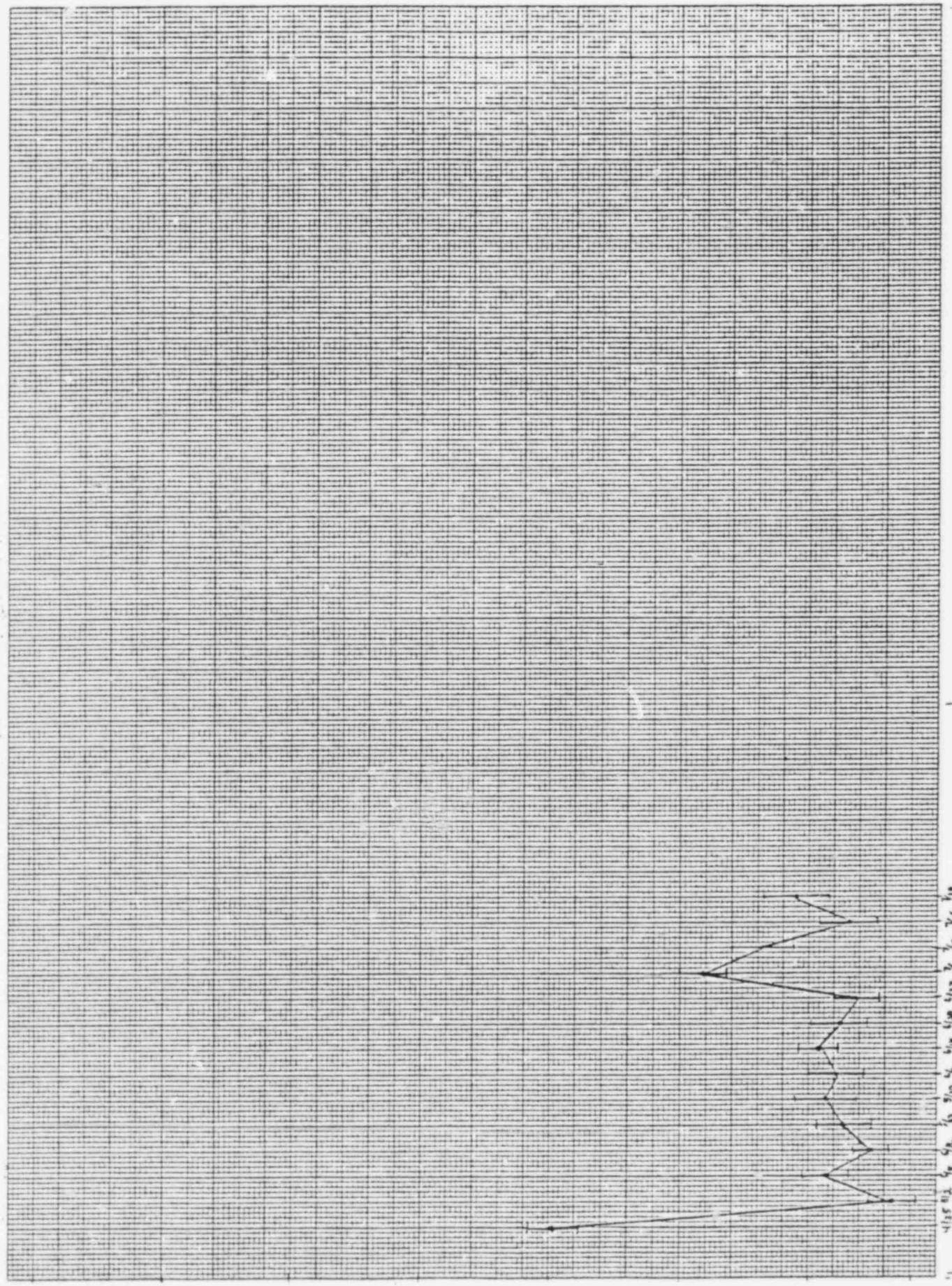
10 1 1/2 CENTIMETER AS 8816-40

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OBSERVATION WELL 10 Tritium Levels



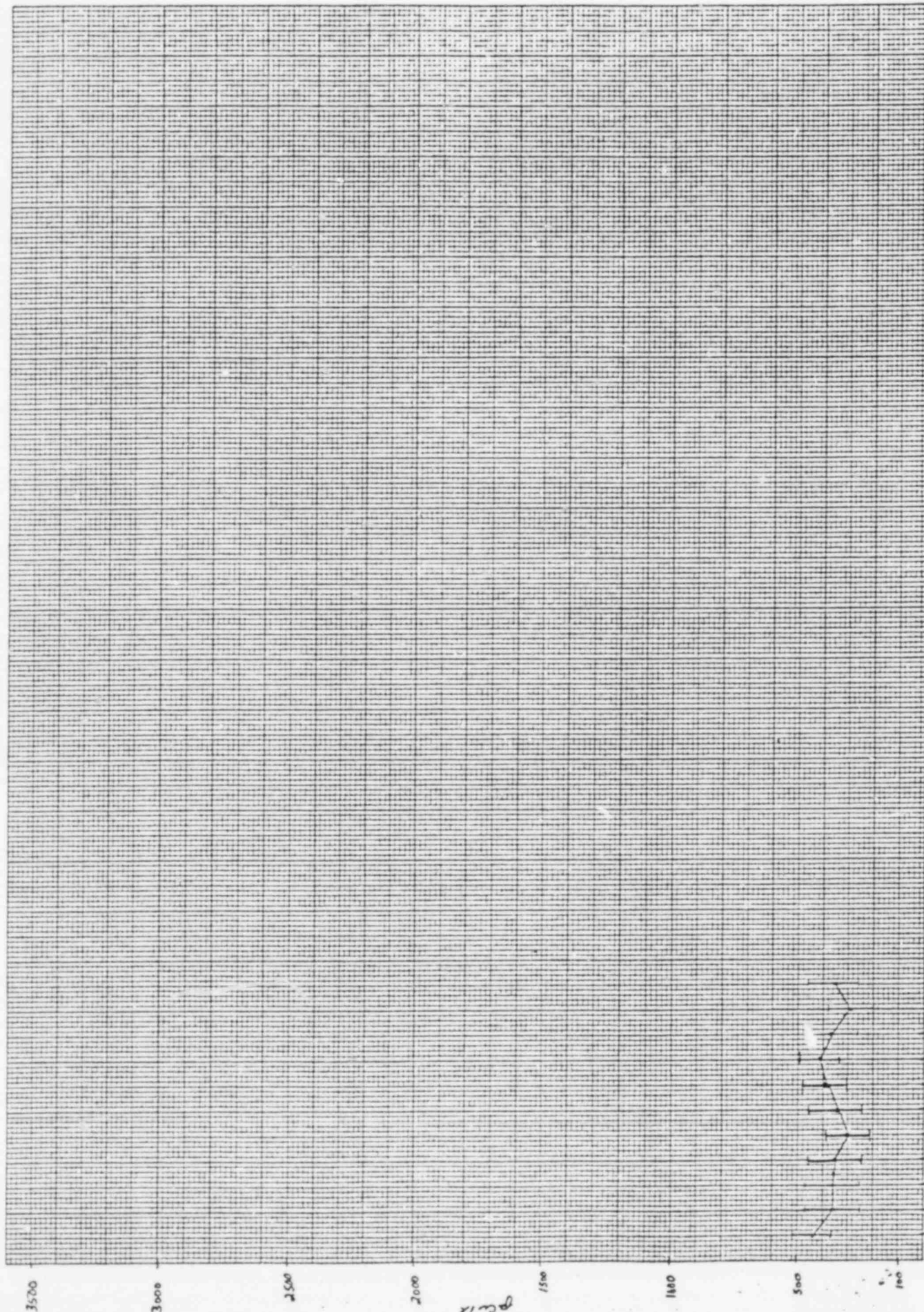
4/25 5/1 5/8 5/15 5/22 5/29 6/5 6/12 6/19 6/26 7/3 7/10 7/15

309461 10 1 11 11 CONTINUED 45 8817-48

309461 10 1 11 11 CONTINUED 45 8817-48

309461 10 1 11 11 CONTINUED 45 8817-48

OBSERVATION WELL 13B Tritium Levels



11/16/53 5/10/54 1/10/55 1/10/56 1/10/57 1/10/58 1/10/59 1/10/60 1/10/61 1/10/62 1/10/63 1/10/64 1/10/65 1/10/66 1/10/67 1/10/68 1/10/69 1/10/70 1/10/71 1/10/72 1/10/73 1/10/74 1/10/75 1/10/76 1/10/77 1/10/78 1/10/79 1/10/80

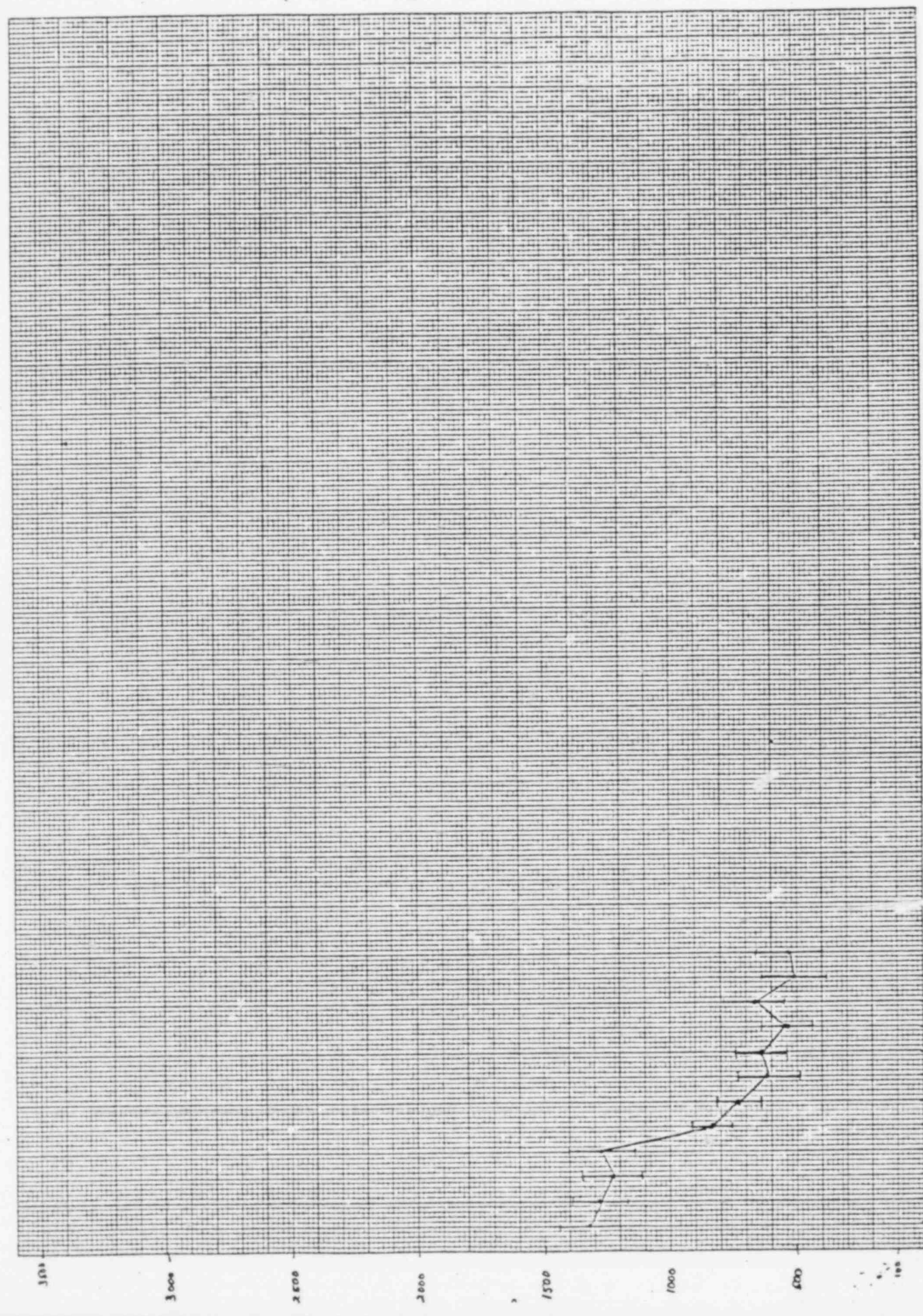


10 x 10 CENTIMETER 43-20114-01

W. Buffalo, New York

GRAPHIC ARTS GRAPHIC CONTROLS CORP.
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OBSERVATION WELL 14 Tritium Levels



100 500 1000 1500 2000 2500 3000 3500

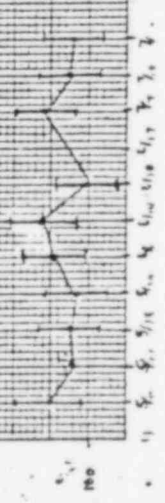
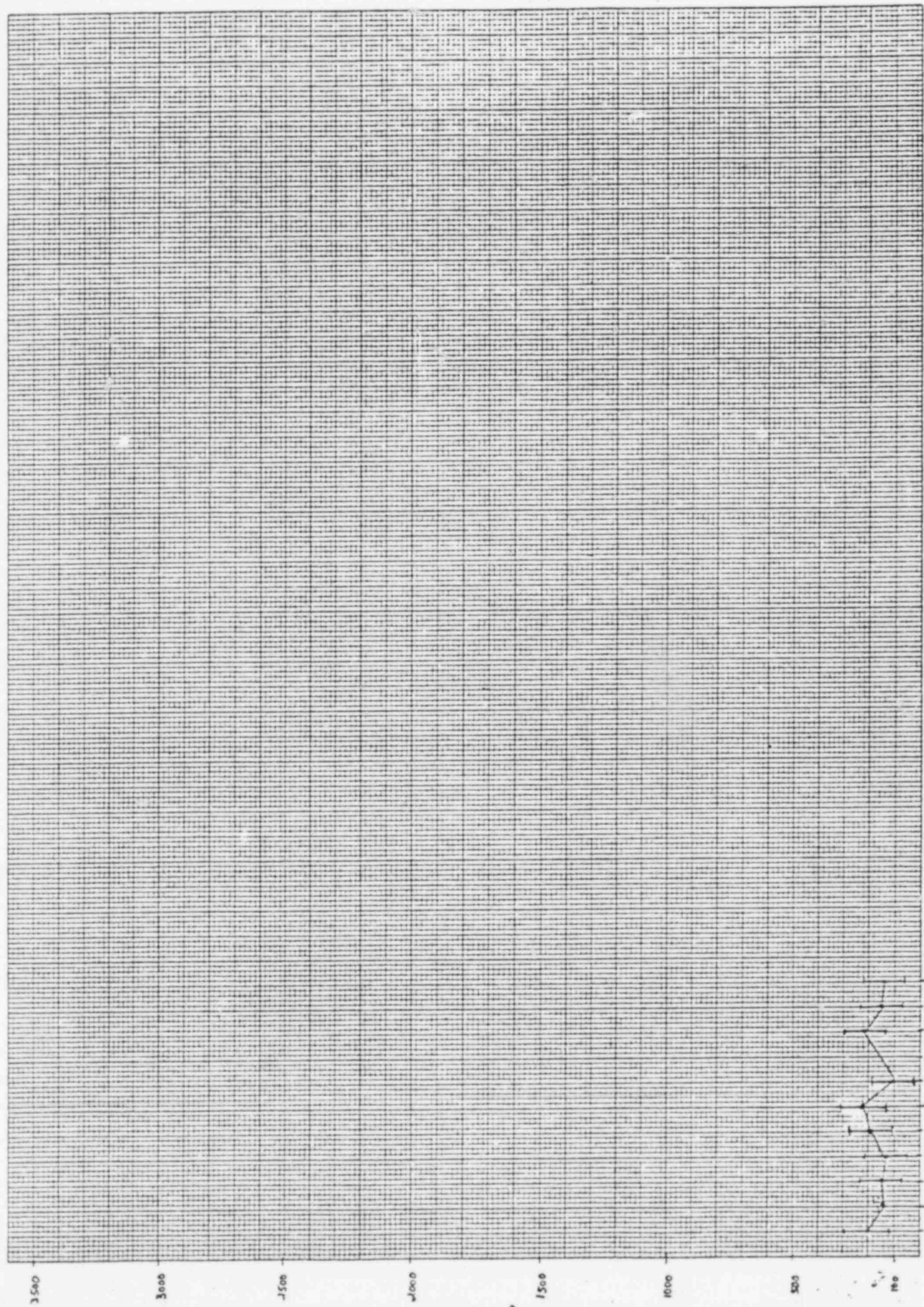
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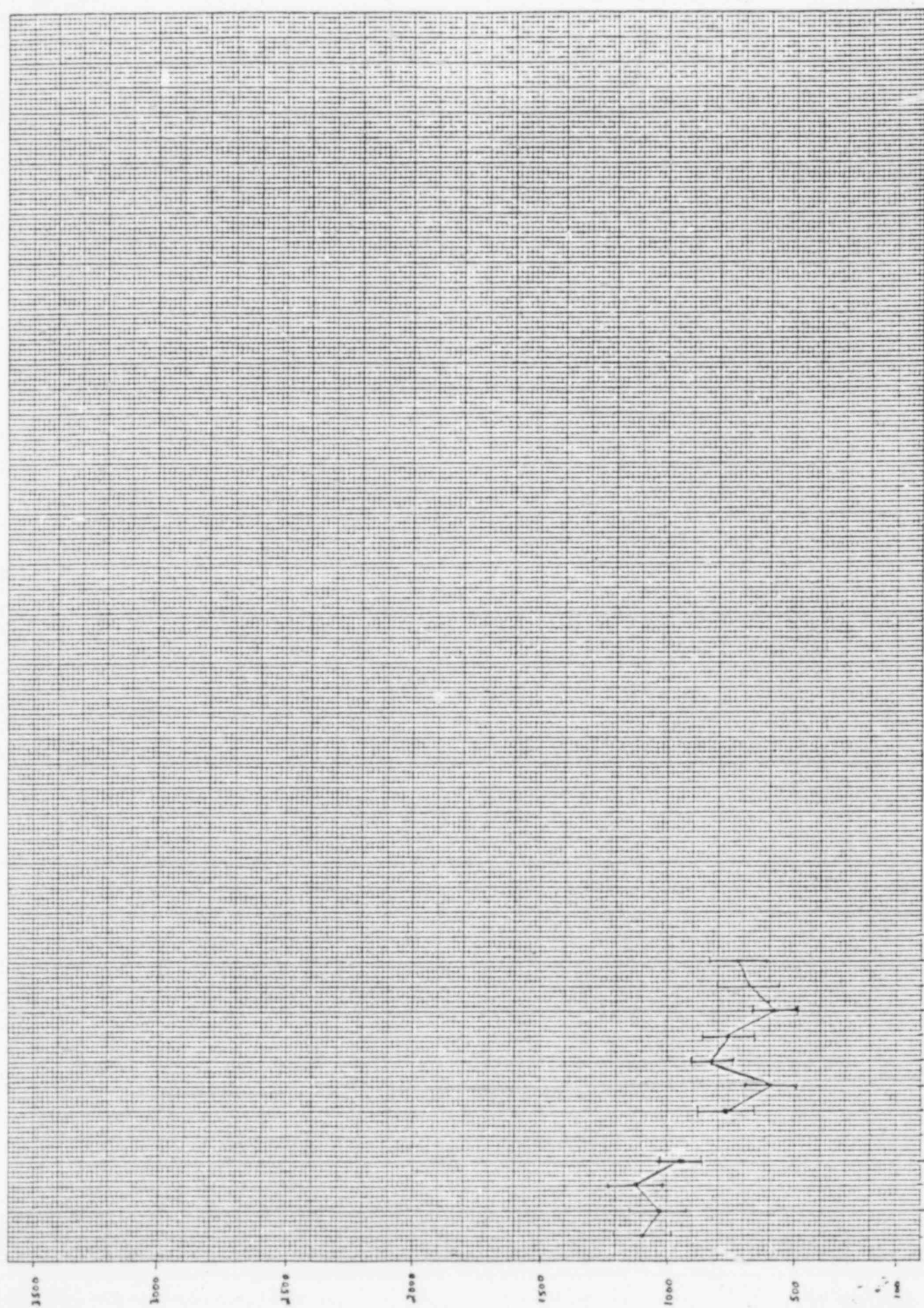
10 X 10 CENTIMETER 45 8811-01

GRAPHIC CONTROL CORP. Buffalo, New York

OBSERVATION WELL 15 Tritium Levels



OBSERVATION WELL 16
Tritium Levels



1 53 613 730 844 918 1048 1180 1310 1440 1570 1700 1830 1960 2090 2220 2350 2480 2610 2740 2870 3000 3130 3260 3390 3520 3650 3780 3910 4040 4170 4300 4430 4560 4690 4820 4950 5080 5210 5340 5470 5600 5730 5860 5990 6120 6250 6380 6510 6640 6770 6900 7030 7160 7290 7420 7550 7680 7810 7940 8070 8200 8330 8460 8590 8720 8850 8980 9110 9240 9370 9500 9630 9760 9890 10020 10150 10280 10410 10540 10670 10800 10930 11060 11190 11320 11450 11580 11710 11840 11970 12100 12230 12360 12490 12620 12750 12880 13010 13140 13270 13400 13530 13660 13790 13920 14050 14180 14310 14440 14570 14700 14830 14960 15090 15220 15350 15480 15610 15740 15870 16000 16130 16260 16390 16520 16650 16780 16910 17040 17170 17300 17430 17560 17690 17820 17950 18080 18210 18340 18470 18600 18730 18860 18990 19120 19250 19380 19510 19640 19770 19900 20030 20160 20290 20420 20550 20680 20810 20940 21070 21200 21330 21460 21590 21720 21850 21980 22110 22240 22370 22500 22630 22760 22890 23020 23150 23280 23410 23540 23670 23800 23930 24060 24190 24320 24450 24580 24710 24840 24970 25100 25230 25360 25490 25620 25750 25880 26010 26140 26270 26400 26530 26660 26790 26920 27050 27180 27310 27440 27570 27700 27830 27960 28090 28220 28350 28480 28610 28740 28870 29000 29130 29260 29390 29520 29650 29780 29910 30040 30170 30300 30430 30560 30690 30820 30950 31080 31210 31340 31470 31600 31730 31860 31990 32120 32250 32380 32510 32640 32770 32900 33030 33160 33290 33420 33550 33680 33810 33940 34070 34200 34330 34460 34590 34720 34850 34980 35110 35240 35370 35500 35630 35760 35890 36020 36150 36280 36410 36540 36670 36800 36930 37060 37190 37320 37450 37580 37710 37840 37970 38100 38230 38360 38490 38620 38750 38880 39010 39140 39270 39400 39530 39660 39790 39920 40050 40180 40310 40440 40570 40700 40830 40960 41090 41220 41350 41480 41610 41740 41870 42000 42130 42260 42390 42520 42650 42780 42910 43040 43170 43300 43430 43560 43690 43820 43950 44080 44210 44340 44470 44600 44730 44860 44990 45120 45250 45380 45510 45640 45770 45900 46030 46160 46290 46420 46550 46680 46810 46940 47070 47200 47330 47460 47590 47720 47850 47980 48110 48240 48370 48500 48630 48760 48890 49020 49150 49280 49410 49540 49670 49800 49930 50060 50190 50320 50450 50580 50710 50840 50970 51100 51230 51360 51490 51620 51750 51880 52010 52140 52270 52400 52530 52660 52790 52920 53050 53180 53310 53440 53570 53700 53830 53960 54090 54220 54350 54480 54610 54740 54870 55000 55130 55260 55390 55520 55650 55780 55910 56040 56170 56300 56430 56560 56690 56820 56950 57080 57210 57340 57470 57600 57730 57860 57990 58120 58250 58380 58510 58640 58770 58900 59030 59160 59290 59420 59550 59680 59810 59940 60070 60200 60330 60460 60590 60720 60850 60980 61110 61240 61370 61500 61630 61760 61890 62020 62150 62280 62410 62540 62670 62800 62930 63060 63190 63320 63450 63580 63710 63840 63970 64100 64230 64360 64490 64620 64750 64880 65010 65140 65270 65400 65530 65660 65790 65920 66050 66180 66310 66440 66570 66700 66830 66960 67090 67220 67350 67480 67610 67740 67870 68000 68130 68260 68390 68520 68650 68780 68910 69040 69170 69300 69430 69560 69690 69820 69950 70080 70210 70340 70470 70600 70730 70860 70990 71120 71250 71380 71510 71640 71770 71900 72030 72160 72290 72420 72550 72680 72810 72940 73070 73200 73330 73460 73590 73720 73850 73980 74110 74240 74370 74500 74630 74760 74890 75020 75150 75280 75410 75540 75670 75800 75930 76060 76190 76320 76450 76580 76710 76840 76970 77100 77230 77360 77490 77620 77750 77880 78010 78140 78270 78400 78530 78660 78790 78920 79050 79180 79310 79440 79570 79700 79830 79960 80090 80220 80350 80480 80610 80740 80870 81000 81130 81260 81390 81520 81650 81780 81910 82040 82170 82300 82430 82560 82690 82820 82950 83080 83210 83340 83470 83600 83730 83860 83990 84120 84250 84380 84510 84640 84770 84900 85030 85160 85290 85420 85550 85680 85810 85940 86070 86200 86330 86460 86590 86720 86850 86980 87110 87240 87370 87500 87630 87760 87890 88020 88150 88280 88410 88540 88670 88800 88930 89060 89190 89320 89450 89580 89710 89840 89970 90100 90230 90360 90490 90620 90750 90880 91010 91140 91270 91400 91530 91660 91790 91920 92050 92180 92310 92440 92570 92700 92830 92960 93090 93220 93350 93480 93610 93740 93870 94000 94130 94260 94390 94520 94650 94780 94910 95040 95170 95300 95430 95560 95690 95820 95950 96080 96210 96340 96470 96600 96730 96860 96990 97120 97250 97380 97510 97640 97770 97900 98030 98160 98290 98420 98550 98680 98810 98940 99070 99200 99330 99460 99590 99720 99850 99980 100110 100240 100370 100500 100630 100760 100890 101020 101150 101280 101410 101540 101670 101800 101930 102060 102190 102320 102450 102580 102710 102840 102970 103100 103230 103360 103490 103620 103750 103880 104010 104140 104270 104400 104530 104660 104790 104920 105050 105180 105310 105440 105570 105700 105830 105960 106090 106220 106350 106480 106610 106740 106870 107000 107130 107260 107390 107520 107650 107780 107910 108040 108170 108300 108430 108560 108690 108820 108950 109080 109210 109340 109470 109600 109730 109860 110000

