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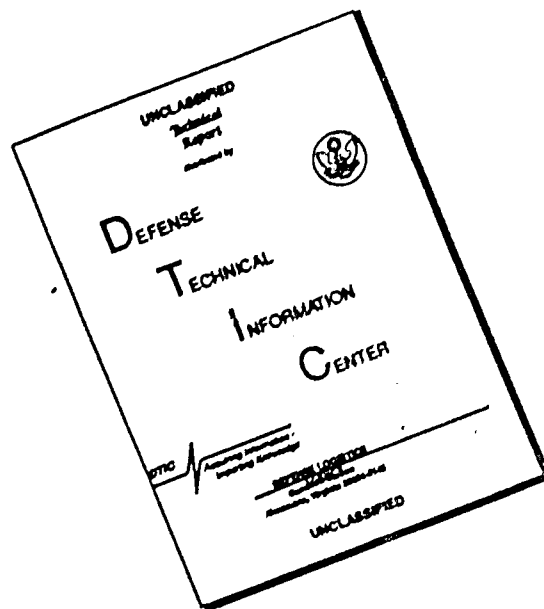
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AD-A995227

# Operation IVY

## PACIFIC PROVING GROUNDS

November 1952

Project 11.1

PROFILING OF THE OCEAN SIDE OF ENIWETOK REEF

Classification (Cancelled) (Changed to **UNCLASSIFIED**)  
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*M. O'Neil*  
*Chief ISCH*  
*12/29*

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WT-607 (Ref.)

This document consists of 192 pages

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No. 18 of 25 copies, Series A

Report to the Scientific Director

# PROFILING OF THE OCEAN SIDE OF ENIWETOK REEF

By

Personnel of the U. S. Navy Hydrographic Office

U. S. Navy Hydrographic Office  
Washington, D. C.  
May - July 1952

Information in public release  
Distribution unlimited

*P. J. Owens*

*Chief IScM/DN*

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## FOREWORD

In the planning for Operation Ivy a detailed knowledge of the geometry of the atoll structure was desired. It had been realized in earlier operations that knowledge of the detailed geological conditions at the site would aid in the interpretation of shot-time experimental measurements.

Available hydrographic charts of Eniwetok gave much information based on soundings. However, information on the detailed configuration of the ocean side of the reef was not available.

A series of profiles of the ocean-side reef face was taken by the U. S. Navy Hydrographic Office at the request of the Office of Naval Research for Task Group 132.1. The equipment used was a "Bottom Scanner" mounted on the port side of a 40-ft crash boat. The equipment employed Sonar principles and presented continuously a contour cross-section of the ocean floor on a cathode ray tube. Calibration of the equipment was based on a sound velocity in water of 4800 ft per second. The equipment could be operated on either a 100- or 500-ft range.

The width of the ocean bottom which was scanned and presented on the screen was a function of the depth of the reflecting area. At a depth of 50 ft, the area scanned was approximately 130 ft wide; at 250 ft the scanned area was approximately 640 ft wide. The sound frequency used was  $85 \pm 5$  kc; scan rate, 10 cycles per minute (max.); pulse rate, 24 pulses per second at the 100-ft range, 4.8 pulses per second at the 500-ft range. The 100-ft range was employed almost exclusively in this survey. The transducer was located 3 ft below water level and set to sweep an arc of approximately 90 deg from a point below the vessel to the water surface on the land side.

The scope of the bottom scanner was photographed and a "fix" observed at regular intervals. The profile of the reef shown on the photographs was transferred to the graph sheet on an enlarged scale. As noted below, some of the photographs were too indistinct to delineate, and the interpretation of a few others is doubtful.

Profiles normal to the reef were taken at intervals of 500 yd for 10 miles at the north end of the Atoll. Around the remainder of the reef perimeter profiles were run at intervals of about one nautical mile. Positions were fixed by triangulating on targets ashore.

Two main difficulties were encountered in interpreting the exposures: First, the outgoing signal obscured the return signal when the boat was very close to the reef; second, there was a noticeable effect from surface disturbances of the water which gave a return signal difficult to define. In some cases the profiles apparently did not show the edge of the reef at the water line. This may have been caused by the photographs being too indistinct to delineate (cavitation associated with breaking waves gives a return signal that is difficult to evaluate) or by the edge of the reef being beyond the range of the equipment. It is believed that in a few cases the overhang has been exaggerated because the return signal came from waves or breakers.

The profiles included with this report represent vertical cross-sections of the bottom normal to the outer perimeter of Eniwetok Atoll, and the zero point, or origin, is the transducer of the bottom scanner. The ordinates represent the distance (in feet) to the bottom and the abscissas represent the distance from the transducer to the edge of the reef.

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Each profile is referenced to a position indicated on the charts (A and B) by exposure number and area. The following exposures were indistinct and gave no discernible profile:

AREA A

1154	1219
1158	1225
1185	1241
1189	1353

AREA B

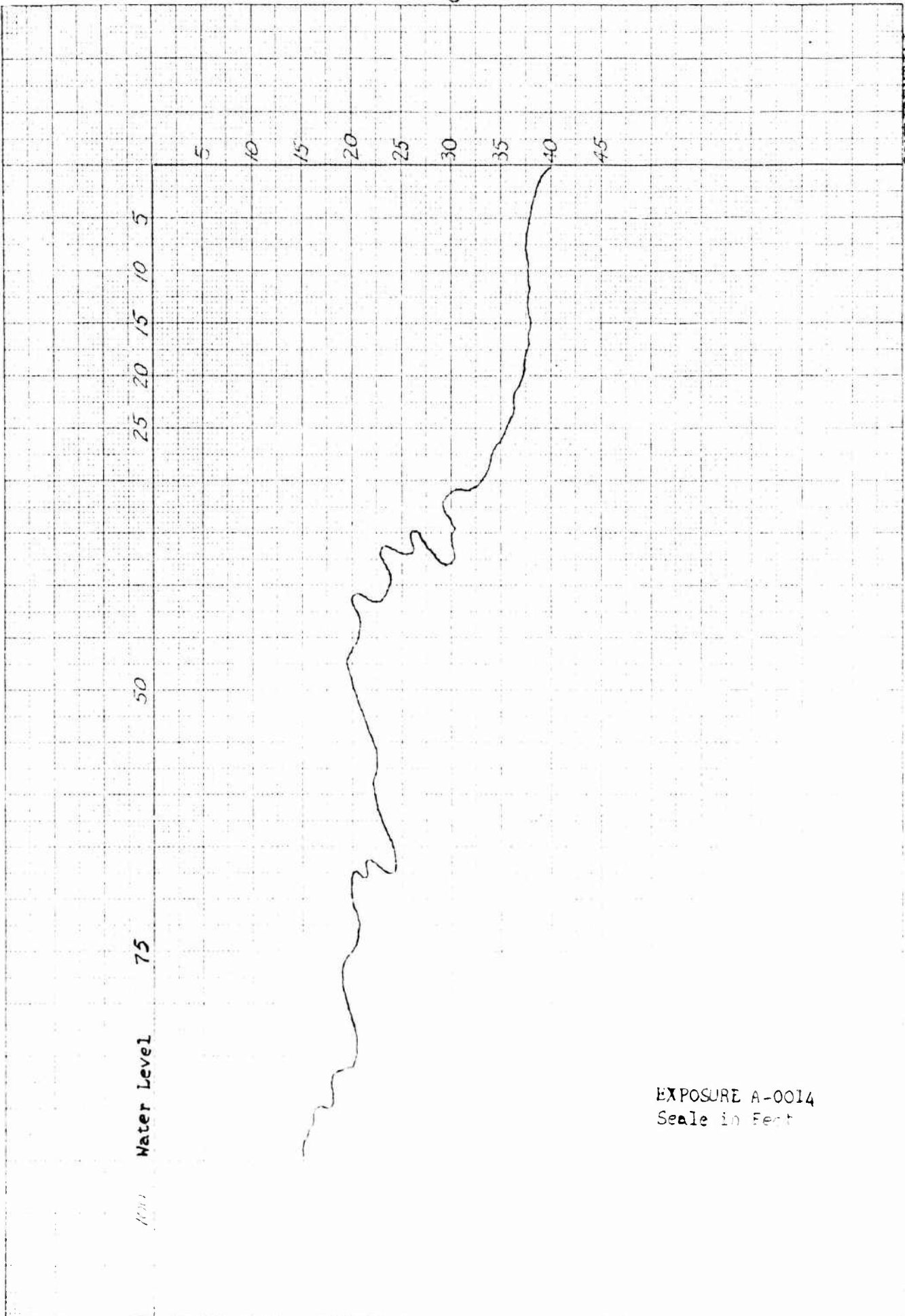
0508	0853
0548	0859
0640	0866
0646	1013
0671	1065
0706	1079
0830	1085
0840	1100

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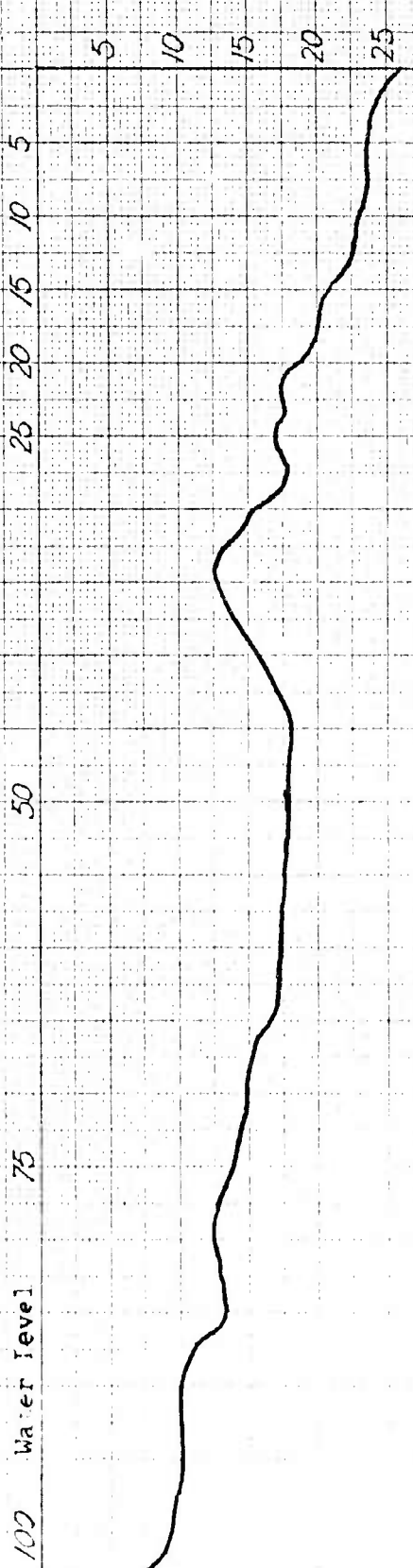
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~~ST. CLAIR COUNTY, MISSOURI~~



EXPOSURE A-0014  
Scale in Feet

75  
Water Level

CONTINUED



EXPOSE 1-100  
Scale in Feet

COMPLETION  
DATE

CAMPELAW IA

100 Water Level

25 20 15 10 5

5 10 15 20 25 30 35

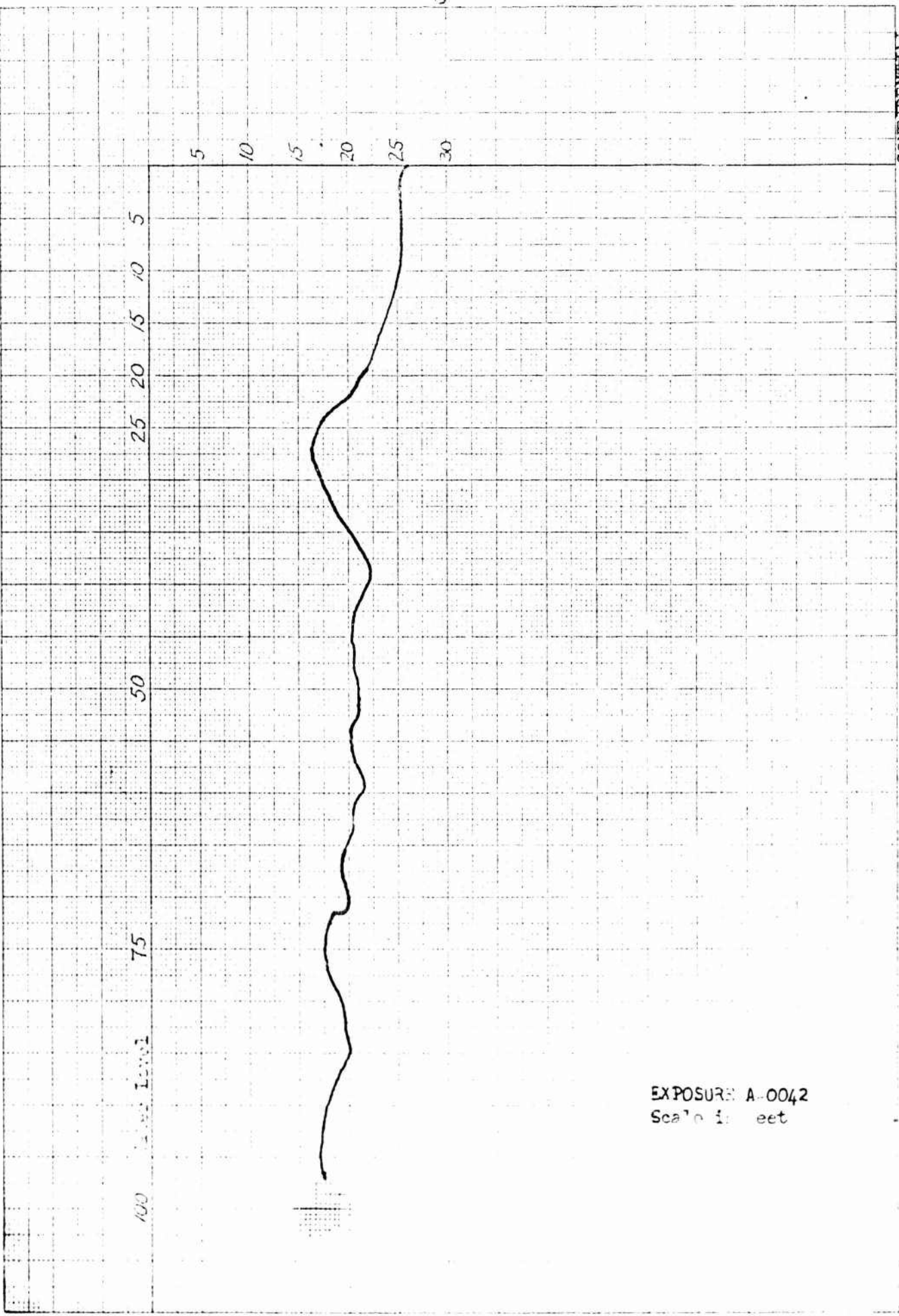


EX 202133 A 1015  
Scale 10:1

CAMPELAW IA  
CAMPBELL ENGINEERING

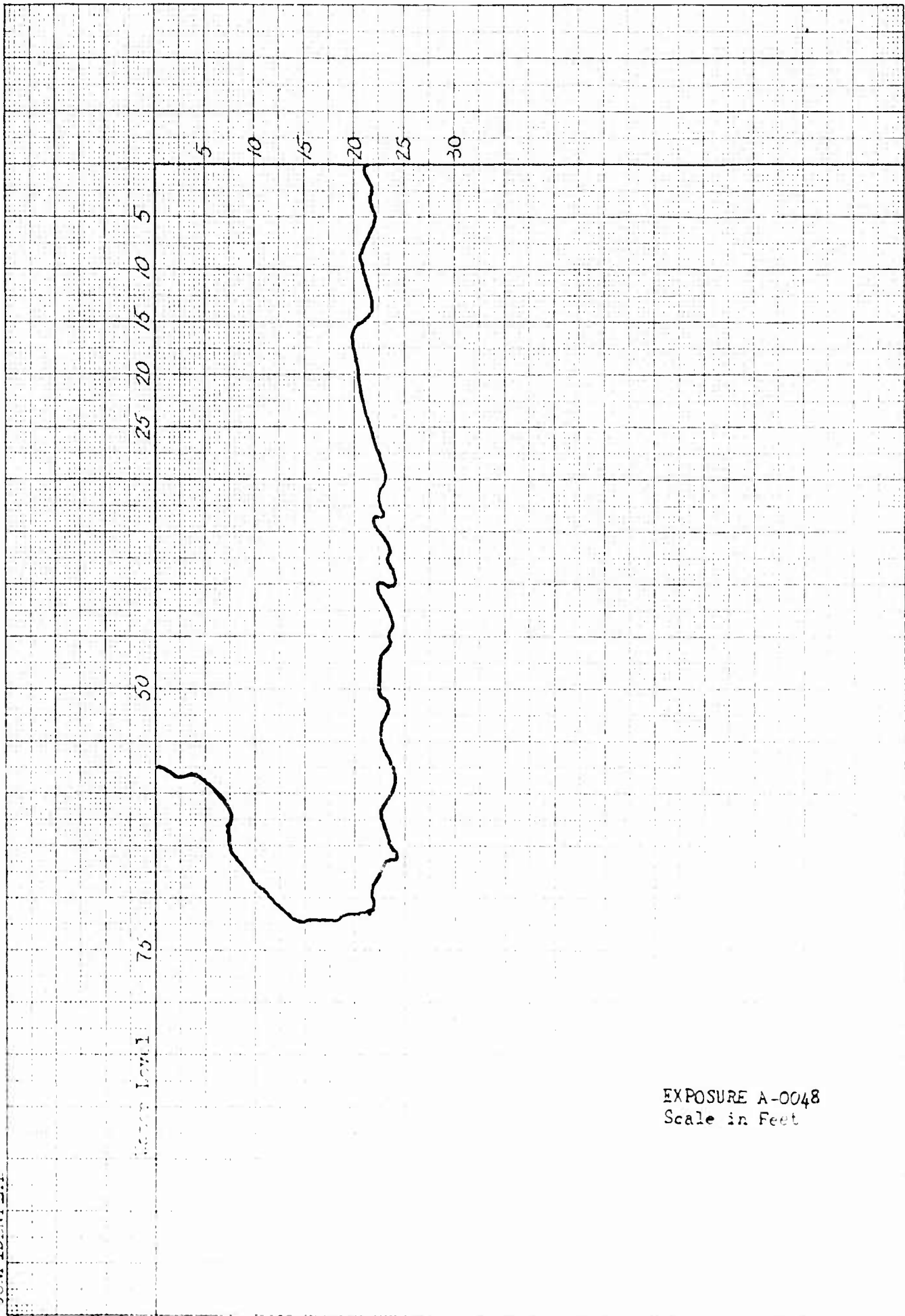
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EXPOSURE: A-0042  
Scale in feet

CONFIDENTIAL



EXPOSURE A-0048  
Scale in Feet

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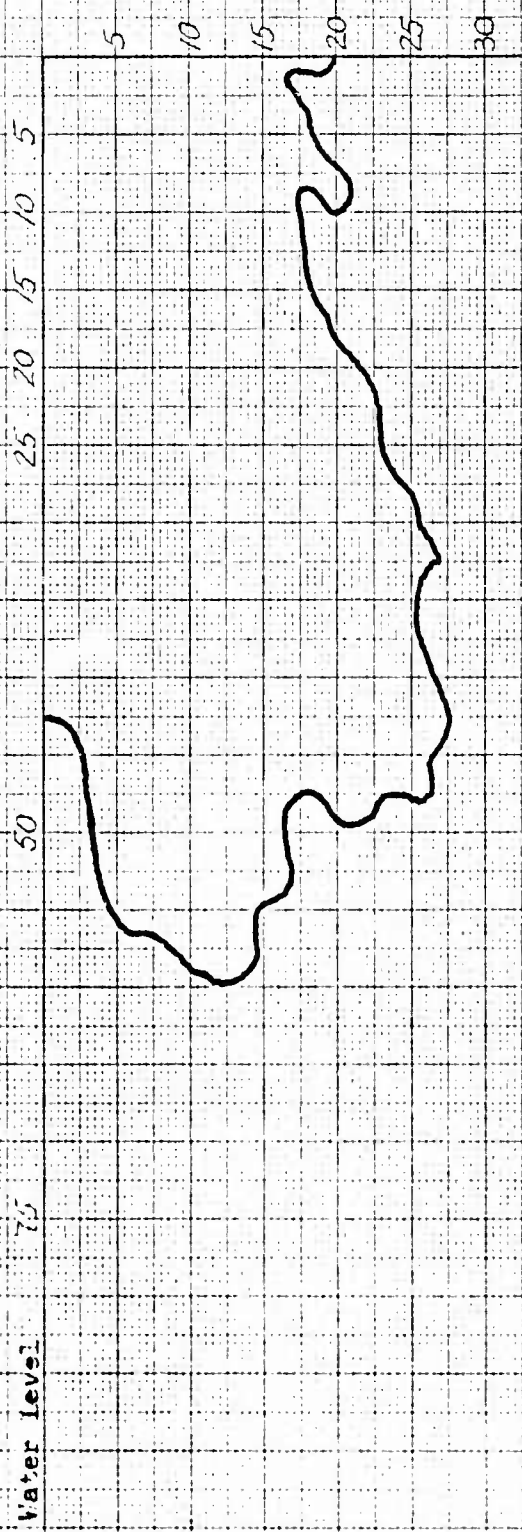


EXPOSED A-6079  
Scale in Feet

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~~SECURITY INFORMATION~~

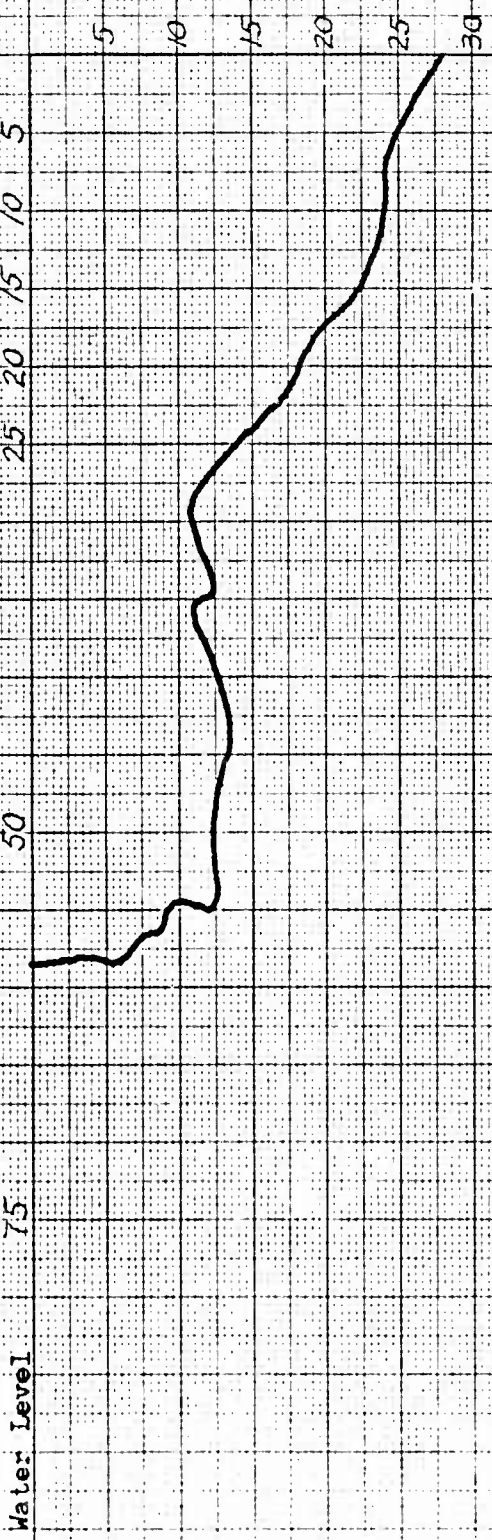
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EXPOSURE 1-2009  
Scale in feet

CONFIDENTIAL

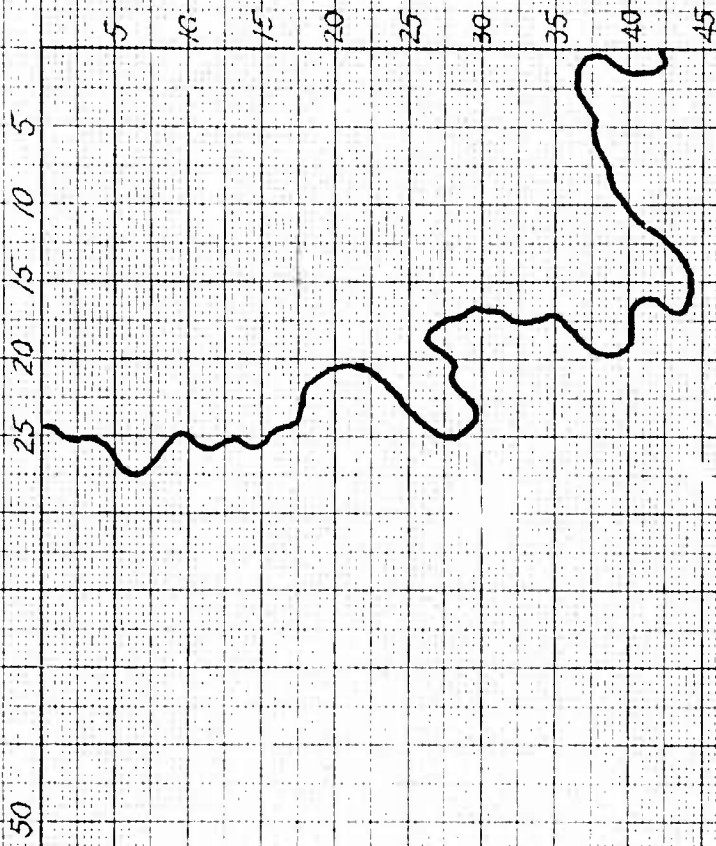


EXPOSURE 1-0077  
Scale in Feet

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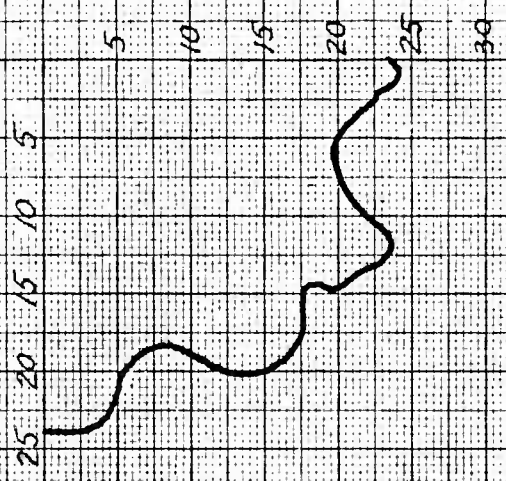
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water level



EXPOSURE A-0233  
Scale in feet

~~CONFIDENTIAL~~  
~~SECURITY INFORMATION~~



Water Level

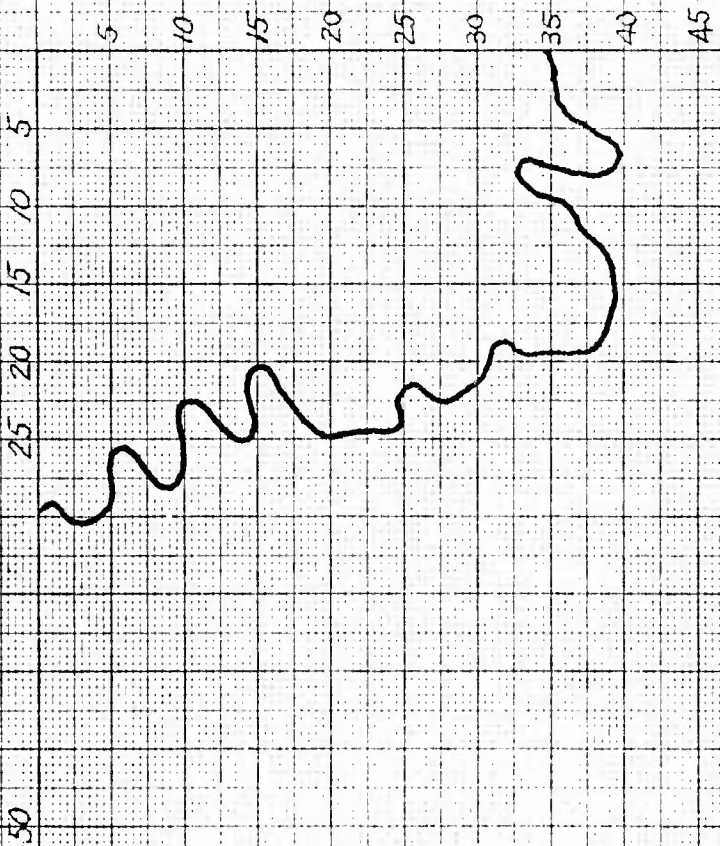
FIGURE A-0039  
Scale in Feet

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Water Level



EXPOSURE A-0094  
Scale in Feet

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Water Level

50

25

20

15

10

5

5

10

15

20

25

30

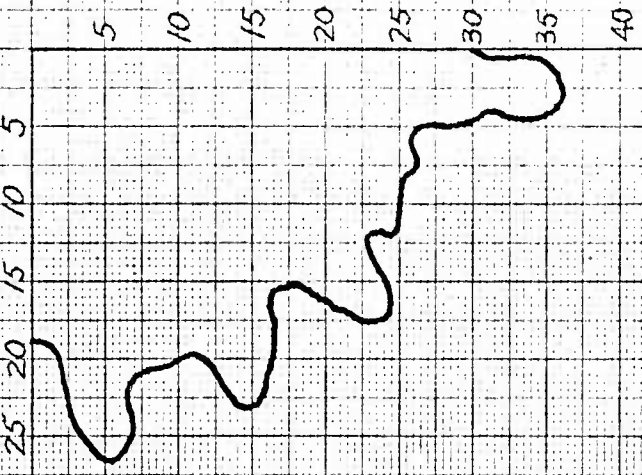
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40

EX-100-1-11-1  
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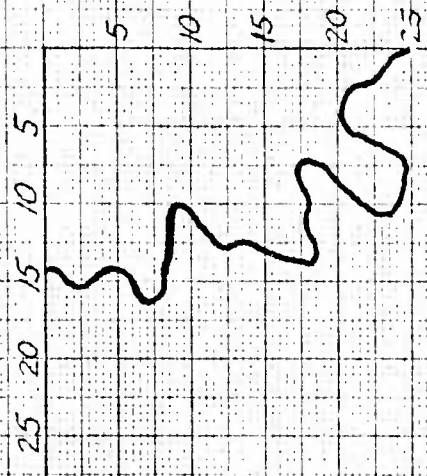
Water Level

EXPOSURE A-0109  
Scale in Feet

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Water Level



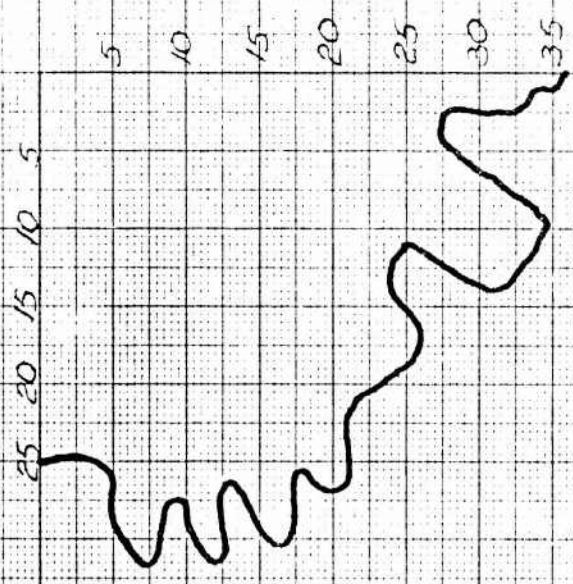
EXPOSURE A-0110  
Scale in Feet

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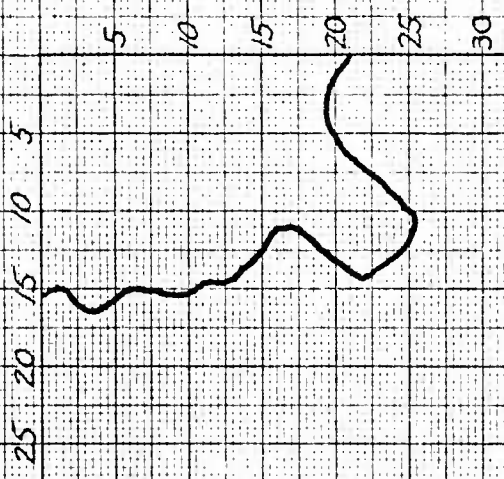
water level



EXP SURF A-C120  
Scale in Feet

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Water Level

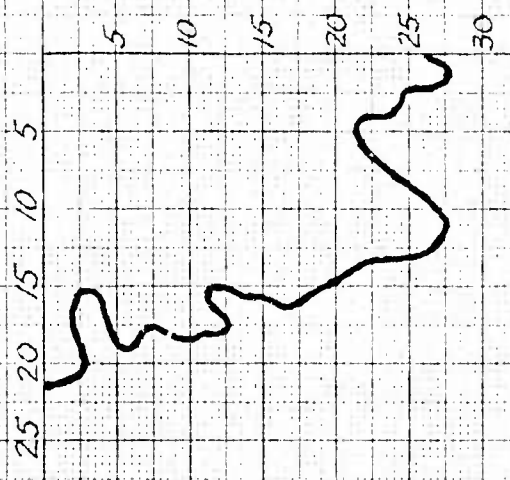


Water Level - 1955  
June 1, 1955

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Water Level

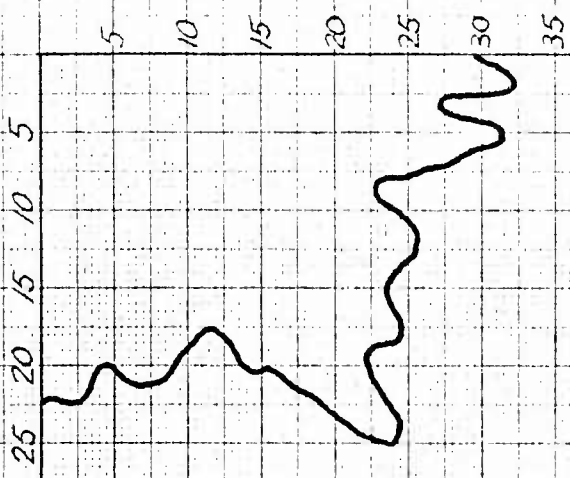


EXPOSURE A-0130  
Scale in feet

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~~OPERATIONAL INFORMATION~~

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Water Level

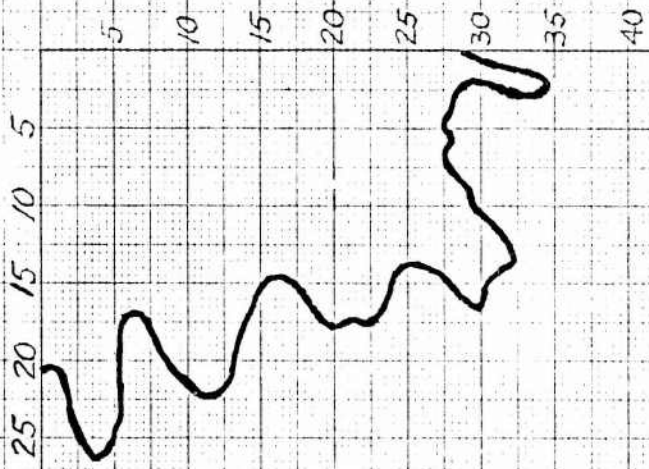


EXPOSURE A-0123  
Scale in feet

CONFIDENTIAL

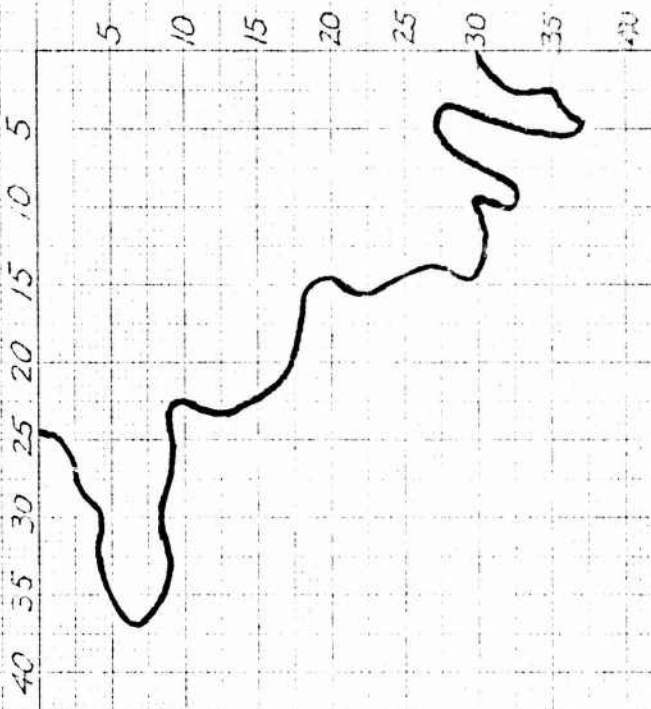
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Water Level



EXPOSURE A-130  
Scale 1/2 inch = 1 foot

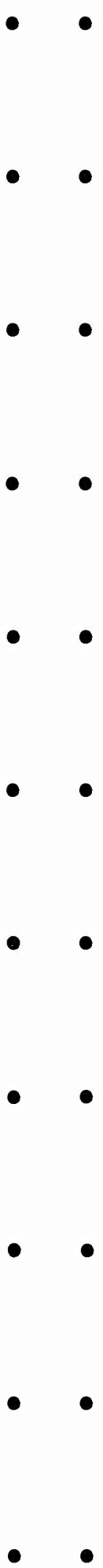
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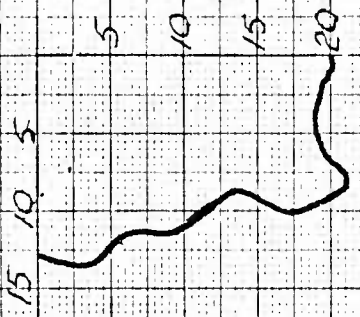
Water Level

EXPOSURE A -0145  
Scale in feet

CONFIDENTIAL



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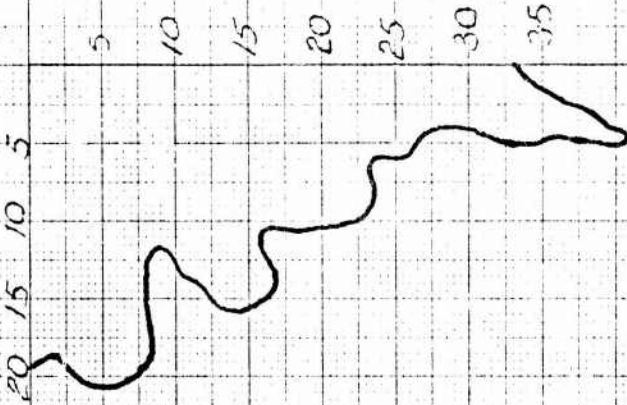
Water Level

ENGINEER A-0162  
Scale in Feet

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Water level



25

NOV 1964  
10:15 AM

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Water Level

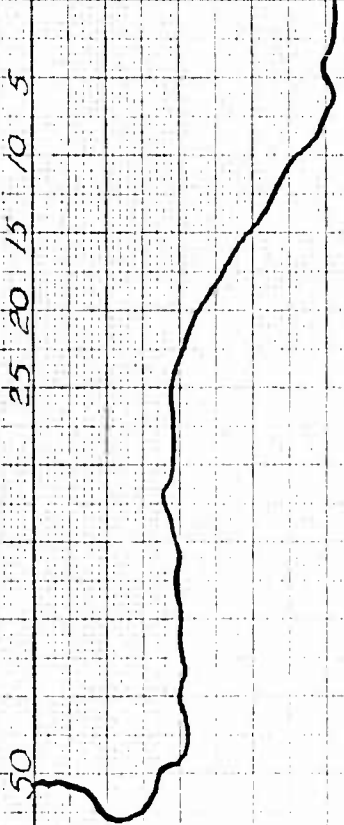
5 10 15 20 25

5

10

15

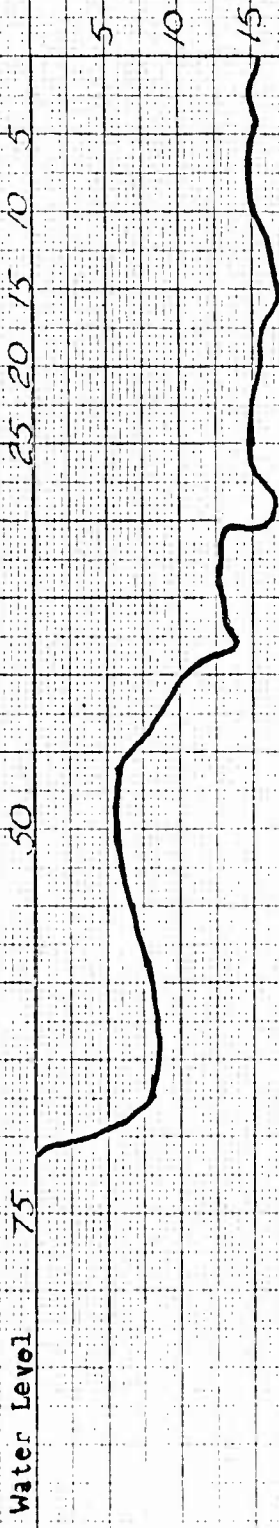
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EXPOSURE A-C161  
Scale in Feet

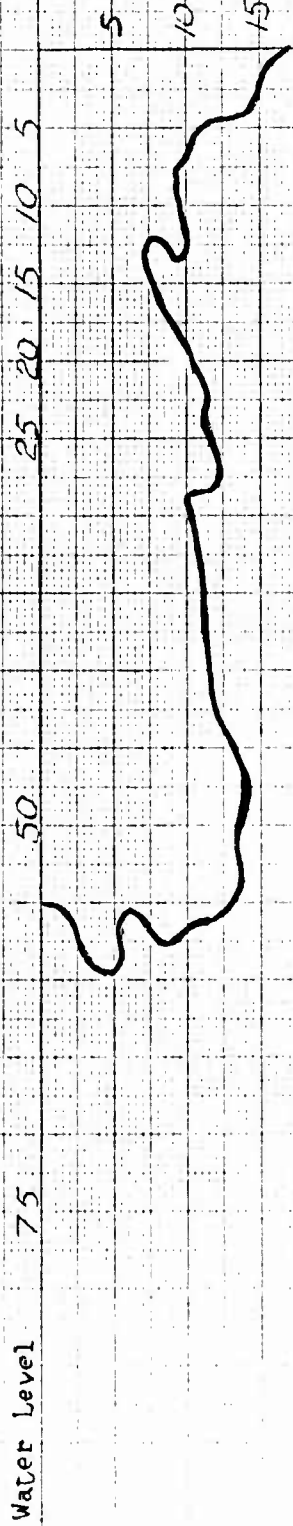
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EXPOSURE A-0168  
Scale in Feet

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EXPOSURE A-0172  
Scale in Feet

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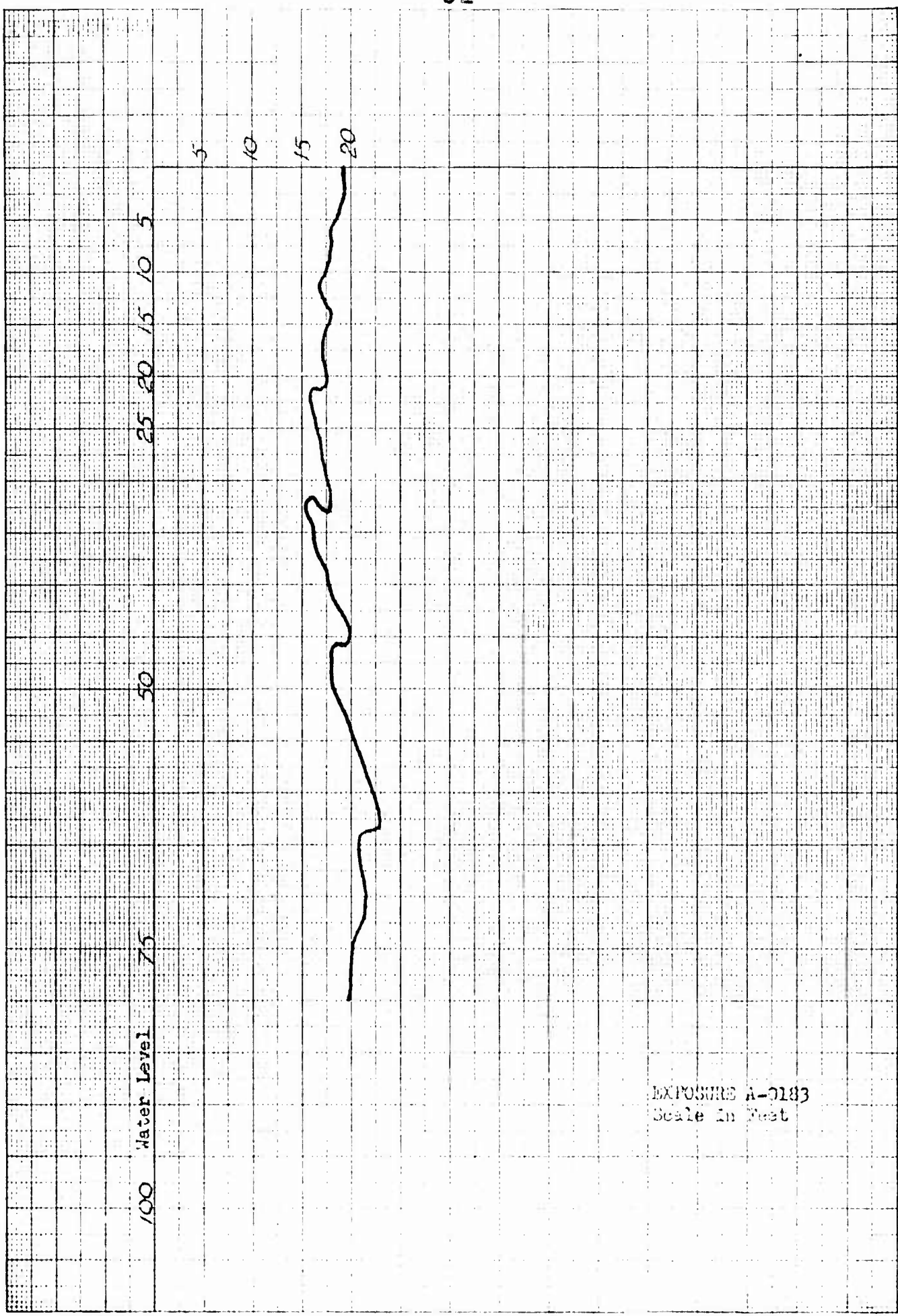
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Water Level

EXPOSURE 7-0078  
Scale in feet

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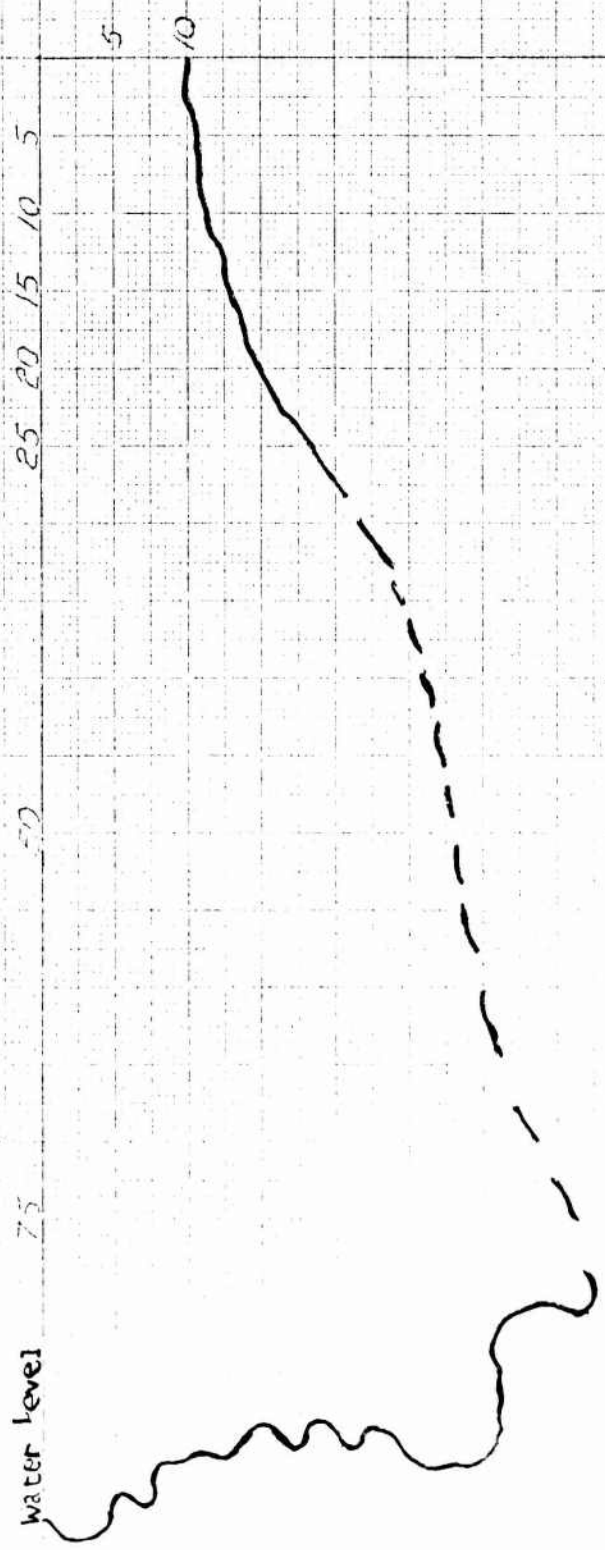


EXPOSURE A-0183  
Scale in Feet

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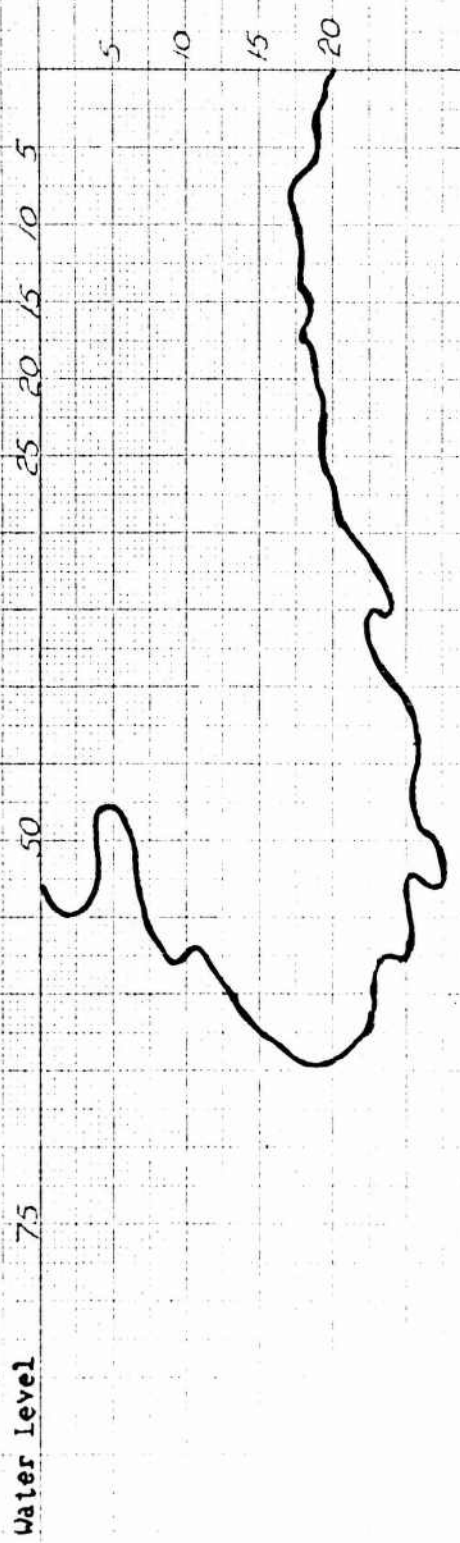
EXPOSURE A-0190  
Scale in Feet

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EXPOSURE A-0196  
 Scale in Feet

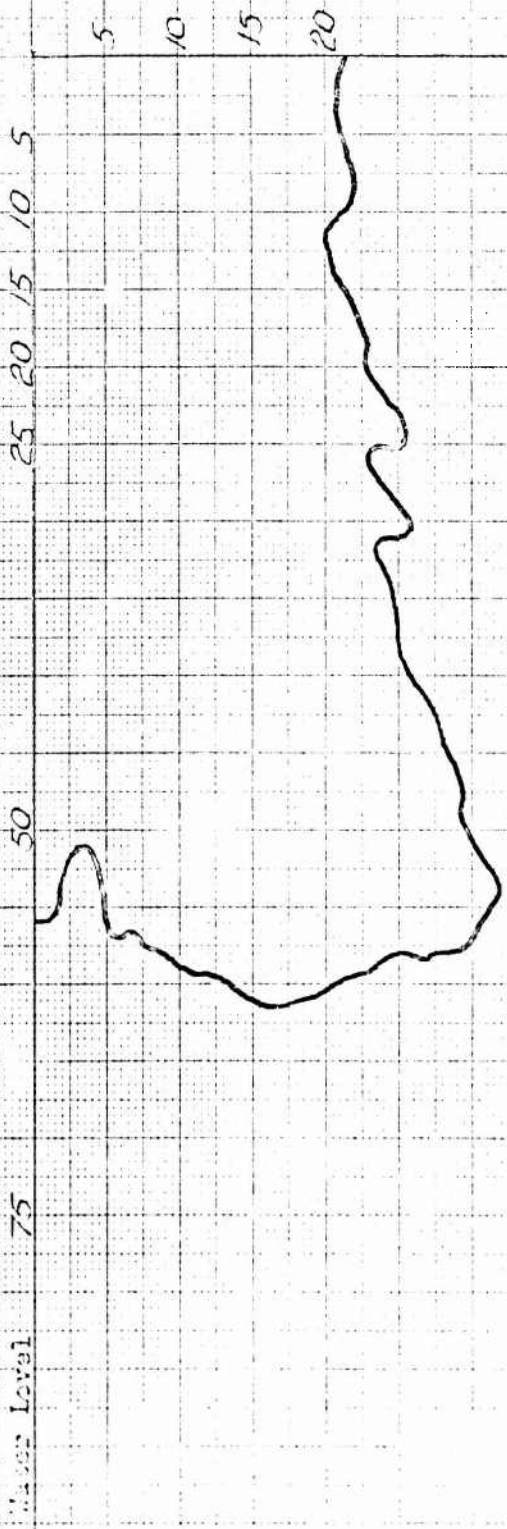
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Water Level

EXPOSURE A-0201  
Scale in Feet

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INFORMATION A-6840  
 No. 10 in Series

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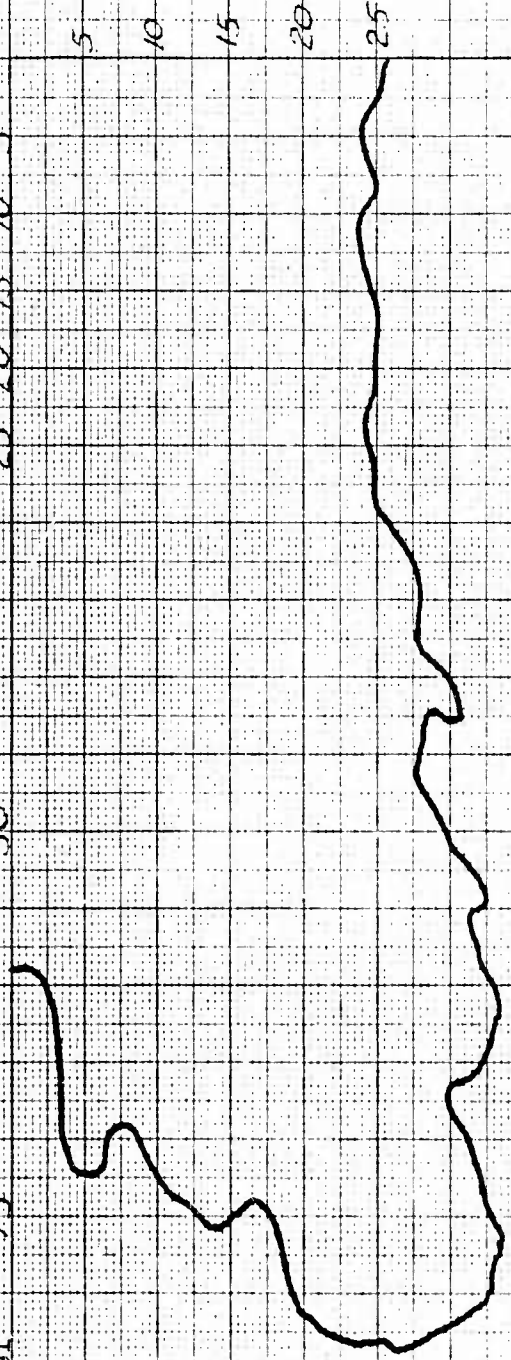
5  
10  
15  
20  
25

25 20 15 10 5

50

75

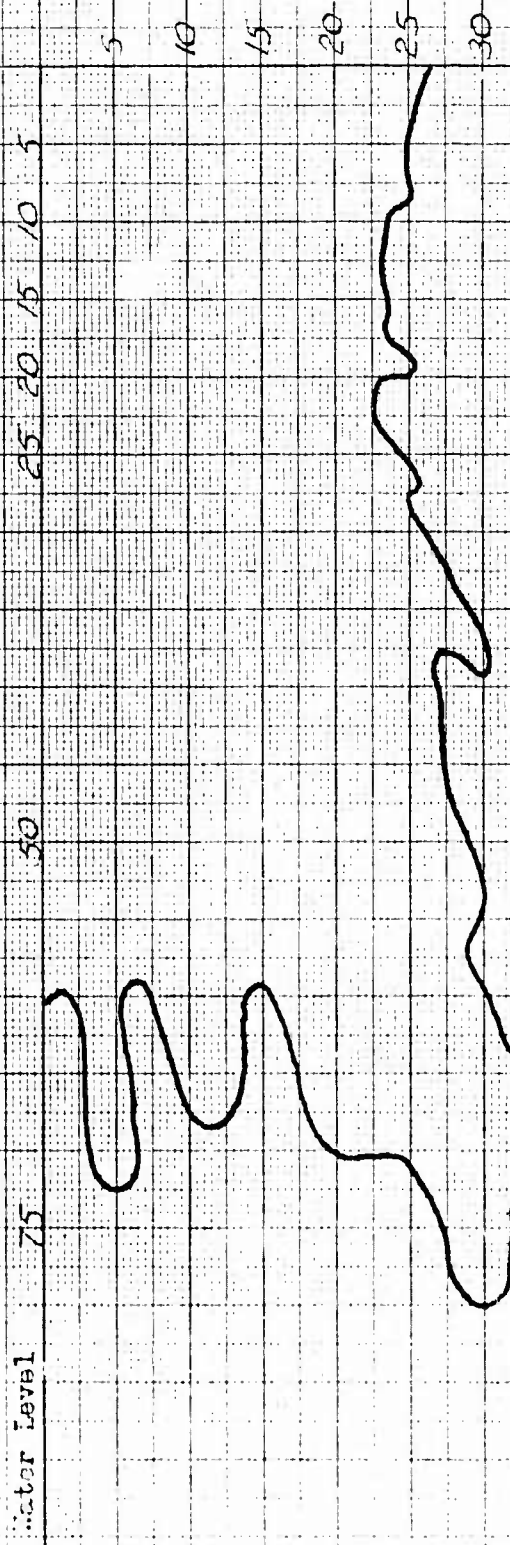
Water Level



EXPOSURE A-0216  
Scale in Feet

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REPORT A-0281  
Scale in Feet

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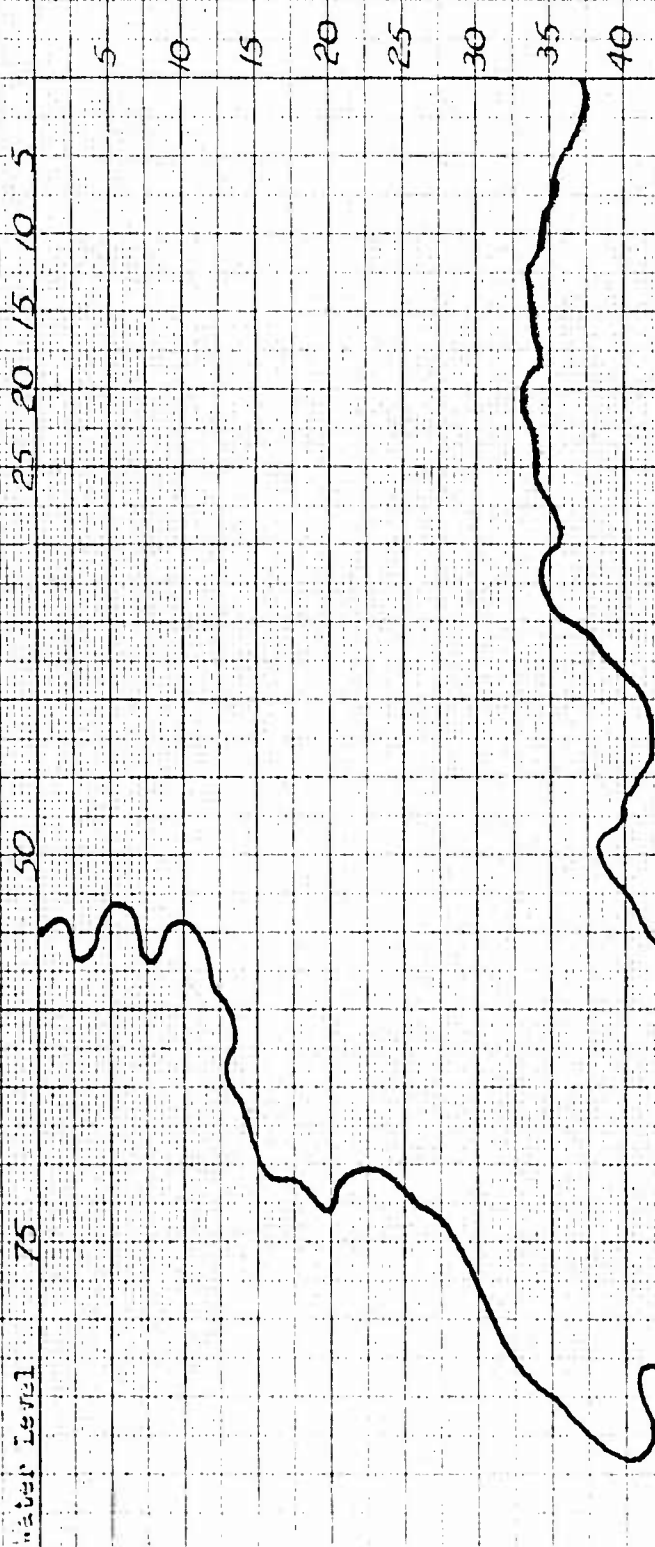


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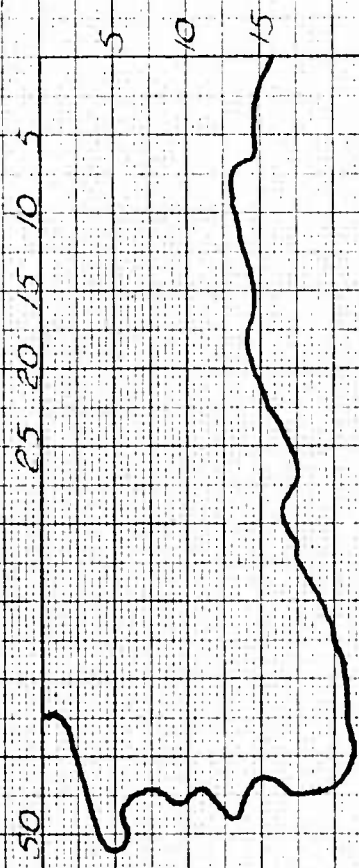
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ENCLOSURE A-102  
Scale in Feet

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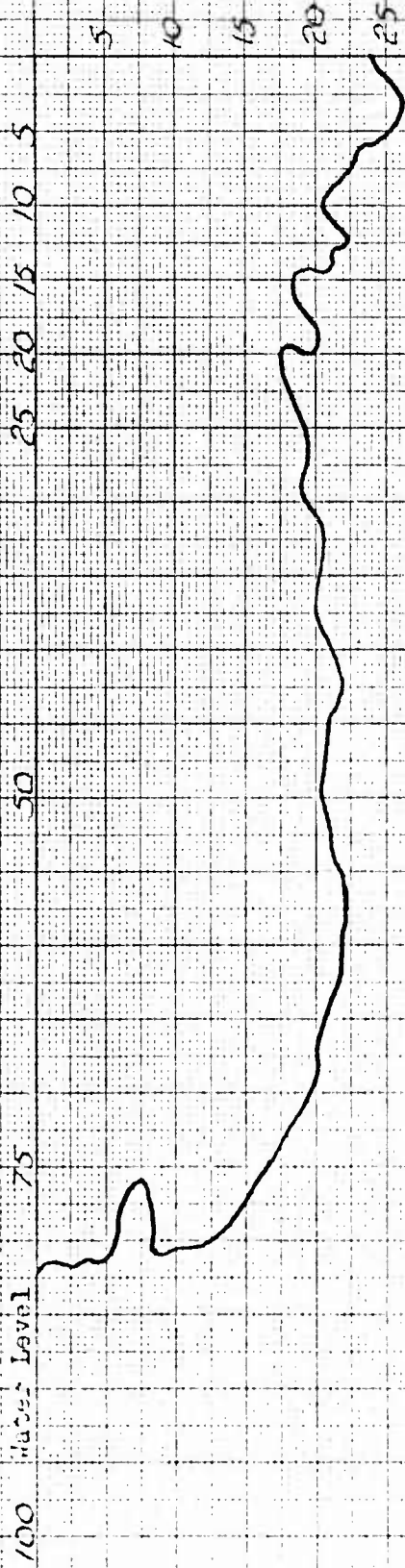
Water Level

EXPOSURE A-0239  
Scale in Feet

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CONFIDENTIAL

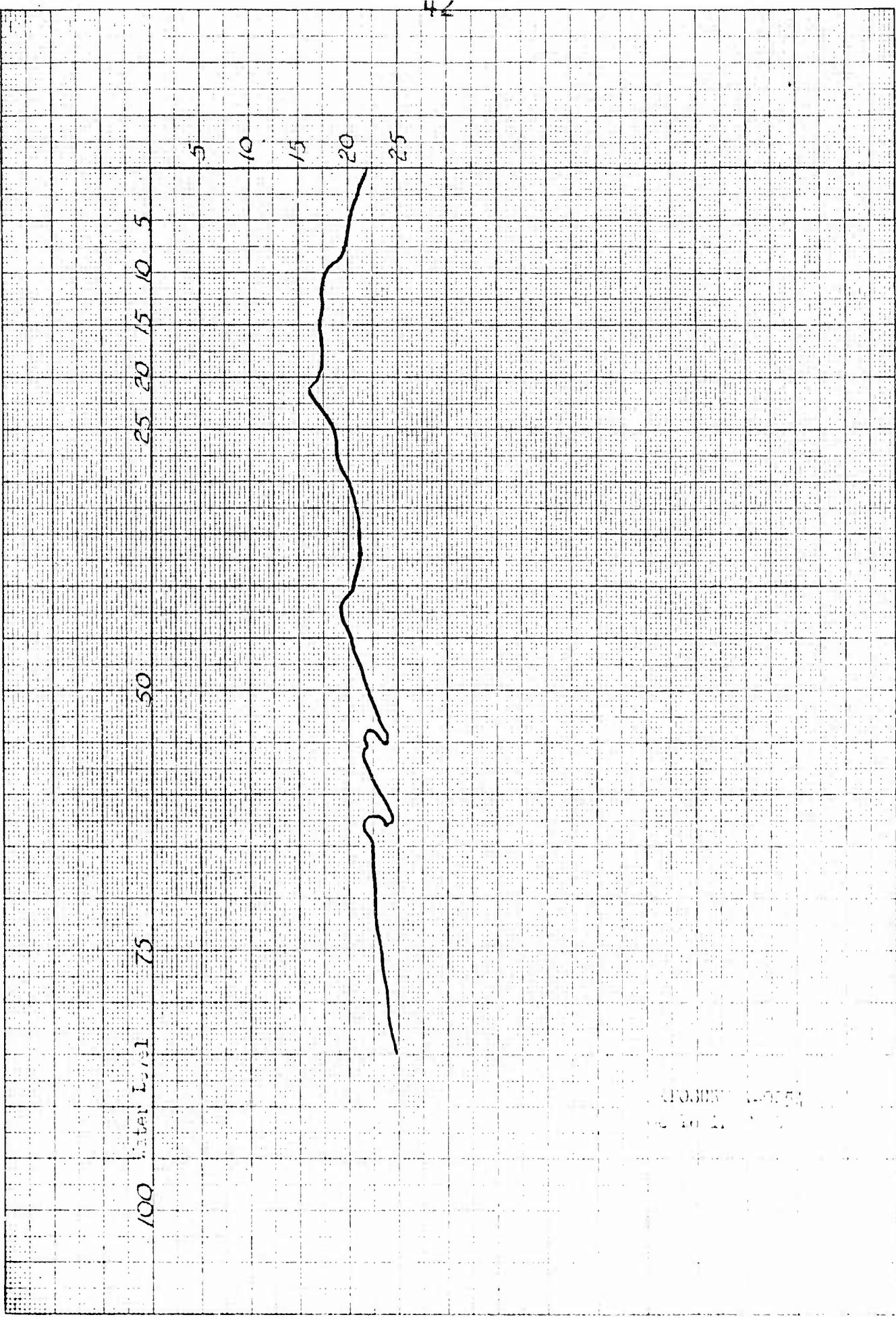
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ENCLOSURE 1-1047  
C-30 50 7-1

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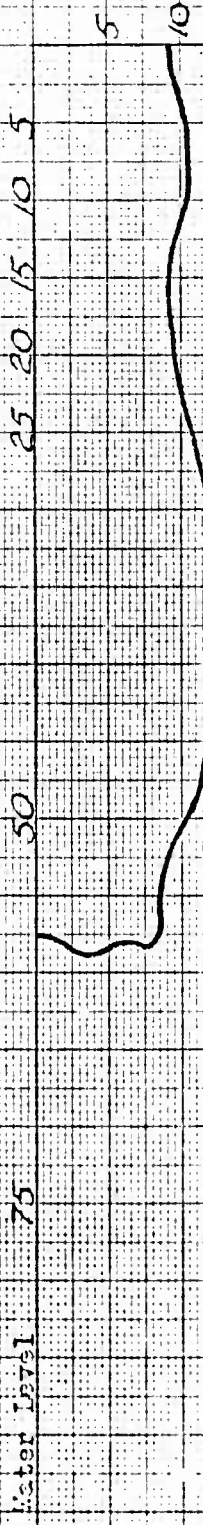
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NOV 11 1954

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EXPOSURE A-0060  
Scale in Feet

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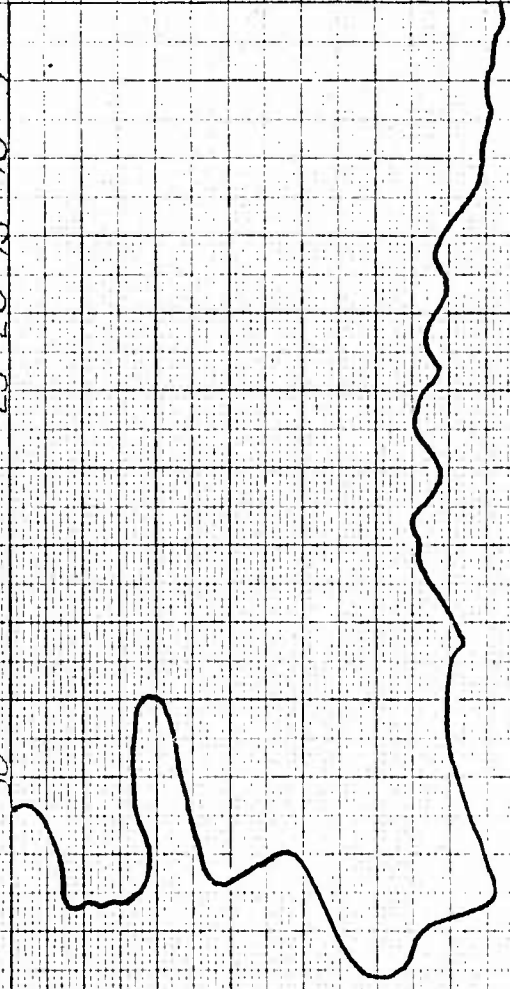
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Water Level

5  
10  
15  
20  
25  
30  
35

5 10 15 20 25

30



GRAPH 2-1-1967  
Scale 1:1

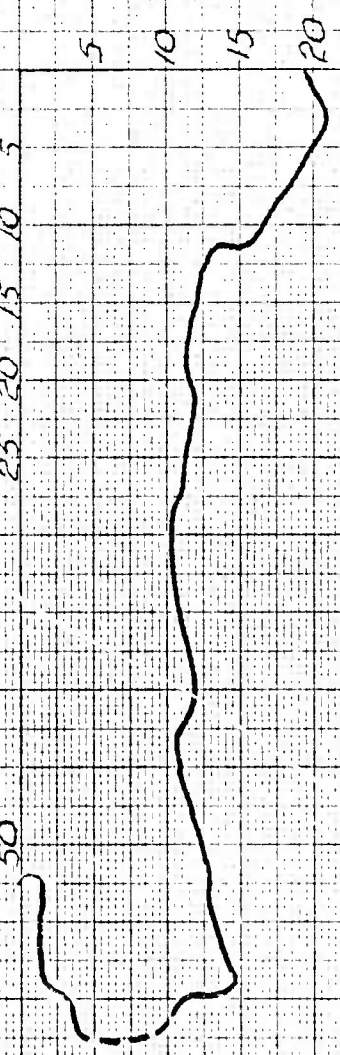
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Water Level

50

25 20 15 10 5

5 10 15 20



CONTINUED ON REVERSE SIDE

CONFIDENTIAL

Water Level

75

50

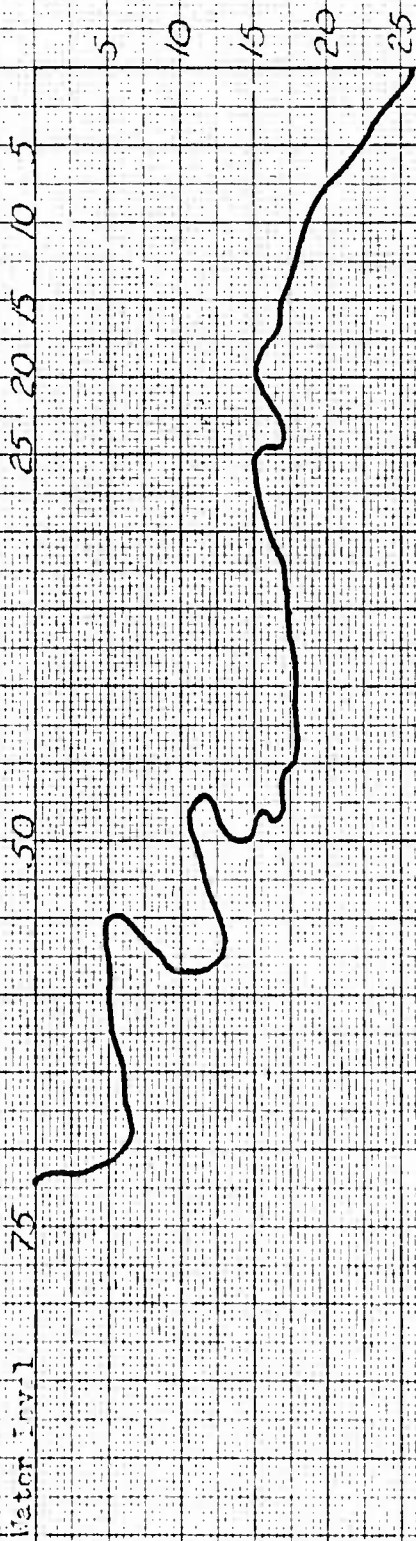
25 20 15 10 5

5

10



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EXPOSURE A-0287  
Scale In Feet

CONFIDENTIAL

Water Level

25 20 15 10 5

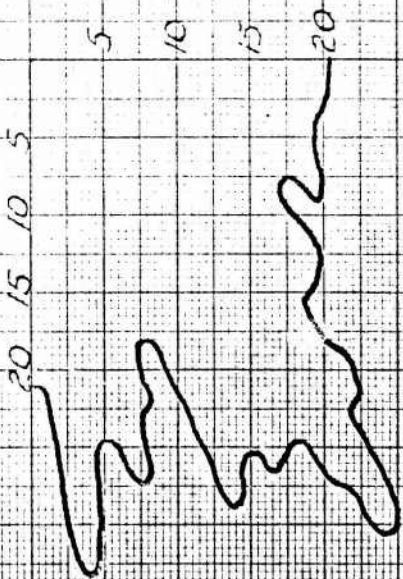
5 10 15 20



EXPOSURE 1-0296  
Scale in Feet

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Water Level

EXPOSURE A-2300  
Scale in Feet

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FIGURE 1-0316  
No. 10 11 7 11

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Water Level

25 20 15 10 5

5 10 15 20 25 30



ENGINEERING

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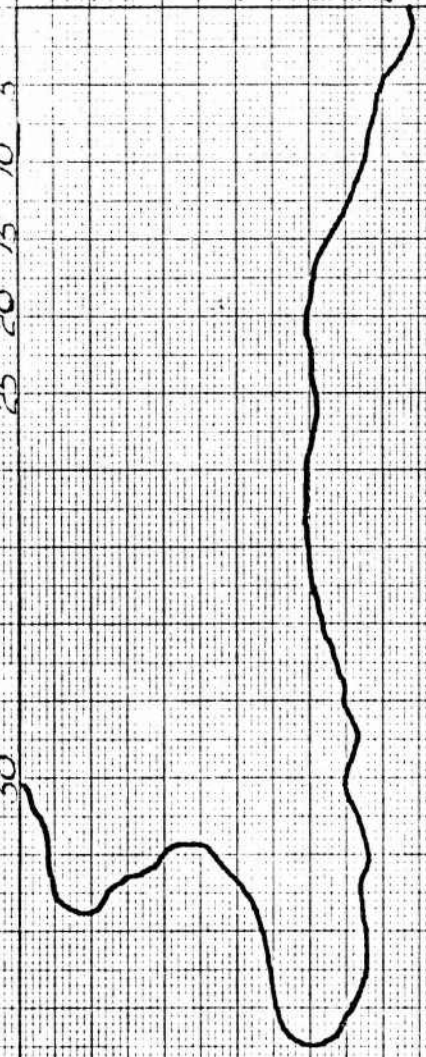
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5  
10  
15  
20  
25  
30

5  
10  
15  
20  
25  
30

30

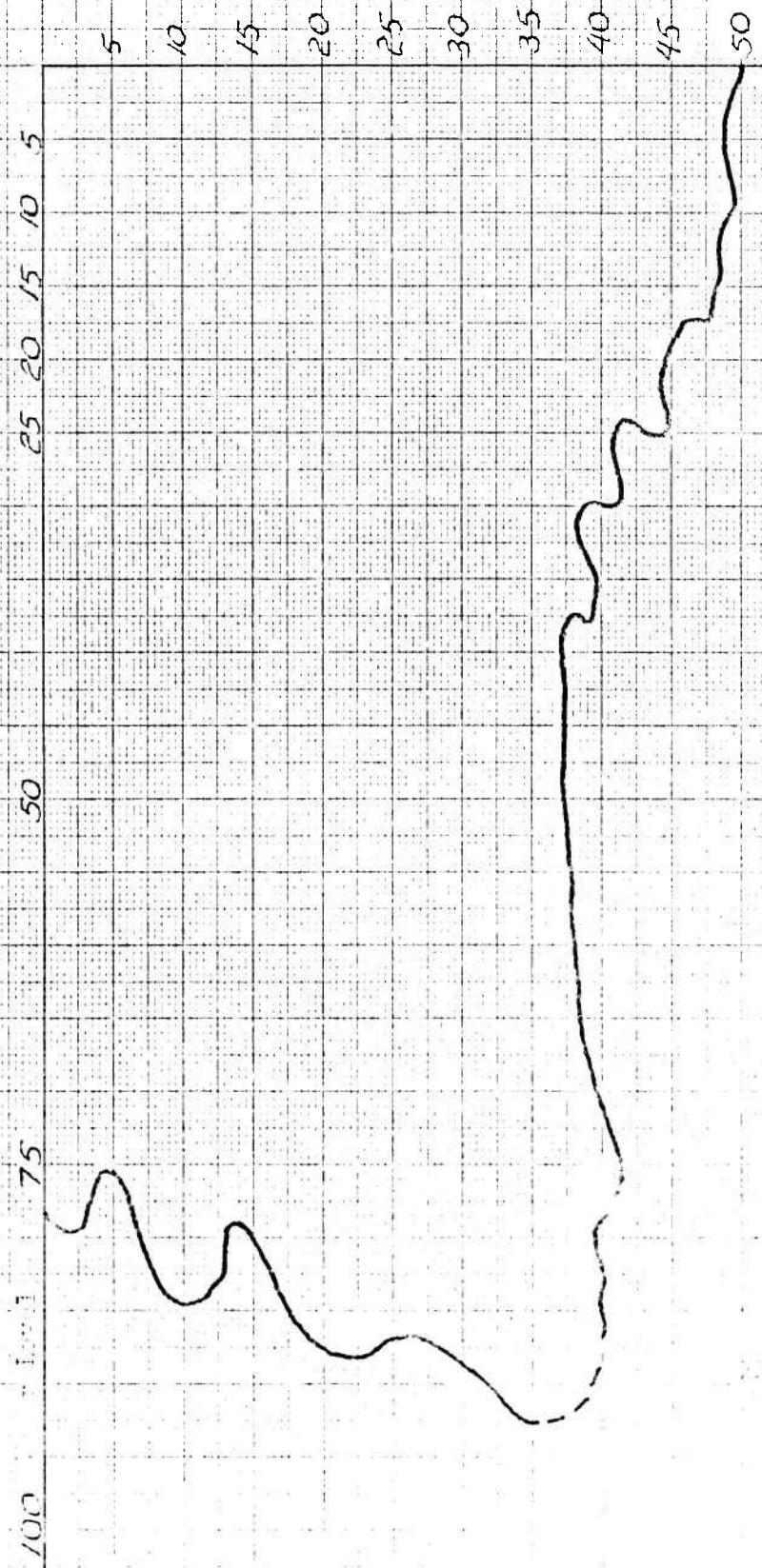
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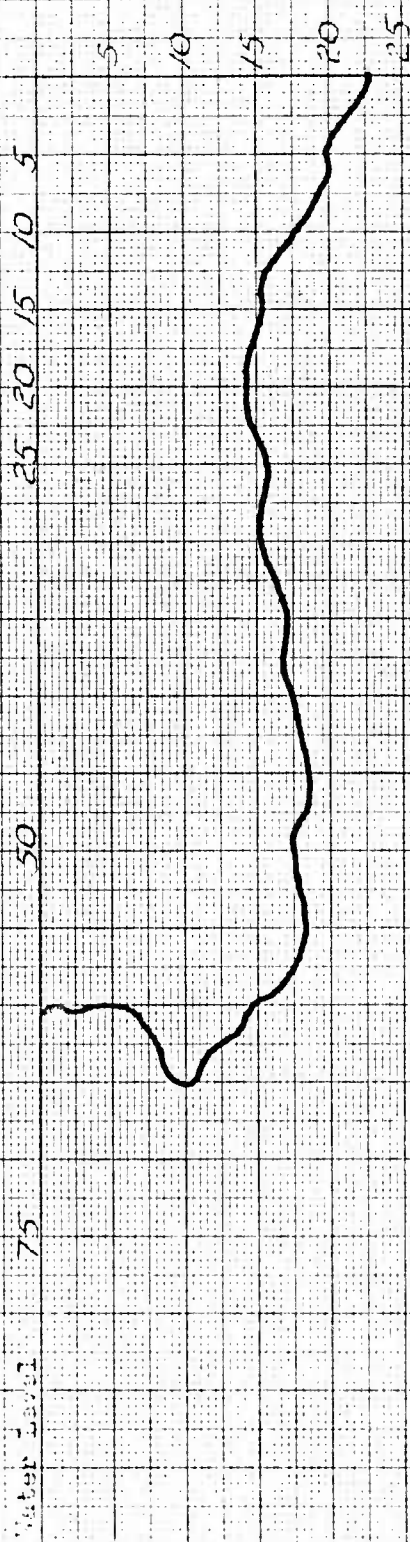
WATER LEVEL 7-0331  
Scale in Feet

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EXPOSURE A-0346  
Scale in Feet

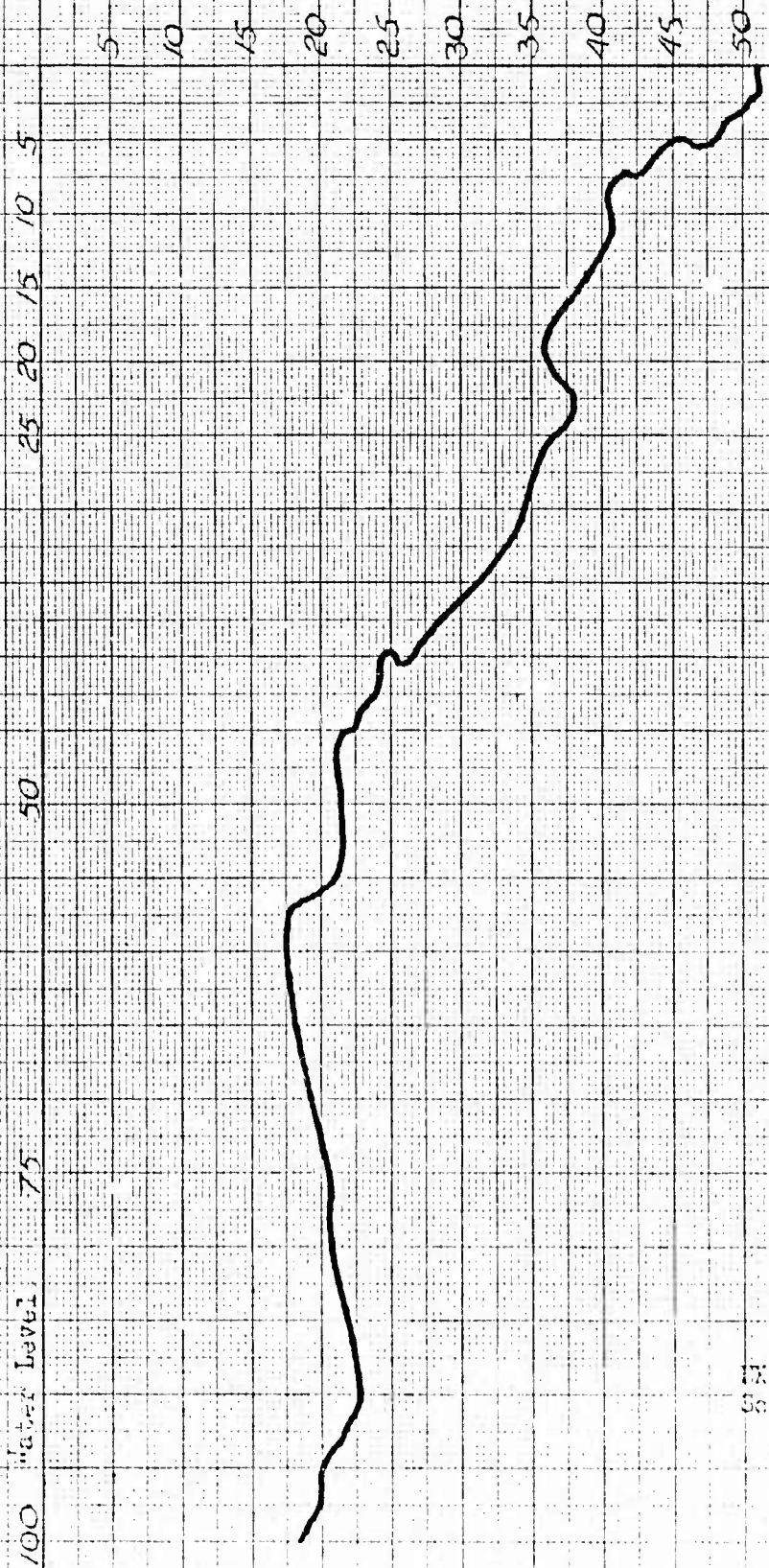
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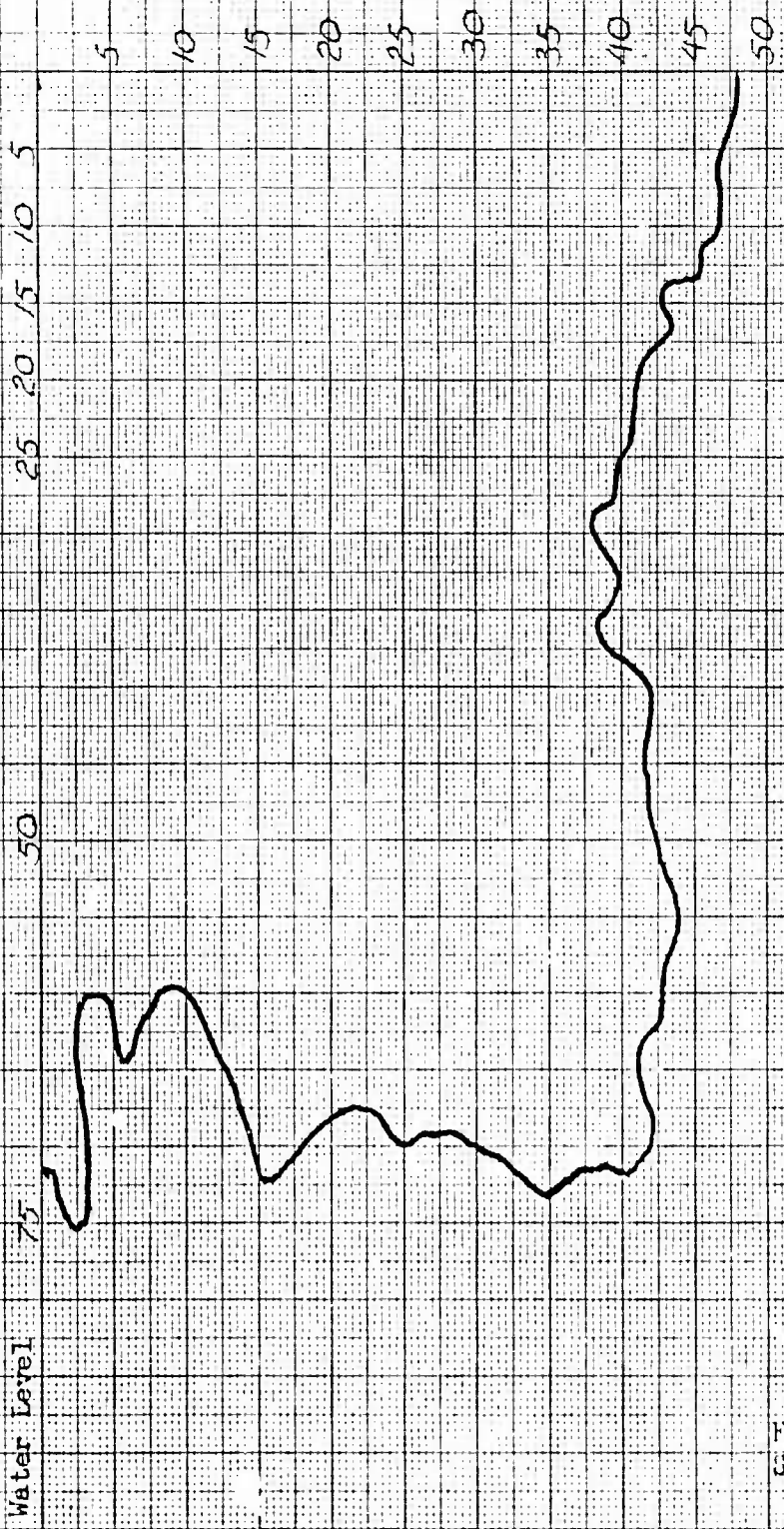
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Date: 11/11/52

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EXPOSURE A-0358  
Scale in Feet

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EXPOSURE A-0362  
Scale in Feet

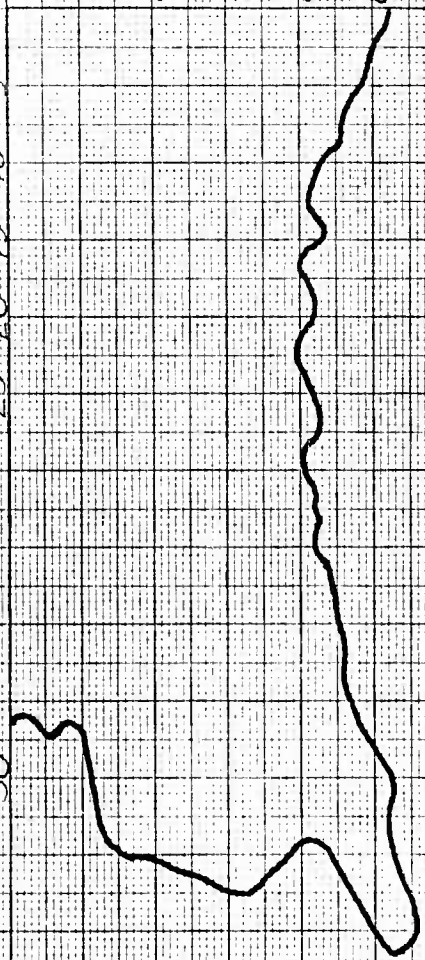
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Water level

30

25 20 15 10 5

5 10 15 20 25



EXPOSURE A-2268  
Scale in Feet

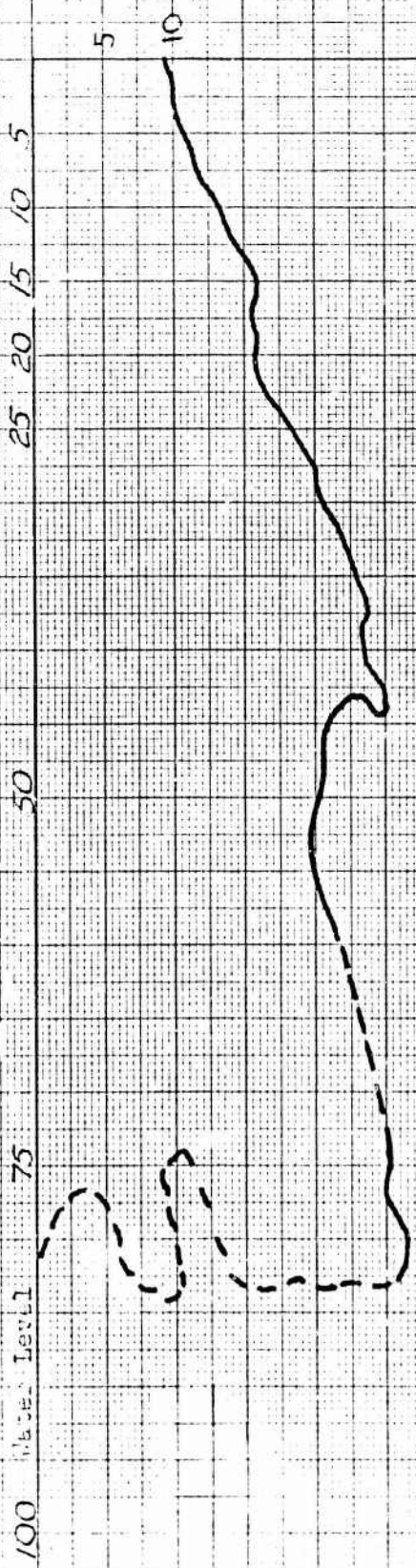
CONFIDENTIAL



FORM A-2075  
Date: 11/1/57

CONFIDENTIAL

CONFIDENTIAL



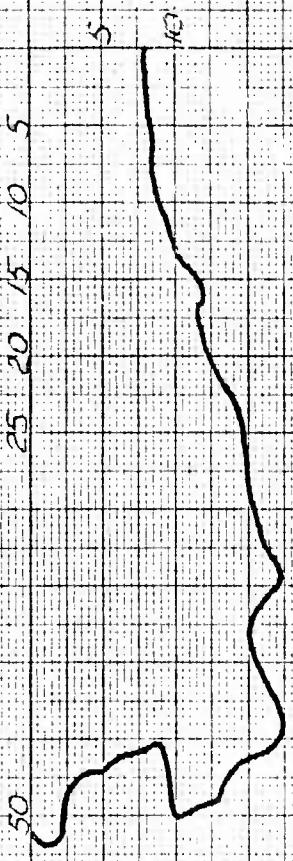
EXFOUR 0383  
Scale: 1:1000



CONFIDENTIAL

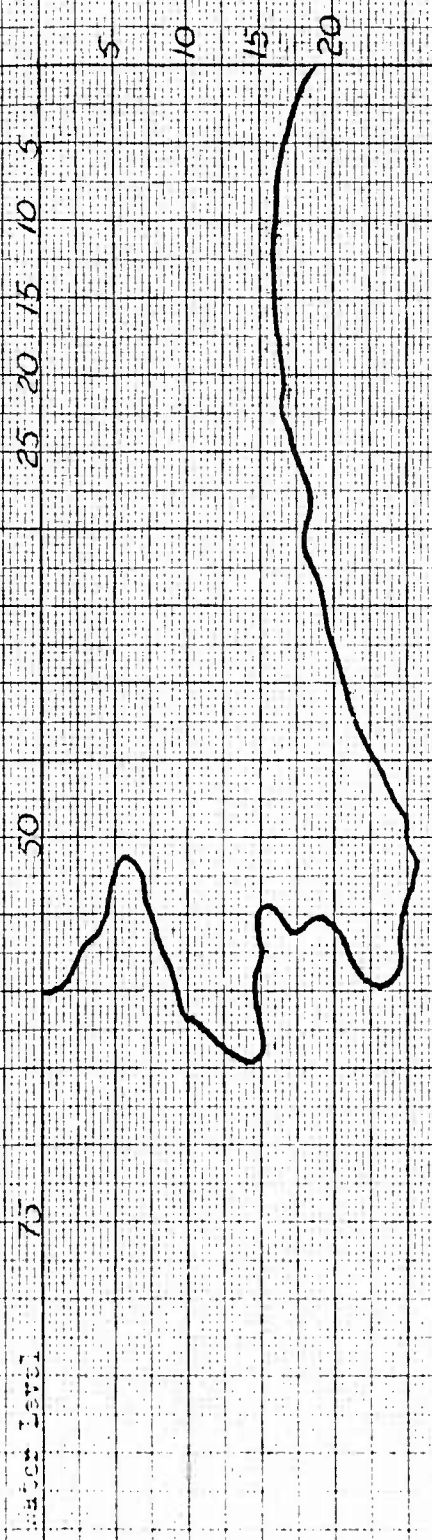
Water Level

5  
10  
15  
20  
25  
30



100-100-100  
Grade in 100

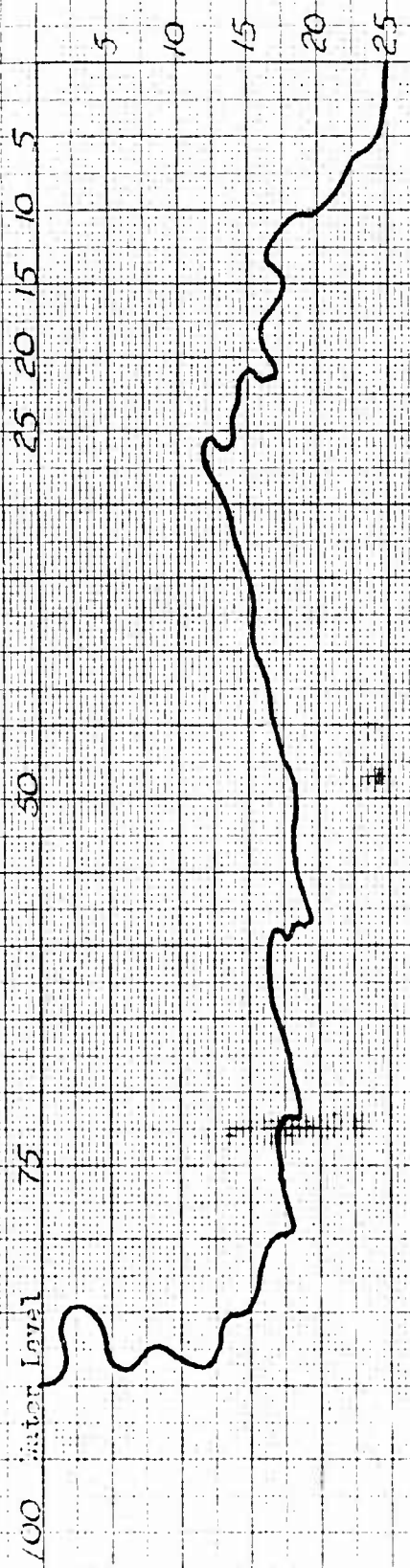
CONFIDENTIAL



FORM 31-1394  
Scale 1:1000

CONFIDENTIAL

CONFIDENTIAL



EXPOSURE A-0376  
Scale in Feet

CONFIDENTIAL

CONFIDENTIAL

Water Level

75

50

30

25

20

15

10

5

5

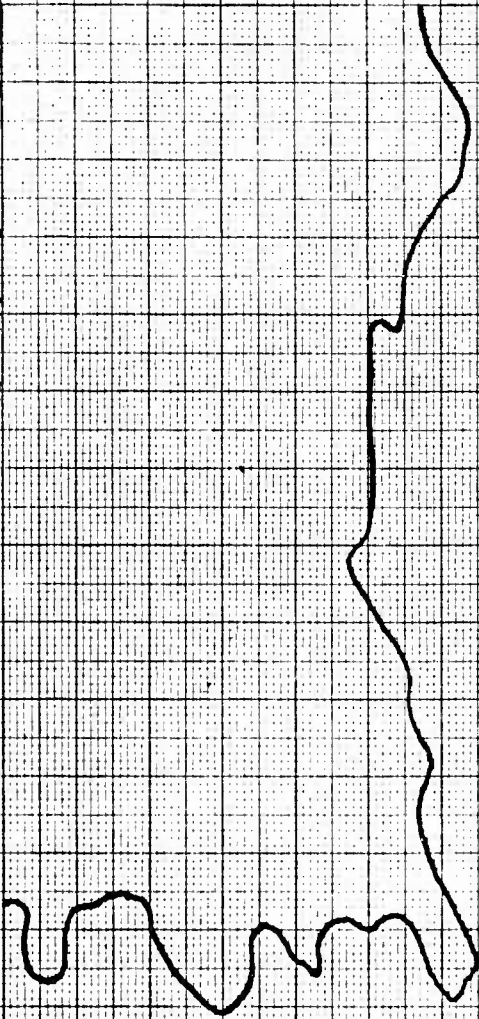
10

15

20

25

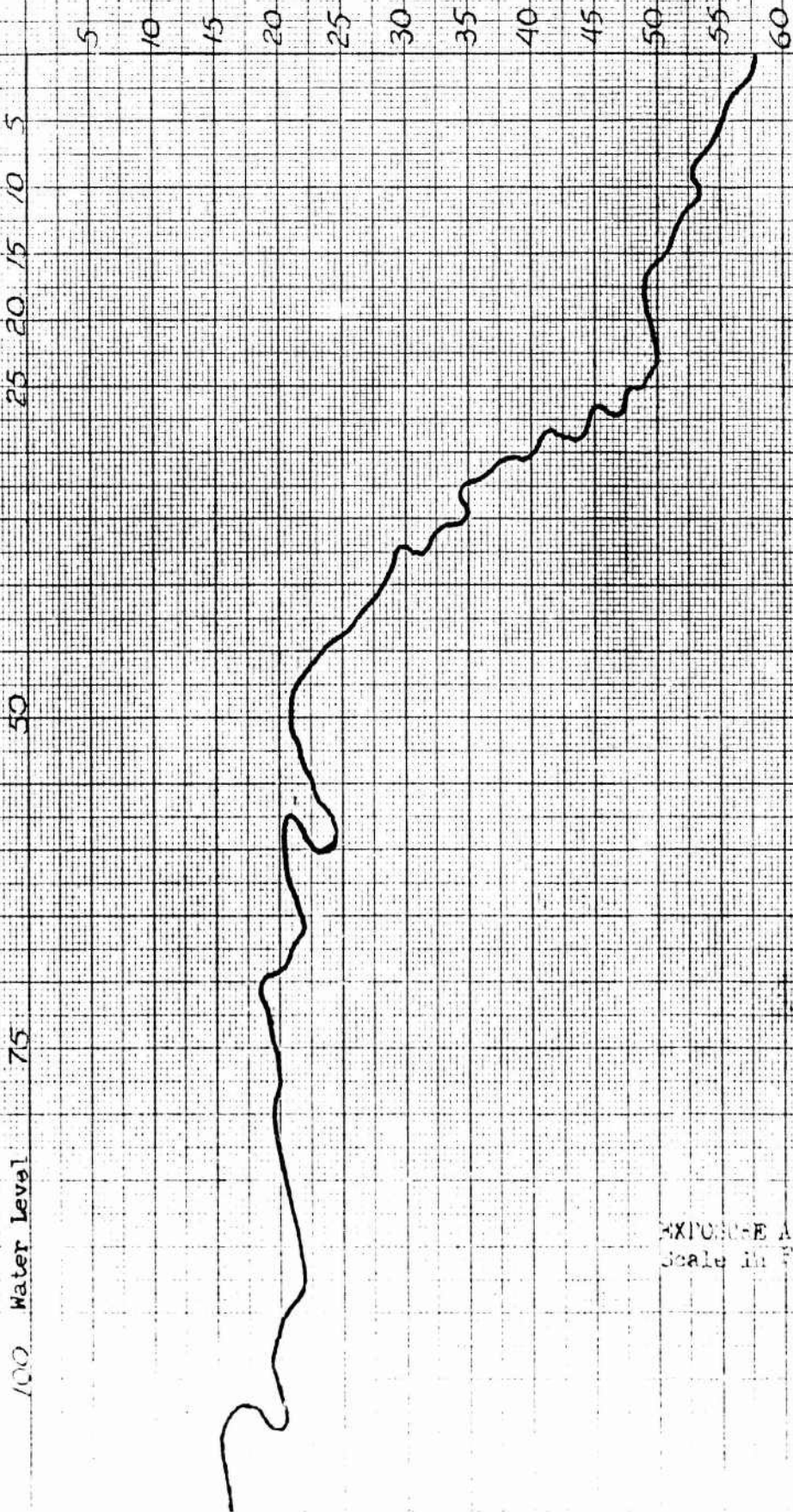
30



EXPOSURE A-0403  
Scale in Feet

CONFIDENTIAL

CONFIDENTIAL



EXPOSURE A-0417  
Scale in Feet

CONFIDENTIAL

Water Level



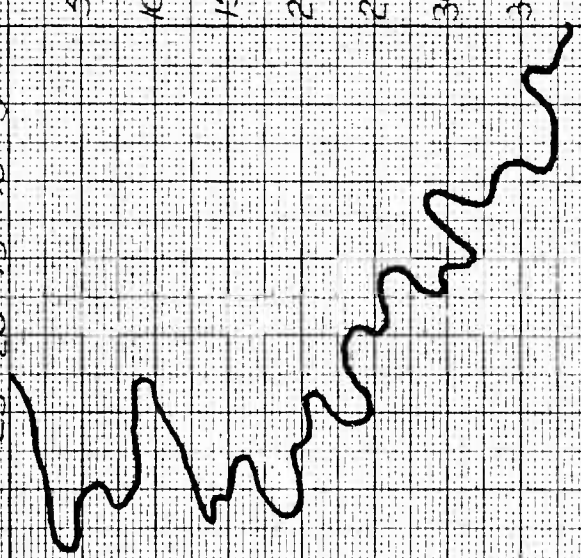
EXPOSURE A-0422  
Scale in Feet

CONFIDENTIAL

Water Level

25 20 15 10 5

5 10 15 20 25 30 35 40



EXFO 1101, A-0430  
Scale in Feet

CONFIDENTIAL



ENCLOSURE A-0435  
Scale in feet

CONFIDENTIAL

Water Level

50

25

20

15

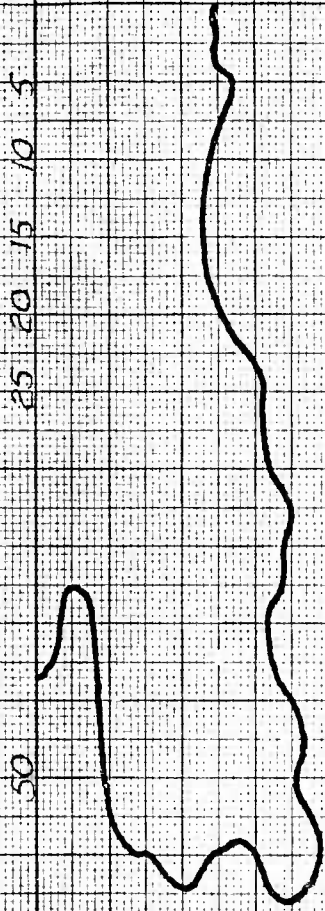
10

5

10

15

EXPOSURE A-0438  
Scale in Feet



CONFIDENTIAL

Water level

75

50

25

20

15

10

5

5

10

15

20

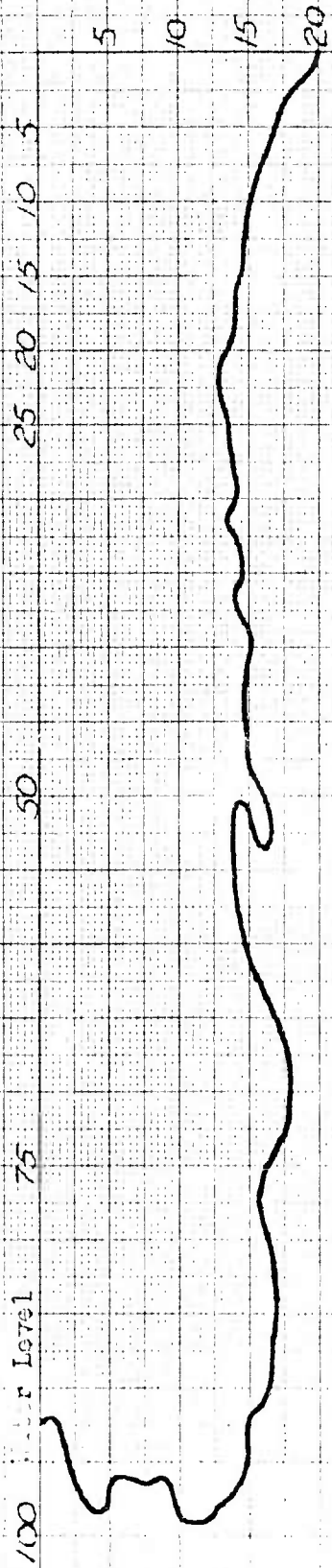
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EXPOSURE A-0444

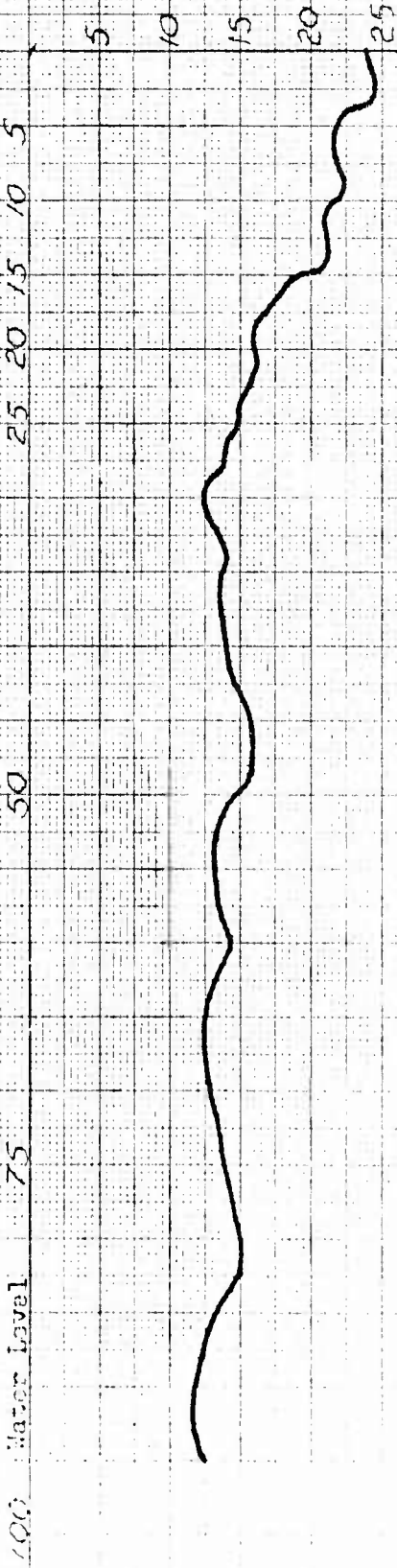
Scale in feet

CONFIDENTIAL



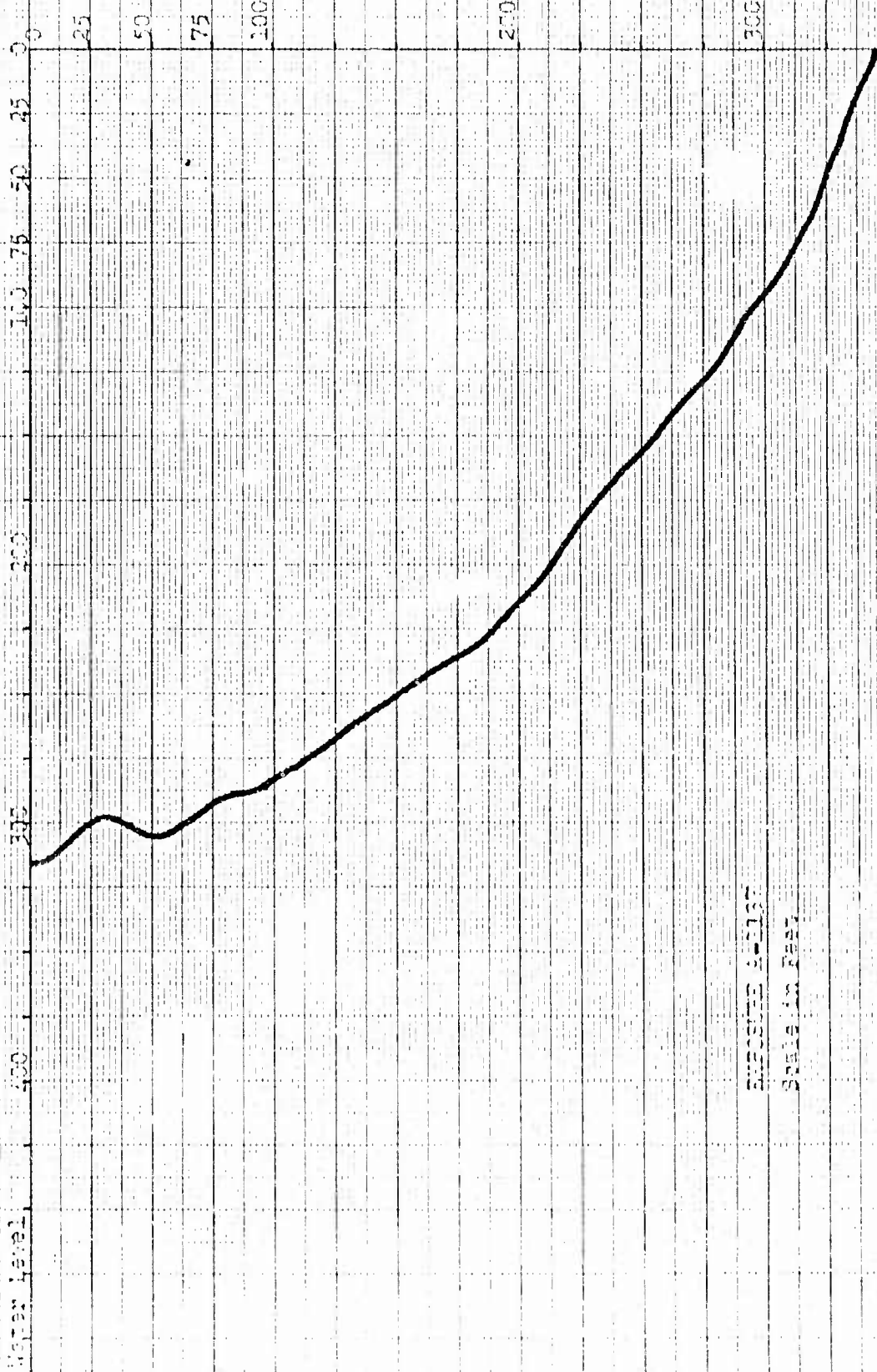
EXPOSURE A-0443  
Scale in Feet

CONFIDENTIAL



EXPOSURE A-2453  
Scale in Feet

CONFIDENTIAL



EMERGENCY SERVICE  
STATE OF TEXAS

CONFIDENTIAL



EXPOSURE AND TIME

CONFIDENTIAL

Water Level

400

300

200

100

75

50

25

0

35

50

75

100

200

300

400

500

600

700

800

900

1000

1100

1200

1300

1400

1500

1600

1700

1800

1900

2000

2100

2200

2300

2400

2500

2600

2700

2800

2900

3000

3100

3200

3300

3400

3500

3600

3700

3800

3900

4000

4100

4200

4300

4400

4500

4600

4700

4800

4900

5000

5100

5200

5300

5400

5500

5600

5700

5800

5900

6000

6100

6200

6300

6400

6500

6600

6700

6800

6900

7000

7100

7200

7300

7400

7500

7600

7700

7800

7900

8000

8100

8200

8300

8400

8500

8600

8700

8800

8900

9000

9100

9200

9300

9400

9500

9600

9700

9800

9900

10000

10100

10200

10300

10400

10500

10600

10700

10800

10900

11000

11100

11200

11300

11400

11500

11600

11700

11800

11900

12000

12100

12200

12300

12400

12500

12600

12700

12800

12900

13000

13100

13200

13300

13400

13500

13600

13700

13800

13900

14000

14100

14200

14300

14400

14500

14600

14700

14800

14900

15000

15100

15200

15300

15400

15500

15600

15700

15800

15900

16000

16100

16200

16300

16400

16500

16600

16700

16800

16900

17000

17100

17200

17300

17400

17500

17600

17700

17800

17900

18000

18100

18200

18300

18400

18500

18600

18700

18800

18900

19000

19100

19200

19300

19400

19500

19600

19700

19800

19900

20000

20100

20200

20300

20400

20500

20600

20700

20800

20900

21000

21100

21200

21300

21400

21500

21600

21700

21800

21900

22000

22100

22200

22300

22400

22500

22600

22700

22800

22900

23000

23100

23200

23300

23400

23500

23600

23700

23800

23900

24000

24100

24200

24300

24400

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25000

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25600

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29100

29200

29300

29400

29500

29600

29700

29800

29900

30000

30100

30200

30300

30400

30500

30600

30700

30800

30900

31000

31100

31200

31300

31400

31500

31600

31700

31800

31900

32000

32100

32200

32300

32400

32500

32600

32700

32800

32900

33000

33100

33200

33300

33400

CONFIDENTIAL

Water Level

400

300

200

100

75

50

25

50

75

100

200

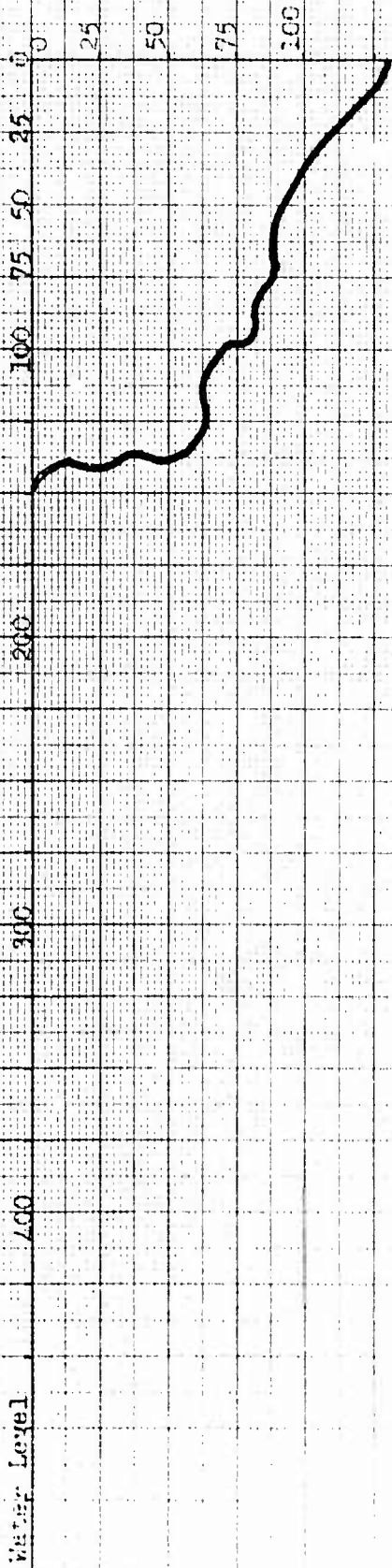
300

EXPOSURE A-1144

Scales in Feet

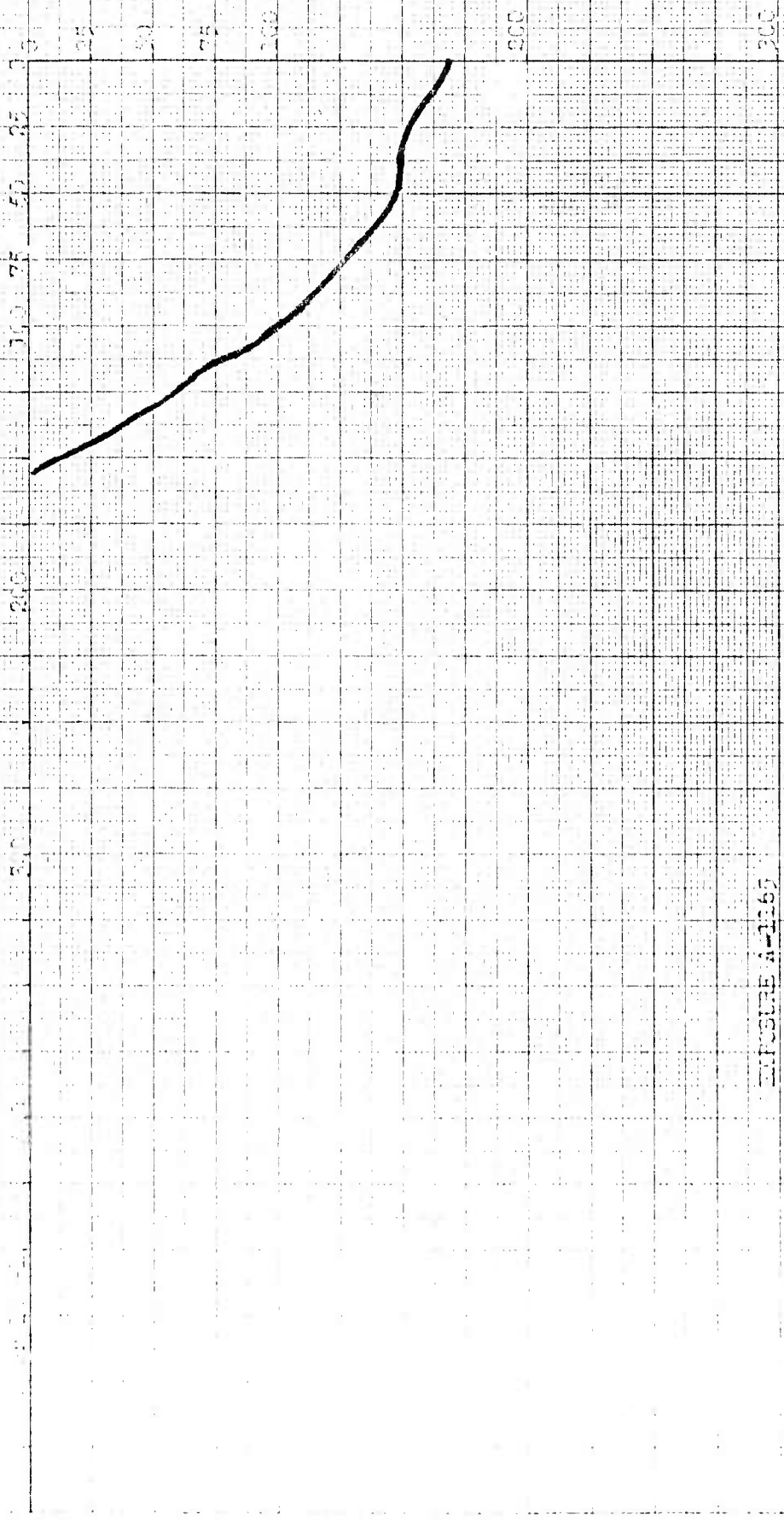


CONFIDENTIAL



ENCLOSURE A-150  
Scale in Feet

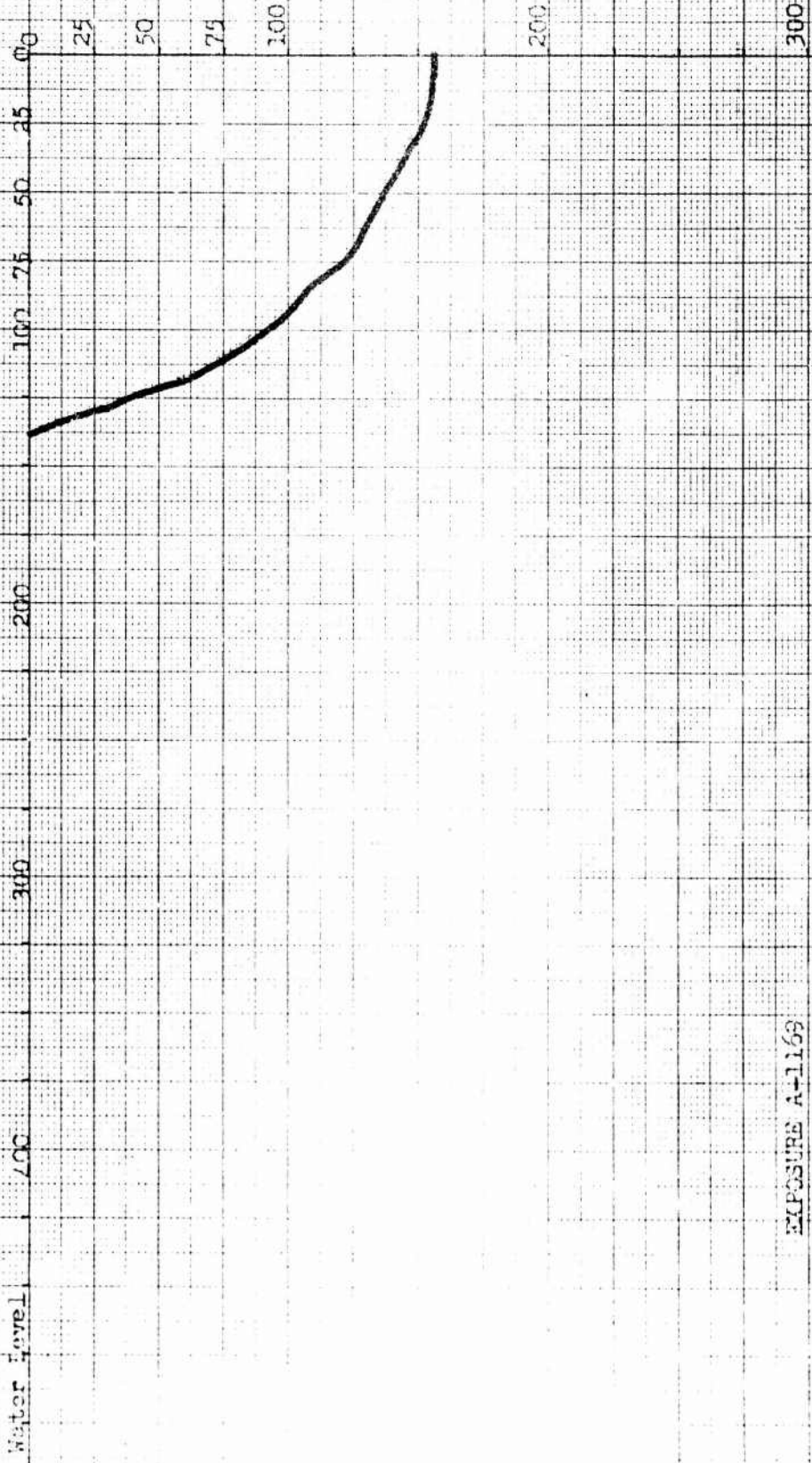
CONFIDENTIAL



EXPOSURE A-1165  
Scale in Feet



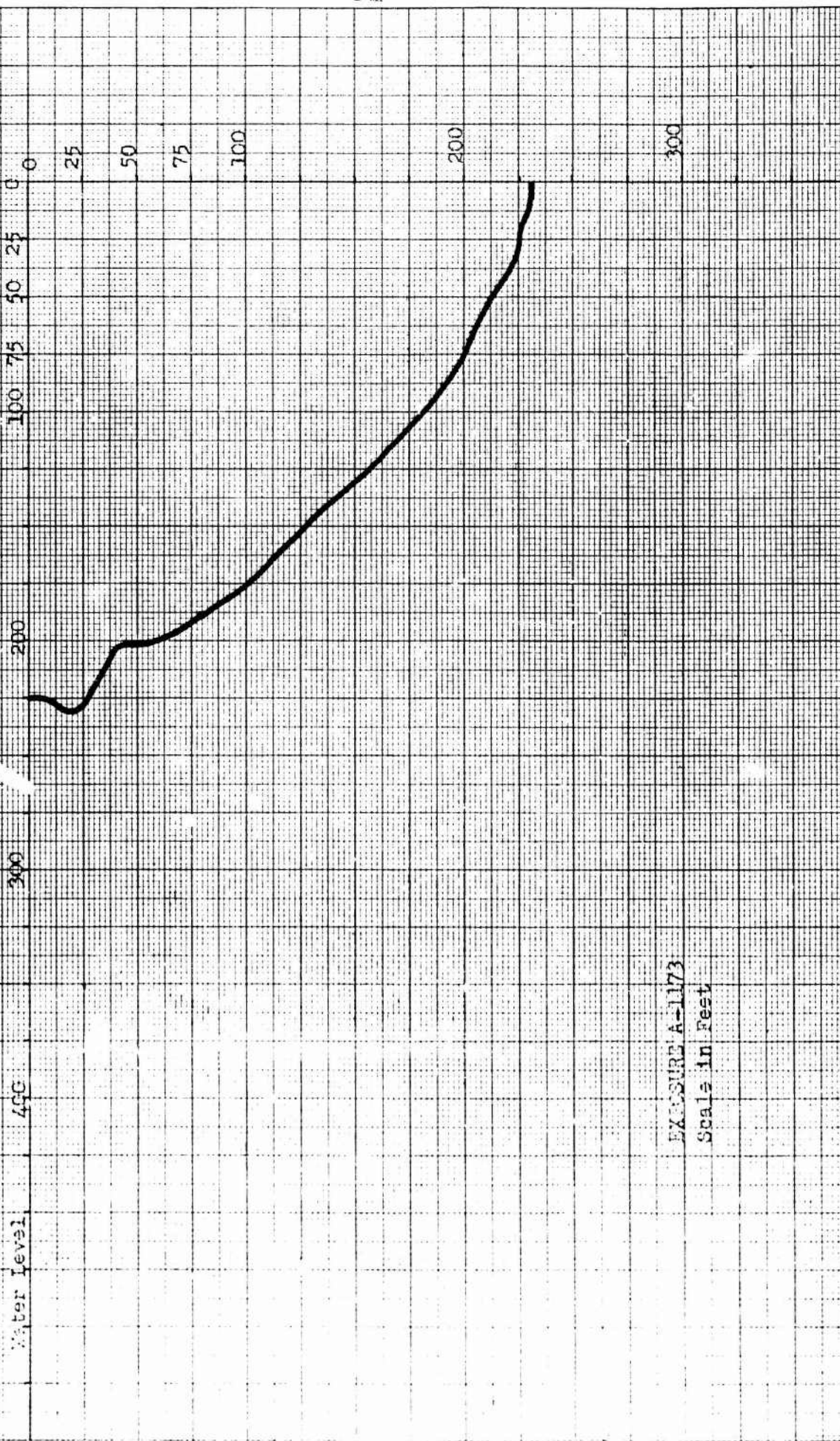
CONFIDENTIAL



EXPOSURE A-1169

Scale in Feet

CONFIDENTIAL



EXPOSURE A-1173  
Scale in Feet

CONFIDENTIAL



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CONFIDENTIAL



PRESSURE IN FEET

Water Level

100

200

300

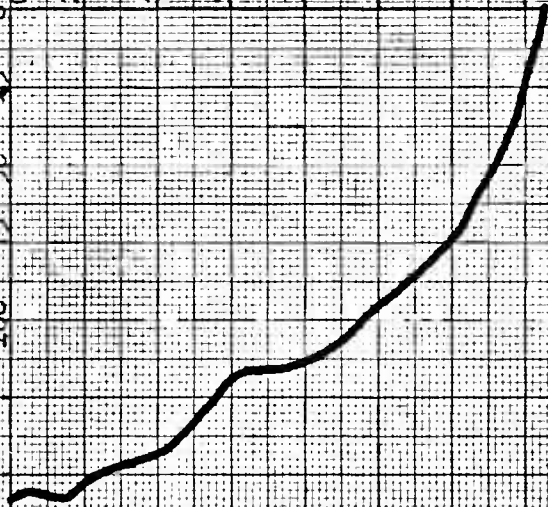
400

500

600

700

0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525 550 575 600 625 650 675 700 725 750 775 800 825 850 875 900 925 950 975 1000

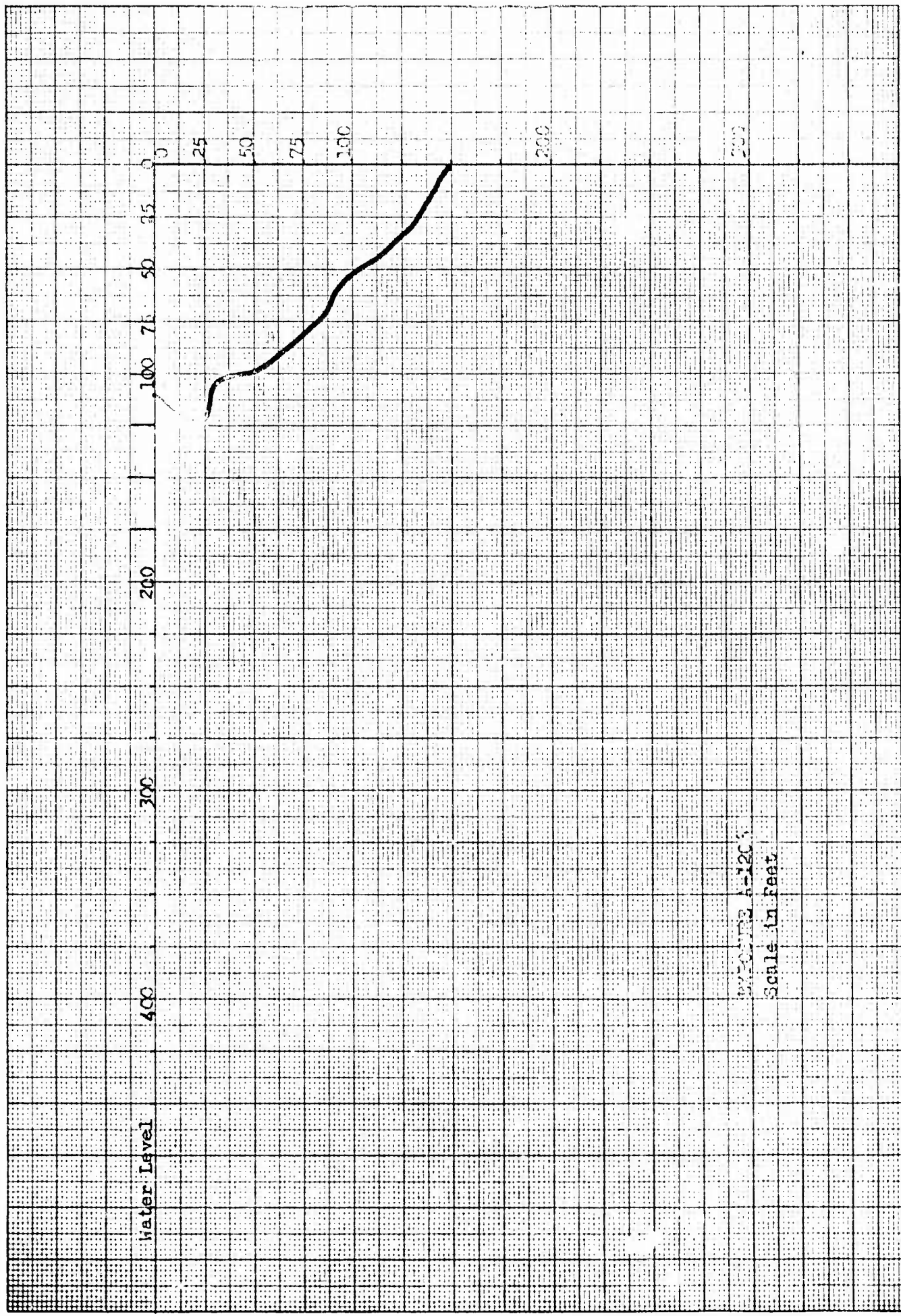


EXPOSURE A-1197

Scale in Feet



CONFIDENTIAL

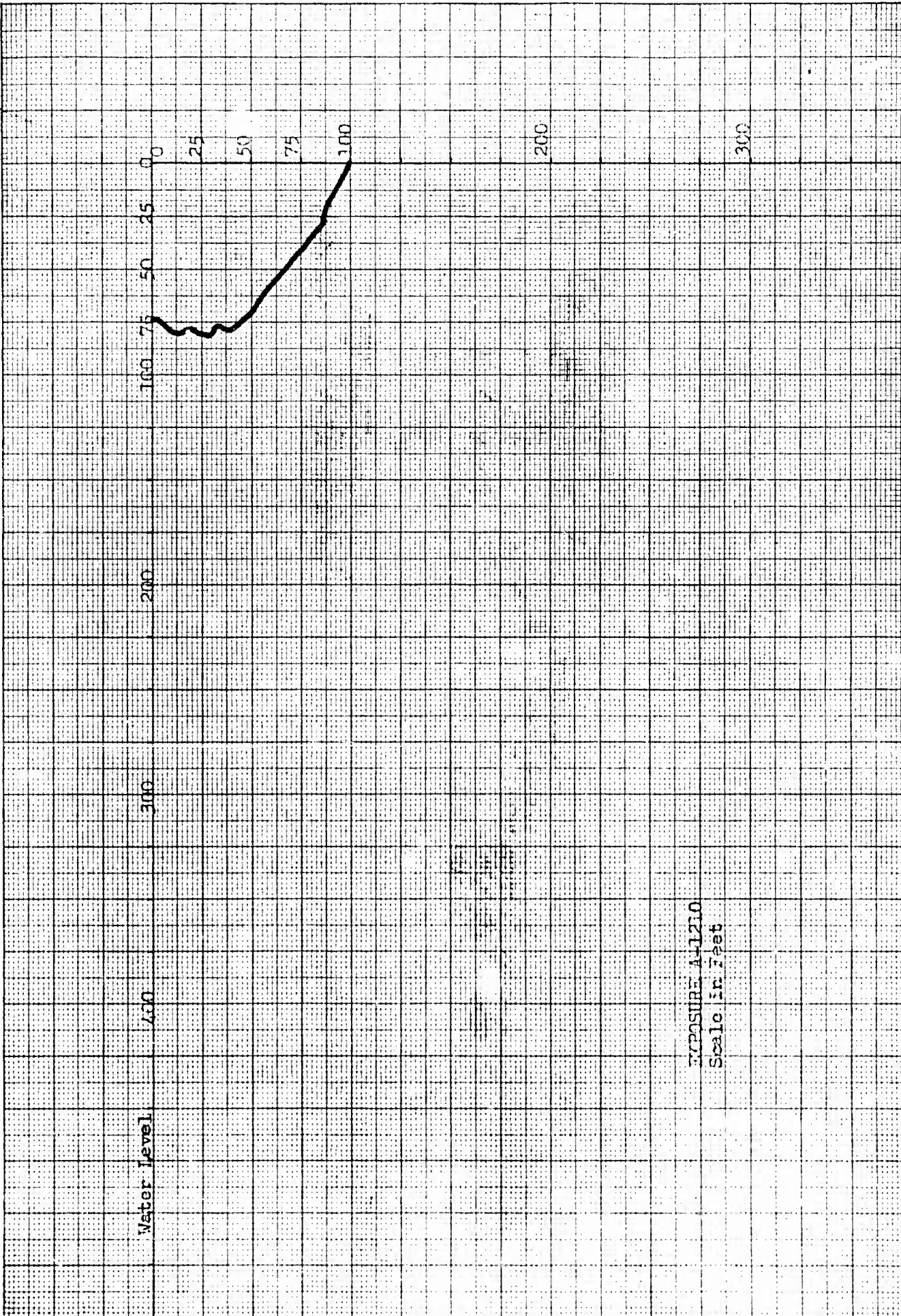


WATER LEVEL  
Scale in Feet

~~CONFIDENTIAL~~

CONFIDENTIAL

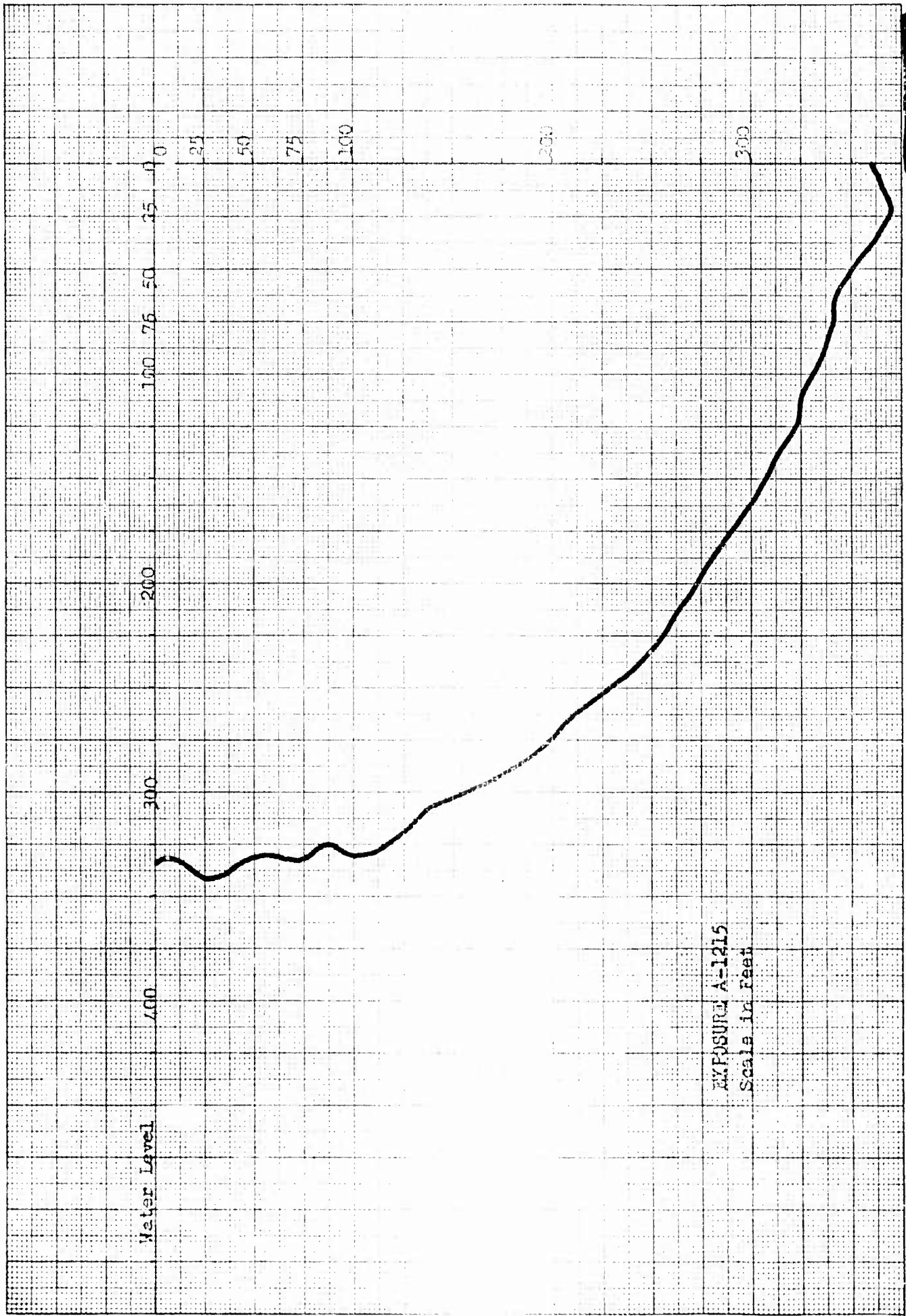
Millimeters, 3 mm. lines accented, cm. lines heavy.  
MADE IN U.S.A.



EXPOSURE A-1210  
Scale in Feet

CONFIDENTIAL

CONFIDENTIAL

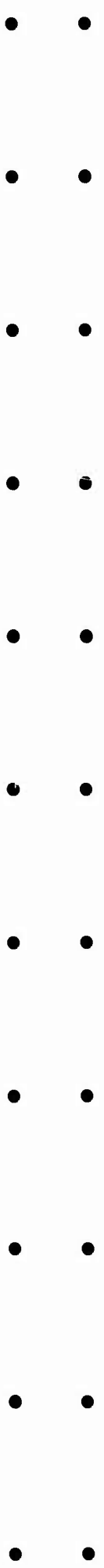


EXPOSURE A-1215  
Scale in Feet

CONFIDENTIAL



CONFIDENTIAL



CONFIDENTIAL



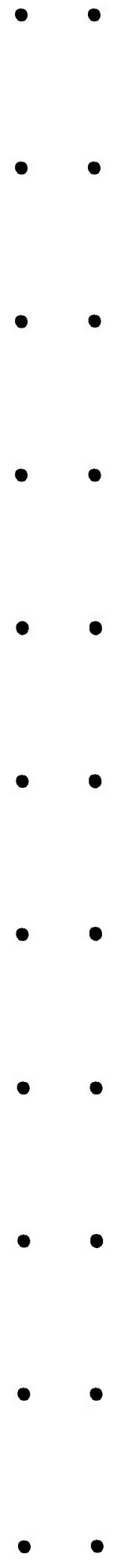
ENGINE ANALYSIS  
Scale in Feet

~~CONFIDENTIAL~~

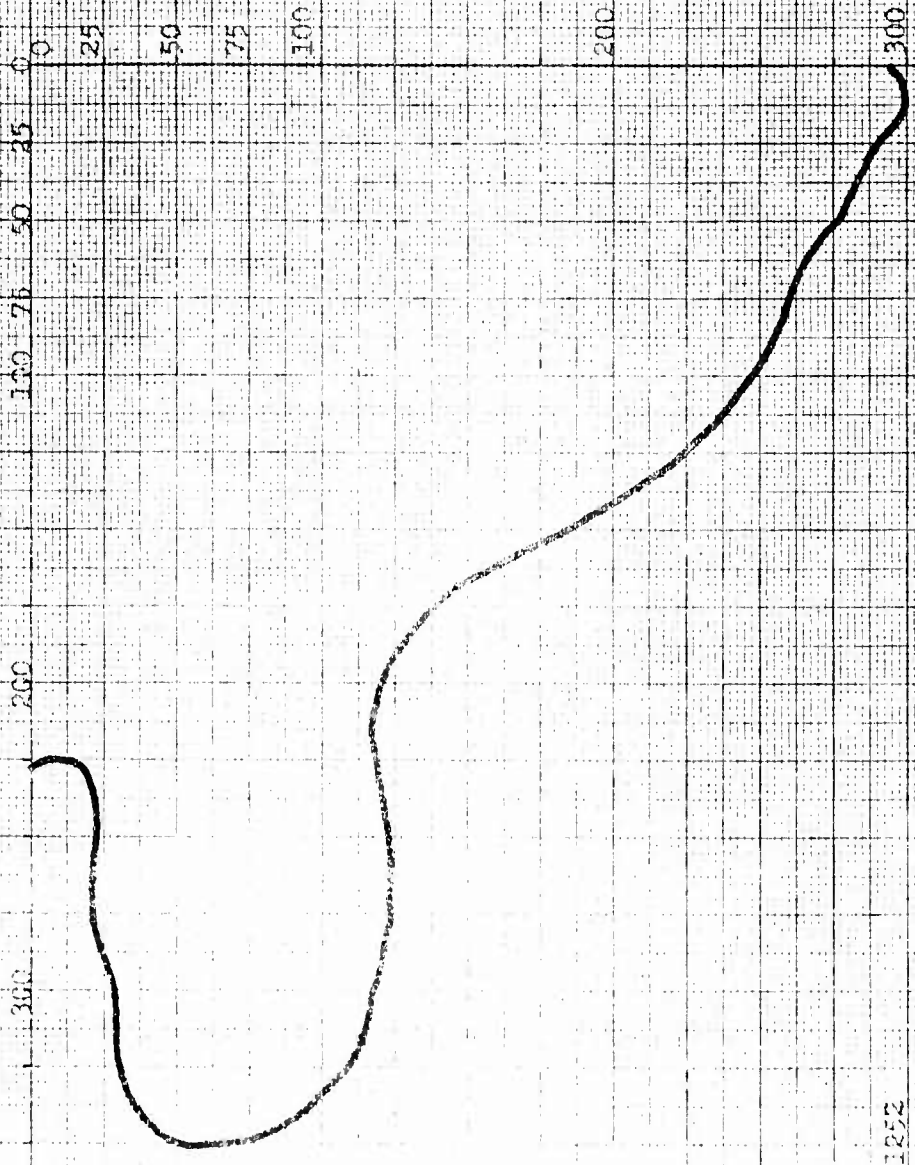
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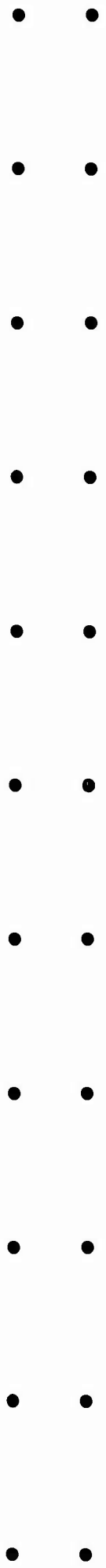
CONFIDENTIAL  
2006  
2005



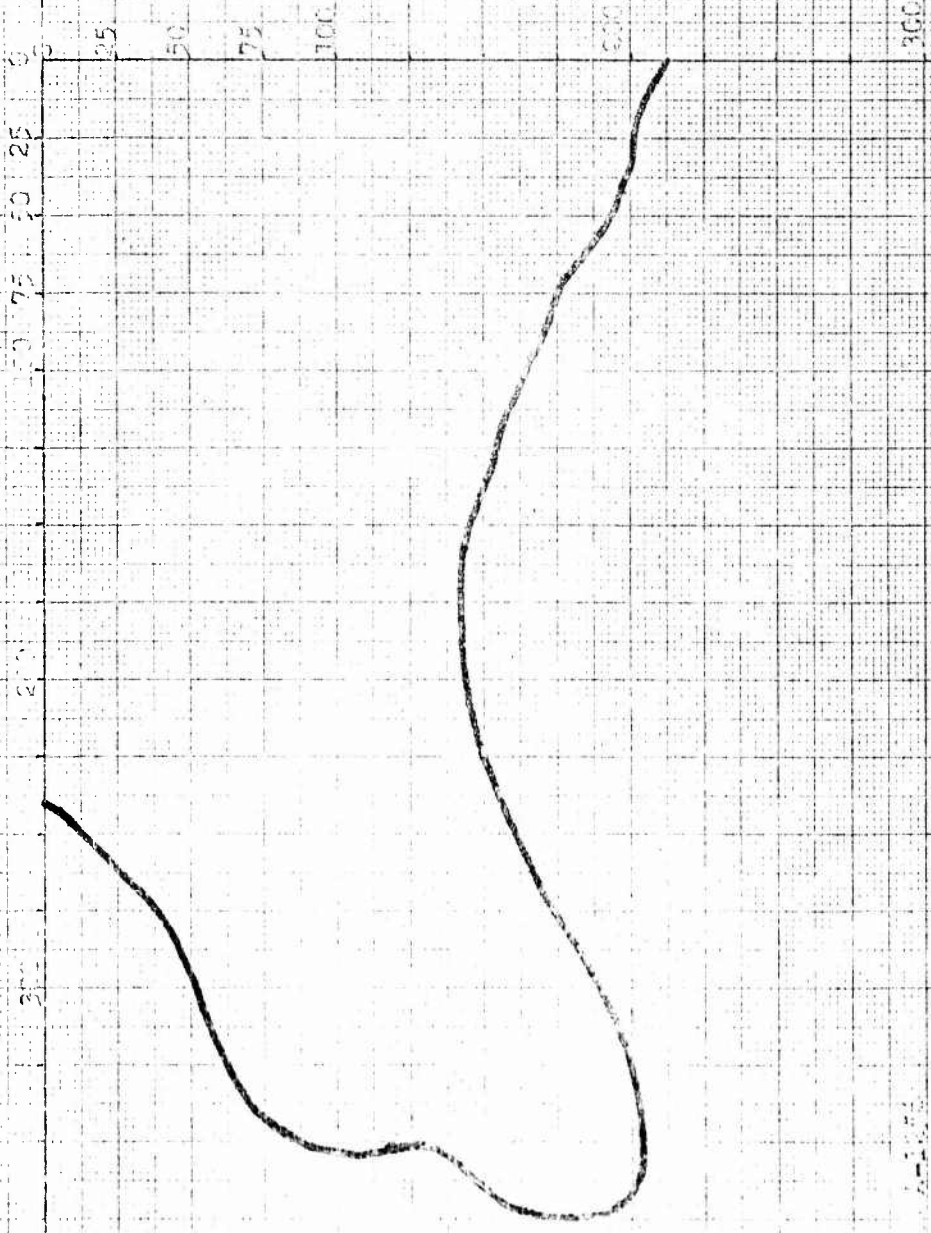
CONFIDENTIAL



EXPOSURE A-1252  
Scale in feet



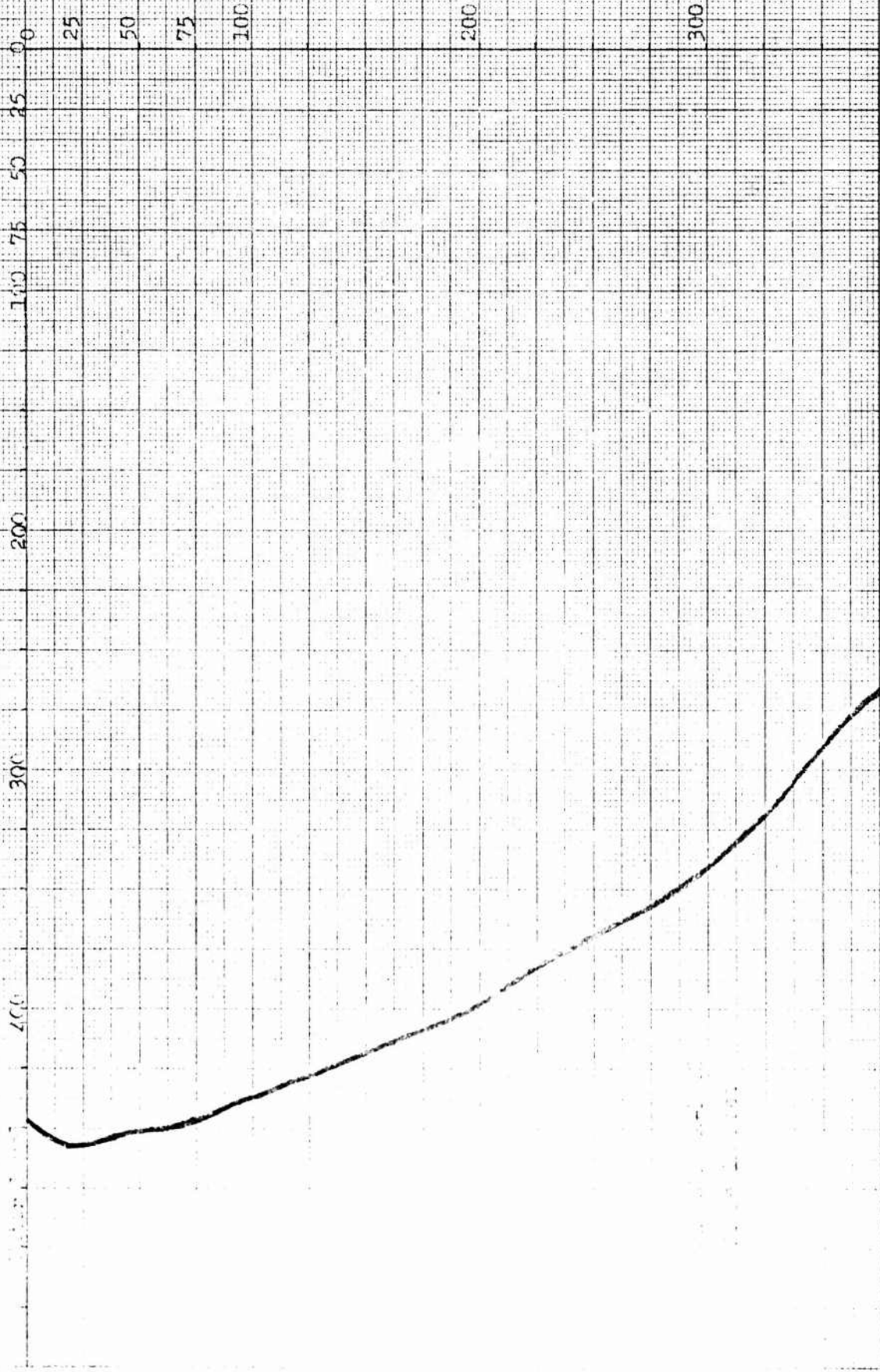
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CONFIDENTIAL

CONFIDENTIAL

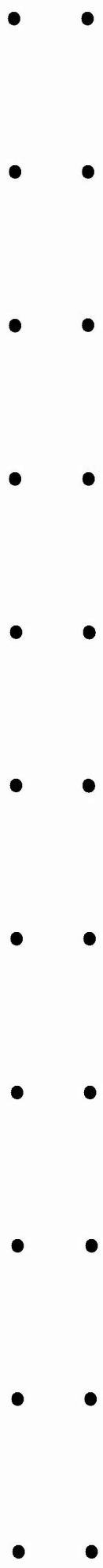
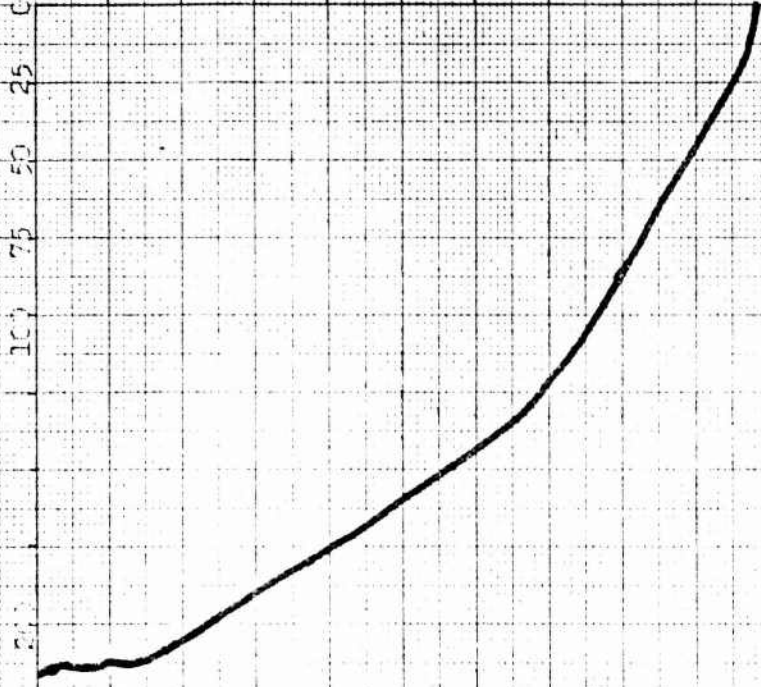
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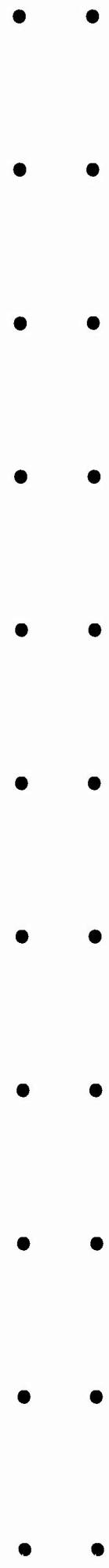


100 25 50 75 100 200 300

200

300





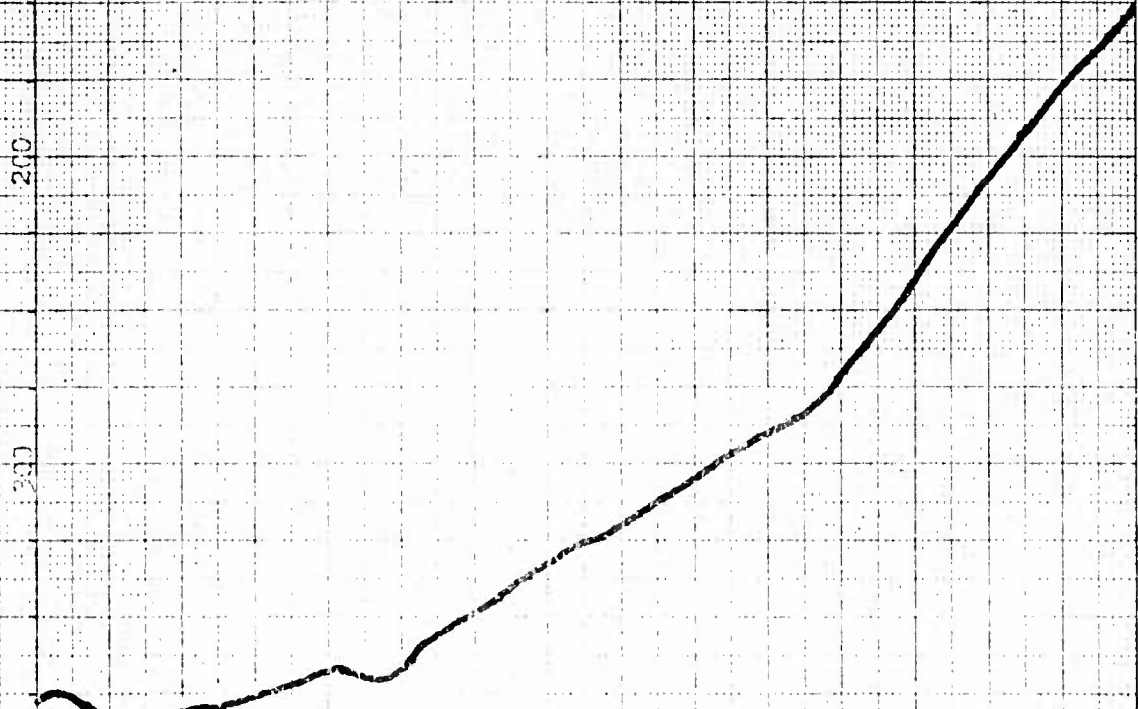
CONFIDENTIAL

65

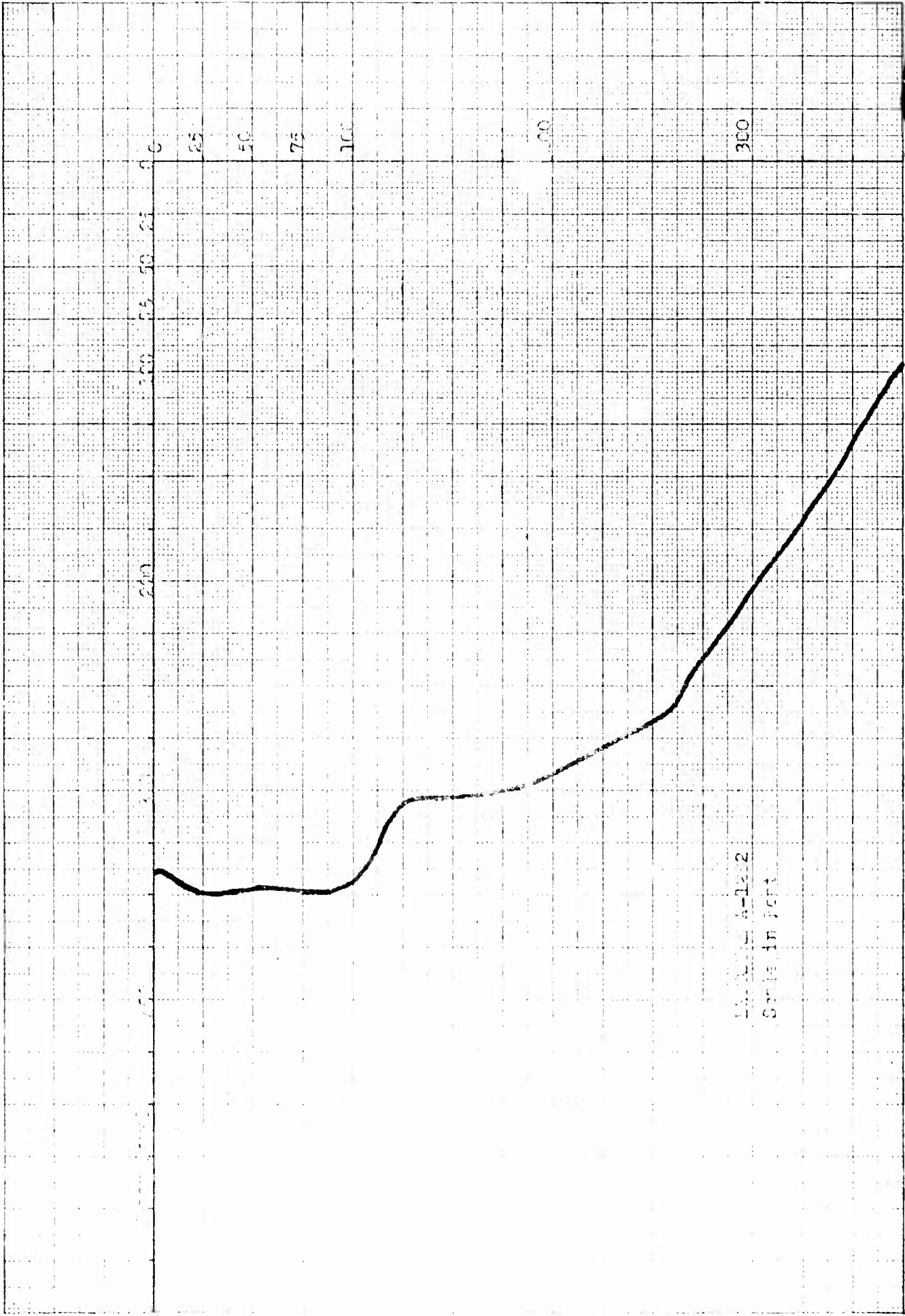
Water Level

100 75 50 25 0  
200  
300  
400  
500  
600

STATION A-204  
DATE 12-1-57



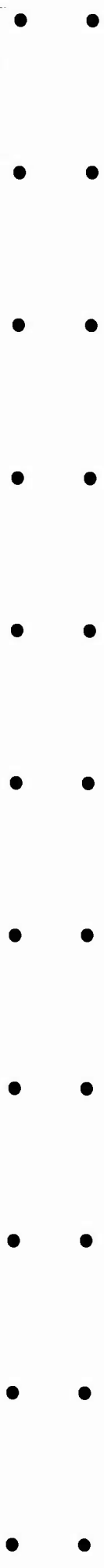
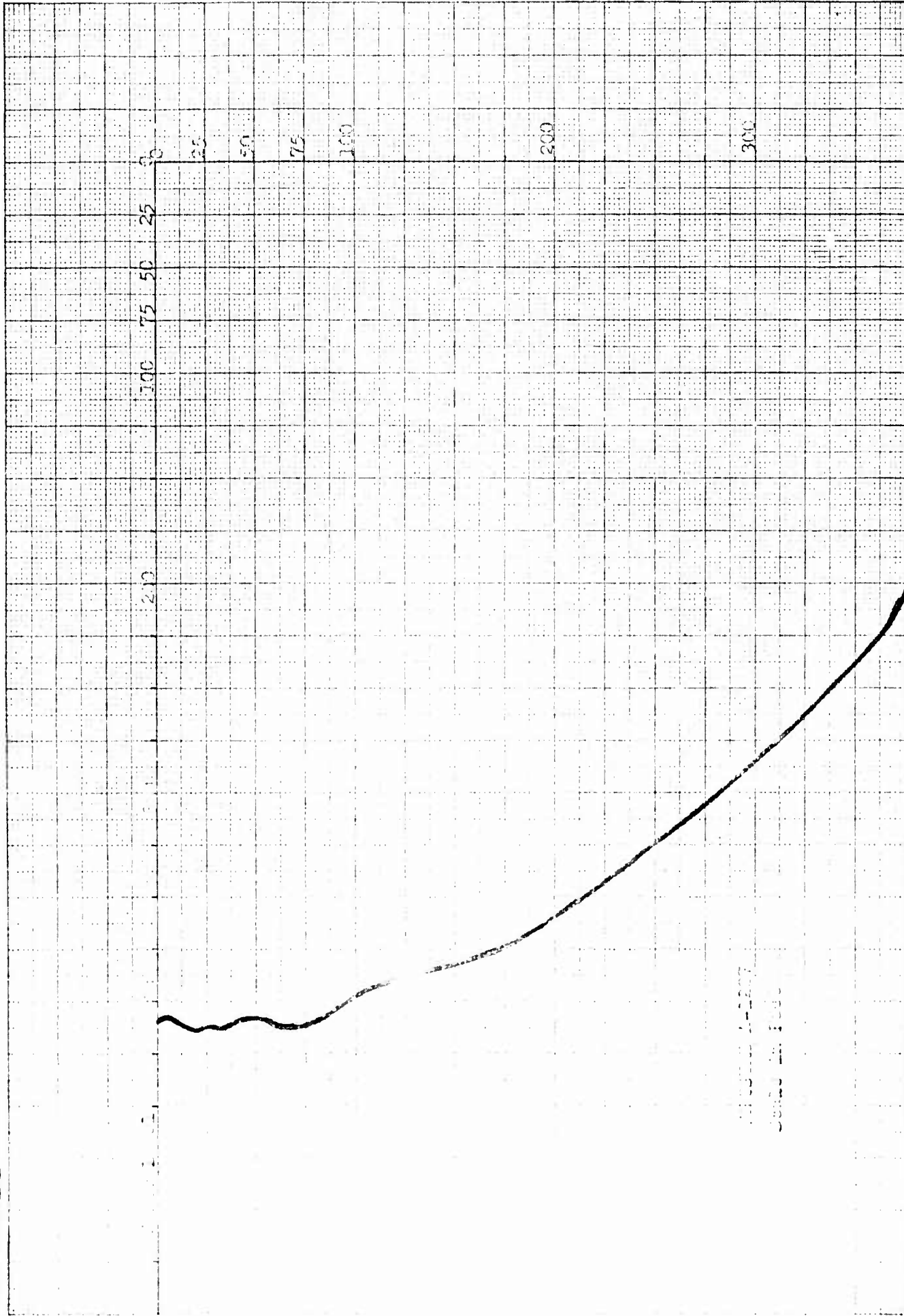
CONFIDENTIAL



10-11-62  
Scale in feet



CONFIDENTIAL



CONFIDENTIAL

Water Level

400

300

200

100

75

50

25

0

STATION A-1293  
Scale in Feet

CONFIDENTIAL

Master Level

100

200

300

400

500

0

25

50

75

100

150

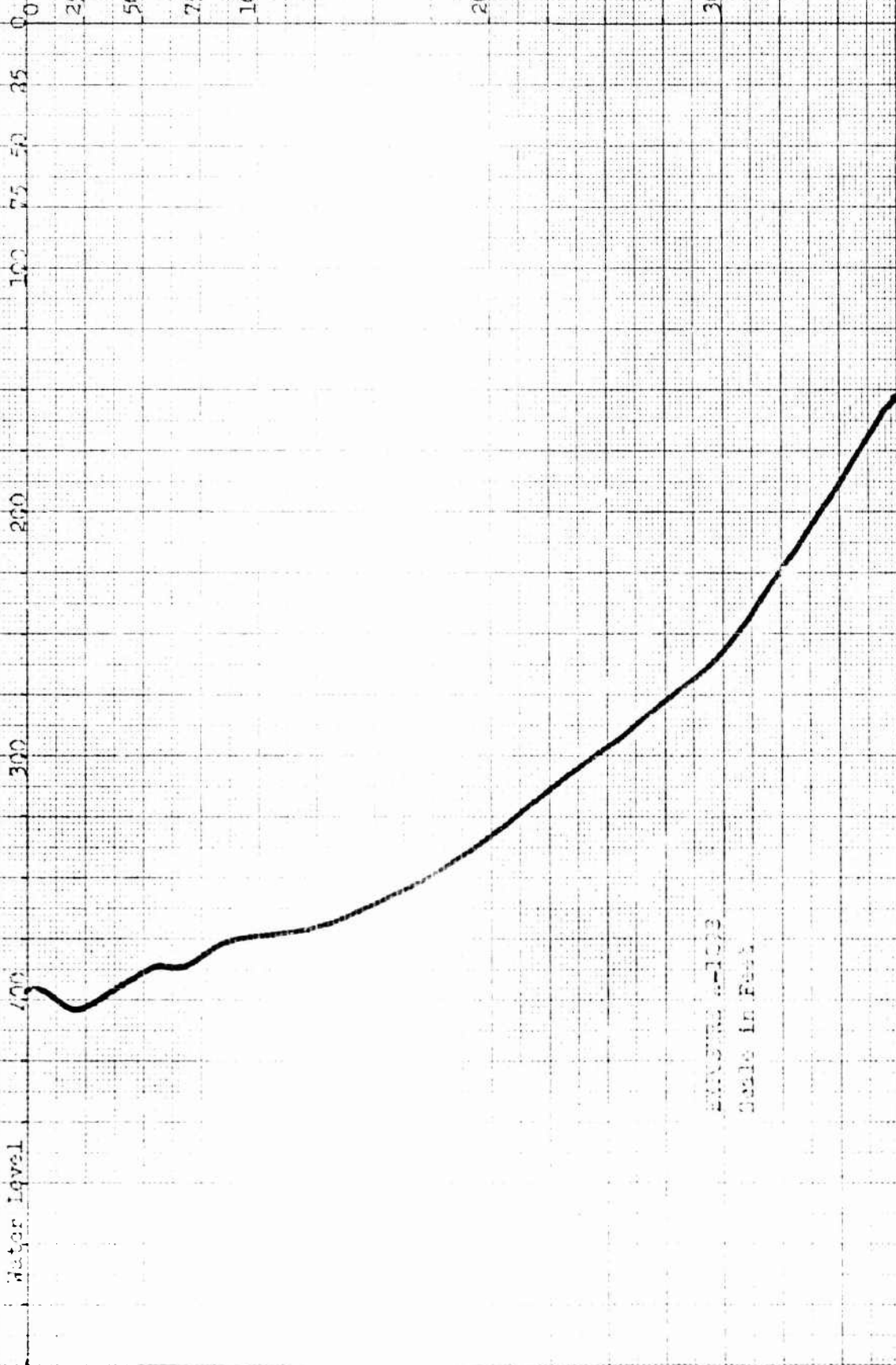
200

250

300

PERCENTAGE

Scale In Feet



CONFIDENTIAL

Water Level

100

200

300

400

500

600

25

50

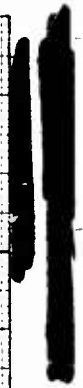
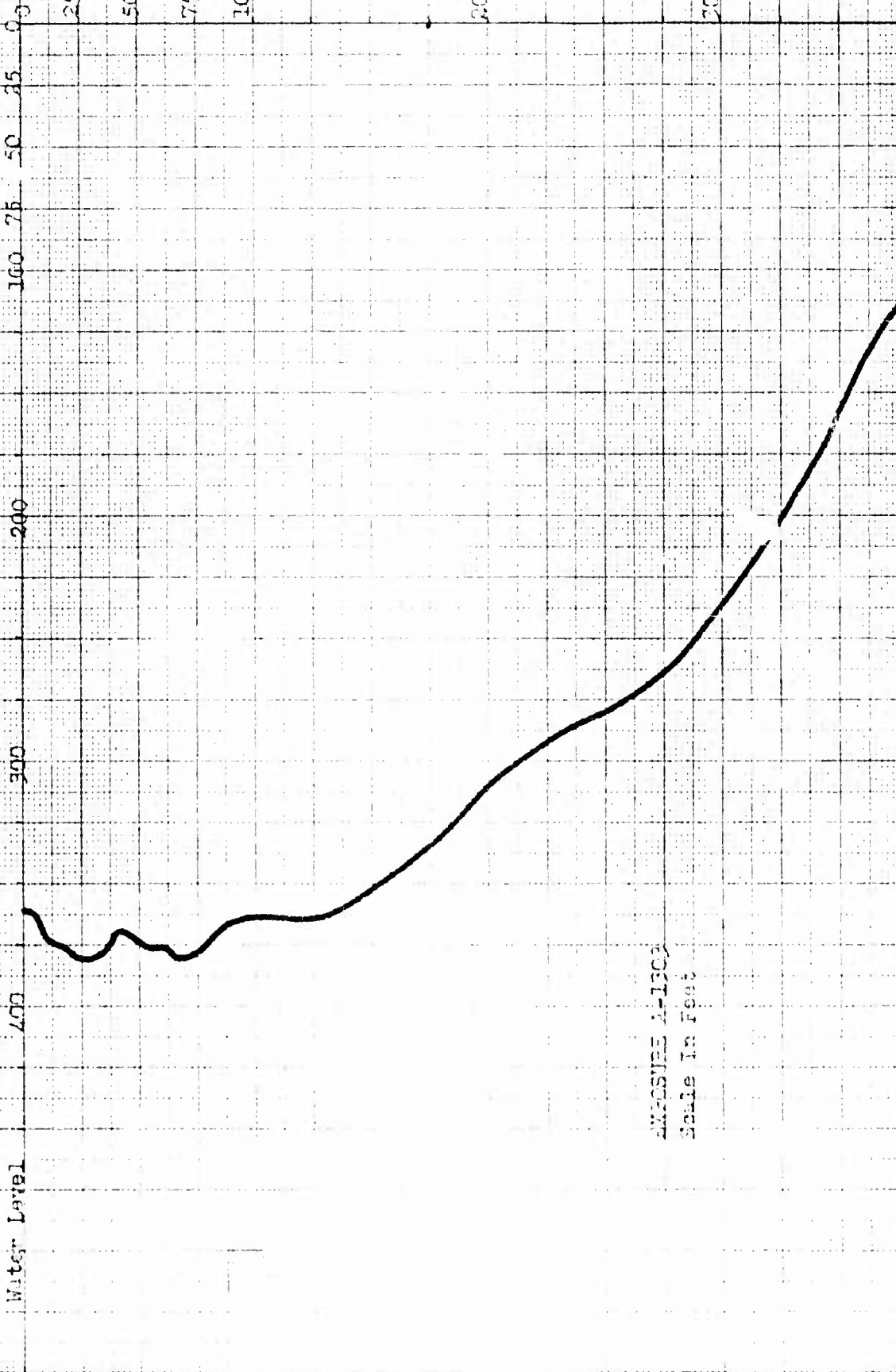
75

100

200

300

EXPOSURE 4-1903  
Scale in Feet



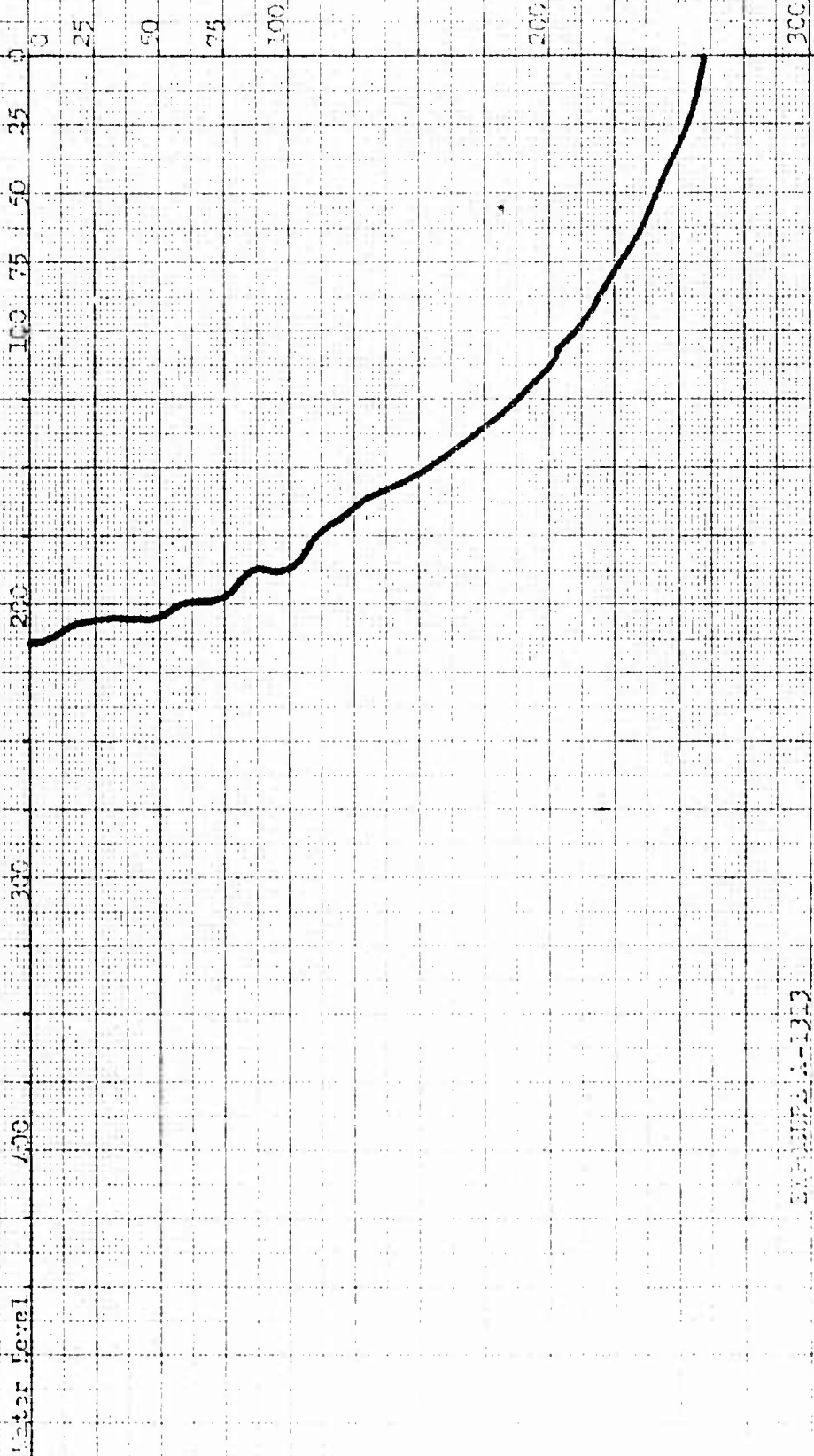
CONFIDENTIAL



CONFIDENTIAL  
Date: 10/1/08



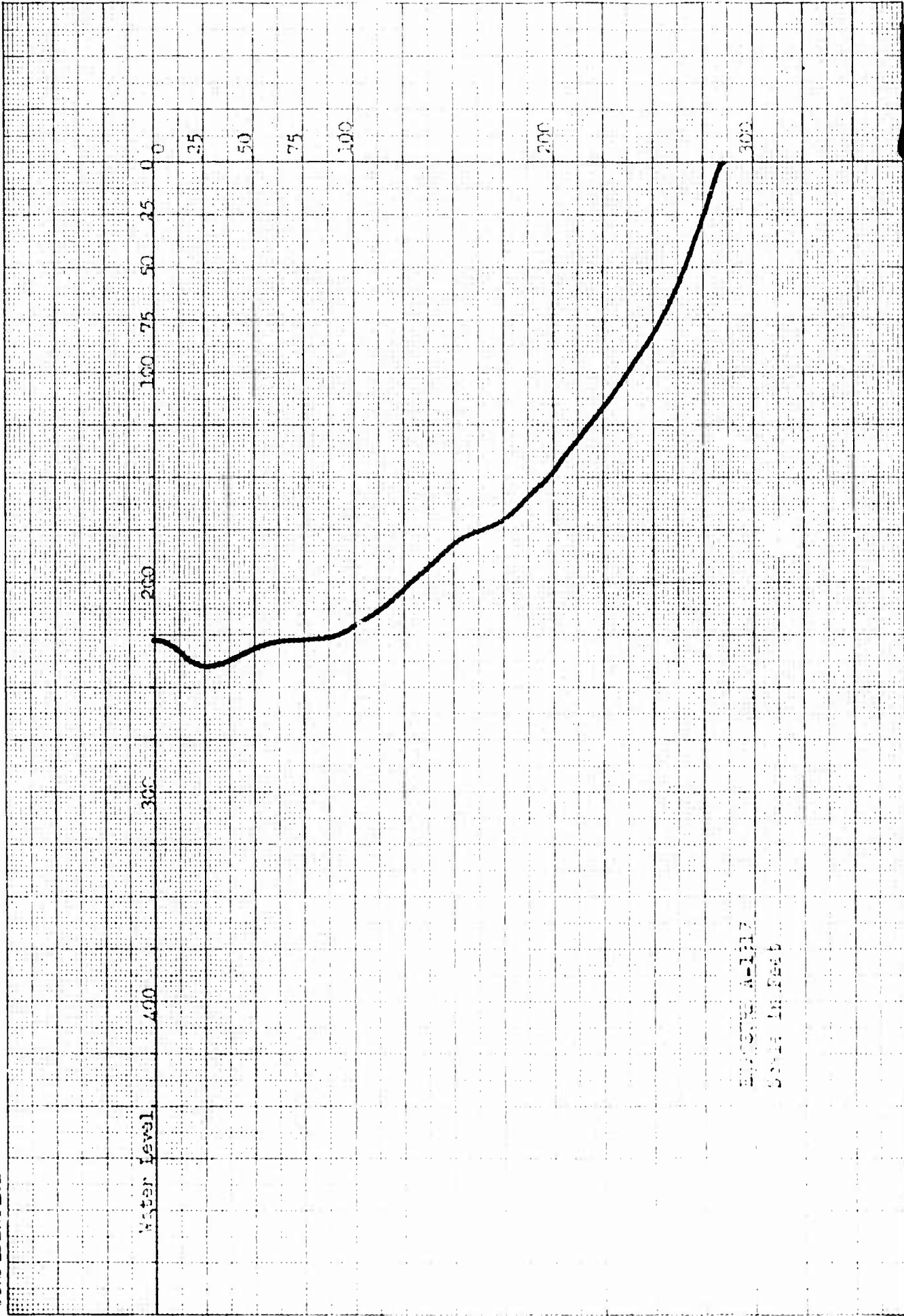
CONFIDENTIAL



CONFIDENTIAL  
Guide in East



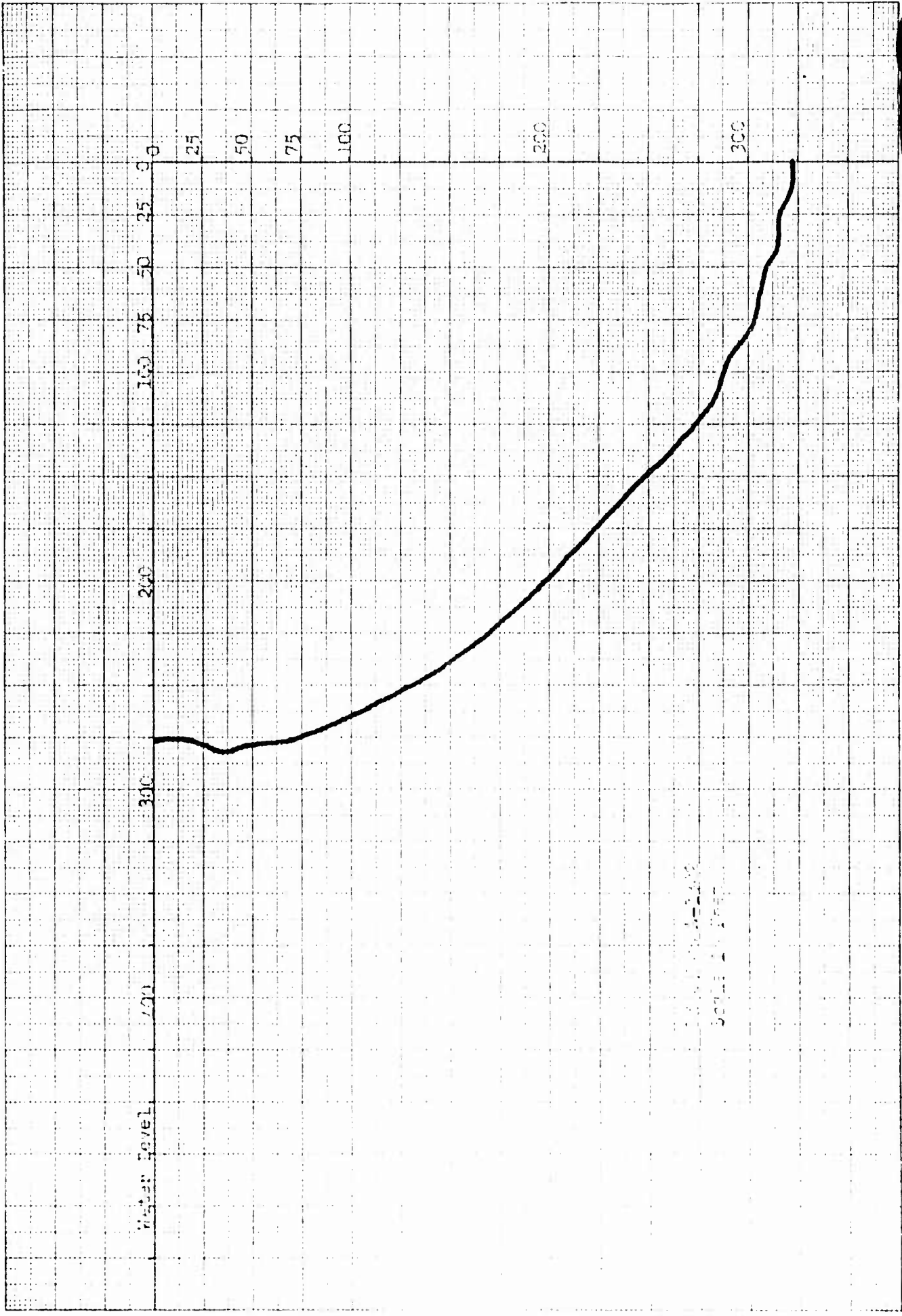
CONFIDENTIAL



ENCLOSURE A-1117  
S-1114 In. Feet



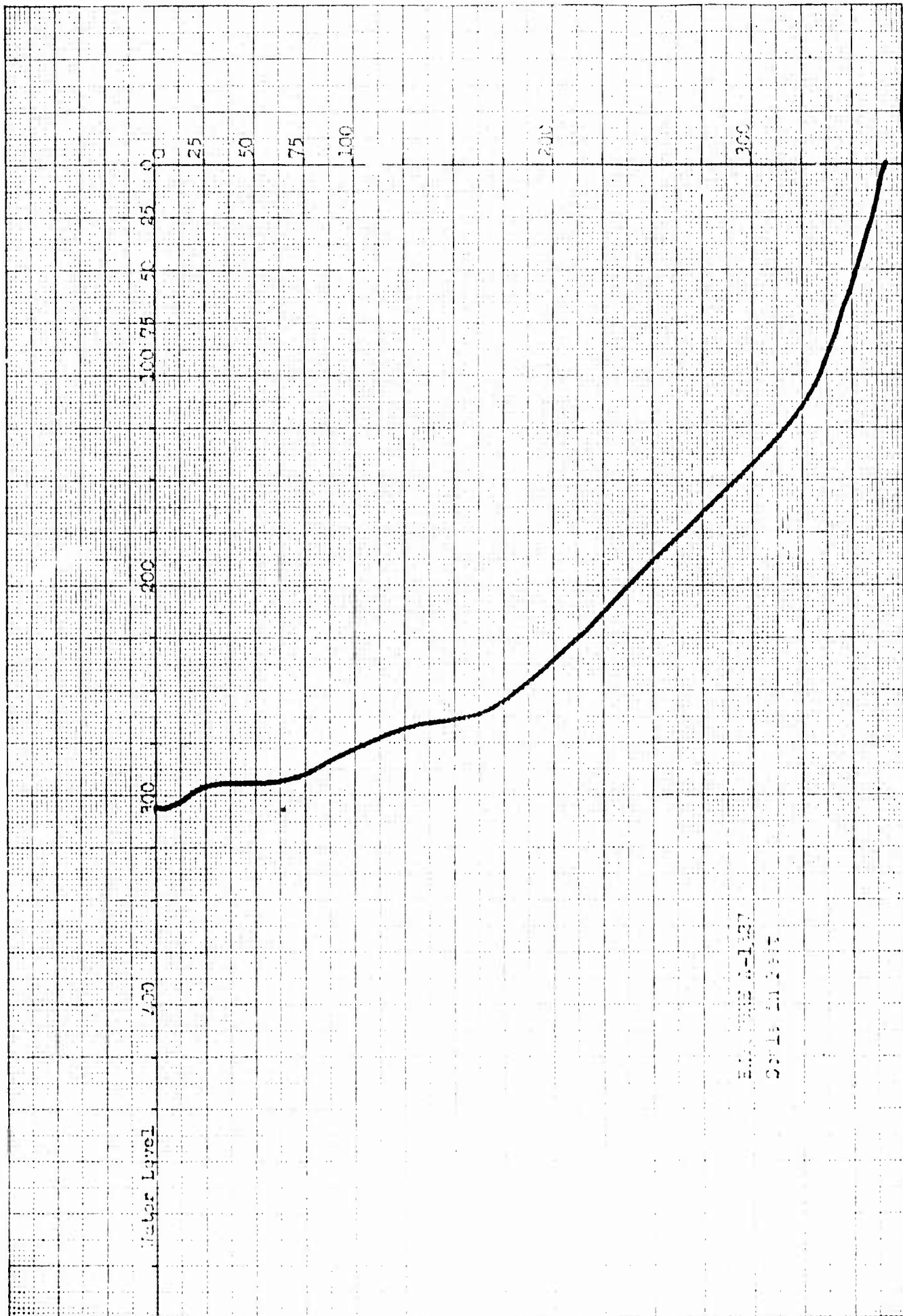
CONFIDENTIAL



Water level  
3000 2000 1000



CONFIDENTIAL



ENCLOSURE 1-127  
DATE 10 1967

CONFIDENTIAL



ENCLOSURE #312  
DATE: 10/1/77

CONFIDENTIAL

Water Level

400

300

200

150

0

25

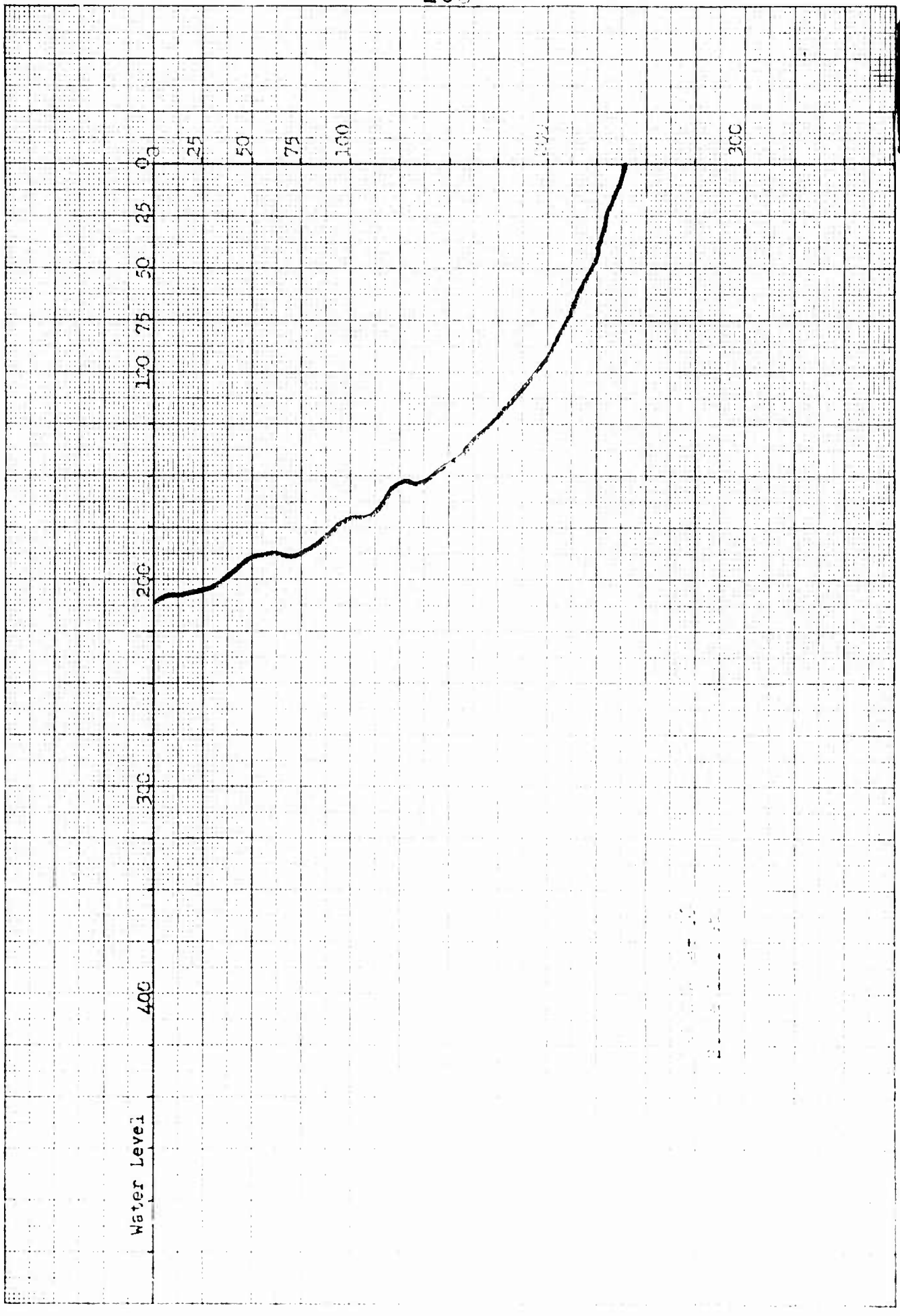
50

75

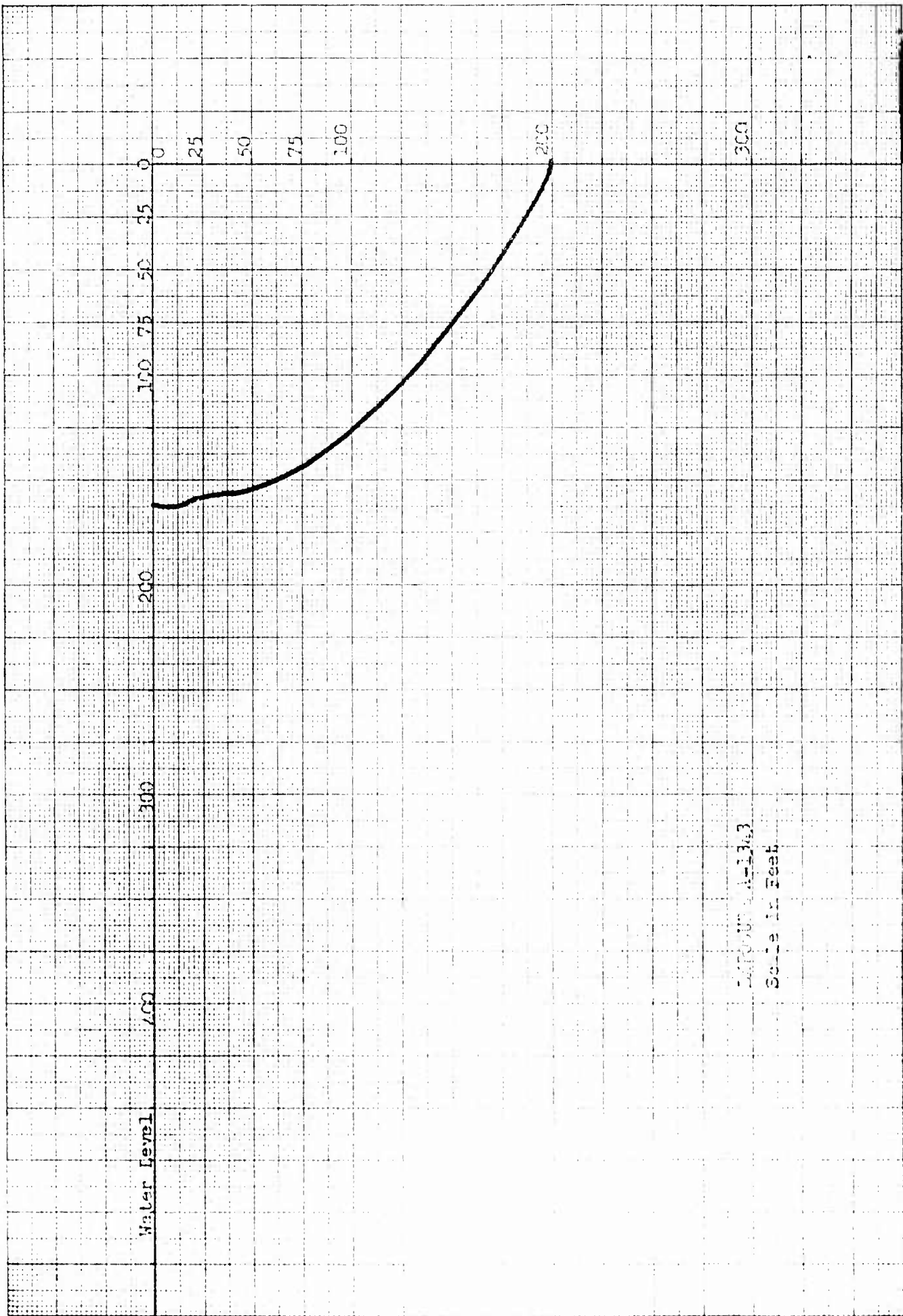
100

150

200



CONFIDENTIAL



WATER LEVEL  
Scale in Feet



CONFIDENTIAL

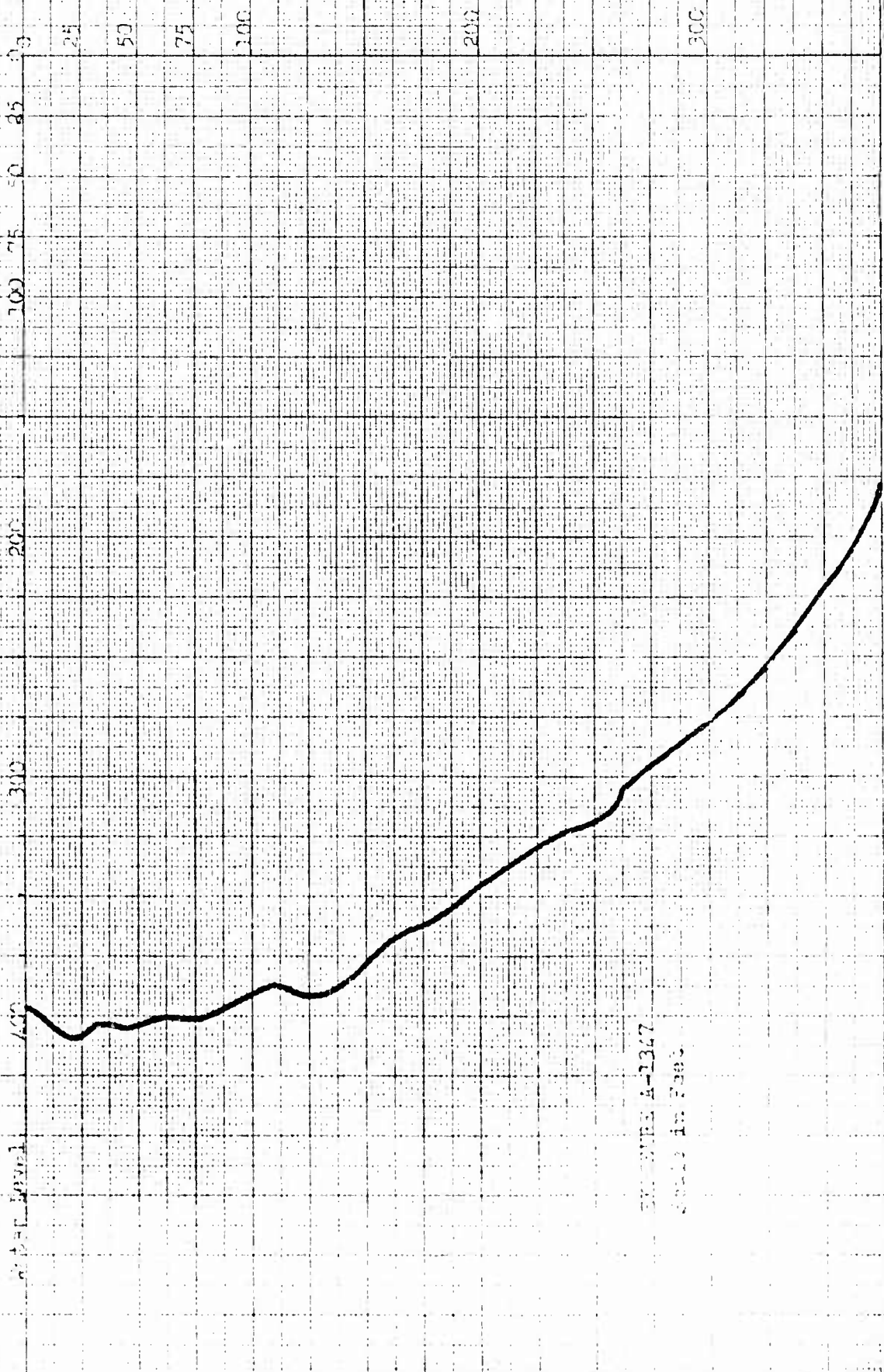


EXHIBIT A-1347  
Chart in Page



CONFIDENTIAL



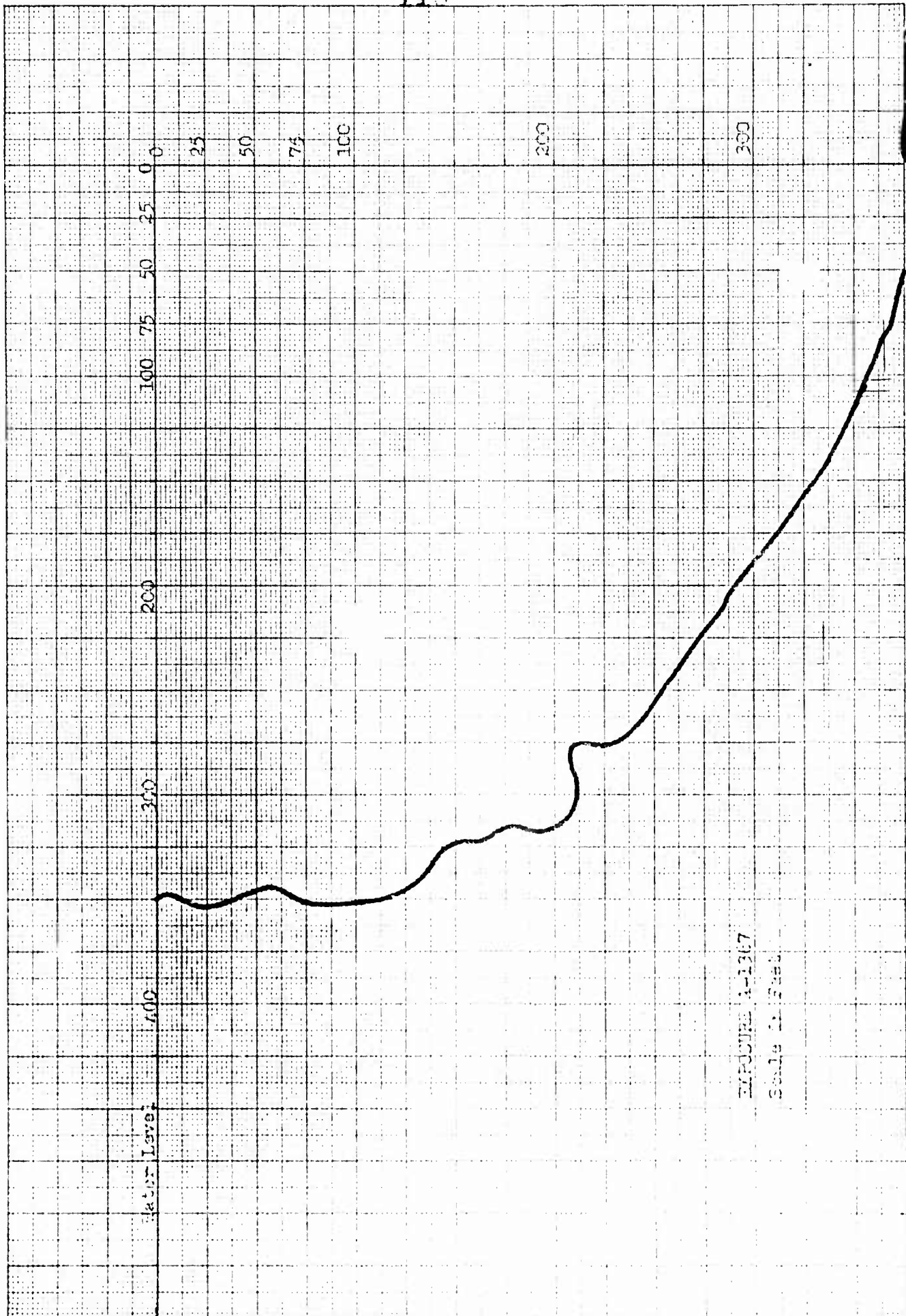
EXTENSIVE A-1357  
Scale in Feet



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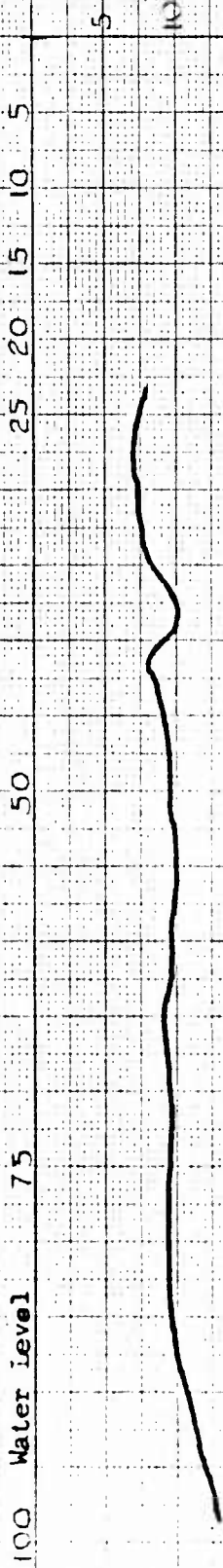
CONFIDENTIAL



EXPOSURE 1-1367  
Scale 1:1500



CONFIDENTIAL



EXPOSURE P-C179  
Scale in Feet

CONFIDENTIAL

Water Level

50

25

20

15

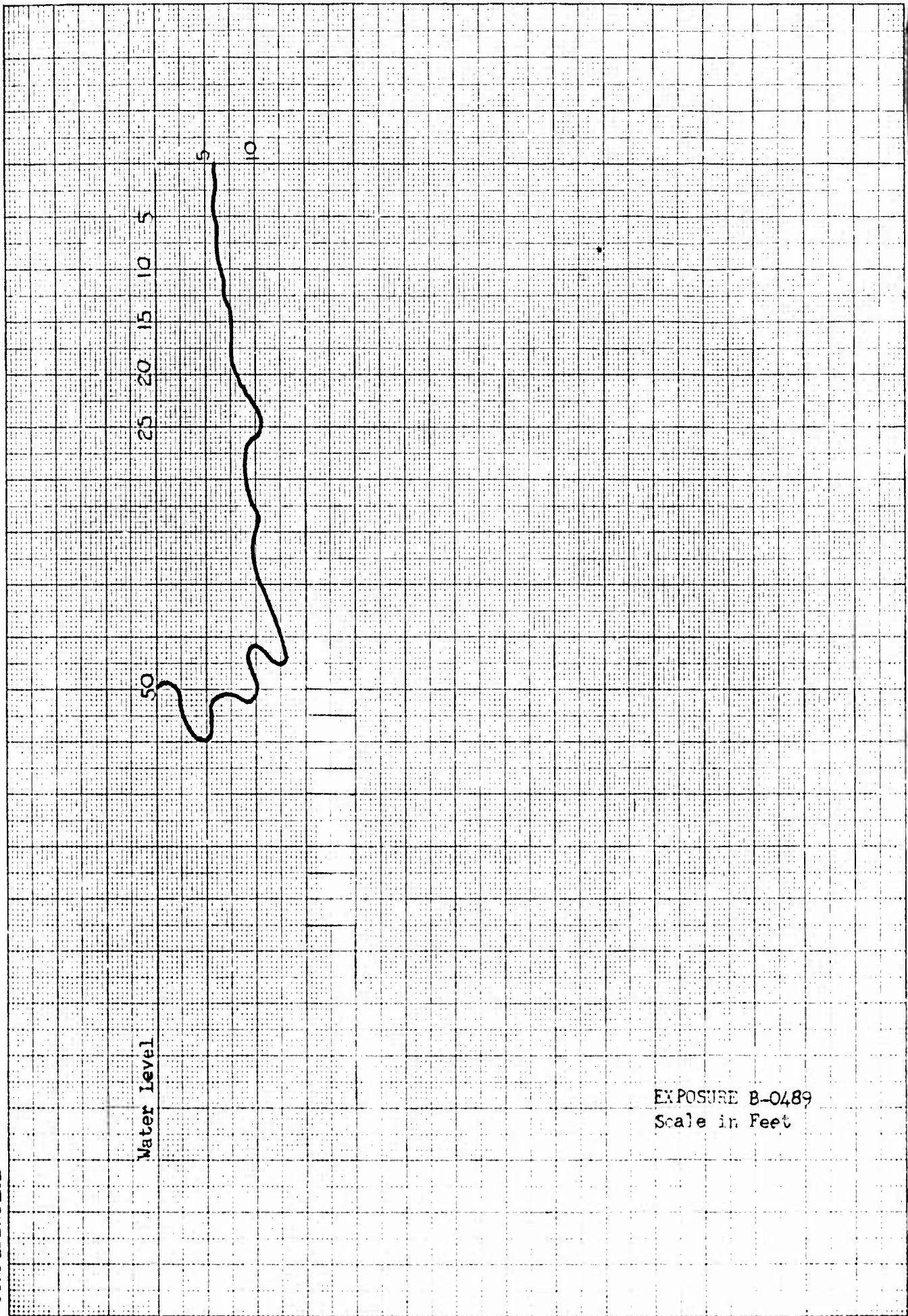
10

5

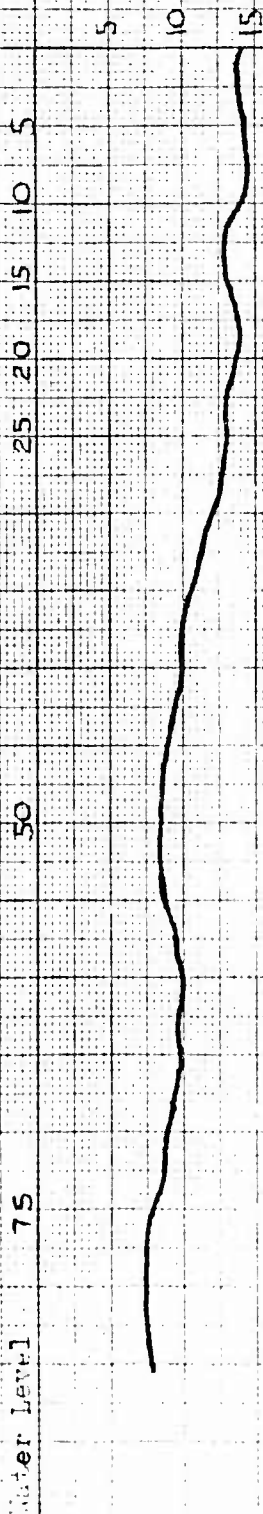
5

10

EXPOSURE B-0489  
Scale in Feet



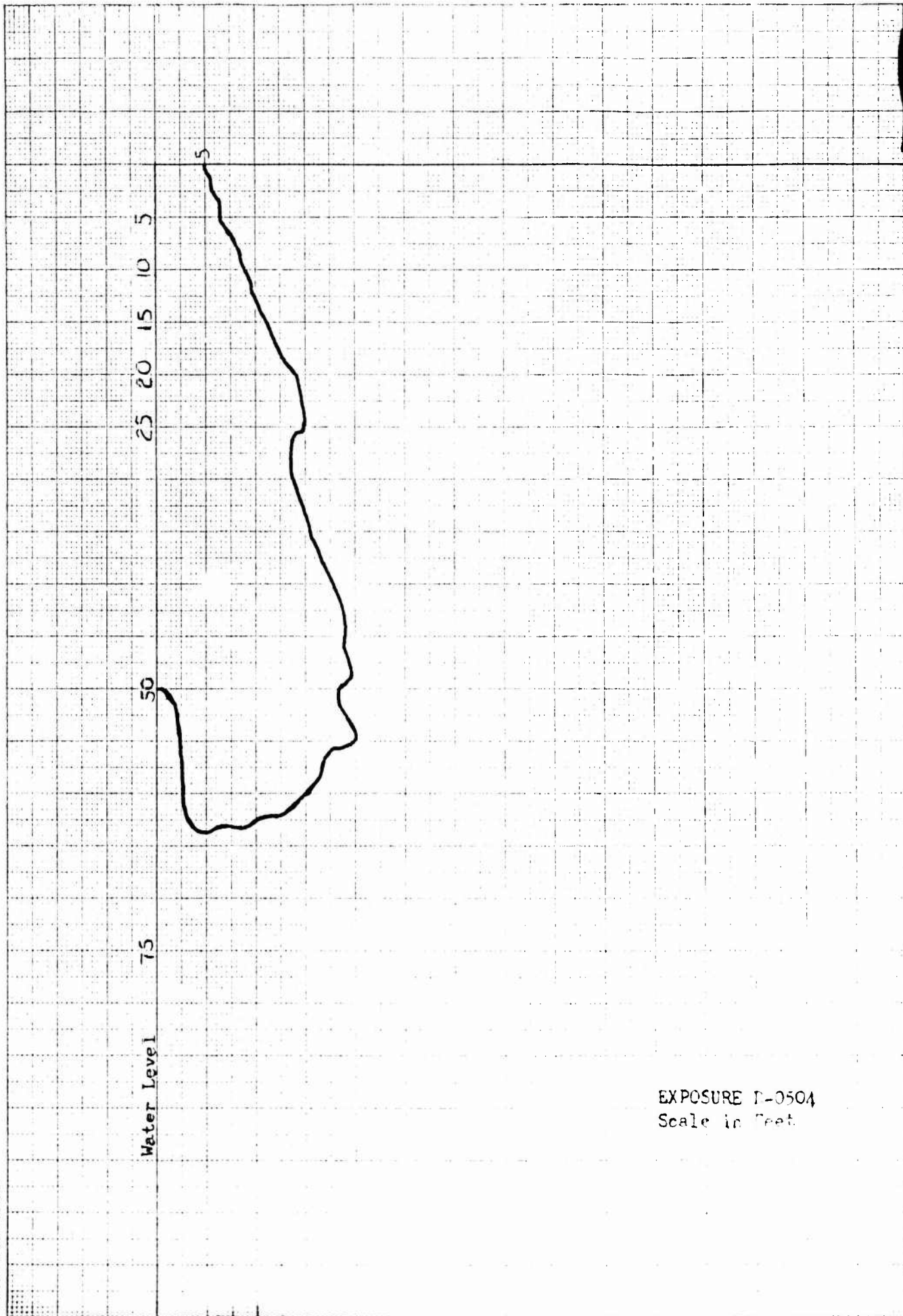
CONFIDENTIAL



INFORMED B-2128  
Scale in Feet

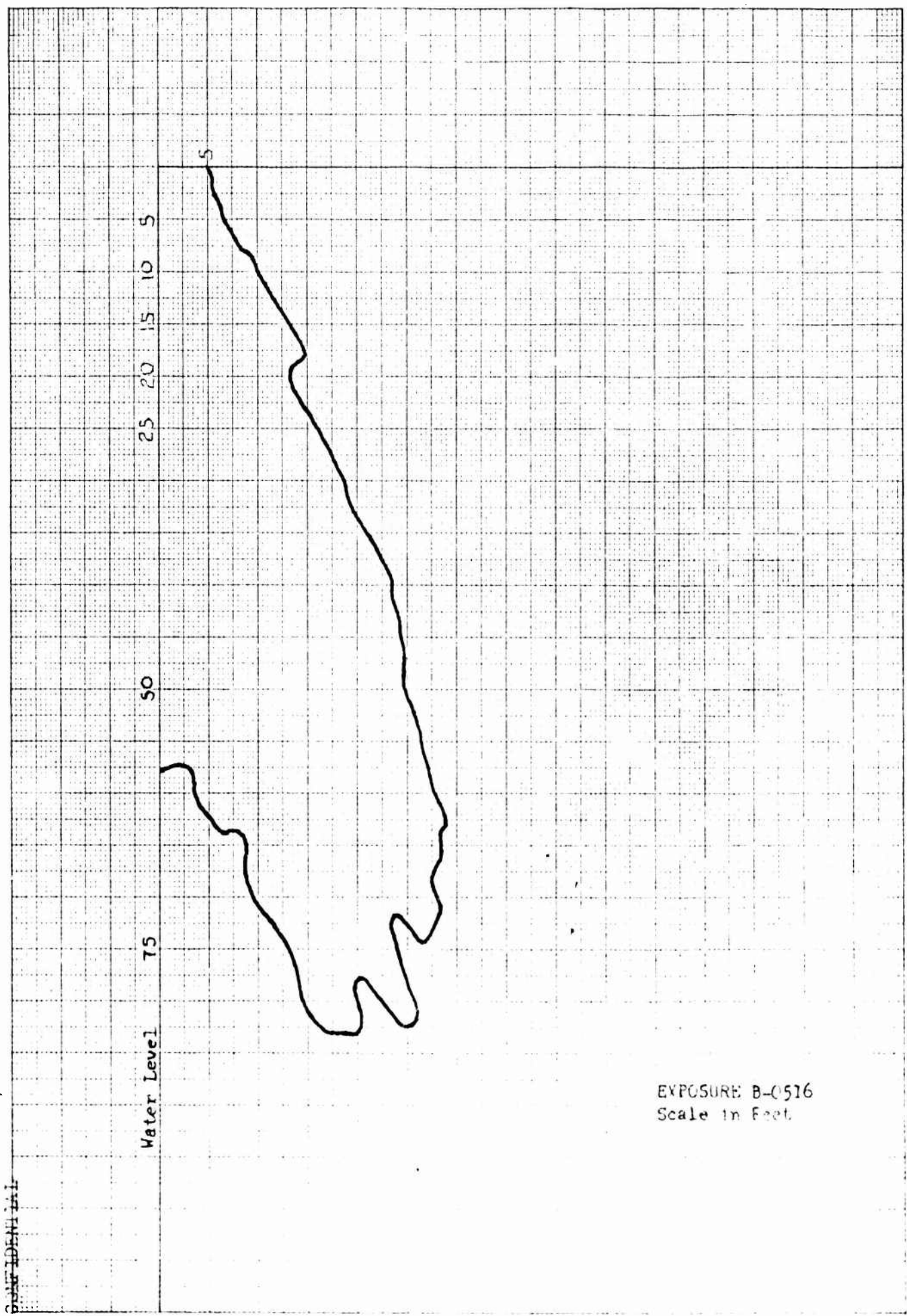


CONFIDENTIAL



EXPOSURE P-0504  
Scale in Feet

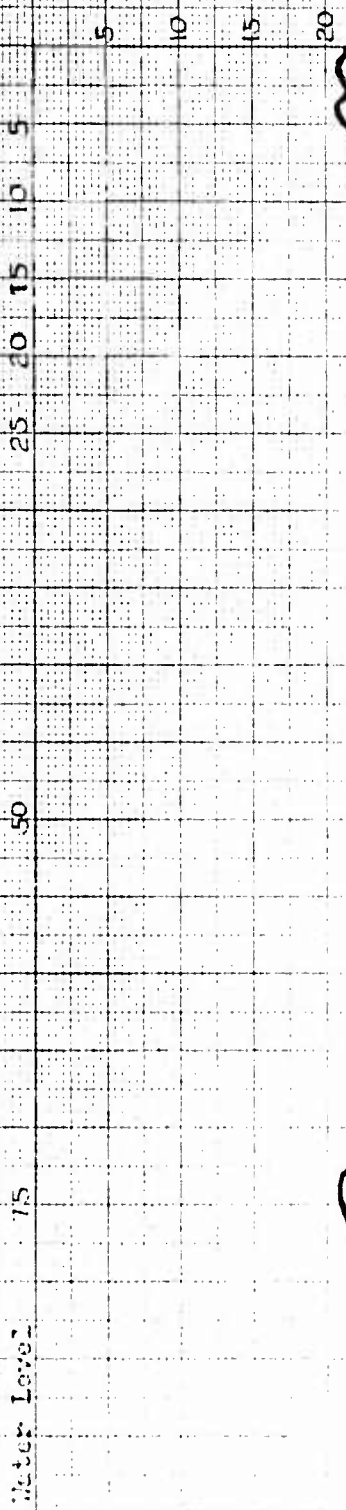
~~CONFIDENTIAL~~



EXPOSURE B-0516  
Scale in Feet.

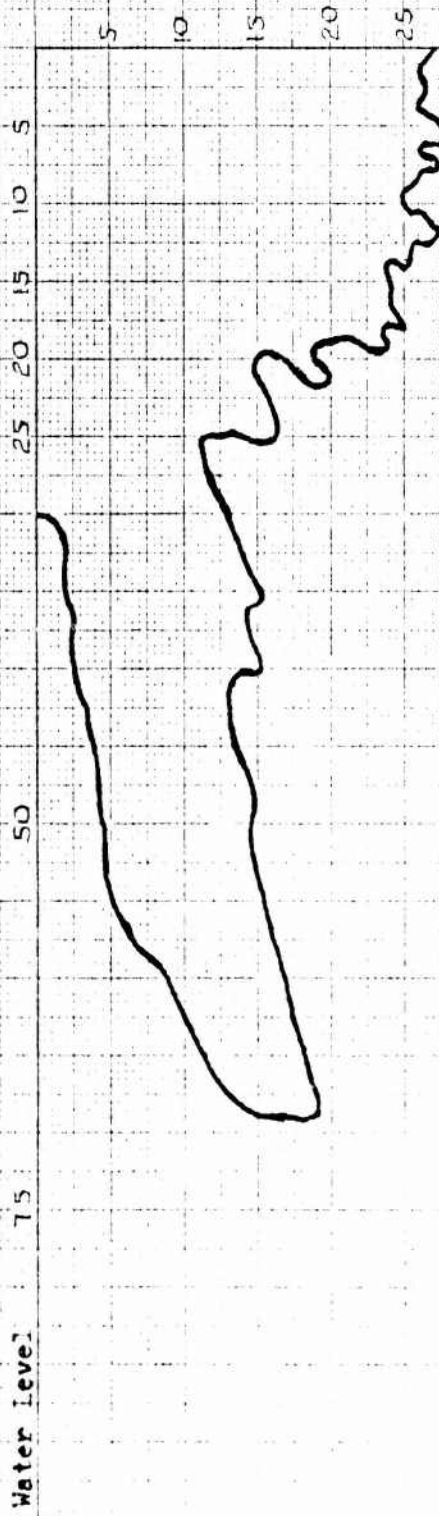
CONFIDENTIAL

CONFIDENTIAL

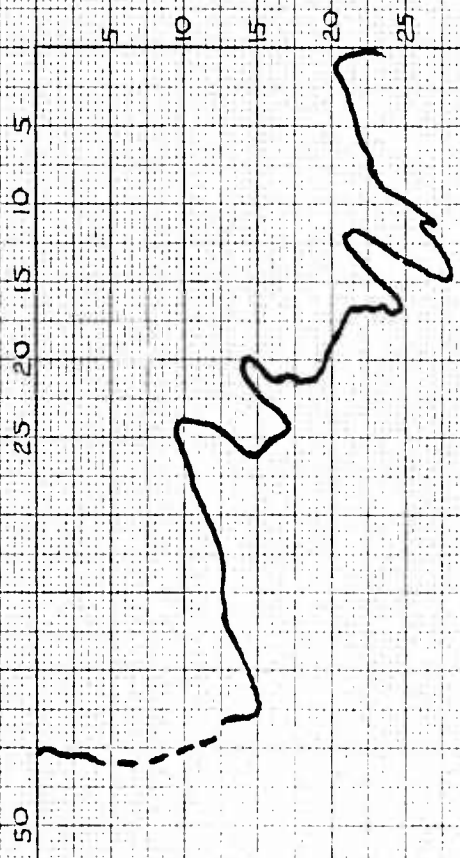


EXPOSURE B-0525  
Scale in Feet

CONFIDENTIAL



EXPOSURE R-C527  
Scale in Feet

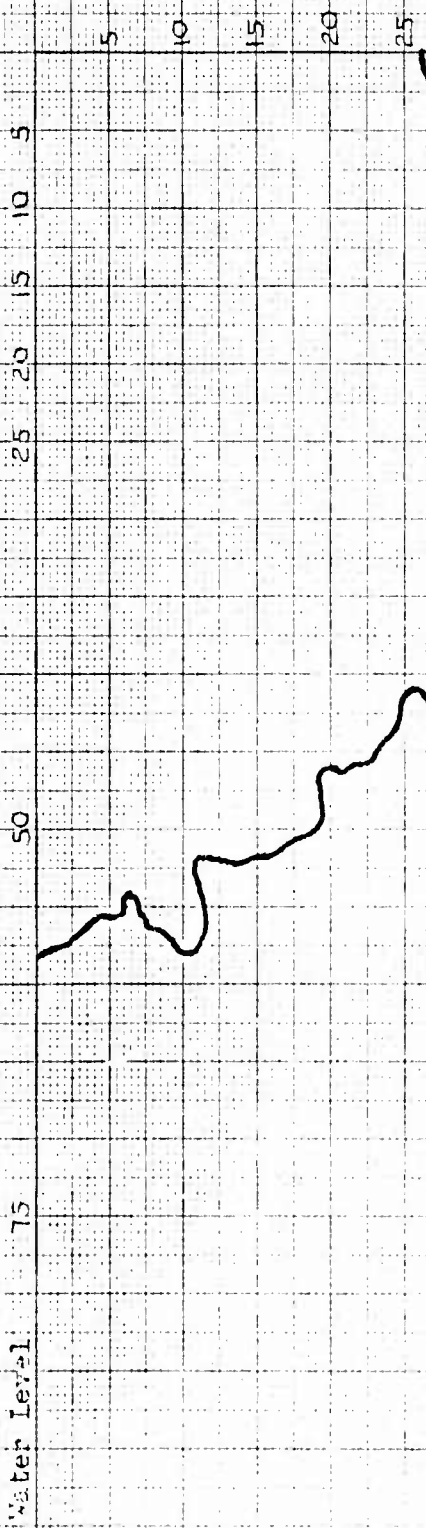


Water Level

EXPOSURE B-7531  
Scale in Feet

CONFIDENTIAL

CONFIDENTIAL



FORM 8-5537  
Scale in Feet

CONFIDENTIAL



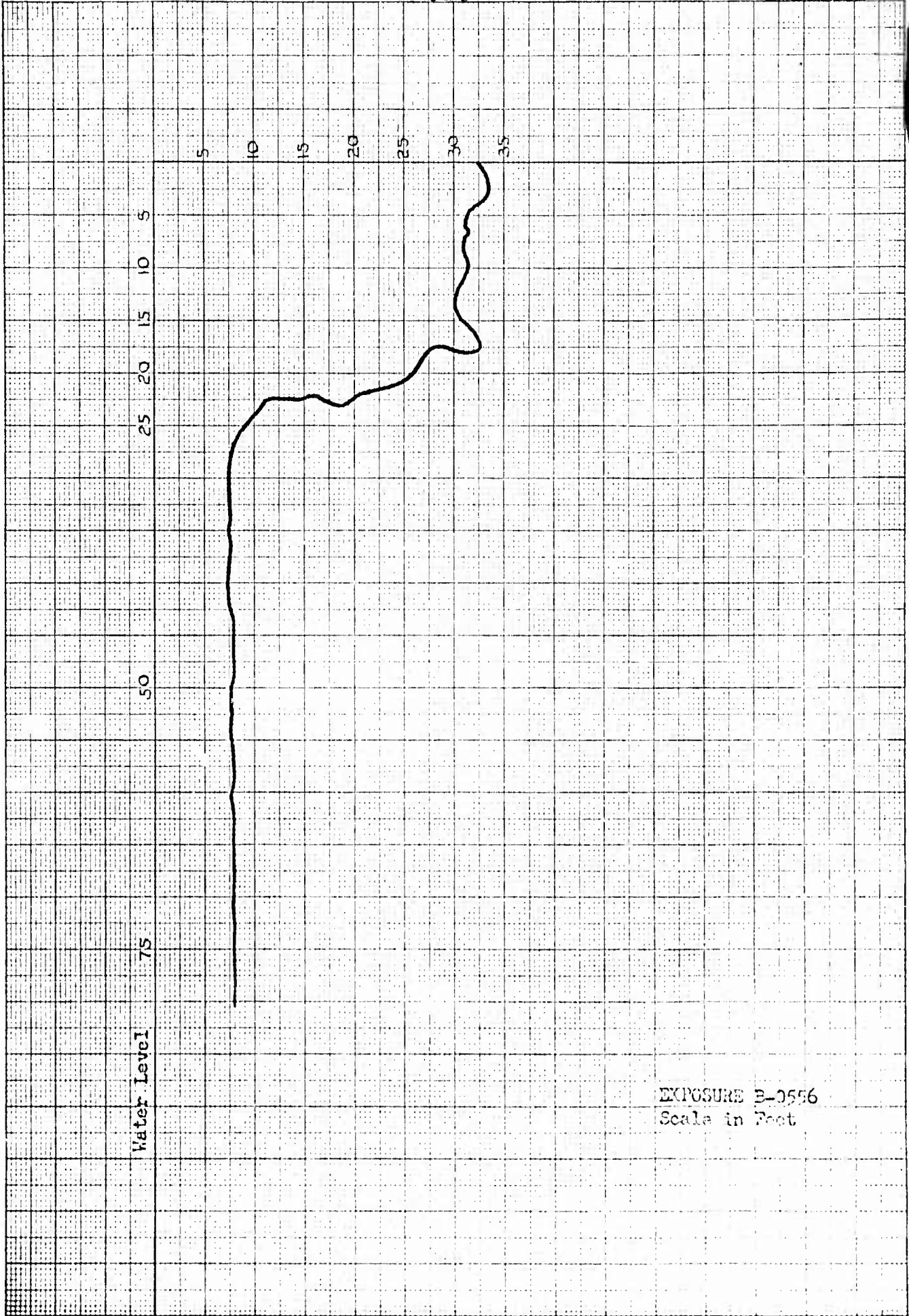
EXPOSURE 3-0538  
Scale 1:1000





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EXPOSURE B-0556  
Scale in Feet

CONFIDENTIAL

Water Level

75

50

25

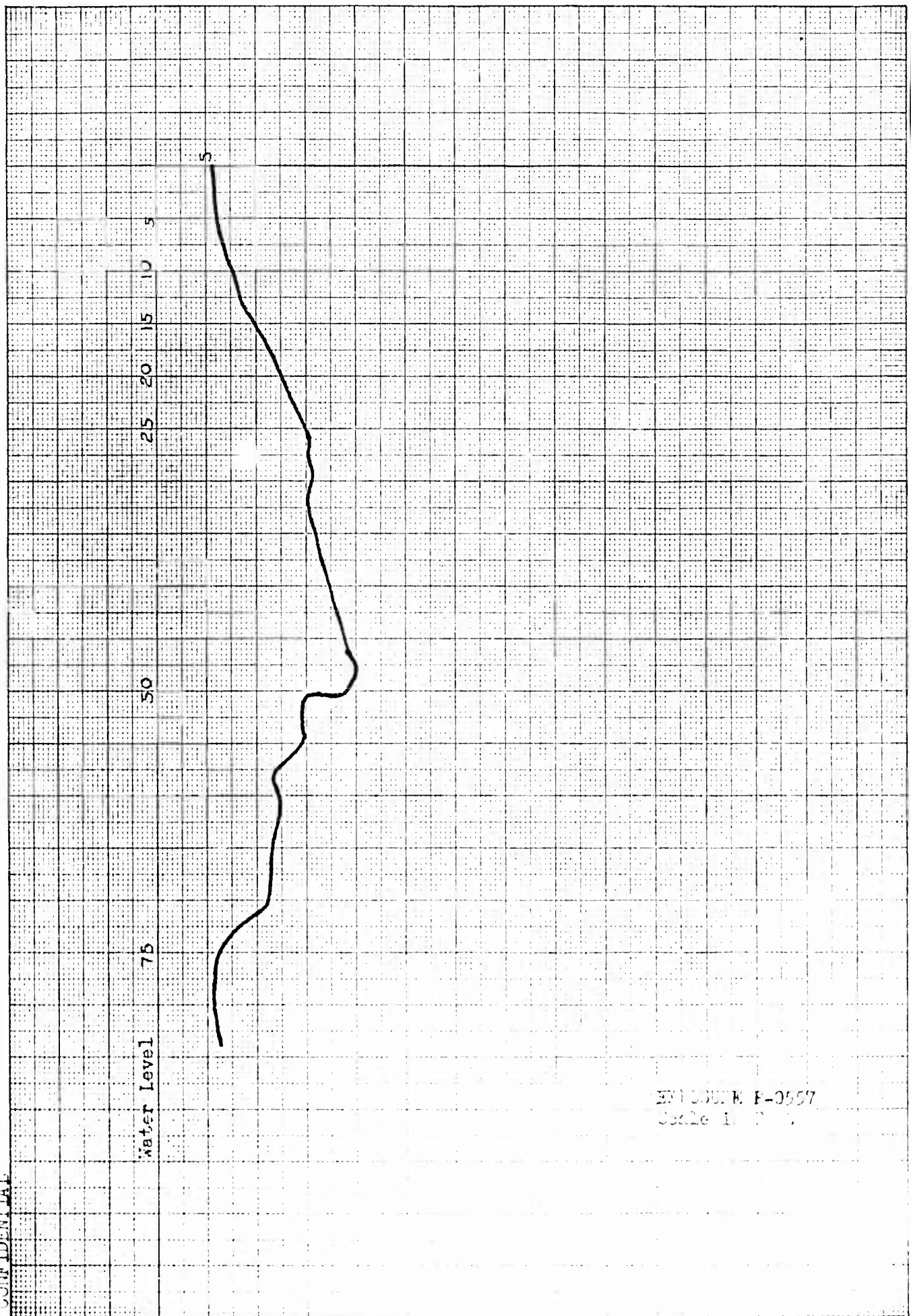
15

10

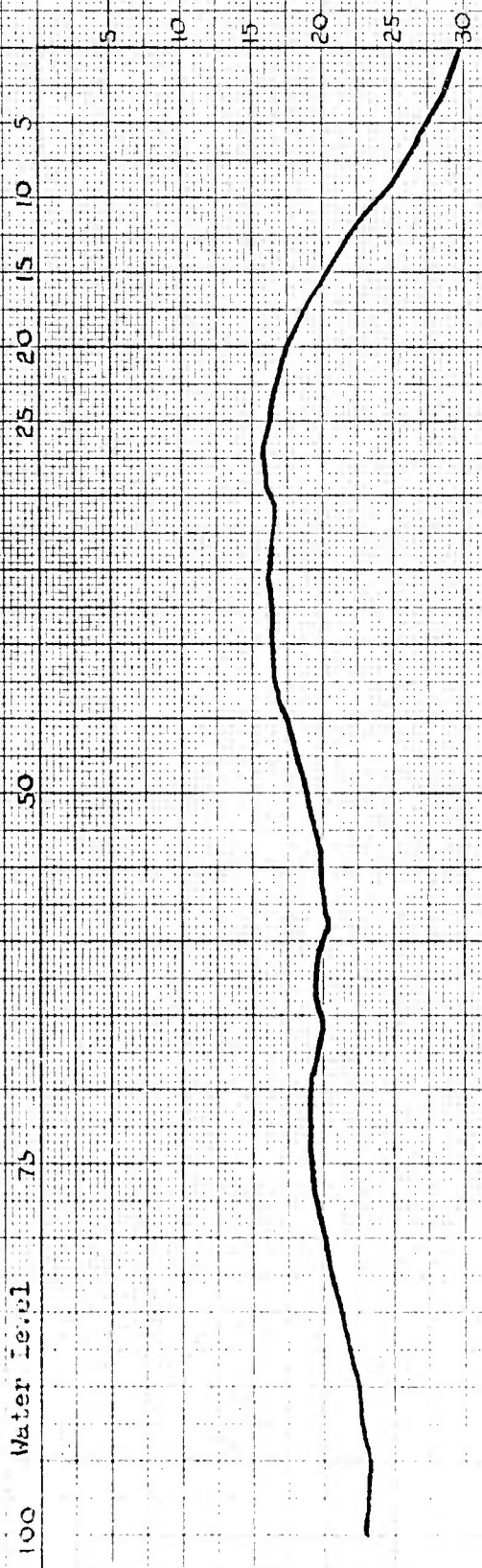
5

5

ENGINEER P-0557  
Scale 1" = 10'

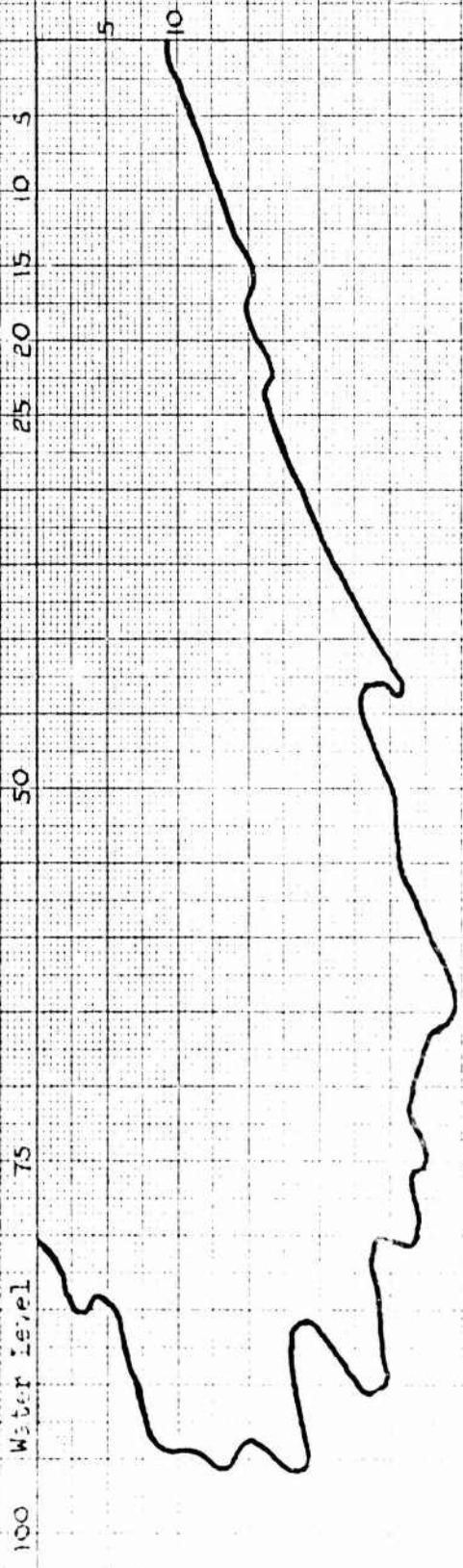


CONFIDENTIAL



EXPOS 30 3-0563  
Scale in Feet

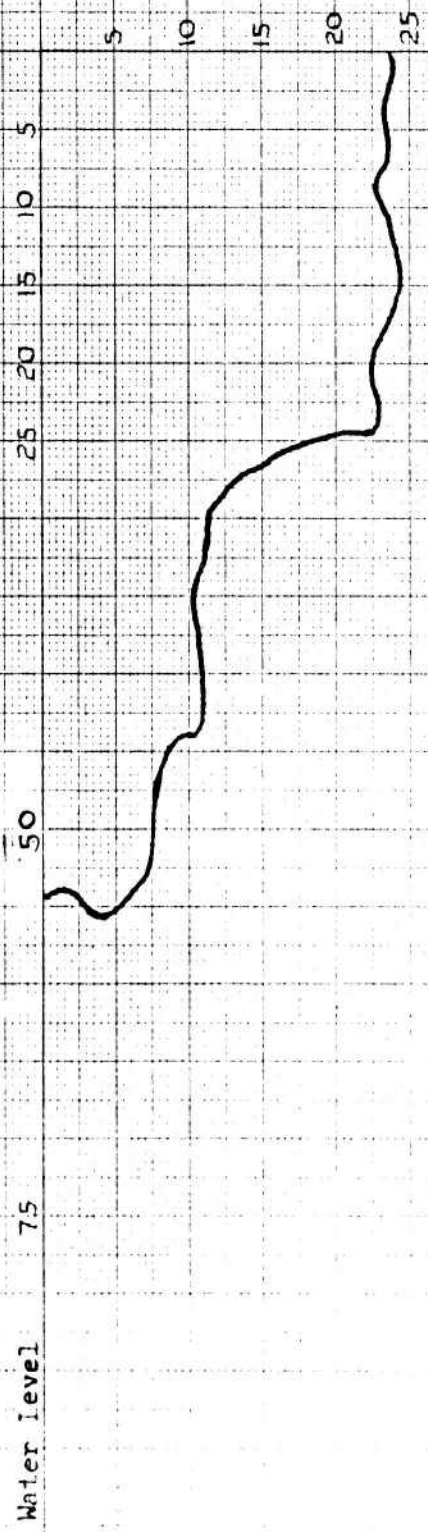
CONFIDENTIAL



ENCLOSURE - 1567  
Serial 11, 1961

MADE IN U.S.A.

CONFIDENTIAL

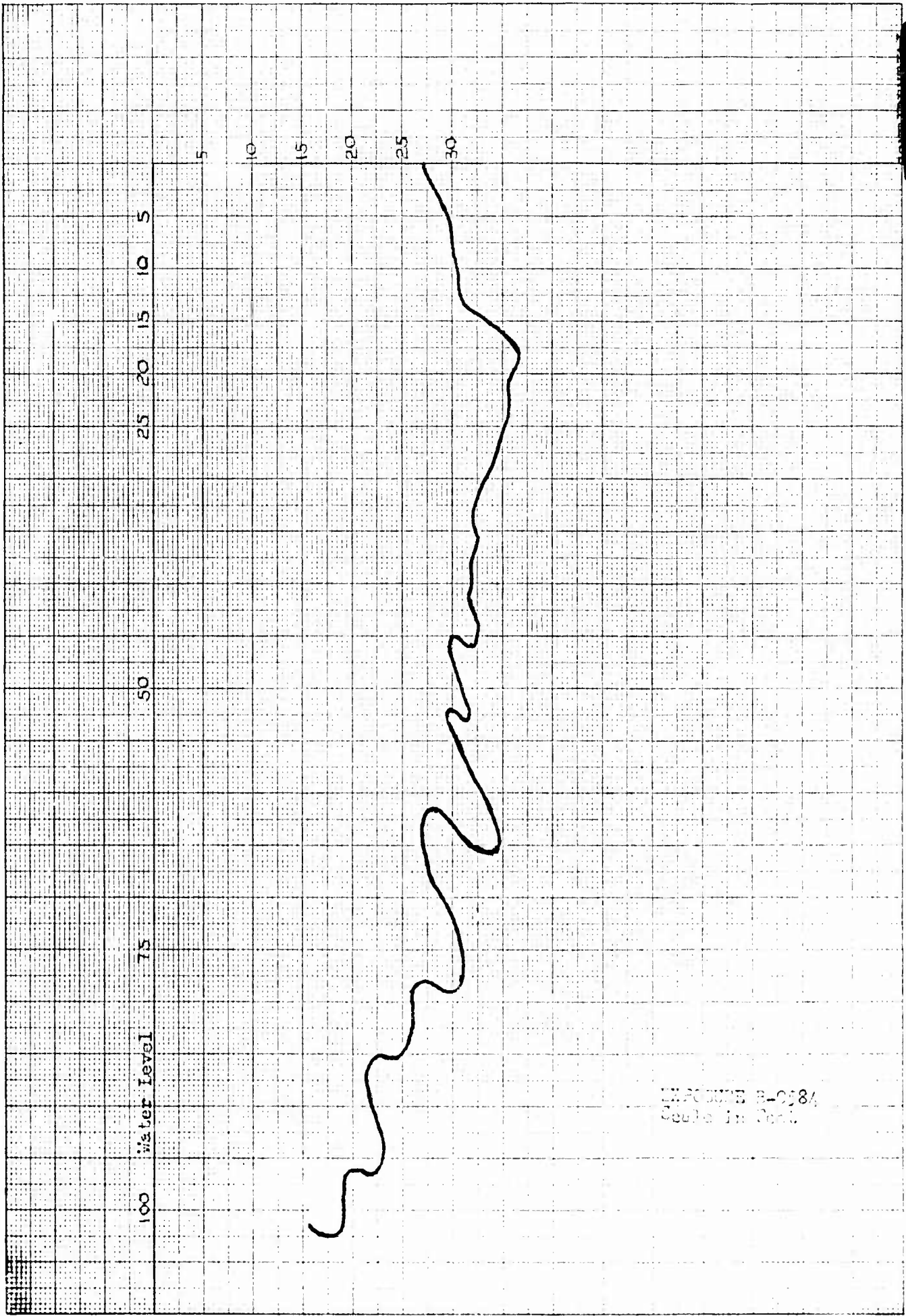


EXPOSURE B-0575  
Scale in Feet

CONFIDENTIAL

CONFIDENTIAL

MADE IN U.S.A.



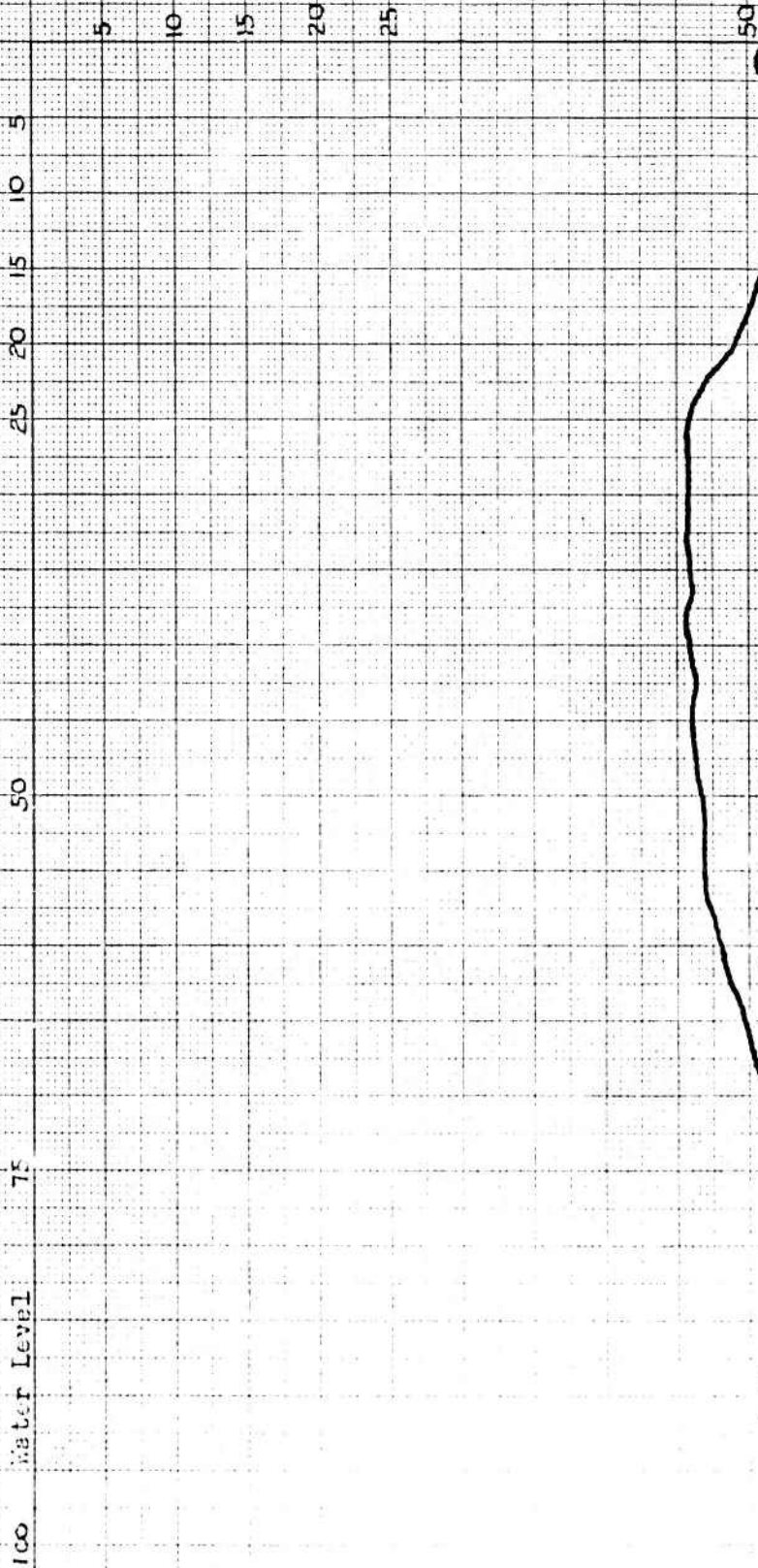
FORMER B-0084  
Scale in Cent.

CONFIDENTIAL



EXPOSURE B-0588  
Scale in Feet

CONFIDENTIAL



EXPOSURE B-2526  
Scale in Feet

CONFIDENTIAL

Under Level

75

50

25

5

5

10

15

20

25

50

EXPOSURE B-2600  
Scale in Feet



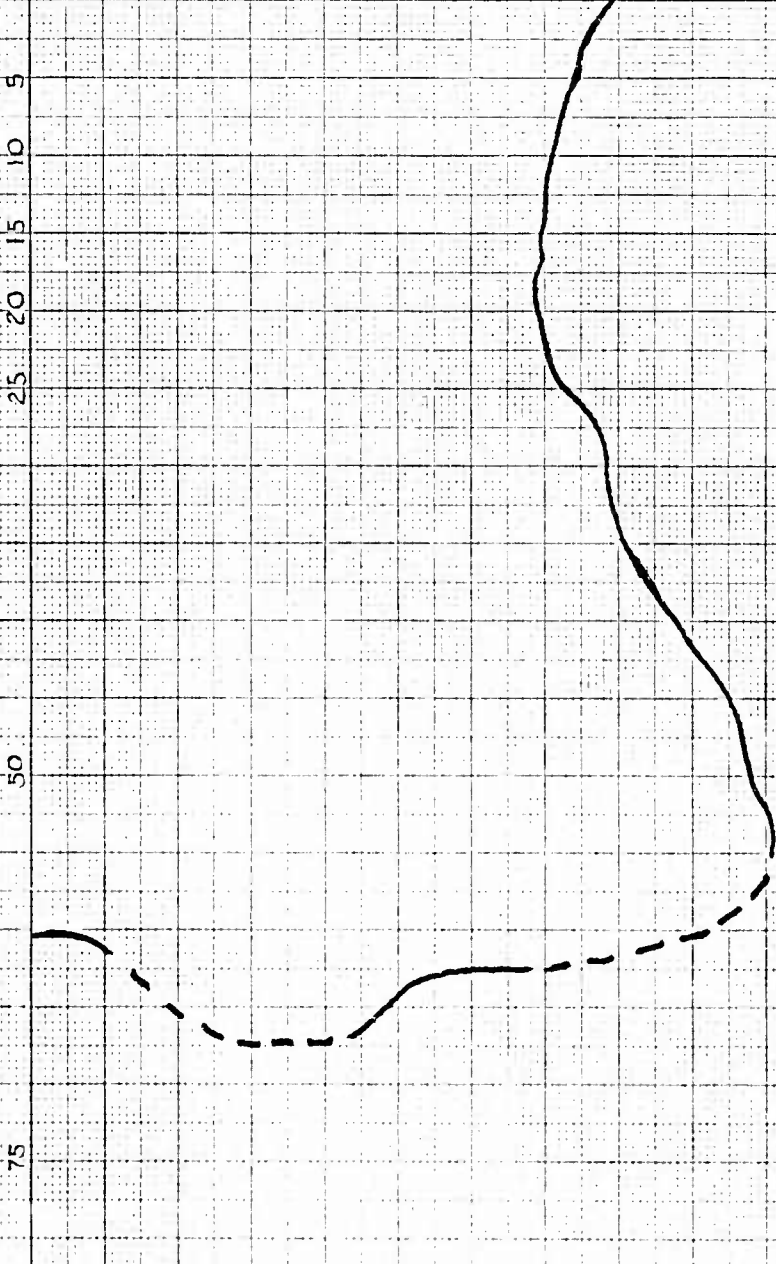
CONFIDENTIAL

Water Level

5 10 15 20 25 50 75

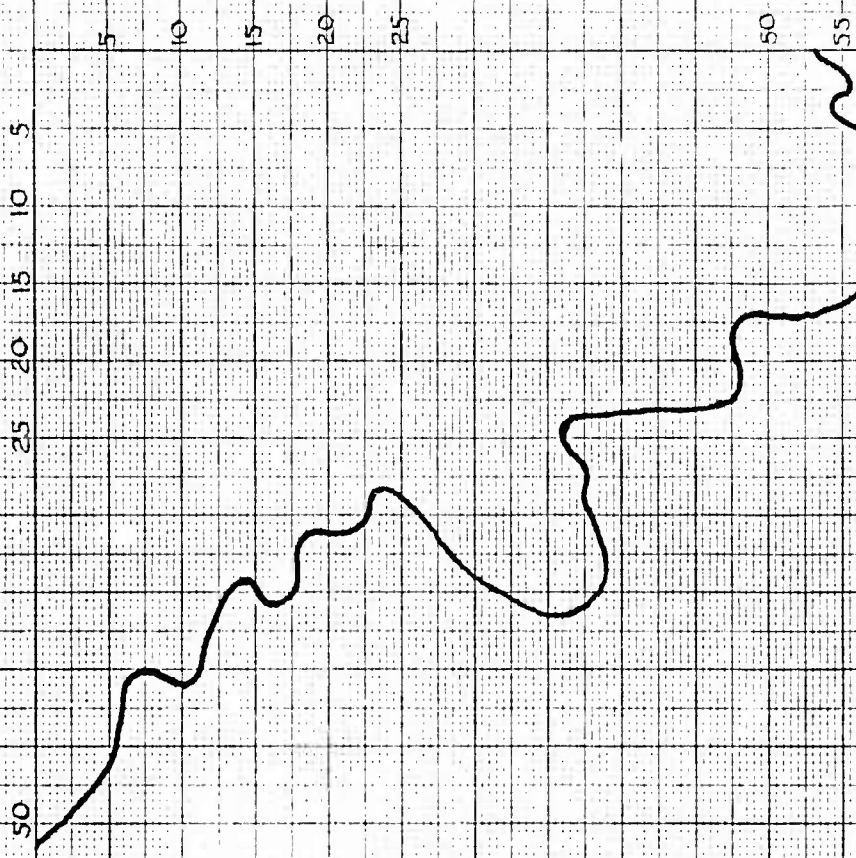
5 10 15 20 25 50

EXPOSURE B-0601  
Scale in Feet



CONFIDENTIAL

Water Level



EXPOSURE R-0009  
Double in Feet



CONFIDENTIAL



ENCLOSURE B-0615  
Scale in Feet

CONFIDENTIAL

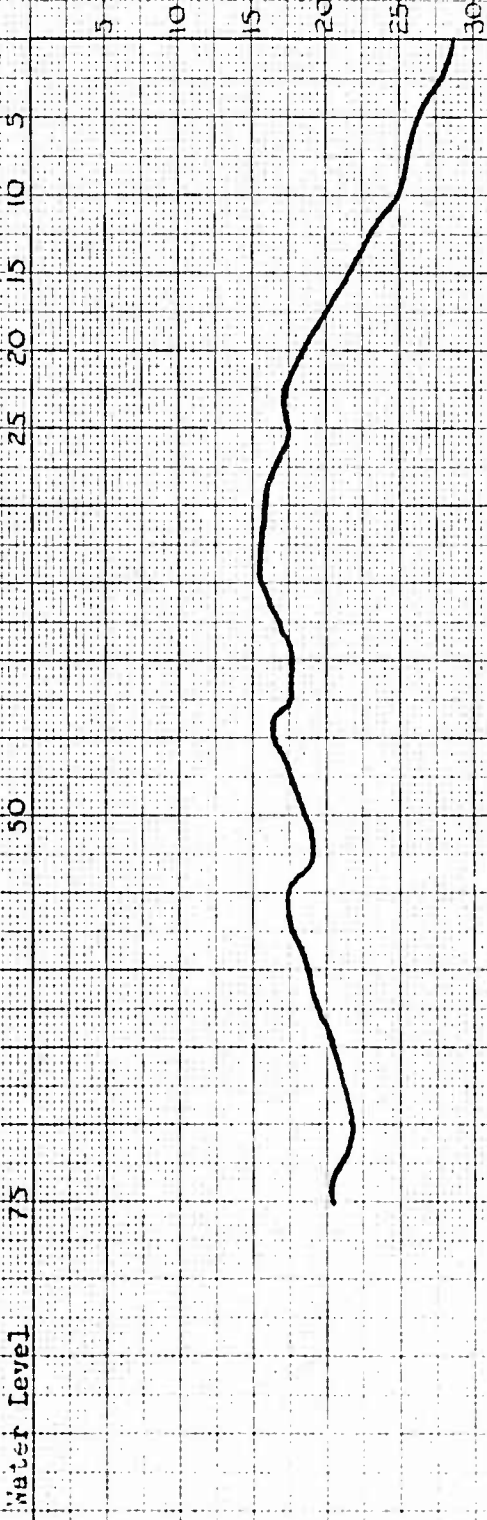
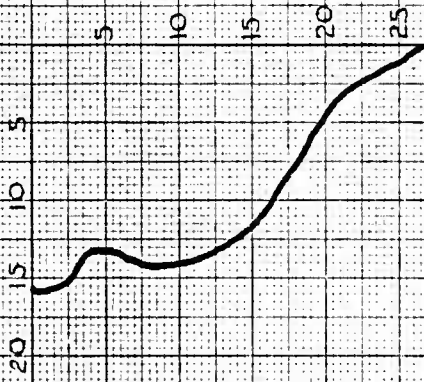


EXHIBIT B-0021  
Scale 1: Foot

CONFIDENTIAL

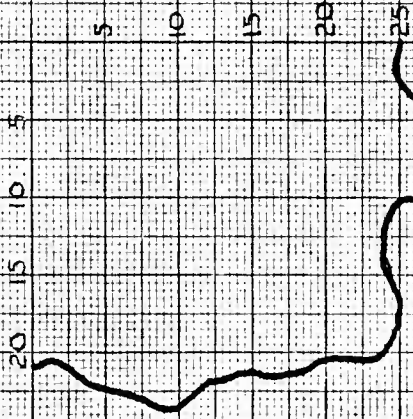
Water Level



UNCLASSIFIED

CONFIDENTIAL

Water Level



EXPOSURE B-2636  
Scale in Feet

CONFIDENTIAL



FIGURE B-650  
Scale in Feet

CONFIDENTIAL



EXPOSURE B-0652  
Scale in Feet

CONFIDENTIAL

Water Level

50

25

20

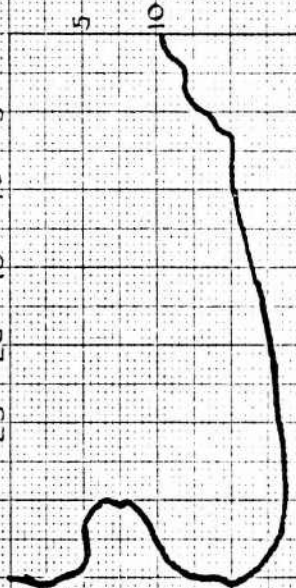
15

10

5

5

10



WPC B-015  
Scale 1:100

CONFIDENTIAL

Water Level

75

50

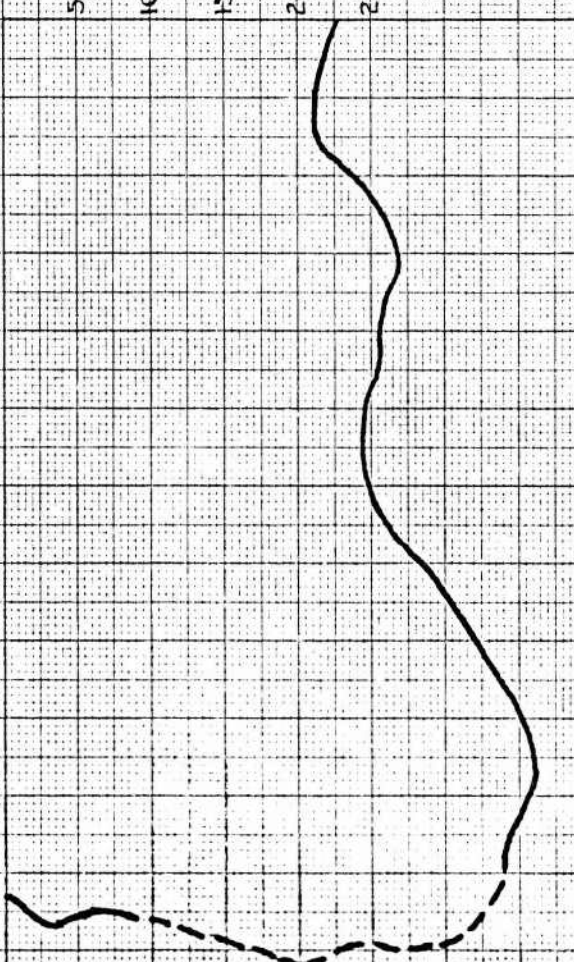
25

20

15

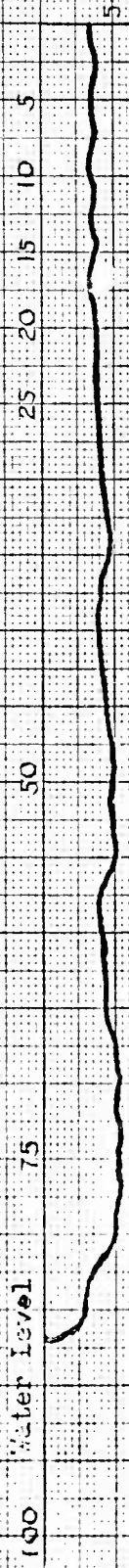
10

5



Station P-067  
Scale 1:1000

CONFIDENTIAL



ENCLOSURE B-0626  
Scale in feet

CONFIDENTIAL

Water Level

50

25

20

15

10

5

5

10

EXPOSURE

CONFIDENTIAL

Water Level

75

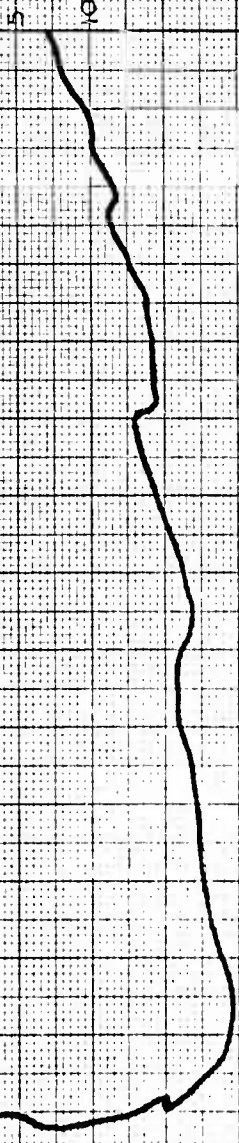
50

25

15

10

5



EXPOSURE B-0200  
Scale in Feet

CONFIDENTIAL

Water Level



EXPOSURE B-0712  
Scale in Feet

CONFIDENTIAL

Water Level

75

50

25

15

5

5

10

15

20



EXPOS RE E-0019  
Scale 1:200

CONFIDENTIAL

Water Level

75

50

25 20 15 10 5

5

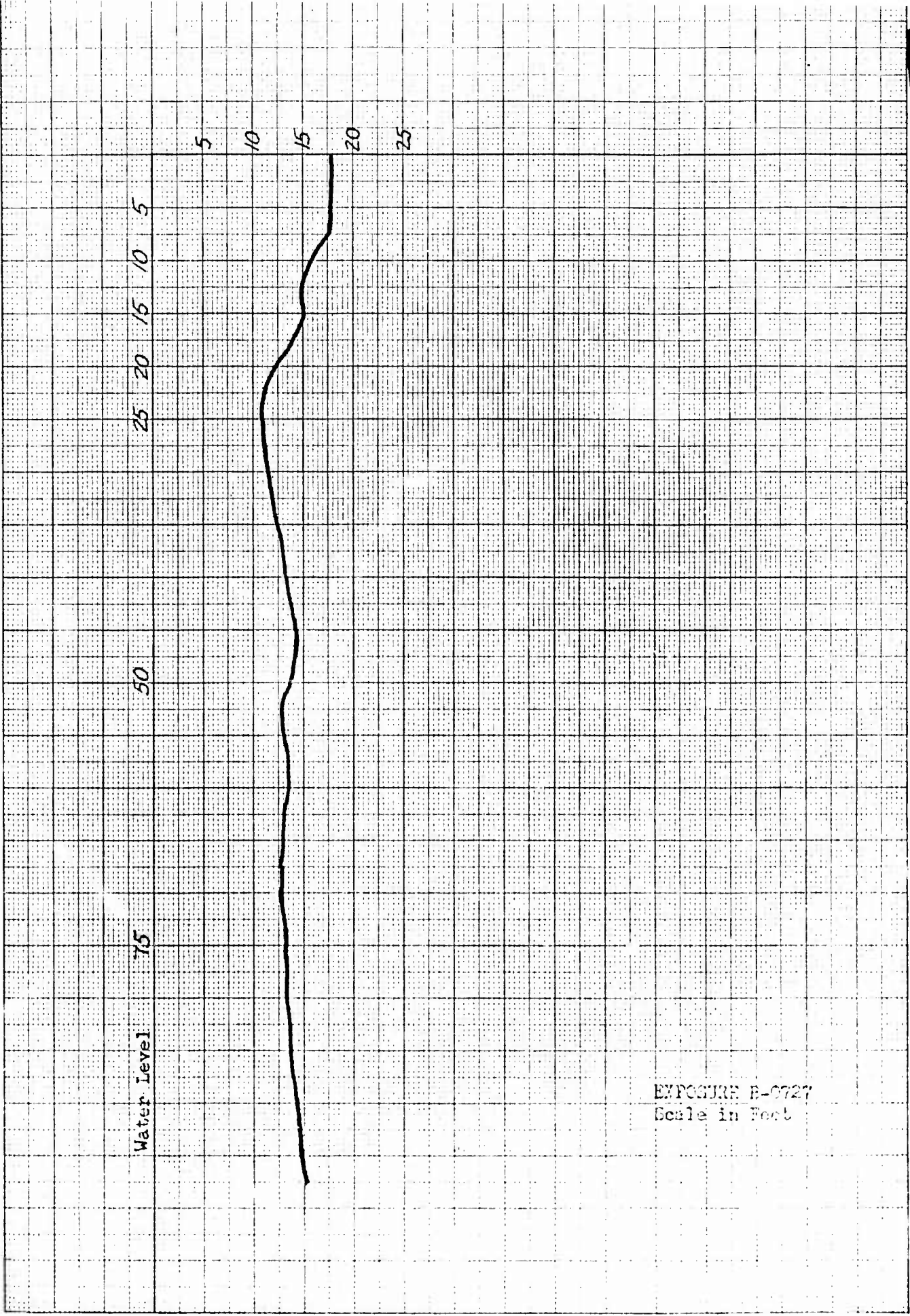
10

15

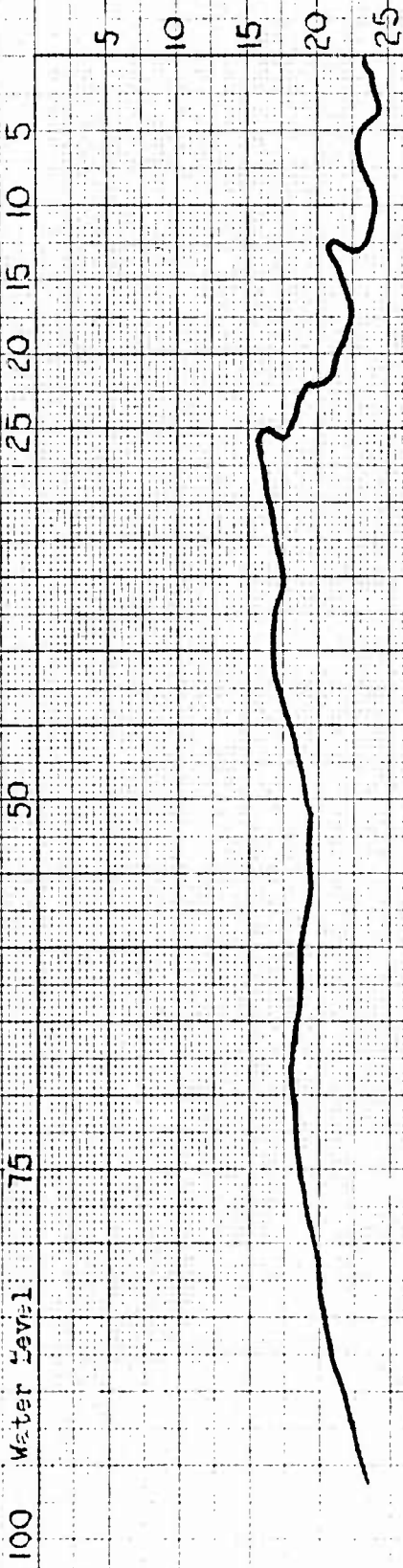
20

25

EXPOSURE B-0727  
Scale in Feet



CONFIDENTIAL



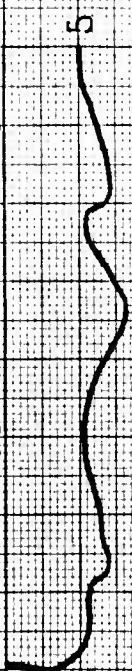
ENC U 7 R-0712  
Scale 1:1000

Water level

50

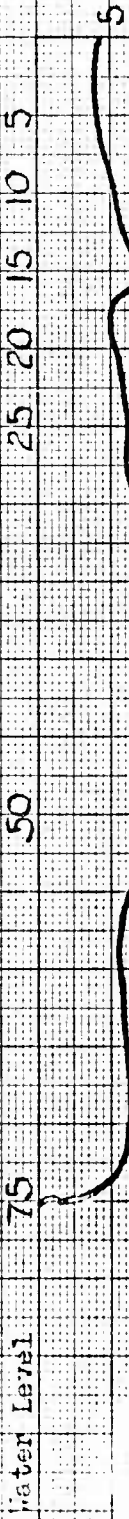
25 20 15 10 5

5  
10  
15  
20



EXPOSURE B-0763  
Scale in Feet

CONFIDENTIAL



EXPOSURE B-9769  
Scale in Feet

CONFIDENTIAL

Water Level

75

50

25

20

15

10

5

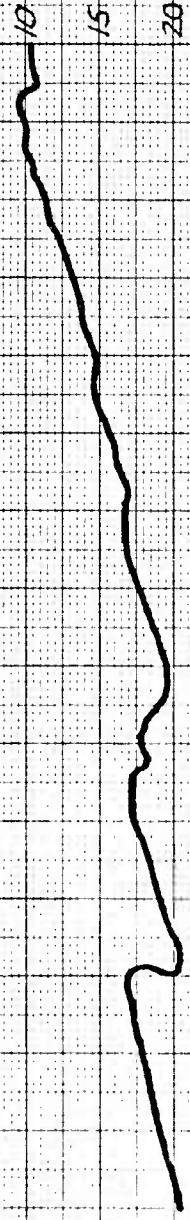
5

10

15

20

25



CONFIDENTIAL  
only in F-10

CONFIDENTIAL

Water Level

75

50

25

15

5

5

10

15

20

25

50



EXPOSURE B-2752  
Scale in Feet

CONFIDENTIAL

Water Level

75

50

25

20

15

10

5

5

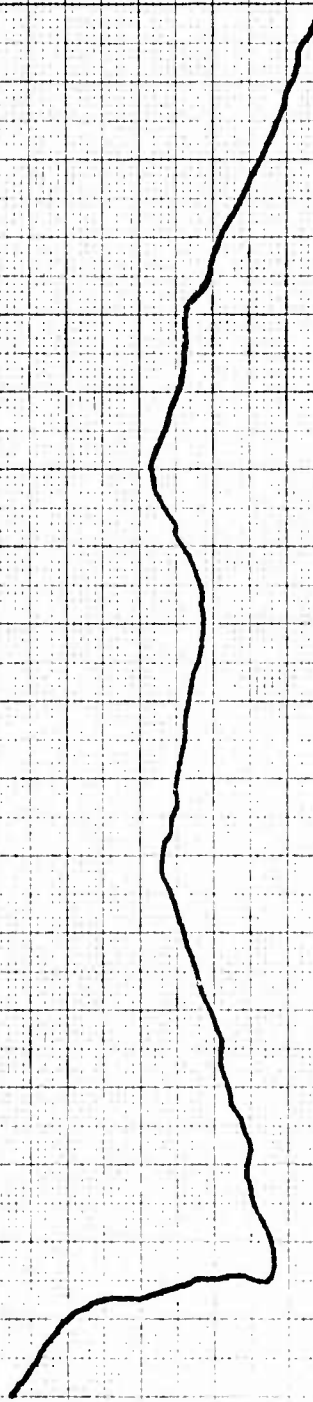
10

15

20

25

50



EXPOSURE 5-3789  
Scale in 1/2 in

CONFIDENTIAL

Water Level

75

50

25

20

15

10

5

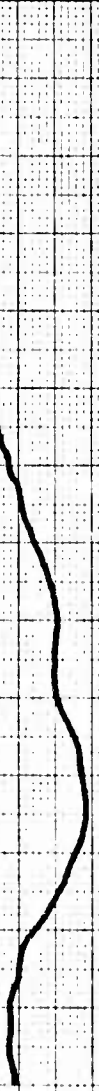
5

10

15

20

25



EXPOSURE 1-7796  
Scale in feet

CONFIDENTIAL

Water Level

75

50

25

20

15

10

5

10

15

20

25

50



EXPOSURE B-0003  
Scale in feet



CONFIDENTIAL



EXPOSURE P 0810  
1961



CONFIDENTIAL

Water Level 75

50

25

20

15

10

5

5

10

15

20

25

50

75



EXHIBIT 6-03.4  
Scale 1:1

CONFIDENTIAL

Water Level

75

50

25

20

15

10

5

5

10

15

20

25

30

35

HYPOTYPE 11-0246  
Serial 1-1-1

CONFIDENTIAL

Water Level

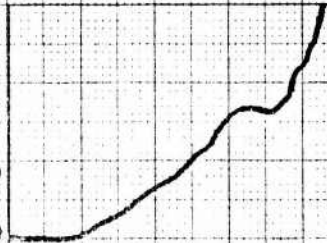
100 75 50 25

25

50

75

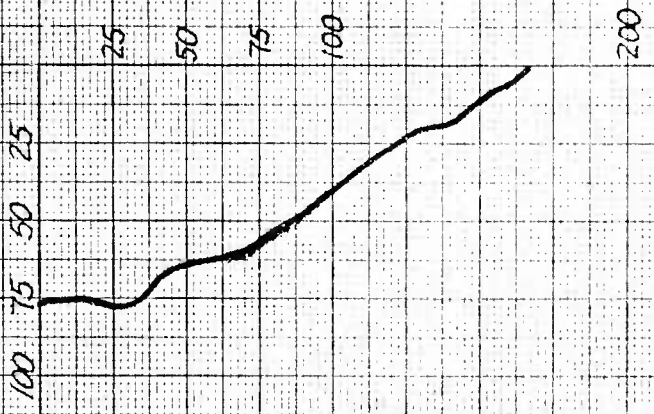
100



EXPOSURE D-0312  
Scale in Feet

CONFIDENTIAL

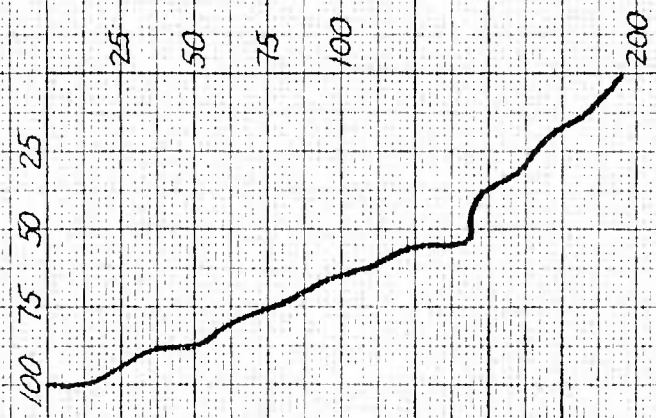
Water Level



REPORT NO. 10-0010  
2016

CONFIDENTIAL

Water Level



EXPOSURE B-0835  
Scale 1:1000



CONFIDENTIAL

Water Level

100 75 50 25

25

50

75

100

200

300

EXPOSURE 1-10002  
Scale 1:1000

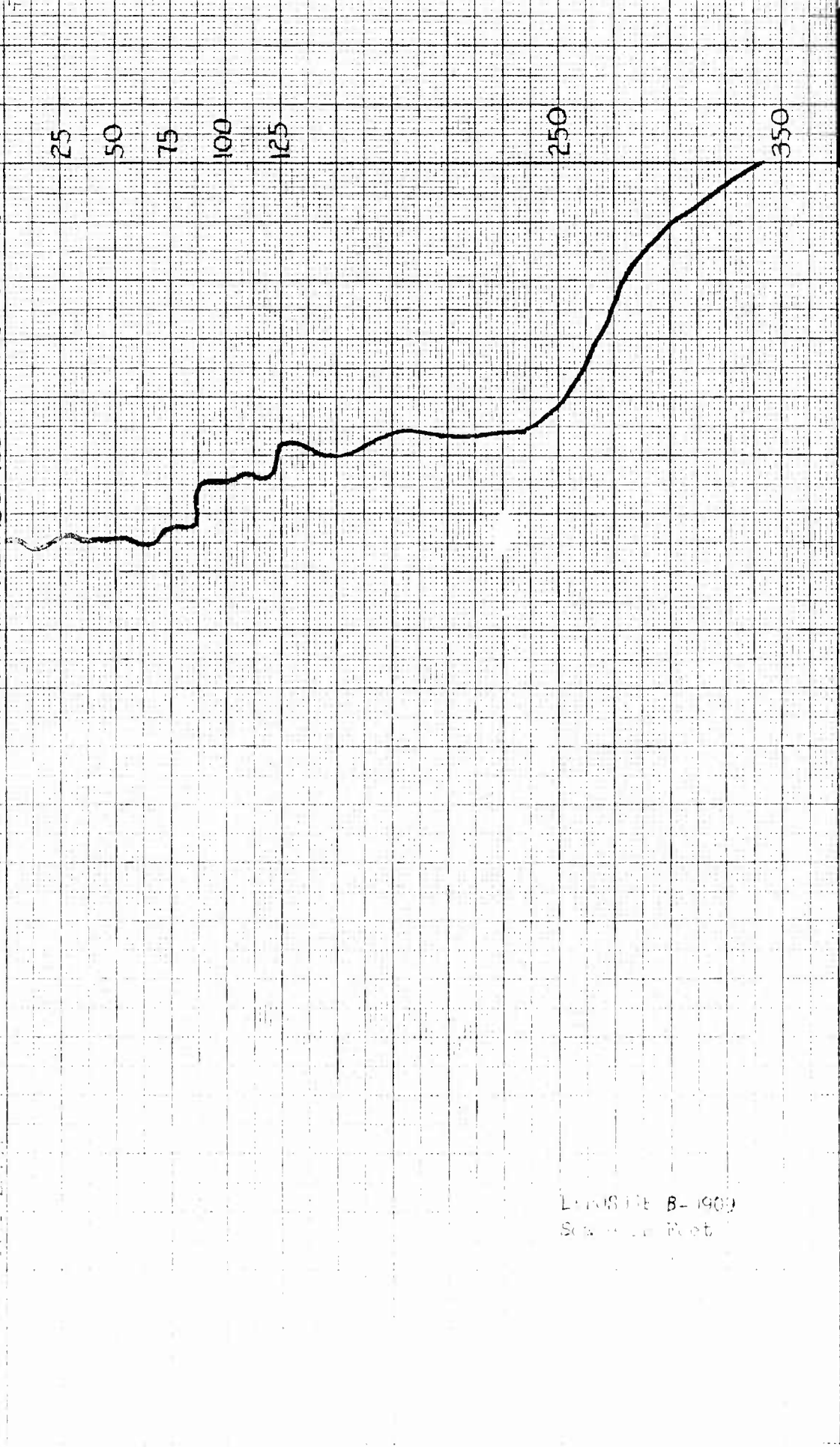
MADE IN U.S.A.

CONFIDENTIAL

175 150 125 100 75 50 25

25 50 75 100 125 250 350

175 150 125 100 75 50 25



LIKOSITE B-1909  
Sewer Plant

CONFIDENTIAL

Water Level

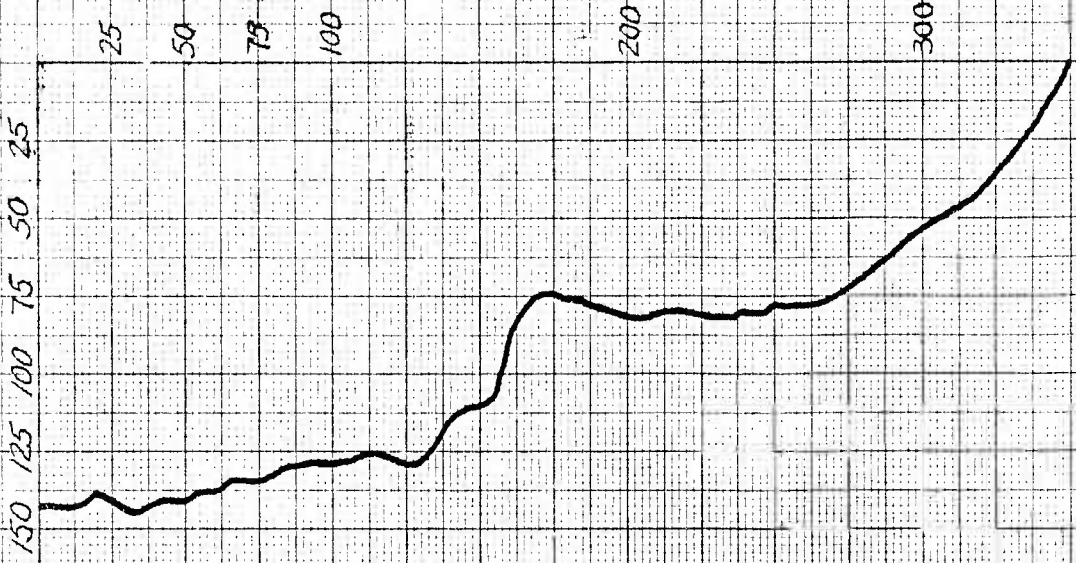


FIGURE B-0916  
Scale in Feet

CONFIDENTIAL

Water Level

100 75 50 25

25

50

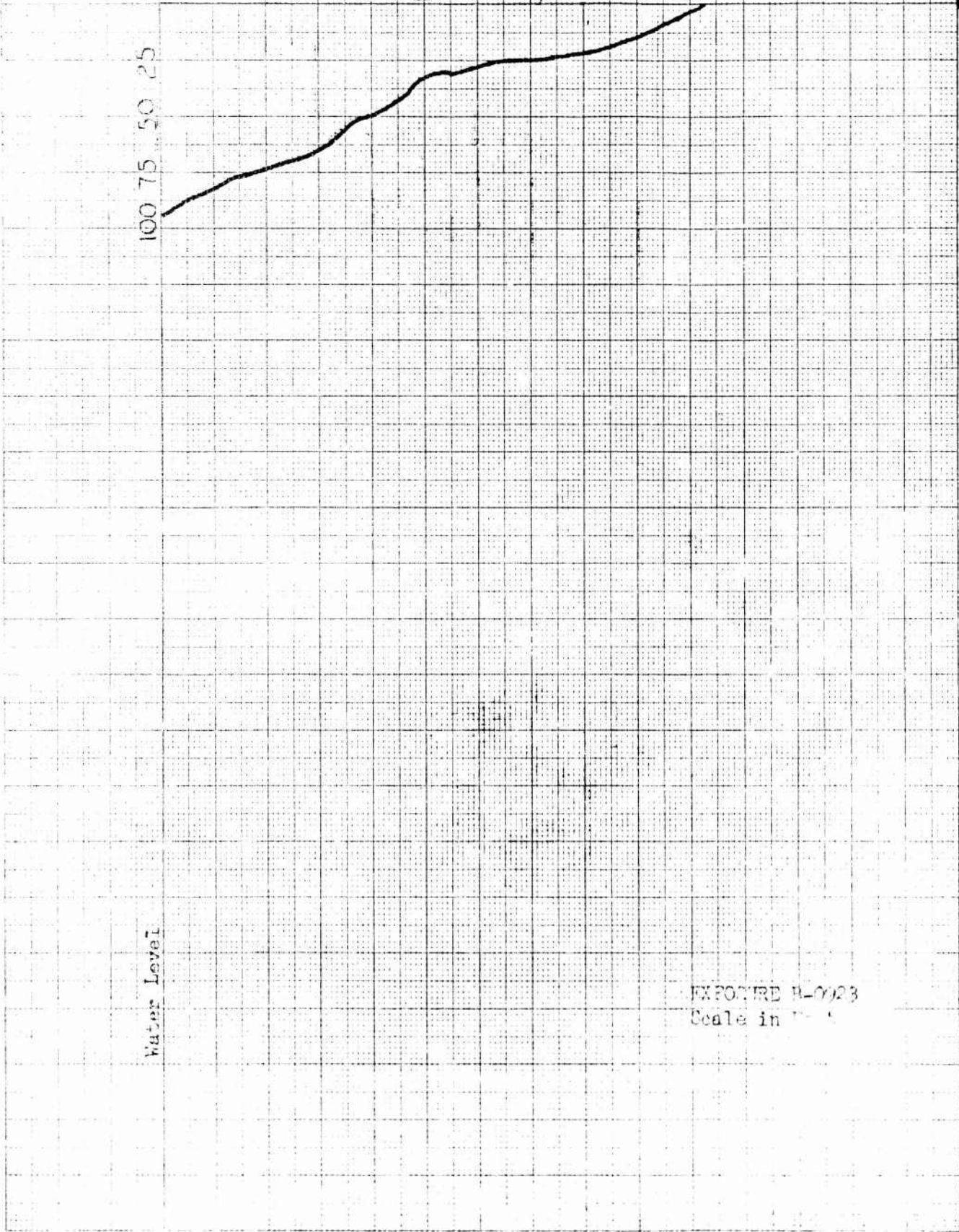
75

100

125

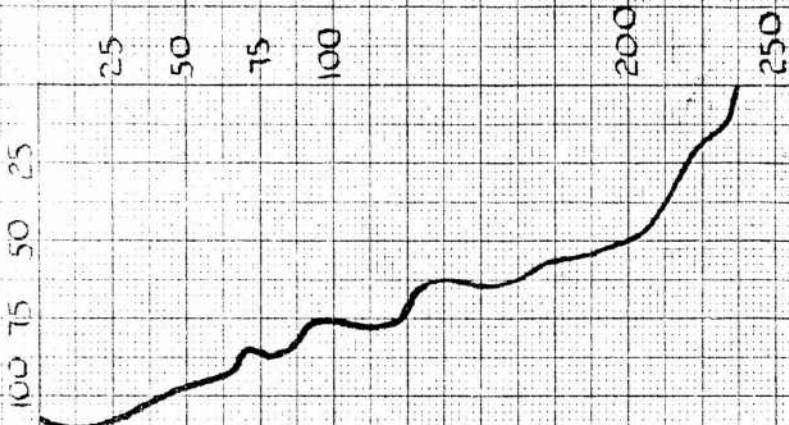
250

EXPOSURE H-0923  
Scale in feet



CONFIDENTIAL

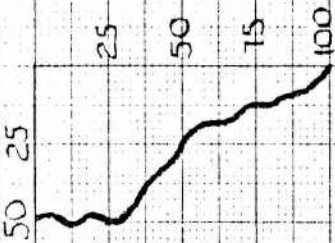
Water Level



EXPOSURE B-0930  
Scale in Feet

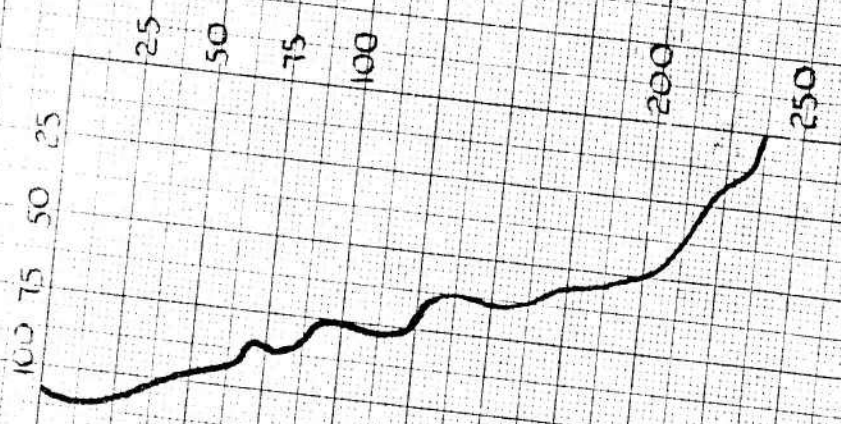
CONFIDENTIAL

Water Level



EXPOSURE B-0926  
Scale in Feet

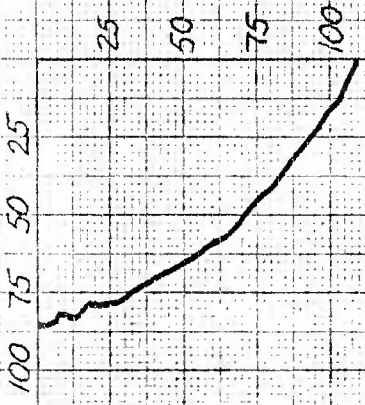
Water Level



ENCLOSURE 8-0010  
Scale in Feet

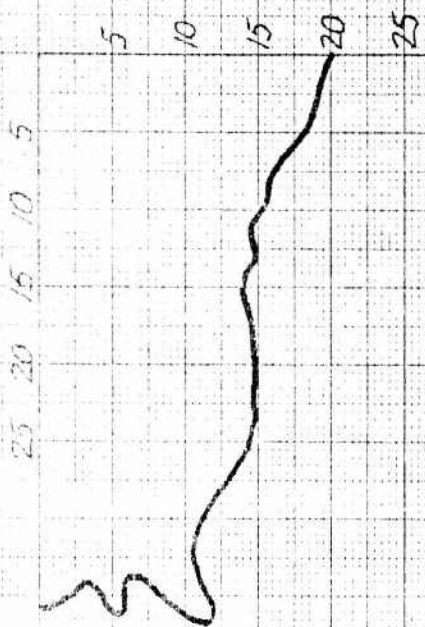
CONFIDENTIAL

Water Level



EXPOSURE B-0942  
Scale in Feet

CONFIDENTIAL



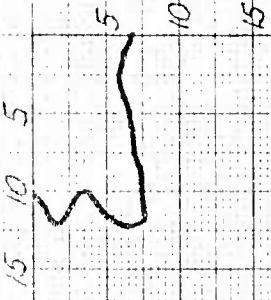
CONFIDENTIAL



EXPOSURE 3-0099  
Scale in Feet

CONFIDENTIAL

Water Level



EXPOSURE B-2061  
Scale in Feet

CONFIDENTIAL

Water Level

75

50

25

20

15

10

5

5

10

15

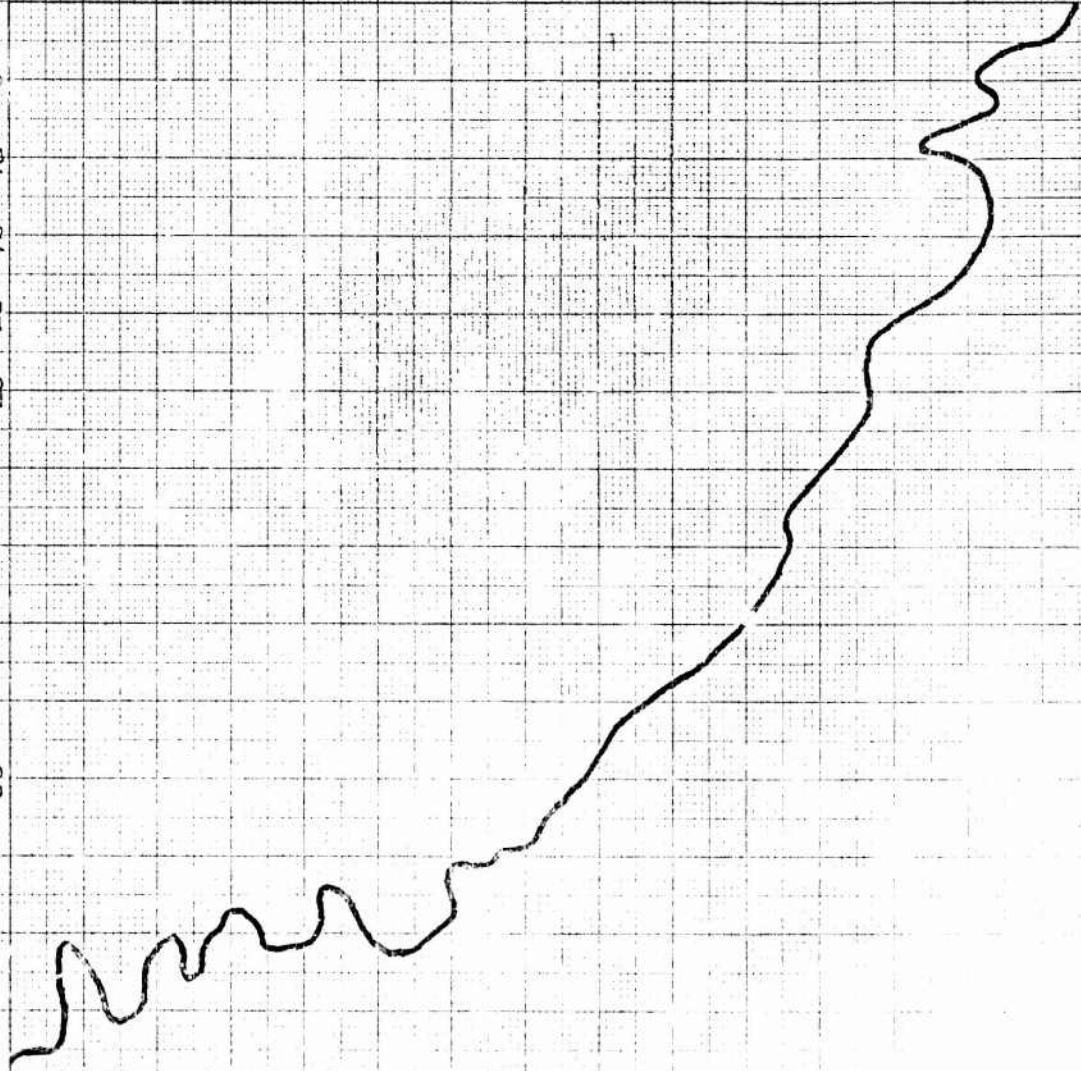
20

25

50

60

70



CONFIDENTIAL

CONFIDENTIAL

Water Level

75

50

25

20

10

5

5

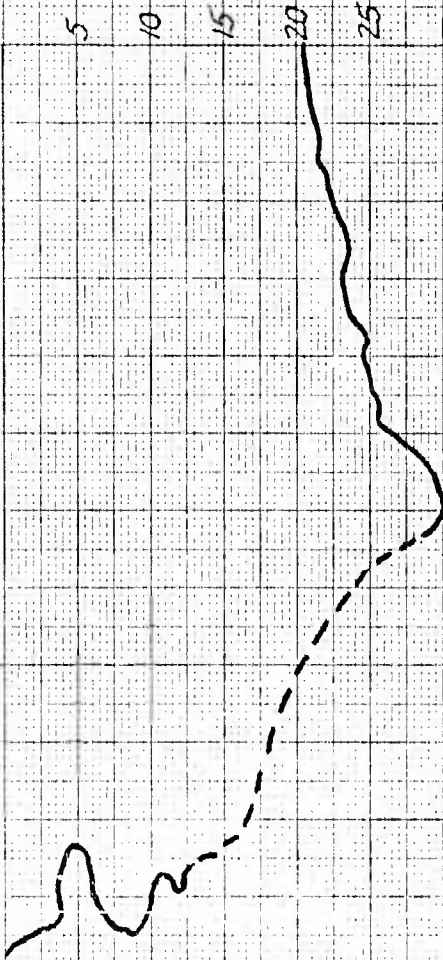
10

15

20

25

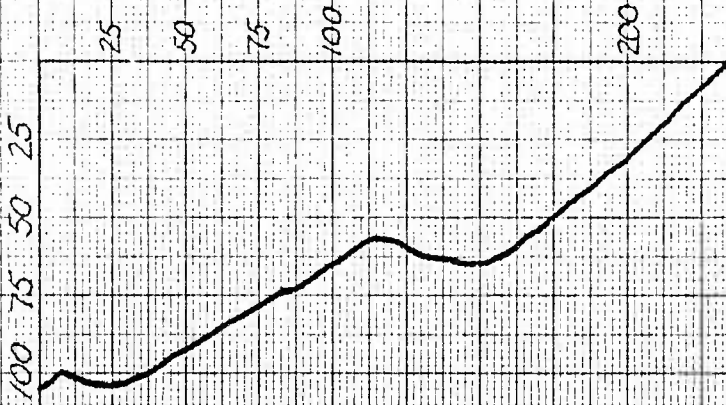
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EXPOCH 11-0970  
2016-11-17

CONFIDENTIAL

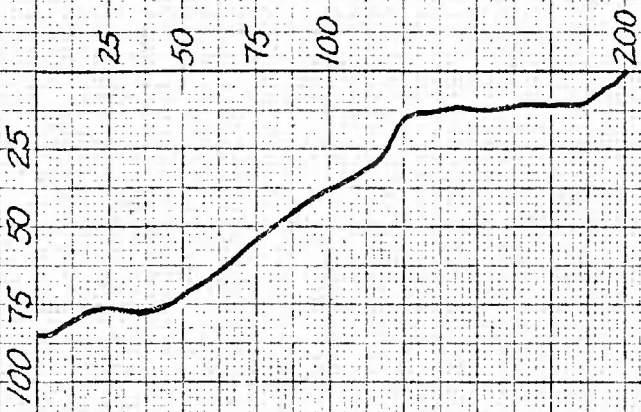
Water Level



ENGINE B-0-1  
Scale in Feet



CONFIDENTIAL



B 0994

CONFIDENTIAL

Water Level

100 75 50 25

25

50

75

100

200



1001

CONFIDENTIAL

Water Level

100 75 50 25

25

50

75

100

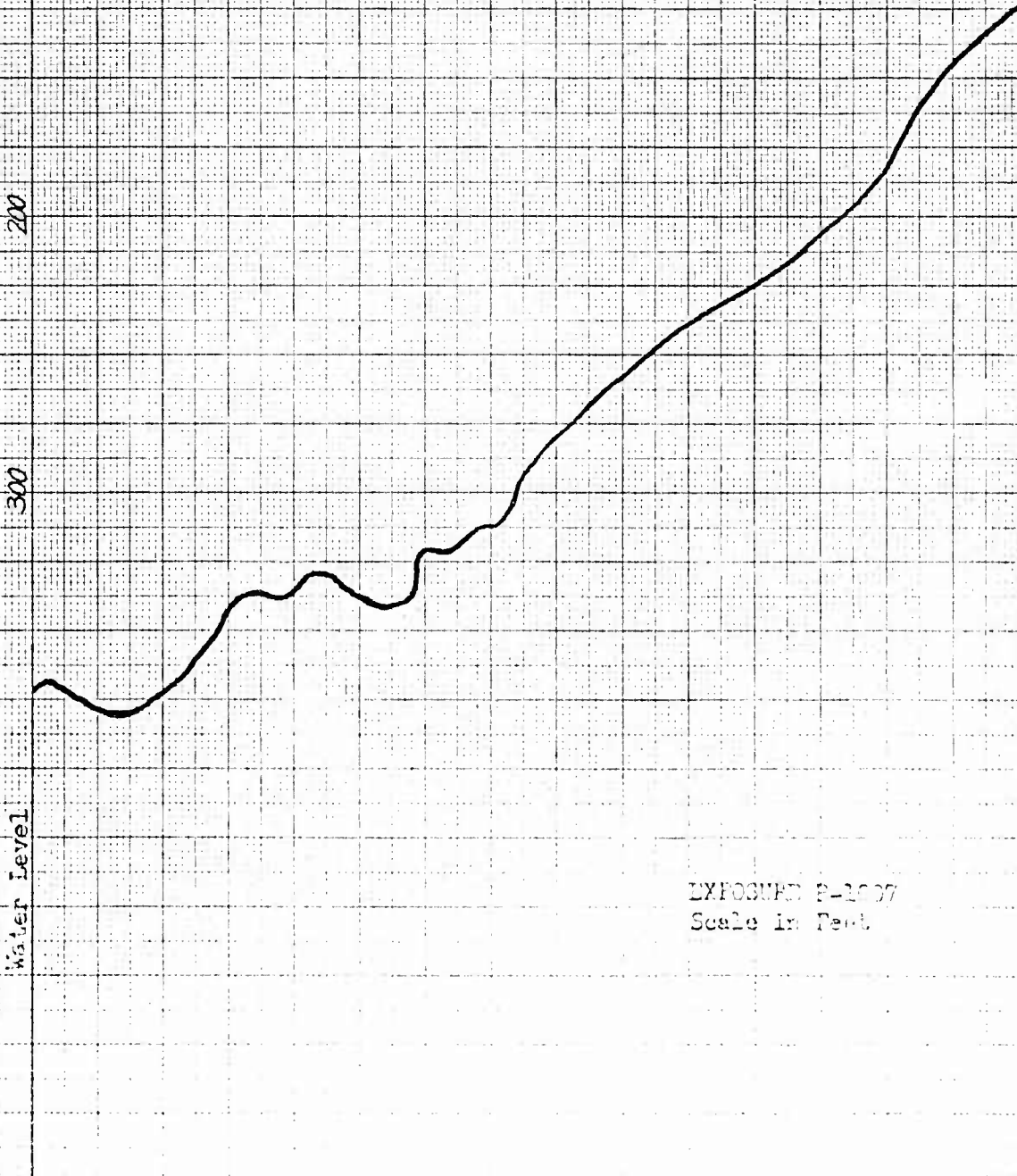
200

300

200

300

EXPOSURE P-2007  
Scale in Feet



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Water Level

100 75 50 25

25

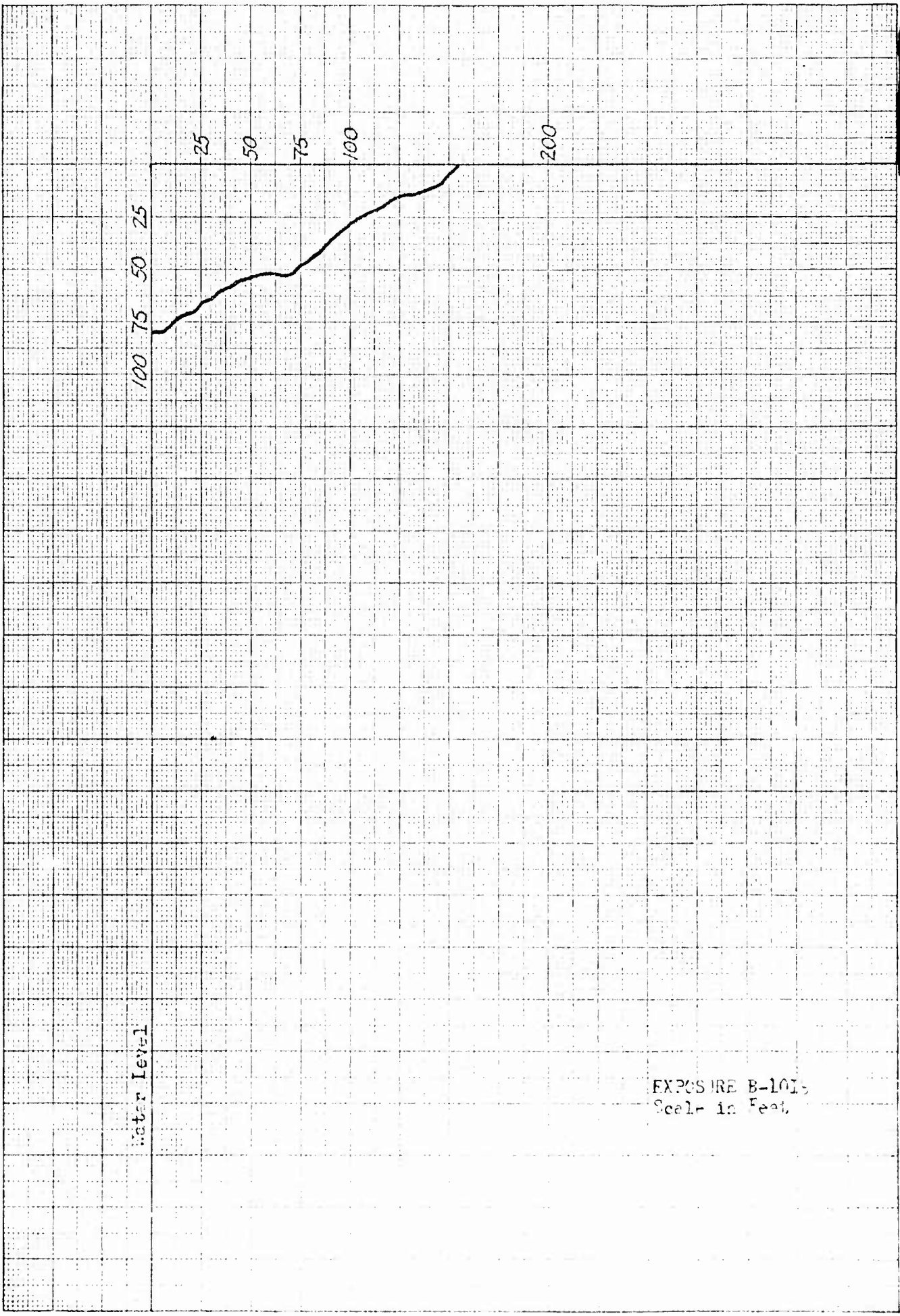
50

75

100

200

EXPOSURE B-101  
Scale in Feet



CONFIDENTIAL

MADE IN U.S.A.

Water Level

50

25

20

15

10

5

5

10

15

20

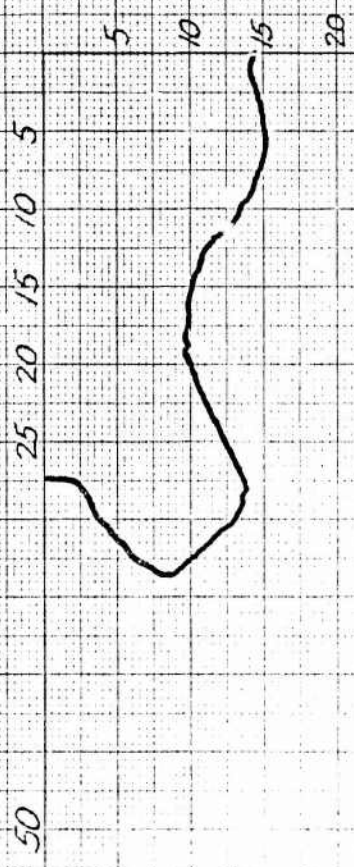
25

BY FORMER B-1045  
Scale 1:1



CONFIDENTIAL

Water level



BYT

CONFIDENTIAL

Water Level

50

25

20

15

10

5

10

15

20

25

EXPOSED L- 139  
Scale 1 1/2"

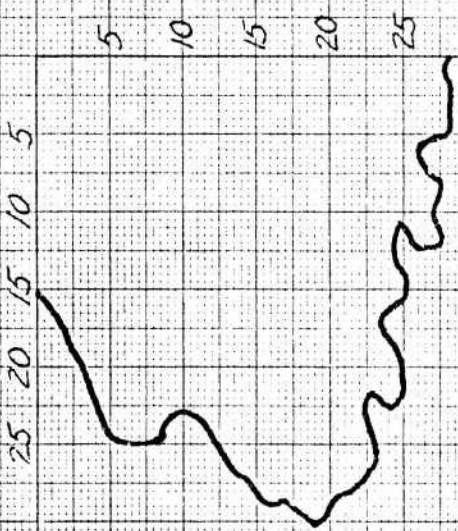




CONFIDENTIAL

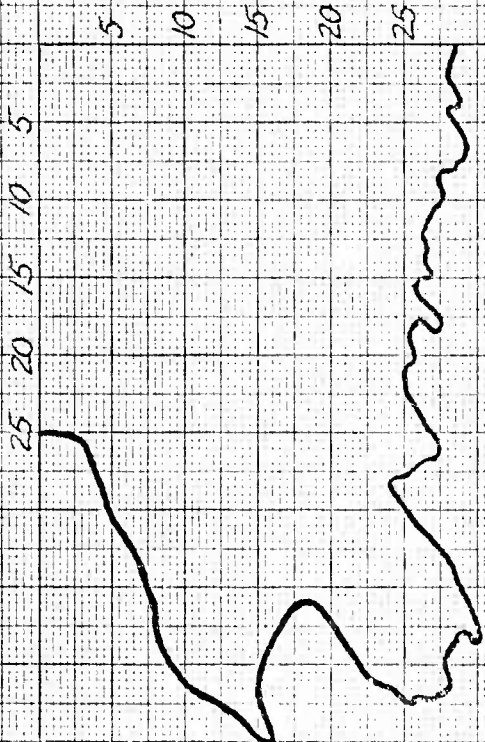


EXPERIMENT 1045  
Scale 1:1



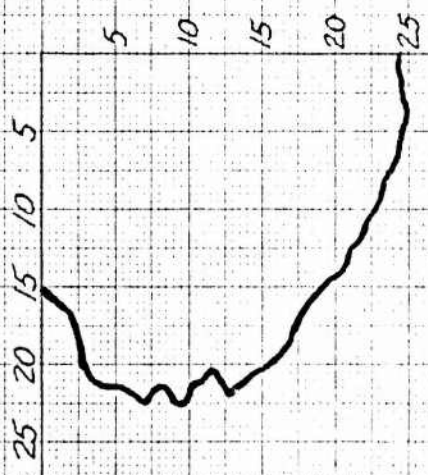
ENCLOSURE 3-1061  
Date 10/10/61

Water level



EXPOSURE 2-20-50  
Scale in Feet





Water Level

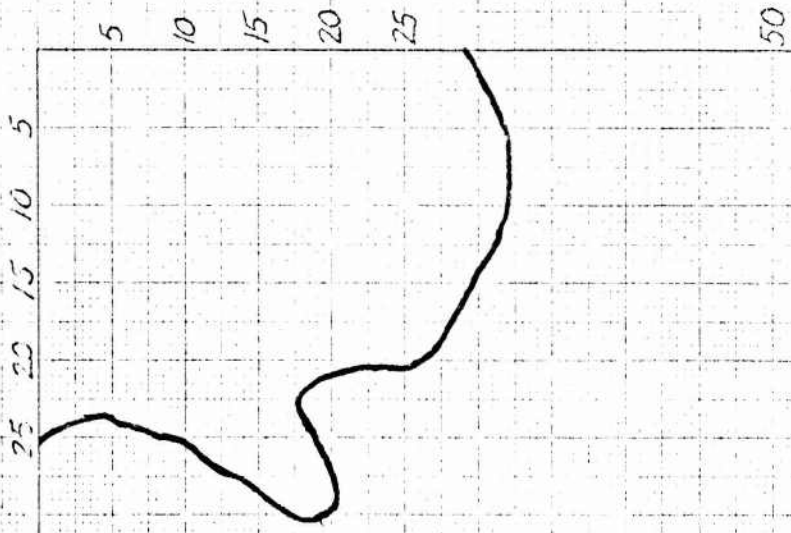
EXPOSURE A 1172  
Scale in Feet

CONFIDENTIAL



CONFIDENTIAL

Water level



EXPOSURE 1-10  
10370



62°00'  
1'45"

02'

04'

06'

44'

42'

40'

38'

62°00'

02'

04'

06'

NORTH PACIFIC OCEAN  
 MARSHALL ISLANDS  
**ENIWETOK ATOLL**  
**AREA "A"**

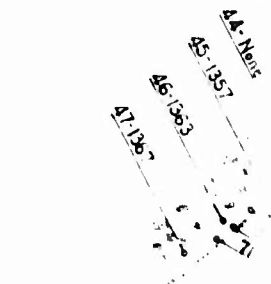
U. S. NAVY HYDROGRAPHIC OFFICE

**SURVEY IN 1952**  
SOUNDINGS IN FATHOMS (Uncorrected)

Natural Scale 1 55,000

**LEGEND**

• BOAT POSITION  
 40-1332 POSITION & EXPOSURE NOS



06'

08'

10'

12'

PACIFIC OCEAN  
ISLANDS

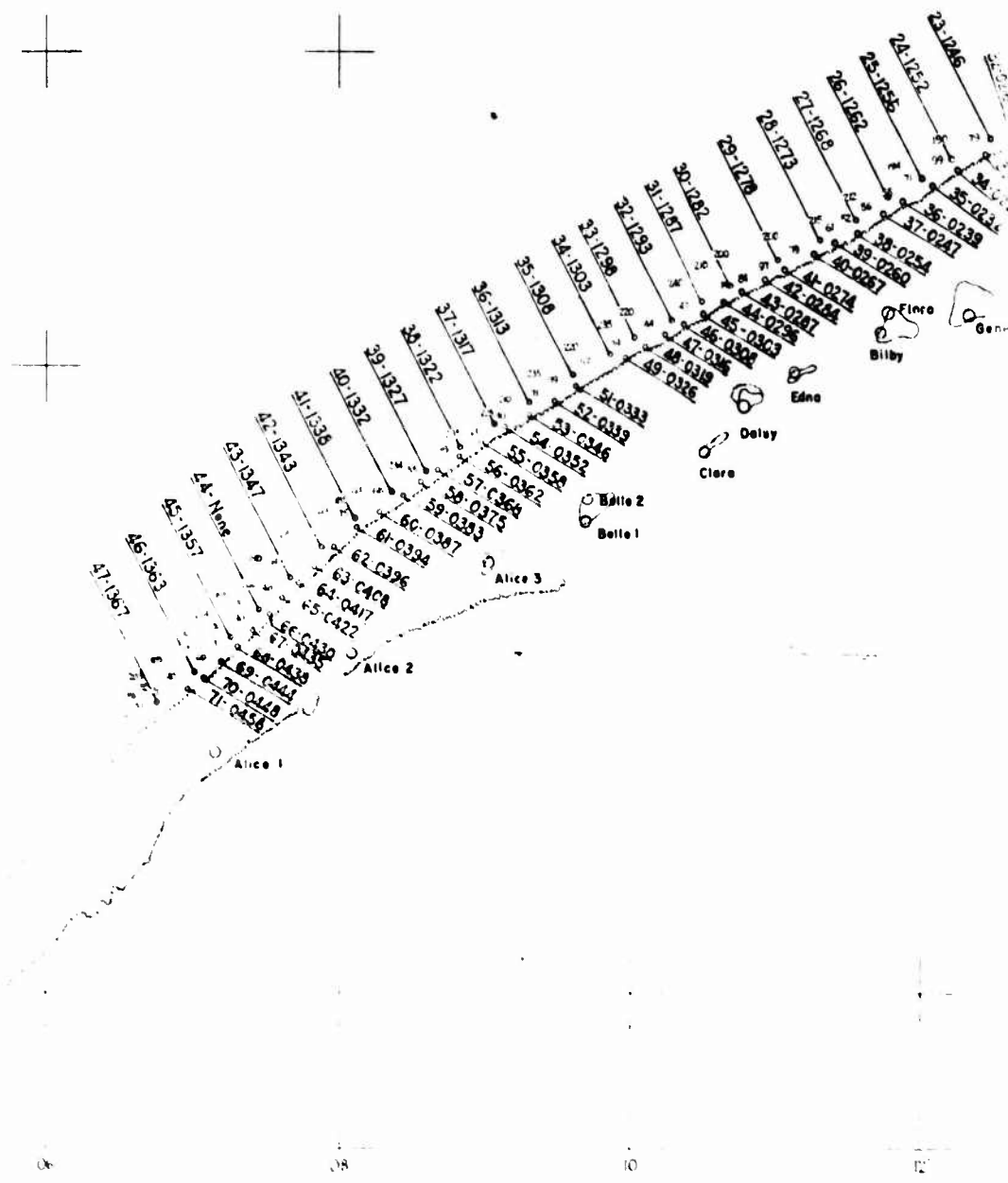
# ATOLL "A"

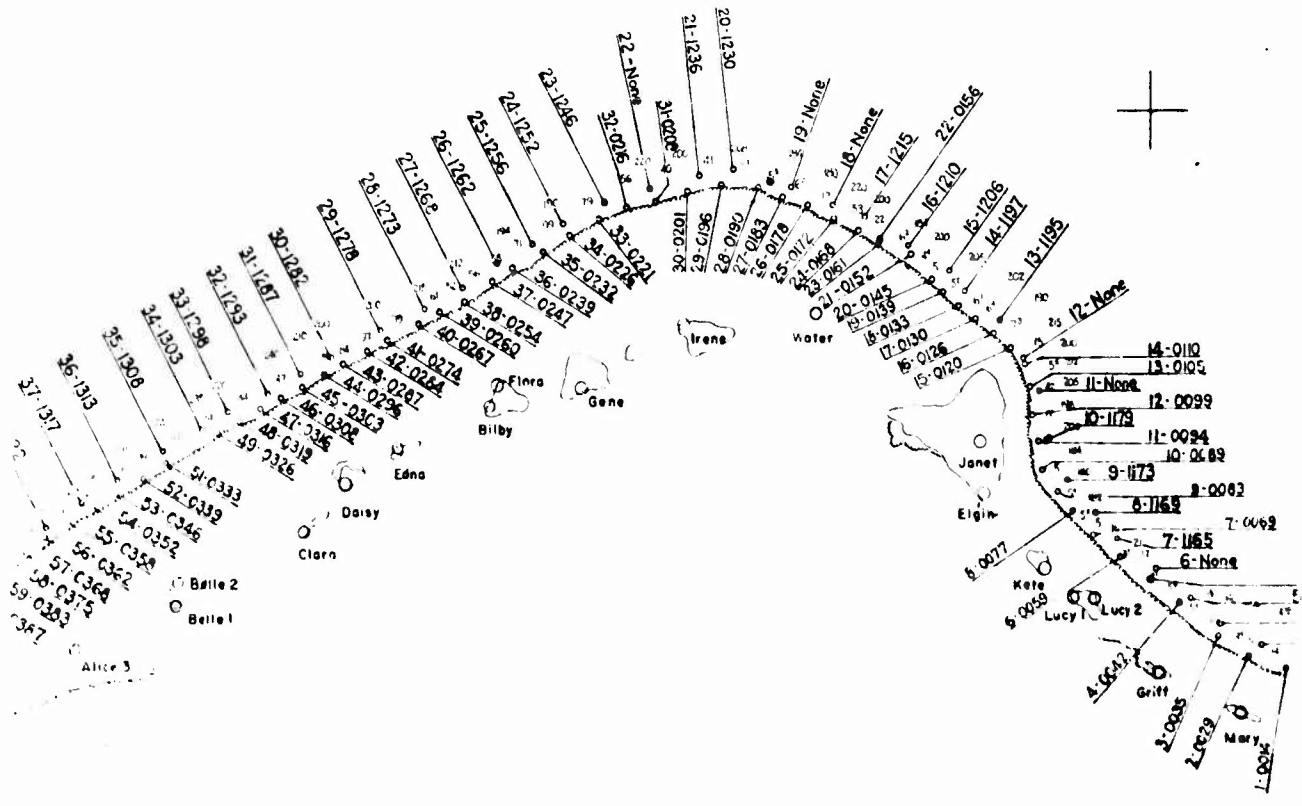
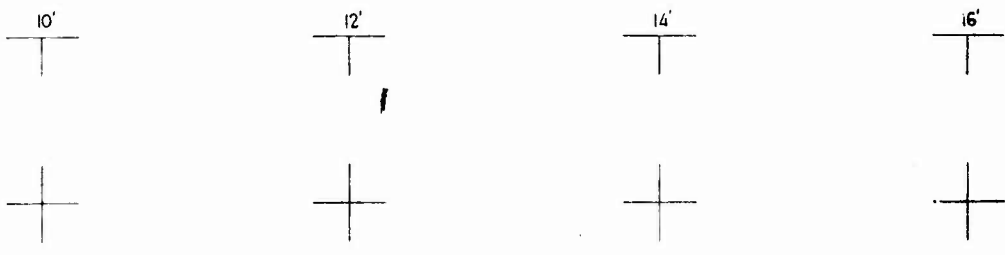
GRAPHIC OFFICE

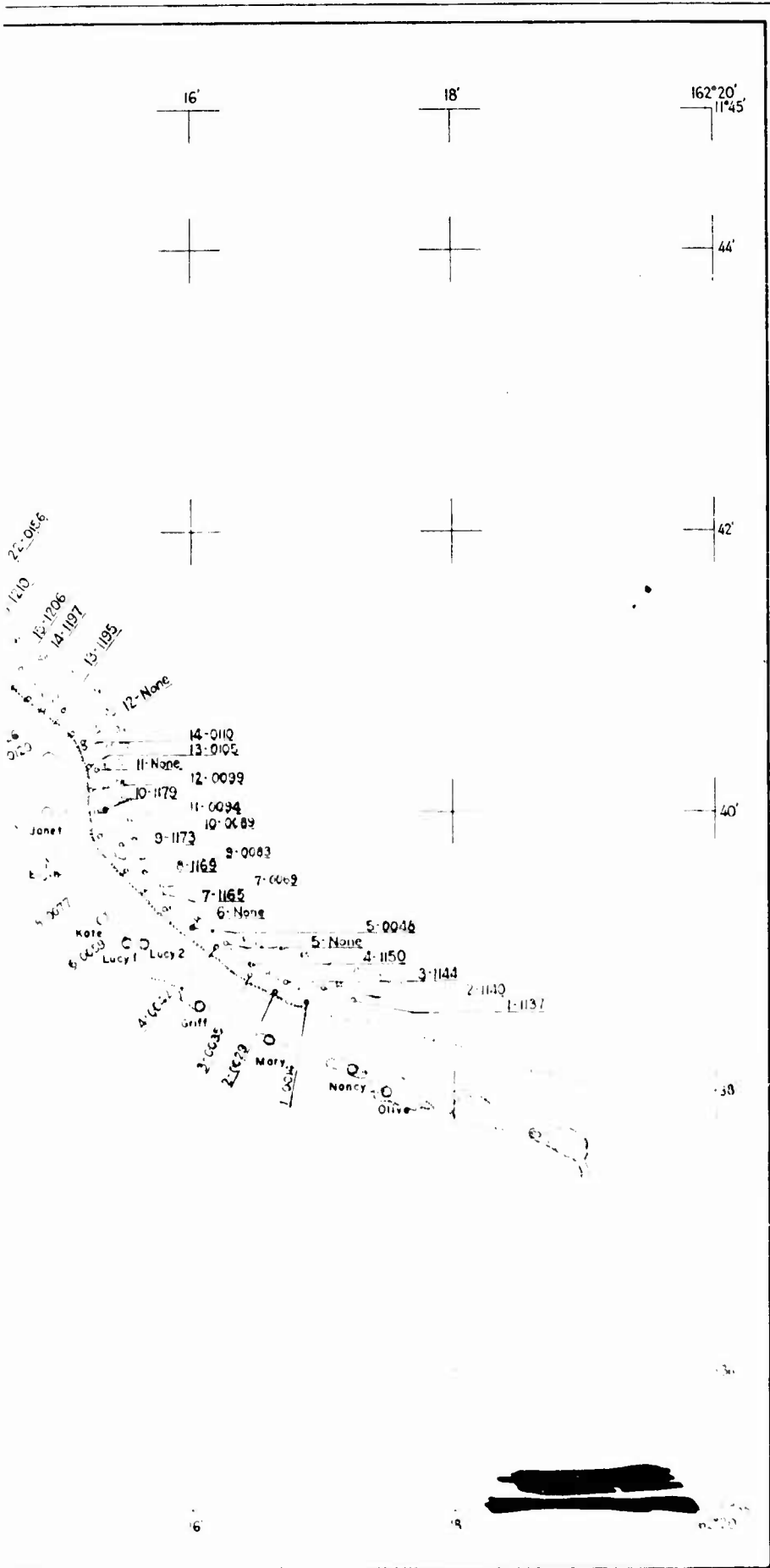
IN 1952

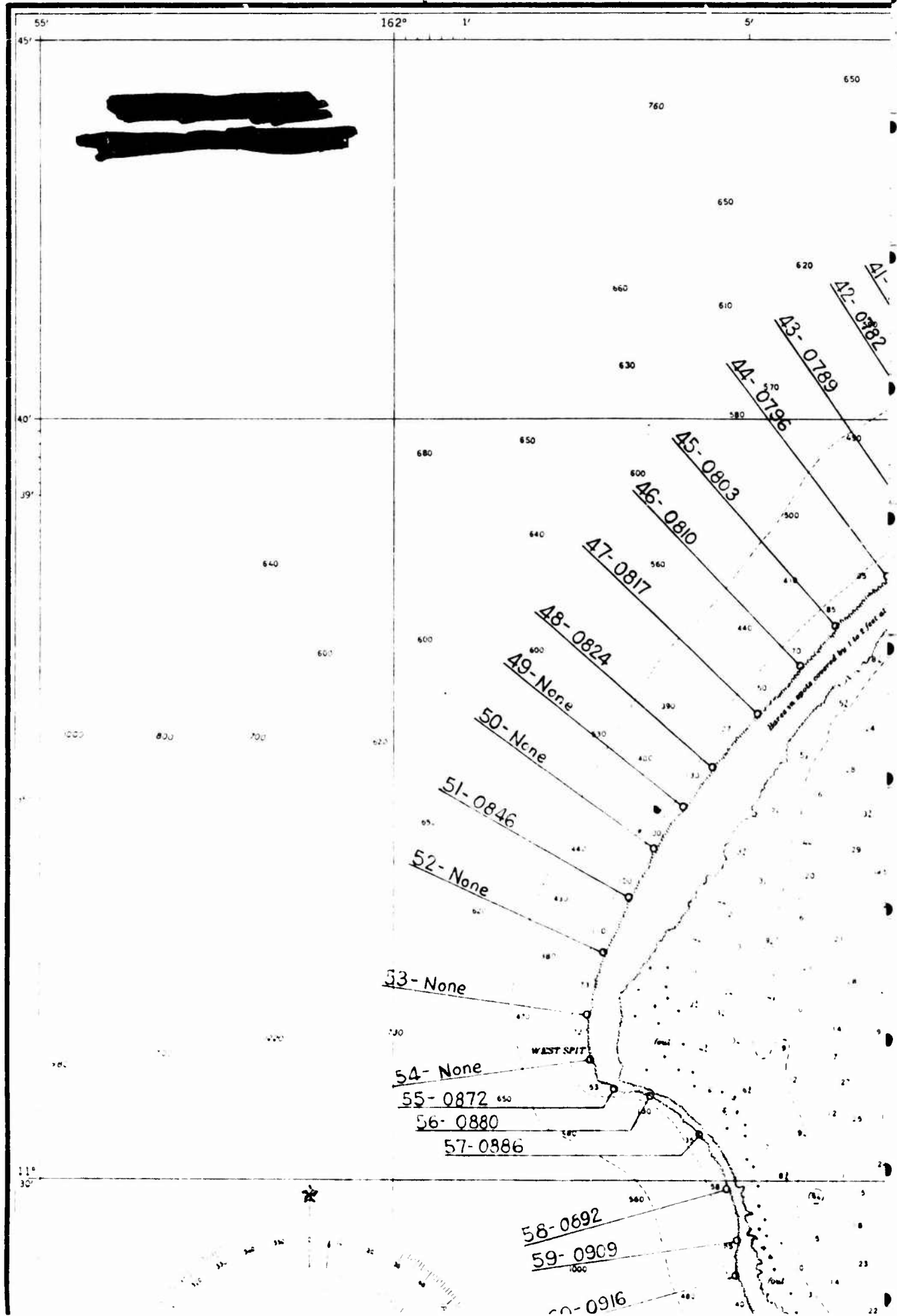
OMS (Uncorrected)

1:55,000

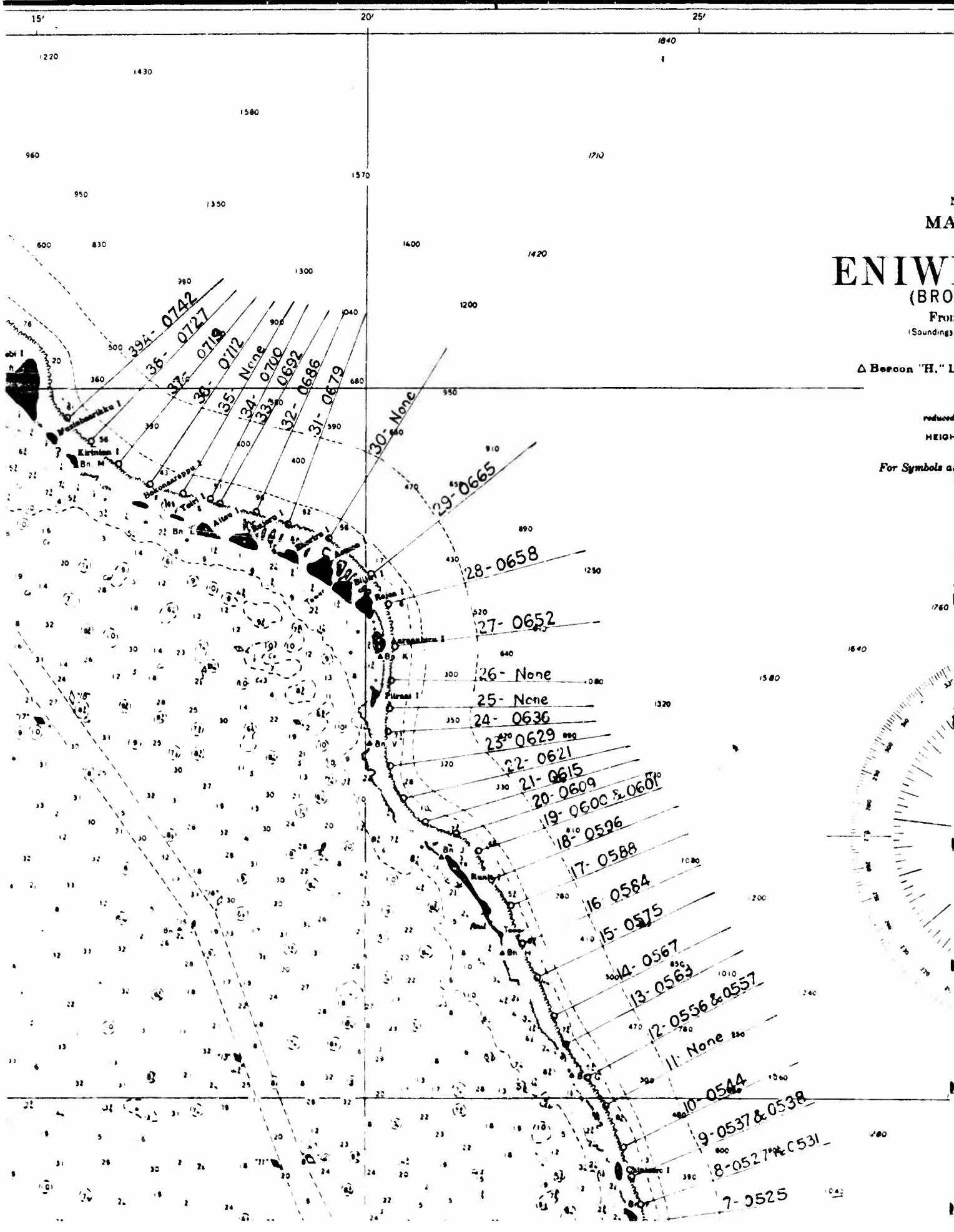












# ENIWA

(Bro)  
From  
(Soundings)

△ Beacon "H." I

reduced  
HEIGHT

For Symbols &



NORTH PACIFIC OCEAN  
MARSHALL ISLANDS

# ENIWETOK ATOLL

(BROWN)

From a U. S. Naval survey in 1944  
Soundings in slanting figures are from smaller scale charts

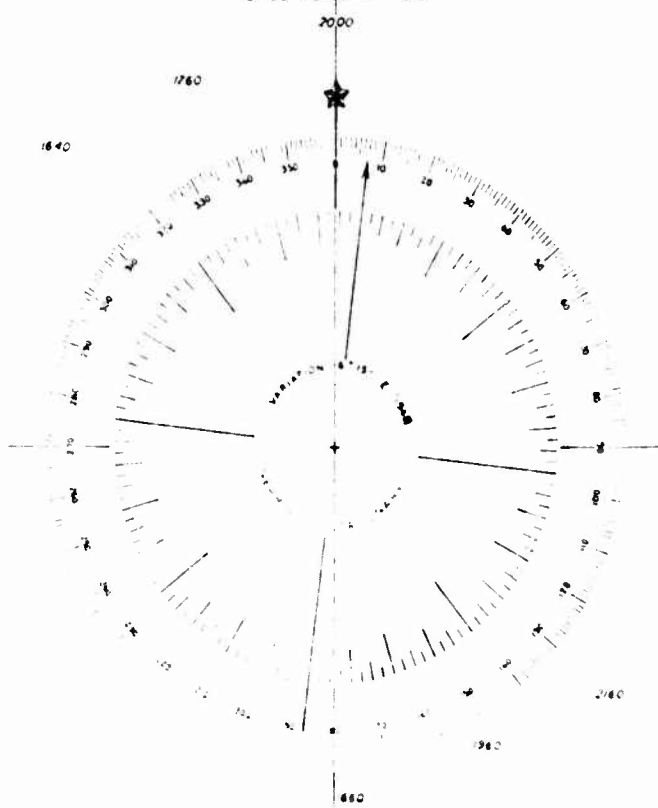
Δ Beacon "H." Lat. 11° 32' 02." S N. - Long. 162° 22' 04." E

SOUNDINGS IN FATHOMS  
*reduced to the approximate level of Lowest Low Water*  
HEIGHTS IN FEET ABOVE MEAN SEA LEVEL

For Symbols and Abbreviations, see H. O. Publication No. 8

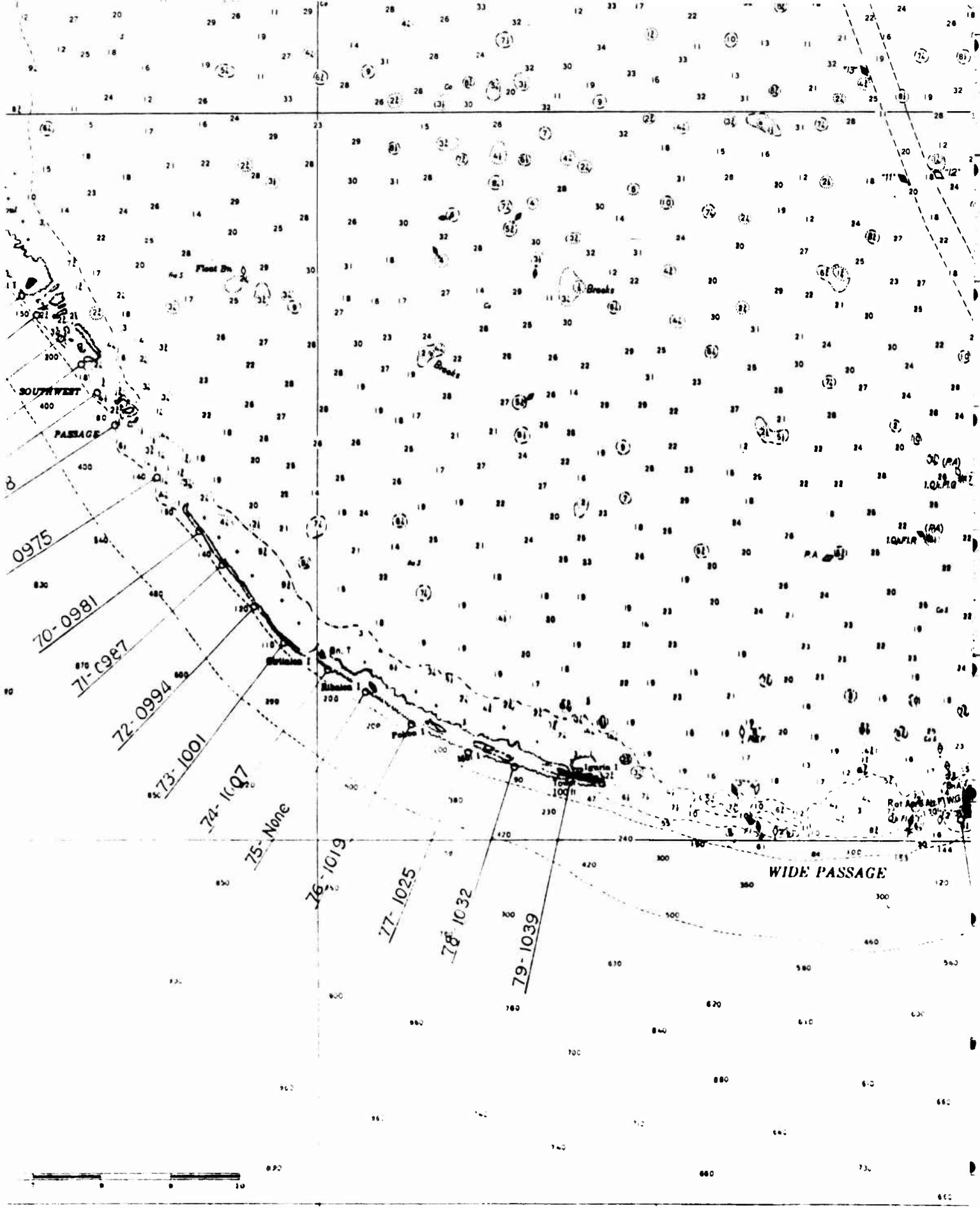
Natural Scale 1:125,000

## AREA "B"

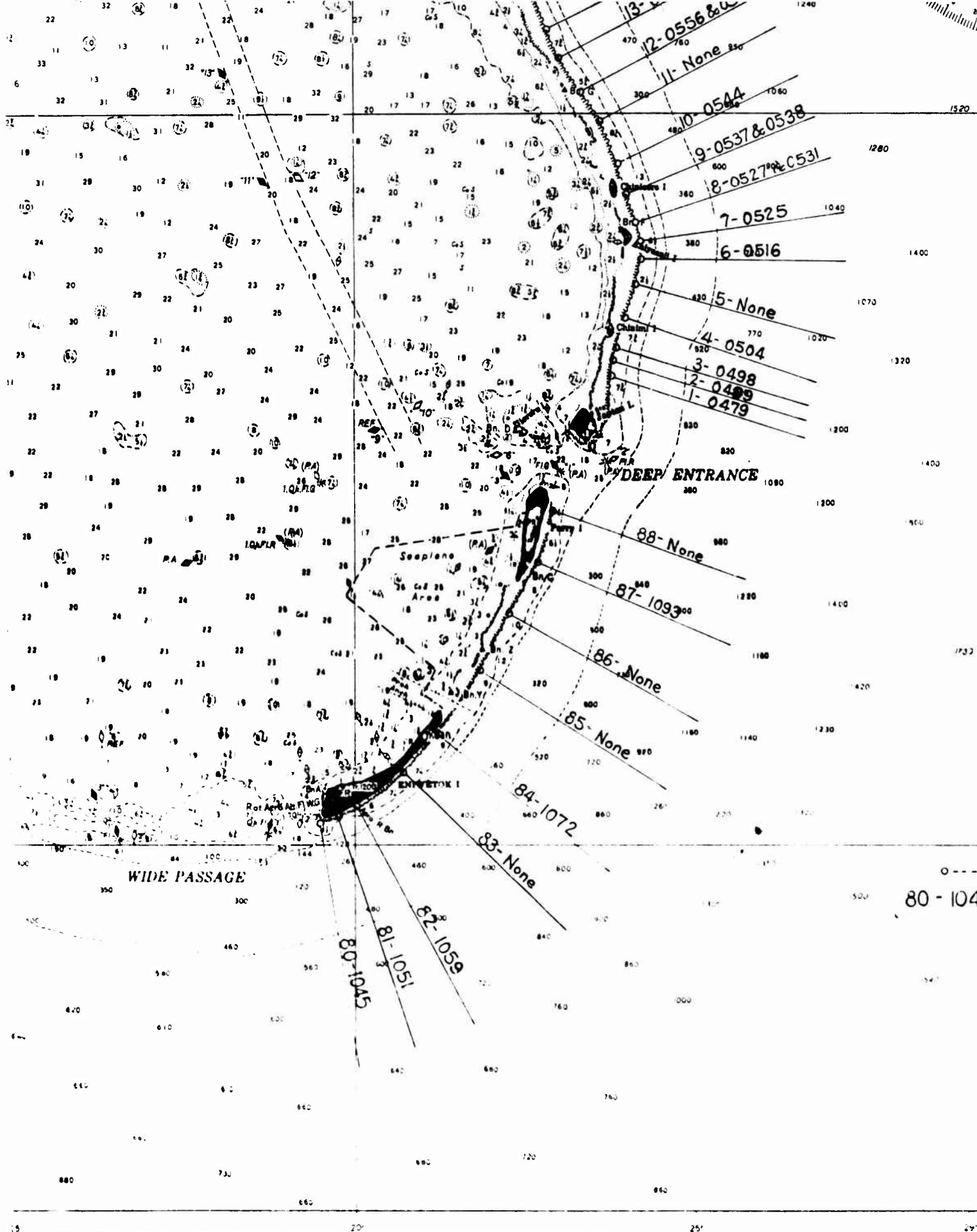


Handwritten notes on the left side of the chart:  
215  
JACQ  
0600 & 0601  
8-0596  
17-0568  
16-0584  
15-0575  
14-0567  
13-0563  
12-0556 & 0557  
11- None  
10-0544  
9-0537 & 0538  
8-0527 & 0531  
7-0525

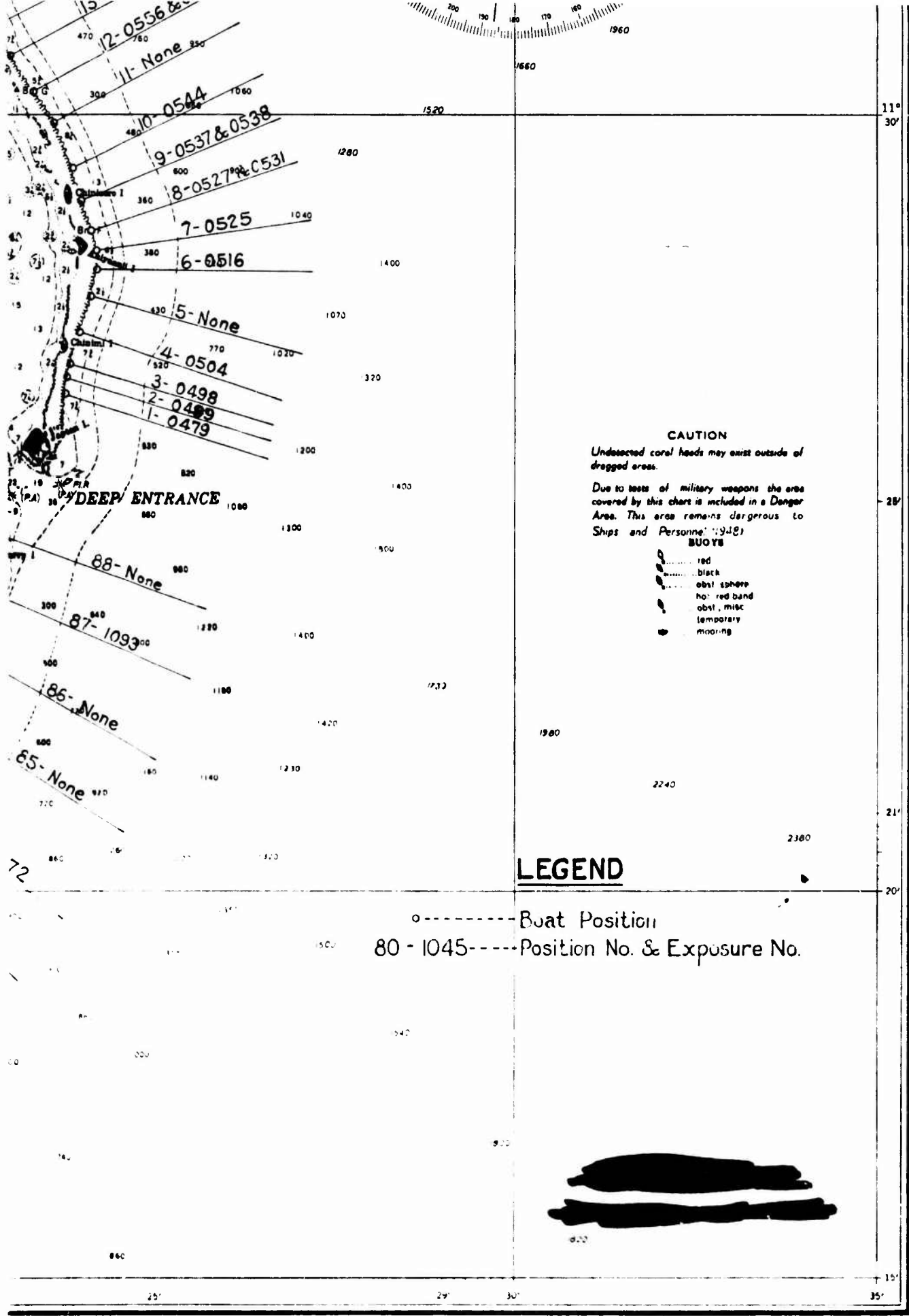




6af 5



7 of 8



8 of 8

P. 192



Defense Special Weapons Agency  
6801 Telegraph Road  
Alexandria, Virginia 22310-3398

JUN 11 1997

OPSSI

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Declassification Review of Operation IVY Test Reports

The following 31 (WT) reports concerning the atmospheric nuclear tests conducted during Operation IVY in 1952 have been declassified and cleared for open publication/public release:

WT-602 through WT-607, WT-609 thru WT-618, WT-627 thru WT-631, WT-633, WT-635, WT-636, WT-639, WT-641 thru WT-644, WT-646, and WT-649.

An additional 2 WTs from IVY have been re-issued with deletions. They are:

WT-608, WT-647.

These reissued documents are identified with an "Ex" after the WT number. They are unclassified and approved for open publication.

This memorandum supersedes the Defense Nuclear Agency, ISTS memorandum same subject dated August 17, 1995 and may be cited as the authority to declassify copies of any of the reports listed in the first paragraph above.

  
RITA M. METRO  
Chief, Information Security