

SCHLUMBERGER

SIDEWALL NEUTRON POROSITY LOG

SCHLUMBERGER OF CANADA Calgary Alberta

PROVINCE YUKON TERRITORIES
 FIELD WILDCAT
 WELL SKELLY GETTY MOBIL ARCTIC RED YT C-60
 COMPANY SKELLY OIL CANADA LTD.

COMPANY SKELLY OIL OF CANADA LTD.
 WELL SKELLY GETTY MOBIL ARCTIC RED YT C-60
 FIELD WILDCAT
 PROVINCE YUKON TERRITORIES
 LOCATION 66° 49' 00" N LAT 133° 55' 19" W LONG
 Other Services: FDC, DIL, C-GR
 Permanent Datum: 61 Elev. 285
 Log Measured From: KB 17 ft. Above Perm. Datum
 ELEV: KB 302
 GL 285
 CBF

Date	13 MAR 72
Run No.	ONE
First Reading	8500
Last Reading	5500
Feet Measured	
Depth Reached	8528
Bottom Driller	8531
Csg. SOC	1202
Csg. Driller	1202
Mud Nature	FRESH-GEL
Dens. Visc.	8.7 53
Mud pH	9.7
Water Loss	8.4
Res.	5.10 @ 65 of
Rmf	3.90 @ 70 of
@ BHT	1.80 @ 182 of
Rnc	6.10 @ 68 of
pnn - CI	
Bit Size	8 3/4"
Equipment Type	PNT-A
Op. Rig Time	OSU-C 343 REM
Truck No.	WILSON
Recorded By	SUTHERBY & HARALDSON
Witness	

REMARKS: Drilling Stopped / Circulation Stopped / Tool on Bottom / Ist Run Service Order # / B.H.T. of

Panel No. _____ RECORDED SHALLOW FOR CORRELATION ONLY DEPTHS INCORRECT.

Cartridge No. 8500' - 14' 6000' - 11'

Sonde No. 8000' - 14' 5500' - 10'

Detector No. 7000' - 14'

SFT-116 No. 6500' - 13 1/2'

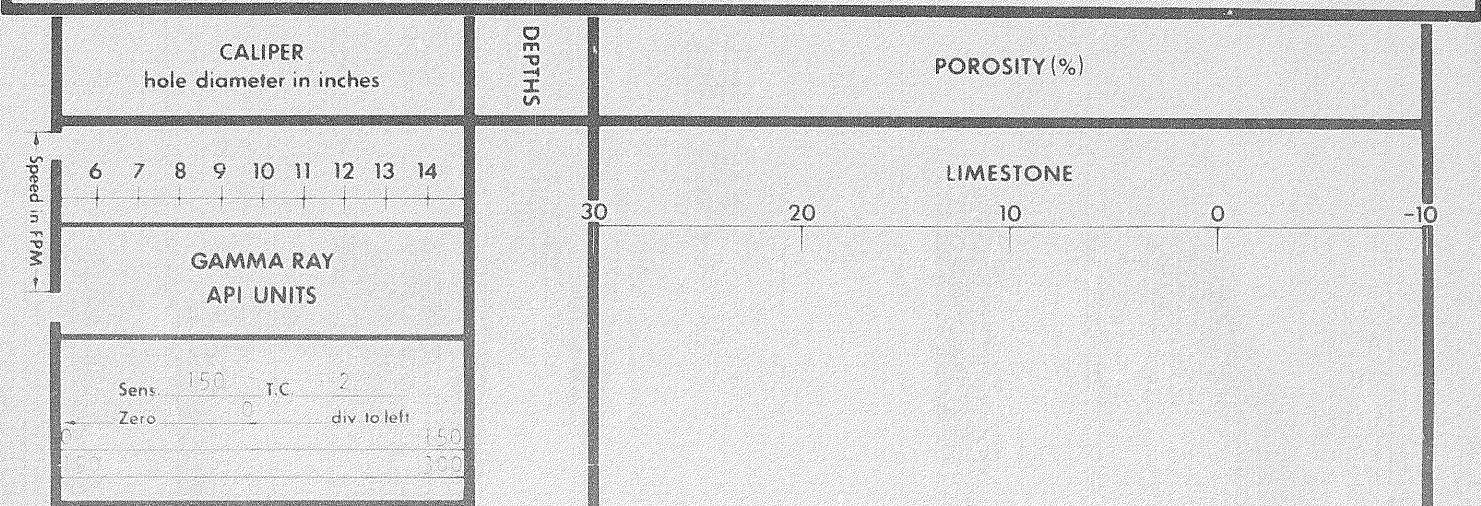
CALIBRATION: Gamma Ray 6200' - 12'

Background CPS	Test Source CPS	Galv. Deflection	Sens. Tap	Drawer In - CPS	Drawer Out - CPS
				Before	
				After	

Panel Settings: Function Former Temp. Comp. Setting T.C. Mud Wt./Salinity Comp. set as per recorded value

	from	to	Neutron Auxiliary Cal. - CPS
	from	to	Before
	from	to	After

This interpretation represents our best judgment. Nevertheless since all interpretations are opinions based solely on inferences from electrical or other measurements, we cannot and do not guarantee the accuracy or correctness of any interpretation and shall not be liable or responsible for any loss, cost, damages, or expenses that may be incurred or sustained resulting from this or any other interpretation.



Speed in FPM →

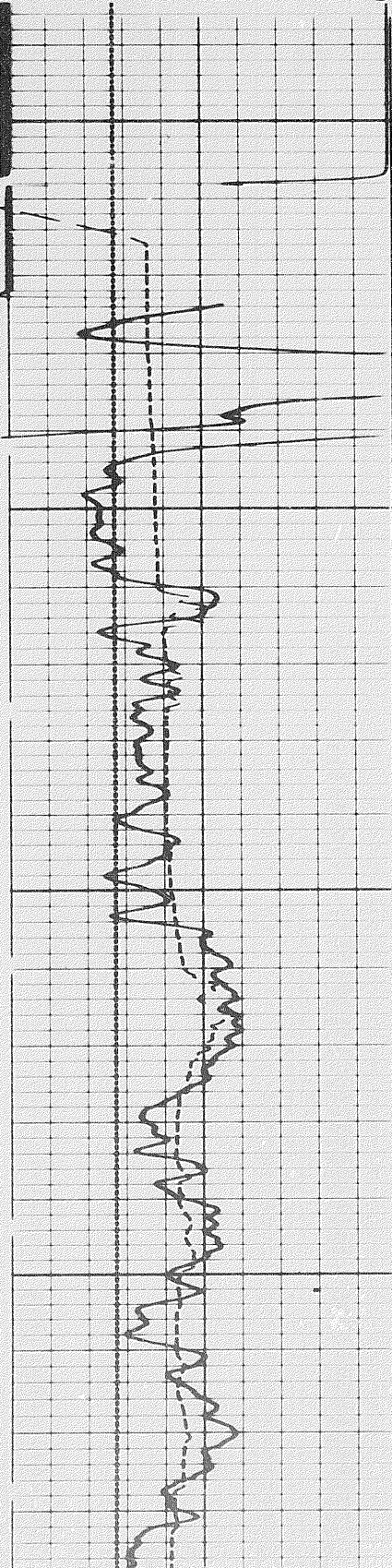
6 7 8 9 10 11 12 13 14

GAMMA RAY API UNITS

Sens. 150 T.C. 2
Zero 0 div. to left

150 300

CALIPER RECORDED 0.5" DEEP

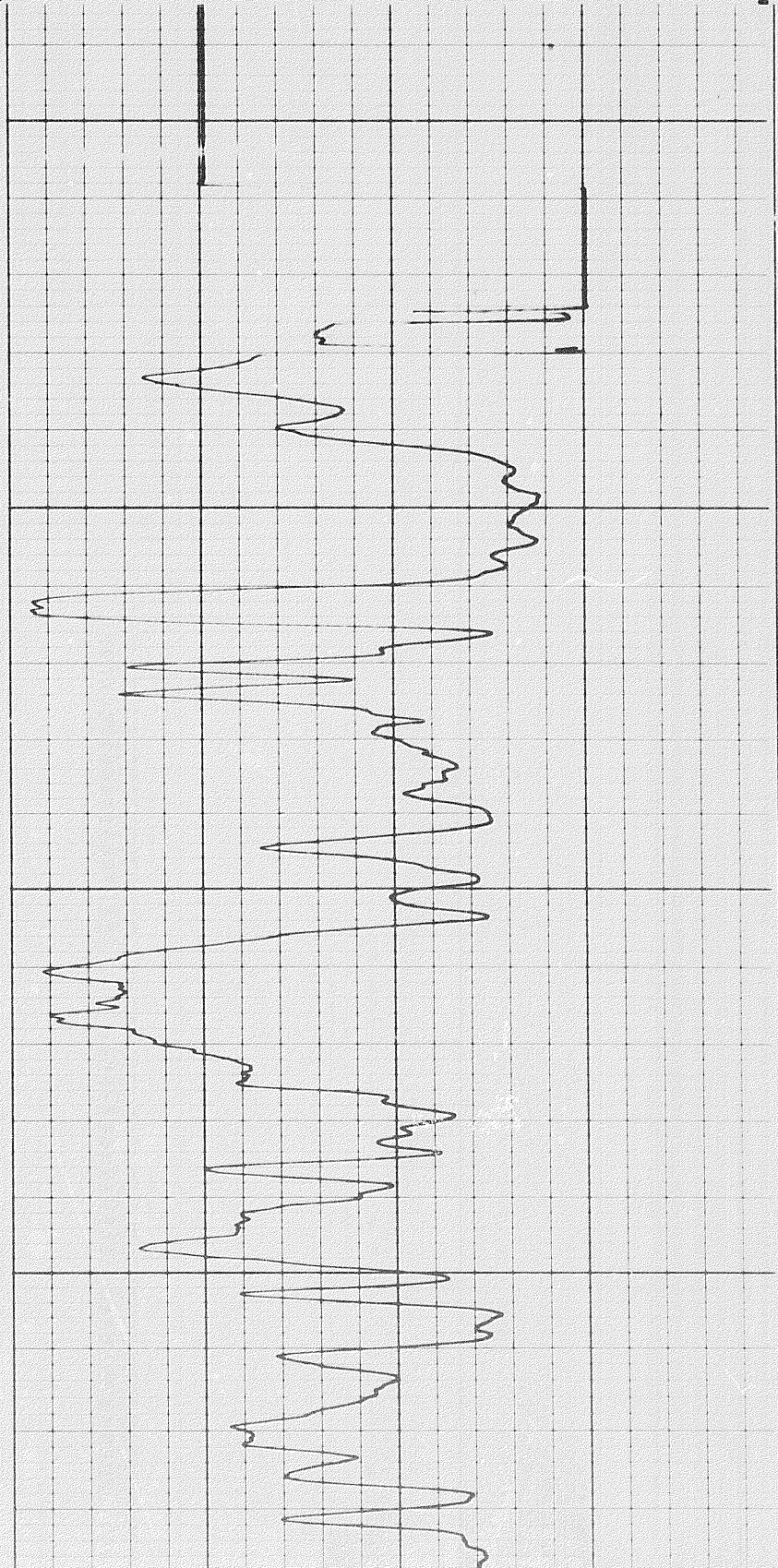


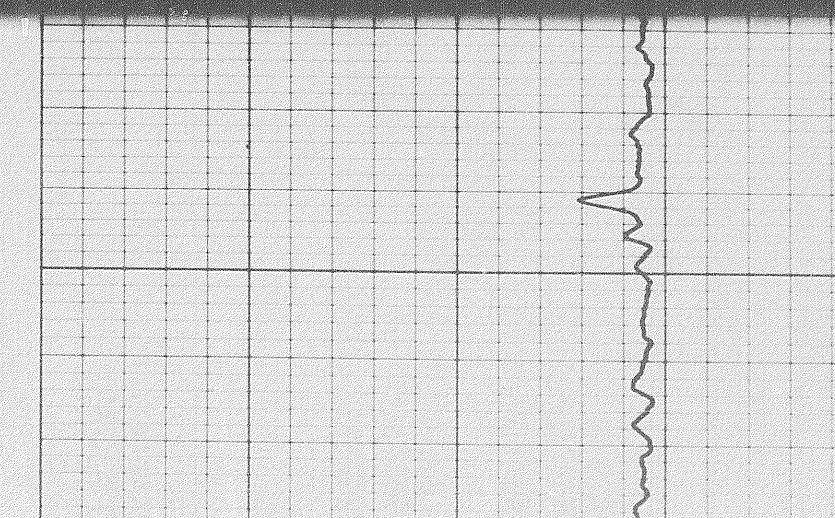
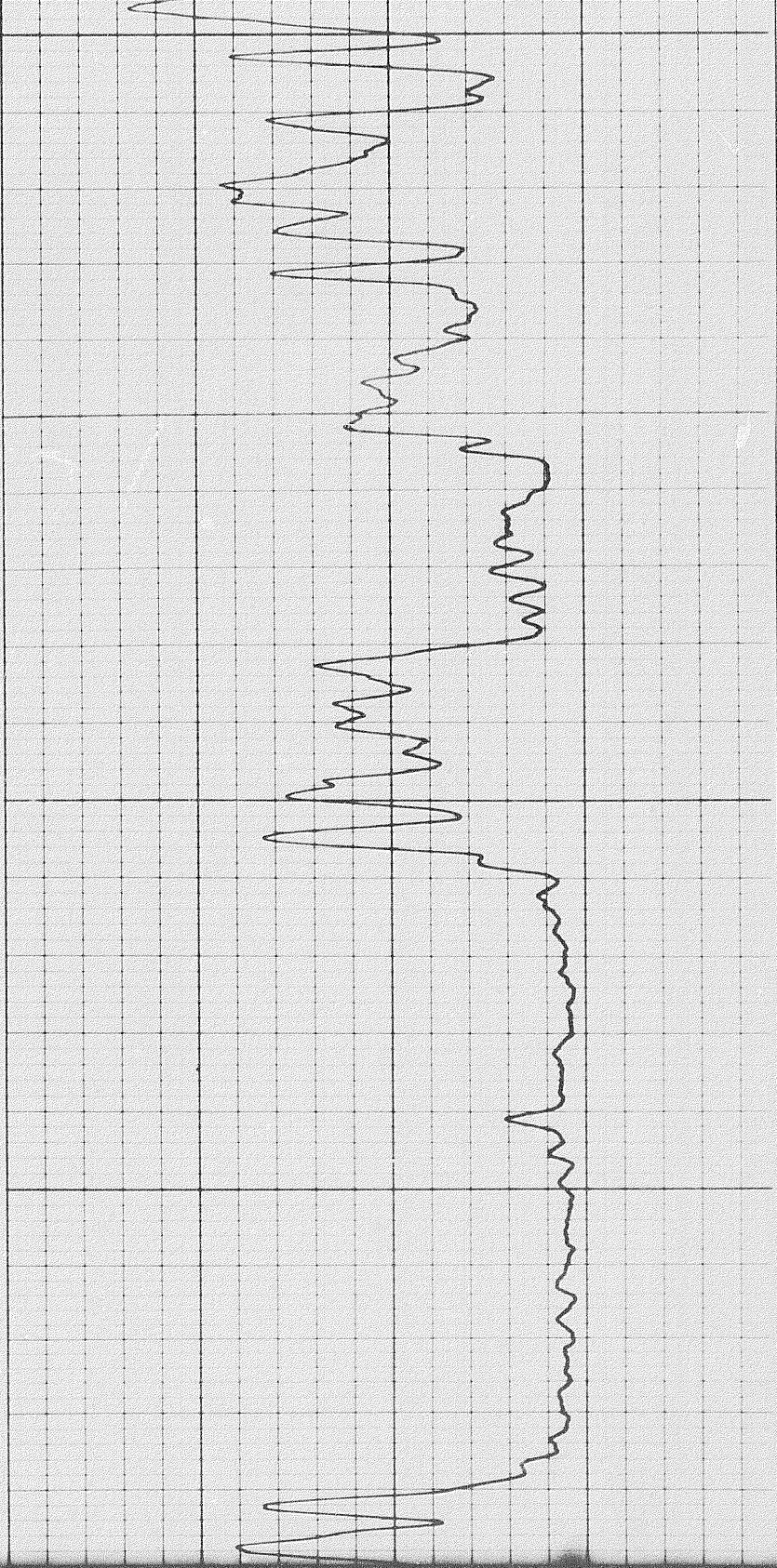
30 20 10 0 -10

LIMESTONE

5500

5600

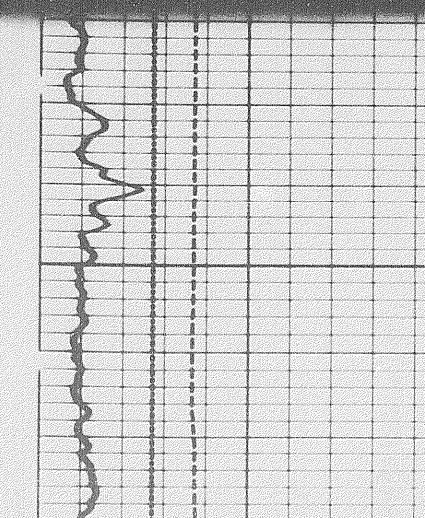
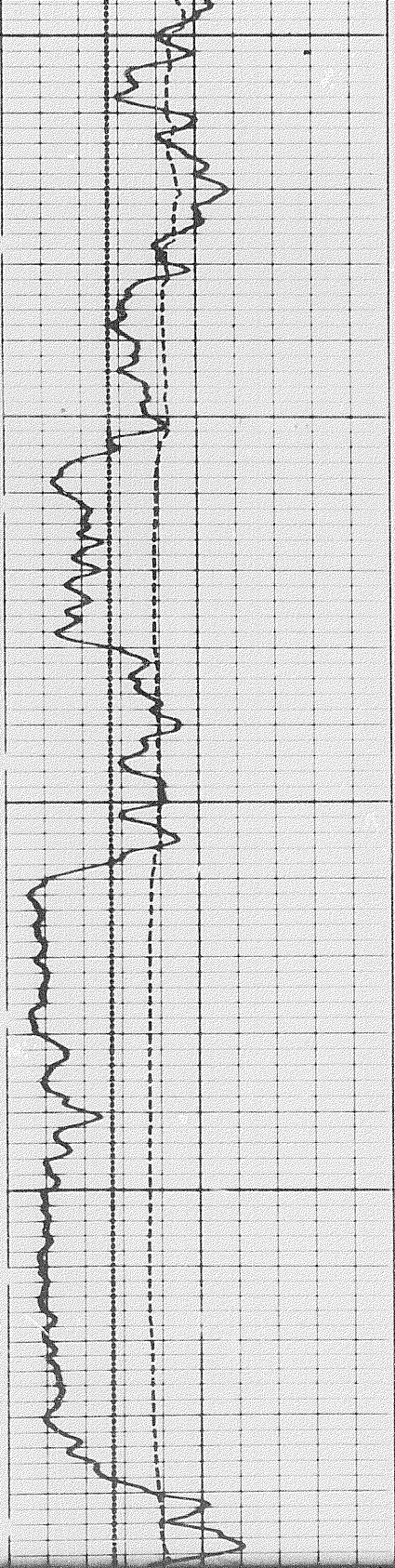




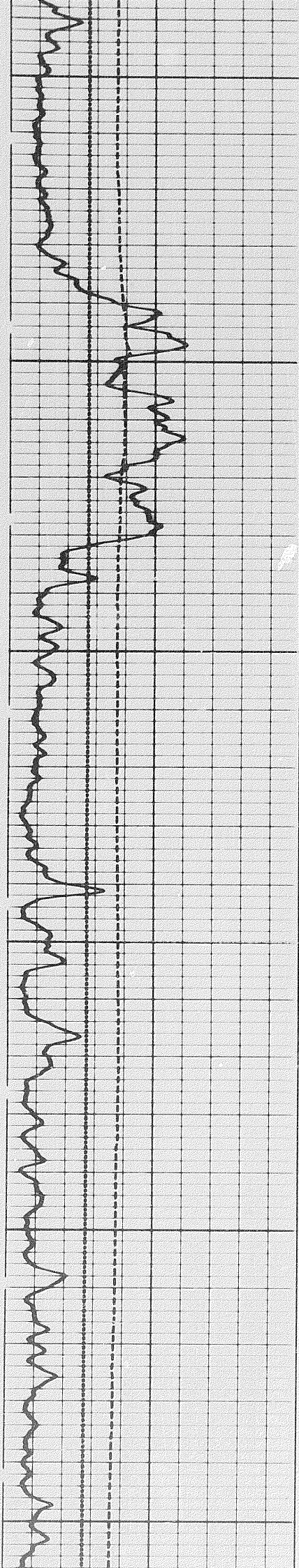
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5700

58



706

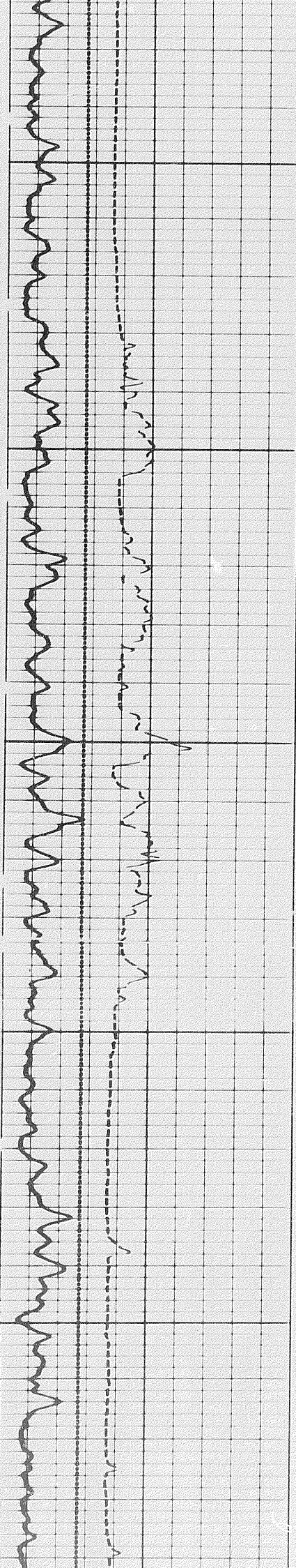


6000

5900

5800

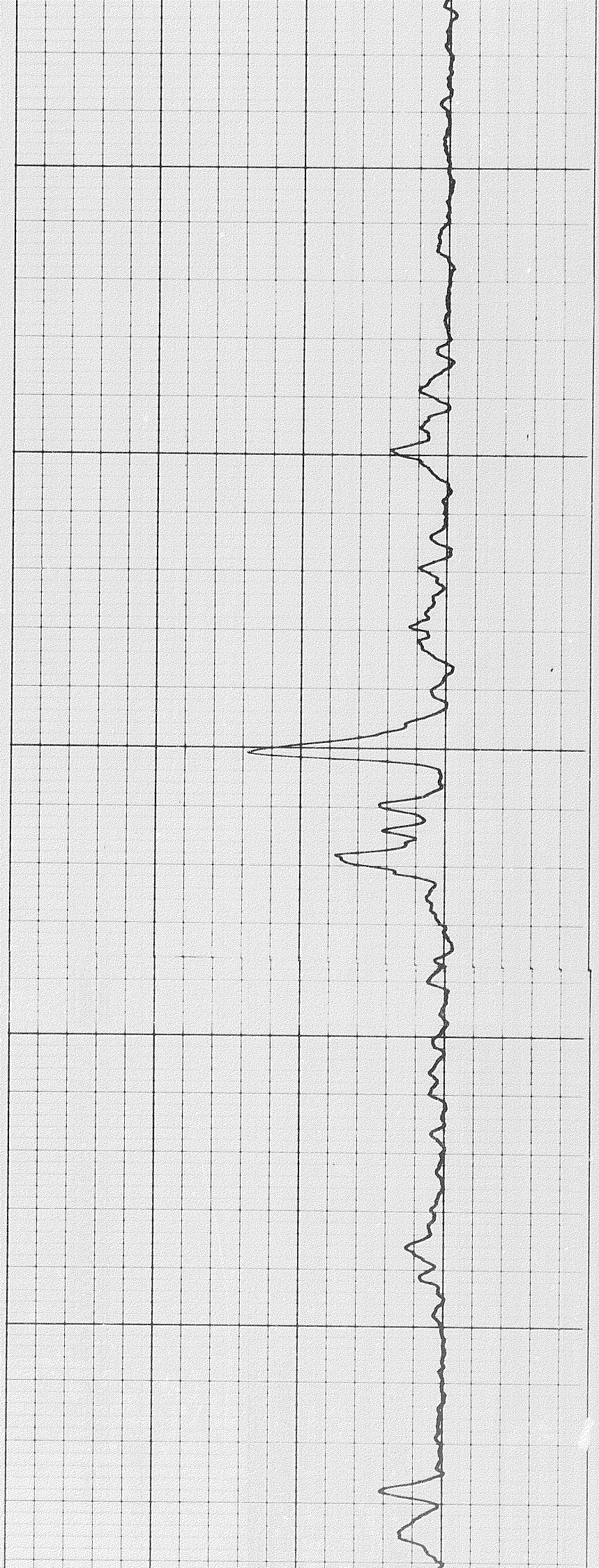


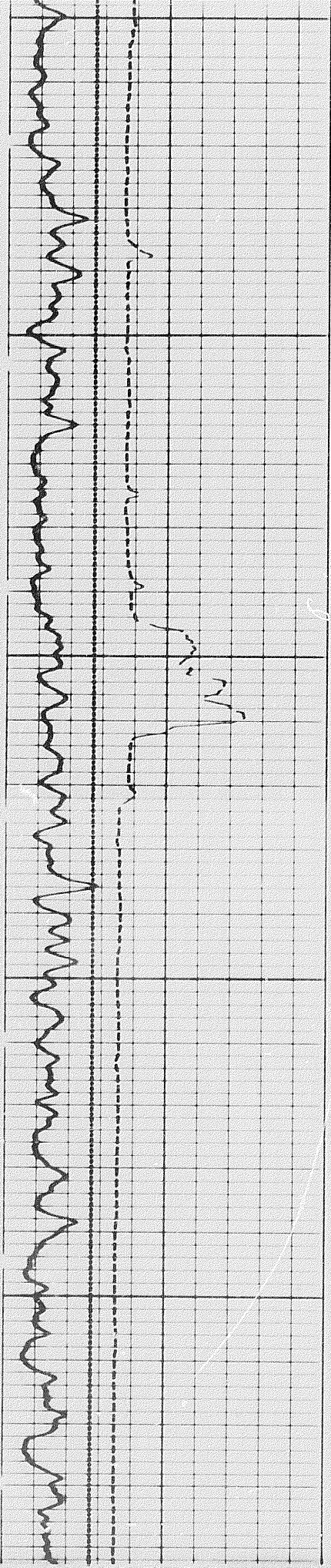


6000

6100

6200



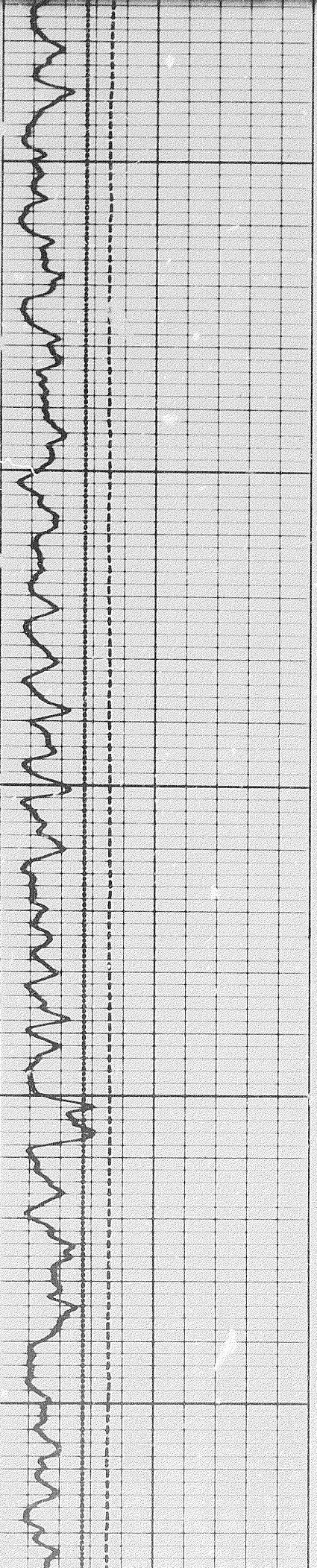


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6300

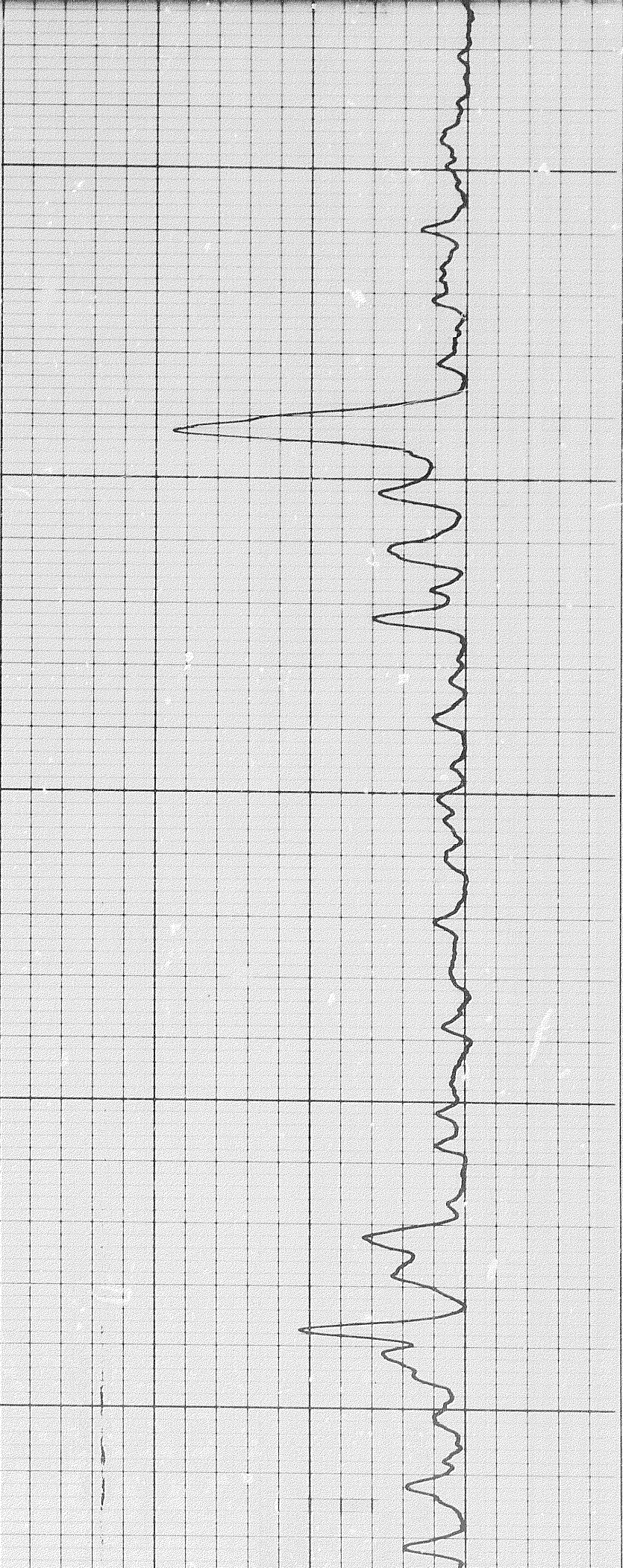


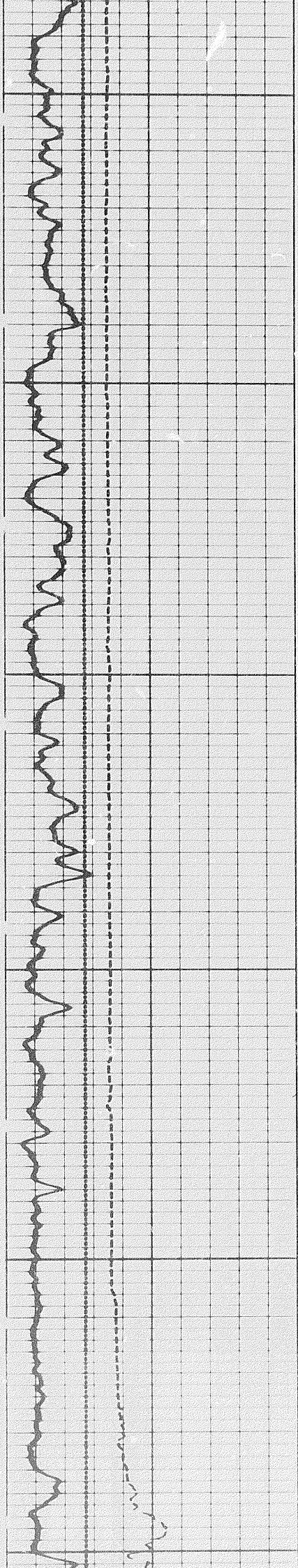
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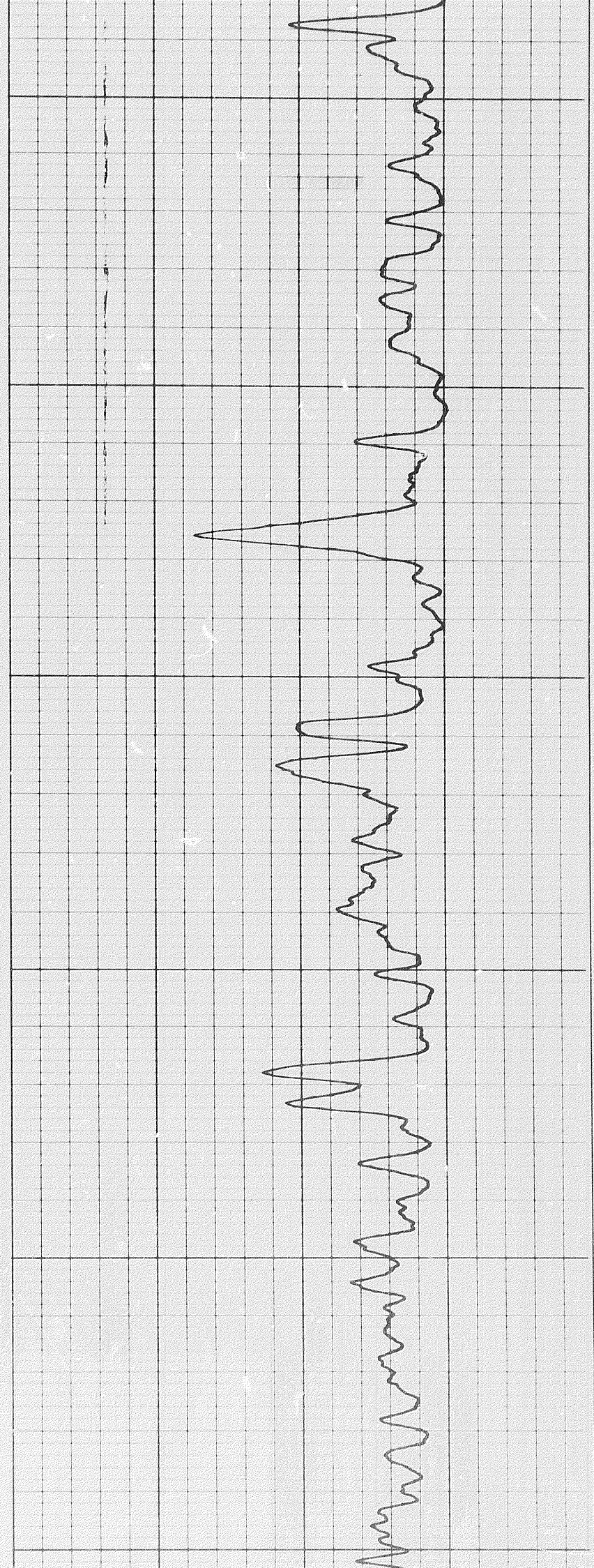


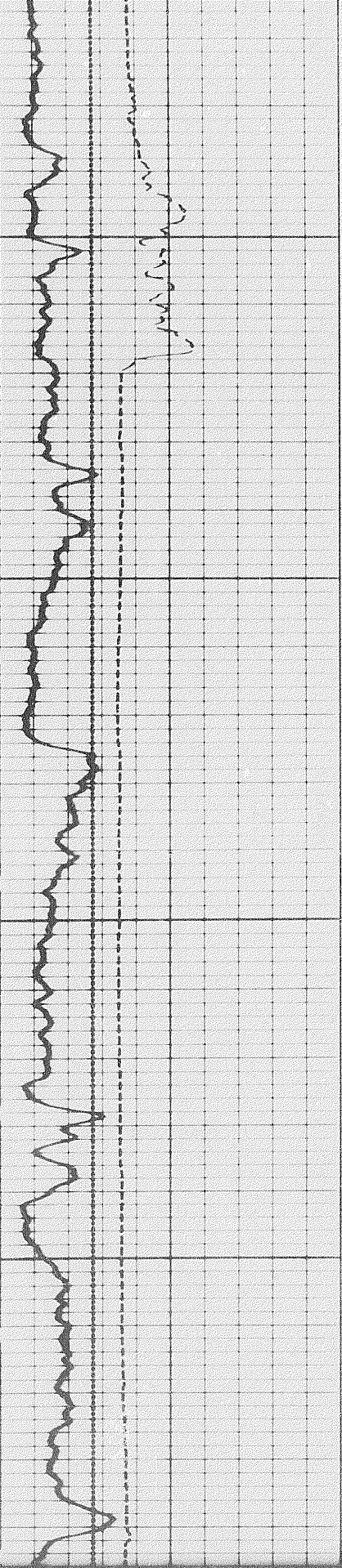


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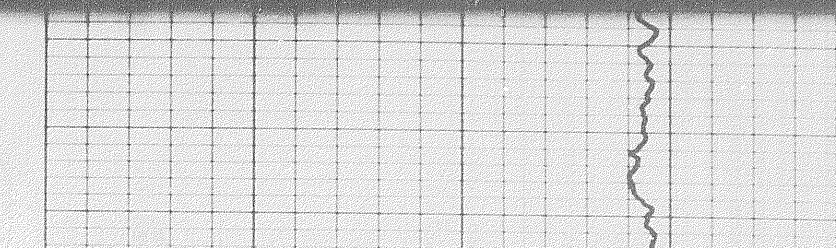
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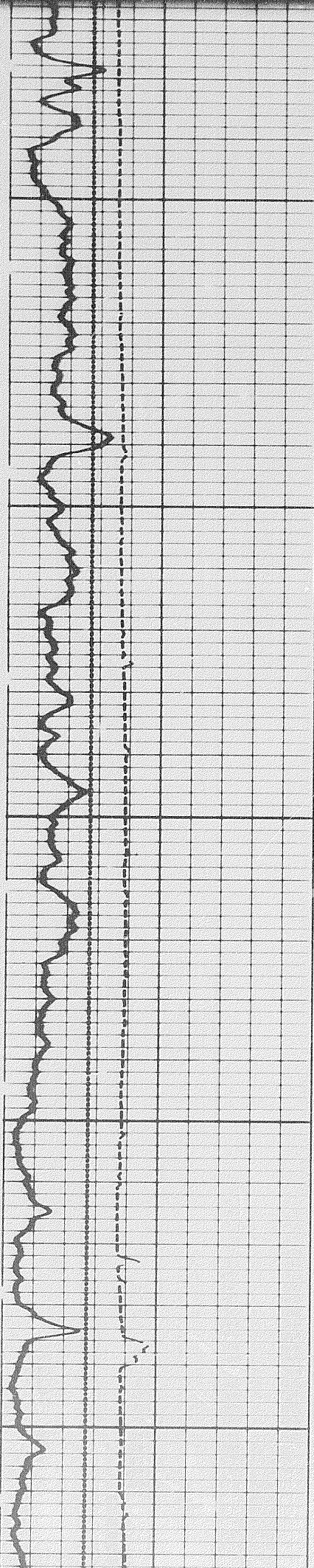


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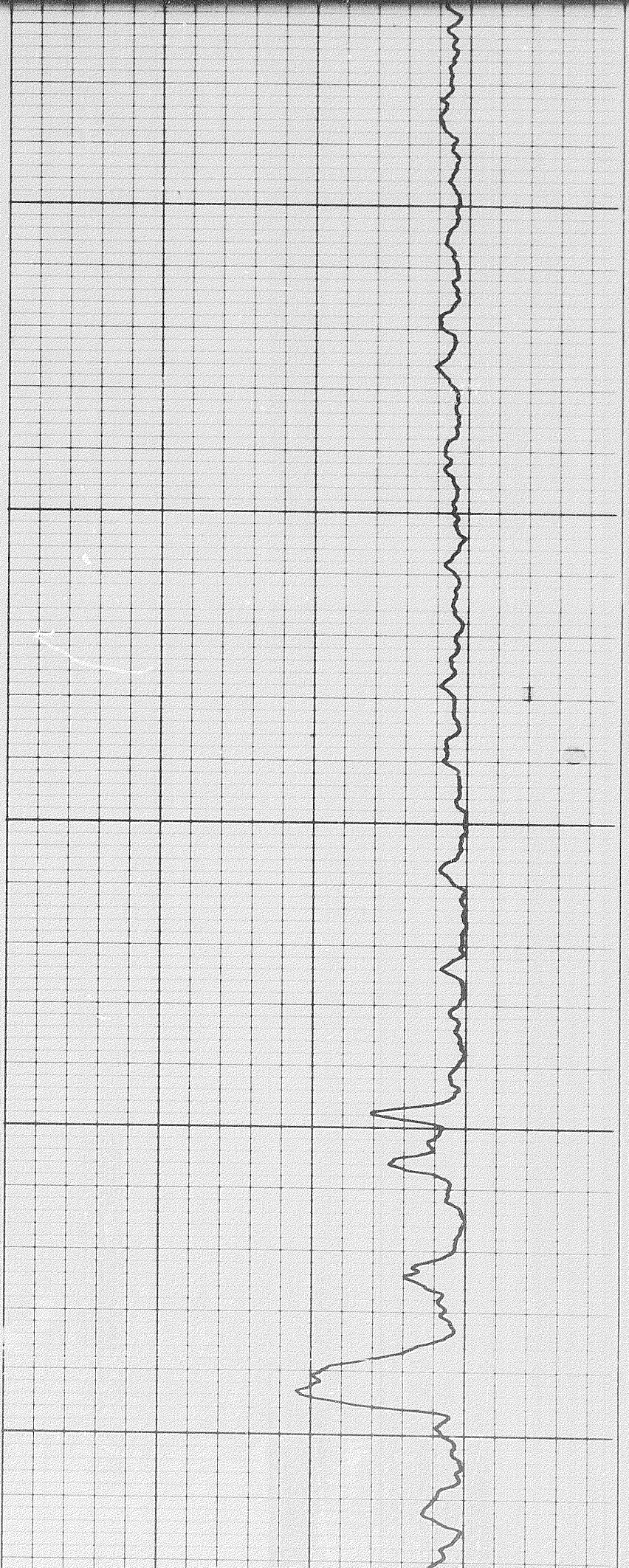


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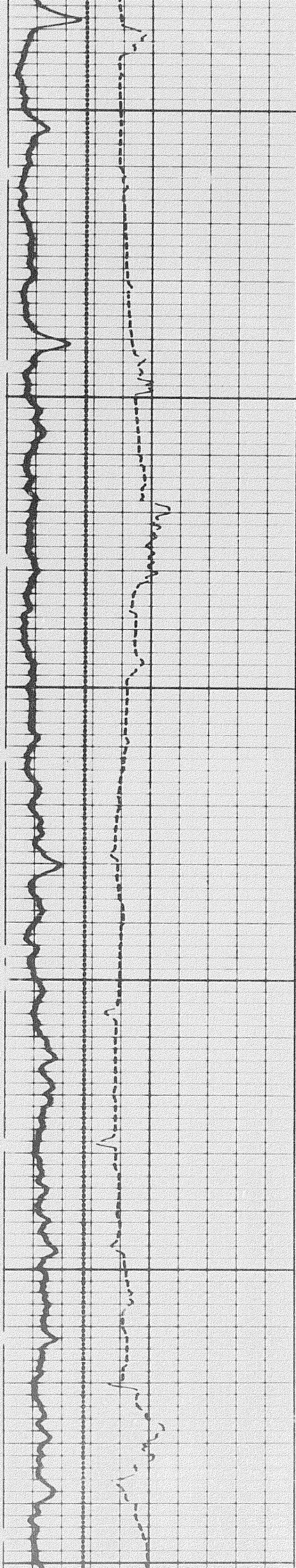


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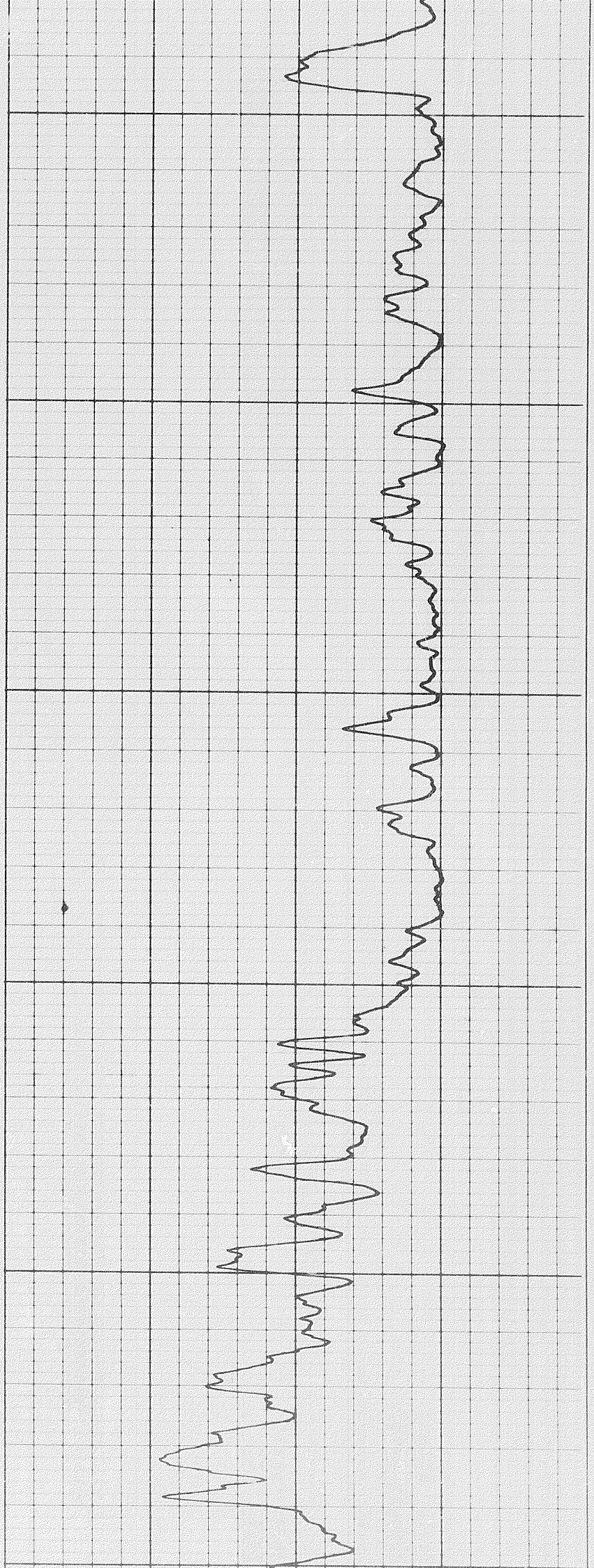
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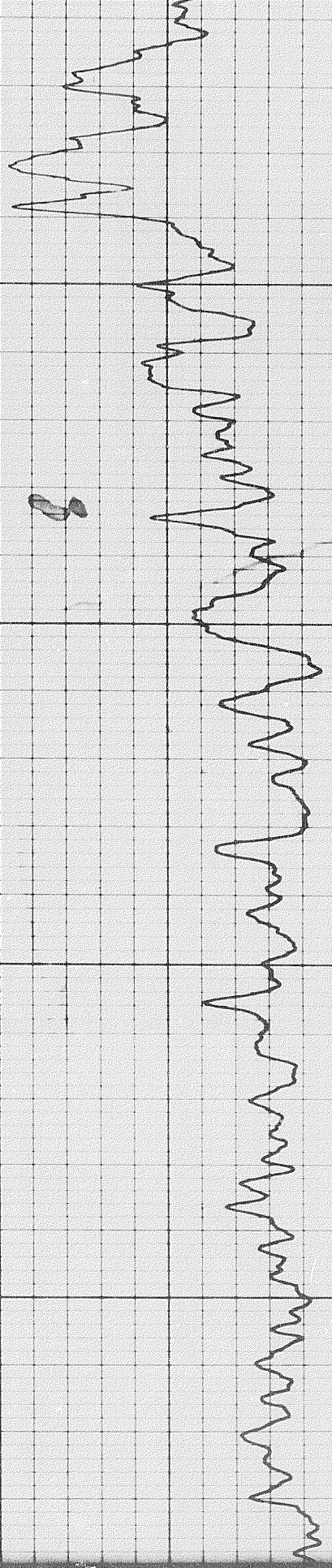


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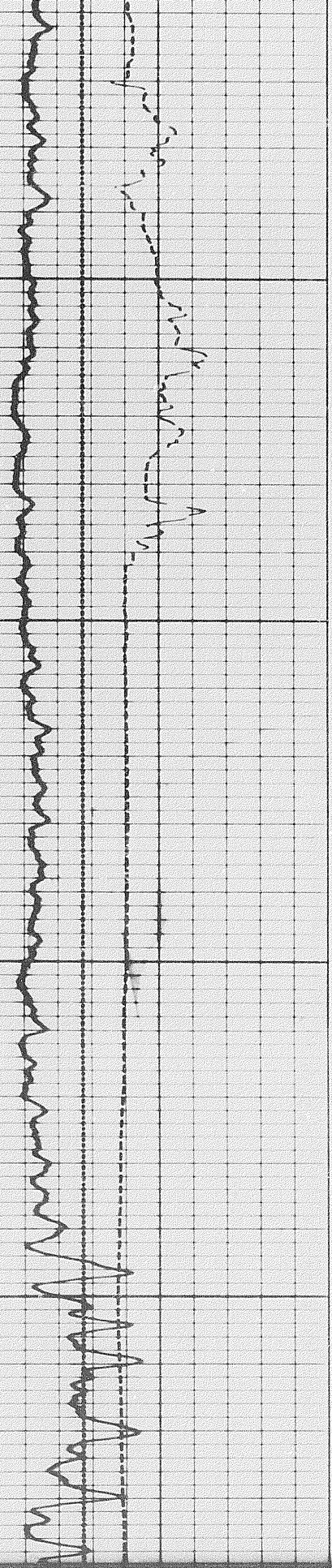
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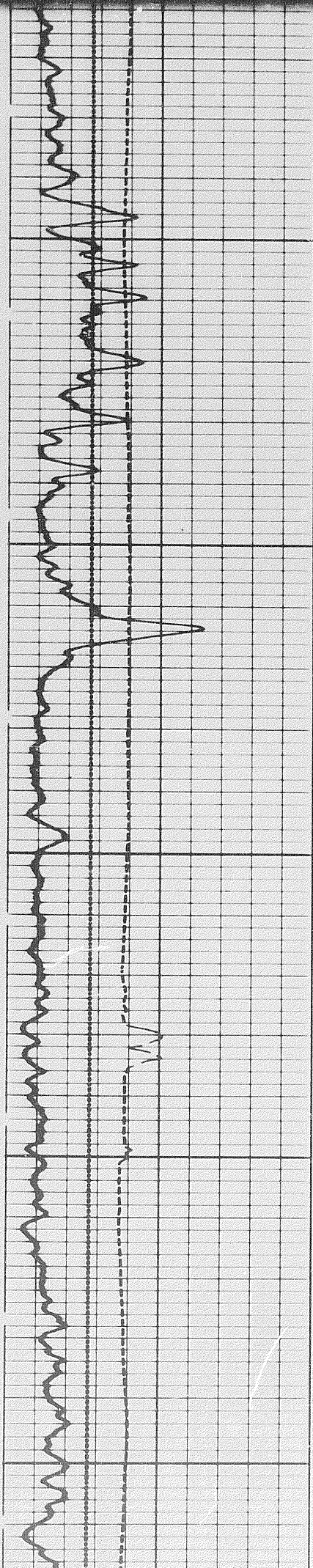


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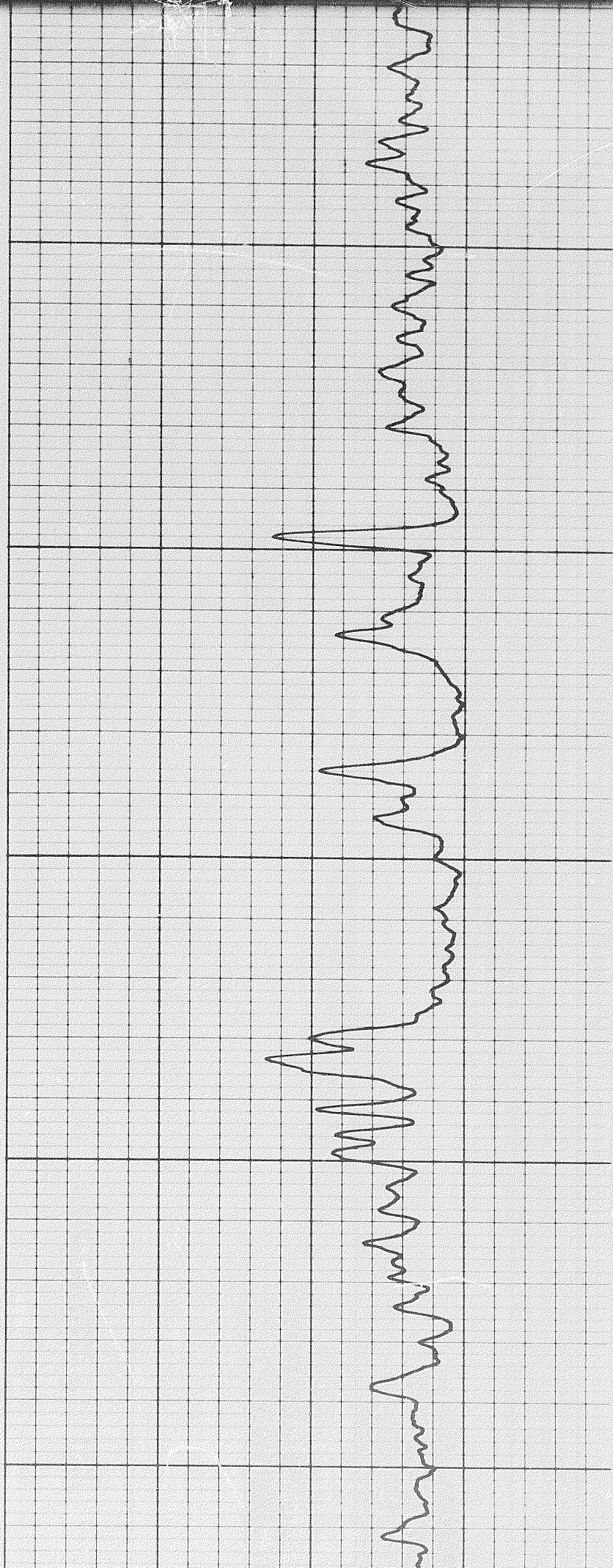


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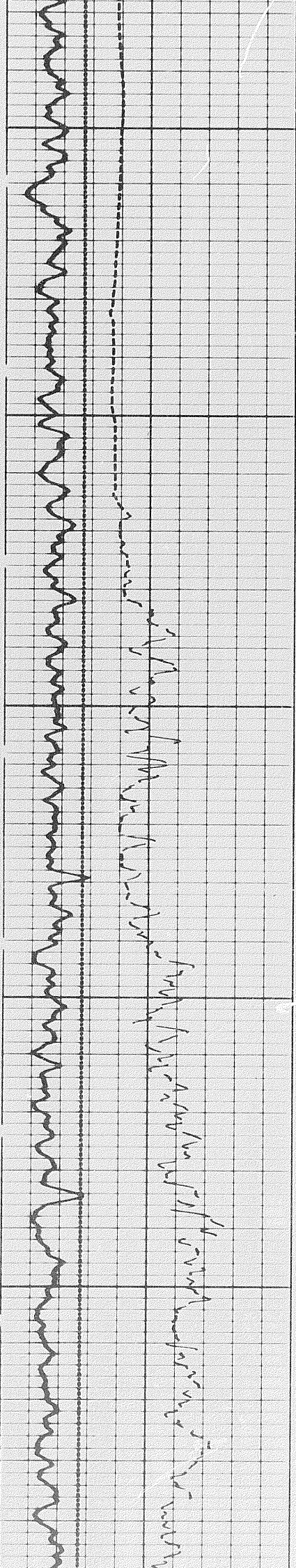


7600

7700



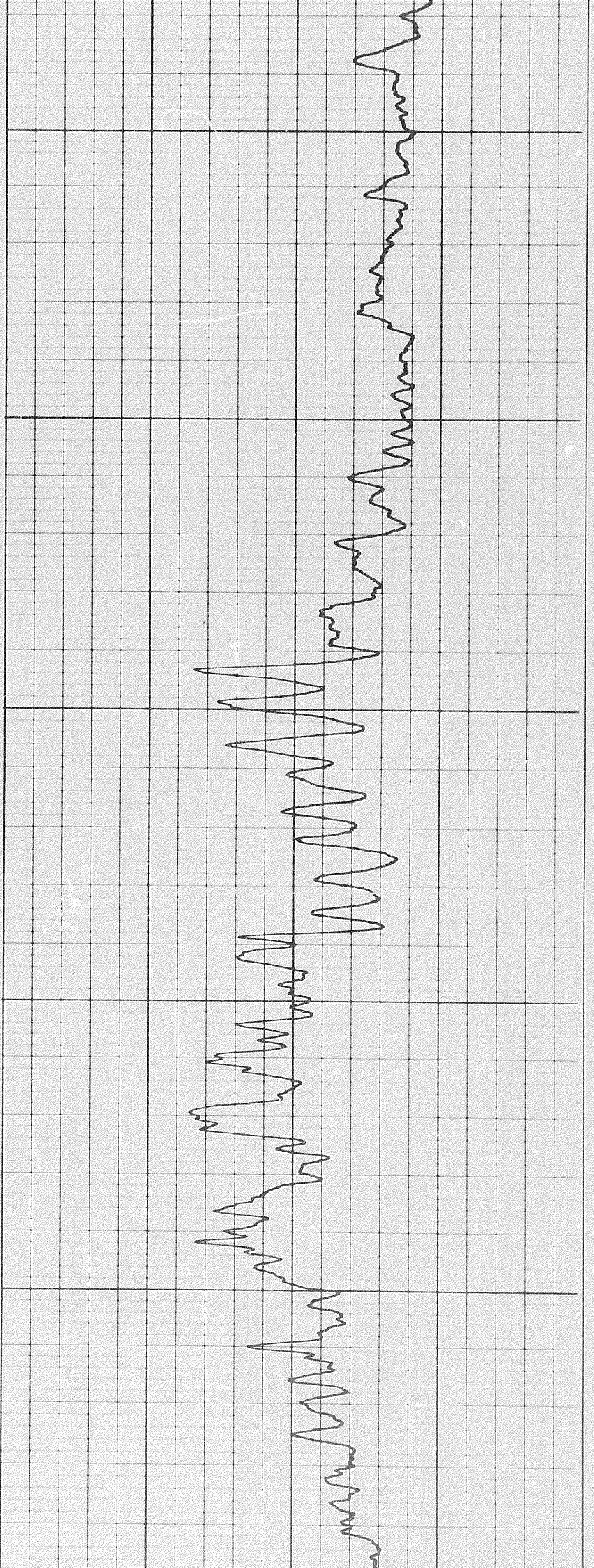
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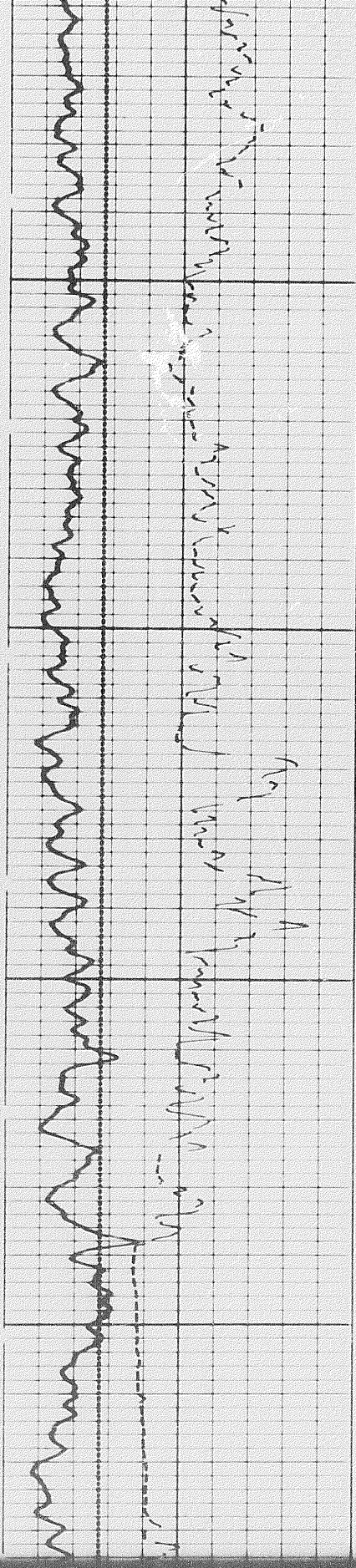


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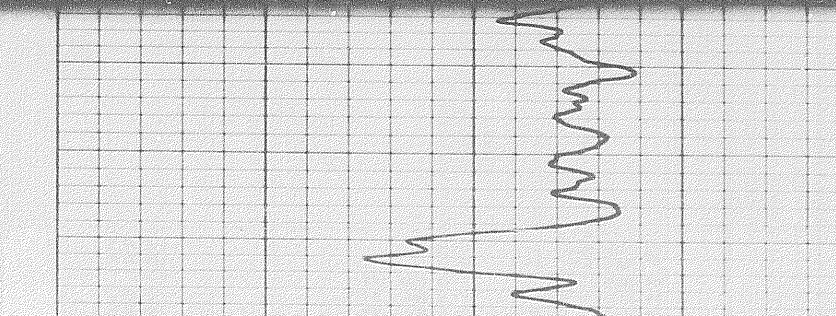
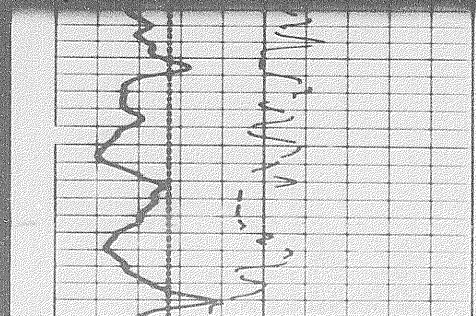
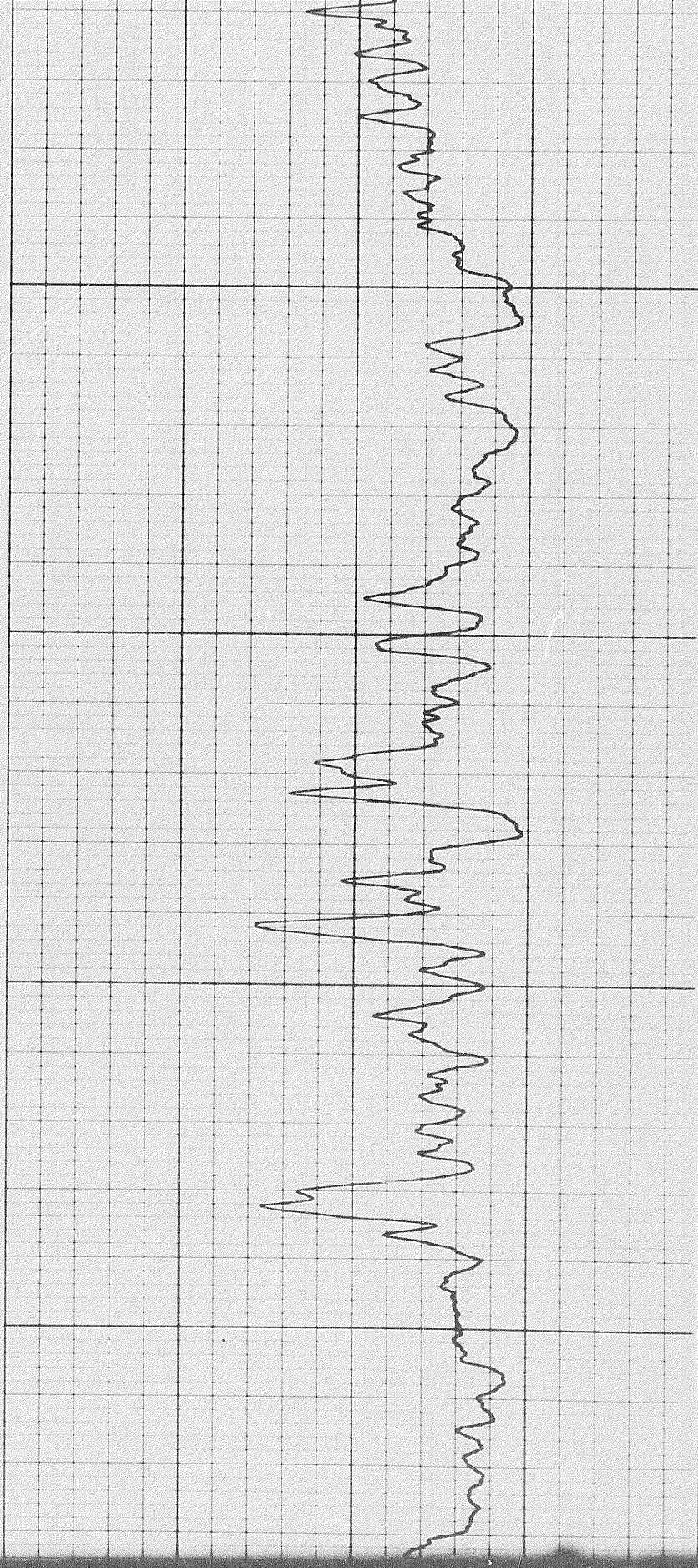
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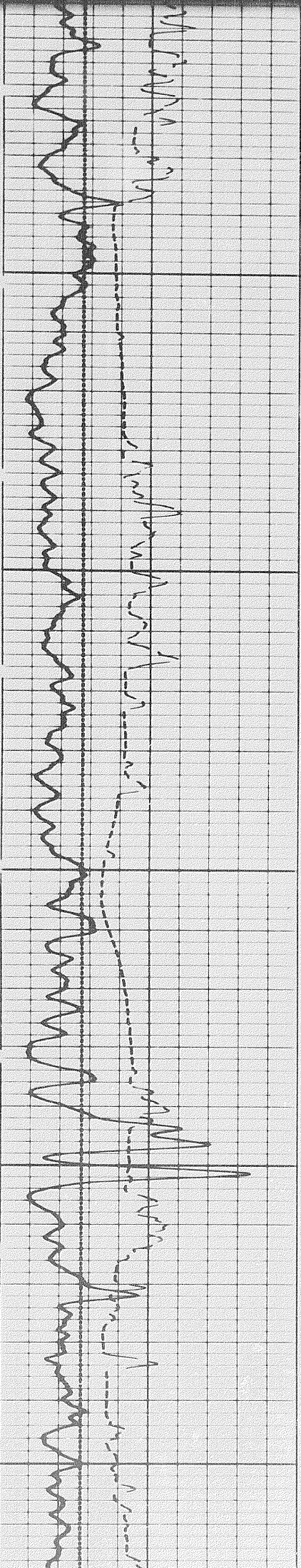


0008

0018

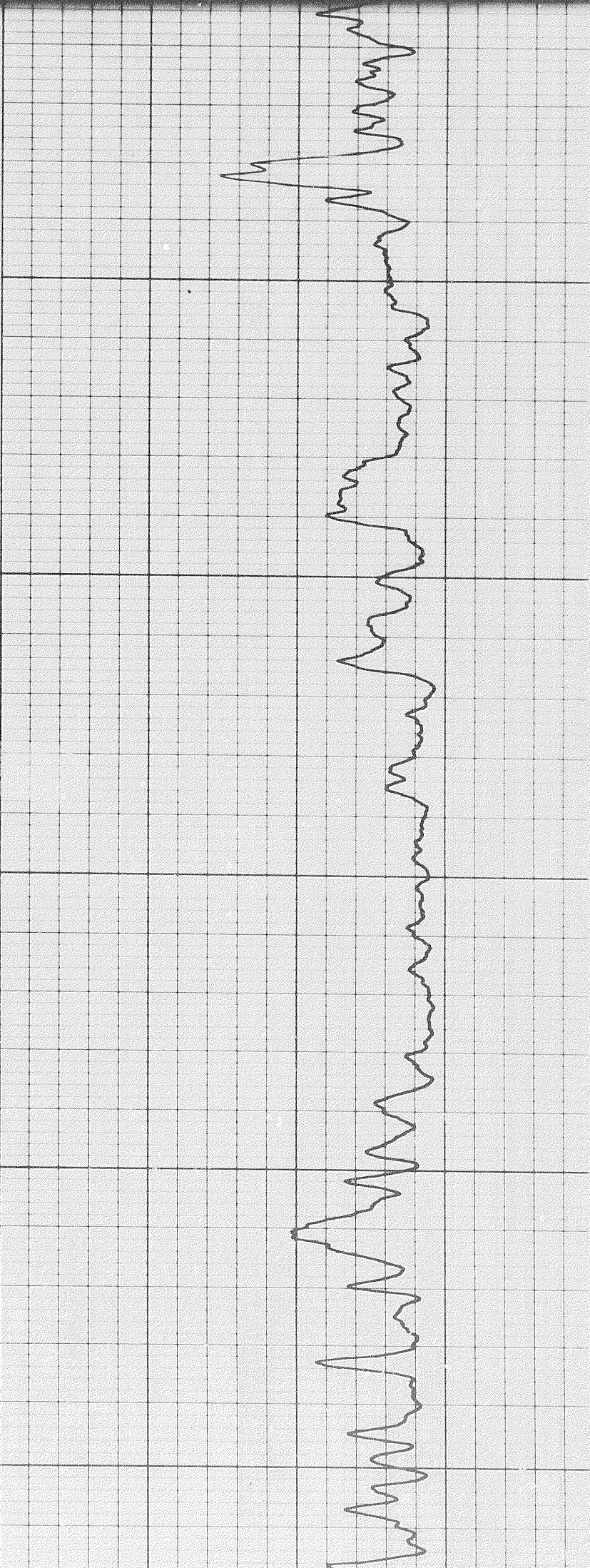


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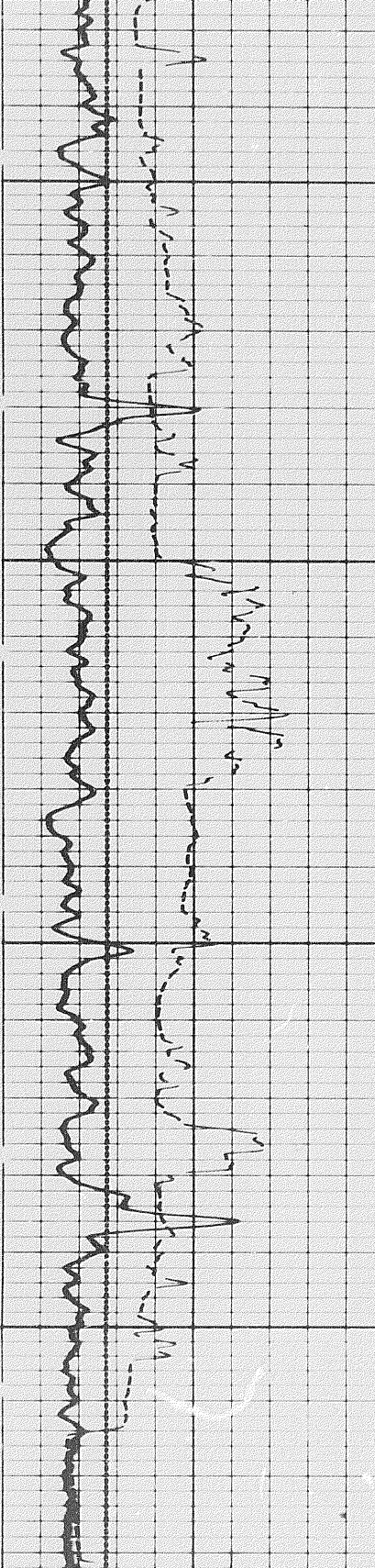


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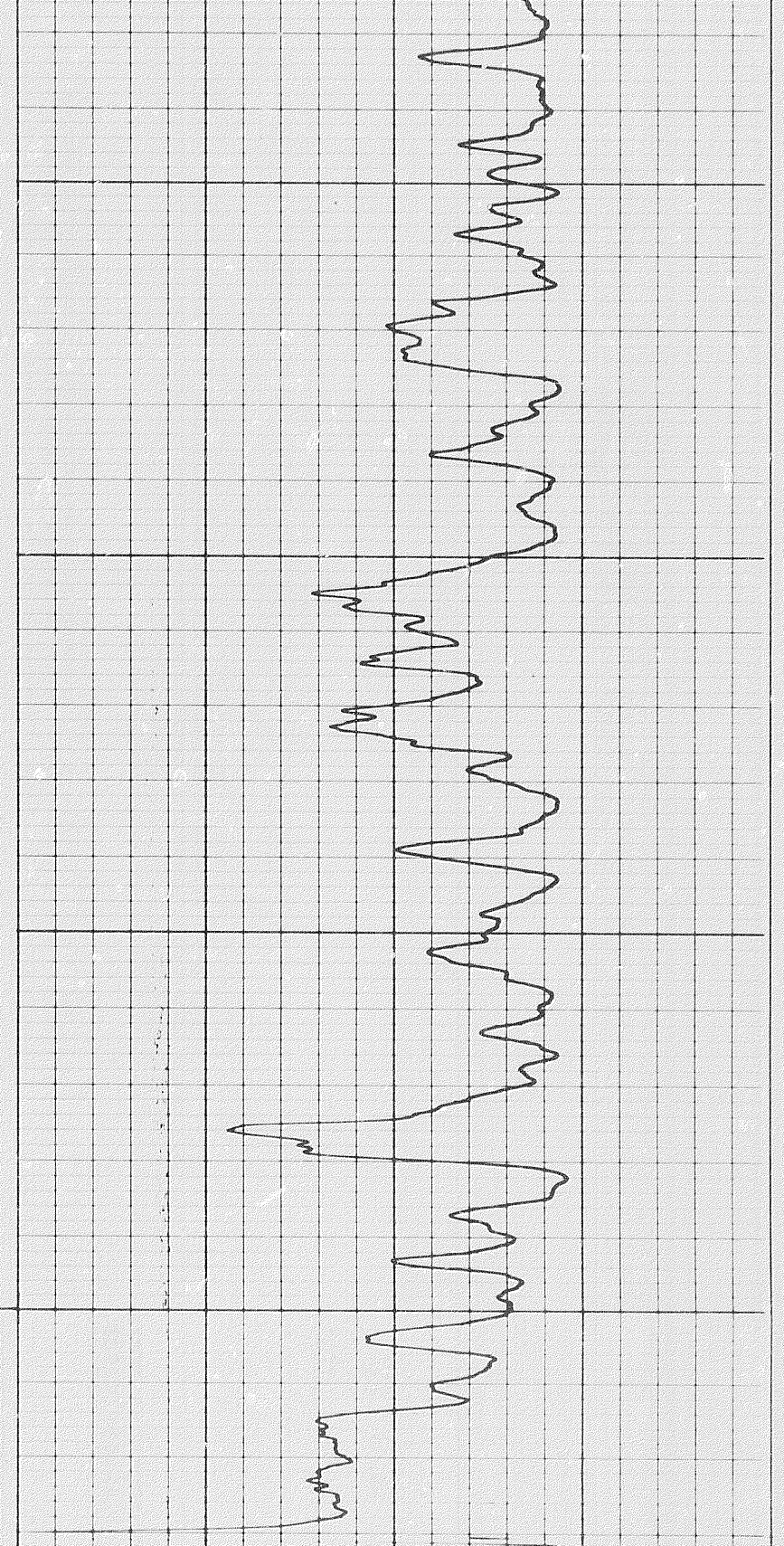
8300



of



FR 8500
8400



Sens	150	T.C.	2
Zero	0	div. to left	
0		150	
150		300	

GAMMA RAY
API UNITS

Speed in Feet

6 7 8 9 10 11 12 13 14 30 20 10 0 -10

Sens 150 T.C. 2
Zero 0 div. to left

150 300

GAMMA RAY
API UNITS

6 7 8 9 10 11 12 13 14

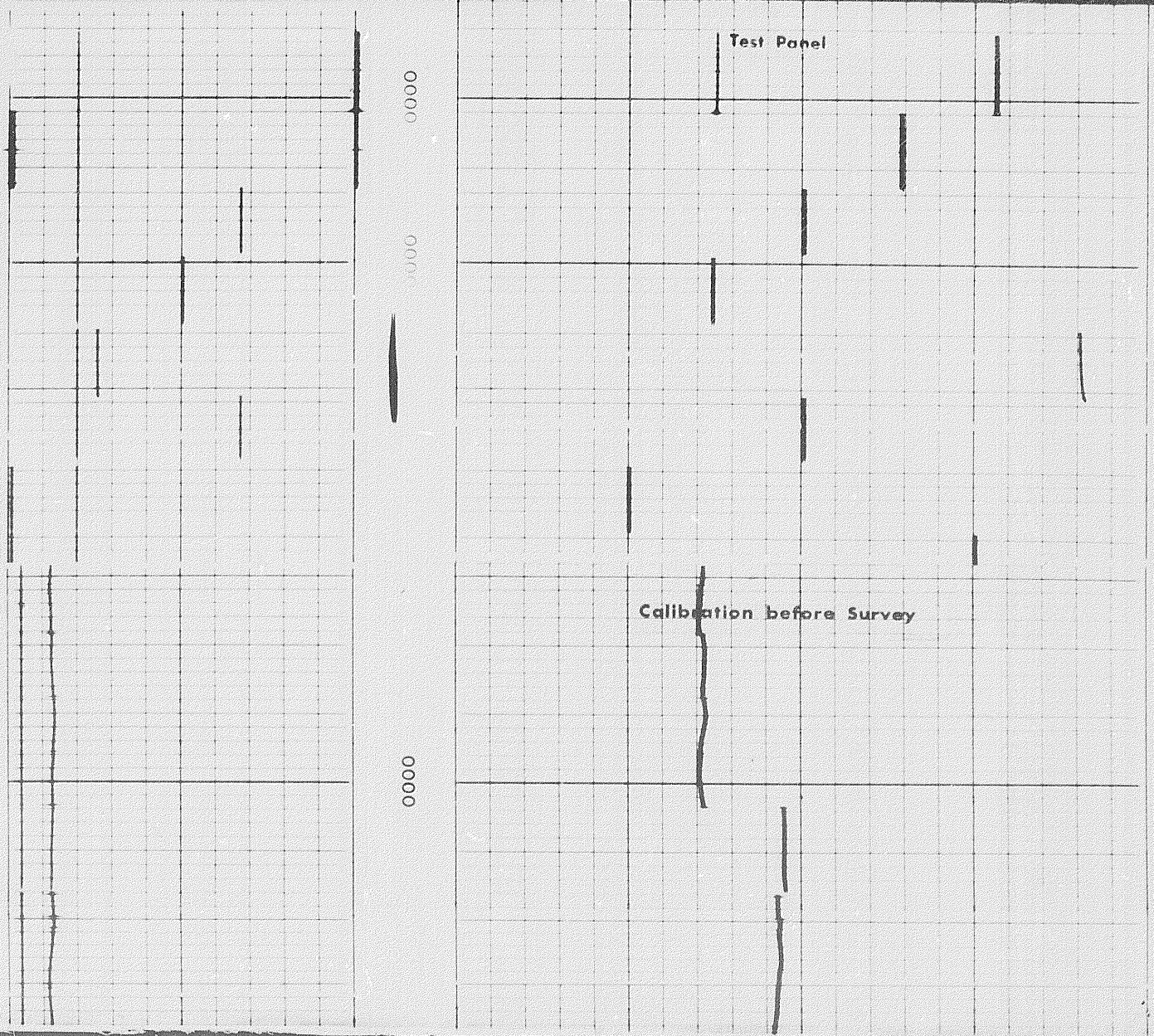
Speed in FPM

30 20 10 0 -10
LIMESTONE

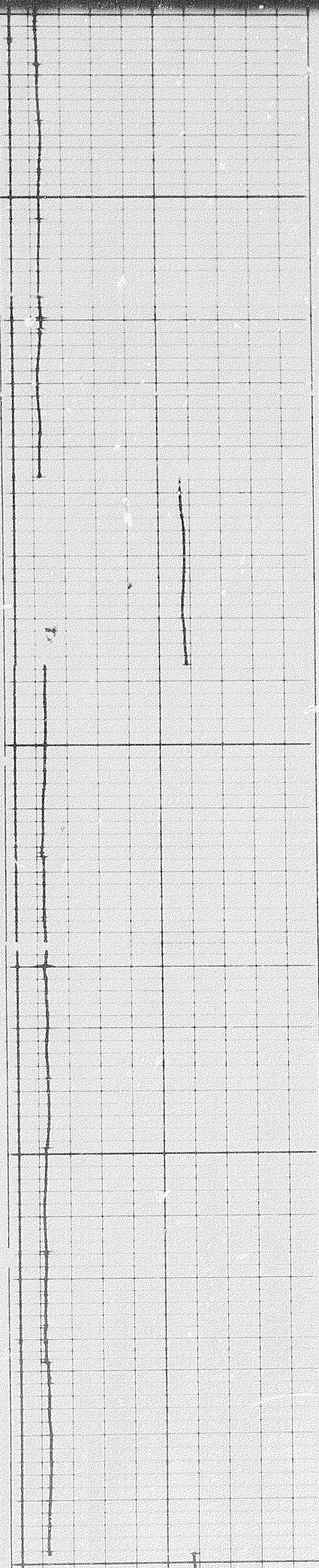
CALIPER
hole diameter in inches

DEPTH

POROSITY (%)



707



0000

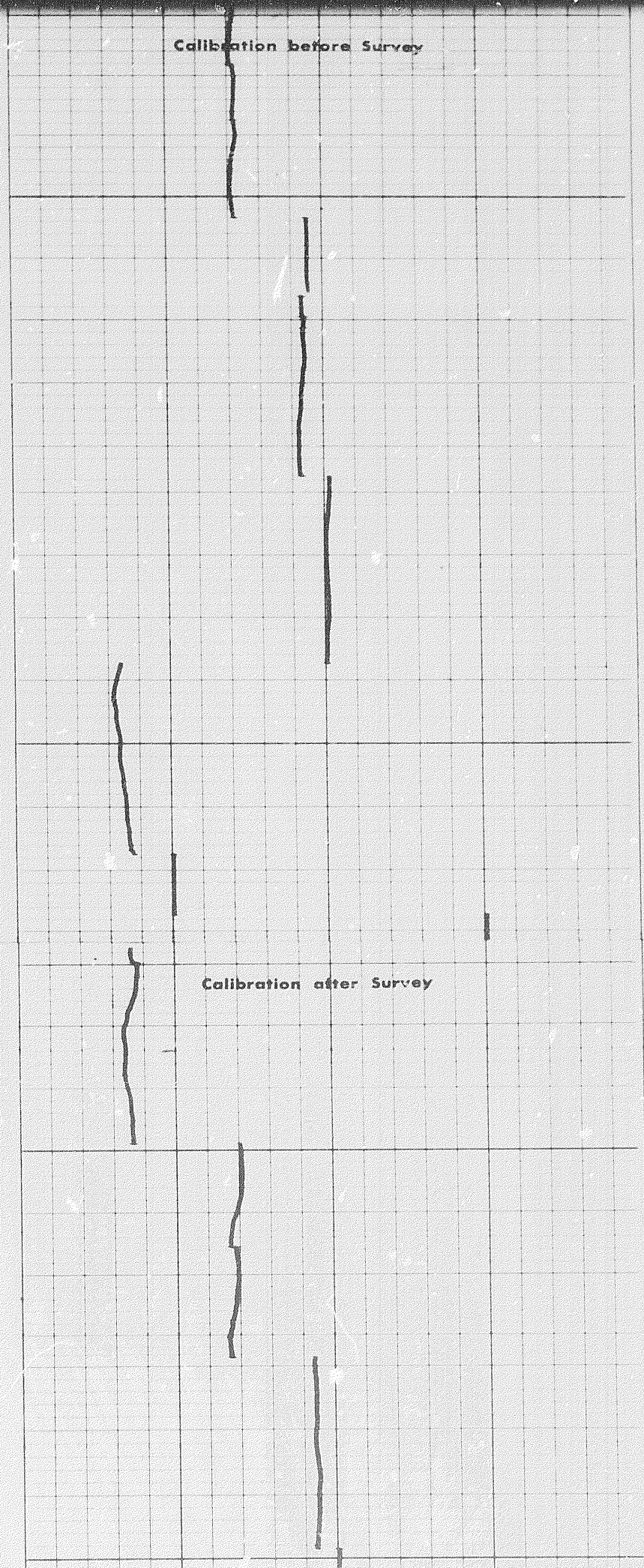
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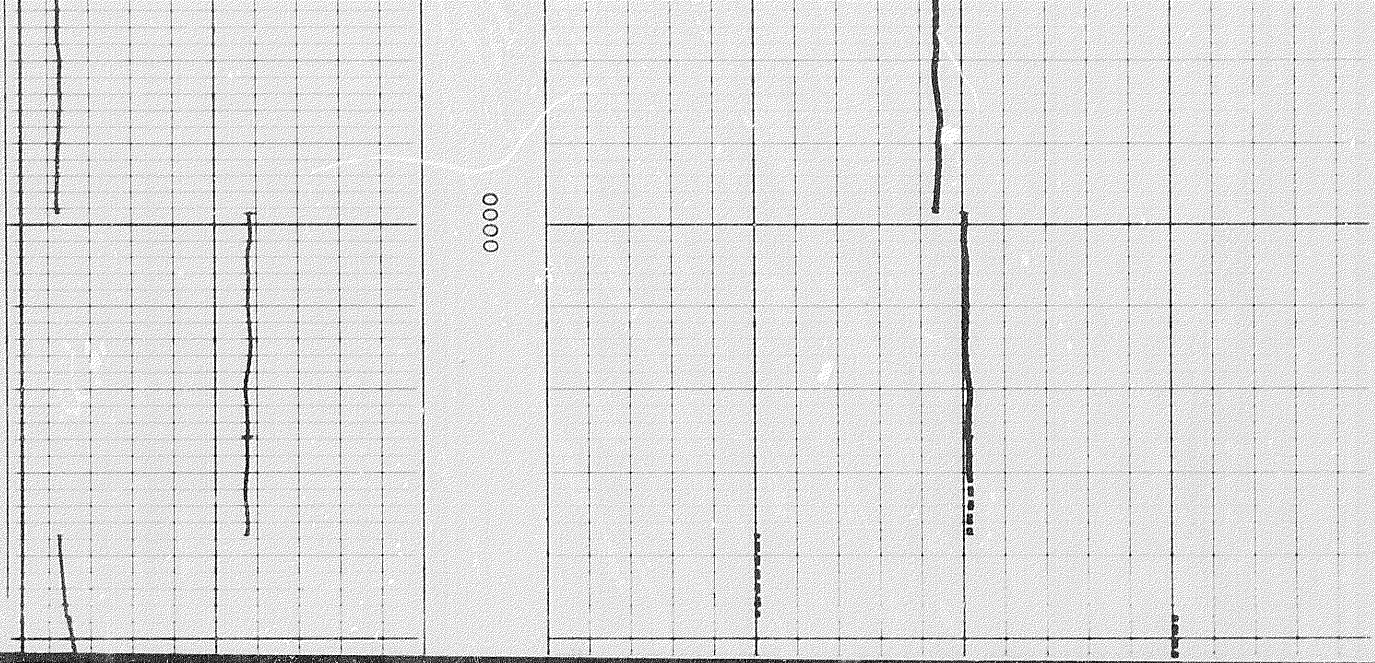
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Calibration before Survey

Calibration after Survey

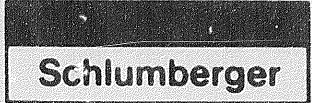




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WELL SKELLY GETTY MOBIL ARCTIC RED YT C-60

FIELD WILDCAT PROVINCE YUKON TERRITORIES



PURPOSE

The porosity overlay is designed to identify lithology in a matrix comprised of more than one mineral. This information makes possible a more accurate porosity determination.

METHOD

The SNP log is recorded assuming a limestone matrix, with a duplicate curve recorded twelve porosity units to the right. The duplicate curve is referred to as the "Dolomite Limit". Bulk density from the FDC log is converted to limestone porosity and is superimposed on the SNP log.

INTERPRETATION

- 1) Limestone - Dolomite
 - a) Limestone. $\Phi_{FDC} = \Phi_{SNP}$. Porosities are read directly
 - b) Dolomite $\Phi_{FDC} = \Phi_{SNP} - 12$. SNP curve readings are converted to porosity using the dolomite scaler.
 - c) Limestone - Dolomite matrix. $\Phi_{LIM} > \Phi_{FDC} > \Phi_{SNP} - 12$. Percentage of dolomite is interpolated from the relative displacement of Φ_{FDC} from the Φ_{SNP} line toward the dolomite limit line. Porosity is calculated by plotting the Φ_{LIM} and the percent dolomite on the dolomite scaler.
- 2) Other minerals

When minerals other than limestone and dolomite are present, interpretation is made using chart CPL of the interpretation manual.

Minerals can be identified according to the accompanying table:

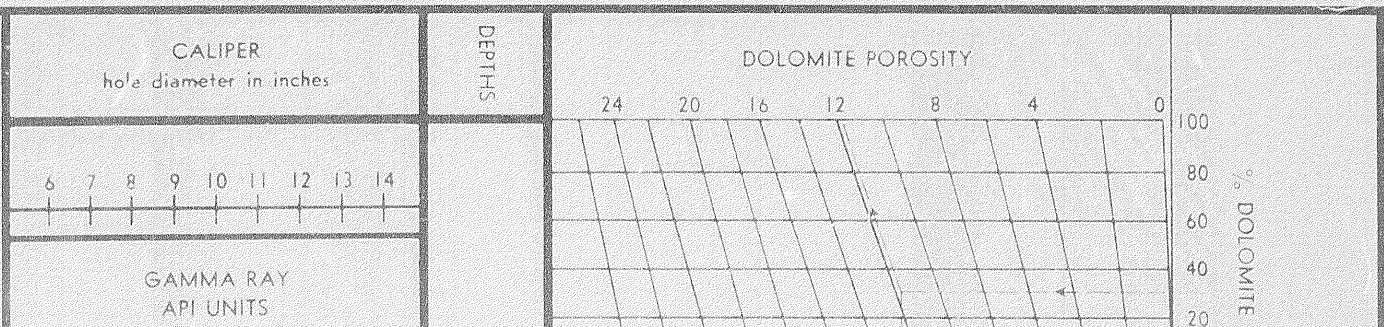
LITHOLOGY IDENTIFICATION SUMMARY

A—Liquid Filled Pores		Additional requirements		
Limestone	$\Phi_{FDC} = \Phi_{SNP}$			
Dolomite	$\Phi_{FDC} = \Phi_{SNP} - 12$			
Sand	$\Phi_{FDC} = \Phi_{SNP} + 6$			
B—No Porosity		Φ_{SNP}	Φ_{FDC}	ΔT_{LIM}
Salt	$\Phi_{FDC} = \Phi_{SNP} + 39.5$	4	43.5	67
Gypsum	$\Phi_{FDC} = \Phi_{SNP} - 28$	49	21	52.5
Anhydrite	$\Phi_{FDC} = \Phi_{SNP} - 16$	-1	-17	50
Sulphur	$\Phi_{FDC} = \Phi_{SNP} + 40$	0	40	122
Shale	$\Phi_{FDC} = \Phi_{SNP} - N$	(N is variable - confirm with gamma ray)		

COLOR LEGEND

- Sand
- Shale
- Limestone
- Dolomite
- Anhydrite
- Salt

Remarks:



CALIPER
hole diameter in inches

6 7 8 9 10 11 12 13 14

GAMMA RAY
API UNITS

Sens. _____ T.C. _____
Zero _____ div. to left

DEPTHS

DOLOMITE POROSITY

24 20 16 12 8 4 0

100

% DOLOMITE

80

60

40

20

0

MUD CAKE
THICKNESS
(INCHES)

24 20 16 12 8 4 0

CORRECTED LIMESTONE POROSITY

30

25

20

15

10

5

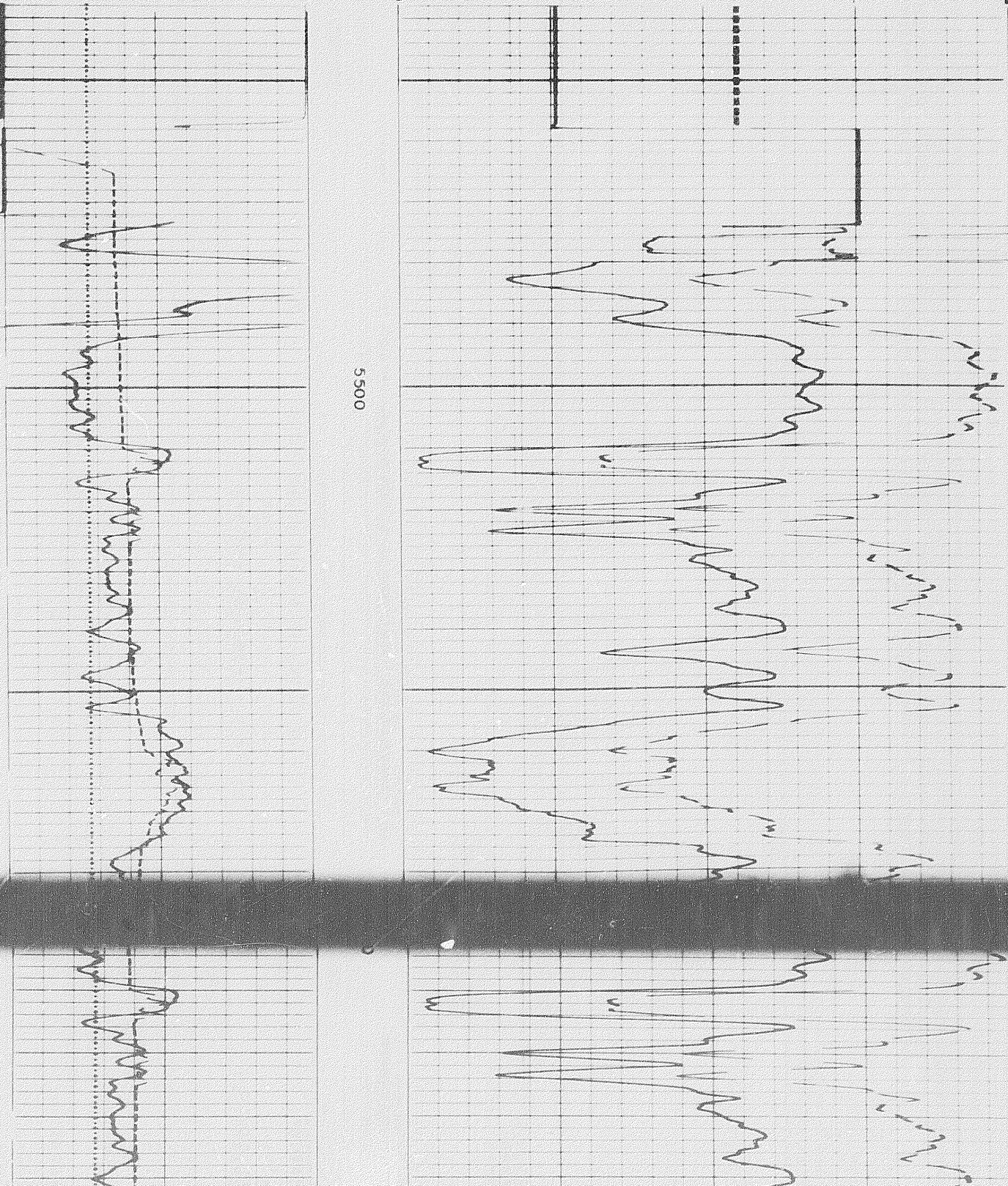
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1/4

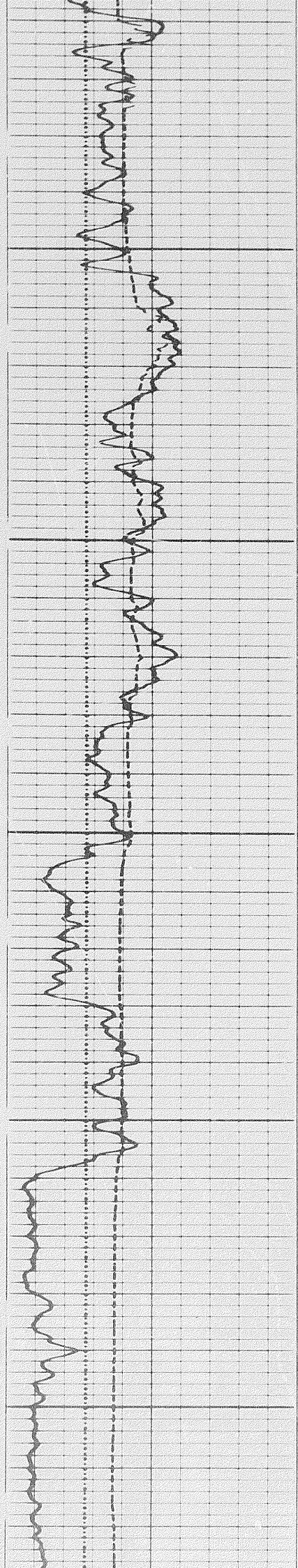
1/2

LOG DERIVED LIMESTONE POROSITY — SNP

5500

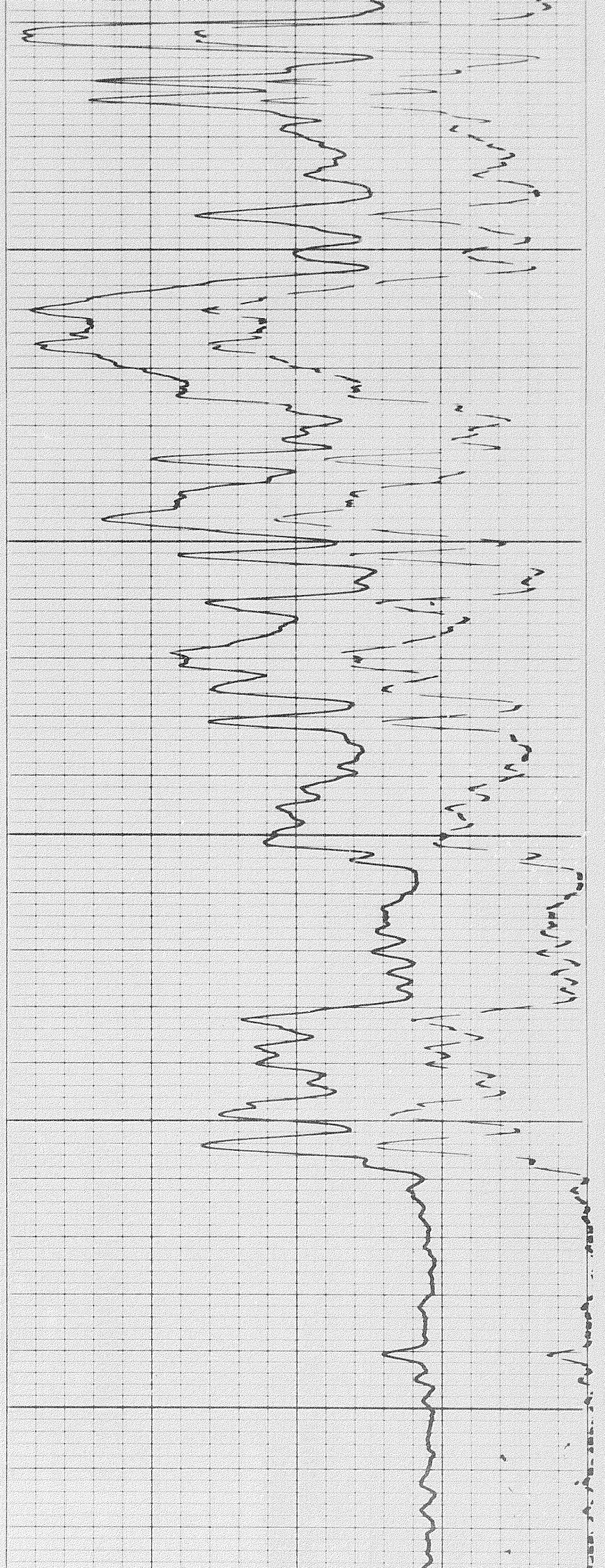


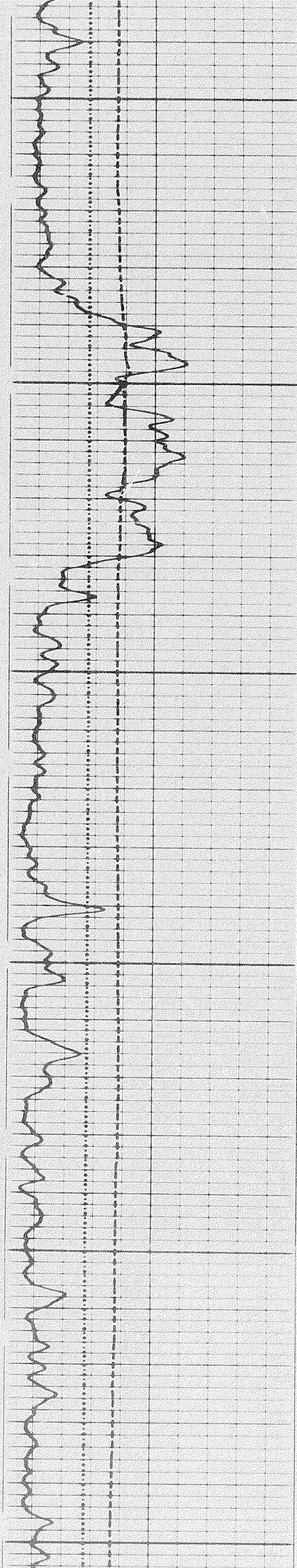
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5600

5700

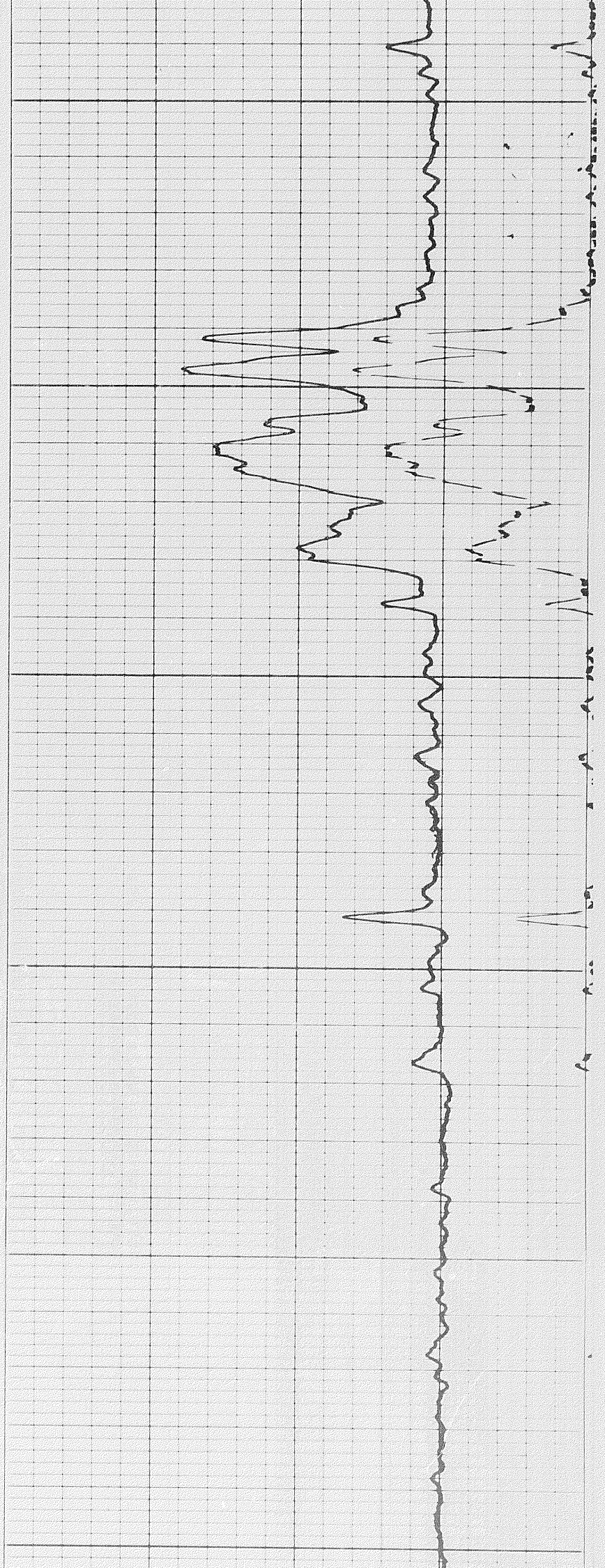


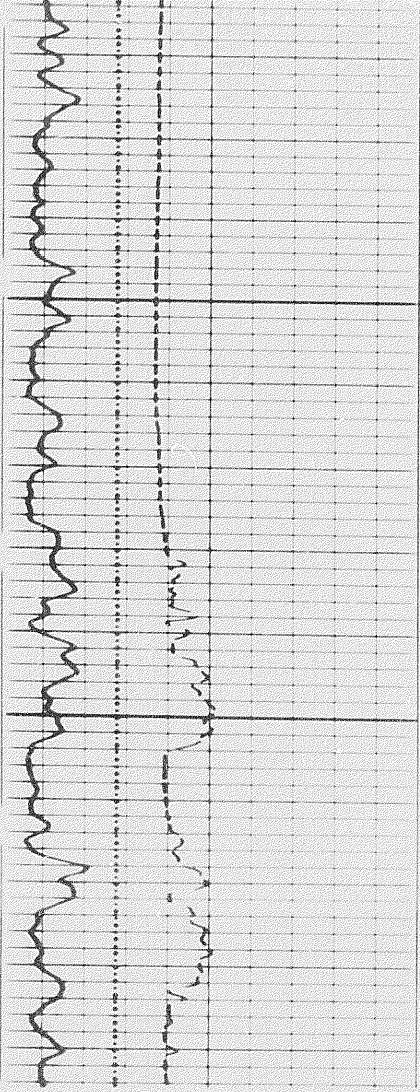


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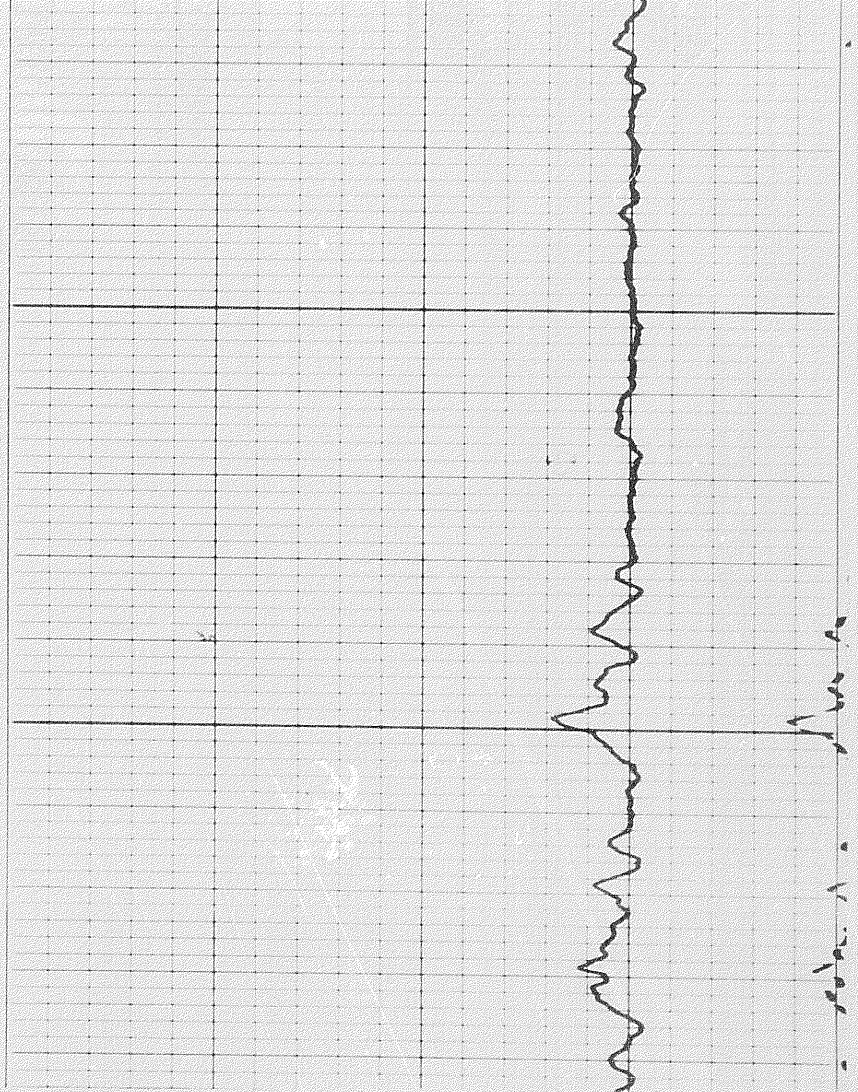
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5800

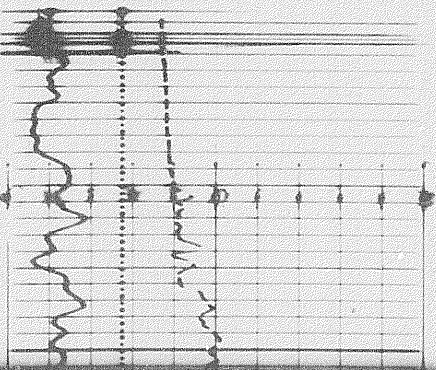




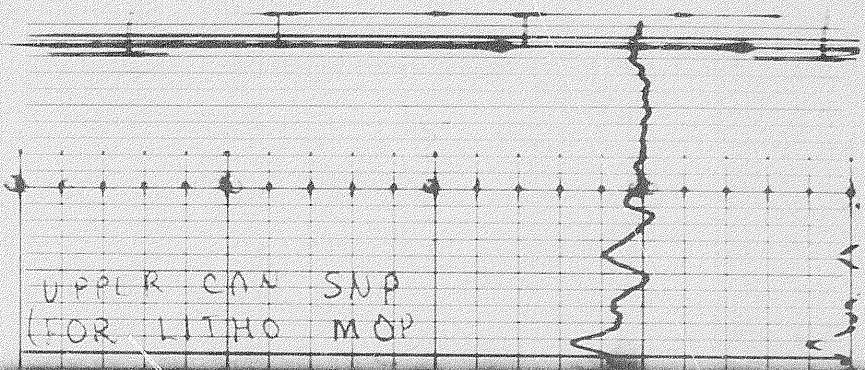
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Scale: 1.0

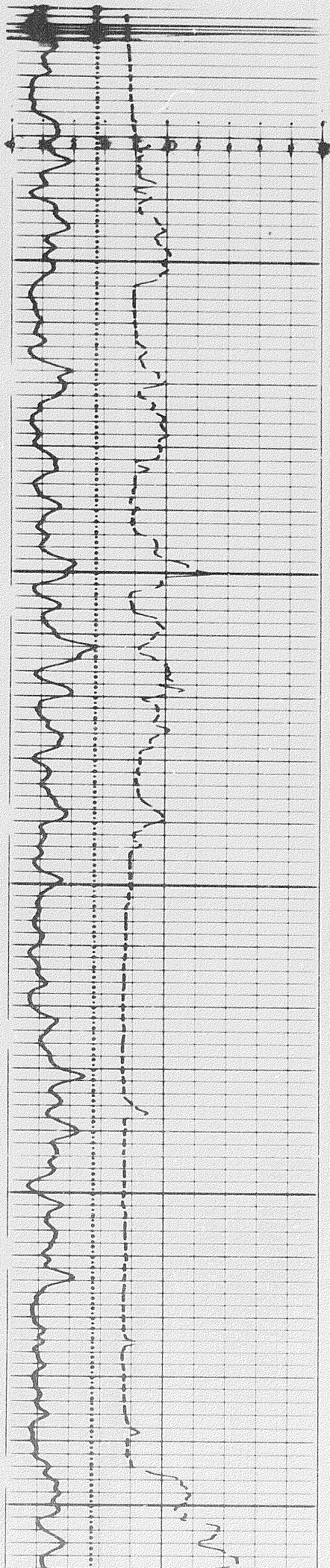


0009



UPPER CAN SNP
(FOR LITHO MOP)

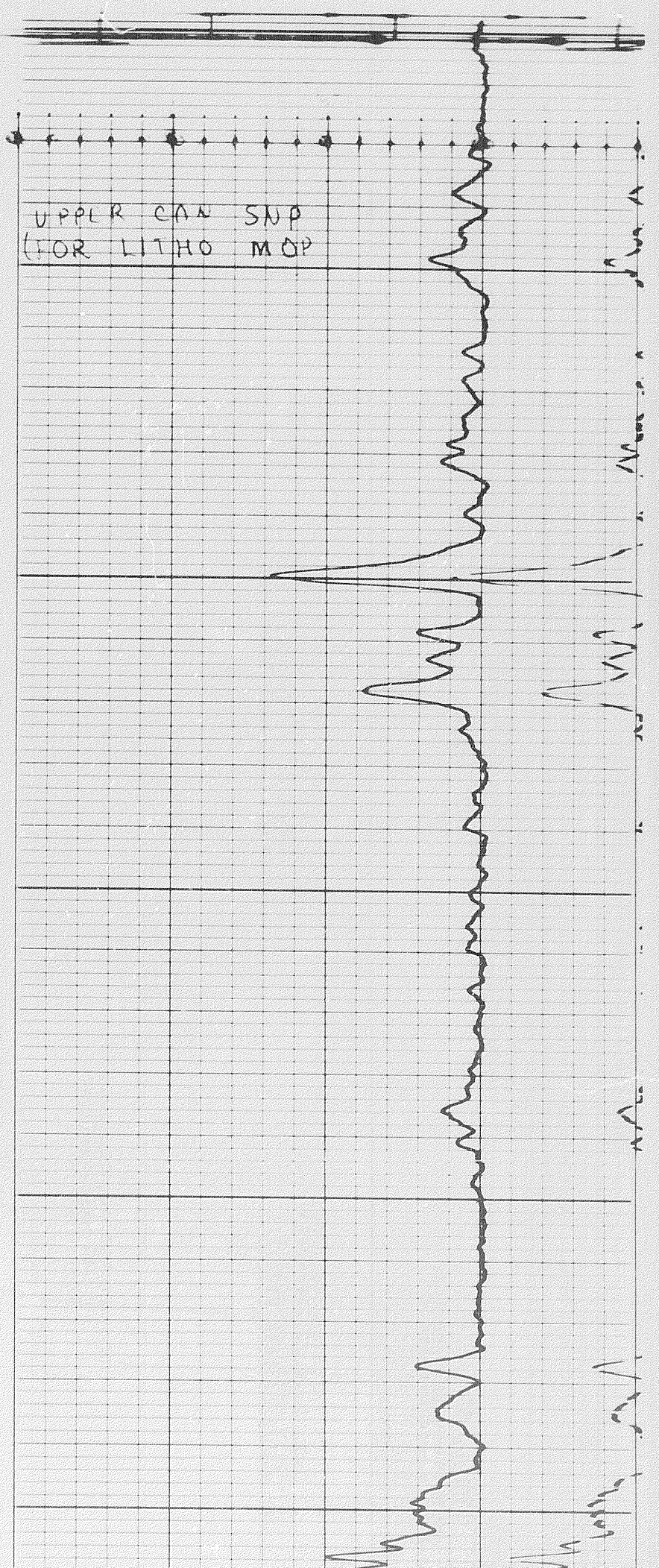
94
to b



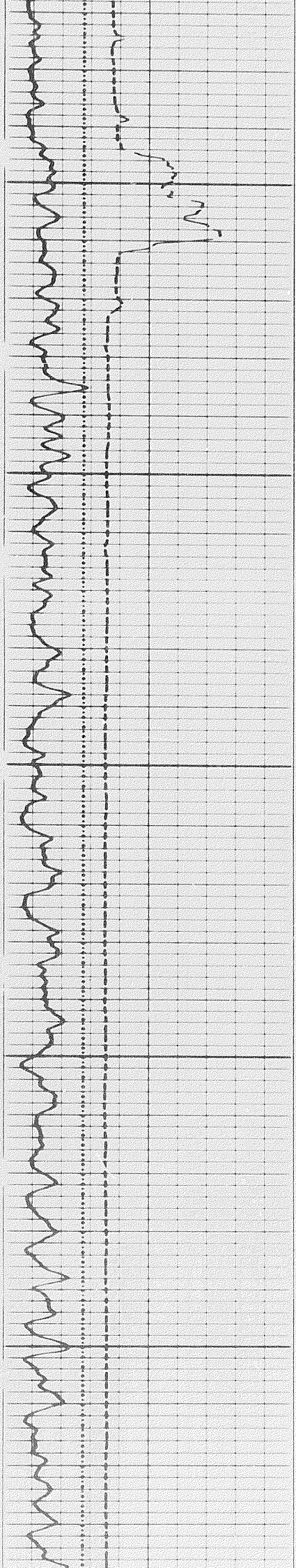
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6100

6200



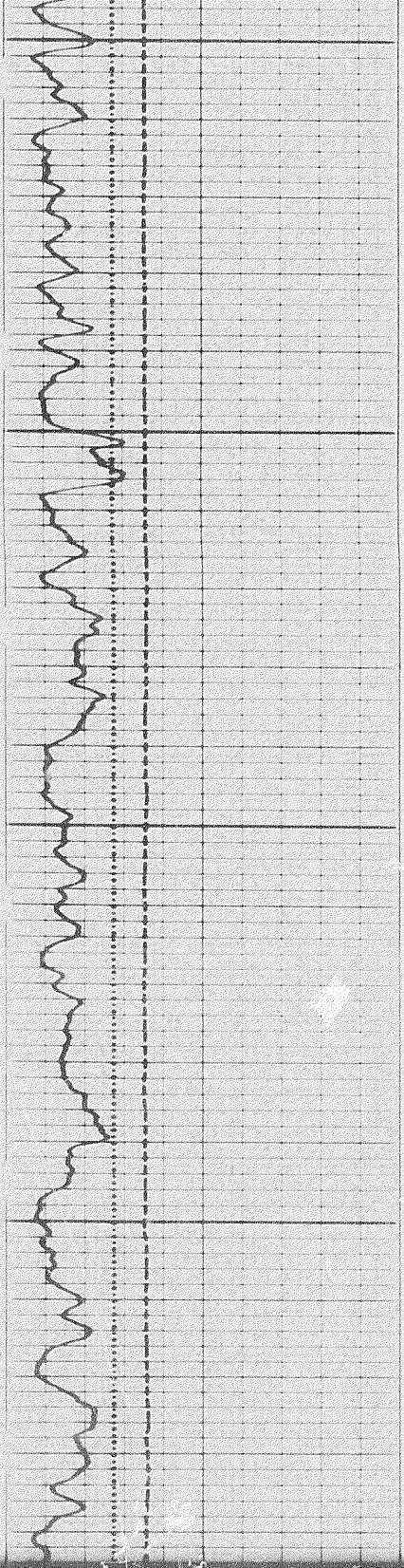
UPPER CAN SNP
(FOR LITHO MOP)



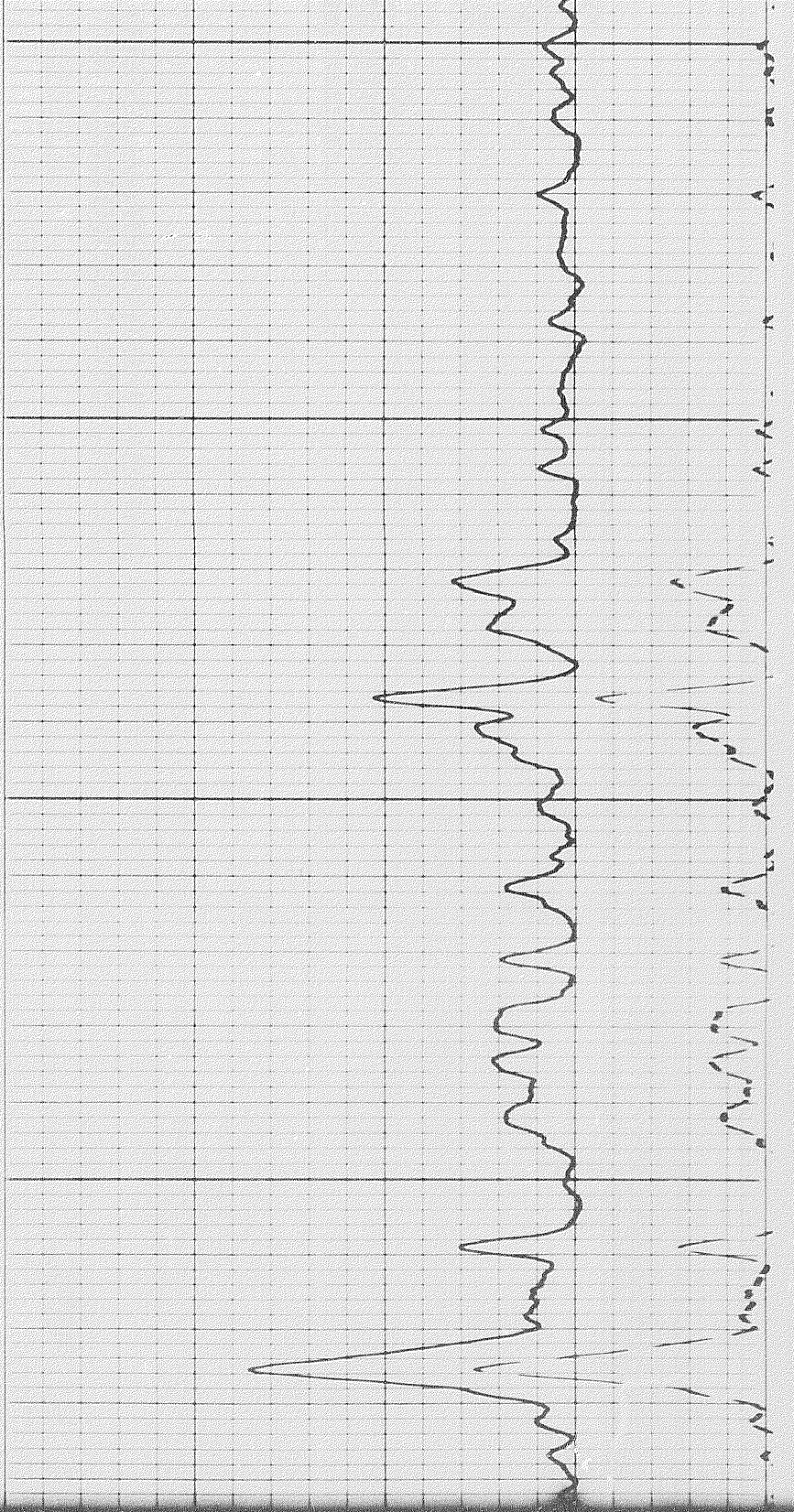
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6400

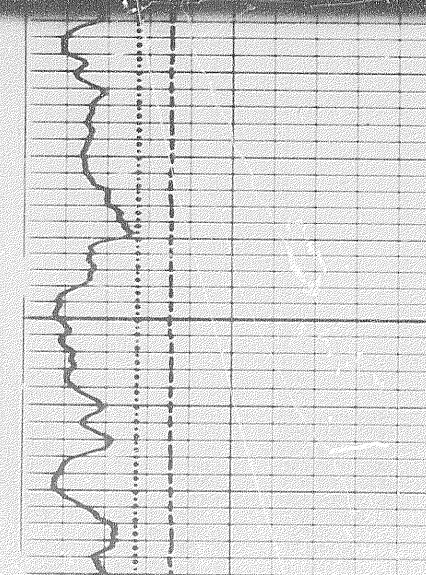




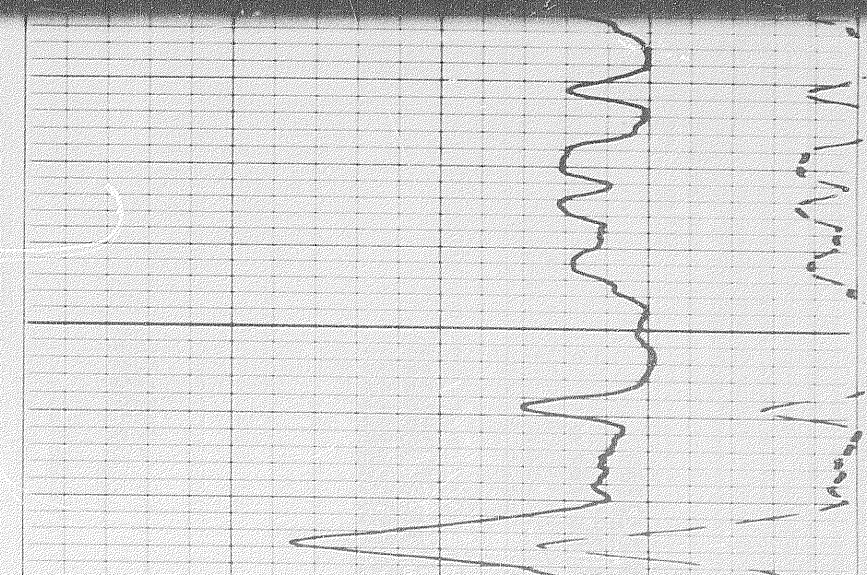
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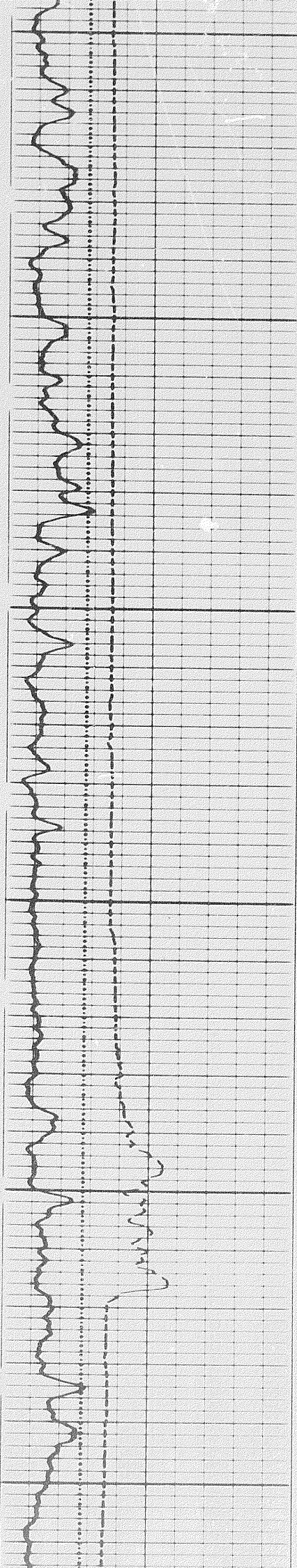
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6500



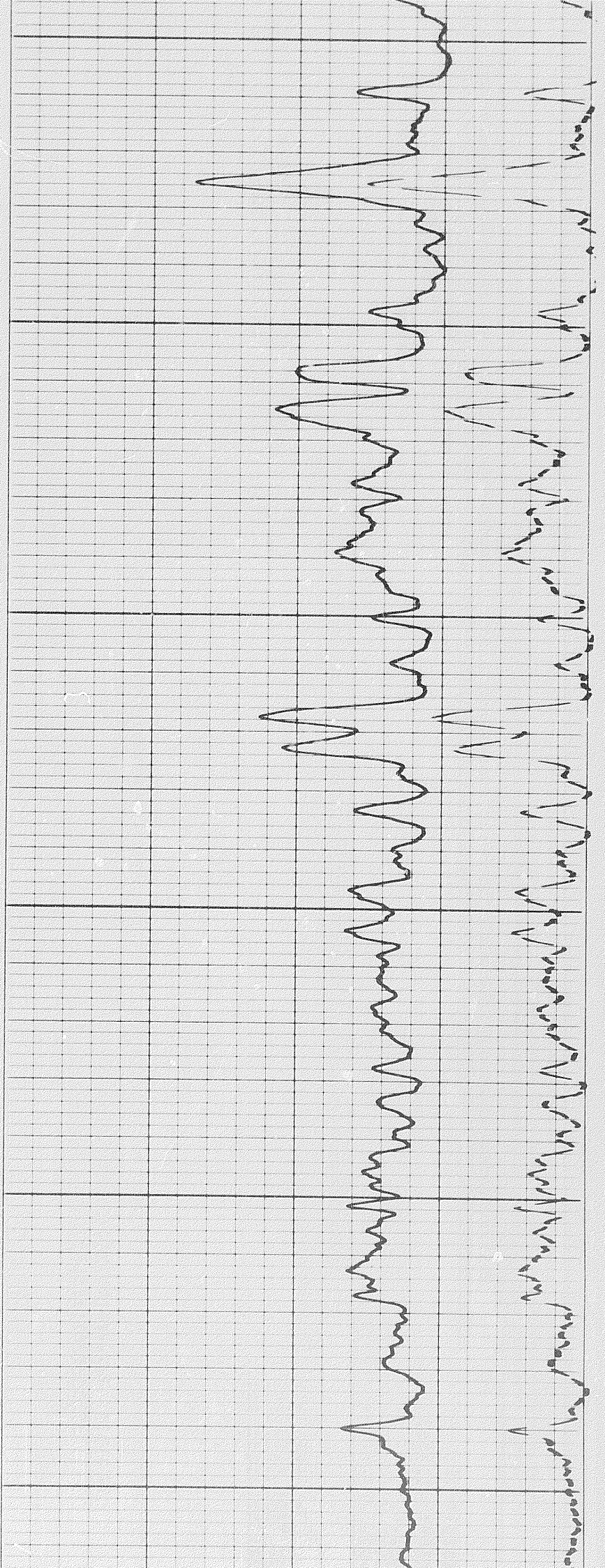
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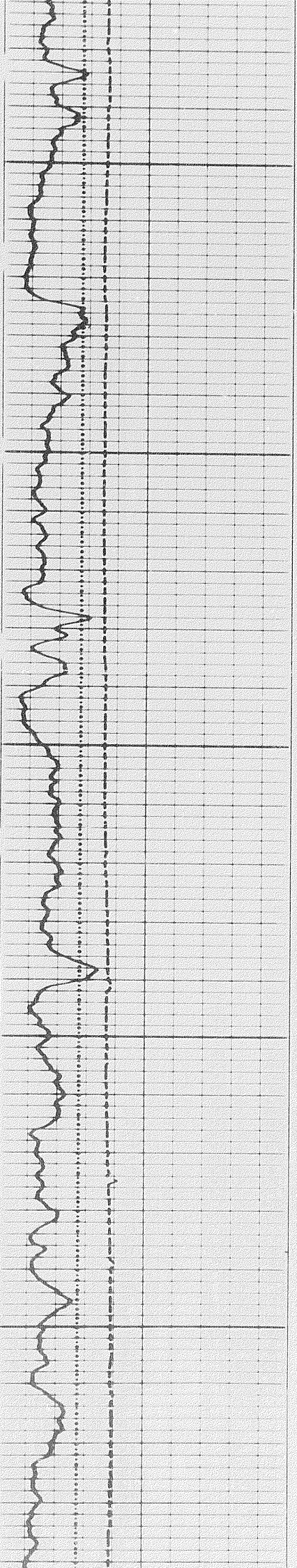


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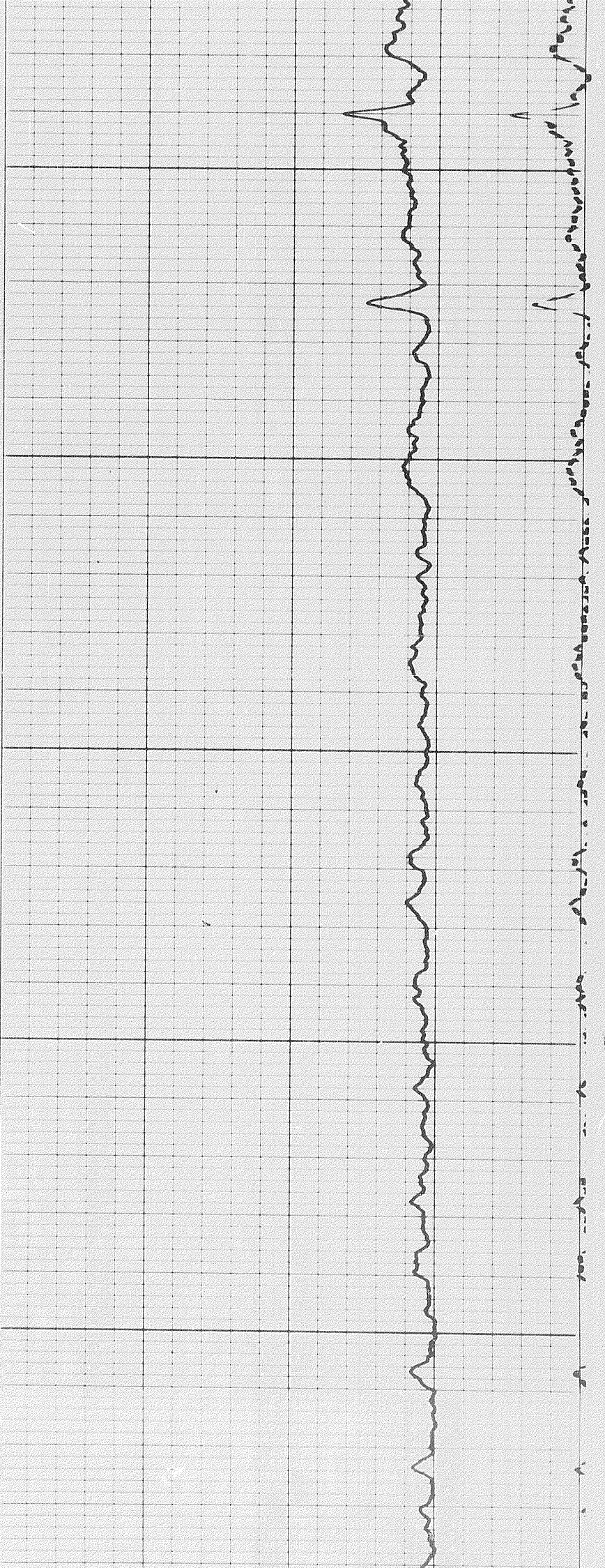
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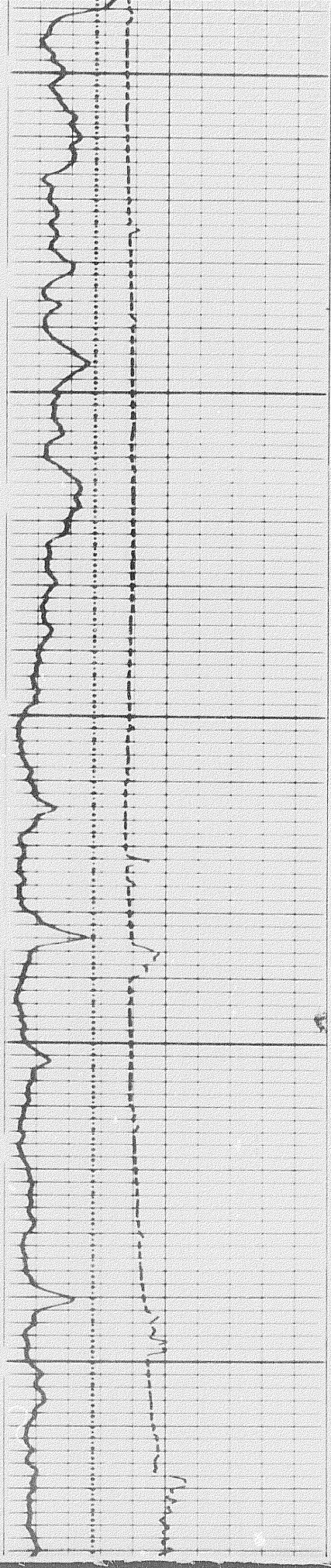
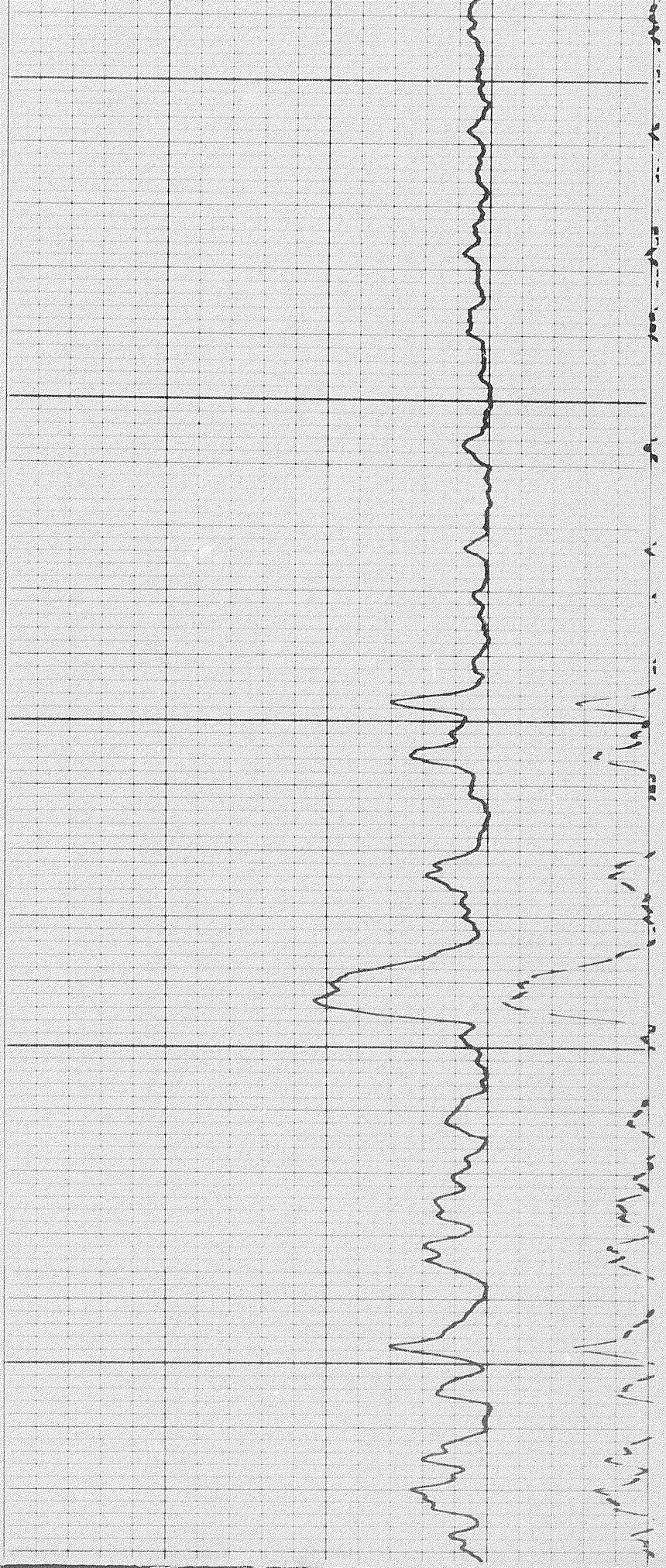




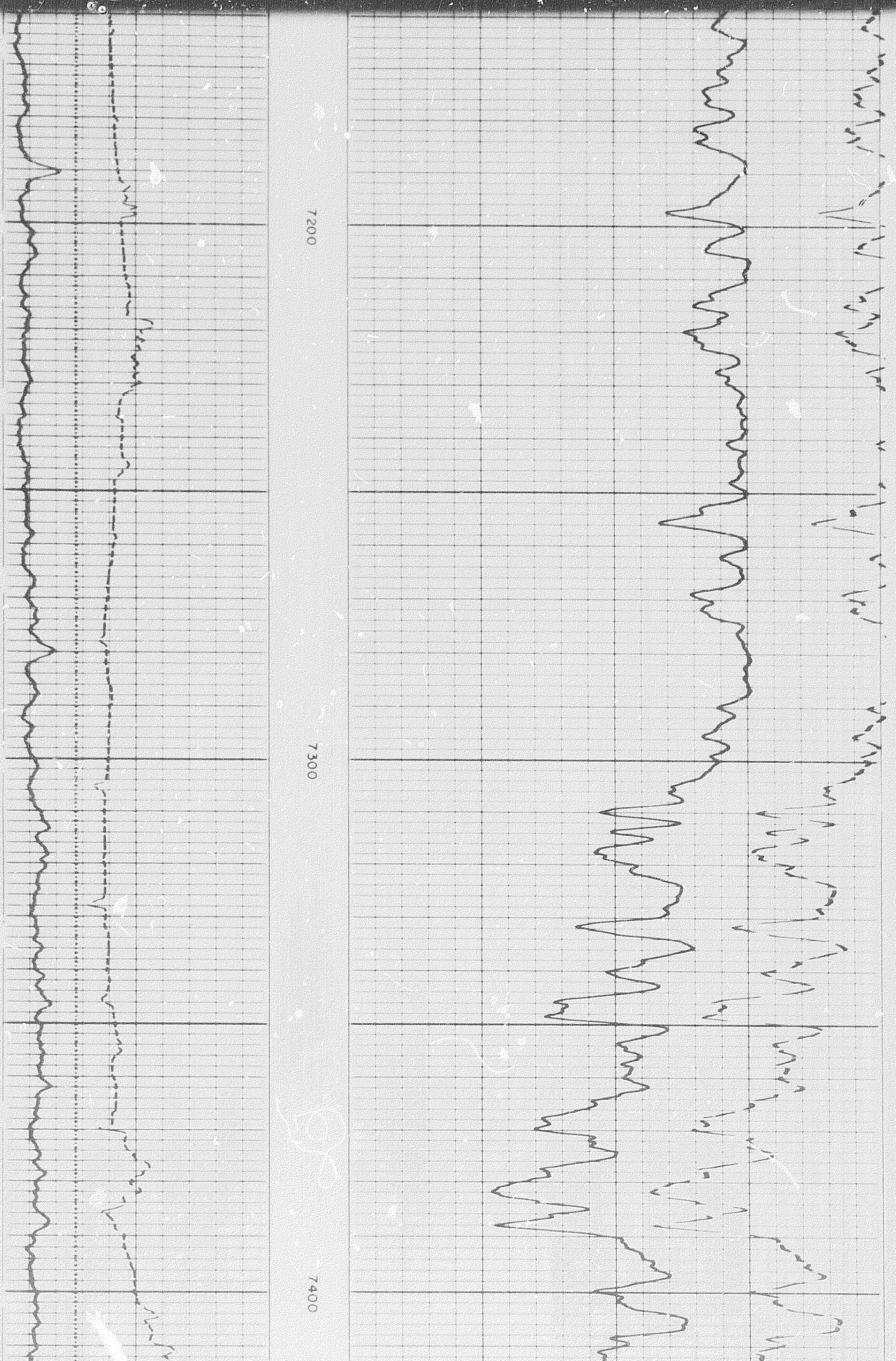
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7000





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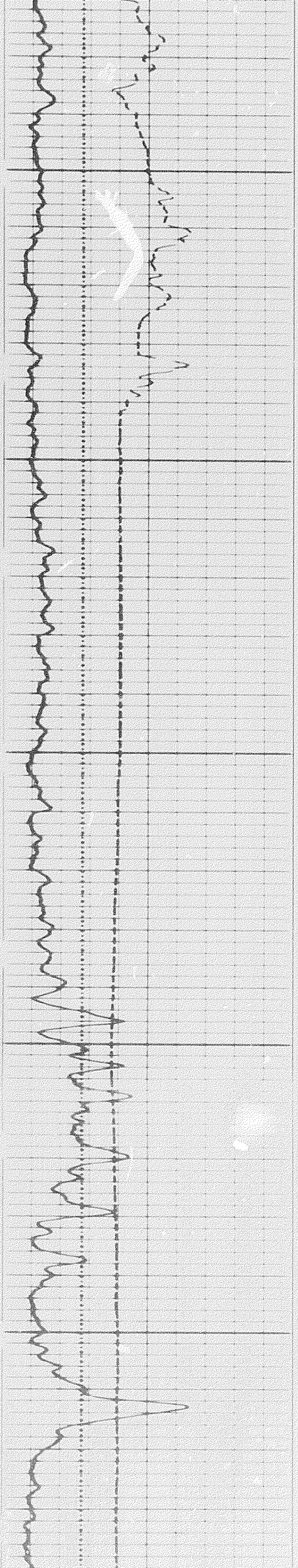


7200

7300

7400

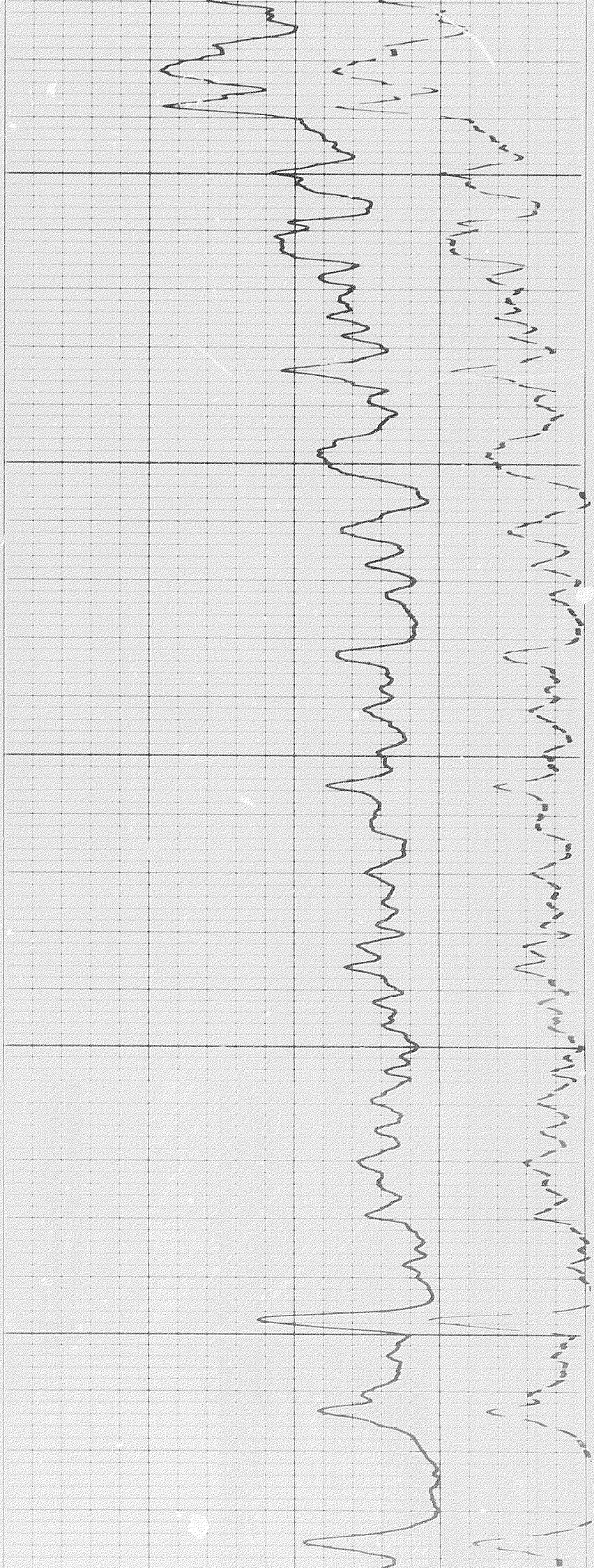
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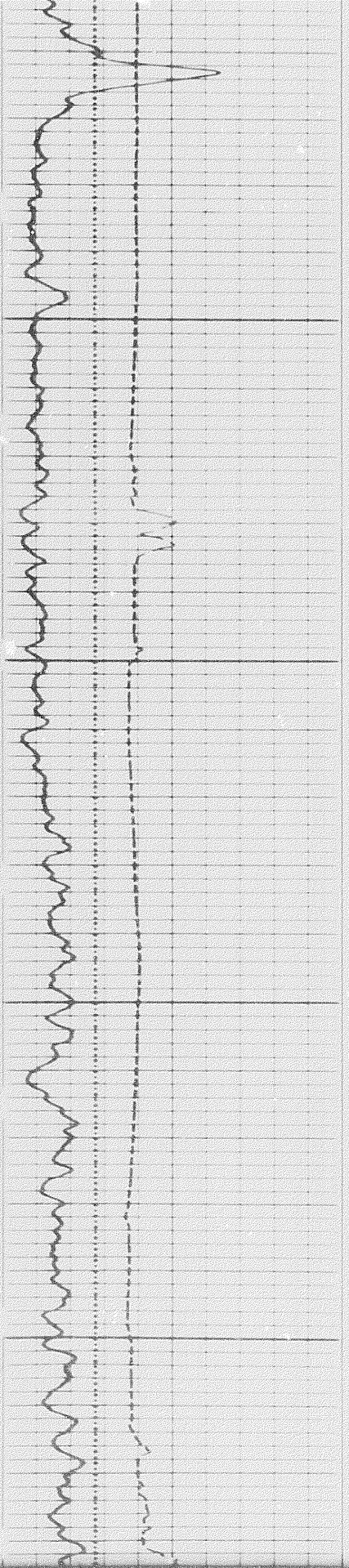


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7500

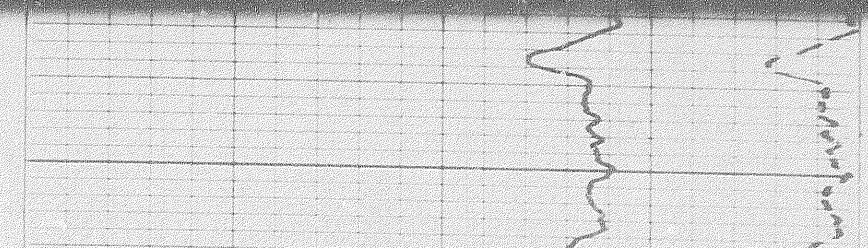
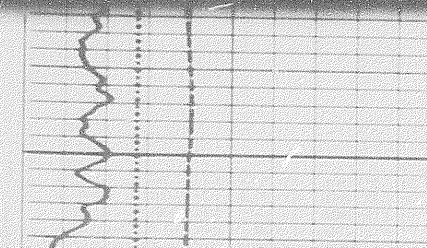
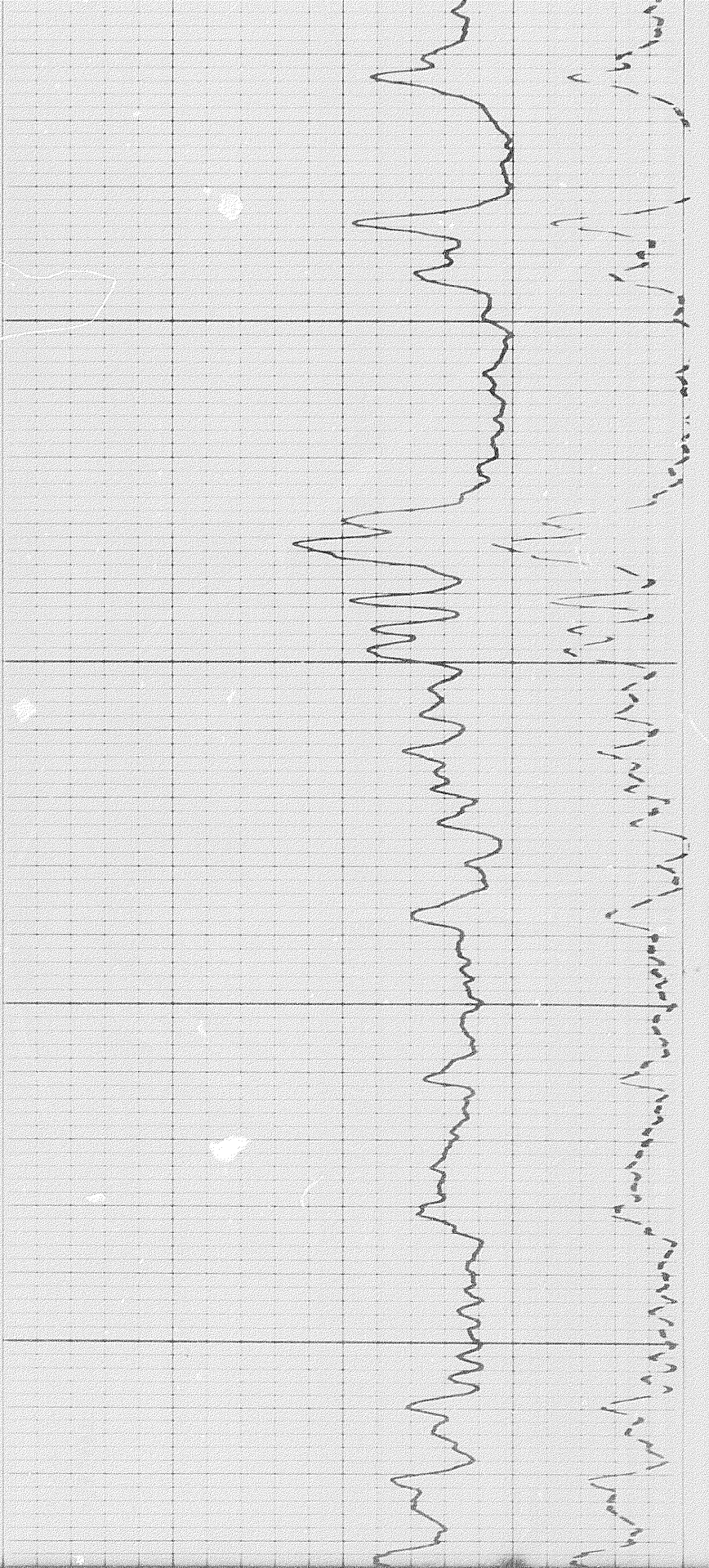
7500



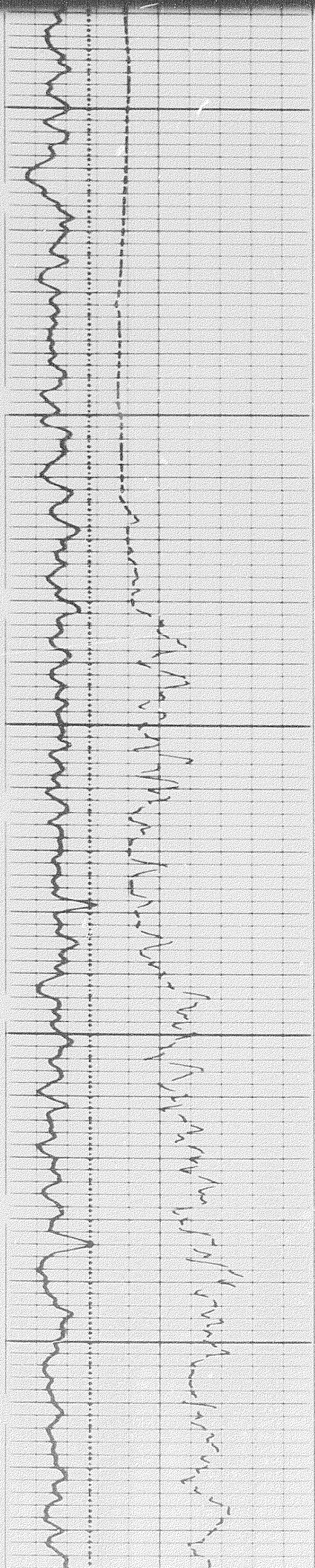


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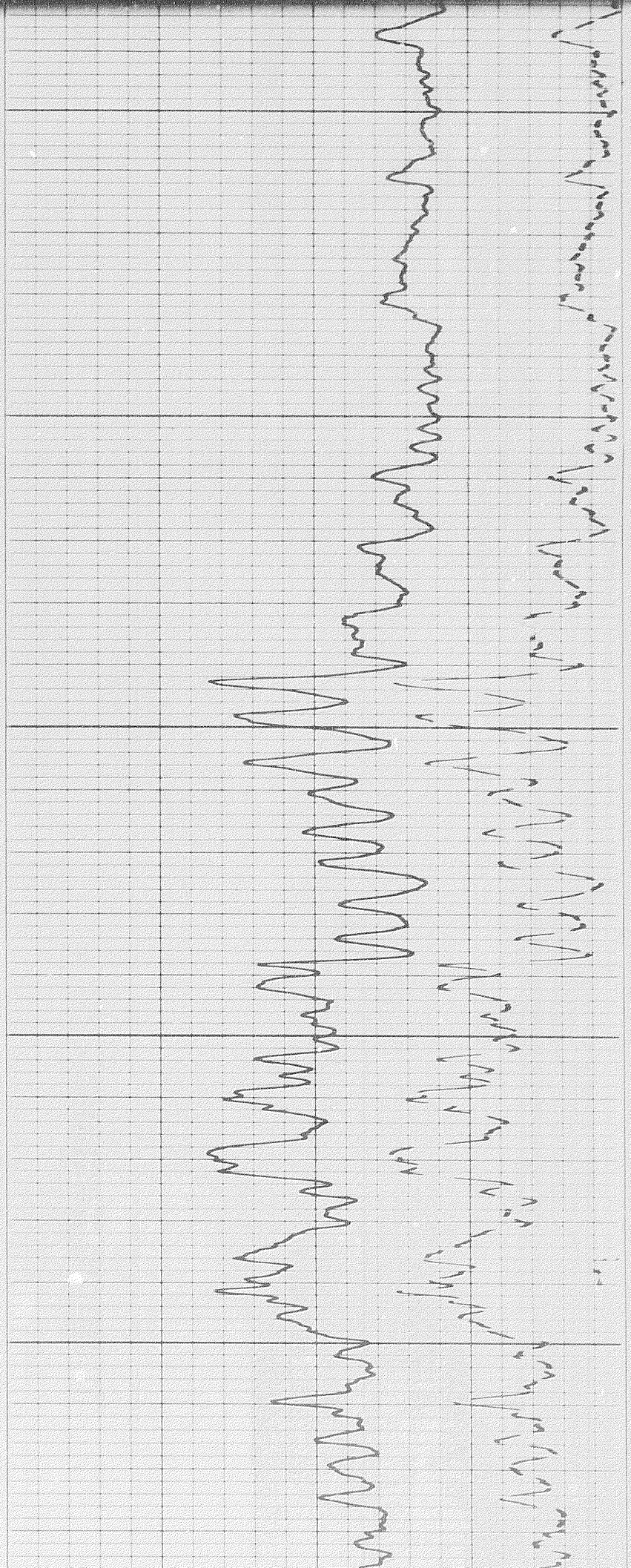


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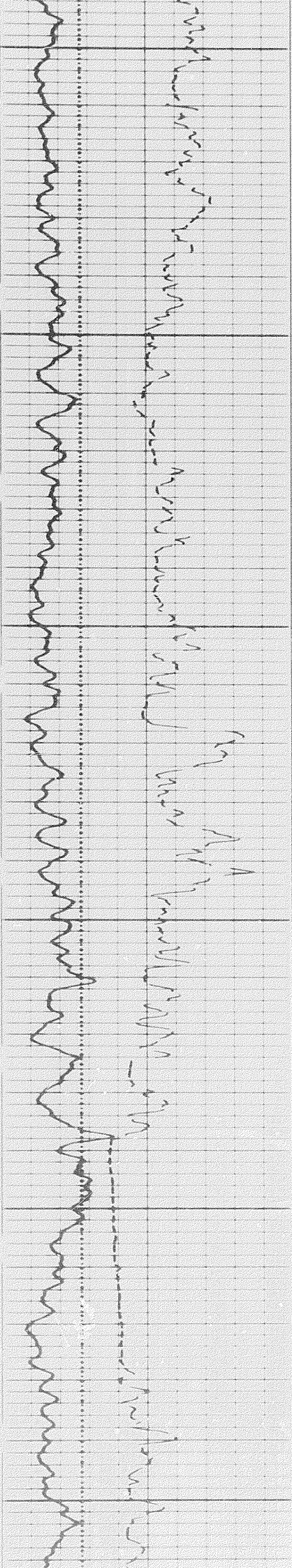


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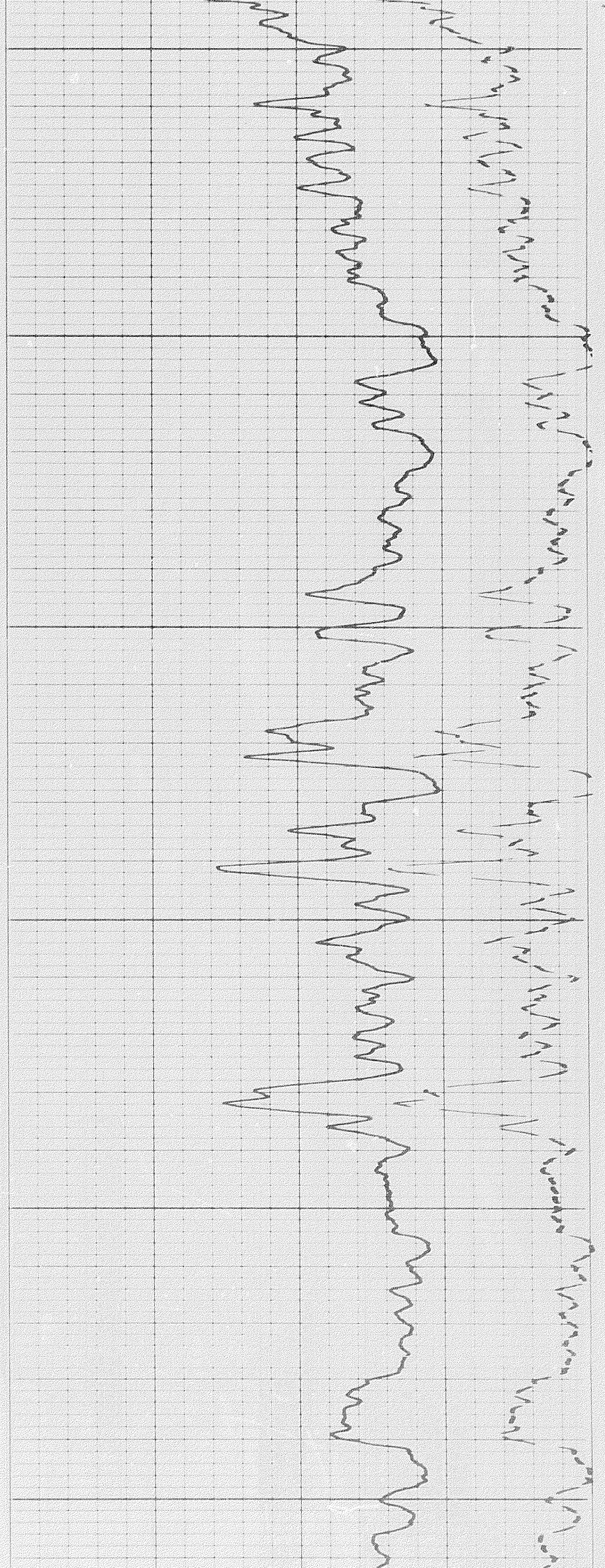
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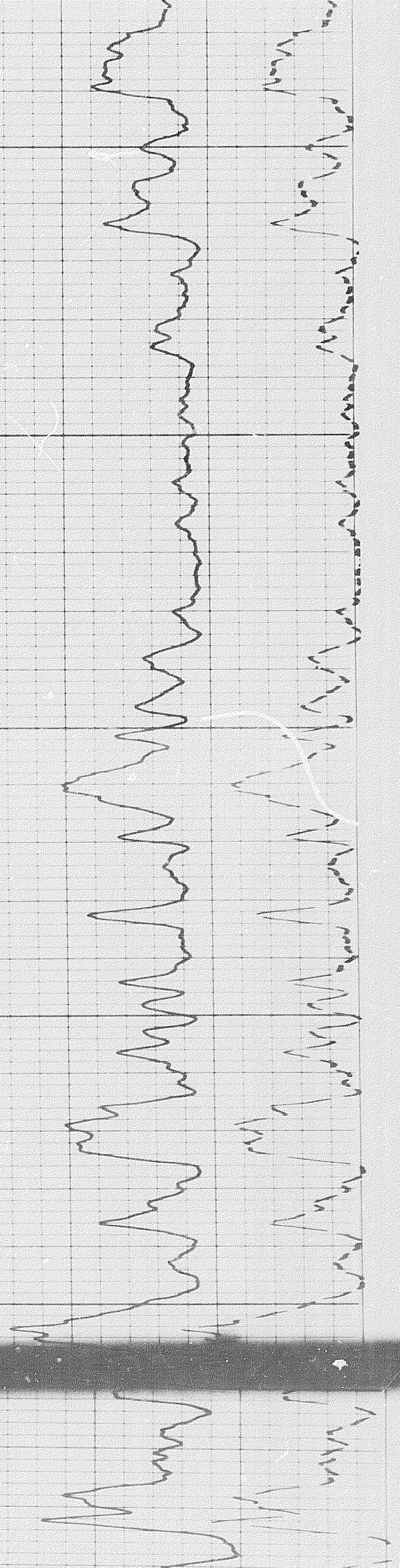


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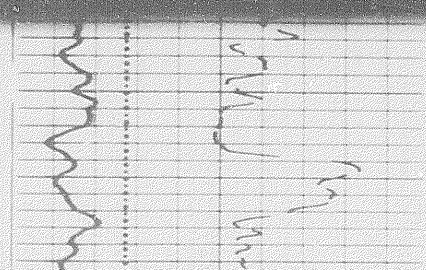
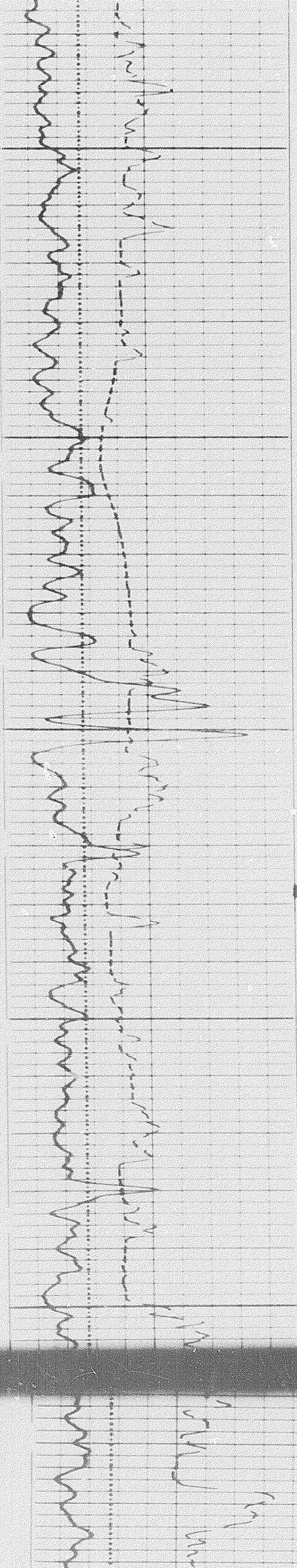




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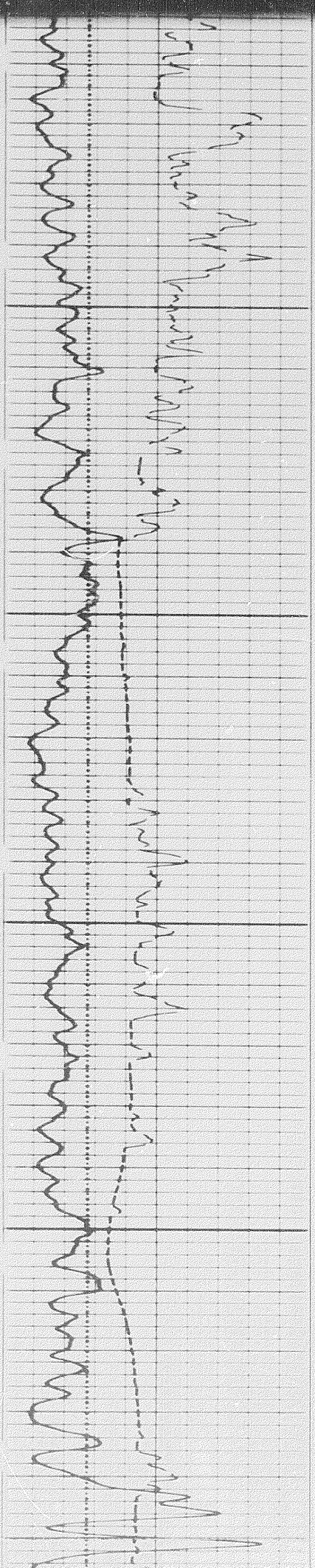
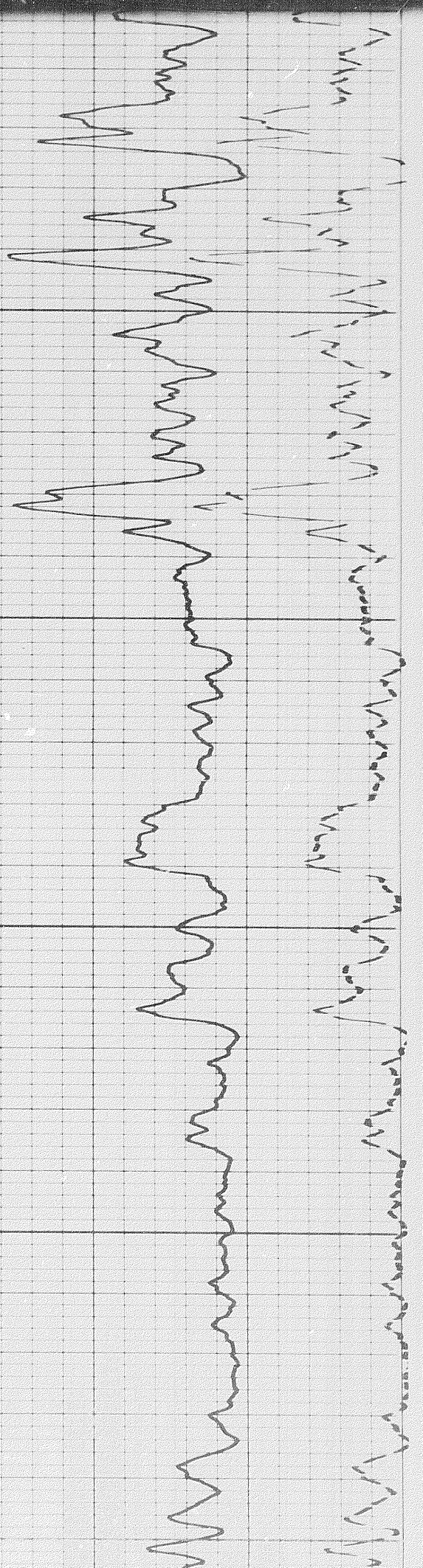


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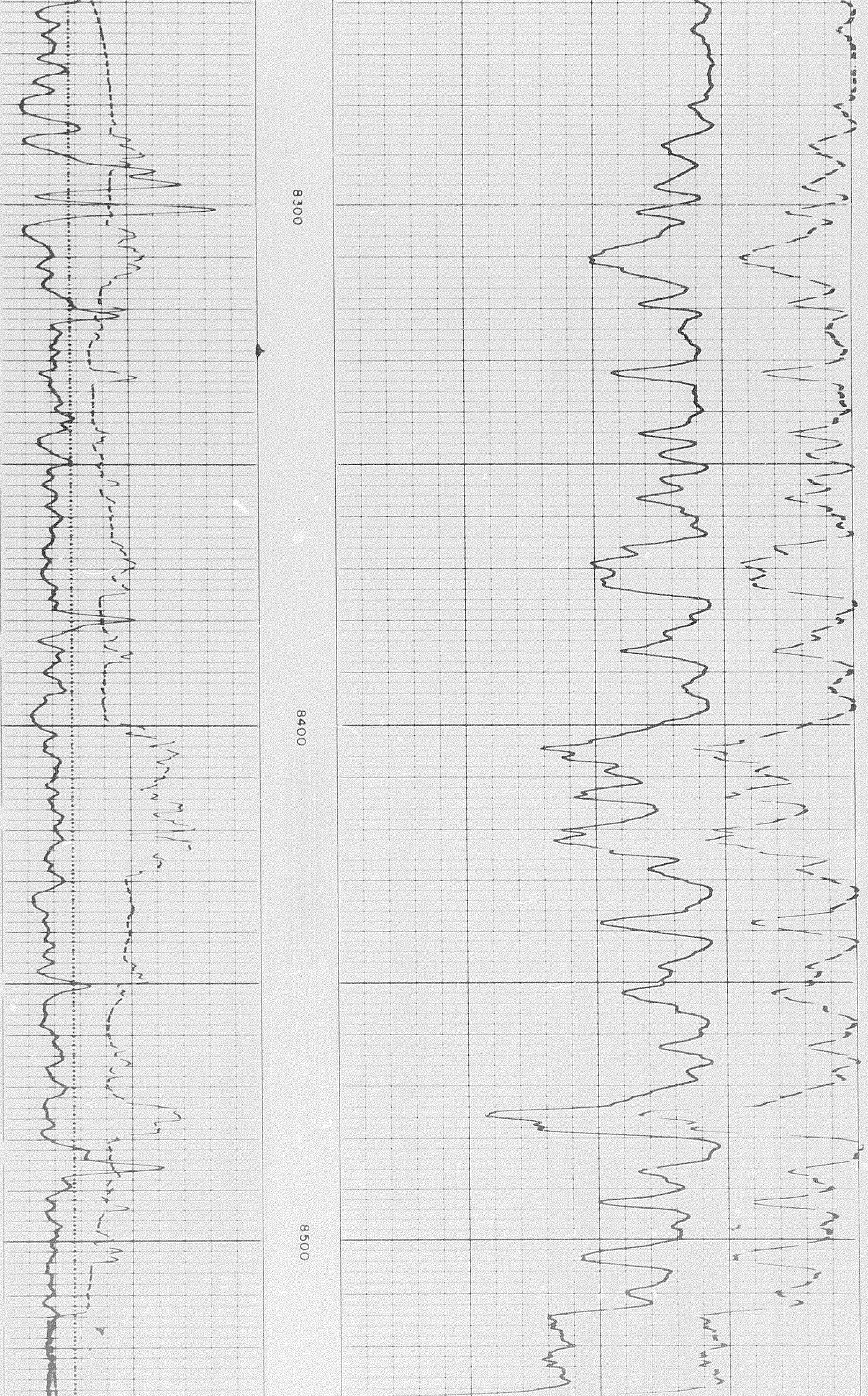
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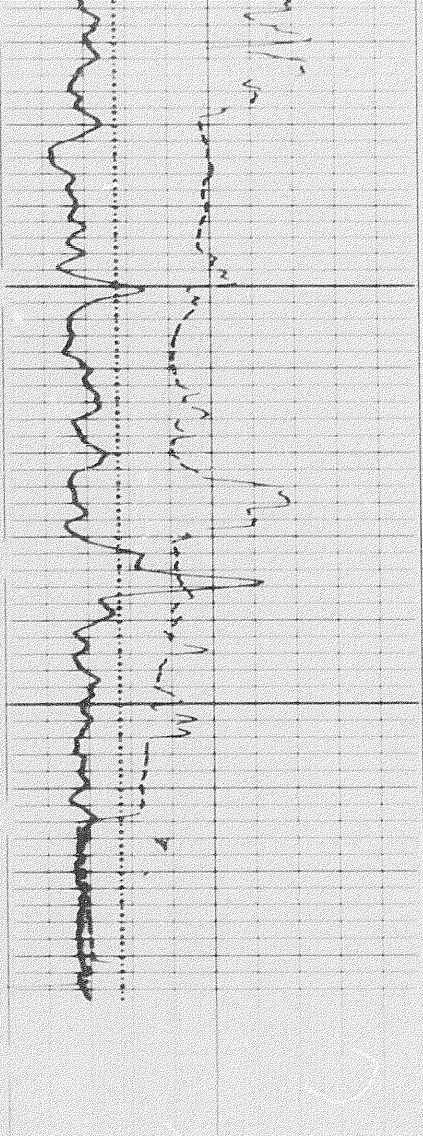
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8500

