

Tonto-St.

LEVENS & TULL, INC.'S STRUCTURAL MAP ON THE
TOP OF THE YATES FORMATION

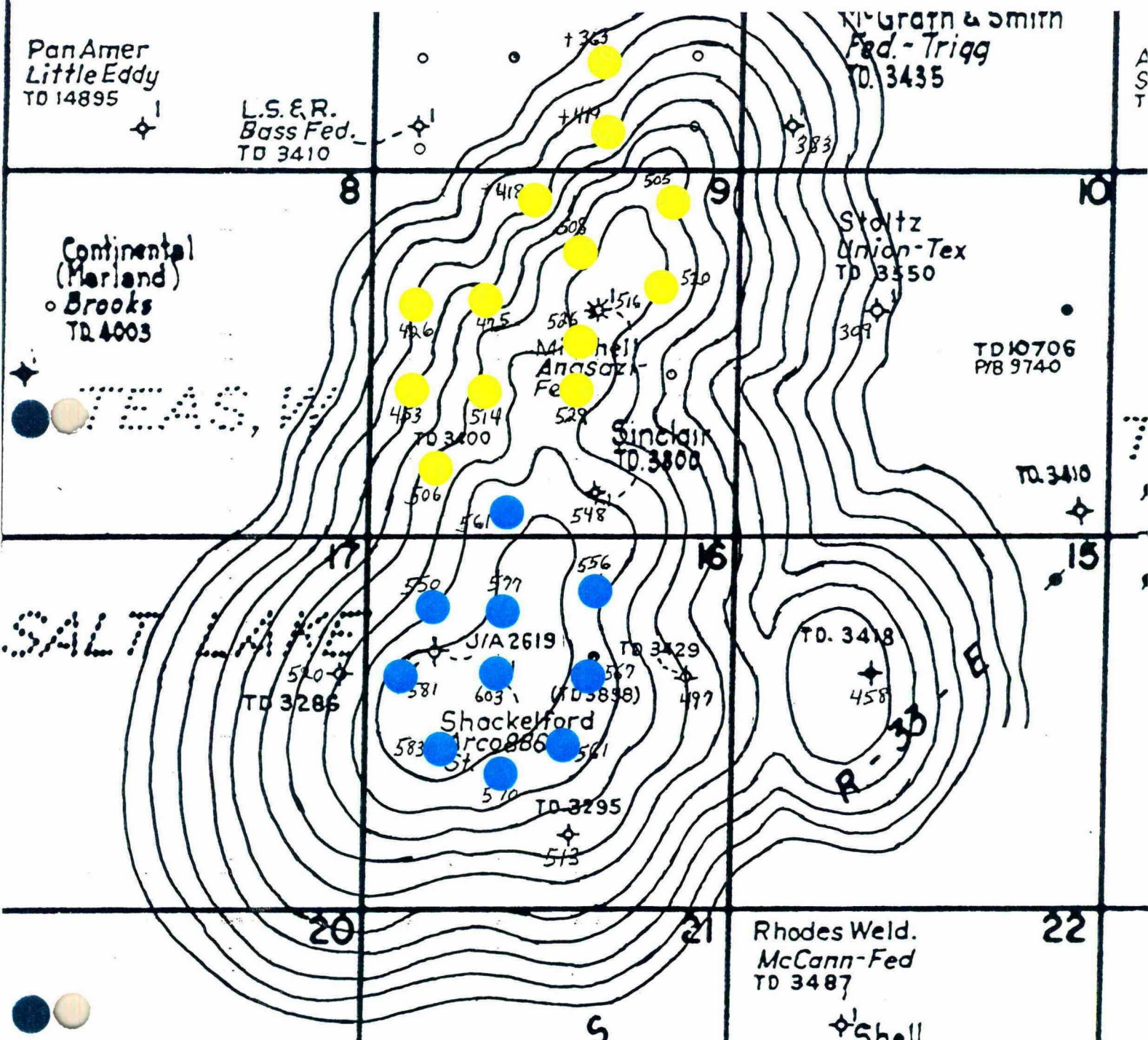
CONTOUR INTERVALS - 25'

T-20-S, R-33-E, N.M.P.M., LEA COUNTY, N.M.

MAP SCALE: 1" = 2,000'

● UPPER YATES COMPLETION

● LOWER YATES AND SEVEN RIVERS COMPLETION



STEVENS & TULL, INC.
WEST TEAS FIELD GEOLOGICAL SUMMARY

Stevens & Tull, Inc. is attempting to expand production from the upper Yates formation in the West Teas oil pool located in Section 16, T-20-S, R-33-E, Lea County, New Mexico. We feel that commercial production can be extended throughout Section 9 and 16, T-20-S, R-33-E. Stevens & Tull, Inc. has drilled and completed five (5) wells in Section 9 and one (1) well in Section 16 in the West Teas pool.

Several wells located in Section 16 have produced in excess of 100,000 barrels of oil from the lower or basal sand of the Yates formation and the upper section of the Seven Rivers formation, which is sand and dolomite. Each of these zones is structurally controlled and have a strong water drive. The wells that produce from these formations are located on the highest point of the structural feature.

However, the wells in Section 9 produce primarily from the upper section of the Yates formation and are structurally low to the wells in Section 16. The lower Yates and upper Seven Rivers appear to be wet off the crest of the structural feature where most of the wells in Section 9 are located.

Although it appears that commercial production can be extended in the Upper Yates formation, drilling costs must be restricted because reserve potential in wells located off the structural crest apparently will not be as high as the production from well located on the crest in Section 16. There is very little gas produced with the oil in the upper Yates sand; therefore, Stevens & Tull, Inc. is hoping of recover only one-half of the reserves as produced from the wells located in Section 16, being approximately 50,000 barrels per well.

\lt\wteas.geo



COMPANY STEVENS AND TULL
WELL FEDERAL 9 NO. 2
FIELD WILDCAT
COUNTY LEA STATE NEW MEXICO
LOCATION 20S 33E SEC 9 950 FNL 2110 FEL
ELEVATION 3550GL
DEPTH LOGGED 1800 TO 3340 3559 KB
DATE LOGGED 10-09-92 TO 10-12-92 UNIT NO 12F-71
CREW CHIEF C. MCNEESE - M. CRAIG
DRILG. FLUID BRINE WATER

LITHOLOGY

SALT	ANHYDRITE OR GYPSUM	DOLomite	SHALE	SAND	
CHERT	SILTSTONE	LIMESTONE	CONG	COAL	

ABBREVIATIONS

NB = NEW BIT
CO = CIRCULATED OUT
DST = DRILL STEM TEST
LAT = LOGGED AFTER TRIP
TG = TRIP GAS
NR = NO RETURNS
DS = DIRECTIONAL SURVEY
DC = DEPTH CORRECTION
W = WEIGHT
V = VISCOSITY API SECONDS
F = FILTRATE API CC'S
P = PH
C = CAKE THICKNESS 32nds
S = SALINITY, ppm Cl

% VIS. PORO.

DRILLING RATE

MIN/FT ☒

FT/HR ☐

HYDROCARBON ANALYSIS

CHROMATOGRAPH	Units/Div.
METHANE - C1	10
ETHANE - C2	10
PROPANE - C3	10
BUTANE - C4	10
PENTANE - C5	10

LEACH

T F G	Units/Div.
FLUOR	
CUTTING GAS	
MUD GAS	
CUTTINGS	
MUD	10

FORMATION DESCRIPTION, REMARKS, ETC.

DEPTH

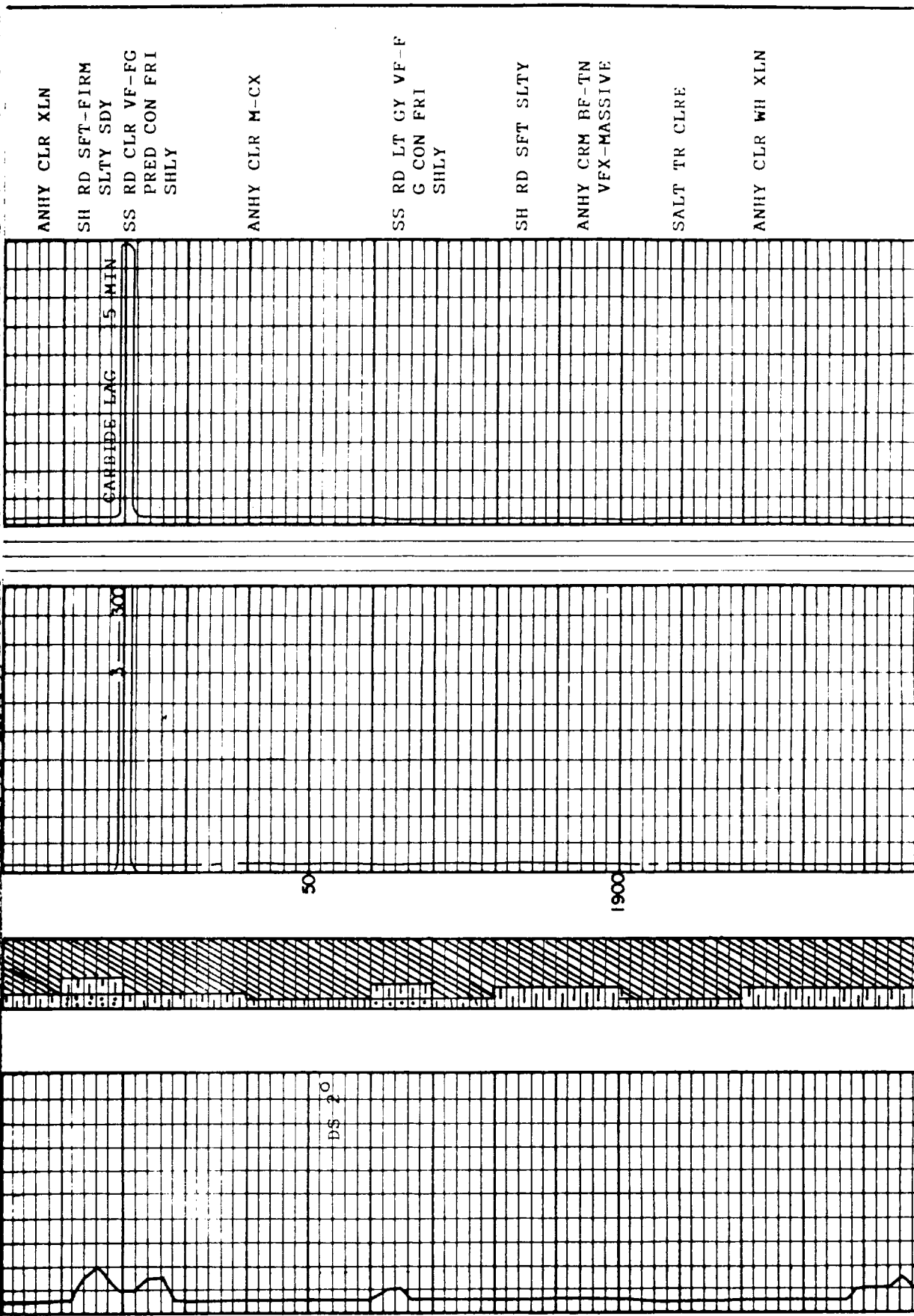
LITHO

79 9025

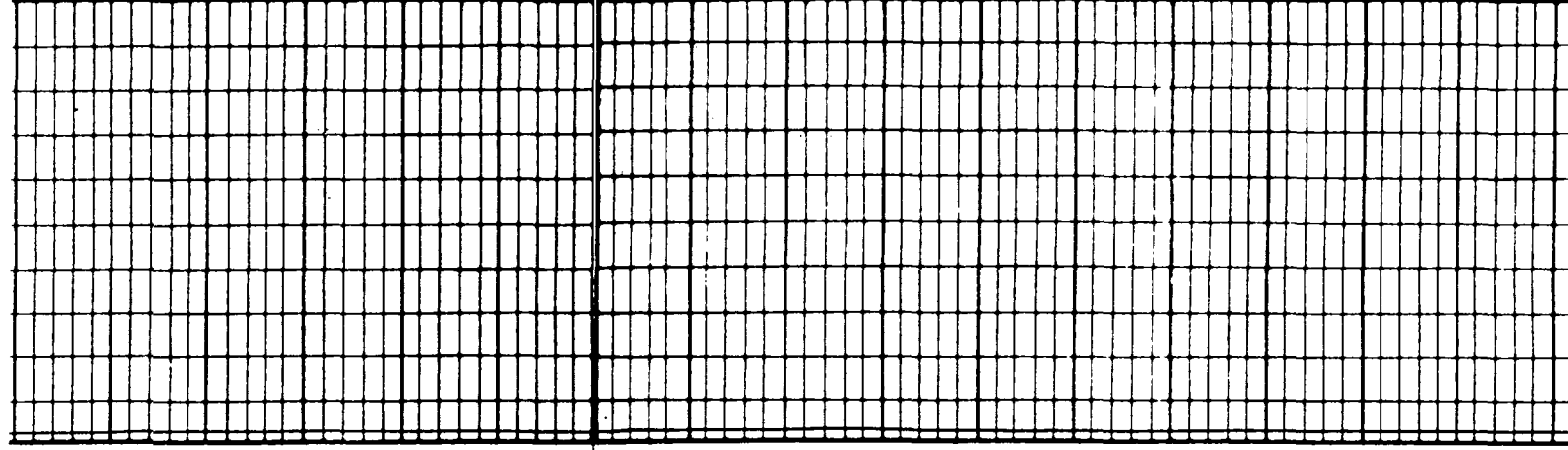
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5

DRILLING RATE MIN/FT ☒ FT/HR ☐		% VIS. PORO. ☒ G F T	LITHO	DEPTH	CHROMATOGRAPH Units/Div. METHANE - C1 10 ETHANE - C2 10 PROPANE - C3 10 BUTANE - C4 10 PENTANE - C5 10	FORM LEACH T F G FLUOR 25 90 75	HYDROCARBON ANALYSIS CUTTING GAS MUD GAS CUTTINGS 10 MUD	HOT WIRE CUTTING GAS MUD GAS CUTTINGS 10 MUD	FORMATION DESCRIPTION, REMARKS, ETC.
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ANHY CLR XLN
 SH RD SFT-FIRM
 SLTY SDY
 SS RD CLR VF-FG
 PRED CON FRI
 SHLY
 ANHY CLR M-CX
 SS RD LT GY VF-F
 G CON FRI
 SHLY
 SH RD SFT SLTY
 ANHY CRM BF-TN
 VFX-MASSIVE
 SALT TR CLRE
 ANHY CLR WH XLN



SALT CLR

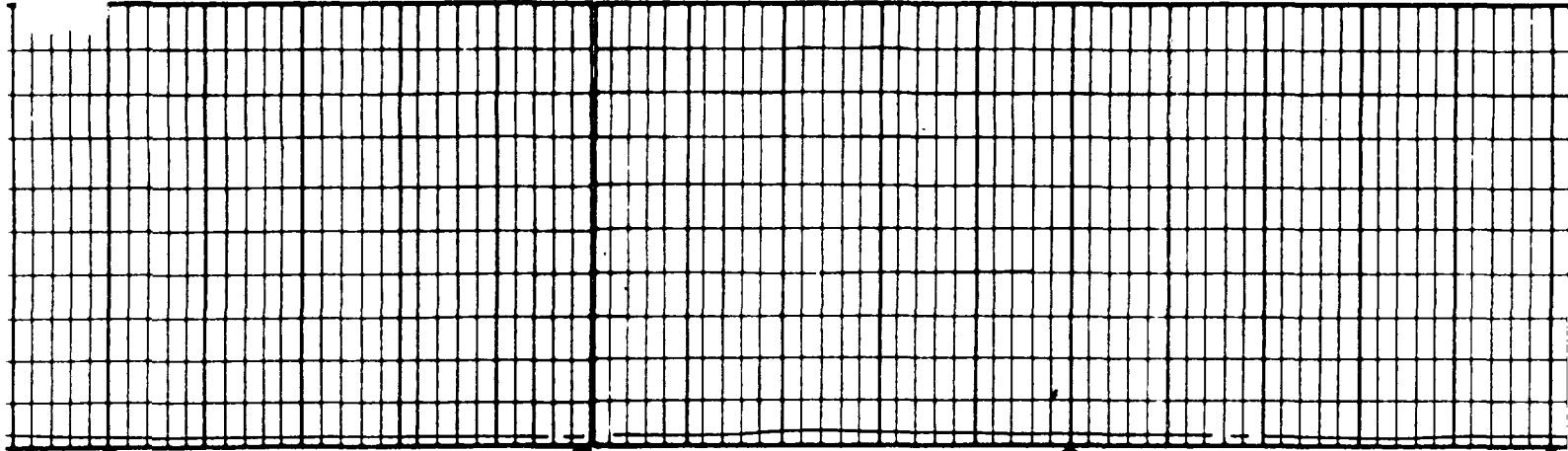
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SALT CLR-FRST
CLN

SALT CLR-FRST
CLN

SALT CLR-FRST
CLN

ANHY CLR XLN

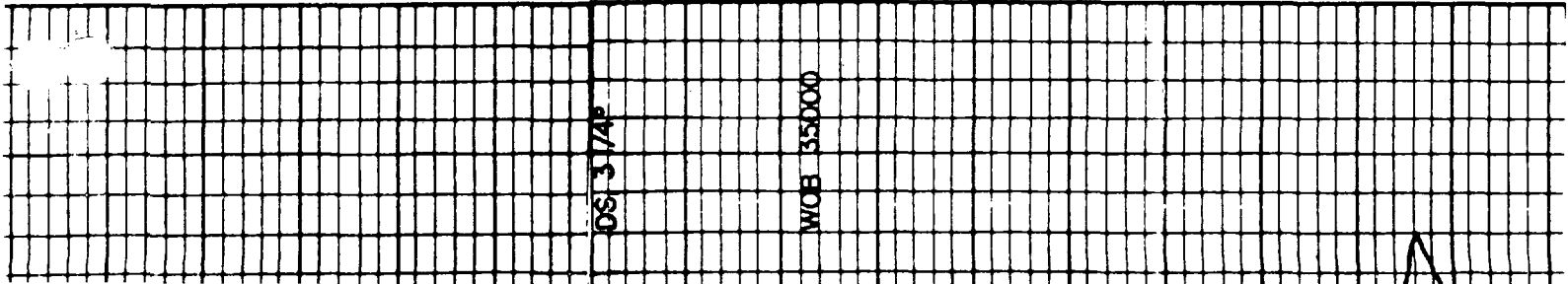
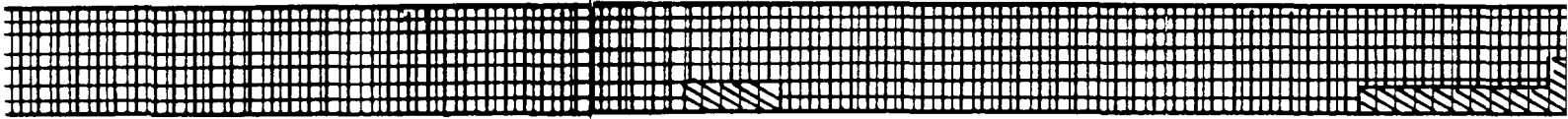


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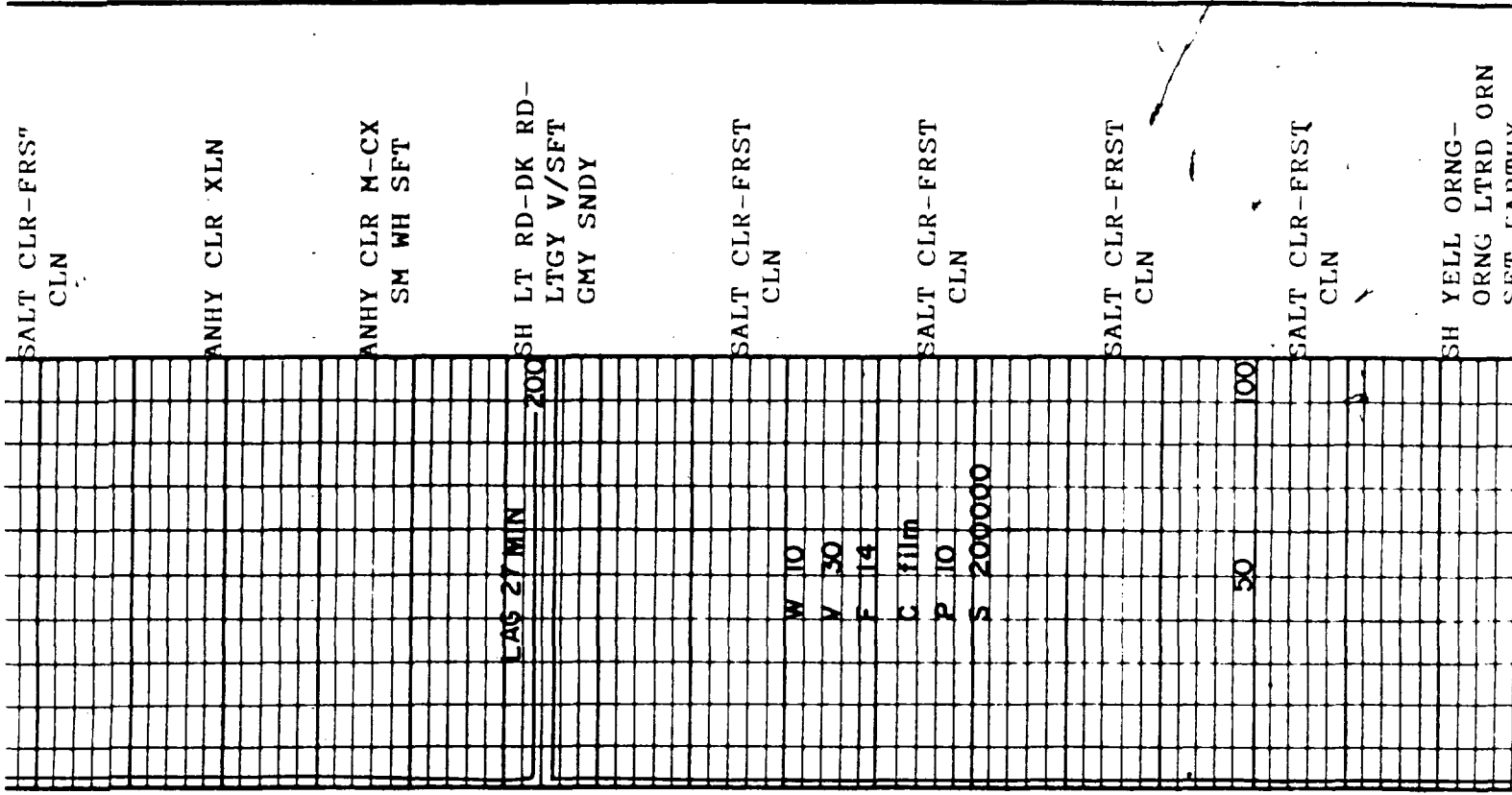
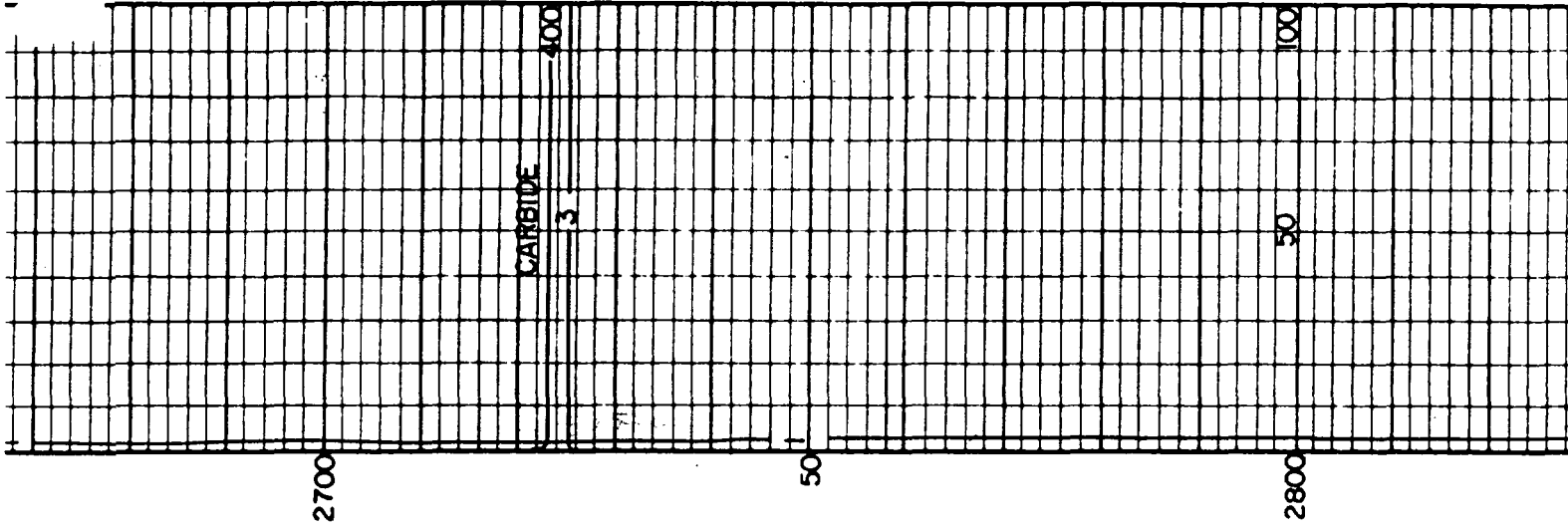
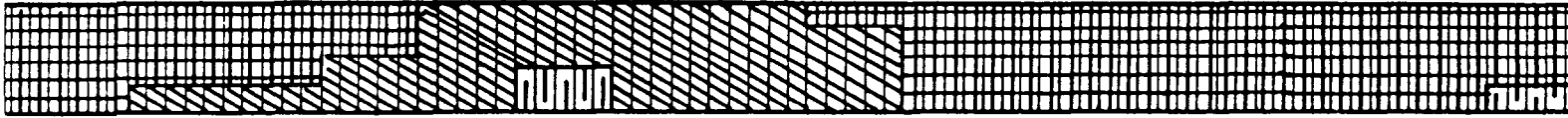
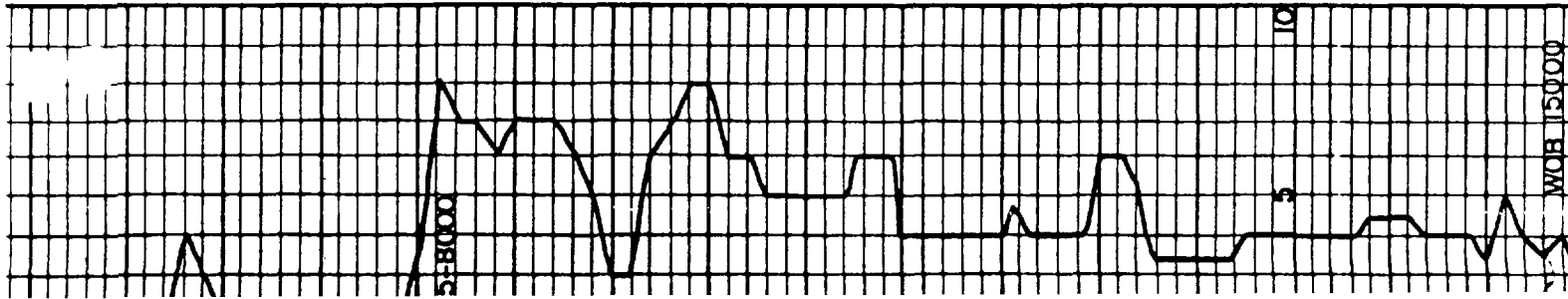
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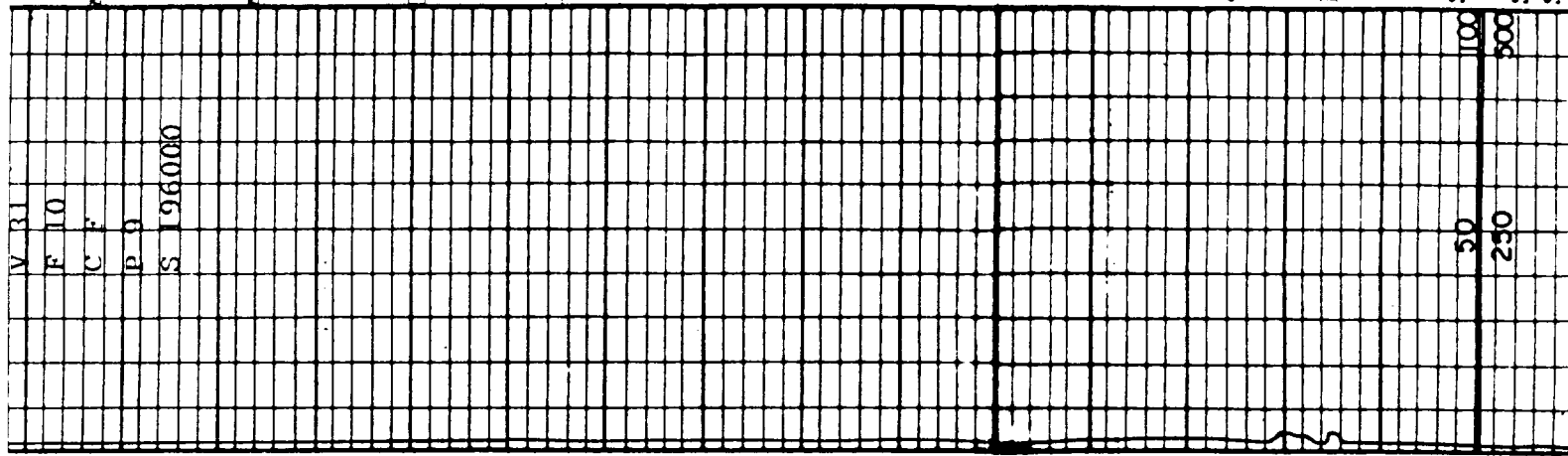
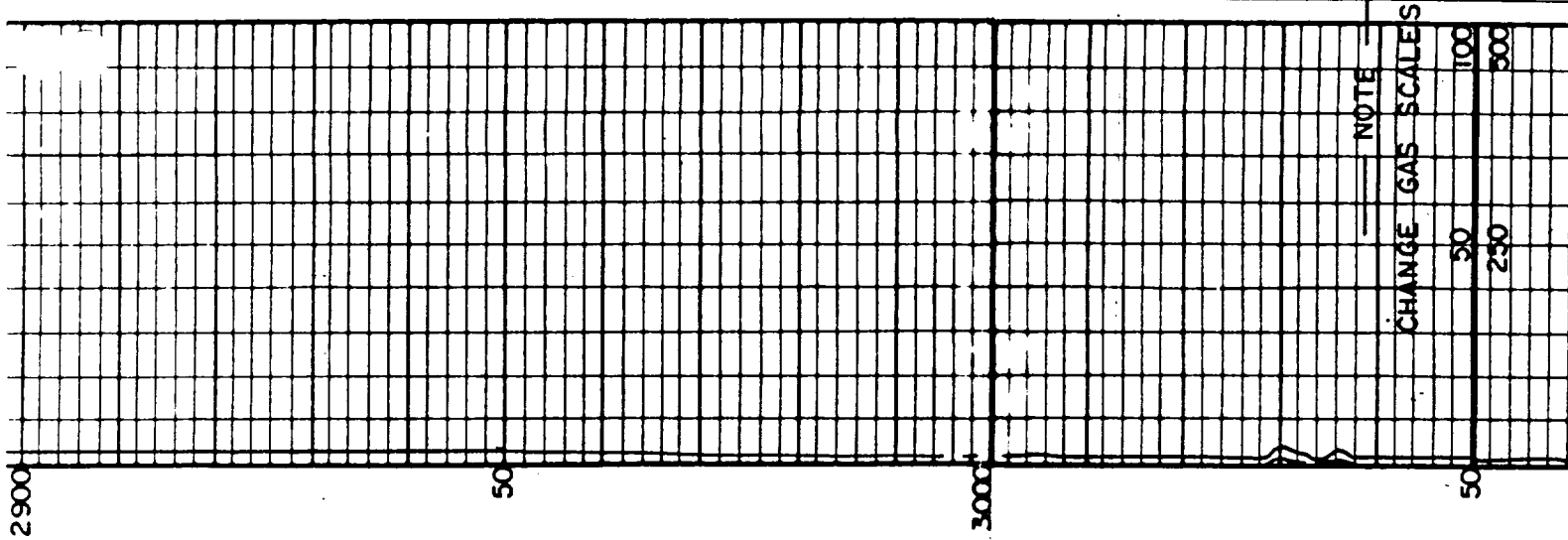
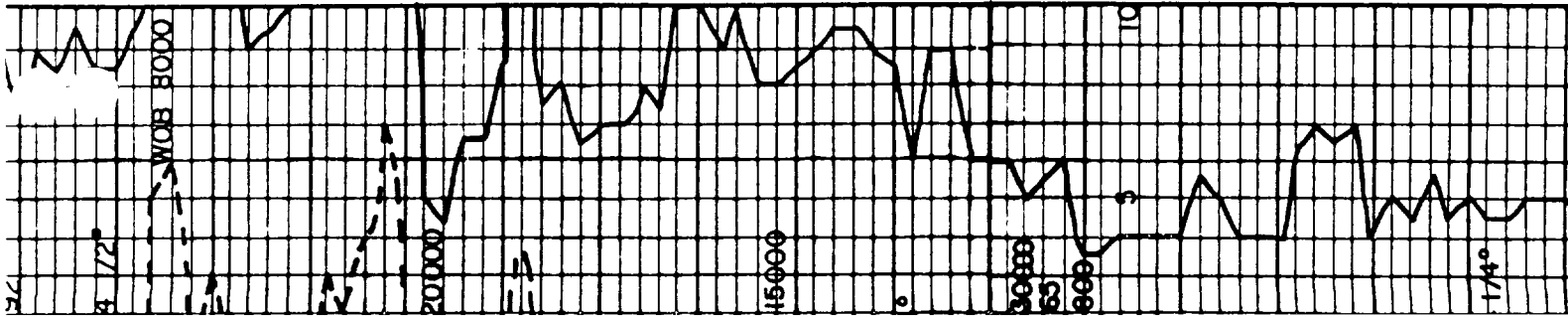


08-374P

WOE 35000

✓





ANHY CRM-OFF-
BF-LTGY MASS
FMP SM XLN

ANHY-OFFWH-LTTN
MASS FMP XLN
IP SL DOLC

DOL CRM-LTTN-OFF
WH N/DNS ANHY

DOL BF CRM OFF
WH MICR XLN
ANHY

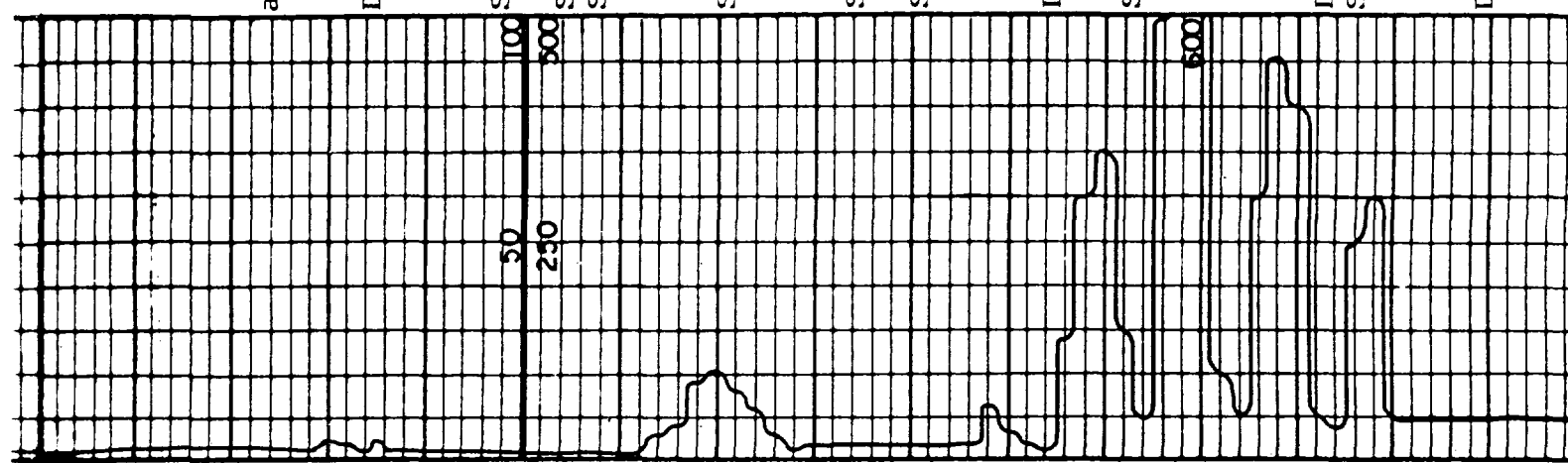
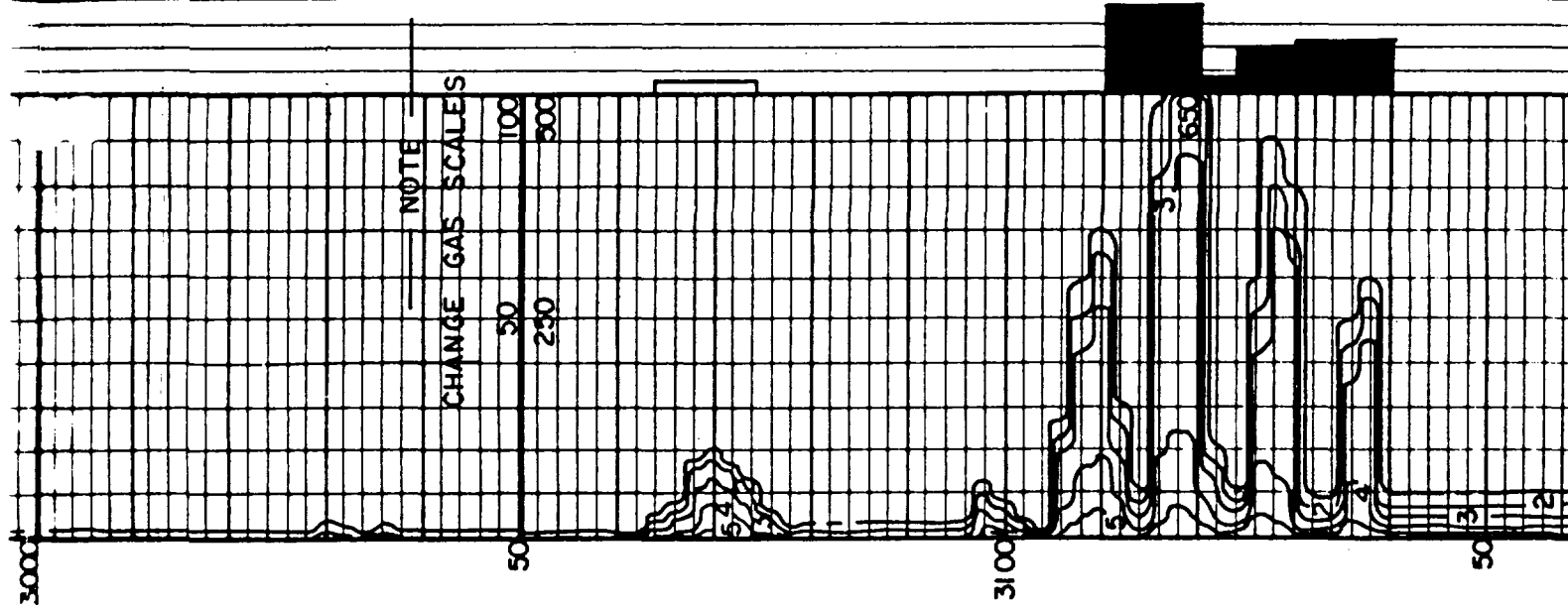
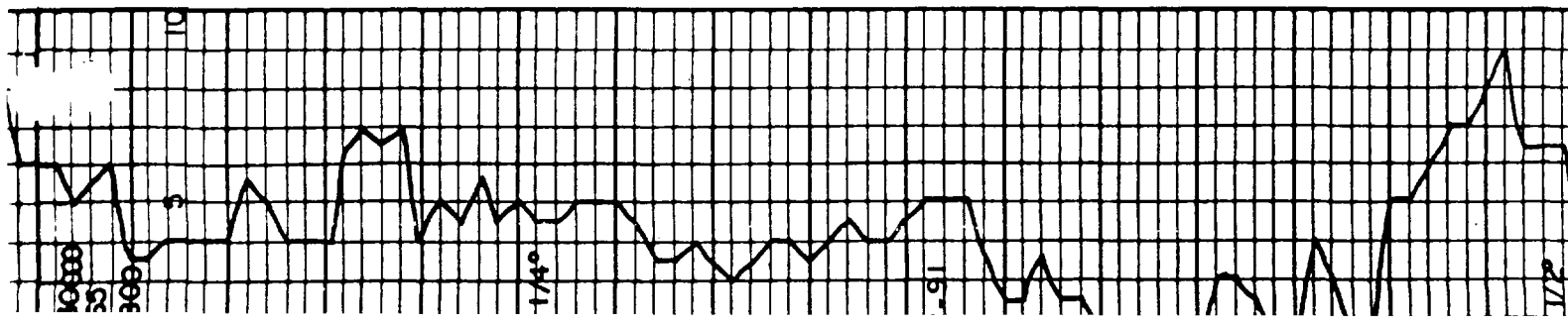
anhy clr xln

DOL BF TN LT GY
VF-FX DNS SL
PYR ANHY'C

SS TR BF TN VEG

SH LT GY V/SFT
SS LT GY BF VEG

NOTE
CHANGE GAS SCALES



any clr xln

DOL BF TN LT GY
 VF-FX DNS SL
 PYR ANHY'C

 SS TR BF TN VEG

 SH LT GY V/SFT
 SS LT GY BF VEG
 CON FRI IP
 SHLY

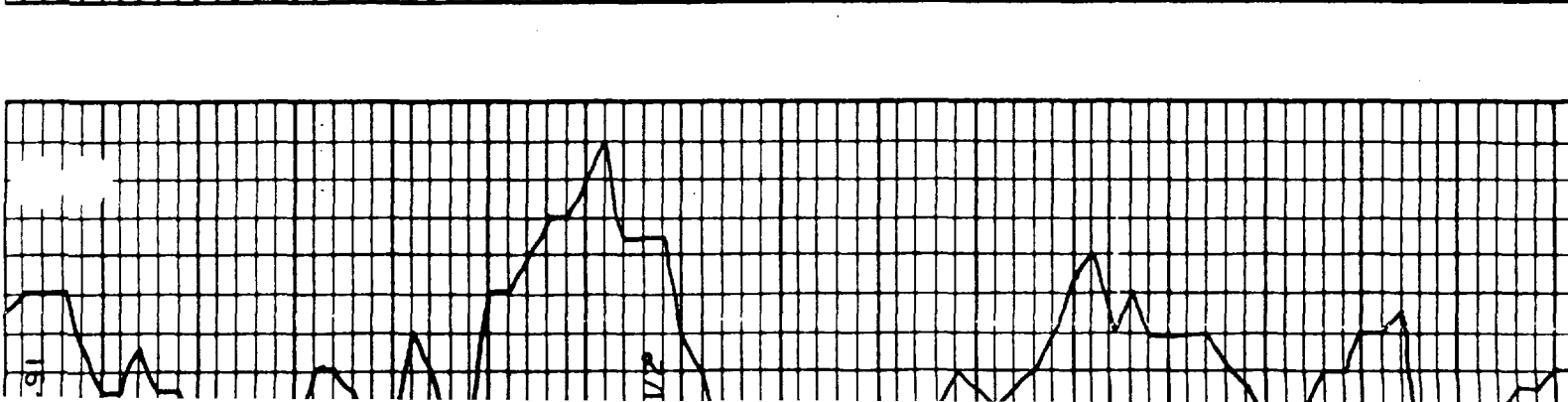
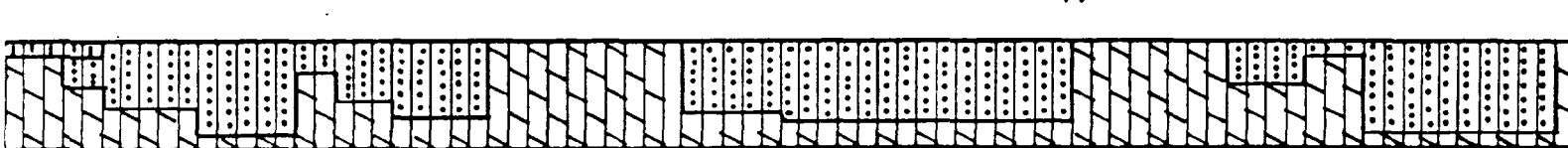
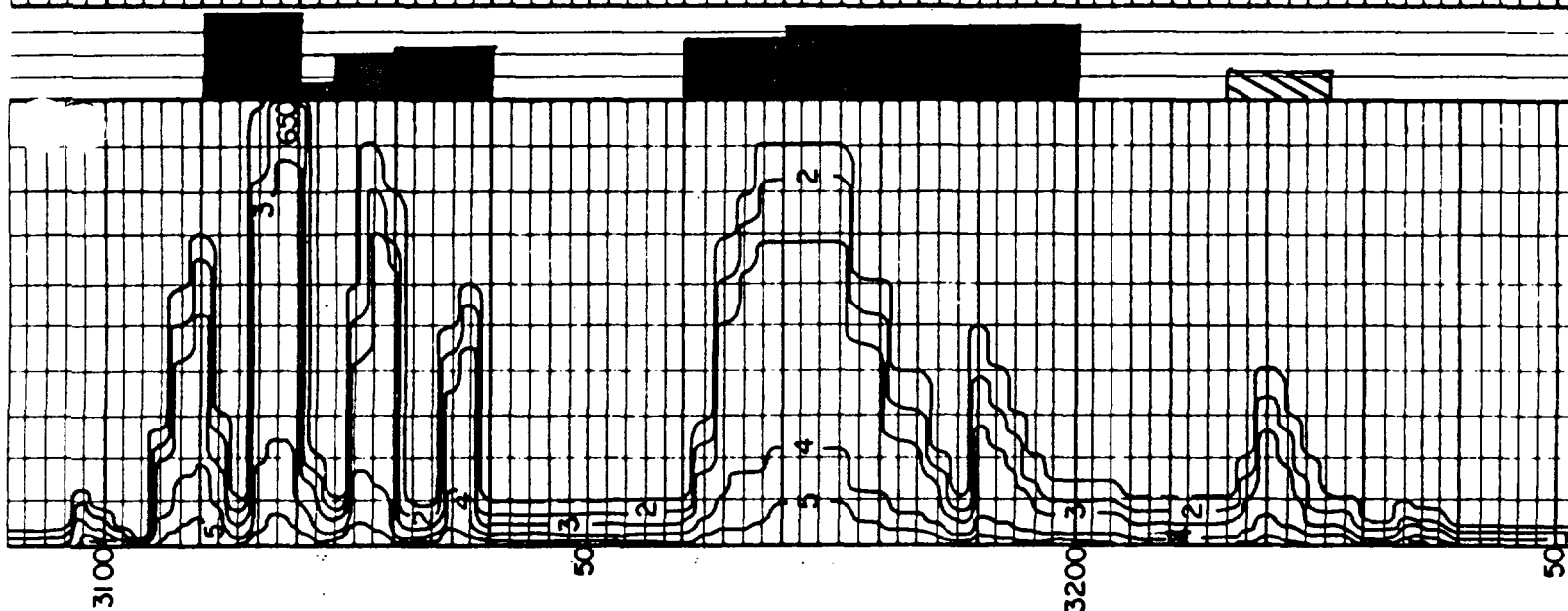
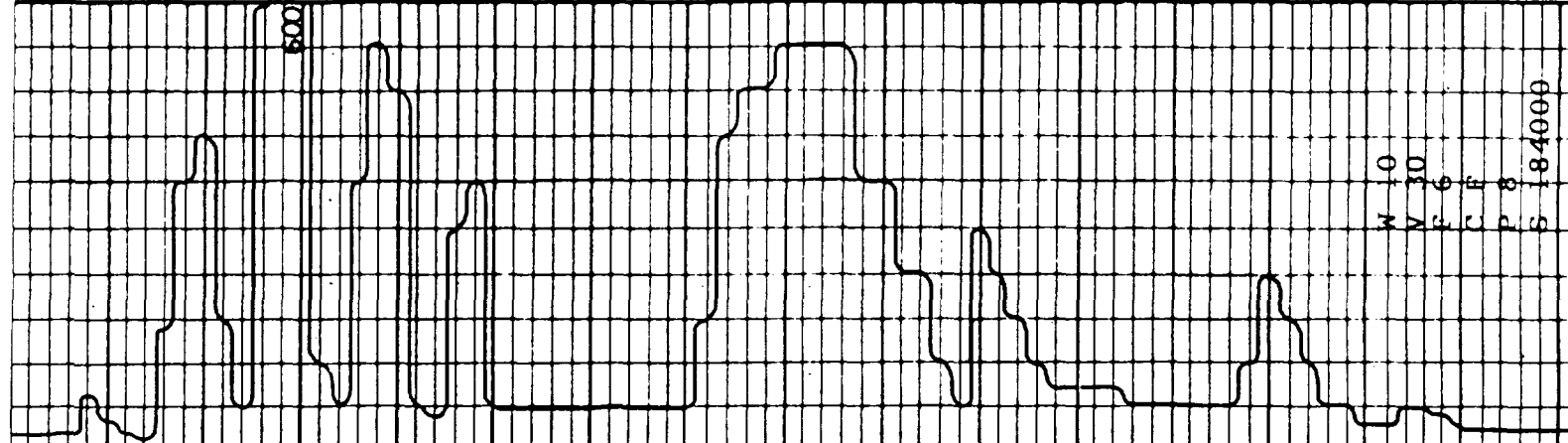
 SS BF TN LT GY
 VEG CON V/
 FRI W/ YEL
 FLU & TR CUT
 SH LTM RD-RD V/
 SFT SDY
 SS RD-DK RD VEG
 TGT SHLY
 GRDS TO RD SD
 Y DOL
 DOL WH BF TN VF
 FX DNS ANHY

 SS TN LY GY FG
 CON FRI SM F-
 CG RDD FRSTY
 HVY EN STN W/
 GOLD FLU &
 GOOD CUT

 DOL RD BF TN DNS
 SS BF TN VF-FG
 CON FRI HVY
 STN W/ GOLD
 FLU & GD CUT

 DOL LT GY BF MWH
 VF-FXDNMS

SS RD-DK RD VFG
TGT SHLY
GRDS TO R SD
Y DOL
DOL WH BF TN VF
FX DNS ANHY
SS TN LY GY FG
CON FRI SM F-
CG RDD FRSTY
HVV EN STN W/
GOLD FLU &
GOOD CUT
DOL RD BF TN DNS
SS BF TN VF-FG
CON FRI HVY
STN W/ GOLD
FLU & GD CUT
DOL LT GY BF MWH
VF-FXDNMS
SS BF TN FG CON
V/FRI LT BN
STN YEL FLU &
GOOD CUT STG
ODOR OIL ON
PIT
DOL BF WH LT GY
VFX DNS
DOL WH BF LT GY
VFX DNS SIL
SS WH BF FG CON
SL DOL'C FRI
IP LT BN STN
YEL FLU & FR
CUT BLDG GAS
SS WH VF-FG CON
SL PYR FAIR-
WELL SORT



UDON OLD ON
PIT

DOL BF WH LT GY
VFX DNS

DOL WH BF LT GY
VFX DNS SIL

SS WH BF FG CON
SL DOL'C FRI
IP LT BN STN
YEL FLU & FR
CUT BLDG GAS

SS WH VF-FG CON
SL PYR FAIR-
WELL SORT

DOL WH VFX DNS
CLN SL GLAUC

SS WH VF-FG CON
DOL'C SM FG
UNC LT BN STN
W/YEL FLU &
FAIR CUT

DOL WH VF-FX DNS
CLNM SDY IP
LT STN YEL FL
U & CUT

DOL WH LT GY VF-
FX DNS PYR
SML VUG POR W
BN STN GOLD
FLU & TR CUT

DOL WH LT GY FX
HVV STN GOLD
FLU & TR CUT

W 10
V 10
F 6
C 6
P 8
S 184000

3200

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3300

MARKED



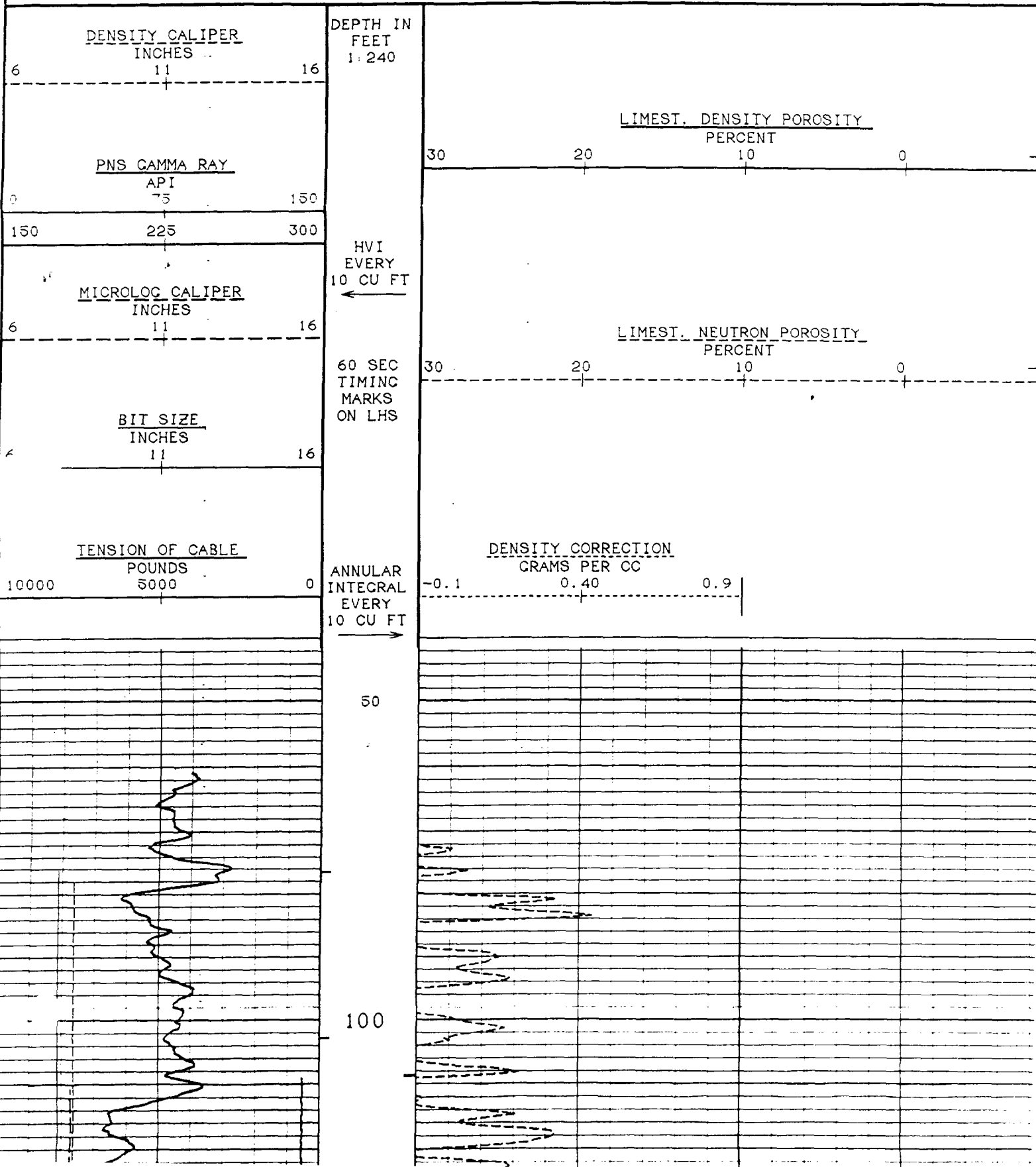
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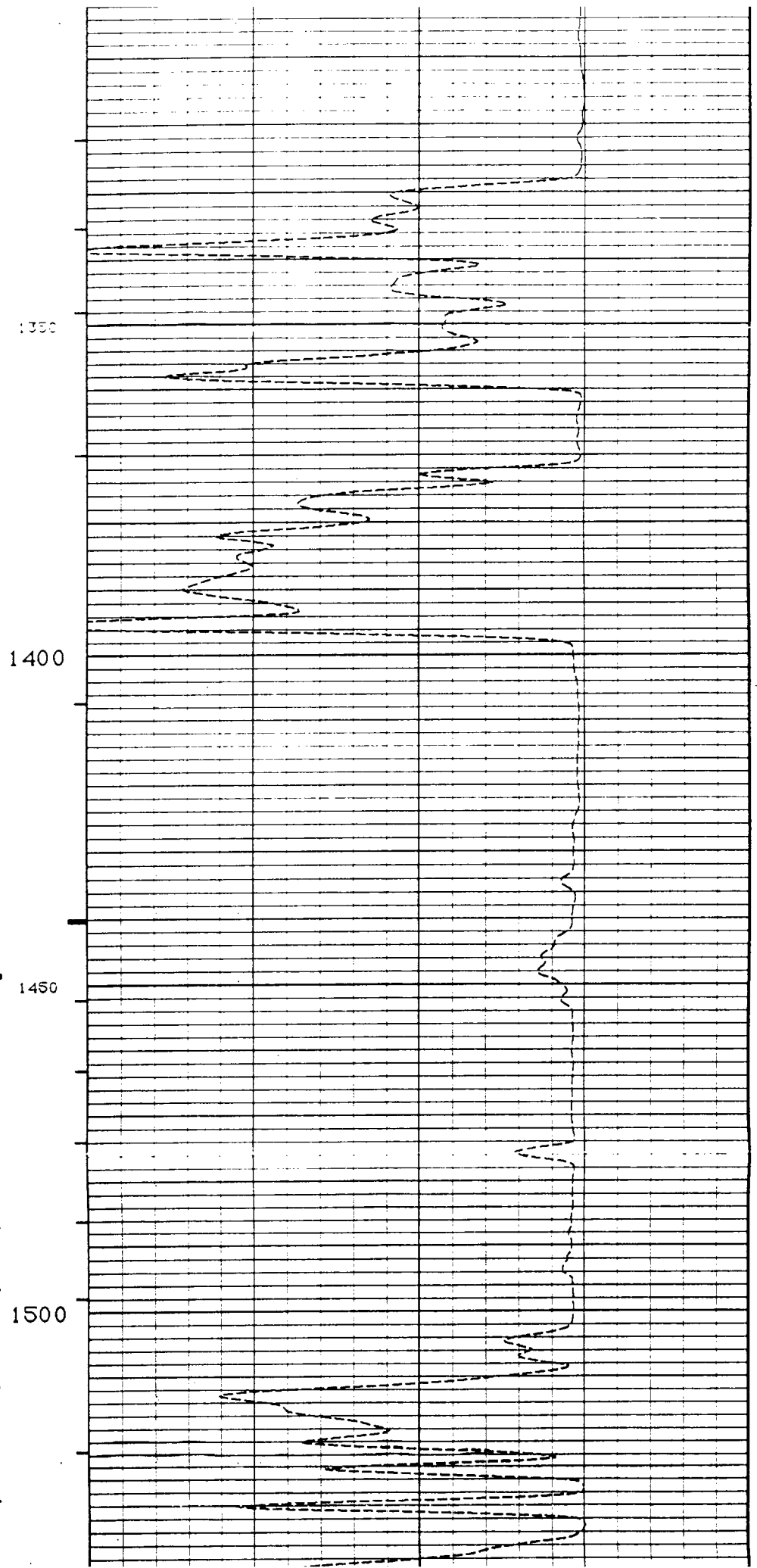
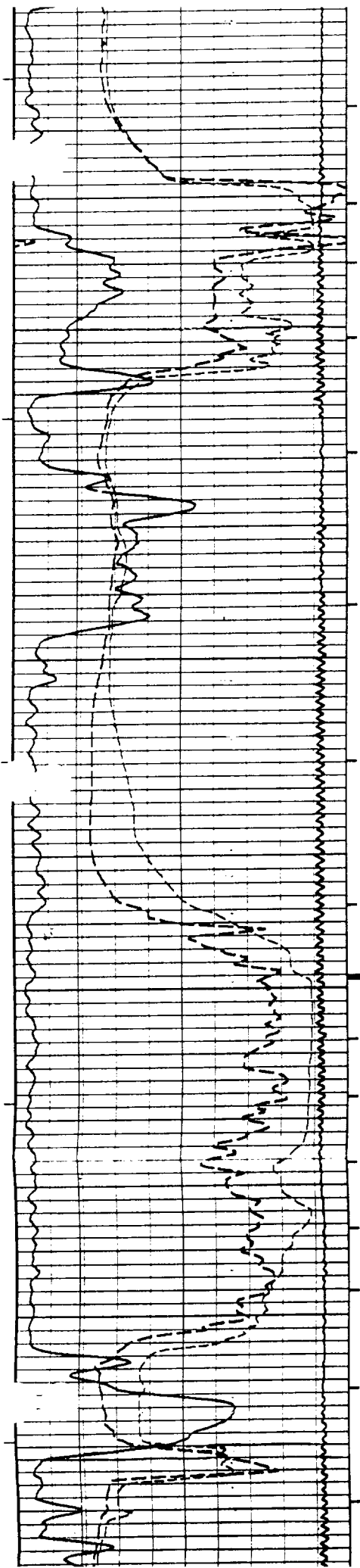
LOCATION 990' FNL & 2110' FEL PRVNC/CO. LEA FIELD WEST TEAS WELL: FEDERAL 9 NO. 2 COMPANY: STEVENS & TULL INC	COMPANY STEVENS & TULL INC WELL FEDERAL 9 NO. 2 FIELD WEST TEAS PROVINCE/COUNTY LEA COUNTRY/STATE U.S.A. / NEW MEXICO			
	LOCATION 990' FNL & 2110' FEL			OTHER SERVICES DLS MLS
	LSD	SEC 9	TWP 20S	RGE 33E
	PERMANENT DATUM GROUND LEVEL ELEVATION 3550 FT LOC MEASURED FROM K.B. 9 FT ABOVE PERMANENT DATUM DRILLING MEASURED FROM K.B.			
ELEVATIONS KB 3559 FT DF 3558 FT CL 3550 FT				
DATE	13-OCT-92			
RUN NUMBER	ONE			
DEPTH-DRILLER	3340 FT			
DEPTH-LOGGER	3337 FT			
FIRST READING	3335 FT			
LAST READING	100 FT			
CASING-DRILLER	1300 FT			
CASING-LOGGER	1300 FT			
BIT SIZE	7 7/8 INCH			
HOLE FLUID TYPE	STARCH			
DENS./VISC.	10.0	30		
PH/FLUID LOSS	0.0	6.0		
SAMPLE SOURCE	PIT			
RM @ MEAS TEMP	0.051 @ 75 F			
RMF @ MEAS TEMP	0.051 @ 75 F			
RMC @ MEAS TEMP				
SOURCE: RMF/RMC	MEAS			
RM @ BIT	0.034 @ 106F			
TIME SINCE CIRC	5.0 HRS.			
MAX REC TEMP	106 DEG F			
EQUIPMENT/BASE	V1029	MDD		
RECORDED BY	CHILDERS			
WITNESSED BY	MR. MOONEY			

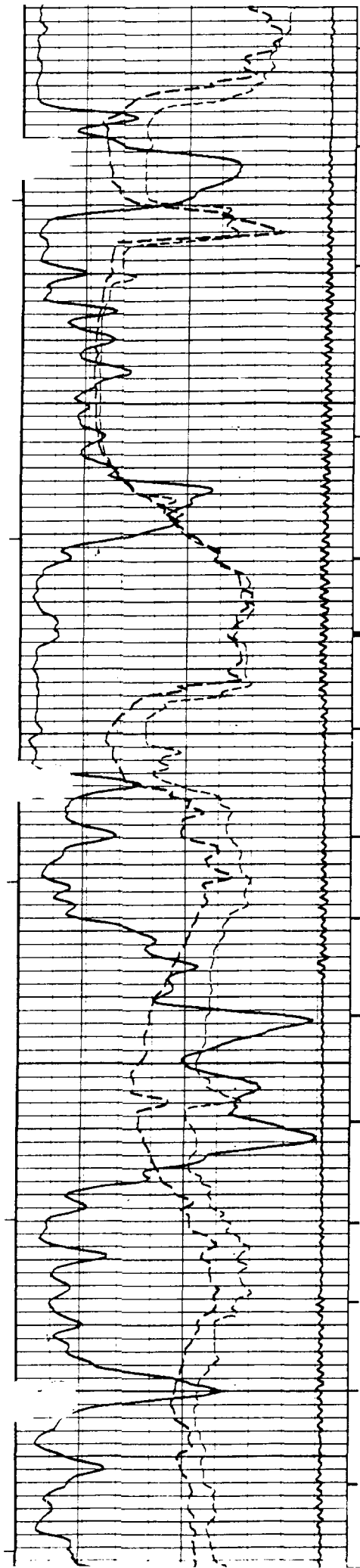
↑ 2 INCH MAIN LOG

5 INCH MAIN LOG

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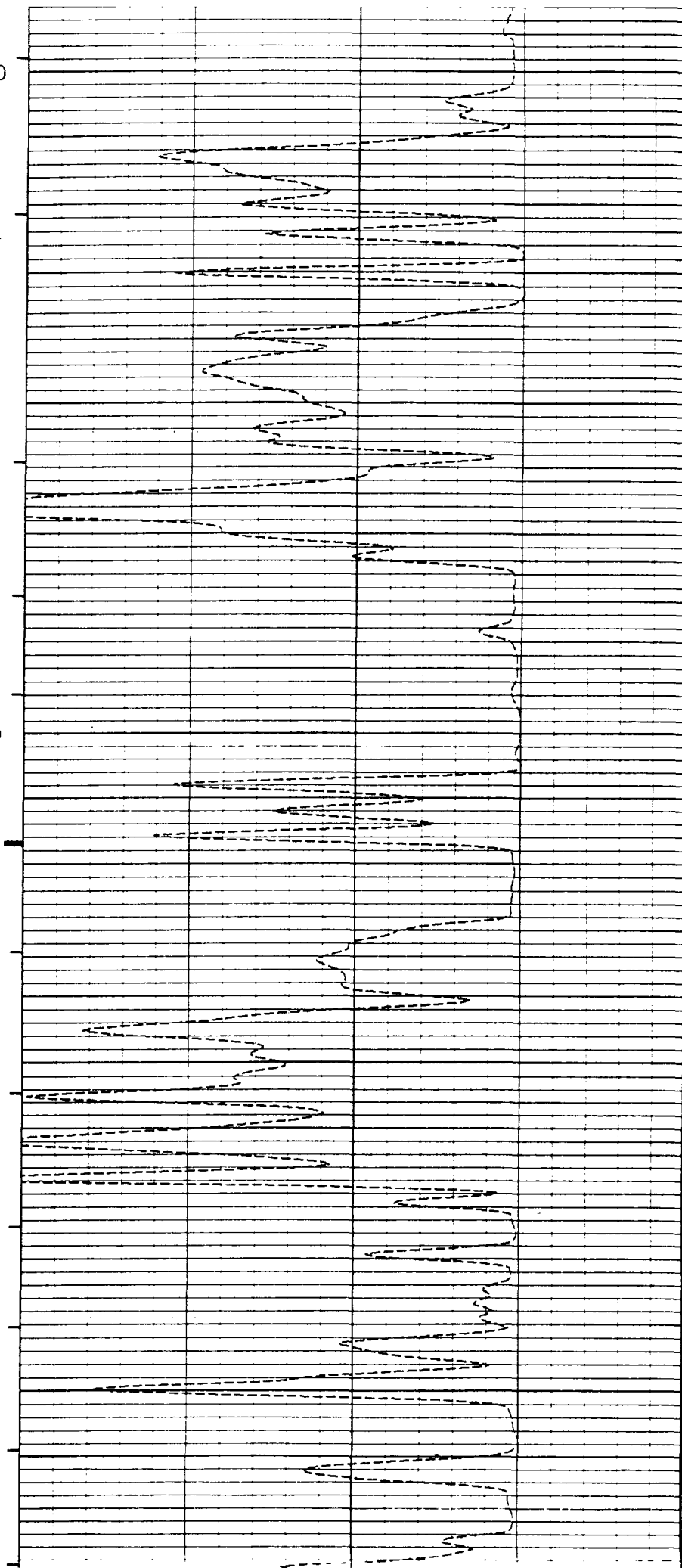
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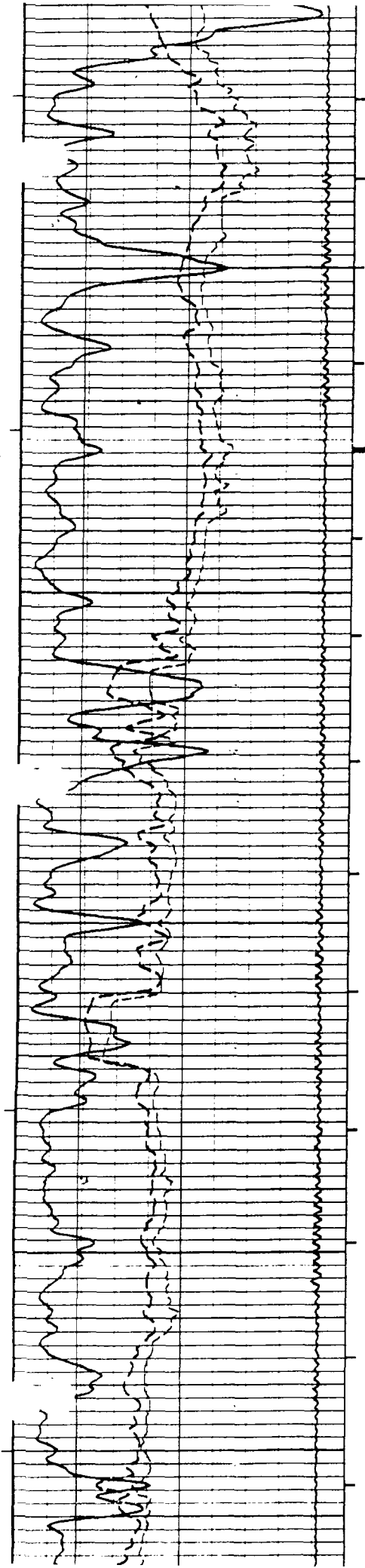
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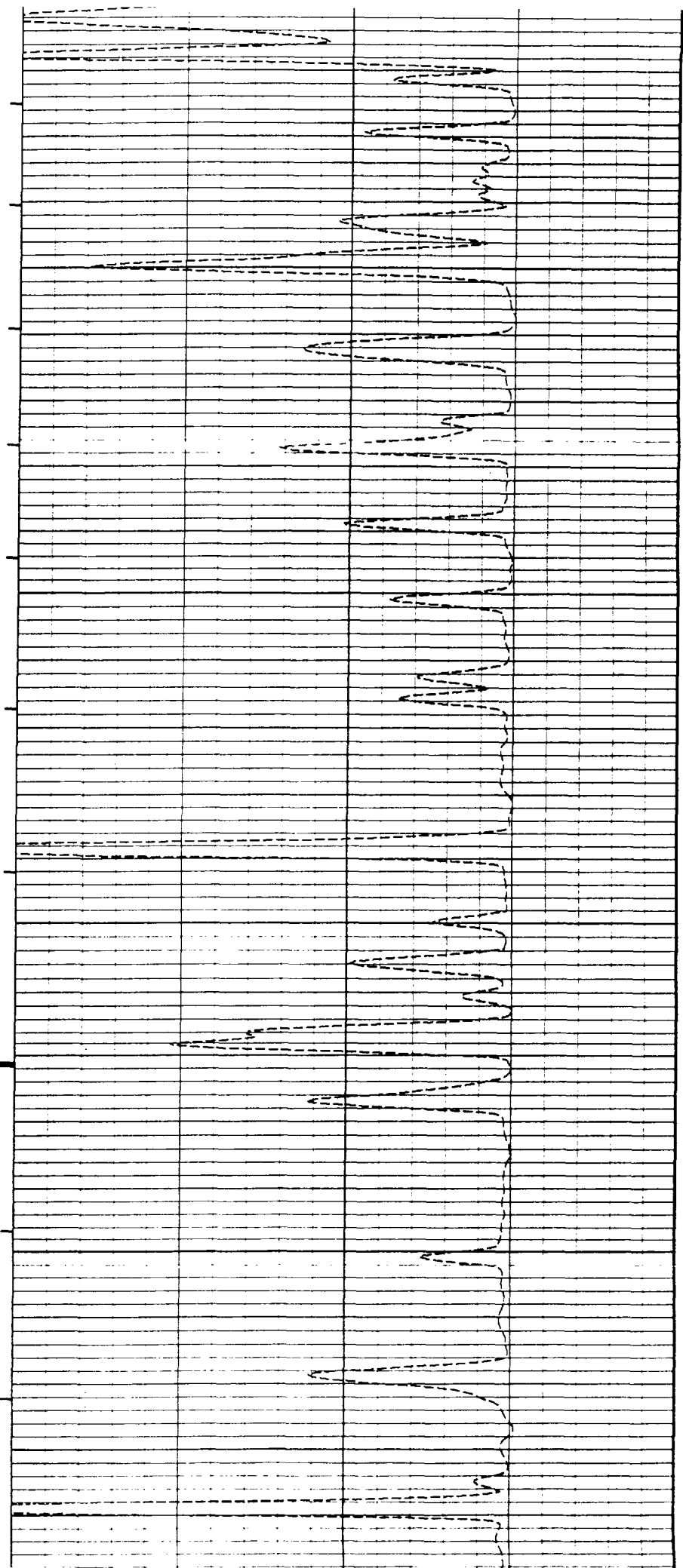


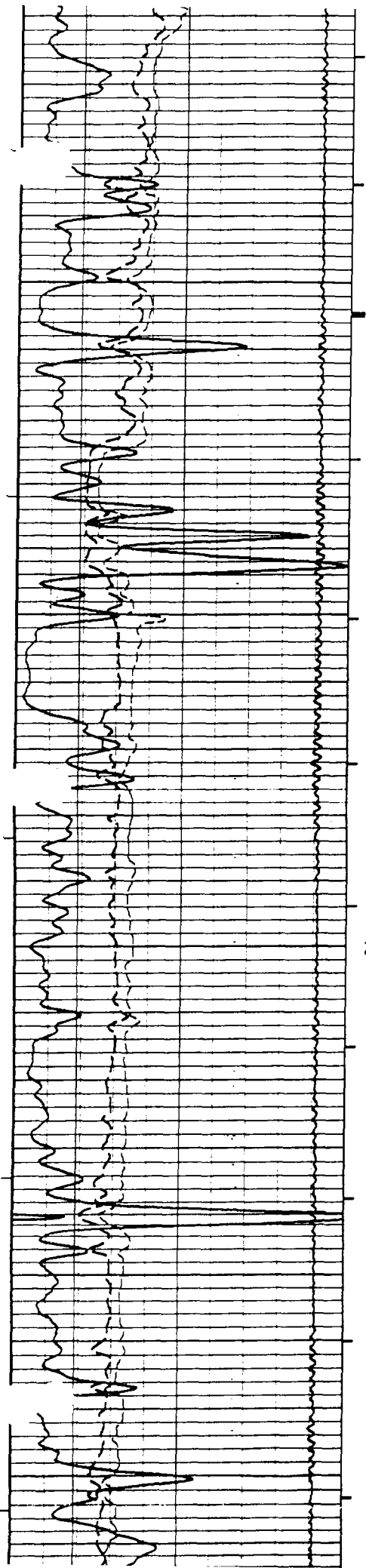
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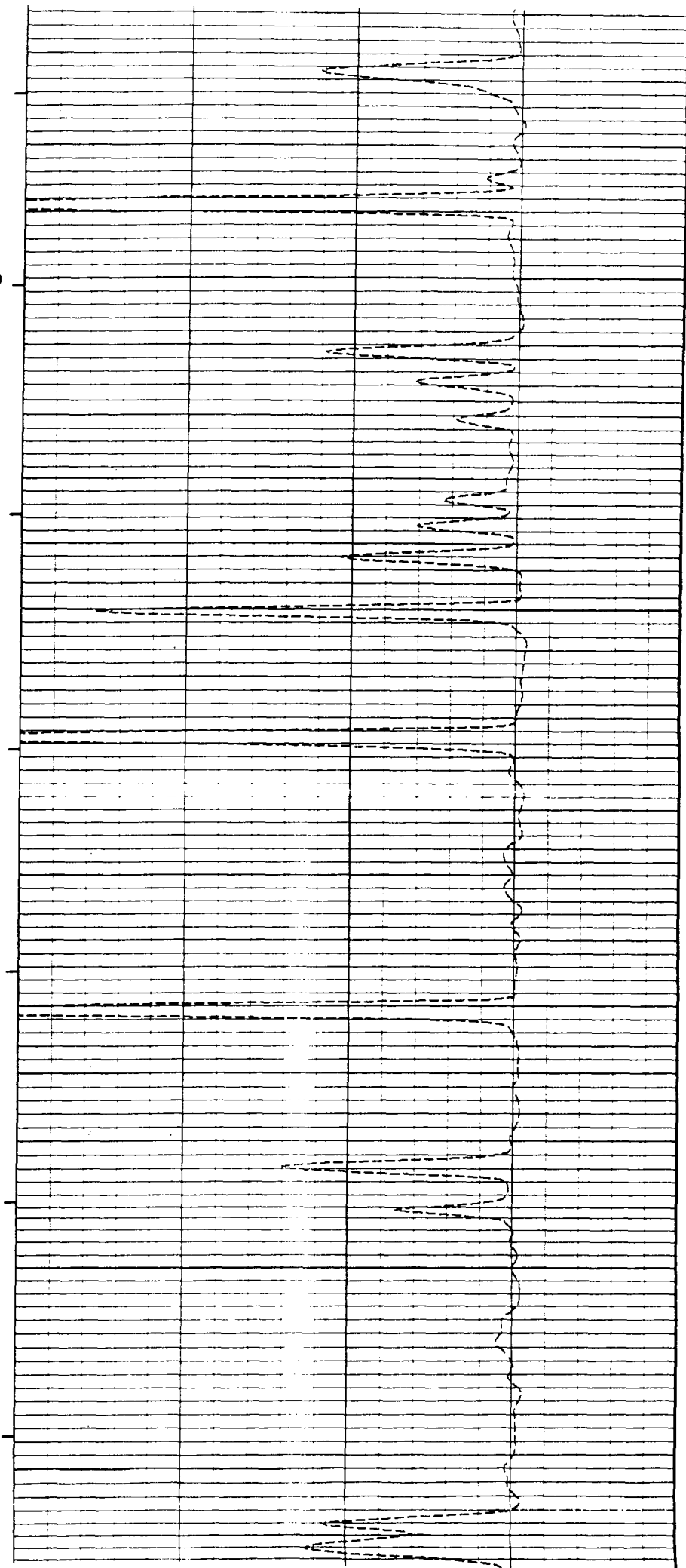


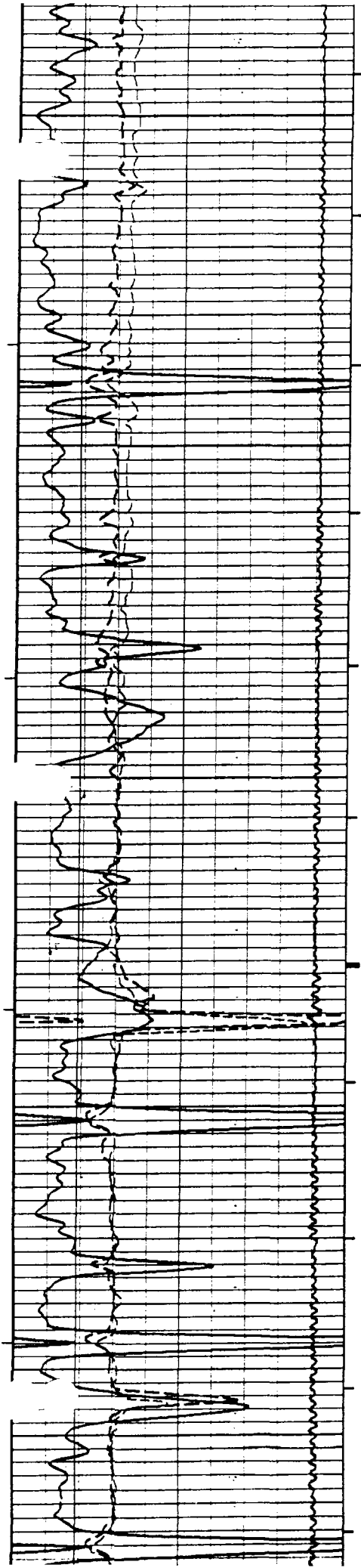
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2000

2050





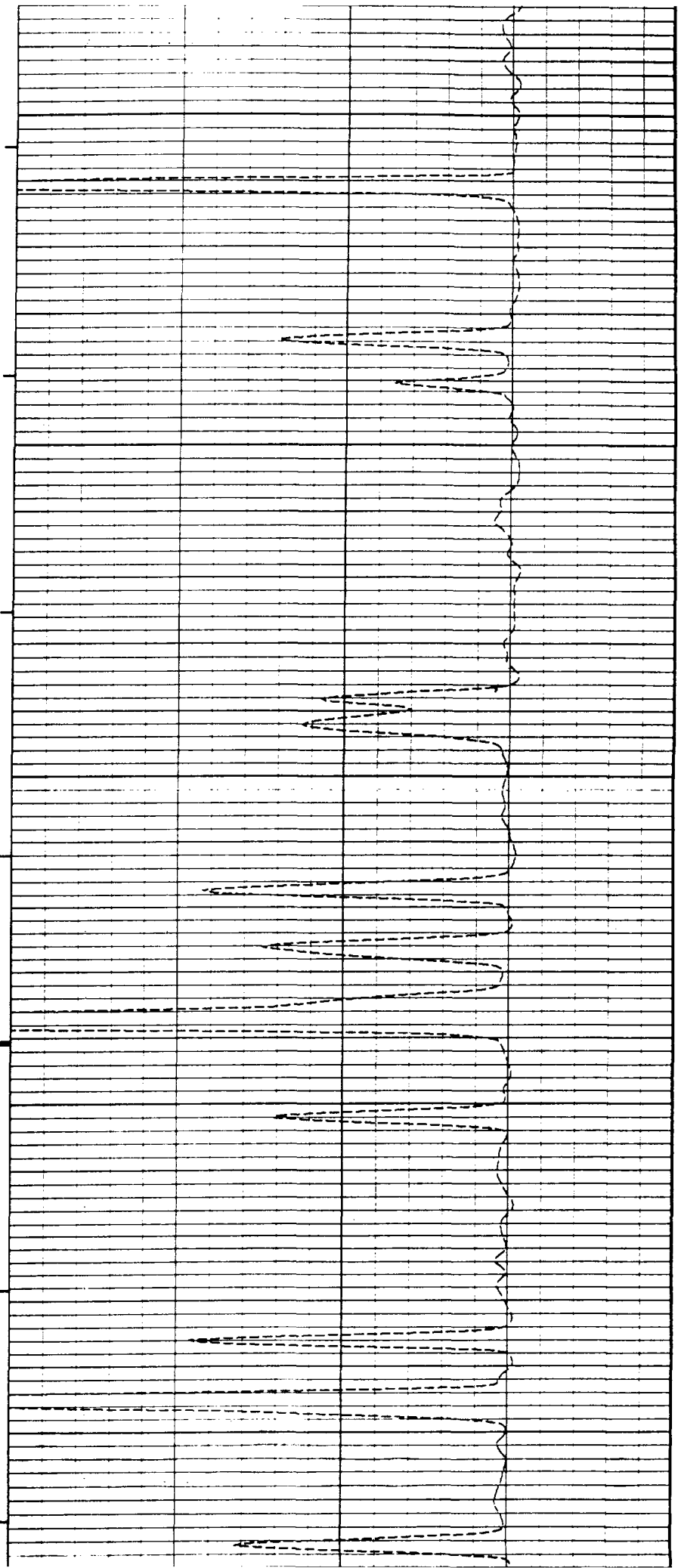
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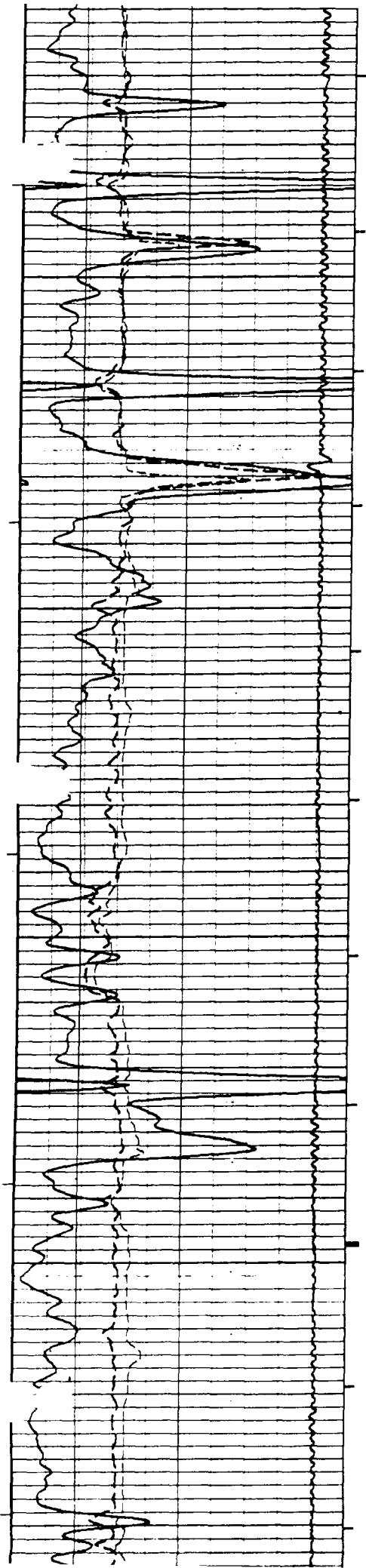
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2150

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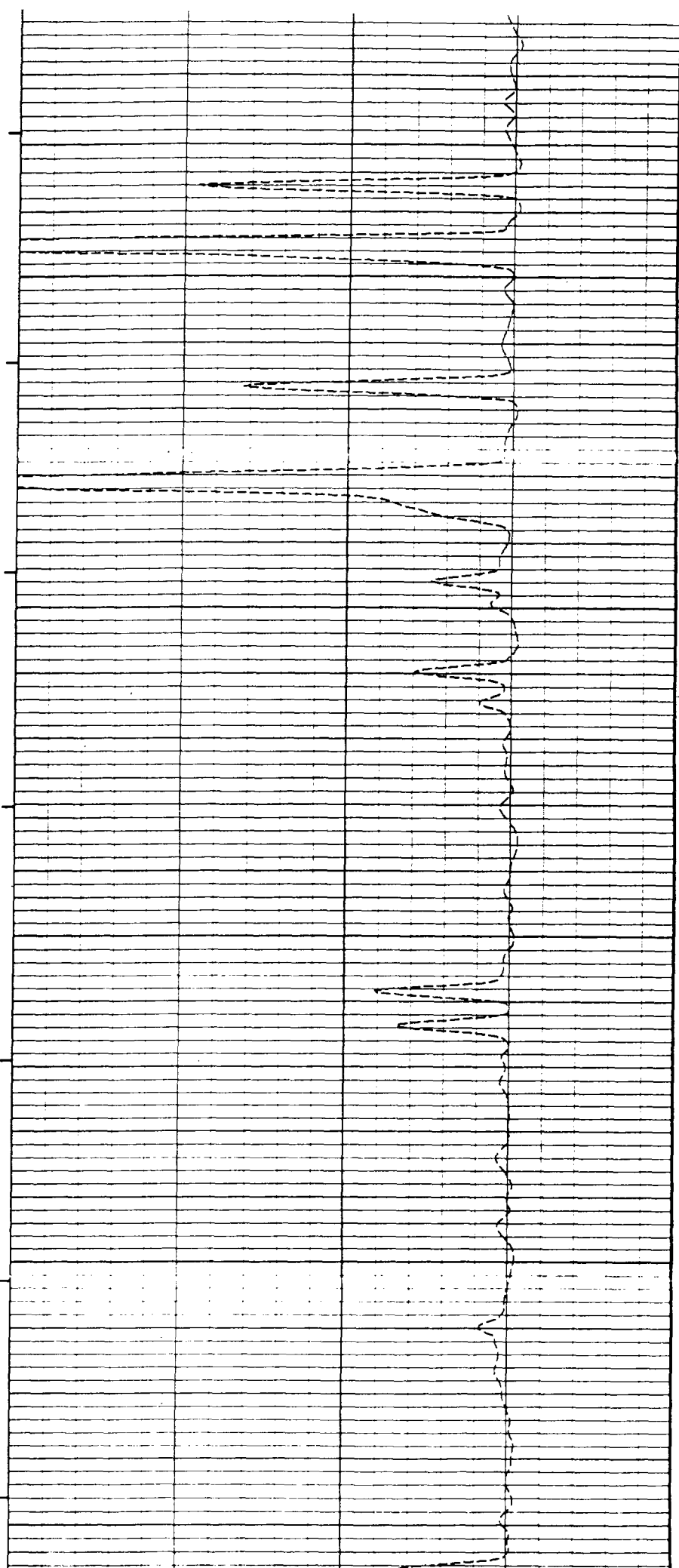


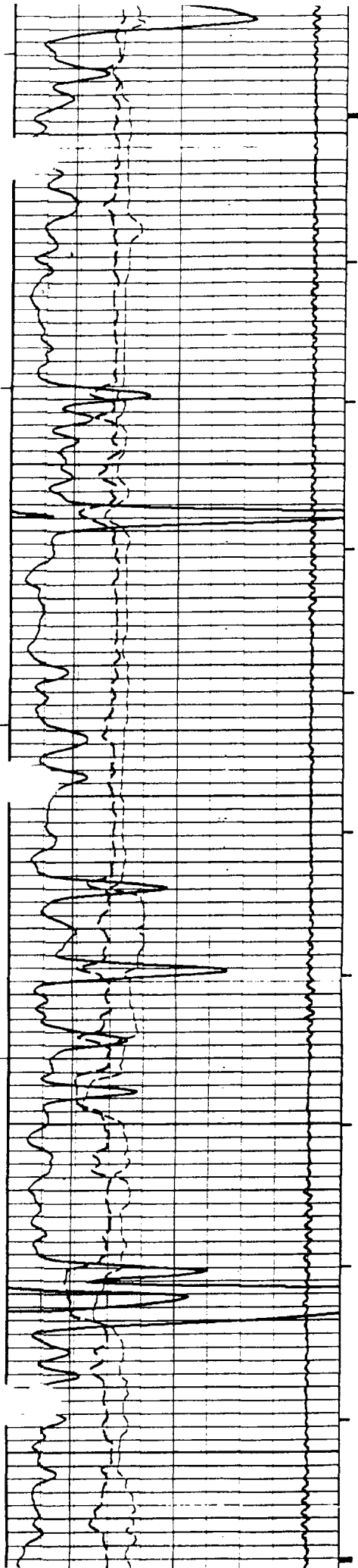
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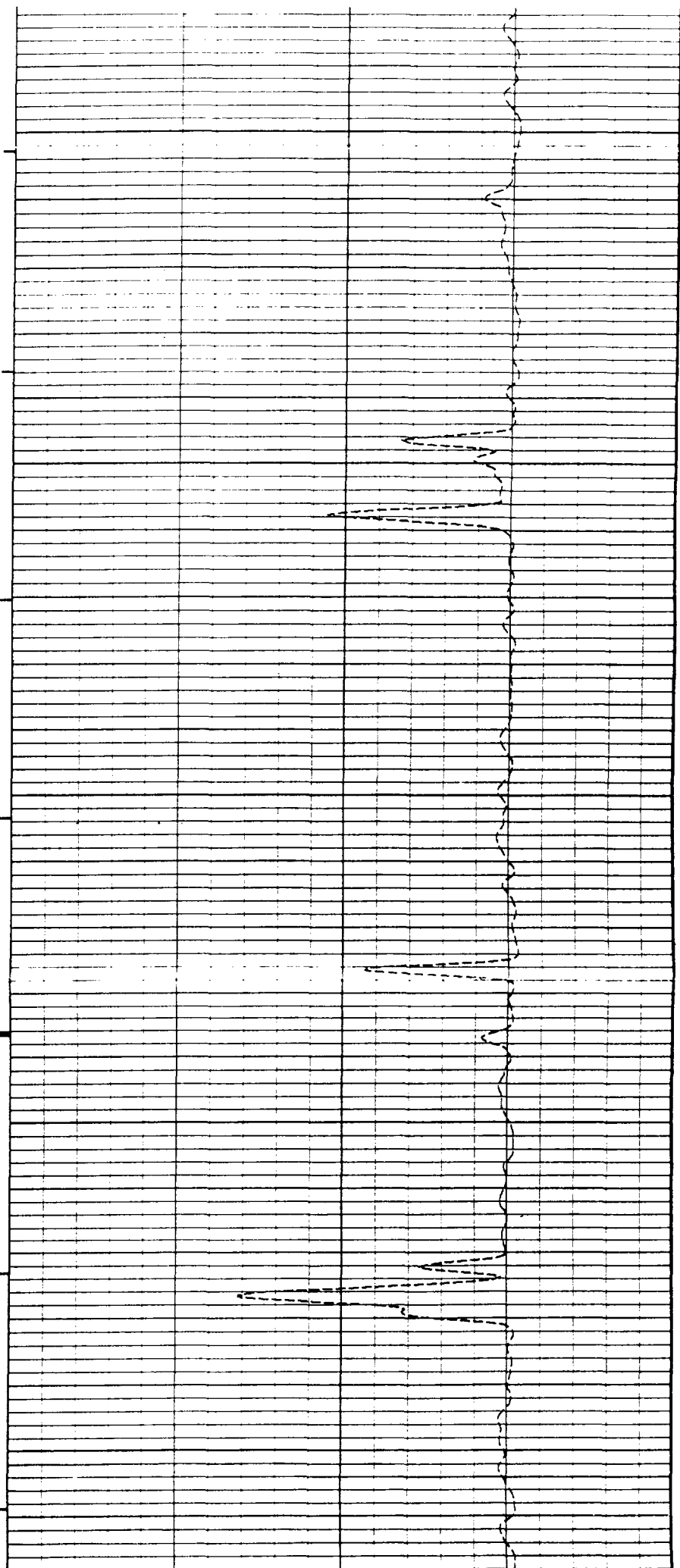
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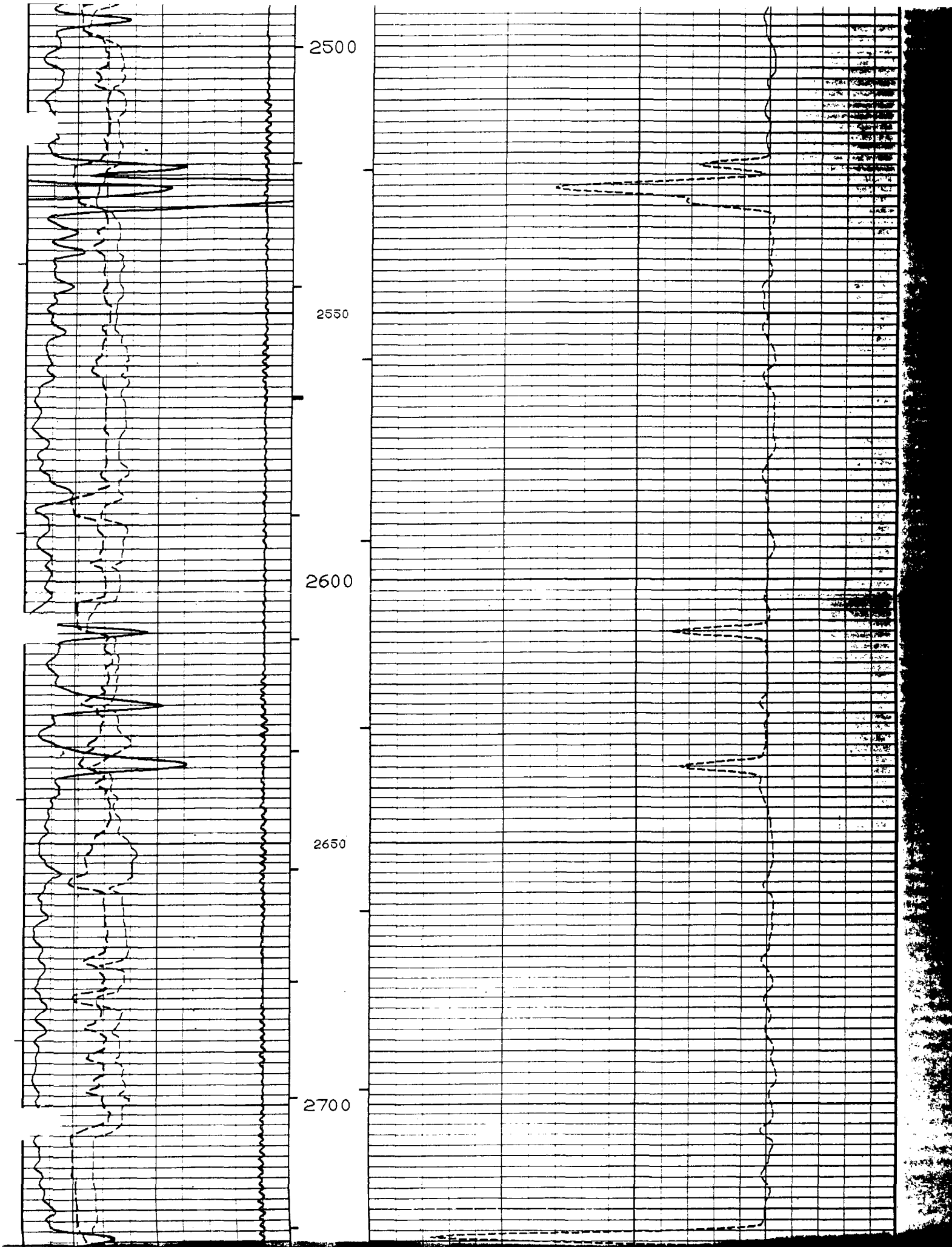
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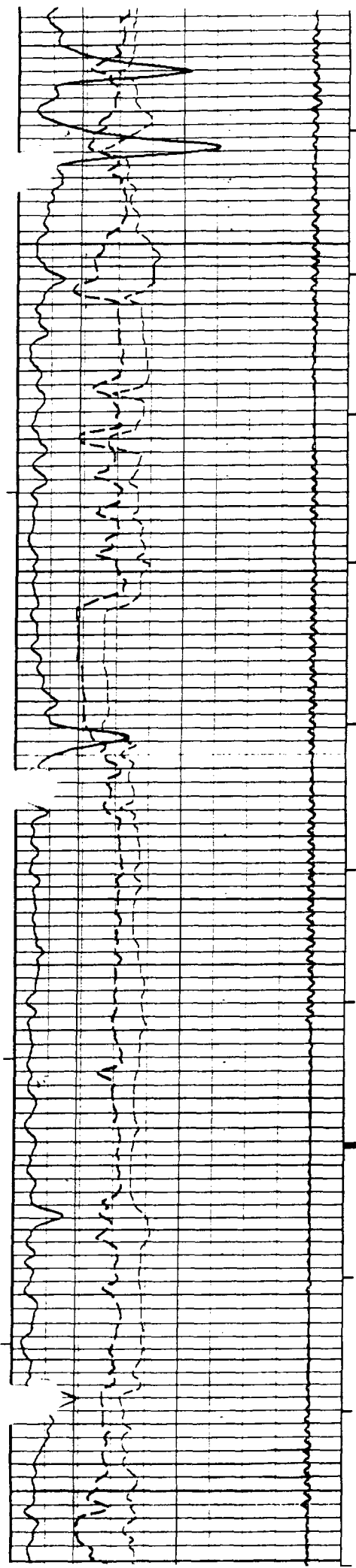
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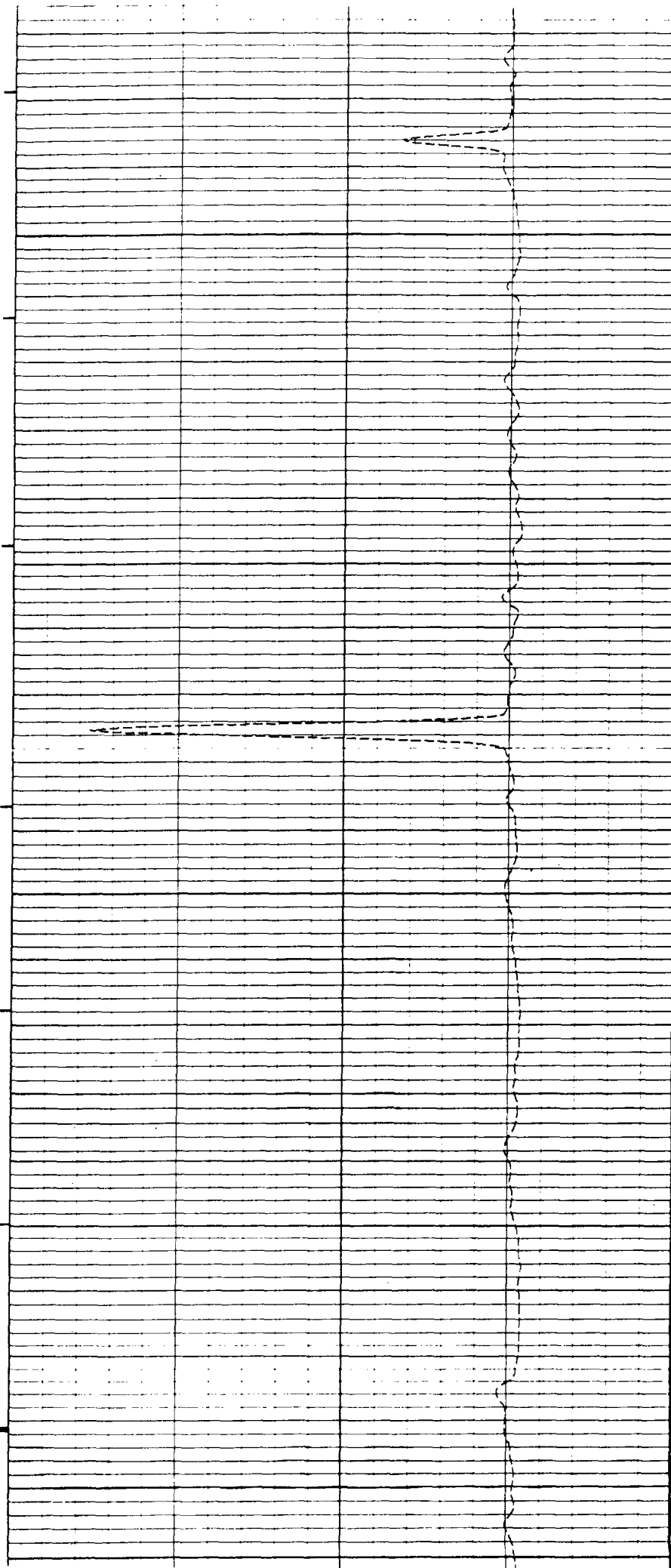
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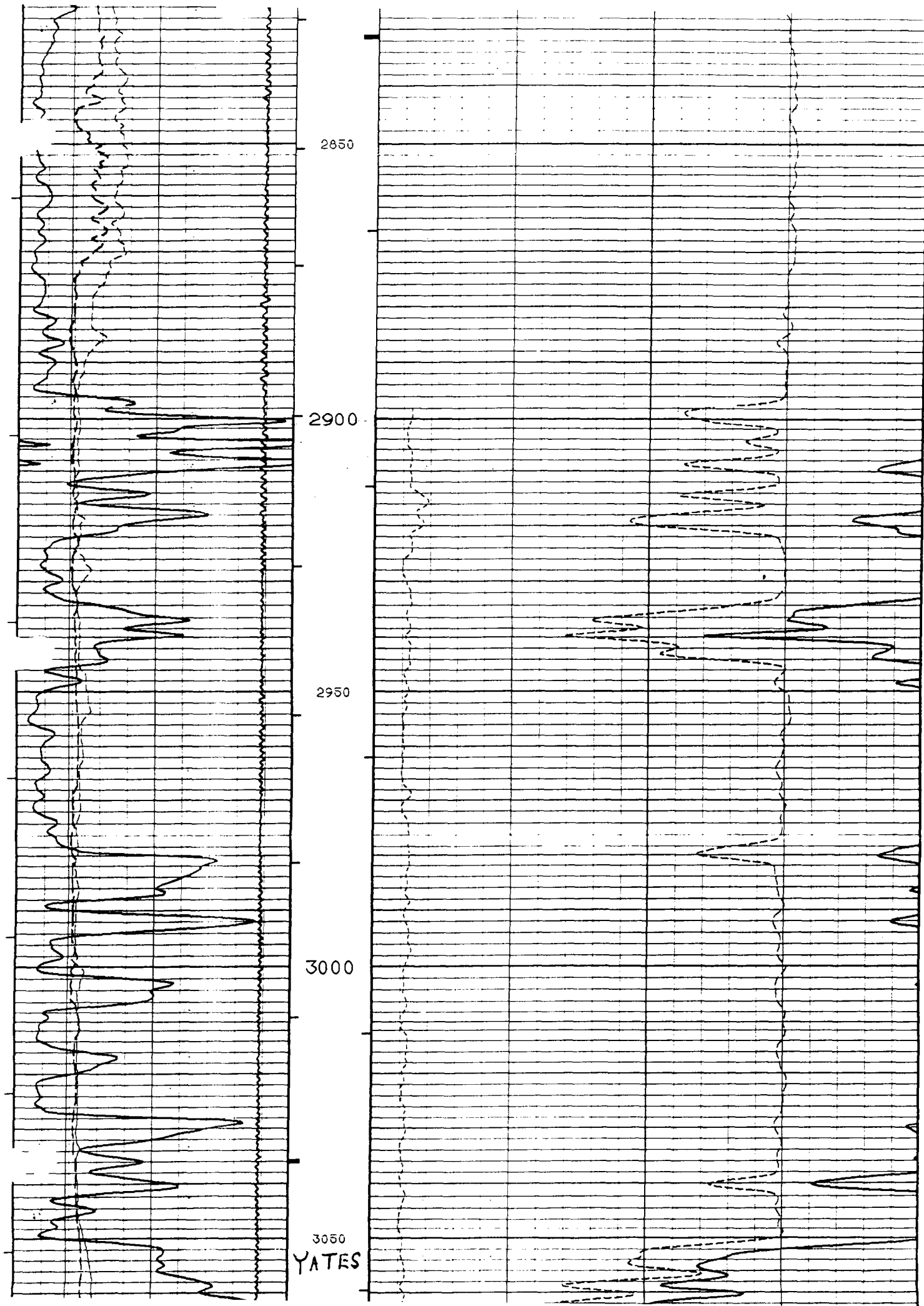
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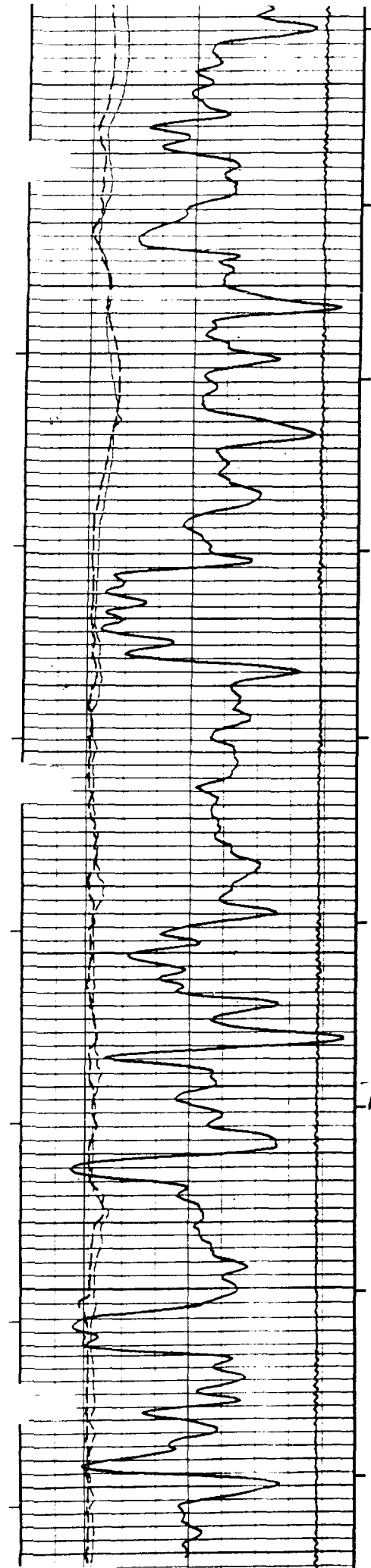
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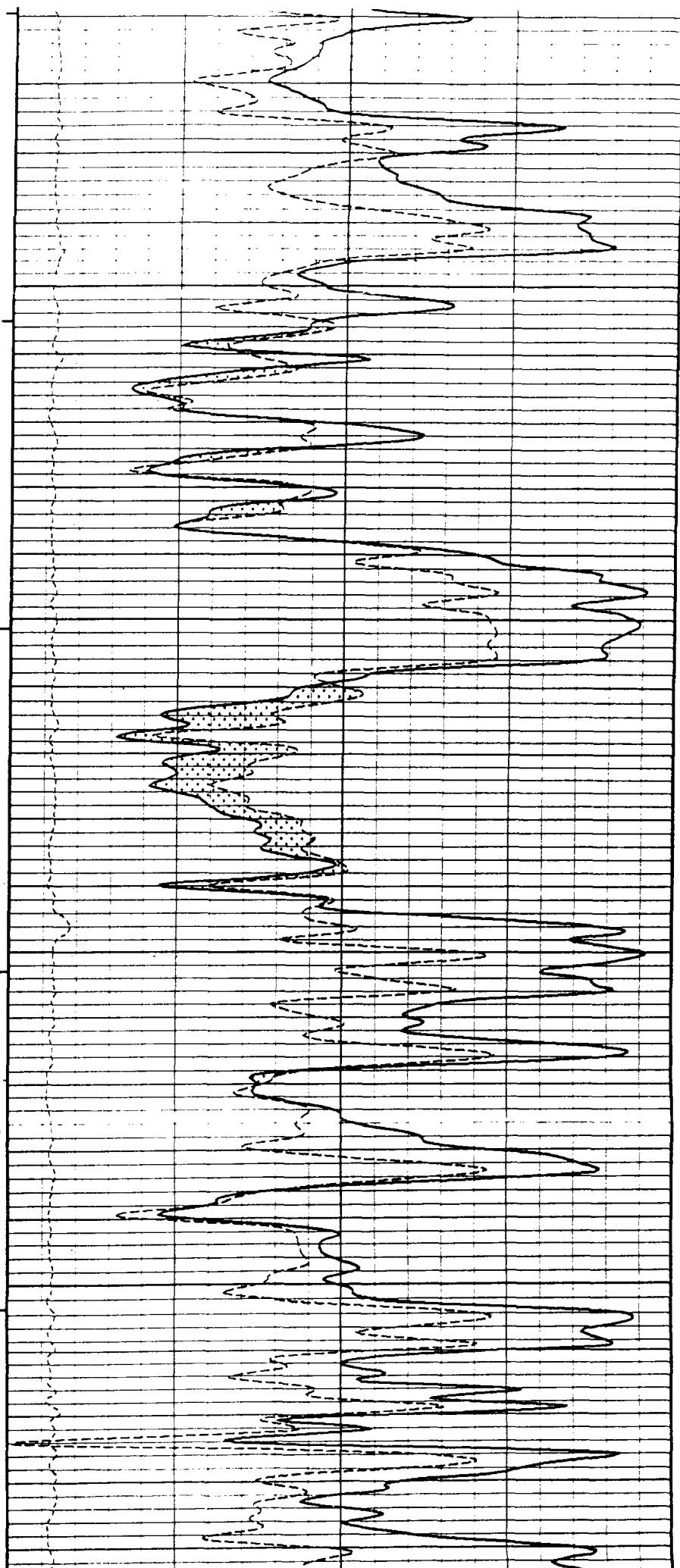
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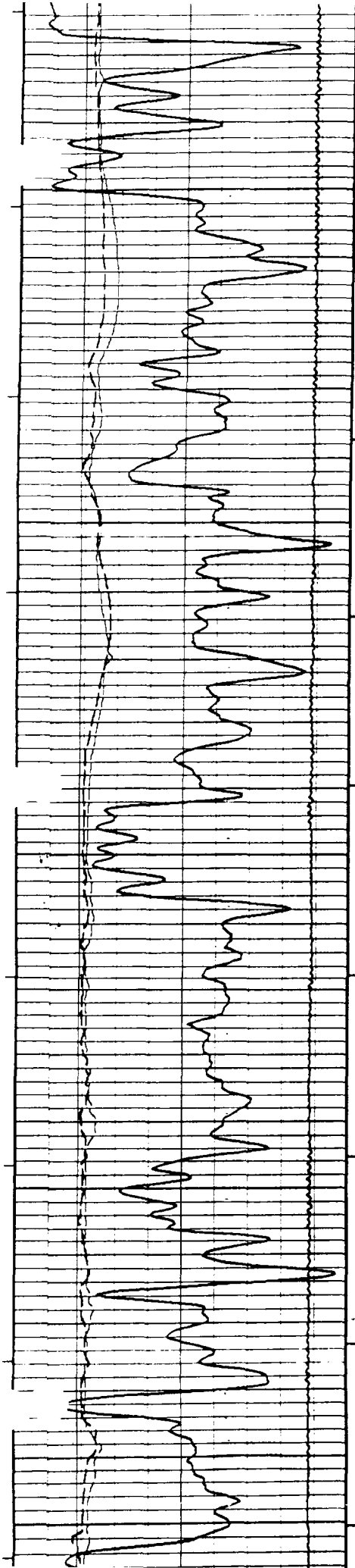
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LOWER
YATES

3250





3050
YATES

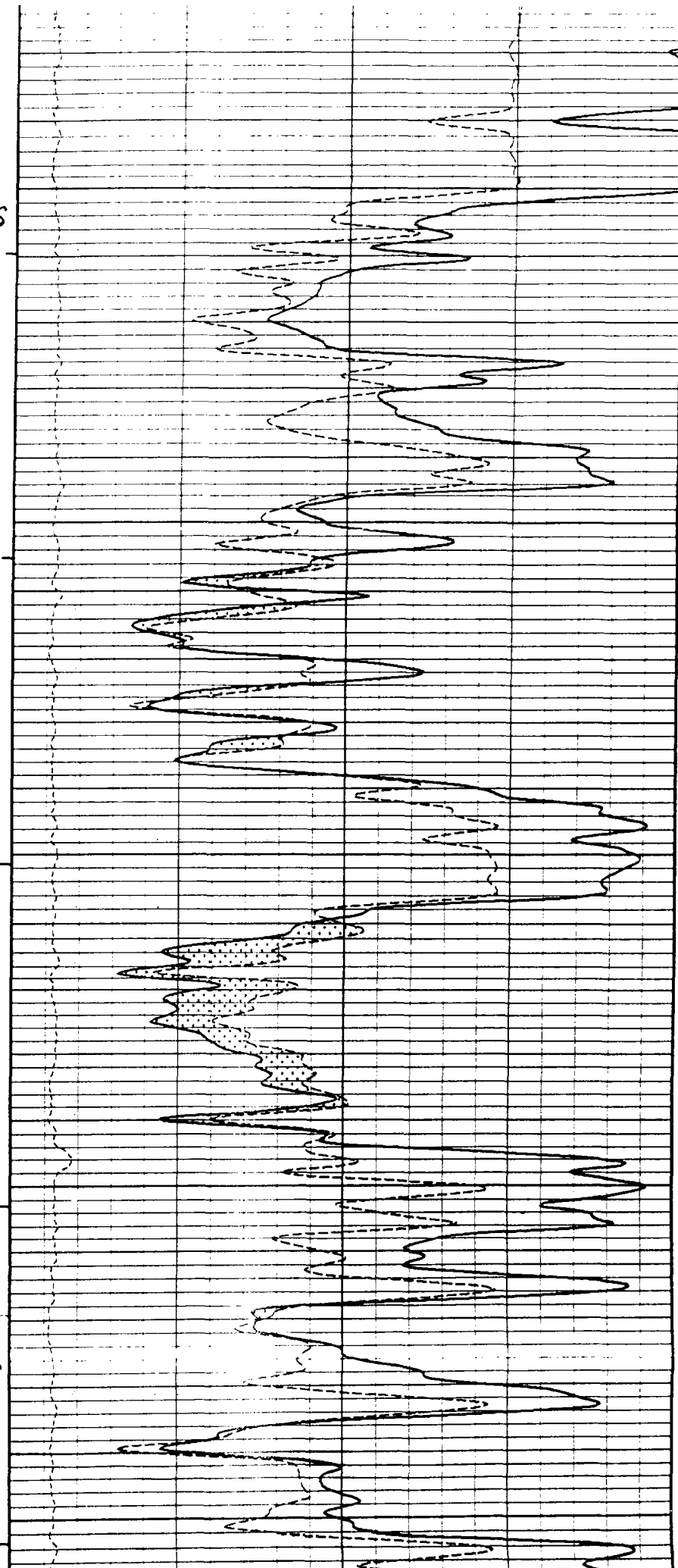
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3150

3200

LOWER
YATES

3250



3150

3200

LOWER
YATES

3250

3300
SEVEN
RIVERS

DENSITY CALIPER
INCHES

6 11 16

PNS GAMMA RAY

API

75

0 150

225

150 300

DEPTH IN
FEET
1 240

HVI
EVERY
10 CU FT

LIMEST. DENSITY POROSITY
PERCENT

30 20 10 0 -10