



# CEMENT BOND GAMMA RAY COLLAR CORRELATION LOG

NOBLE ENERGY INC.  
 HP FARMS D 32-03  
 WATTENBERG  
 WELD  
 COLORADO

Company NOBLE ENERGY INC.  
 Well HP FARMS D 32-03  
 Field WATTENBERG  
 County WELD State COLORADO

Location: API #: 05-12330985-00  
 824' FNL & 2155' FWL  
 NE NW  
 SEC. 32 TWP. 3N RGE. 64W  
 SEC TWP RGE

Other Services  
 NONE

Permanent Datum GROUND LEVEL Elevation 4824  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING

Elevation  
 K.B. 4837  
 D.F. 4837  
 G.L. 4824

Date	14-SEPTEMBER-2010
Run Number	ONE
Depth Driller	7210
Depth Logger	7152
Bottom Logged Interval	7151
Top Log Interval	1940
Open Hole Size	7 7/8
Type Fluid	WATER
Density / Viscosity	---
Max. Recorded Temp.	235
Estimated Cement Top	2066
Time Well Ready	---
Time Logger on Bottom	---
Equipment Number	2405/TECKO#25
Location	BRIGHTON
Recorded By	HAYES
Witnessed By	MR. ED LUCK

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record		Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8	24 #	SURFACE	723	
Prot. String	4.5	11.6 #	SURFACE	7207	
Production String					
Liner					

Fold Here

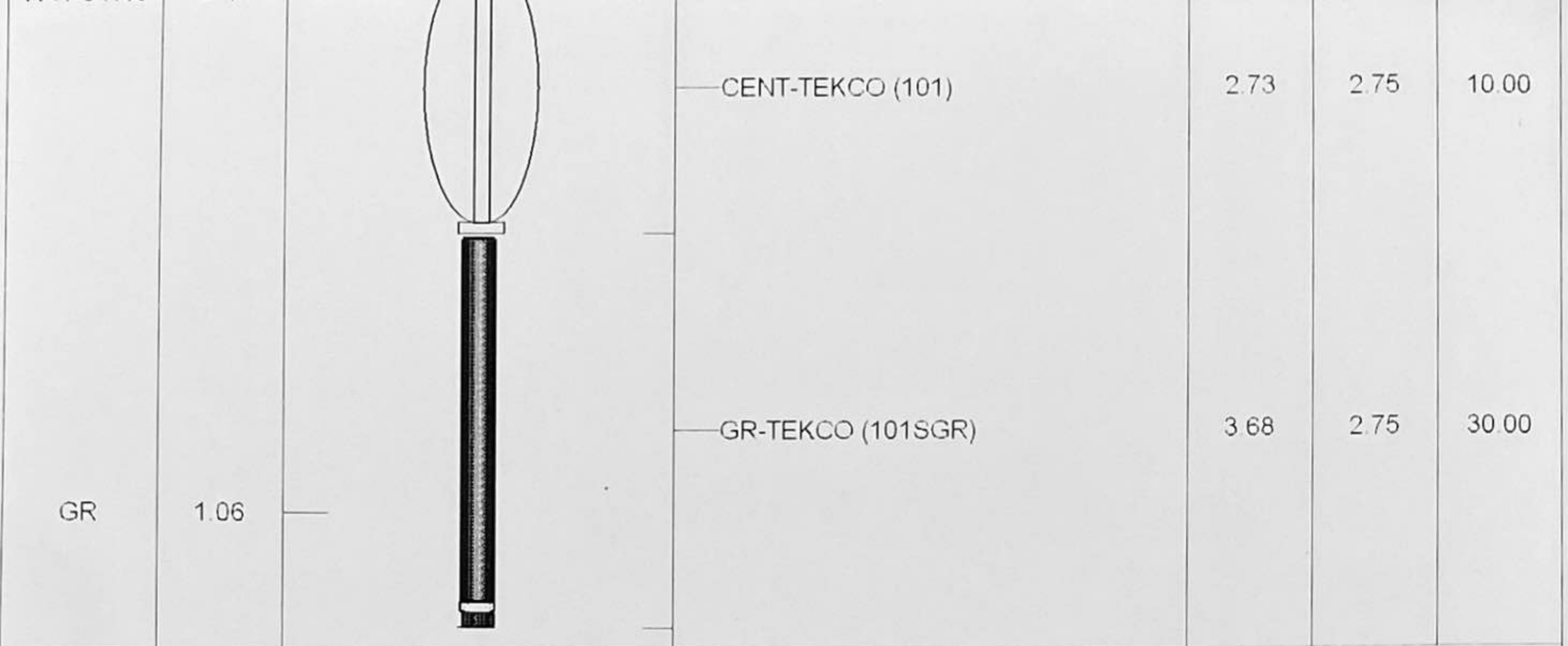
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

LOG CORRELATED TO SD,DSN,AC,TR LOG  
DATED 27-AUGUST-2010

LOG SPLIT FOR CORRELATION PURPOSES

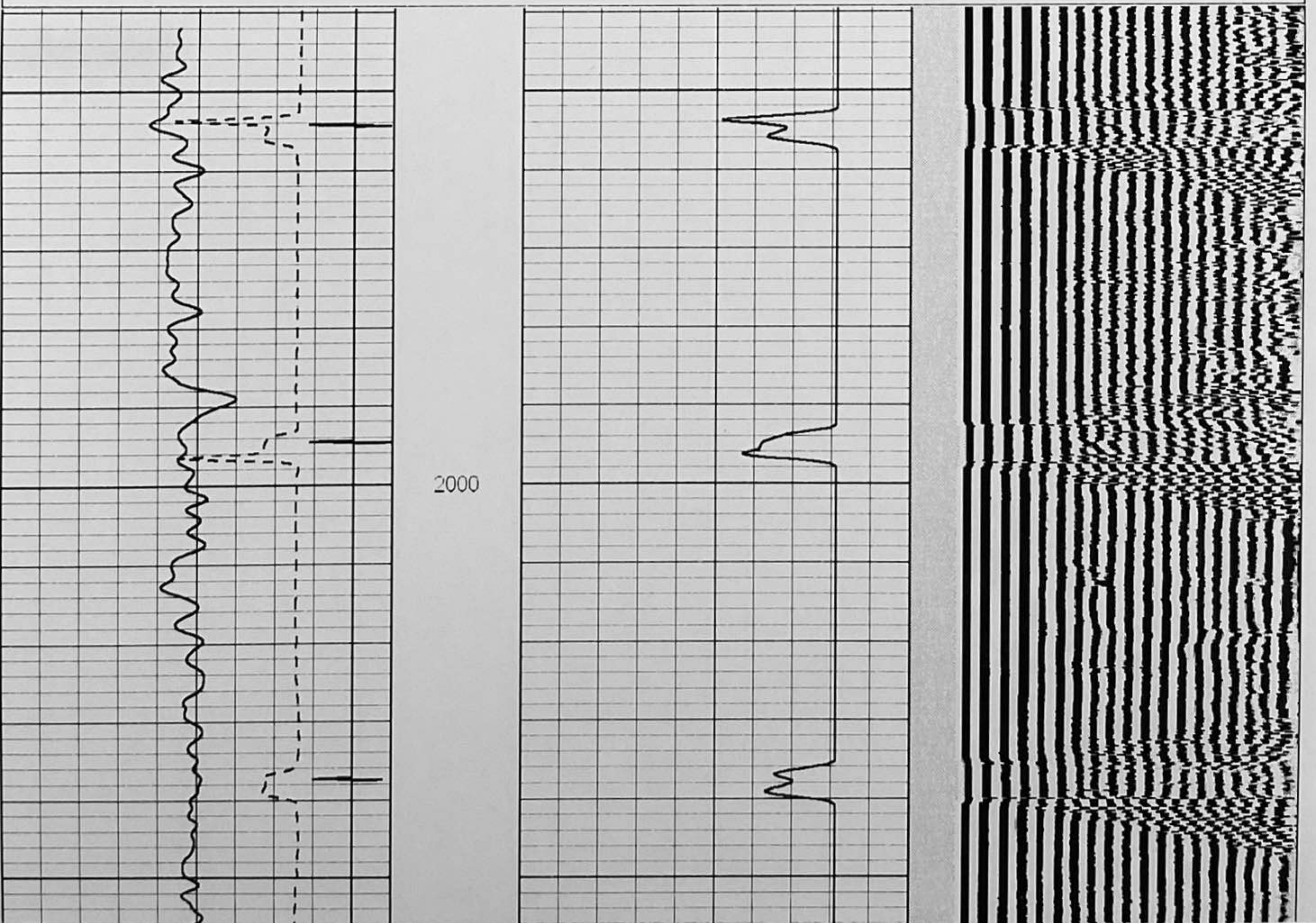
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CCL	19.41		CCL-275tekco (2.75TEKCO) 2 3/4 TEK CCL Earth Mag	1.96	2.75	20.00
			CENT-TEKCO (101)	2.73	2.75	10.00
WVFCAL	11.41					
WVF3FT	10.66		CBLTEKCO-TEK2DELTEMP (TEKTMP001) Tekco 2 1/4" Dual Receiver with Temp	8.96	2.75	100.00
WVF5FT	9.66					
TEMP	6.66					
WVFTEMP	6.41					
WVFTEMP	6.41					

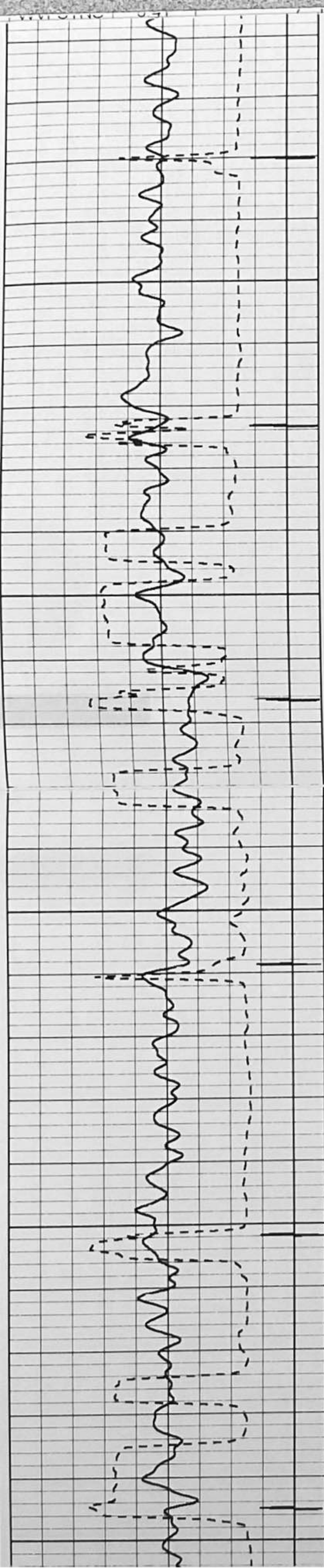


Dataset: hp farms d 32-03.db: field/well/run1/pass3  
 Total Length: 20.05 ft  
 Total Weight: 170.00 lb  
 O.D.: 2.75 in

Database File: hp farms d 32-03.db  
 Dataset Pathname: pass3  
 Presentation Format: scbl\_dr  
 Dataset Creation: Tue Sep 14 10:21:46 2010 by Log Std Casedhole 08121  
 Charted by: Depth in Feet scaled 1:240

300	Travel Time (usec)	200	0	Amplified Amplitude (mV)	30	200	VDL	1200
9	Collar Locator	-1	0	Amplitude (mV)	100			
0	Gamma Ray (GAPI)	200						

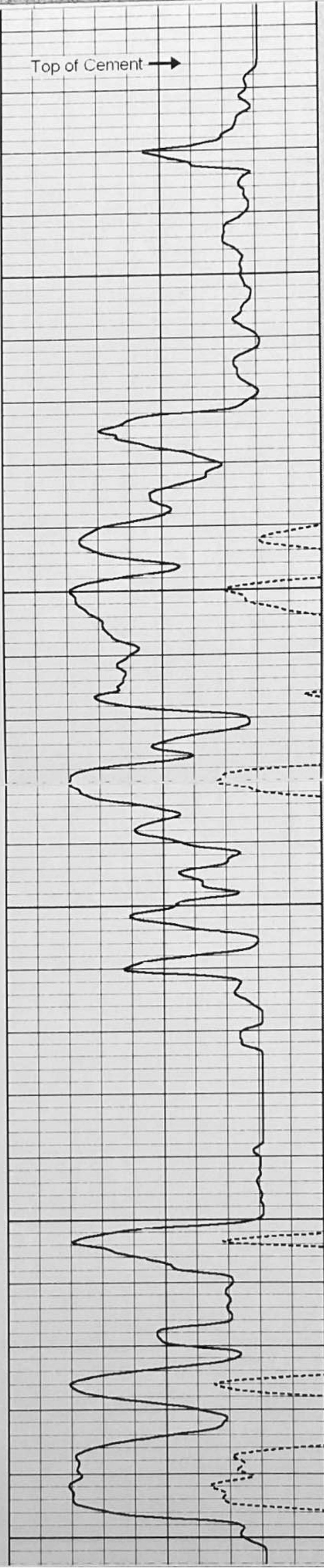




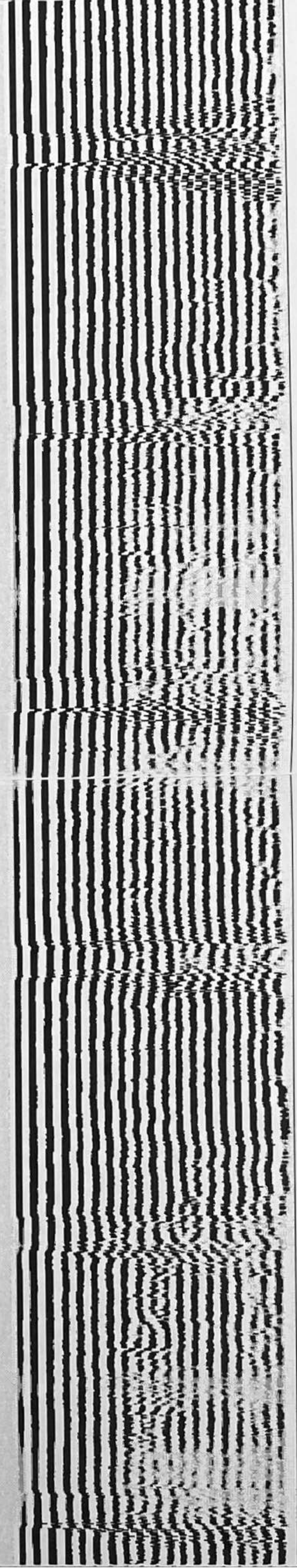
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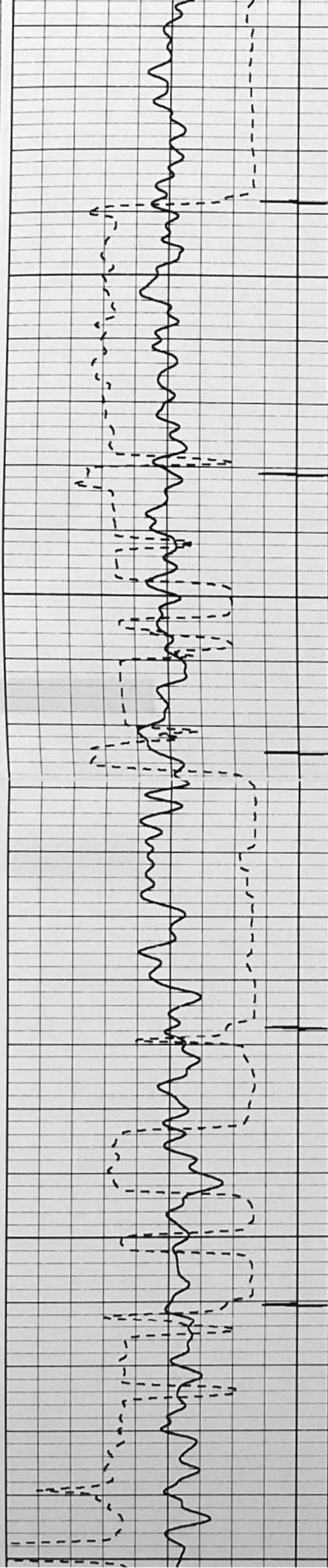
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2300

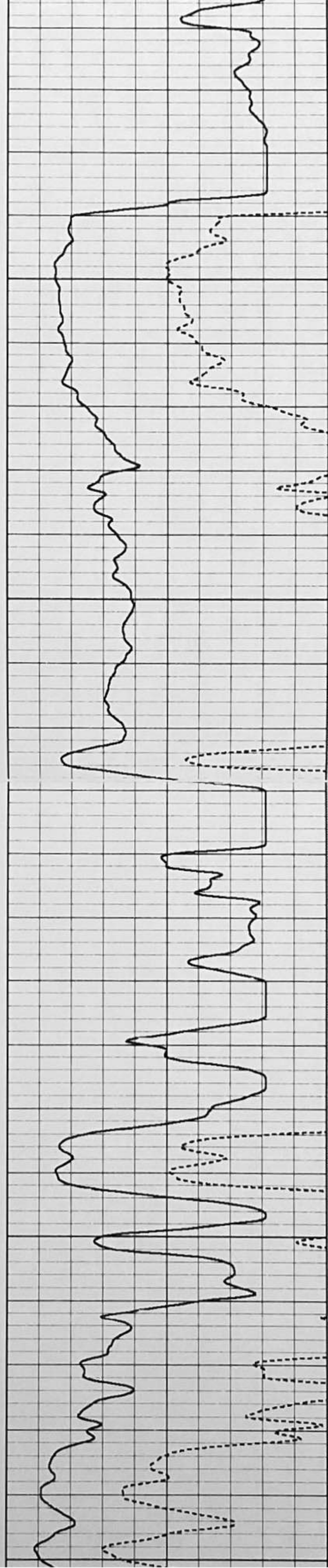


Top of Cement →

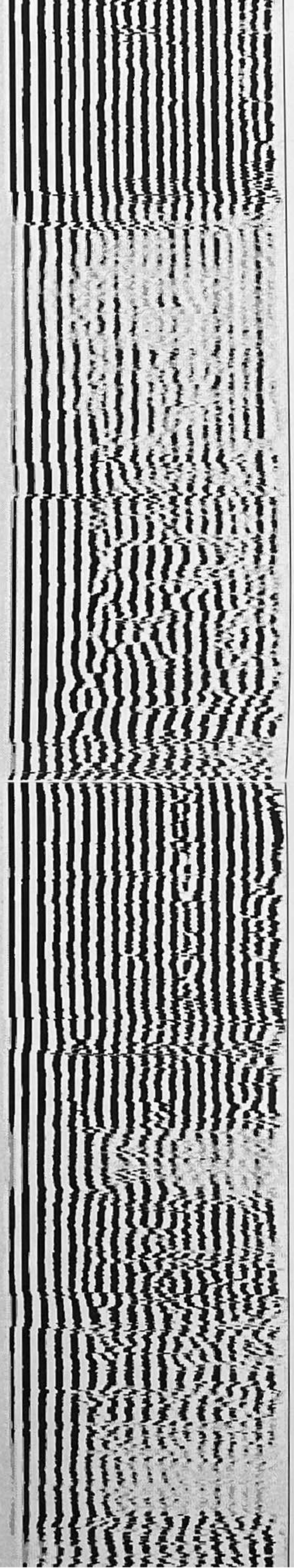


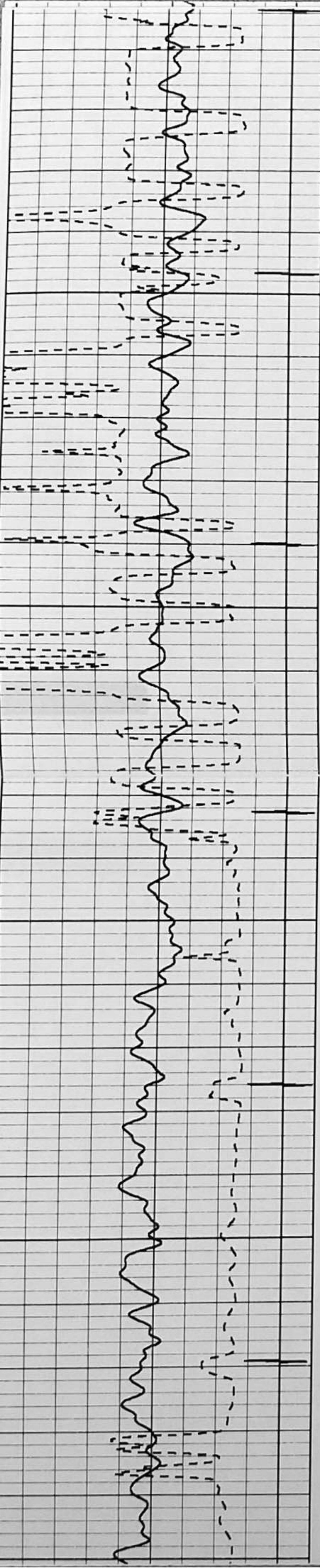


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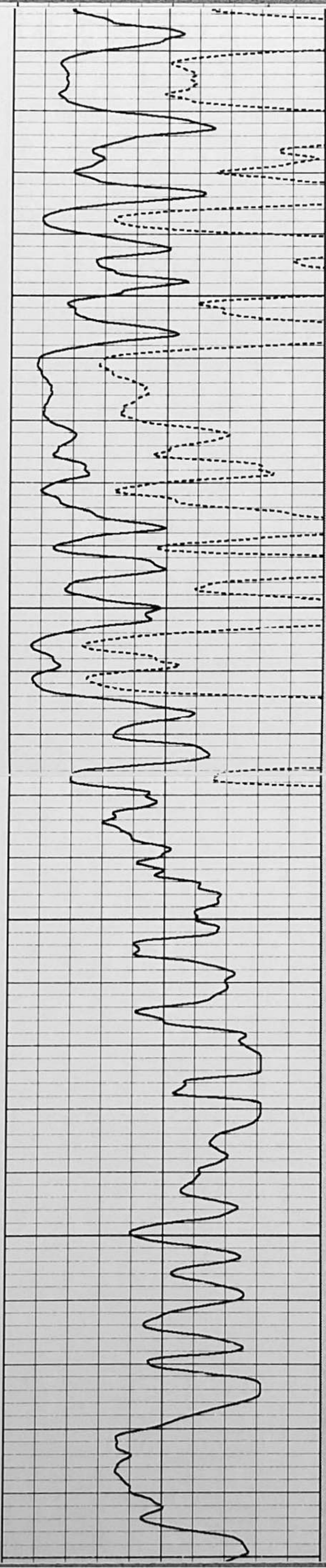


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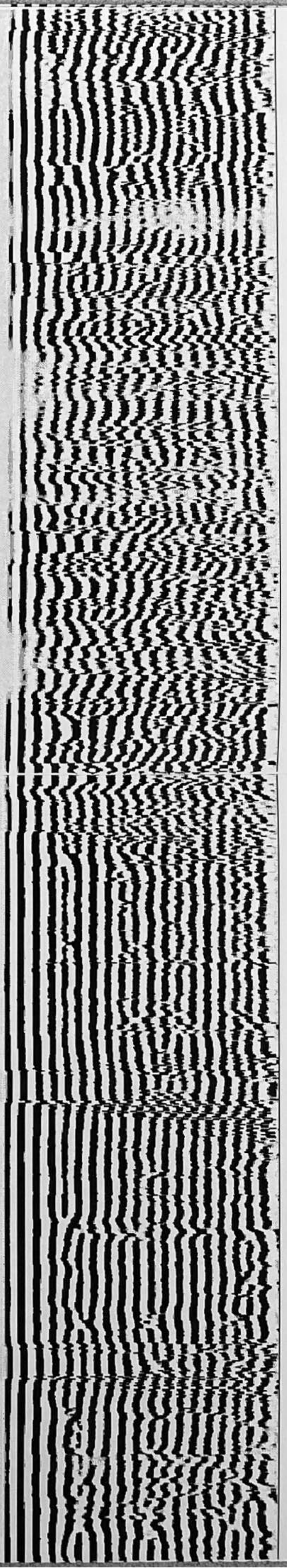


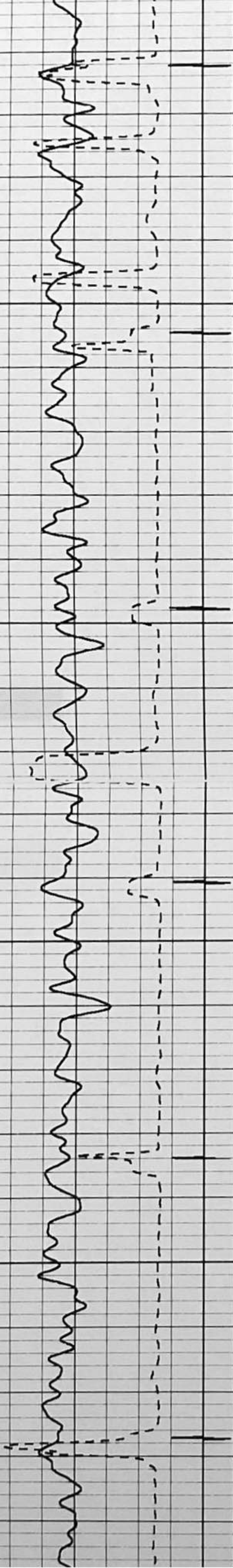
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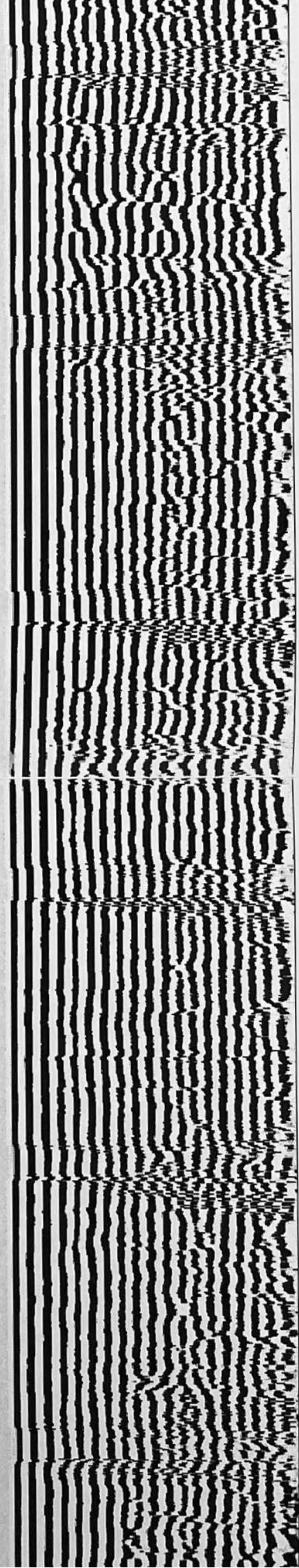
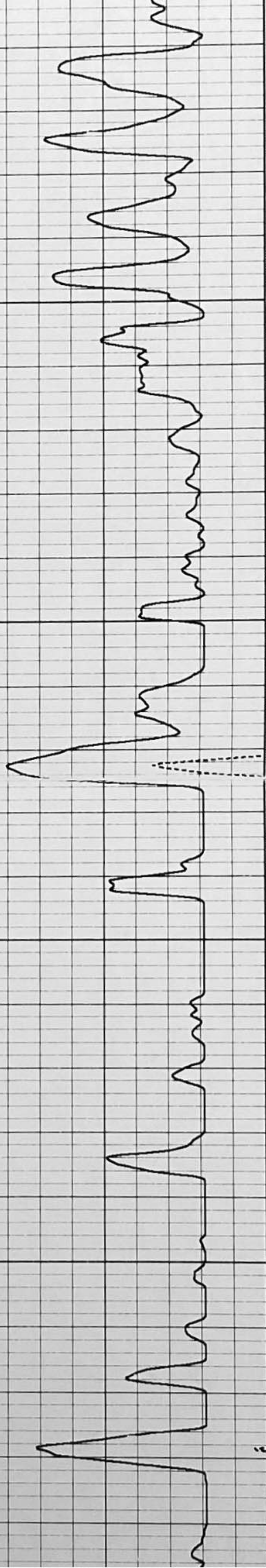
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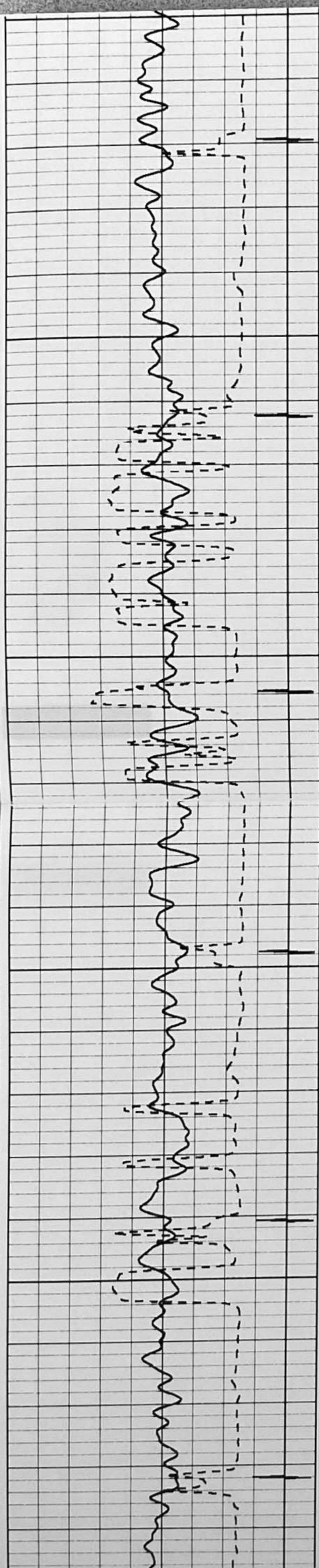




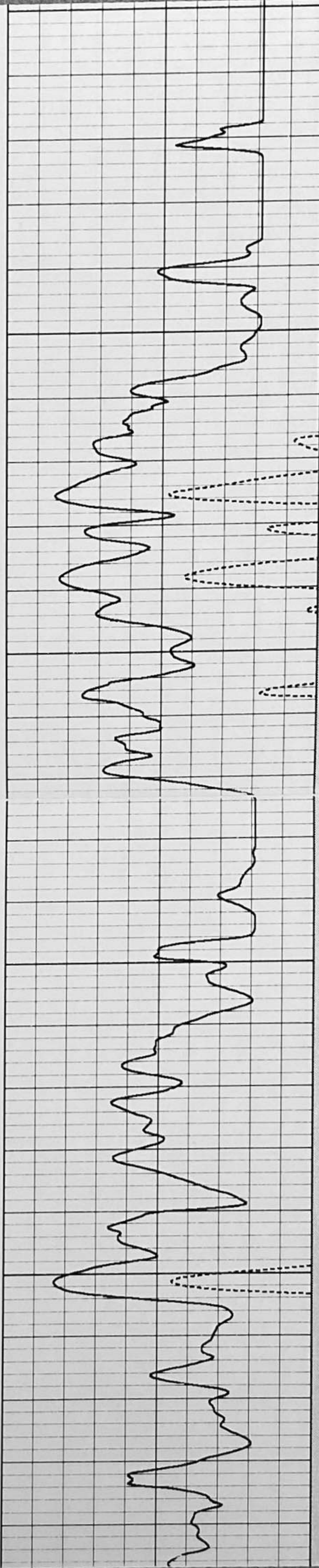
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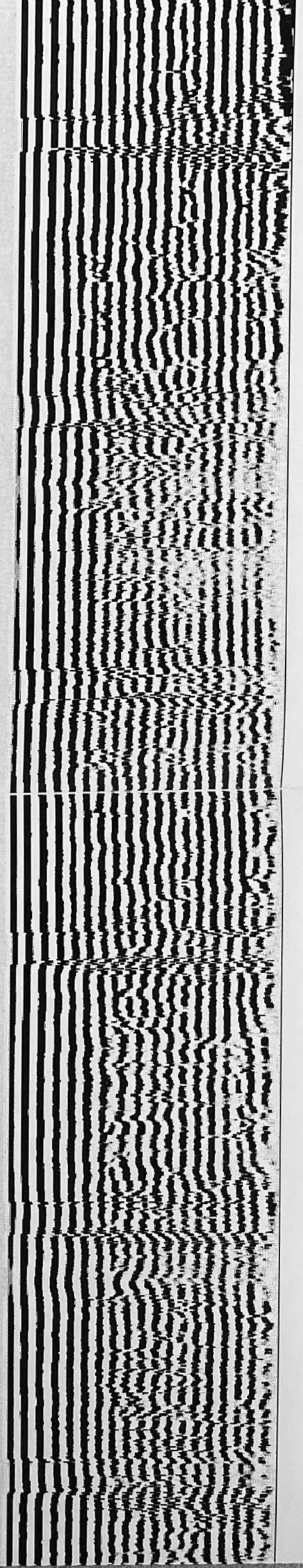




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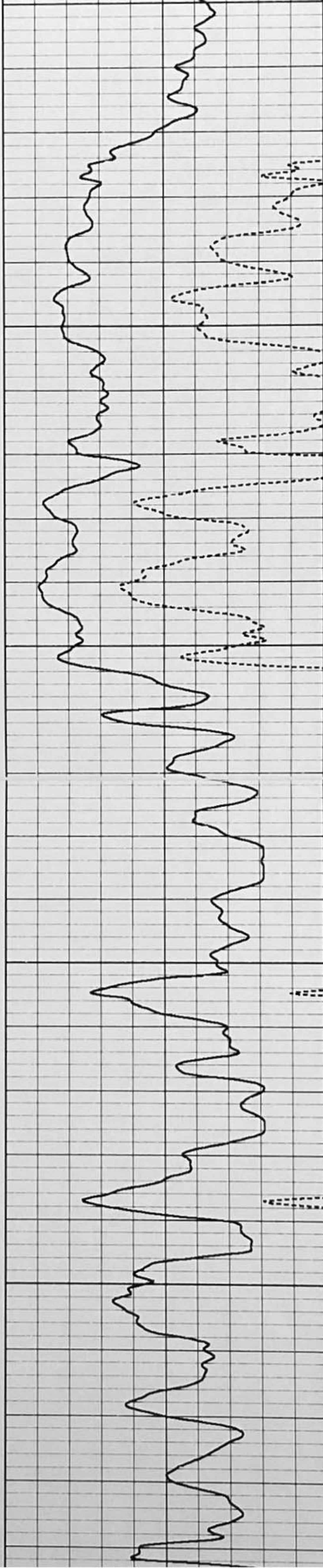
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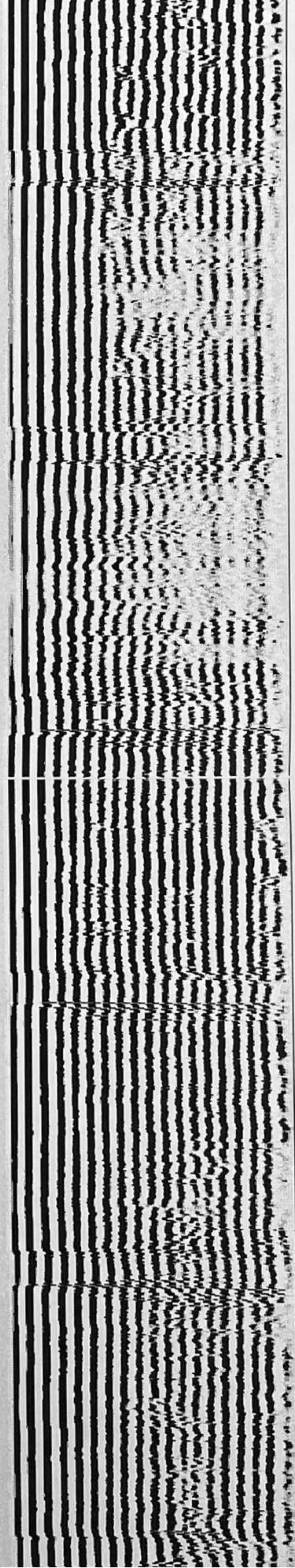
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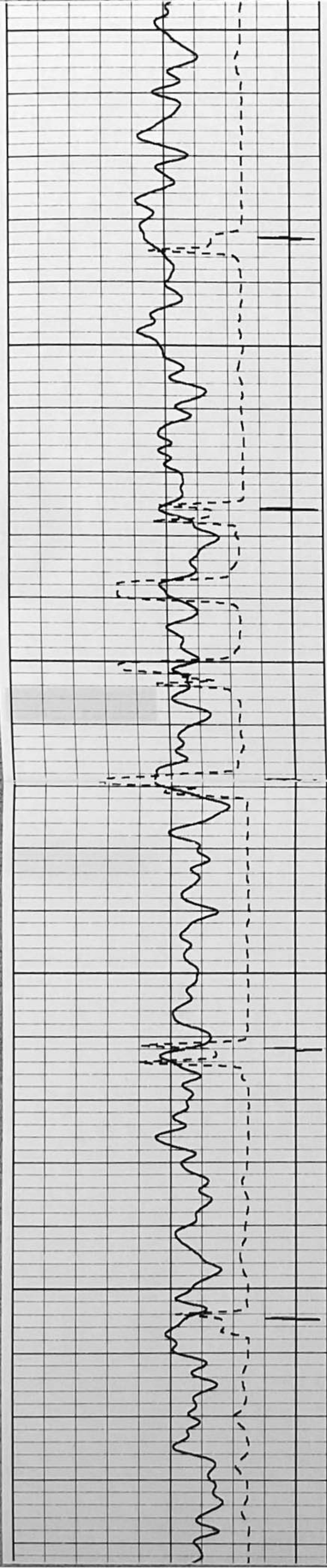


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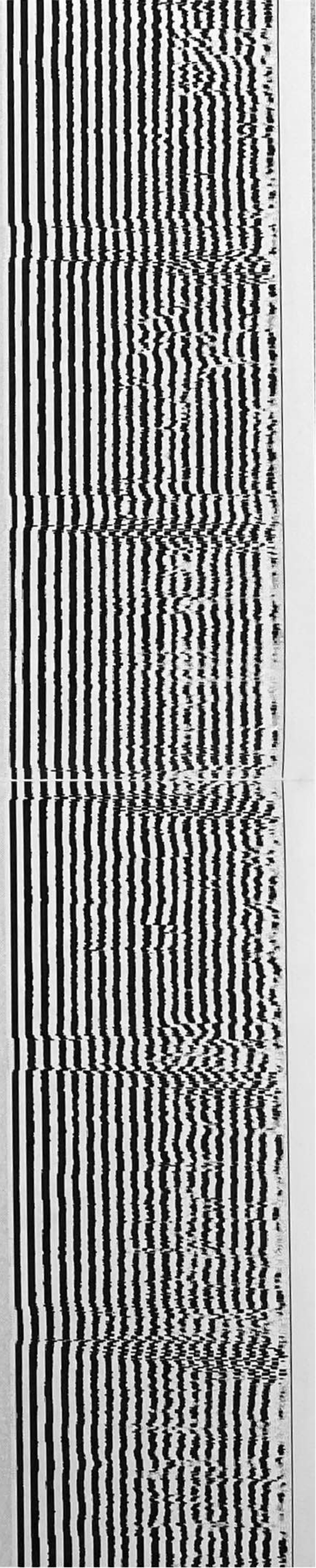
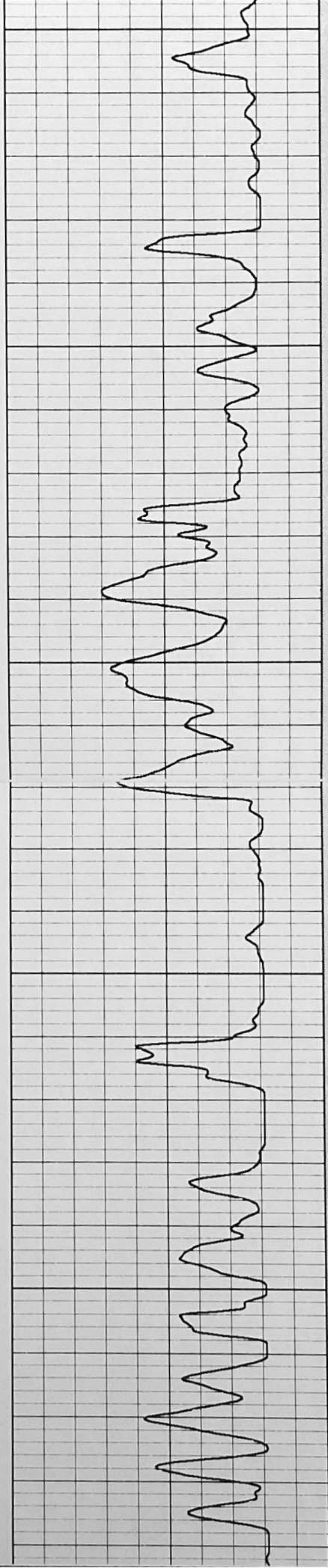
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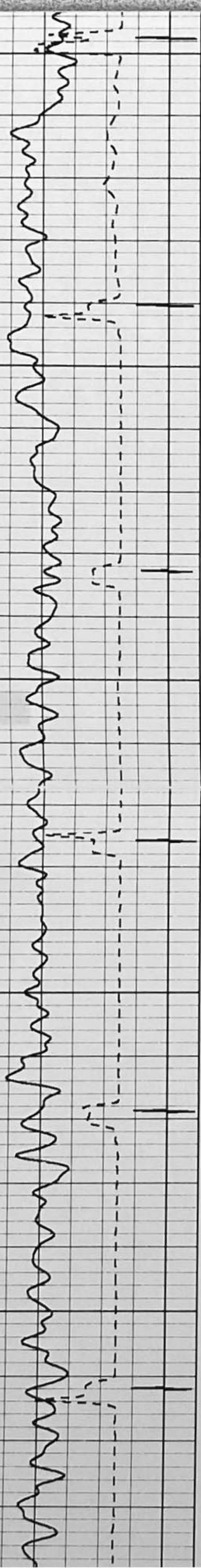




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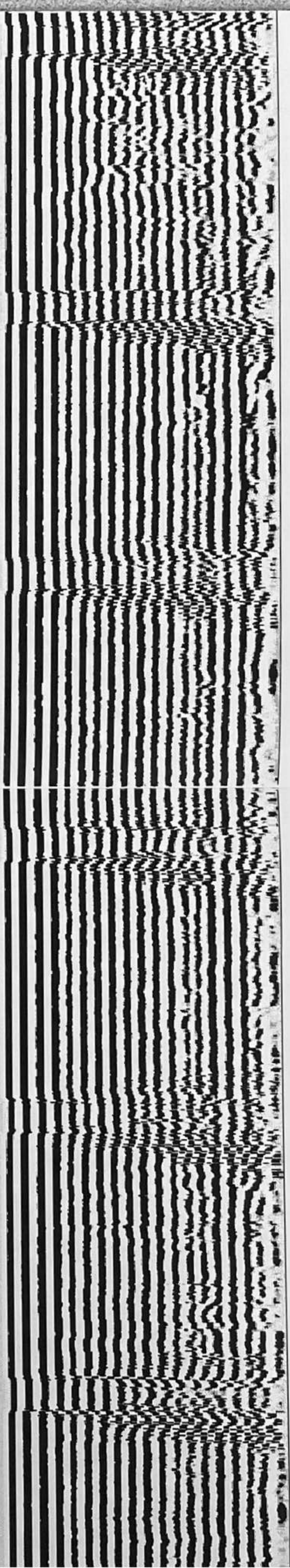
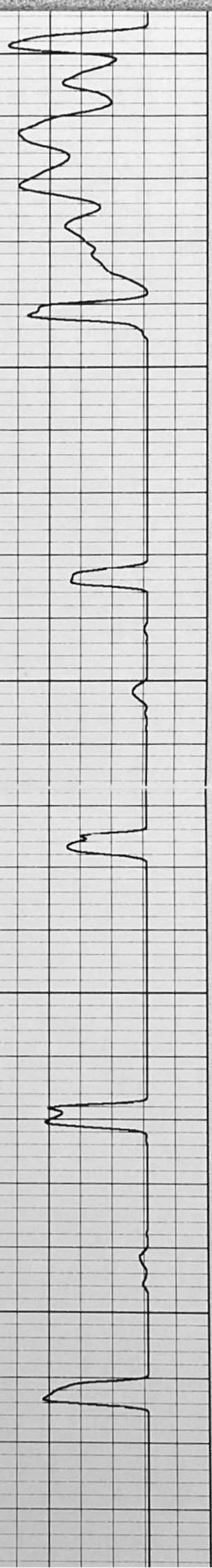


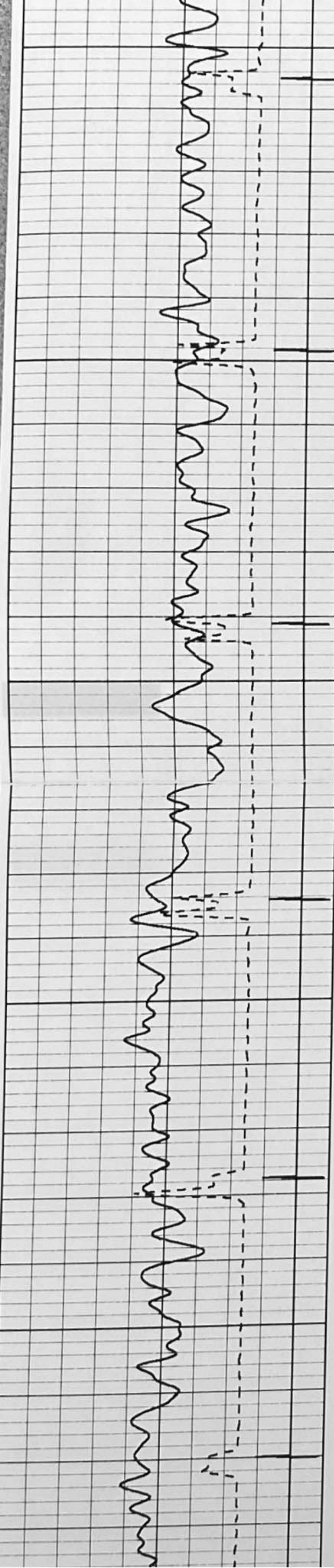


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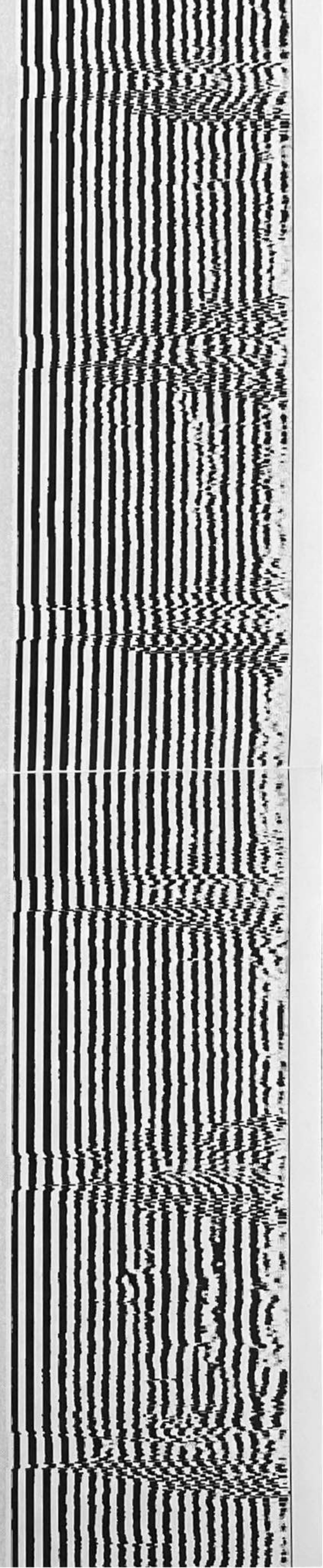
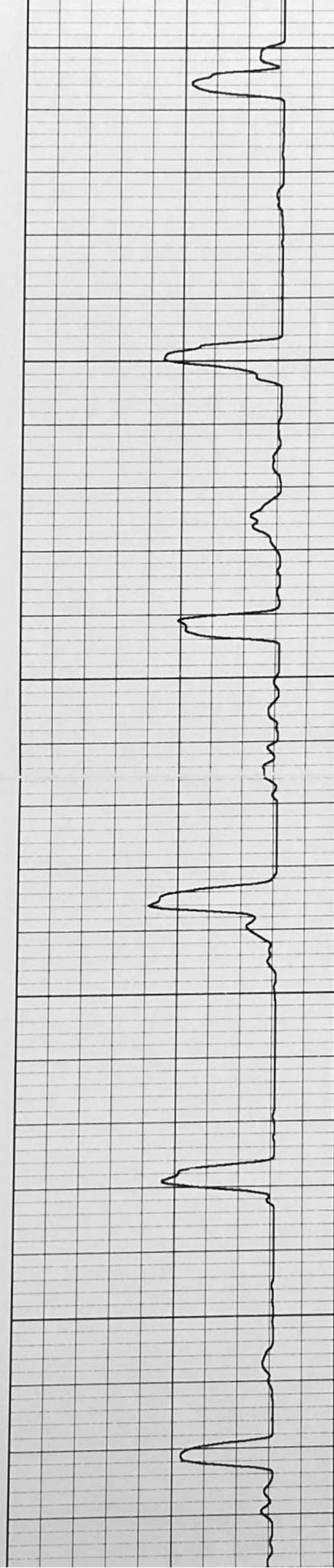
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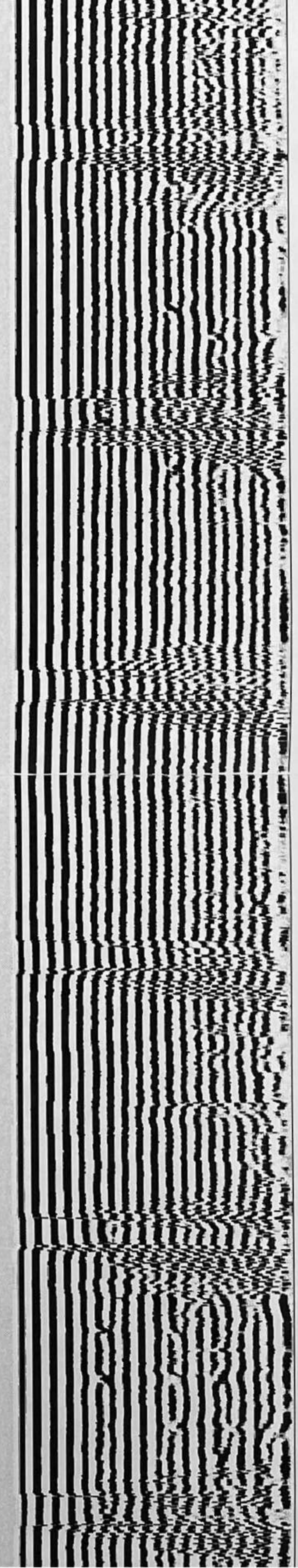
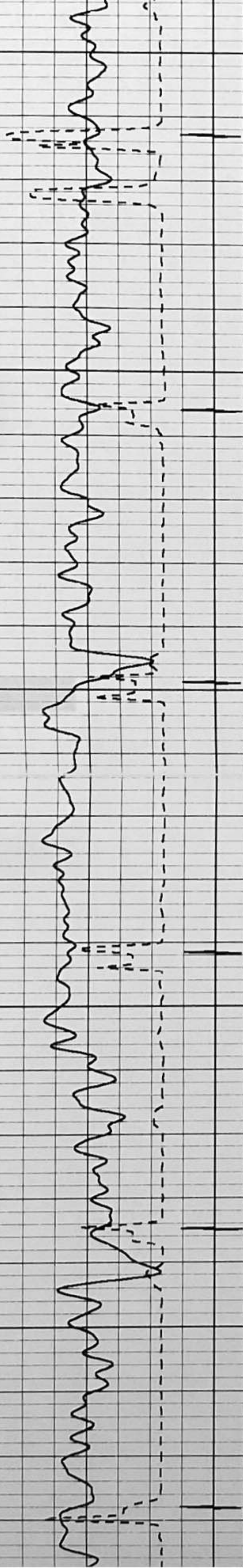
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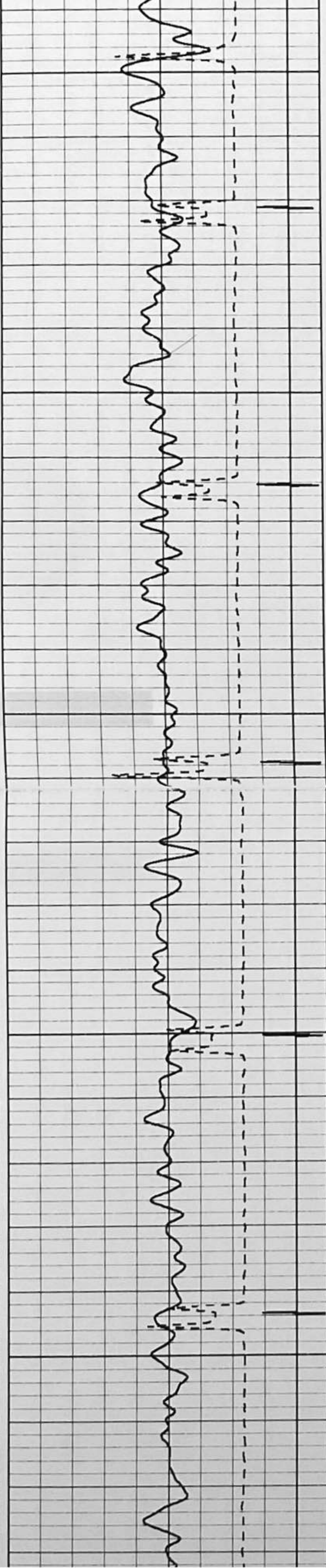


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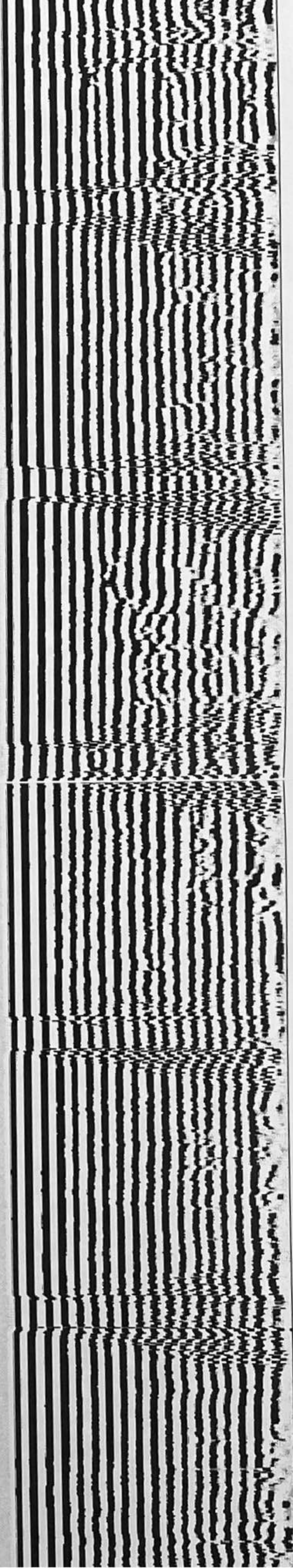
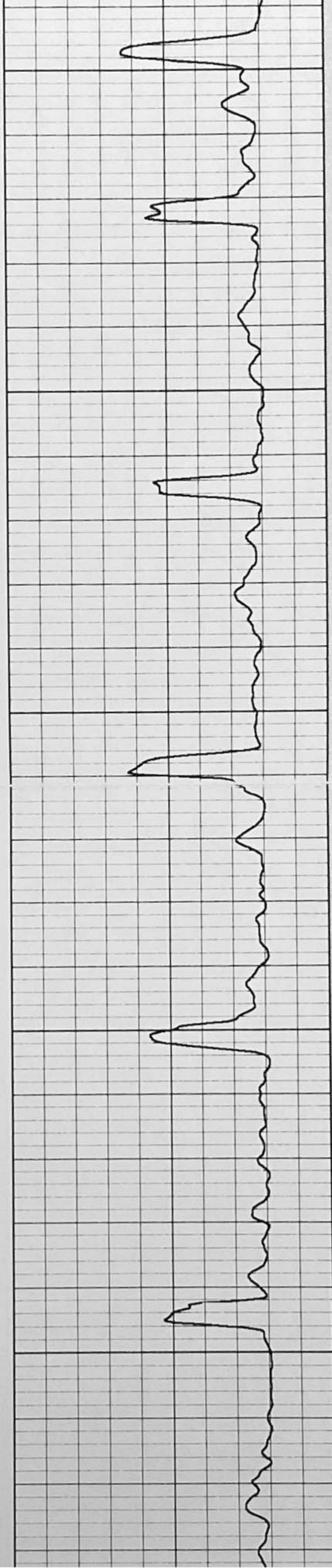
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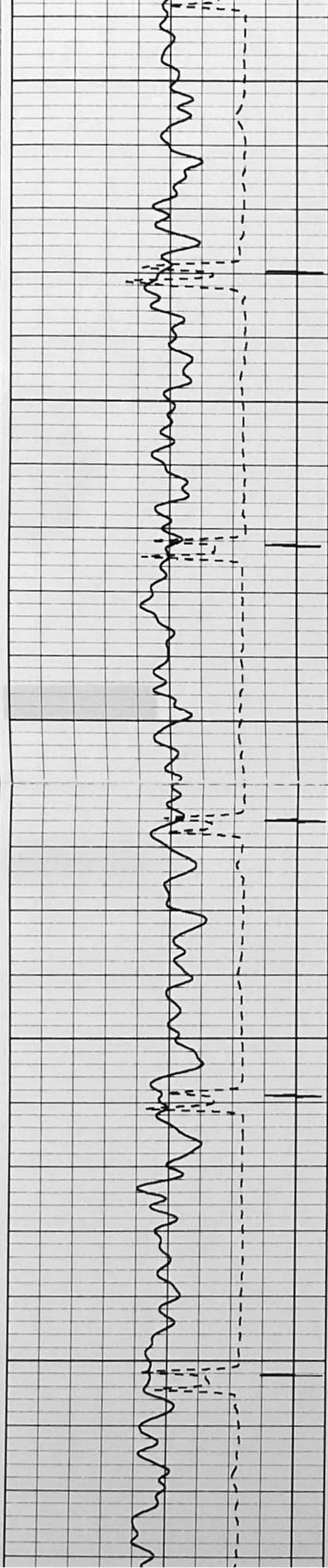




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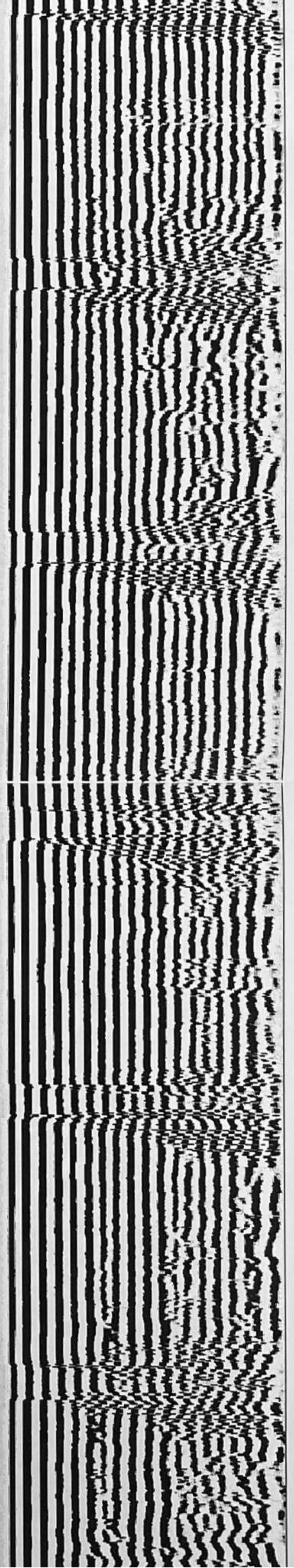
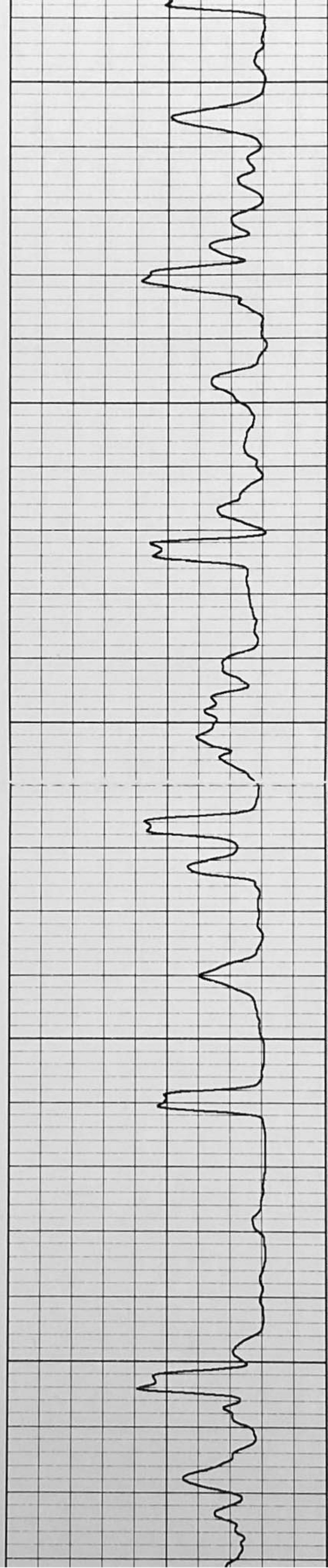


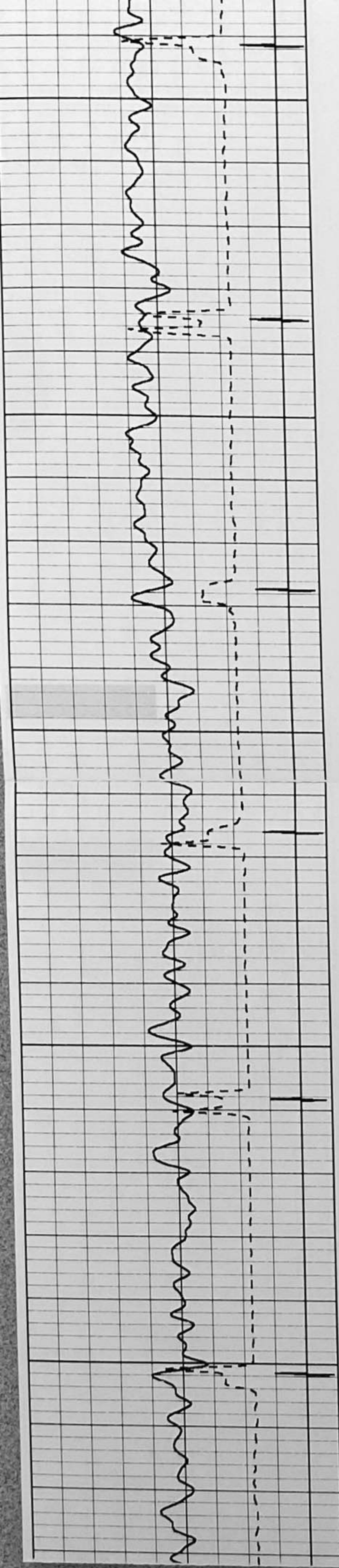


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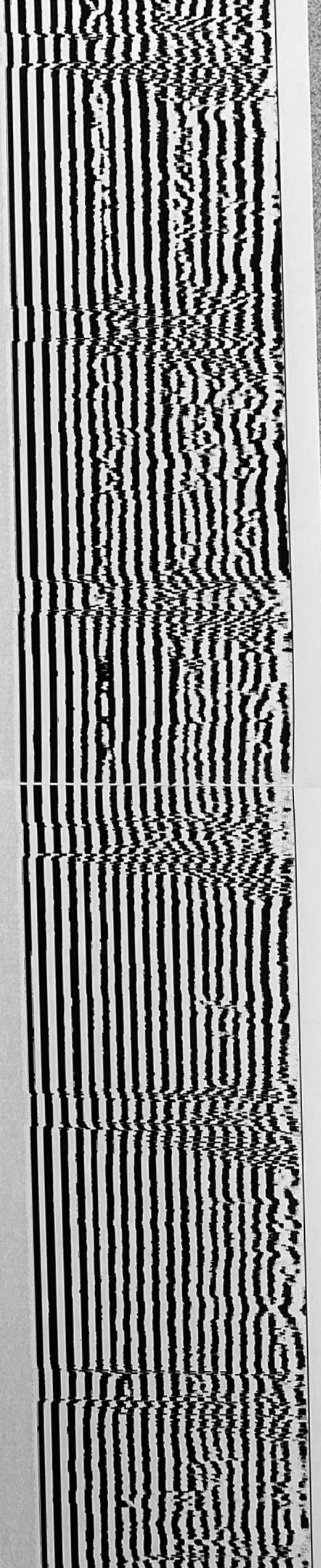
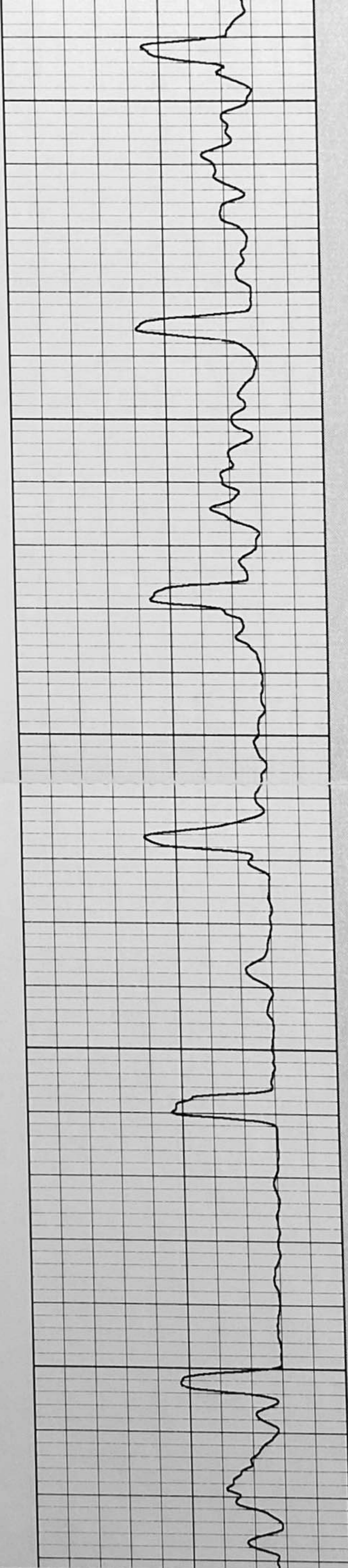
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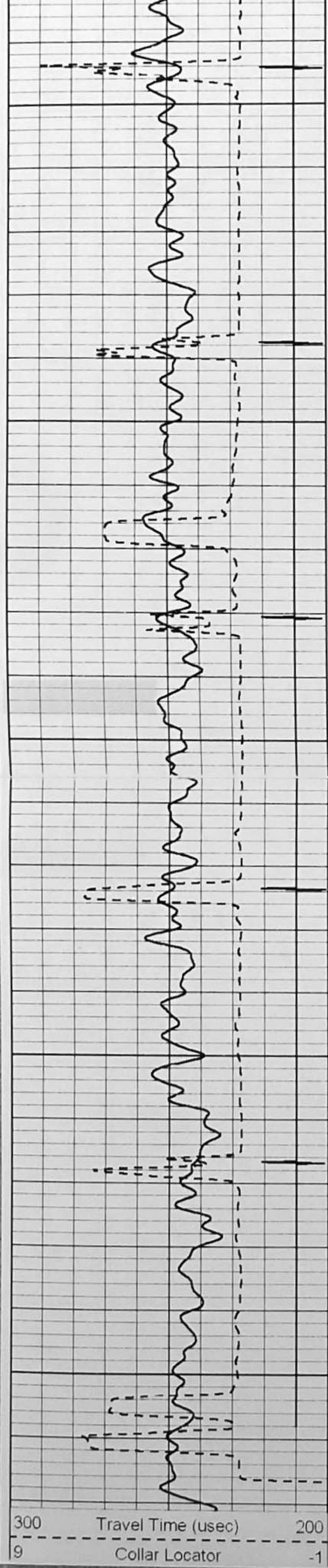




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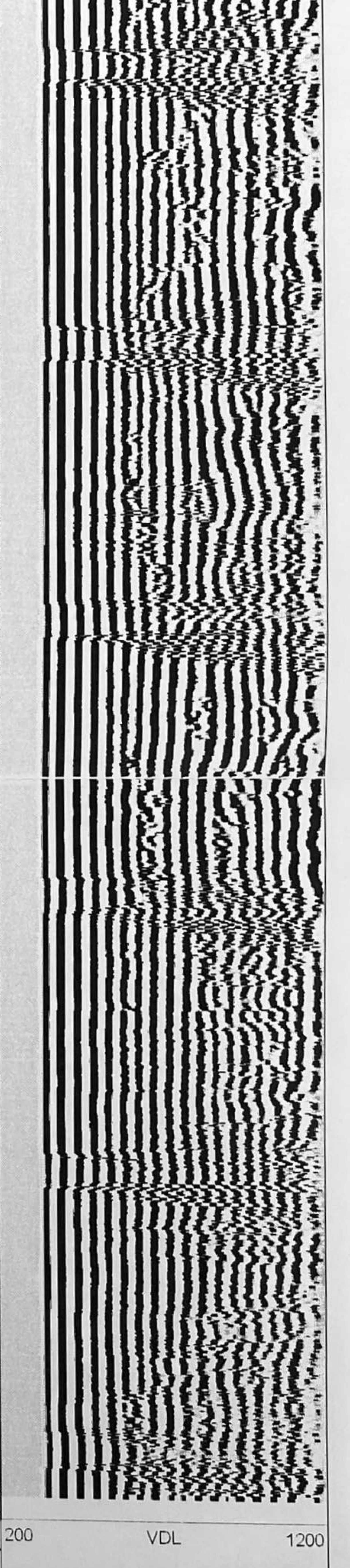
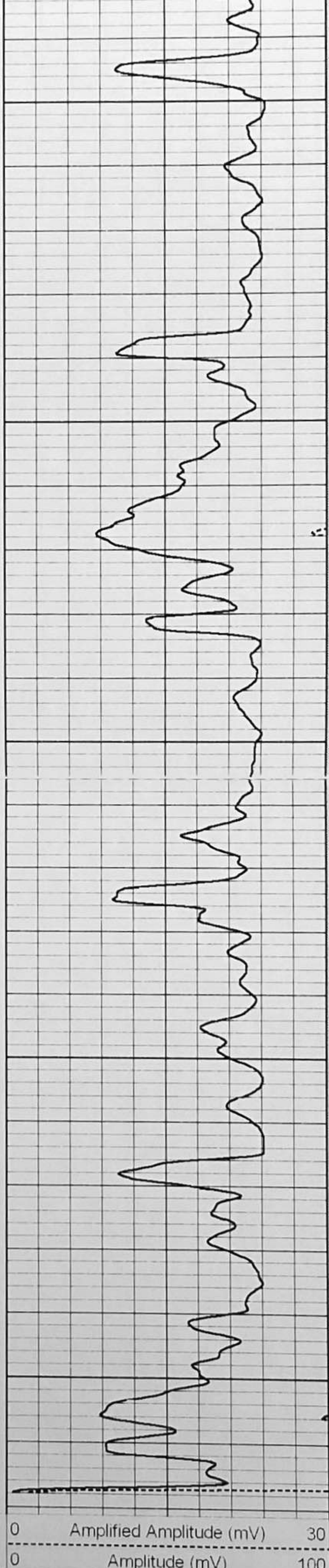




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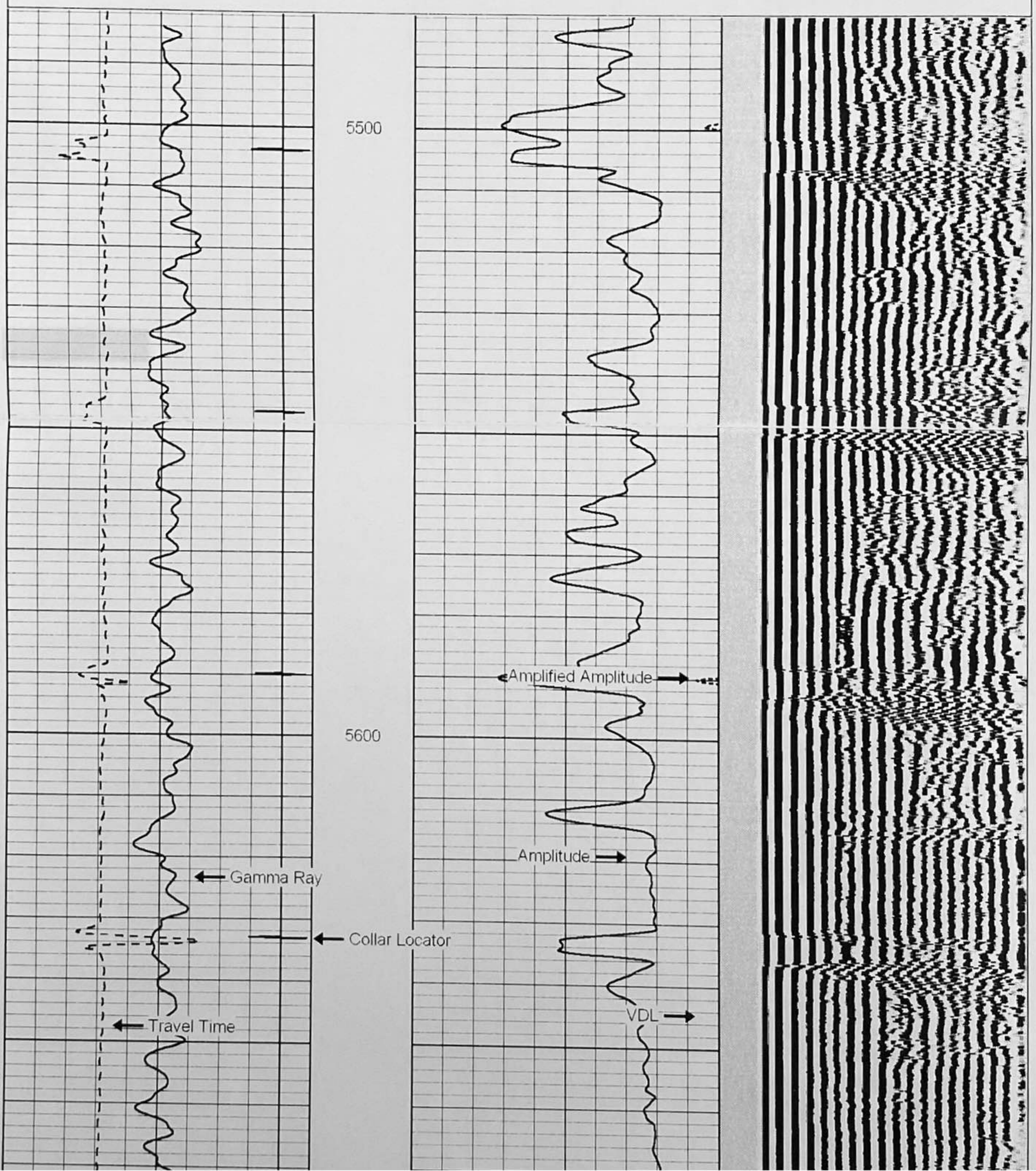
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Database File: hp farms d 32-03.db  
 Dataset Pathname: pass2  
 Presentation Format: scbl\_dr  
 Dataset Creation: Tue Sep 14 09:54:46 2010 by Log Std Casedhole 08121  
 Charted by: Depth in Feet scaled 1:240

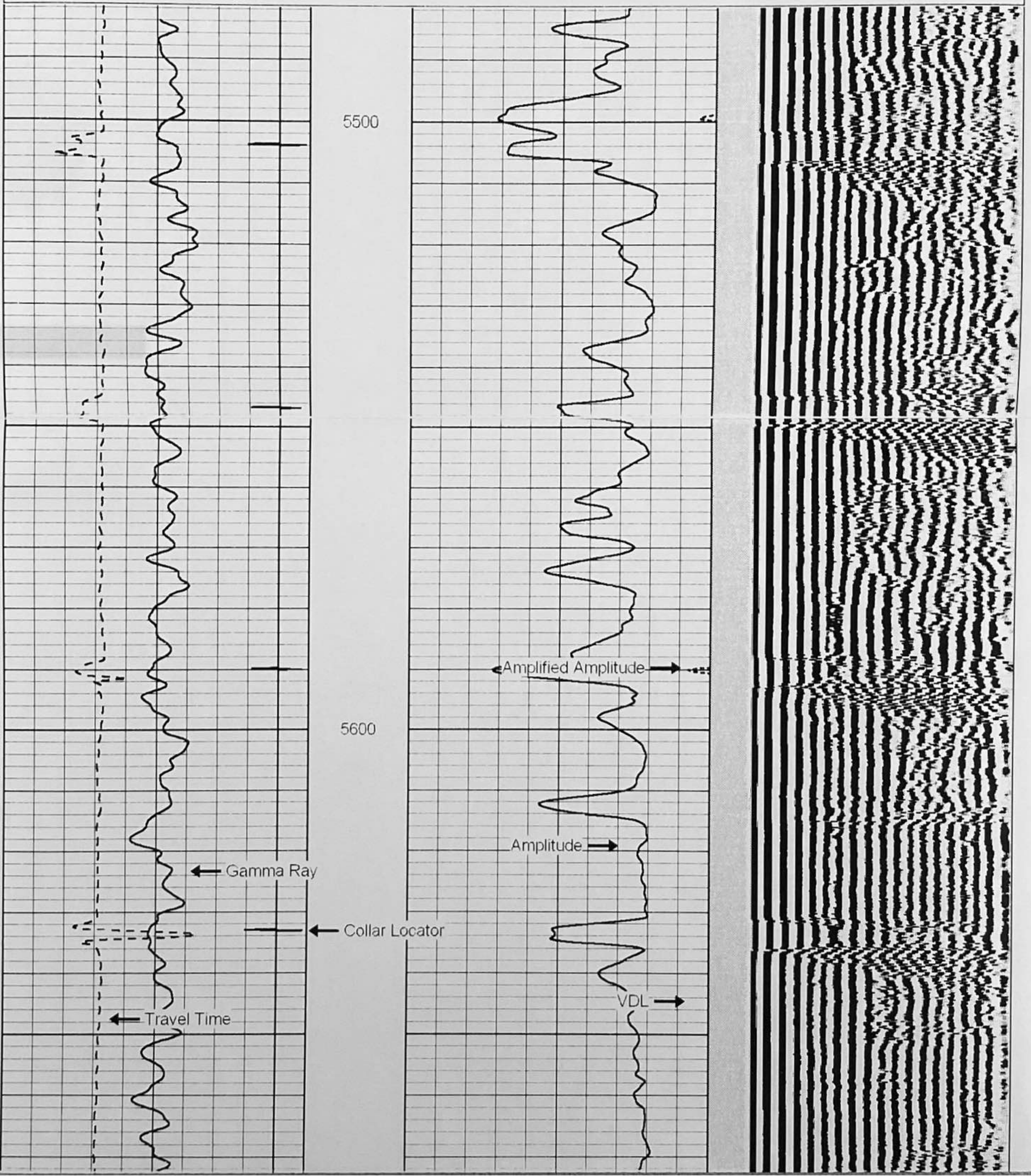
300	Travel Time (usec)	200
9	Collar Locator	-1
0	Gamma Ray (GAPI)	200

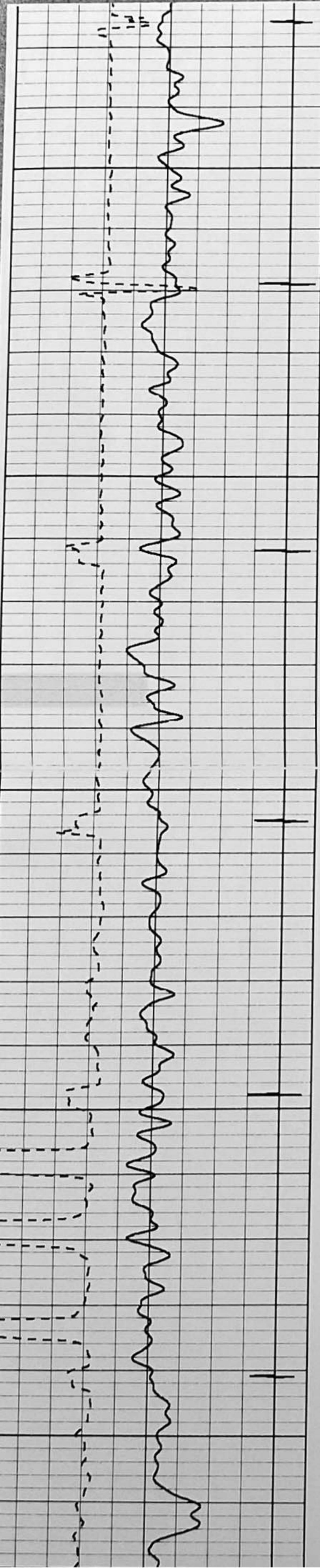
0	Amplified Amplitude (mV)	30	200	VDL	1200
0	Amplitude (mV)	100			



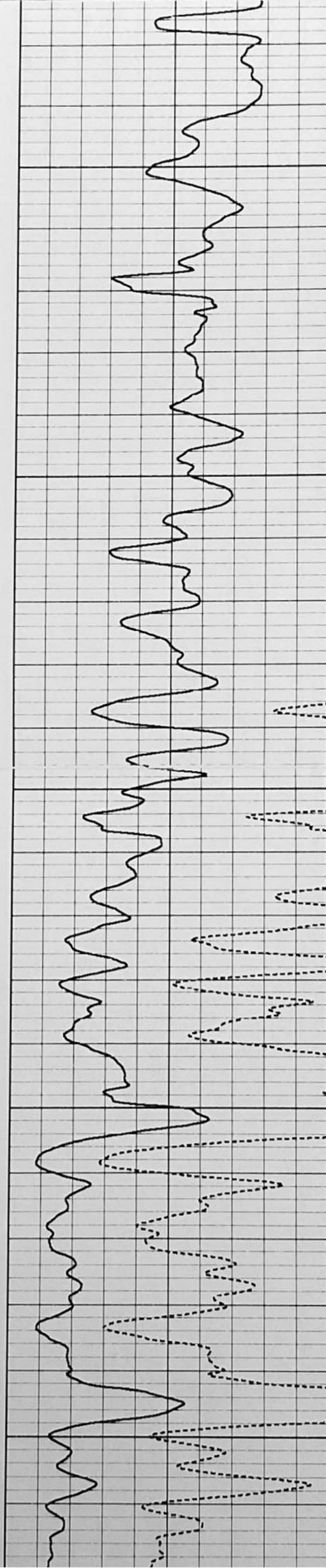
Database File: hp farms d 32-03.db  
 Dataset Pathname: pass2  
 Presentation Format: scbl\_dr  
 Dataset Creation: Tue Sep 14 09:54:46 2010 by Log Std Casedhole 08121  
 Charted by: Depth in Feet scaled 1:240

300	Travel Time (usec)	200	0	Amplified Amplitude (mV)	30	200	VDL	1200
9	Collar Locator	-1	0	Amplitude (mV)	100			
0	Gamma Ray (GAPI)	200						



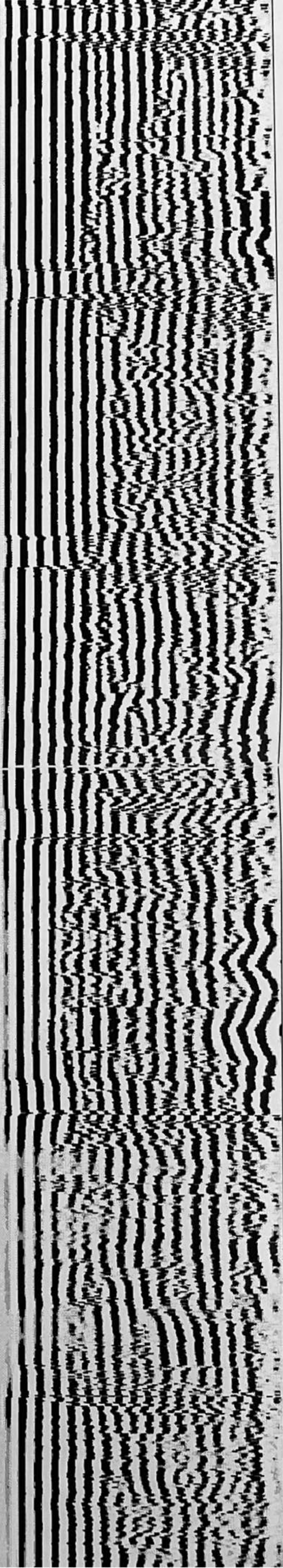


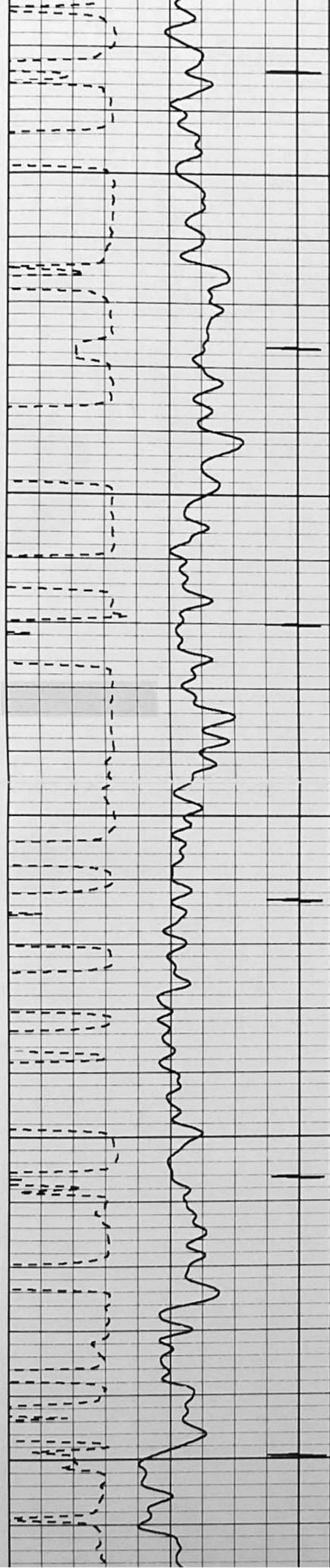
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5800

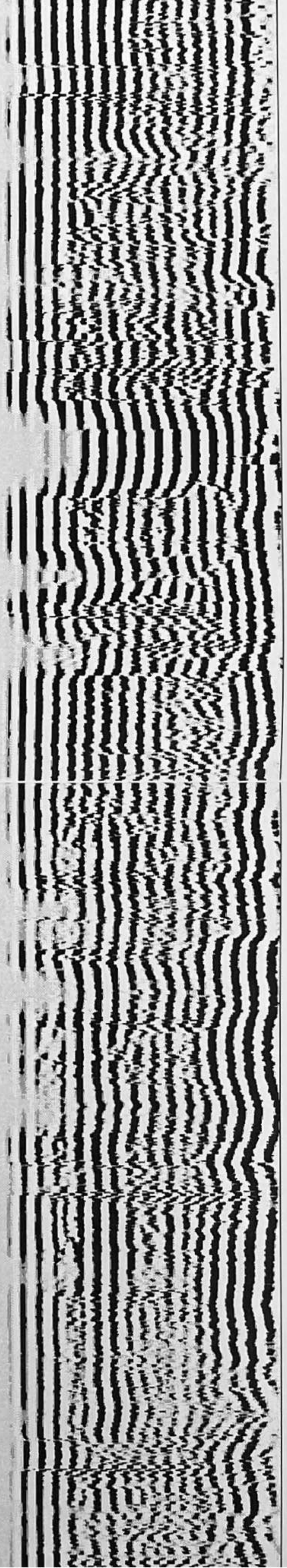
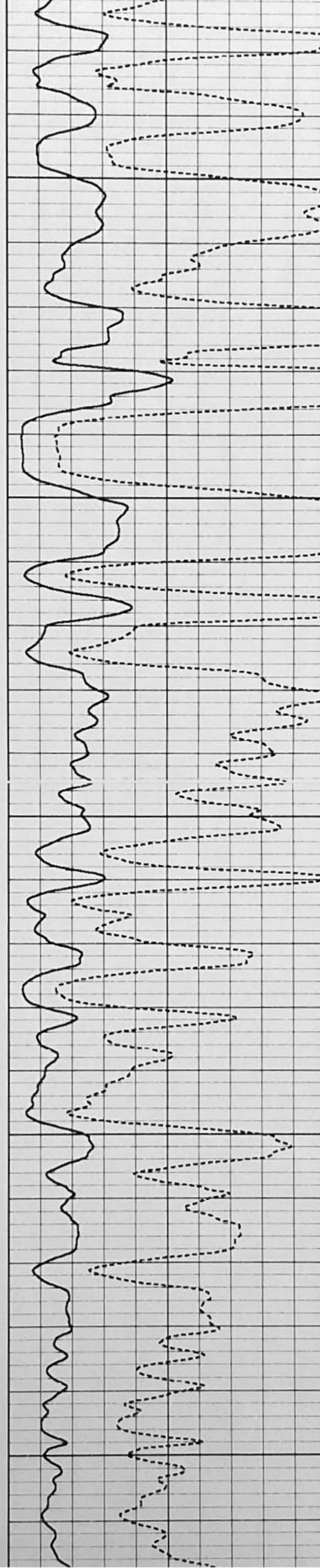
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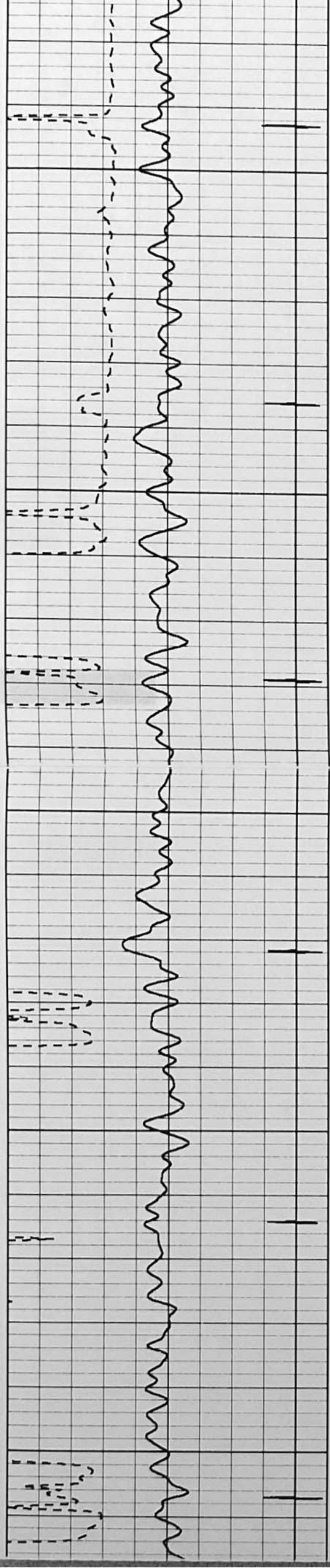




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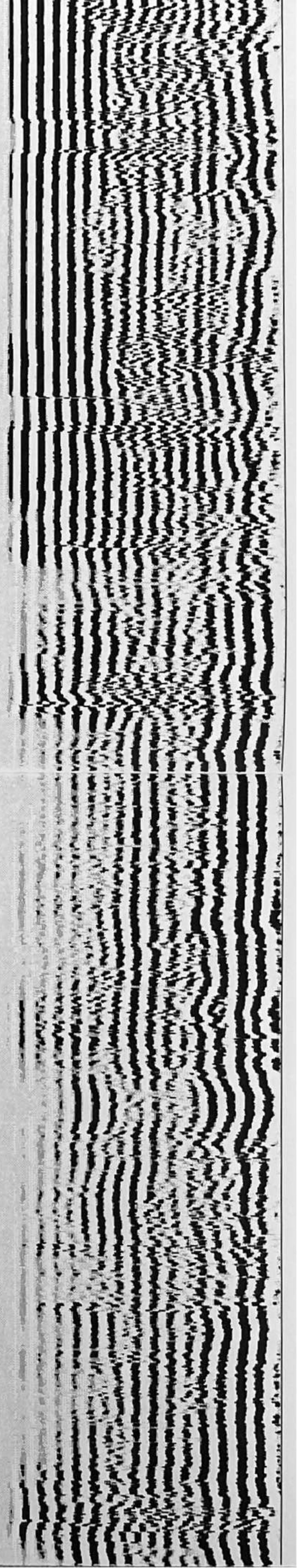
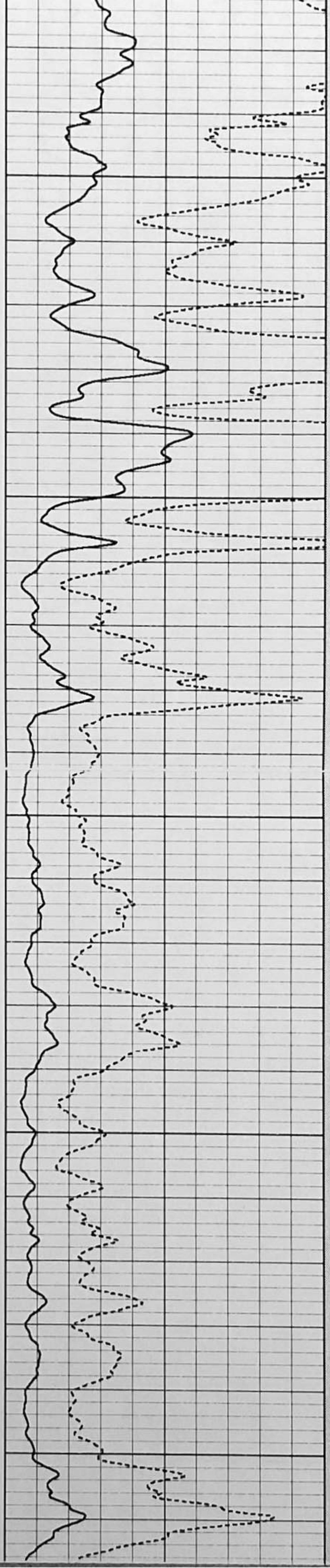


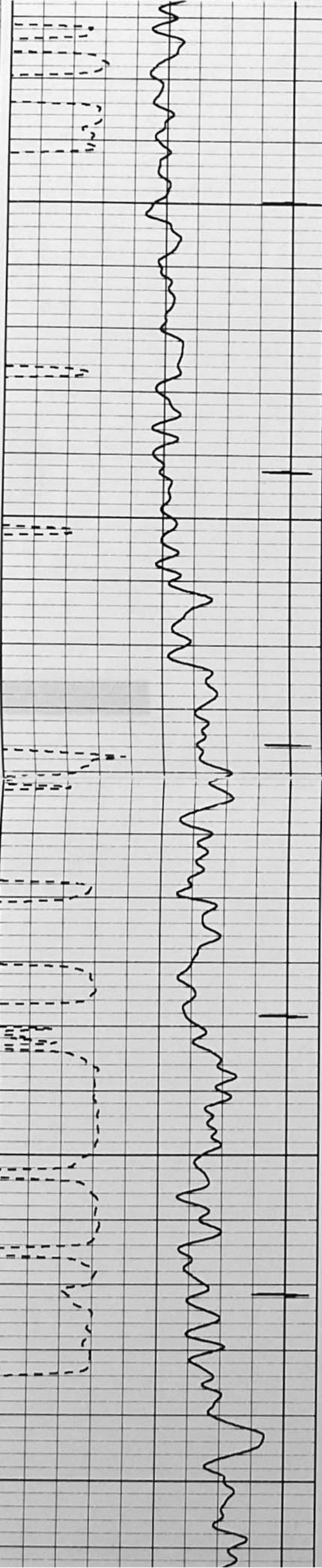


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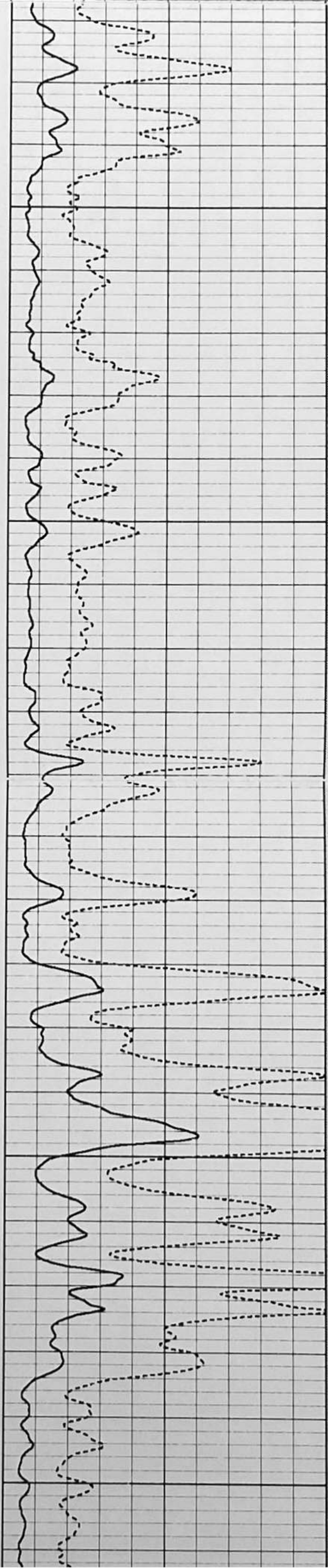
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6400

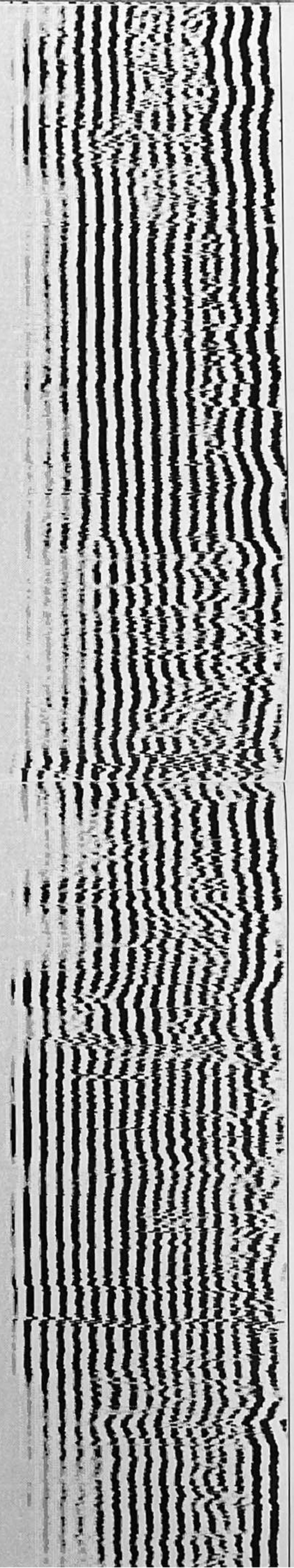


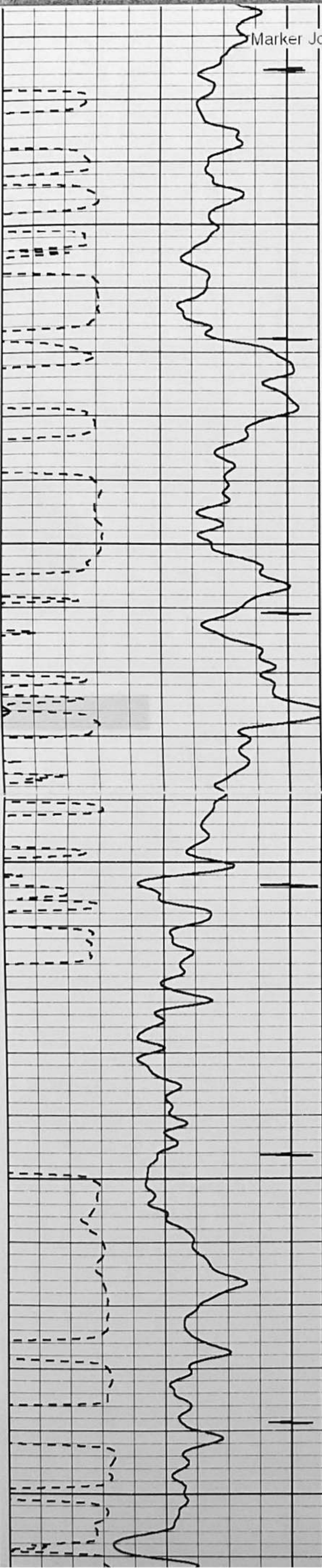


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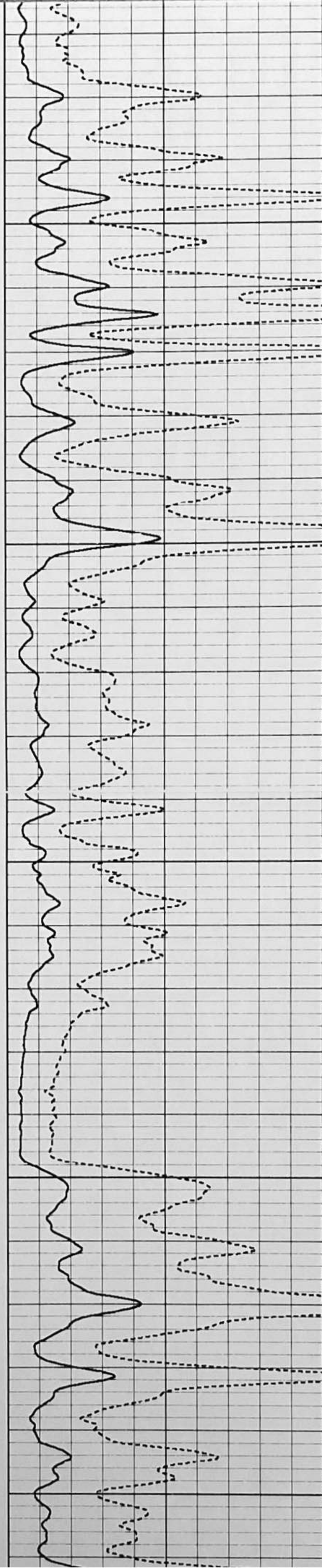


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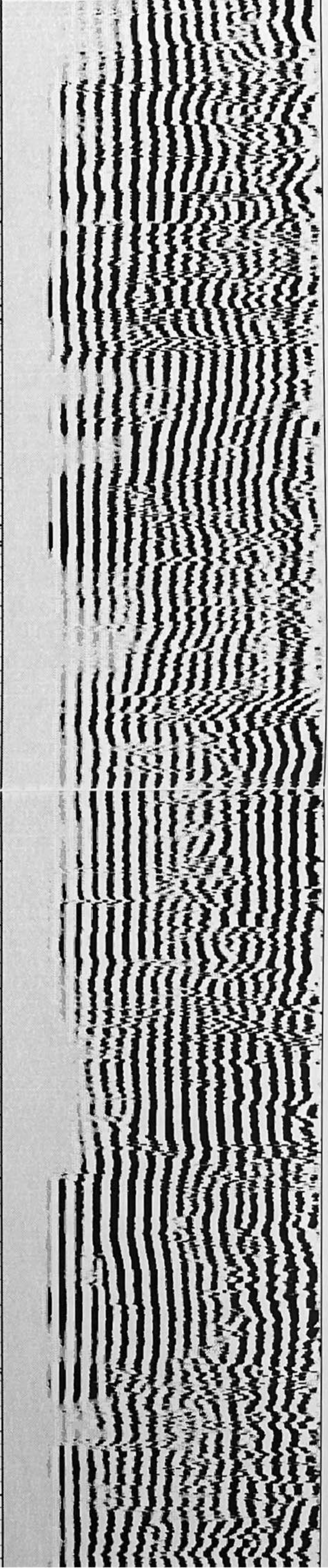




6700



6800



6900

300	Travel Time (usec)	200	0	Amplified Amplitude (mV)	30	200	VDL	1200
9	Collar Locator	-1	0	Amplitude (mV)	100			
0	Gamma Ray (GAPI)	200						

**Calibration Report**

Database File: hp farms d 32-03.db  
 Dataset Pathname: pass3  
 Dataset Creation: Tue Sep 14 10:21:46 2010 by Log Std Casedhole 08121

**Gamma Ray Calibration Report**

Serial Number: 101SGR  
 Tool Model: TEKCO  
 Performed: Mon Jun 14 15:52:18 2010

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps

**Segmented Cement Bond Log Calibration Report**

Serial Number: TEKTMP001  
 Tool Model: TEK2DELTEMP

Calibration Casing Diameter: 4.500 in  
 Calibration Depth: 1120.275 ft

Master Calibration, performed Tue Sep 14 09:36:50 2010:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.040	2.500	3.000	81.196	31.787	1.729
CAL	0.000	2.370				
5'	0.000	2.500	3.000	81.196	31.278	3.000
SUM						
S1						
S2						
S3						
S4						
S5						
S6						
S7						
S8						

Internal Reference Calibration, performed Fri Aug 31 10:59:29 2007:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	2.370	1.000	0.000

Air Zero Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero			Offset
3'	0.000		0.000			0.000
5'	0.000		0.000			0.000
SUM						

S2  
S3  
S4  
S5  
S6  
S7  
S8

Temperature Calibration Report

Serial Number: TEKTMP001  
Tool Model: TEK2DELTEMP  
Performed: Wed Jan 27 12:21:47 2010

	Reference		Reading	
Low Reference:	0.00	degF	0.00	usec
High Reference:	1.00	degF	1.00	usec
Gain:	0.33			
Offset:	-35.00			
Delta Spacing	2			