

# CEMENT BOND LOG GAMMA RAY CCL V D L

Company Noble Energy INC.  
Well WATKINS C12-24  
Field Wattenberg  
County Weld State Colorado

Location: API #: 05123345680000  
1400' FSL & 2508' FEL  
NW SE  
LAT: 40.323500 DEG / LONG: -104.498640  
SEC 12 TWP 4N RGE 64W  
Permanent Datum GL Elevation 4627  
Log Measured From KB 14'  
Drilling Measured From KB  
Other Services  
K.B. 4641  
D.F. 4640  
G.L. 4627

Date January 3, 2012

Run Number	One
Depth Driller	6905
Depth Logger	6812
Bottom Logged Interval	6811
Top Log Interval	1245
Casing Size	4 1/2"
Type Fluid	Water
Max. Recorded Temp.	220 deg F
Estimated Cement Top	1635
Time Well Ready	Crane
Time Logger On Bottom	AM
Unit Number	4367
Tool Size / ID Number	2.75 Probe 110802
Location	Platteville, CO
Recorded By	K. Monaghan
Witnessed By	M. Trimble

Borehole Record			Tubing Record			
Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8"	24 lb/ft J-55	Surface	1066
Prot. String				
Production String	4 1/2"	11.6 lb/ft M-80	Surface	6895
Liner				

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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

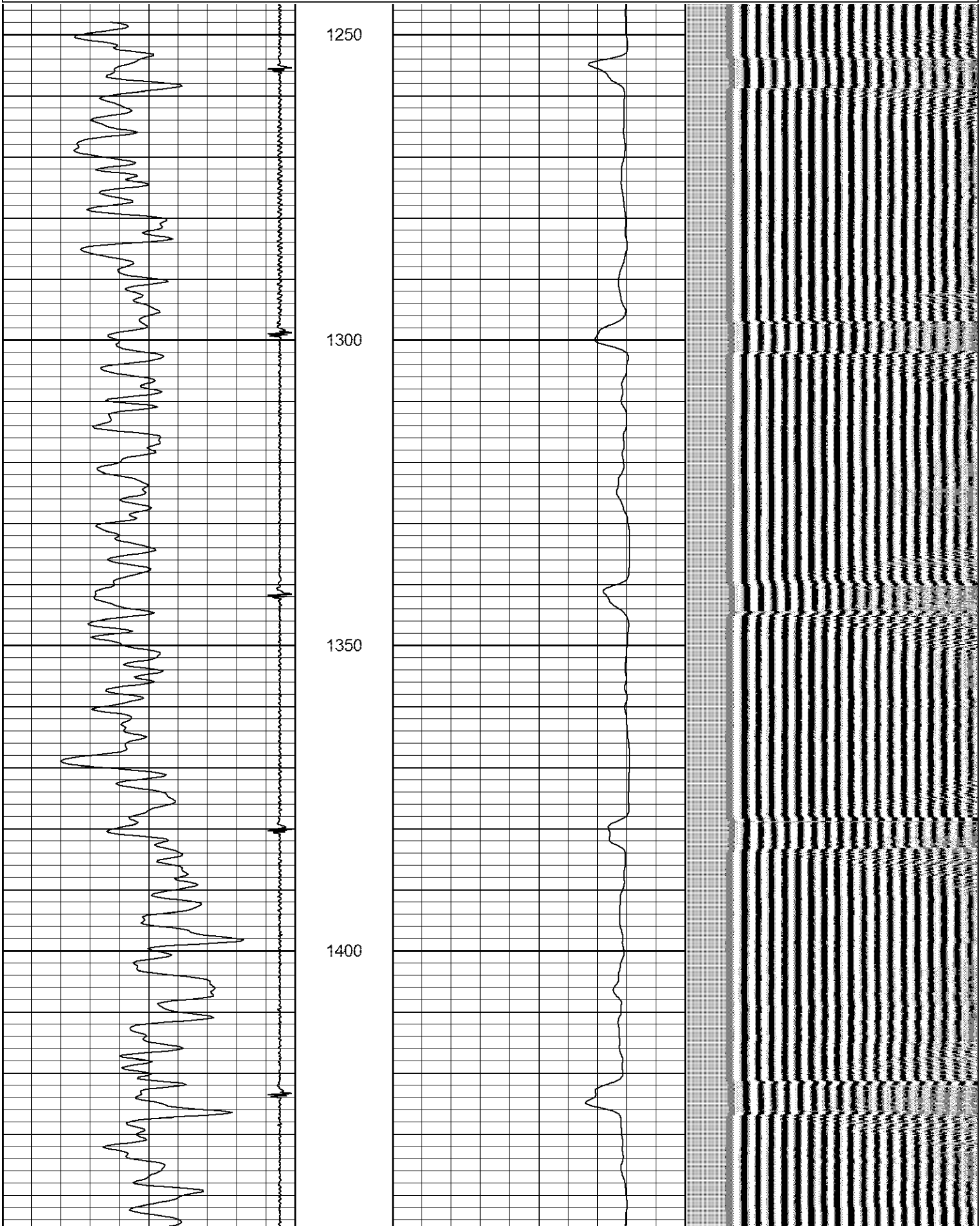
Thank You For Choosing Superior Well Services!!!  
API# 05-123-34568-0000  
Correlated to HES's  
Array Compensated / Dual Spaced Neutron / True Resistivity / Spectral Density log  
Dated: December 9, 2011  
Directions: 46 & 59, E 1/2, N 1/2, E Into  
(Northern Most Well of 2 Well Pad)

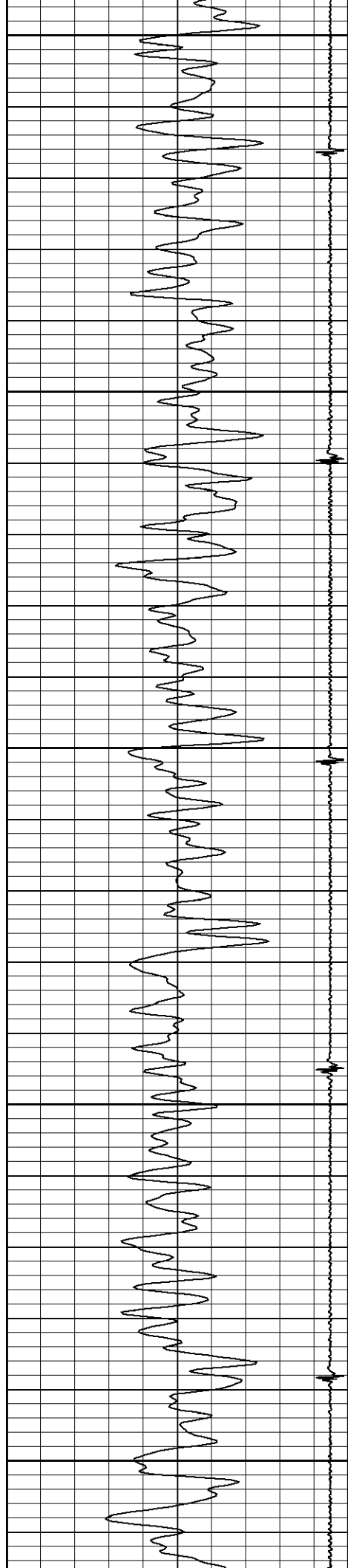
Database File: cblwatkins c12-24.db  
Dataset Pathname: pass3  
Presentation Format: noble en  
Dataset Creation: Tue Jan 03 11:56:21 2012 by Log SCH 111116  
Charted by: Depth in Feet scaled 1:240

60	CCL	-3.2
30	Gamma Ray (GAPI)	130
350	TT3 (usec)	285

0	Amplified Amplitude (mV)	30
0	Amplitude (mV)	100

	Variable Density	1200
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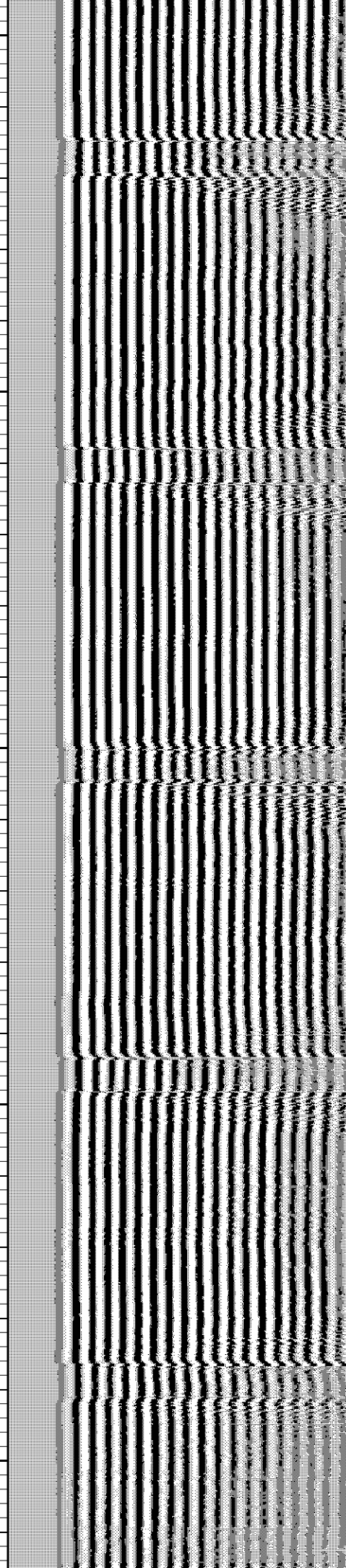
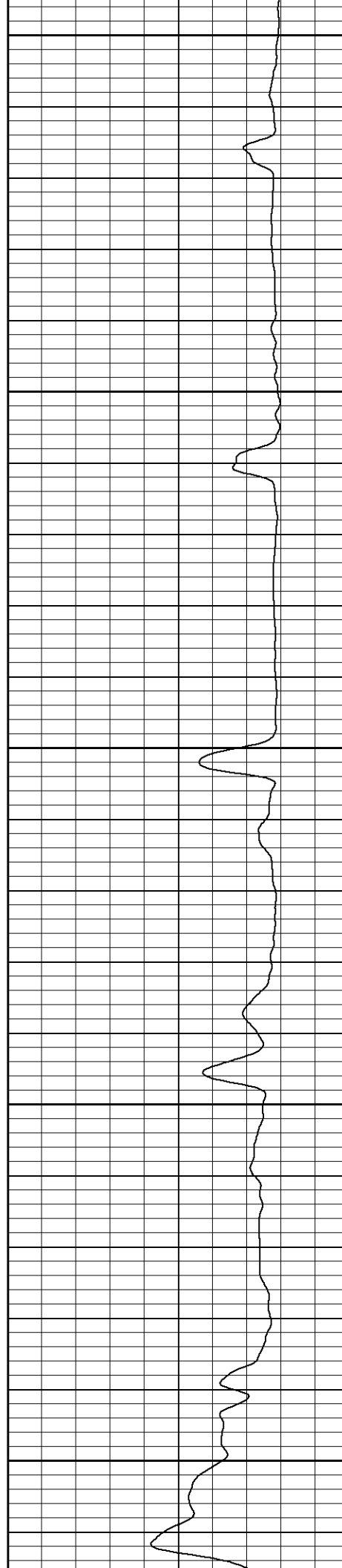
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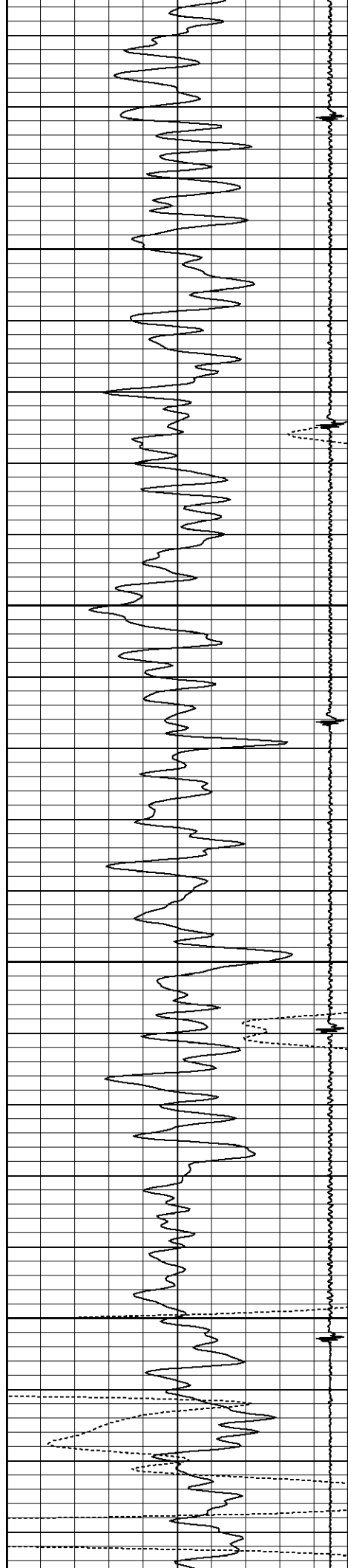
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1550

1600

1650



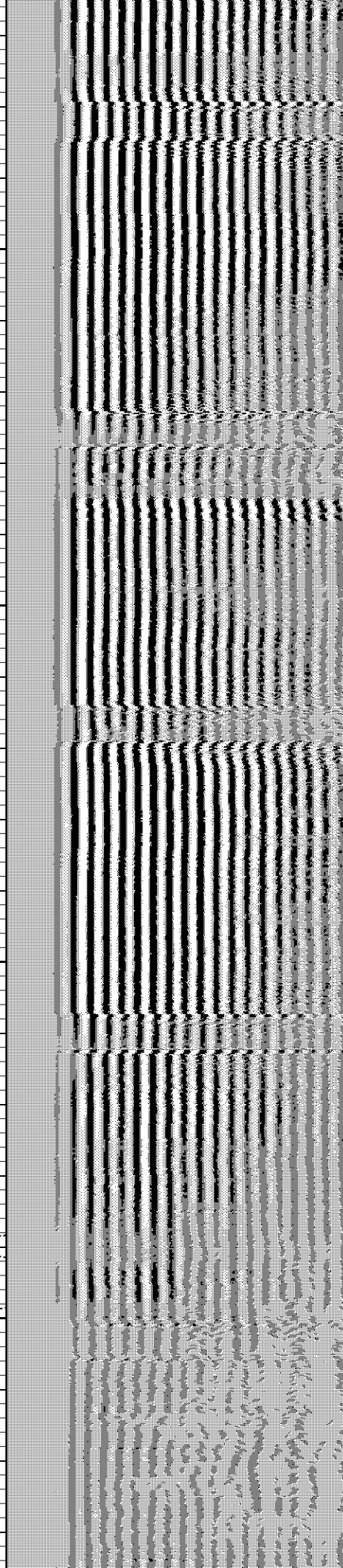
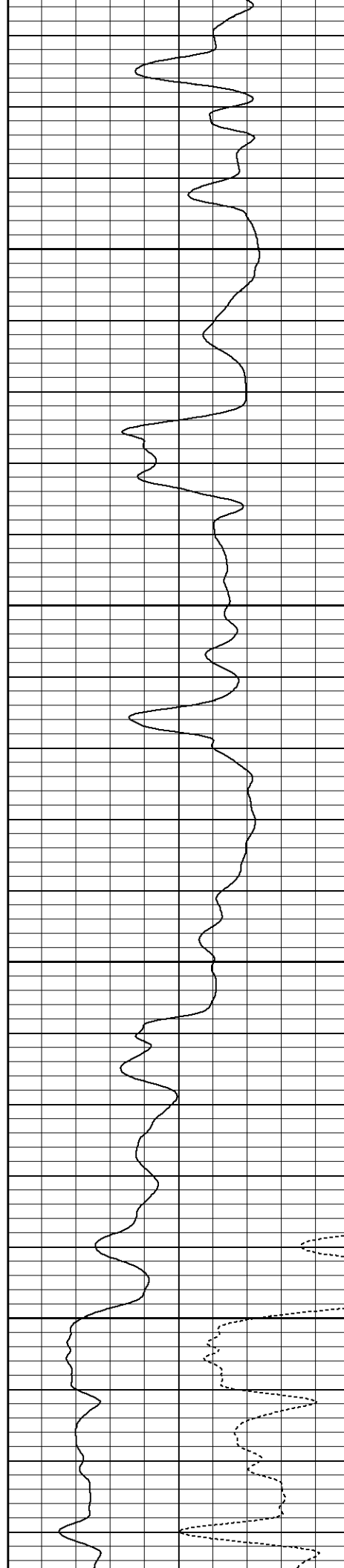


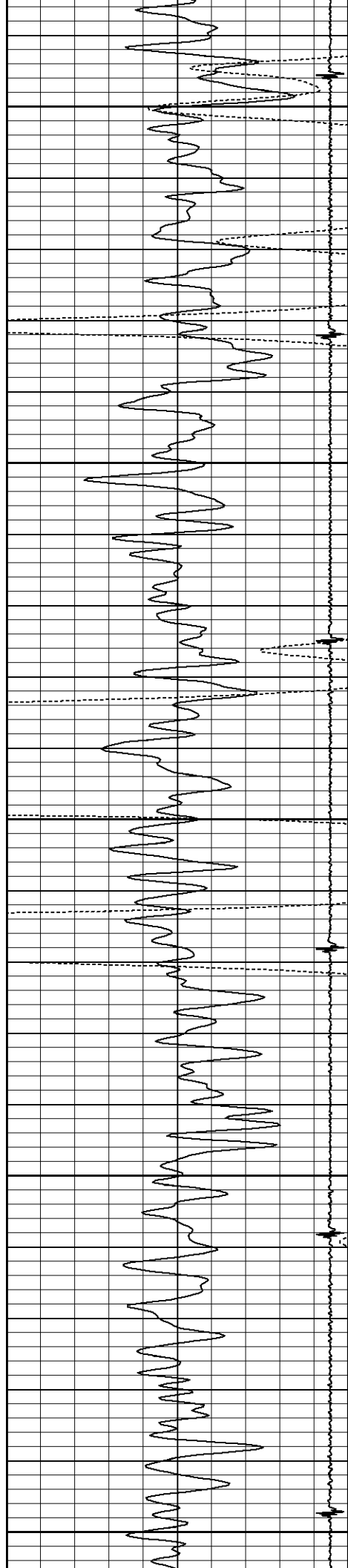
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1750

1800

1850





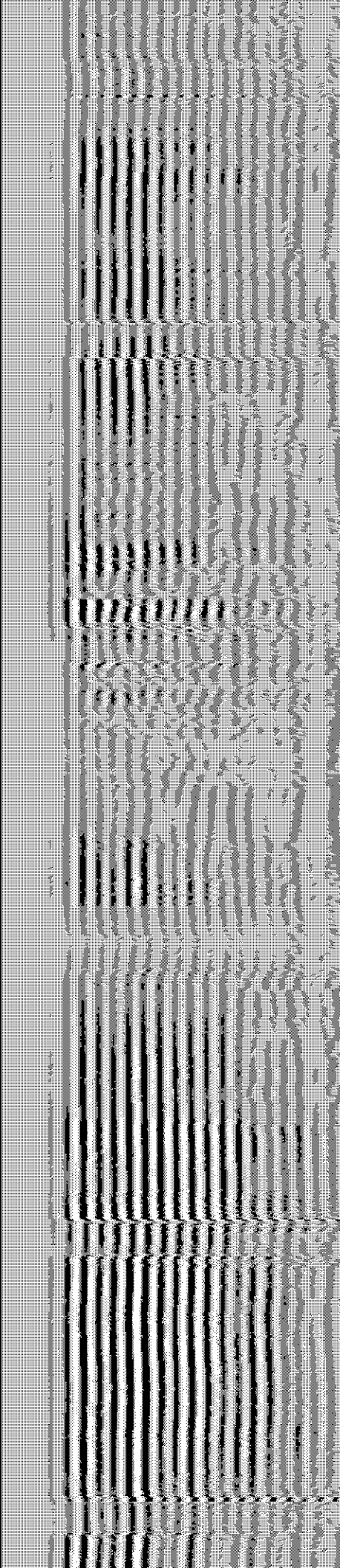
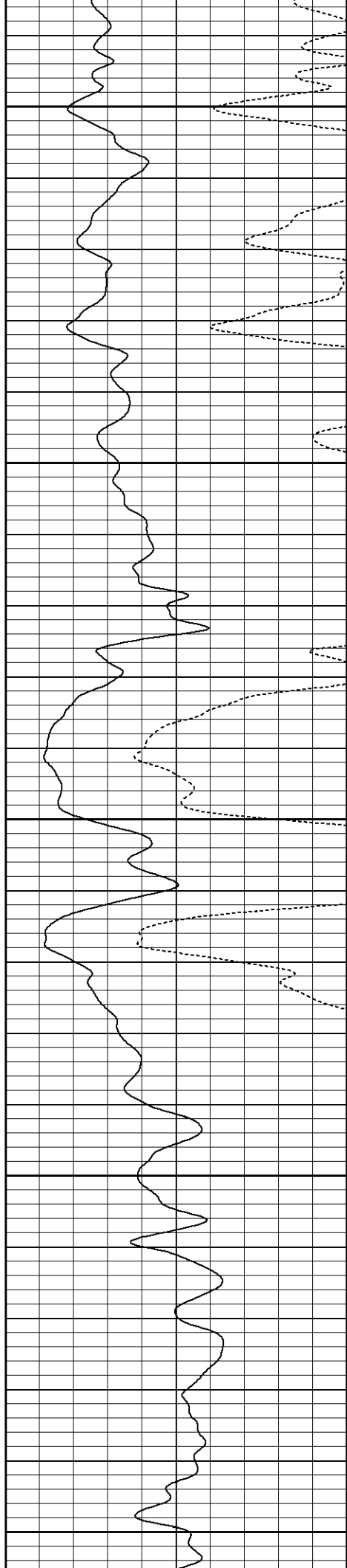
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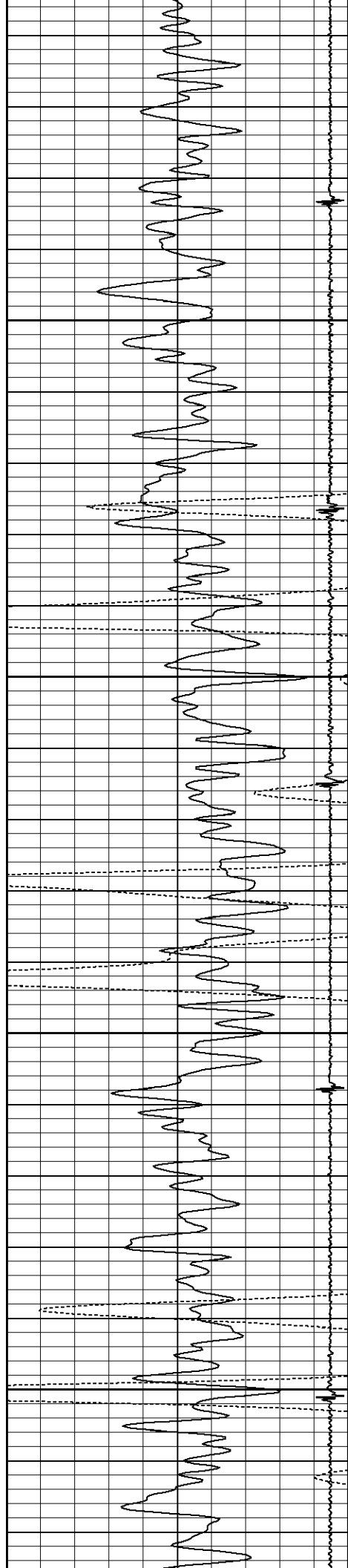
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2000

2050

2100



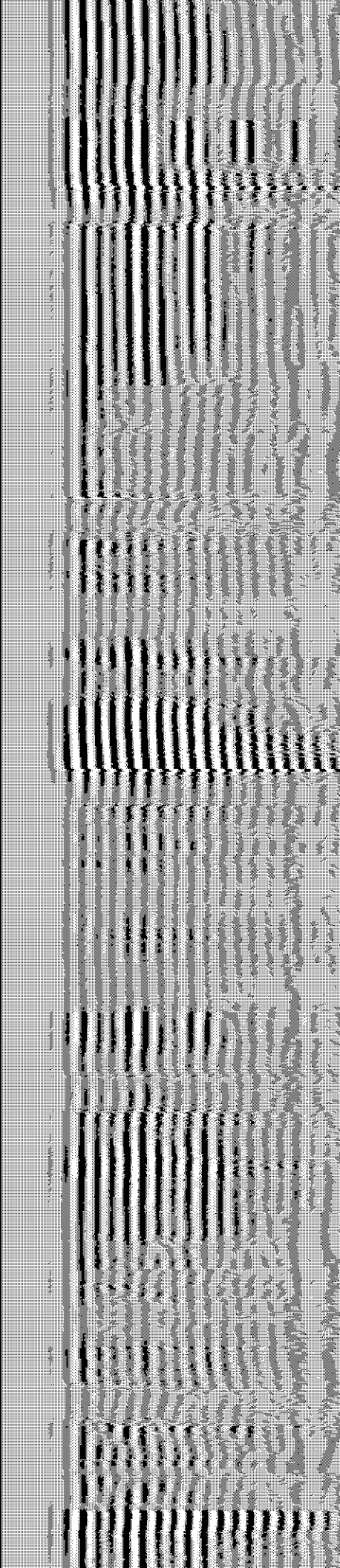
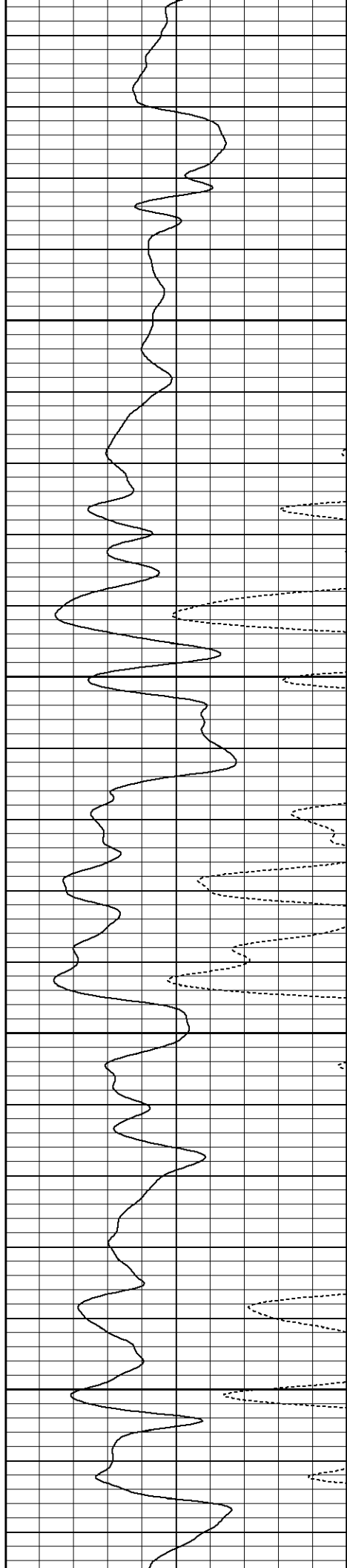


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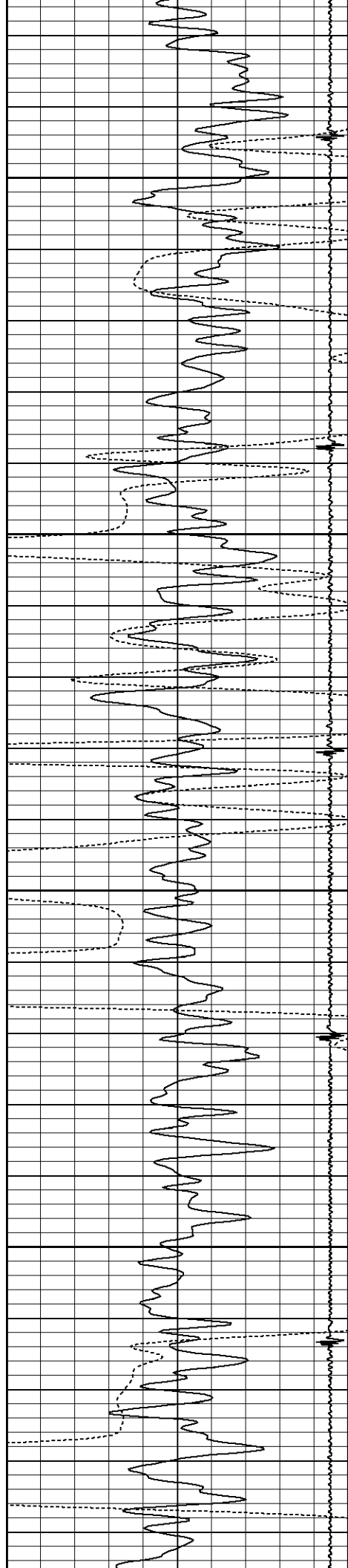
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2250

2300





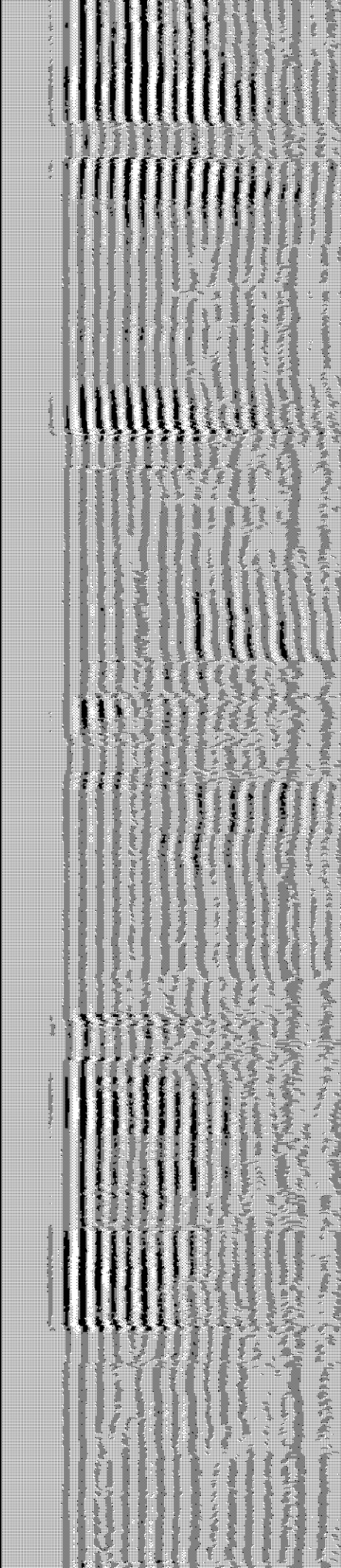
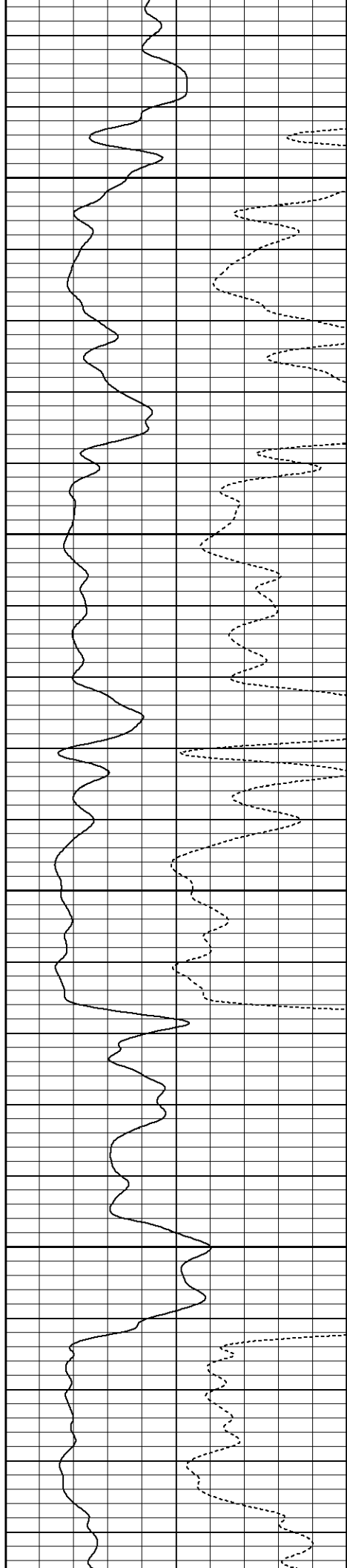


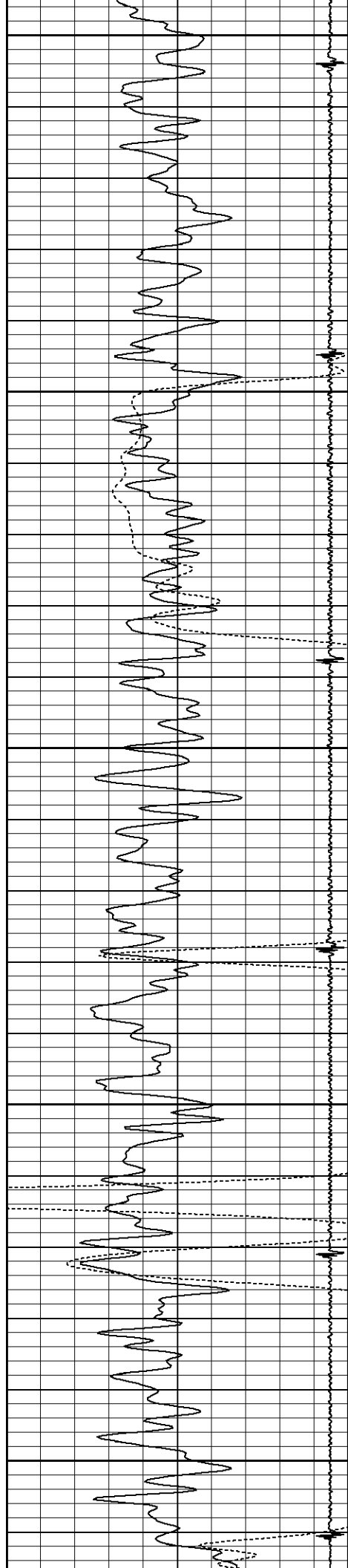
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2450

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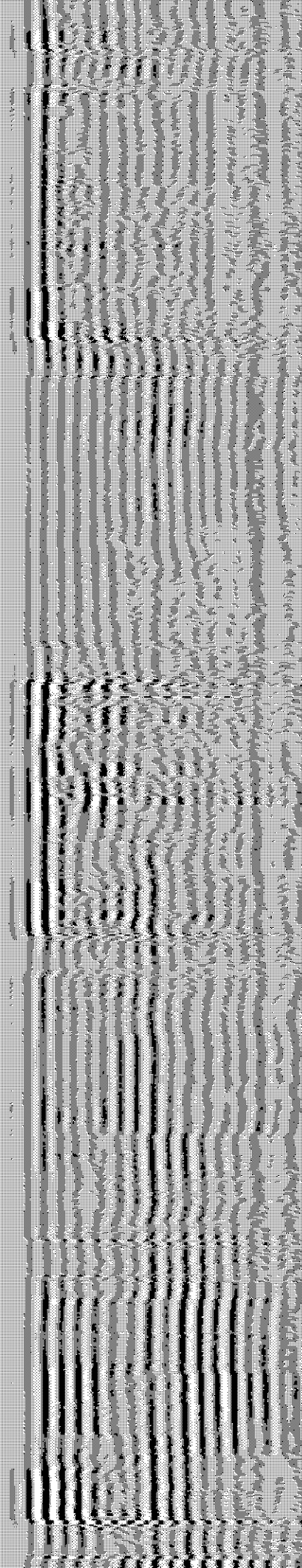
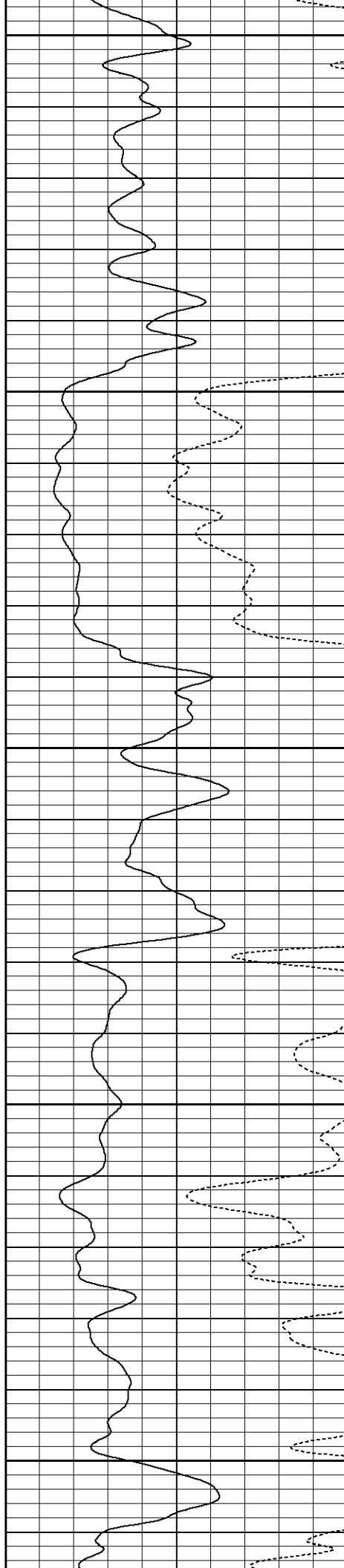
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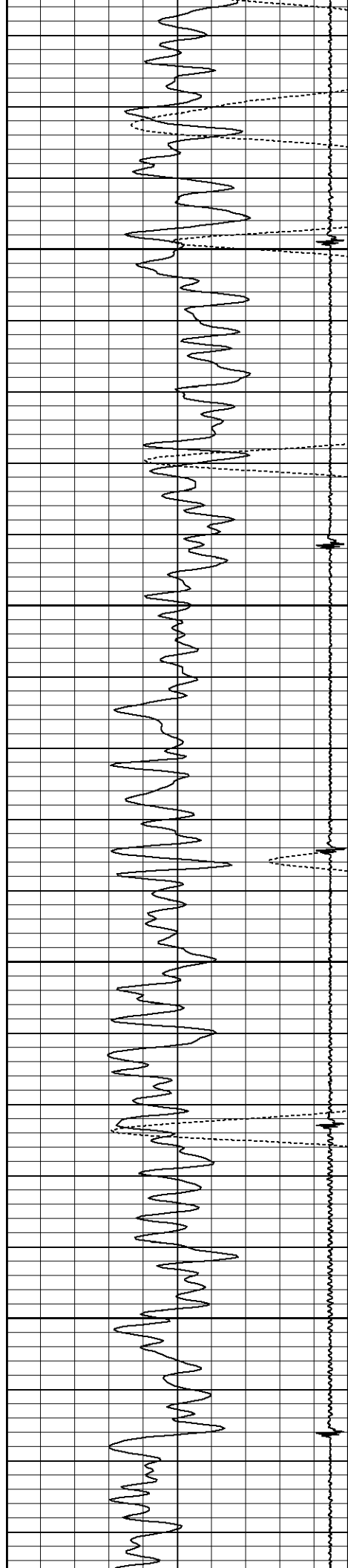
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2750





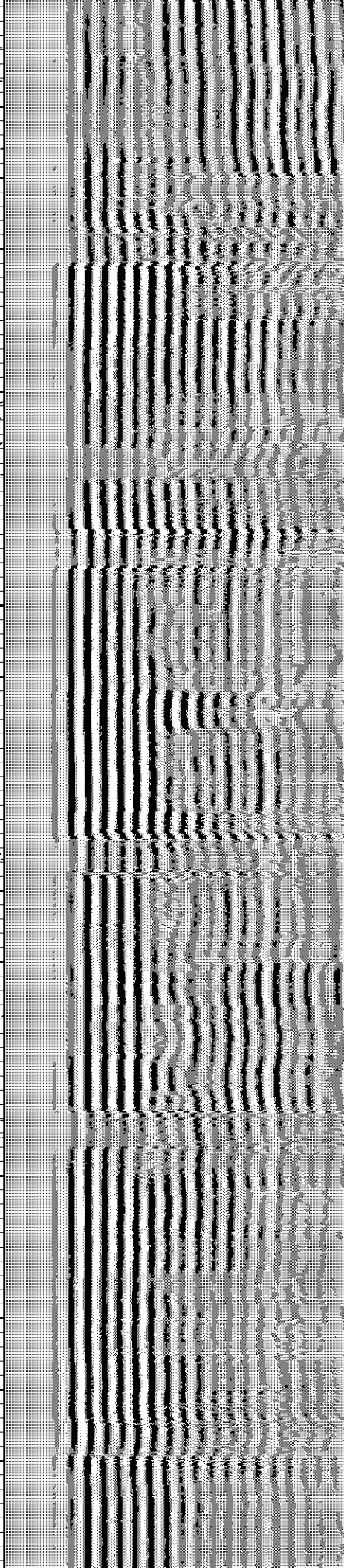
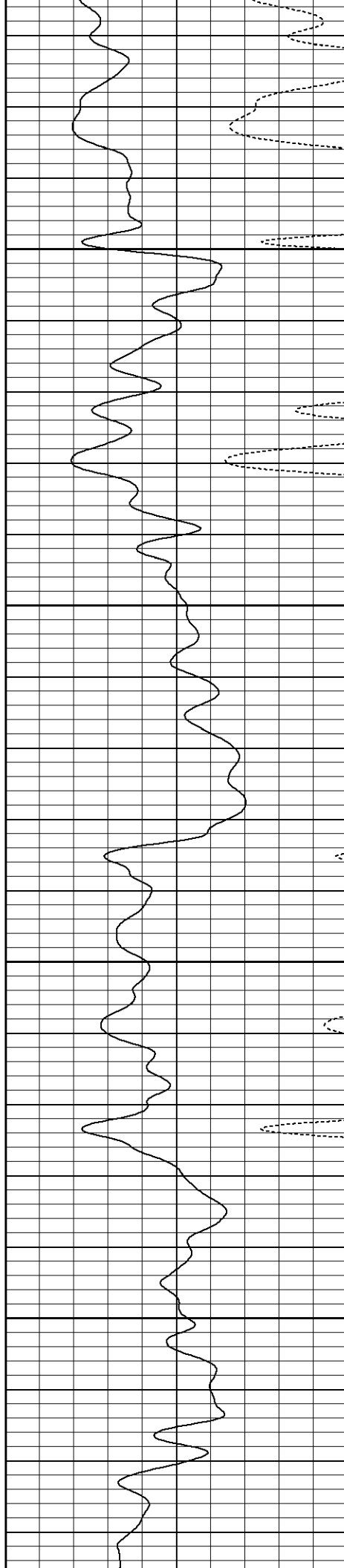


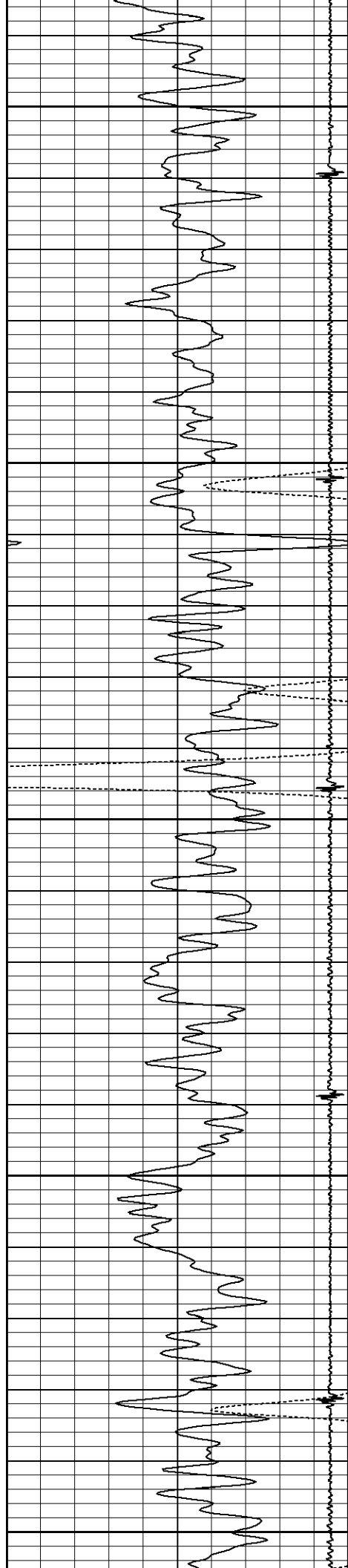
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2950





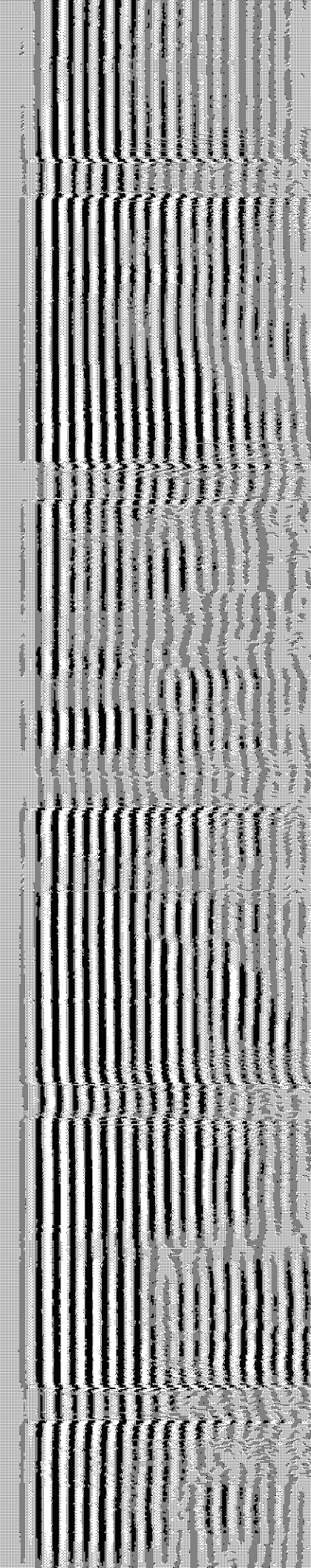
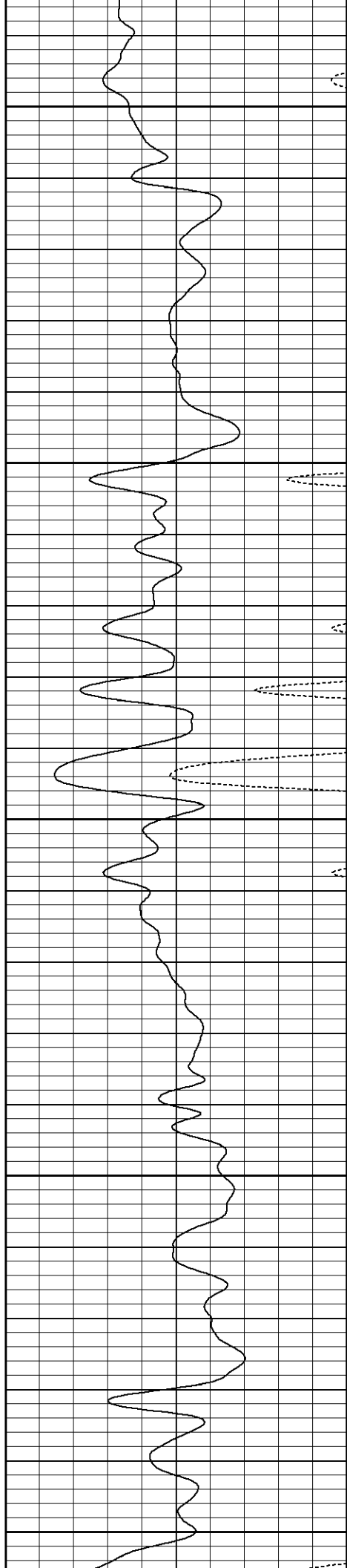
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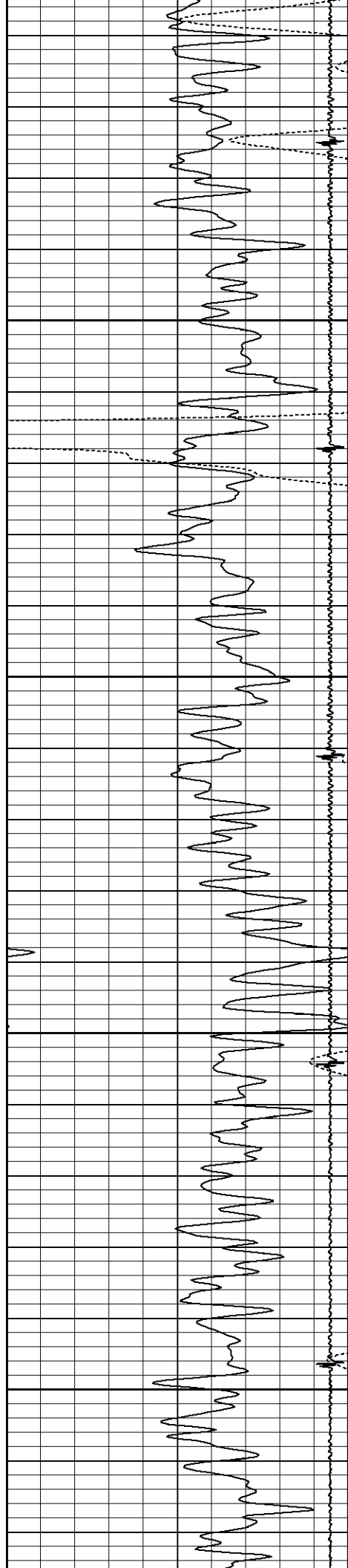
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3100

3150

3200



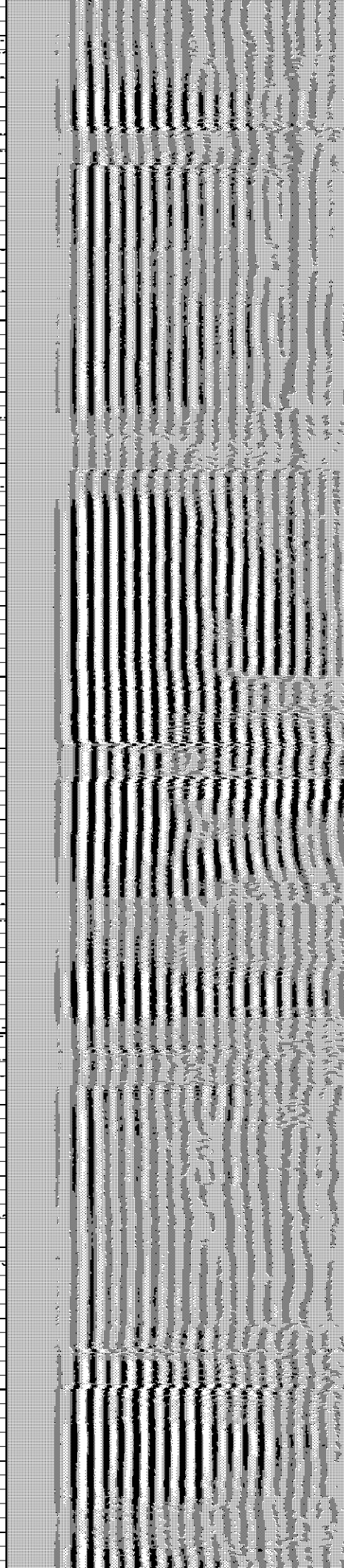
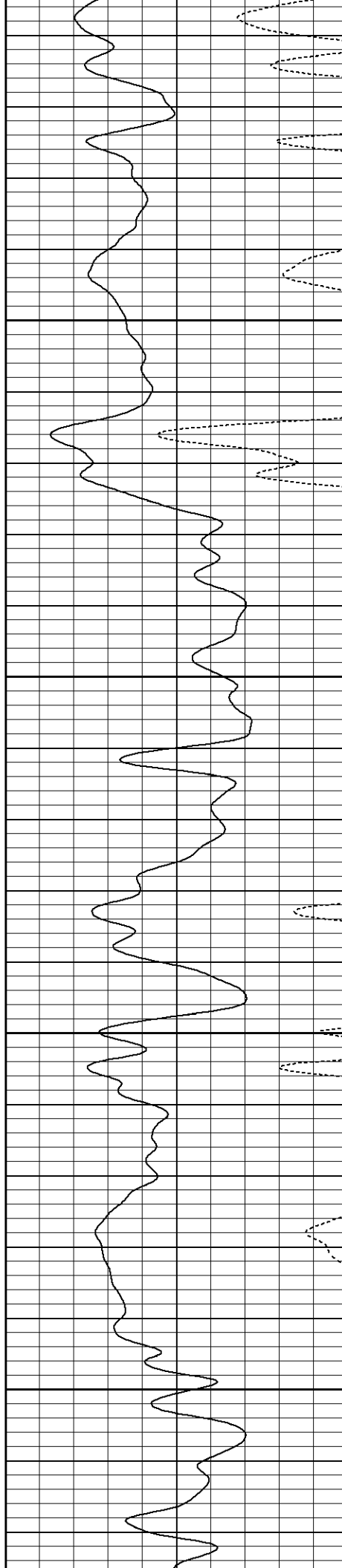


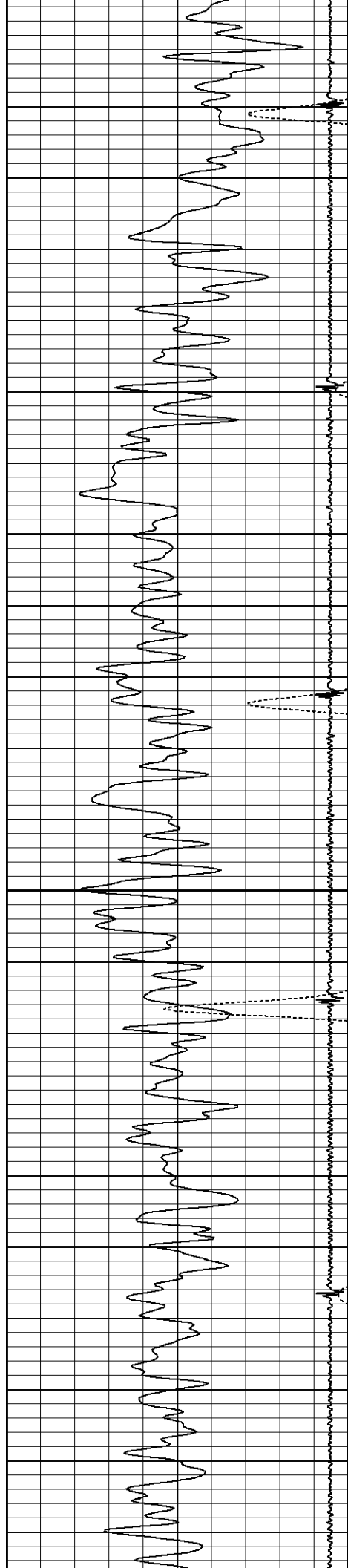
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3300

3350

3400



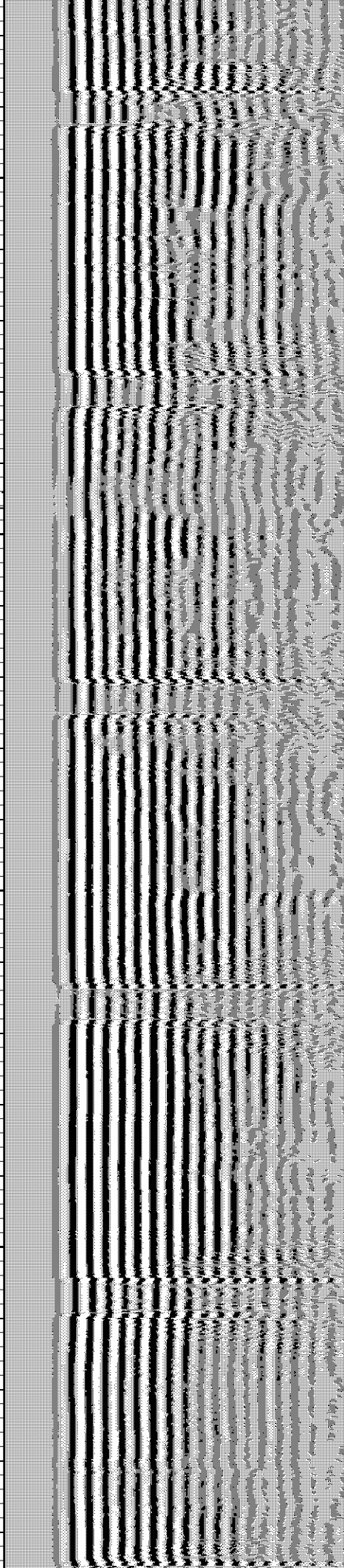
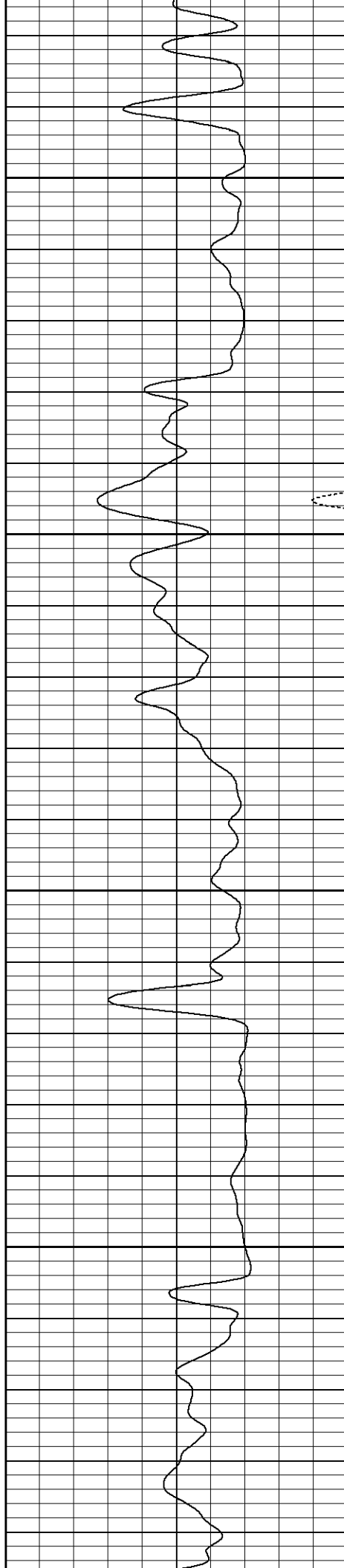


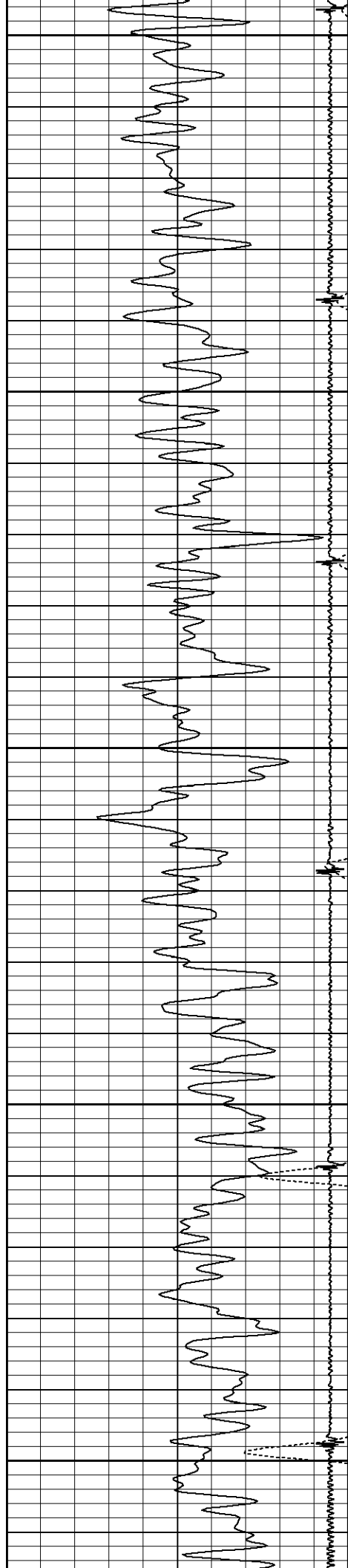
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3600





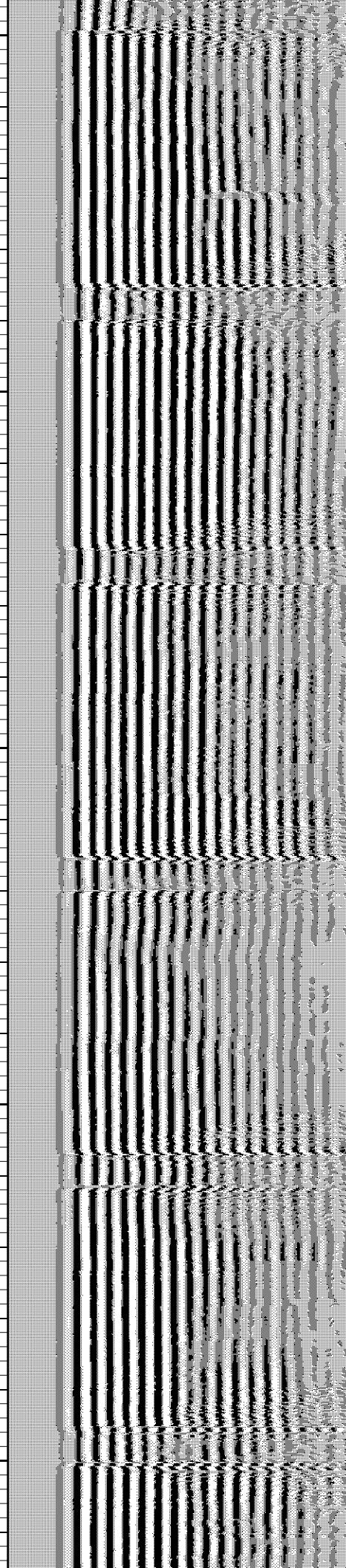
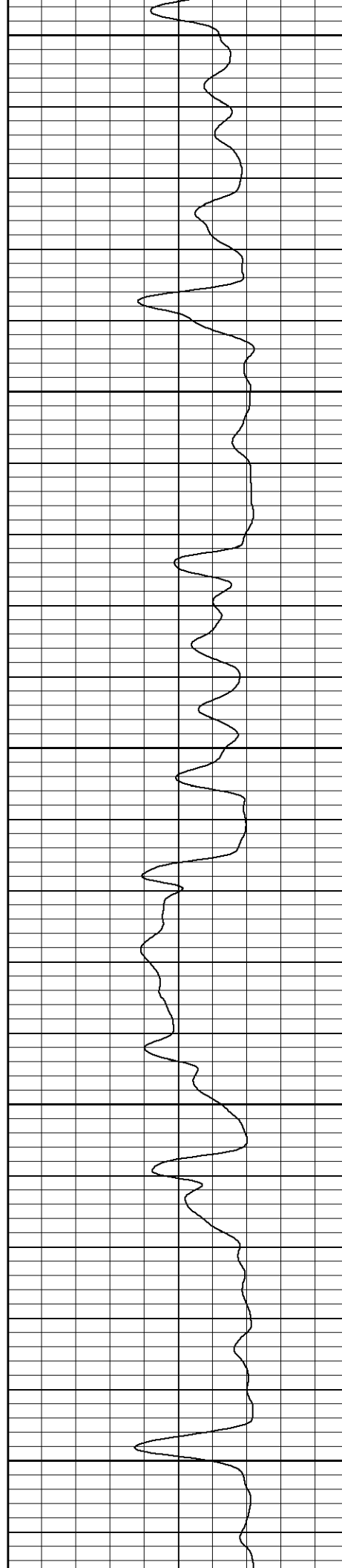
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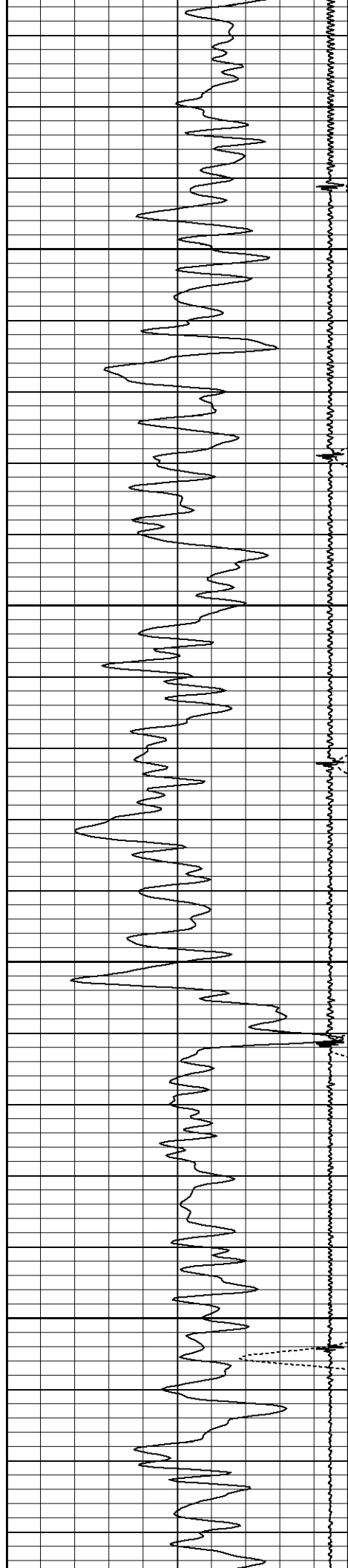
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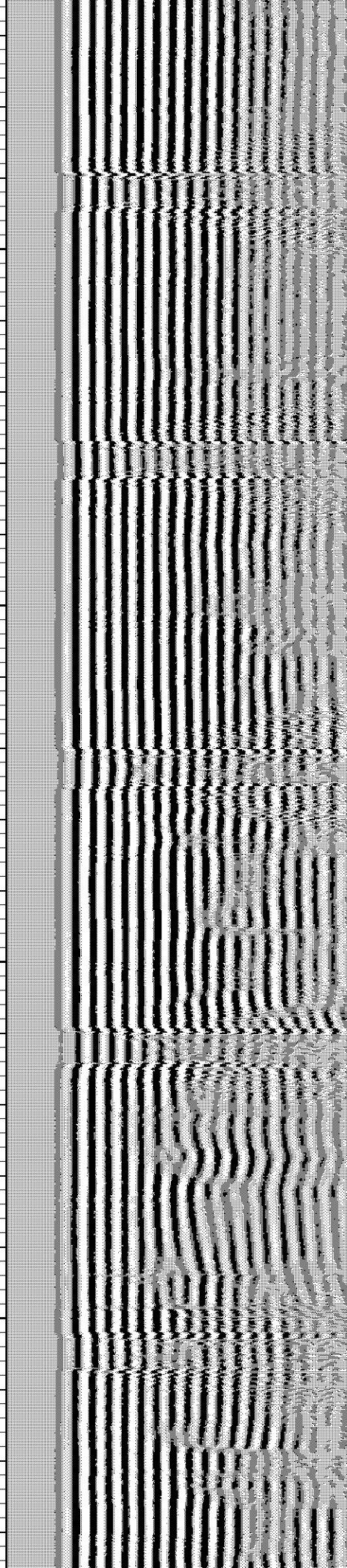
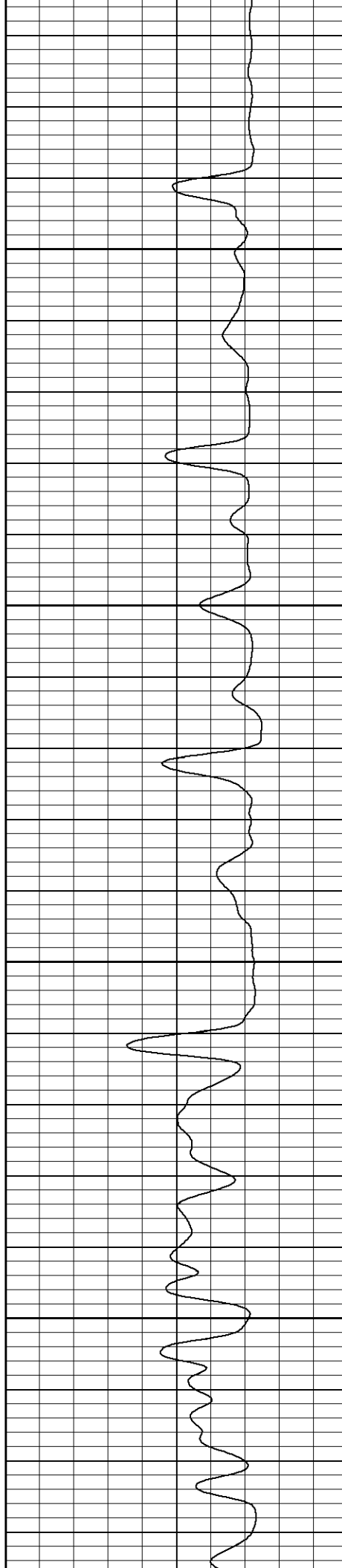


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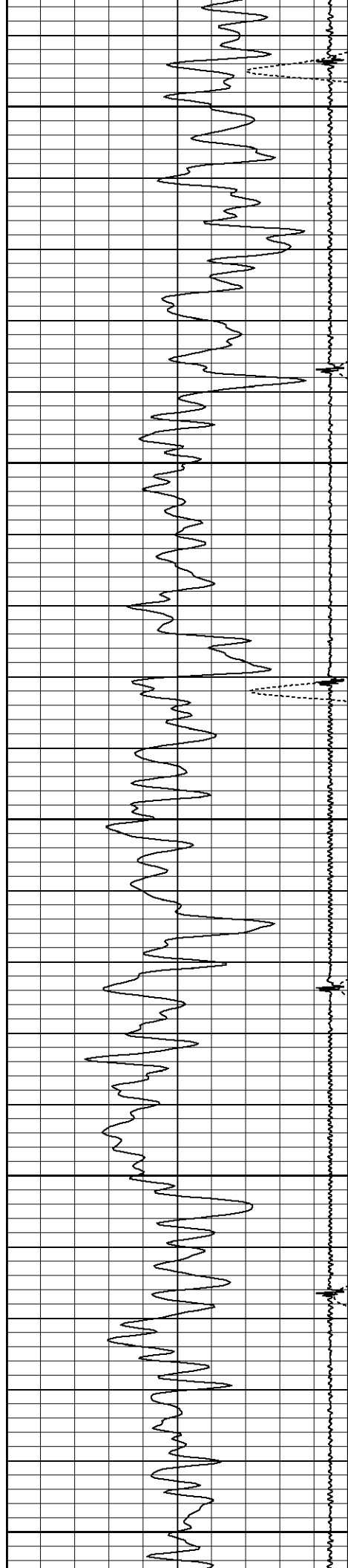
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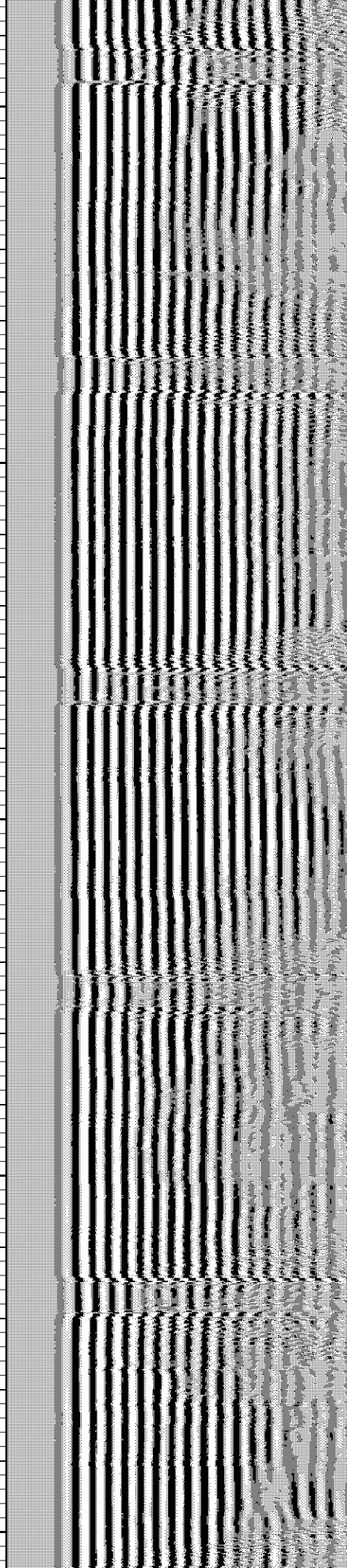
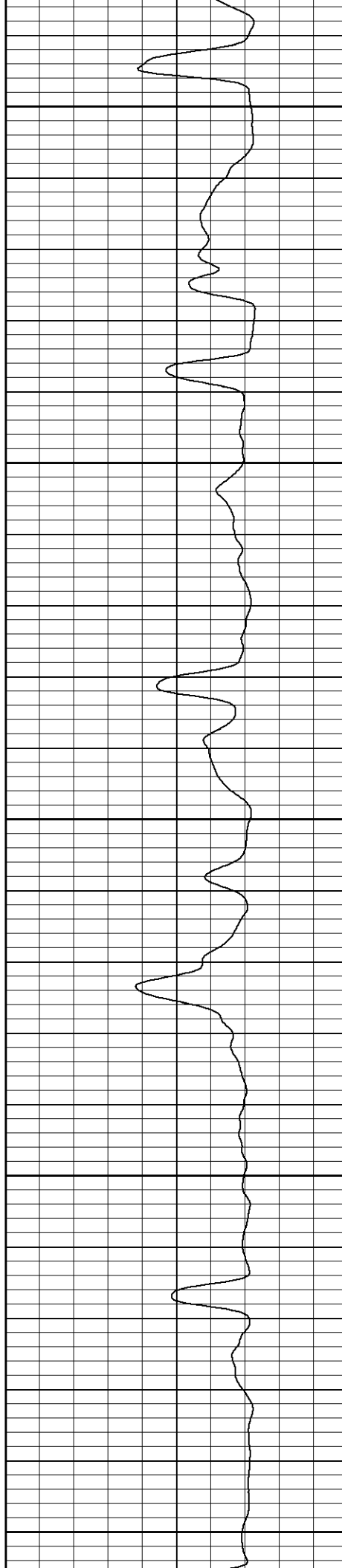
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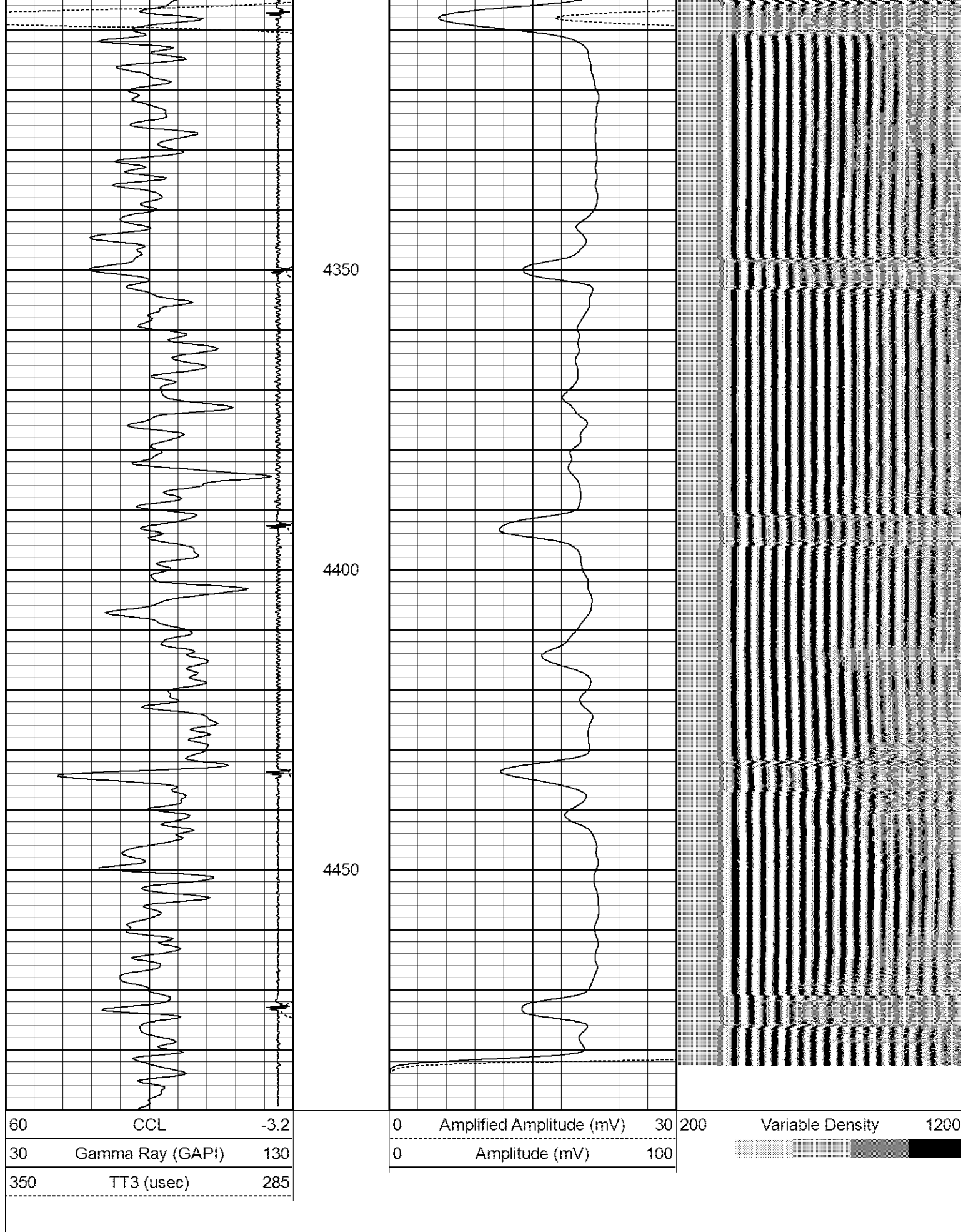
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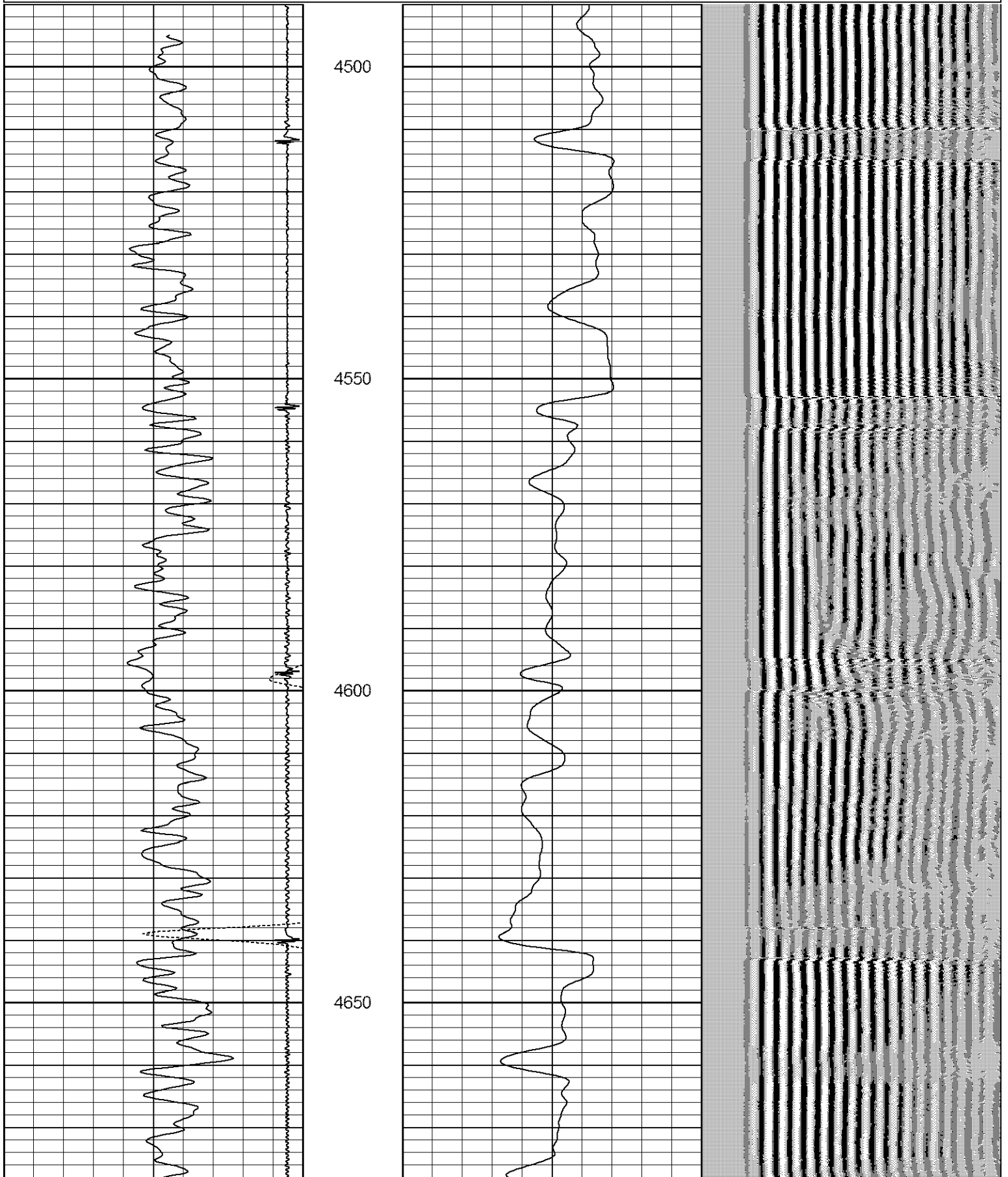
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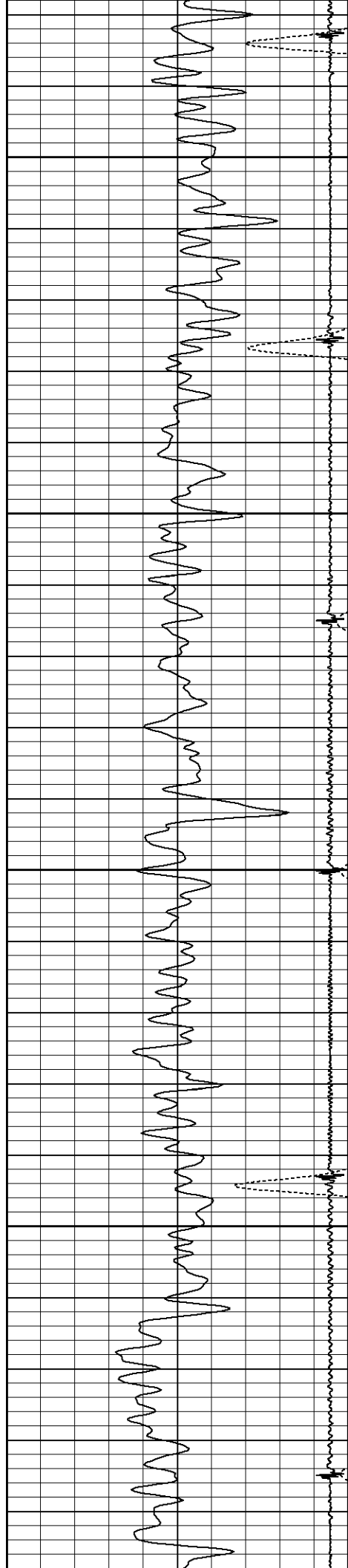




60	CCL	-3.2
0	Gamma Ray (GAPI)	150
350	TT3 (usec)	285

0	Amplified Amplitude (mV)	30	200	Variable Density	1200
0	Amplitude (mV)	100			



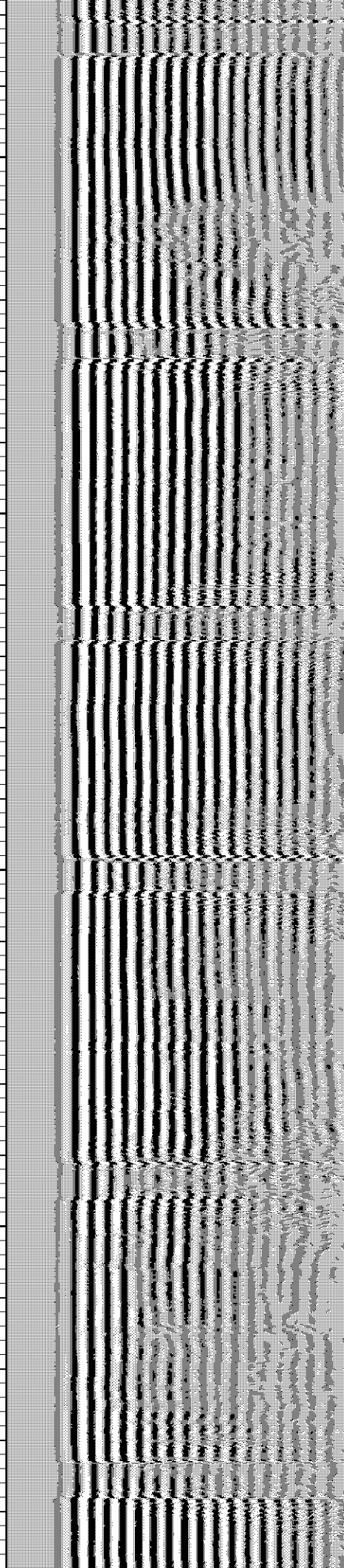
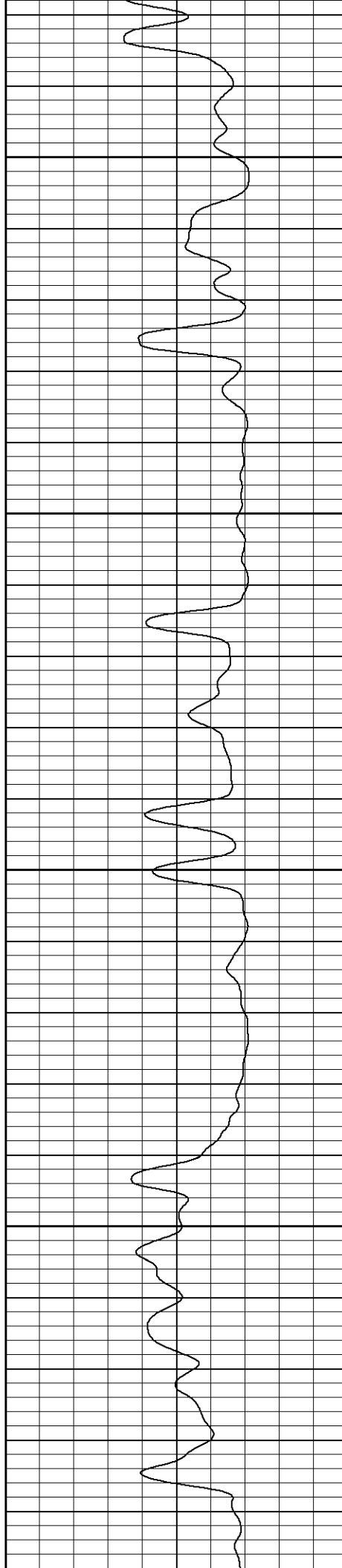


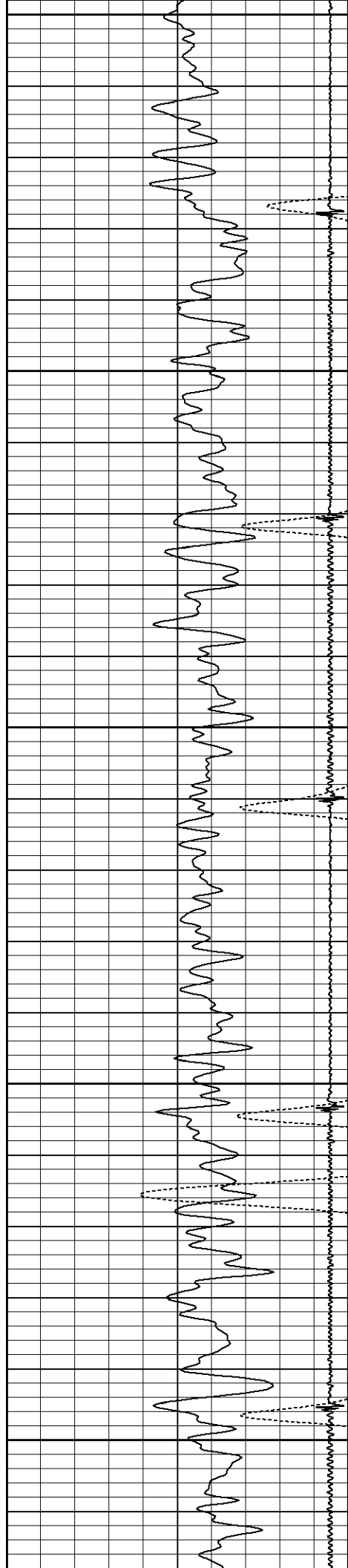
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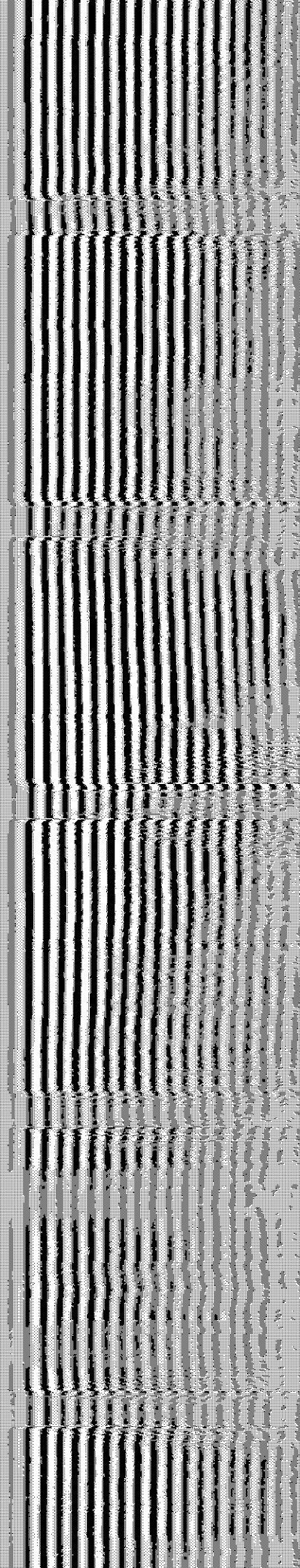
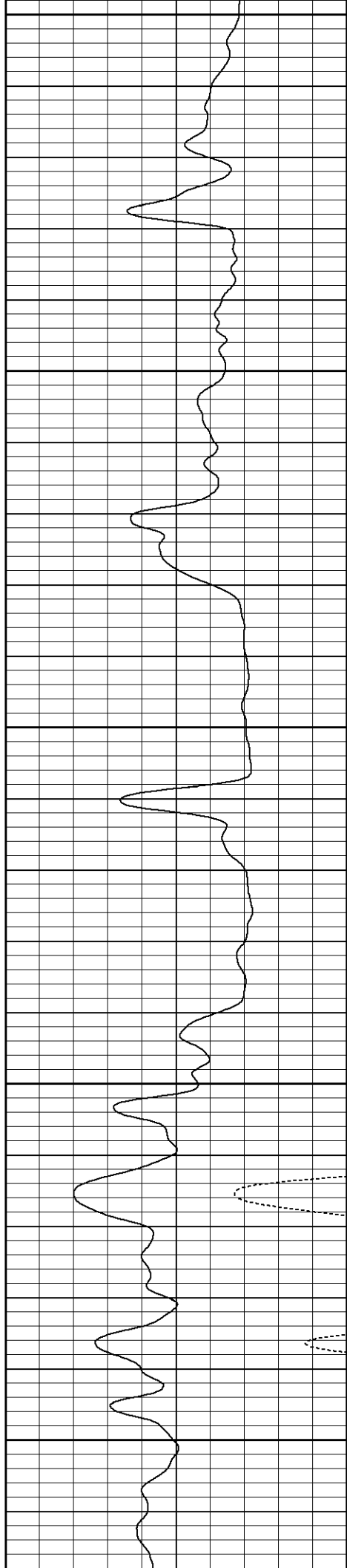
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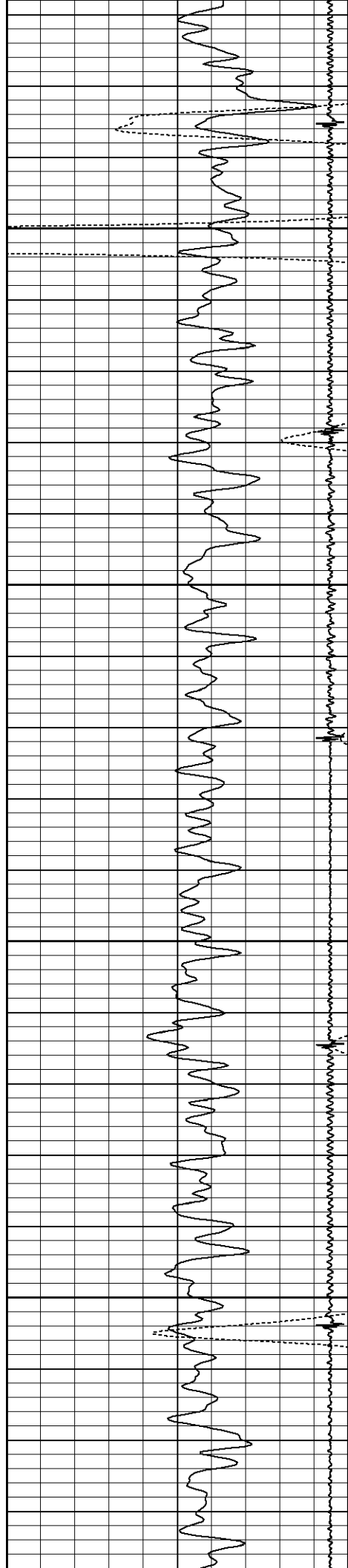
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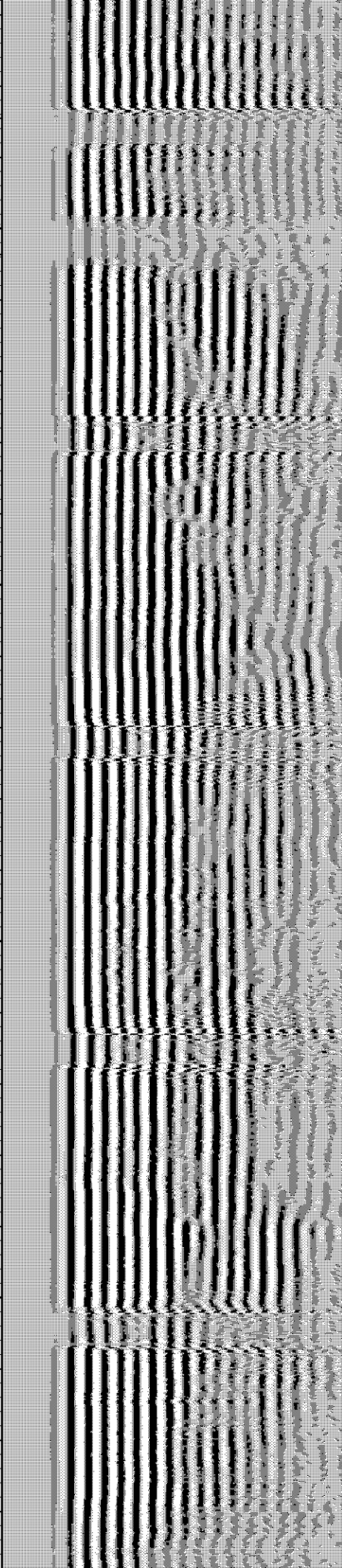
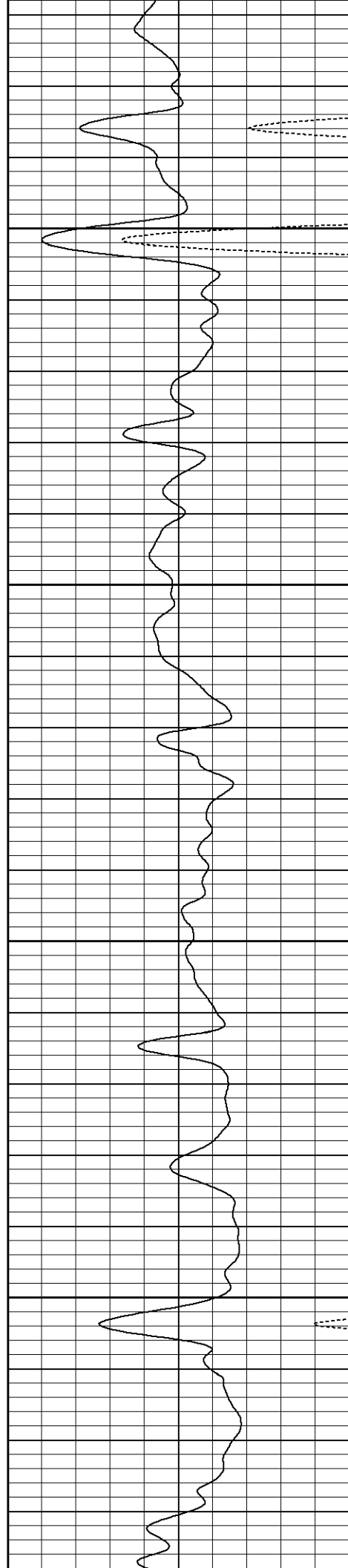


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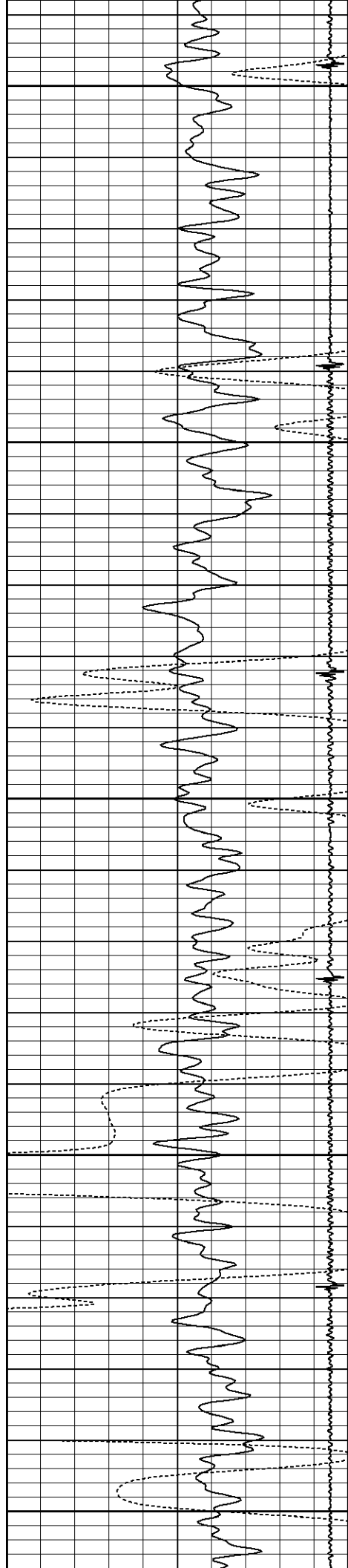
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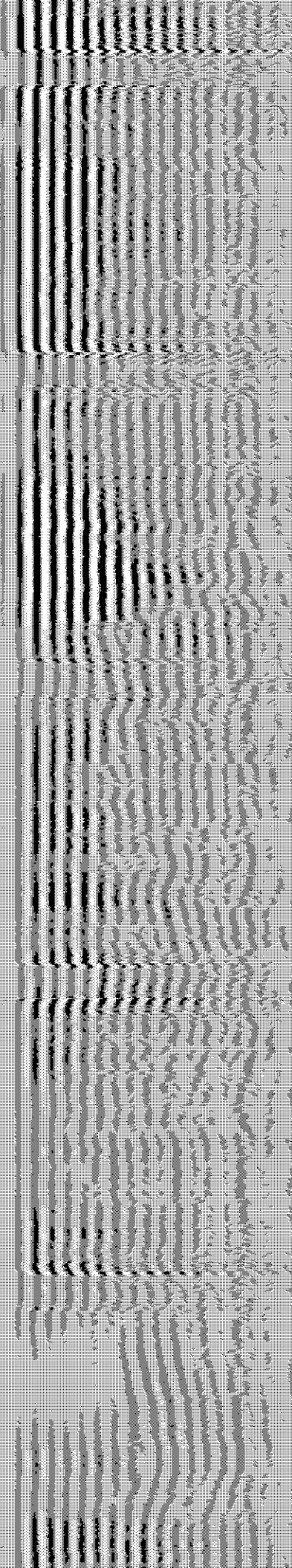
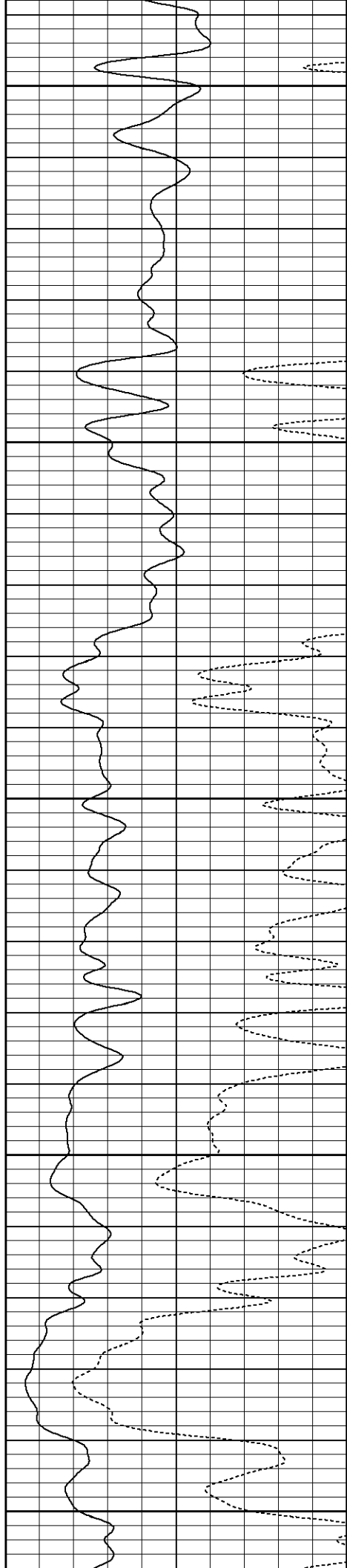
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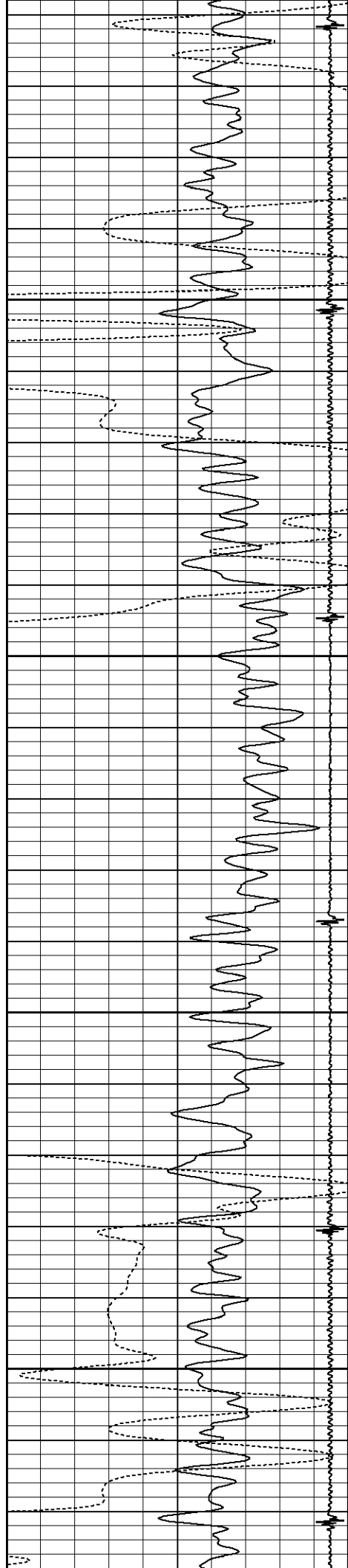
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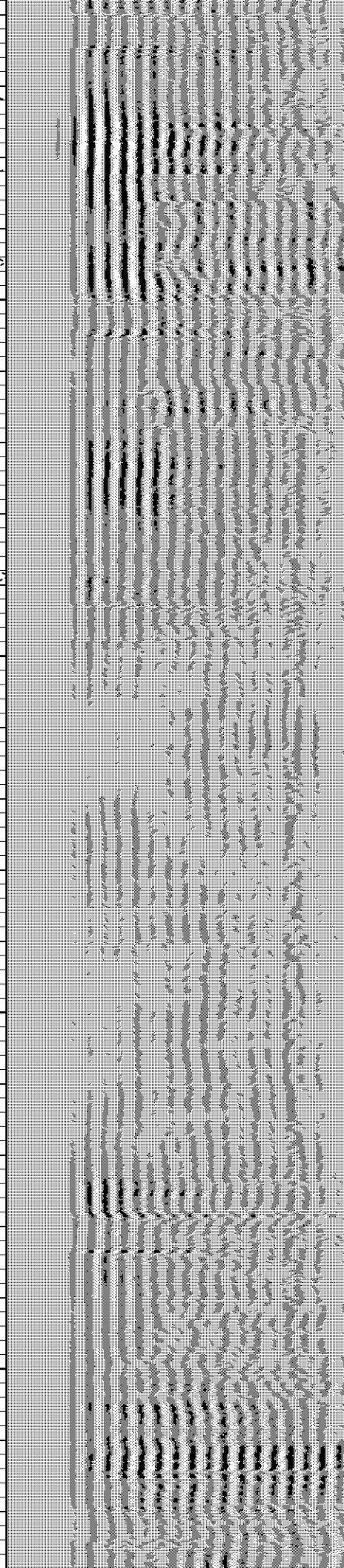
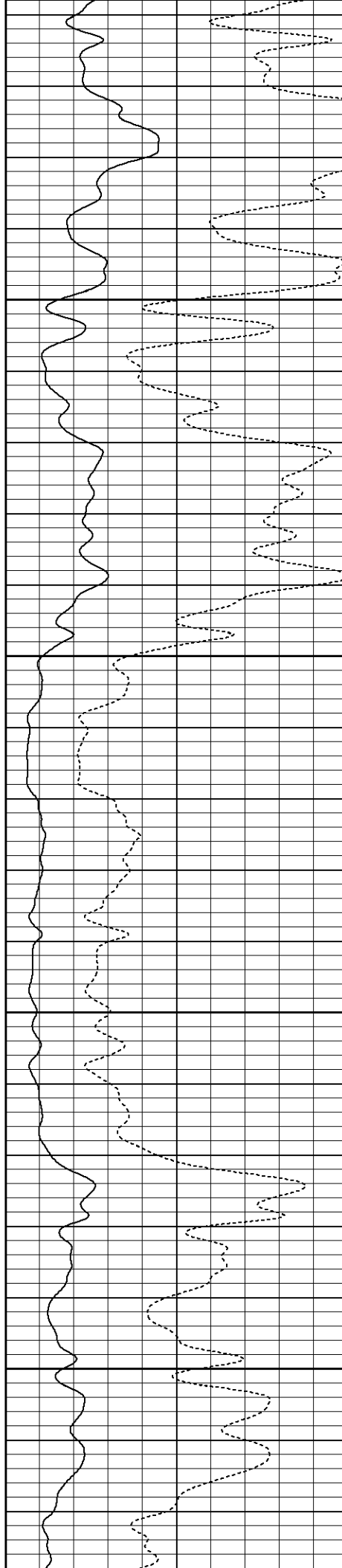


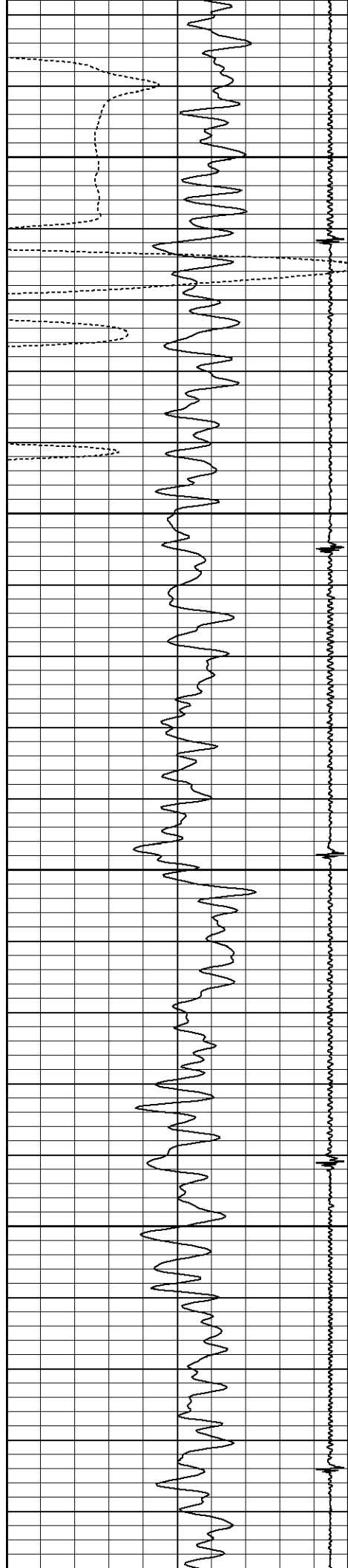
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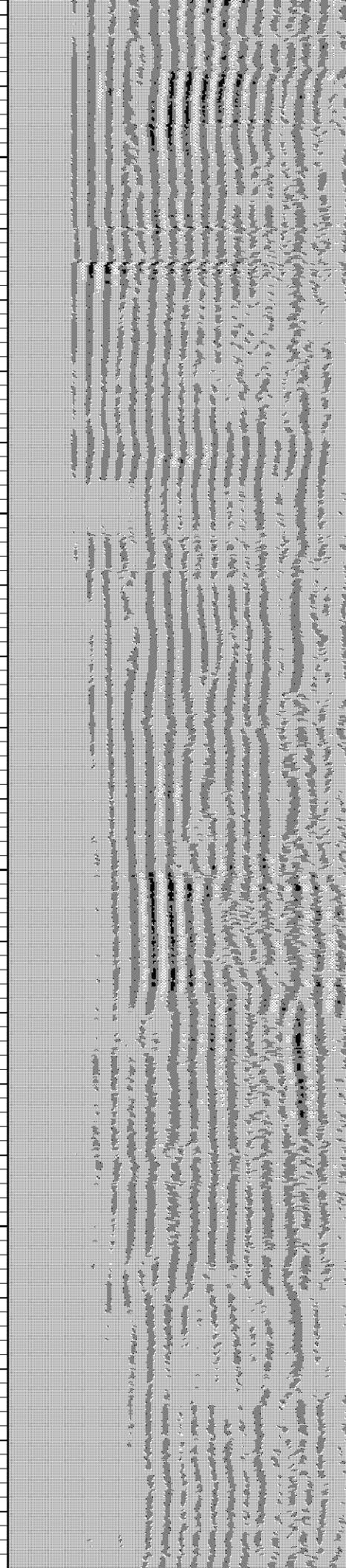
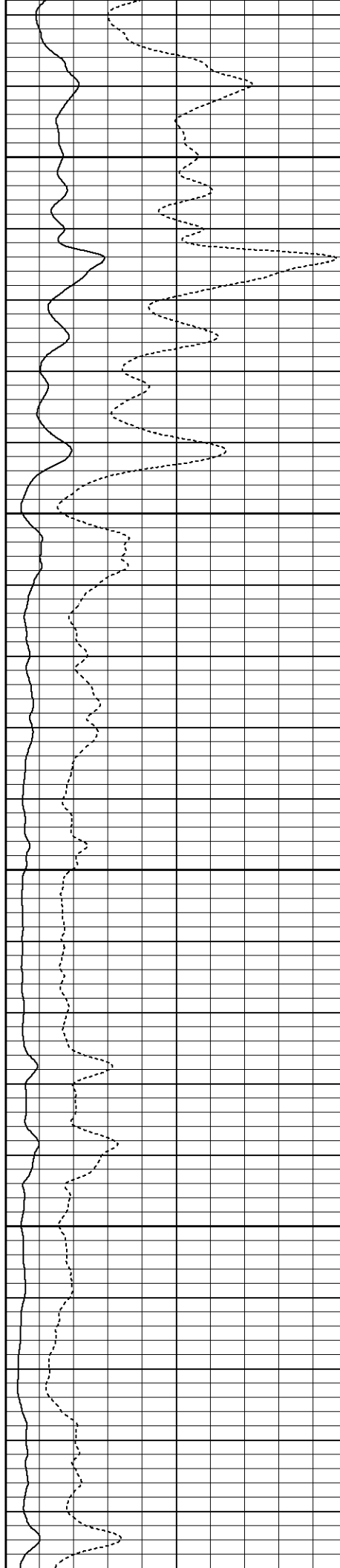


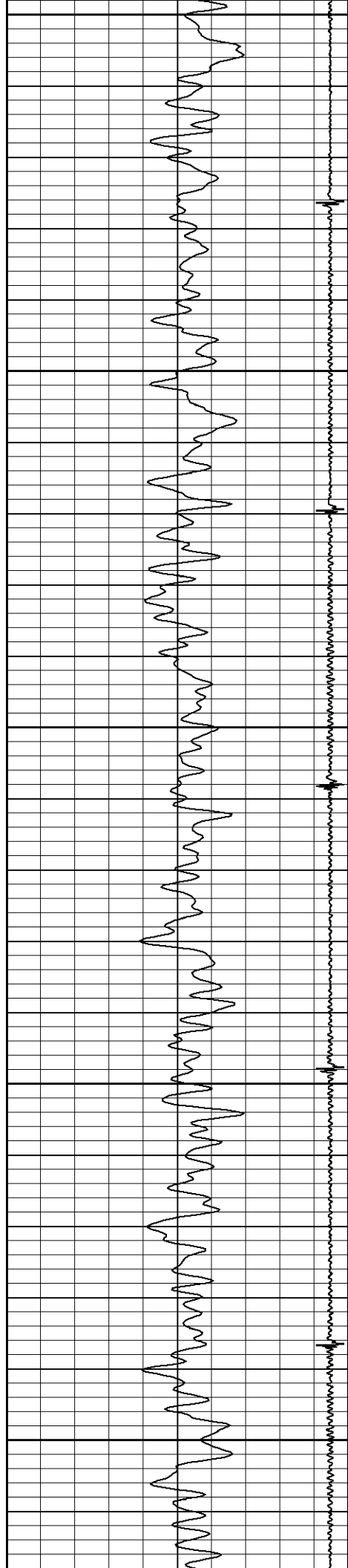
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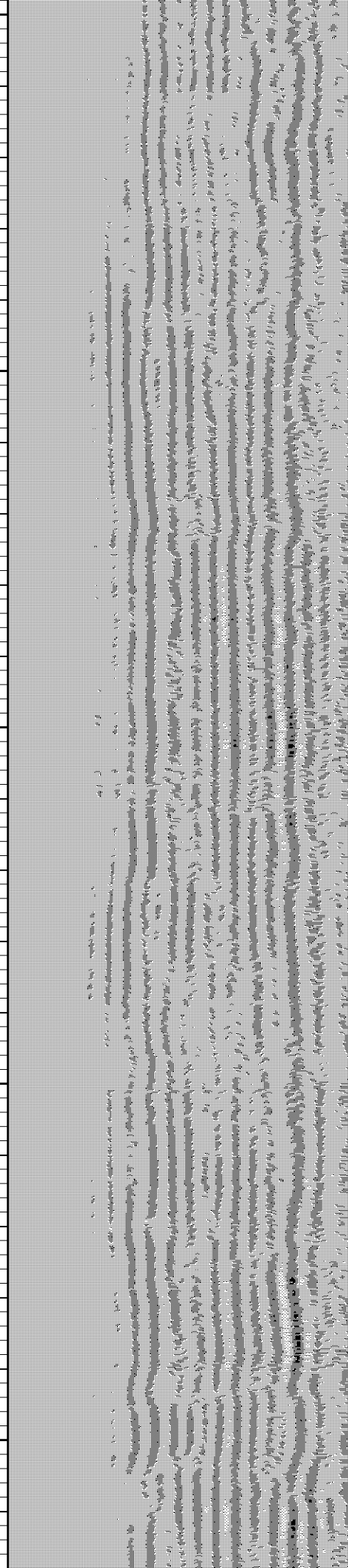
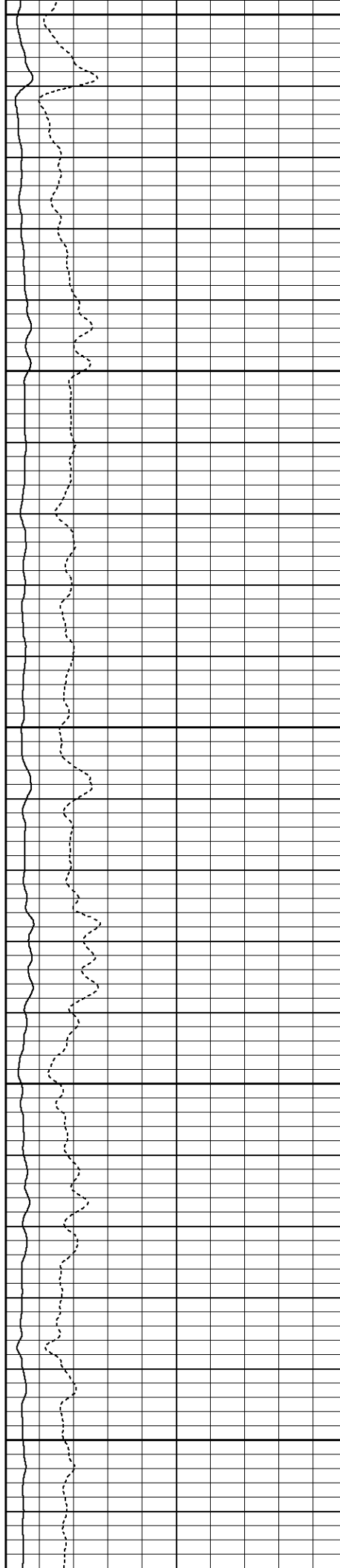
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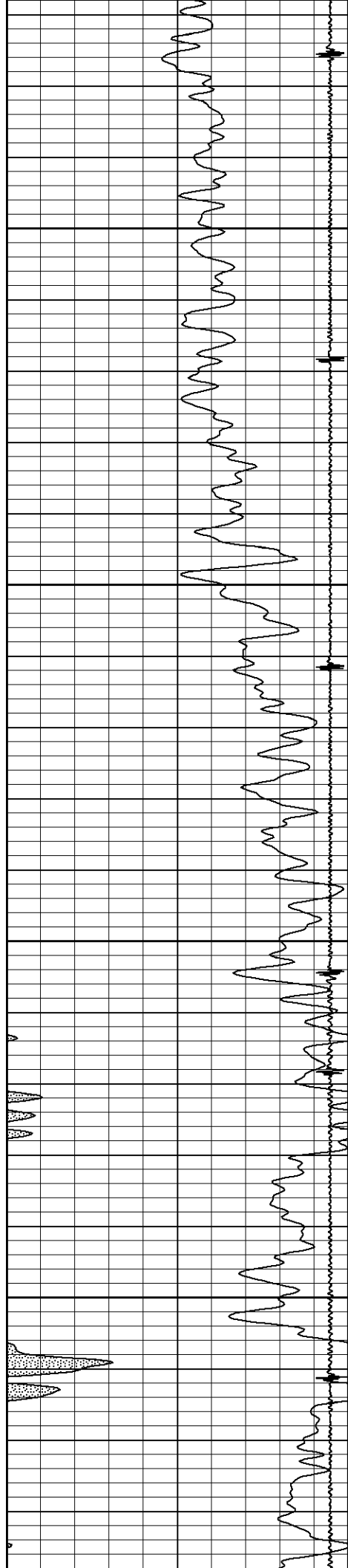
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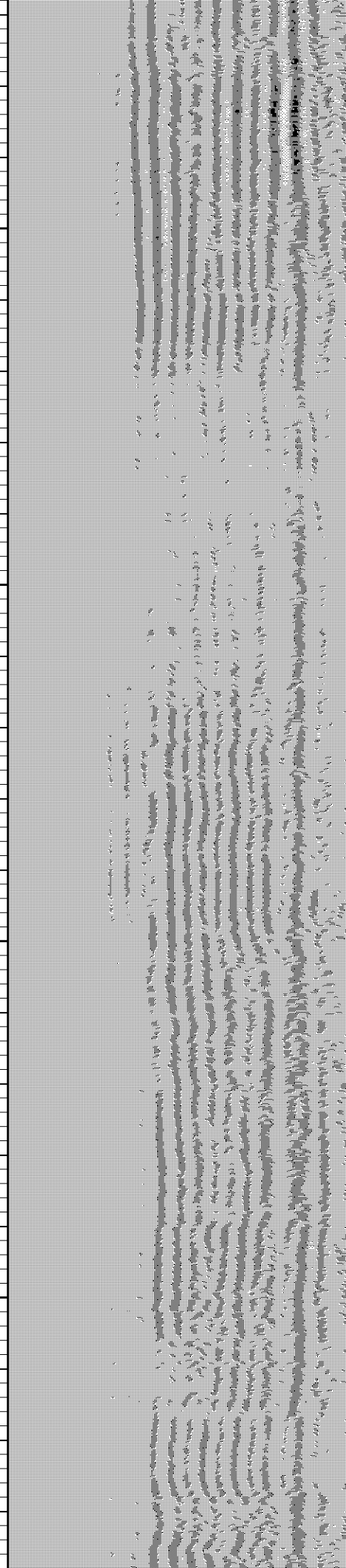
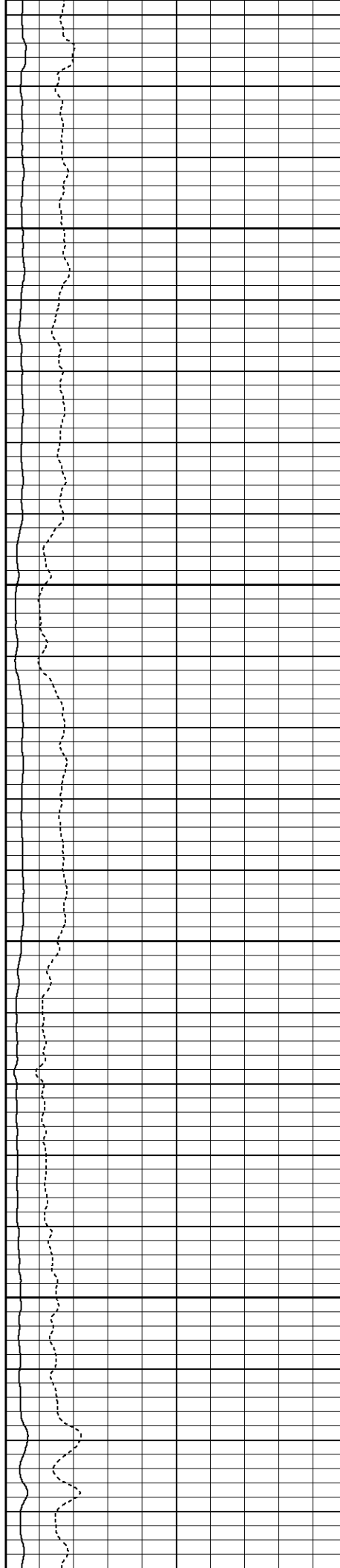
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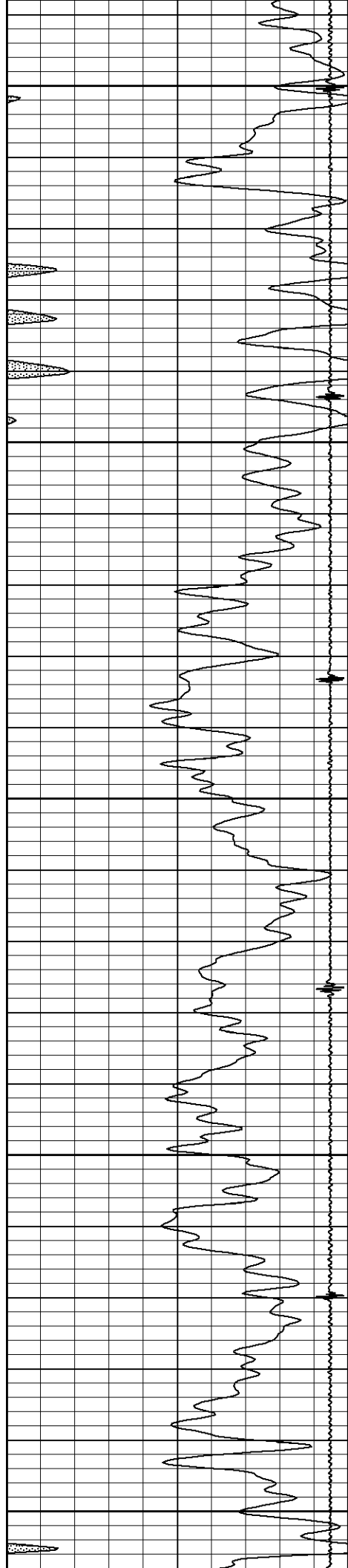
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Flag Joint

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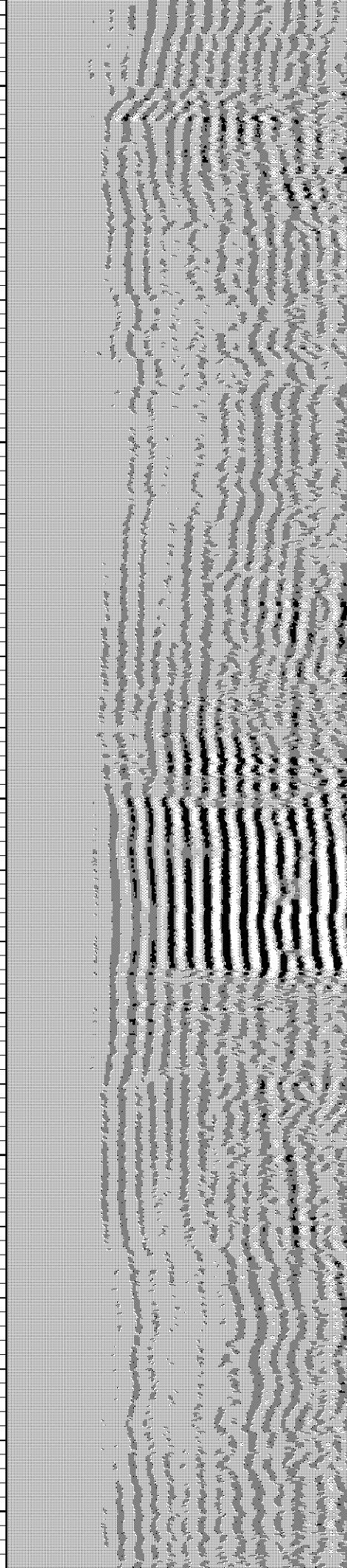
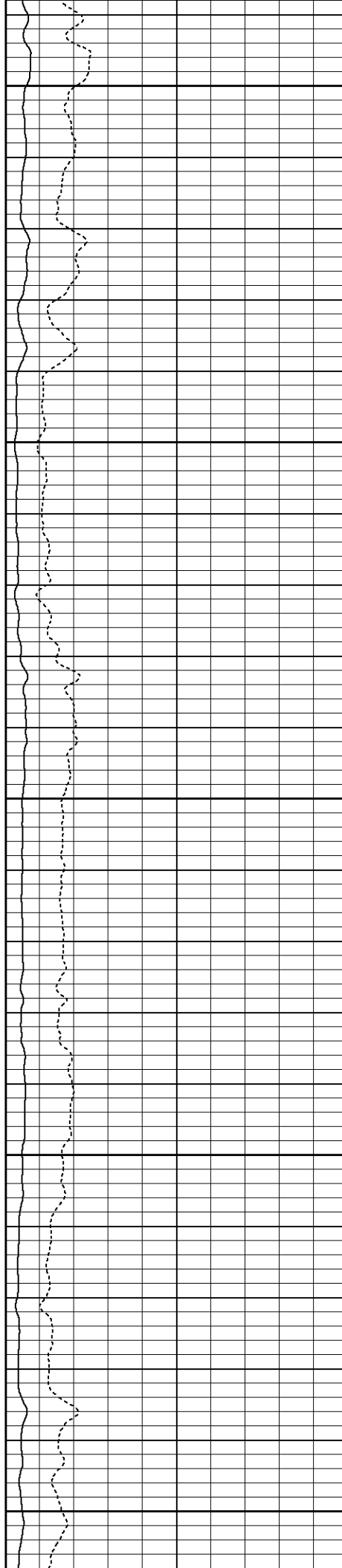
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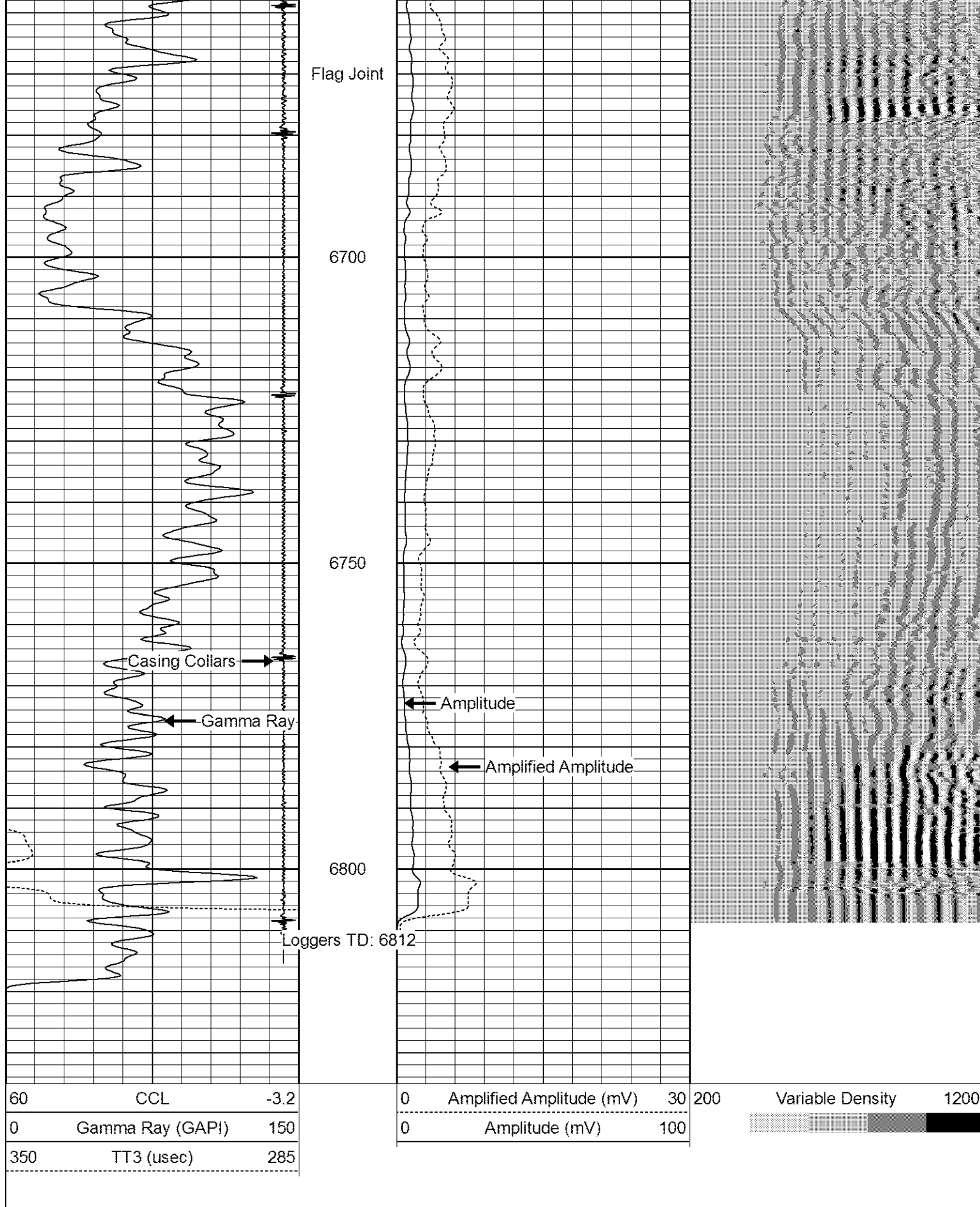
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6600

6650







## Gamma Ray Calibration Report

Type / Serial:

Probe275dig / 110809

## SHOP CALIBRATION

Tue Jan 03 10:16:04 2012

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.6800			GAPI/cps

## PRIMARY VERIFICATION

Background	0.0			cps
Calibrator	0.0			cps
Difference			0.0	GAPI

## BEFORE SURVEY VERIFICATION

Background	0.0			cps
Calibrator	0.0			cps
Difference			0.0	GAPI

## AFTER SURVEY VERIFICATION

Background	0.0			cps
Calibrator	0.0			cps
Difference			0.0	GAPI

## Cement Bond Log Calibration Report

Serial Number:	110802
Tool Model:	Probe275Digital
Performed:	Tue Jan 03 10:02:43 2012

Depth:	1045.15	ft
Casing Diameter:	4.5	in

3' Spacing

5' Spacing

Signal Zero:	0.9	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	0.0153076	0.0207764	V
Reading in Free Pipe:	2.49878	2.35071	V

Gain:	32.3322	34.8491
Offset:	0.405071	-0.724038