



# Cement Bond Log

Company Carrizo		Company Carrizo		Well Hemberger 2-25-34-8-60		Field Niobrara Shale		County Weld		State Colorado	
Location:		API # : 05-123-34404-00		Other Services Gamma Ray, CCL		SEC		TWP		RGE	
Permanent Datum		G.L.		Elevation		4930 ft		Elevation		4930 ft	
Log Measured From		K.B.		D.F.		4946 ft		G.L.		4930 ft	
Drilling Measured From		K.B.		G.L.		4930 ft					
Date	9/31/2012										
Run Number	One										
Depth Driller	10618 ft										
Depth Logger	6323 ft										
Bottom Logged Interval	6319 ft										
Top Log Interval	Surface										
Open Hole Size	6.125"										
Type Fluid	Water										
Density / Viscosity	8.33 / NA										
Max. Recorded Temp.	NA										
Estimated Cement Top	514 ft										
Time Well Ready	0800										
Time Logger on Bottom	1000										
Equipment Number	12027										
Location	Brighton										
Recorded By	J. Brownawell										
Witnessed By	K. Williams										
Borehole Record				Tubing Record							
Run Number	Bit	From	To	Size	Weight	From	To				
One	12.25	77 ft	1425 ft								
One	8.75	1425 ft	6300 ft								
One	6.125	6300 ft	10618 ft								
Casing Record	Size	Wgt/Ft		Top		Bottom					
Surface String	9.625"	84#		0 ft		1404 ft					
Prot. String											
Production String	7"	23#		1404 ft		6282					
Liner	4.5"	11.6#		5608 ft		10685 ft					

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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

Free Pipe calibration conducted at 460 ft.  
Short Joint found at 6202-6216 and 5529-5543 ft.  
Legal Description not available.  
Temperature probe not run, therefore no Max Temp Recorded.  
TD was found short of Driller's TD due to deviation in well.

Your crew: C. Rall, A. Hughes, R. Anderson  
Thank you for choosing Allied Wireline.

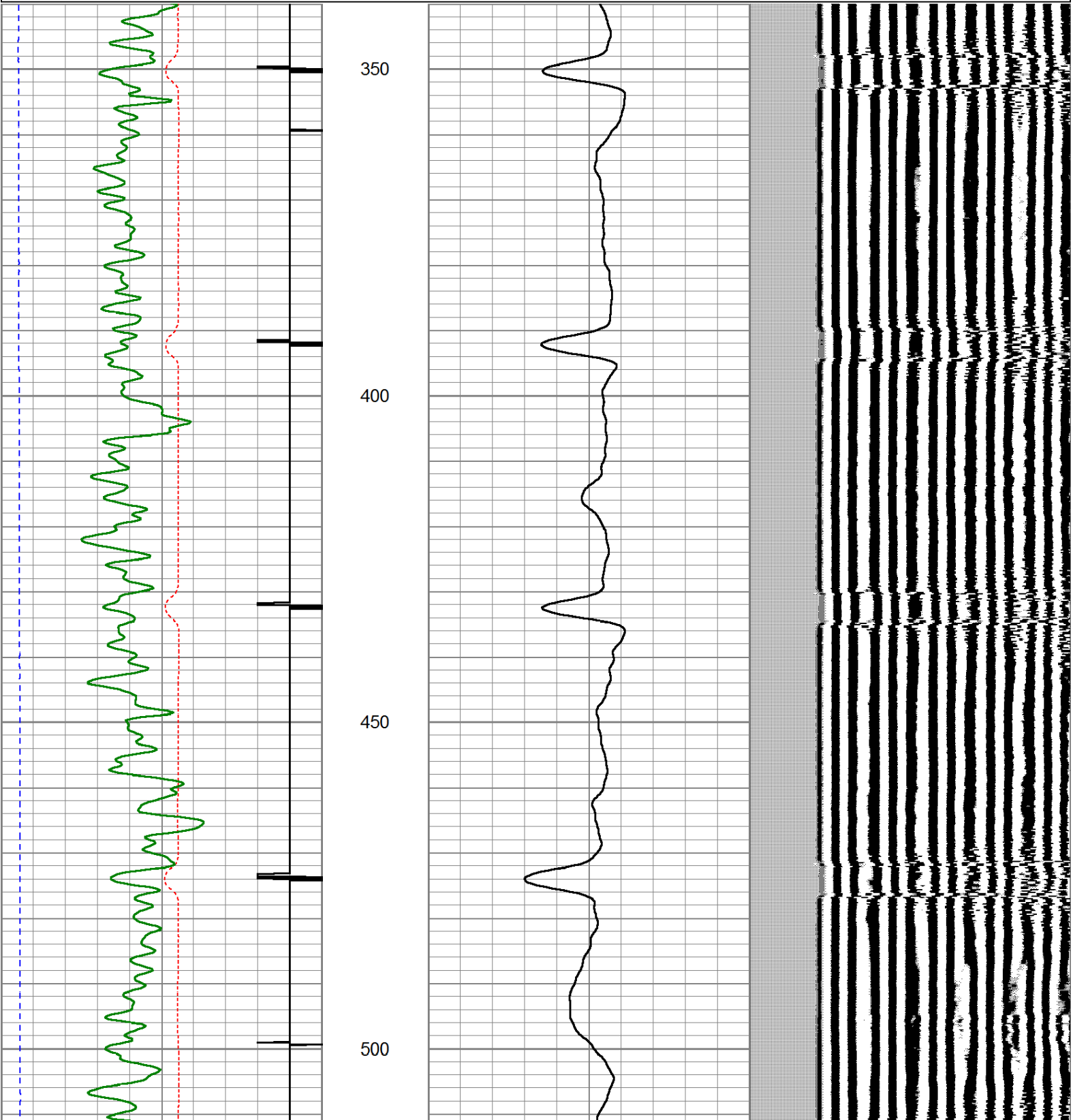


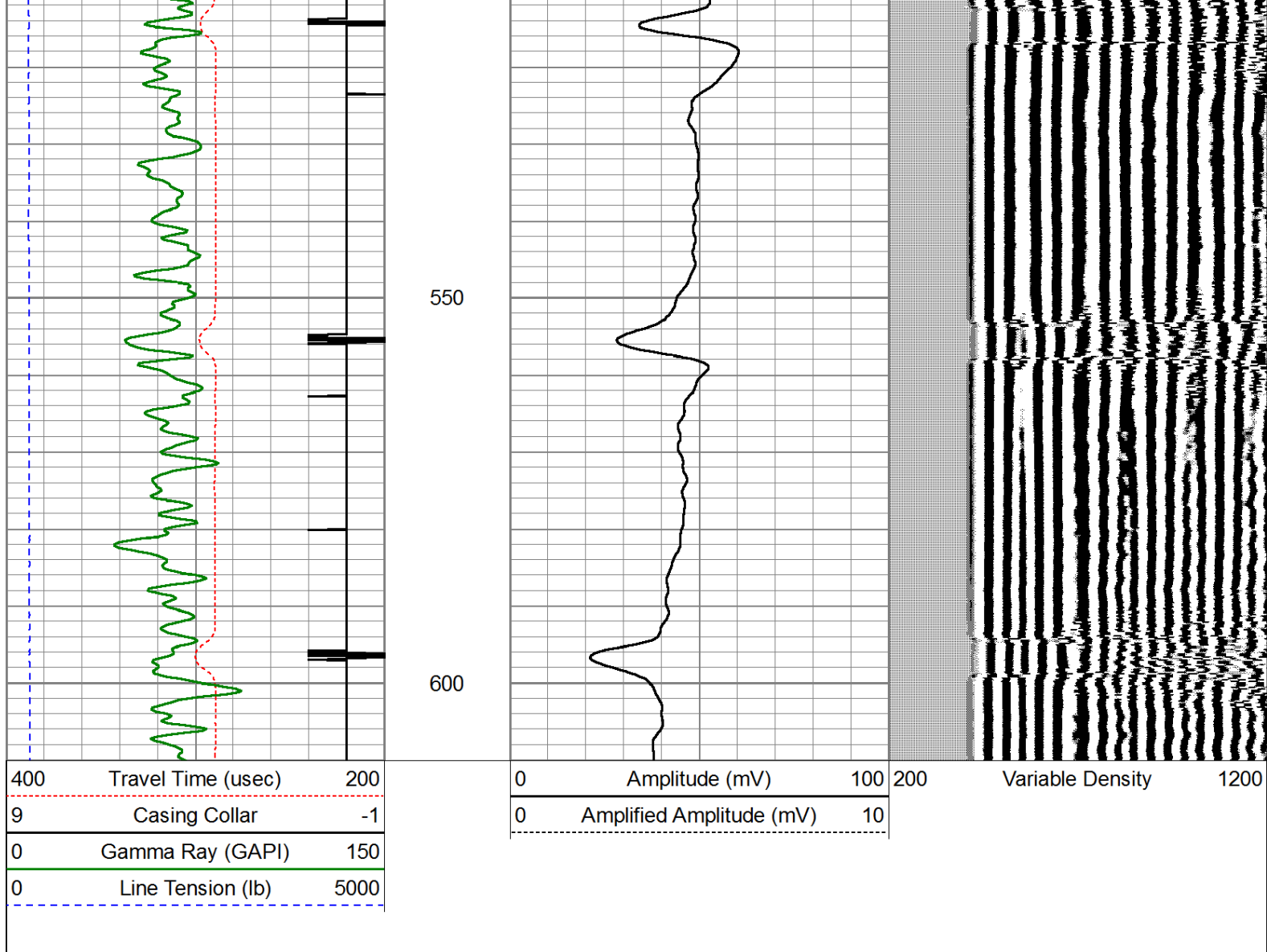
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Dataset Pathname: pass4  
Presentation Format: cblprobe  
Dataset Creation: Fri Aug 31 09:52:14 2012 by Log SCH 111116  
Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	5000

0	Amplitude (mV)	100	200	Variable Density	1200
0	Amplified Amplitude (mV)	10			



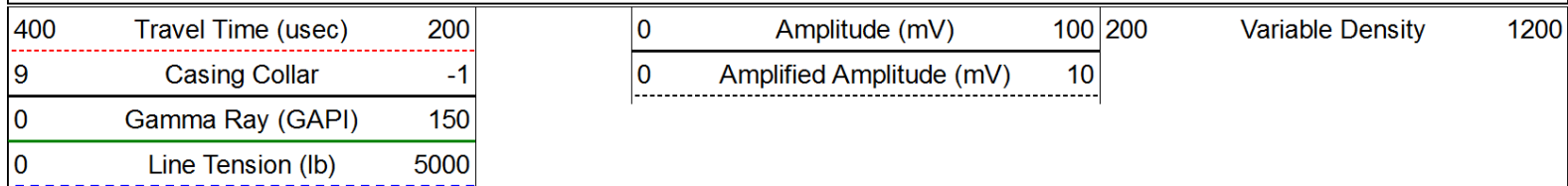


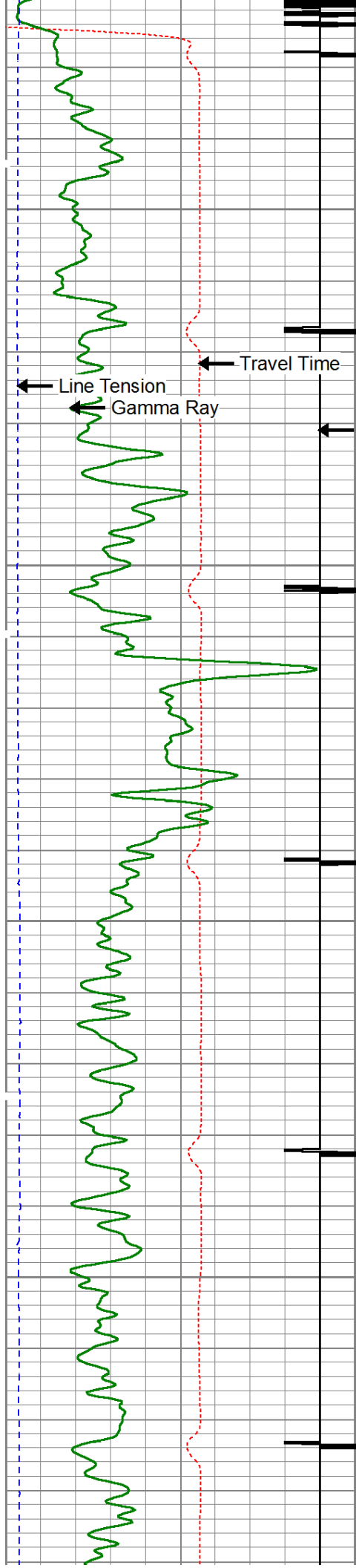
# Free Pipe Pass @ 0 psi



# Main Pass @ 1000 psi

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 Dataset Pathname: pass8  
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 Dataset Creation: Fri Aug 31 11:21:12 2012 by Log SCH 111116  
 Charted by: Depth in Feet scaled 1:240





Travel Time

Gamma Ray

Line Tension

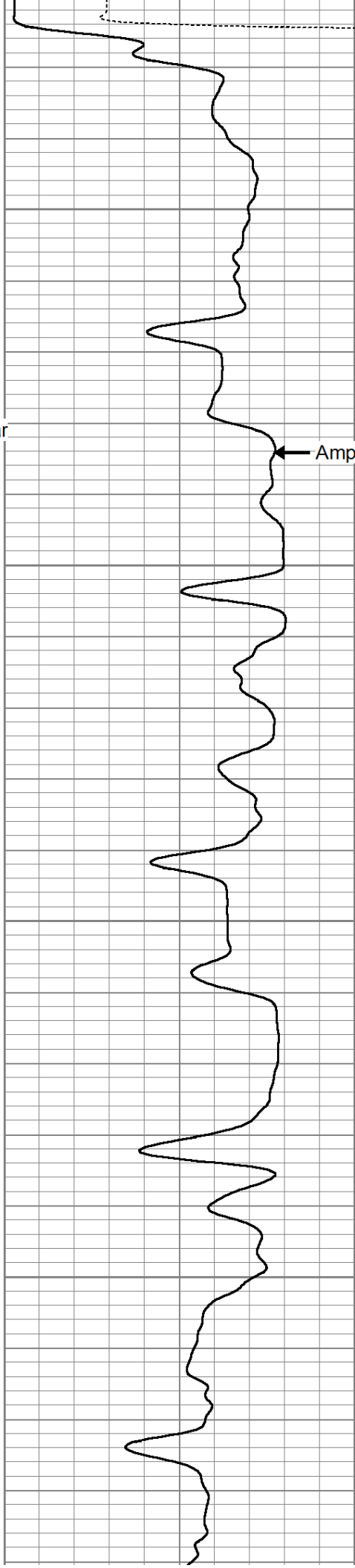
Casing Collar

50

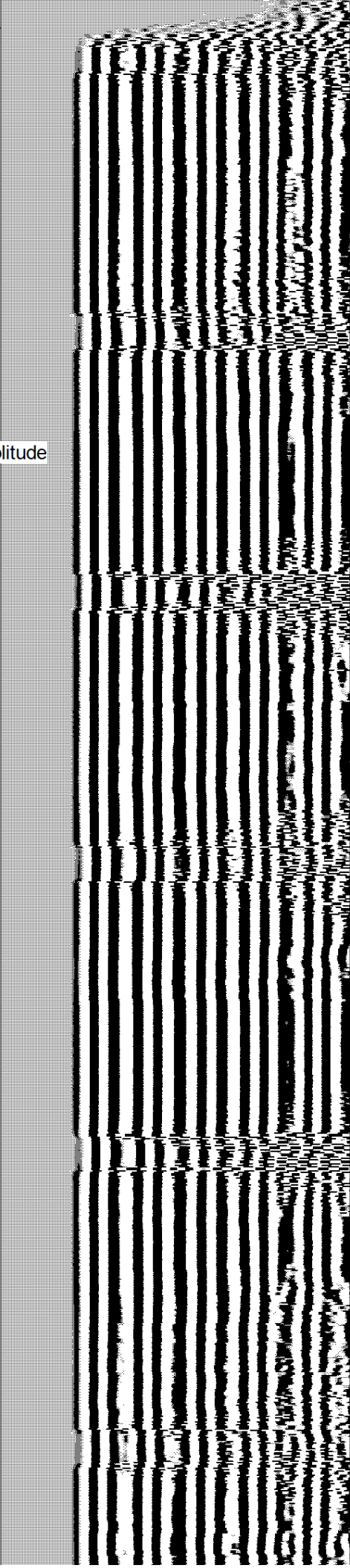
100

150

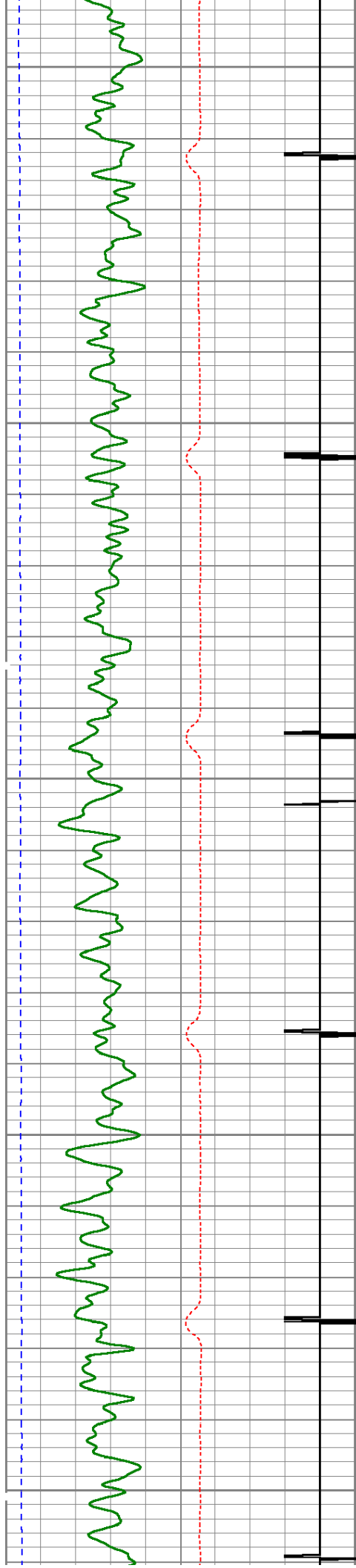
200



Amplitude







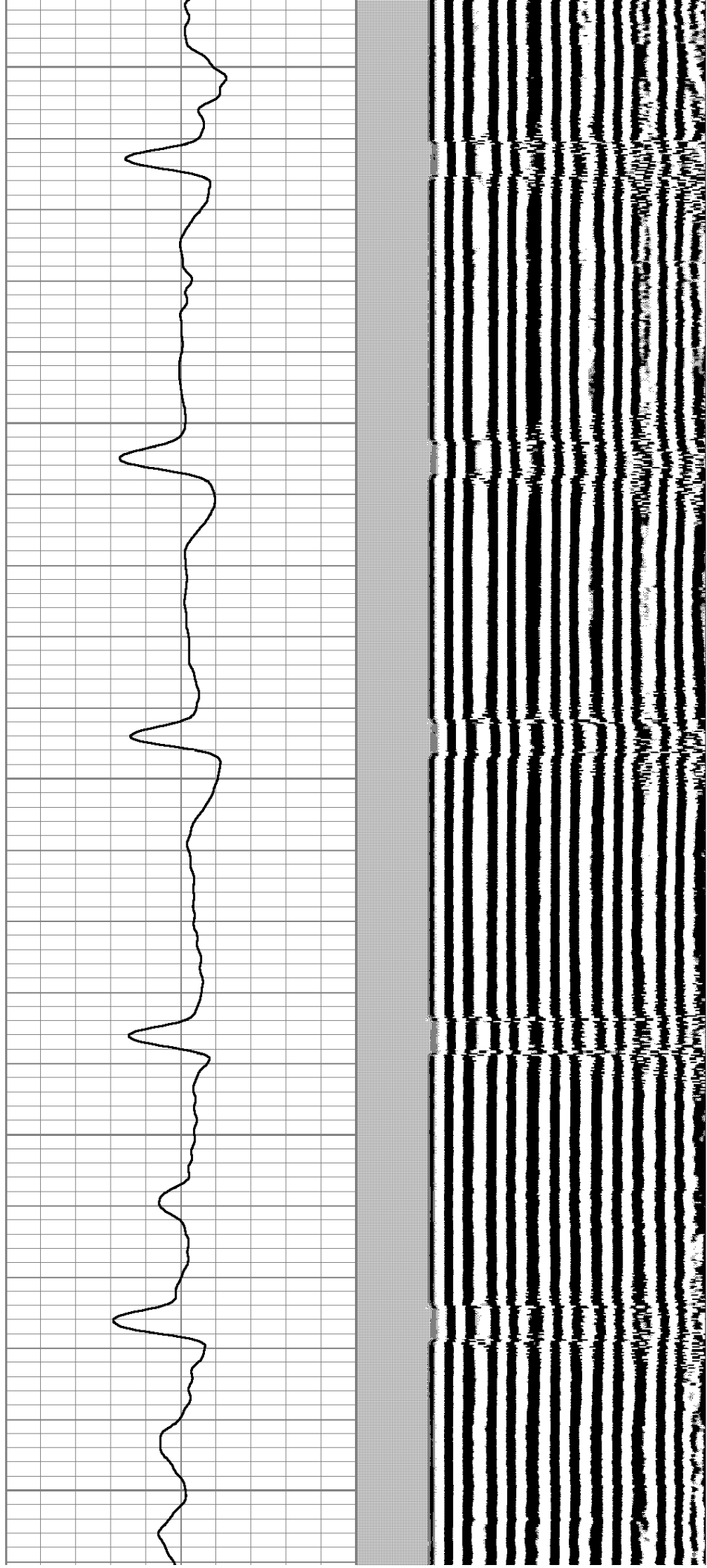
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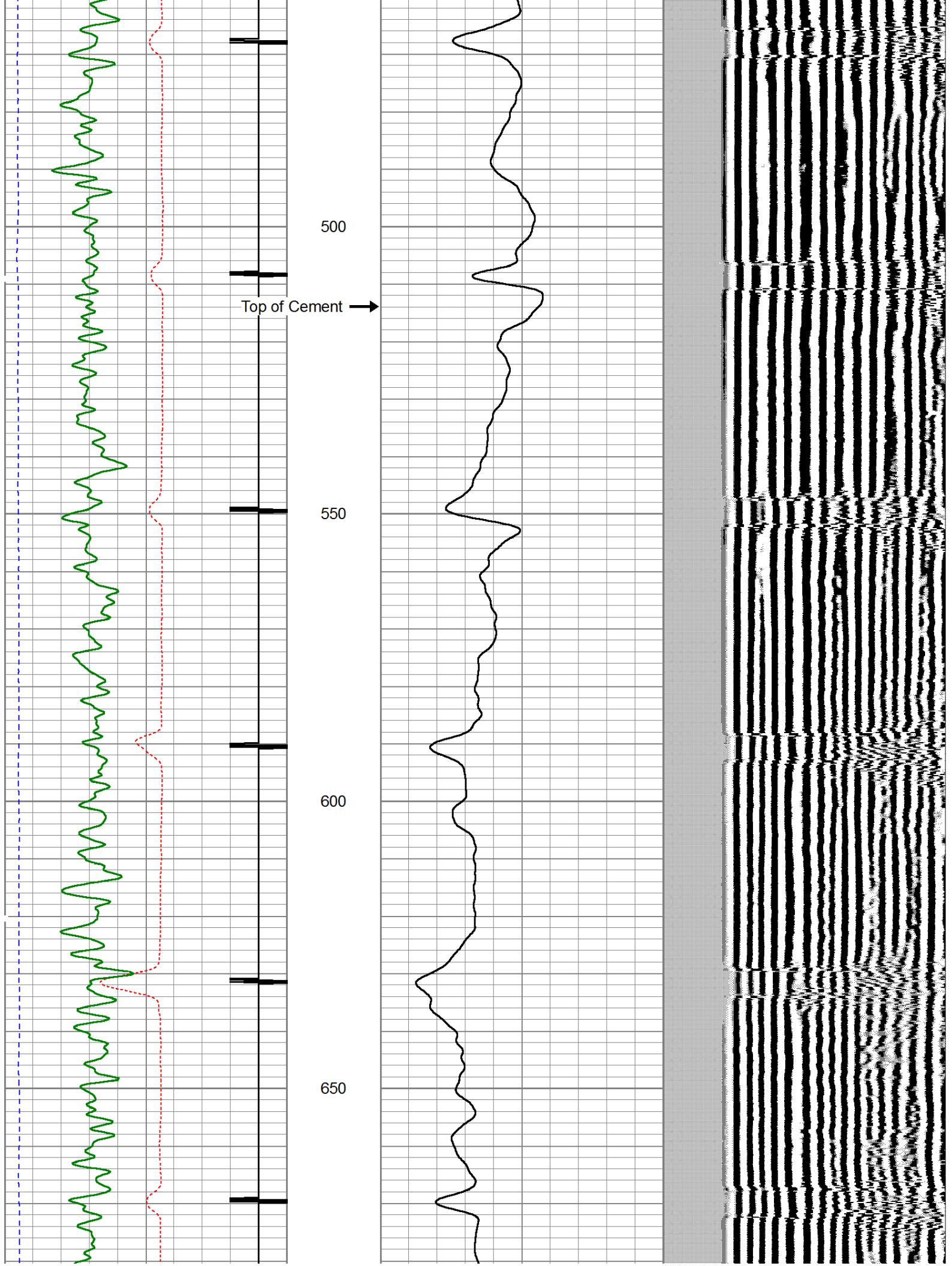
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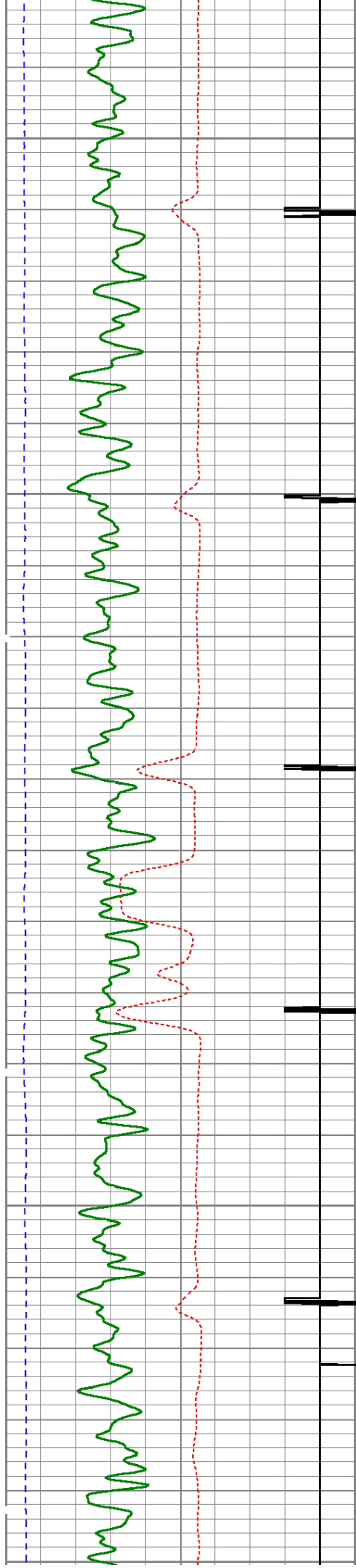
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400

450







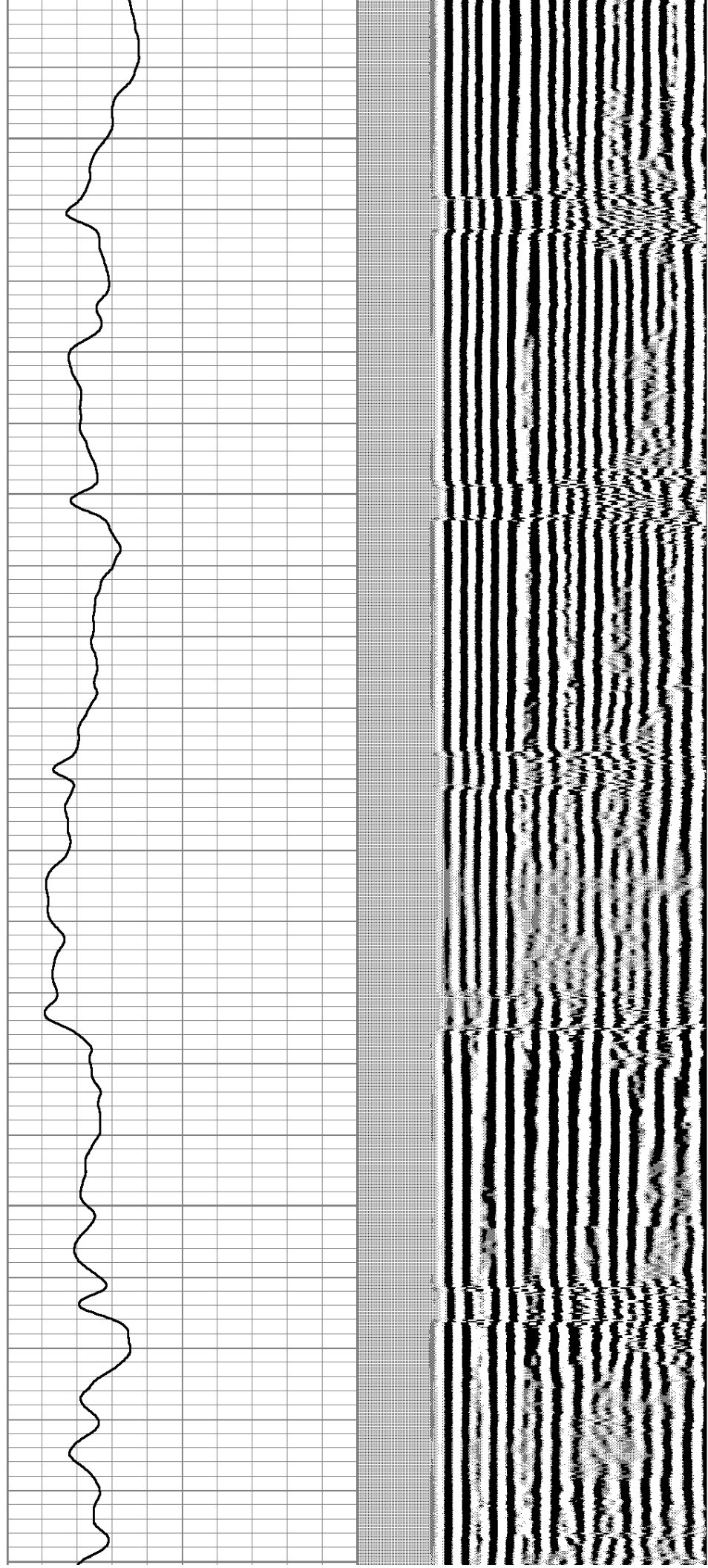
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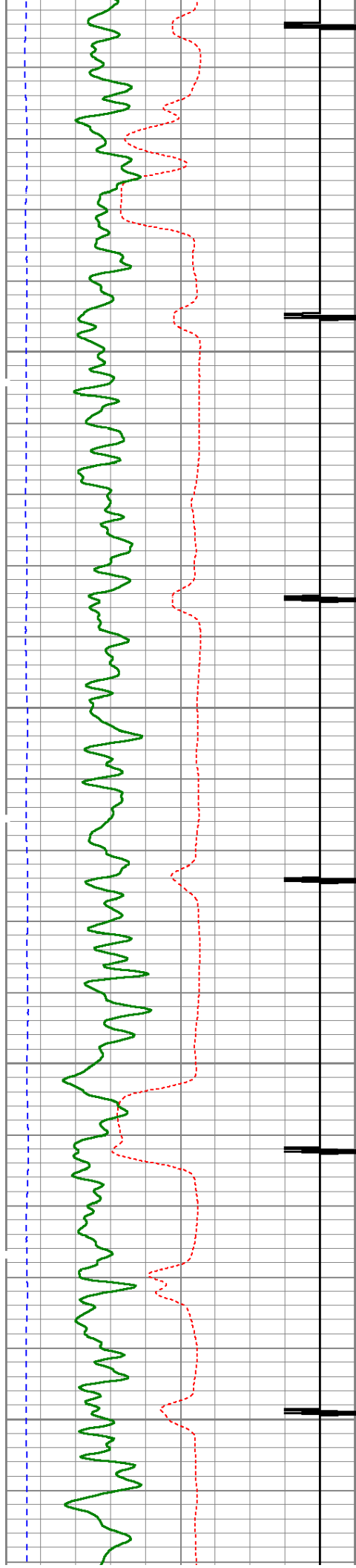
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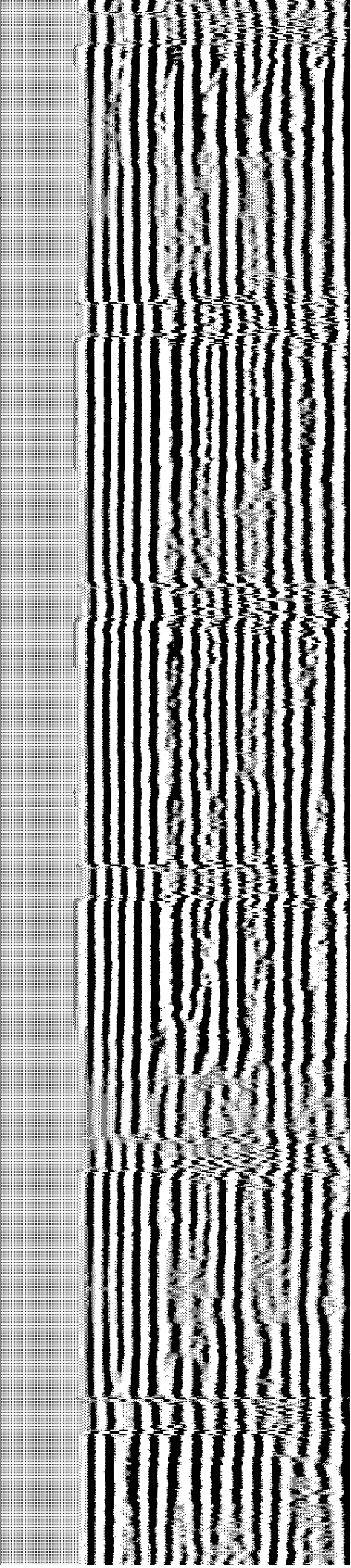
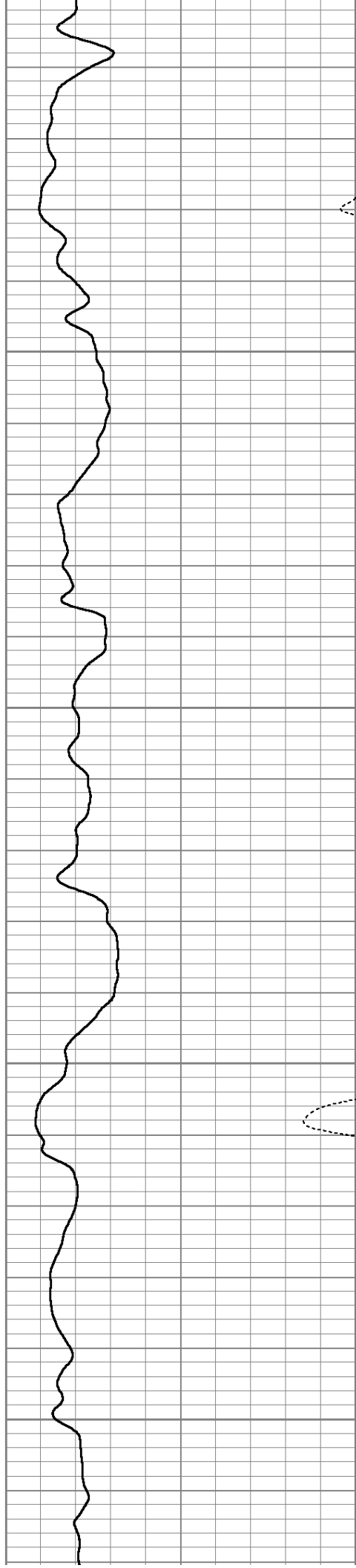
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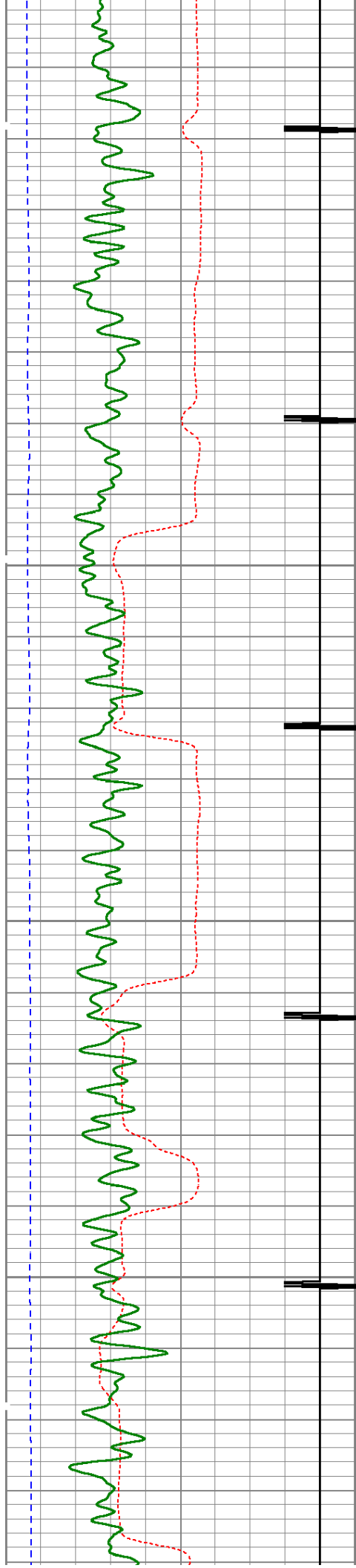




900  
950  
1000  
1050  
1100





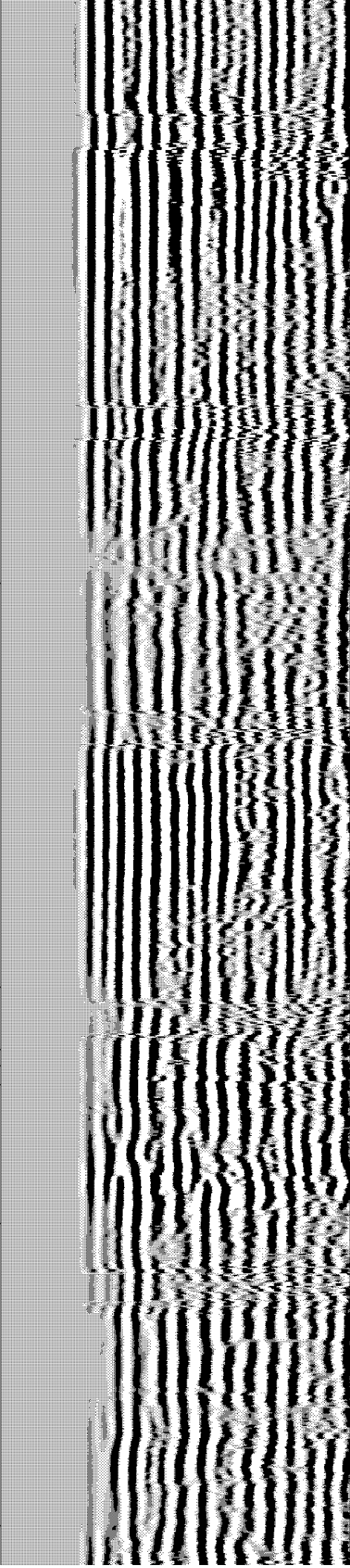
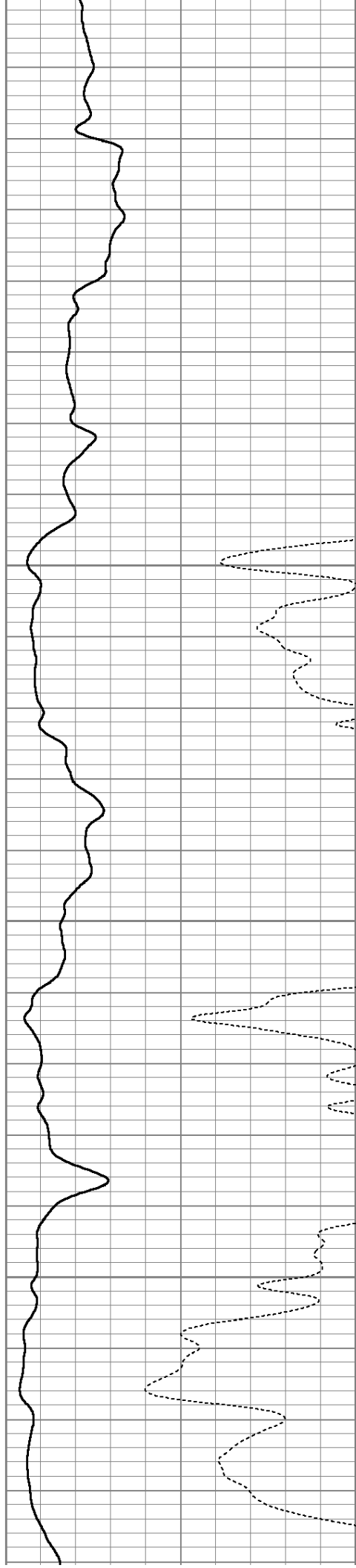


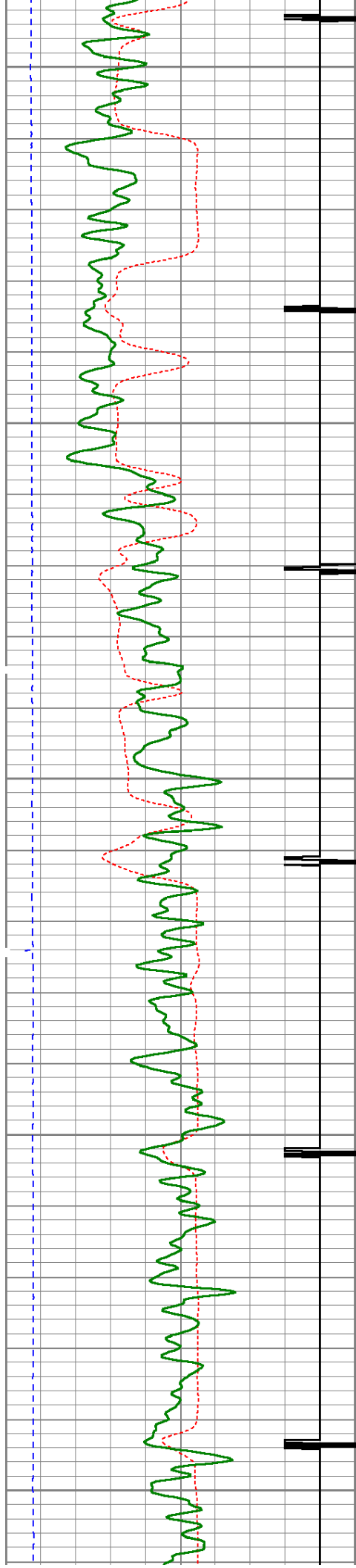
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1200

1250

1300





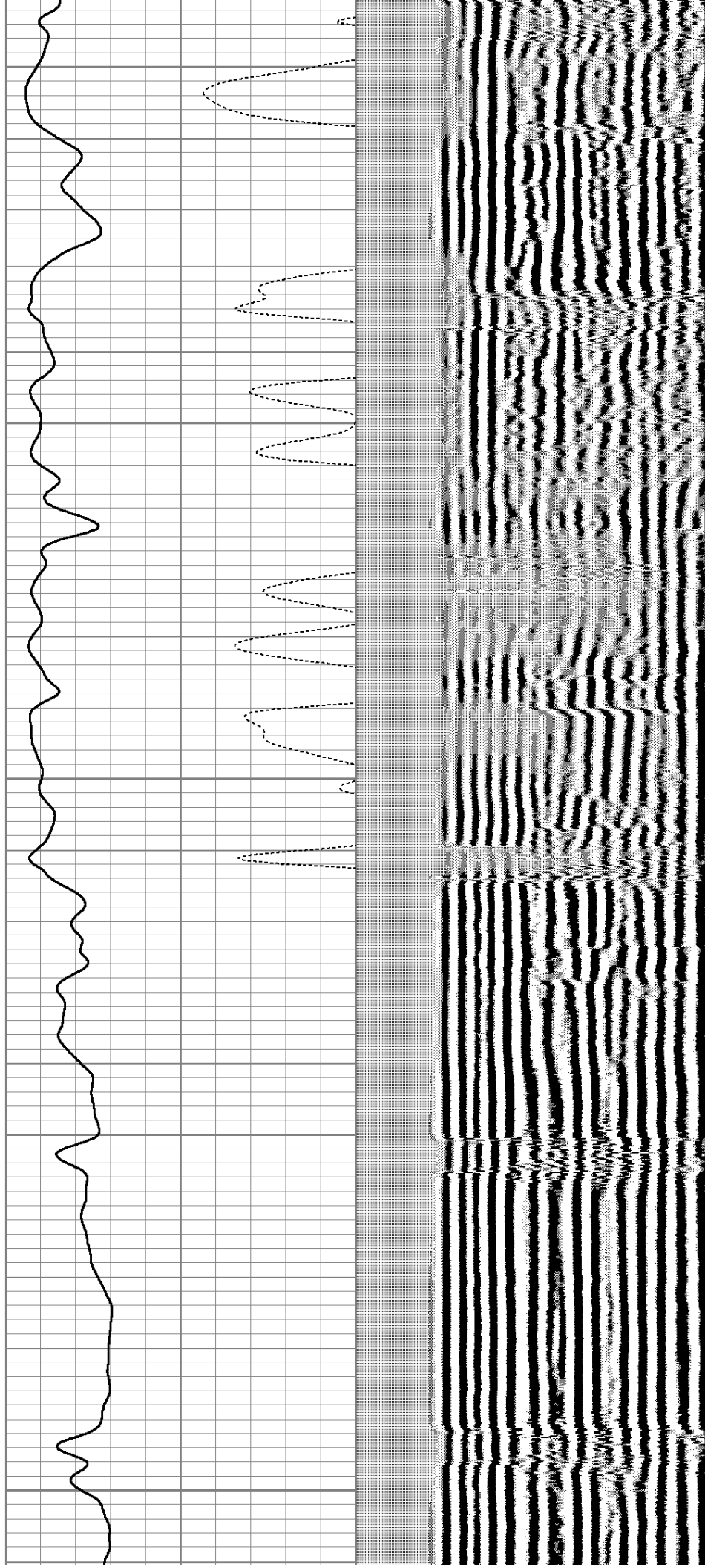
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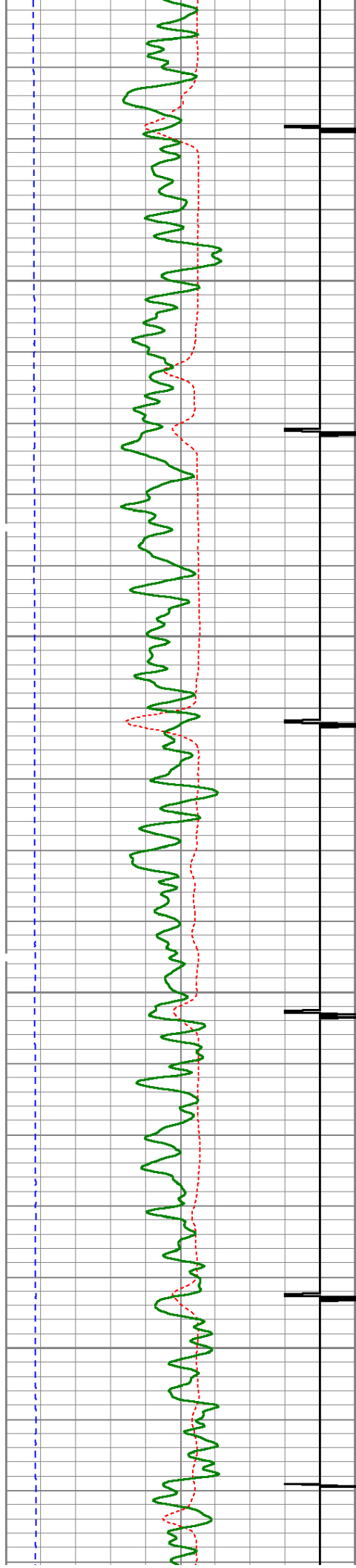
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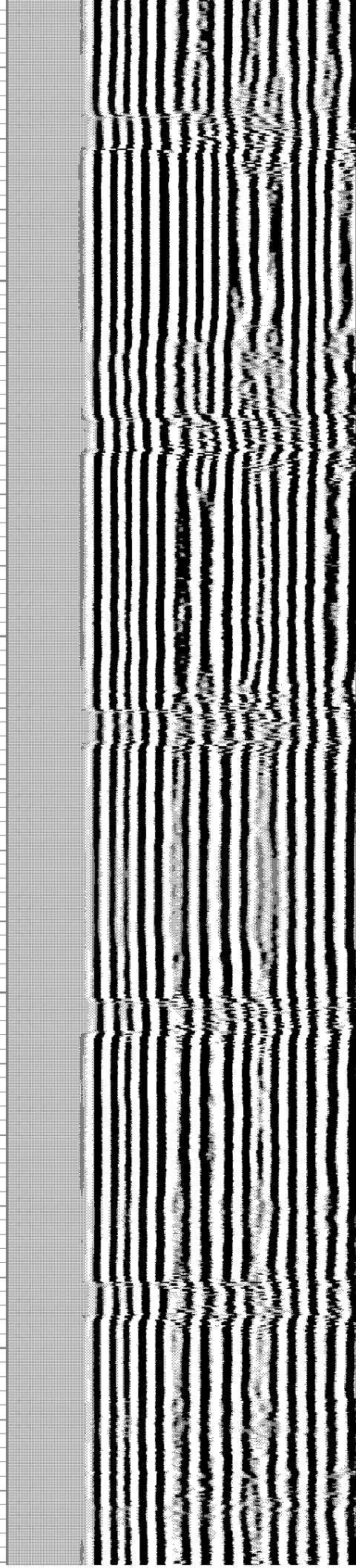
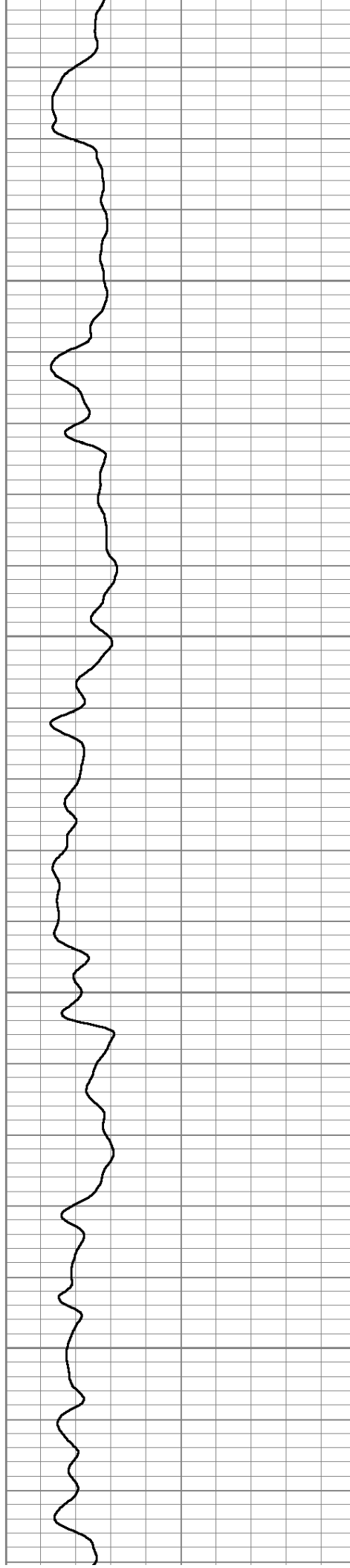


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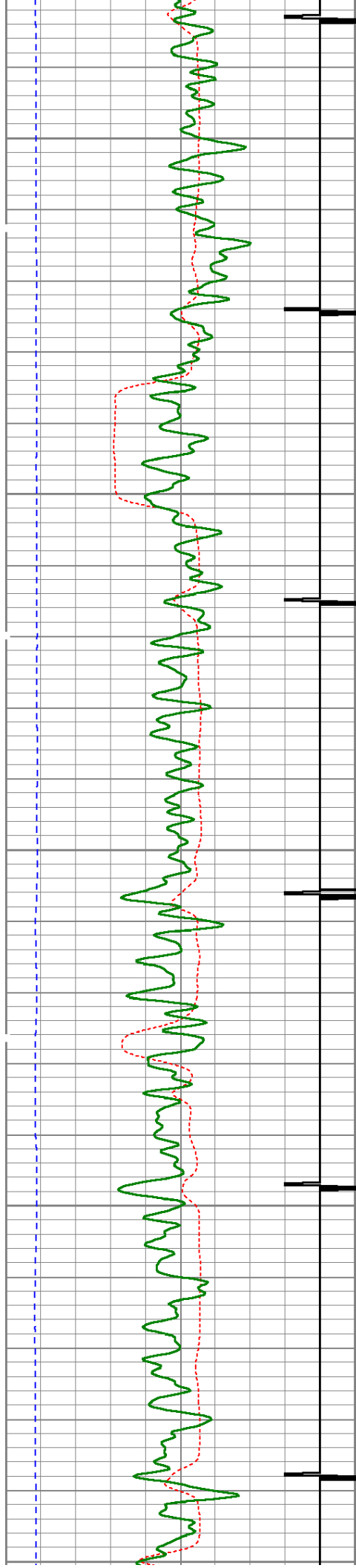
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1700

1750







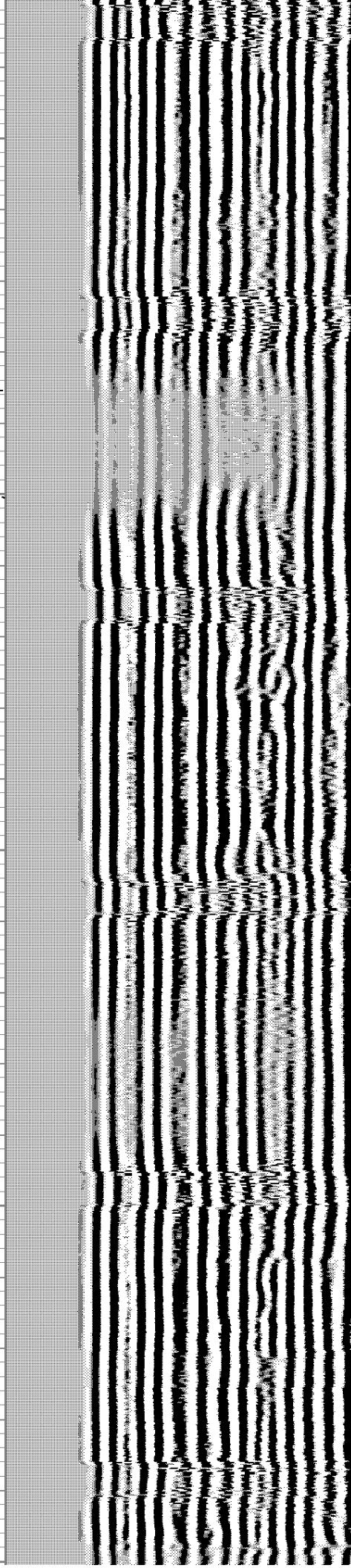
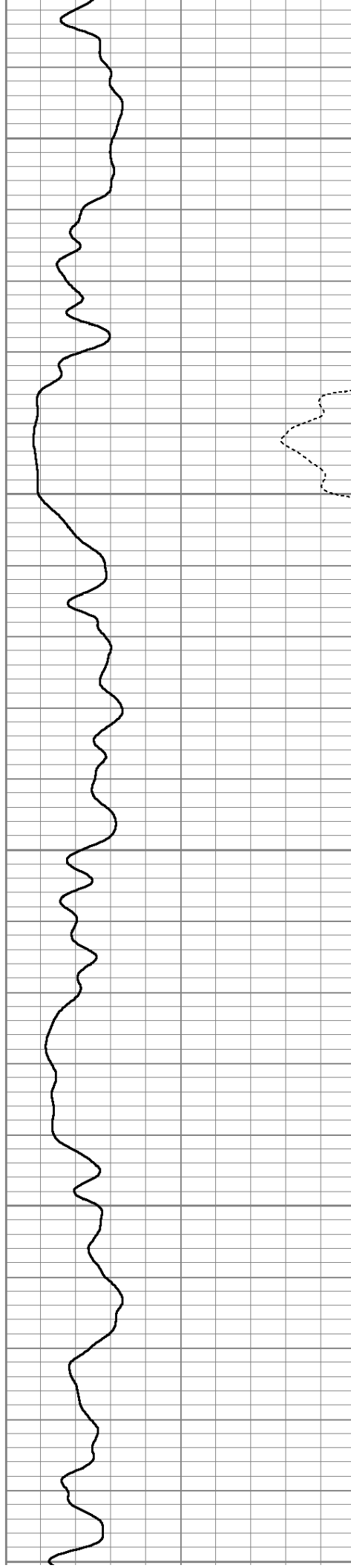
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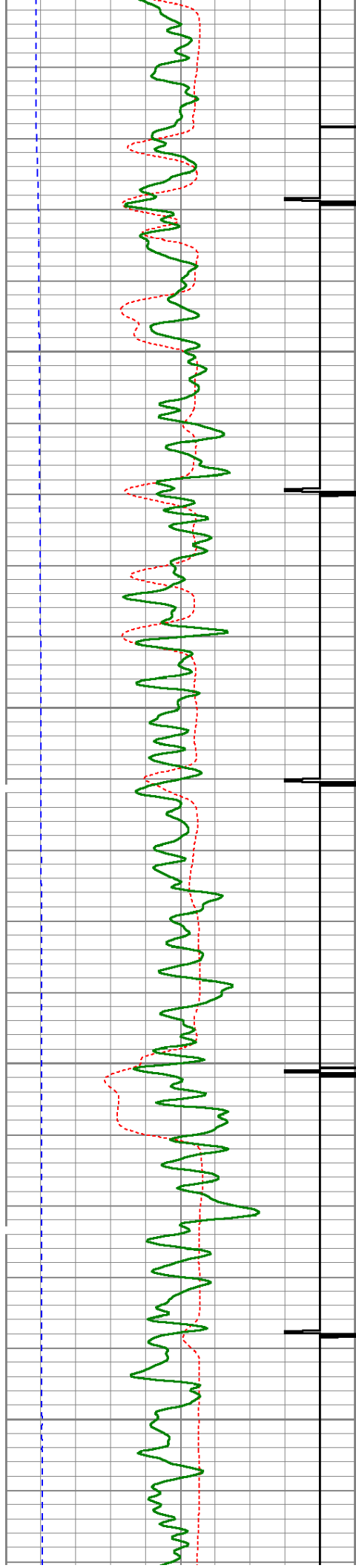
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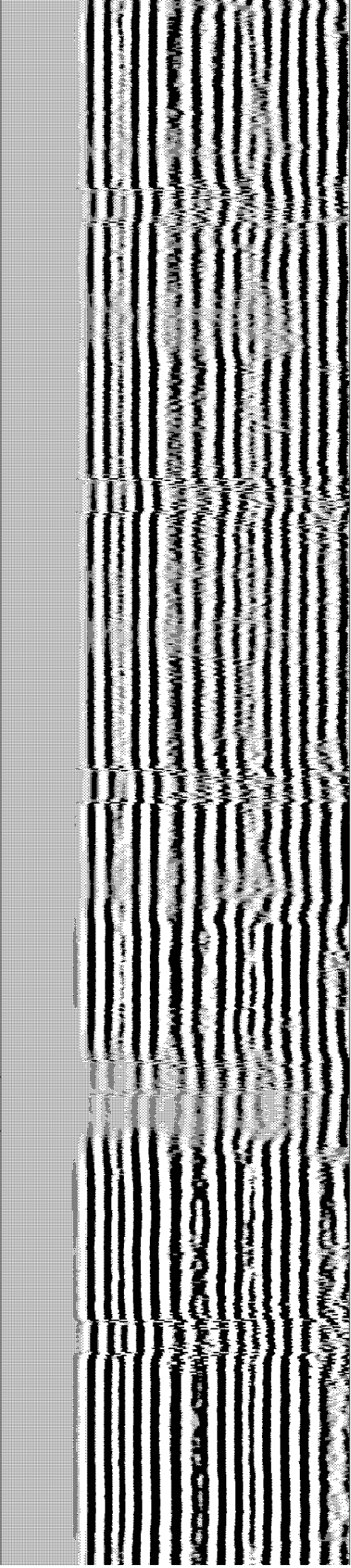
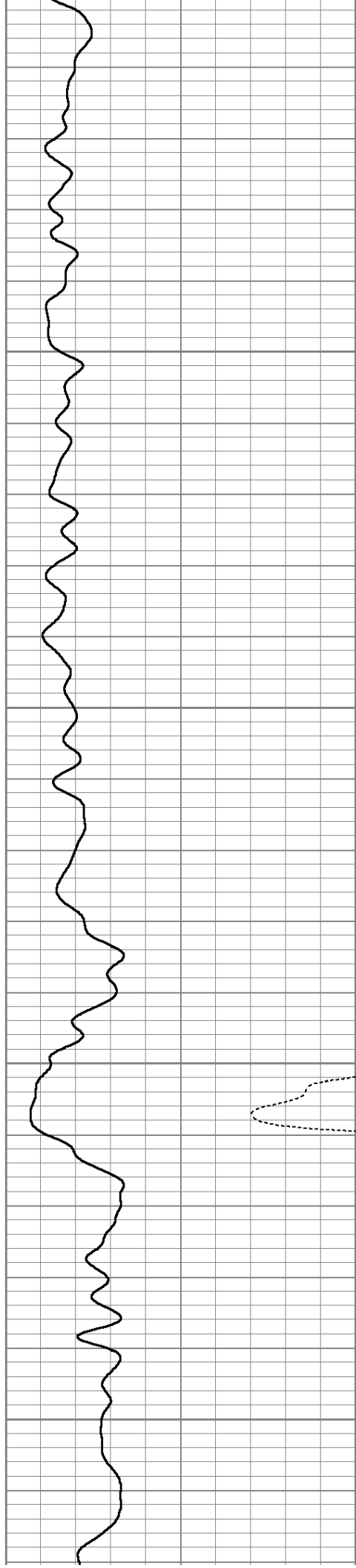
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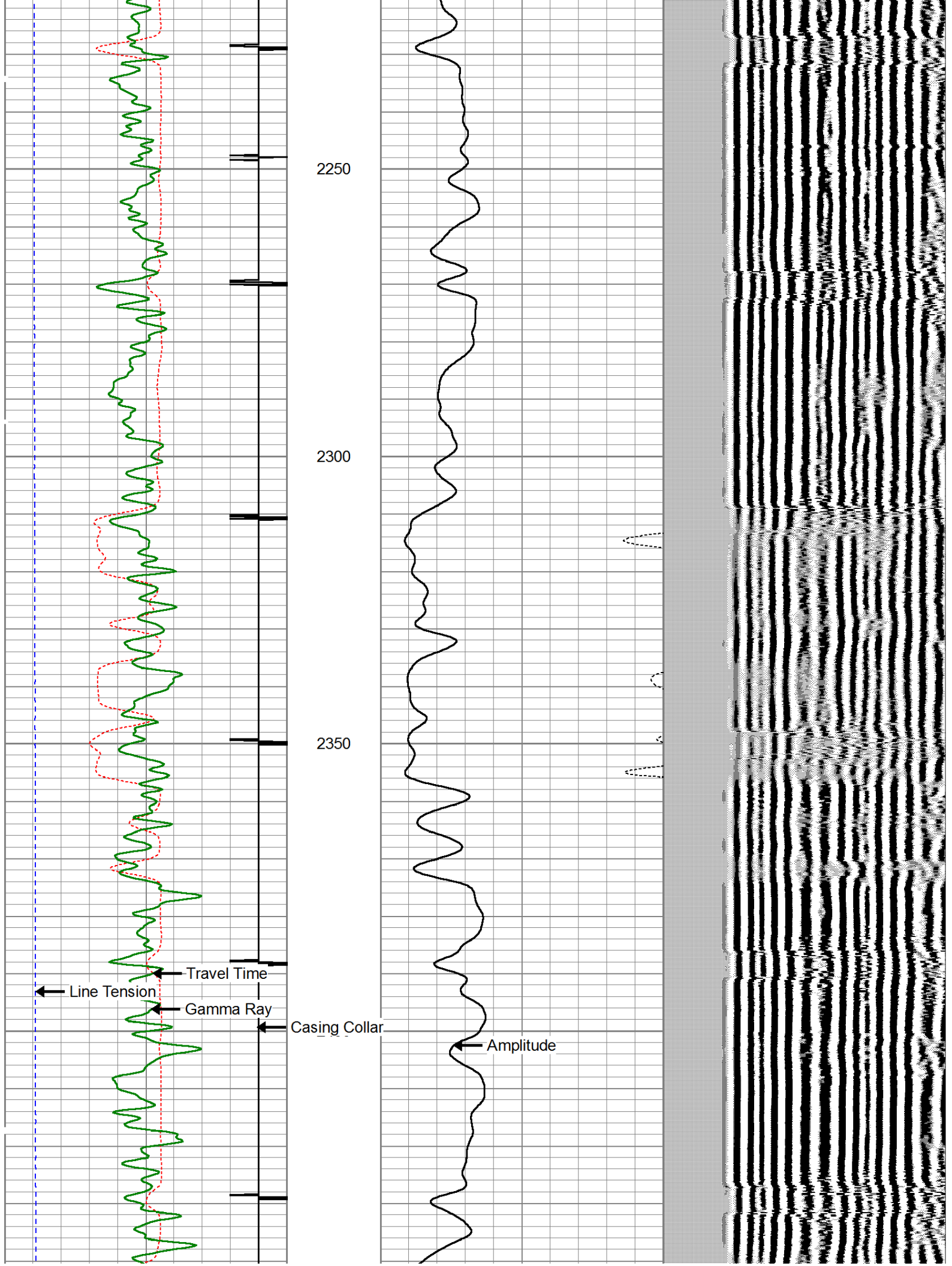




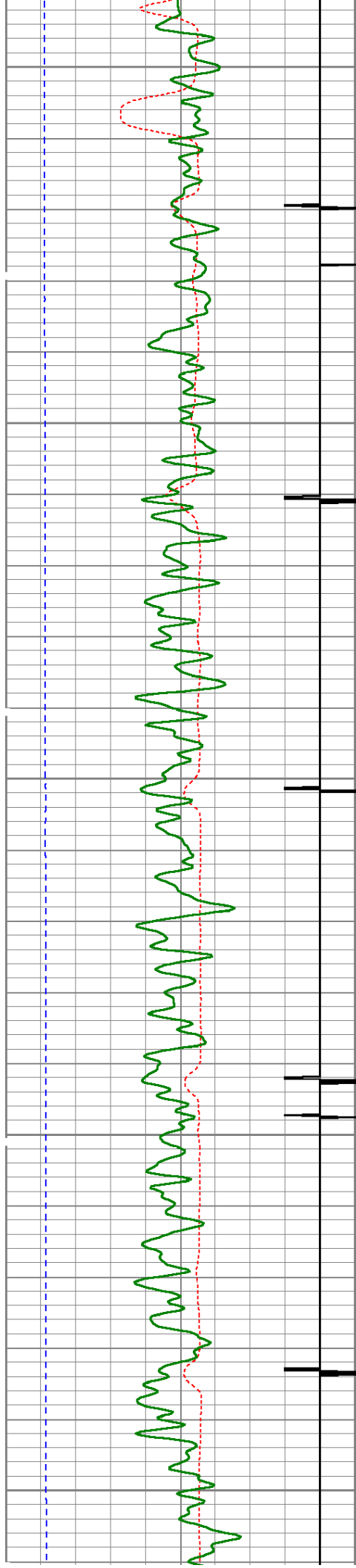
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2200











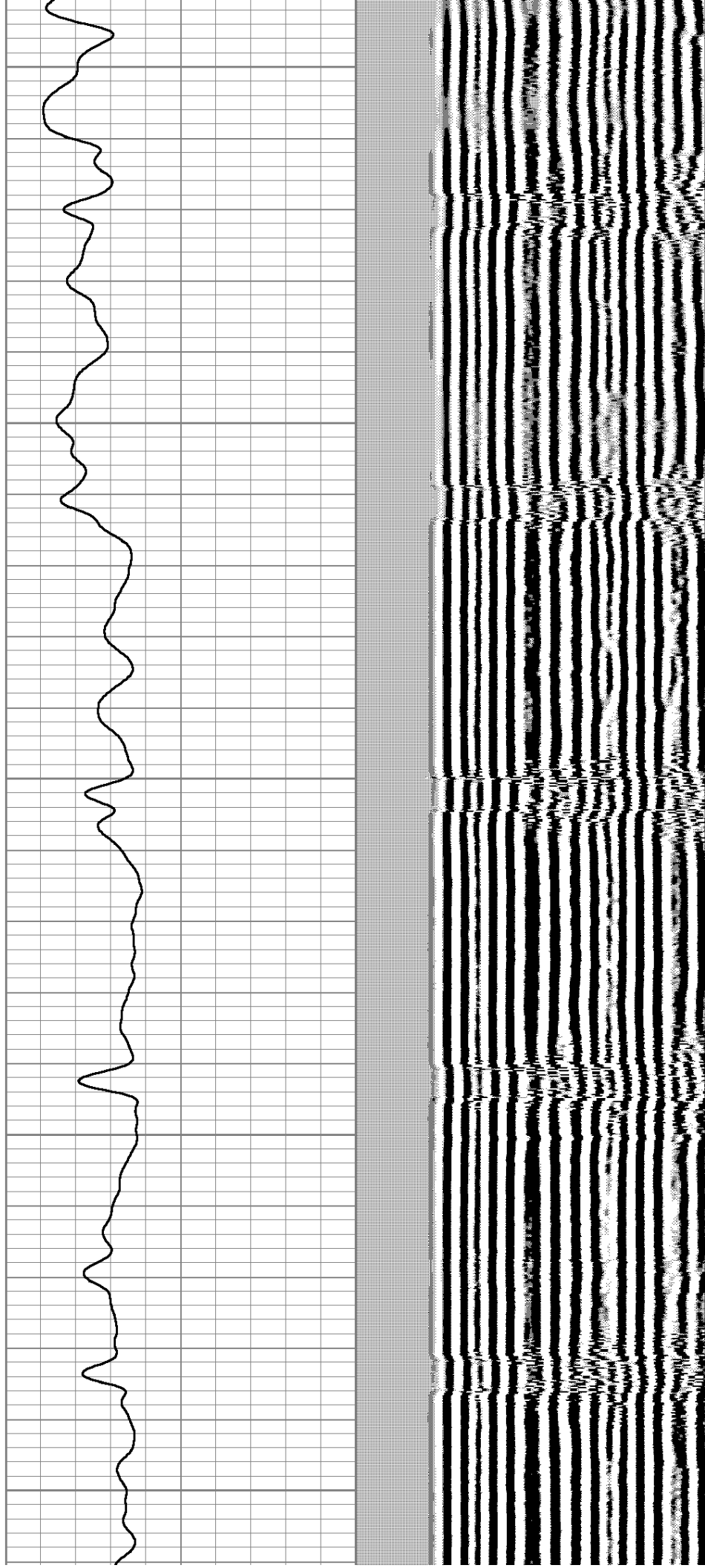
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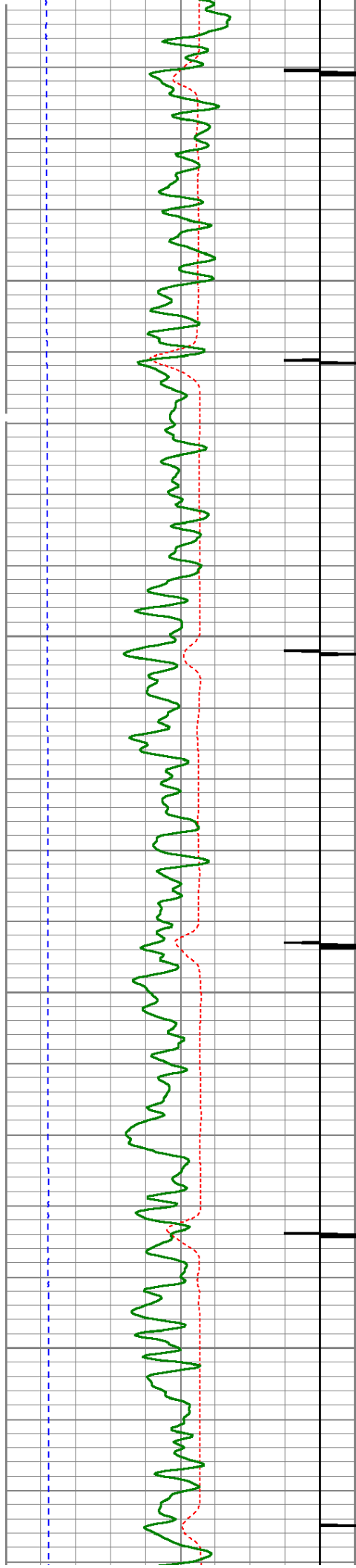
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2650



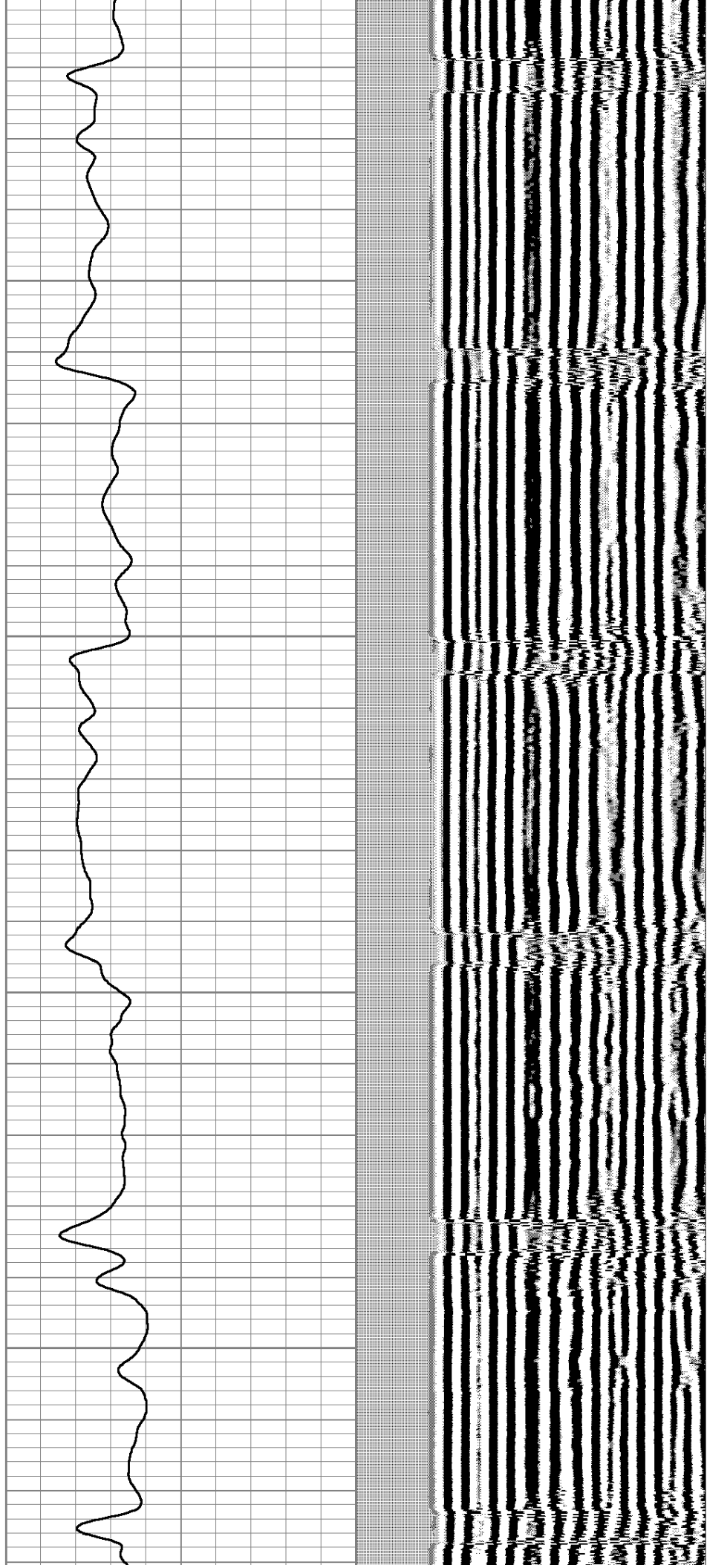


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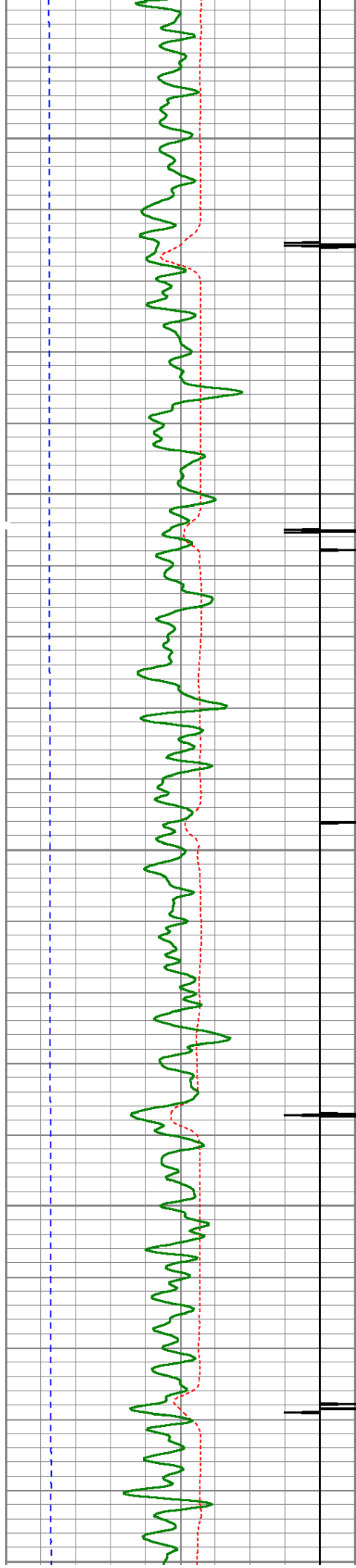
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2850







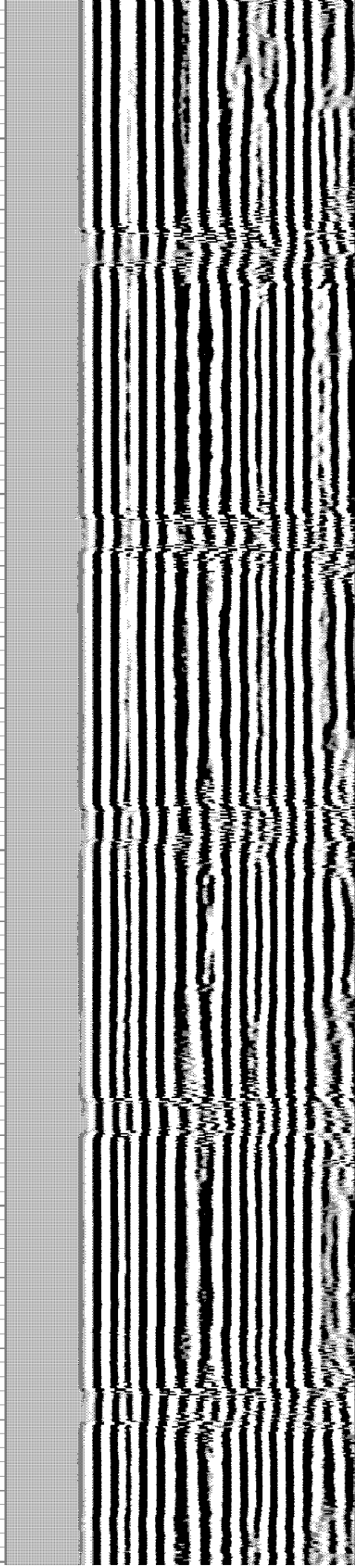
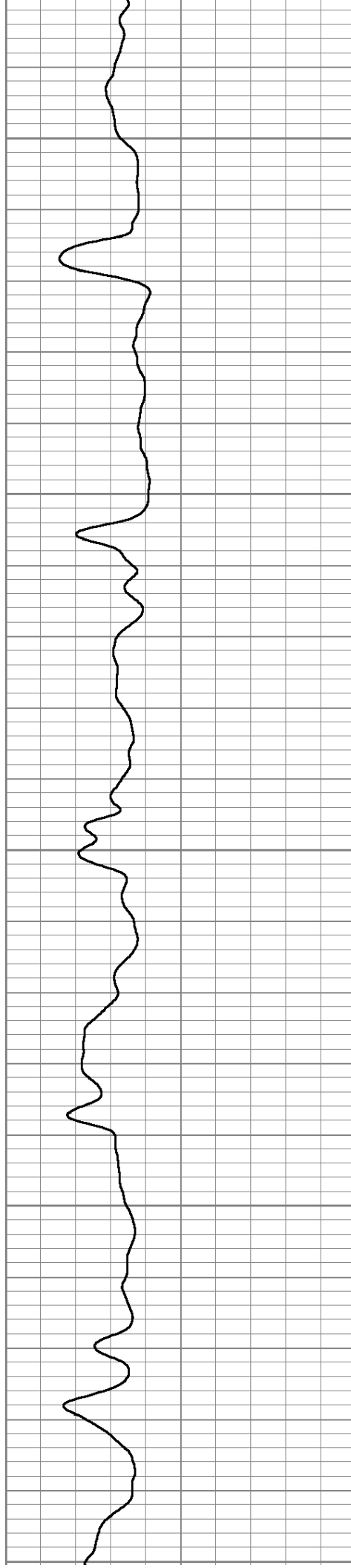
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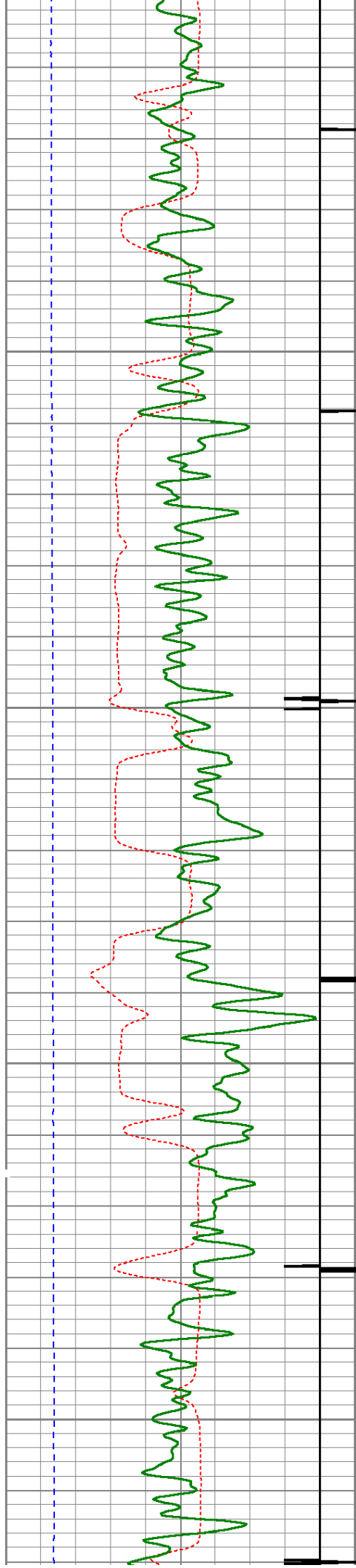
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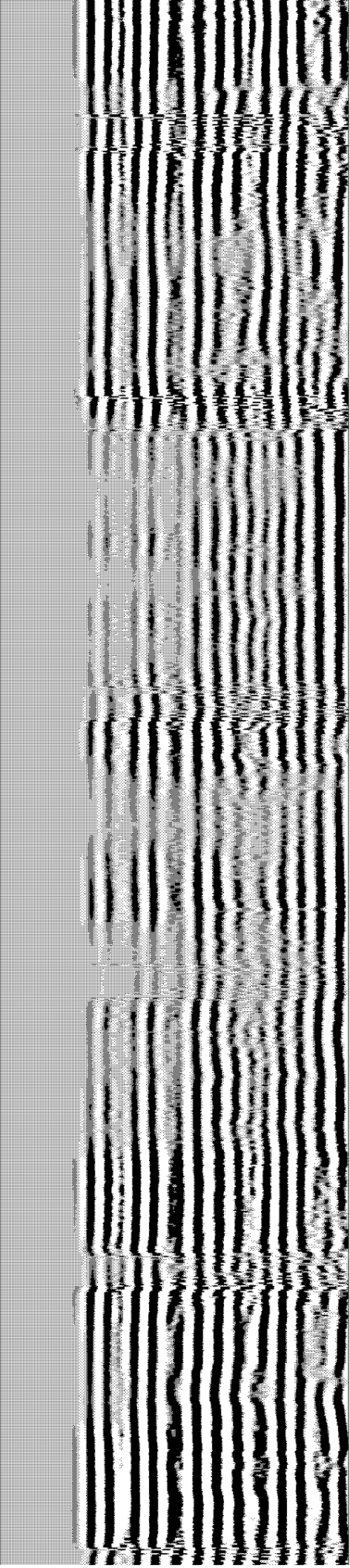
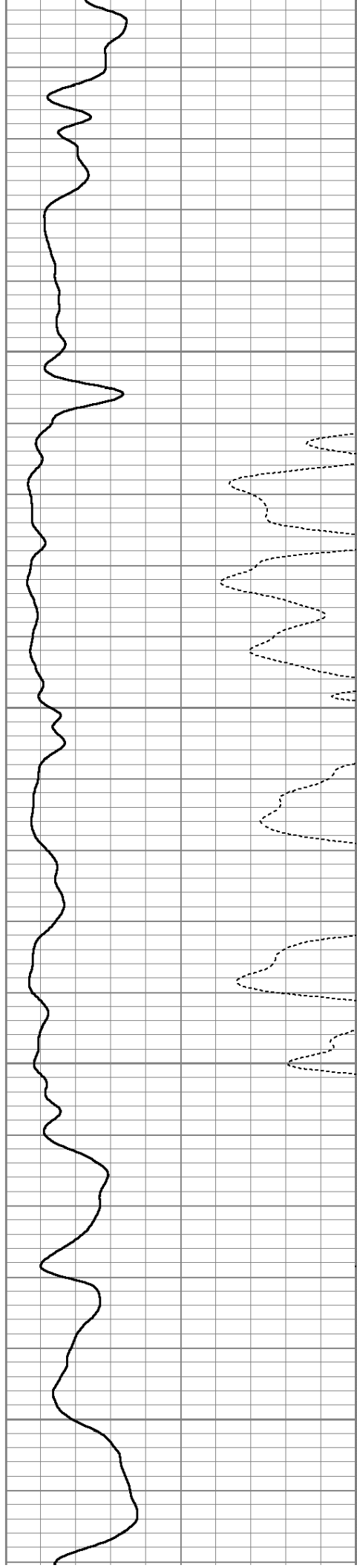
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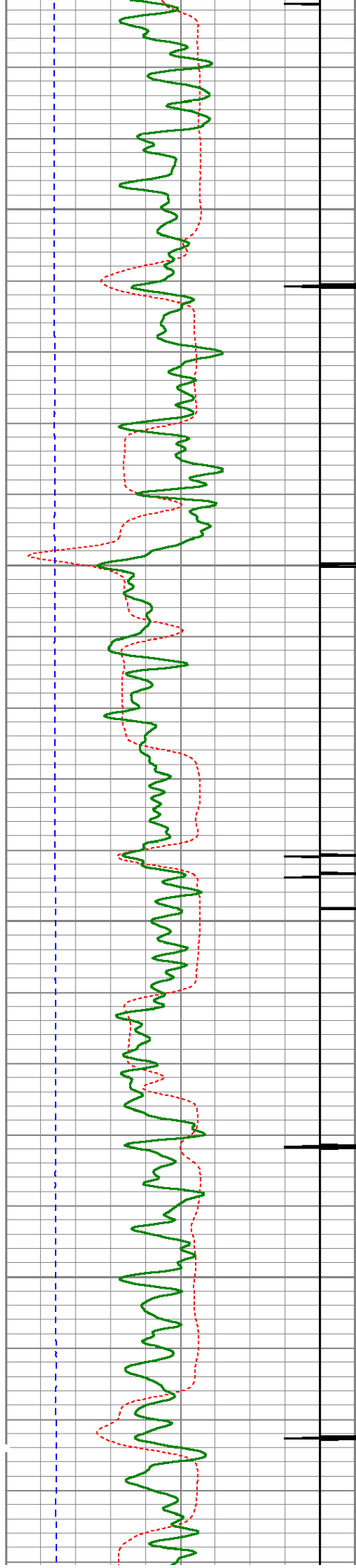






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3150  
3200  
3250  
3300



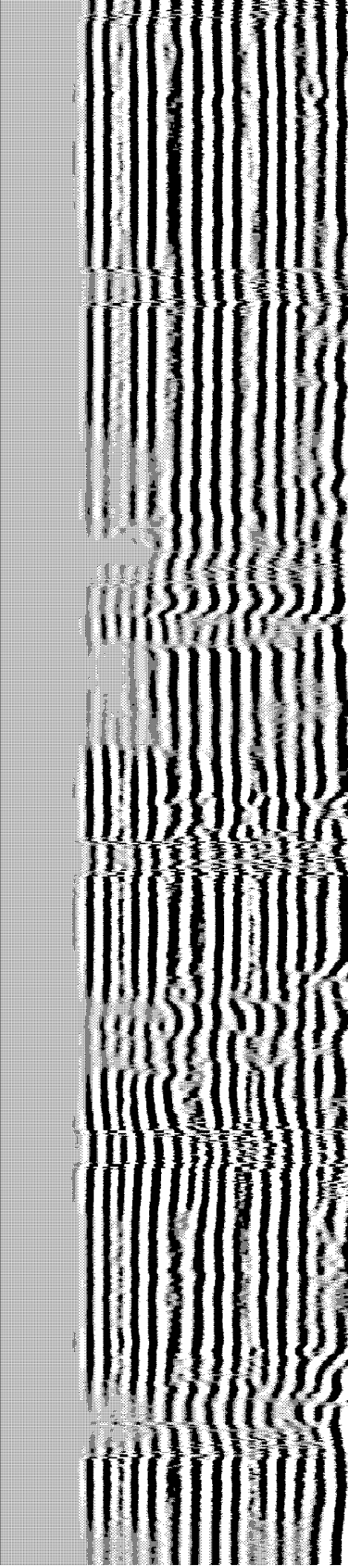
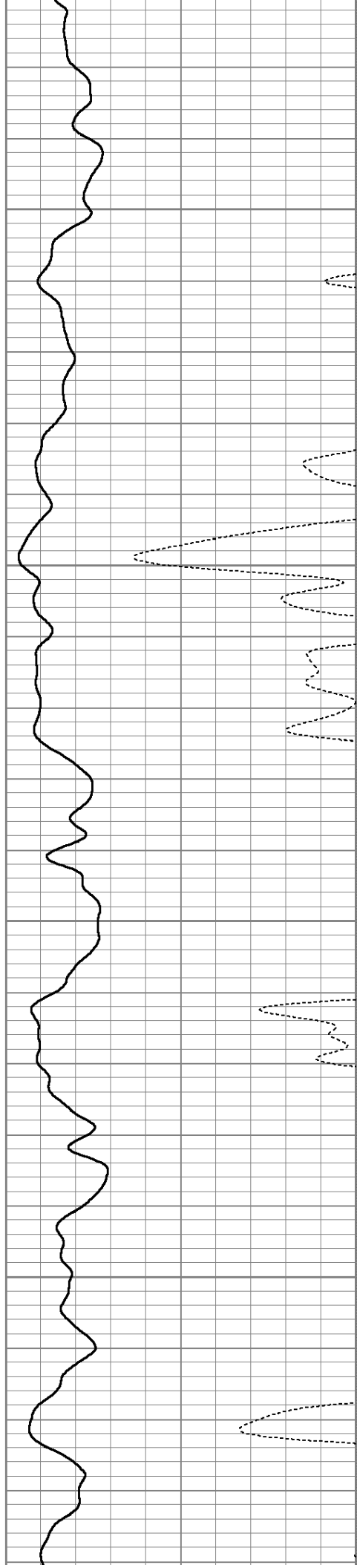


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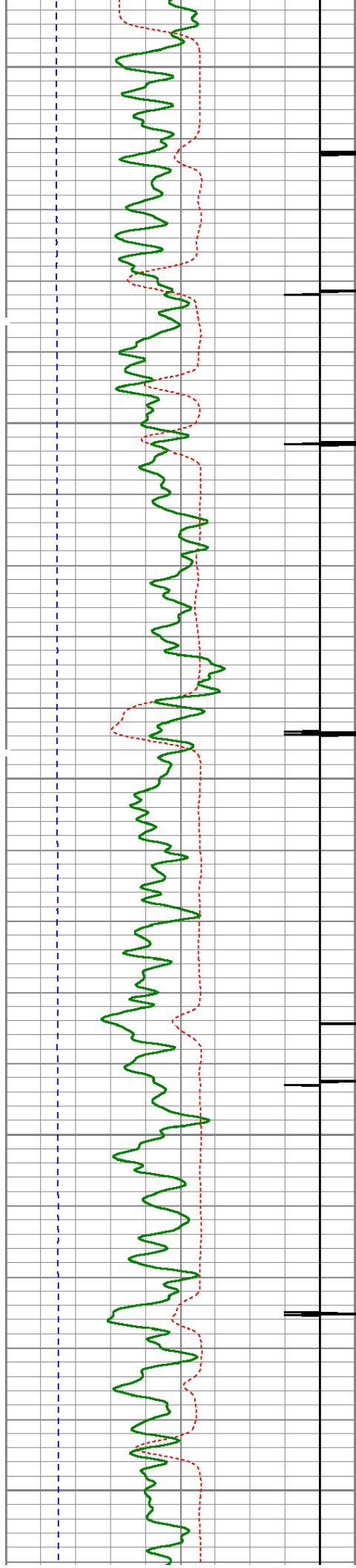
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3450

3500







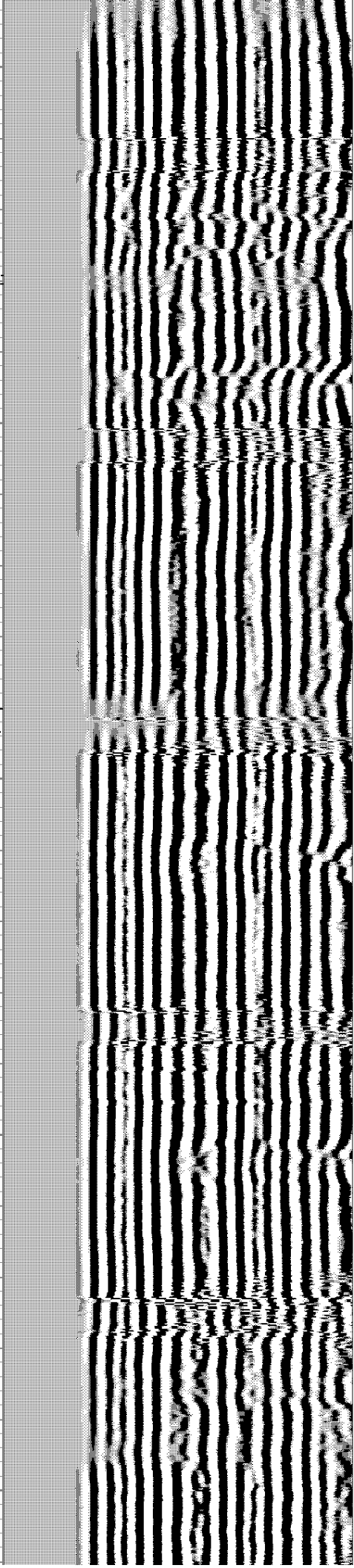
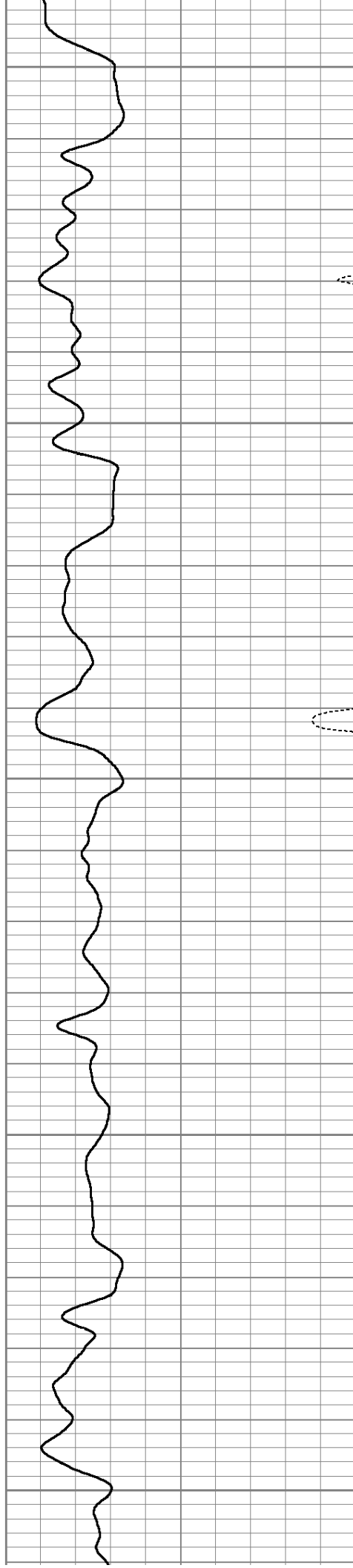
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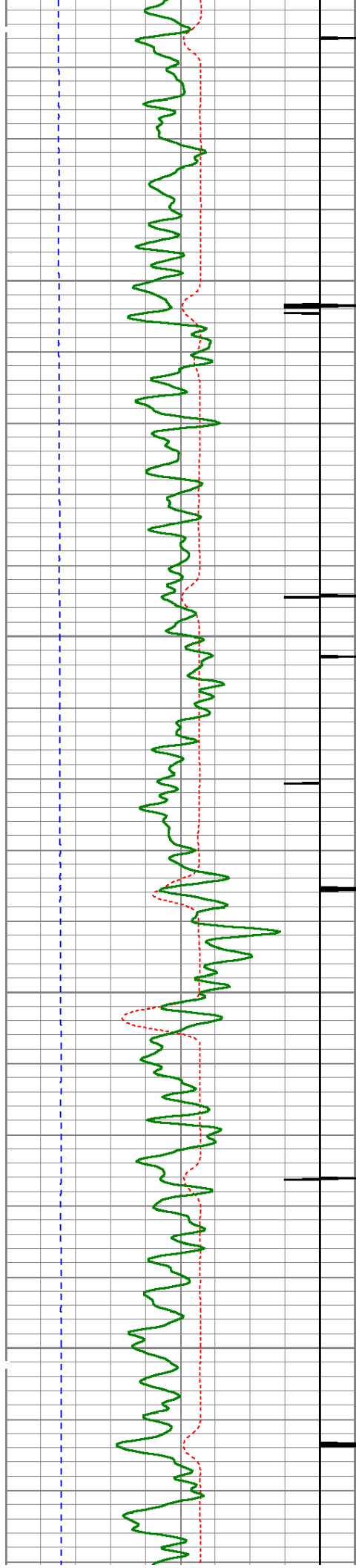
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3700

3750



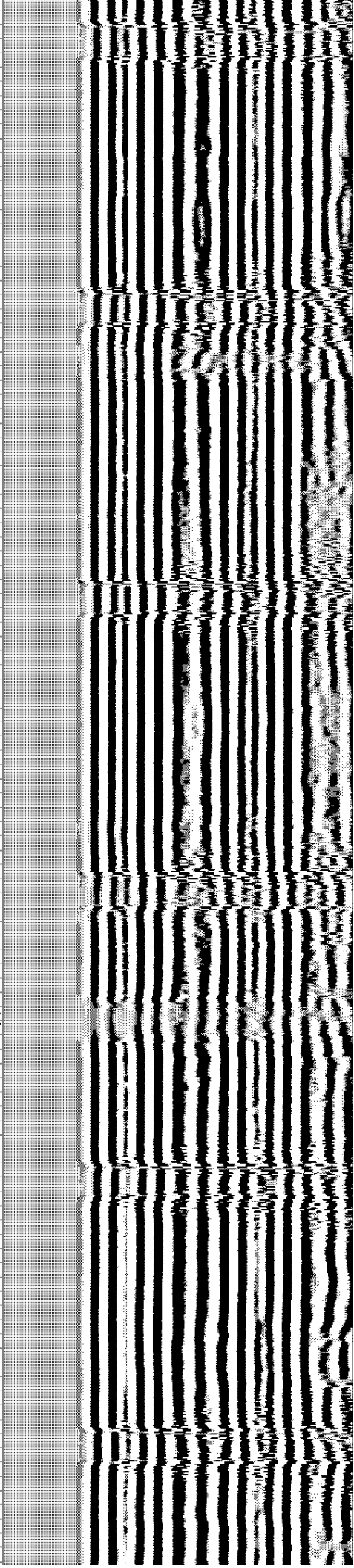
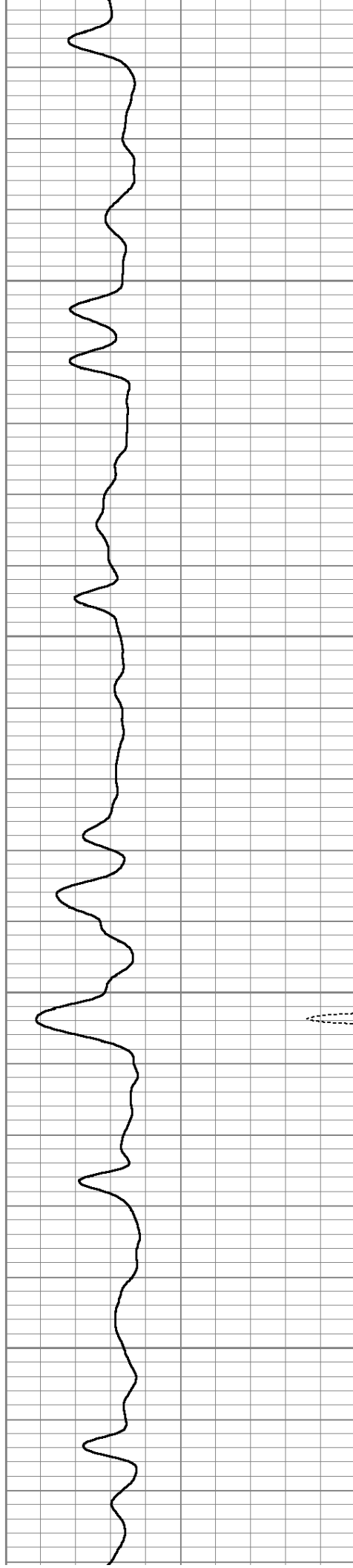


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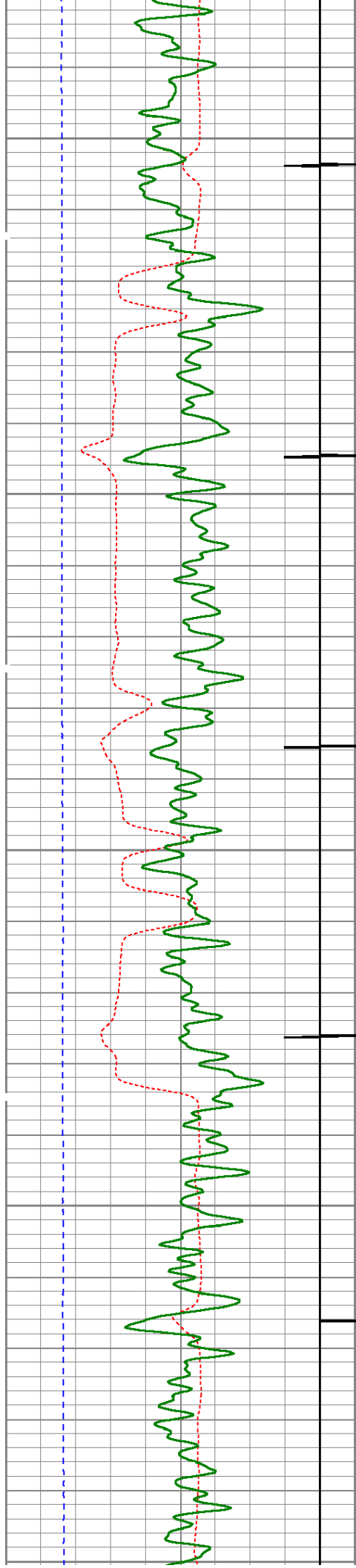
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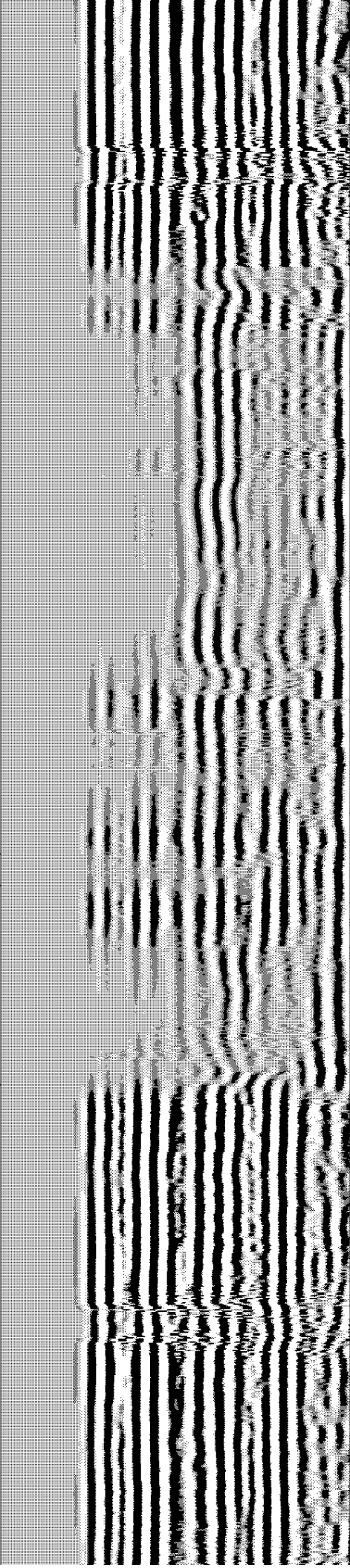
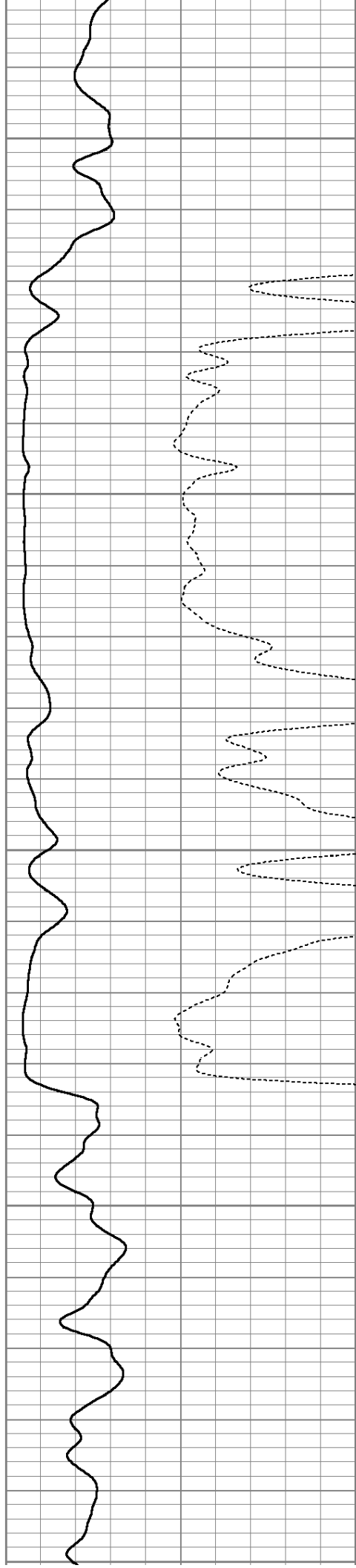
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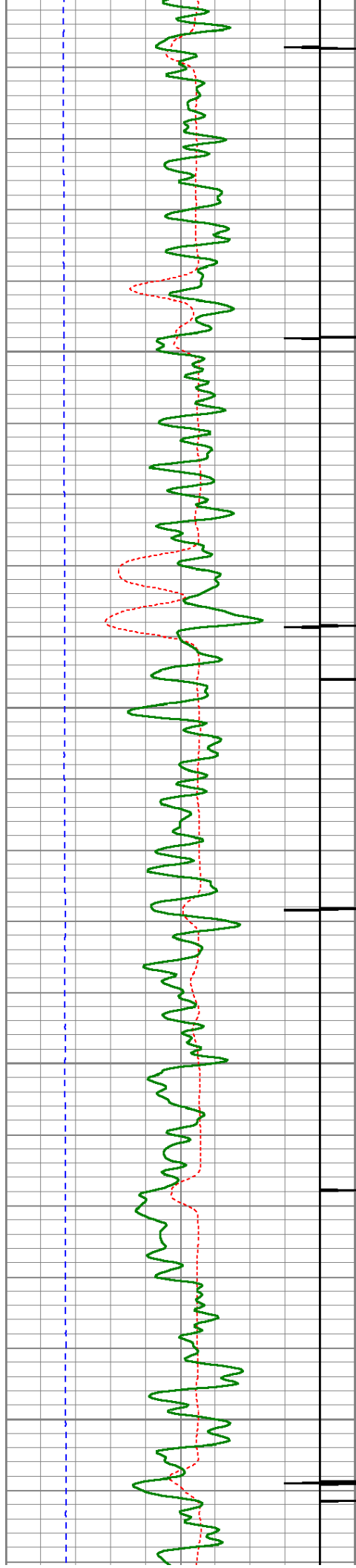
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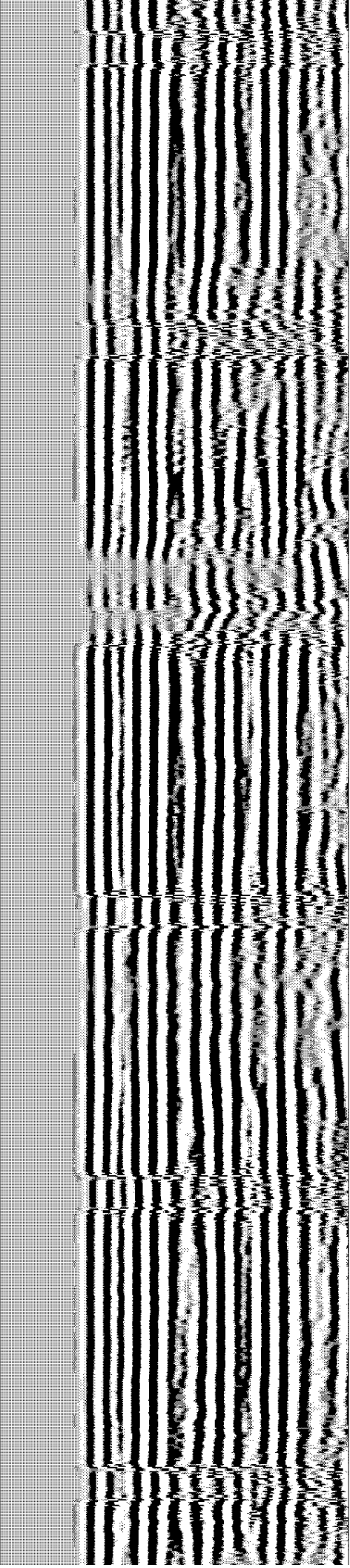
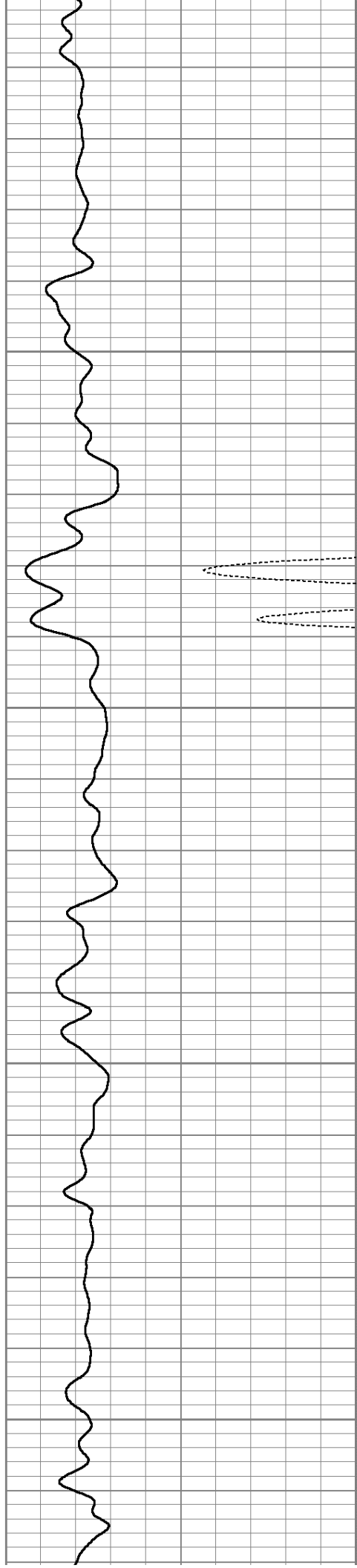
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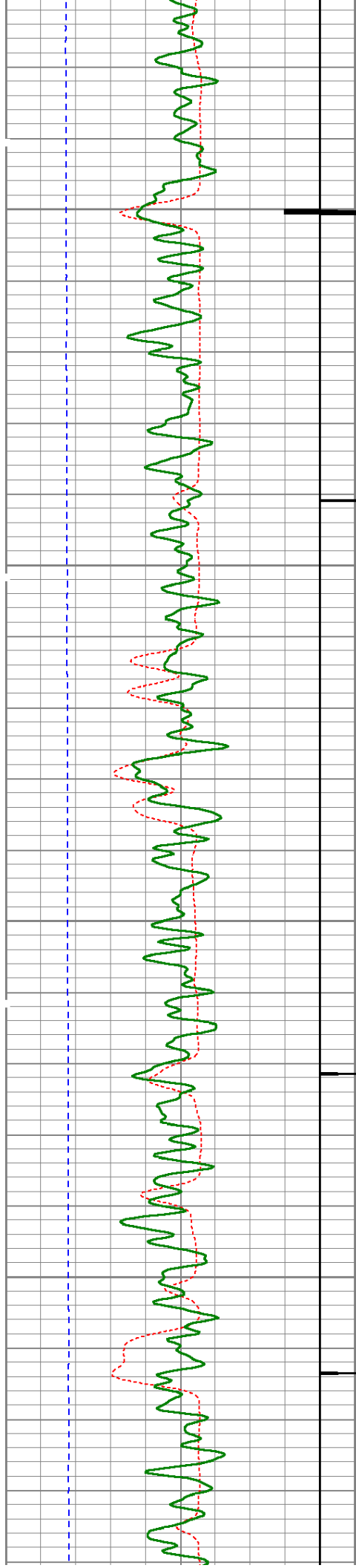




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4400





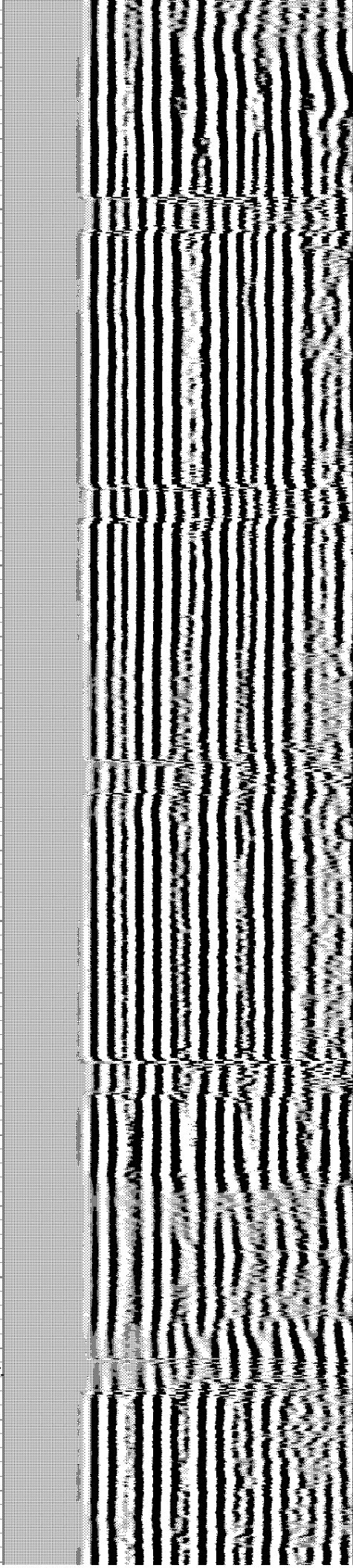
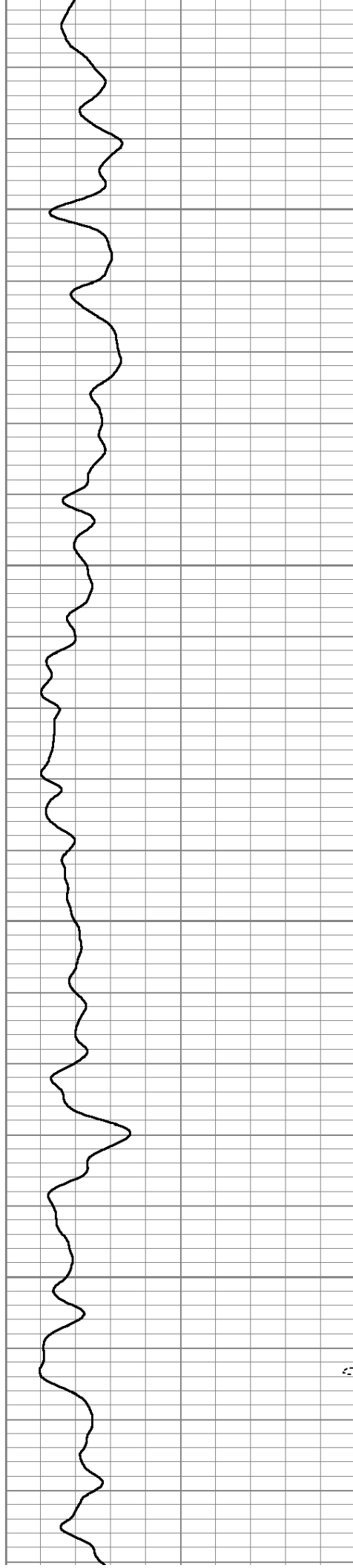


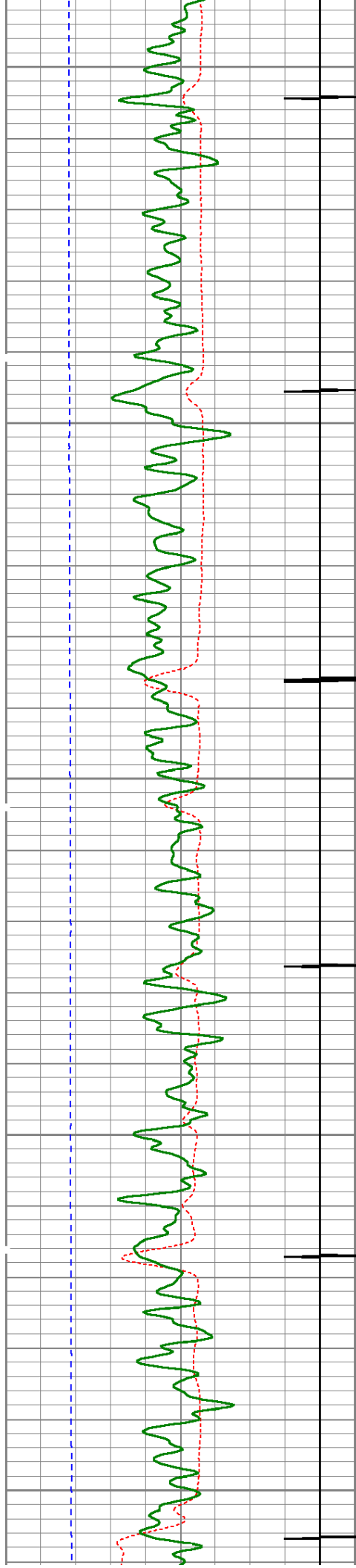
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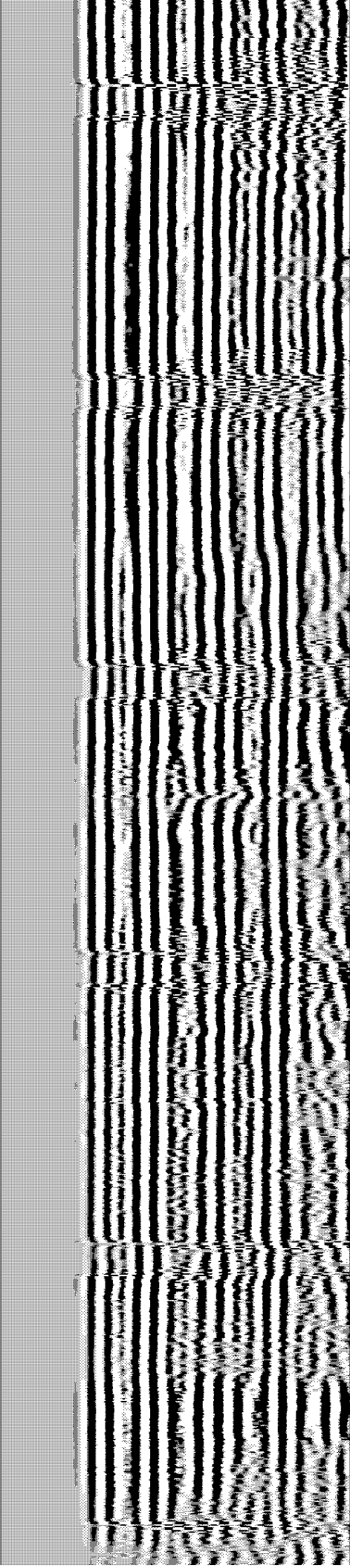
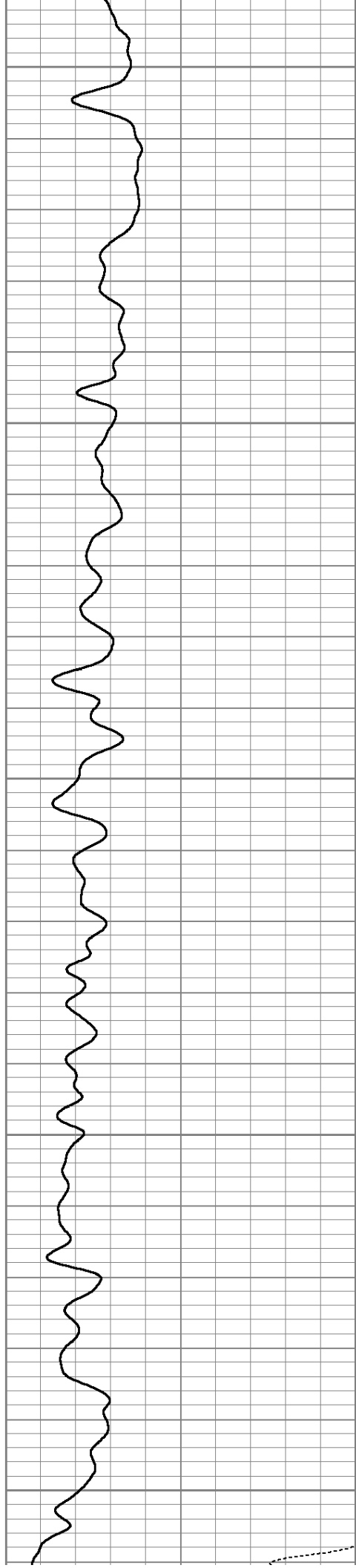
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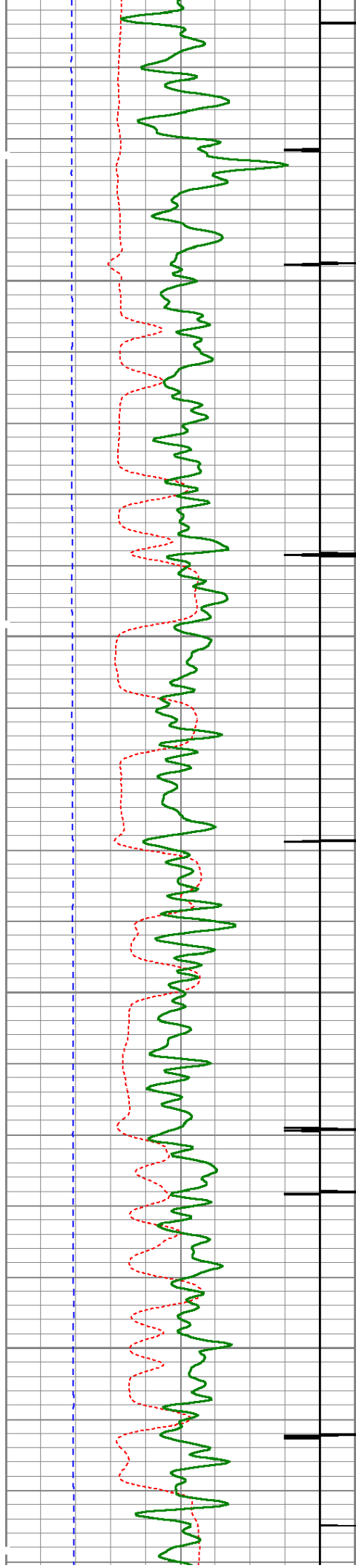
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4850





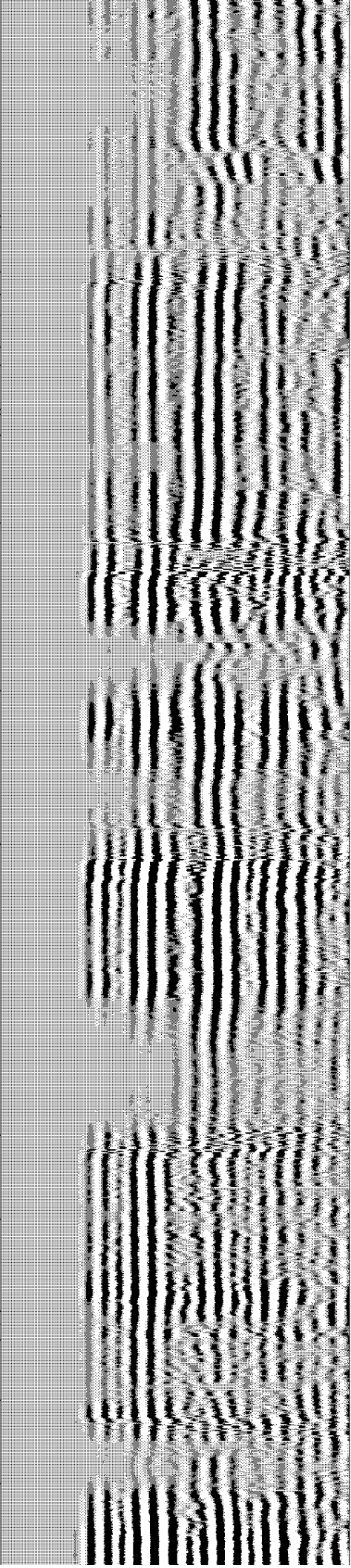
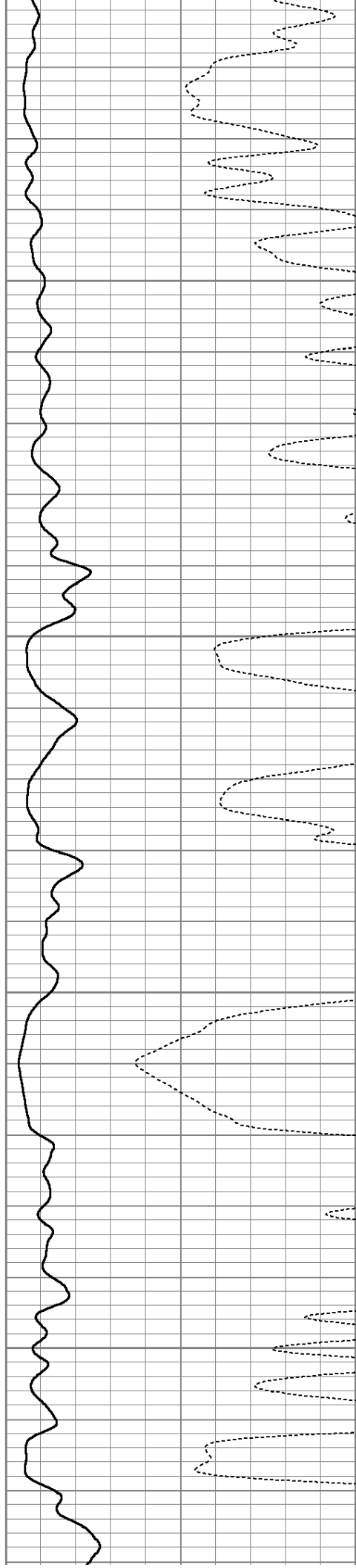


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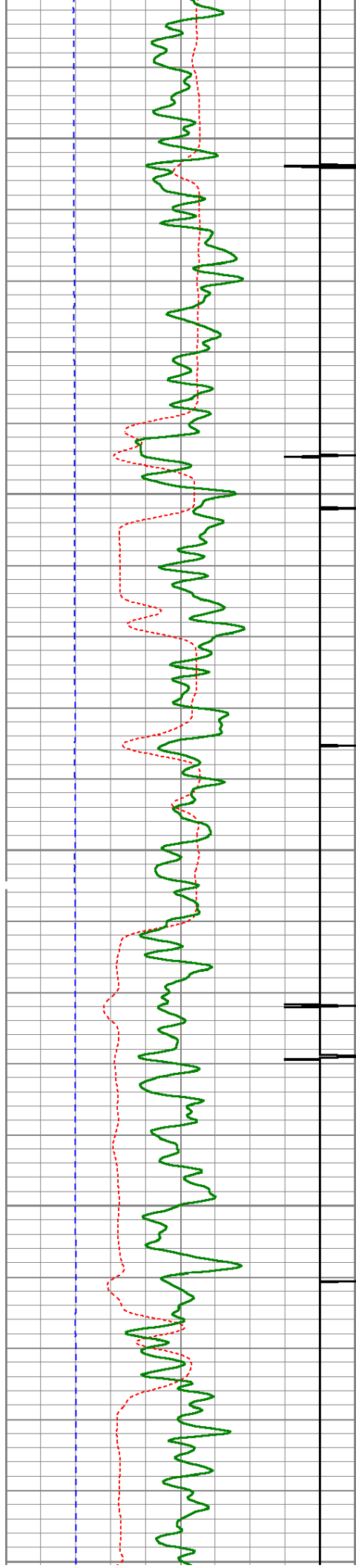
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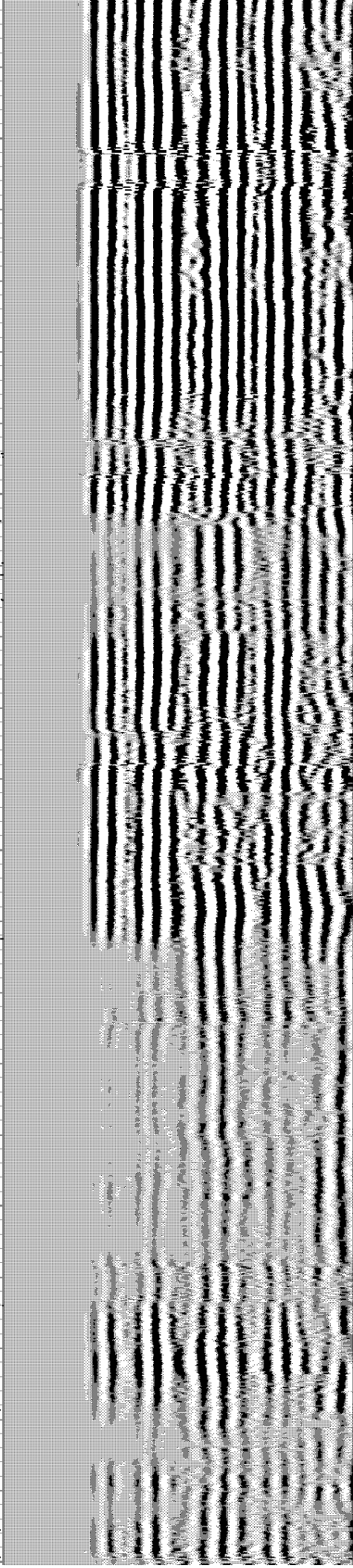
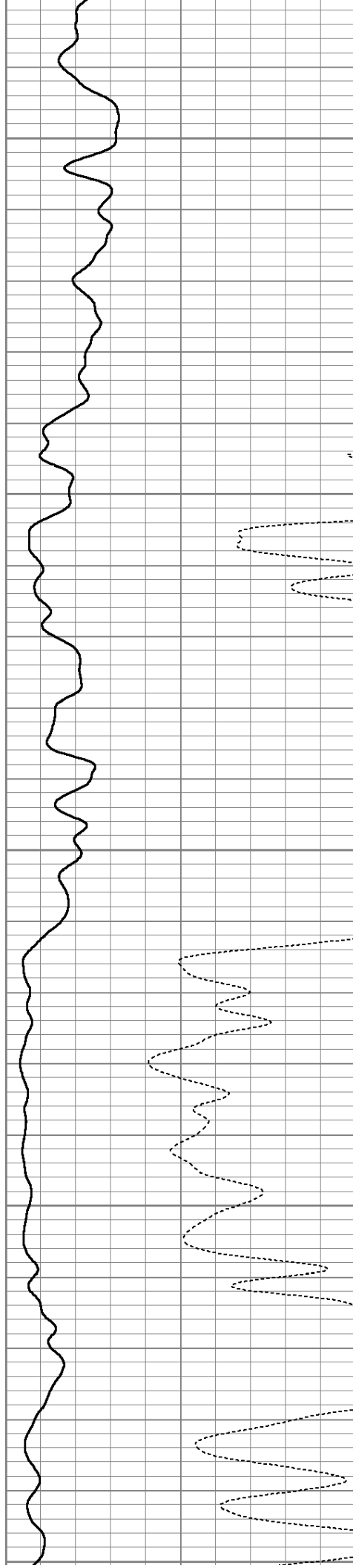
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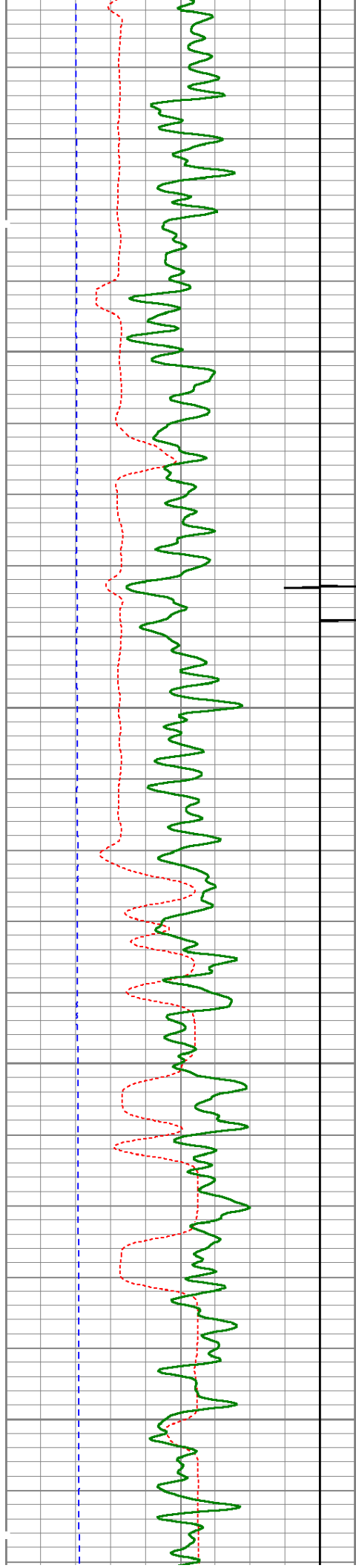
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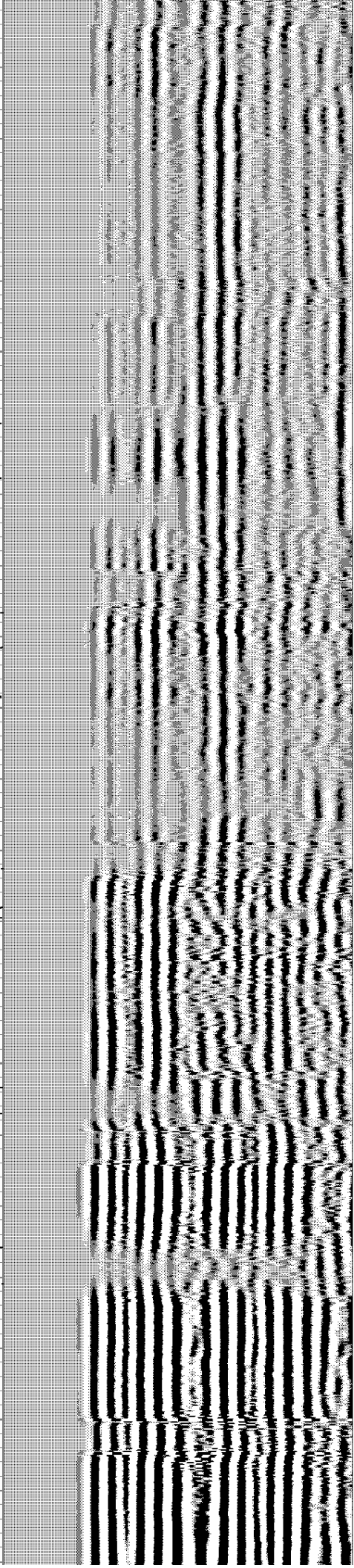
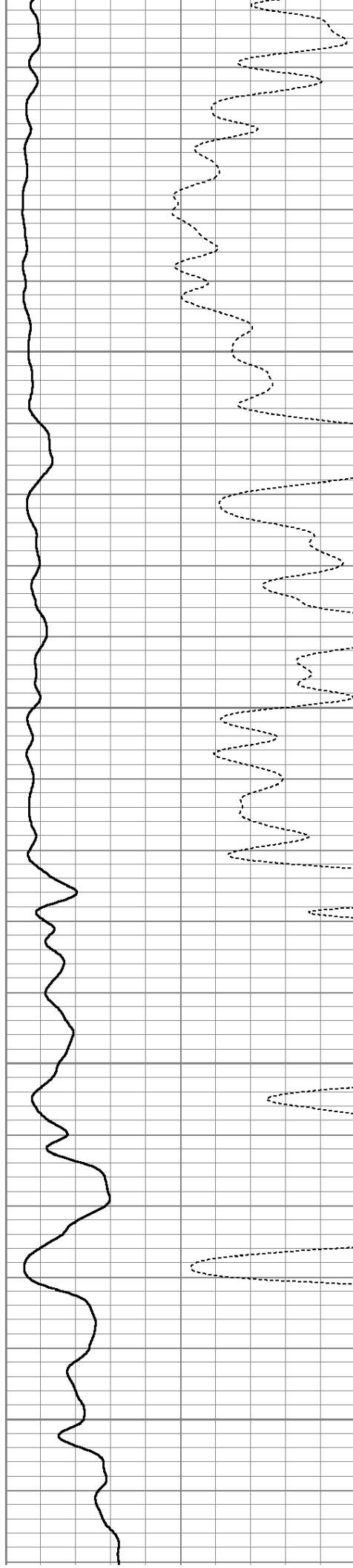
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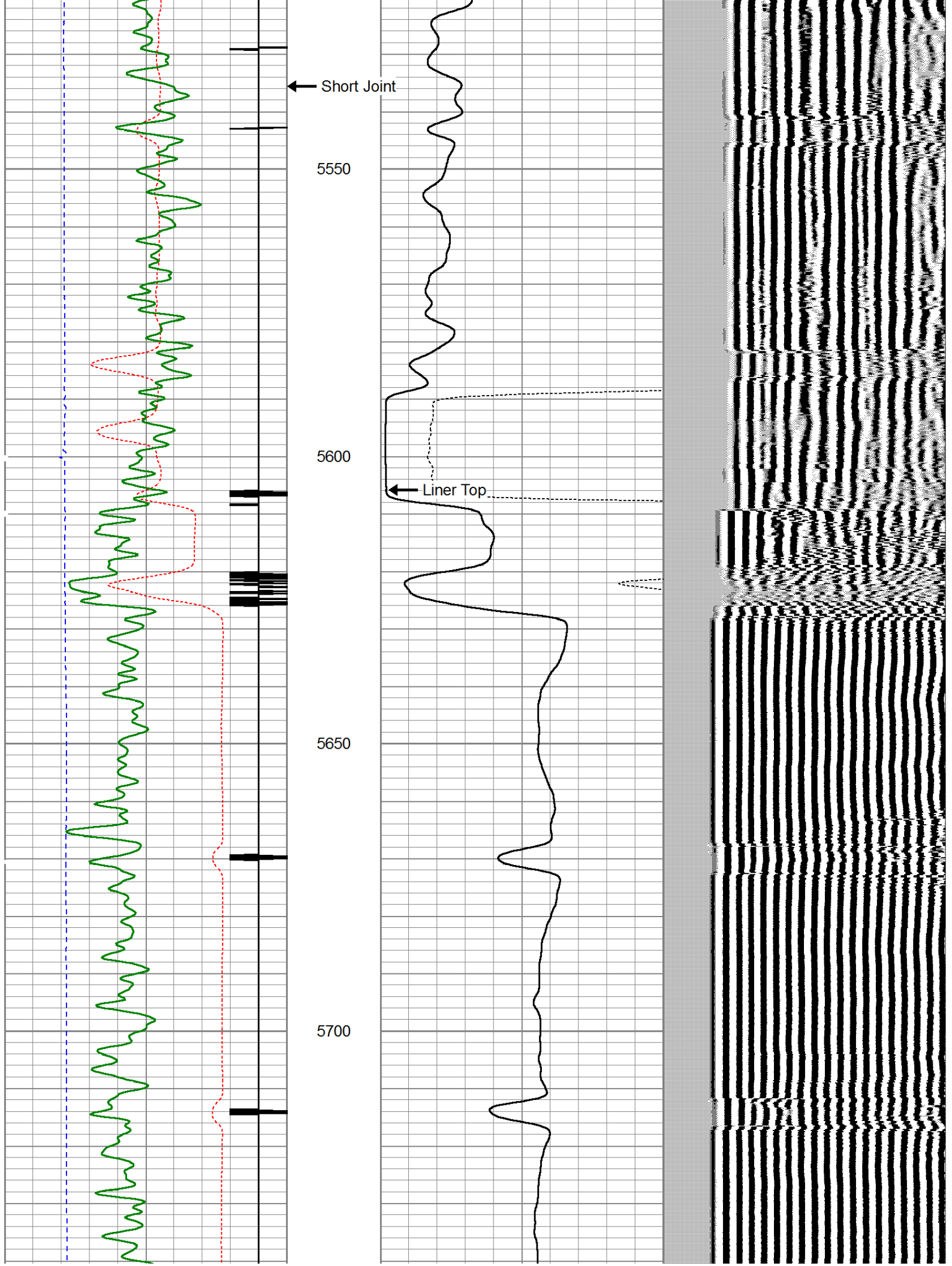




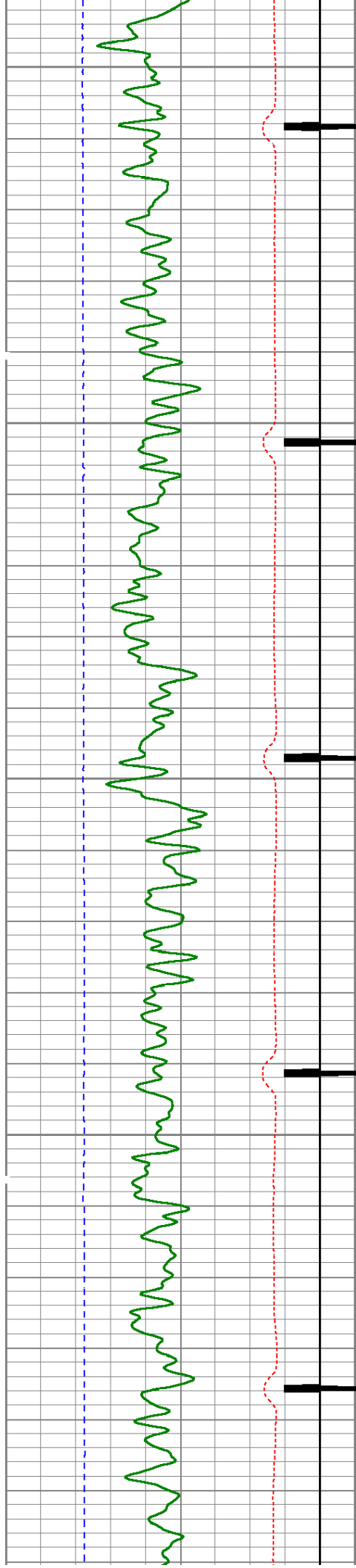


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5450  
5500









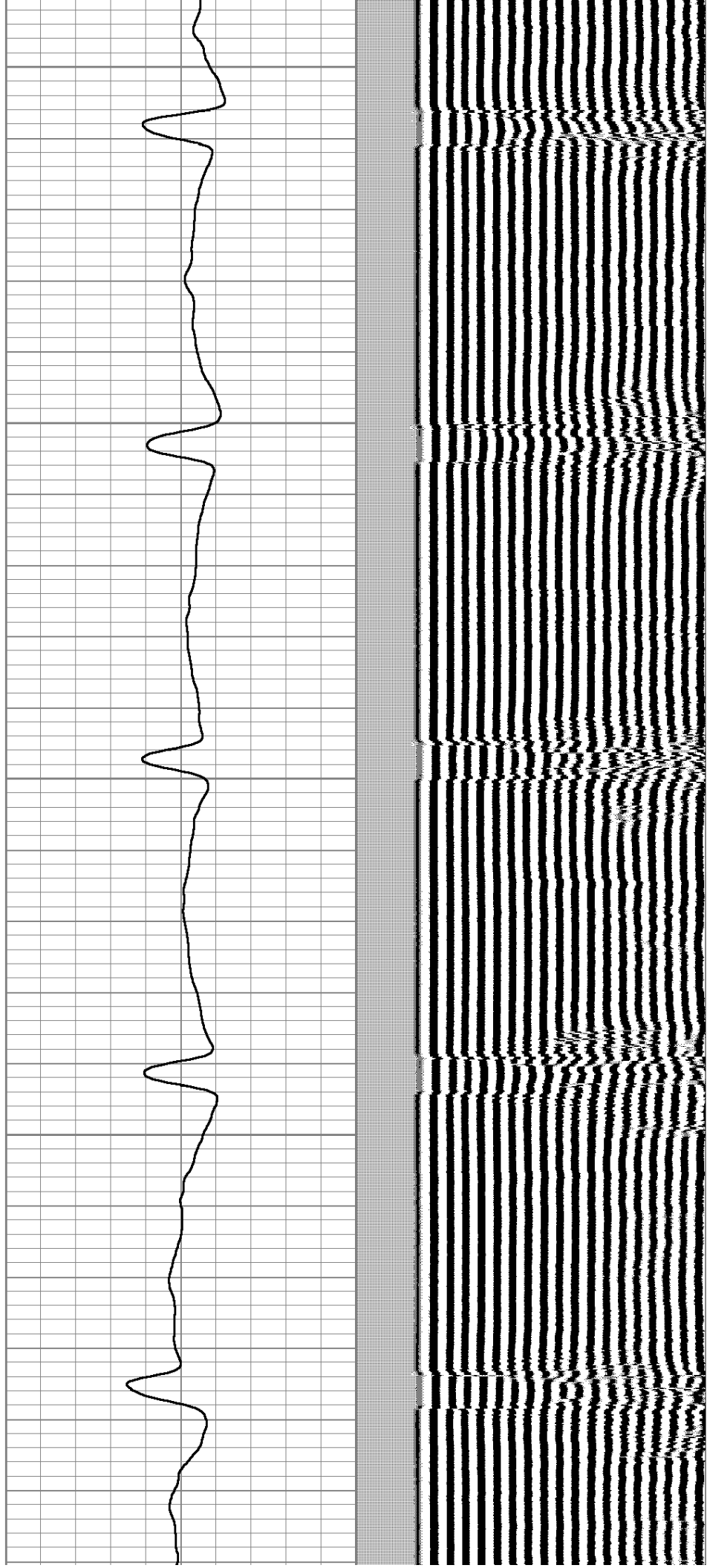
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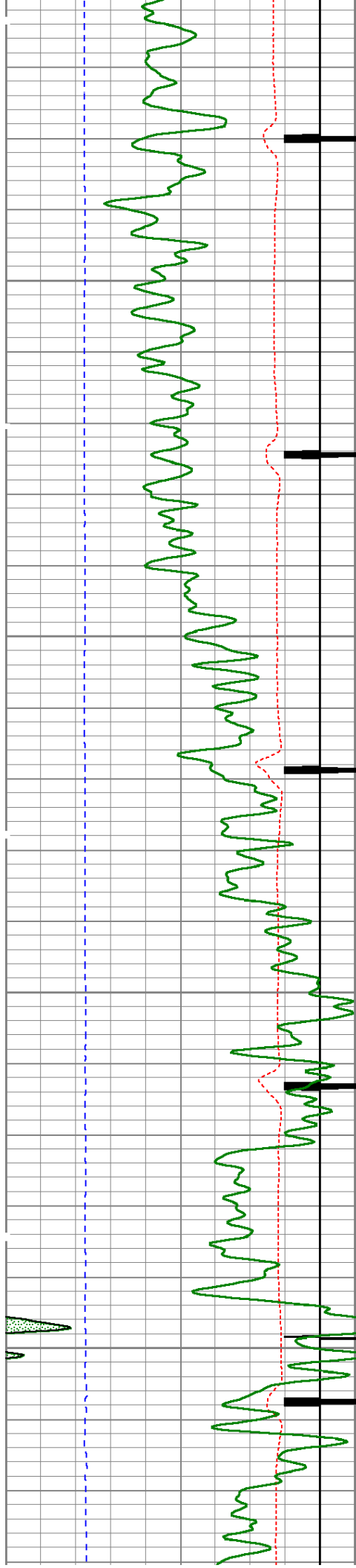
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5850

5900

5950



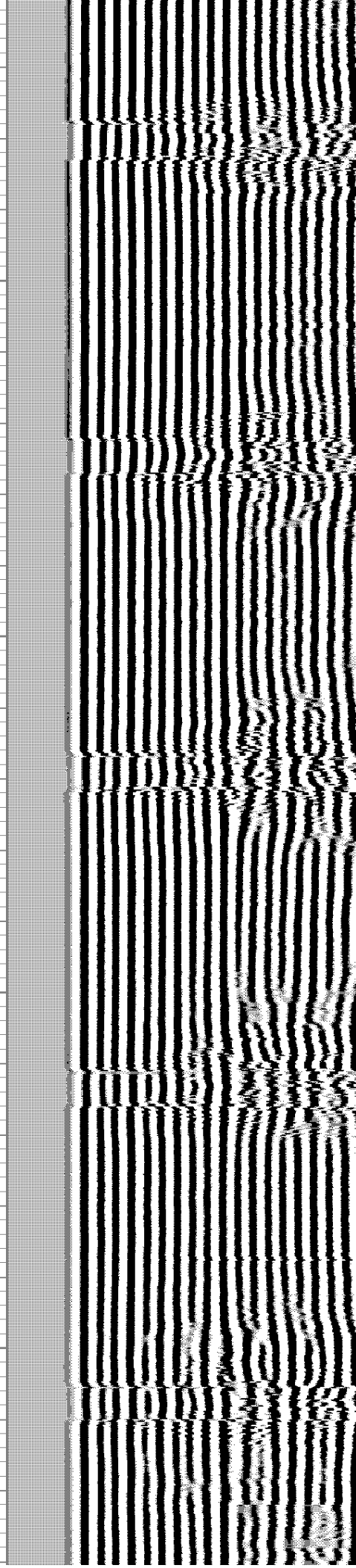
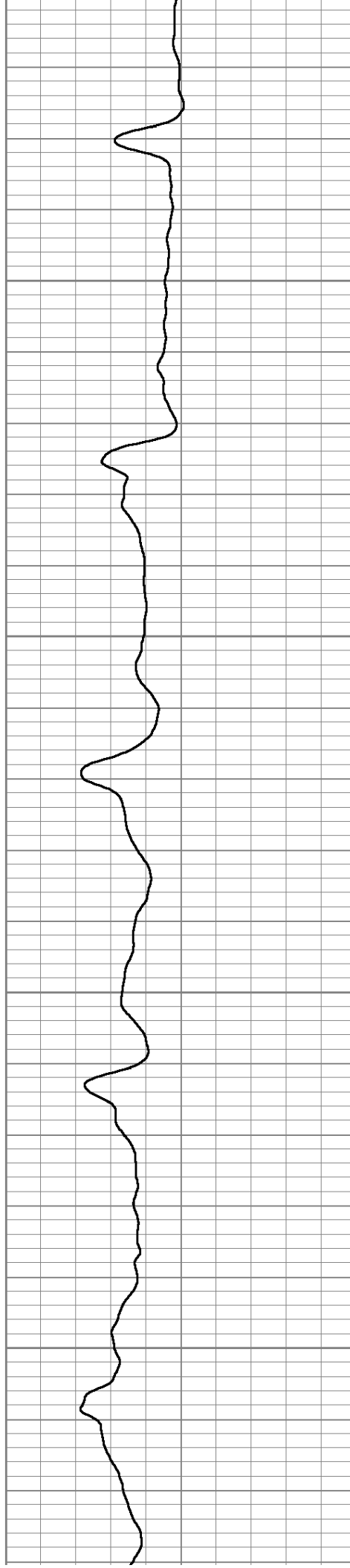


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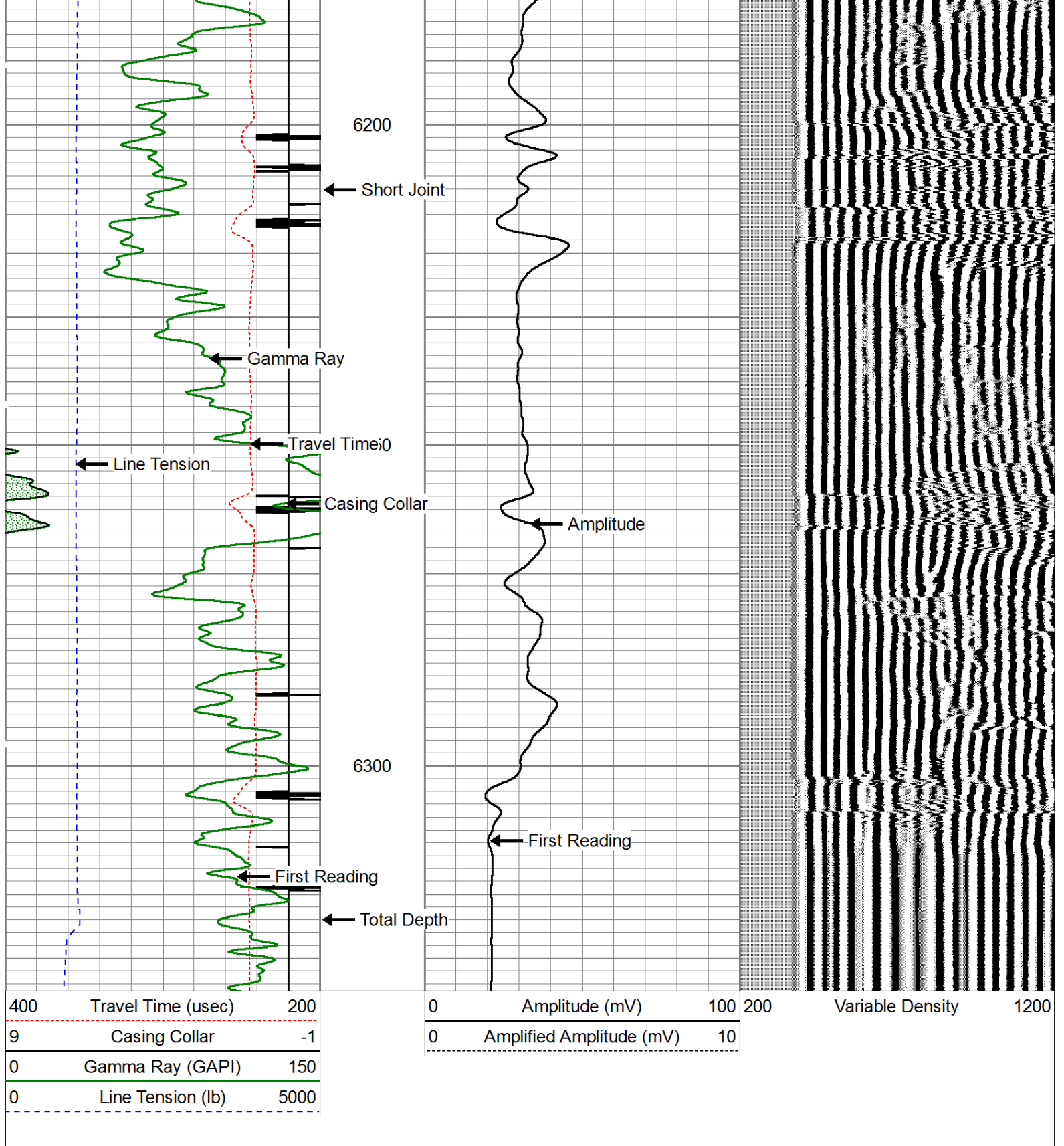
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6100

6150







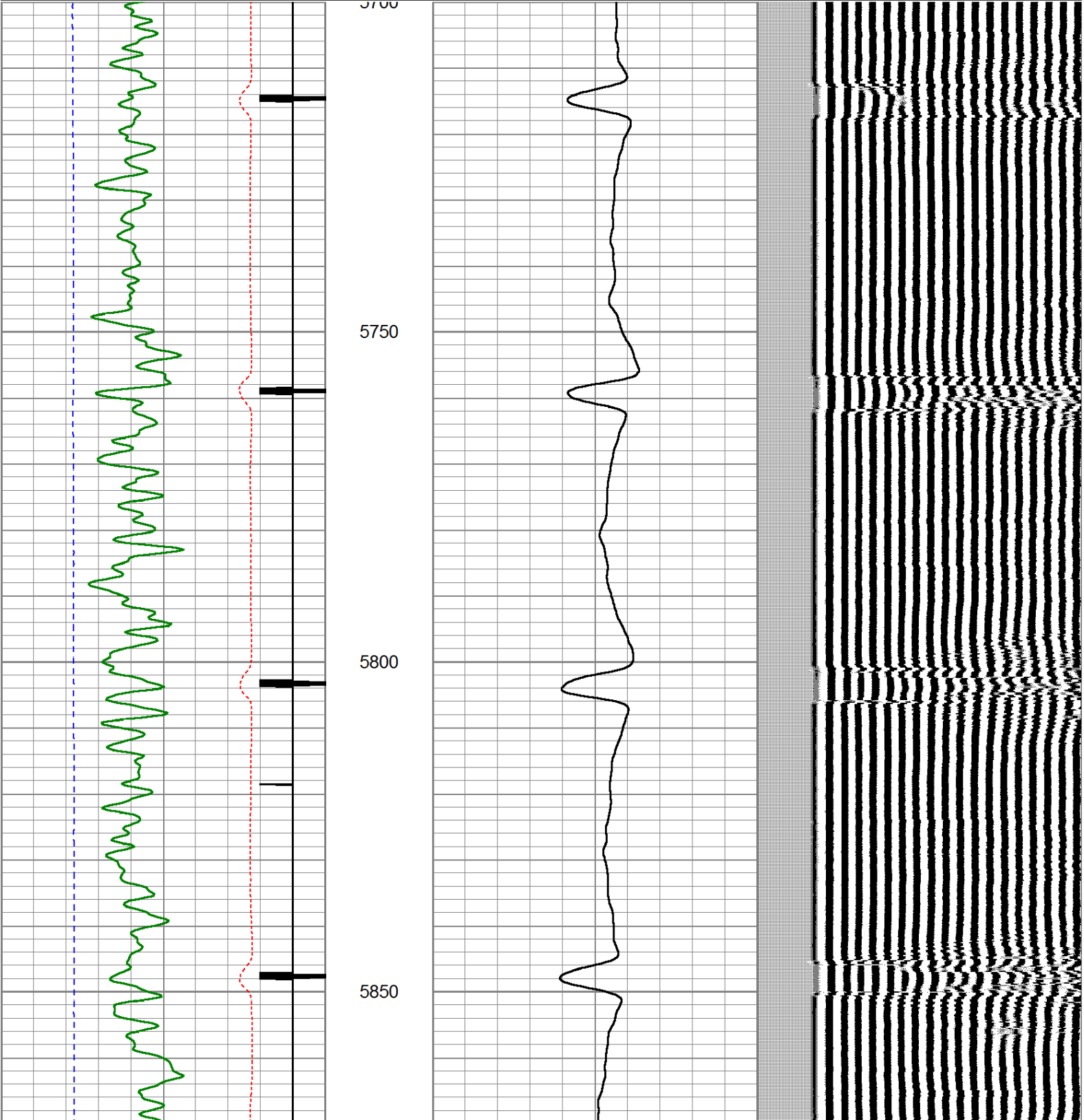
Main Pass @ 1000 psi



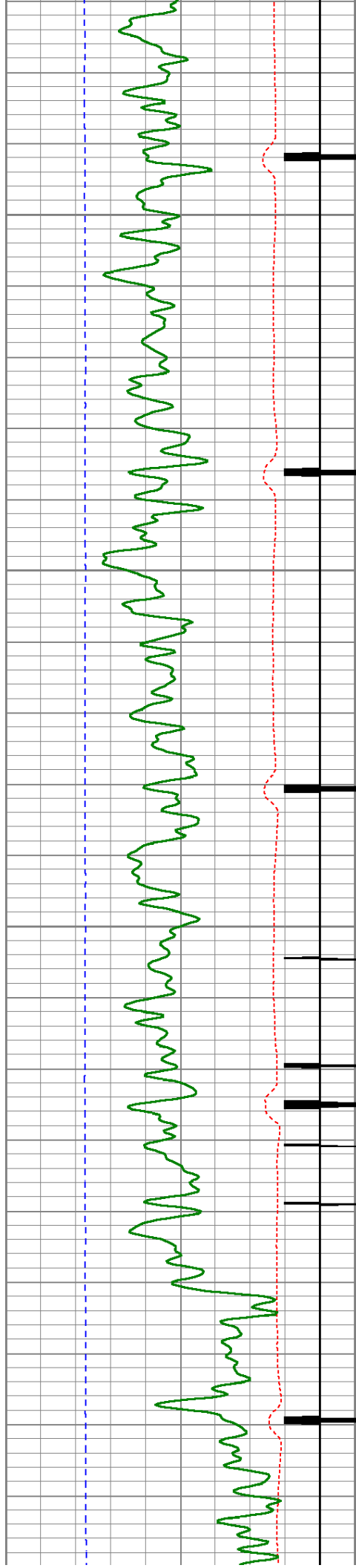
Repeat Pass @ 1000 psi

Database File: hemberger.db  
Dataset Pathname: pass7  
Presentation Format: cblprobe  
Dataset Creation: Fri Aug 31 10:59:30 2012 by Log SCH 111116  
Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200	0	Amplitude (mV)	100	200	Variable Density	1200
9	Casing Collar	-1	0	Amplified Amplitude (mV)	10			
0	Gamma Ray (GAPI)	150						
0	Line Tension (lb)	5000						





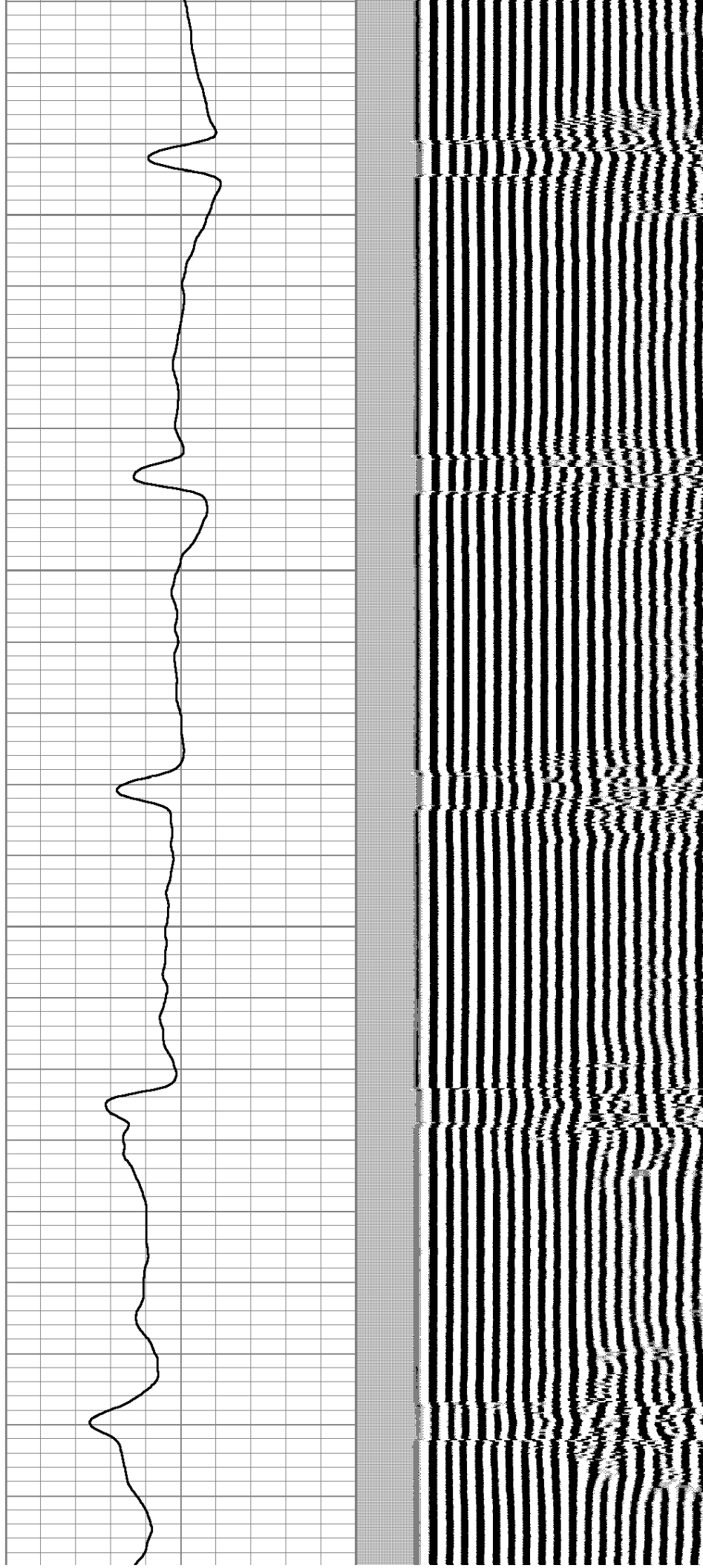


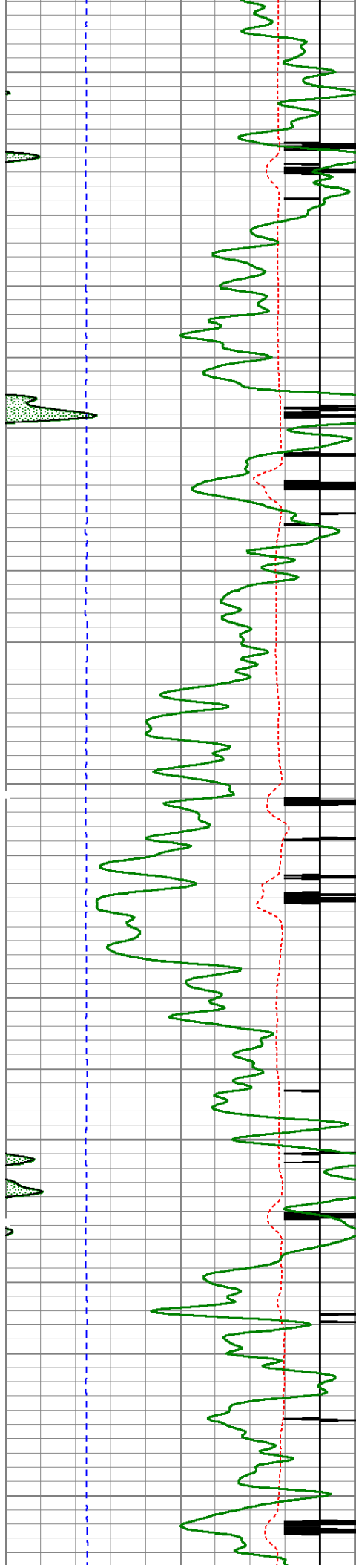
5900

5950

6000

6050





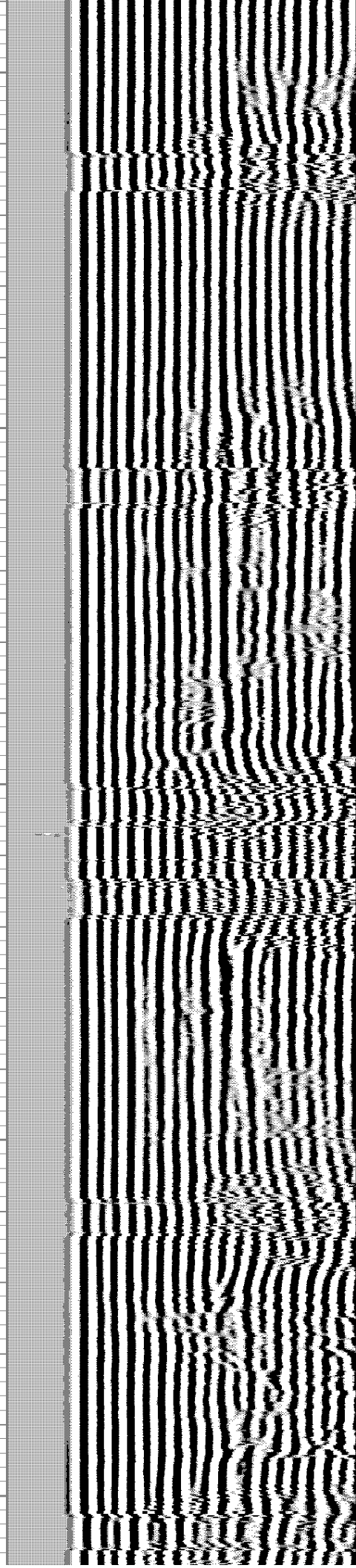
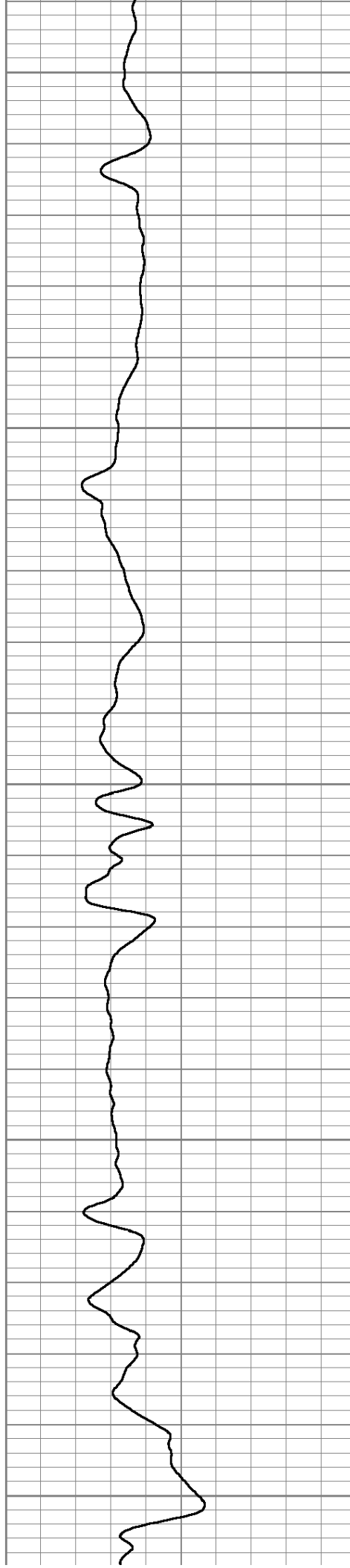
6100

6150

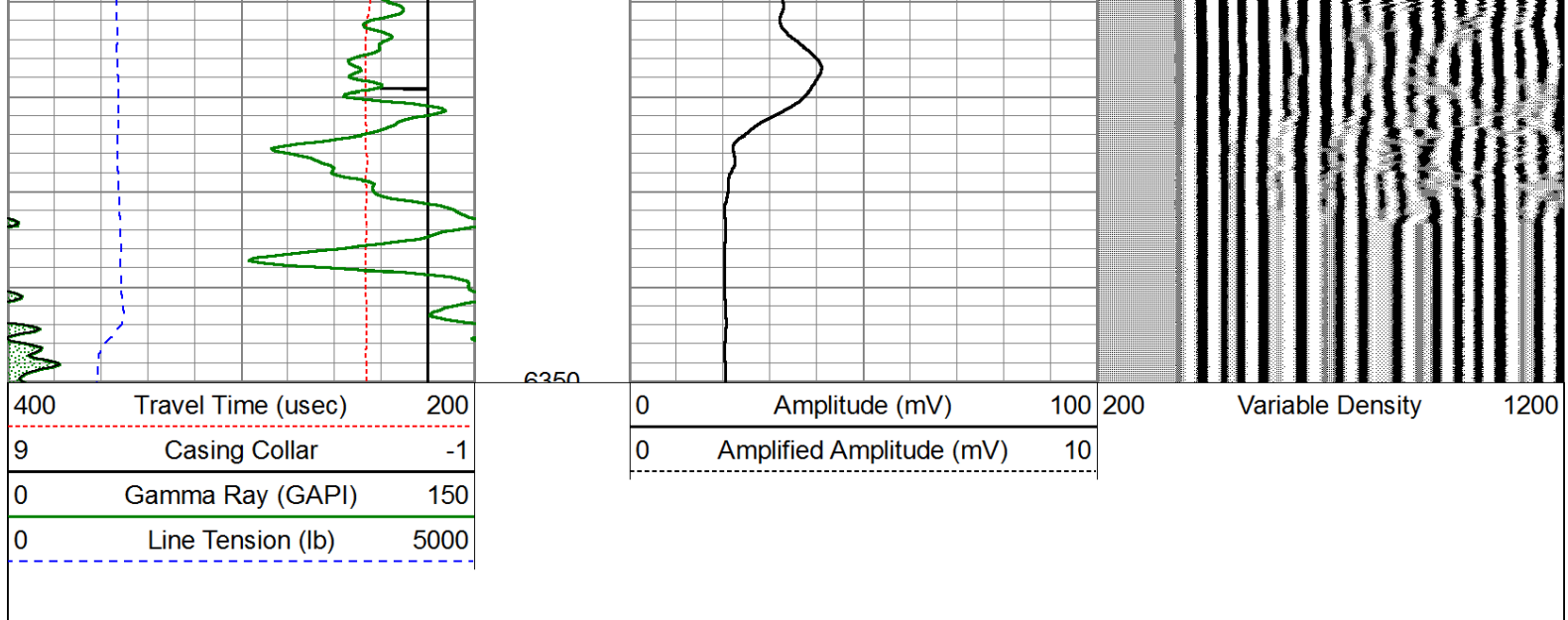
6200

6250

6300







# Repeat Pass @ 1000 psi

## Log Variables

Database: C:\Warrior\Data\hemberger.db  
Dataset: field/well/run1/pass8

### Top - 1404.00 ft

CASEWGHT lb/ft	CASEOD in	BOREID in
36	9.625	12.25

### 1404.00 ft - 5605.00 ft

CASEWGHT lb/ft	CASEOD in	BOREID in
23	7	8.75

### 5605.00 ft - Bottom

PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft
0	11.6	0	1	0.8	4.5	0	10618
BOTTEMP degF	BOREID in						
100	6.125						

## Calibration Report

Database File: hemberger.db  
Dataset Pathname: pass7  
Dataset Creation: Fri Aug 31 10:59:30 2012 by Log SCH 111116

## Gamma Ray Calibration Report

Serial Number: 120667-Dig  
Tool Model: Probe275  
Performed: Fri Aug 31 10:51:13 2012

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.7000	GAPI/cps

### Segmented Cement Bond Log Calibration Report

Serial Number:	120424	
Tool Model:	Probe	
Calibration Casing Diameter:	9.625	in
Calibration Depth:	460.533	ft

Master Calibration, performed Fri Aug 31 09:50:02 2012:

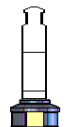
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.008	0.394	1.000	51.280	124.983	2.022
CAL	-0.004	0.700				
5'	-0.002	0.365	1.000	51.280	137.119	1.269
SUM						
S1	-0.006	0.447	0.000	100.000	220.815	1.229
S2	-0.001	0.391	0.000	100.000	255.234	0.218
S3	-0.001	0.357	0.000	100.000	279.048	0.378
S4	-0.001	0.346	0.000	100.000	288.167	0.271
S5	-0.002	0.356	0.000	100.000	279.906	0.472
S6	-0.002	0.383	0.000	100.000	259.742	0.444
S7	-0.002	0.426	0.000	100.000	233.550	0.442
S8	-0.002	0.449	0.000	100.000	221.531	0.441

Internal Reference Calibration, performed Wed Dec 31 18:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.004	0.700	1.000	0.000

Air Zero Calibration, performed Fri Aug 31 09:18:10 2012:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000		0.000	
5'	0.000		0.000		0.000	
SUM						
S1	0.000		0.000		0.000	
S2	0.000		0.000		0.000	
S3	0.000		0.000		0.000	
S4	0.000		0.000		0.000	
S5	0.000		0.000		0.000	
S6	0.000		0.000		0.000	
S7	0.000		0.000		0.000	
S8	0.000		0.000		0.000	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CHD	20.28		Titan Cable_head	1.00	1.44	10.00
CENT	19.28					



