



**CEMENT BOND LOG**  
**GAMMA RAY**  
**CCL**

## ENERGY SERVICES

		<b>Company</b>		BLACK RAVEN ENERGY, INC.	
1/4'S	SW / NW	<b>Well</b>	CRONE, B F 4		
SEC.	13	<b>Field</b>	ADENA		
TWP.	1 N	<b>County</b>	MORGAN	<b>State</b>	COLORADO
RGE.	58 W	<b>AP#:</b>	05 - 087 - 05300 - 00		
		<b>WBS:</b>			
1/4'S.	SW / NW	<b>SEC:</b>	13	<b>TWP:</b>	1 N
		<b>RGE:</b>	58 W		

Permanent Datum	Ground Level	Elevation	Elev K.B.	N / A
Log Measured From	Ground Level		Elev D.F.	4,583'
Drill Measured From	Ground Level	Feet Above Datum	Elev G.L.	4,573'

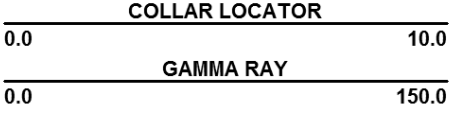


Date	3-20-13	Gun Type	N / A	Gun Size	N / A
Run Number	1	Charge Type	N / A	Gram Wt.	N / A
Magna Depth	3,680'	Shots / Foot	Shots Fired	From	To
Driller Depth	5,784'				
First Reading	3,670'				
Last Reading	surface				
Max Temperature	N / A				
Est. Cement Top	3,580'				
Fluid Type	WATER				
Fluid density	8.3				
Est. fluid level	30'				
Service Order	700000162				
Truck No	233	Casing Data			
Recorded By	J. MICHAEL	Size inches	Weight Lb/Ft	From	To
Witnessed By	MR. TONY JACKSON	8.625"	28 #	0'	105'
Magna Contact	RYAN LUDWIG 1 307 680 8124	5.5"	15.5 #	0'	5,774'

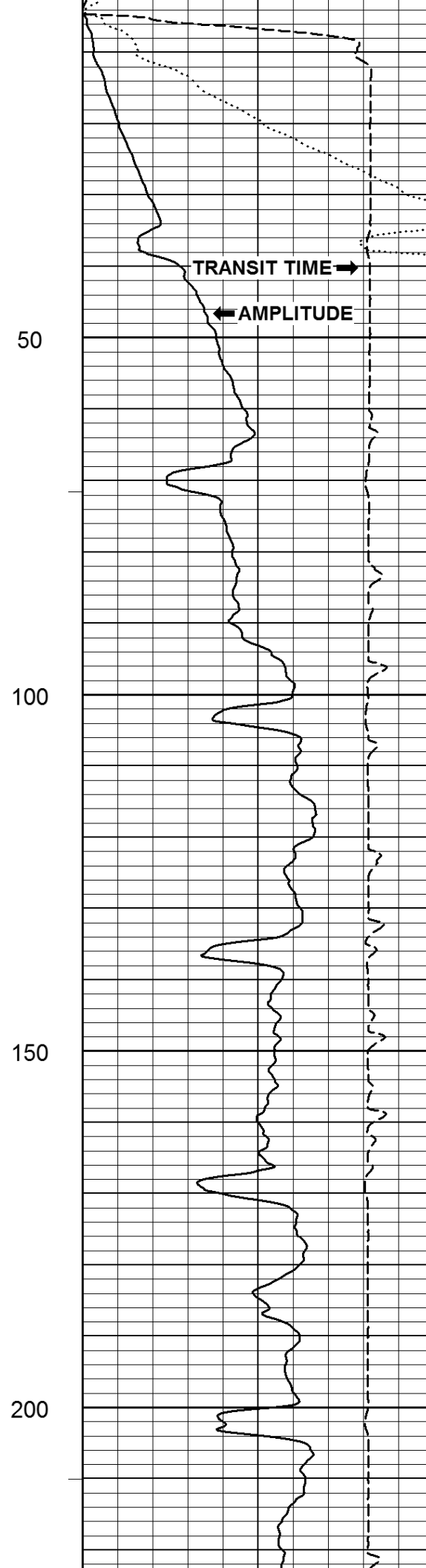
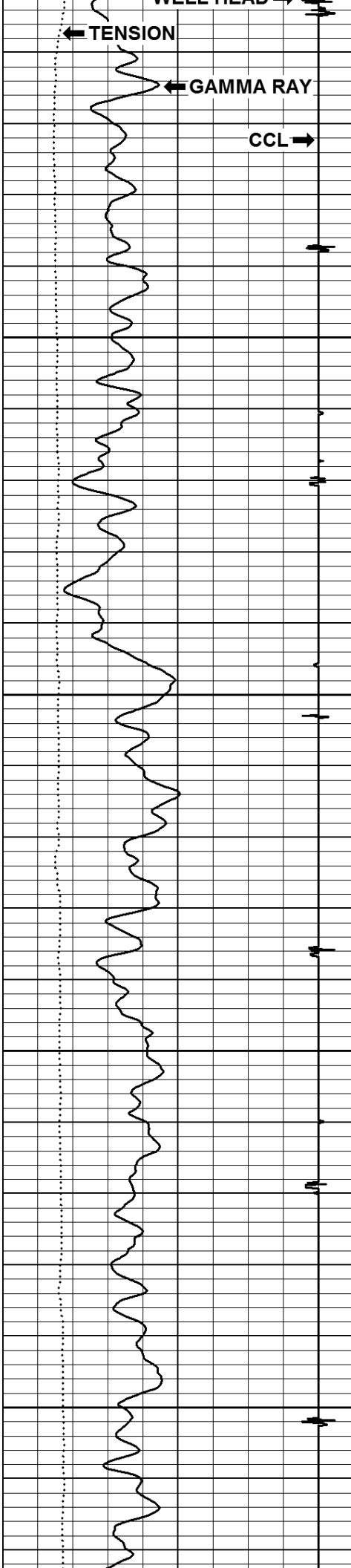
[illegible]

Remarks:

Previous Well Information	
Depth Control Log	NO CORRELATION LOG PROVIDED BY CLIENT
Perforated	
Bridge Plug Set At	
Cement Retainer Set At	
Production Packer Set At	

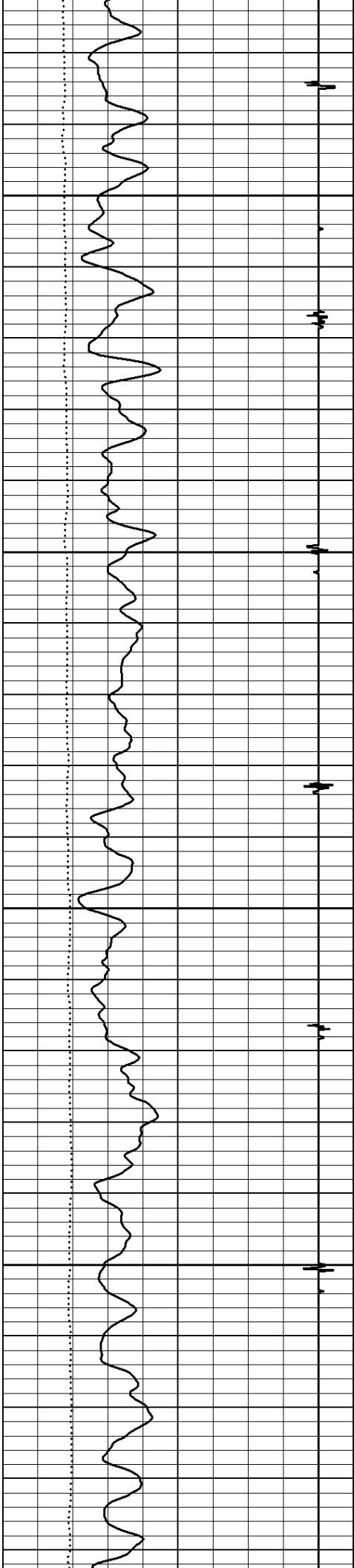
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 as set out in our current price schedule.

<div> <div>2013-03-20 07:45</div> <div>Tension (lbF)</div> <div>0.001000.00</div> <div>COLLAR LOCATOR</div> <div>0.010.0</div> <div>GAMMA RAY</div> <div>0.0150.0</div> <div>Pass No. 2</div> </div>	<div>FEET</div> <div>1:240</div> <div>-14.78</div>	<div>3' AMPLITUDE (mV)</div> <div>0.0100.0</div> <div>AMPLITUDE X 5 (mV)</div> <div>0.020.0</div> <div>3' TRAVEL TIME (μs)</div> <div>800.0150.0</div> <div>Logging Down</div> <div>Shutin</div>	<div>5' VARIABLE DENSITY (μs)</div> <div>200.001200.00</div> <div>File FINAL.pre</div> <div>110204</div>
	<div>0</div>		



EST. TOP OF FLUID

This figure is a well log plot with a vertical axis representing depth from 0 to 200 feet. The plot shows a fluid level curve (solid line with high-frequency oscillations) and a dashed line on the right. The plot is overlaid on a grid with major horizontal lines every 50 feet and minor vertical lines every 10 units.

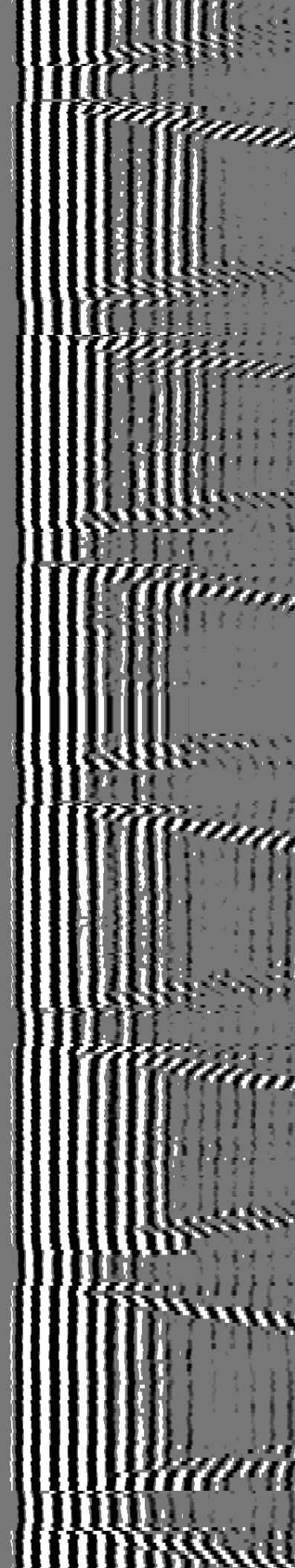
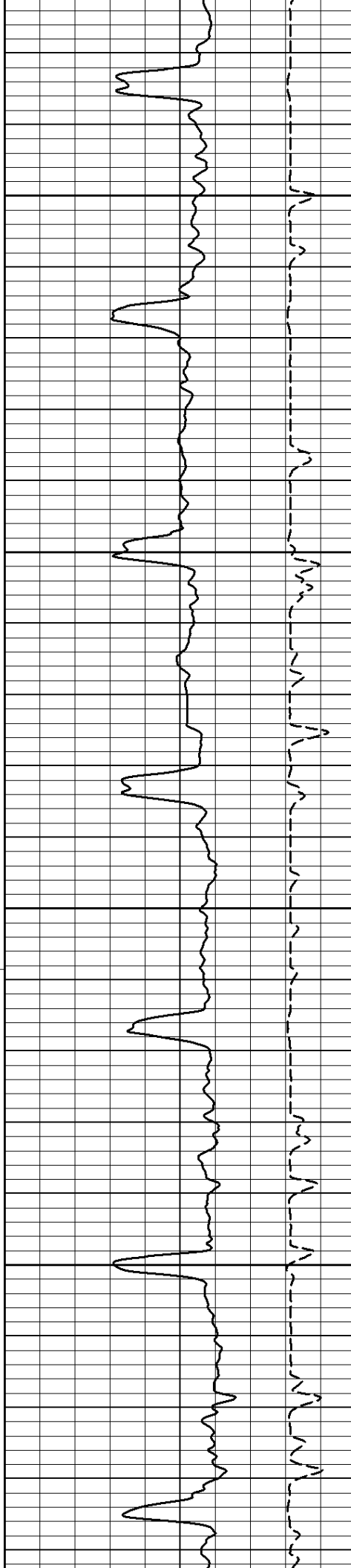


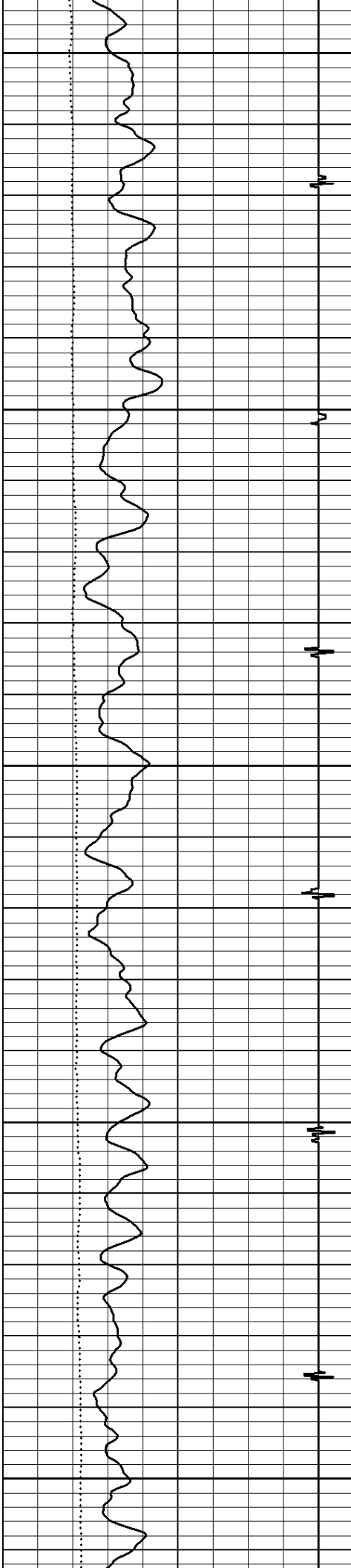
250

300

350

400





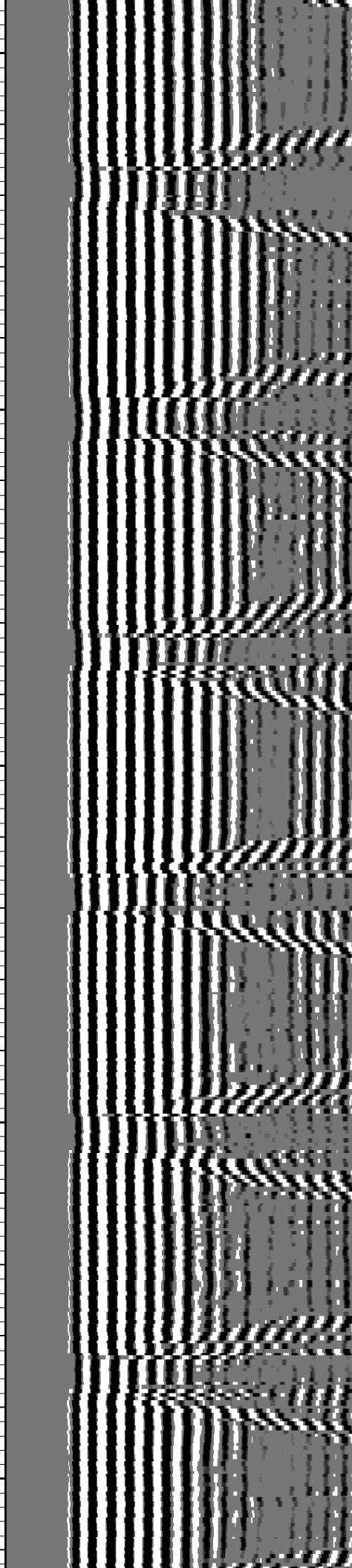
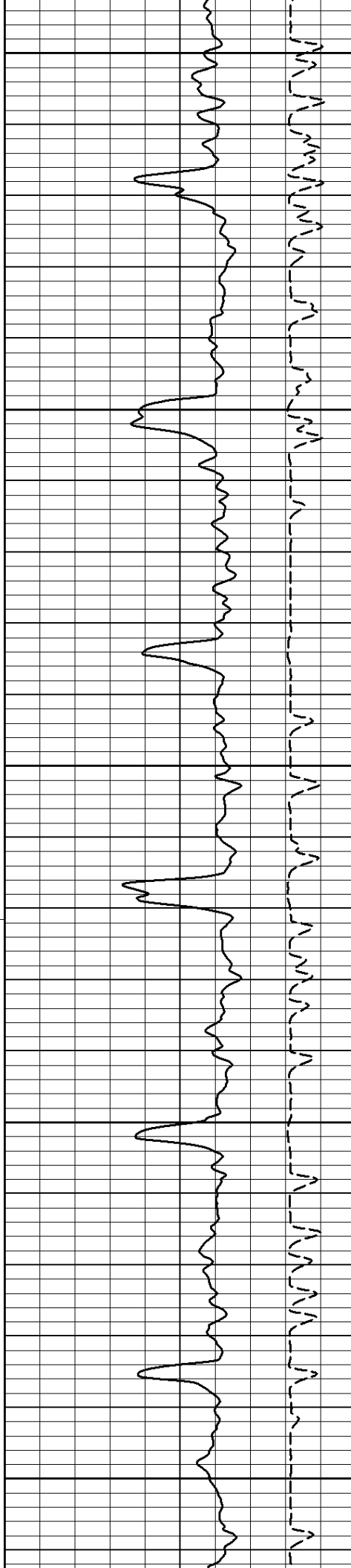
450

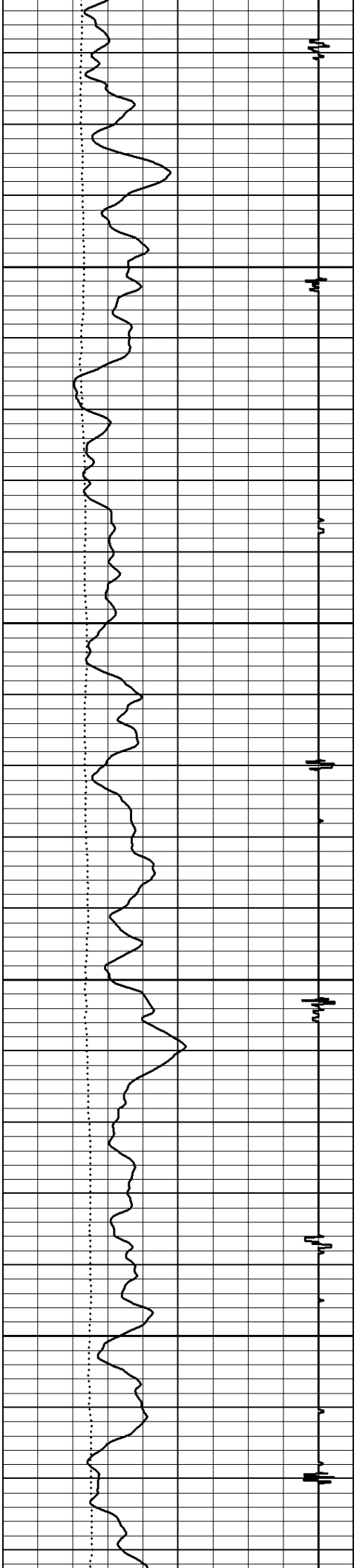
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550

600

650



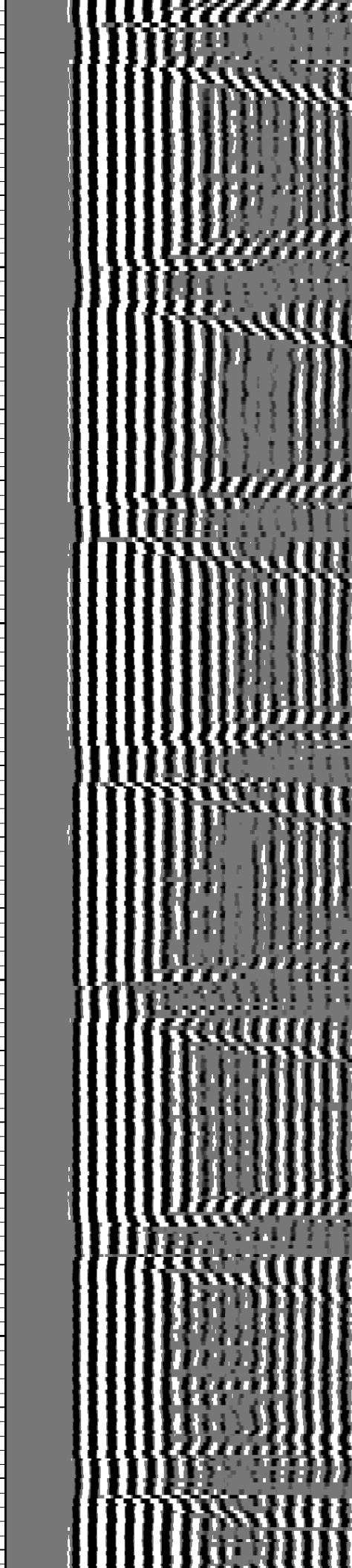
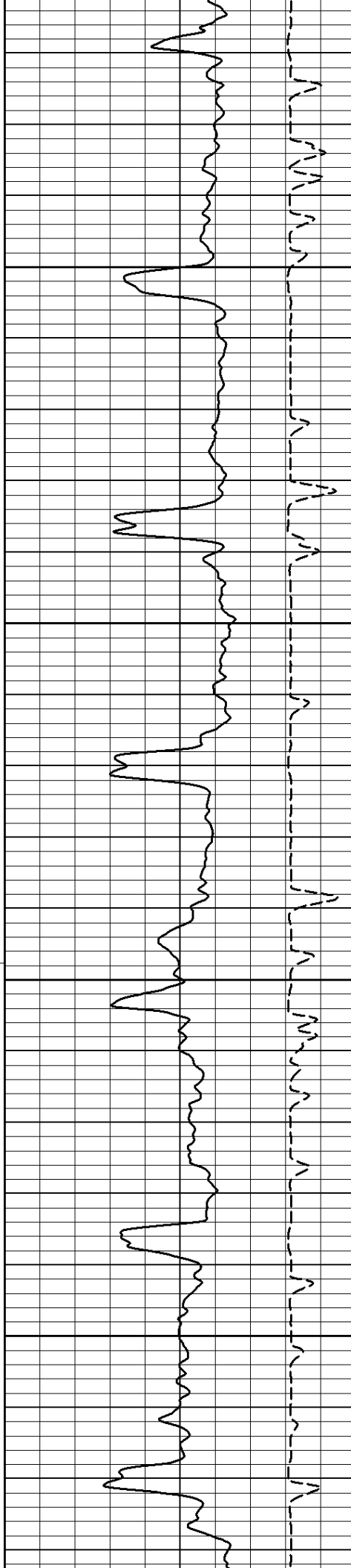


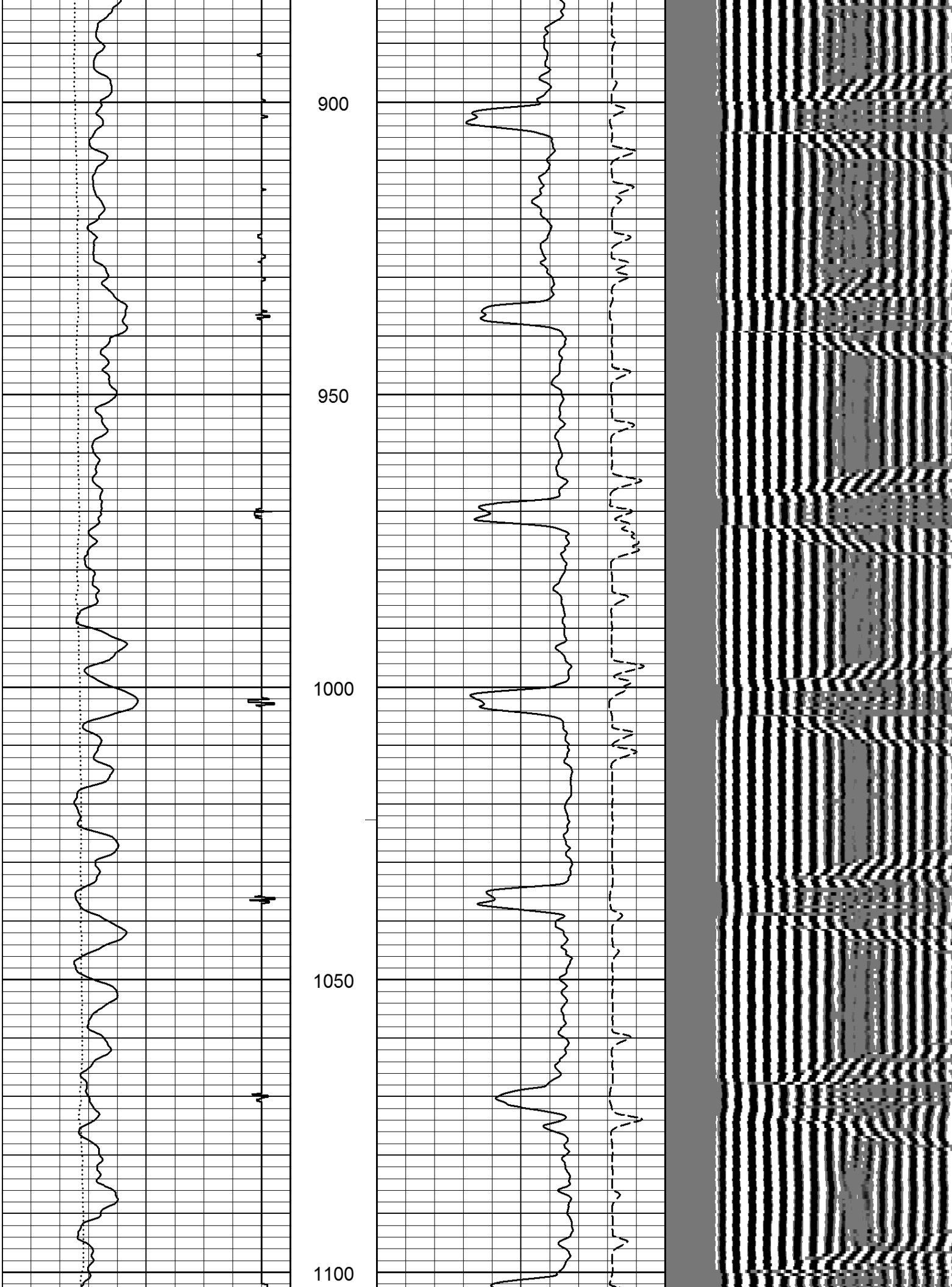
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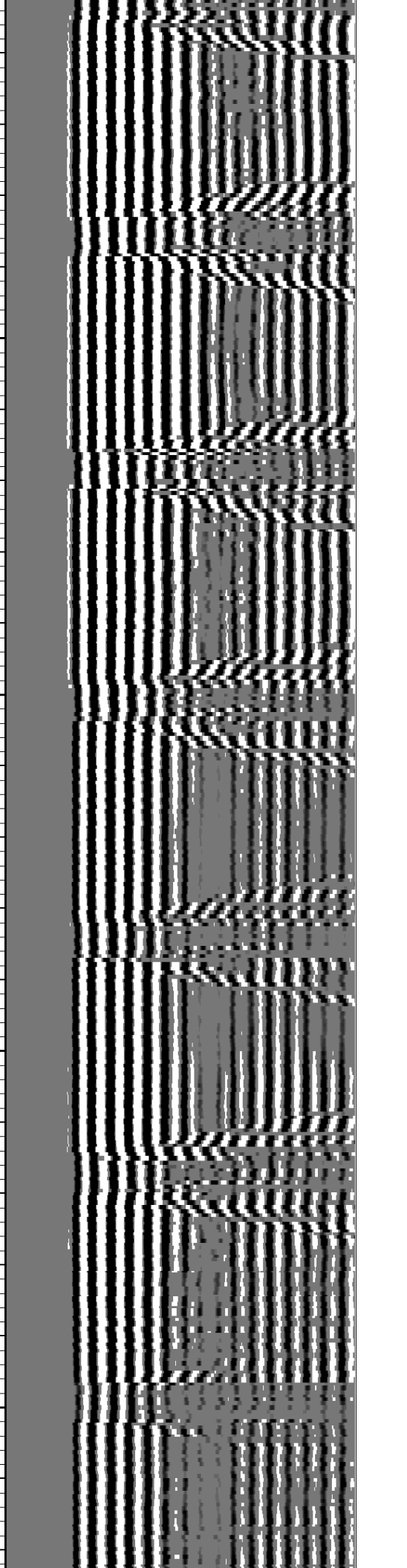
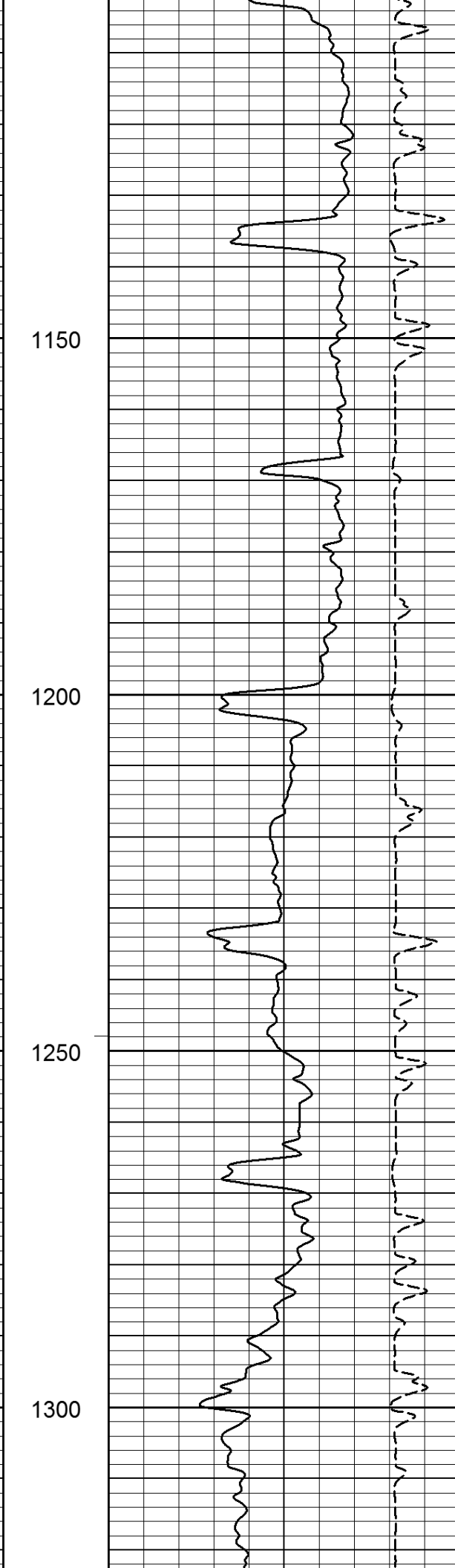
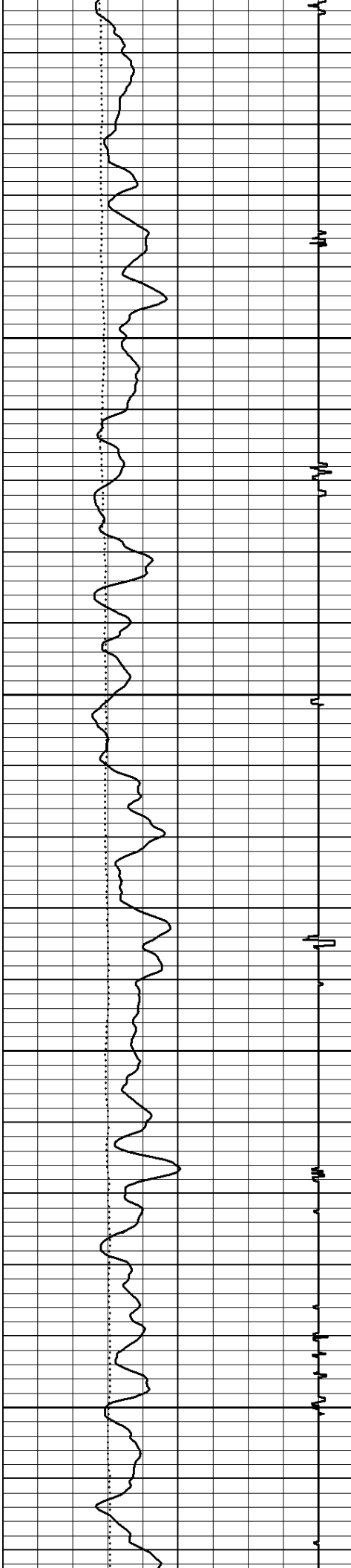
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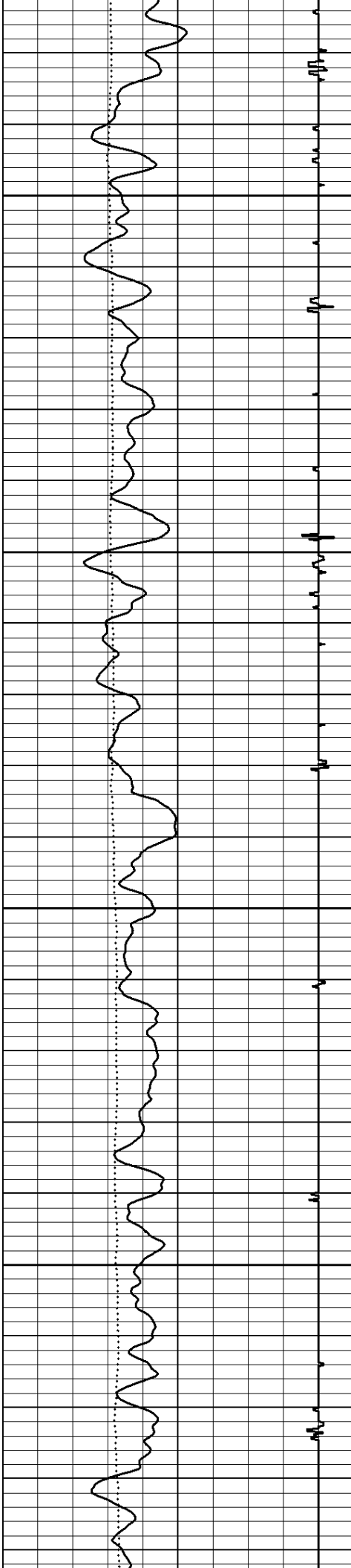
800

850







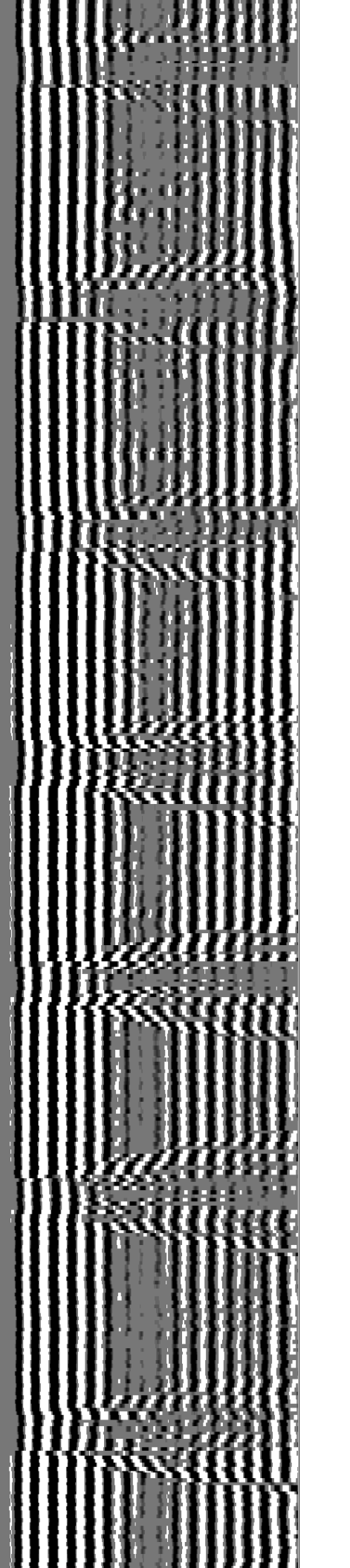
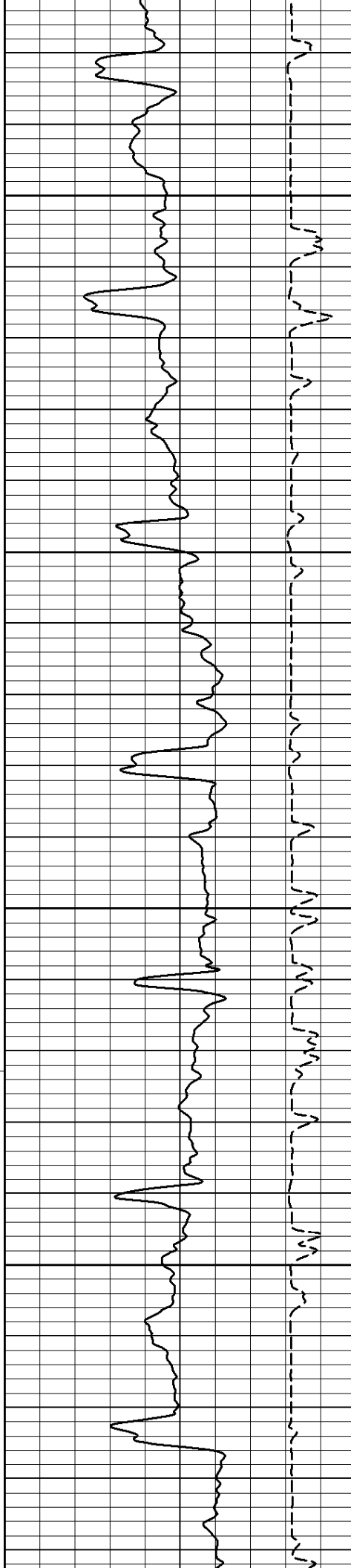


1350

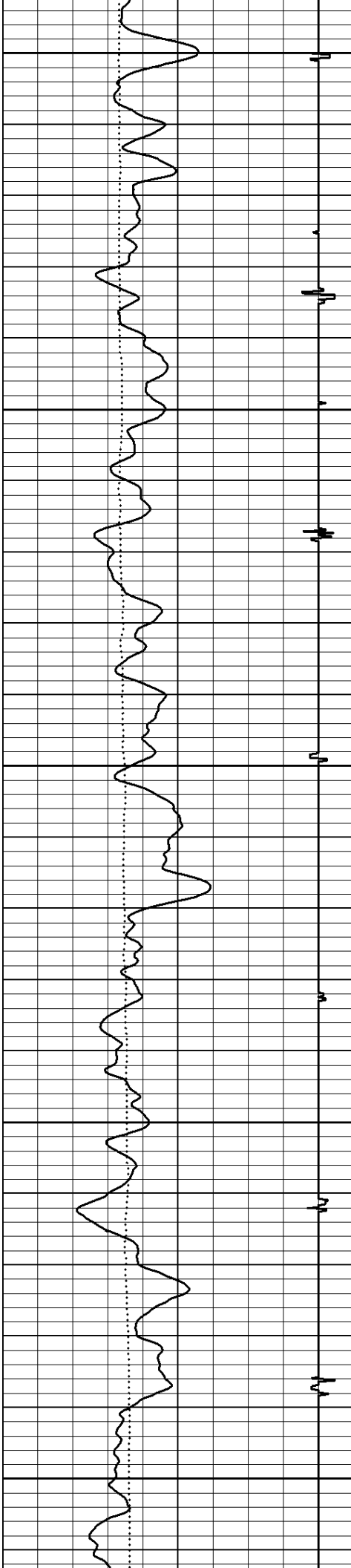
1400

1450

1500







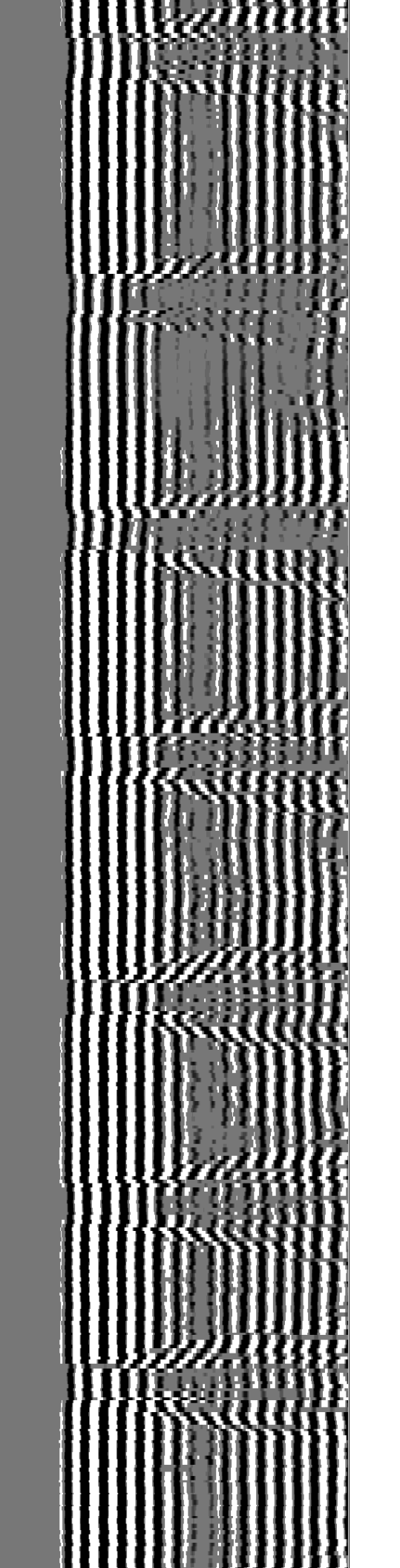
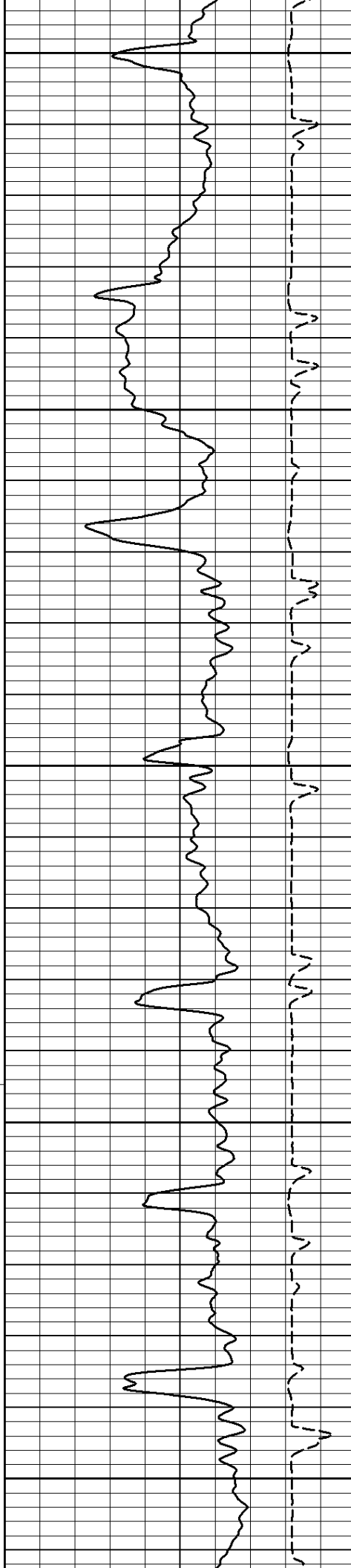
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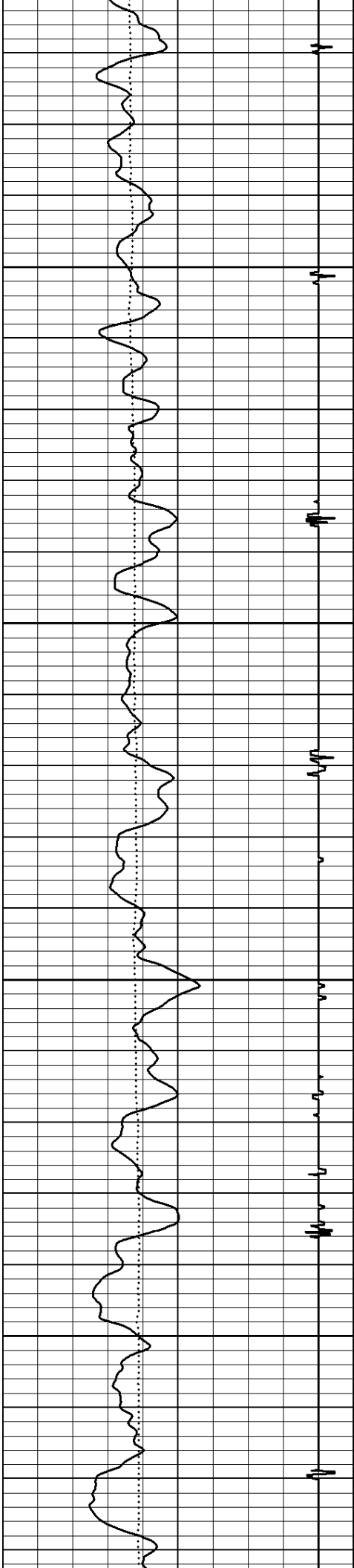
1600

1650

1700

1750



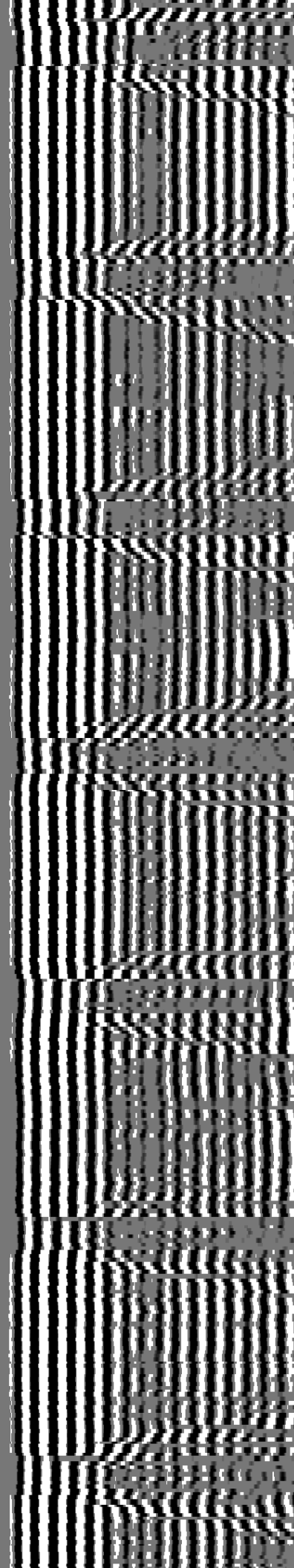
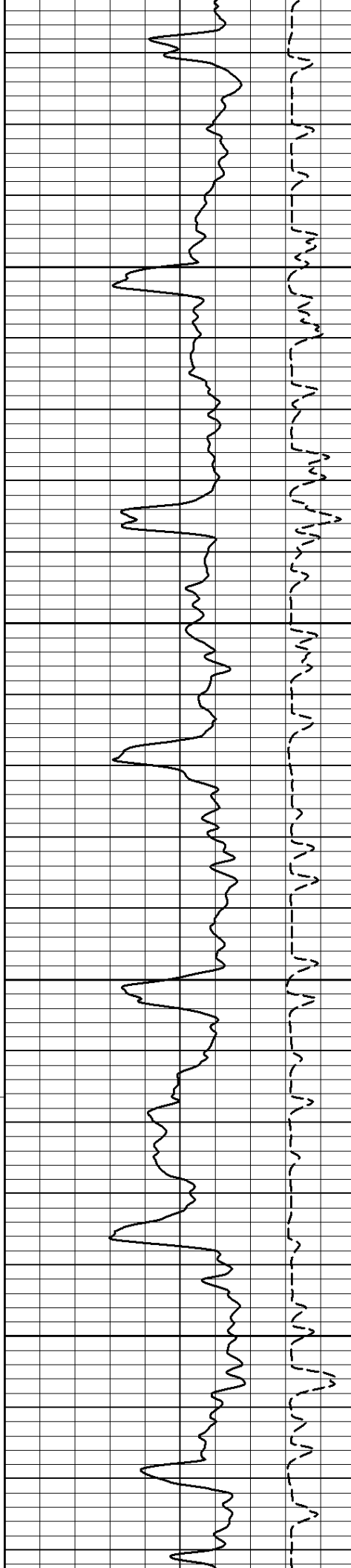


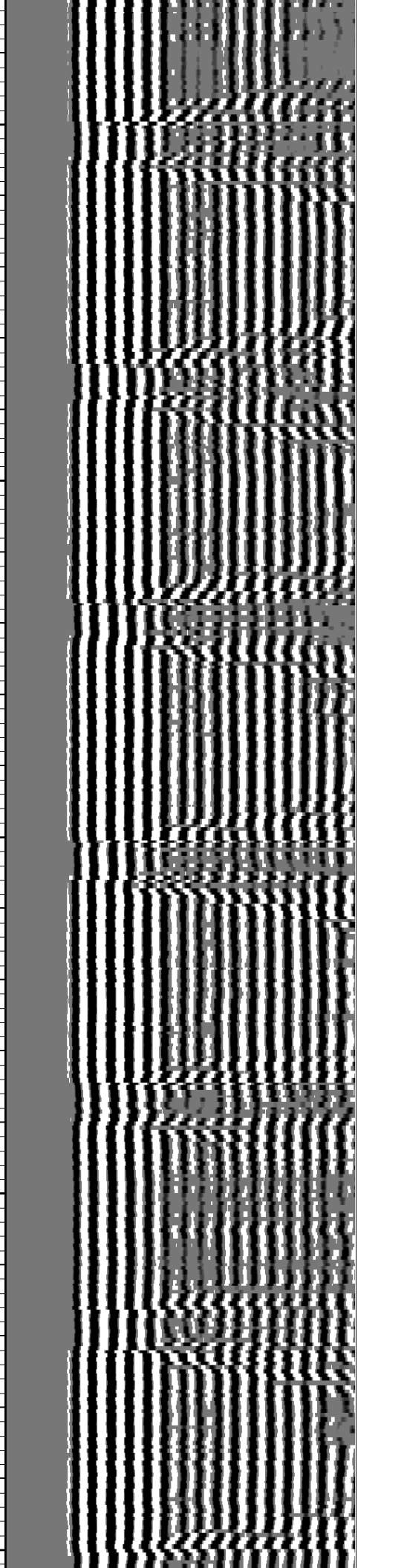
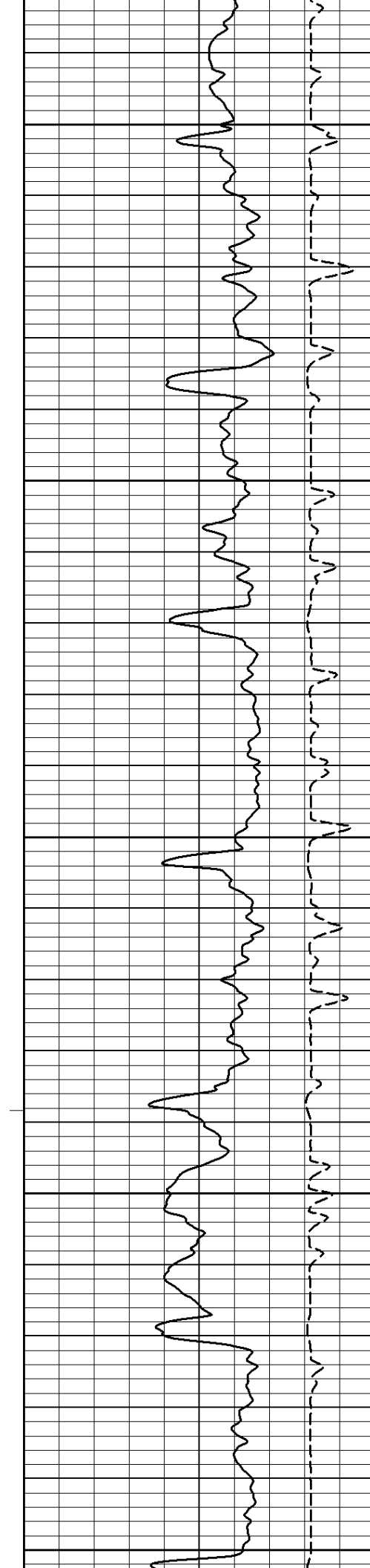
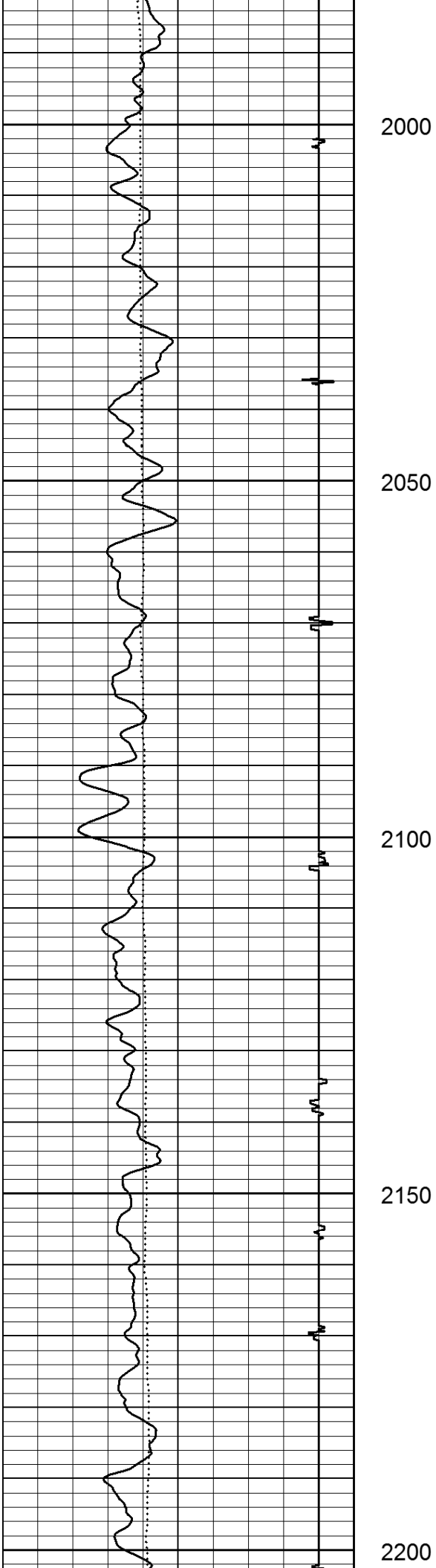
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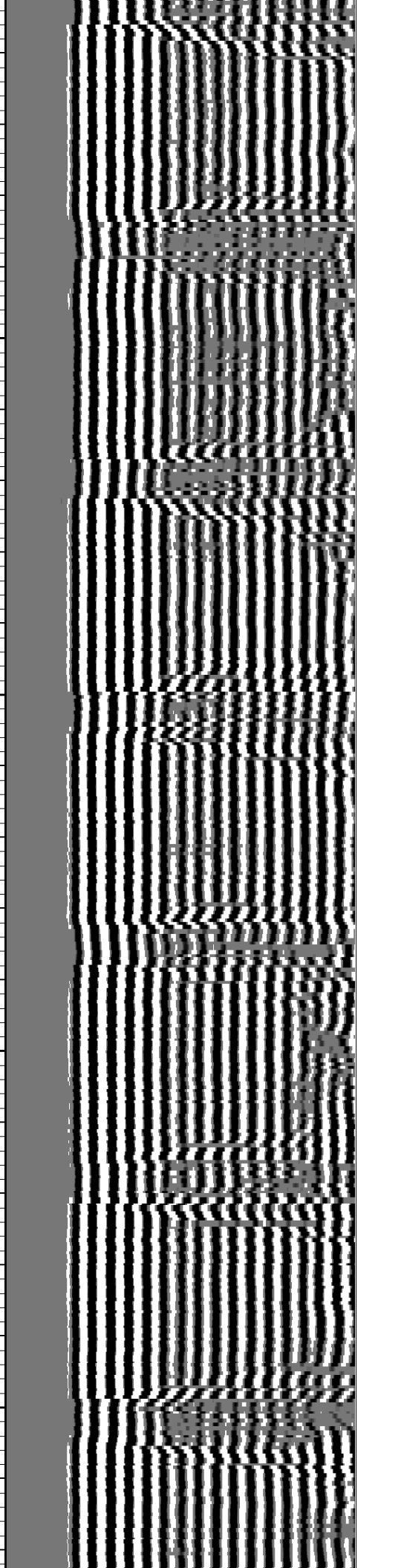
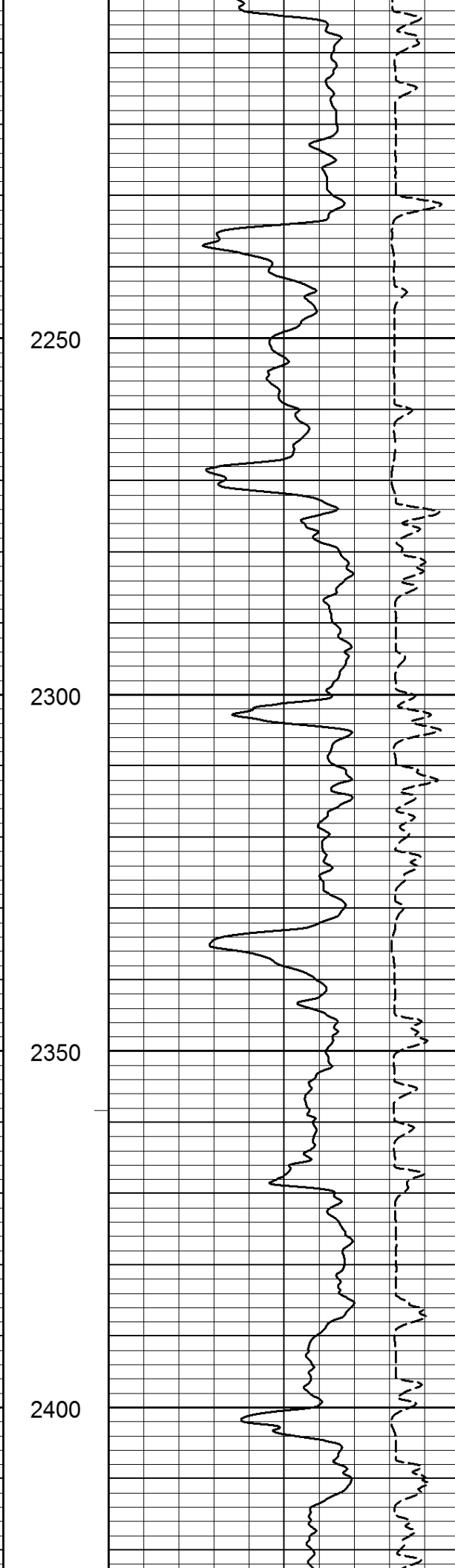
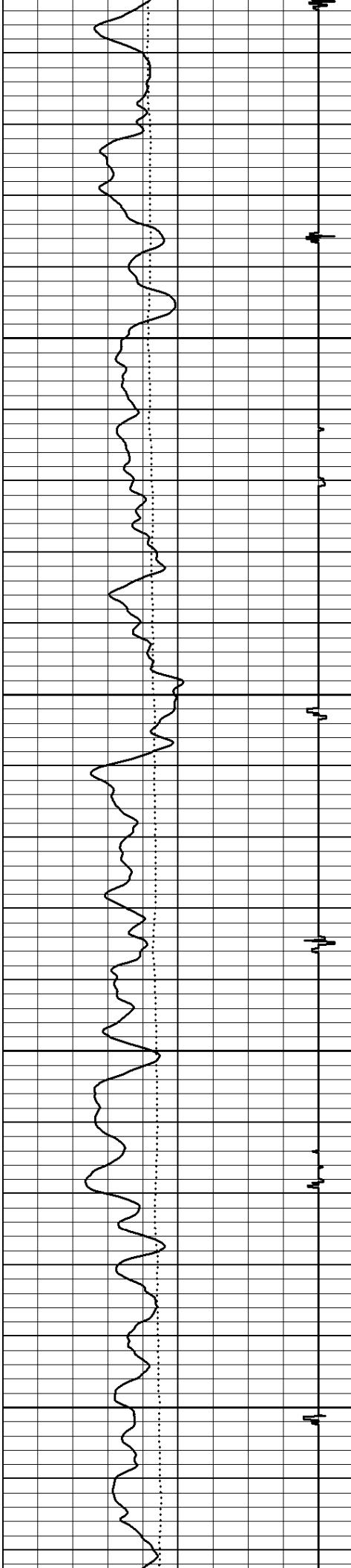
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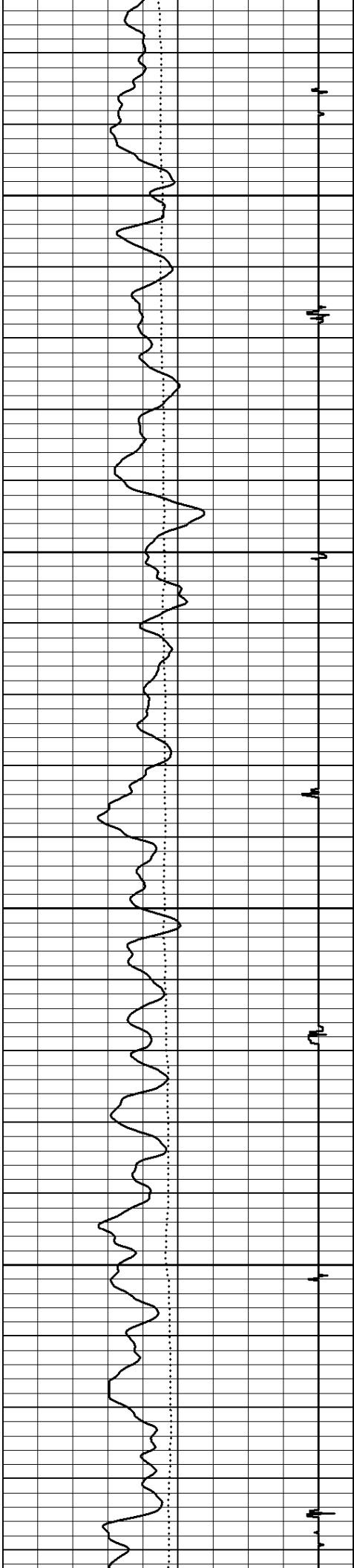
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1950







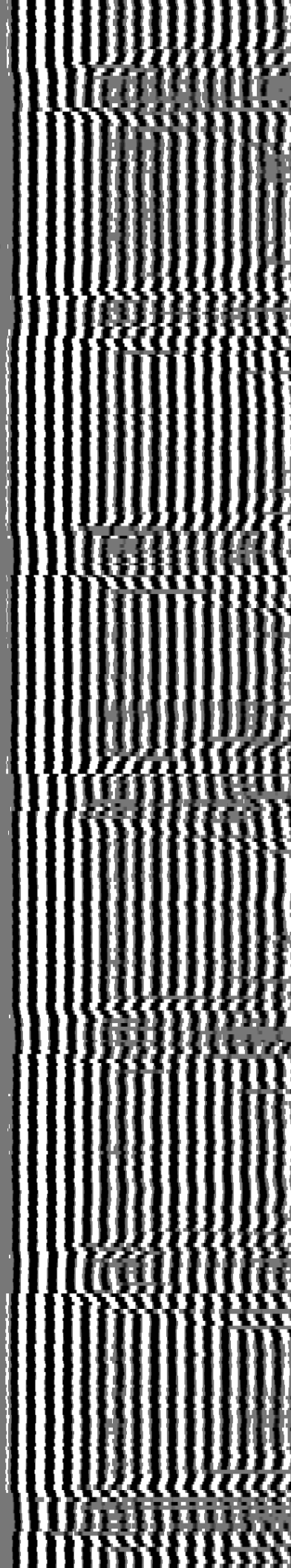
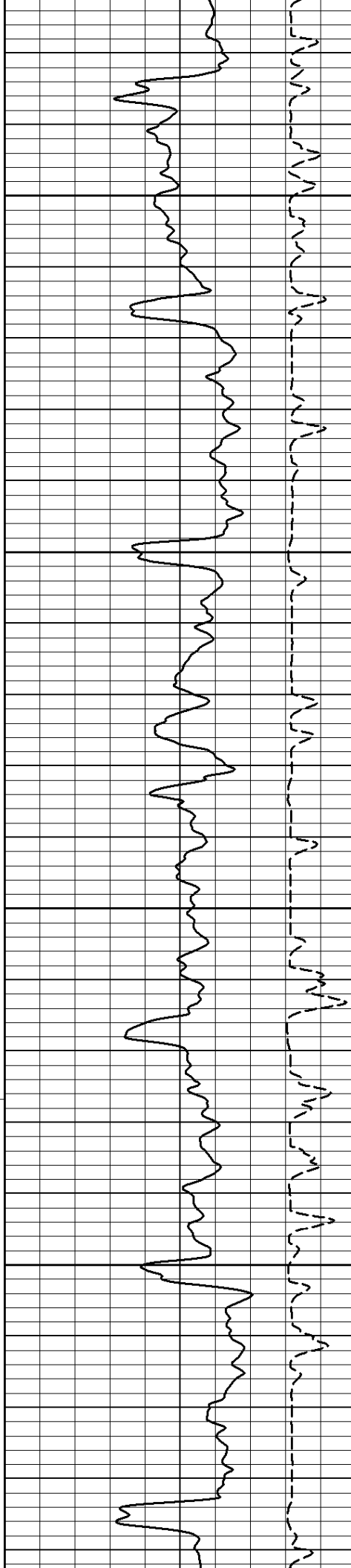


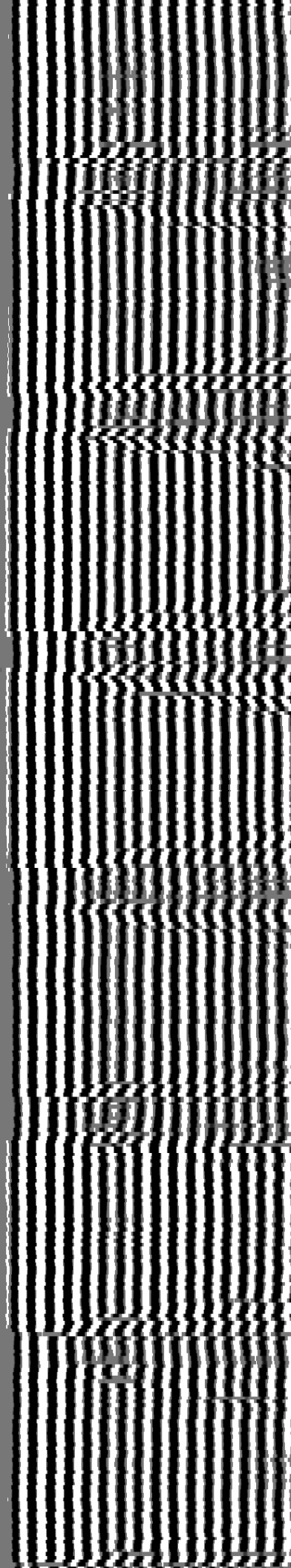
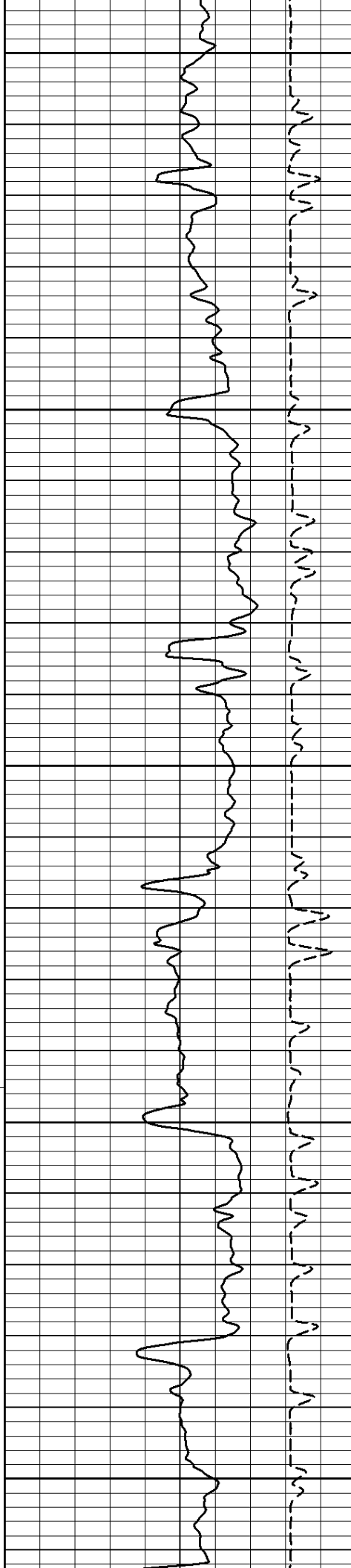
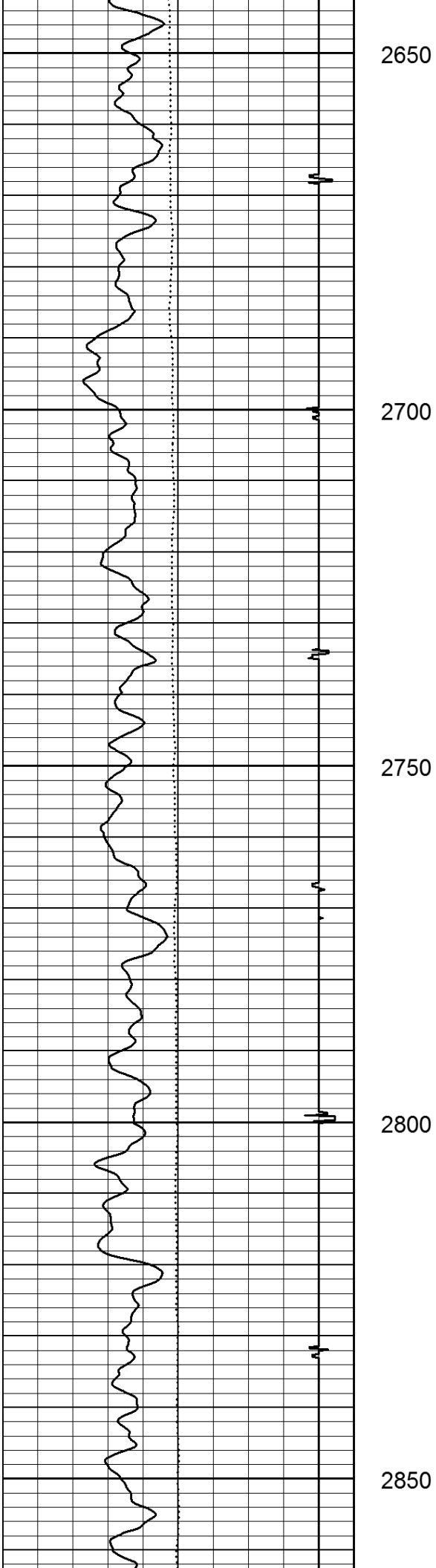
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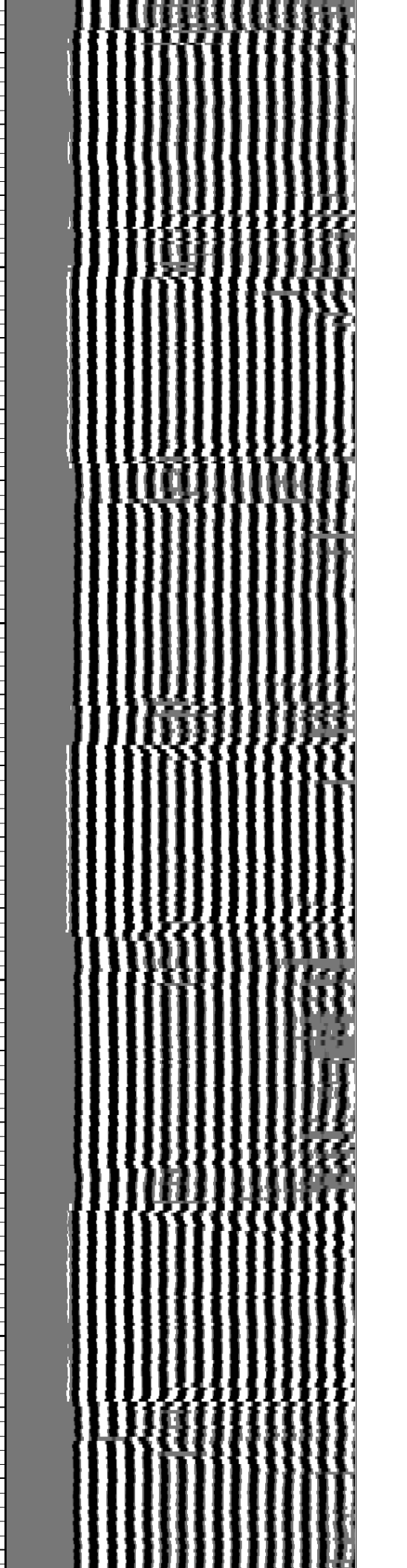
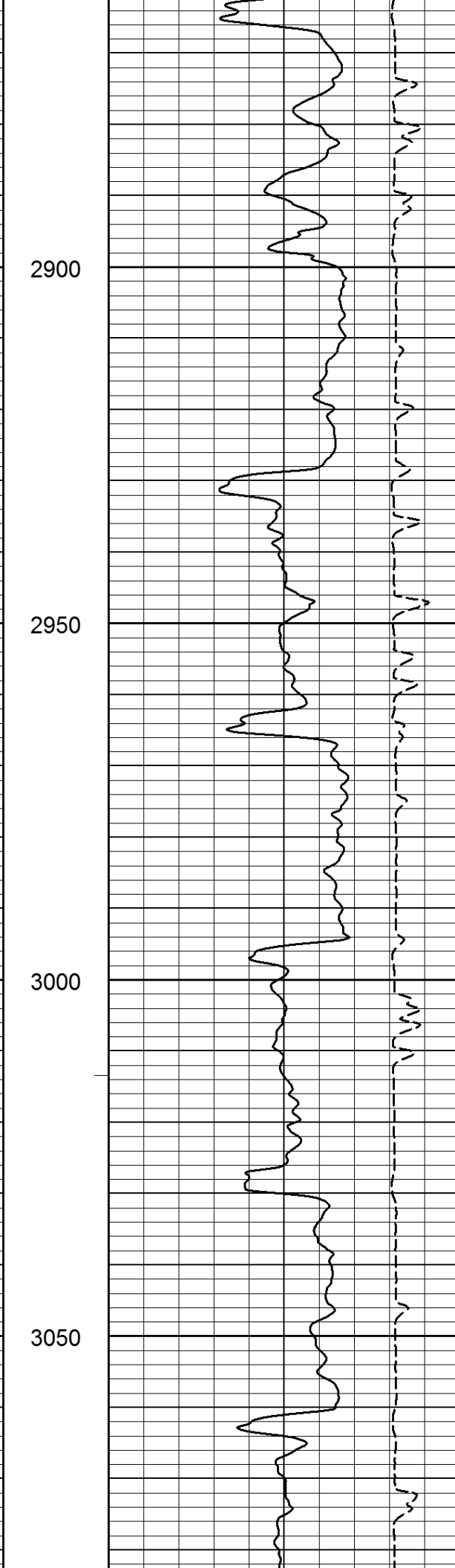
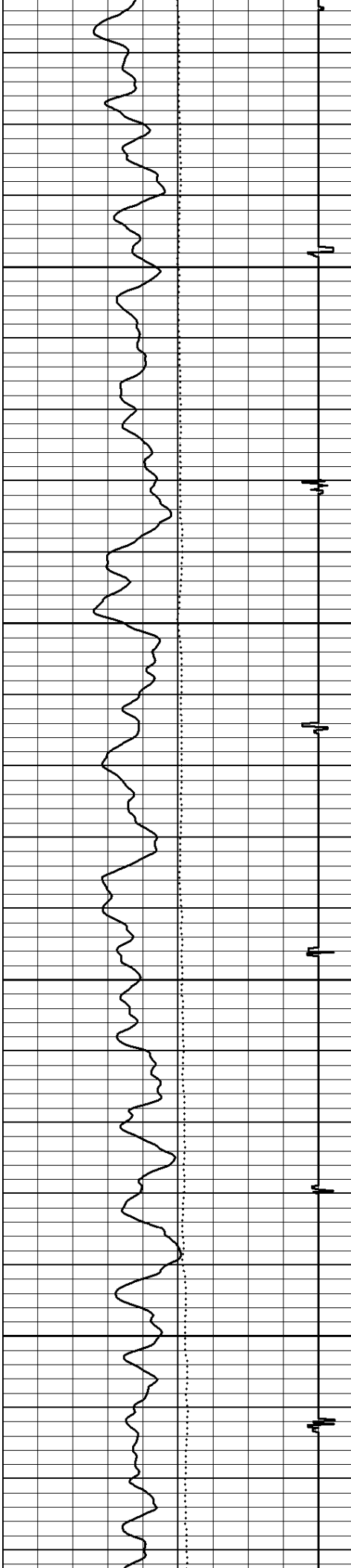
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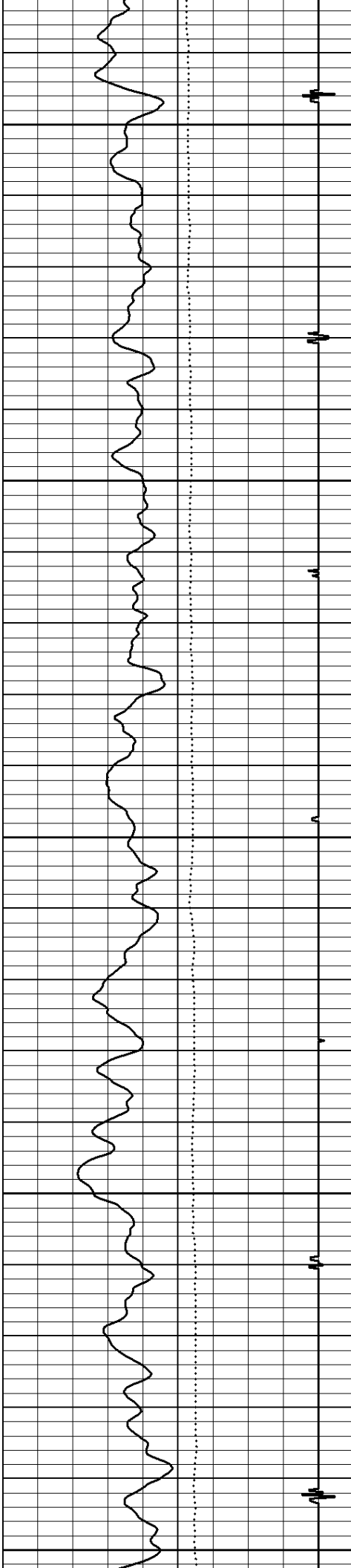
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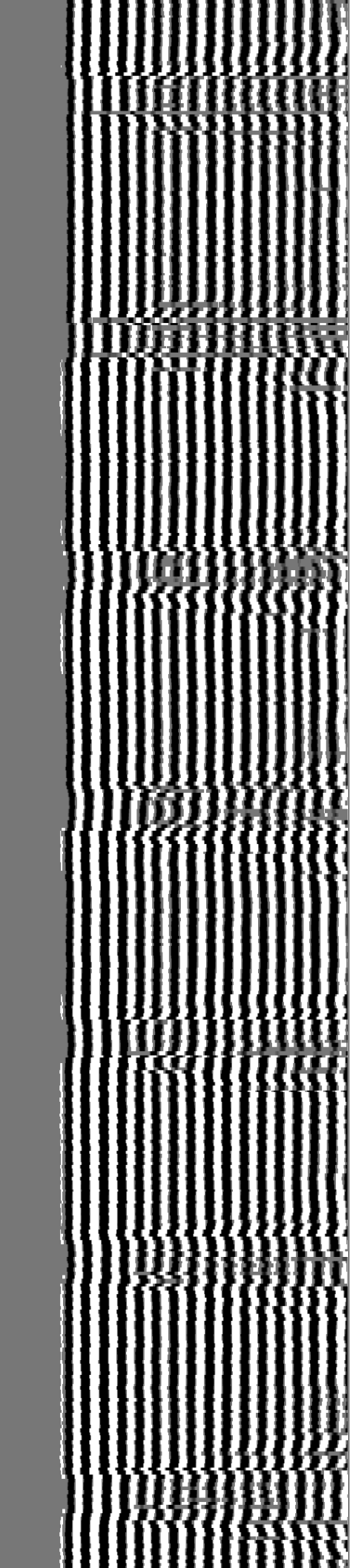
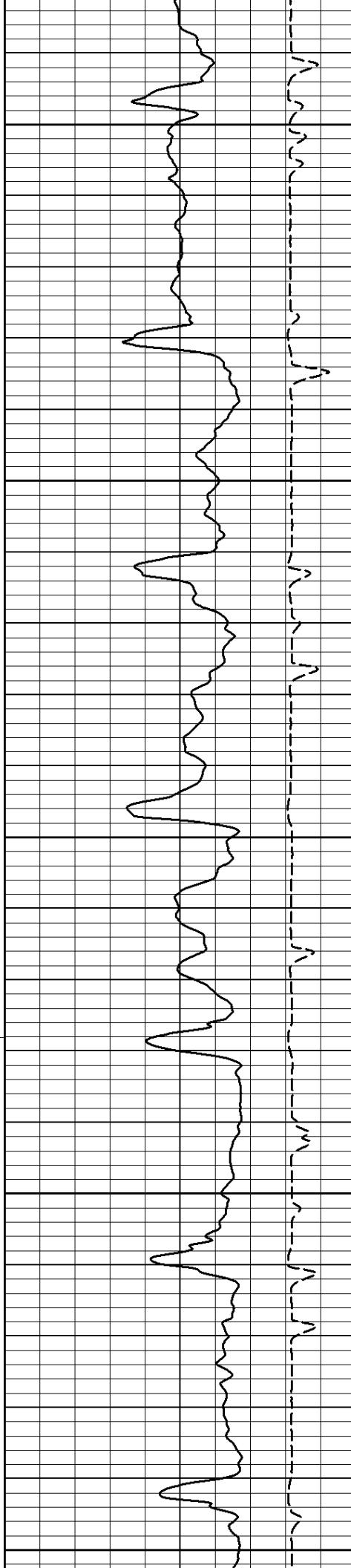
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3150

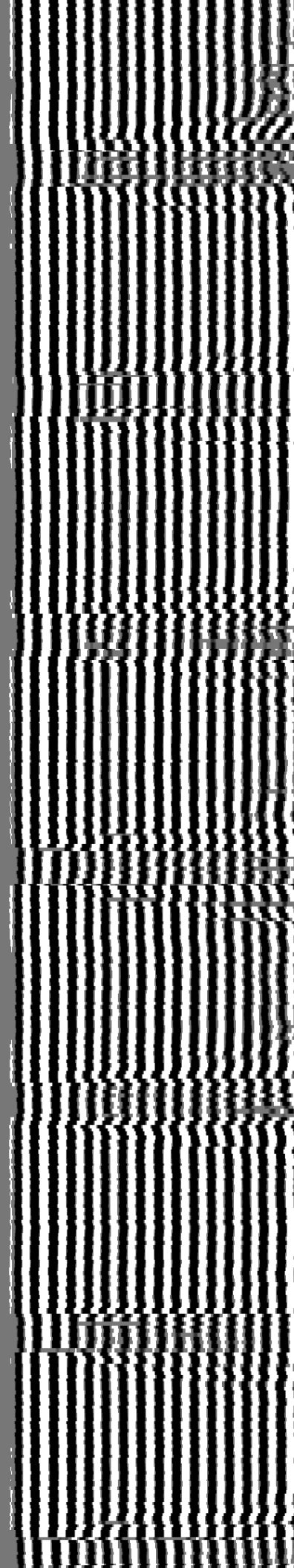
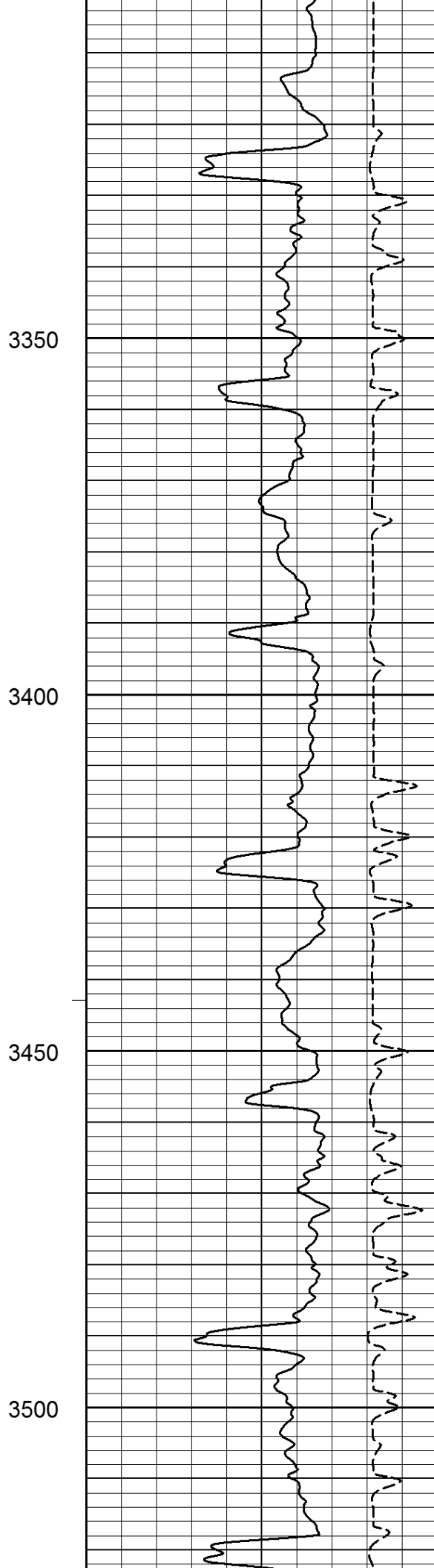
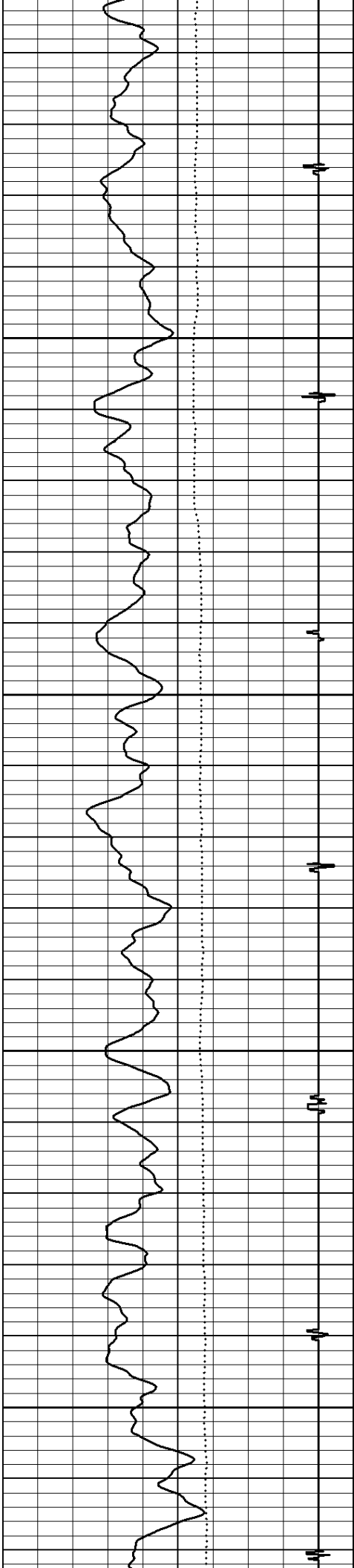
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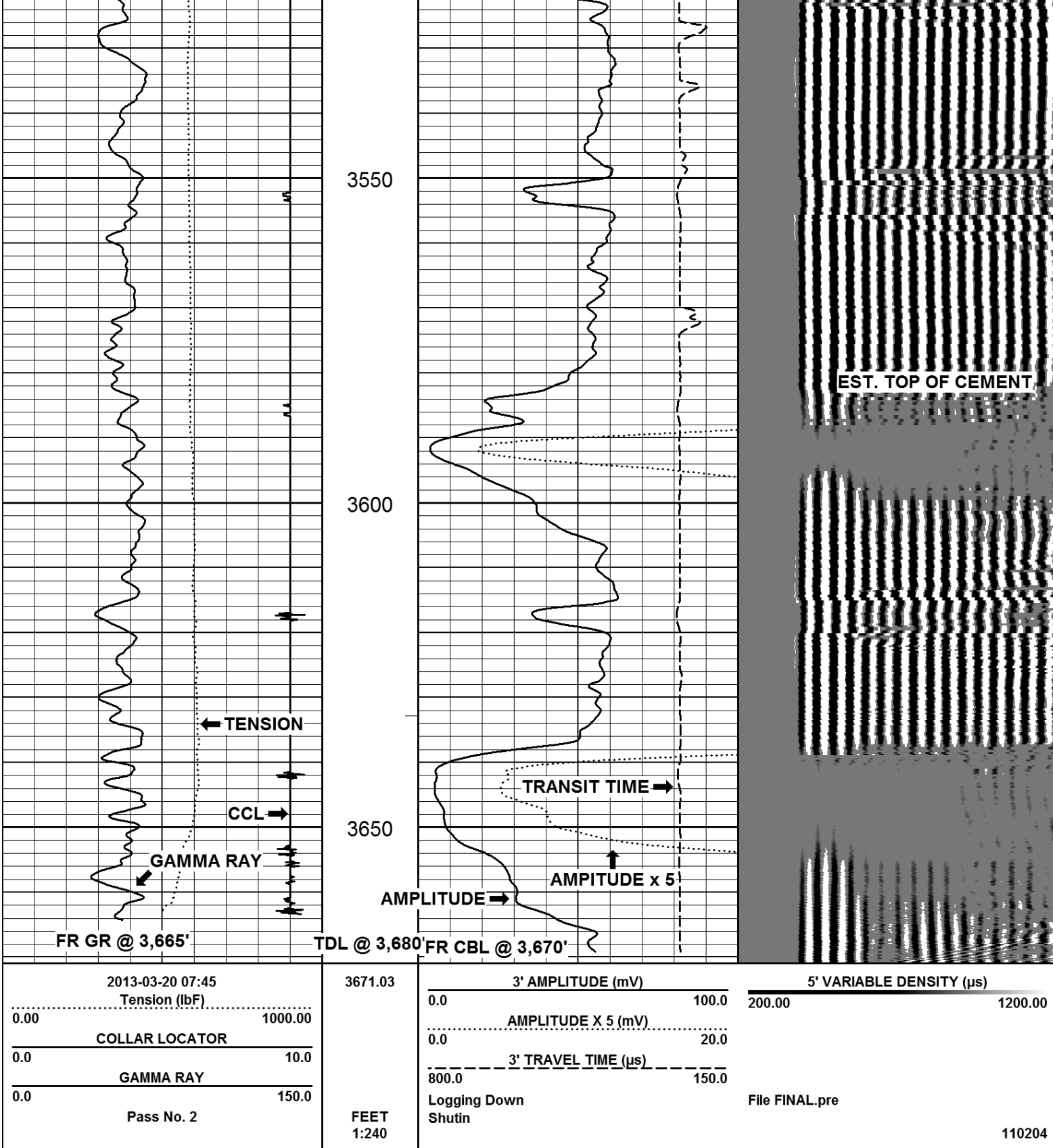
3250

3300









Company BLACK RAVEN ENERGY, INC.

Well CRONE, B F 4

Field ADENA

County MORGAN

State

COLORADO

