C&J ENERGY SERVICES

GAMMA RAY - C.C.L.
CEMENT BOND -V.D.L.

Company	NOBLE ENERGY
Well	KNAUB #5-12
Field	WATTENBERG
County	WELD
State	COLORADO

Company NOBLE ENERGY
Well KNAUB #5-12
Field WATTENBERG
County WELD **State** COLORADO

Location: API # :

SEC 5 TWP 4N RGE 65W

Other Services

Permanent Datum	G.L.	Elevation	4673
Log Measured From	K.B.		
Drilling Measured From	k.b.		

Elevation
K.B. 4683
D.F. 4682
G.L. 4673

Date	NOV.-16-2018		
Run Number	ONE		
Depth Driller	7174		
Depth Logger	7039		
Bottom Logged Interval	7036		
Top Log Interval	-0-		
Casing Size			
Type Fluid	WATER		
Max. Recorded Temp.			
Estimated Cement Top			
Time Well Ready			
Time Logger On Bottom			
Unit Number	200128		
Tool Size / ID Number	1 11/16 PROBE		
Location	STERLING		
Recorded By	R.GARDNER		
Witnessed By	JESS JACOBS		

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	4 1/2			
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

Calibration Report

Database File: knaub5-12.db
Dataset Pathname: pass5
Dataset Creation: Fri Nov 16 15:03:41 2018 by Log 7.0 B1

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

	Counts/Sec.	Gain	Offset	Jig	Units
SHOP CALIBRATION	Fri Nov 08 09:38:30 2013				
Background	0.0				cps
Calibrator	1.0				cps
		0.4400			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

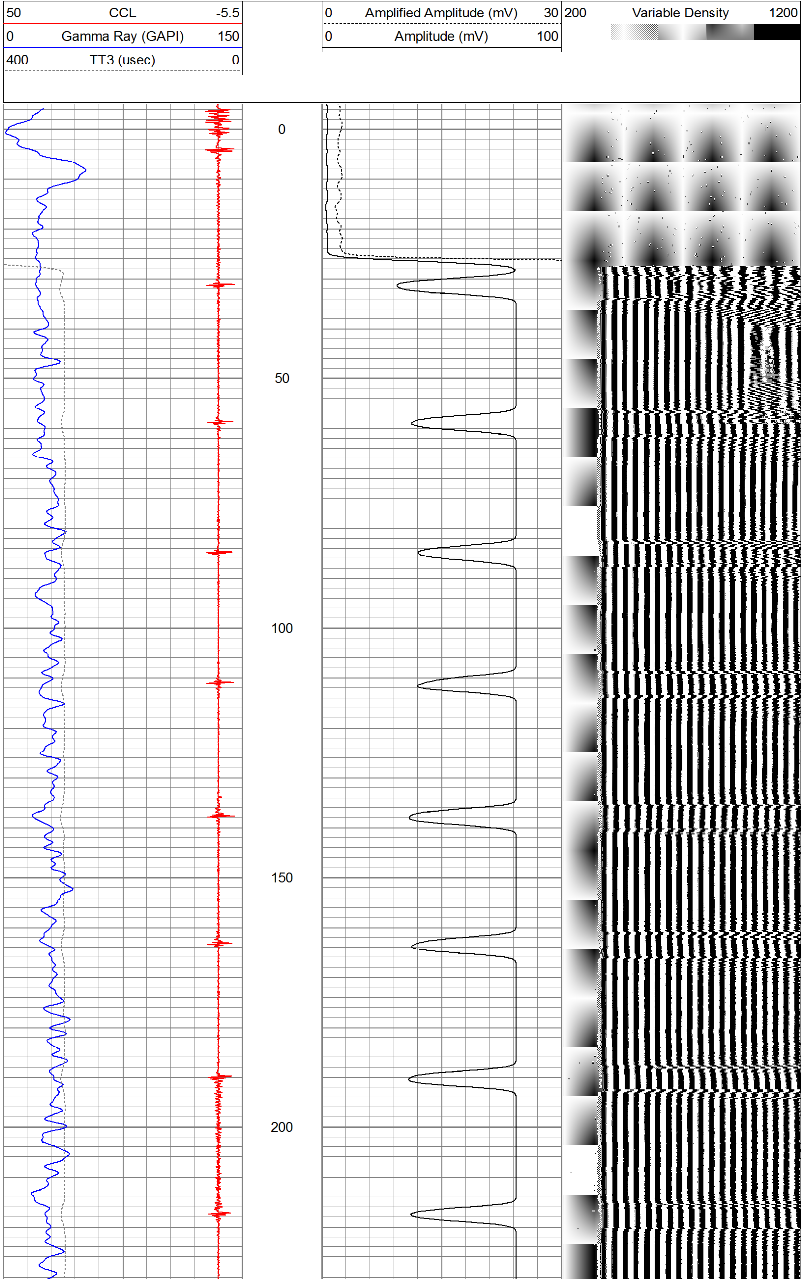
Cement Bond Log Calibration Report

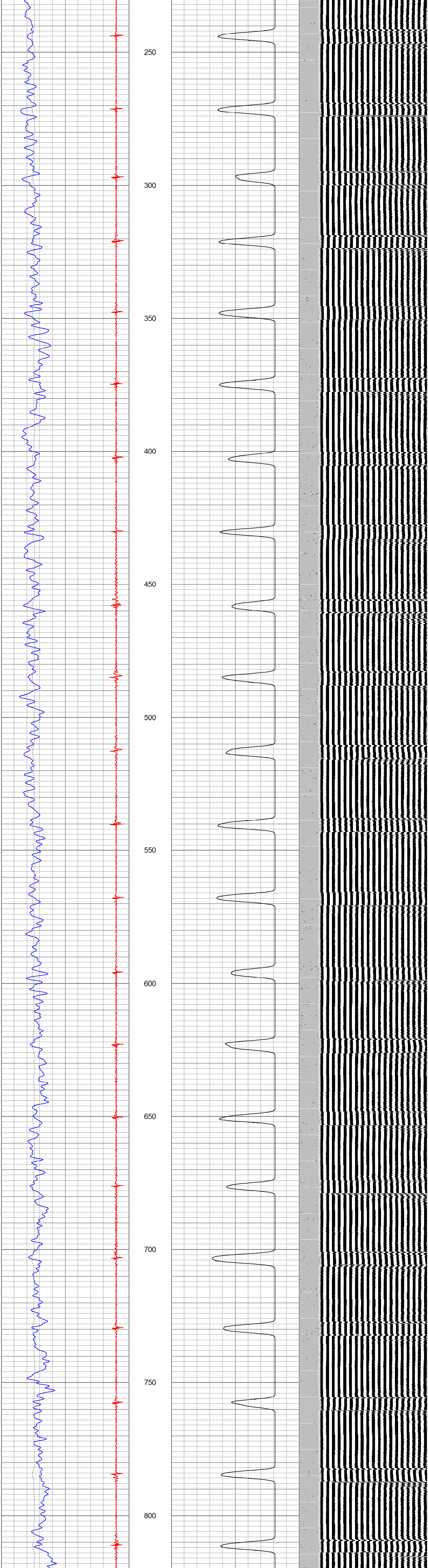
Serial Number: 110802
Tool Model: Probe275Digital
Performed: Fri Nov 16 14:46:21 2018

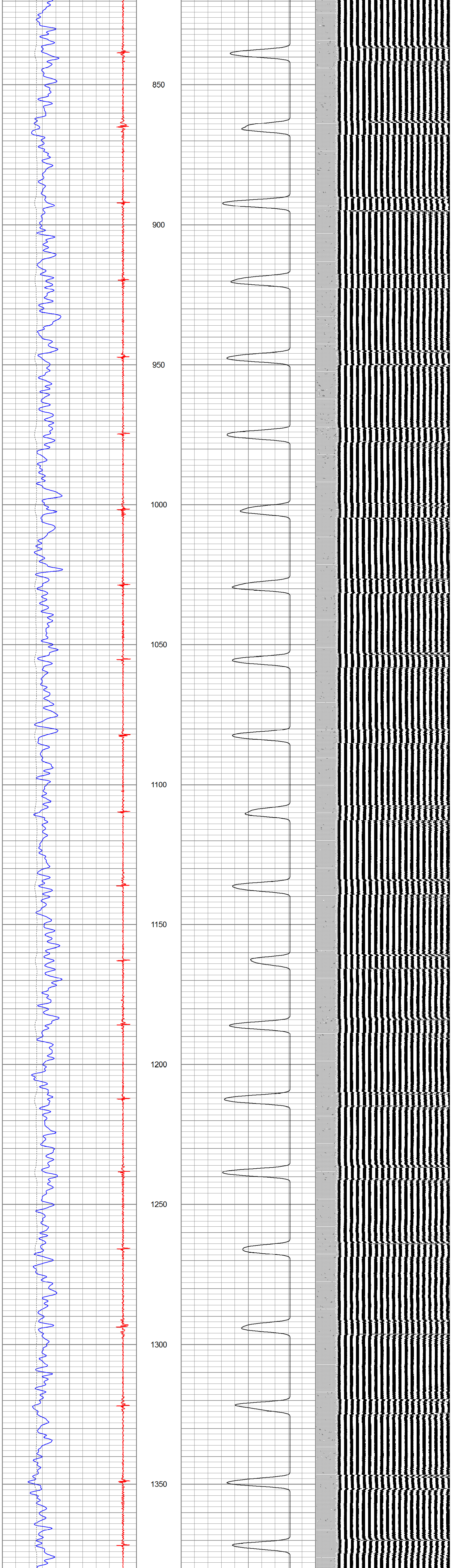
Depth: 2833.51 ft
Casing Diameter: 4.5 in

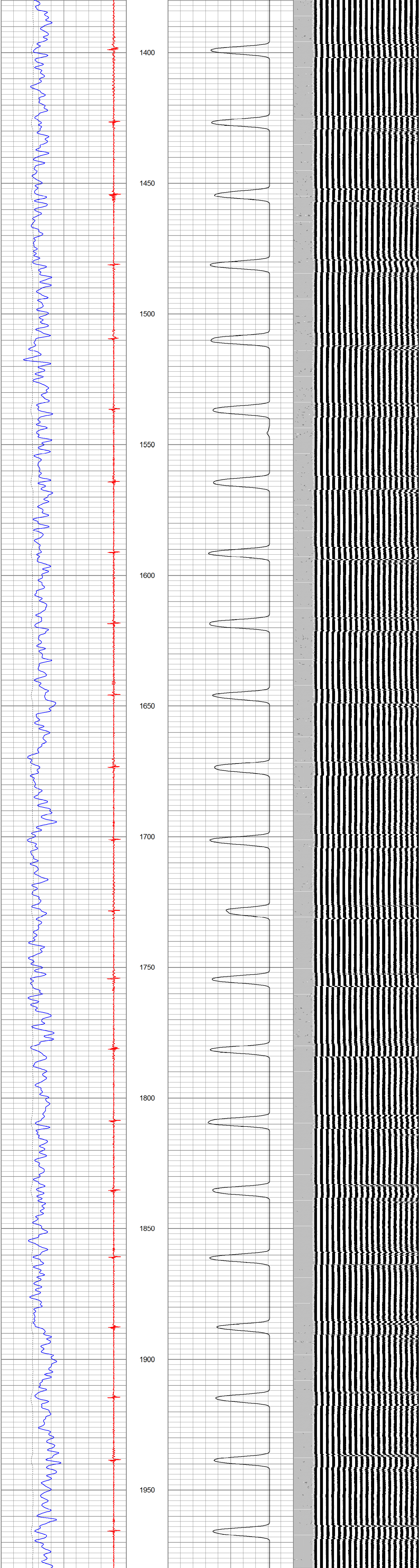
	3' Spacing	5' Spacing	
Signal Zero:	0.7	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	0.00134277	0.00117188	V
Reading in Free Pipe:	2.49878	2.49878	V
Gain:	32.2315	32.5096	
Offset:	0.656721	-0.0380973	

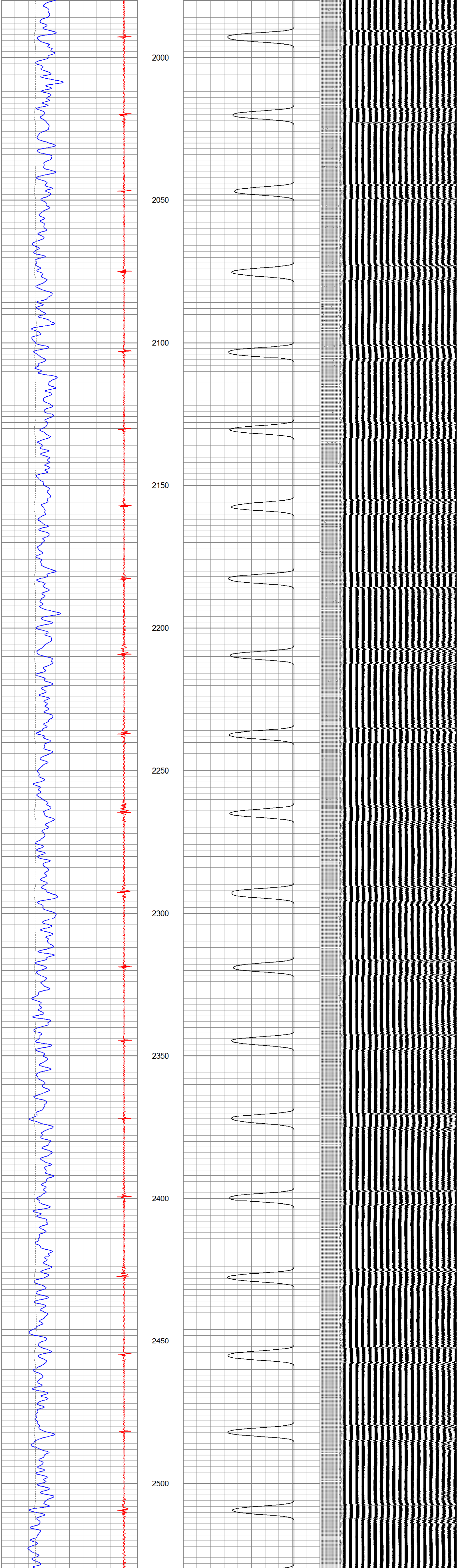
Database File: knaub5-12.db
Dataset Pathname: pass5
Presentation Format: noble en
Dataset Creation: Fri Nov 16 15:03:41 2018 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

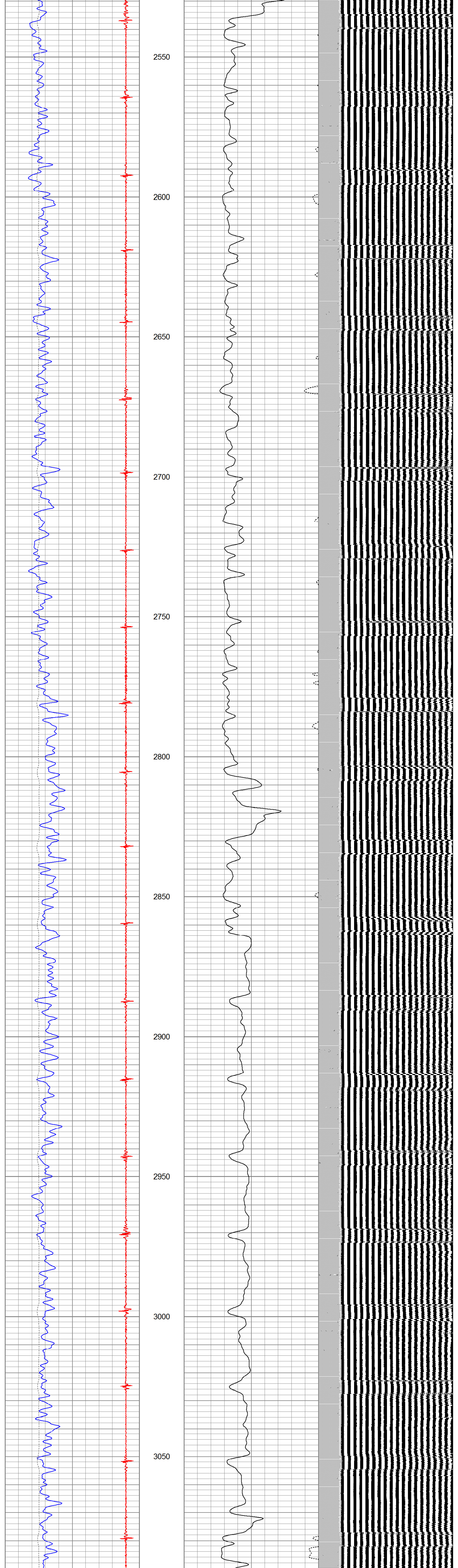


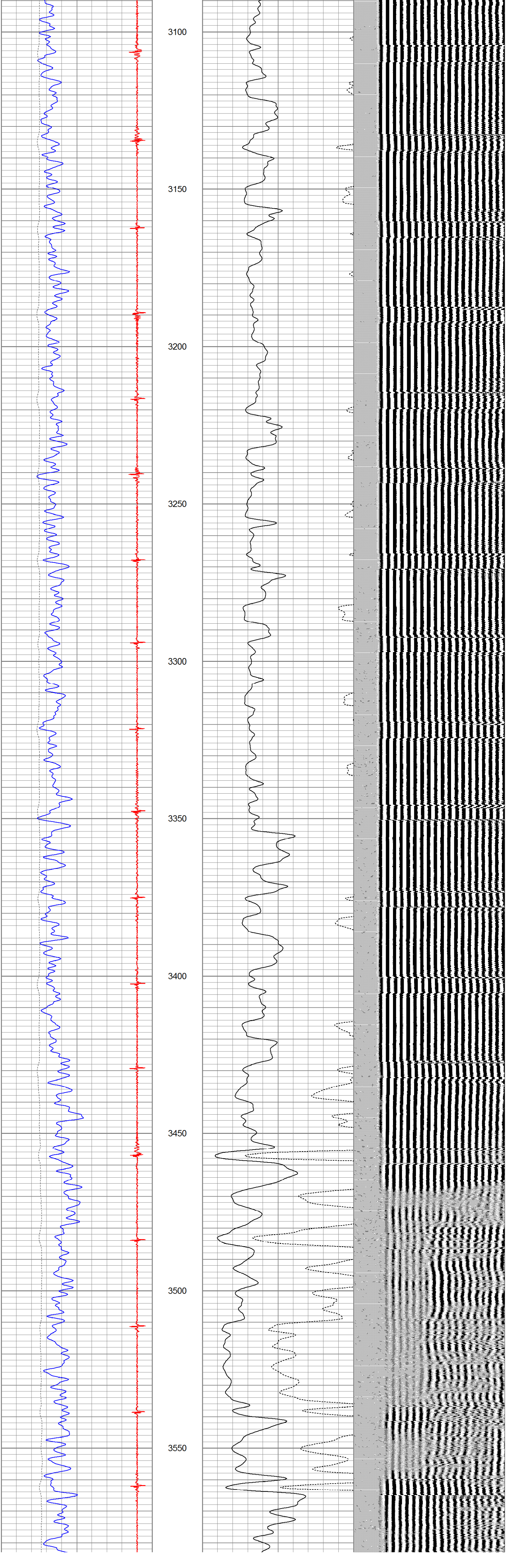


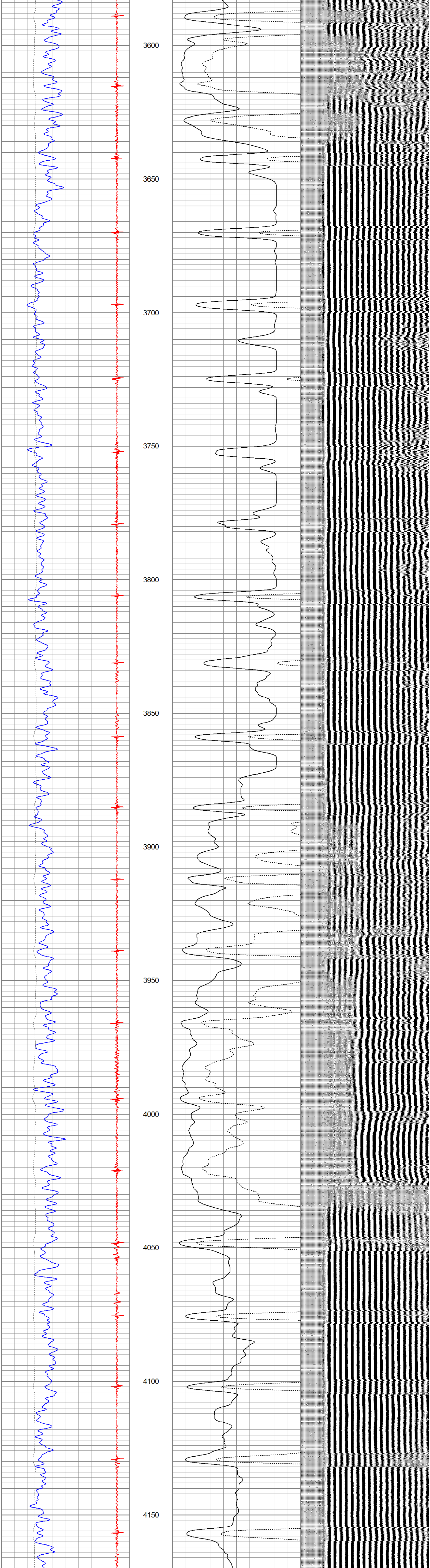








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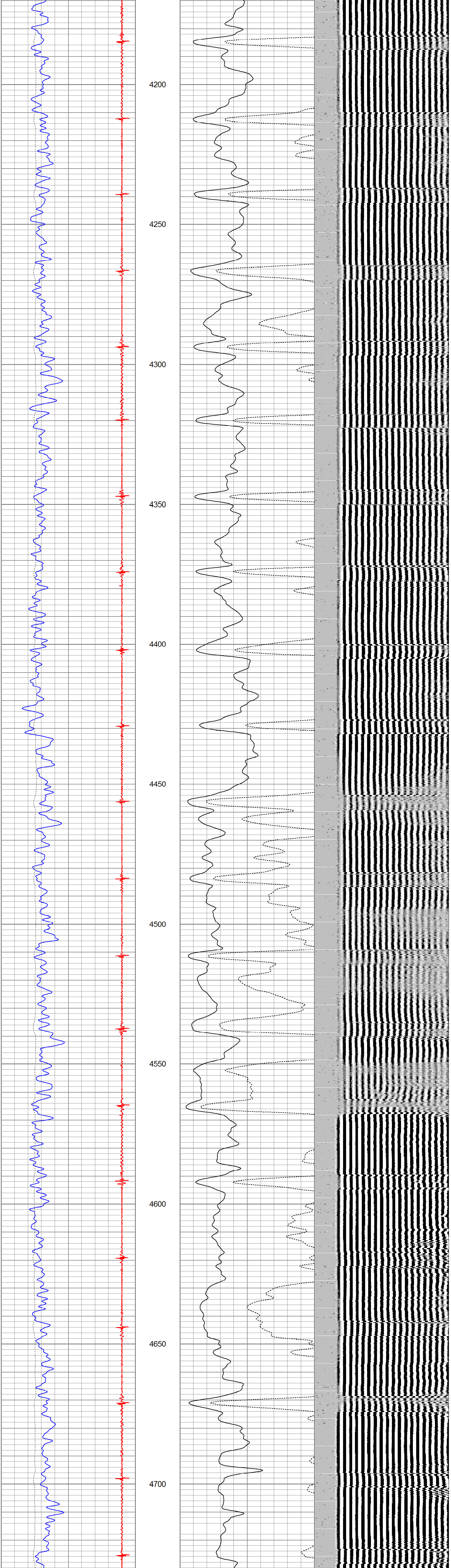
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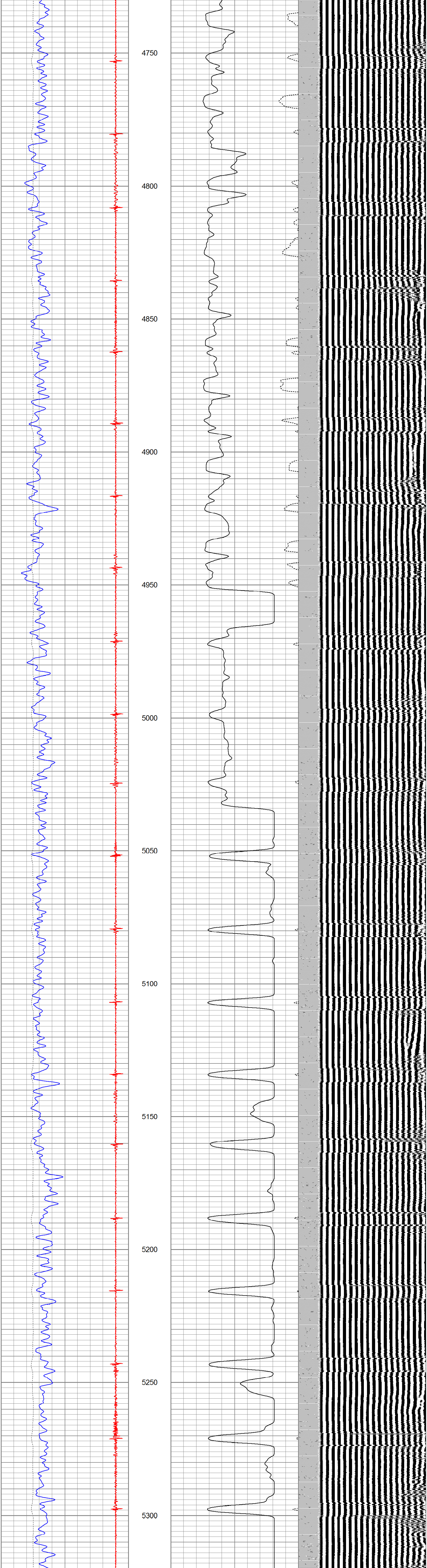
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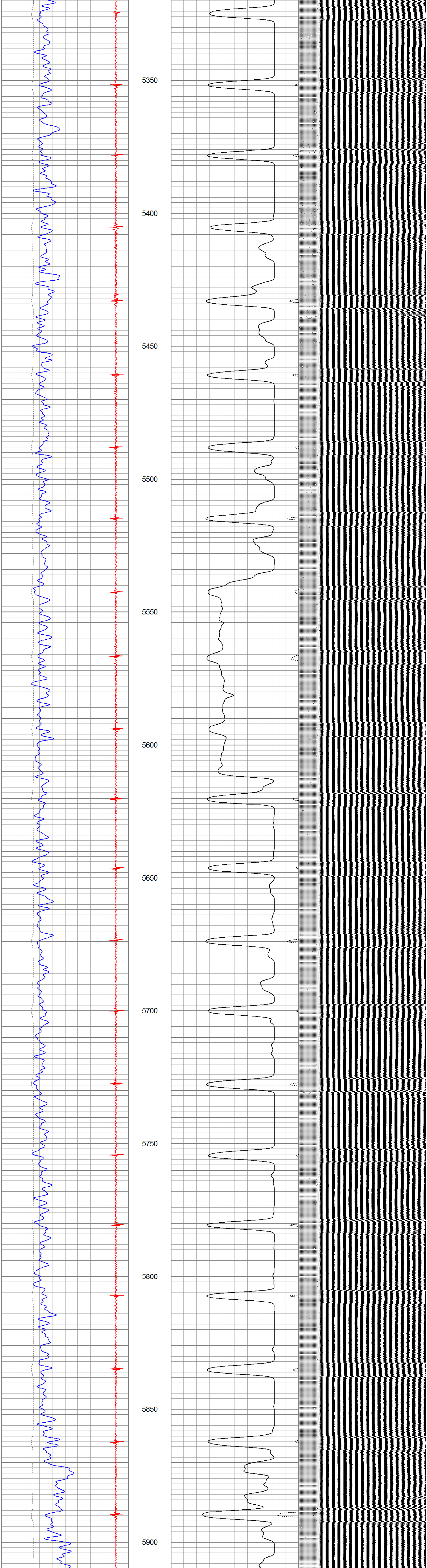
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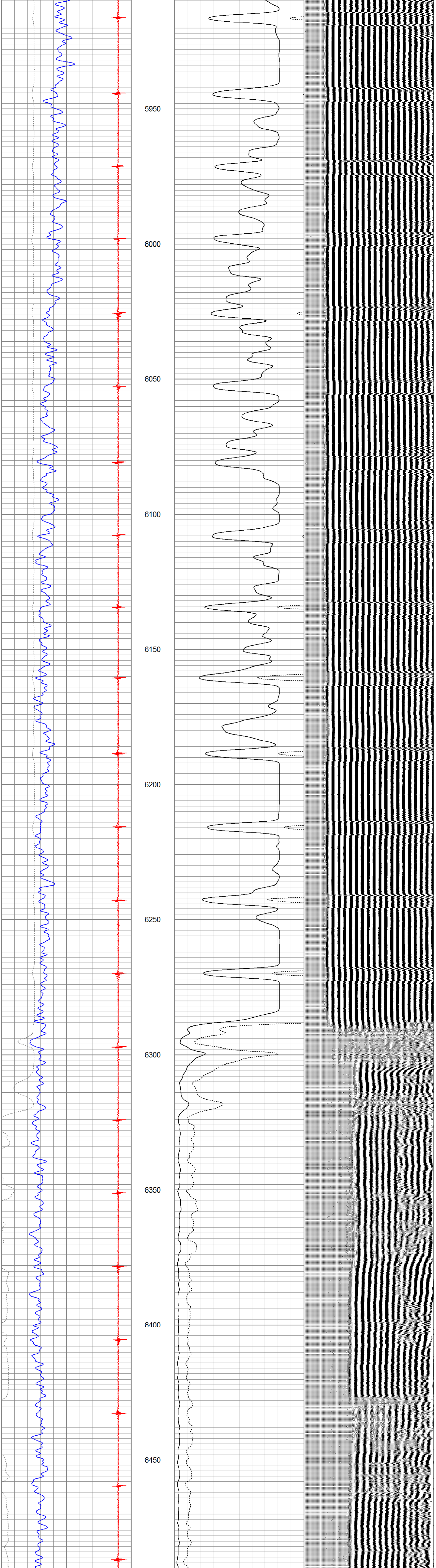
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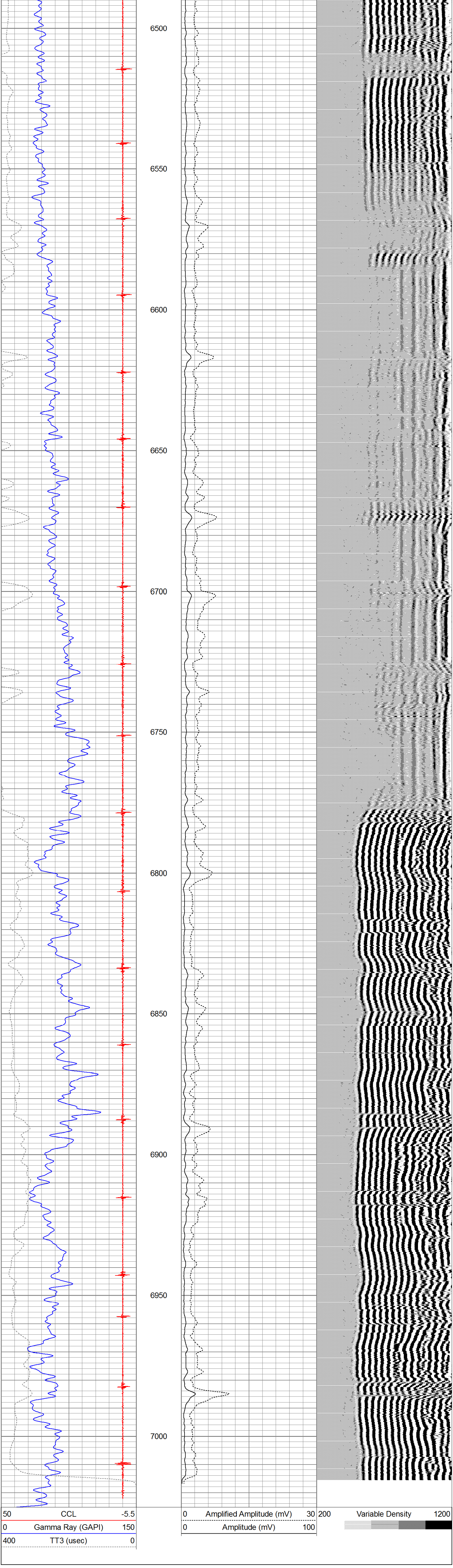
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6600
6650
6700
6750
6800
6850
6900
6950
7000
50
CCL
-5.5
0
Gamma Ray (GAPI)
150
400
TT3 (usec)
0
0
Amplified Amplitude (mV)
30
0
Amplitude (mV)
100
200
Variable Density
1200