



CEMENT BOND  
GAMMA RAY  
CCL TEMP LOG  
3000 PSI PASS

Company	GREAT WESTERN OIL & GAS		Country	USA
Well	SELTZER LD 21 031HC			
Field	WATTENBURG			
County	ADAMS			
State	COLORADO			
Location:			API # : 05-001-10199	Other Services
SEC 4 TWP 1S RGE 67W			LAT 39.99899	
			LONG-104.892422	
Permanent Datum	GL	Elevation		
Log Measured From	KELLY BUSHING 20'			
Drilling Measured From	KELLY BUSHING			
		Elevation		
		K.B. 5159.5'		
		D.F. 5157'		
		G.L. 5139.5'		

Date	DEC 12 2018		
Run Number	ONE		
Depth Driller	23960'		
Depth Logger	7960'		
Bottom Logged Interval	7960'		
Top Log Interval	SURFACE		
Open Hole Size	NA		
Type Fluid	WATER		
Density / Viscosity	8.4#		
Max. Recorded Temp.	224 DEG F		
Estimated Cement Top	LOGGED		
Time Well Ready	1427		
Time Logger on Bottom	1500		
Equipment Number	79		
Location	PLATTVILLE		
Recorded By	S. CORNETT		
Witnessed By	D. POZAS		
Borehole Record		Tubing Record	
Run Number	Bit	From	To
		Size	Weight
		From	To
Casing Record	Size	Wgt/Ft	Top
Surface String	9 5/8"	36#	SURFACE
Prot. String			
Production String	5.5"	17#	SURFACE
Liner			23960'

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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

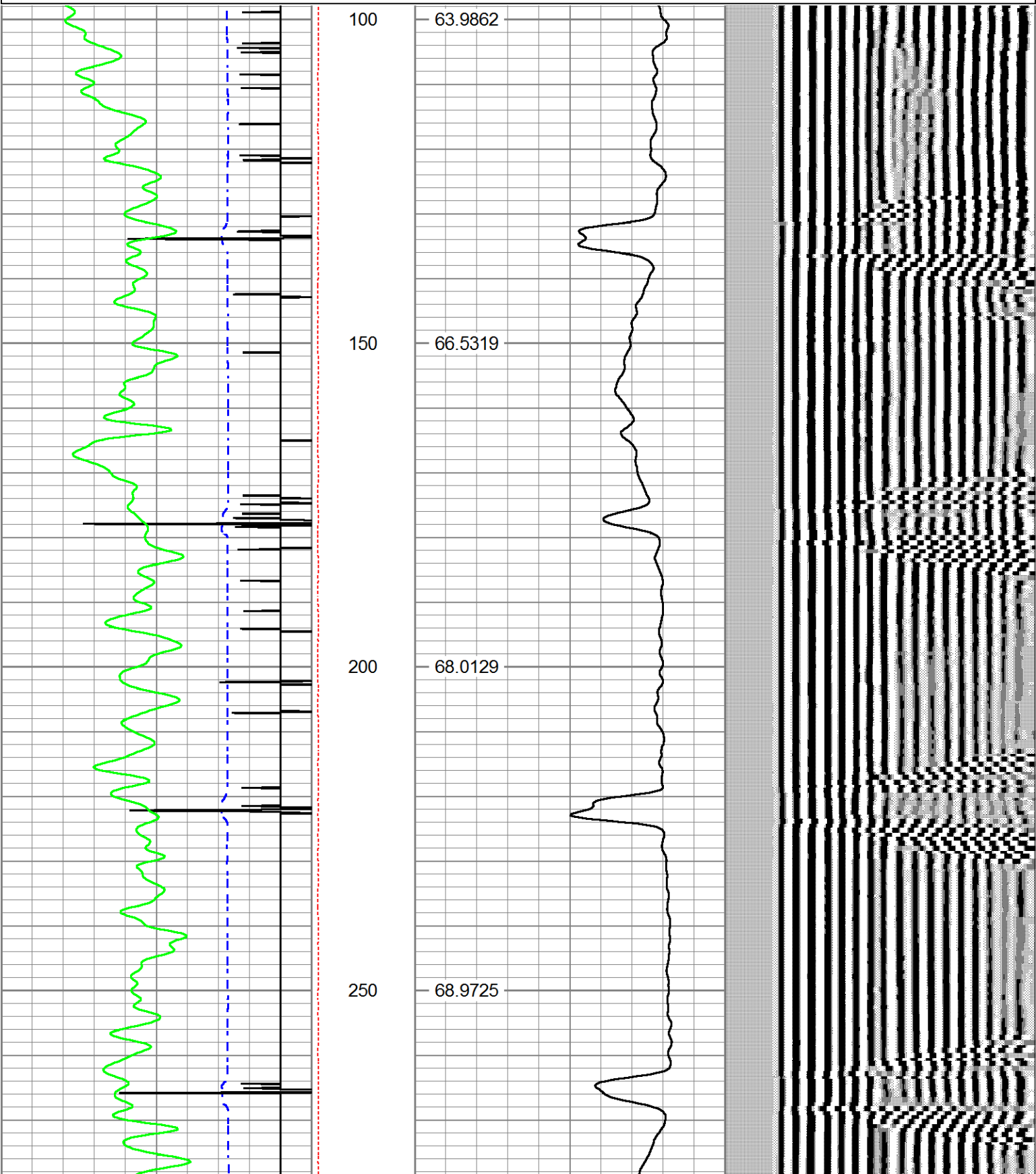
LOG CORRELATED TO SHORT JOINT FROM CASING TALLEY

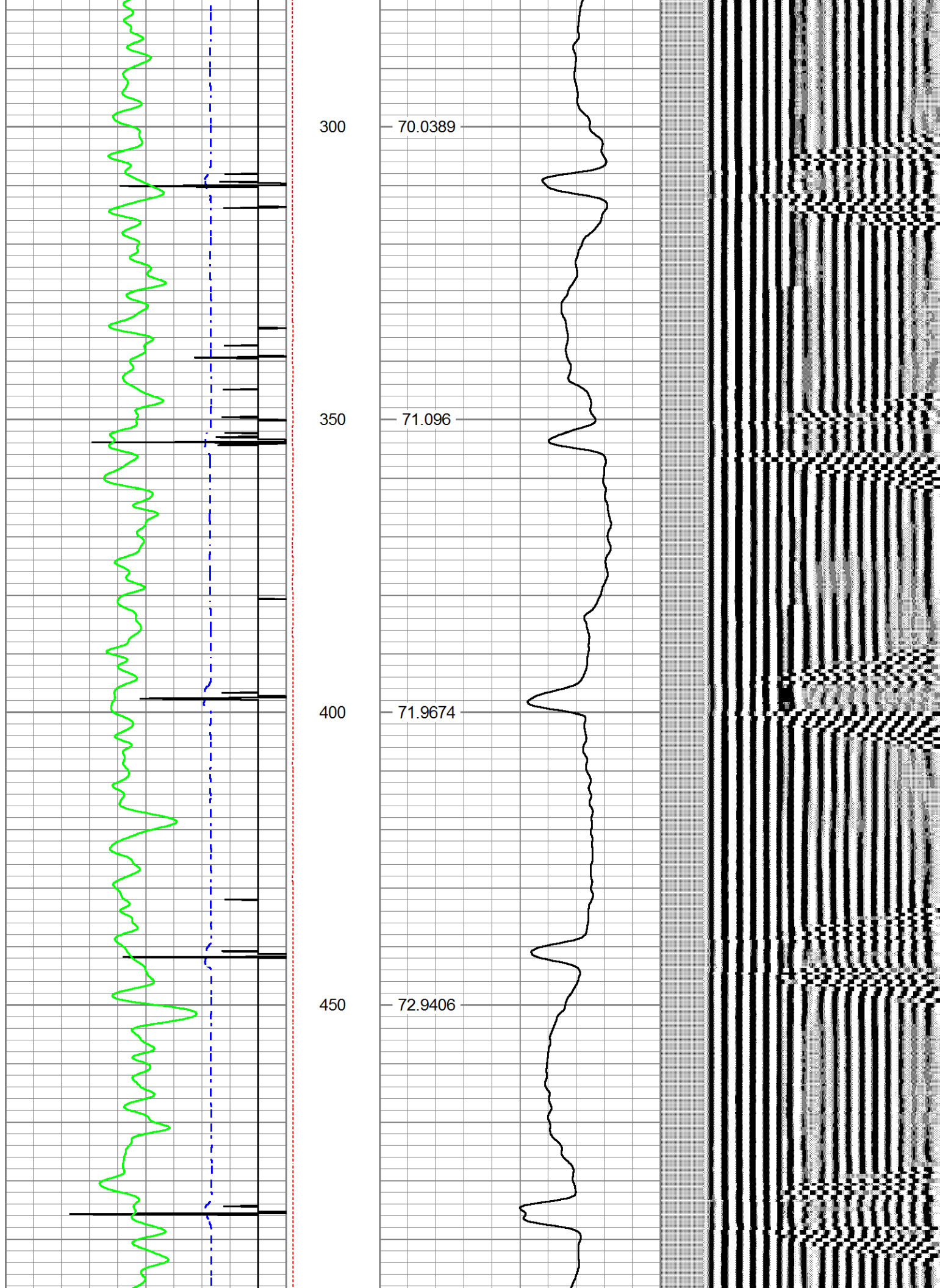


MAIN PASS 3000 PSI

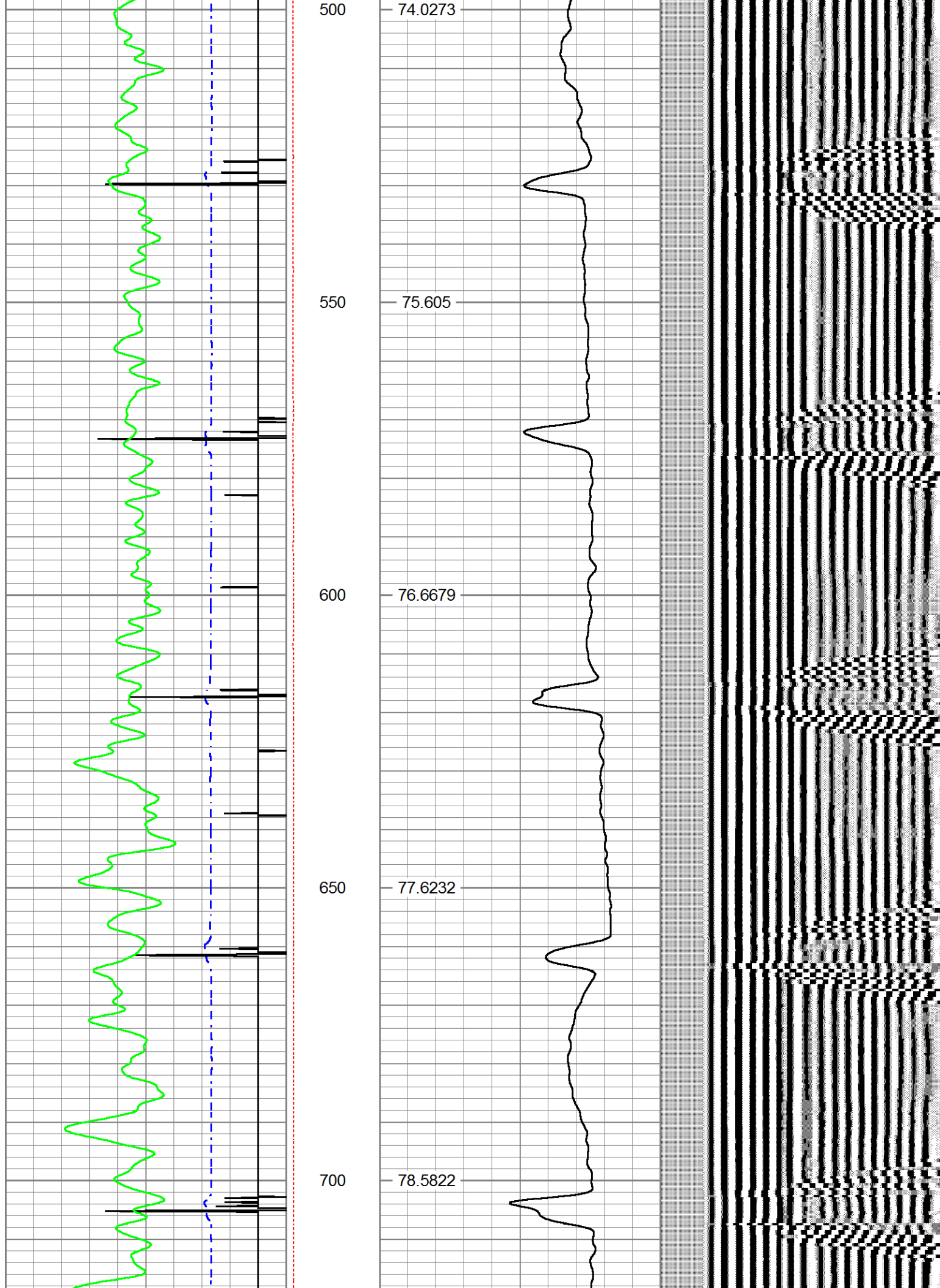
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Dataset Pathname	pass5
Presentation Format	cblww
Dataset Creation	Wed Dec 12 12:04:13 2018
Charted by	Depth in Feet scaled 1:240

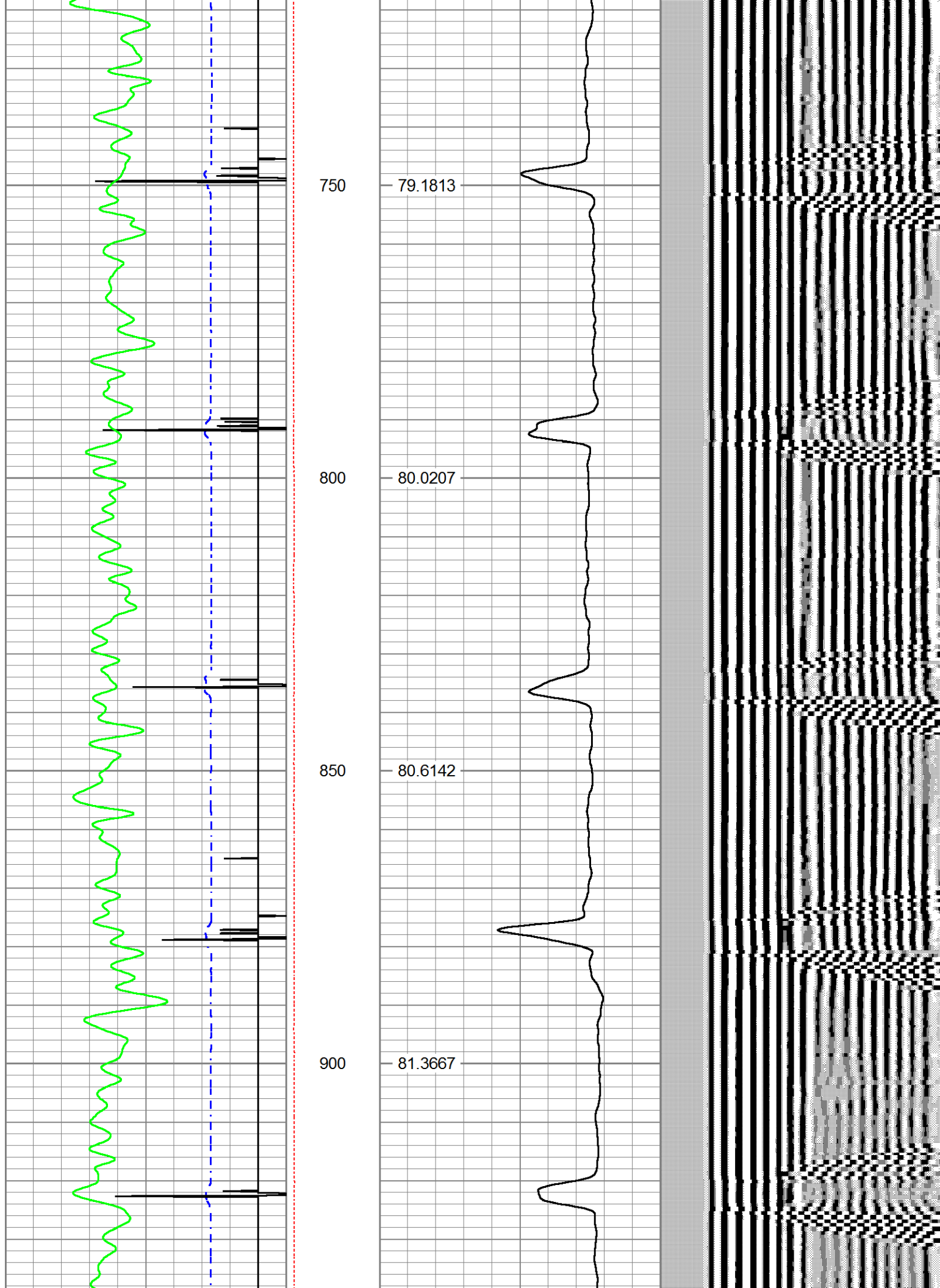
400	Travel Time (usec)	200	LTEN	0	Amplified Amplitude (mV)	10	200	Variable Density (usec)	1200
9	Collar Locator	-1	0	(lb/5000	0	Amplitude (mV)	100		
0	Gamma Ray	200			TEMP				
					(degF)				

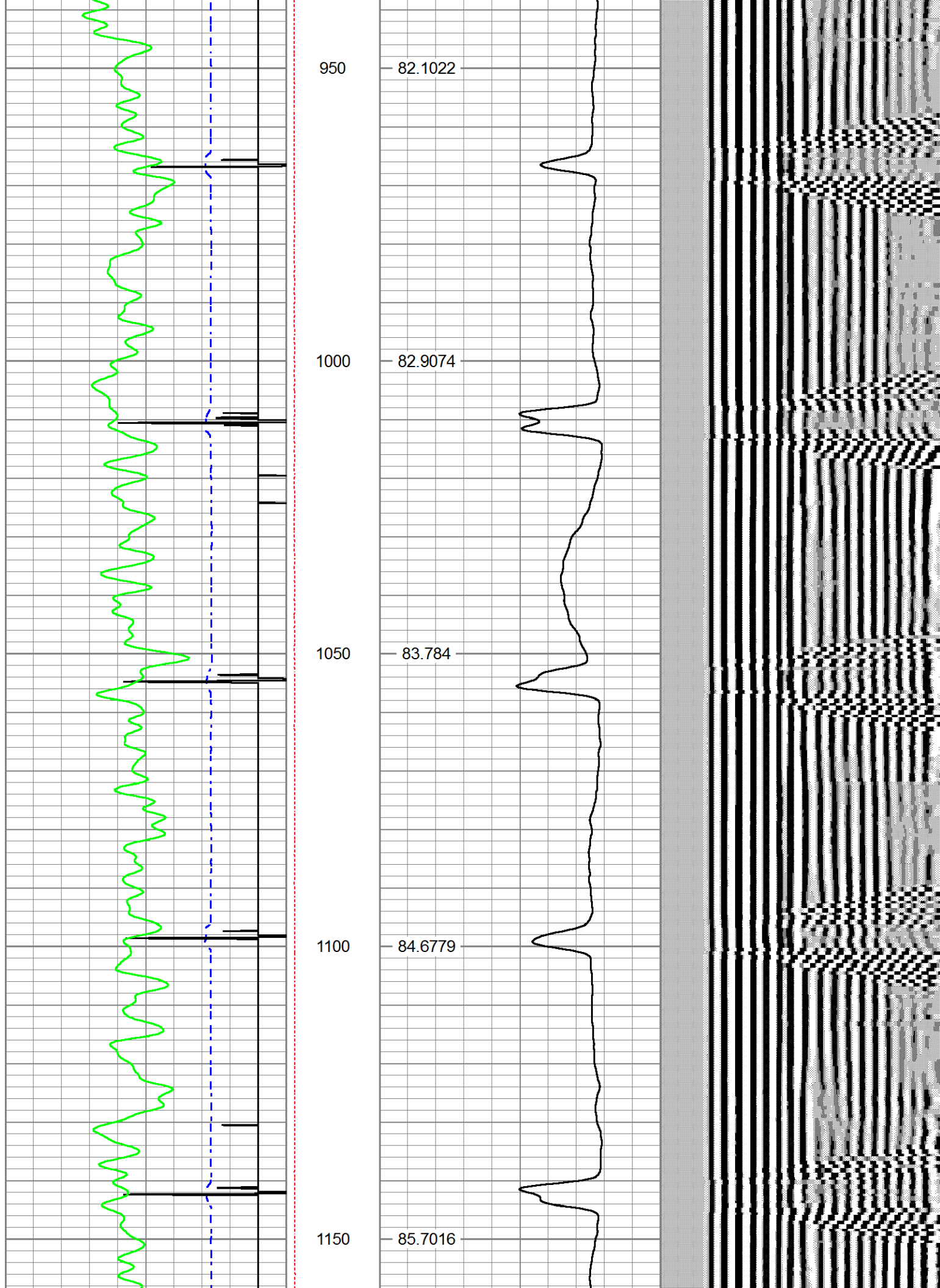




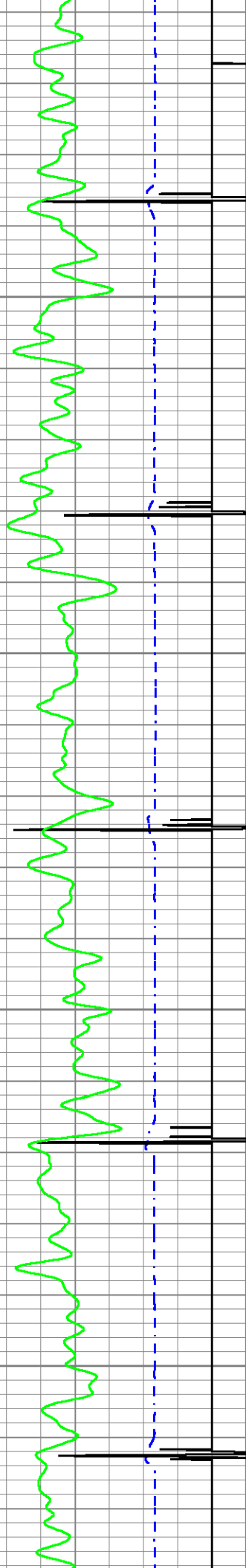












1200

1250

1300

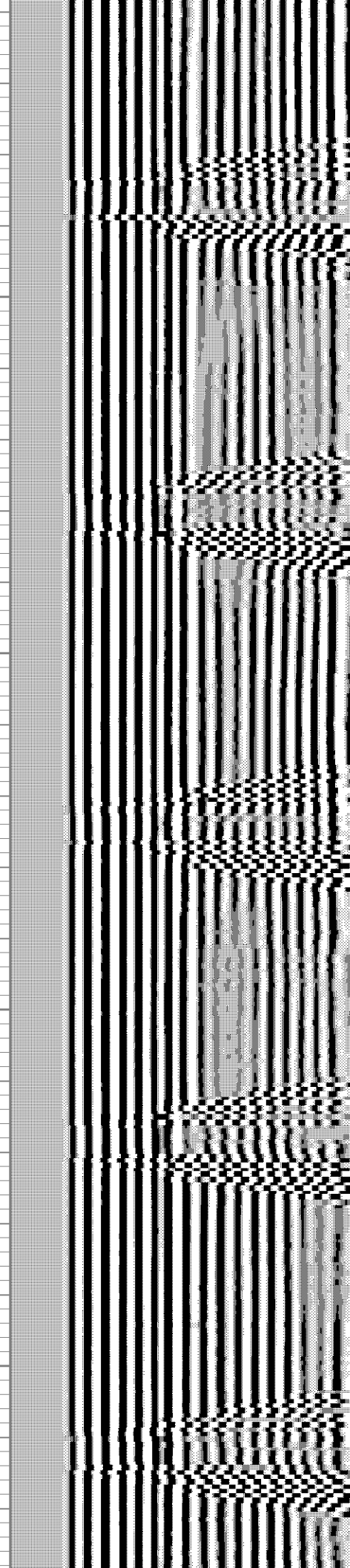
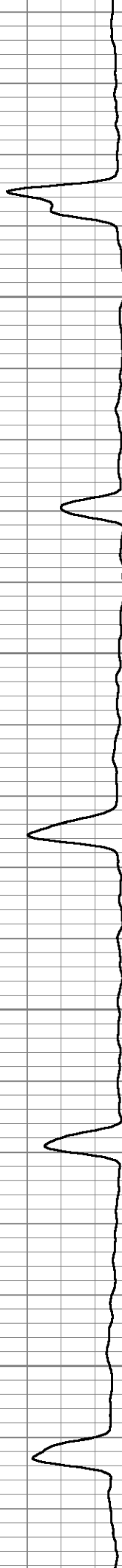
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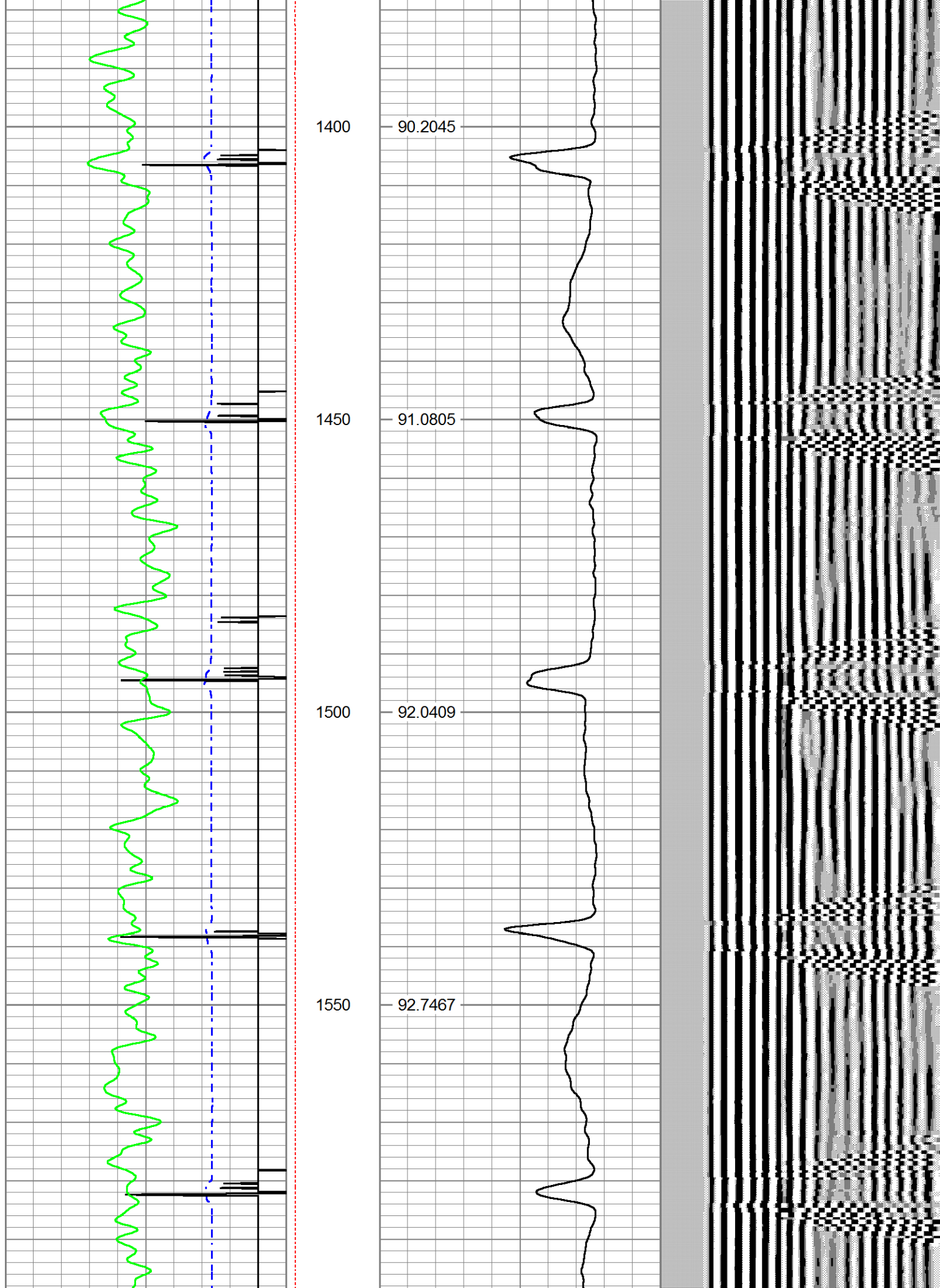
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87.427

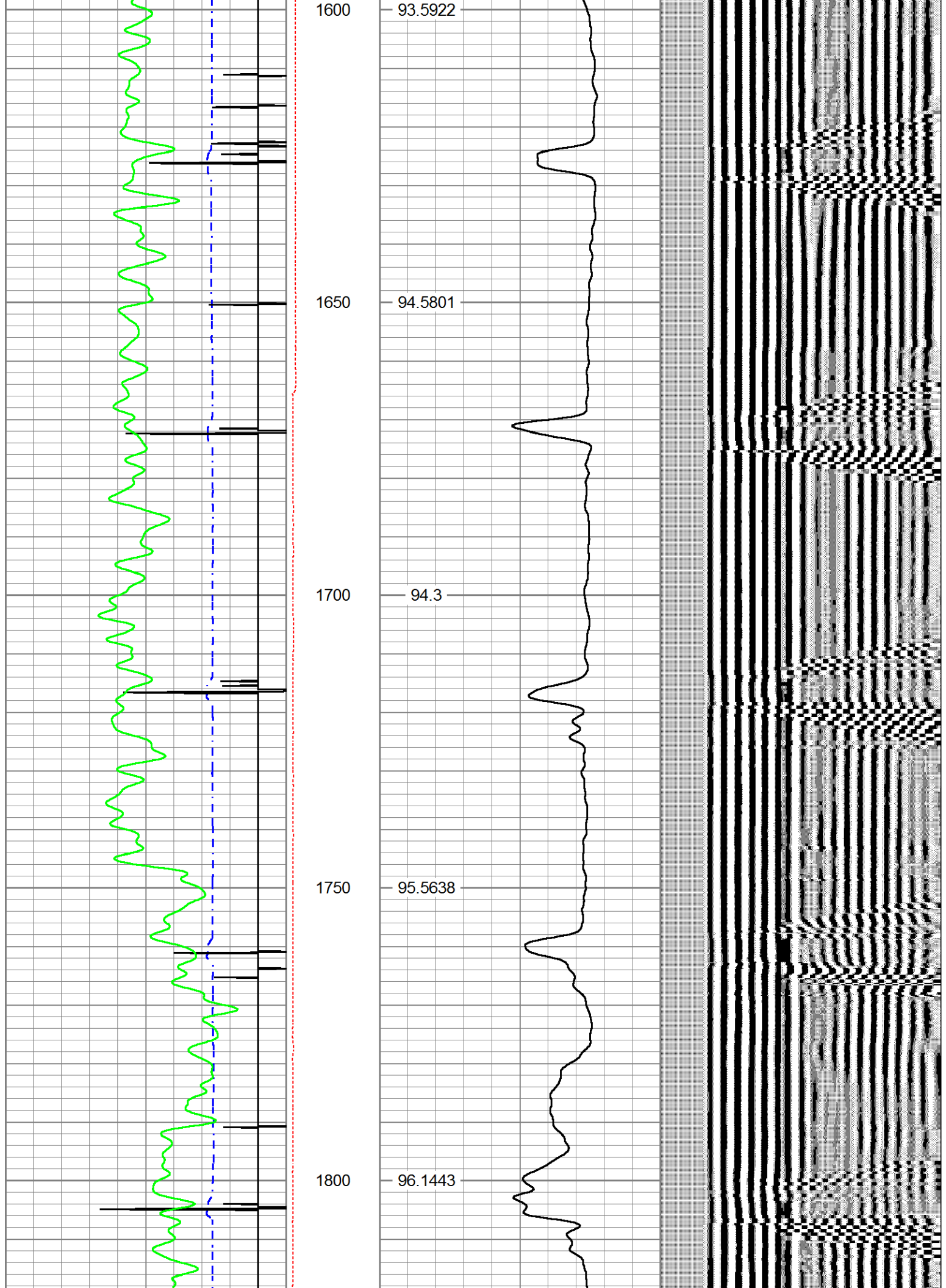
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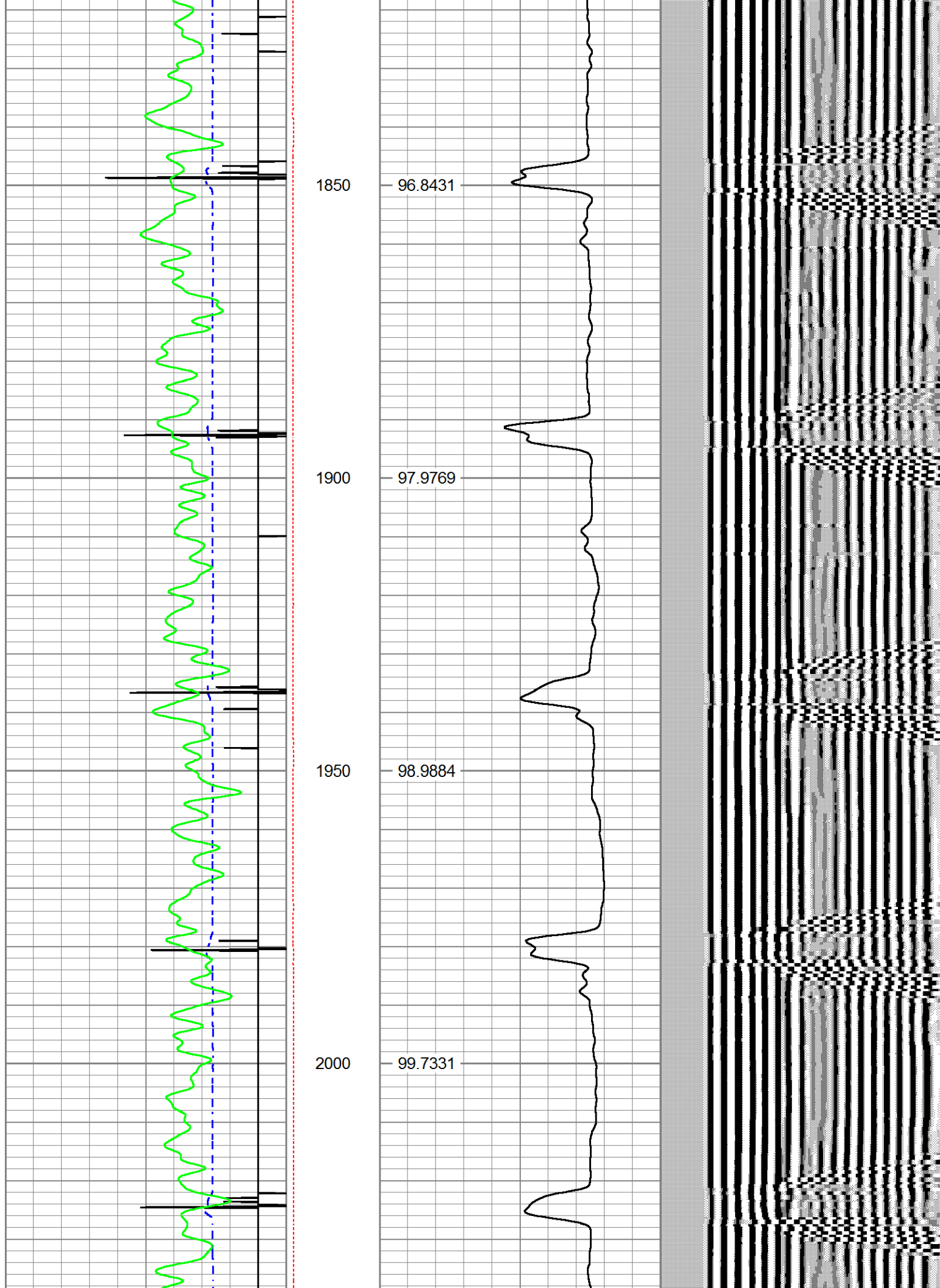
89.2321



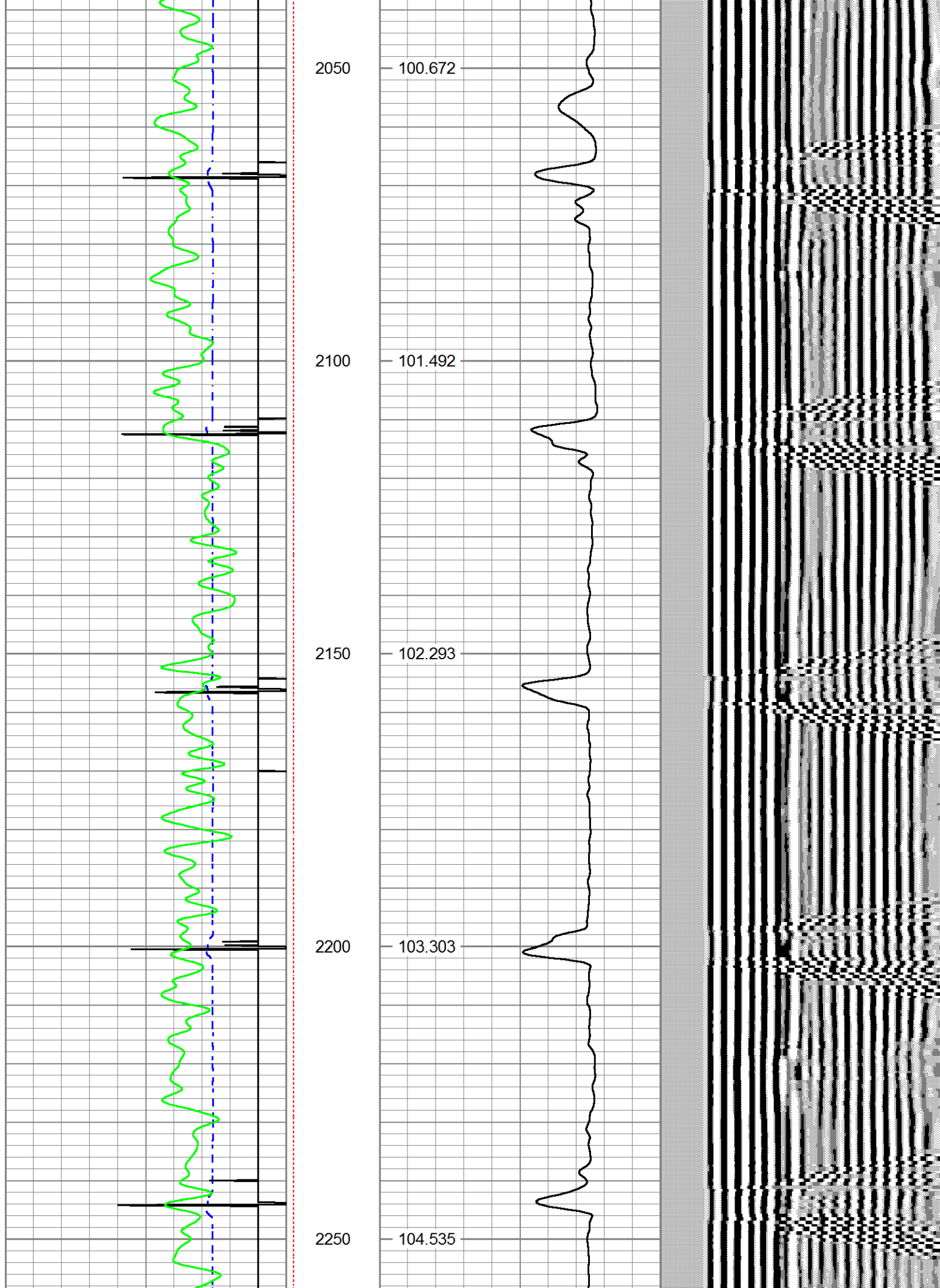




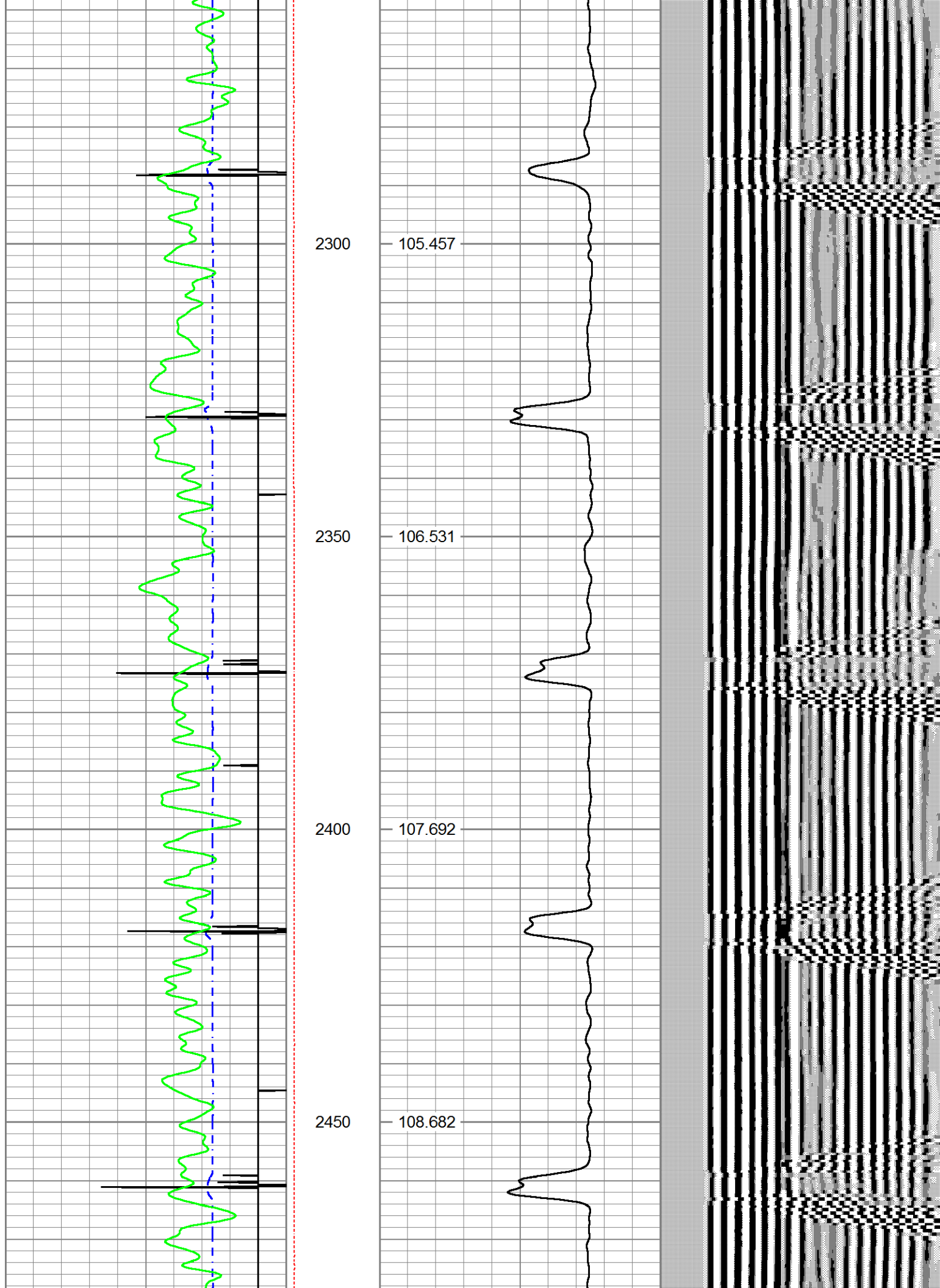


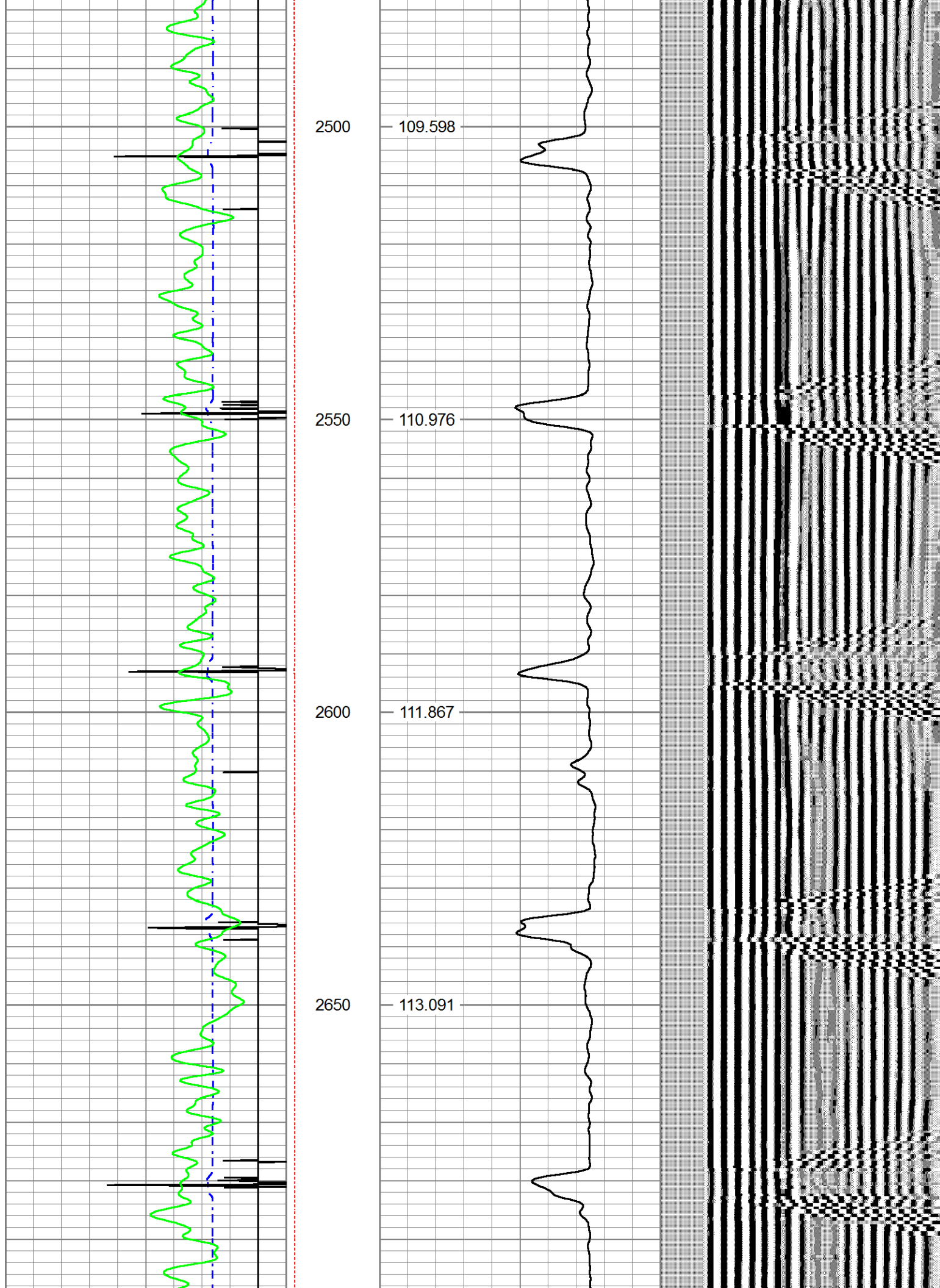




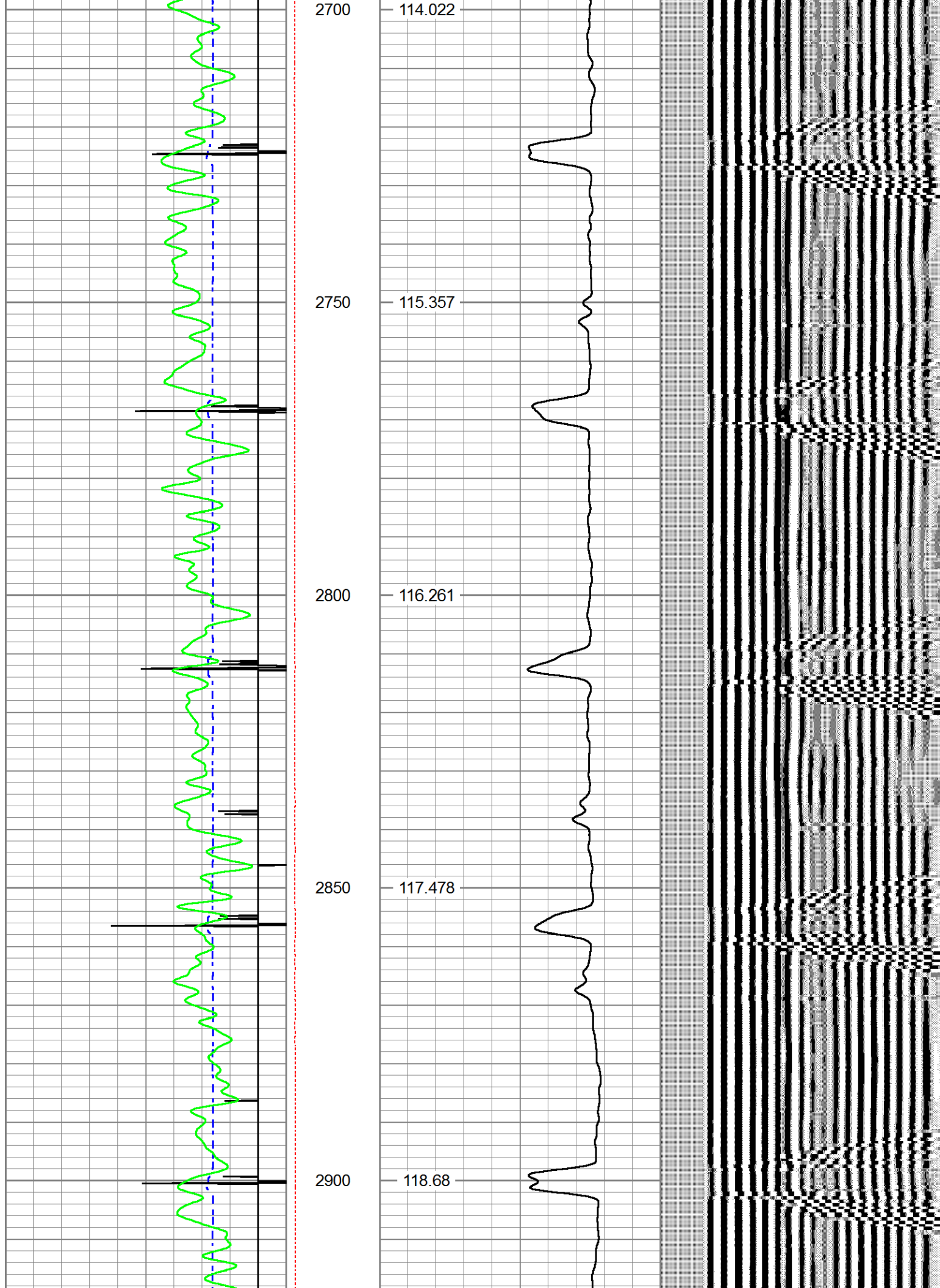




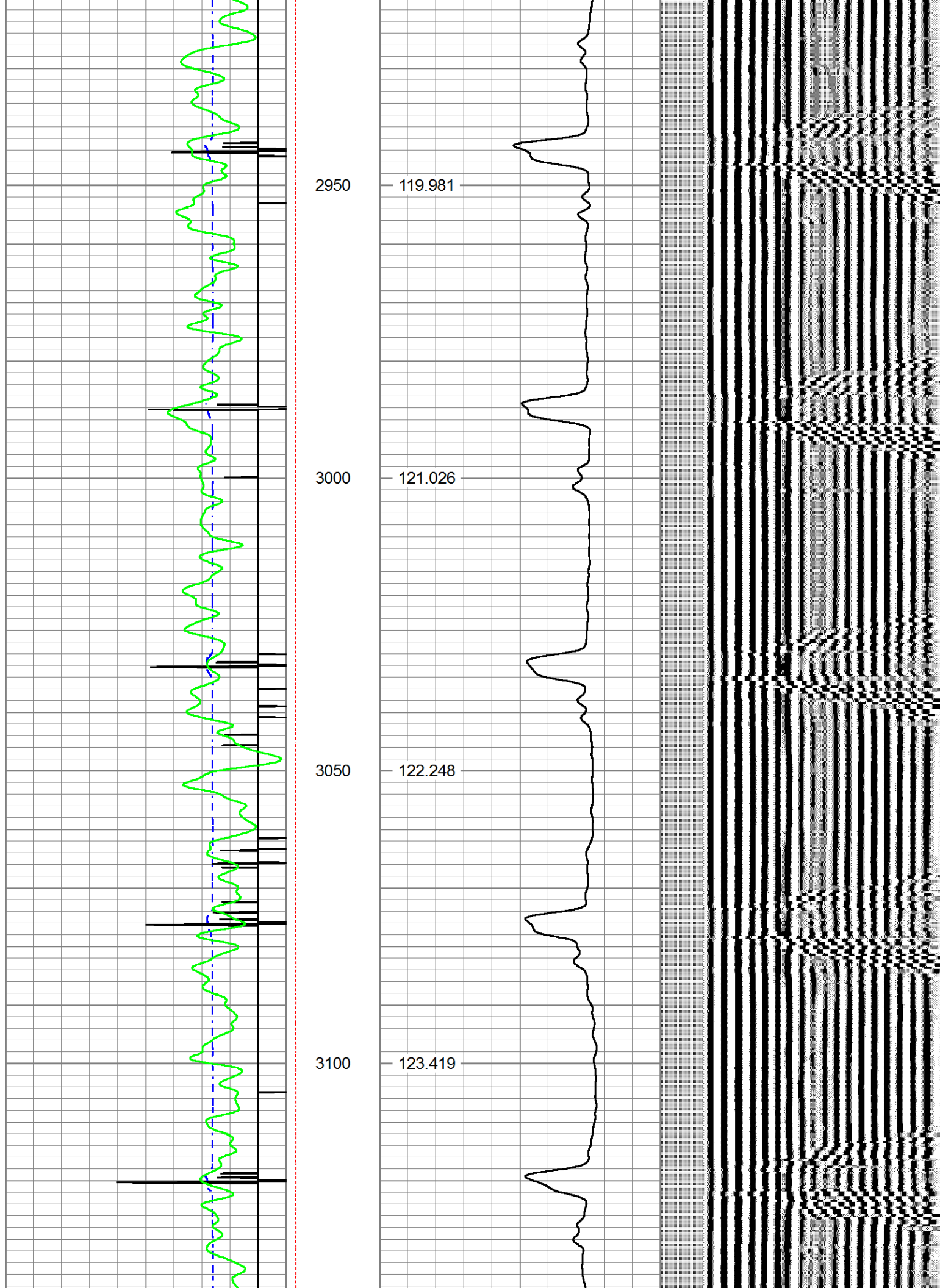


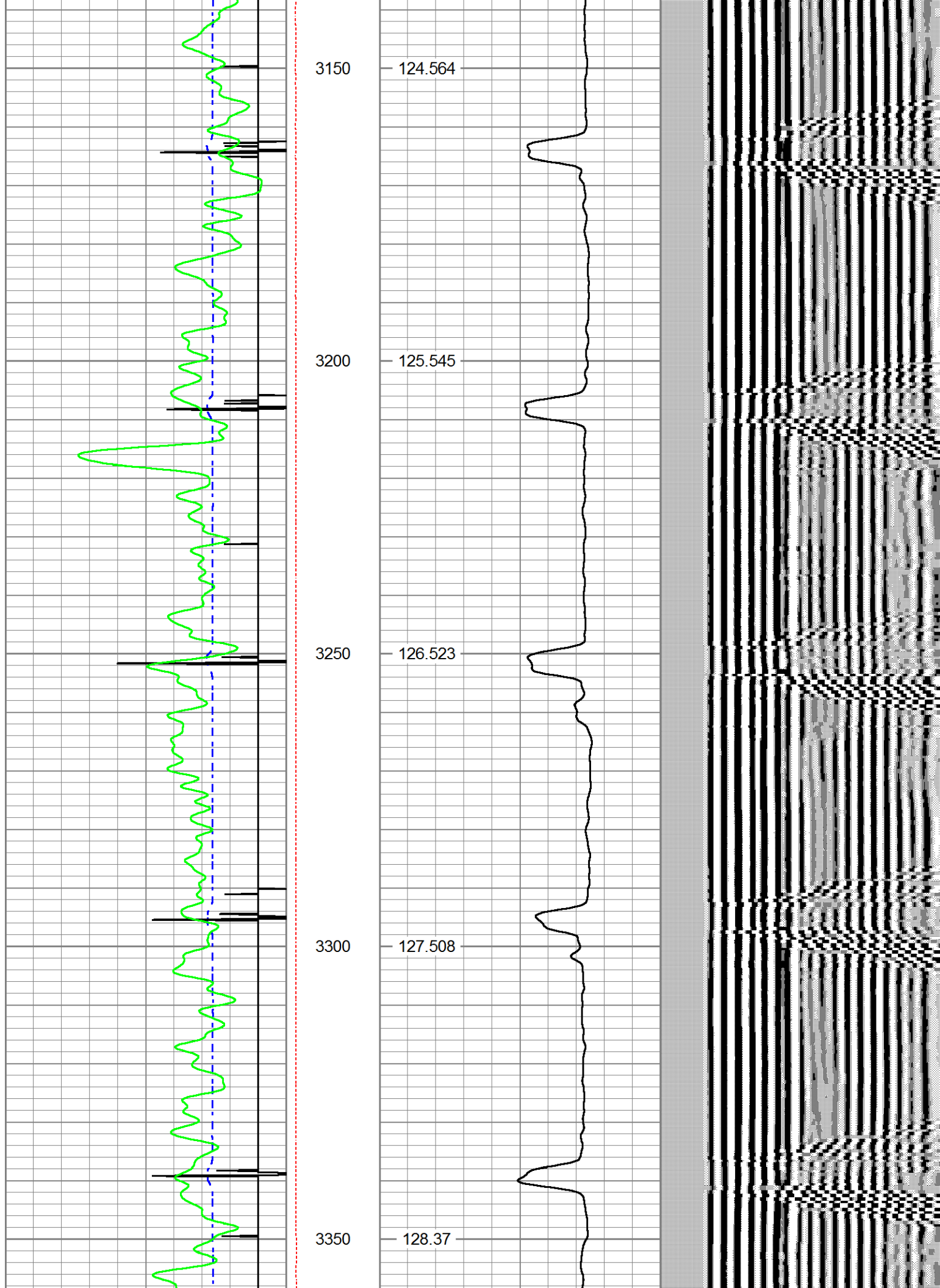




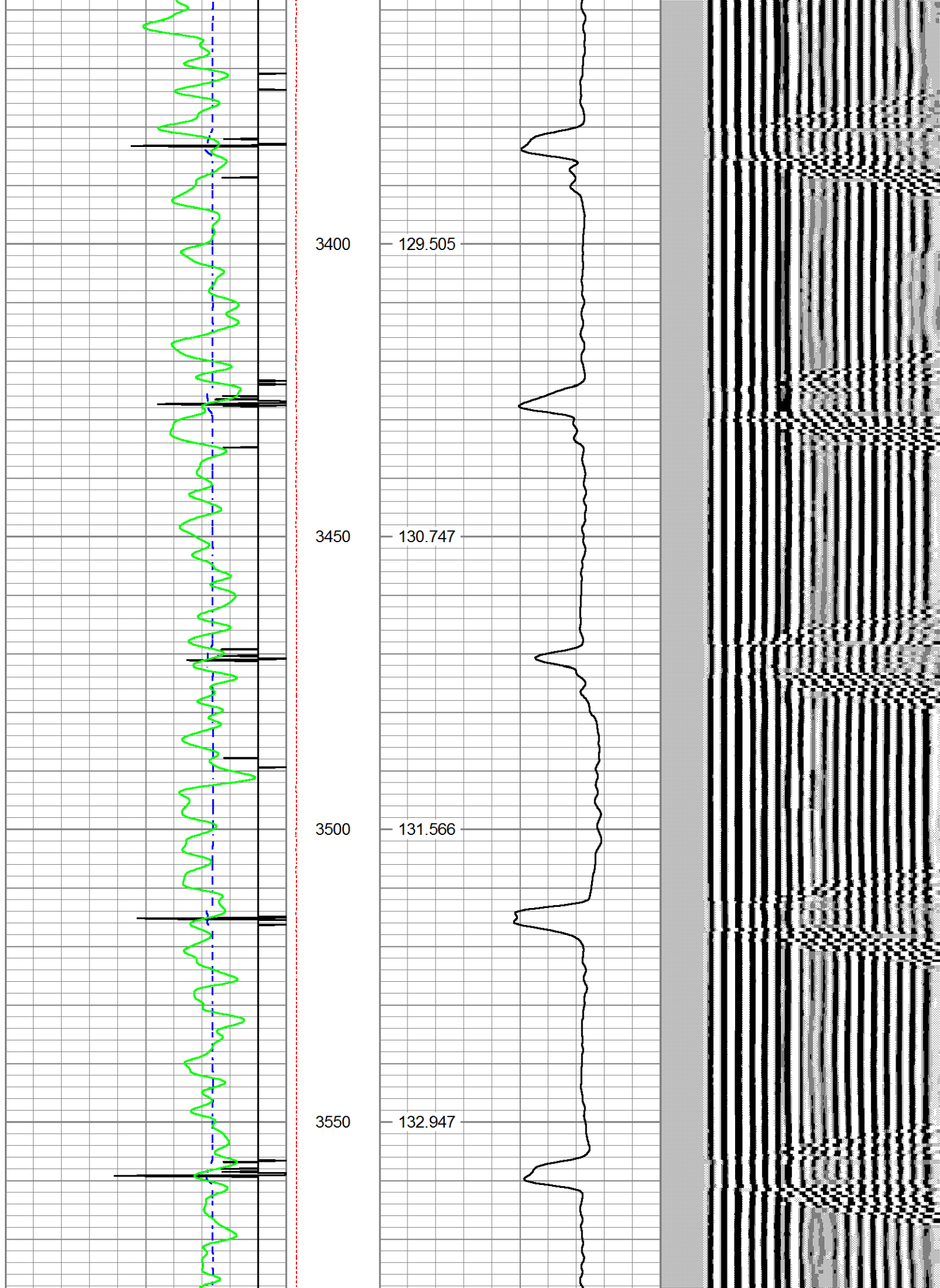




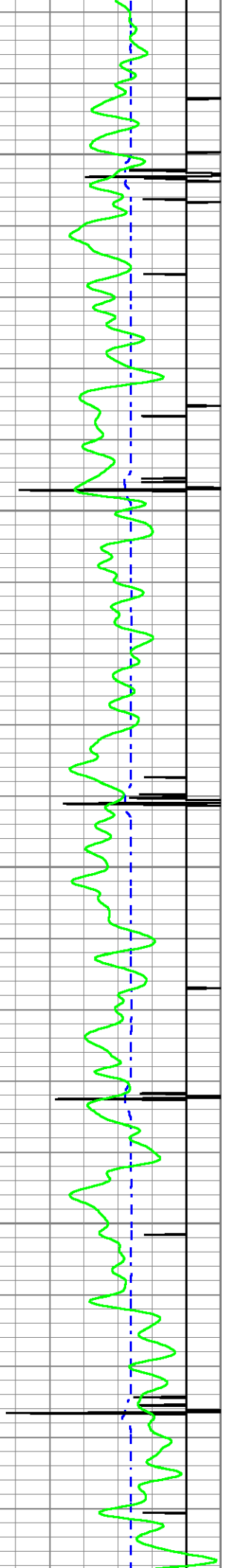












3600

133.938

3650

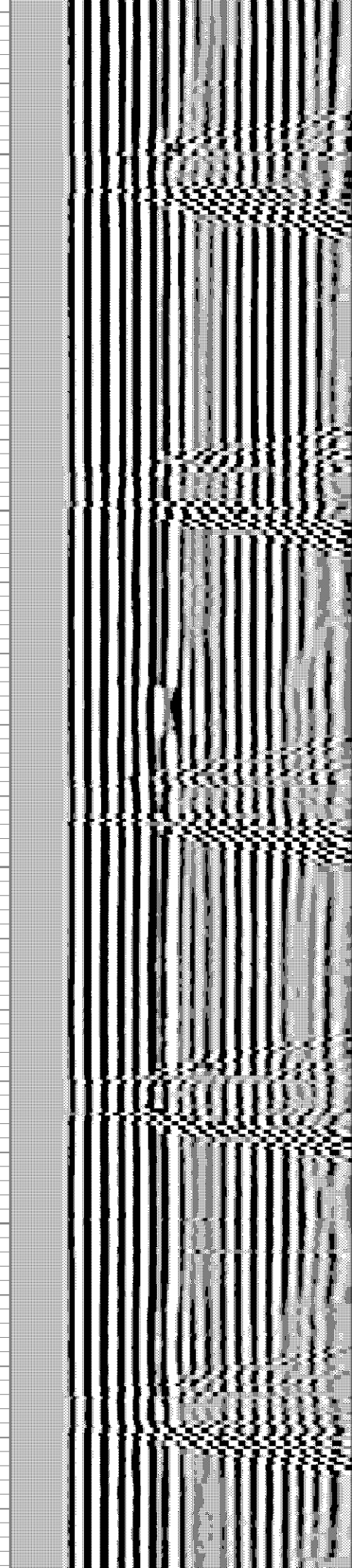
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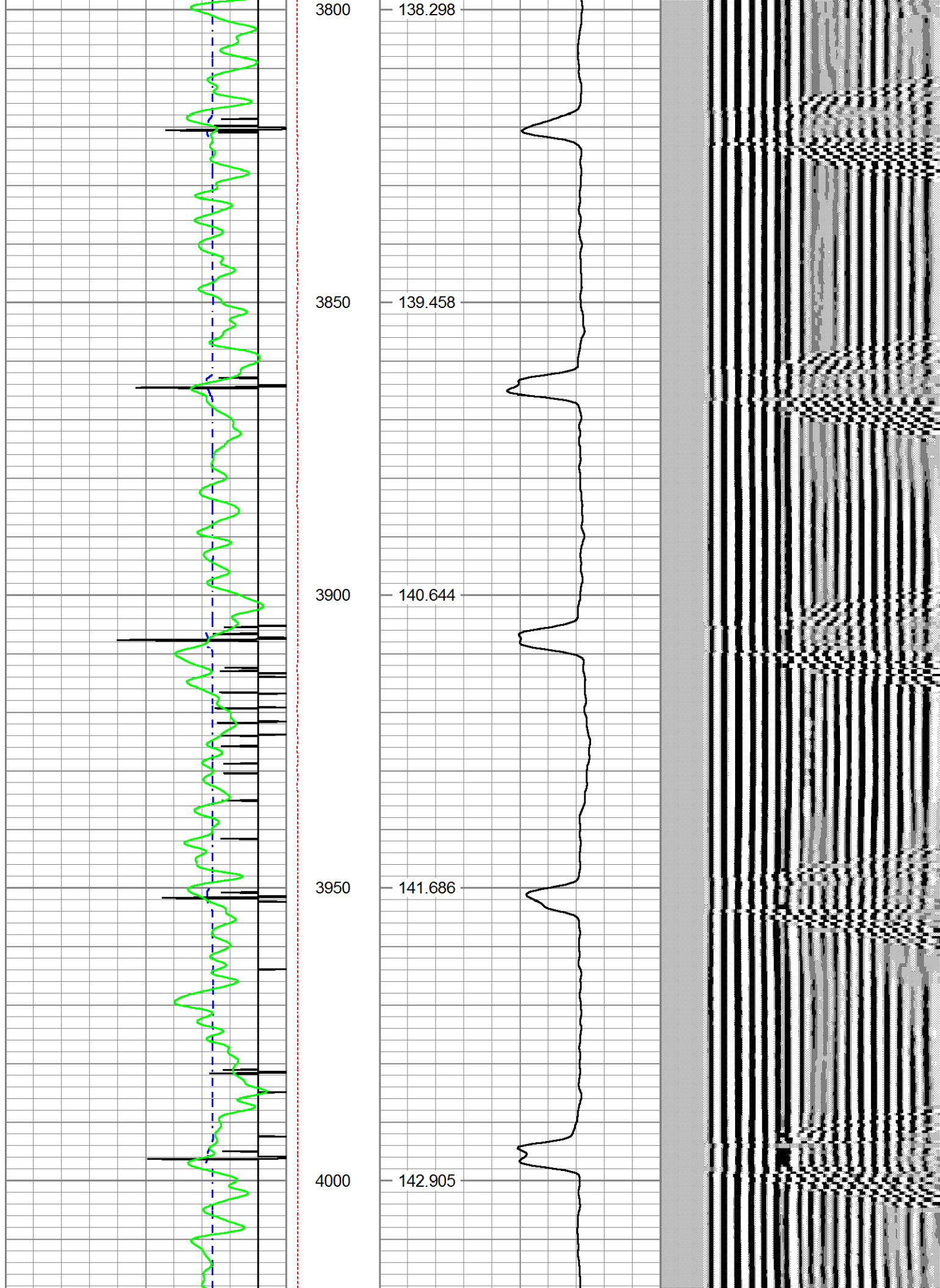
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135.98

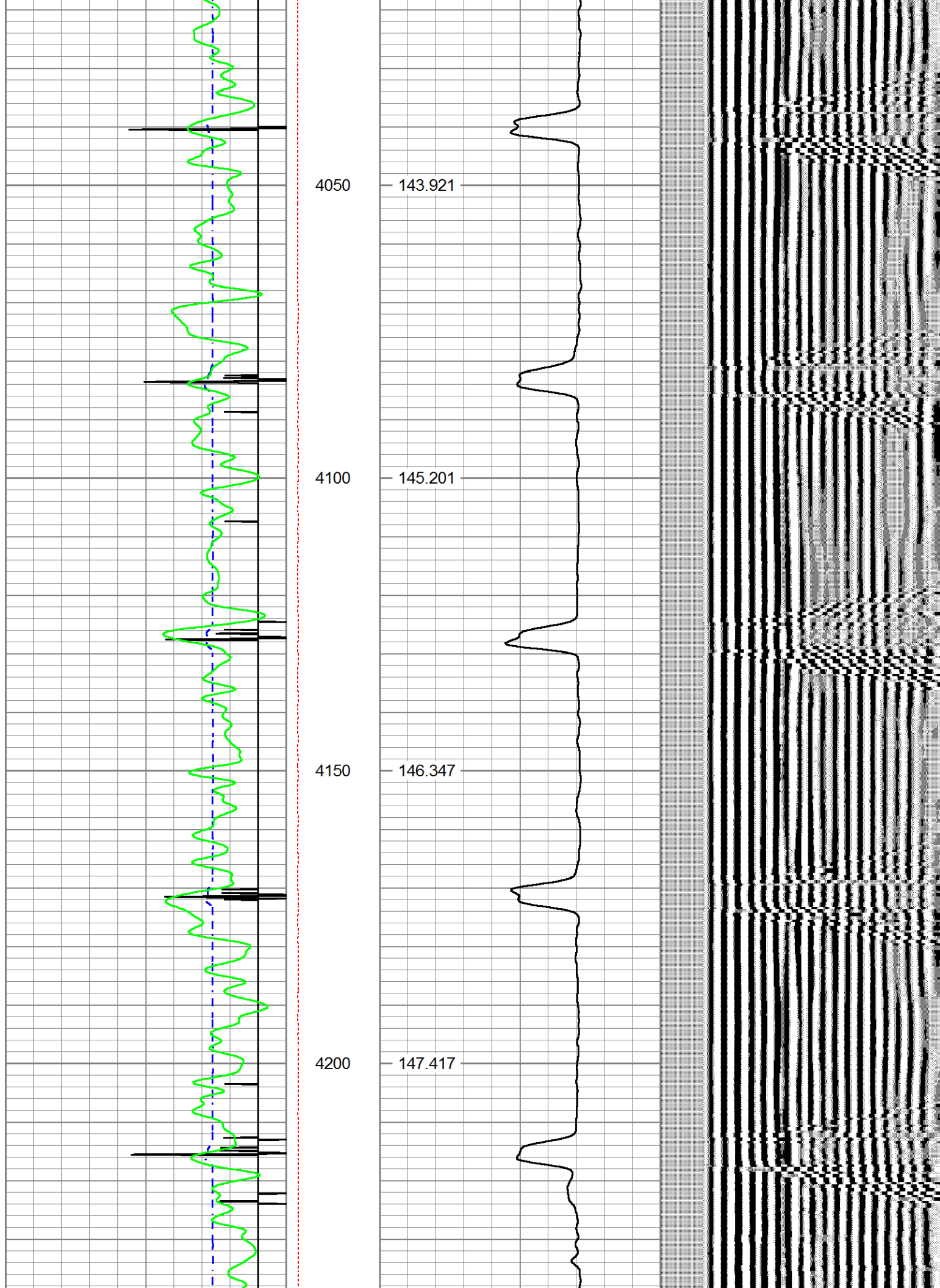
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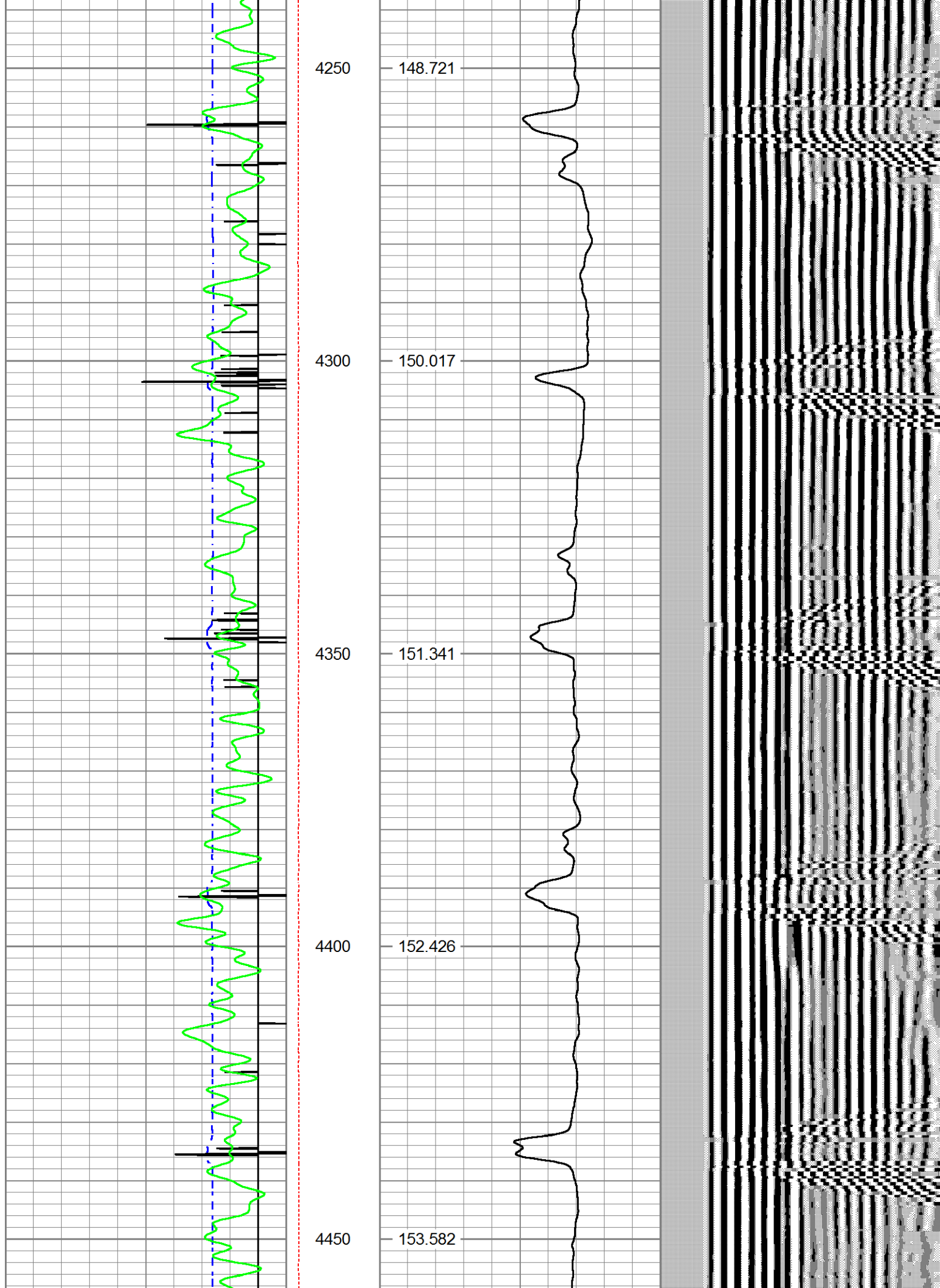


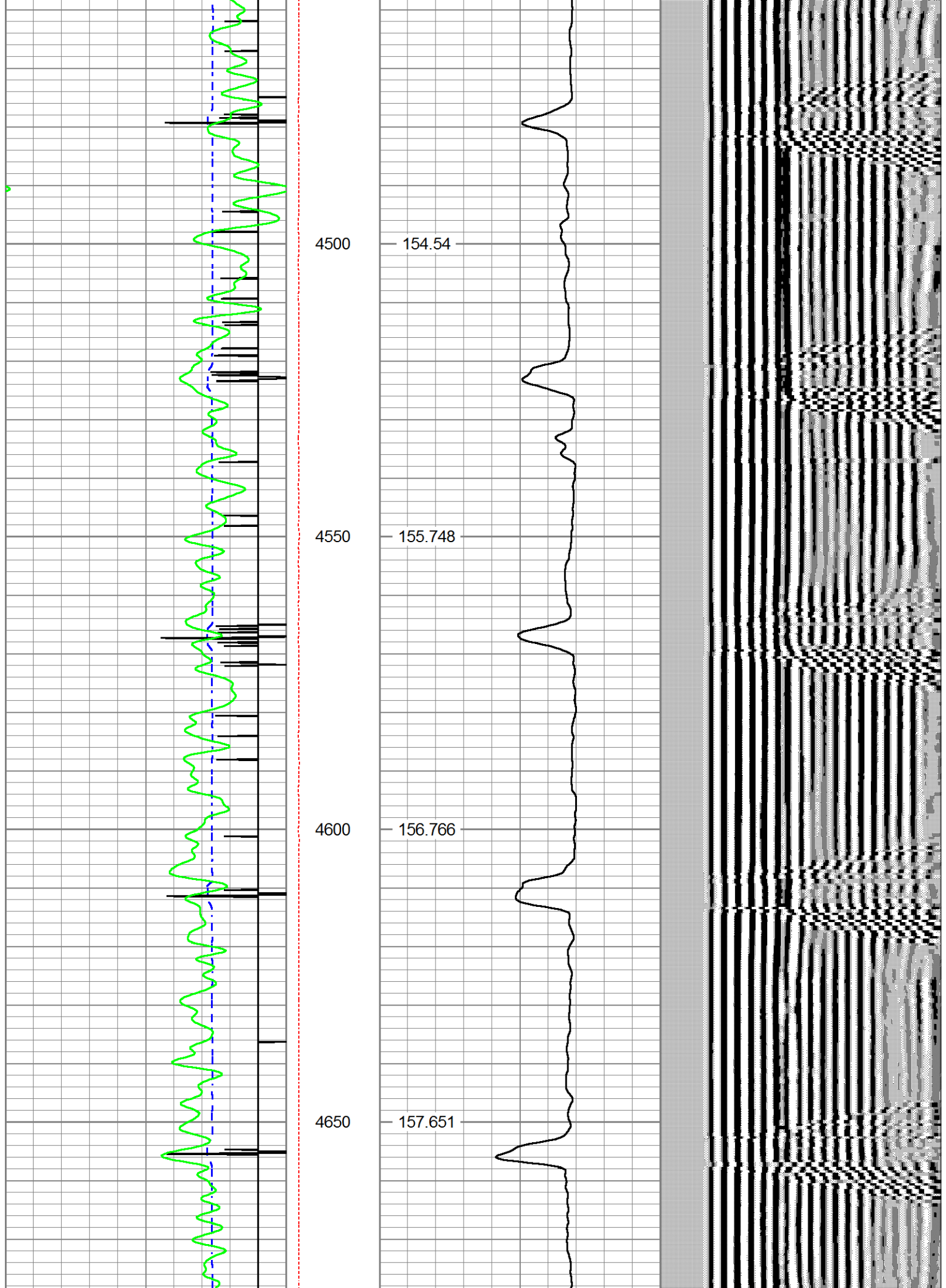




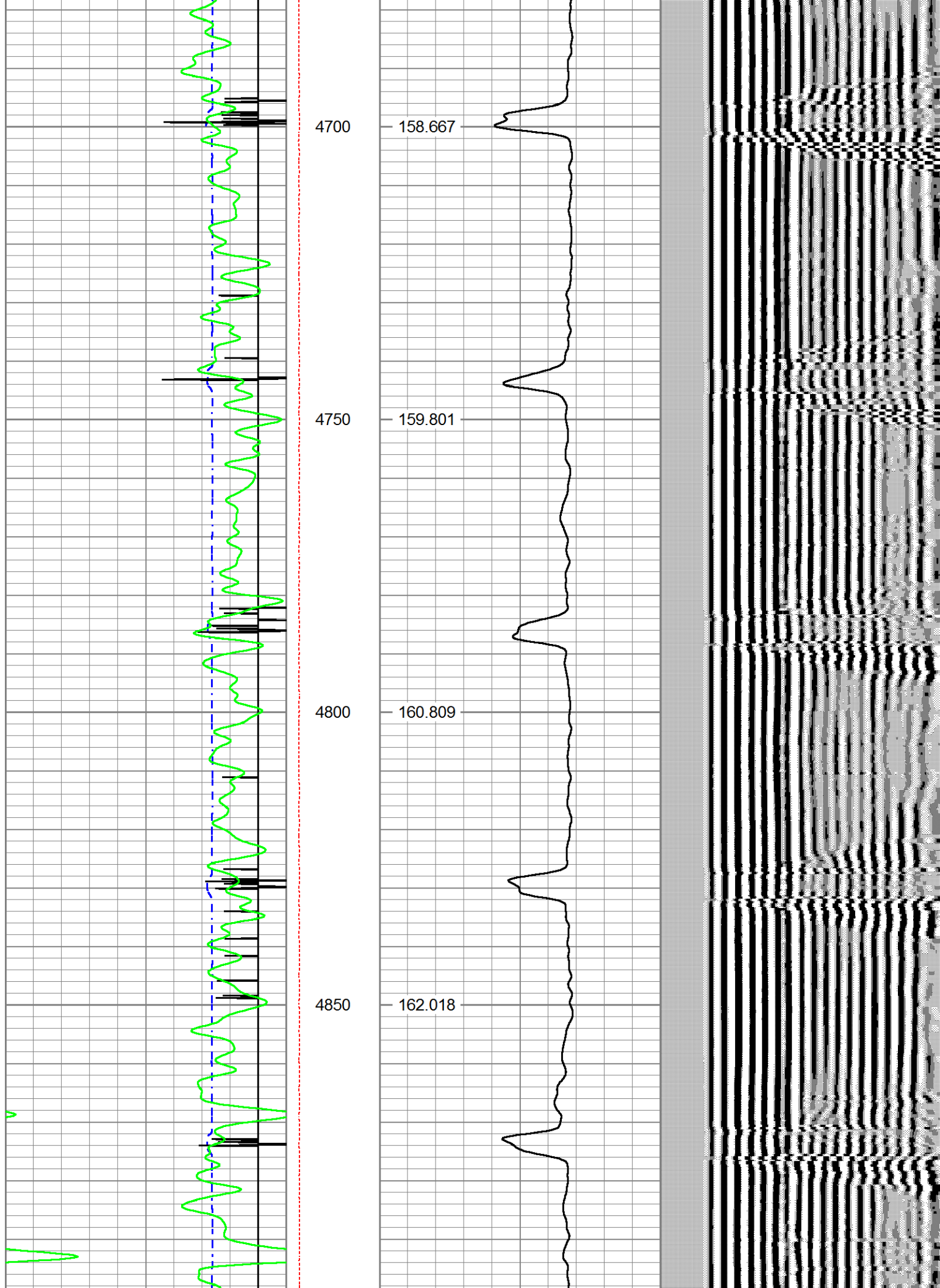


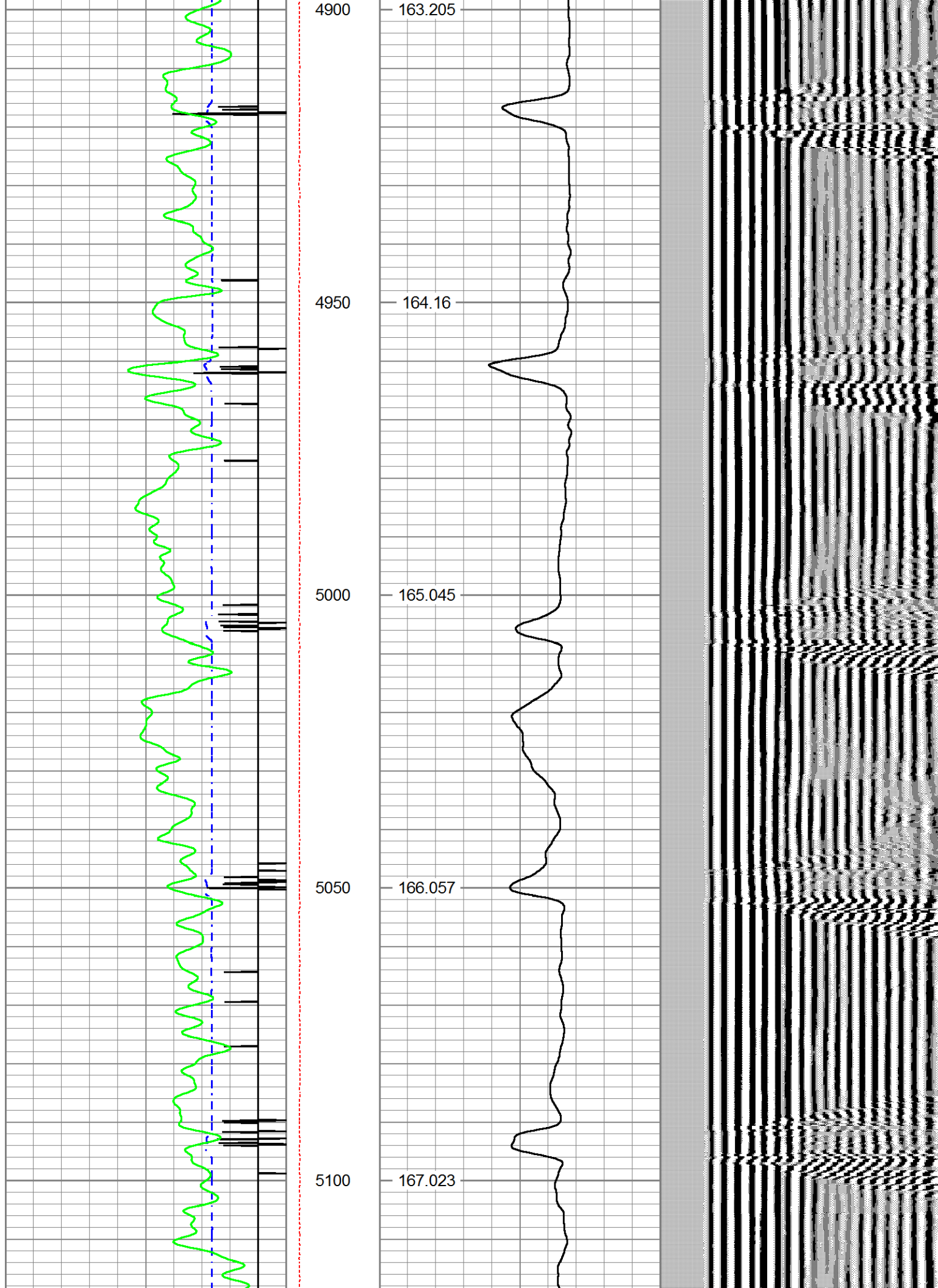




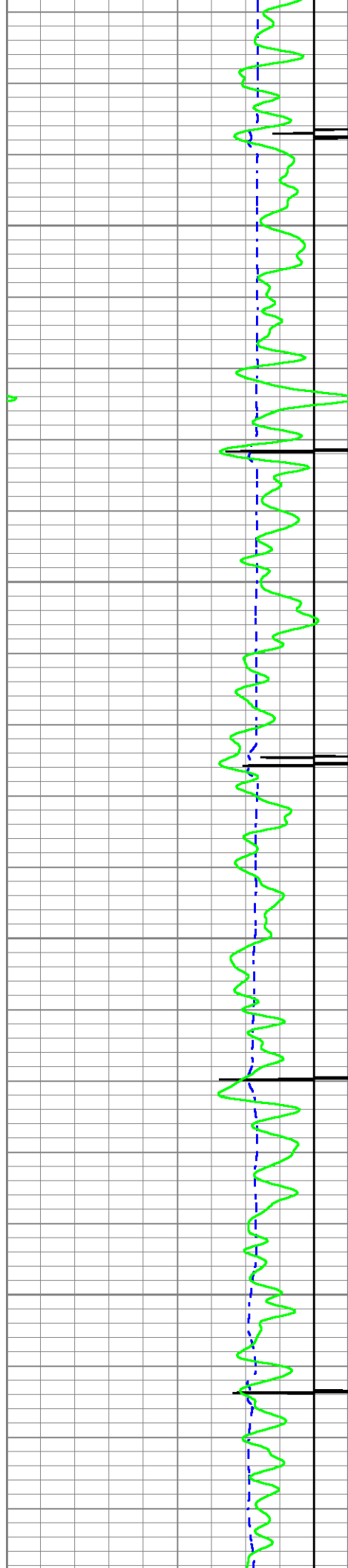










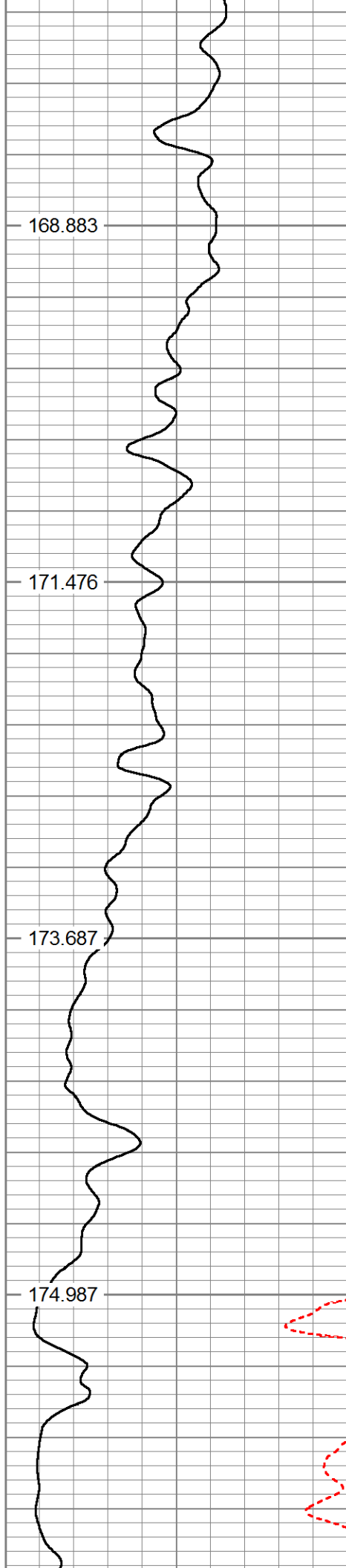


5150

5200

5250

5300

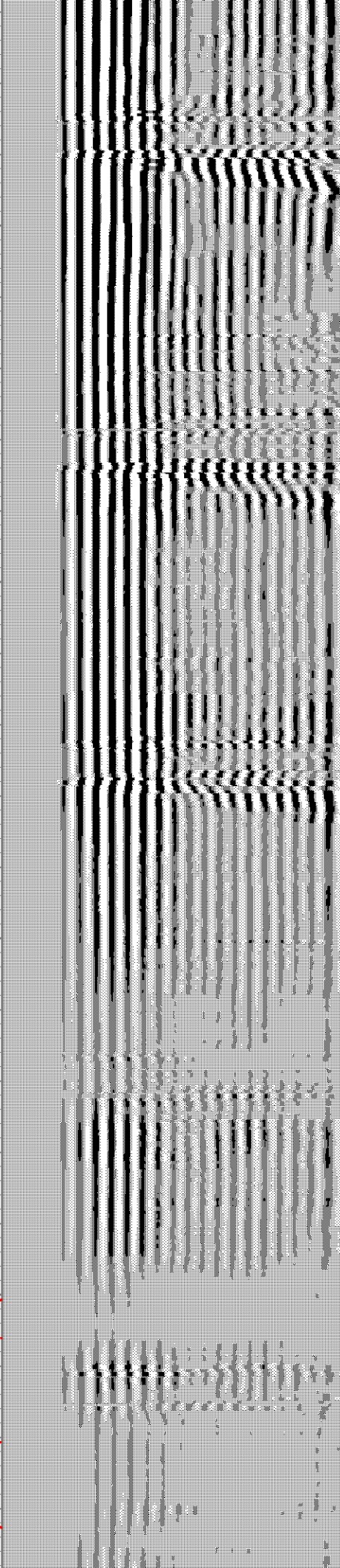


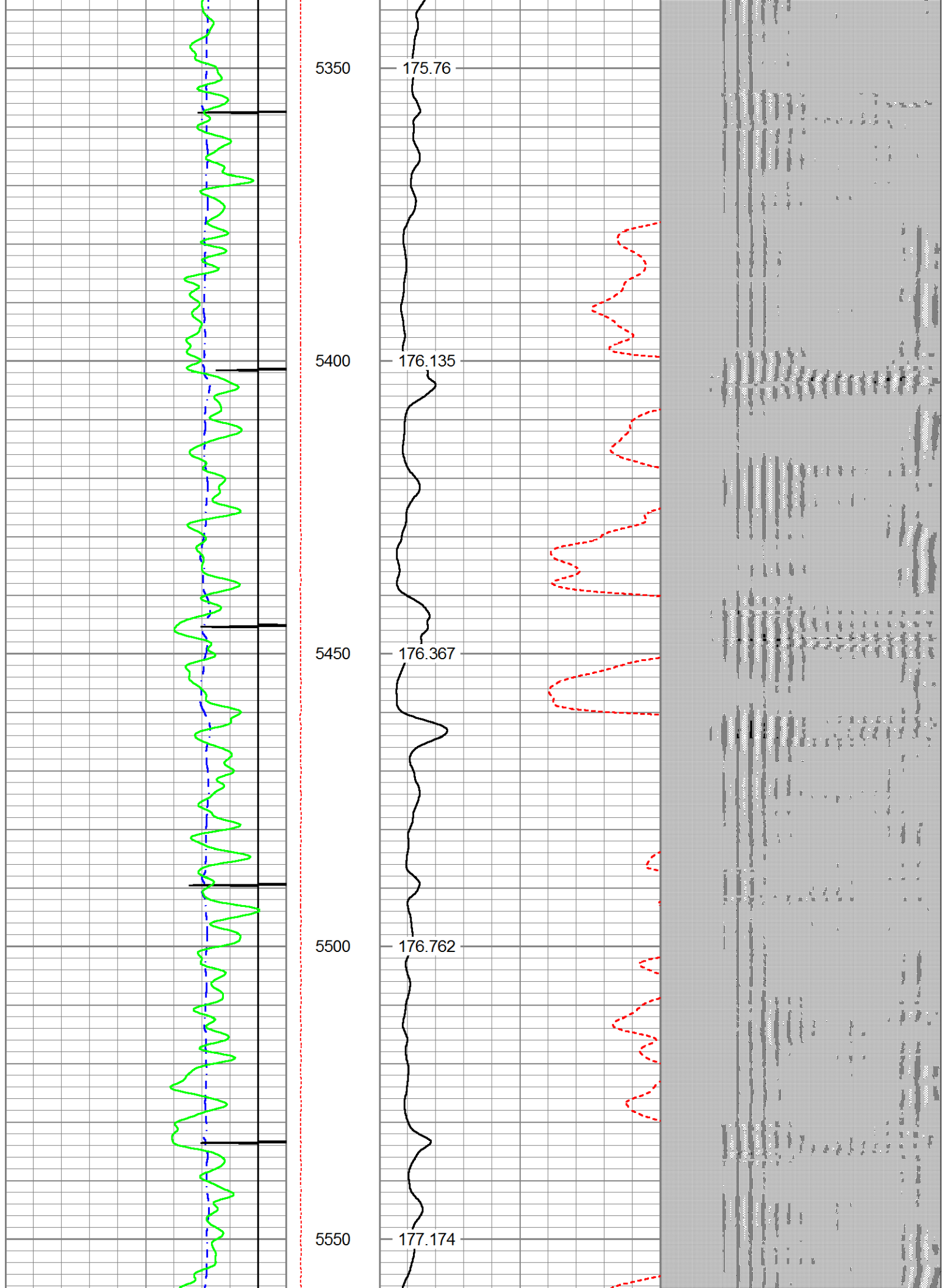
168.883

171.476

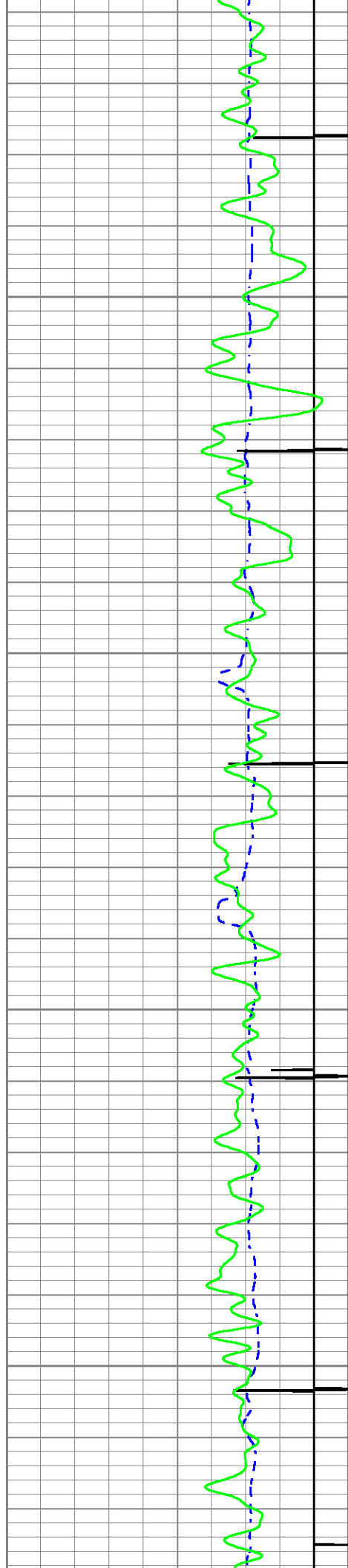
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174.987









5600

5650

5700

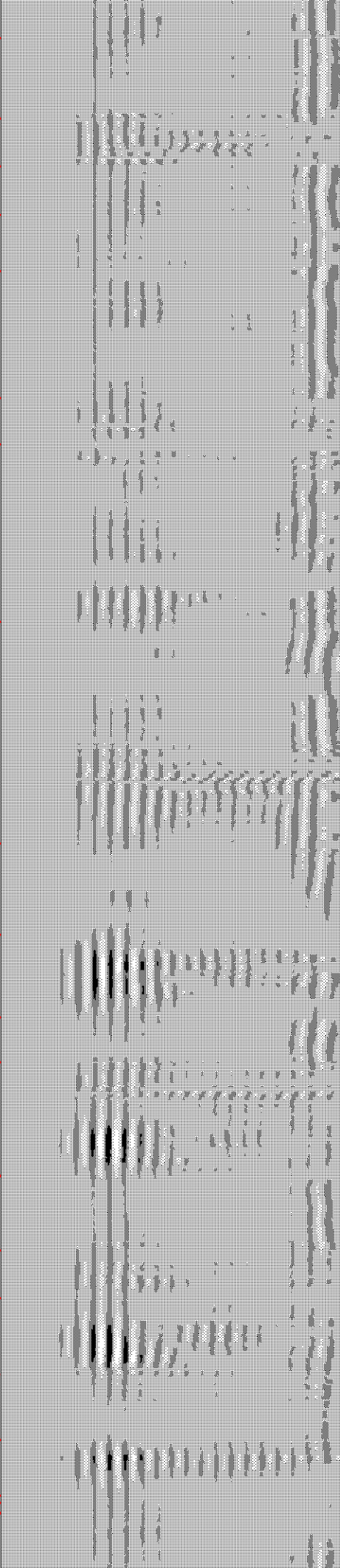
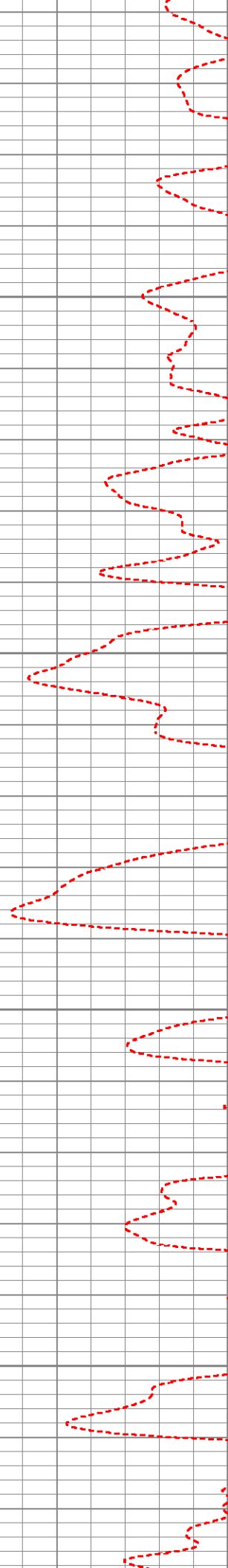
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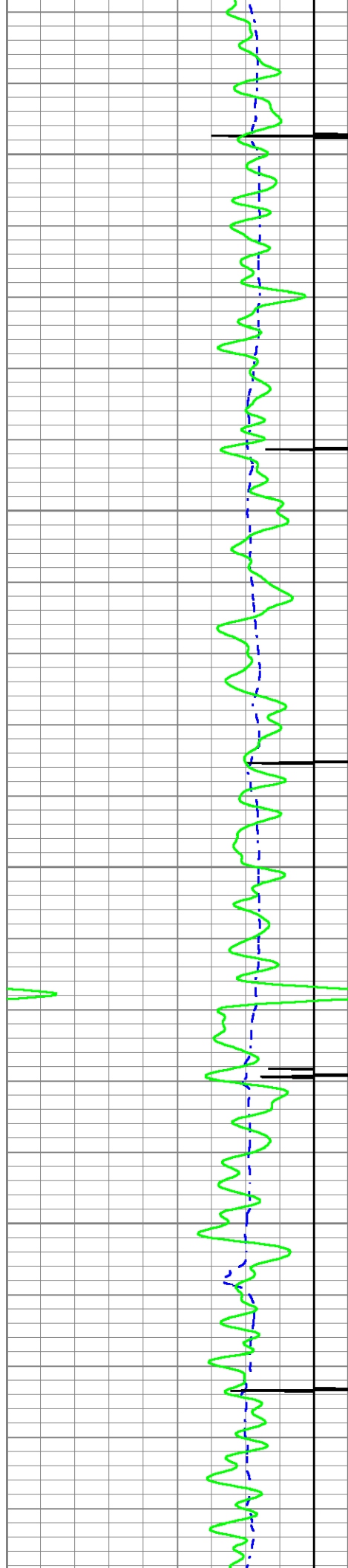
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178.583

179.444

180.218



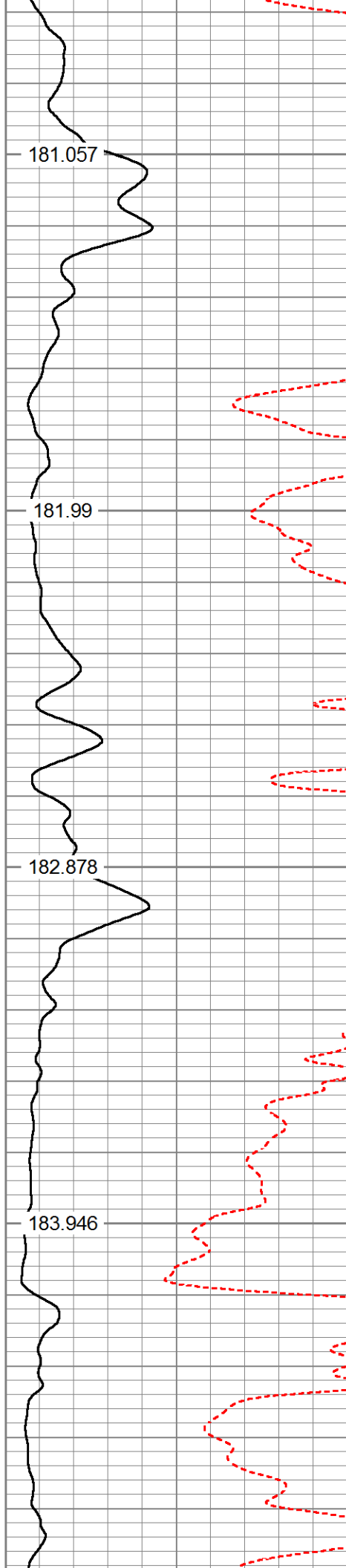


5800

5850

5900

5950

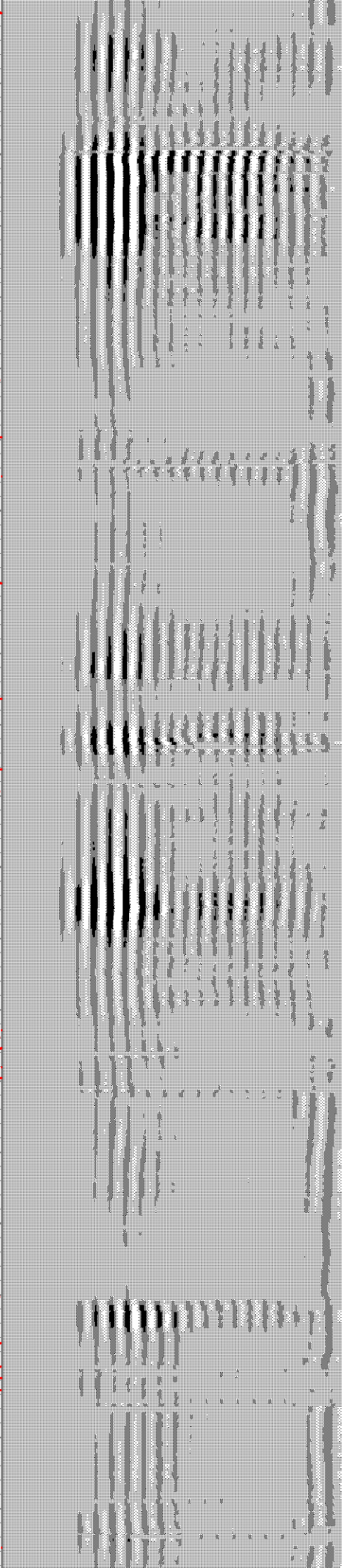


181.057

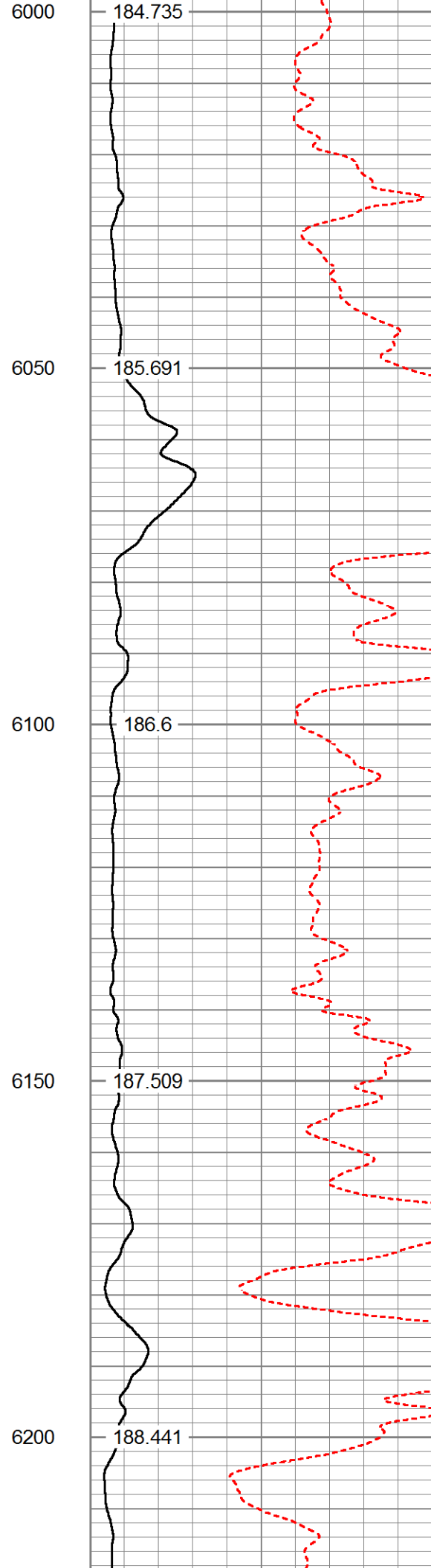
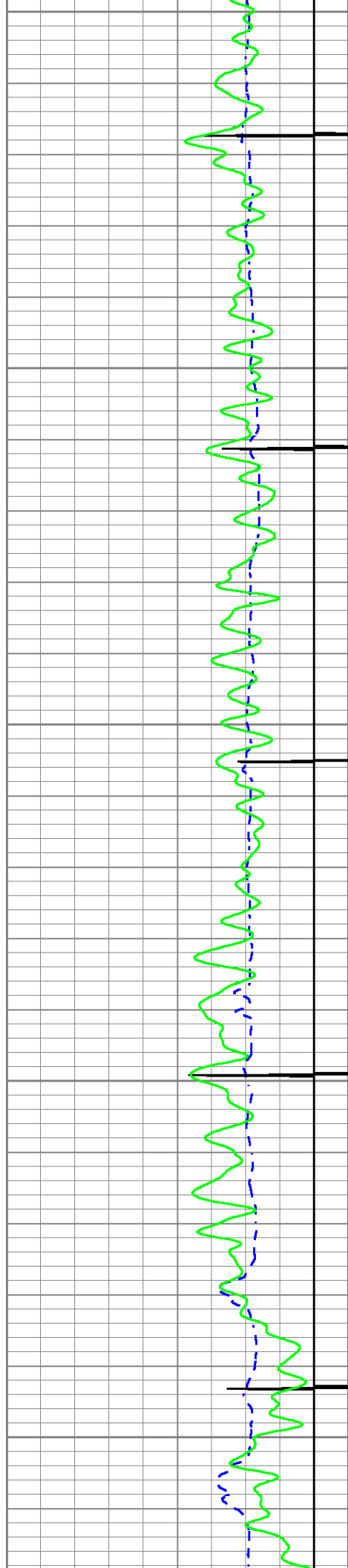
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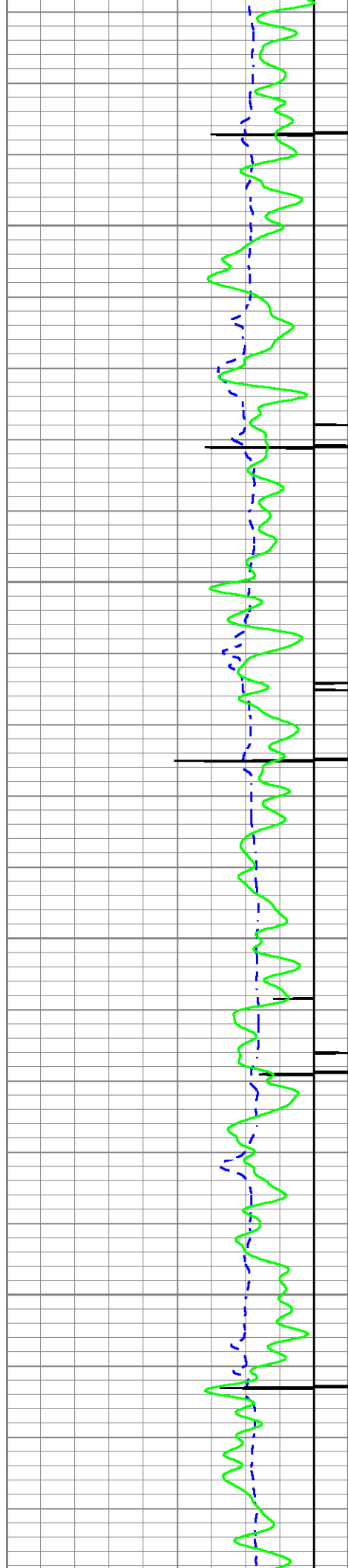
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183.946









6250

6300

6350

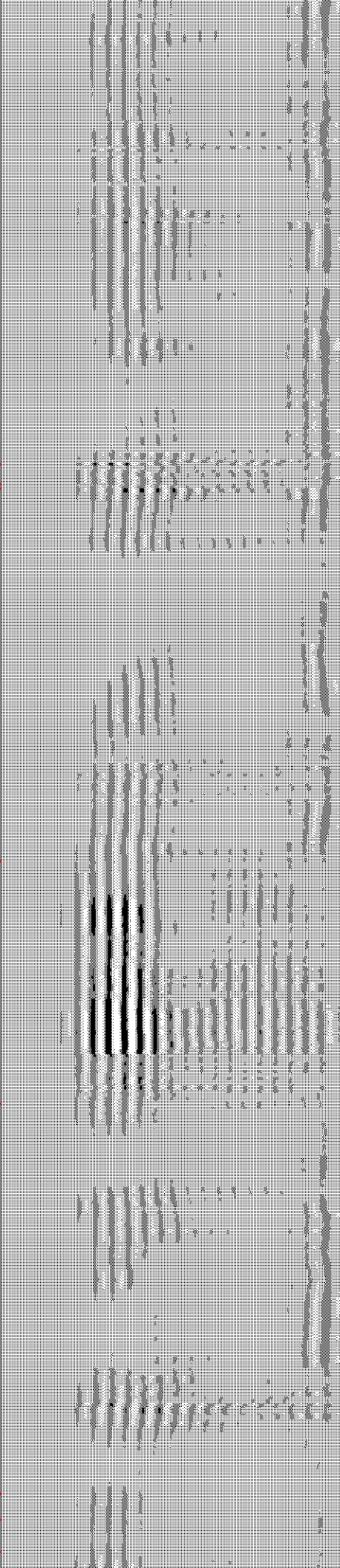
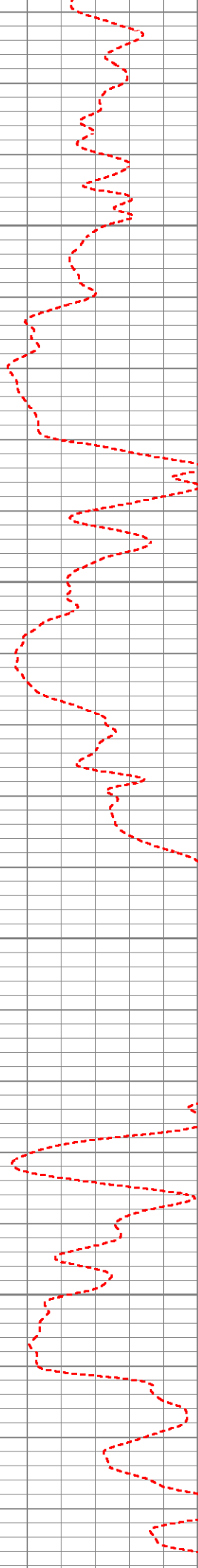
6400

189.527

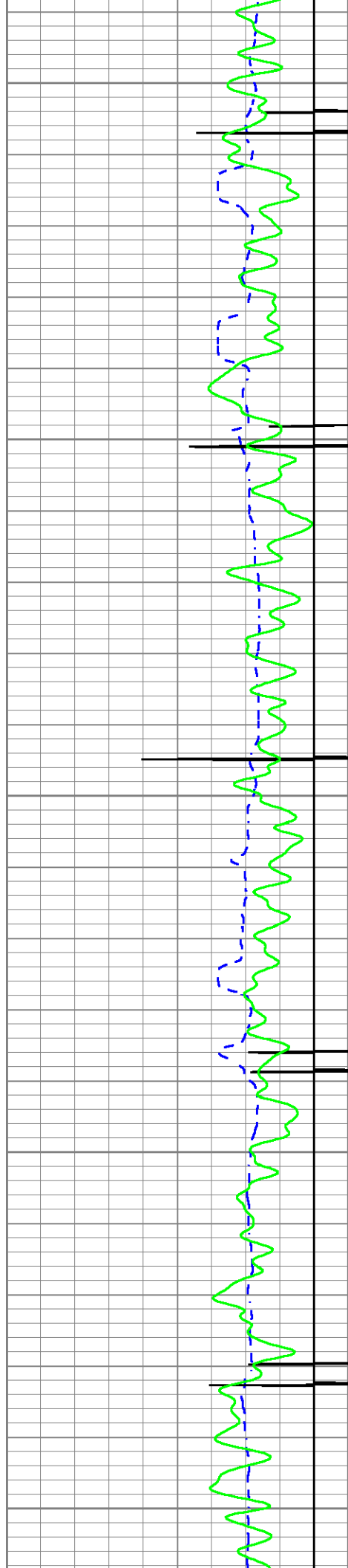
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191.516

192.38







6450

193.518

6500

194.549

6550

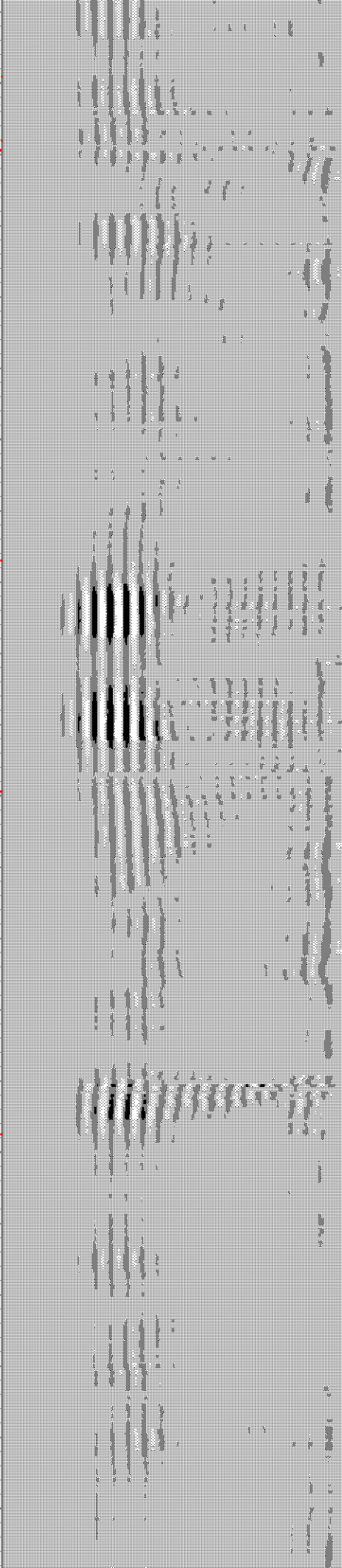
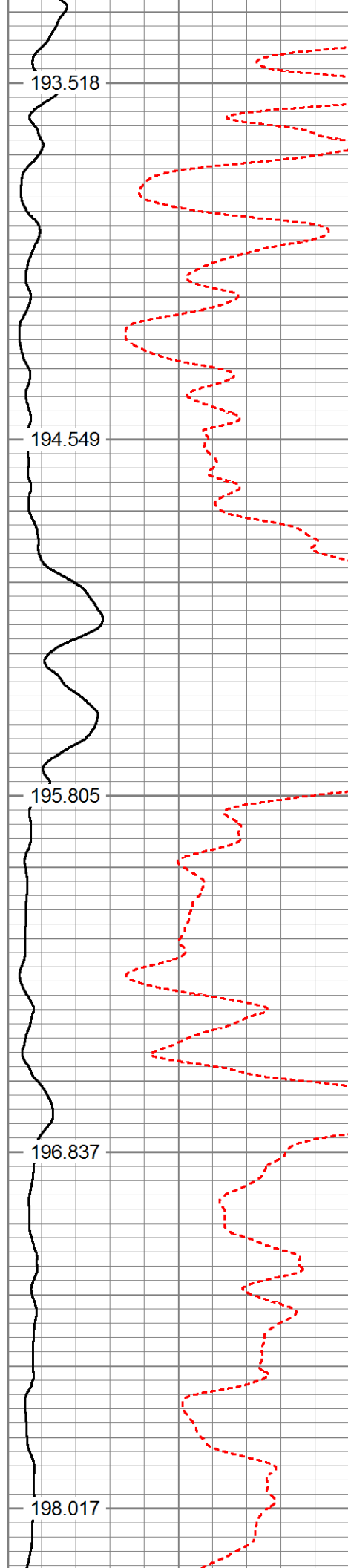
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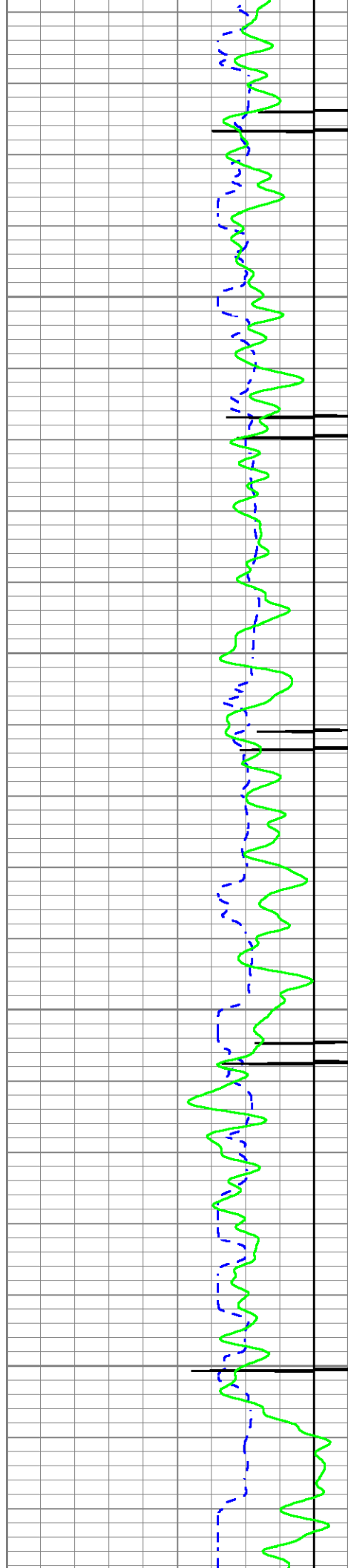
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196.837

6650

198.017





6700

199.058

6750

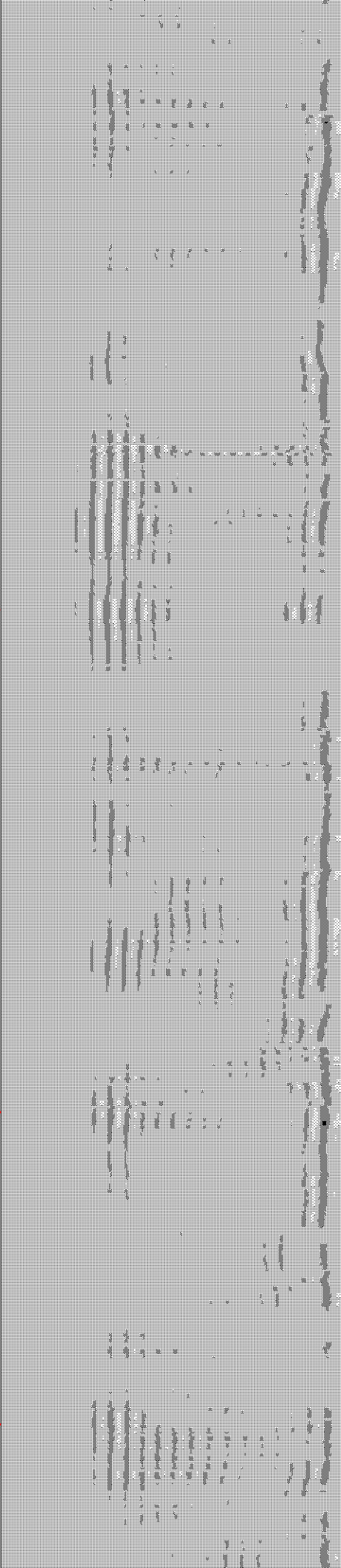
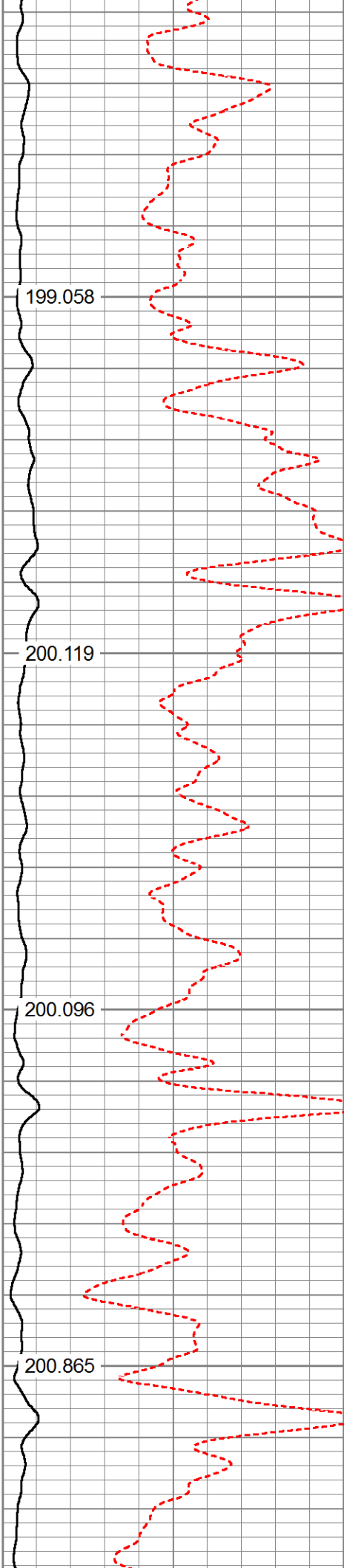
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6800

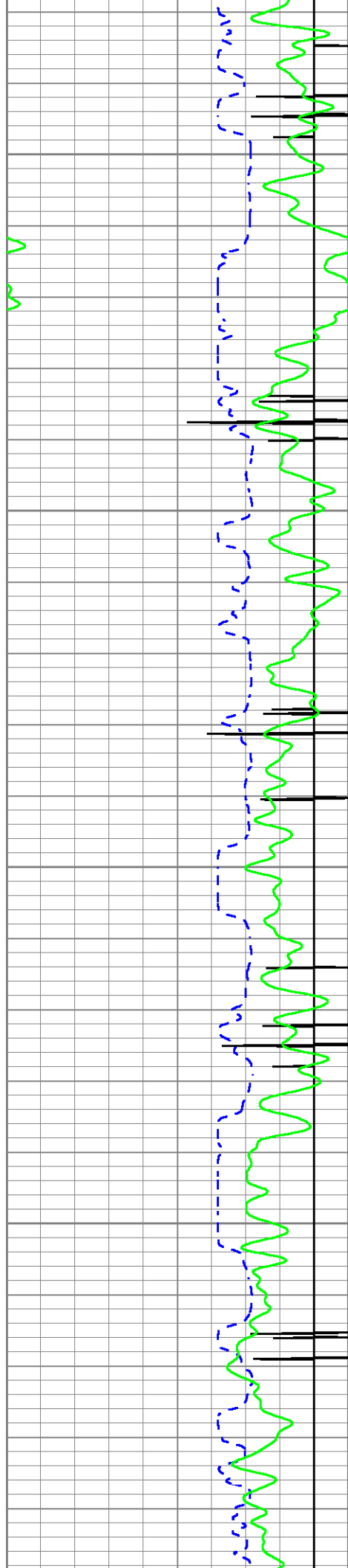
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6850

200.865







6900

6950

7000

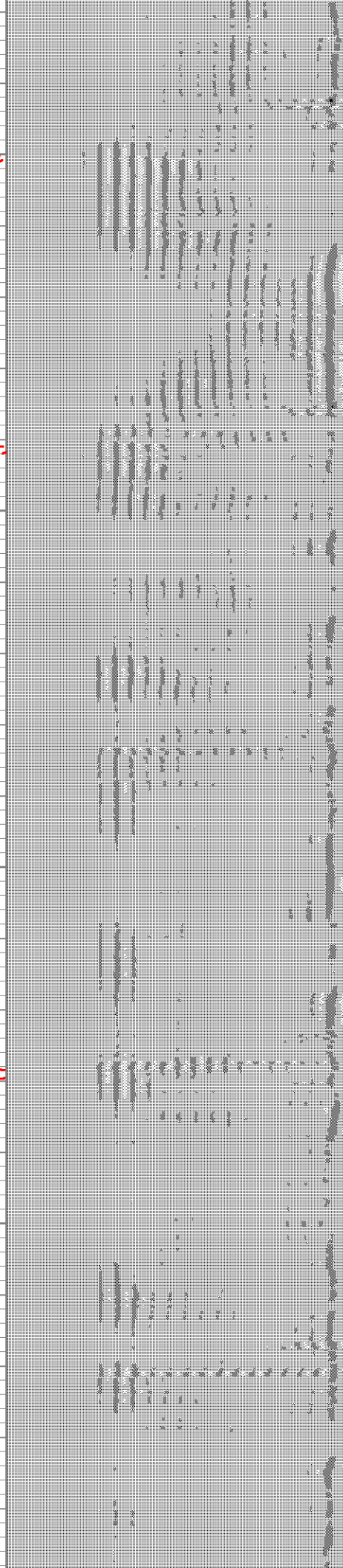
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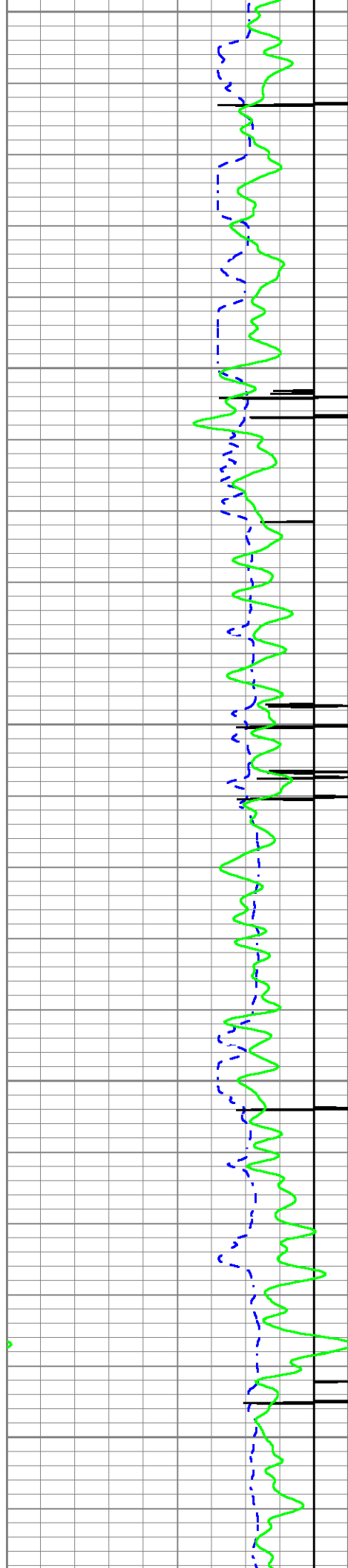
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203.905

205.145

206.3





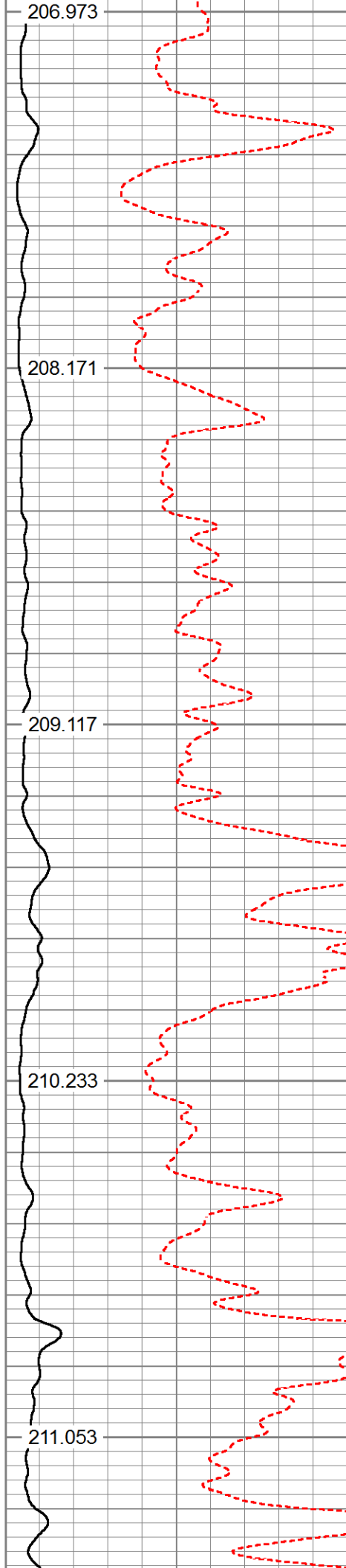
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7150

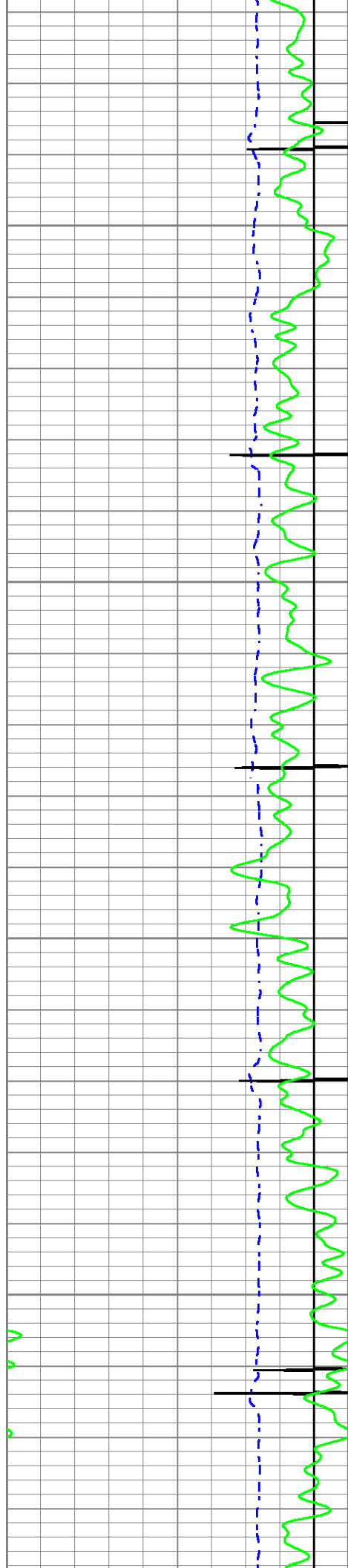
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7250

7300







7350

7400

7450

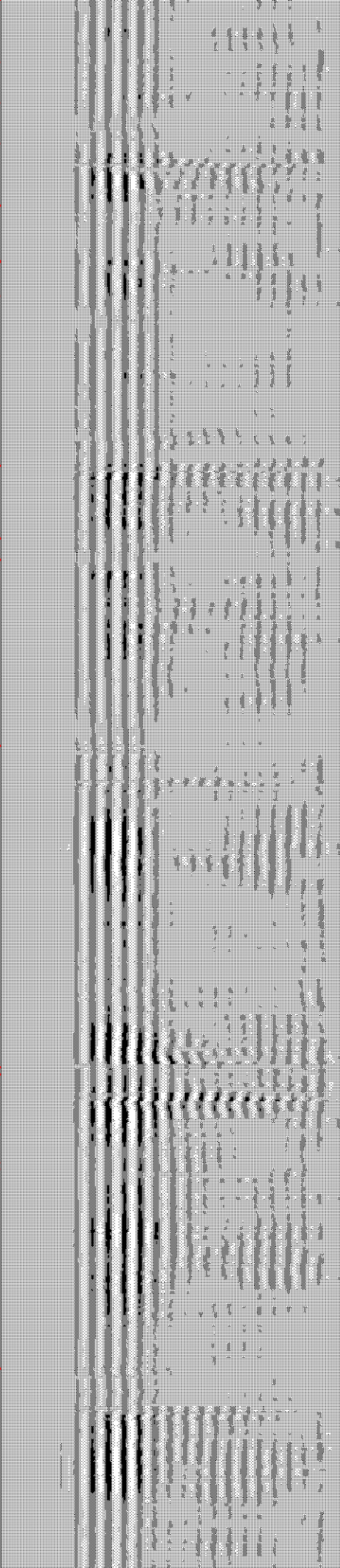
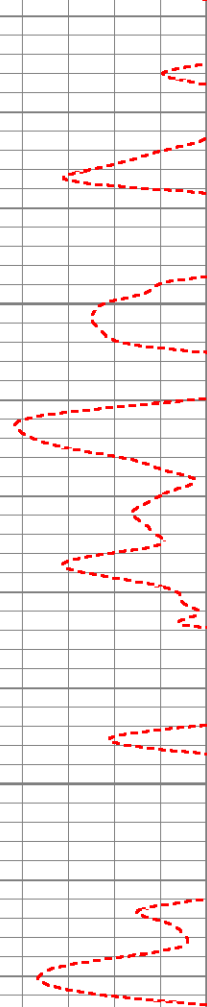
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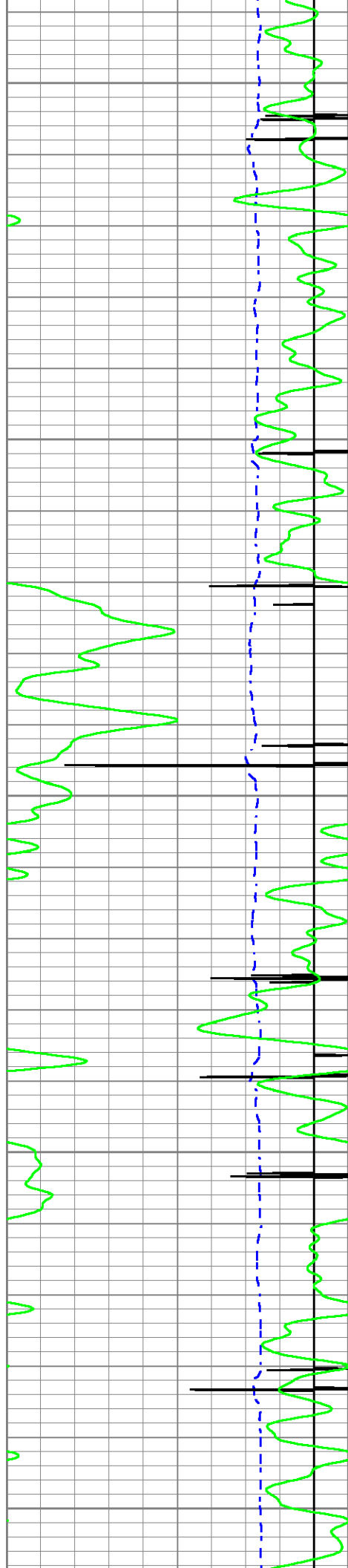
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214.316

215.476





7550

7600

7650

7700

7750

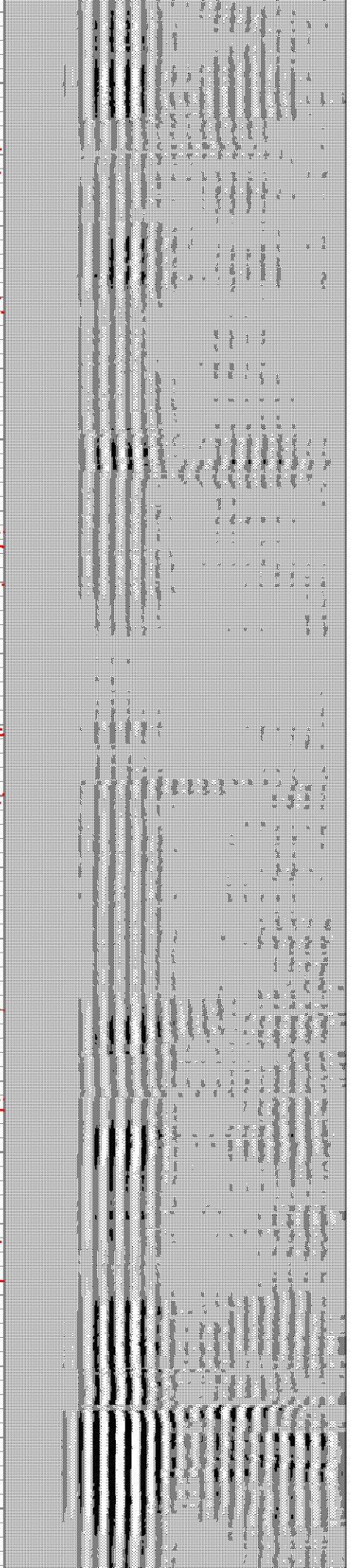
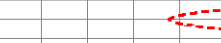
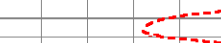
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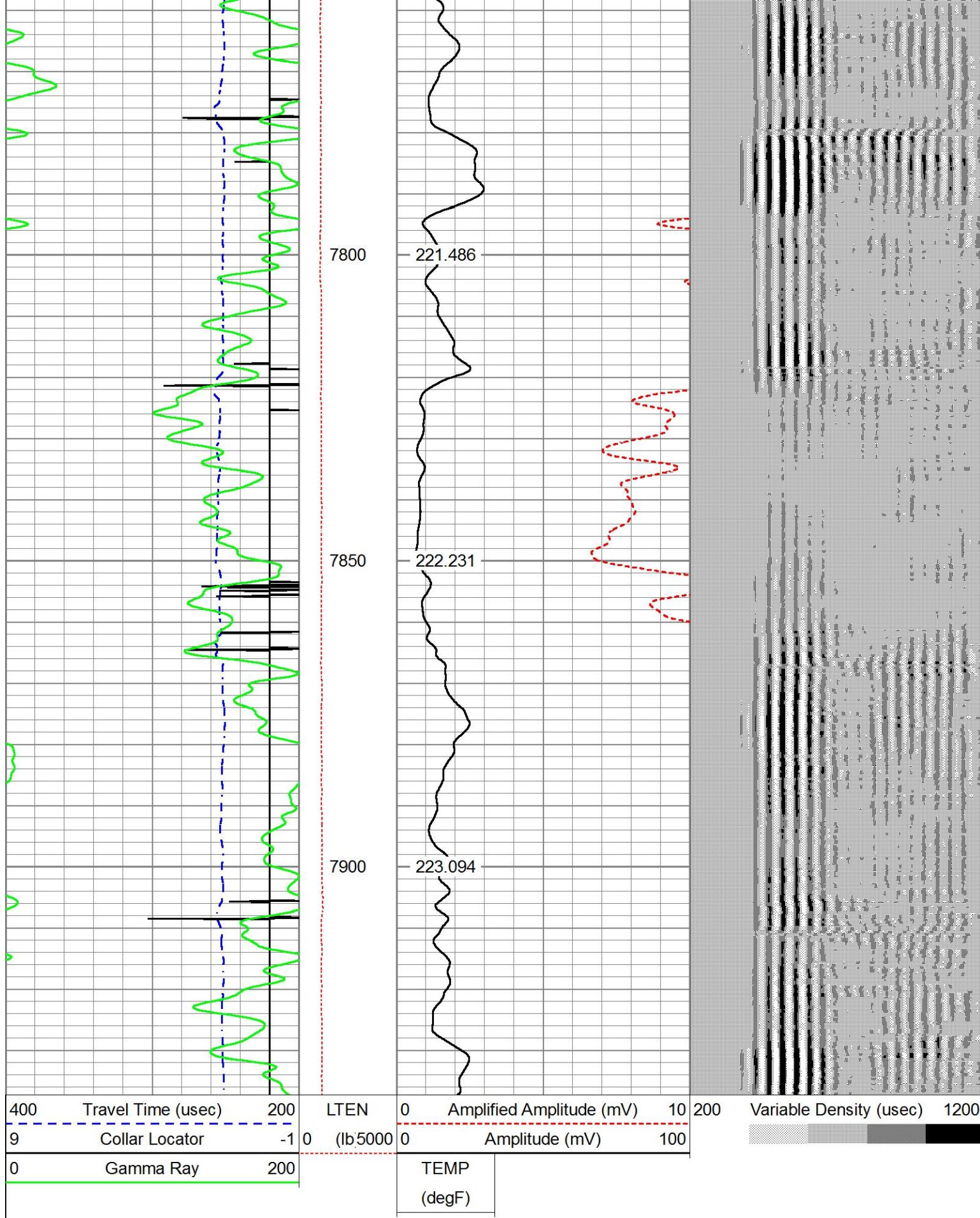
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219.548

220.431



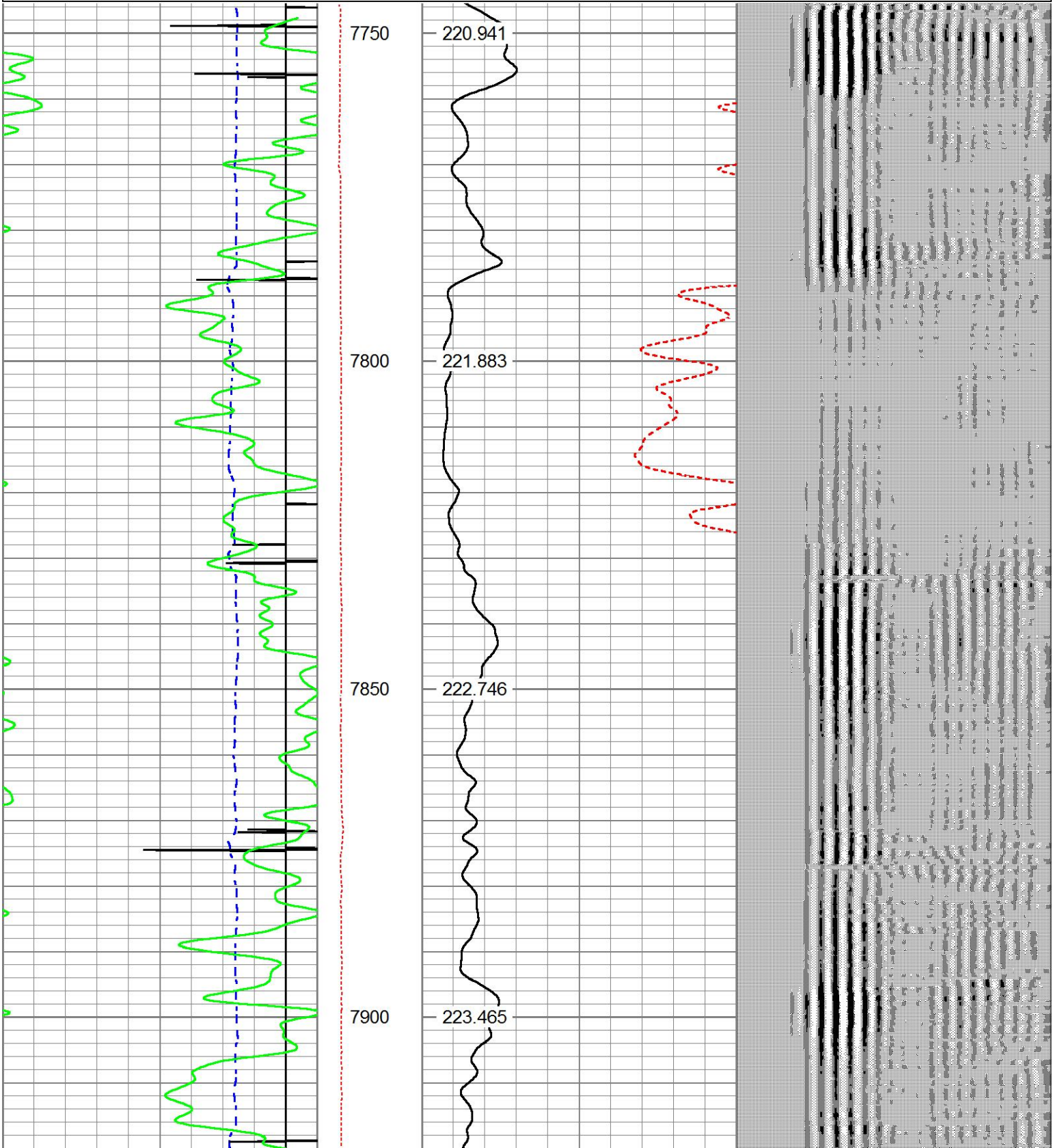


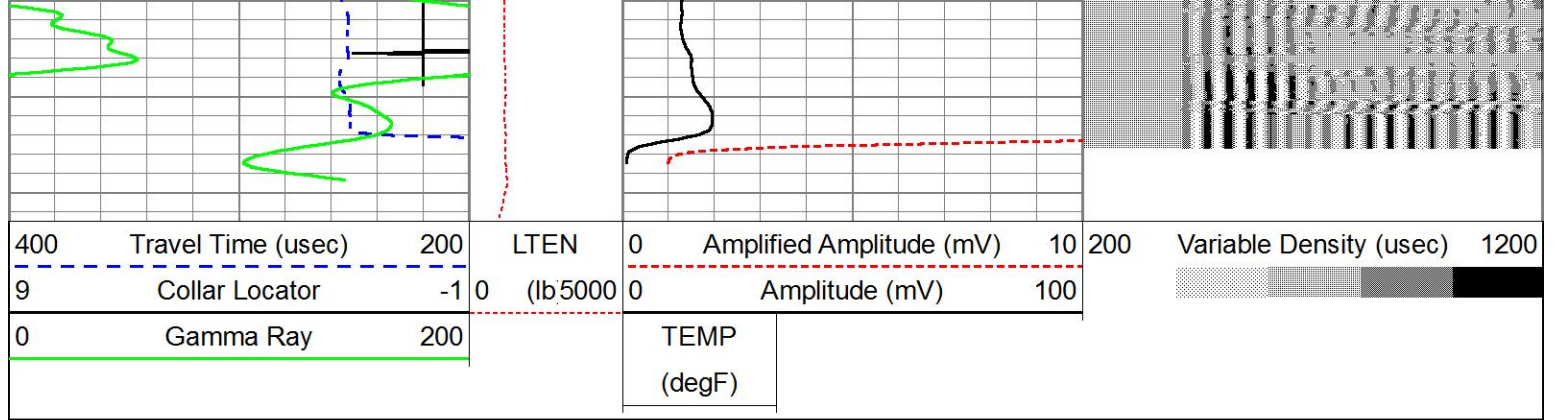




Database File gw\_seltzer\_21\_031hc\_cbl\_pressure.db  
 Dataset Pathname pass3  
 Presentation Format cblww  
 Dataset Creation Wed Dec 12 12:00:20 2018  
 Charted by Depth in Feet scaled 1:240


400	Travel Time (usec)	200	LTEN	0	Amplified Amplitude (mV)	10	200	Variable Density (usec)	1200
9	Collar Locator	-1	0	(lb/5000)	0	Amplitude (mV)	100		
0	Gamma Ray	200			TEMP				
					(degF)				





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	14.07		CCL-275tekco (111) 2 3/4" 450 Deg. "F" TekCo CCL Earth Mag	1.83	2.75	20.00
TEMP	10.64					
WVFS8	9.34					
WVFS7	9.34					
WVFS6	9.34					
WVFS5	9.34					
WVFS4	9.34					
WVFS3	9.34					
WVFS2	9.34					
WVFS1	9.34					
WVFSYNC	8.59					
WVFCAL	8.59					
WVF3FT	8.59					
WVF5FT	7.59					
WVFTEMP	4.26					
			275CTEKSECWTWSLCANS-275RIB (275-102) 2 3/4" (R.I.B.) TOOL 3FT, 5FT and 8EA RIB SIGNALS 400 DEG "F" @20K PSI With Sliding Cans For Pressure Ballance	9.13	2.75	102.00



GR	1.04		GR-Tek-Co 2 3/4 HT (609) Tekco 2 3/4" 500 Deg. F Logging Gamma Ray	4.26	2.75	53.00
Dataset: gw_seltzer_21_031hc_cbl_pressure.db: field/well/run1/pass5 Total length: 15.22 ft Total weight: 175.00 lb O.D.: 2.75 in						

Calibration Report	
Database File	gw_seltzer_21_031hc_cbl_pressure.db
Dataset Pathname	pass5
Dataset Creation	Wed Dec 12 12:04:13 2018

Gamma Ray Calibration Report		
Serial Number:	609	
Tool Model:	Tek-Co 2 3/4 HT	
Performed:	Thu Dec 06 07:14:33 2018	
Calibrator Value:	1.0	
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	275-102	
Tool Model:	275RIB	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	1749.633	ft

Master Calibration, performed Tue Dec 11 14:53:23 2018:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.109	1.000	71.921	63.964	1.000
CAL	0.000	0.987				
5'	0.000	1.547	1.000	71.921	45.846	1.000
SUM						
S1	0.000	0.940	0.000	100.000	106.352	0.000
S2	0.000	0.926	0.000	100.000	107.939	0.000
S3	0.000	0.943	0.000	100.000	106.023	0.000
S4	0.000	0.966	0.000	100.000	103.487	0.000
S5	0.000	0.976	0.000	100.000	102.470	0.000
S6	0.000	0.932	0.000	100.000	107.301	0.000
S7	0.000	0.889	0.000	100.000	112.498	0.000
S8	0.000	0.971	0.000	100.000	102.938	0.000

Internal Reference Calibration, performed (Not Performed):		
Raw (v)	Calibrated (v)	Results

	<div>Zero</div>	<div>Cal</div>	<div>Zero</div>	<div>Cal</div>	<div>Gain</div>	<div>Offset</div>
CAL	0.000	0.000	0.000	0.987	1.000	0.000
Air Zero Calibration, performed Thu Dec 06 13:12:56 2018:						
	<div>Raw (v)</div>		<div>Calibrated (v)</div>		<div>Results</div>	
	<div>Zero</div>		<div>Zero</div>		<div>Offset</div>	
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	
Temperature Calibration Report						
Serial Number:	275-102					
Tool Model:	275RIB					
Performed:	Thu Dec 06 07:46:53 2018					
		Reference		Reading		
Low Reference:	75.00	degF		300.00	usec	
High Reference:	400.00	degF		1282.00	usec	
Gain:	0.33					
Offset:	-24.29					
Delta Spacing	1					

	Company	GREAT WESTERN OIL & GAS				
	Well	SELTZER LD 21 031HC				
	Field	WATTENBURG				
	County	ADAMS				
	State	COLORADO				Country USA