



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company TEP Rocky Mountain LLC  
Well Federal RG 443-18-297  
Field Sulphur Creek  
County Rio Blanco State Colorado

Location: API #: 05-103-12461  
SEC 18 TWP 2S RGE 97W  
Permanent Datum Ground Level Elevation 6621'  
Log Measured From Kelly Bushing 30 FT  
Drilling Measured From Kelly Bushing  
Other Services  
Elevation  
K.B. 6651'  
D.F. 6650'  
G.L. 6621'

Company TEP Rocky Mountain LLC  
Well Federal RG 443-18-297  
Field Sulphur Creek  
County Rio Blanco  
State Colorado

Date	07-MAY-2021			
Run Number	One			
Depth Driller	12297 FT			
Depth Logger	12192 FT			
Bottom Logged Interval	12183 FT			
Top Log Interval	Surface			
Open Hole Size	8.750"			
Type Fluid	Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	270°F			
Estimated Cement Top	See Log			
Time Well Ready	ROA			
Time Logger on Bottom	18:00			
Equipment Number	HD-0331			
Location	Grand Junction, CO			
Recorded By	Z. Fisher			
Witnessed By	---			
Borehole Record				
Run Number	Bit	From	To	Size
				Weight
				From
				To
Tubing Record				
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top
Surface Casing	9 5/8	36	J-55	Surface
Intermediate #1	4 1/2	11.6	P-110	Surface
Intermediate #2				
Inner				

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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 ran as per customer request  
Depth referenced to Kelly Bushing at 30 FT  
Marker Joint logged from 7324-7333 FT  
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

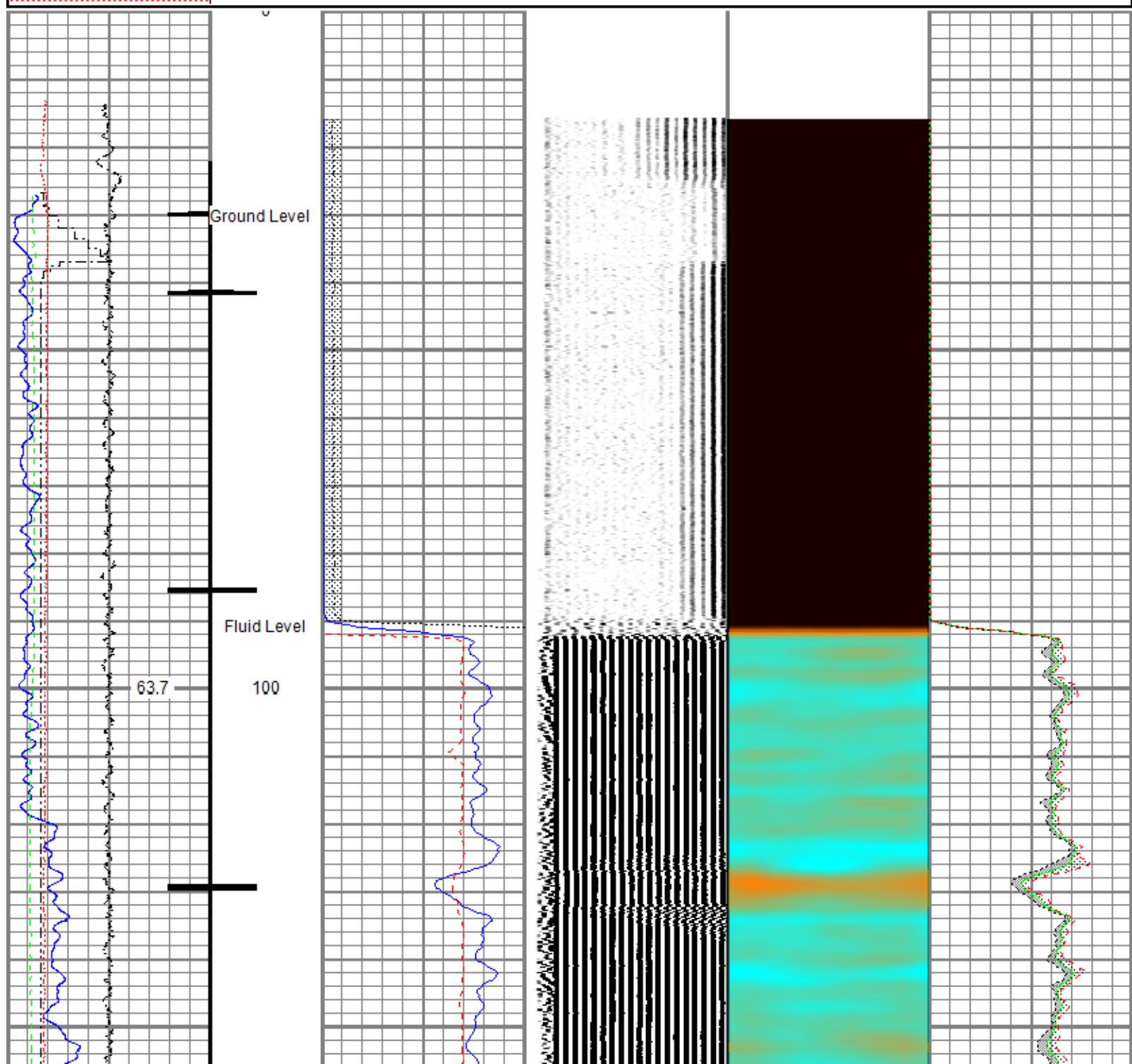
Main Pass

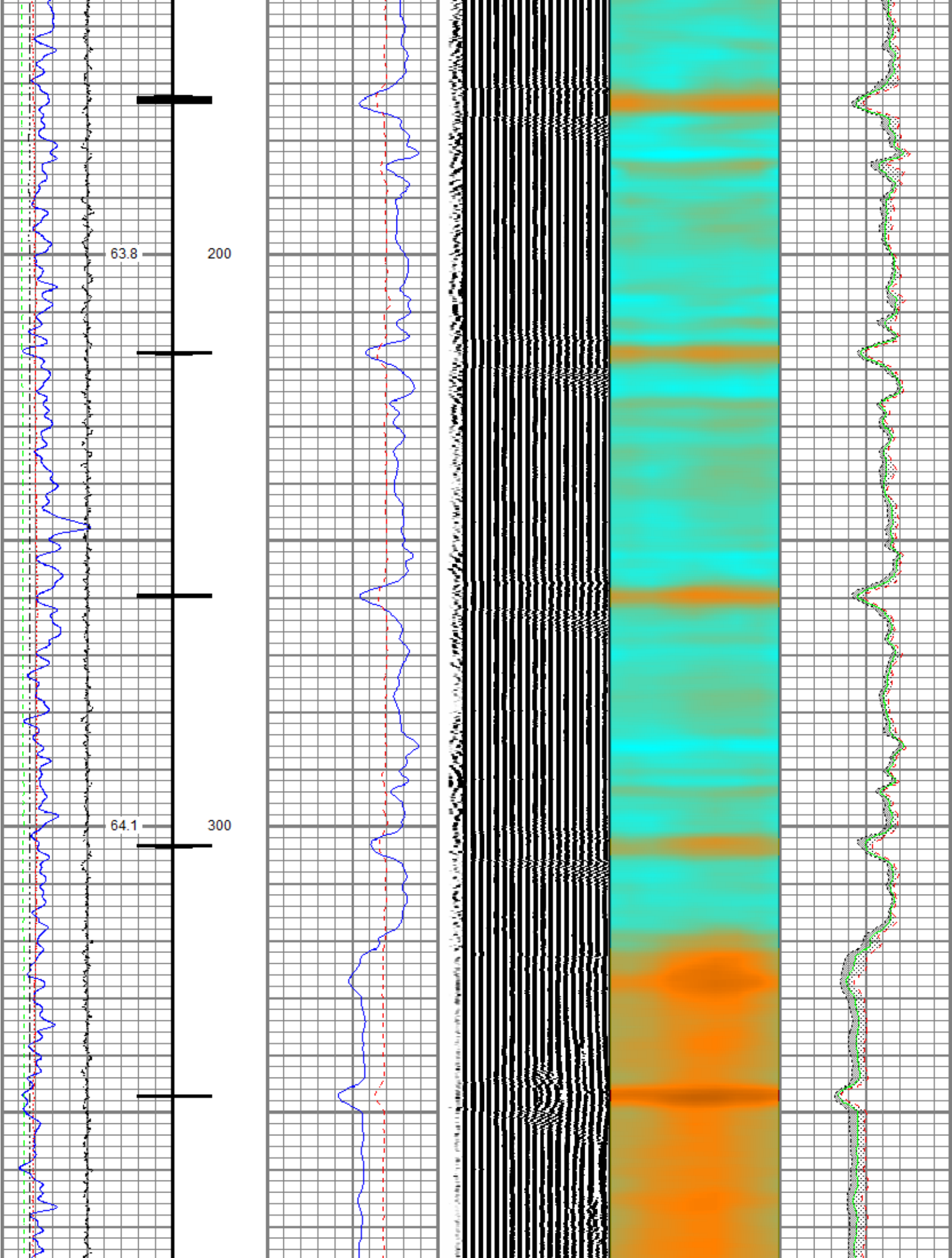


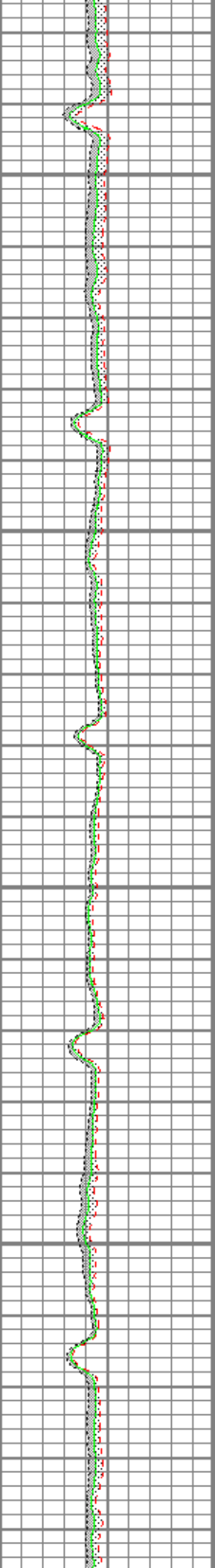
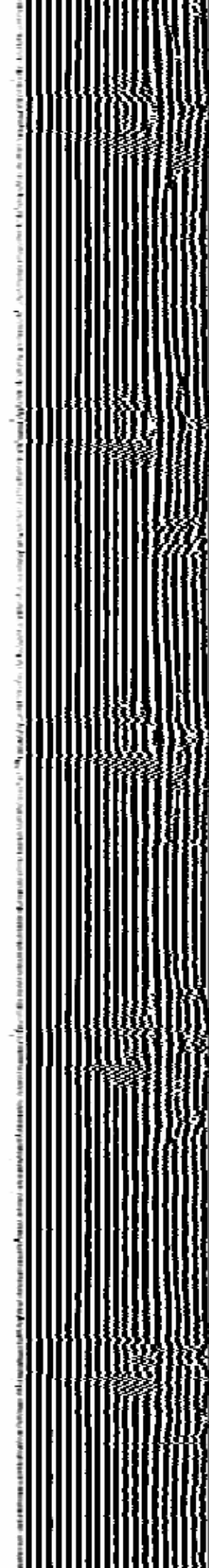
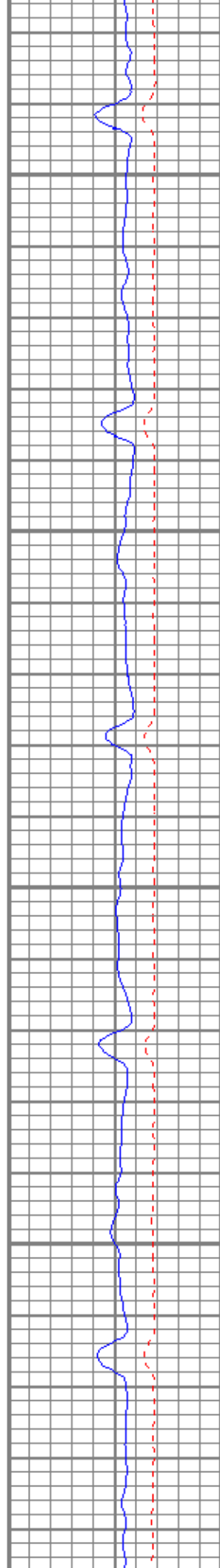
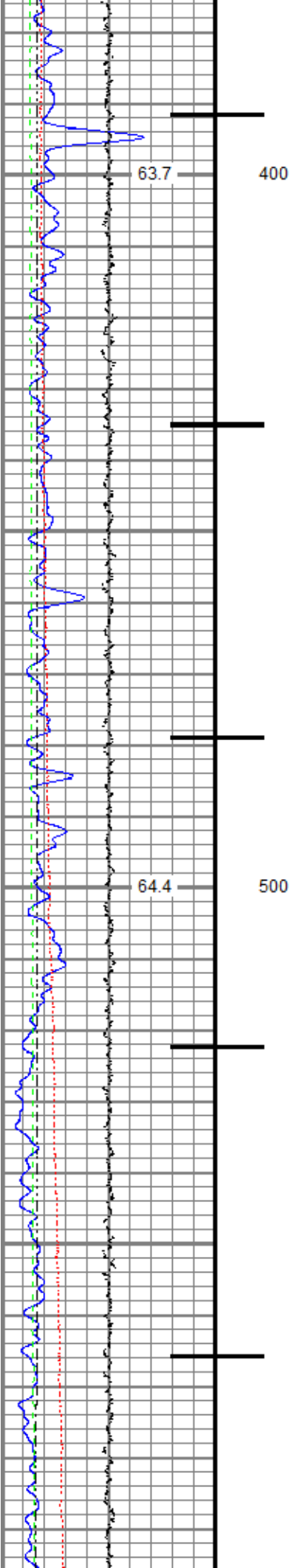
Recorded With 0 PSI Surface Induced Pressure

Database File tep/federal rg 443-18-297/tep\_federal rg 443-18-297\_rbl\_05-07-21.db  
 Dataset Pathname main  
 Presentation Format ros\_radri\_tep  
 Dataset Creation Fri May 07 18:24:37 2021  
 Charted by Depth in Feet scaled 1:240

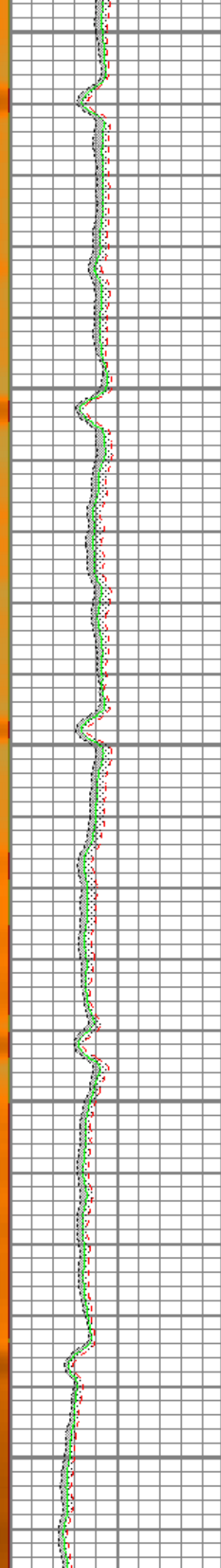
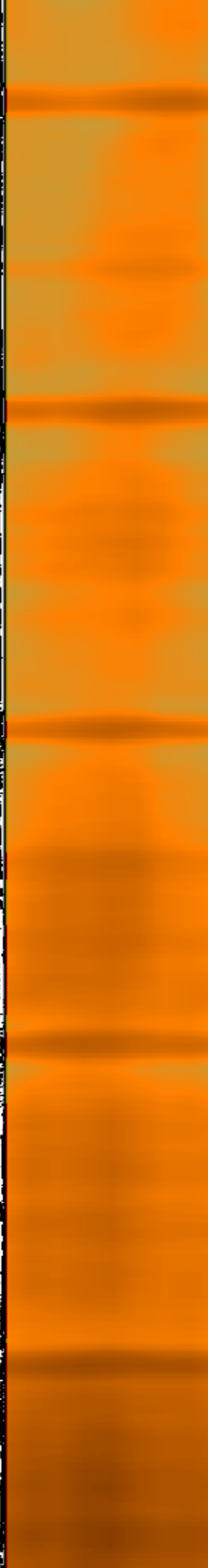
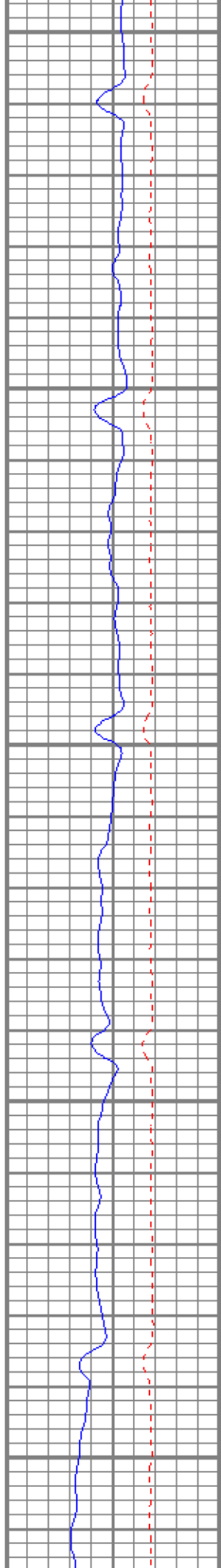
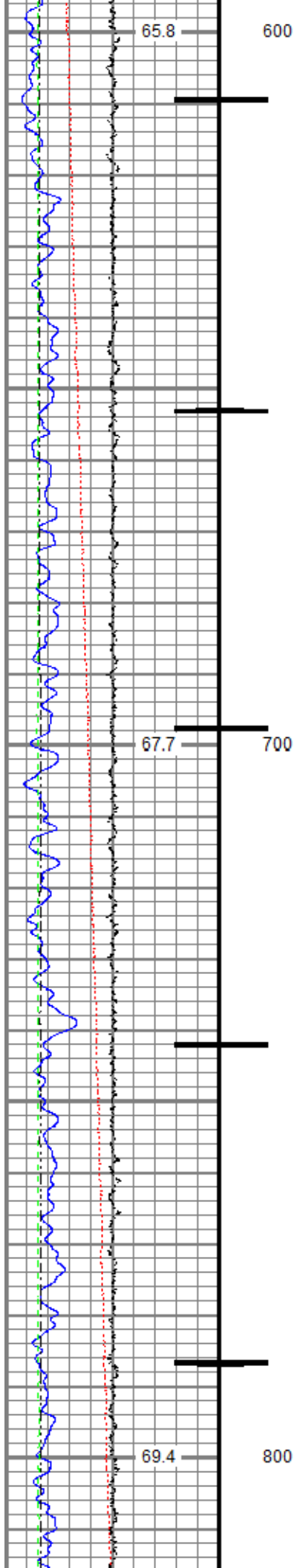
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 150
(GAPI) 200		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	150
Line Speed		3' Travel Time				Maximum Amplitude
-150 (ft/min) 150		300 (usec) 200			0	150
Line Tension (lb) 2000						
Differential Temperature						
-2 (degF) 2						
Temperature (degF) 20						

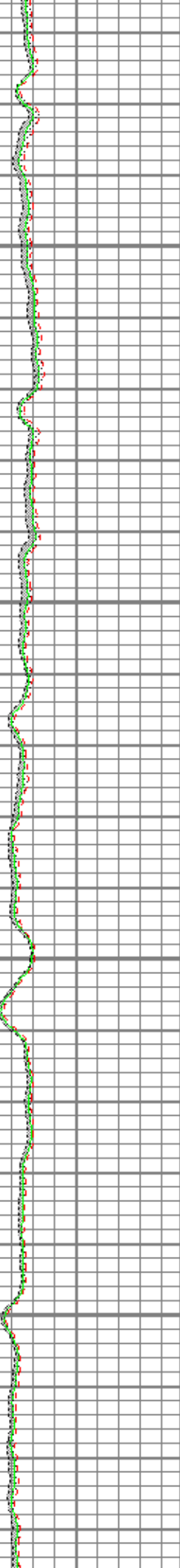
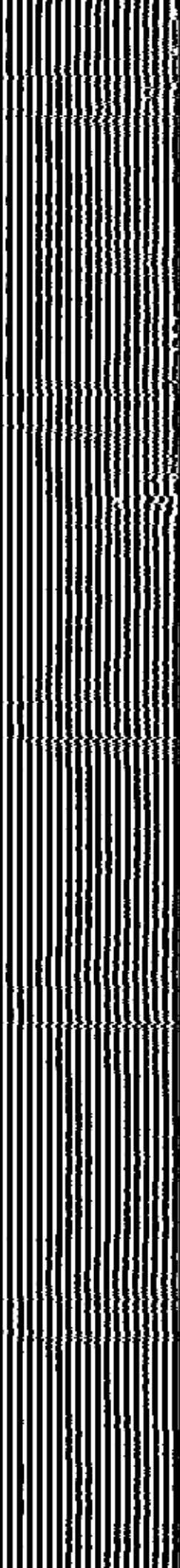
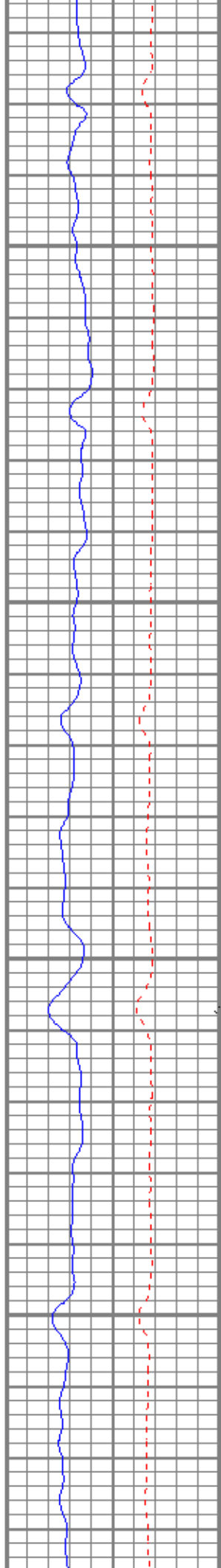
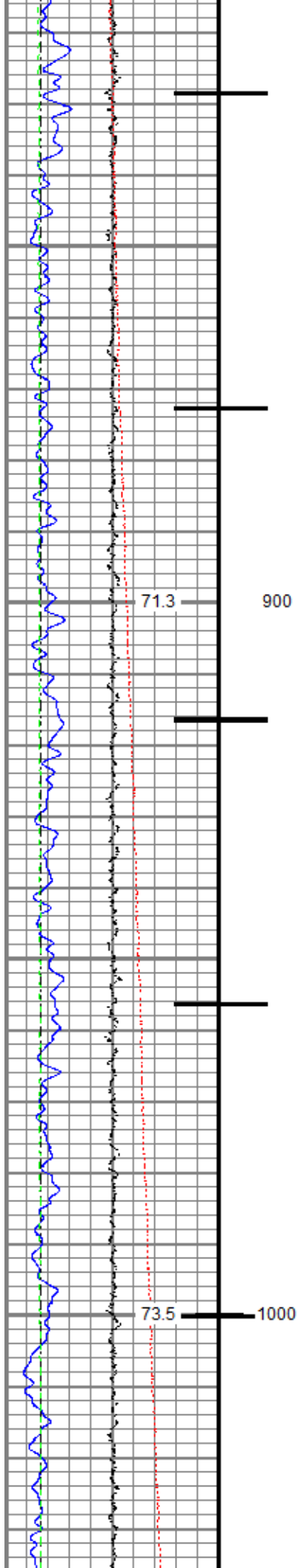


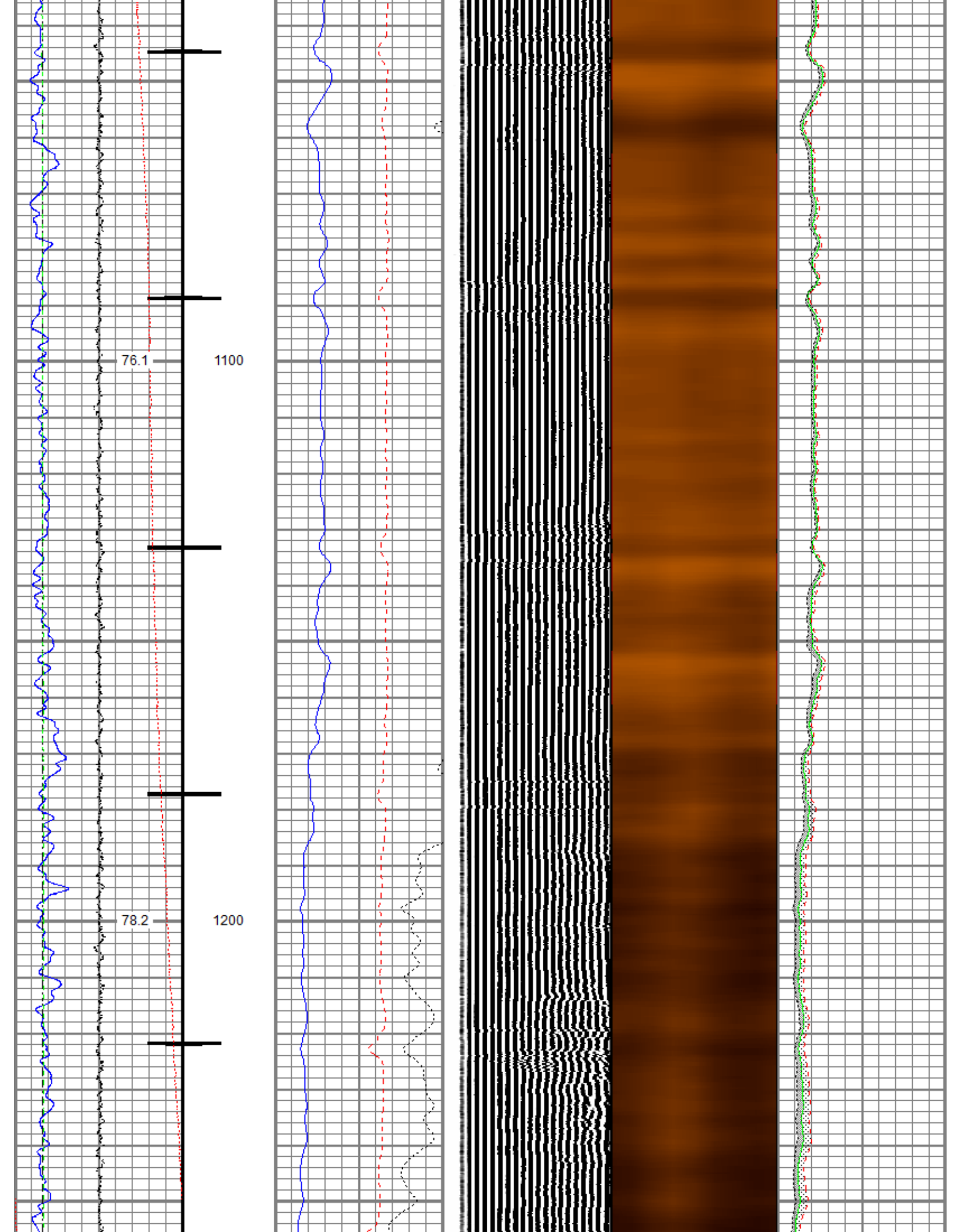


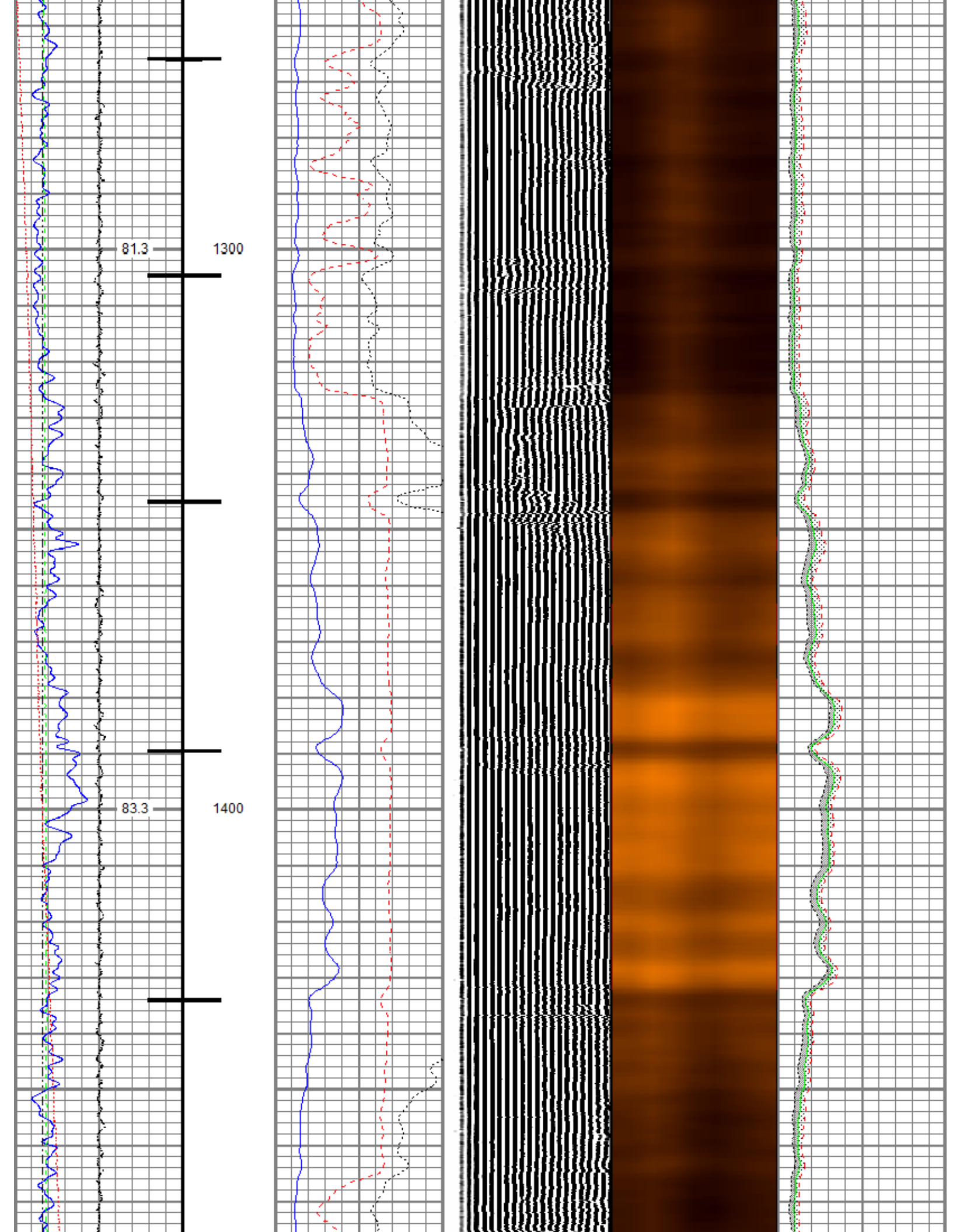




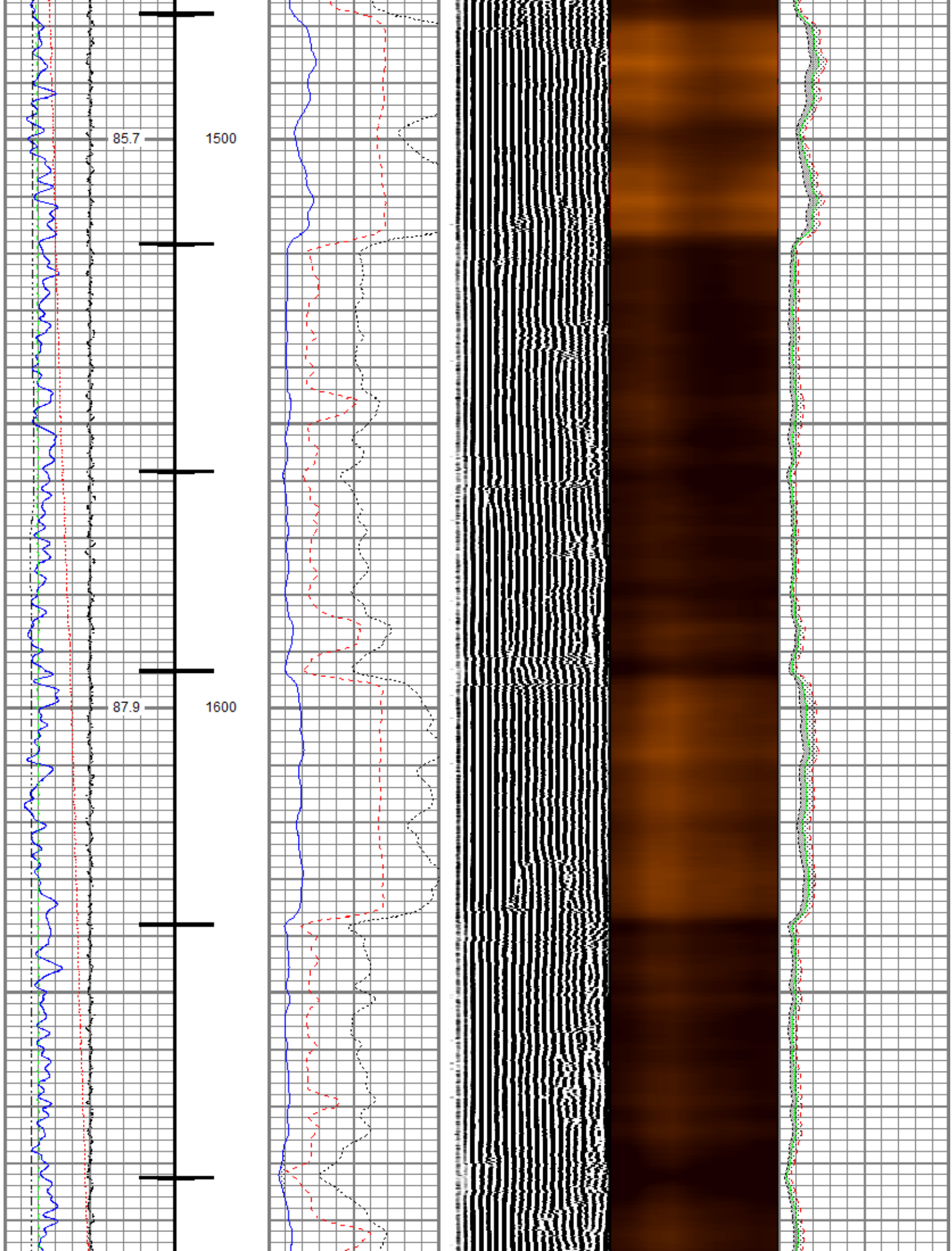


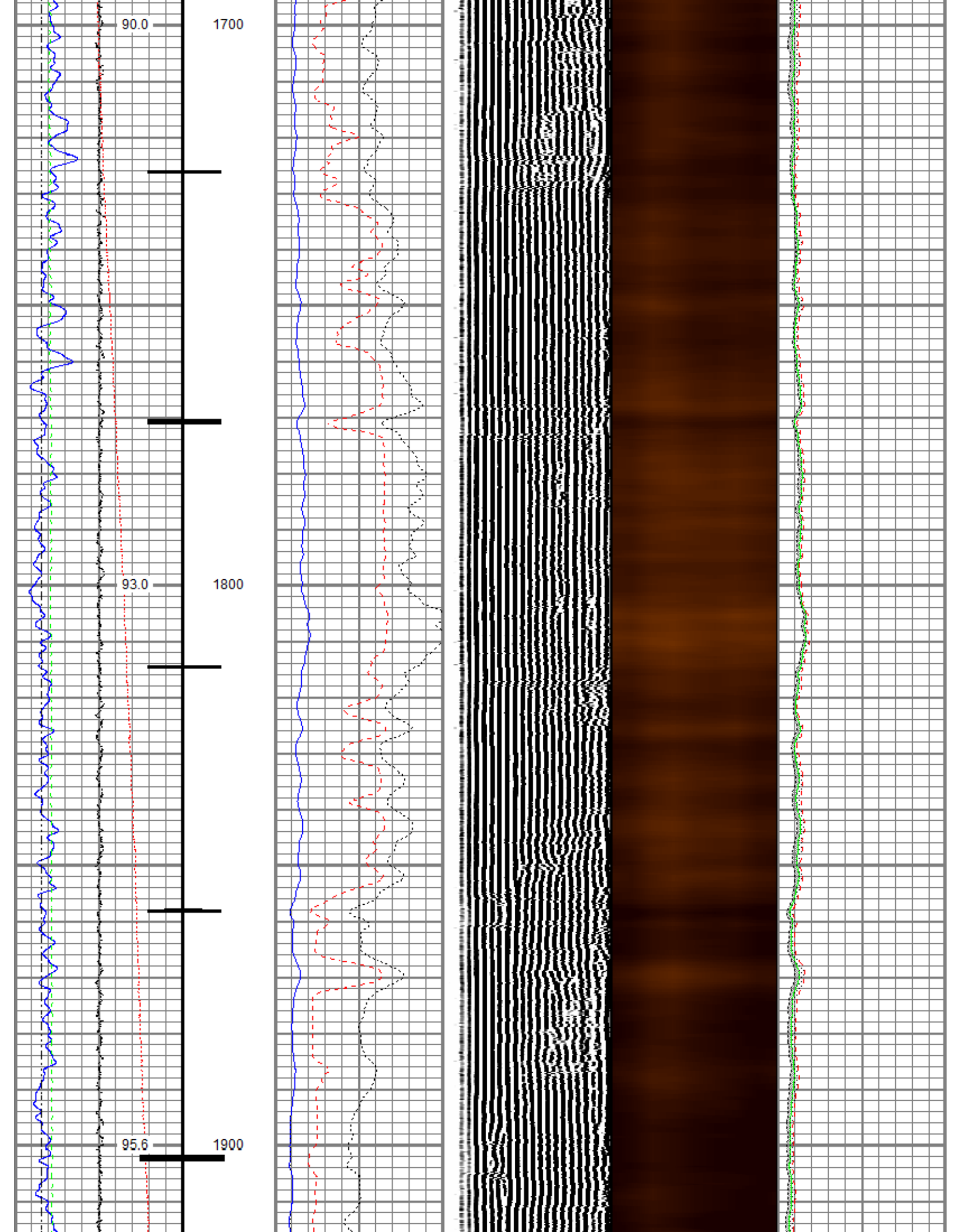


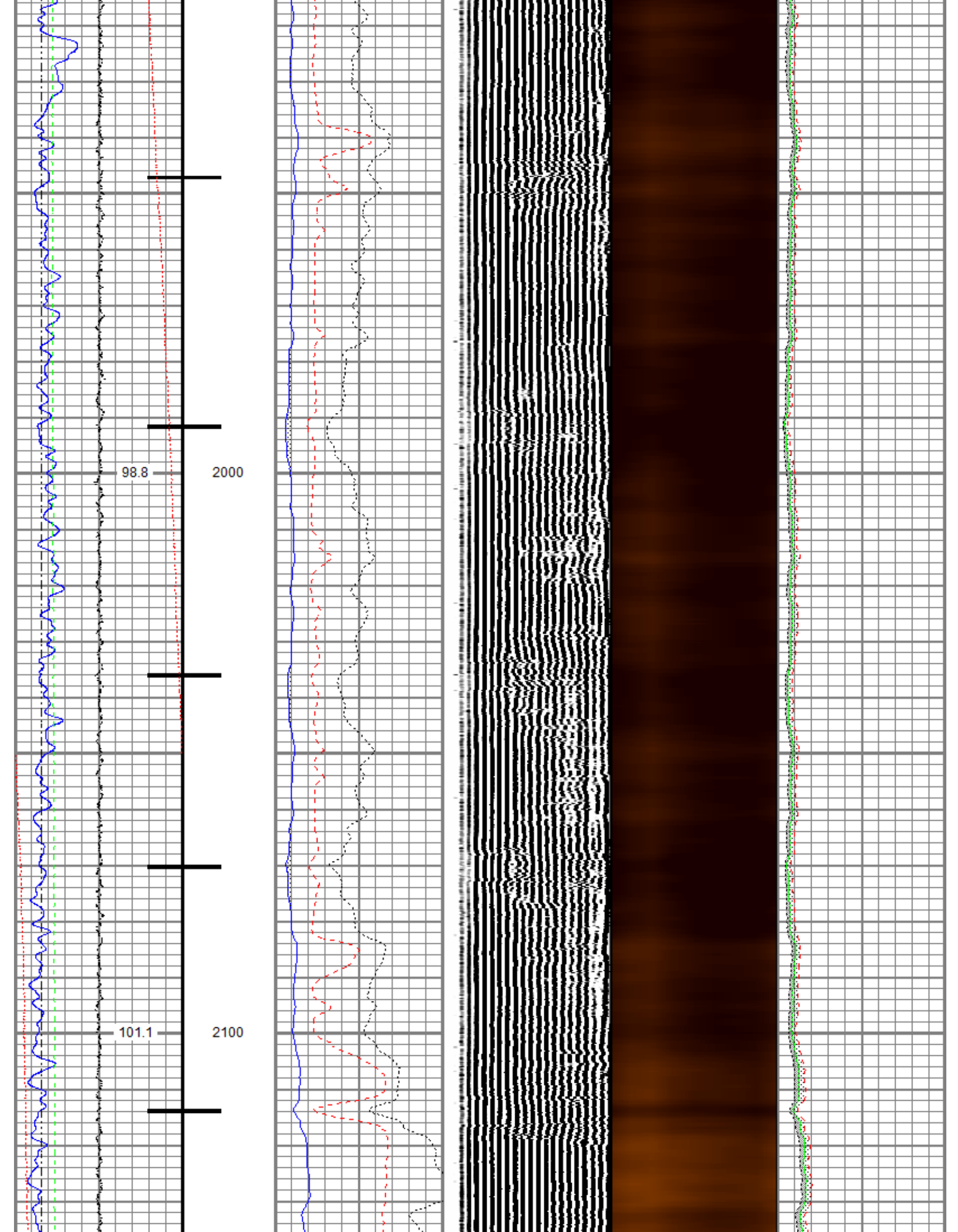


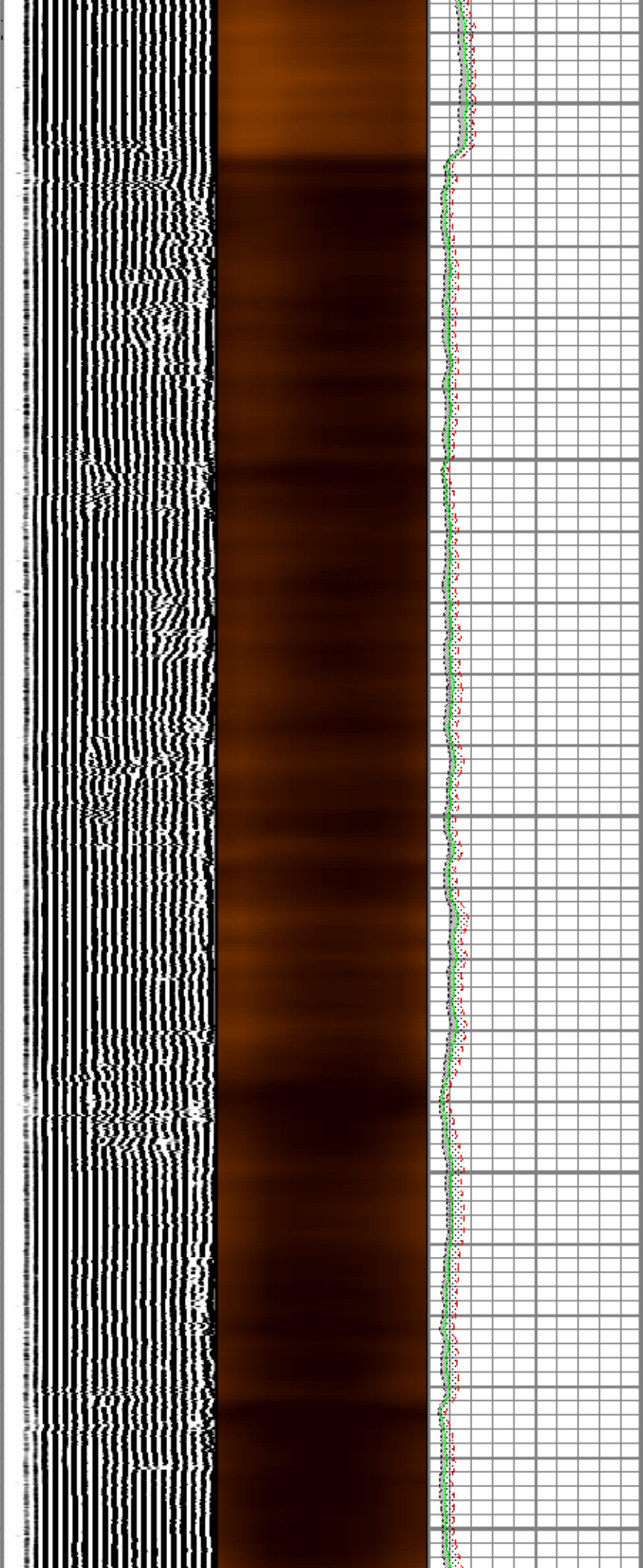
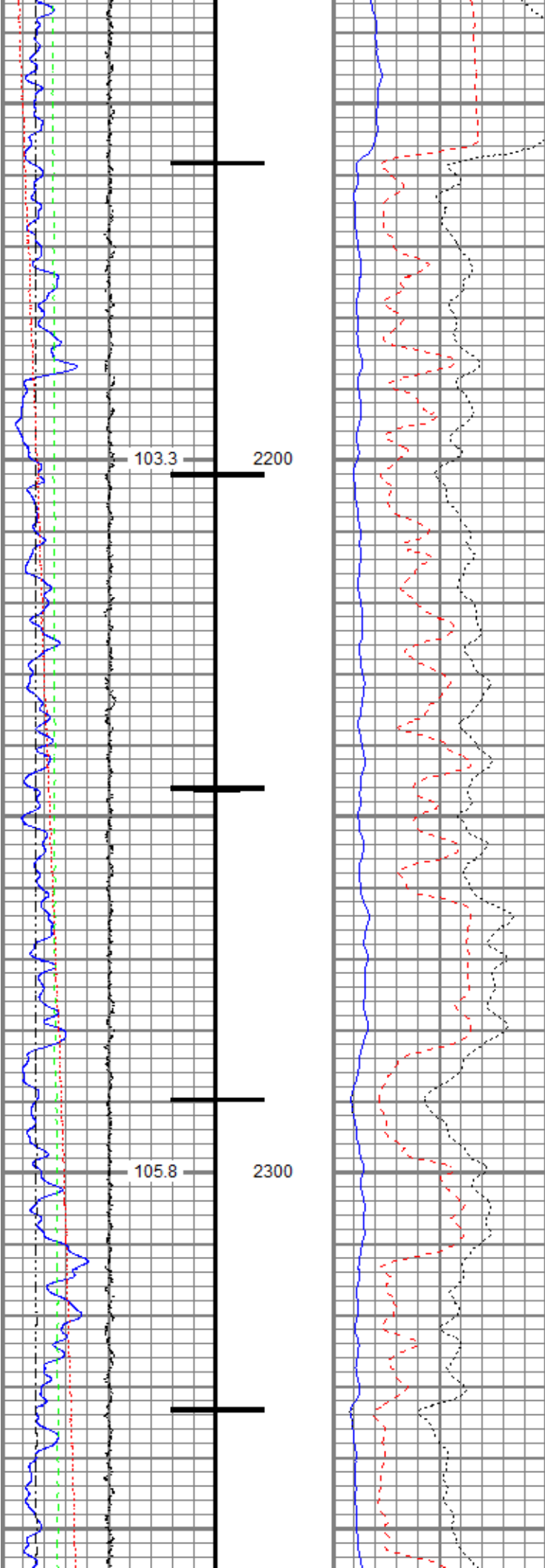




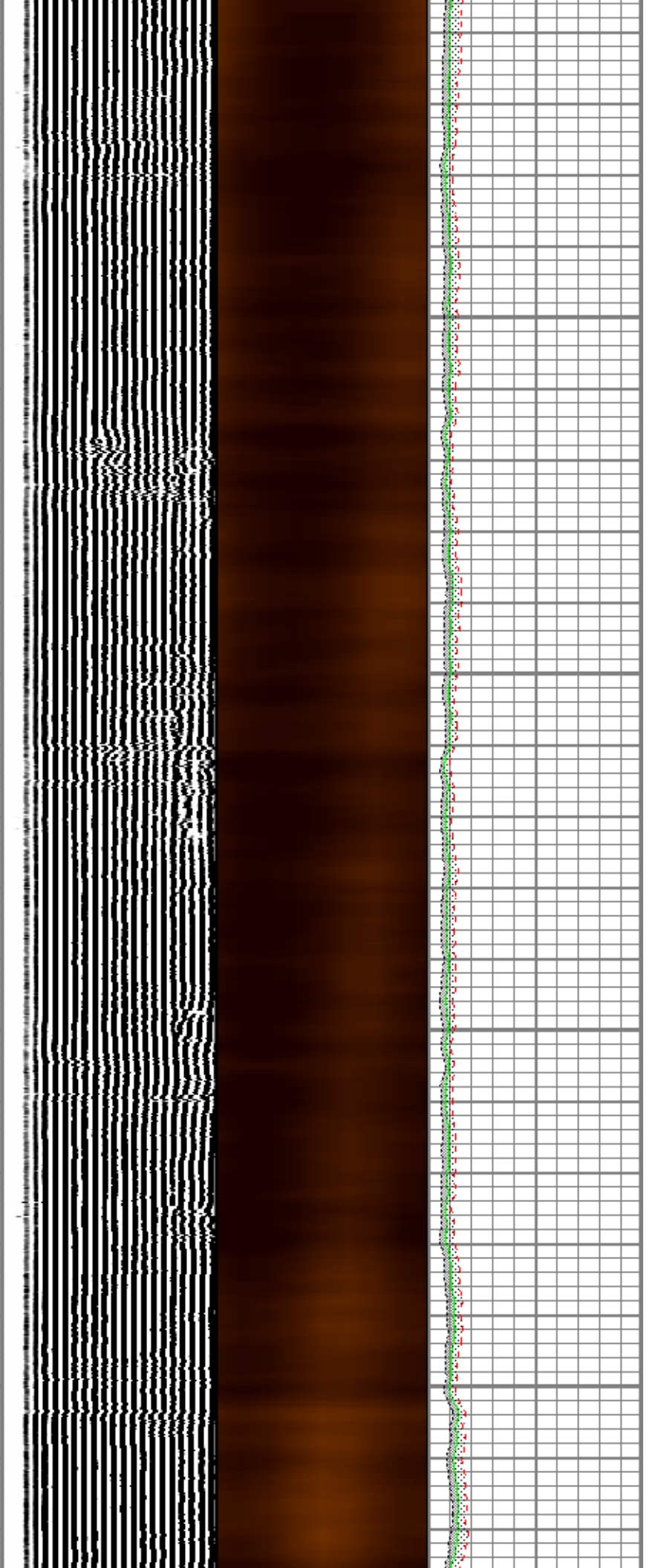
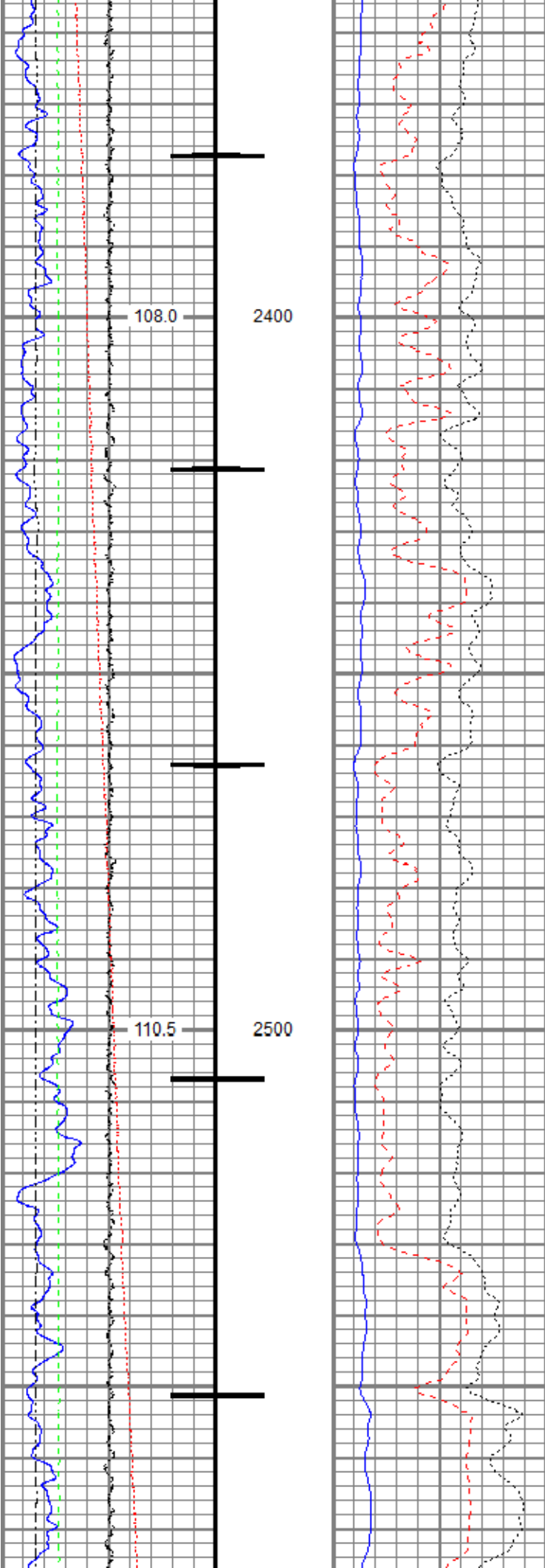


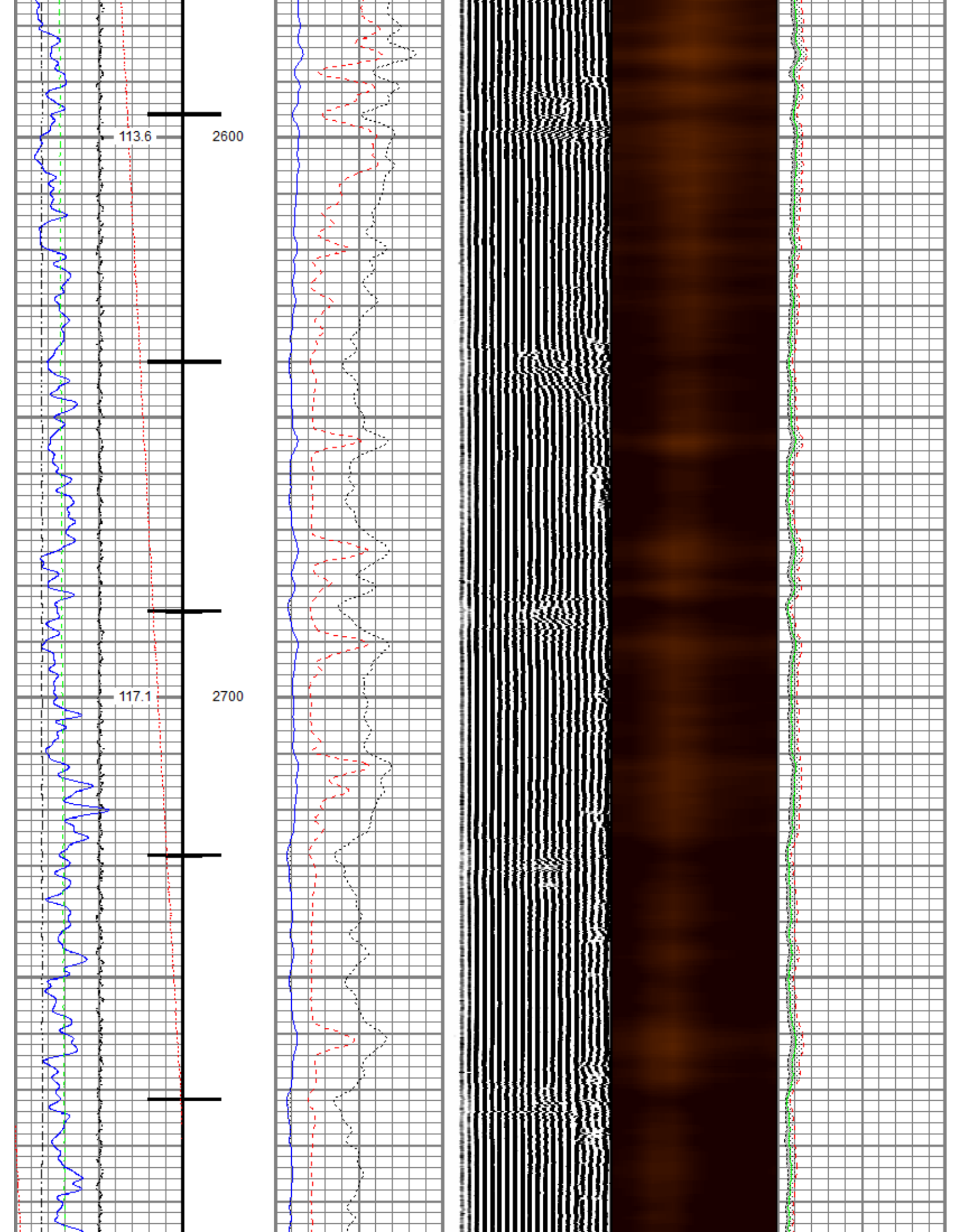


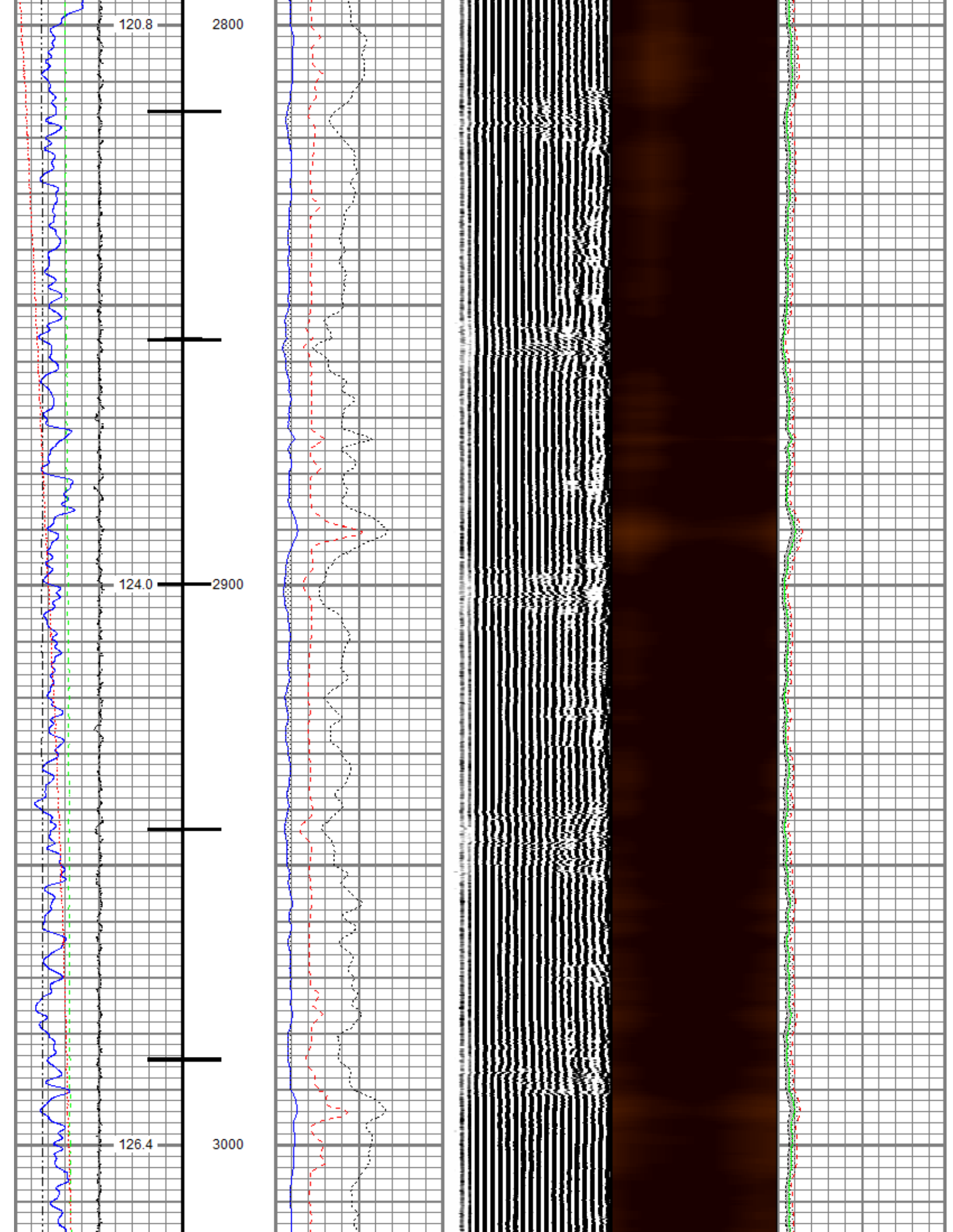


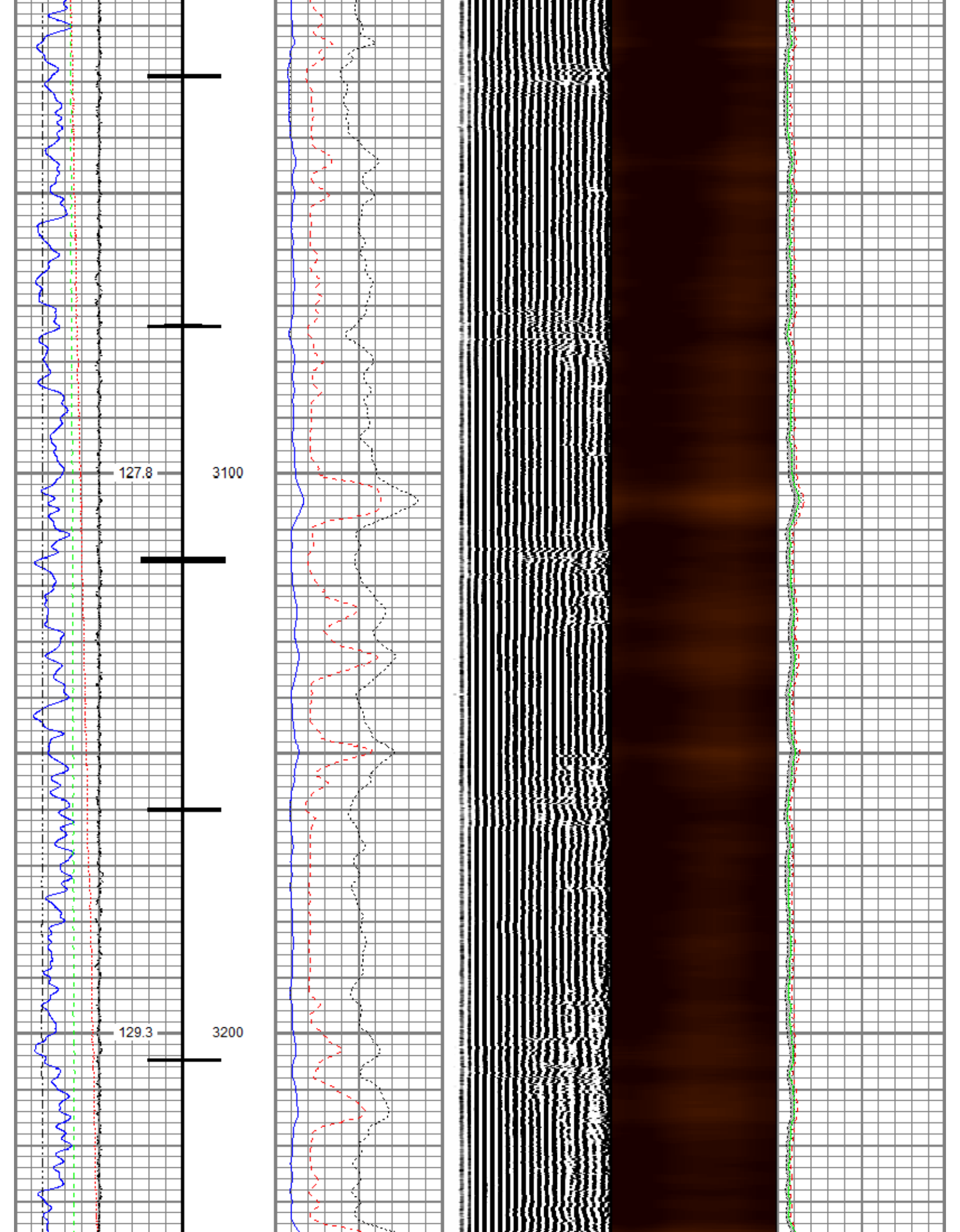




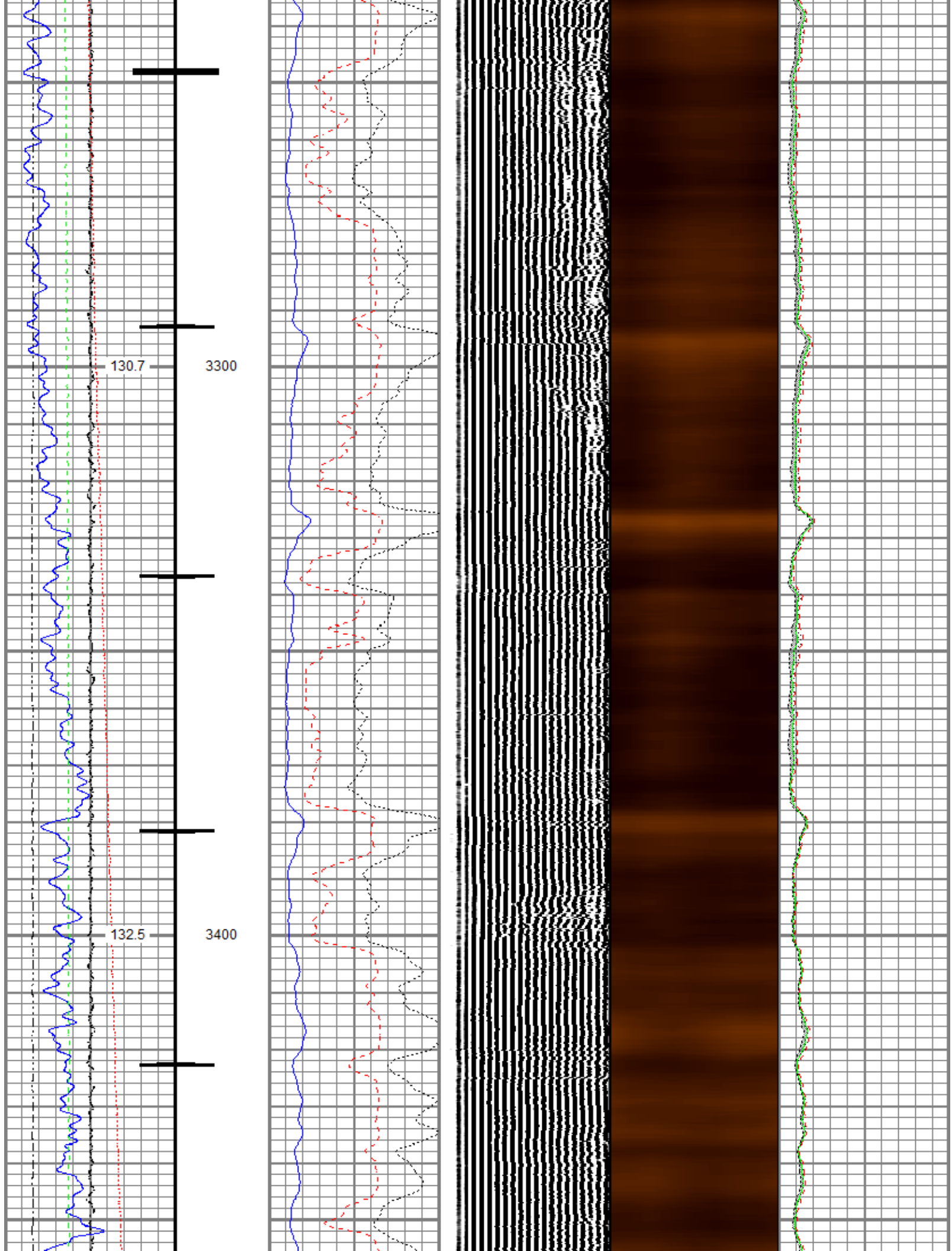


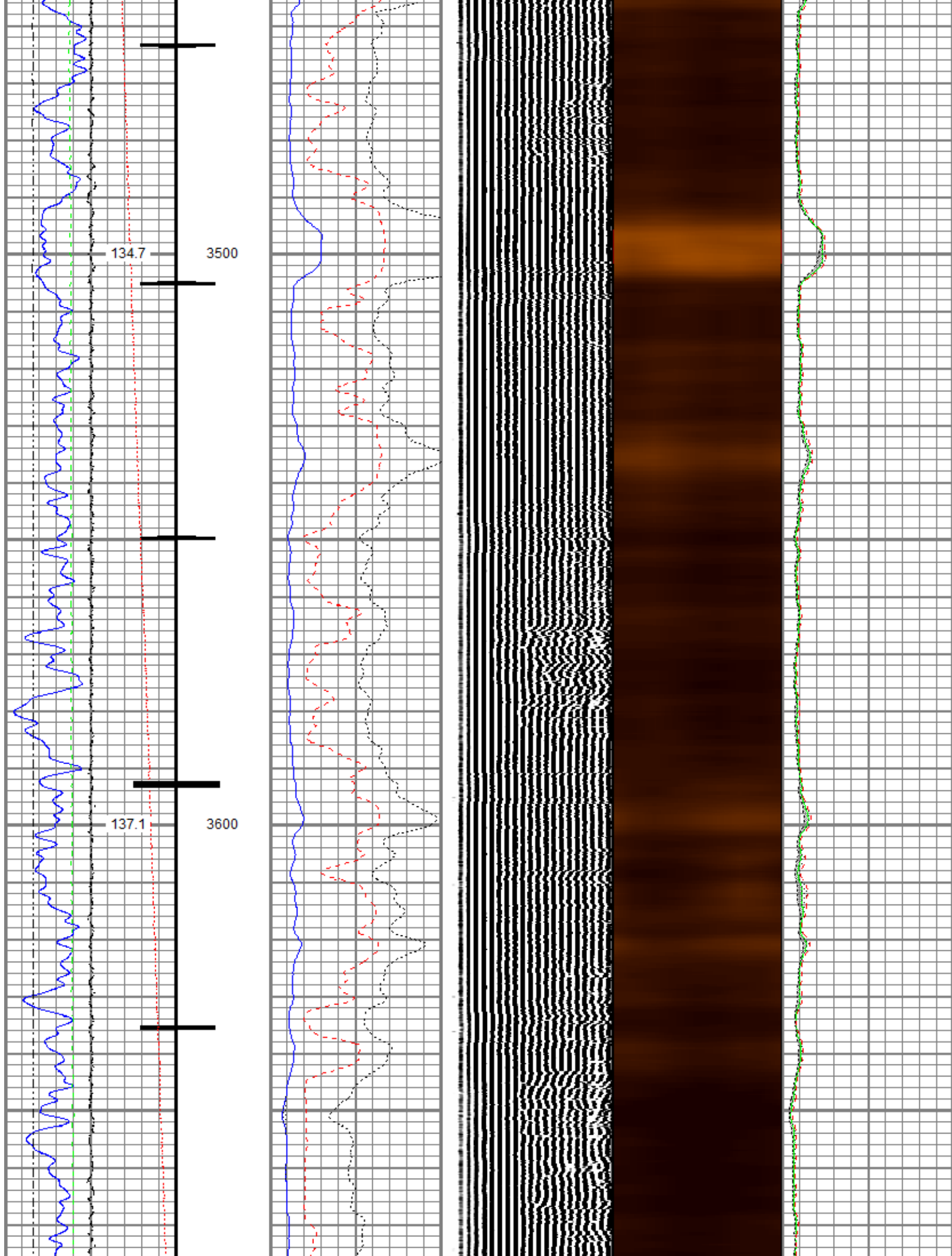


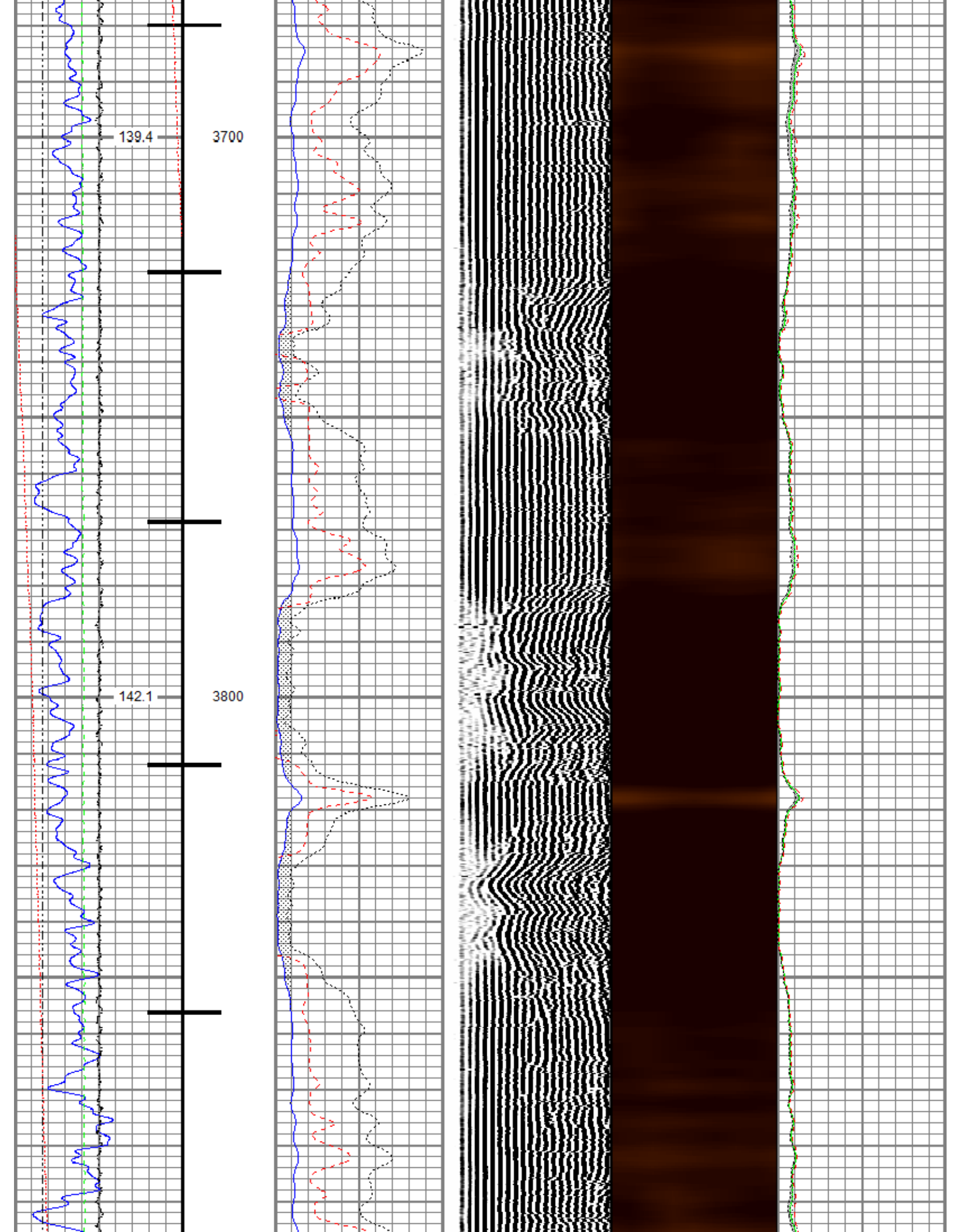


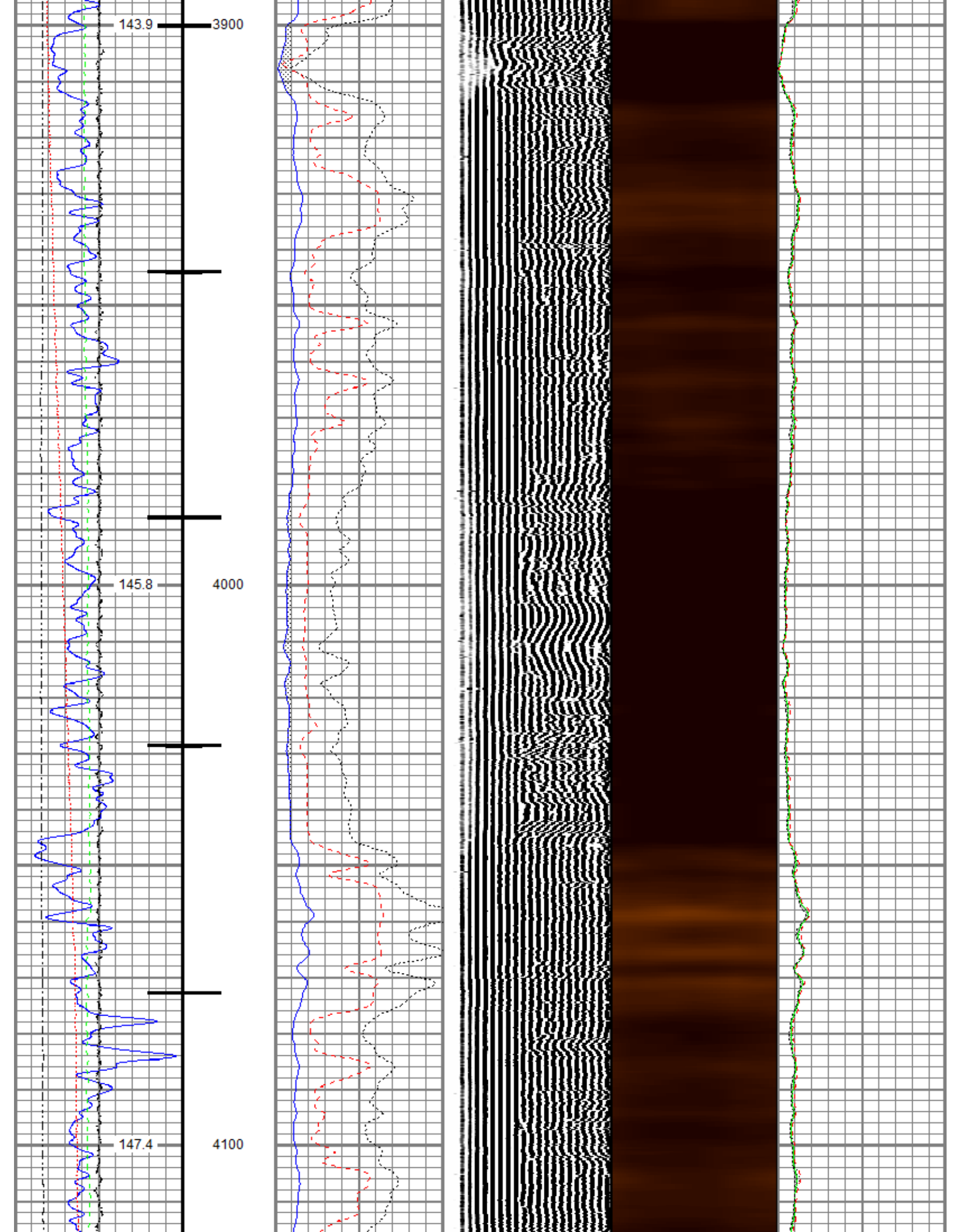




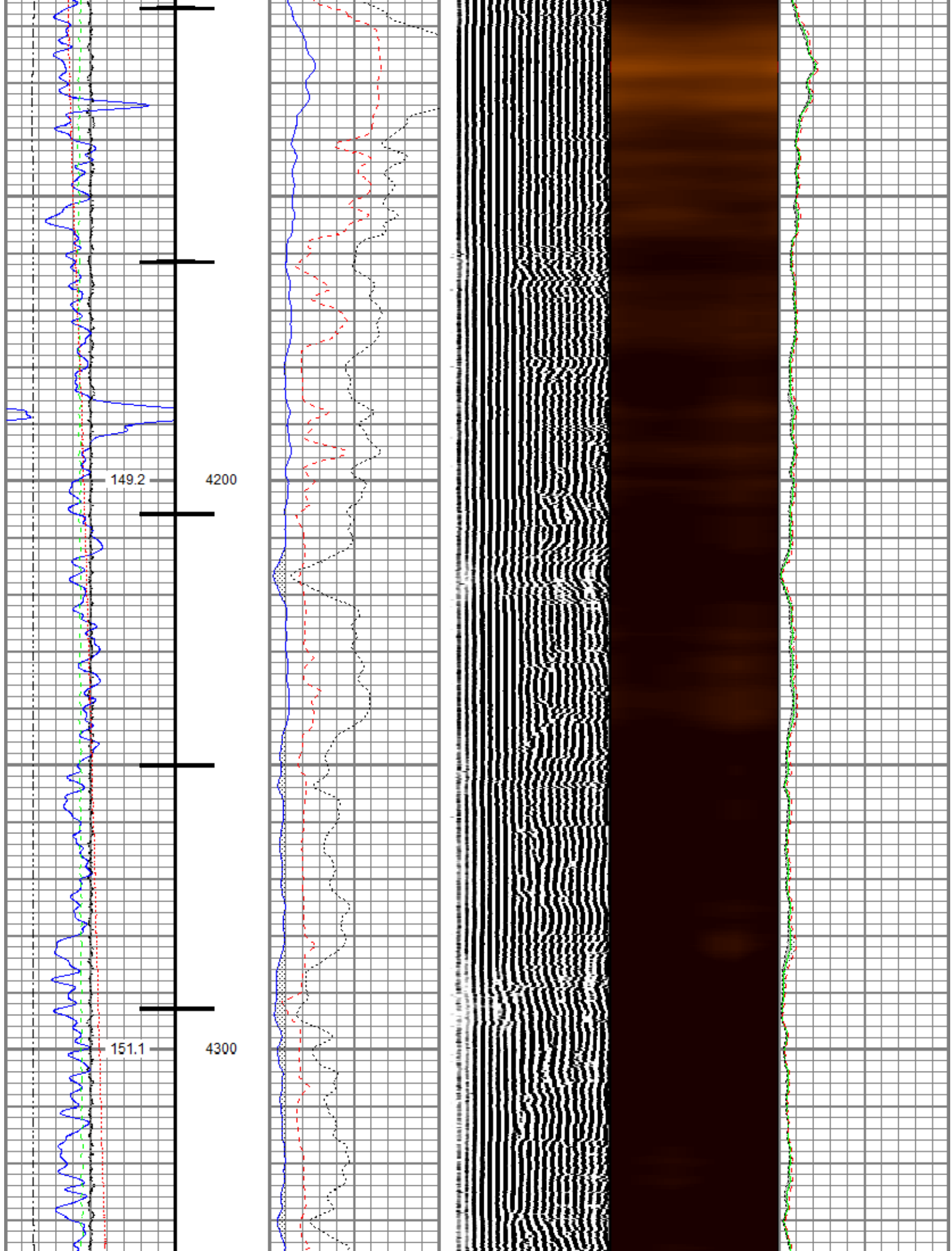


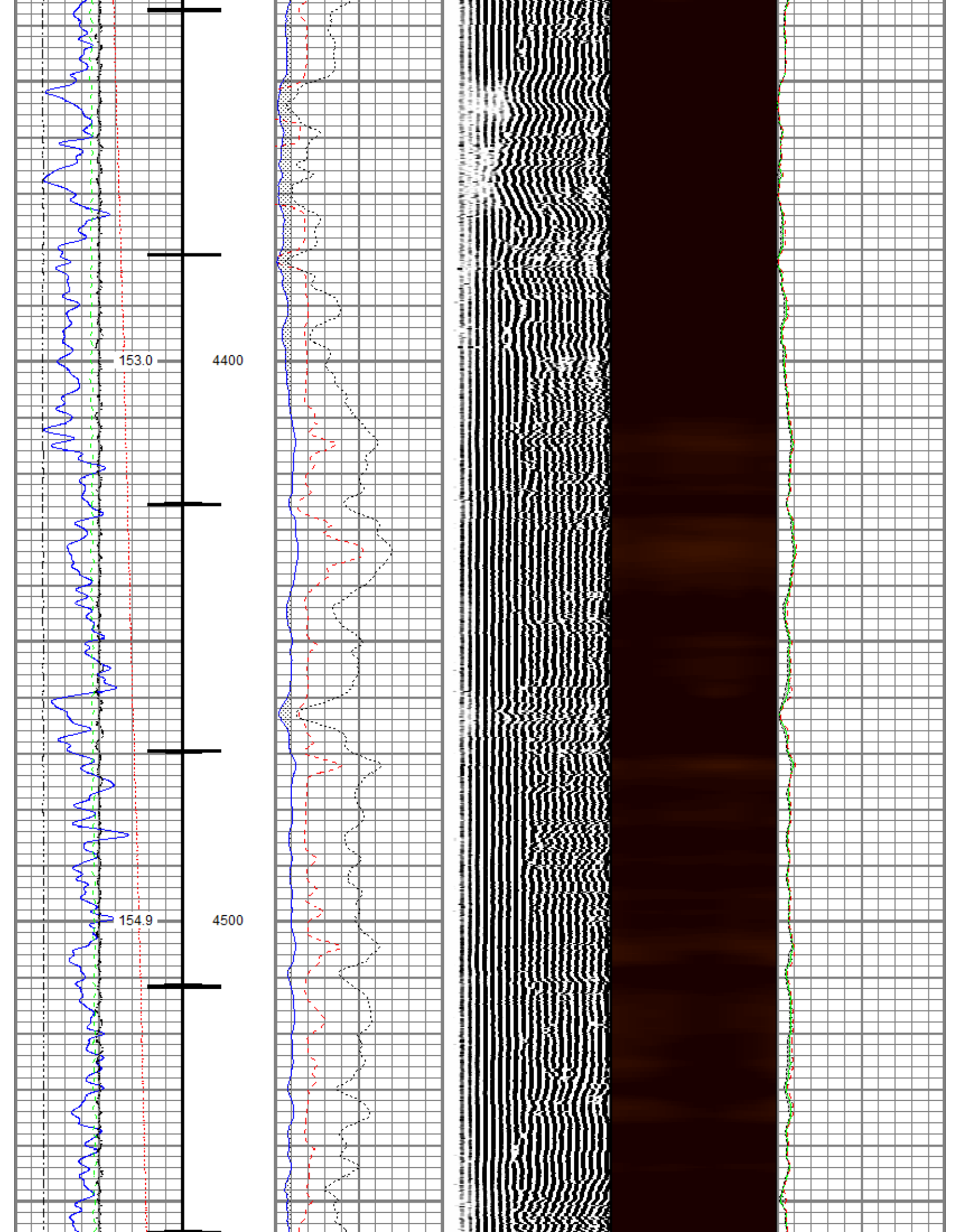


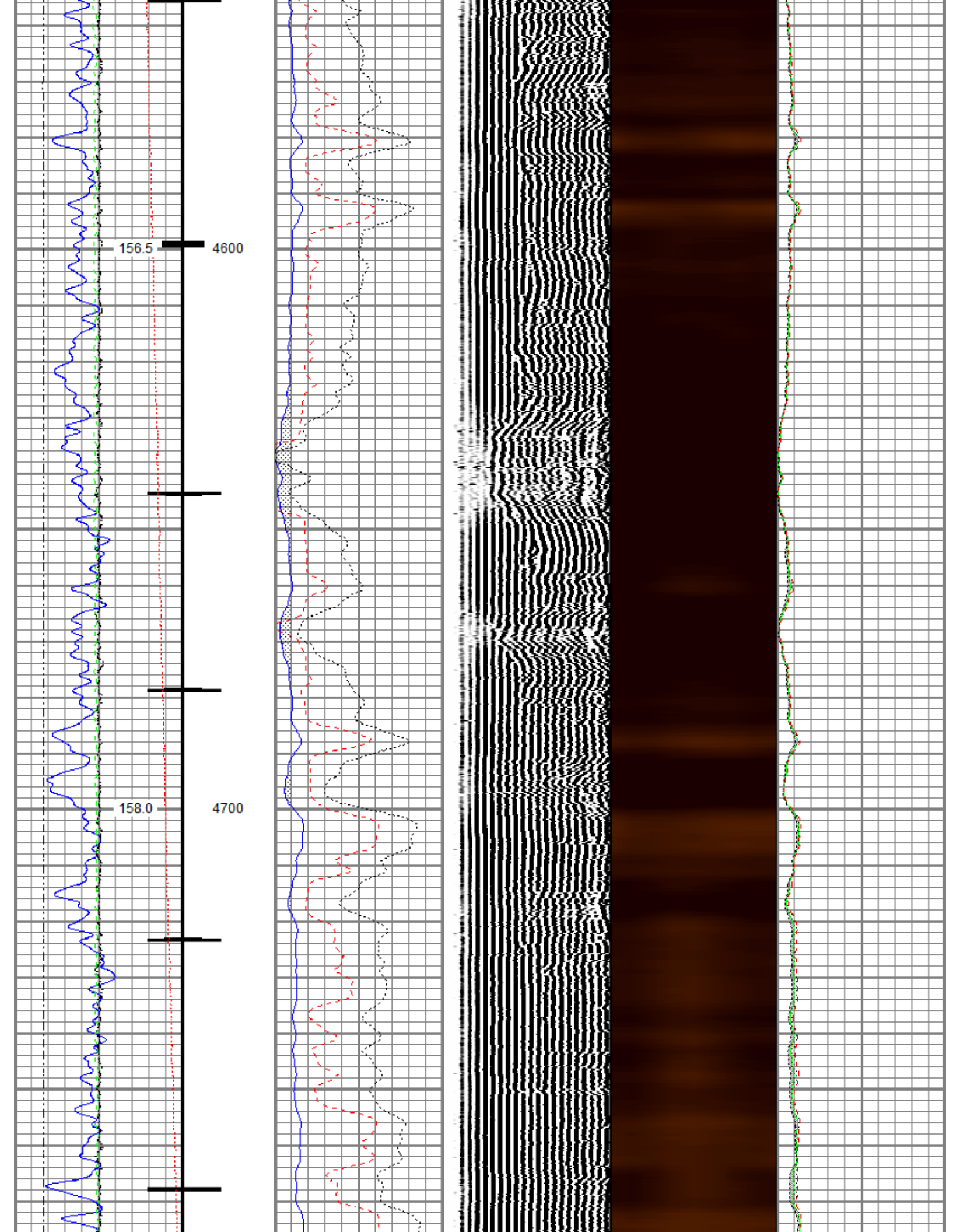


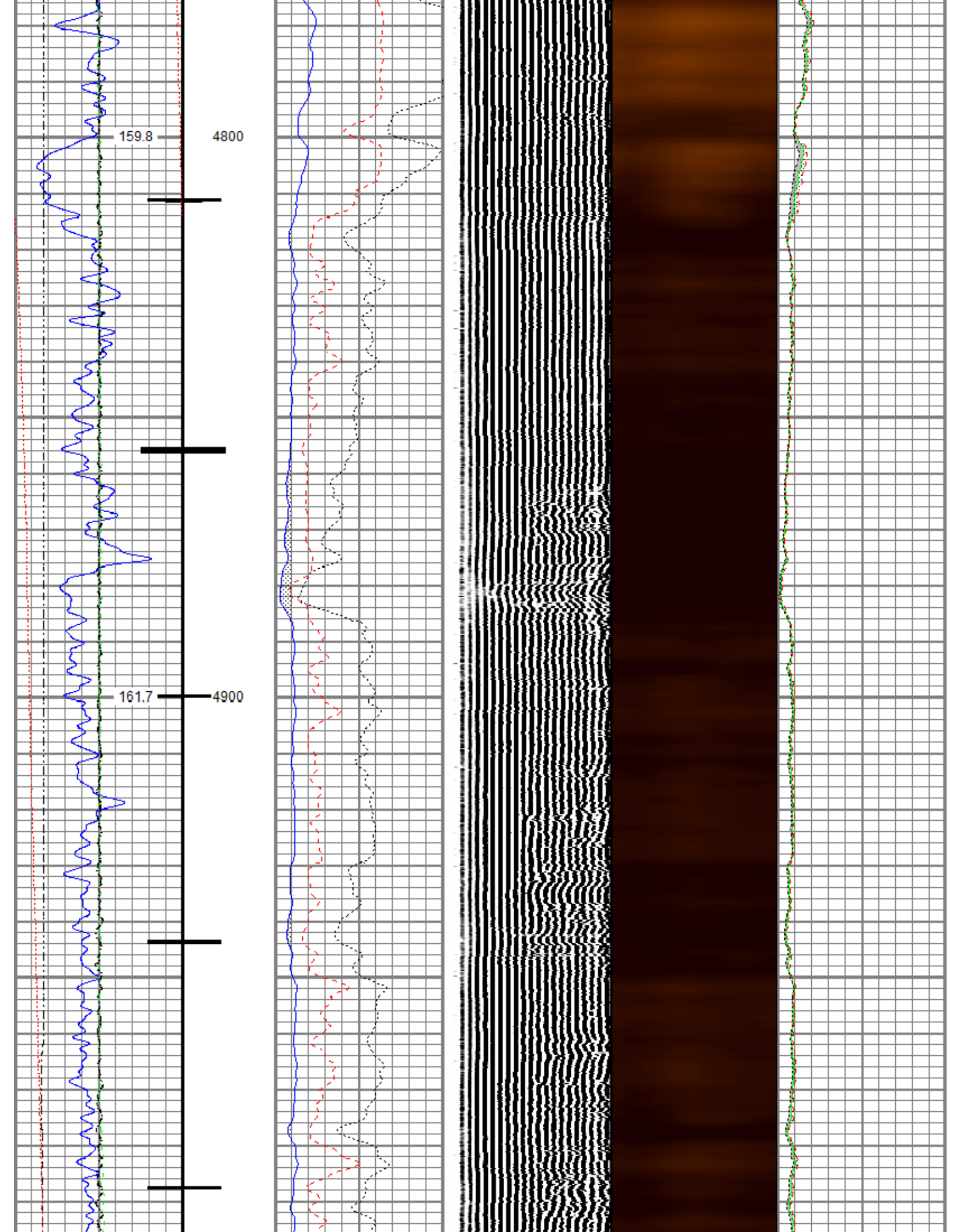




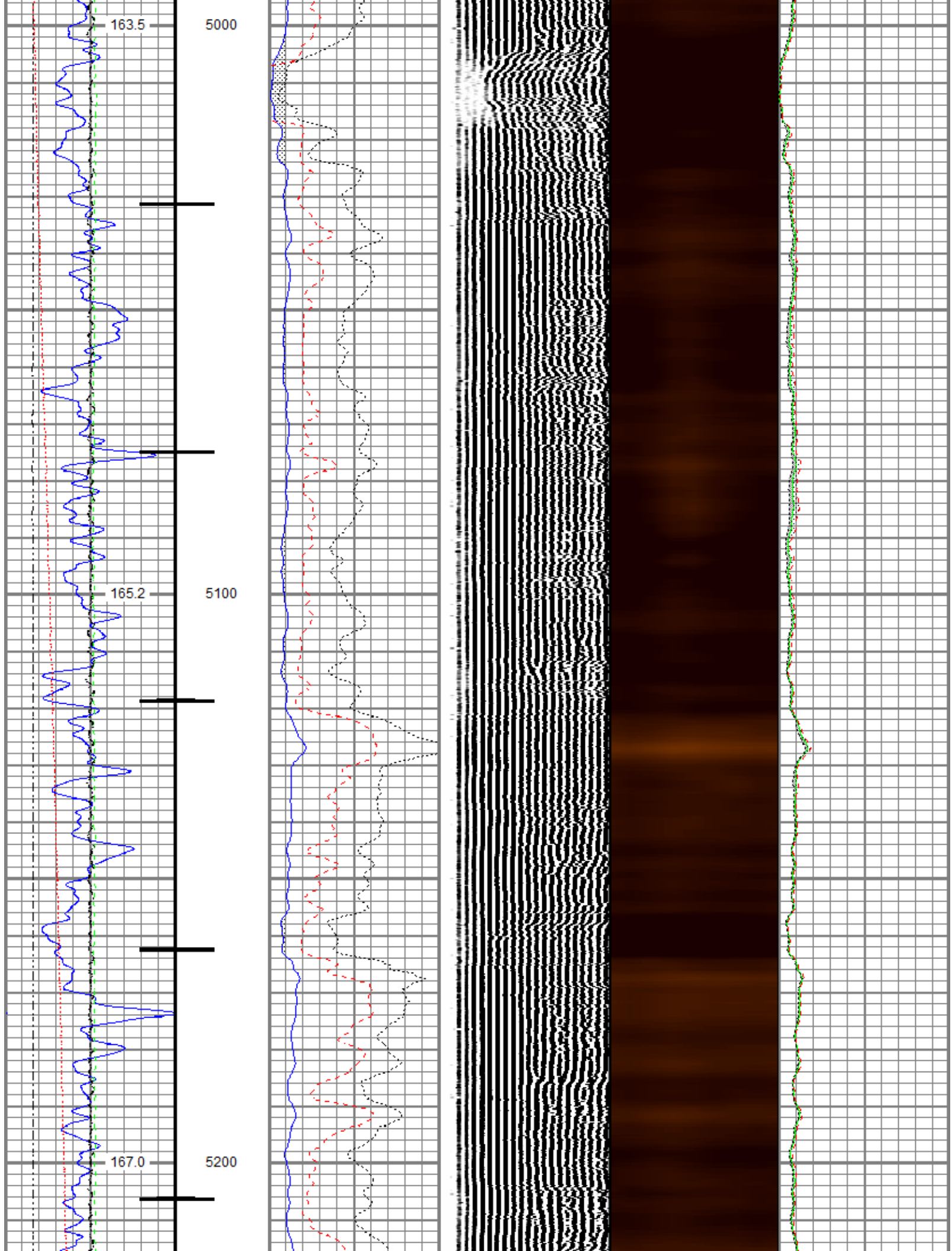


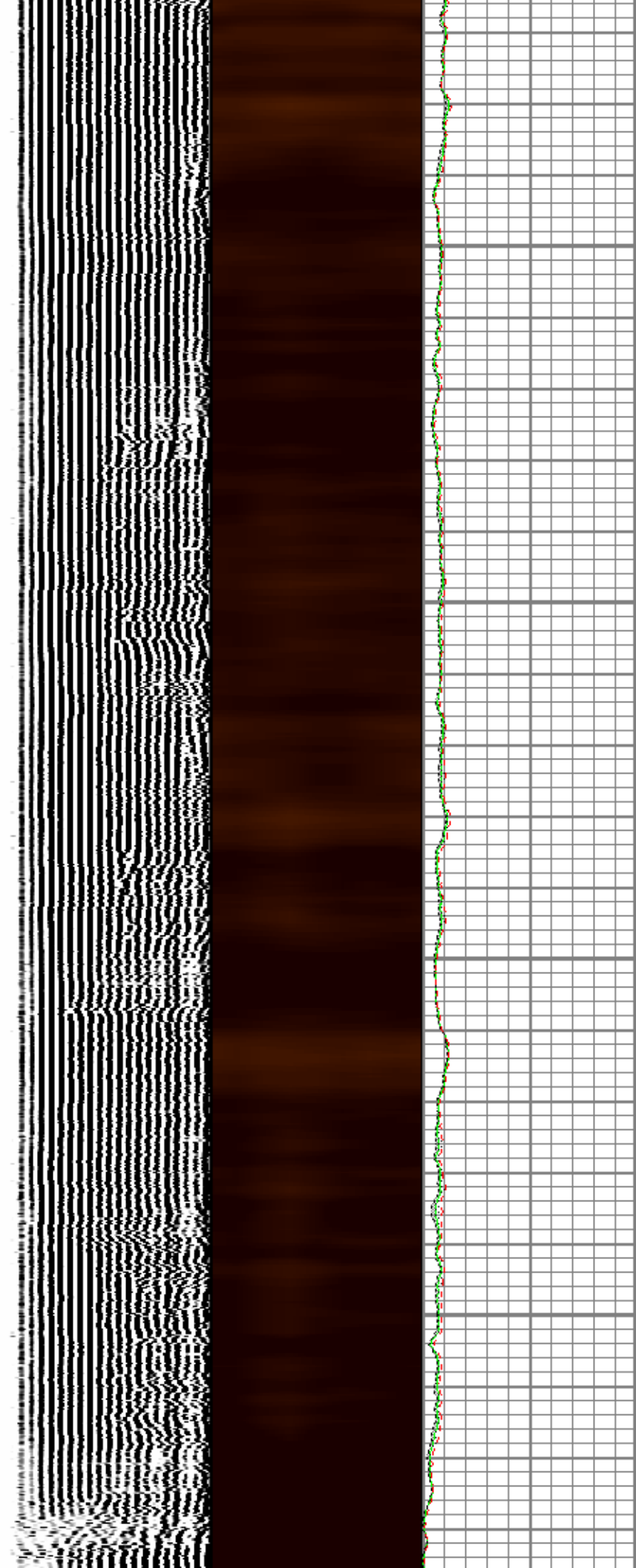
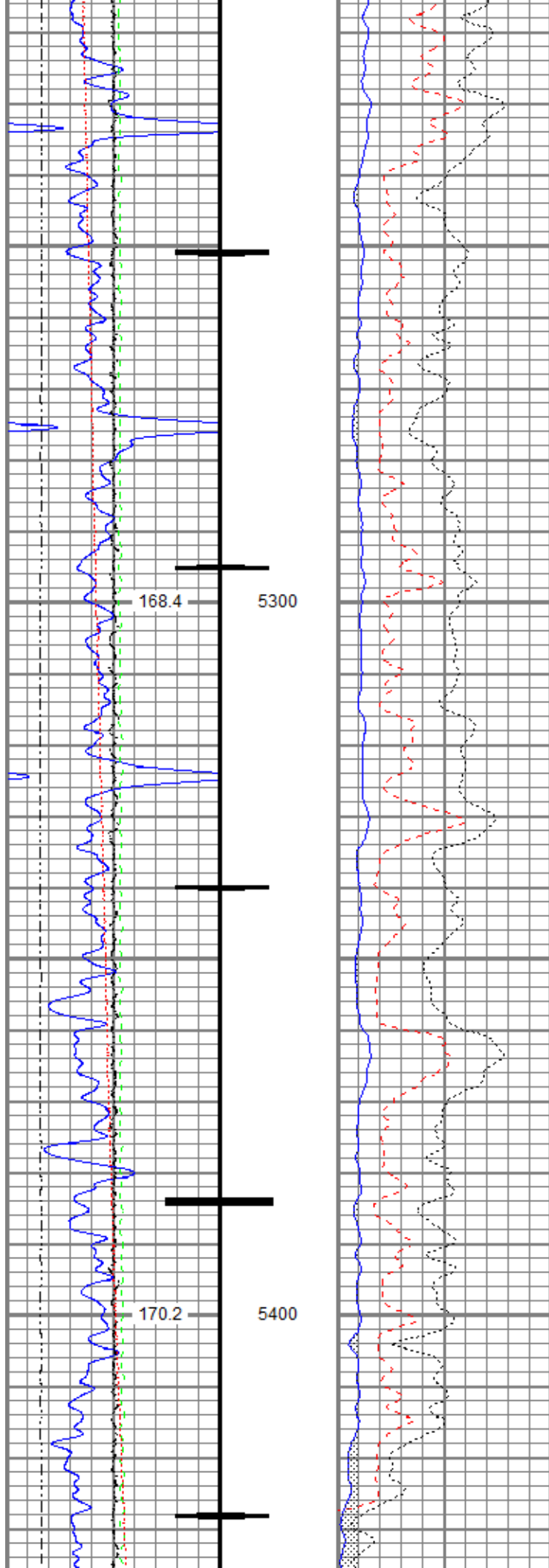


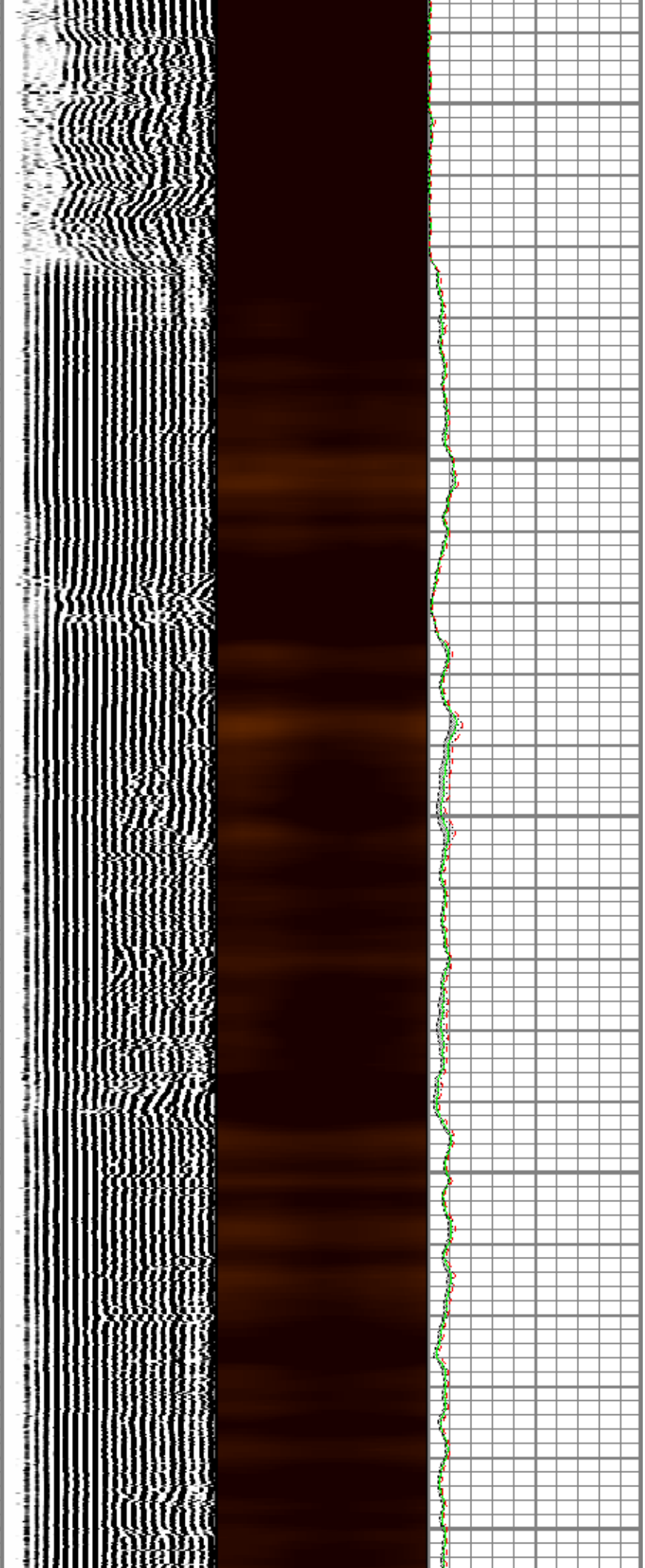
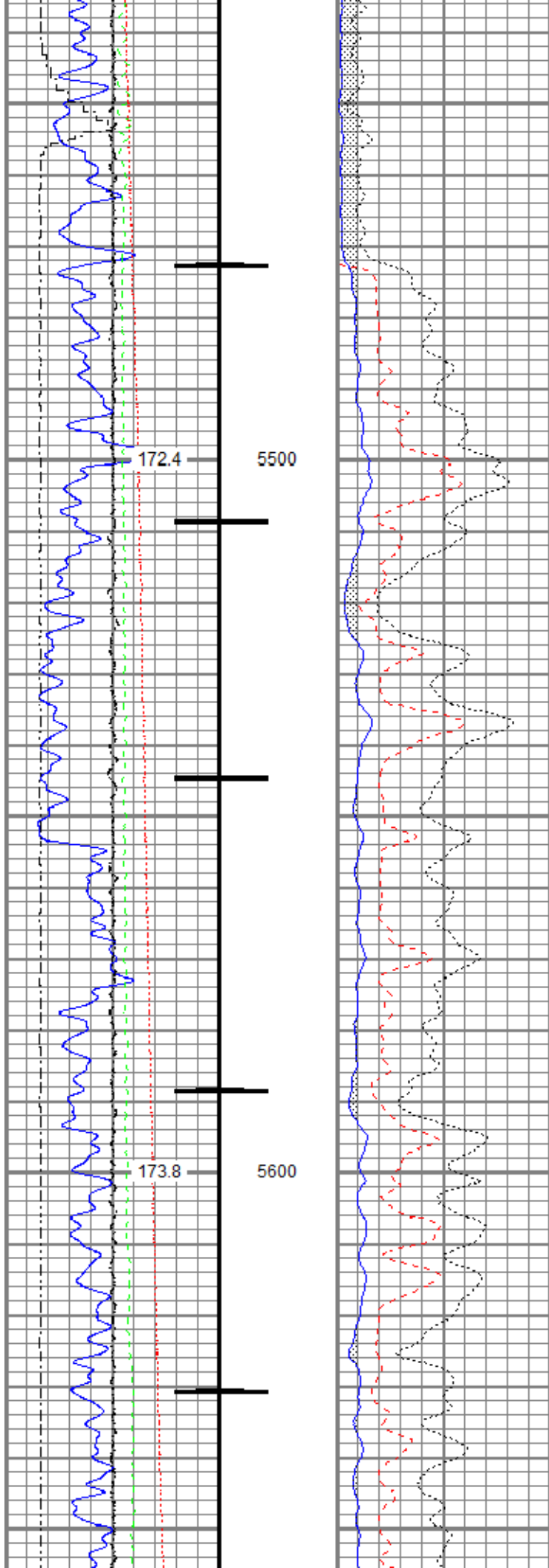




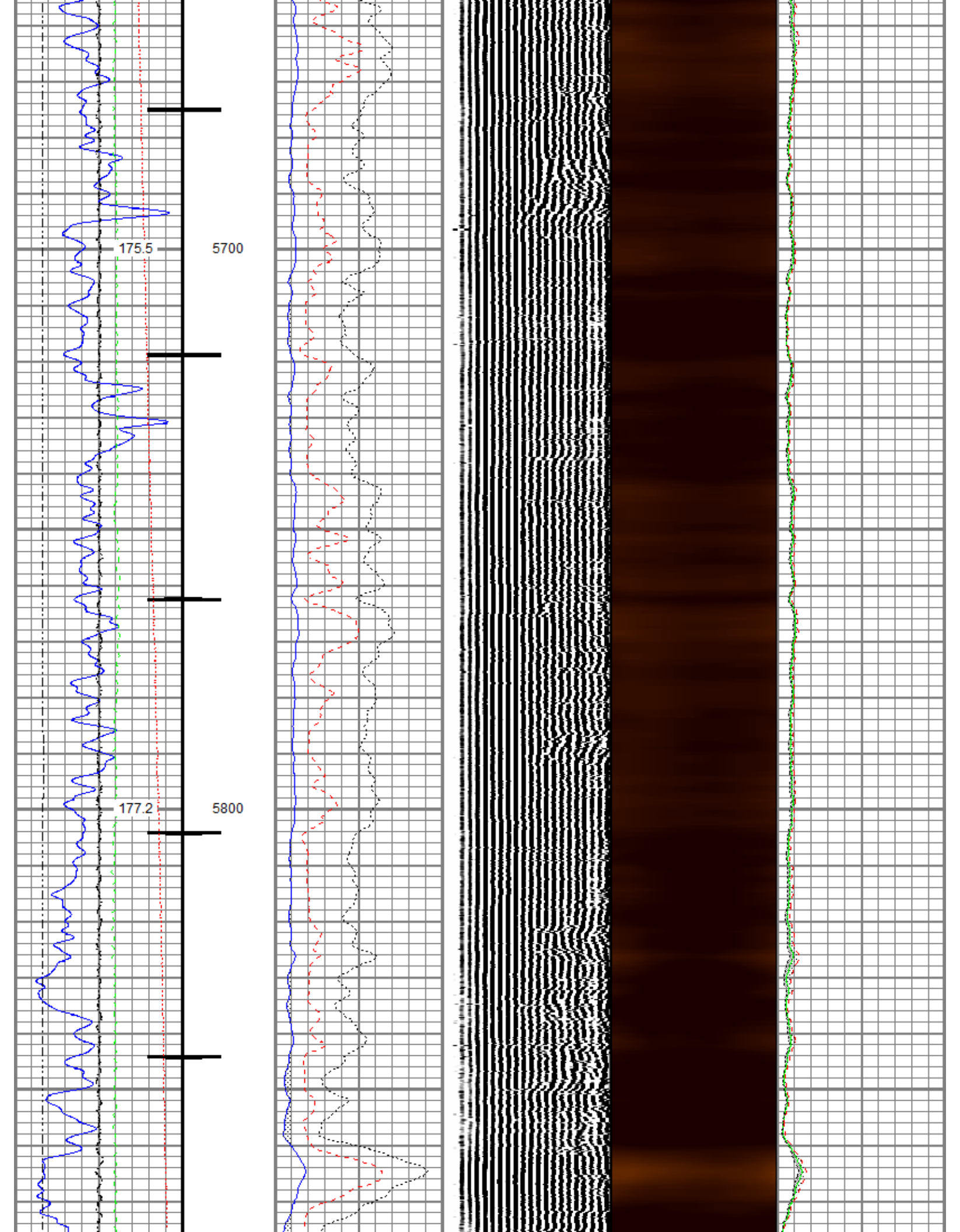




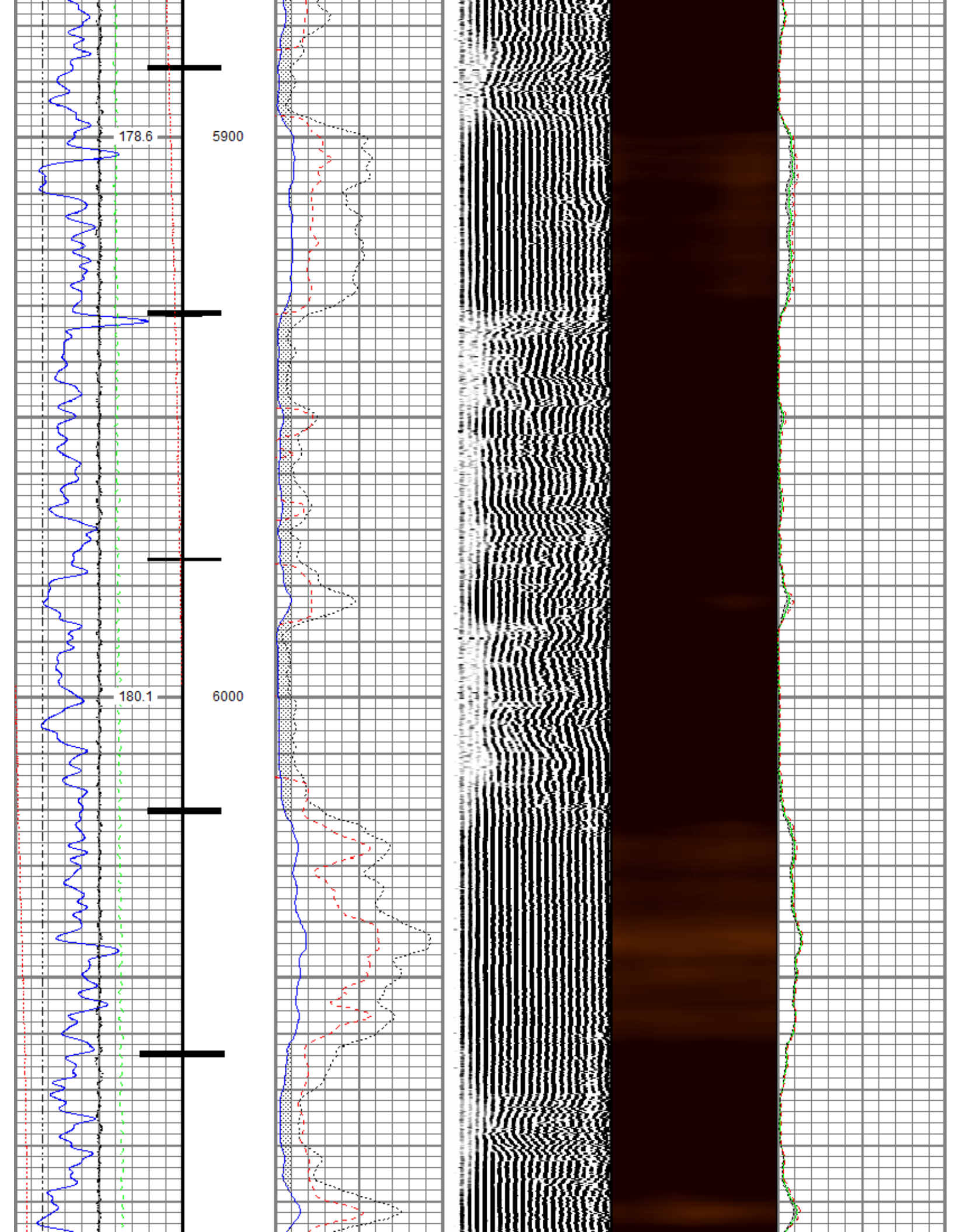


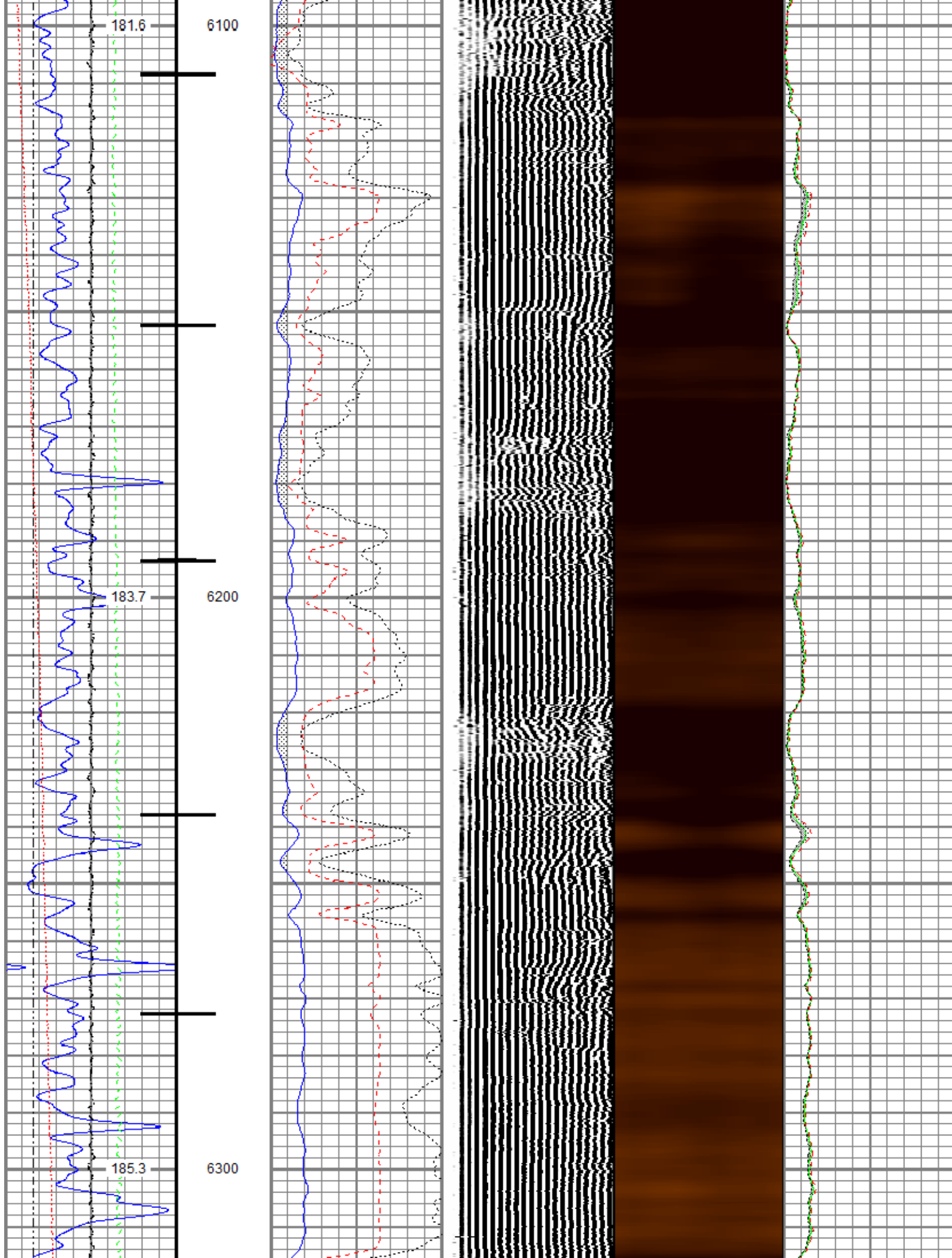


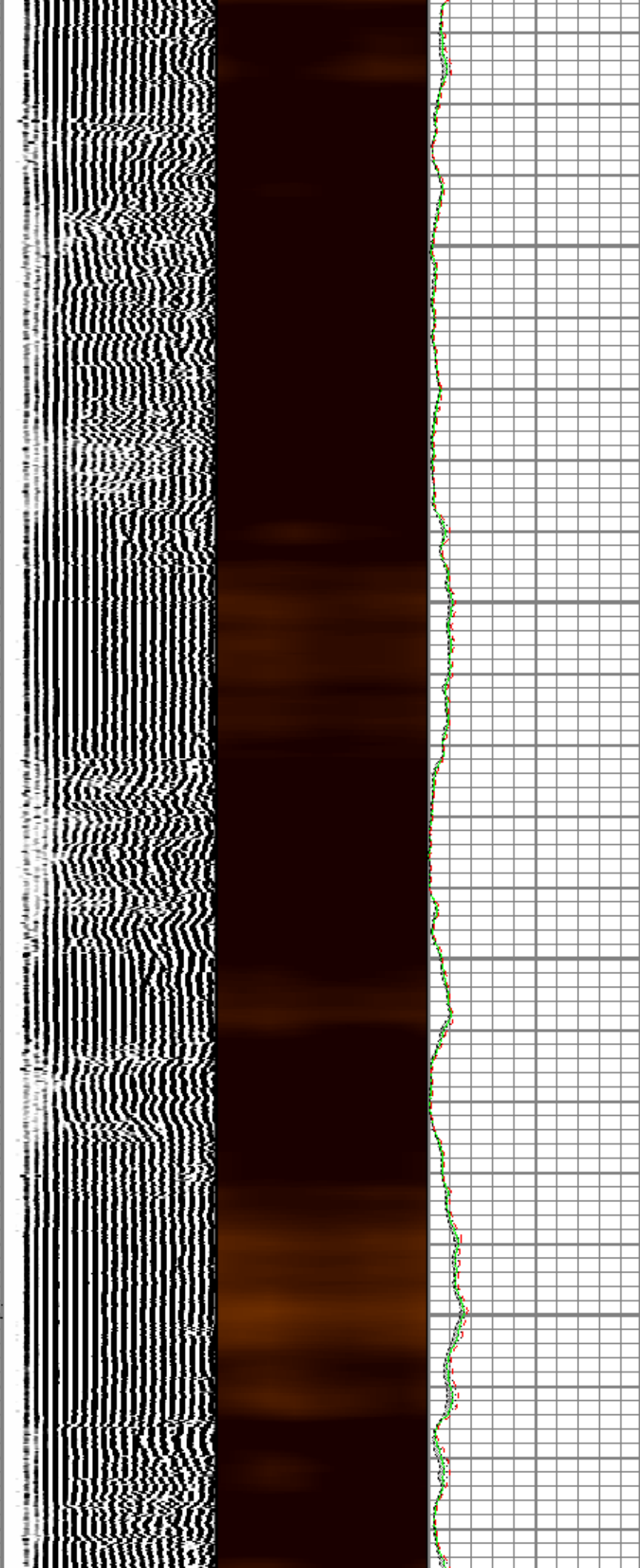
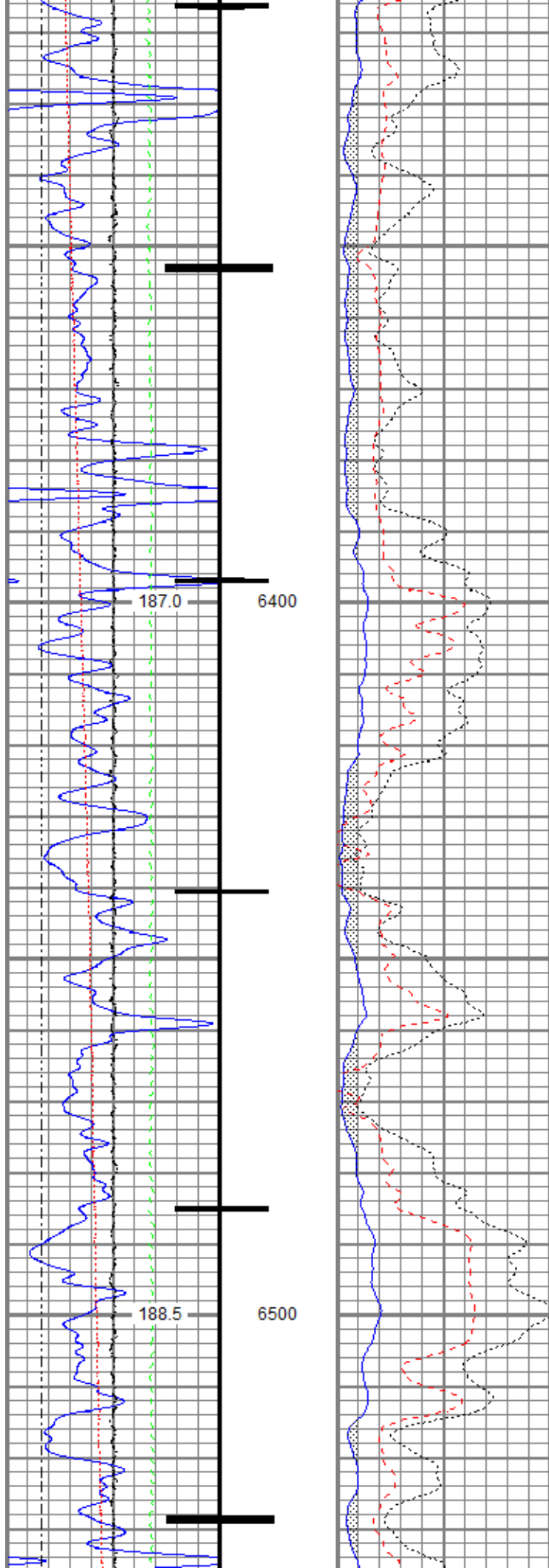




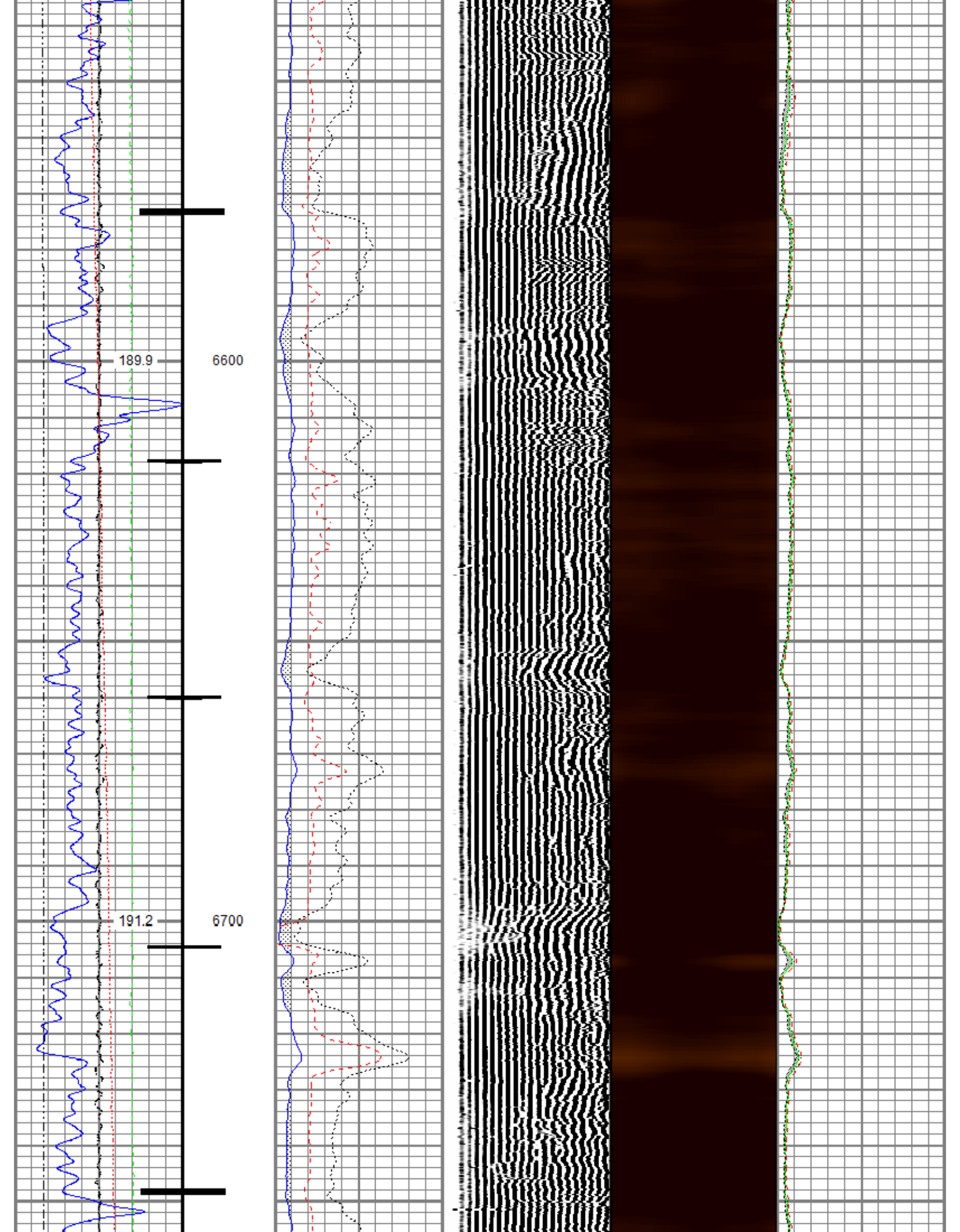




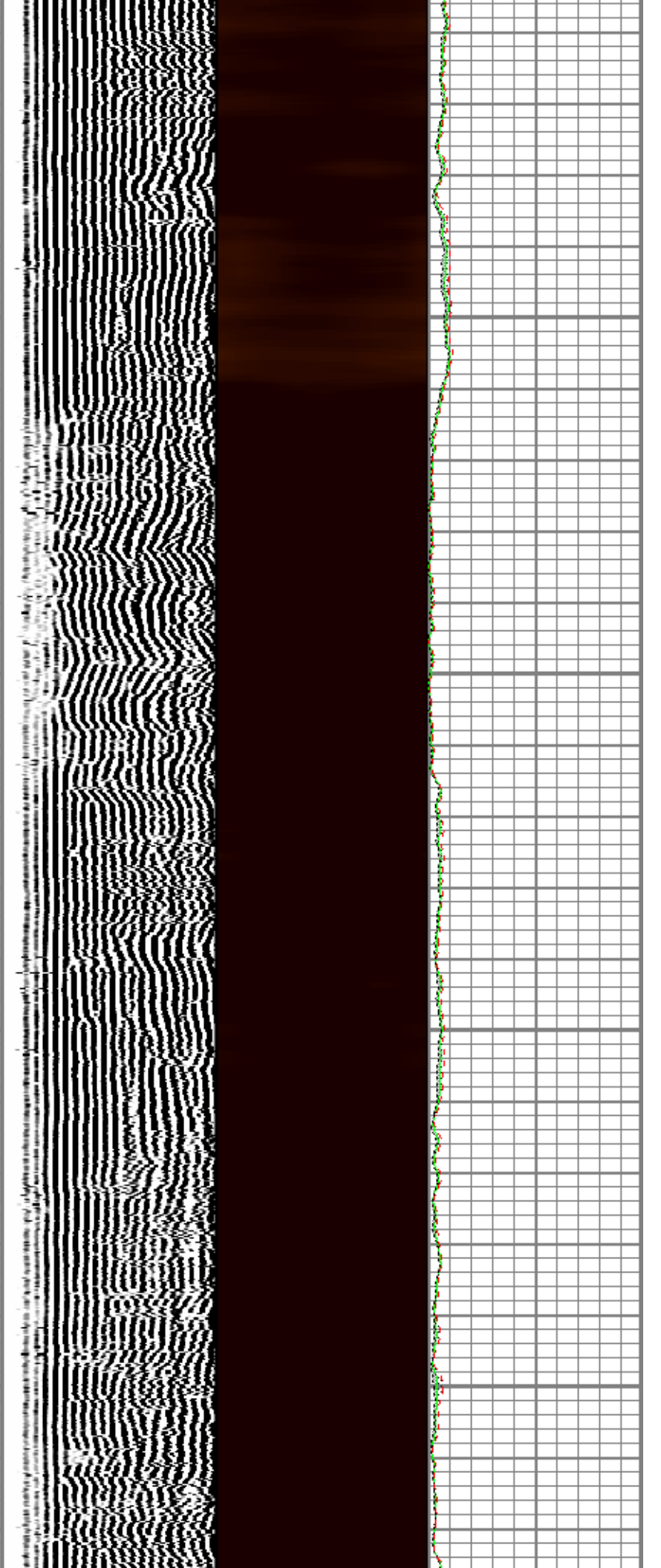
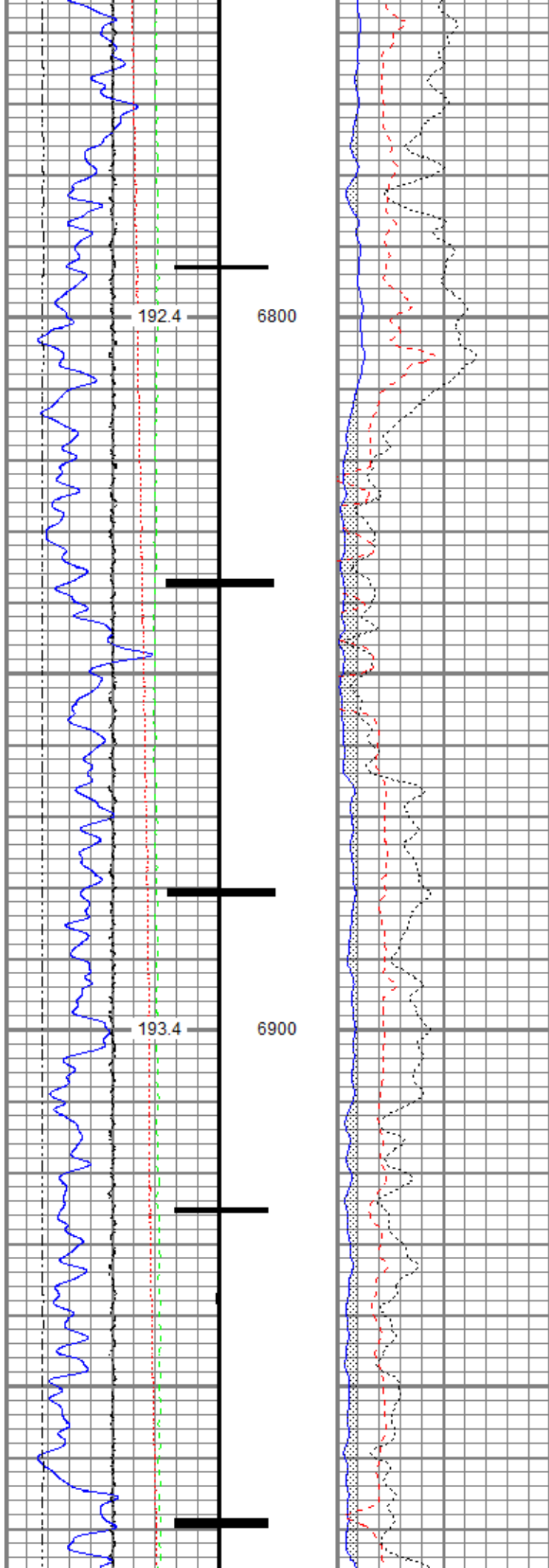


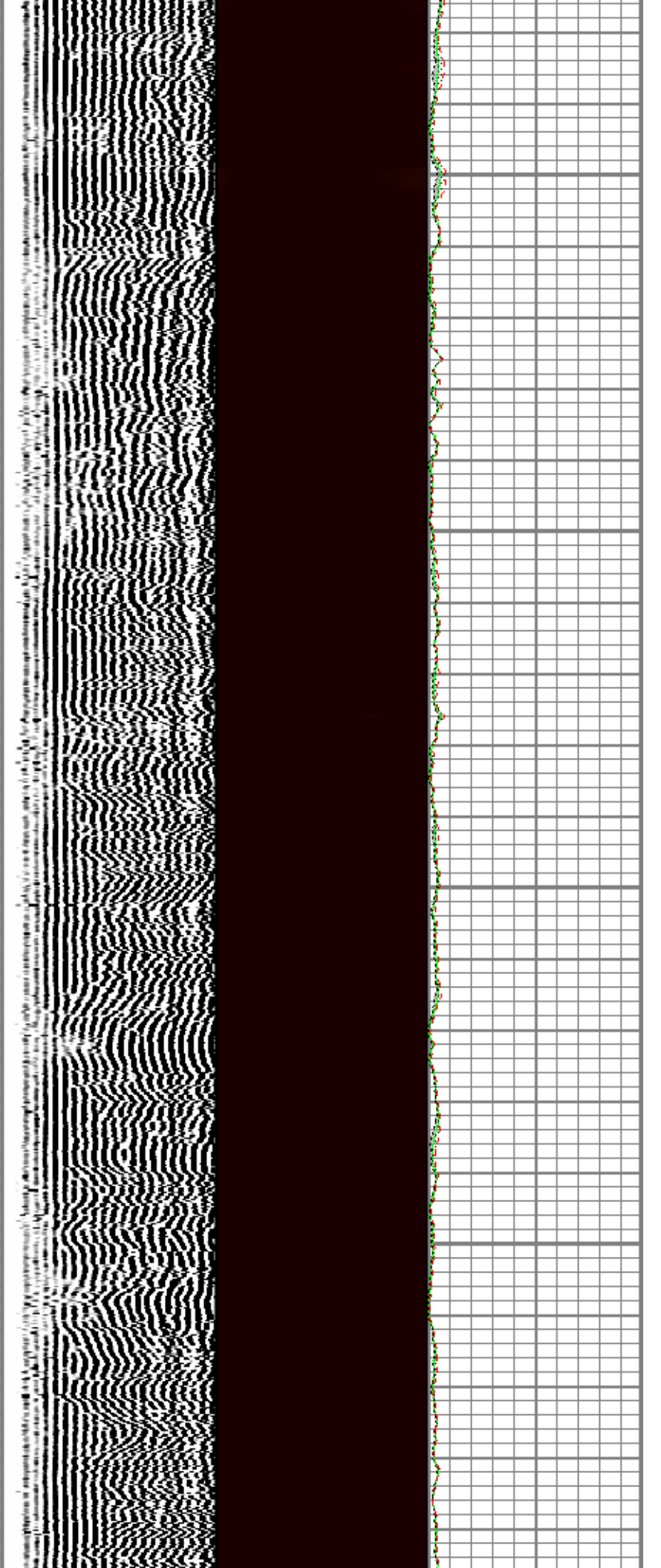
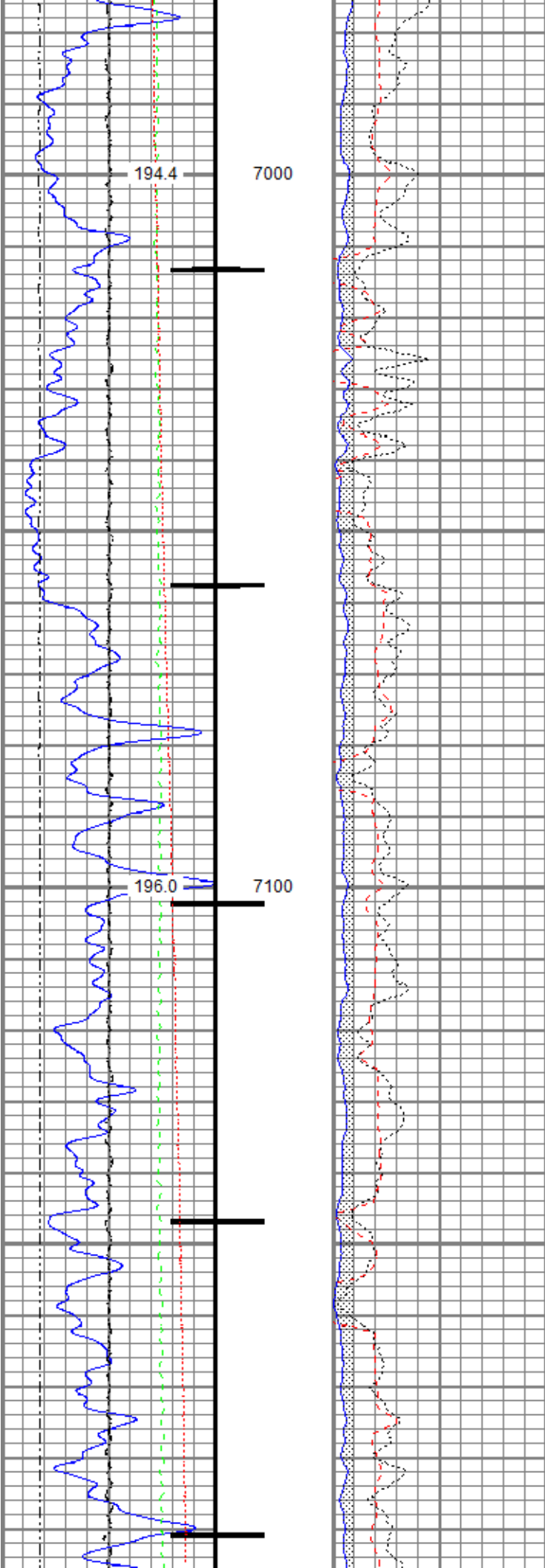


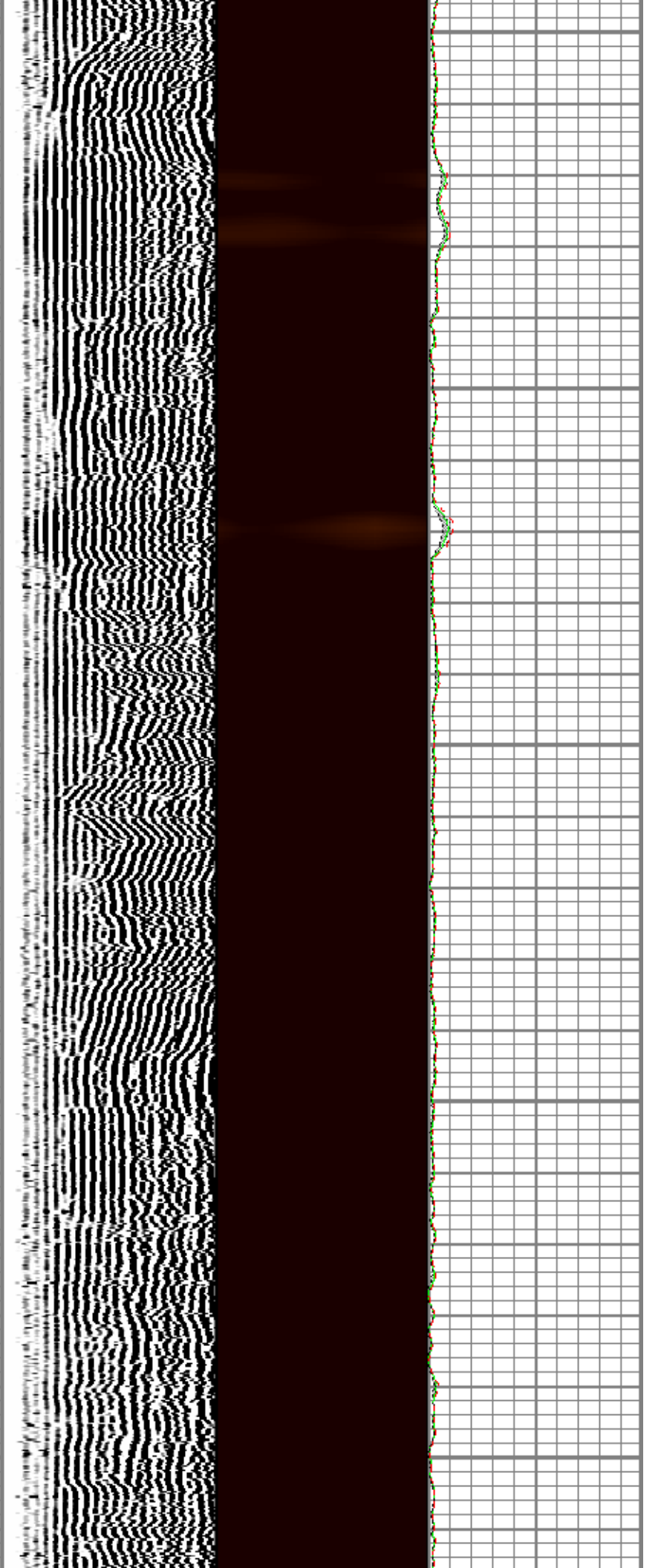
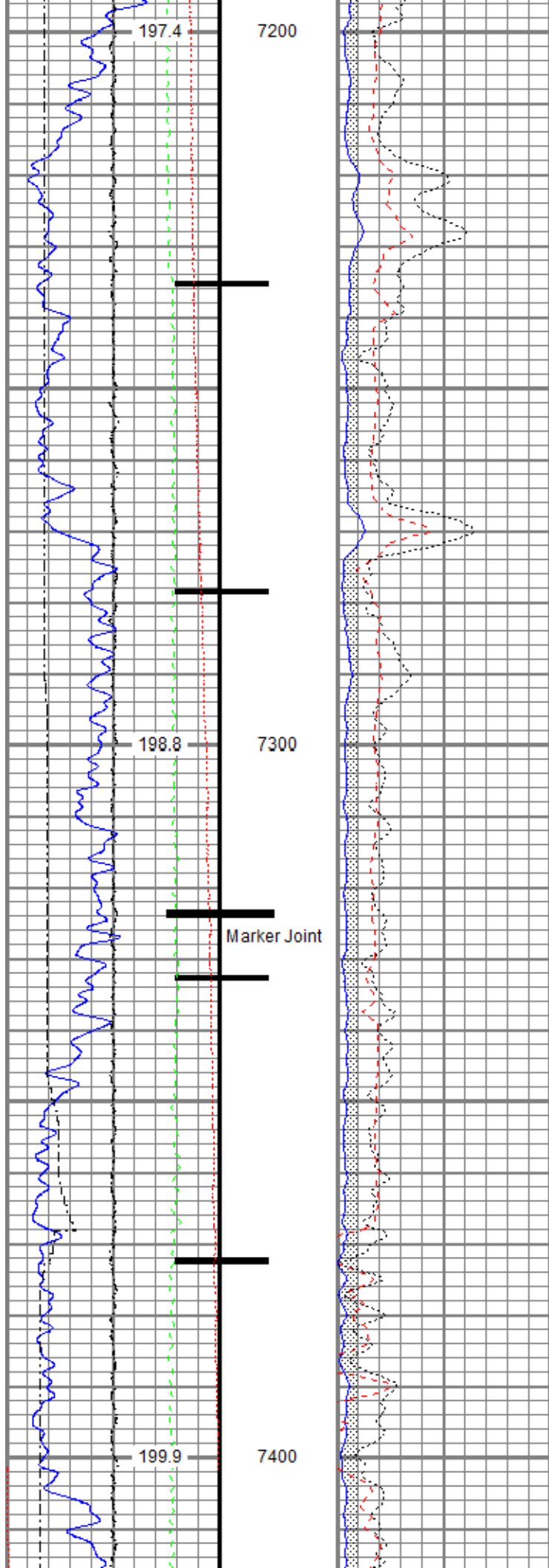




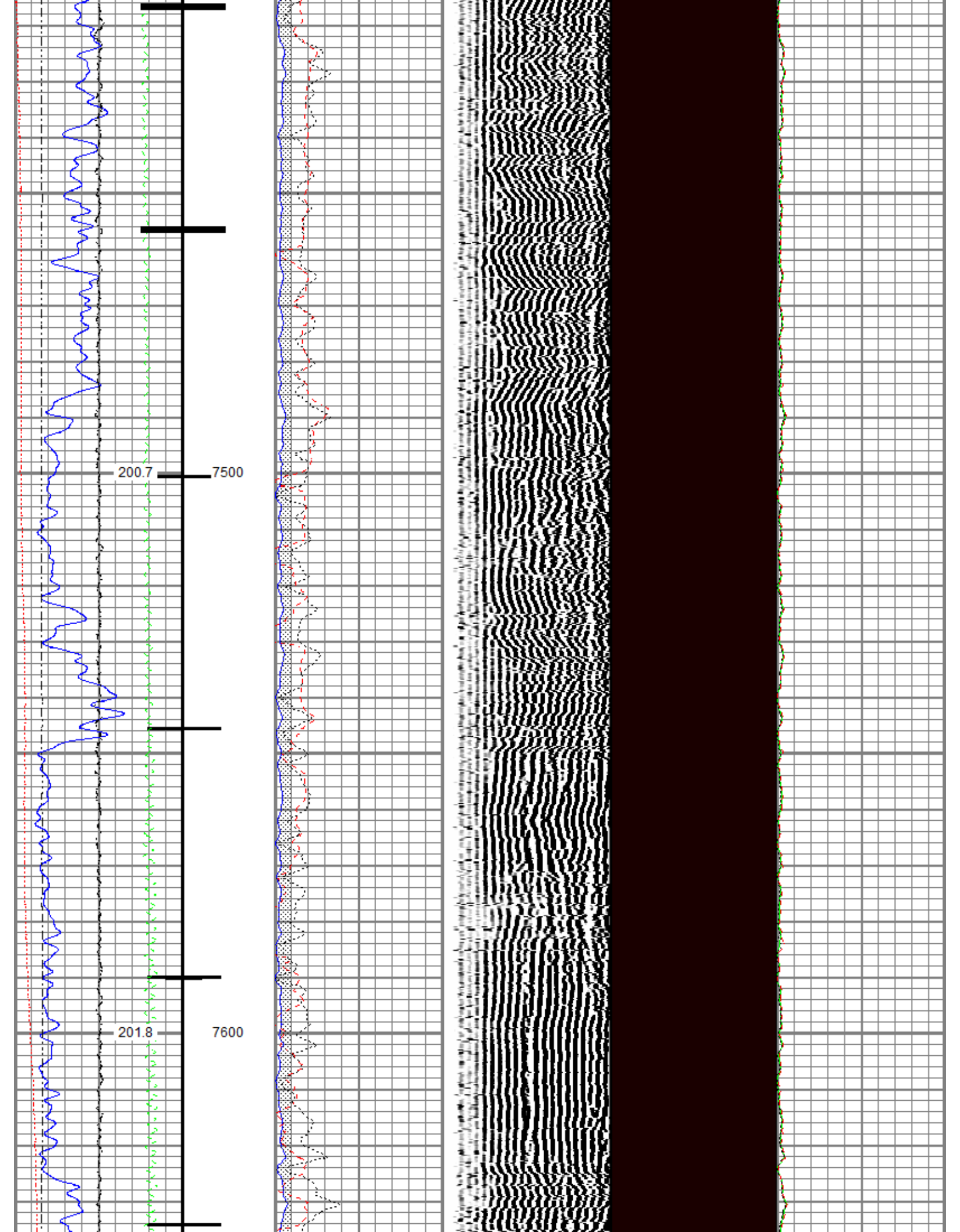




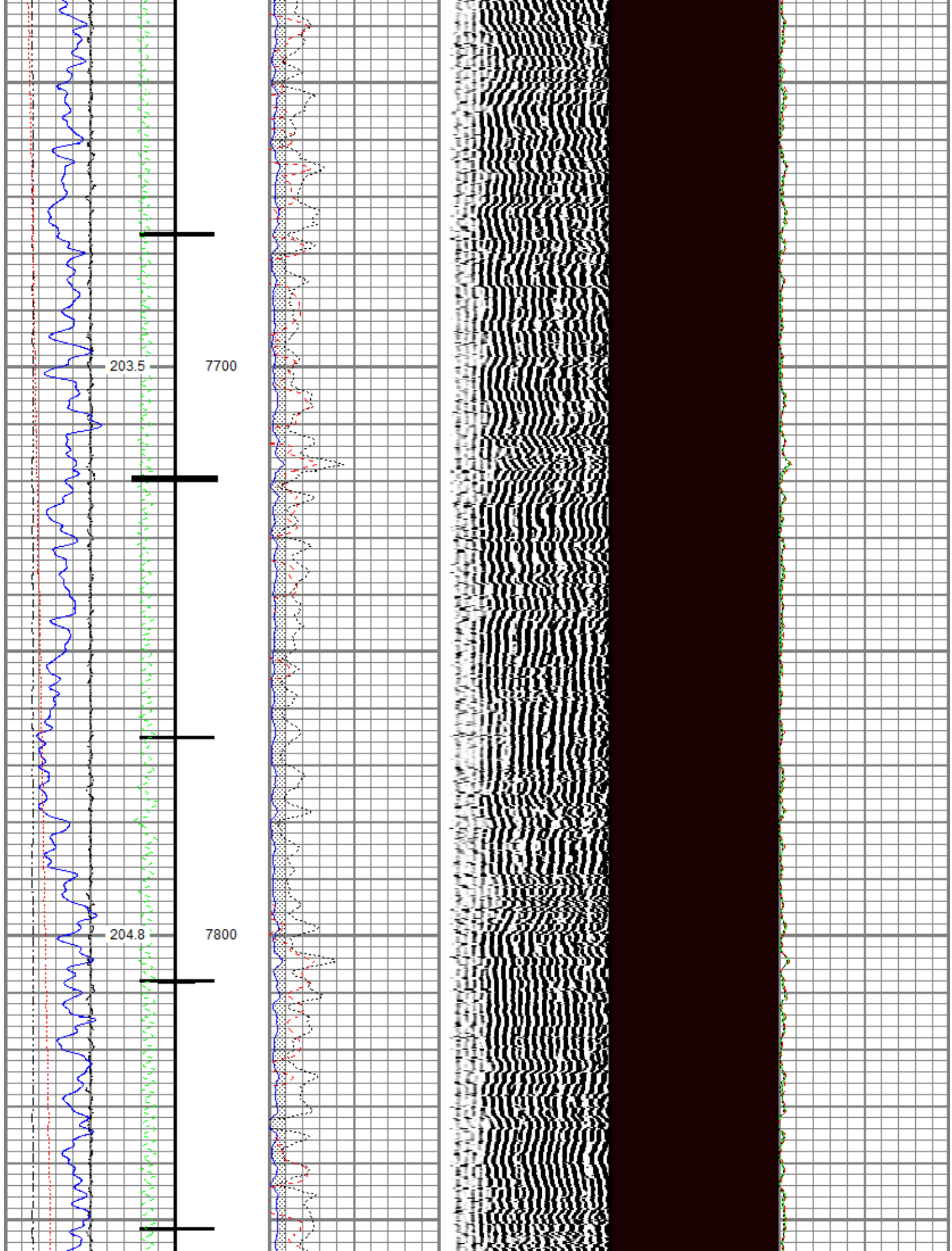




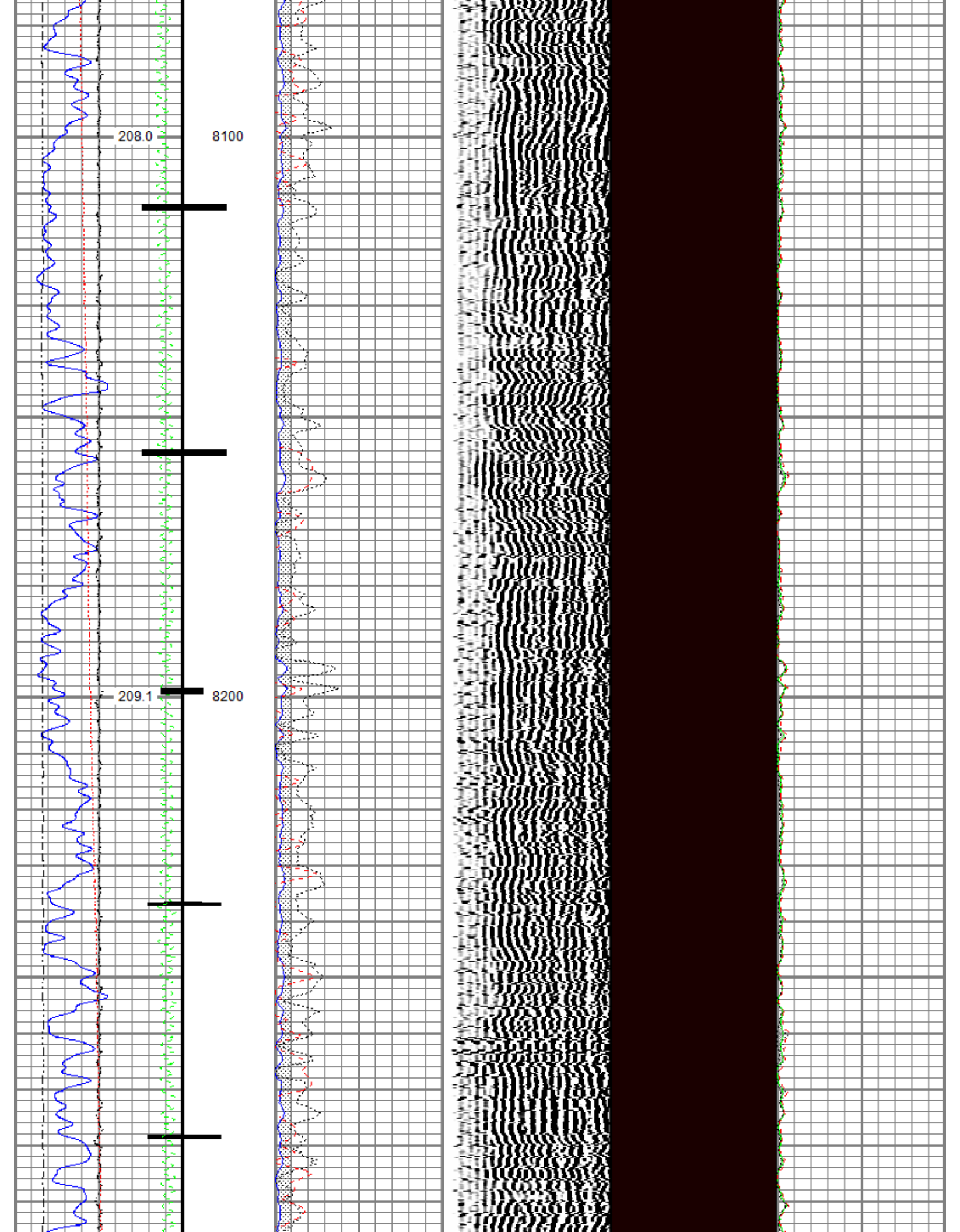




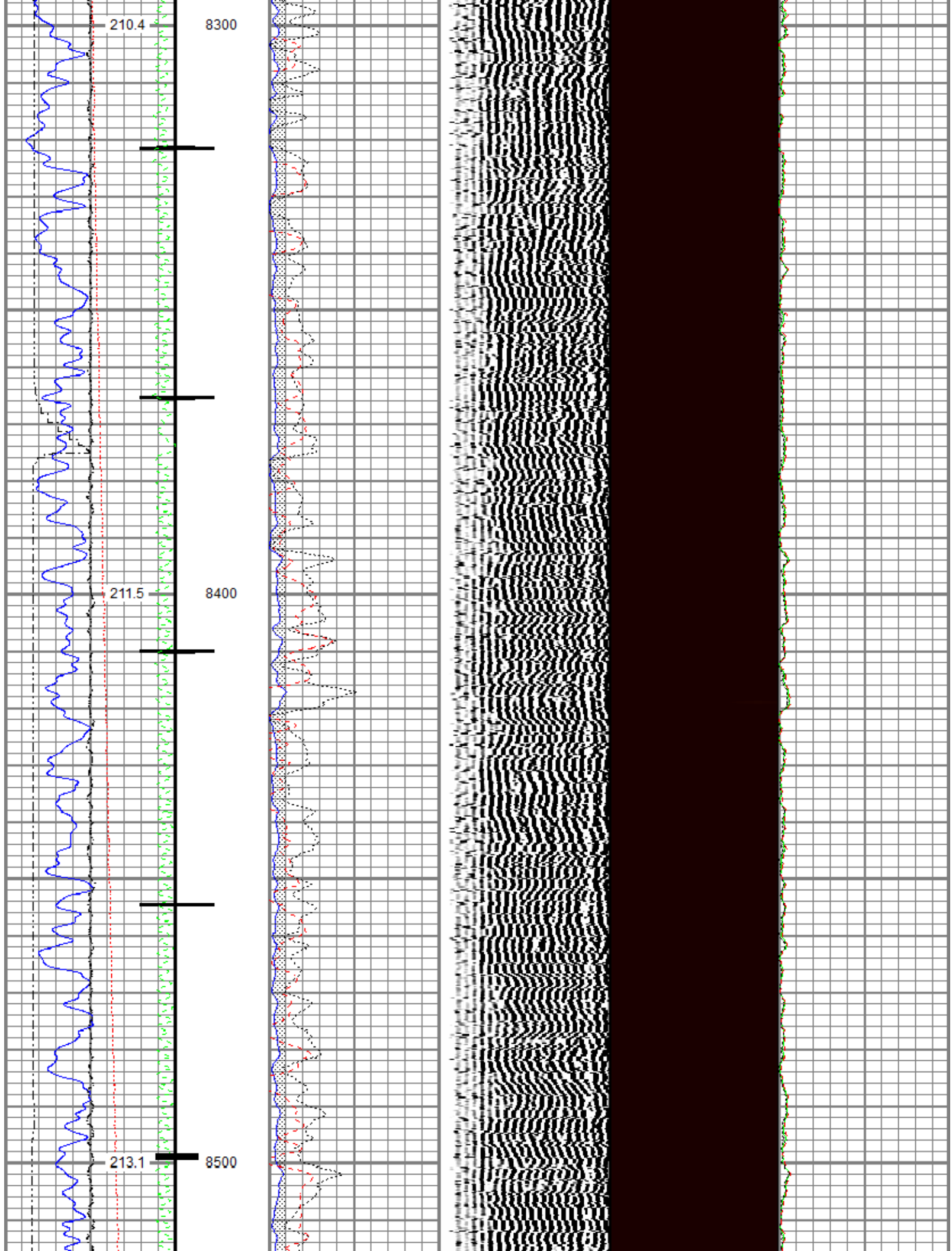




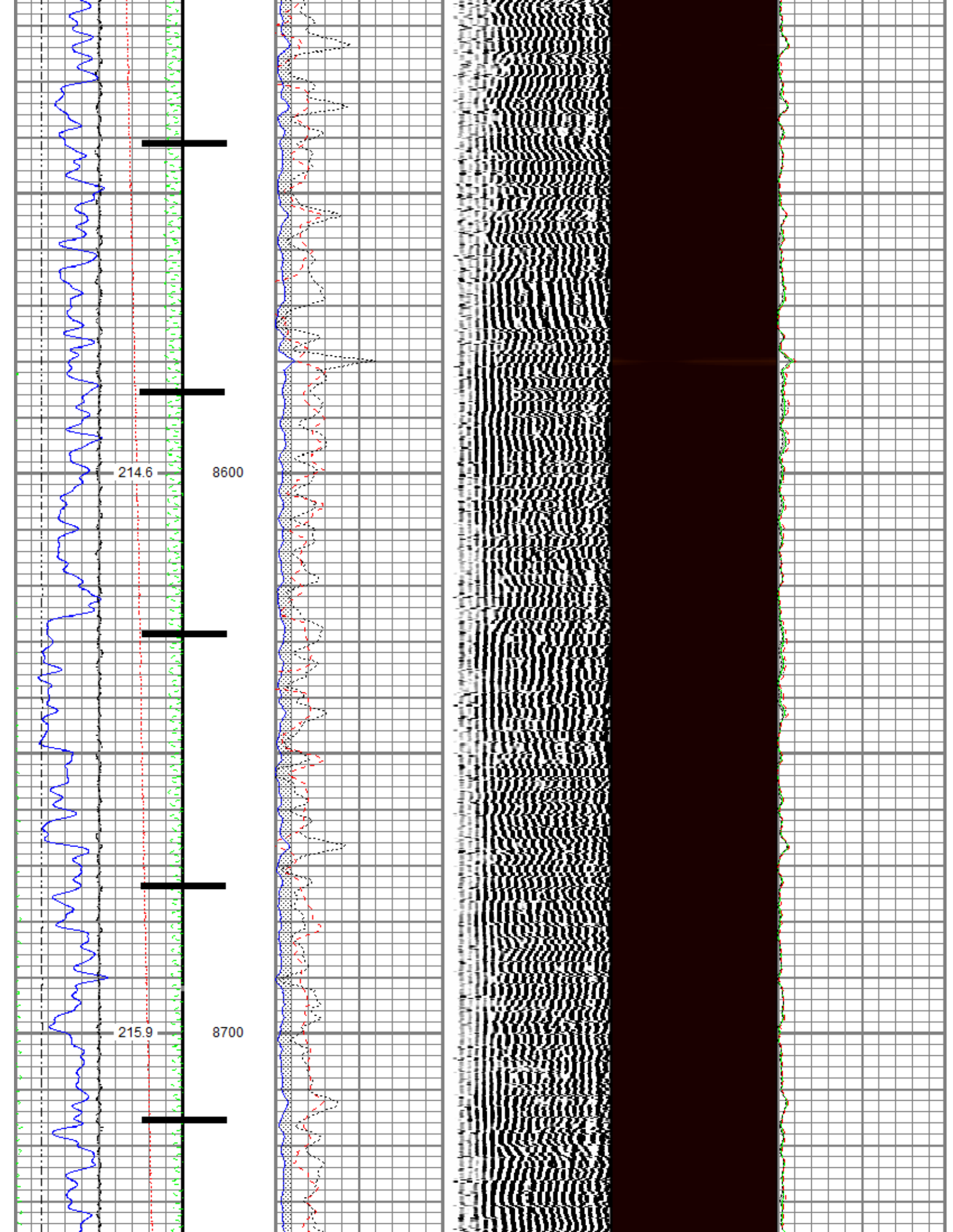


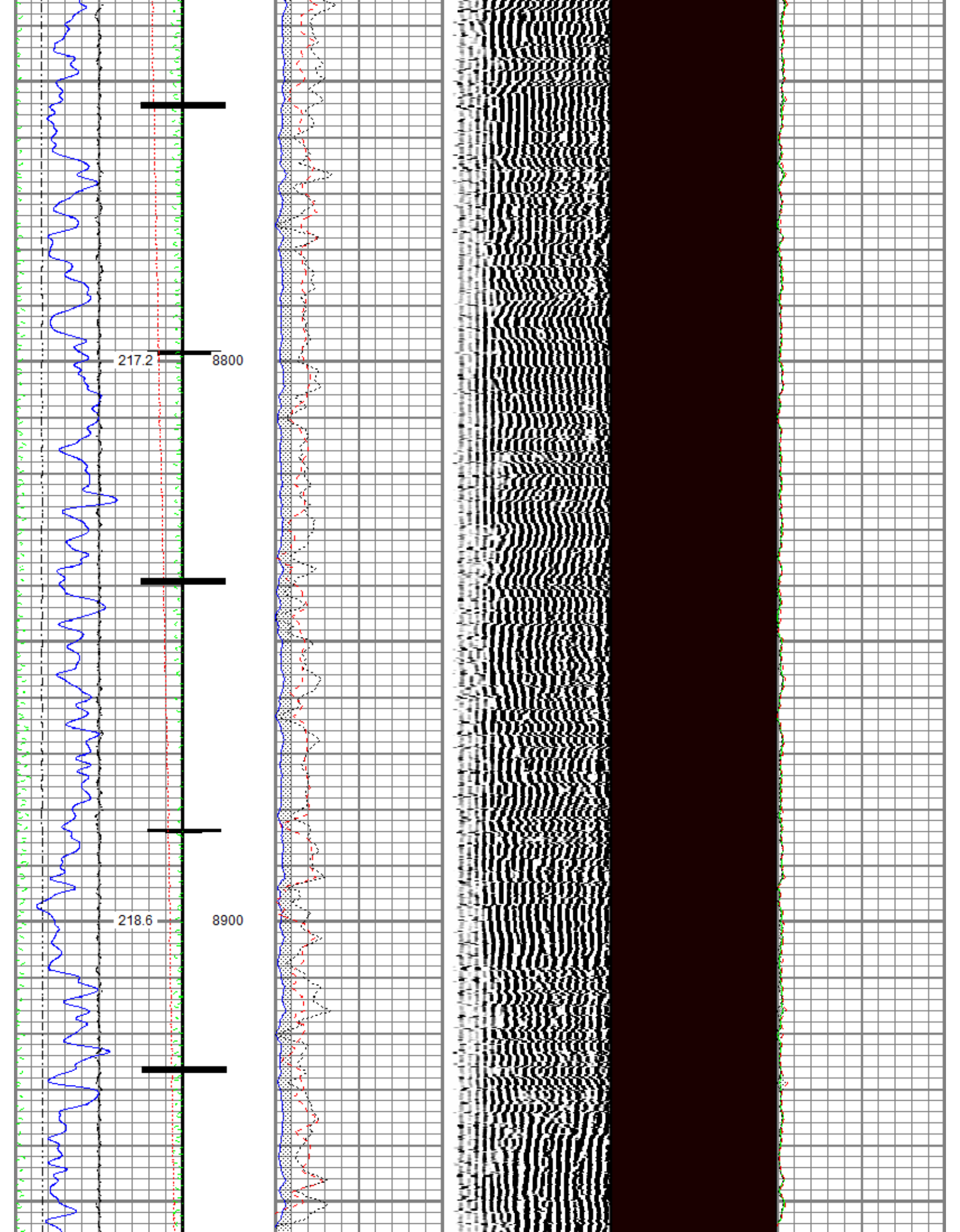


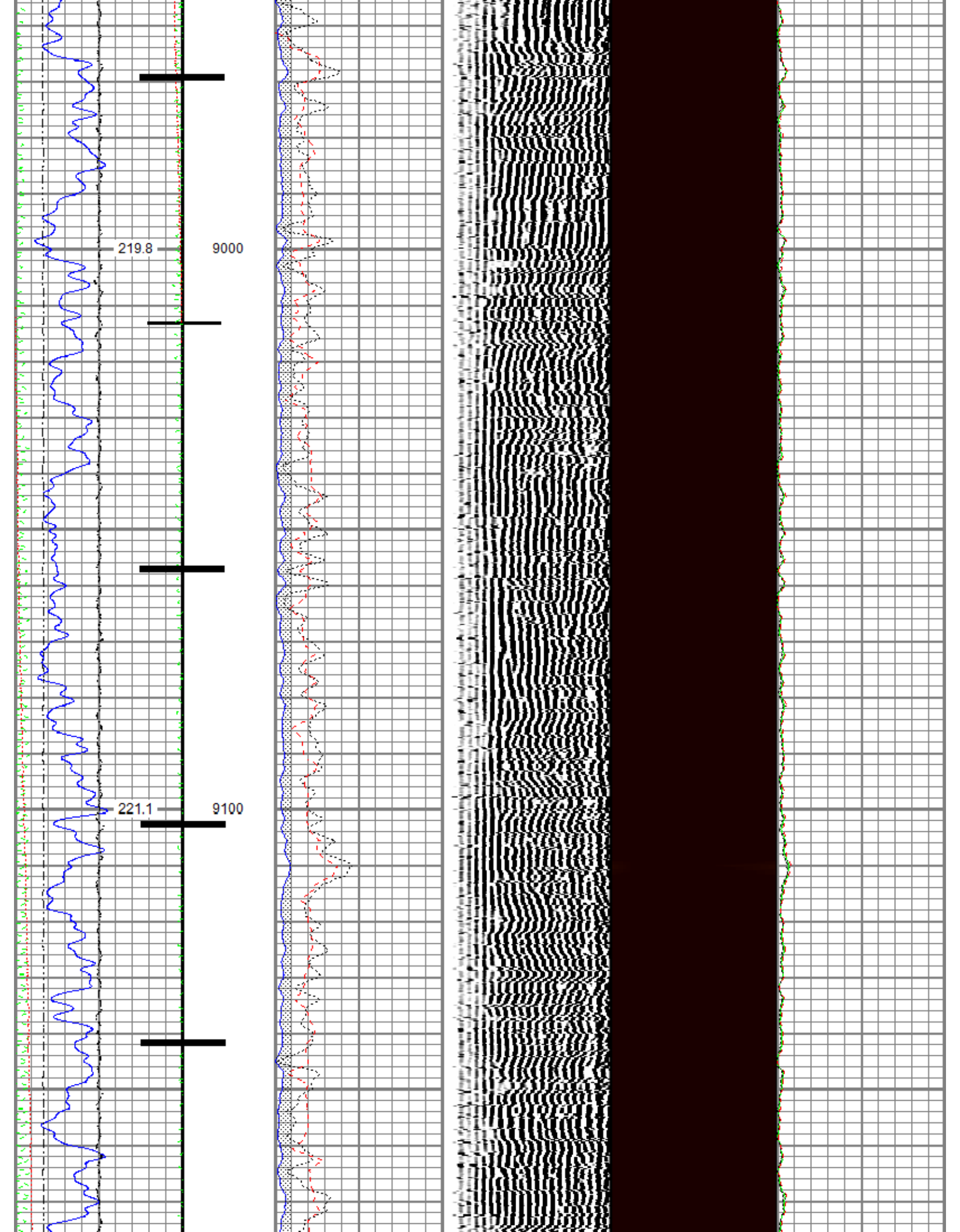




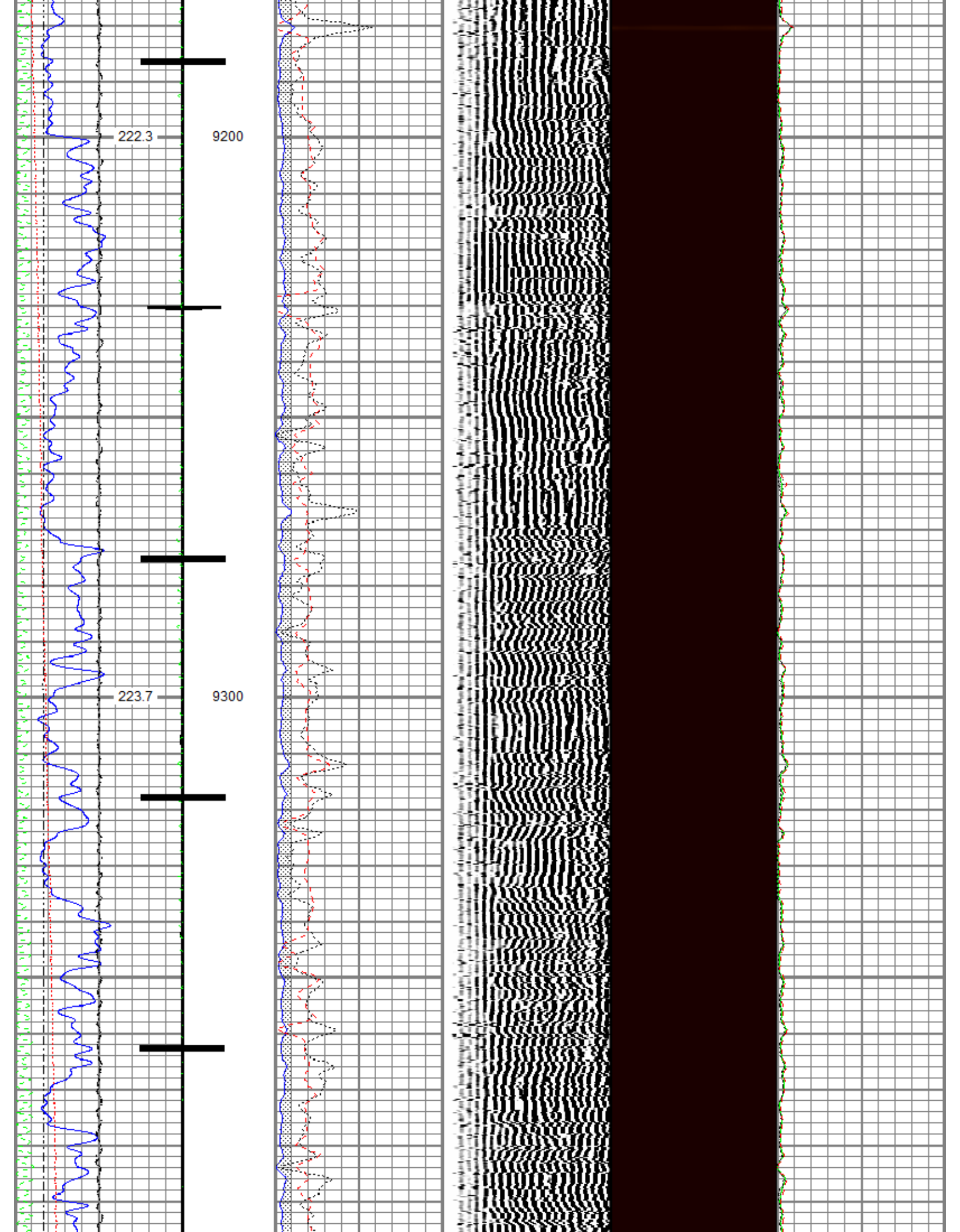




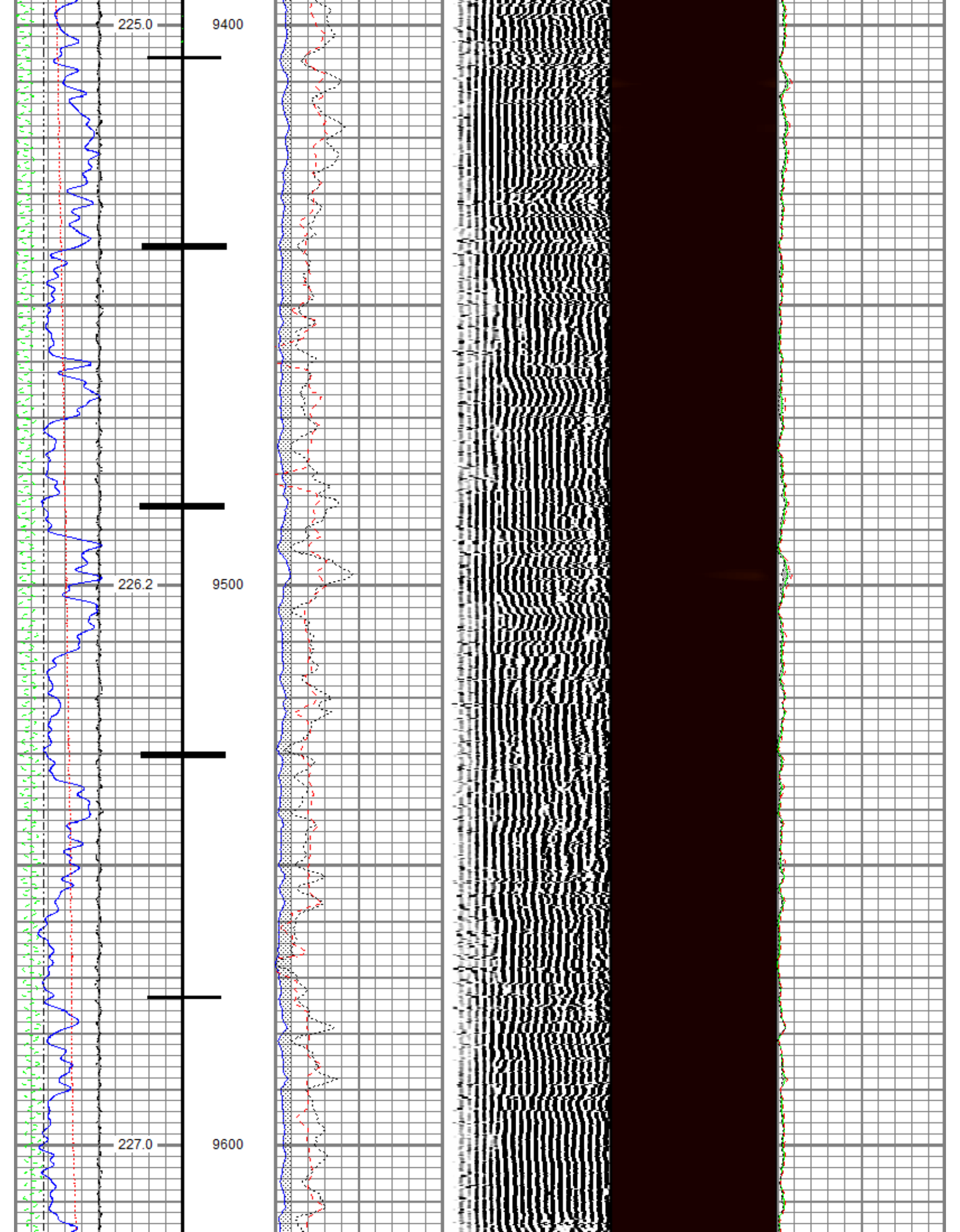


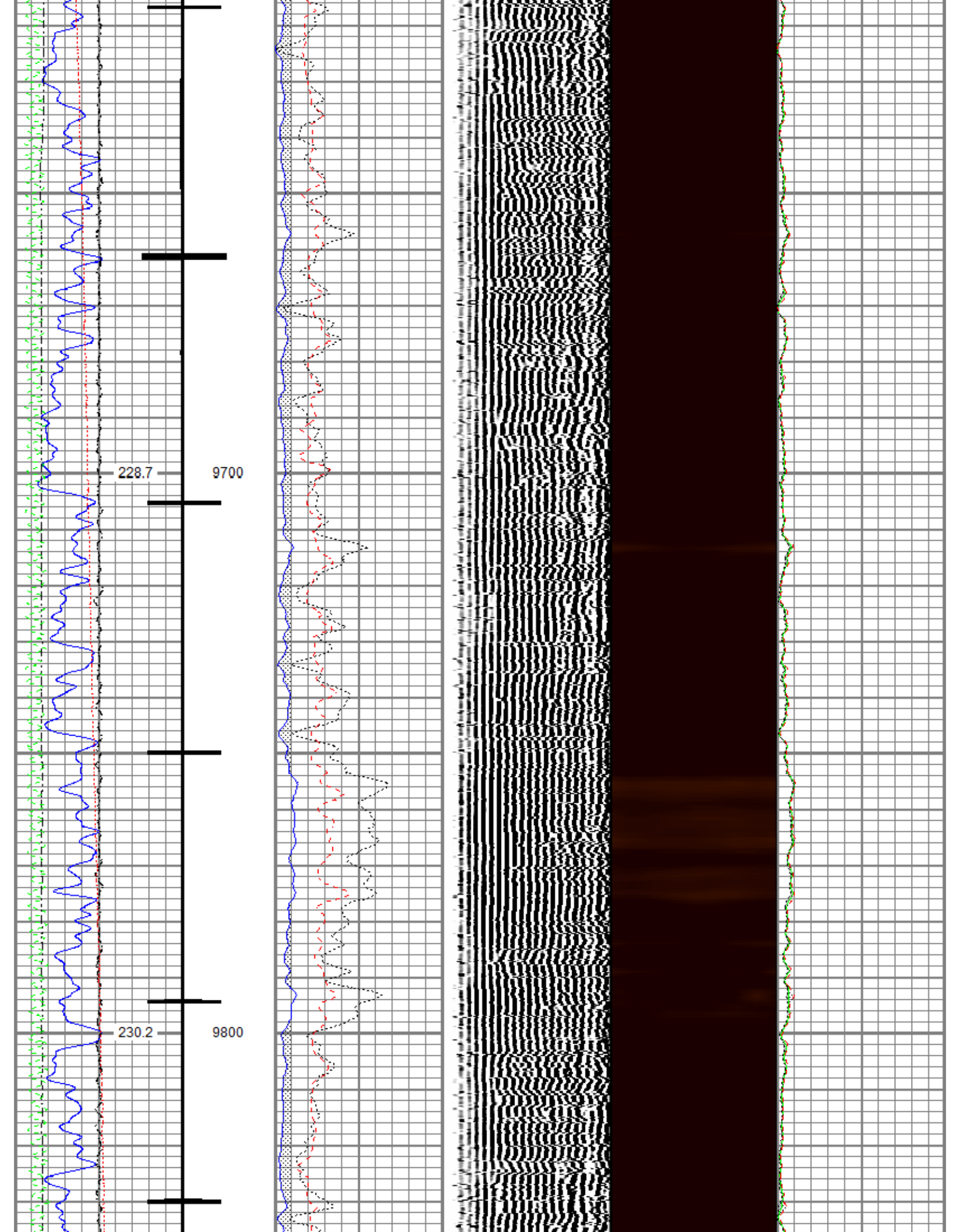


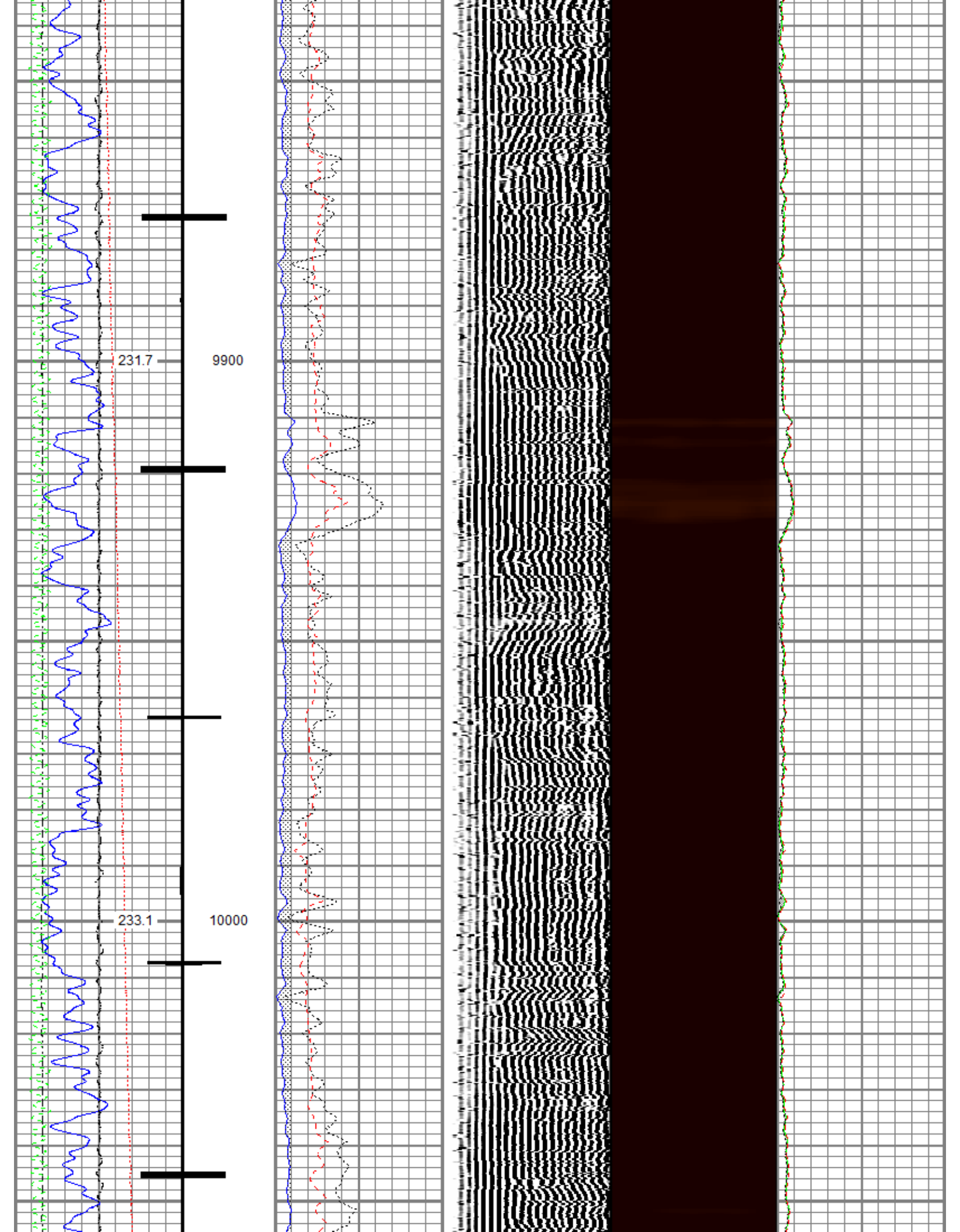




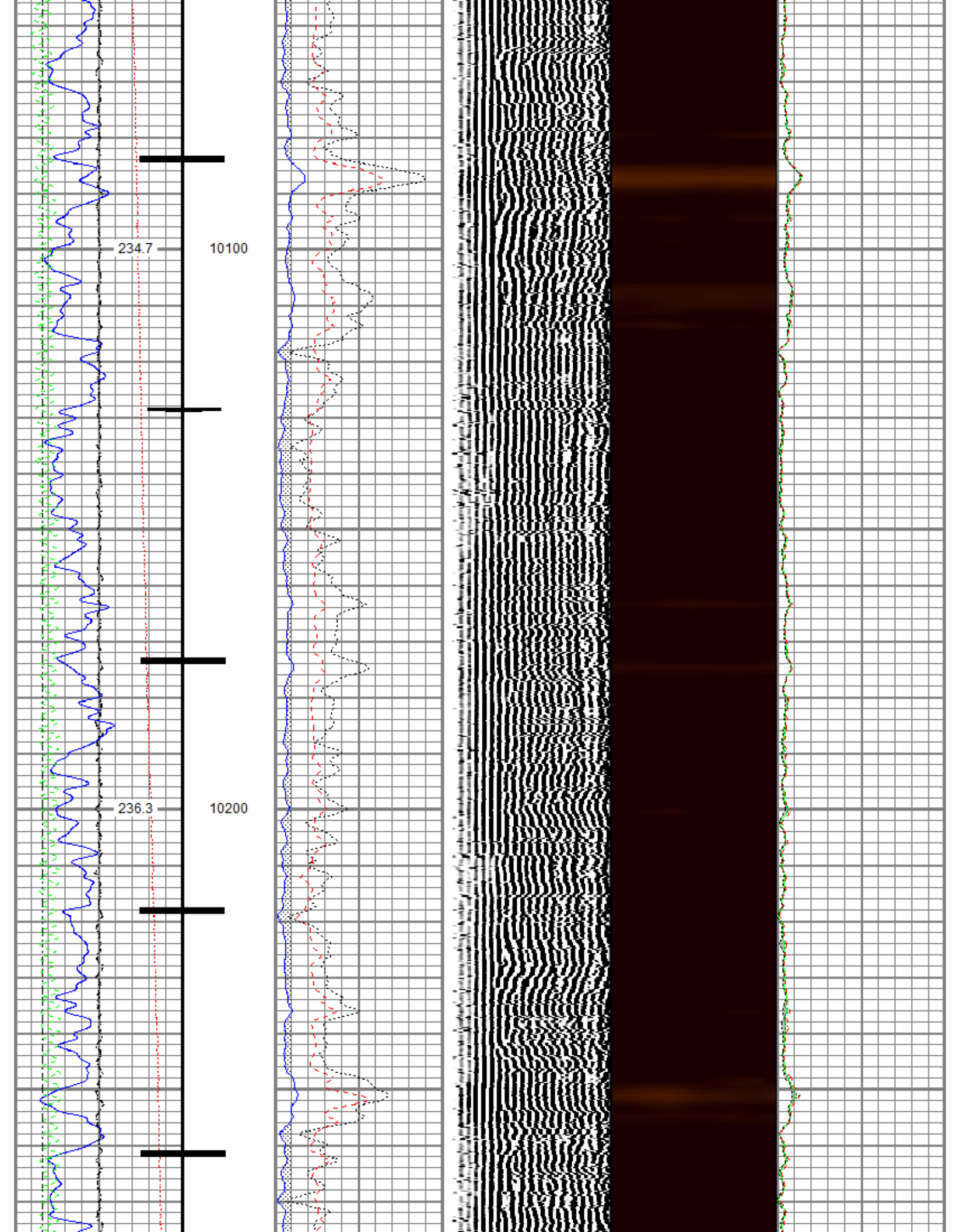




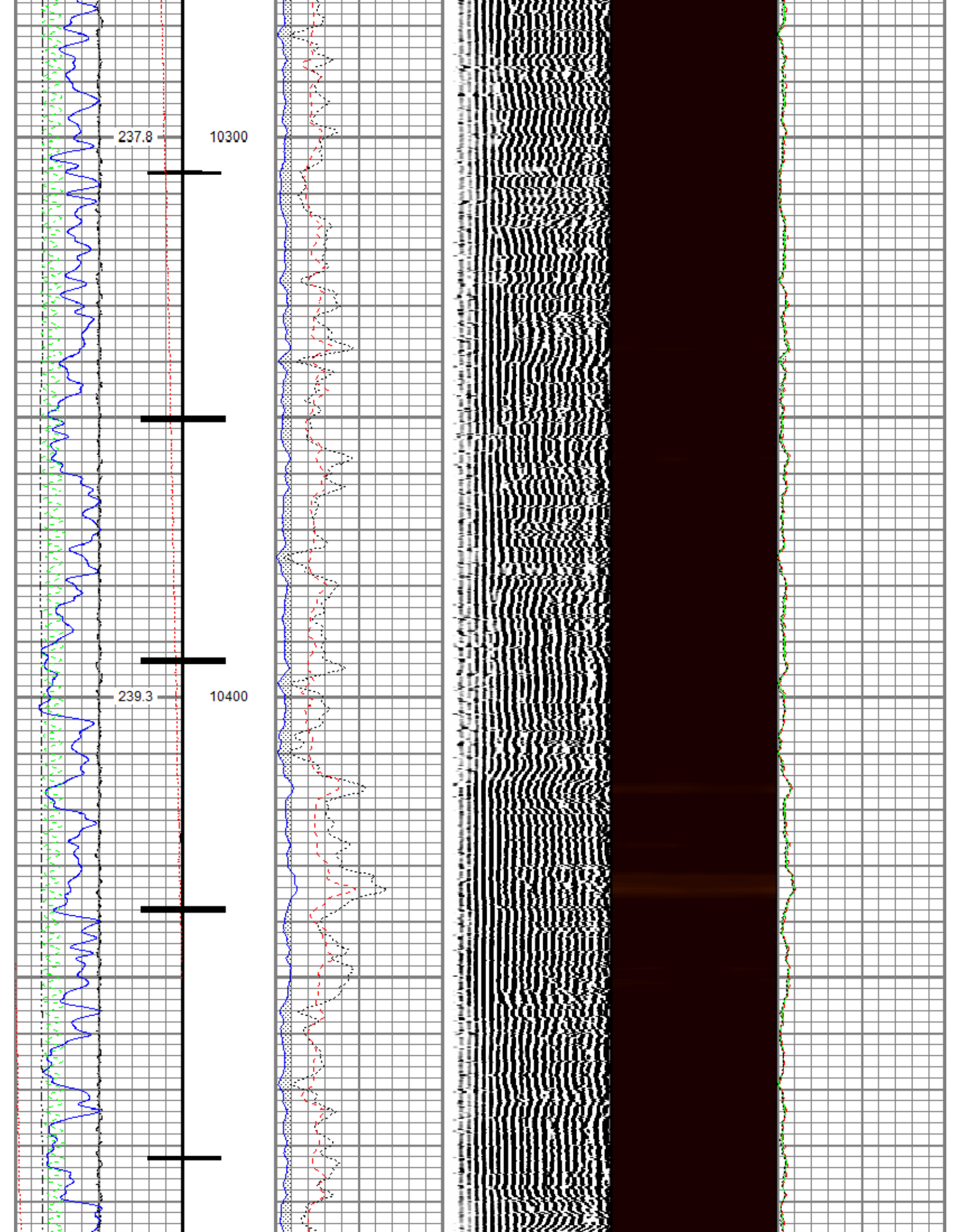


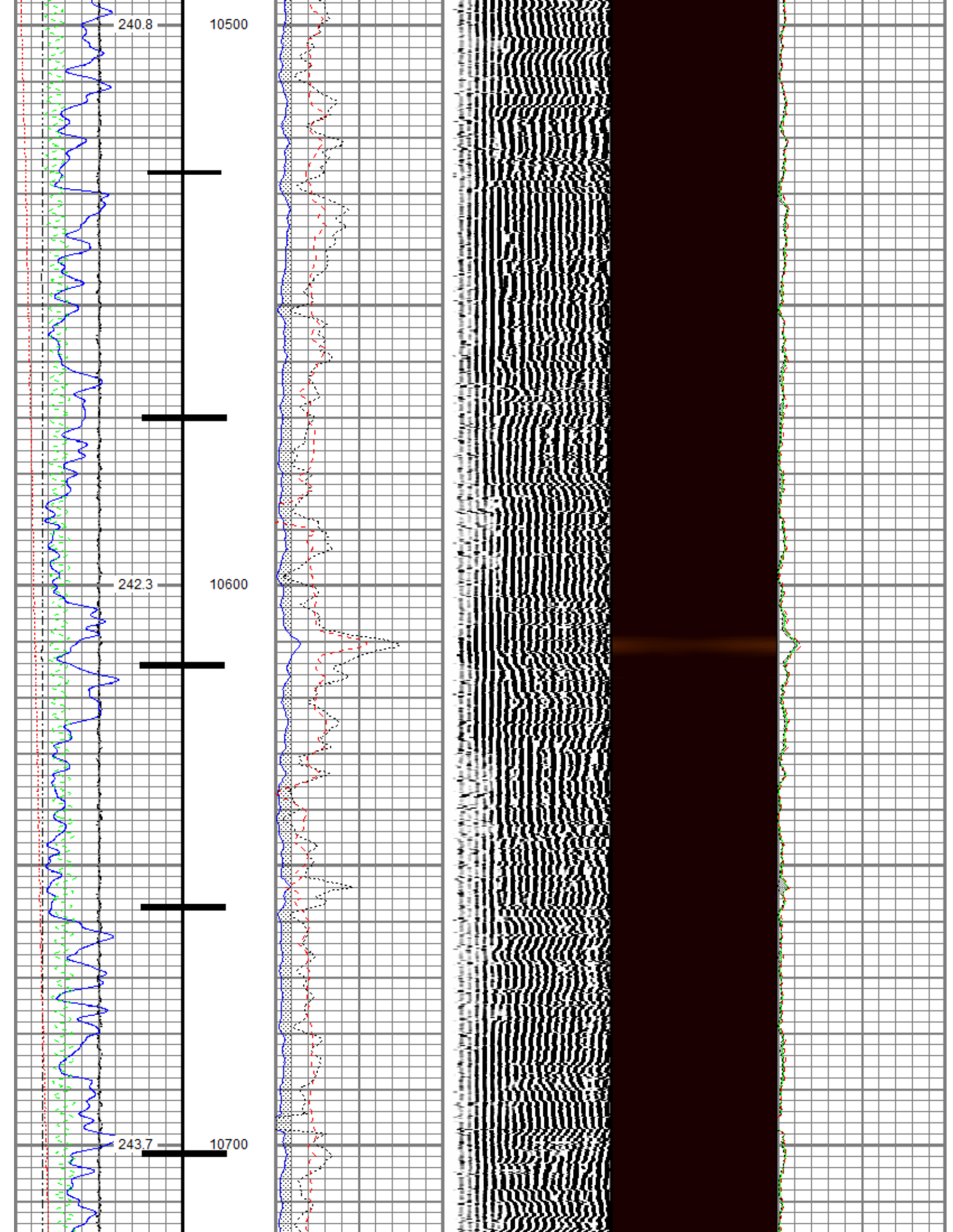


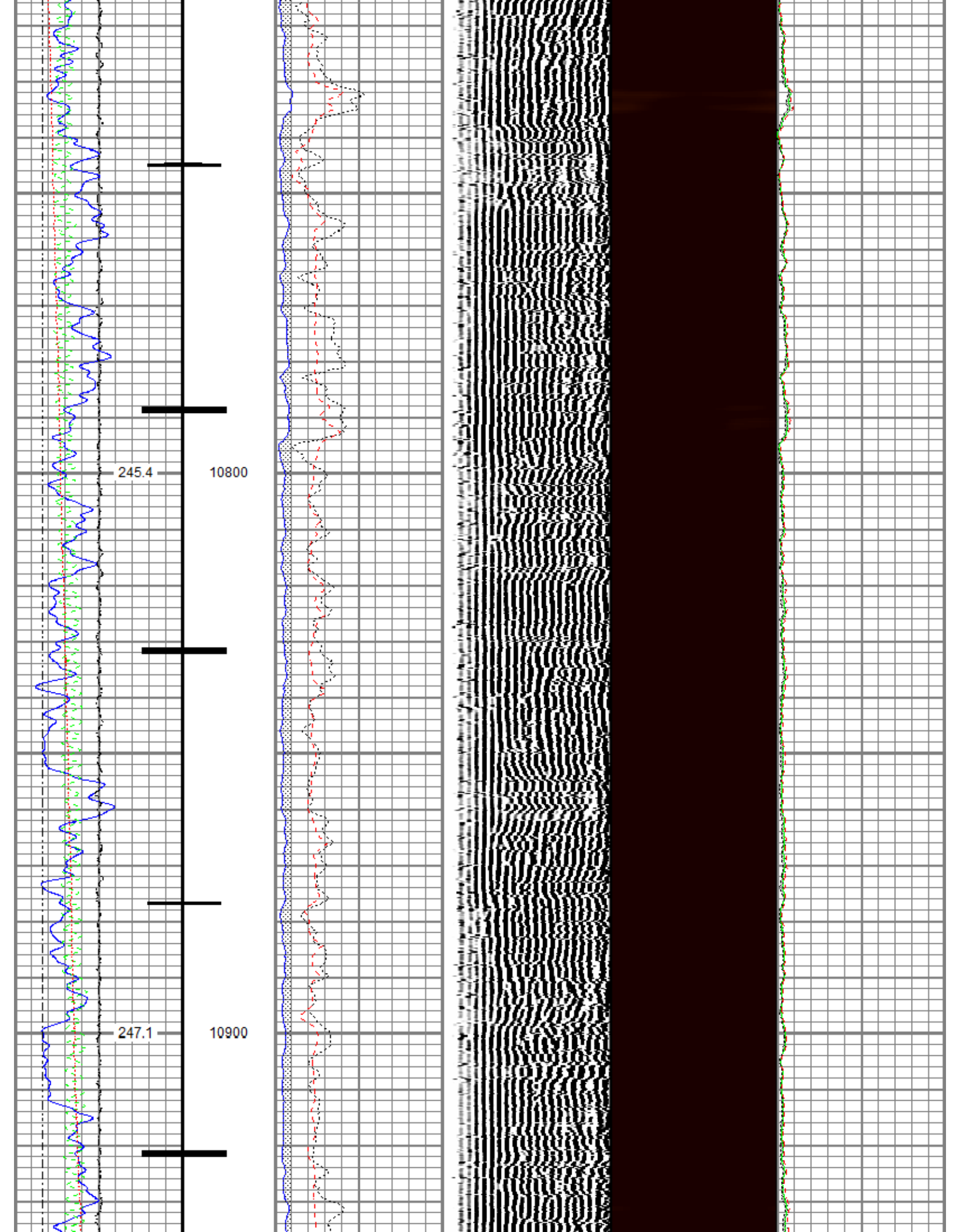




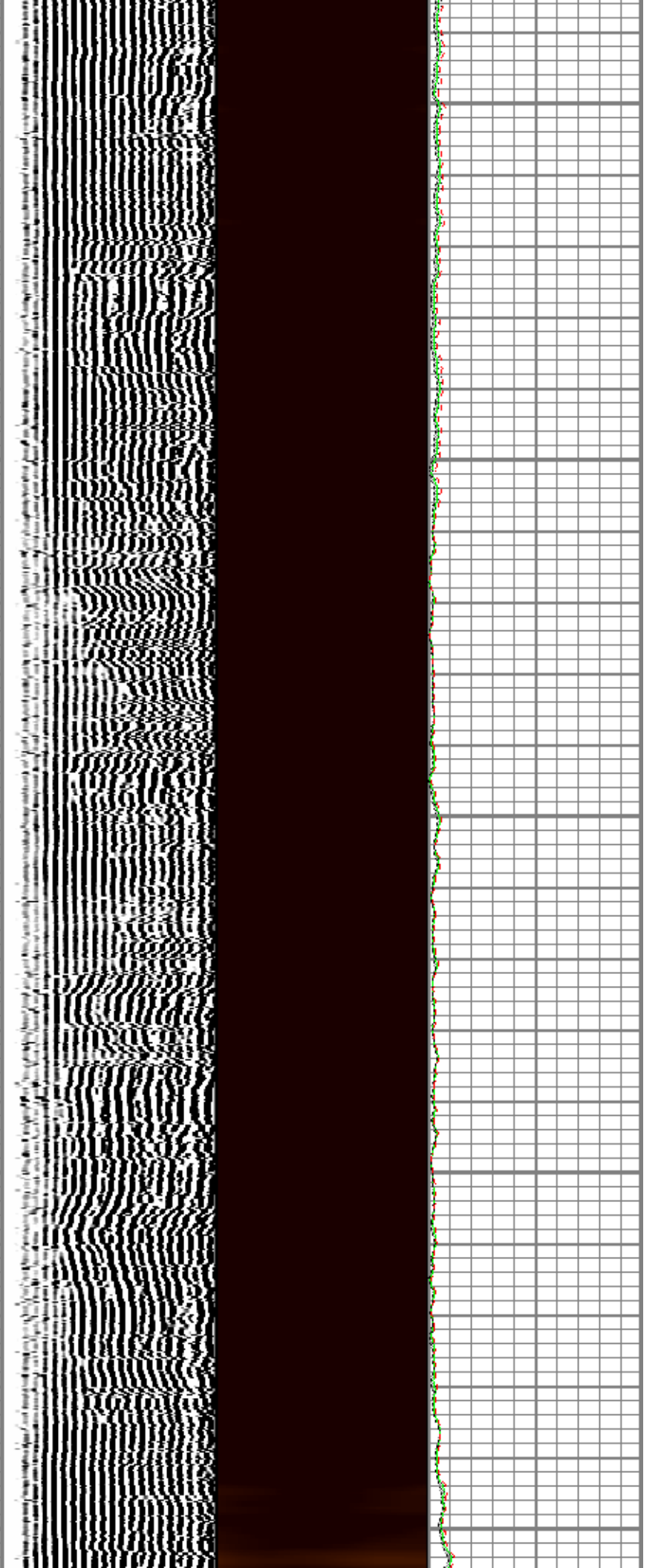
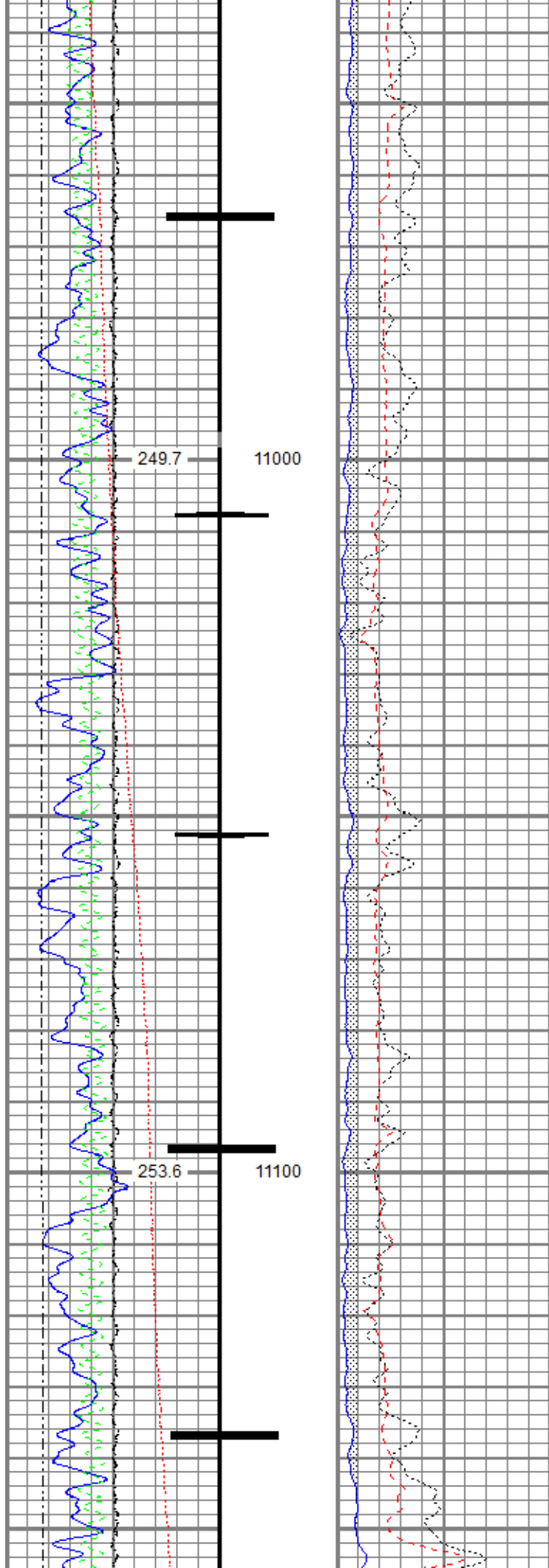




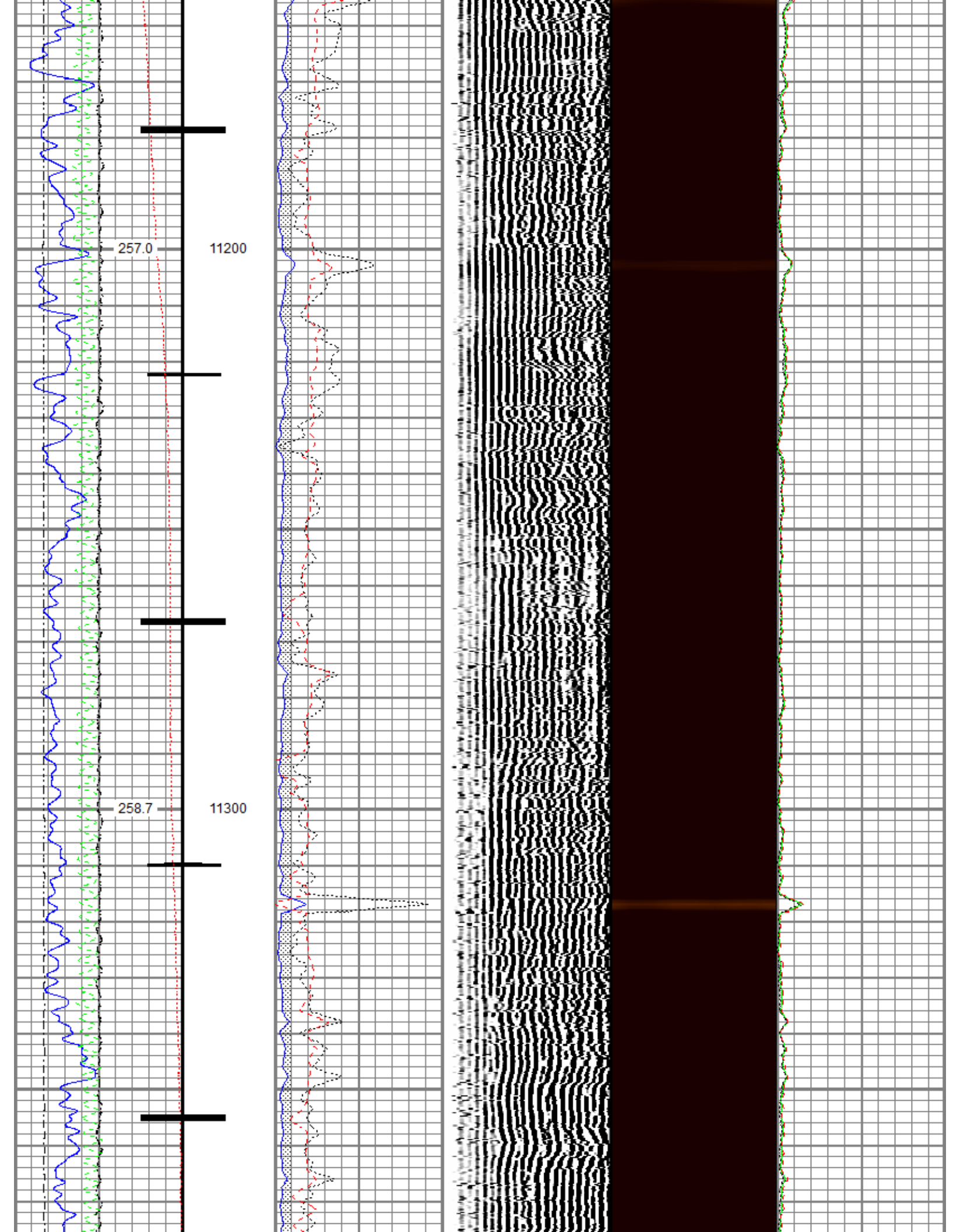


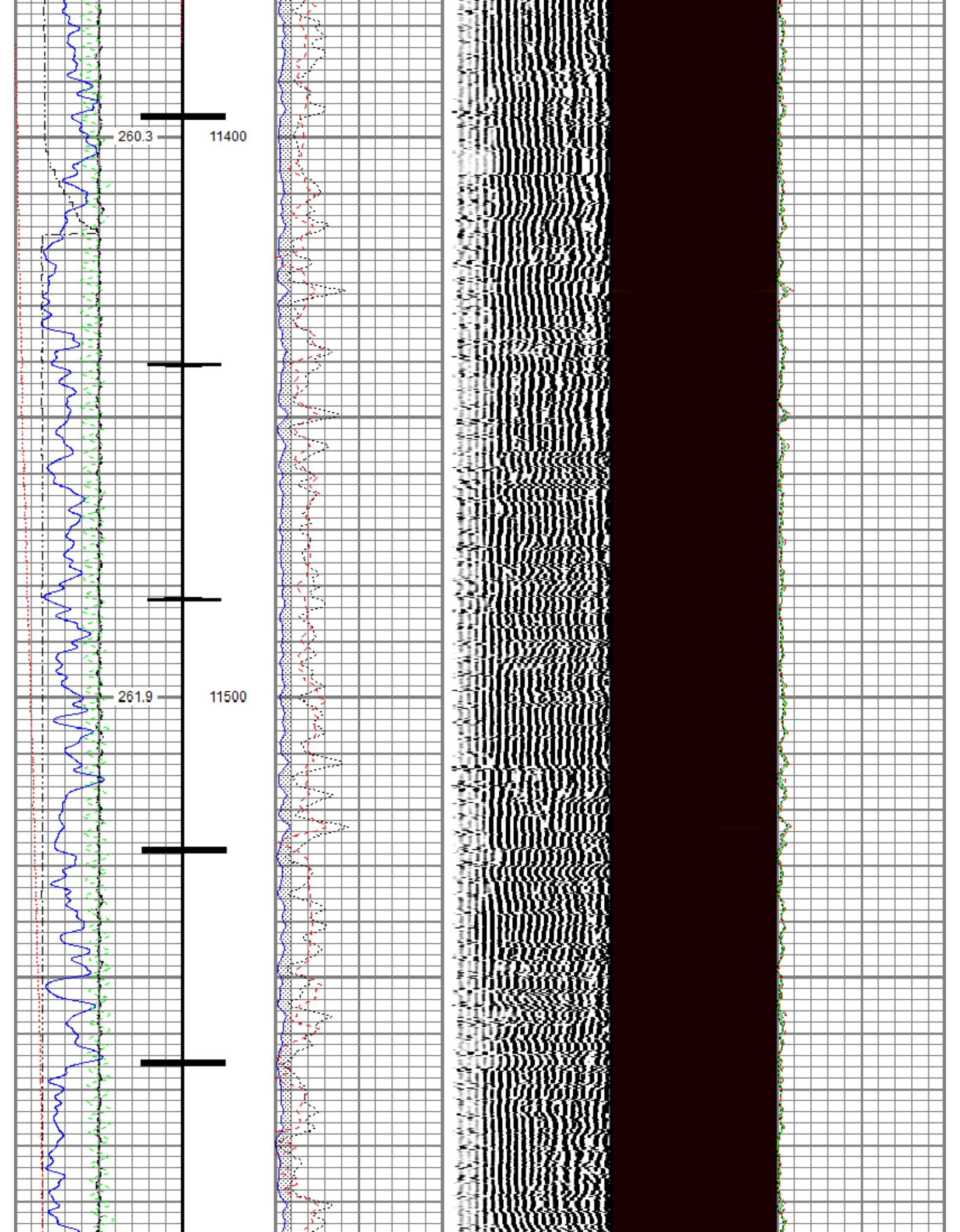


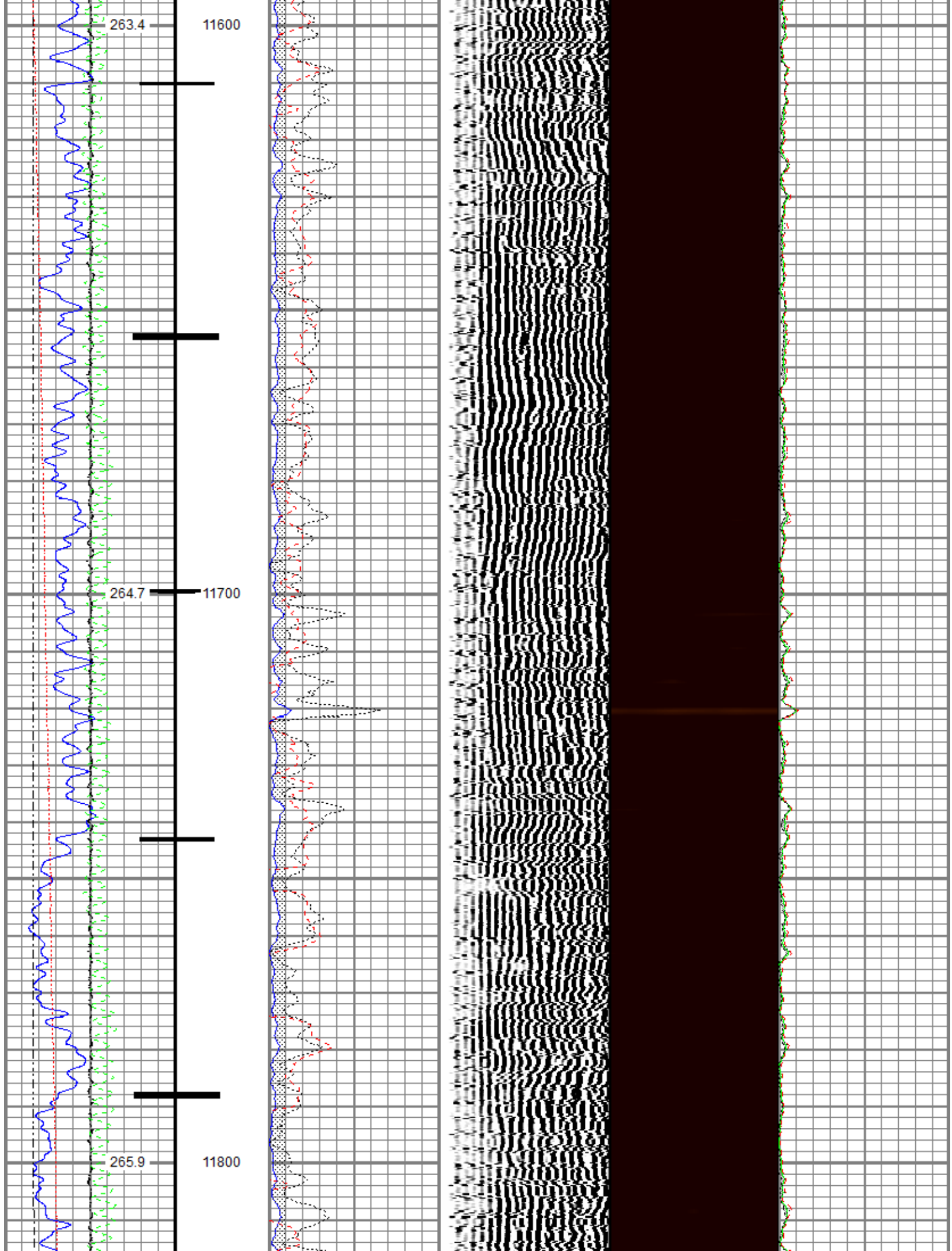




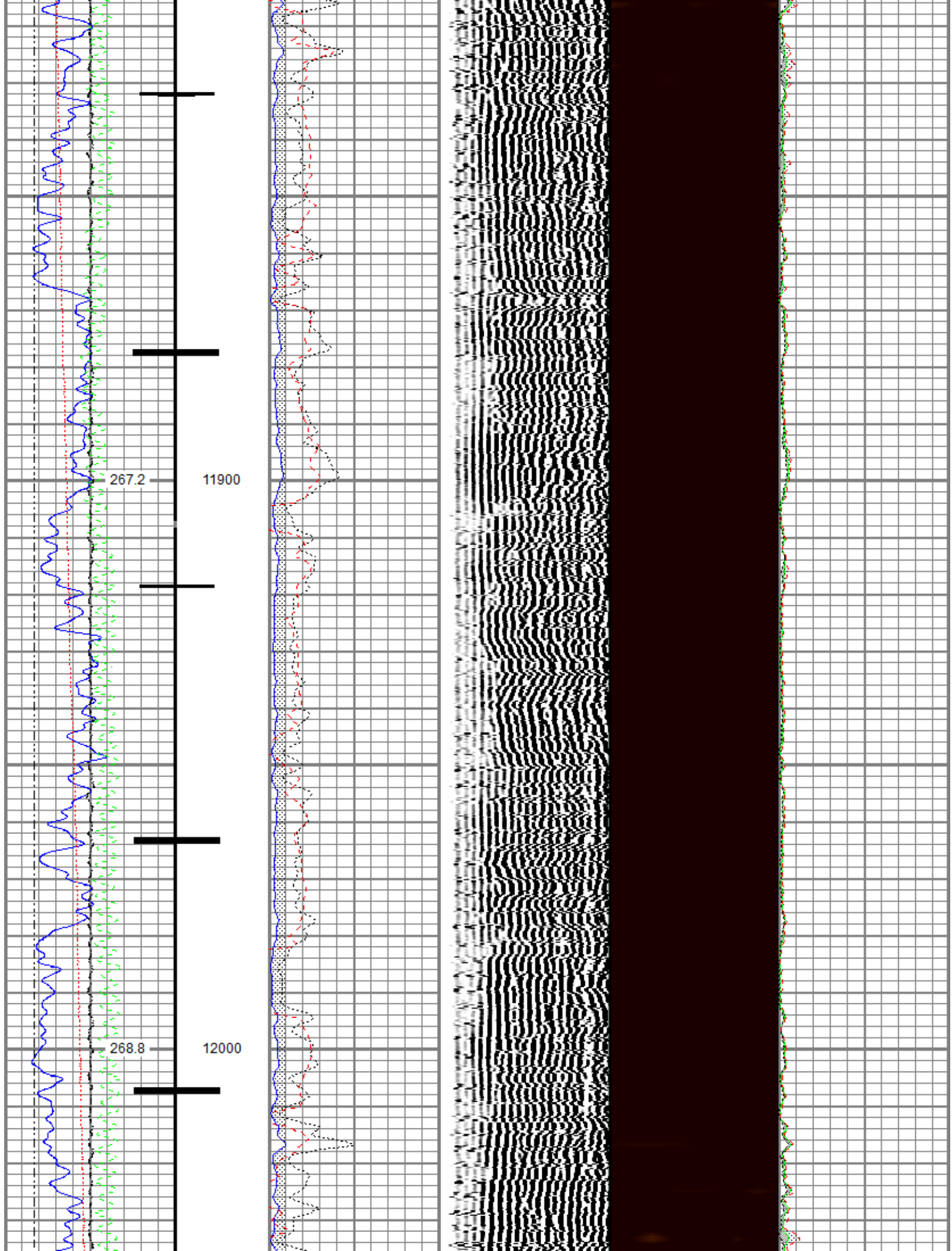




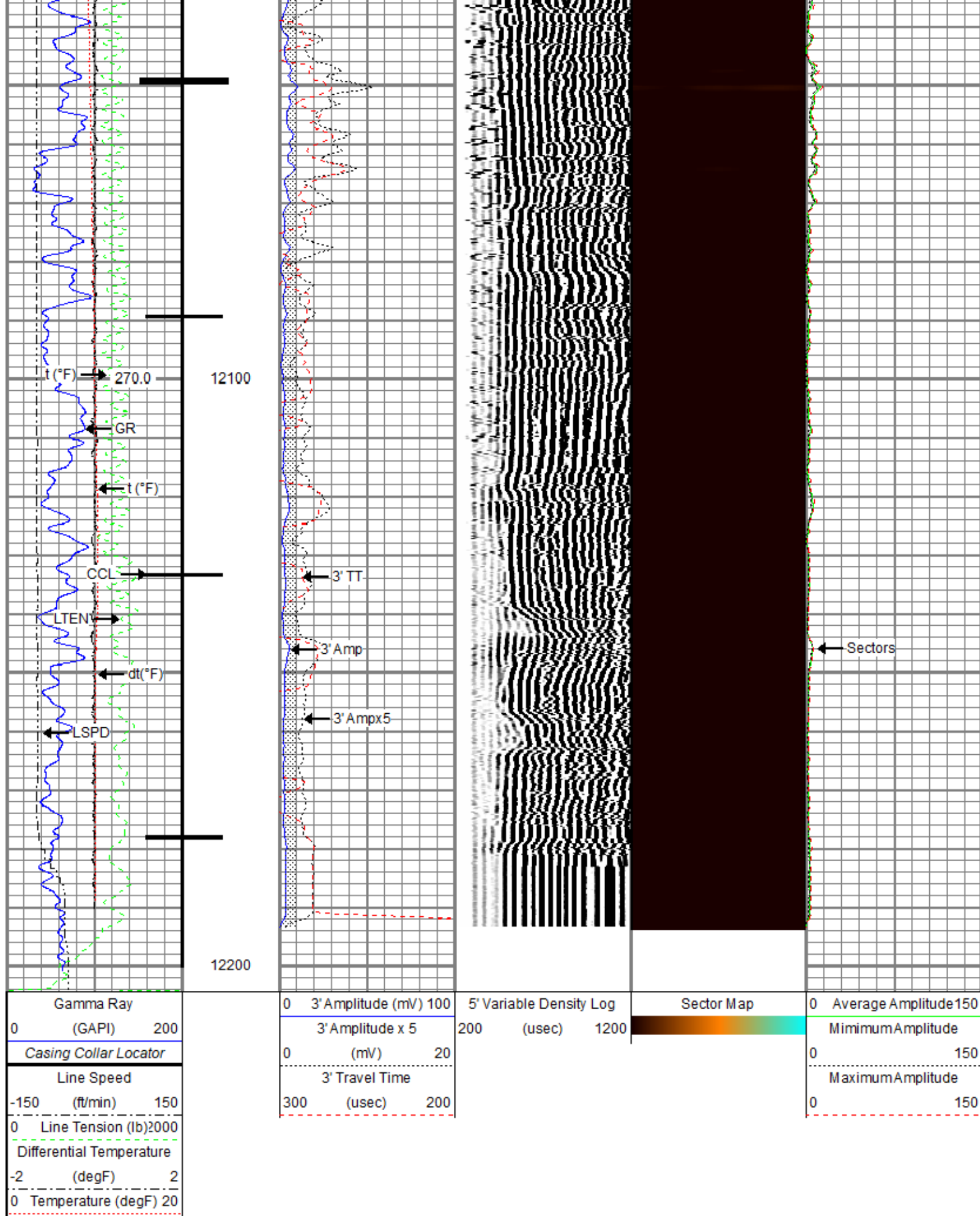






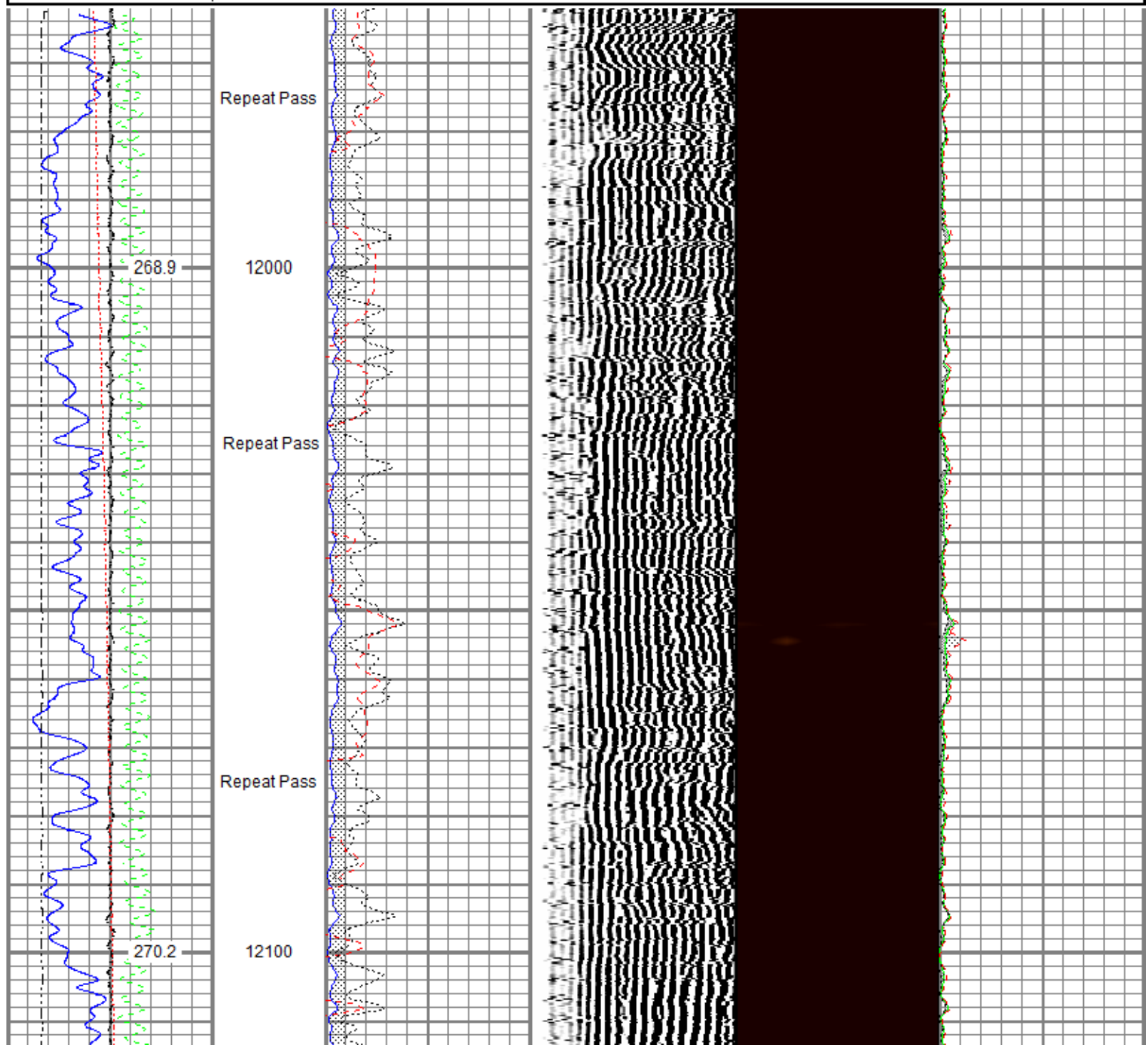


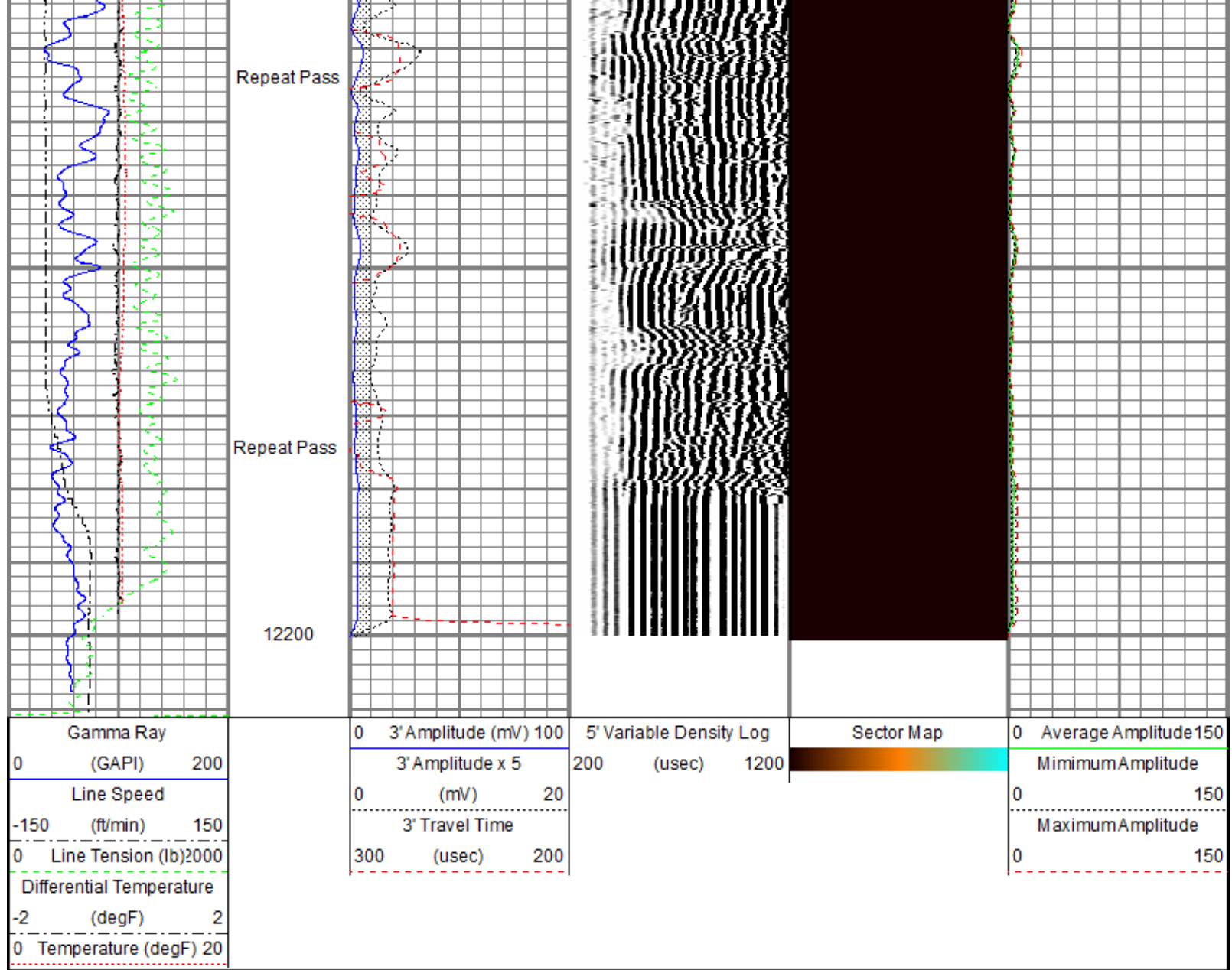




Database File tep/federal rg 443-18-297/tep\_federal rg 443-18-297\_rbl\_05-07-21.db  
 Dataset Pathname repeat  
 Presentation Format ros\_radri\_tep  
 Dataset Creation Fri May 07 18:19:47 2021  
 Charted by Depth in Feet scaled 1:240

Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 150
(GAPI)	200	3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Line Speed		0 (mV) 20			0	150
-150 (ft/min) 150		3' Travel Time				Maximum Amplitude
0 Line Tension (lb) 2000		300 (usec) 200			0	150
Differential Temperature						
-2 (degF) 2						
0 Temperature (degF) 20						





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
TEMP	14.19		Titan CHD-14375 GO	1.03	1.44	3.60
			Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck			
			BTA-MUD BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends	2.92	2.72	25.00



WVFS8	11.96		Probe Radii-2750 RBT (FW1305-098) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS7	11.96					
WVFS6	11.96					
WVFS5	11.96					
WVFS4	11.96					
WVFS3	11.96					
WVFS2	11.96					
WVFS1	11.96					
WVFCAL	11.96					
WVF3FT	11.96					
WVF5FT	10.96					
HEADVOLT	7.71					
			BTA-MUD BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends	2.92	2.72	25.00
CCL	3.88					
			Probe GR-CCL ANL-2750 A (FW1305-083) Probe 2.75" Analog 4 Channel Pulse Gamma Ray/CCL Combined	4.54	2.75	55.00
GR	1.14					
			GO BN-14375 GO 1-7/16" Bull Nose with Go Box Top	0.25	1.44	1.00
Dataset: TEP_Federal RG 443-18-297_RBL_05-07-21.db: field/well/run1/main Total length: 21.05 ft Total weight: 214.60 lb O.D.: 2.75 in						

Calibration Report			
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Dataset Pathname	main		
Dataset Creation	Fri May 07 18:24:37 2021		
Gamma Ray Calibration Report			
Serial Number:	FW1305-083		
Tool Model:	2750 A		
Performed:	Sun Nov 12 05:37:57 2017		
Calibrator Value:	637.0	GAPI	
Background Reading:	95.7	cps	
Calibrator Reading:	982.0	cps	
Sensitivity:	0.7188	GAPI/cps	
Segmented Cement Bond Log Calibration Report			
Serial Number:	FW1305-098		
Tool Model:	2750 RBT		
Calibration Casing Diameter:	4.500	in	
Calibration Depth:	252.642	ft	

Master Calibration, performed Fri May 07 17:43:54 2021:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.796	0.800	81.196	101.461	0.391
CAL	0.004	0.754				
5'	0.010	0.609	0.800	81.196	134.258	-0.529
SUM						
S1	0.003	0.701	0.000	100.000	143.127	-0.365
S2	0.007	0.778	0.000	100.000	129.563	-0.848
S3	0.006	0.846	0.000	100.000	119.073	-0.725
S4	0.005	0.879	0.000	100.000	114.426	-0.619
S5	0.007	0.874	0.000	100.000	115.387	-0.794
S6	0.007	0.838	0.000	100.000	120.253	-0.826
S7	0.005	0.766	0.000	100.000	131.333	-0.620
S8	0.005	0.730	0.000	100.000	137.964	-0.724

Air Zero Calibration, performed Fri May 07 14:18:40 2021:

	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	

#### Temperature Calibration Report

Serial Number: FW1305-098  
Tool Model: 2750 RBT  
Performed: Mon Oct 01 11:32:17 2018

	Reference	Reading
Low Reference:	100.00 degF	109.43 degF
High Reference:	350.00 degF	405.87 degF

Gain: 0.84  
Offset: 7.72  
Delta Spacing: 1



Company: TEP Rocky Mountain LLC  
Well: Federal RG 443-18-297  
Field: Sulphur Creek  
County: Rio Blanco  
State: Colorado