



County	Weld	State	Colorado
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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 Casing Tally reported Marker Joint at 6264 FT  
Adjusted -12 FT to correlate with Marker Joint  
Gauge Ring/Junk Basket ran to 7333 FT with no debris  
Log ran from Approximately 50 FT above RBP at 6350 FT  
Log ran with 2800 PSI Surface Induced Pressure  
Logging tools were clean and free of debris upon completion of operations

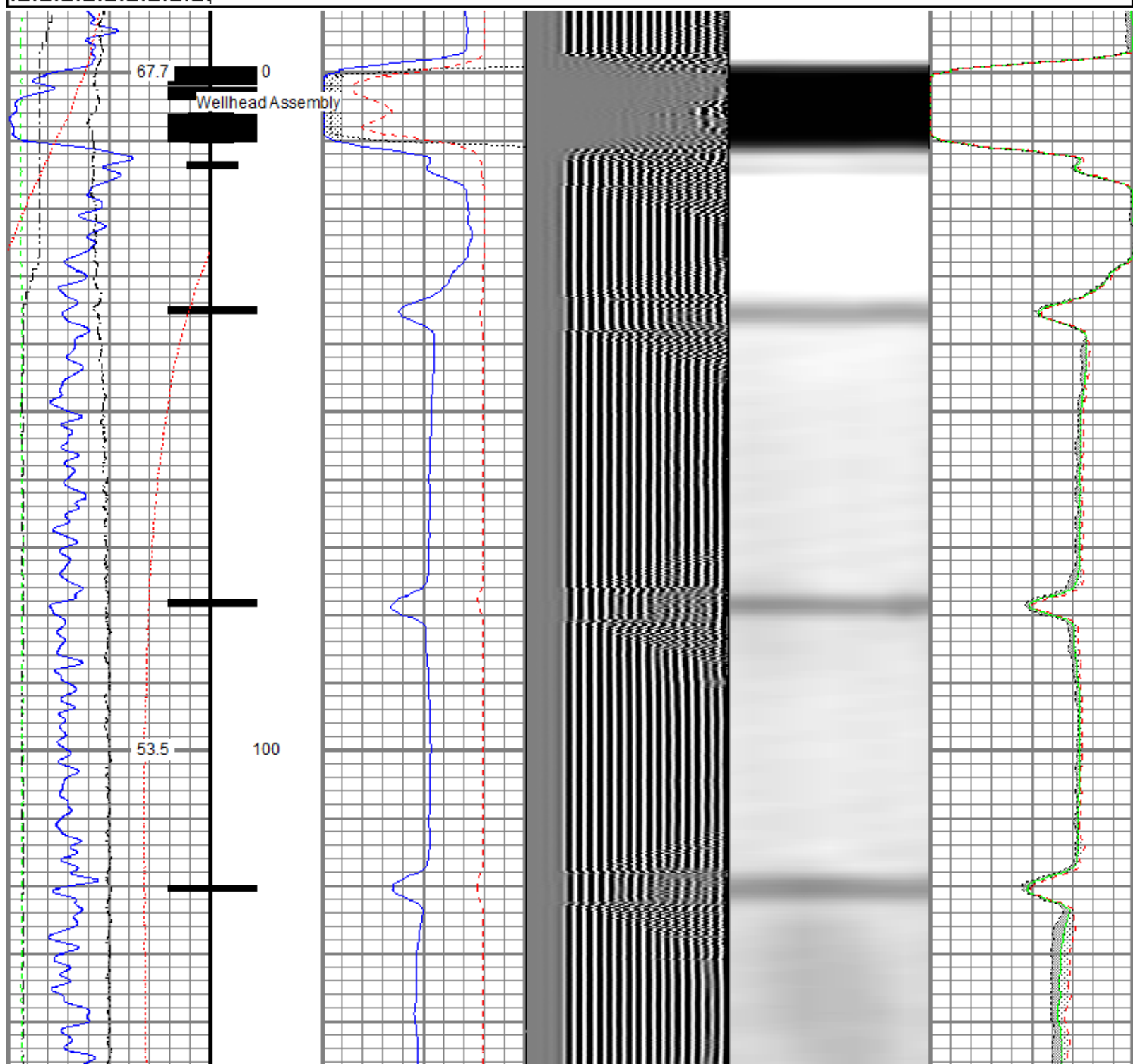
Thank you for choosing Reliance Oilfield Services, LLC!!

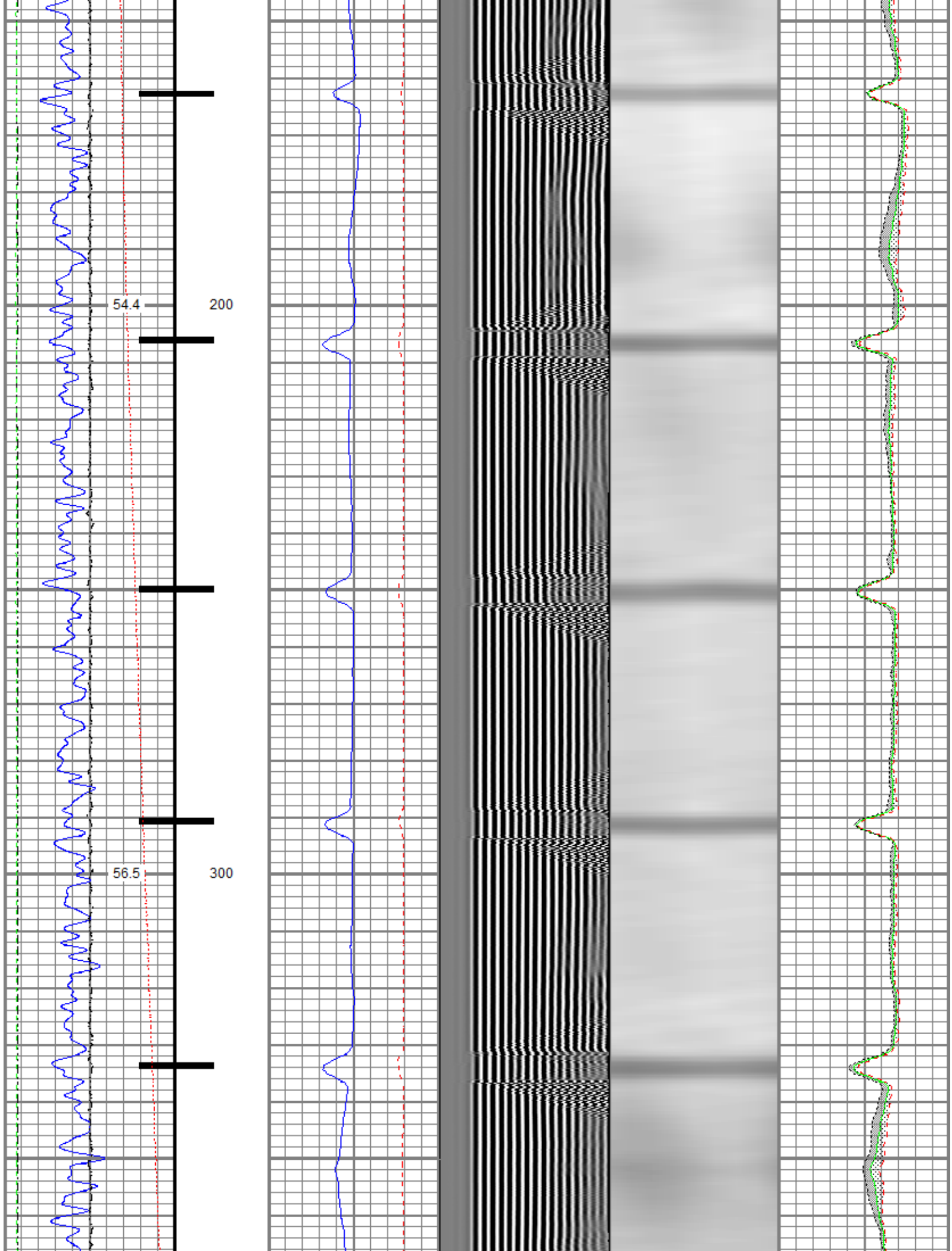
## Main Pass

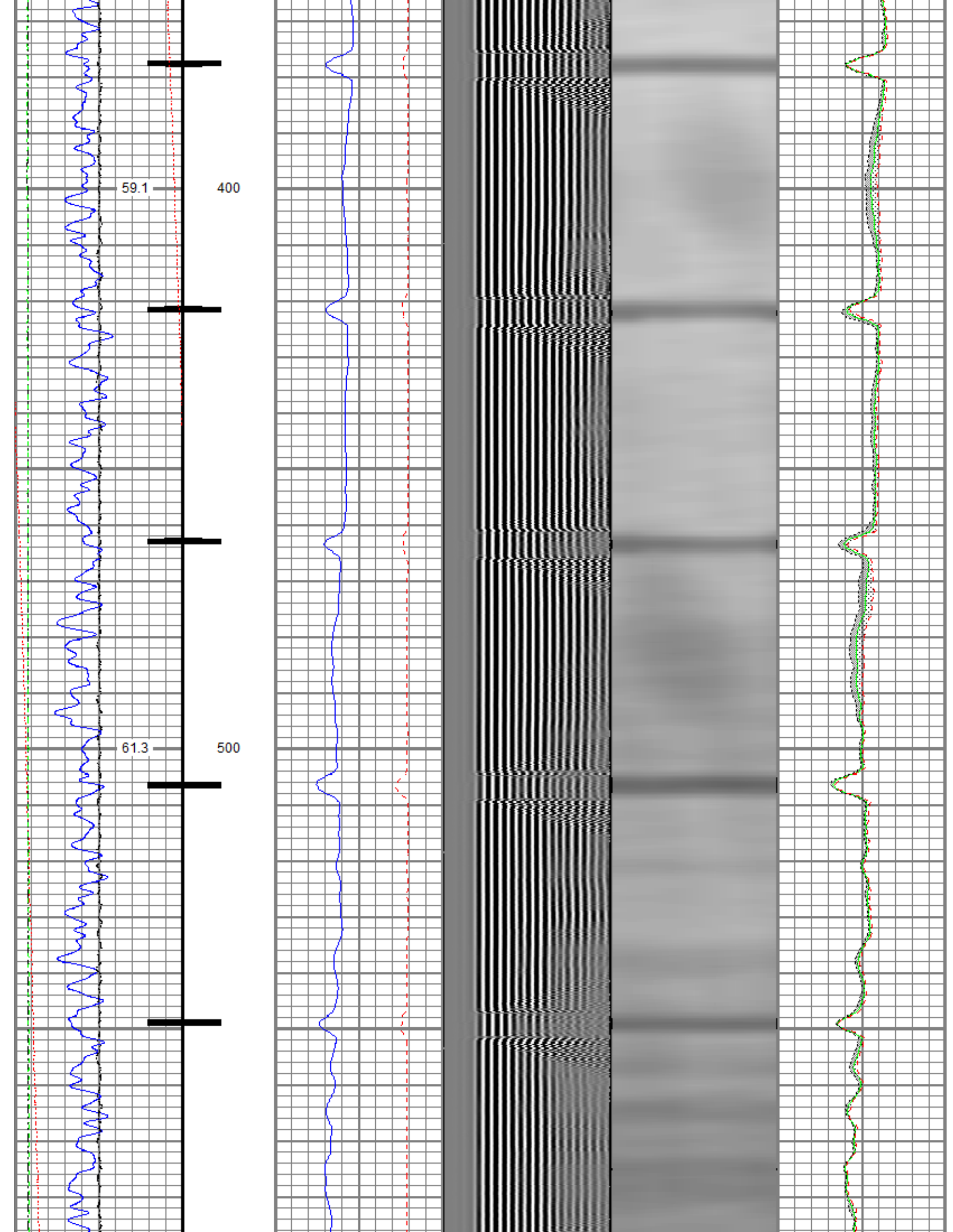


Database File anadarko\hergenreder 6n-4hz\0512345863\_anadarko\_hergenreder 6n-4hz\_rbl\_04-11-18.db  
 Dataset Pathname pass9.3  
 Presentation Format ros\_radri  
 Dataset Creation Thu Apr 12 14:26:10 2018  
 Charted by Depth in Feet scaled 1:240

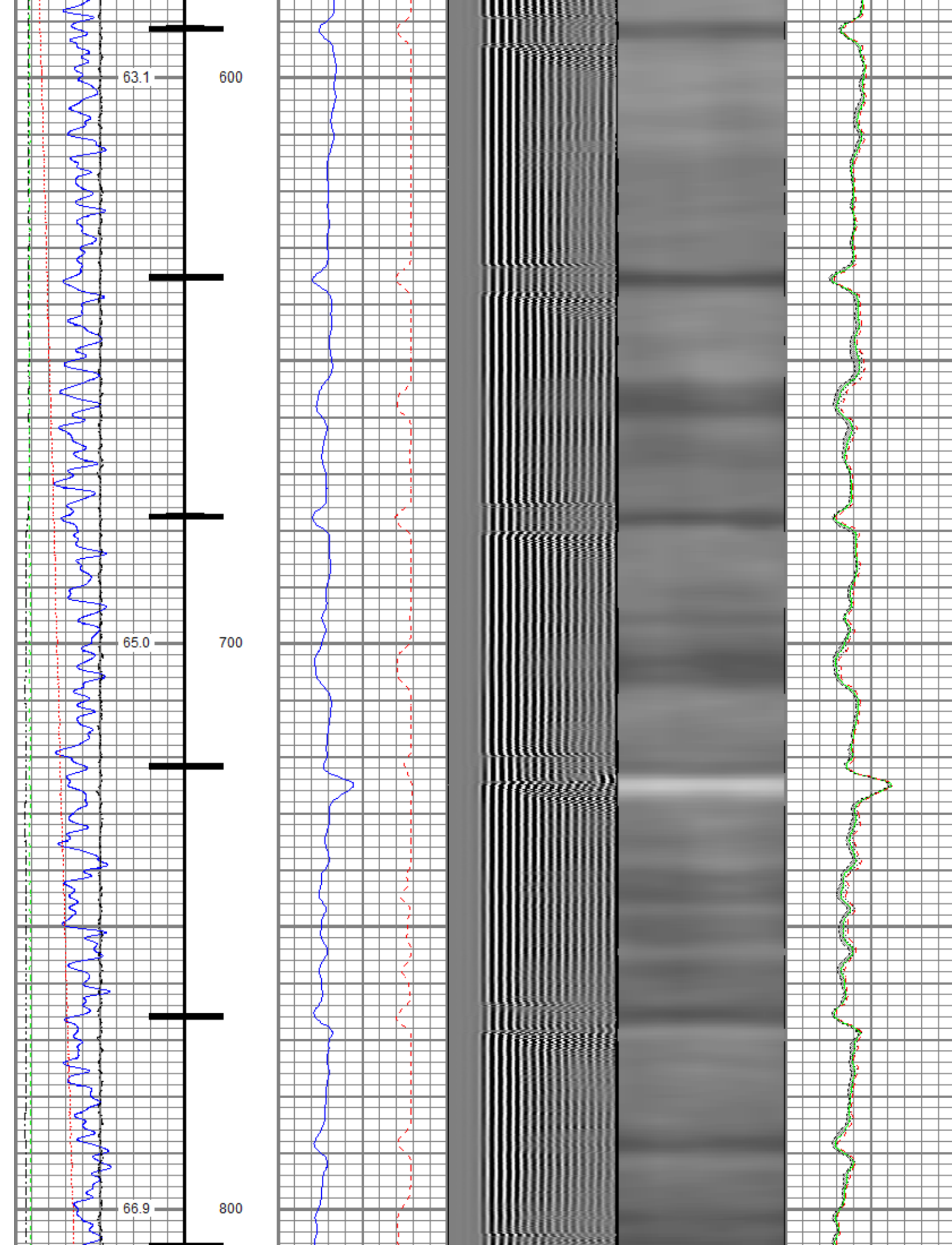
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min) 150						
Line Tension (lb) 2000						
Differential Temperature						
-2 (degF) 2						

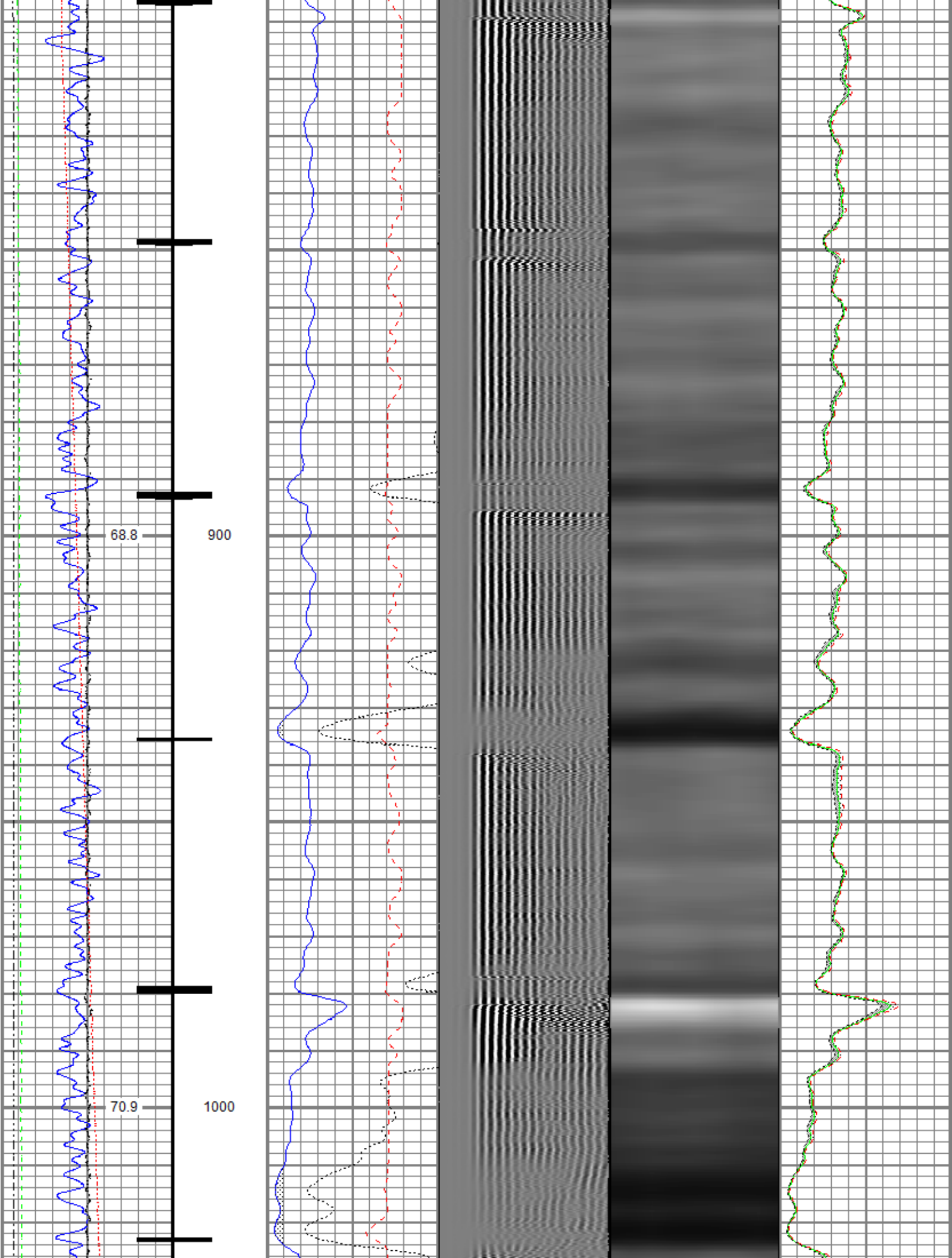


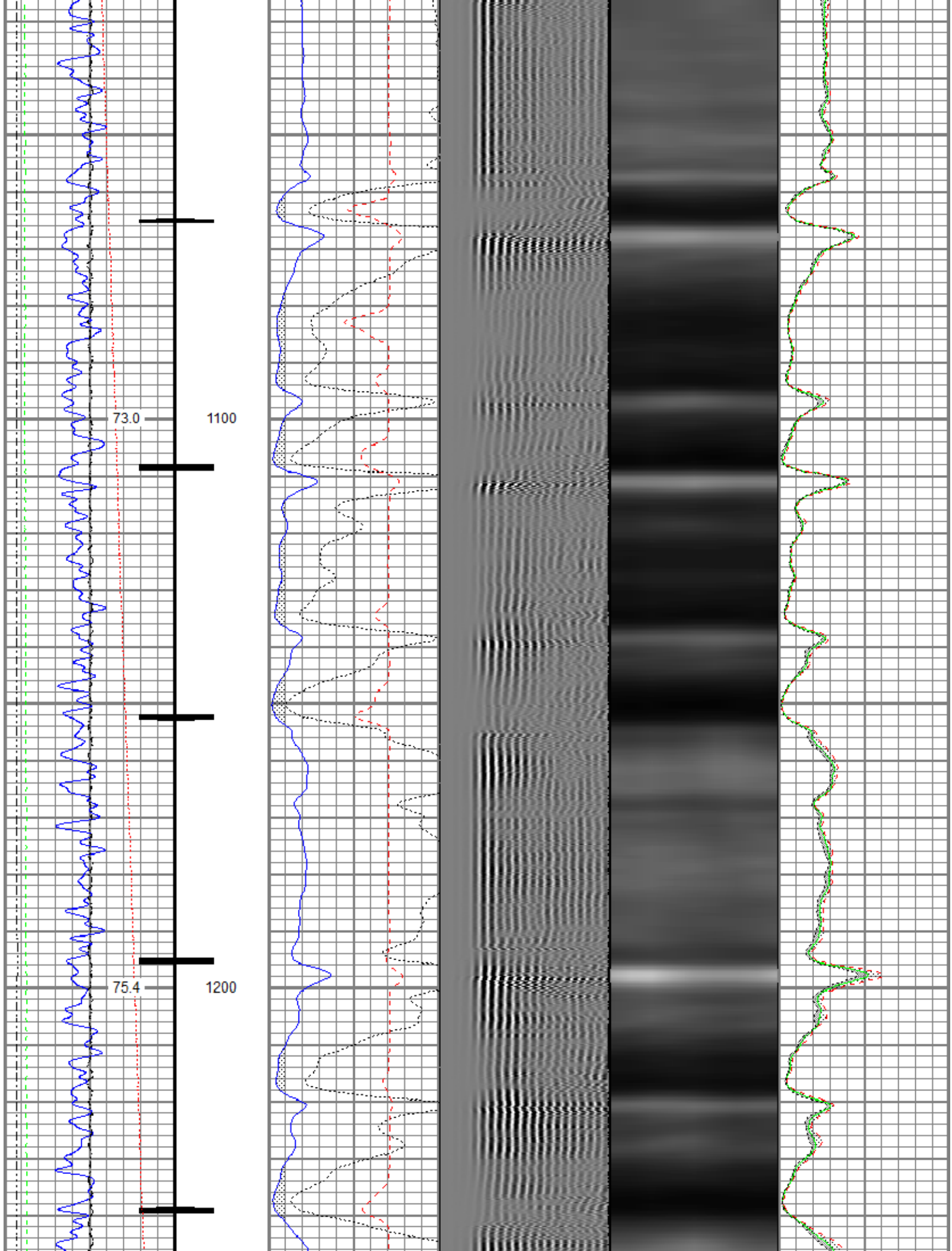


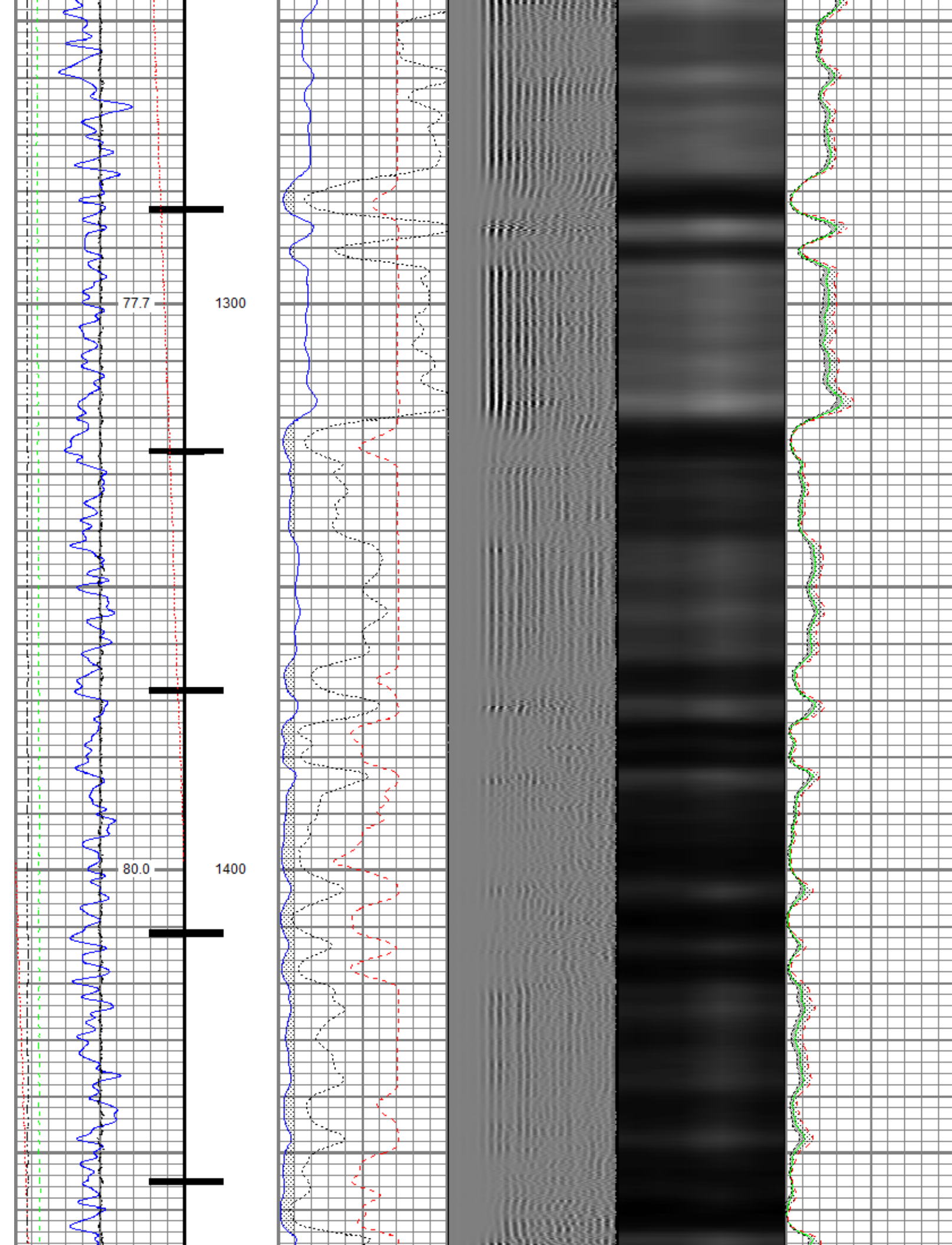




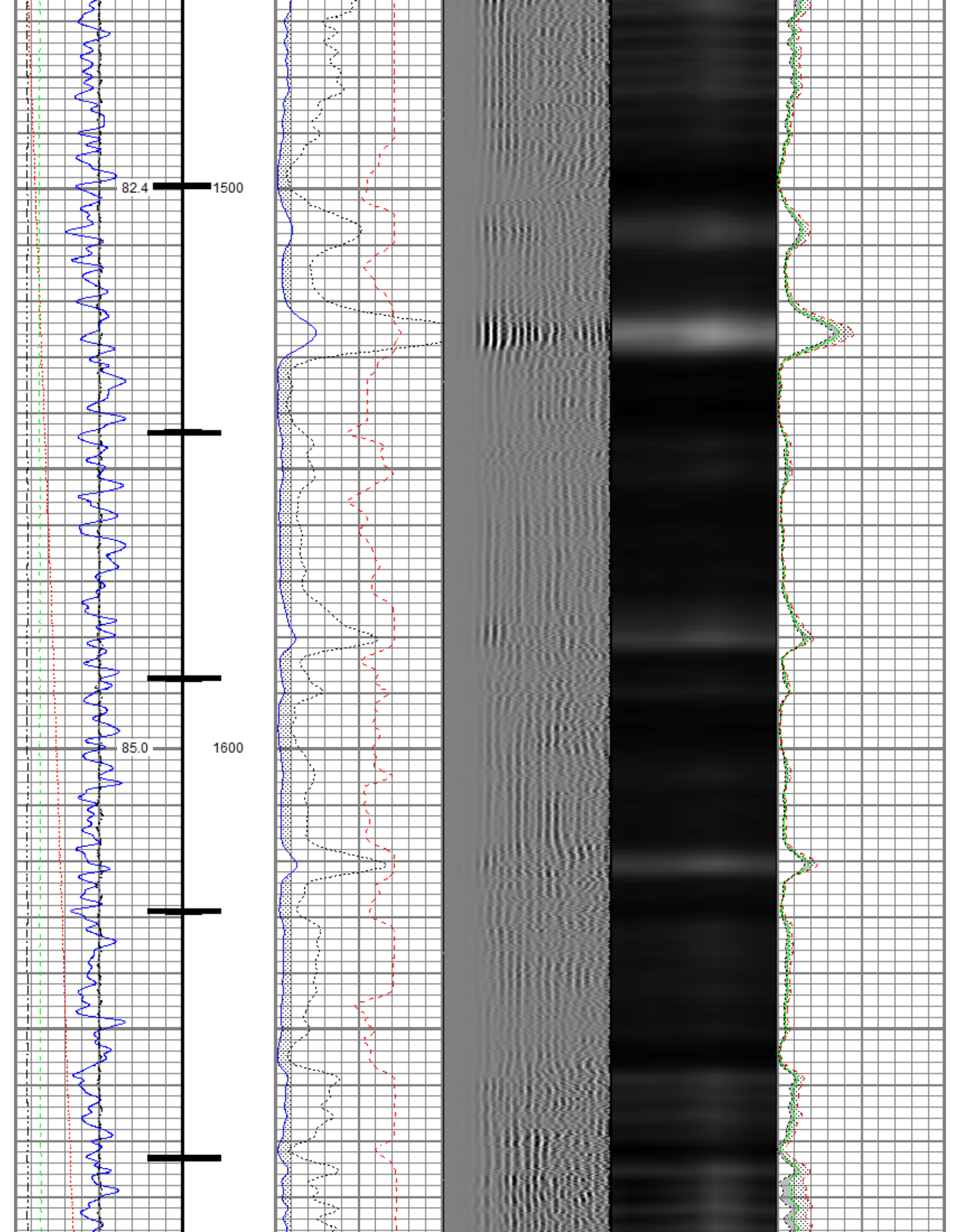


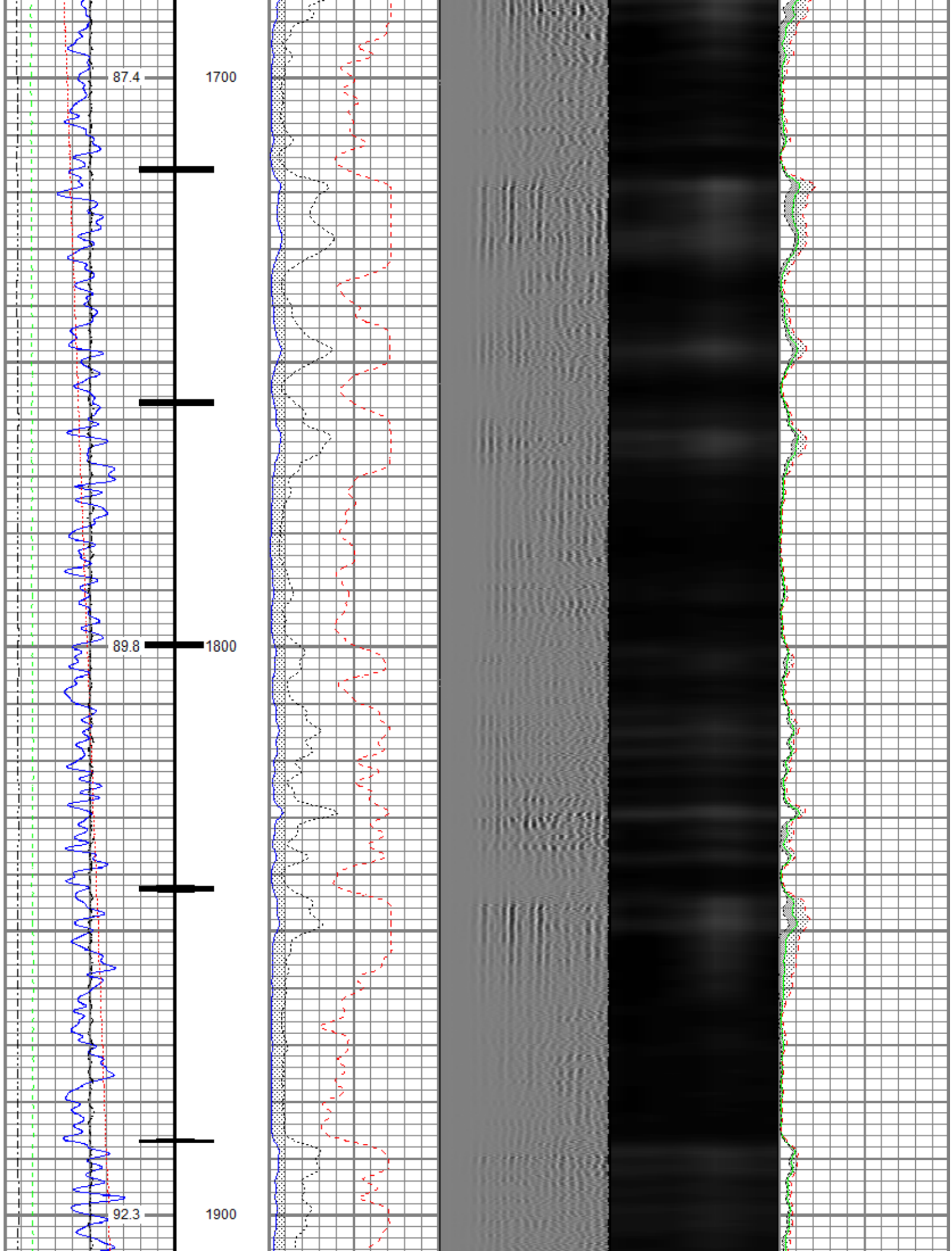


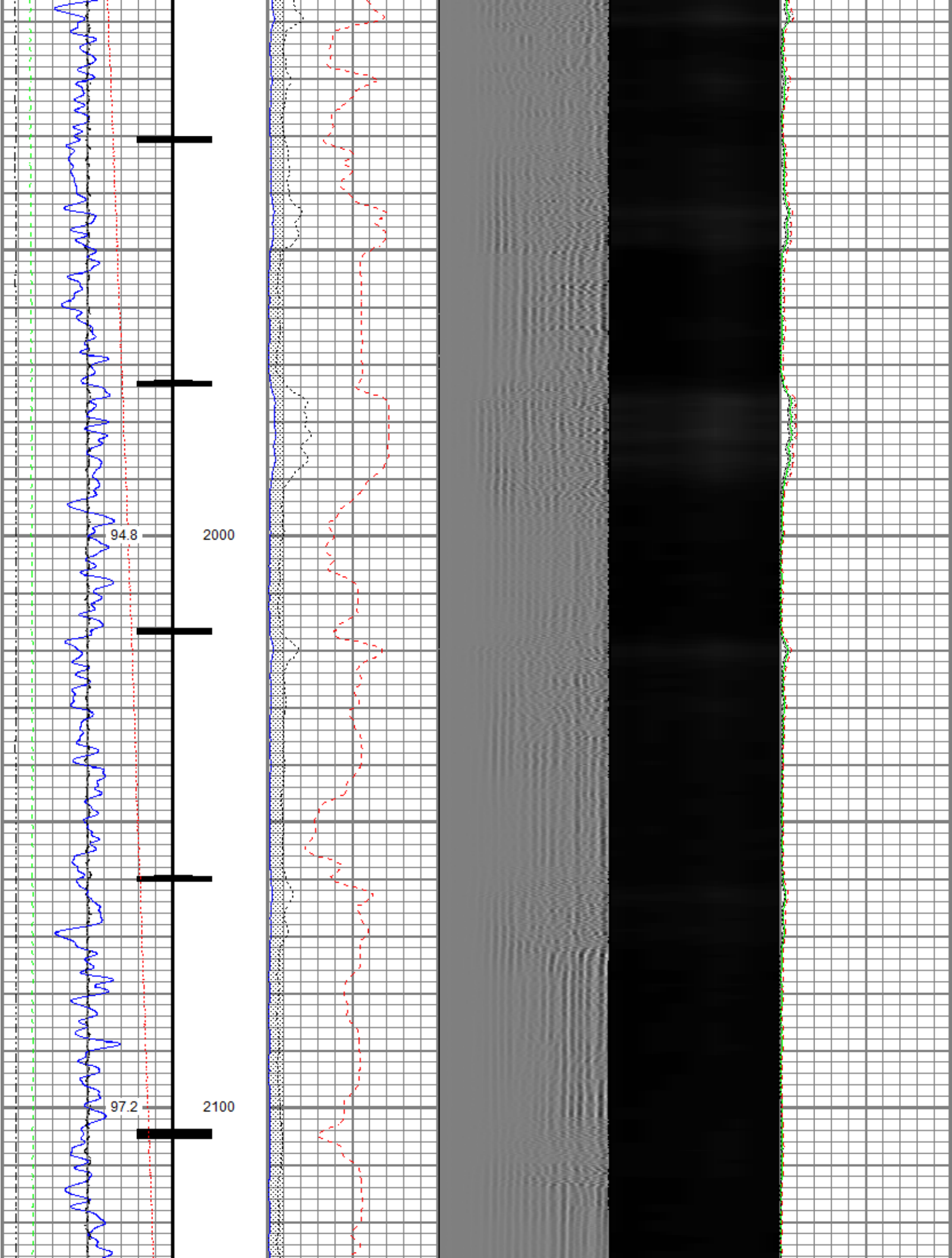


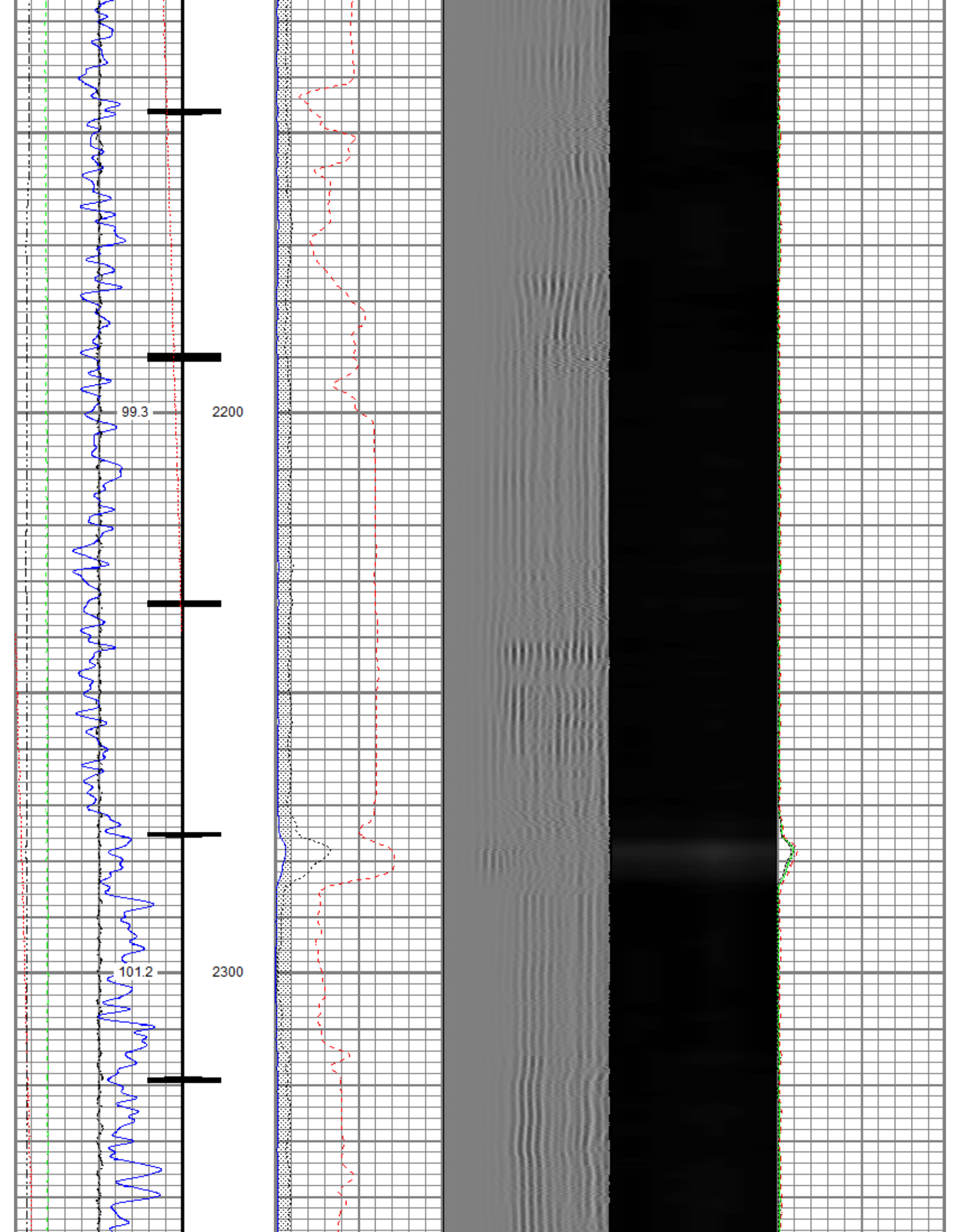




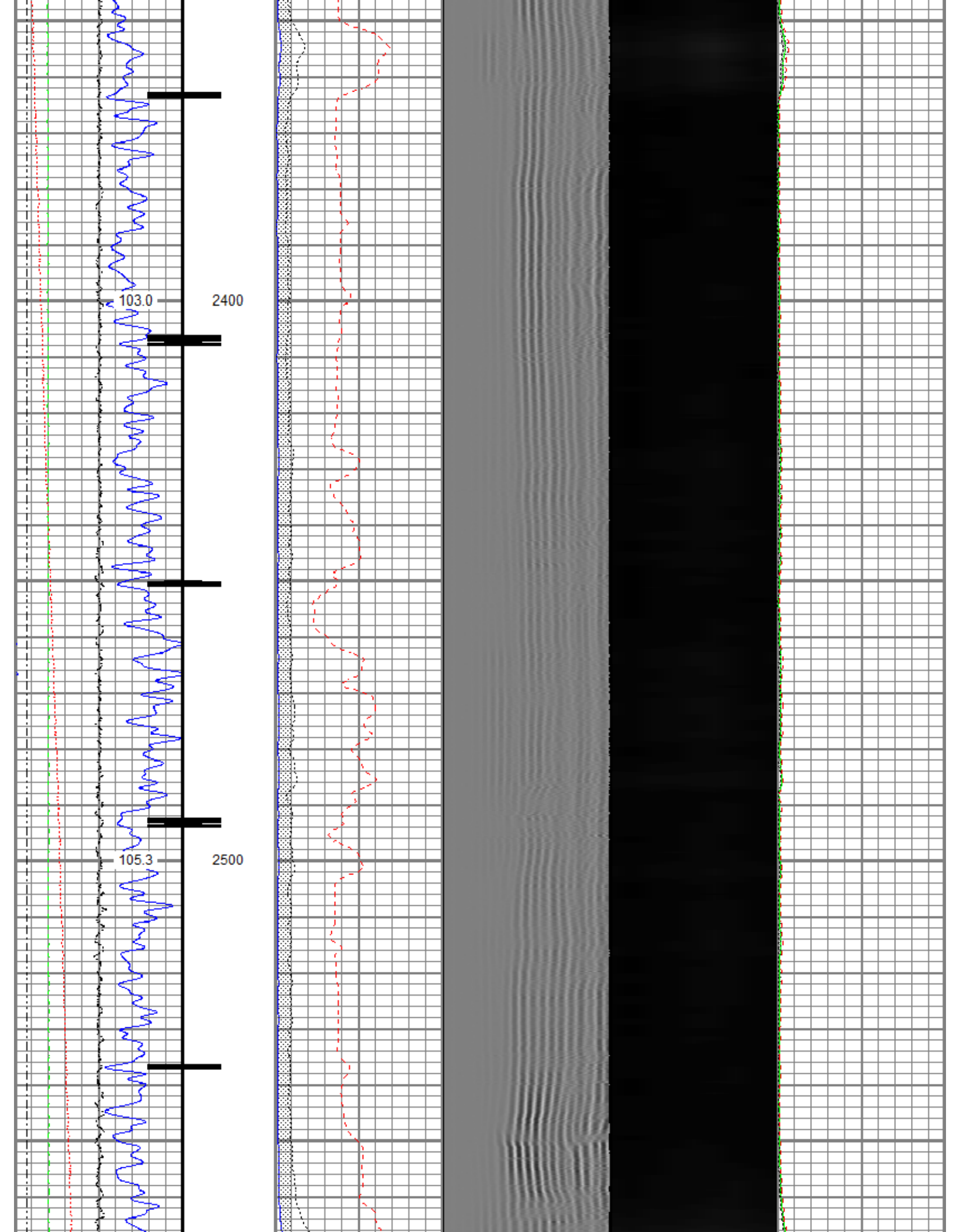


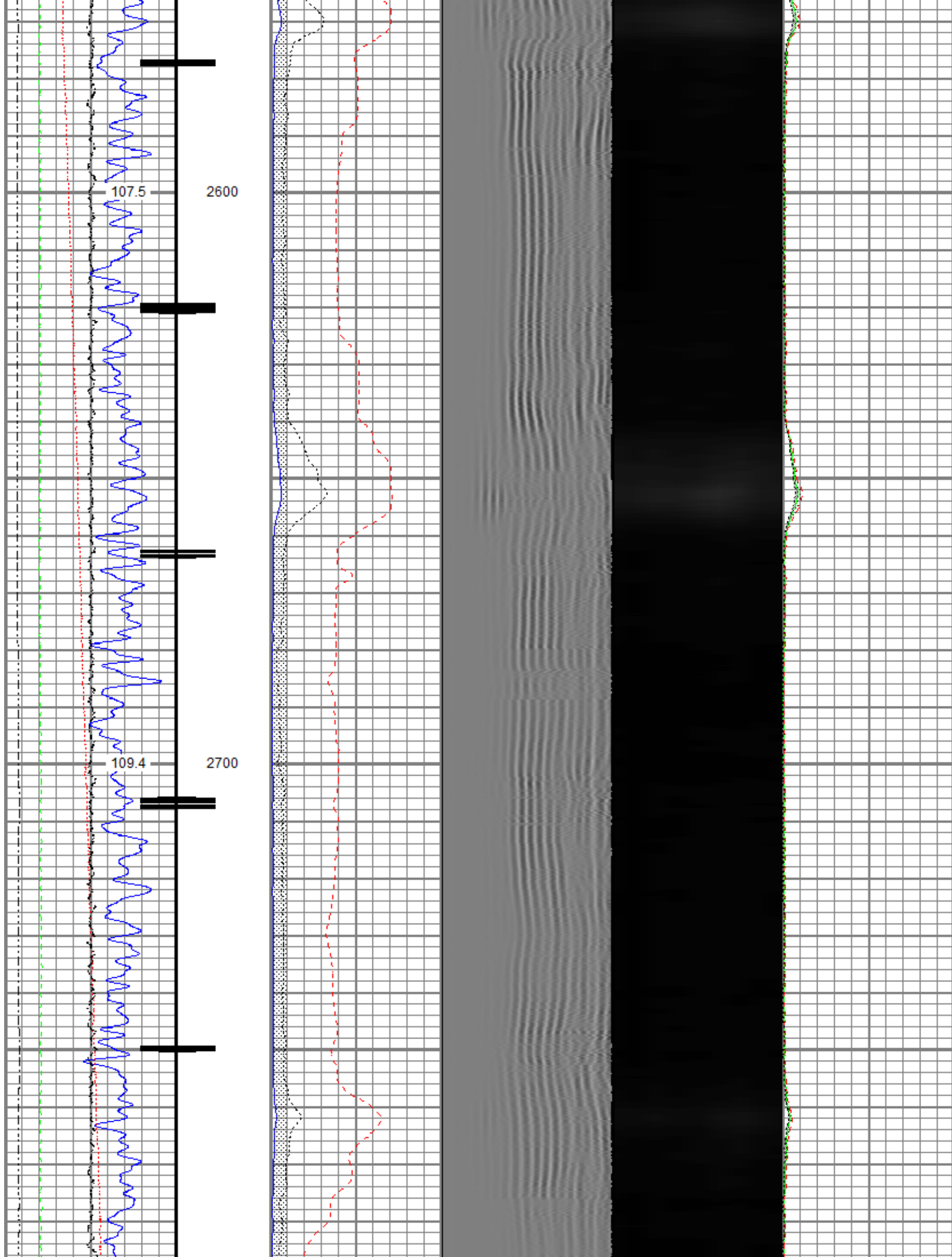


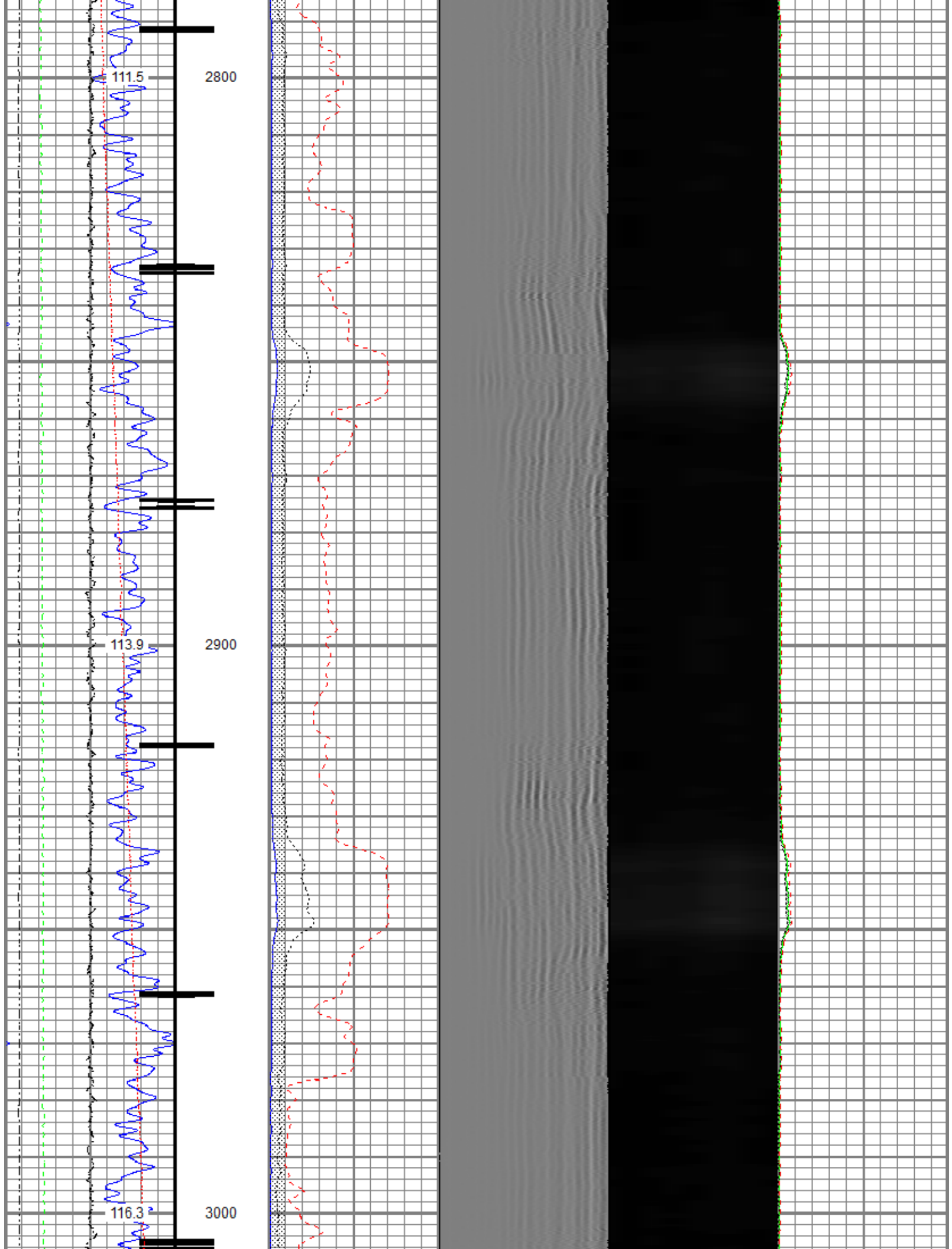


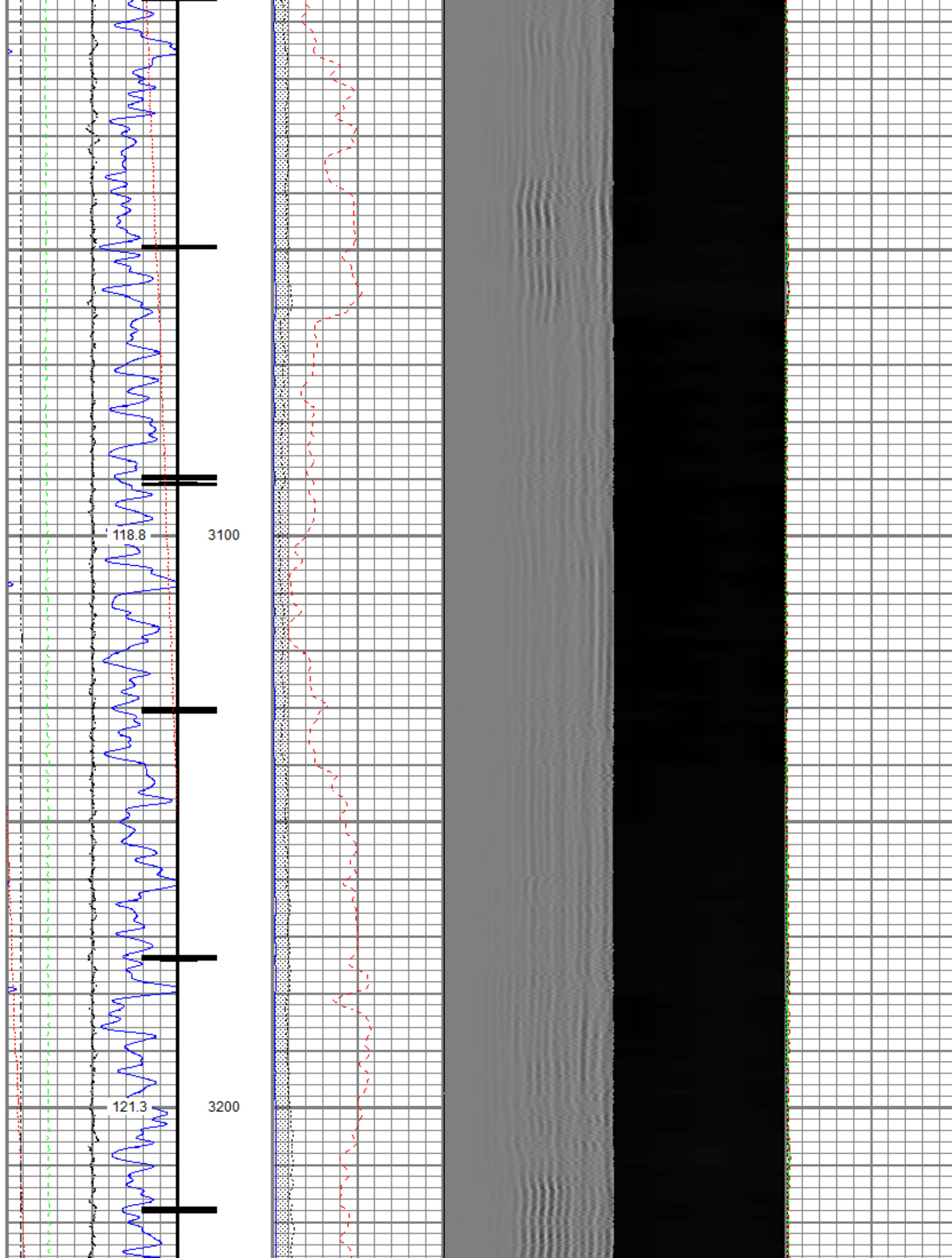




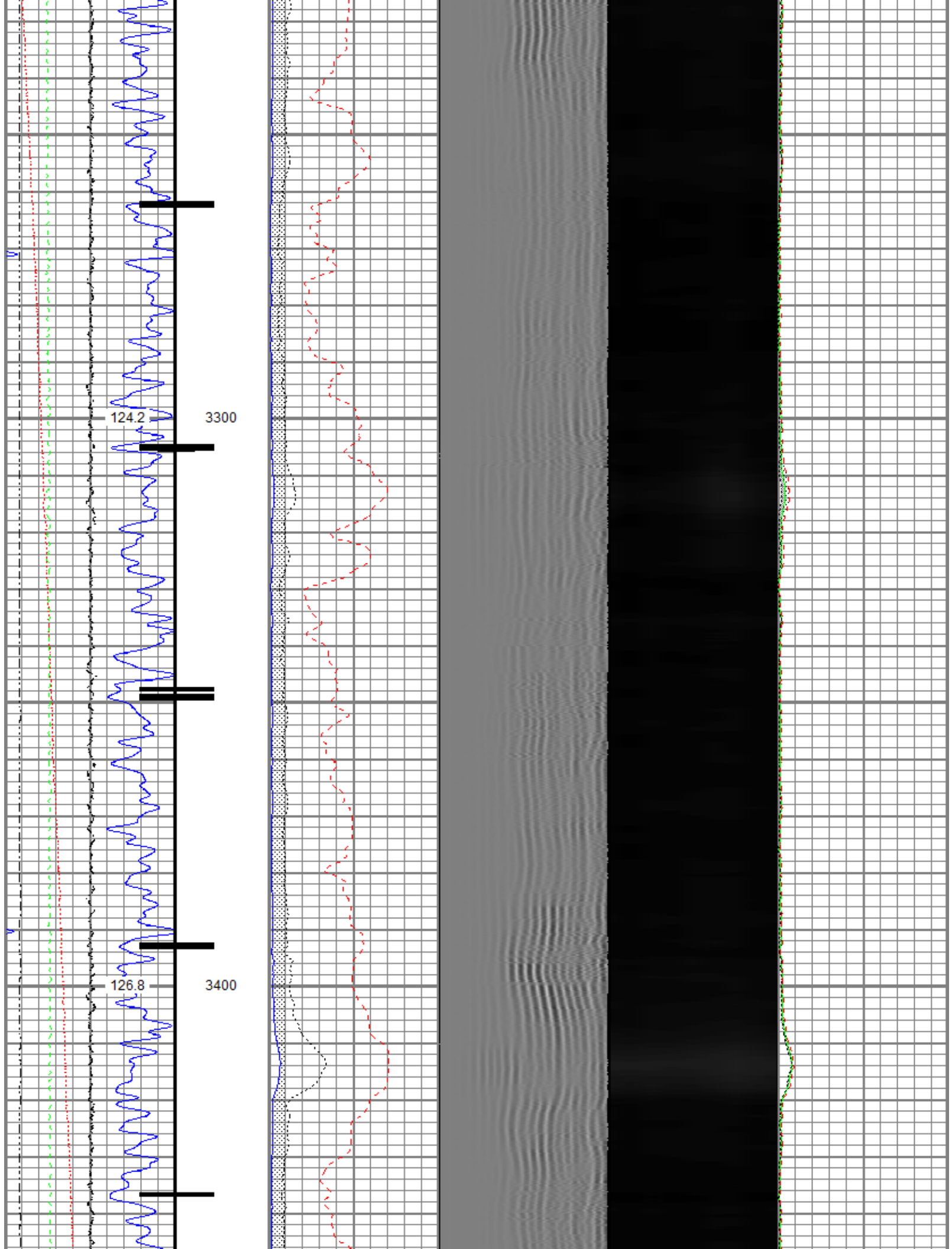


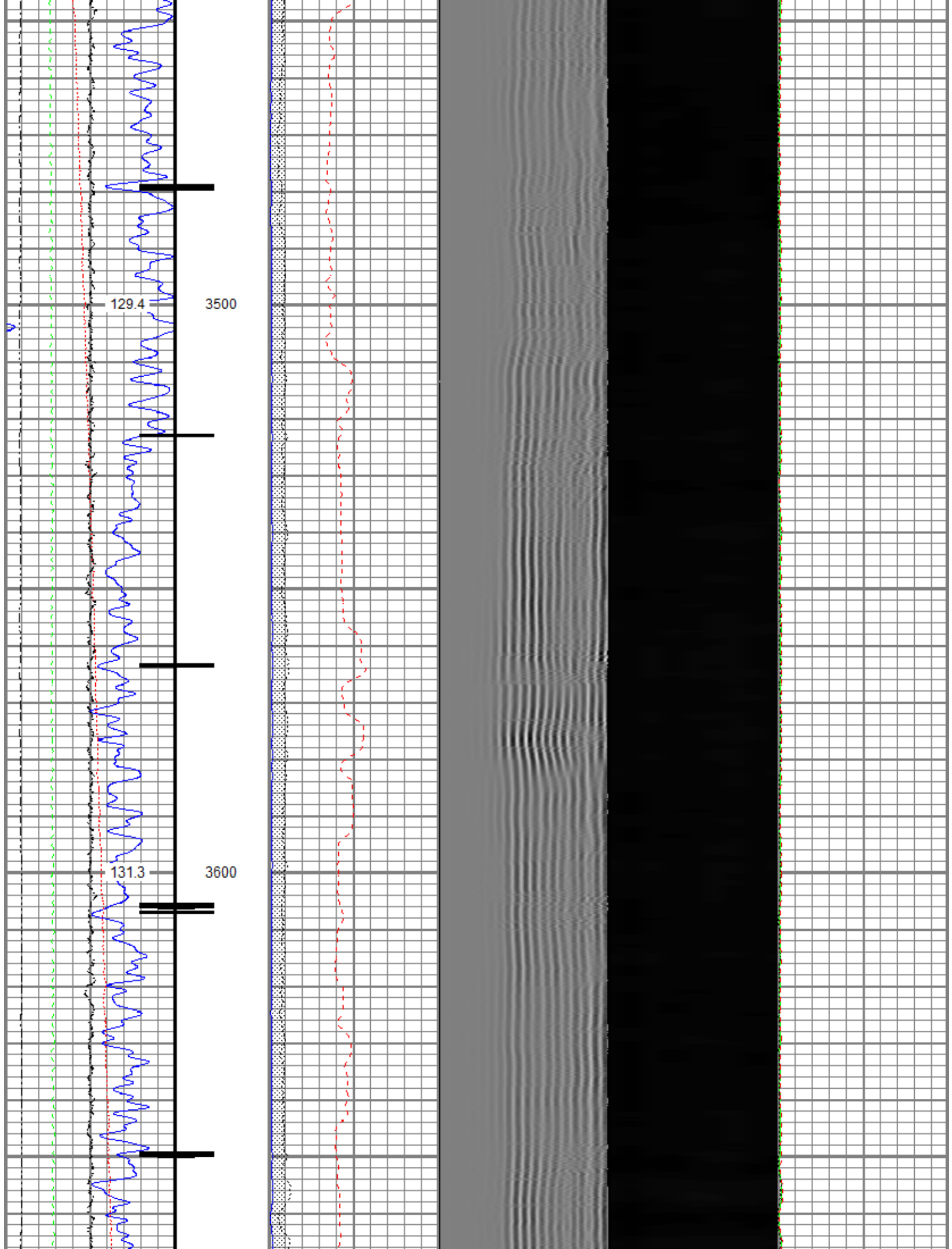


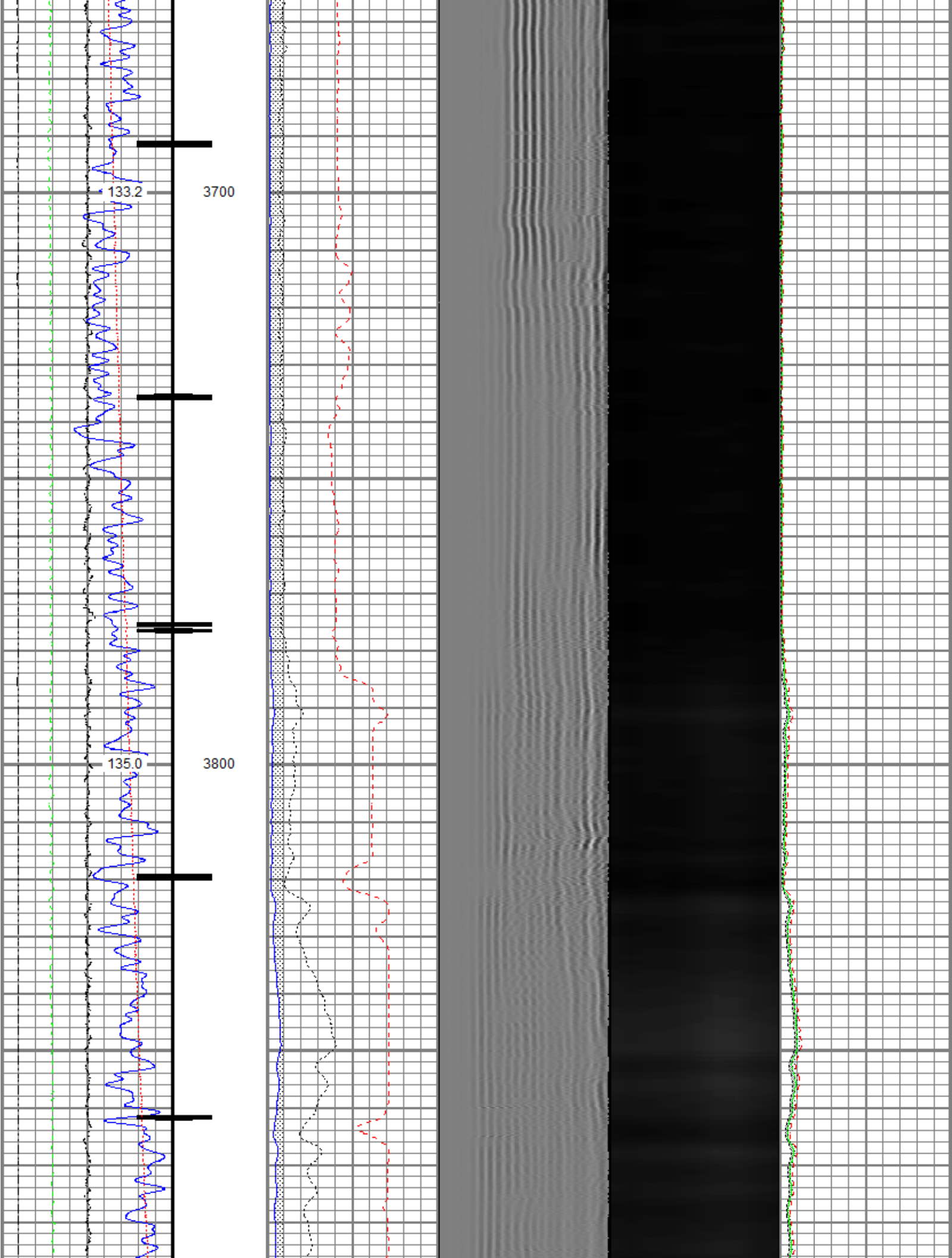


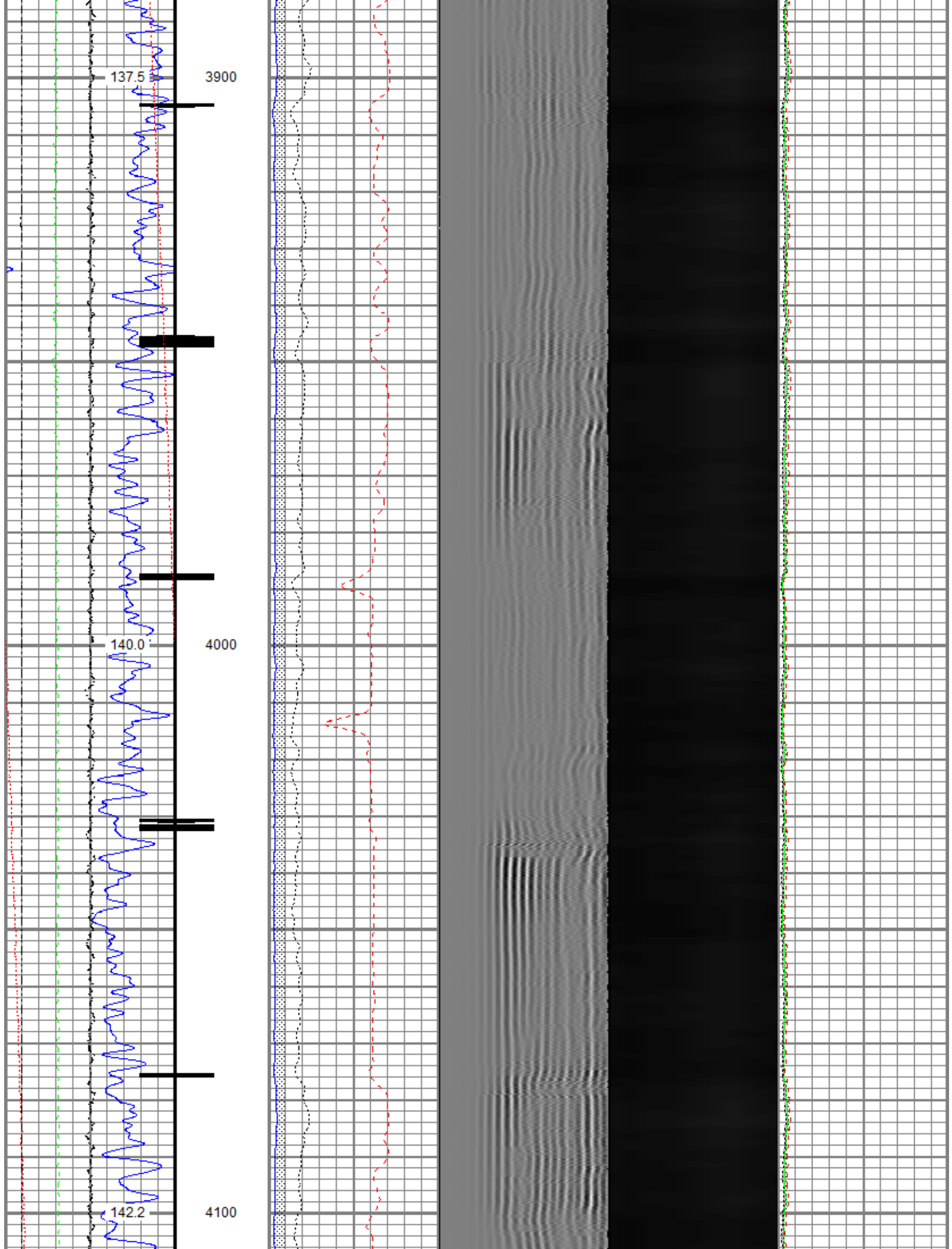




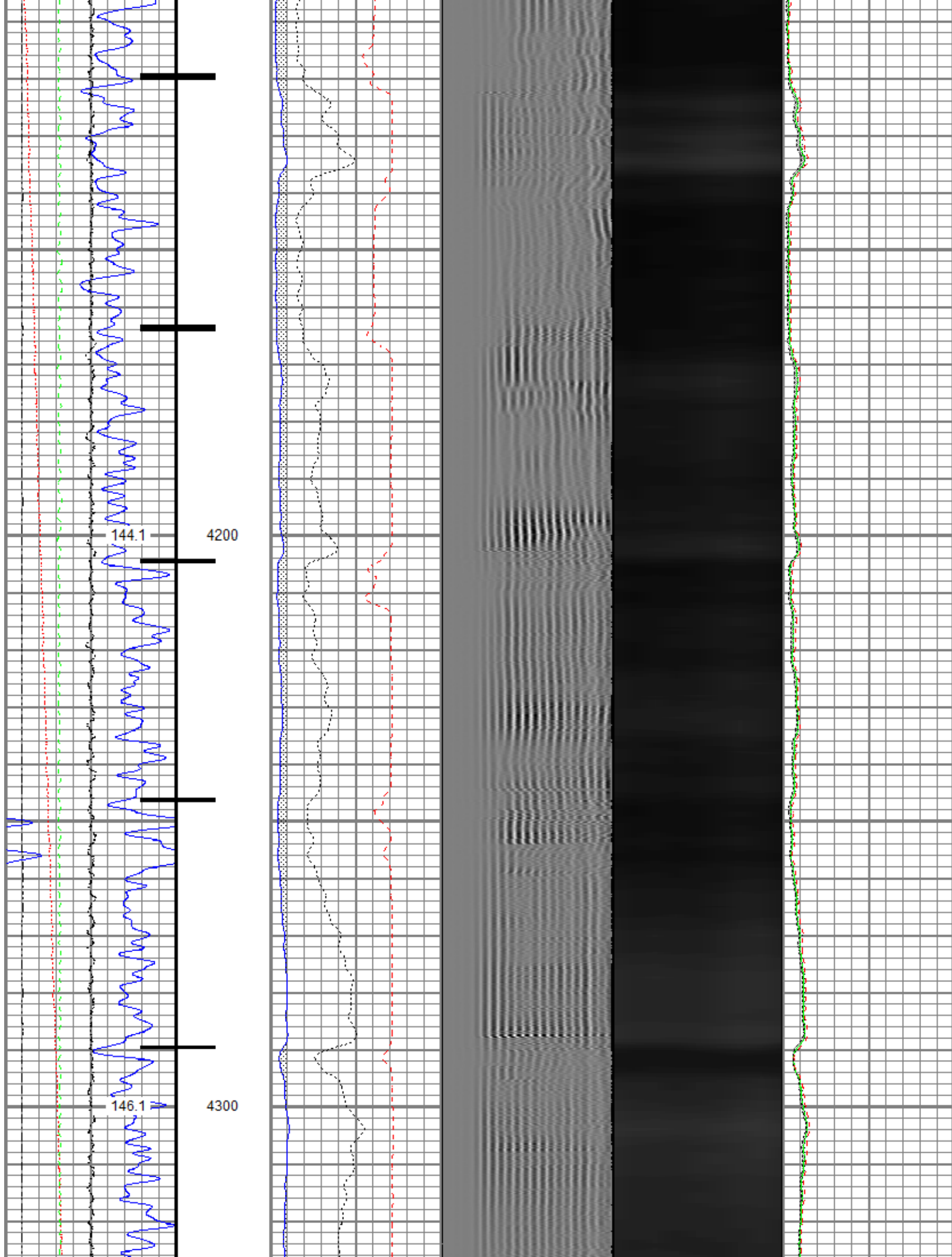


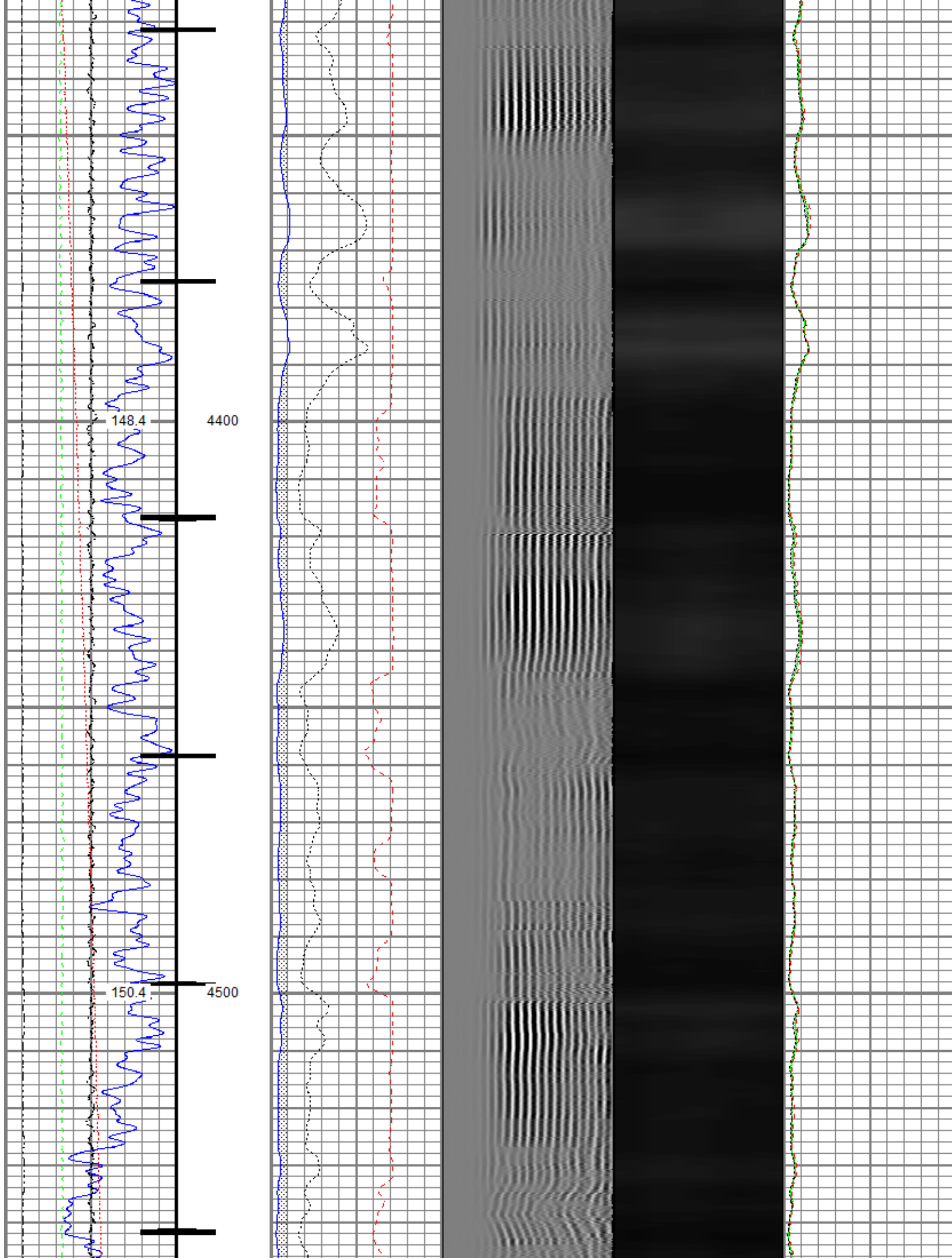


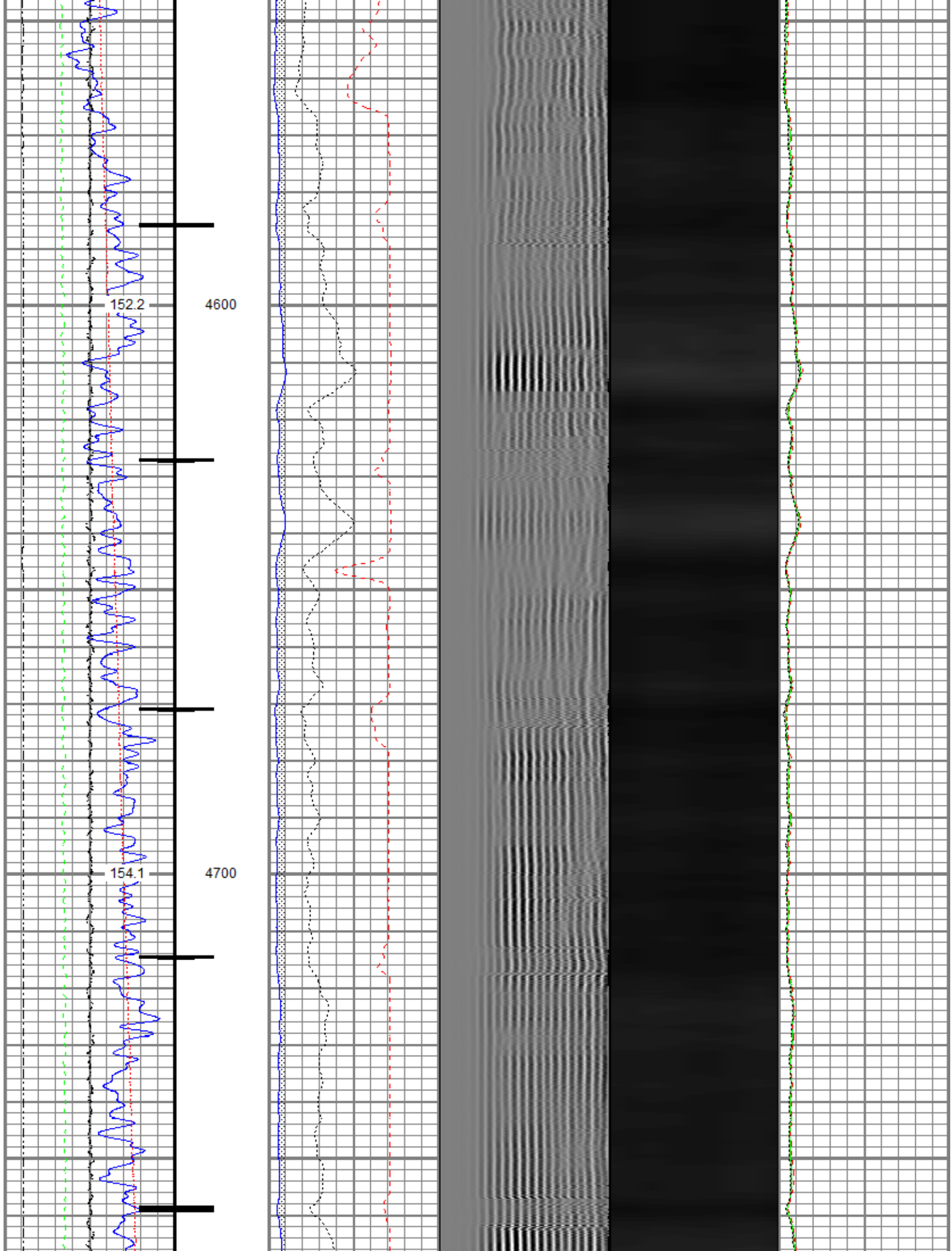


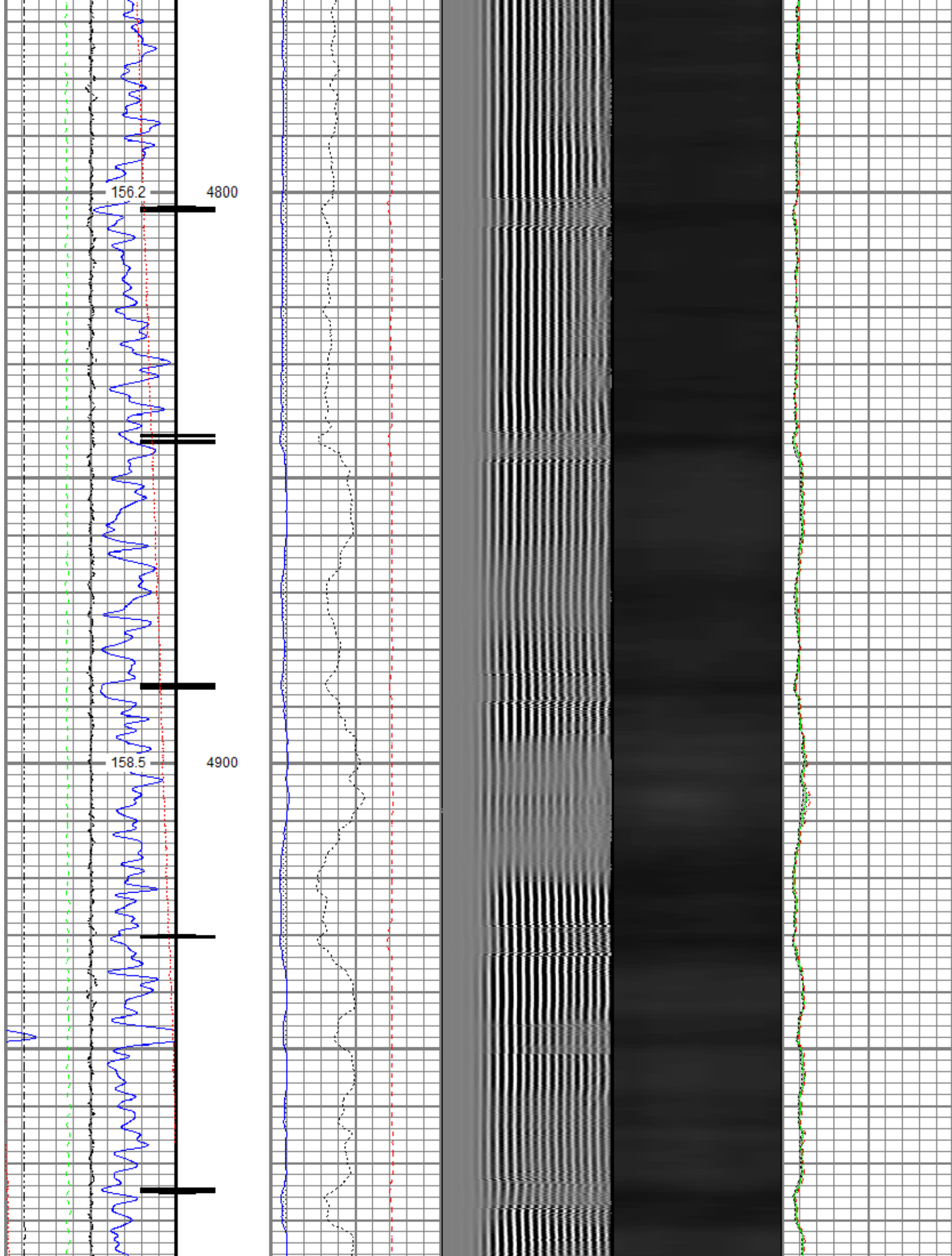




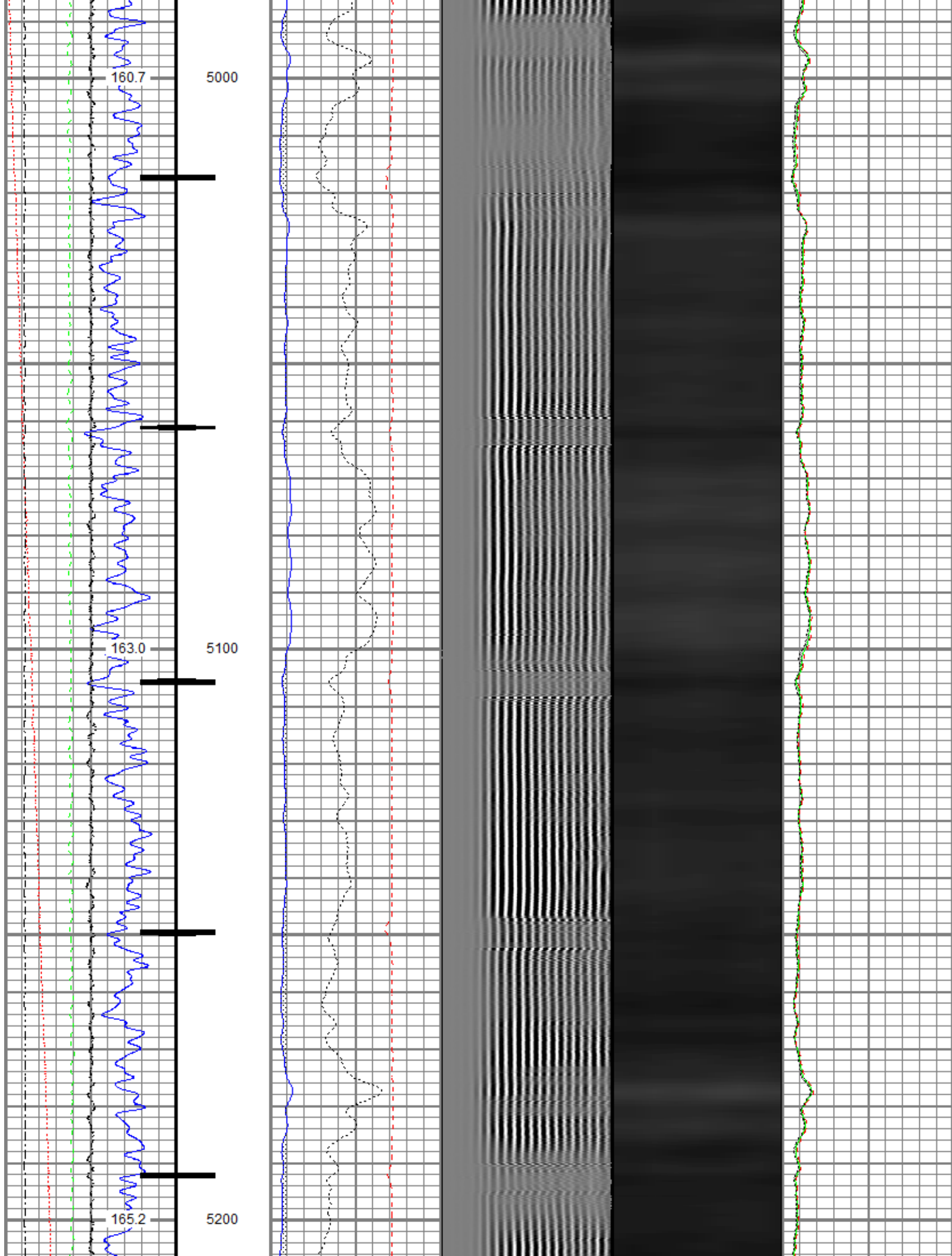


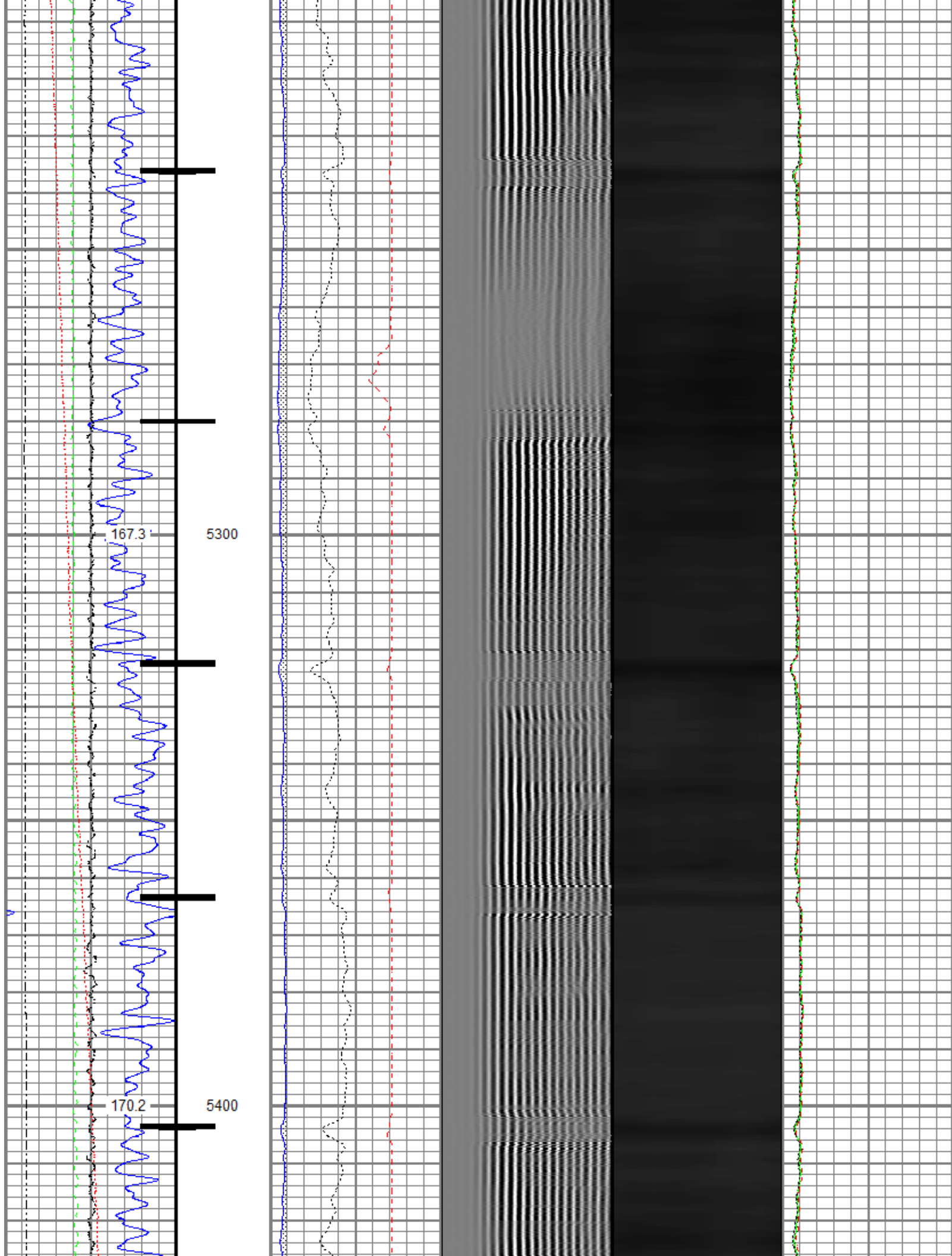


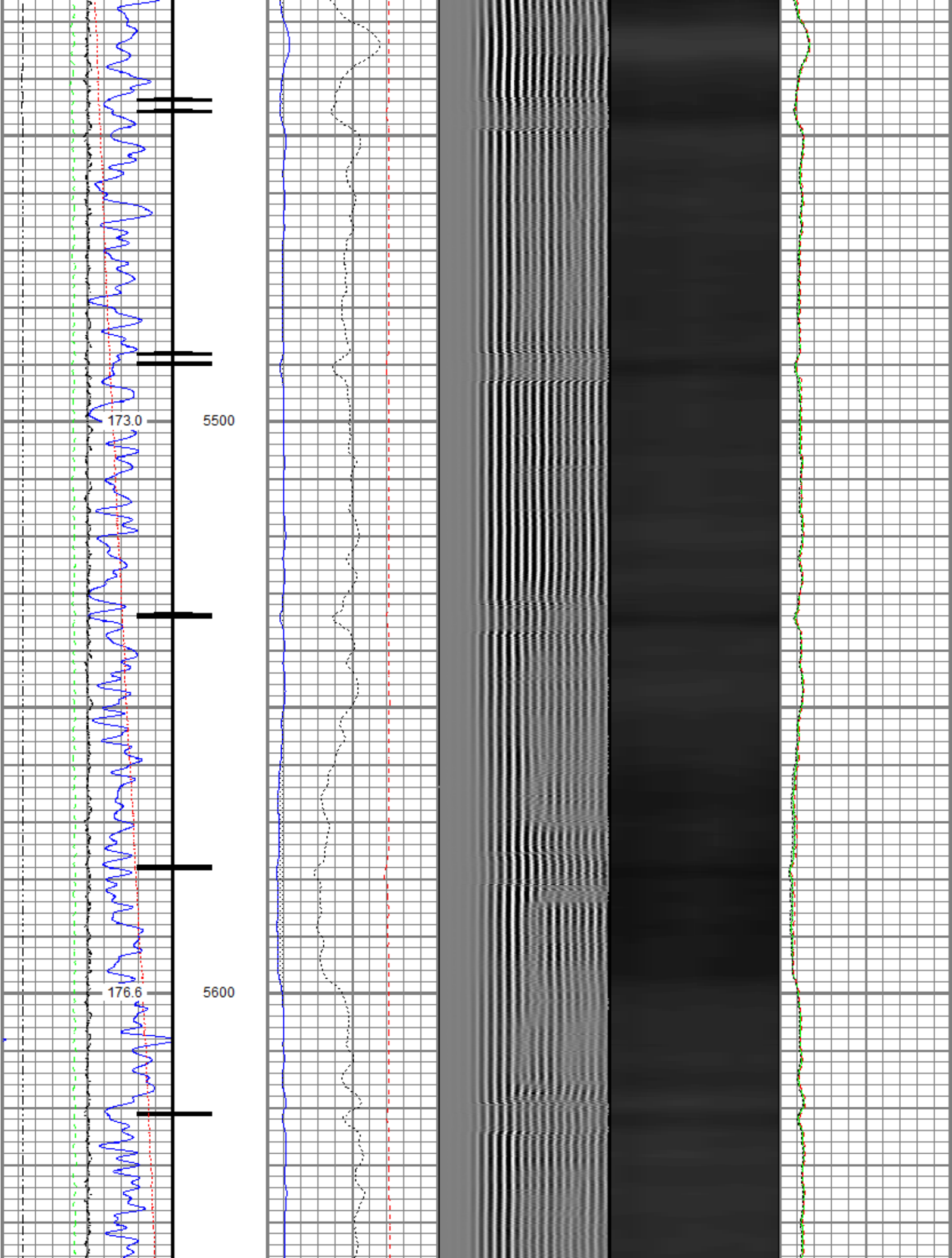


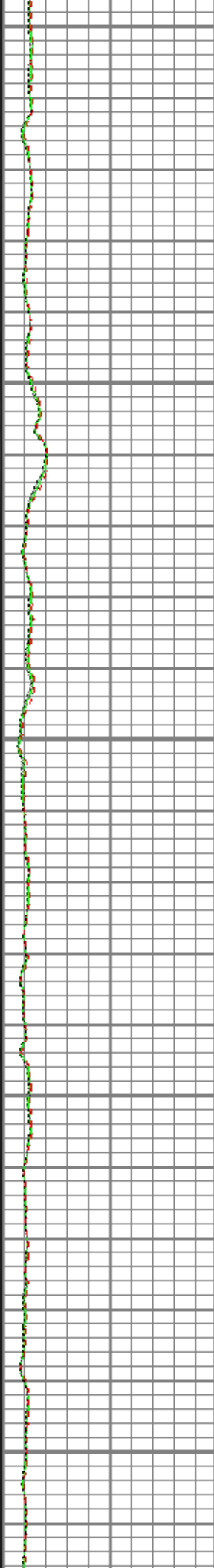
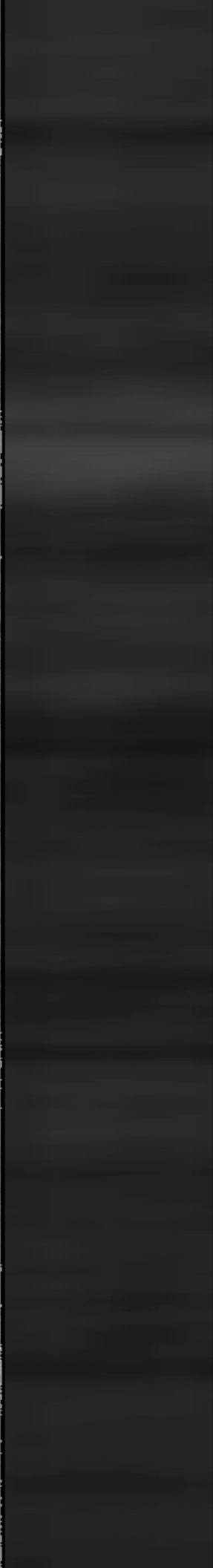
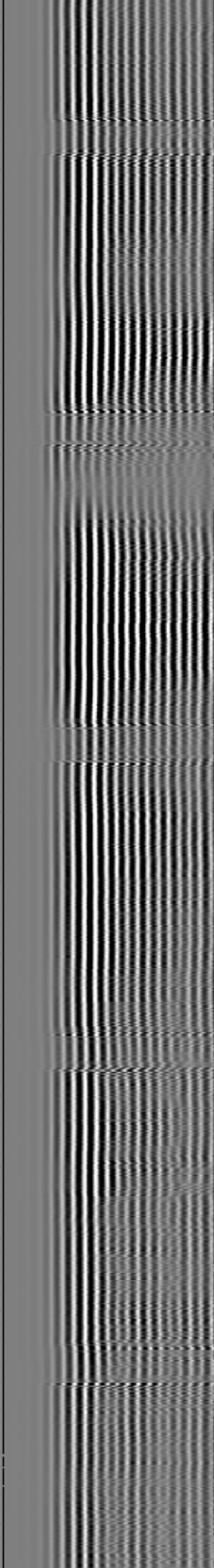
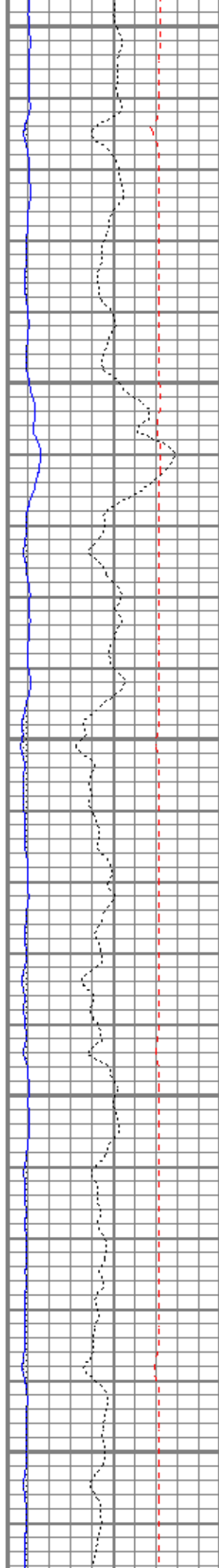
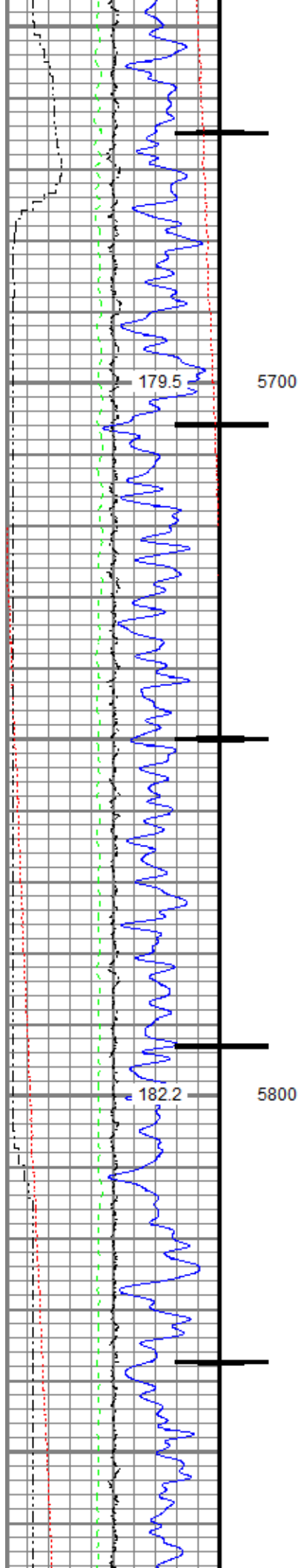




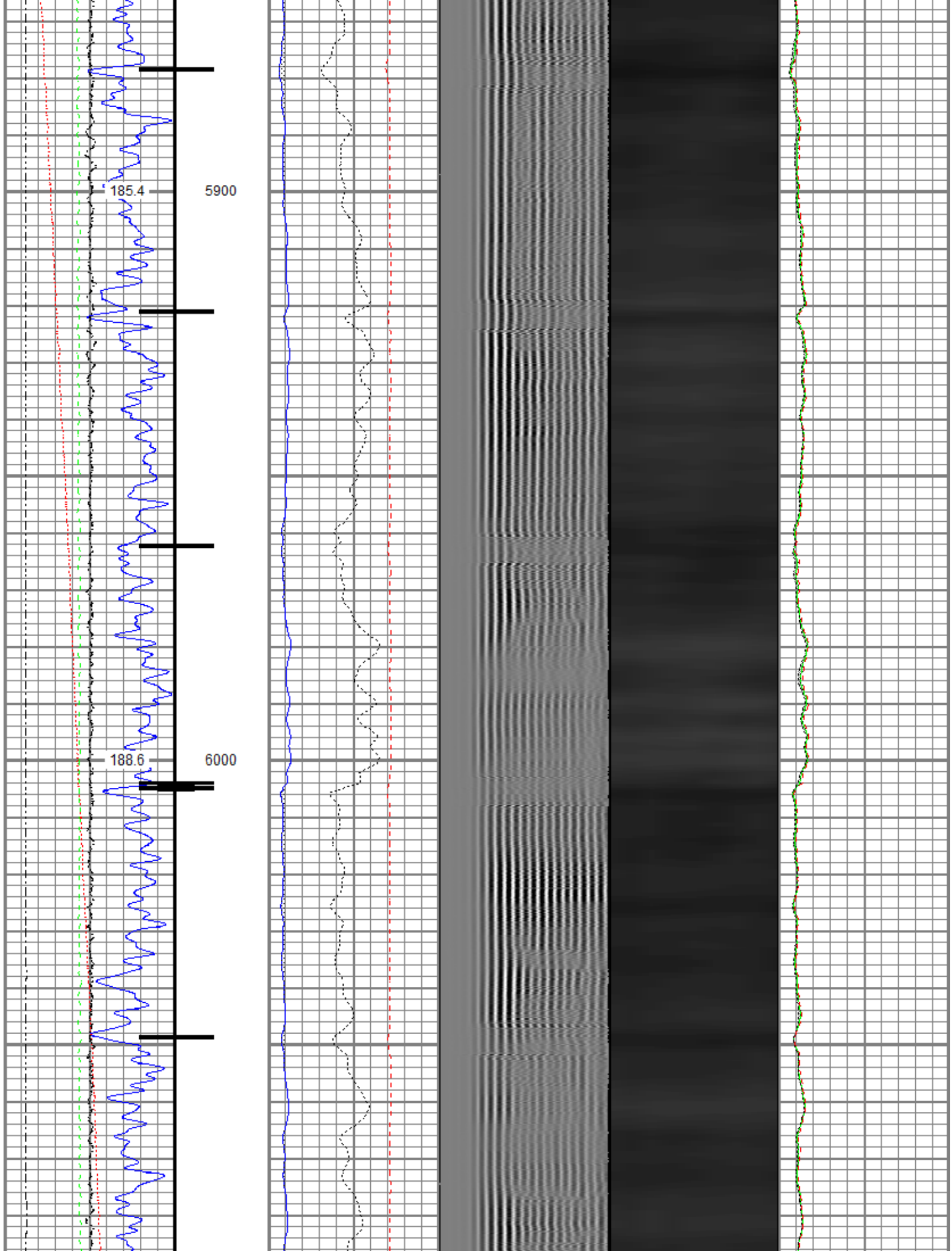


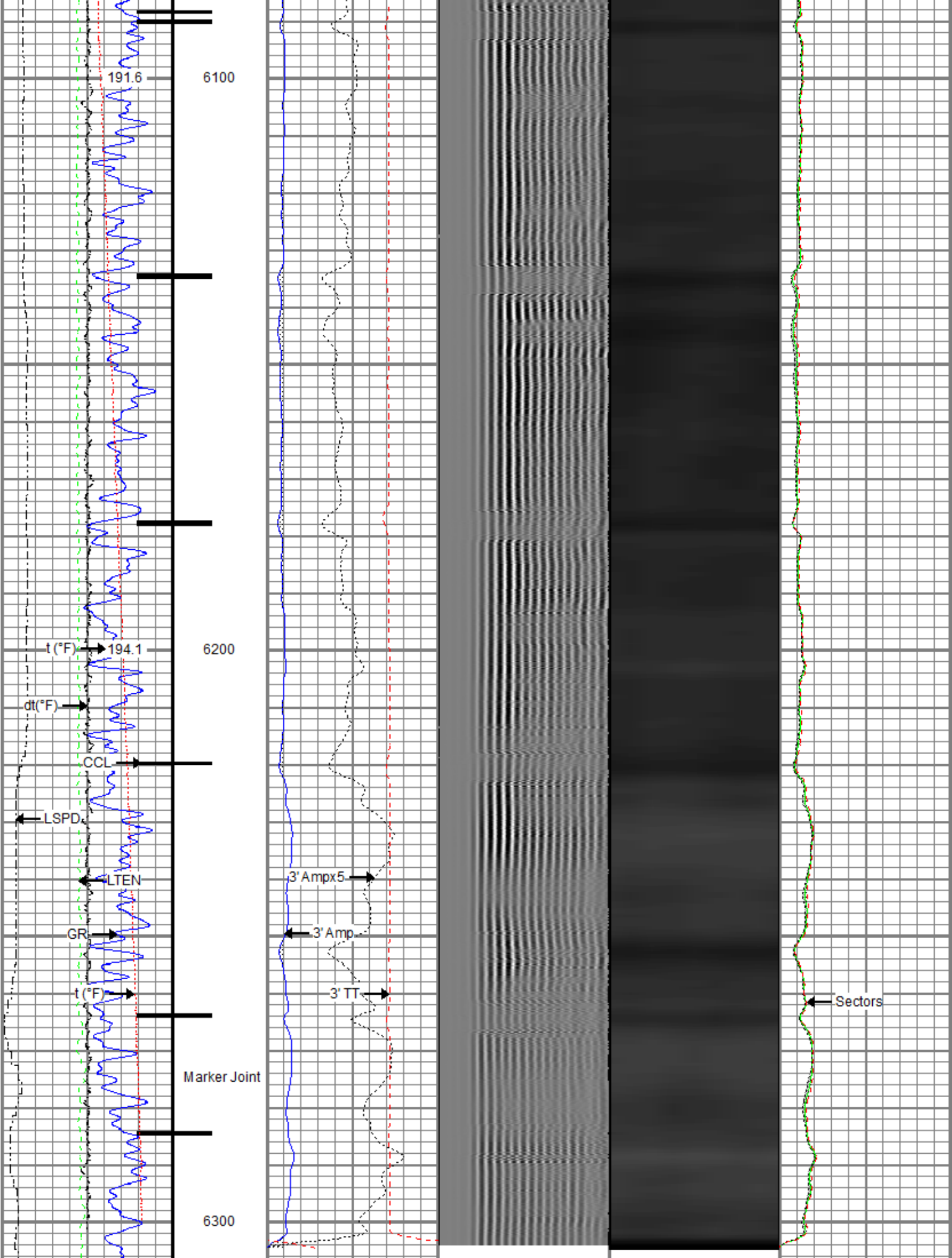


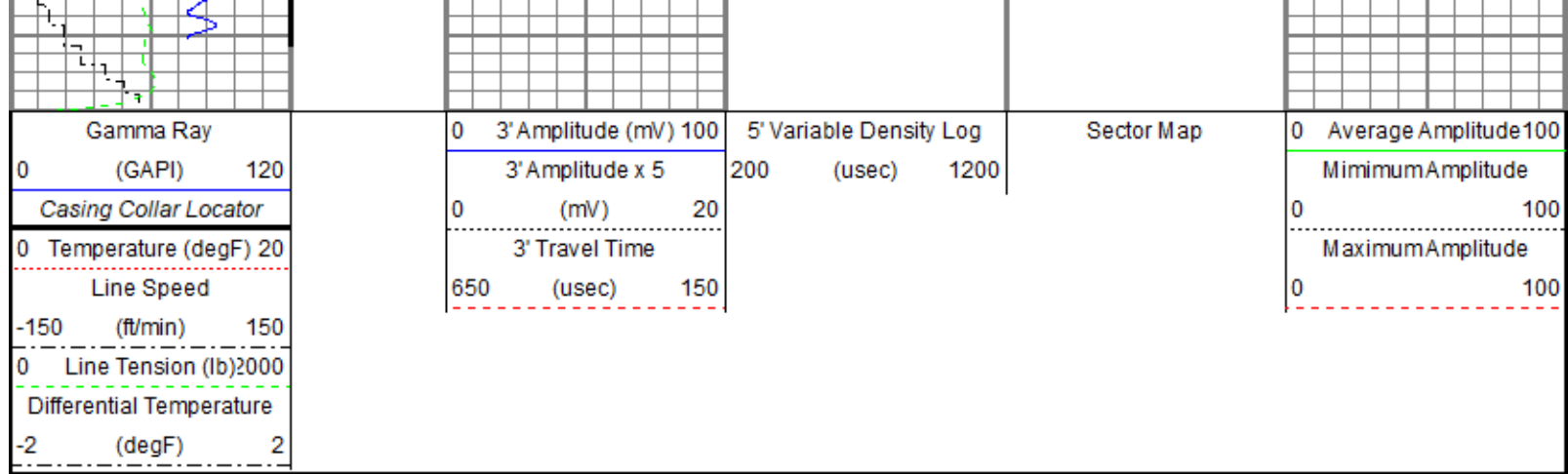








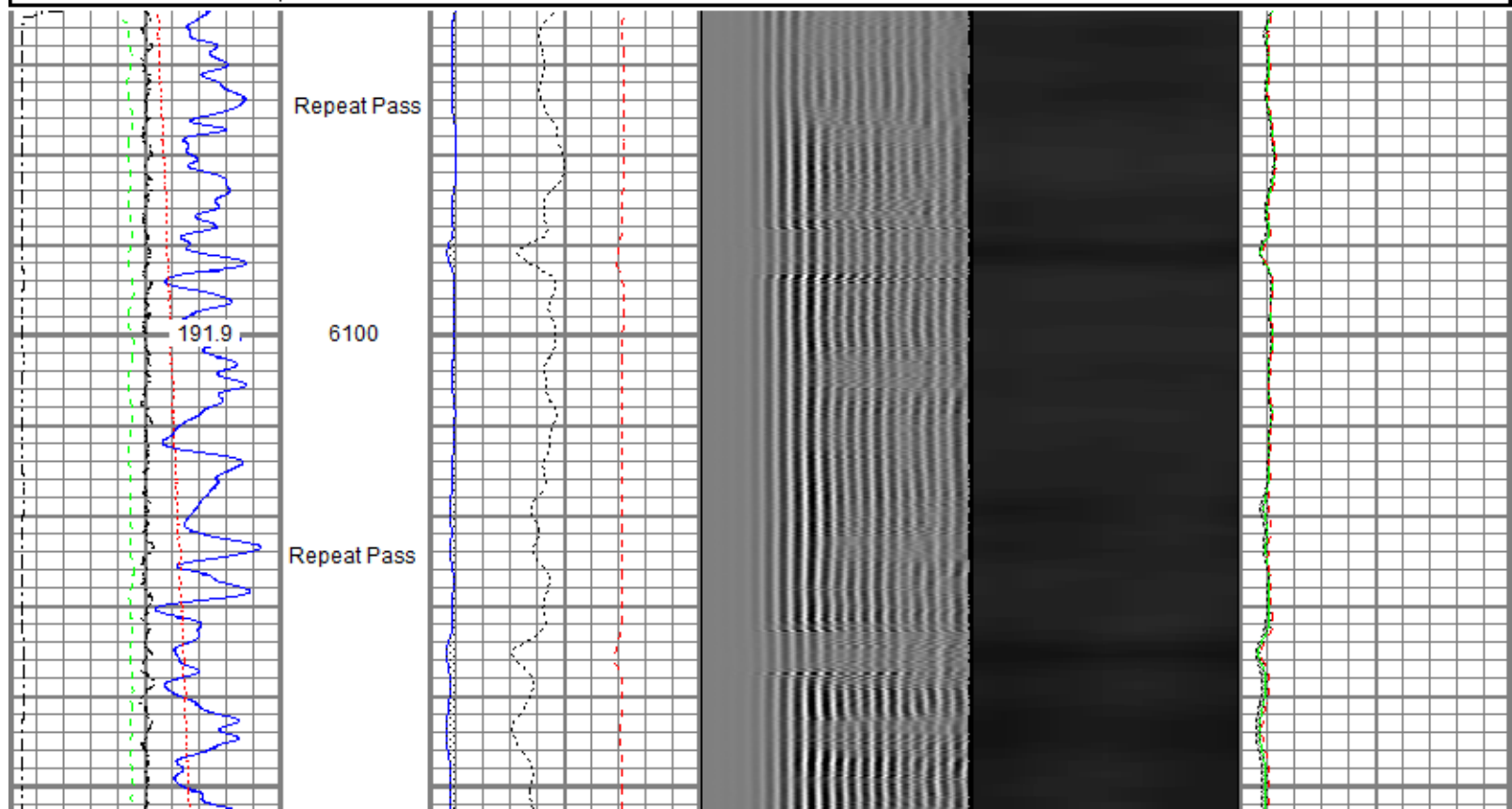
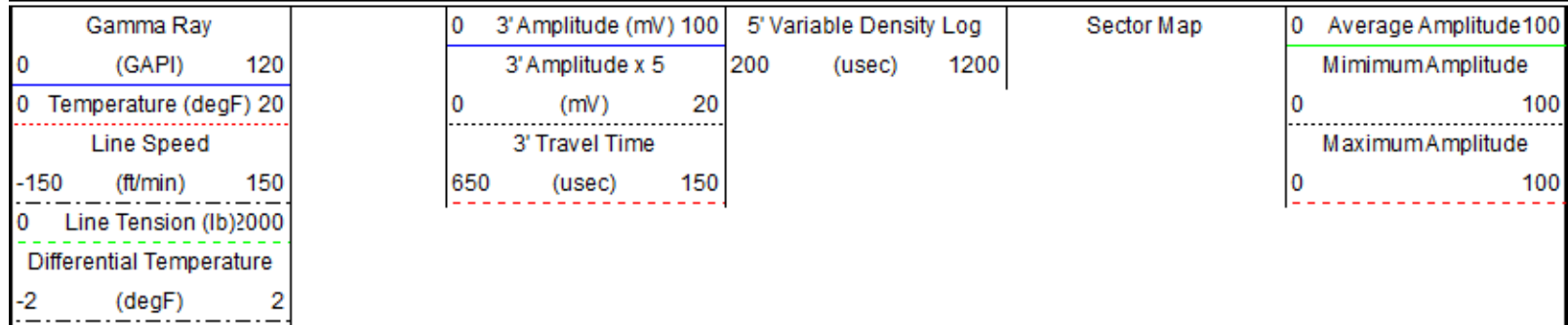


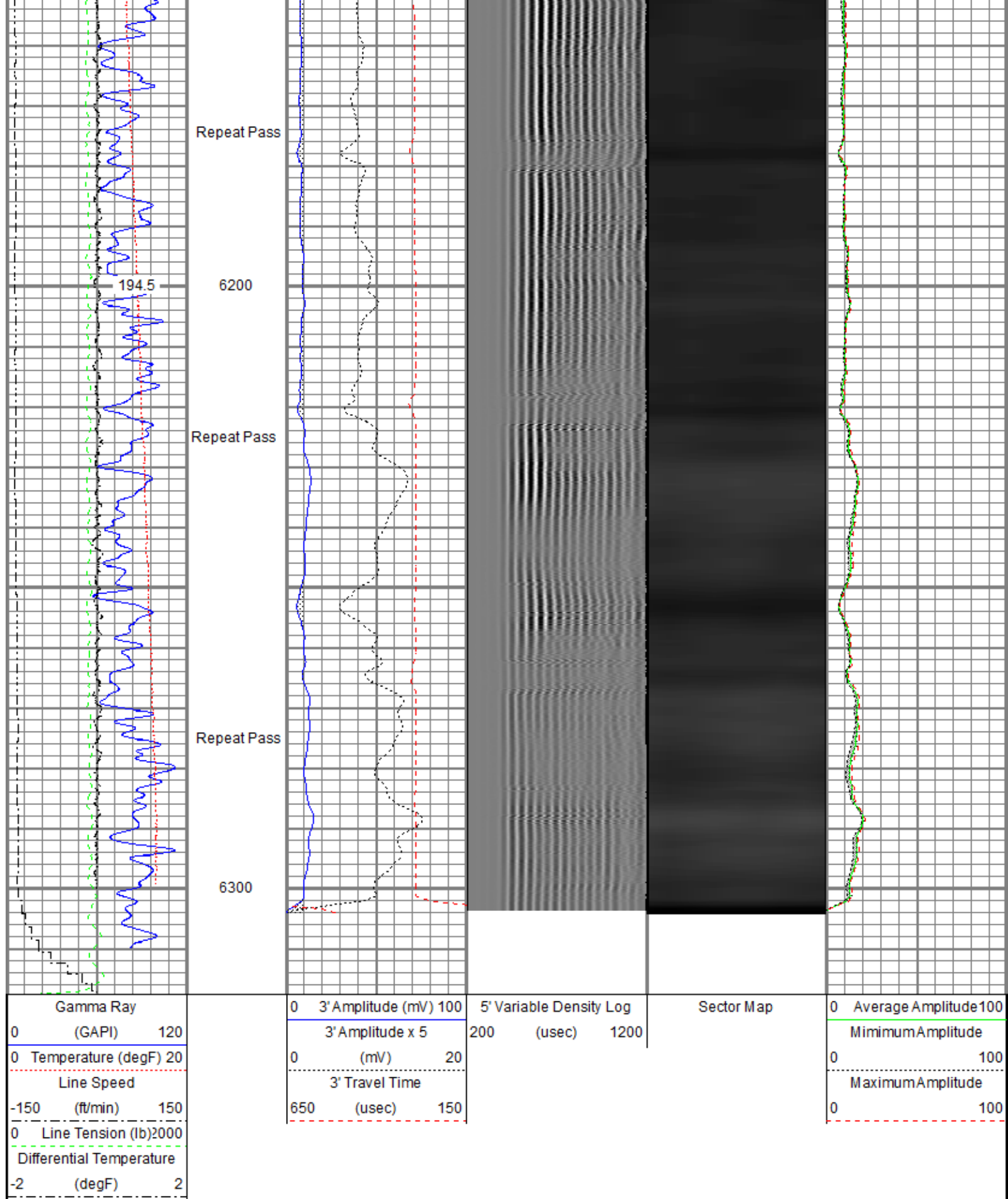



## Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko\hergenreder 6n-4hz\0512345863\_anadarko\_hergenreder 6n-4hz\_rbl\_04-11-18.db  
 Dataset Pathname: pass7.2  
 Presentation Format: ros\_radri  
 Dataset Creation: Thu Apr 12 15:29:04 2018  
 Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head w/ 1"	1.03	1.44	3.60



			Fishing Neck			
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
TEMP	17.04					
WVFS8	14.81		Probe Radii-2750 RBT (FW0712-020) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS7	14.81					
WVFS6	14.81					
WVFS5	14.81					
WVFS4	14.81					
WVFS3	14.81					
WVFS2	14.81					
WVFS1	14.81					
WVFCAL	14.81					
WVF3FT	14.81					
WVF5FT	13.81					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	6.80					
CCL\$1	6.80					
GR	5.46		Probe GR-CCL-2750 6PB (101001) Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT	4.80	2.75	55.00
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
Dataset: 0512345863_anadarko_hergenreder 6n-4hz_rbl_04-11-18.db: field/well/run1/pass9.3 Total length: 23.86 ft Total weight: 223.60 lb O.D.: 2.75 in						

#### Calibration Report

Database File c:\programdata\warrior\data\anadarko\hergenreder 6n-4hz\0512345863\_anadarko\_hergenreder 6n-4hz\_rbl\_04-11-18.db  
 Dataset Pathname pass9.3

### Gamma Ray Calibration Report

Serial Number: 101001  
 Tool Model: 2750 6PB  
 Performed: Sun Nov 12 11:25:32 2017

Calibrator Value: 637.0 GAPI

Background Reading: 100.6 cps  
 Calibrator Reading: 981.1 cps

Sensitivity: 0.7235 GAPI/cps

### Segmented Cement Bond Log Calibration Report

Serial Number: FW0712-020  
 Tool Model: 2750 RBT

Calibration Casing Diameter: 5.500 in  
 Calibration Depth: -0.199 ft

#### Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.352	0.800	71.921	205.474	-0.475
CAL	0.006	0.383				
5'	0.007	0.313	0.800	71.921	232.461	-0.897
SUM						
S1	0.005	0.344	0.000	100.000	294.698	-1.483
S2	0.007	0.350	0.000	100.000	291.107	-2.009
S3	0.006	0.352	0.000	100.000	288.534	-1.610
S4	0.006	0.354	0.000	100.000	287.686	-1.727
S5	0.006	0.362	0.000	100.000	280.960	-1.778
S6	0.007	0.366	0.000	100.000	278.698	-1.986
S7	0.007	0.358	0.000	100.000	284.868	-1.909
S8	0.006	0.353	0.000	100.000	288.244	-1.695

#### Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.006	0.383	1.000	0.000

#### Air Zero Calibration, performed Sun Apr 08 06:38:45 2018:

	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: FW0712-020  
Tool Model: 2750 RBT  
Performed: Thu Dec 21 07:48:40 2017

	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	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Hergenreder 6N-4HZ
Field	Wattenberg
County	Weld
State	Colorado