



County	Weld	State	Colorado
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K.B.	4971'
D.F.	---
G.L.	4945'

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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.

Log ran as per customer request  
Depth referenced to Casing Tally reported Marker Joint at 6483 FT  
Adjusted 0 FT to correlate with Marker Joint  
Ran JB/GR down to 7452 FT  
Log ran from 6516 FT to Surface  
Recorded with 2800 PSI Surface Induced Pressure  
Logging tools were clean and free of debris upon completion of operations

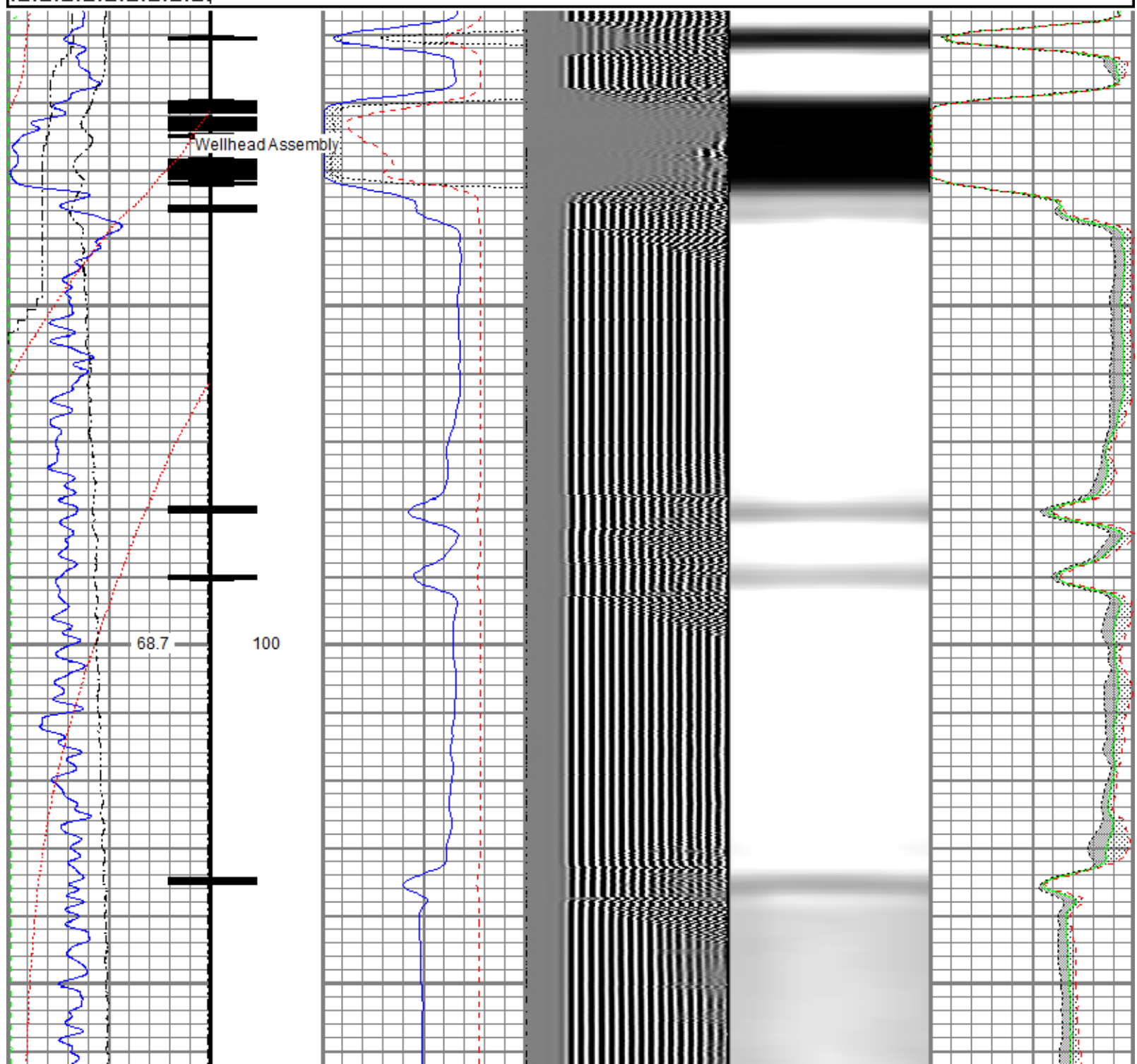
Thank you for choosing Reliance Oilfield Services, LLC!!

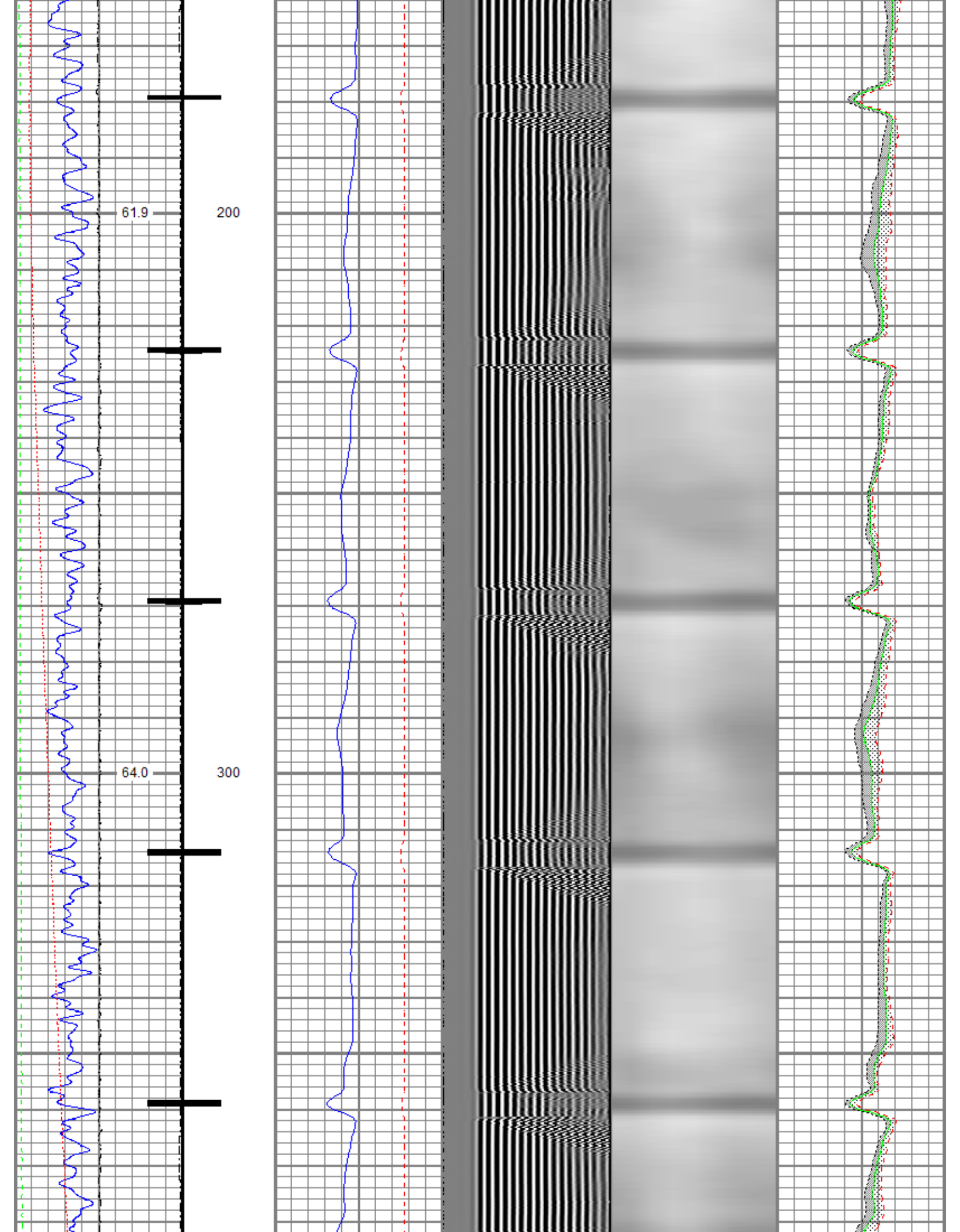
## Main Pass

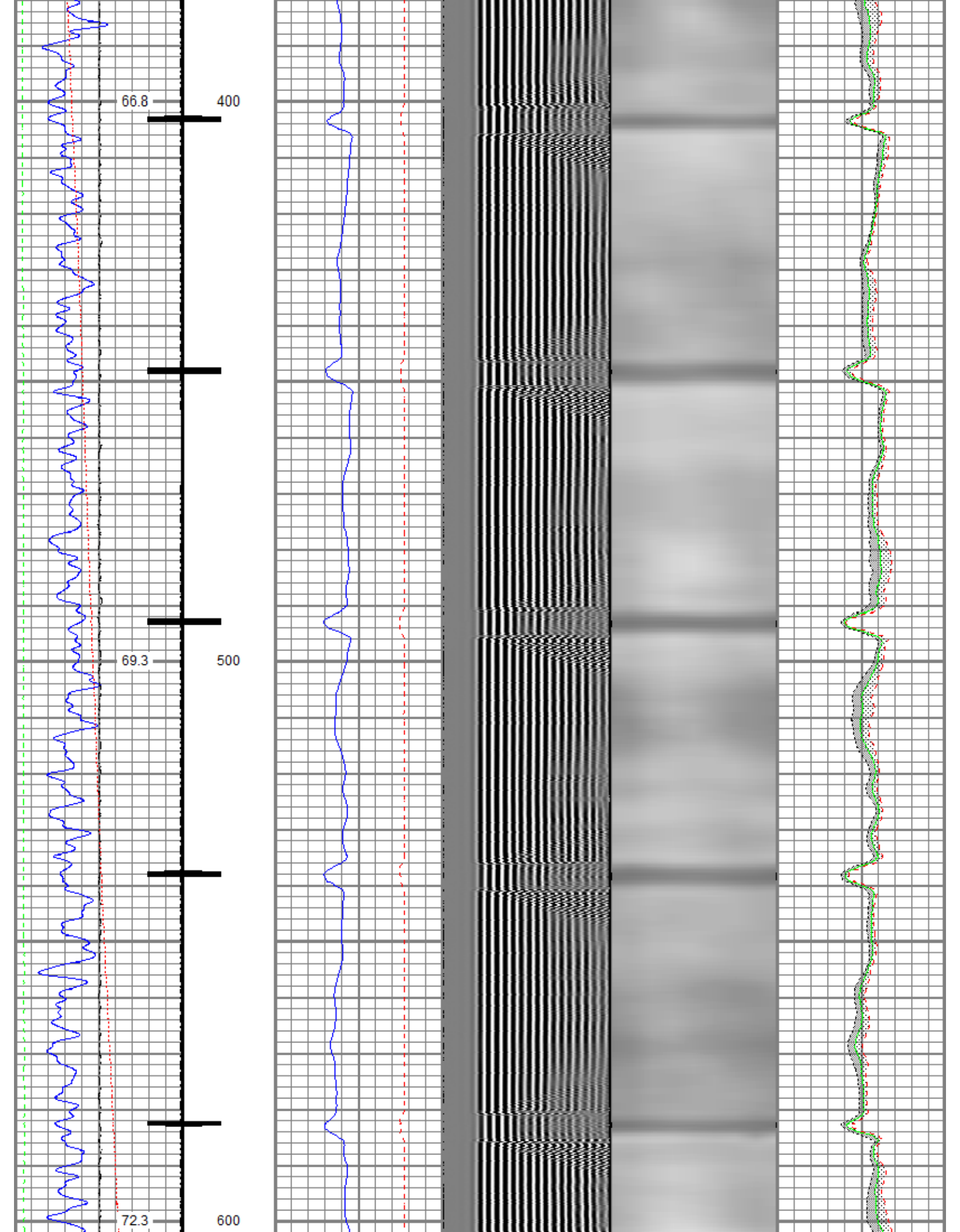


Database File	anadarko\0512346591_anadarko_english farms 8-13hz_rbl_09-13-18\0512346591_anadarko_english farms 8-13hz_rbl_09-13-18
Dataset Pathname	pass5
Presentation Format	ros_radri
Dataset Creation	Thu Sep 13 14:56:32 2018
Charted by	Depth in Feet scaled 1:240

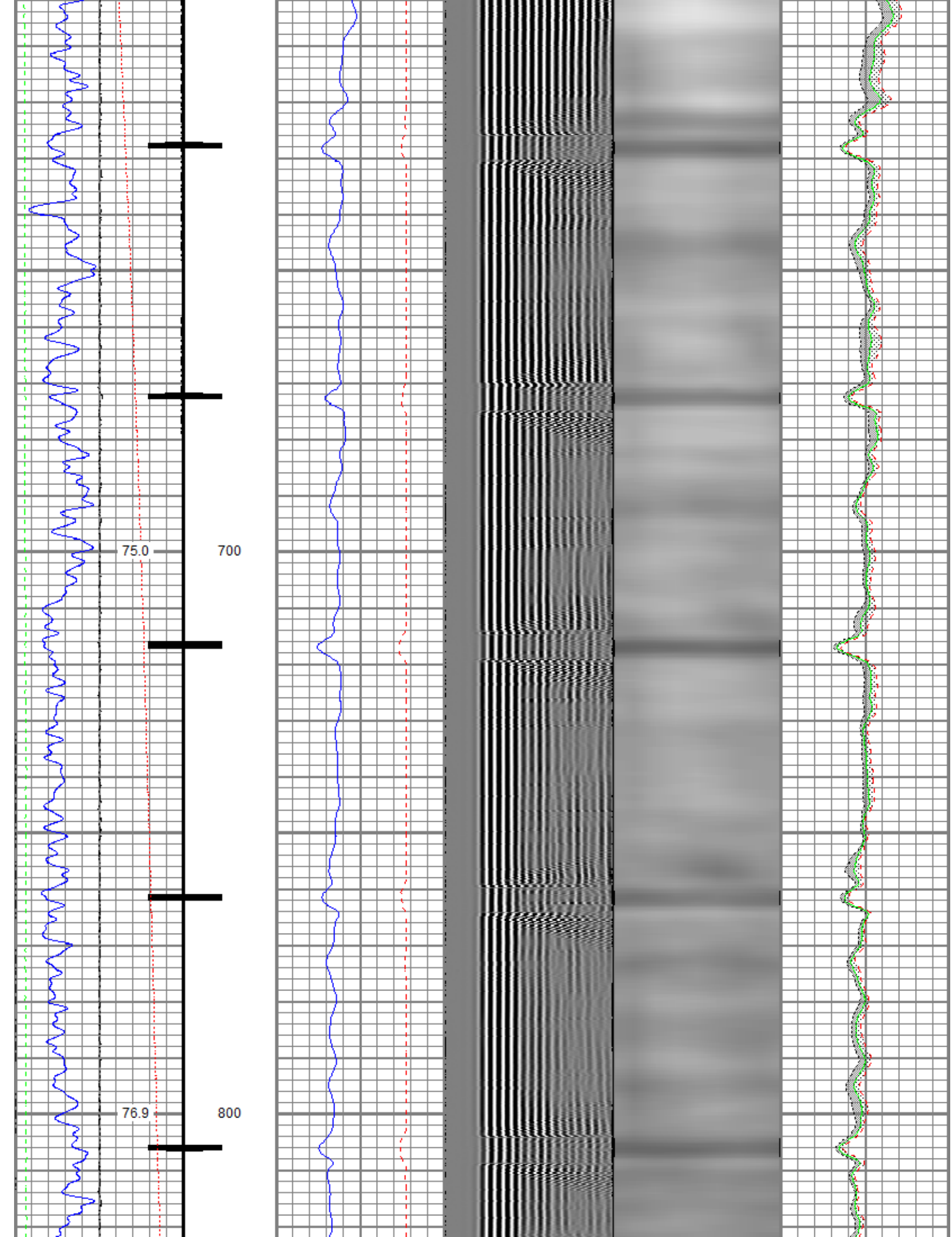
Gamma Ray	0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	0	Average Amplitude	100
(GAPI)	120	3' Amplitude x 5	200	1200			Minimum Amplitude	
Casing Collar Locator		0	(mV)	20			0	100
Temperature (degF)	20	3' Travel Time					Maximum Amplitude	
Line Speed		650	(usec)	150			0	100
(ft/min)	150	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

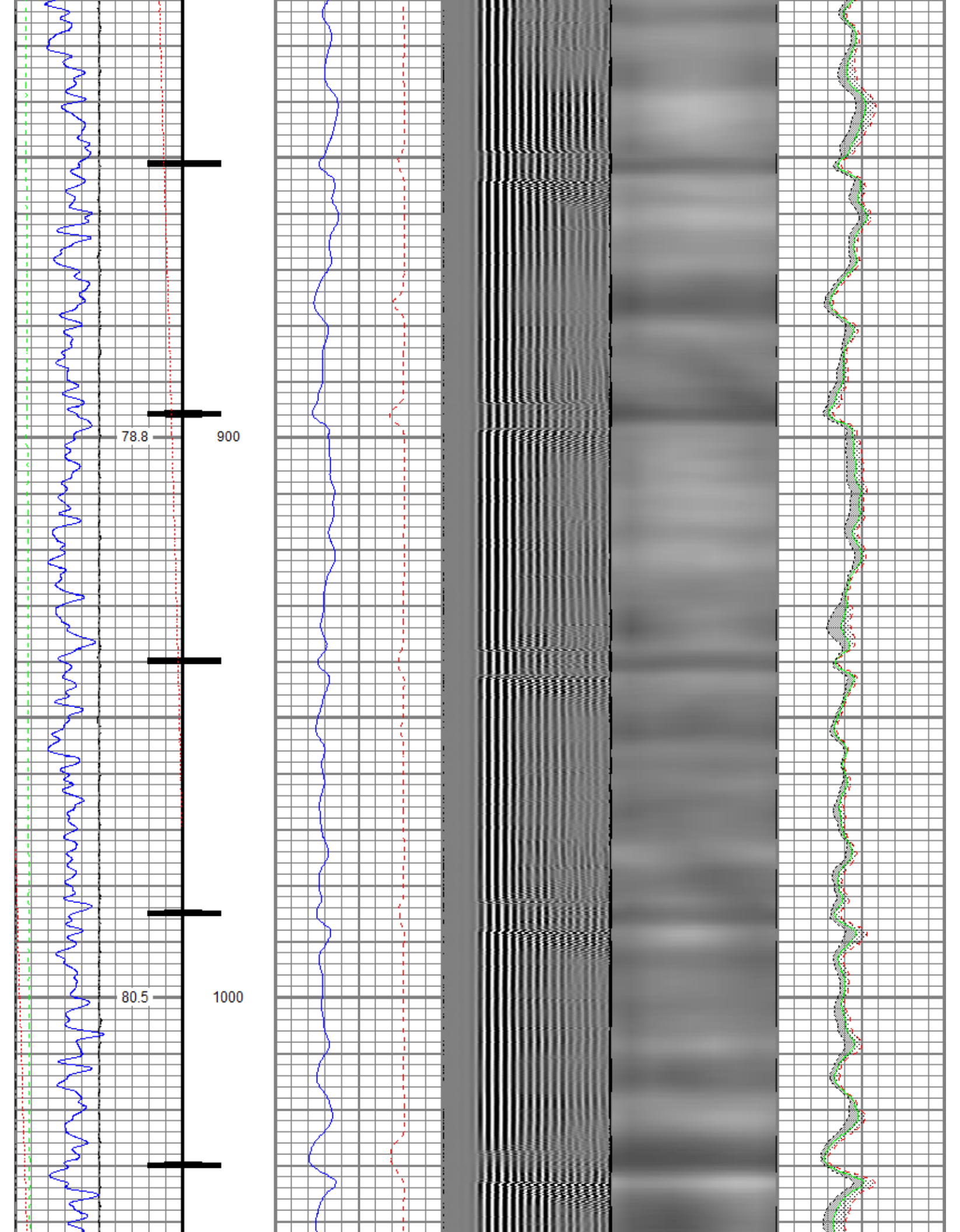


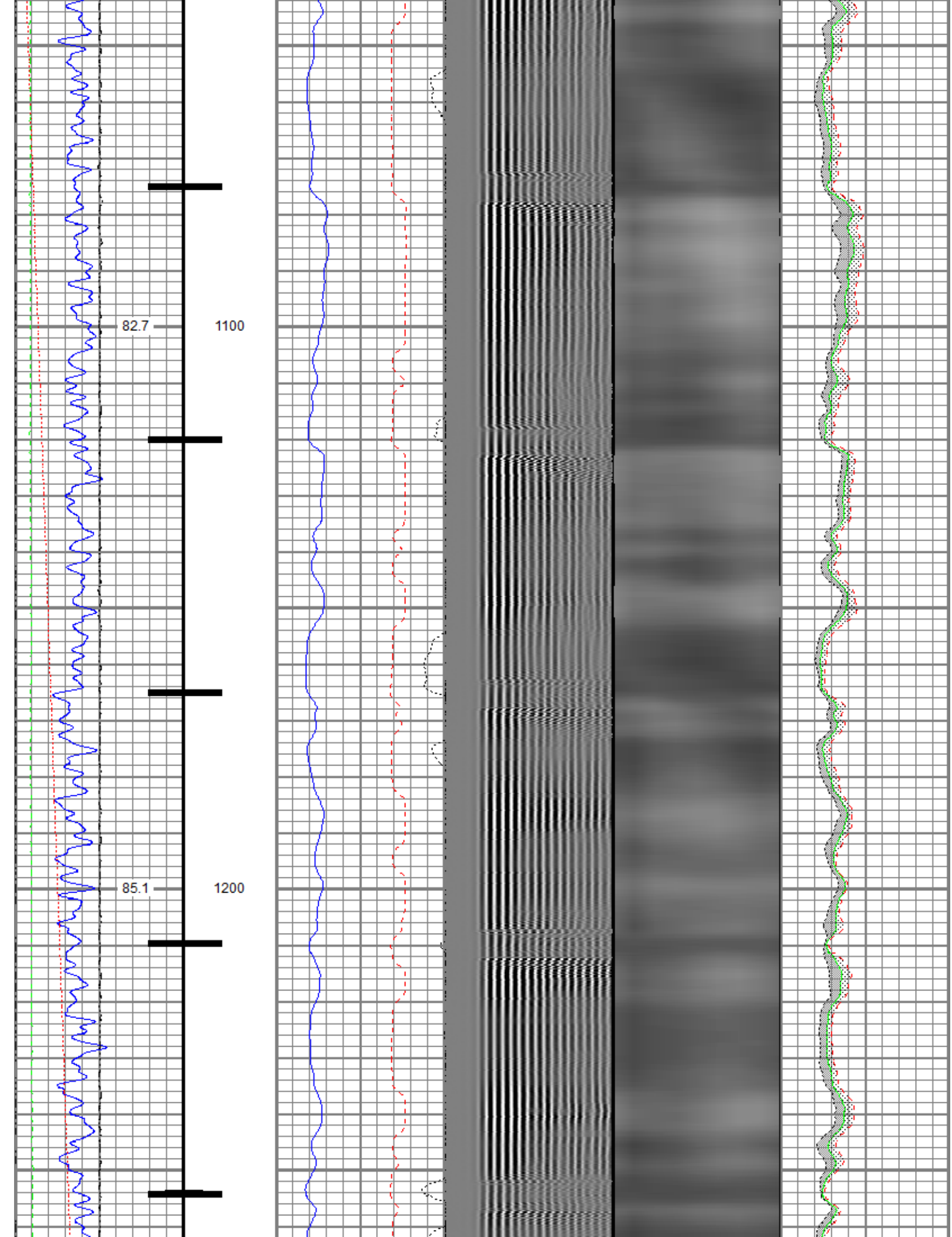


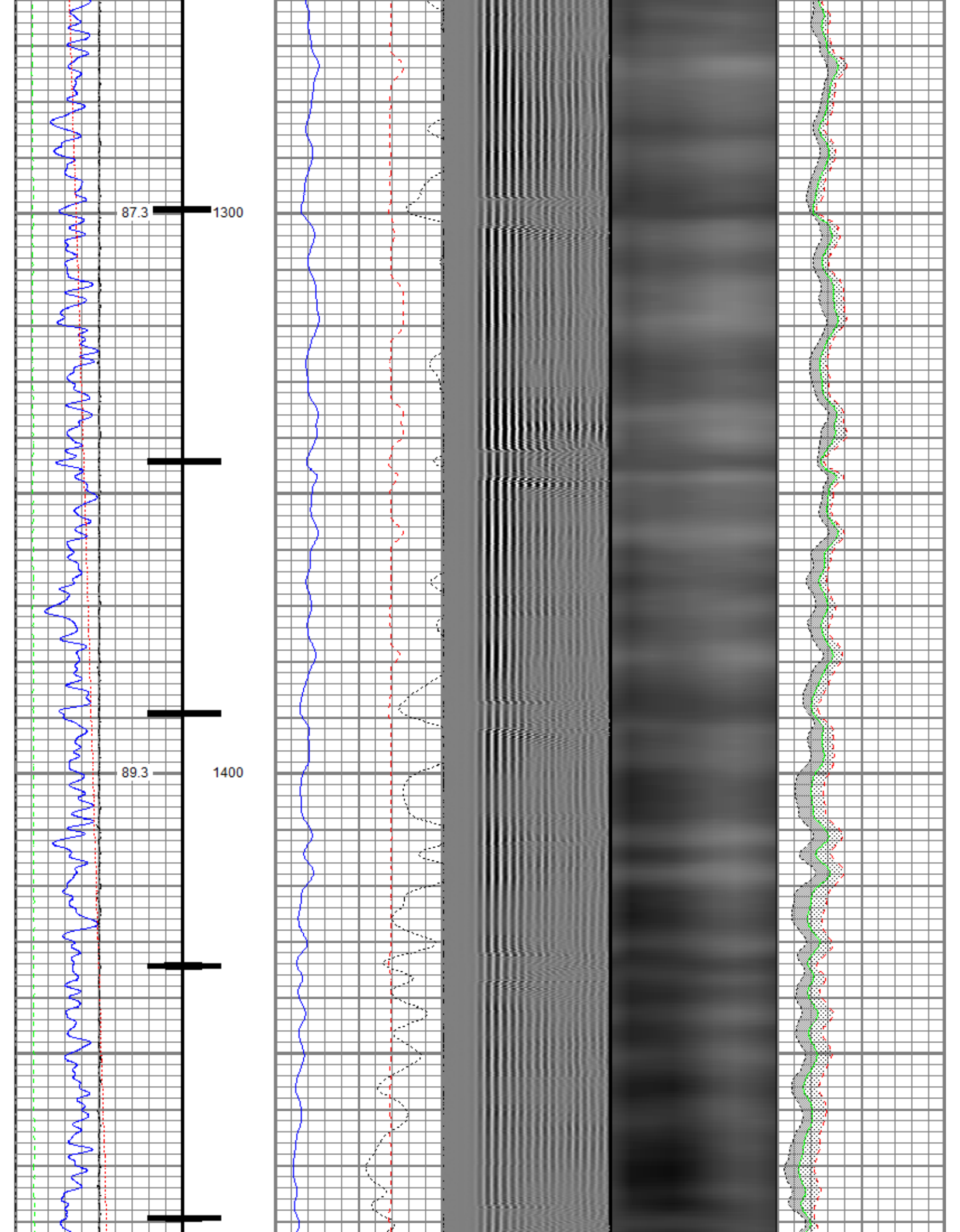




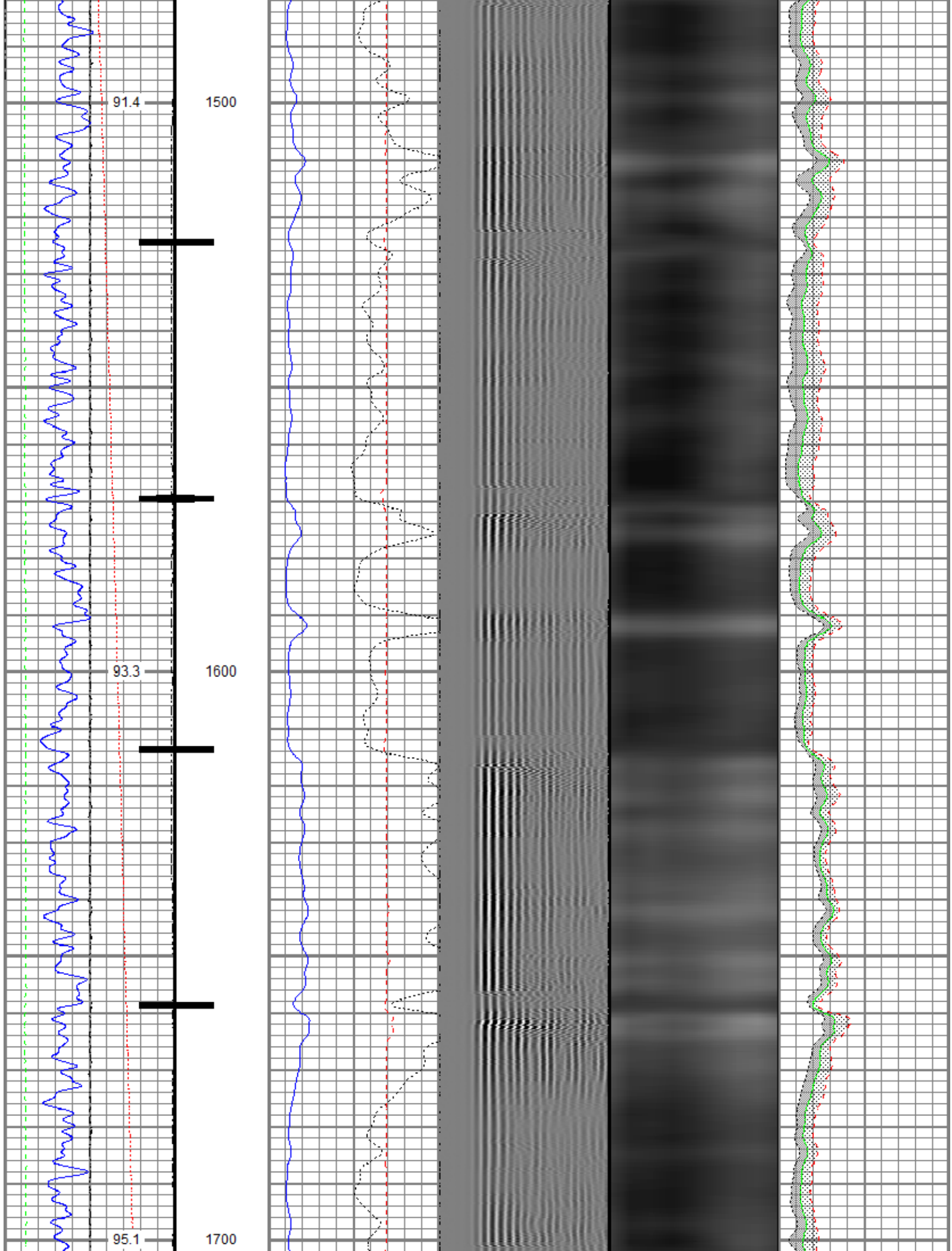


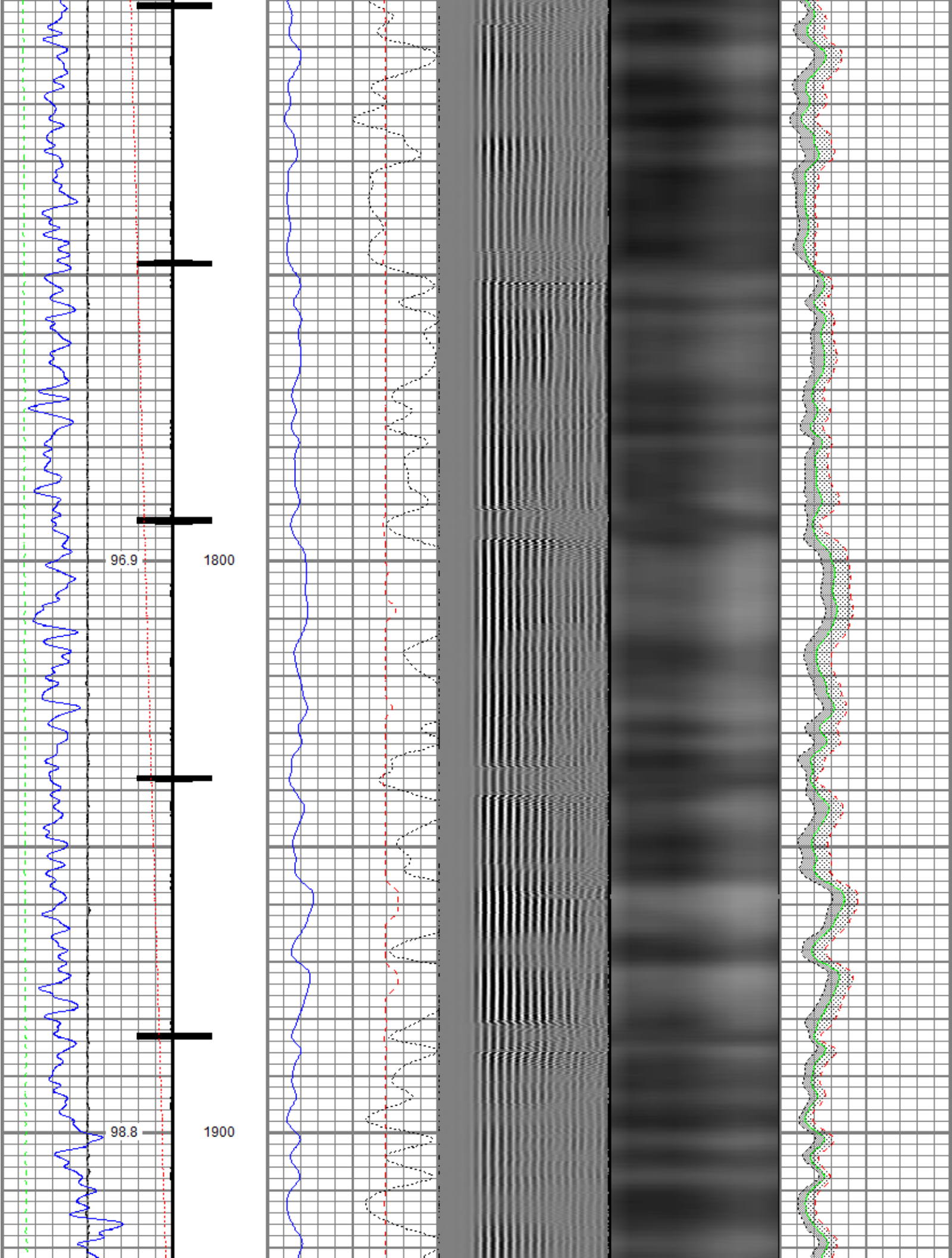


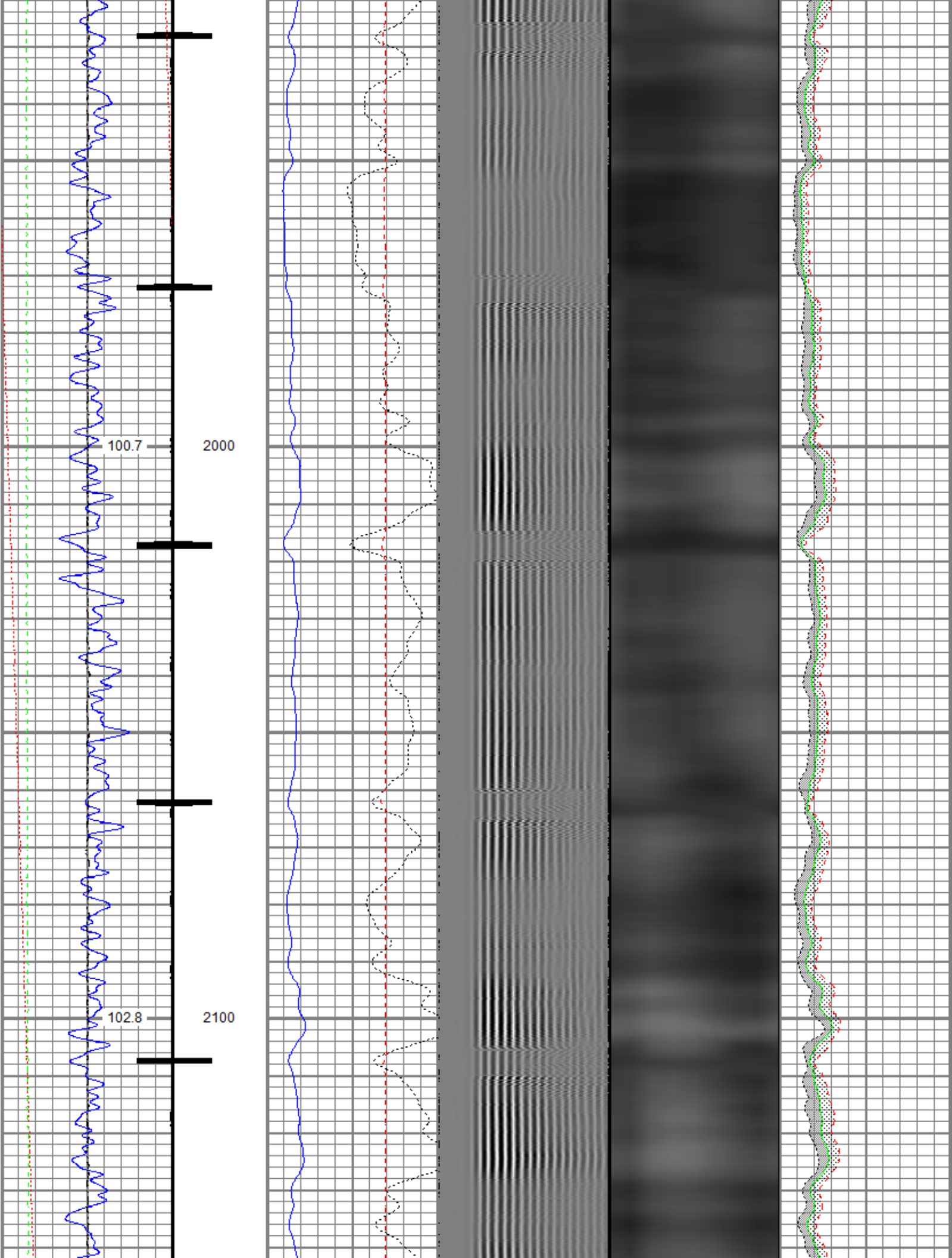


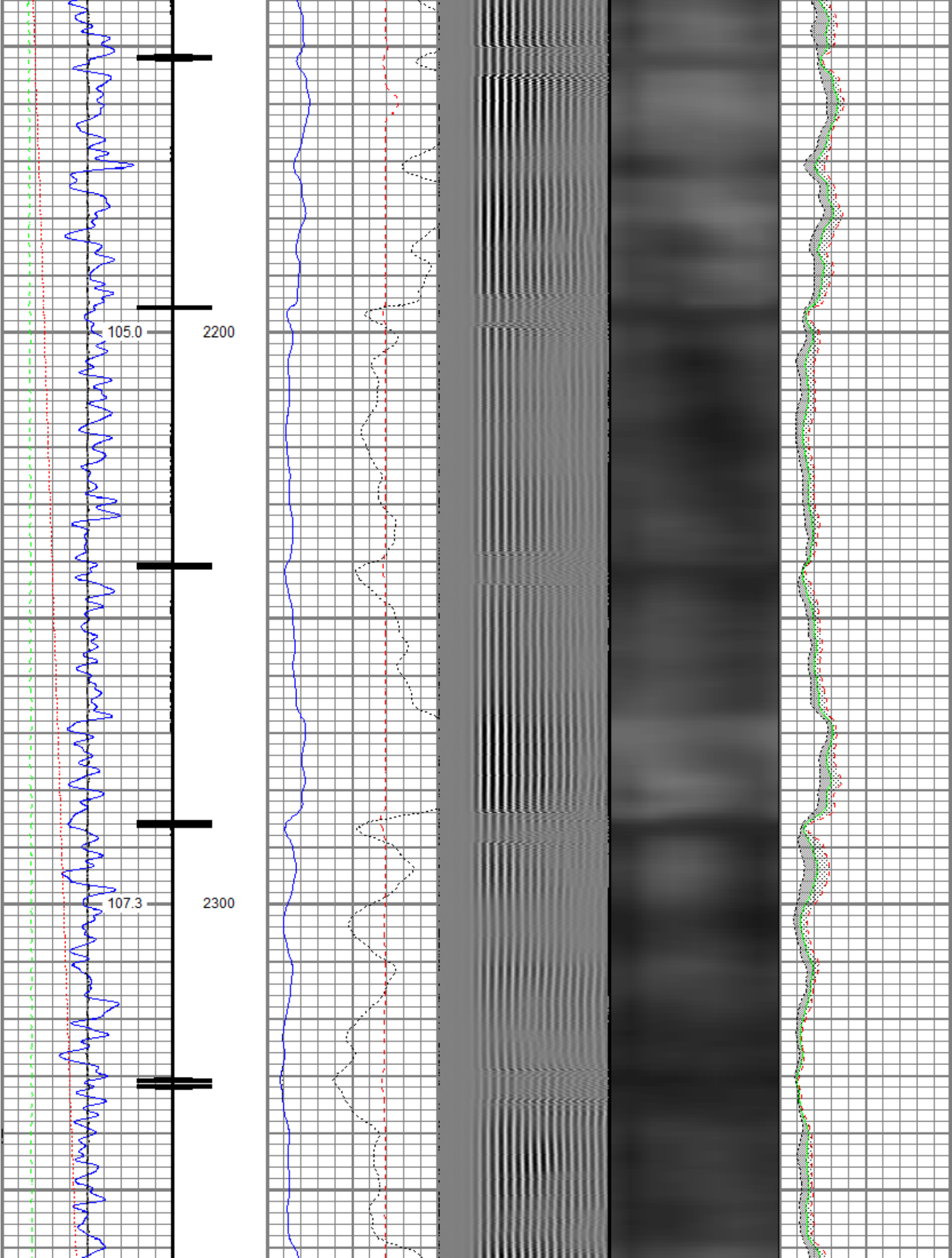




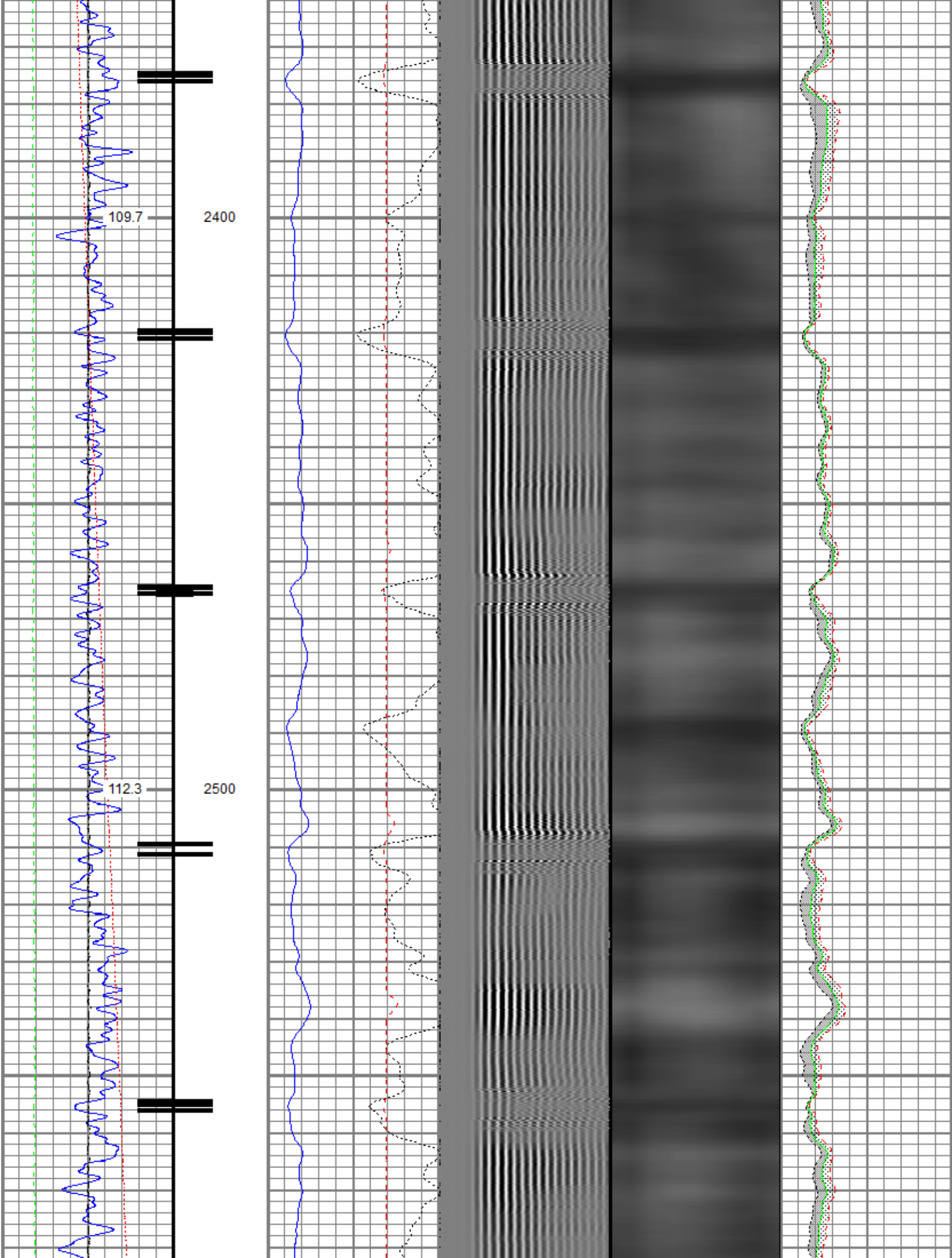


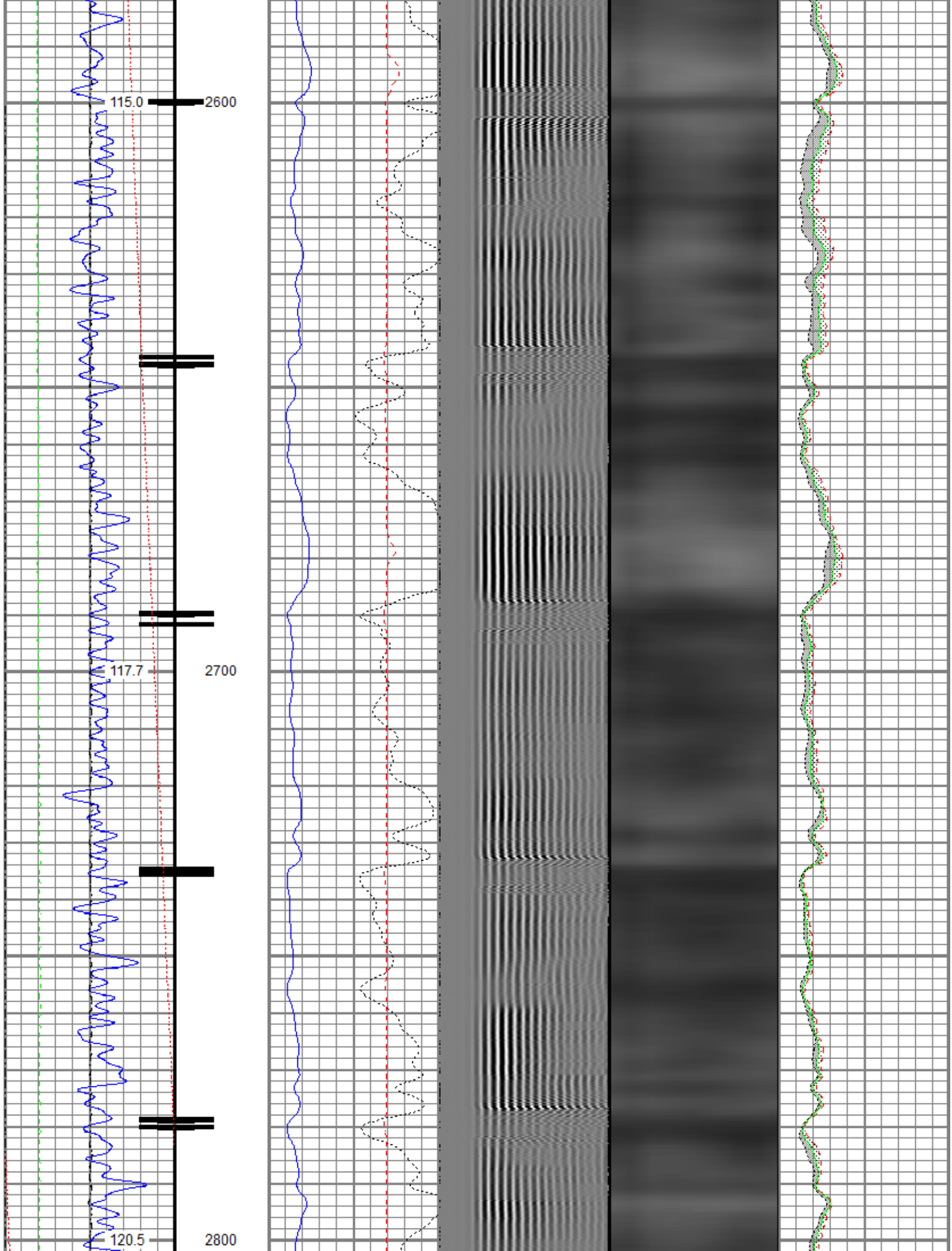


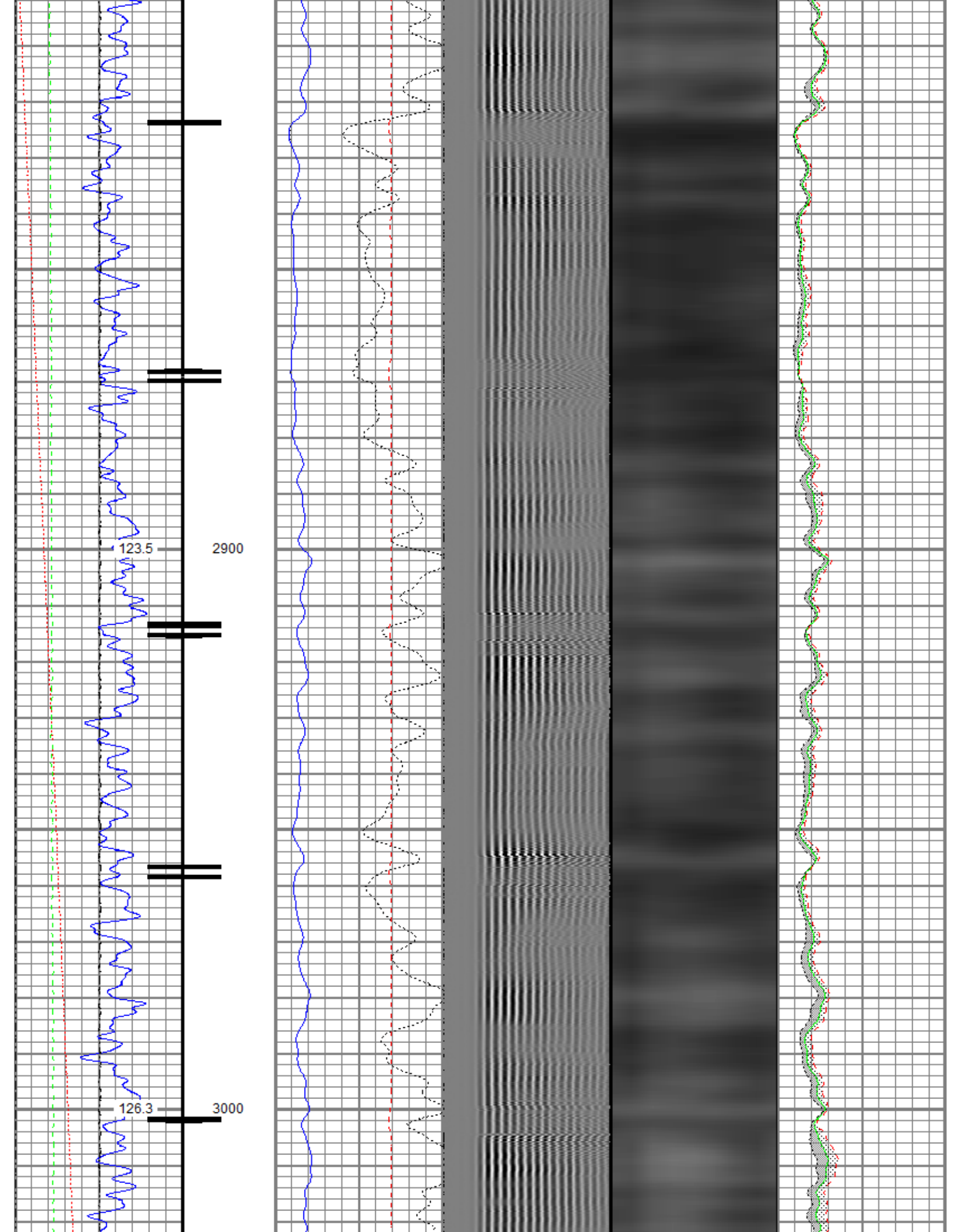


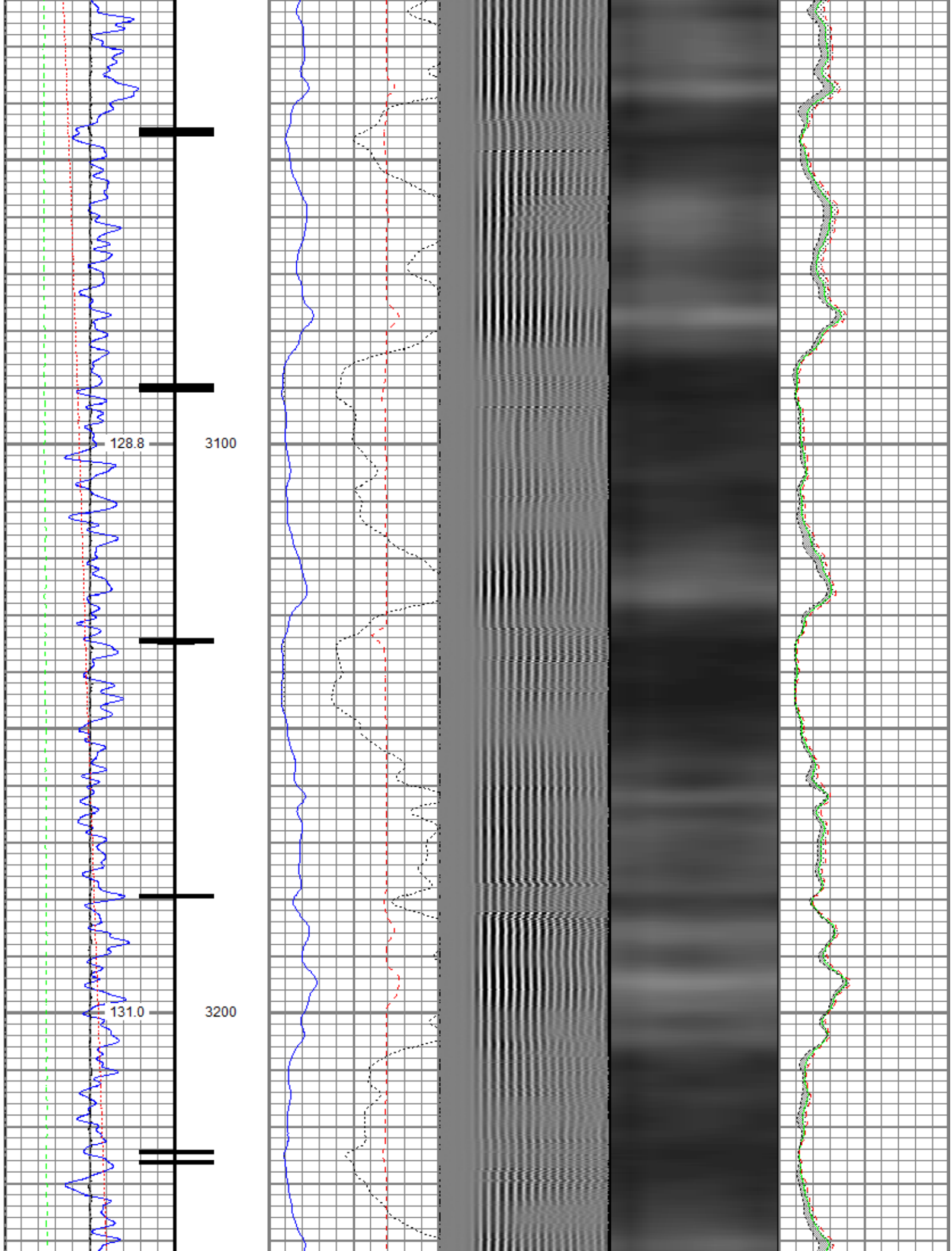




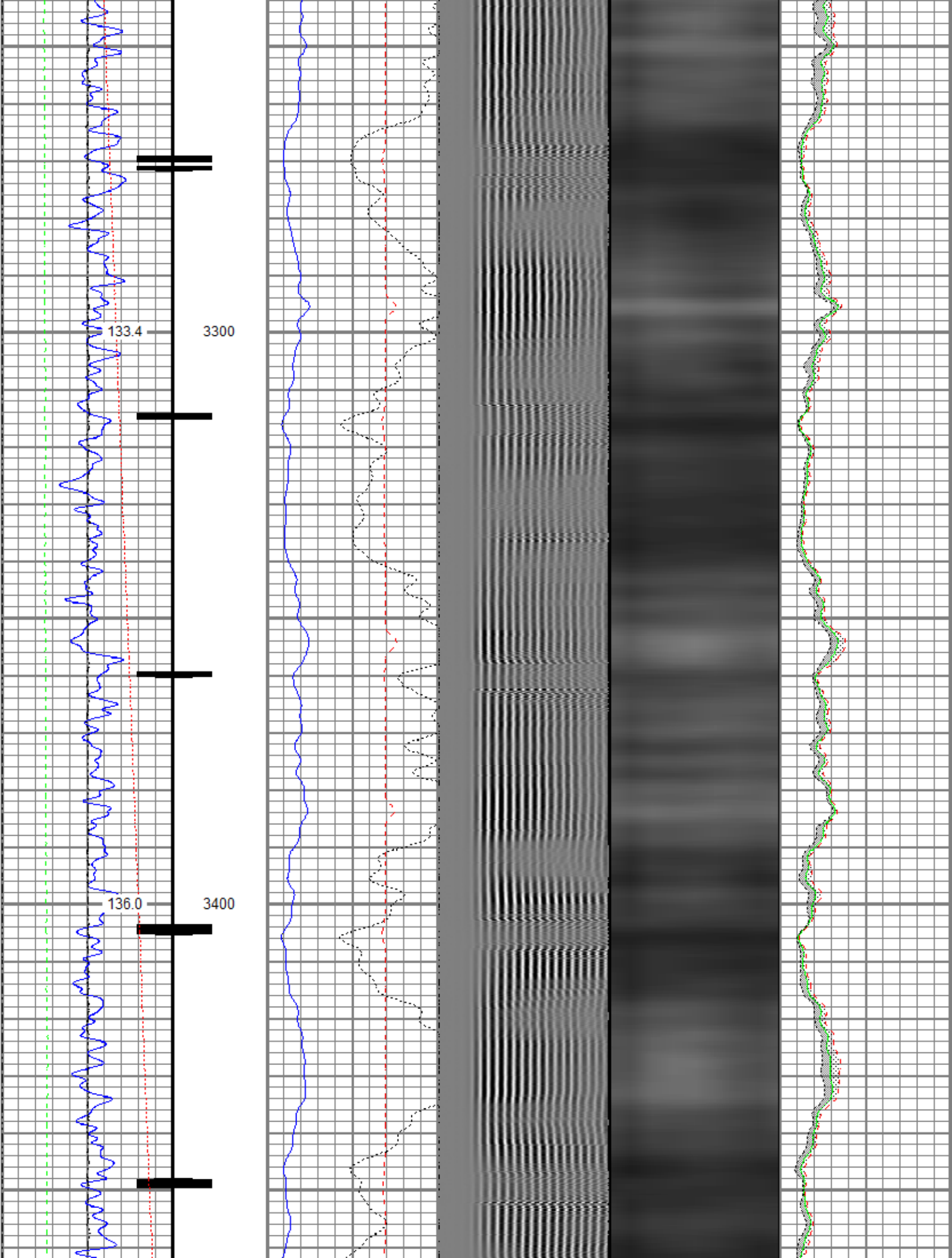


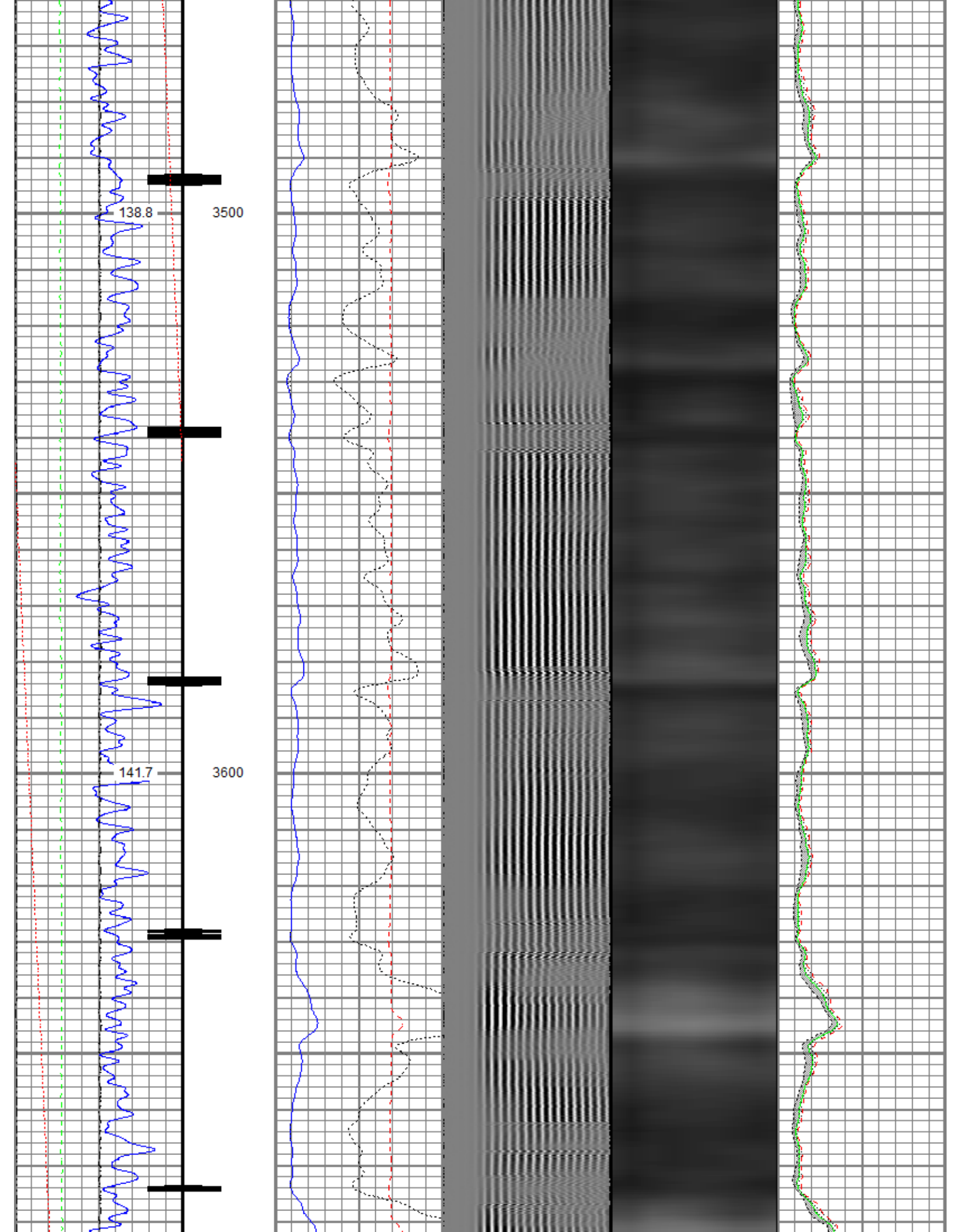


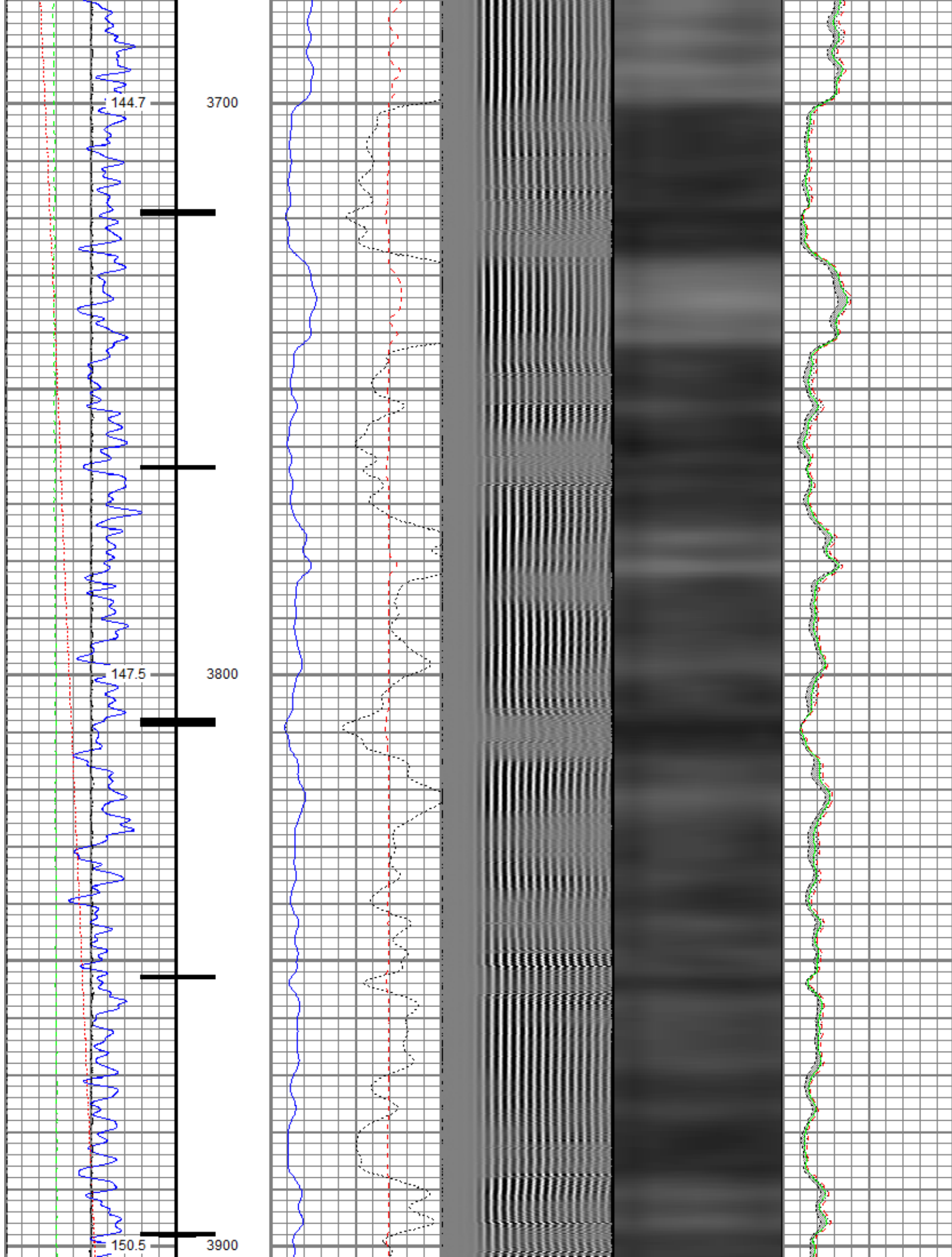


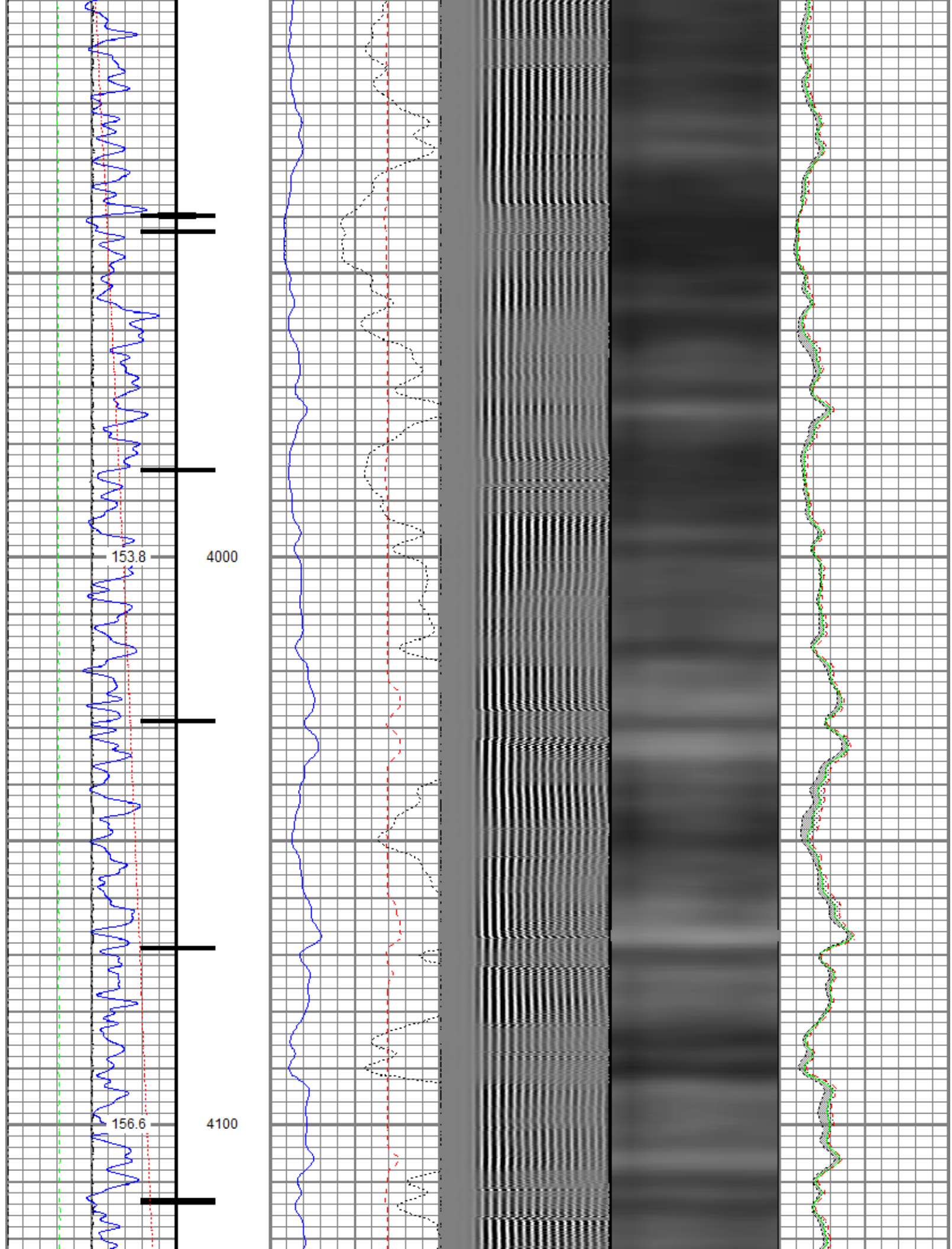




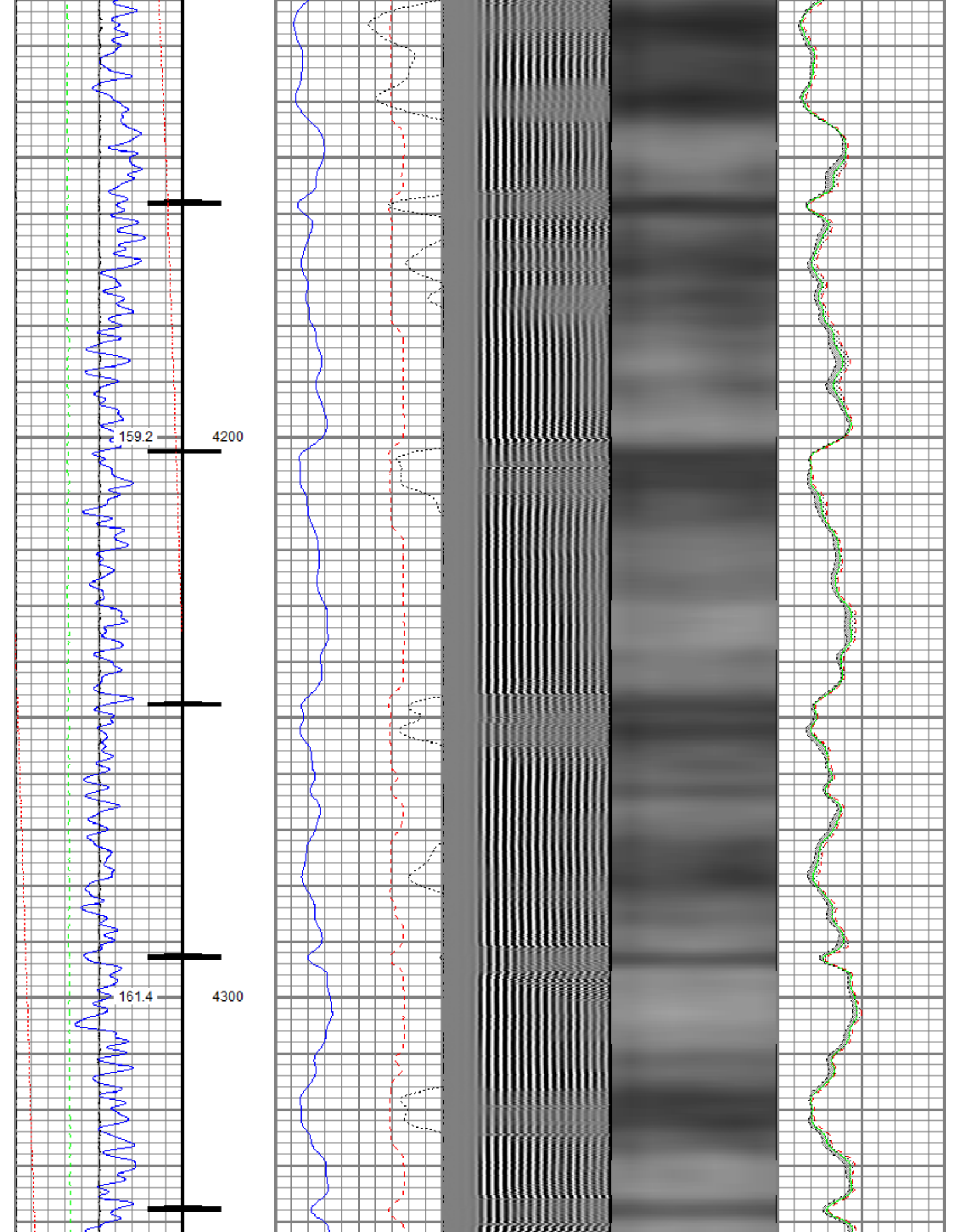


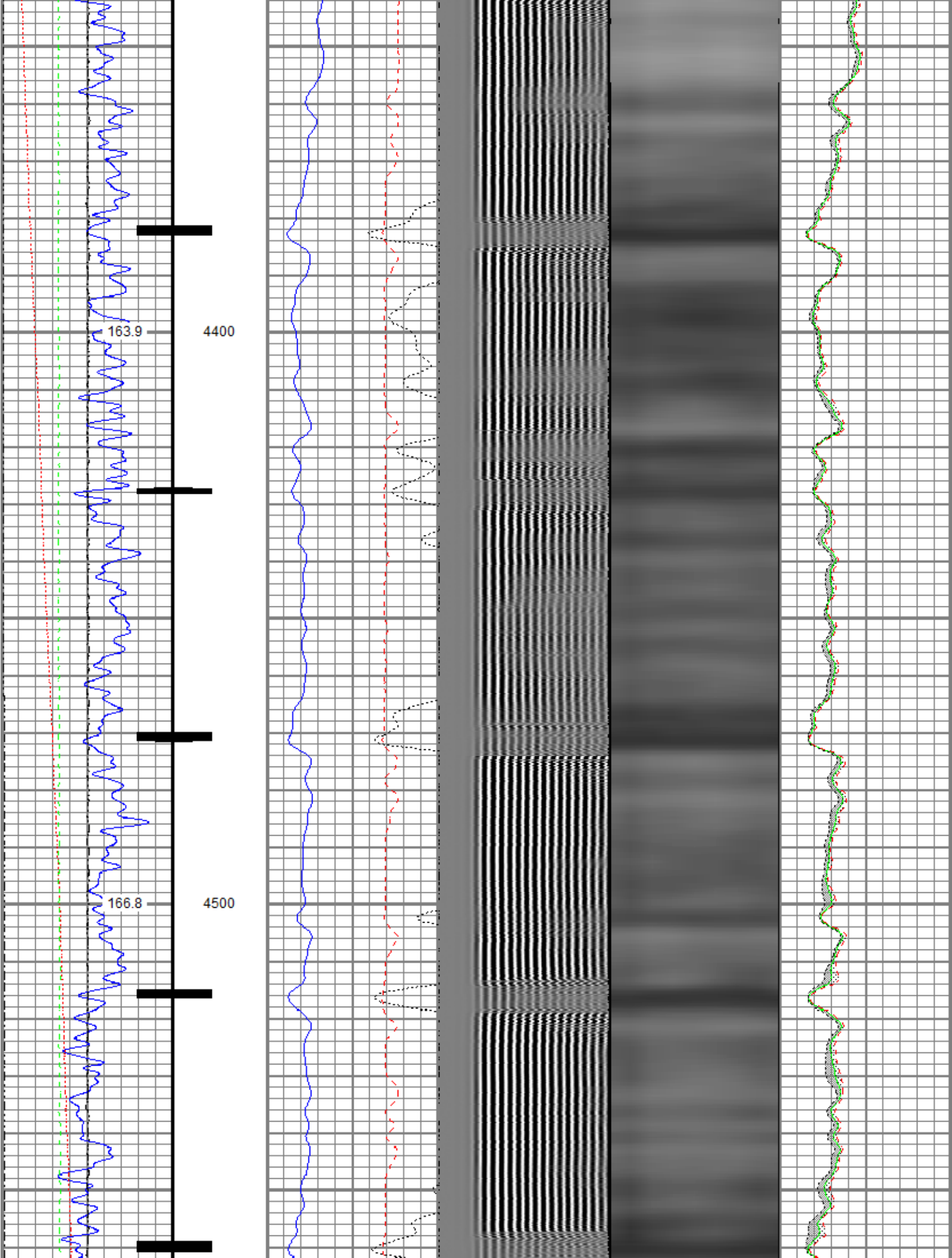


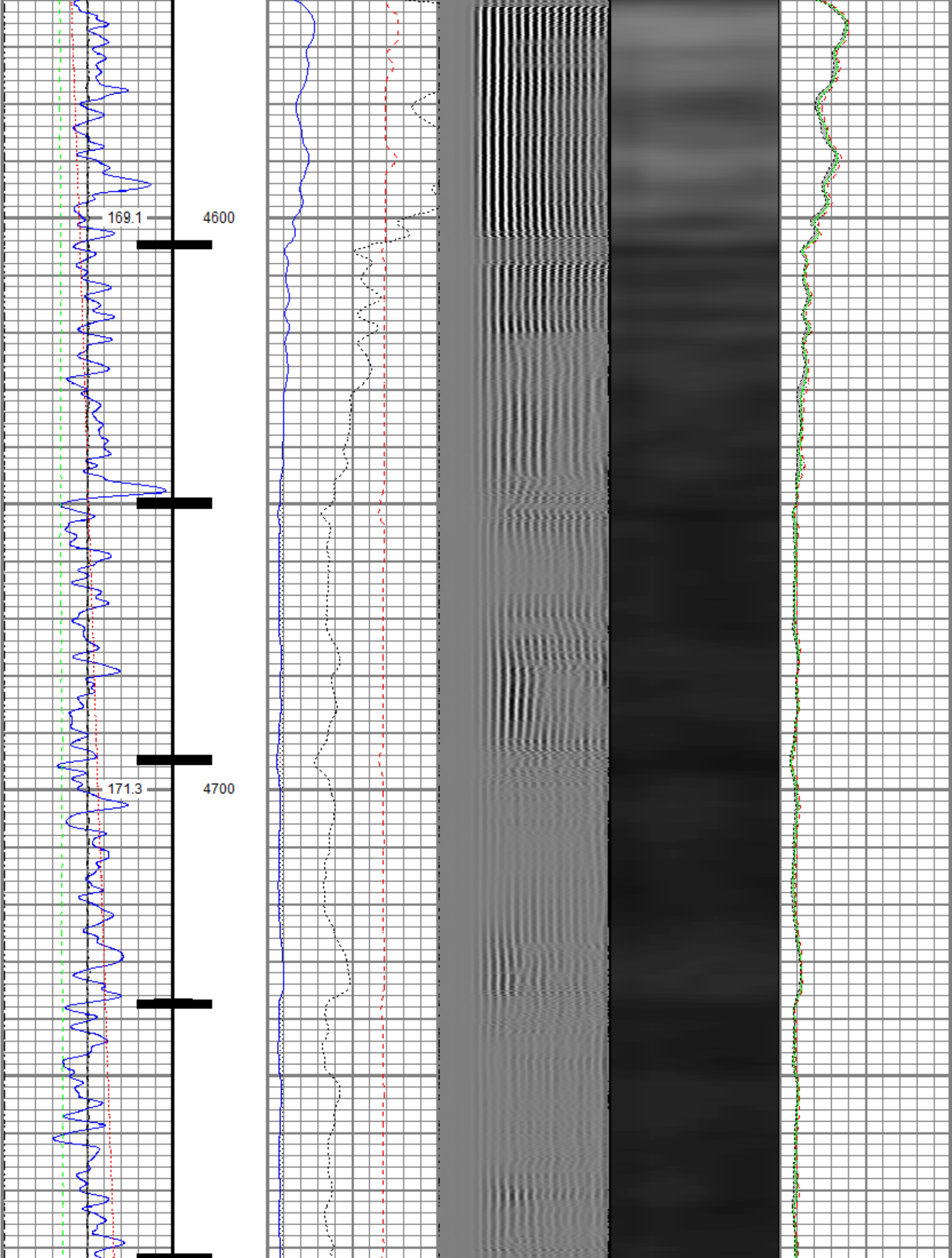


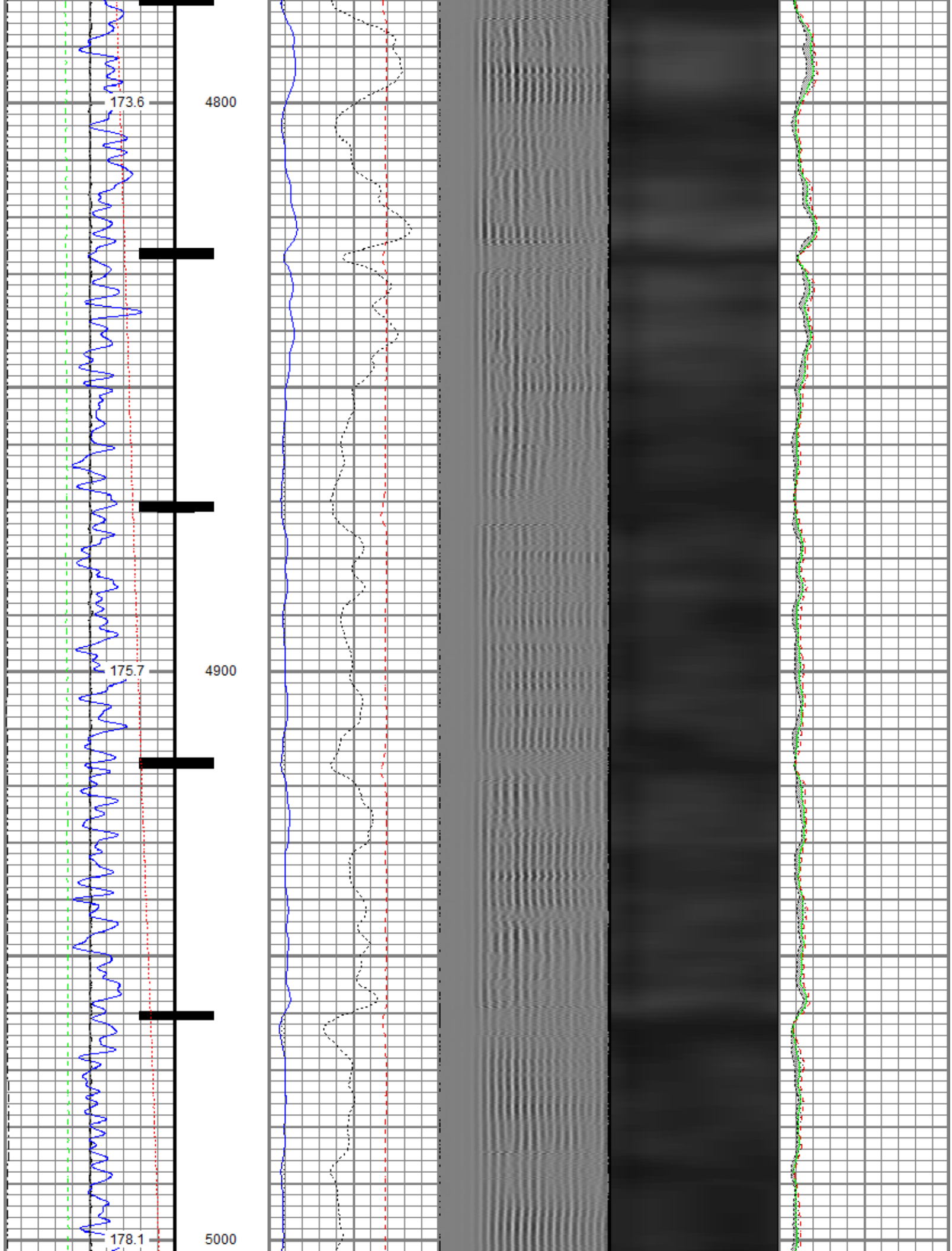




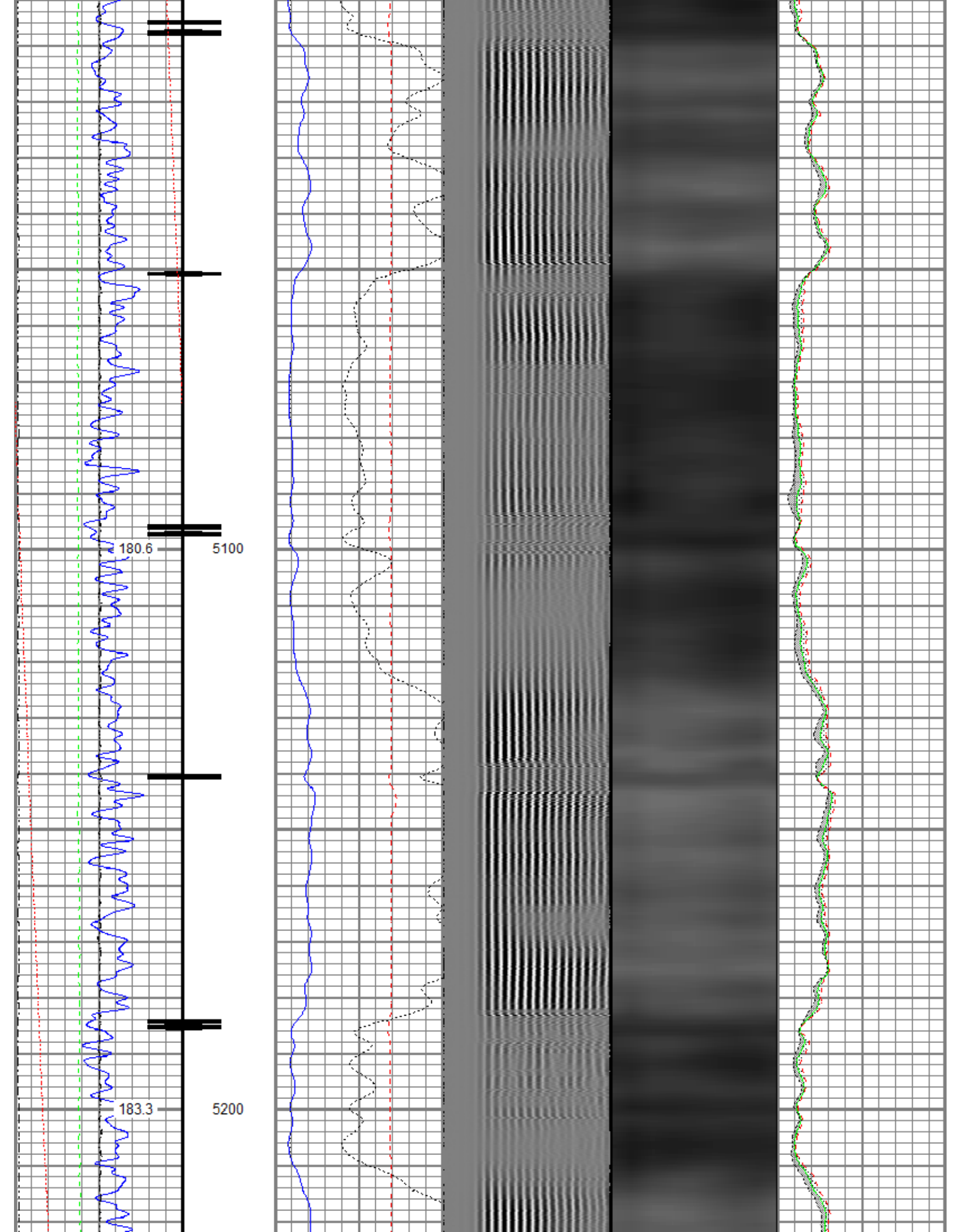


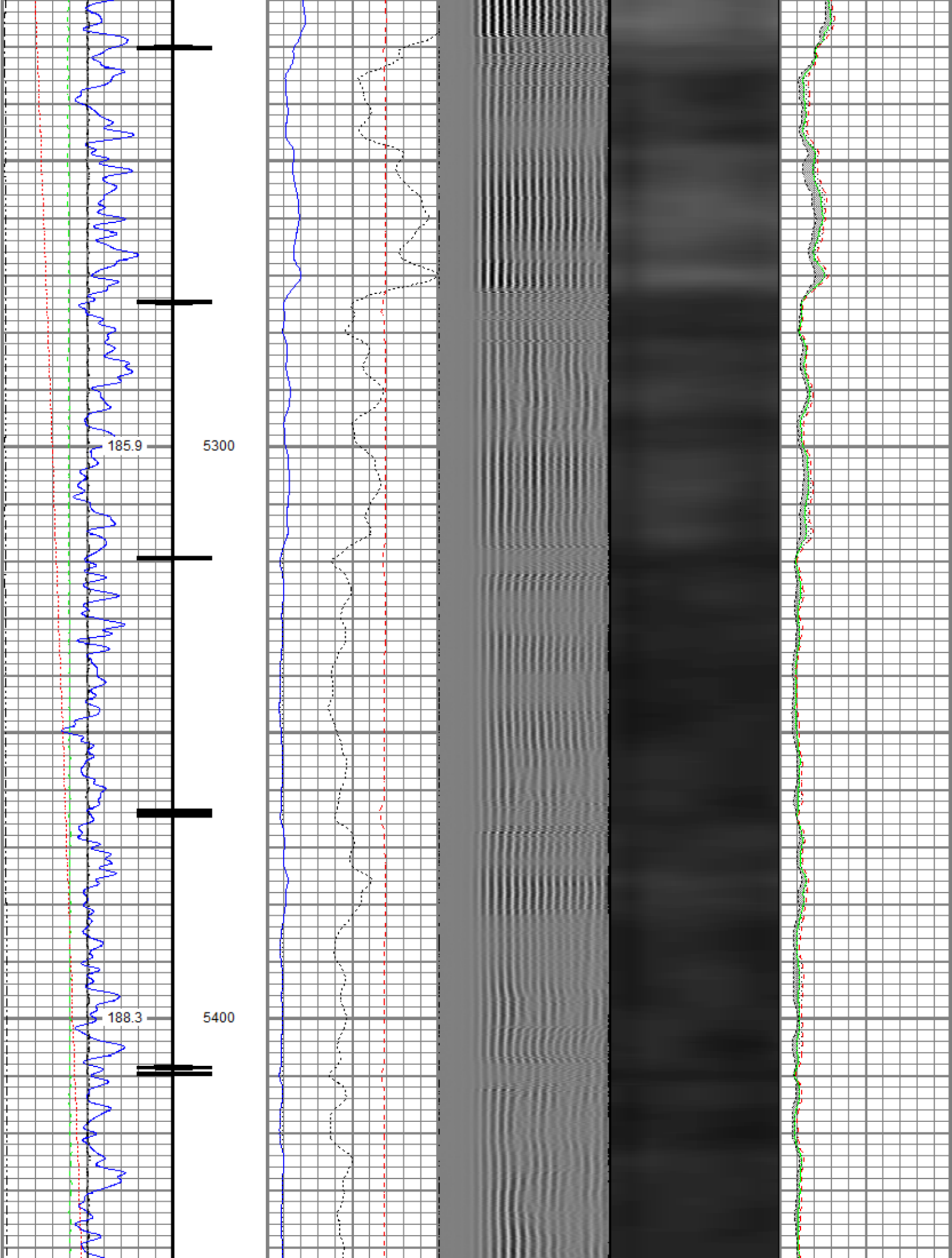


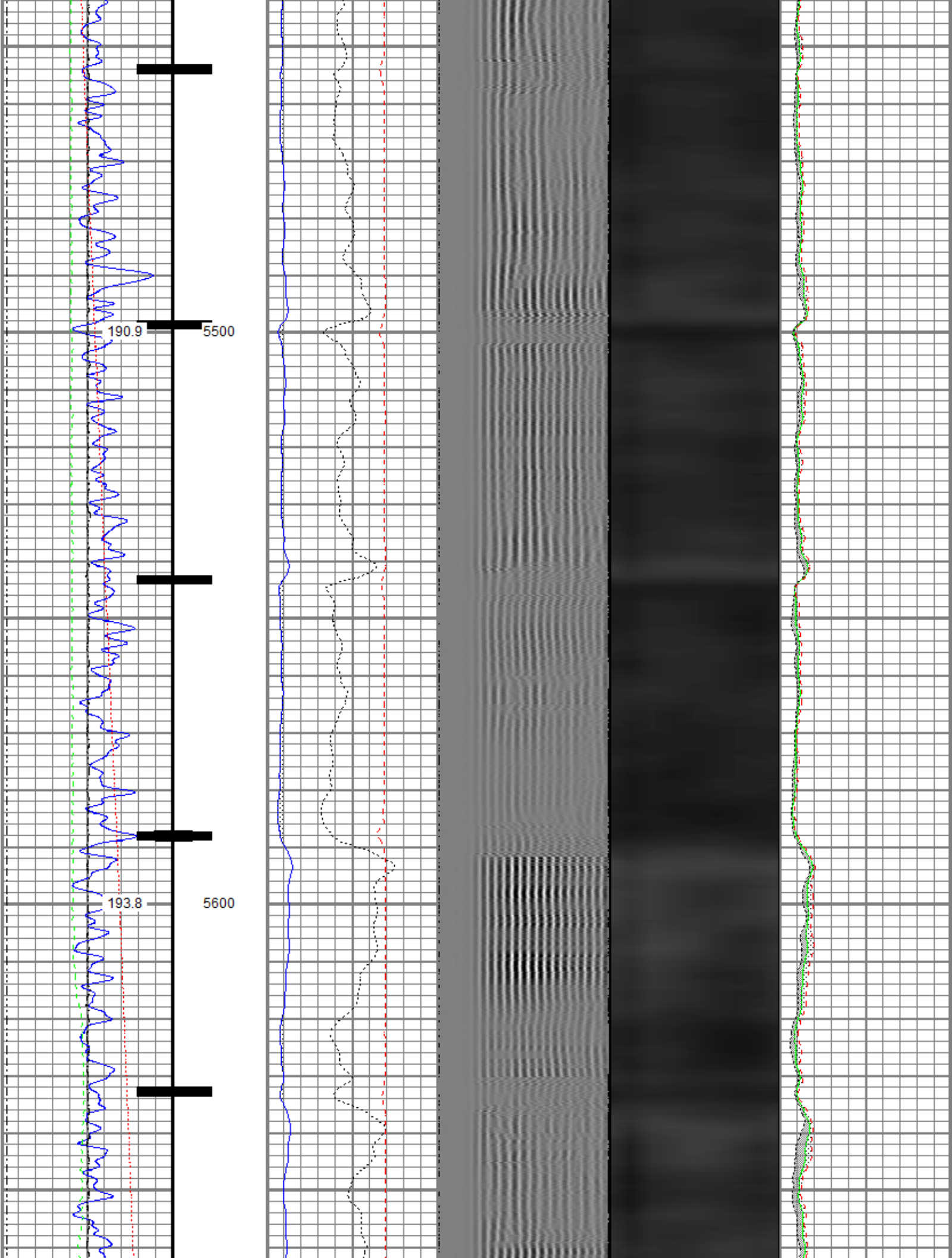


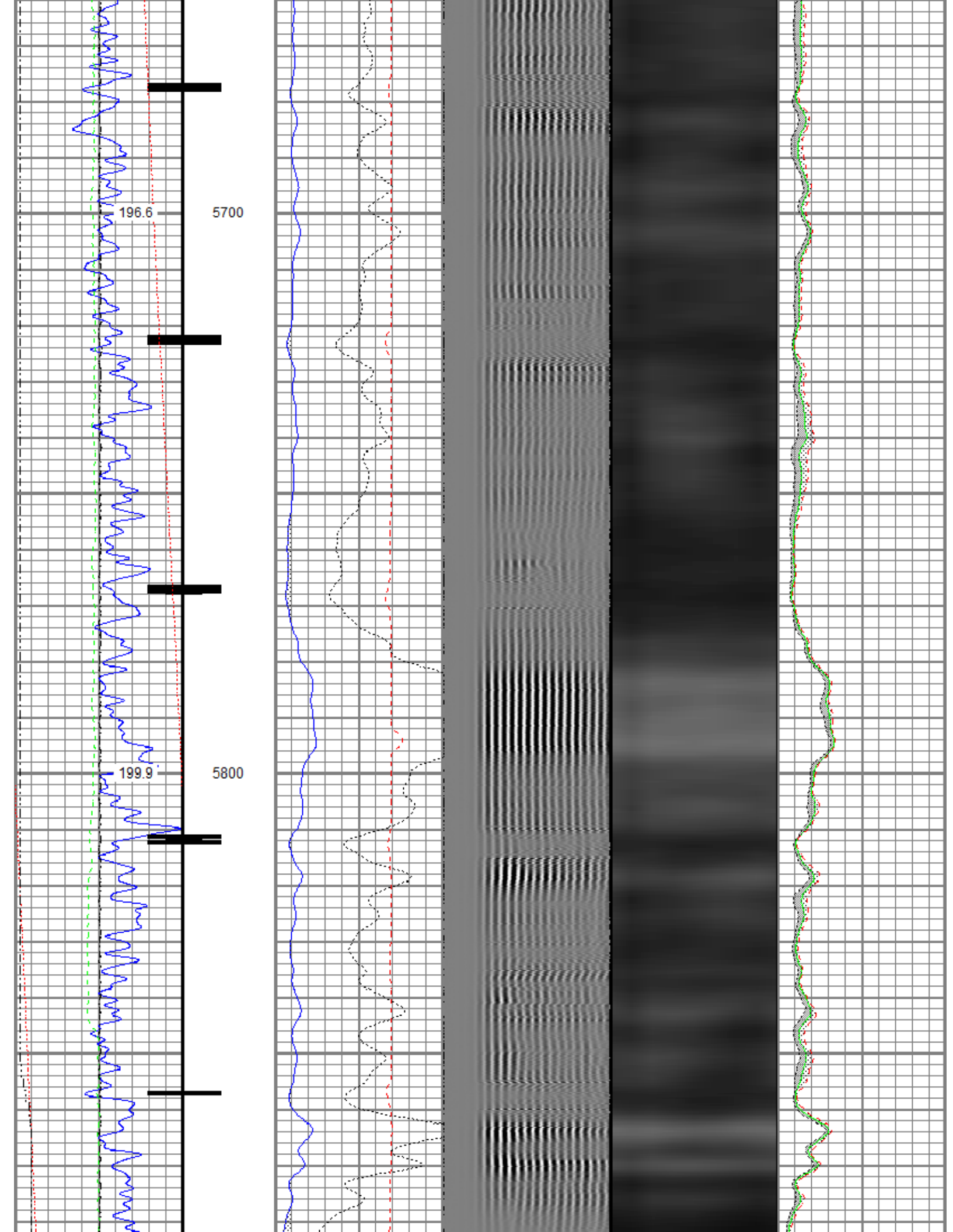




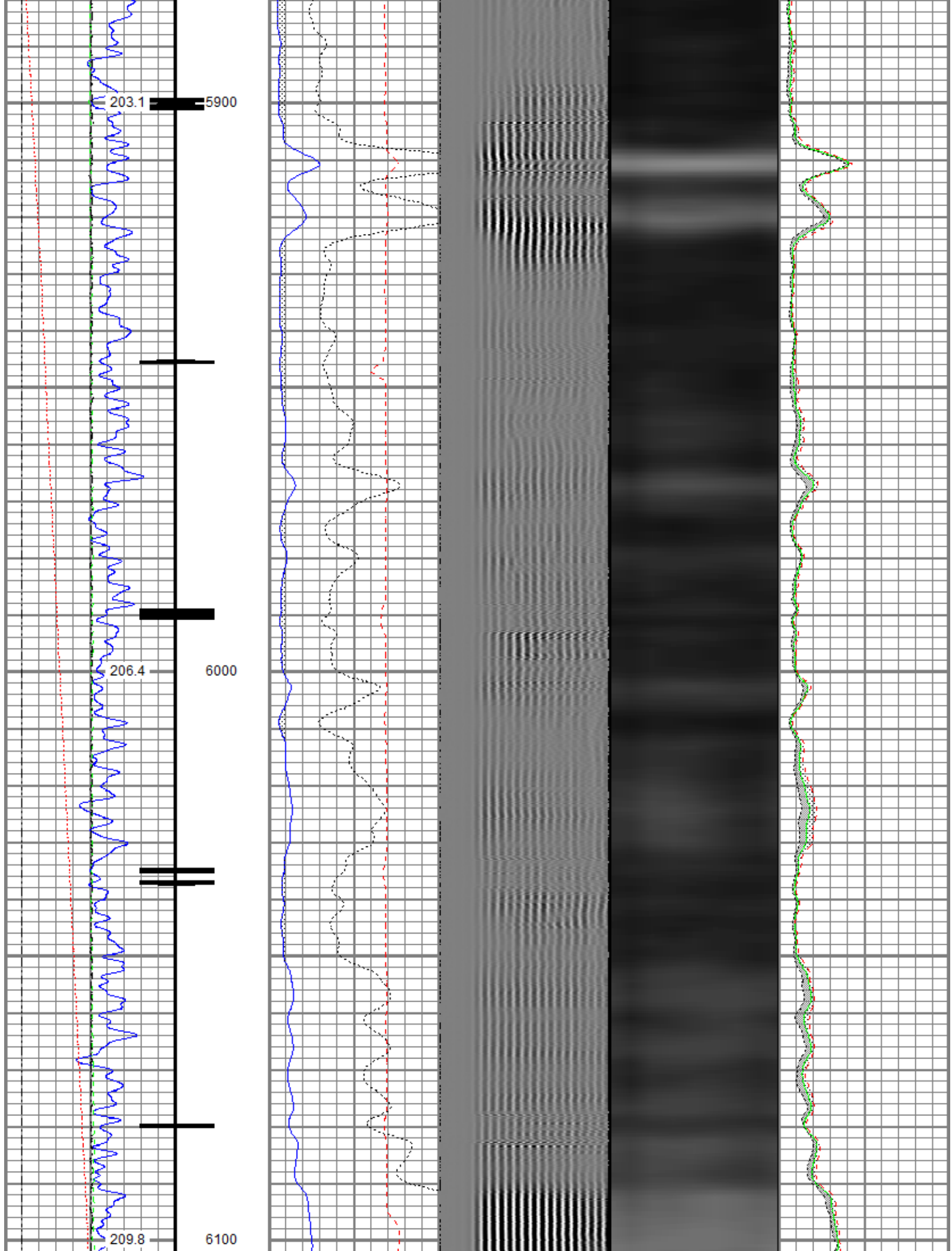


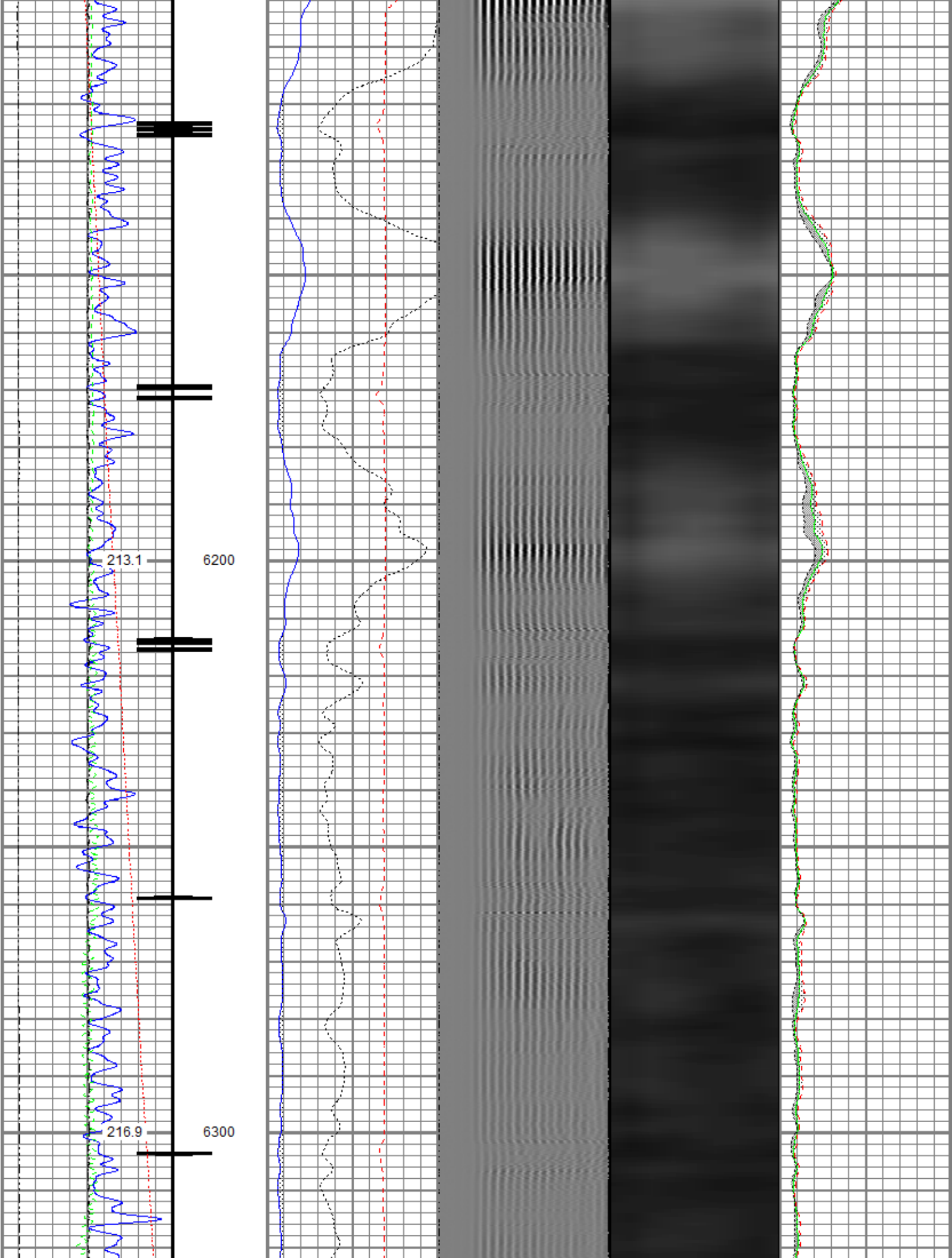


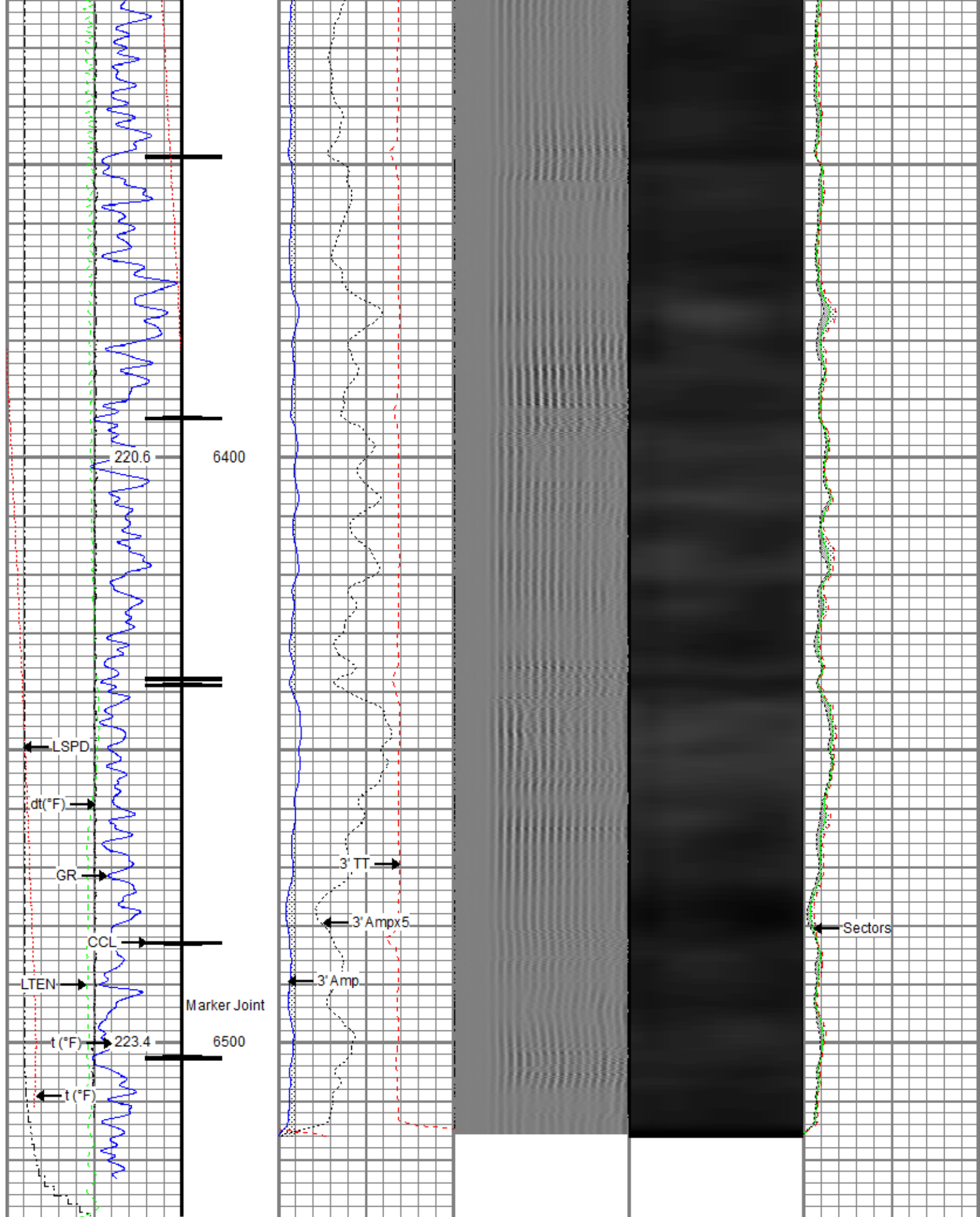












Gamma Ray		0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
0	(GAPI) 120		3' Amplitude x 5	200 1200			Minimum Amplitude
Casing Collar Locator		0	(mV) 20			0	100

0 Temperature (degF) 20	3' Travel Time	Maximum Amplitude
Line Speed	650 (usec) 150	0 100
-150 (ft/min) 150		
0 Line Tension (lb) 2000		
Differential Temperature		
-2 (degF) 2		

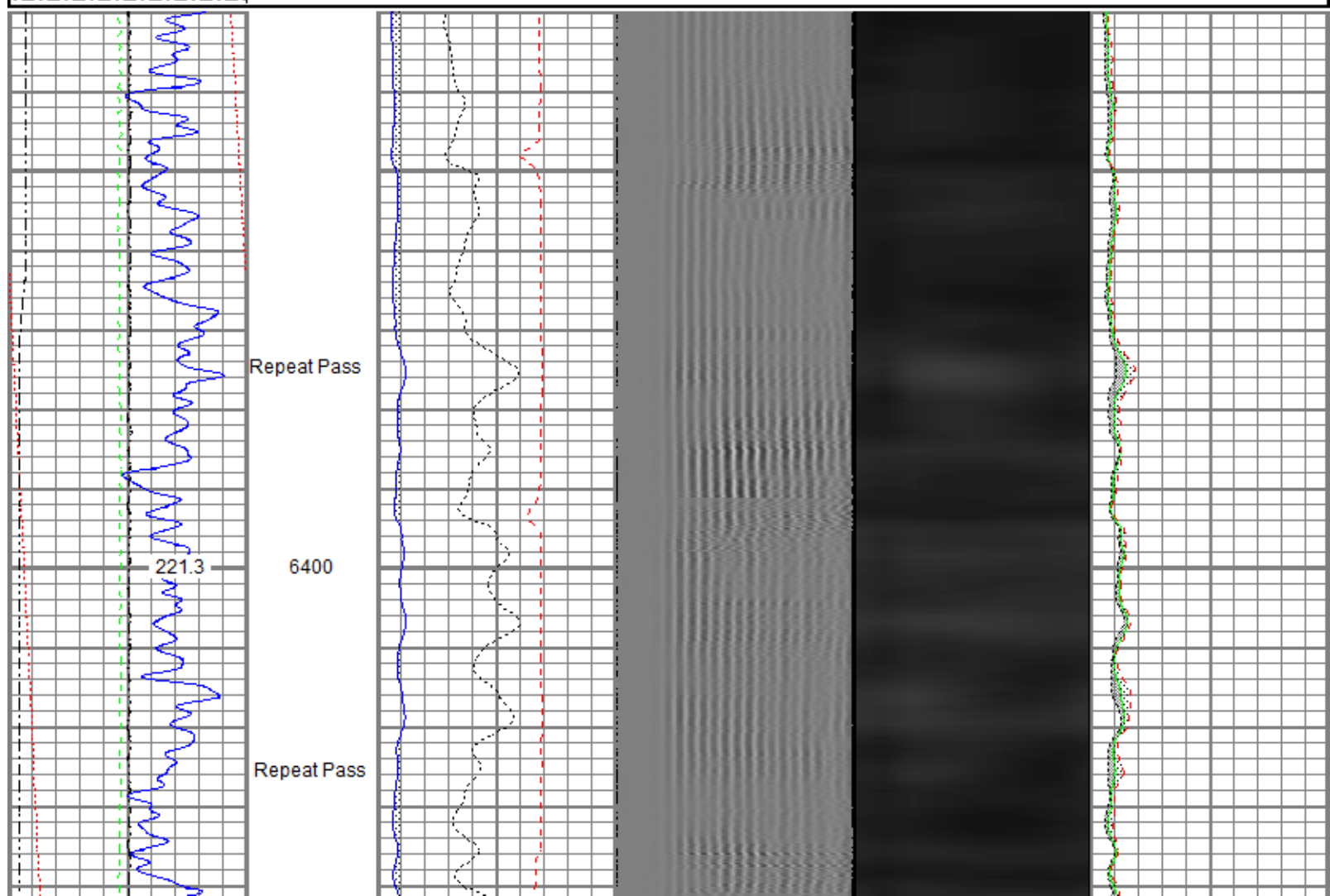


## Repeat Pass

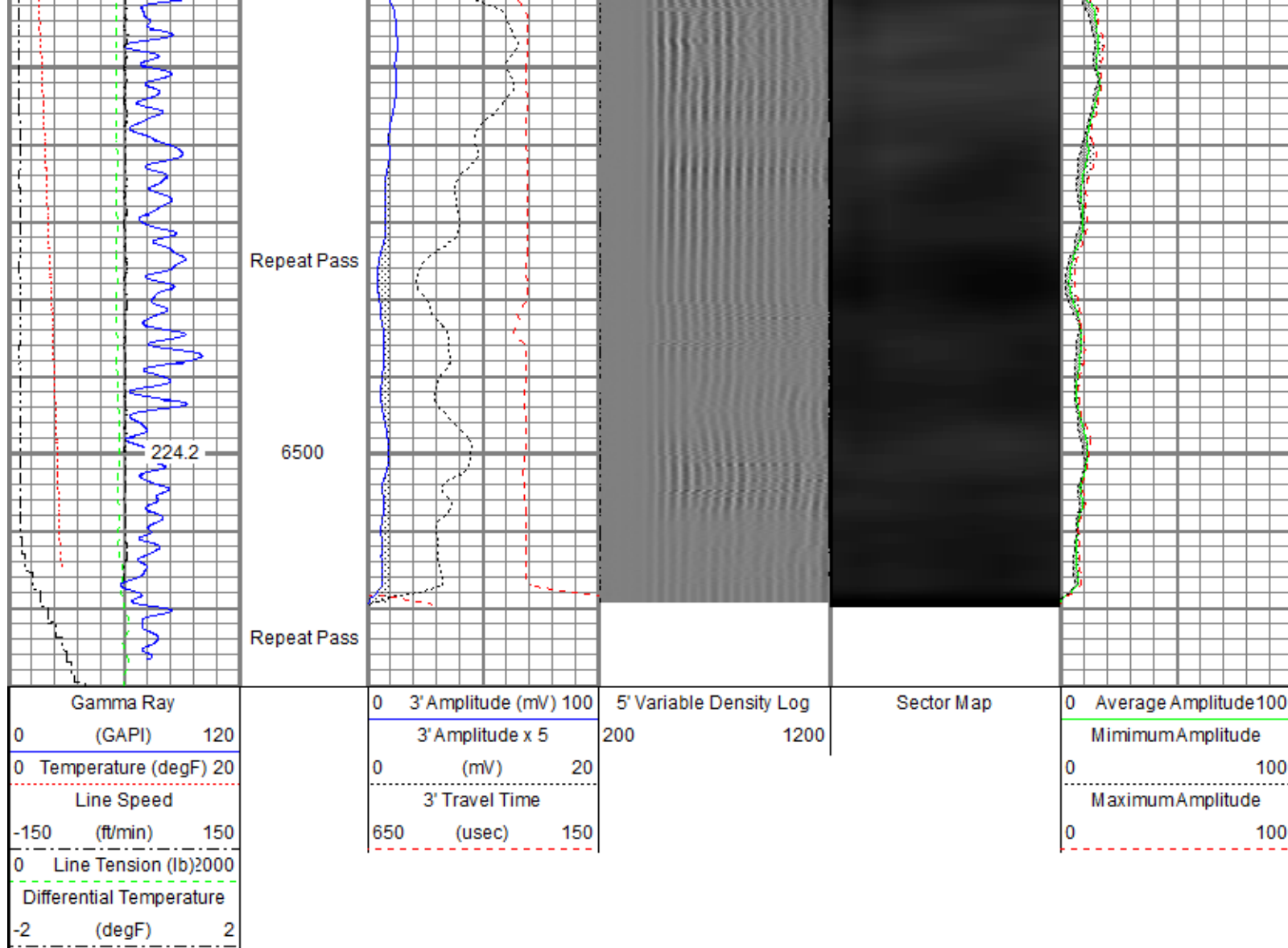
Recorded With 2800 PSI Surface Induced Pressure

Database File anadarko\0512346591\_anadarko\_english farms 8-13hz\_rbl\_09-13-18\0512346591\_anadarko\_english farms 8-13hz\_rbl\_09-13-18  
Dataset Pathname pass2  
Presentation Format ros\_radial  
Dataset Creation Thu Sep 13 14:53:00 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
0 (GAPI) 120	3' Amplitude x 5	200 1200		Minimum Amplitude
0 Temperature (degF) 20	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-150 (ft/min) 150	650 (usec) 150			0 100
0 Line Tension (lb) 2000				
Differential Temperature				
-2 (degF) 2				







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" Fishing Neck	1.03	1.44	3.60
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
			Probe Radii-2750 RBT (FW1308-091) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
TEMP	18.23					
WVFS8	16.00					
WVFS7	16.00					
WVFS6	16.00					
WVFS5	16.00					

WVFS4	16.00						
WVFS3	16.00						
WVFS2	16.00						
WVFS1	16.00						
WVFCAL	16.00						
WVF3FT	16.00						
WVF5FT	15.00						
HEADVOLT	11.75						
				Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	7.38			Probe CCL-2750 SA (FW1307-076) Probe 2-3/4" Digital Six Magnet Logging CCL	2.66	2.75	35.00
CCL\$1	7.38						
GR	5.24			Probe GR-2750 SA (FW1307-078) Probe 2-3/4" Digital Stand Alone Gamma Ray	3.33	2.75	55.00
				Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
Dataset: 0512346591_Anadarko_English Farms 8-13HZ_RBL_09-13-18_2800 PSI.db: field/well/run1/pass5 Total length: 25.06 ft Total weight: 258.60 lb O.D.: 2.75 in							

#### Calibration Report

Database File C:\ProgramData\Warrior\Data\Anadarko\0512346591\_Anadarko\_English Farms 8-13HZ\_RBL\_09-13-18\0512346591\_Anadarko  
 Dataset Pathname pass5  
 Dataset Creation Thu Sep 13 14:56:32 2018

#### Gamma Ray Calibration Report

Serial Number: FW1307-078  
 Tool Model: 2750 SA  
 Performed: Sun Nov 12 06:08:32 2017  
 Calibrator Value: 637.0 GAPI  
 Background Reading: 108.2 cps  
 Calibrator Reading: 1134.5 cps  
 Sensitivity: 0.6207 GAPI/cps

#### Segmented Cement Bond Log Calibration Report

Serial Number: FW1308-091  
 Tool Model: 2750 RBT  
 Calibration Casing Diameter: 5.500 in  
 Calibration Depth: -20.106 ft

Master Calibration, performed Thu Sep 13 06:22:32 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.381	0.800	71.921	188.796	-0.039
CAL	0.004	0.384				
5'	0.004	0.359	0.800	71.921	200.359	-0.029
SUM						
S1	0.004	0.383	0.000	100.000	263.671	-1.101
S2	0.004	0.384	0.000	100.000	262.994	-1.088
S3	0.004	0.378	0.000	100.000	267.555	-1.173
S4	0.004	0.378	0.000	100.000	267.616	-1.166
S5	0.004	0.380	0.000	100.000	265.836	-1.146
S6	0.004	0.381	0.000	100.000	265.191	-1.120
S7	0.005	0.382	0.000	100.000	264.993	-1.210
S8	0.004	0.381	0.000	100.000	265.526	-1.147

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.384	1.000	0.000

Air Zero Calibration, performed Thu Sep 13 06:22:58 2018:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.005		0.000		-0.000	
5'	0.004		0.000		-0.000	
SUM						
S1	0.005		0.000		-0.000	
S2	0.004		0.000		-0.000	
S3	0.004		0.000		0.000	
S4	0.004		0.000		-0.000	
S5	0.004		0.000		0.000	
S6	0.004		0.000		0.000	
S7	0.005		0.000		0.000	
S8	0.005		0.000		-0.000	

#### Temperature Calibration Report

Serial Number: FW1308-091  
Tool Model: 2750 RBT  
Performed: Sun Nov 12 13:50:54 2017

	Reference	Reading
Low Reference:	100.00 degF	104.72 degF
High Reference:	350.00 degF	392.24 degF

Gain: 0.87  
Offset: 8.94  
Delta Spacing: 1



Company: Kerr-McGee Oil & Gas Onshore, L.P.  
Well: English Farms 8-13HZ  
Field: Wattenberg  
County: Weld  
State: Colorado