



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.

Well MAB 15-2HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-49239

Other Services
GR/JB
RBP
RBL 0 PSI

SEC 15 TWP 1N RGE 66W

Elevation

Permanent Datum Ground Level Elevation 5113'

Log Measured From Ground Level 0 FT

Drilling Measured From Kelly Bushing

K.B. 5130'
D.F. ---
G.L. 5113'

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Well MAB 15-2HZ
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State Colorado

Date	20-JUN-2019	Four		
Run Number		18277 FT		
Depth Driller		6915 FT		
Depth Logger		6900 FT		
Bottom Logged Interval		Surface		
Top Log Interval		7.875'		
Open Hole Size		Water		
Type Fluid		8.34 lb/gal		
Density / Viscosity		221°F		
Max. Recorded Temp.		See Log		
Estimated Cement Top		ROA		
Time Well Ready		7:15		
Time Logger on Bottom		HD-0363		
Equipment Number		Platteville, CO		
Location		C. Sisneros		
Recorded By	John McCarthy			
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	5 1/2	17	HCP-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 Casing Tally reported Marker Joint at 6831 FT
Adjusted +3 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7895 FT
Retrievable Bridge Plug set at 6926 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!!

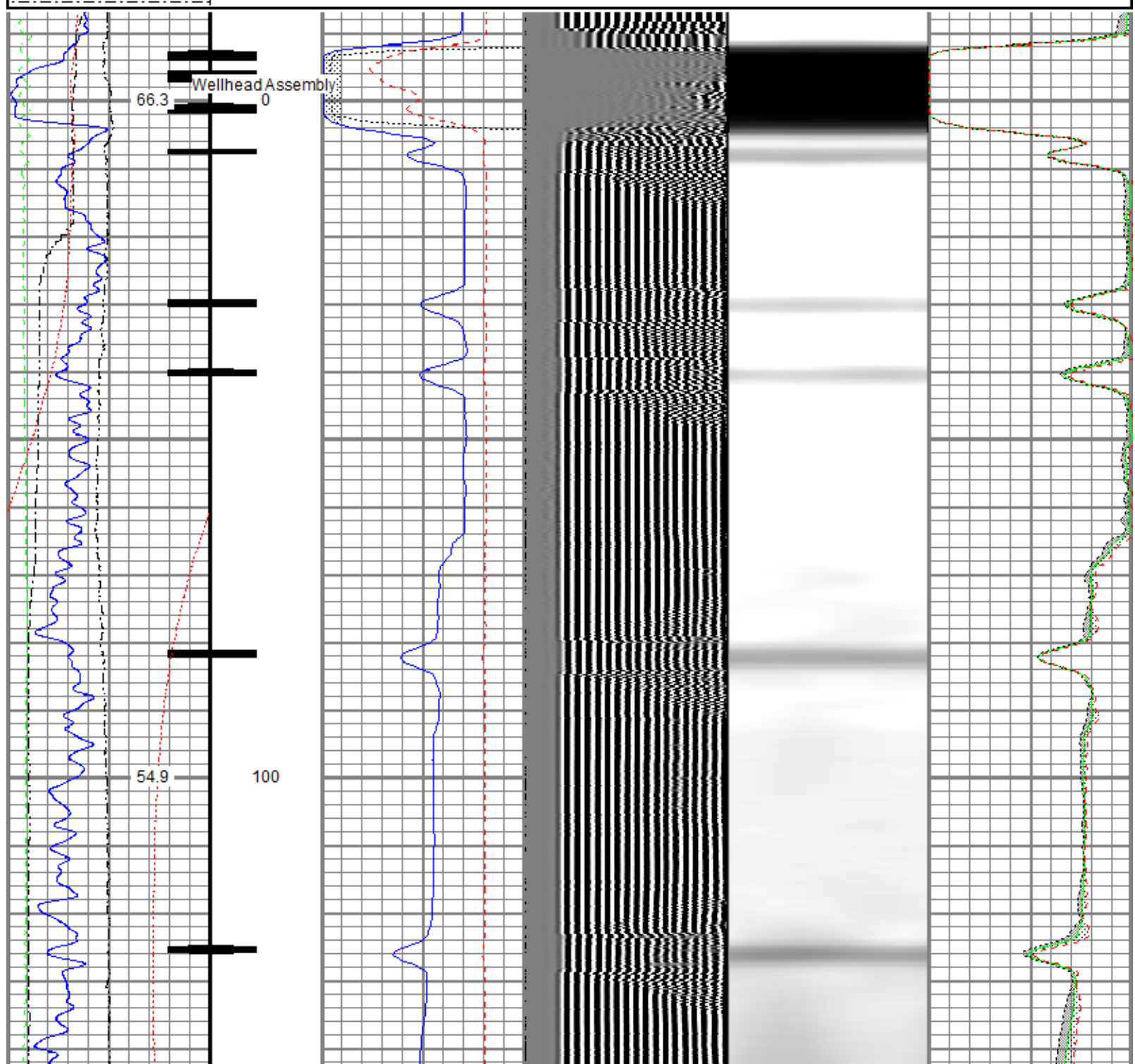
Main Pass

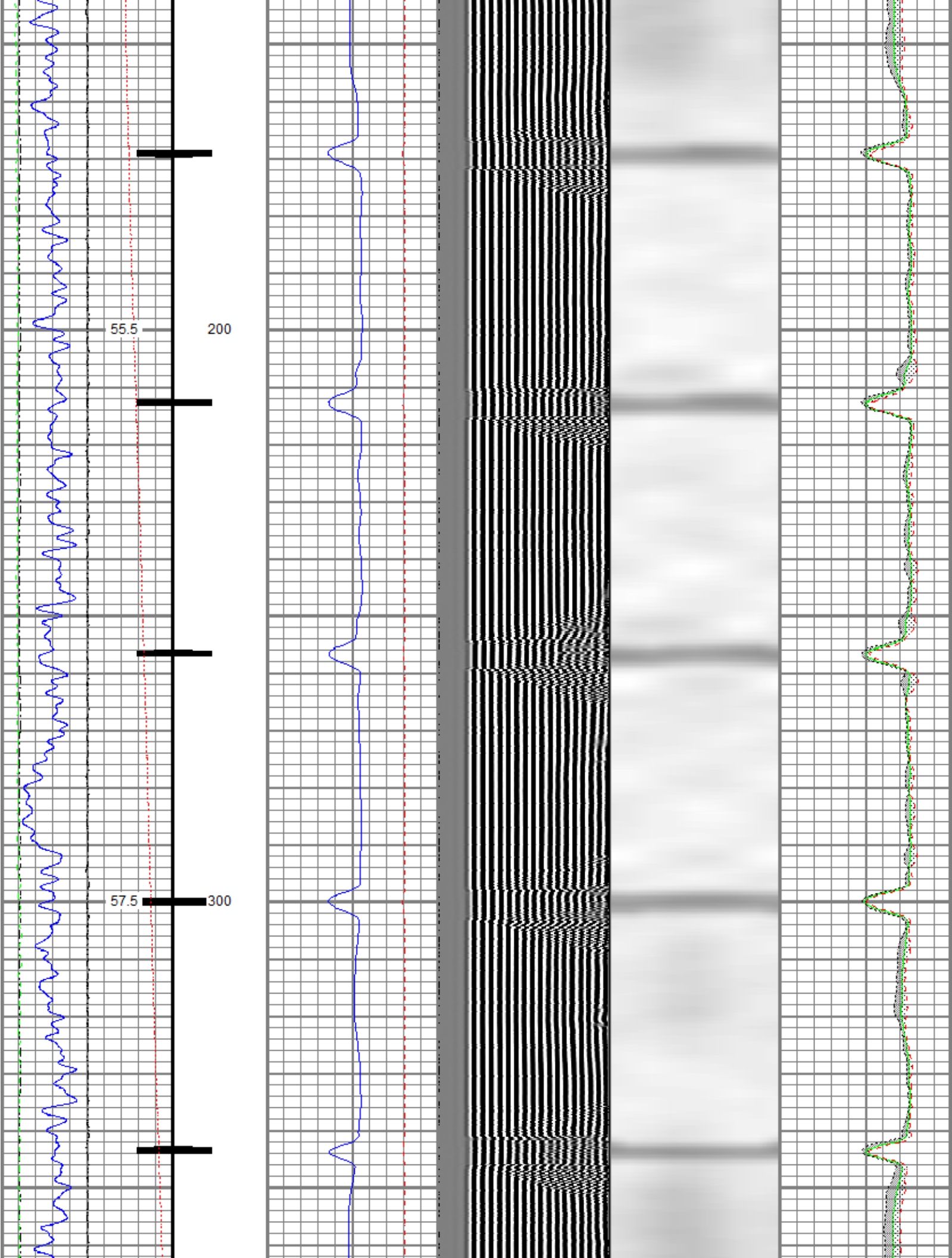


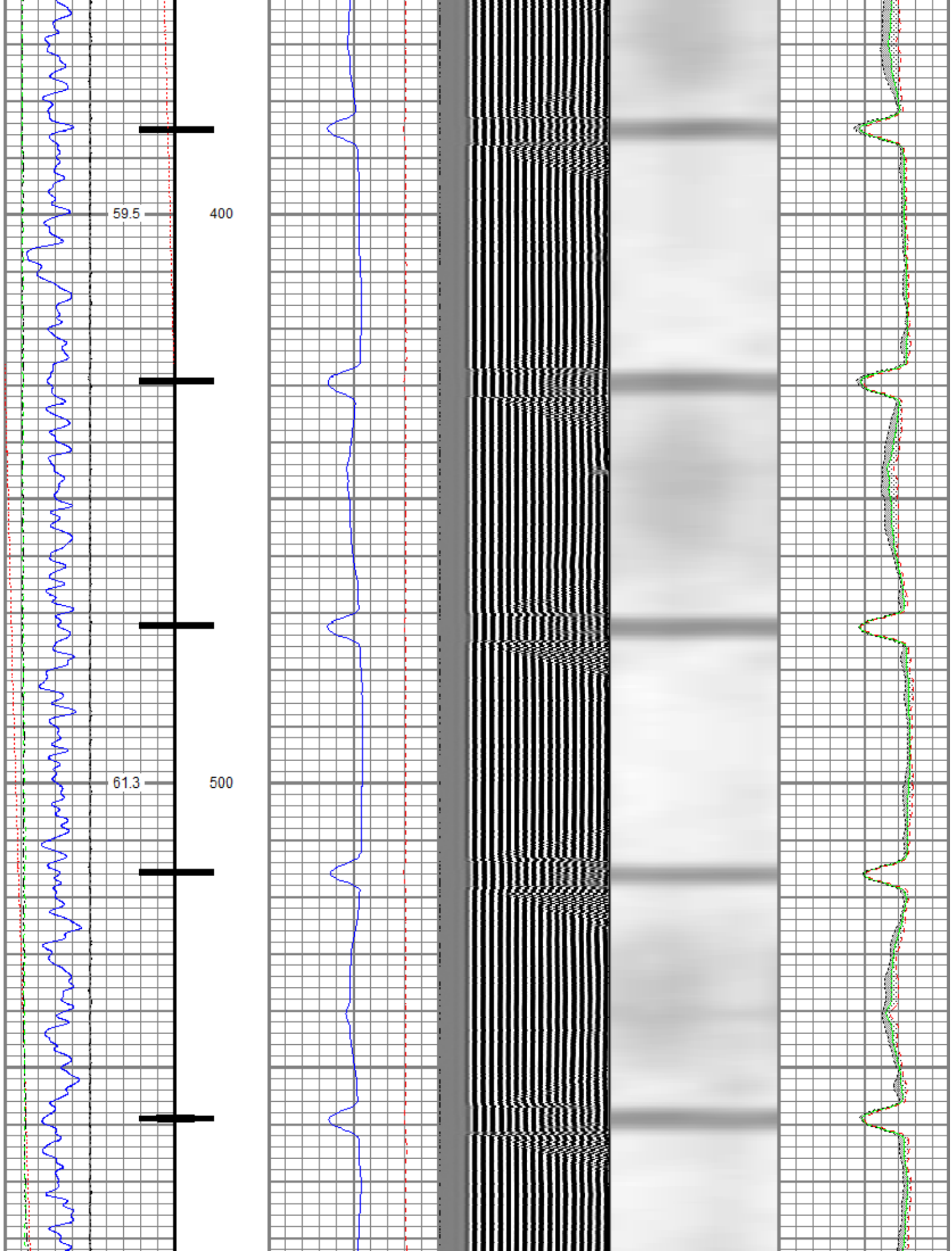
Recorded With 2800 PSI Surface Induced Pressure

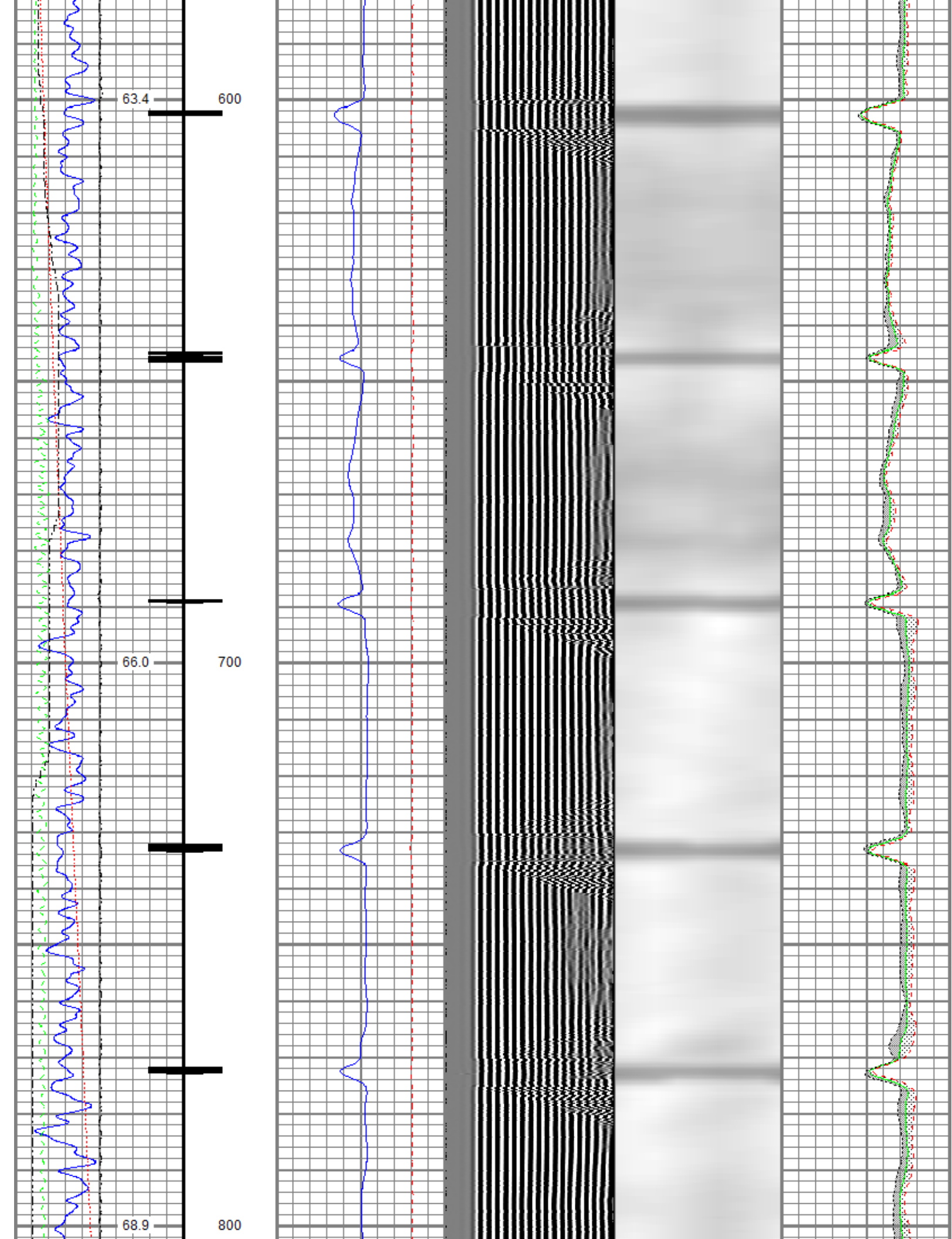
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Presentation Format	ros_radri
Dataset Creation	Fri Jun 21 14:31:04 2019
Charted by	Depth in Feet scaled 1:240

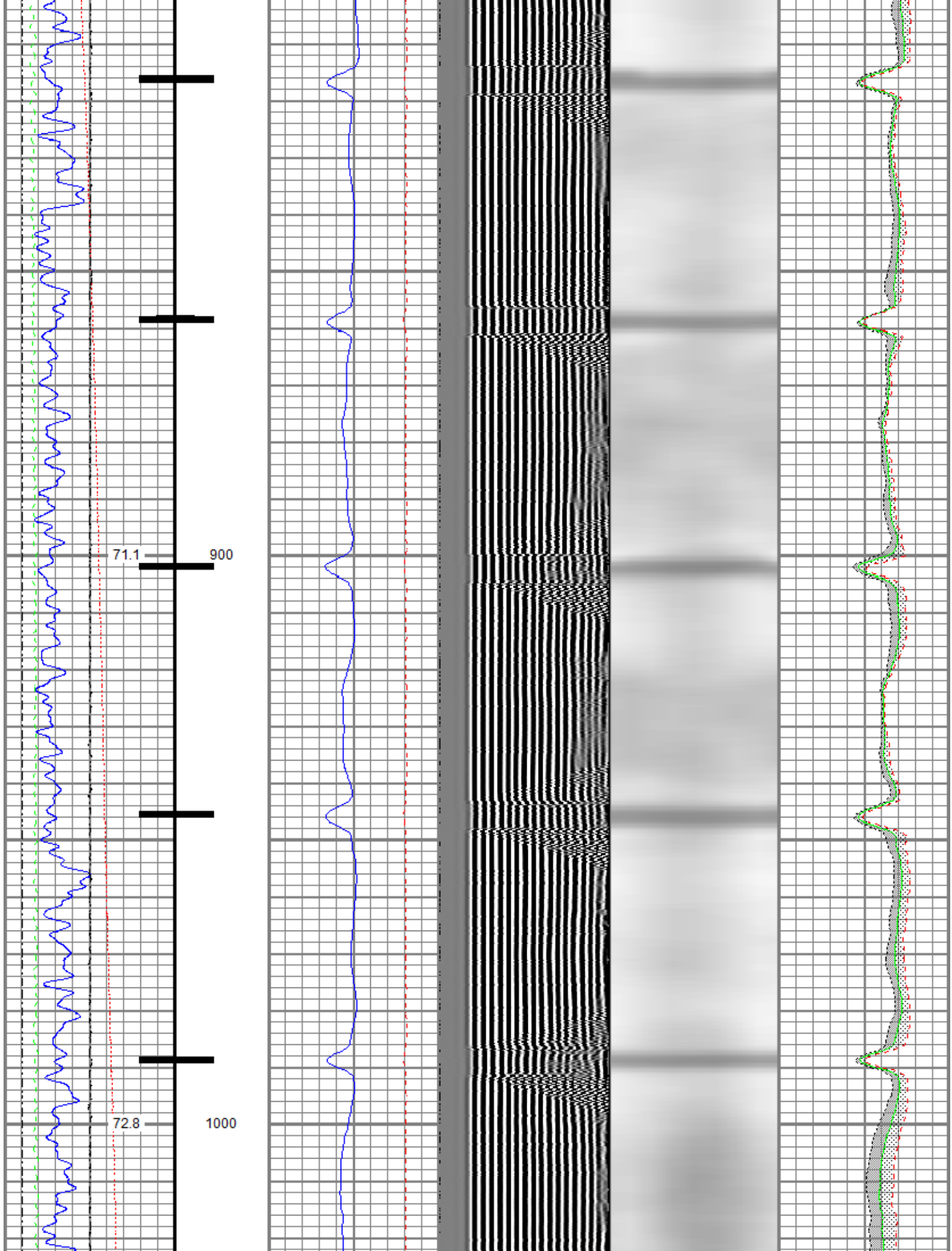
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200	1200		Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min) 150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

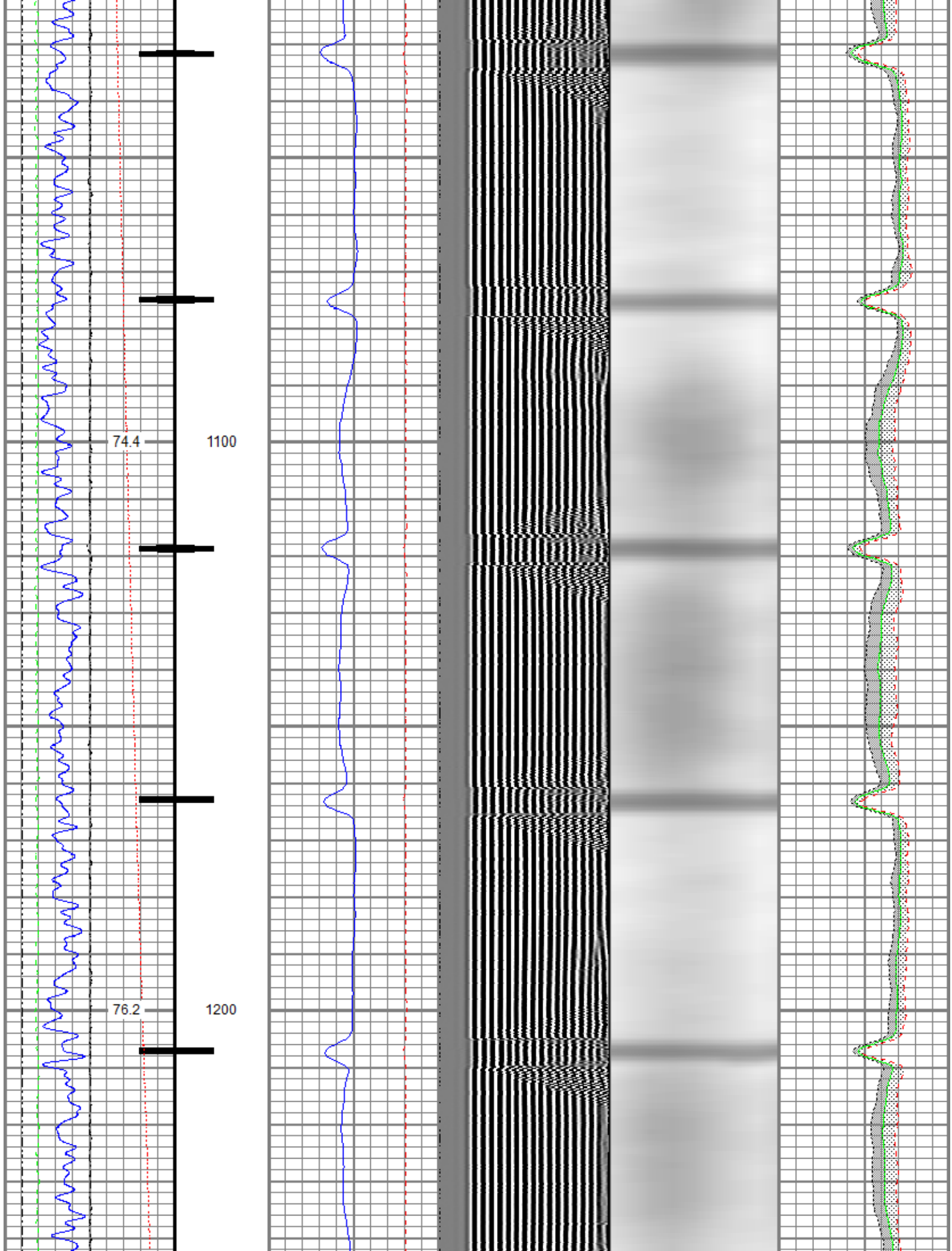


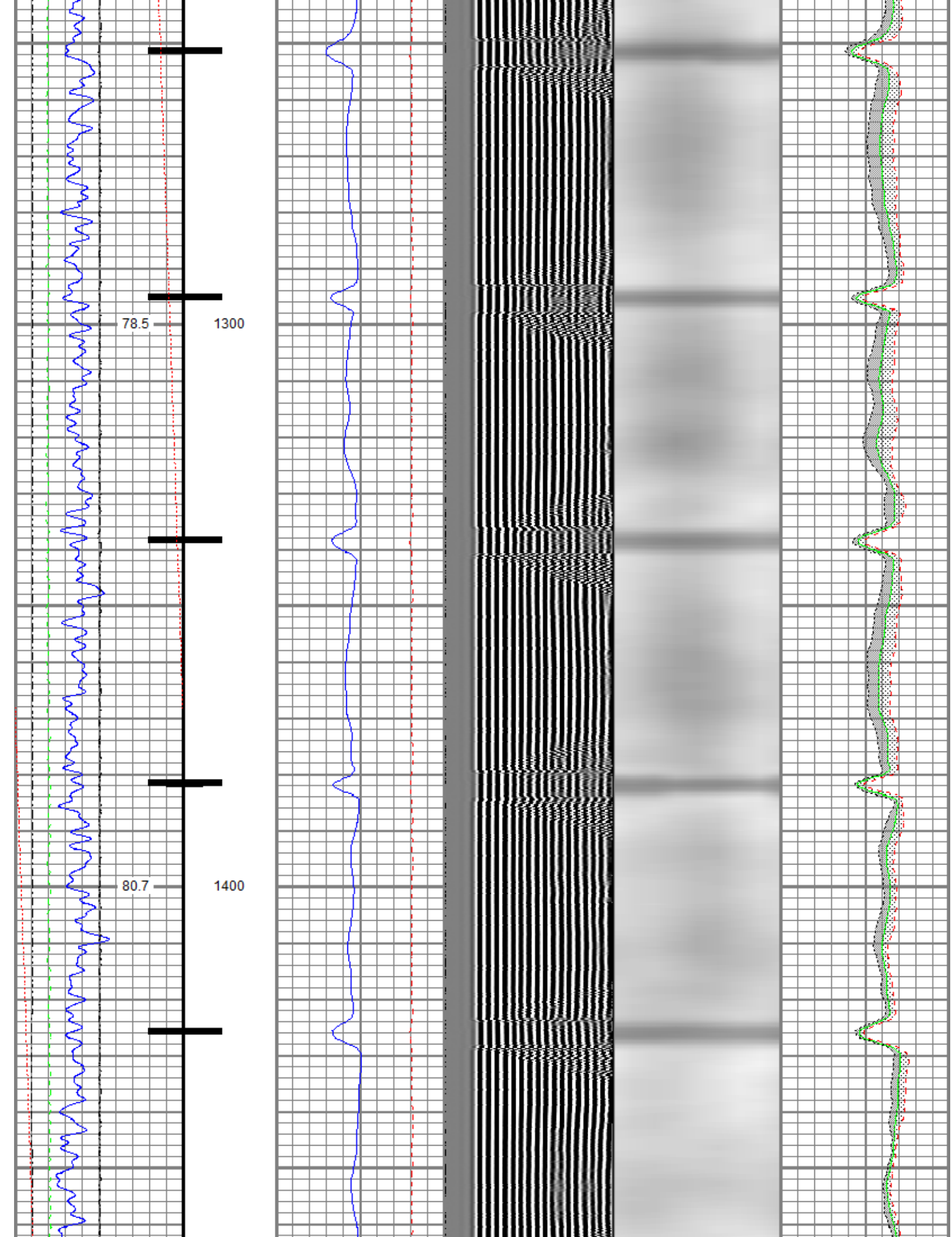


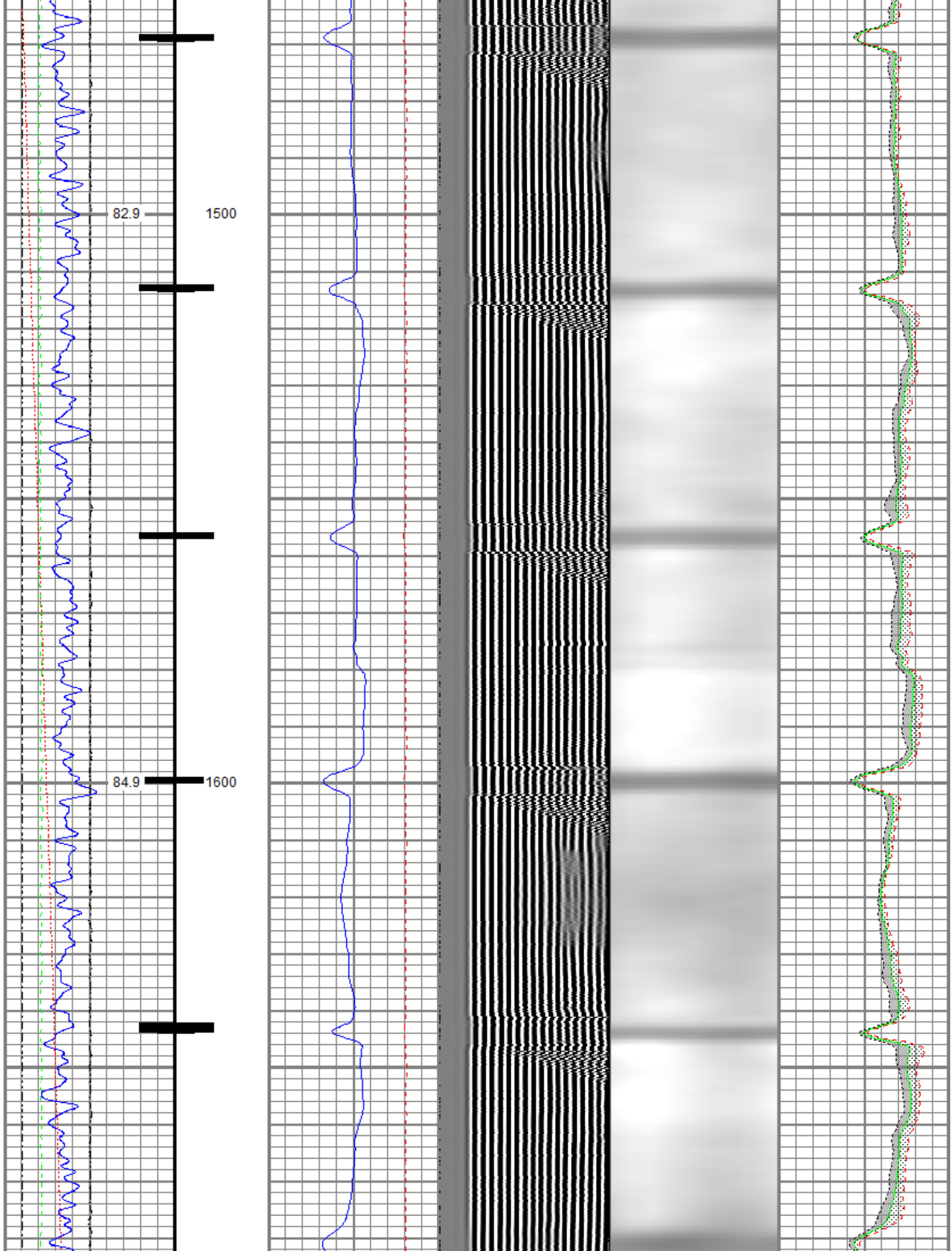


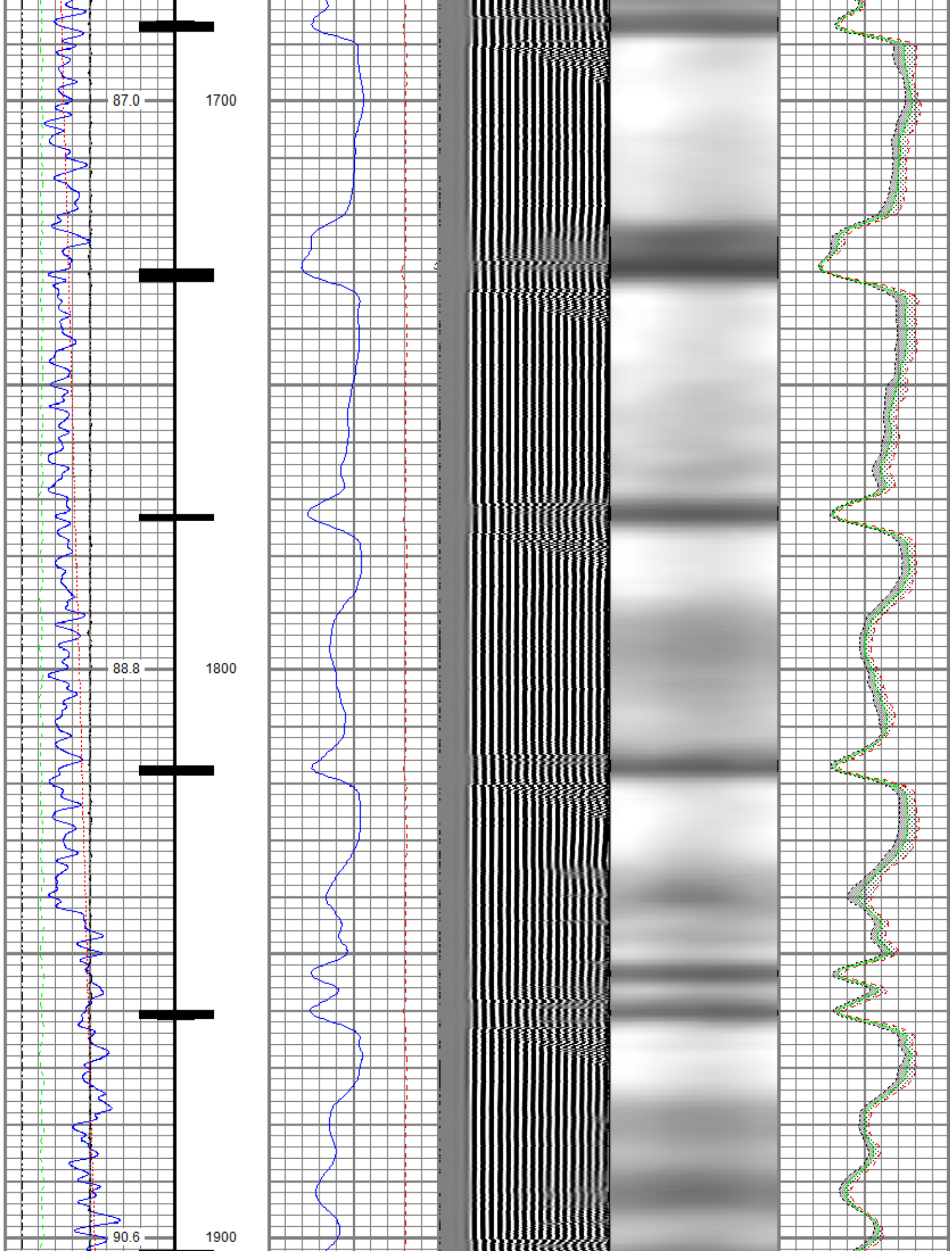


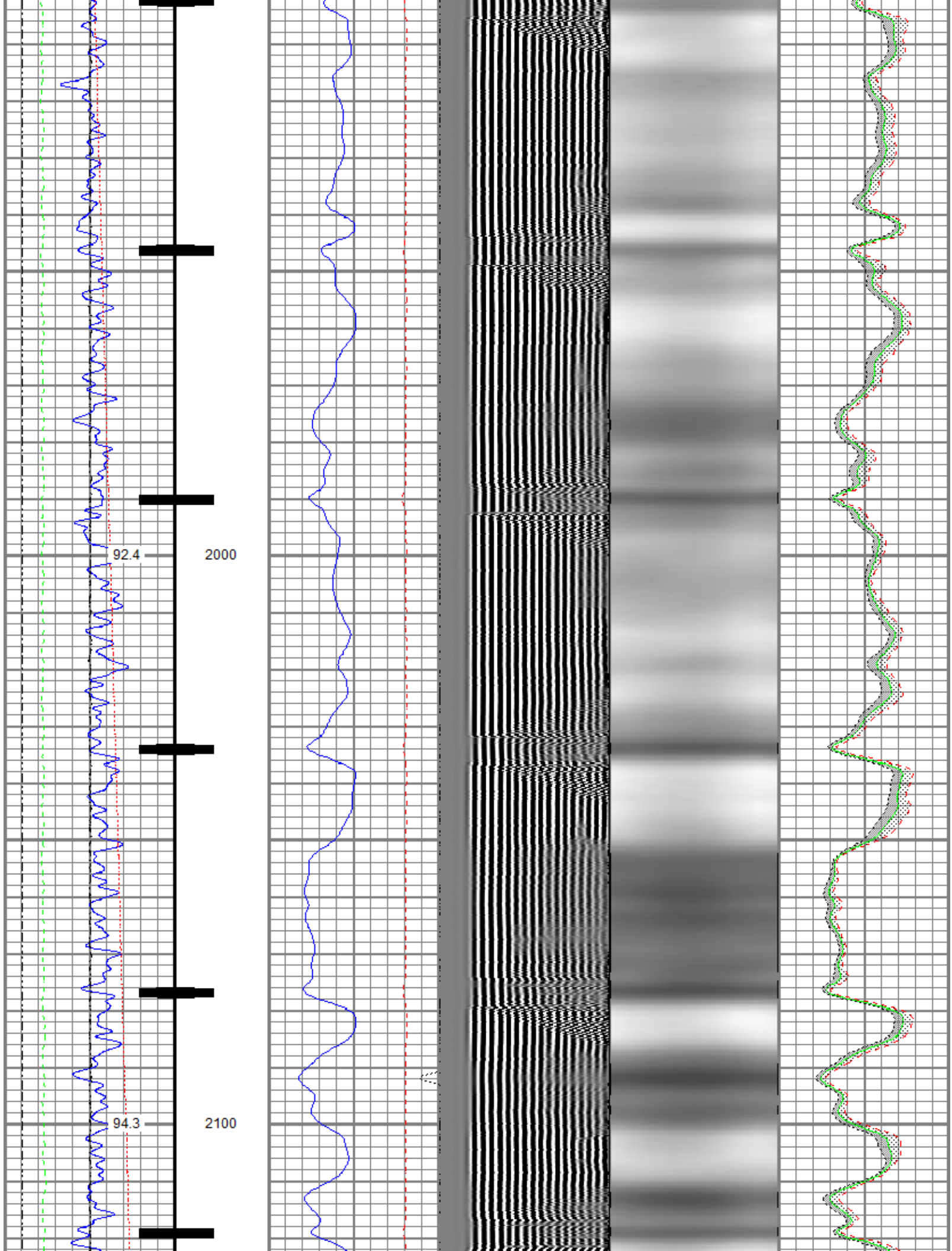


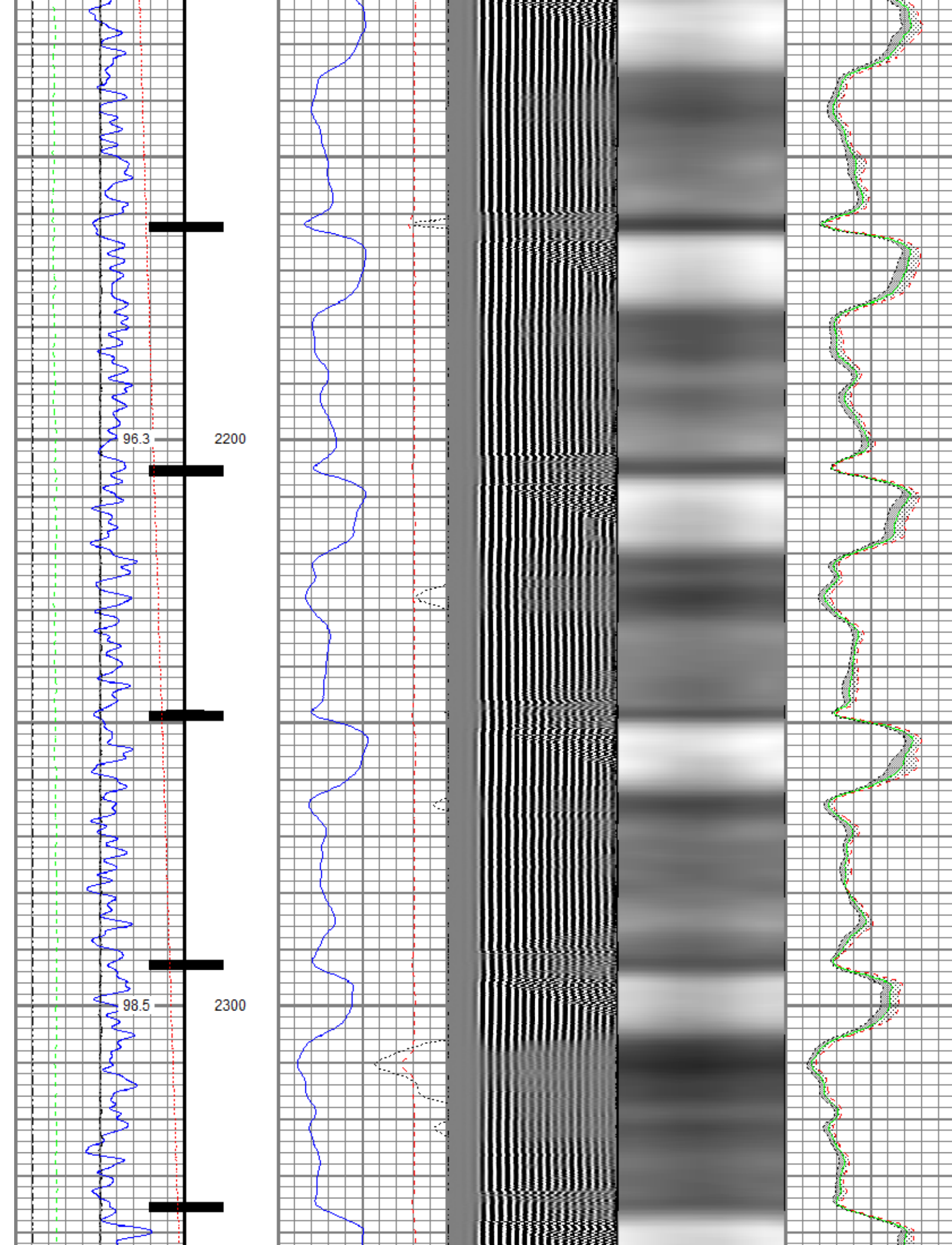


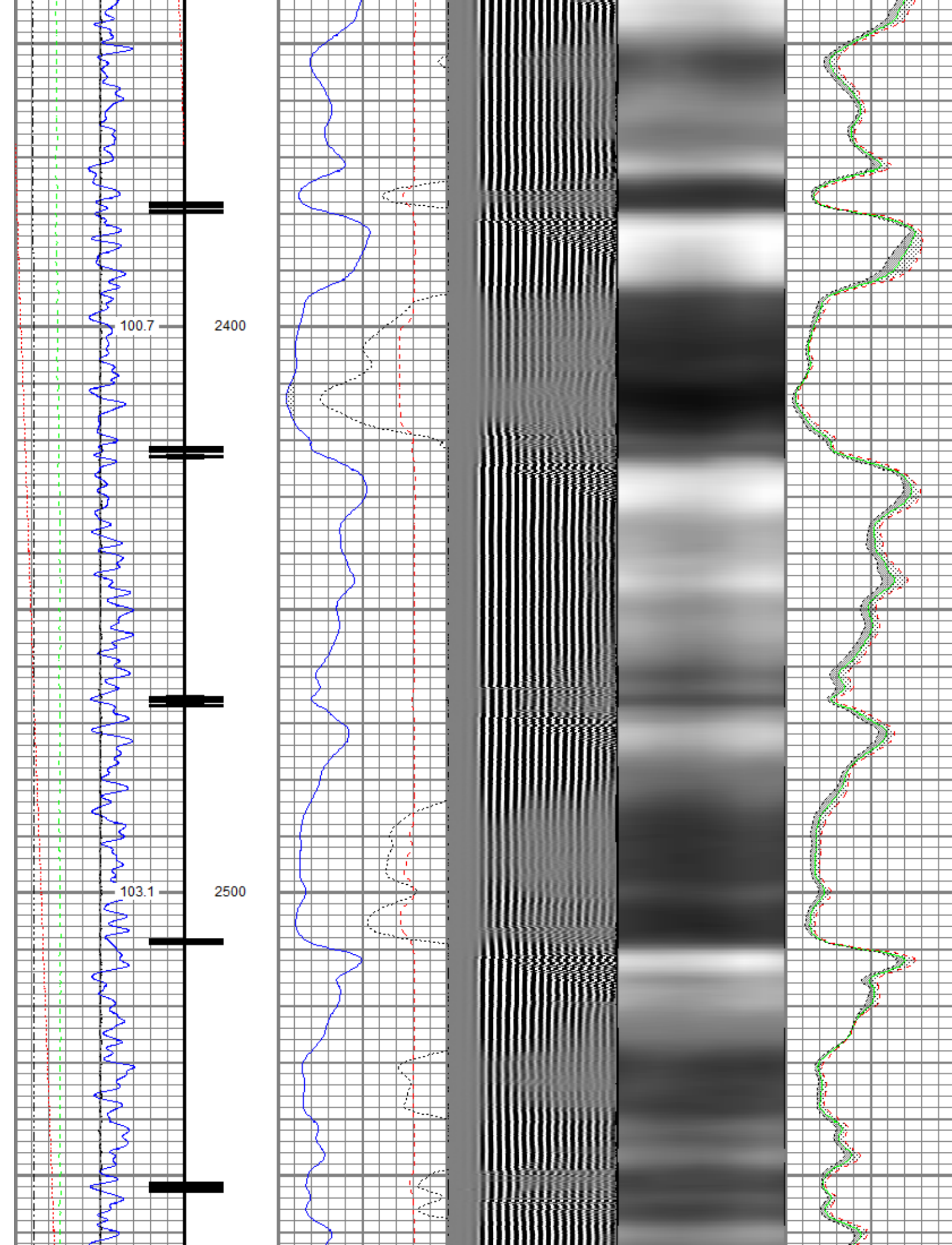


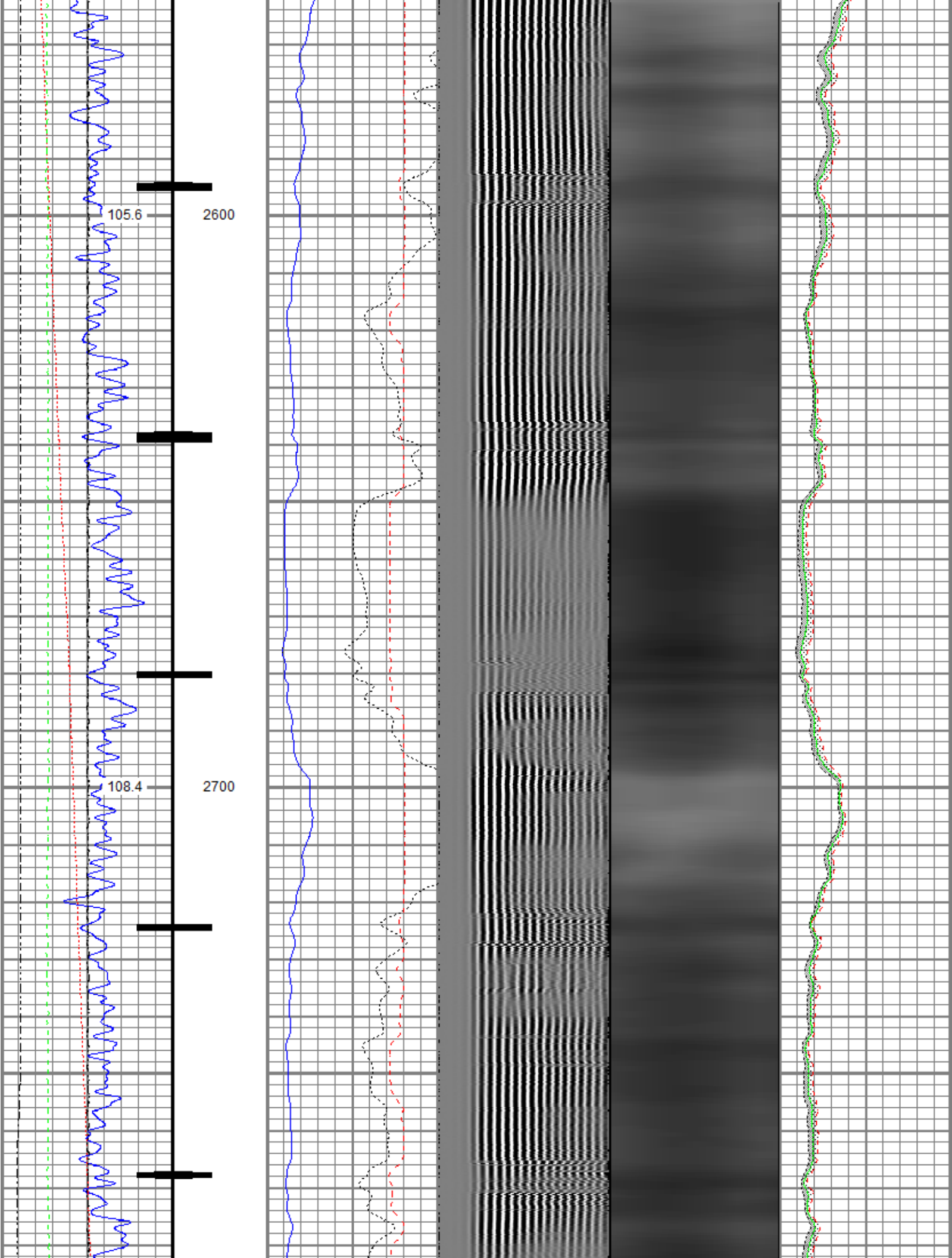


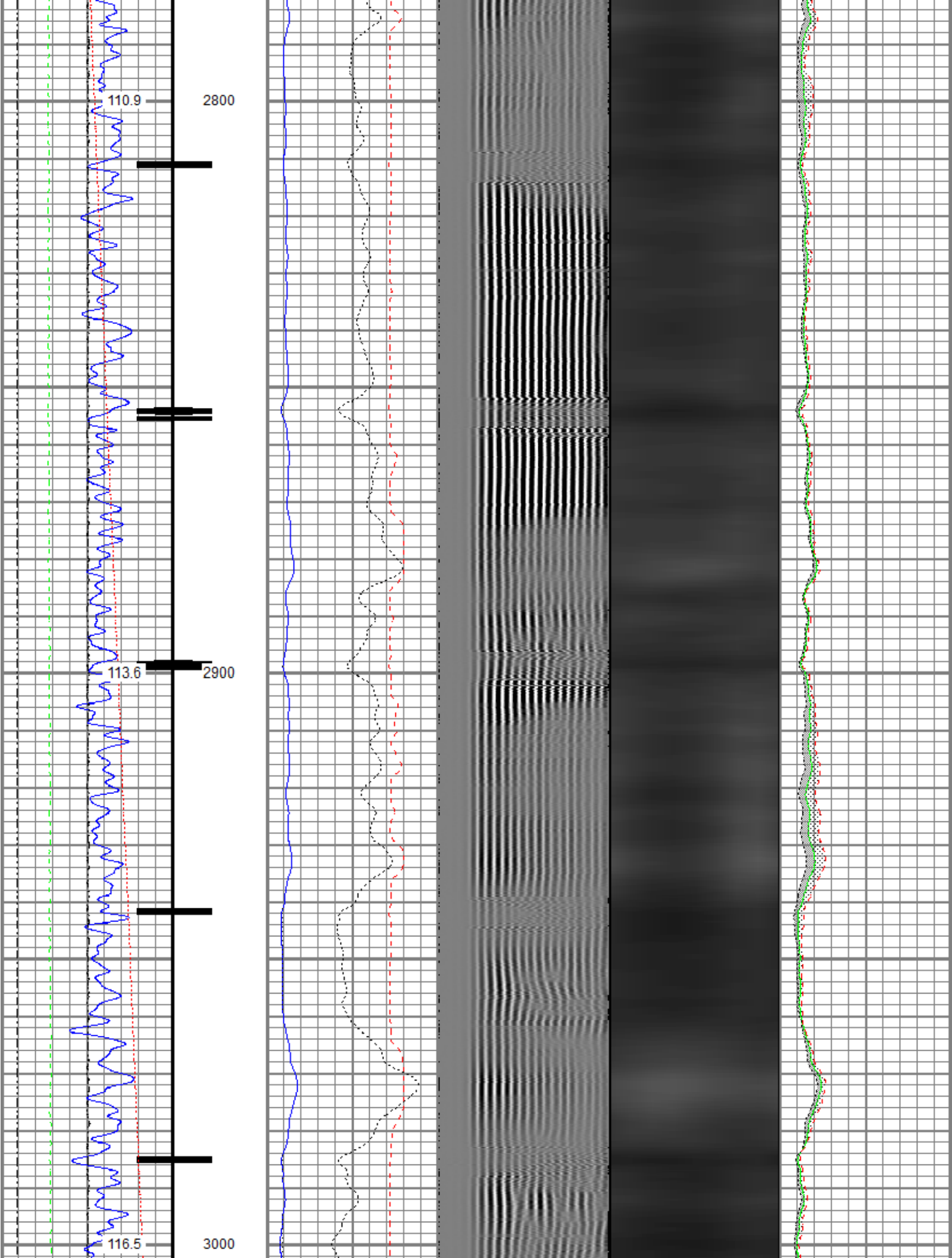


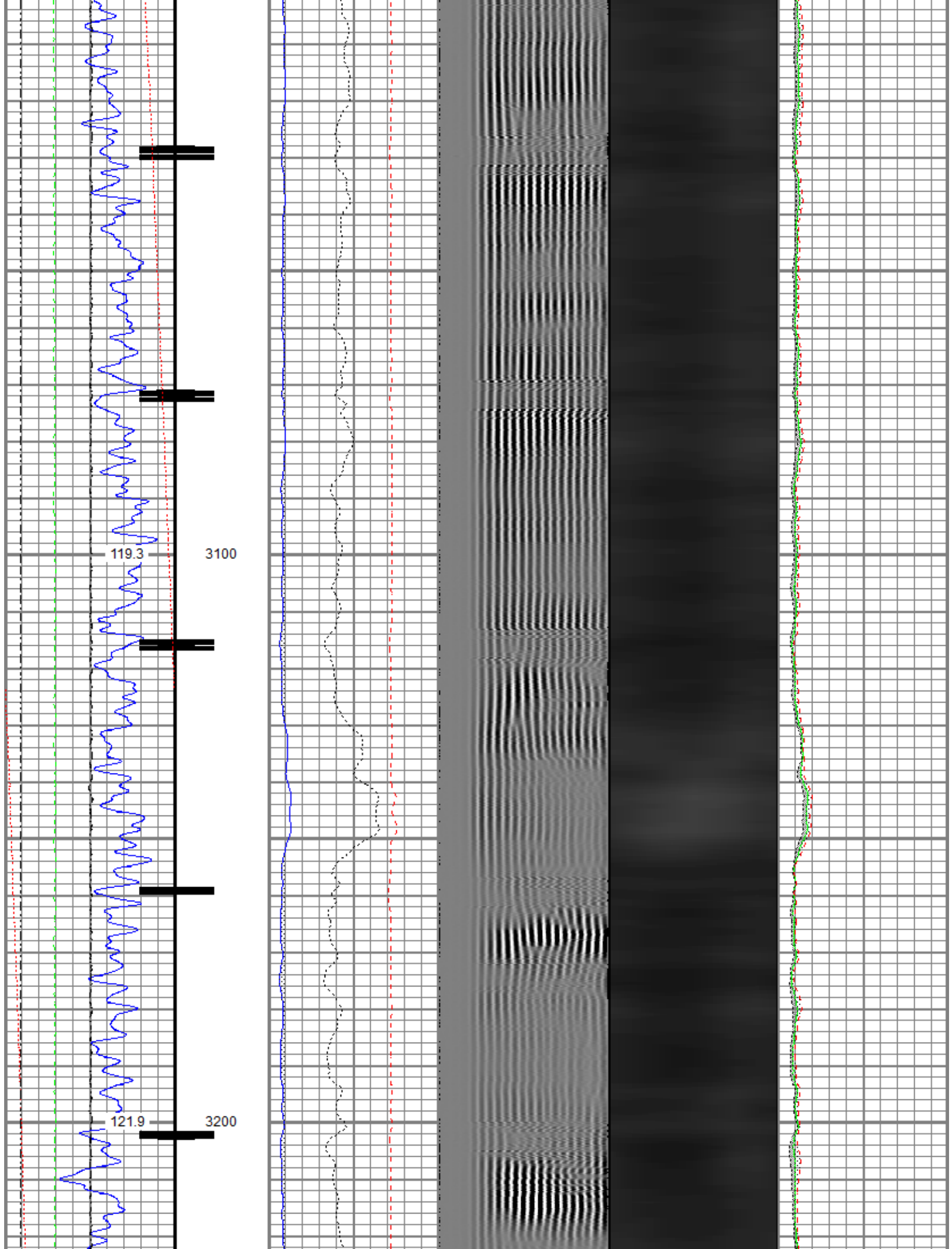


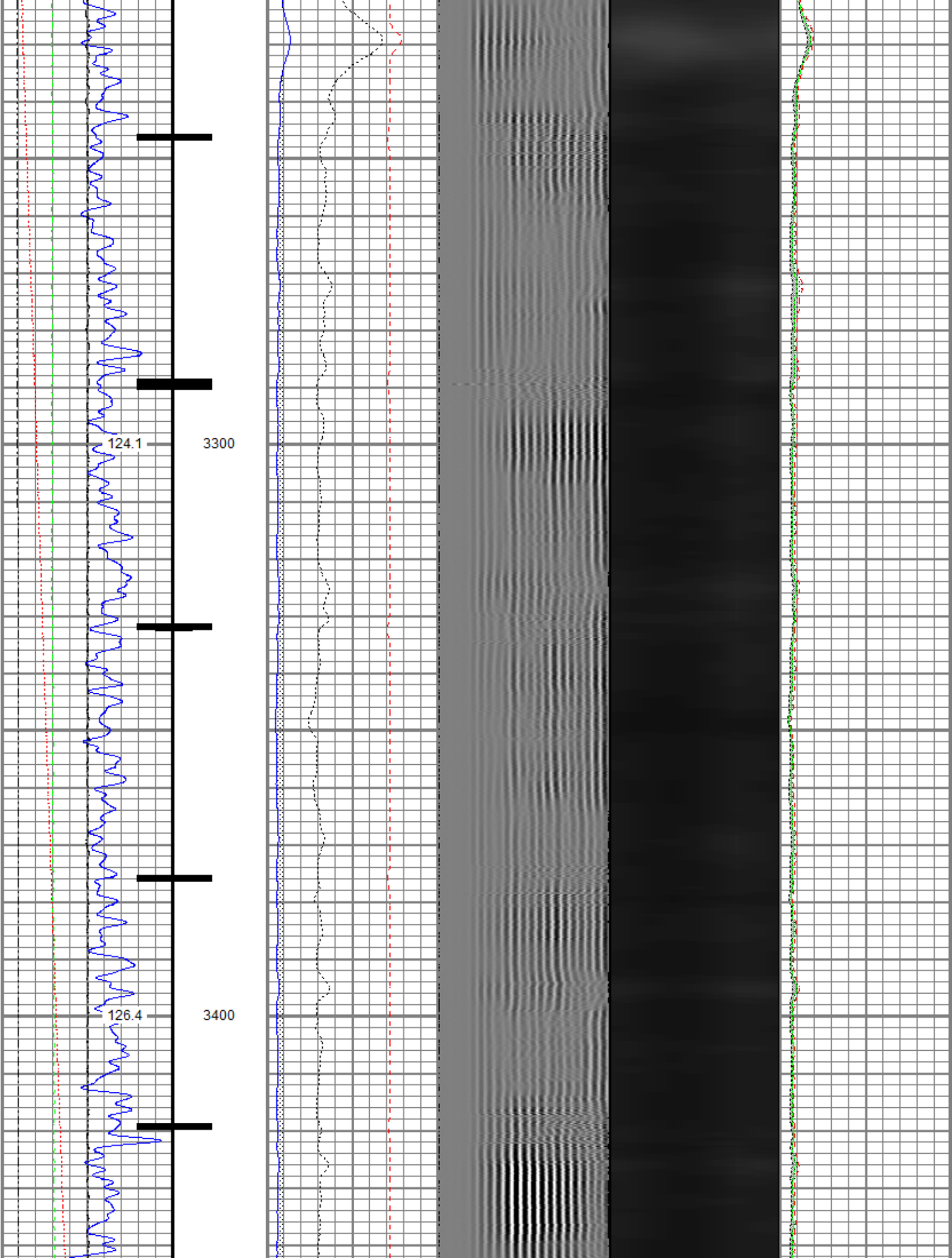


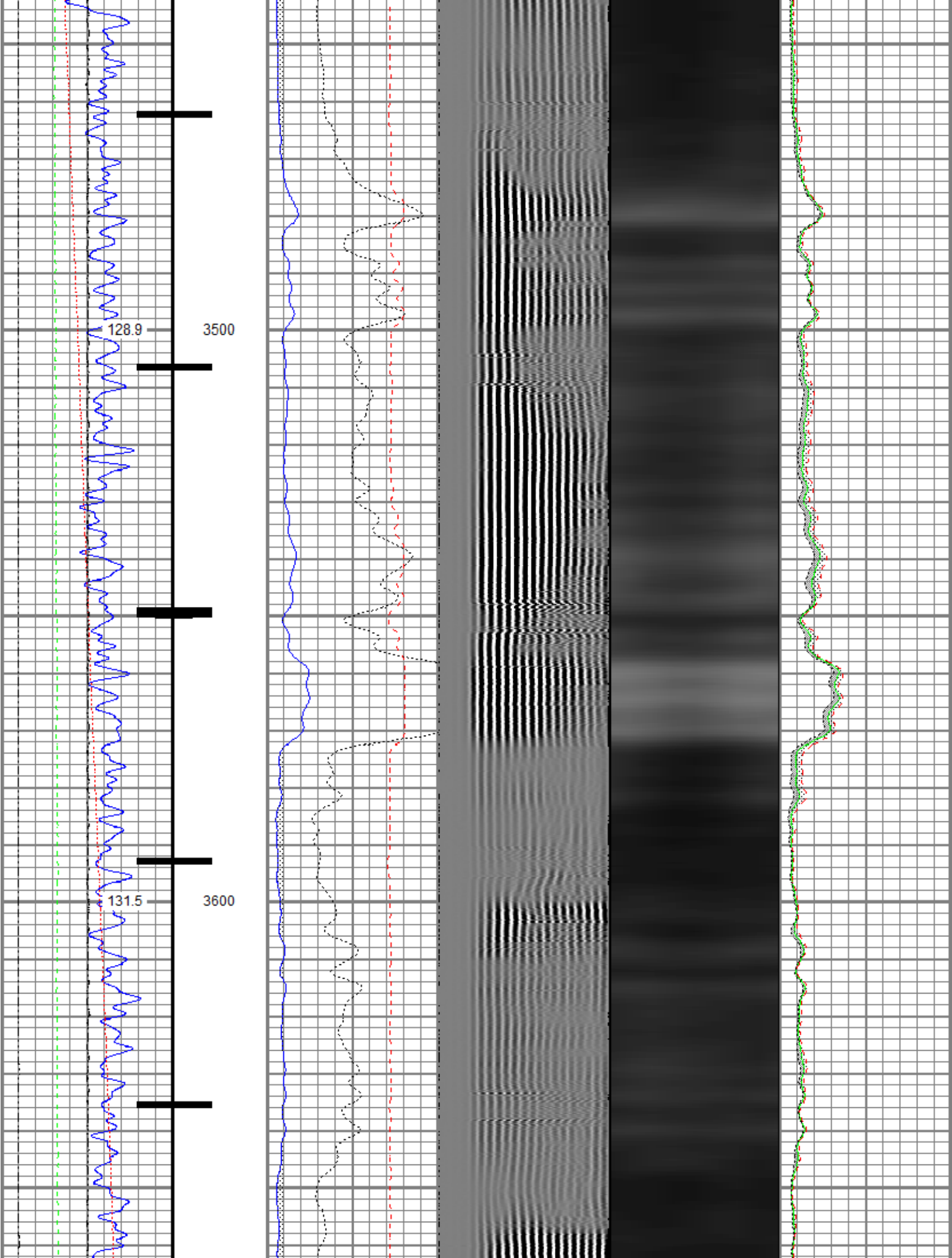


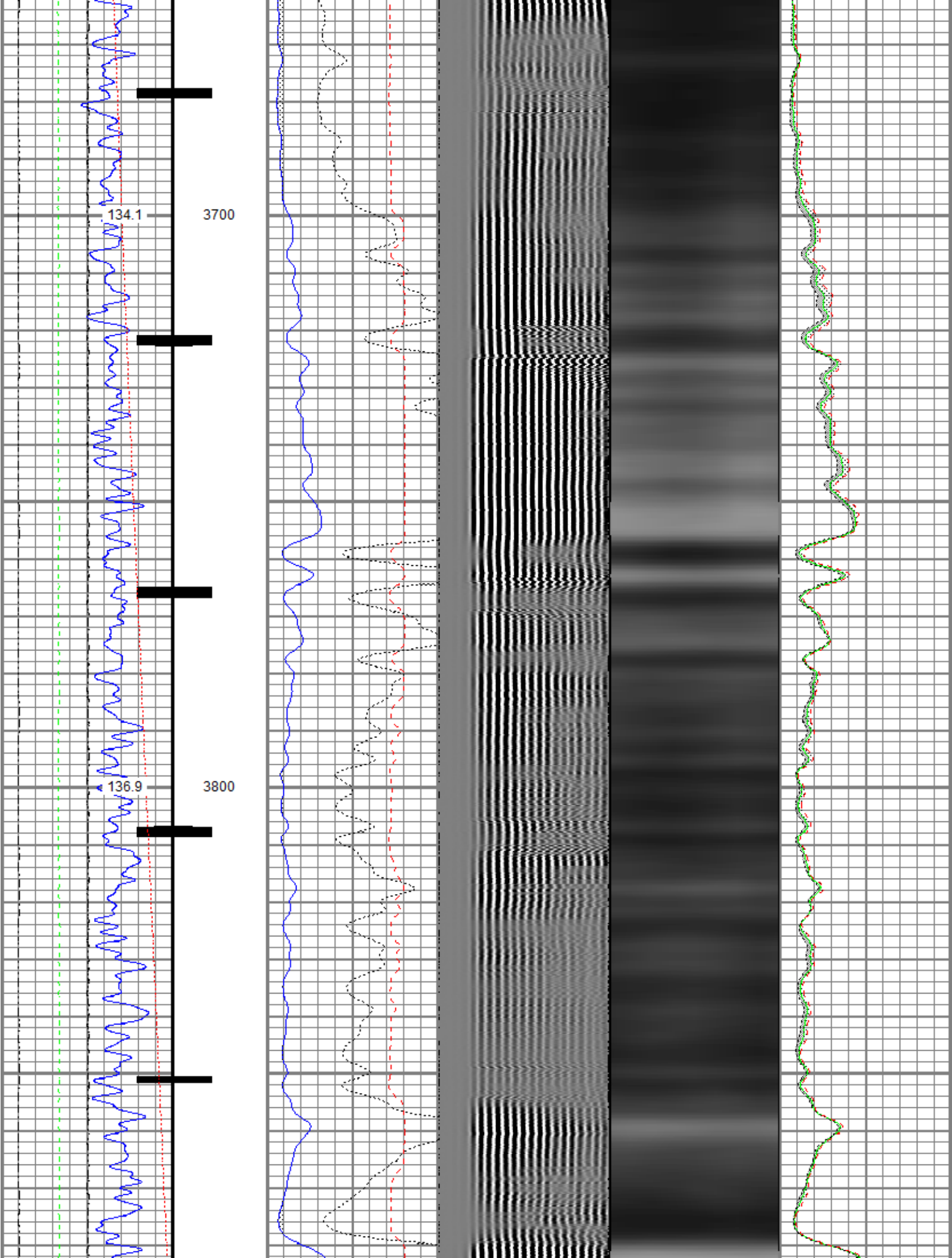


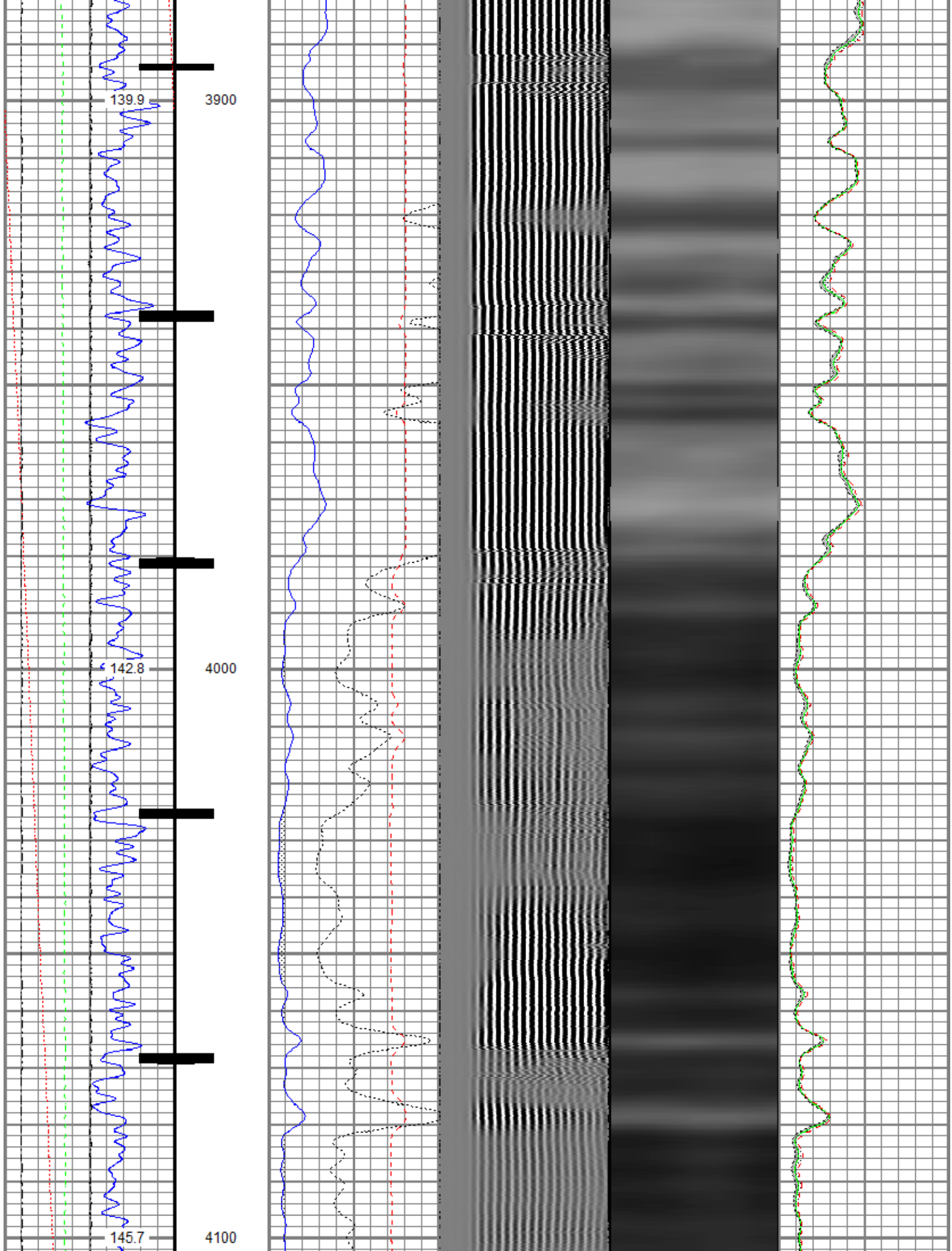


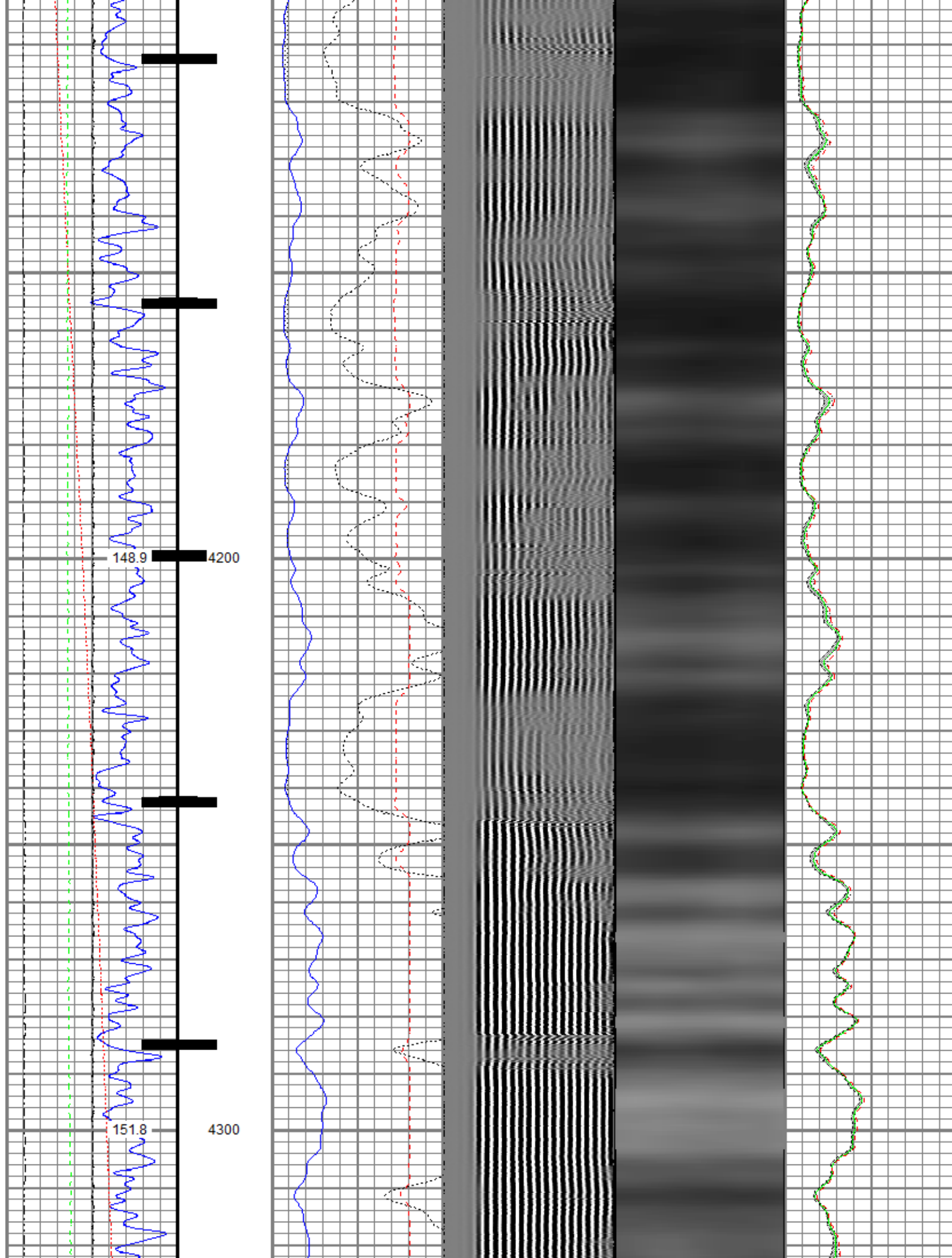


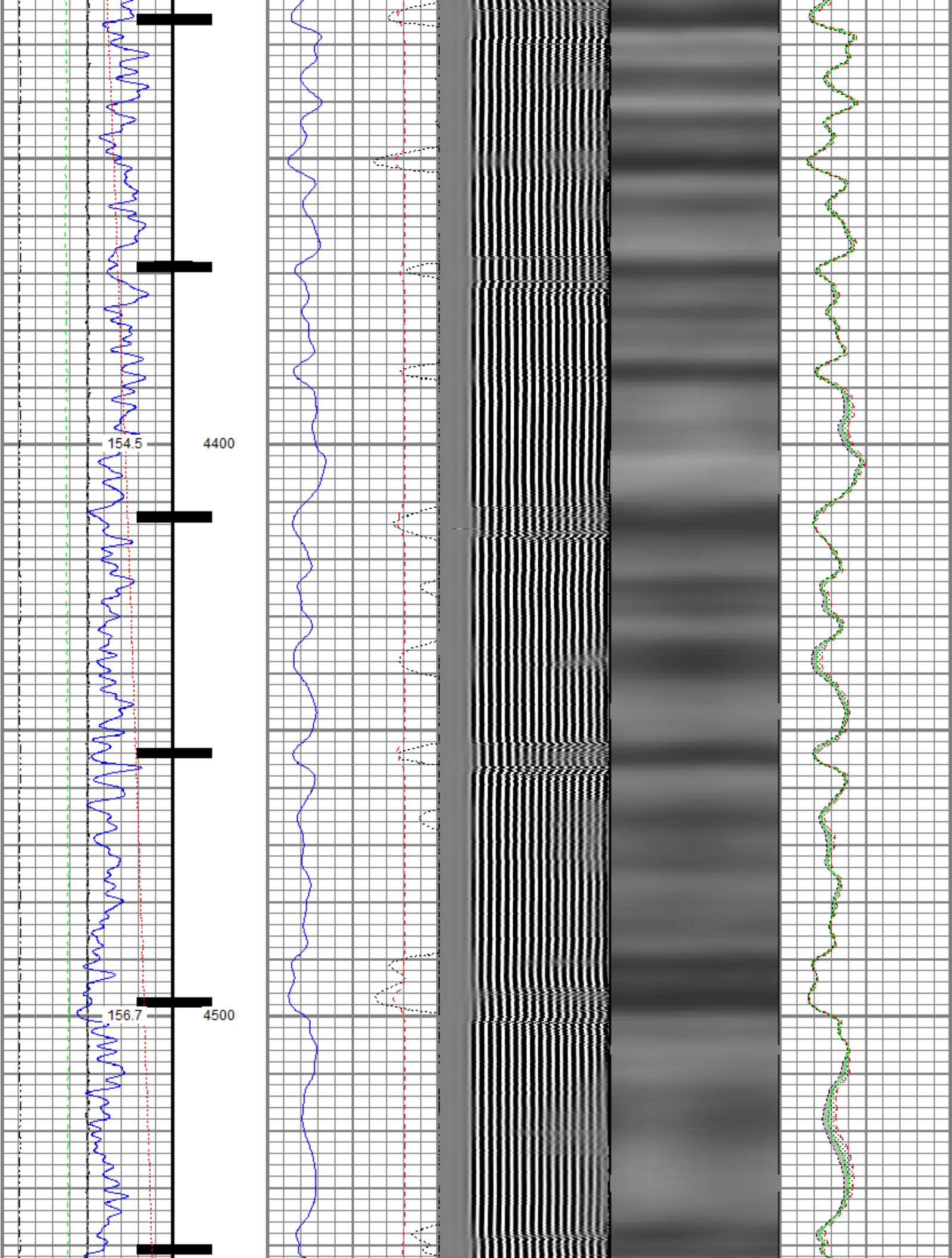


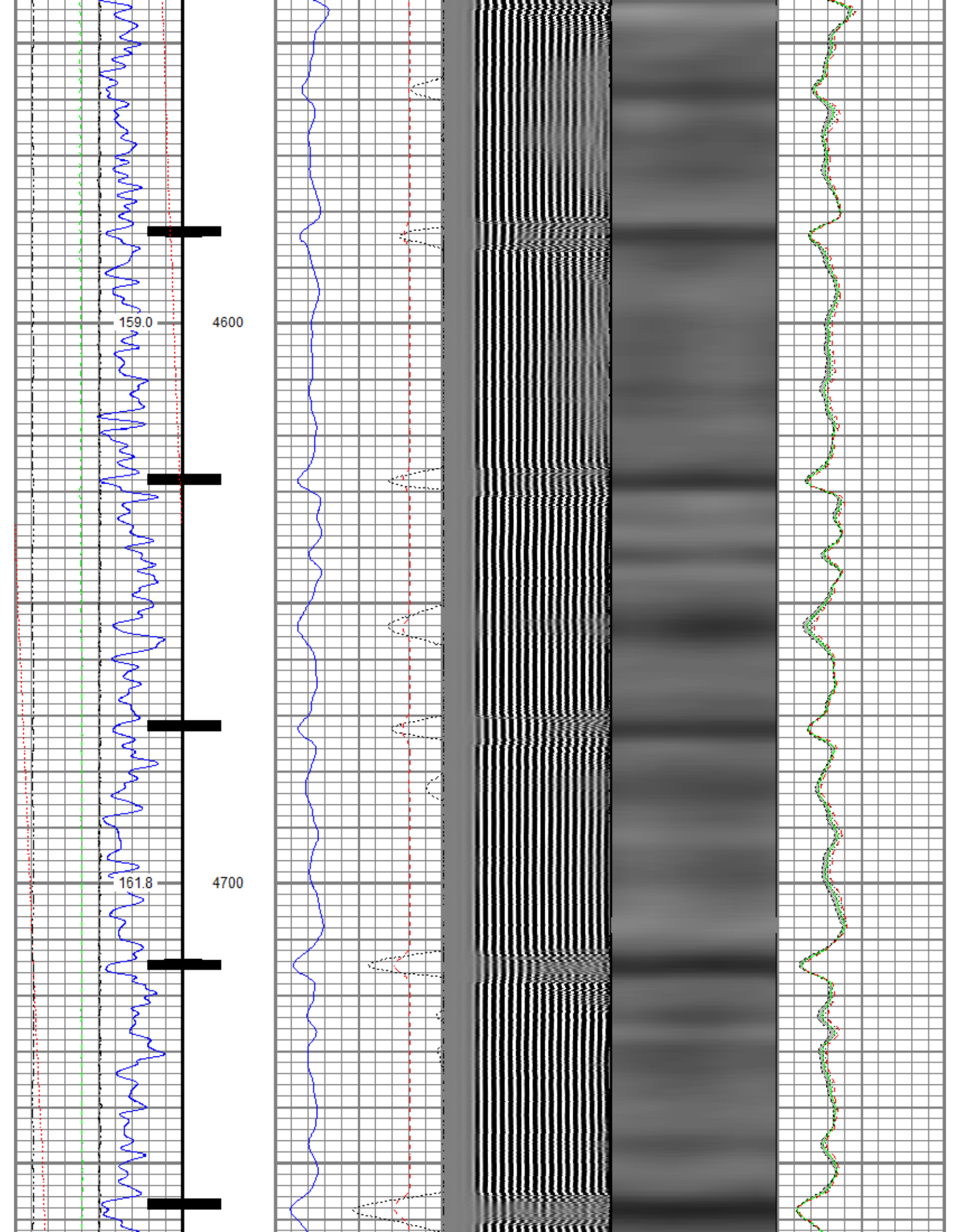


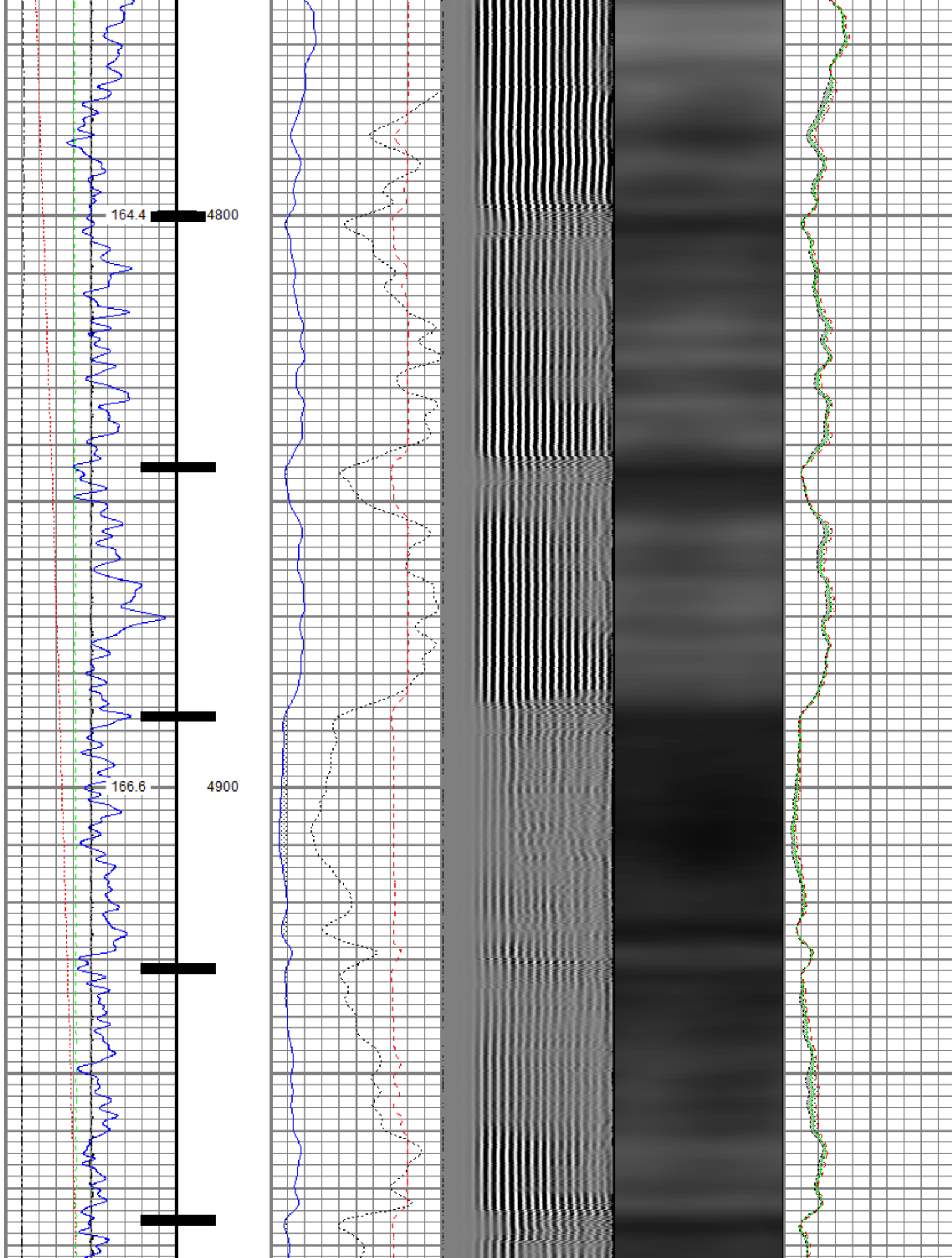


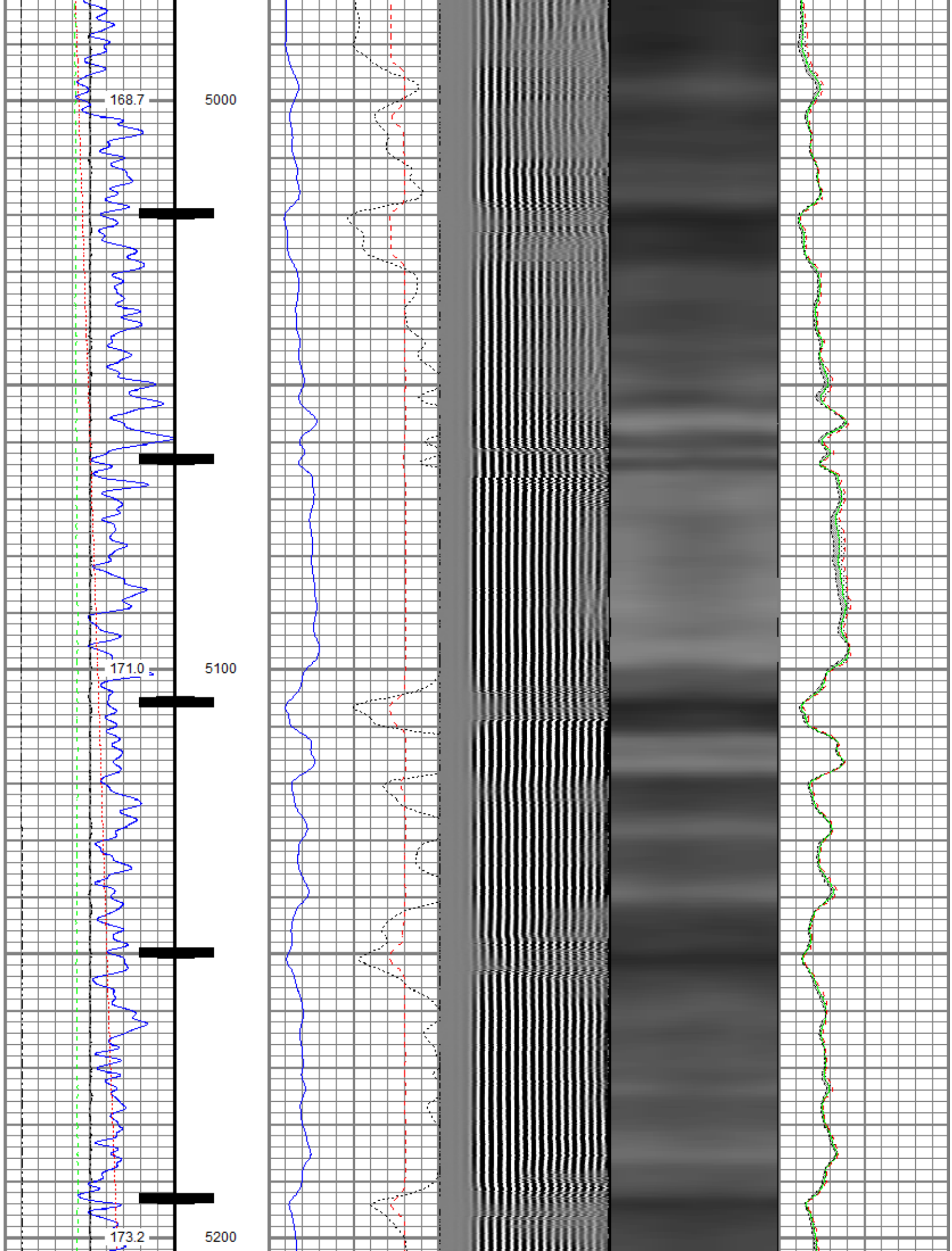


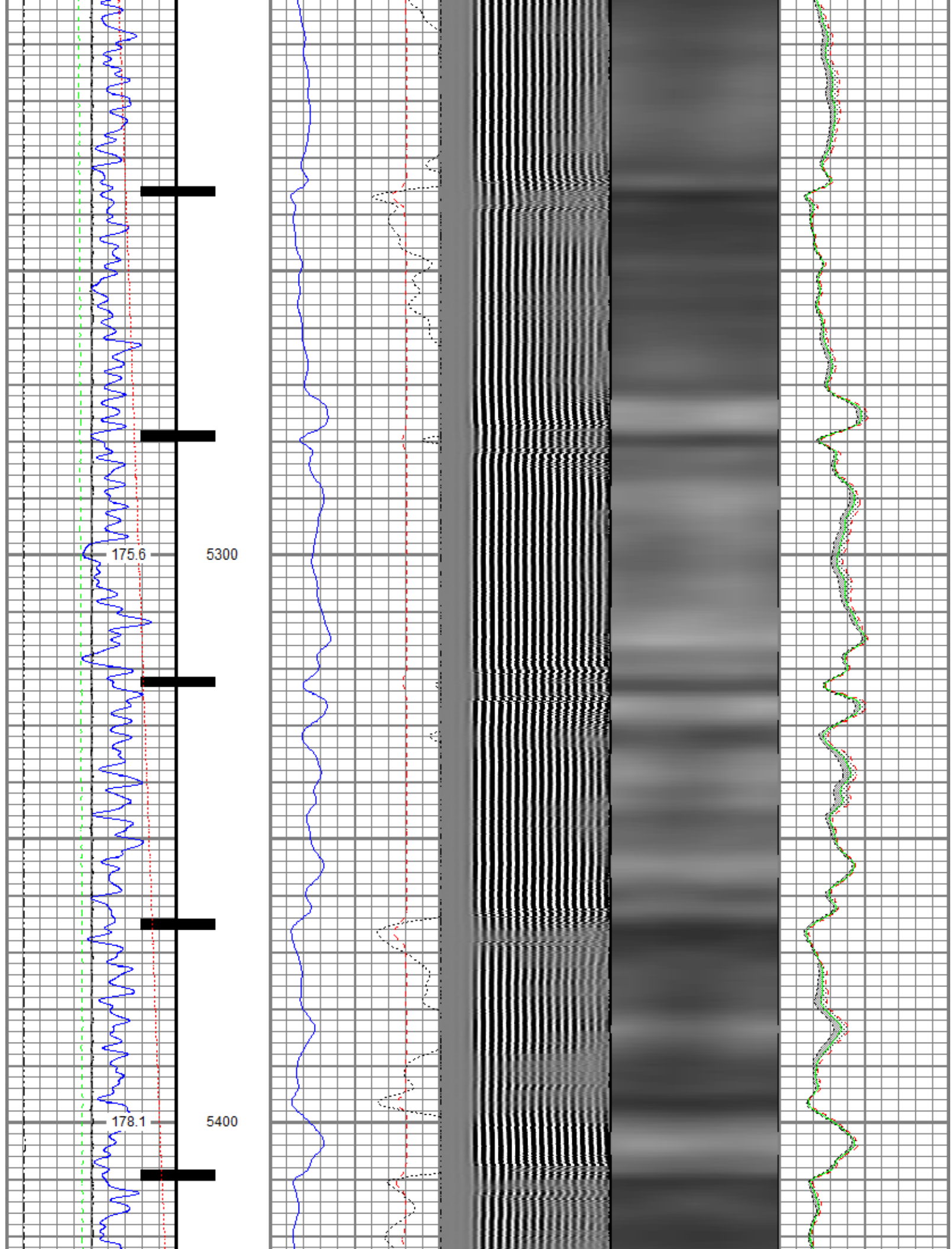


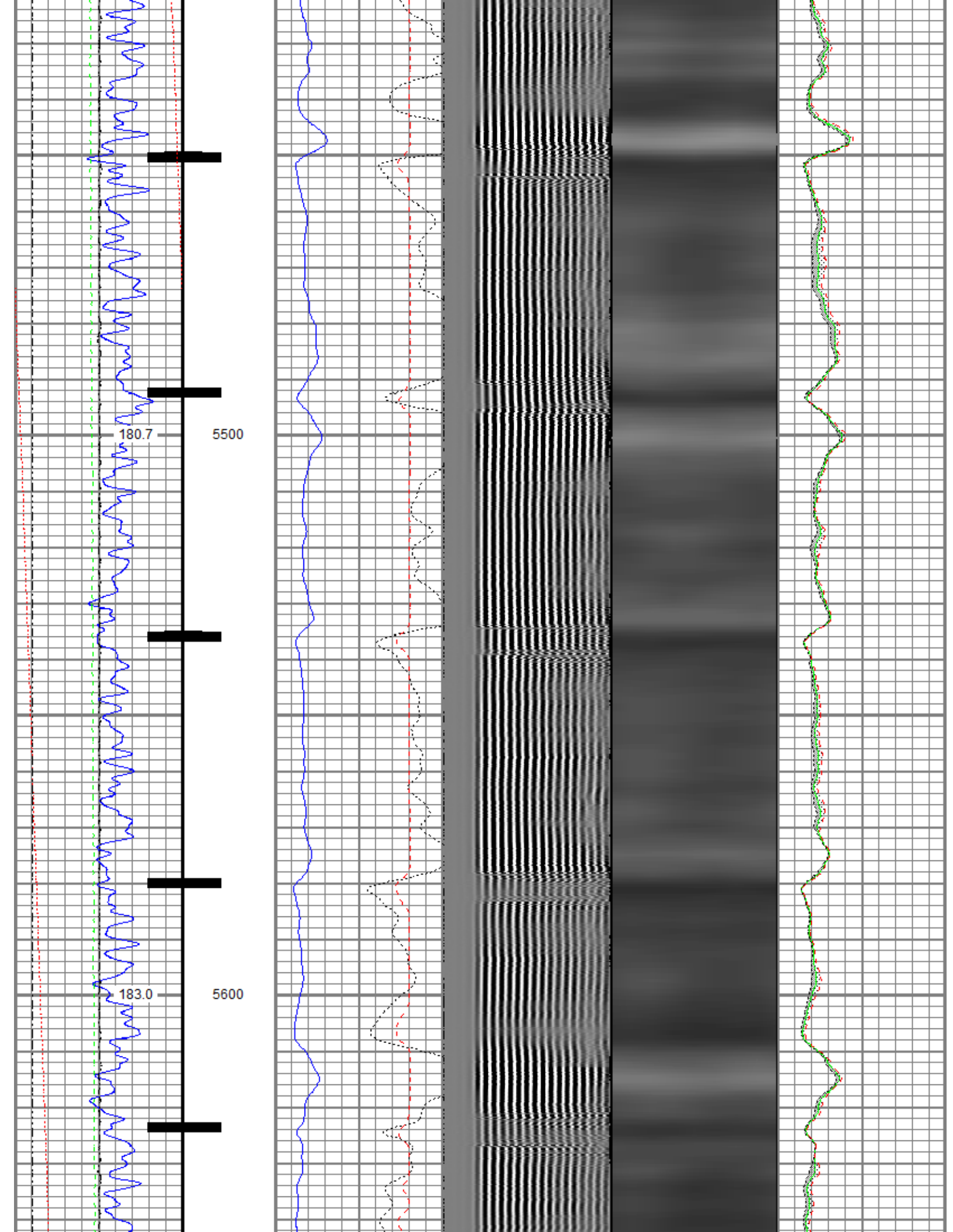


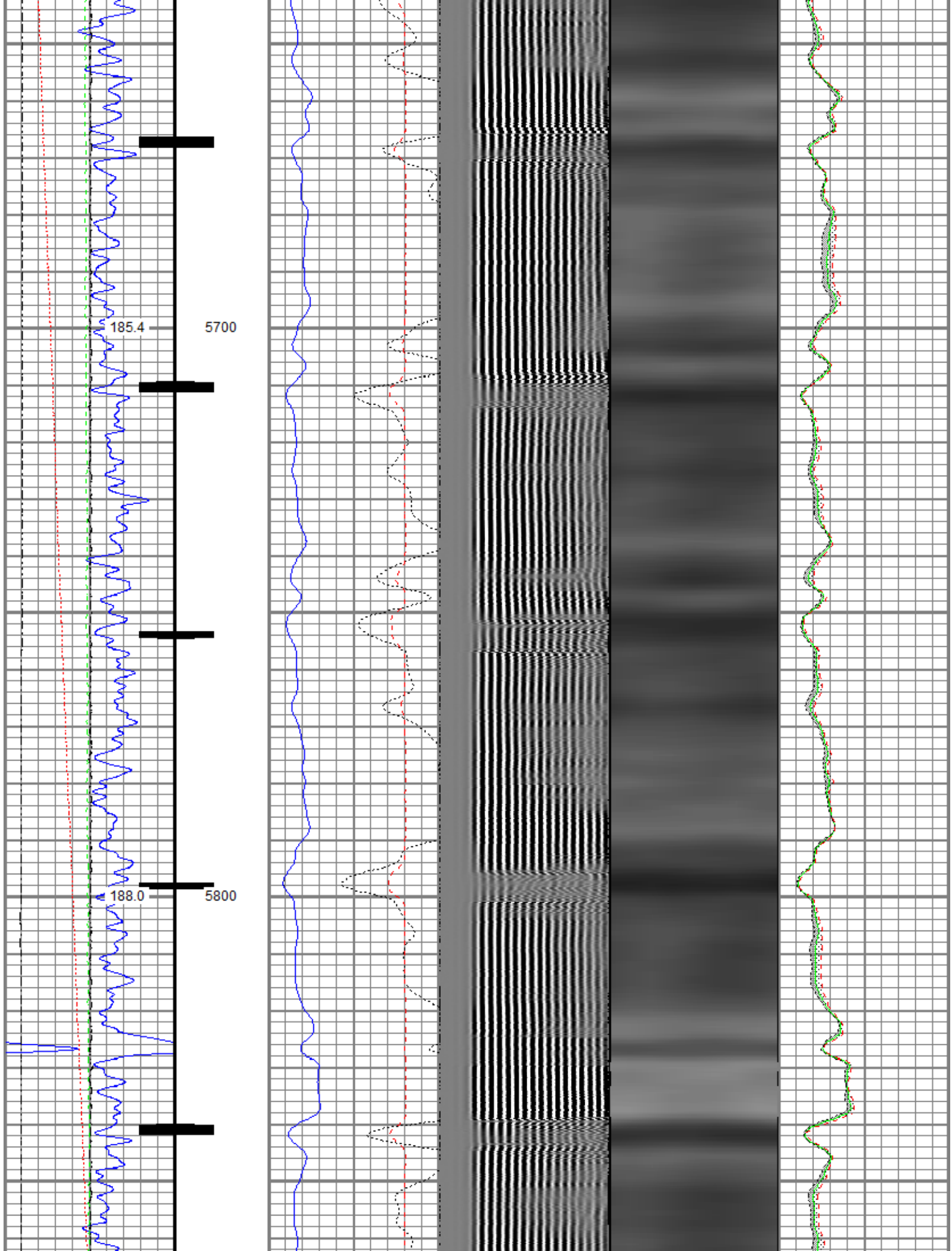


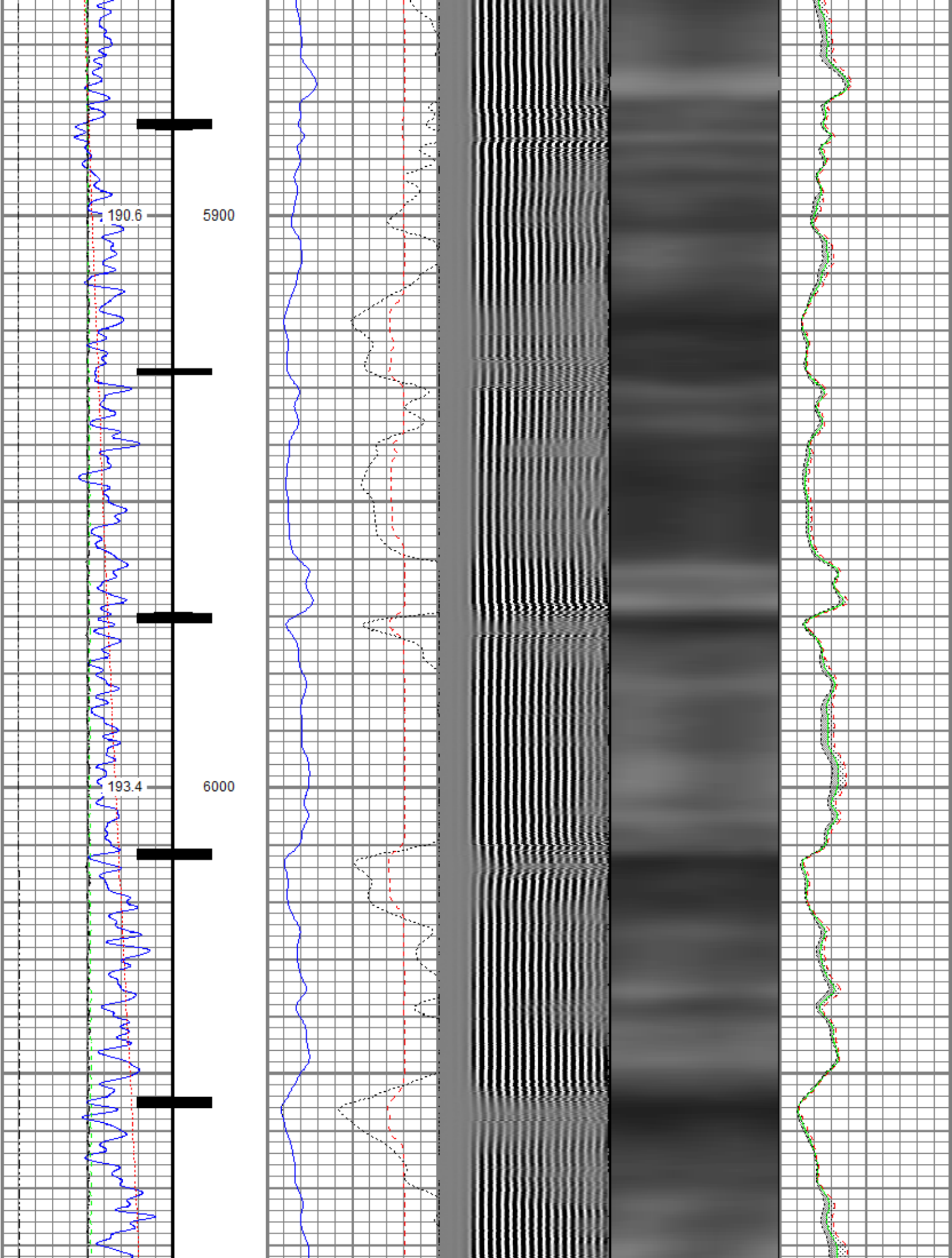


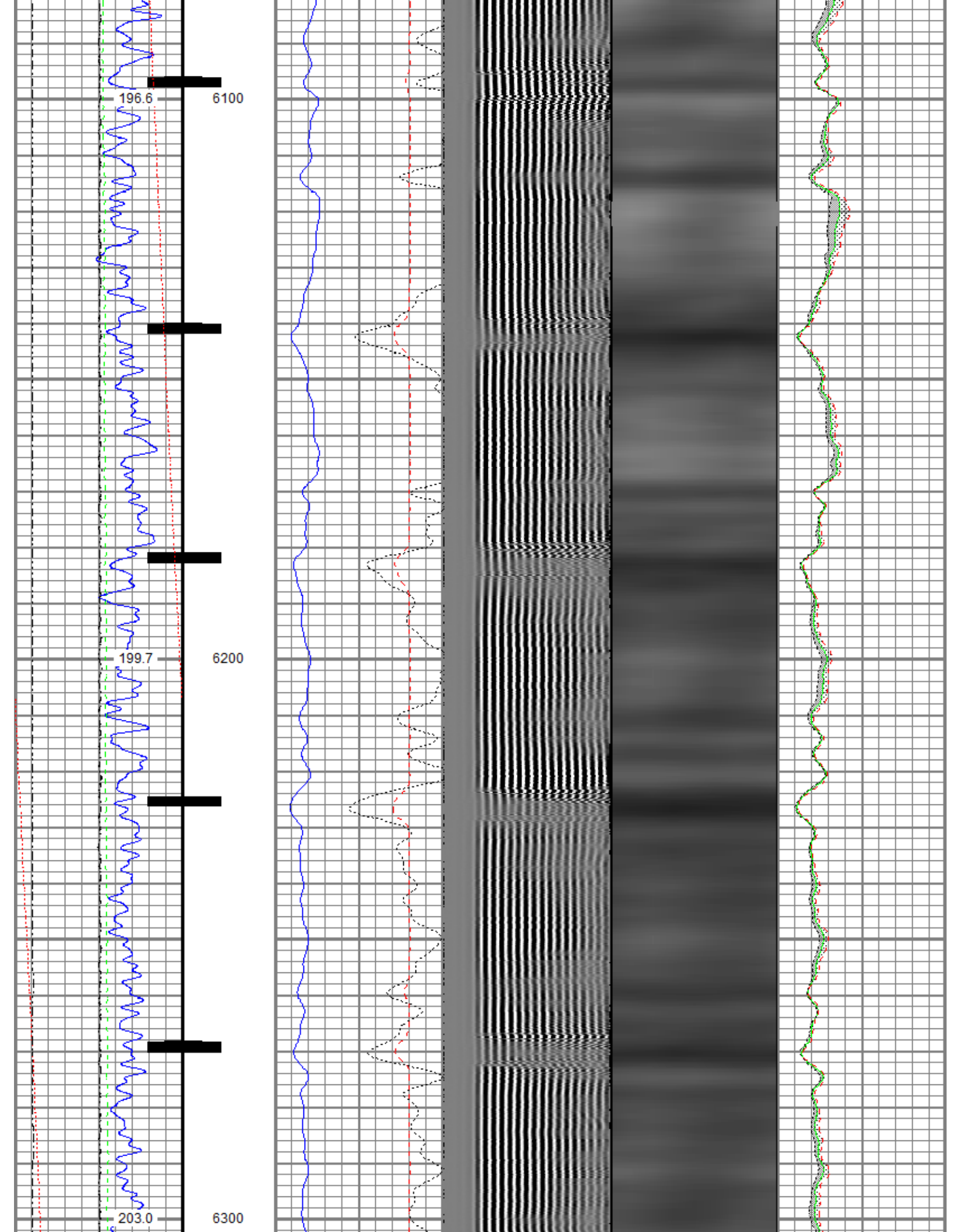


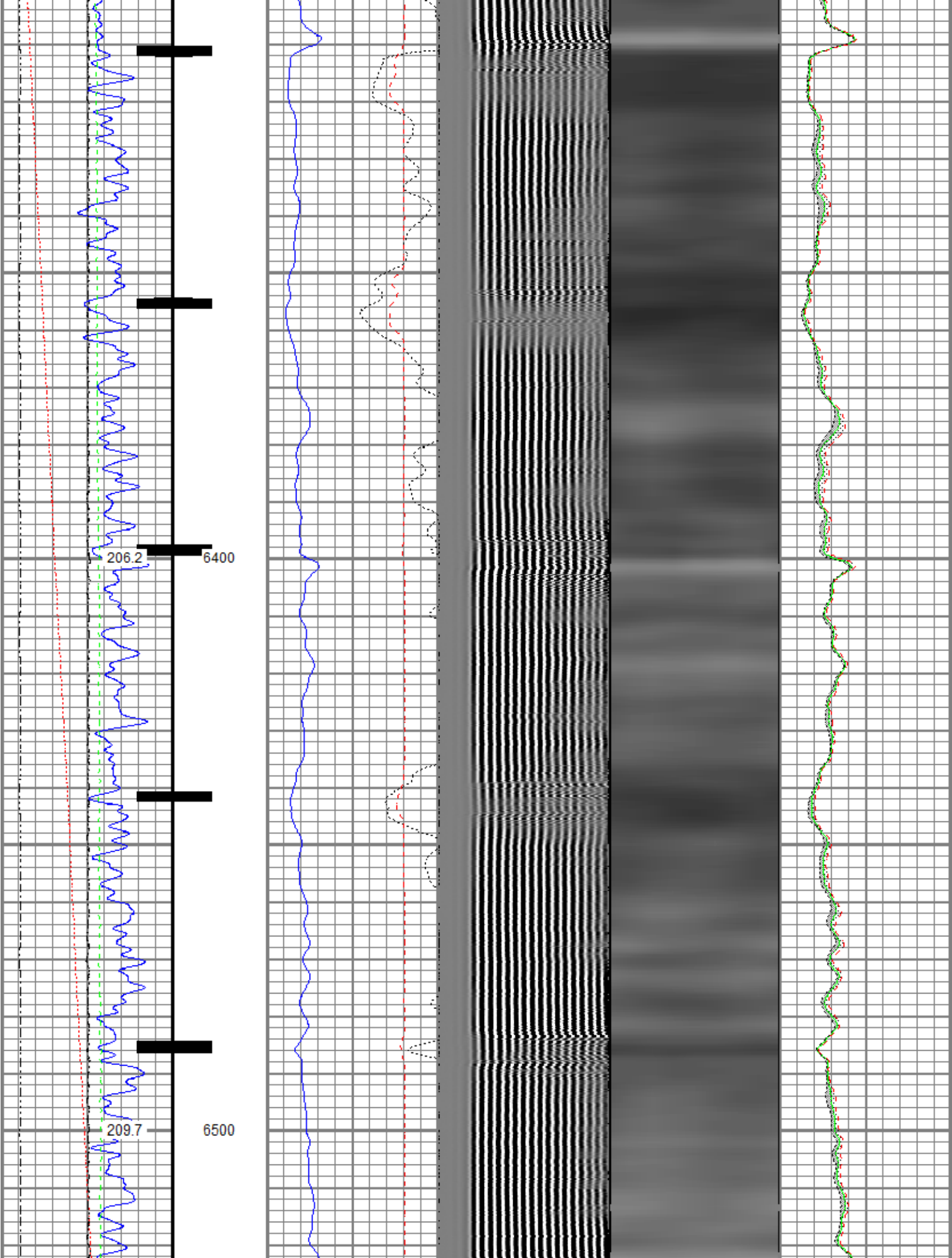


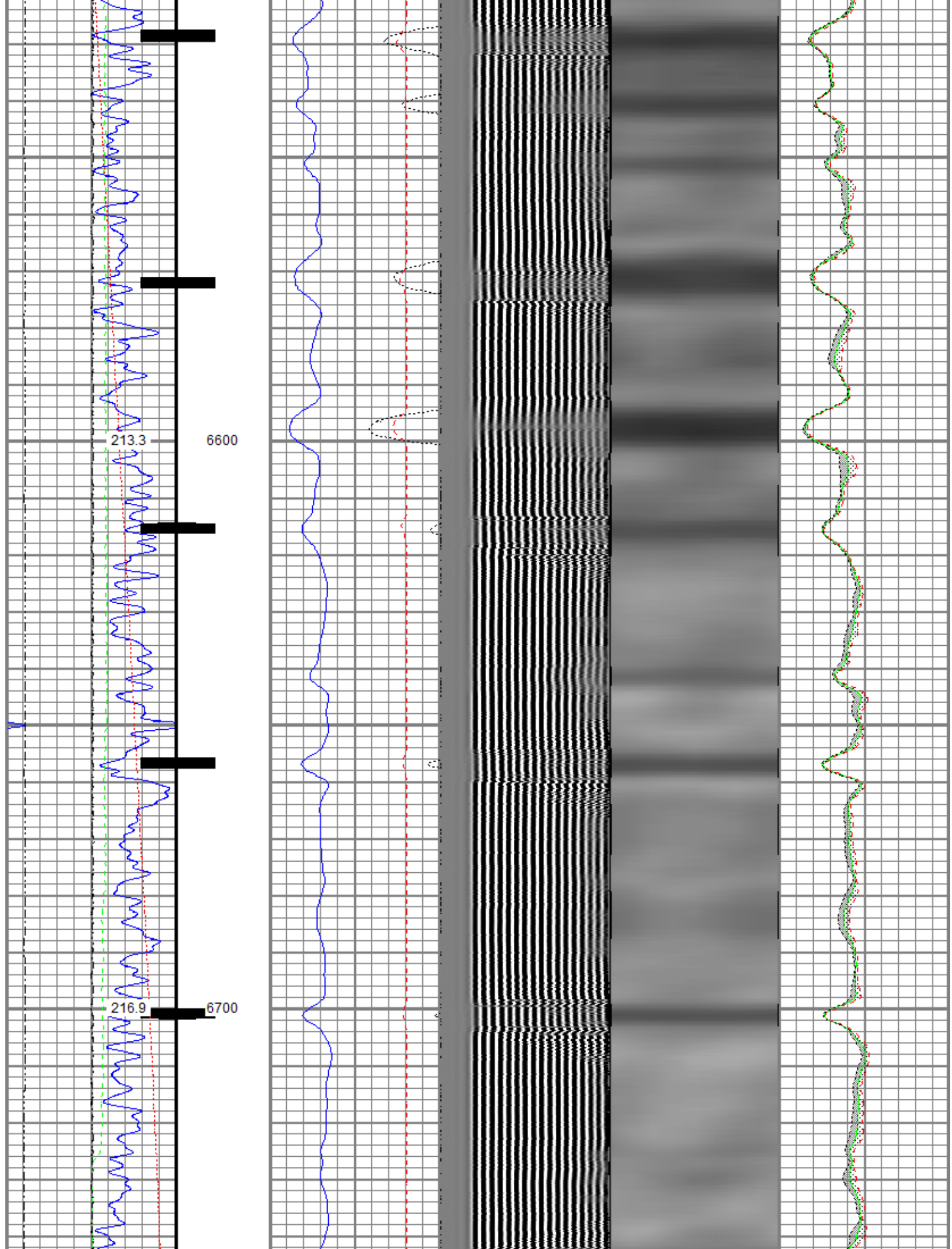


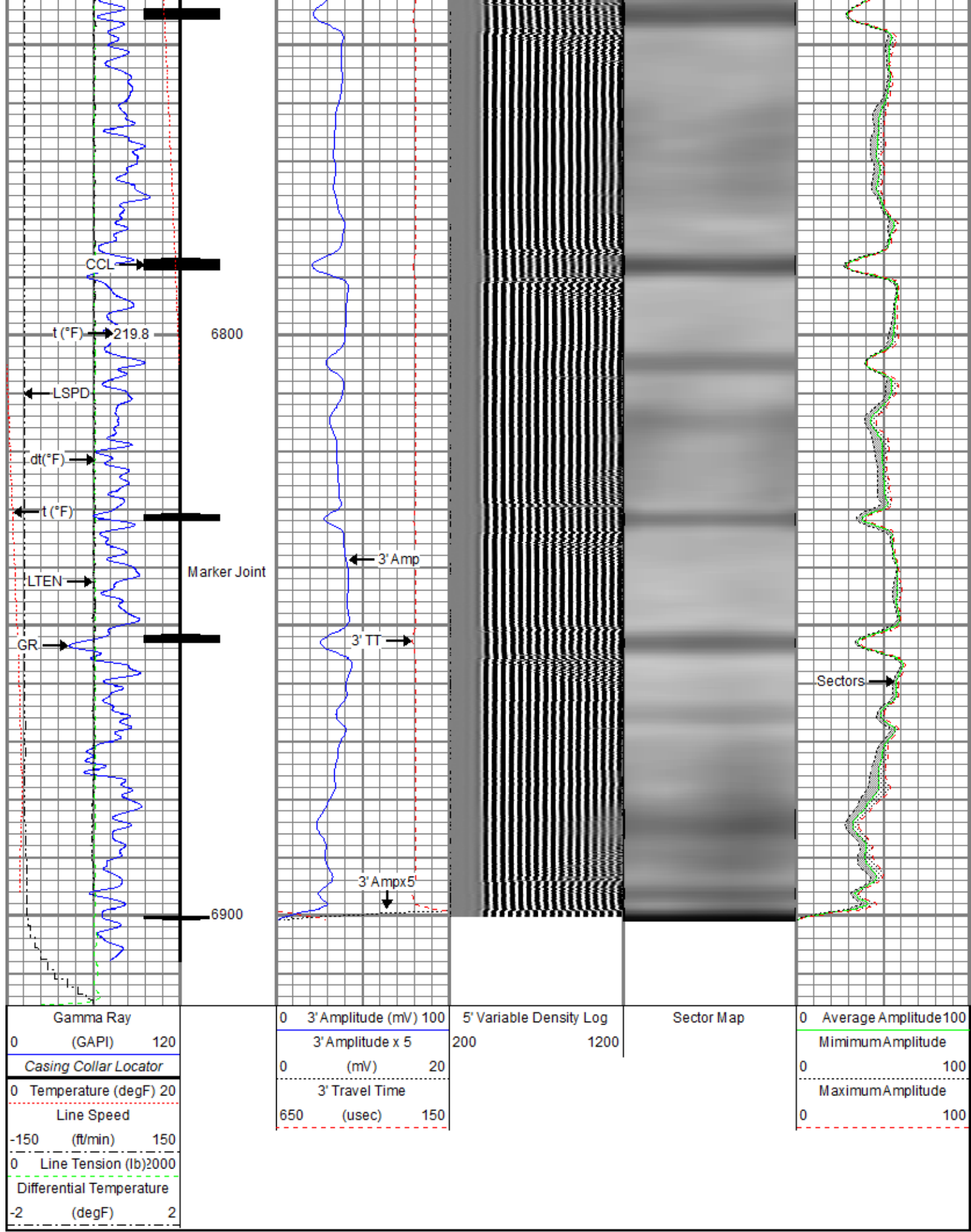






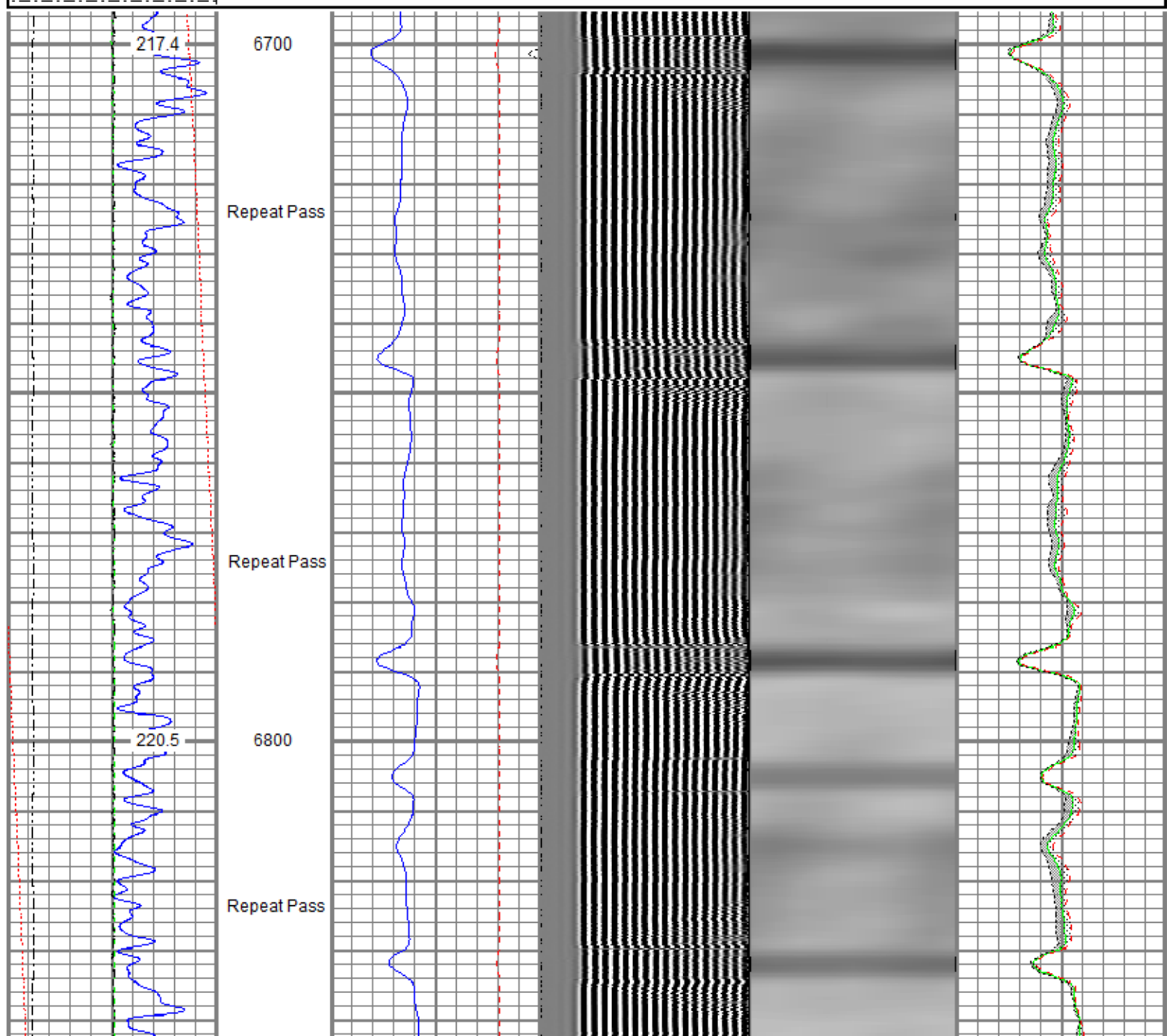


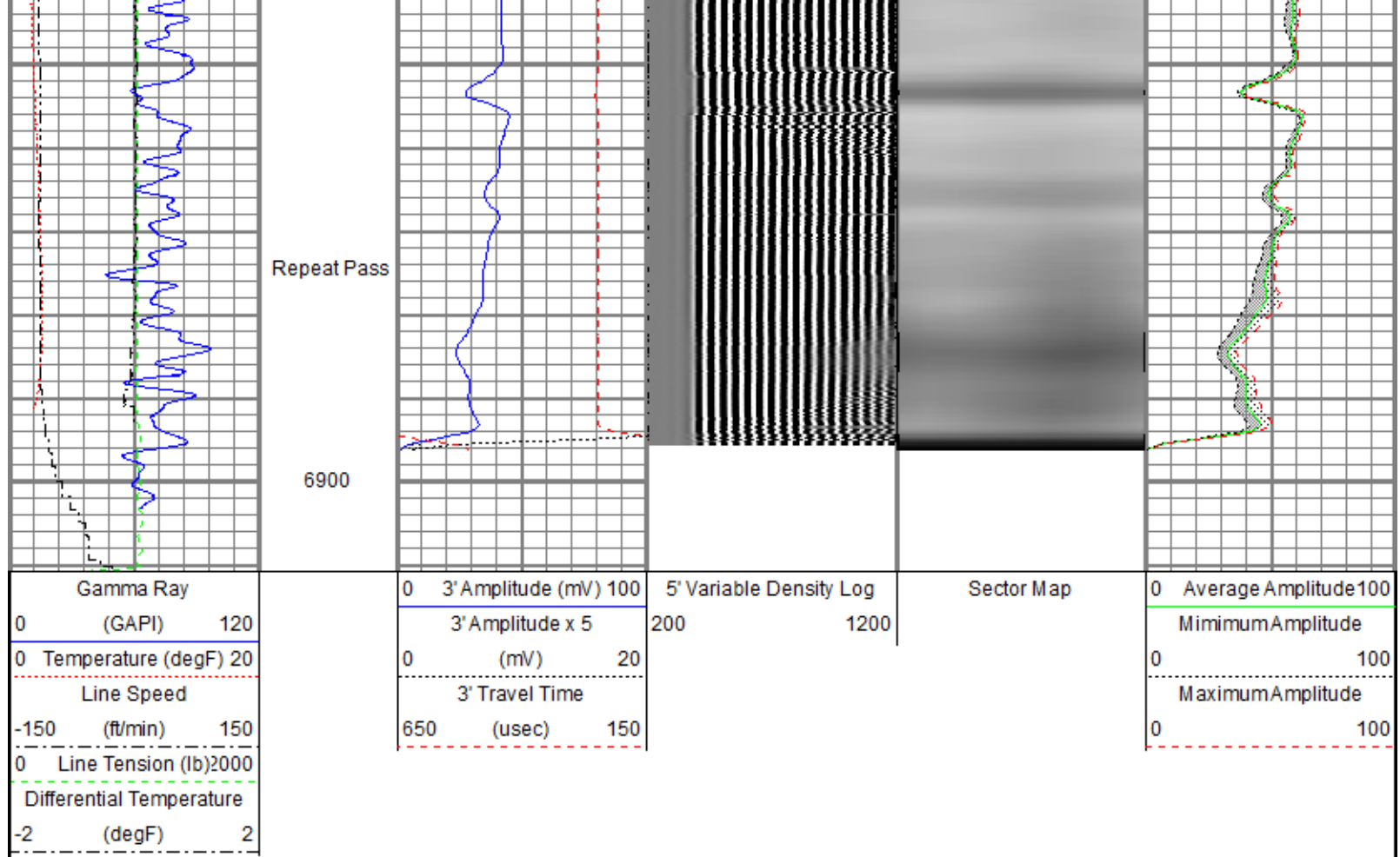


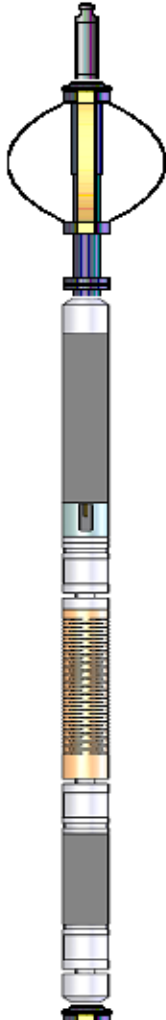



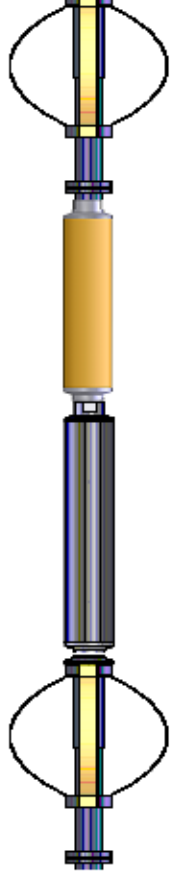
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Dataset Pathname	repeat.2
Presentation Format	ros_radri
Dataset Creation	Fri Jun 21 14:31:27 2019
Charted by	Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
TEMP	18.23		Titan CHD-14375 GO	1.03	1.44	3.60
			Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
			Probe CENT-2750	2.88	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			
			Probe Radii-2750 RBT (120855)	9.39	2.75	105.00
			Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub			
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 WVF5FT	16.00 15.00		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2 CCL\$1	7.38 7.38		Probe CCL-2750 SA (FW1307-076) Probe 2-3/4" Digital Stand Alone Six Magnet Logging CCL	2.66	2.75	35.00
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: processed_0512349239_anadarko_mab 15-2hz_rbl_06-20-19_2800 psi.db: field/well/run1/main.3 Total length: 25.06 ft Total weight: 258.60 lb O.D.: 2.75 in						

Calibration Report						
Database File	c:\programdata\warrior\data\anadarko\0512349239_anadarko_mab 15-2hz_rbl_06-19-19\processed_0512349239_anadarko_m					
Dataset Pathname	main.3					
Dataset Creation	Fri Jun 21 14:31:04 2019					
Gamma Ray Calibration Report						
Serial Number:	FW1307-078					
Tool Model:	2750 SA					
Performed:	Mon Oct 01 11:32:38 2018					
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:	120855					
Tool Model:	2750 RBT					
Calibration Casing Diameter:	5.500	in				
Calibration Depth:	12.047	ft				
Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.702	0.800	71.921	101.934	0.360
CAI	0.734	0.734				

5'	0.003	0.684	0.800	71.921	104.493	0.457
SUM						
S1	0.003	0.692	0.000	100.000	145.270	-0.462
S2	0.005	0.684	0.000	100.000	147.355	-0.732
S3	0.004	0.685	0.000	100.000	146.644	-0.518
S4	0.004	0.702	0.000	100.000	143.186	-0.560
S5	0.004	0.718	0.000	100.000	140.015	-0.589
S6	0.004	0.726	0.000	100.000	138.531	-0.576
S7	0.004	0.723	0.000	100.000	139.025	-0.529
S8	0.004	0.709	0.000	100.000	141.951	-0.595

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.734	0.734	1.000	0.000

Air Zero Calibration, performed Wed Jun 19 13:11:49 2019:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.005		0.000		0.000	
5'	0.007		0.000		0.000	
SUM						
S1	0.003		0.000		0.001	
S2	0.005		0.000		0.001	
S3	0.005		0.000		0.000	
S4	0.005		0.000		-0.000	
S5	0.005		0.000		0.000	
S6	0.005		0.000		0.000	
S7	0.005		0.000		-0.000	
S8	0.006		0.000		-0.000	

Temperature Calibration Report

Serial Number: 120855
Tool Model: 2750 RBT
Performed: Mon Oct 01 11:32:15 2018

	Reference	Reading
Low Reference:	100.00 degF	112.30 degF
High Reference:	350.00 degF	394.75 degF

Gain: 0.89
Offset: 0.60
Delta Spacing: 1



Company: Kerr-McGee Oil & Gas Onshore, L.P.
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Field: Wattenberg
County: Weld
State: Colorado