



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.												
Well	Land Fed 34C-32HZ												
Field	Wattenberg												
County	Weld												
State	Colorado												
Location:				API # : 05-123-42395				Other Services					
SEC 32 TWP 2N RGE 66W				Gauge Ring				Elevation					
								Permanent Datum		Ground Level		Elevation	
								Log Measured From		Kelly Bushing		20 FT	
								Drilling Measured From		Kelly Bushing		4899'	
								K.B. 4919'					
								D.F. 4918'					
								G.L. 4899'					

Date	16-Aug-2016		
Run Number	One		
Depth Driller	12955 FT		
Depth Logger	7932 FT		
Bottom Logged Interval	7927 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lbm/gal		
Max. Recorded Temp.	241 °F		
Estimated Cement Top	44 FT		
Time Well Ready	ROA		
Time Logger on Bottom	14:10		
Equipment Number	HD-0361		
Location	Fort Lupton, CO		
Recorded By	Wayne Wacker		
Witnessed By	Chris Hayes		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom		
Surface Casing	9 5/8	36	JD BTC	Surface	1920 FT		
Intermediate #1	5 1/2	17	LTC	Surface	12945 FT		
Intermediate #2							
Liner							

<<< Fold Here >>>

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 7138 FT
Adjusted log +2 FT to correlate with Marker Joint
Log ran from 7932 FT to surface
Log ran with 2800 PSI surface induced pressure
Logging tools were clean and free of any debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

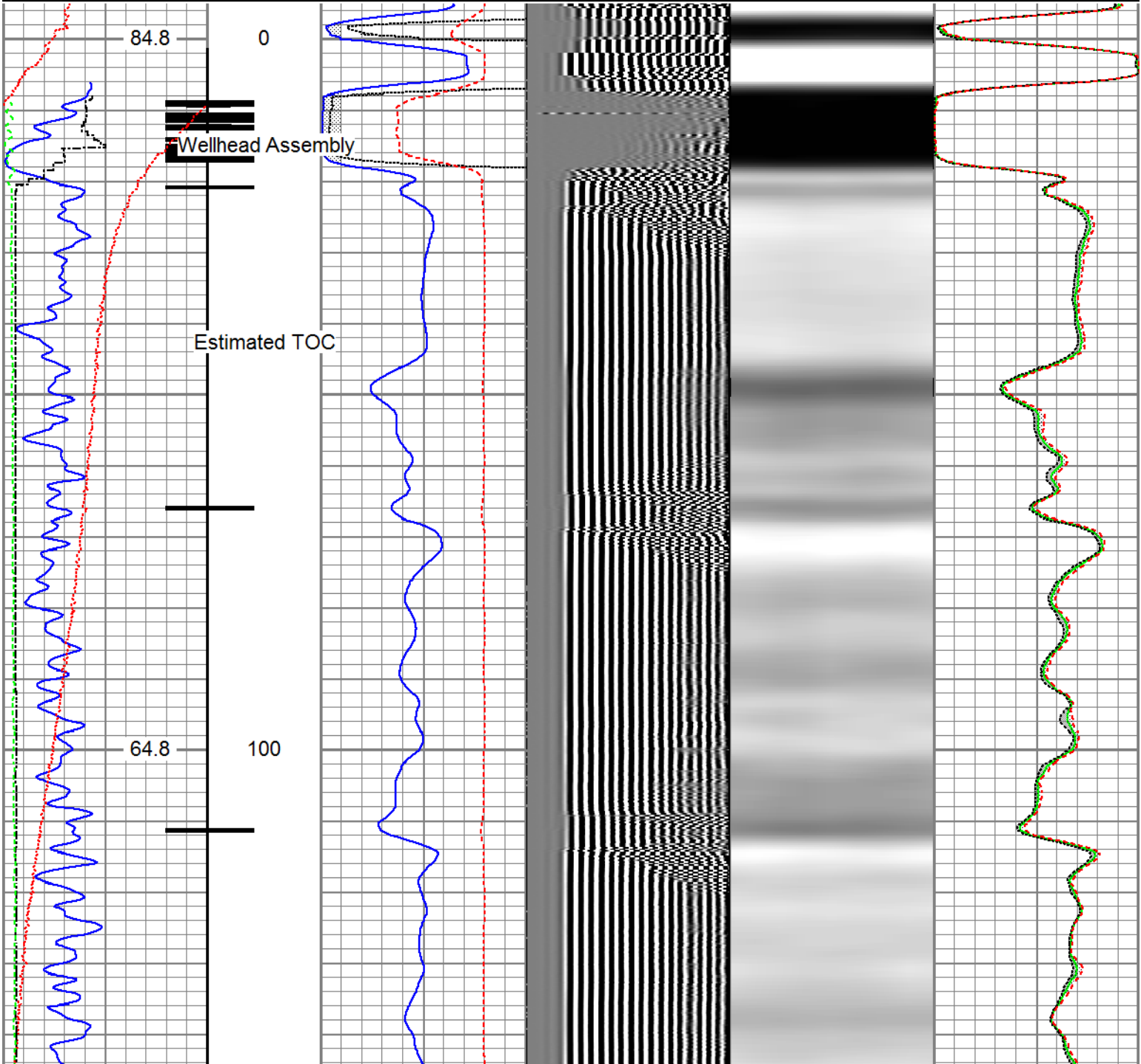


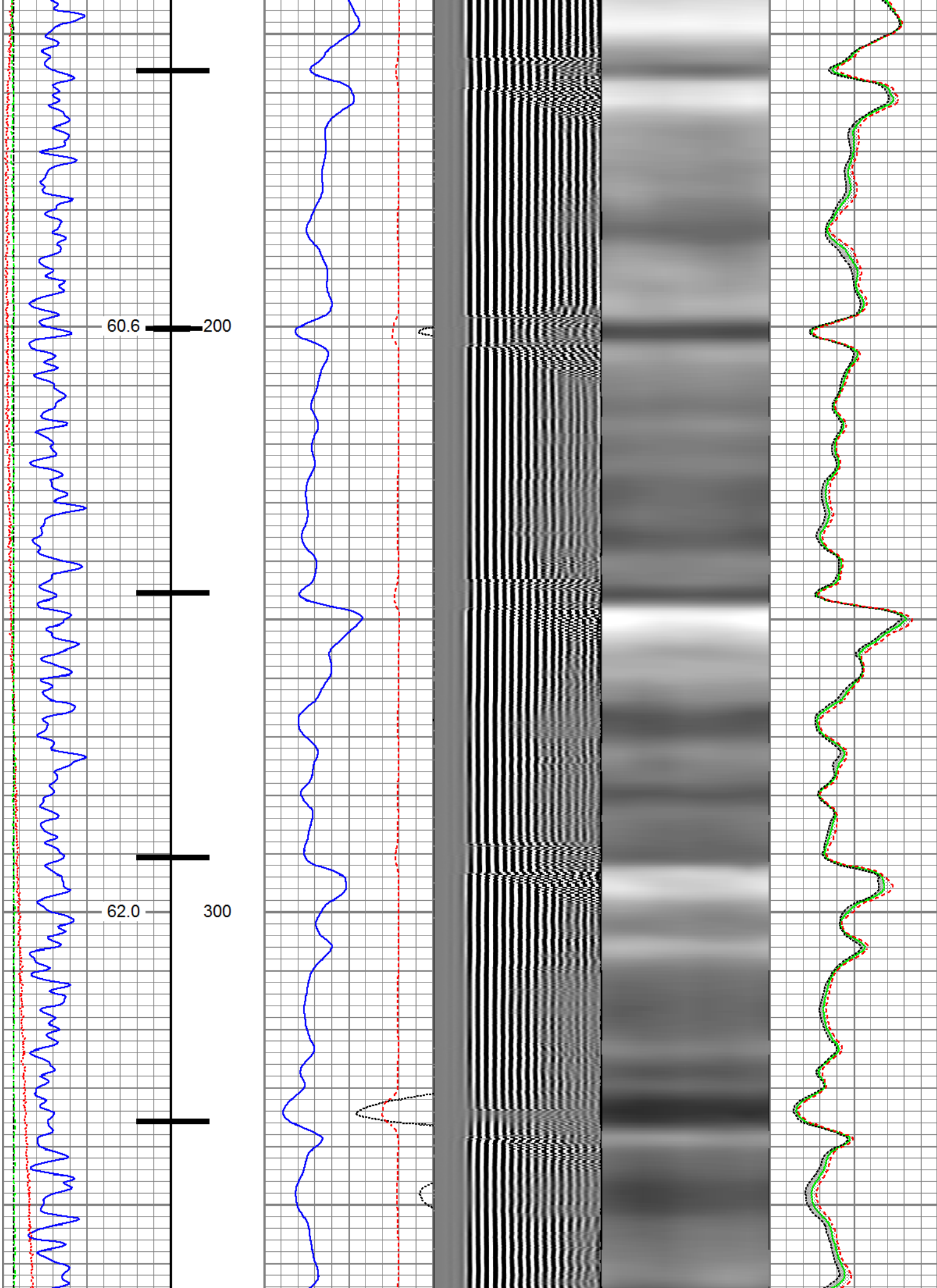
Main Pass

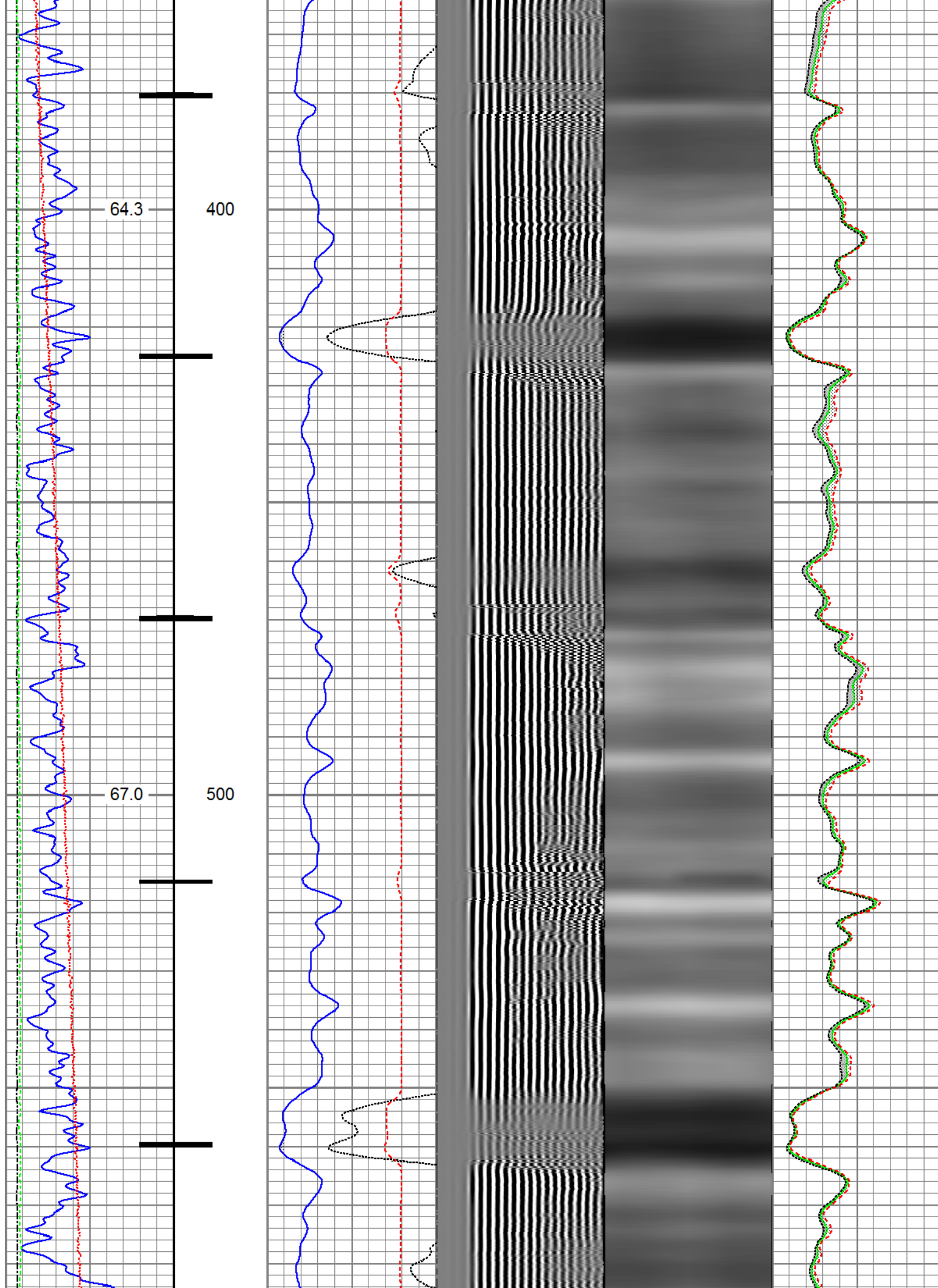
Recorded with 2800 PSI Surface Induced Pressure

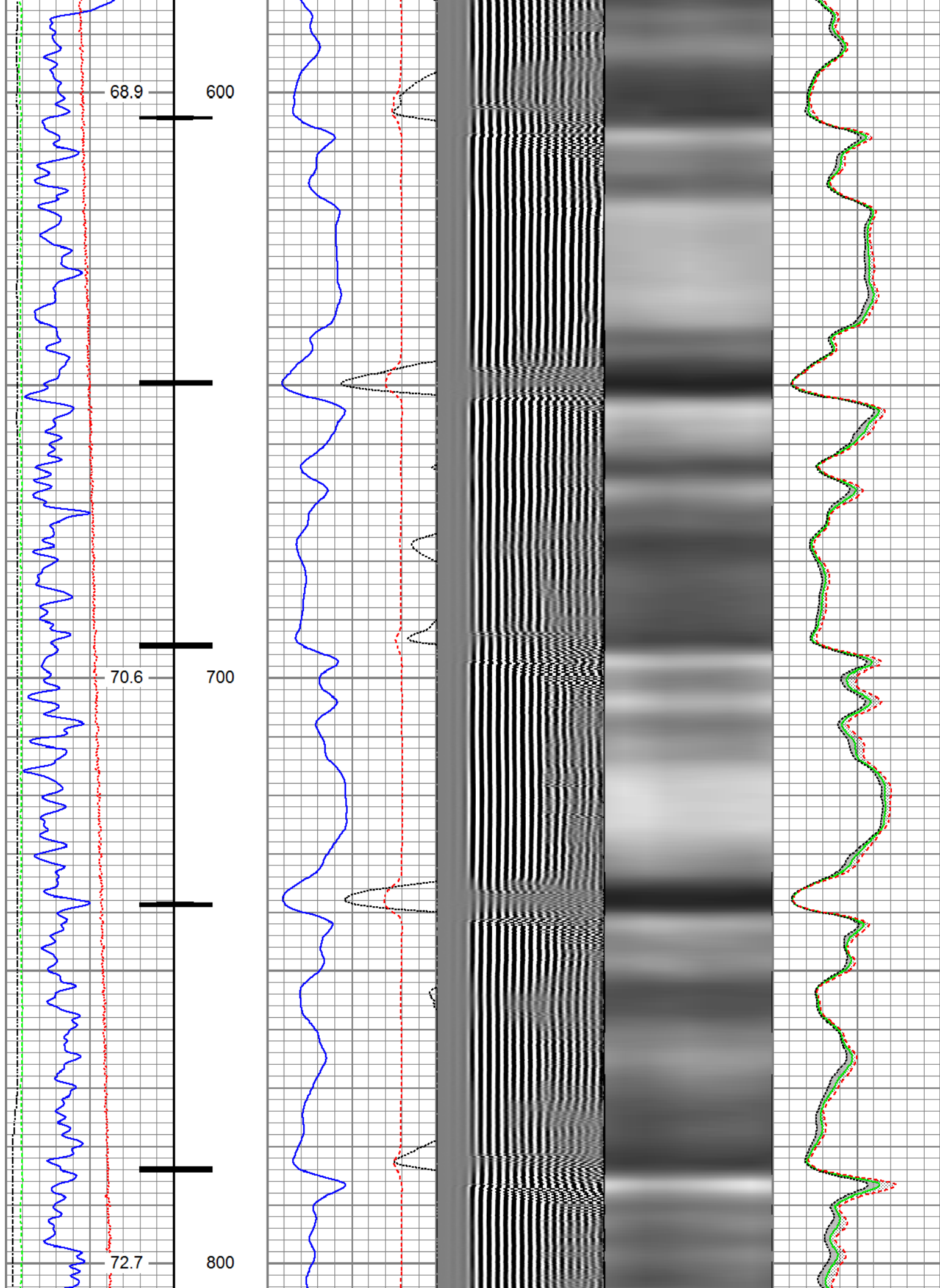
Database File	anadarko land fed 34c-32hz rcbl _16 aug.-2016_w8\processed_0512342395_anadarko land fed 34c-
Dataset Pathname	main.1
Presentation Format	ros_radrii
Dataset Creation	Thu Aug 18 17:02:54 2016
Charted by	Depth in Feet scaled 1:240

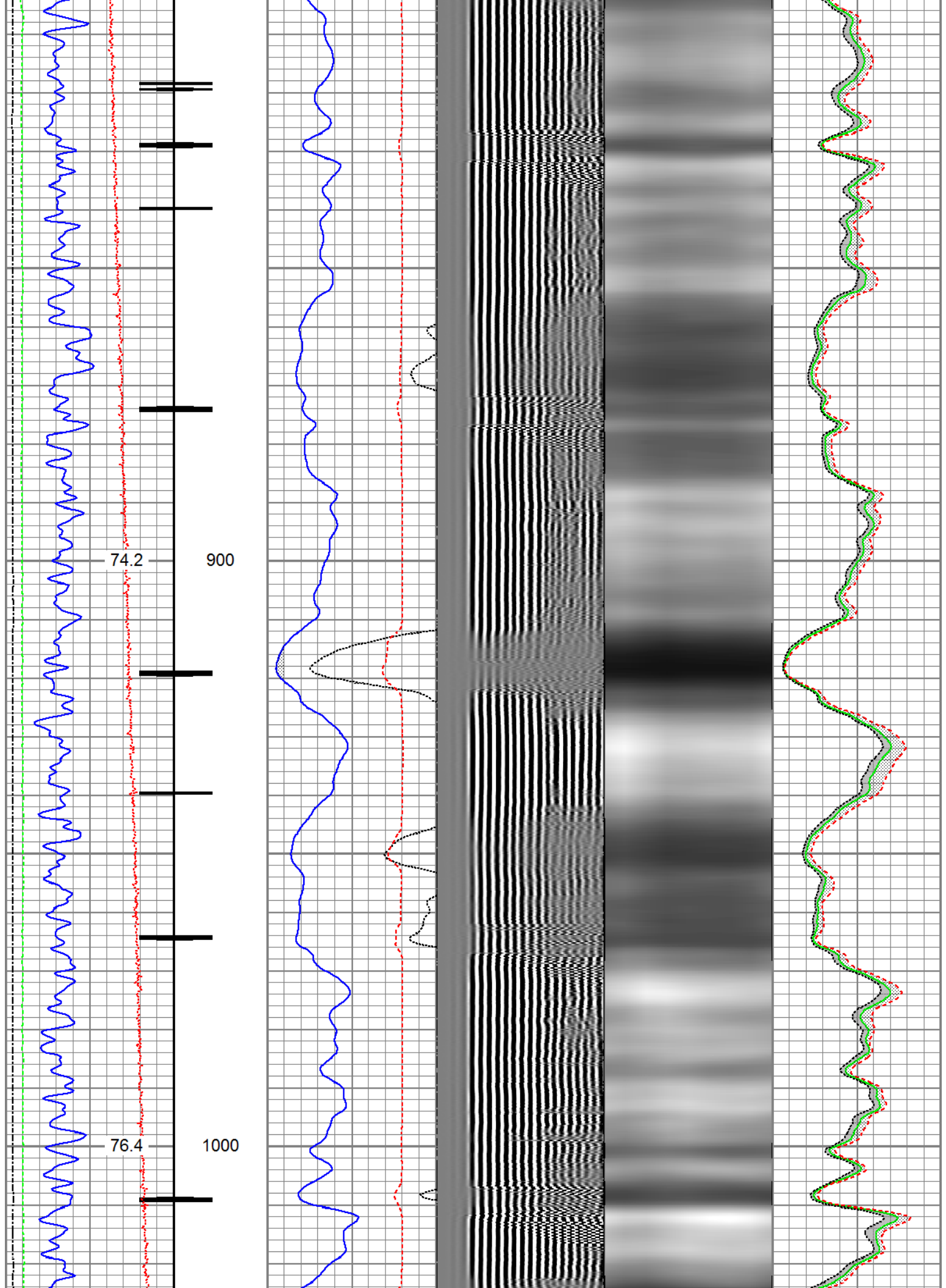
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

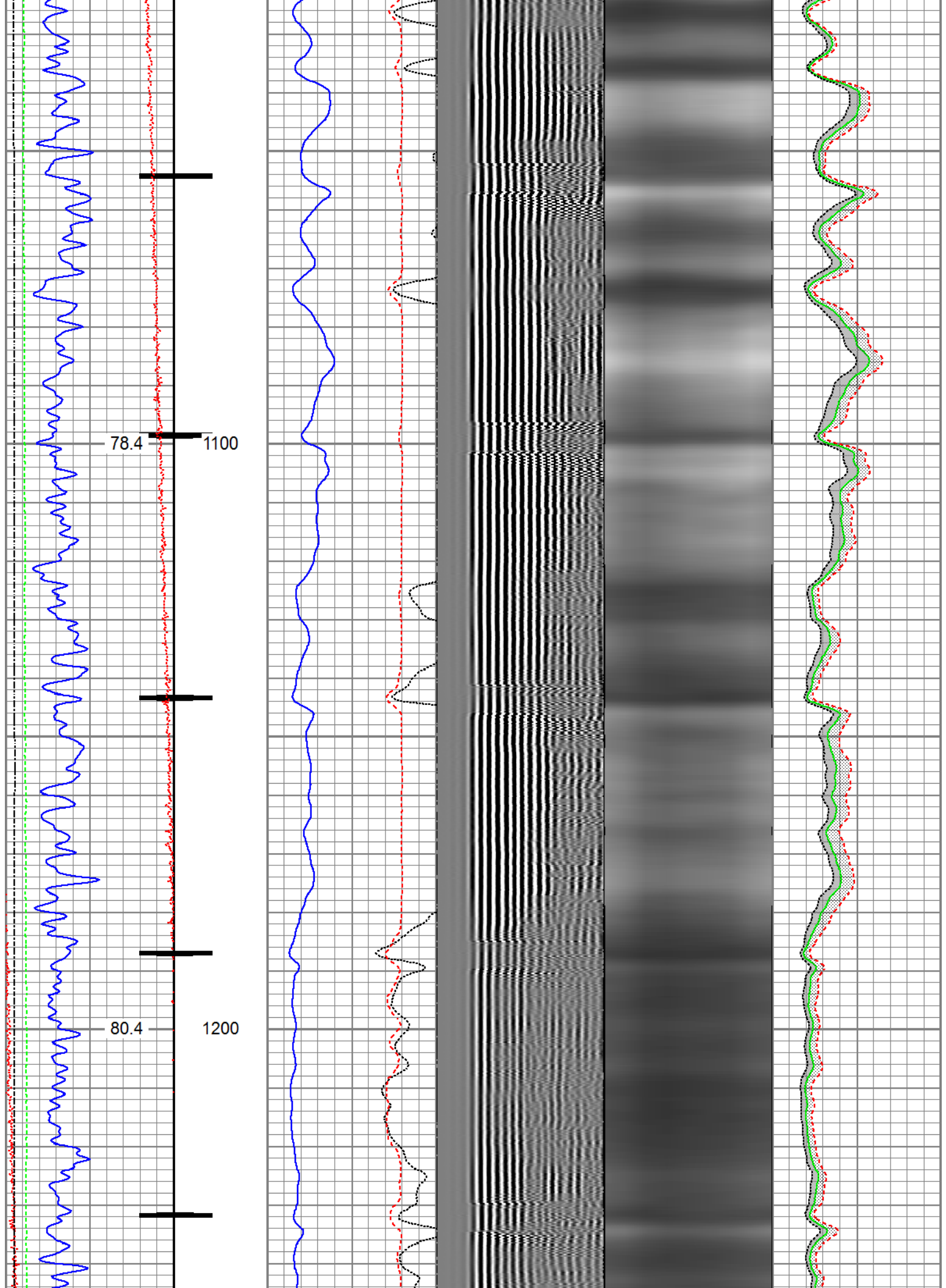


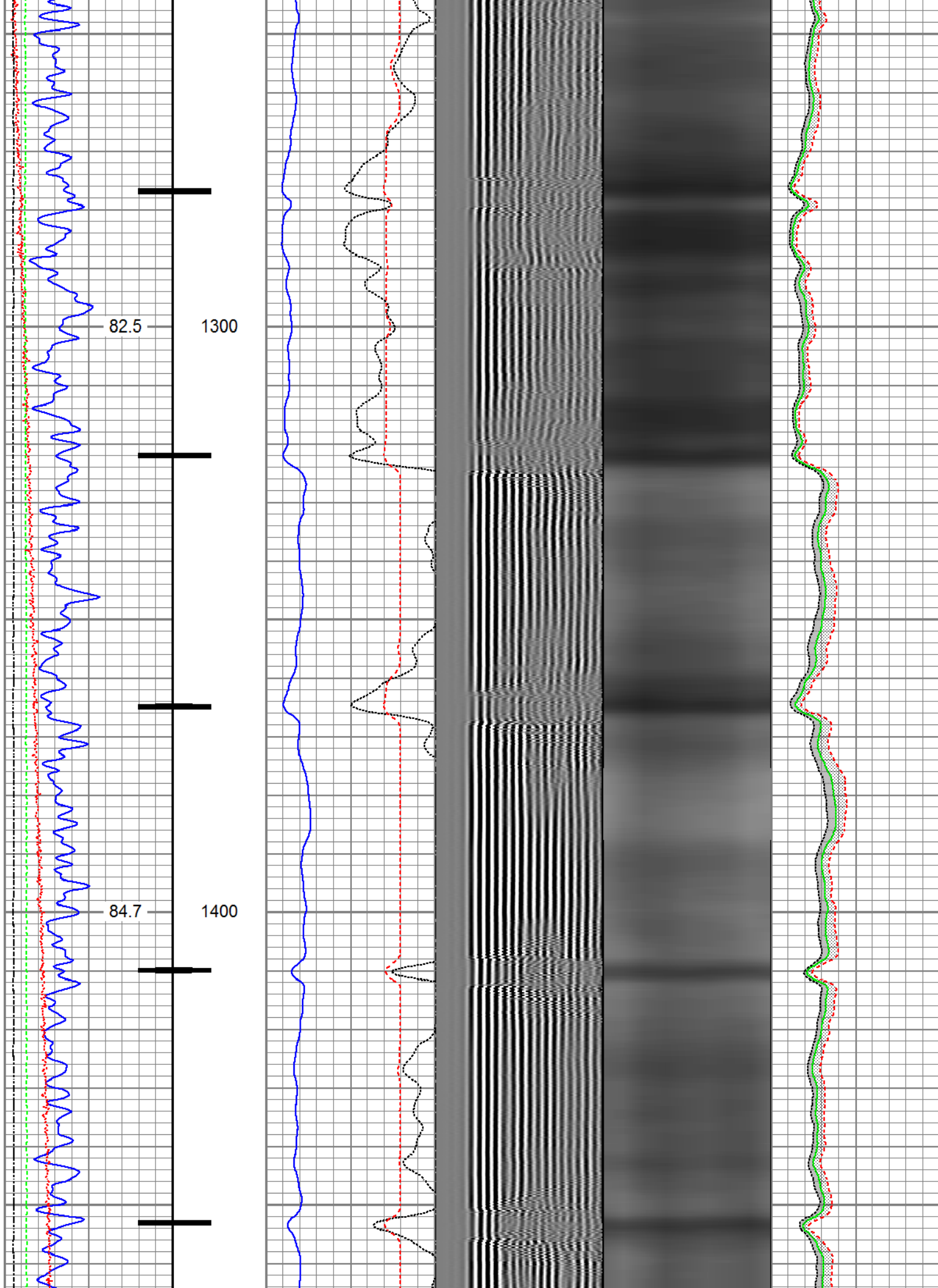


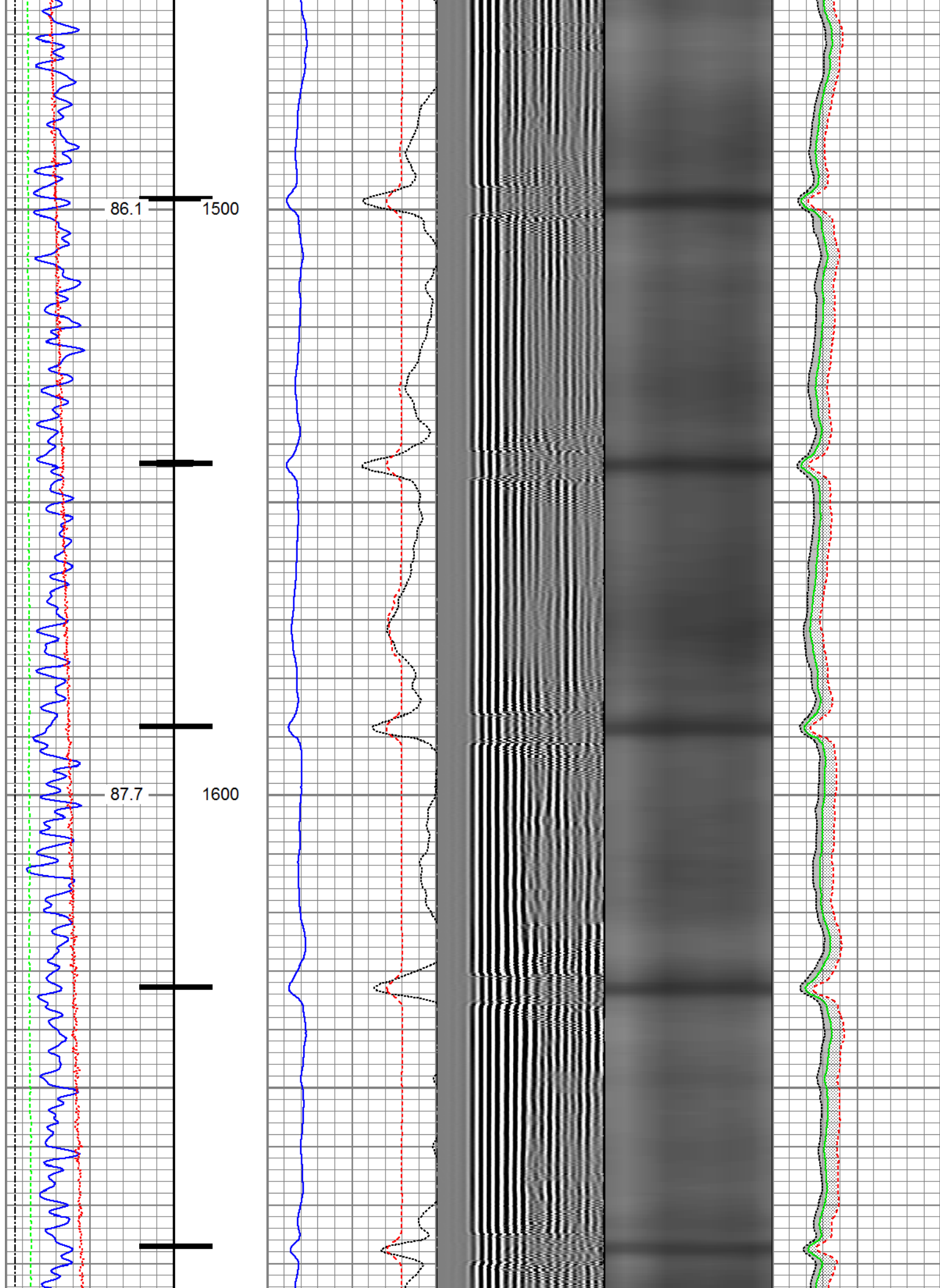


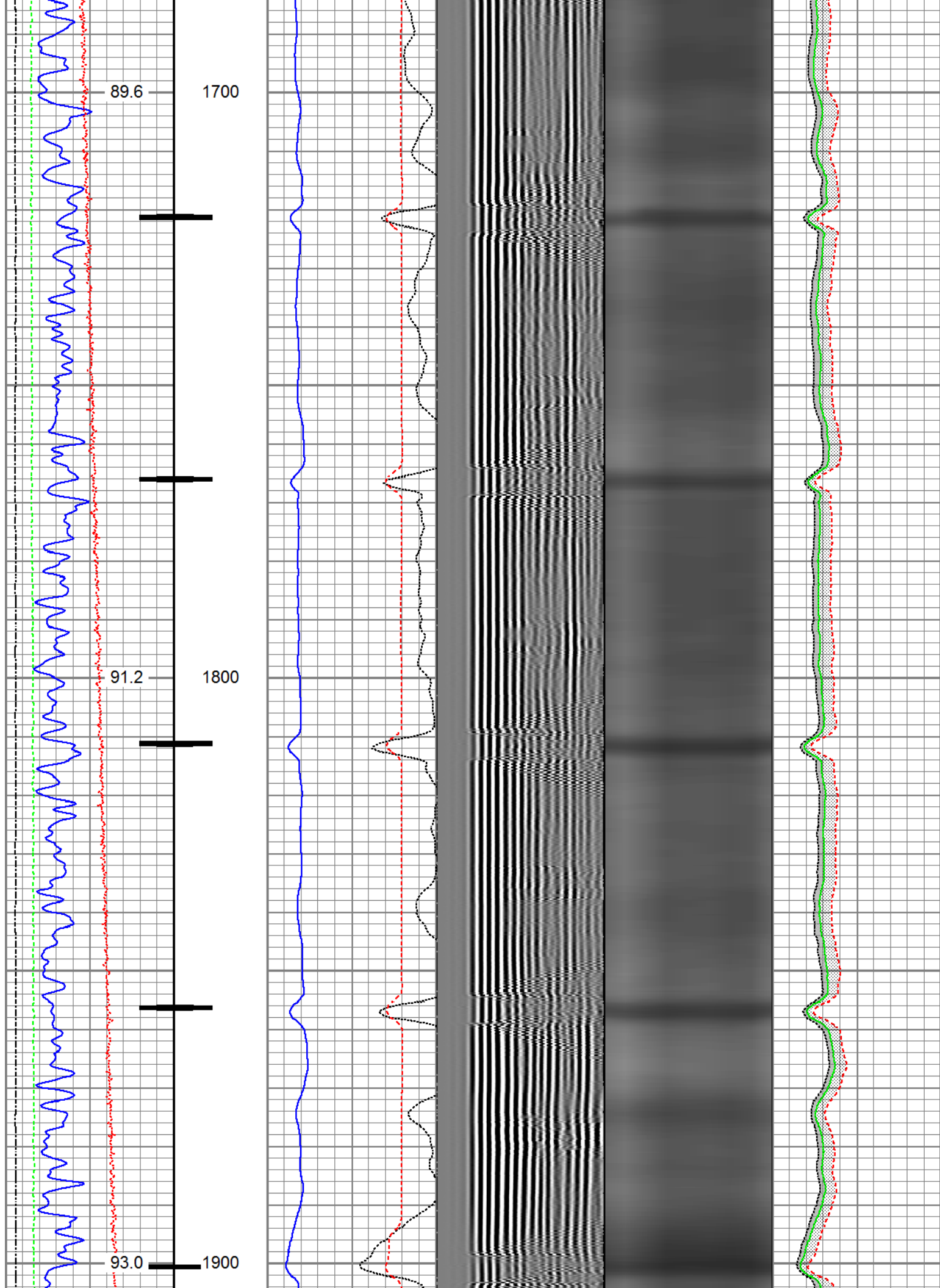


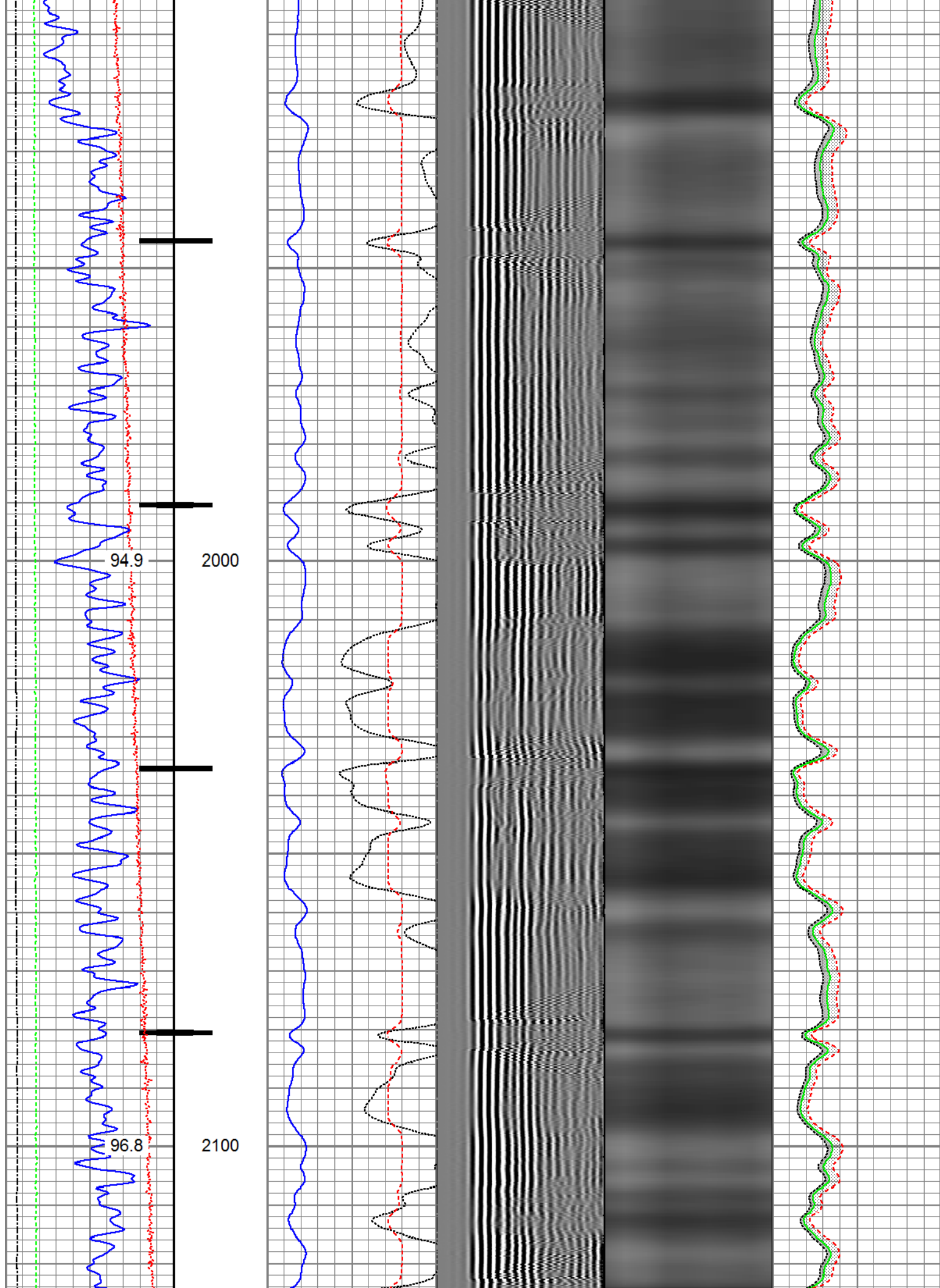


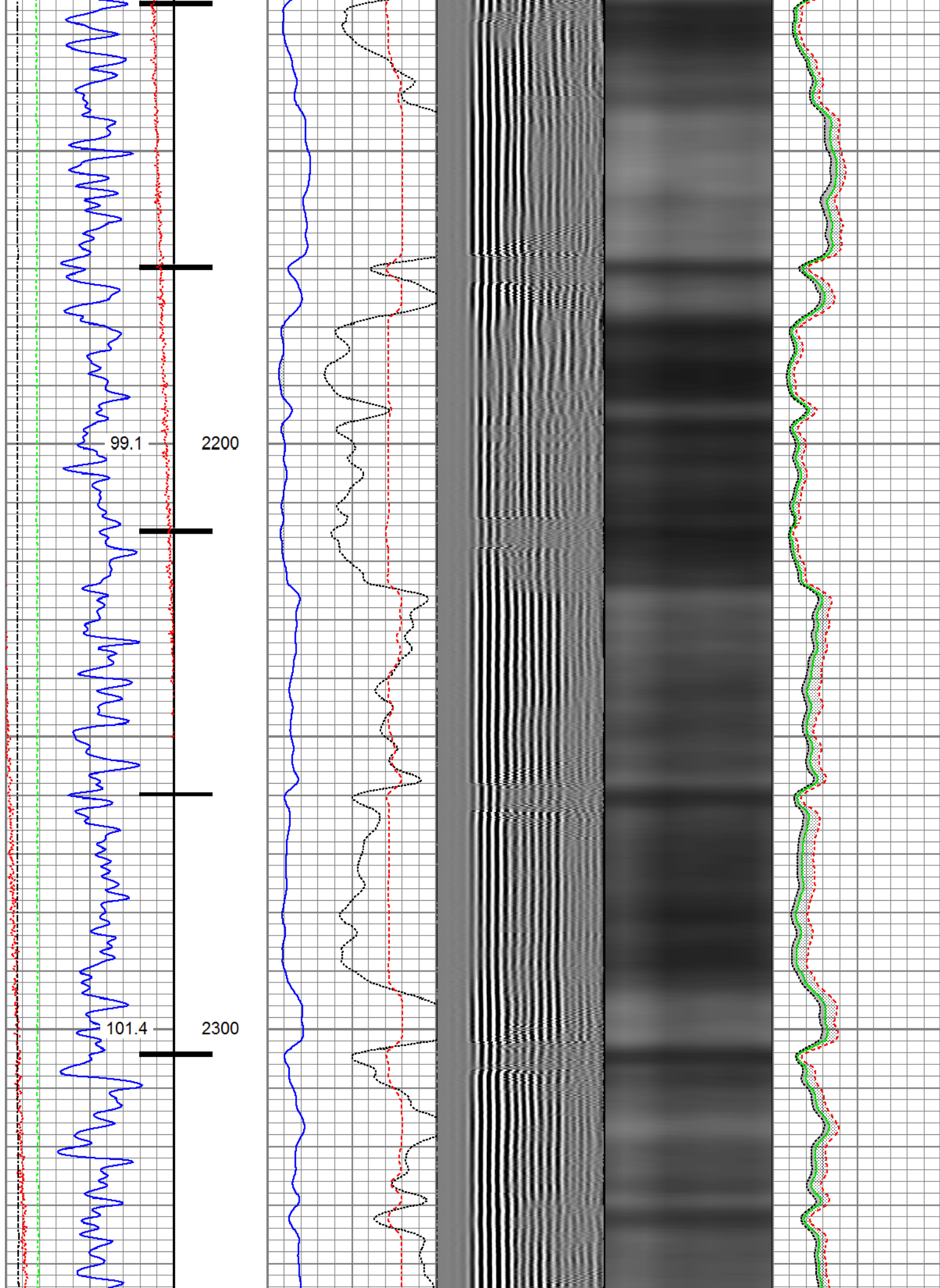


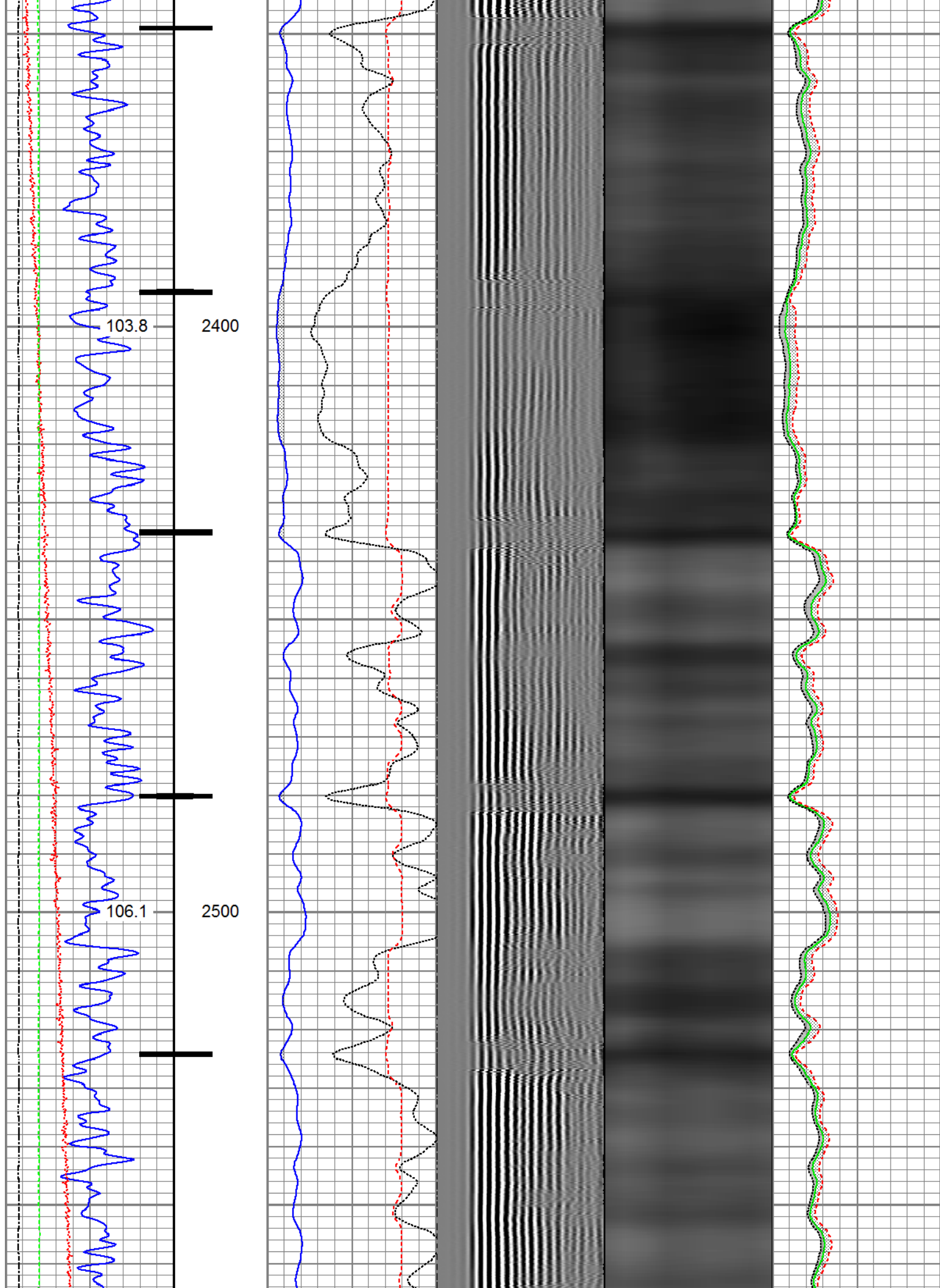


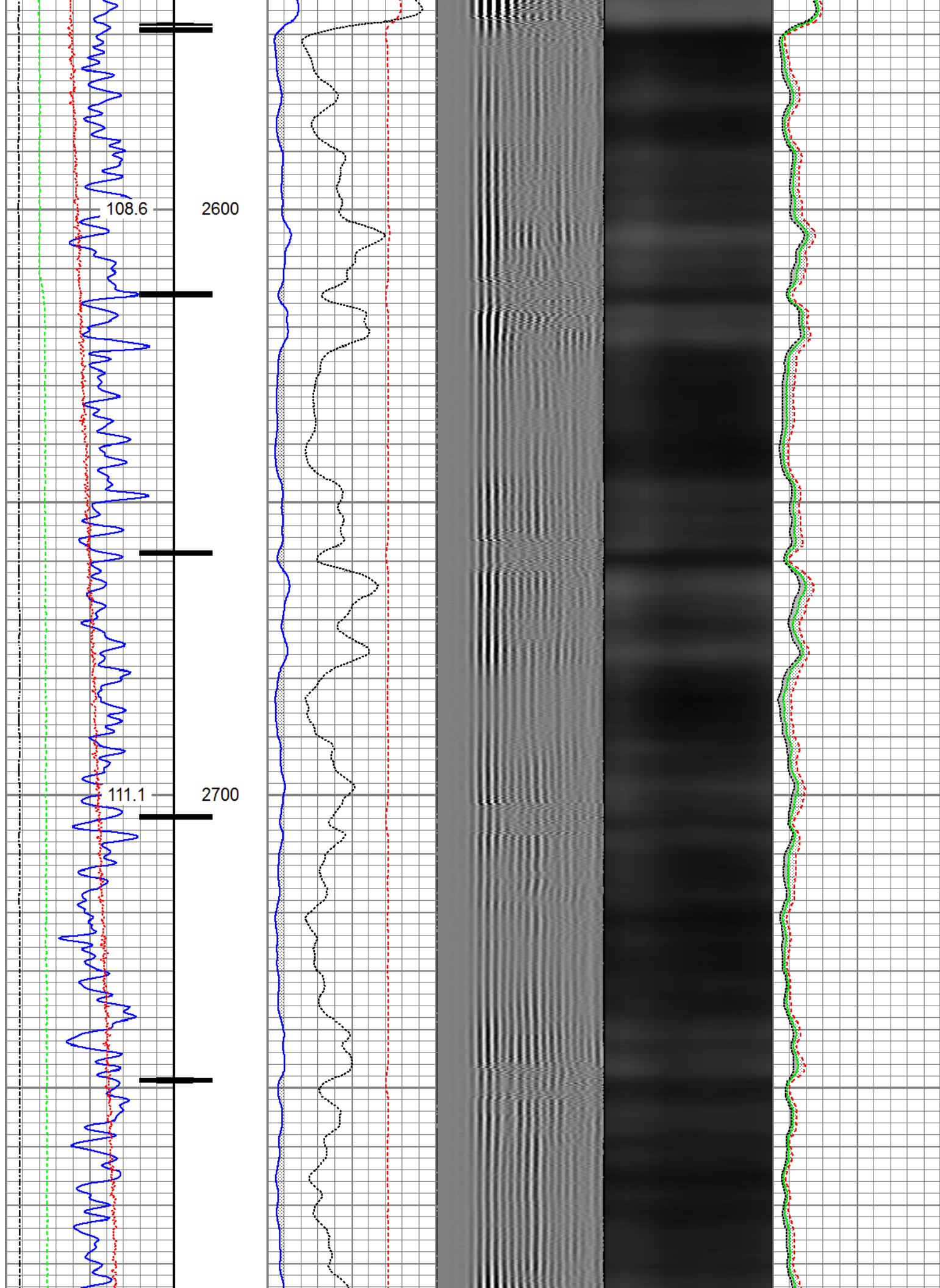


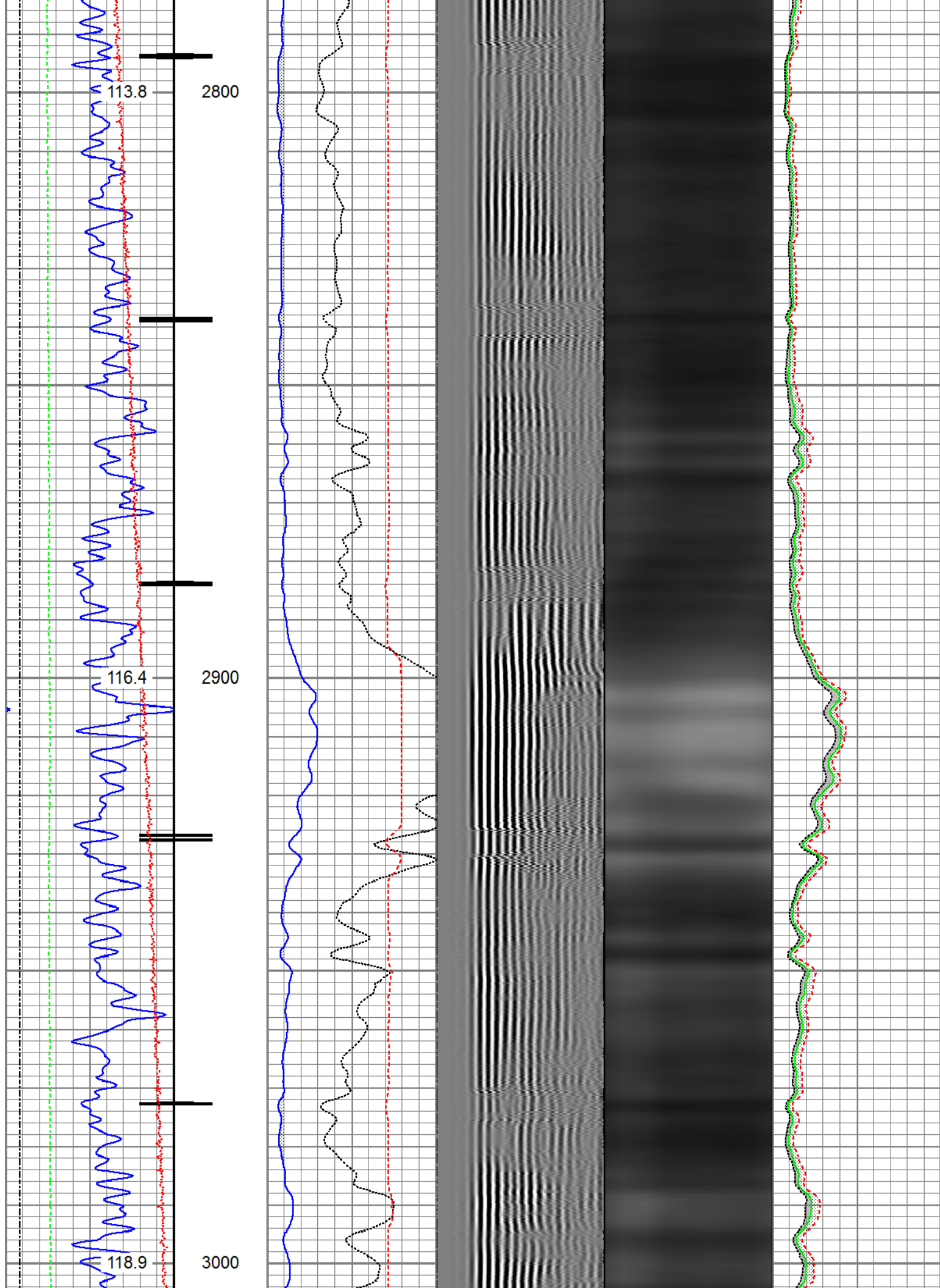


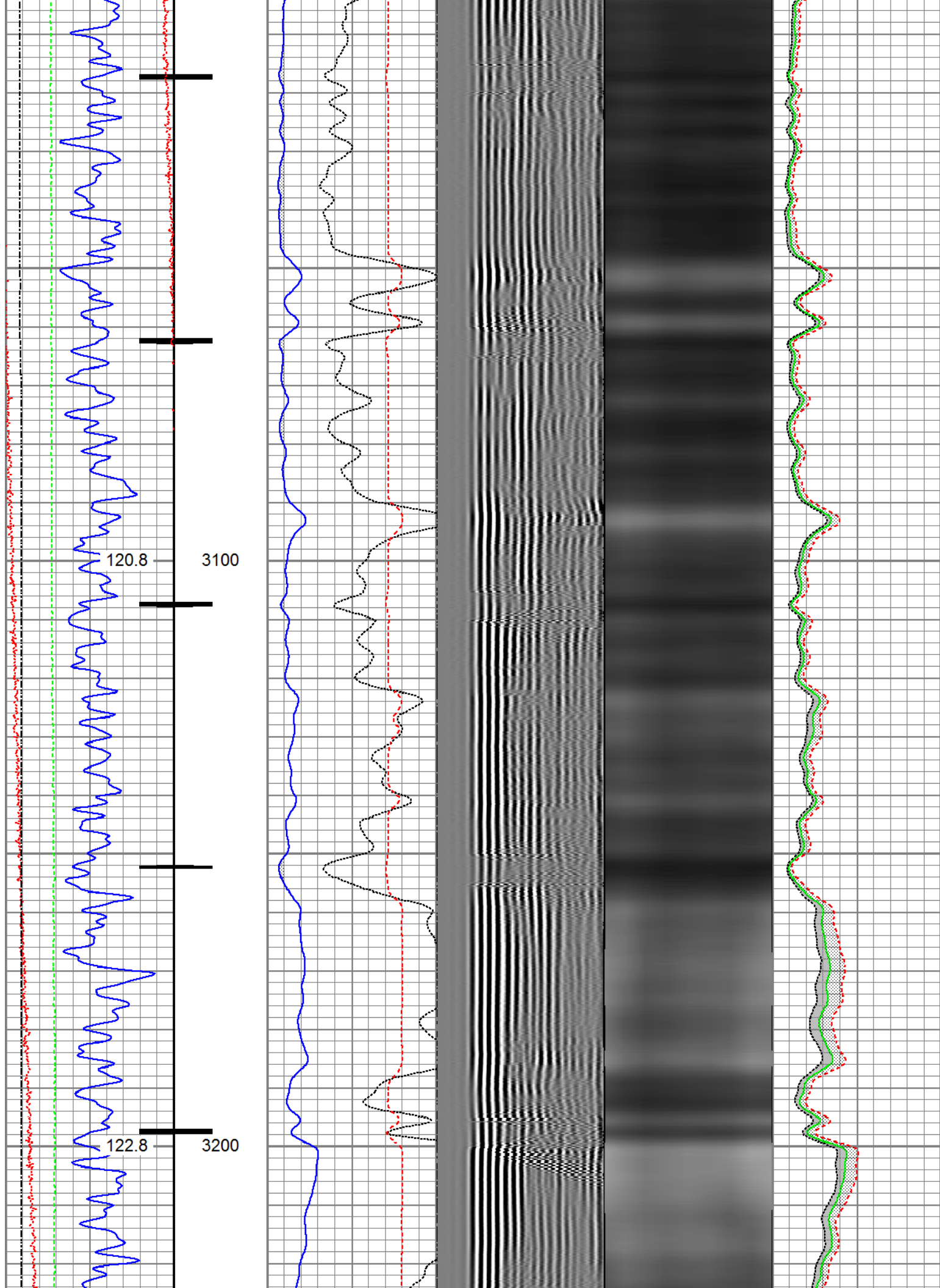


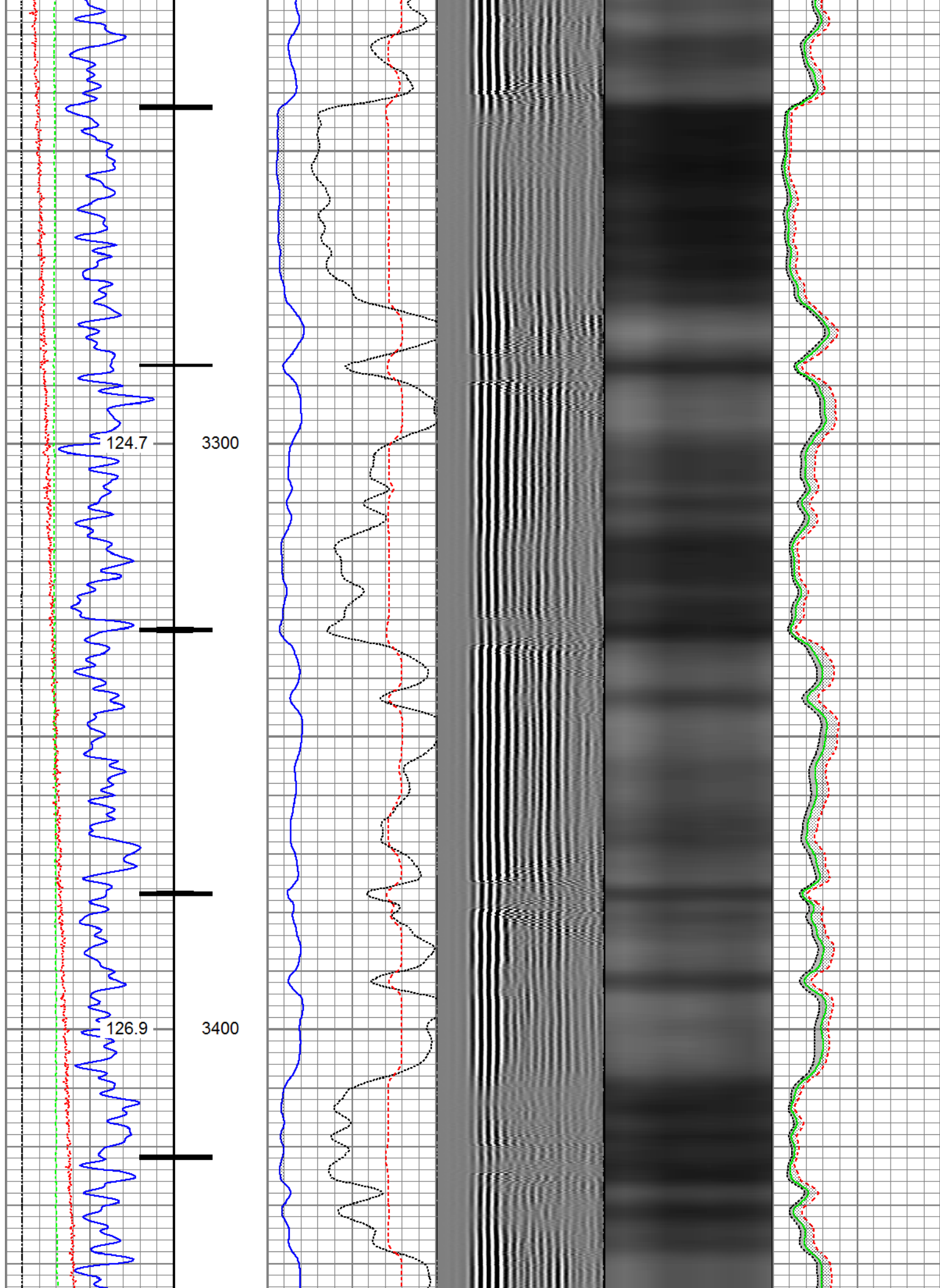


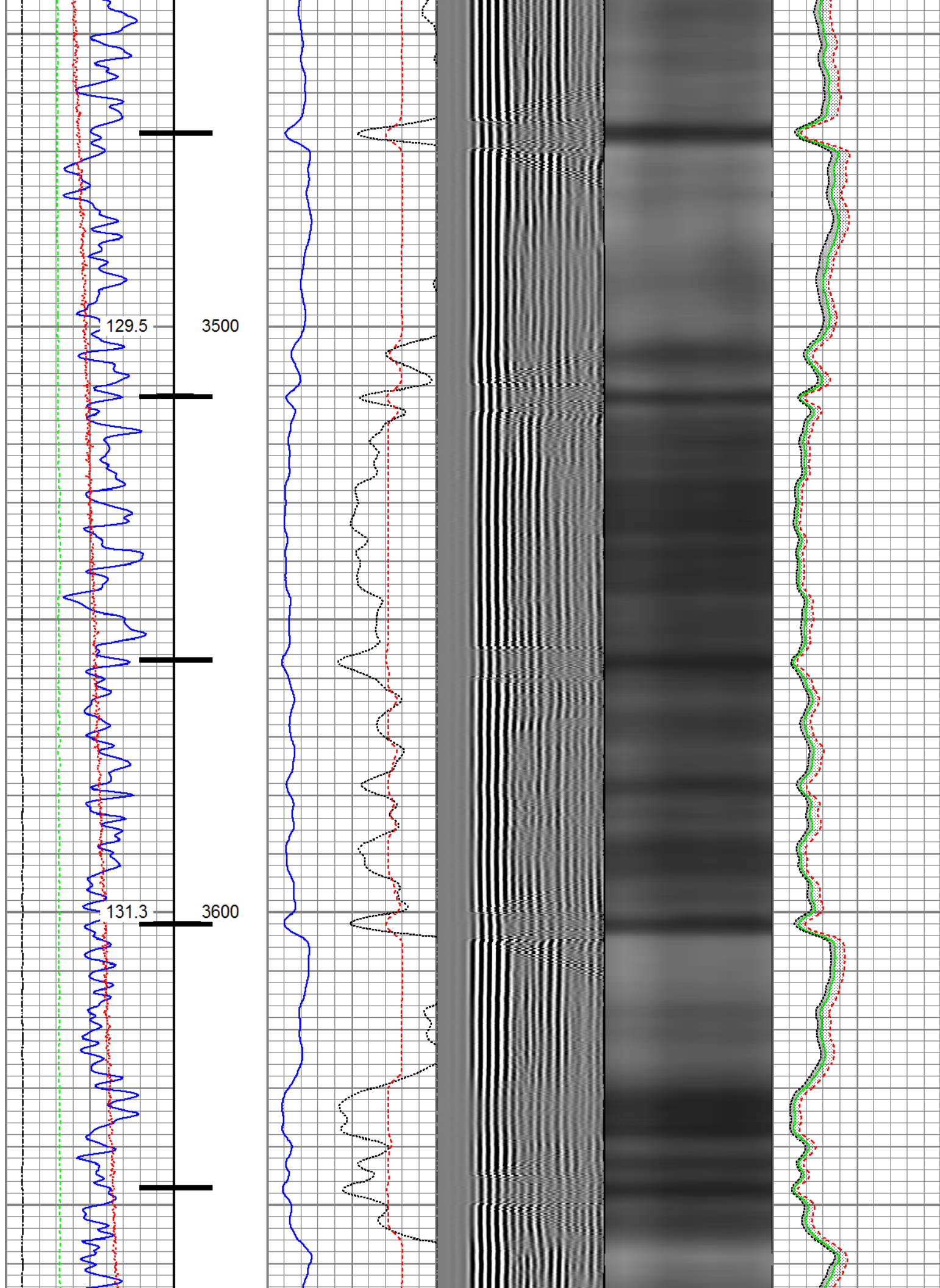


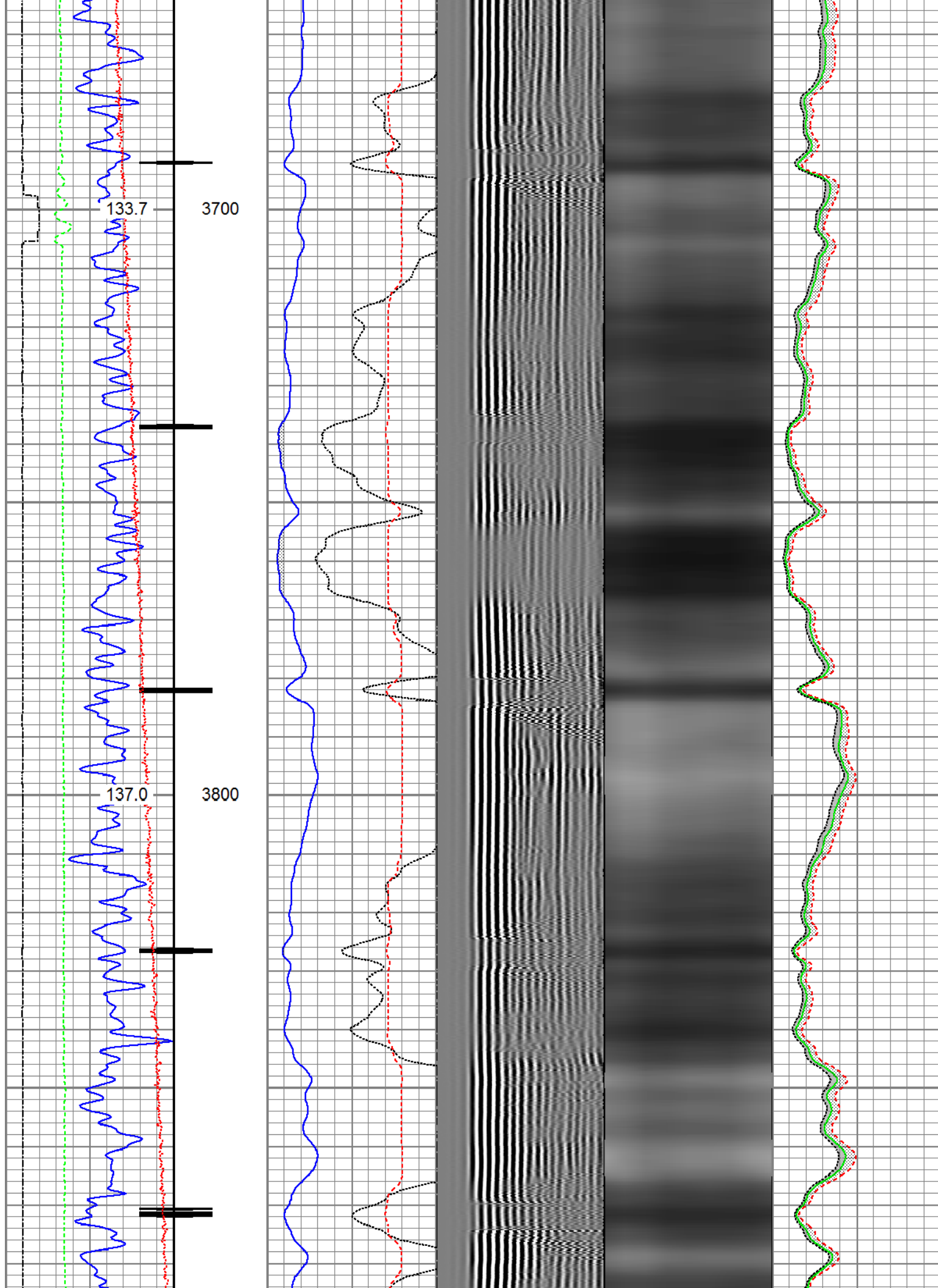


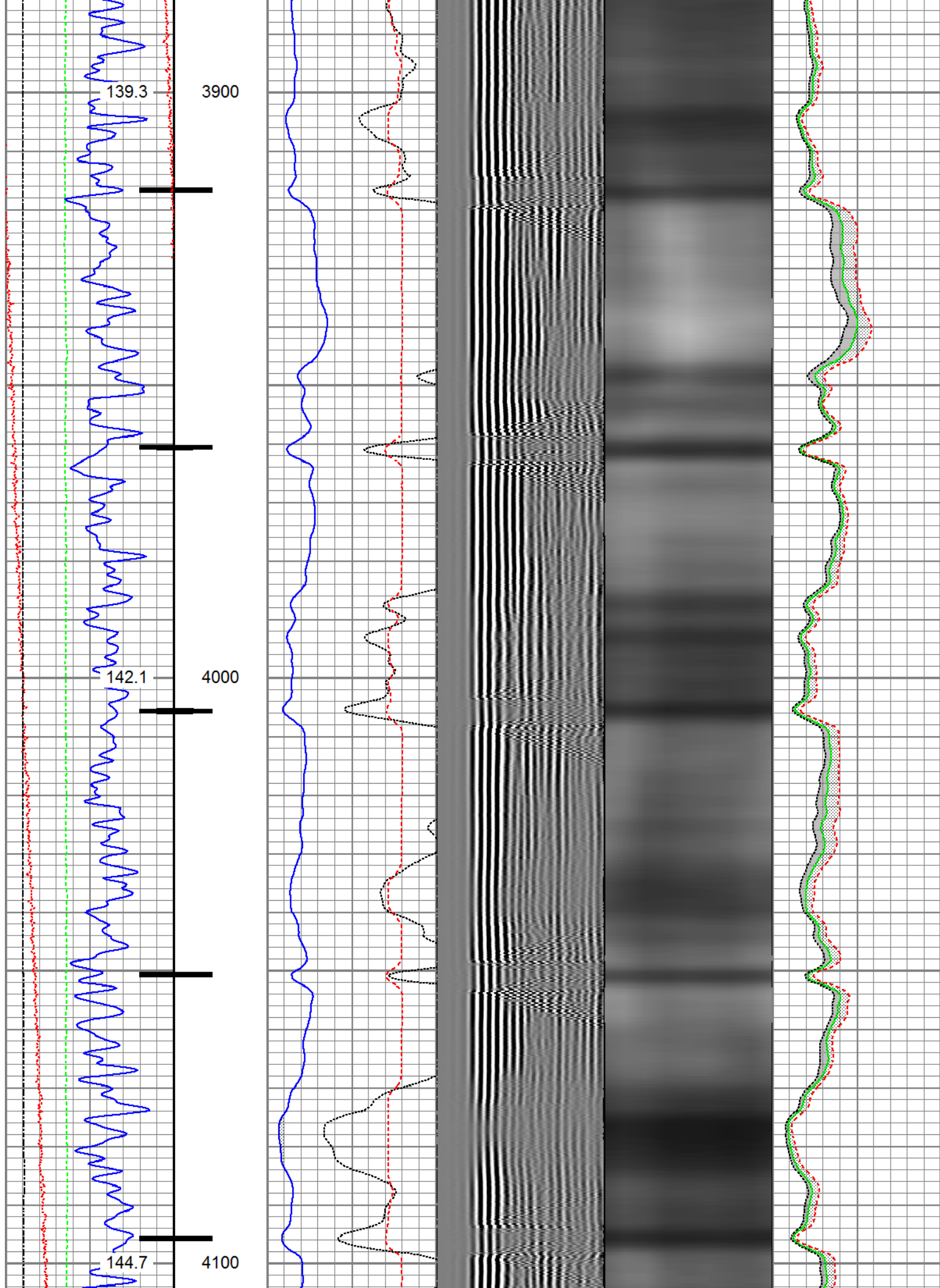


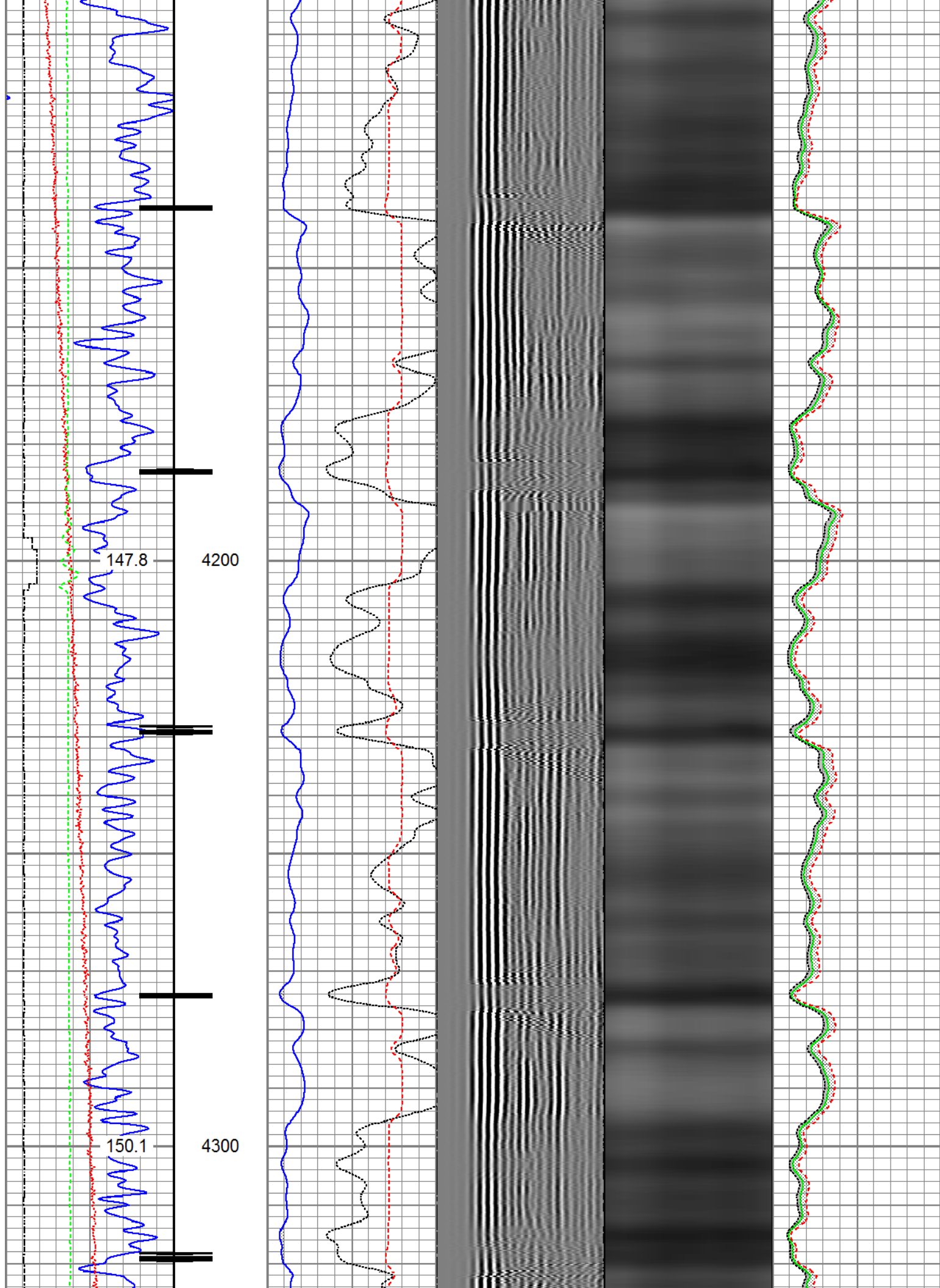


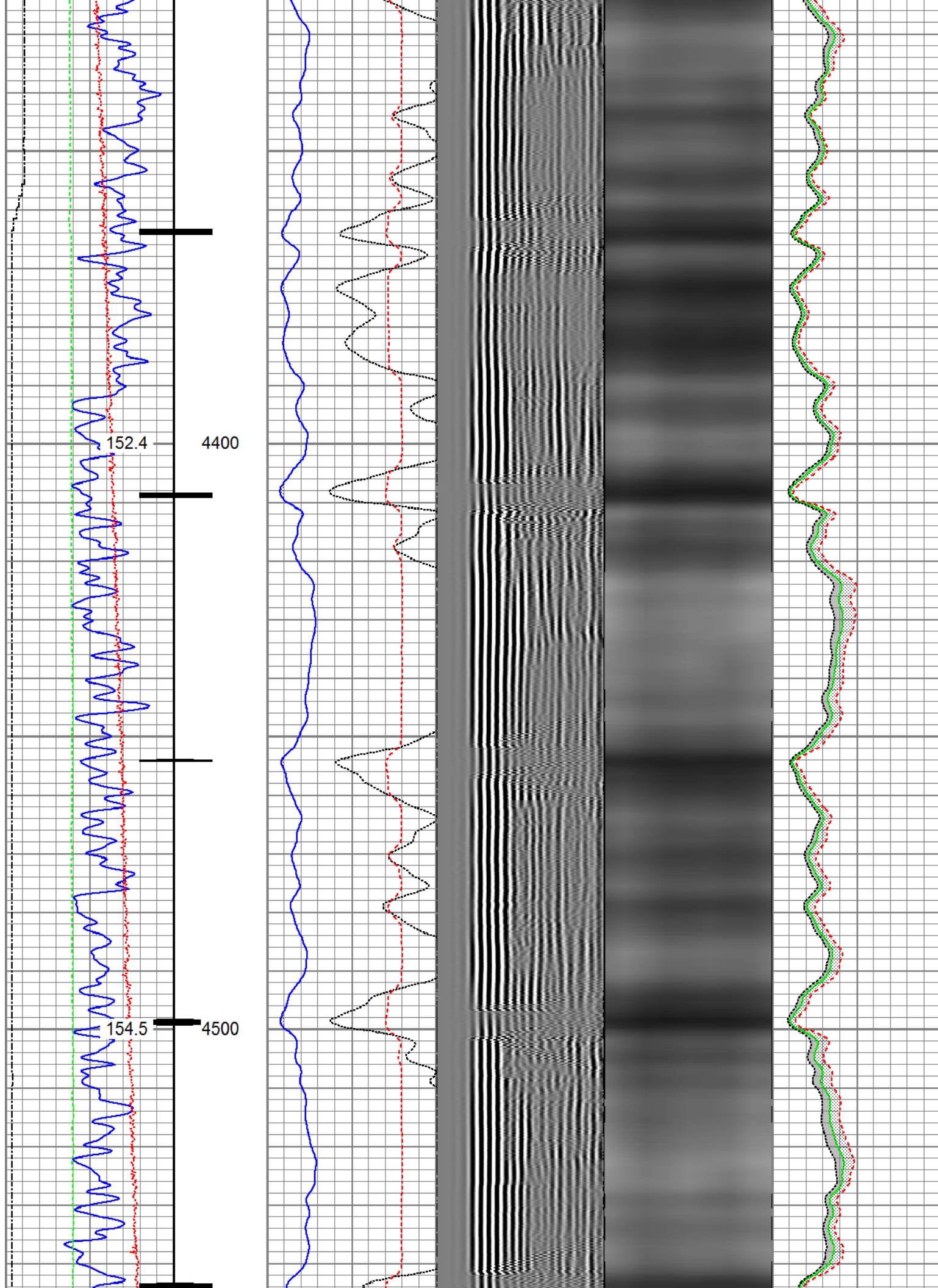


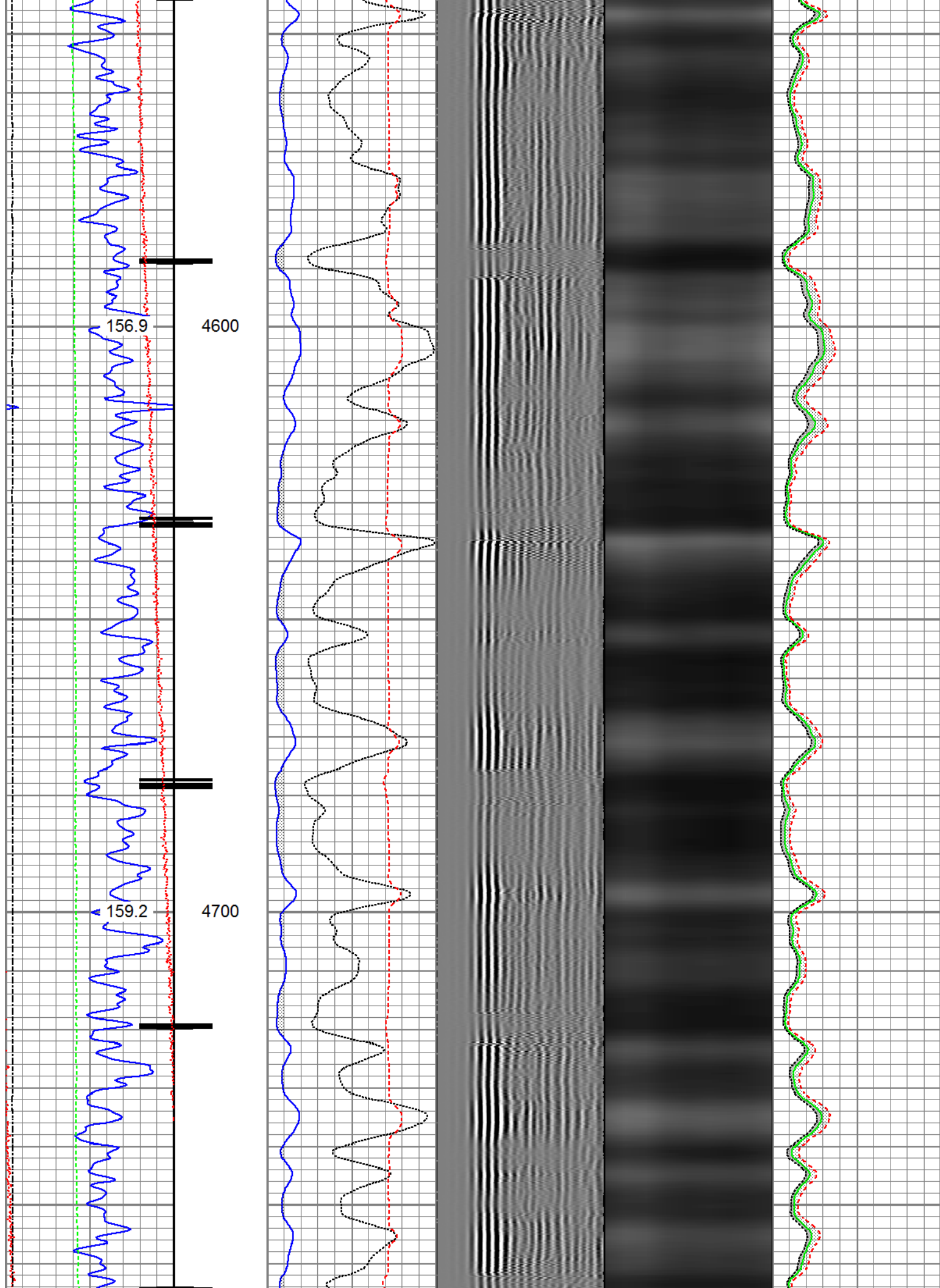


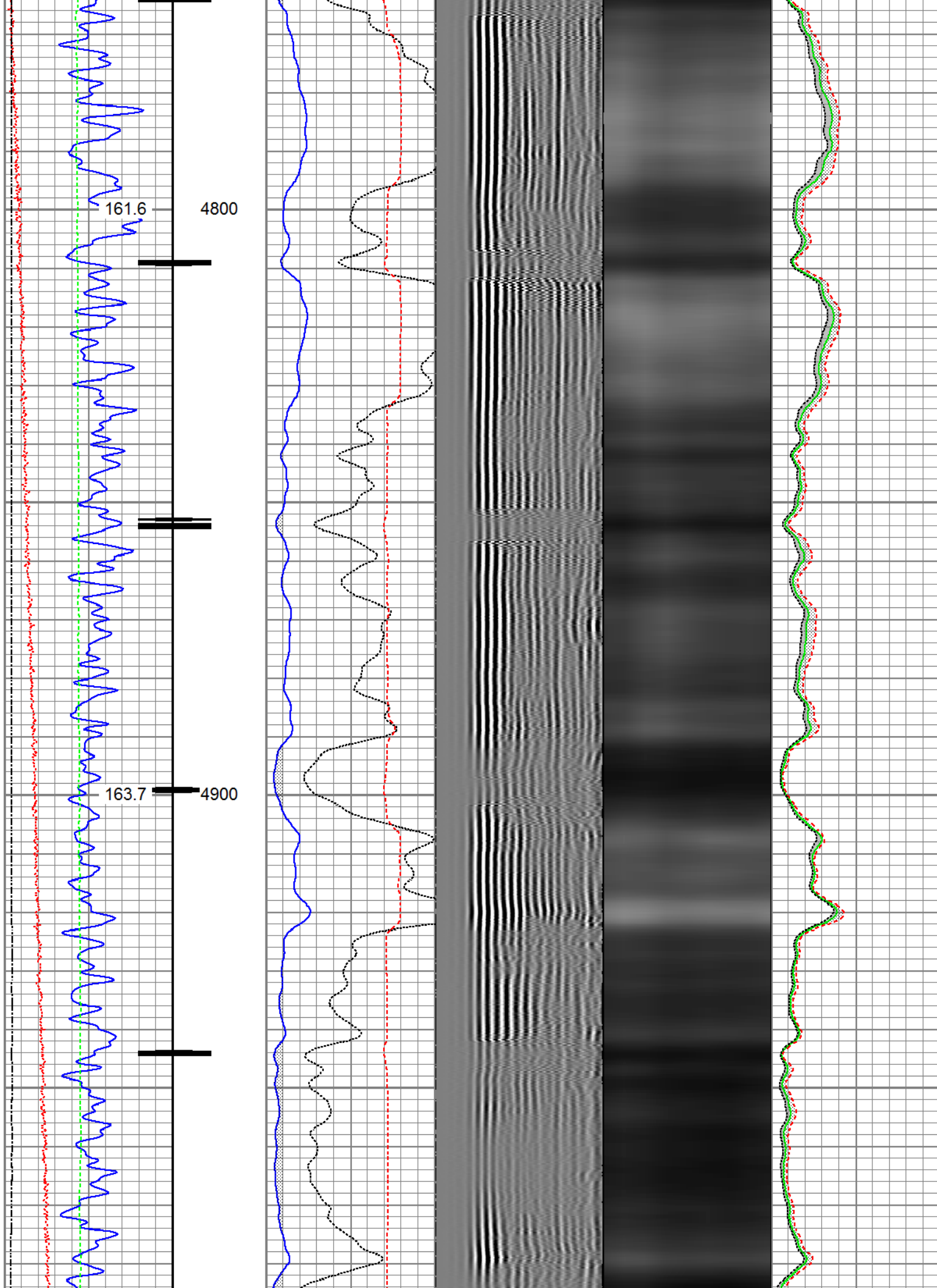


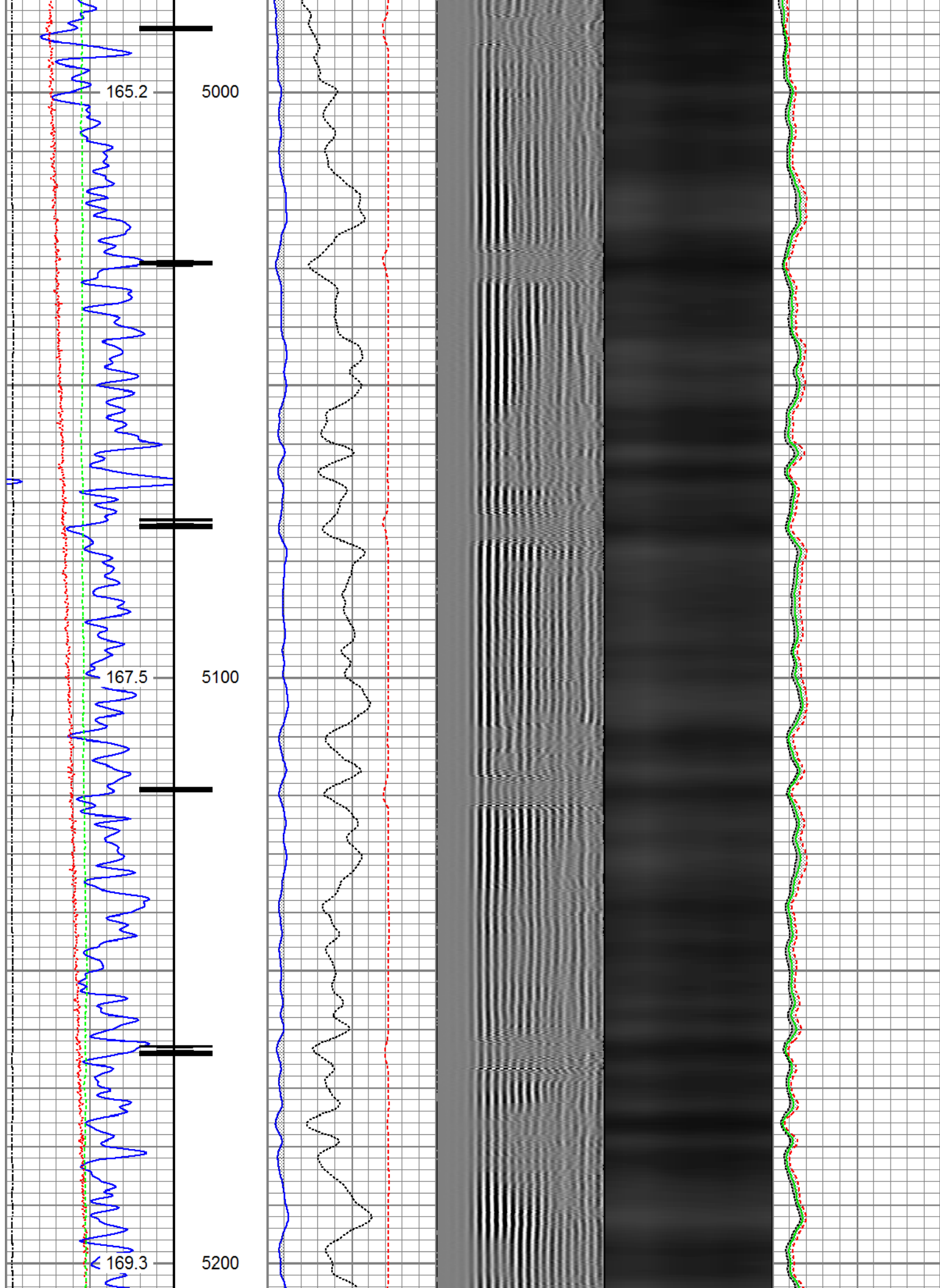


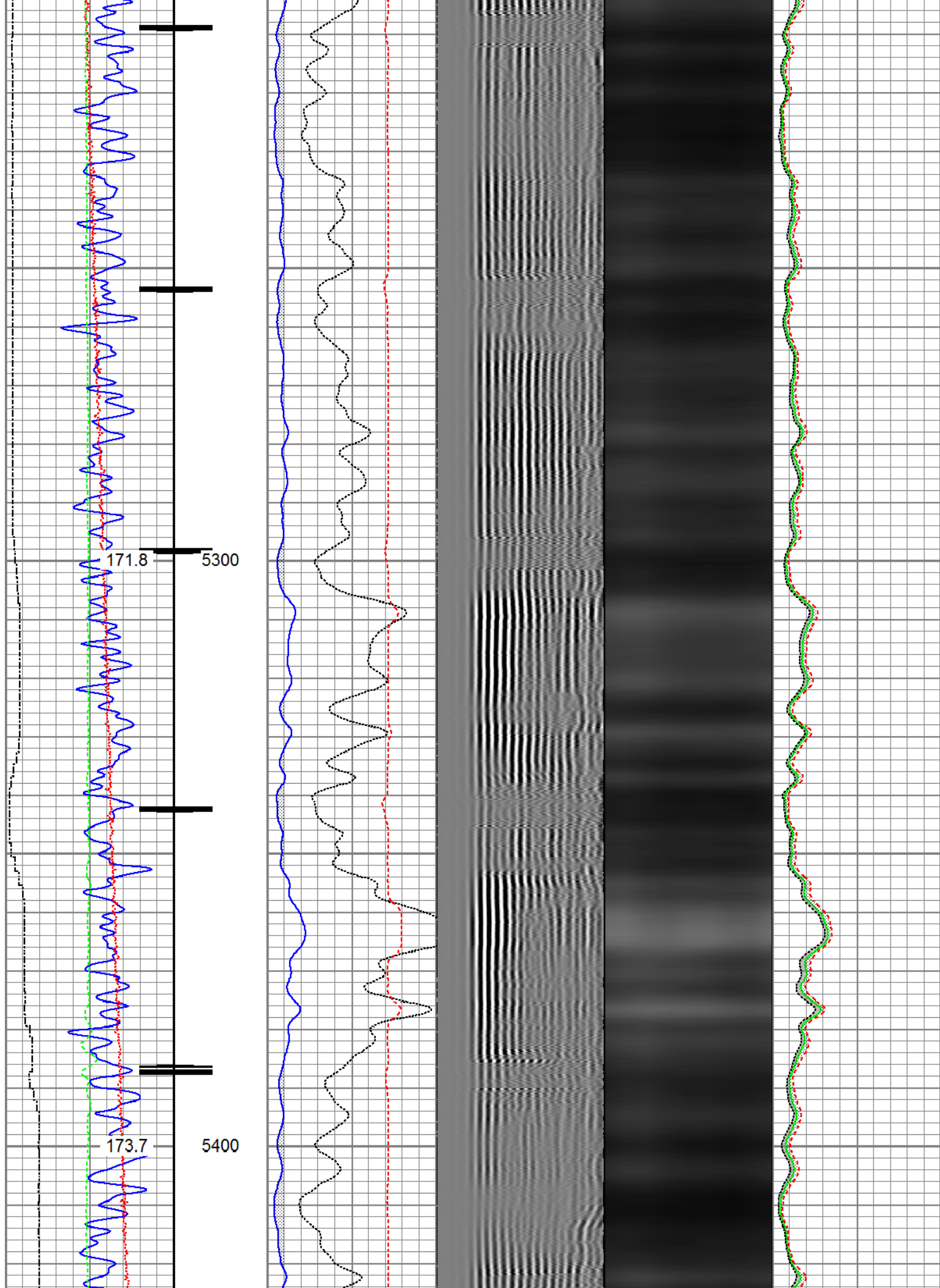


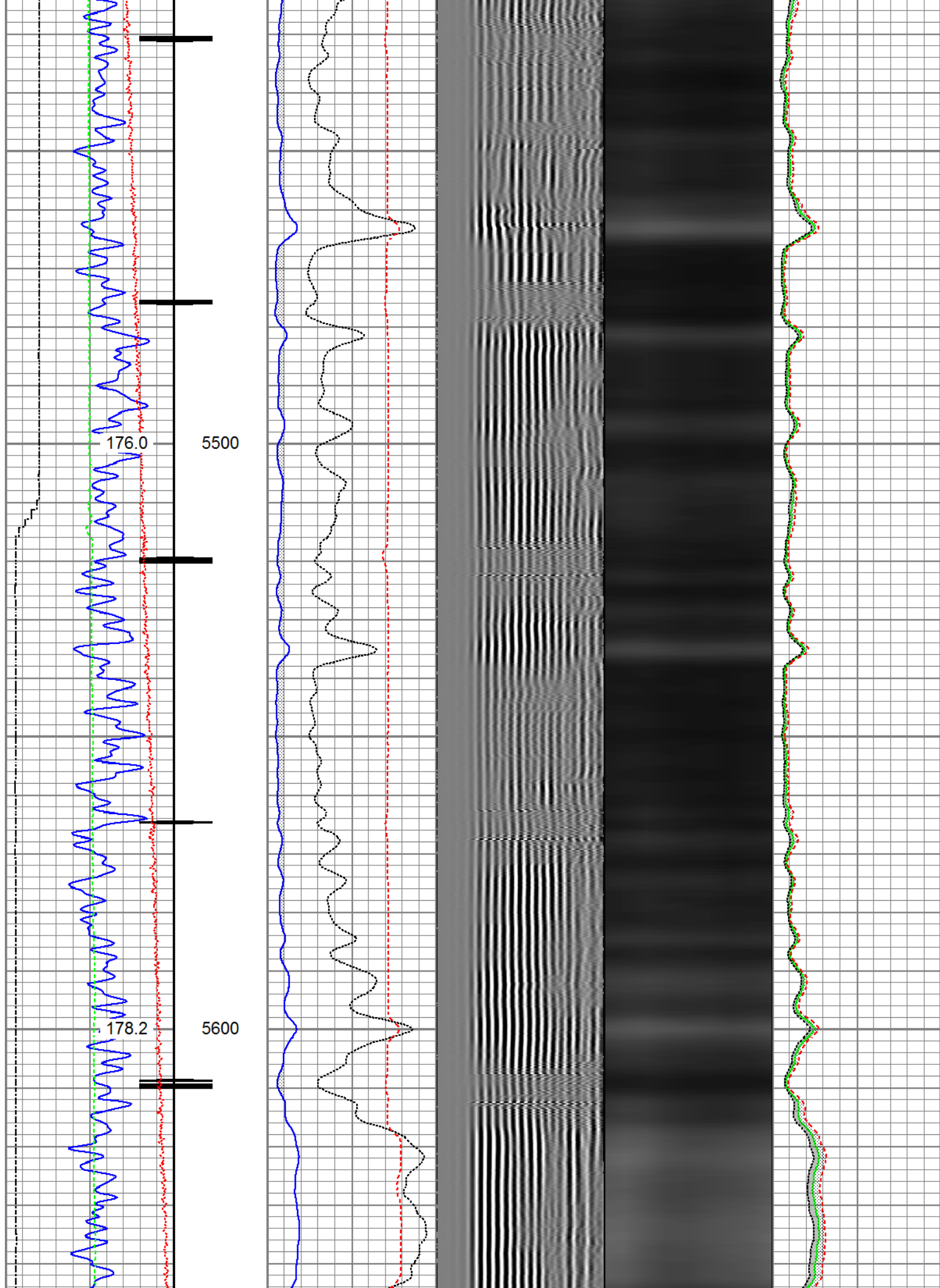


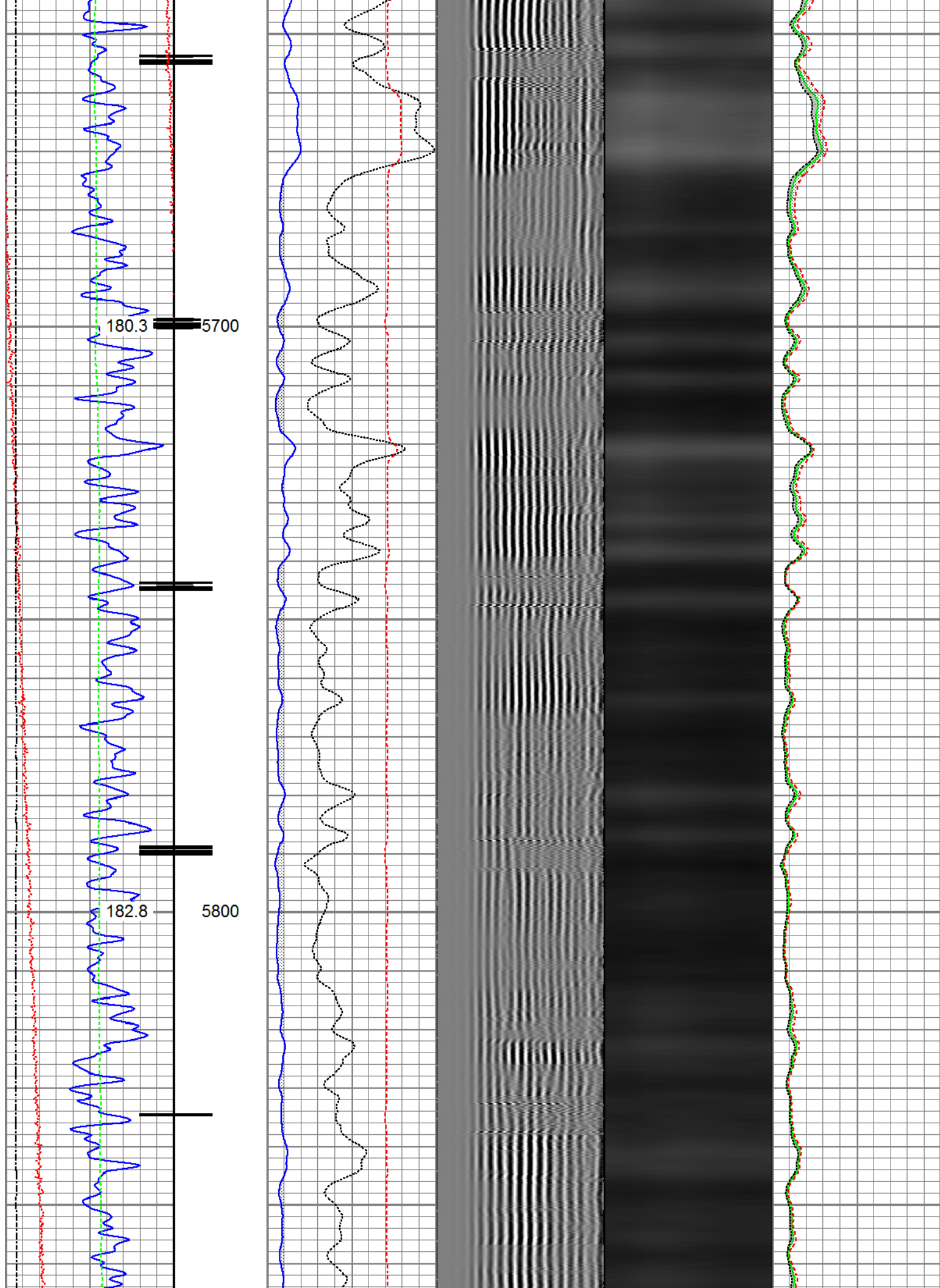


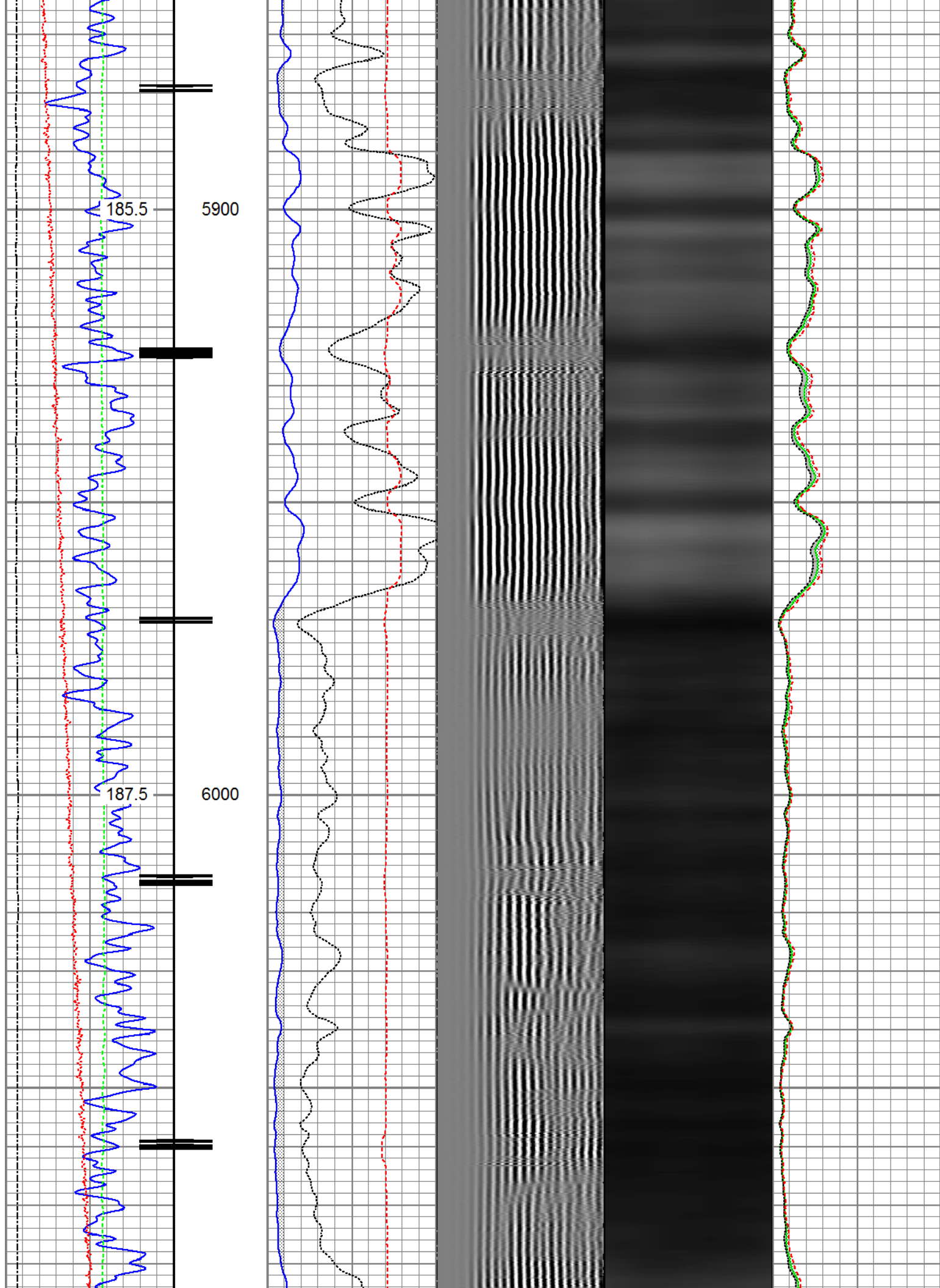


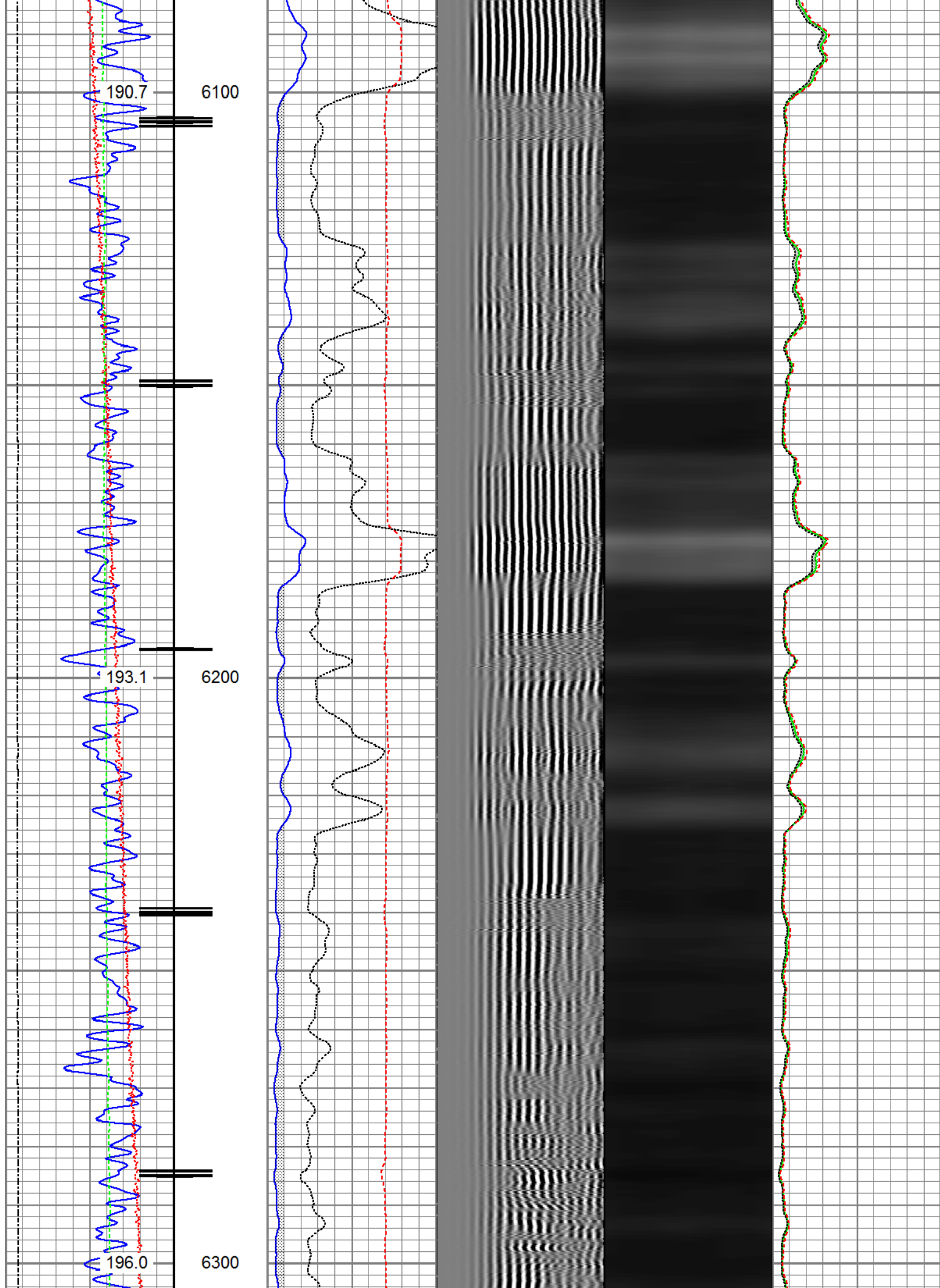


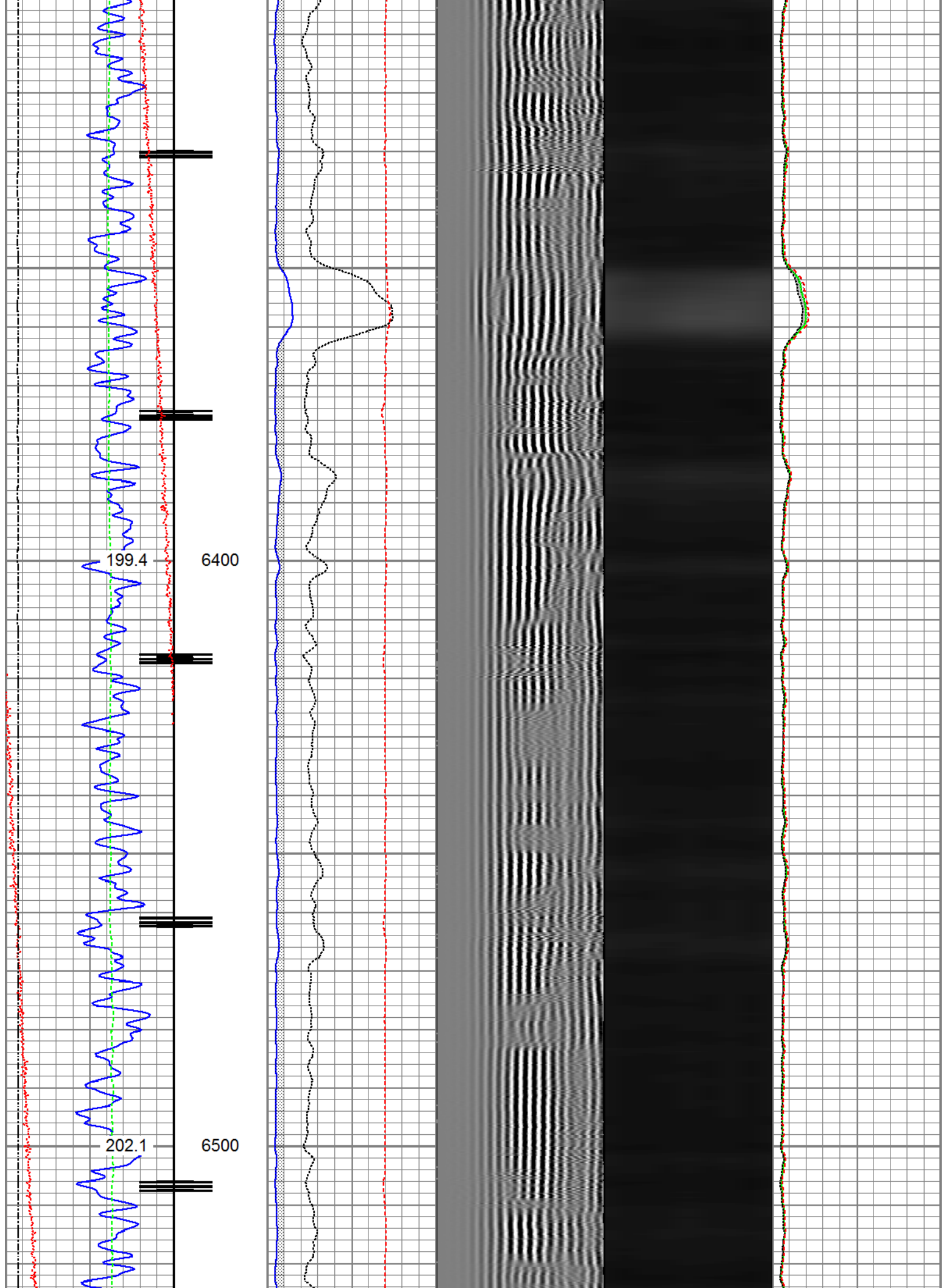


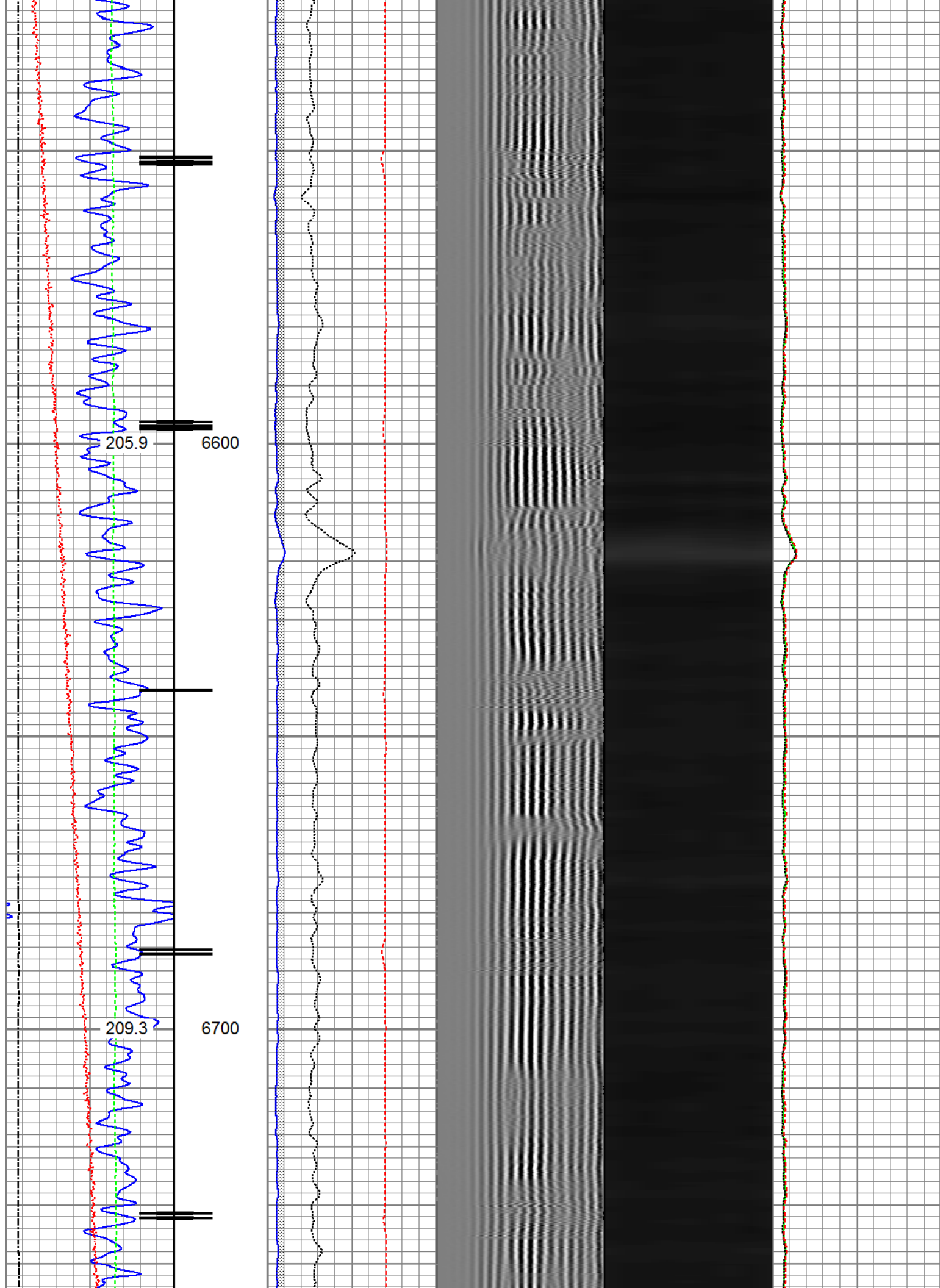


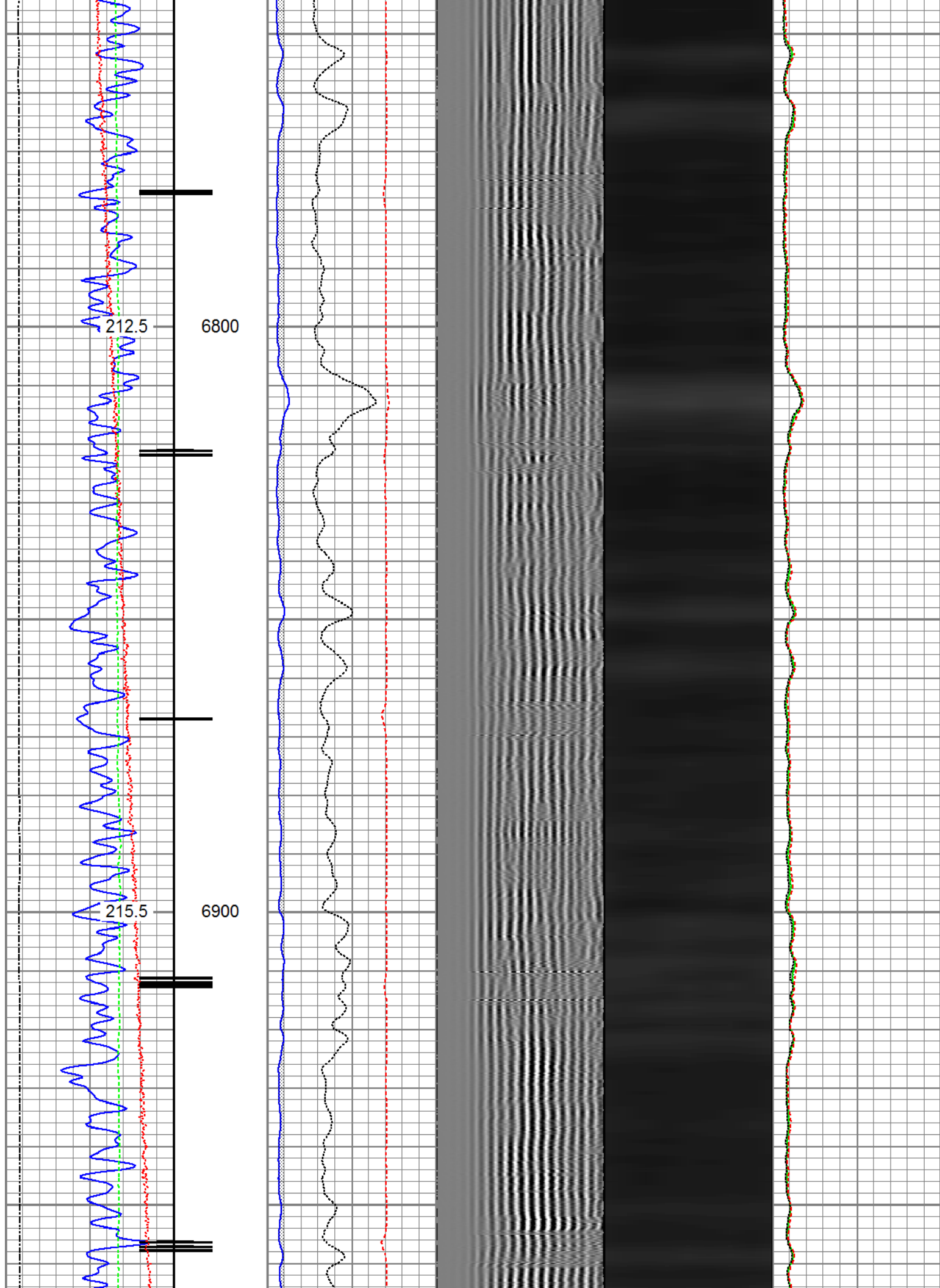


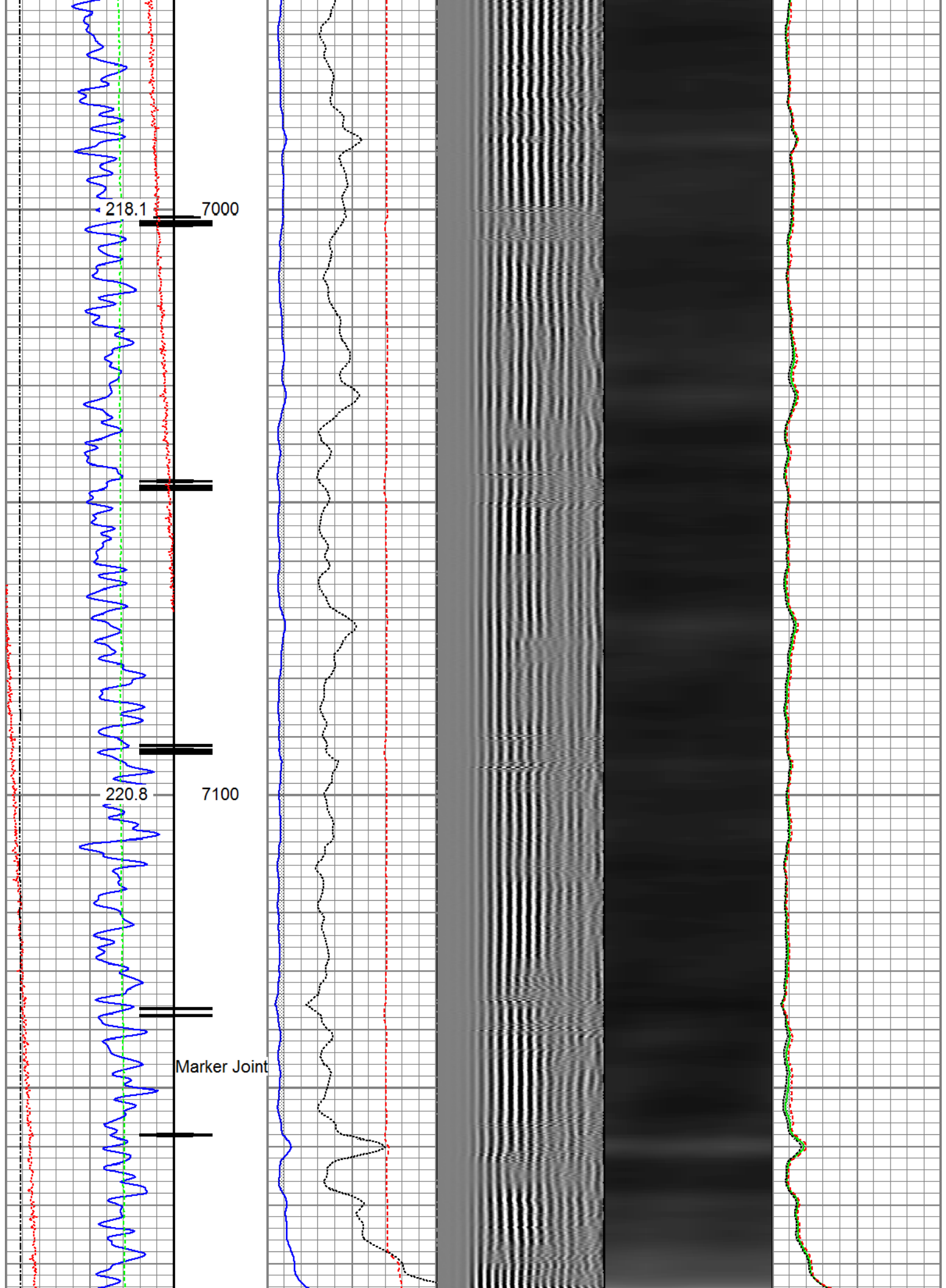


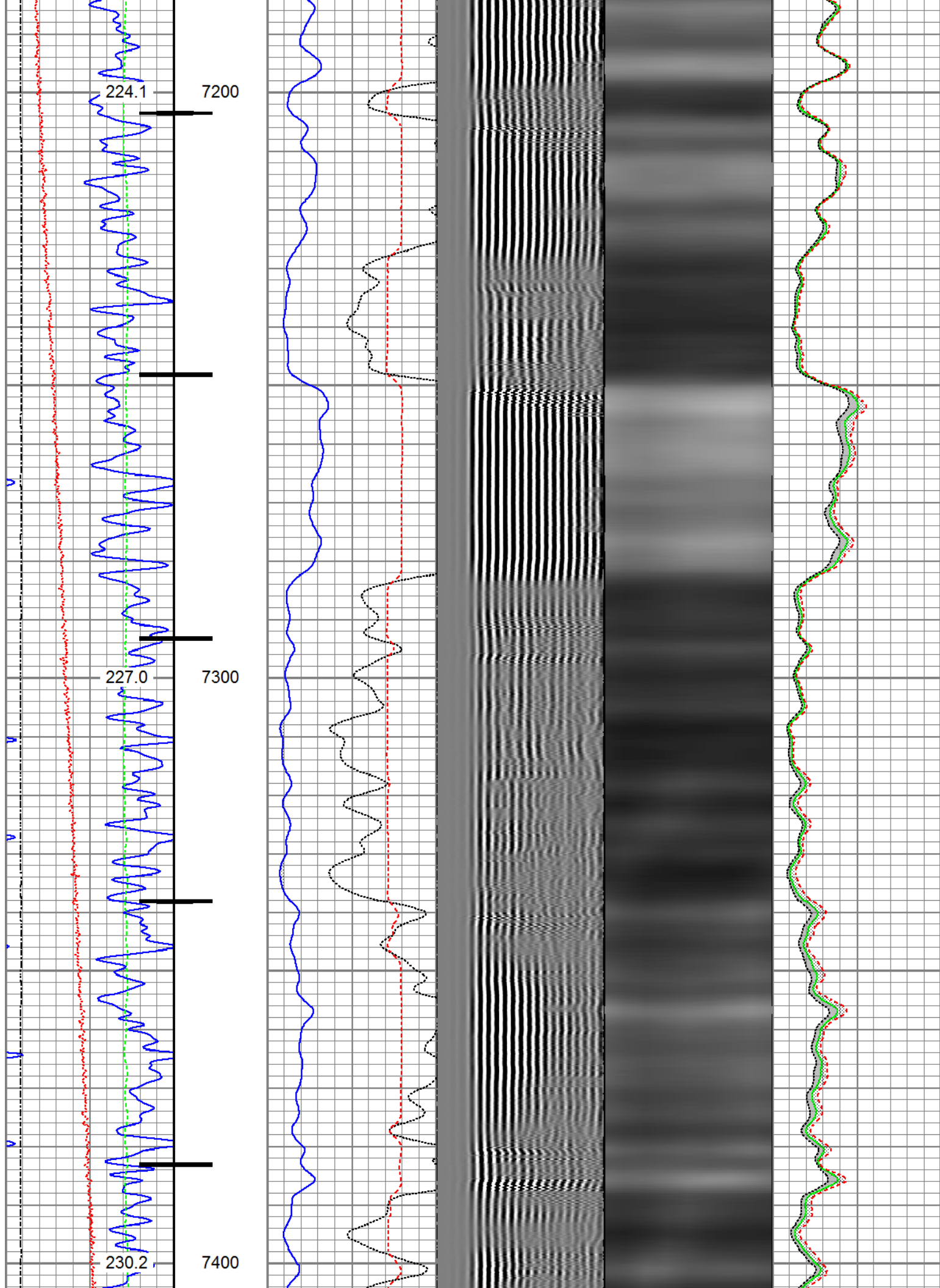


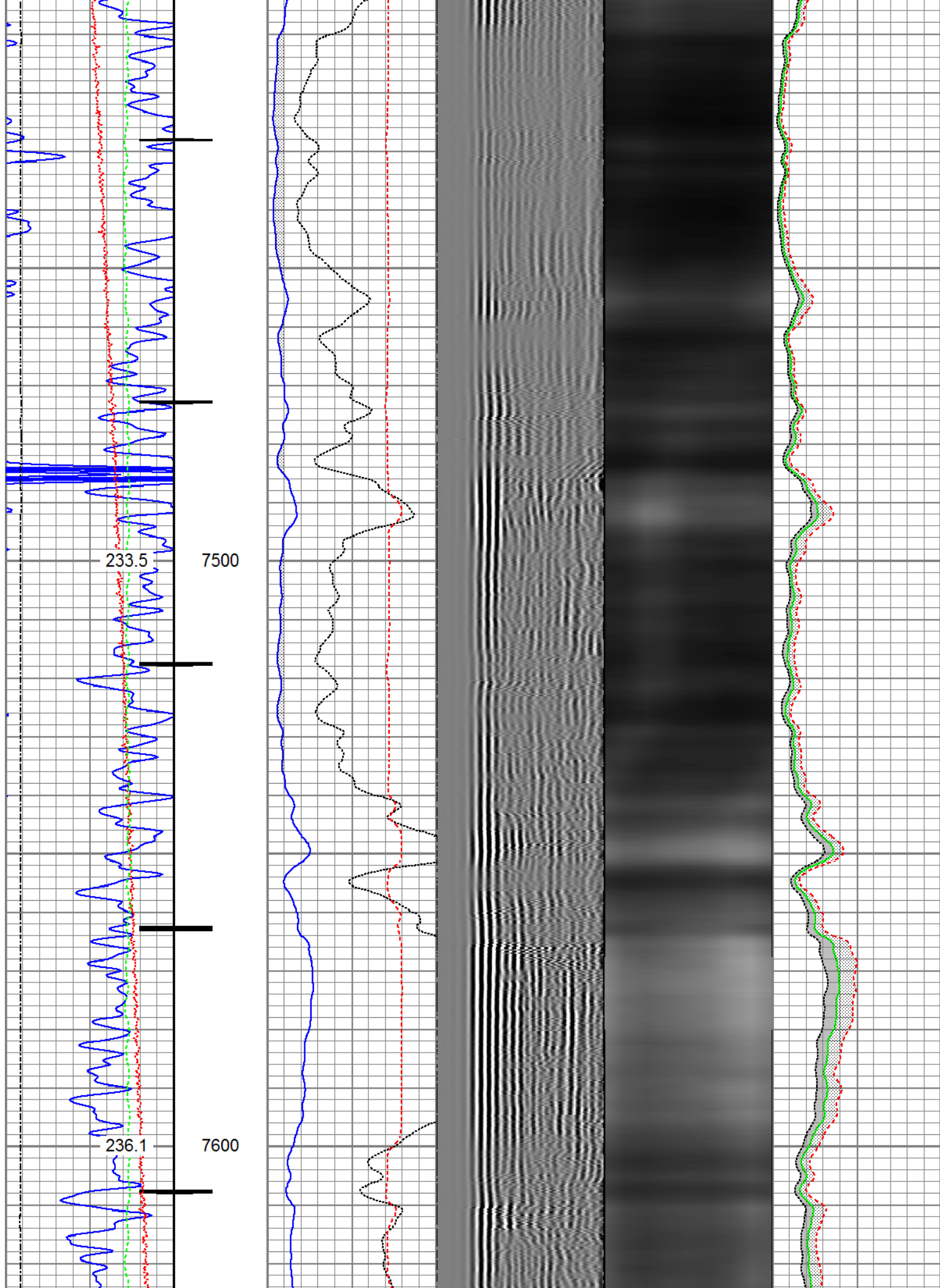


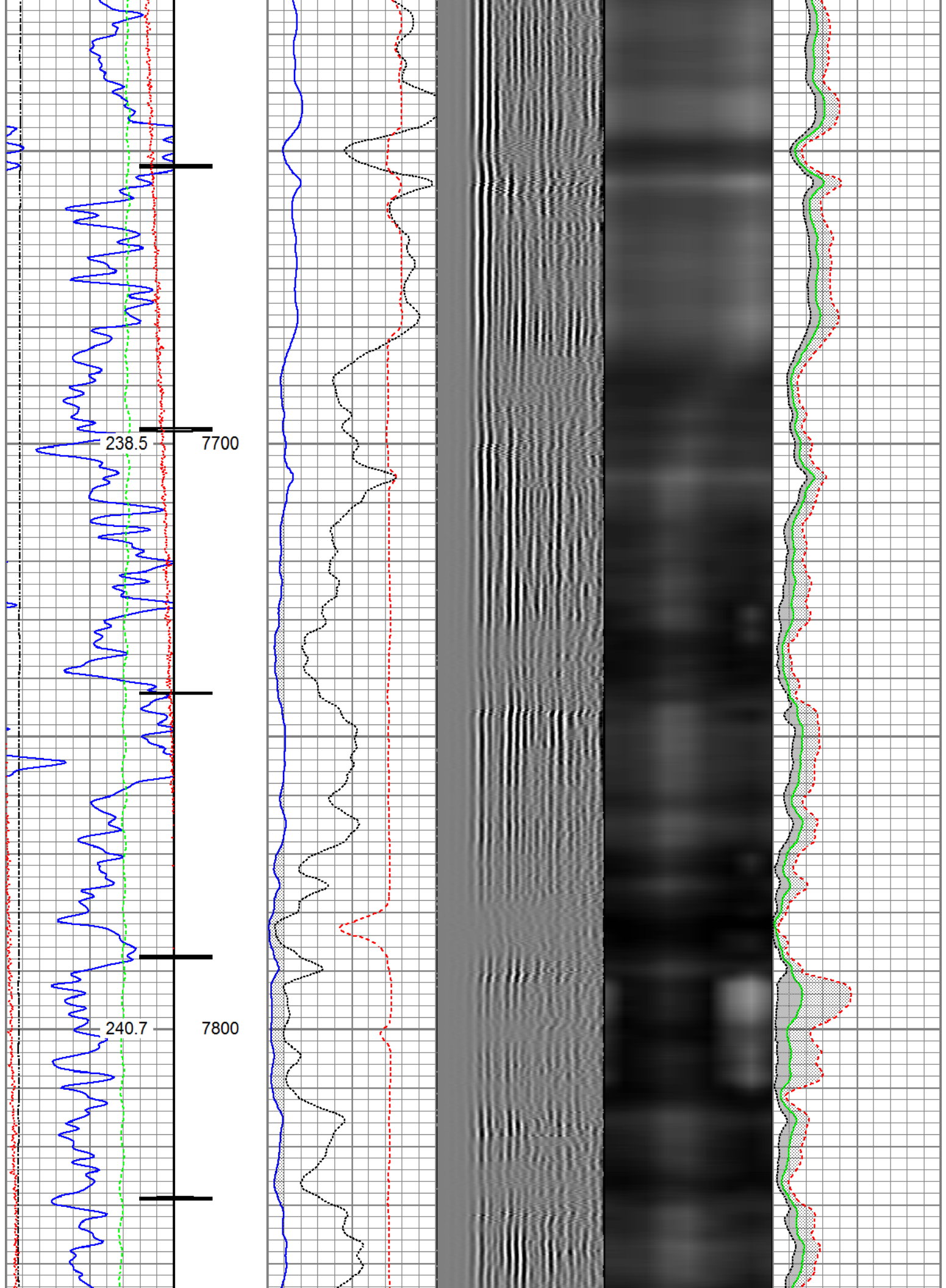


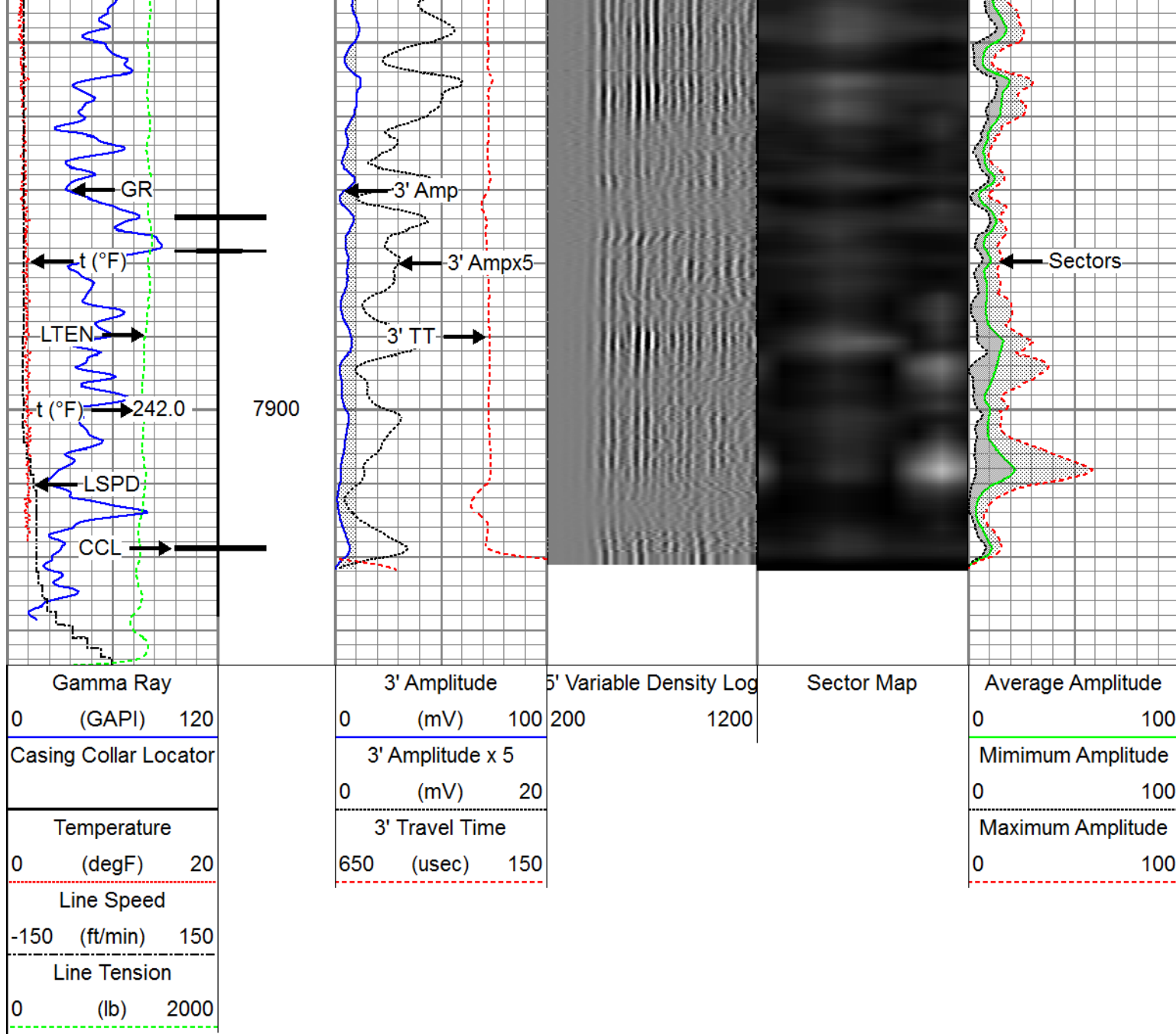








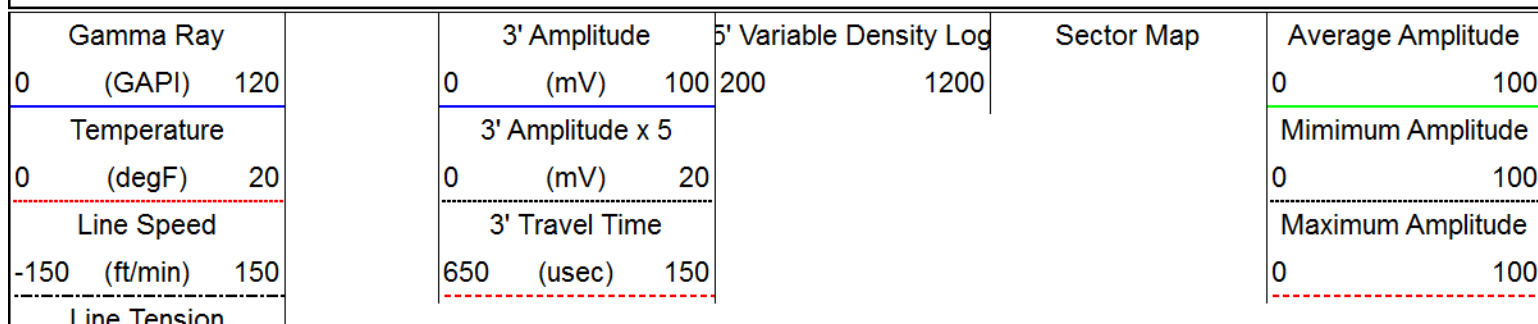


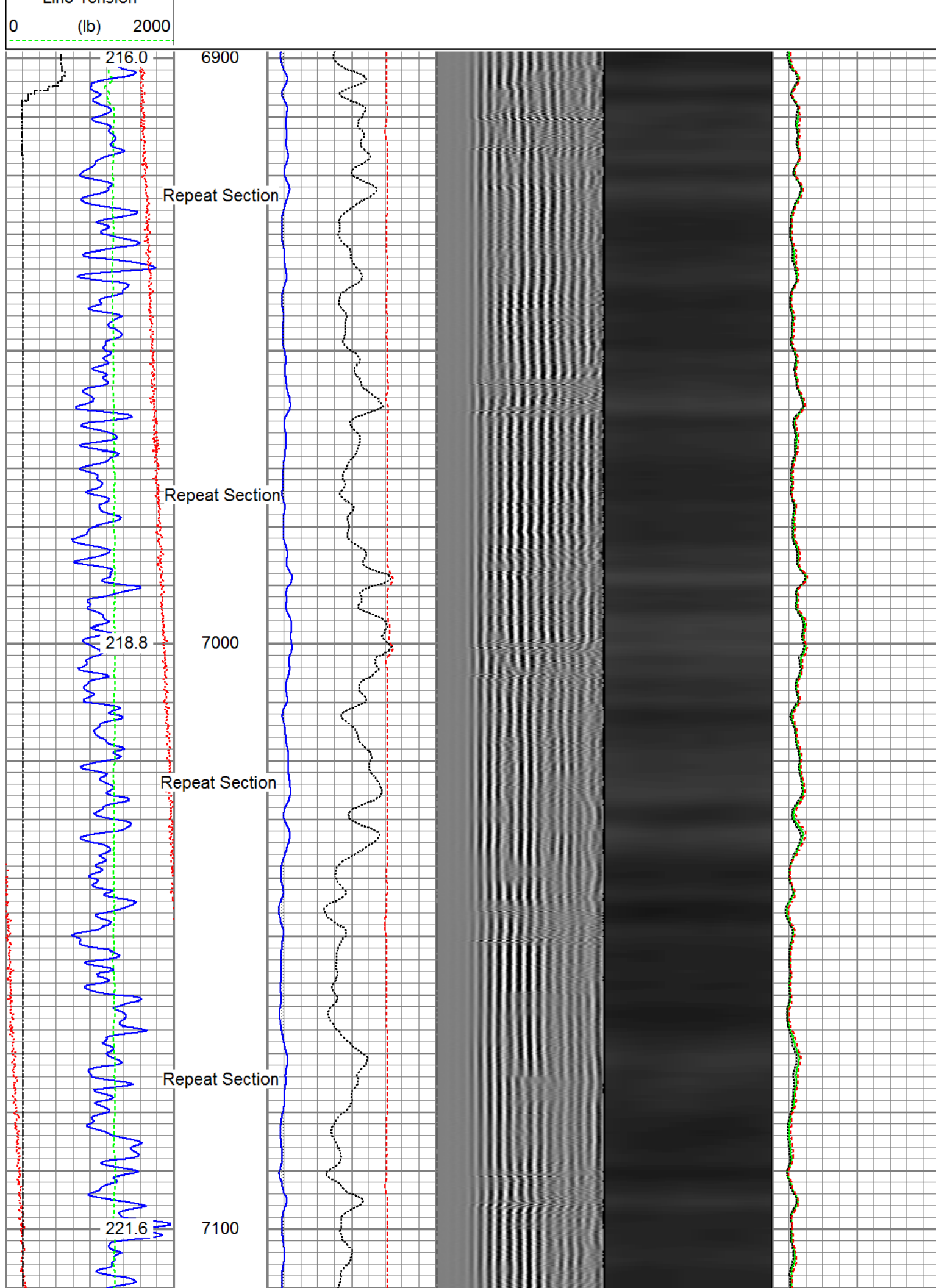


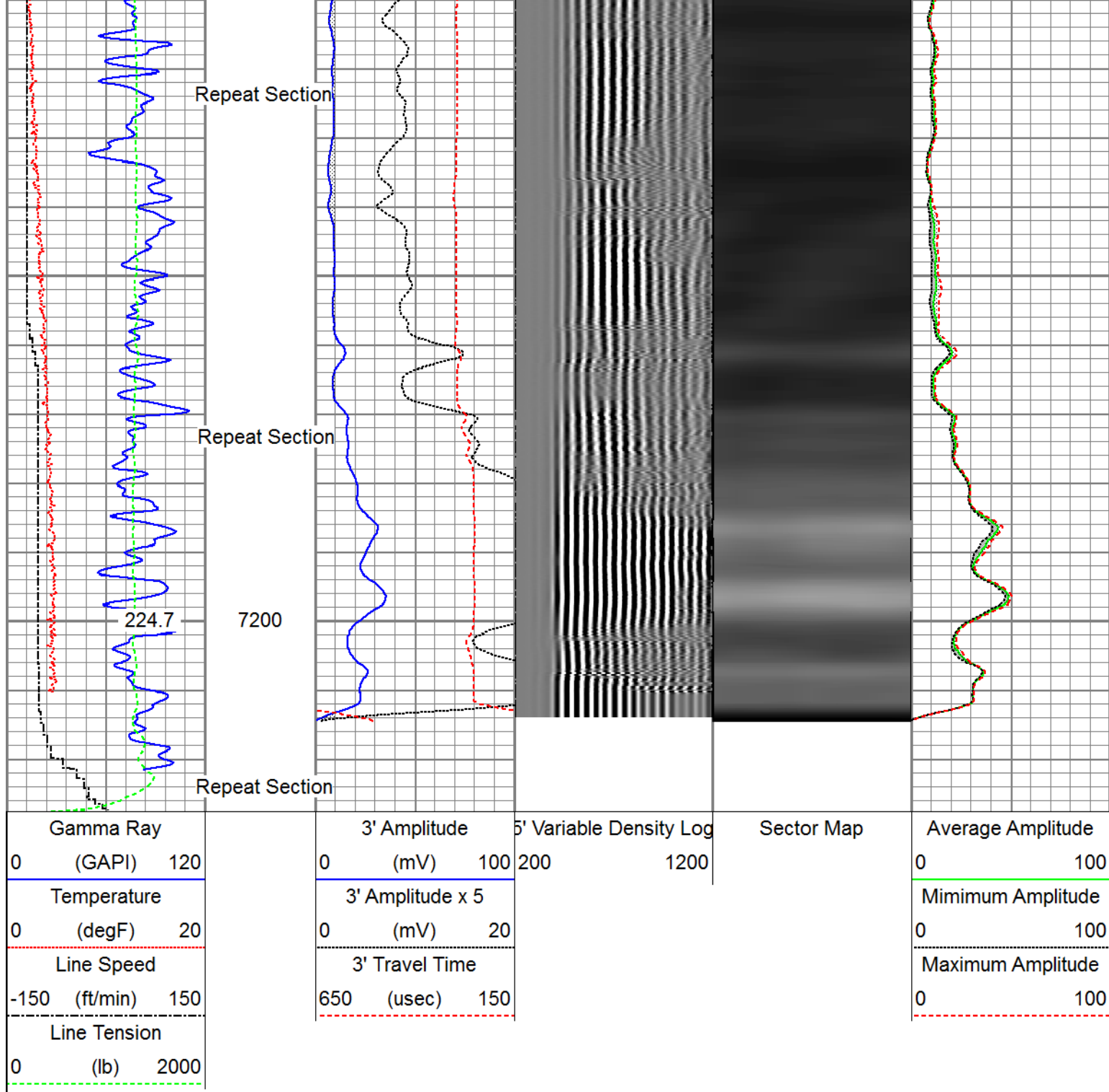
Repeat Pass

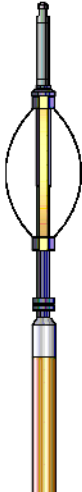
Recorded with 2800 PSI Surface Induced Pressure

Database File anadarko land fed 34c-32hz rcbl_16 aug.-2016_w8\processed_0512342395_anadarko land fed 34c-
 Dataset Pathname repeat.1
 Presentation Format ros_radrii
 Dataset Creation Thu Aug 18 17:13:24 2016
 Charted by Depth in Feet scaled 1:240







Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/16"	1.03	1.69	5.40
			Electric Cable Head with 1" Fishing Neck			
			Probe_ELine_BowSpring_Centralizer-P_EB	2.8875	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			

Temp	16.72				
WVFS8	14.55		Probe_RADII-C-P_RBT_2750 (FW1305-0989.19)	2.75	105.00
WVFS7	14.55		Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe		
WVFS6	14.55				
WVFS5	14.55				
WVFS4	14.55				
WVFS3	14.55				
WVFS2	14.55				
WVFS1	14.55				
WVFCAL	14.55				
WVF3FT	14.55				
WVF5FT	13.55				
HeadVolt	10.30				
			Probe_ELine_BowSpring_Centralizer-P_EB52.8875	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer		
DCCL	6.51				
CCL	6.51				
			Probe_GR_CCL-P_CGR_2750_S (FW1211-4.54)	2.75	55.00
			Probe 2-3/4" Digital CCL / Gamma Ray Combined		
GR	3.77				
			Probe_ELine_BowSpring_Centralizer-P_EB52.8875	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer		
Dataset: processed_0512342395_anadarko land fed 34c-32hz_08-16-16_rbl_w8.db: field/well/run1/main.1 Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in					

Calibration Report		
Database File	c:\programdata\warrior\data\anadarko land fed 34c-32hz rcbl_16 aug.-2016_w8\processed_05123423	
Dataset Pathname	main.1	
Dataset Creation	Thu Aug 18 17:02:54 2016	
Gamma Ray Calibration Report		
Serial Number:	FW1211-081	
Tool Model:	P_CGR_2750_S	
Performed:	Sat Feb 06 11:31:52 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps

Sensitivity:

0.6061

GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1305-098
 Tool Model: P_RBT_2750

Calibration Casing Diameter: 5.500 in
 Calibration Depth: 832.305 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.604	0.800	71.921	119.131	-0.043
CAL	0.738	0.712				
5'	0.013	0.383	0.800	71.921	192.181	-1.603
SUM						
S1	0.006	0.619	0.000	100.000	162.949	-0.938
S2	0.009	0.659	0.000	100.000	153.667	-1.317
S3	0.009	0.662	0.000	100.000	153.046	-1.338
S4	0.008	0.635	0.000	100.000	159.371	-1.219
S5	0.008	0.609	0.000	100.000	166.531	-1.348
S6	0.007	0.592	0.000	100.000	170.957	-1.269
S7	0.008	0.579	0.000	100.000	175.165	-1.484
S8	0.008	0.582	0.000	100.000	174.078	-1.327

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.738	0.712	1.000	0.000

Air Zero Calibration, performed Tue Aug 16 09:28:45 2016:

	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	



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

Well Land Fed 34C-32HZ

Field Wattenberg

County

Weld

State

Colorado