



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	Land Fed 30N-29HZ				
Field	Wattenberg				
County	Weld				
State	Colorado				
Company	Kerr-McGee Oil & Gas Onshore, L.P.	Well	Land Fed 30N-29HZ	Field	Wattenberg
County	Weld	State	Colorado		
Location:	API # : 05-123-42398		Other Services		
SEC 32 TWP 2N RGE 66W			Gauge Ring		
Permanent Datum	Ground Level	Elevation	Elevation		
Log Measured From	Kelly Bushing	20 FT	K.B. 4919'		
Drilling Measured From	Kelly Bushing		D.F. 4918'		
			G.L. 4899'		

Date 16-Aug-2016

Run Number	One		
Depth Driller	12909 FT		
Depth Logger	7565 FT		
Bottom Logged Interval	7560 FT		
Top Log Interval	Surface		
Open Hole Size	8.75"		
Type Fluid	Water		
Density / Viscosity	8.34 lbm/gal		
Max. Recorded Temp.	234 °F		
Estimated Cement Top	Surface		
Time Well Ready	ROA		
Time Logger on Bottom	16:00		
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	1862 FT
Intermediate #1	5 1/2	17	LTC	Surface	12898 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 6683 FT
Adjusted log +1 FT to correlate with Marker Joint
Log ran from 7565 FT to surface
Log ran with 2800 PSI surface induced pressure
Logging tools were clean and free of any debris upon completion of operations

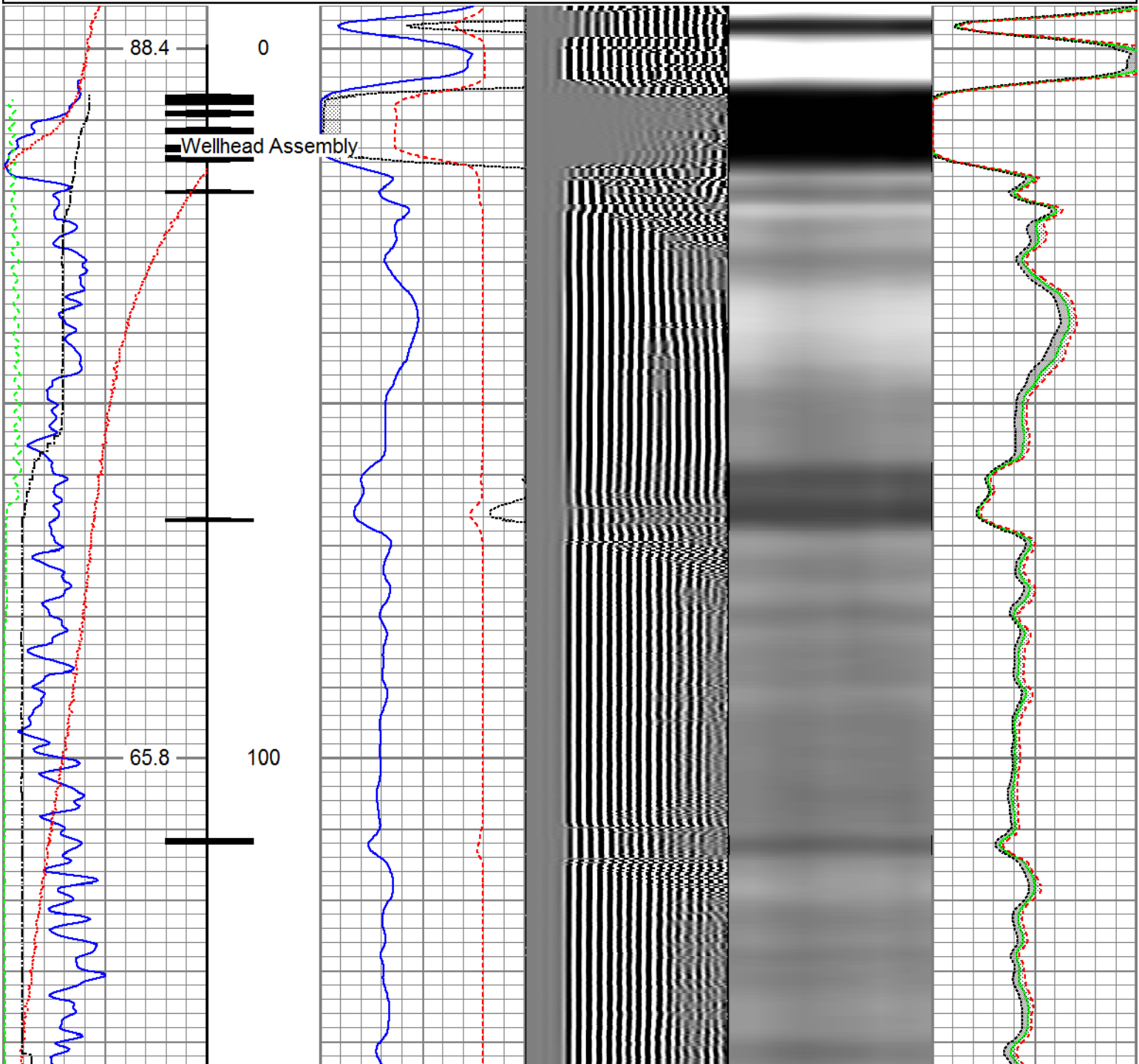
Thank you for choosing Reliance Oilfield Services, LLC!!

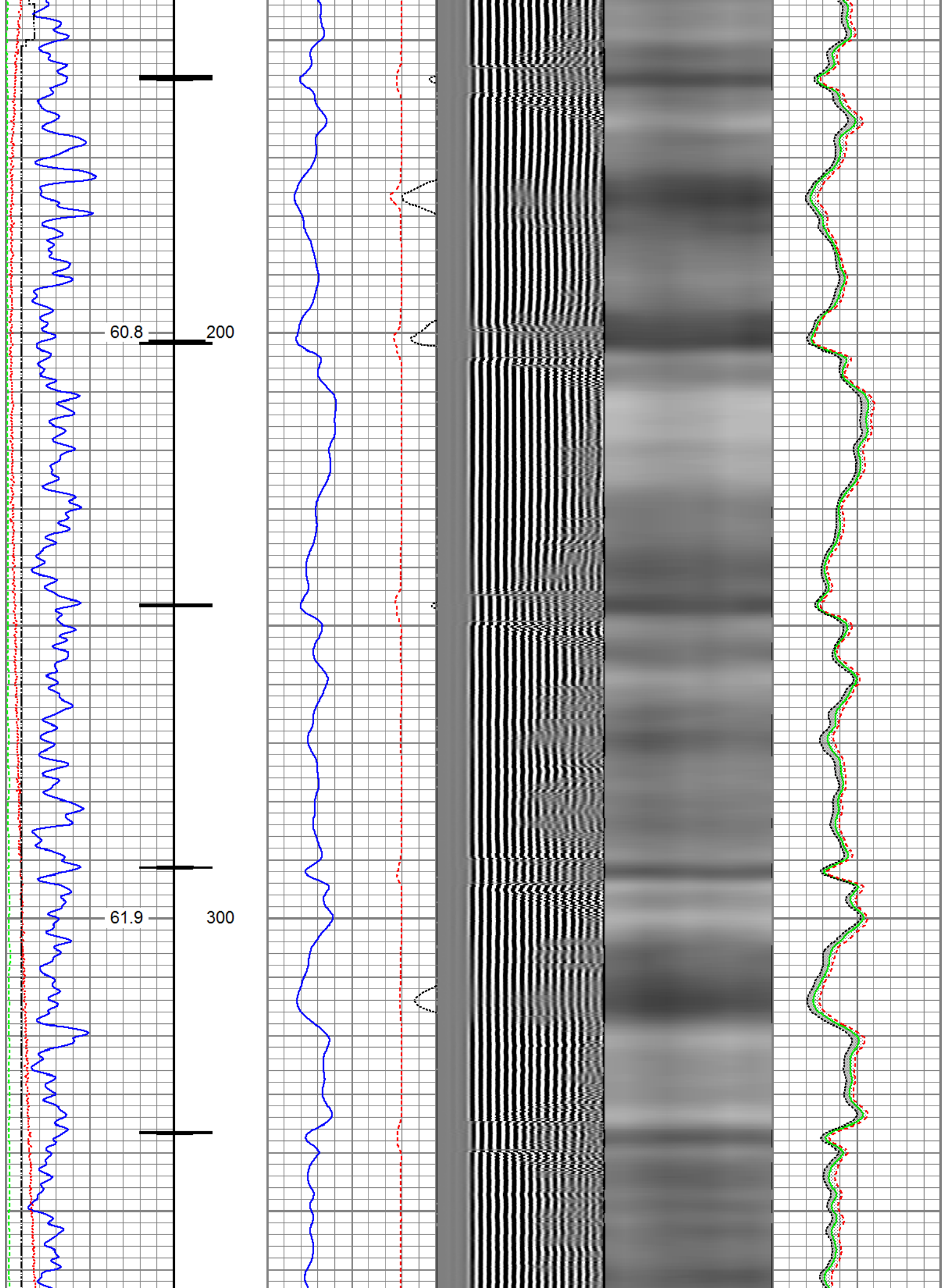


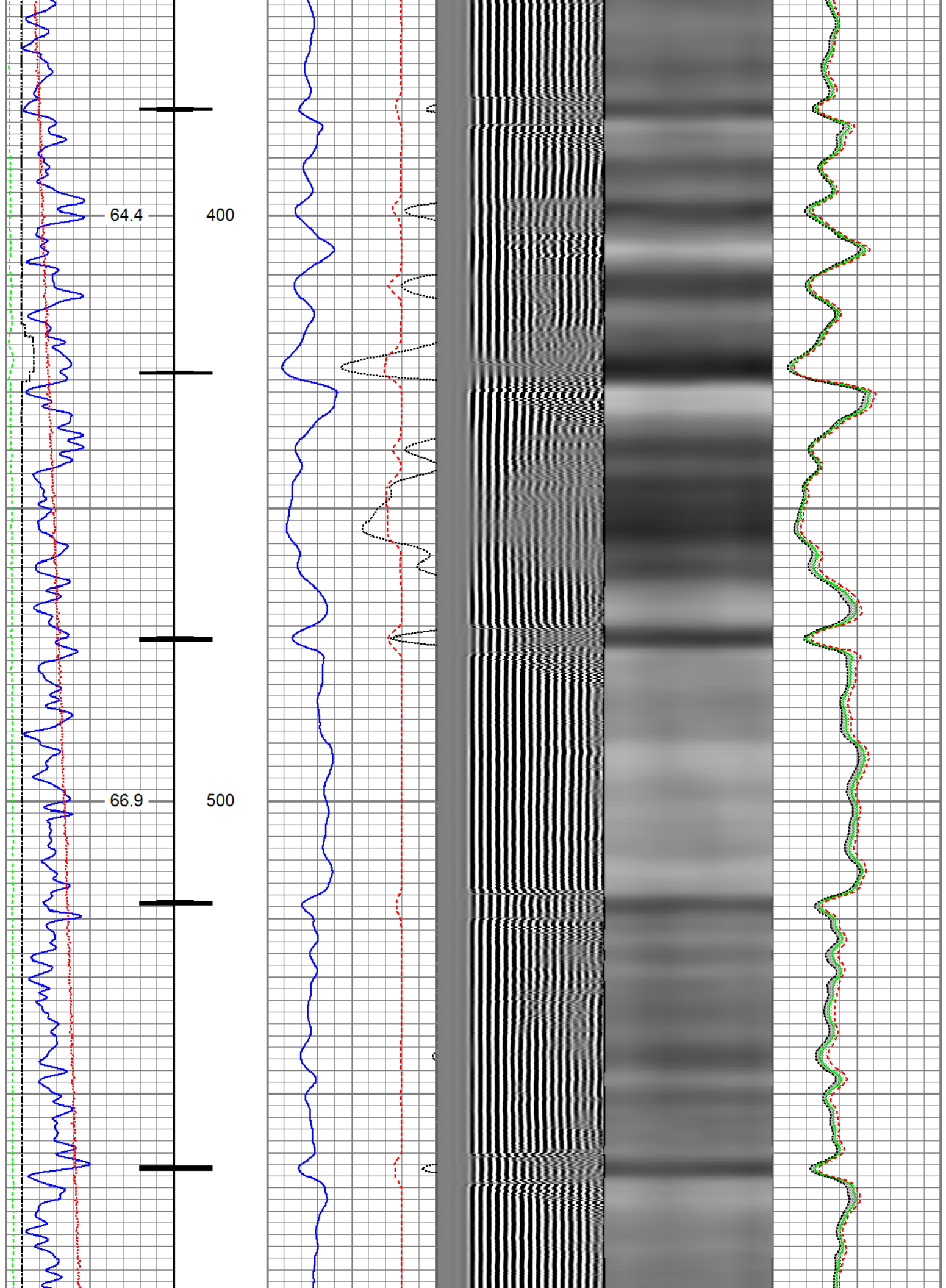
Main Pass

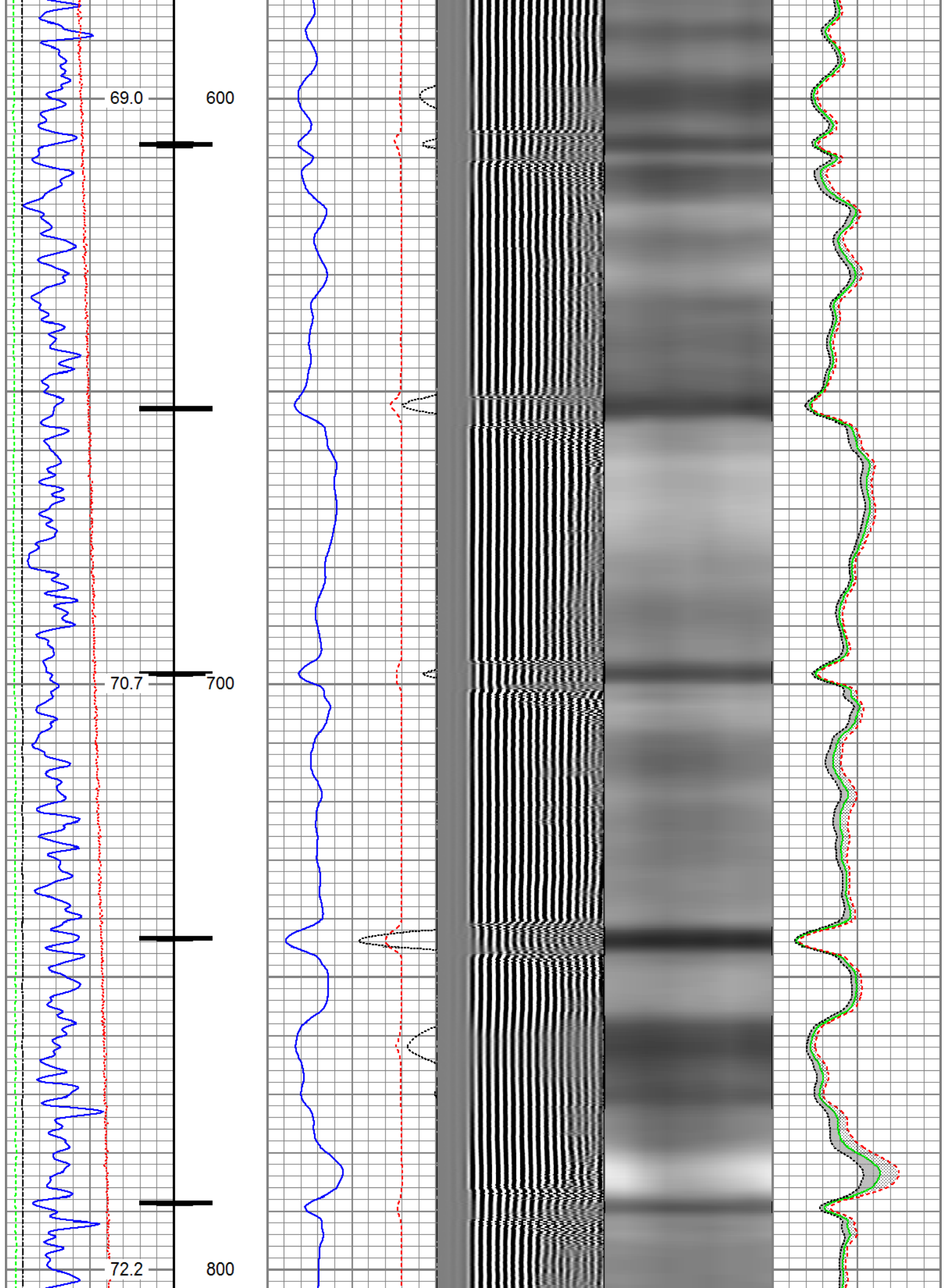
Recorded with 2800 PSI Surface Induced Pressure

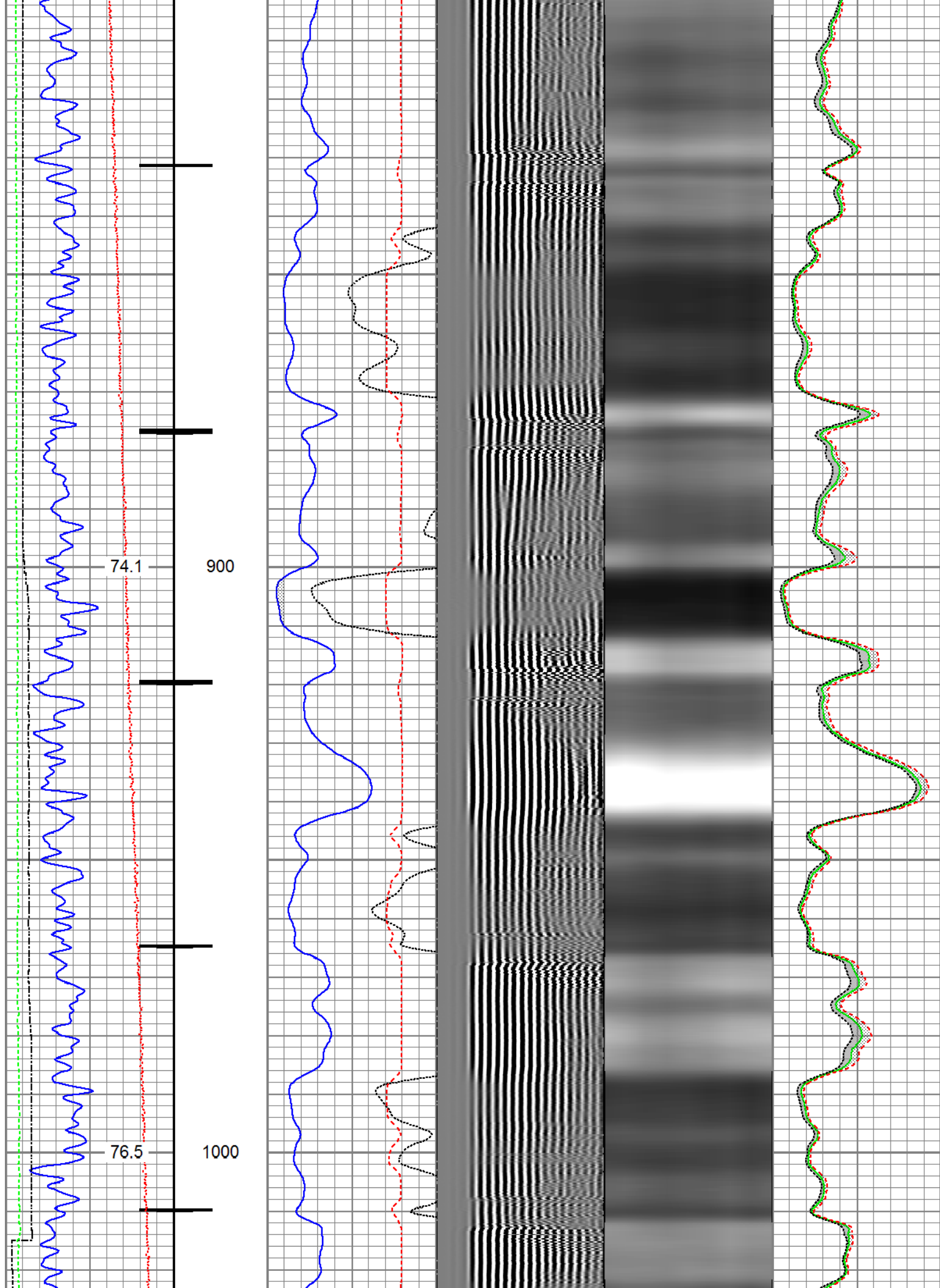
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

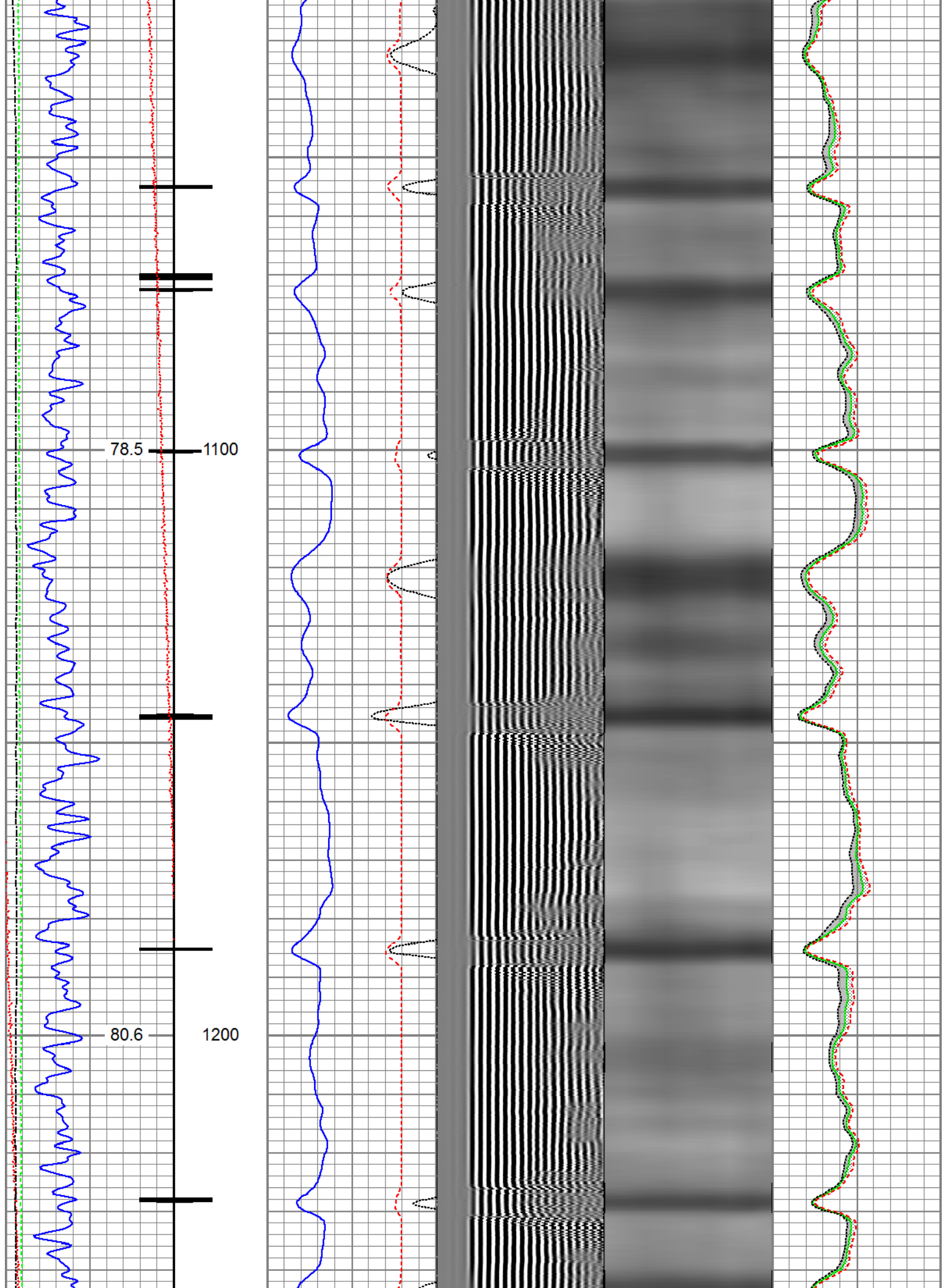


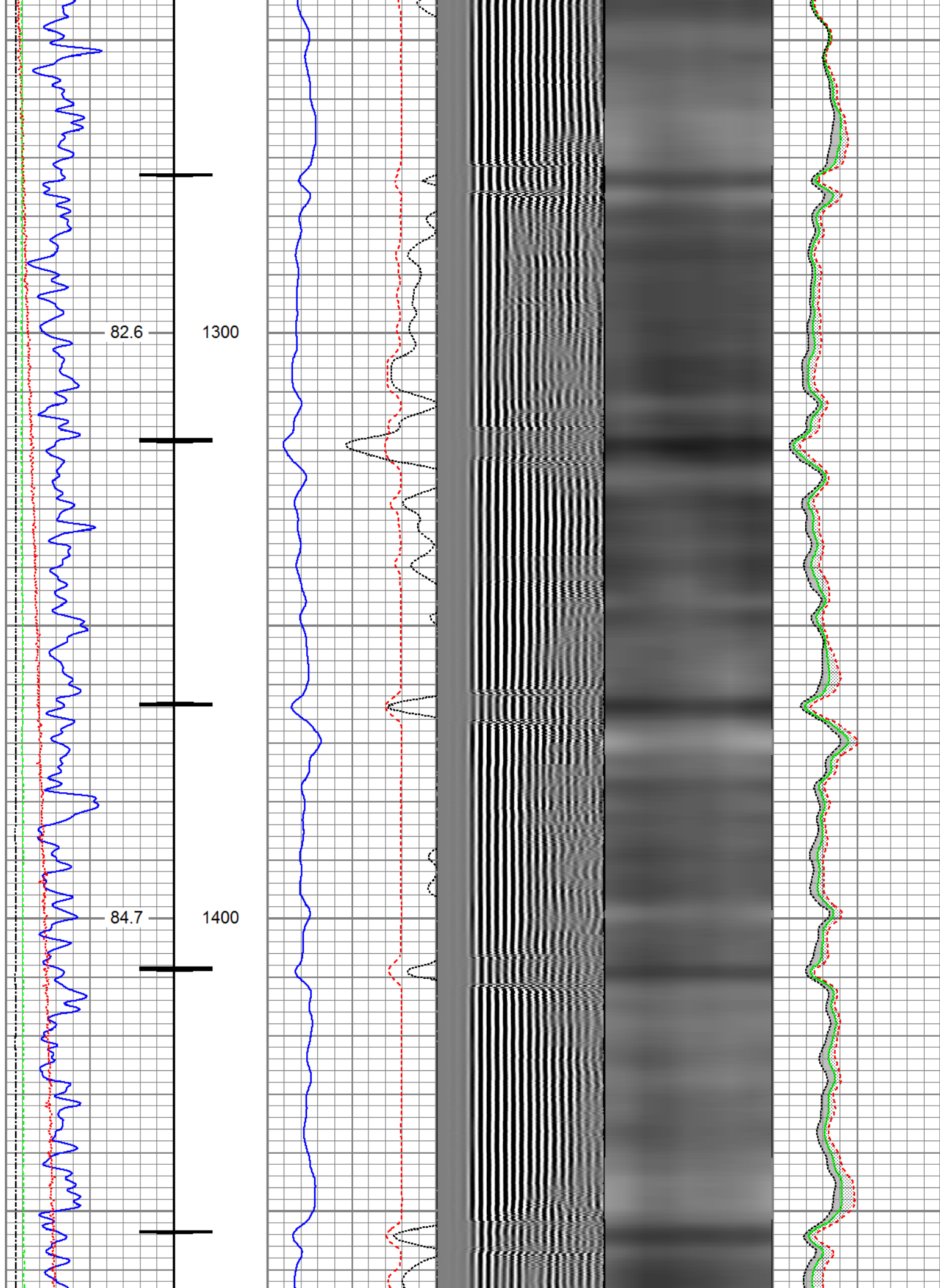


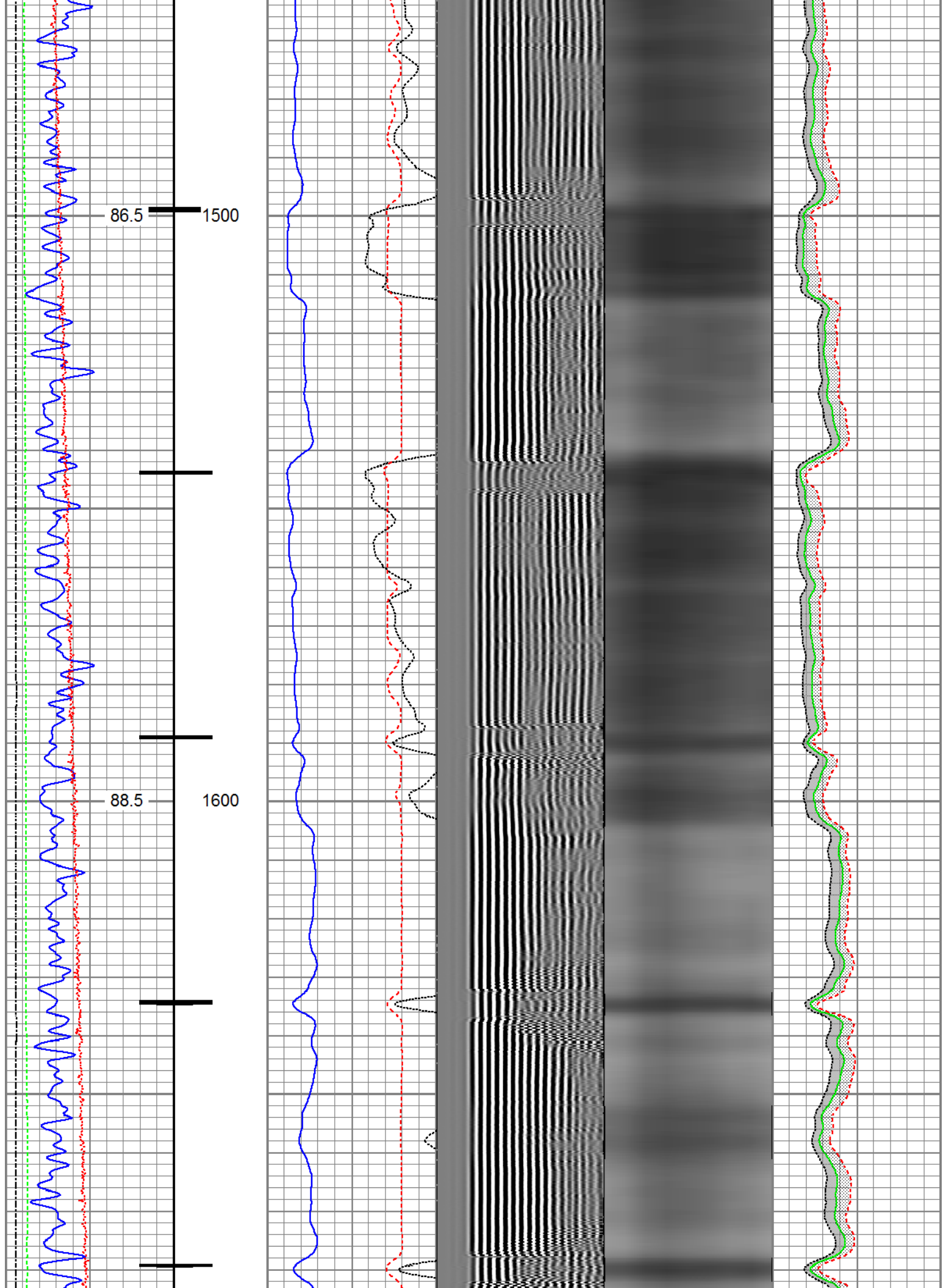


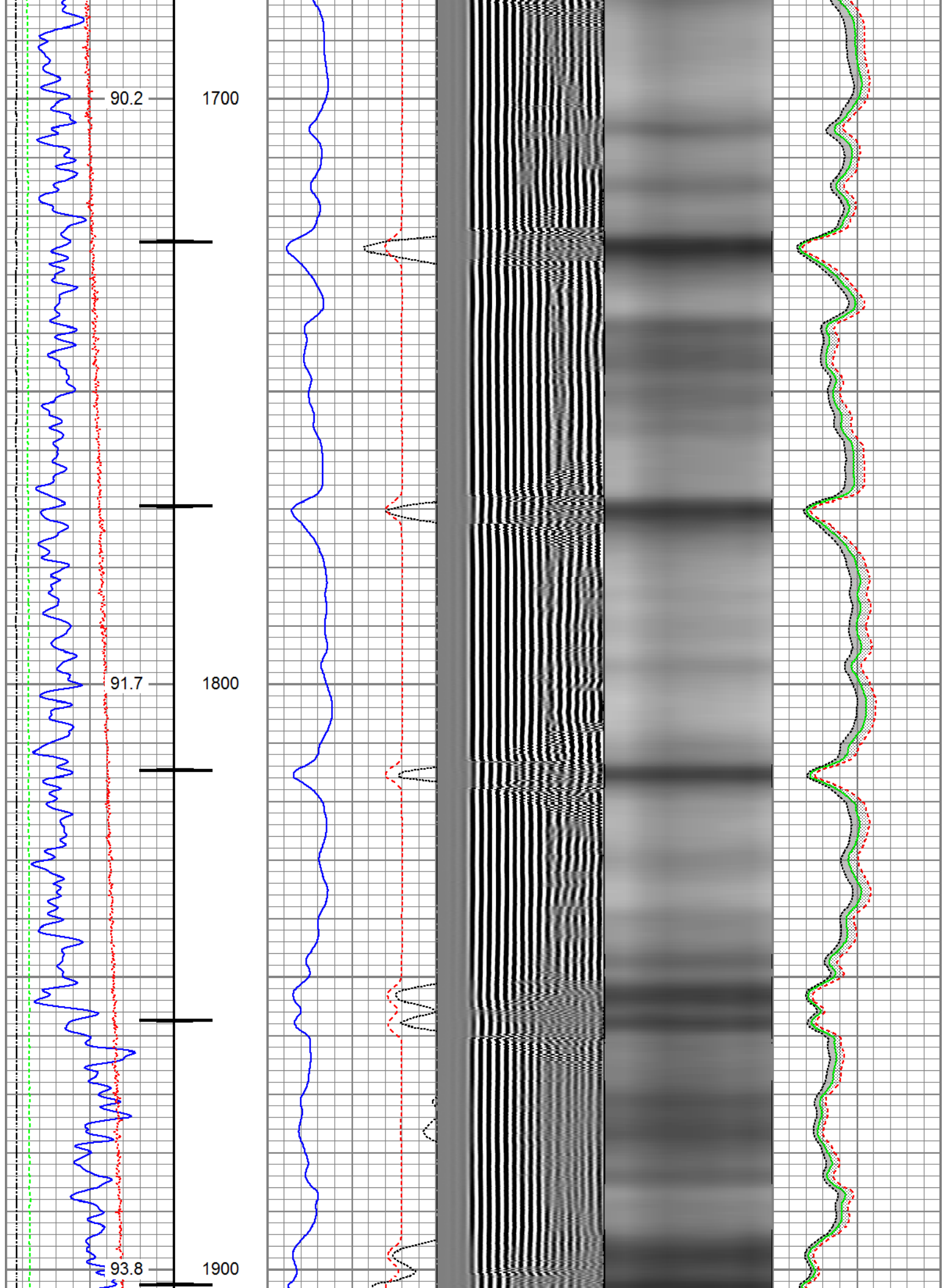


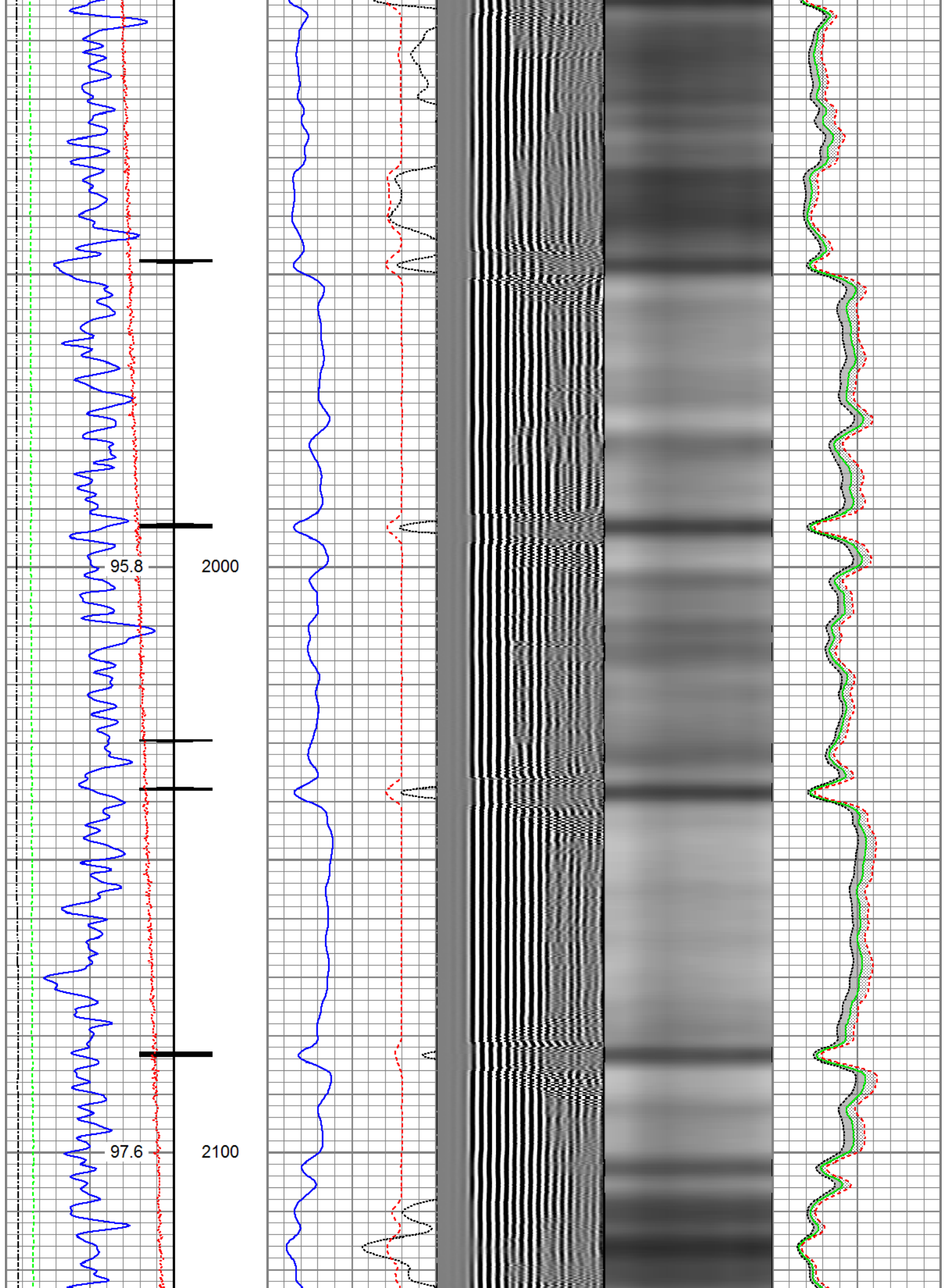


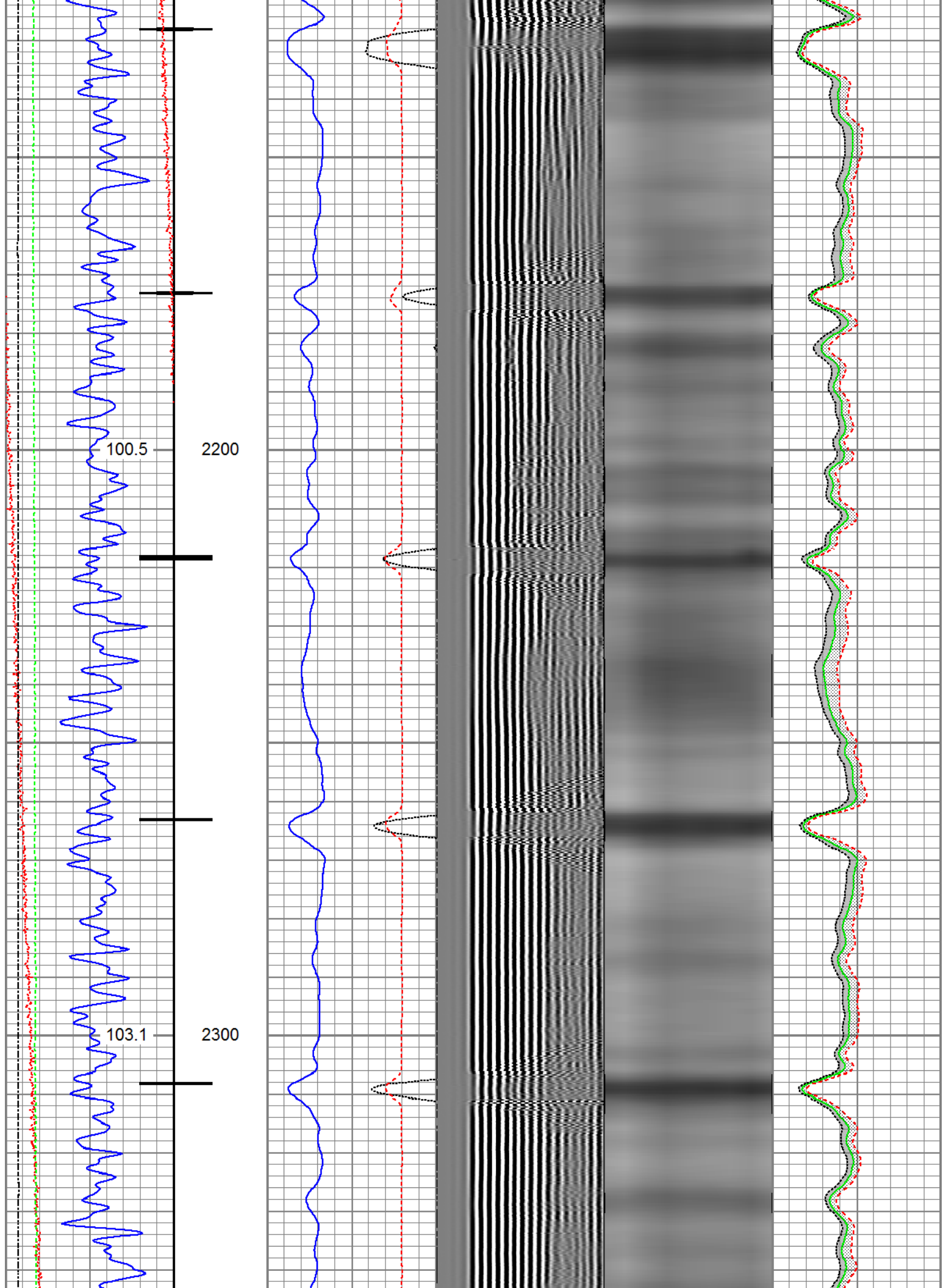


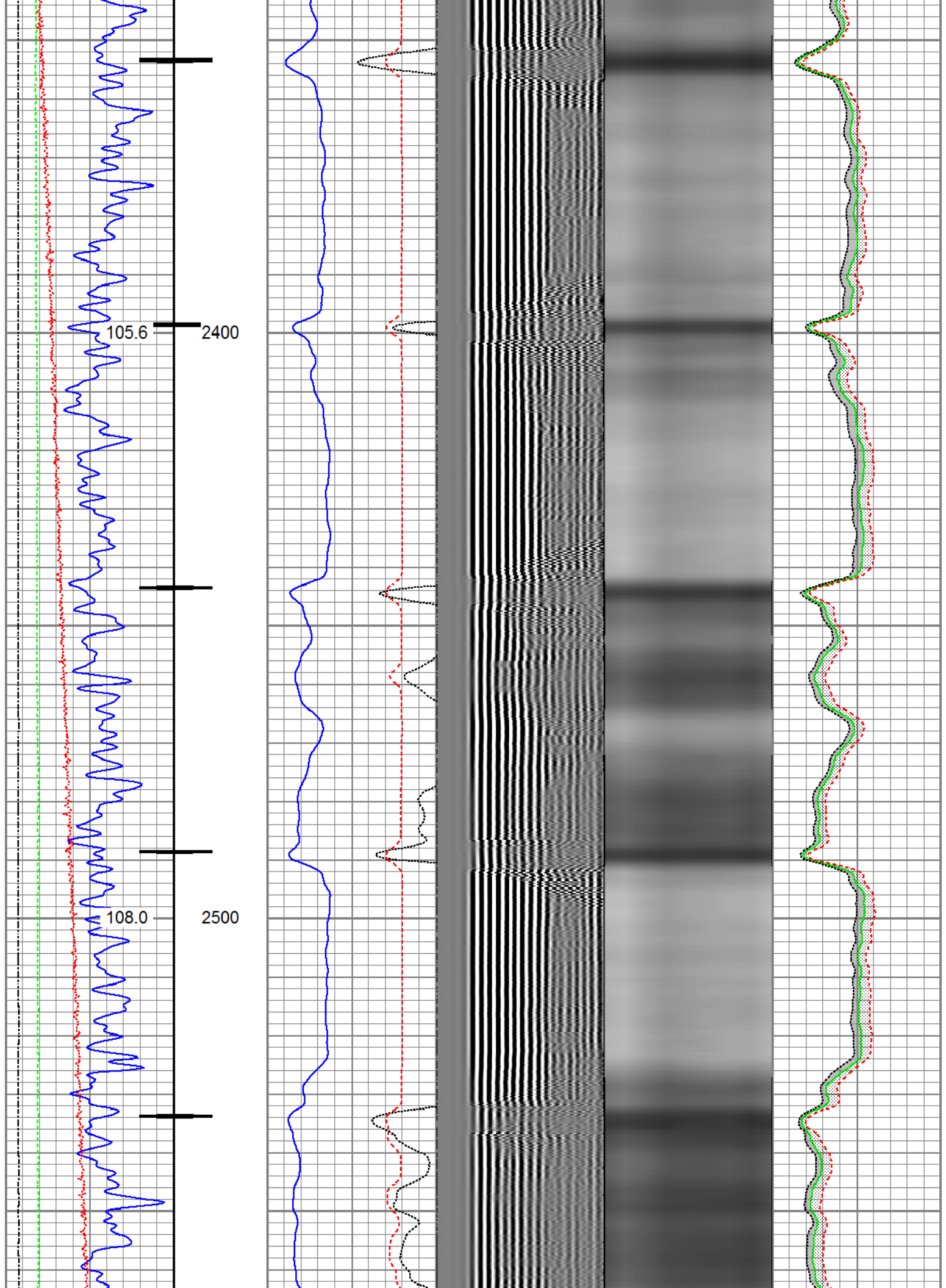


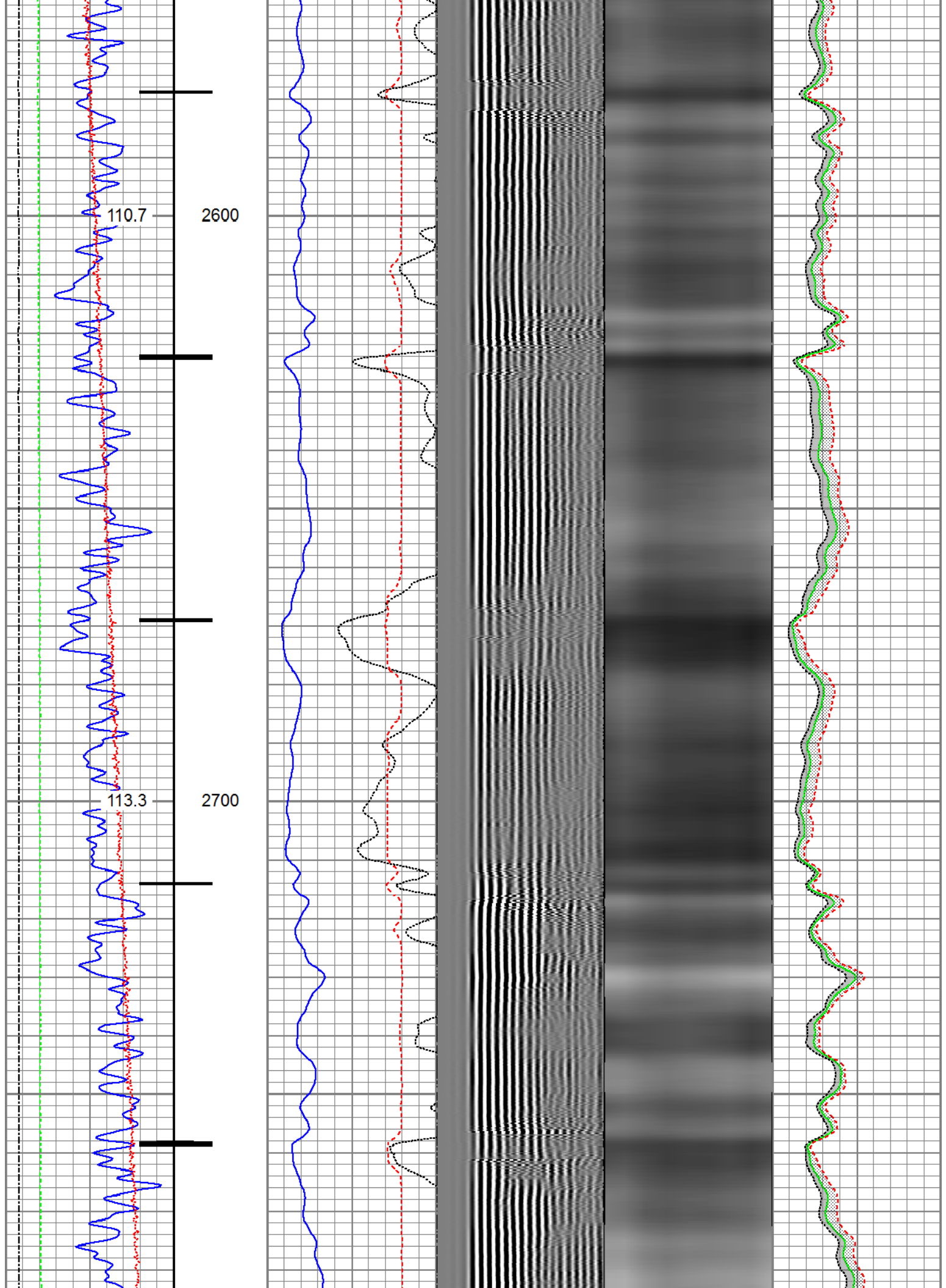


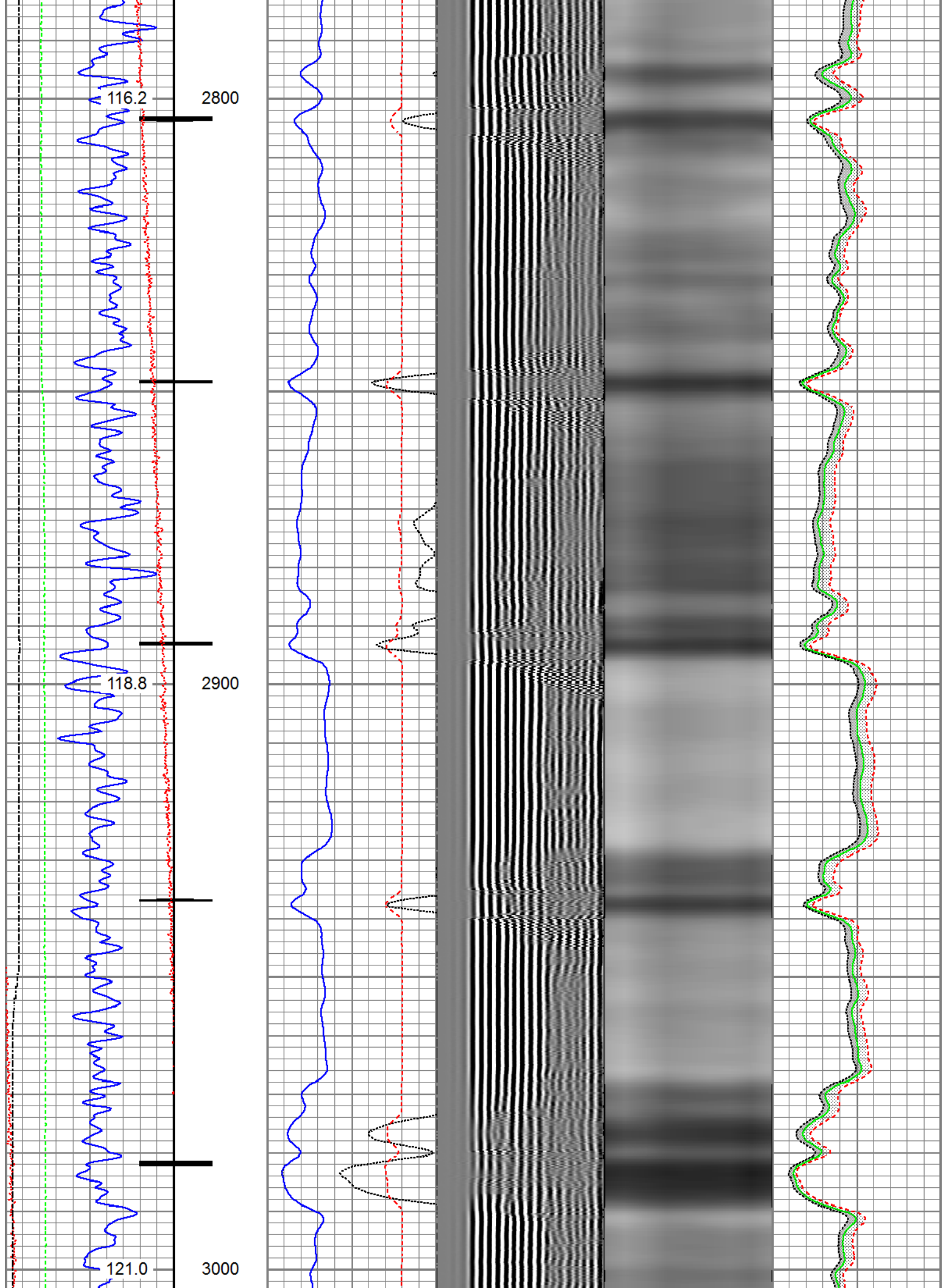


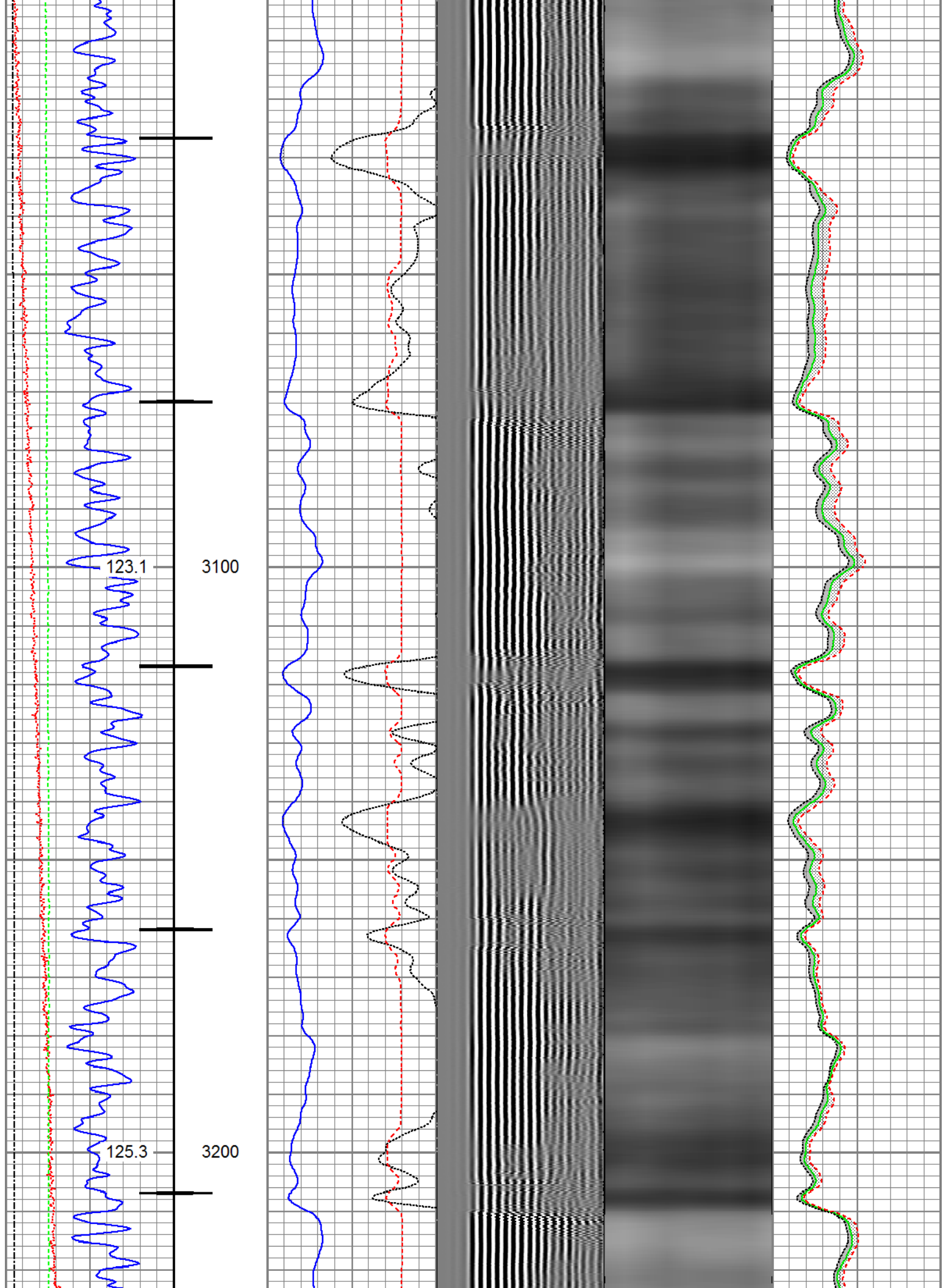


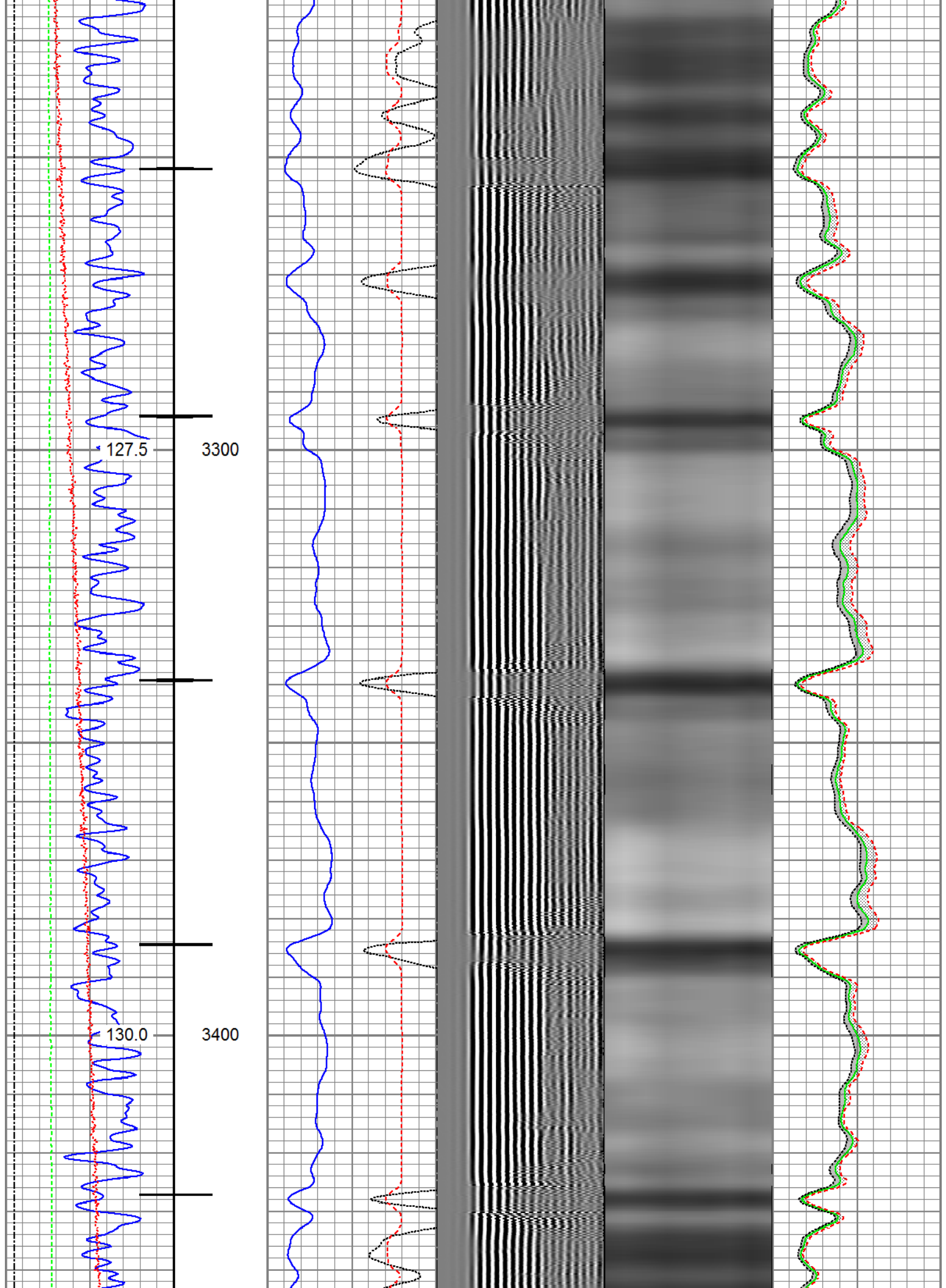


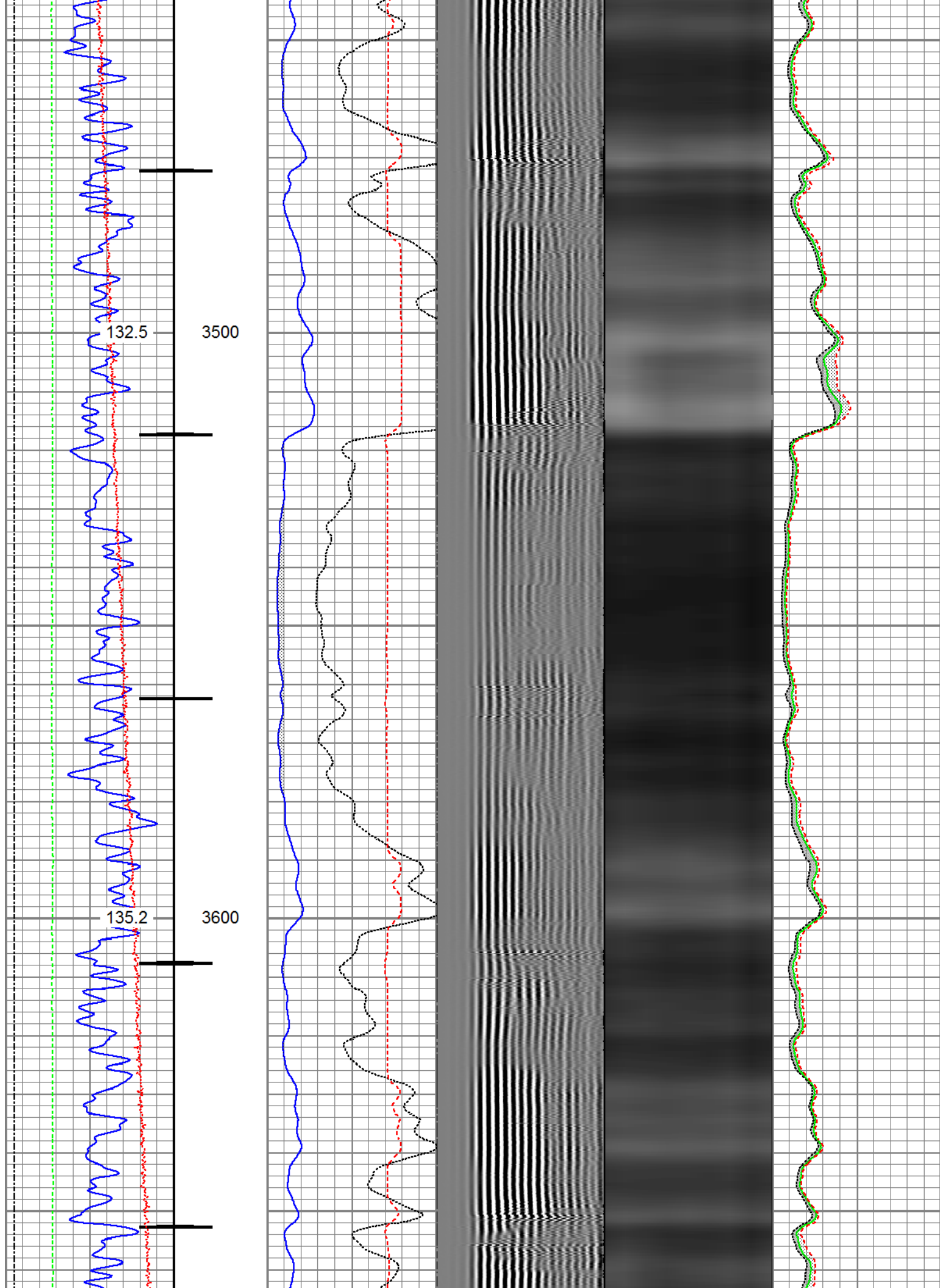


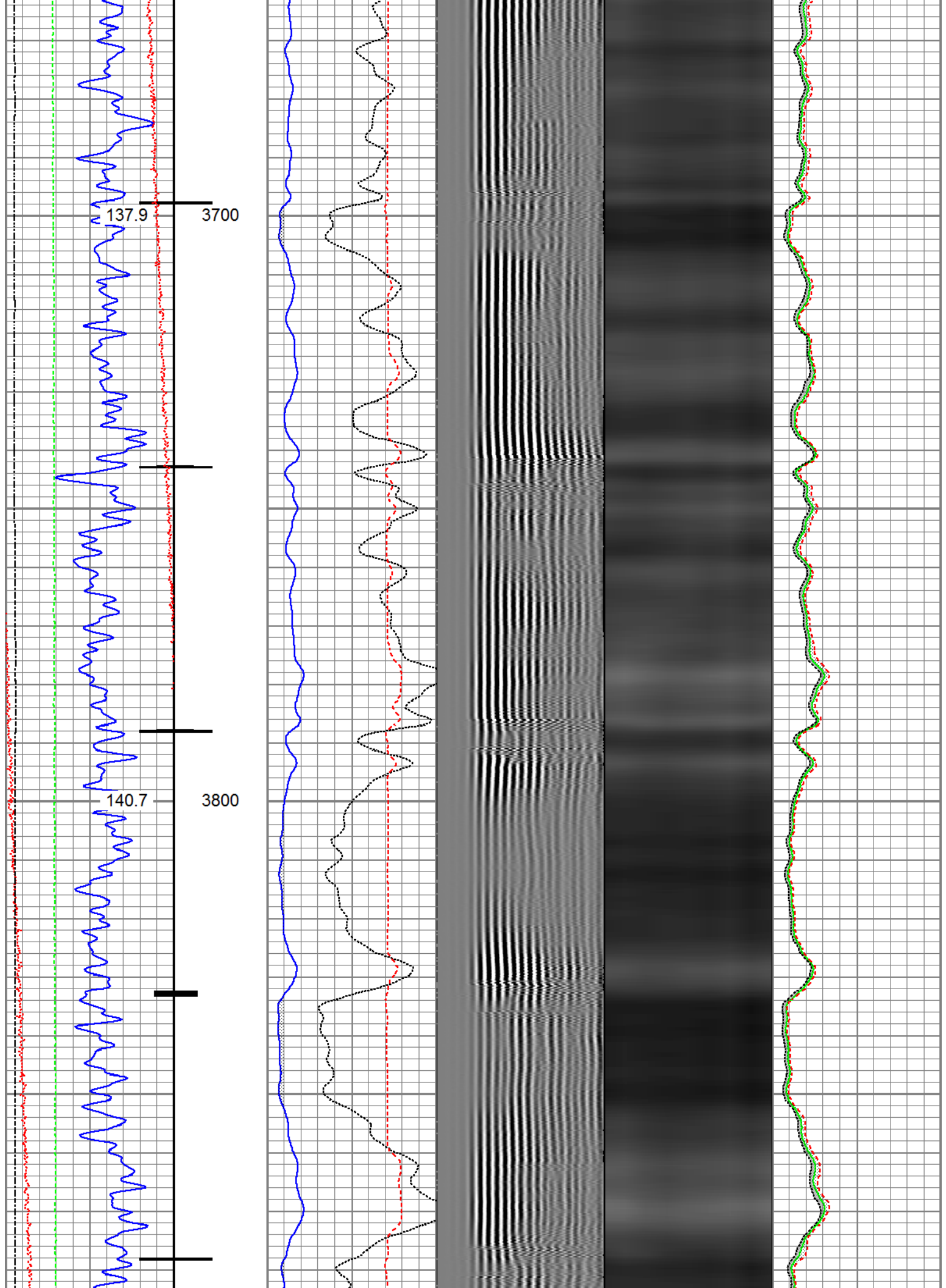


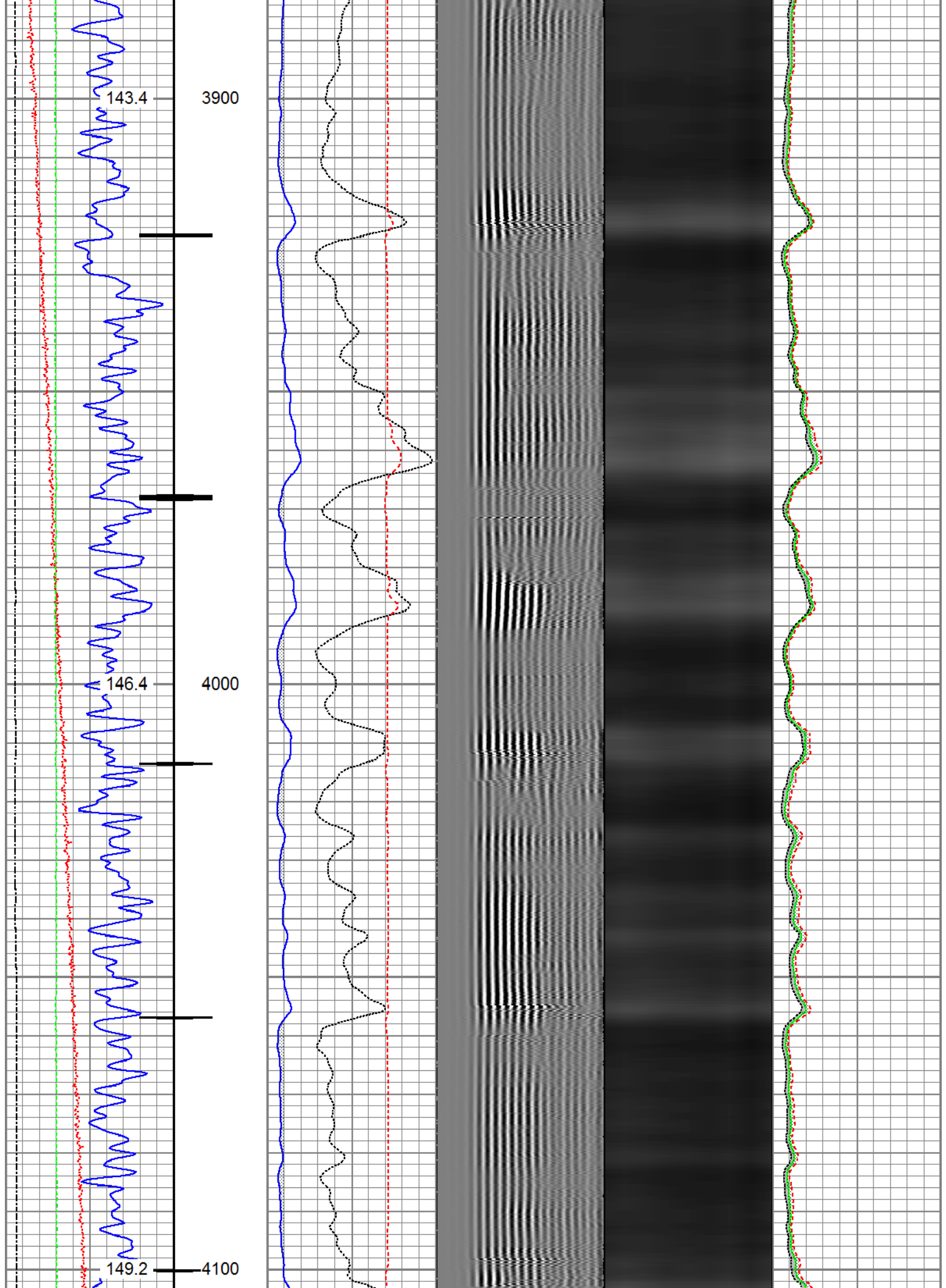


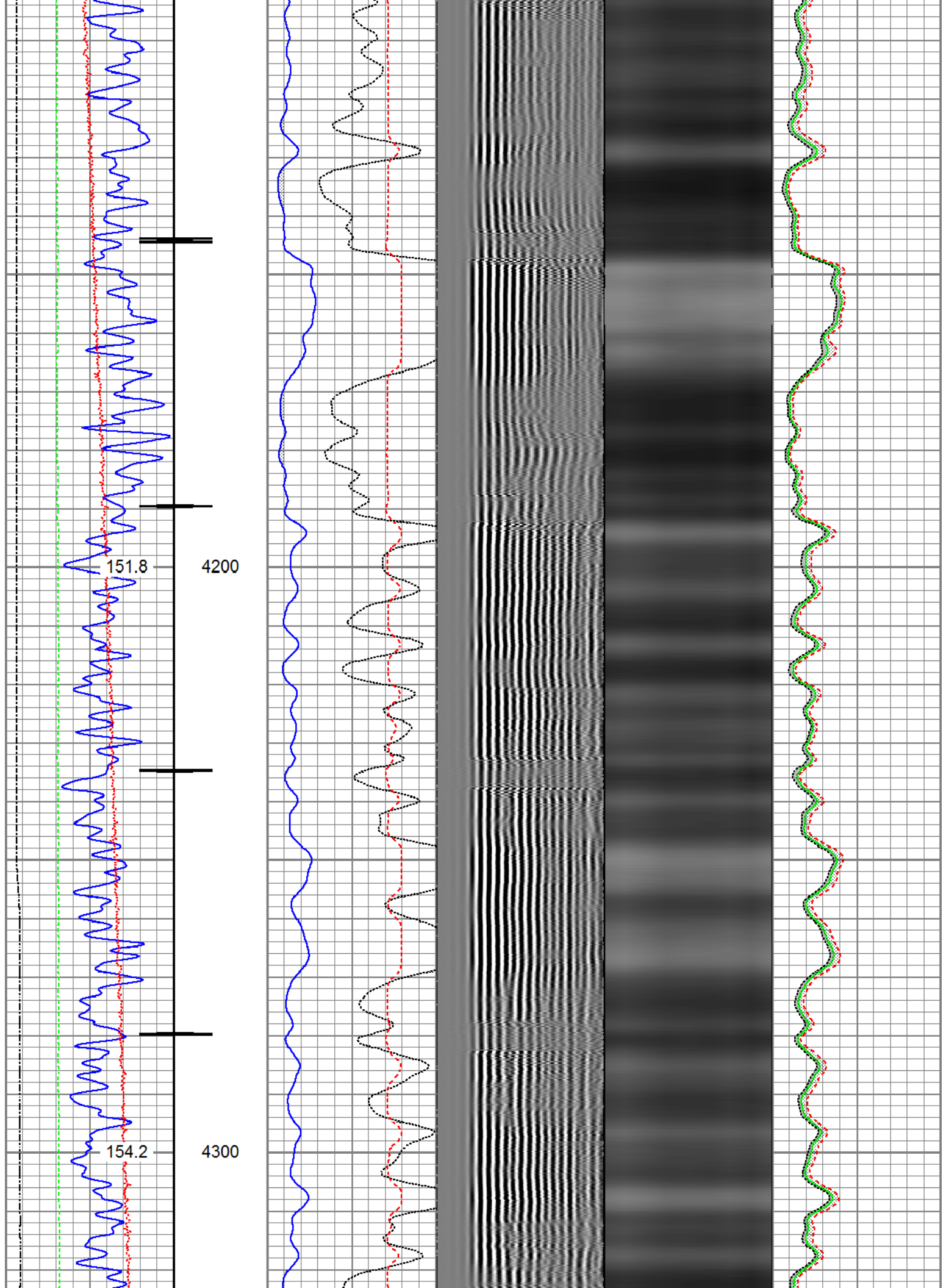


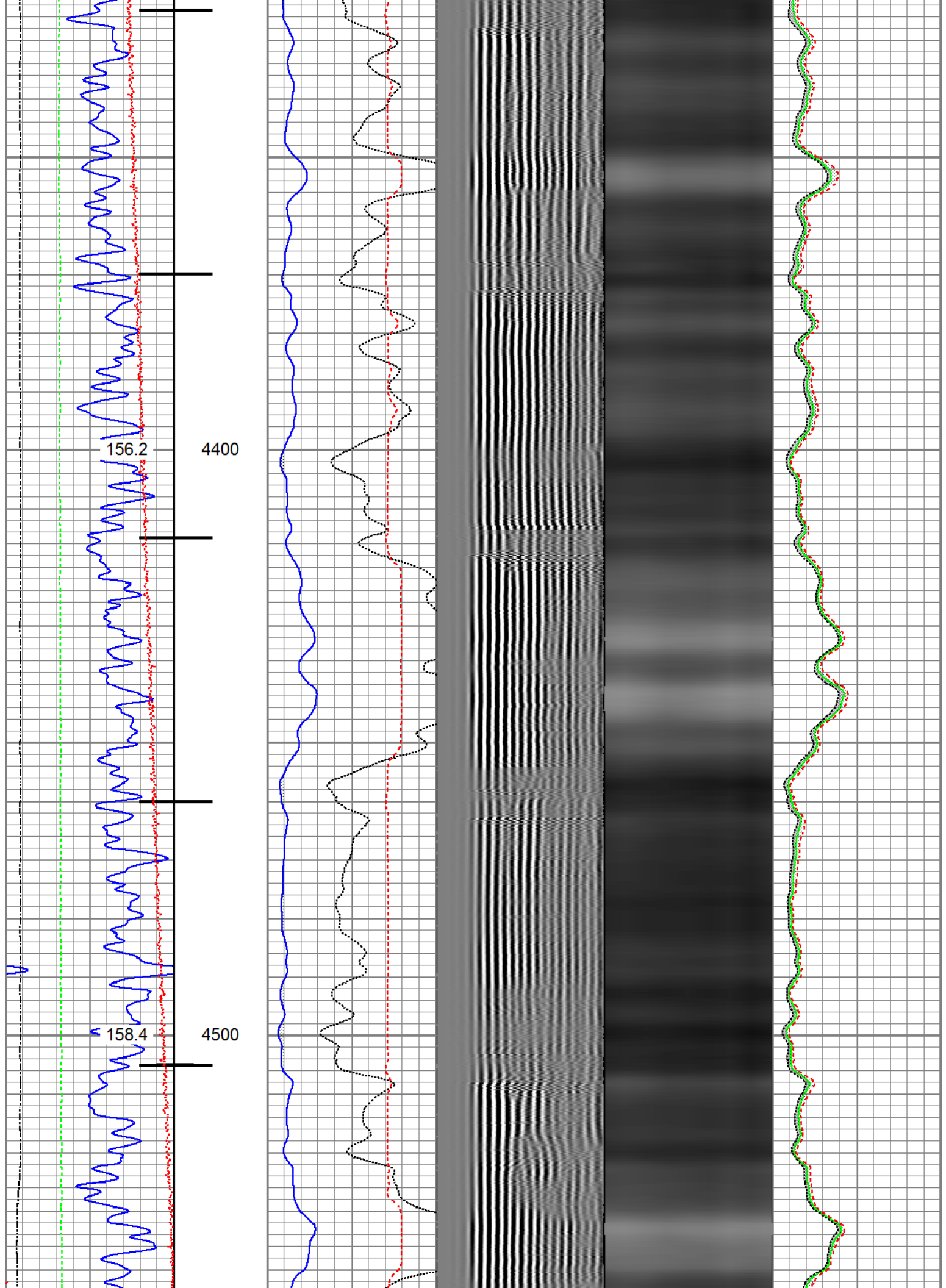


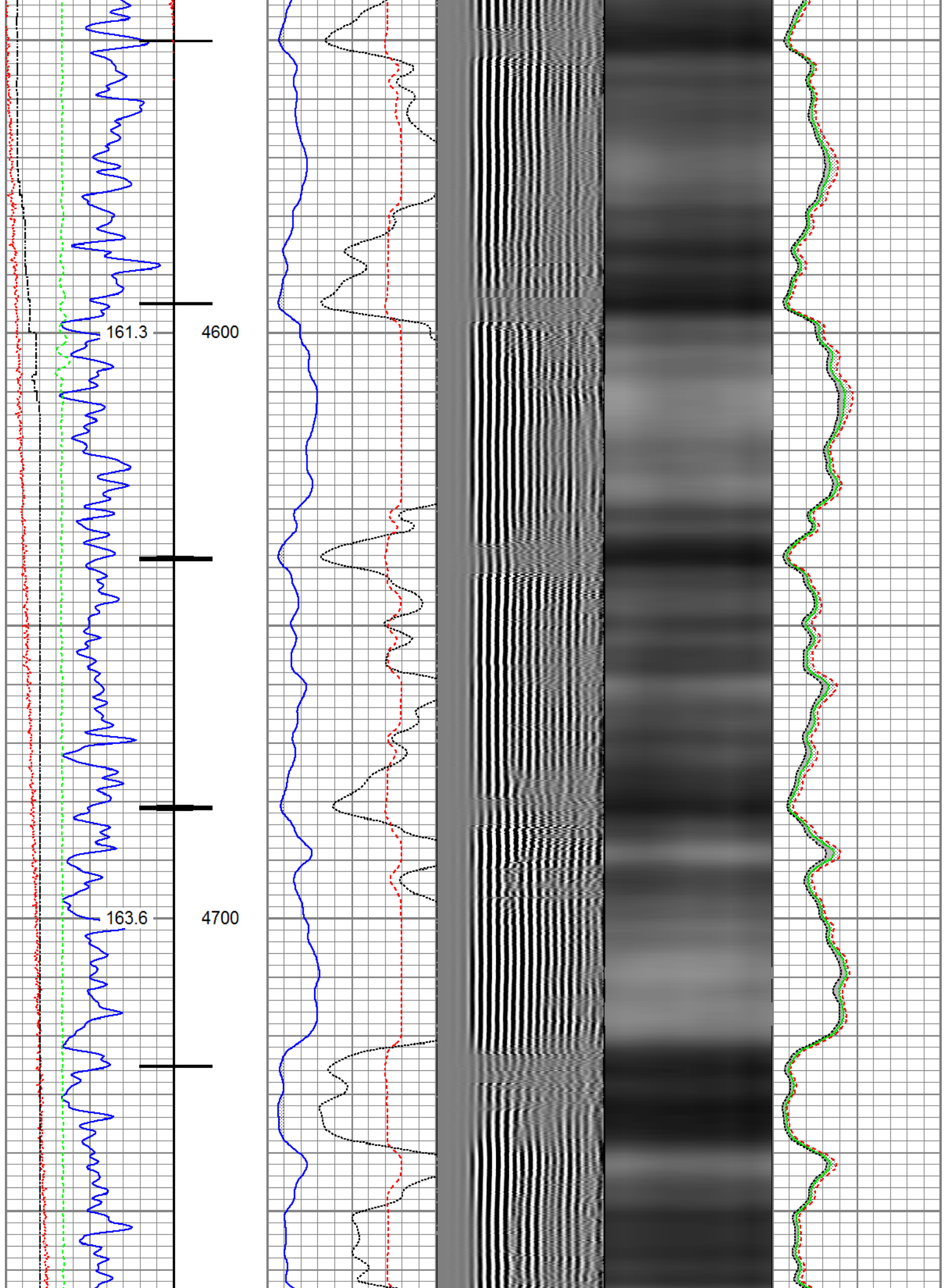


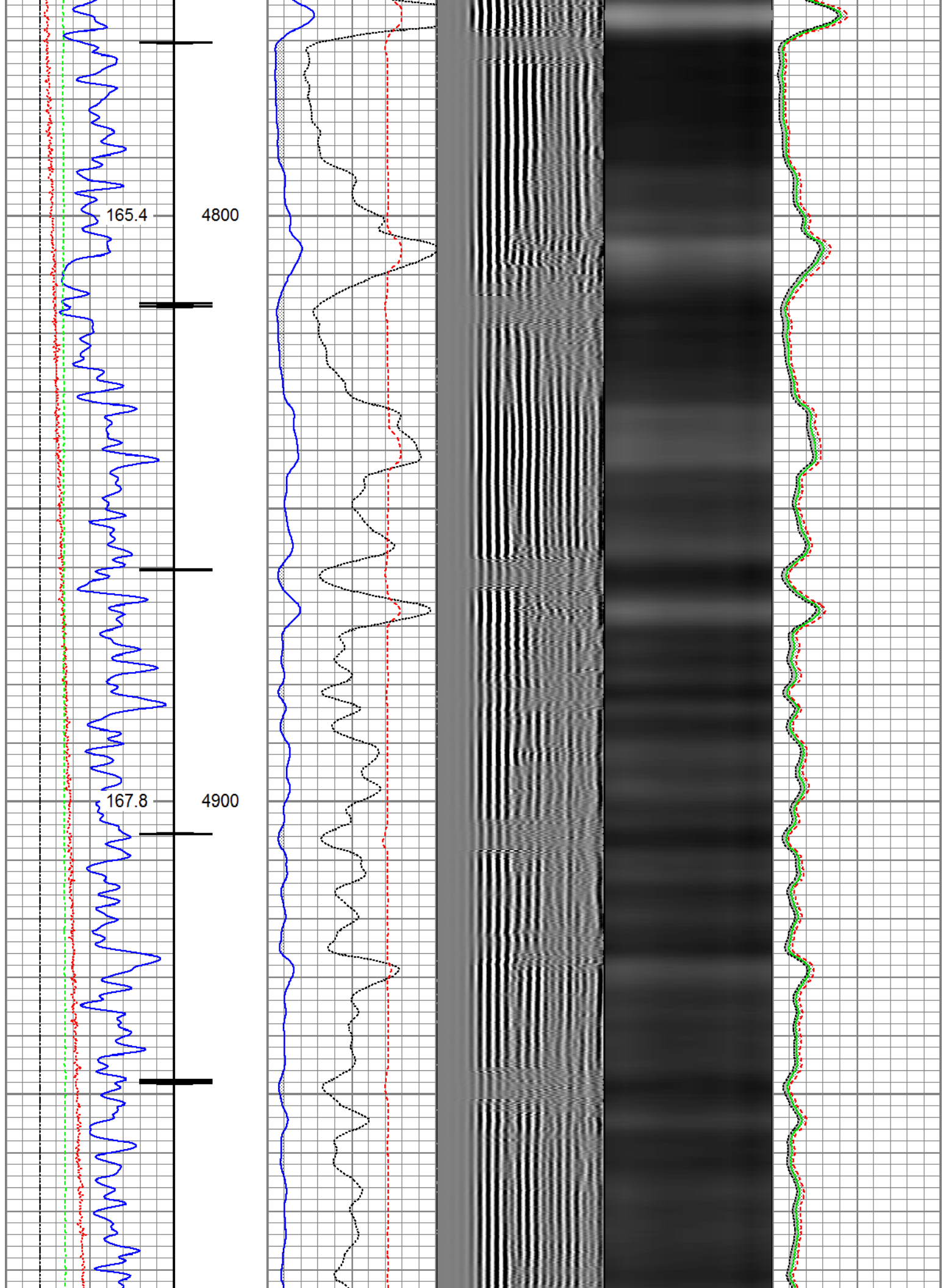


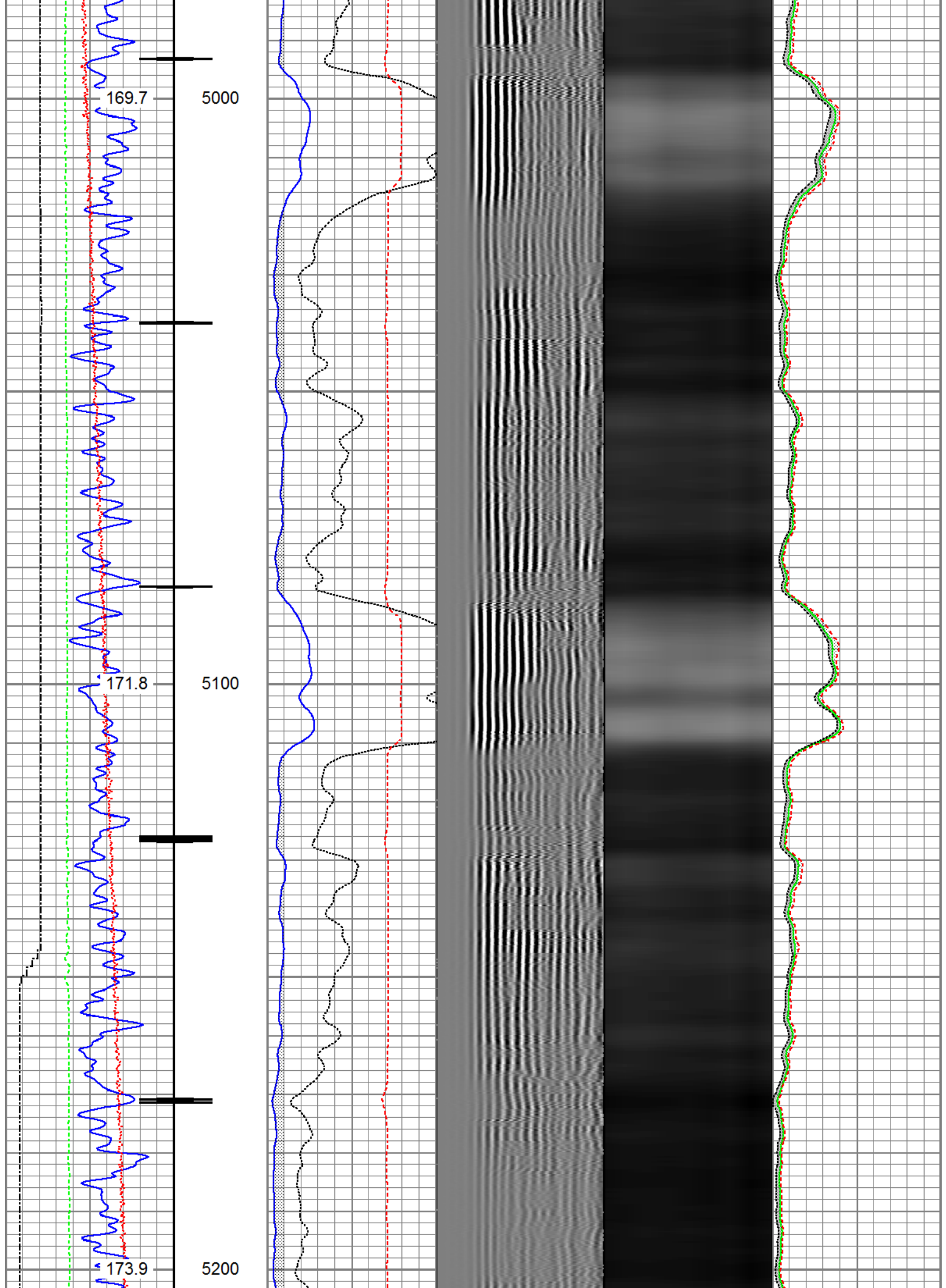


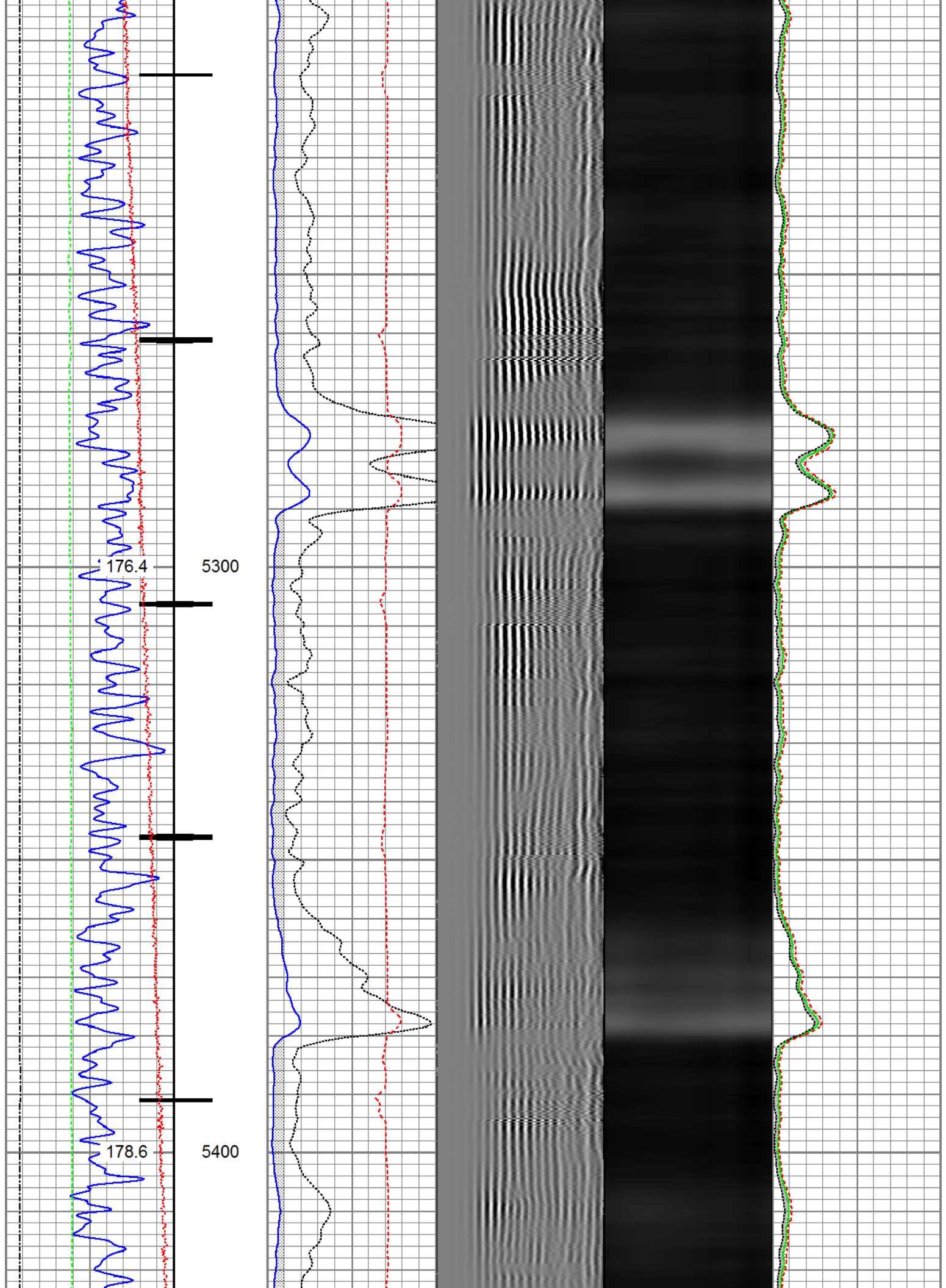


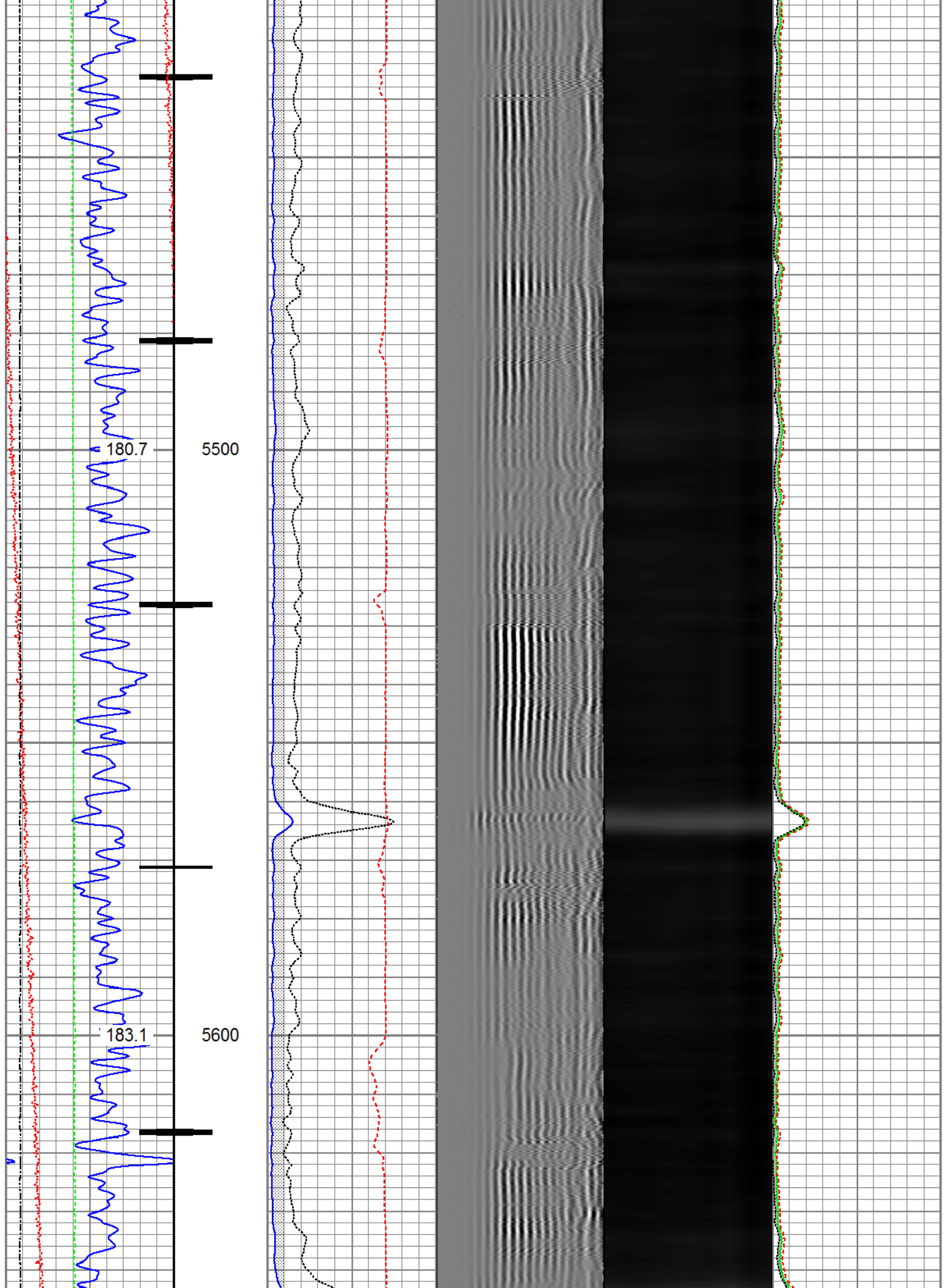


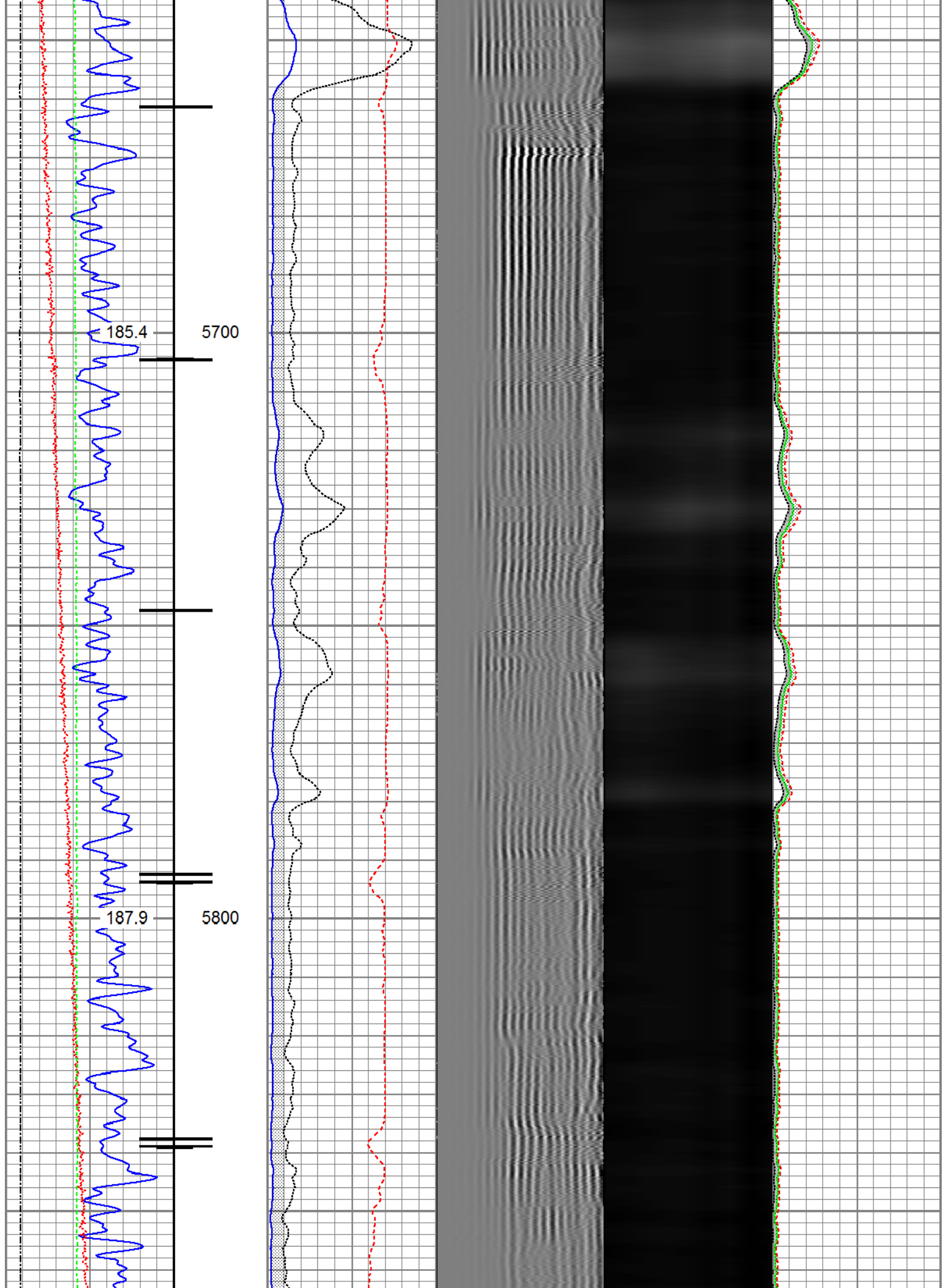


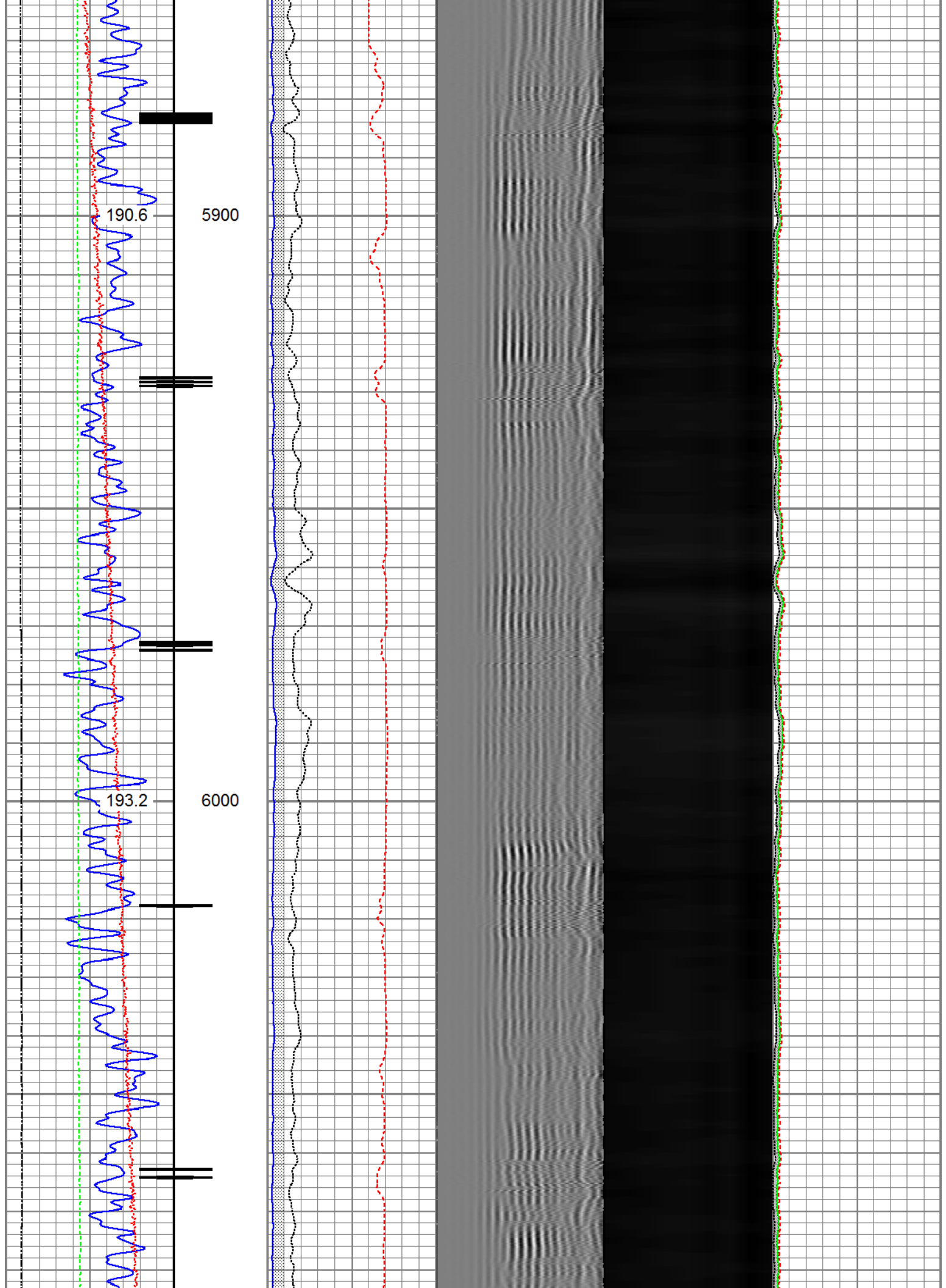


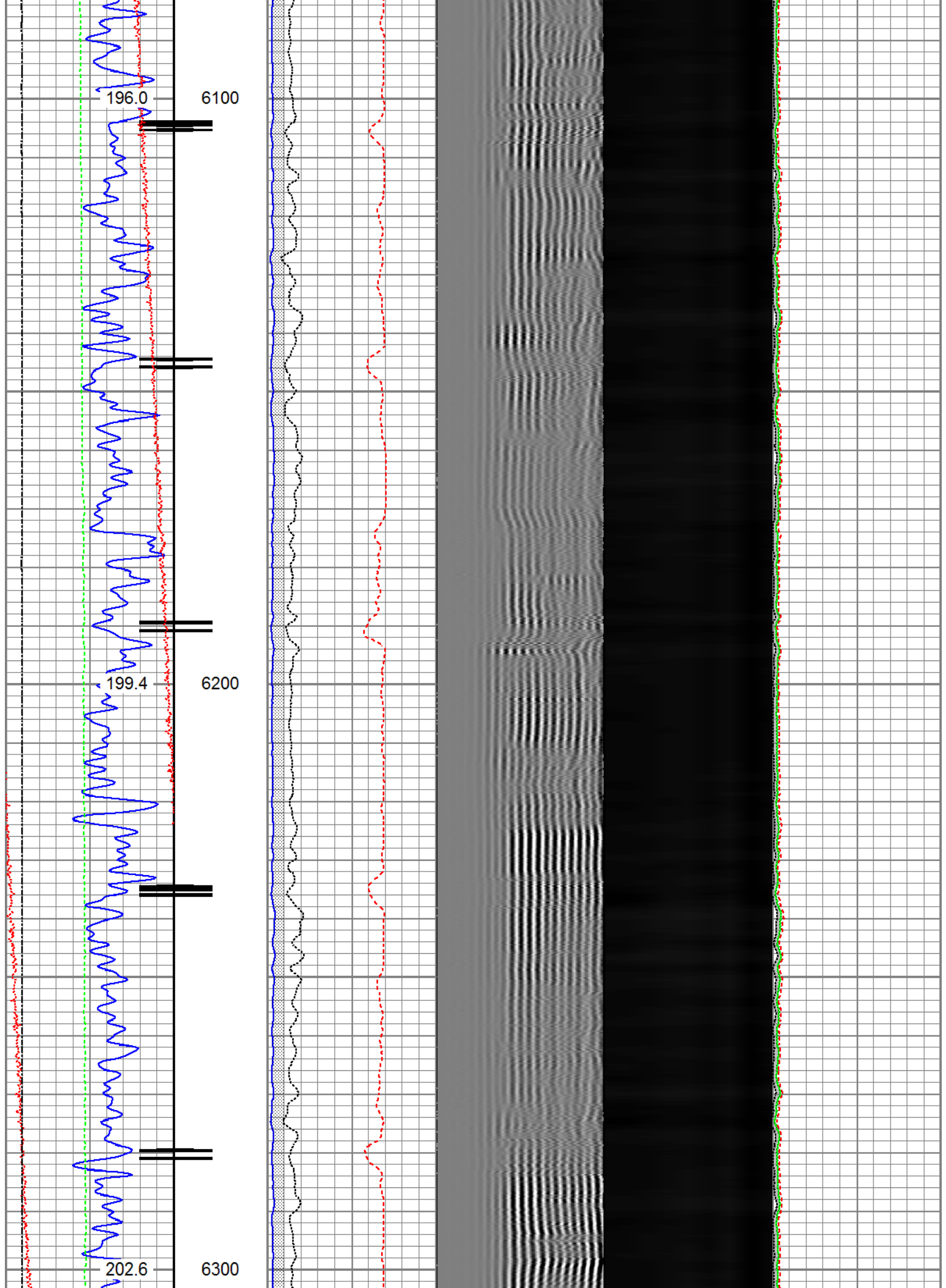


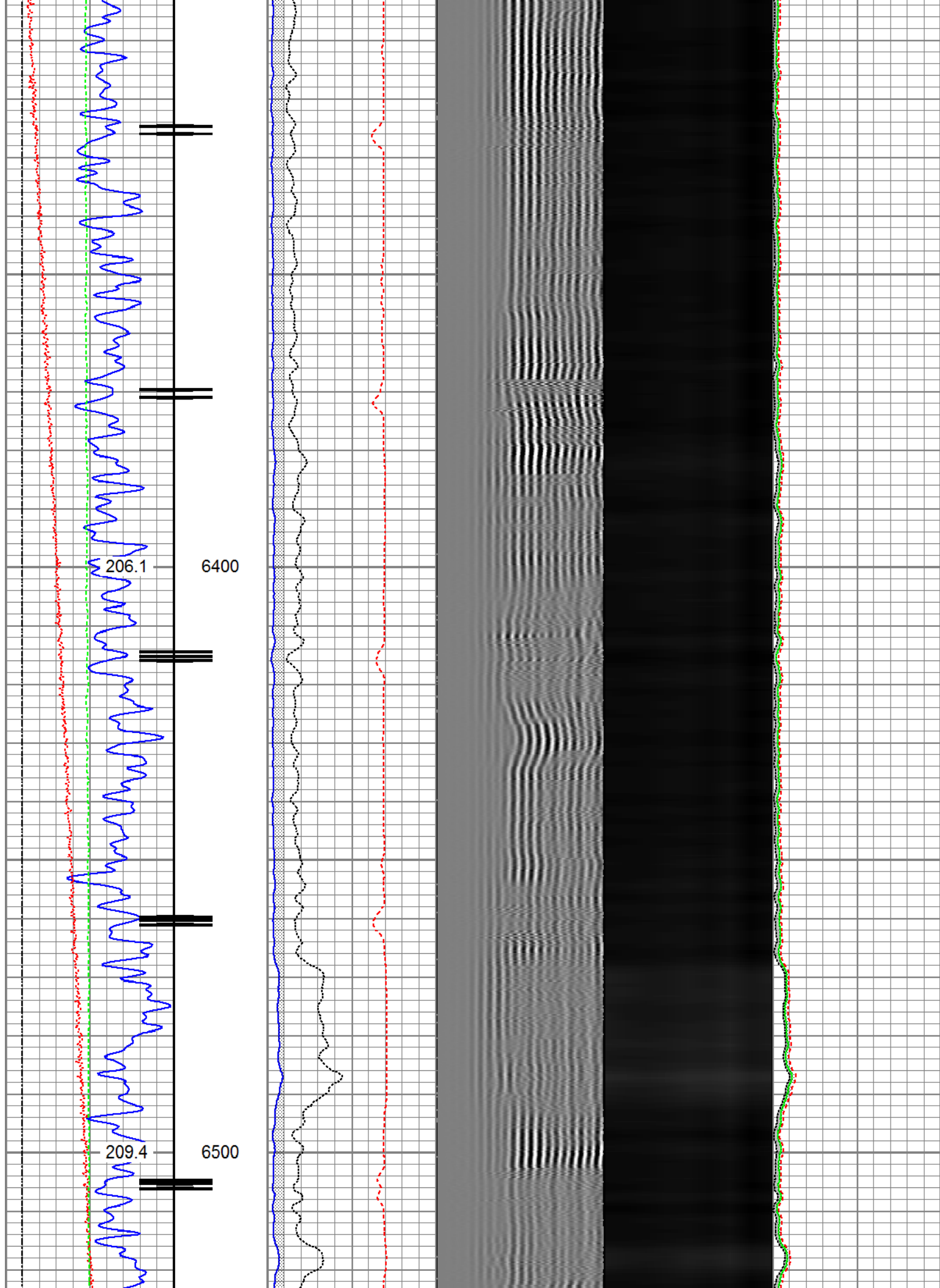


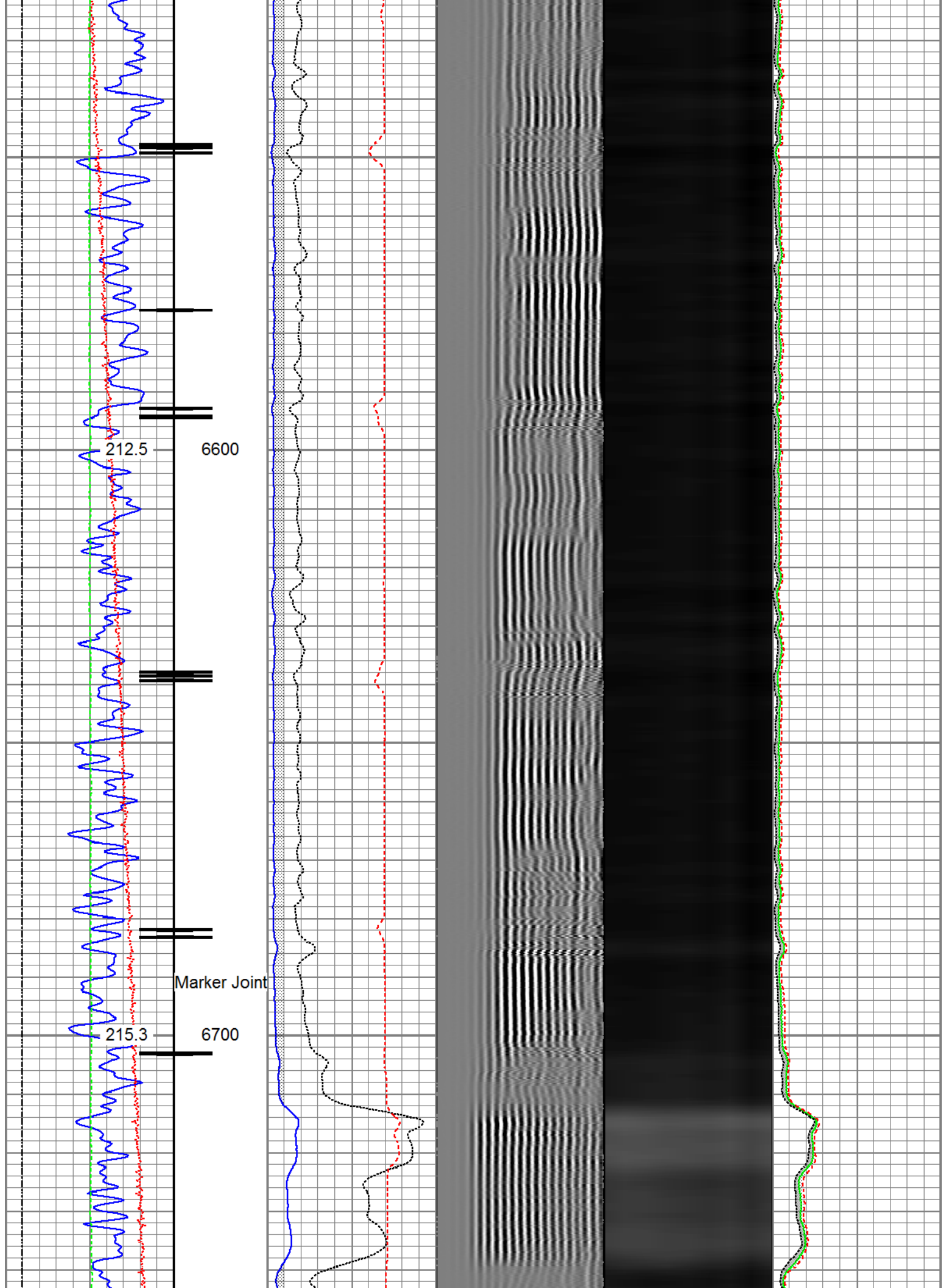


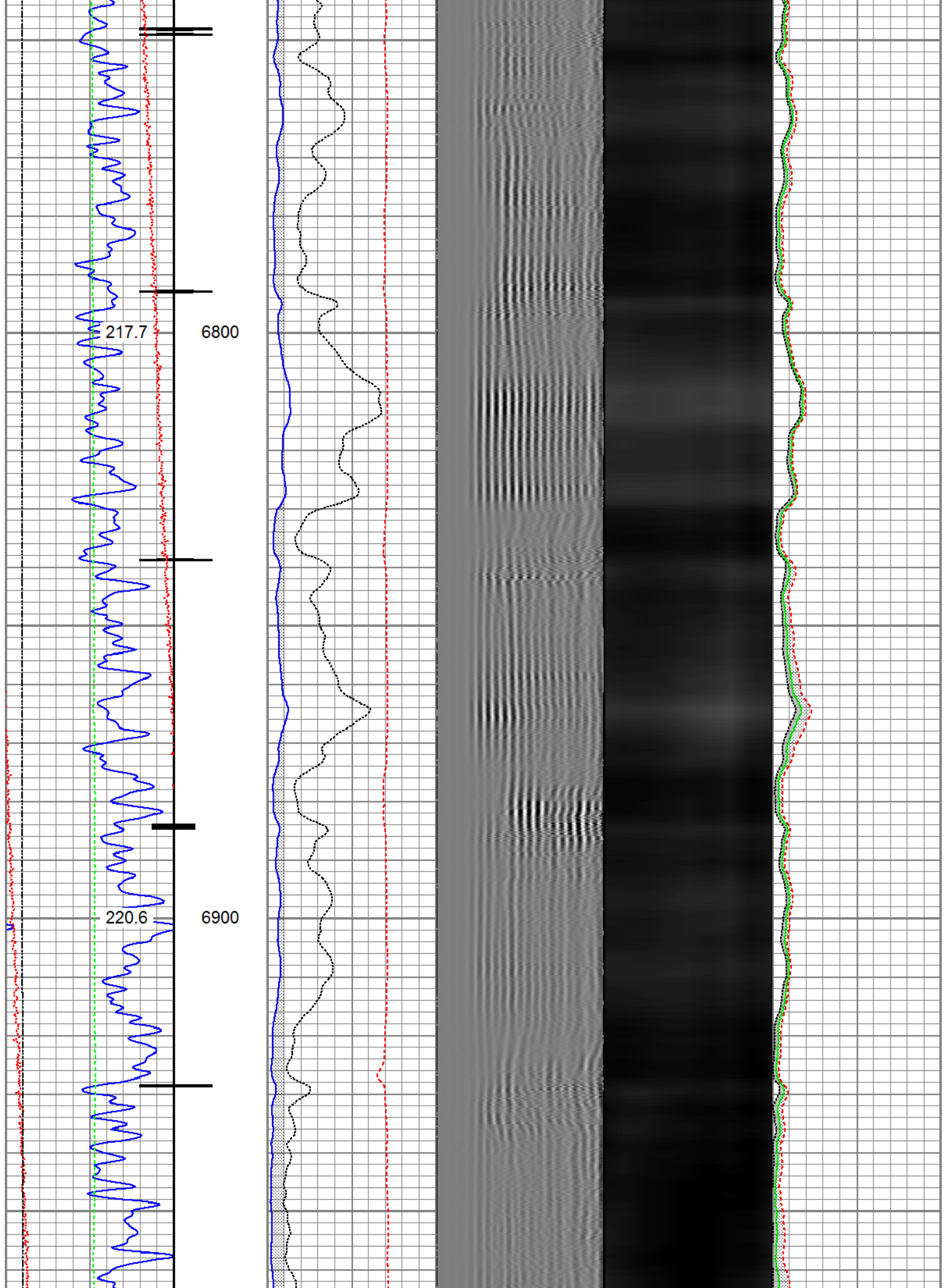


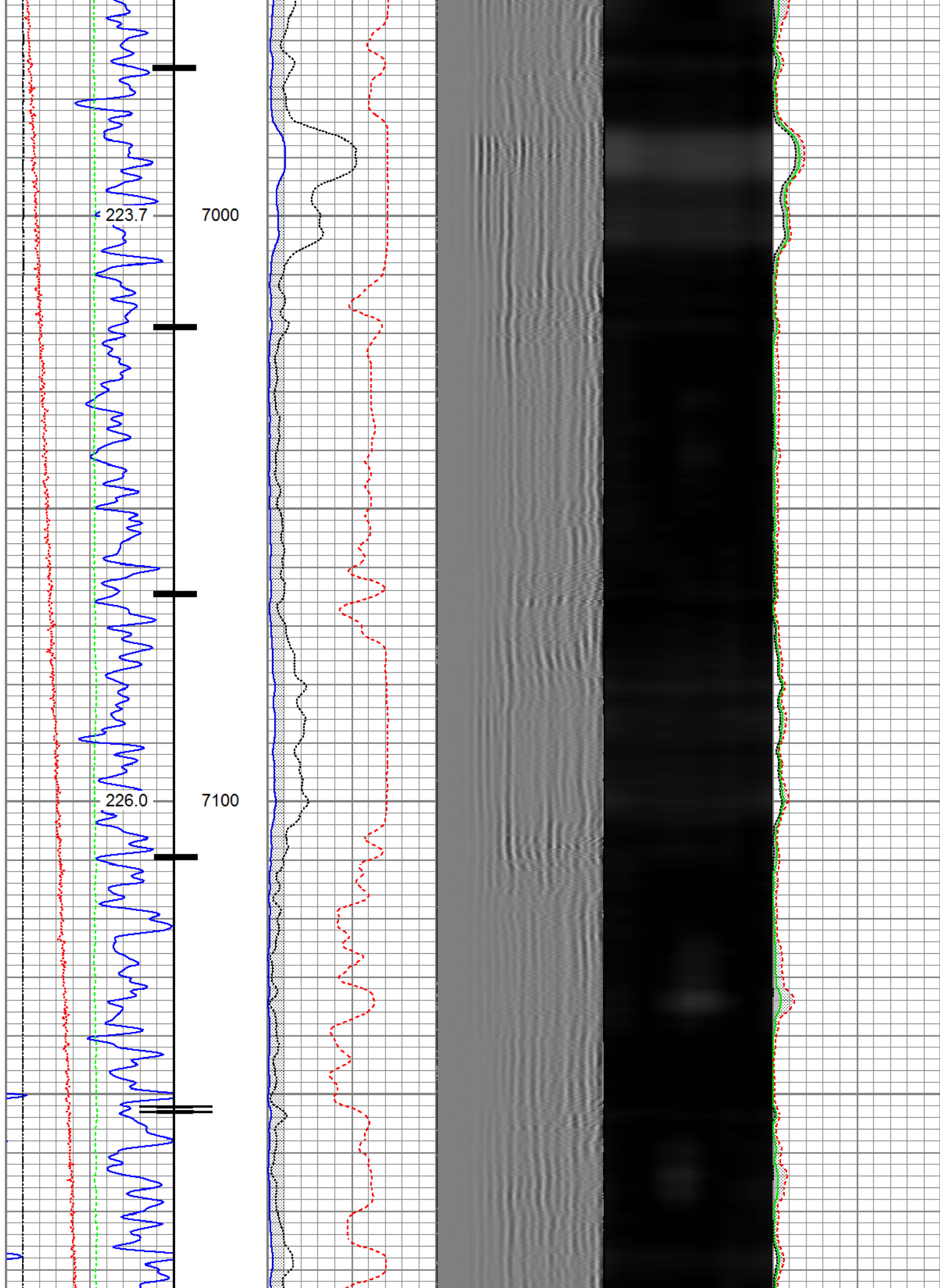


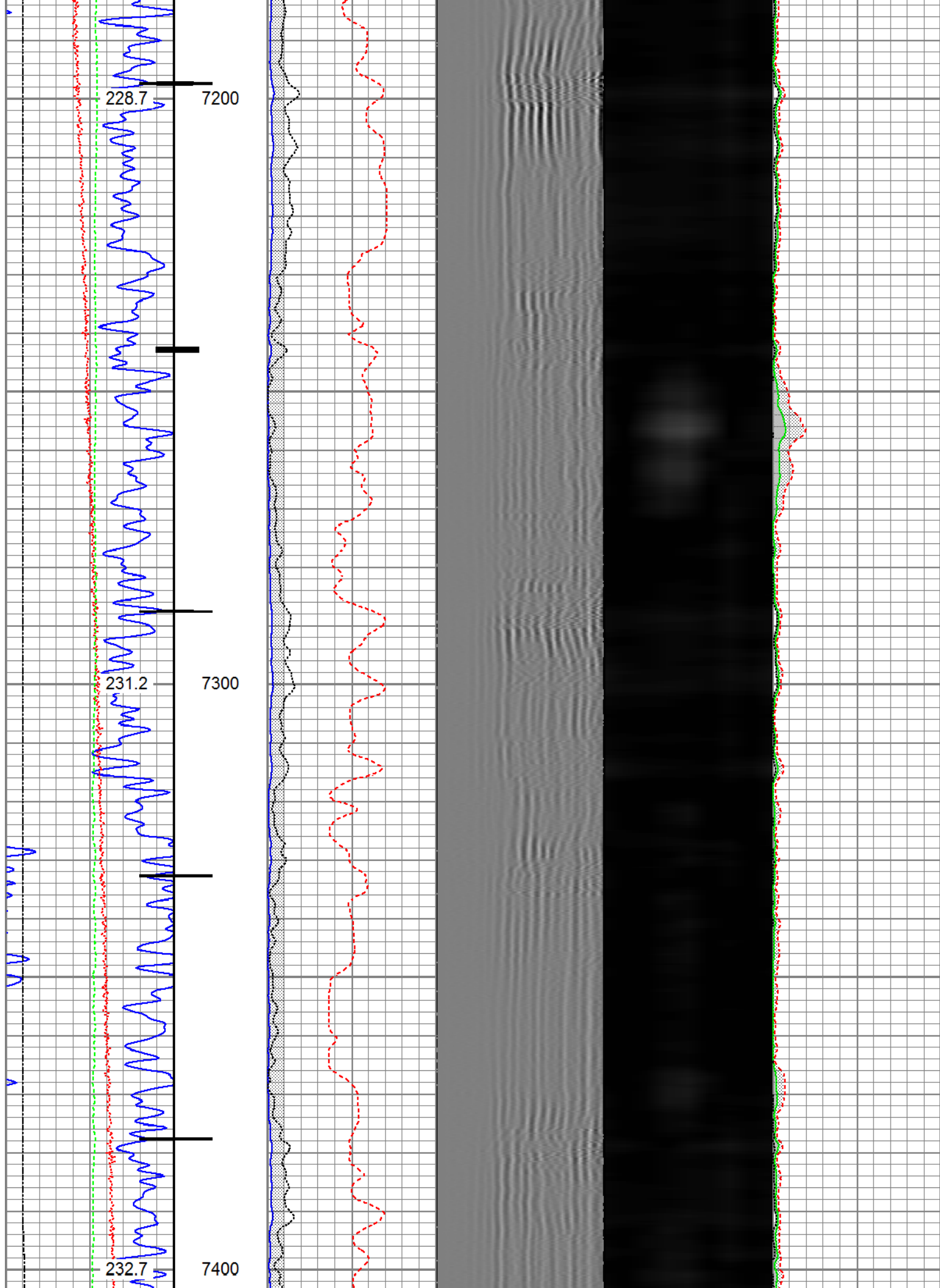


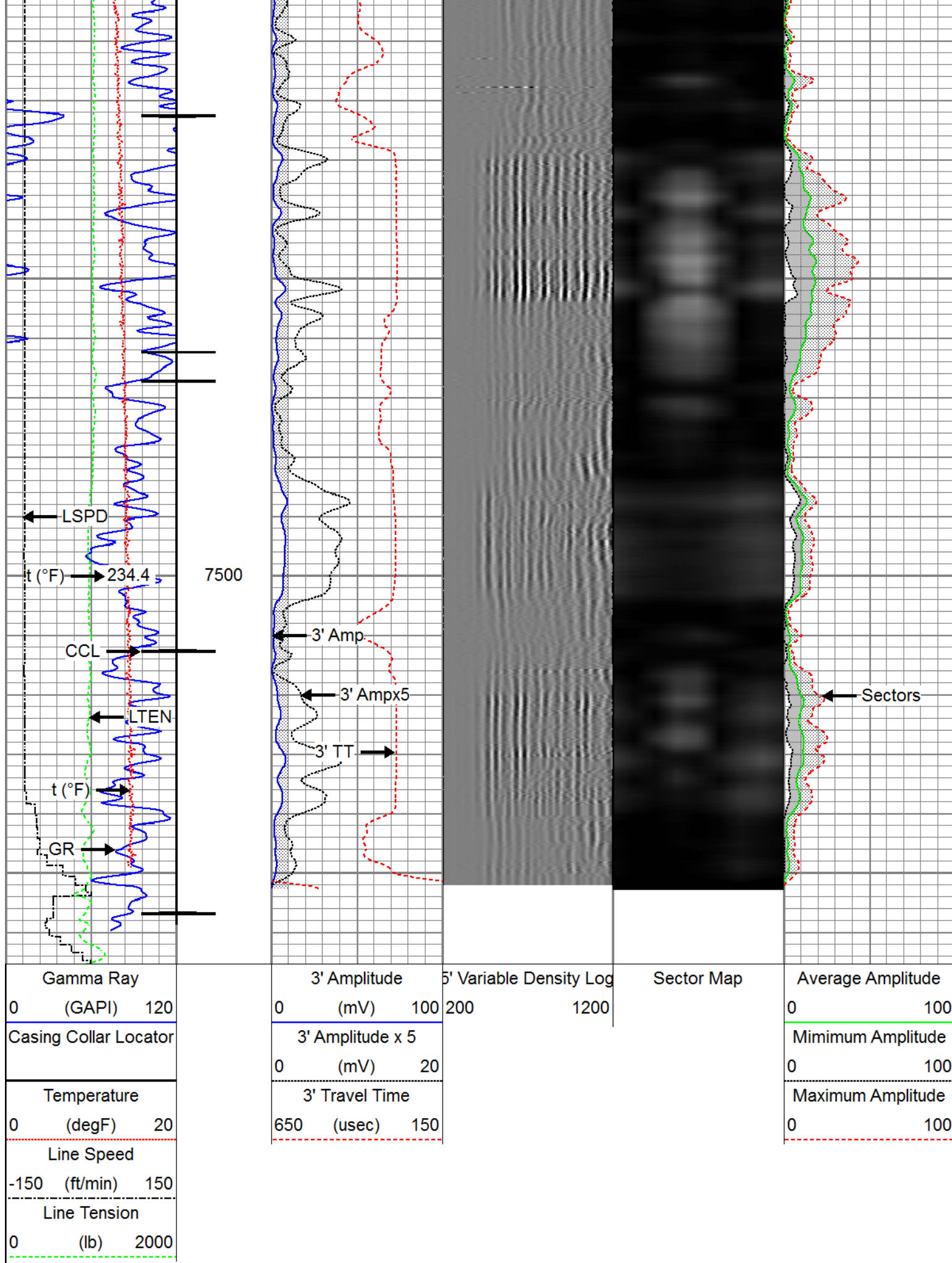






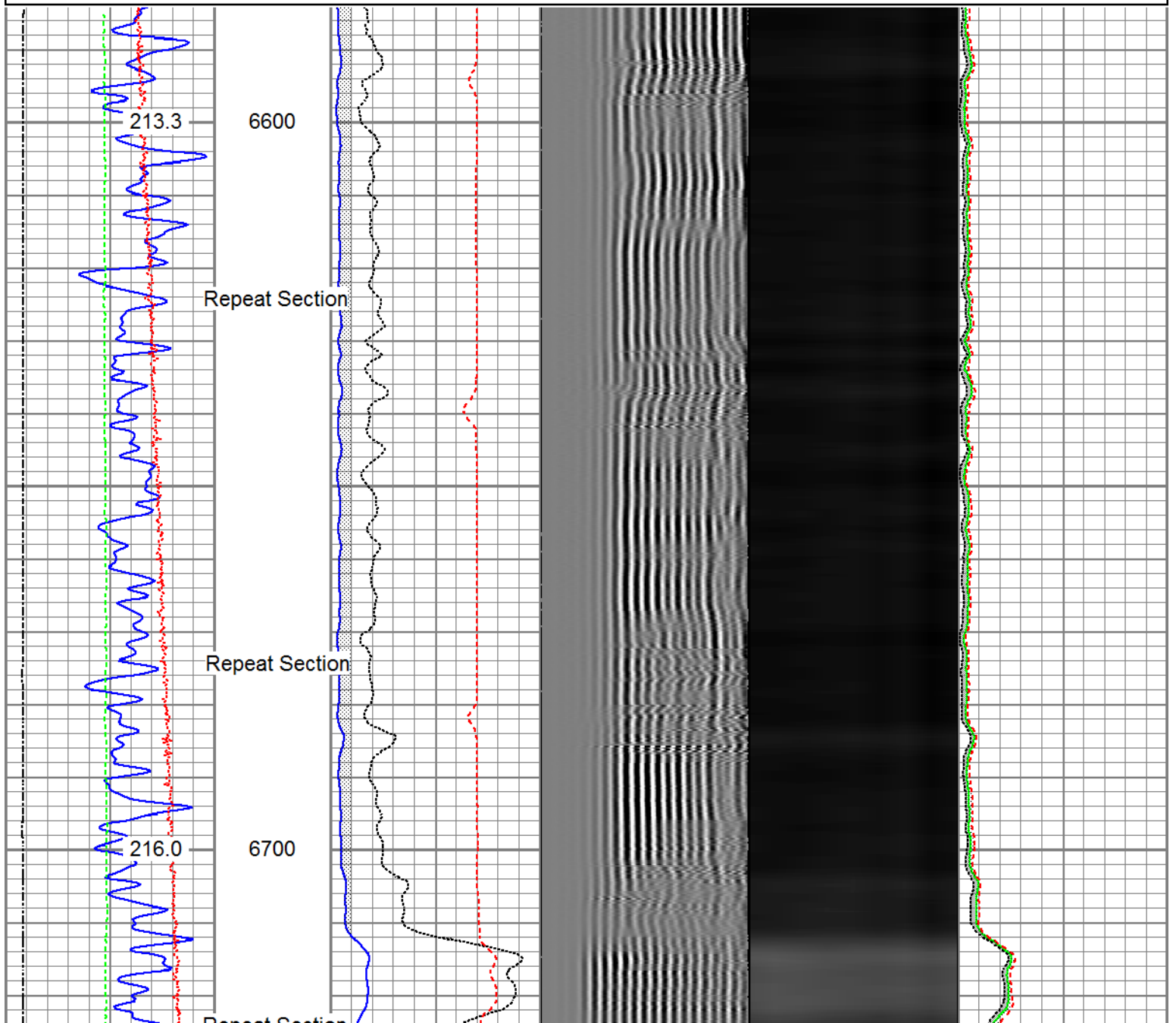


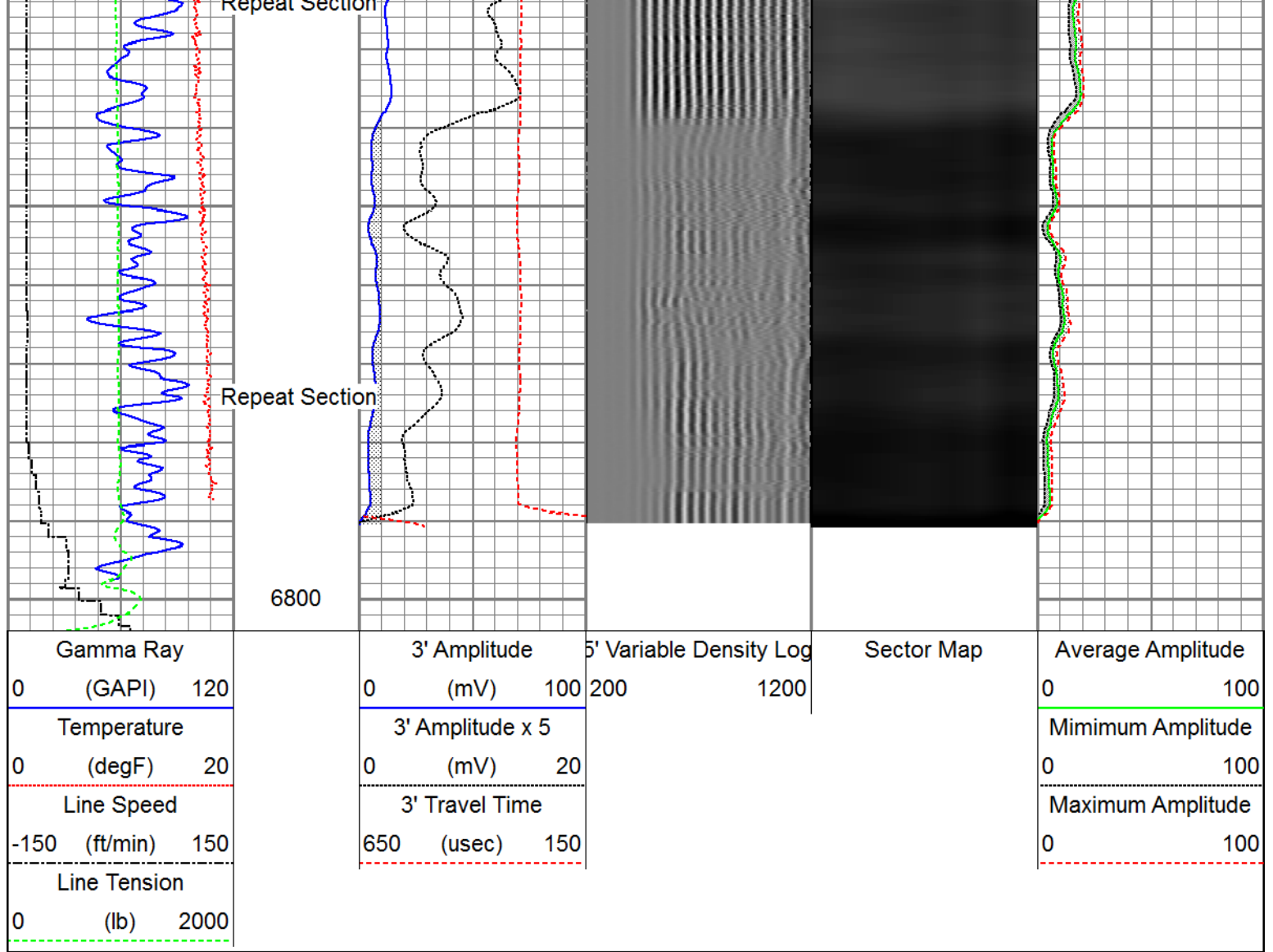


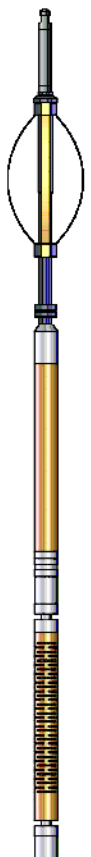
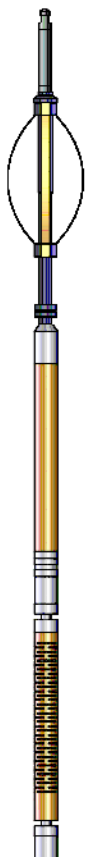


Database File	anadarko land fed 30n-29hz rcbl _16 aug.-2016_w8\processed_0512342398_anadarko land fed 30n-
Dataset Pathname	repeat1
Presentation Format	ros_radri
Dataset Creation	Tue Aug 16 15:48:54 2016
Charted by	Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
HeadVolt	19.51		Titan_Electric_Cable_Heads-Titan_1-11/16" 1.03 Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			Probe_ELine_BowSpring_Centralizer-P_EB2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00
			Probe_RADII-C-P_RBT_2750 (FW1305-0989.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	989.19	2.75	105.00
Temp	16.72					
WVFS8	14.55					
WVFS7	14.55					
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					

Calibration Report	
Database File	c:\programdata\warrior\data\anadarko land fed 30n-29hz rcbl _16 aug.-2016_w8\processed_05123423
Dataset Pathname	main
Dataset Creation	Tue Aug 16 15:54:53 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 Tue Aug 16 13:51:14 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.011	0.553	0.800	71.921	131.133	-0.617
CAL	0.738	0.712				
5'	0.011	0.470	0.800	71.921	155.147	-0.952
SUM						
S1	0.016	0.542	0.000	100.000	190.211	-3.053
S2	0.015	0.578	0.000	100.000	177.558	-2.631
S3	0.012	0.609	0.000	100.000	167.399	-1.945
S4	0.008	0.603	0.000	100.000	167.845	-1.264
S5	0.008	0.569	0.000	100.000	178.048	-1.371
S6	0.012	0.541	0.000	100.000	188.982	-2.226
S7	0.008	0.518	0.000	100.000	196.117	-1.626
S8	0.023	0.516	0.000	100.000	202.782	-4.666

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 30N-29HZ
 Field Wattenberg
 County Weld
 State Colorado