



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	King 37N-8HZ				
Field	Wattenberg				
County	Weld				
State	Colorado				
Company	Kerr-McGee Oil & Gas Onshore, L.P.	Well	King 37N-8HZ	Field	Wattenberg
County	Weld	State	Colorado		
Location:	API # : 05-123-44235		Other Services GR/JB		
SEC 8 TWP 1N RGE 66W			Elevation		
Permanent Datum	Ground Level	Elevation	4959'		
Log Measured From	Kelly Bushing	26 FT	K.B. 4985'		
Drilling Measured From	Kelly Bushing		D.F. 4984'		
			G.L. 4959'		

Date 07-SEPT-2017

Run Number	Two		
Depth Driller	12955 FT		
Depth Logger	7558 FT		
Bottom Logged Interval	7554 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	238°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	16:27		
Equipment Number	HD-0331		
Location	Fort Lupton, CO		
Recorded By	G. Lueck		
Witnessed By	Kyle Carver		

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	J-55	Surface	1879 FT
Intermediate #1	5 1/2	20	HCP-110	Surface	12945 FT
Intermediate #2					
Liner					

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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 Marker Joint Reported at 6638 FT
Adjusted +2 FT To Correlate With Marker Joint
Log ran with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of any debris upon completion of operations

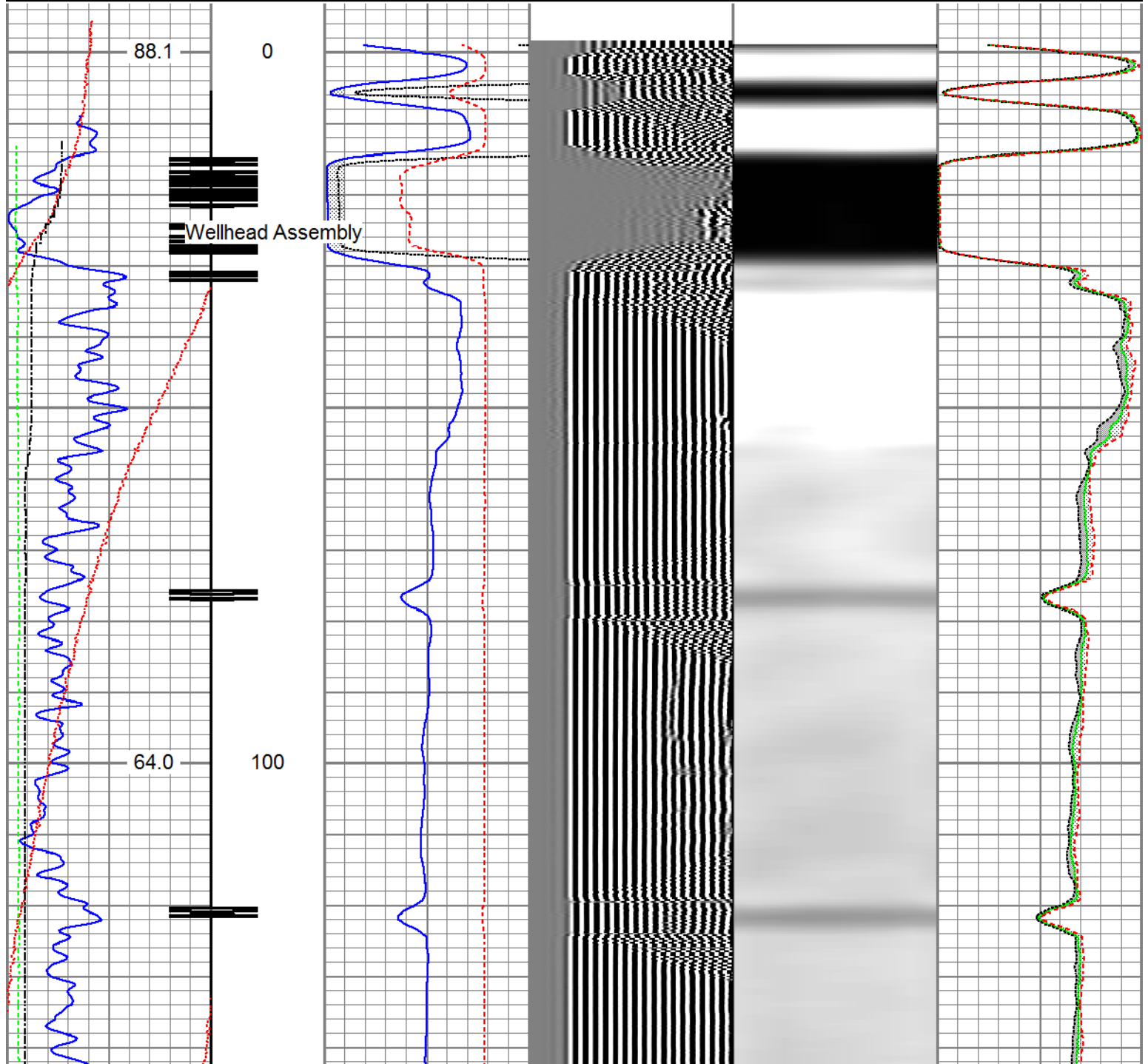
Thank you for choosing Reliance Oilfield Services, LLC!!

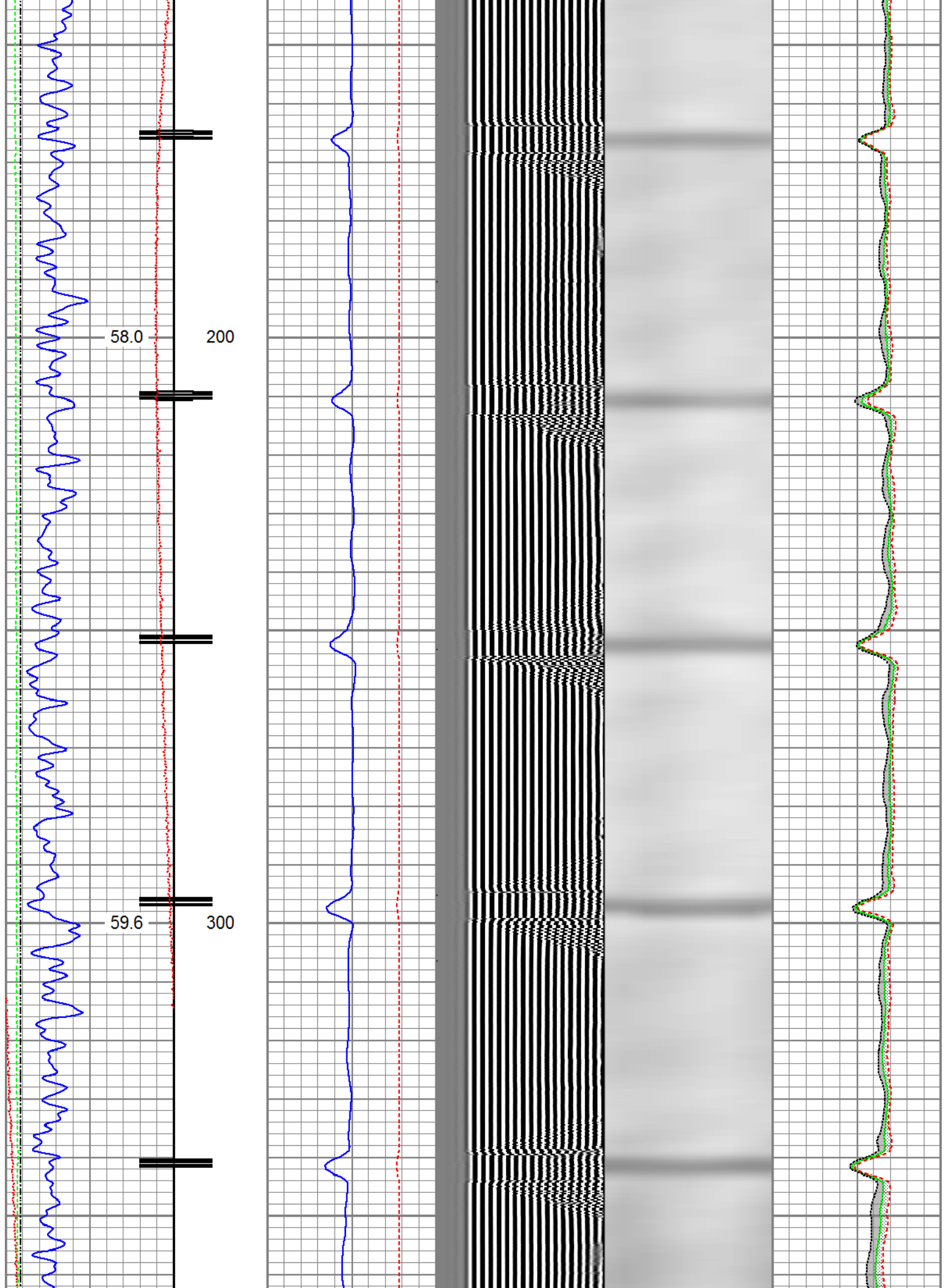


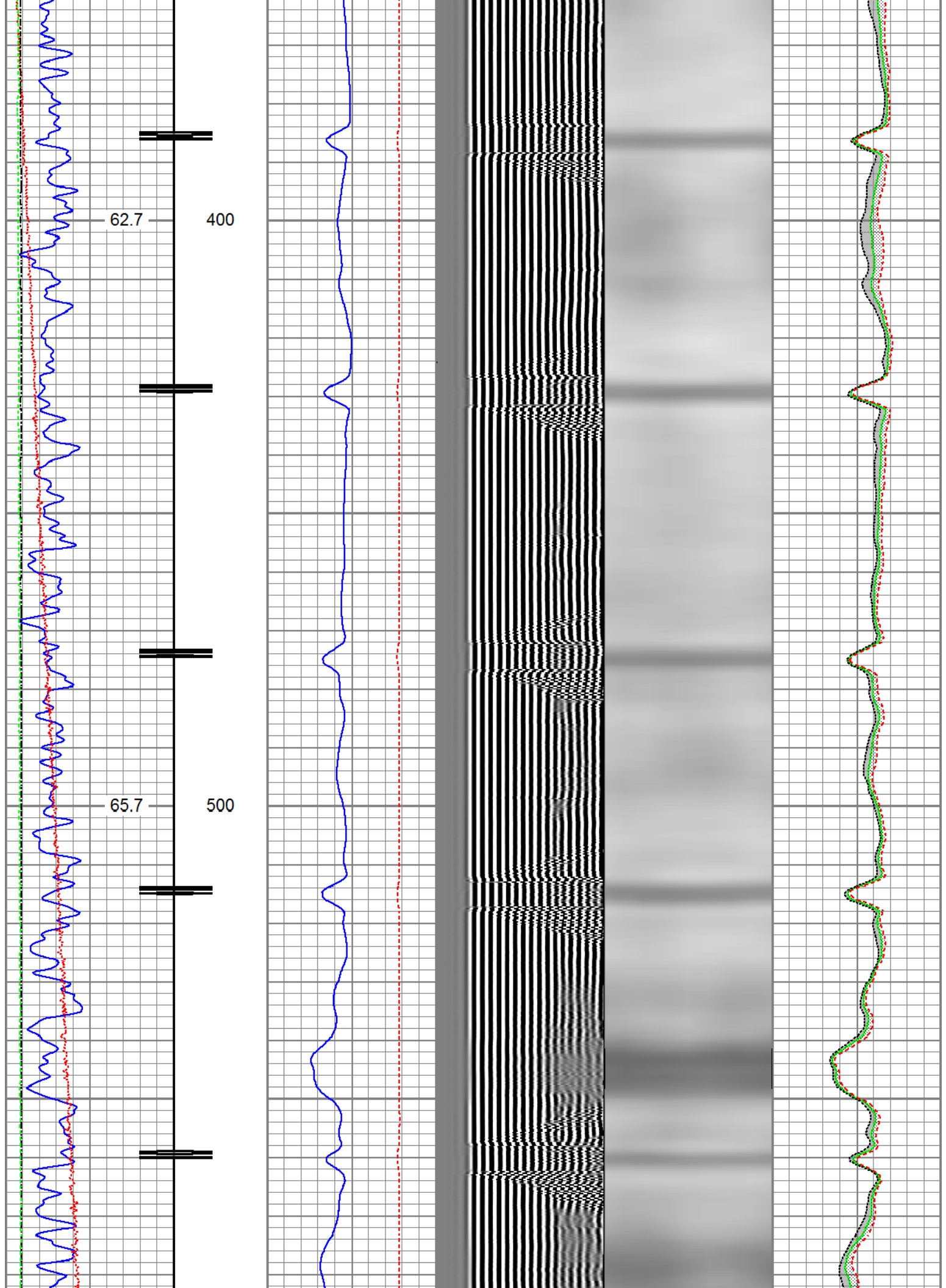
Main Pass

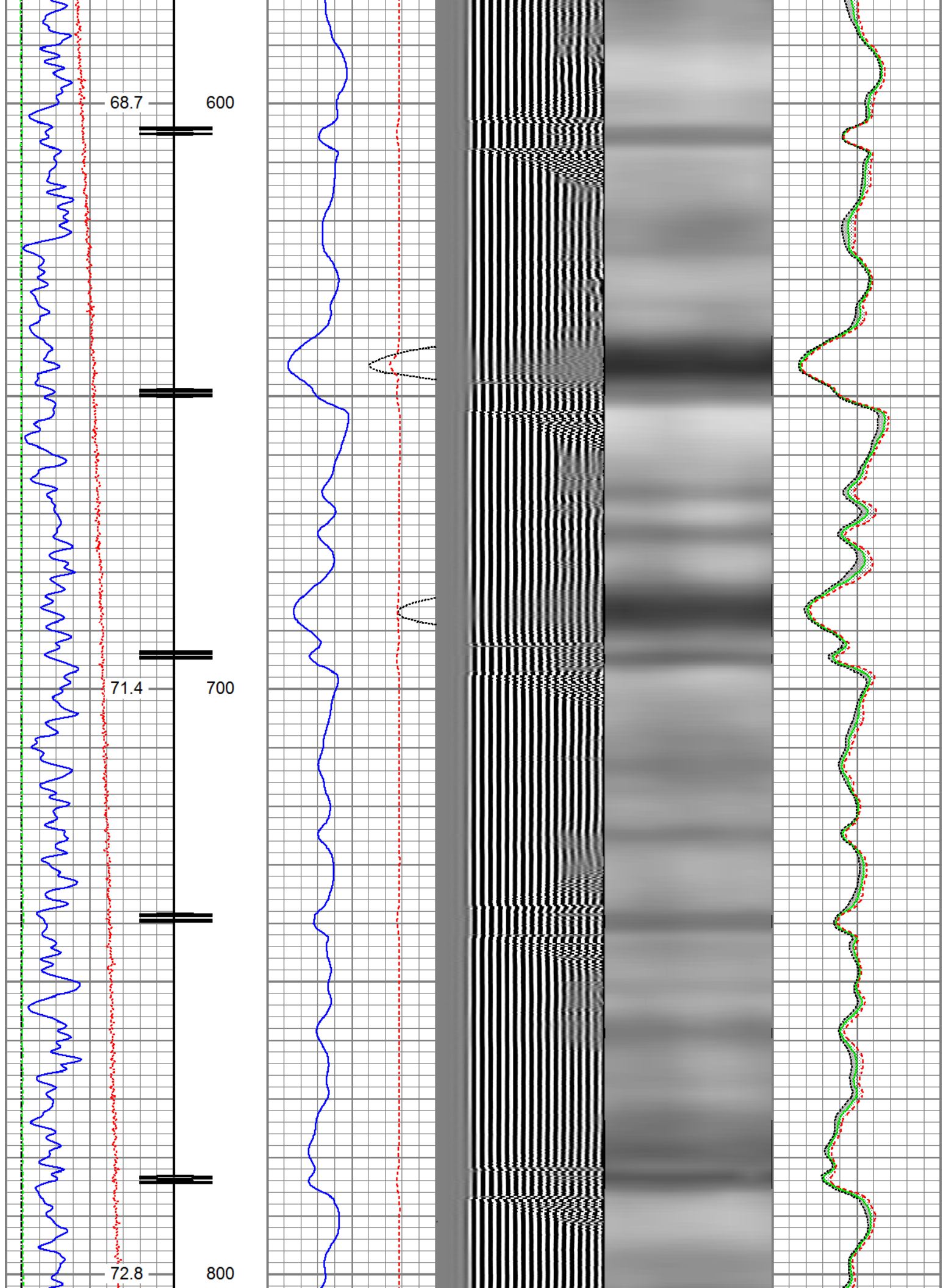
Recorded With 2800 PSI Surface Induced Pressure

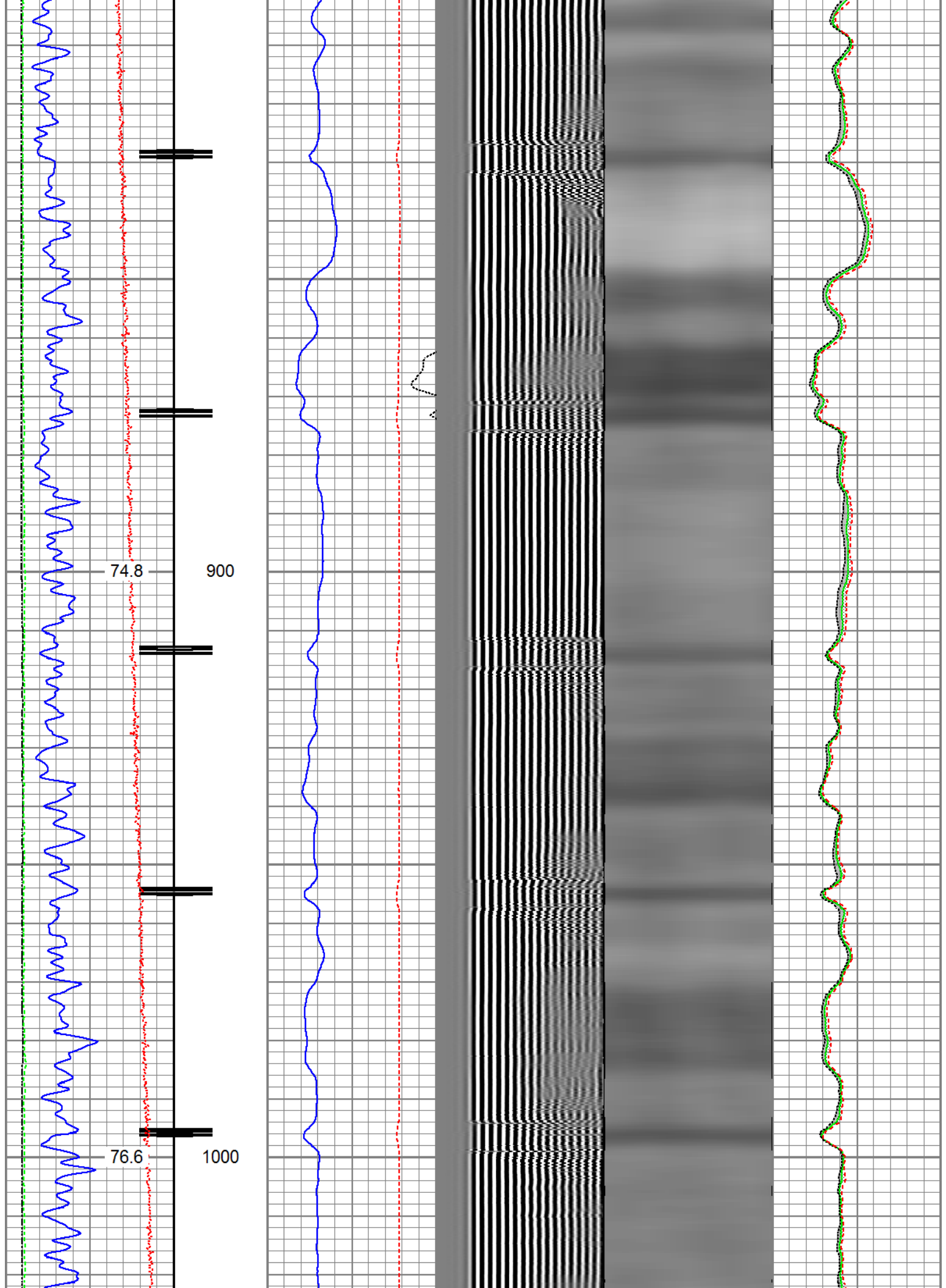
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

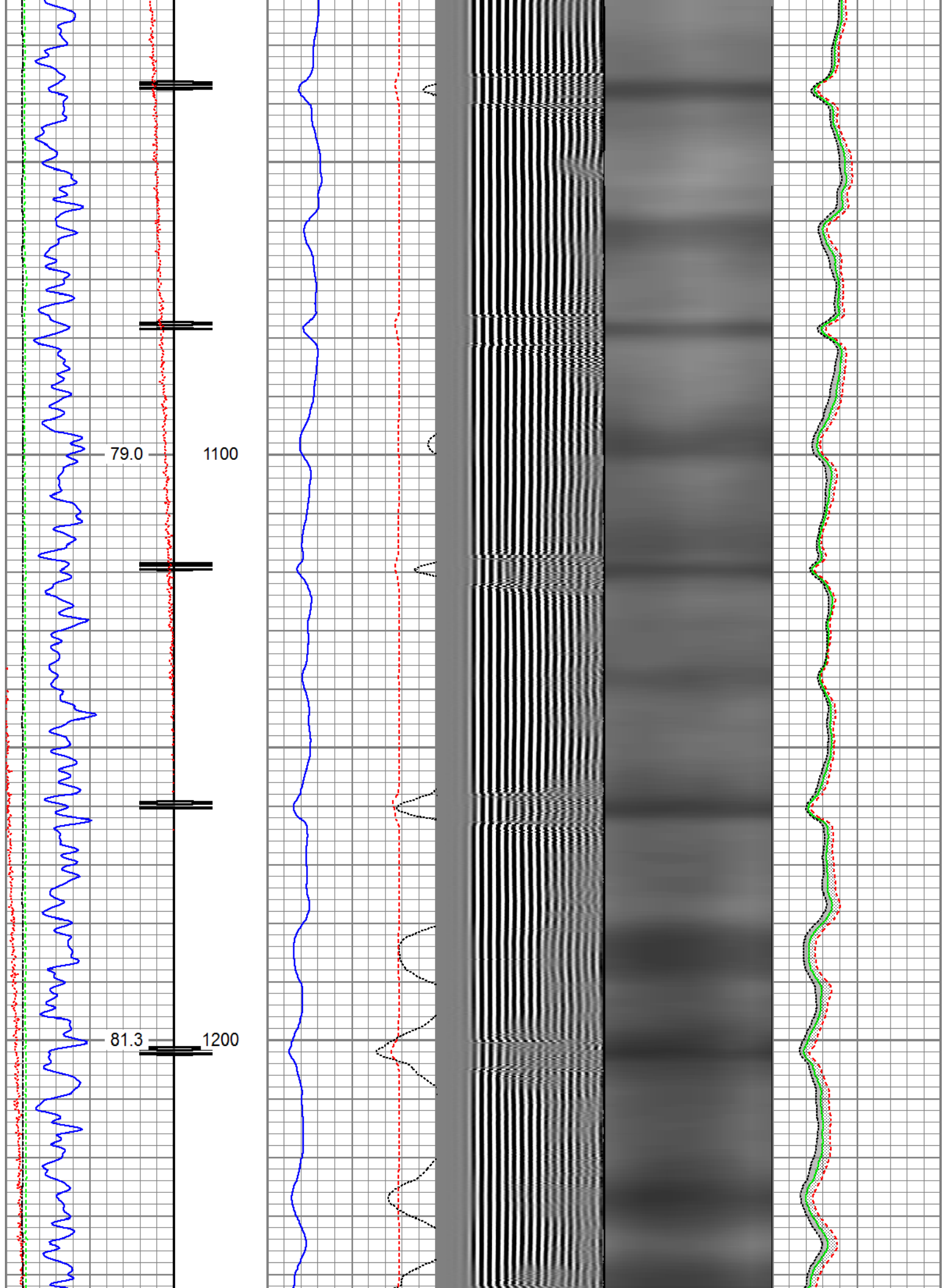


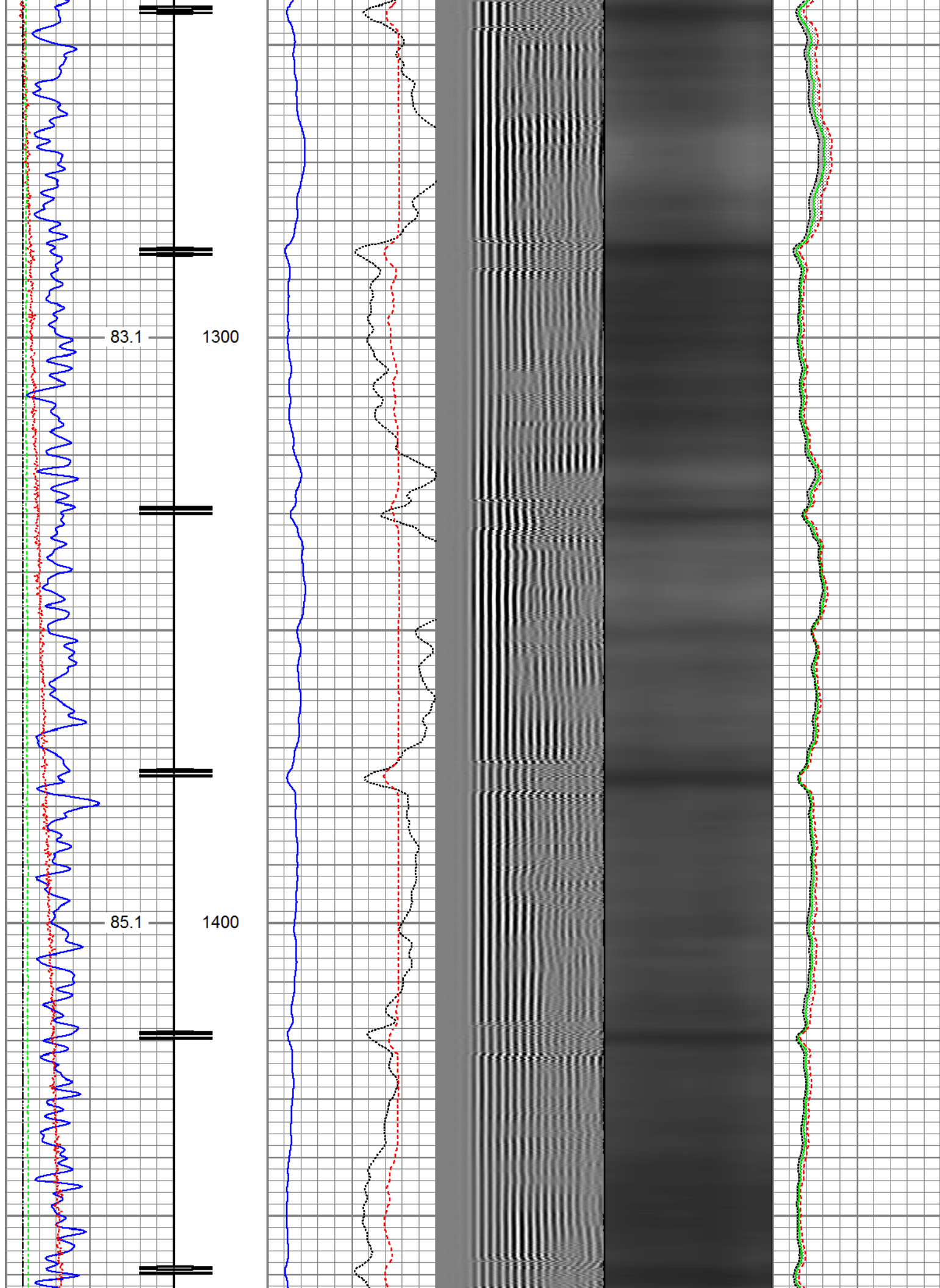


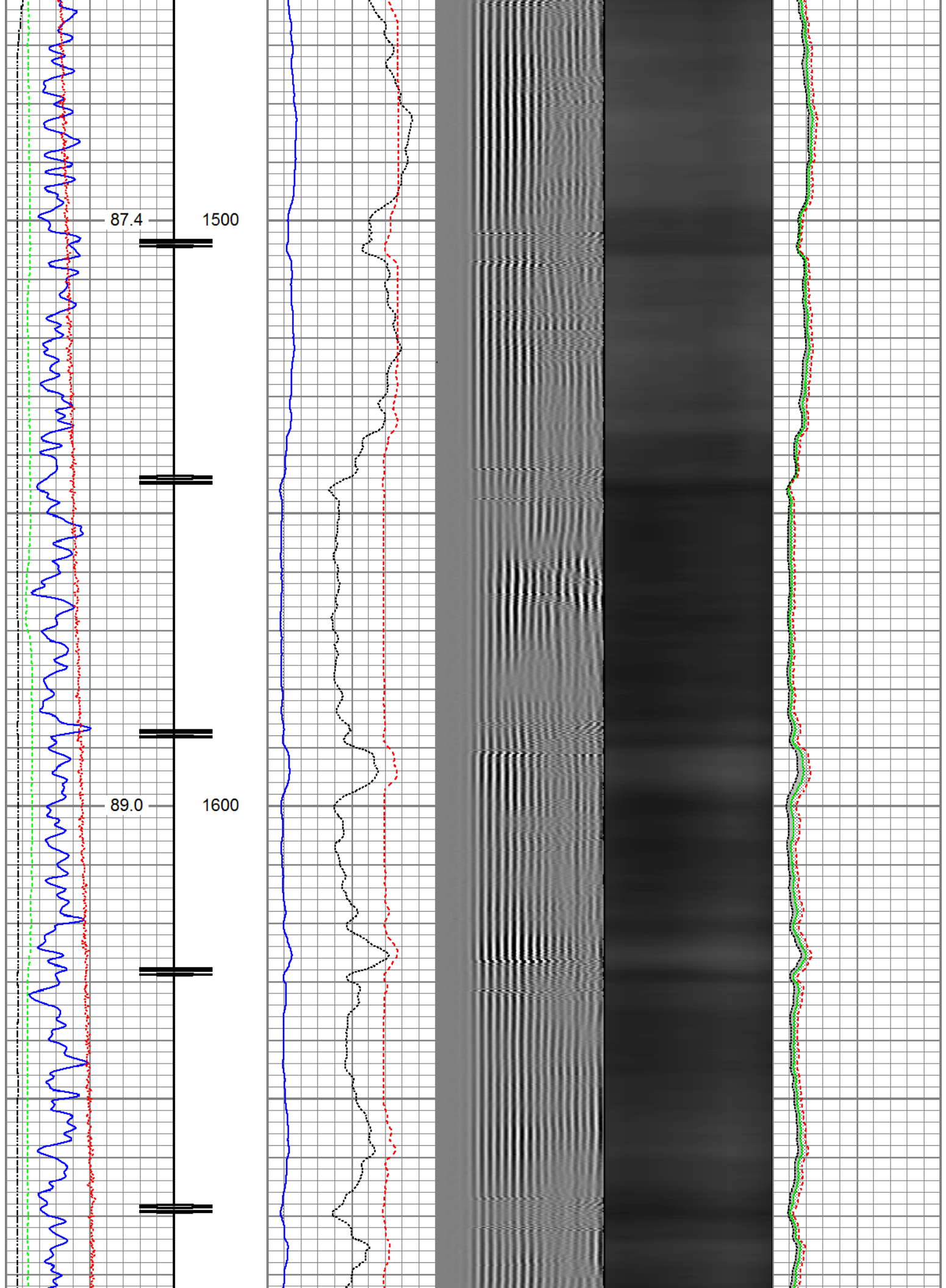


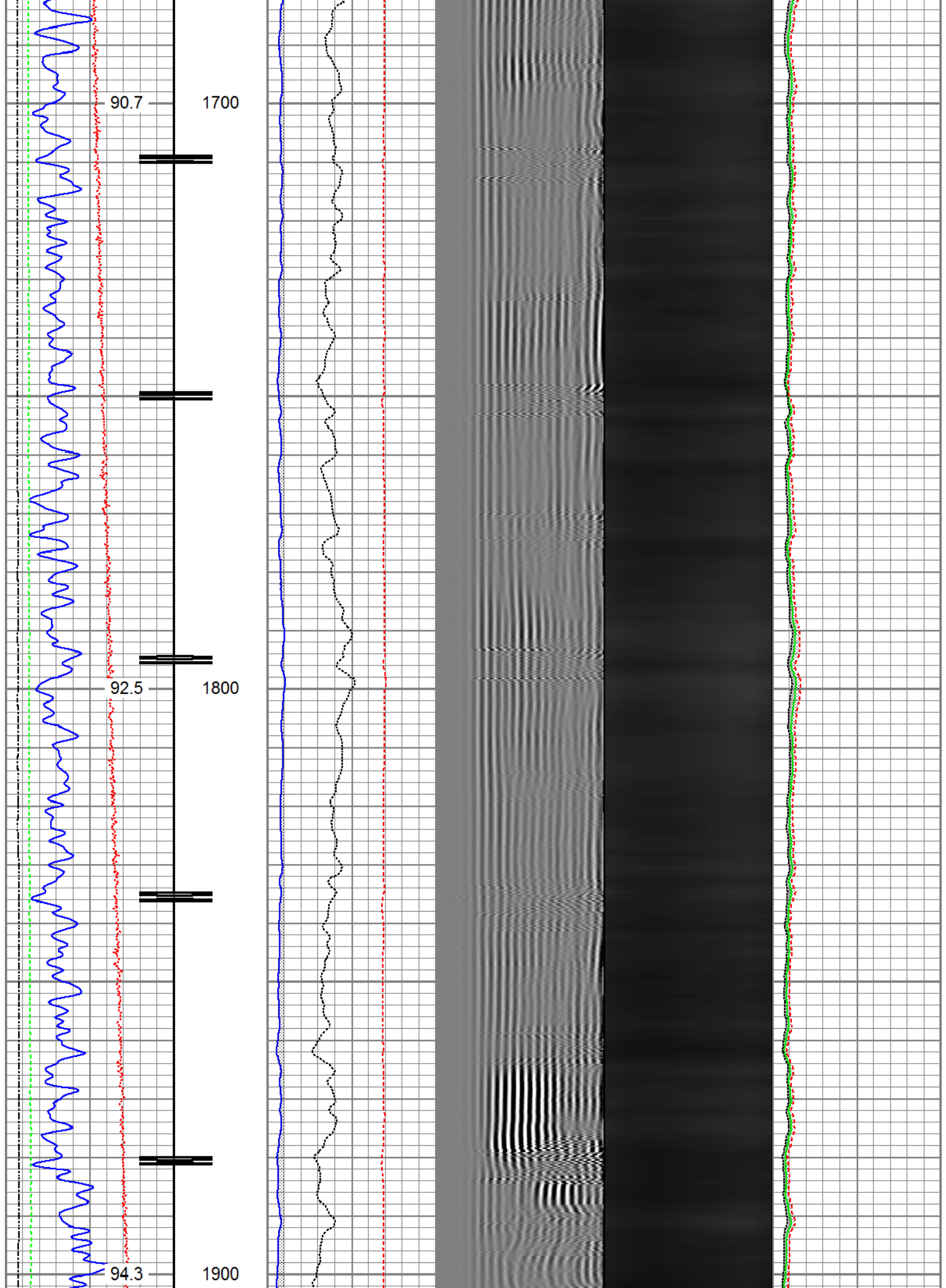


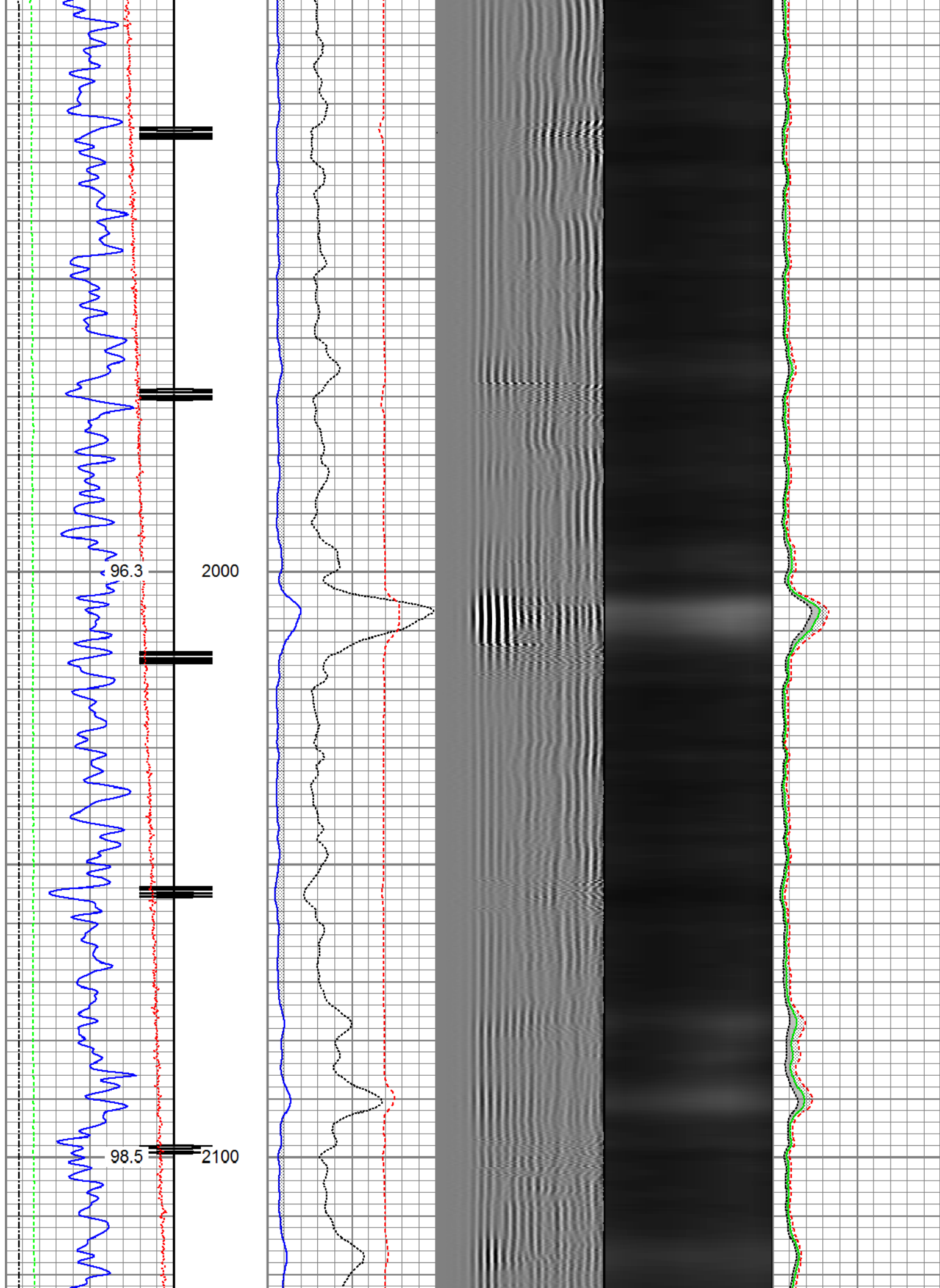


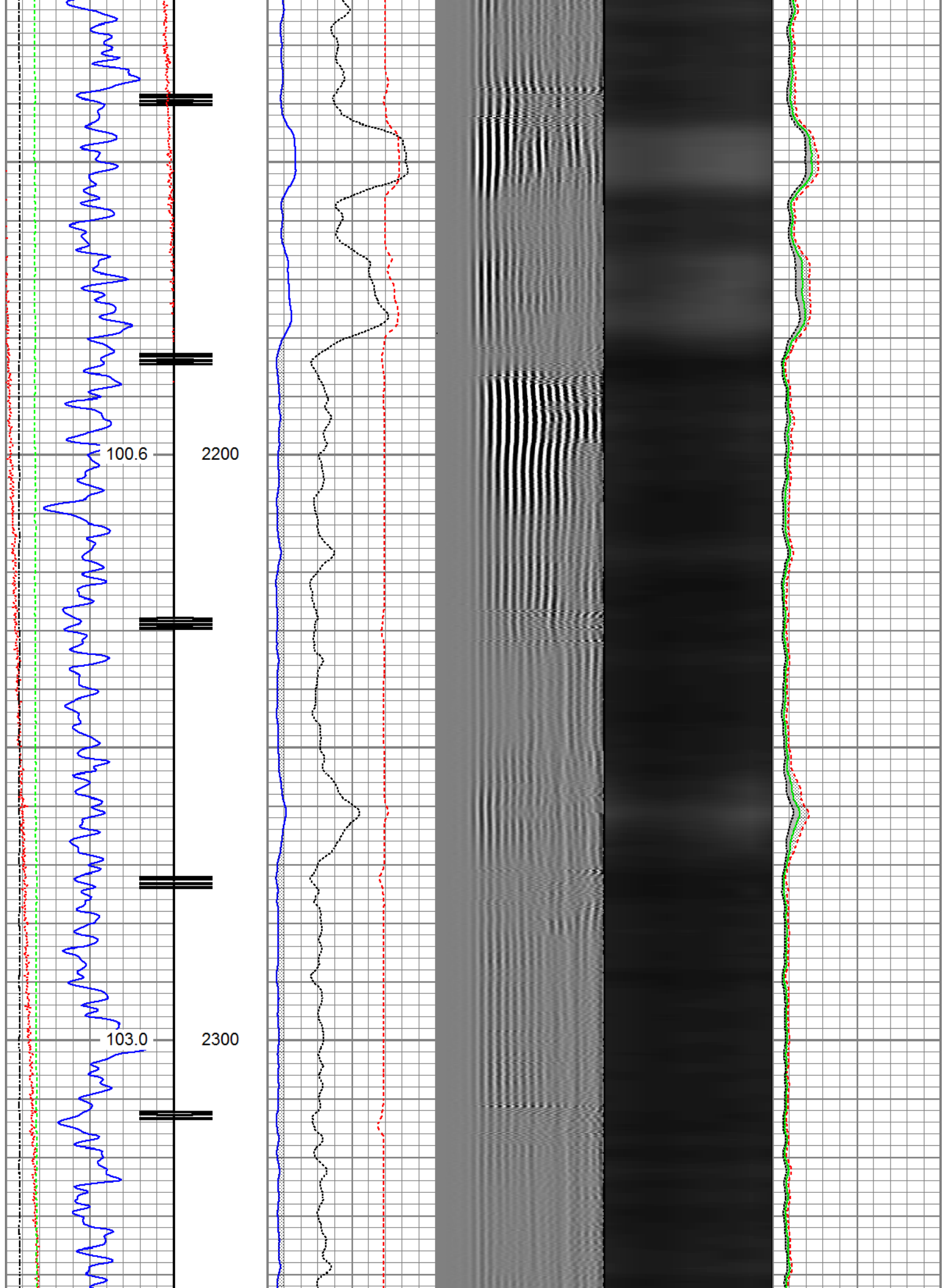


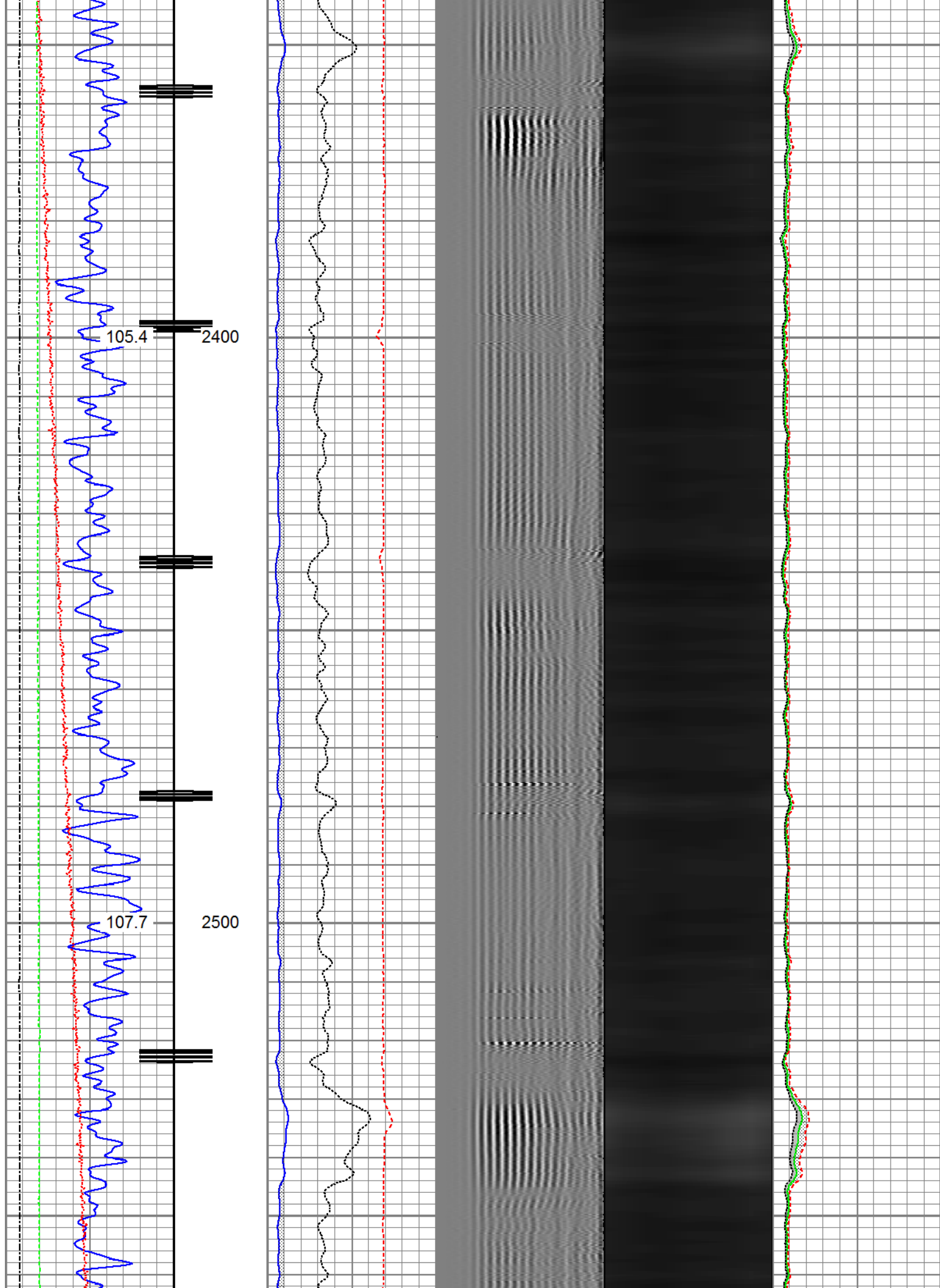


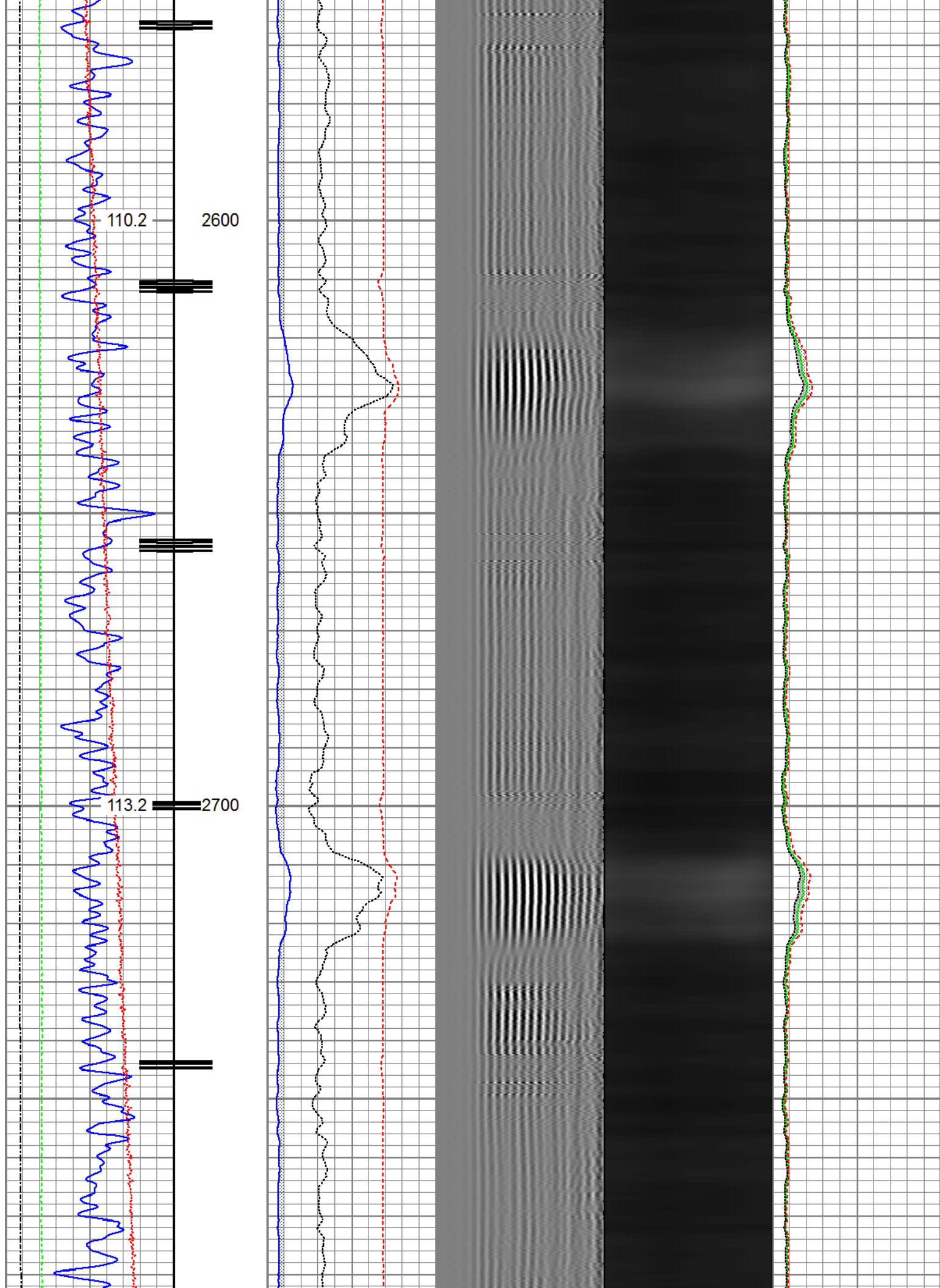


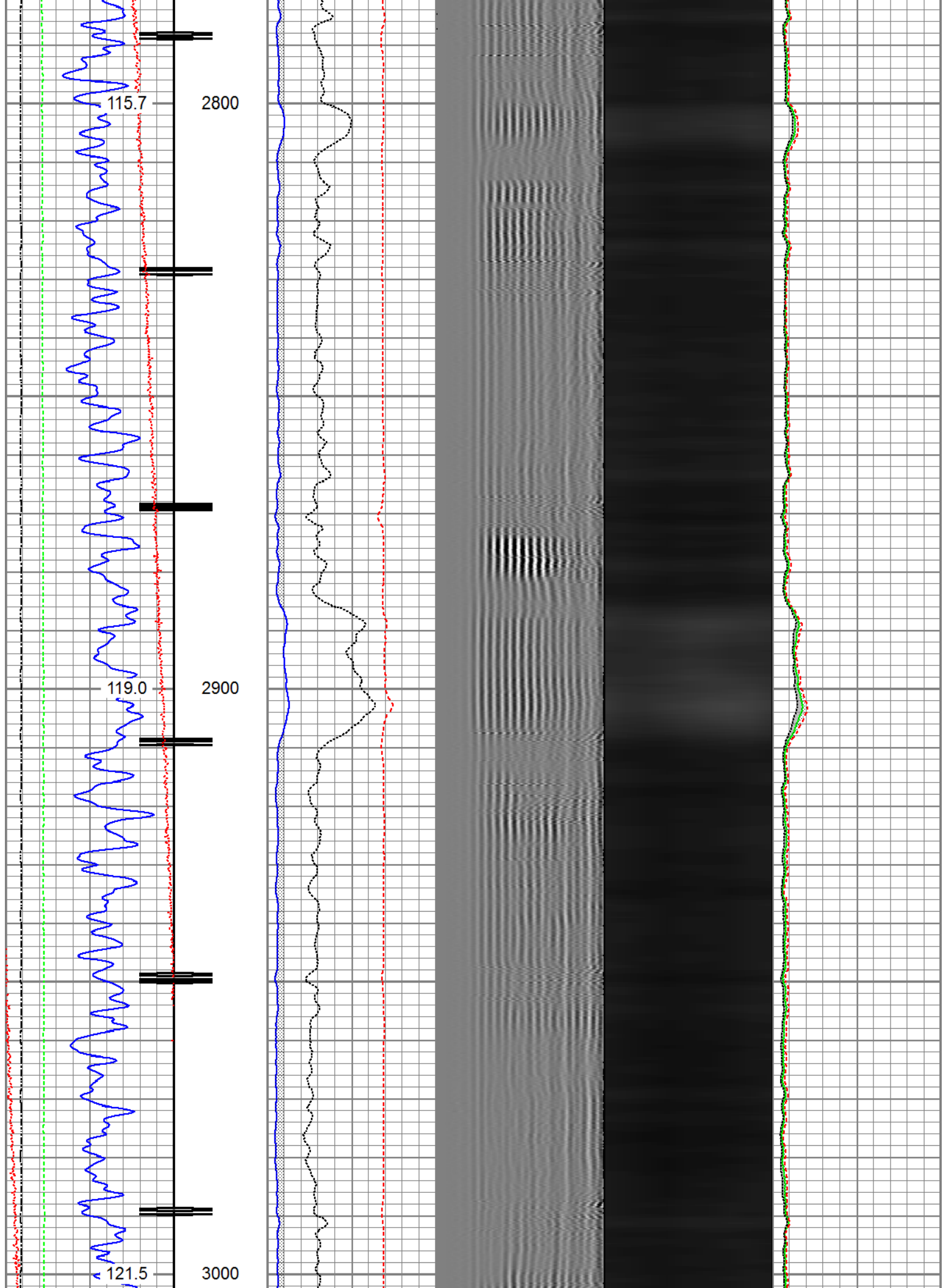


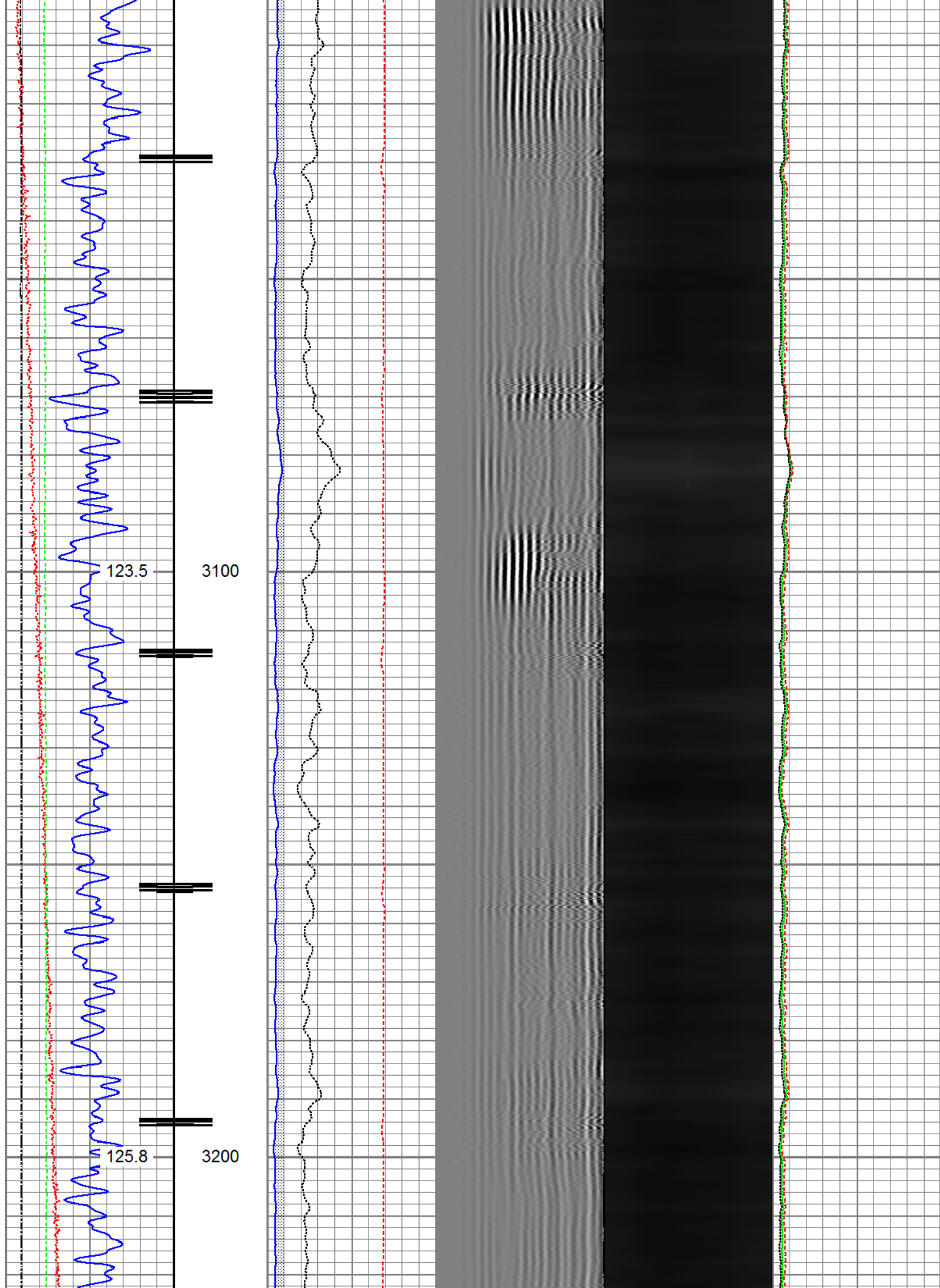


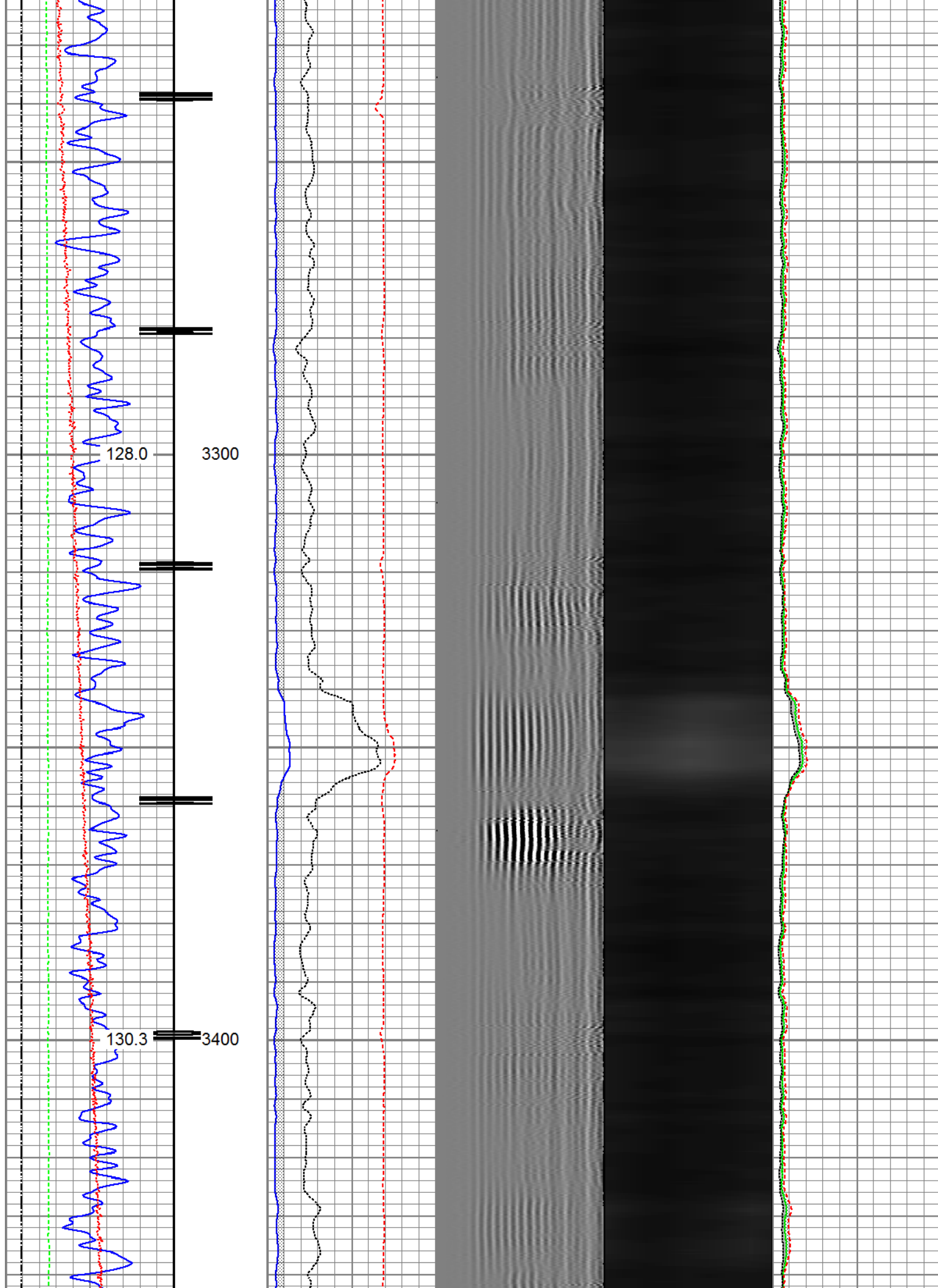


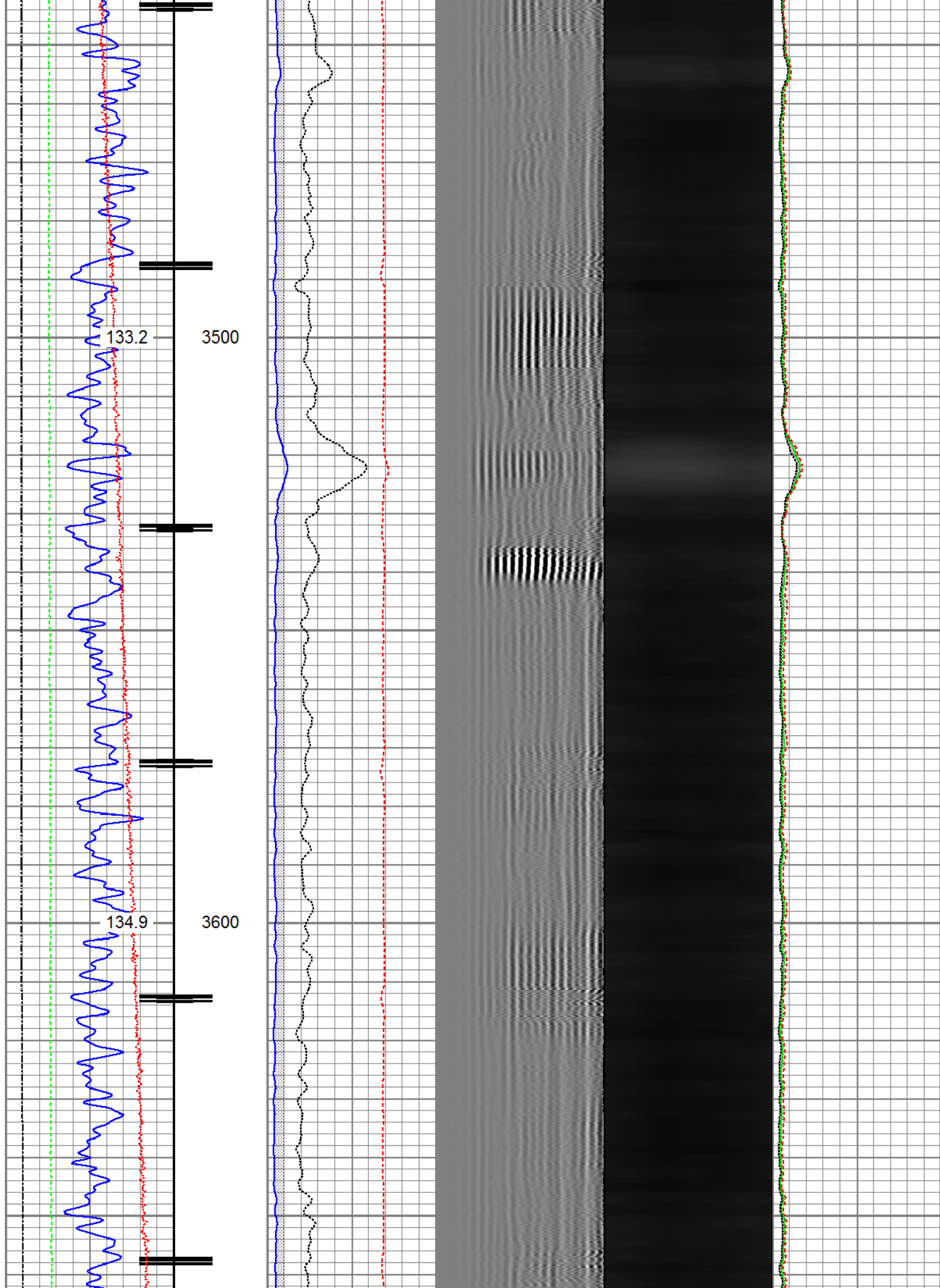


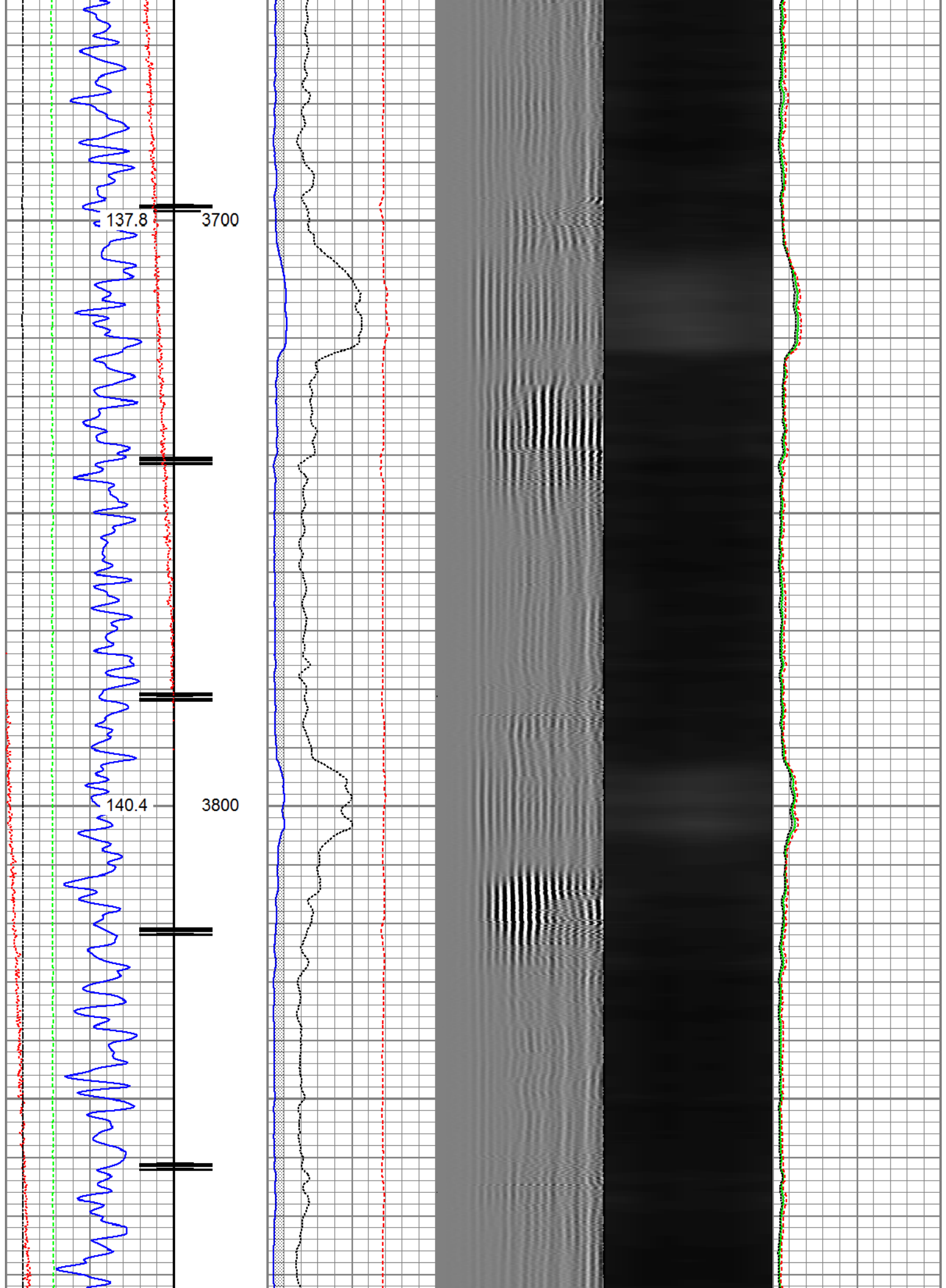


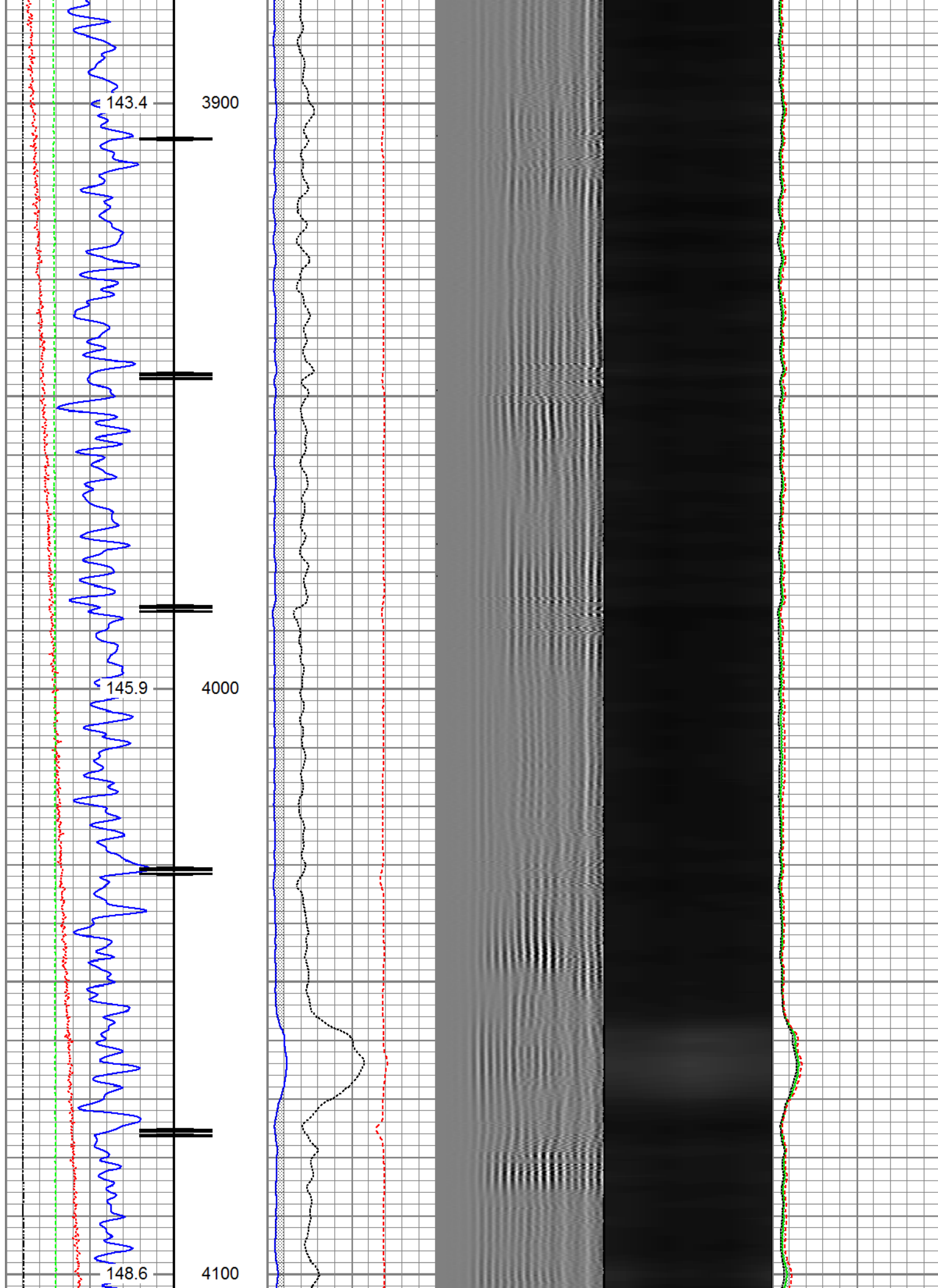


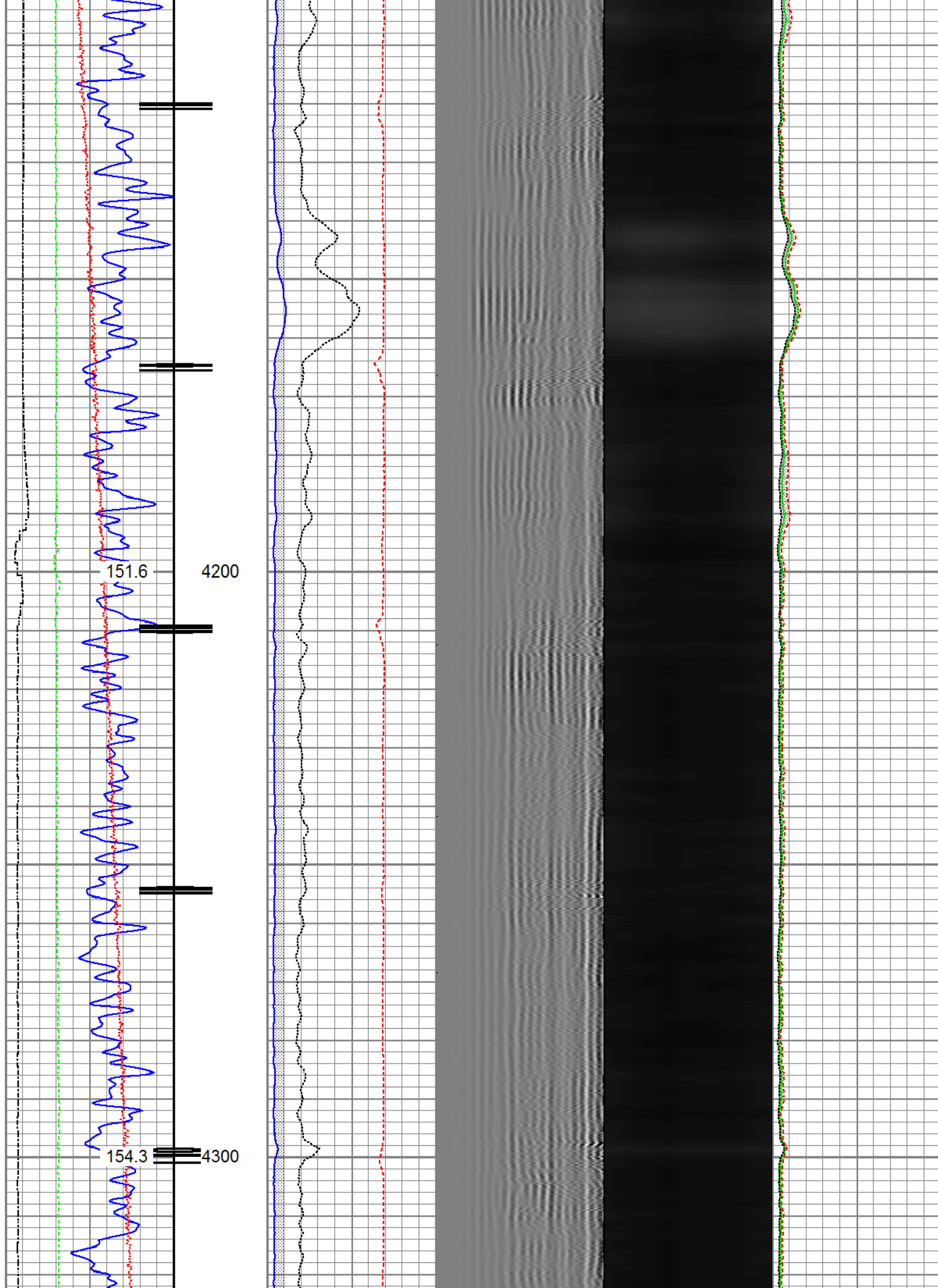


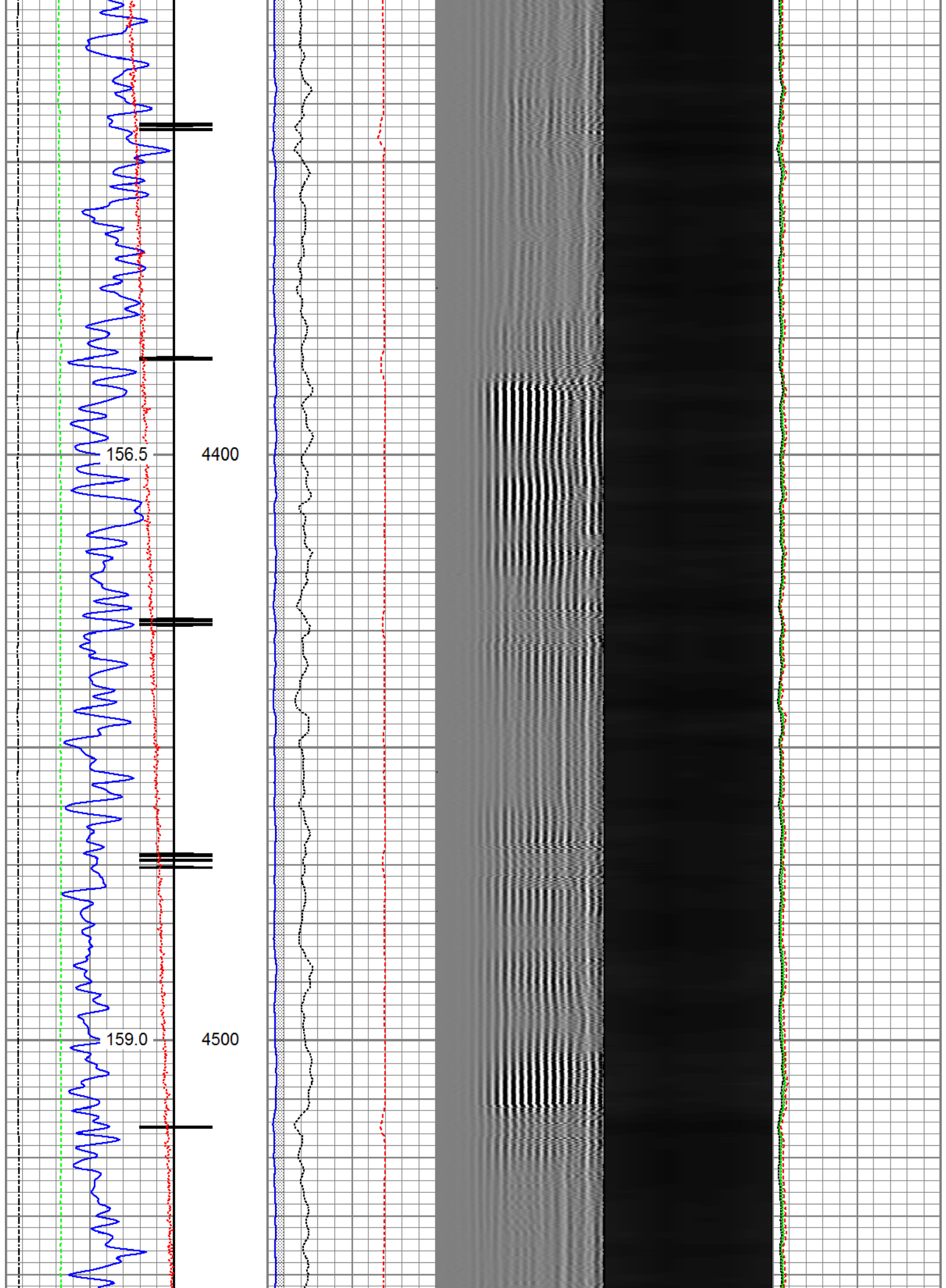


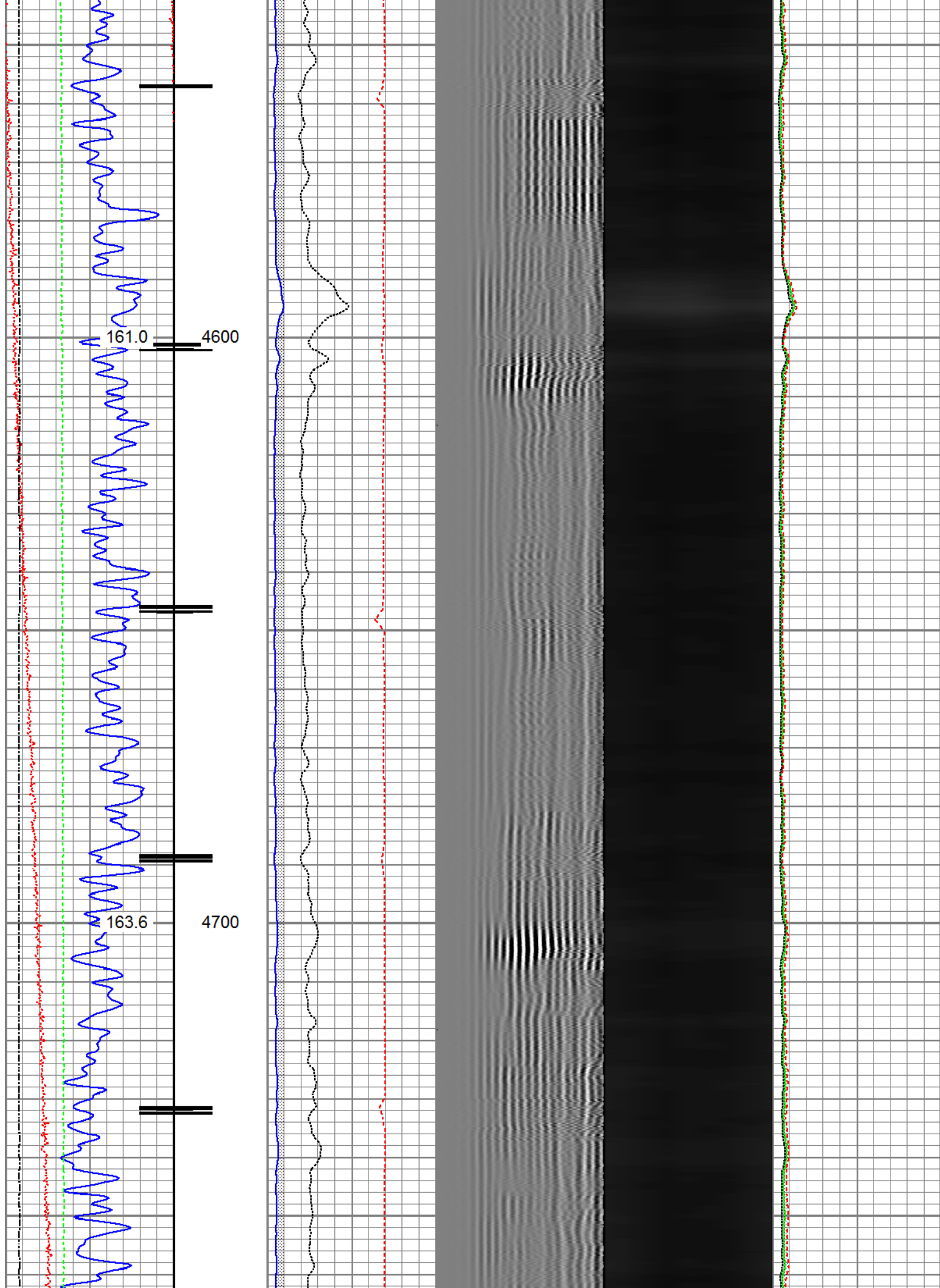


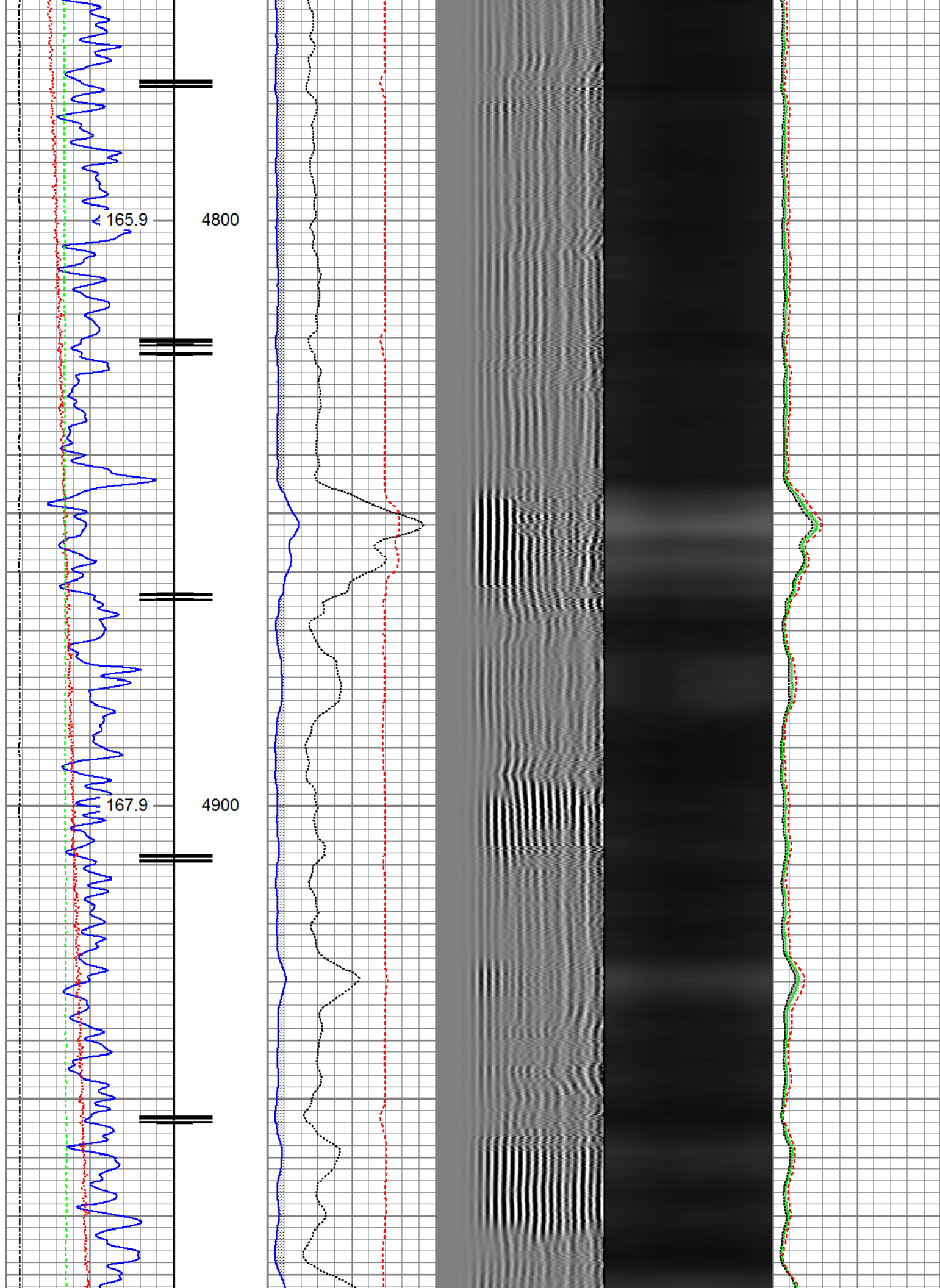


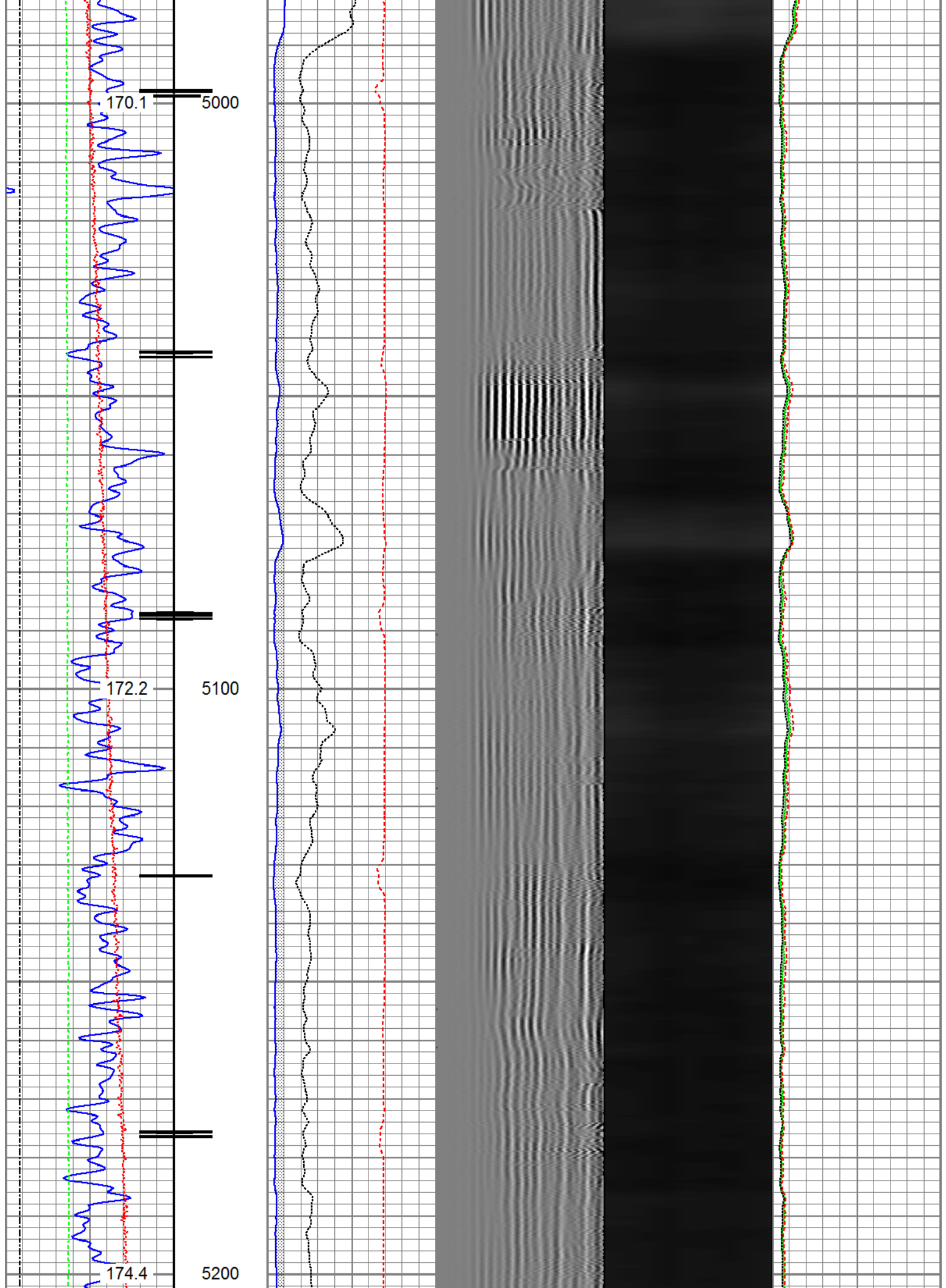


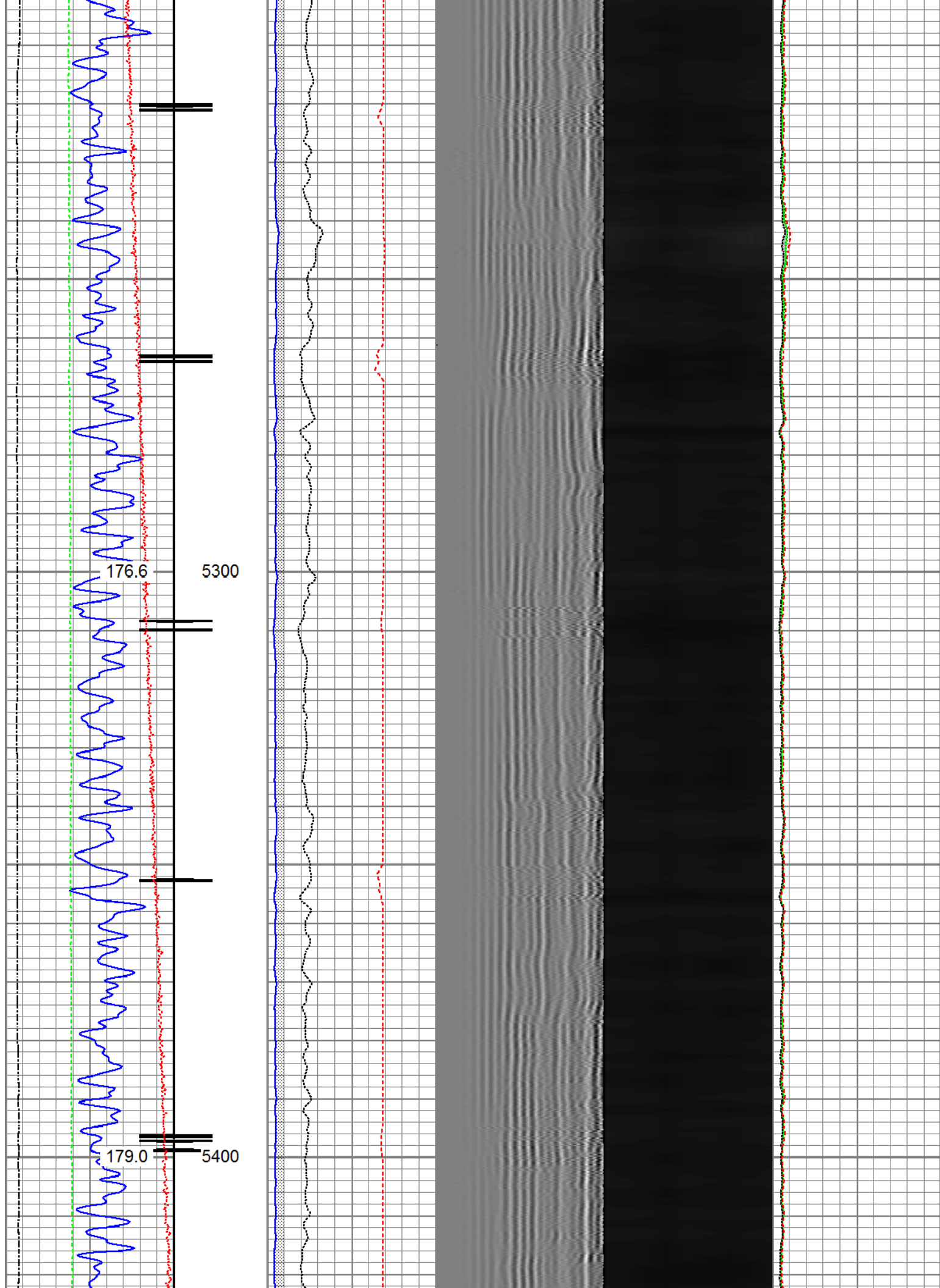


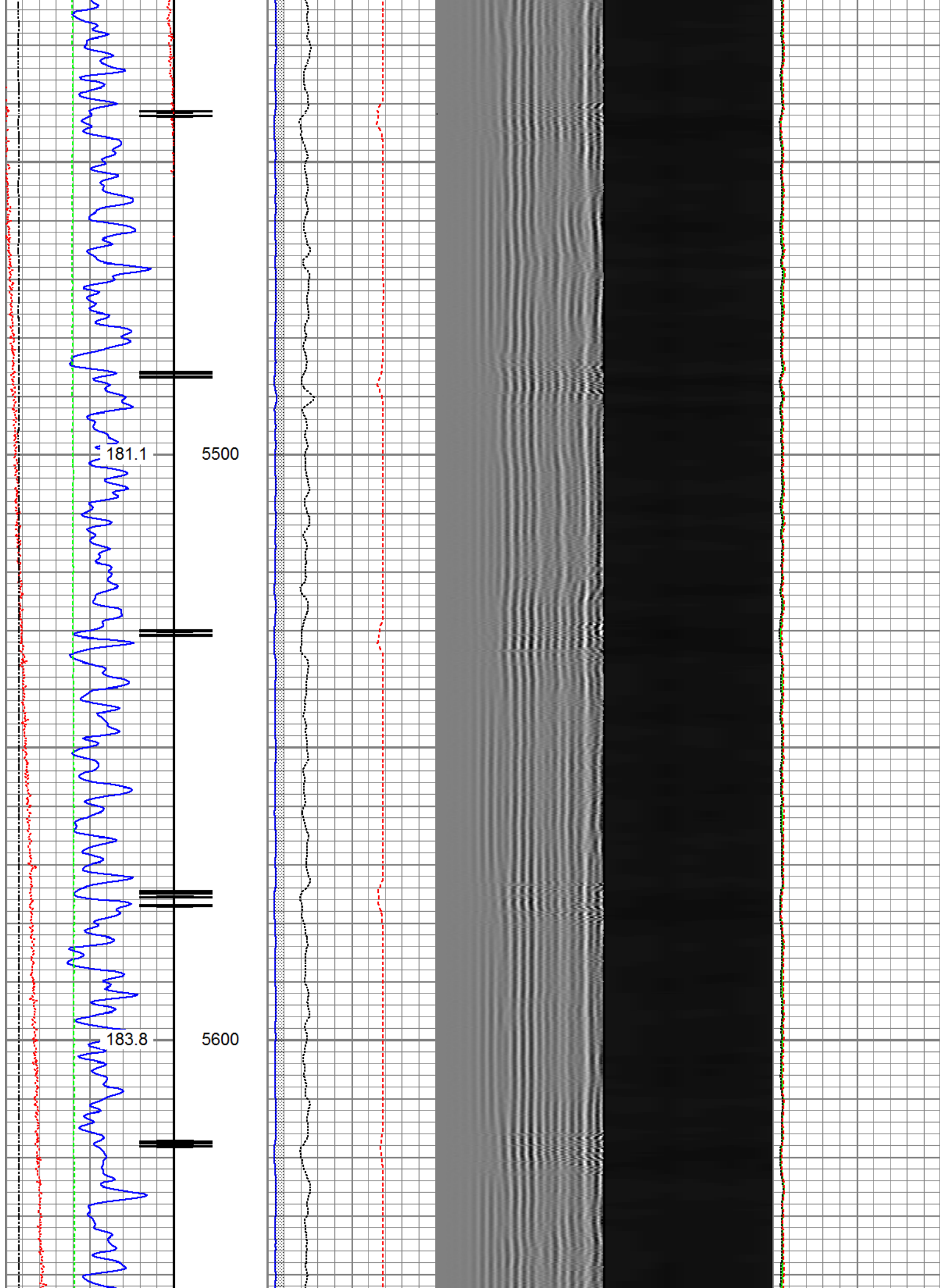


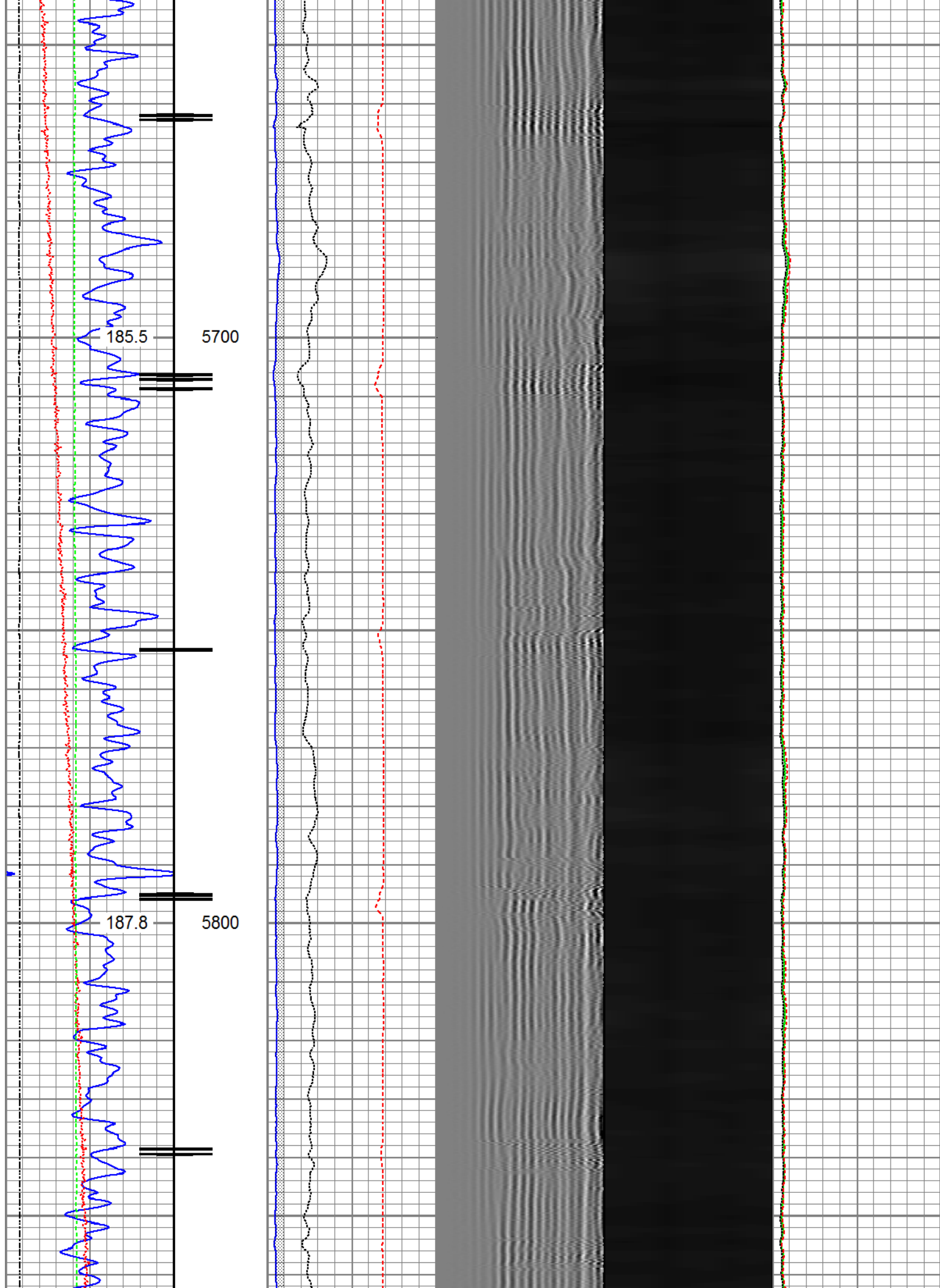


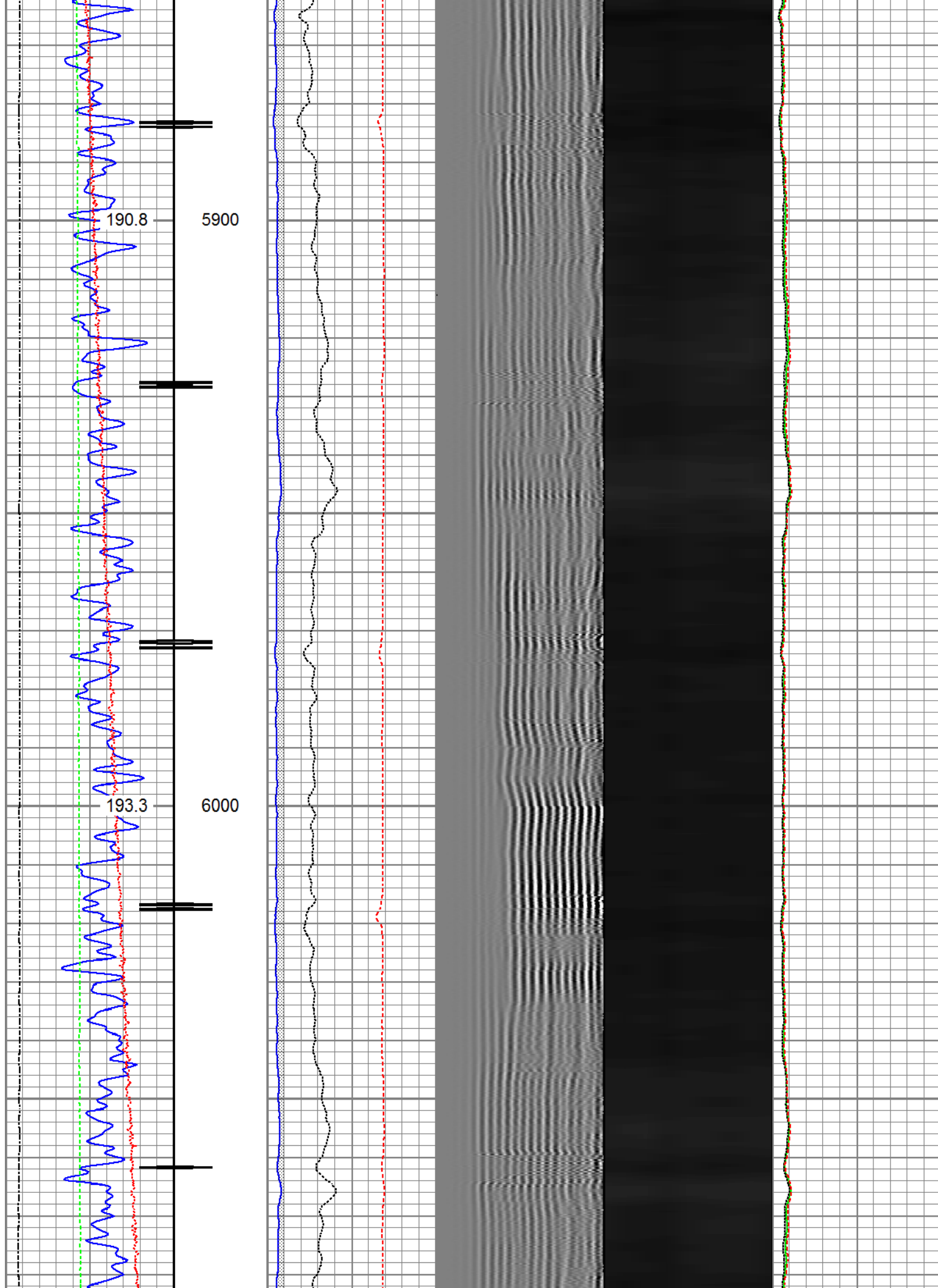


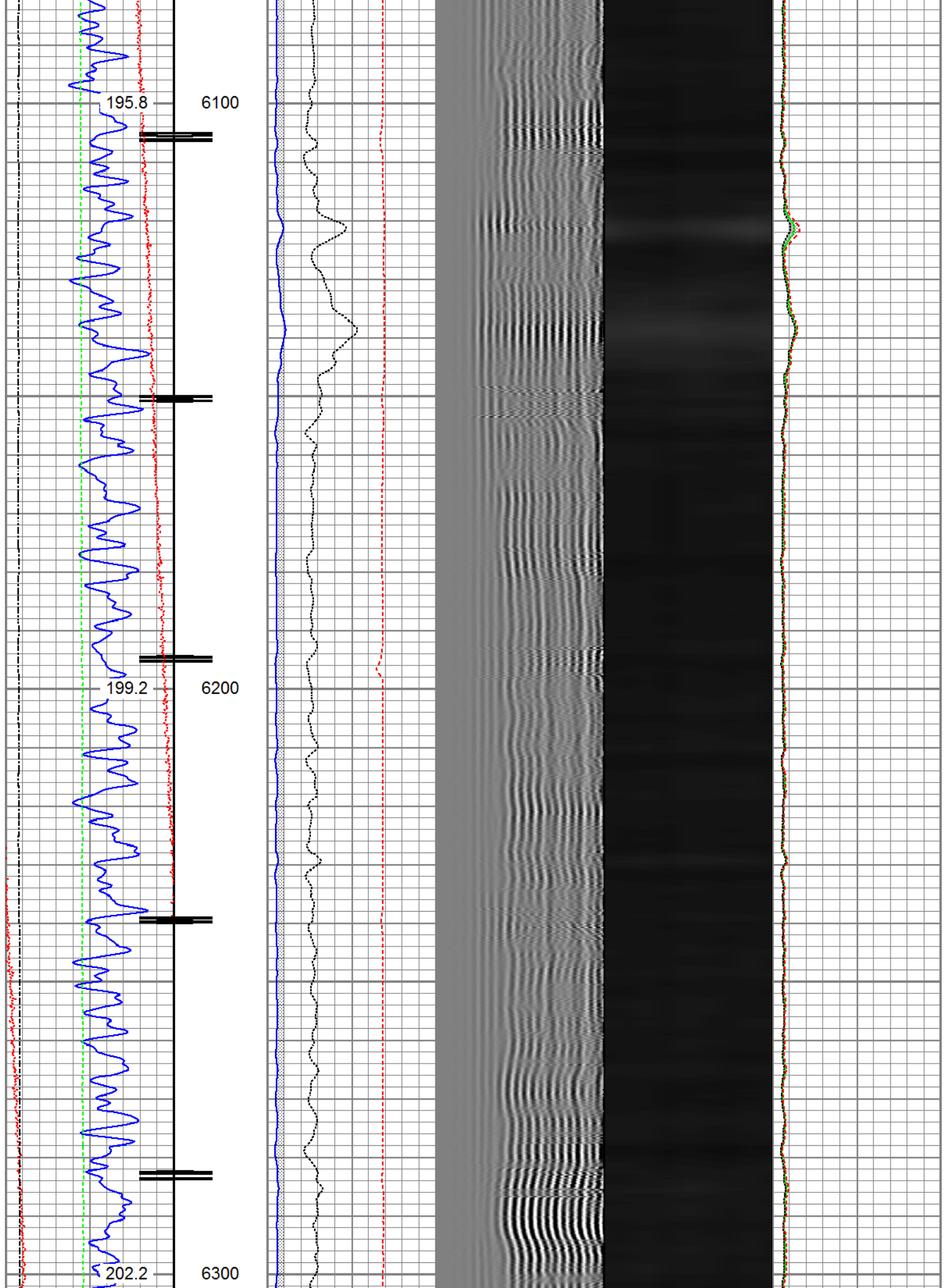


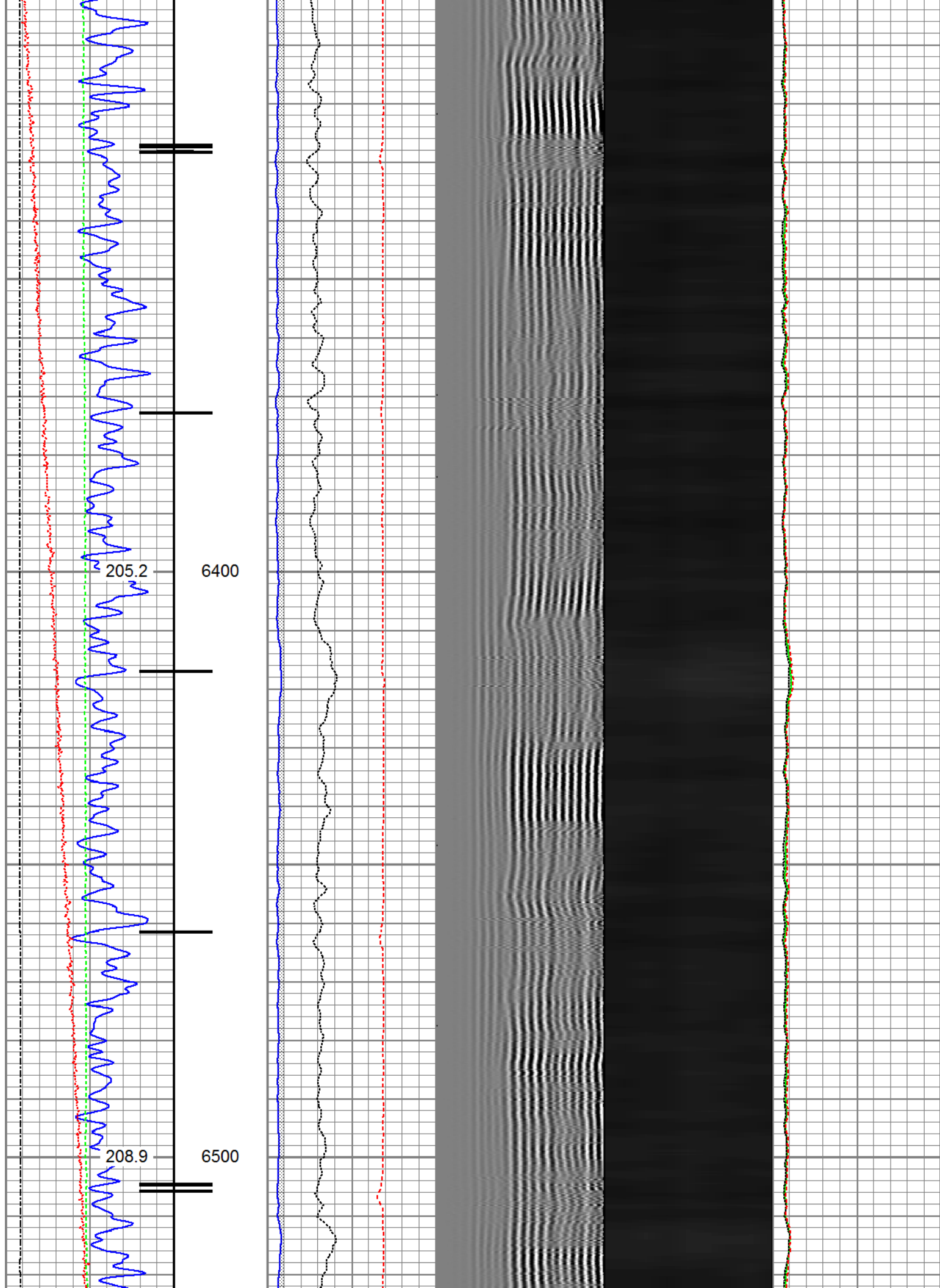


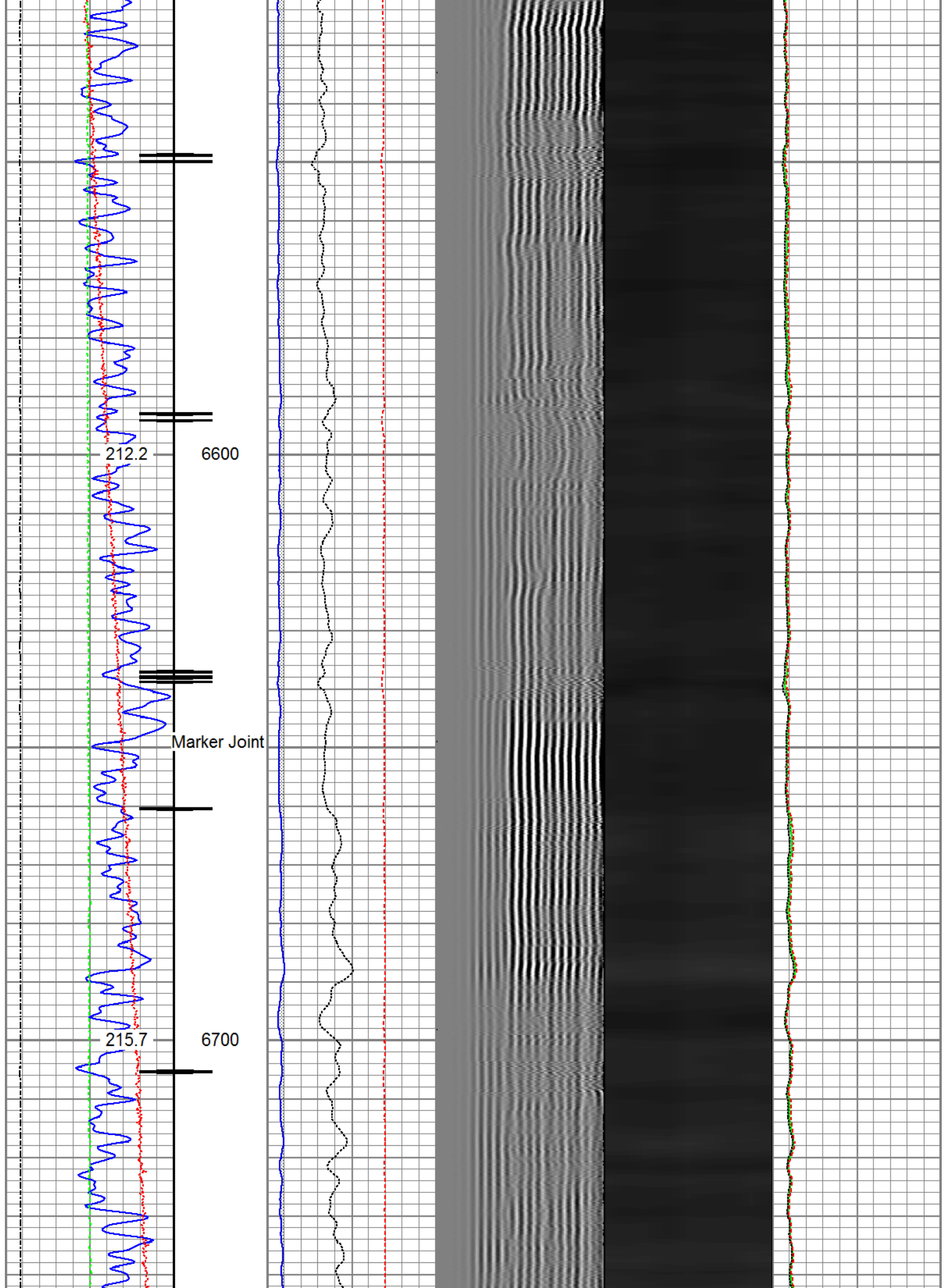


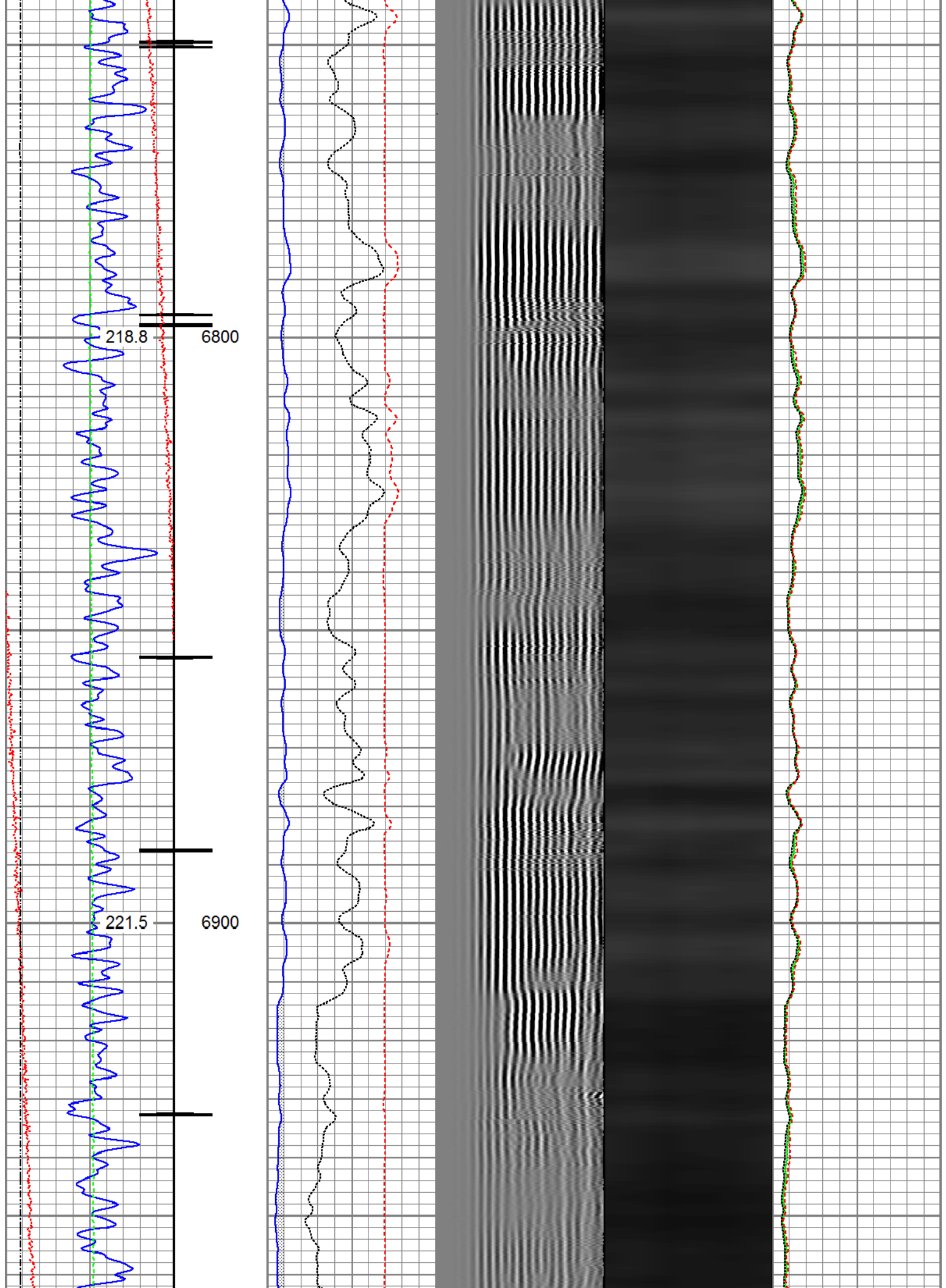


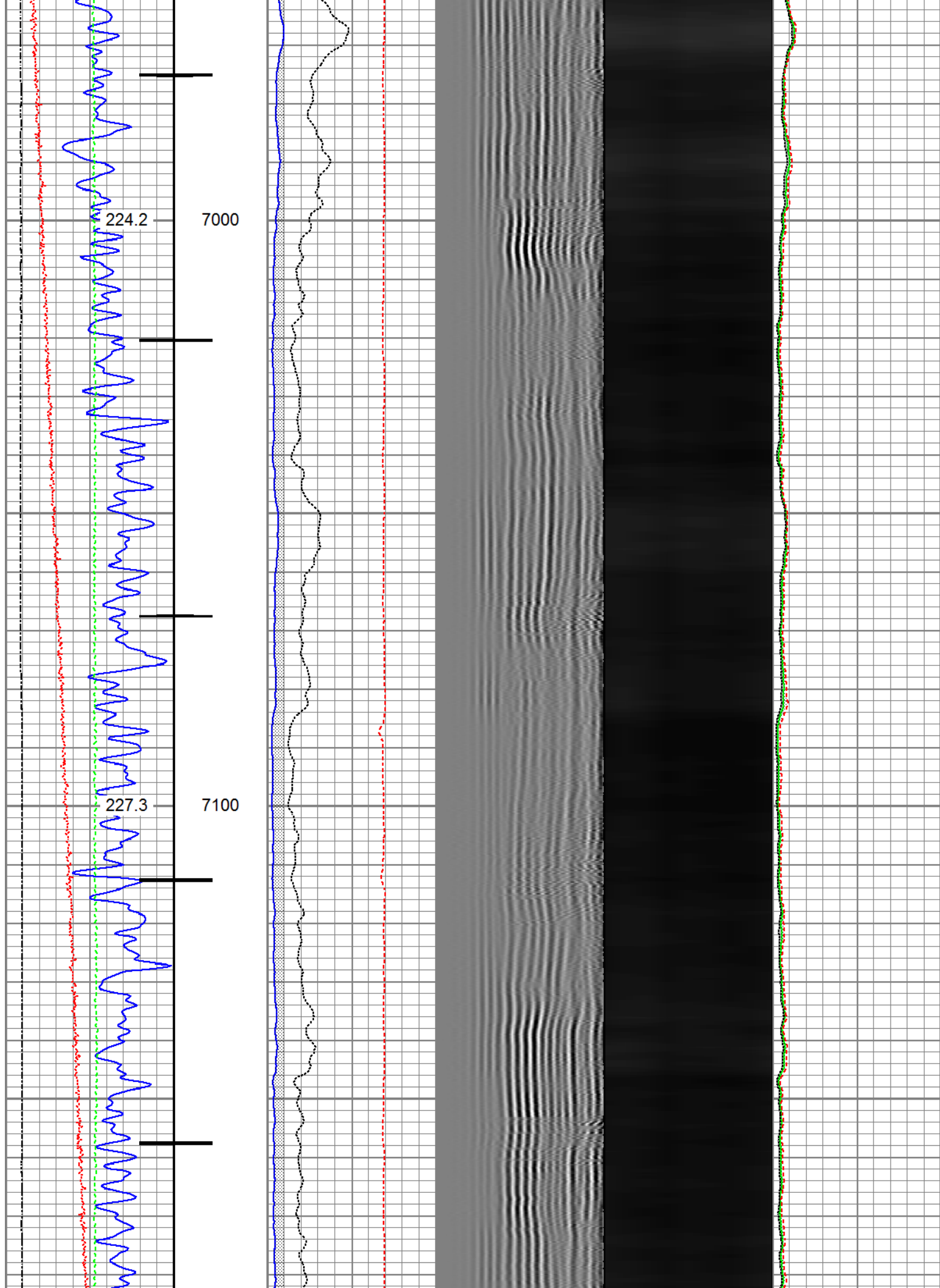


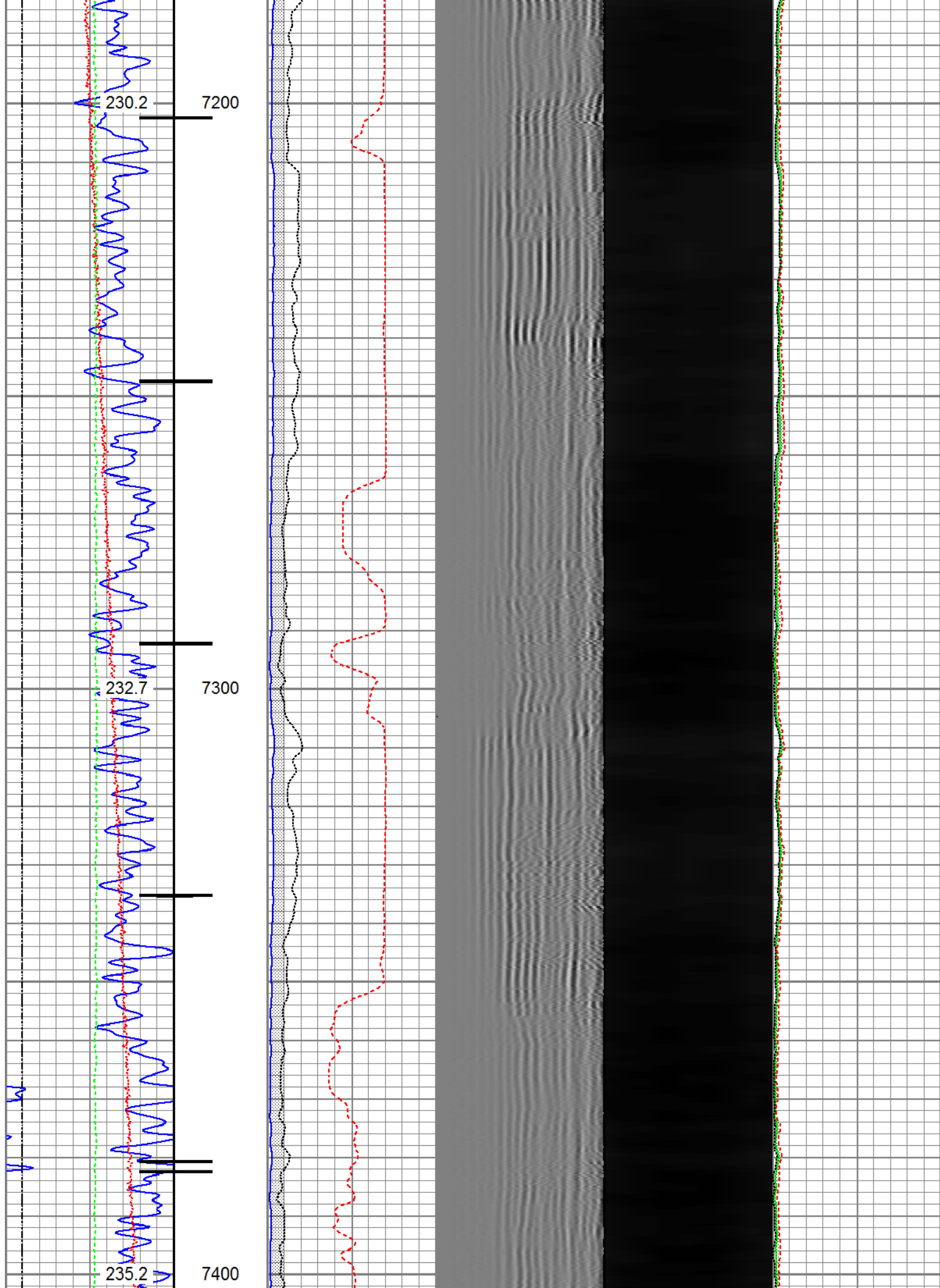


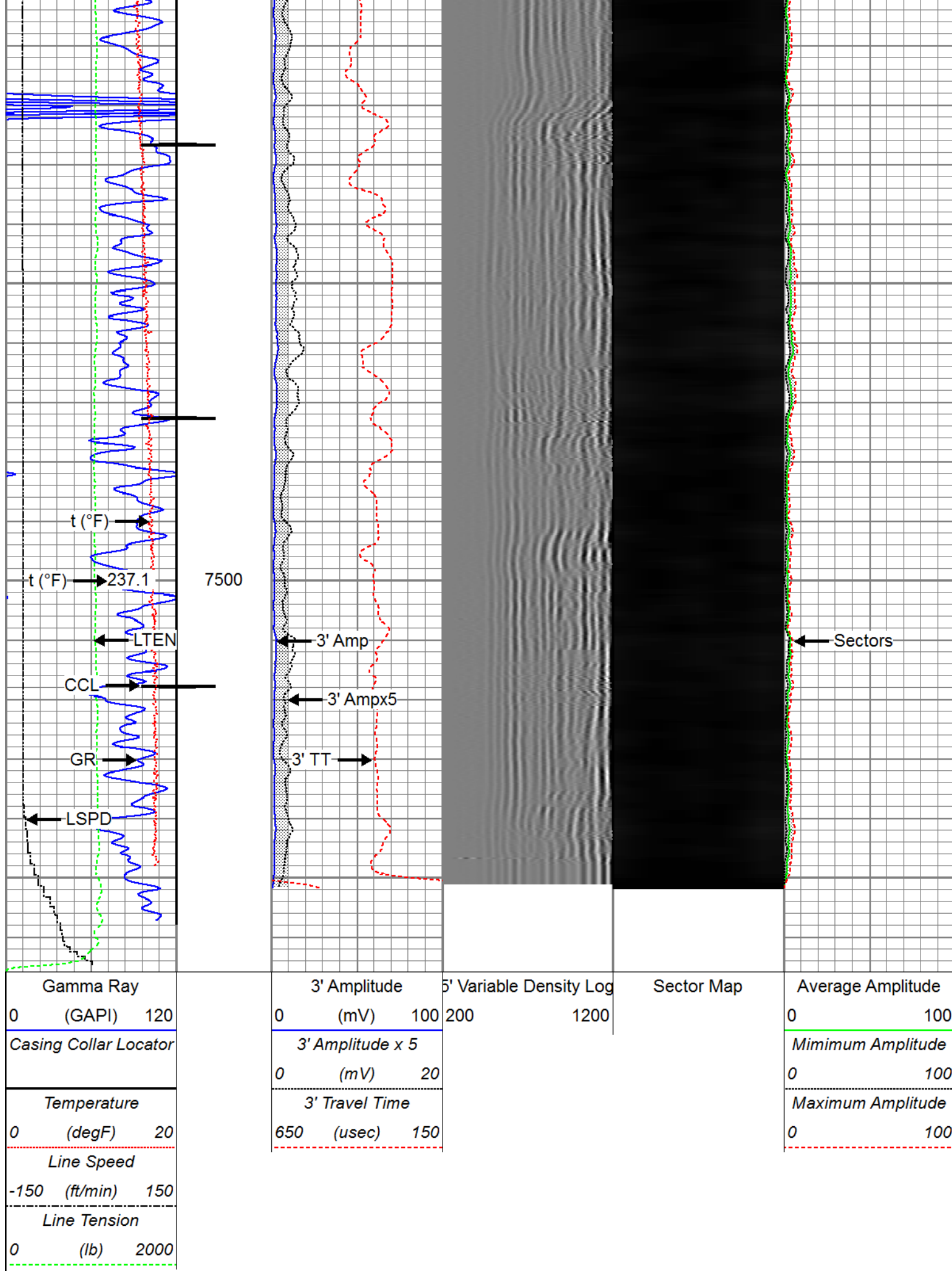






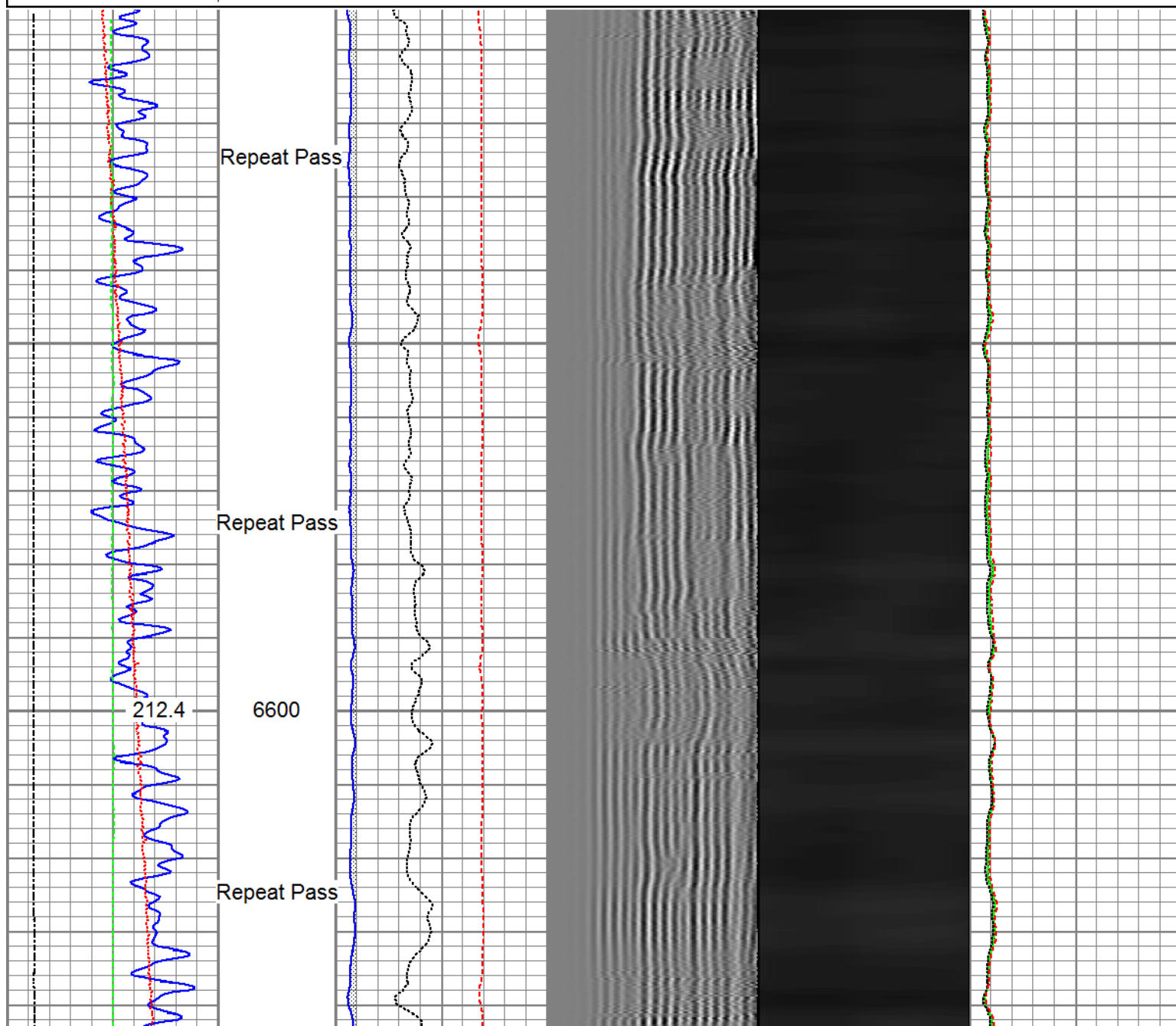


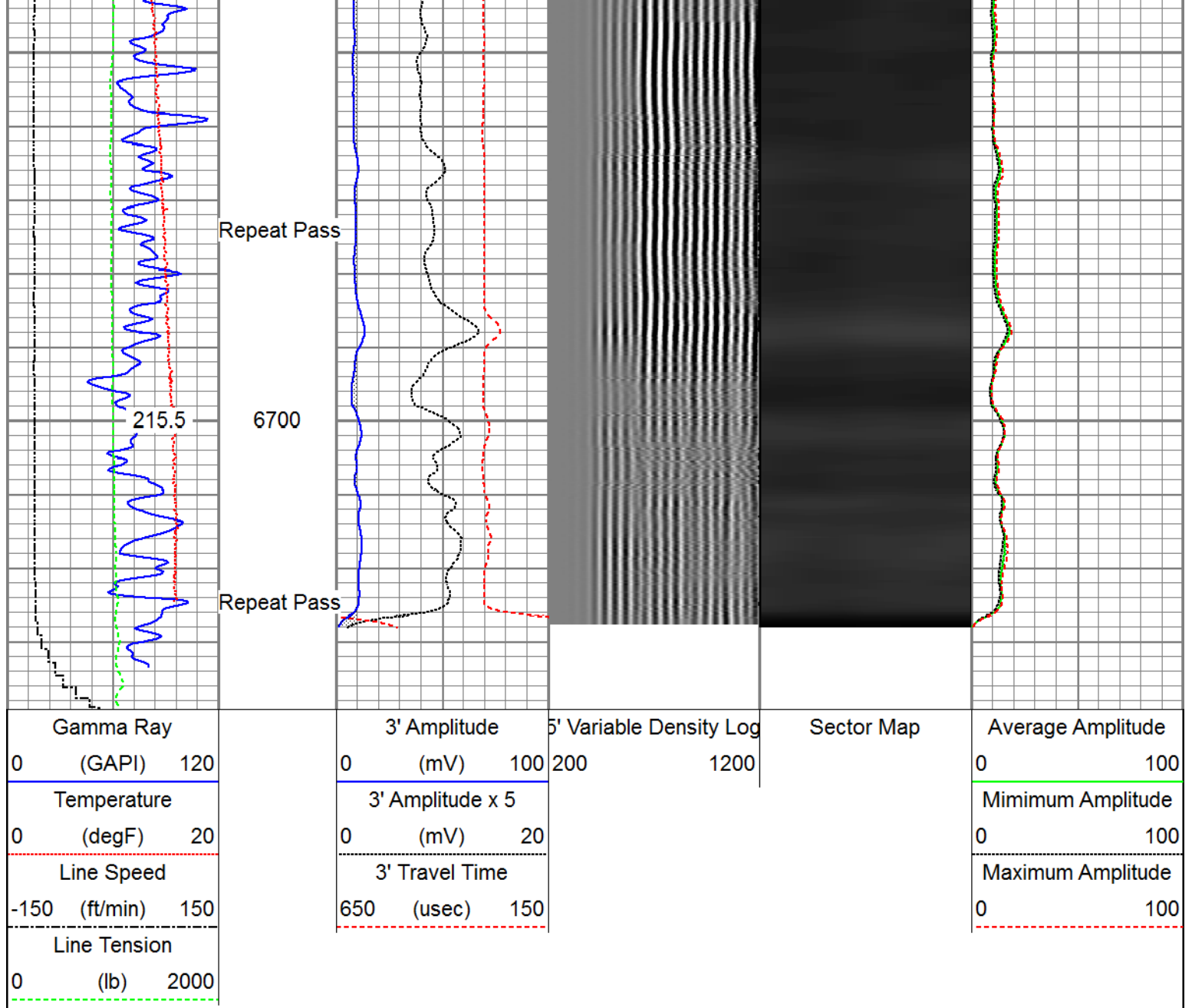




Database File	0512344235_anadarko_king 37n-8hz_rbl_09-07-17\processed_0512344235_anadarko_king 37n-8hz
Dataset Pathname	pass5
Presentation Format	ros_radri
Dataset Creation	Thu Sep 07 16:24:37 2017
Charted by	Depth in Feet scaled 1:240

Gamma Ray 0 (GAPI) 120	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map	Average Amplitude 0 100
Temperature 0 (degF) 20	3' Amplitude x 5 0 (mV) 20			Minimum Amplitude 0 100
Line Speed -150 (ft/min) 150	3' Travel Time 650 (usec) 150			Maximum Amplitude 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 (EW1302-0029 19		2.75	105.00
Temp	16.72					

WVFS8	14.55		Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe			
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					
			Probe_ELine_BowSpring_Centralizer-P_EB	2.8875	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			
DCCL	6.51					
CCL	6.51					
GR	5.30		Probe_GR_CCL-P_CGR_2750_S (FW1307.54)		2.75	55.00
			Probe 2-3/4" Digital CCL / Gamma Ray Combined			
			Probe_ELine_BowSpring_Centralizer-P_EB	2.8875	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			
Dataset: PROCESSED_0512344235_Anadarko_King 37N-8HZ_RBL_09-07-17.db: field/well/run1/merge1 Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in						

Calibration Report		
Database File	C:\ProgramData\Warrior\Data\0512344235_Anadarko_King 37N-8HZ_RBL_09-07-17\PROCESSED	
Dataset Pathname	merge1	
Dataset Creation	Thu Sep 07 17:52:24 2017	
Gamma Ray Calibration Report		
Serial Number:	FW1307-038	
Tool Model:	P_CGR_2750_S	
Performed:	Sat Feb 06 11:43:09 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:	FW1302-002	

Tool Model:

P_RBT_2750

Calibration Casing Diameter:

5.500

in

Calibration Depth:

21.264

ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.821	0.800	71.921	86.600	0.791
CAL	0.002	0.796				
5'	0.000	0.743	0.800	71.921	95.717	0.795
SUM						
S1	-0.001	0.984	0.000	100.000	101.522	0.104
S2	0.000	0.984	0.000	100.000	101.679	-0.020
S3	-0.001	0.892	0.000	100.000	112.009	0.120
S4	-0.001	0.754	0.000	100.000	132.605	0.069
S5	-0.002	0.675	0.000	100.000	147.631	0.320
S6	-0.002	0.696	0.000	100.000	143.268	0.243
S7	0.000	0.799	0.000	100.000	125.158	-0.025
S8	0.000	0.926	0.000	100.000	108.054	-0.048

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.002	0.796	1.000	0.000

Air Zero Calibration, performed Wed Sep 06 08:30:00 2017:

	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 King 37N-8HZ
 Field Wattenberg
 County Weld
 State Colorado