



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-Mcgee Oil & Gas Onshore, L.P.				
Well	Whisper Rock 3N-25HZ				
Field	Wattenberg				
County	Weld				
State	Colorado				
Company	Kerr-Mcgee Oil & Gas Onshore, L.P.	Well	Whisper Rock 3N-25HZ	Field	Wattenberg
County	Weld	State	Colorado		
Location:	API # : 05-123-41300		Other Services		
SEC 26 TWP T4N RGE 68W			Gauge Ring		
Permanent Datum	Ground Level	Elevation	4992'	Elevation	
Log Measured From	Kelly Bushing	20 FT		K.B. 5012'	
Drilling Measured From	Kelly Bushing			D.F. 5011'	
			G.L. 4992'		

Date 14-FEB-2017

Run Number	Two		
Depth Driller	13570 FT		
Depth Logger	7529 FT		
Bottom Logged Interval	7528 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	223°F		
Estimated Cement Top	Surface		
Time Well Ready	ROA		
Time Logger on Bottom	13:30		
Equipment Number	HD-0324		
Location	Fort Lupton, CO		
Recorded By	G. Lueck		
Witnessed By	Brian Jolly		

Borehole Record				Tubing Record			
Bit	From	To	Size	Weight	From	To	

Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing	9 5/8	36	J55	Surface	1879 FT
Intermediate #1	5 1/2	17	HCP-110	Surface	13570 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 Casing Tally reported Marker Joint at 6490 FT
Adjusted log +6 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7572 FT with no debris found
Log ran from 7528 FT to Surface
Log ran with 2800 PSI Surface Induced Pressure
Logging Tools were clean and free of debris upon completions of operations

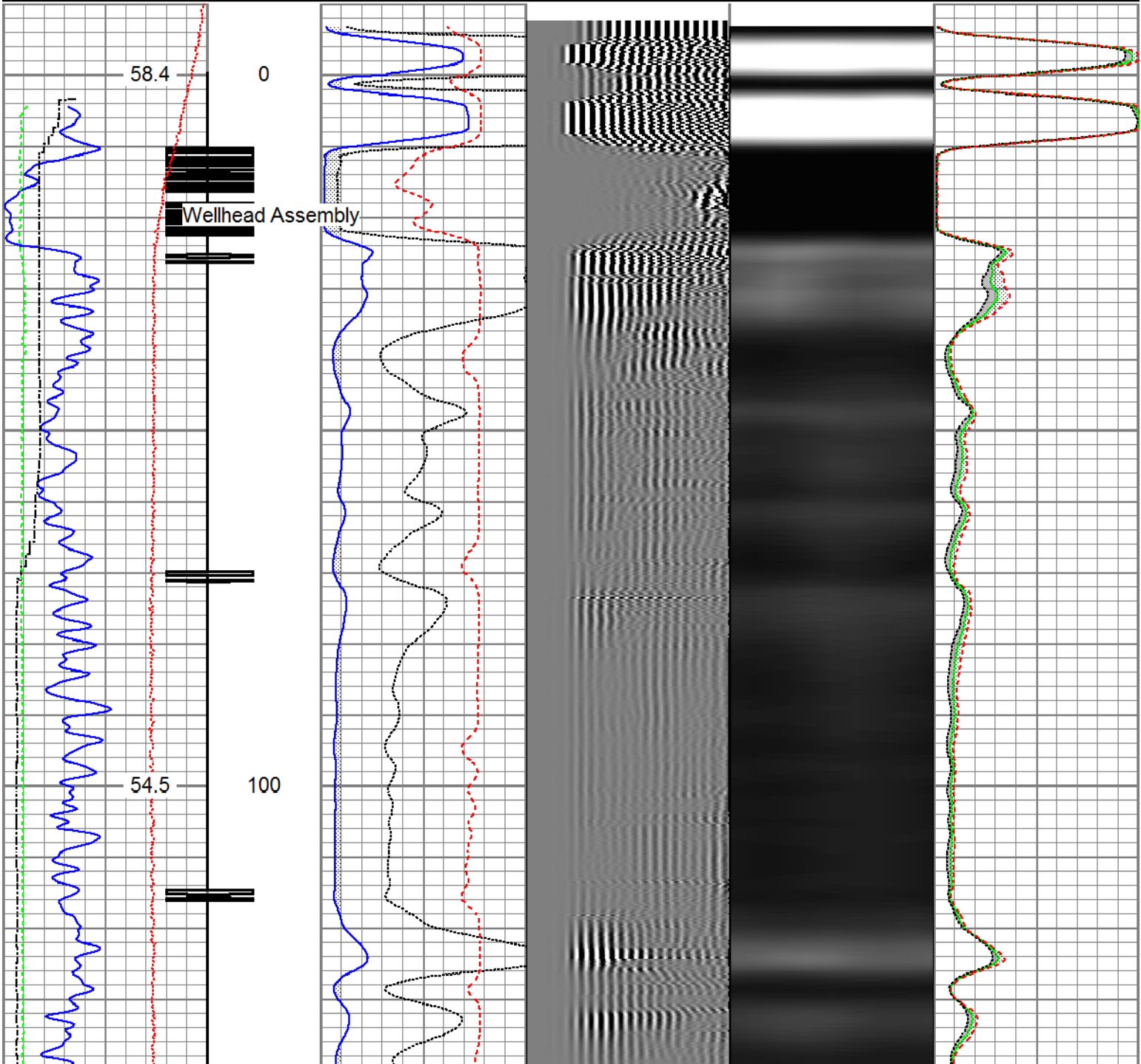
Thank You for choosing Reliance Oilfield Services, LLC.!!

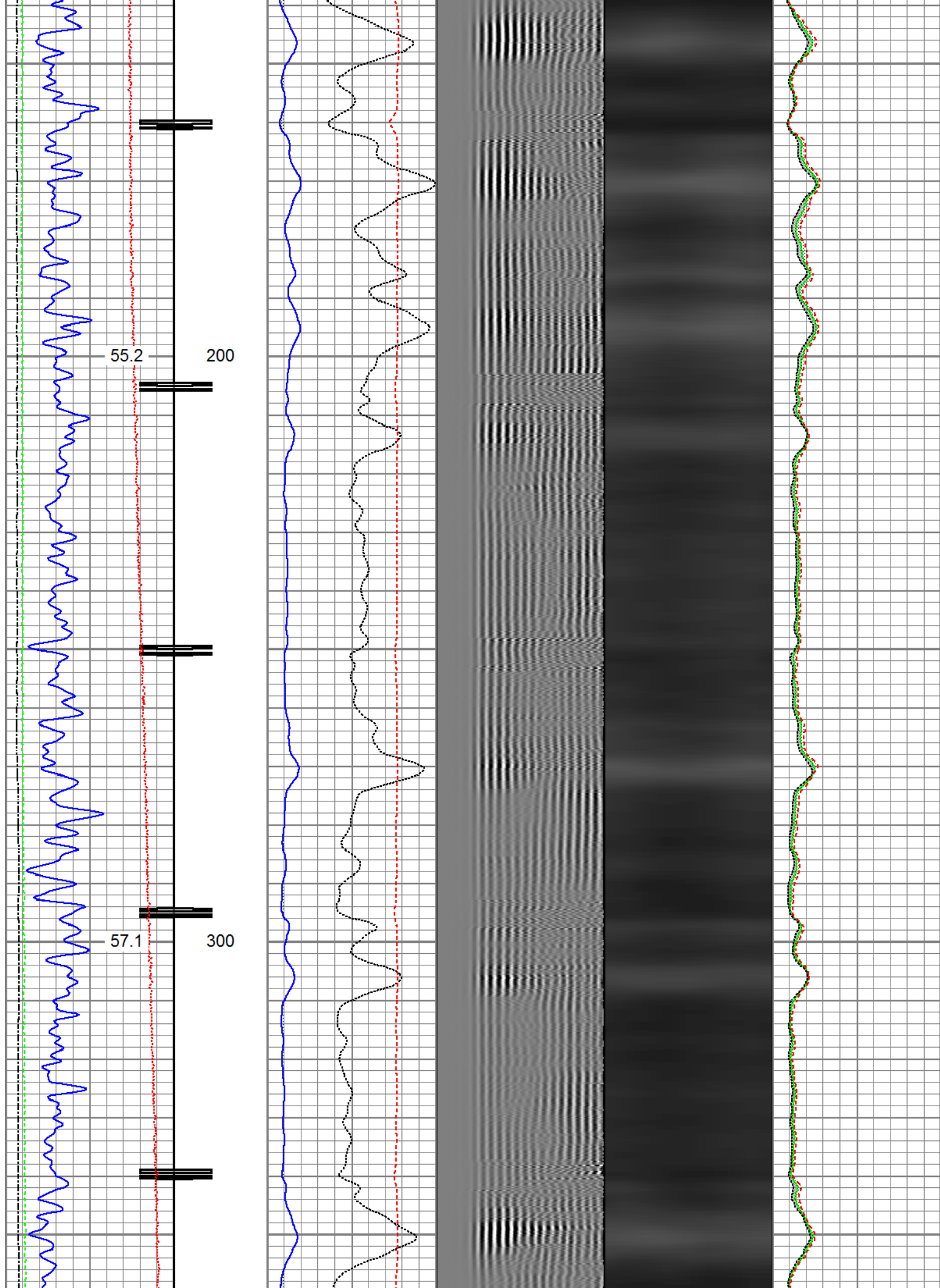


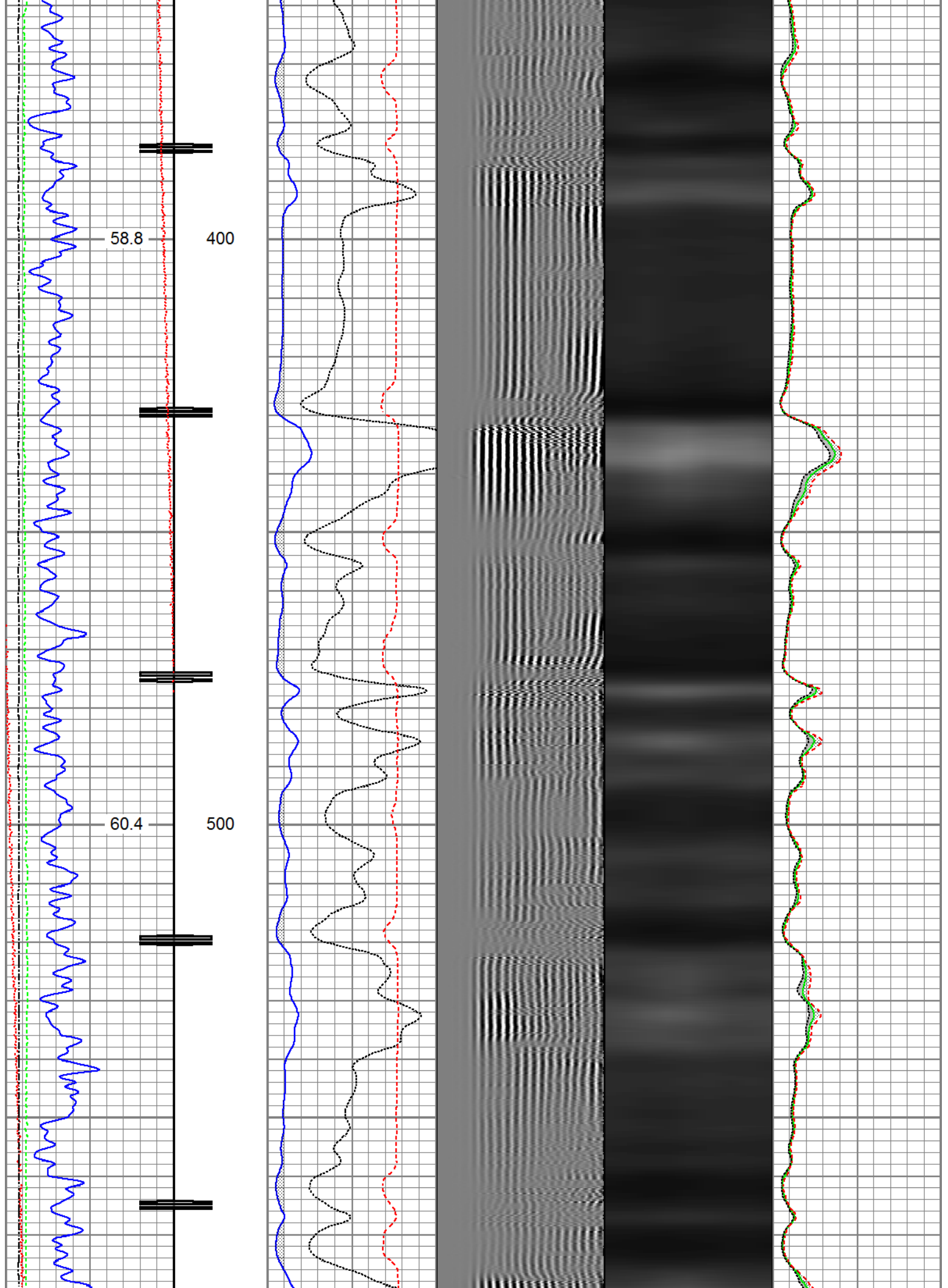
Main Pass

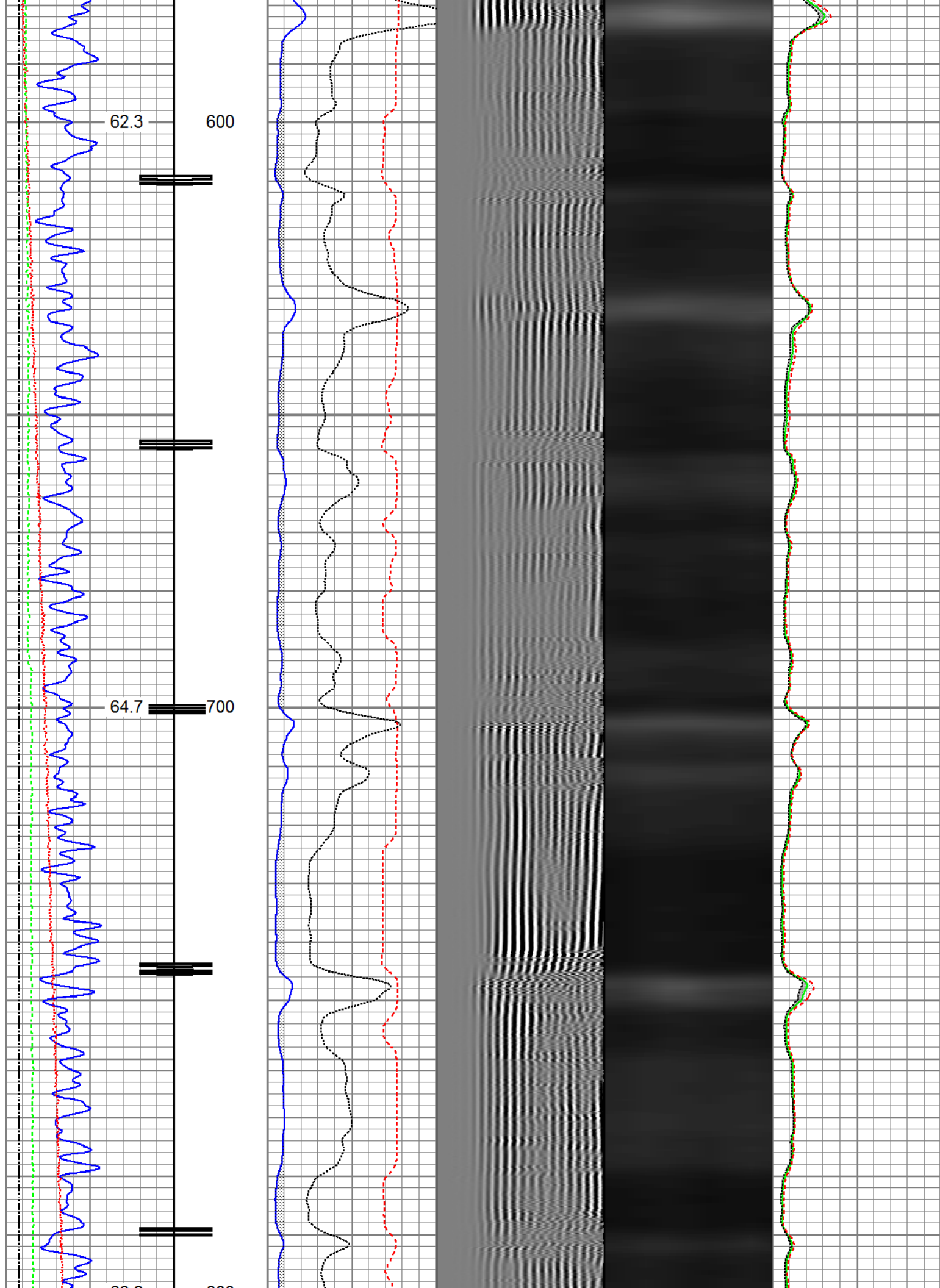
Recorded With 2800 PSI Surface Induced Pressure

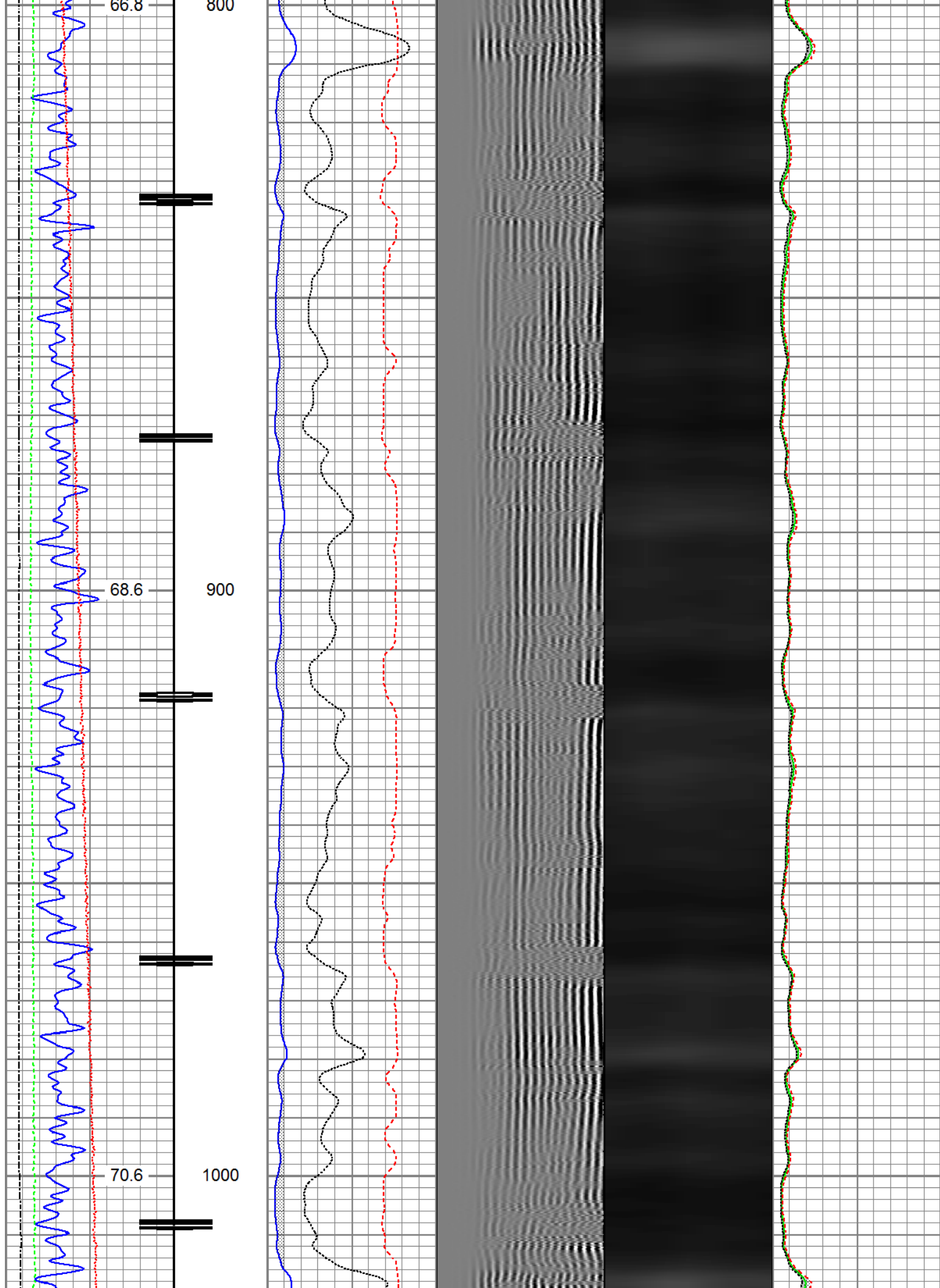
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

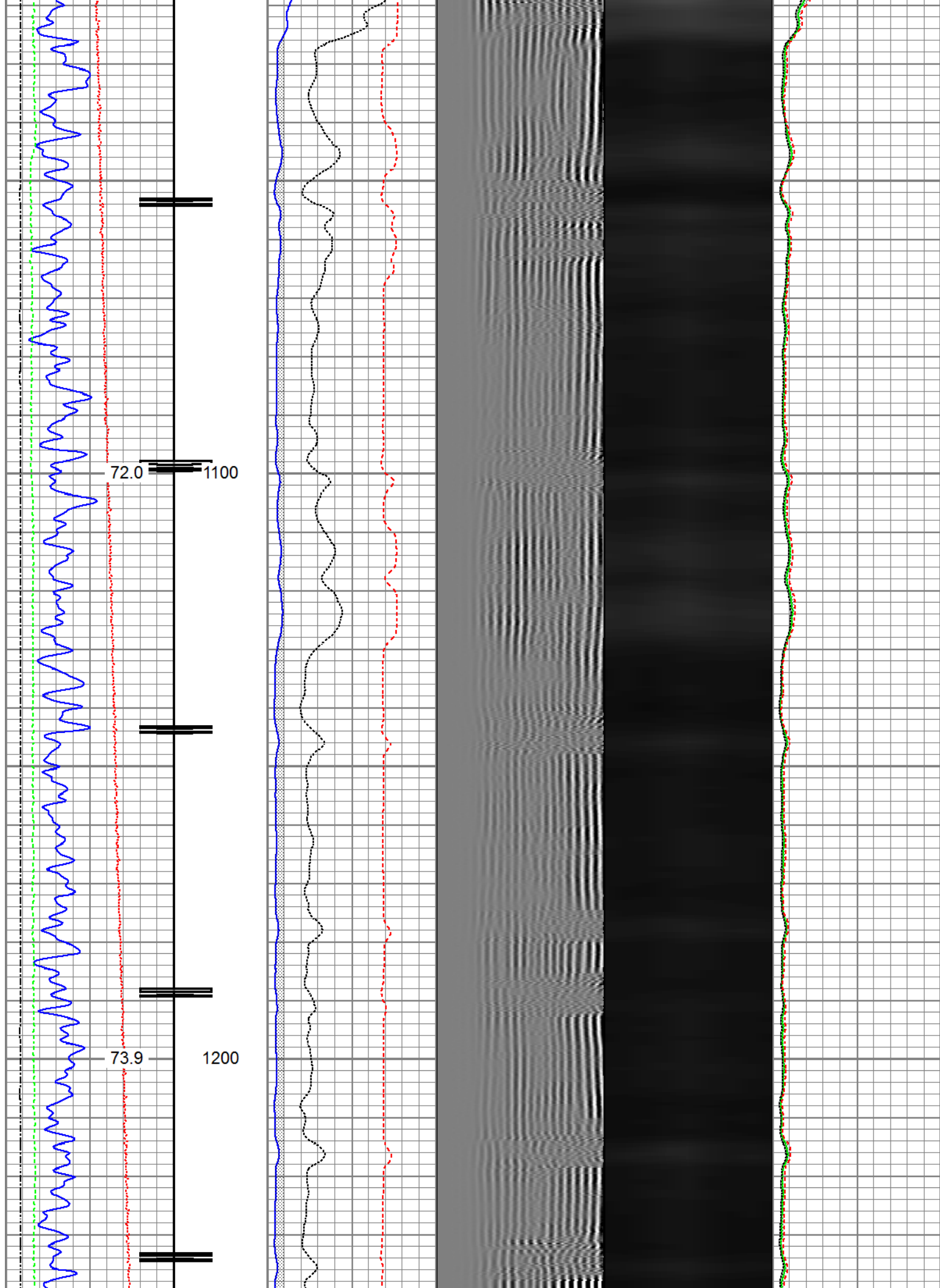


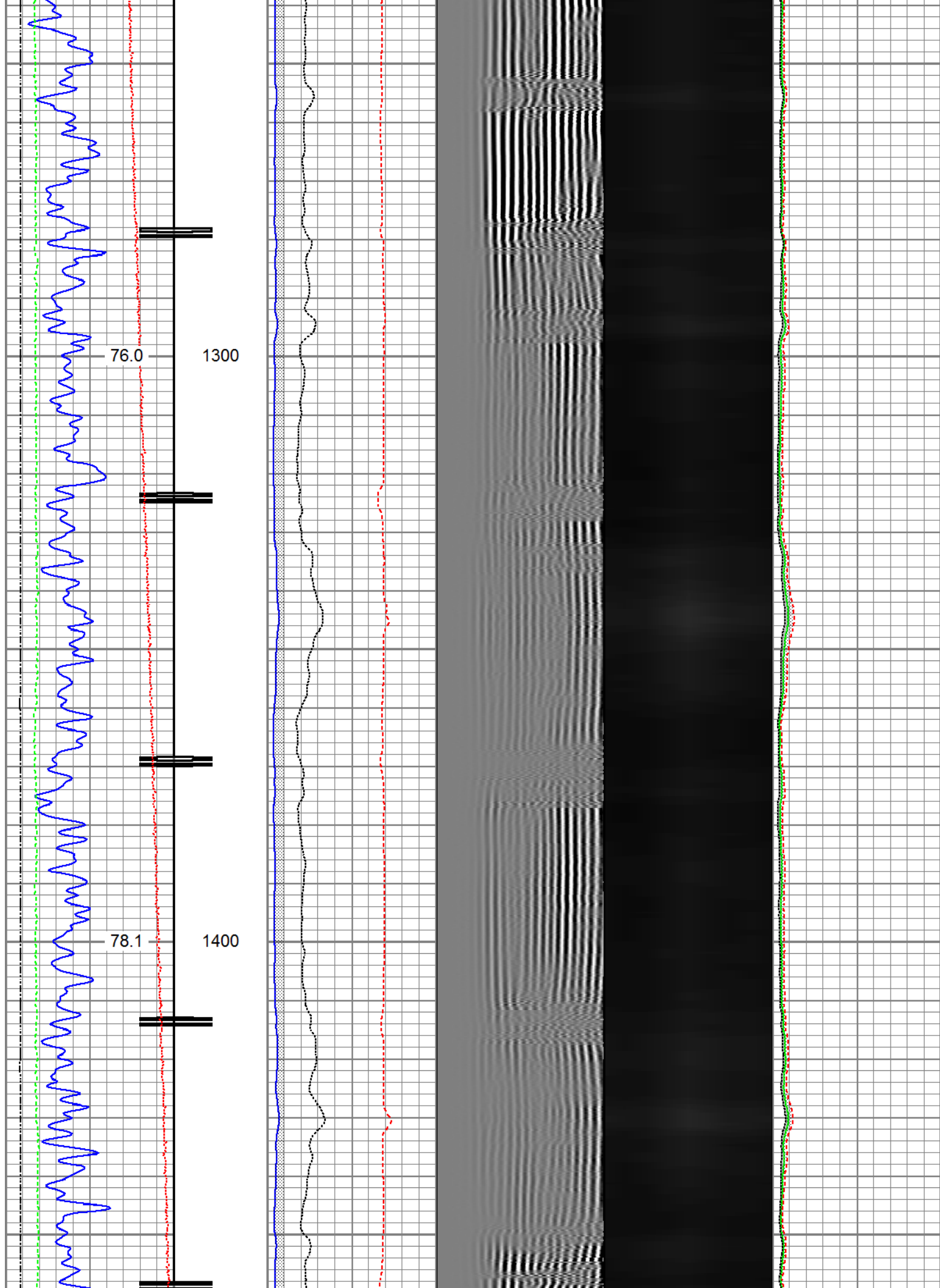


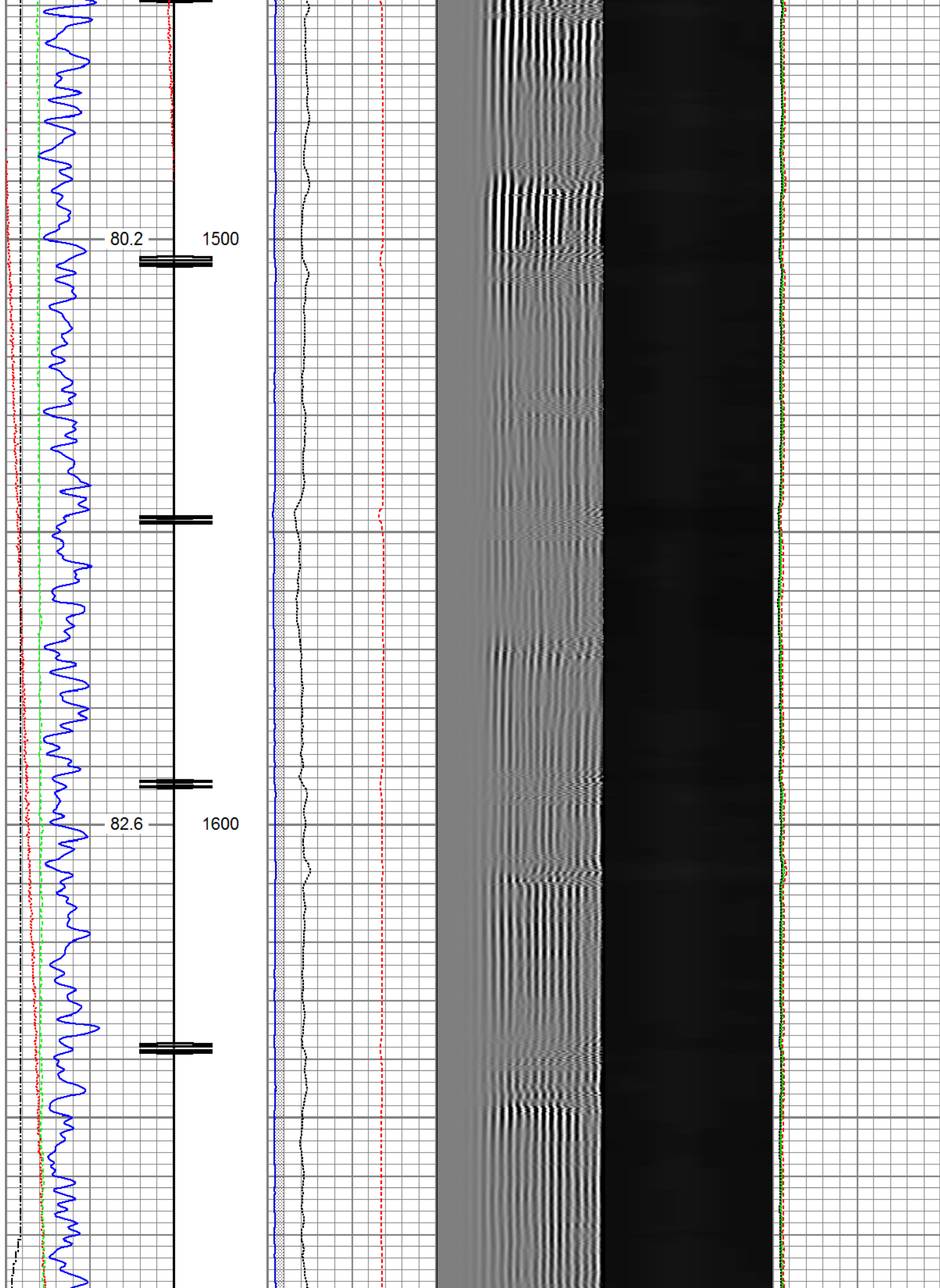


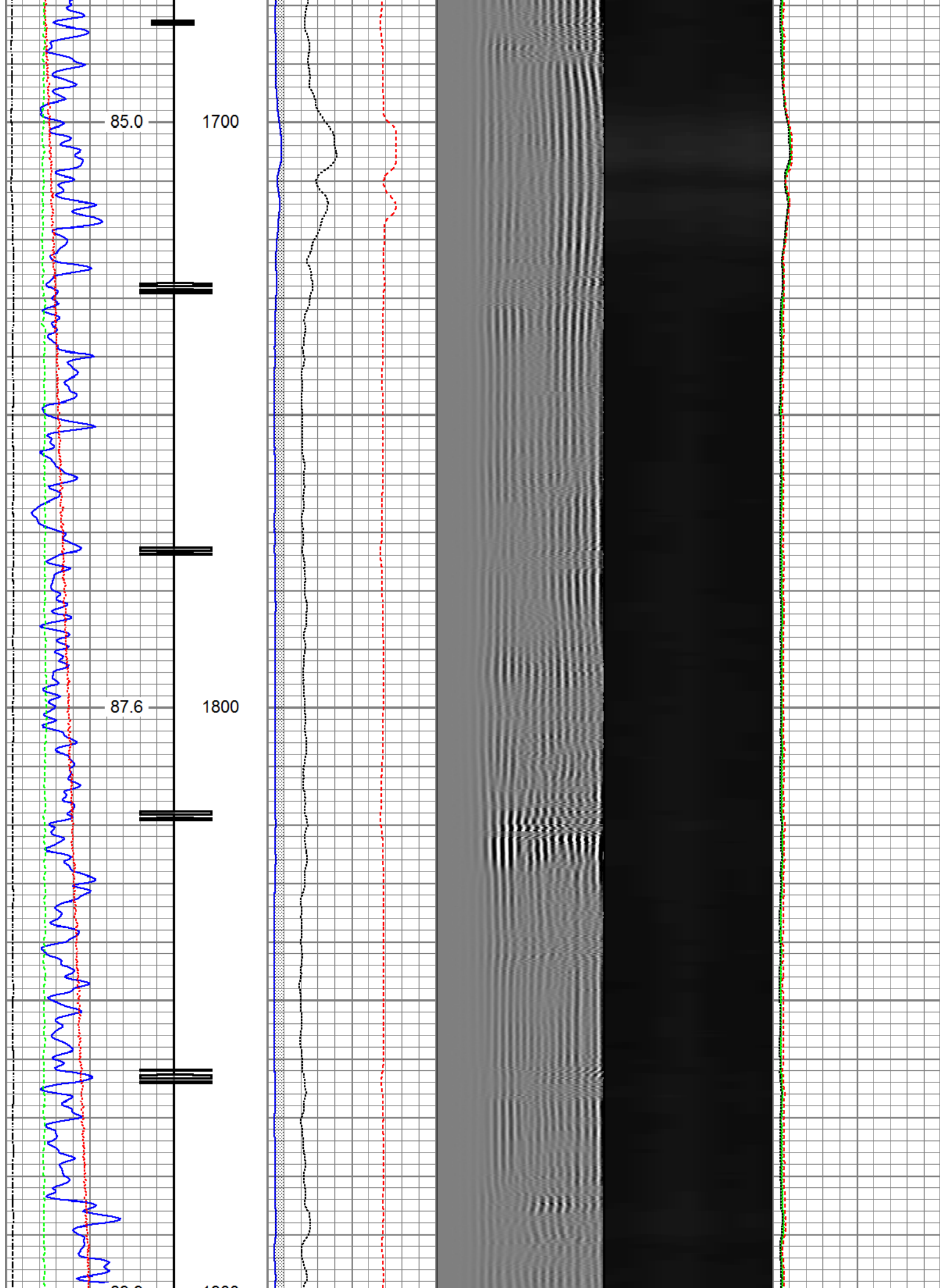


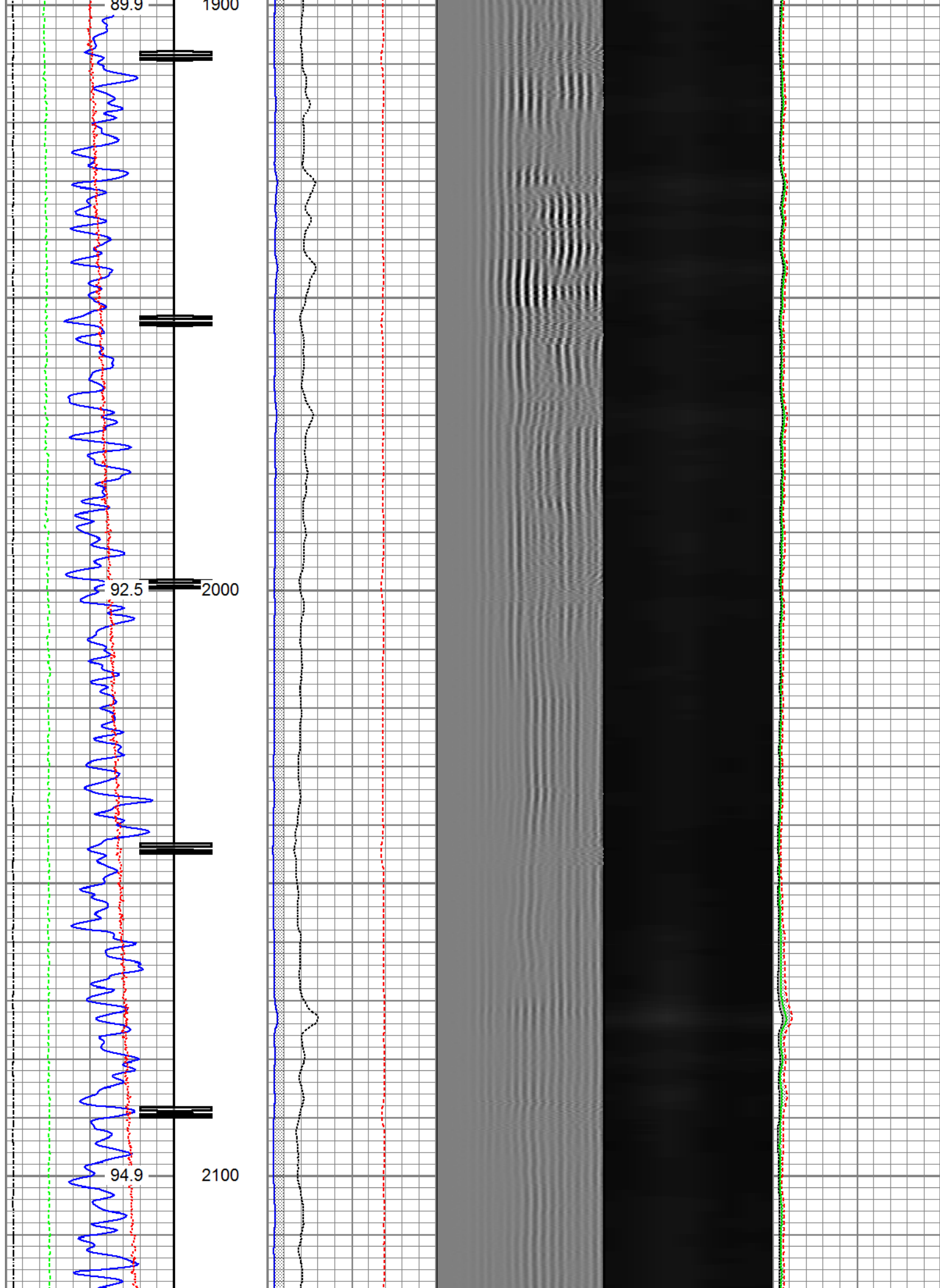


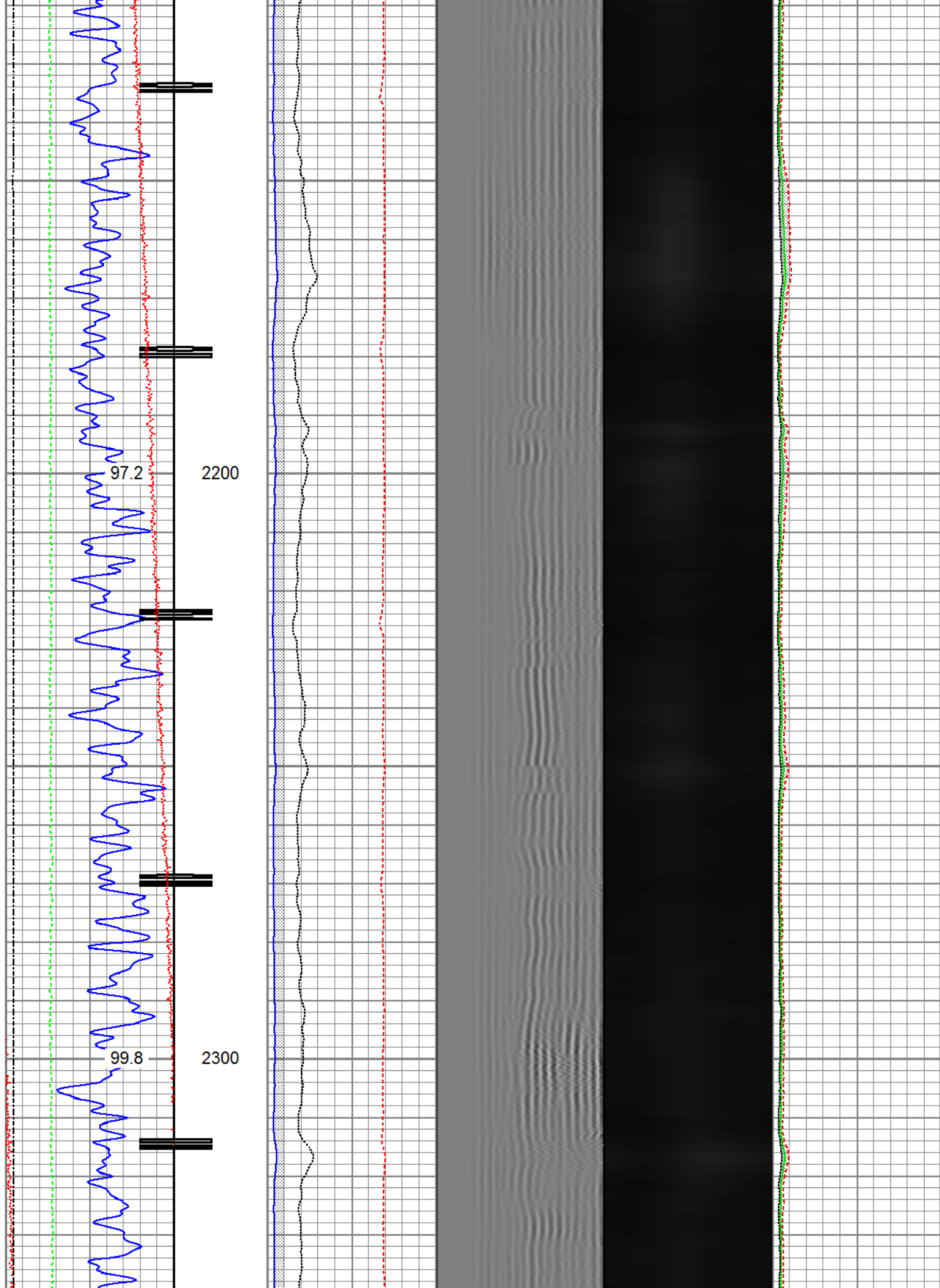


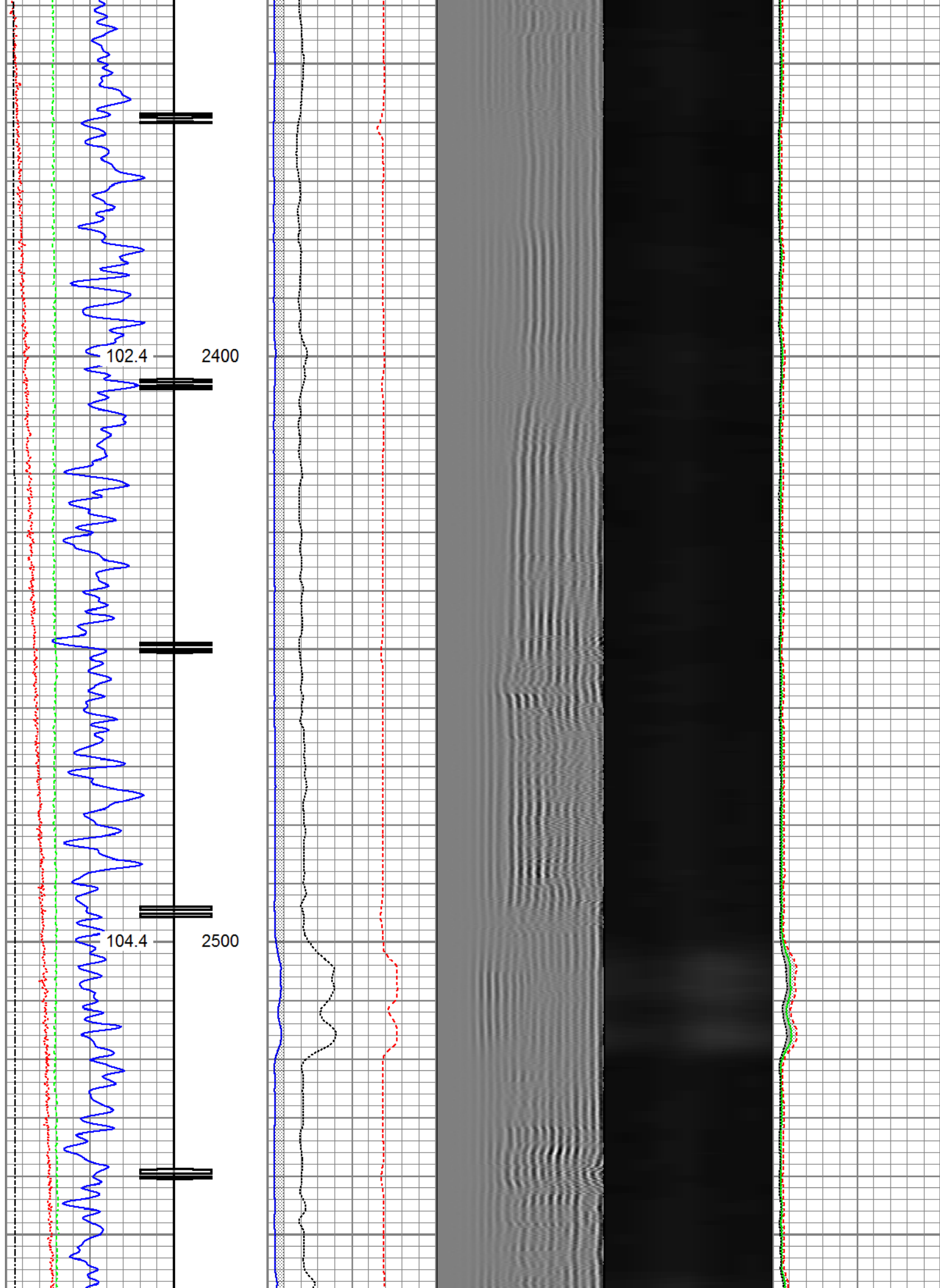


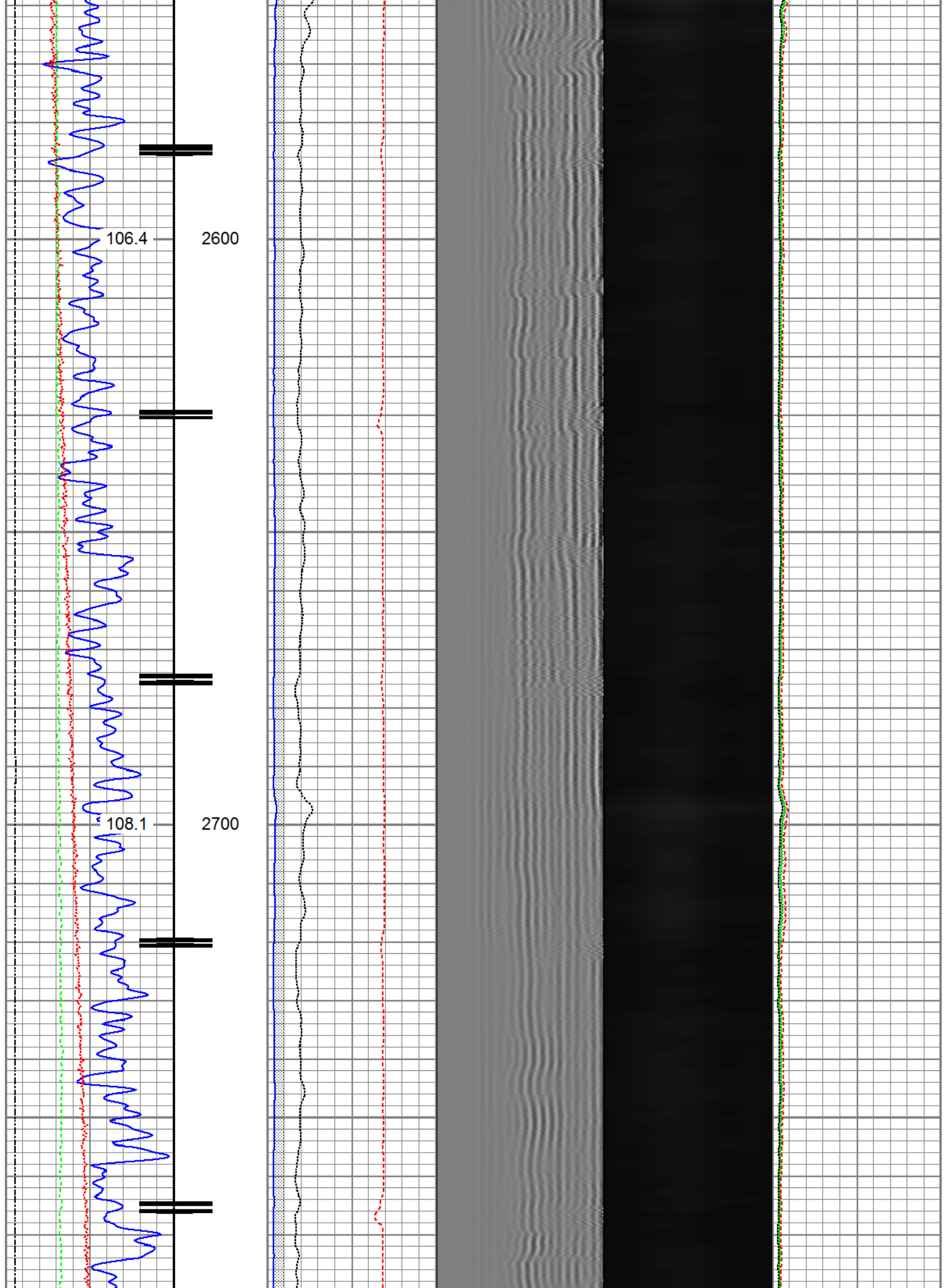


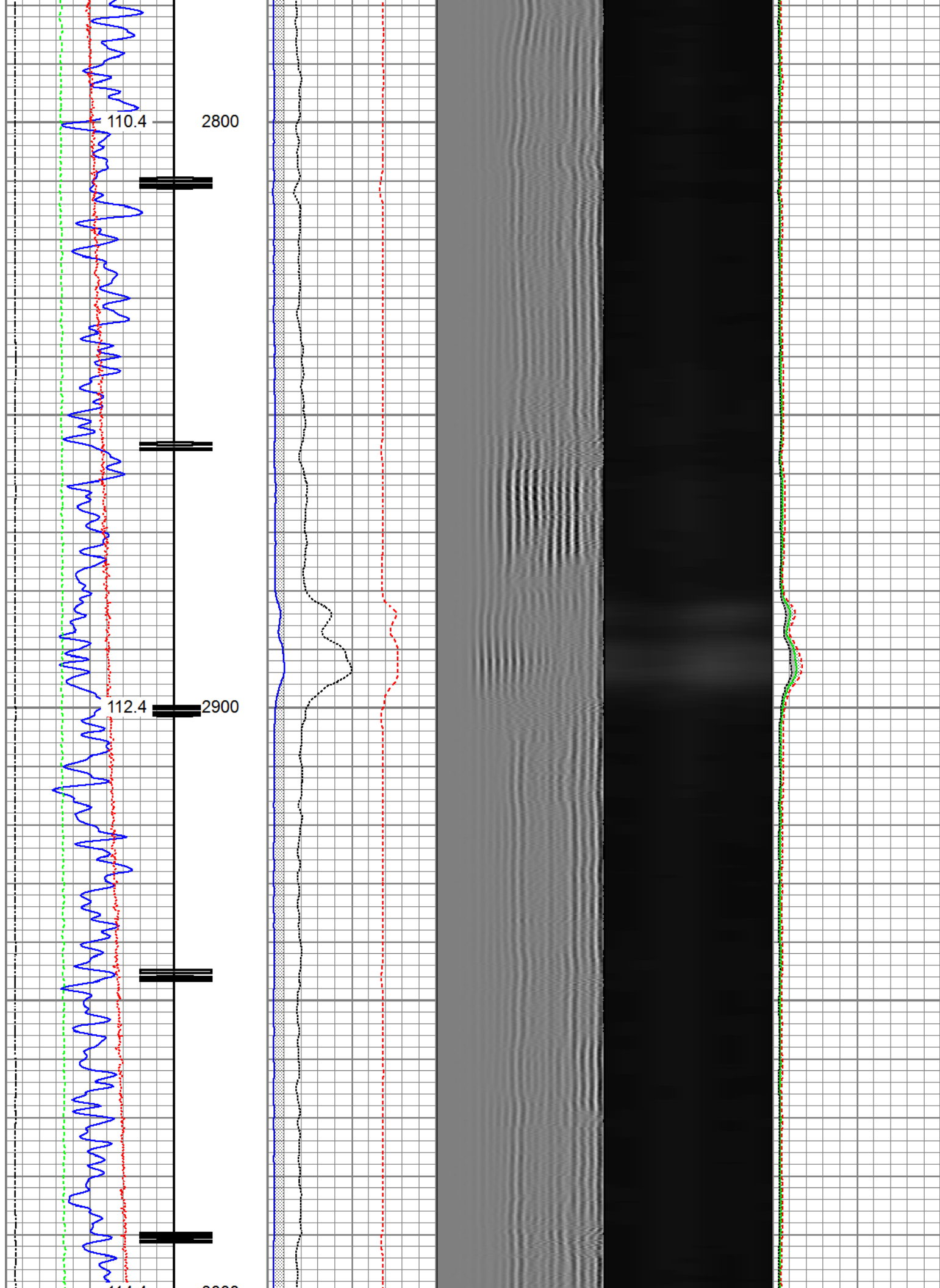


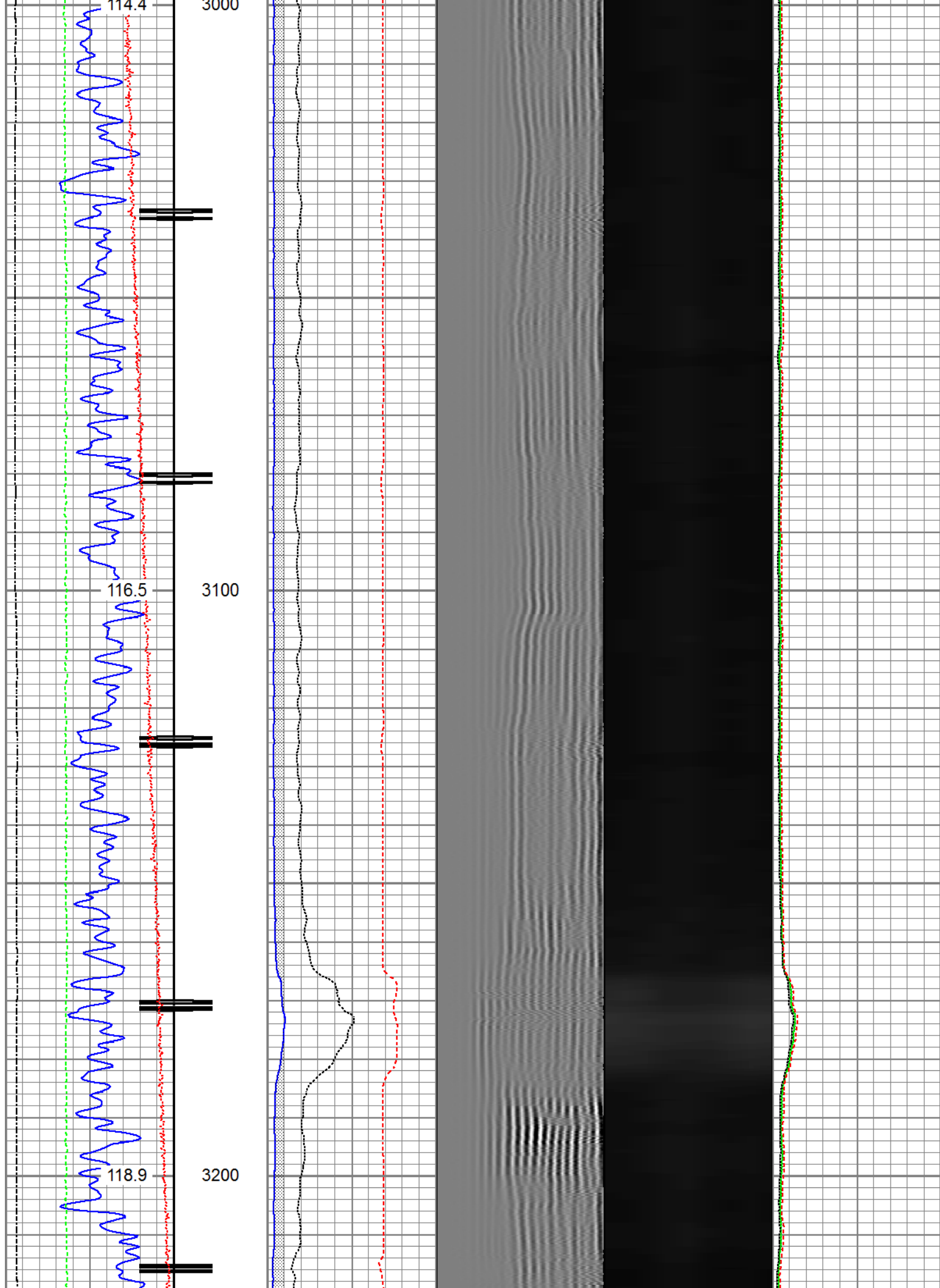


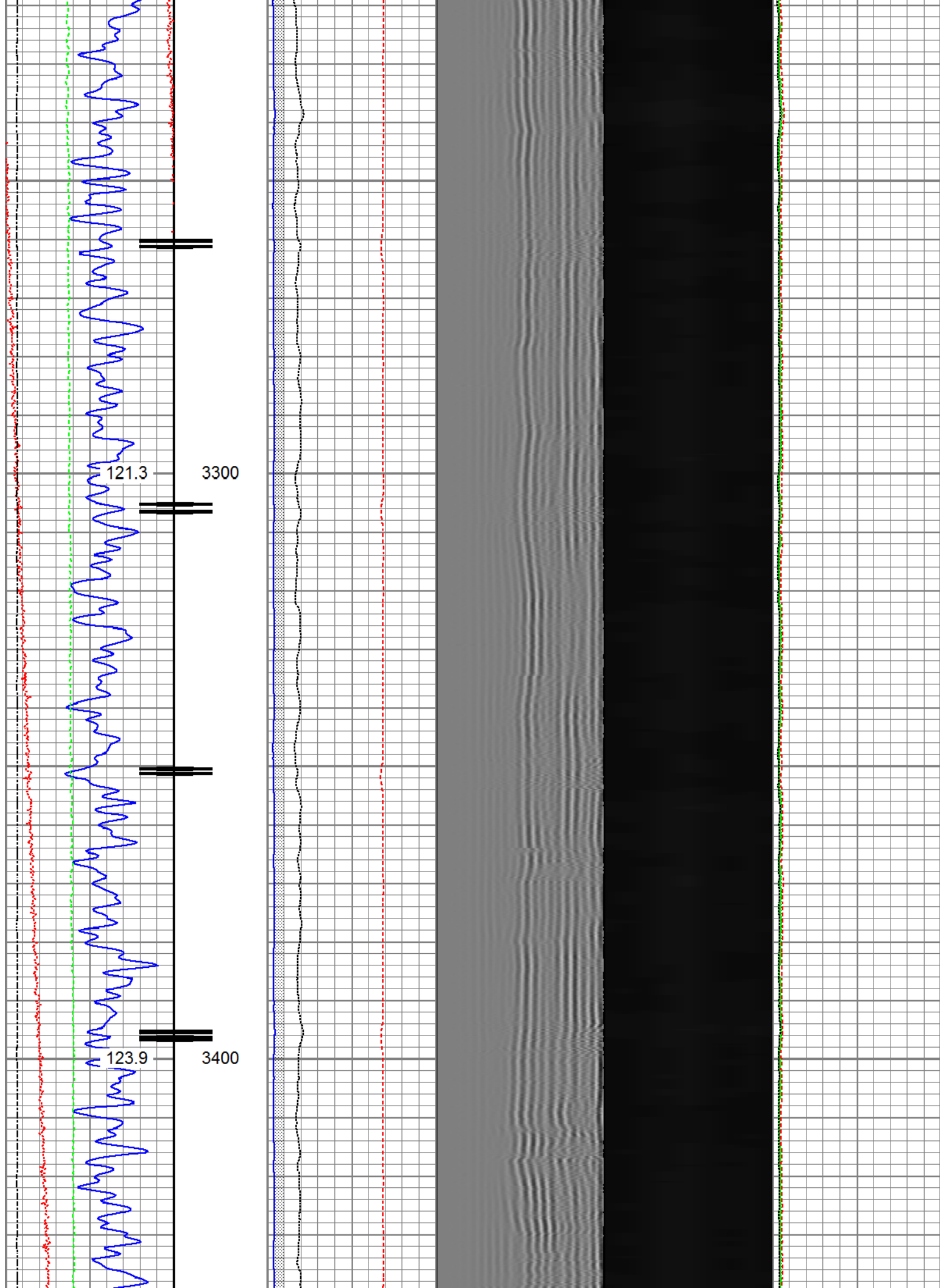


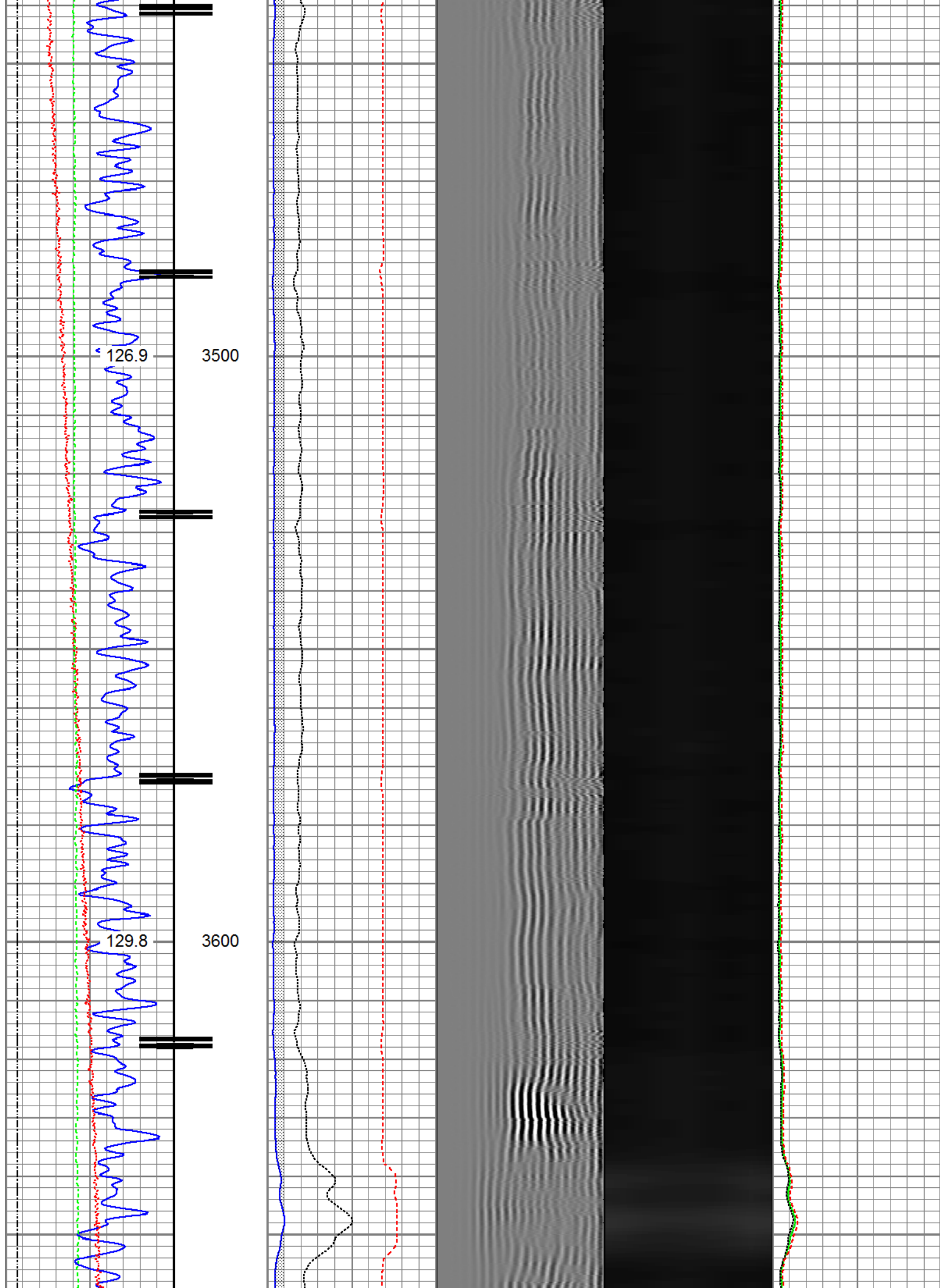


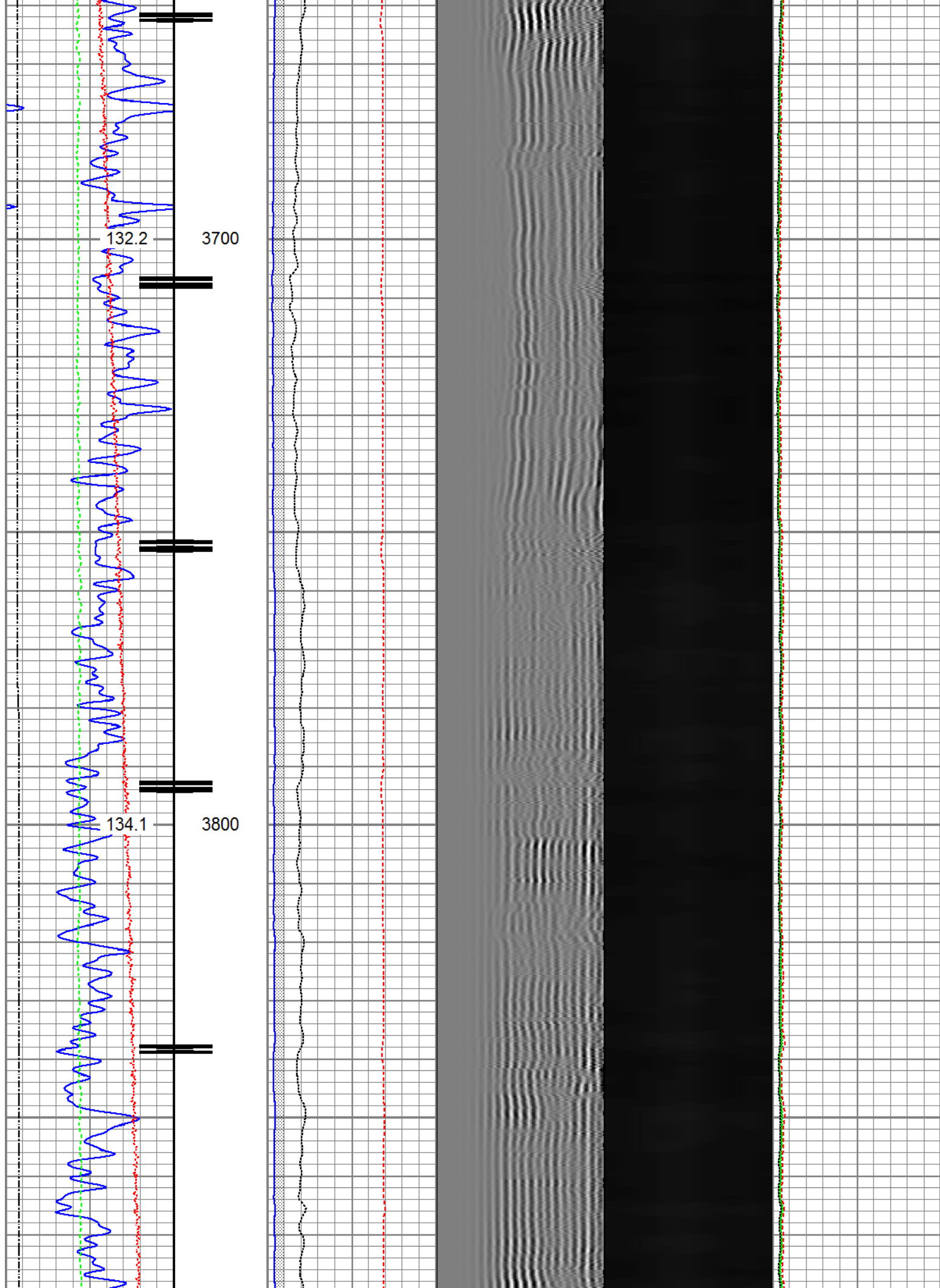


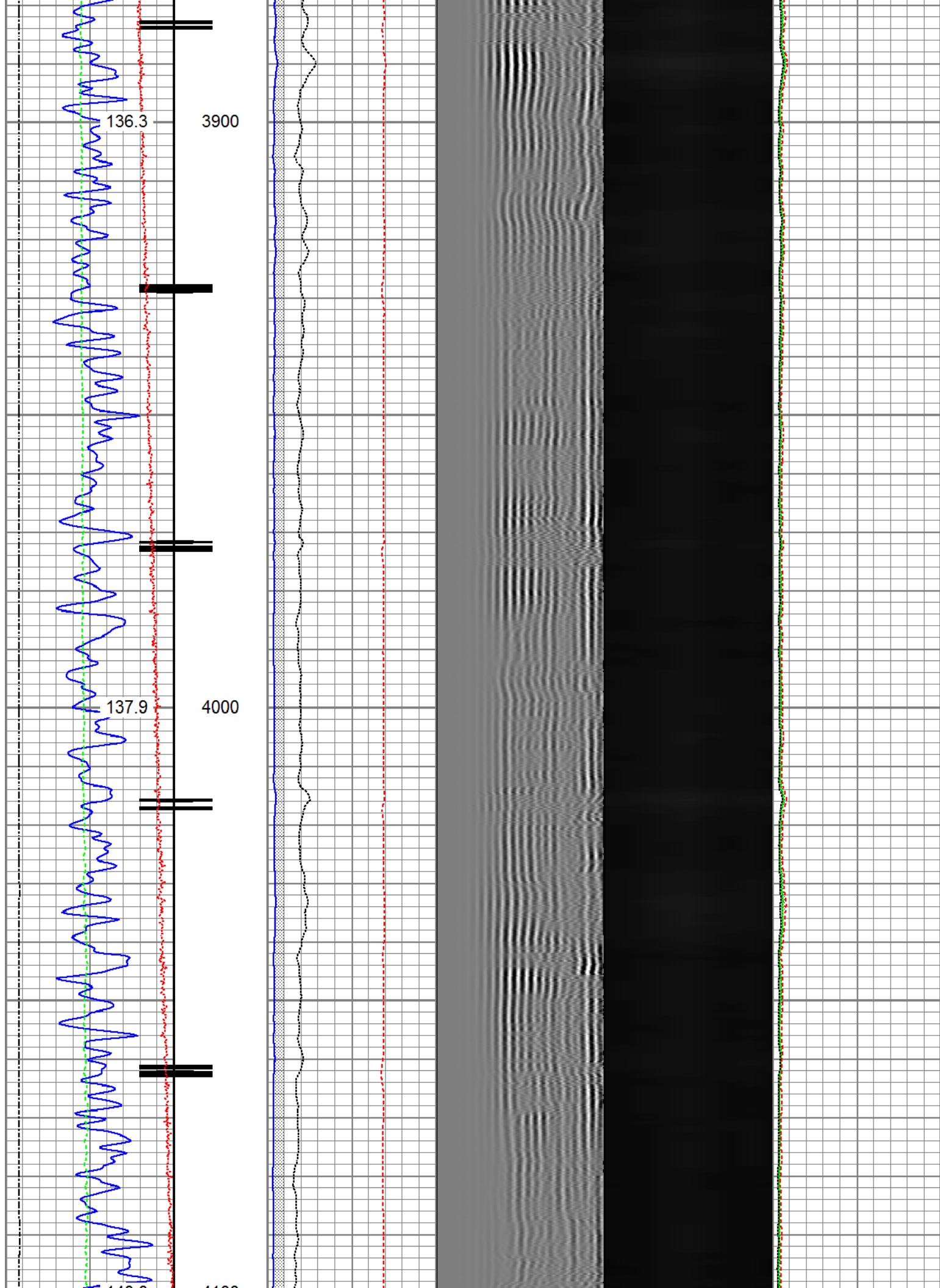


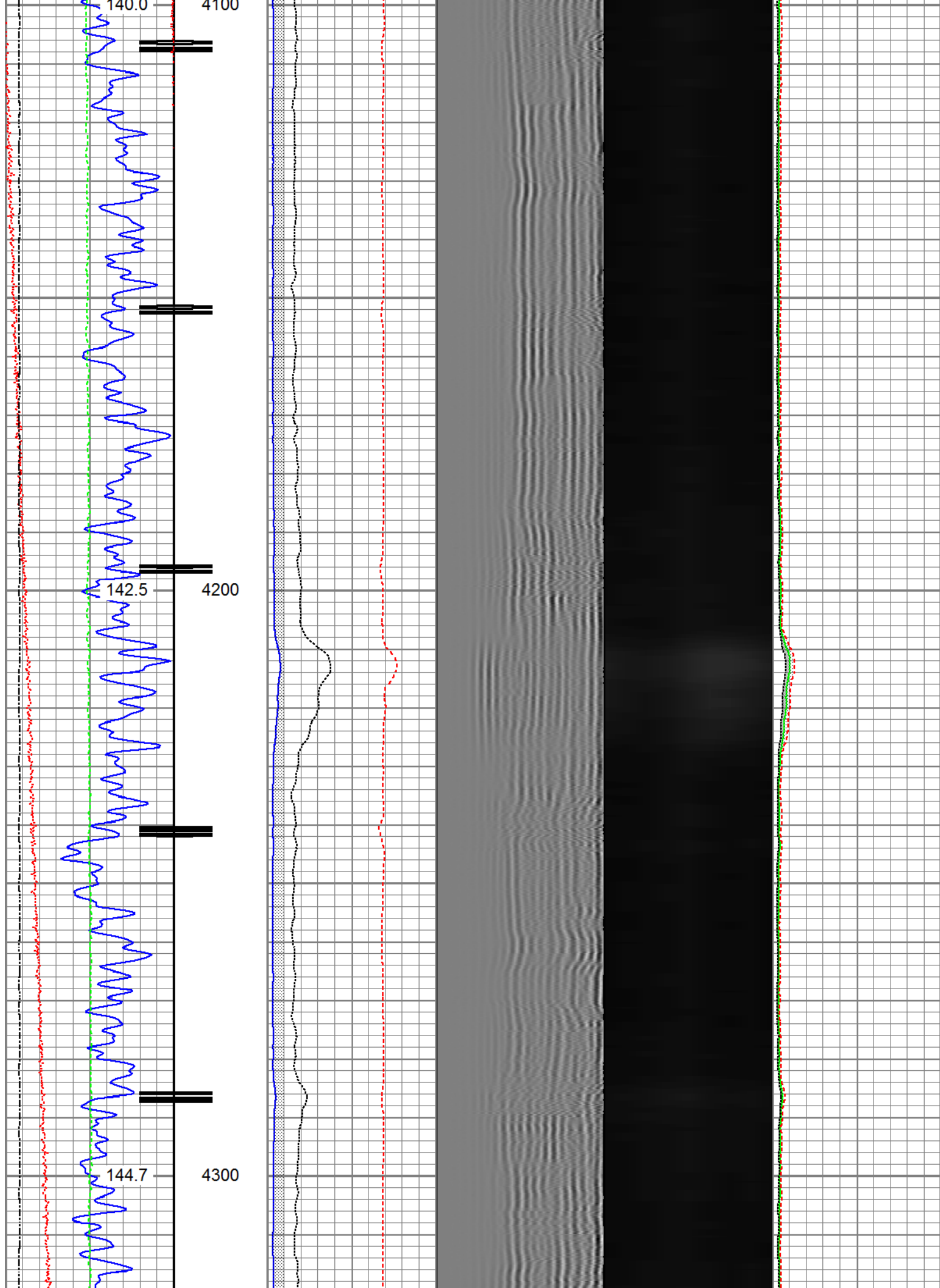


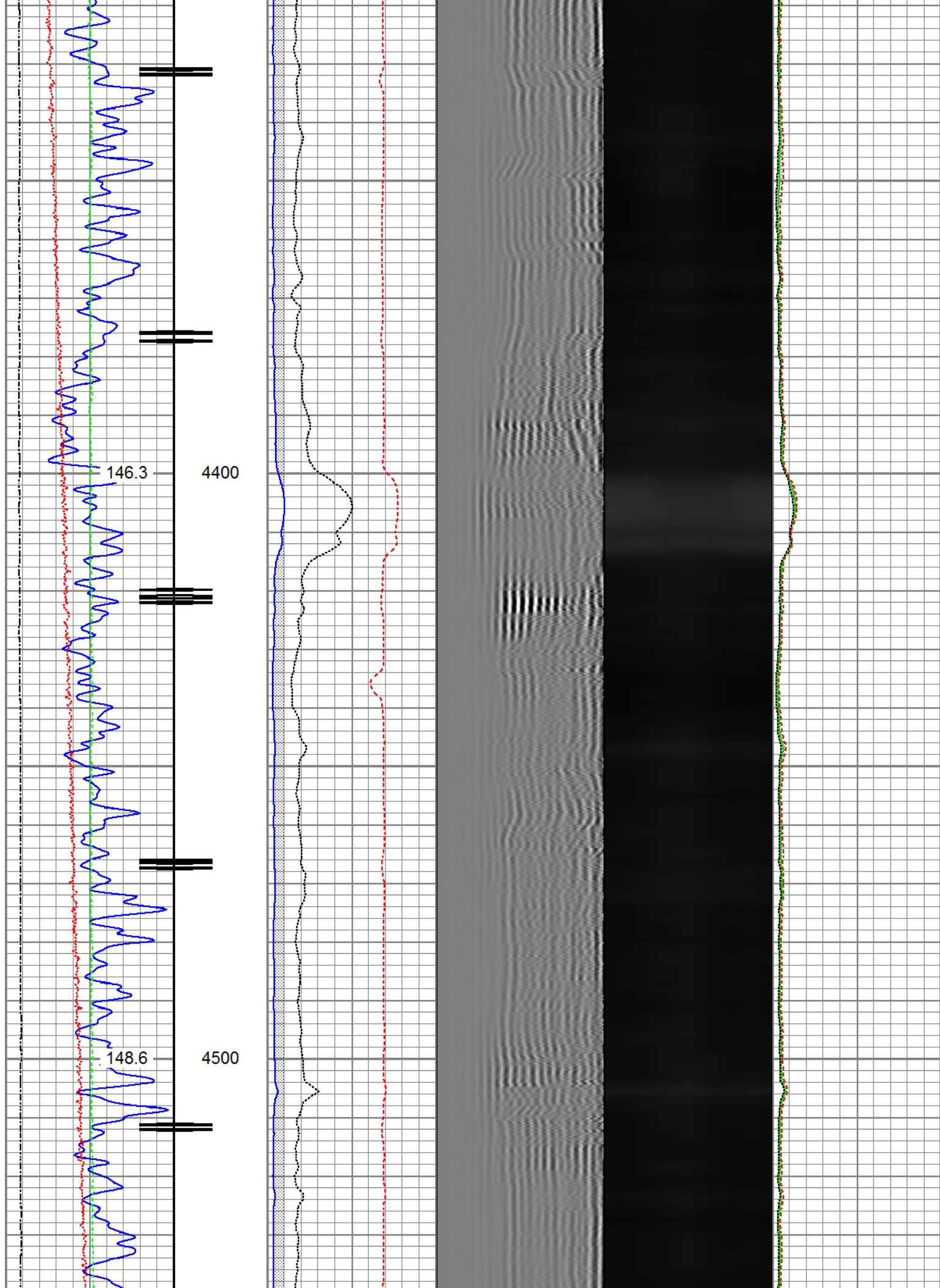


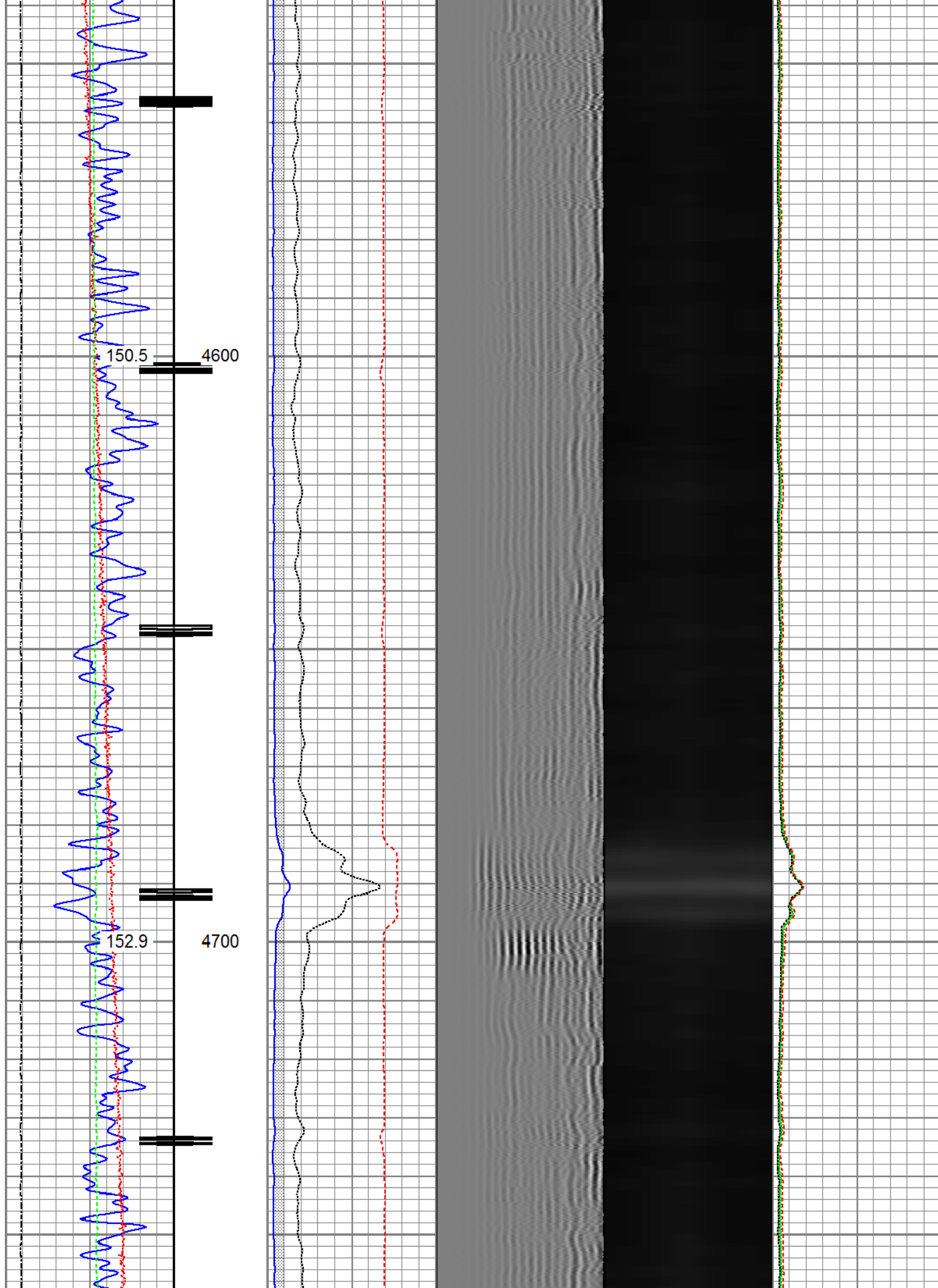


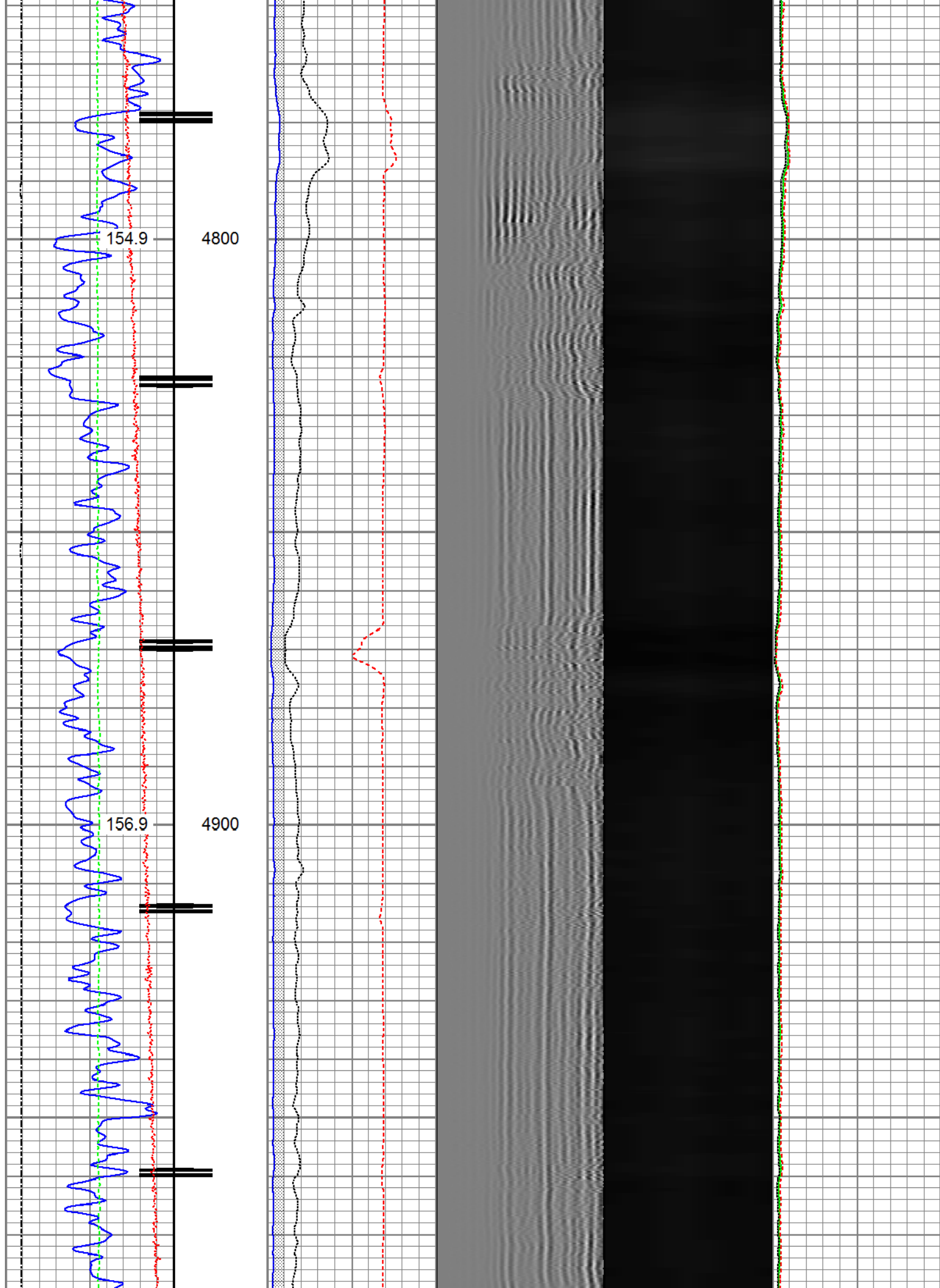


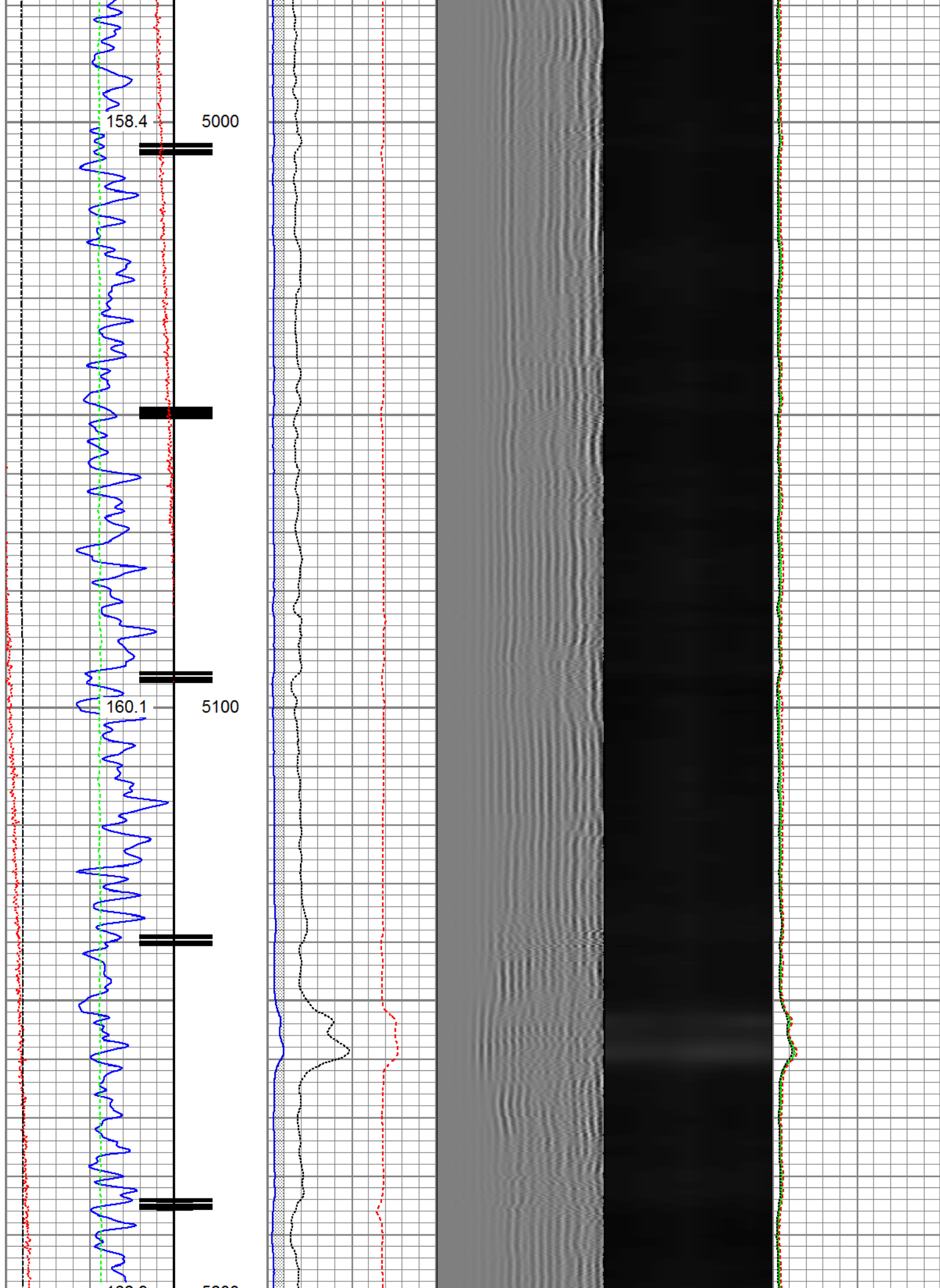


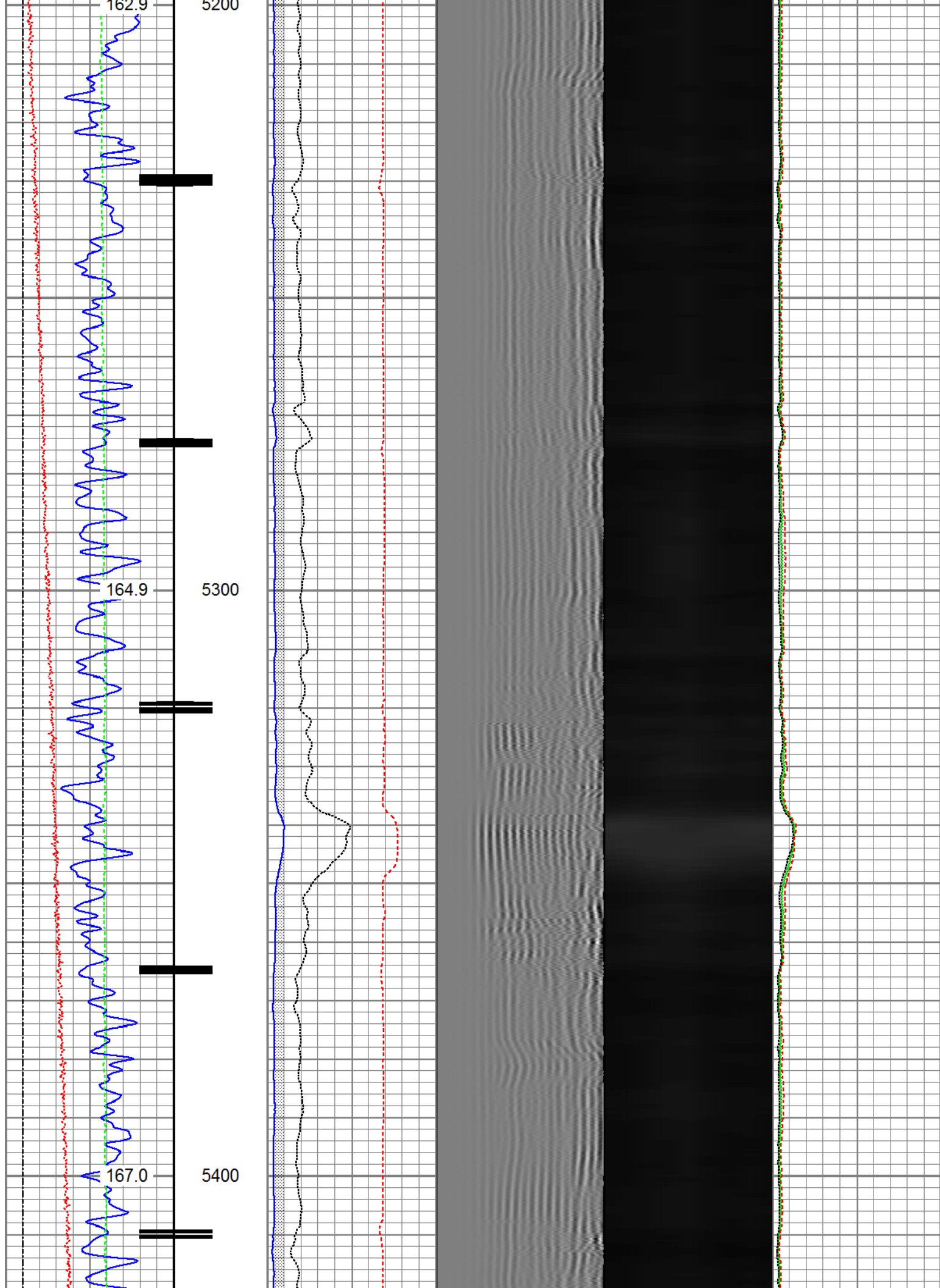


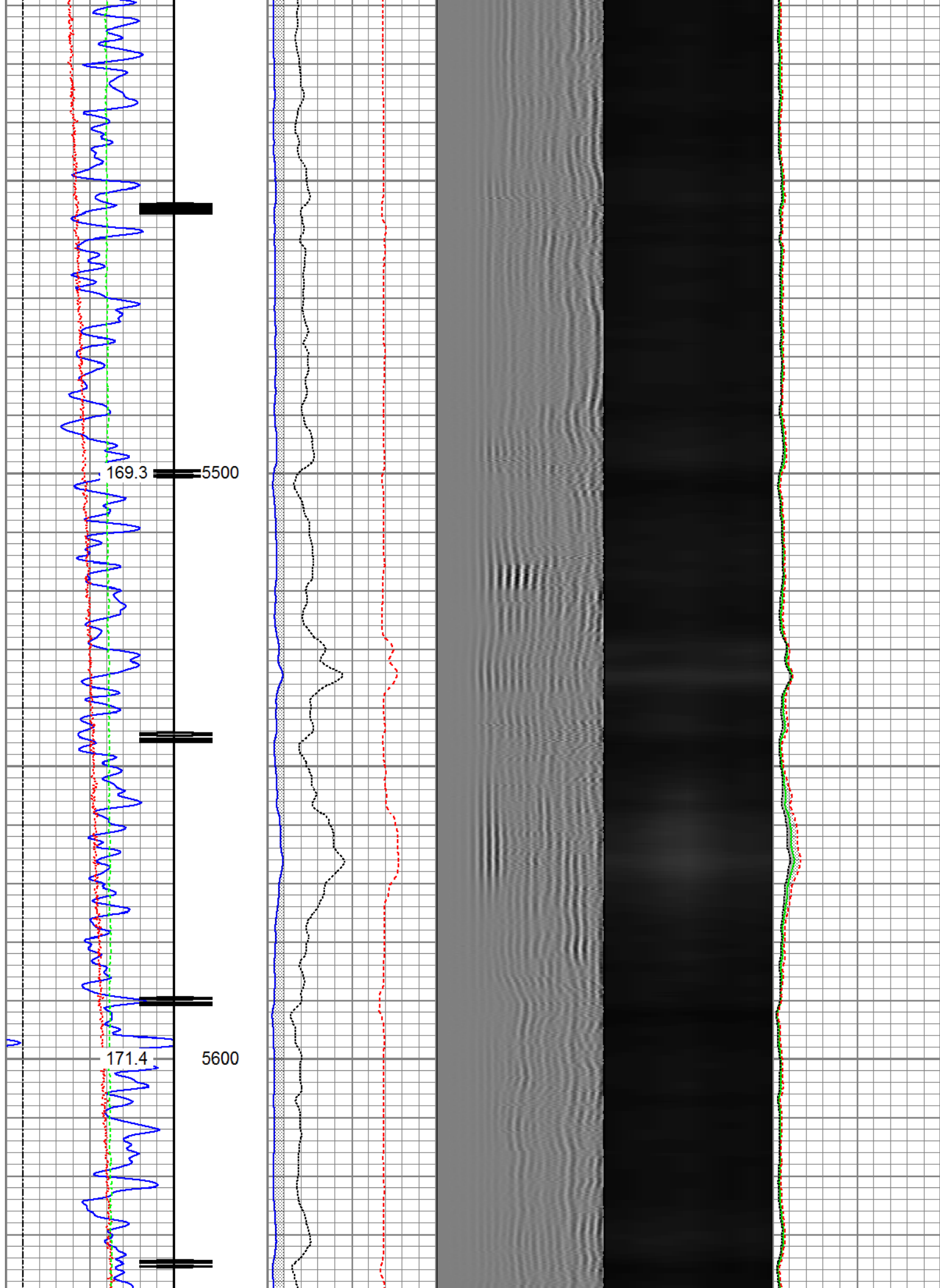


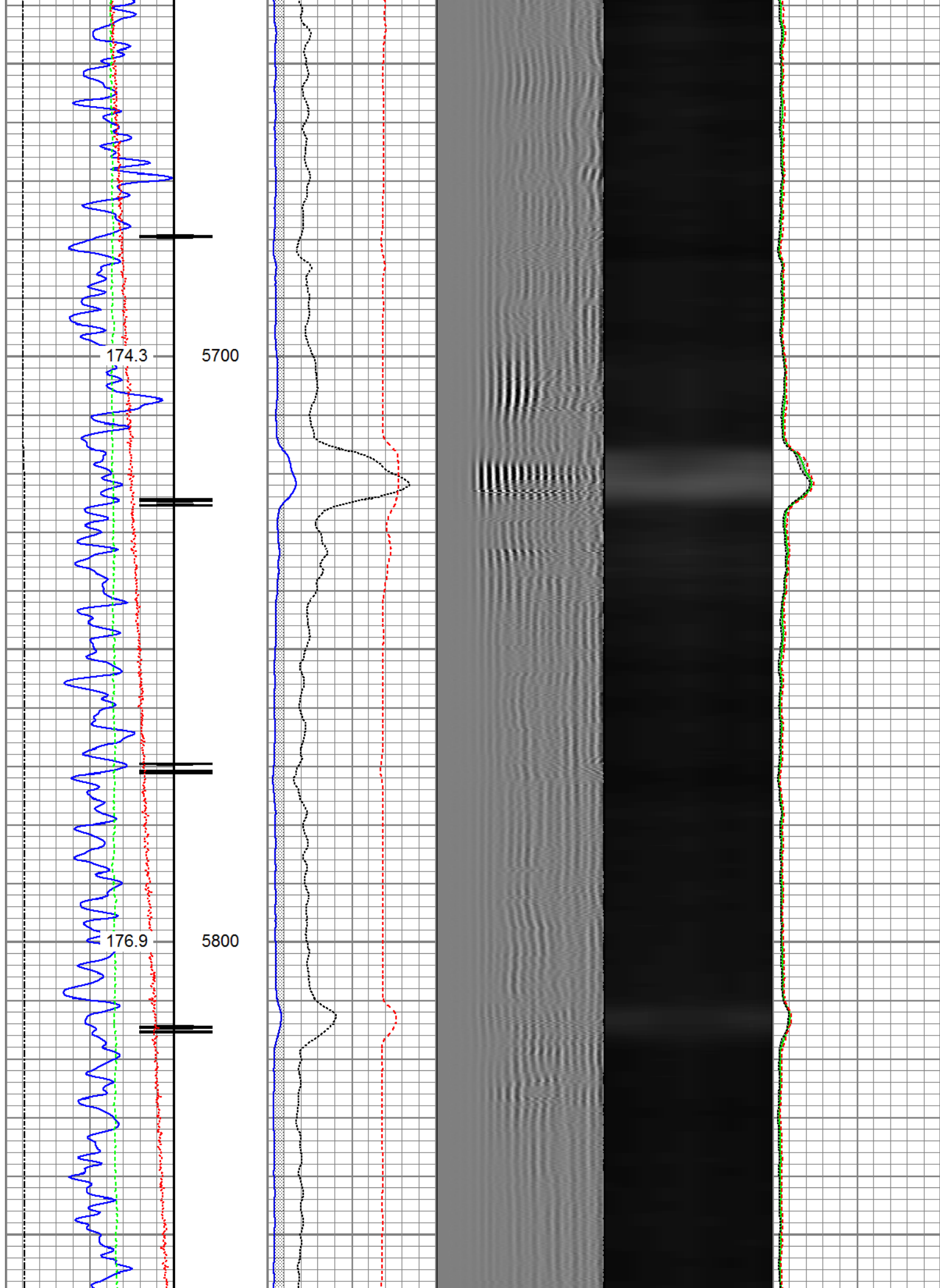


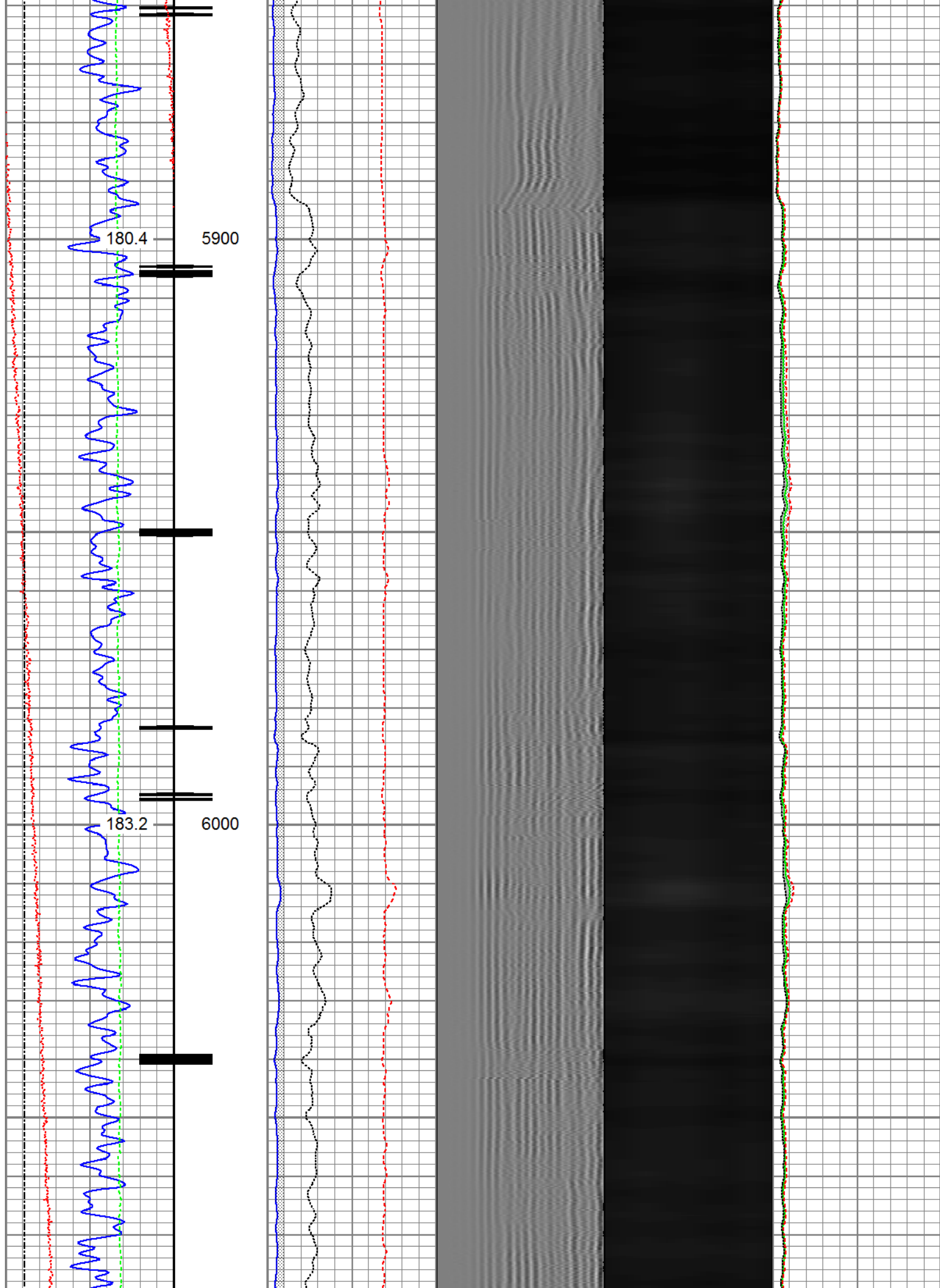


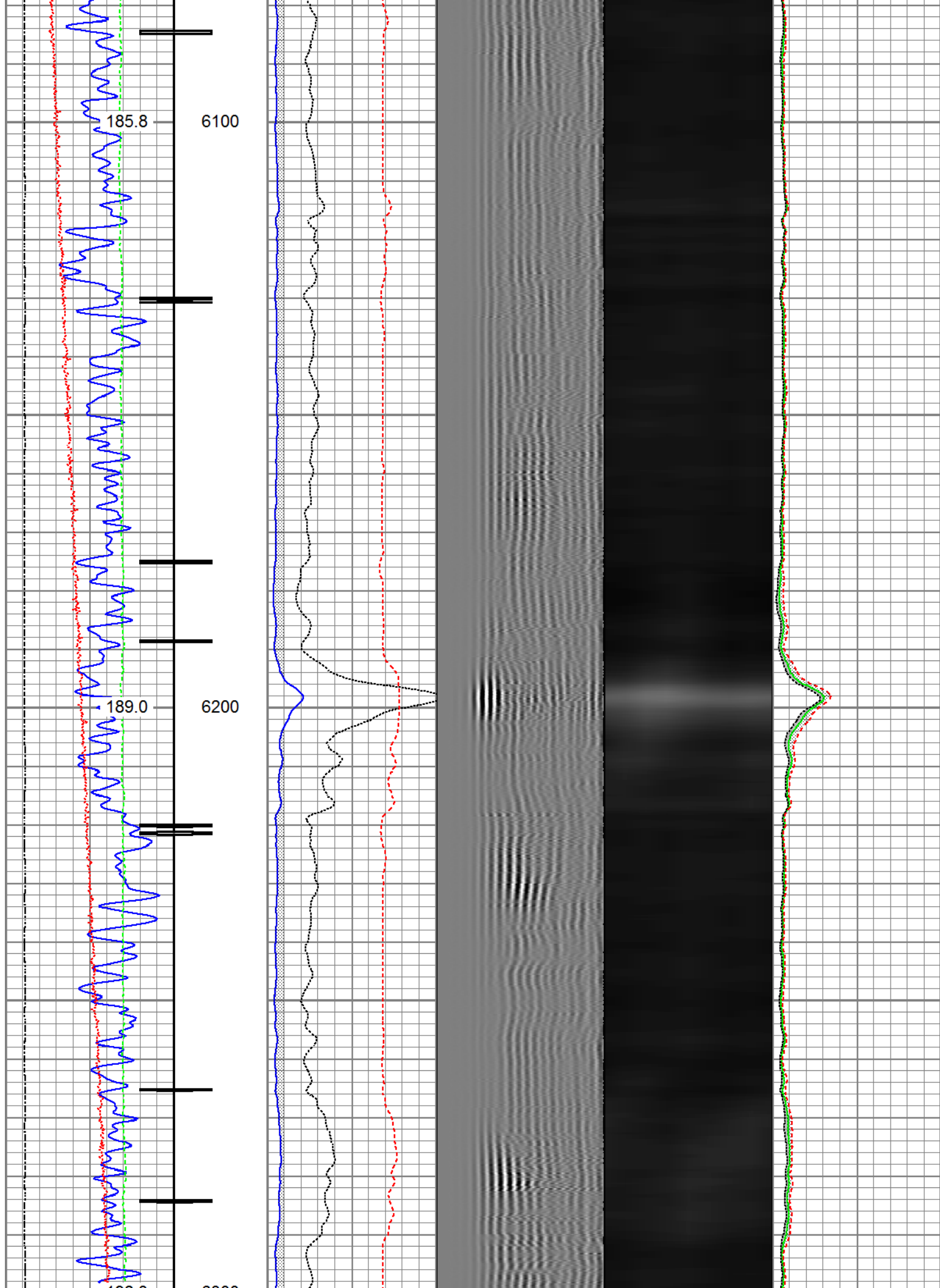


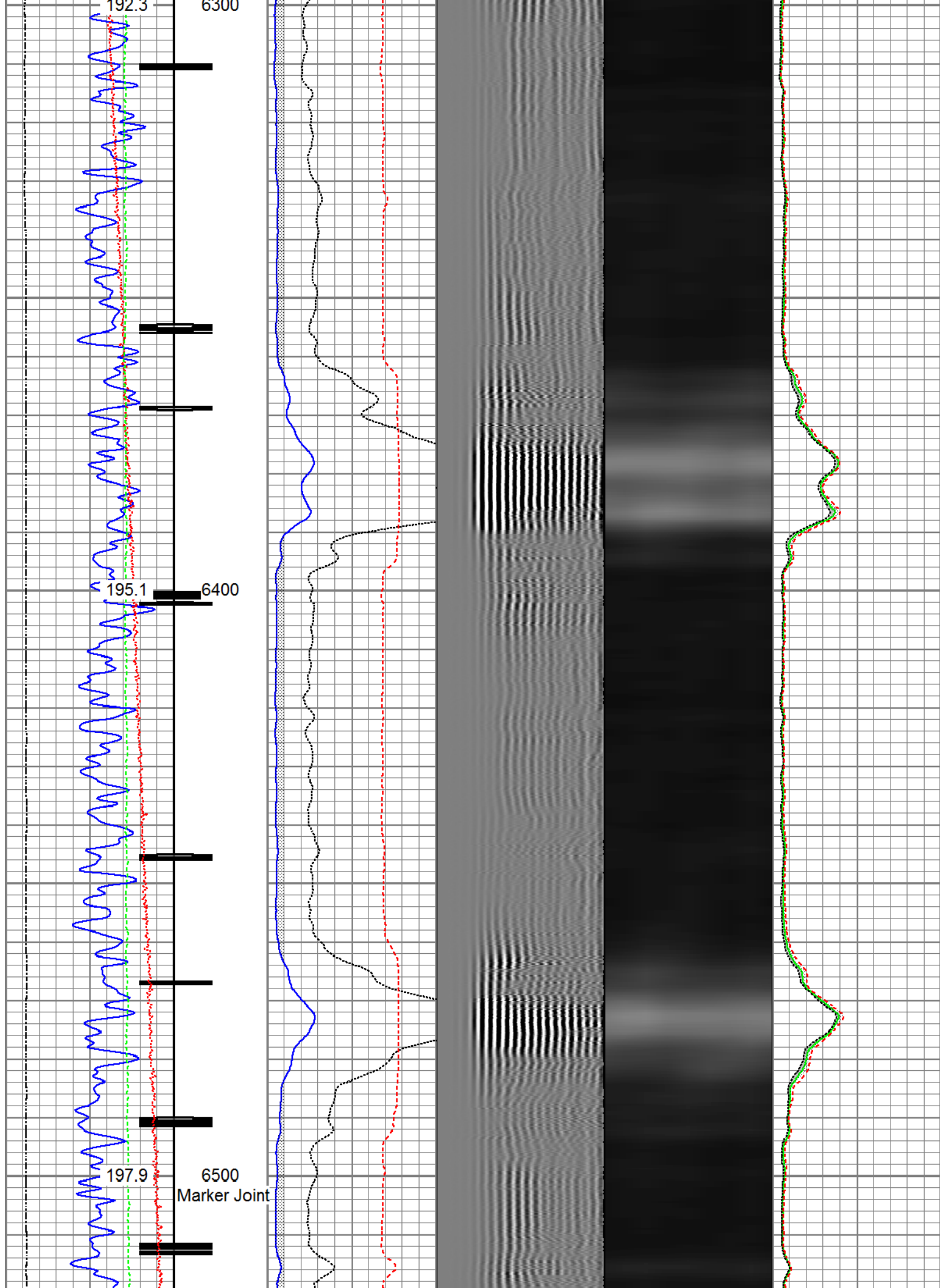


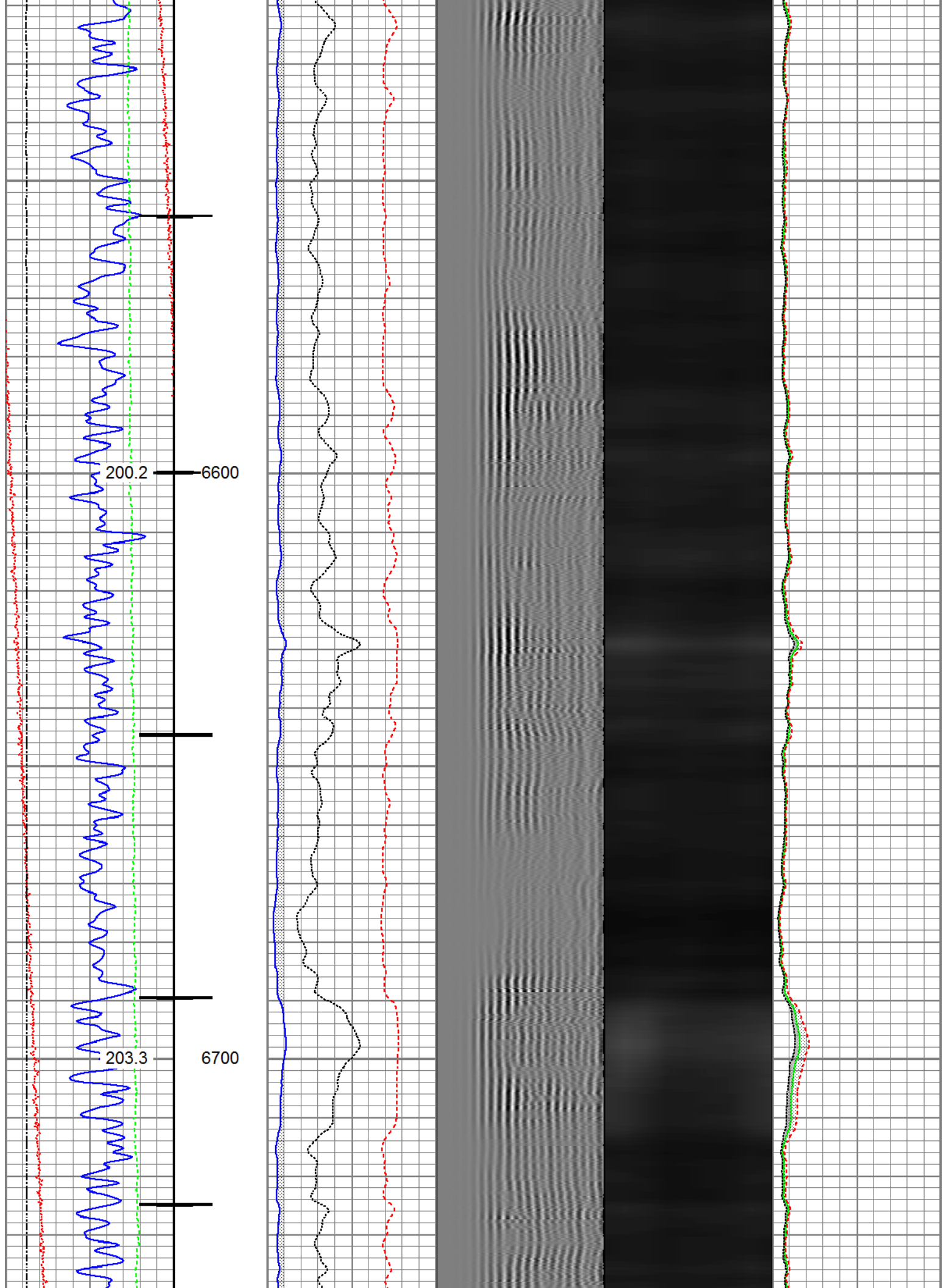


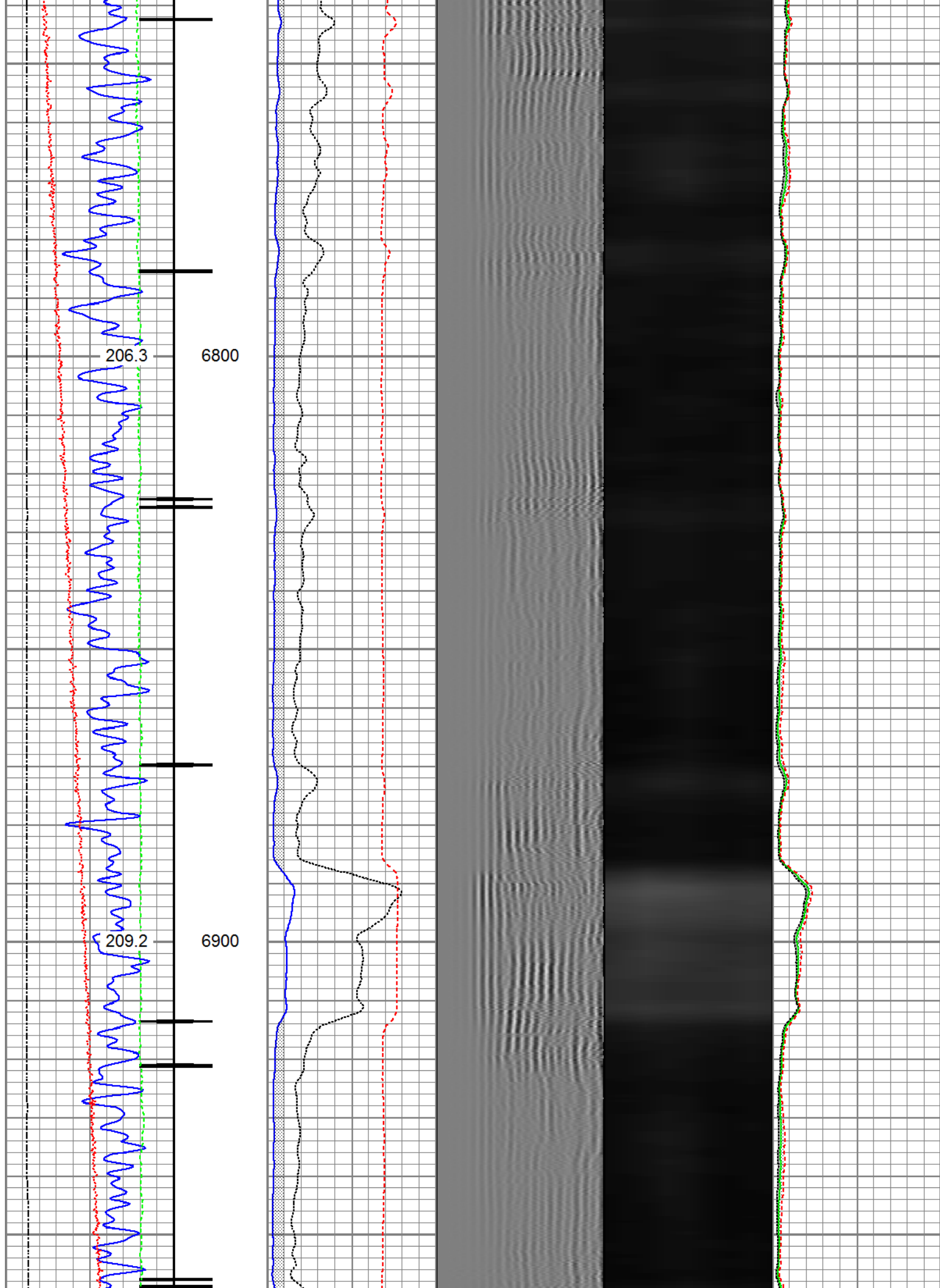


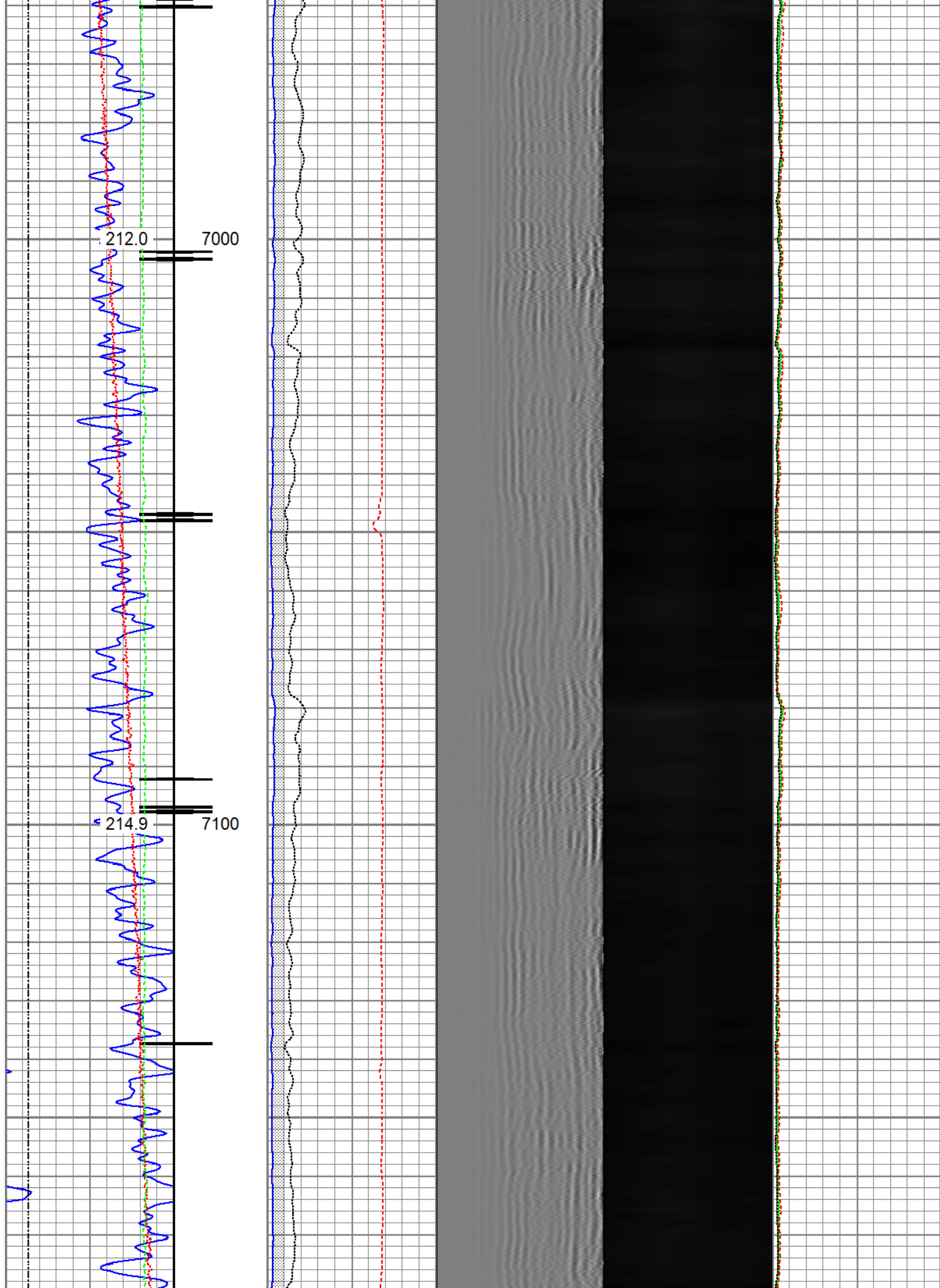


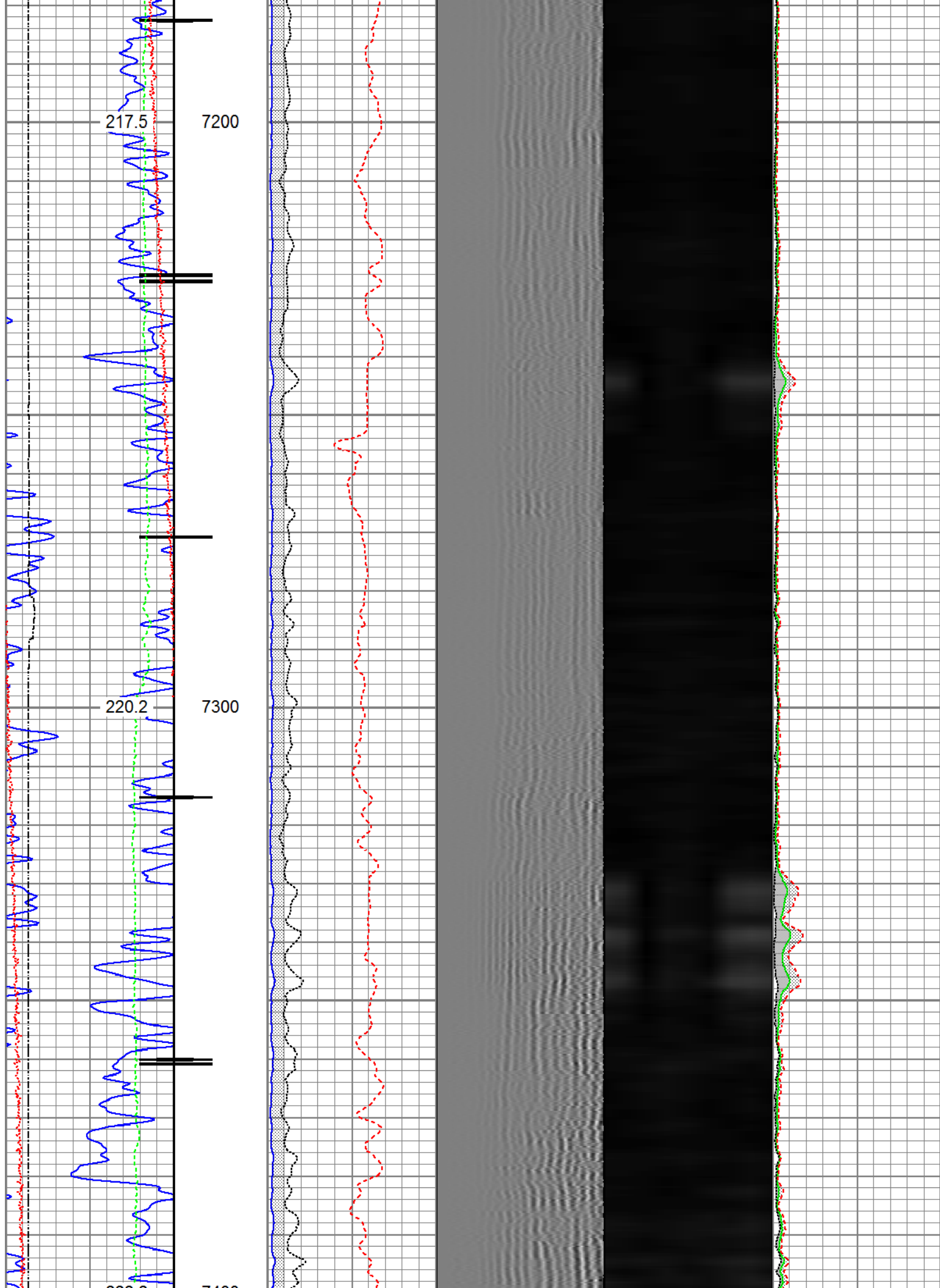


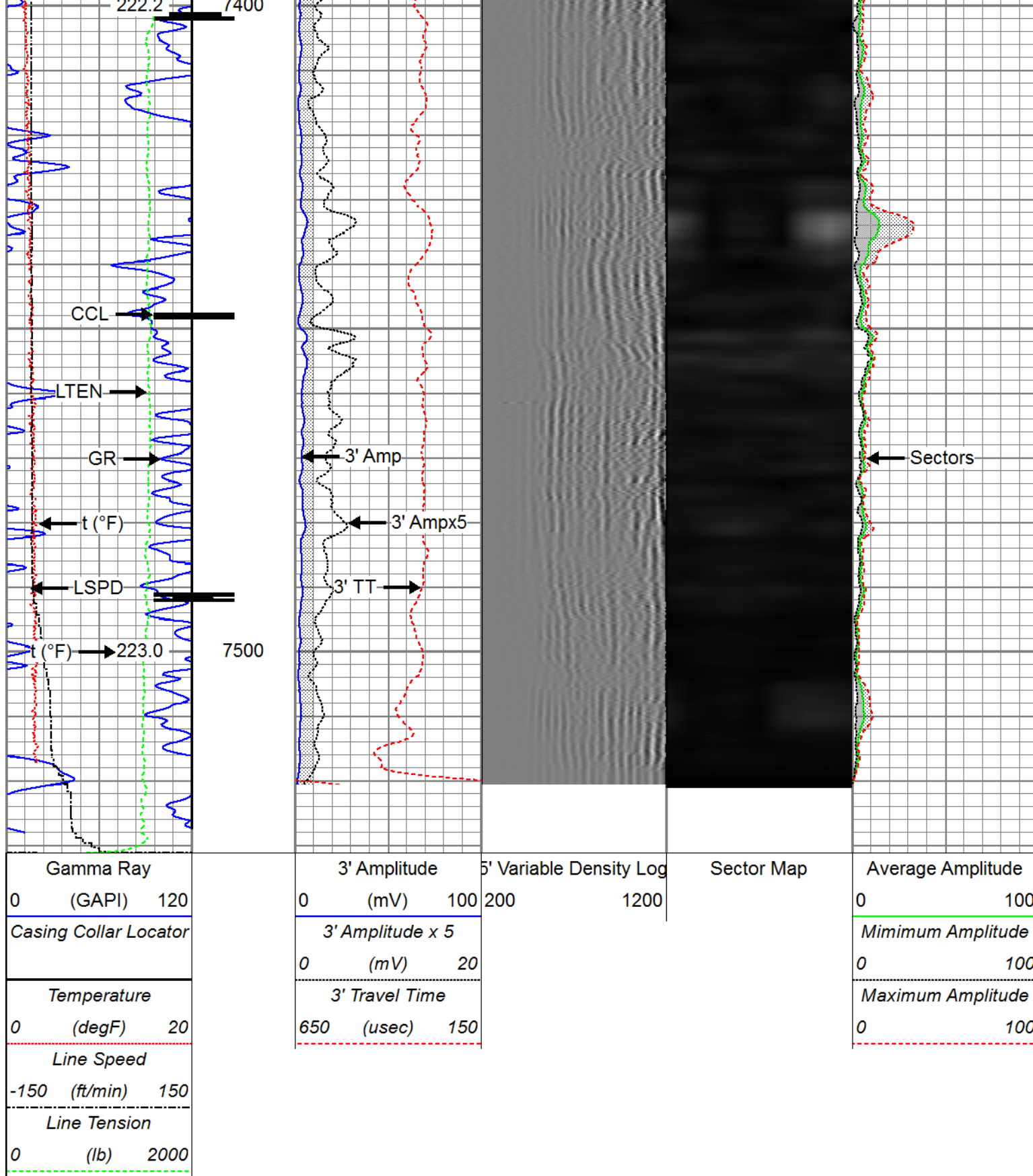










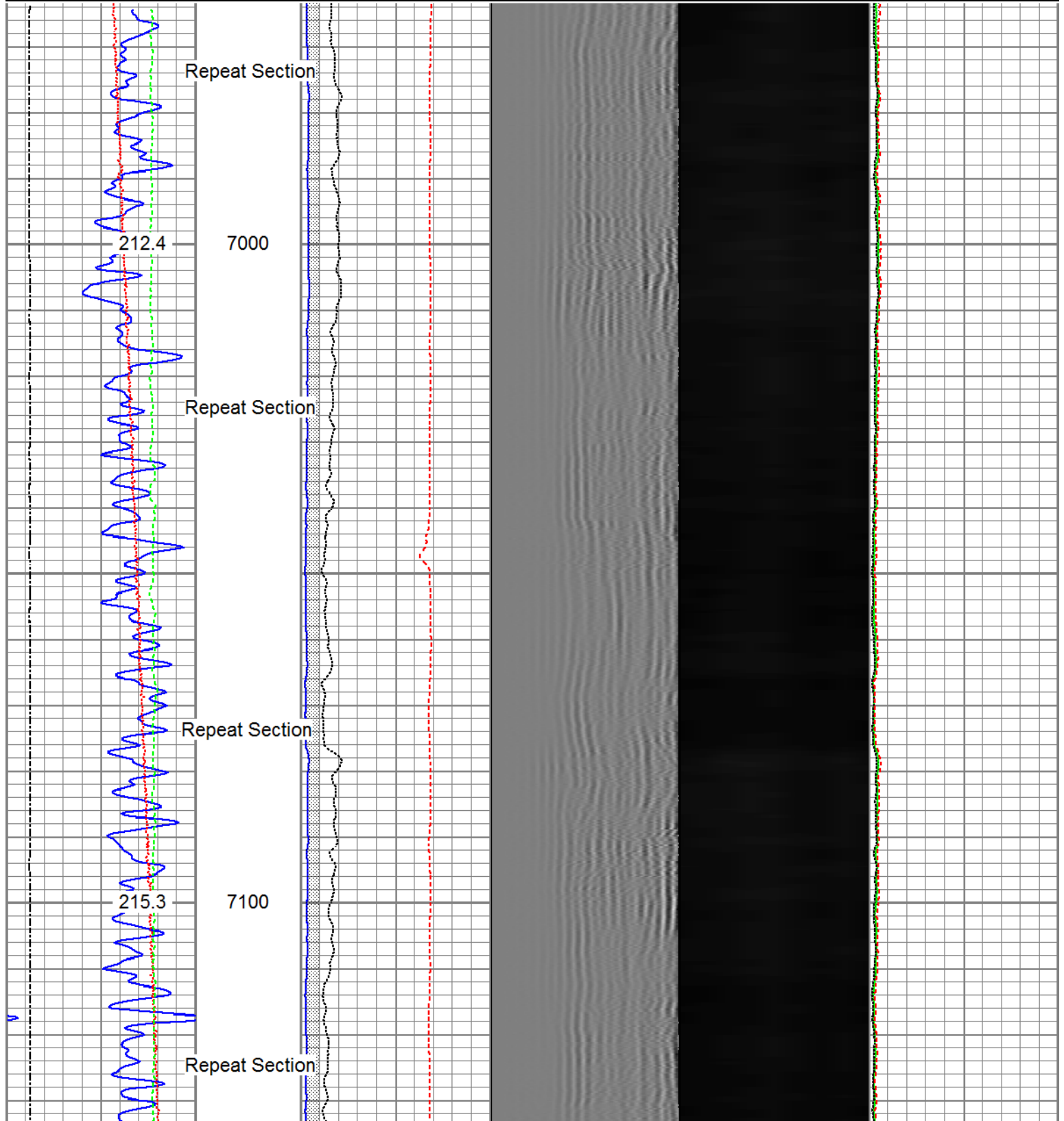


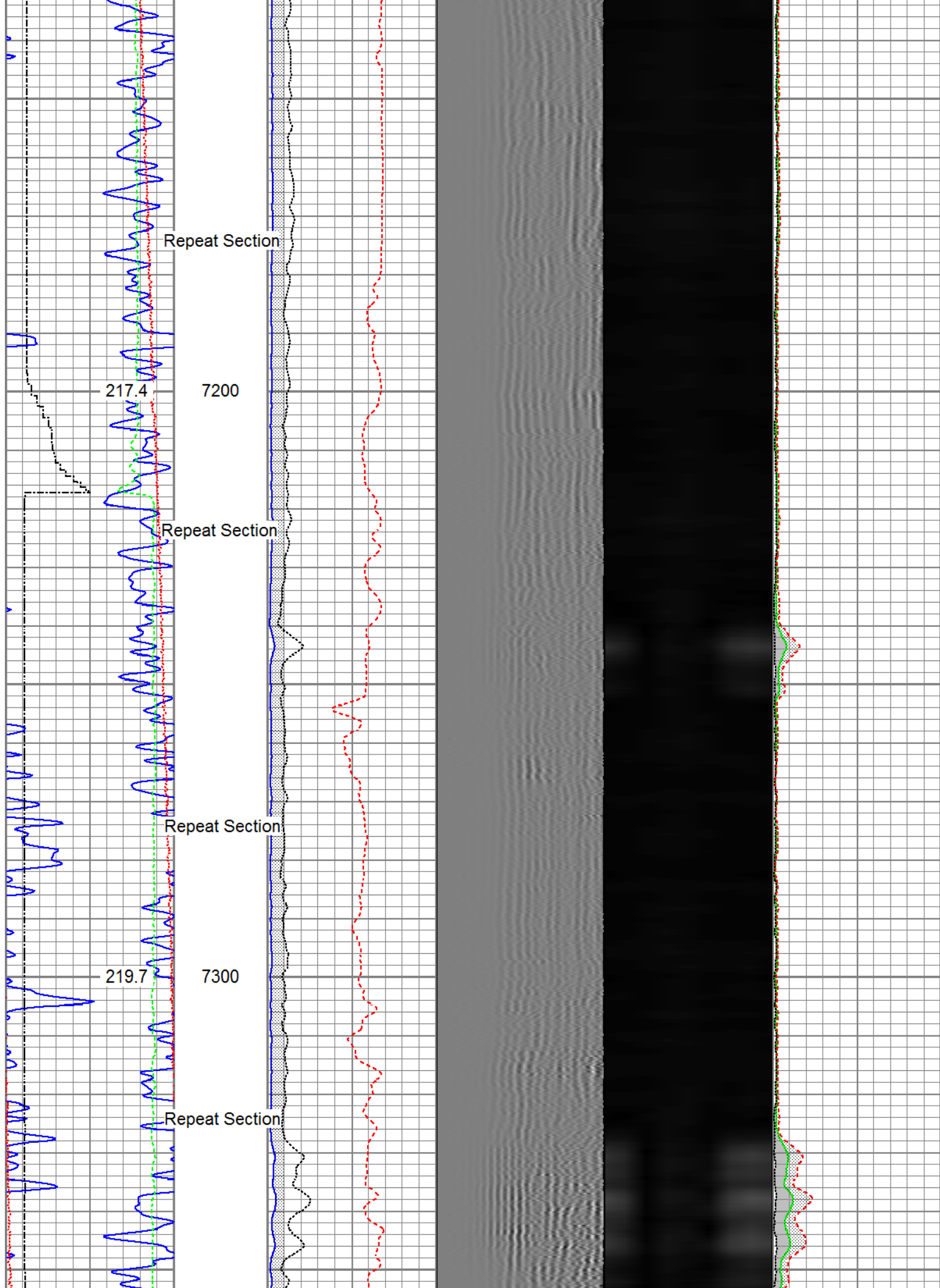
Repeat Pass

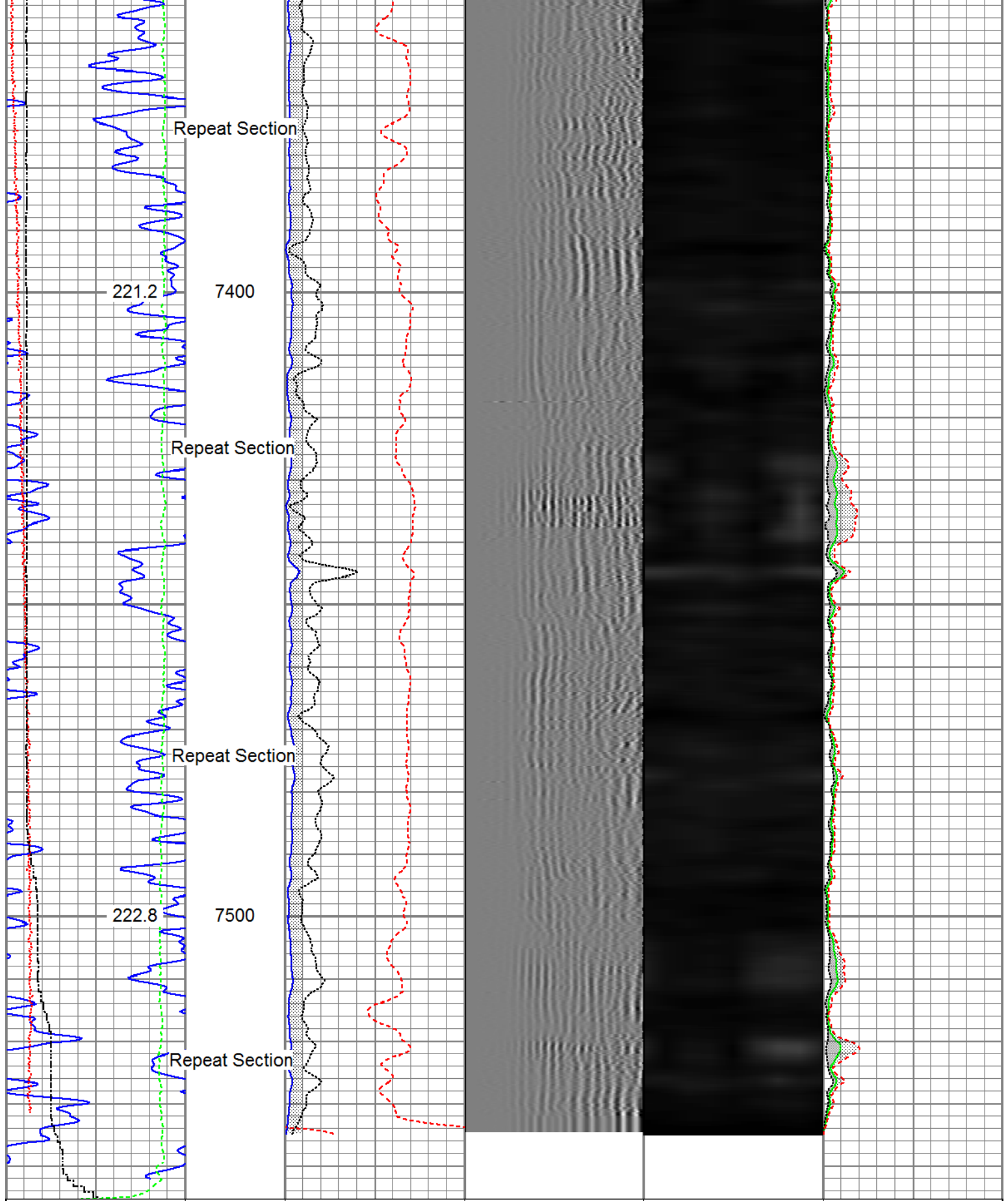
Recorded with 2800 PSI Surface Induced Pressure

Database File anadarko_whisper rock 3n 25hz 14-feb-2017_rcblprocessed_0512341300_anadarko_whisper rock
 Dataset Pathname pass_2.3
 Presentation Format ros_radrii

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					







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

Line Tension	
0 (lb) 2000	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			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_EB\$2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00
Temp	13.84					
			Probe_RADII-C-P_RBT_2750 (FW1302-0019.19) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	19.19	2.75	105.00
WVFS8	11.67					
WVFS7	11.67					
WVFS6	11.67					
WVFS5	11.67					
WVFS4	11.67					
WVFS3	11.67					
WVFS2	11.67					
WVFS1	11.67					
WVFCAL	11.67					
WVF3FT	11.67					
WVF5FT	10.67					
HeadVolt	7.42					
			Probe_ELine_BowSpring_Centralizer-P_EB\$2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00
DCCL	3.63					
CCL	3.63					
			Probe_GR_CCL-P_CGR_2750_S (FW13074.54) Probe 2-3/4" Digital CCL / Gamma Ray Combined	74.54	2.75	55.00
GR	0.89					

Dataset:	PROCESSED_0512341300_Anadarko_Whisper Rock 3N-25HZ_02-14-17_RBL.db: field/well/run1/pass_4.3
Total length:	20.52 ft
Total weight:	205.40 lb
O.D.:	2.75 in

Calibration Report

Database File	C:\ProgramData\Warrior\Data\Anadarko_Whisper Rock 3N 25HZ 14-Feb-2017_rcbl\PROCESSED_0
Dataset Pathname	pass_4.3
Dataset Creation	Tue Feb 14 15:28:46 2017

Gamma Ray Calibration Report

Serial Number:	FW1307-038	
Tool Model:	P_CGR_2750_S	
Performed:	Thu Nov 10 10:56:13 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6300	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1302-001	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	32.413	ft

Master Calibration, performed (Derived):


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.000	0.658	0.800	71.921	107.979	0.829
CAL	0.007	0.653				
5'	-0.002	0.555	0.800	71.921	127.625	1.039
SUM						
S1	0.000	0.633	0.000	100.000	158.066	-0.031
S2	-0.001	0.675	0.000	100.000	148.045	0.088
S3	-0.001	0.705	0.000	100.000	141.625	0.136
S4	-0.001	0.717	0.000	100.000	139.354	0.110
S5	-0.001	0.695	0.000	100.000	143.668	0.199
S6	-0.001	0.659	0.000	100.000	151.589	0.106
S7	-0.001	0.635	0.000	100.000	157.224	0.193
S8	-0.001	0.628	0.000	100.000	159.005	0.147

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	0.653	1.000	0.000

Air Zero Calibration, performed Tue Feb 14 12:57:32 2017:

	Raw (V)	Calibrated (V)	Results
	Zero	Zero	Offset
3'	0.007	0.000	-0.000
5'	0.009	0.000	-0.002
SUM			
S1	0.006	0.000	0.000
S2	0.008	0.000	-0.001
S3	0.008	0.000	-0.001
S4	0.008	0.000	-0.001
S5	0.009	0.000	-0.002
S6	0.008	0.000	-0.001
S7	0.008	0.000	-0.001
S8	0.008	0.000	-0.001

	Company	Kerr-Mcgee Oil & Gas Onshore L.P.
	Well	Whisper Rock 3N-25HZ
	Field	Wattenberg
	County	Weld
	State	Colorado