



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.			Location:	API # : 05-123-41318	Other Services
Well	Wilson Ranch 12C- 27HZ					Gauge Ring
Field	Wattenberg					
County	Weld					
State	Colorado					
Permanent Datum	SEC 26	TWP 4N	RGE 68W			
Log Measured From	Ground Level			Elevation	5061'	
Drilling Measured From	Kelly Bushing			20 FT		
	Kelly Bushing					K.B. 5041' D.F. 5040' G.L. 5061'

Date	01-FEB-2017		
Run Number	Two		
Depth Driller	17114 FT		
Depth Logger	7600 FT		
Bottom Logged Interval	7550 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	229°F		
Estimated Cement Top	Surface		
Time Well Ready	ROA		
Time Logger on Bottom	10:38		
Equipment Number	HD-0324		
Location	Fort Lupton, CO		
Recorded By	Robert Fogarty		
Witnessed By	Brian Jolly		

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	J55 LTC	Surface	1861 FT		
Intermediate #1	5 1/2	17	HCP-110	Surface	17088 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 Top at 6658 FT
Adjusted log +24 FT to correlate with Marker Joint Top
Log ran from 7550 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!!

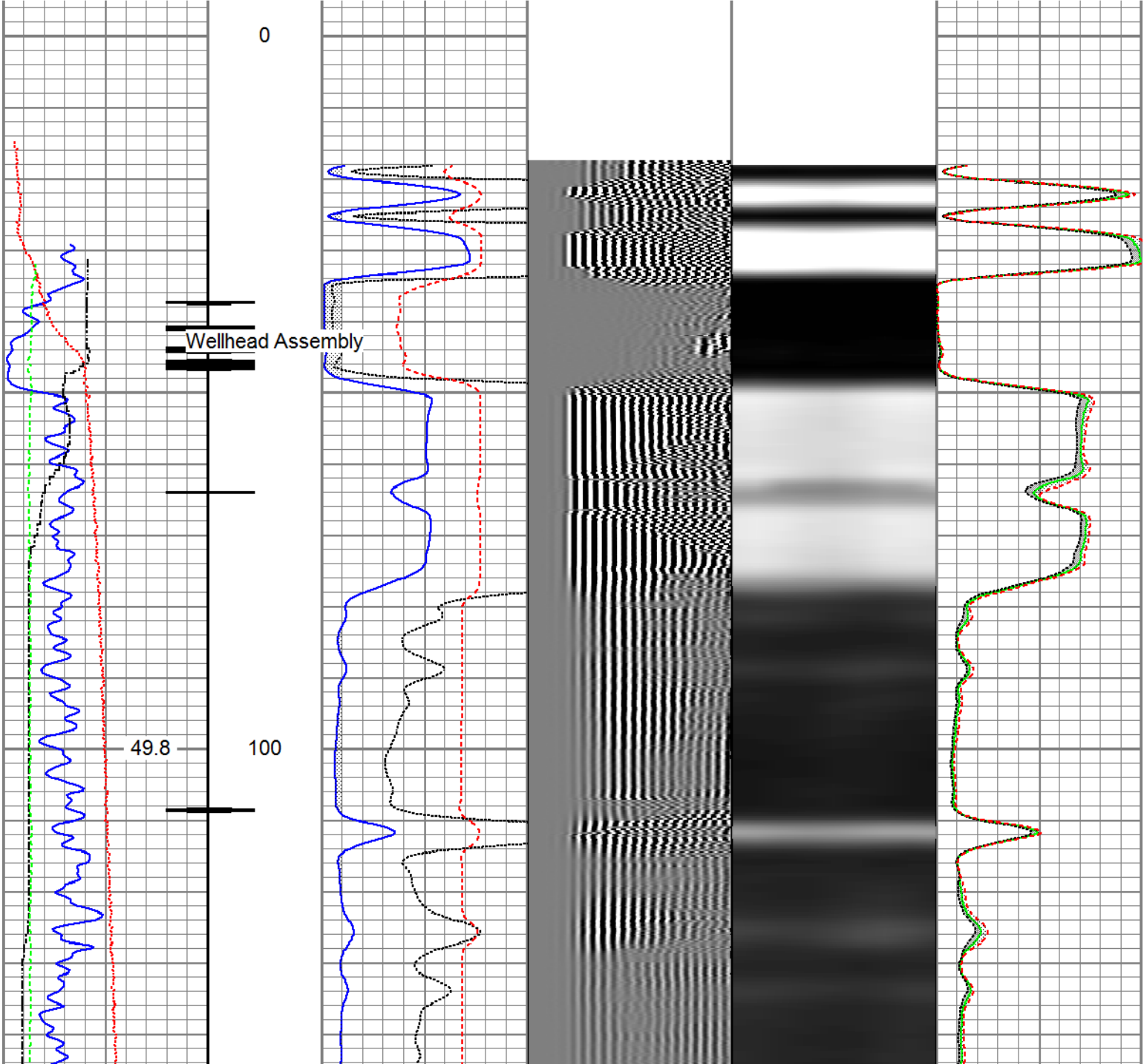


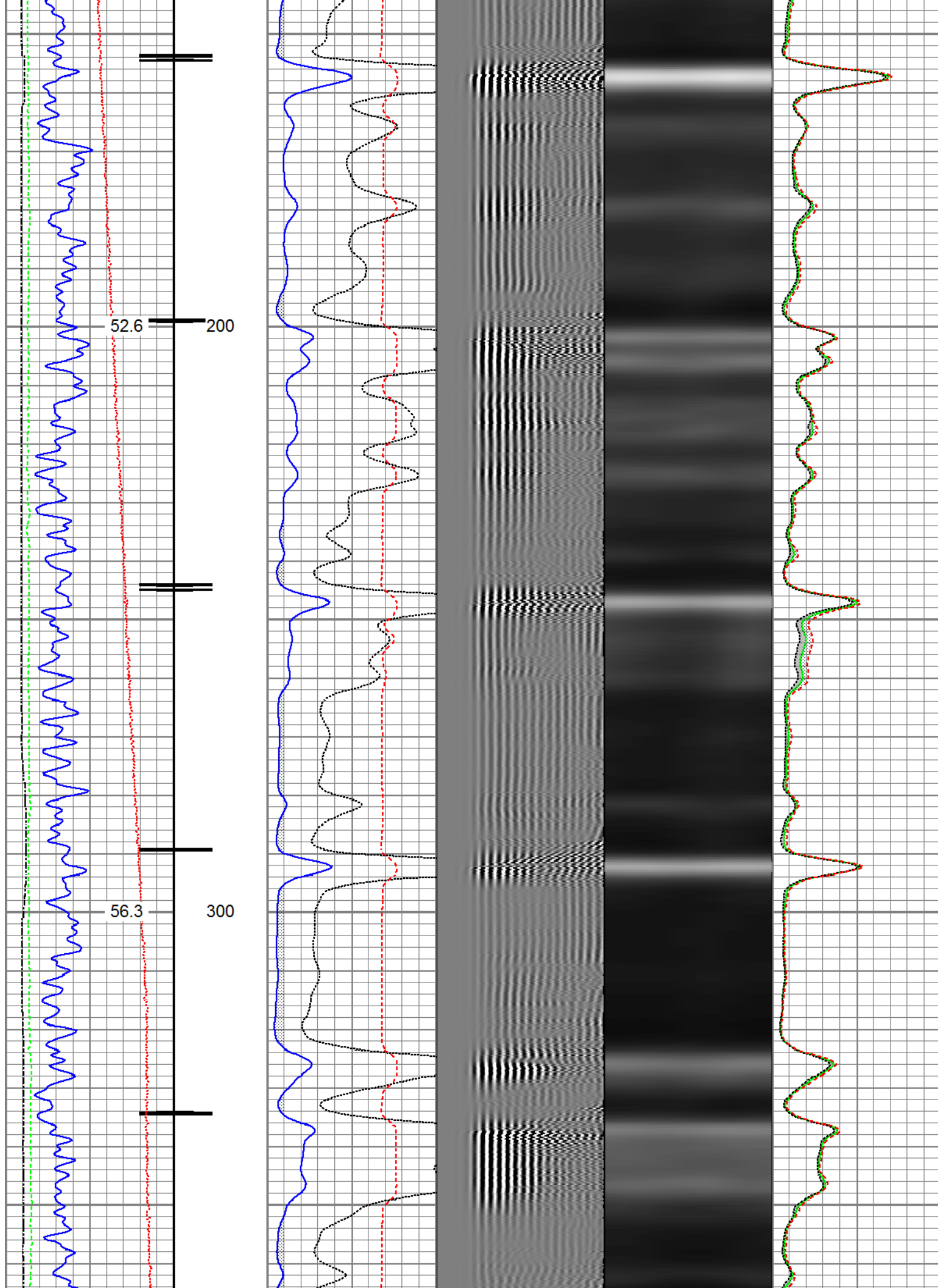
Main Pass

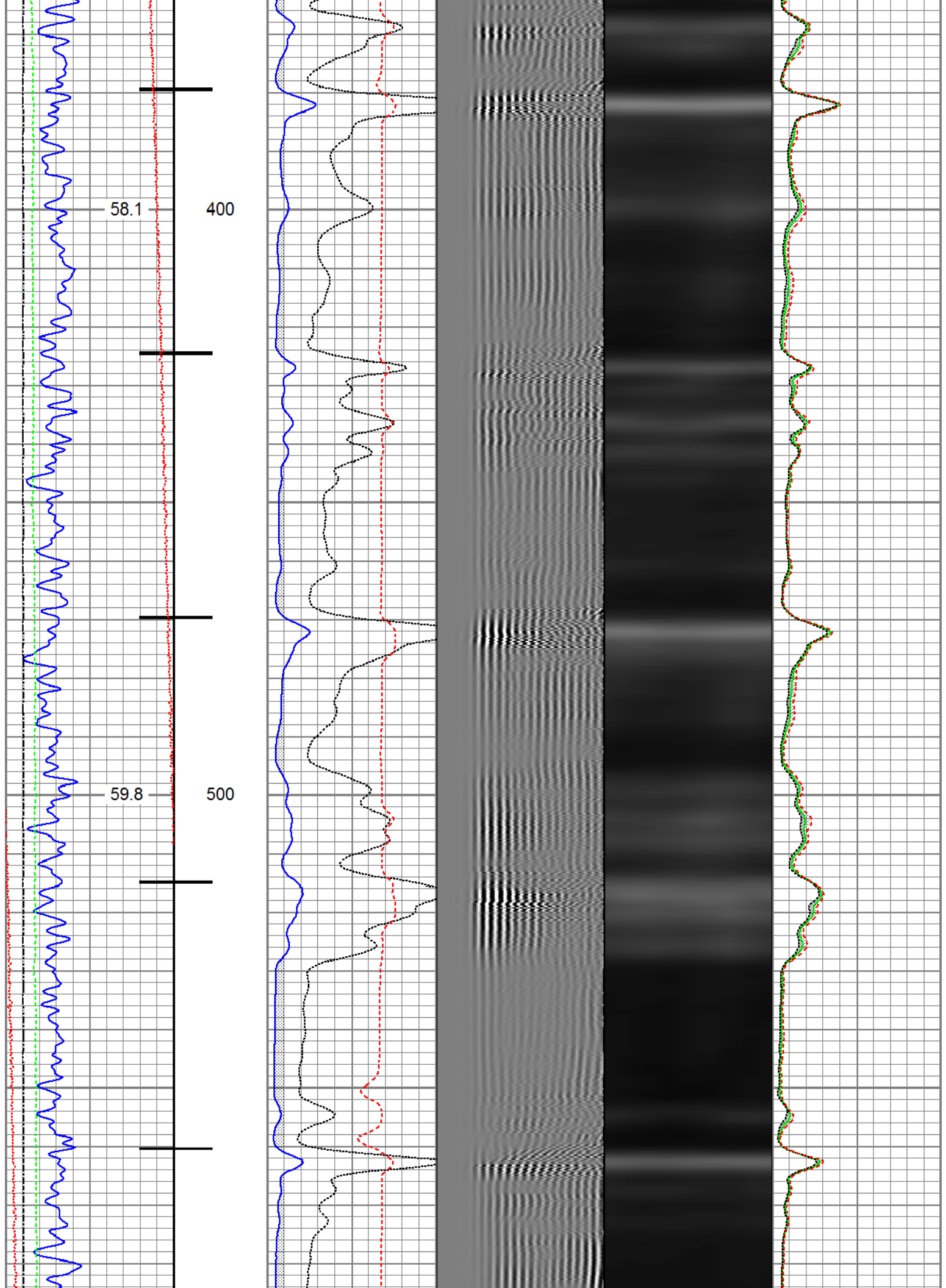
Recorded with 2800 PSI Surface Induced Pressure

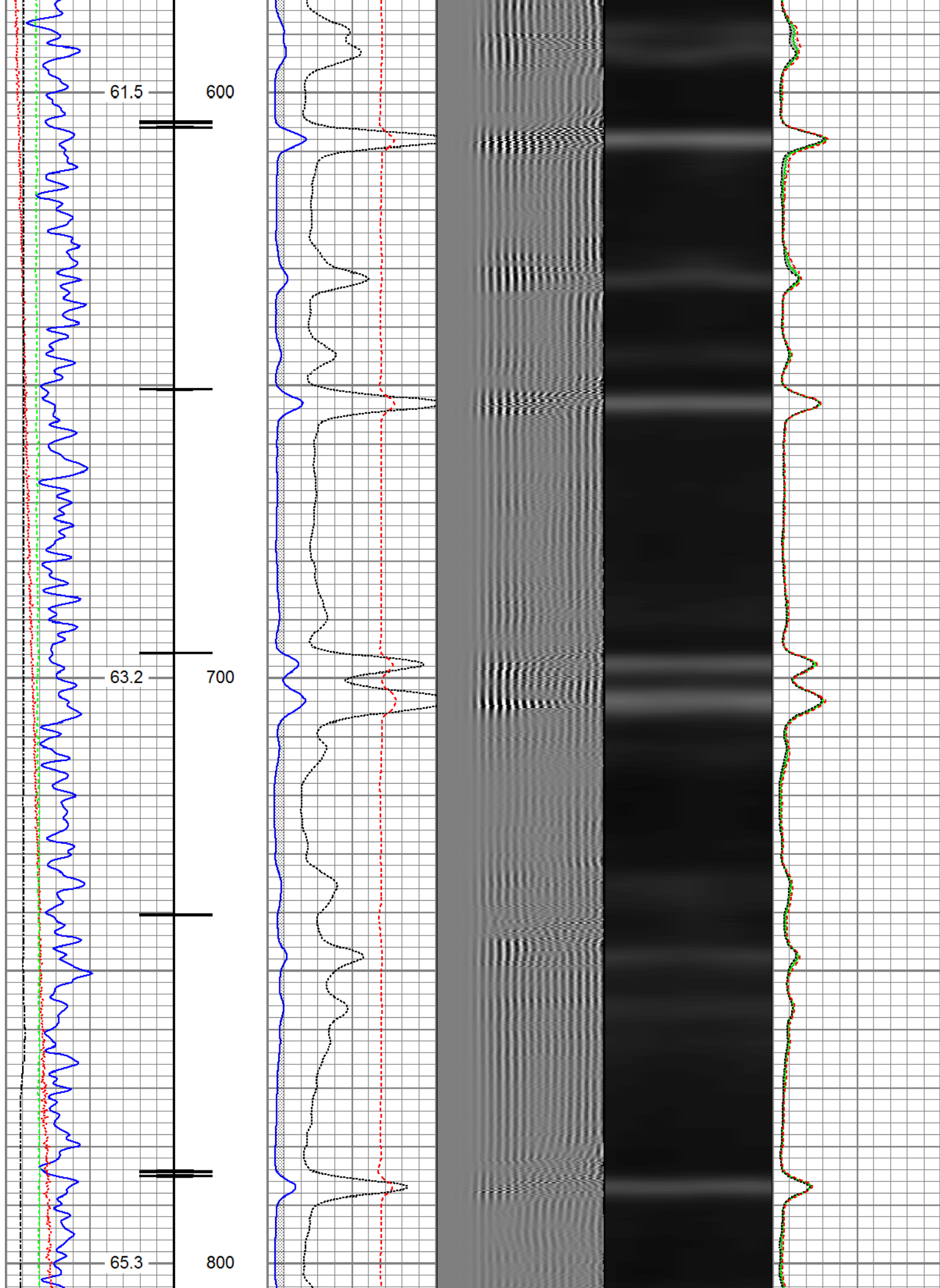
Database File	anadarko_wilson_ranch_12c_27hz_rcbl_1_feb_2017\processed_0512341318_anadarko_wilson ranch
Dataset Pathname	pass4
Presentation Format	ros_radri
Dataset Creation	Wed Feb 01 10:35:52 2017
Charted by	Depth in Feet scaled 1:240

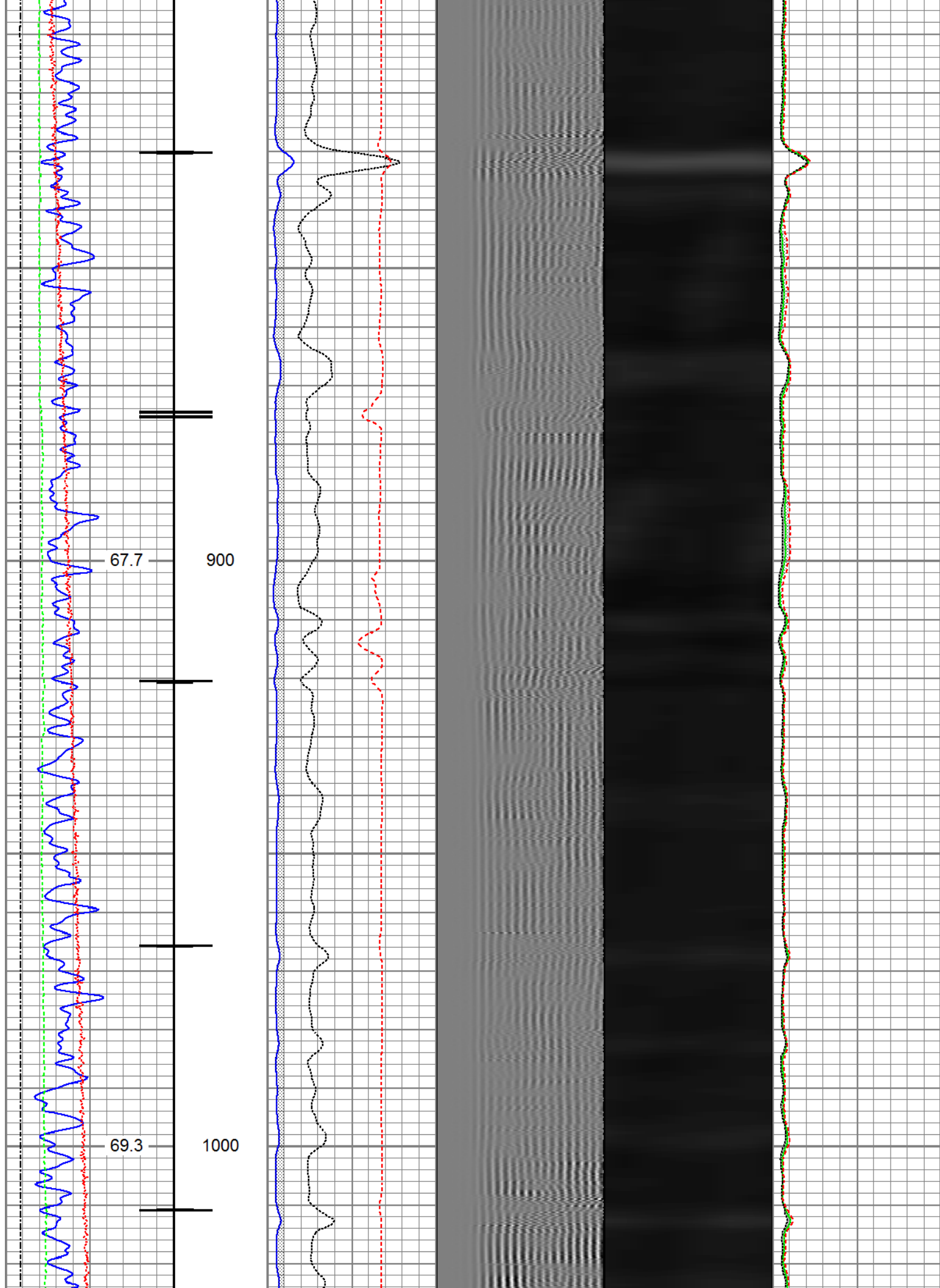
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

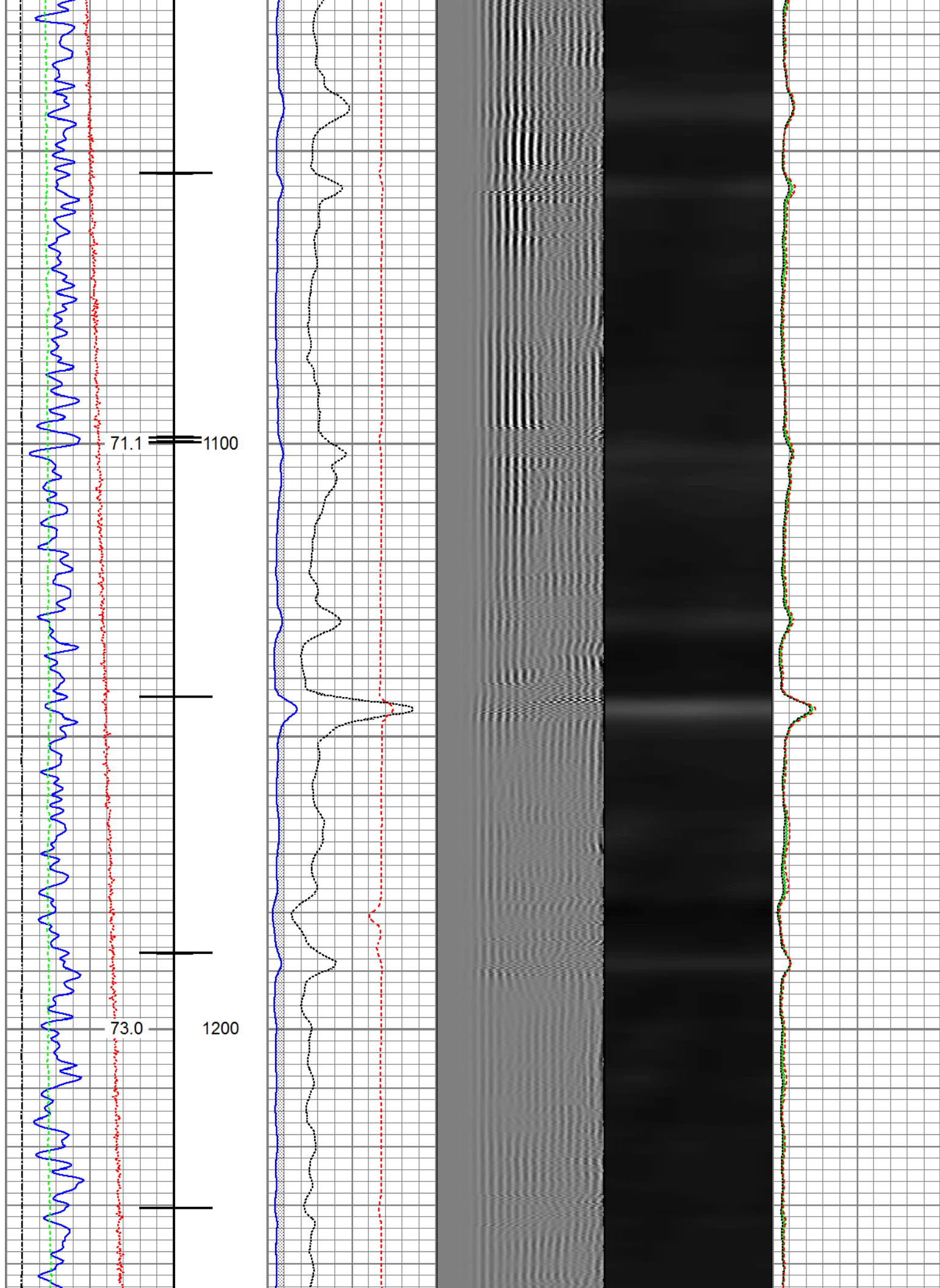


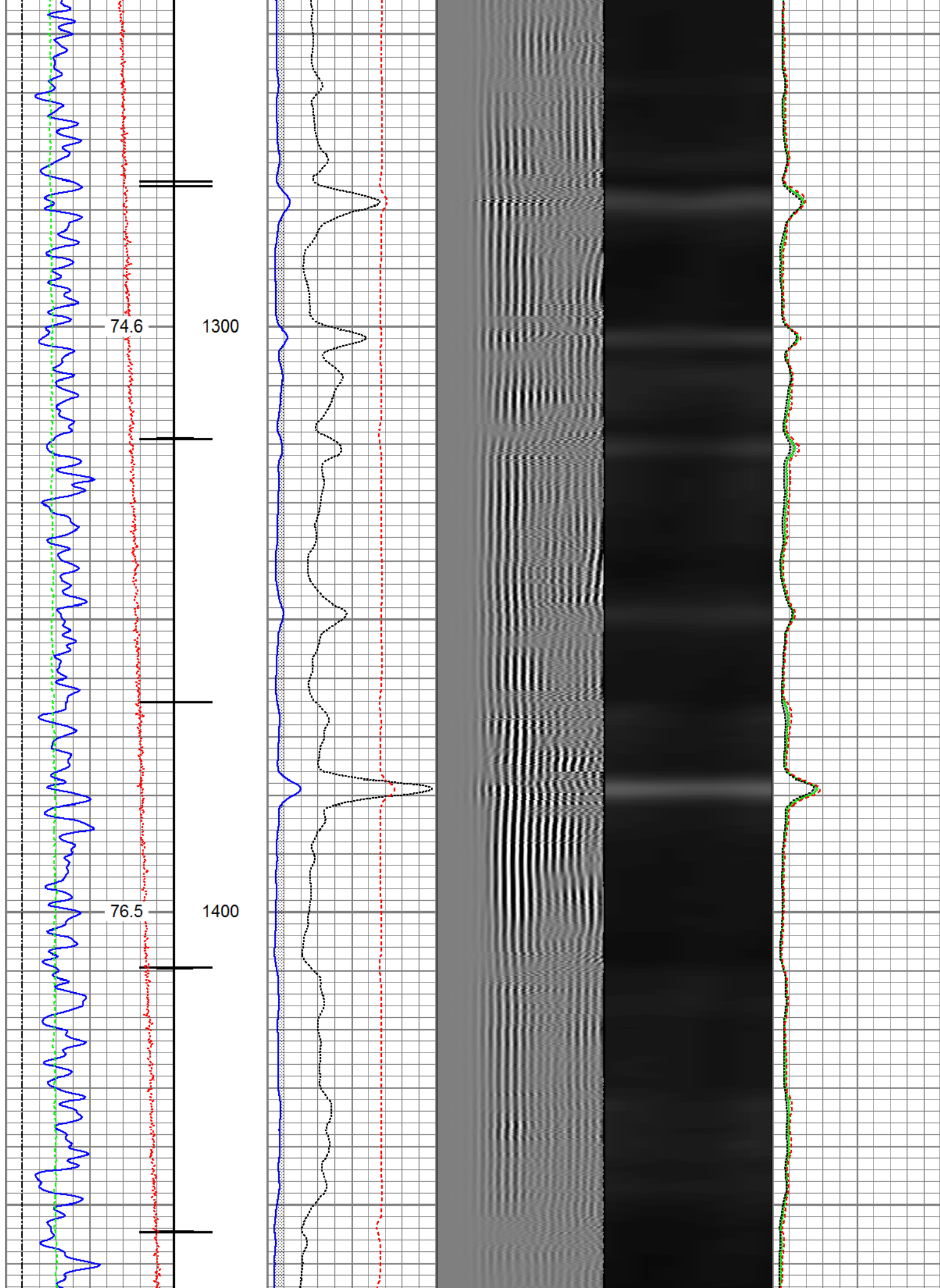


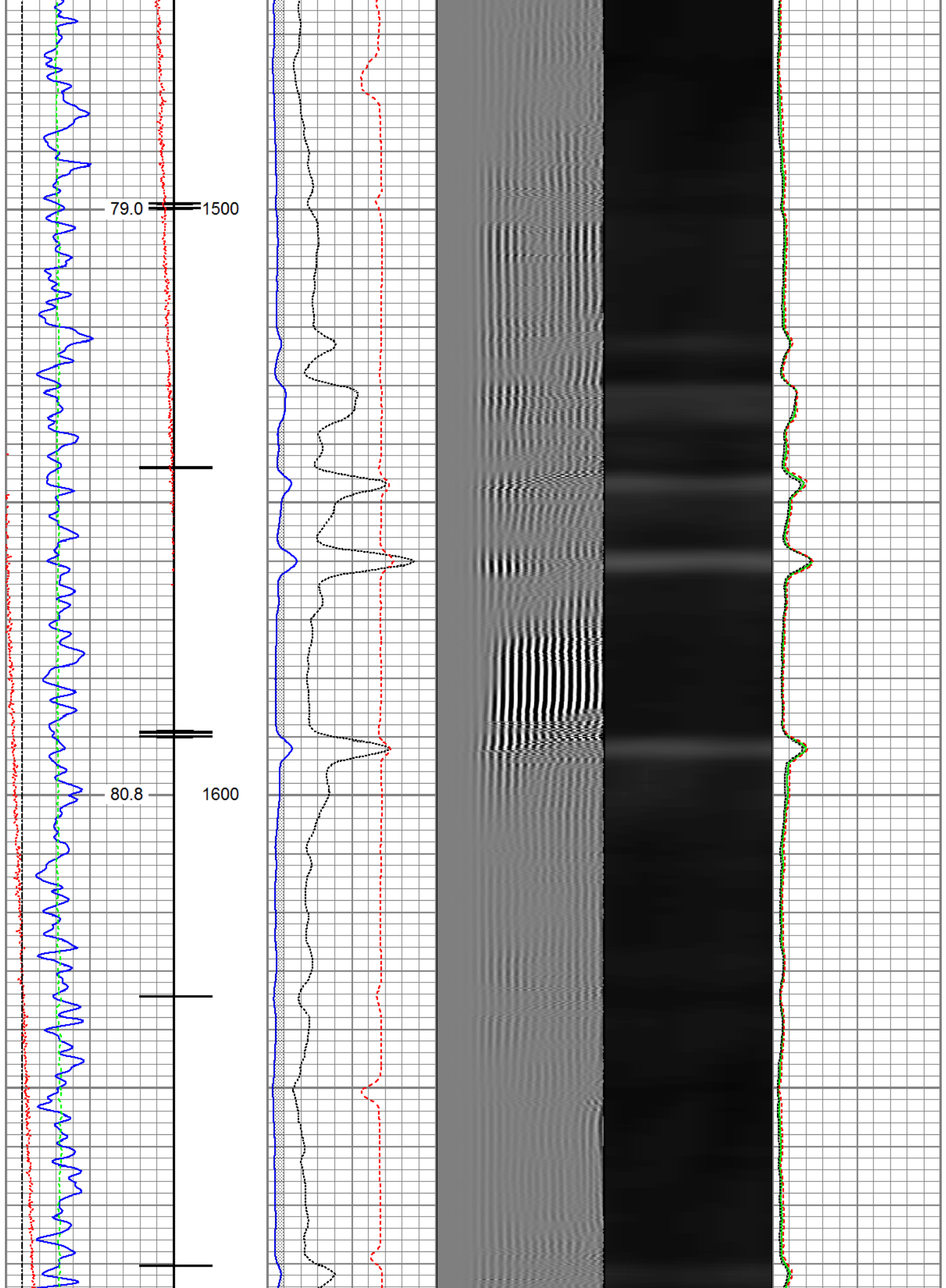


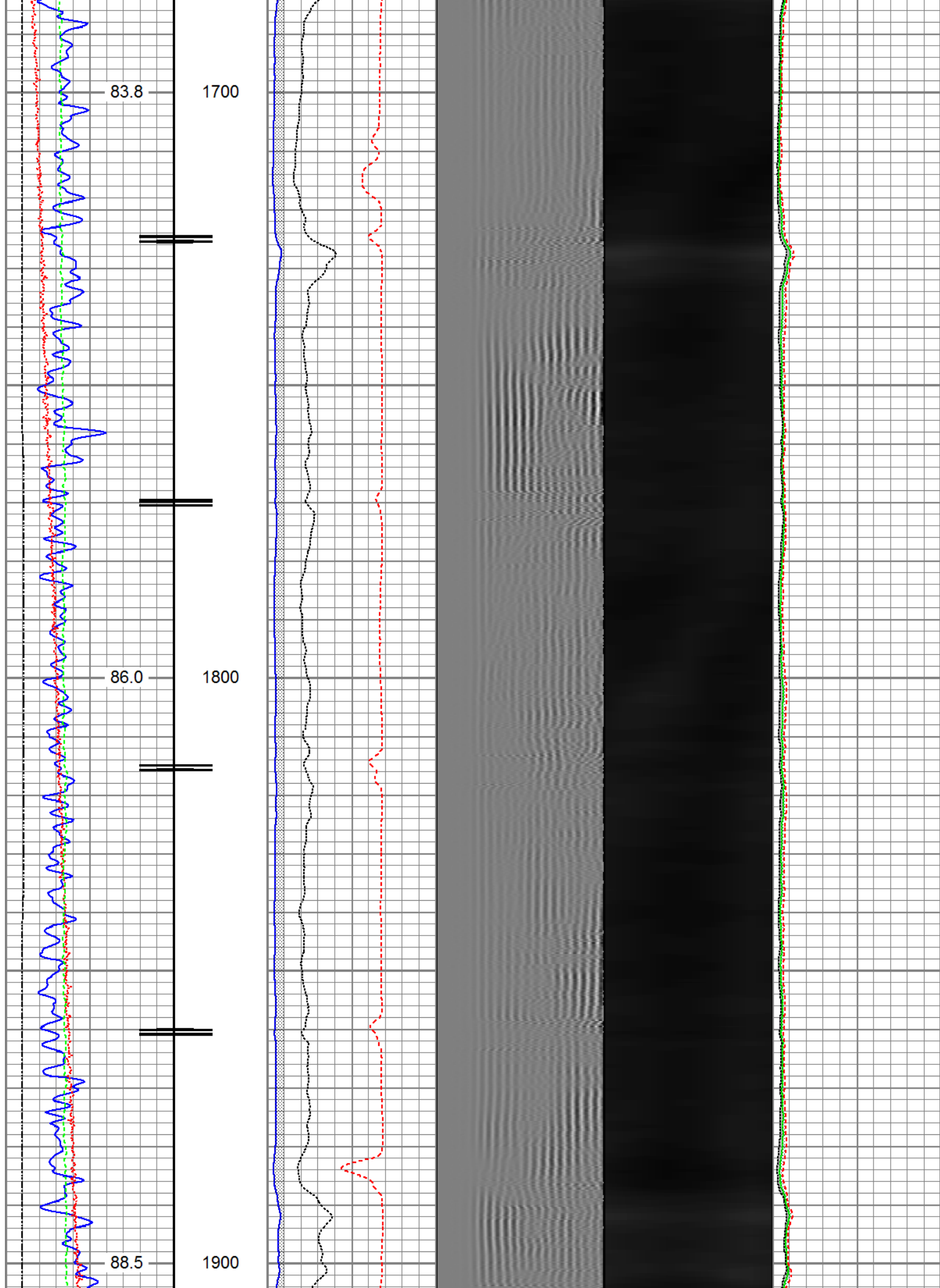


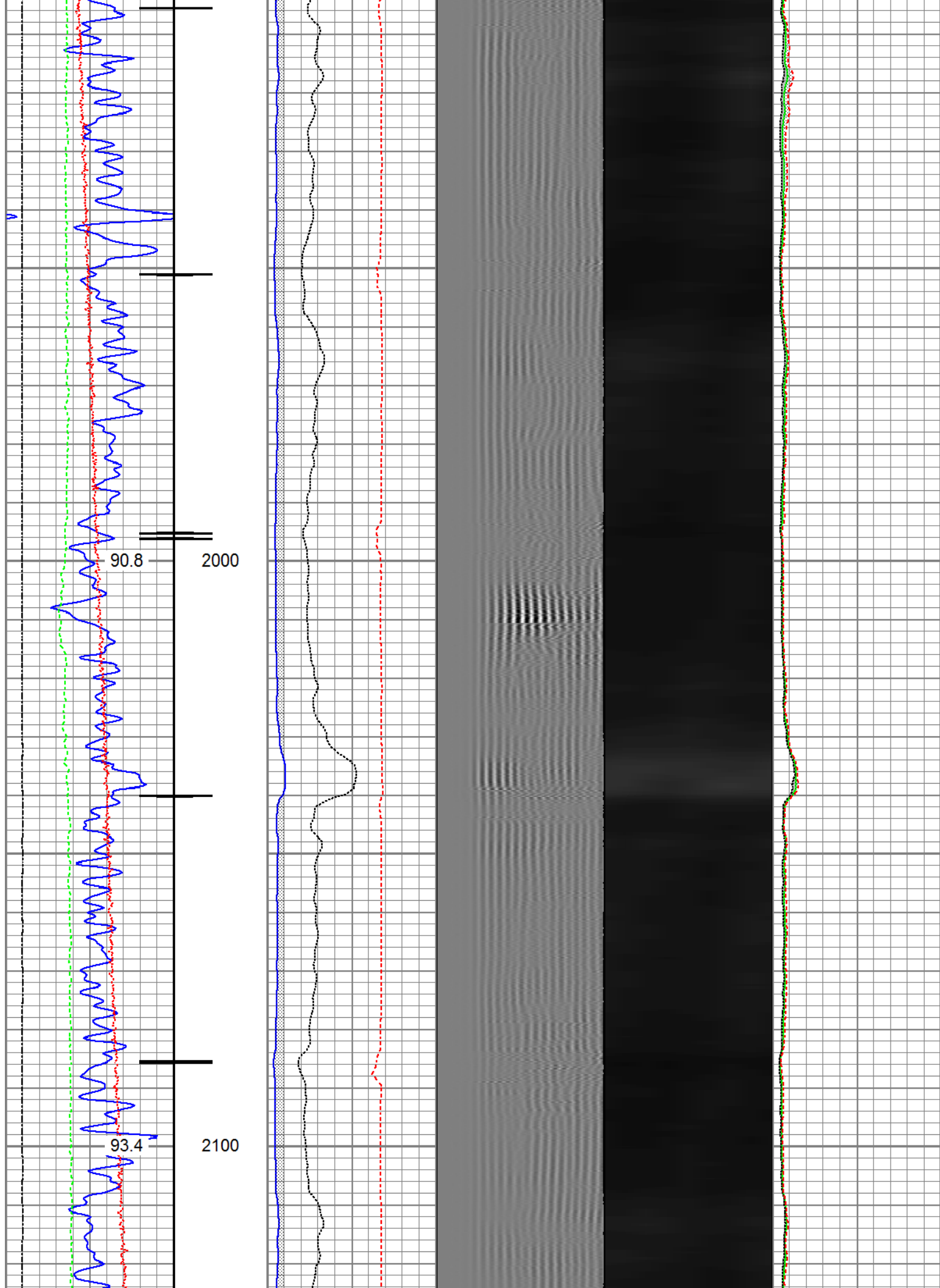


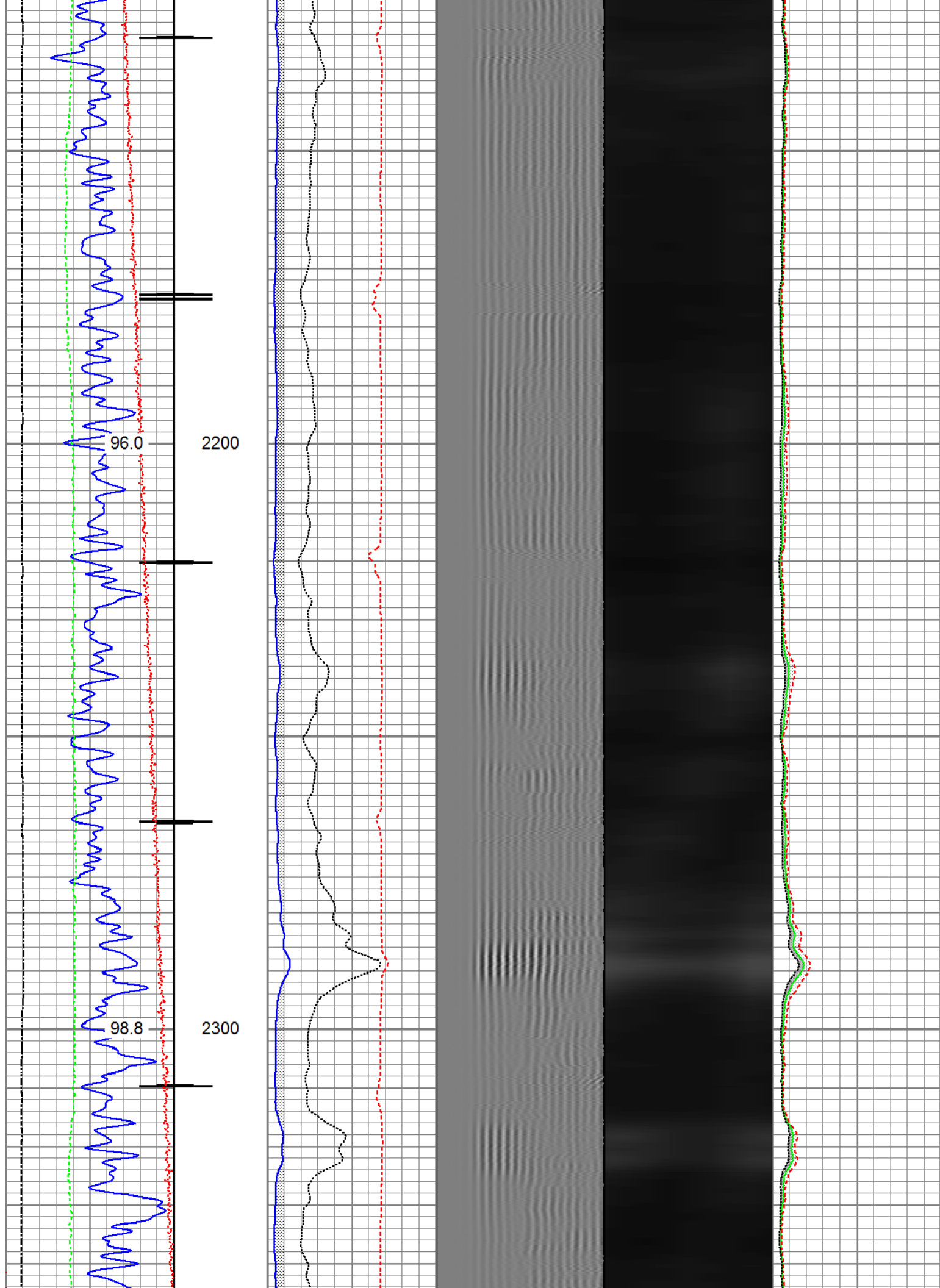


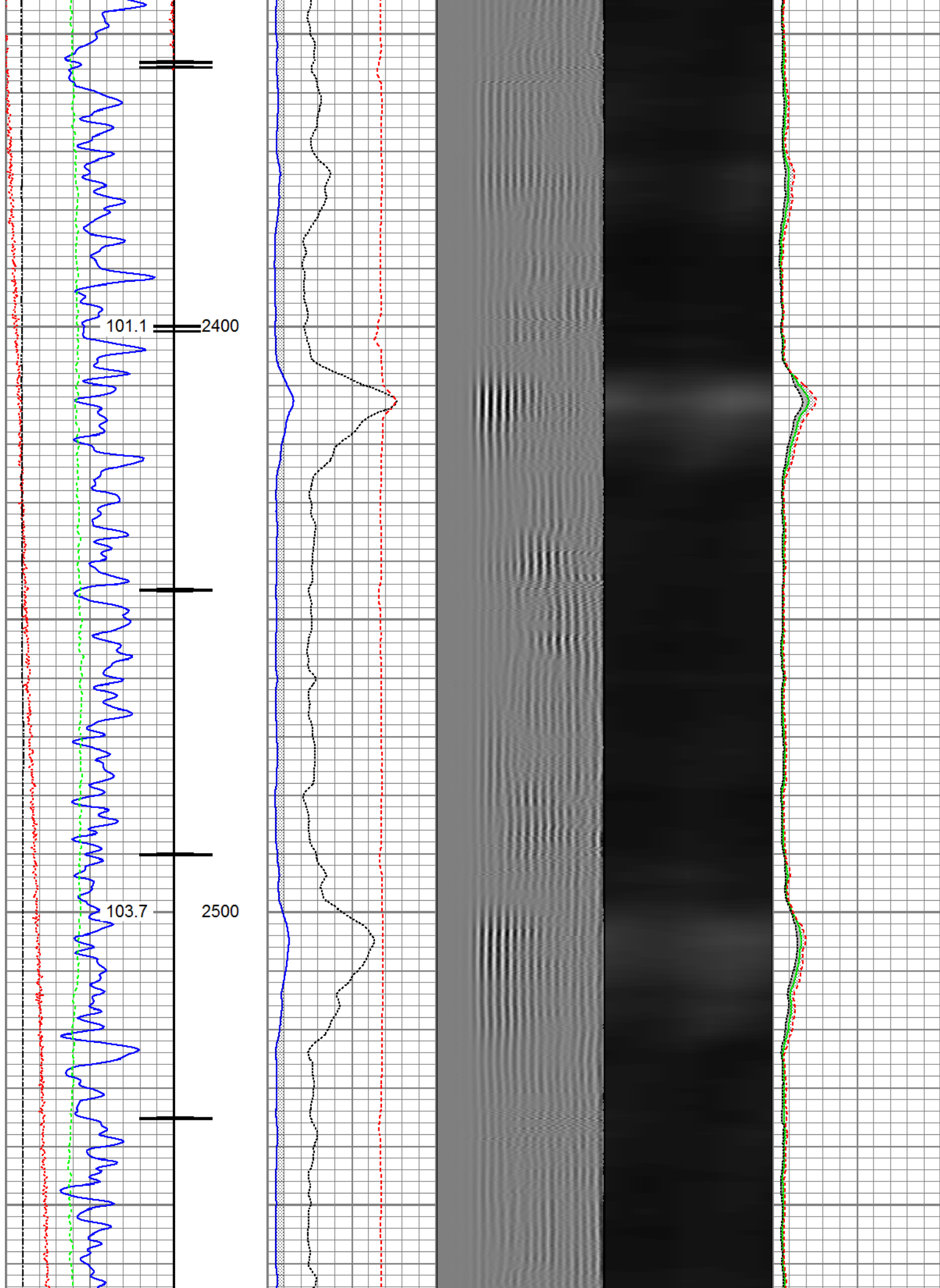


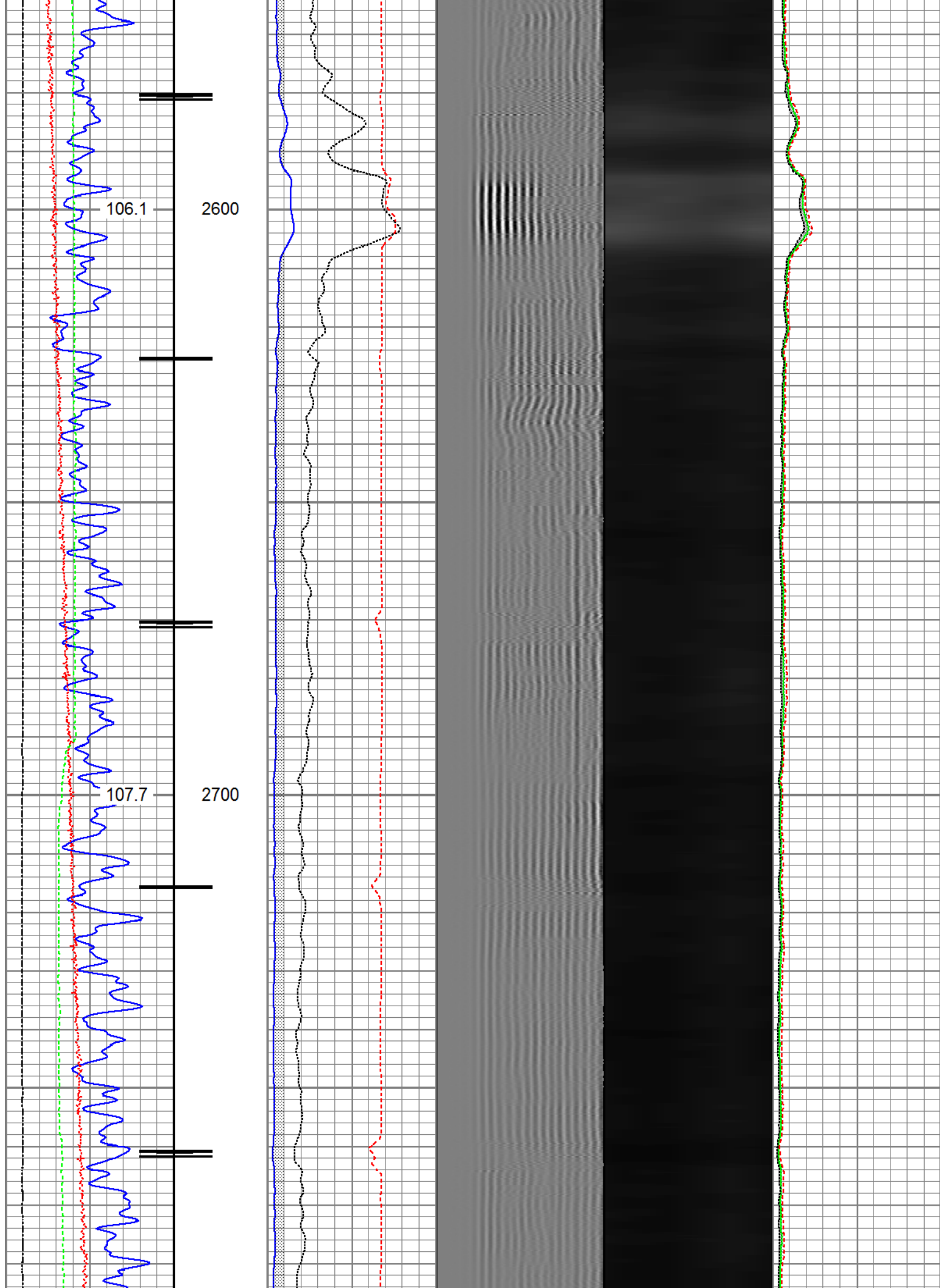


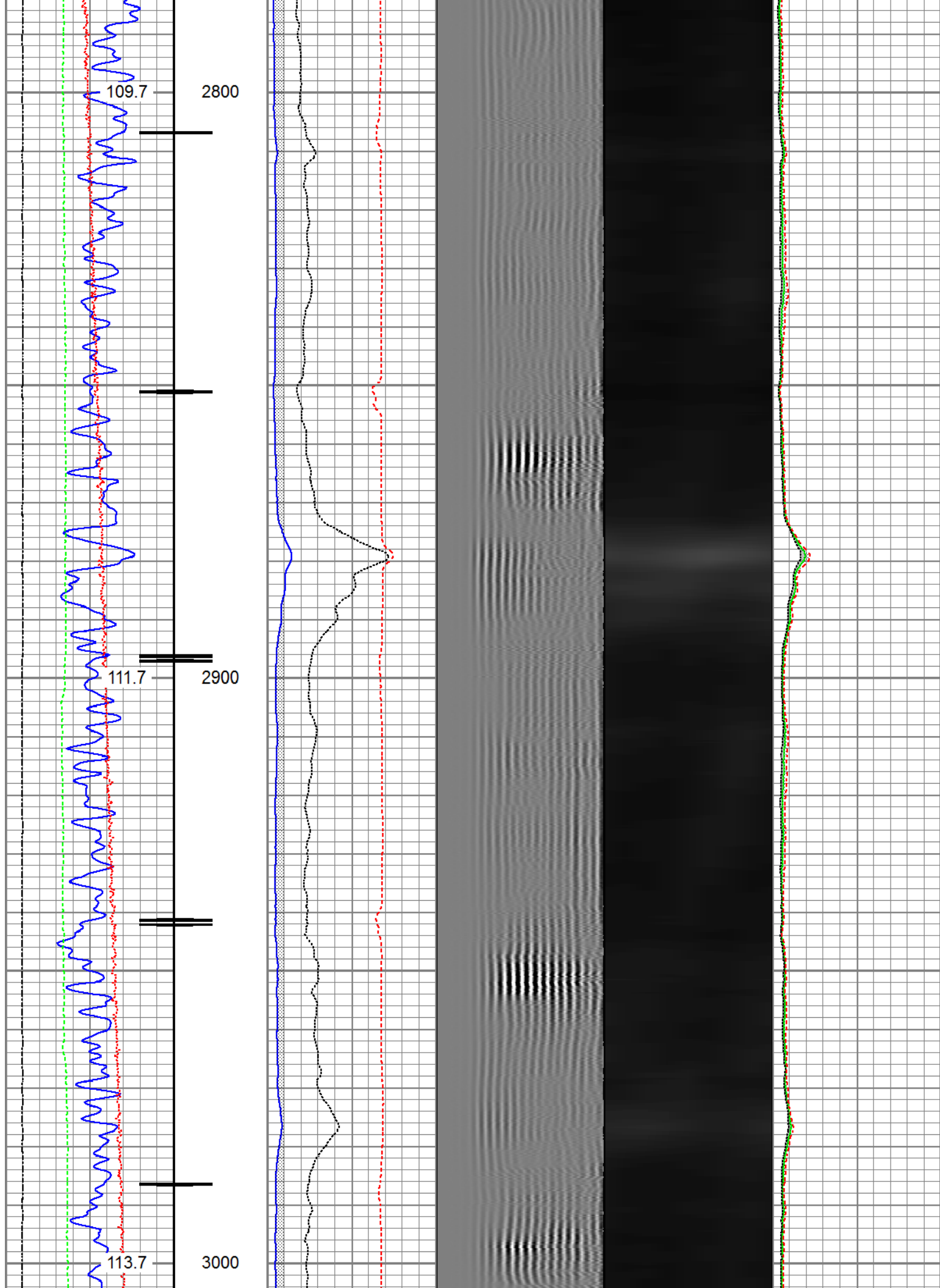


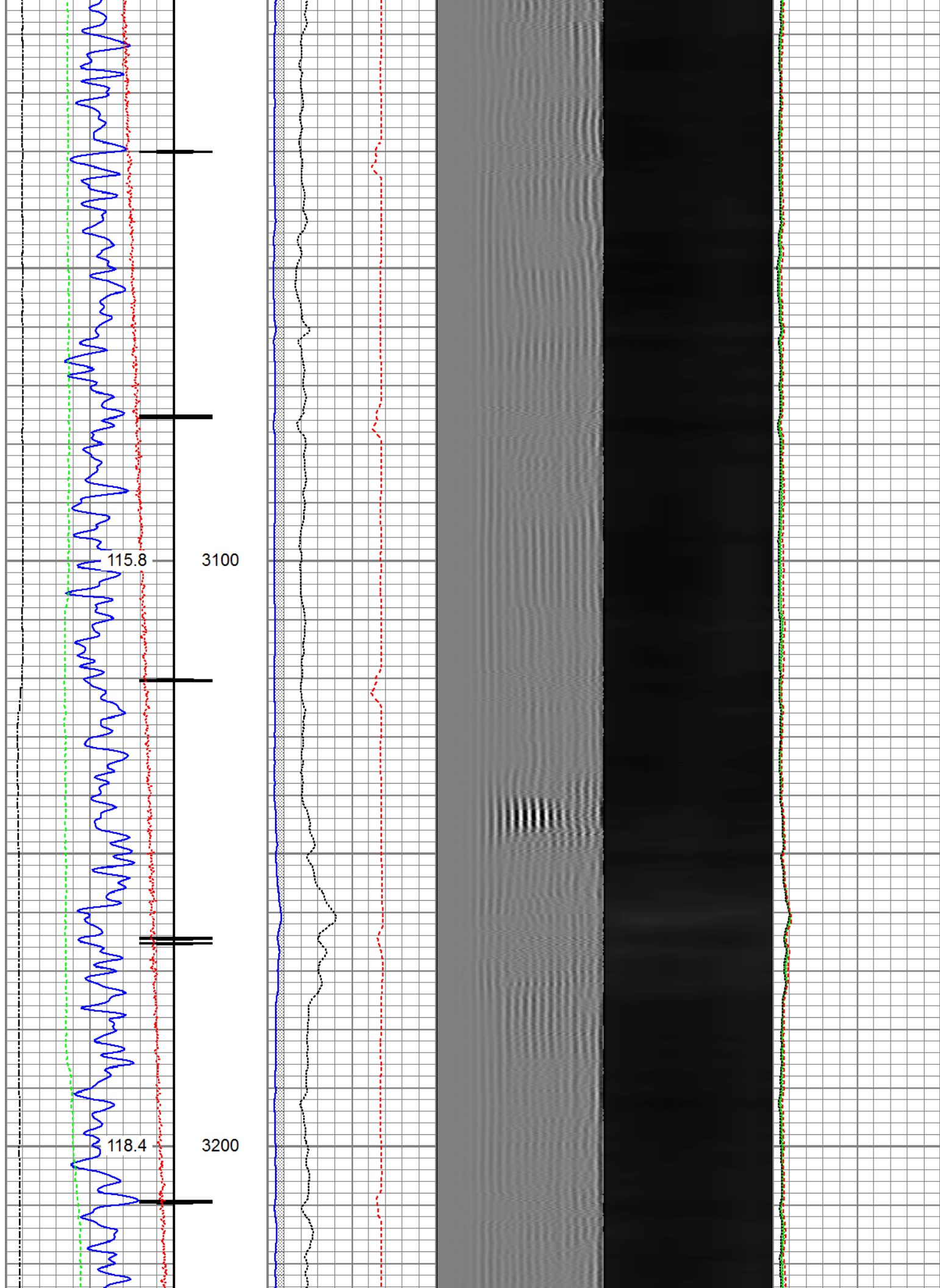


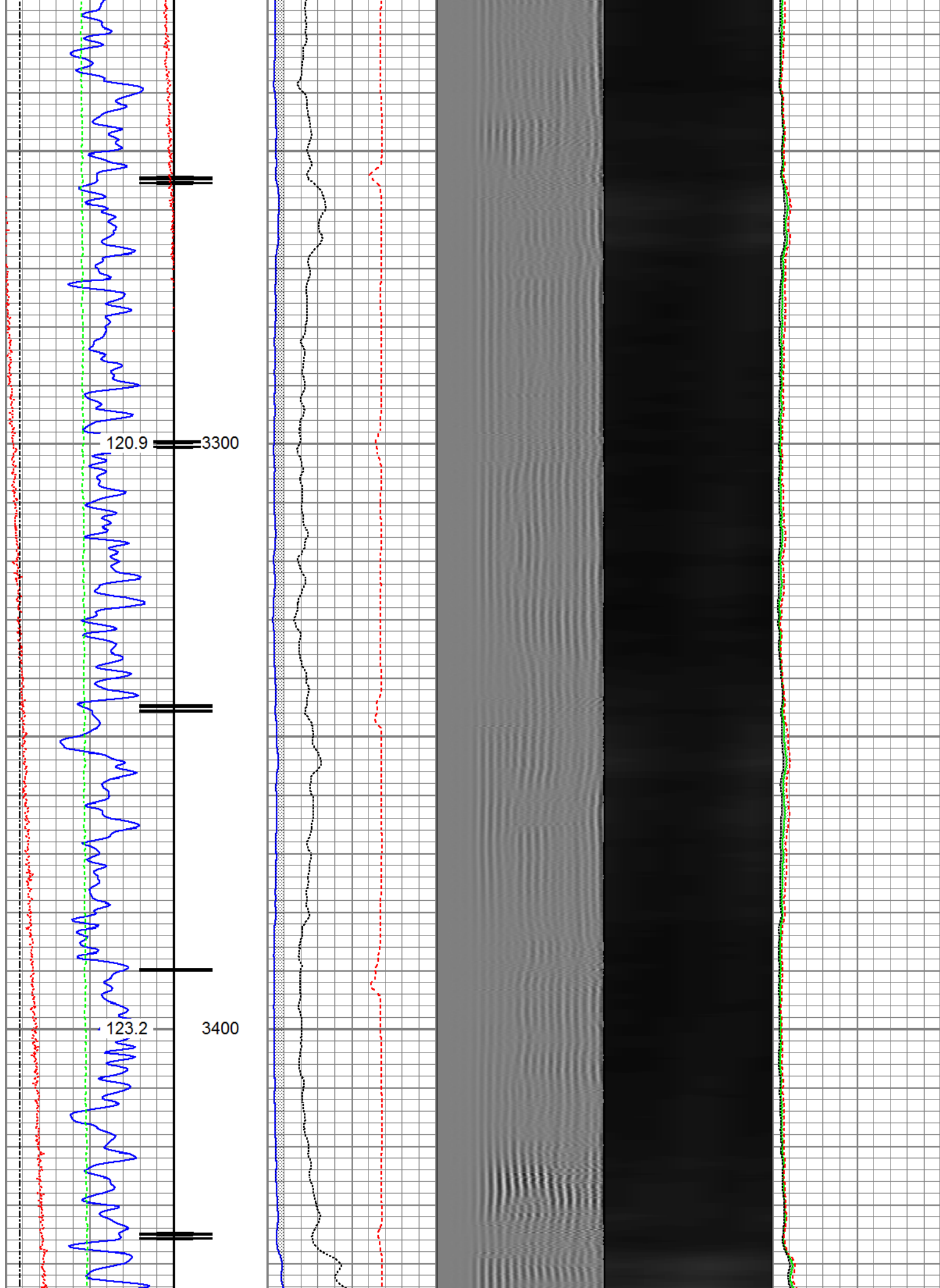


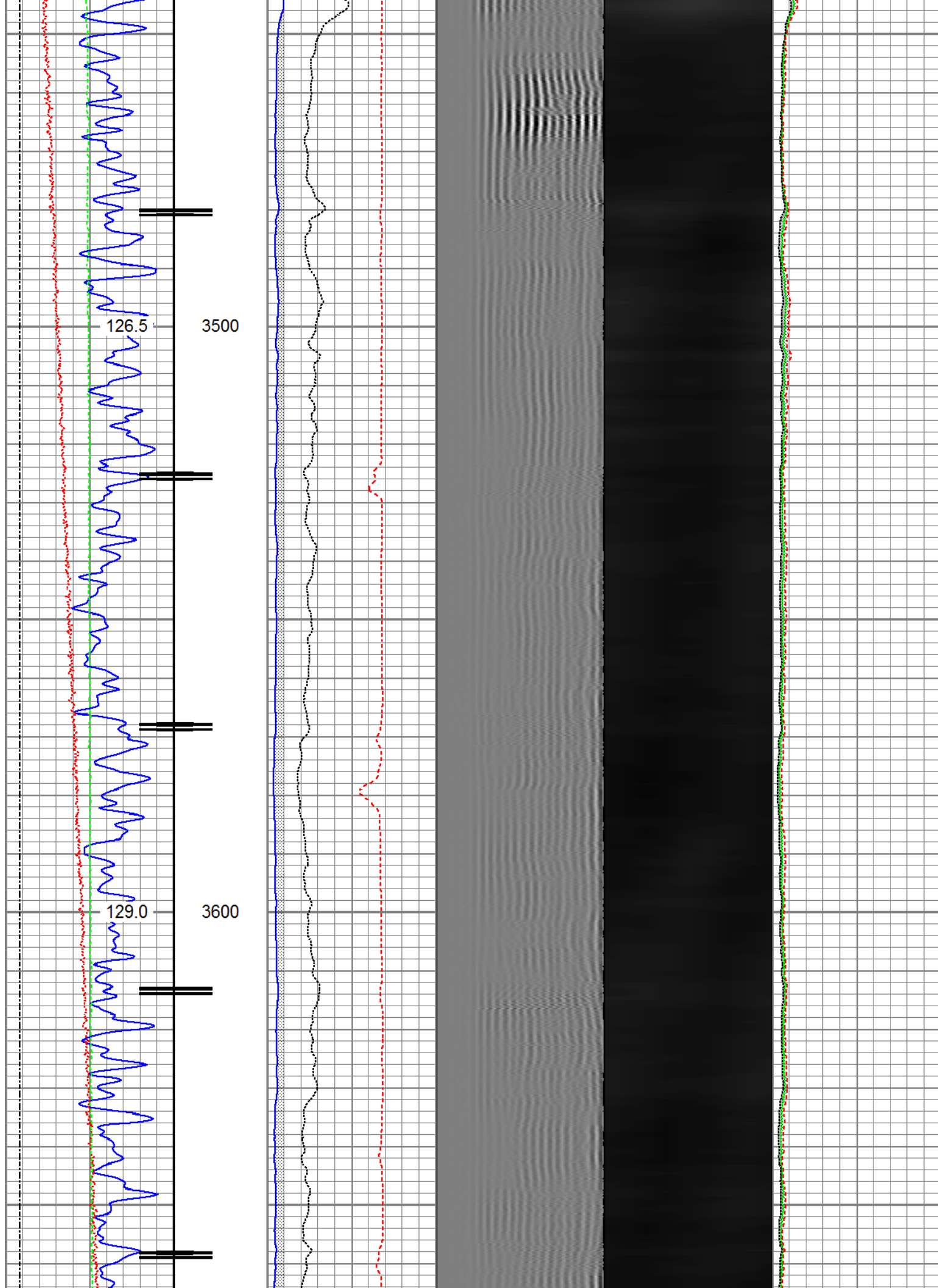


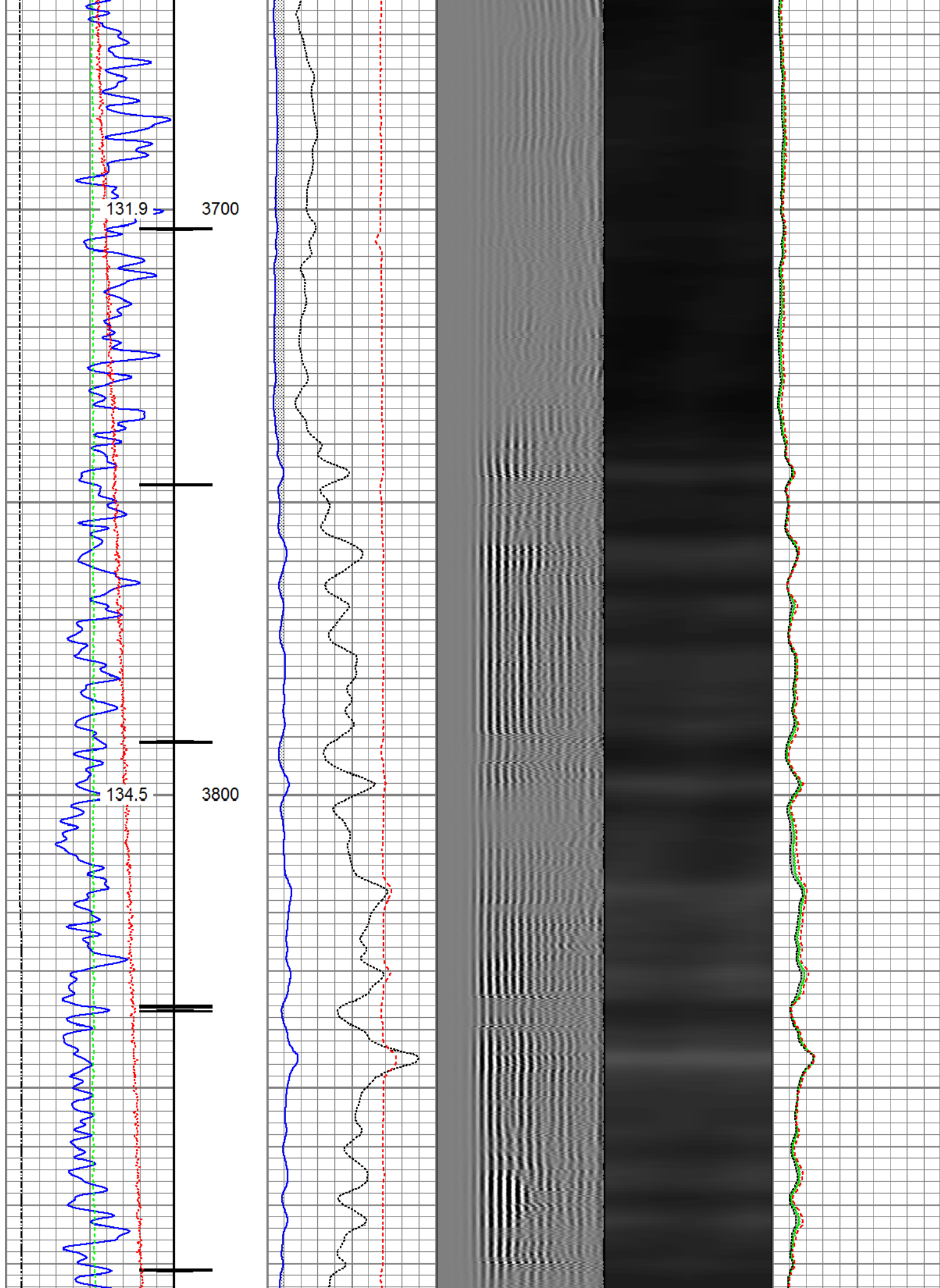


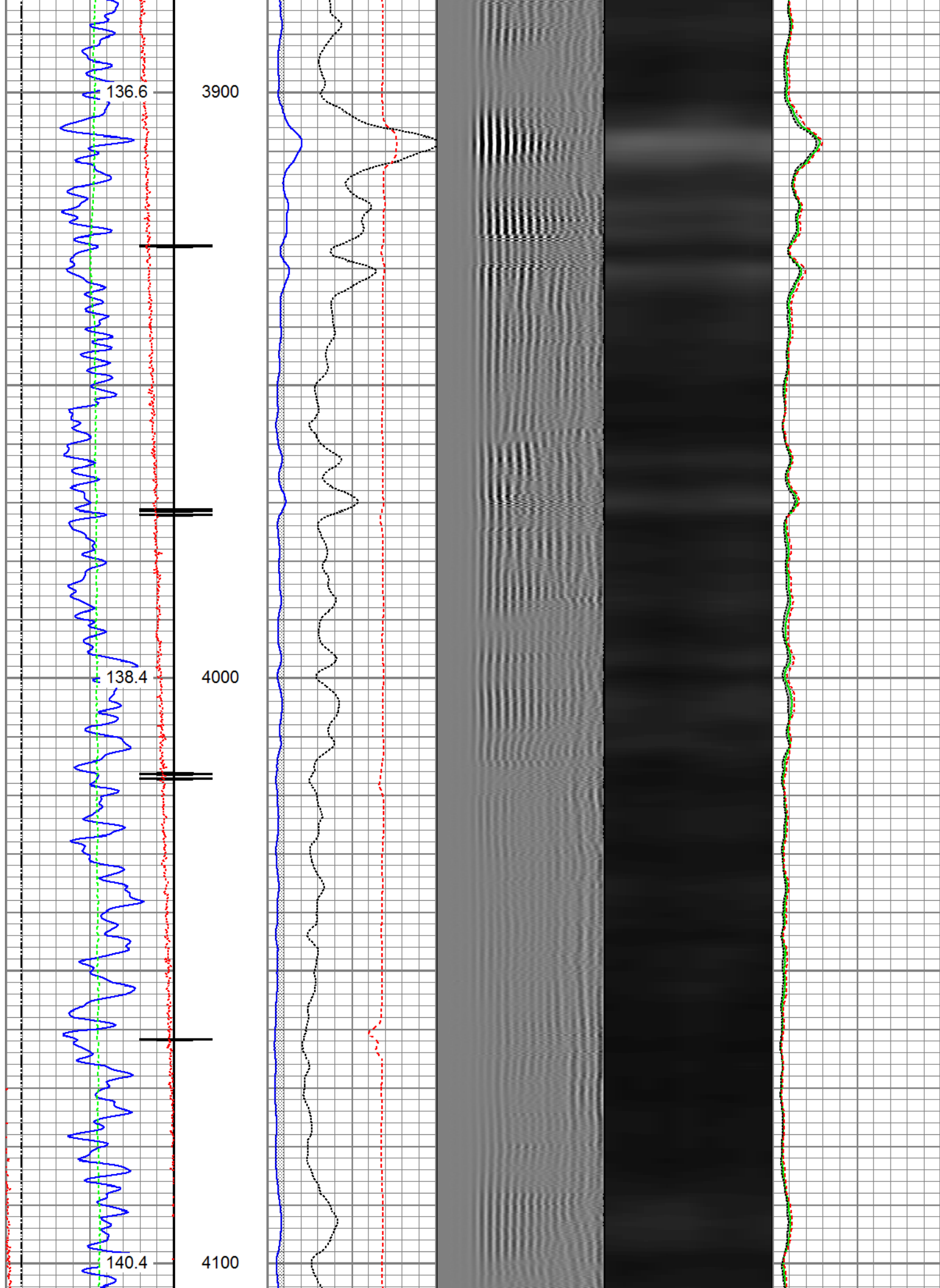


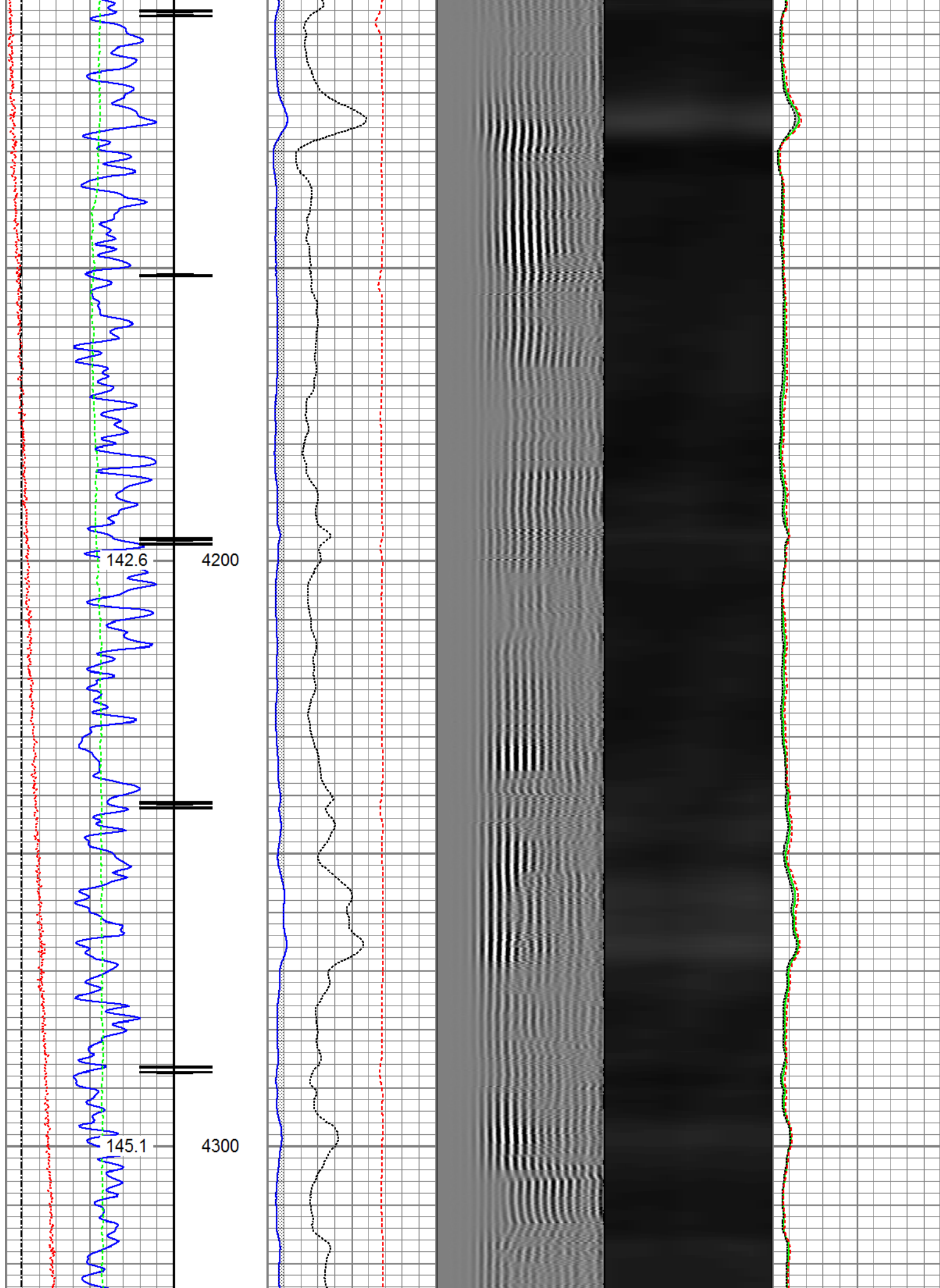


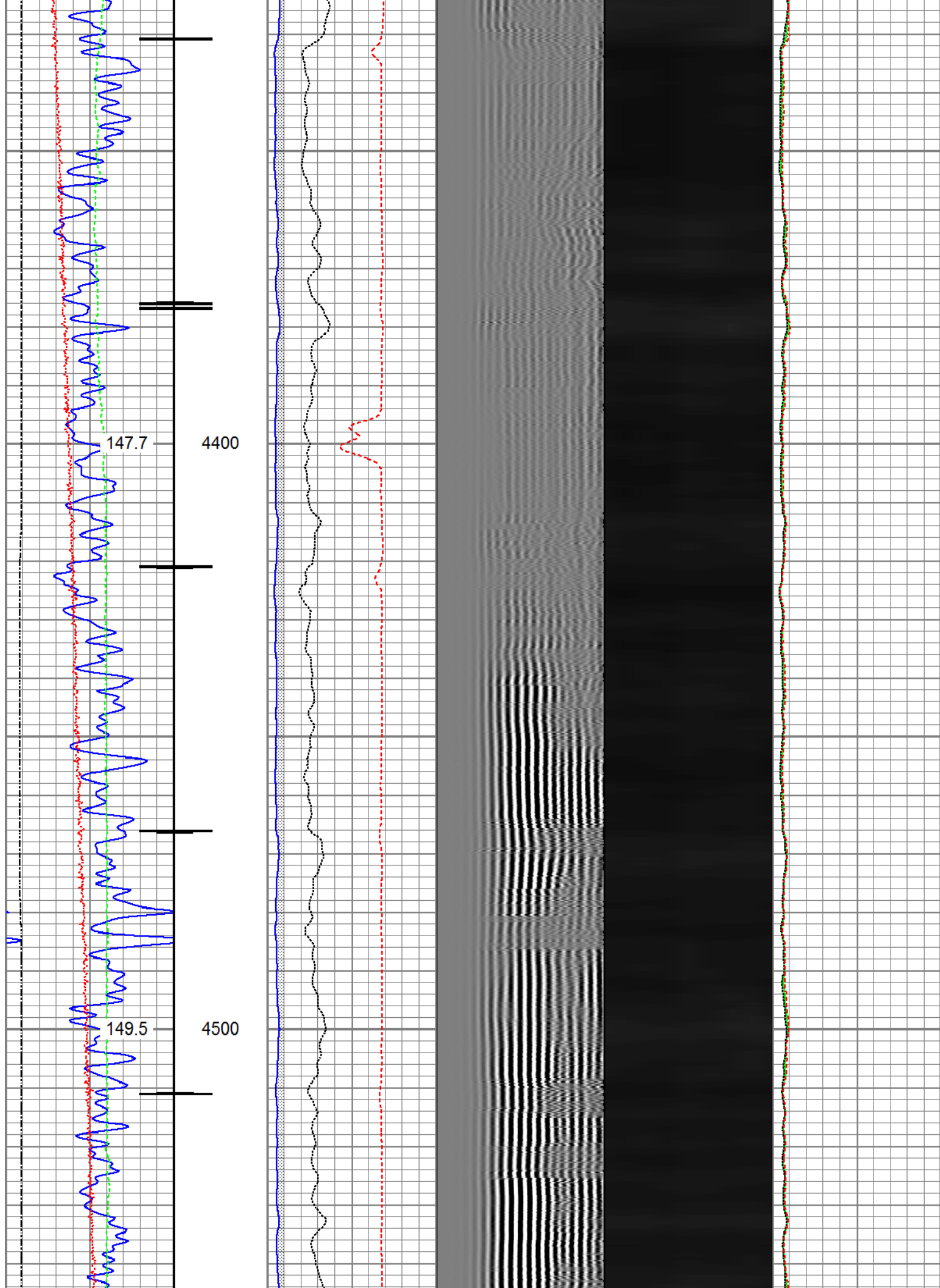


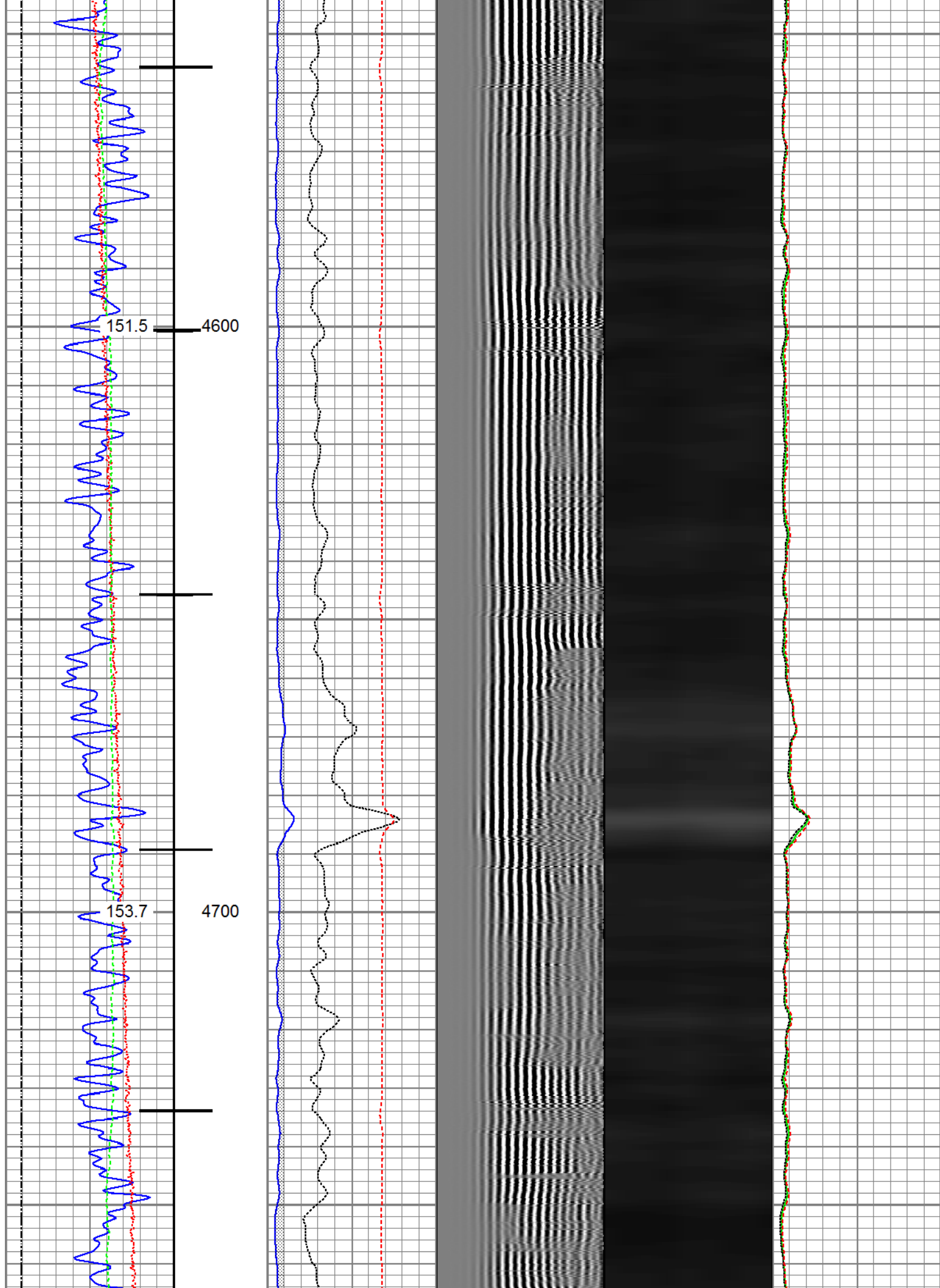


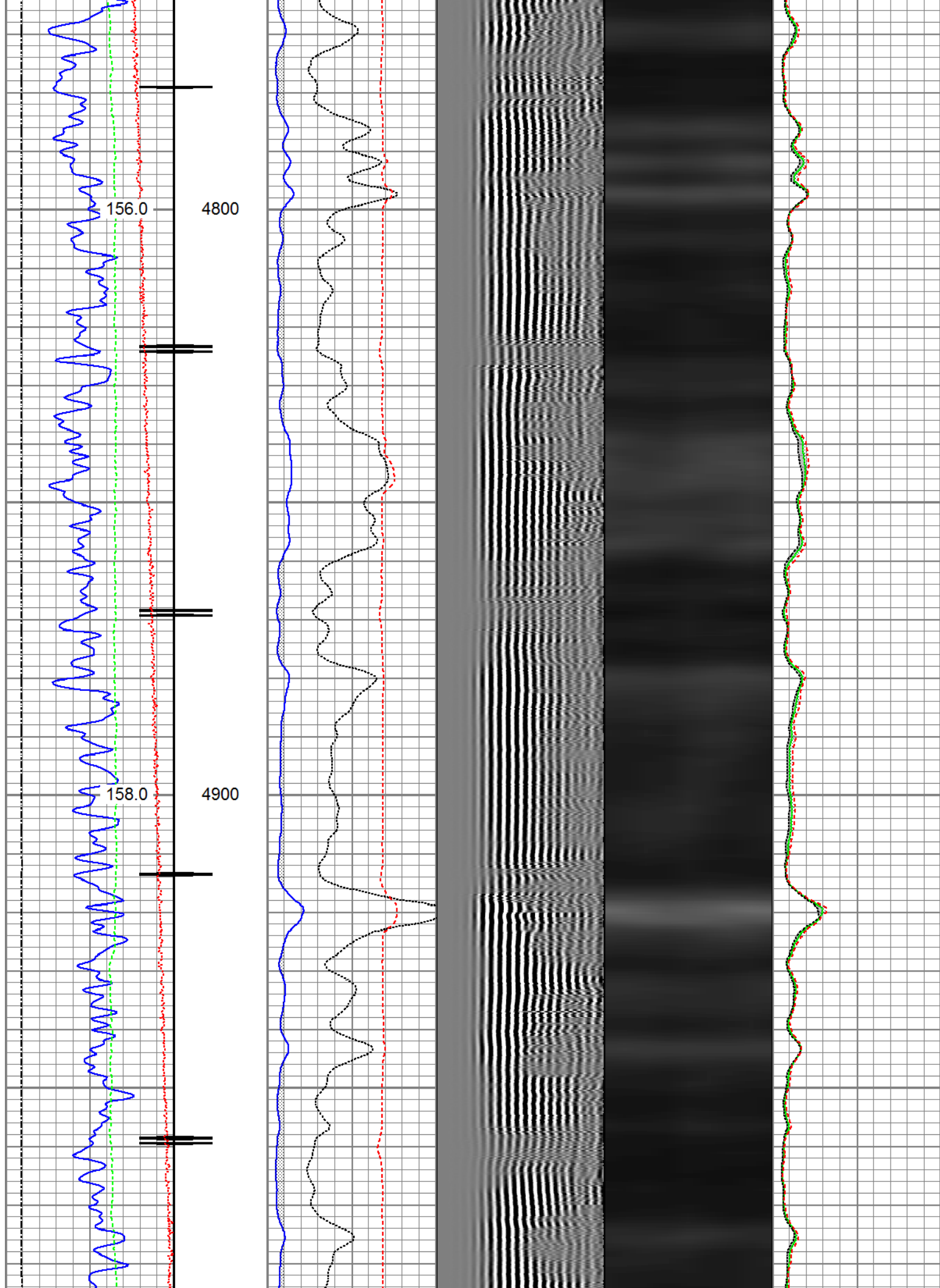


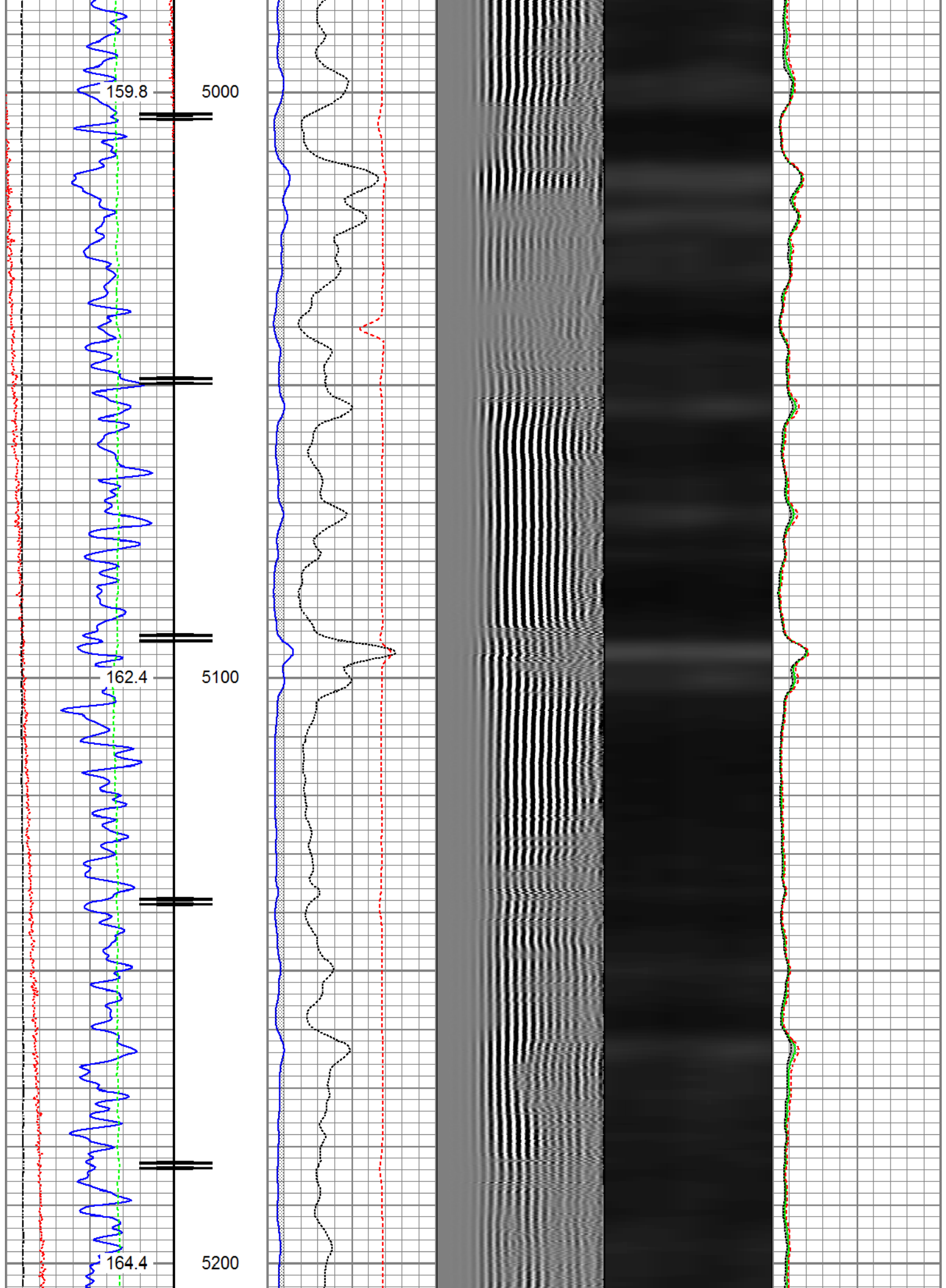


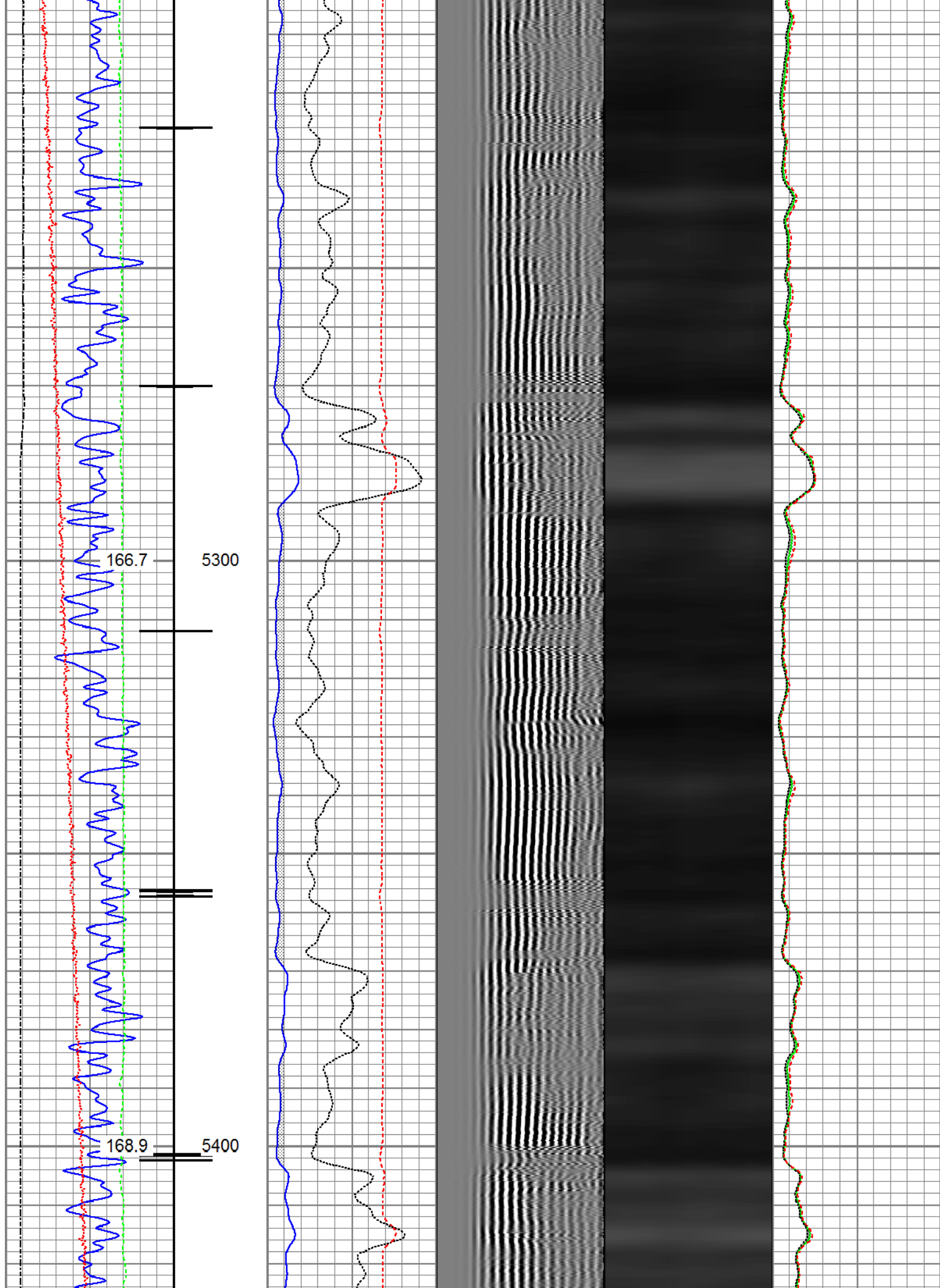


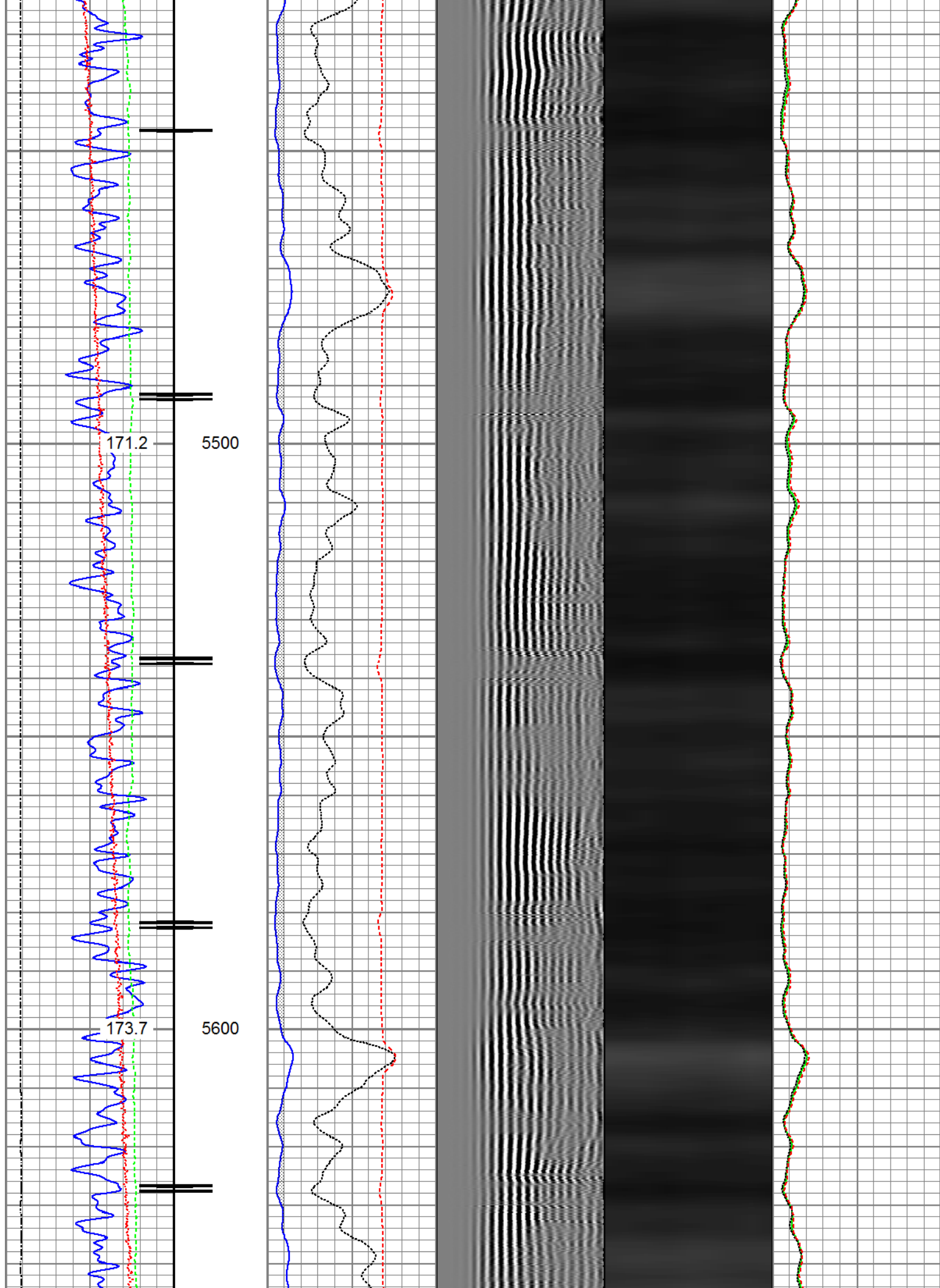


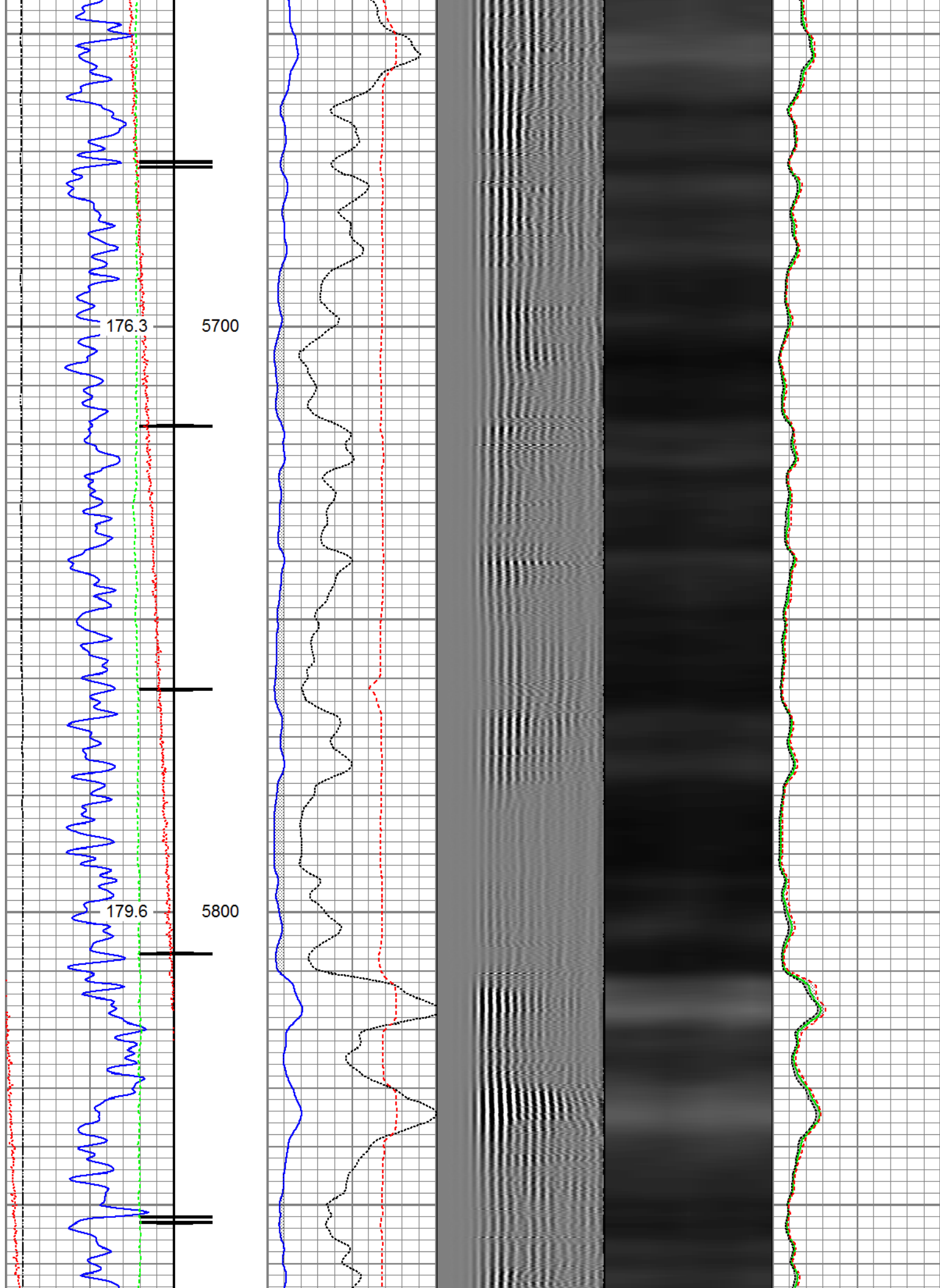


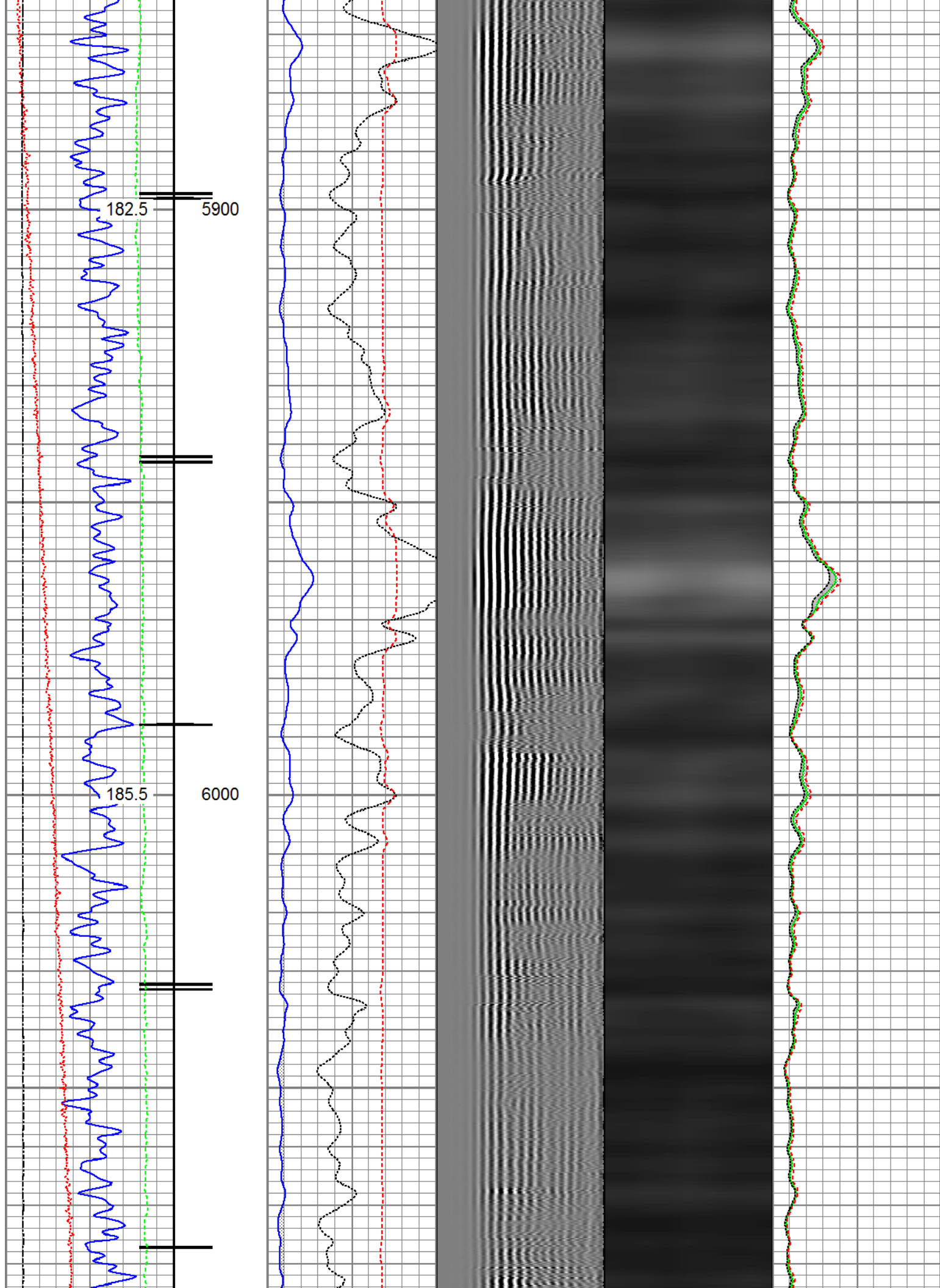


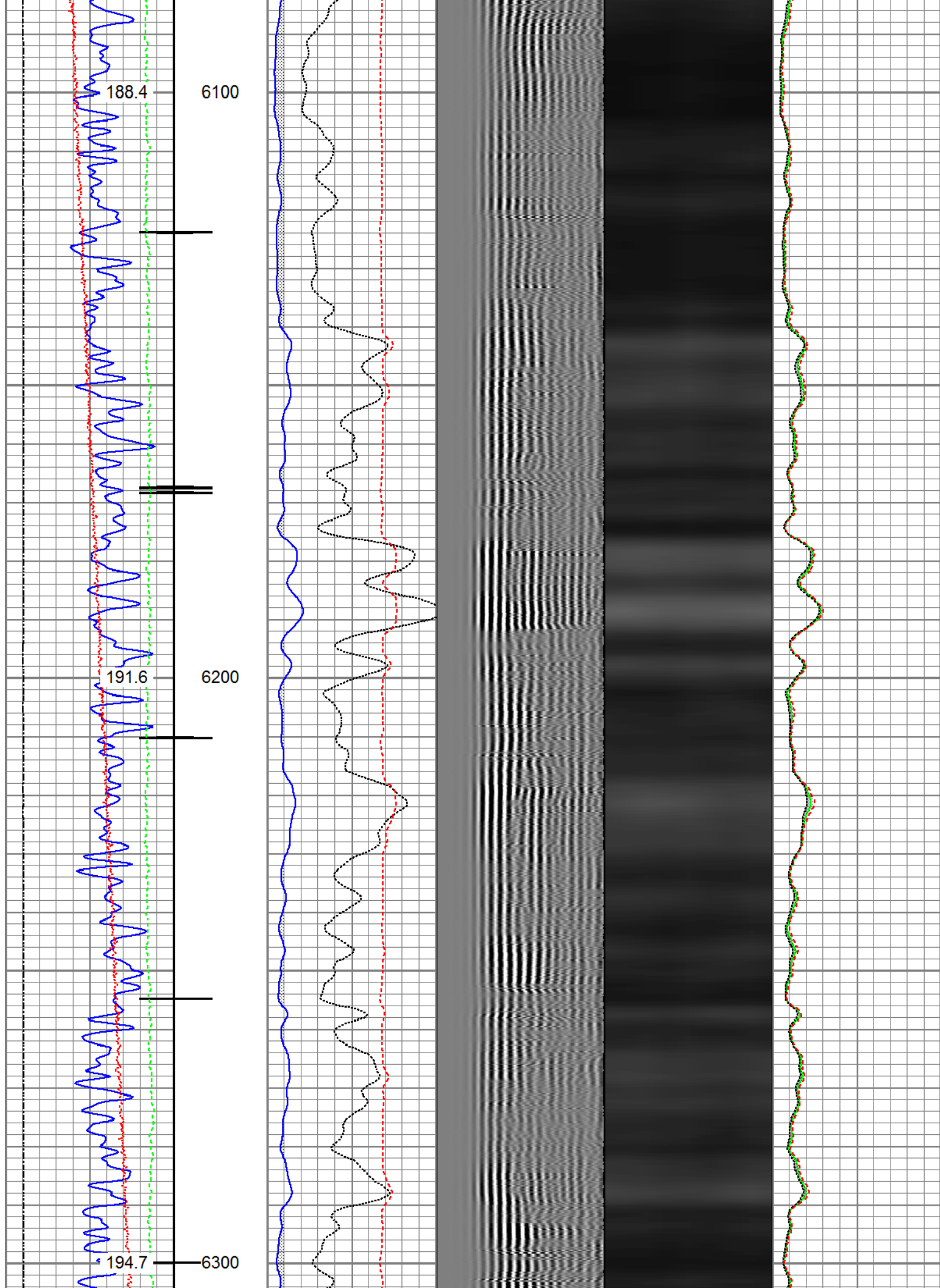


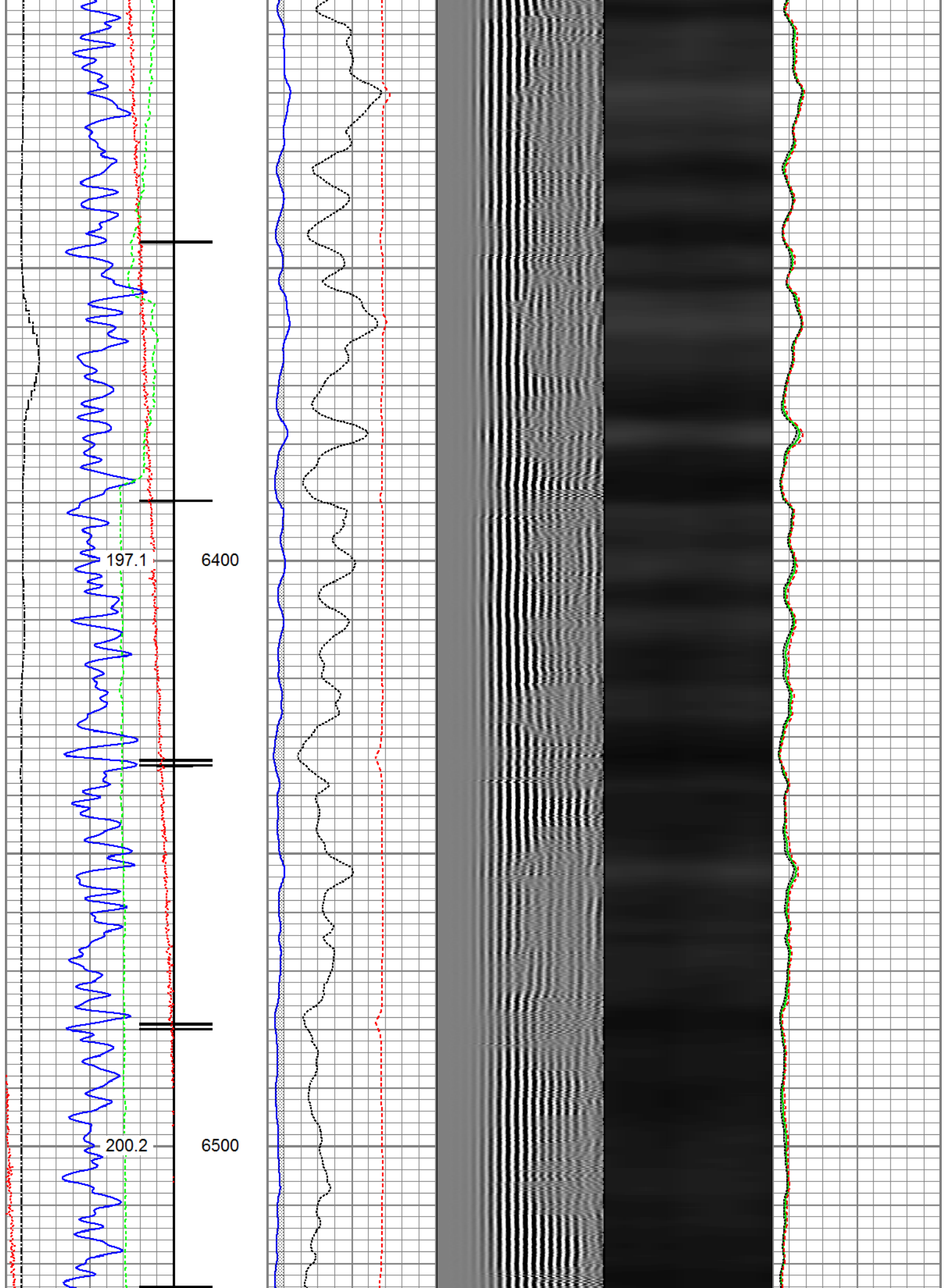


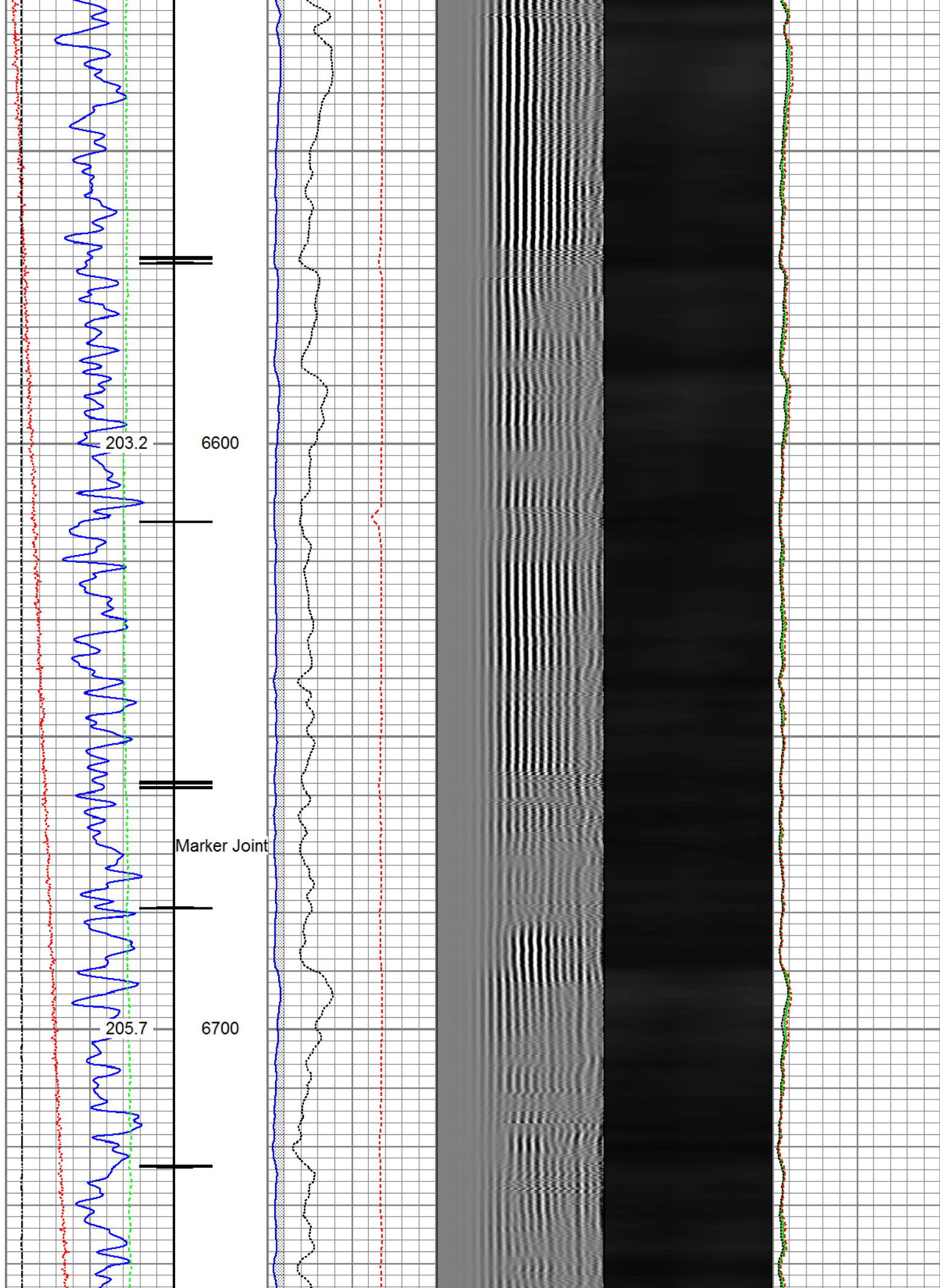


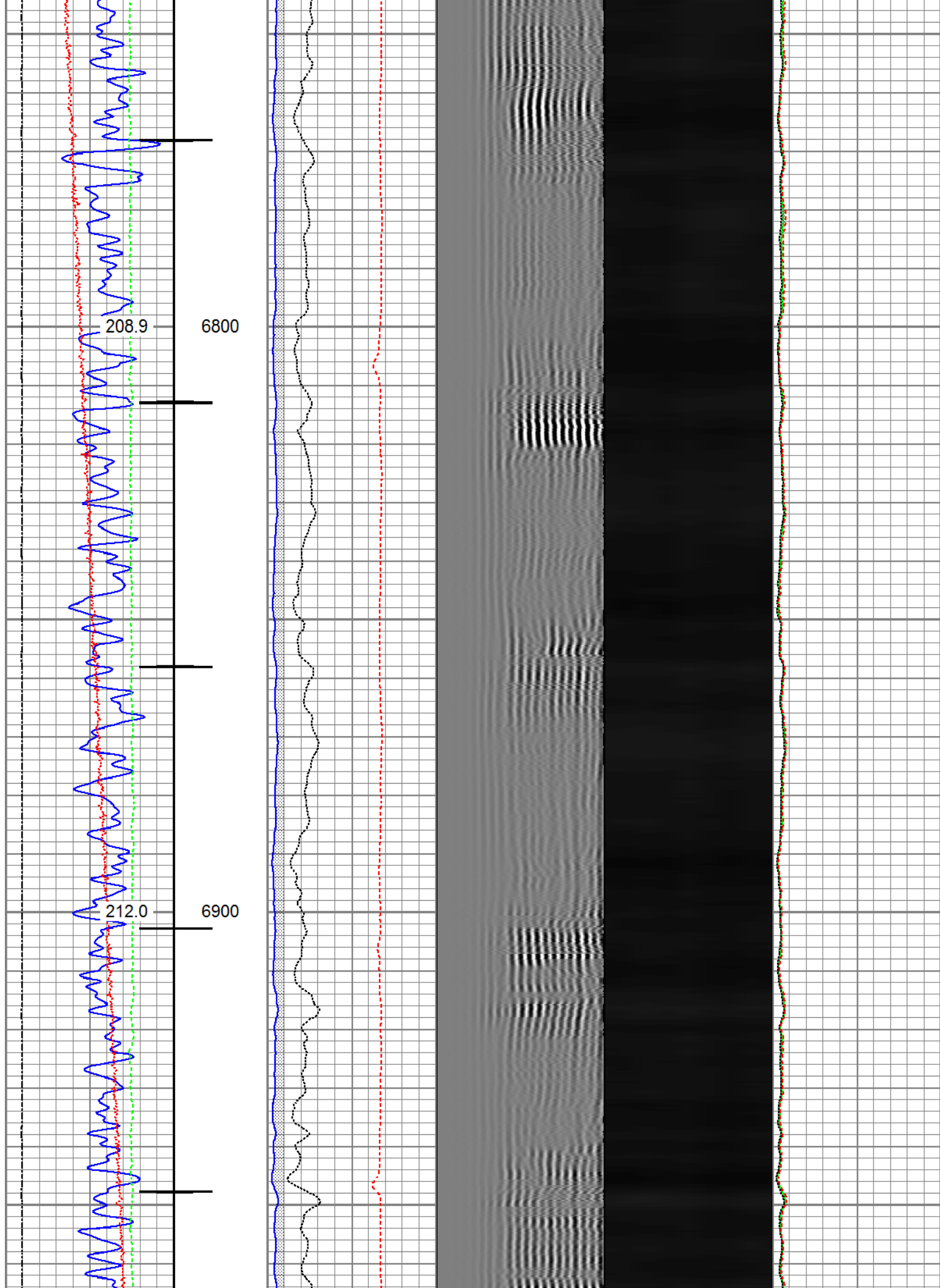


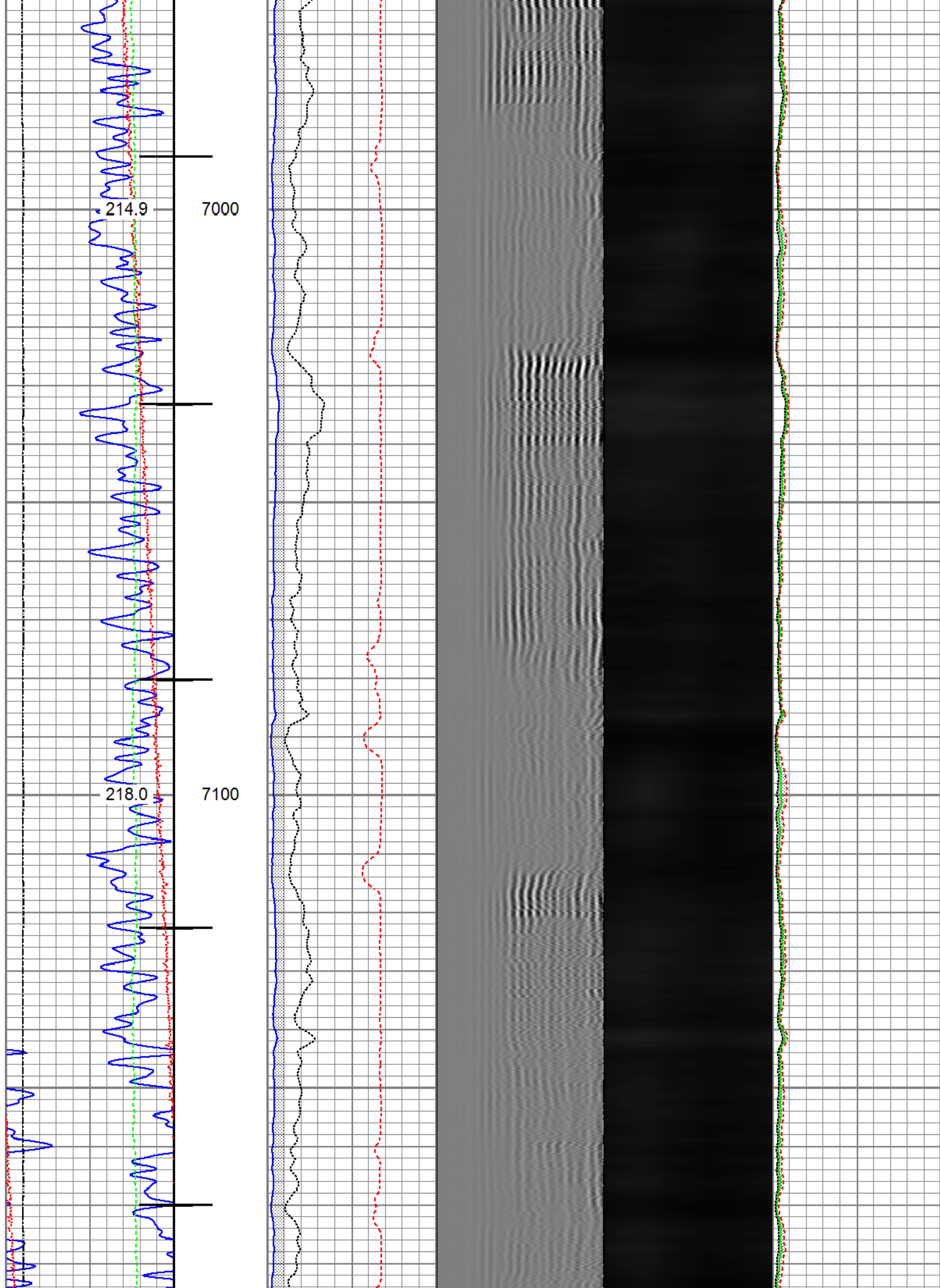


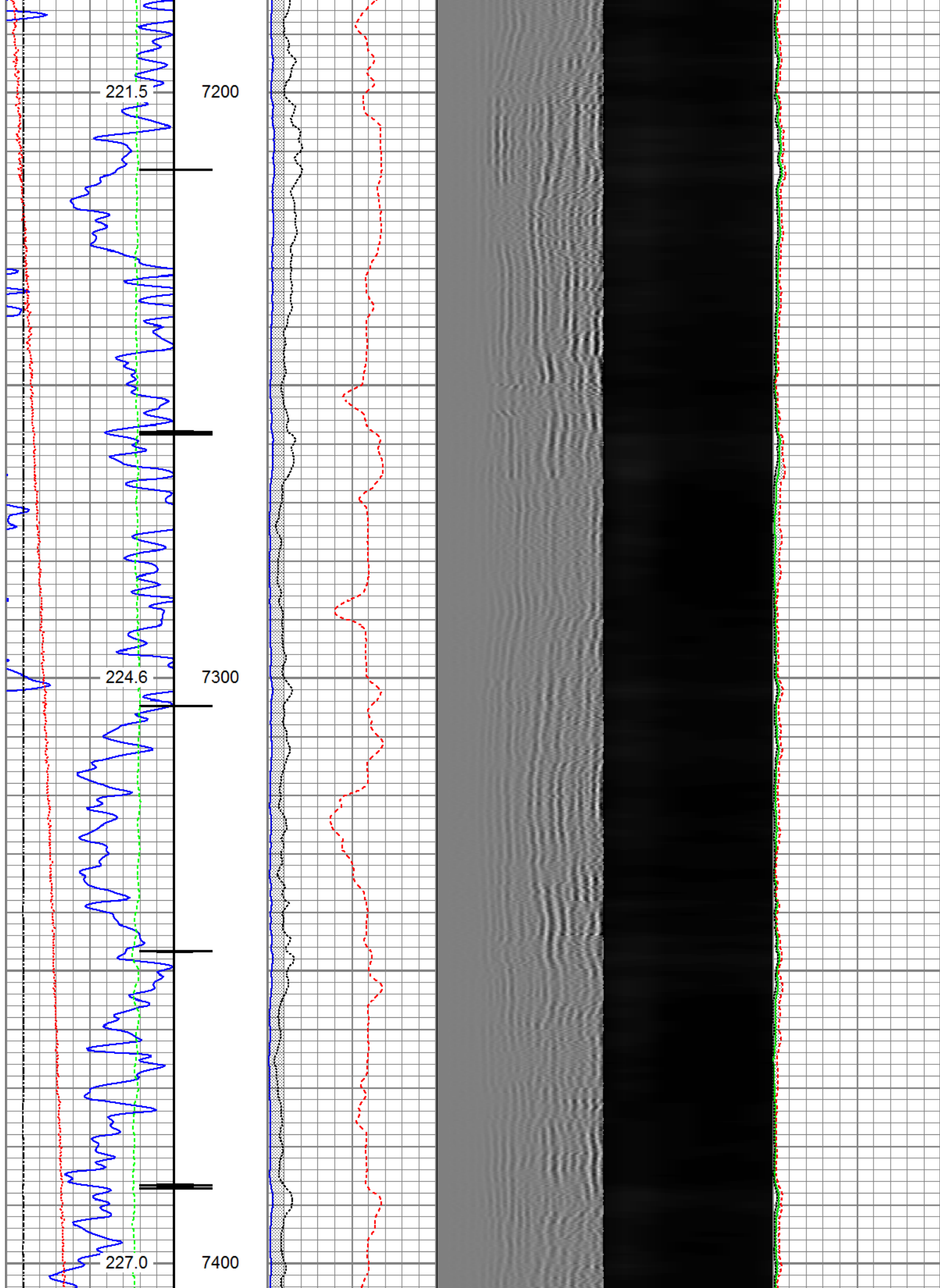


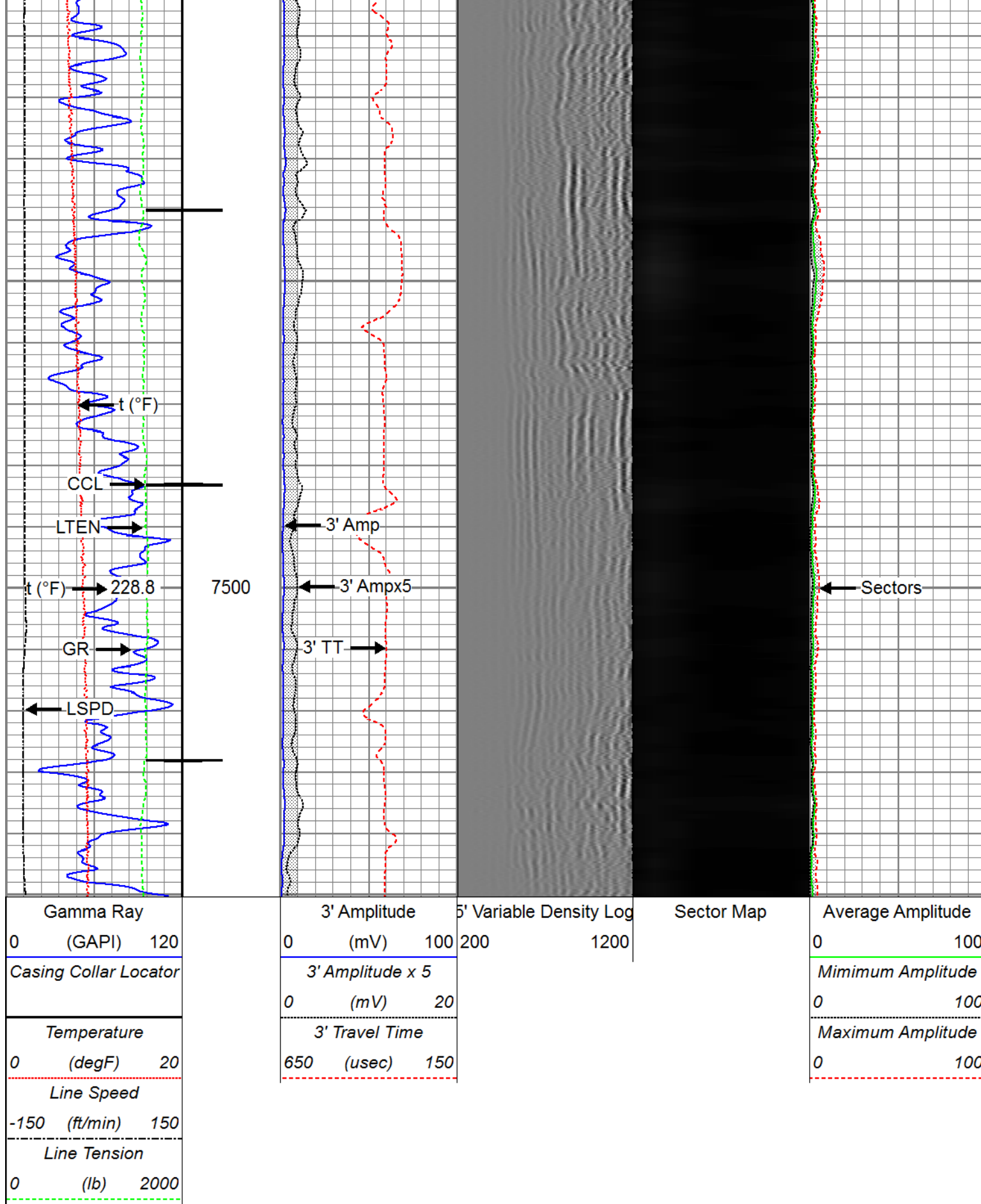






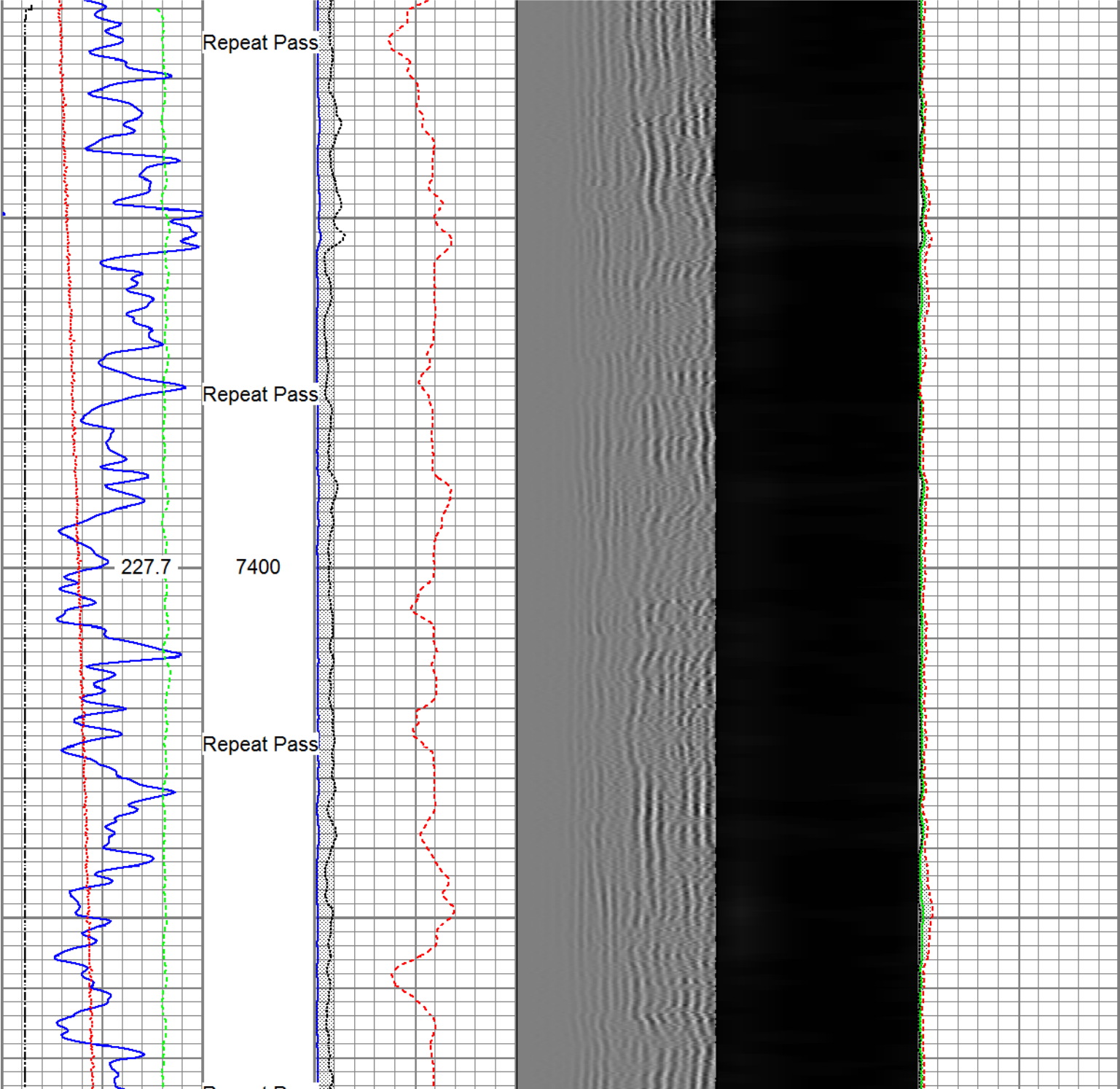


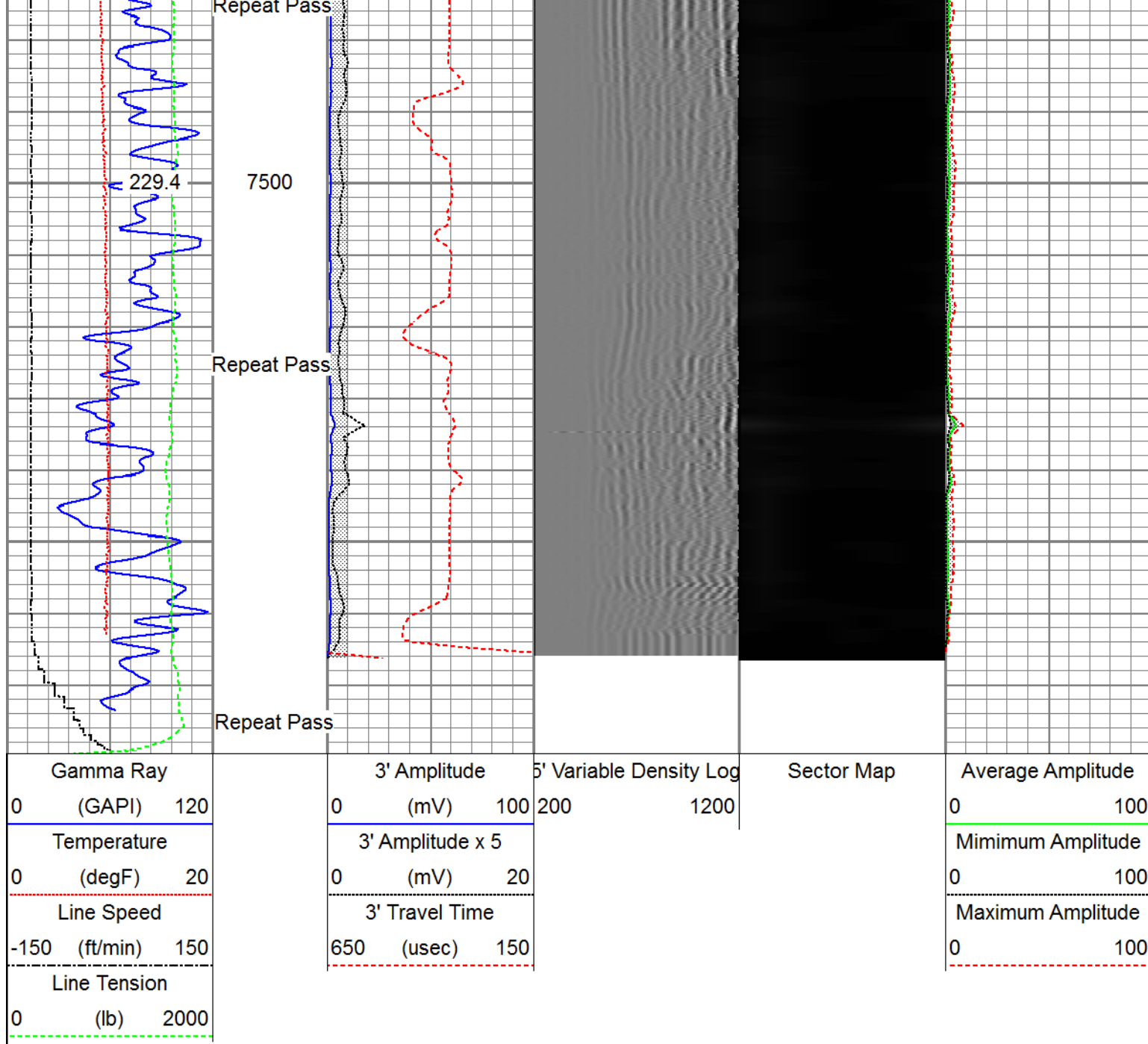


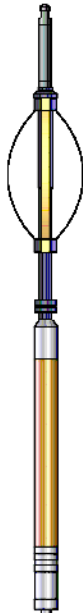


Database File	anadarko_wilson_ranch_12c_27hz_rcbl_1_feb_2017\processed_0512341318_anadarko_wilson ranch
Dataset Pathname	pass3
Presentation Format	ros_radri
Dataset Creation	Wed Feb 01 10:31:54 2017
Charted by	Depth in Feet scaled 1:240

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	1.69	5.40
			Electric Cable Head with 1" Fishing Neck			
			Probe_ELine_BowSpring_Centralizer-P_EB	2.8875	2.75	20.00
Temp	16.72		Probe 2-3/4" Electric Inline Bowspring Centralizer			

WVFS8	14.55		Probe_RADII-C-P_RBT_2750 (FW1302-0029.19) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	2.75	105.00
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_EB52.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75
DCCL	6.51		Probe_GR_CCL-P_CGR_2750_S (FW1211-4.54) Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	55.00
CCL	6.51				
GR	3.77				
			Probe_ELine_BowSpring_Centralizer-P_EB52.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
Dataset:		PROCESSED_0512341318_Anadarko_Wilson Ranch 12C-27HZ_02-01-17_RBL.db: field/well/run1/pass4			
Total length:		23.40 ft			
Total weight:		225.40 lb			
O.D.:		2.75 in			

Calibration Report		
Database File	C:\ProgramData\Warrior\Data\anadarko_wilson_ranch_12c_27hz_rcbl_1_feb_2017\PROCESSED_0512341318_Anadarko_Wilson Ranch 12C-27HZ_02-01-17_RBL.db: field/well/run1/pass4	
Dataset Pathname	pass4	
Dataset Creation	Wed Feb 01 10:35:52 2017	
Gamma Ray Calibration Report		
Serial Number:	FW1211-081	
Tool Model:	P_CGR_2750_S	
Performed:	Sat Jan 07 07:43:48 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6061	GAPI/cps

Serial Number: FW1302-002
 Tool Model: P_RBT_2750

Calibration Casing Diameter: 5.500 in
 Calibration Depth: 1.417 ft

Master Calibration, performed Wed Feb 01 10:07:38 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.683	0.800	71.921	105.331	0.005
CAL	0.729	0.740				
5'	0.009	0.604	0.800	71.921	119.353	-0.215
SUM						
S1	0.006	0.643	0.000	100.000	157.153	-0.988
S2	0.008	0.612	0.000	100.000	165.534	-1.358
S3	0.008	0.630	0.000	100.000	160.842	-1.261
S4	0.008	0.680	0.000	100.000	148.791	-1.186
S5	0.008	0.761	0.000	100.000	132.763	-1.053
S6	0.008	0.794	0.000	100.000	127.241	-1.025
S7	0.008	0.757	0.000	100.000	133.511	-1.027
S8	0.008	0.700	0.000	100.000	144.544	-1.198

Internal Reference Calibration, performed Wed Sep 14 11:34:04 2016:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.729	0.740	1.000	0.000

Air Zero Calibration, performed Wed Feb 01 10:04:43 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	



RELIANCE
 DILFIELD SERVICES

Company Kerr-McGee Oil & Gas Onshore, L.P.
 Well Wilson Ranch 12C- 27HZ
 Field Wattenberg
 County Weld
 State Colorado