



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.			Location:	API # : 05-123-44316	Other Services
Well	Butterball 40N-34HZ			SEC 10	TWP 2N	RGE 67W
Field	Wattenberg			Permanent Datum	Ground Level	Elevation 4916'
County	Weld			Log Measured From	Kelly Bushing	20 FT
State	Colorado			Drilling Measured From	Kelly Bushing	Elevation K.B. 4936' D.F. --- G.L. 4916'

Date	19-JUL-17	One		
Run Number		15425 FT		
Depth Driller		7422 FT		
Depth Logger		7498 FT		
Bottom Logged Interval		Surface		
Top Log Interval		7.825"		
Open Hole Size		Water		
Type Fluid		8.34 lb/gal		
Density / Viscosity		233 °F		
Max. Recorded Temp.		Surface		
Estimated Cement Top		ROA		
Time Well Ready		14:02		
Time Logger on Bottom		HD-0331		
Equipment Number		Fort Lupton, CO		
Location		R. Cameron		
Recorded By		Kyle Carver		
Witnessed By				

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	1843 FT		
Intermediate #1	5 1/2	17	HCP-110	Surface	15415 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 6512 FT
Adjusted +8 FT to Correlate with Marker Joint
Log ran with 2800 PSI surface induced pressure
Logging tools were clean and free of debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

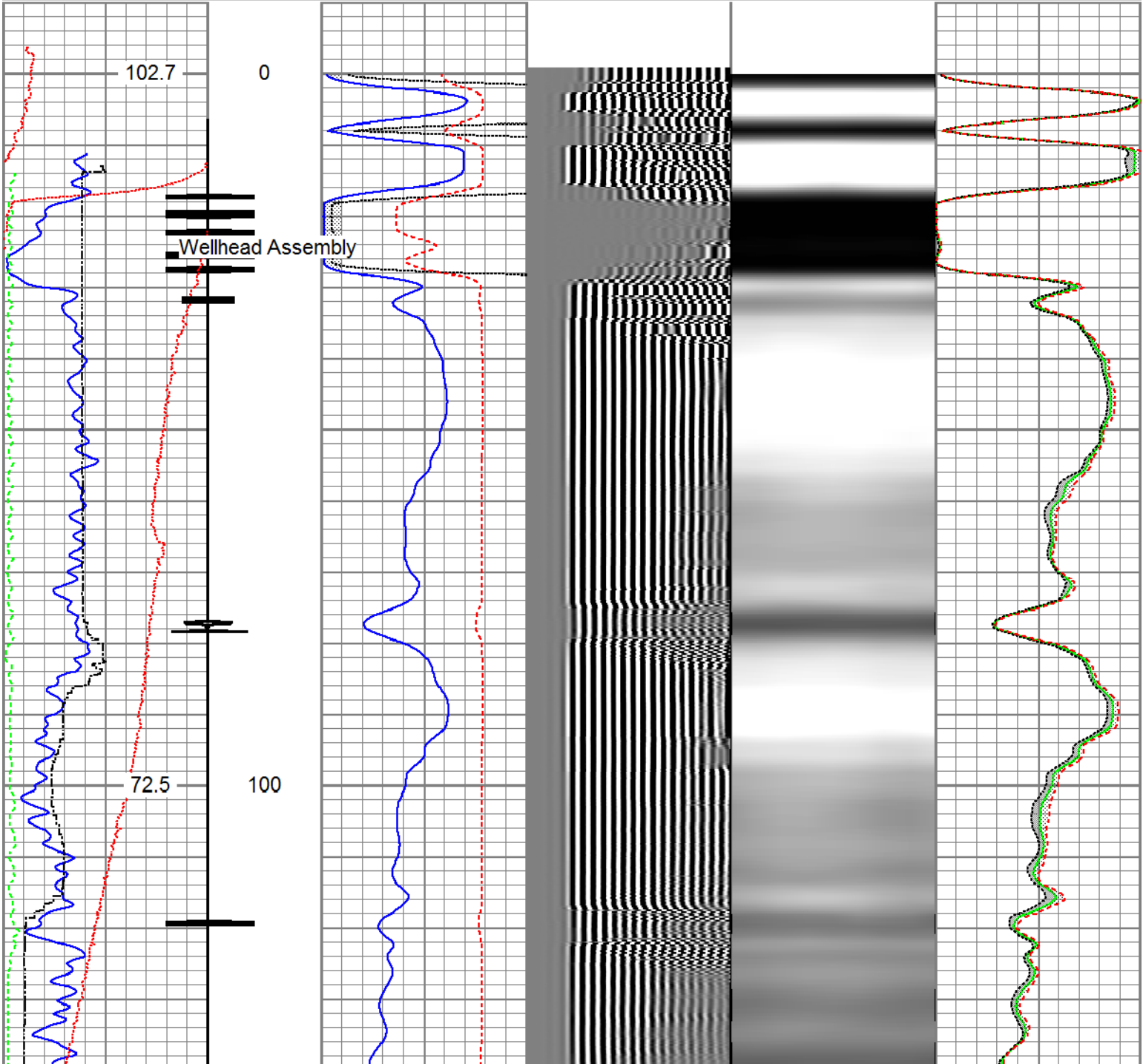


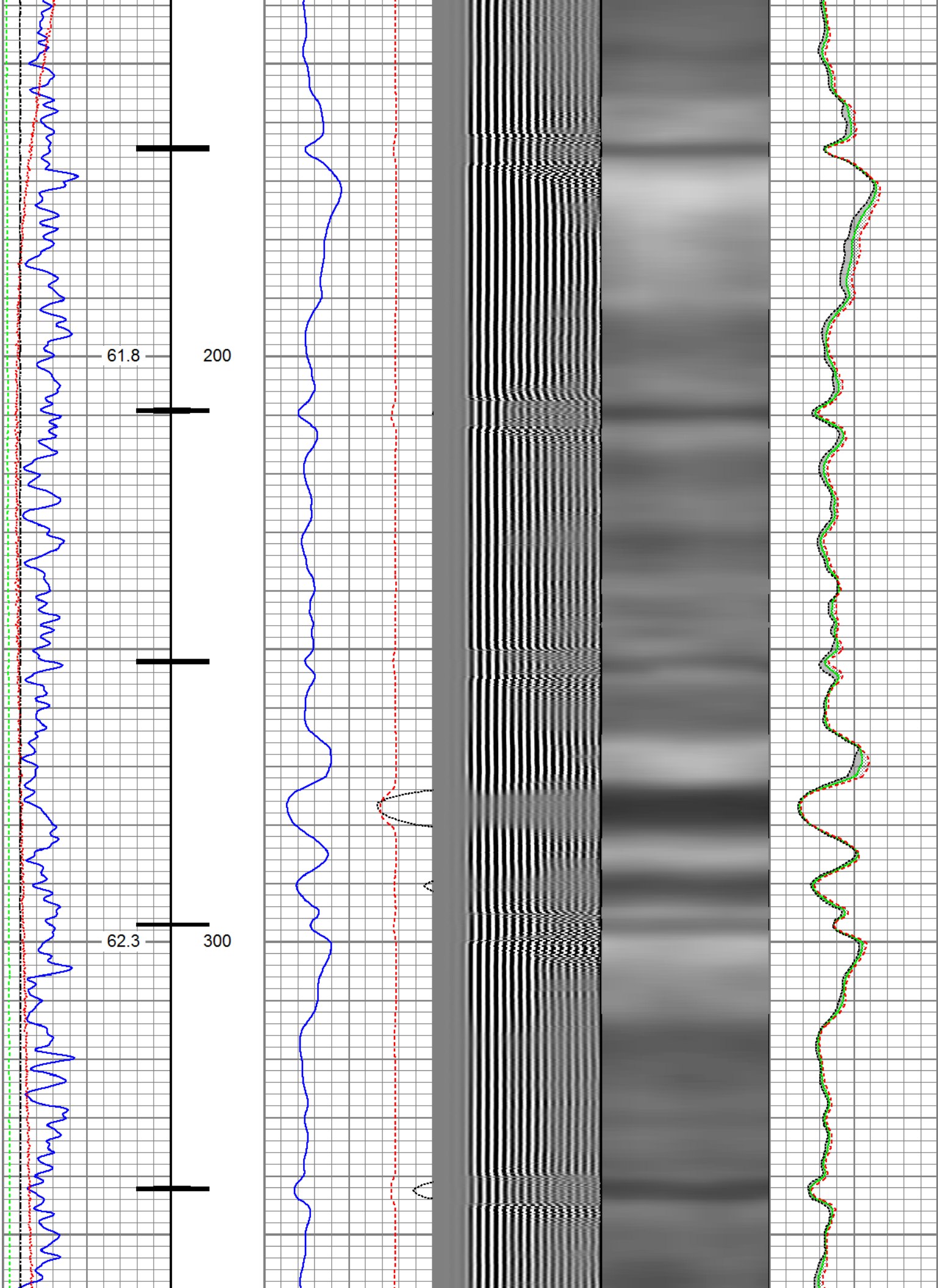
Main Pass

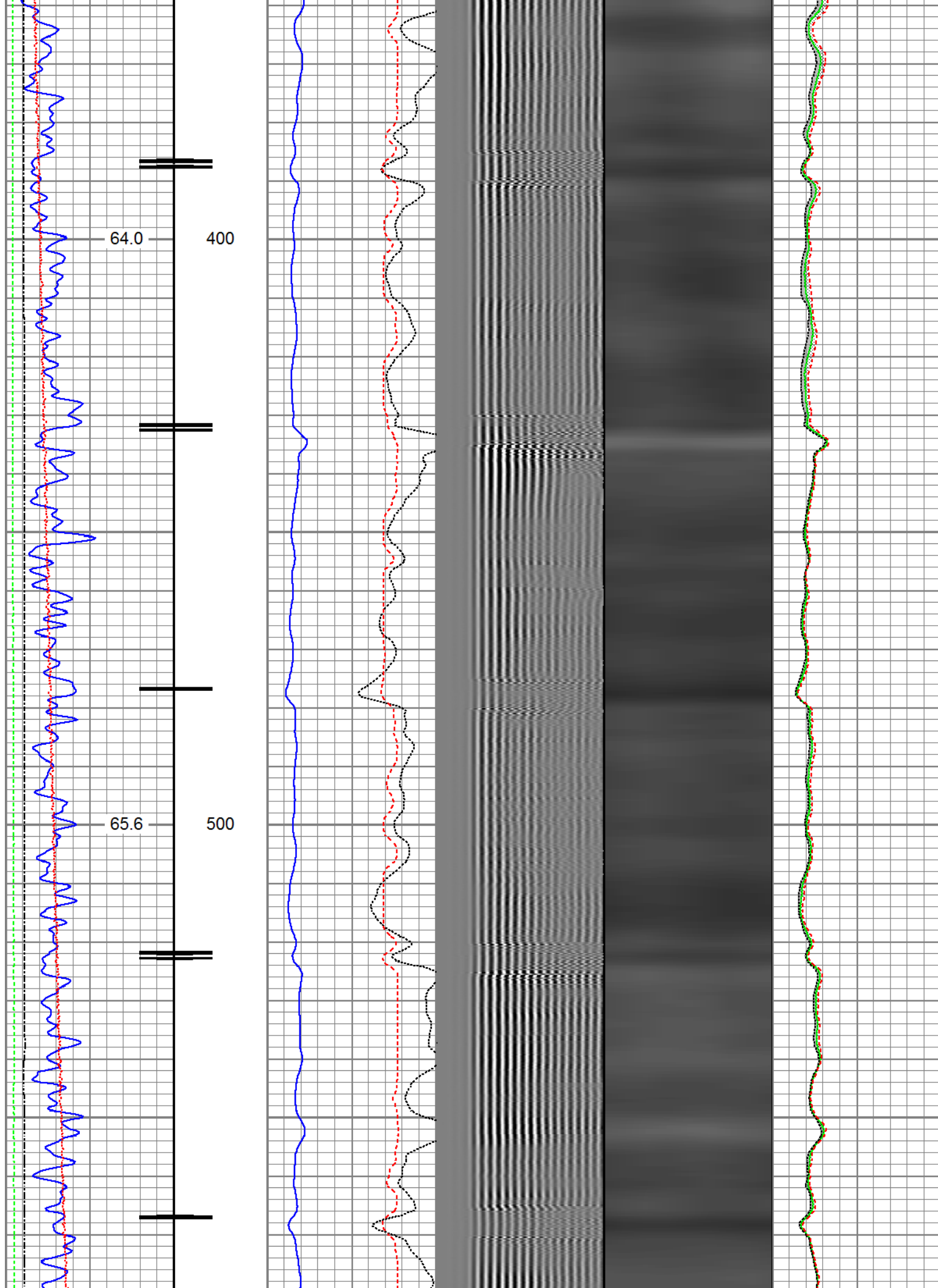
Recorded with 2800 PSI Surface Induced Pressure

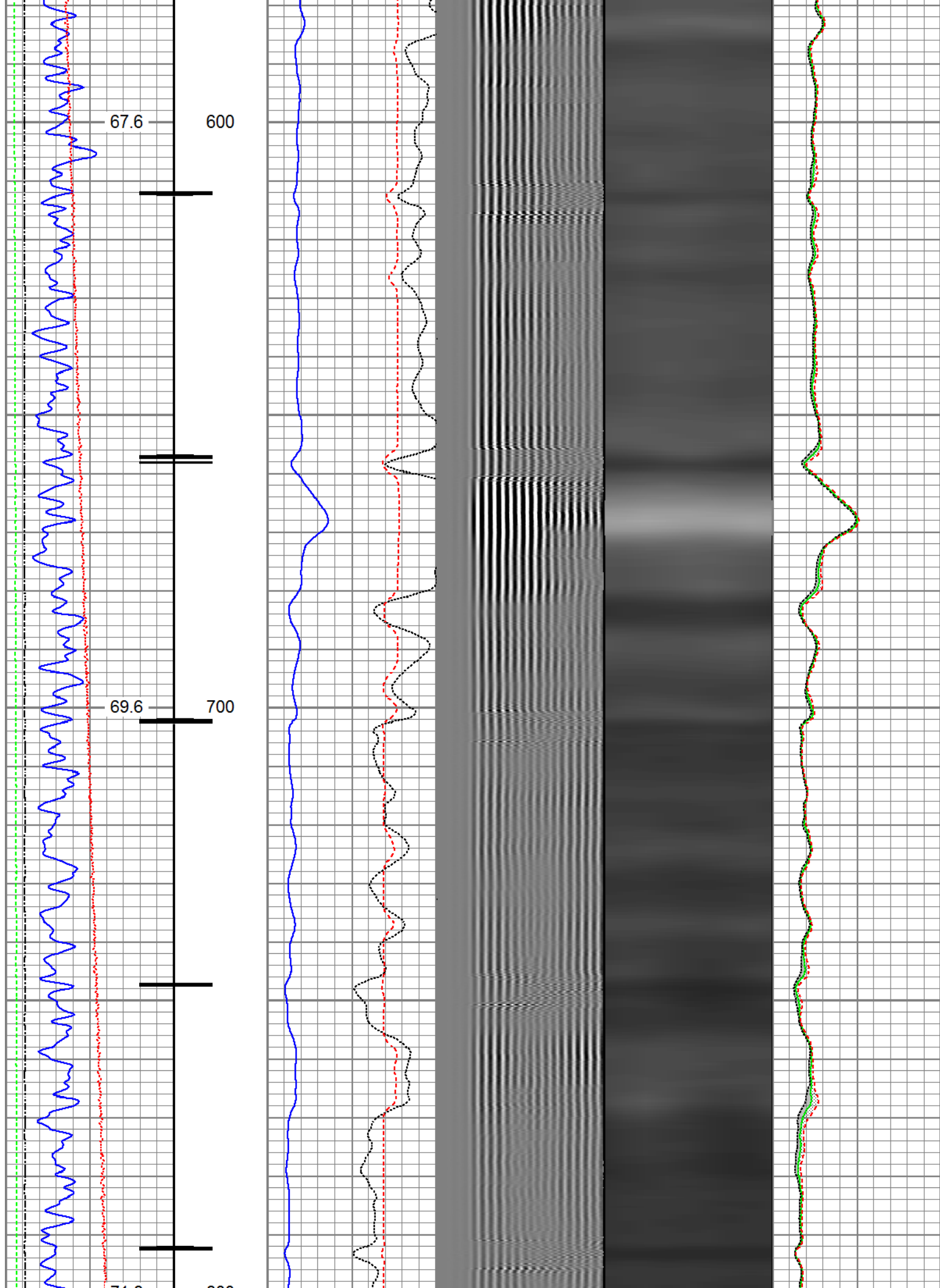
Database File	anadarko_butterball 40n 34hz_19 jul 2017_rbl\processed_0512344316_anadarko_butterball 40n-34h
Dataset Pathname	pass4
Presentation Format	ros_radri
Dataset Creation	Wed Jul 19 13:58:20 2017
Charted by	Depth in Feet scaled 1:240

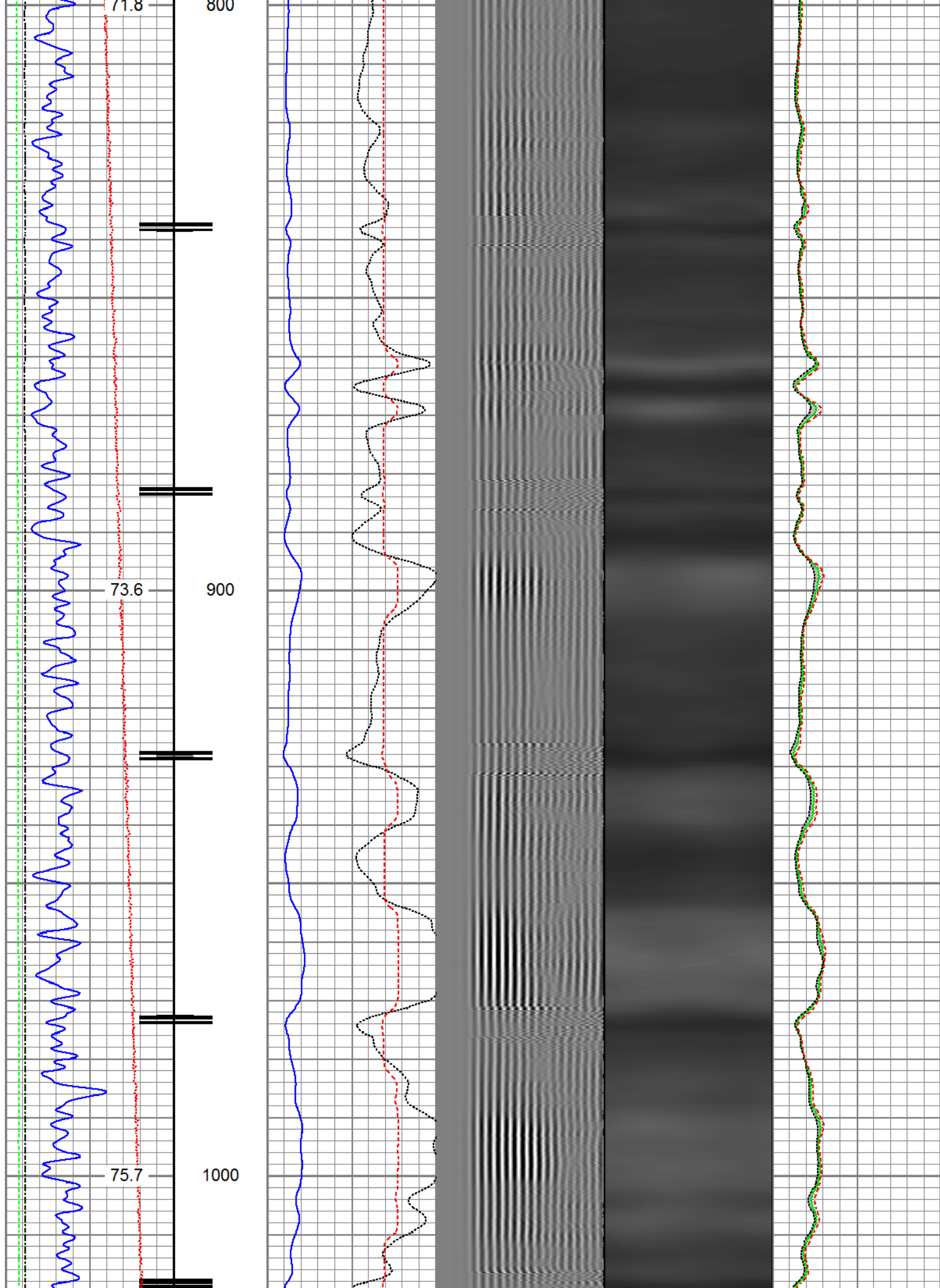
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

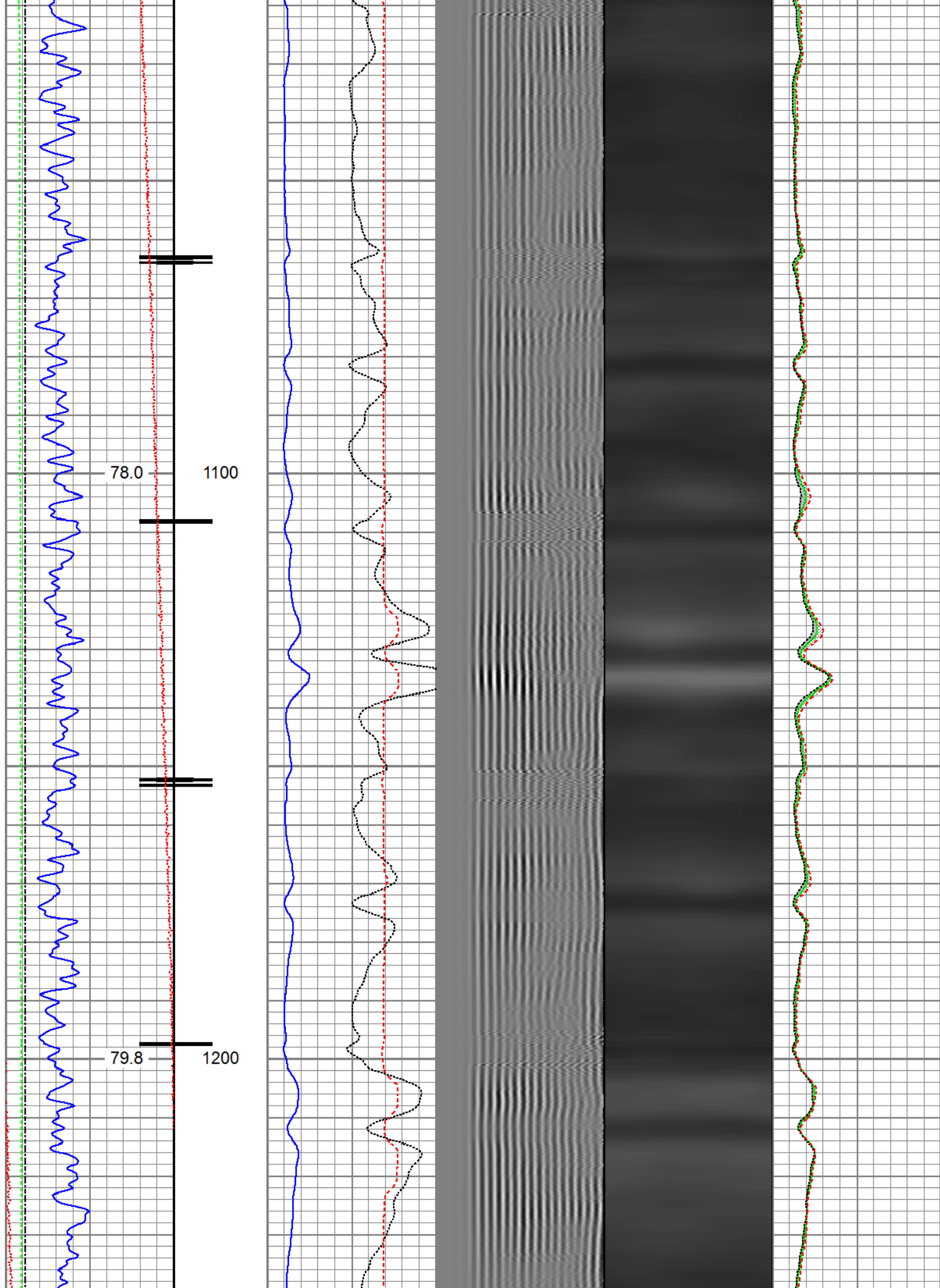


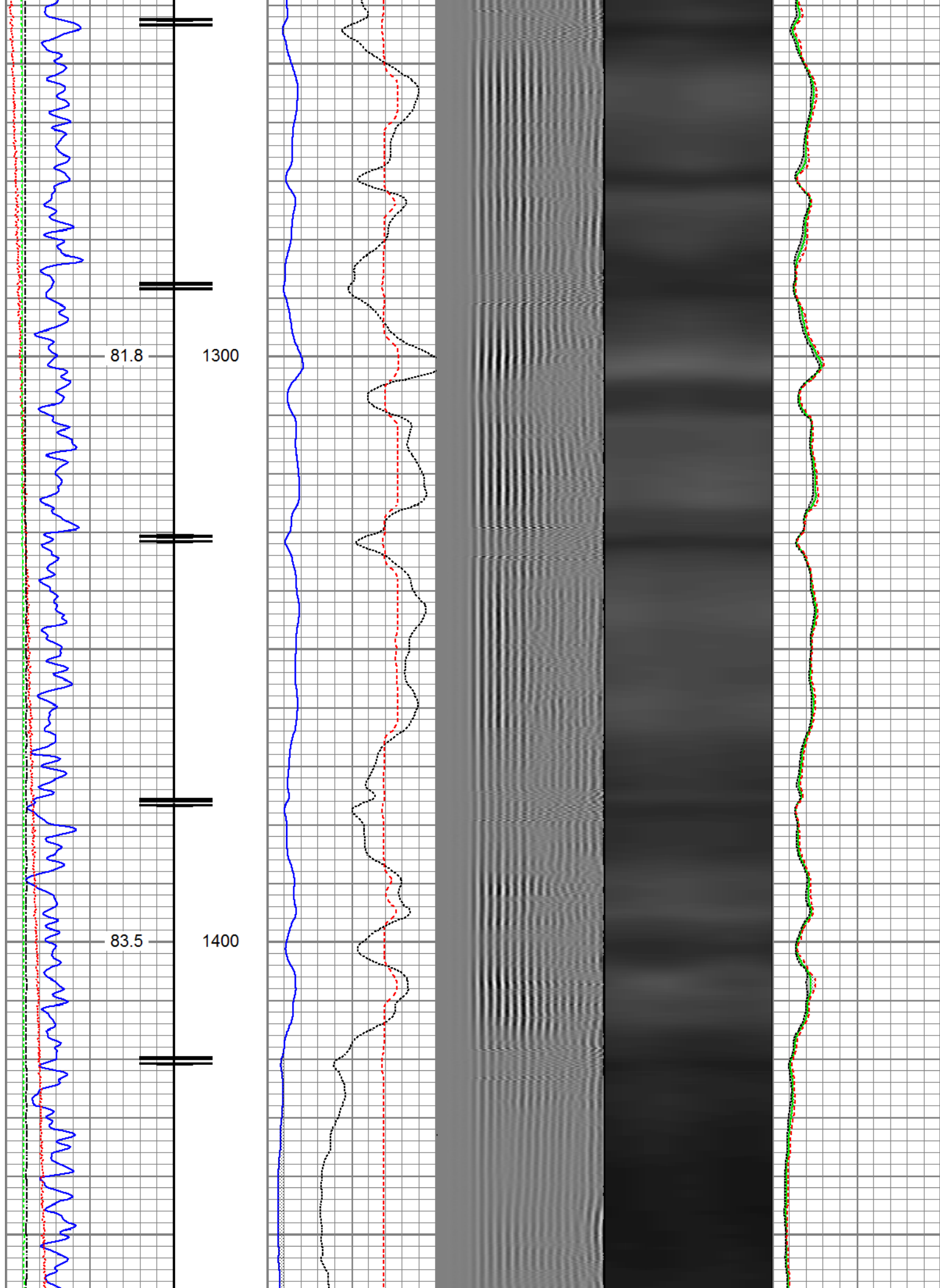


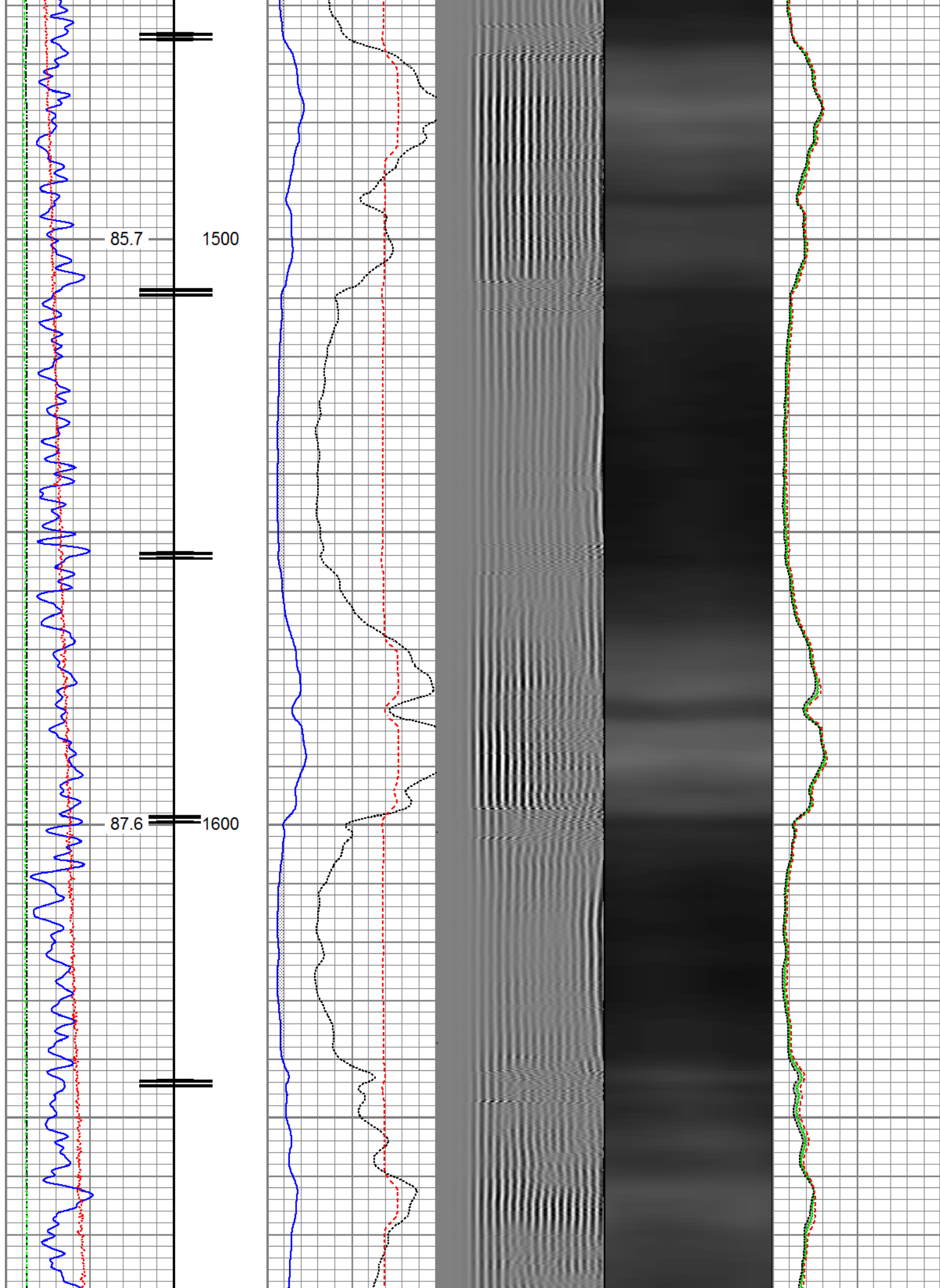


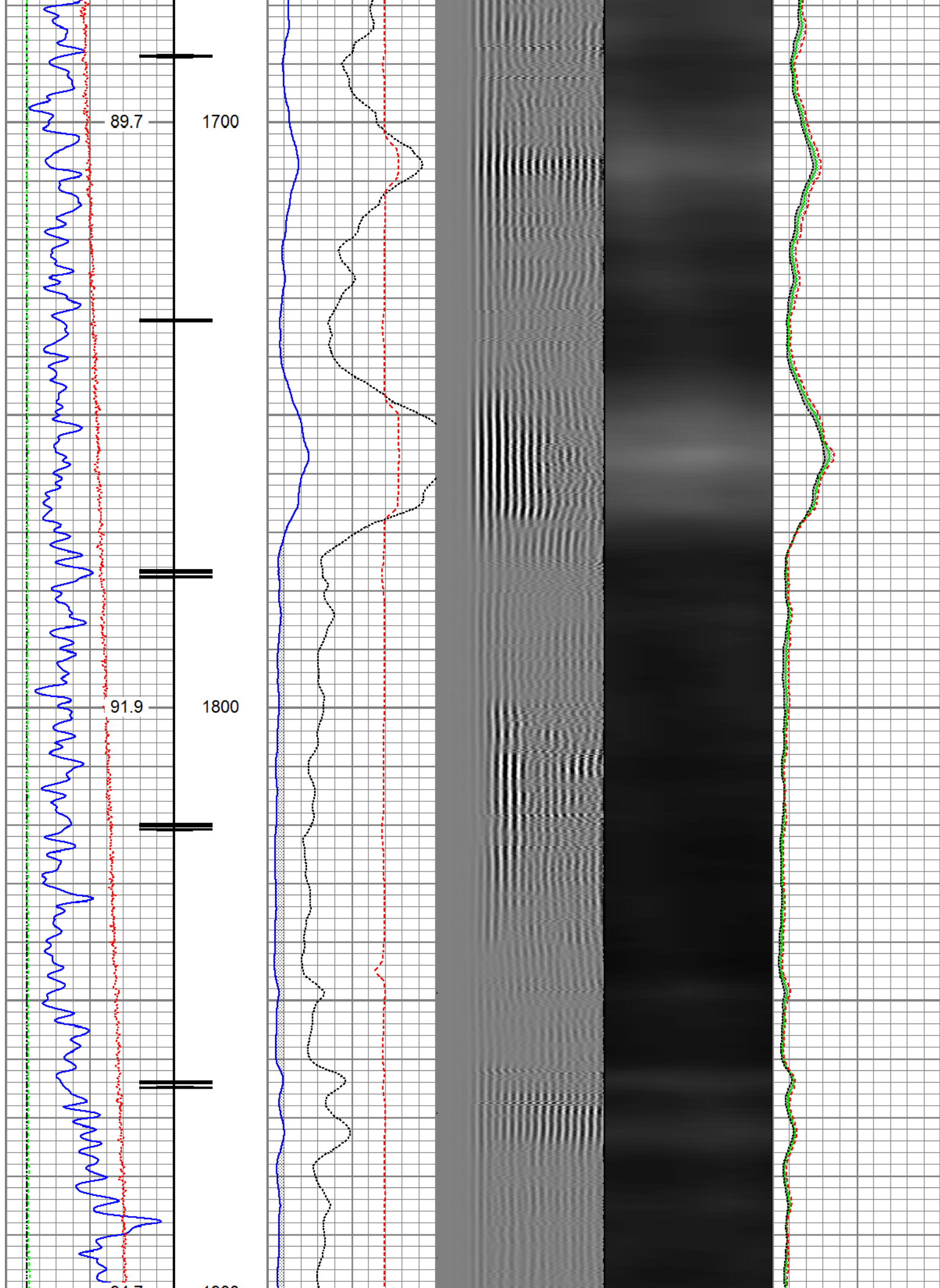


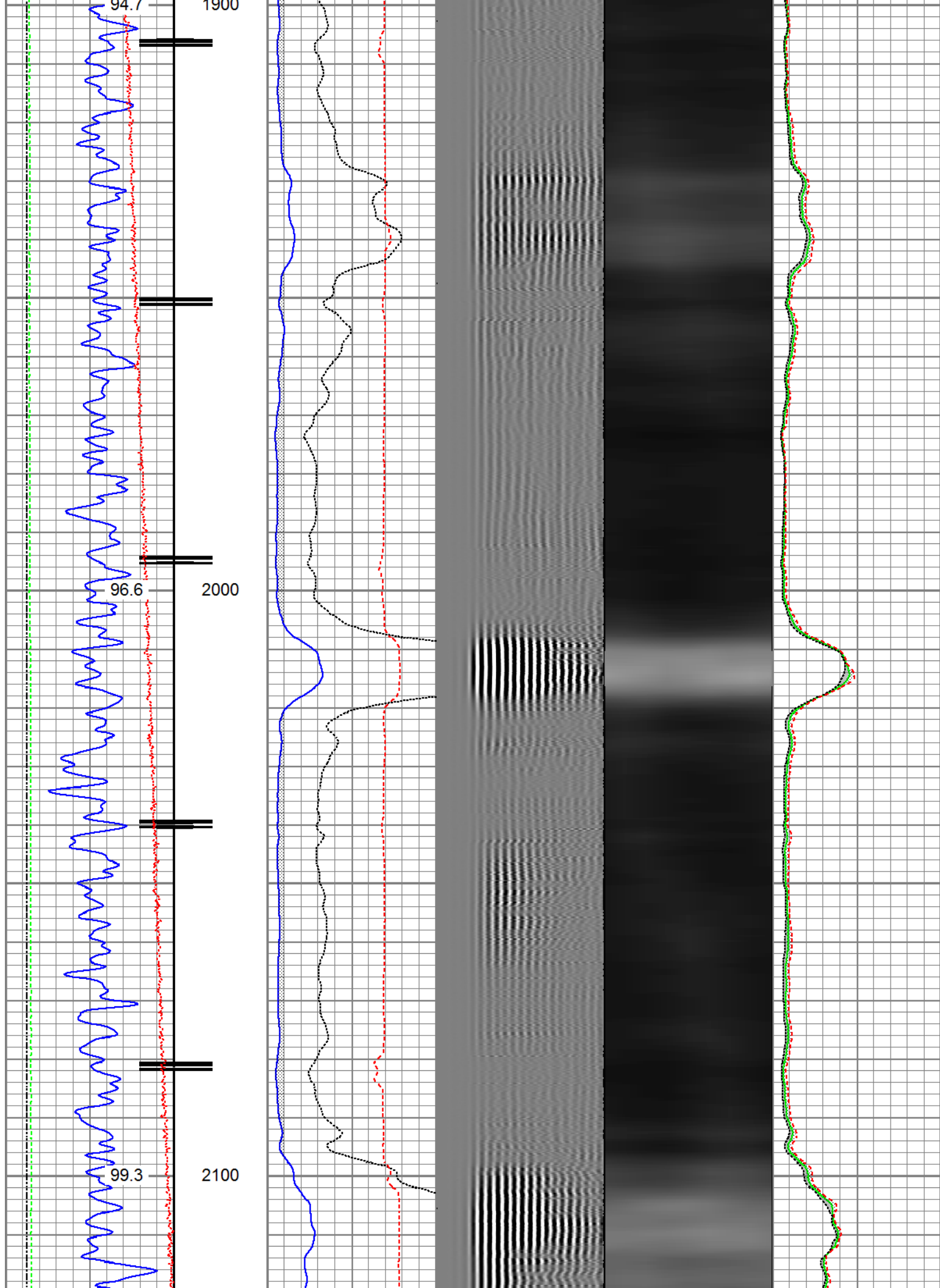


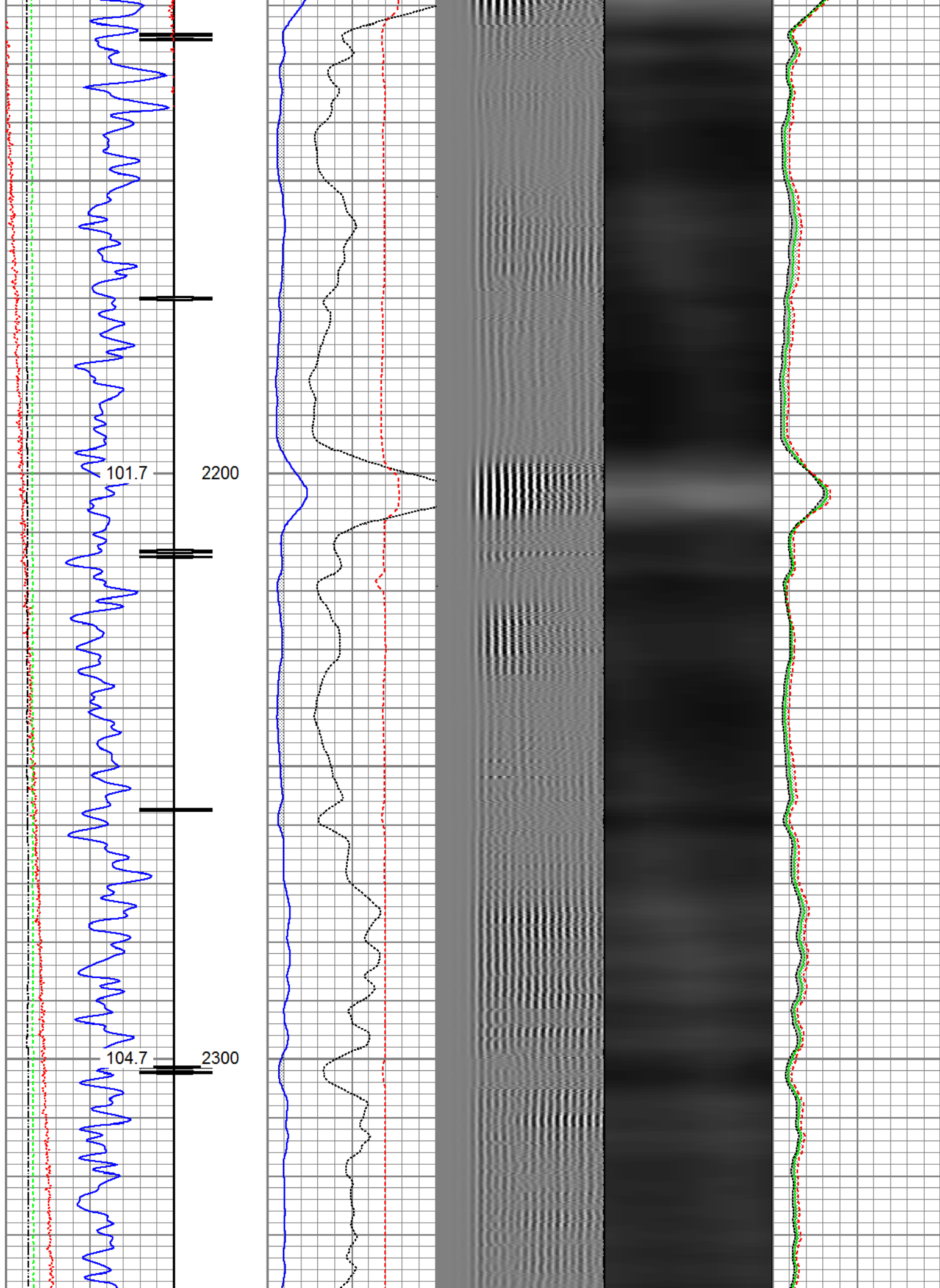


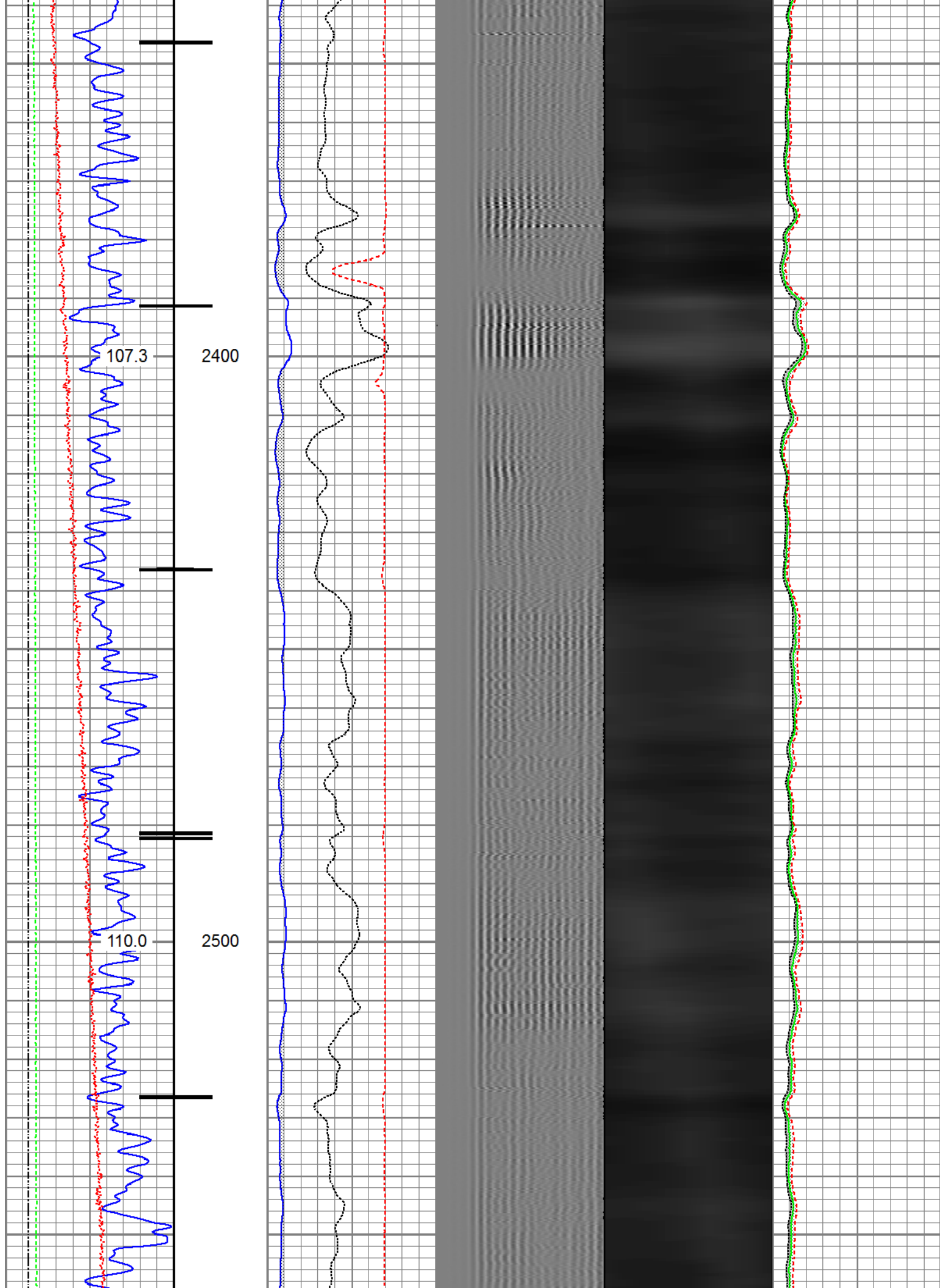


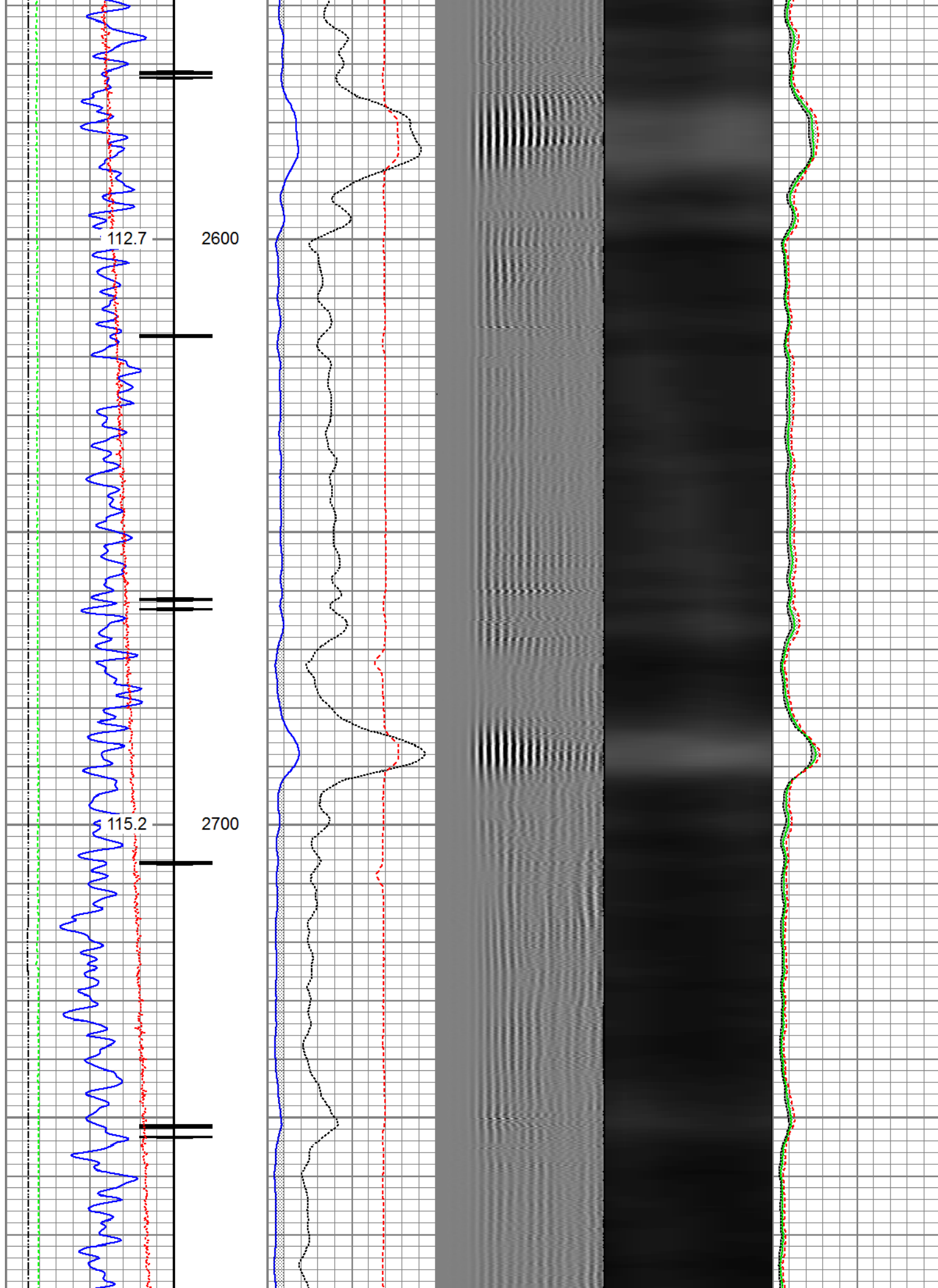


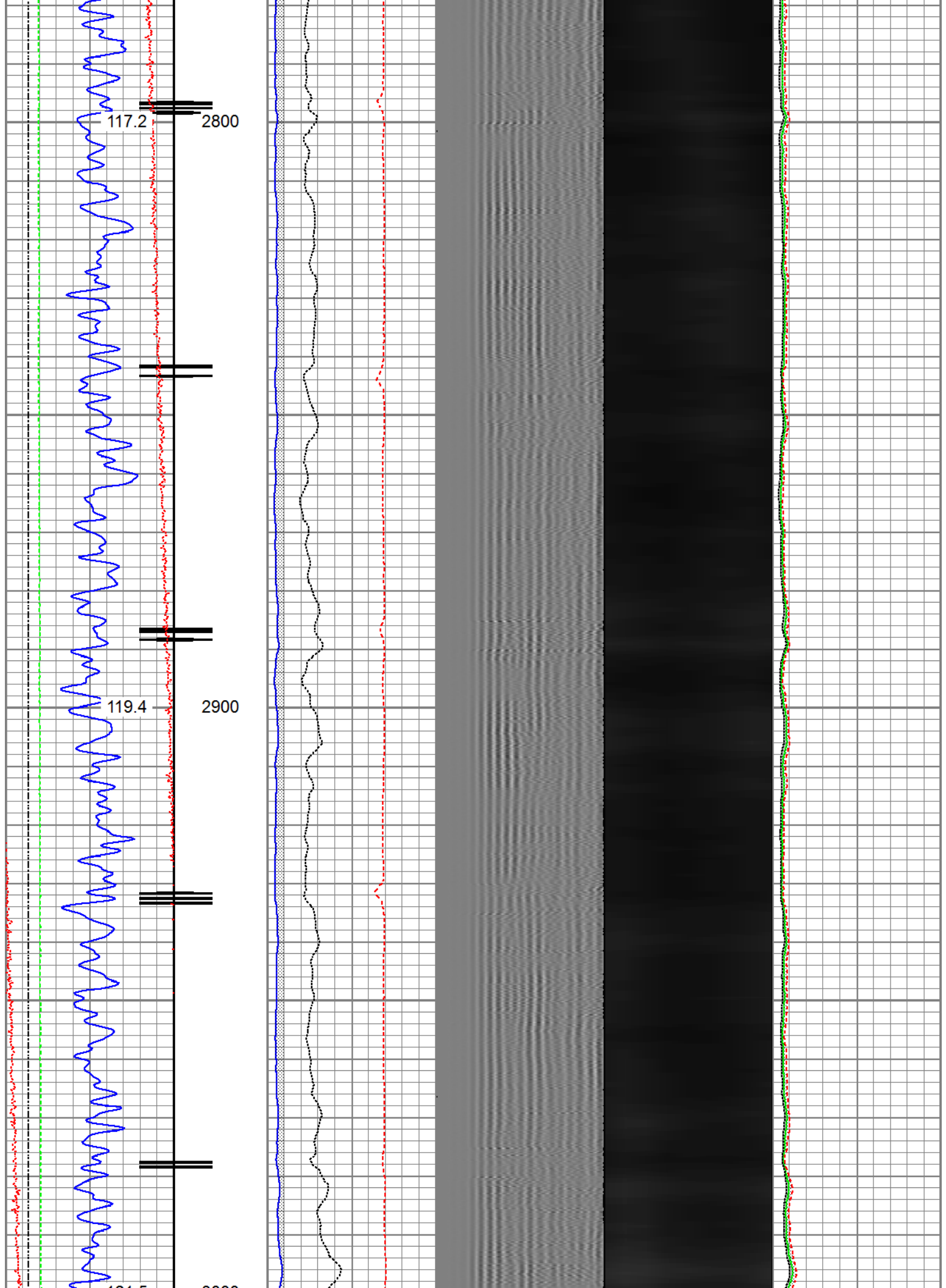


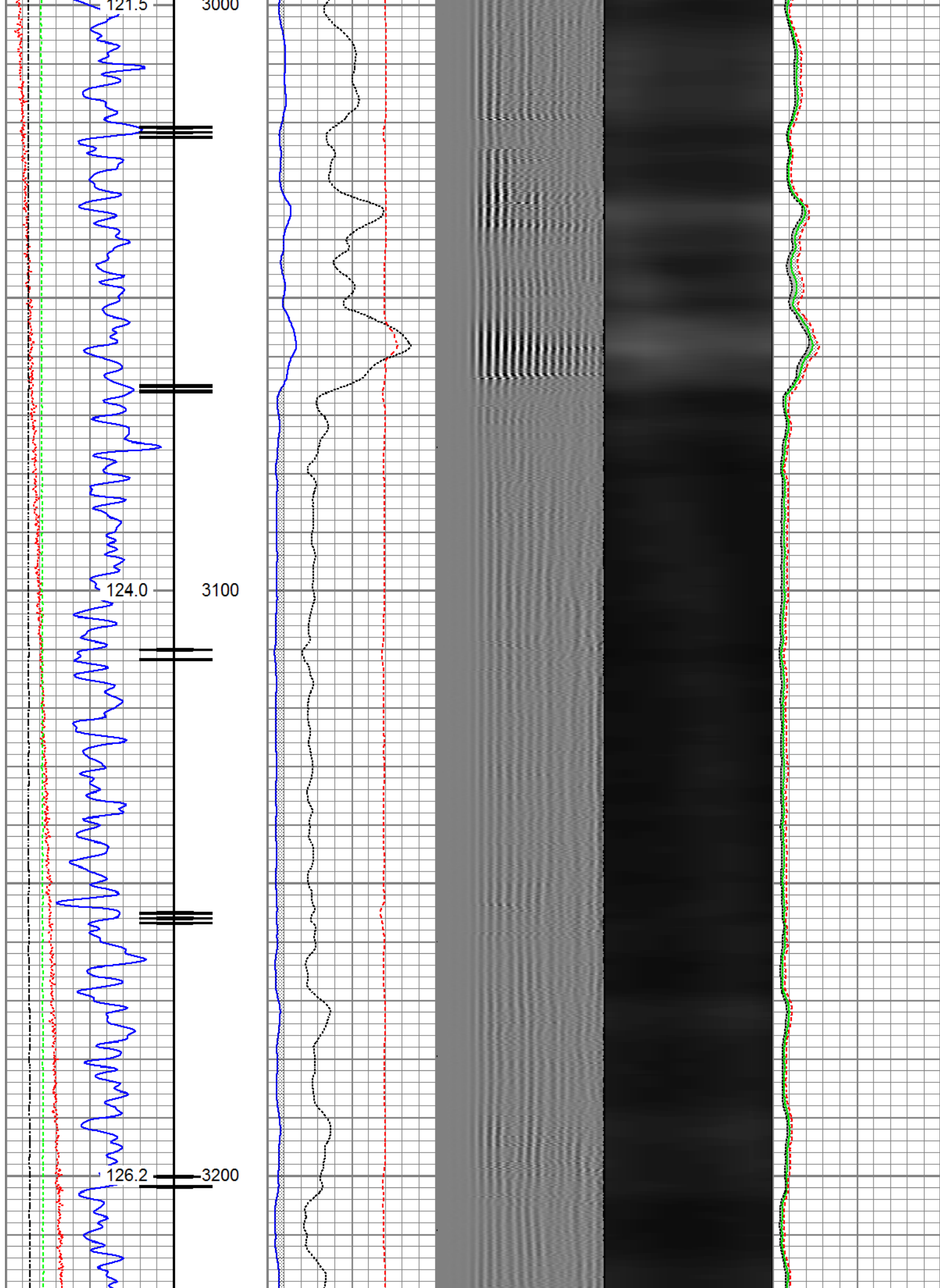


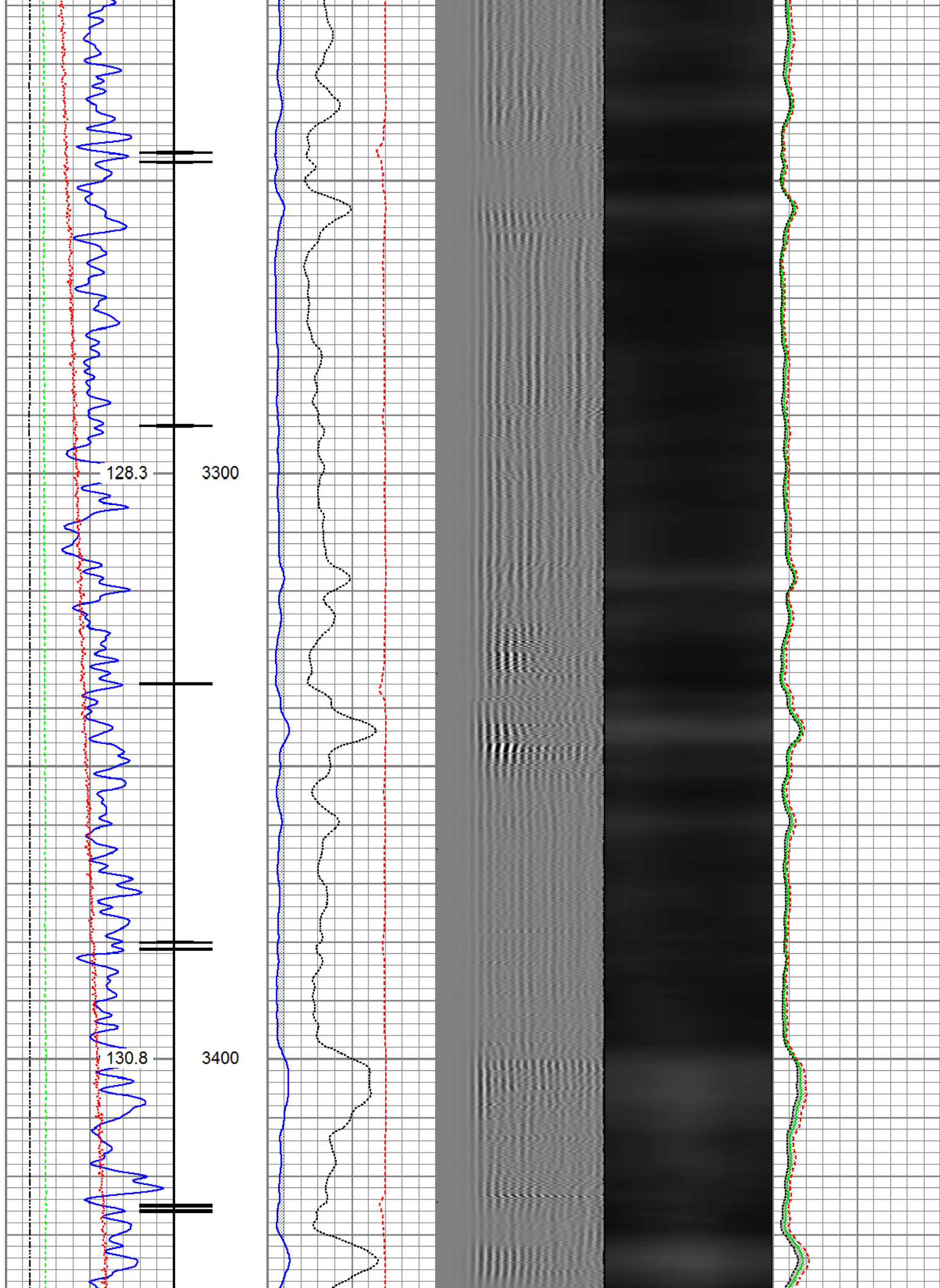


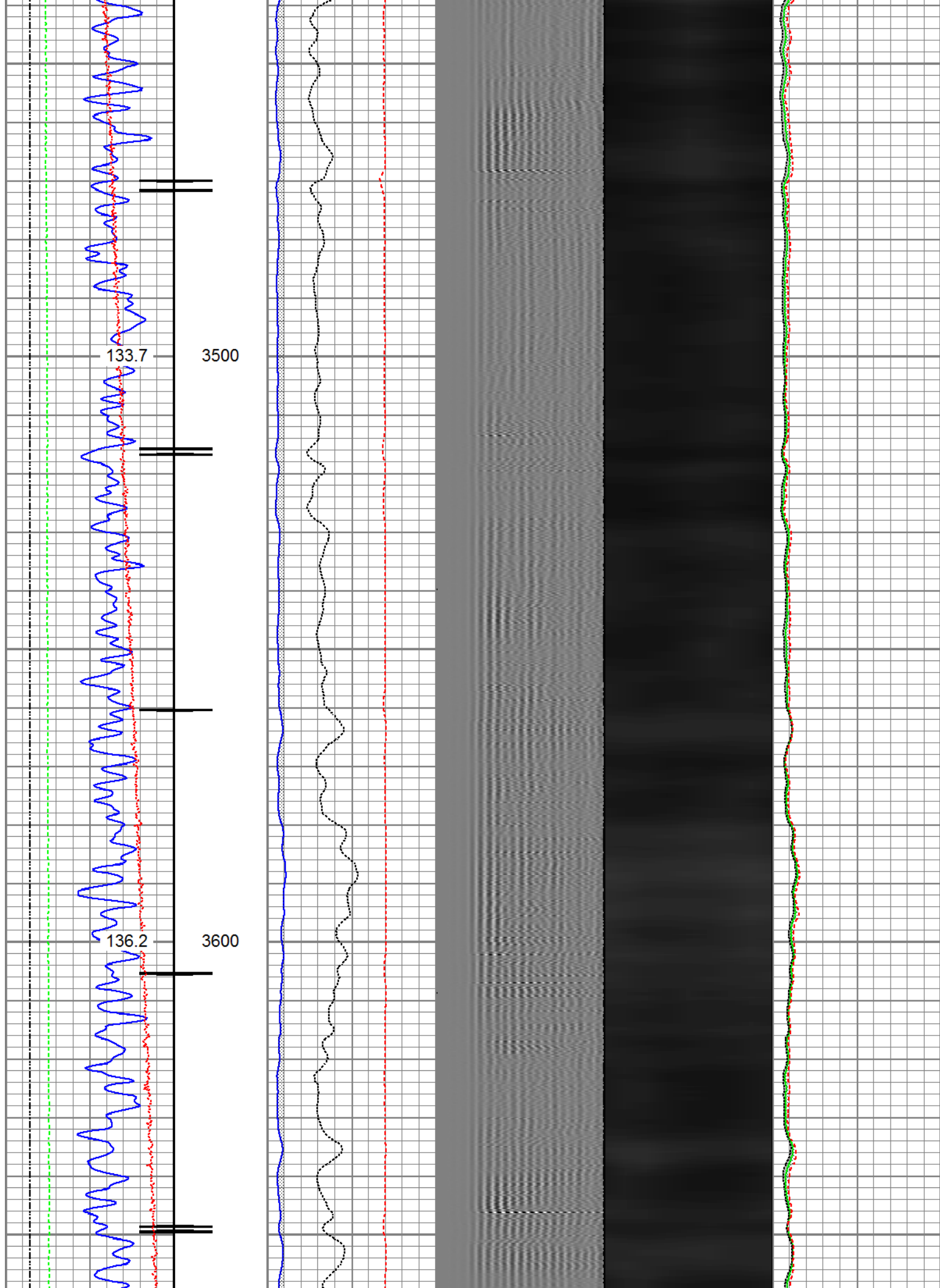


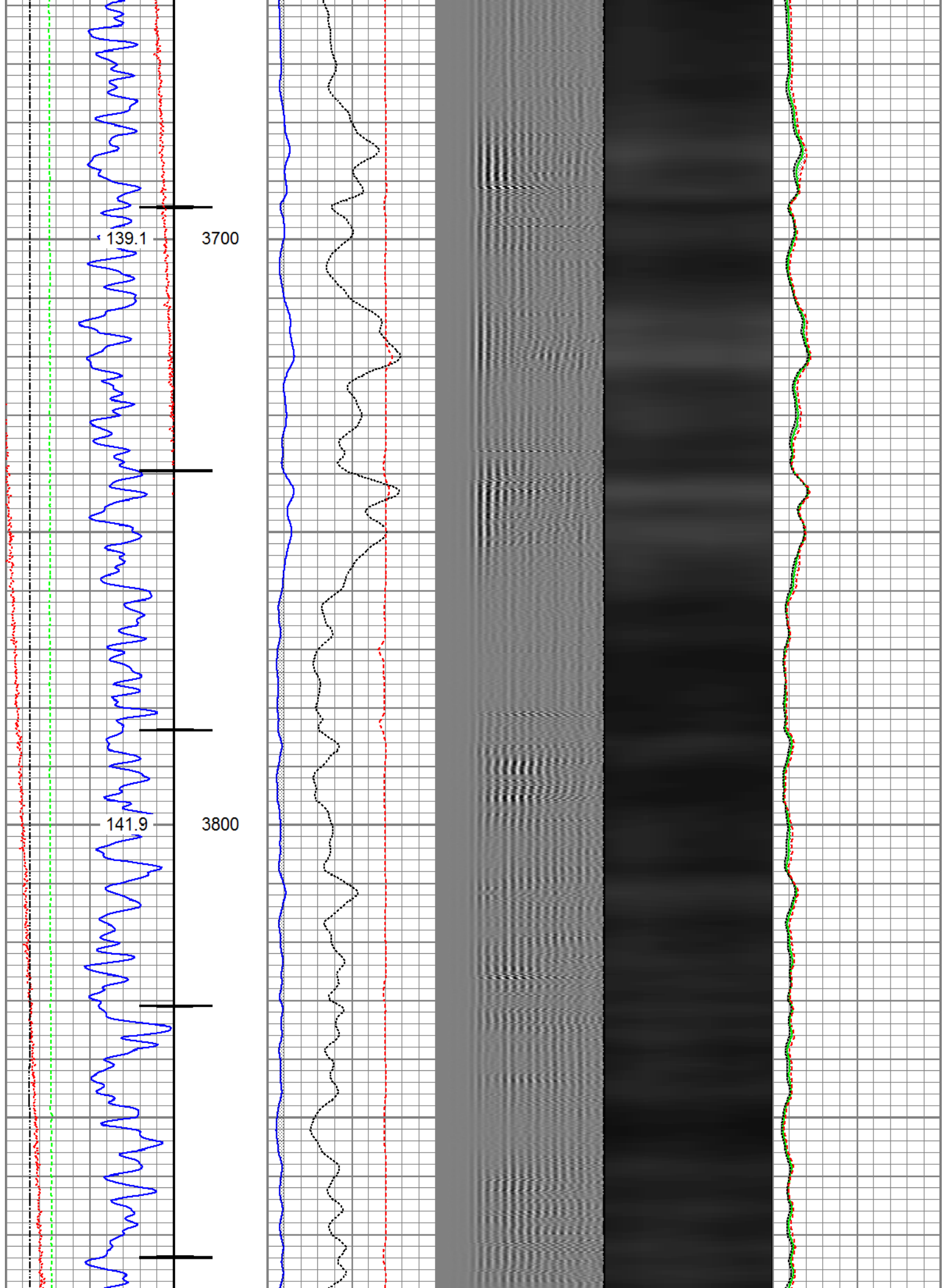


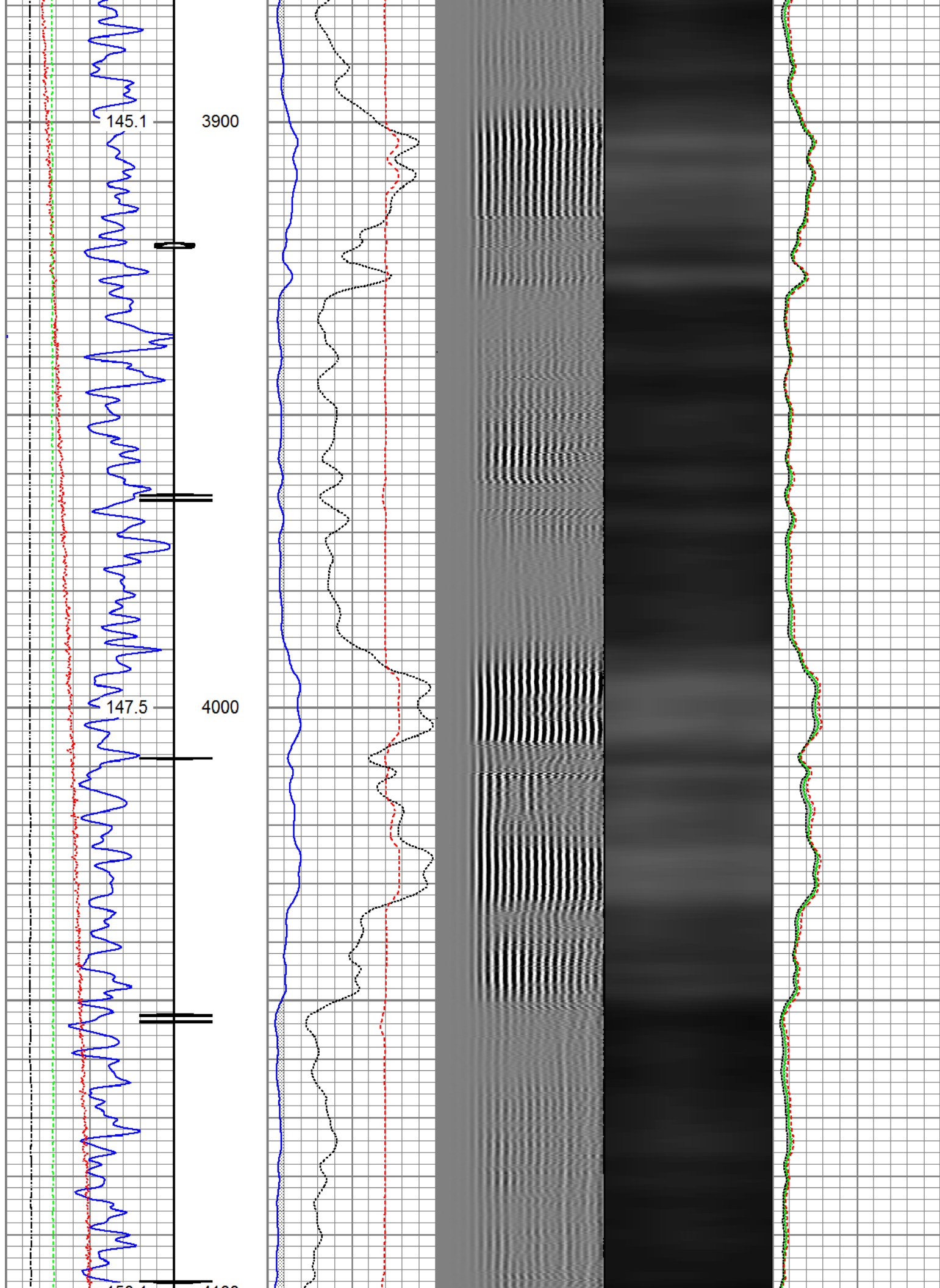


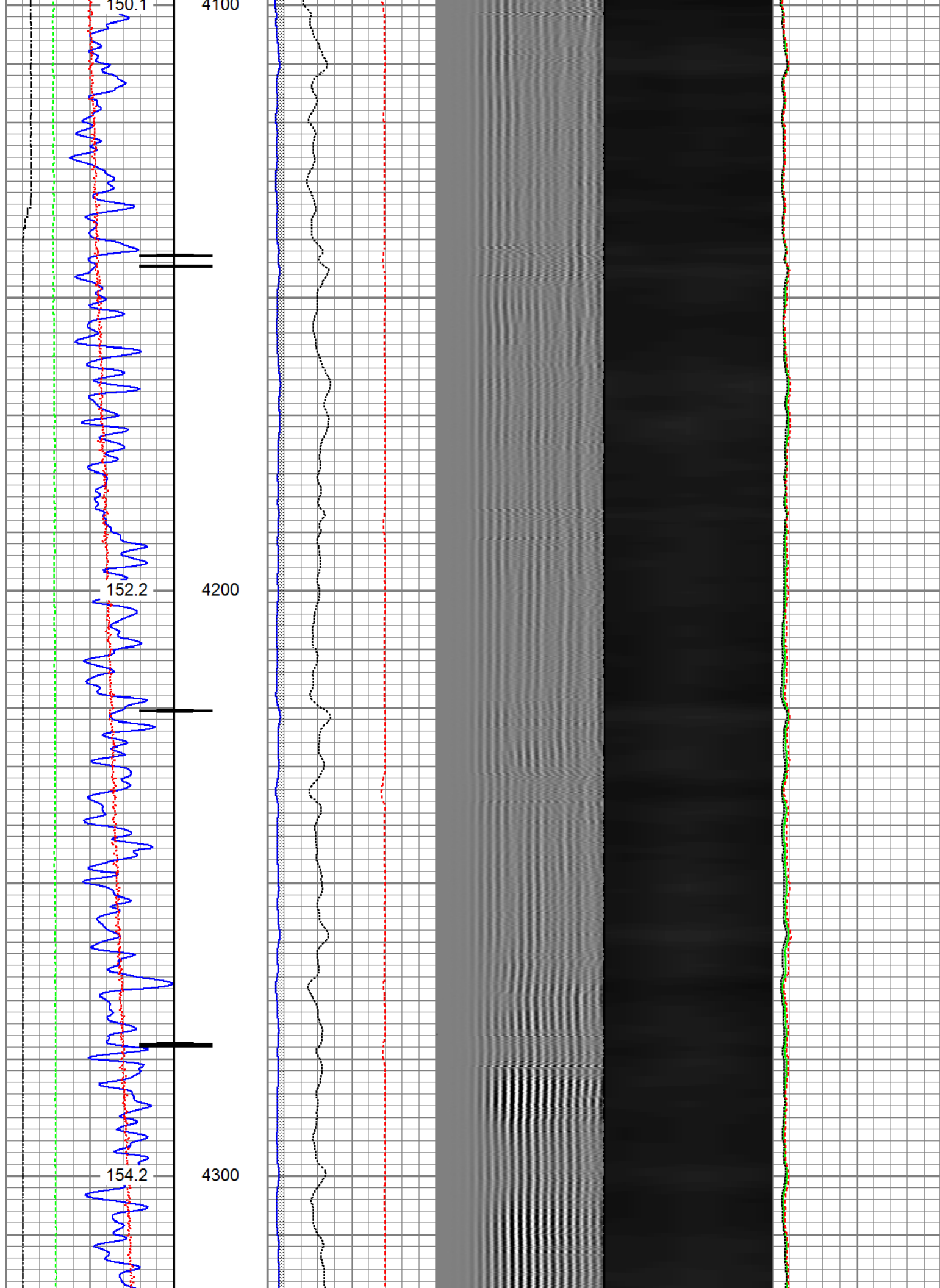


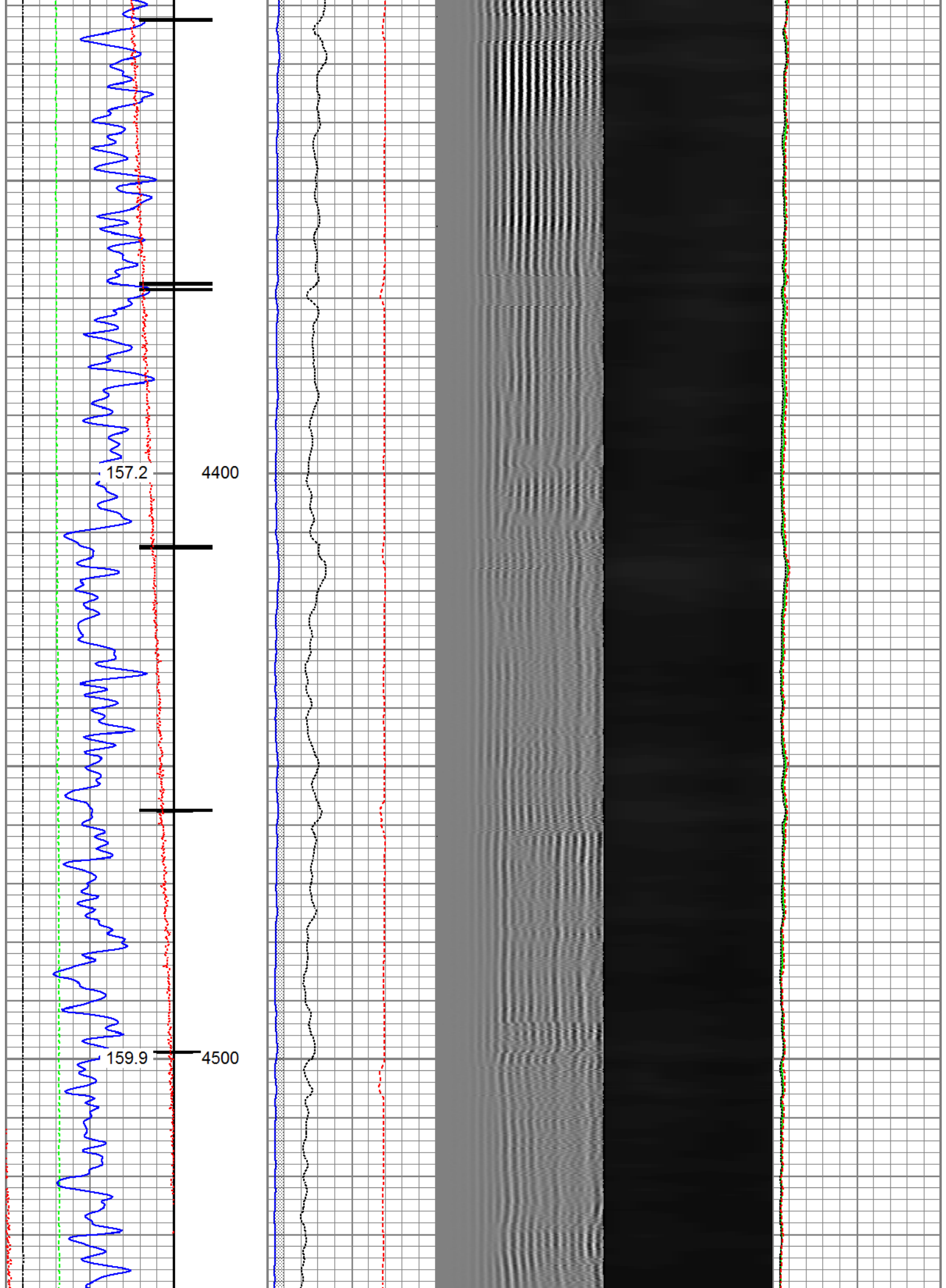


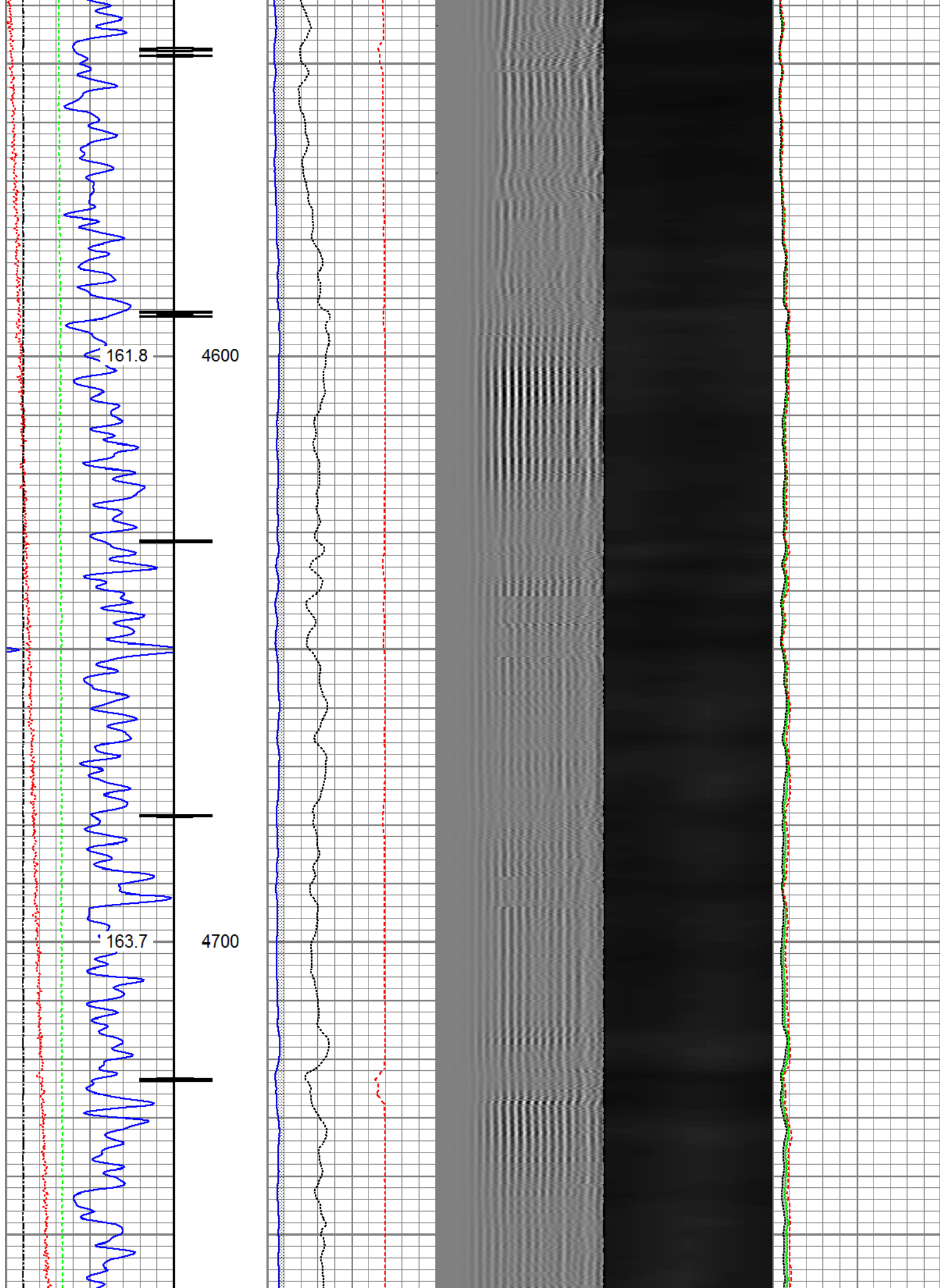


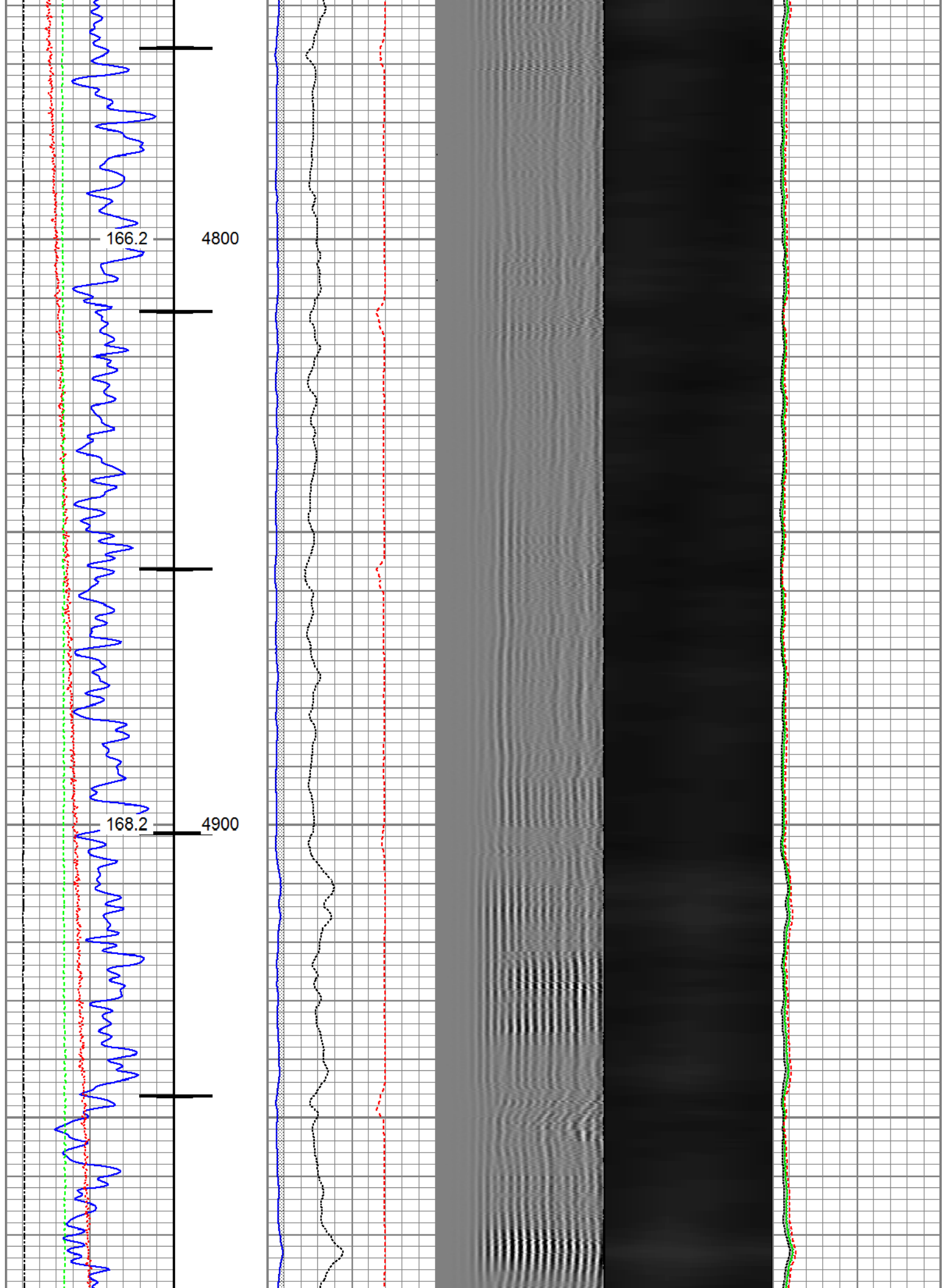


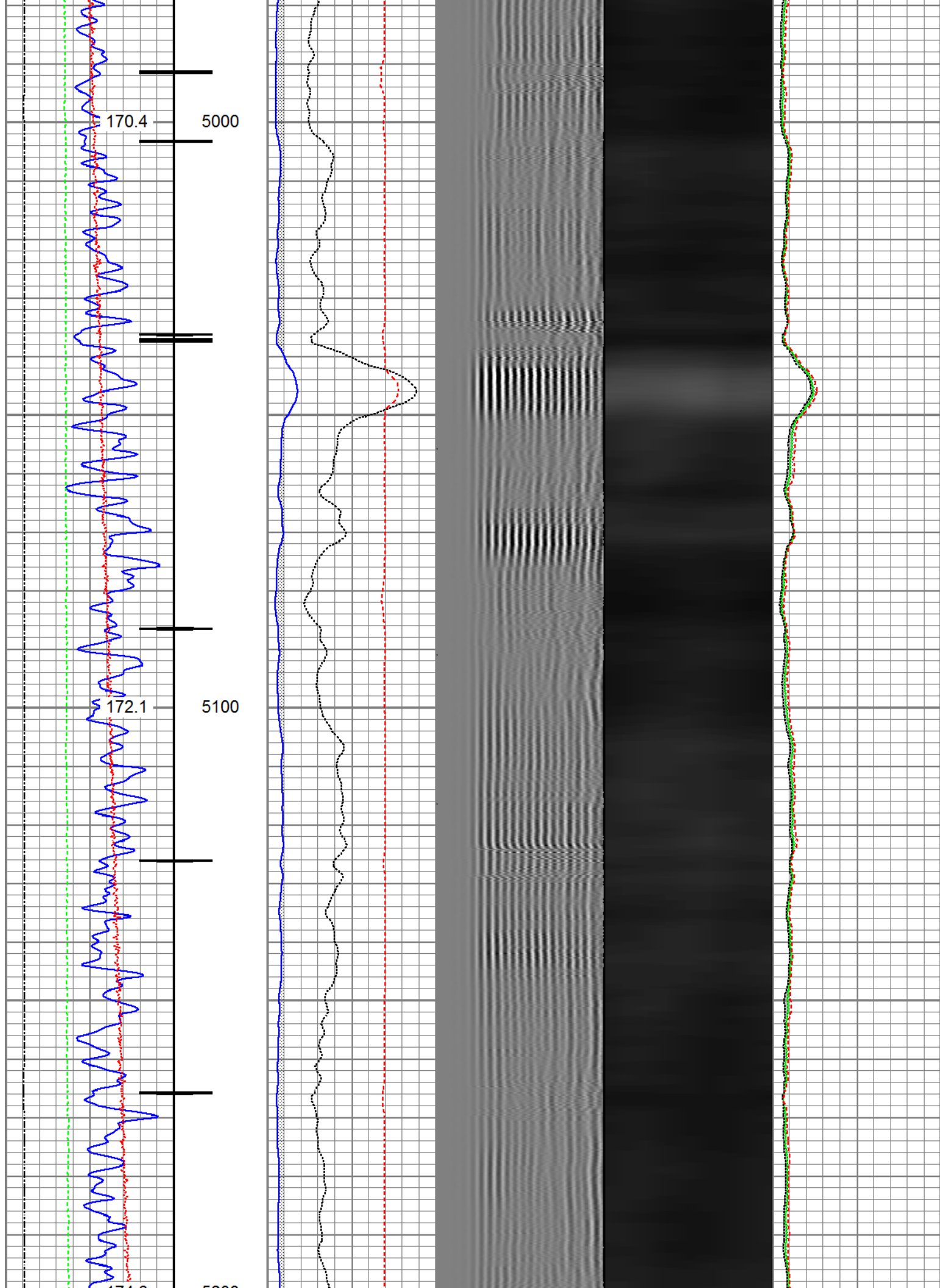


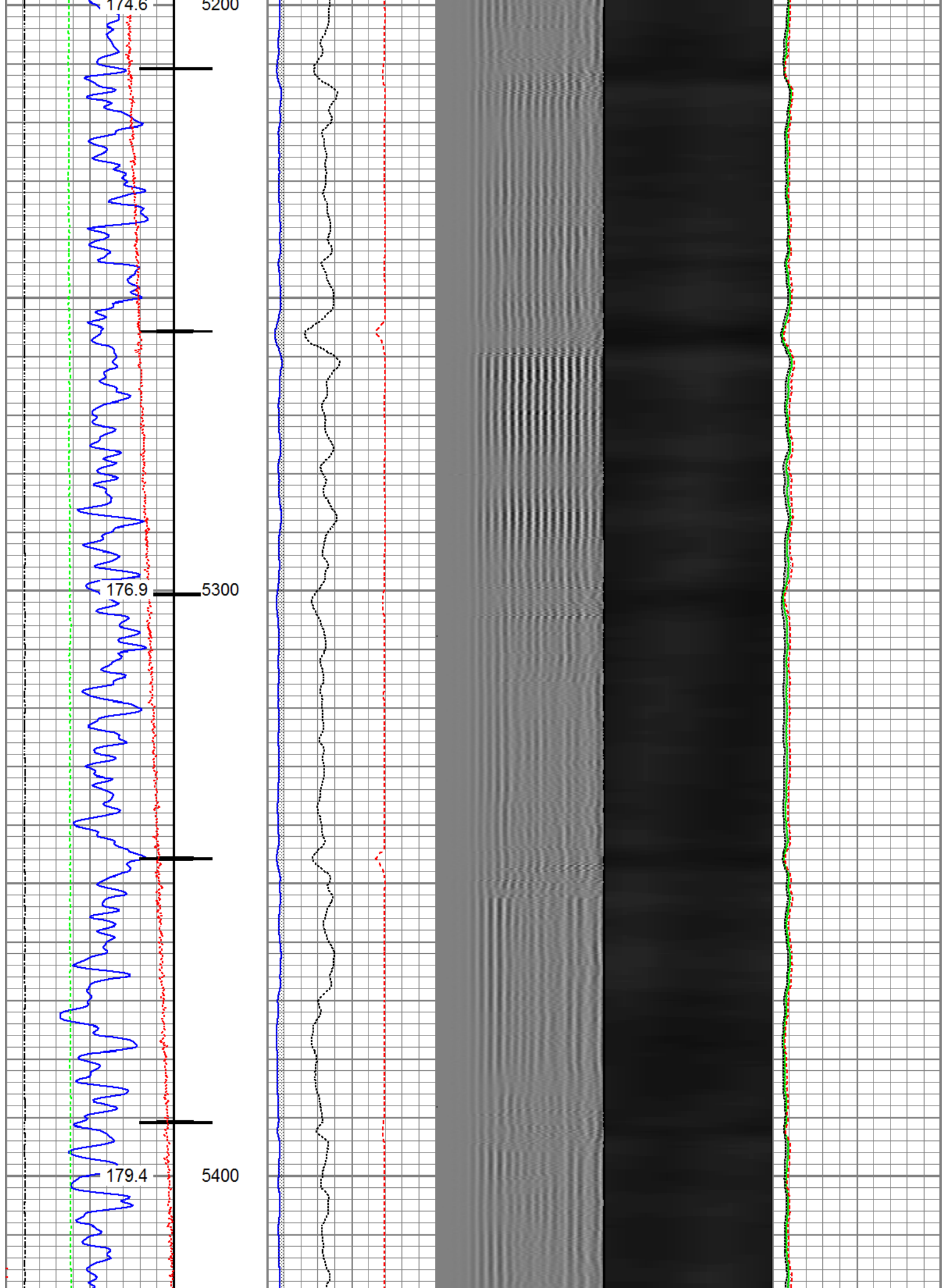


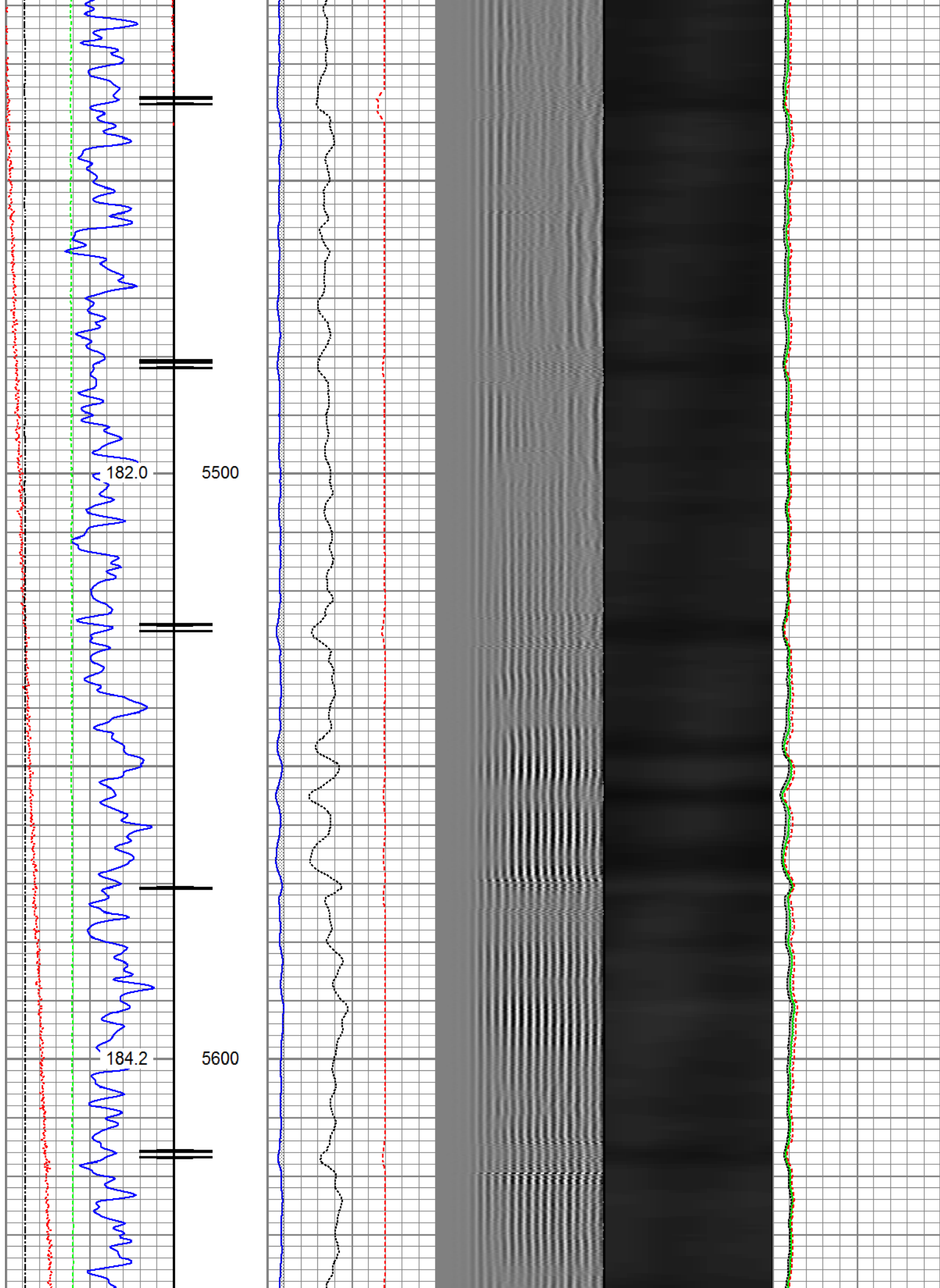


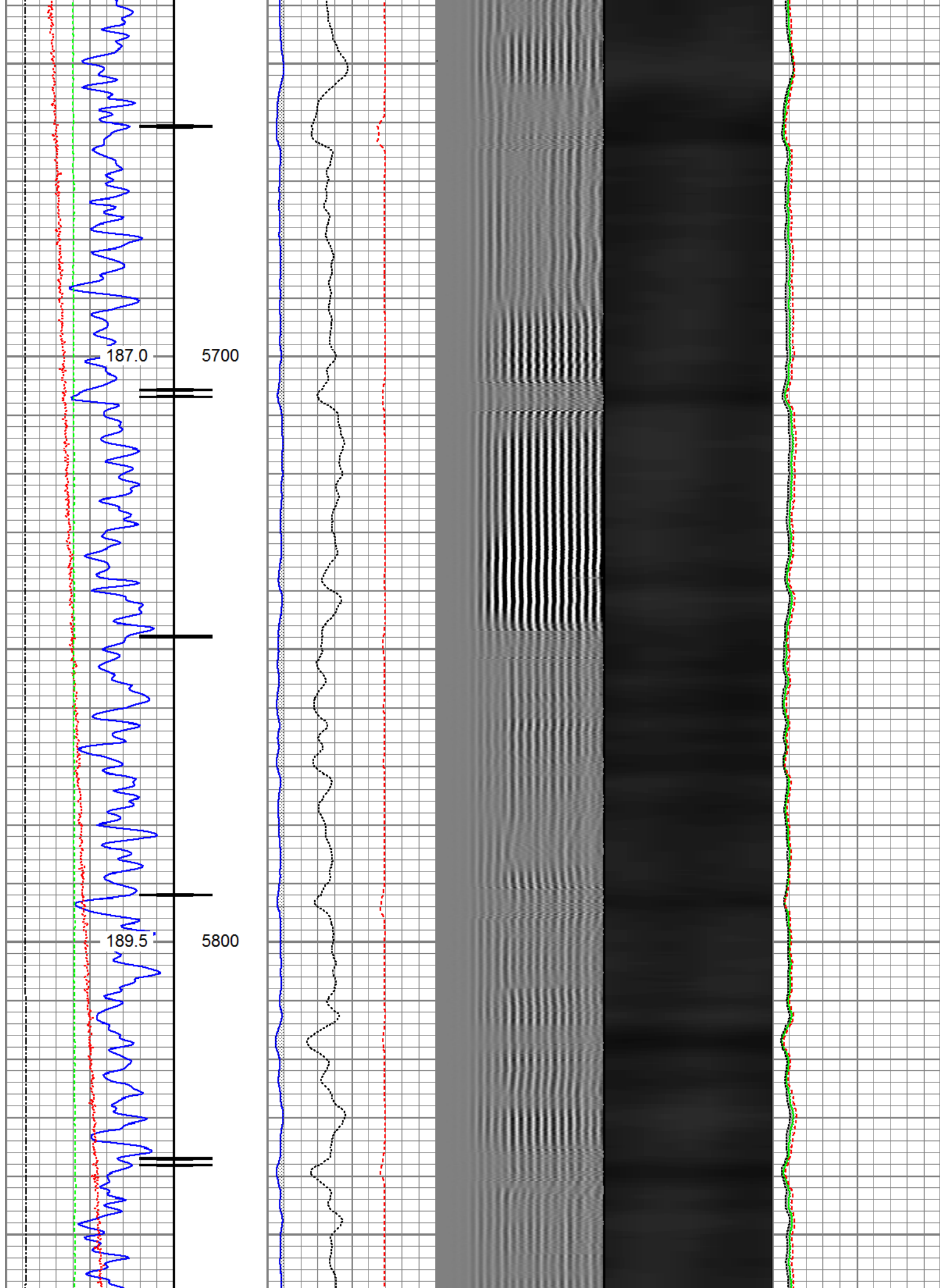


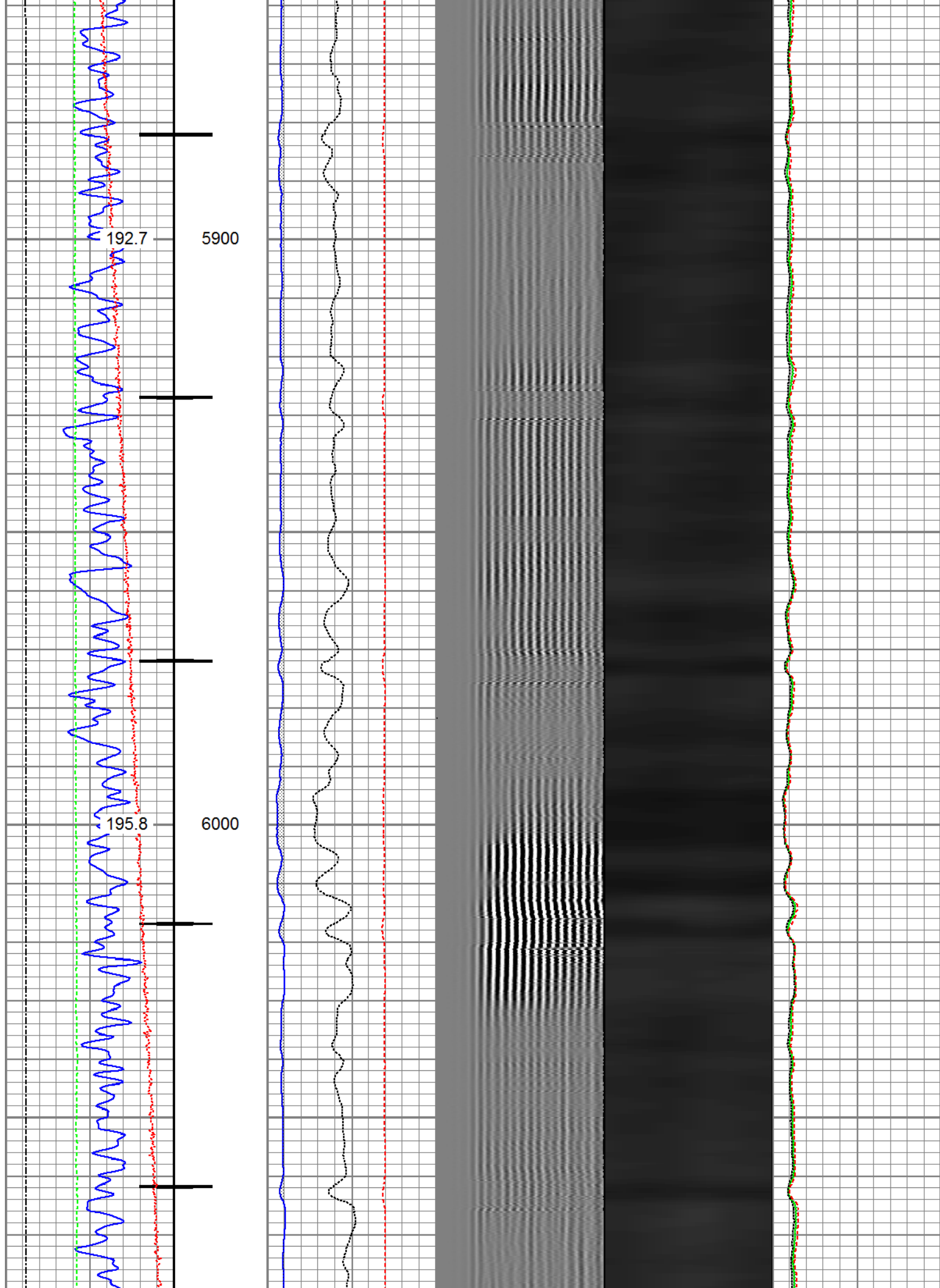


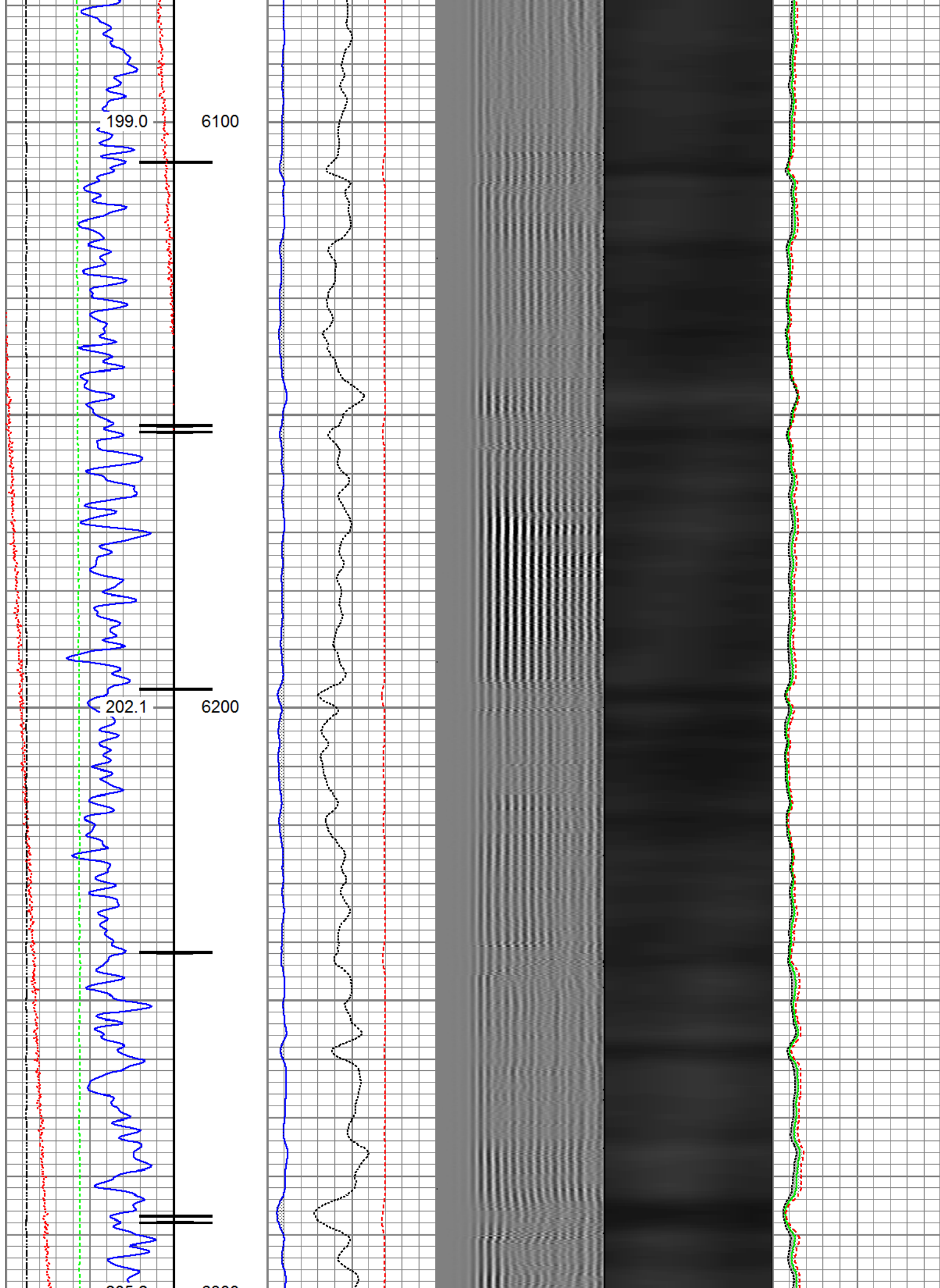


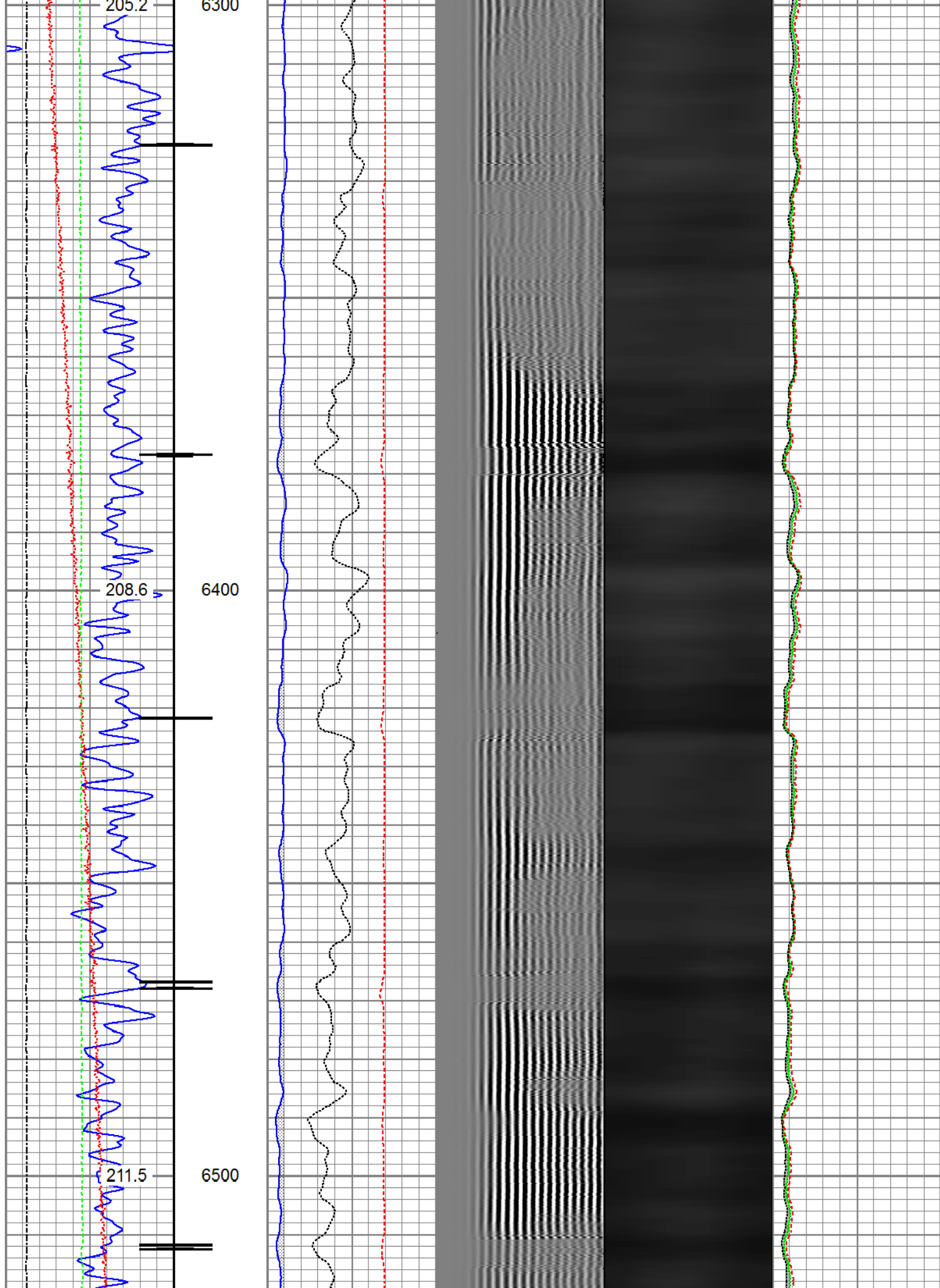


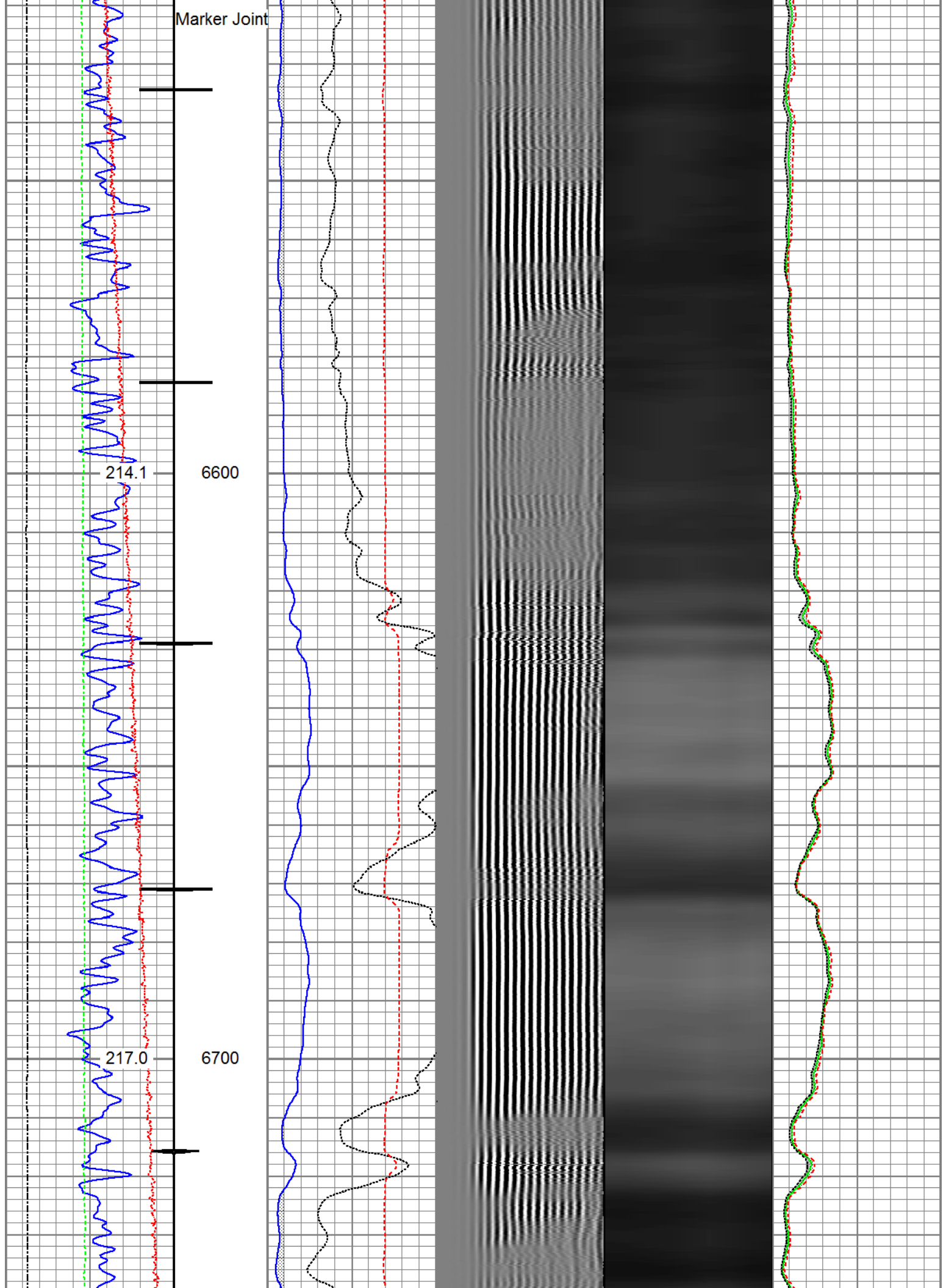


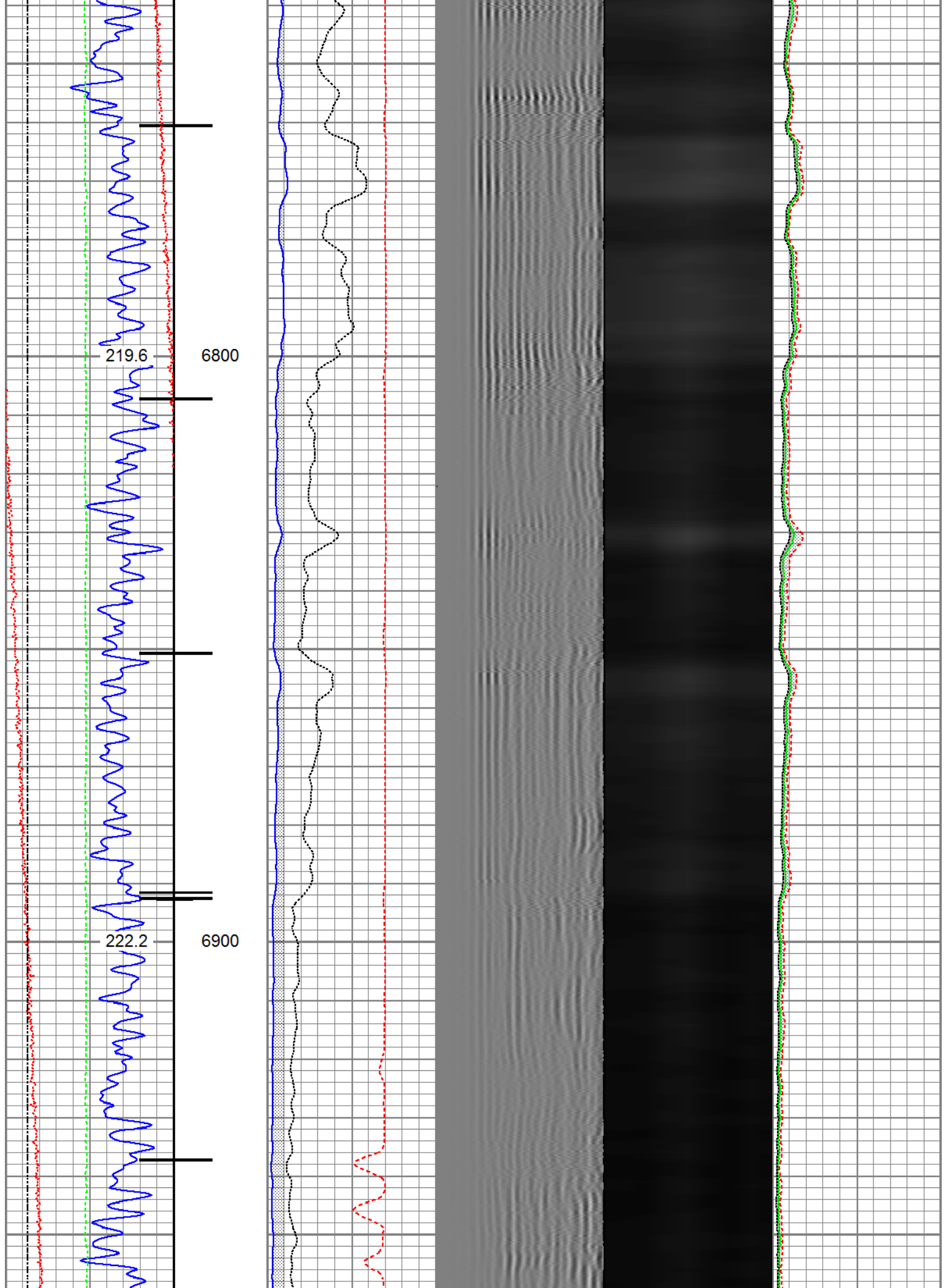


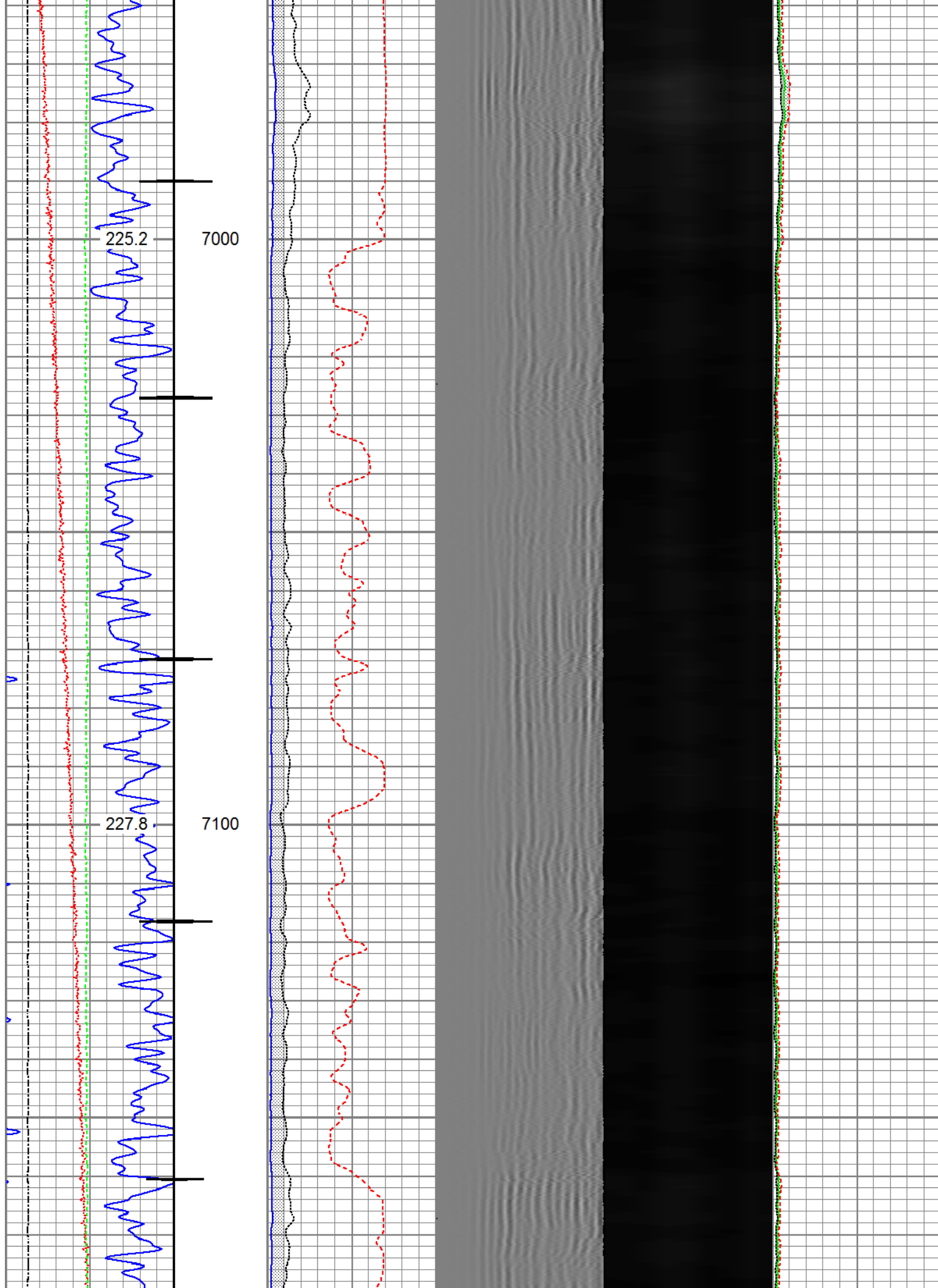


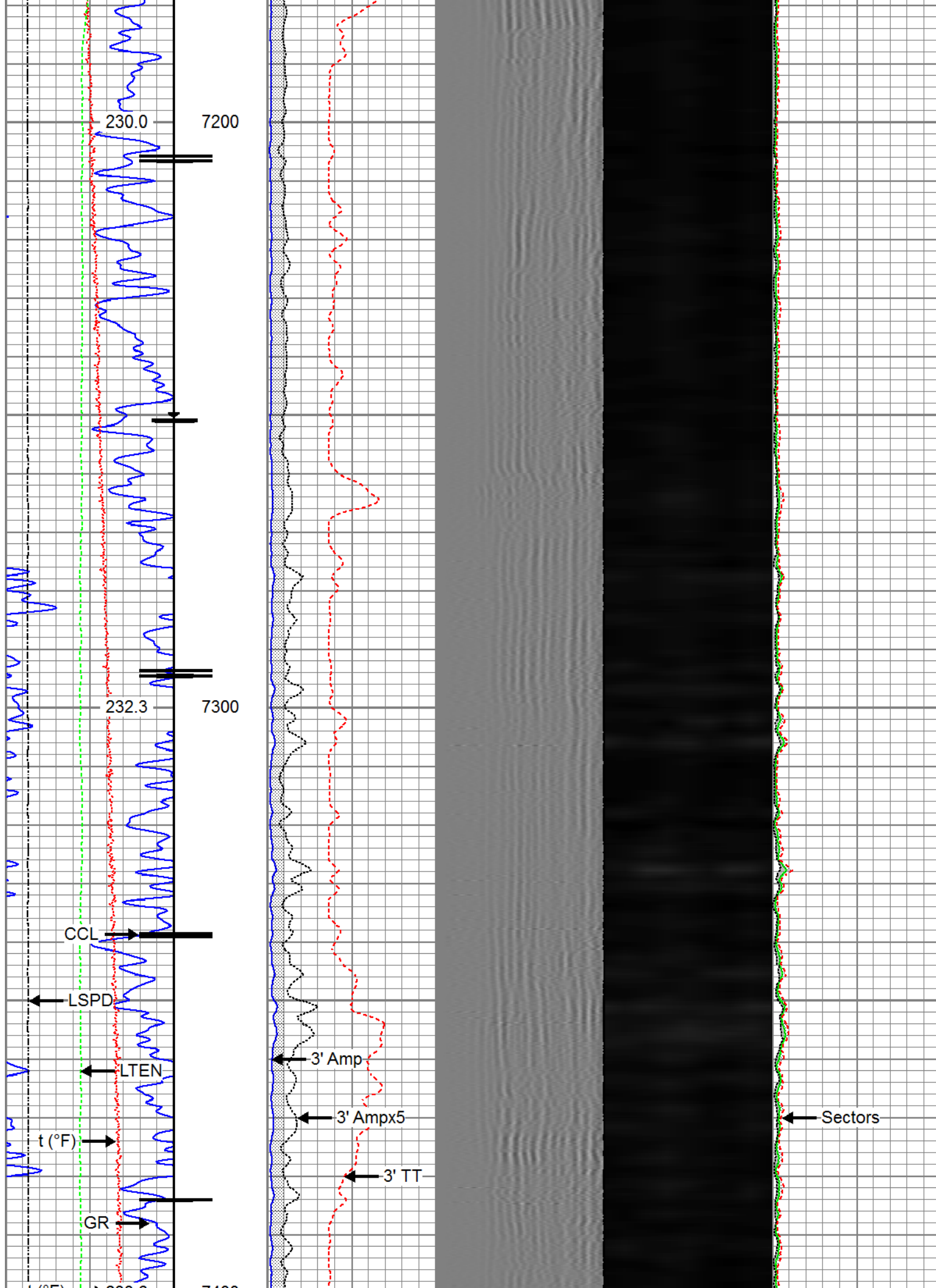


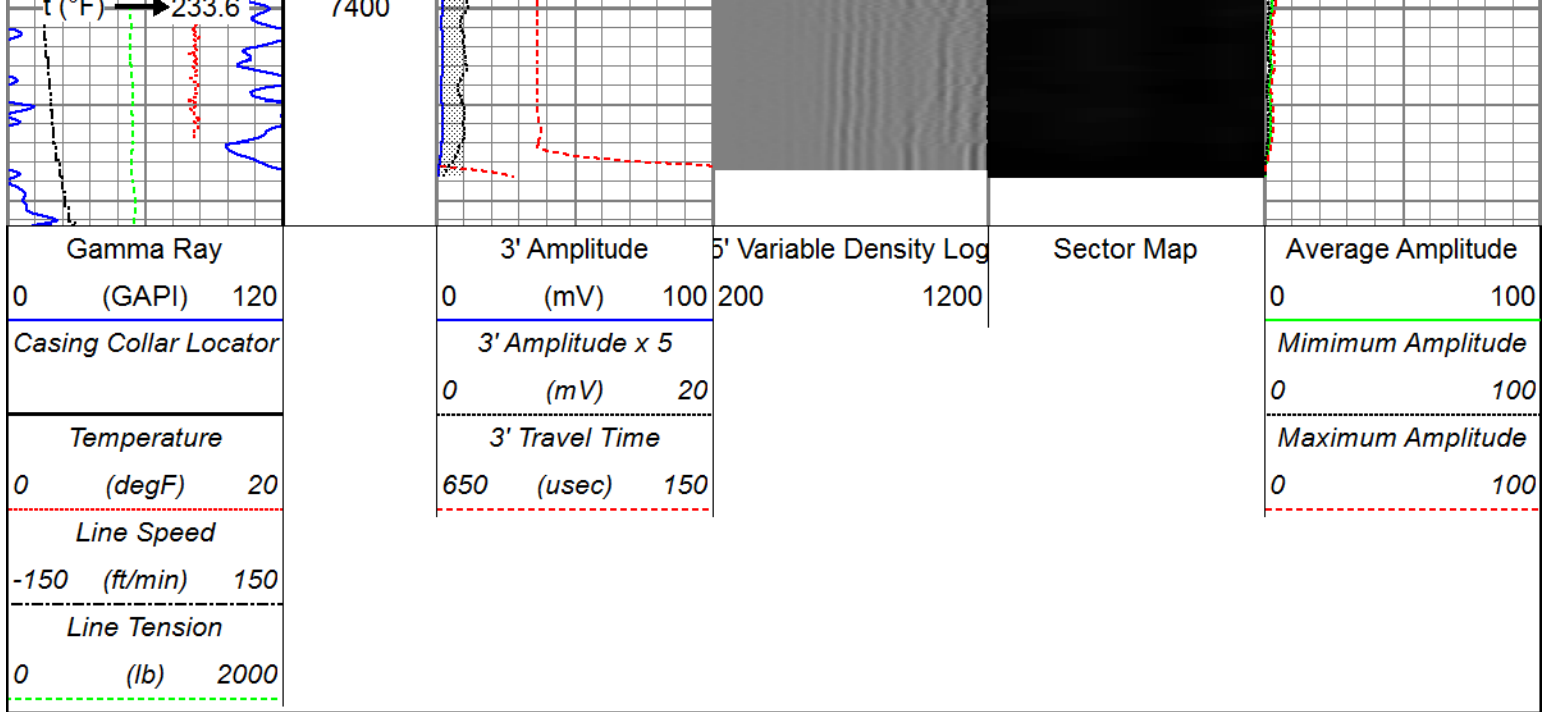








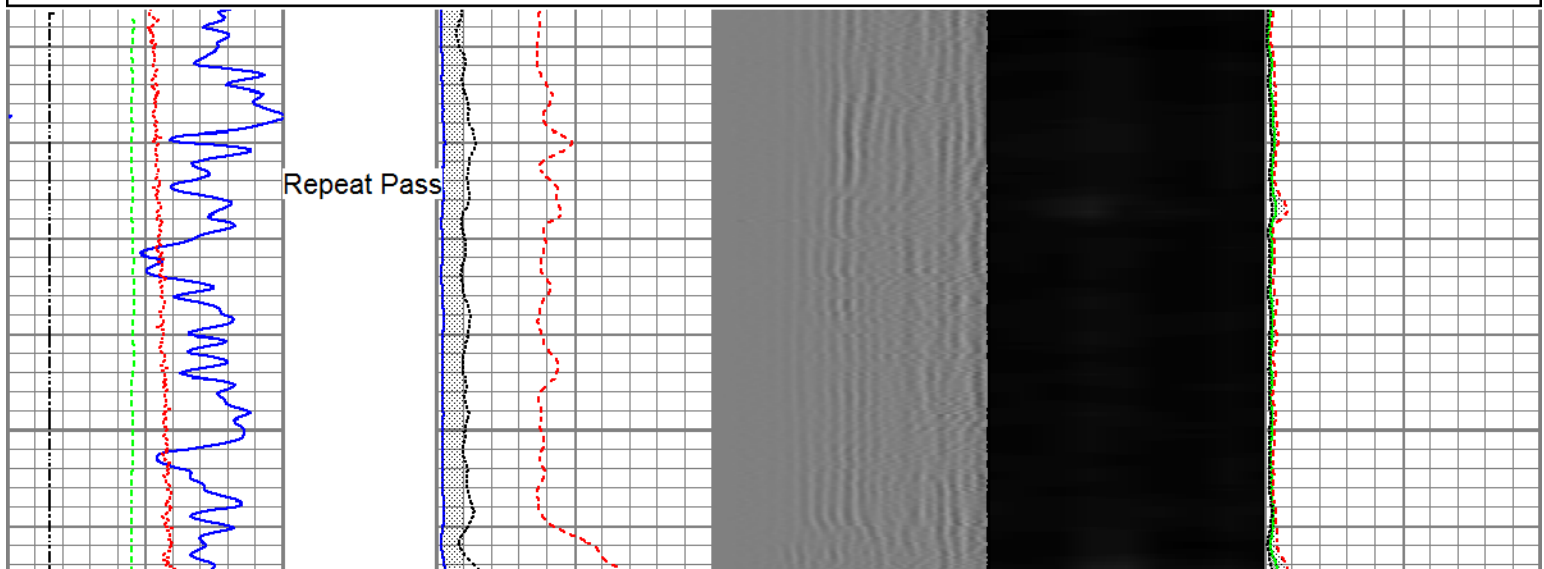
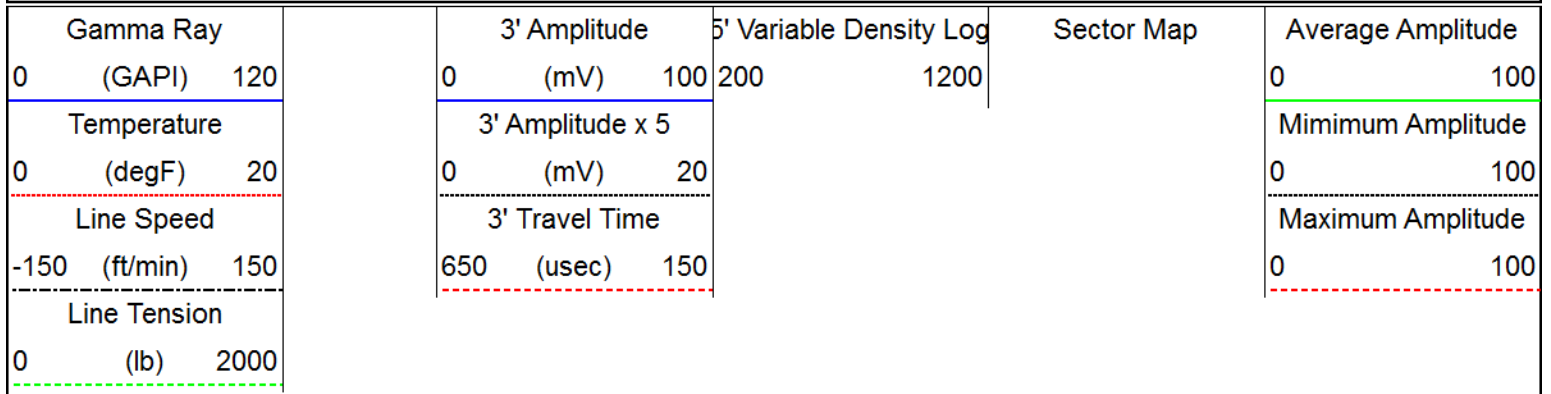


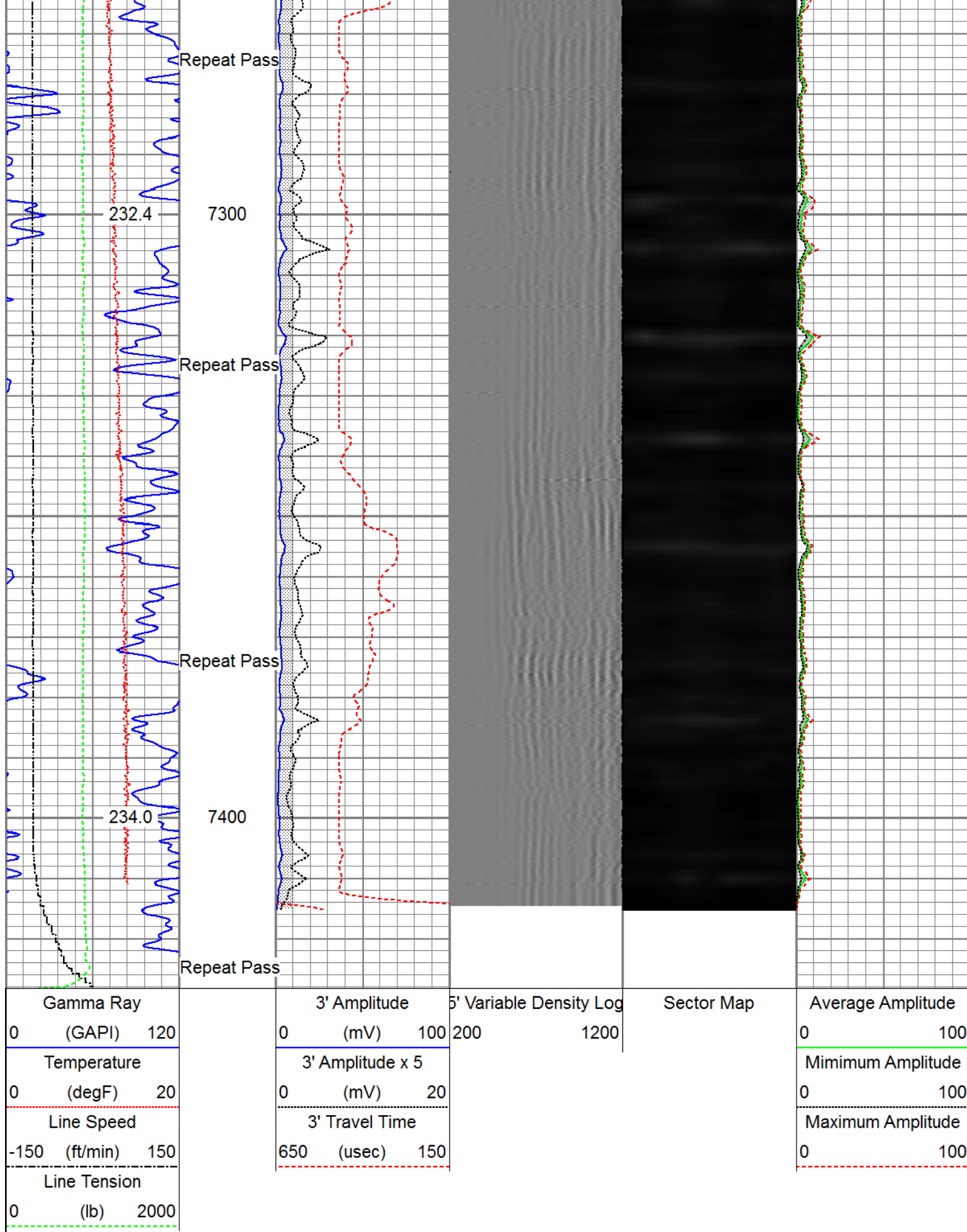



Repeat Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File: anadarko_butterball 40n 34hz_19 jul 2017_rbl\processed_0512344316_anadarko_butterball 40n-34h
 Dataset Pathname: pass2
 Presentation Format: ros_radrii
 Dataset Creation: Wed Jul 19 13:54:37 2017
 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

			Probe_ELine_BowSpring_Centralizer-P_EB52.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	0.40
			Probe_RADII-C-P_RBT_2750 (FW1305-0969.19) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	2.75	105.00
HeadVolt	19.51		Probe_ELine_BowSpring_Centralizer-P_EB52.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
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				
			Probe_ELine_BowSpring_Centralizer-P_EB52.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
DCCL	6.51				
CCL	6.51		Probe_GR_CCL-P_CGR_2750_S (FW13074.54) Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	55.00
GR	3.77		Probe_ELine_BowSpring_Centralizer-P_EB52.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
Dataset: PROCESSED_0512344316_Anadarko_Butterball 40N-34HZ_RBL_07-19_17.db: field/well/run1/pass4 Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in					

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: FW1305-096
Tool Model: P_RBT_2750

Calibration Casing Diameter: 5.500 in
Calibration Depth: 93.089 ft

Master Calibration, performed Wed Jul 19 08:16:22 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.604	0.800	71.921	118.194	0.514
CAL	0.002	0.631				
5'	0.002	0.581	0.800	71.921	122.852	0.526
SUM						
S1	0.002	0.599	0.000	100.000	167.341	-0.292
S2	0.002	0.596	0.000	100.000	168.490	-0.339
S3	0.002	0.591	0.000	100.000	170.011	-0.392
S4	0.002	0.591	0.000	100.000	169.800	-0.400
S5	0.002	0.600	0.000	100.000	167.327	-0.388
S6	0.002	0.605	0.000	100.000	165.917	-0.393
S7	0.002	0.608	0.000	100.000	165.171	-0.397
S8	0.002	0.608	0.000	100.000	165.201	-0.397


Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.002	0.631	1.000	0.000

Air Zero Calibration, performed Wed Jul 19 08:16:43 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.002		0.000		0.000	
5'	0.002		0.000		-0.000	
SUM						
S1	0.002		0.000		0.000	
S2	0.002		0.000		0.000	

S3	0.002	0.000	0.000
S4	0.002	0.000	0.000
S5	0.002	0.000	0.000
S6	0.002	0.000	0.000
S7	0.002	0.000	0.000
S8	0.002	0.000	0.000

	Company	Kerr-McGee Oil & Gas Onshore, L.P.
	Well	Butterball 40N-34HZ
	Field	Wattenberg
	County	Weld
	State	Colorado