

Radial Cement Bond Gamma Ray Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.					
Well	Encore 26N-12HZ					
Field	Wattenberg					
County	Larimer					
State	Colorado					
Company	Kerr-McGee Oil & Gas Onshore, L.P.					
Well	Encore 26N-12HZ					
Field	Wattenberg					
County	Larimer State Colorado					
Location:	API # : 05-069-06481					
SEC 12 TWP 5N RGE 68W		Other Services Gauge Ring				
Permanent Datum	Ground Level				Elevation	4992'
Log Measured From	Kelly Bushing				16 FT	
Drilling Measured From	Kelly Bushing					
		Elevation				
		K.B. 5008'				
		D.F. 5007'				
		G.L. 4992'				

Date	22-SEP-2015
Run Number	One
Depth Driller	14030 FT
Depth Logger	7719 FT
Bottom Logged Interval	7715 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	222°F
Estimated Cement Top	Surface
Time Well Ready	ROA
Time Logger on Bottom	13:00
Equipment Number	HD-0324
Location	Fort Lupton, CO
Recorded By	Chad Bryan
Witnessed By	Steve Vigil

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	1867 FT		
Intermediate #1	5 1/2	17	HCP-110	Surface	14030 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 Kelly Bushing at 16 FT
 Gauge Ring ran to 7760 FT prior to log, with no debris found in Junk Basket
 Log ran from as deep as possible in heel to surface
 Casing Tally reported Marker Joint at 6665 FT
 Recorded Marker Joints at 6688 FT to 6711 FT
 Recorded with 2800 PSI surface induced pressure
 Logging tools were clean and free of any debris upon completion of operations
 Thank you for choosing FMC Technologies Completion Services, Inc.!!

Database File: c:\warrior\data\0506906481_anadarko_encore 26n-12hz_09-22-15_rbl_revised\0506906481_anadarko

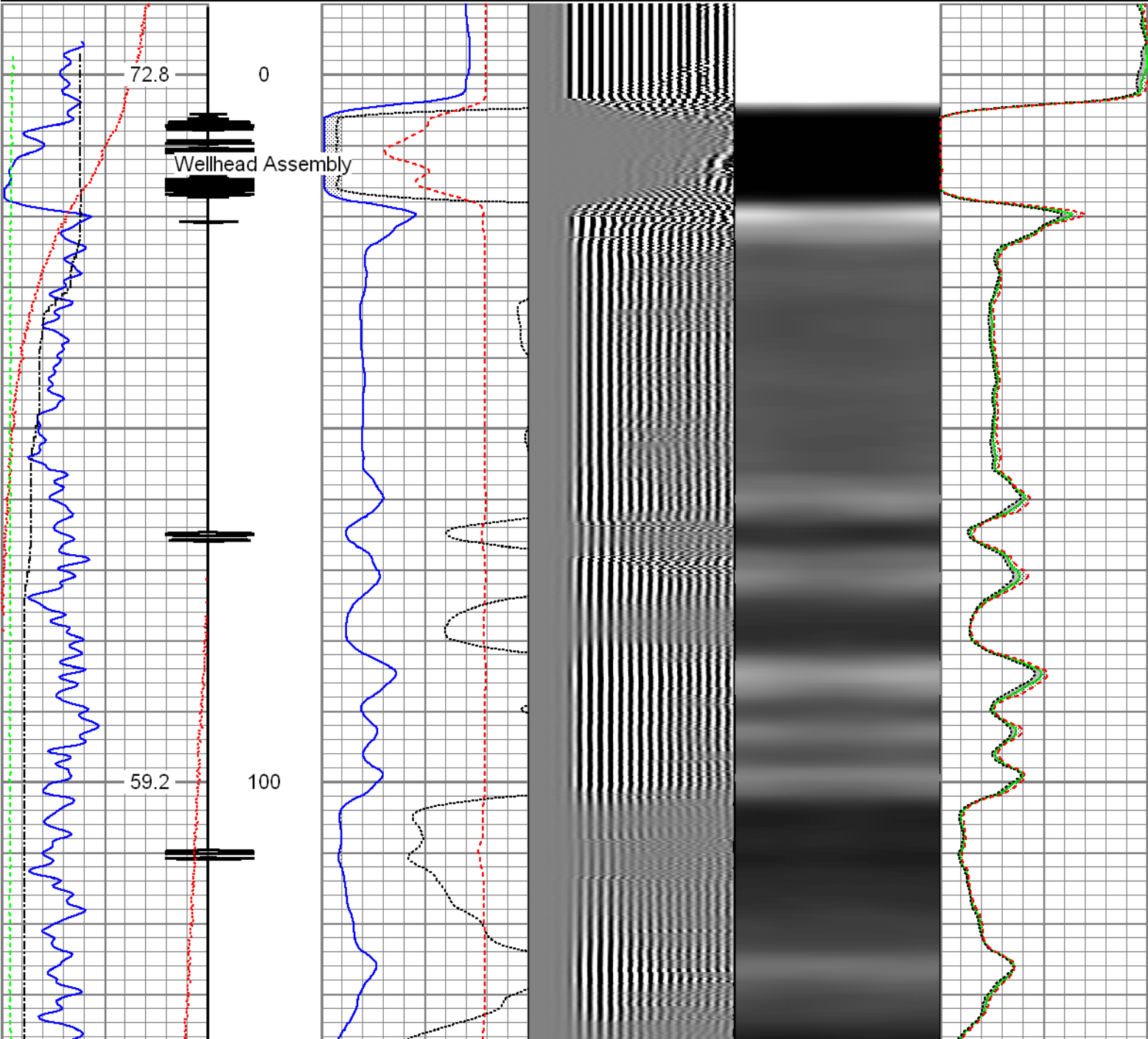
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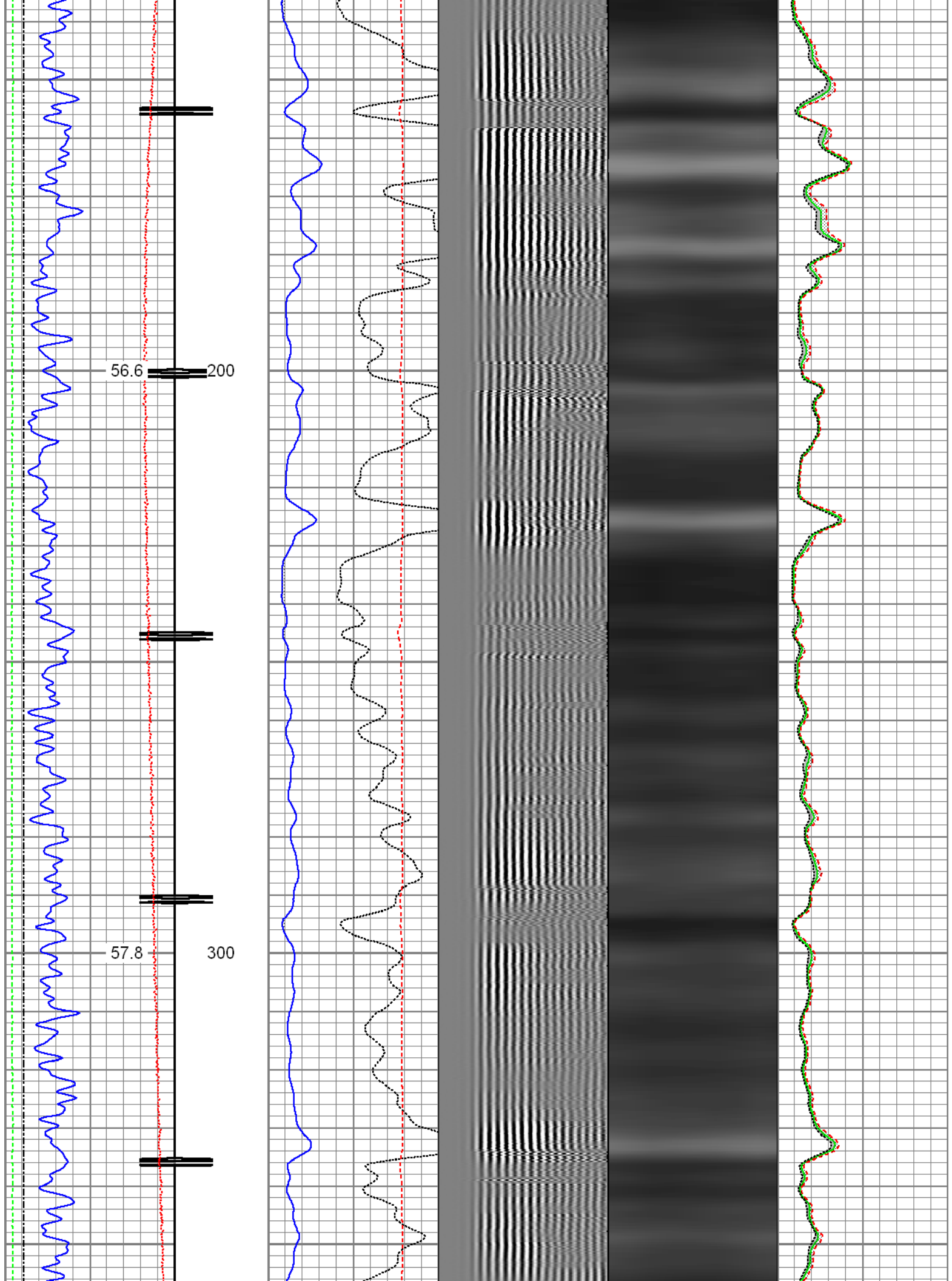
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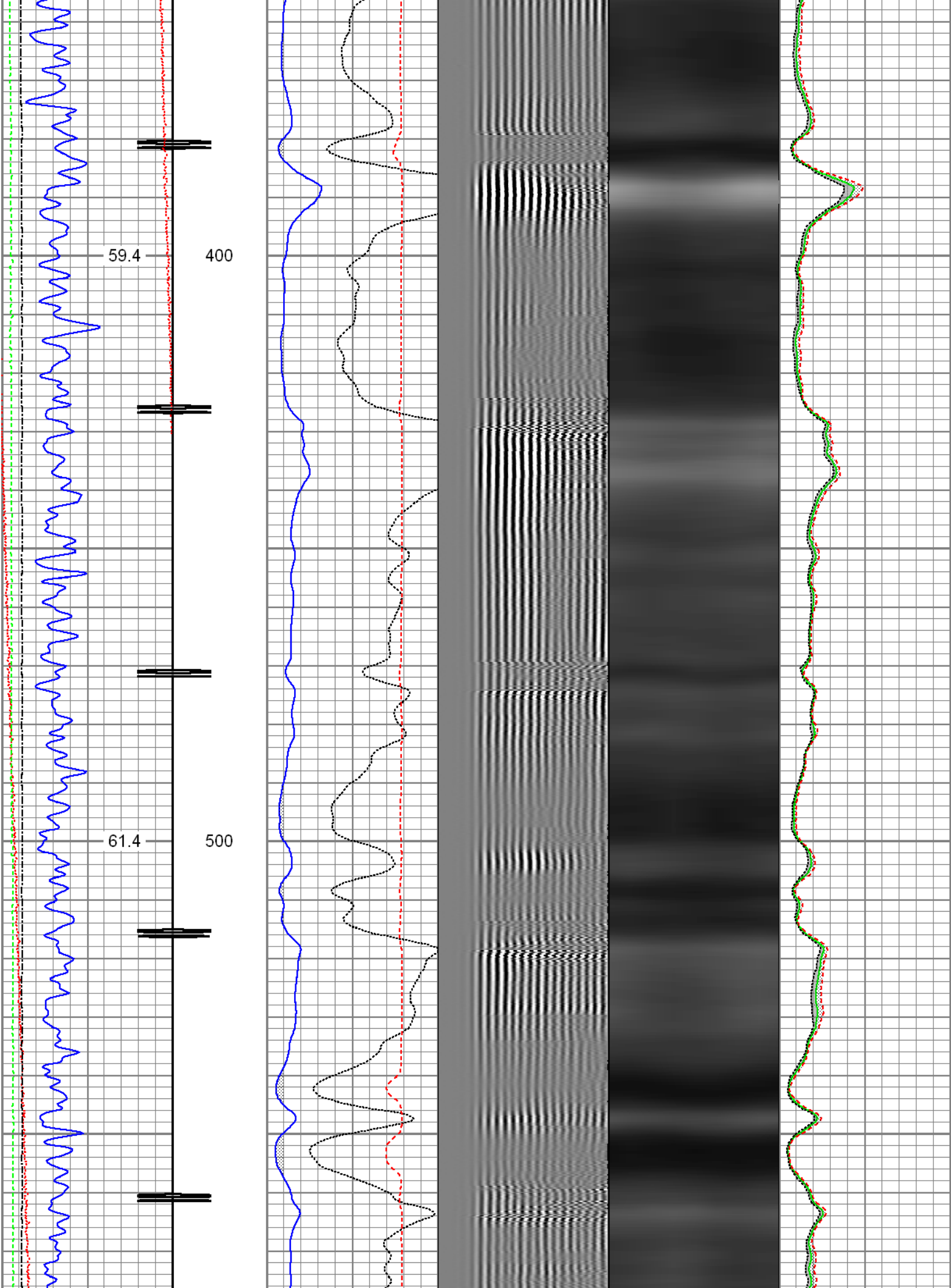
Dataset Creation: Thu Sep 24 18:47:35 2015 by Calc 7.0 B1

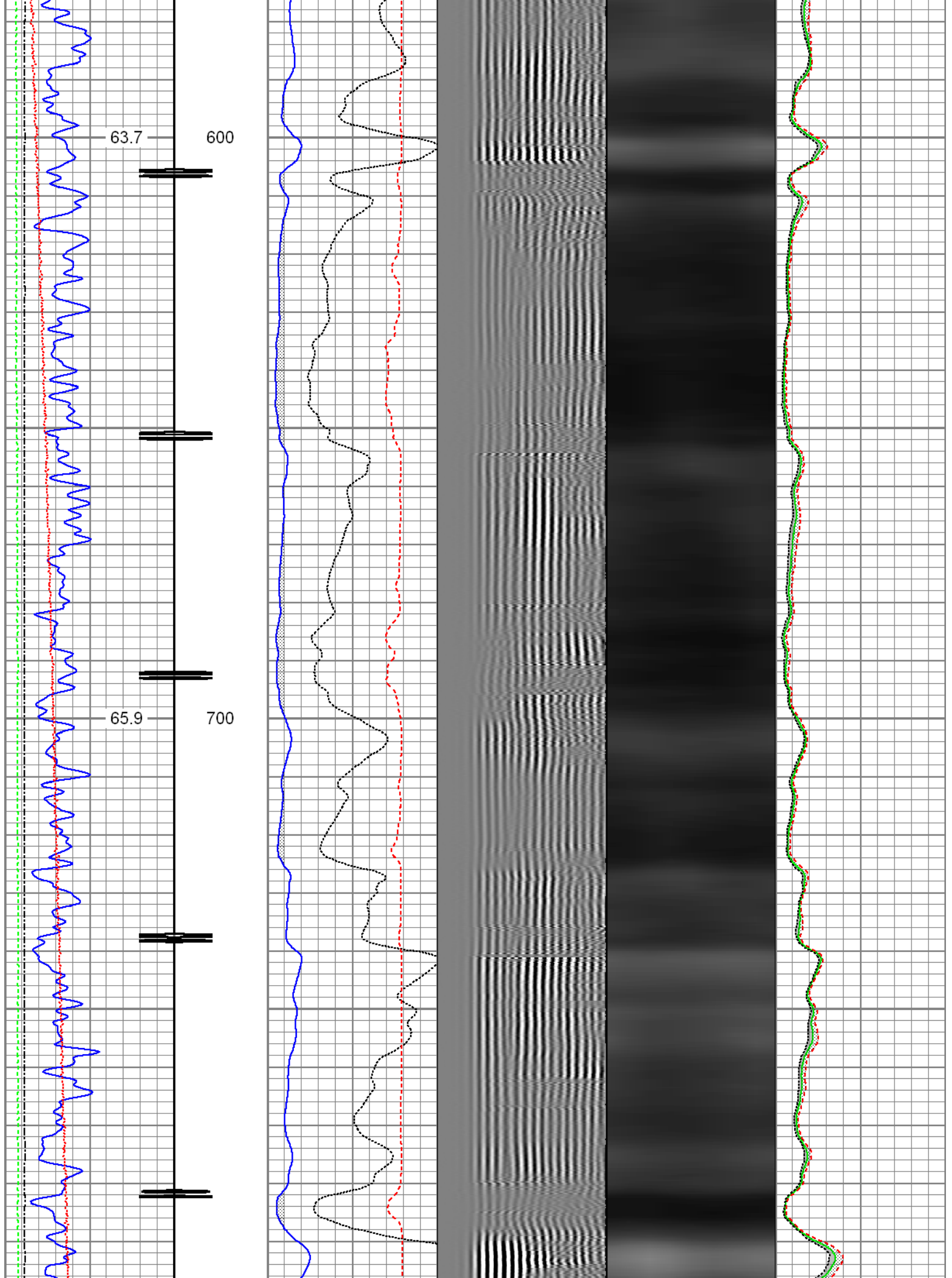
Charted by: Depth in Feet scaled 1:240

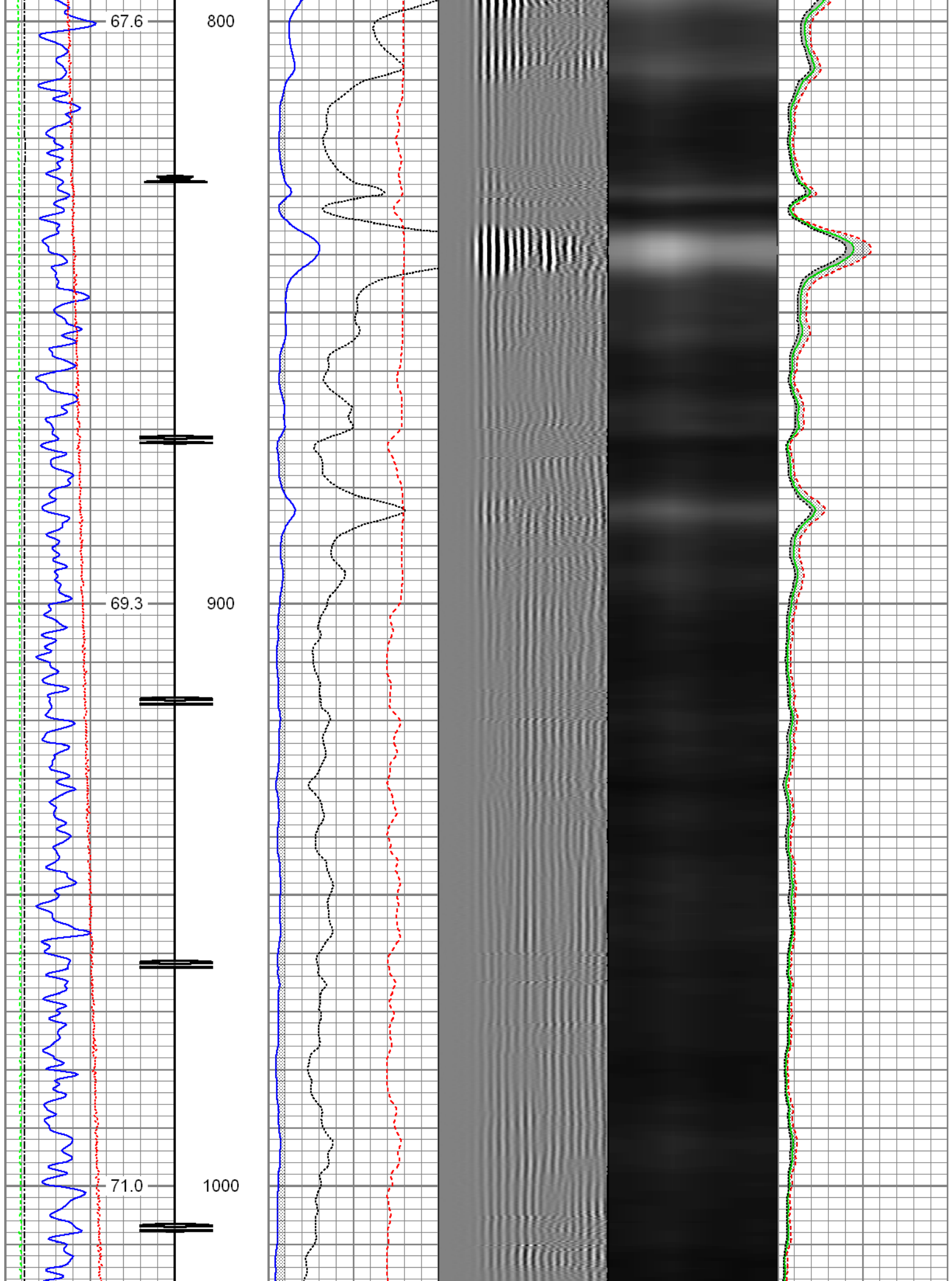
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

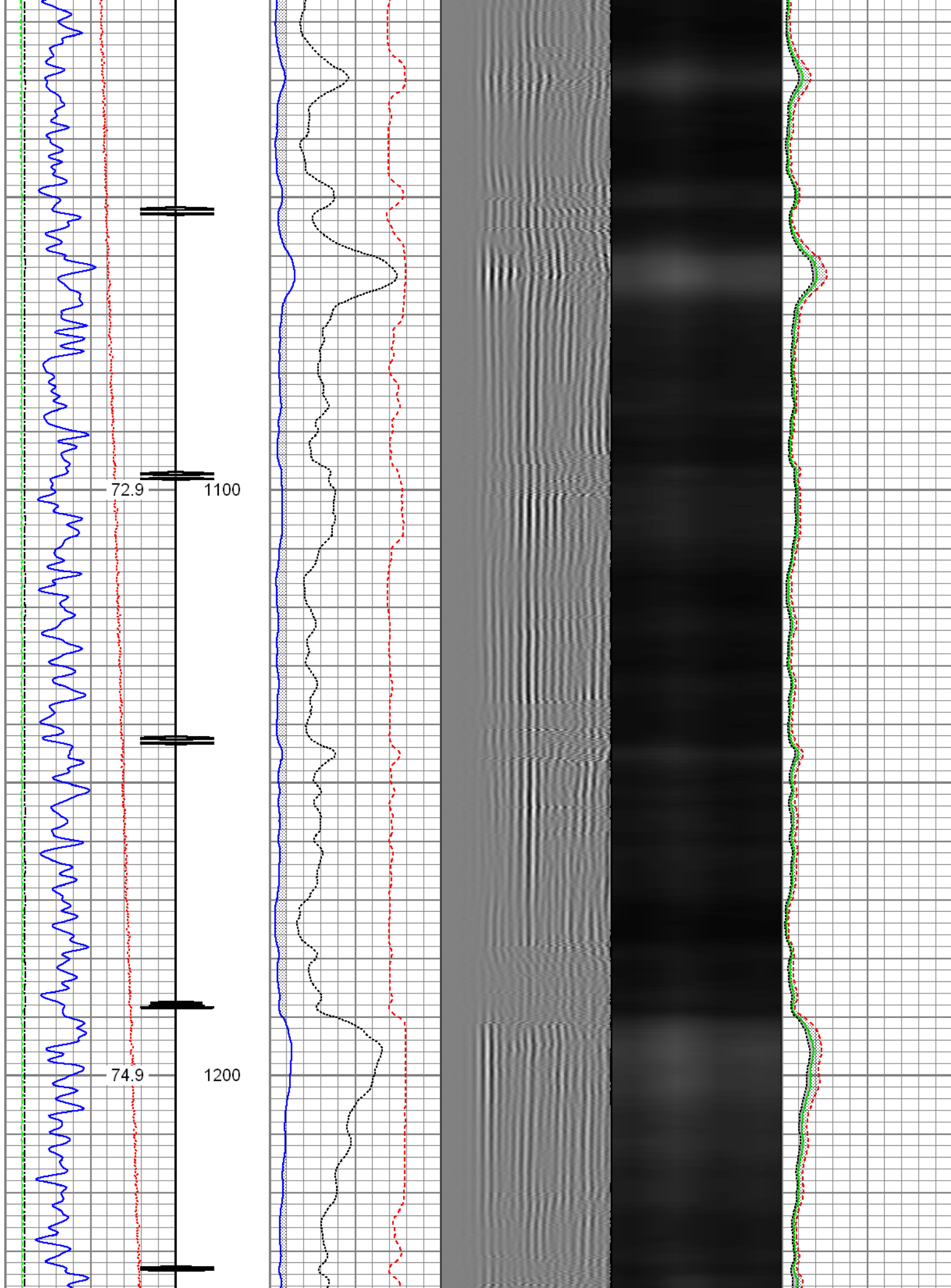


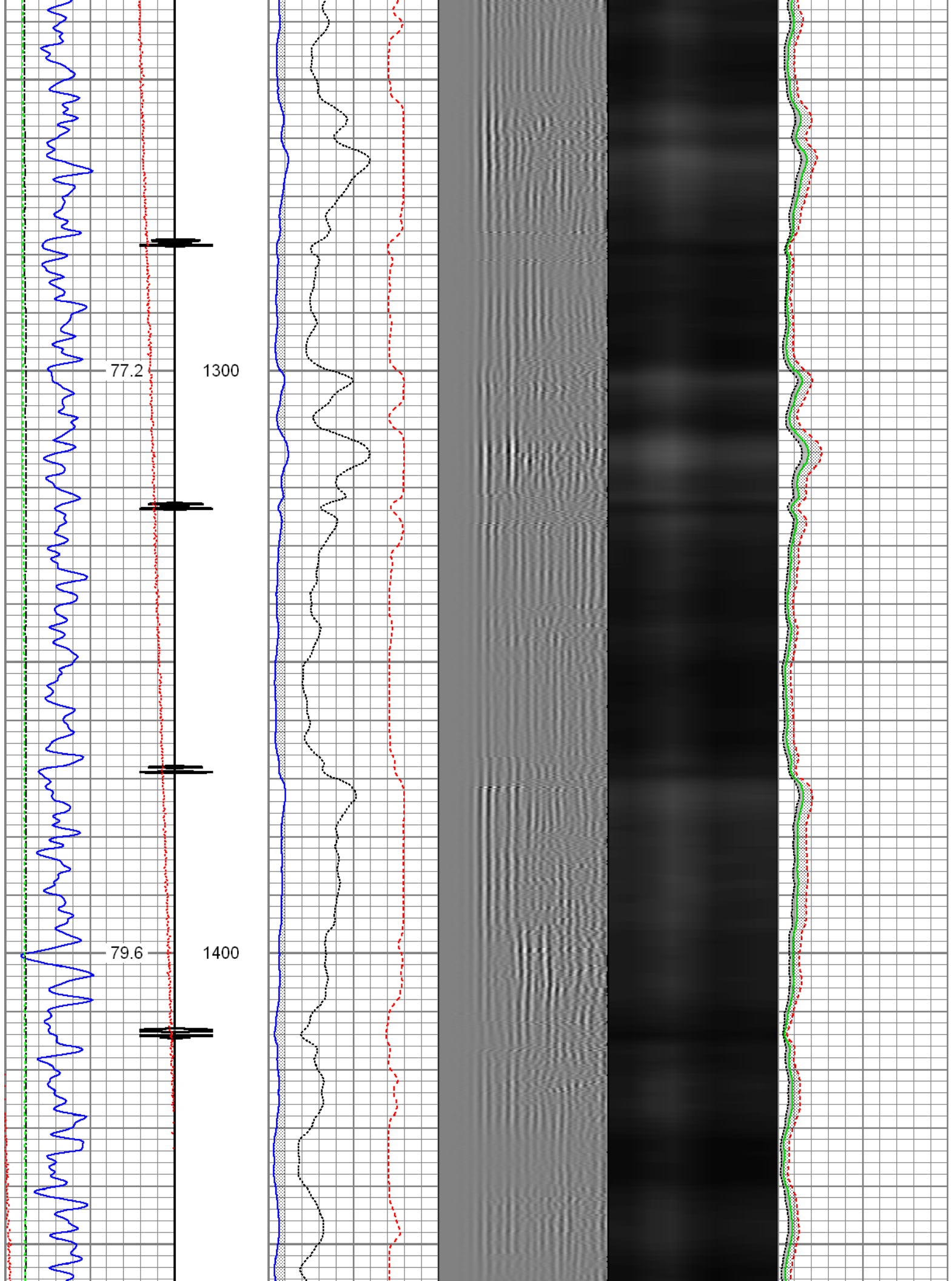


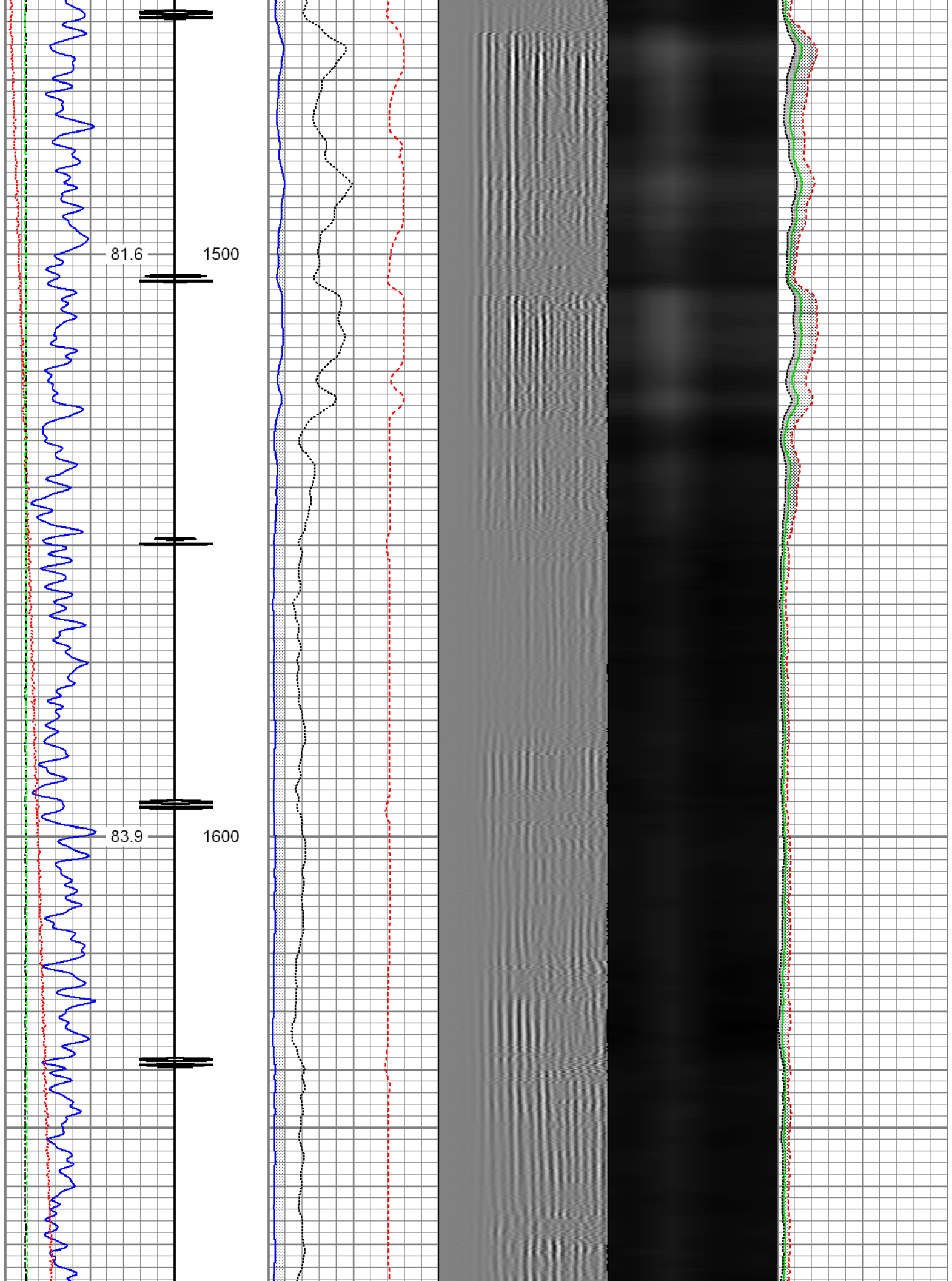


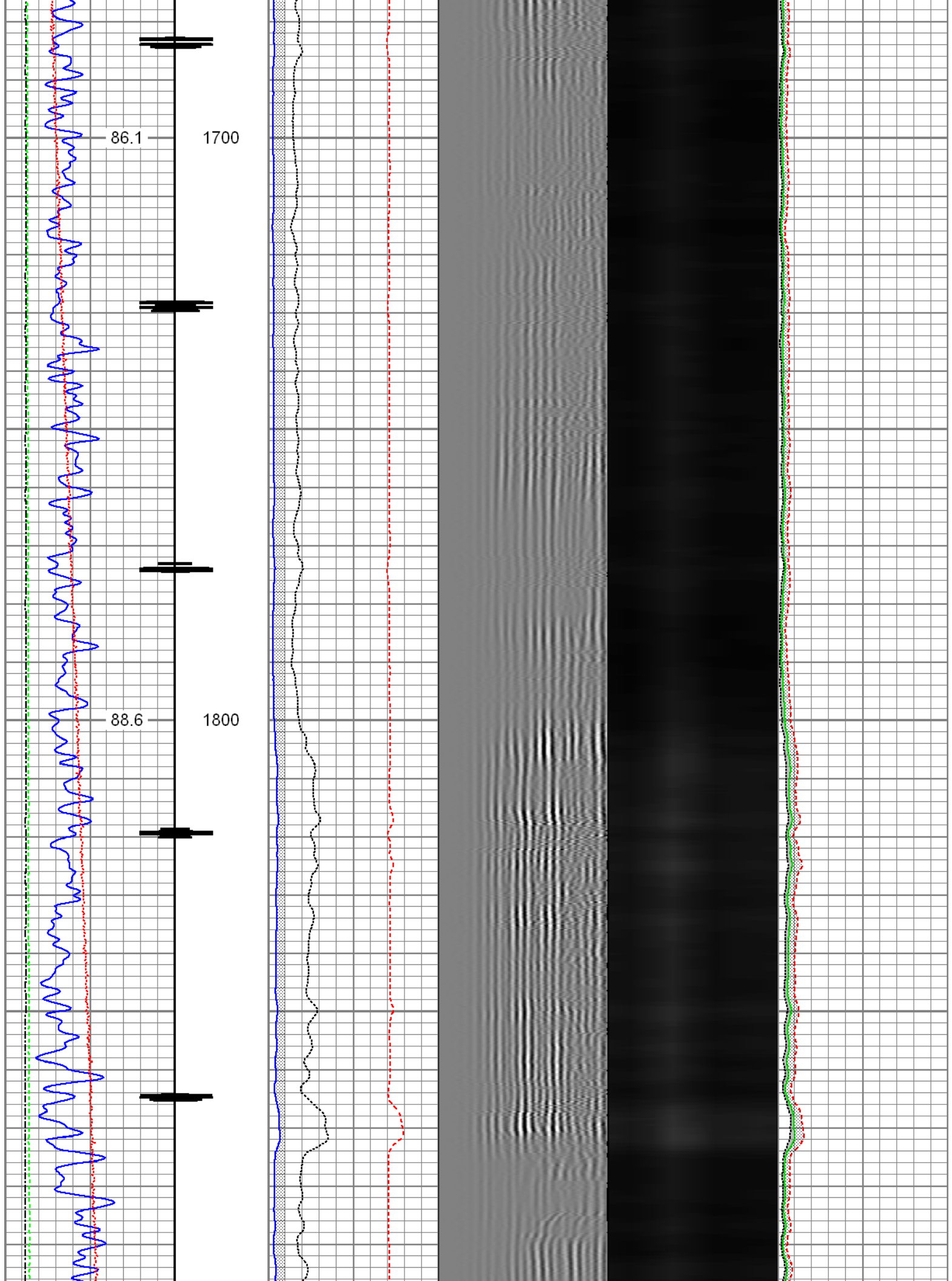


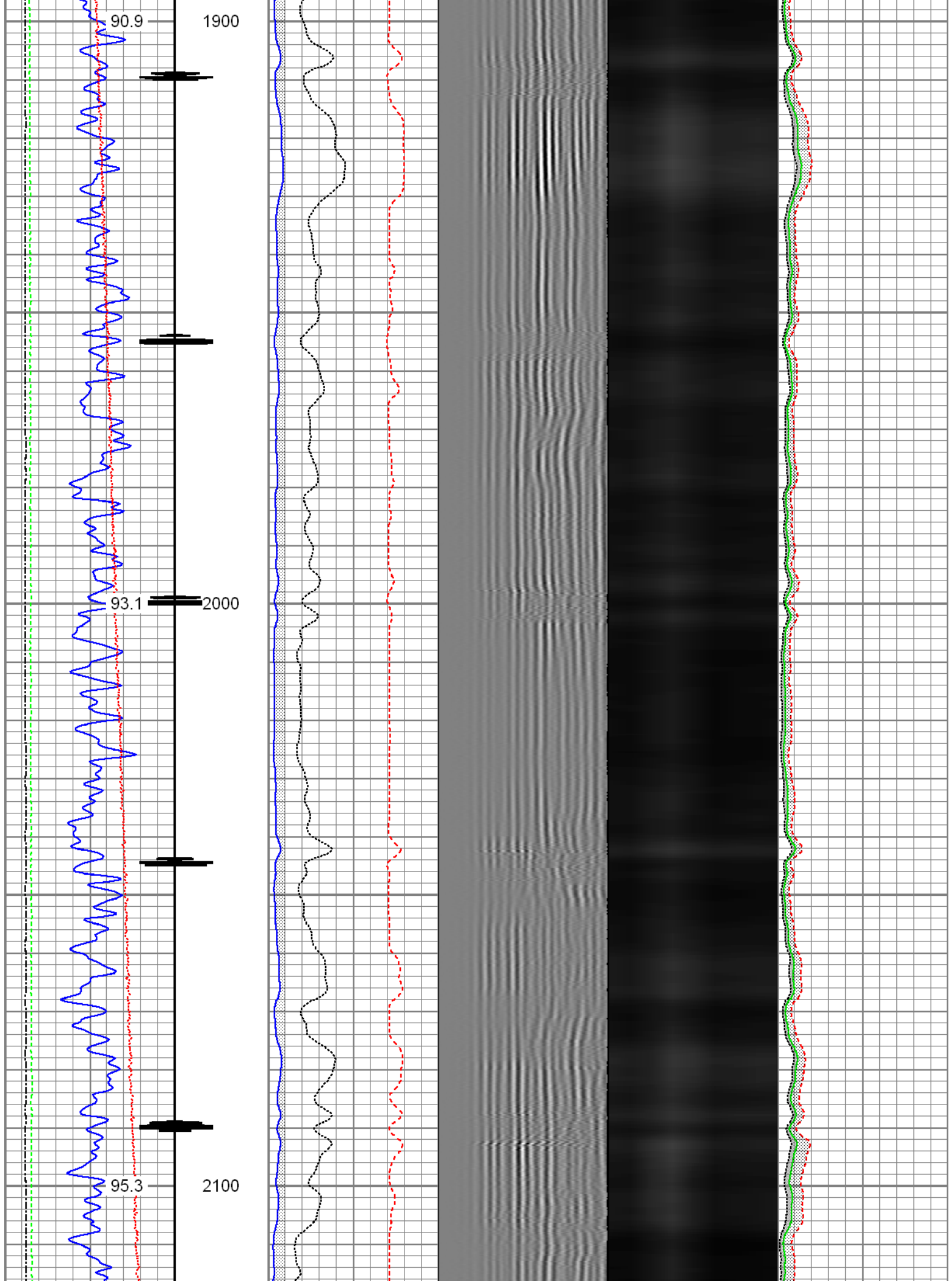


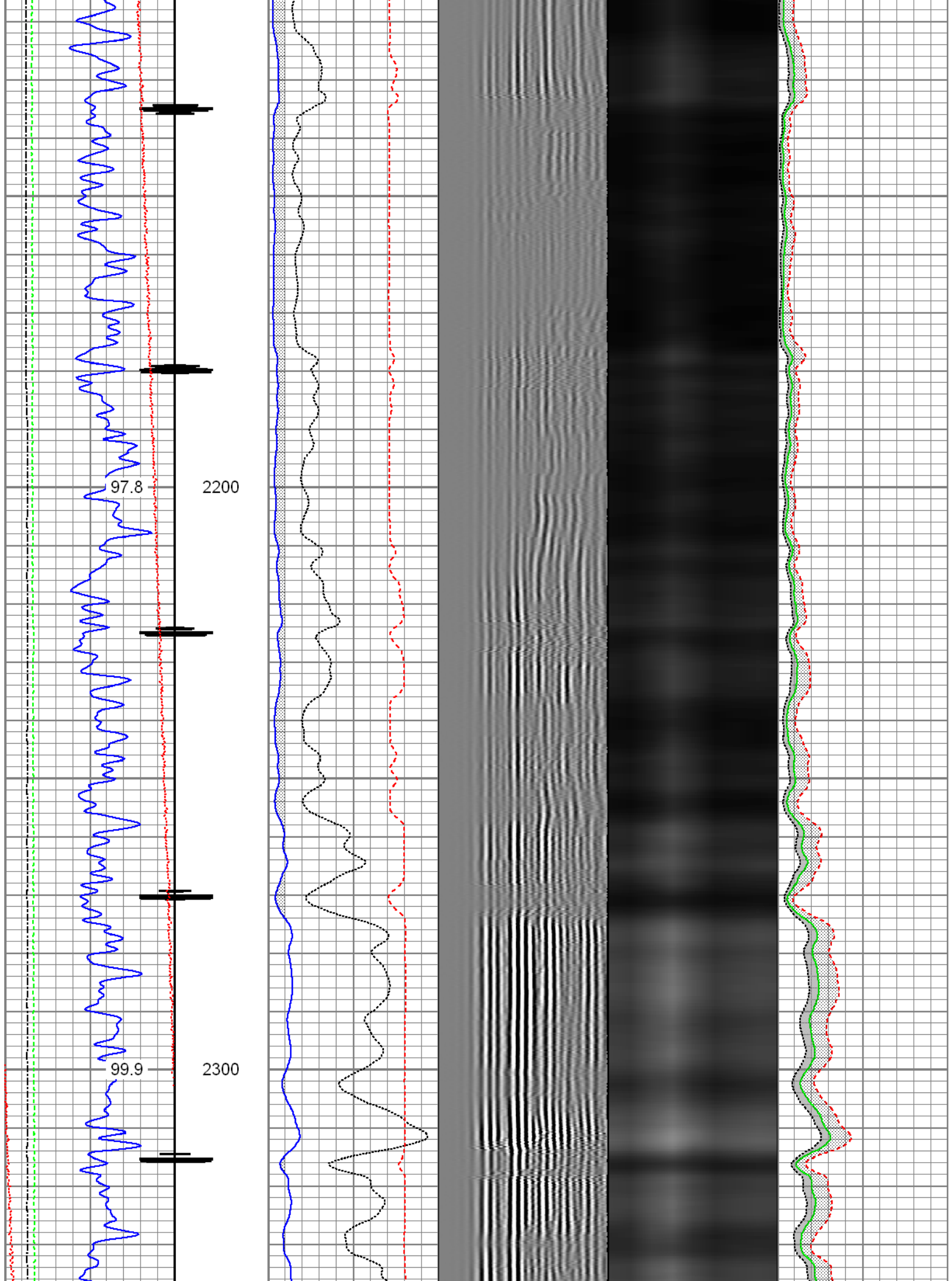


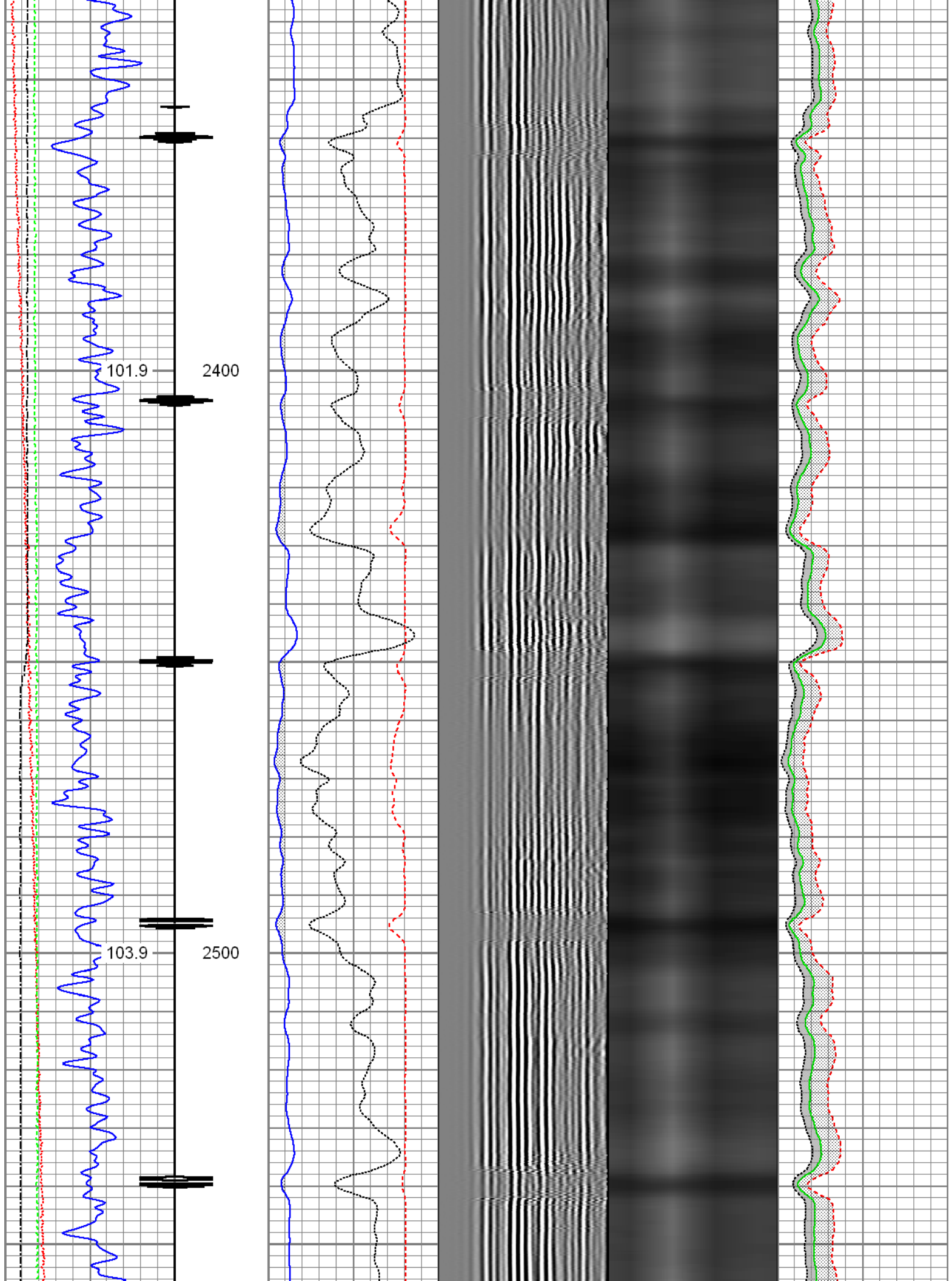


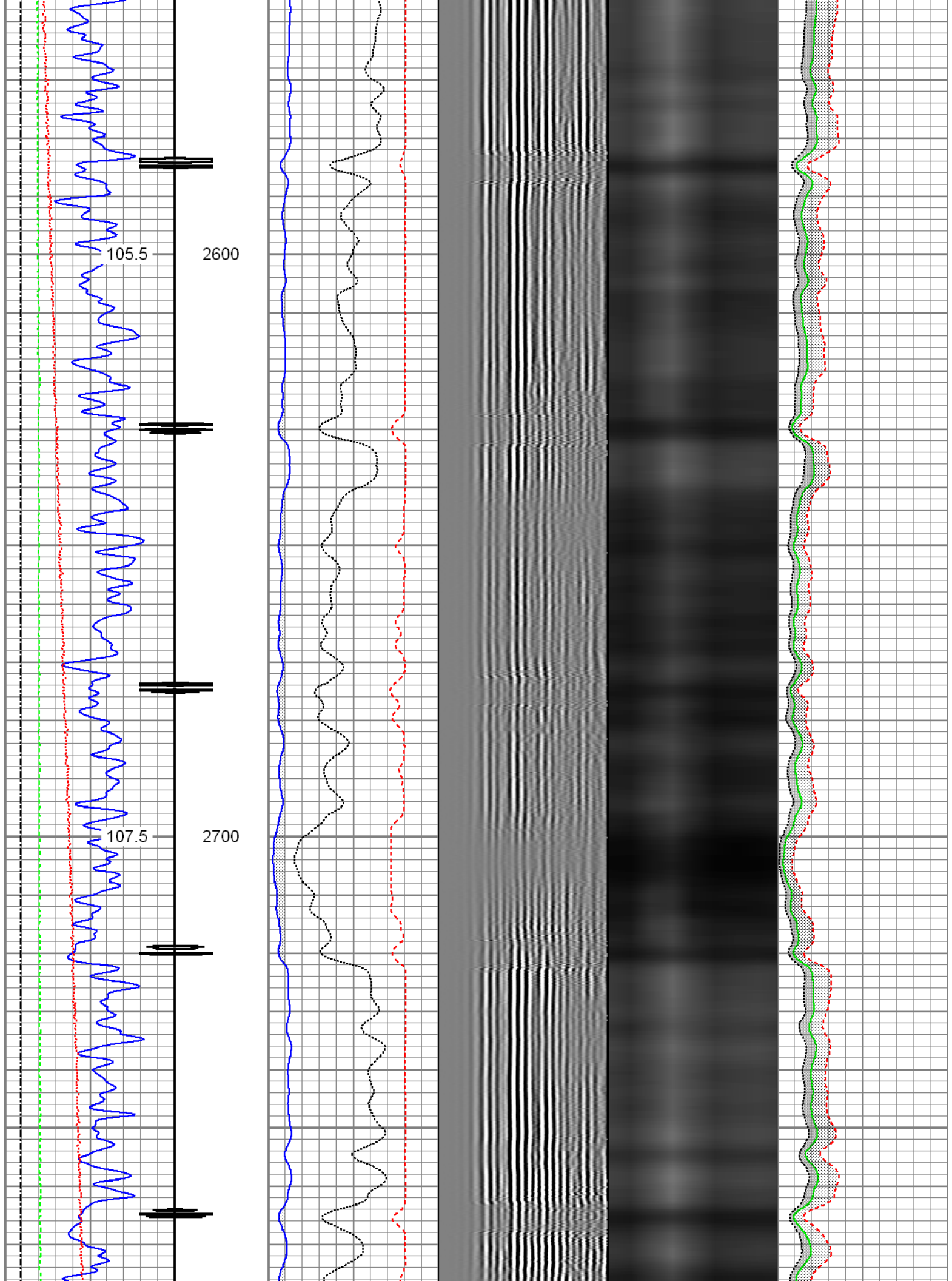


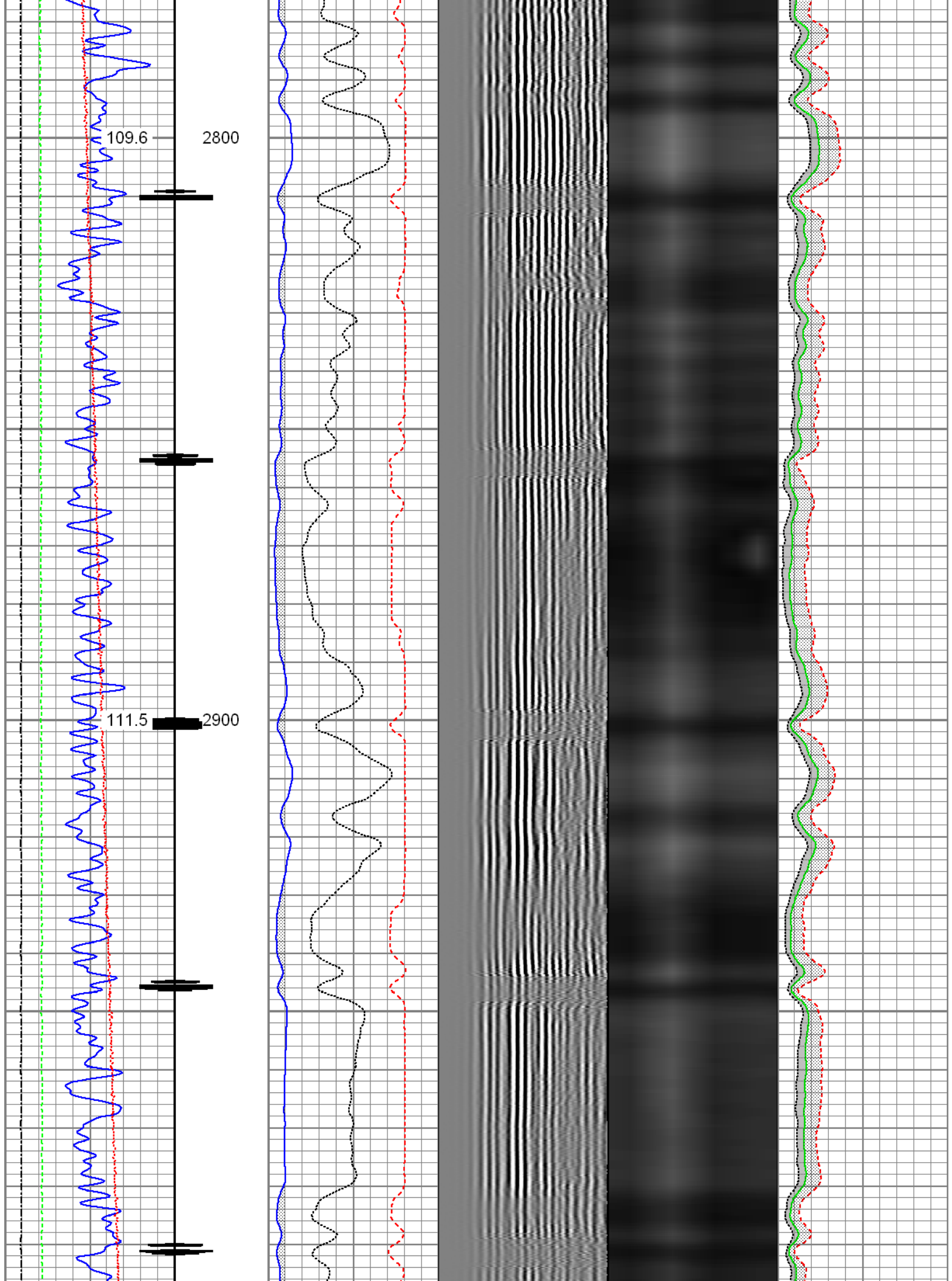


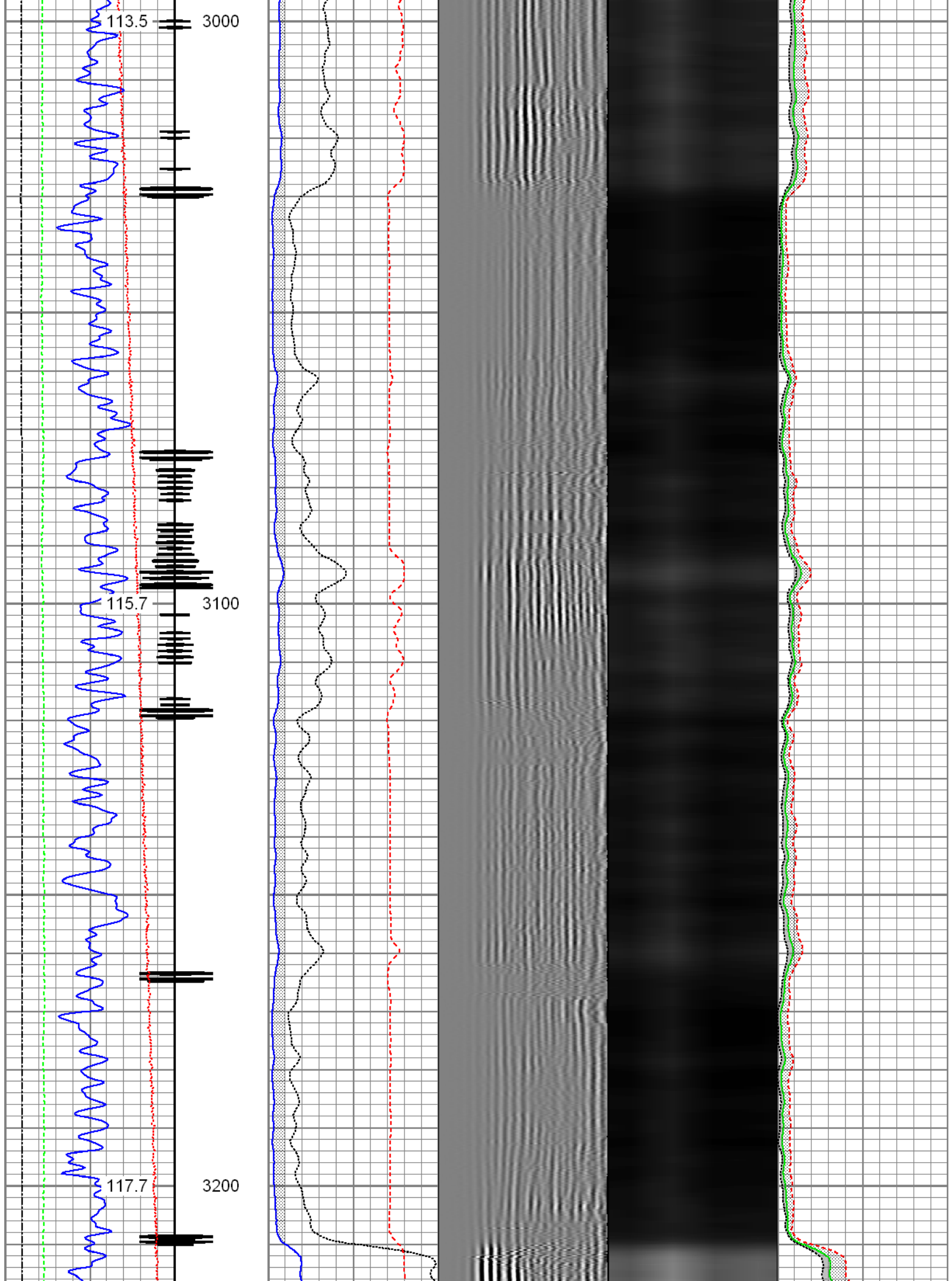


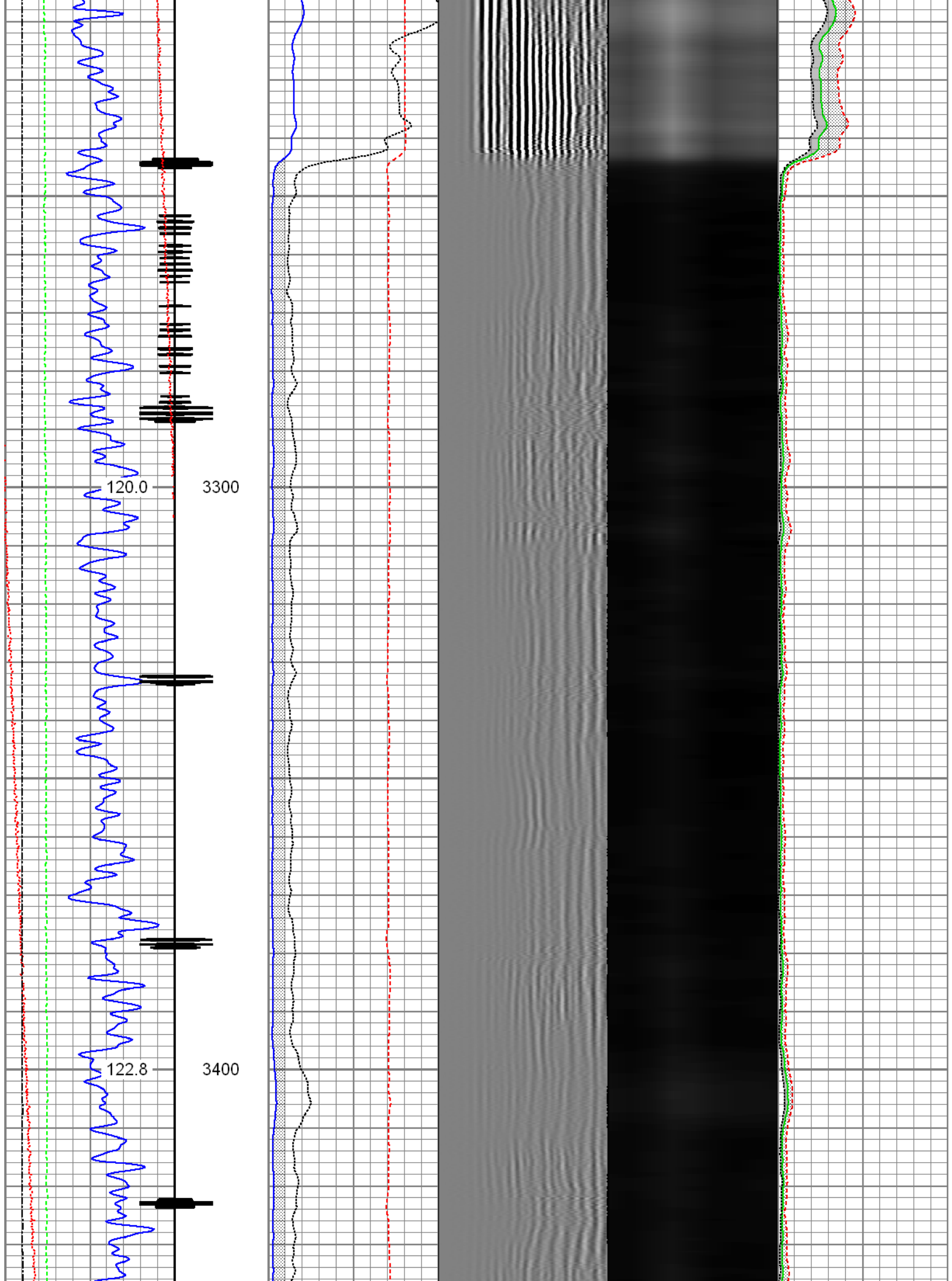


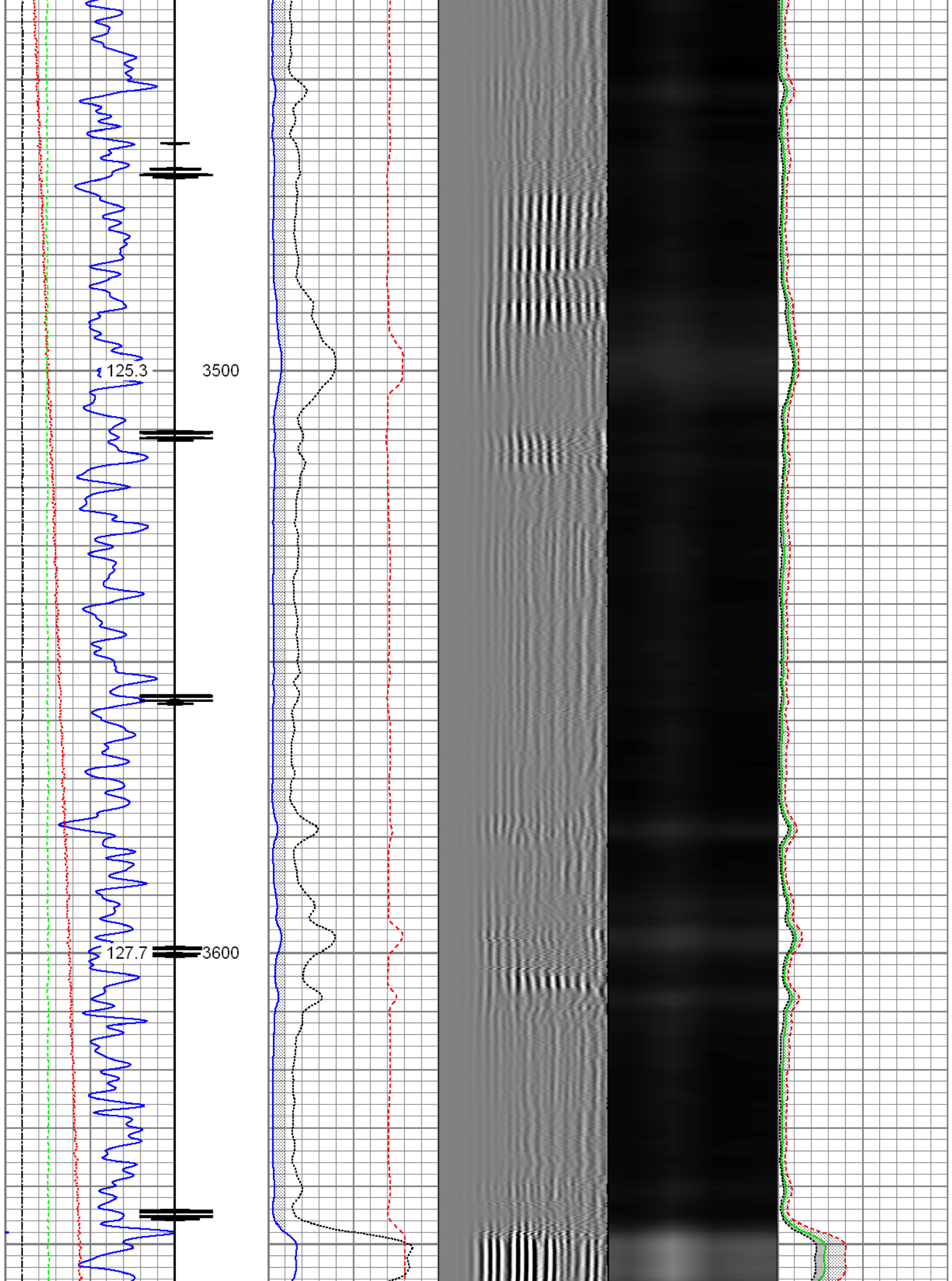


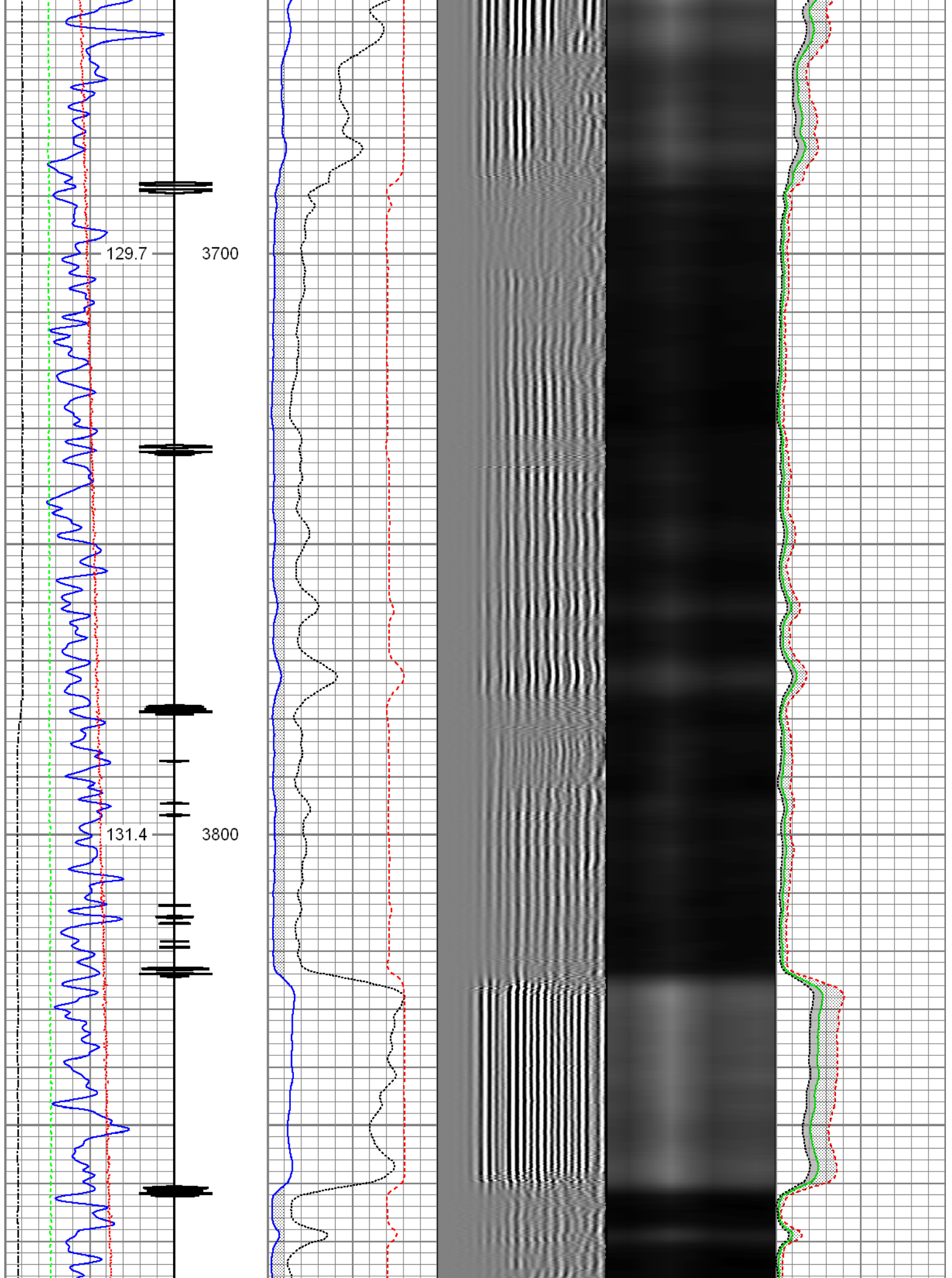


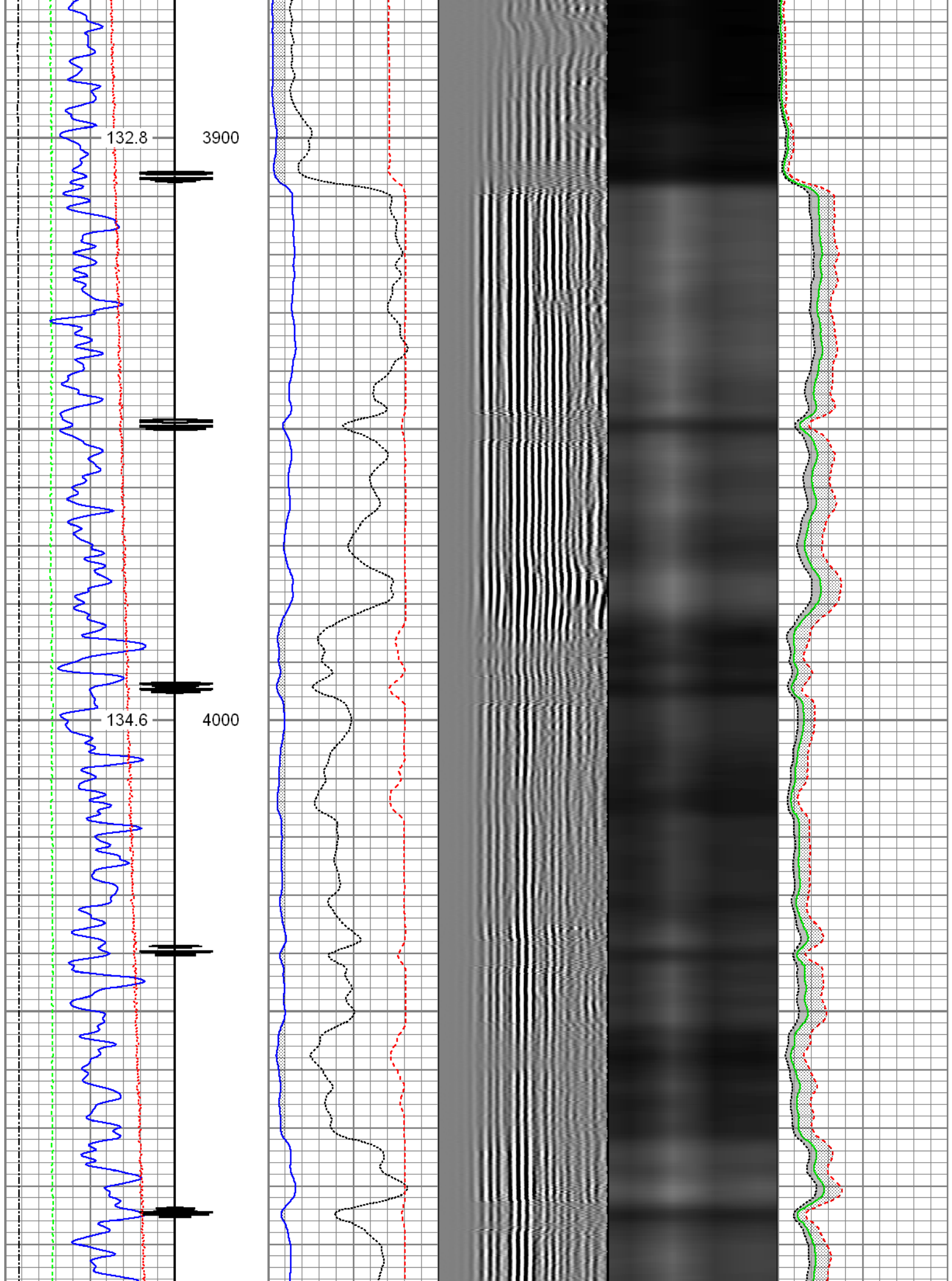


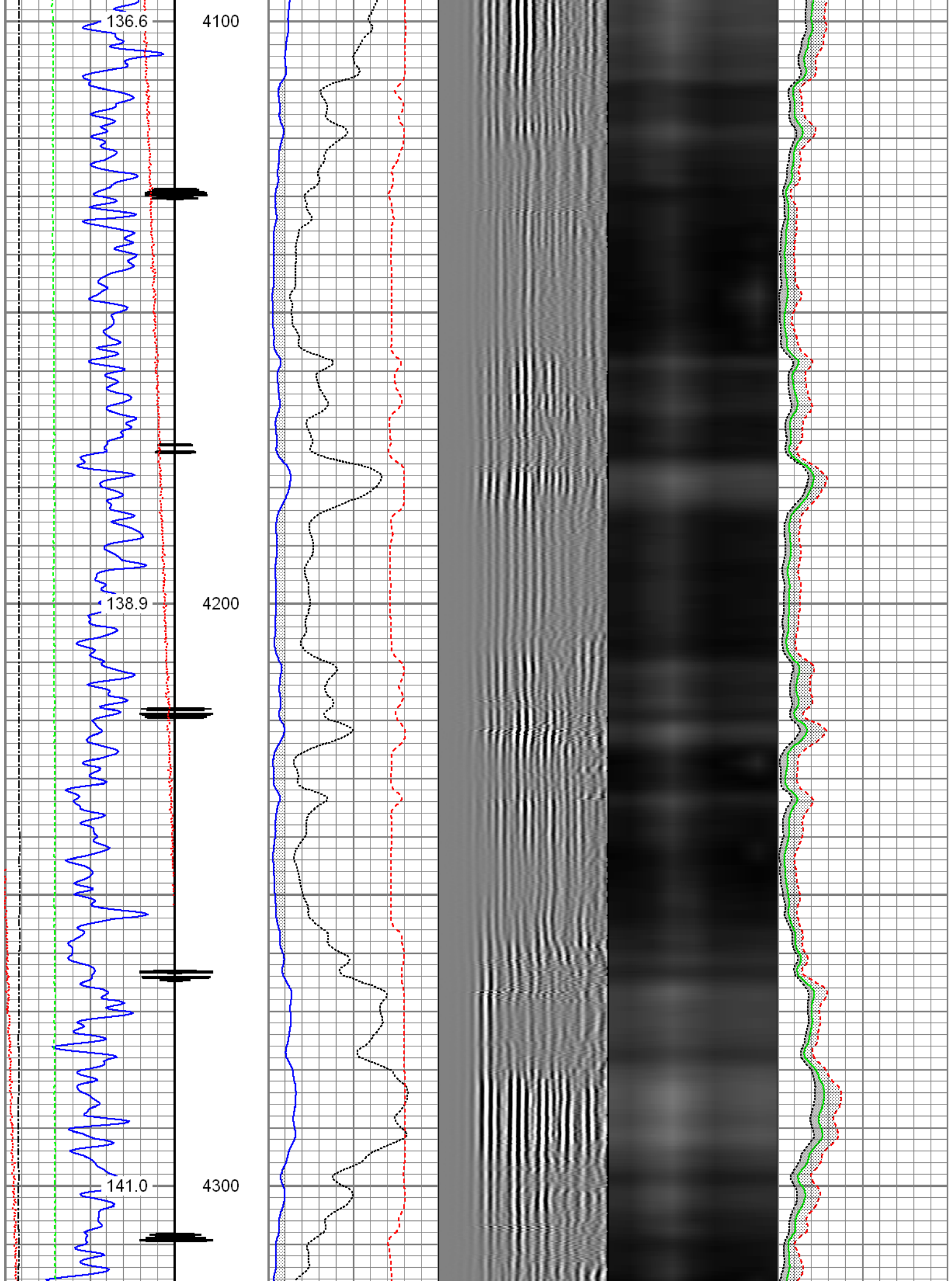


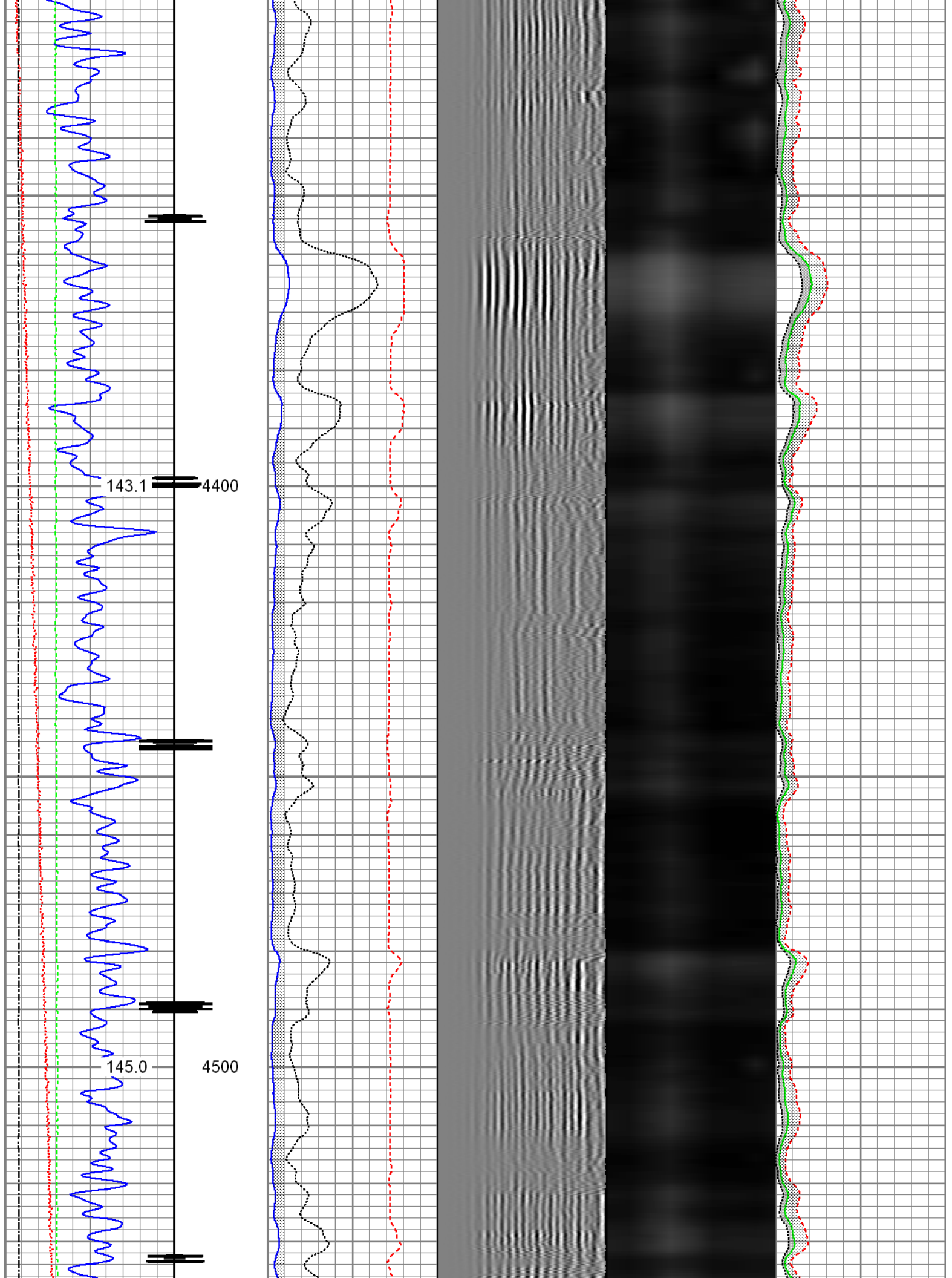


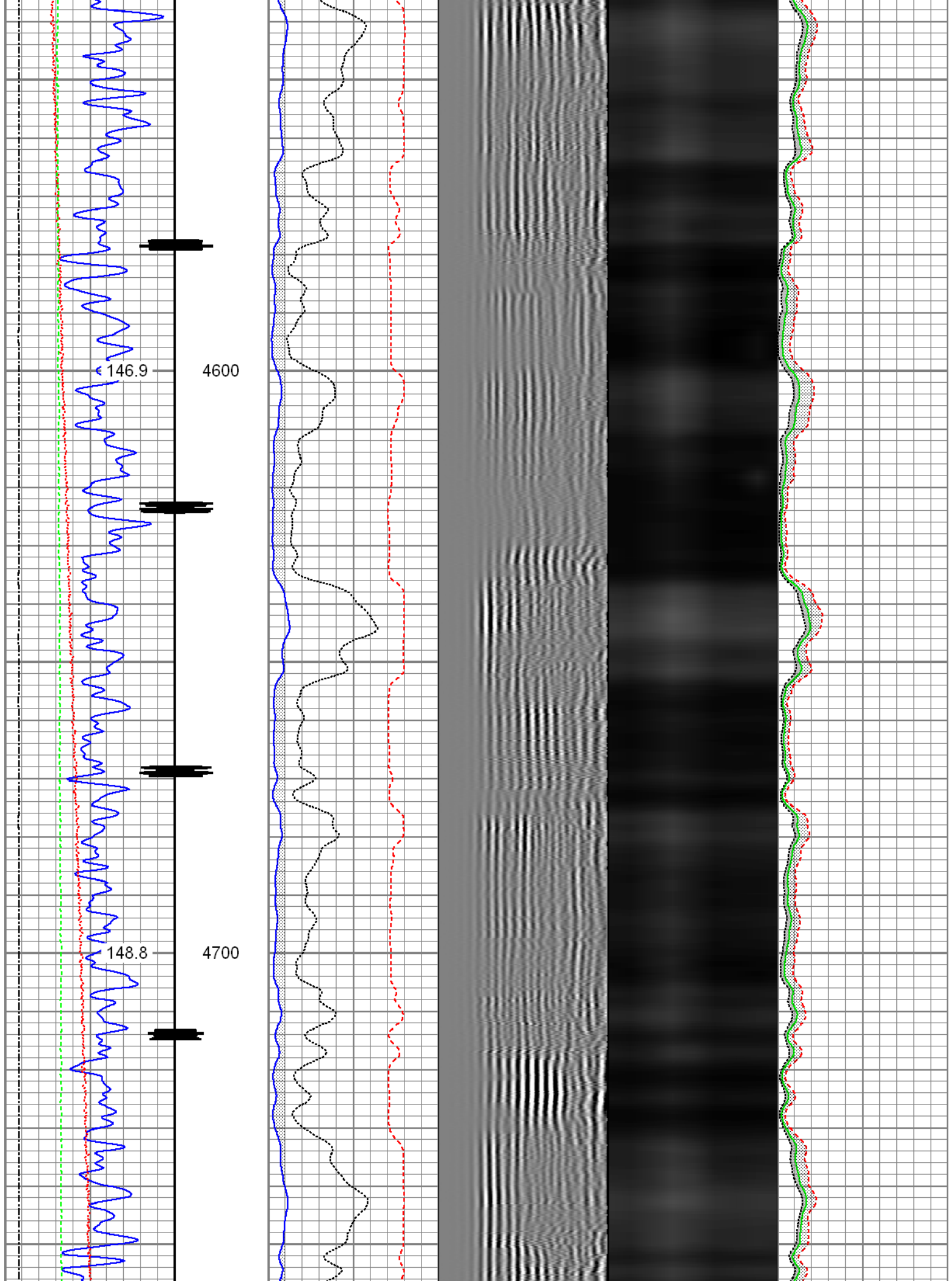


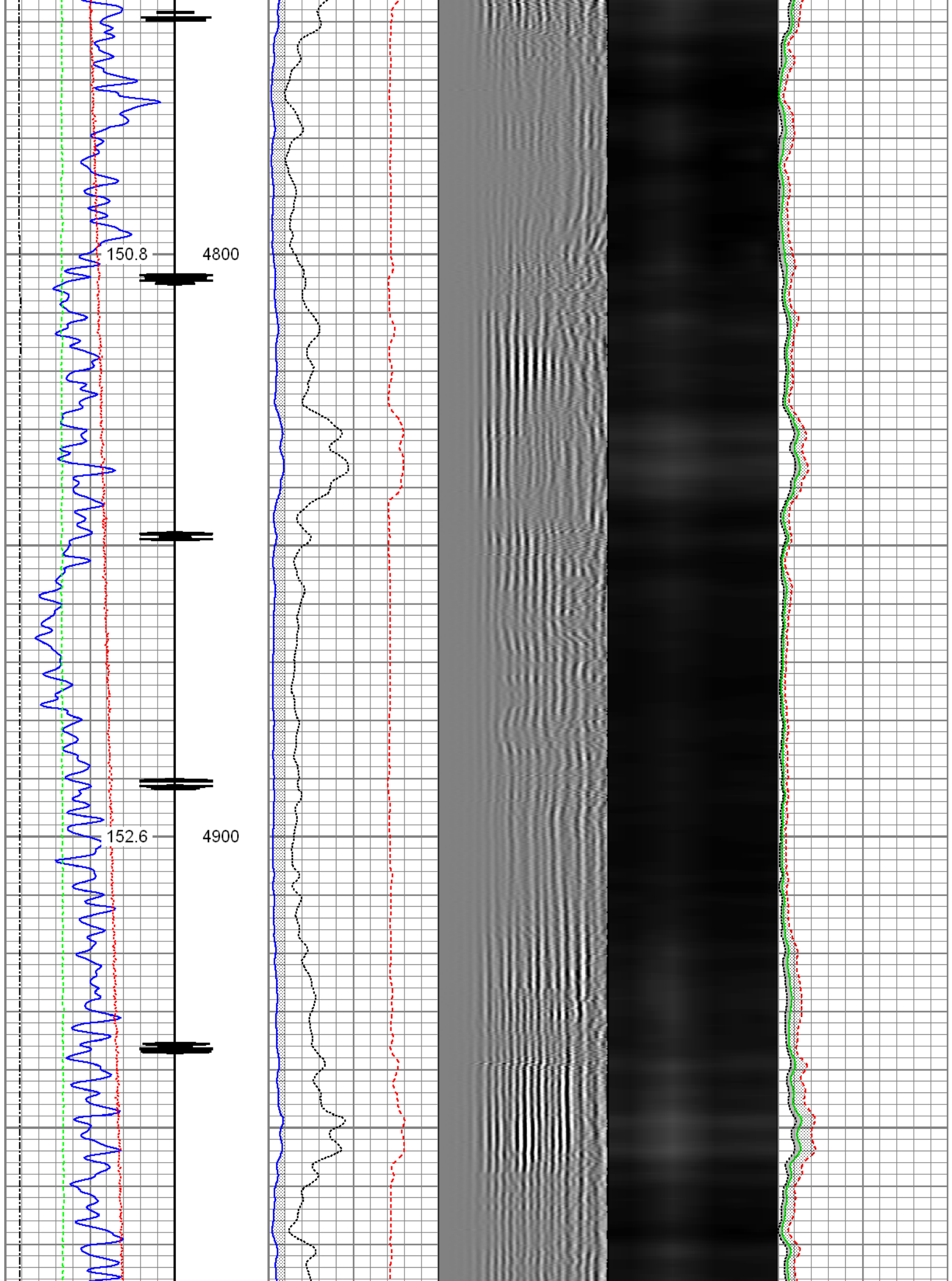


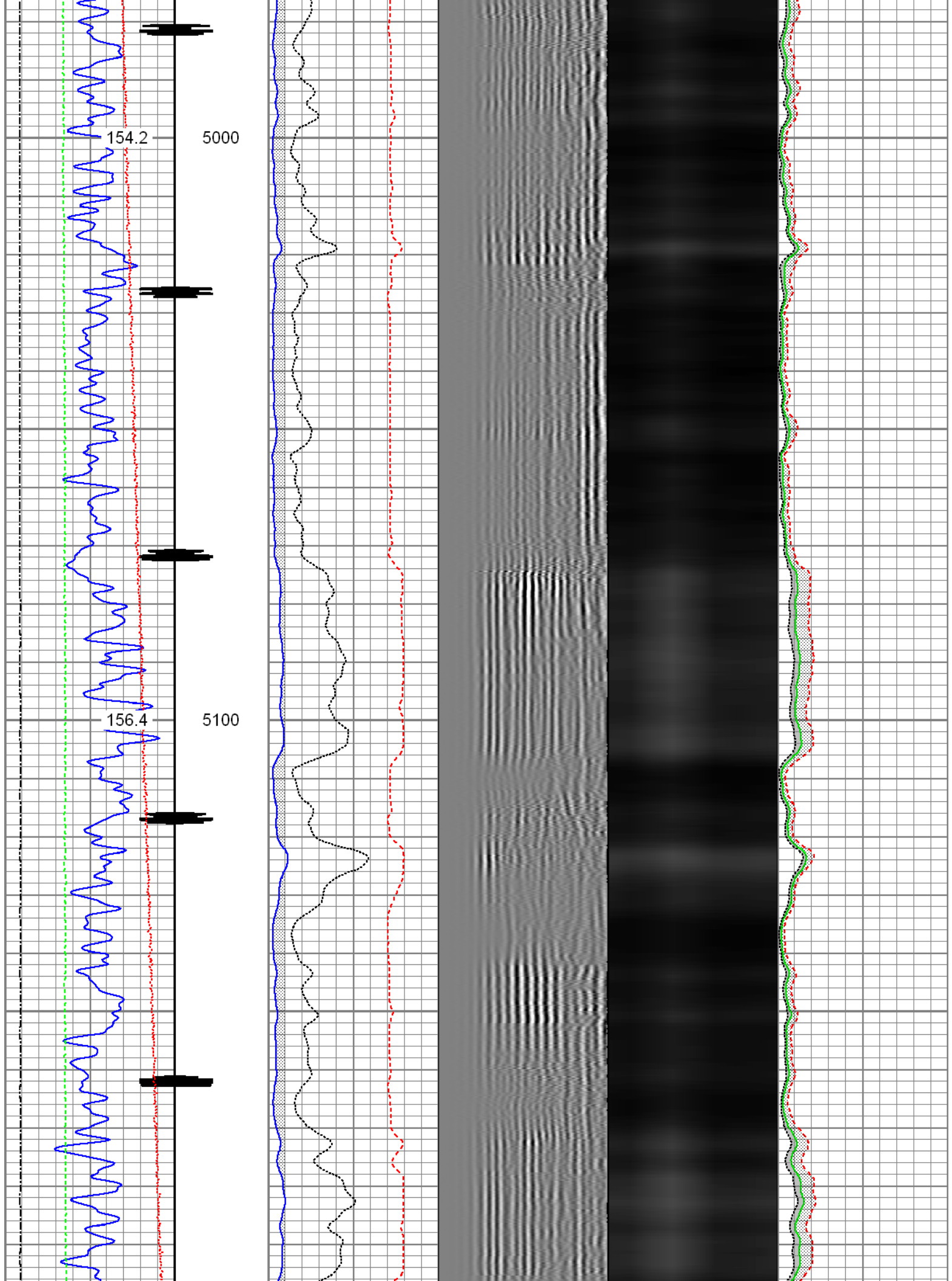


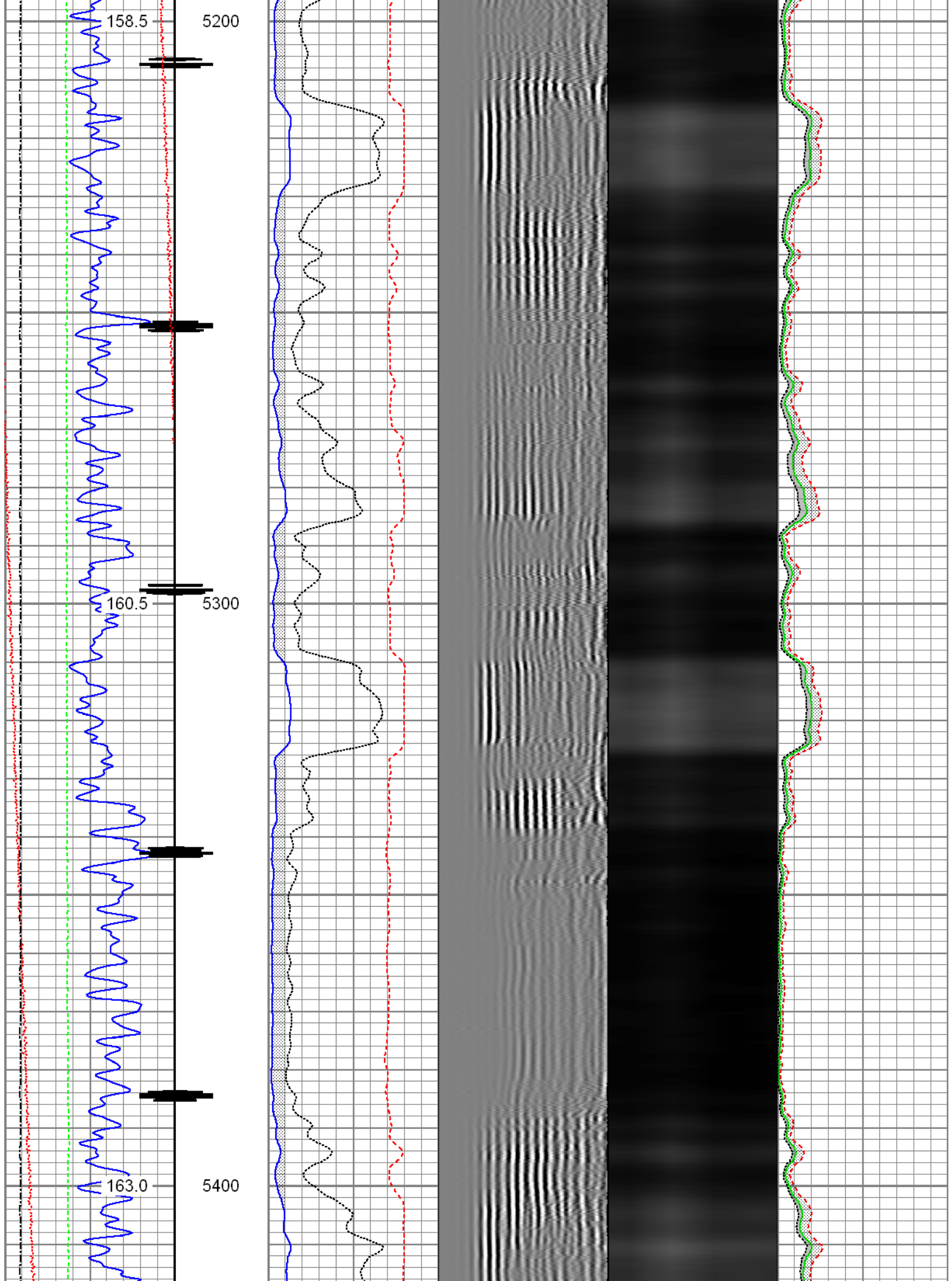


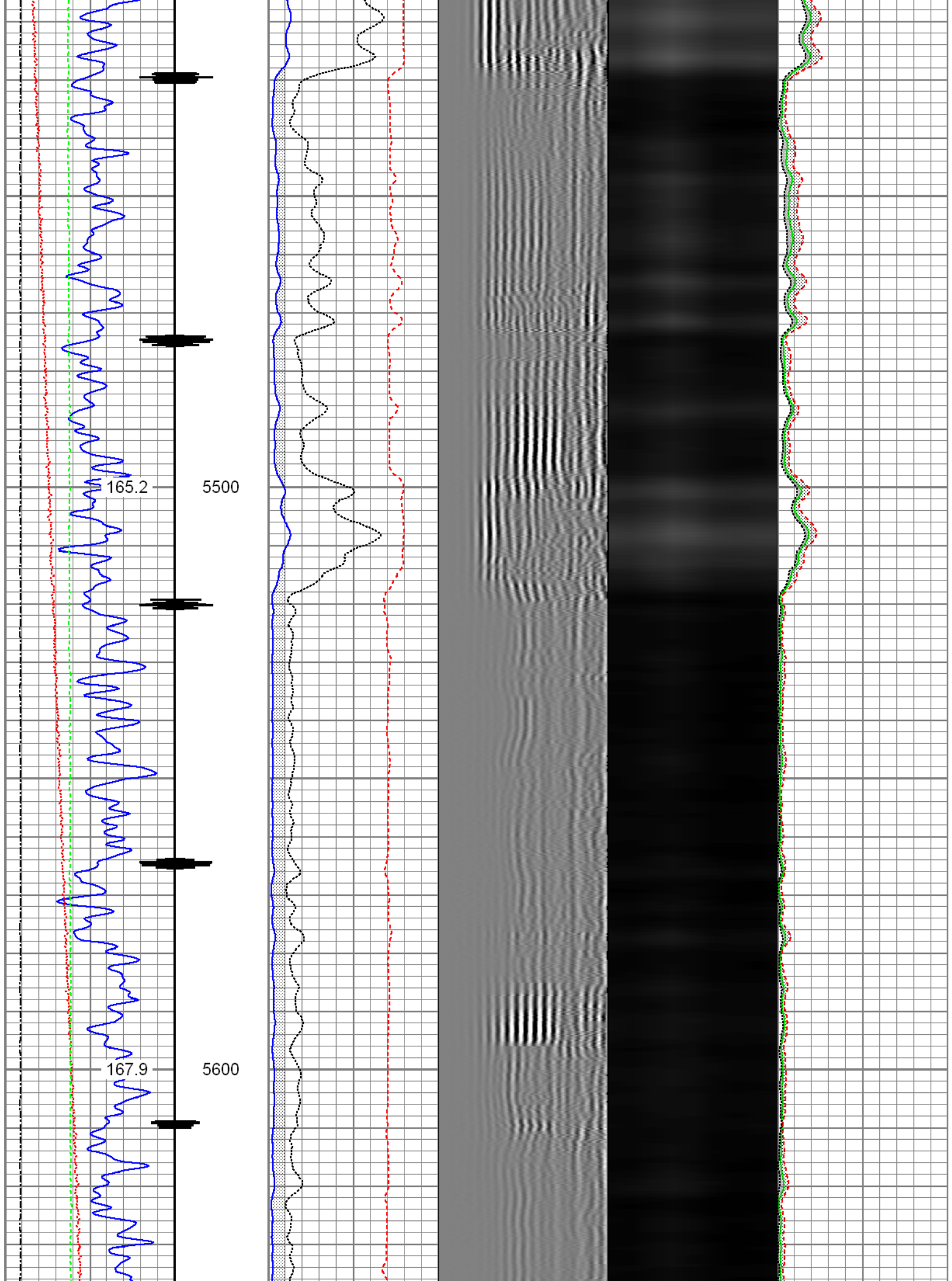


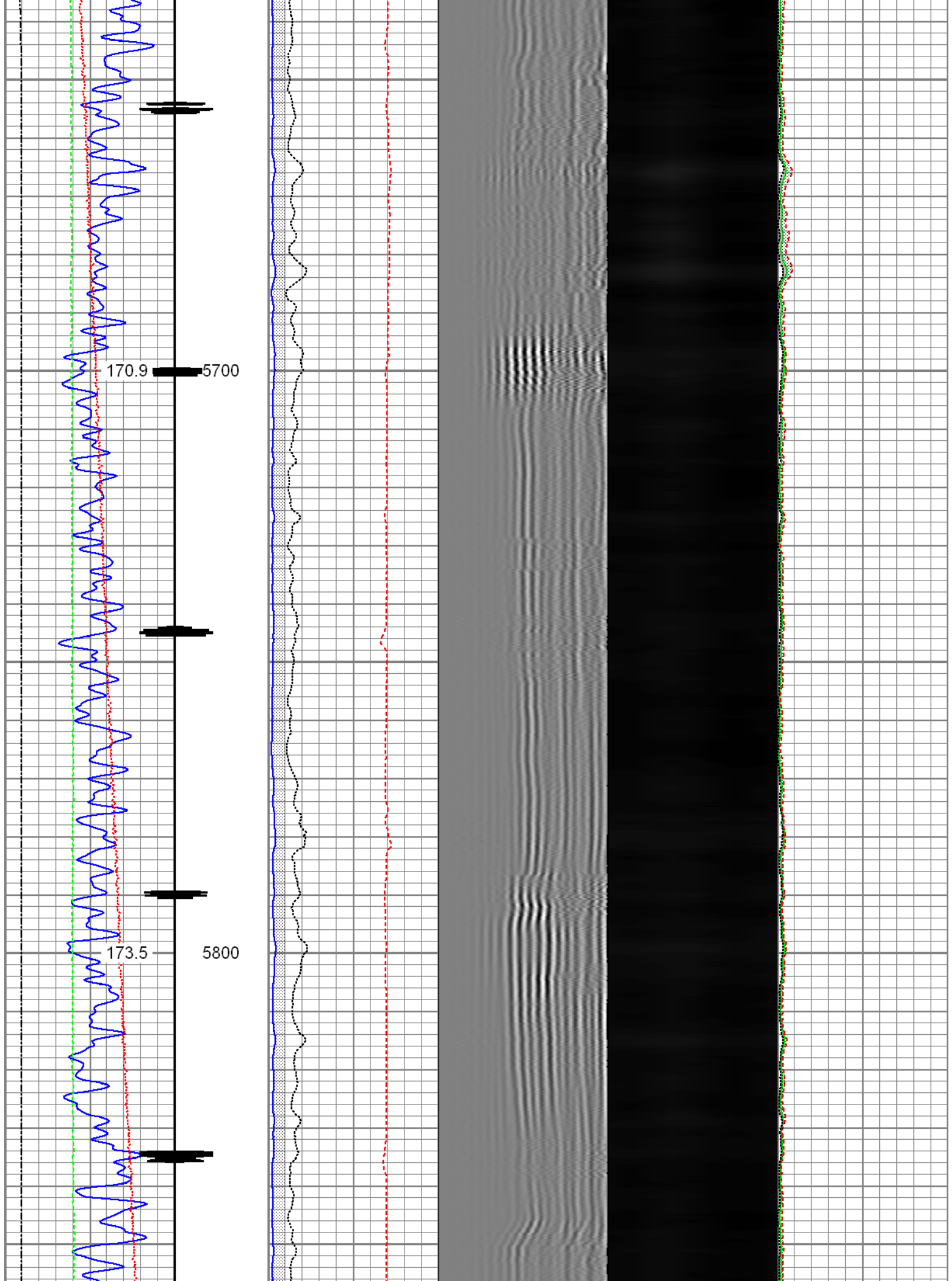


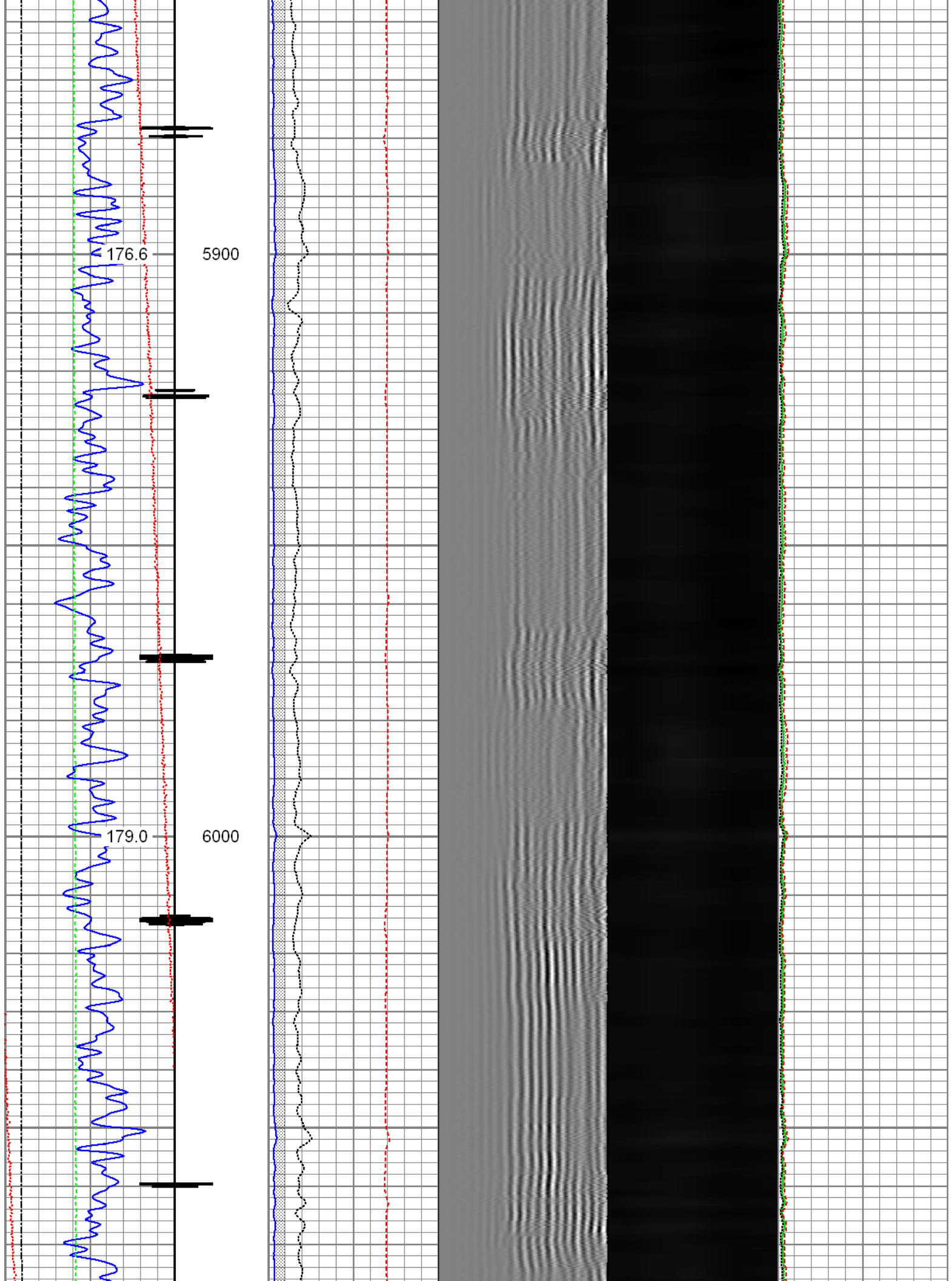


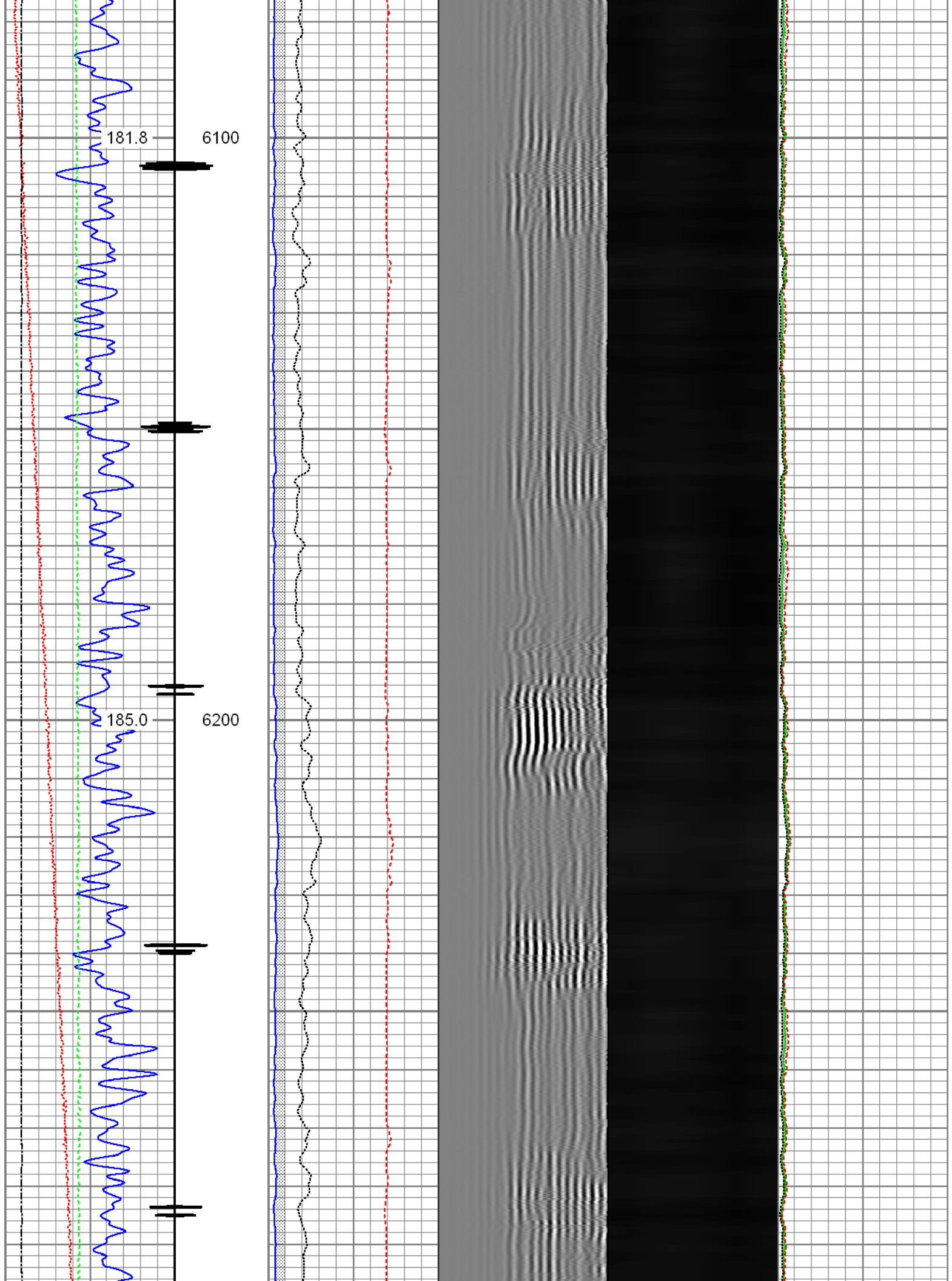


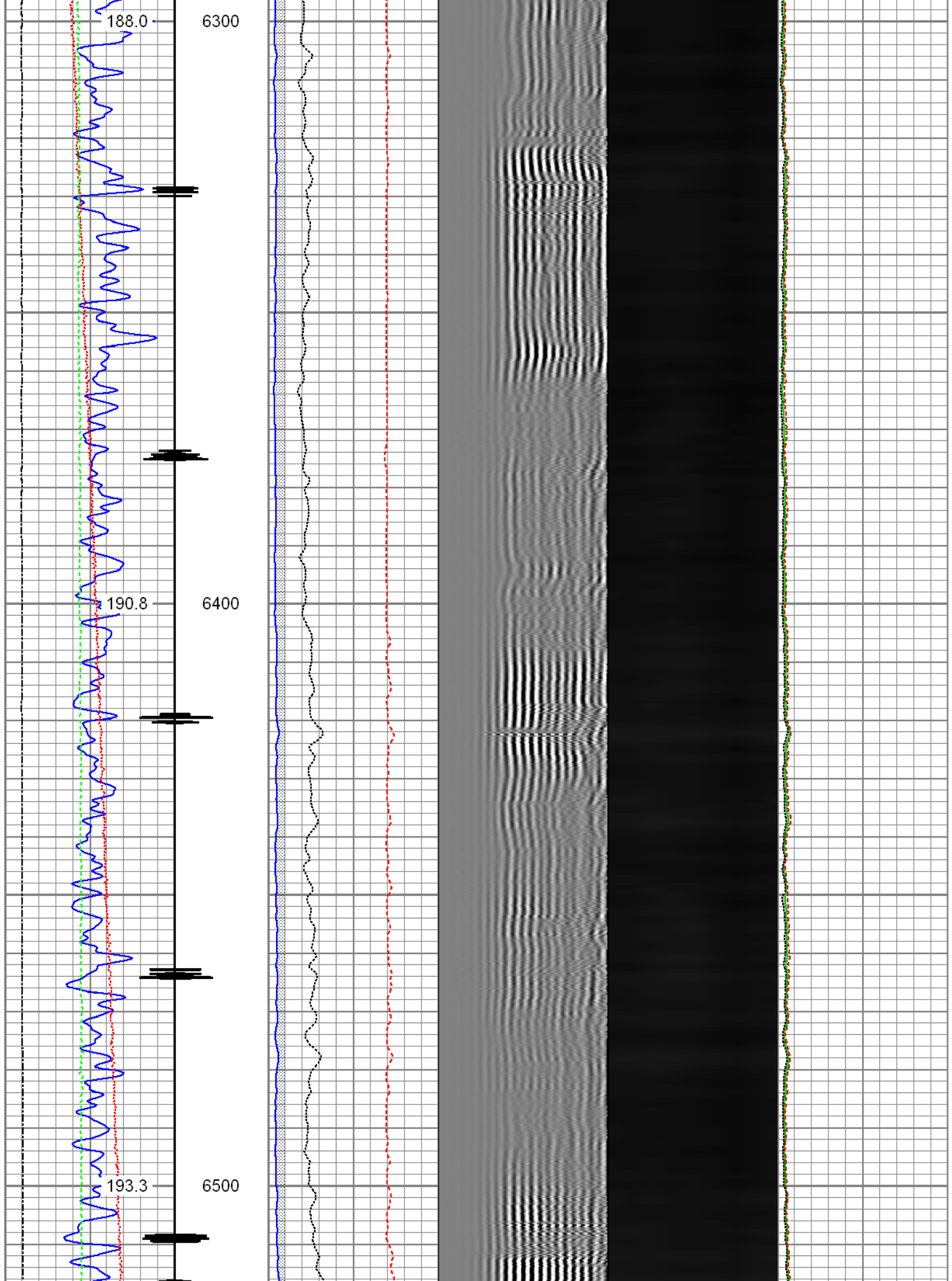


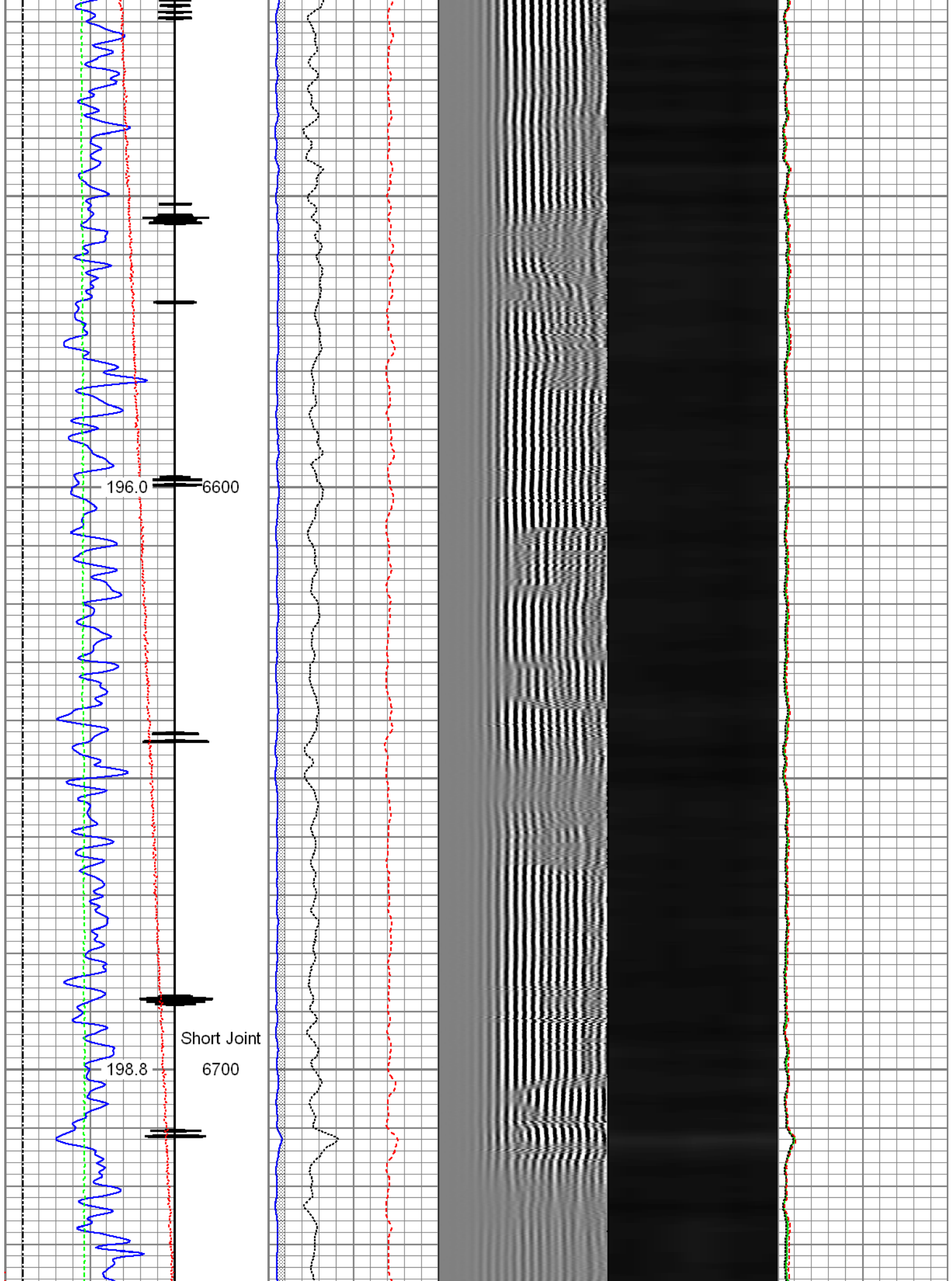


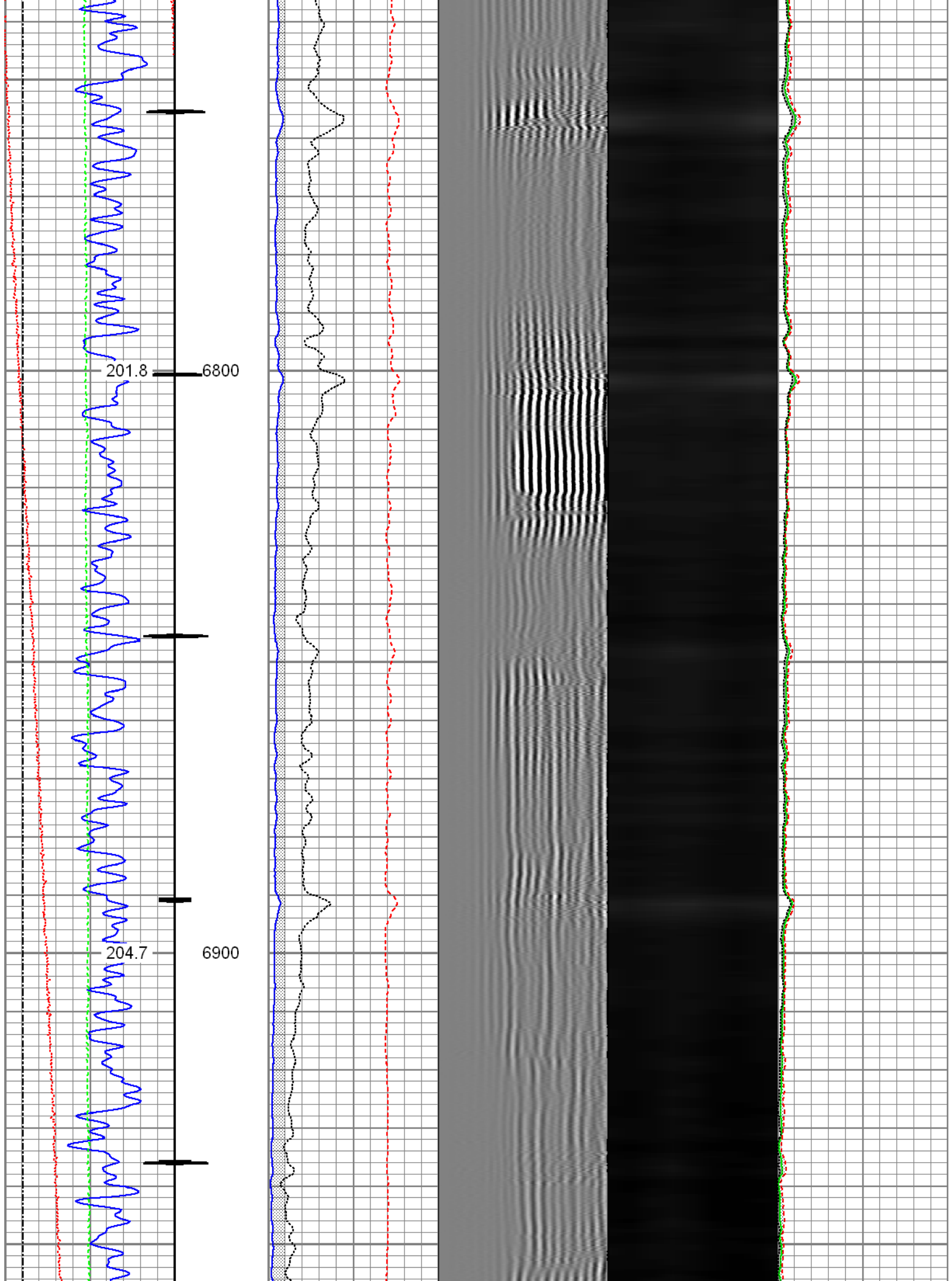


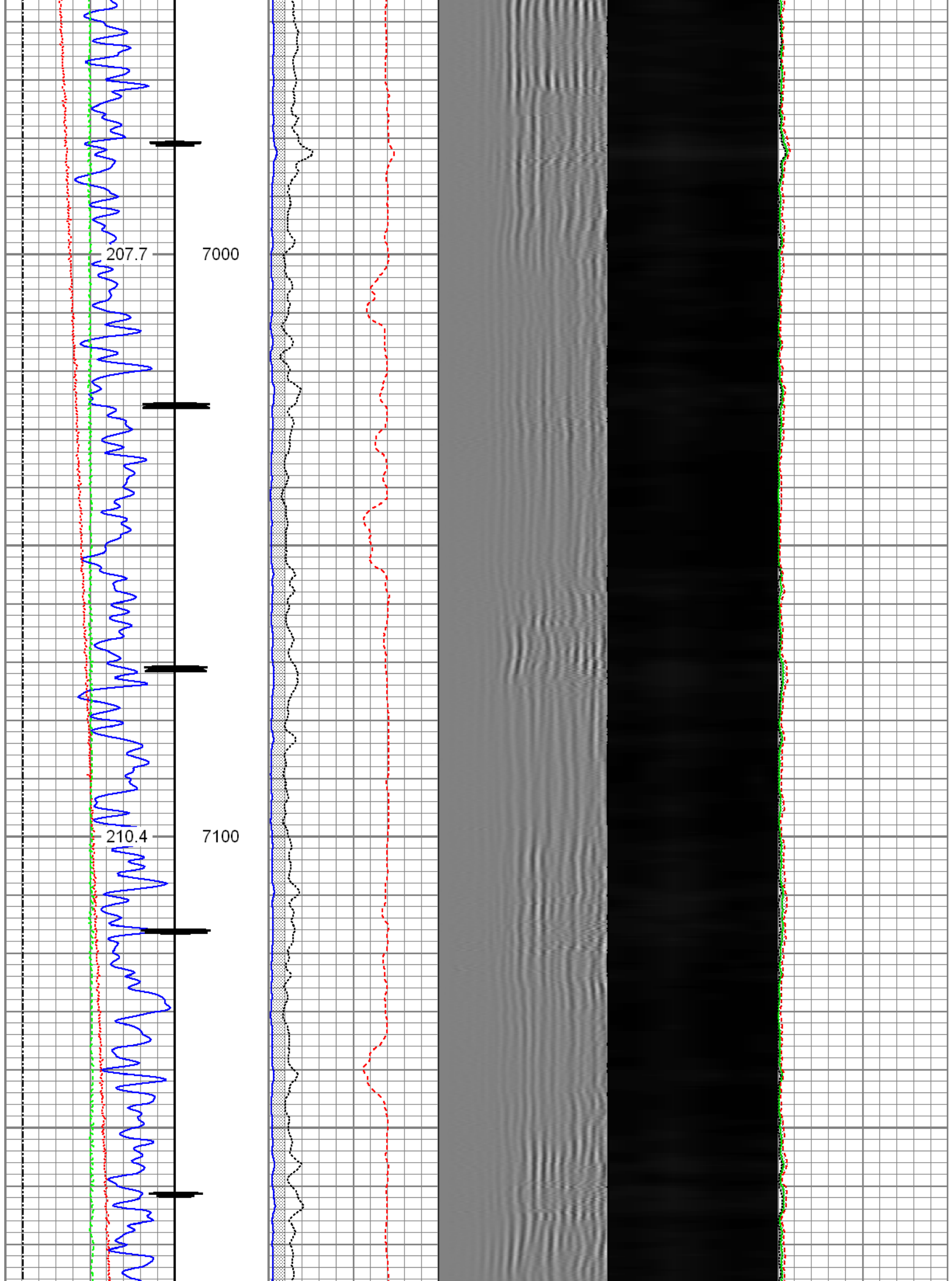


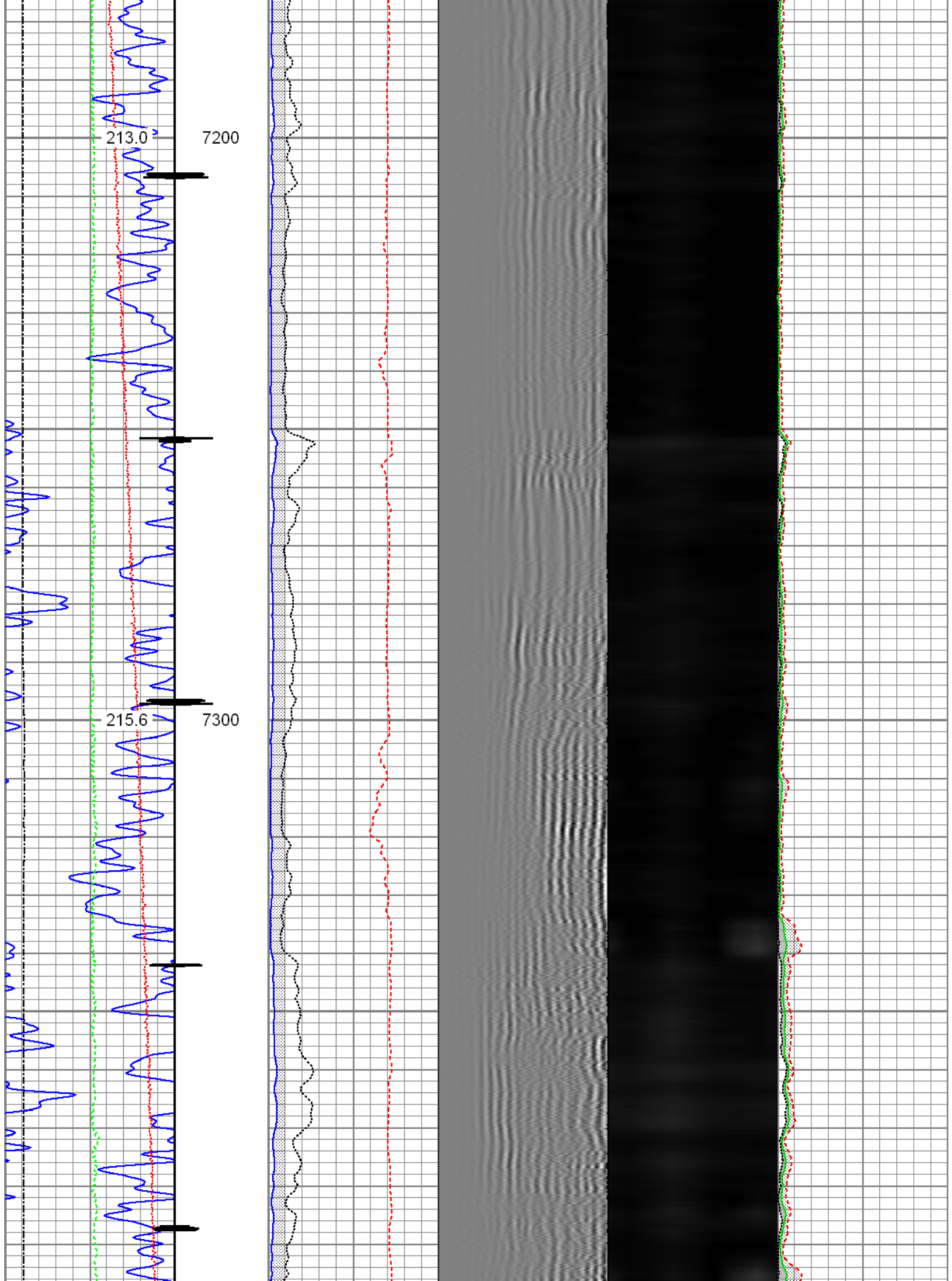


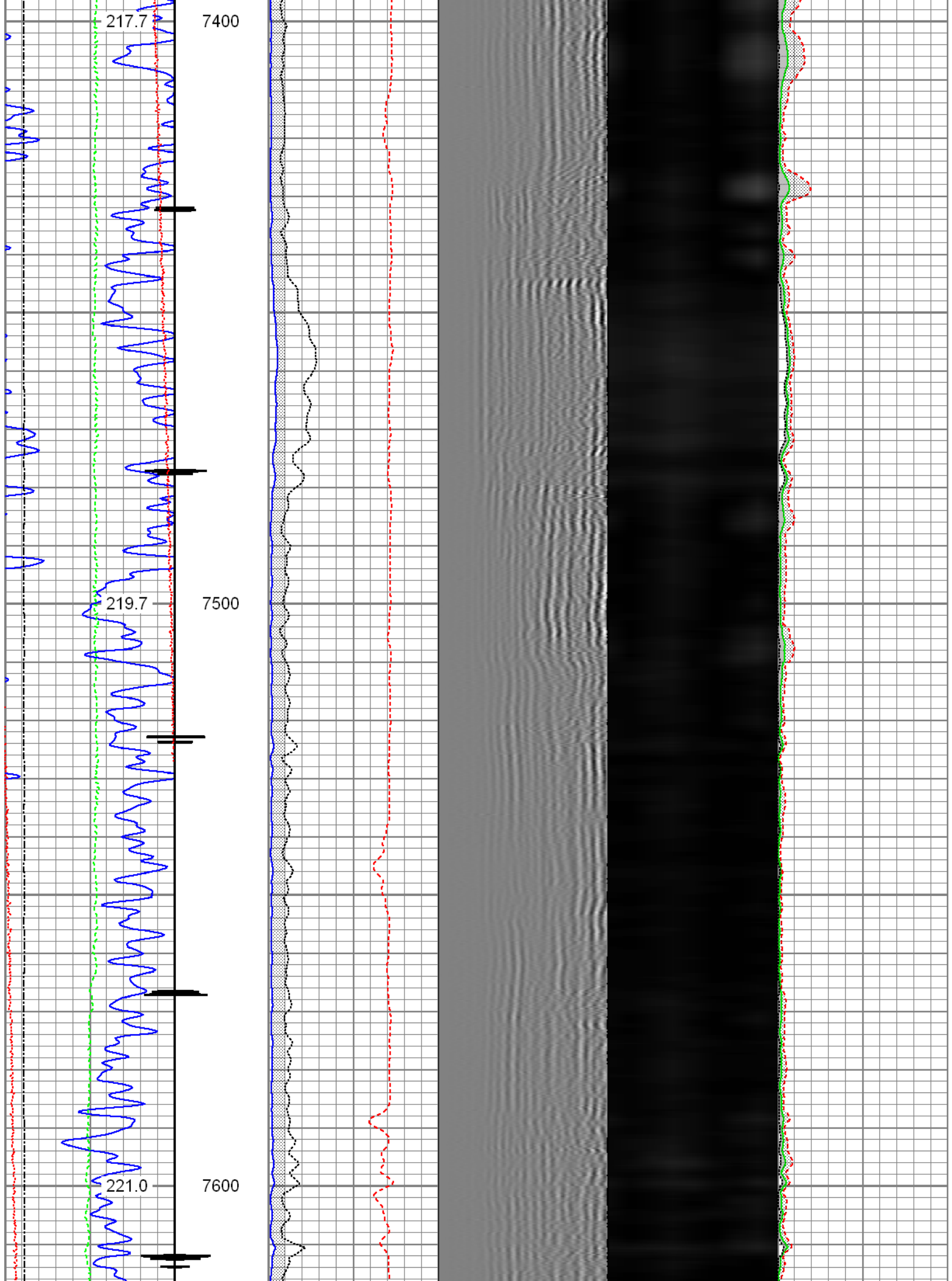


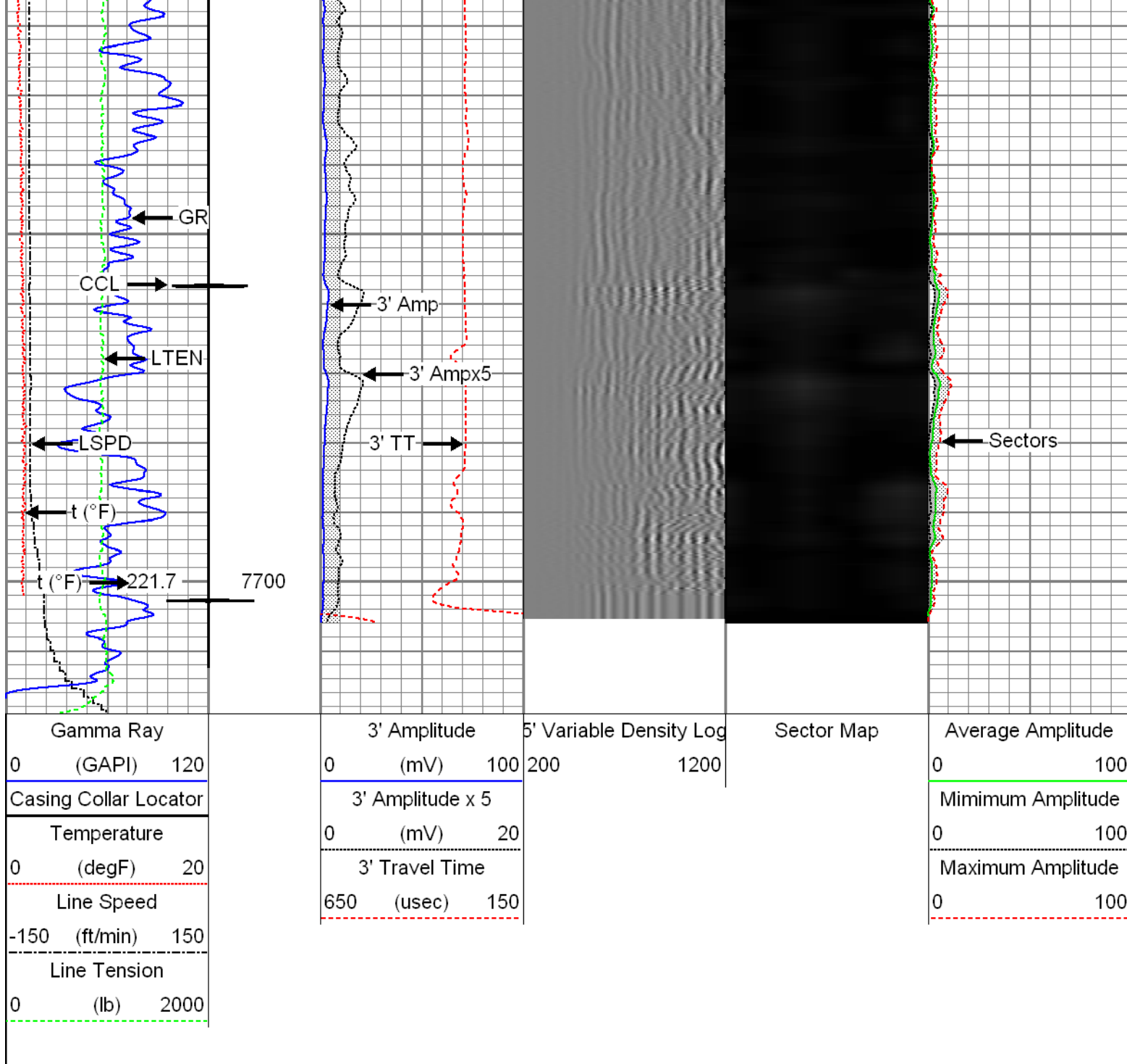




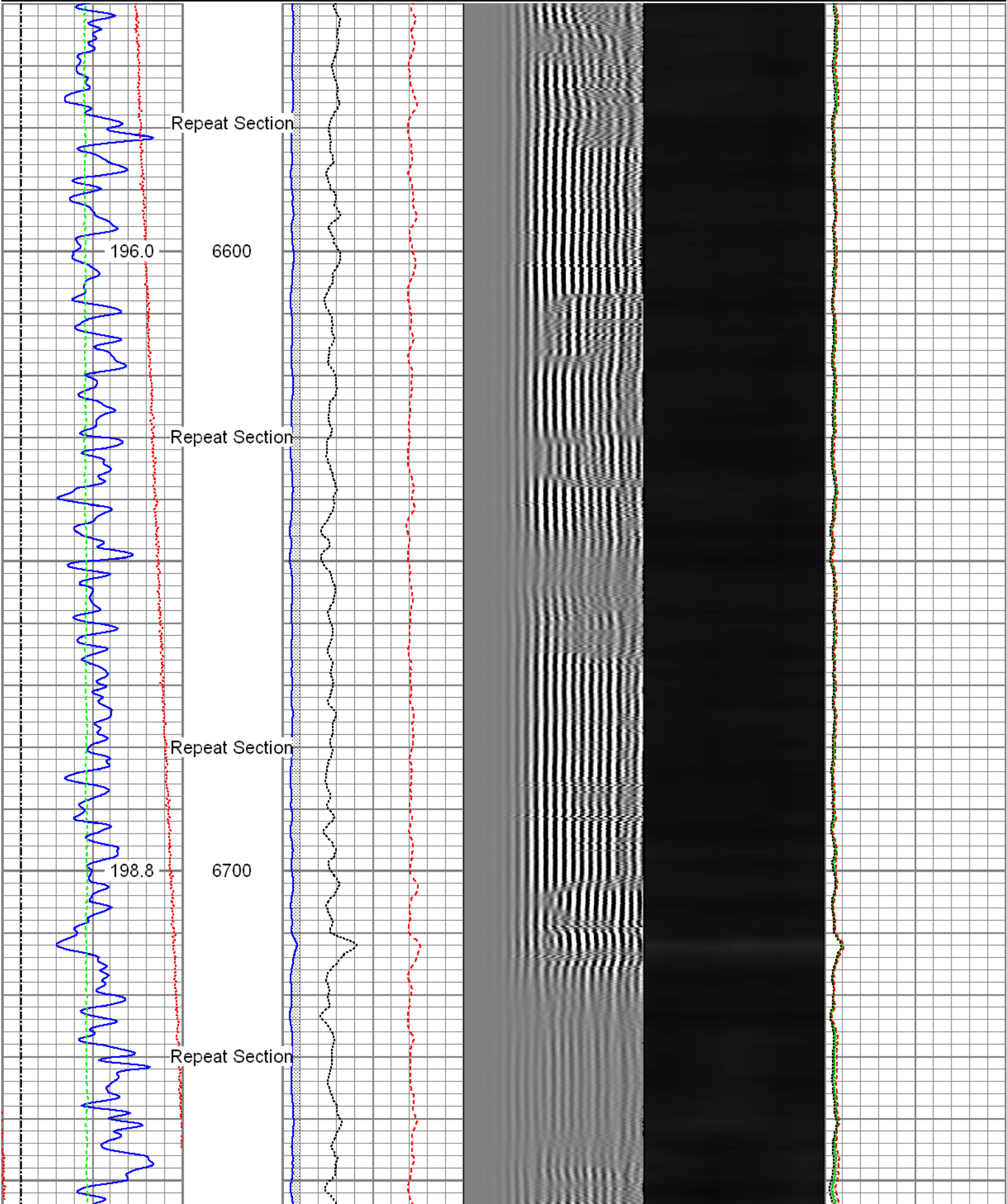
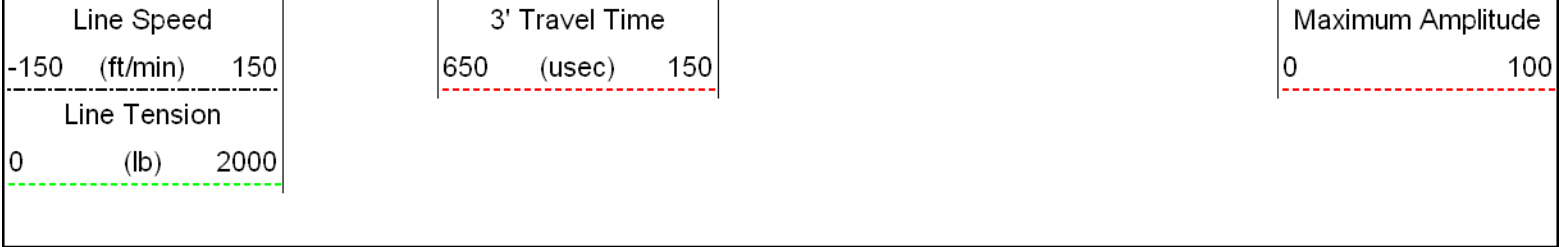


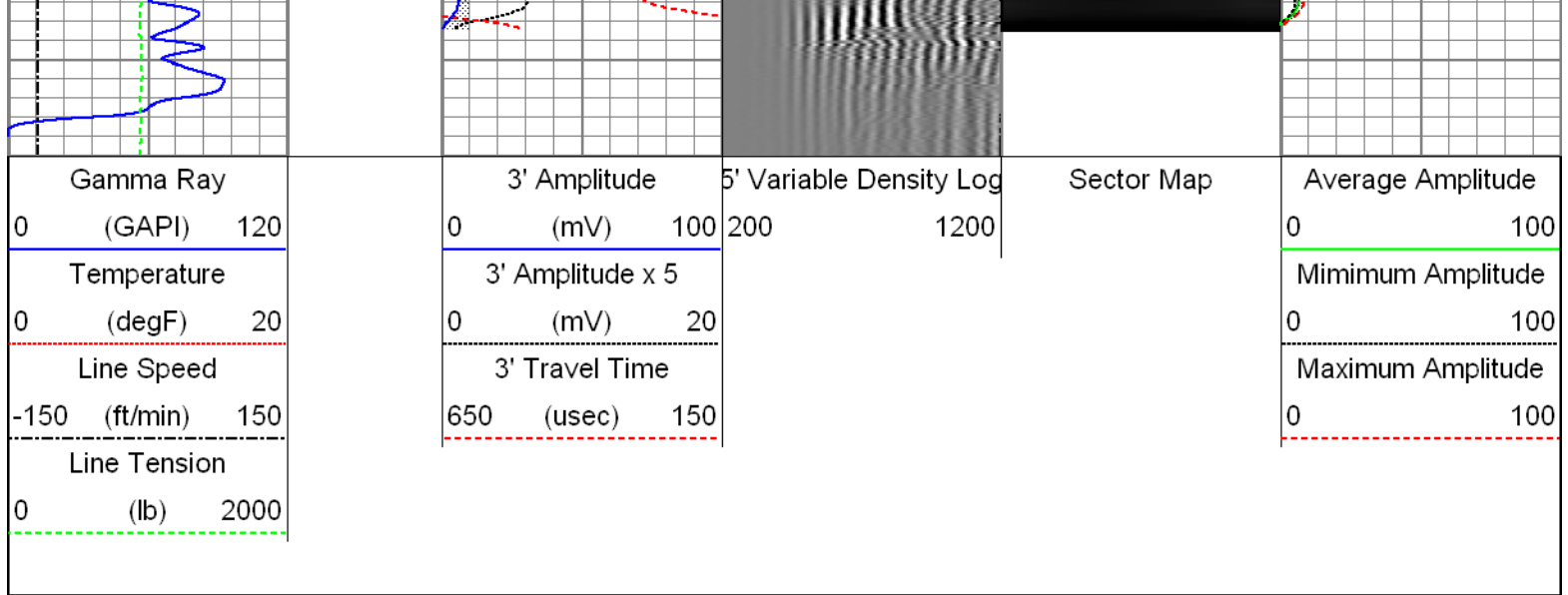







FMC Technologies		Repeat Section			
		Recorded with 2800 PSI Surface Induced Pressure			
Database File: c:\warrior\data\0506906481_anadarko_encore 26n-12hz_09-22-15_rbl_revised\0506906481_anadarko					
Dataset Pathname: repeat.1					
Presentation Format: radii					
Dataset Creation: Thu Sep 24 18:52:06 2015 by Calc 7.0 B1					
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	
				Maximum Amplitude 0 100	





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
HeadVolt	19.49		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Temp	16.72					
WV3FT	14.55		Probe_RADII-C-2-3/4" (FW1302-001) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75	105.00
WVFCAL	14.55					
WVFS1	14.55					
WVFS2	14.55					
WVFS3	14.55					
WVFS4	14.55					
WVFS5	14.55					
WVFS6	14.55					
WVFS7	14.55					
WVFS8	14.55					
WV5FT	13.55					
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
CCL	6.51					
DCCL	6.51					

GR	3.77		Probe_CCL_GR-2.75"Digital (FW1307-038) 4.54 Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	55.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	10.00
Dataset: 0506906481_Anadarko_Encore 26N-12HZ_09-22-15_RBL.db: field/well/run1/main.1 Total Length: 23.40 ft Total Weight: 194.00 lb O.D. 2.75 in					

Calibration Report	
Database File:	C:\Warrior\Data\0506906481_Anadarko_Encore 26N-12HZ_09-22-15_RBL_REVISED\0506906481_A
Dataset Pathname:	main.1
Dataset Creation:	Thu Sep 24 18:47:35 2015 by Calc 7.0 B1

Gamma Ray Calibration Report		
Serial Number:	FW1307-038	
Tool Model:	2.75"Digital	
Performed:	Wed Sep 16 09:20:20 2015	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1302-001	
Tool Model:	2-3/4"	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	0.002	ft

Master Calibration, performed Thu Sep 24 18:47:31 2015:							
	Raw (v)		Calibrated (mv)		Results		
	Zero	Cal	Zero	Cal	Gain	Offset	
3'	0.008	0.676	1.500	71.921	105.444	0.670	
CAL	0.763	0.768					
5'	0.010	0.590	1.500	71.921	121.482	0.300	
SUM							
S1	0.003	0.644	0.000	100.000	155.917	-0.397	
S2	0.008	0.688	0.000	100.000	147.128	-1.226	
S3	0.009	0.722	0.000	100.000	140.171	-1.240	
S4	0.009	0.726	0.000	100.000	139.426	-1.195	
S5	0.009	0.701	0.000	100.000	144.620	-1.374	
S6	0.010	0.671	0.000	100.000	151.400	-1.521	
S7	0.010	0.647	0.000	100.000	157.045	-1.619	

S7	0.010	0.047	0.000	100.000	157.043	-1.010
S8	0.009	0.643	0.000	100.000	157.687	-1.379

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.763	0.768	1.000	0.000

Air Zero Calibration, performed Tue Sep 22 10:04:14 2015:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.008		0.000		0.000	
5'	0.008		0.000		0.001	
SUM						
S1	0.003		0.000		-0.000	
S2	0.008		0.000		0.000	
S3	0.008		0.000		-0.000	
S4	0.009		0.000		-0.000	
S5	0.008		0.000		0.000	
S6	0.008		0.000		0.000	
S7	0.009		0.000		-0.000	
S8	0.009		0.000		-0.000	



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Encore 26N-12HZ
Field	Wattenberg
County	Larimer
State	Colorado