



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil and Gas Onshore LP		Company Kerr-McGee Oil and Gas Onshore LP	
Well Encore 41N-12HZ		Well Encore 41N-12HZ	
Field Wattenberg		Field Wattenberg	
County Larimer		County Larimer	
State Colorado		State Colorado	
Location:		API # : 05-069-06477	
SEC 12 TWP 5N RGE 68W		Other Services	
Permanent Datum		Ground Level	
Log Measured From Kelly Bushing		Elevation 4990'	
Drilling Measured From Kelly Bushing		Gauge Ring	
Elevation		K.B. 5006'	
		D.F. 5005'	
		G.L. 4990'	
Date 22-SEP-2015			
Run Number Two			
Depth Driller 13853 FT			
Depth Logger 7200 FT			
Bottom Logged Interval 7138 FT			
Top Log Interval Surface			
Open Hole Size 7.875"			
Type Fluid Water			
Density / Viscosity 8.34 lbm/gal			
Max. Recorded Temp. 210°F			
Estimated Cement Top Surface			
Time Well Ready ROA			
Time Logger on Bottom 10:06			
Equipment Number HD-0255			
Location Ft. Lupton, CO			
Recorded By R. Fogarty			
Witnessed By Steve Vigil			
Borehole Record			
Tubing Record			
Run Number		To	
Bit		From	
Size		Weight	
From		To	
Casing Record			
Size (in)		Wgt (lbs/Ft)	
9 5/8		36	
5 1/2		17	
J-55 LTC		Surface	
HCP-110 LTC		Surface	
1864 FT		13843 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
Log Correlated to 16 FT kelly bushing
Casing Tally Reported Marker Joint top at 6195 FT.
Log Recorded Marker Joint Top at 6177 FT
Gauge ring ran to 7200'
Log ran from as deep as possible to surface
Log ran with 2800 PSI surface induced pressure
Logging Tools were clean

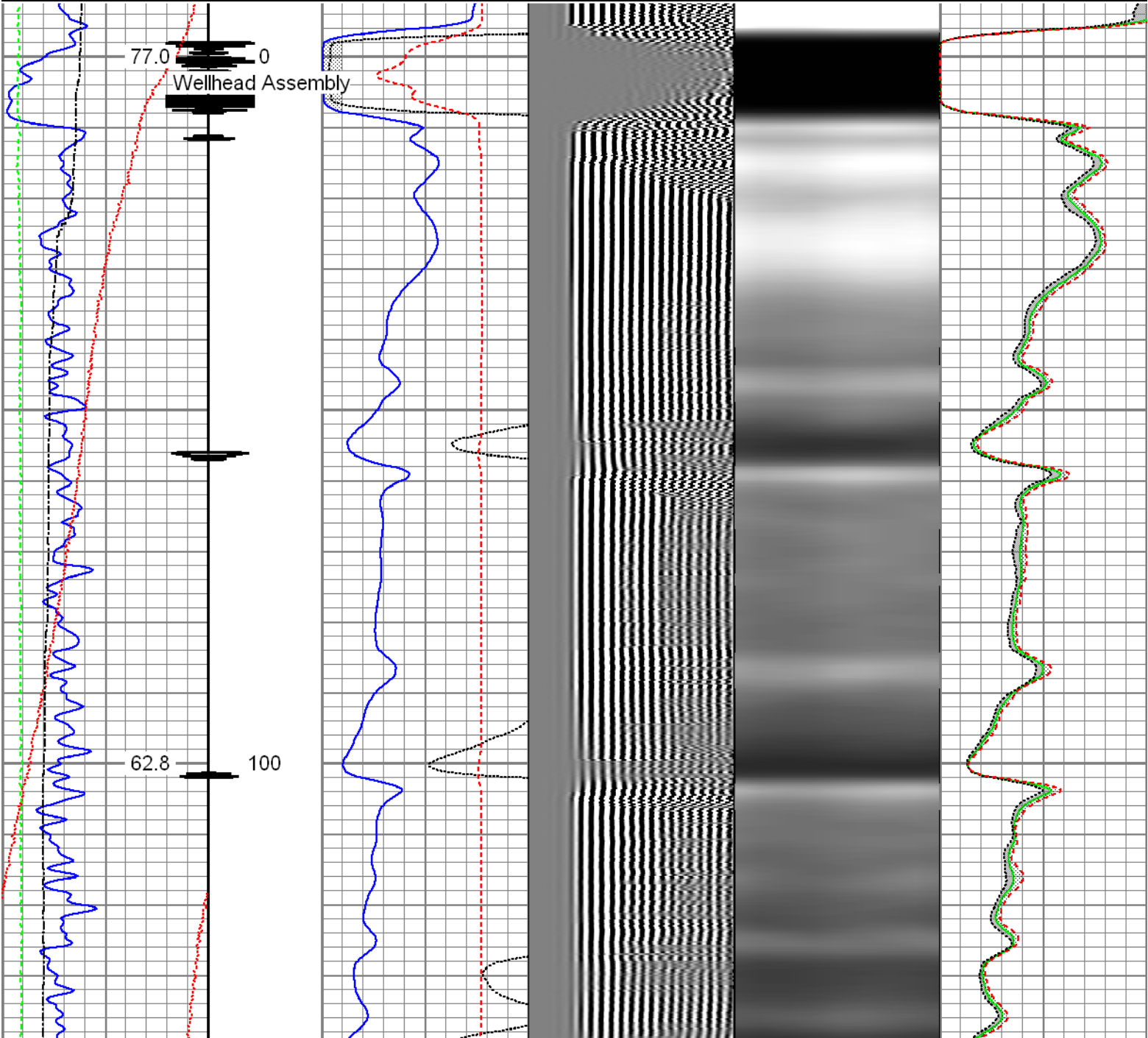
Thank you for Choosing FMC Technologies Completion Services, Inc.!!

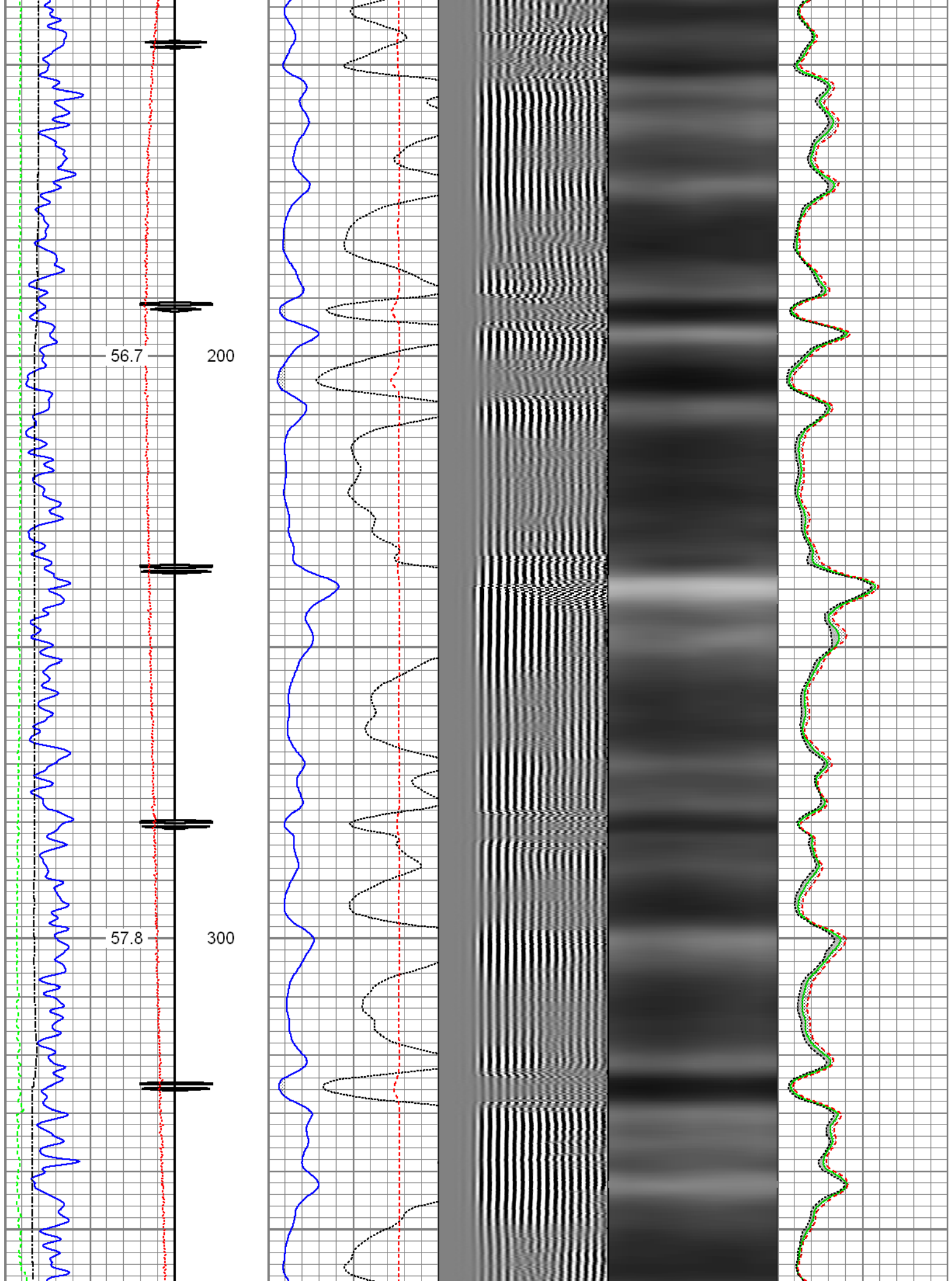


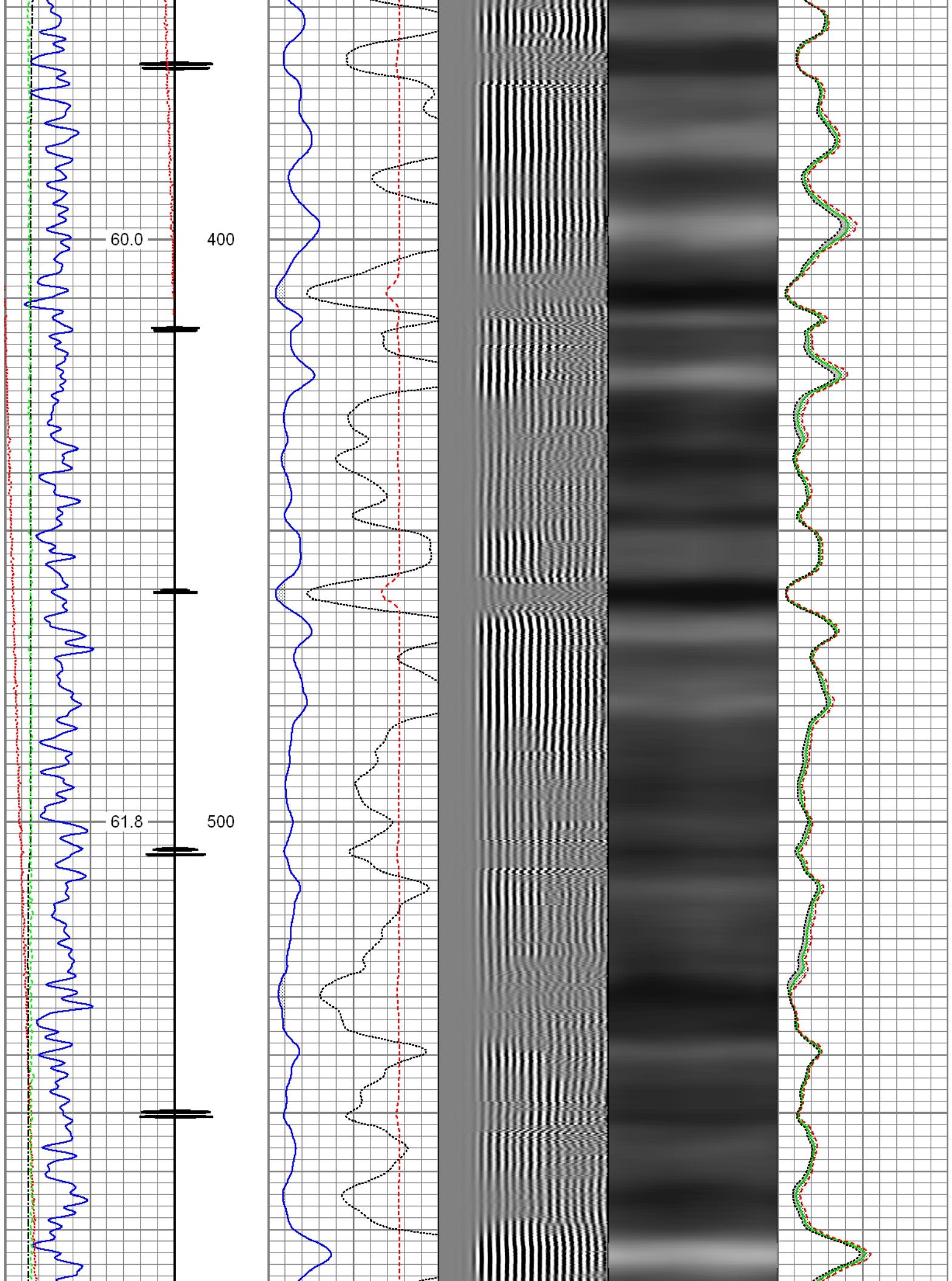
Main Pass

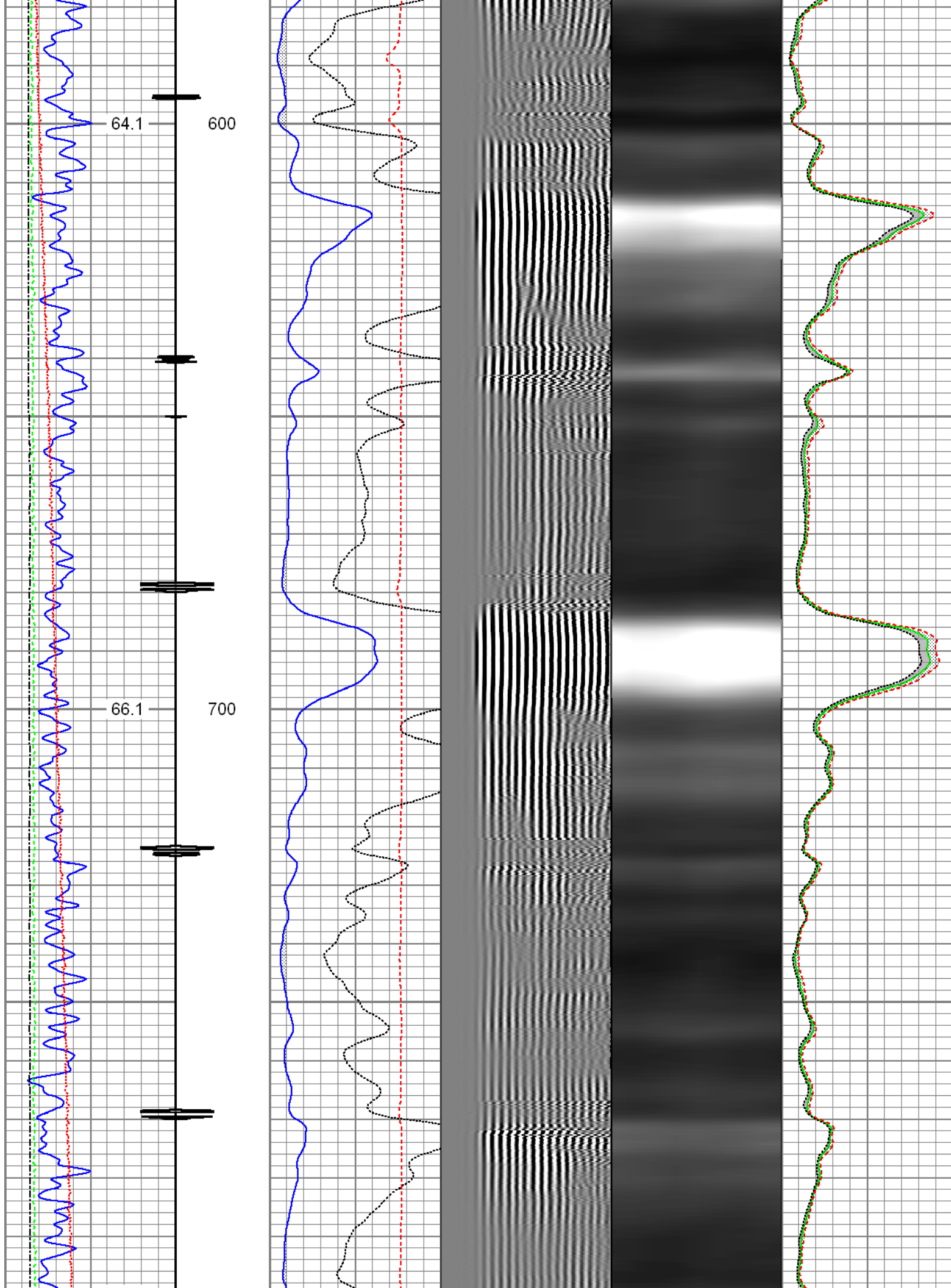
Recorded with 2800 PSI Surface Induced Pressure

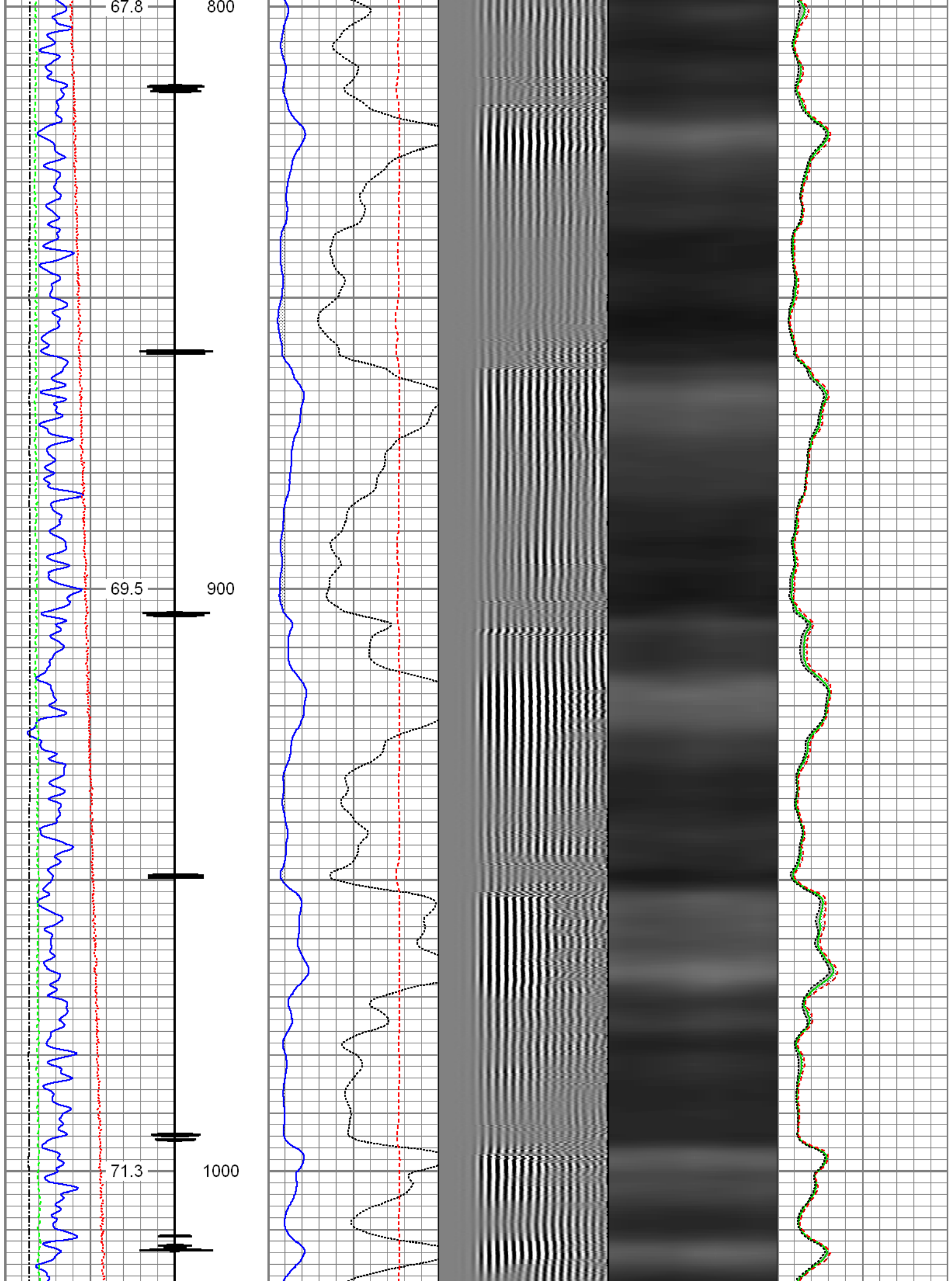
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

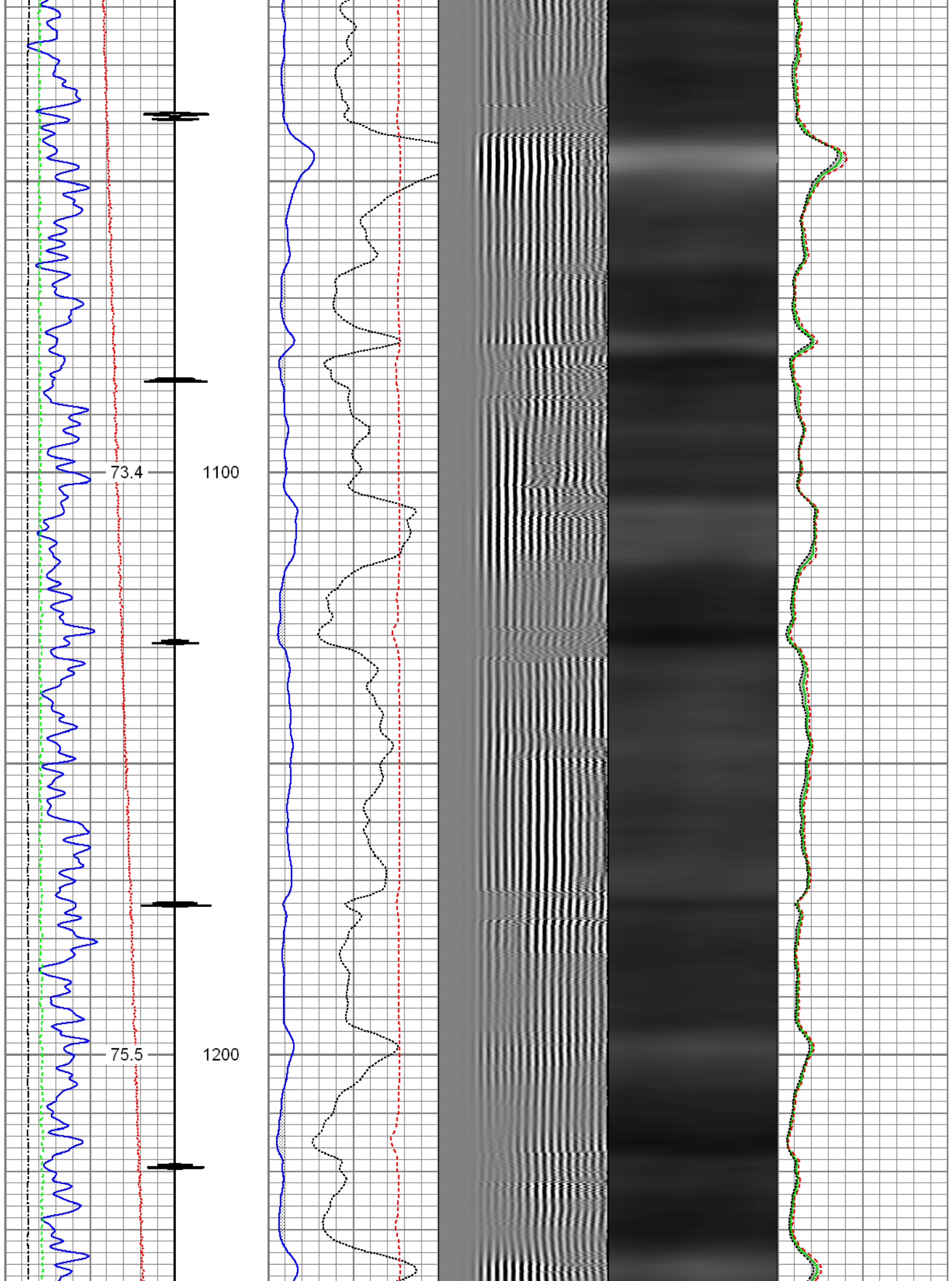


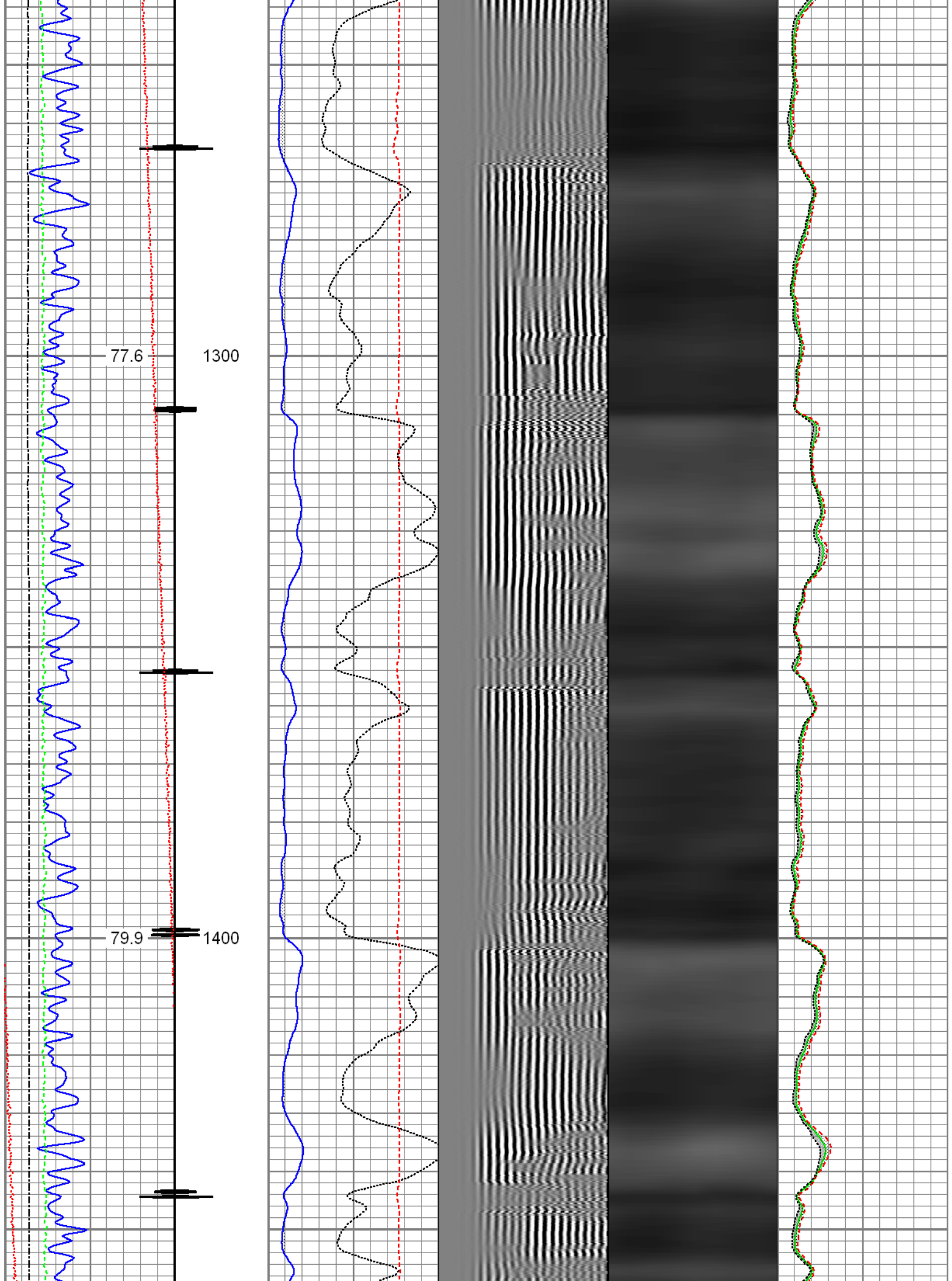


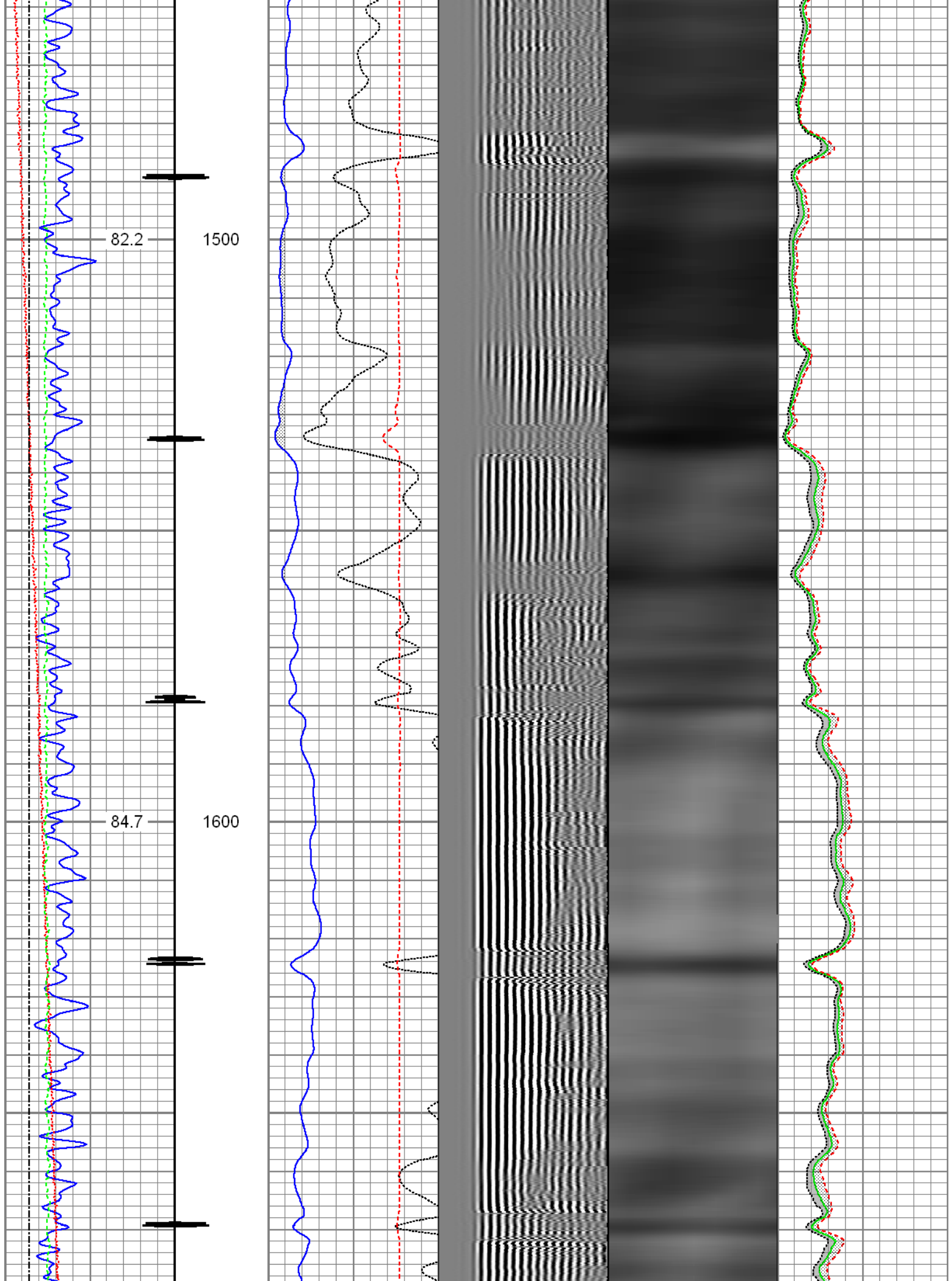


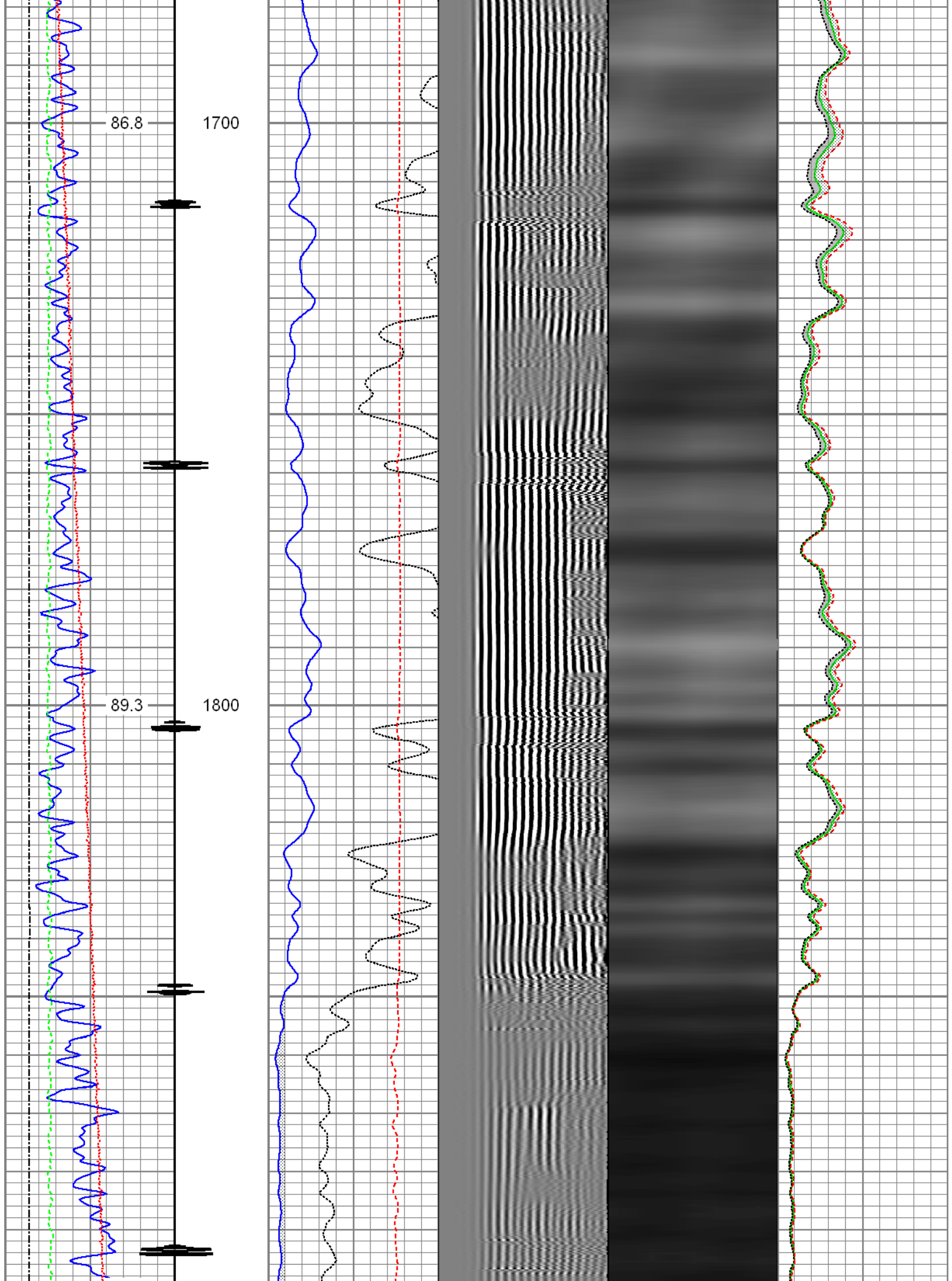


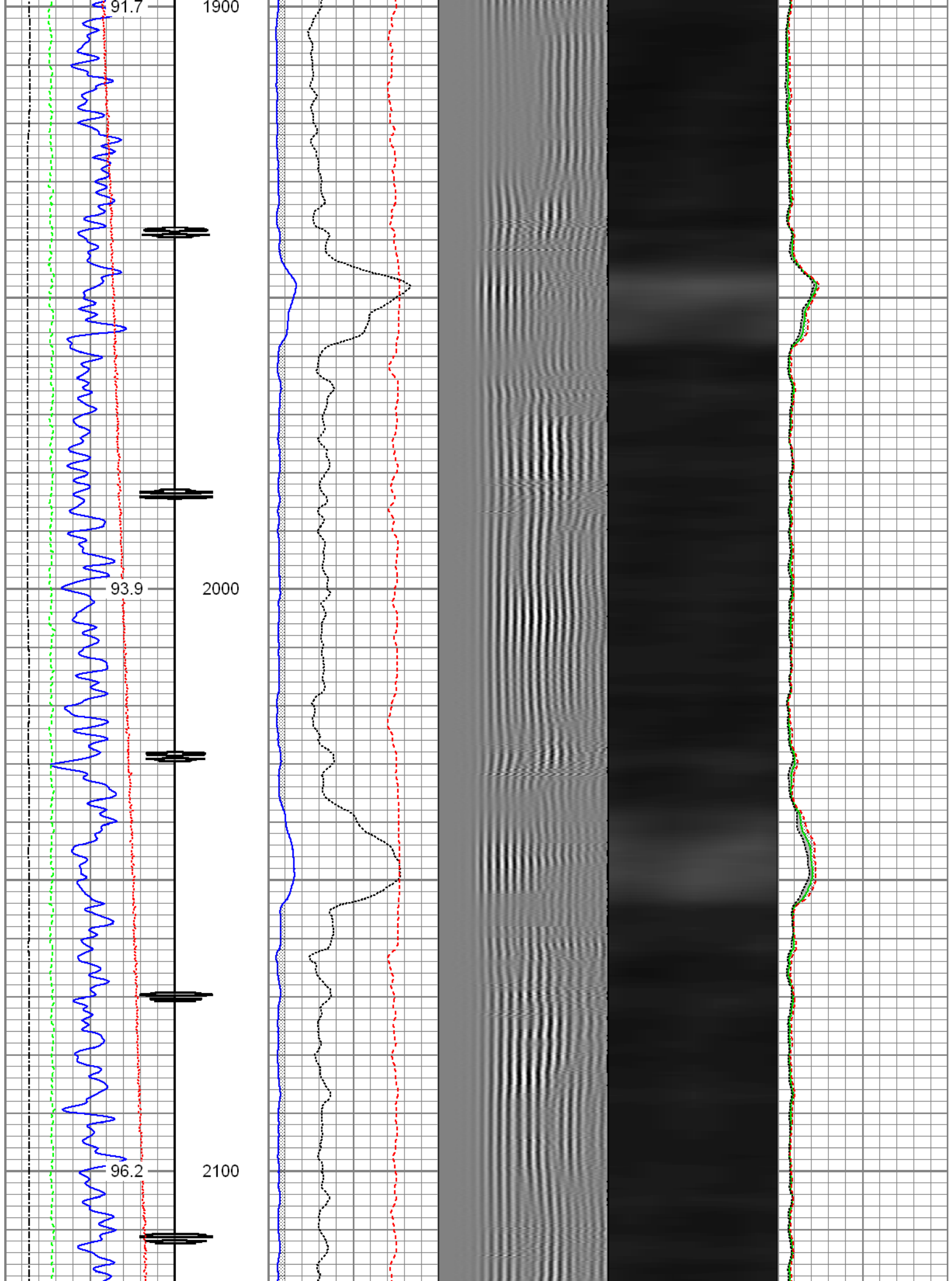


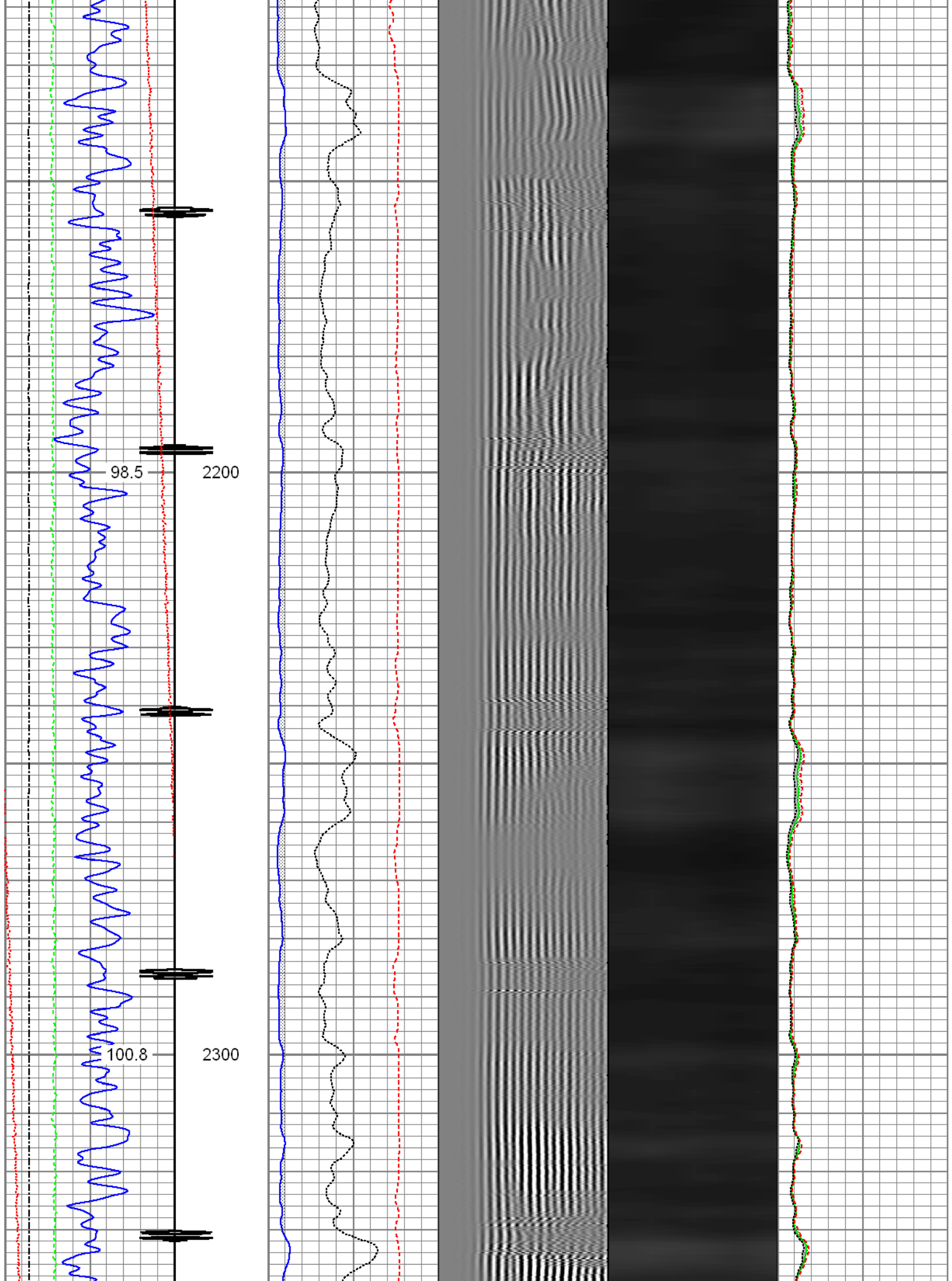


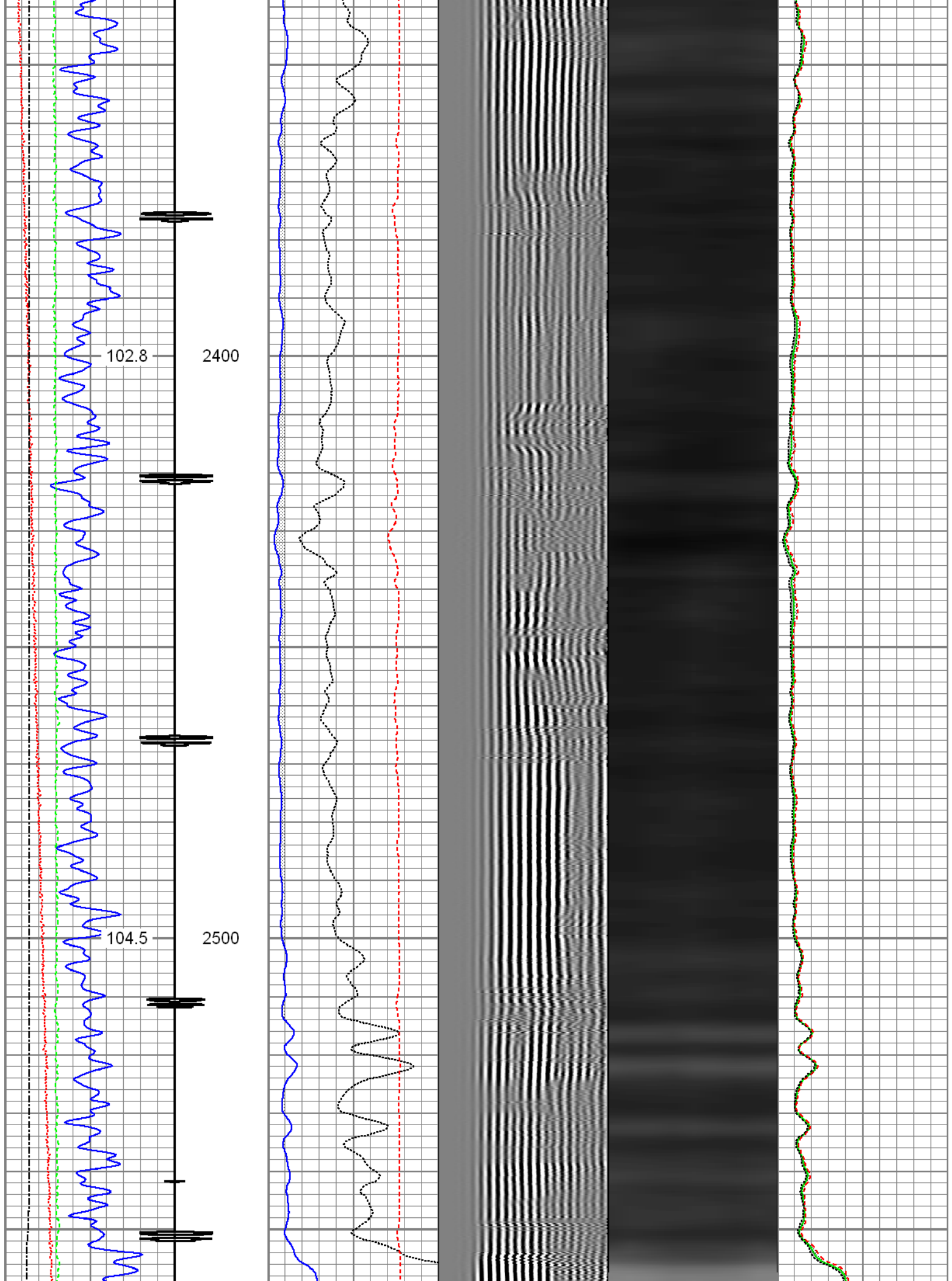


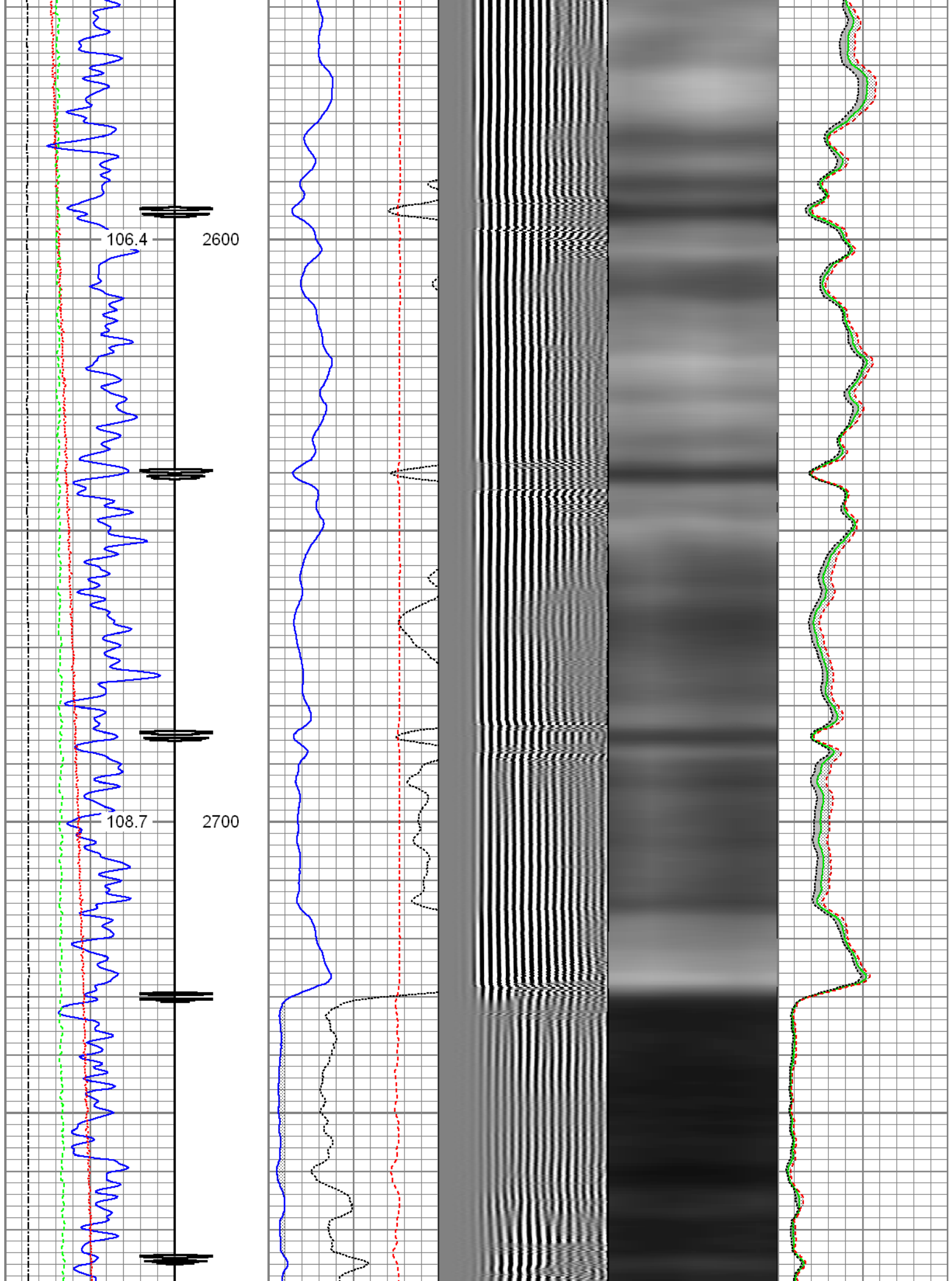


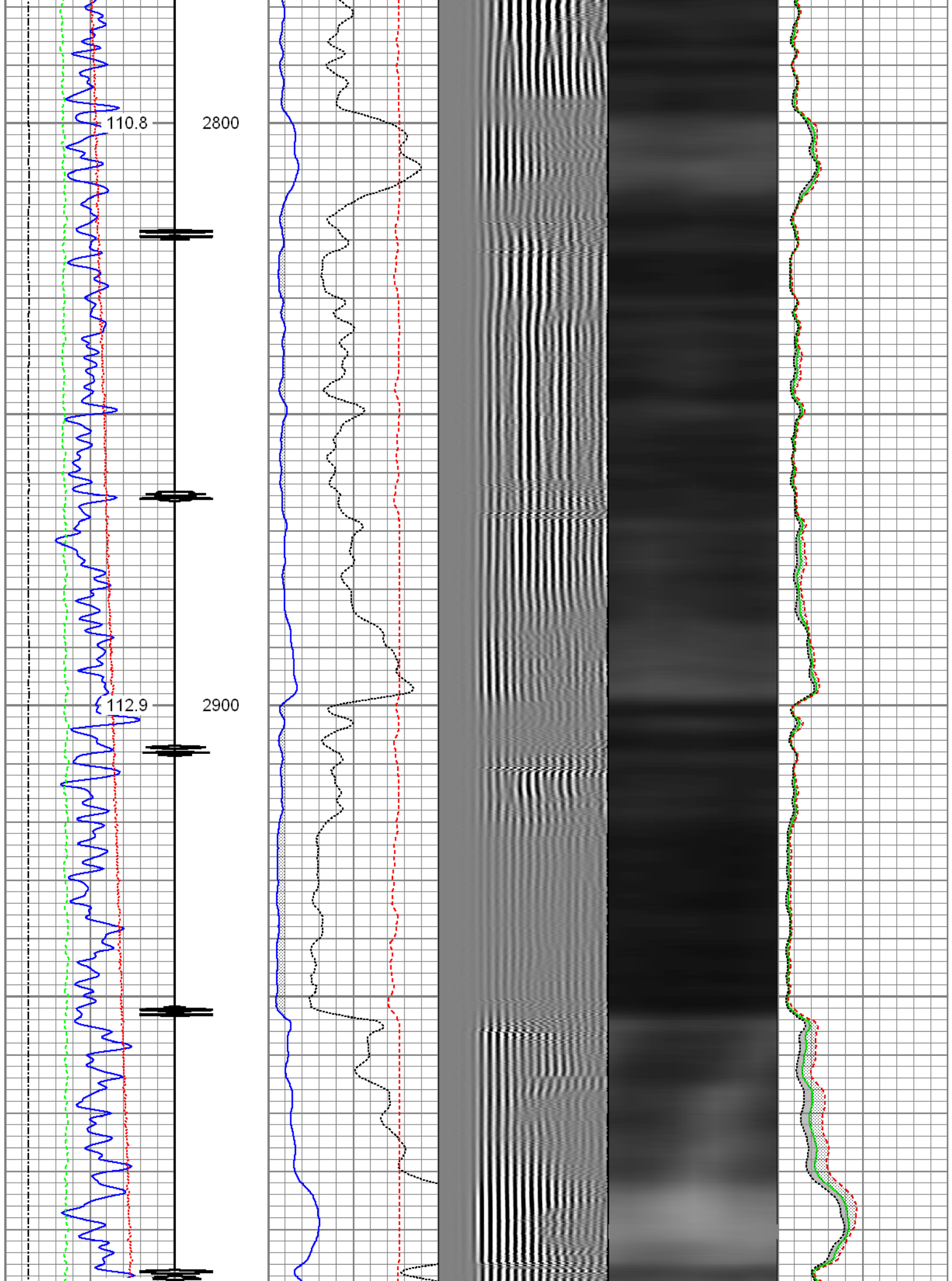


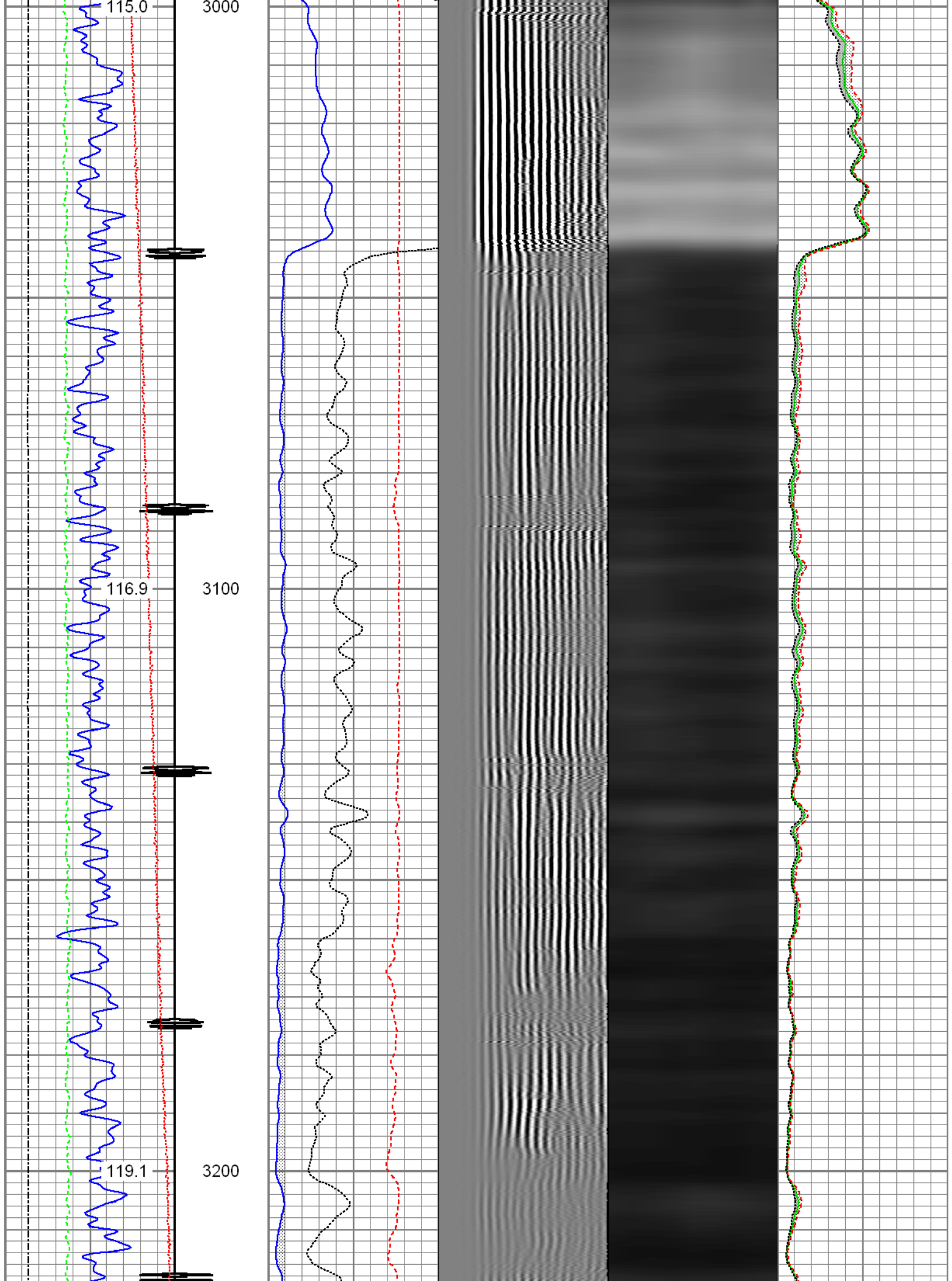


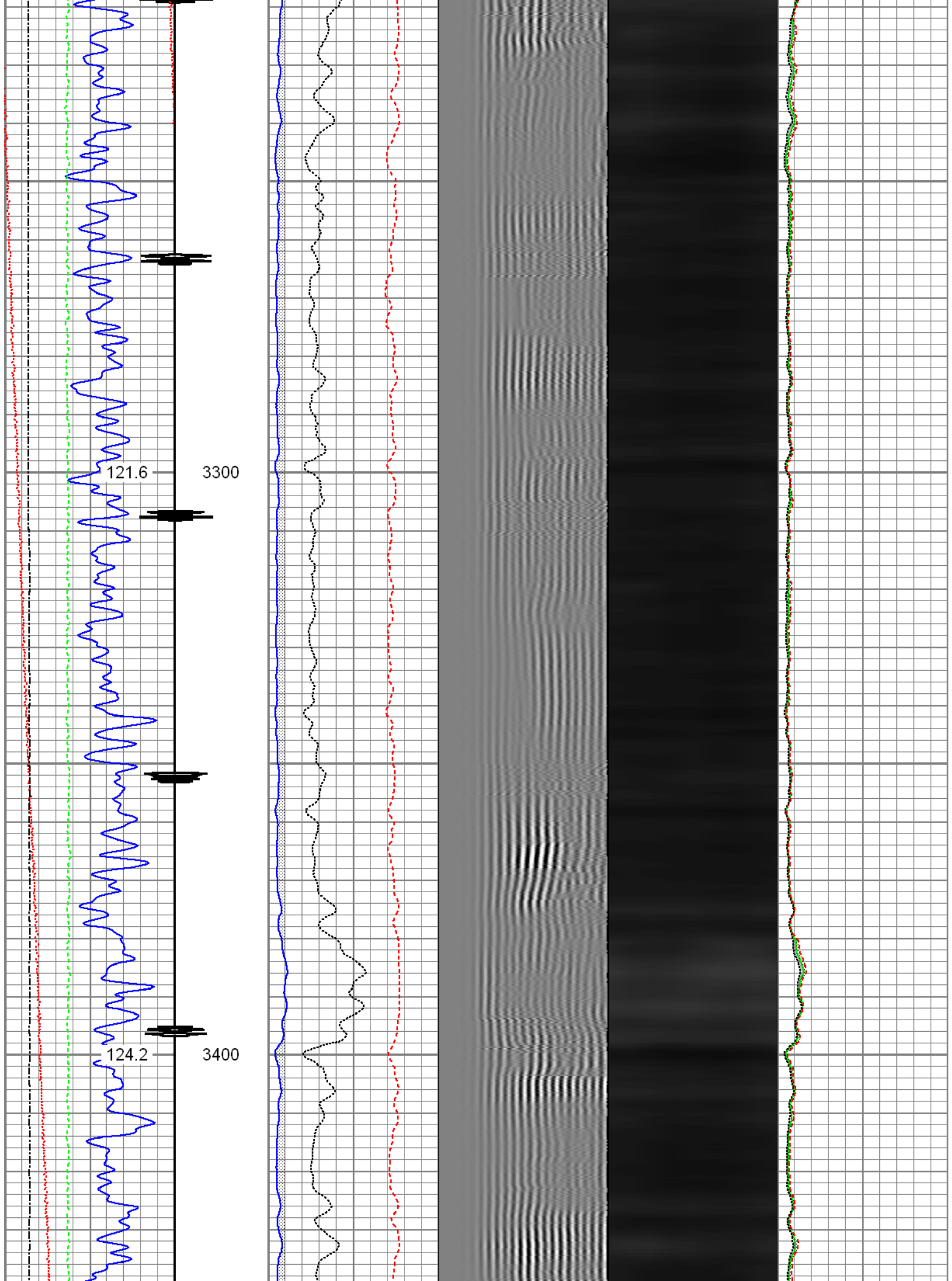


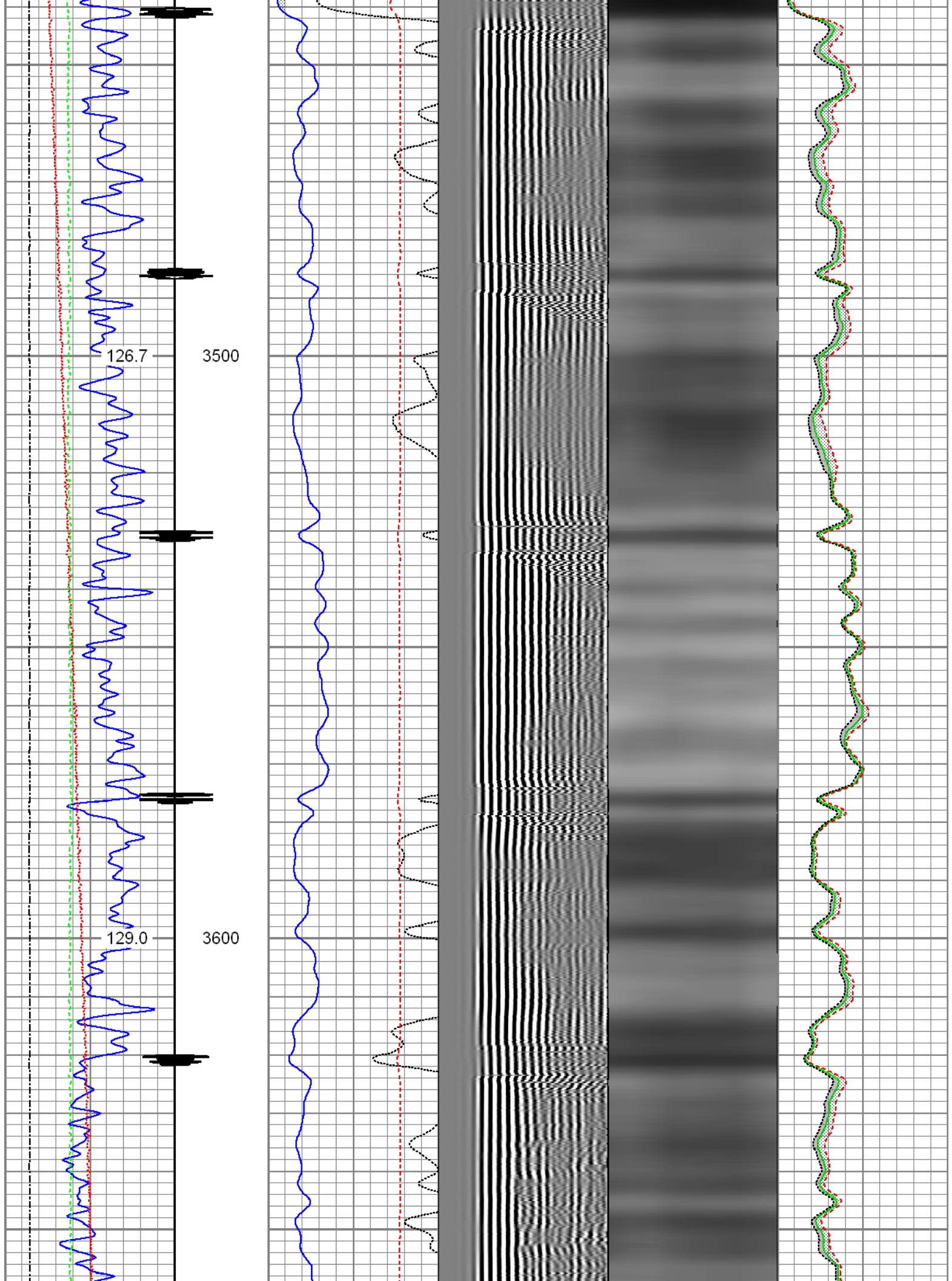


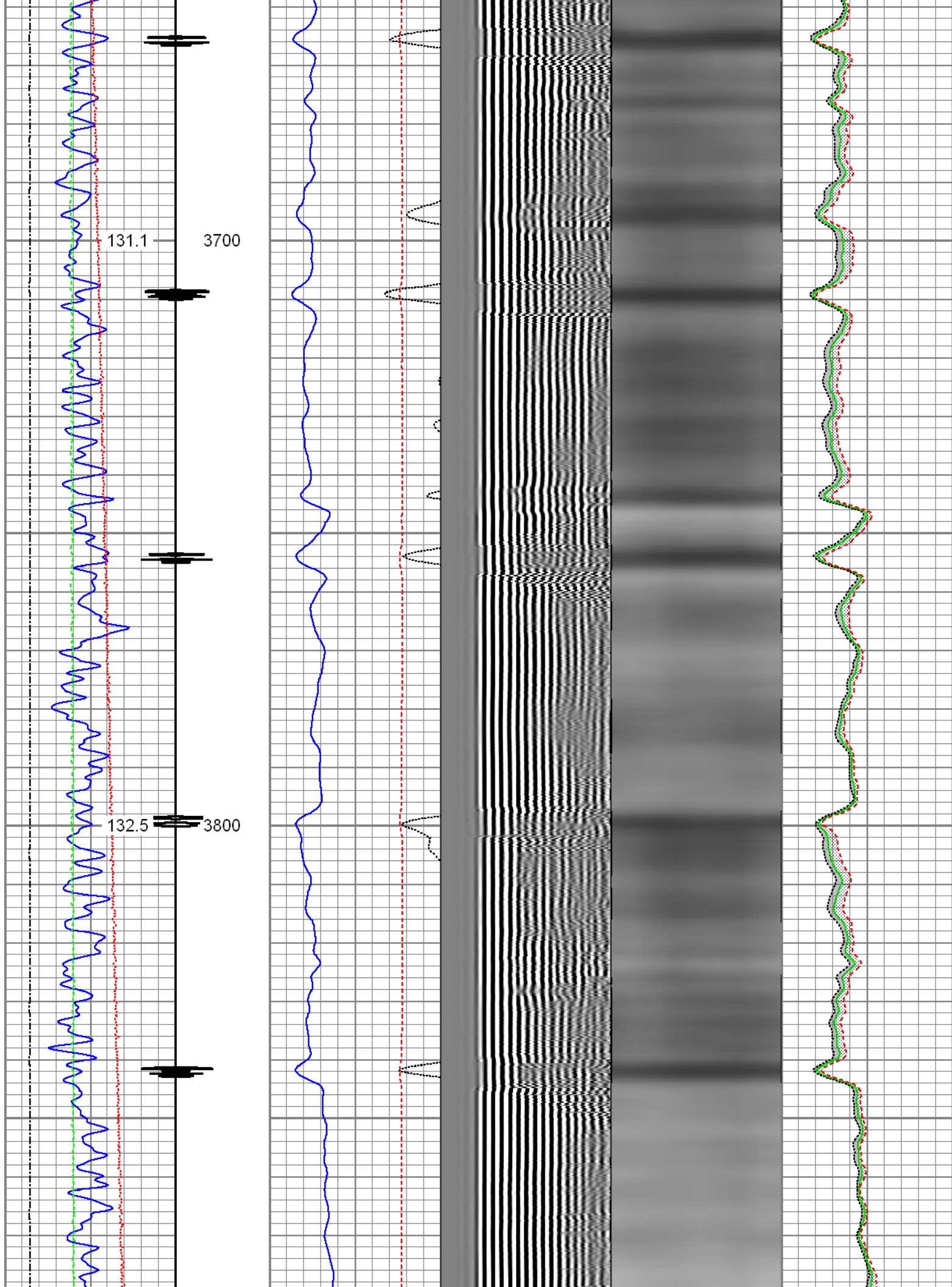


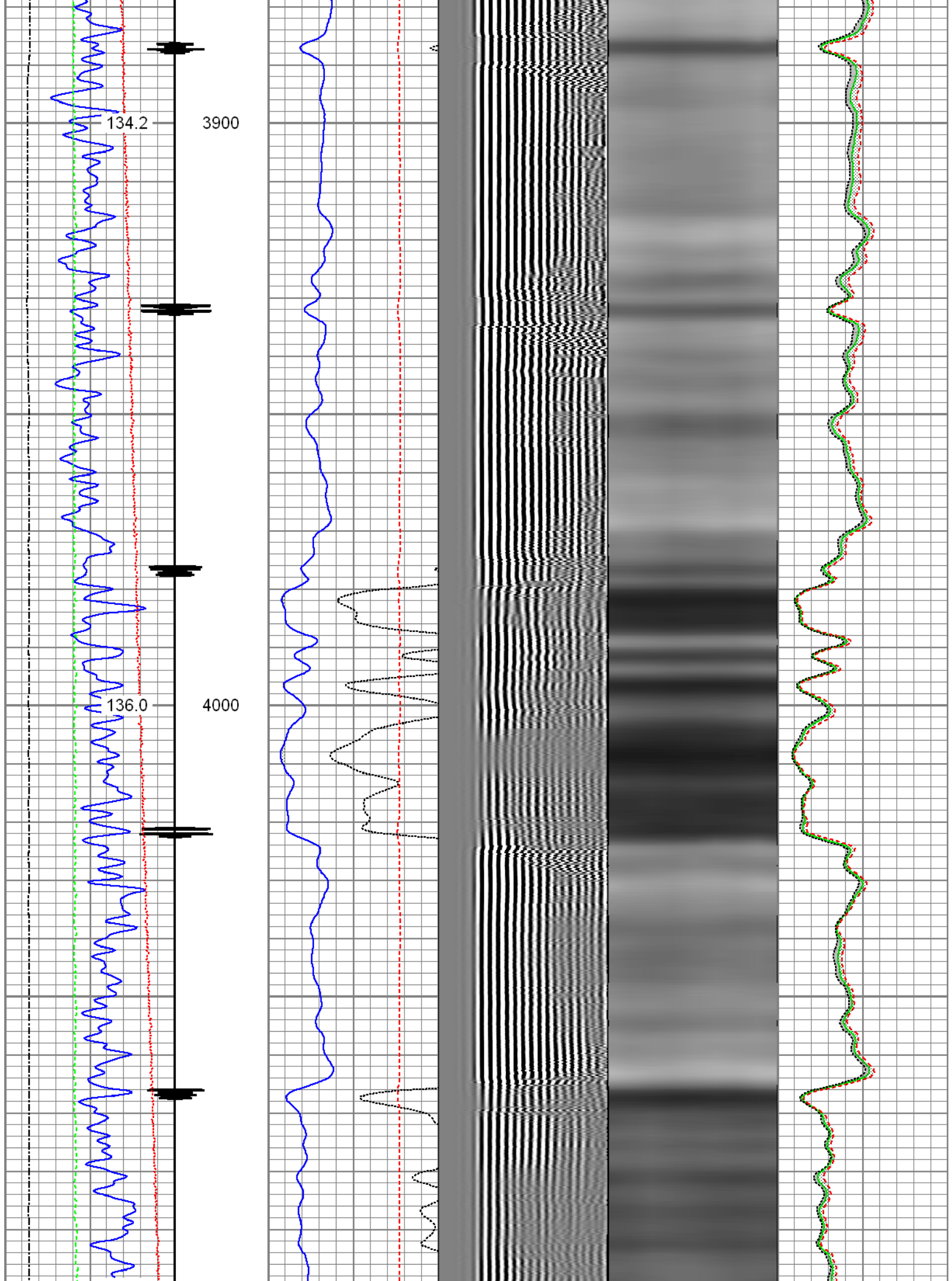


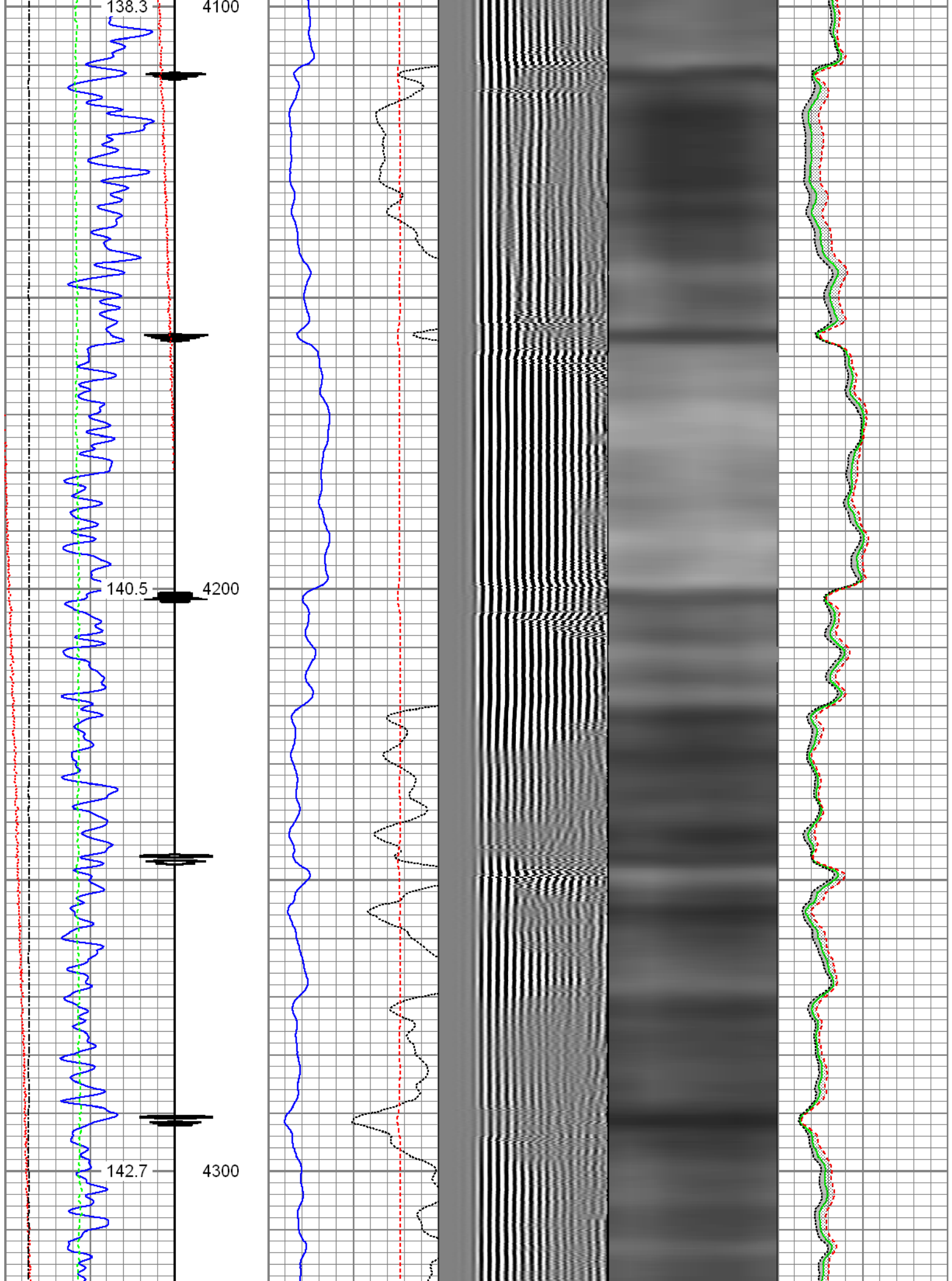


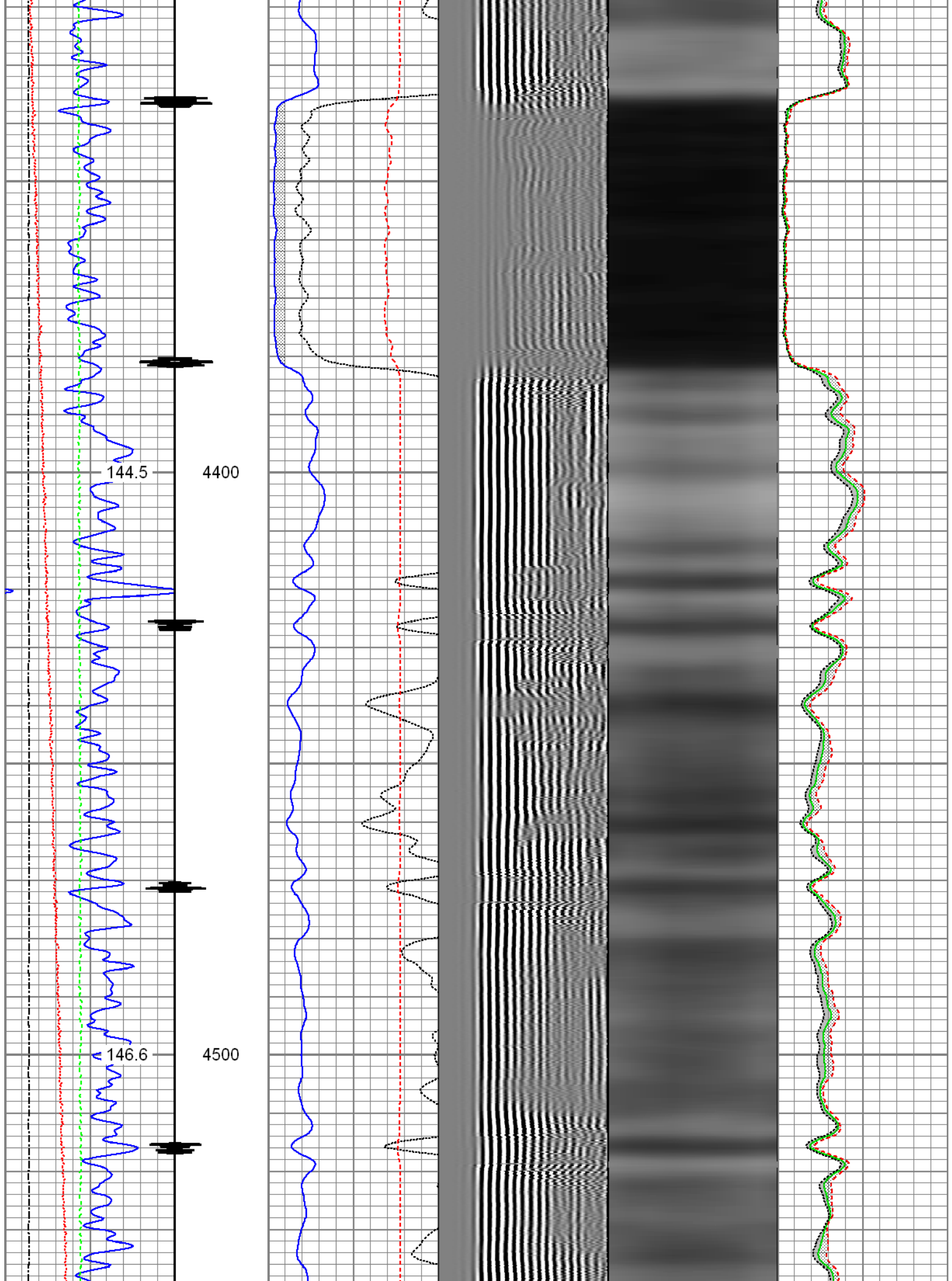


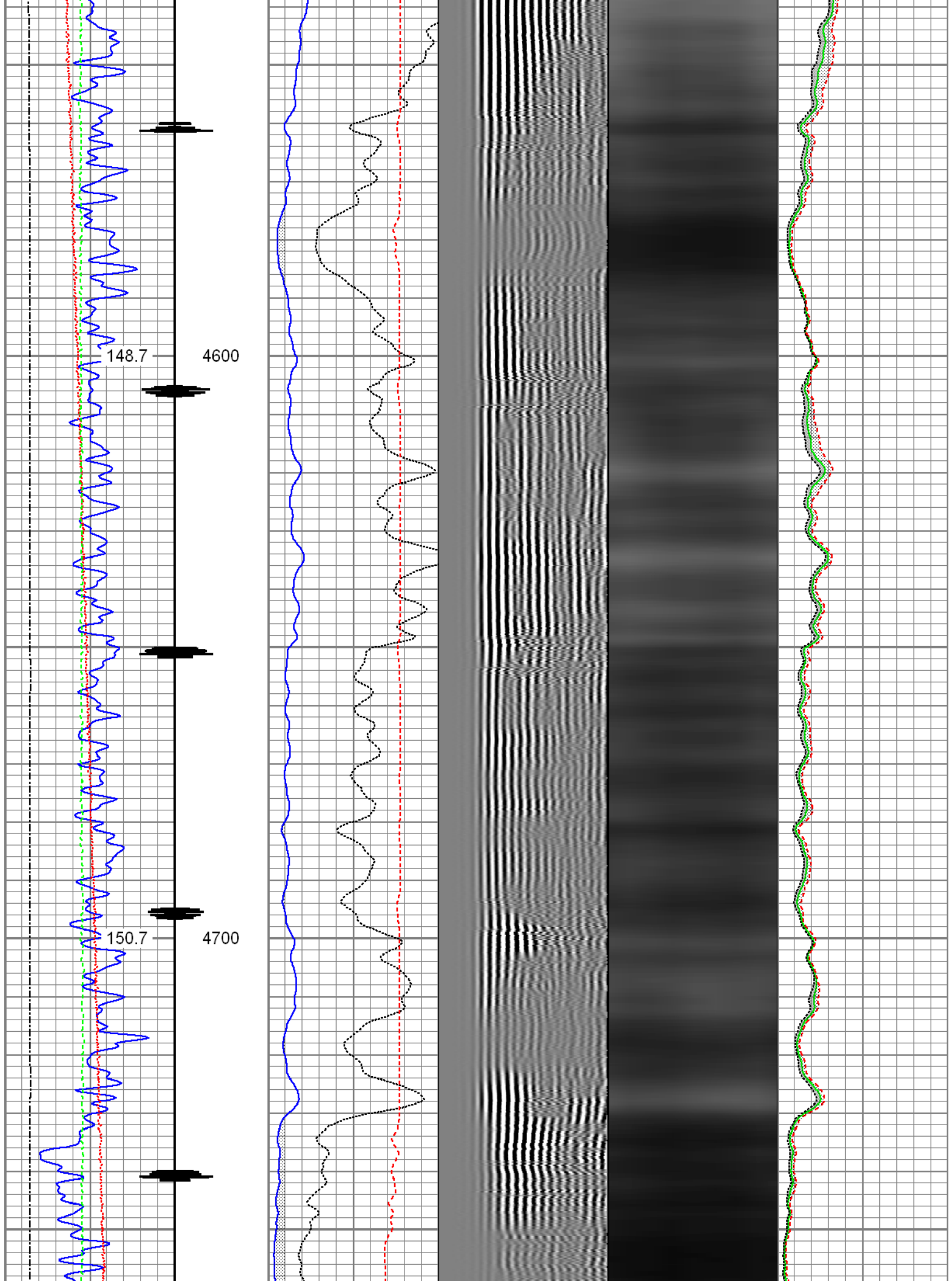


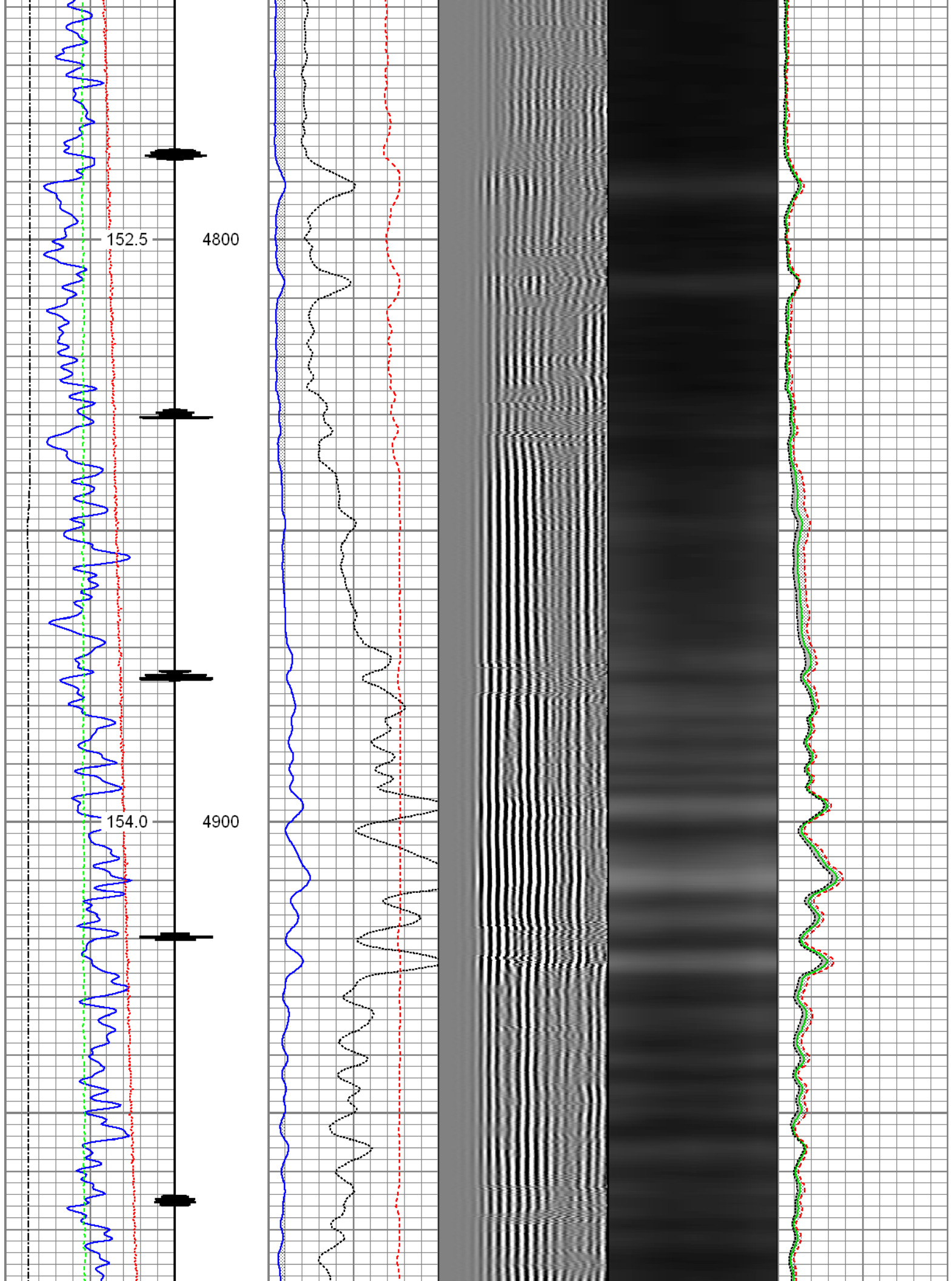


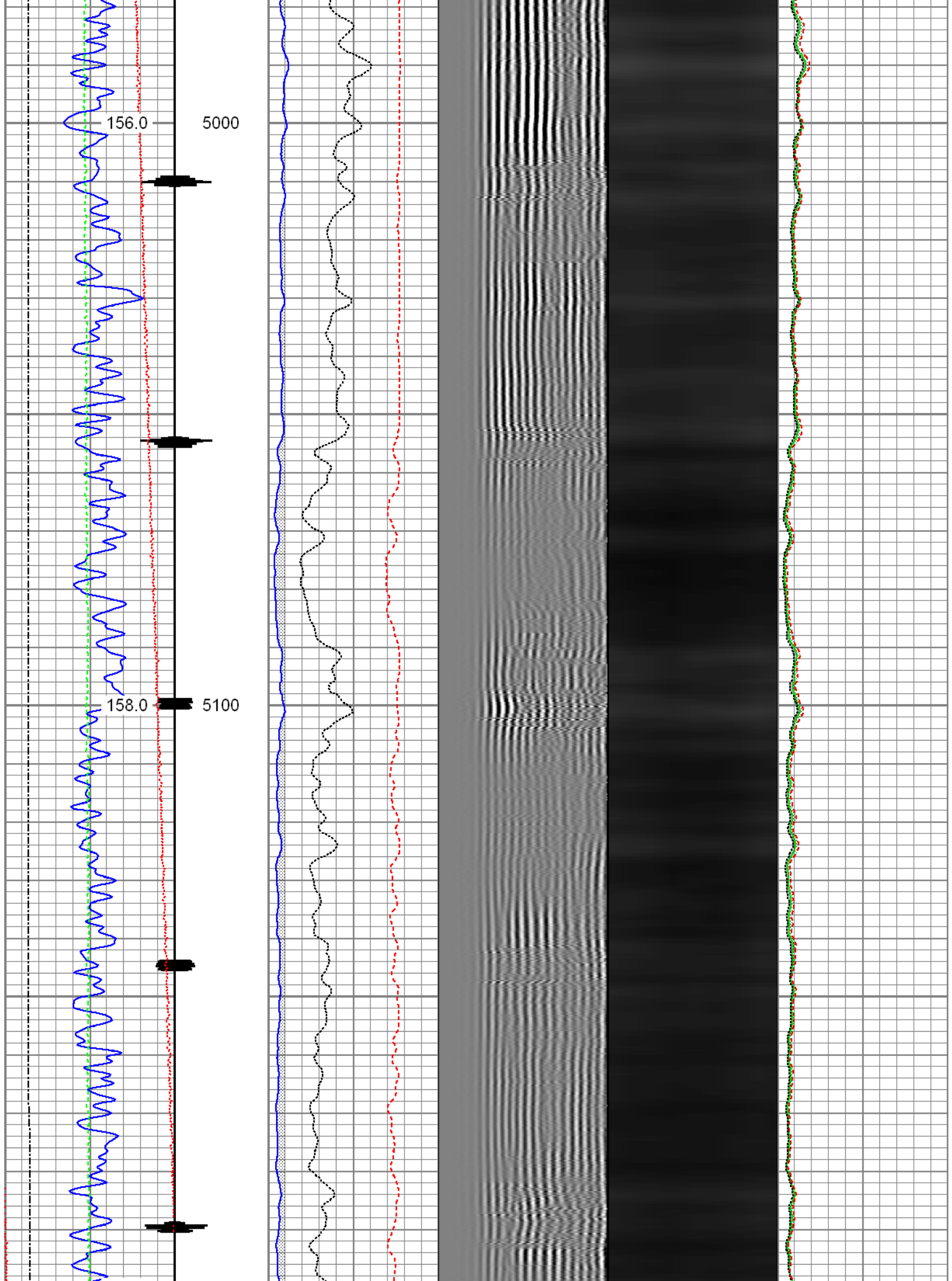


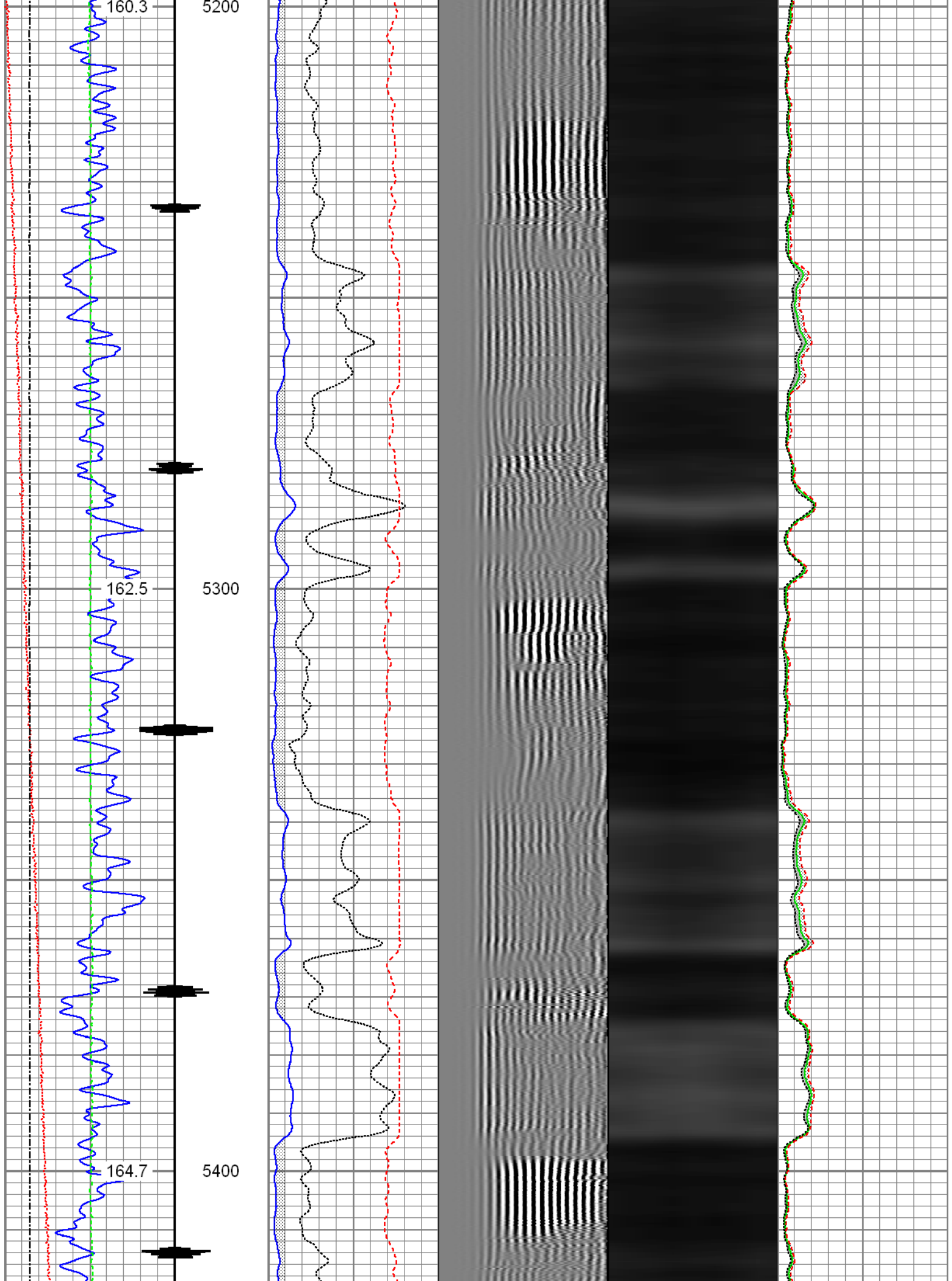


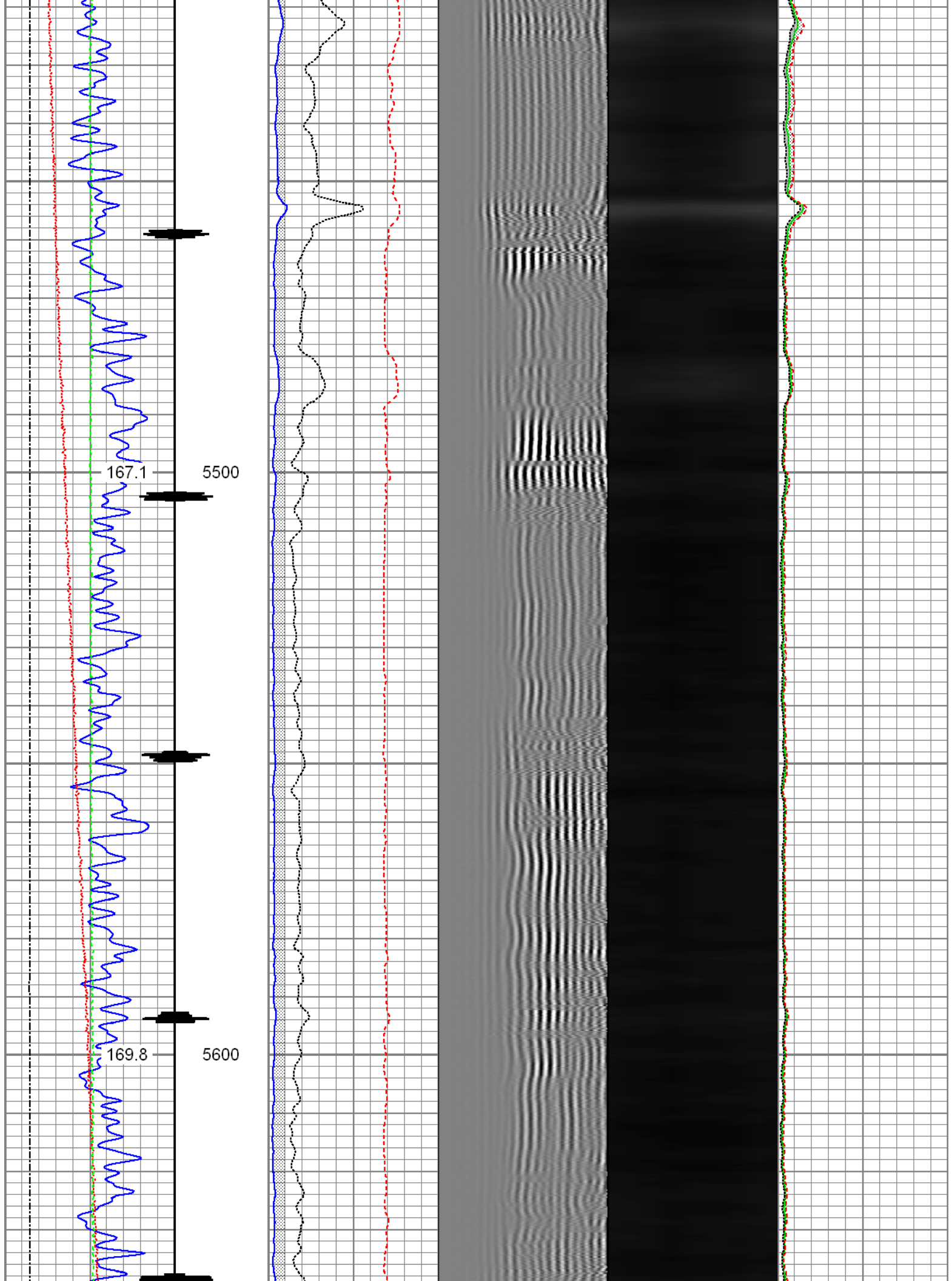


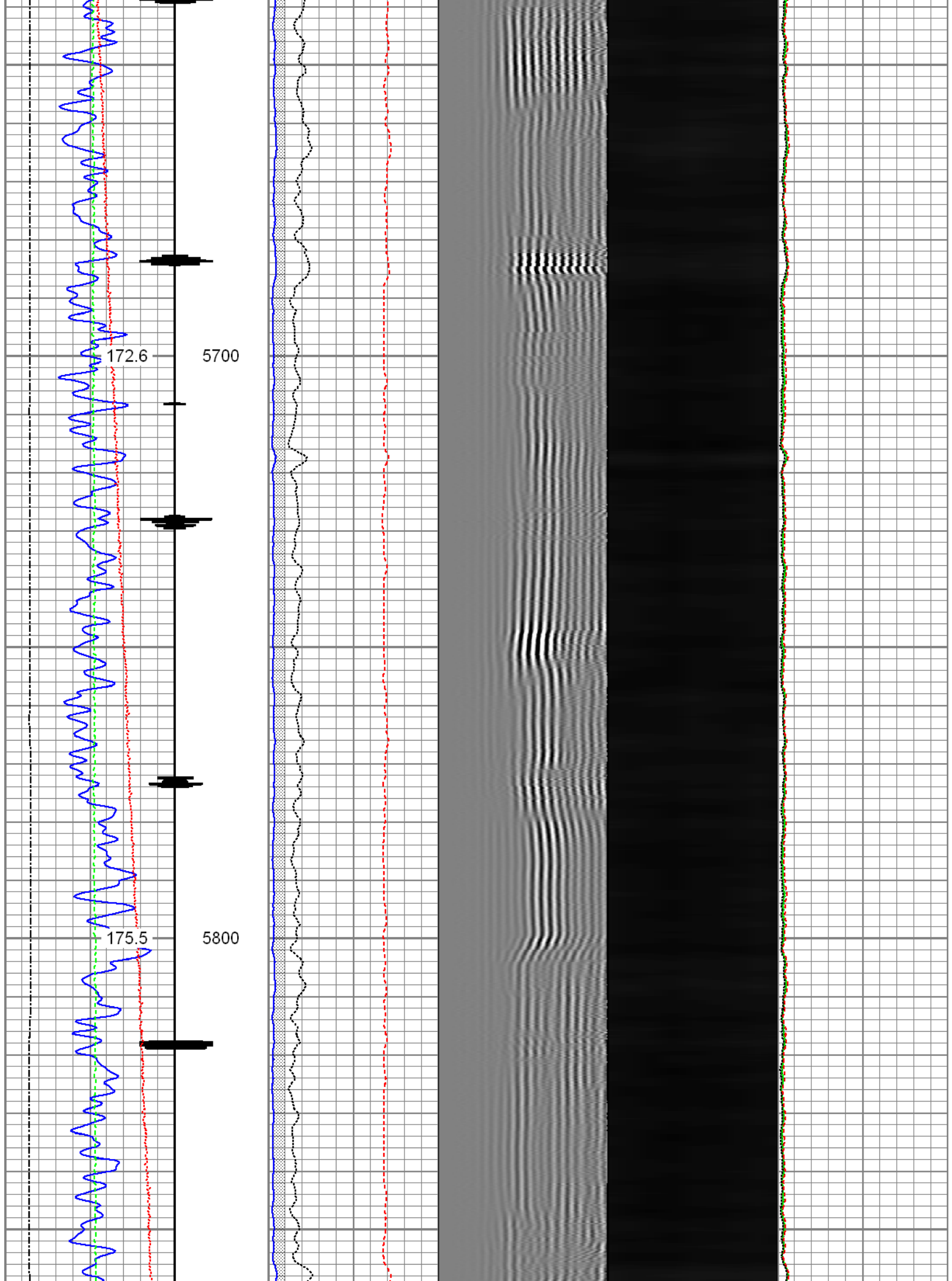


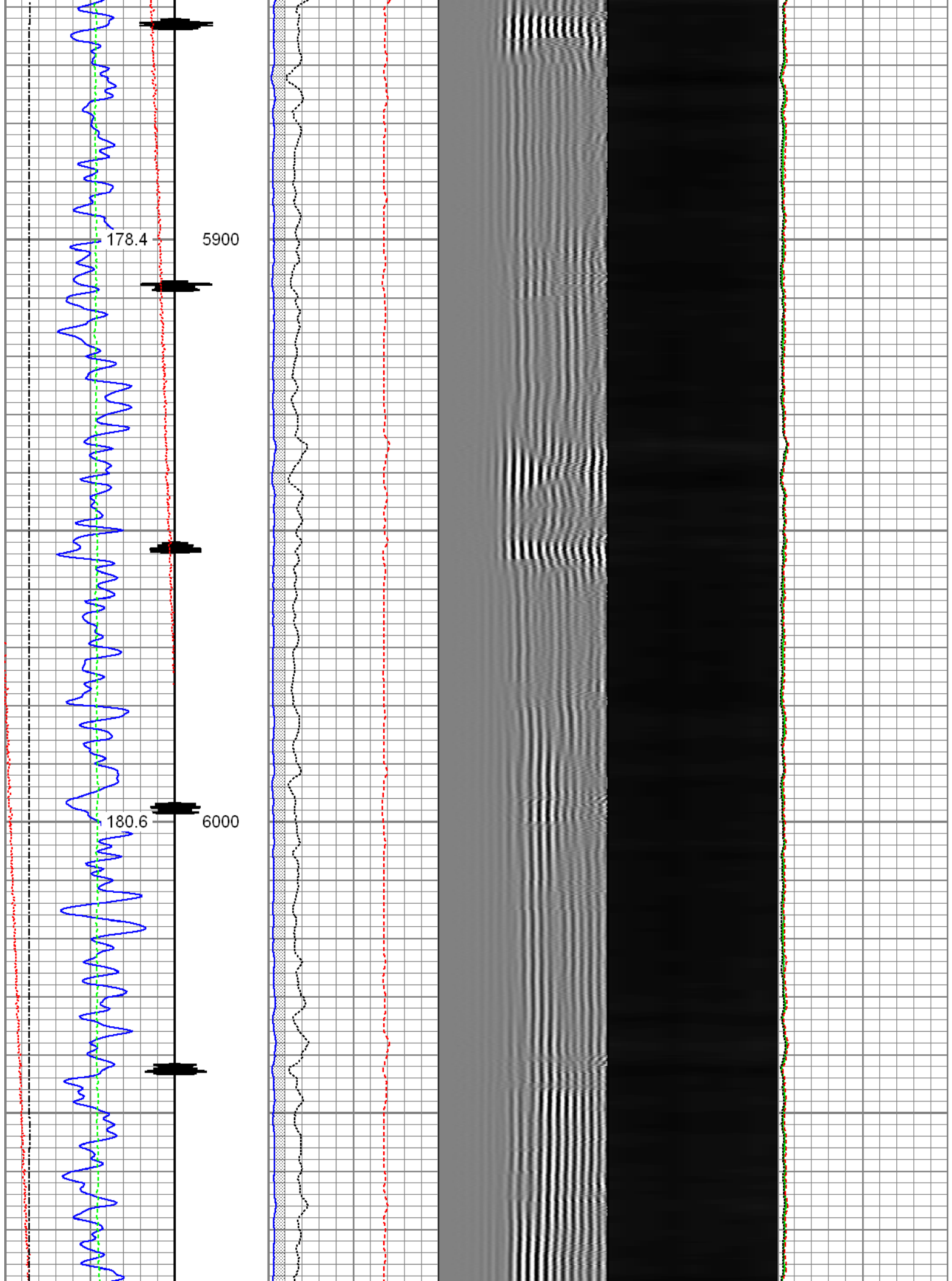


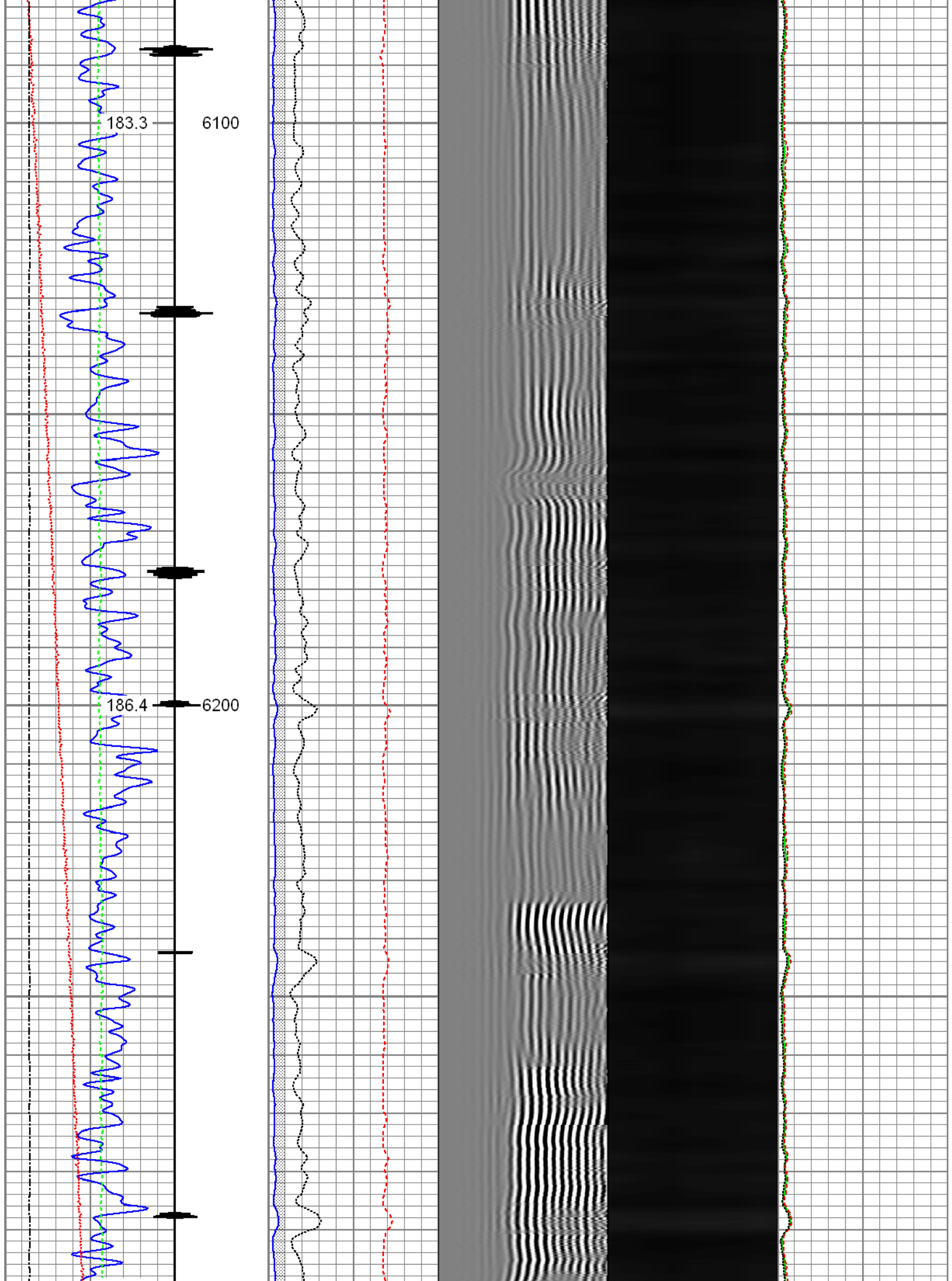


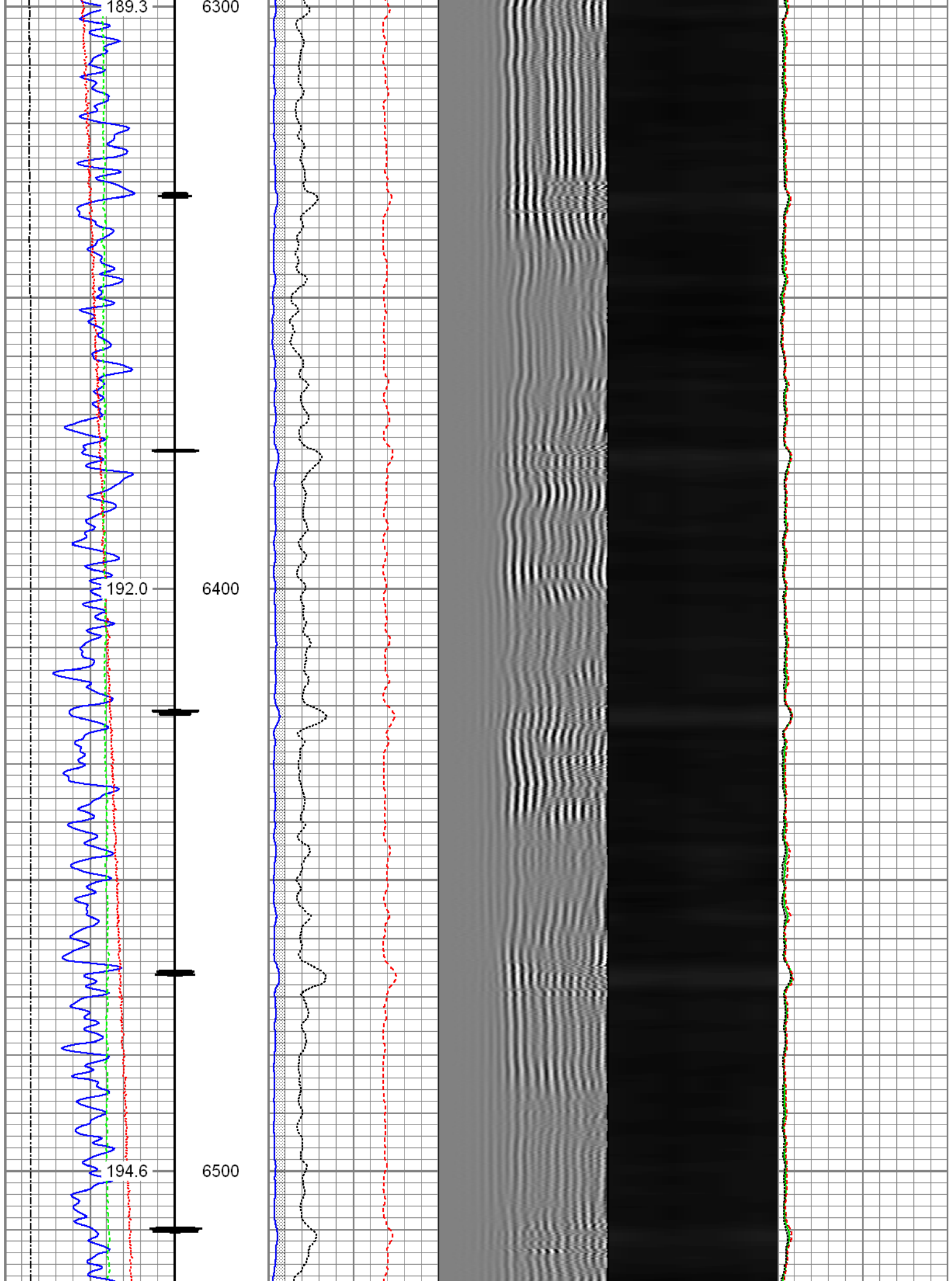


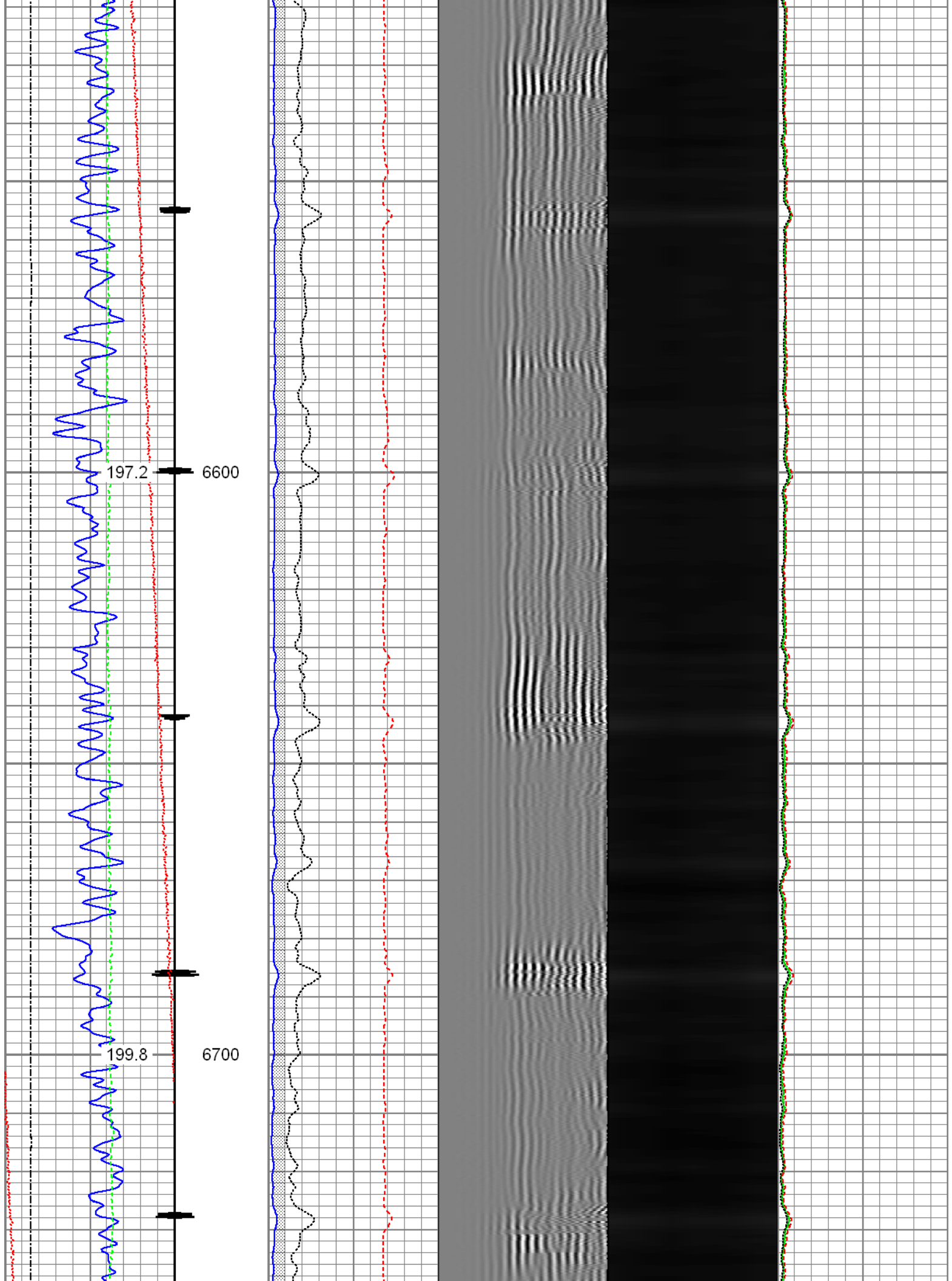


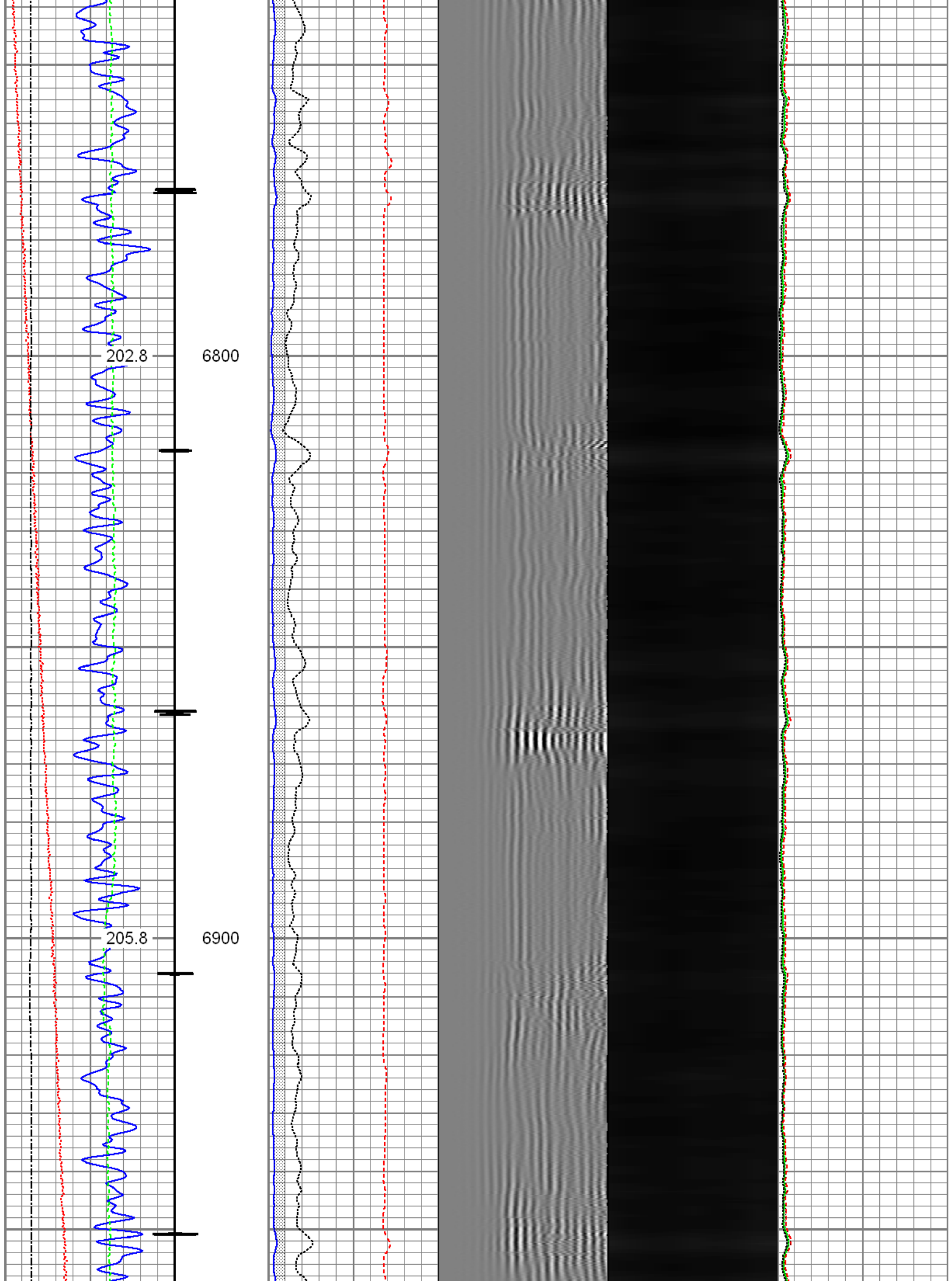


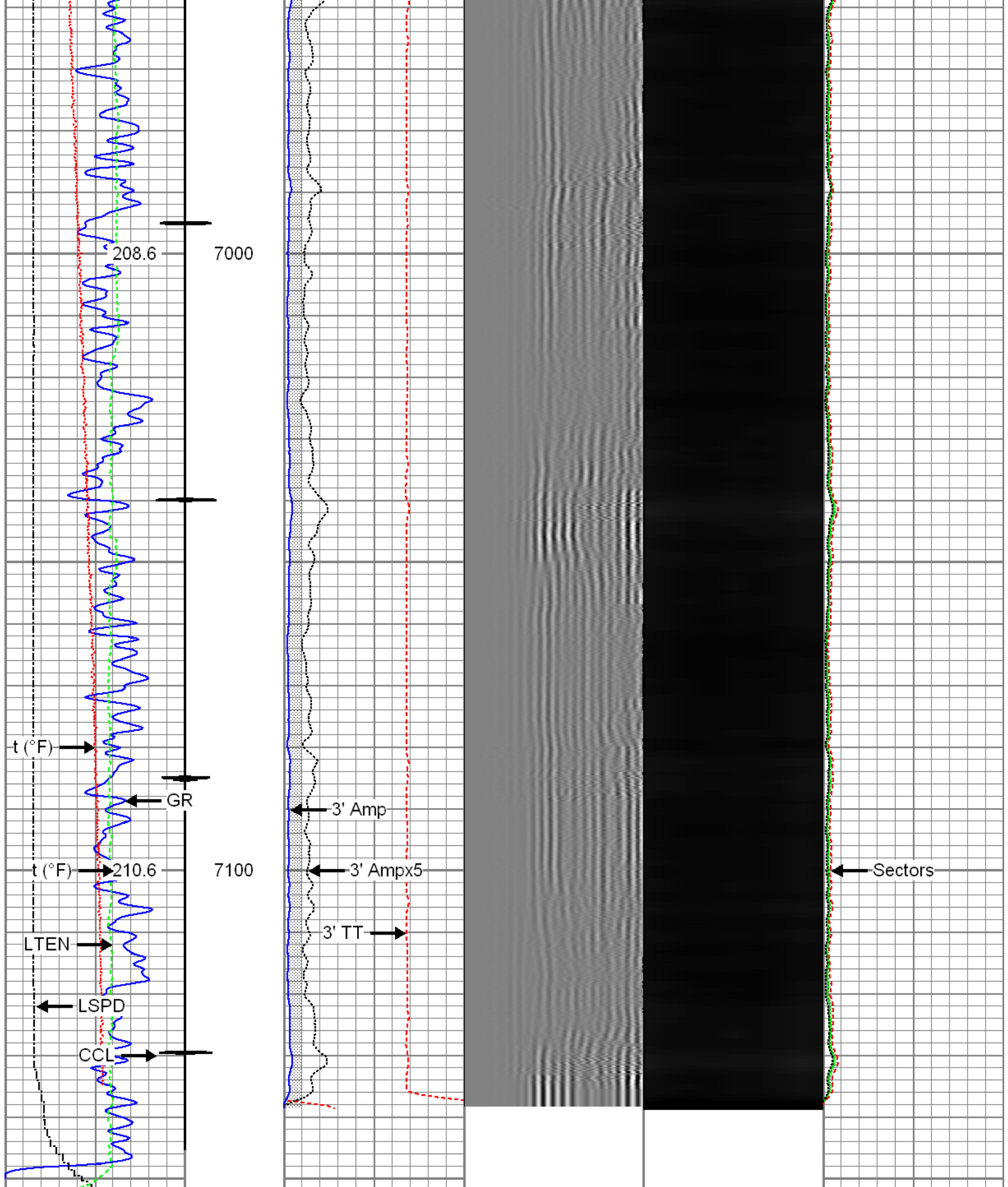













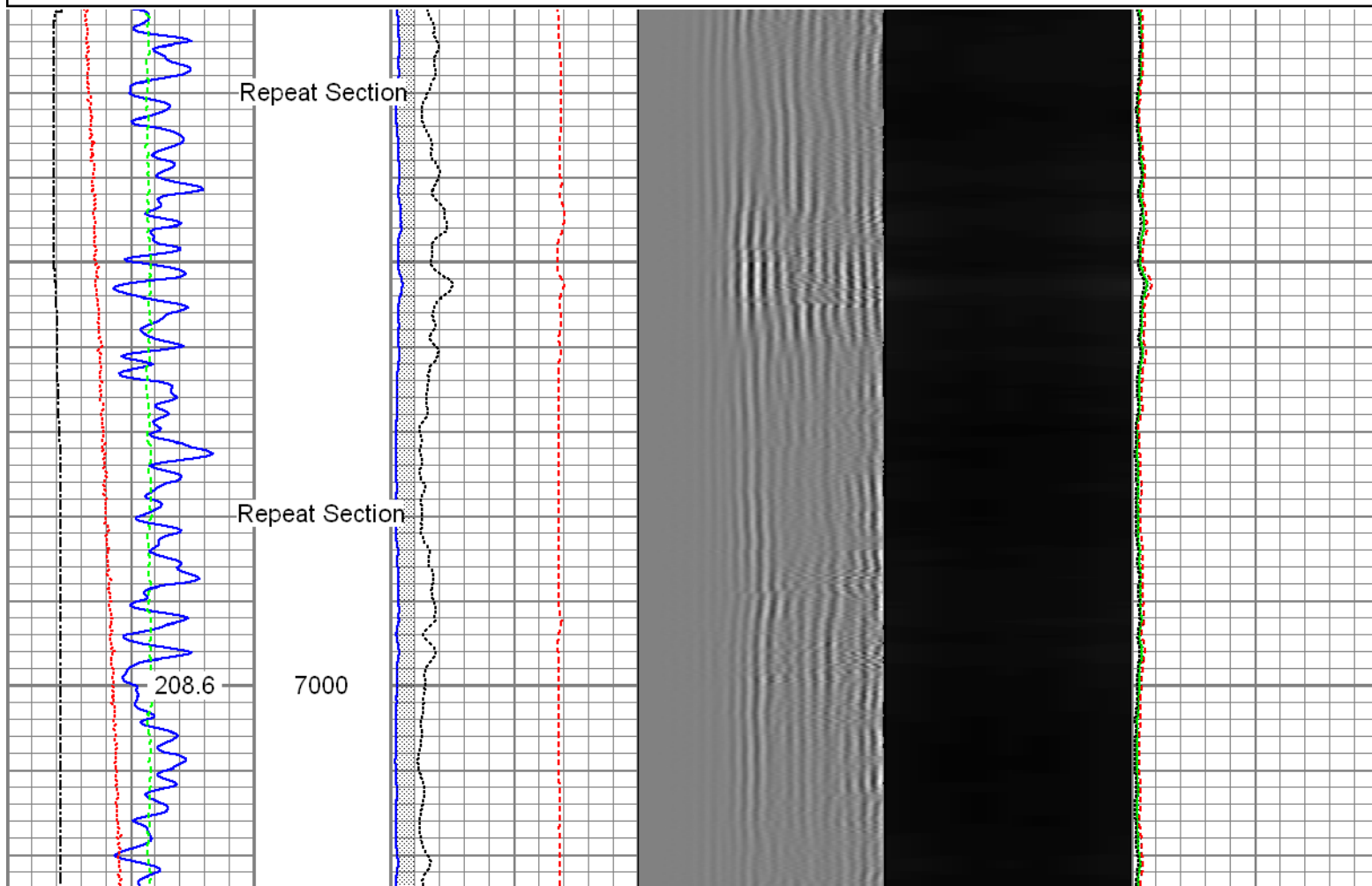
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Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (in/sec) 150			0 100


Line Speed	650 (usec)	150	0	100
-150 (ft/min)	150			
Line Tension				
0 (lb)	2000			

	Repeat Pass			
	Recorded with 2800 PSI Surface Induced Pressure			

Database File: c:\warrior\data\0506906477_anadarko_encore 41n-12hz_09-22-15_rbl\processed_0506906477_anadarko
 Dataset Pathname: pass2
 Presentation Format: radii
 Dataset Creation: Tue Sep 22 10:05:29 2015 by Log 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
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				



Temp	16.72					
WVF3FT	14.55		Probe_RADII-C-2-3/4" (FW1302-002) 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					
WVF5FT	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					
			Probe_CCL_GR-2.75"Digital (FW1211-081) Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.54	2.75	55.00
GR	3.77					
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Dataset: PROCESSED_0506906477_Anadarko_Encore 41N-12HZ_09-22-15_RBL.db: field/well/run1/pass4 Total Length: 23.40 ft Total Weight: 194.00 lb O.D. 2.75 in						

Calibration Report	
Database File:	C:\Warrior\Data\0506906477_Anadarko_Encore 41N-12HZ_09-22-15_RBL\PROCESSED_0506906477_Anadarko_Encore 41N-12HZ_09-22-15_RBL\pass4
Dataset Pathname:	pass4
Dataset Creation:	Tue Sep 22 10:10:13 2015 by Log 7.0 B1

Gamma Ray Calibration Report	
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Serial Number:	FW1211-081
Tool Model:	2.75"Digital
Performed:	Tue Sep 01 08:34:06 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:	FW1302-002	
Tool Model:	2-3/4"	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	-0.878	ft

Master Calibration, performed Mon Sep 08 13:52:35 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.691	0.800	71.921	104.267	-0.079
CAL	0.007	0.784				
5'	0.019	0.703	0.800	71.921	103.940	-1.135
SUM						
S1	0.021	0.694	0.000	100.000	148.629	-3.075
S2	0.009	0.694	0.000	100.000	146.030	-1.348
S3	0.009	0.692	0.000	100.000	146.299	-1.284
S4	0.009	0.691	0.000	100.000	146.579	-1.288
S5	0.009	0.689	0.000	100.000	146.950	-1.275
S6	0.009	0.692	0.000	100.000	146.579	-1.376
S7	0.009	0.696	0.000	100.000	145.568	-1.326
S8	0.009	0.692	0.000	100.000	146.432	-1.330

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	0.007	0.784	1.000	0.000

Air Zero Calibration, performed Tue Sep 22 09:36:25 2015:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.011	0.000	-0.002
5'	0.012	0.000	0.007
SUM			
S1	0.009	0.000	0.012
S2	0.011	0.000	-0.002
S3	0.011	0.000	-0.002
S4	0.011	0.000	-0.002
S5	0.011	0.000	-0.002
S6	0.011	0.000	-0.001
S7	0.011	0.000	-0.002
S8	0.011	0.000	-0.001



Company	Kerr-McGee Oil and Gas Onshore LP
Well	Encore 41N-12HZ
Field	Wattenberg
County	Larimer
State	Colorado