



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Sarchet 16N-20HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API #: 05-123-41917	
SEC 20		TWP 2N	
RGE 65W		Other Services	
Permanent Datum		Ground Level	
Log Measured From		Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		K.B. 4922'	
Elevation		D.F. 4921'	
Elevation		G.L. 4897'	
Date		12-NOV-2015	
Run Number		Two	
Depth Driller		12838 FT	
Depth Logger		7408 FT	
Bottom Logged Interval		7380 FT	
Top Log Interval		Surface	
Open Hole Size		7.875"	
Type Fluid		Water	
Density / Viscosity		8.34 lbm/gal	
Max. Recorded Temp.		242°F	
Estimated Cement Top		Surface	
Time Well Ready		ROA	
Time Logger on Bottom		8:22	
Equipment Number		HD-0119	
Location		Ft. Lupton, CO	
Recorded By		R. Fogarty	
Witnessed By		M. Torres	
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	
Intermediate #1		5 1/2	
Intermediate #2		17	
Liner		HCP 110 LTC	
Surface		Surface	
12822 FT		1897 FT	

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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 6656 FT
Adjusted log -22 FT to correlate with Marker Joint
Gauge ring ran to 7408 FT
Log ran as deep as possible in heel to surface
Log ran with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

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

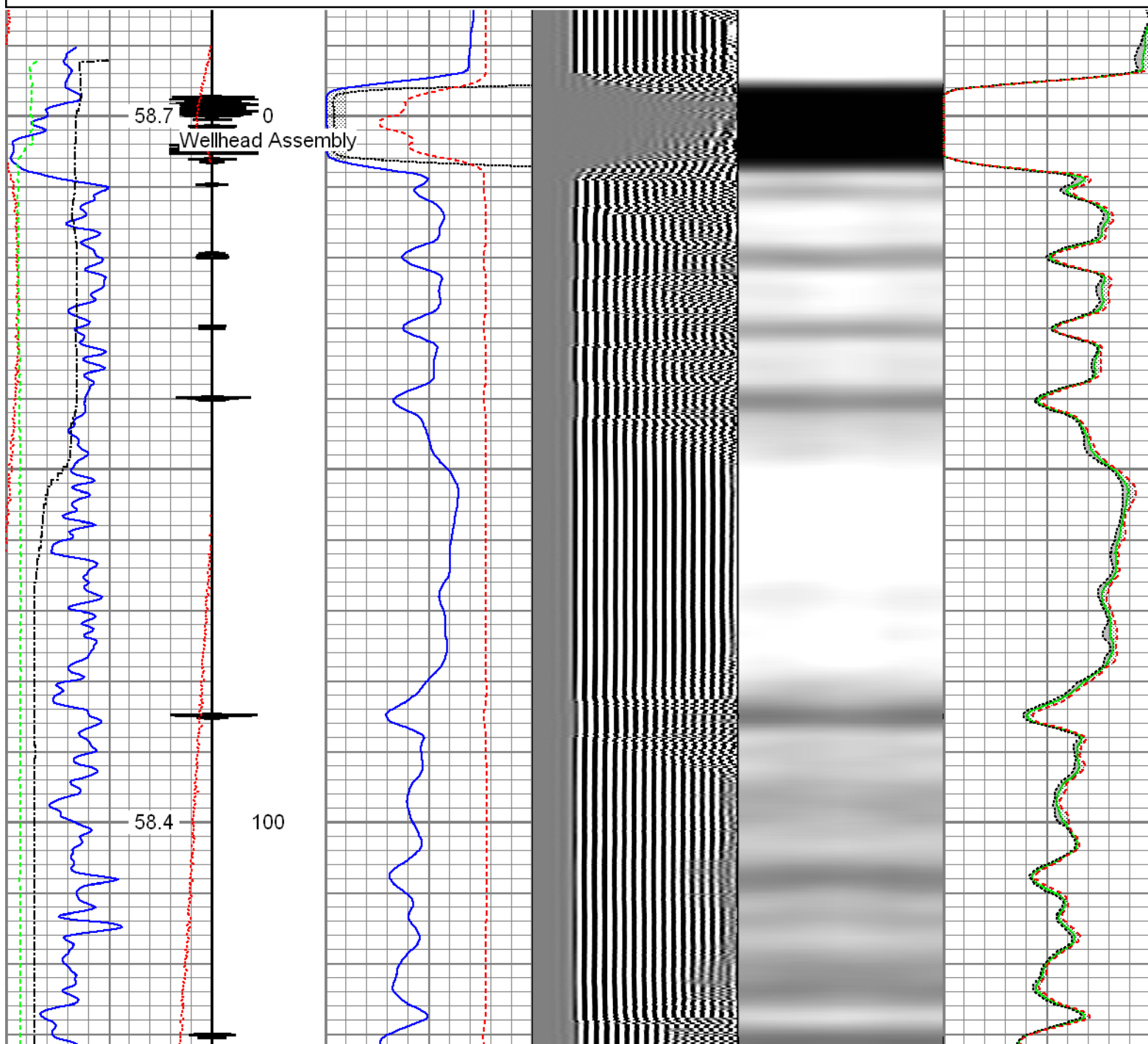


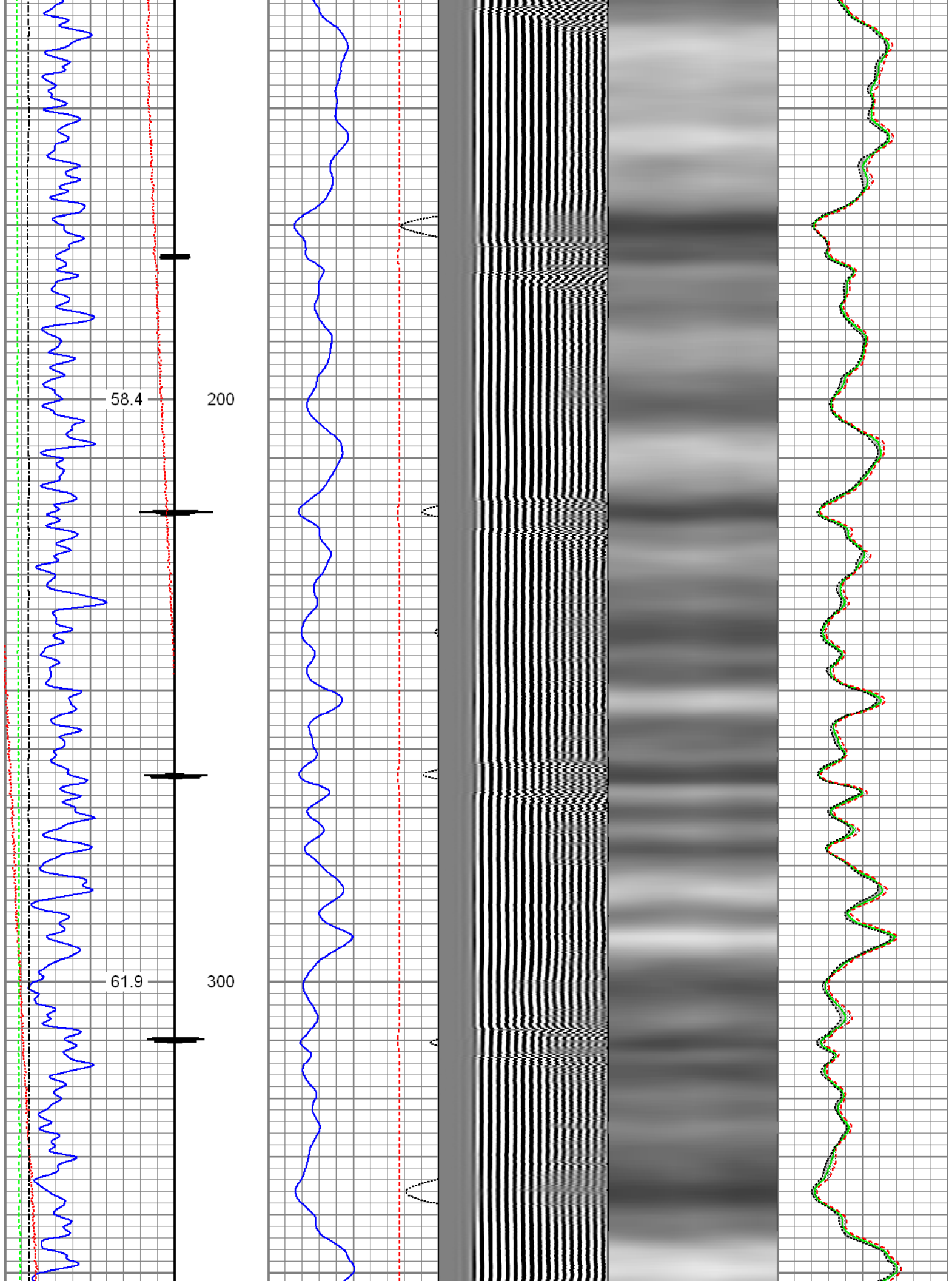
Main Pass

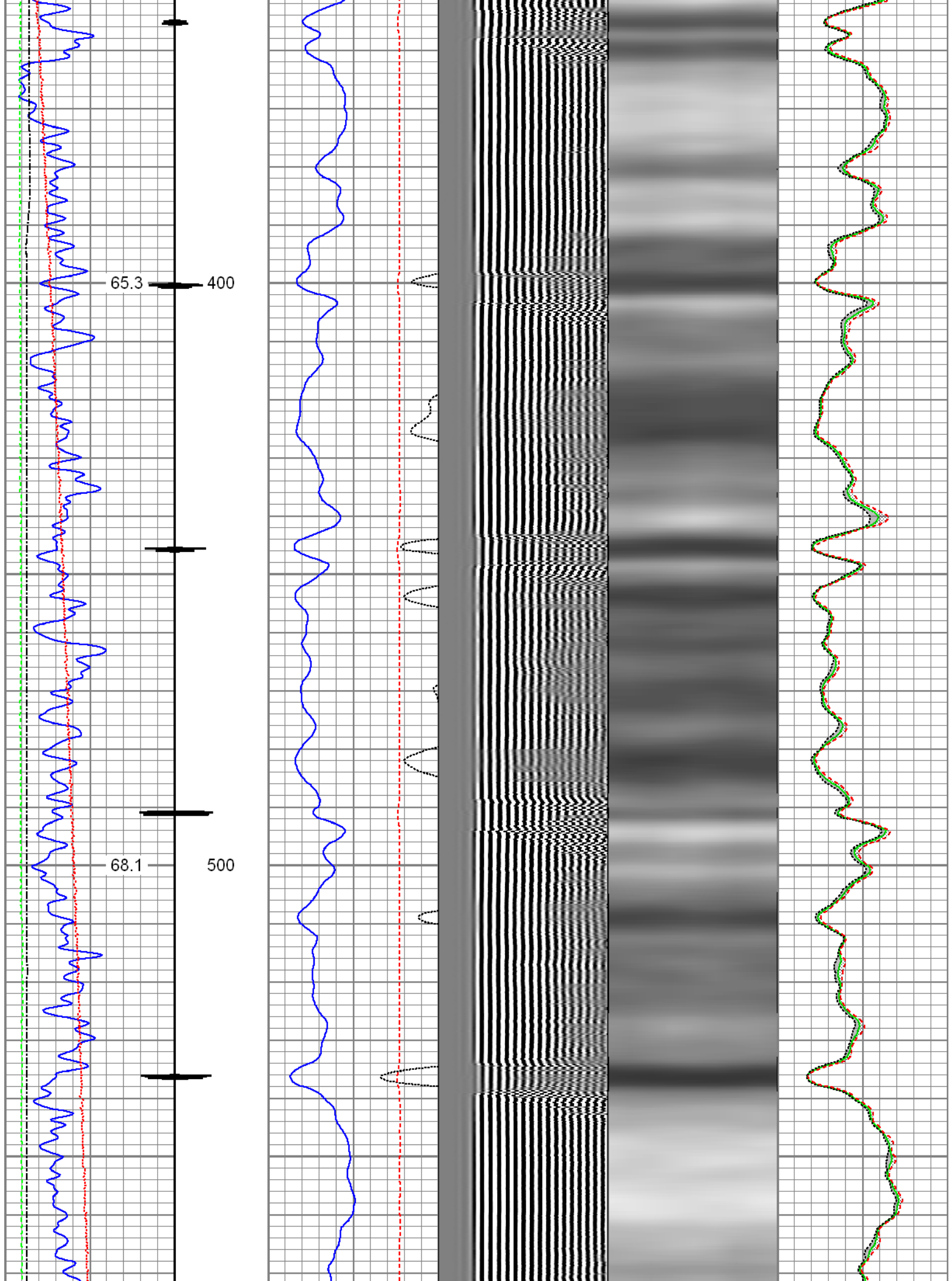
Recorded with 2800 PSI Surface Induced Pressure

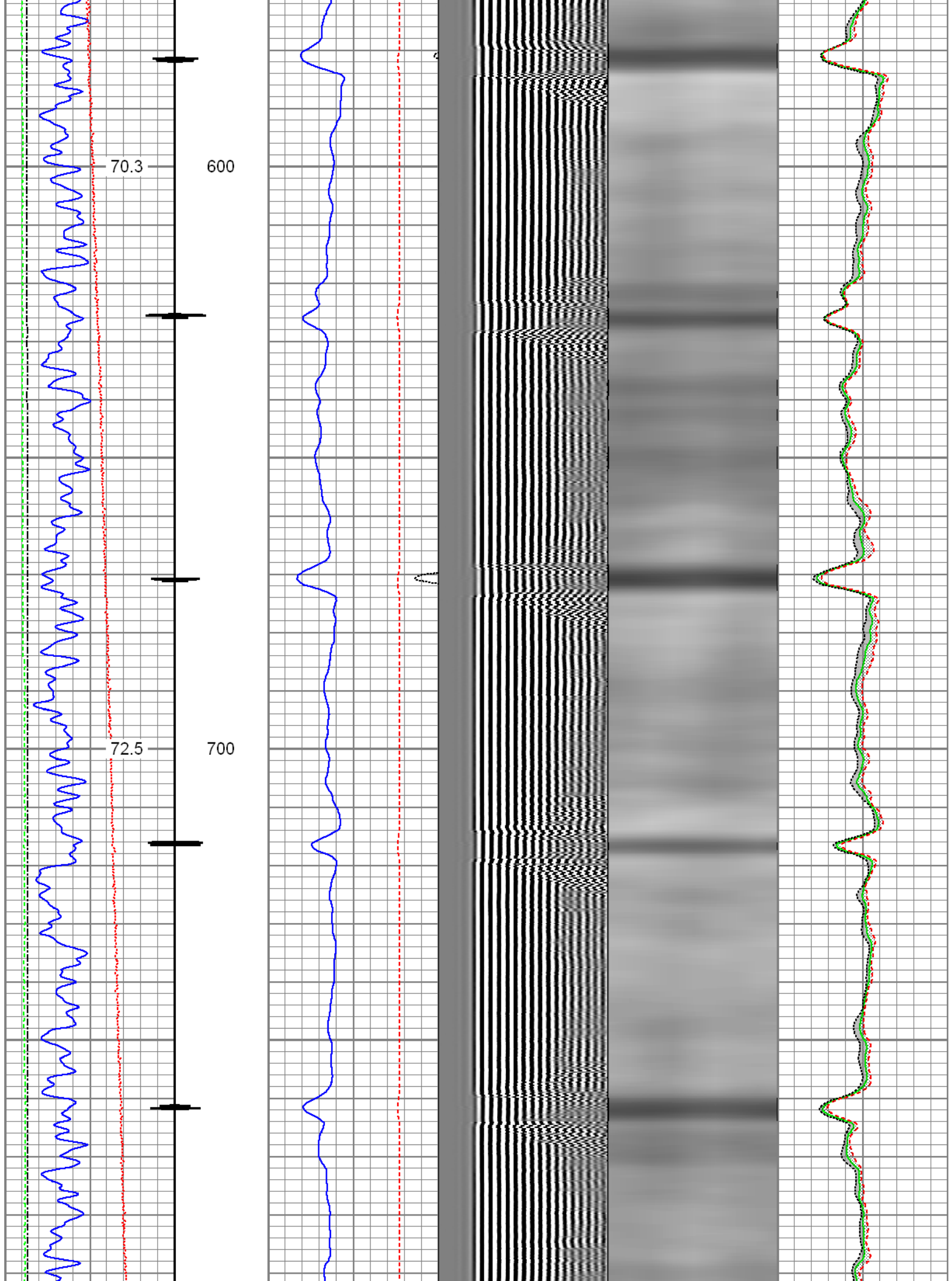
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Presentation Format: radii
Dataset Creation: Thu Nov 12 13:27:00 2015 by Calc SCH 120430
Charted by: Depth in Feet scaled 1:240

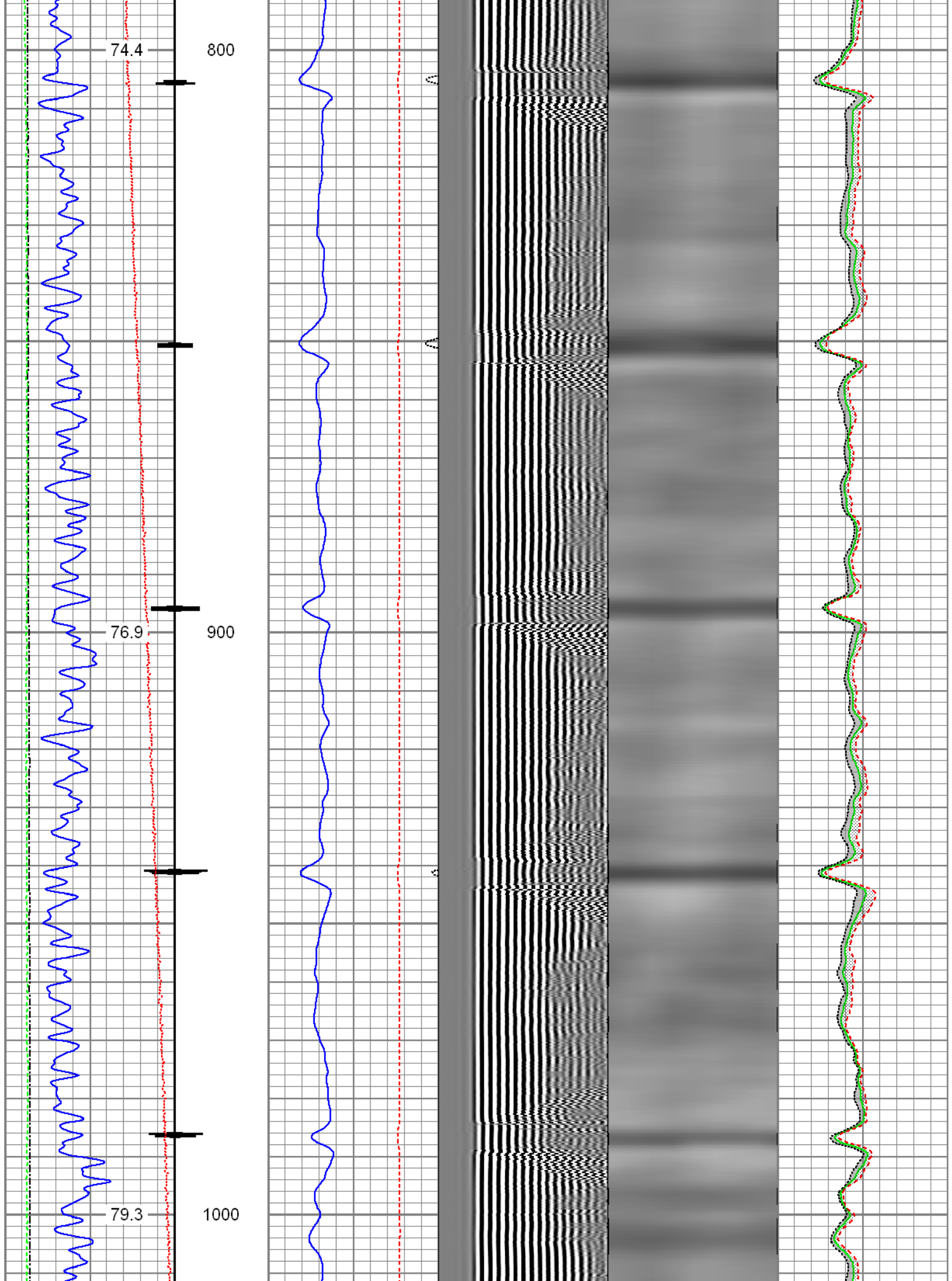
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

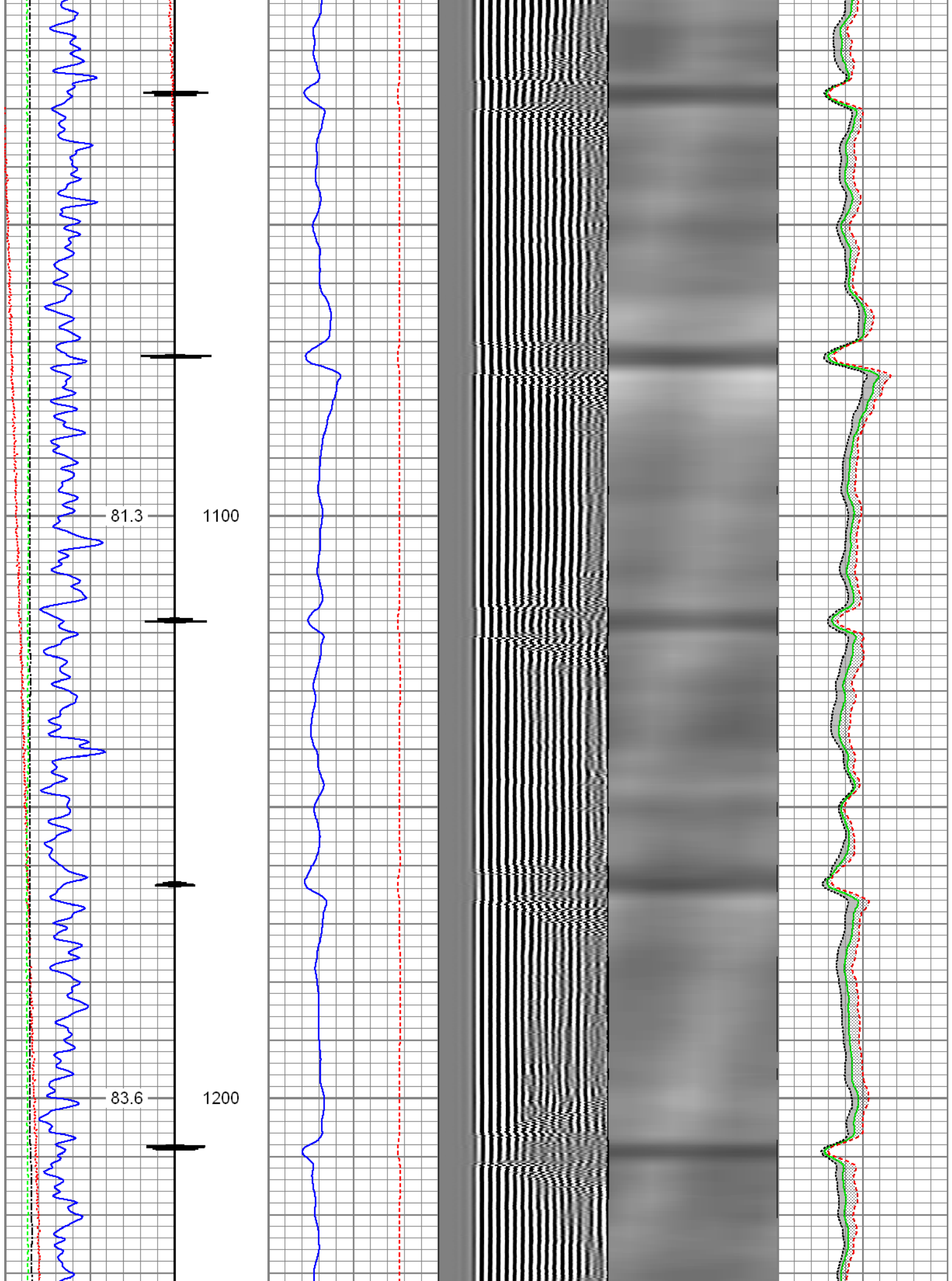


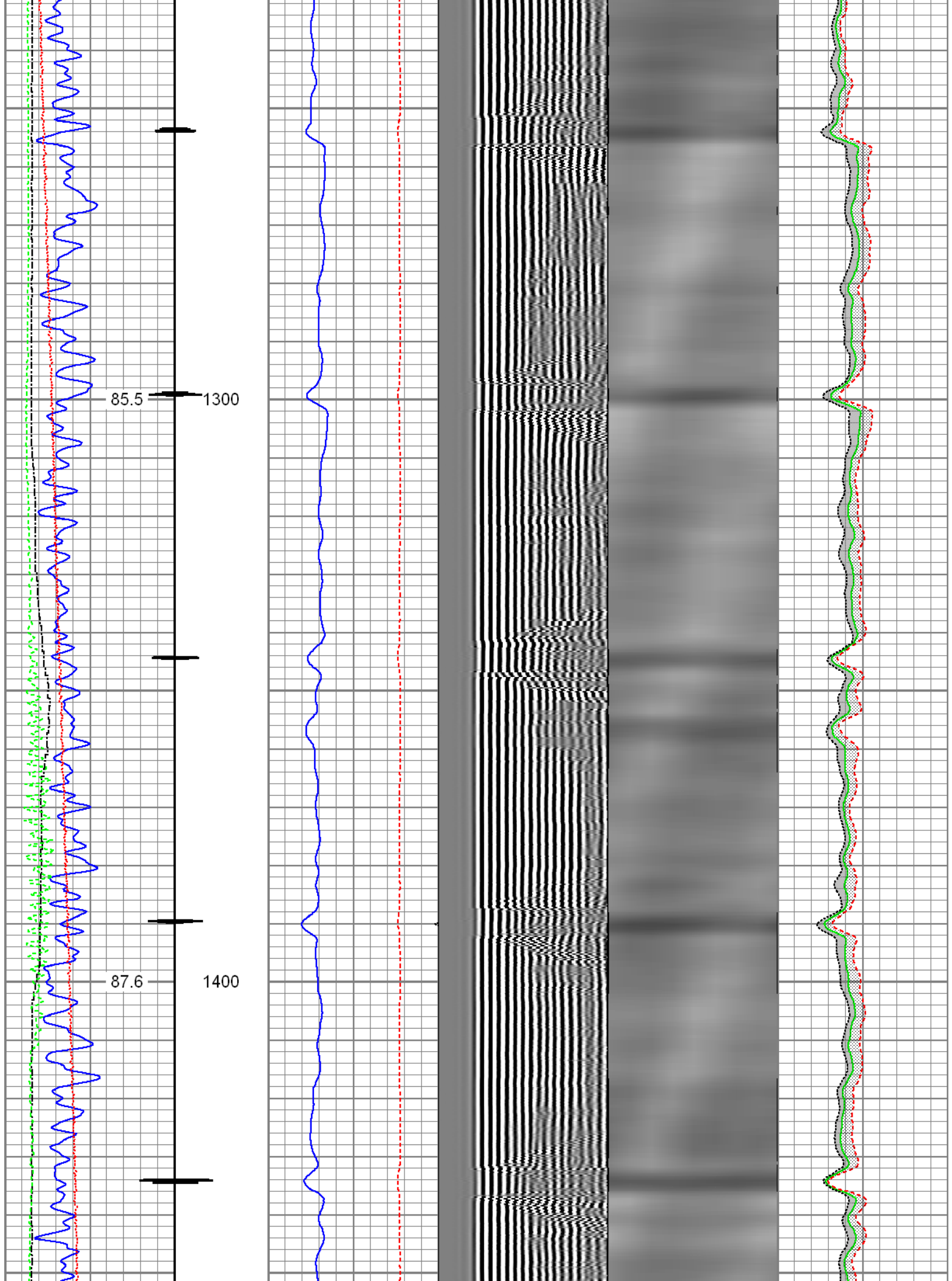


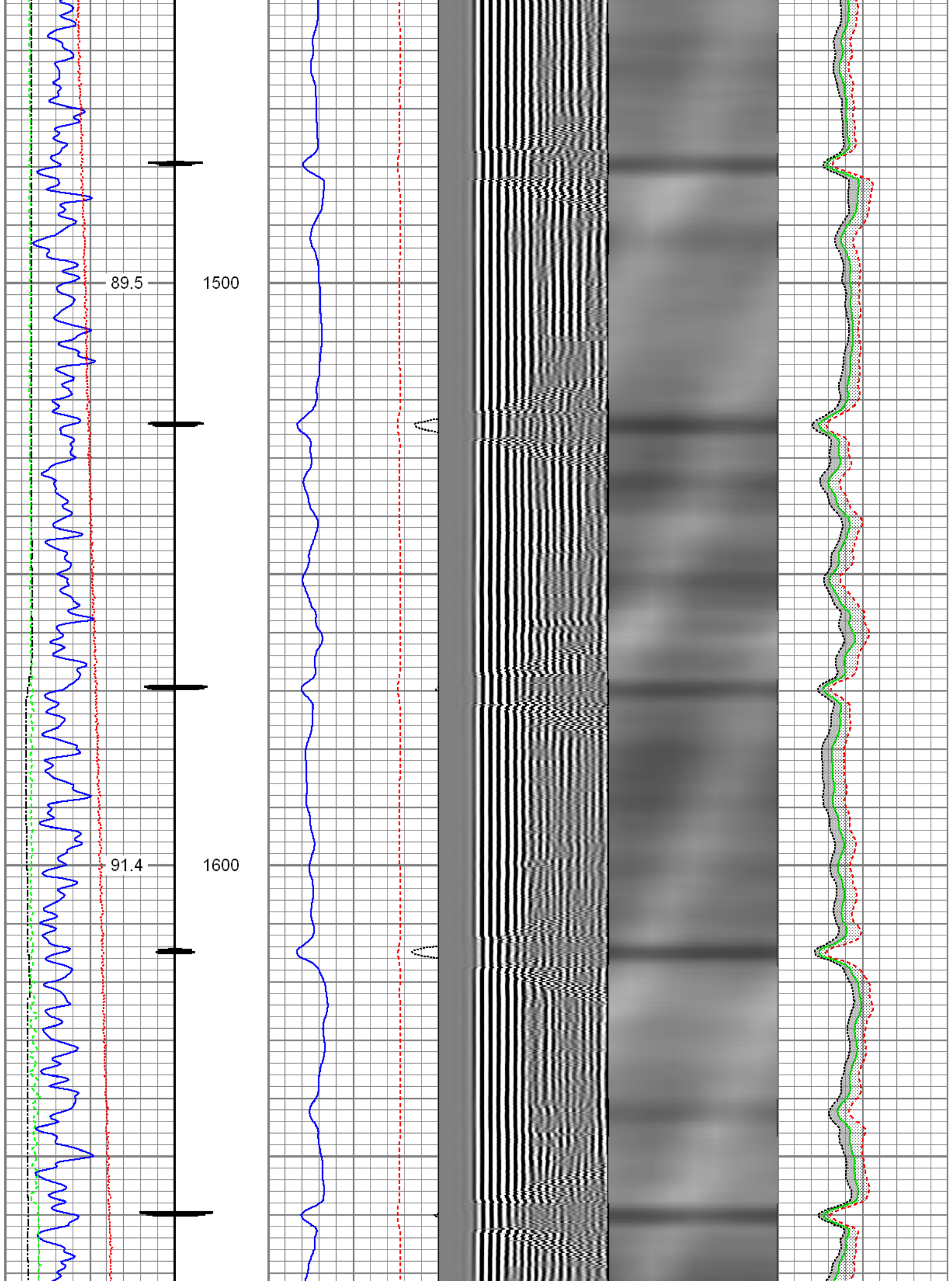


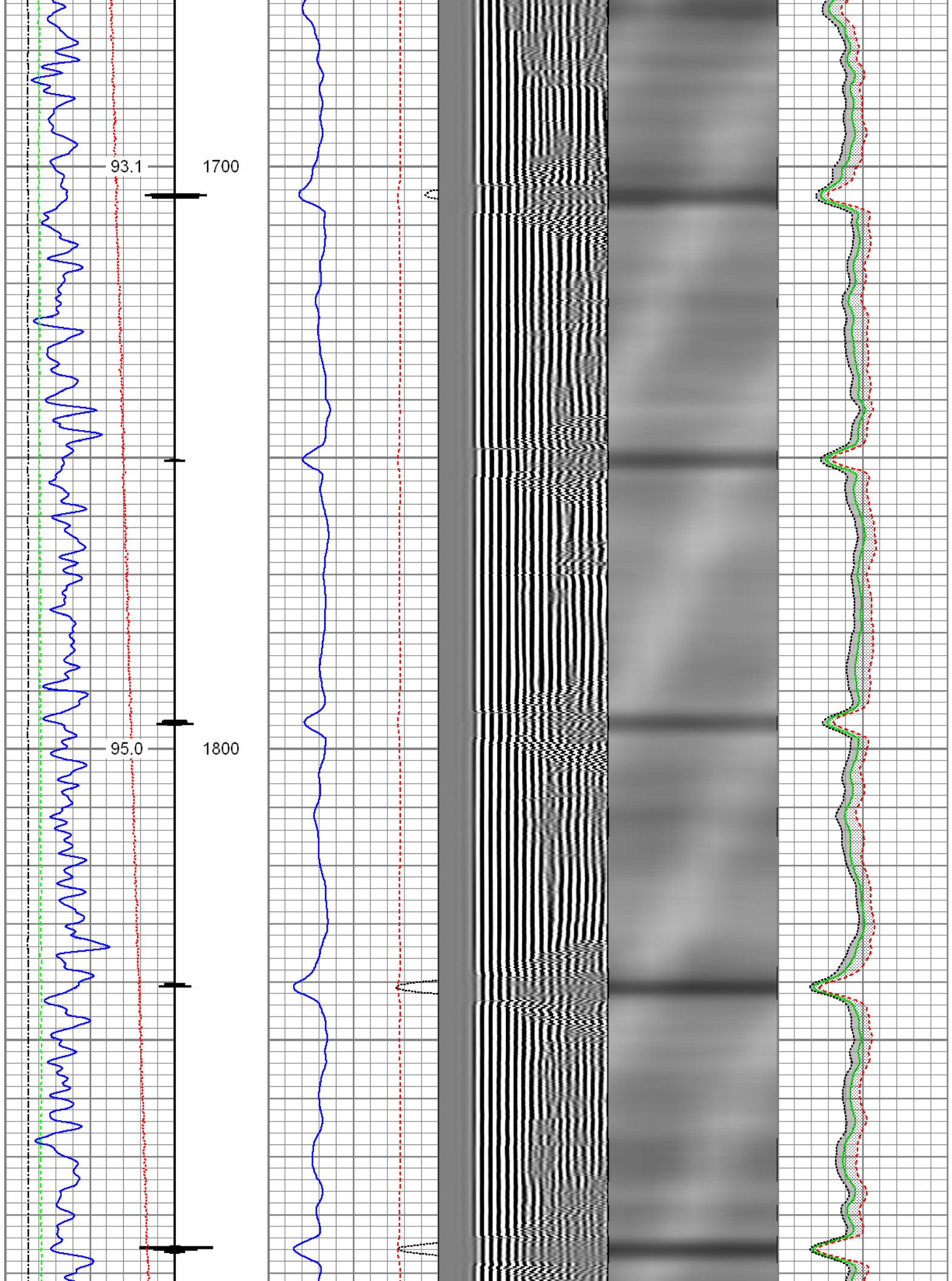


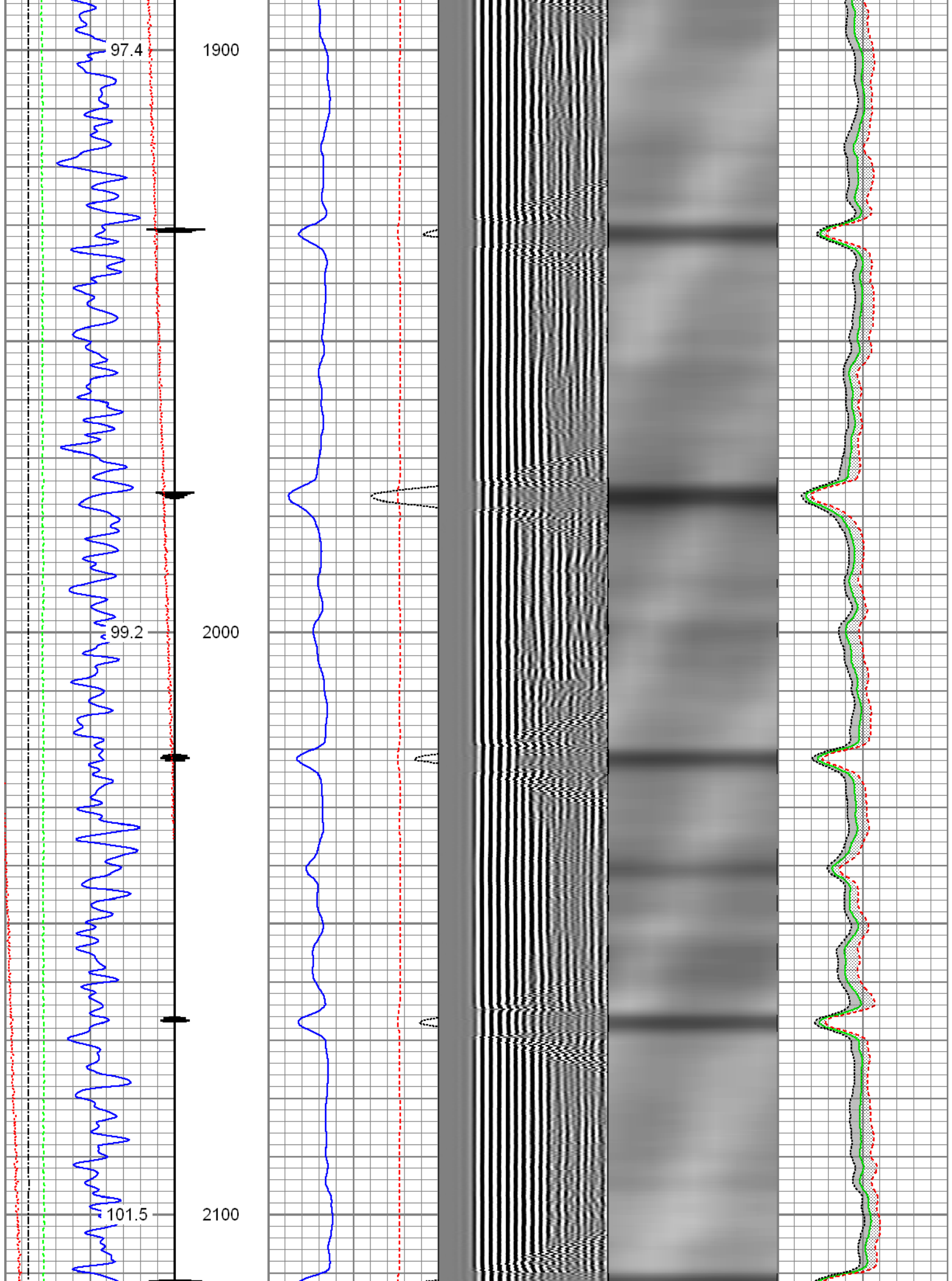


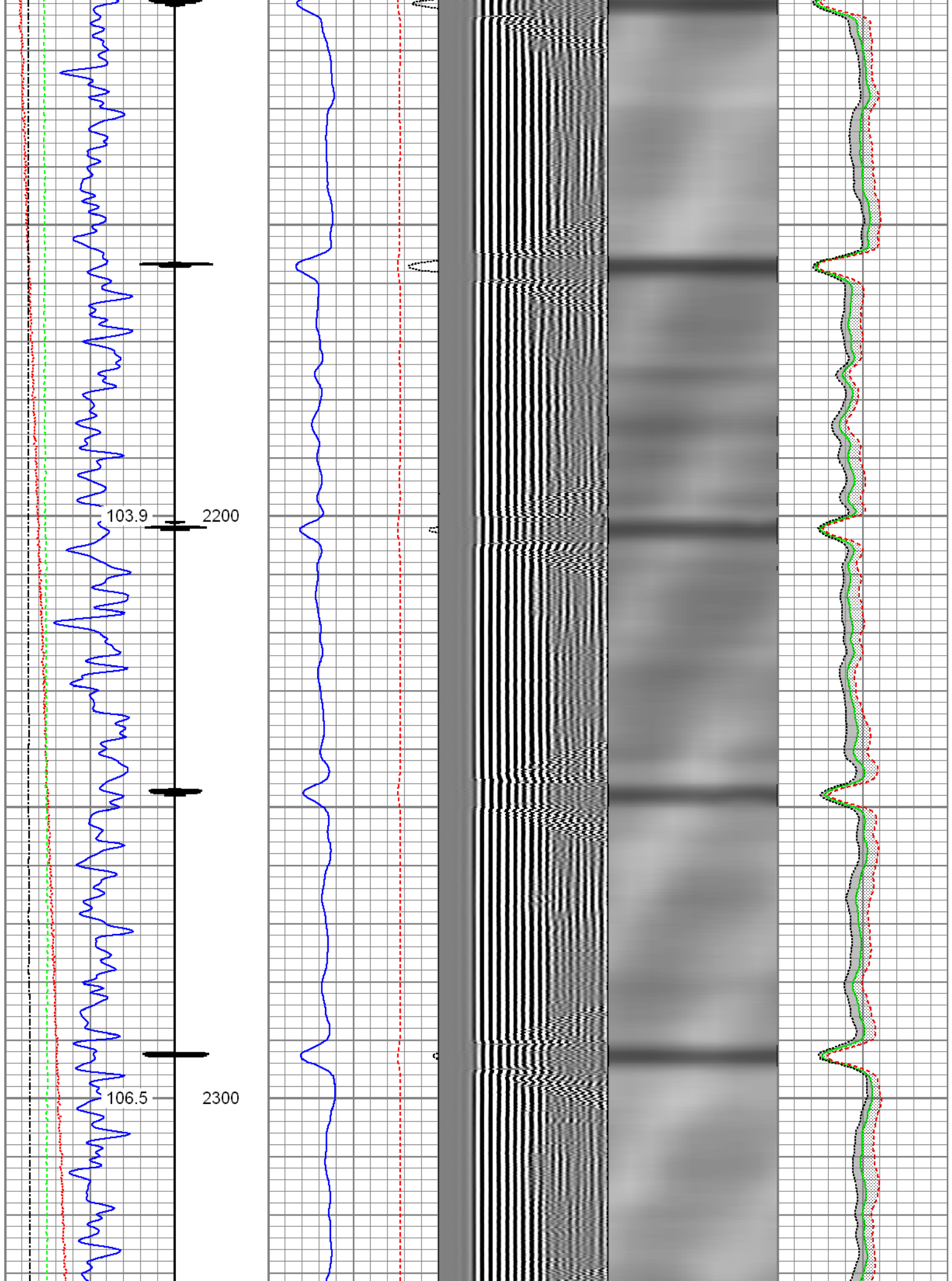


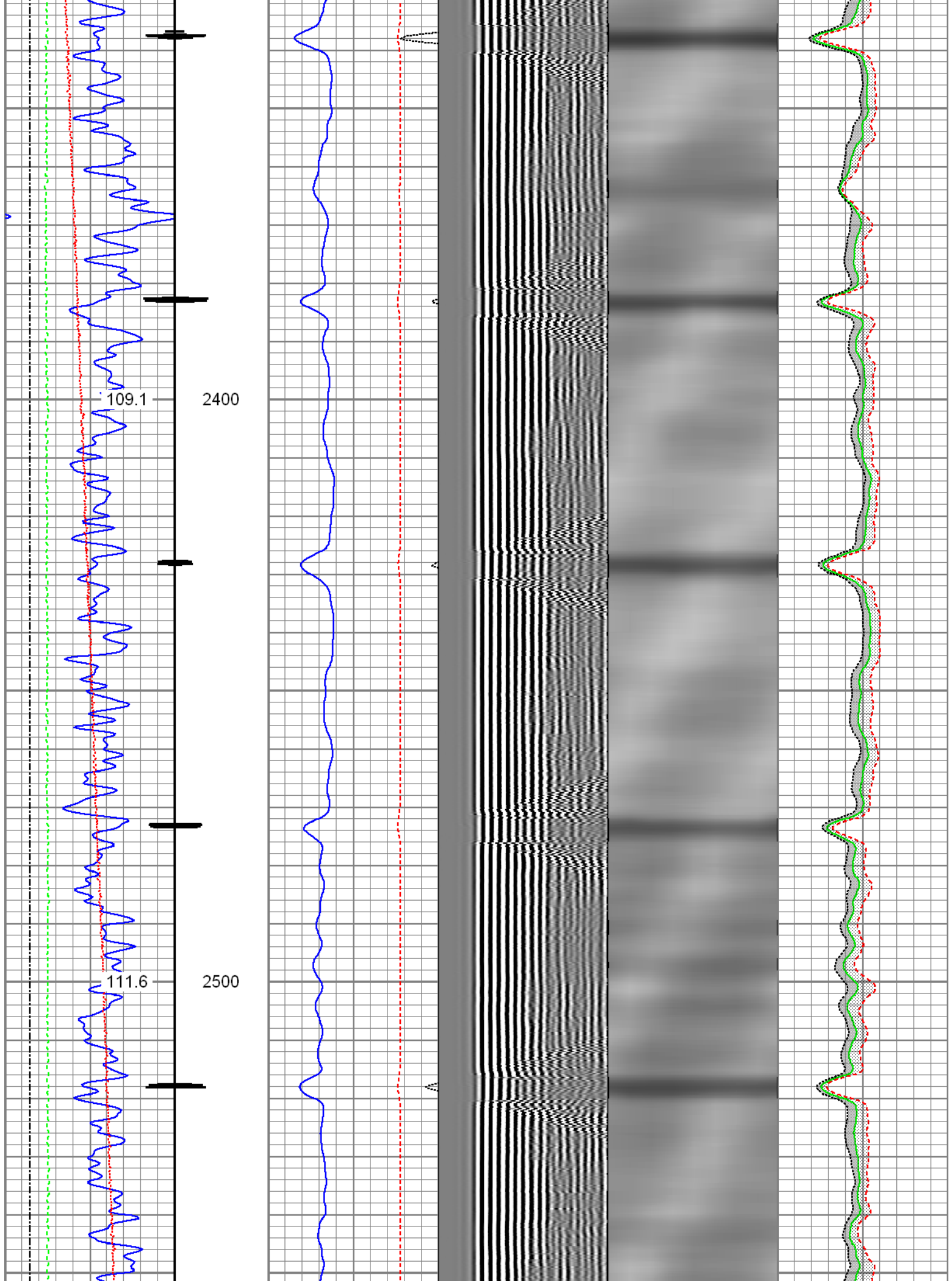


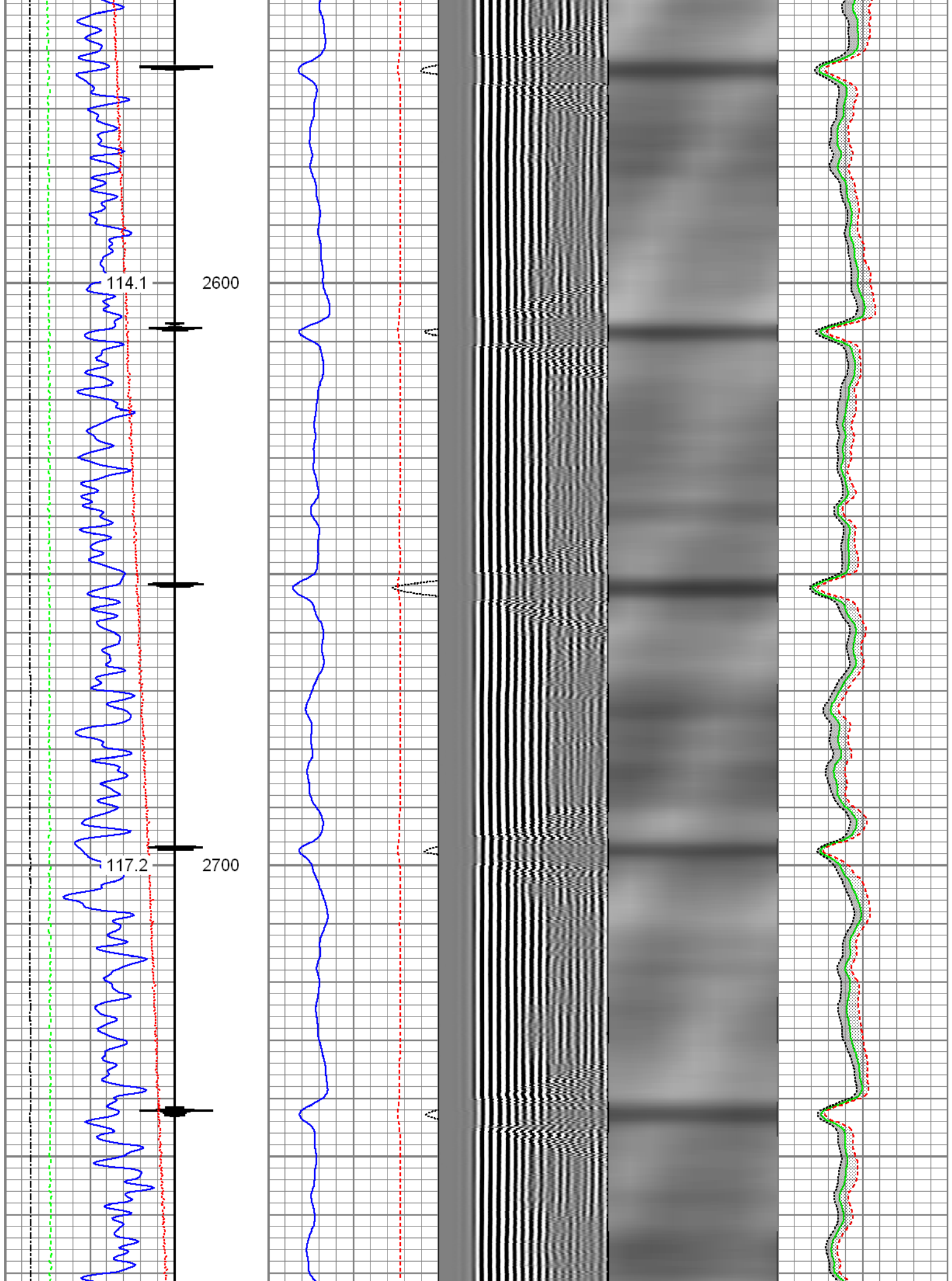


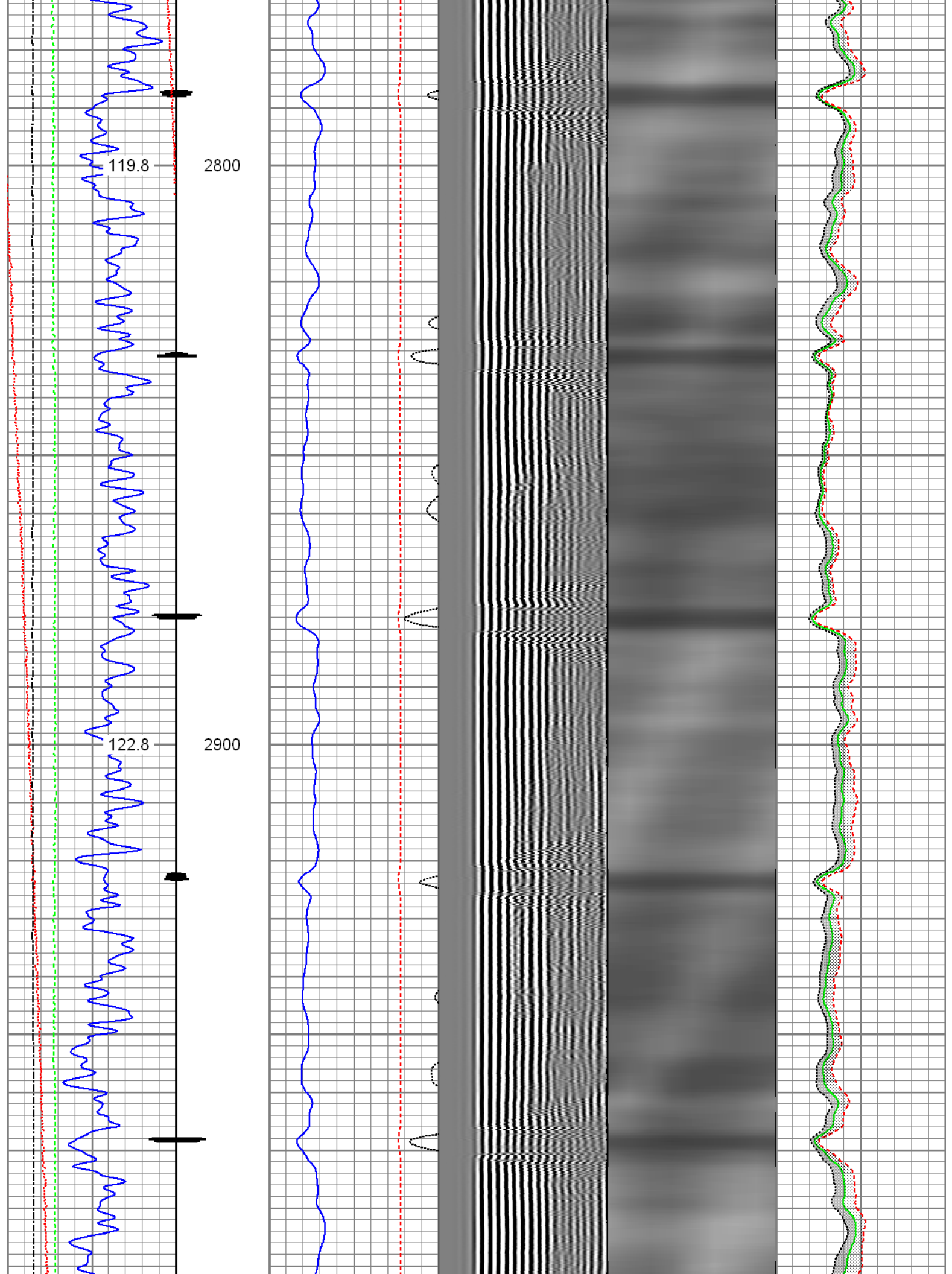


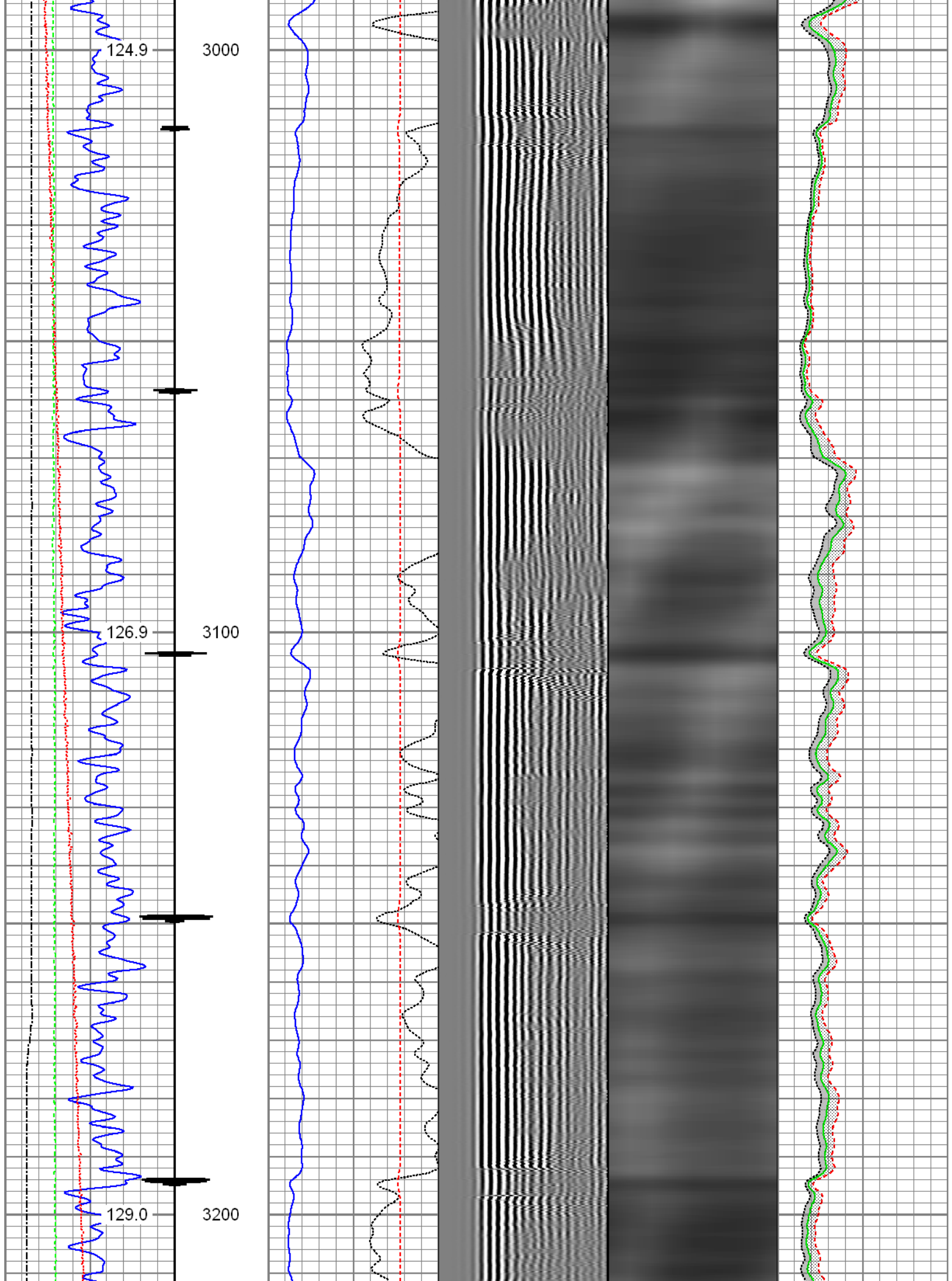


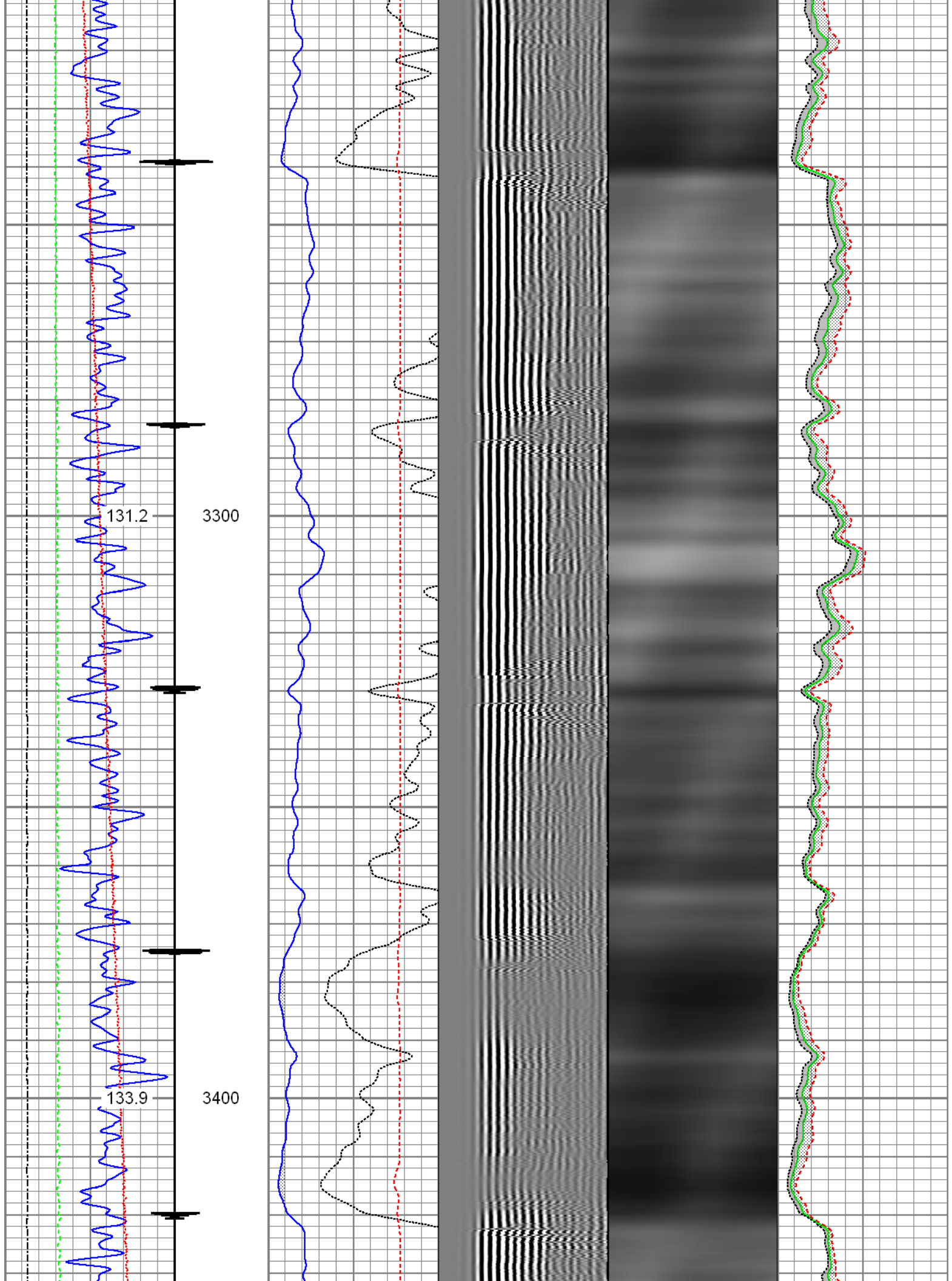


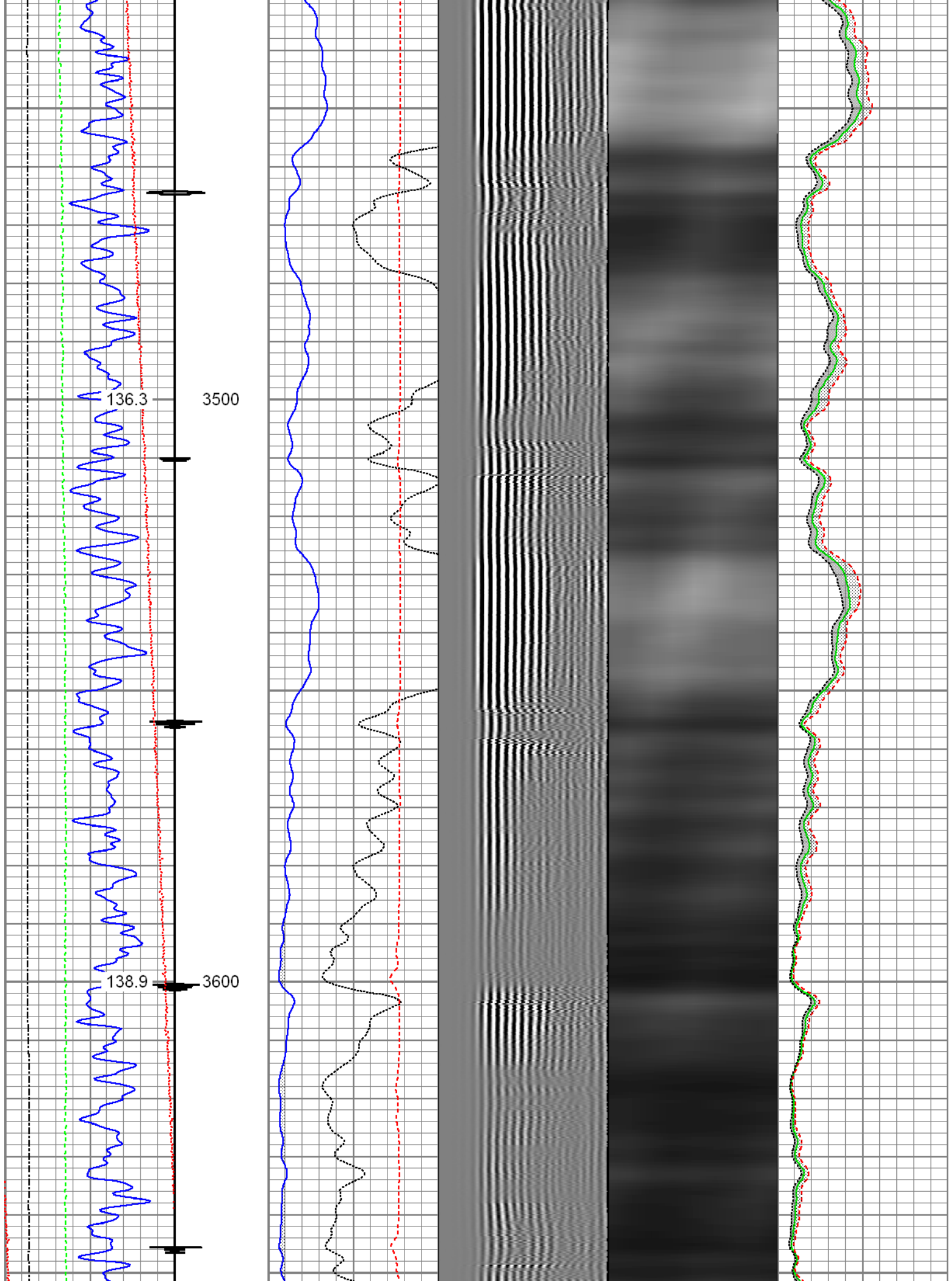


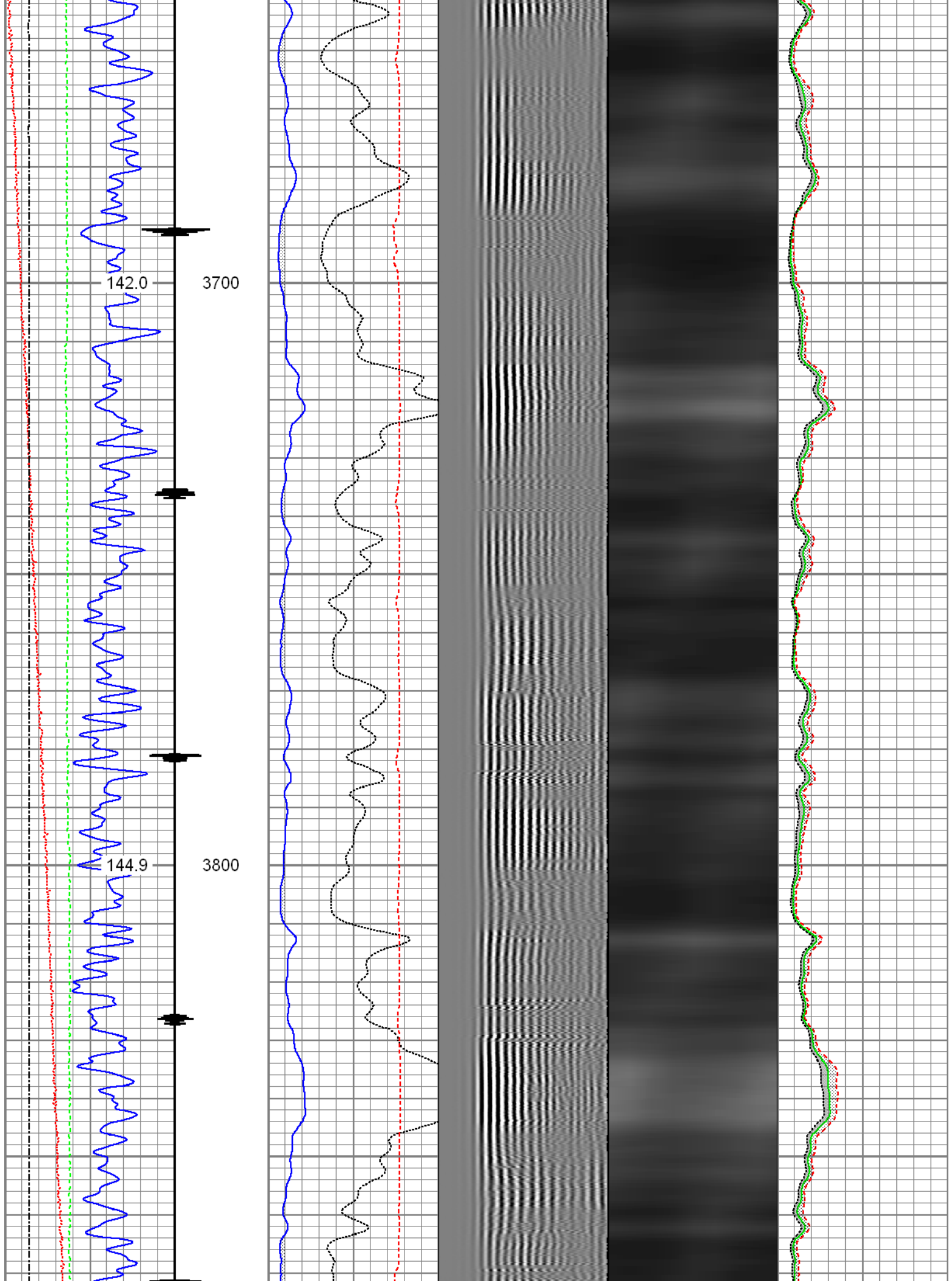


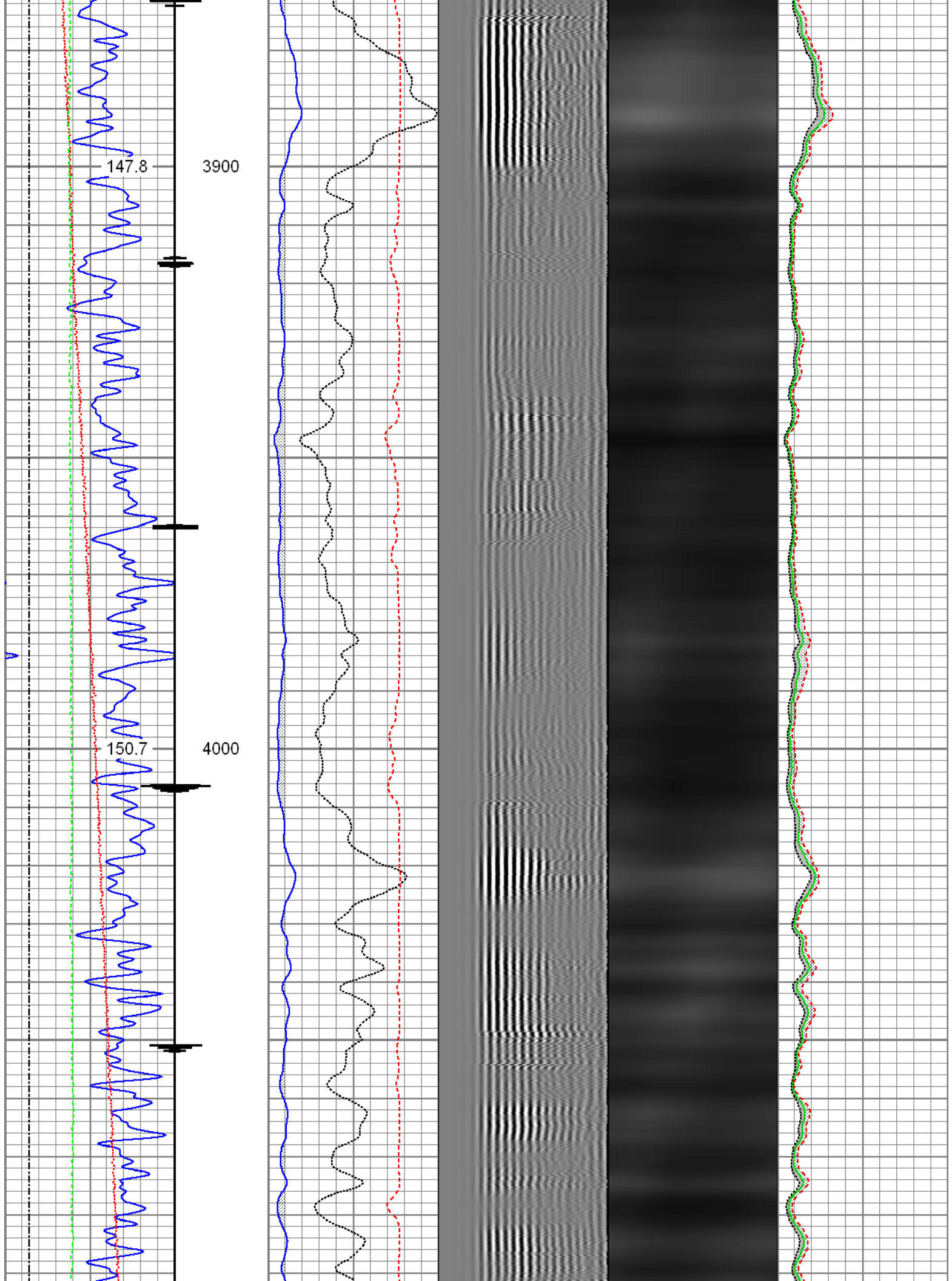


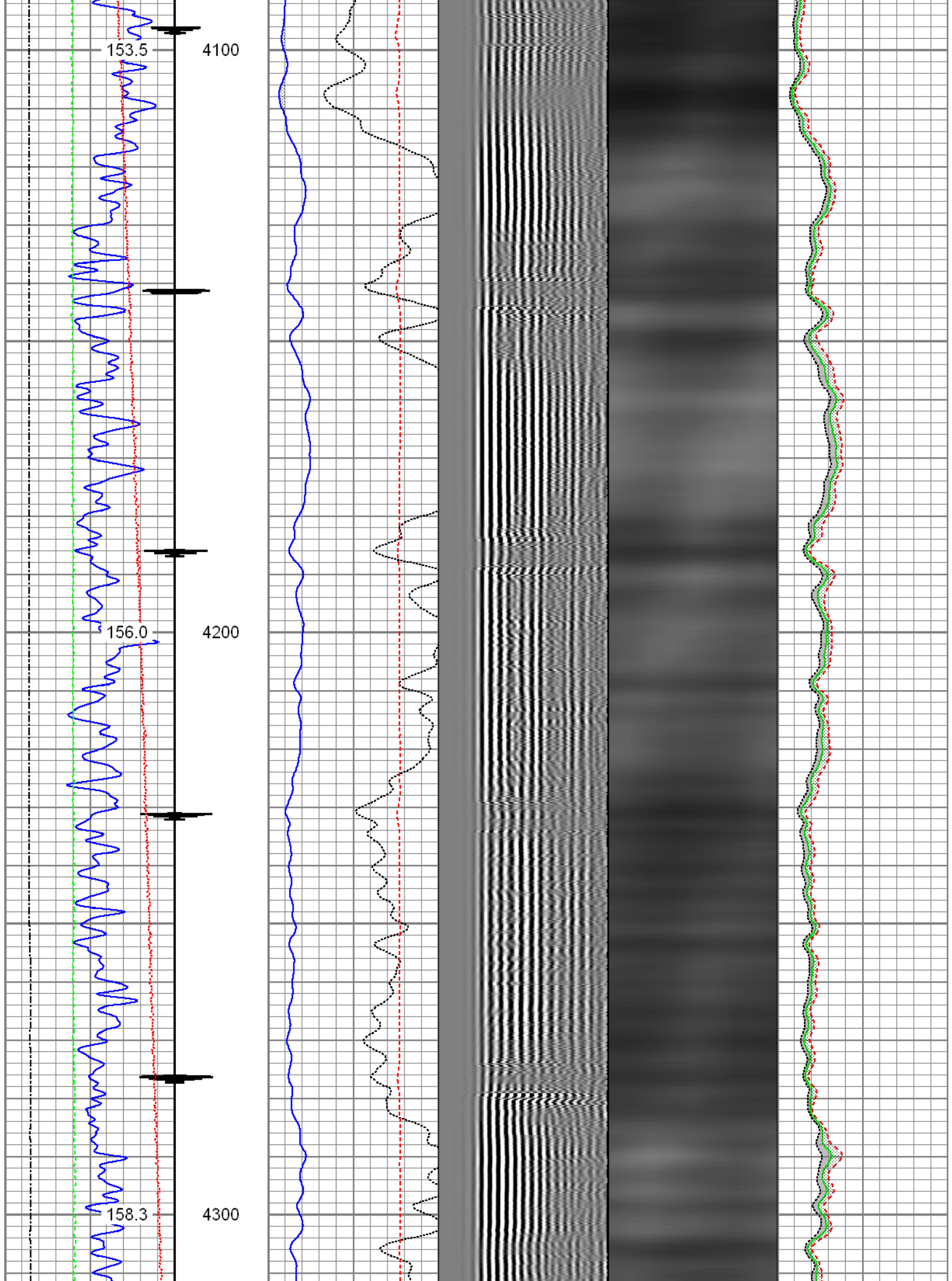


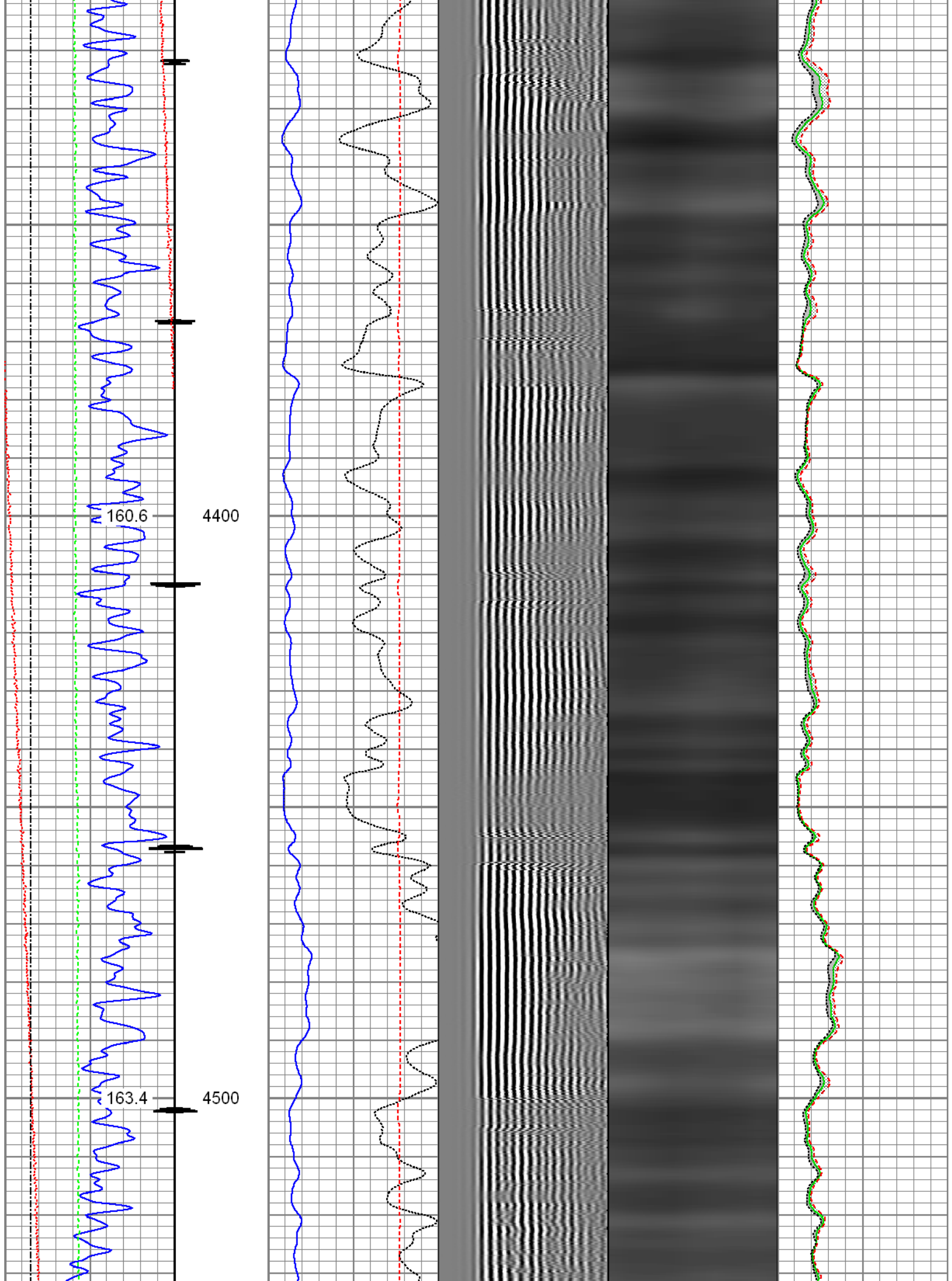


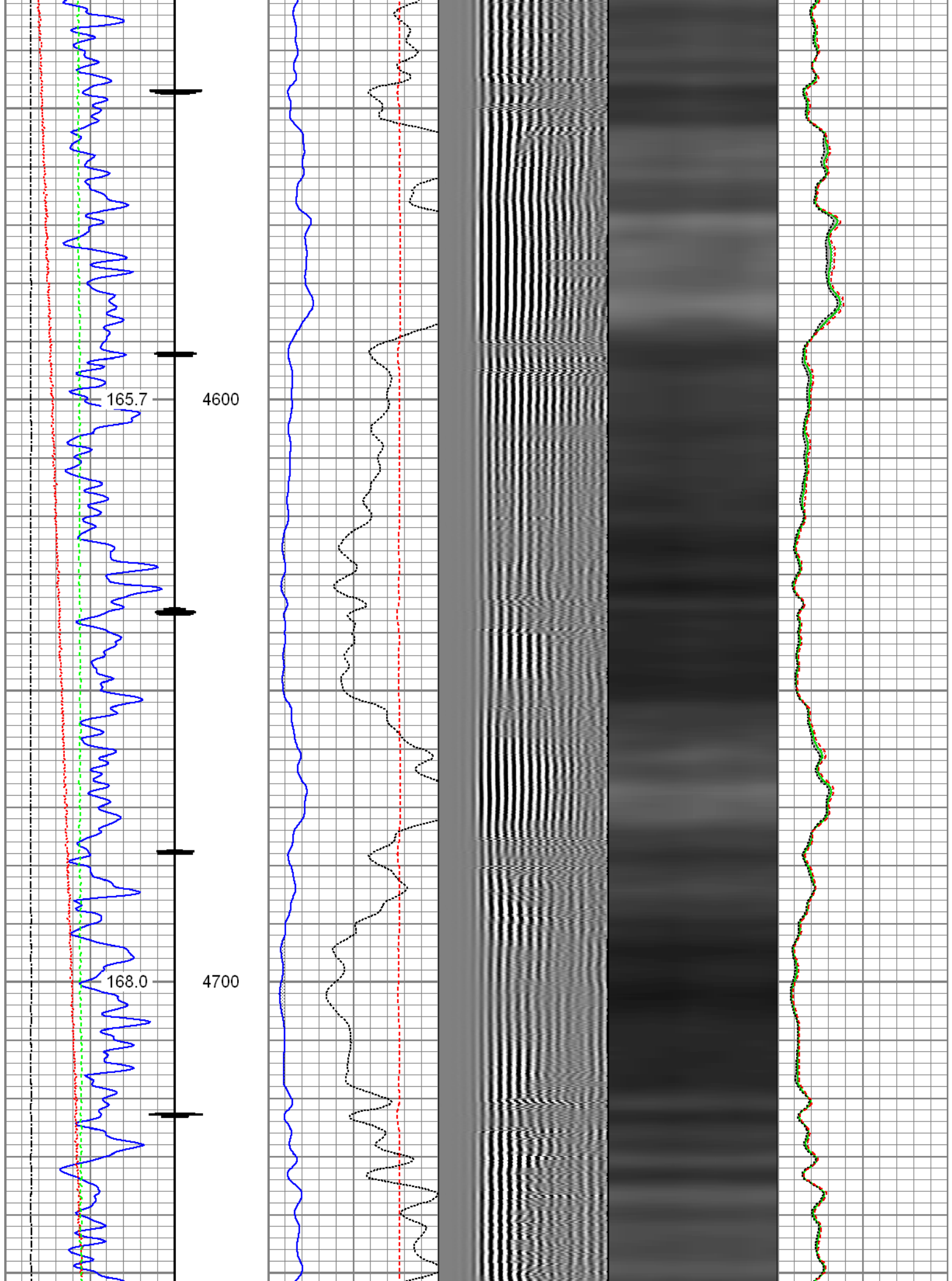


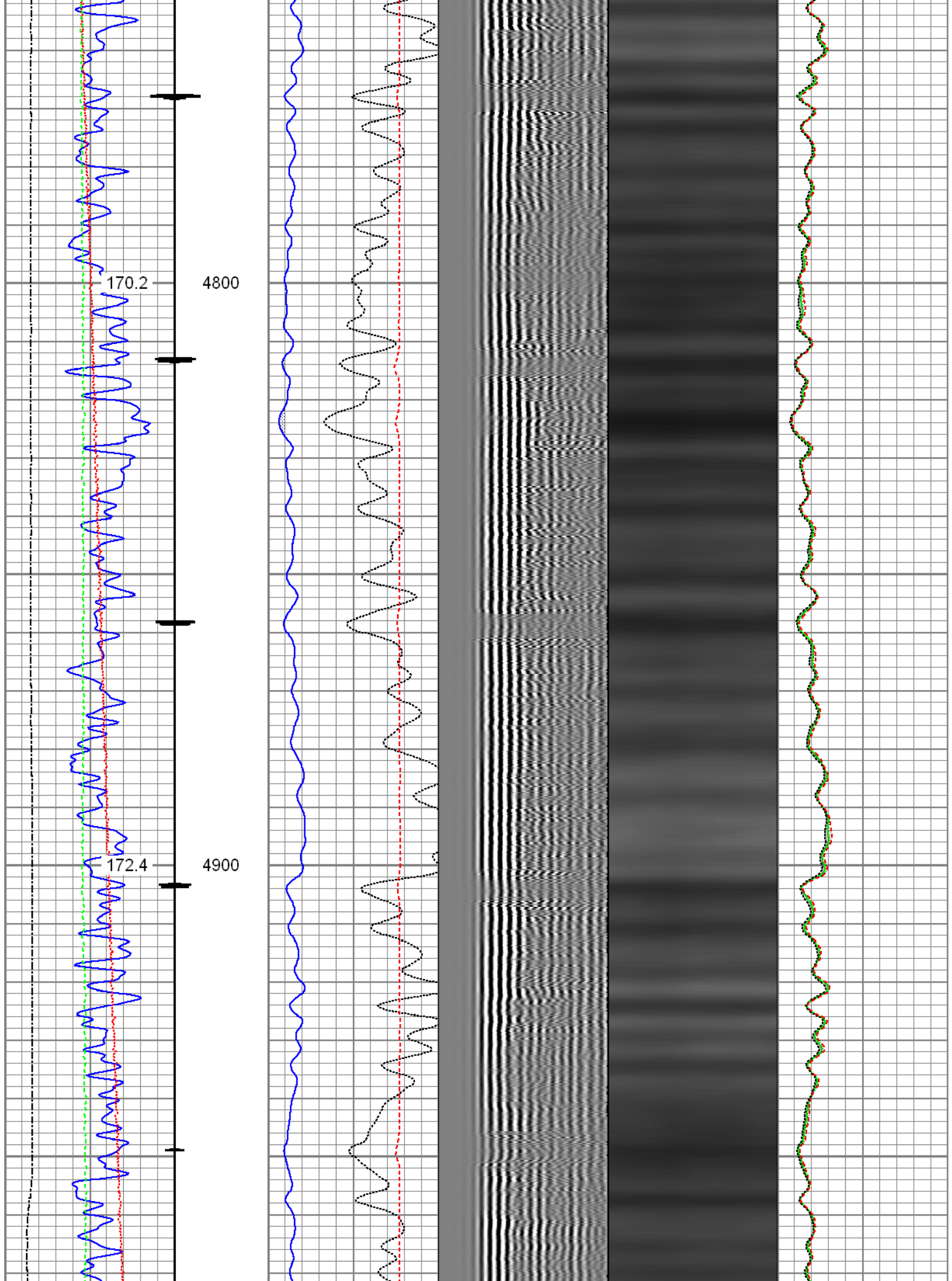


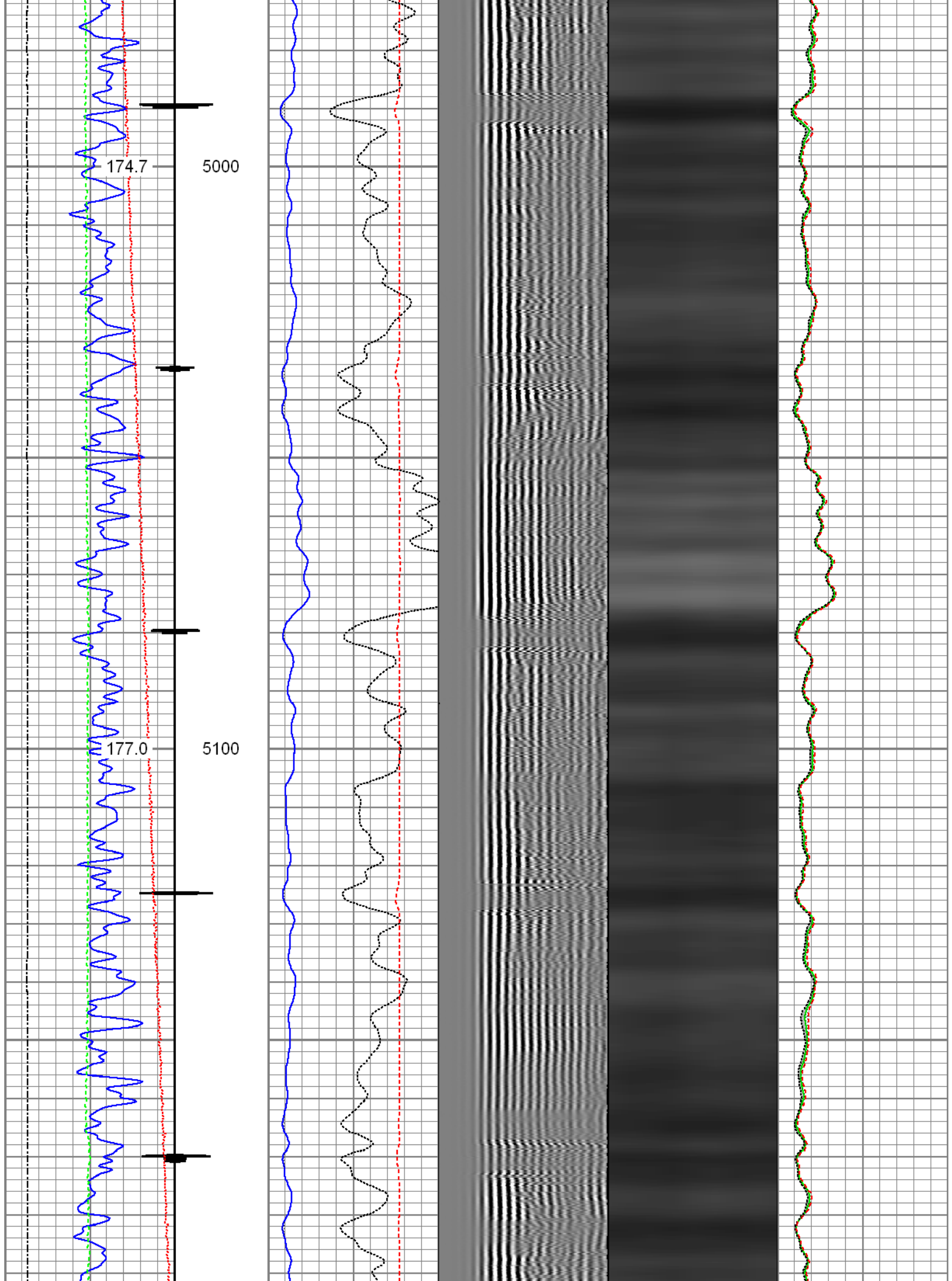


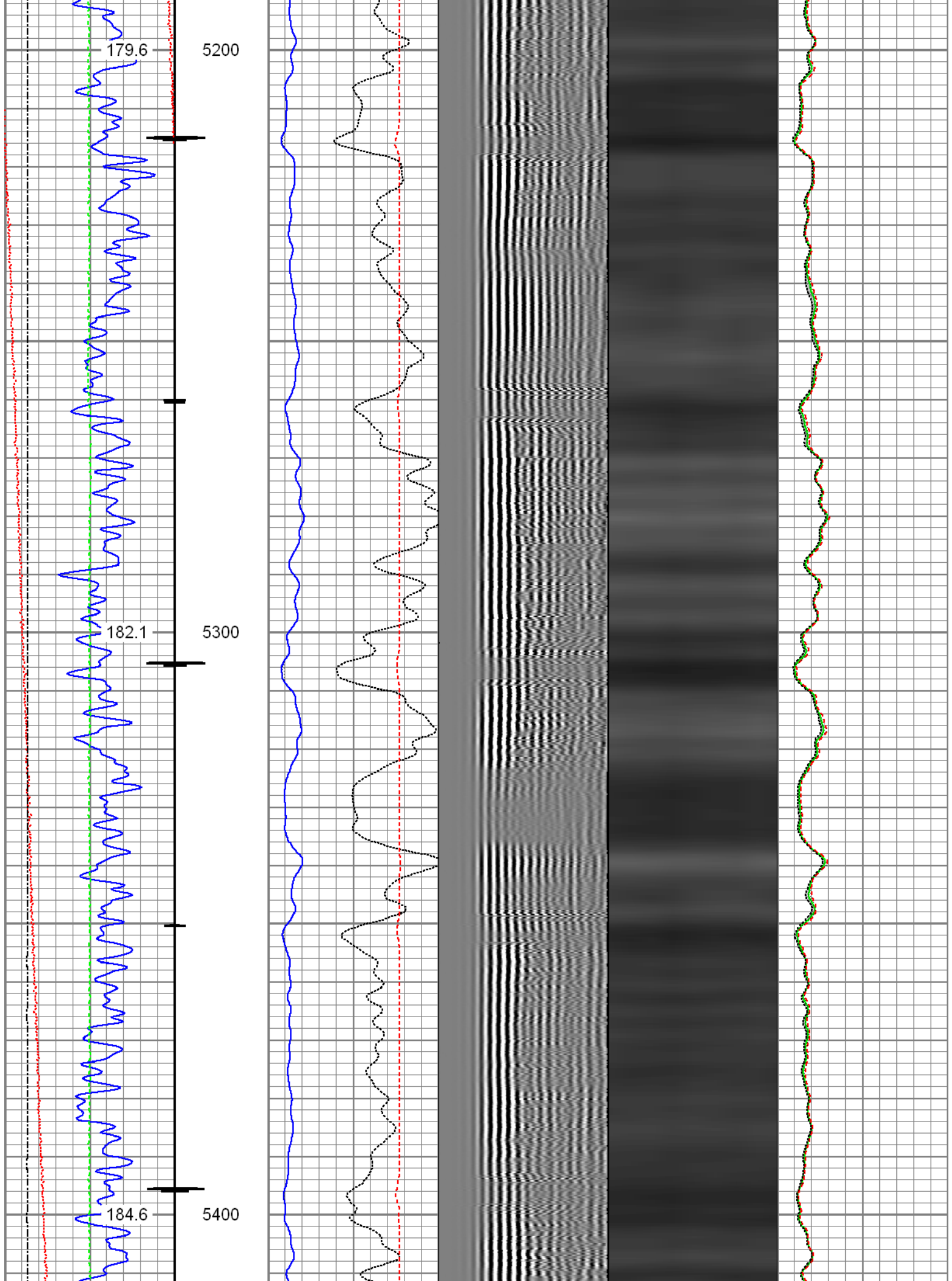


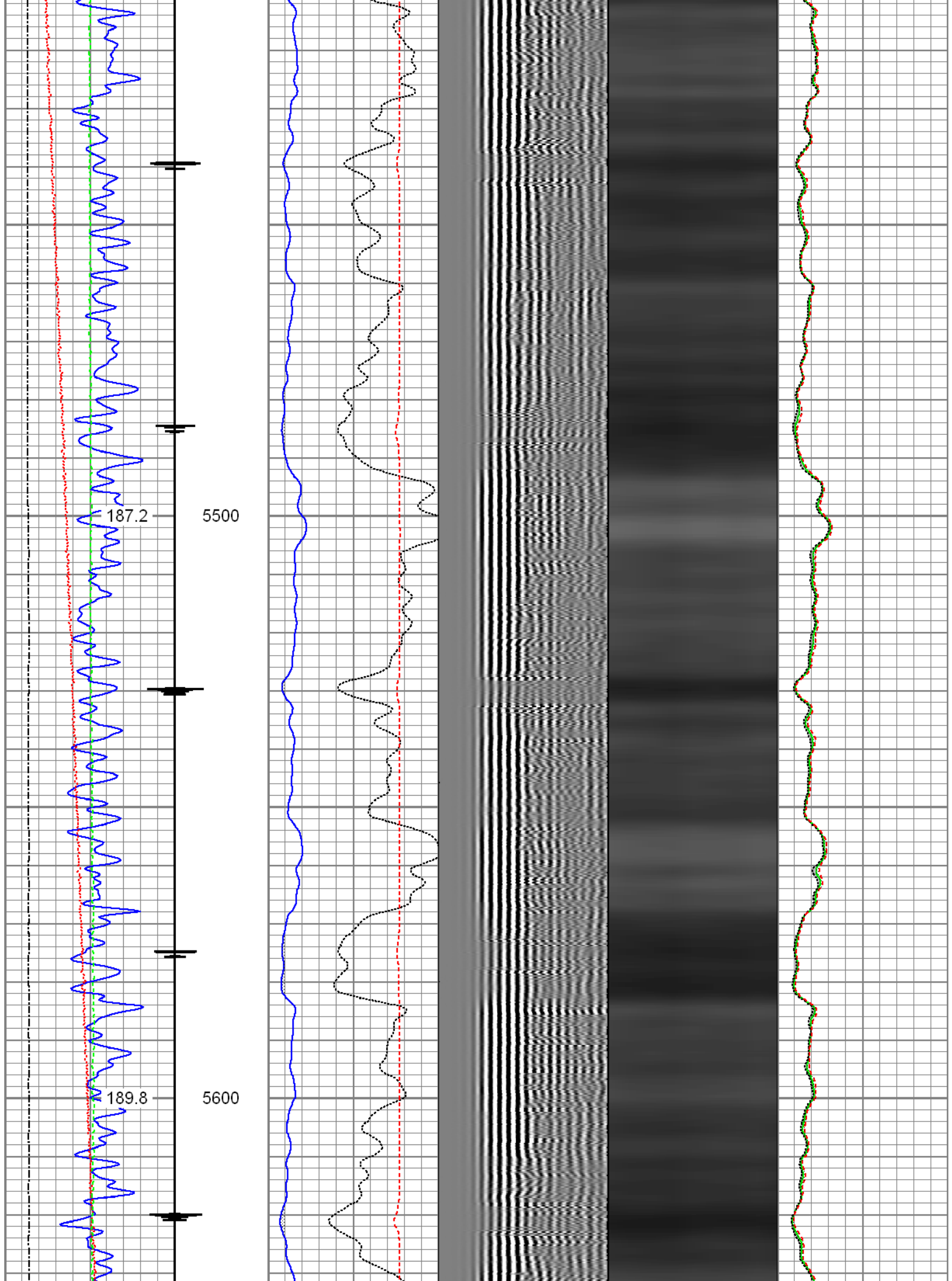


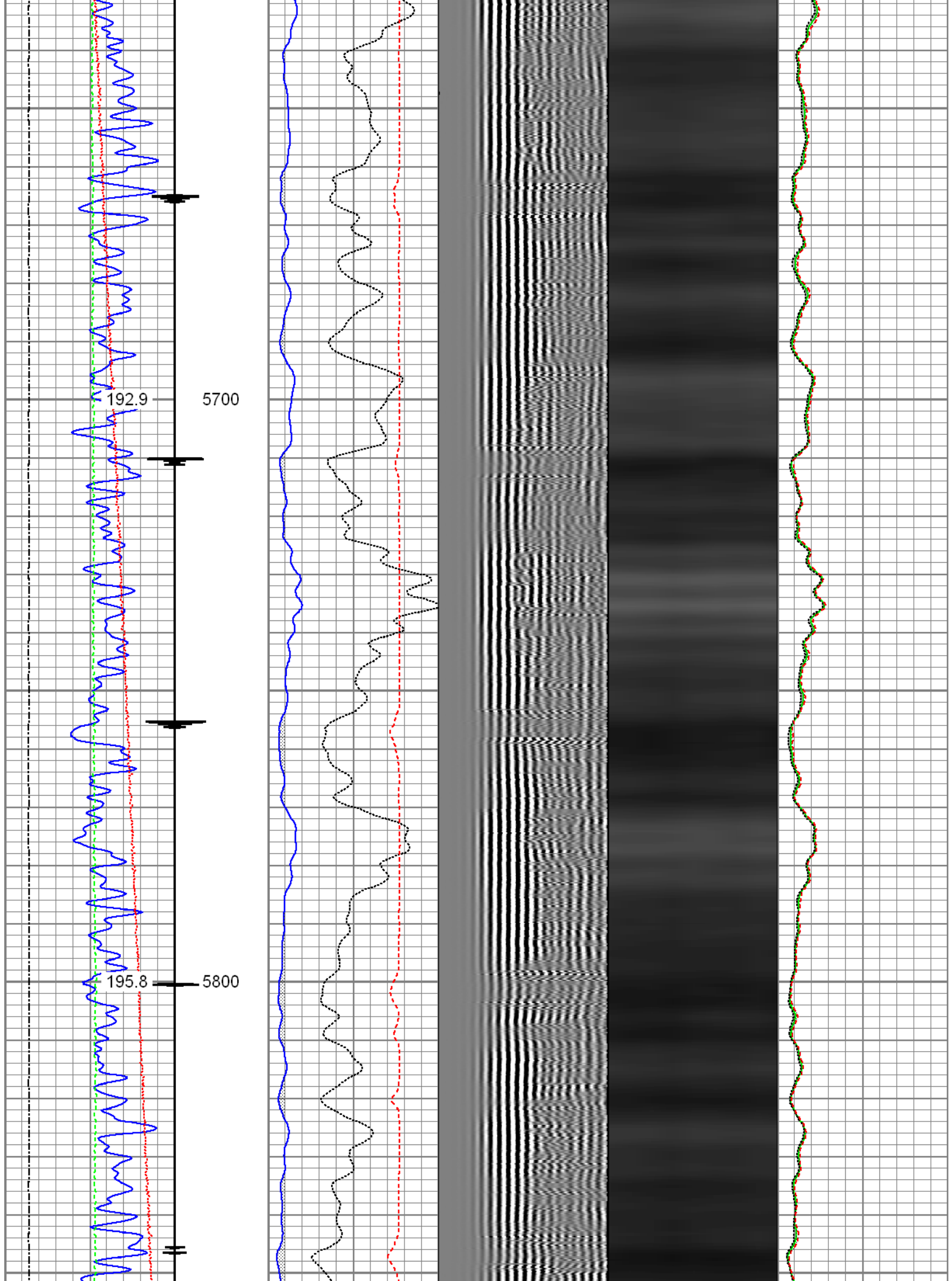


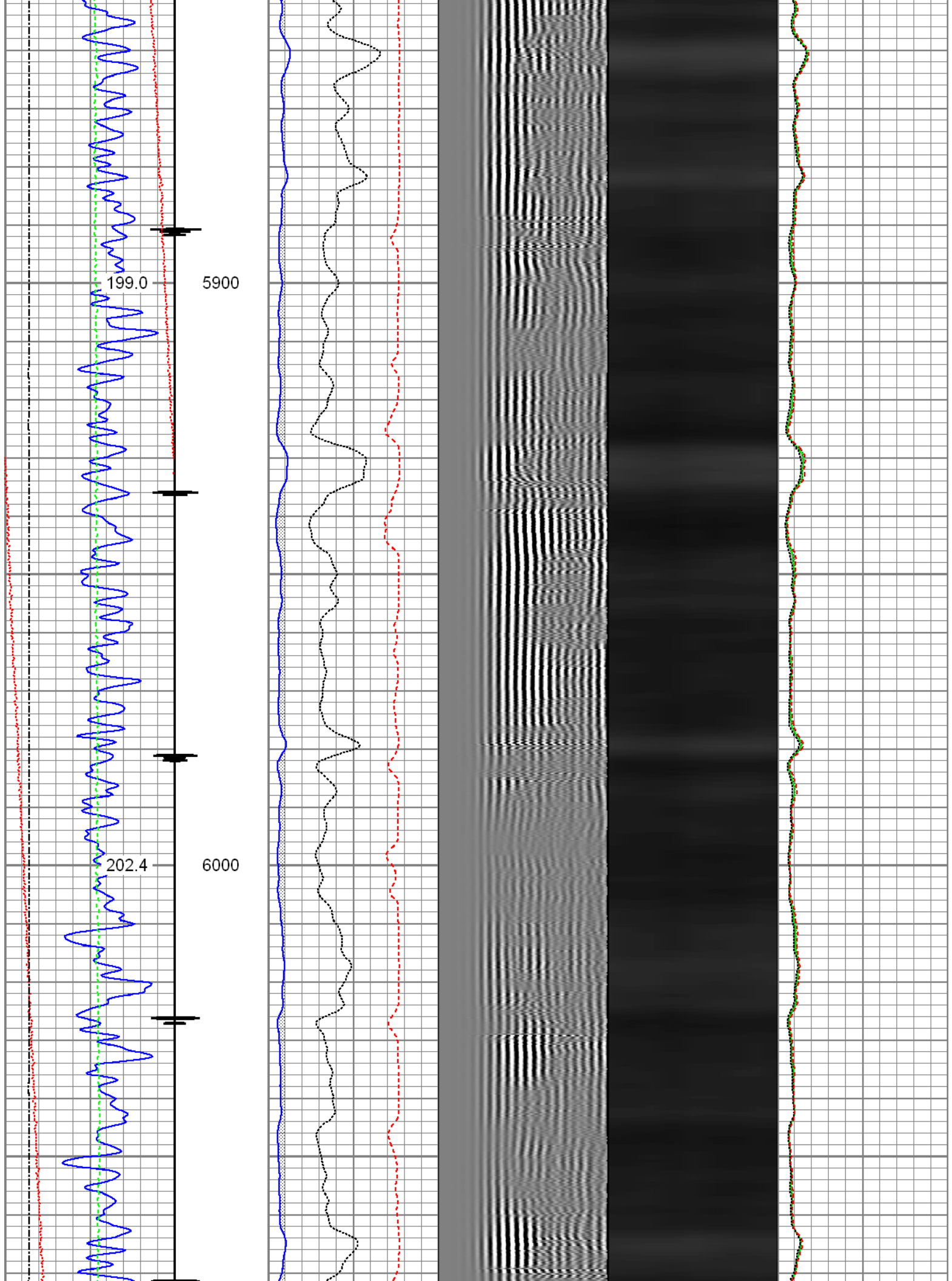


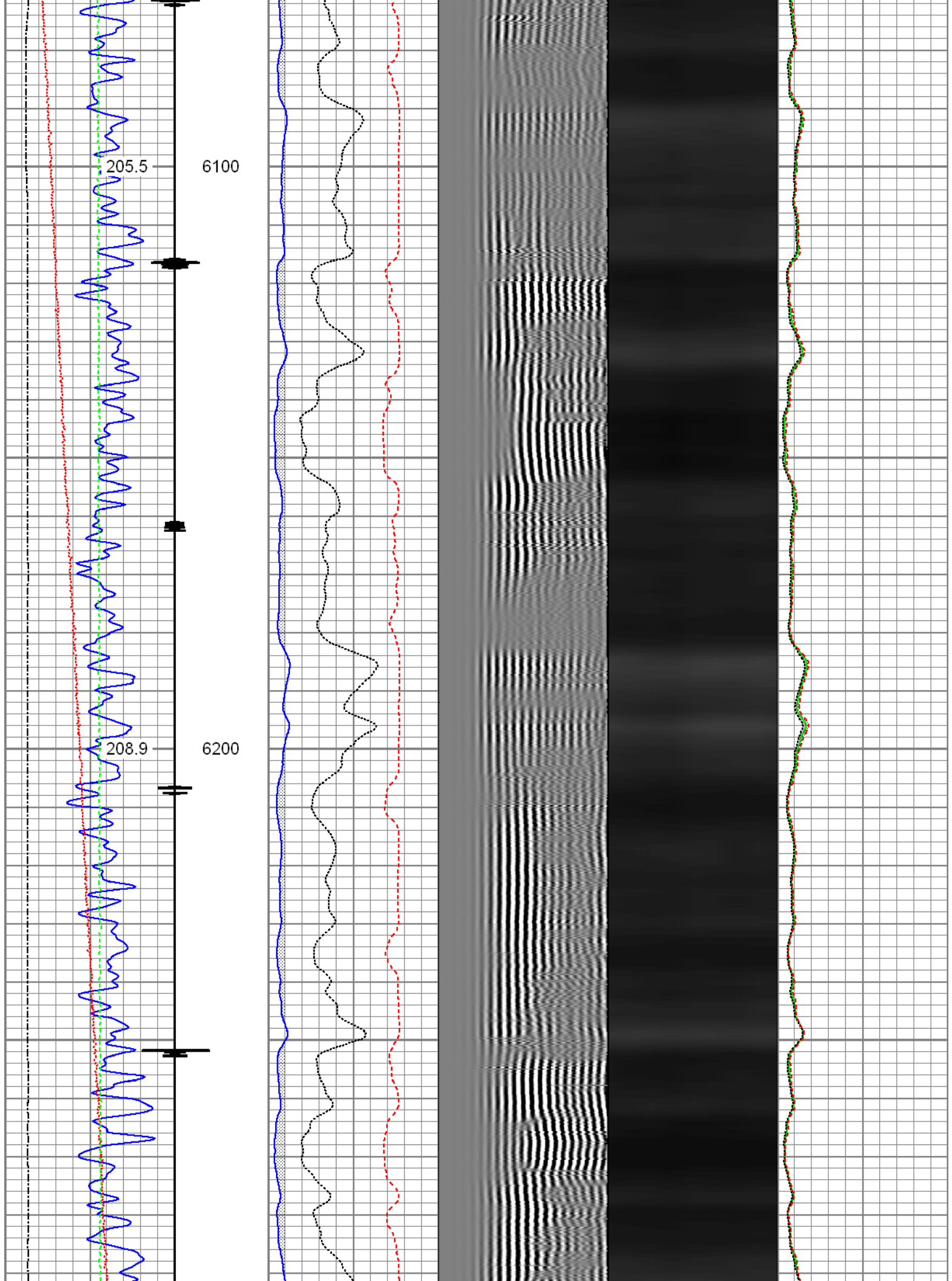


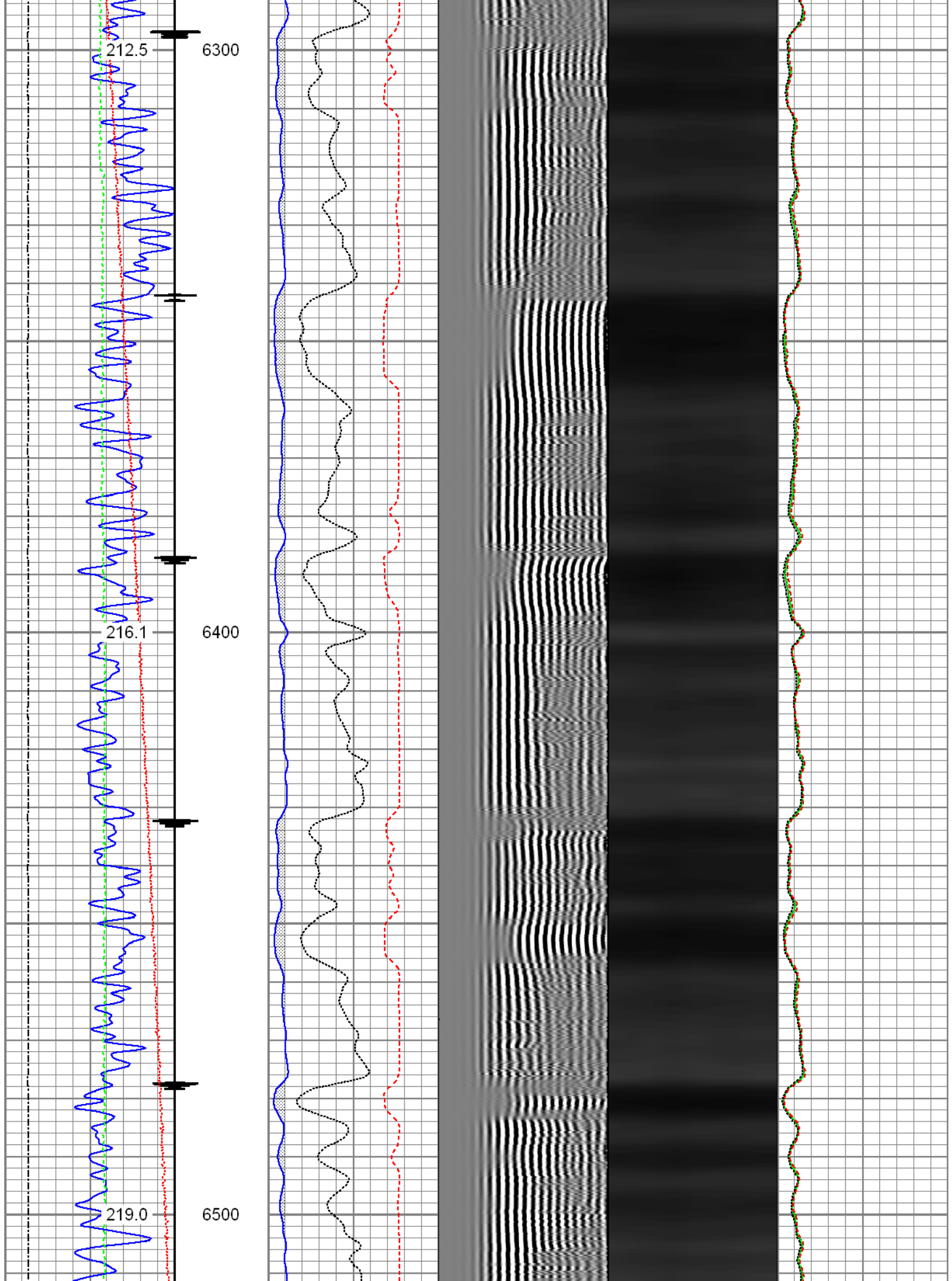


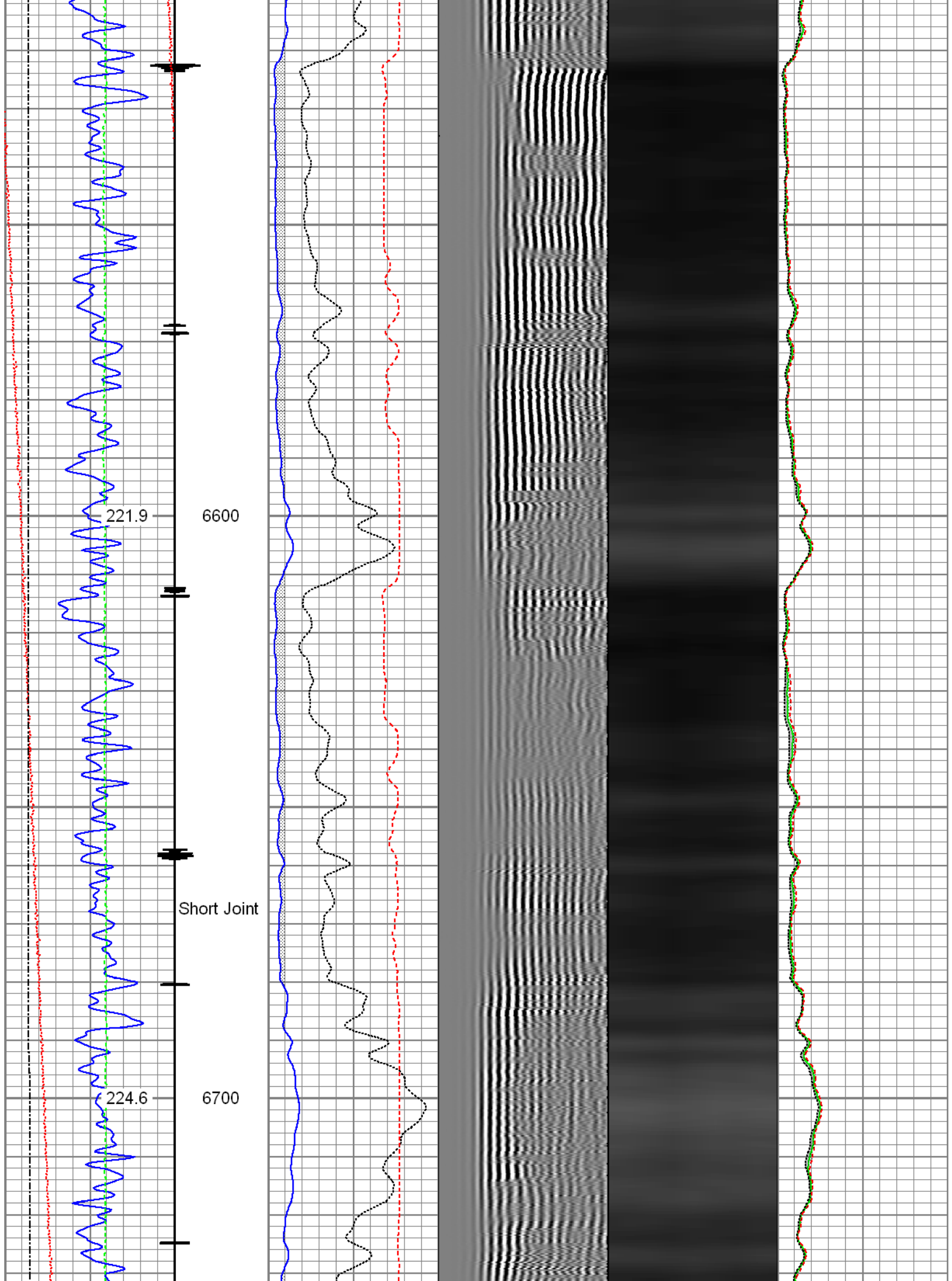


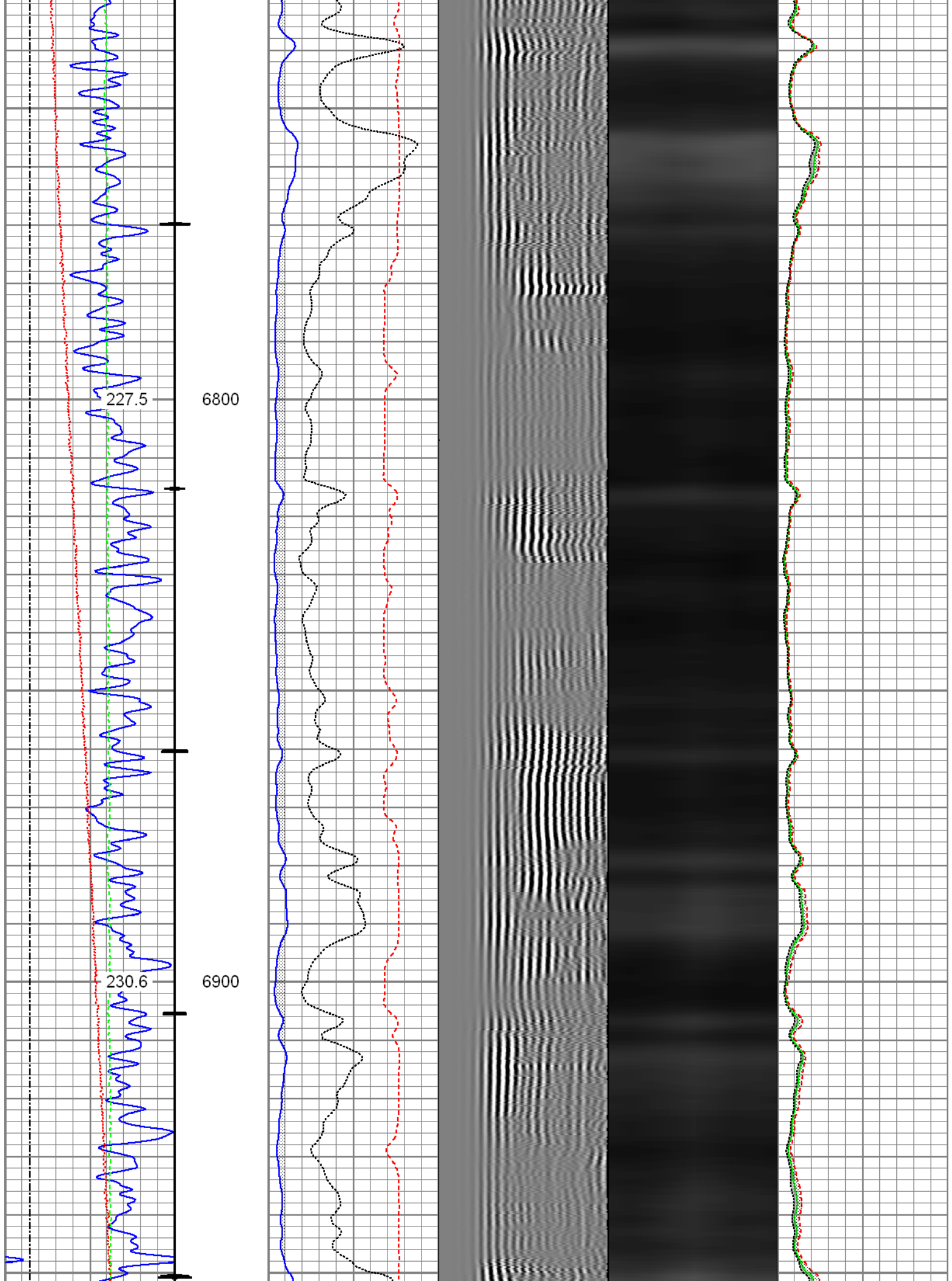


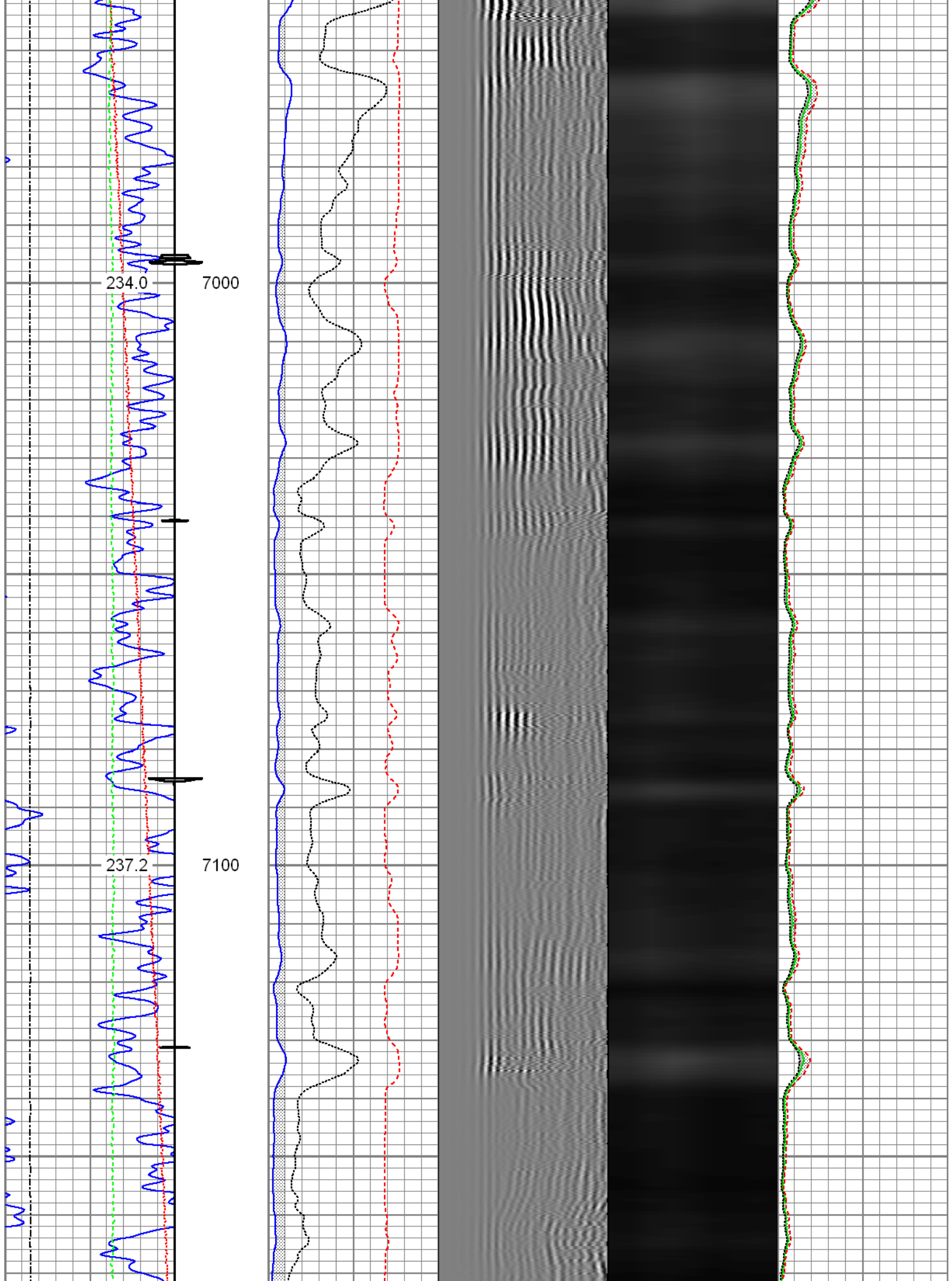


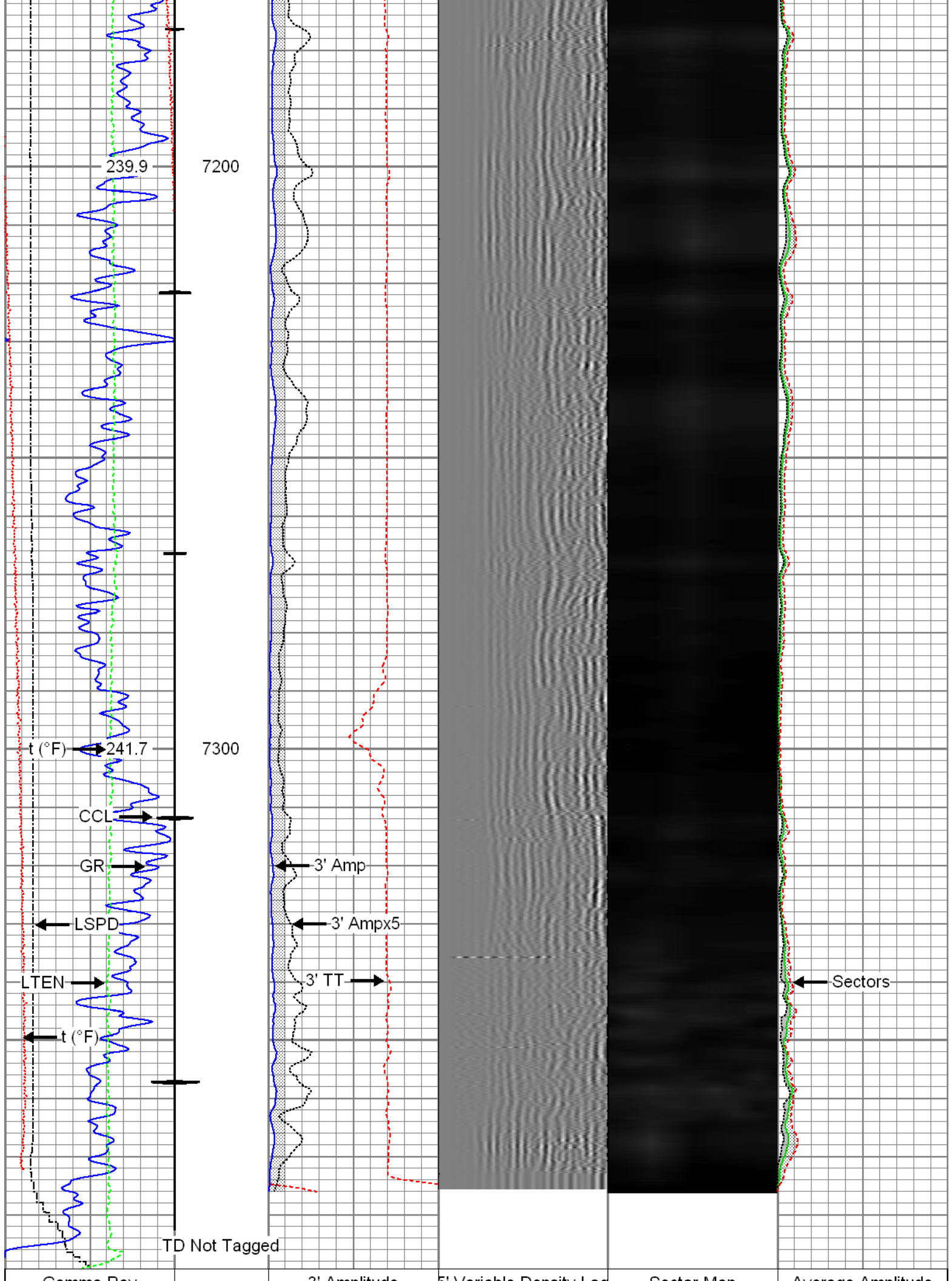






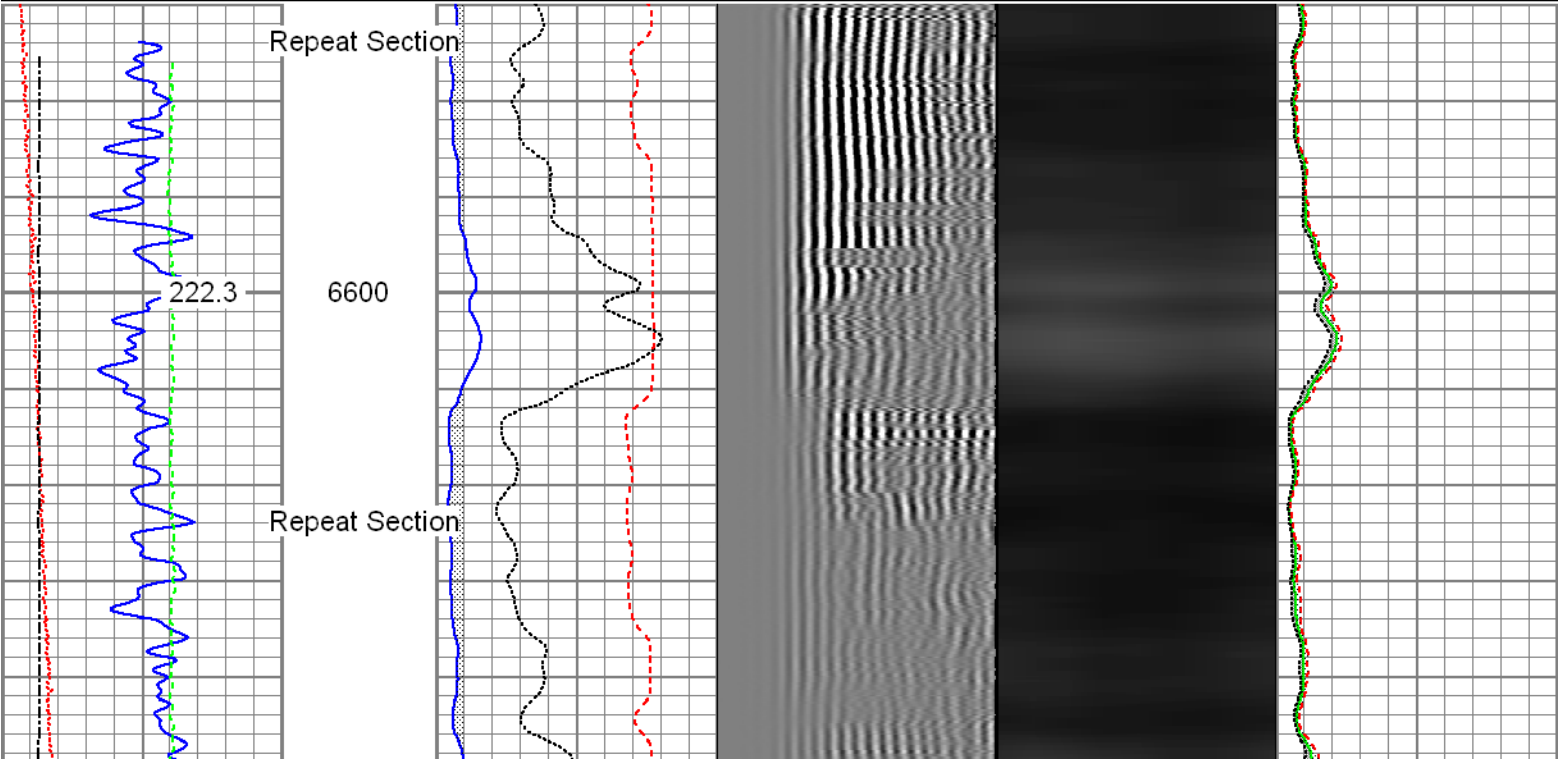


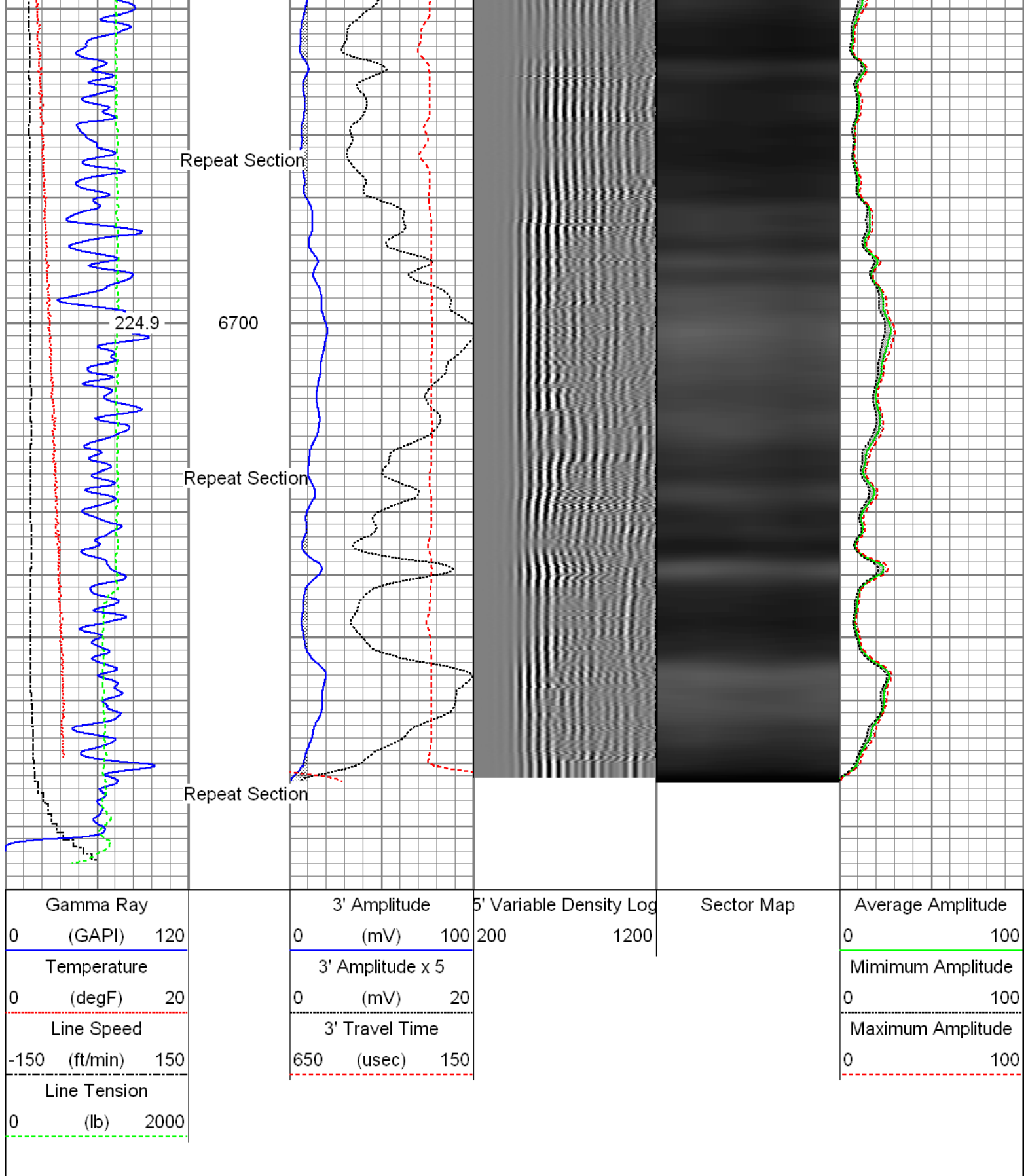






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0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150				
Line Tension				
0 (lb) 2000				

<div>FMC Technologies</div>		<div>Repeat Pass</div> <div>Recorded with 2800 PSI Surface Induced Pressure</div>		
<div>Database File: c:\warrior\data\0512341917_anadarko_sarchet 16n-20hz_11-12-15_rbl\processed_0512341917_anadarko_sarchet</div> <div>Dataset Pathname: pass3</div> <div>Presentation Format: radii</div> <div>Dataset Creation: Thu Nov 12 08:15:55 2015 by Log 7.0 B1</div> <div>Charted by: Depth in Feet scaled 1:240</div>				
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	Len (ft)	OD (in)	Wt (lb)
			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	2.88	2.75	10.00

HeadVolt	19.49		Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer			
Temp	16.72					
WVF3FT	14.55		Probe_RADII-C-2-3/4" (FW1302-002)	9.19	2.75	105.00
WVFCAL	14.55		Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe			
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					
CCL	6.51		Probe_IL_BS_Cent	2.88	2.75	10.00
DCCL	6.51		Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer			
GR	3.77		Probe_CCL_GR-2.75"Digital (FW1211-081)	4.54	2.75	55.00
			Probe 2-3/4" Digital CCL / Gamma Ray Combined			
		Probe_IL_BS_Cent	2.88	2.75	10.00	
		Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer				
Dataset: PROCESSED_0512341917_Anadarko_Sarchet 16N-20HZ_11-12-15_RBL.db: field/well/run1/pass5						
Total Length: 23.40 ft						
Total Weight: 194.00 lb						
O.D. 2.75 in						

Calibration Report	
Database File:	C:\Warrior\Data\0512341917_Anadarko_Sarchet 16N-20HZ_11-12-15_RBL\PROCESSED_05123419
Dataset Pathname:	pass5.1
Dataset Creation:	Thu Nov 12 13:27:00 2015 by Calc SCH 120430

Gamma Ray Calibration Report

Serial Number: FW1211-081
Tool Model: 2.75"Digital
Performed: Tue Oct 27 07:03:11 2015

Calibrator Value: 1.0 GAPI
Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps
Sensitivity: 0.6300 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: 29.830 ft

Master Calibration, performed Thu Nov 12 13:26:56 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.756	0.800	71.921	94.126	0.784
CAL	0.783	0.809				
5'	0.003	0.642	0.800	71.921	111.335	0.417
SUM						
S1	-0.001	0.716	0.000	100.000	139.461	0.205
S2	0.000	0.731	0.000	100.000	136.868	-0.010
S3	0.002	0.759	0.000	100.000	132.038	-0.204
S4	0.003	0.774	0.000	100.000	129.637	-0.352
S5	0.004	0.785	0.000	100.000	127.987	-0.453
S6	0.001	0.774	0.000	100.000	129.319	-0.129
S7	0.000	0.755	0.000	100.000	132.505	-0.030
S8	0.001	0.737	0.000	100.000	135.739	-0.081

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	0.783	0.809	1.000	0.000

Air Zero Calibration, performed Thu Nov 12 07:52:59 2015:

	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



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Well	Sarchet 16N-20HZ
Field	Wattenberg
County	Weld
State	Colorado