



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.					
Well Powers 14C-22HZ					
Field Wattenberg					
County Weld					
State Colorado					
Location:					
API #: 05-123-41905					
Other Services JB/GR					
SEC 22 TWP 2N RGE 65W					
Permanent Datum Ground Level Elevation 4884'					
Log Measured From Kelly Bushing 20 FT					
Drilling Measured From Kelly Bushing					
Date	08-DEC-2015				
Run Number	One				
Depth Driller	12796 FT				
Depth Logger	7453 FT				
Bottom Logged Interval	7448 FT				
Top Log Interval	Surface				
Open Hole Size	7.875"				
Type Fluid	Water				
Density / Viscosity	8.34 lbm/gal				
Max. Recorded Temp.	244°F				
Estimated Cement Top	Surface				
Time Well Ready	ROA				
Time Logger on Bottom	12:20 P.M.				
Equipment Number	HD-0325				
Recorded By	Fort Lupton, CO				
Witnessed By	J. Morrison				
	Mario Torres				
Borehole Record					
Run Number	Bit	From	To	Size	Tubing Record Weight From To
Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing	9 5/8	36	J55	Surface	1885 FT
Intermediate #1					
Intermediate #2	5 1/2	17	HCP 110	Surface	12758 FT
Liner					
Marker Joint					6570 FT-6592 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.

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Comments

Log ran as per customer request  
Depth referenced to Casing Tally reported Marker Joint at 6570 FT  
Adjusted log -1 FT to correlate with Marker Joint  
Log ran as deep as possible in heel to surface  
Recorded with 2800 PSI Surface Induced Pressure

Thank you for choosing FMC Technologies Surface Integrated Services.

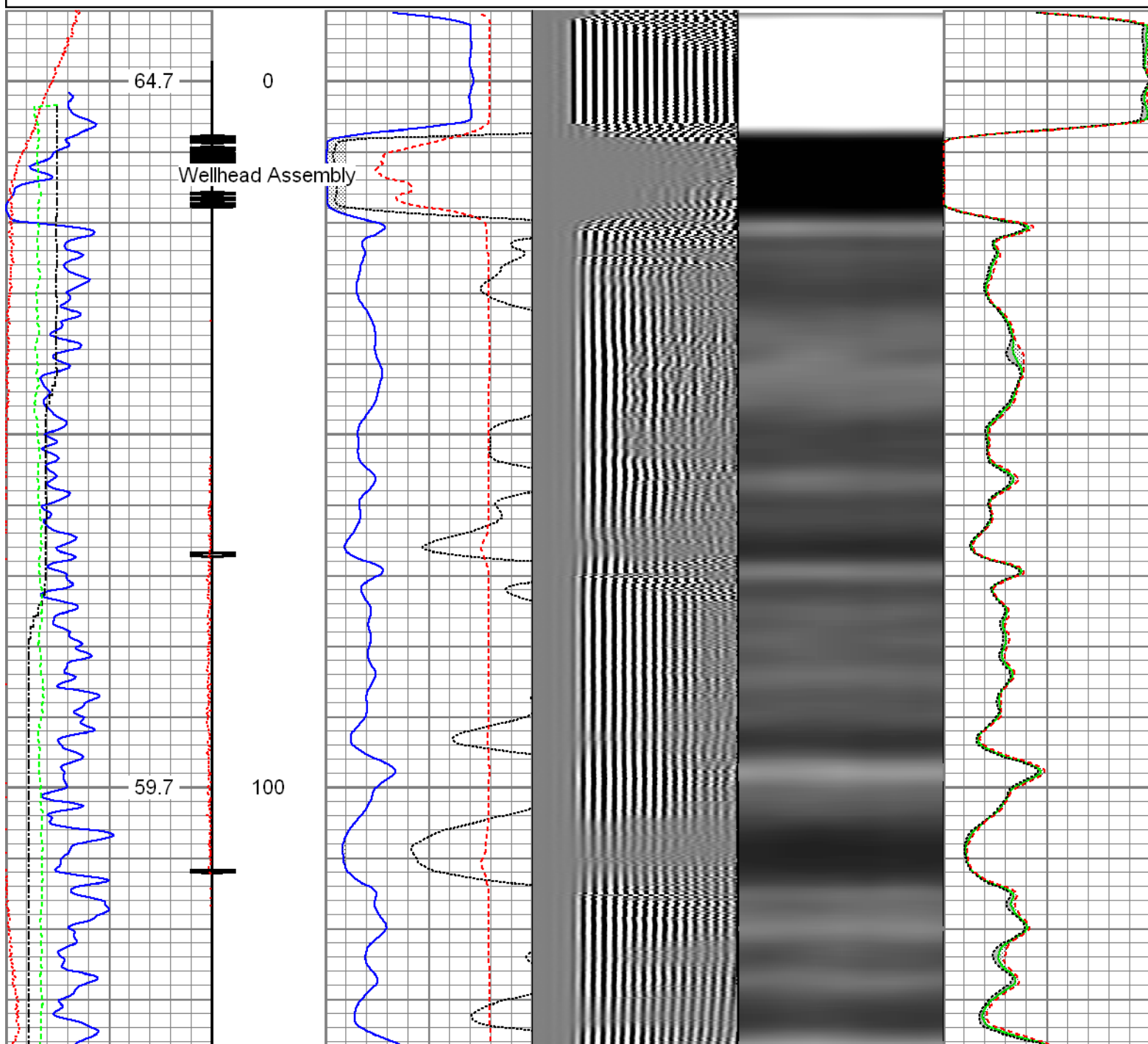


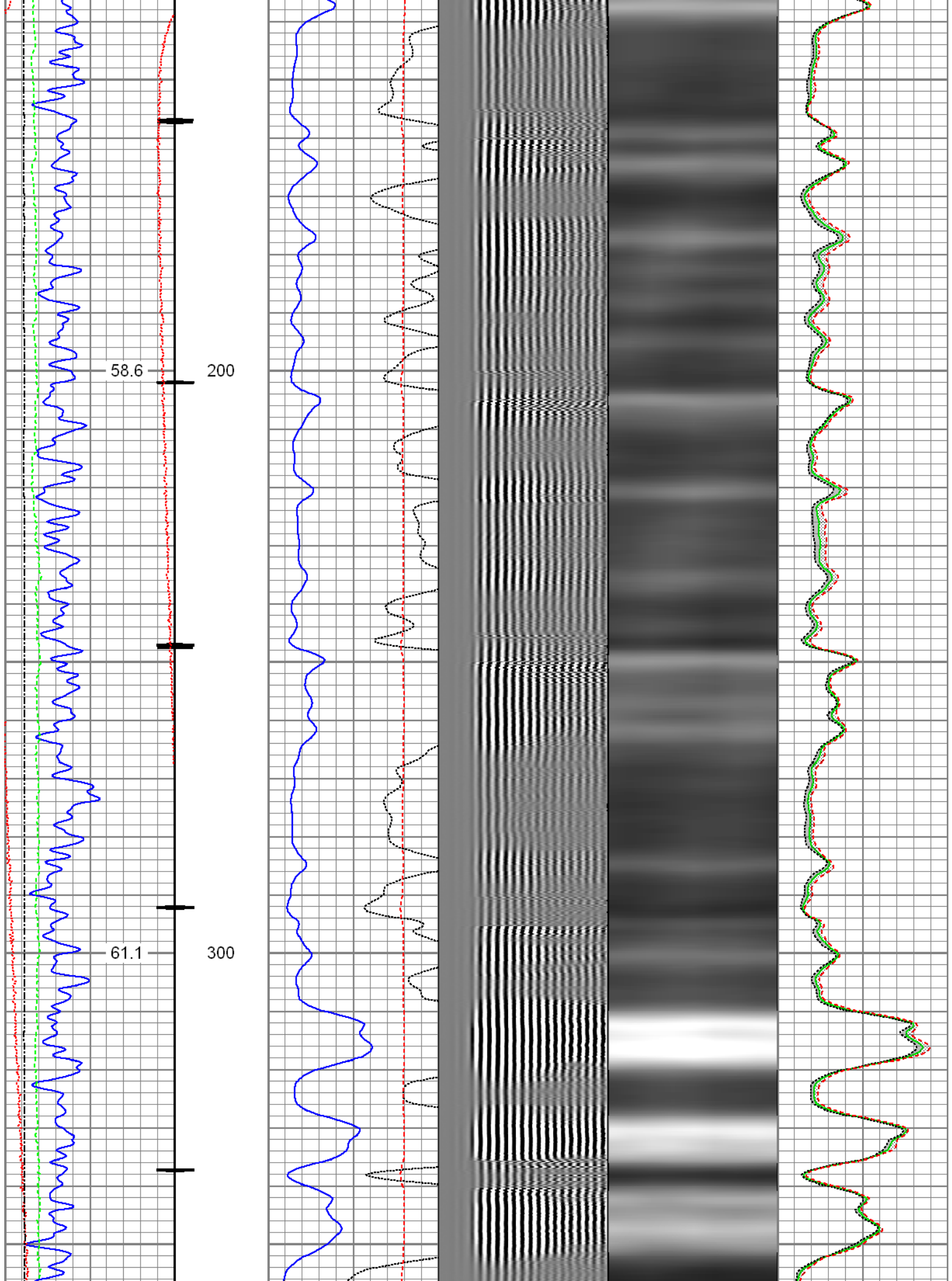
## Main Pass

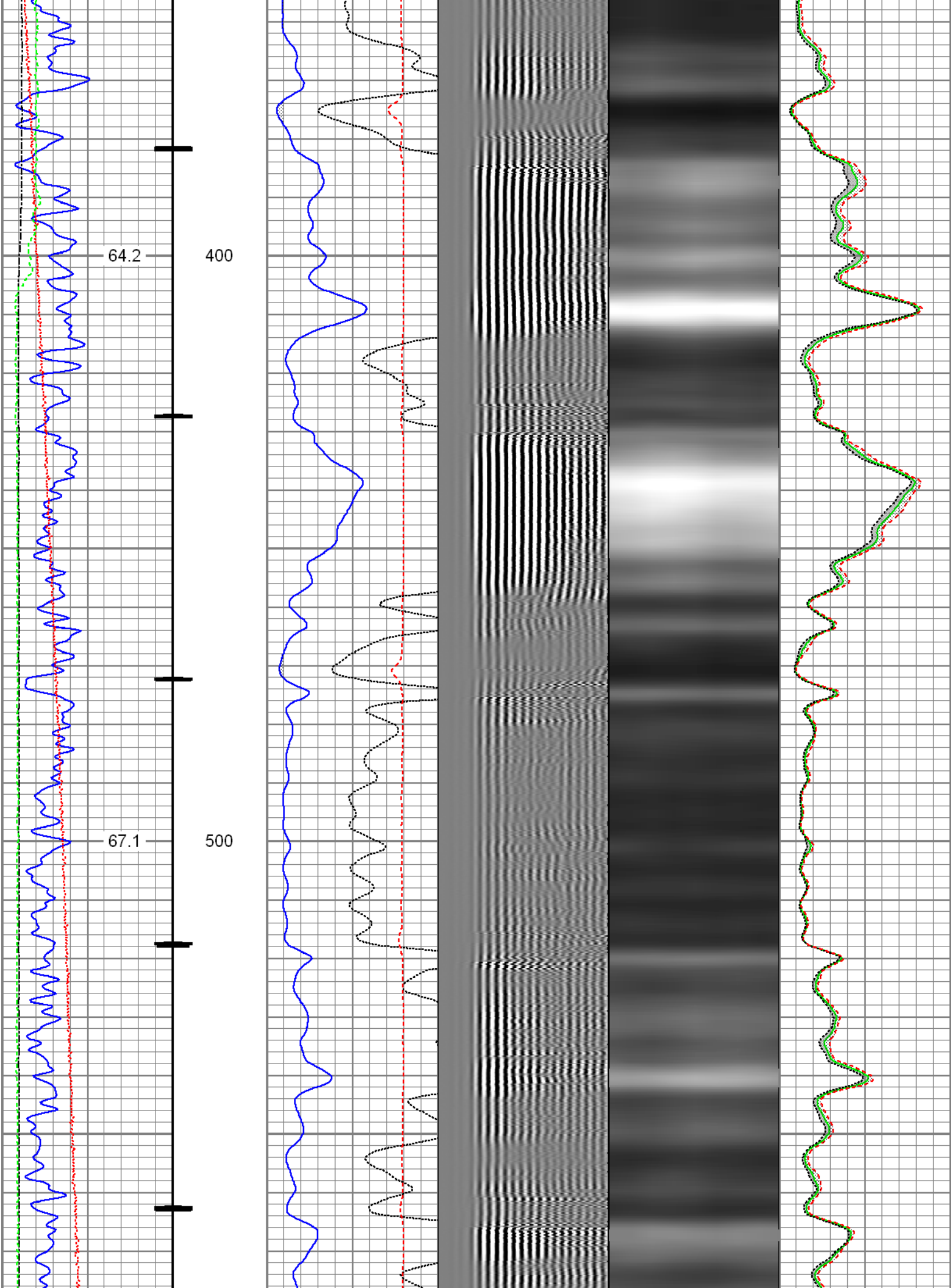
Recorded with 2800 PSI Surface Induced Pressure

Database File: c:\warrior\data\0512341905\_anadarko\_powers 14c-22hz\_12-08-15\_rbl\processed\_0512341905\_anadarko\_powers 14c-22hz\_12-08-15\_rbl  
Dataset Pathname: main.1  
Presentation Format: radii  
Dataset Creation: Wed Dec 09 14:12:44 2015 by Calc SCH 120430  
Charted by: Depth in Feet scaled 1:240

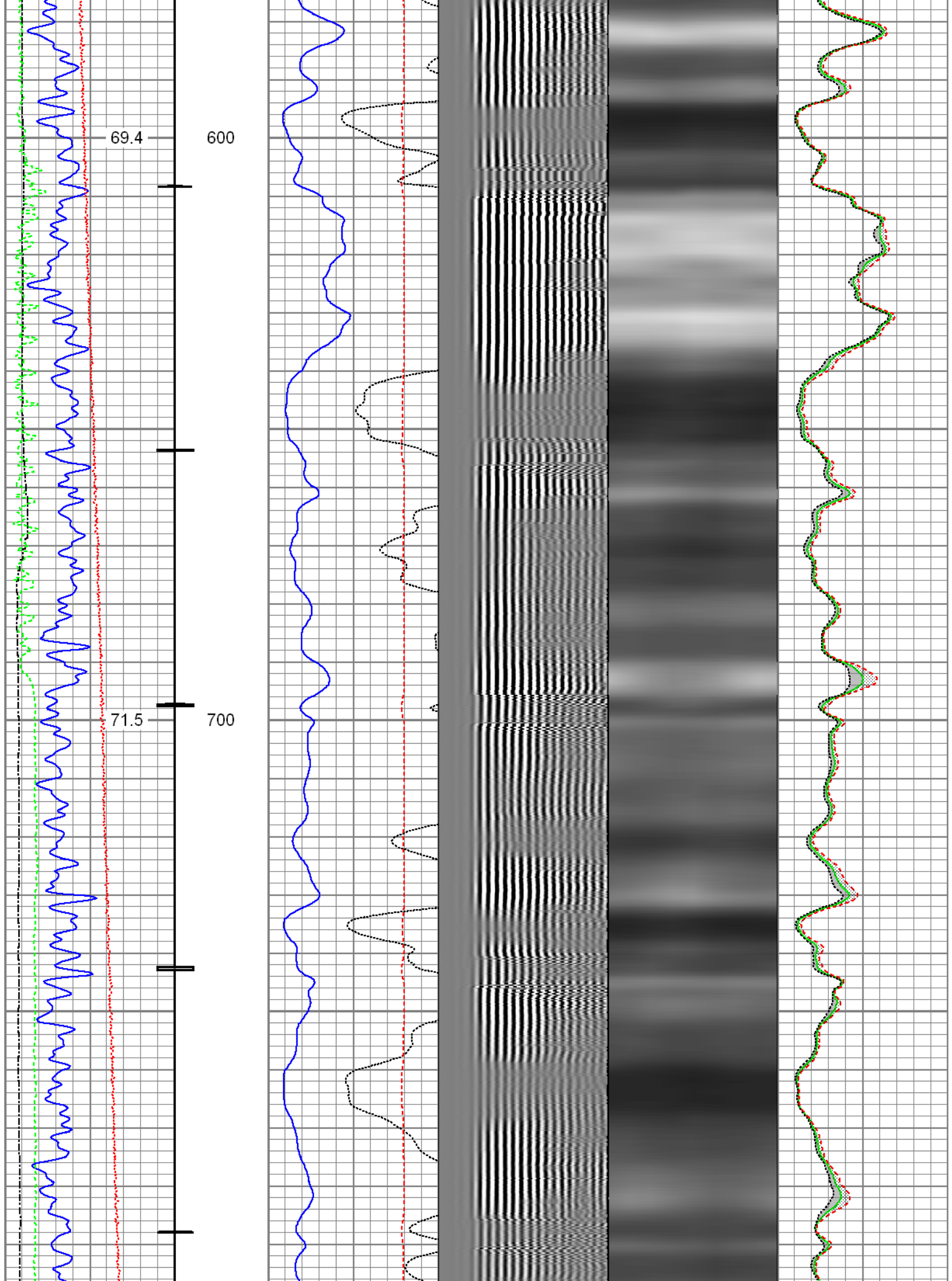
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

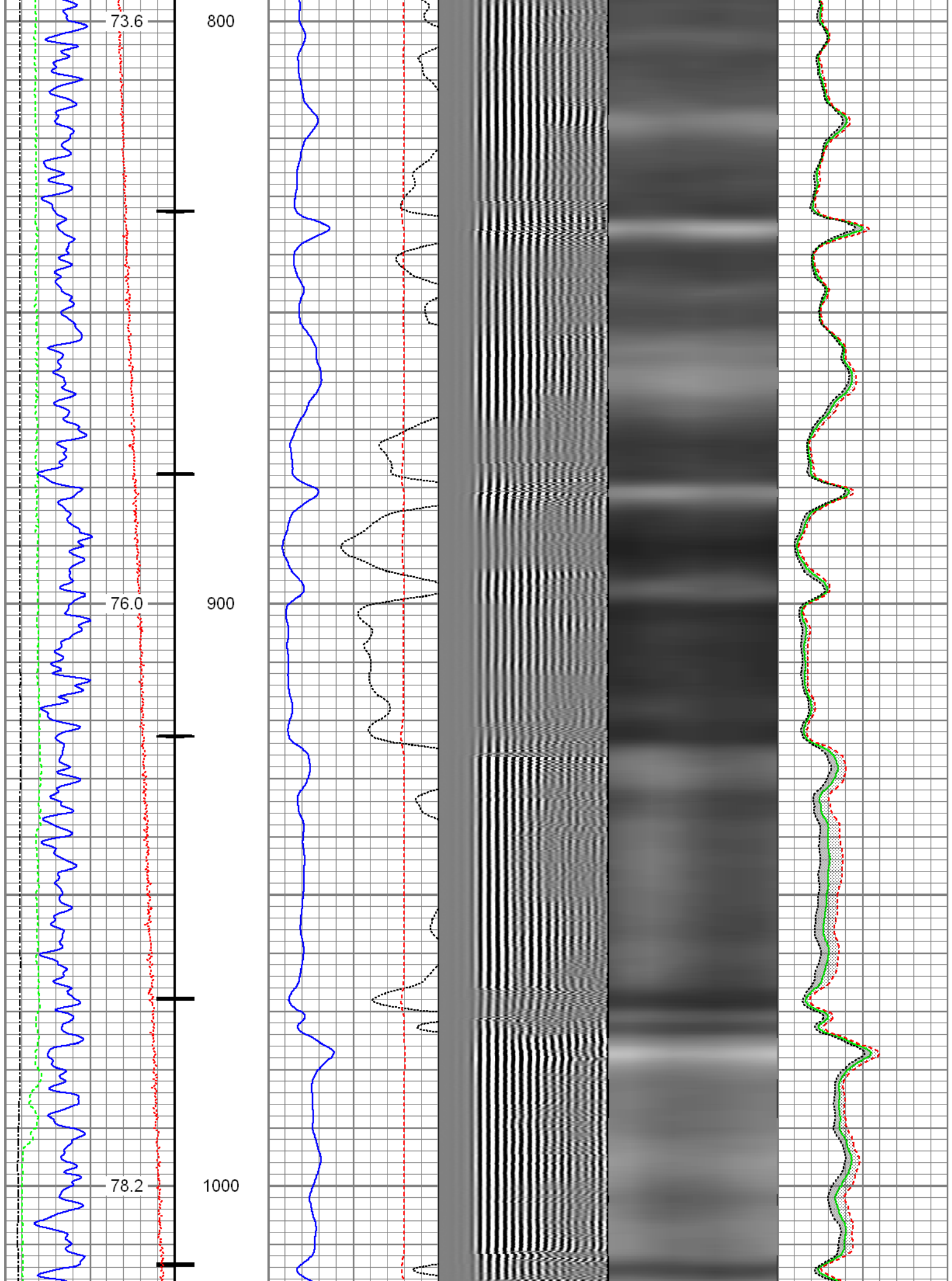


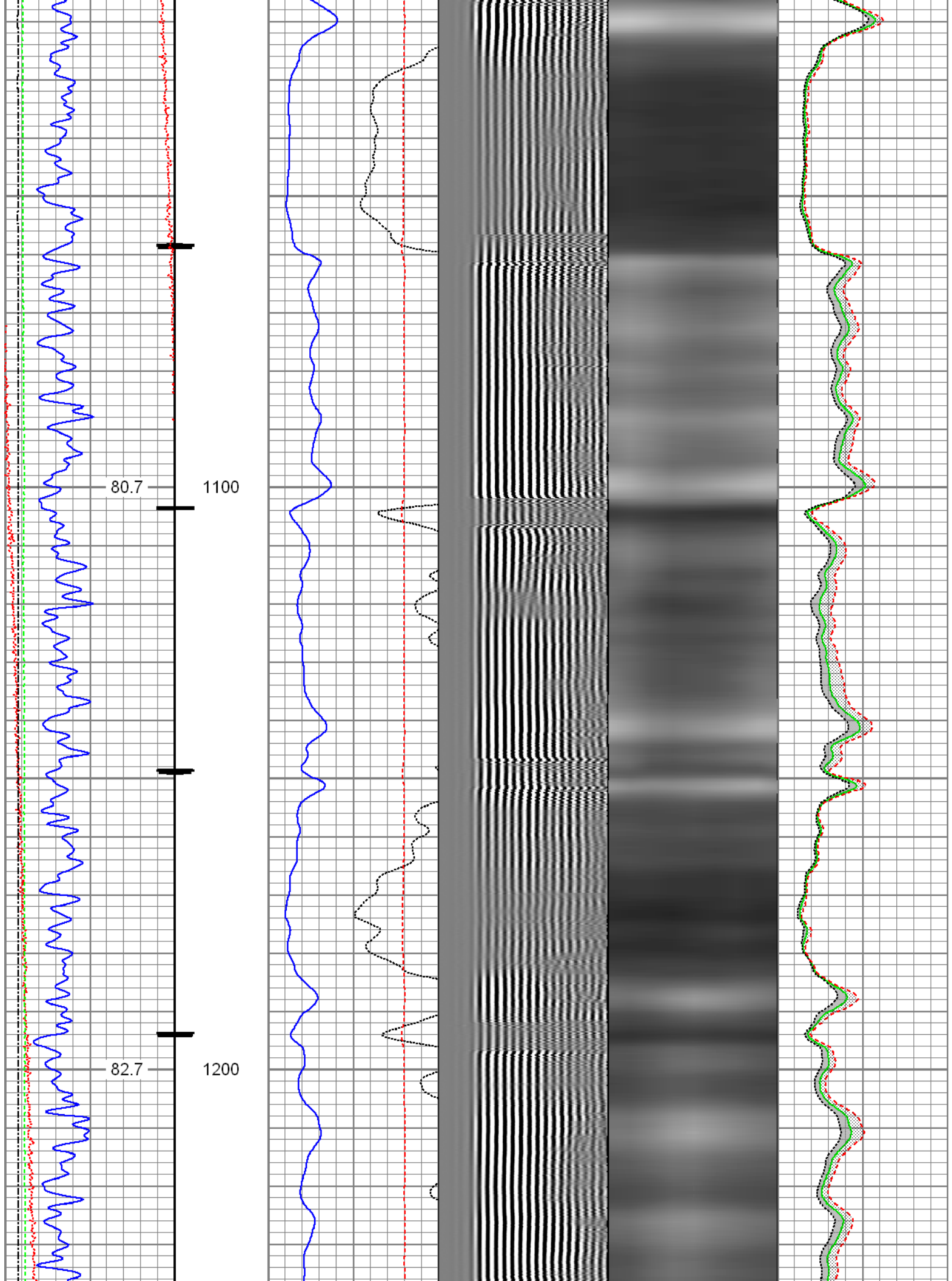




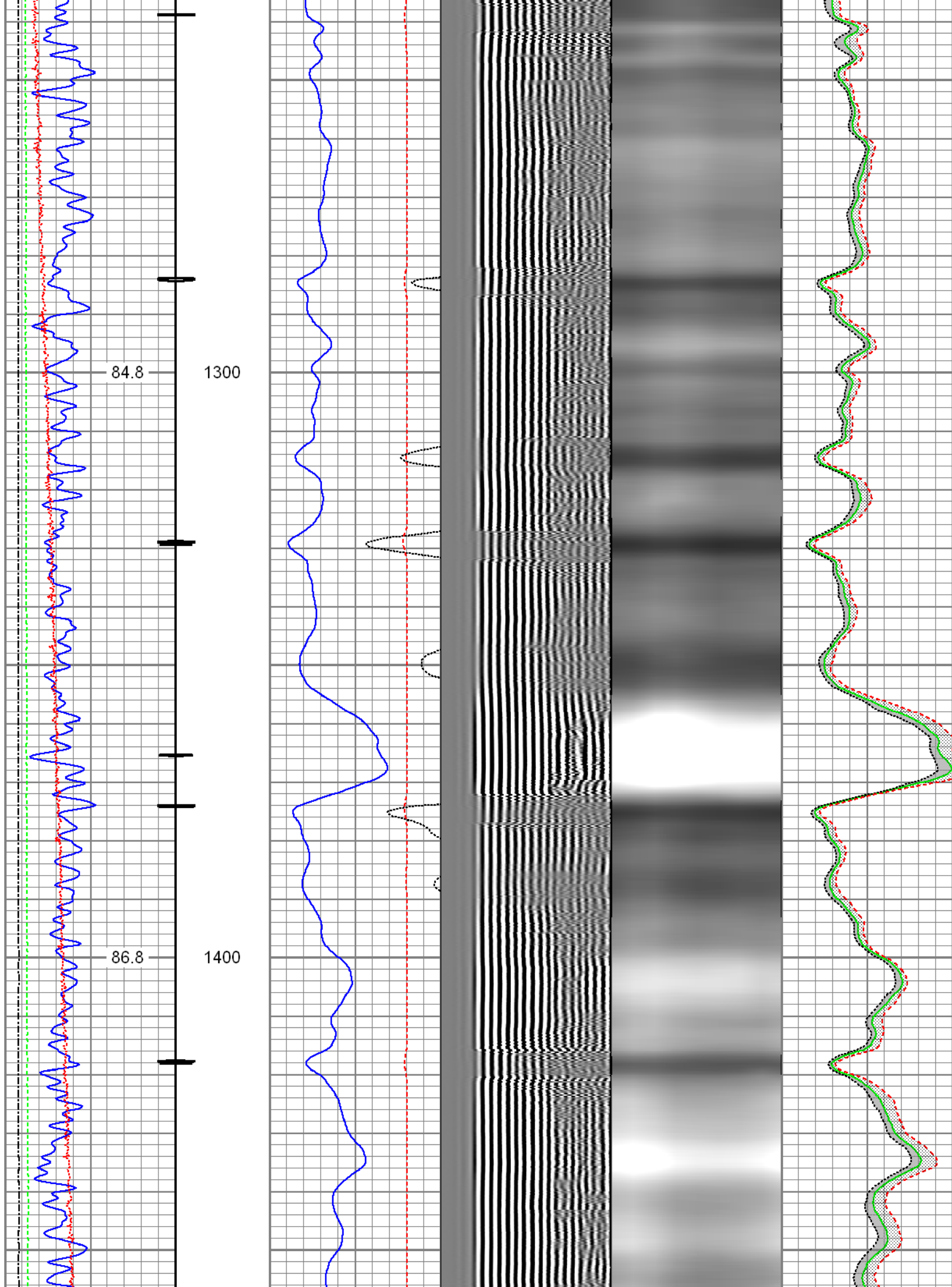




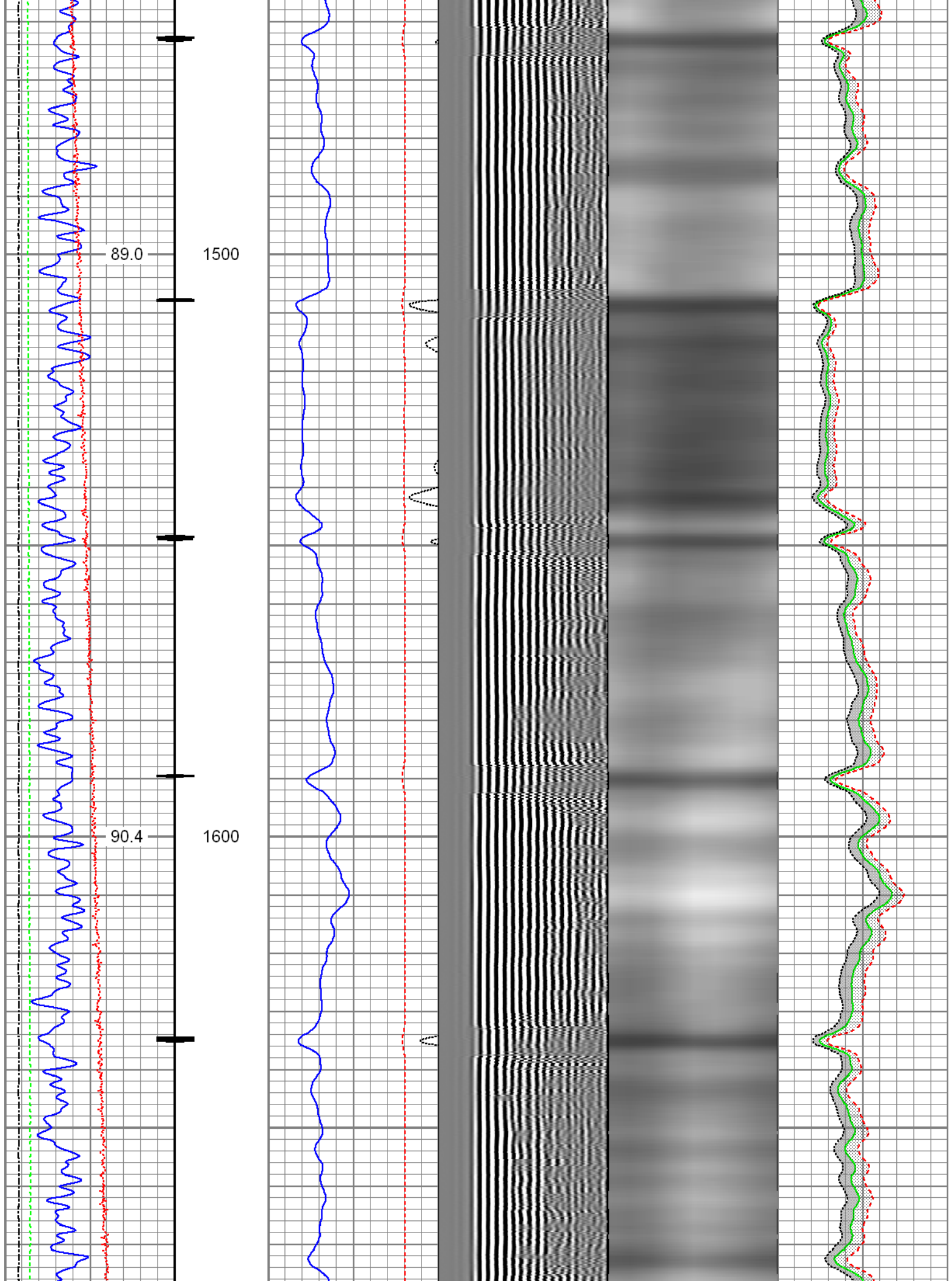


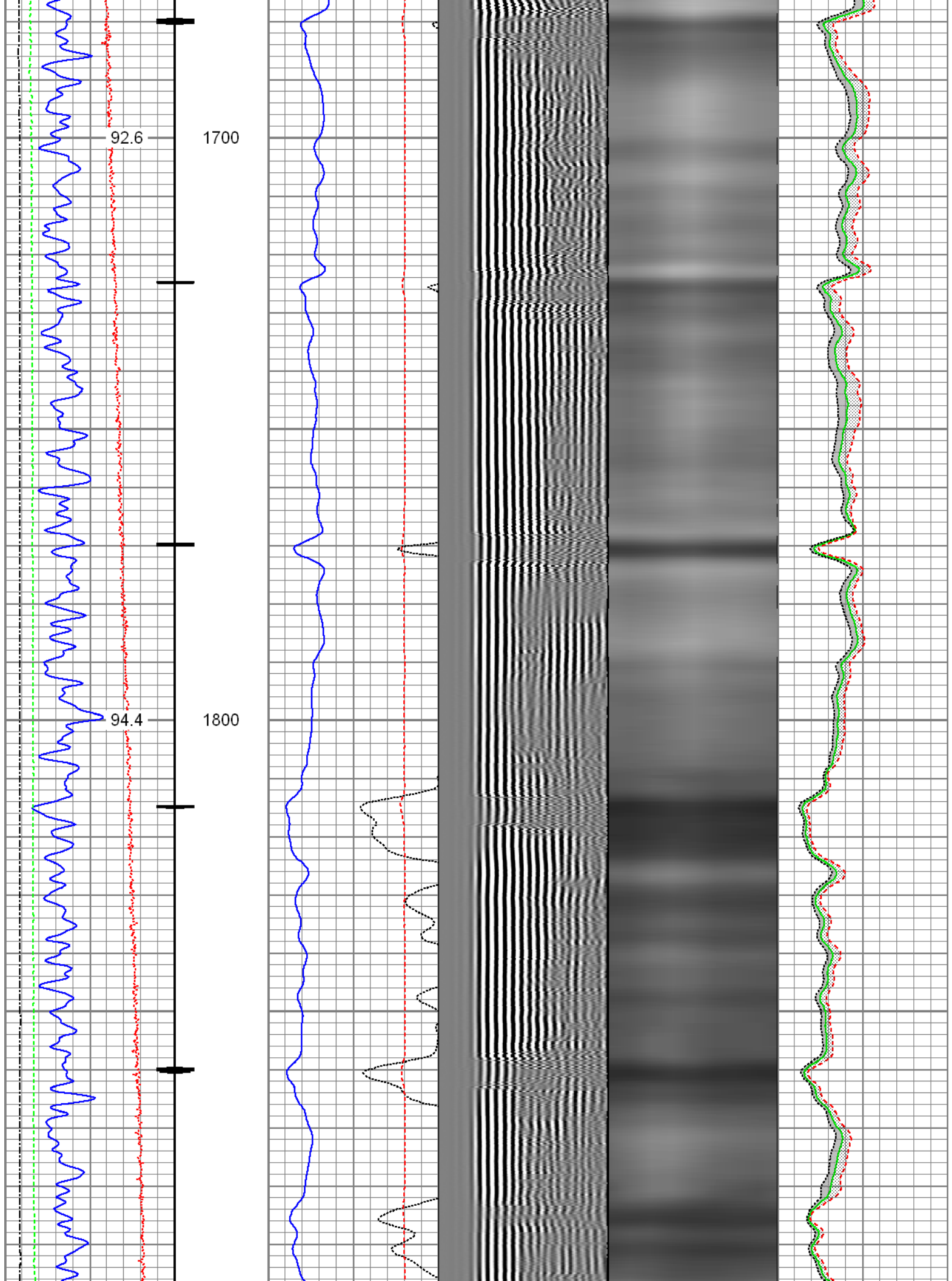


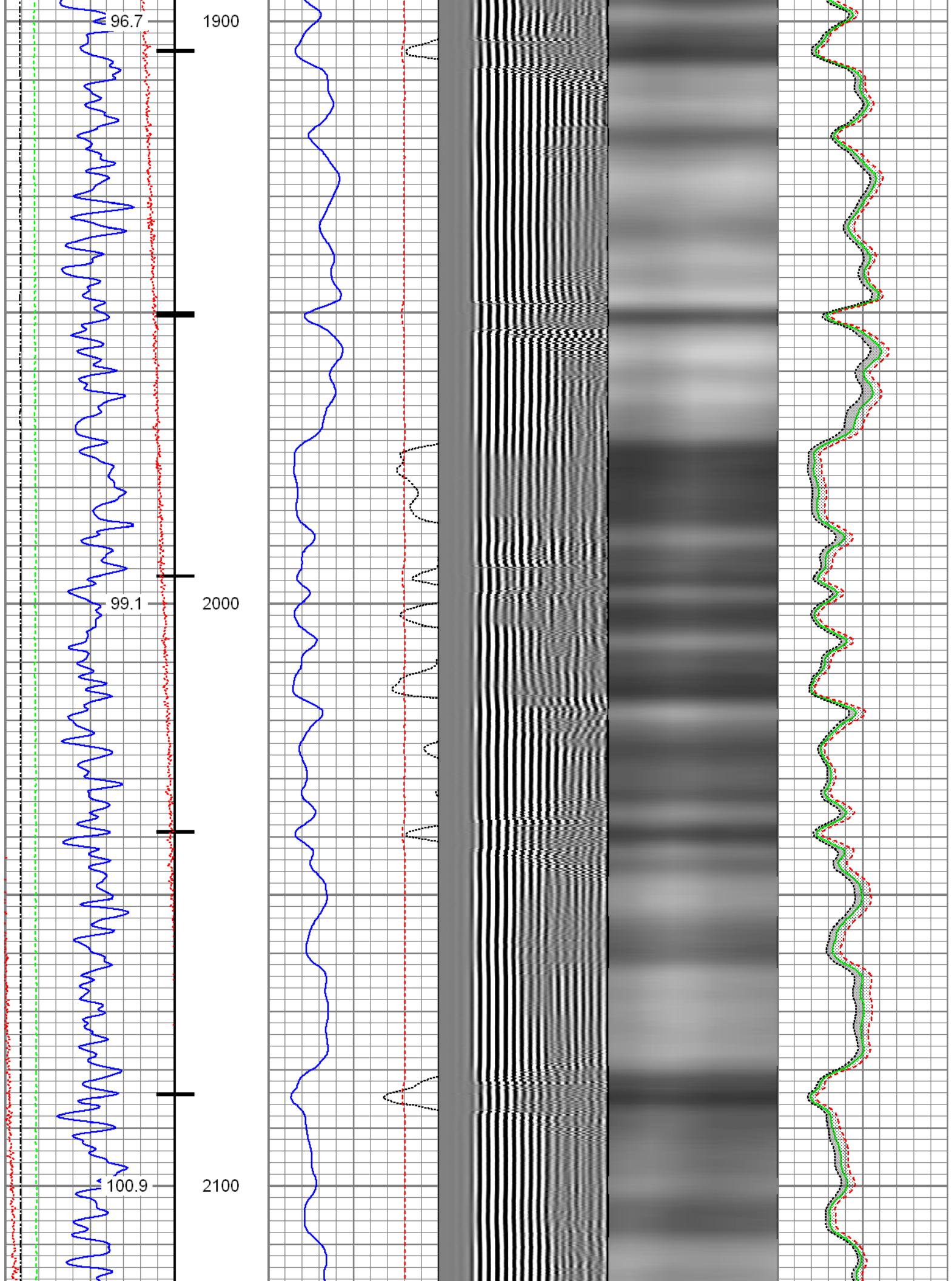




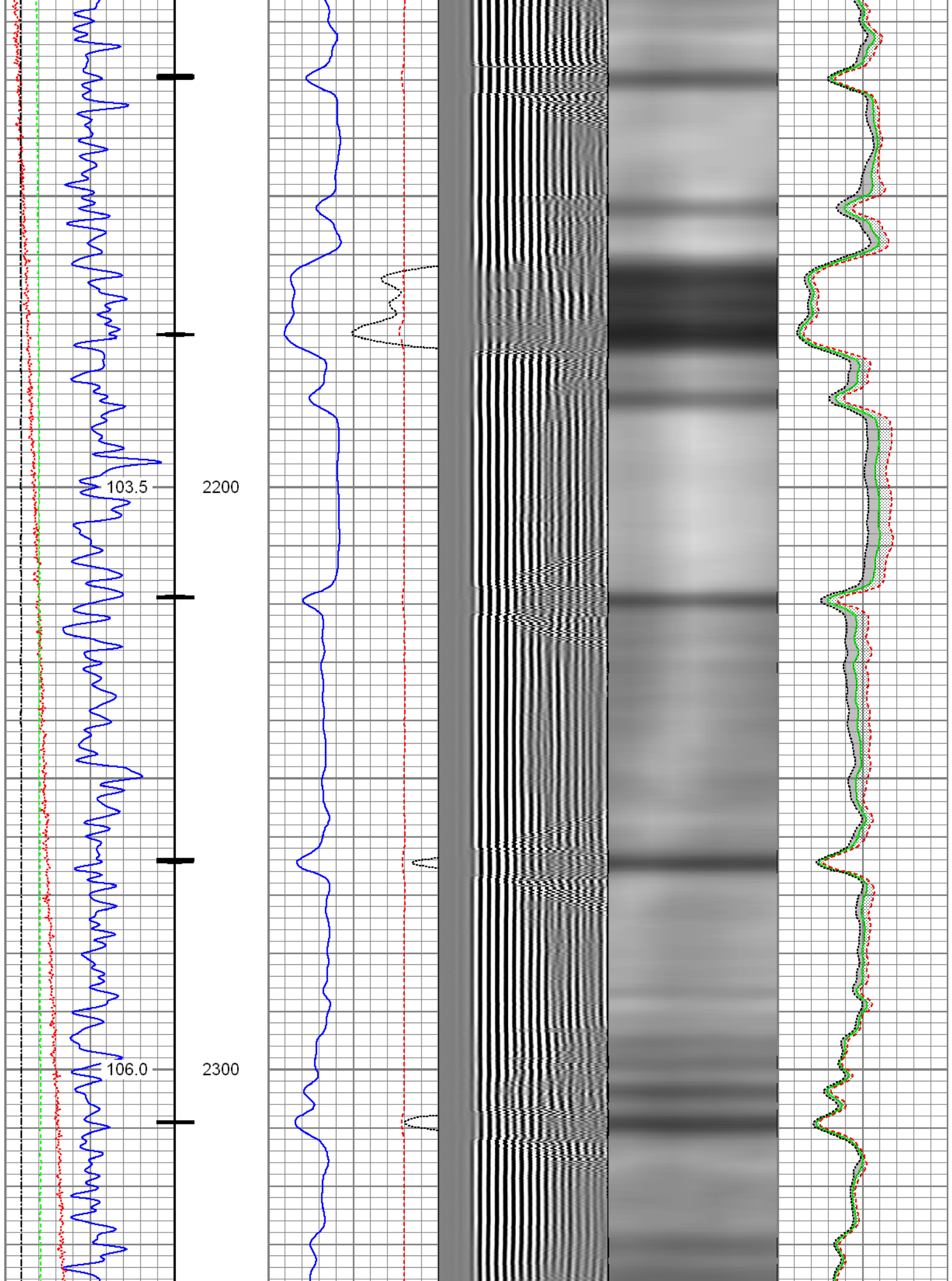




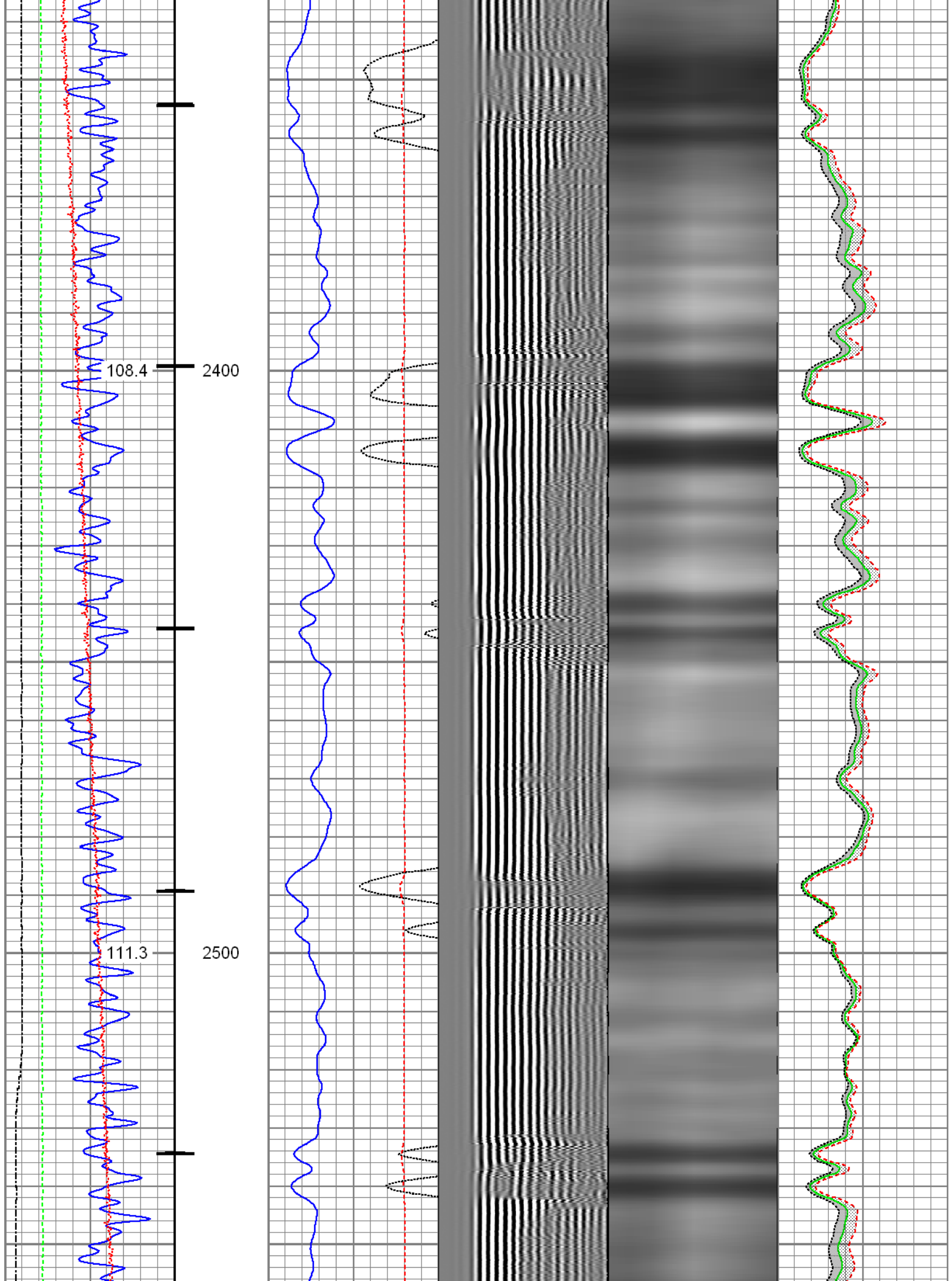


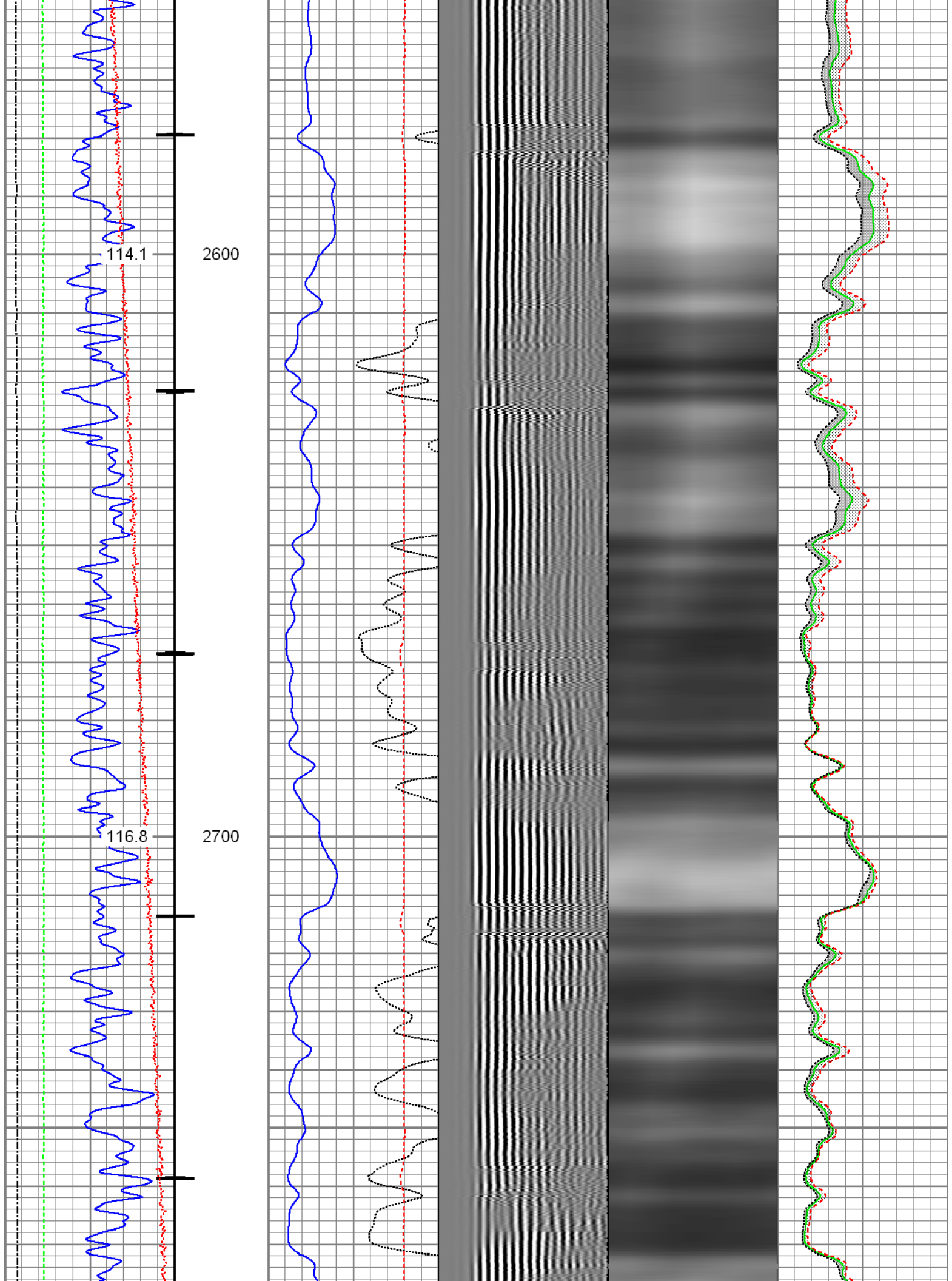


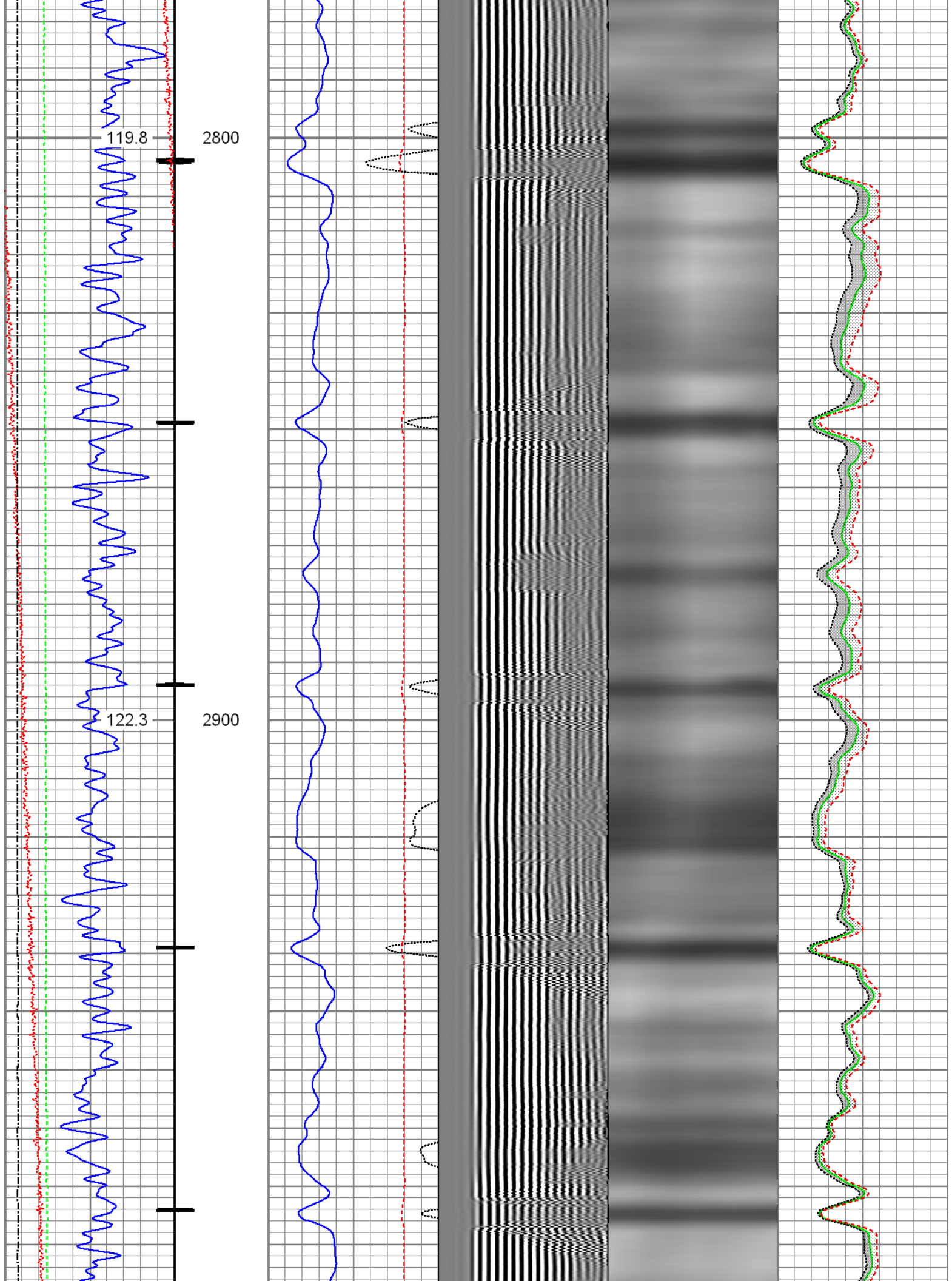




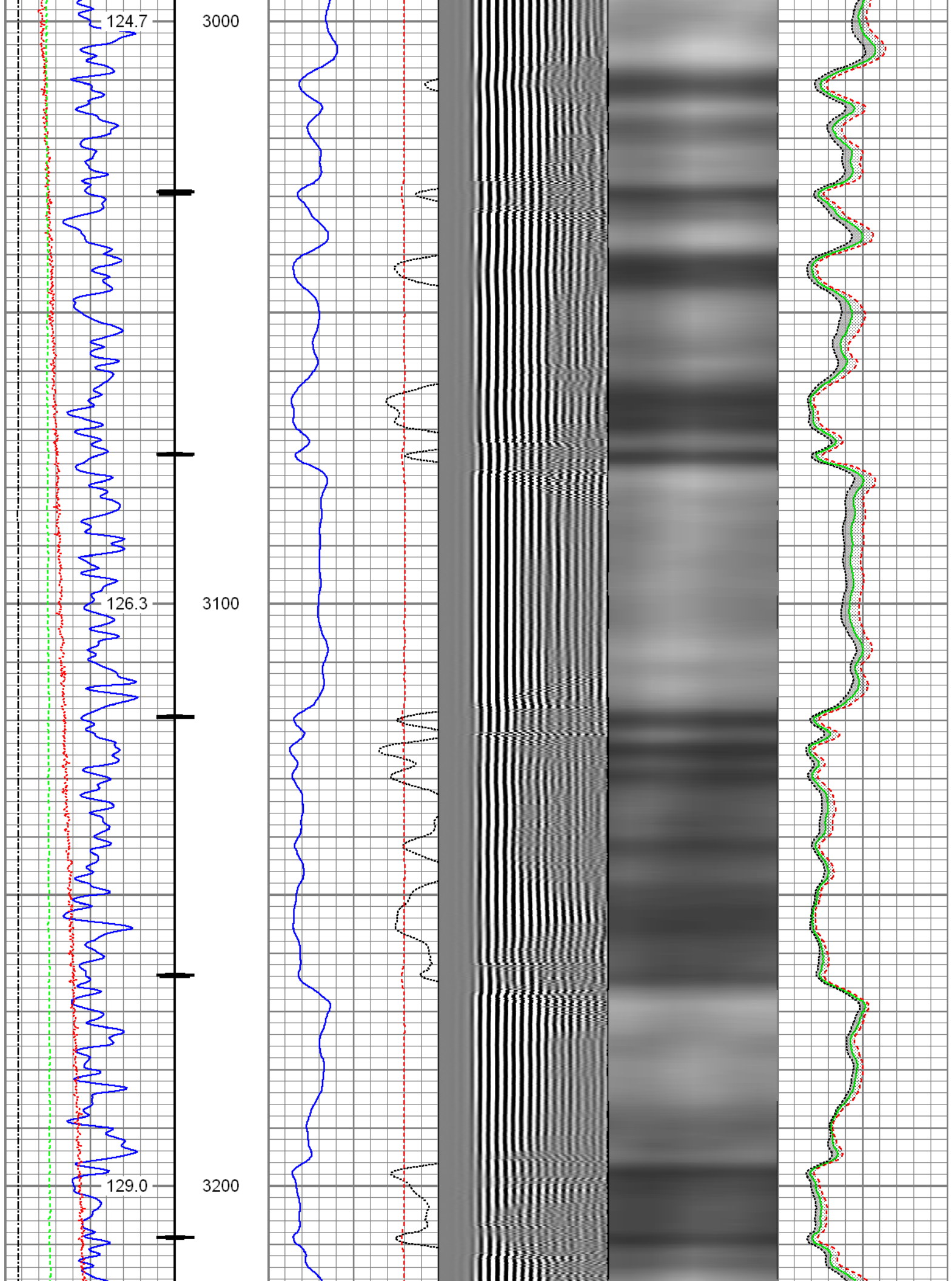




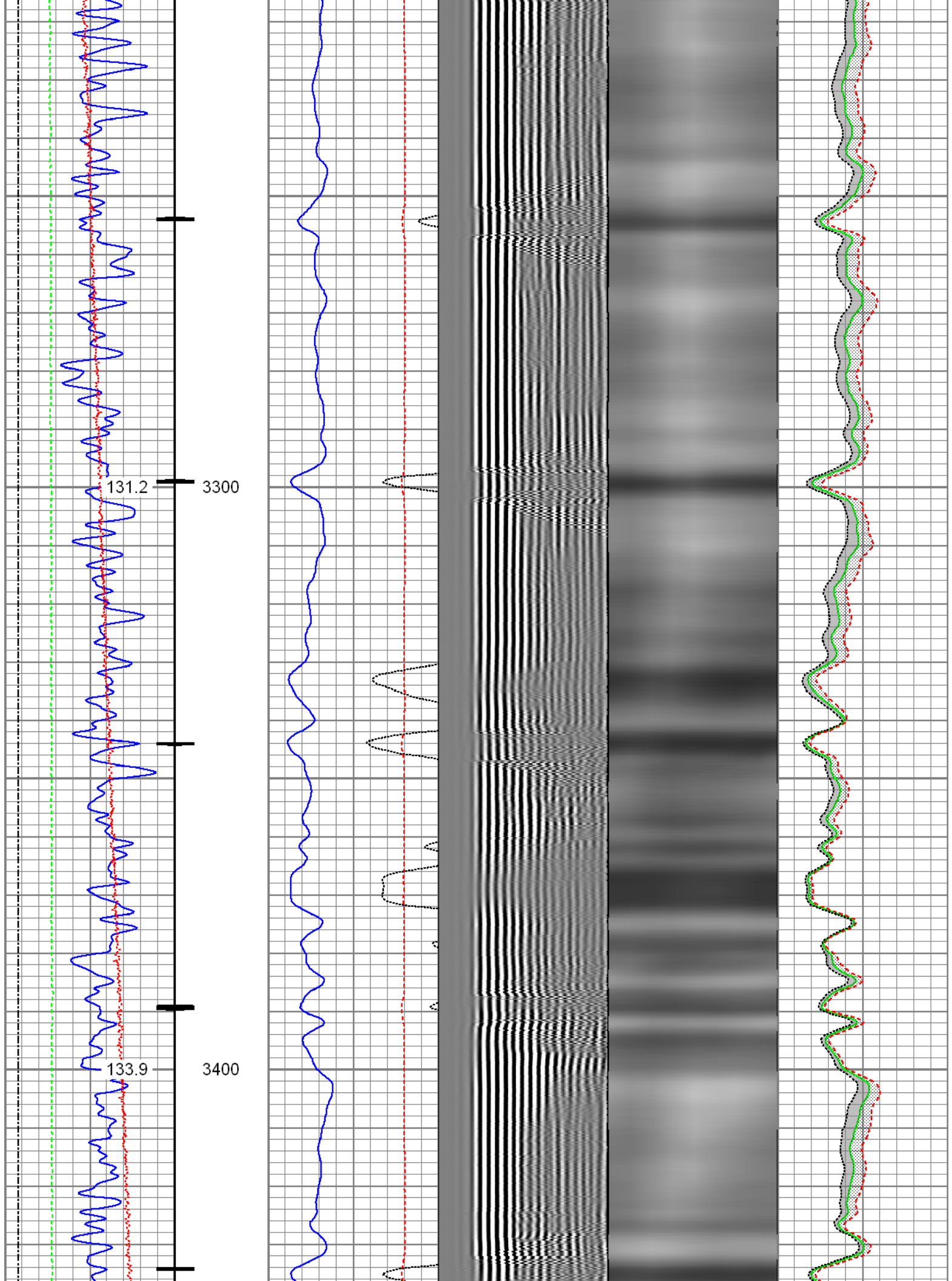


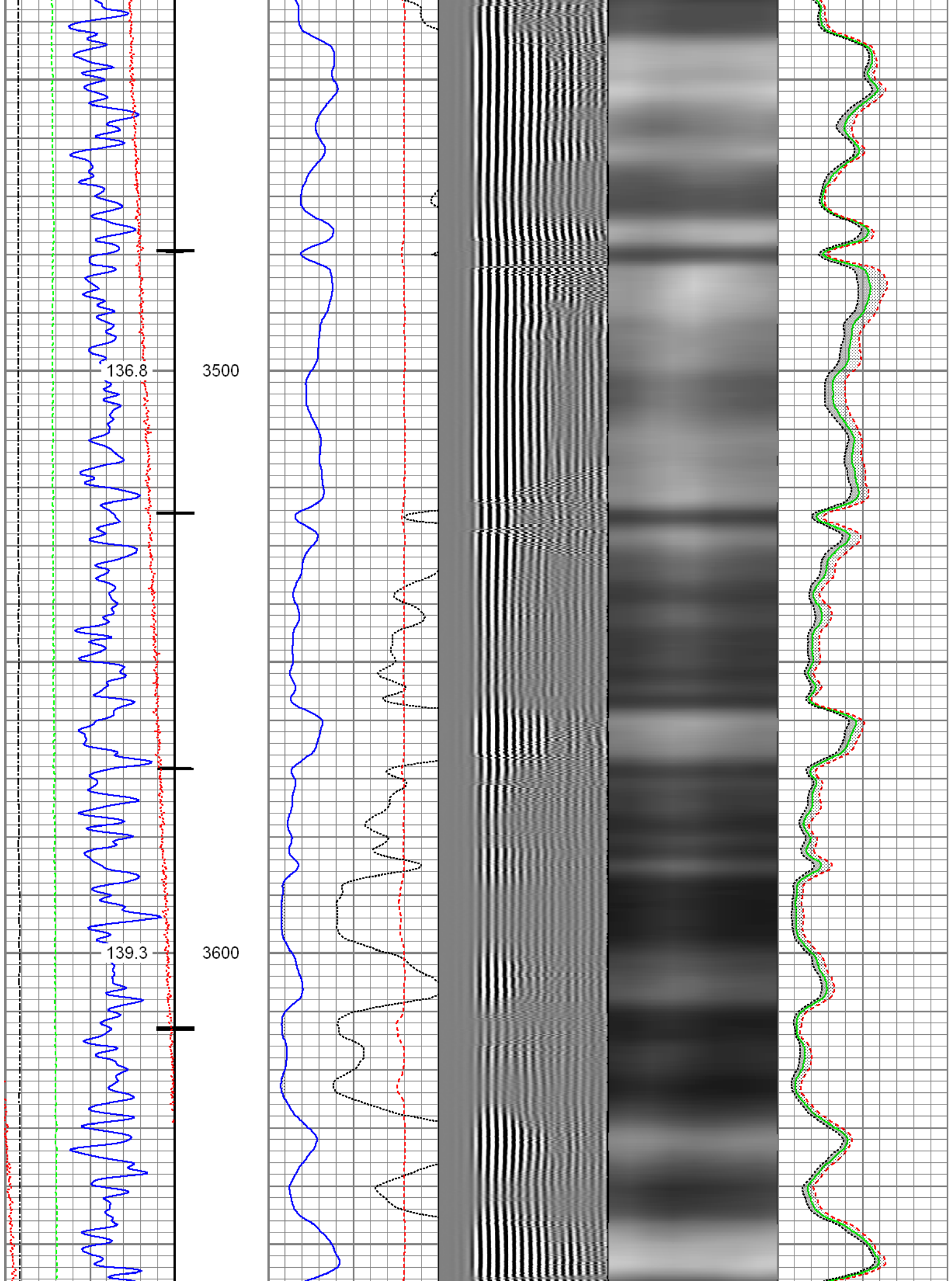


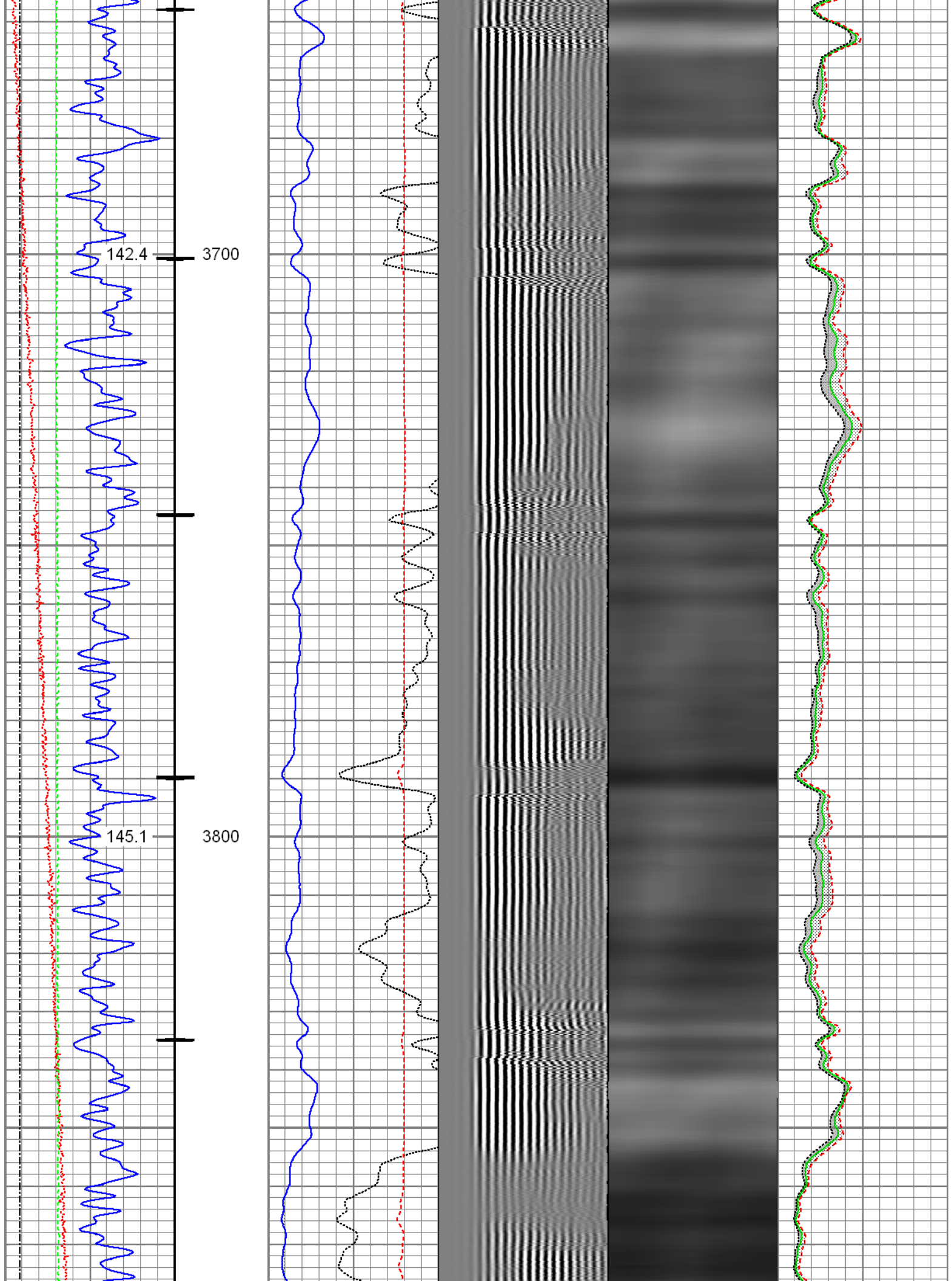




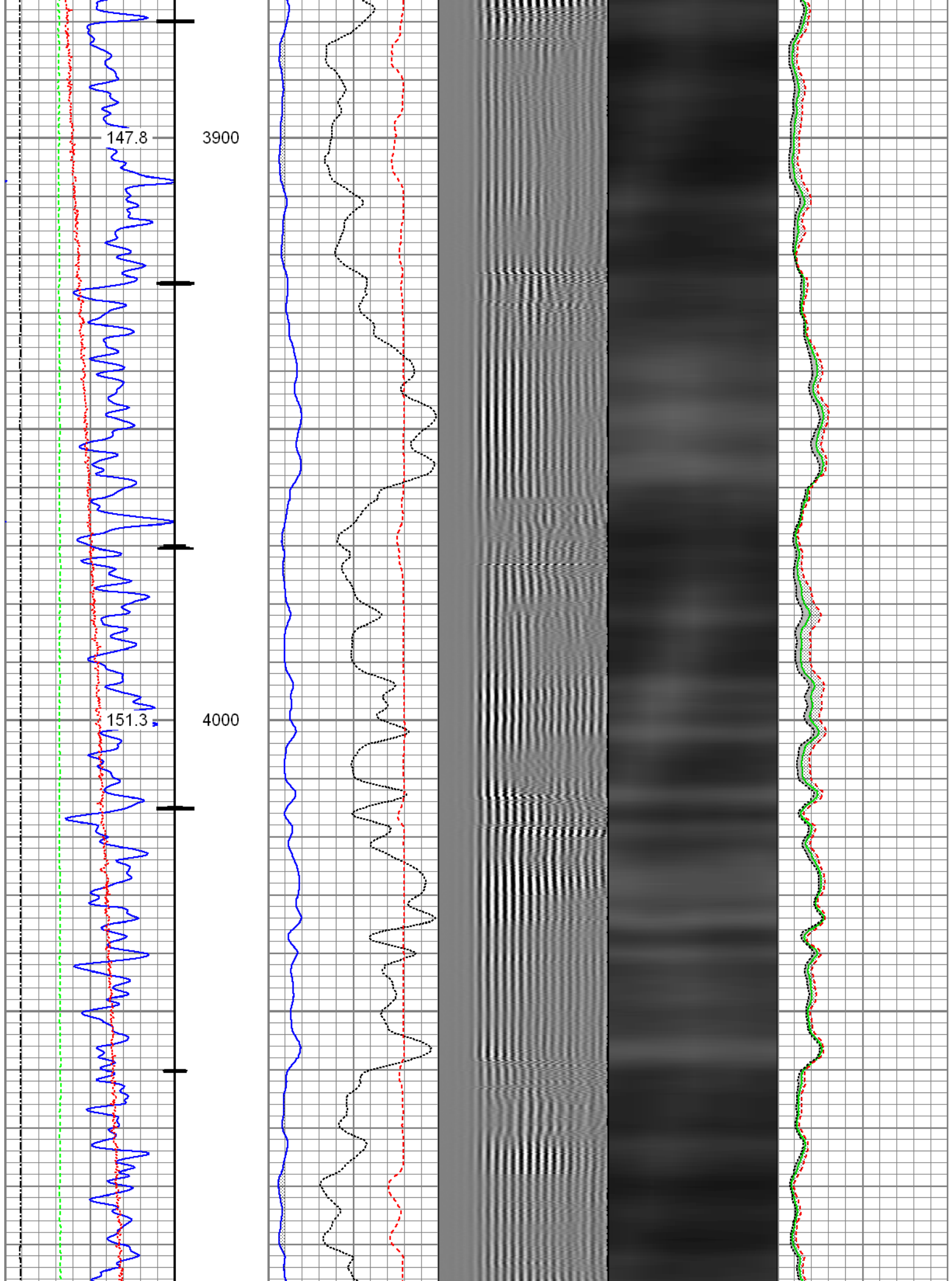




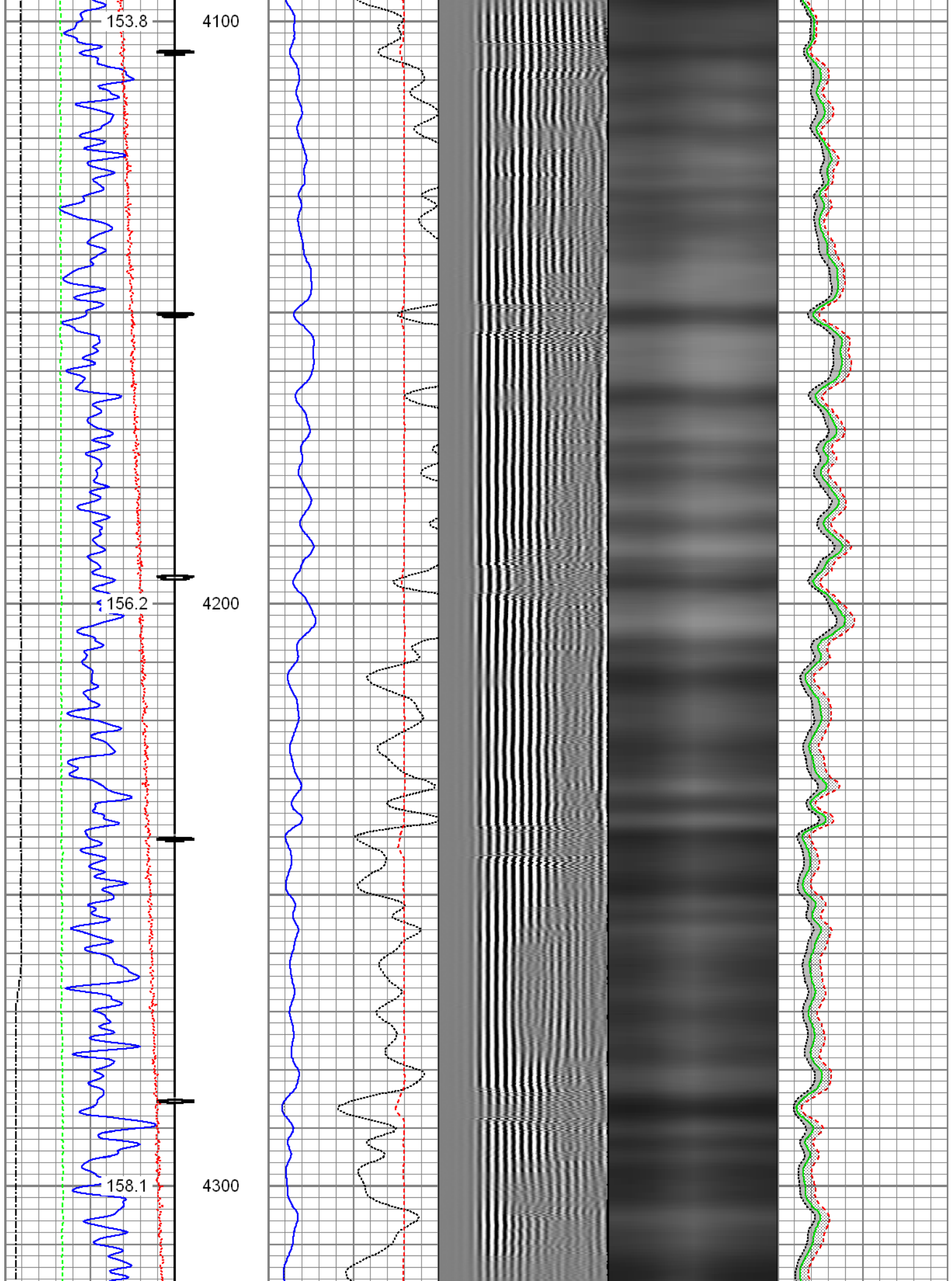


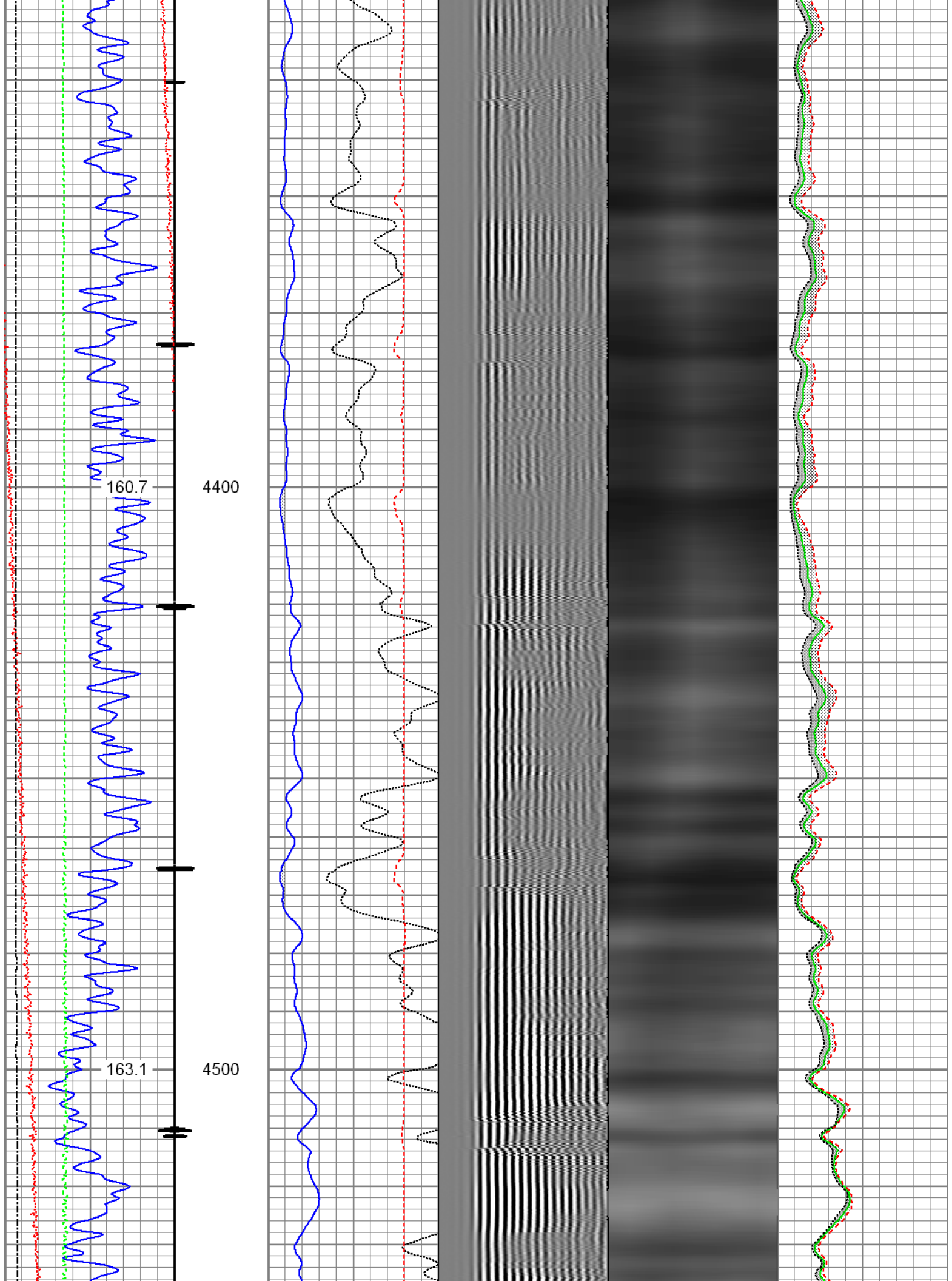


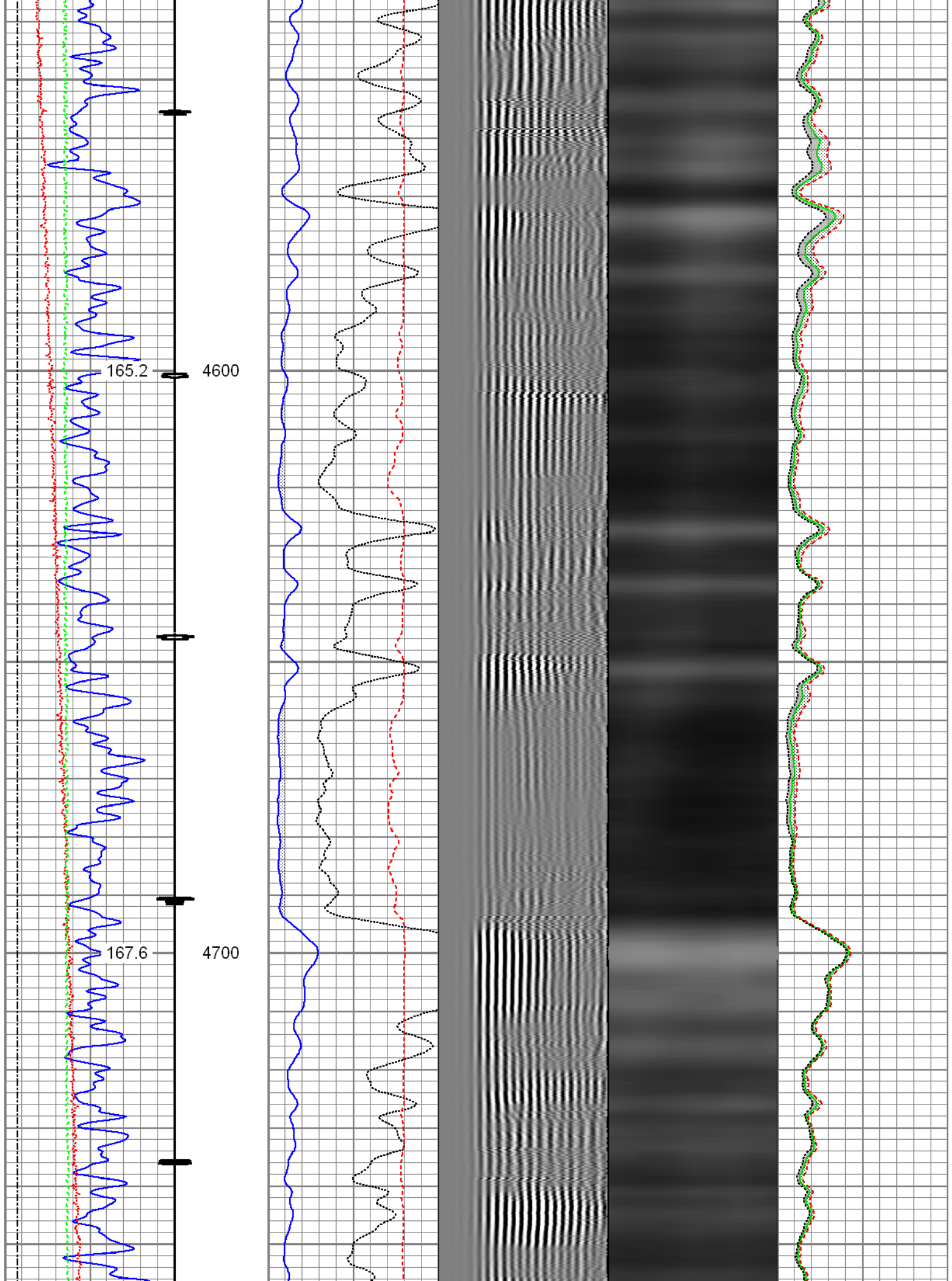




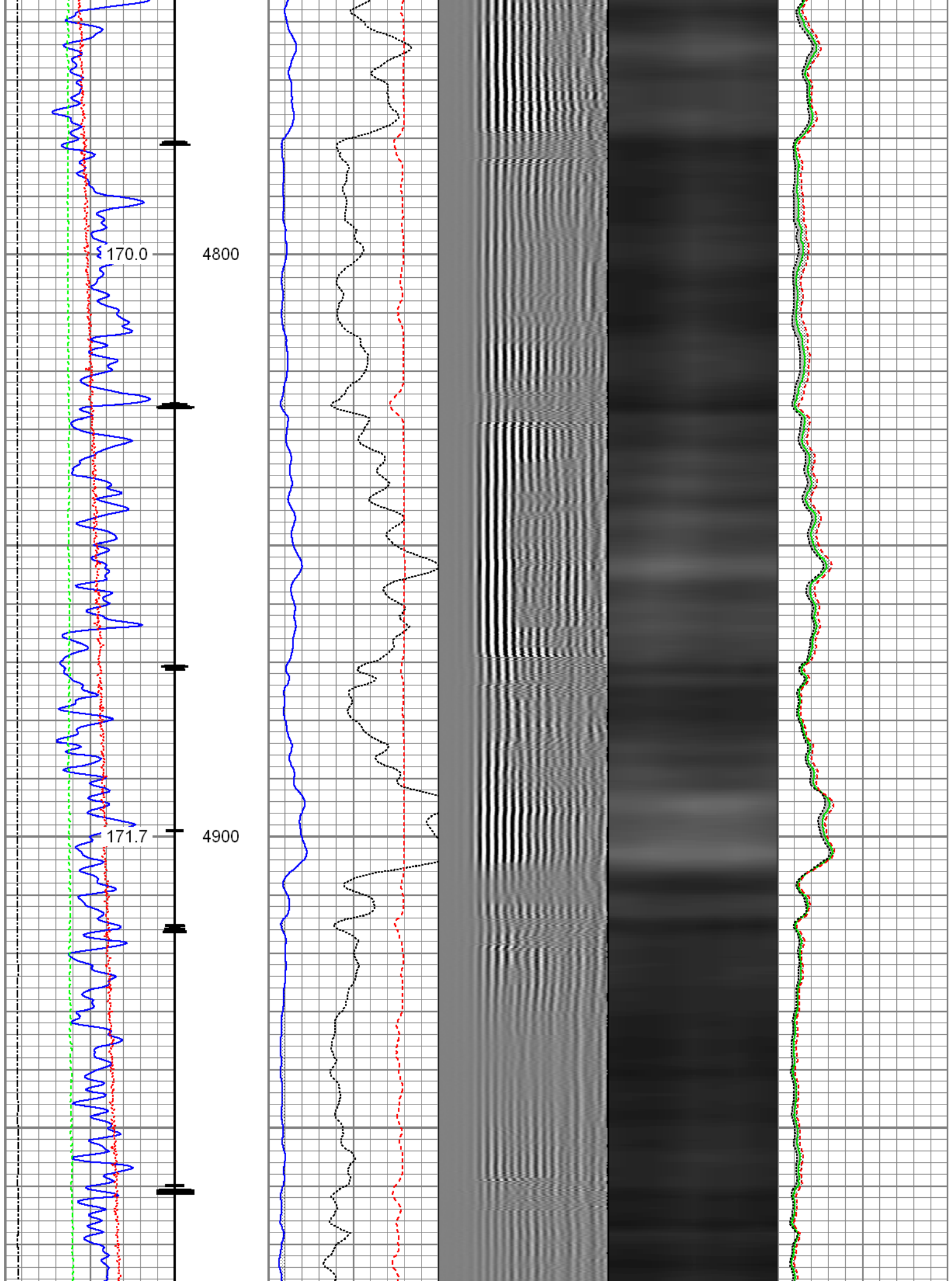


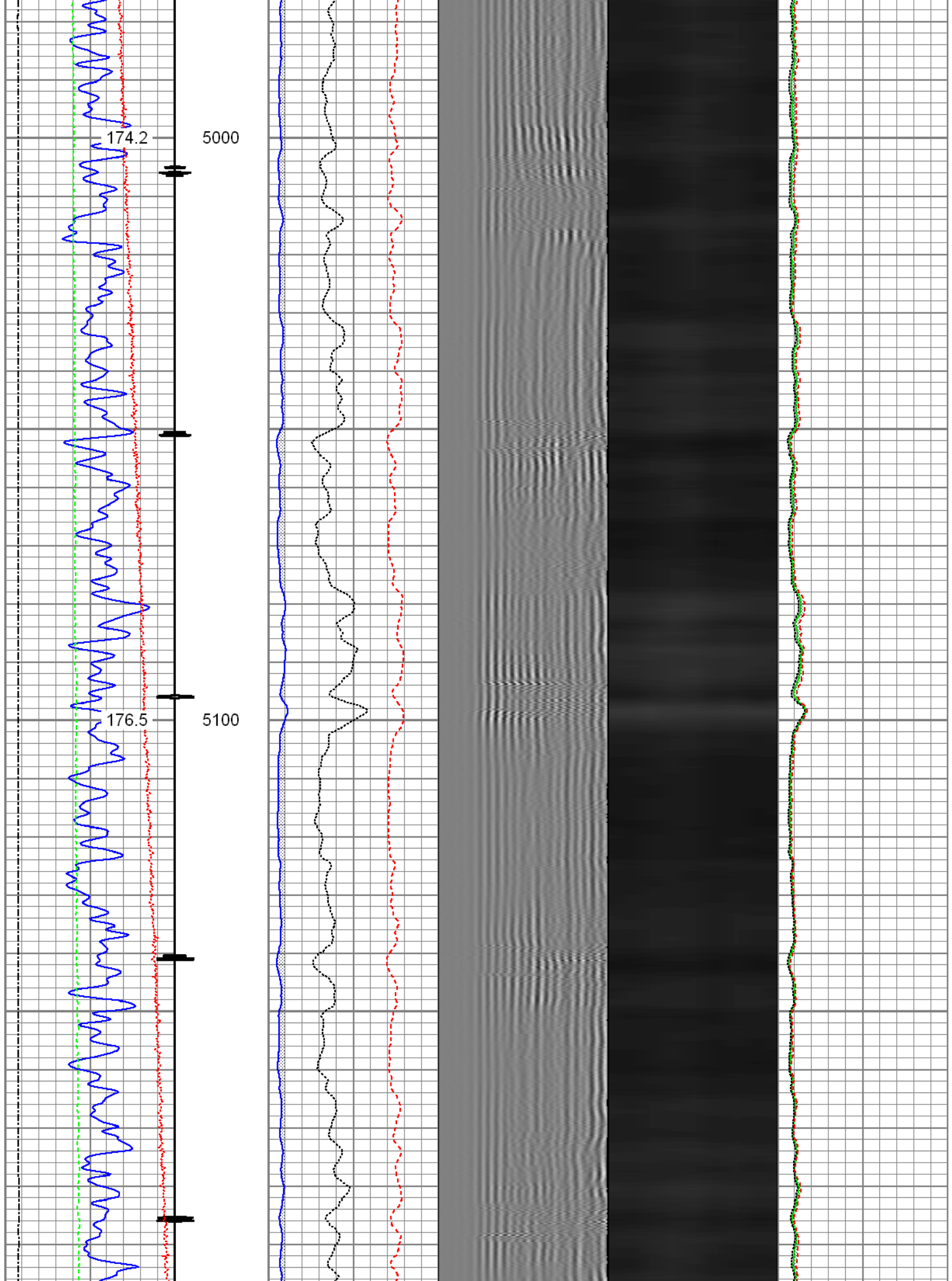


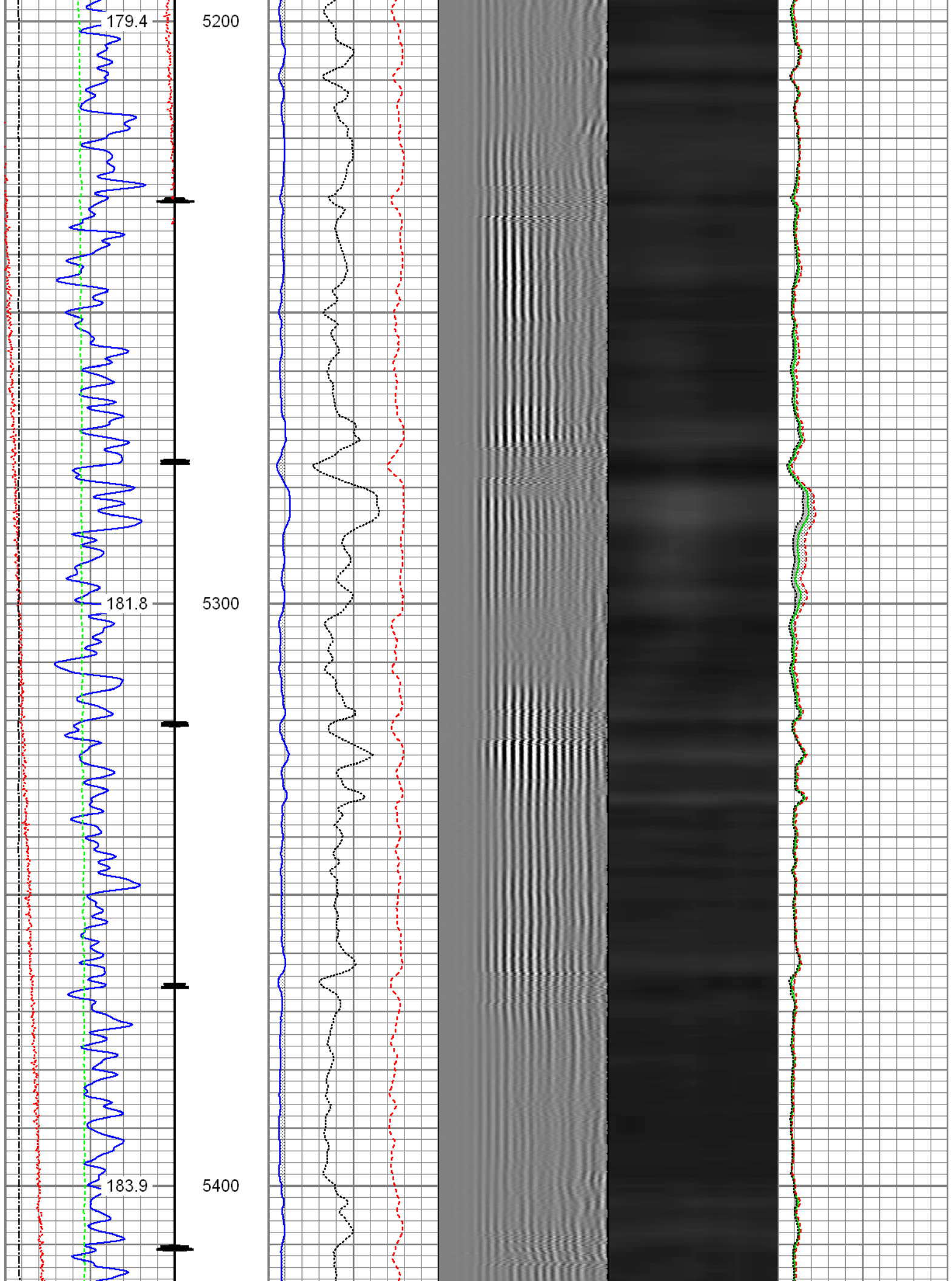




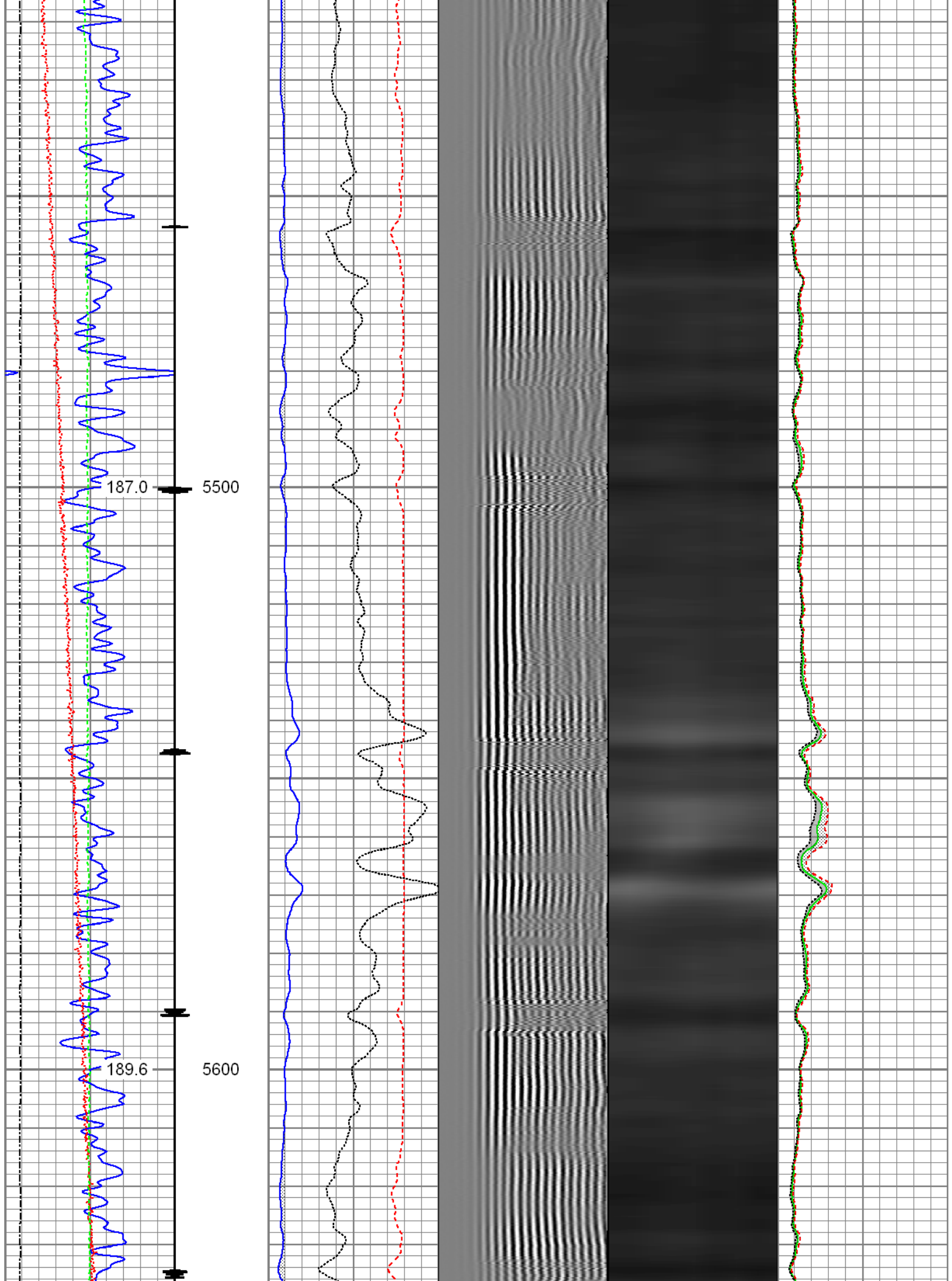


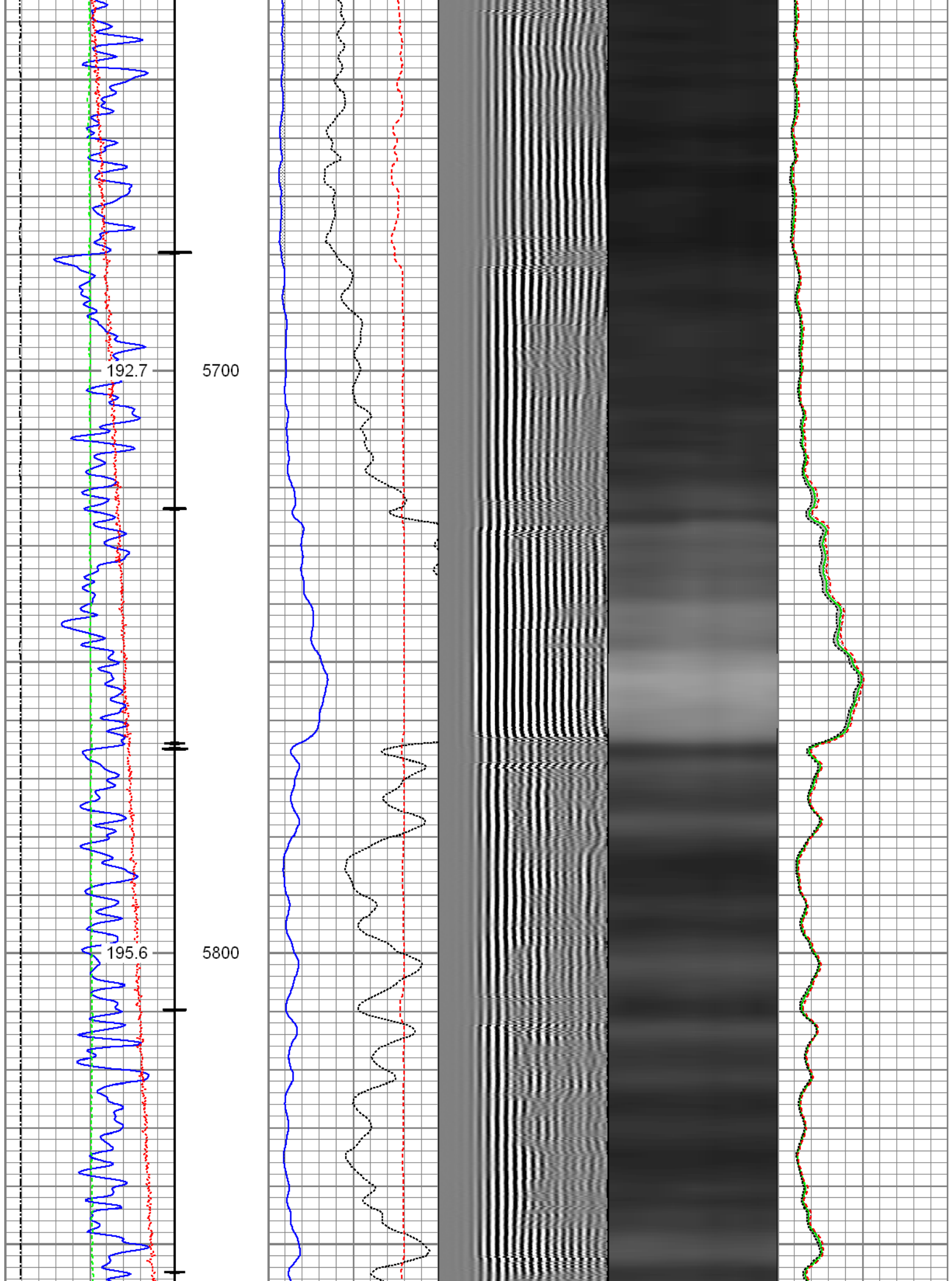


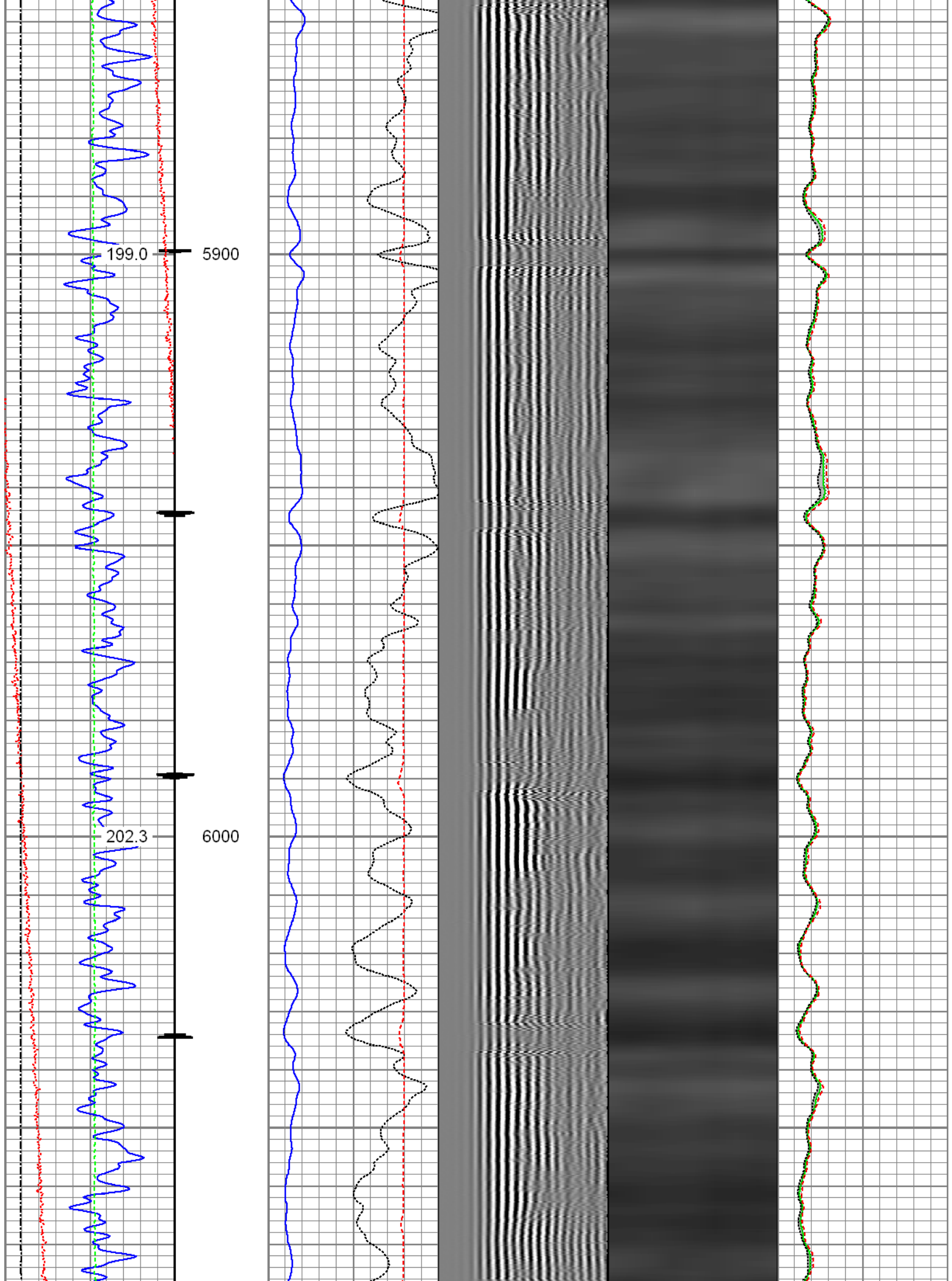




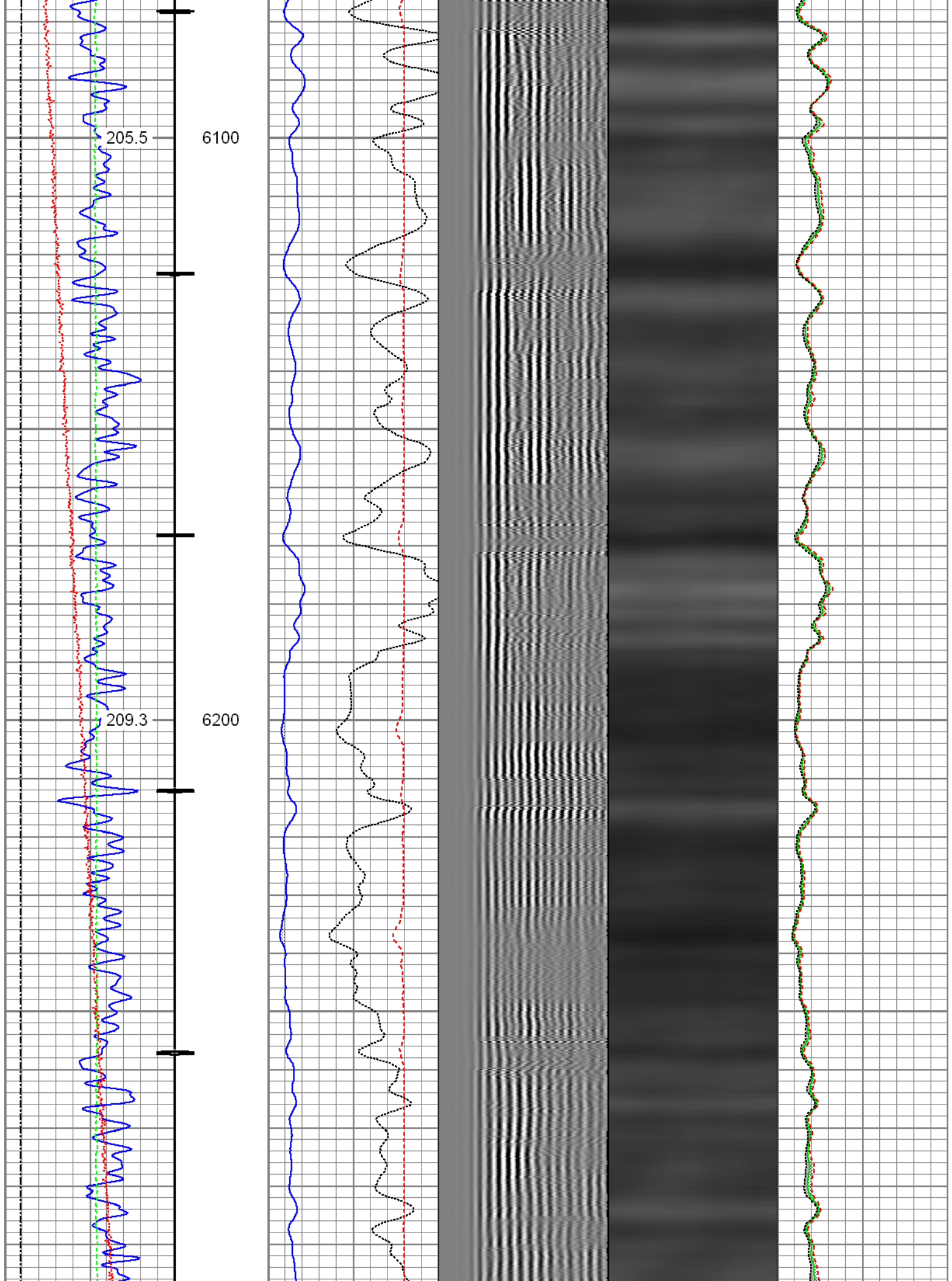


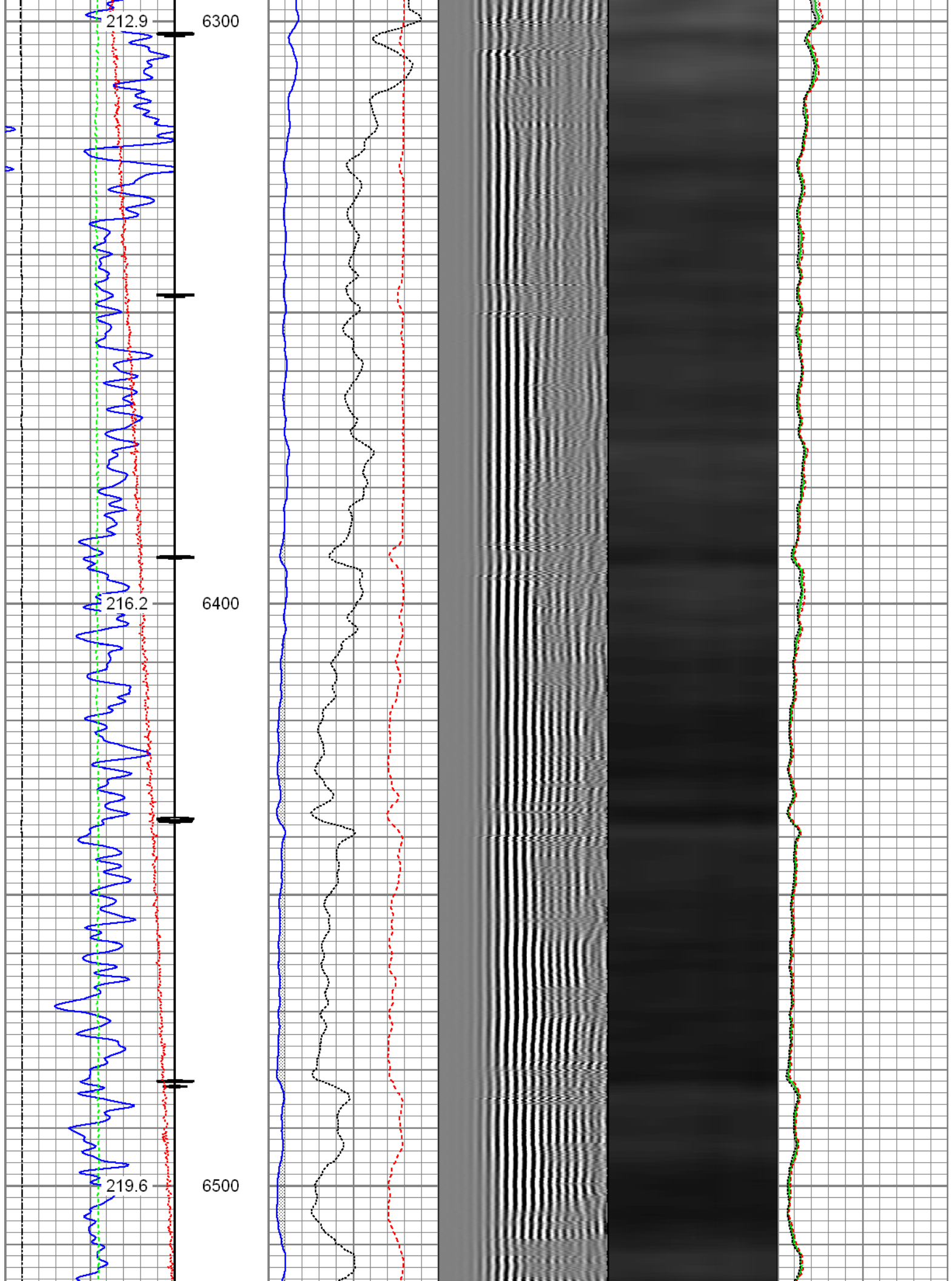


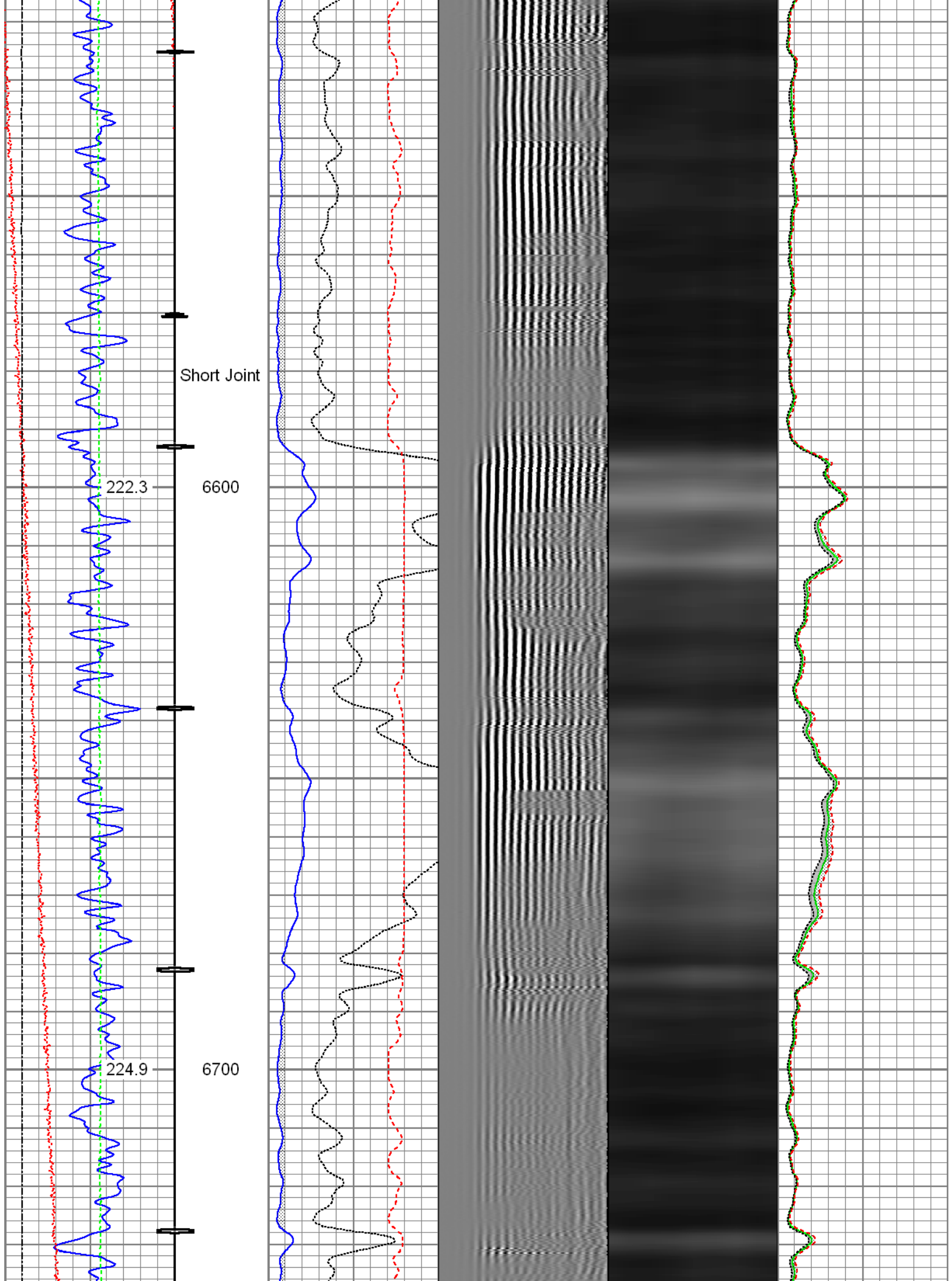




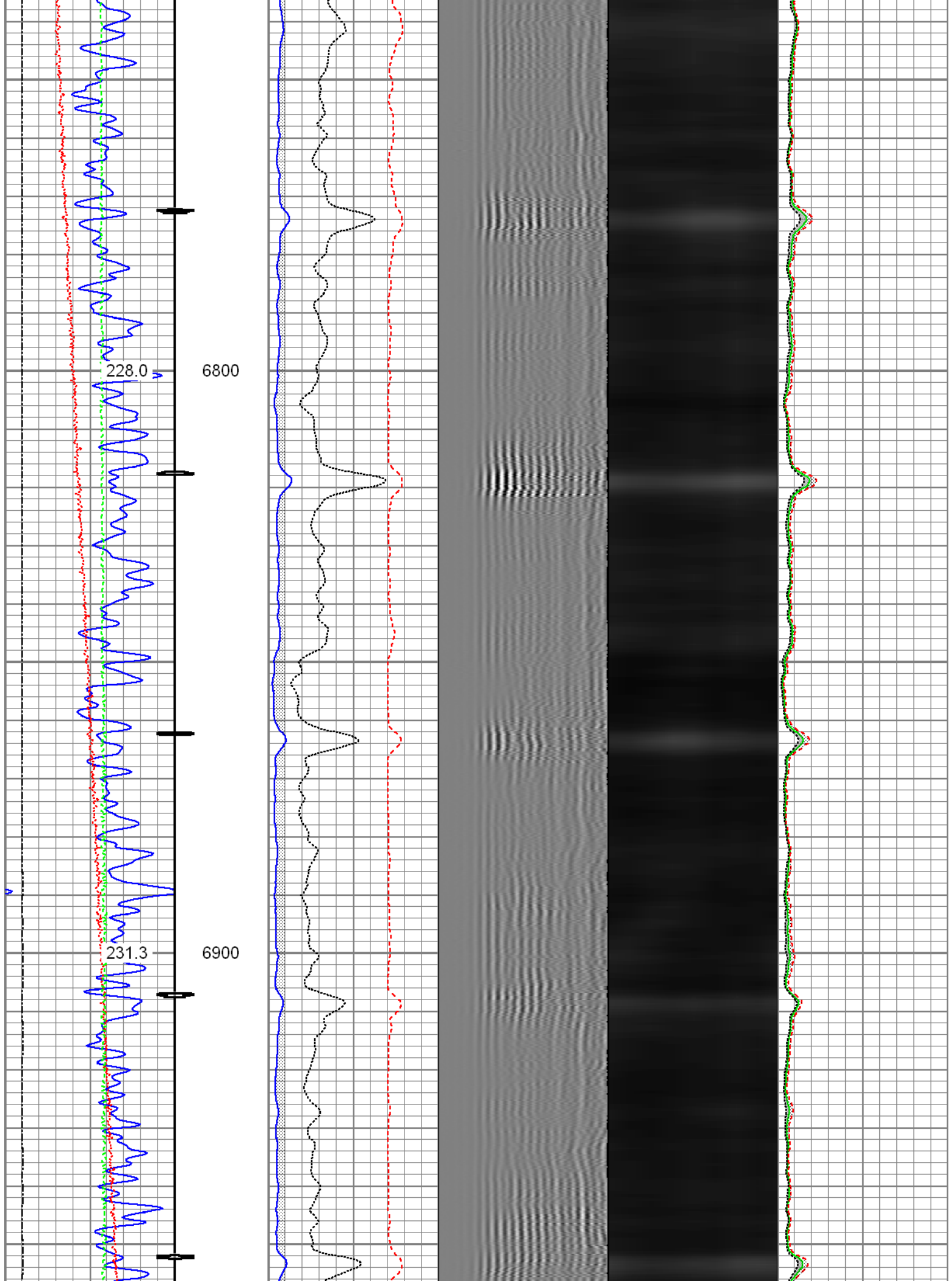


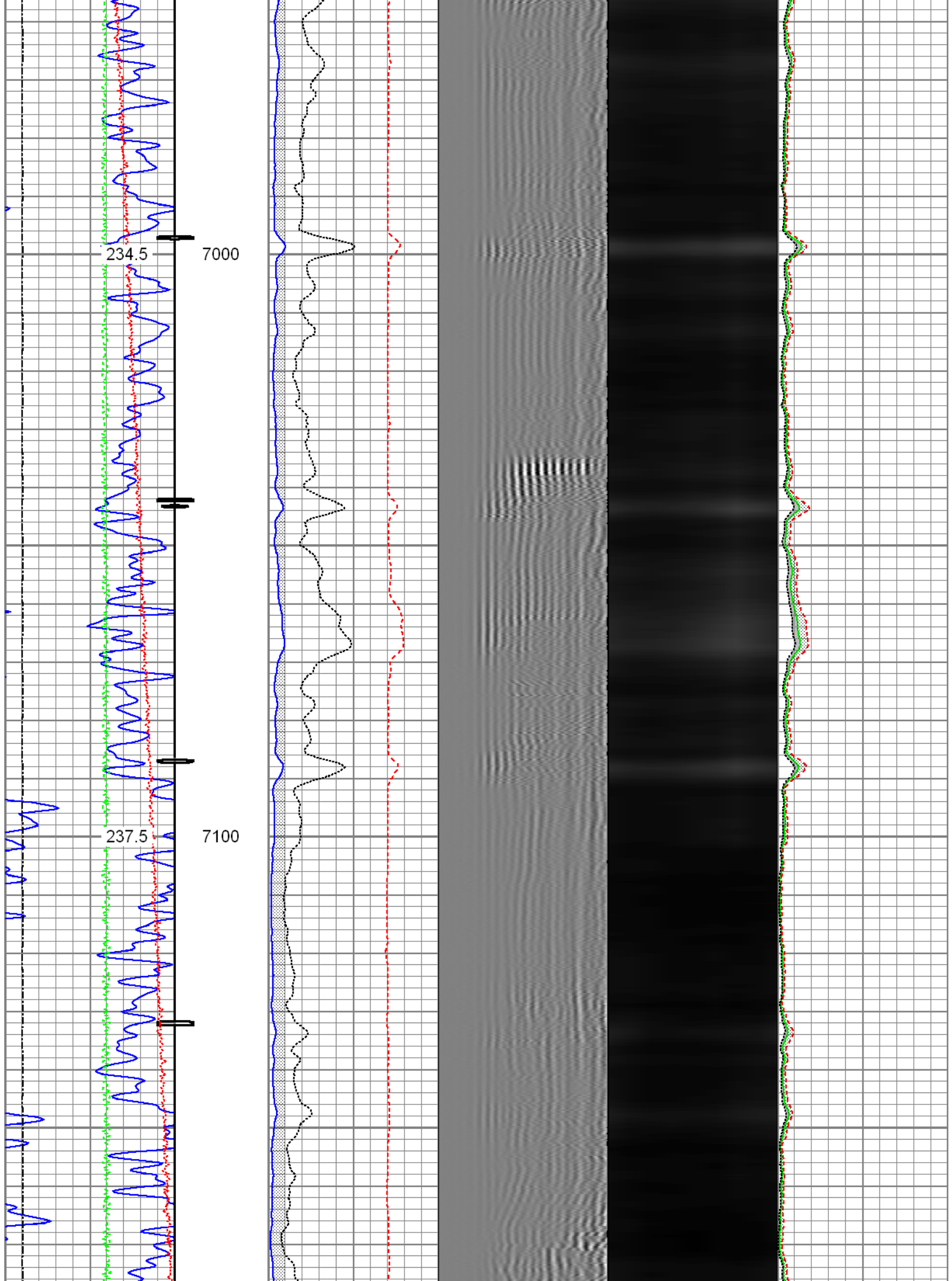


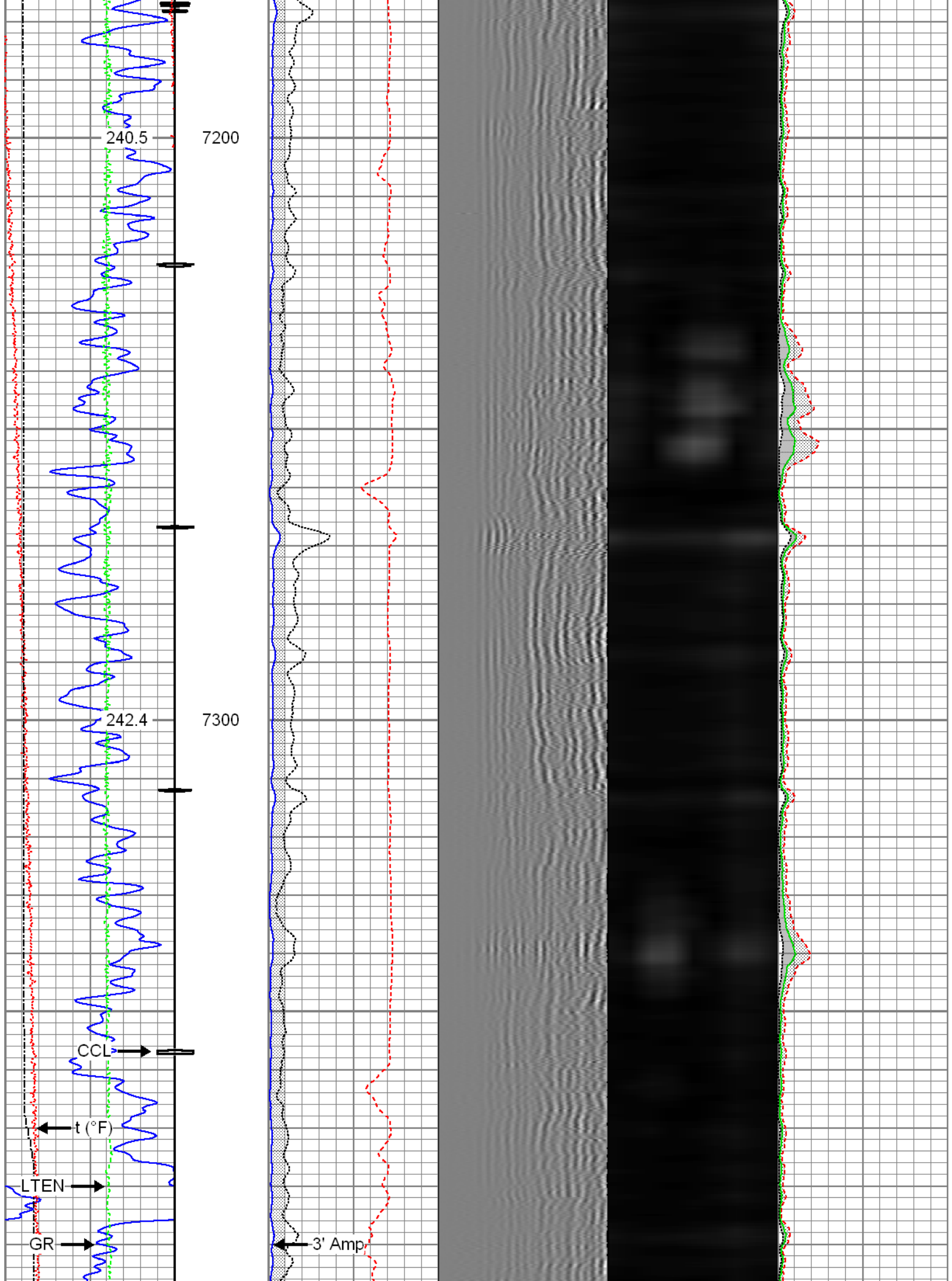






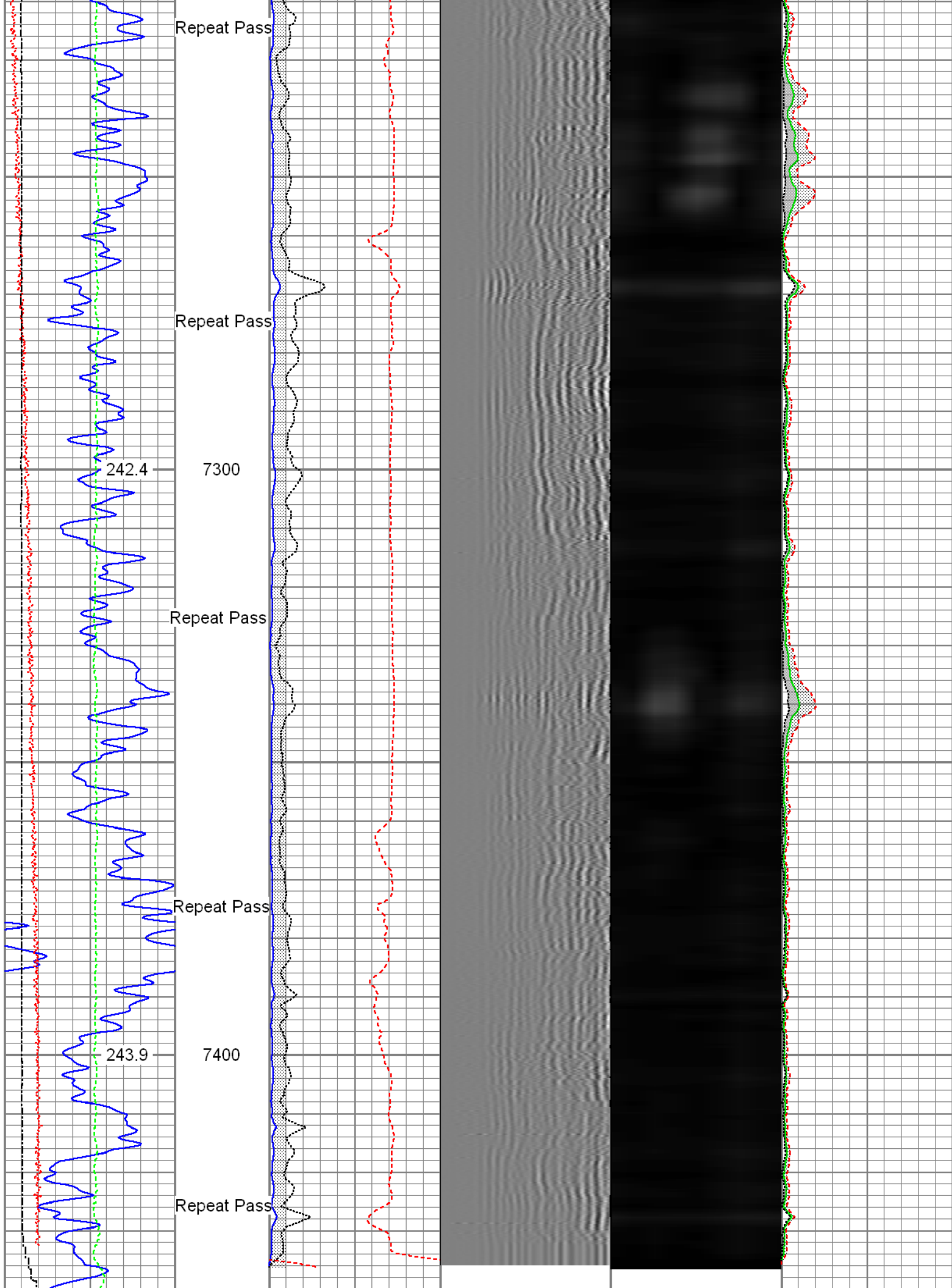


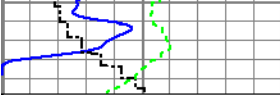
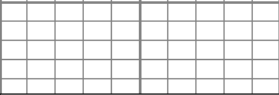


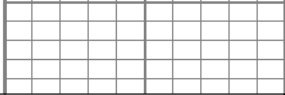


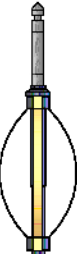

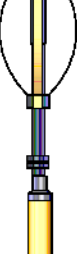









									
Gamma Ray 0 (GAPI) 120		3' Amplitude 0 (mV) 100		5' Variable Density Log 200 1200		Sector Map		Average Amplitude 0 100	
Temperature 0 (degF) 20		3' Amplitude x 5 0 (mV) 20						Mimimum Amplitude 0 100	
Line Speed -150 (ft/min) 150		3' Travel Time 650 (usec) 150						Maximum Amplitude 0 100	
Line Tension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

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					
WVF3FT	14.55		Probe_RADII-C-2-3/4" (FW1305-098) 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					
CCL DCCL	6.51		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
	6.51		Probe_CCL_GB_2.75"Digital (FW1212-026)	4.54	2.75	55.00

GR	3.77		Probe_CCL_GK-2.75 Digital (FW1212-026) 4.34 Probe 2-3/4" Digital CCL / Gamma Ray Combined			
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Dataset: PROCESSED_0512341905_Anadarko_Powers 14C-22HZ_12-08-15_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\0512341905_Anadarko_Powers 14C-22HZ_12-08-15_RBL\PROCESSED_05123419
Dataset Pathname:	main.1
Dataset Creation:	Wed Dec 09 14:12:44 2015 by Calc SCH 120430

Gamma Ray Calibration Report		
Serial Number:	FW1212-026	
Tool Model:	2.75"Digital	
Performed:	Wed Dec 02 08:59:40 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:	FW1305-098	
Tool Model:	2-3/4"	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	18.019	ft

Master Calibration, performed Wed Dec 09 14:12:42 2015:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.514	0.800	71.921	140.392	-0.200
CAL	0.722	0.783				
5'	0.011	0.429	0.800	71.921	170.418	-1.149
SUM						
S1	0.005	0.510	0.000	100.000	198.187	-1.086
S2	0.008	0.537	0.000	100.000	189.023	-1.441
S3	0.008	0.552	0.000	100.000	183.643	-1.391
S4	0.008	0.544	0.000	100.000	186.737	-1.512
S5	0.008	0.525	0.000	100.000	193.403	-1.604
S6	0.008	0.508	0.000	100.000	200.004	-1.689
S7	0.008	0.492	0.000	100.000	206.337	-1.578
S8	0.008	0.490	0.000	100.000	207.317	-1.560



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	0.722	0.783	1.000	0.000

Air Zero Calibration, performed Tue Dec 08 10:07:31 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



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Powers 14C-22HZ
Field	Wattenberg
County	Weld
State	Colorado