



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.		
Well	Sarchet 37N-20HZ		
Field	Wattenberg		
County	Weld		
State	Colorado		
Location:		API # : 05-123-41922	Other Services
SEC 20 TWP 2N RGE 65W		JB/GR	
Permanent Datum	Ground Level	Elevation	4915'
Log Measured From	Kelly Bushing	16 FT	
Drilling Measured From	Kelly Bushing		
		Elevation	K.B. 4931' D.F. 4930' G.L. 4915'

Date	10-NOV-2015		
Run Number	One		
Depth Driller	12845 FT		
Depth Logger	7514 FT		
Bottom Logged Interval	7510 FT		
Top Log Interval	Surface		
Open Hole Size	7.875"		
Type Fluid	Water		
Density / Viscosity	8.34 lbm/gal		
Max. Recorded Temp.	240°F		
Estimated Cement Top	Surface		
Time Well Ready	ROA		
Time Logger on Bottom	10:15 A.M.		
Equipment Number	HD-0325		
Location	Fort Lupton, CO		
Recorded By	J. Morrison		
Witnessed By	Darrel Bothwell		

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	J55	Surface	1863 FT		
Intermediate #1	5 1/2	17	HCP-110	Surface	12819 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 Casing Tally reported Marker Joint at 6555 FT
Adjusted log -14 FT to correlate with Marker Joint
Log ran from as deep a possible in heel to surface
Log ran with 2800 PSI Surface Induced Pressure

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



Main Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File: c:\warrior\data\0512341922_anadarko_sarchet 37n-20hz_11-10-15_rb\0512341922_anadarko_sarch

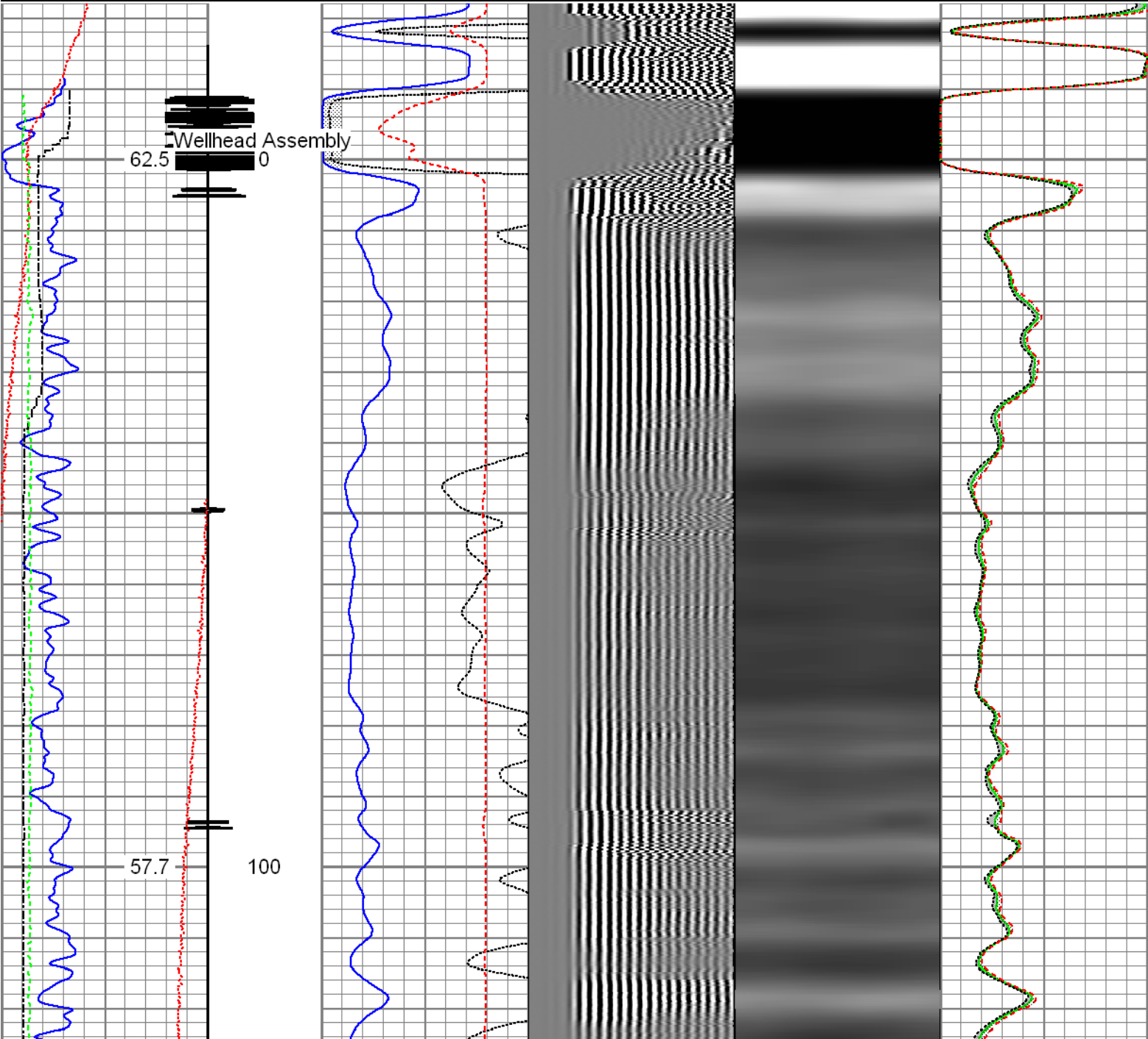
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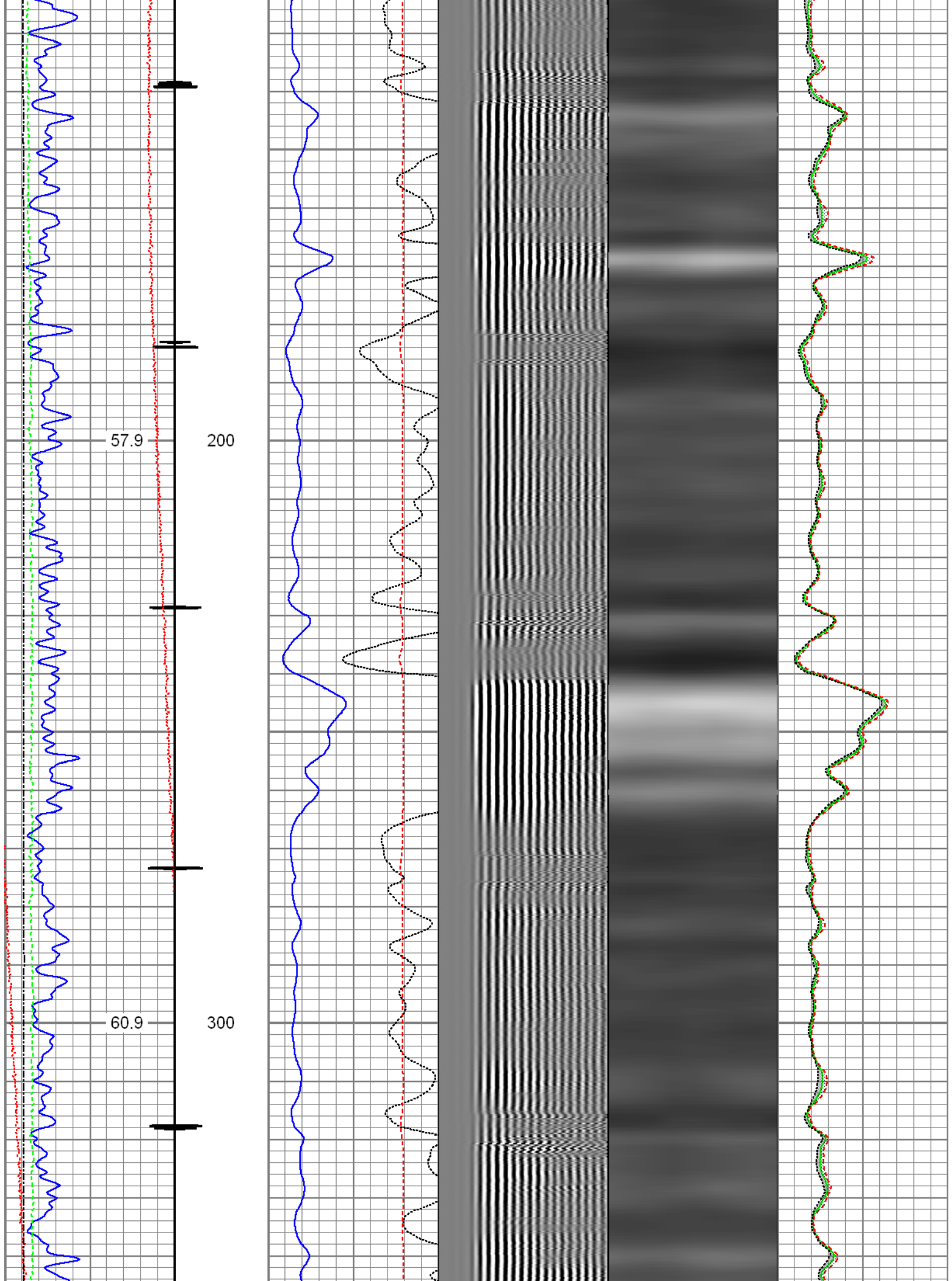
Presentation Format: radii

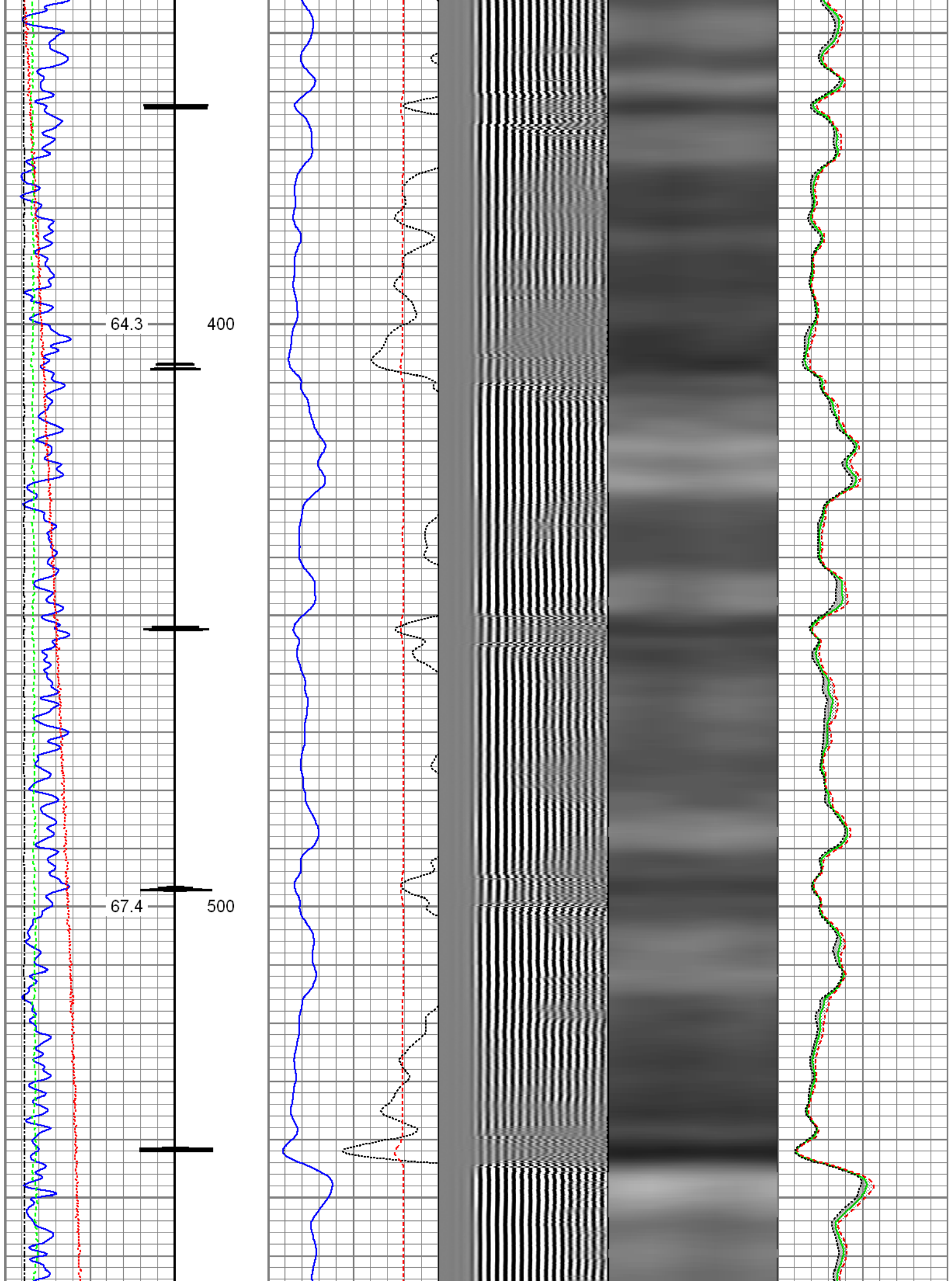
Dataset Creation: Wed Nov 11 11:42:38 2015 by Calc SCH 120430

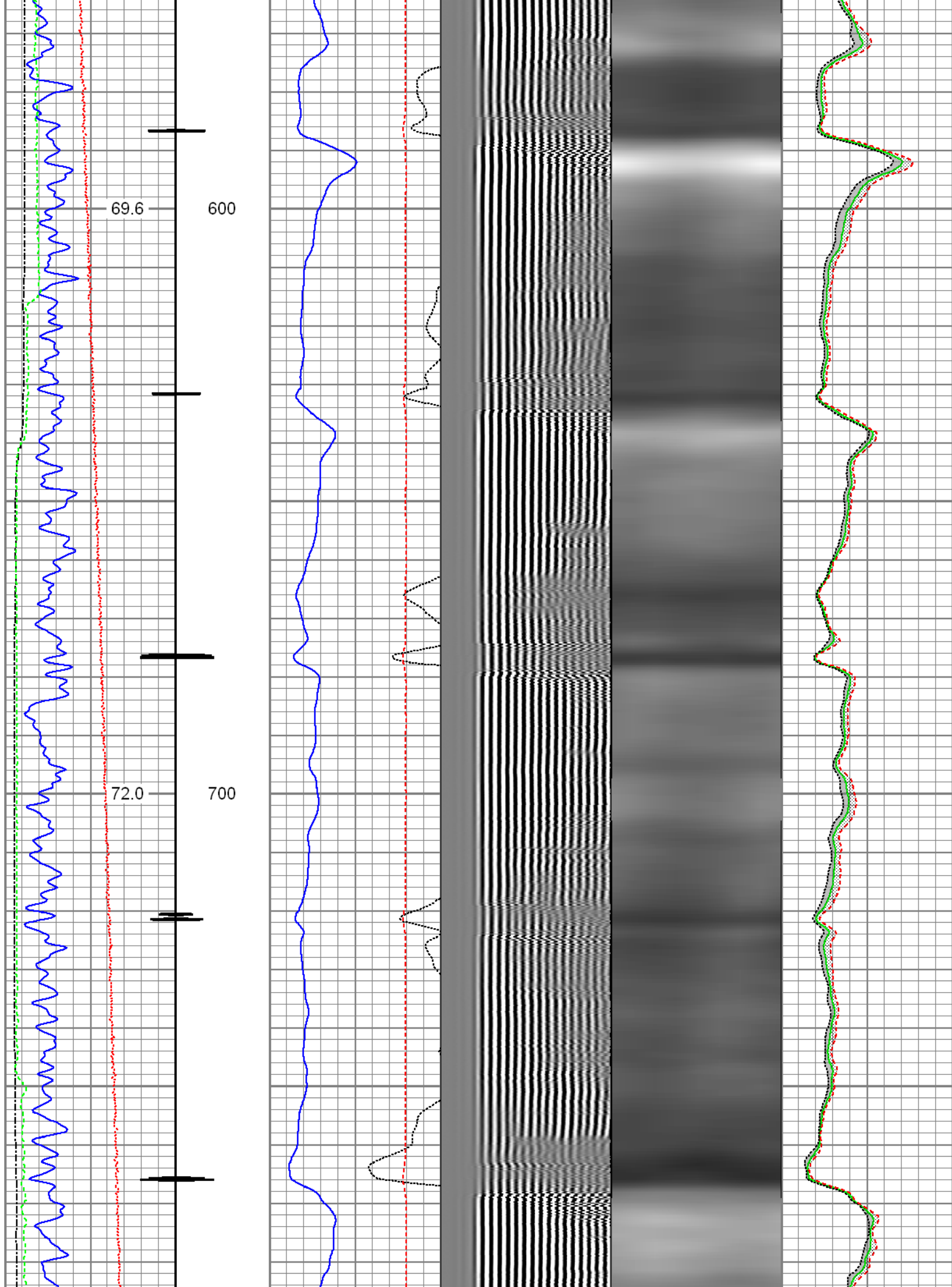
Charted by: Depth in Feet scaled 1:240

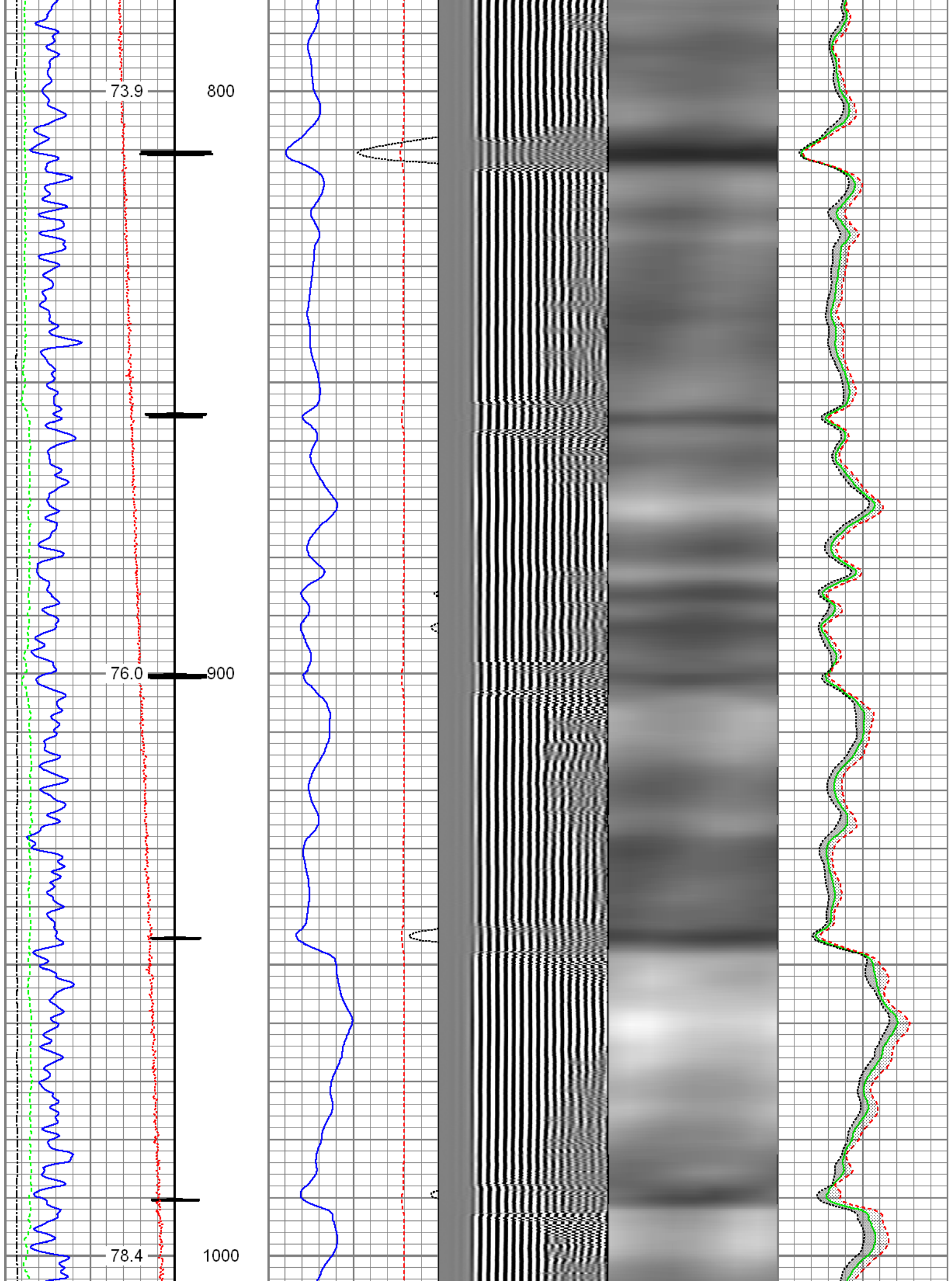
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 150	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

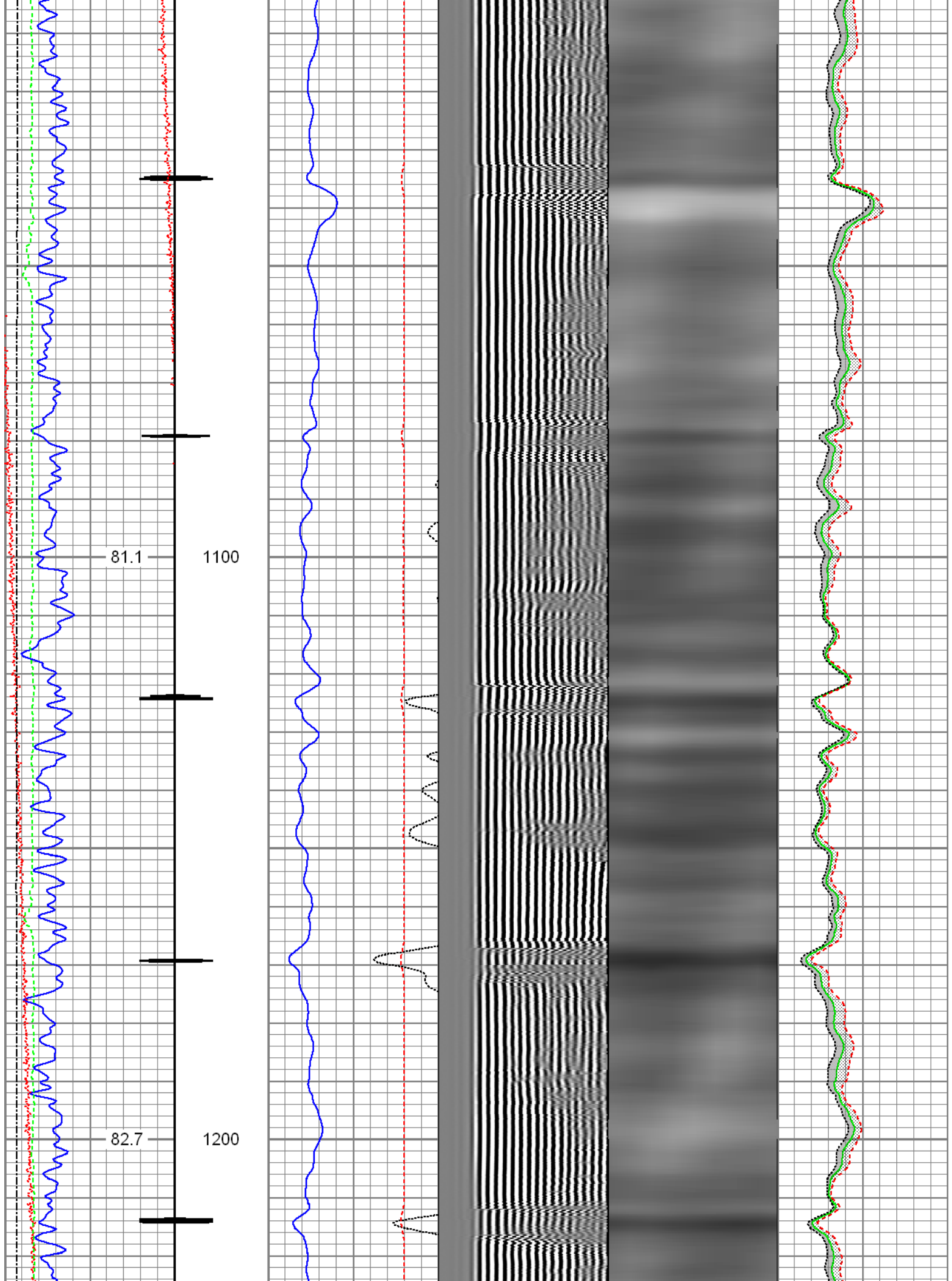


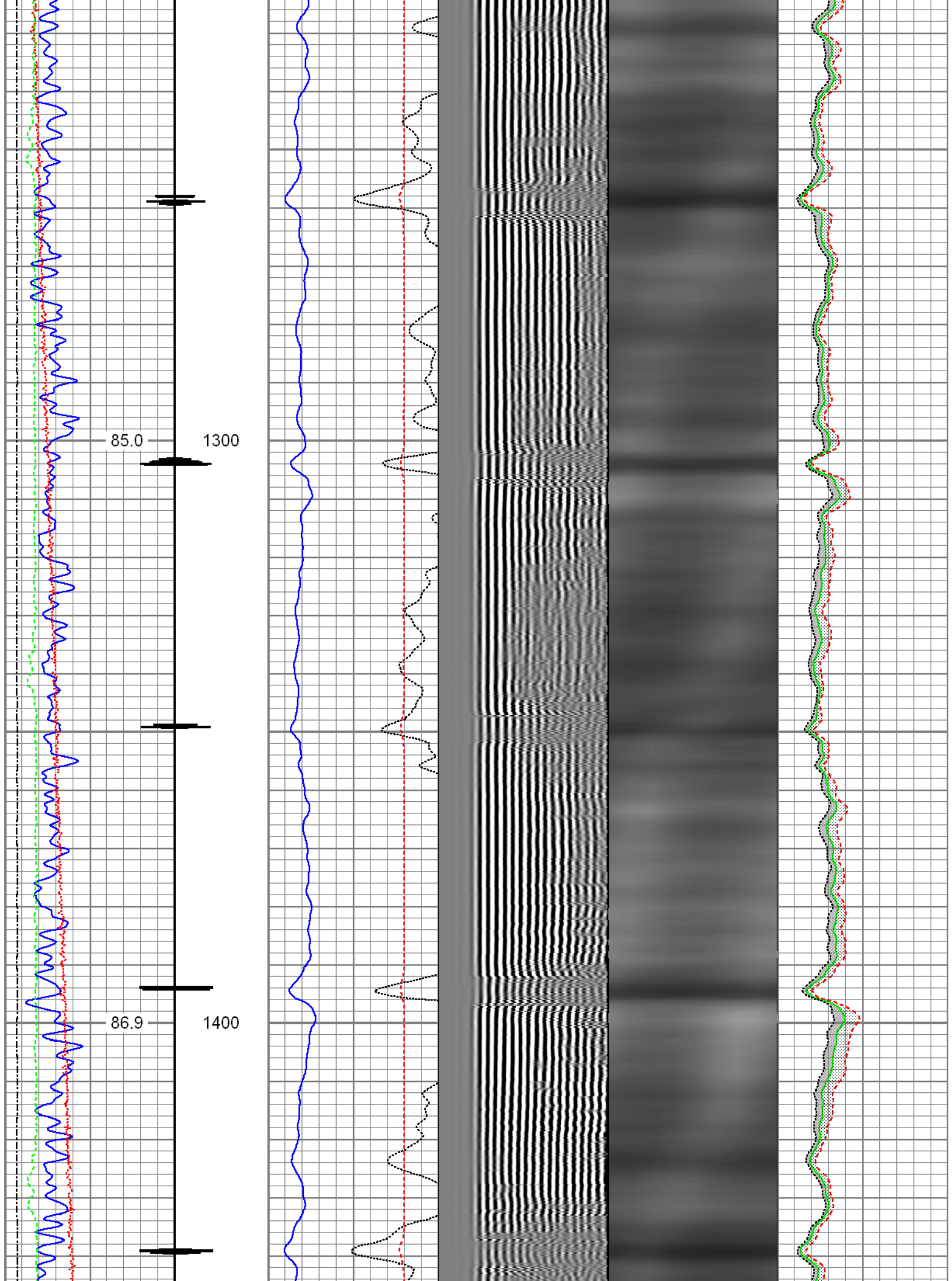


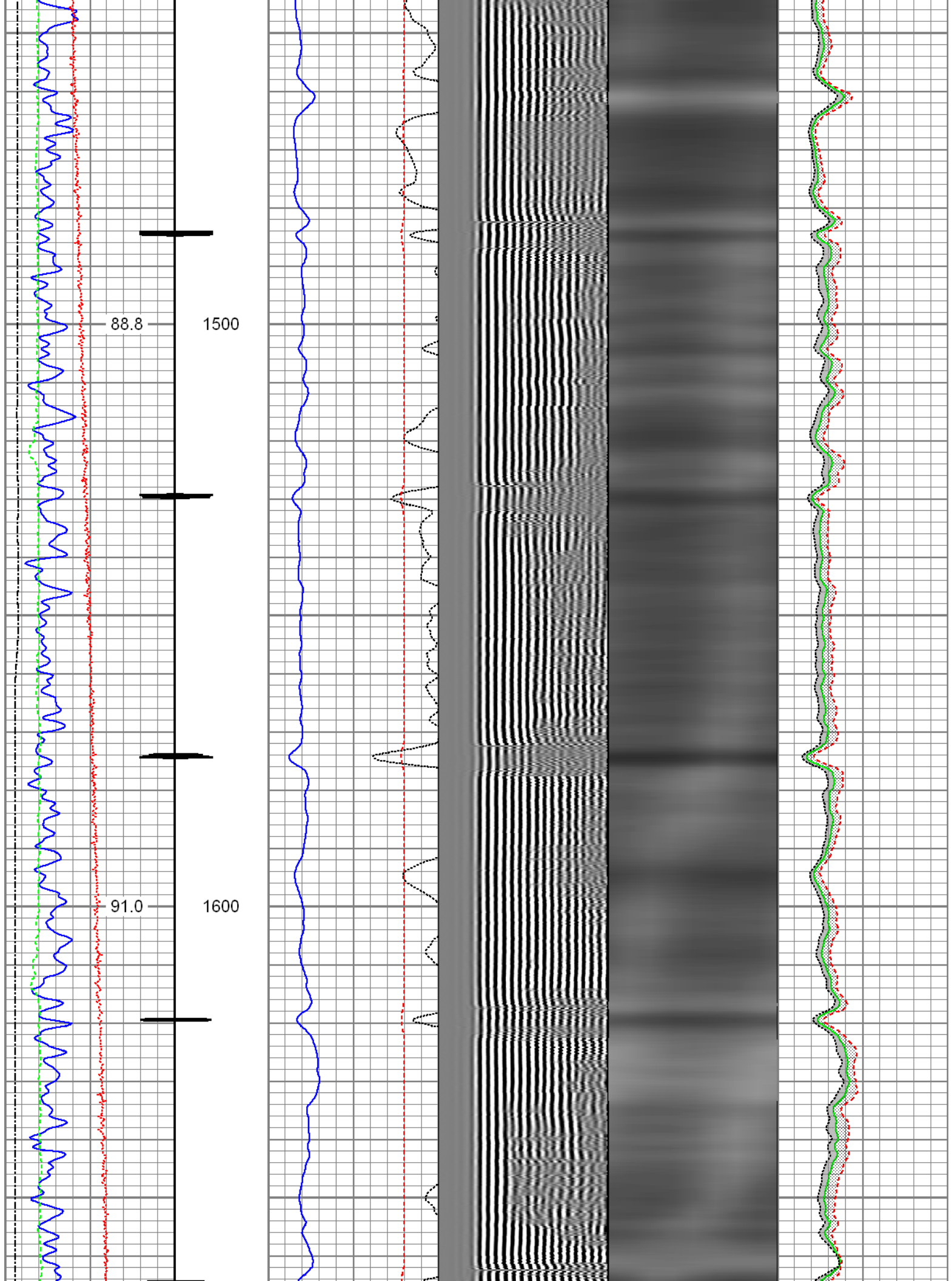


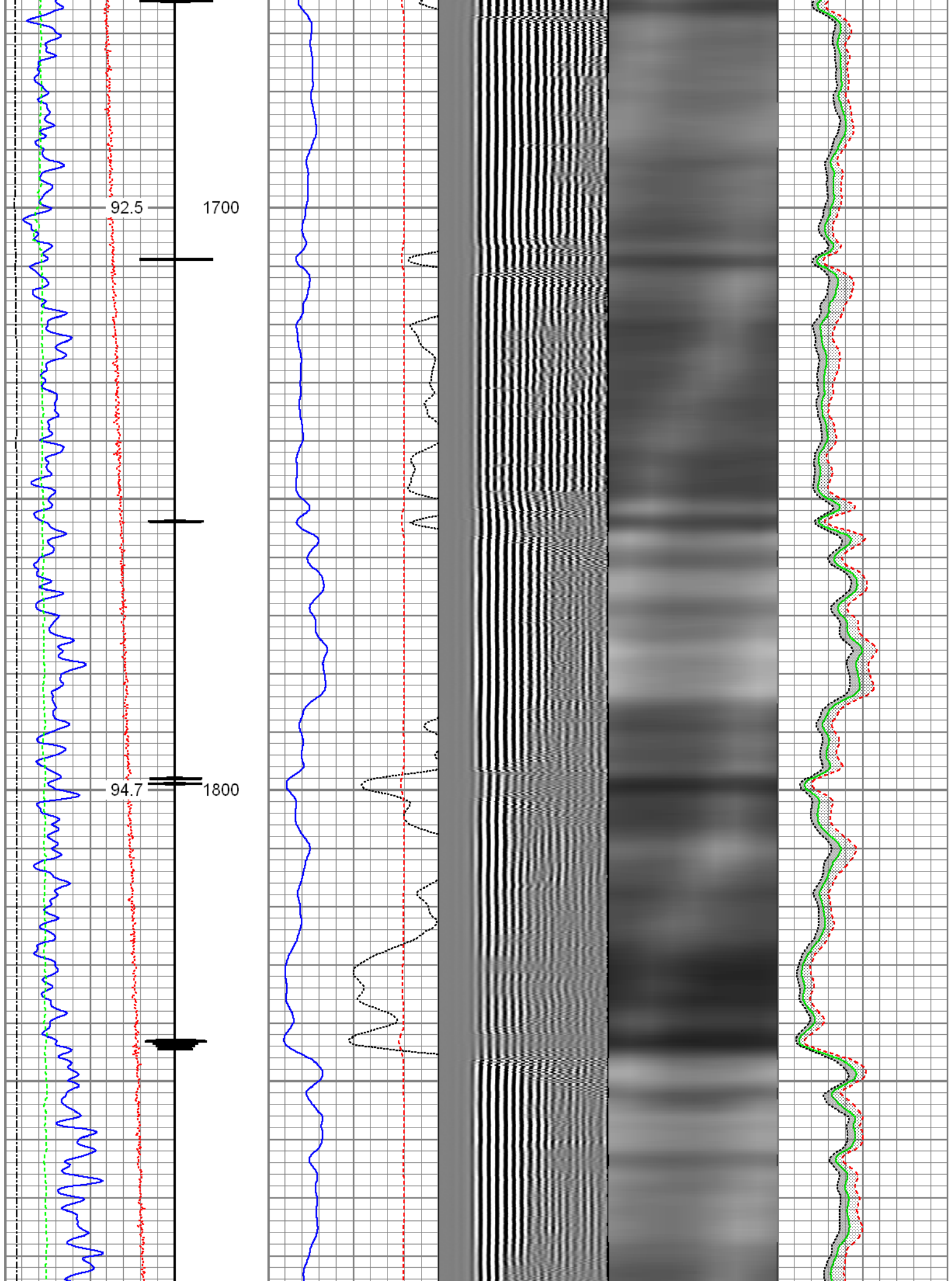


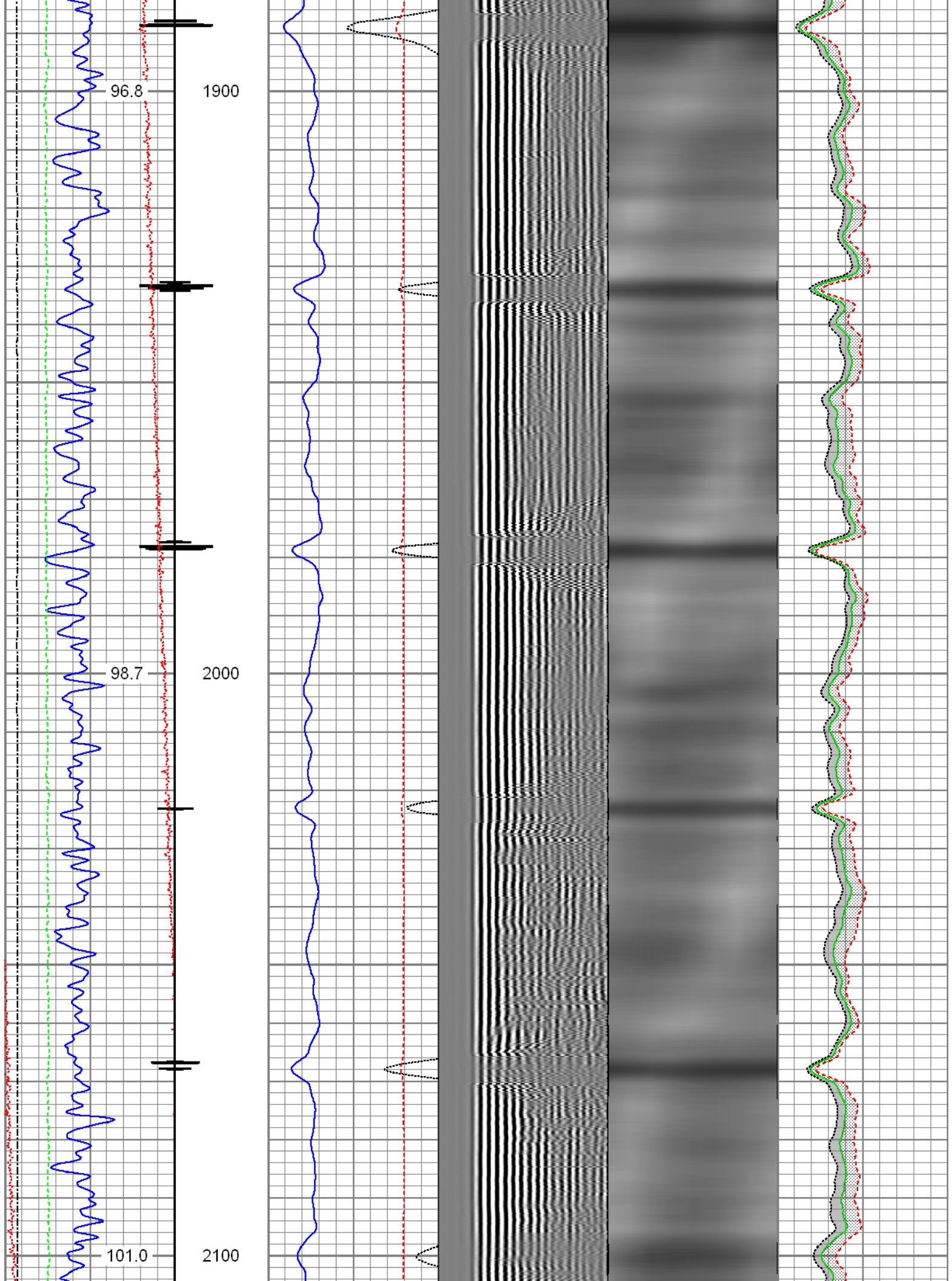


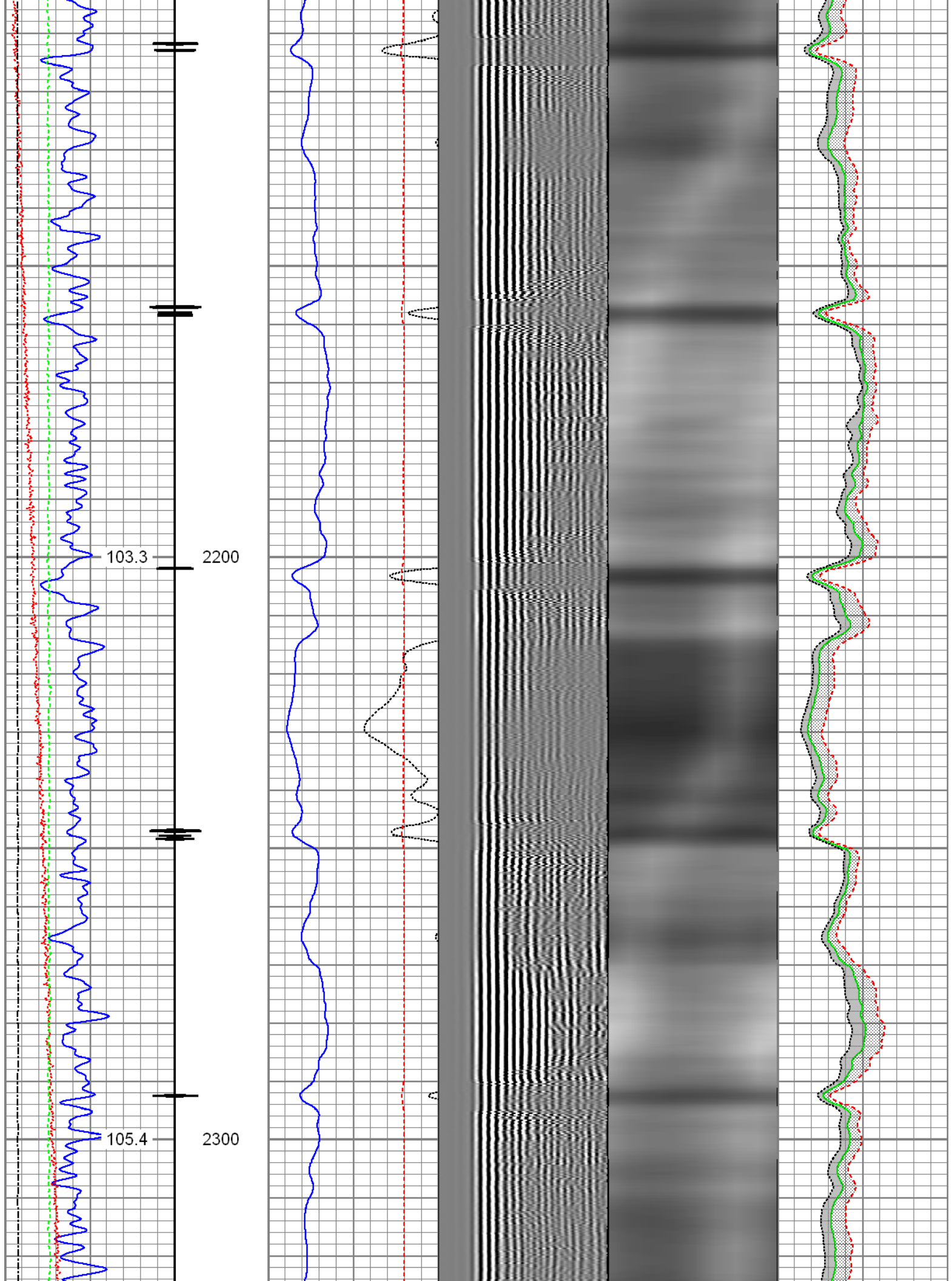


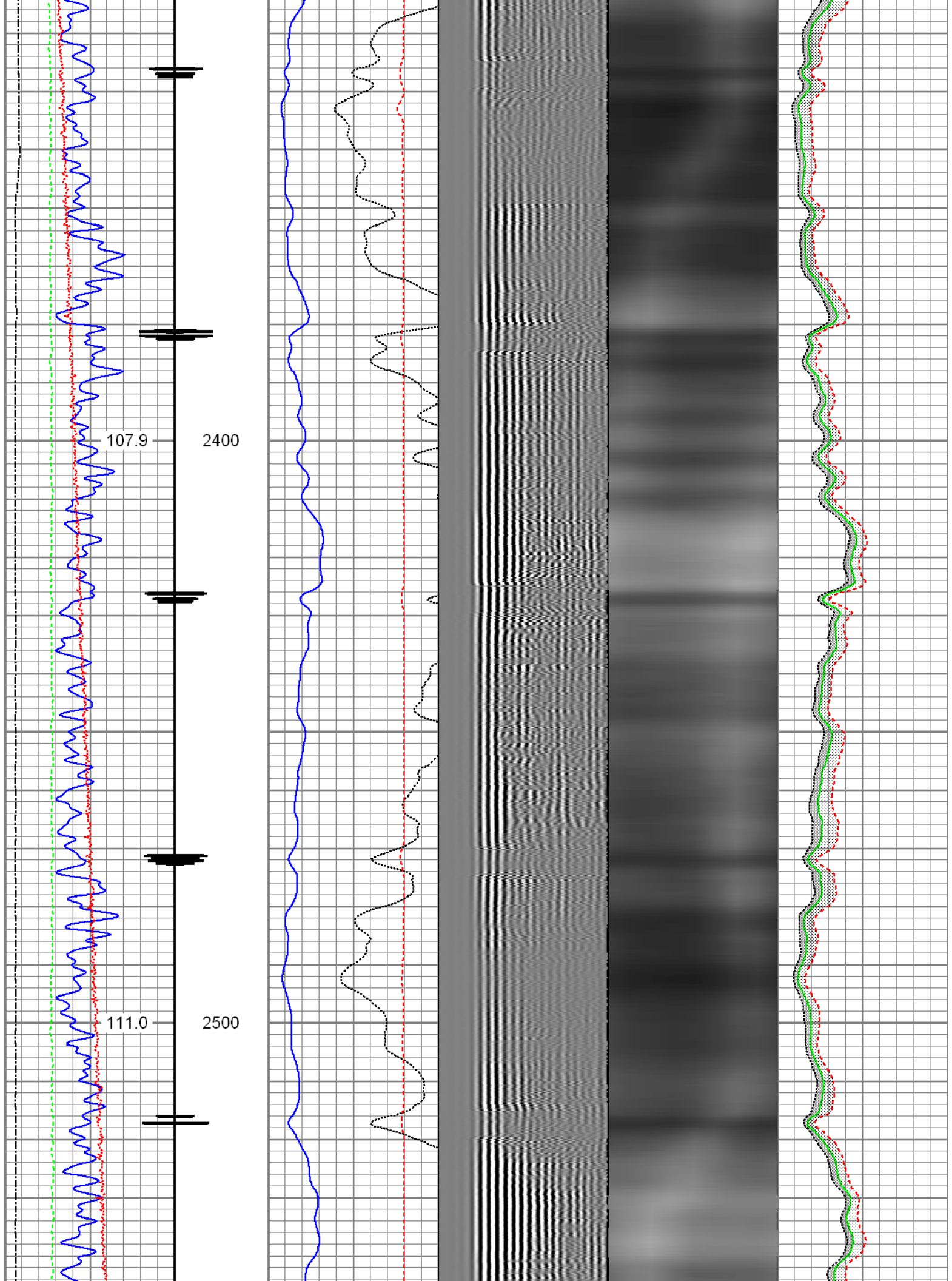


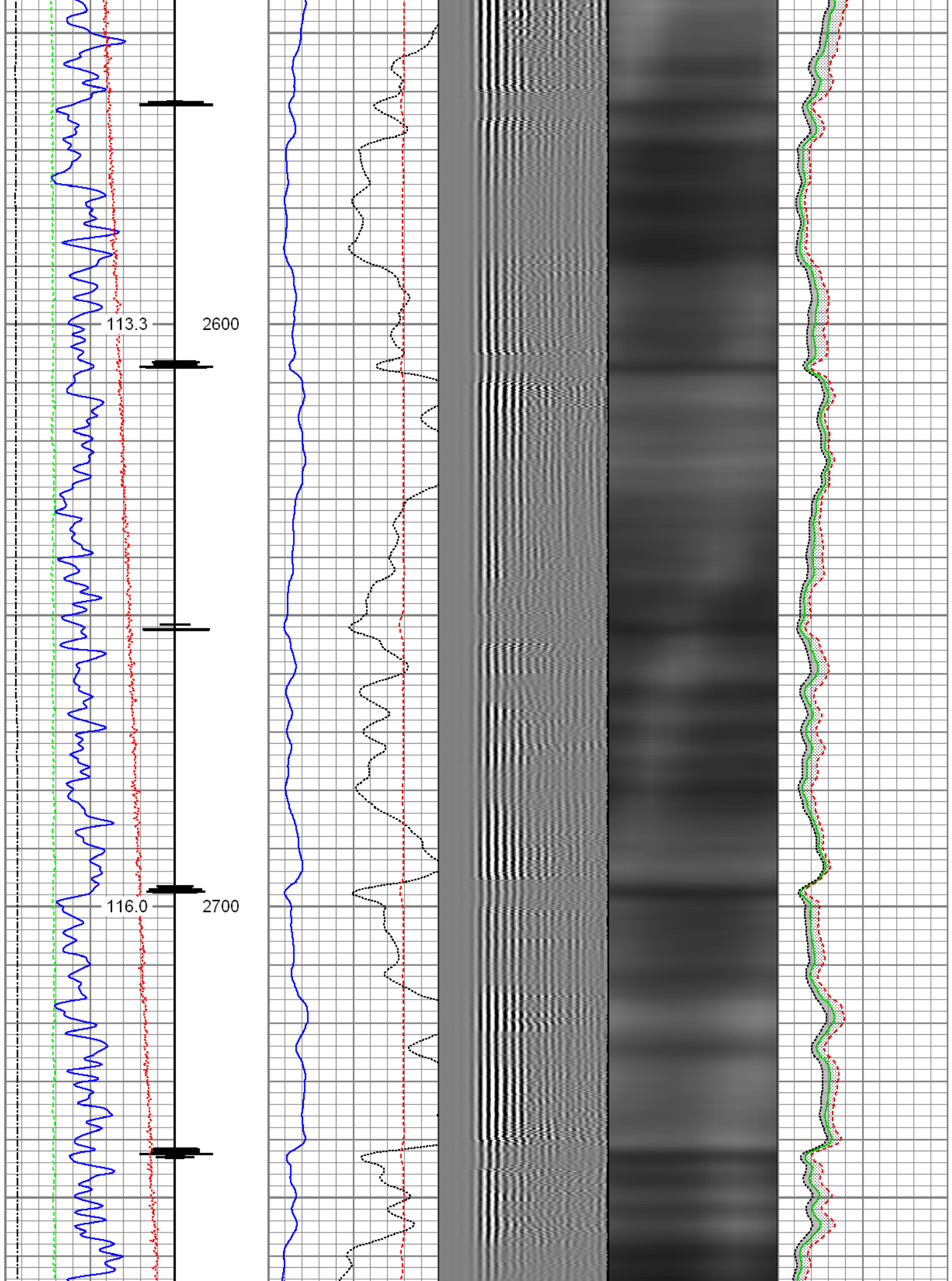


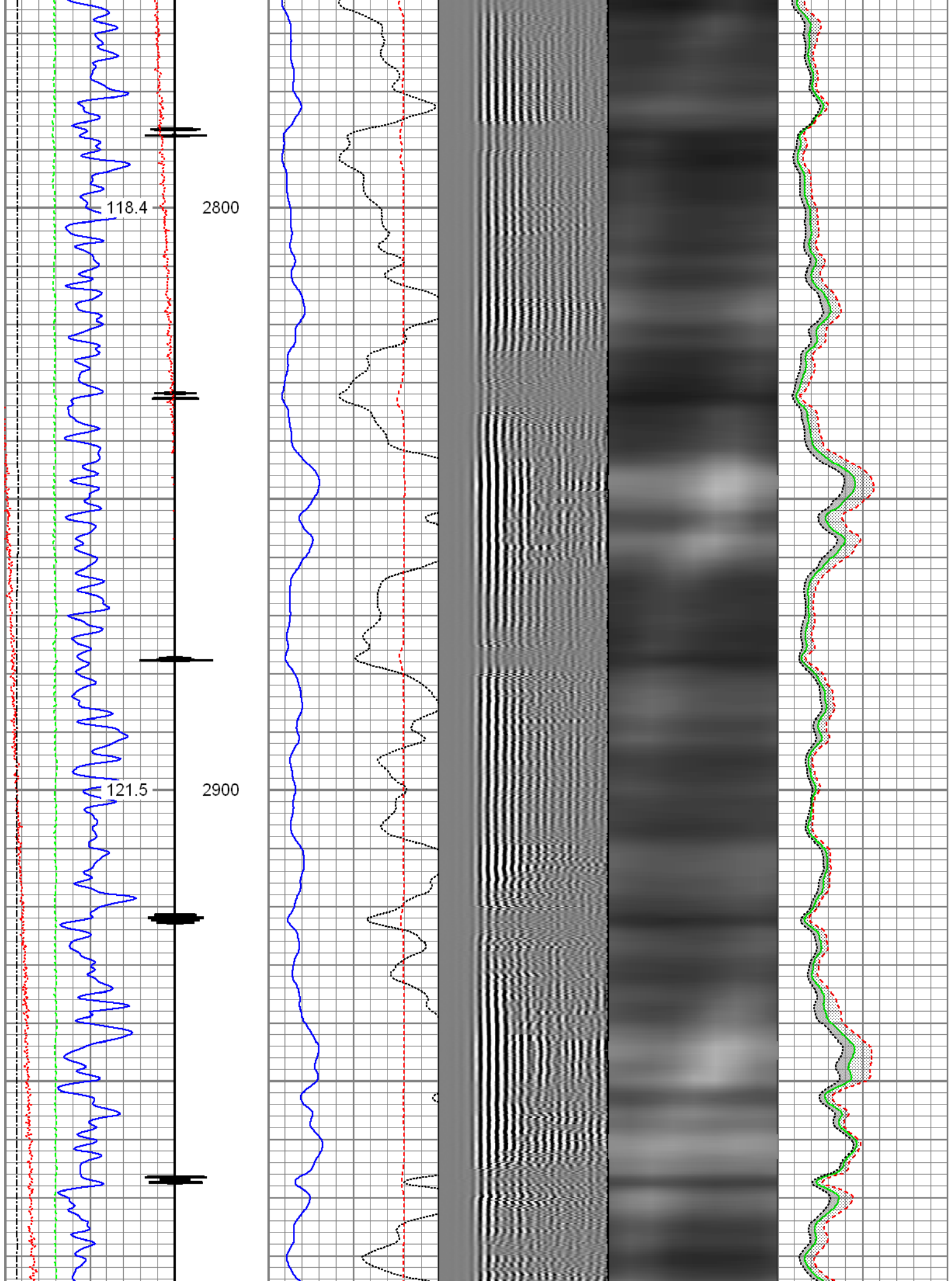


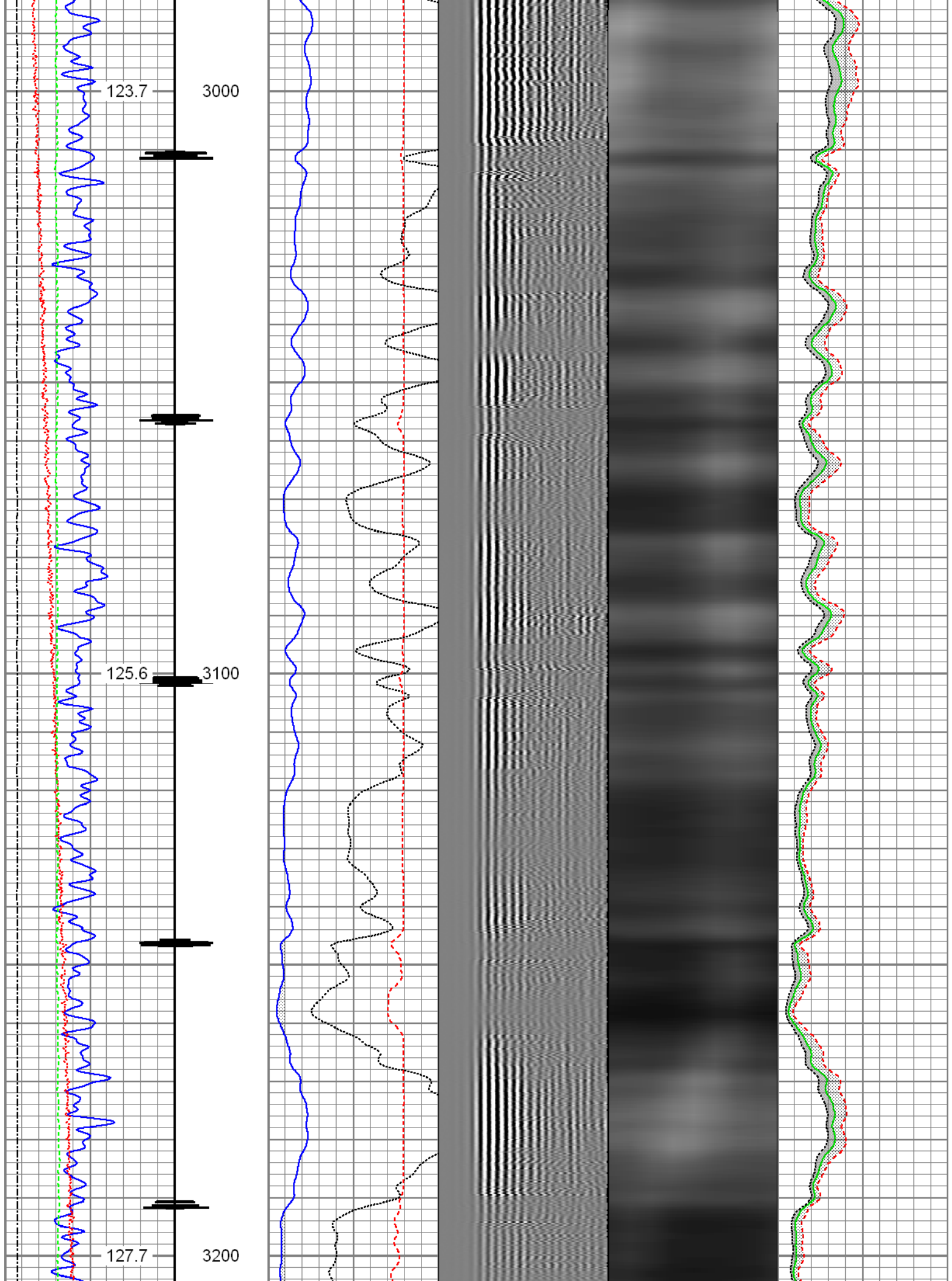


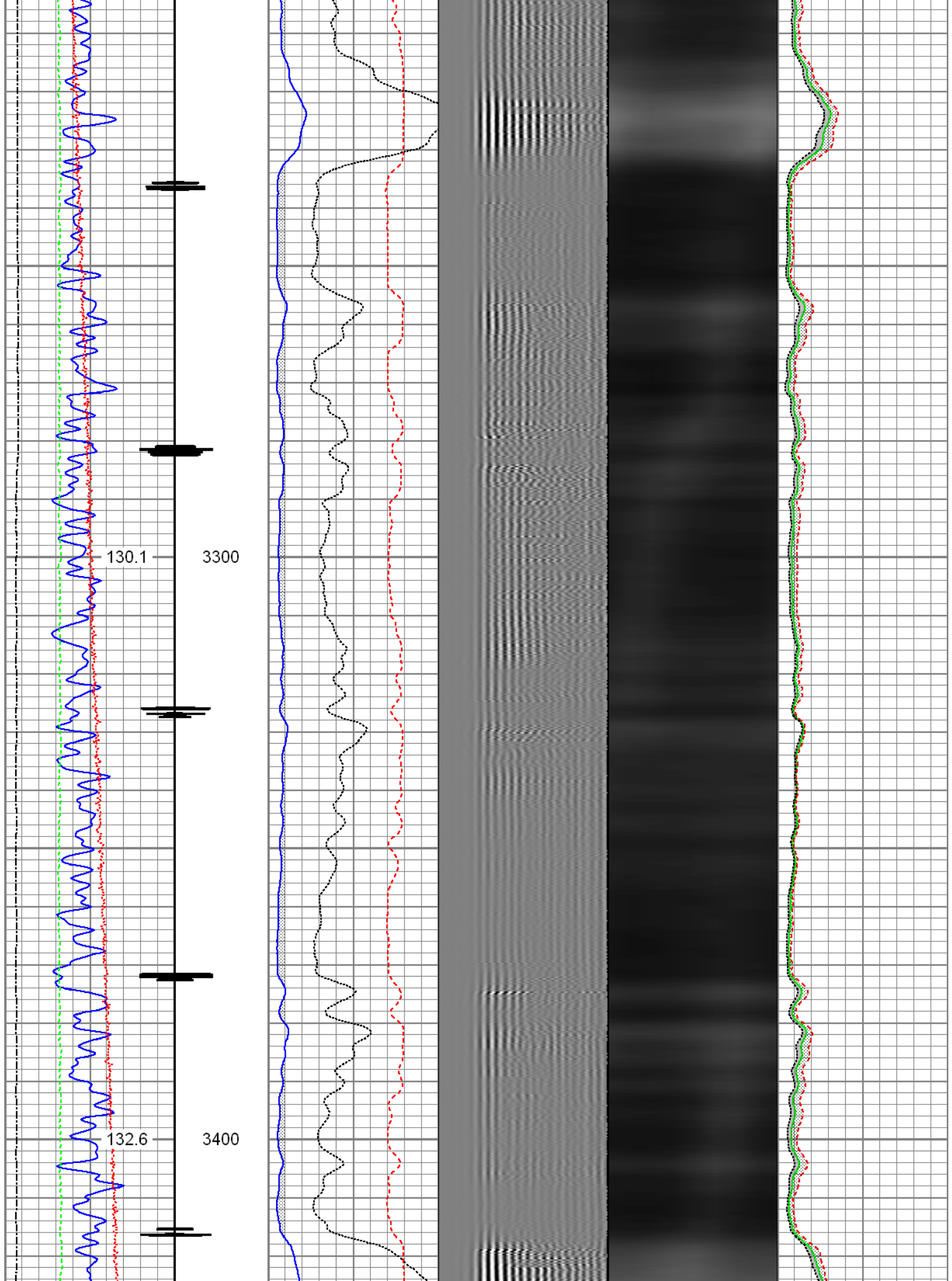


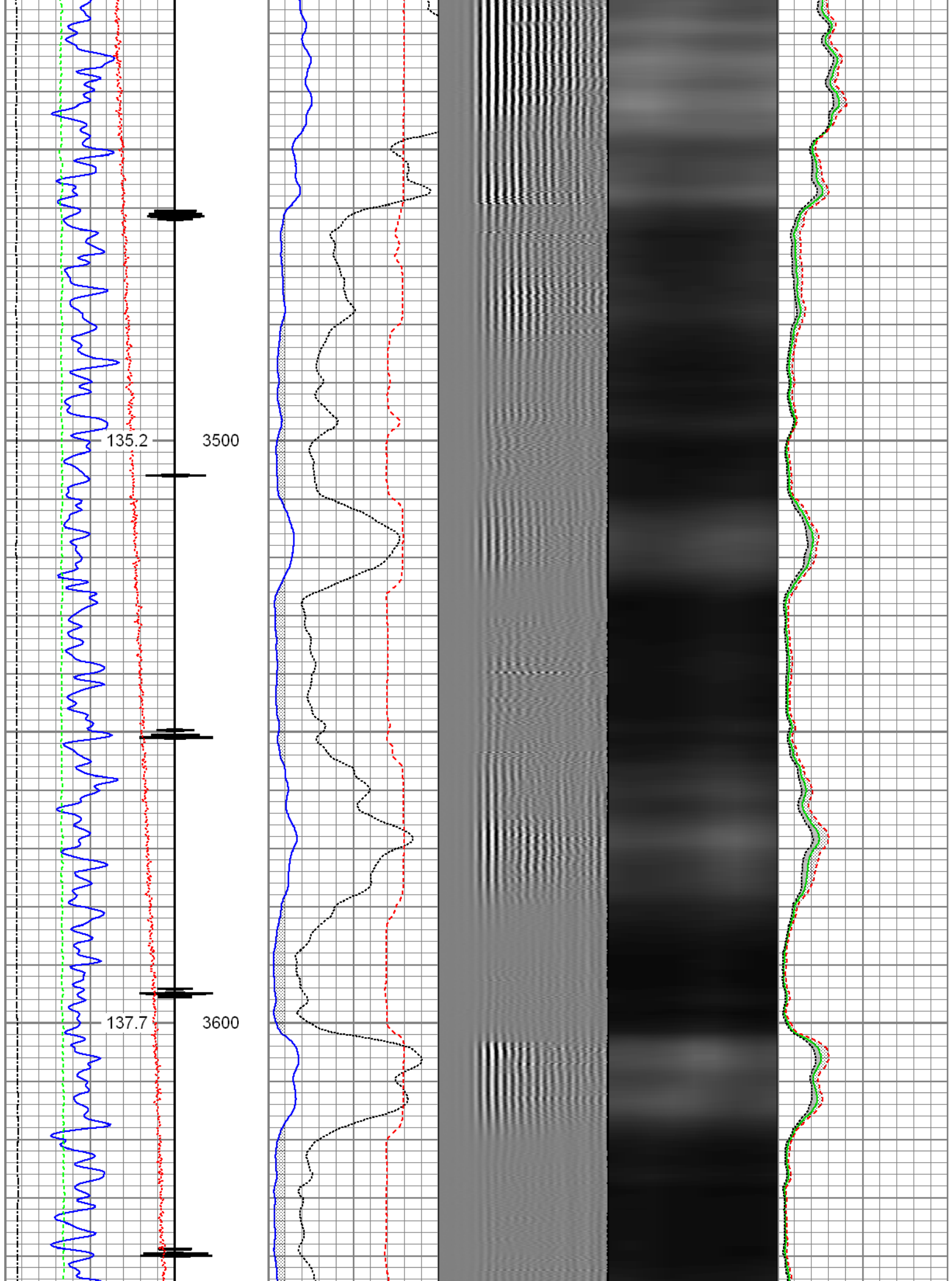


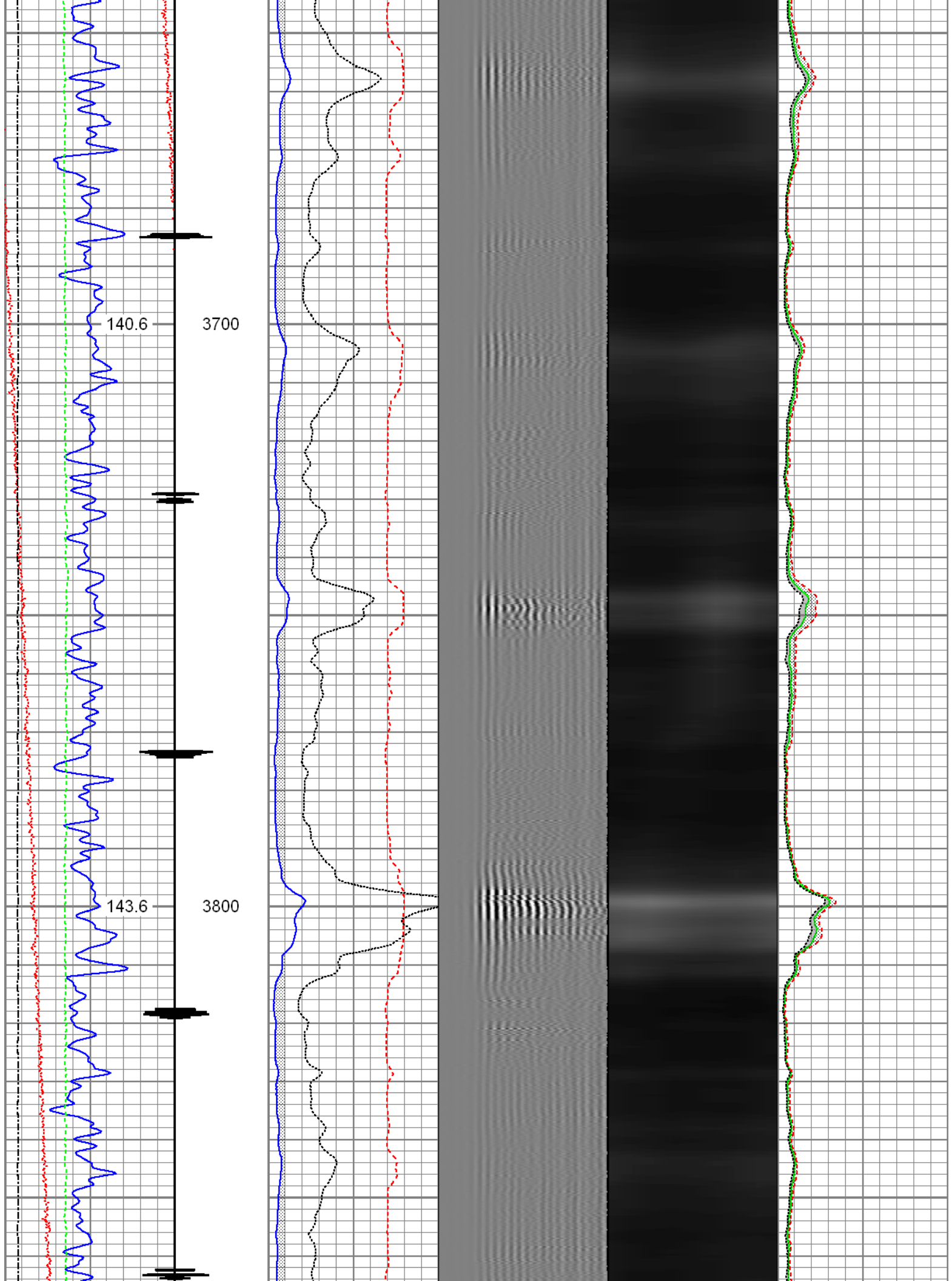


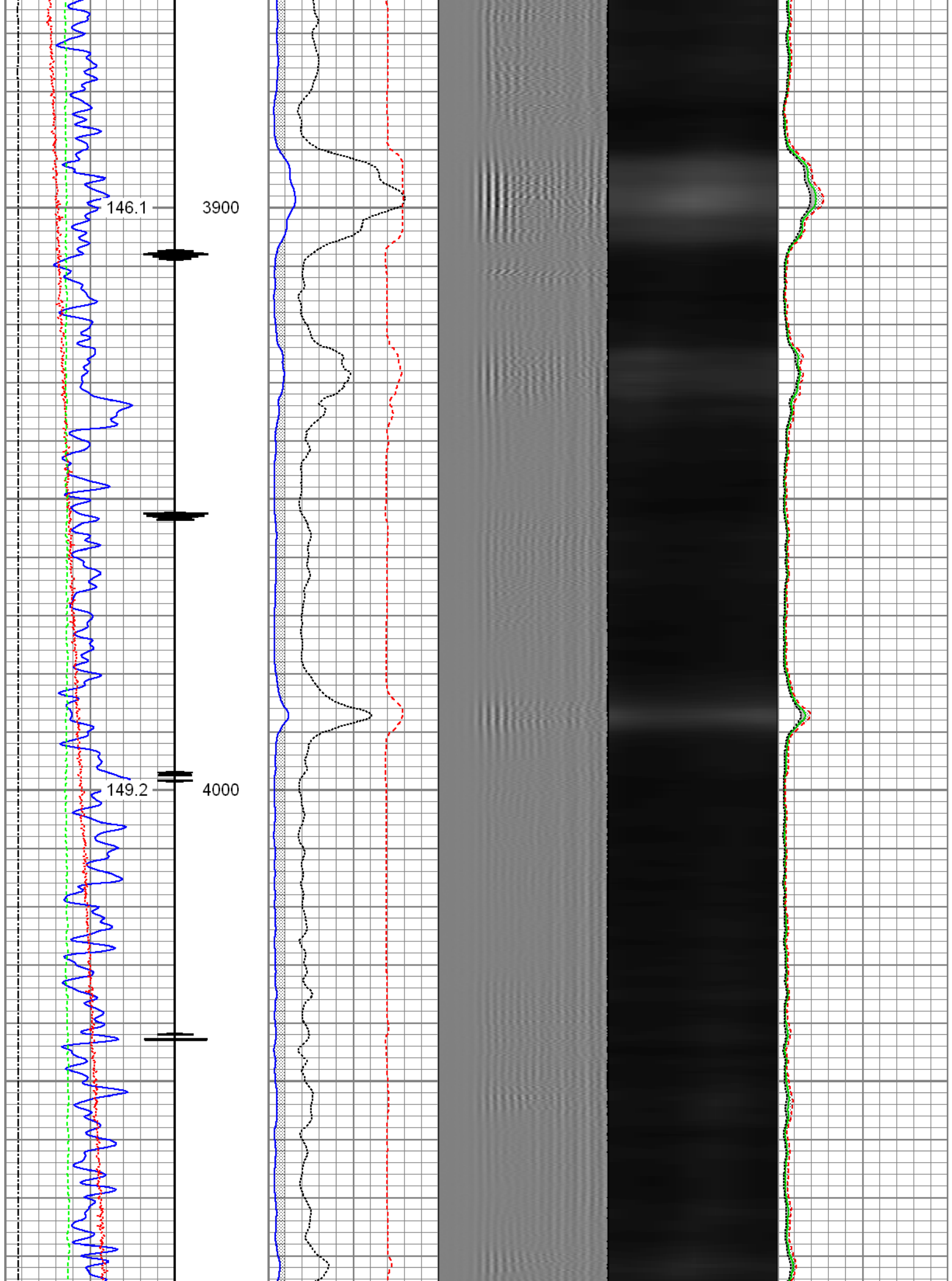


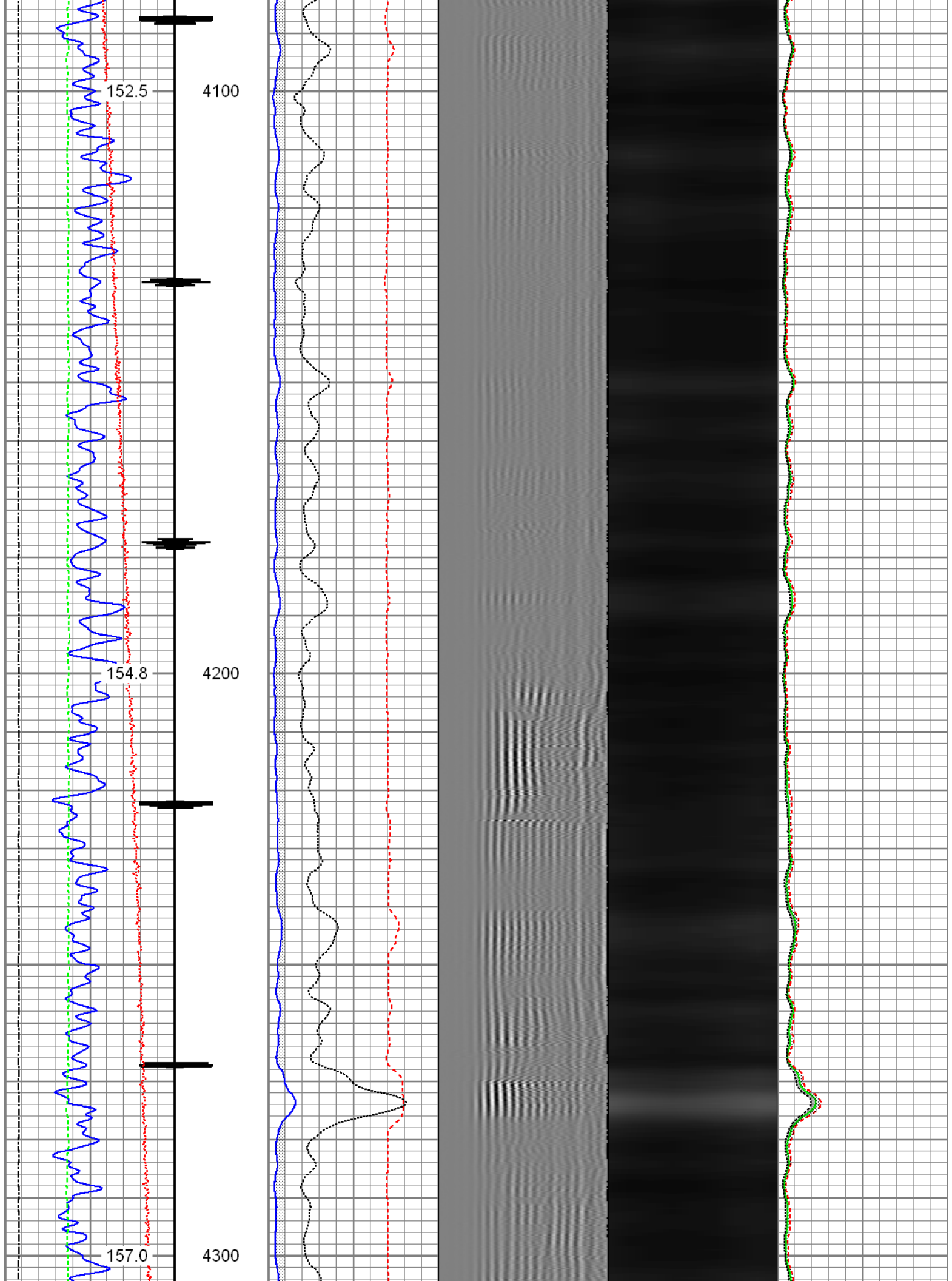


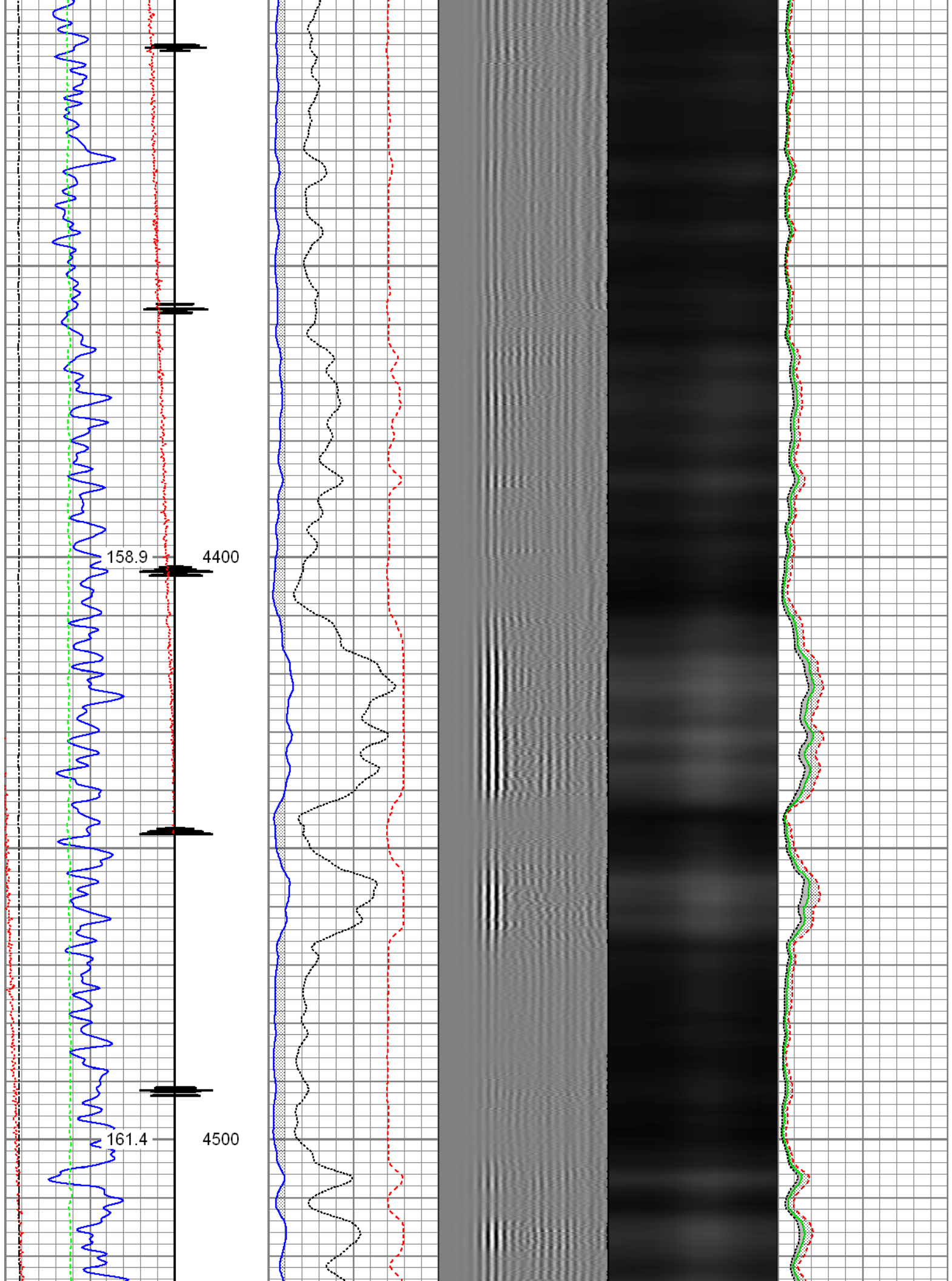


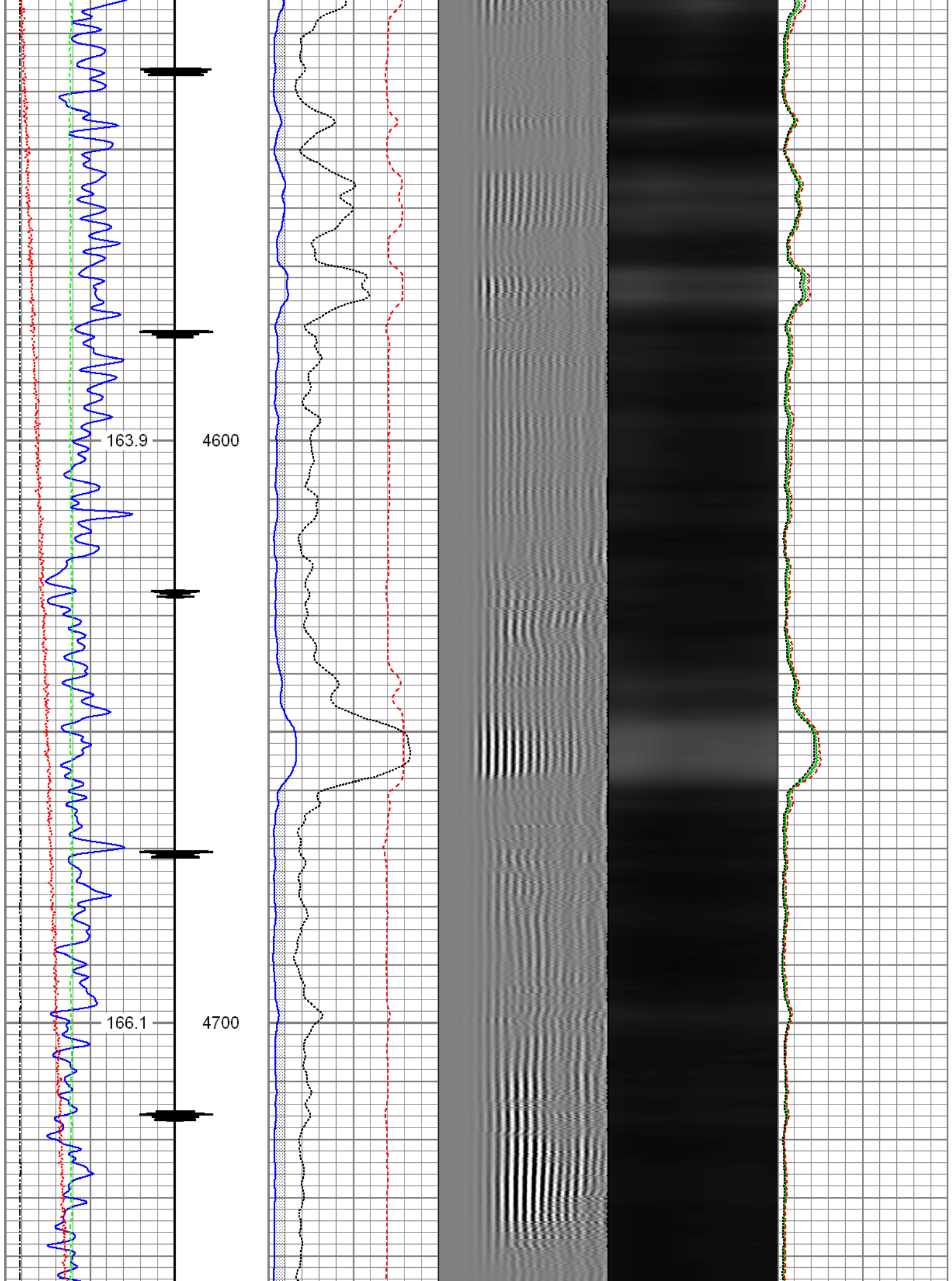


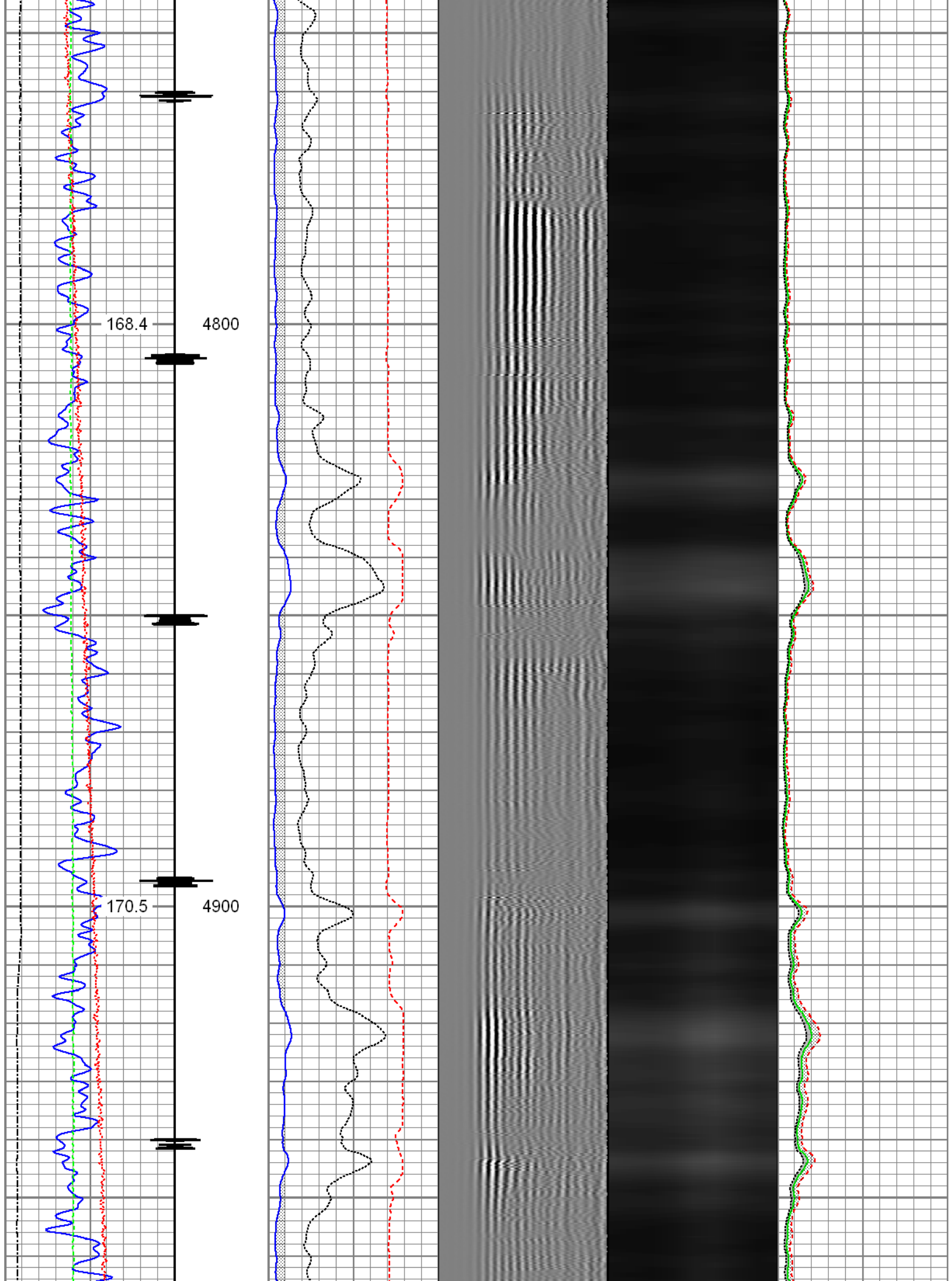


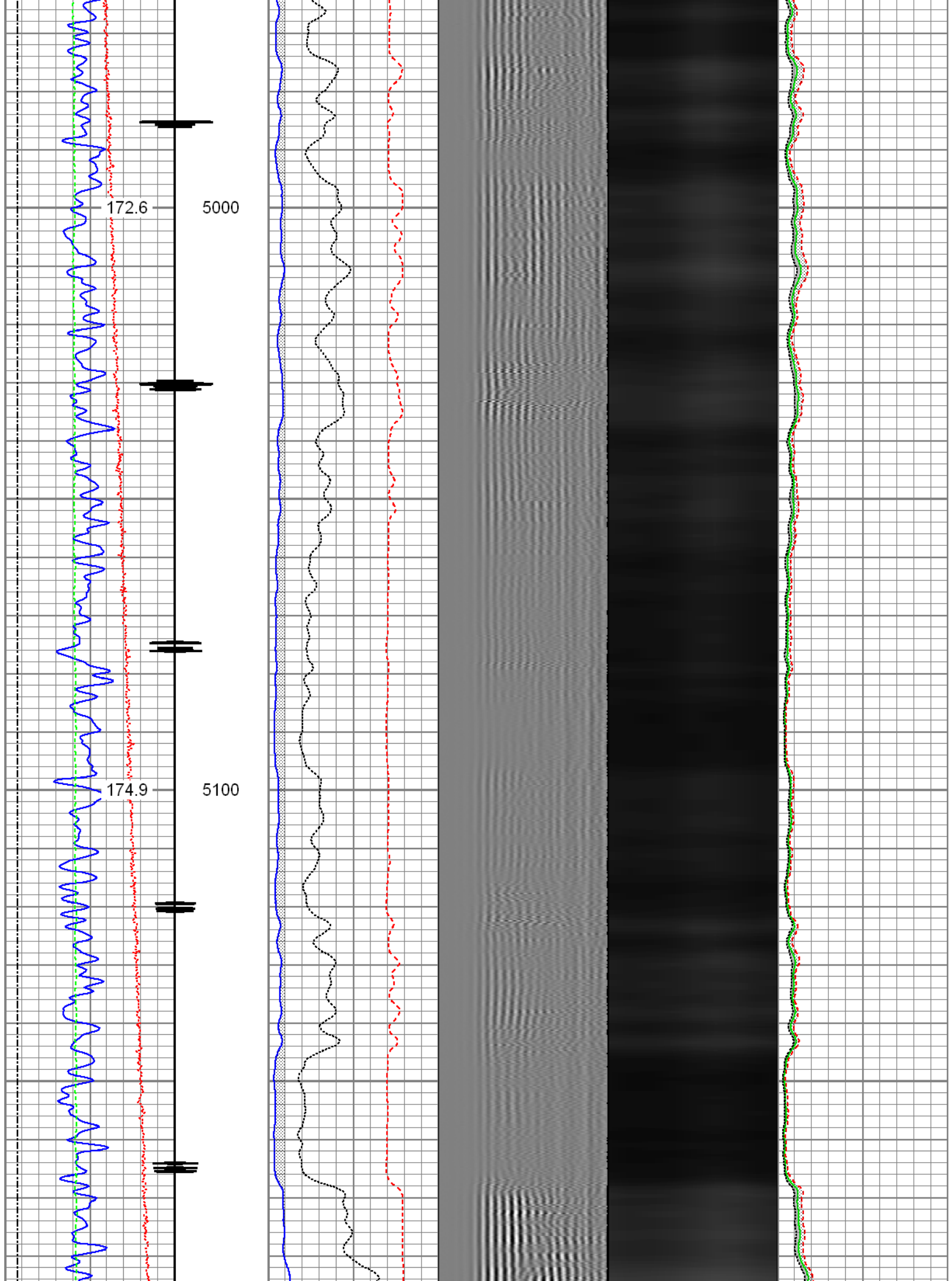


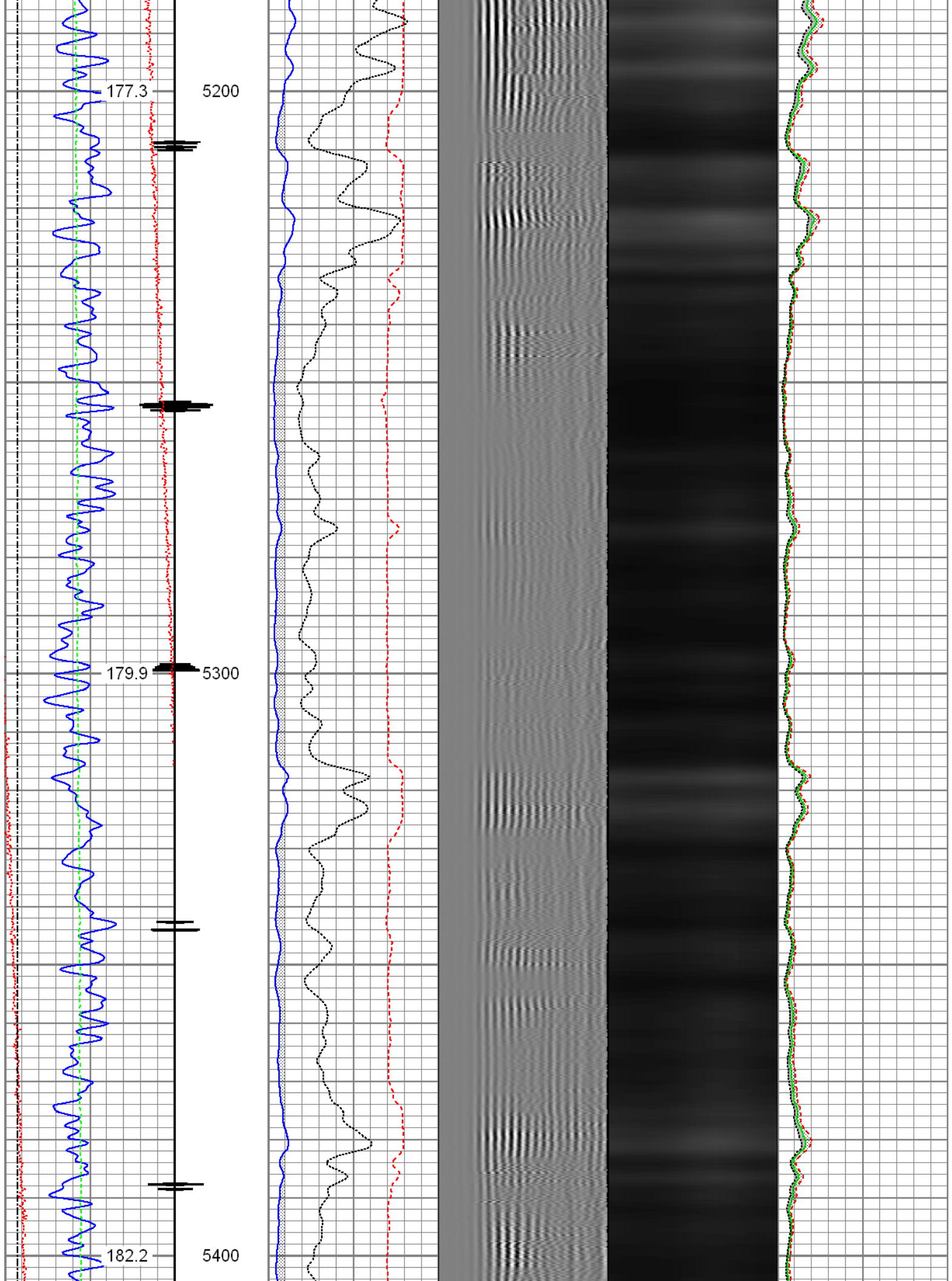


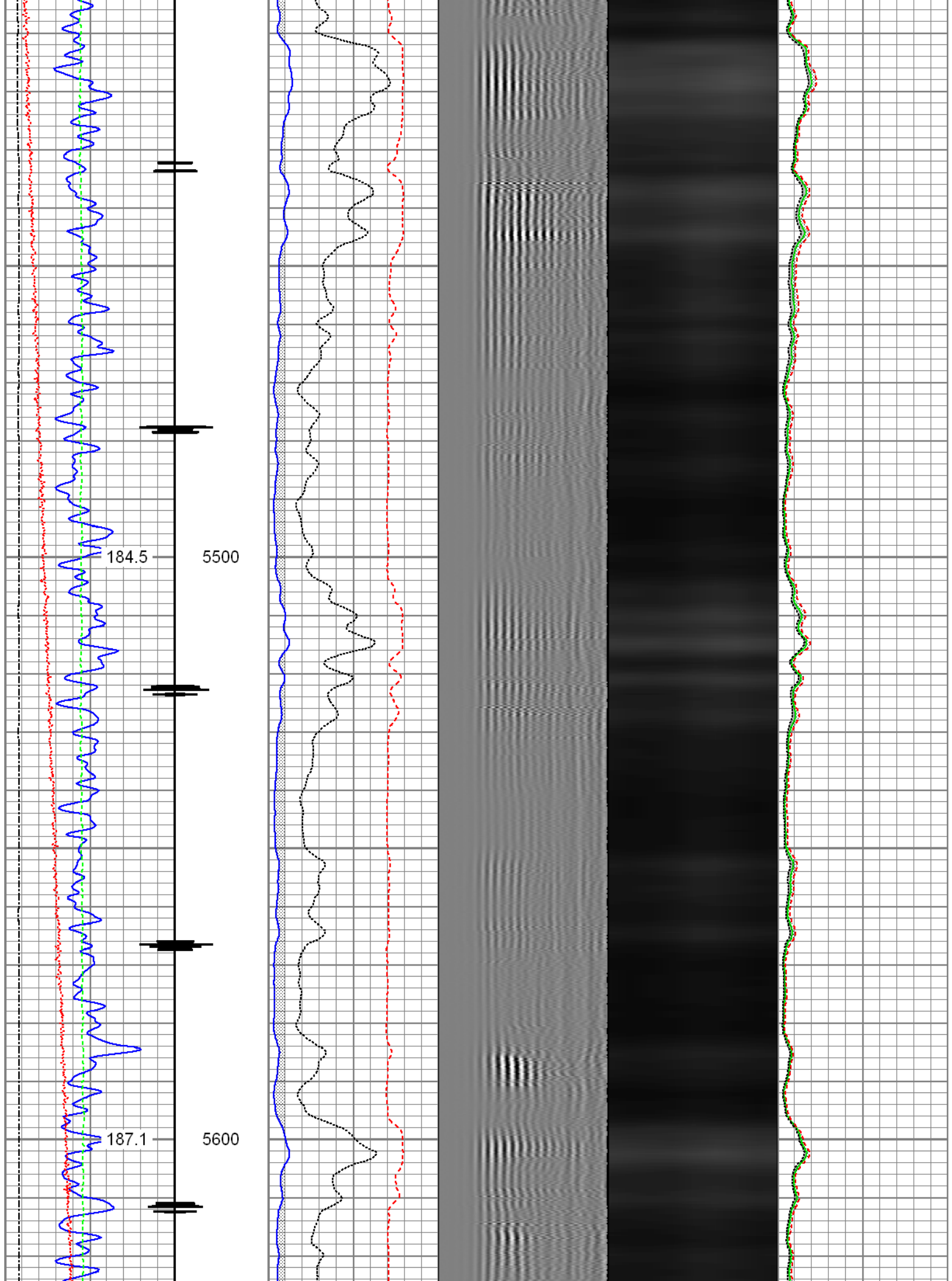


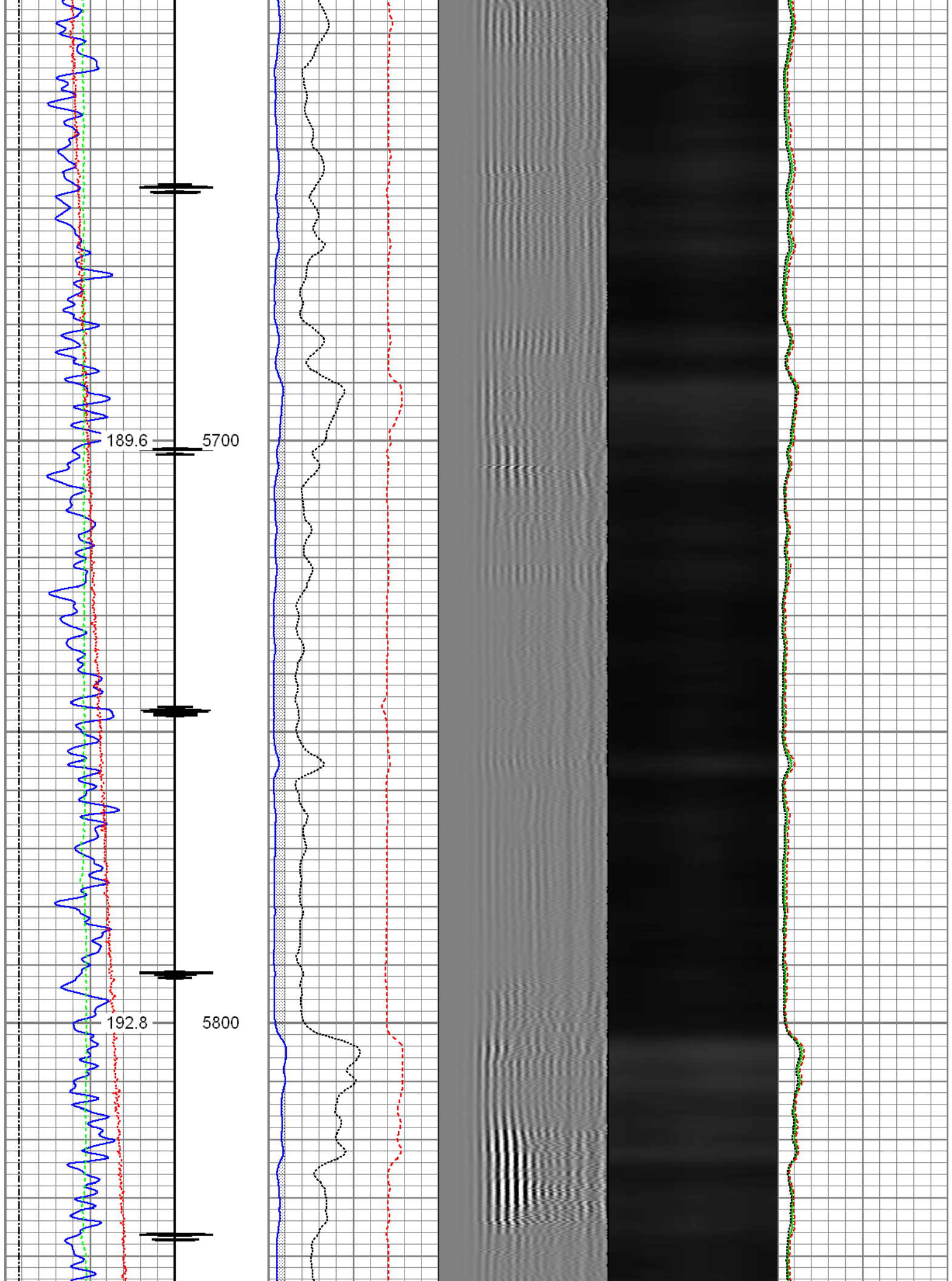


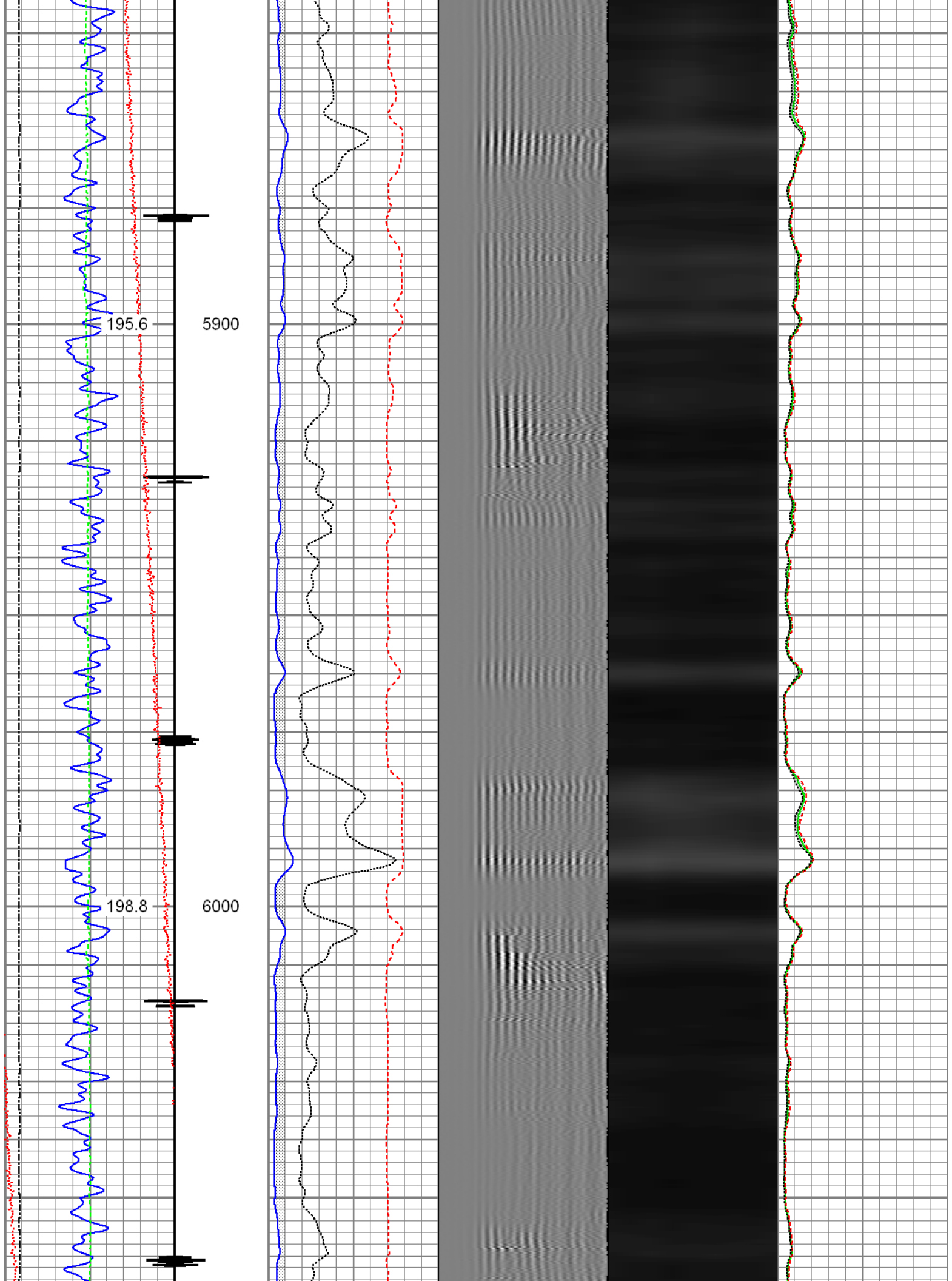


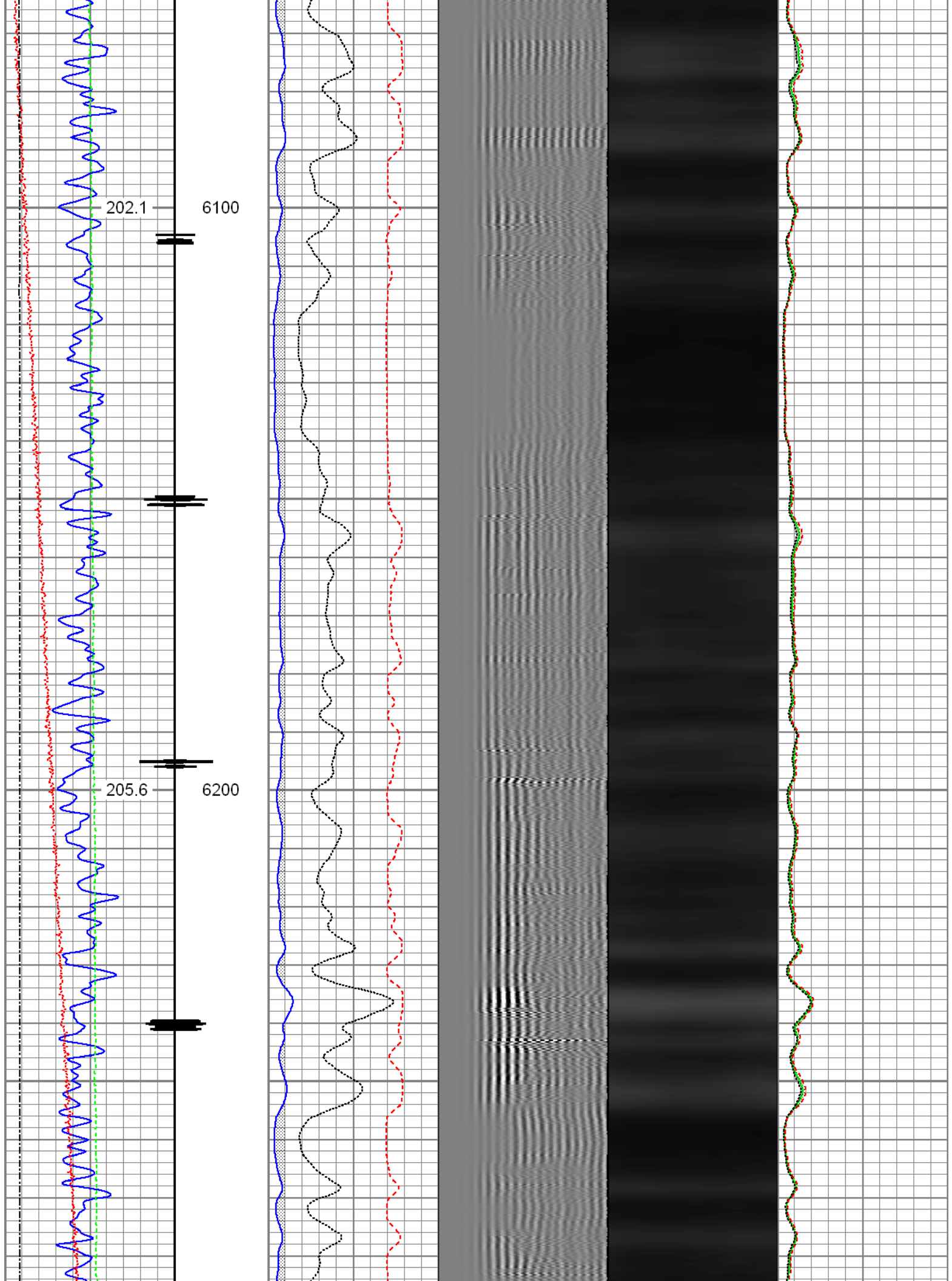


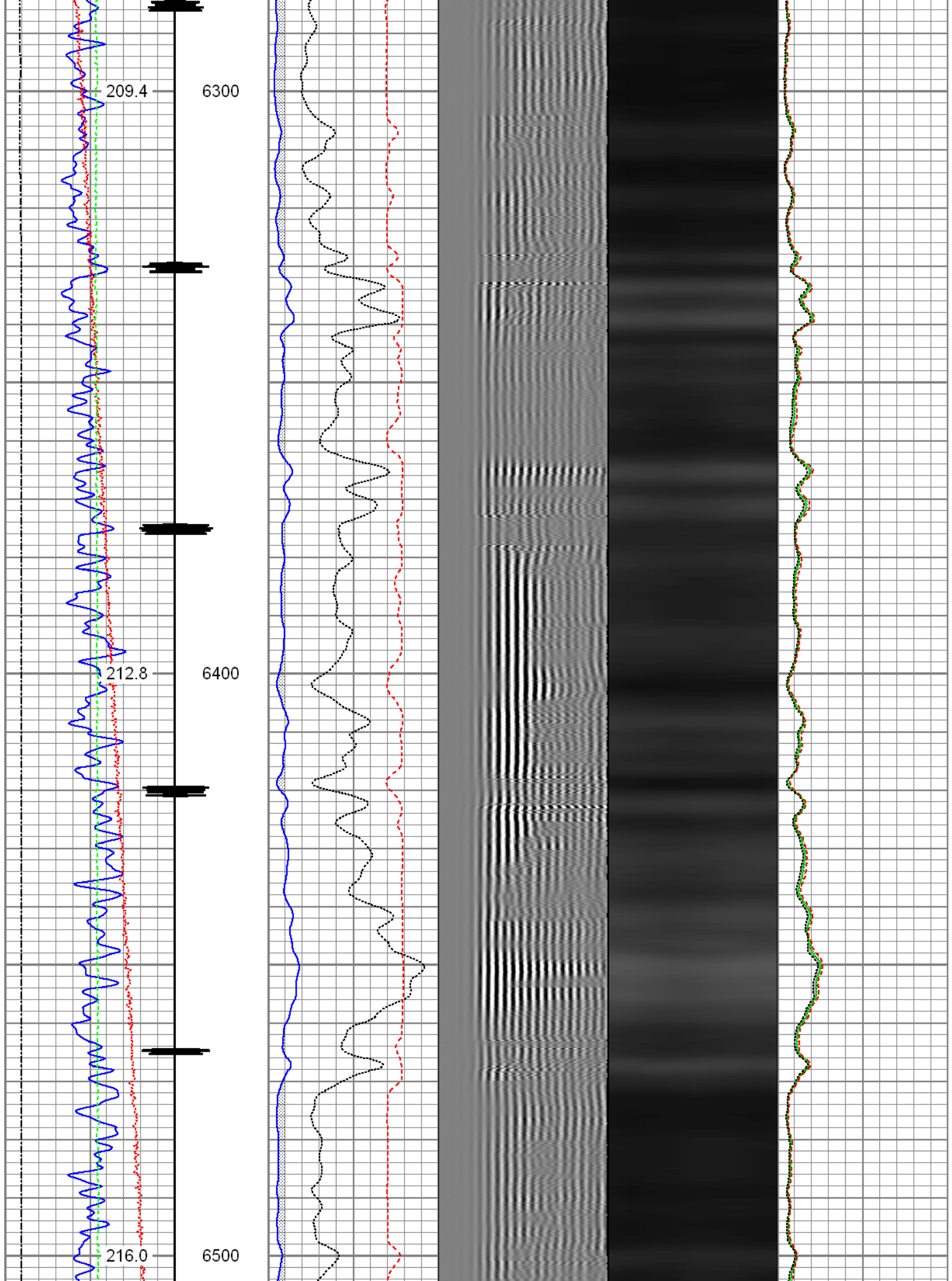


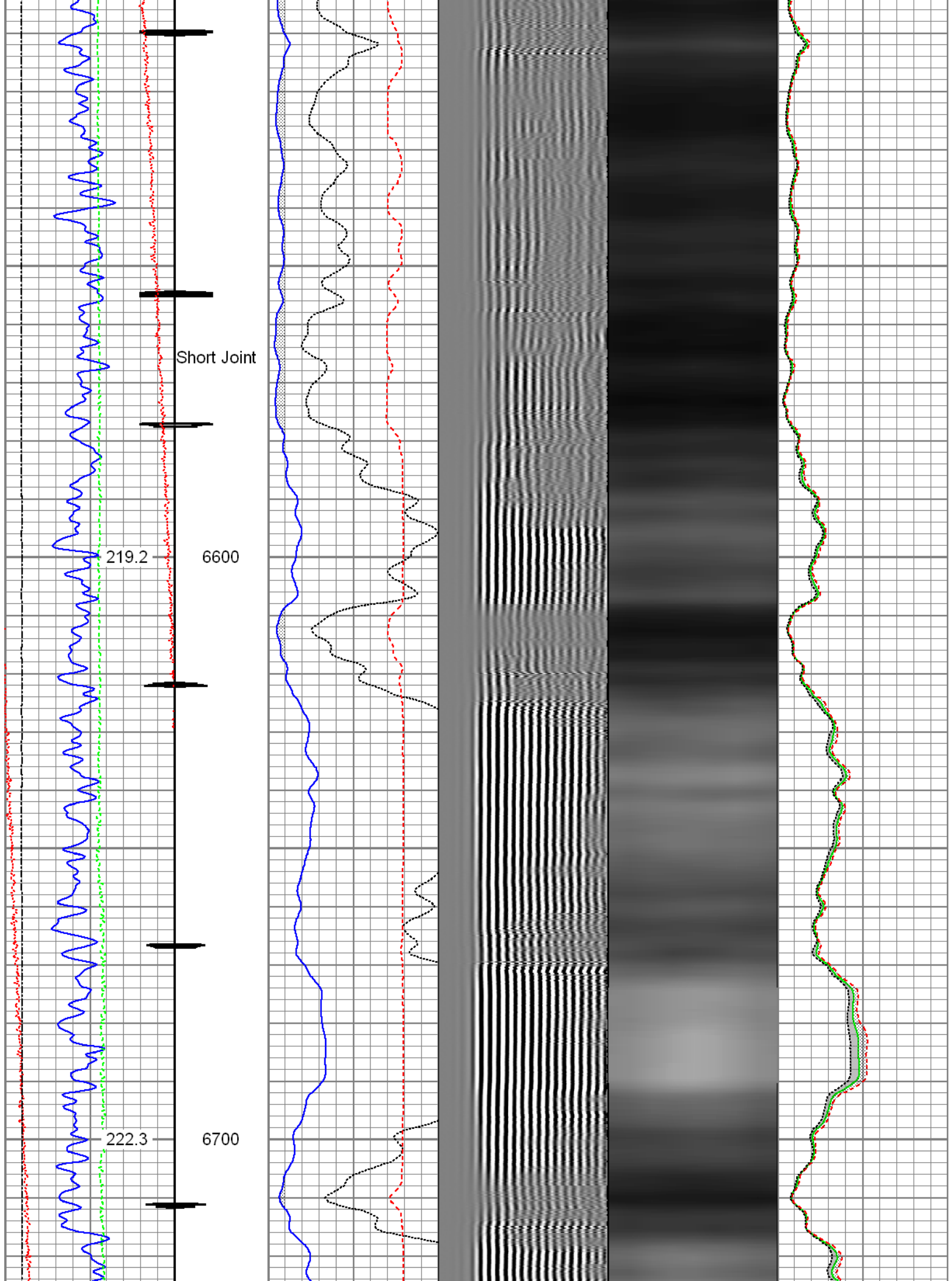


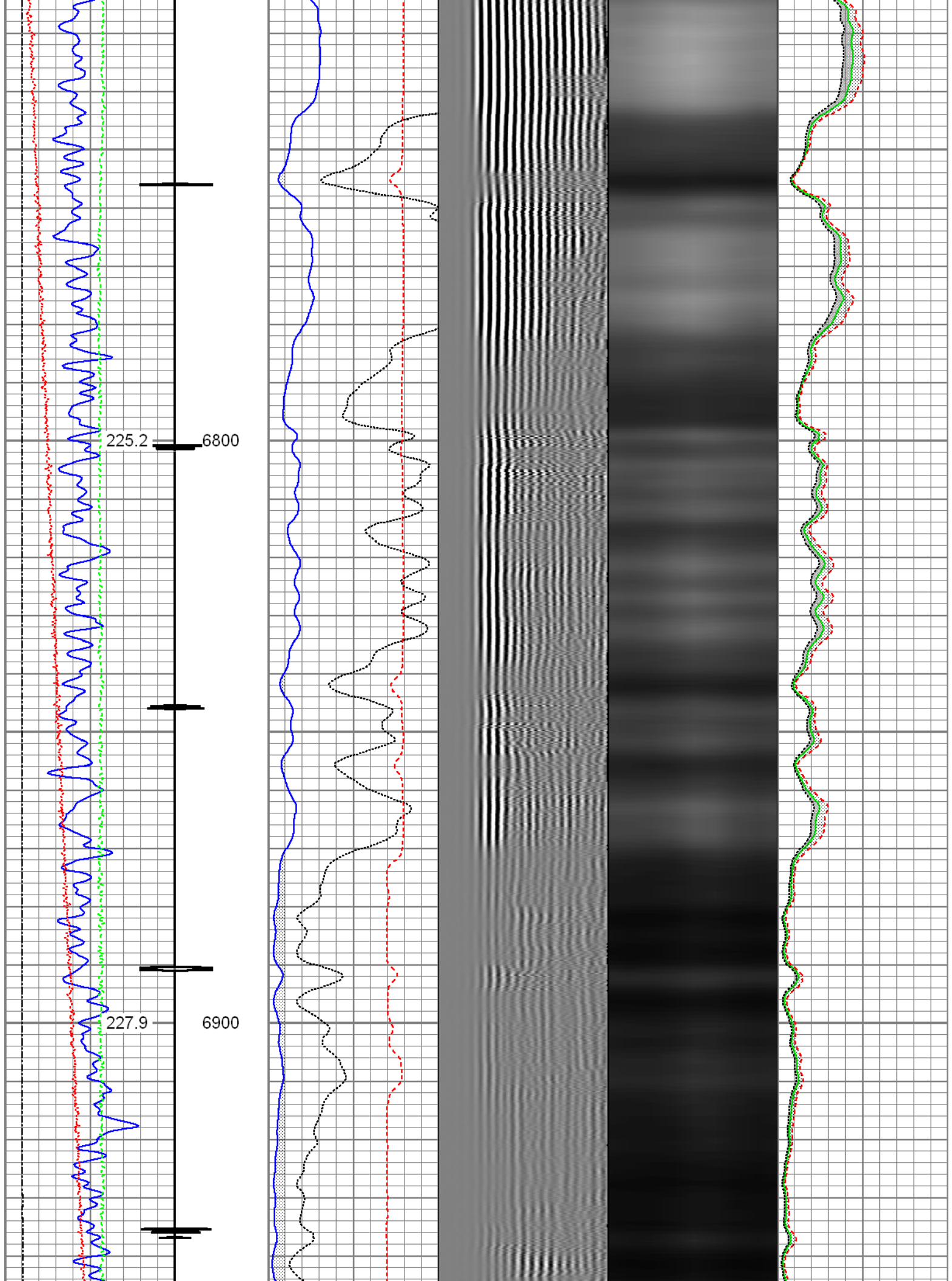


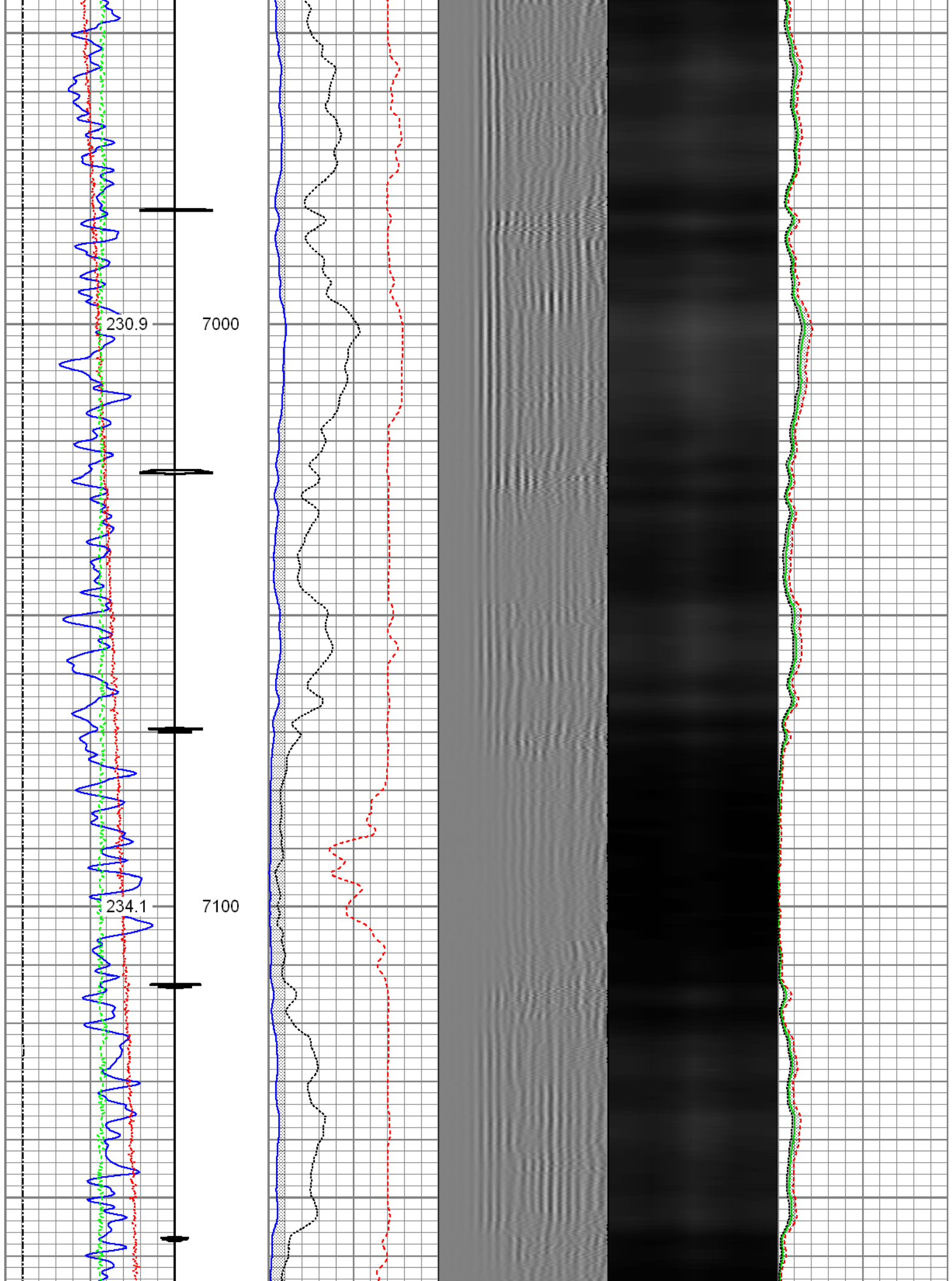


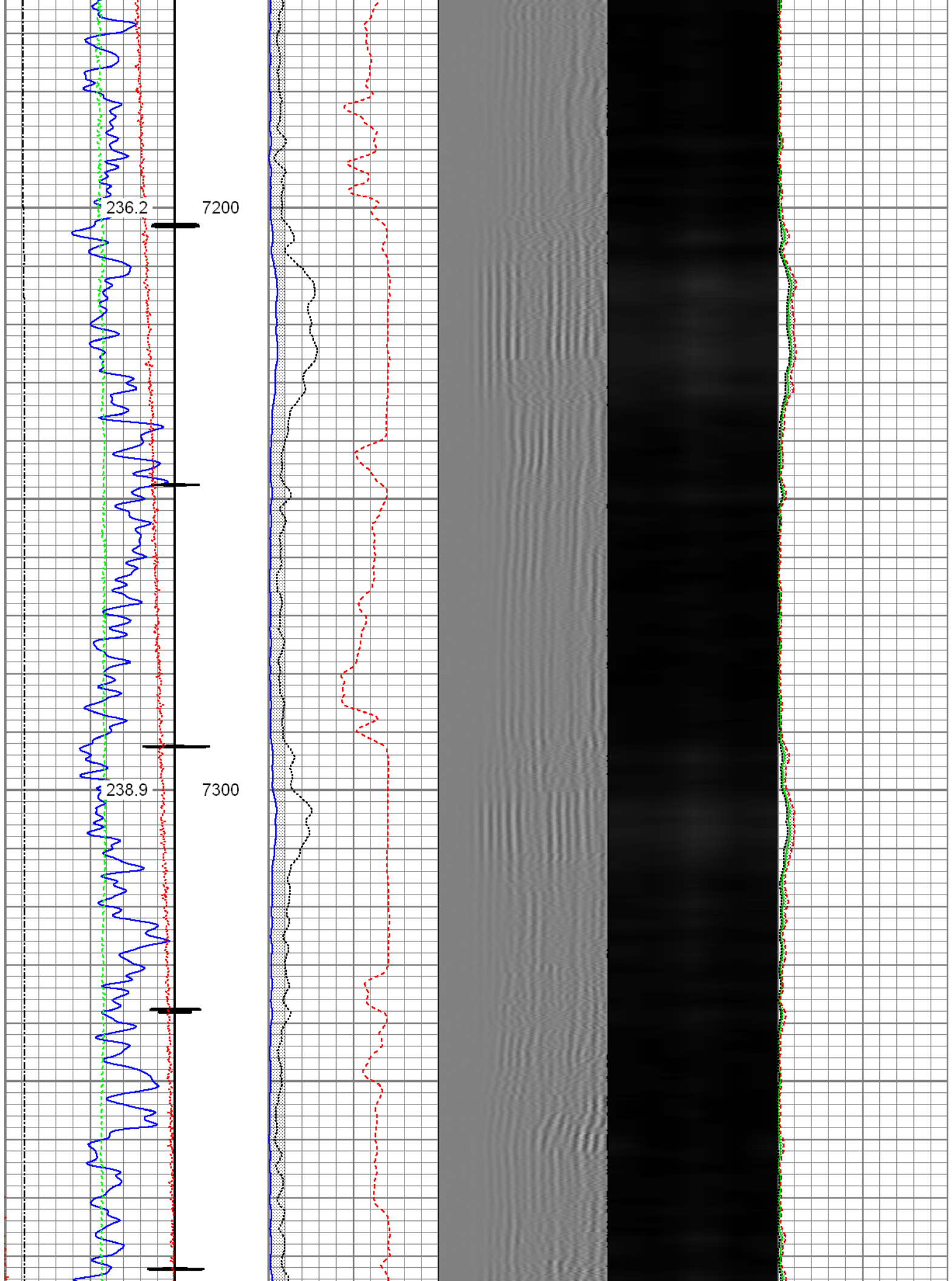


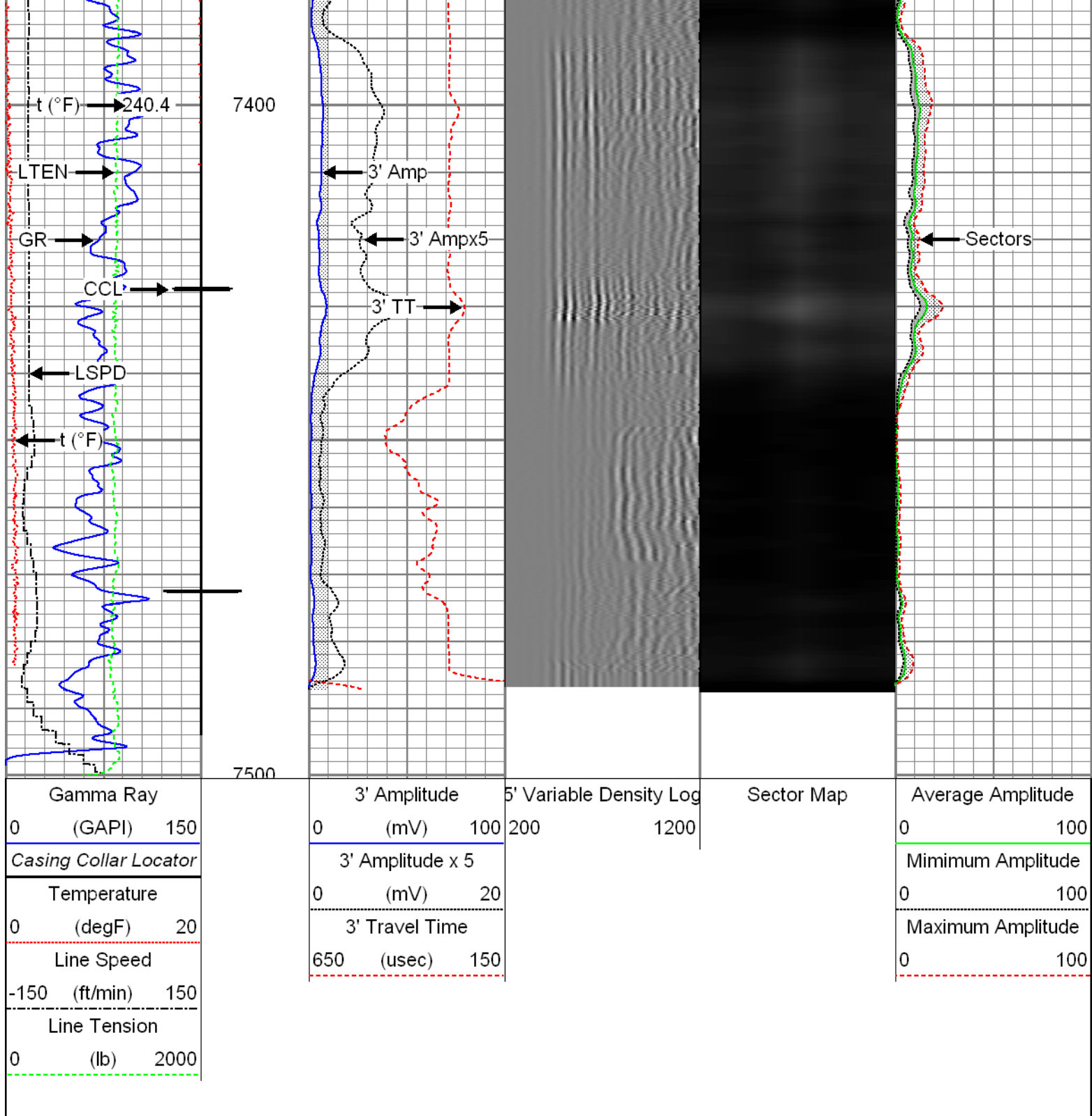








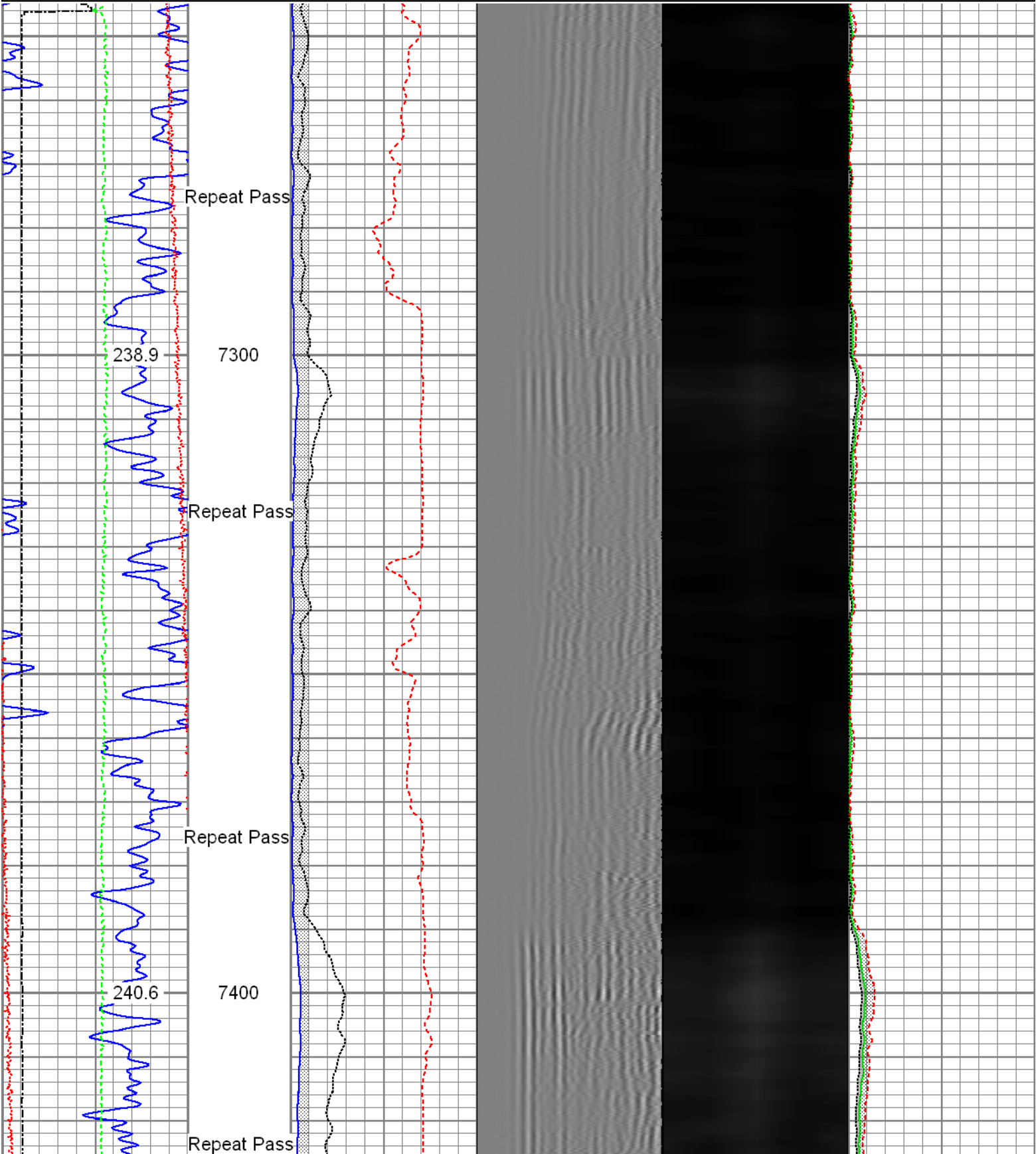


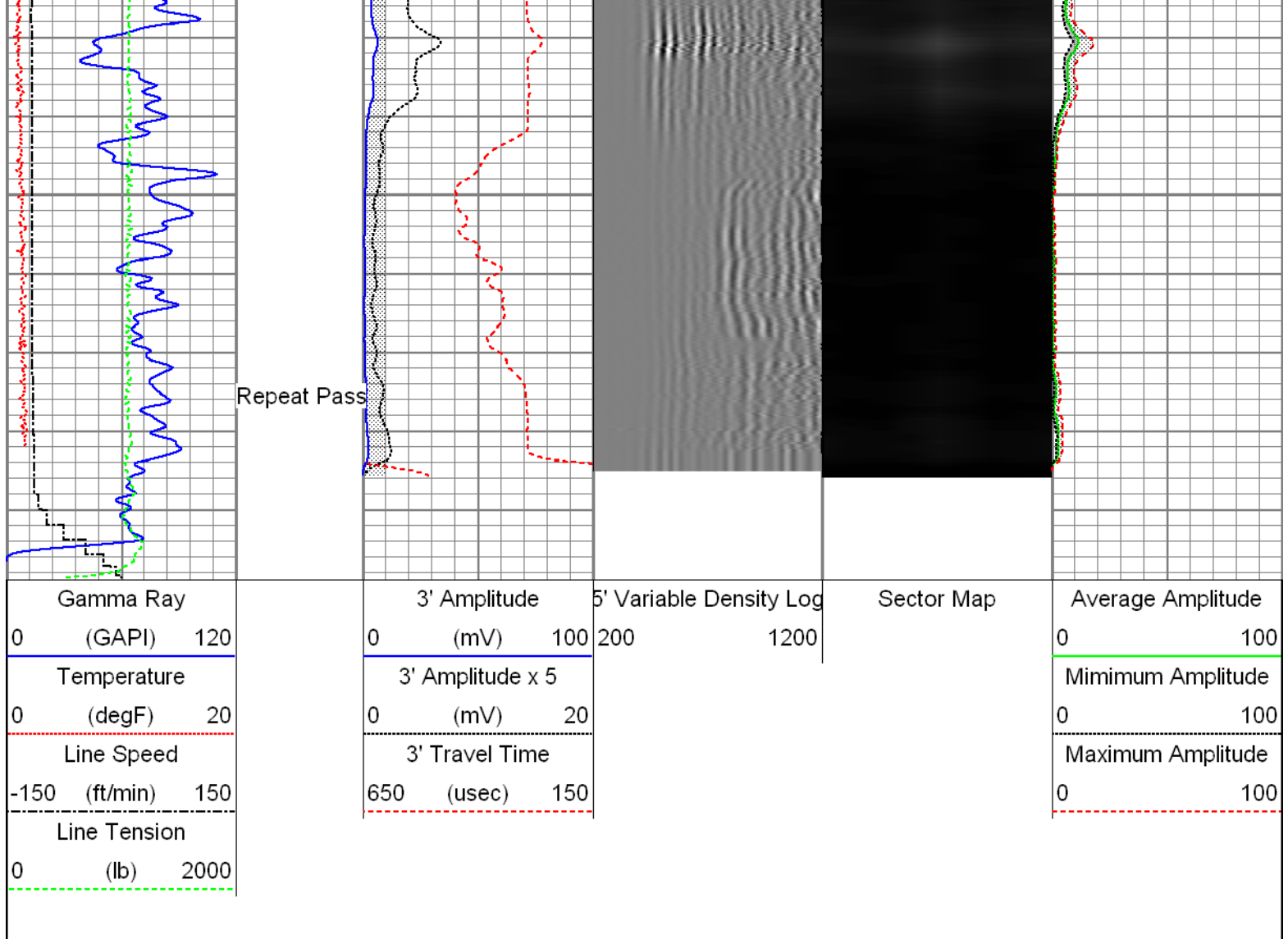


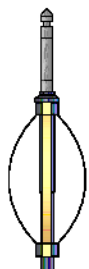
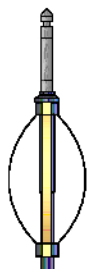
FMC Technologies		Repeat Pass			
		Recorded with 2800 PSI Surface Induced Pressure			
Database File:		c:\warrior\data\0512341922_anadarko_sarchet 37n-20hz_11-10-15_rbl\0512341922_anadarko_sarch			
Dataset Pathname:		repeat.1			
Presentation Format:		radii			
Dataset Creation:		Tue Nov 10 10:19:19 2015 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
(GAPI) 0 150	(mV) 0 100	200 1200		0 100

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)
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		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
WVF3FT	14.55					
WVFCAL	14.55					
WVFS1	14.55					
WVFS2	14.55					
WVES3	14.55					

[illegible]

Calibration Report	
Database File:	c:\warrior\data\0512341922_anadarko_sarchet 37n-20hz_11-10-15_rb\0512341922_anadarko_sarchet
Dataset Pathname:	main.2
Dataset Creation:	Wed Nov 11 11:42:38 2015 by Calc SCH 120430

Gamma Ray Calibration Report		
Serial Number:	FW1211-081	
Tool Model:	2.75"Digital	
Performed:	Mon Nov 09 09:53:43 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:	8.183	ft	

Master Calibration, performed Wed Nov 11 11:42:33 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.506	0.800	71.921	142.393	-0.190
CAL	0.557	0.783				
5'	0.010	0.410	0.800	71.921	177.718	-0.909
SUM						
S1	0.006	0.491	0.000	100.000	206.252	-1.315
S2	0.008	0.500	0.000	100.000	203.316	-1.616
S3	0.007	0.517	0.000	100.000	196.182	-1.456
S4	0.007	0.533	0.000	100.000	190.304	-1.413
S5	0.008	0.535	0.000	100.000	189.567	-1.426
S6	0.008	0.516	0.000	100.000	196.826	-1.496
S7	0.009	0.492	0.000	100.000	206.763	-1.772
S8	0.009	0.489	0.000	100.000	208.405	-1.828

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	0.557	0.783	1.000	0.000

Air Zero Calibration, performed Tue Nov 10 09:34:38 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 Sarchet 37N-20HZ
 Field Wattenberg
 County Weld
 State Colorado