



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.		
Well	Fehrn 37N-29HZ		
Field	Wattenberg		
County	Weld		
State	Colorado		
Location:		API # : 05-123-41490	Other Services
SEC 32 TWP 2N RGE 66W			Gauge Ring
Permanent Datum	Ground Level	Elevation	4926'
Log Measured From	Kelly Bushing	20 FT	
Drilling Measured From	Kelly Bushing		K.B. 4946' D.F. 4945' G.L. 4926'

Date	29-SEP-2015	
Run Number	Two	
Depth Driller	12946 FT	
Depth Logger	7471 FT	
Bottom Logged Interval	7467 FT	
Top Log Interval	Surface	
Open Hole Size	6.625"	
Type Fluid	Water	
Density / Viscosity	8.34 lbm/gal	
Max. Recorded Temp.	235 °F	
Estimated Cement Top	Surface	
Time Well Ready	ROA	
Time Logger on Bottom	9:45 AM	
Equipment Number	HD-0324	
Location	Fort Lupton, CO	
Recorded By	B. Kalkwarf	
Witnessed By	Van Franke	

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 LTC	Surface	1882 FT		
Intermediate #1	5 1/2	17	HCP-110 LTC	Surface	12935 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 6667 FT - 6690 FT
Adjusted log -29 FT from KB zero to correlate with Marker Joint
Log ran with 2800 PSI surface induced pressure

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

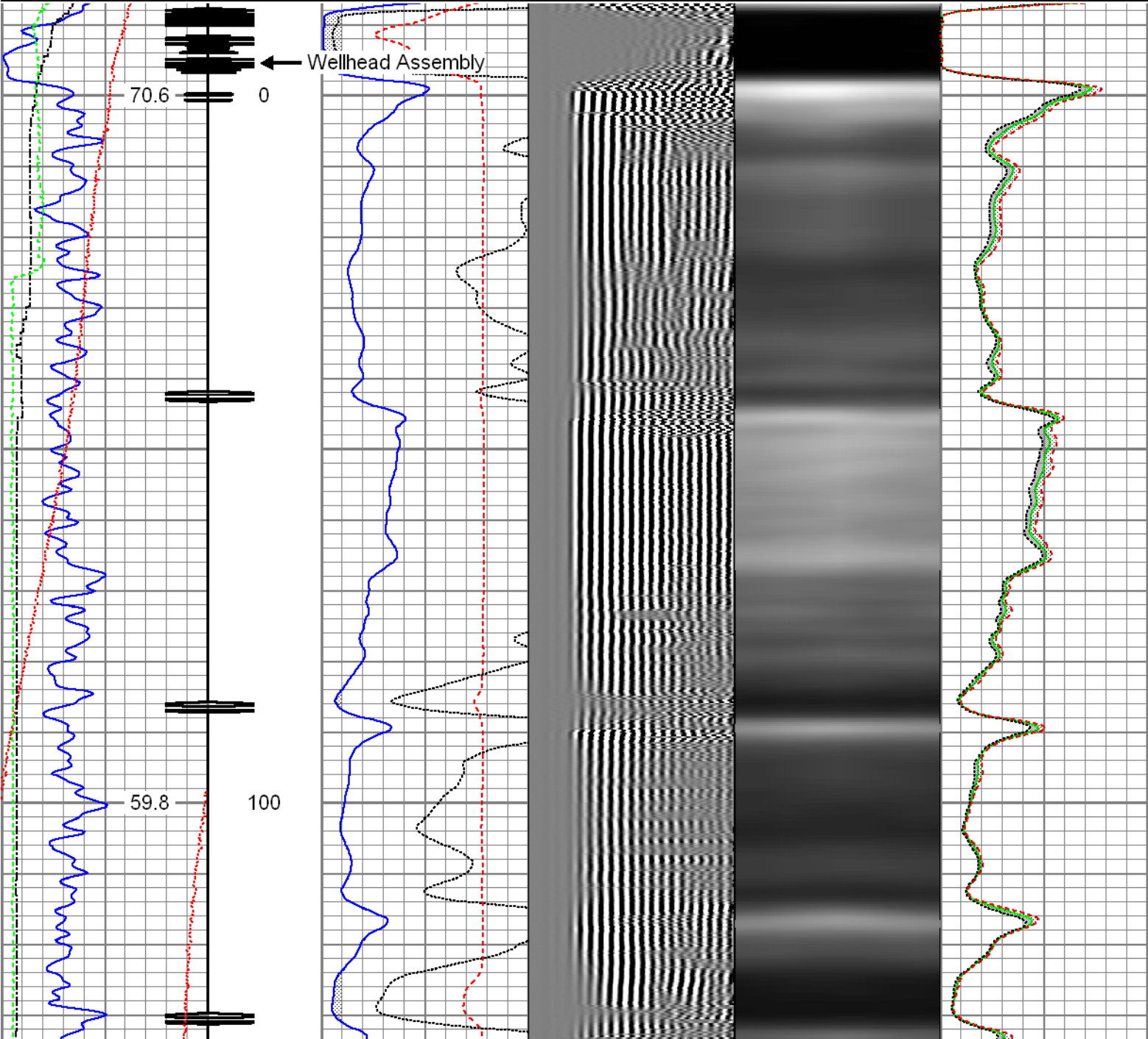


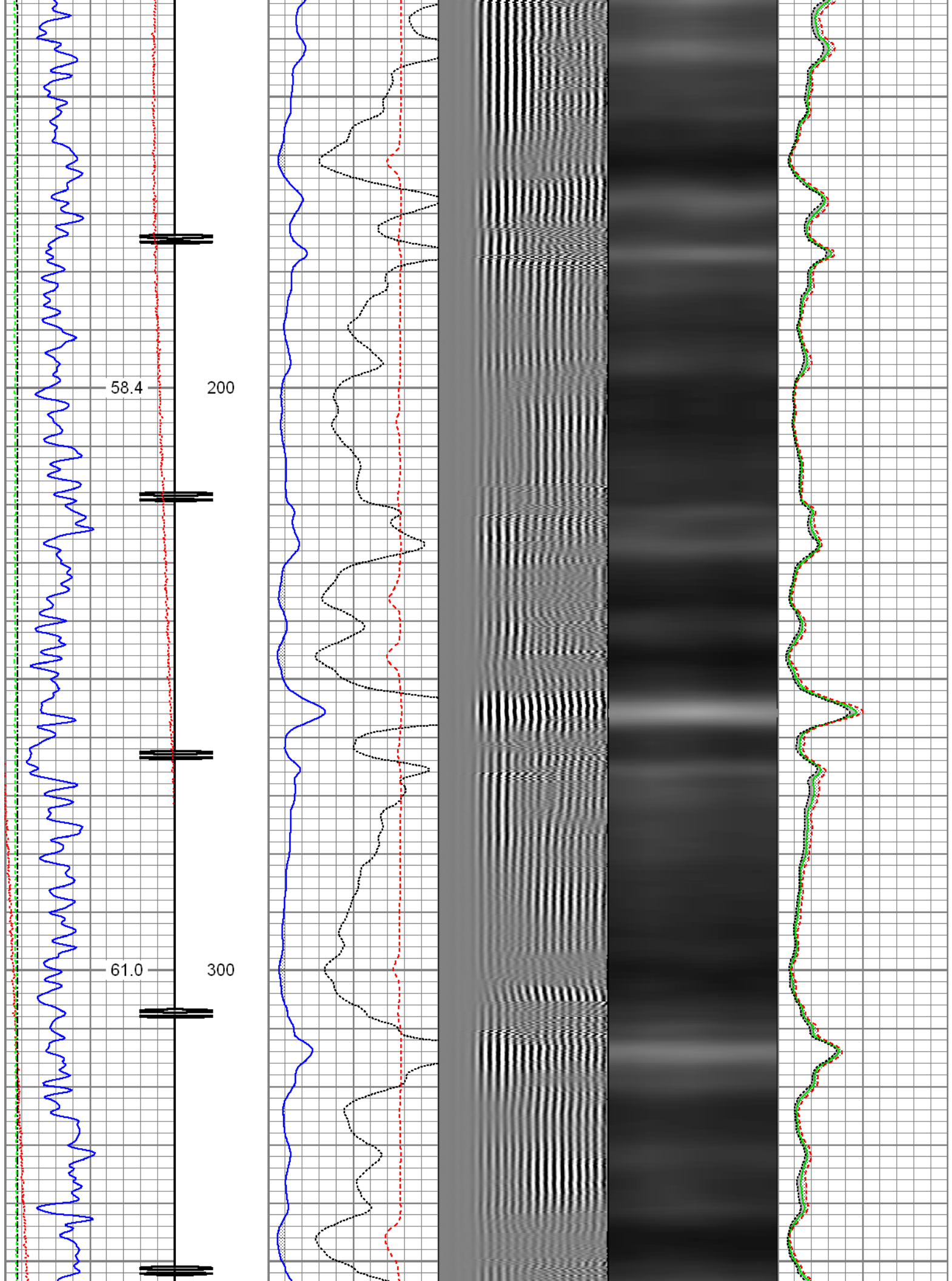
Main Pass

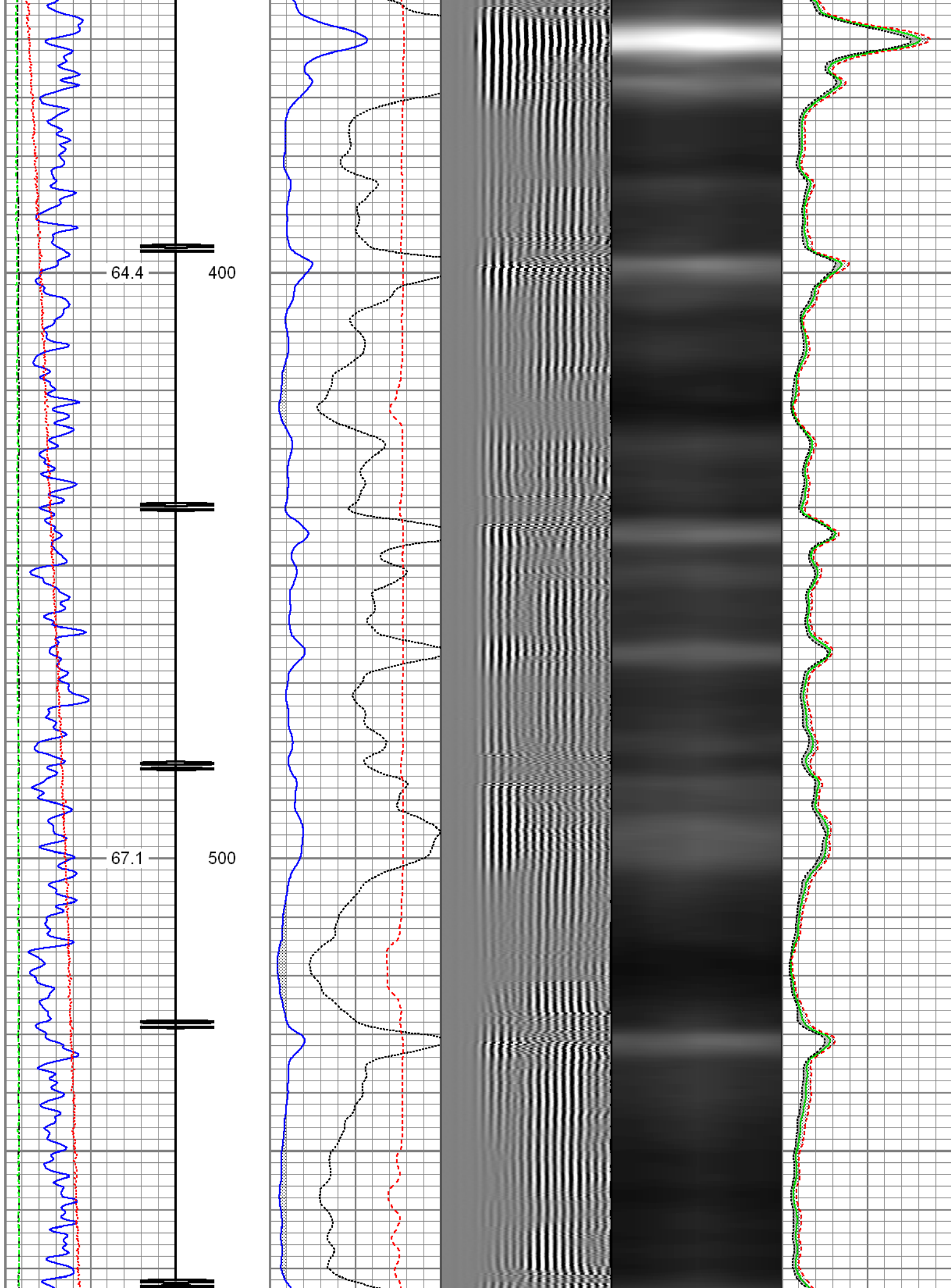
Recorded with 2800 PSI Surface Induced Pressure

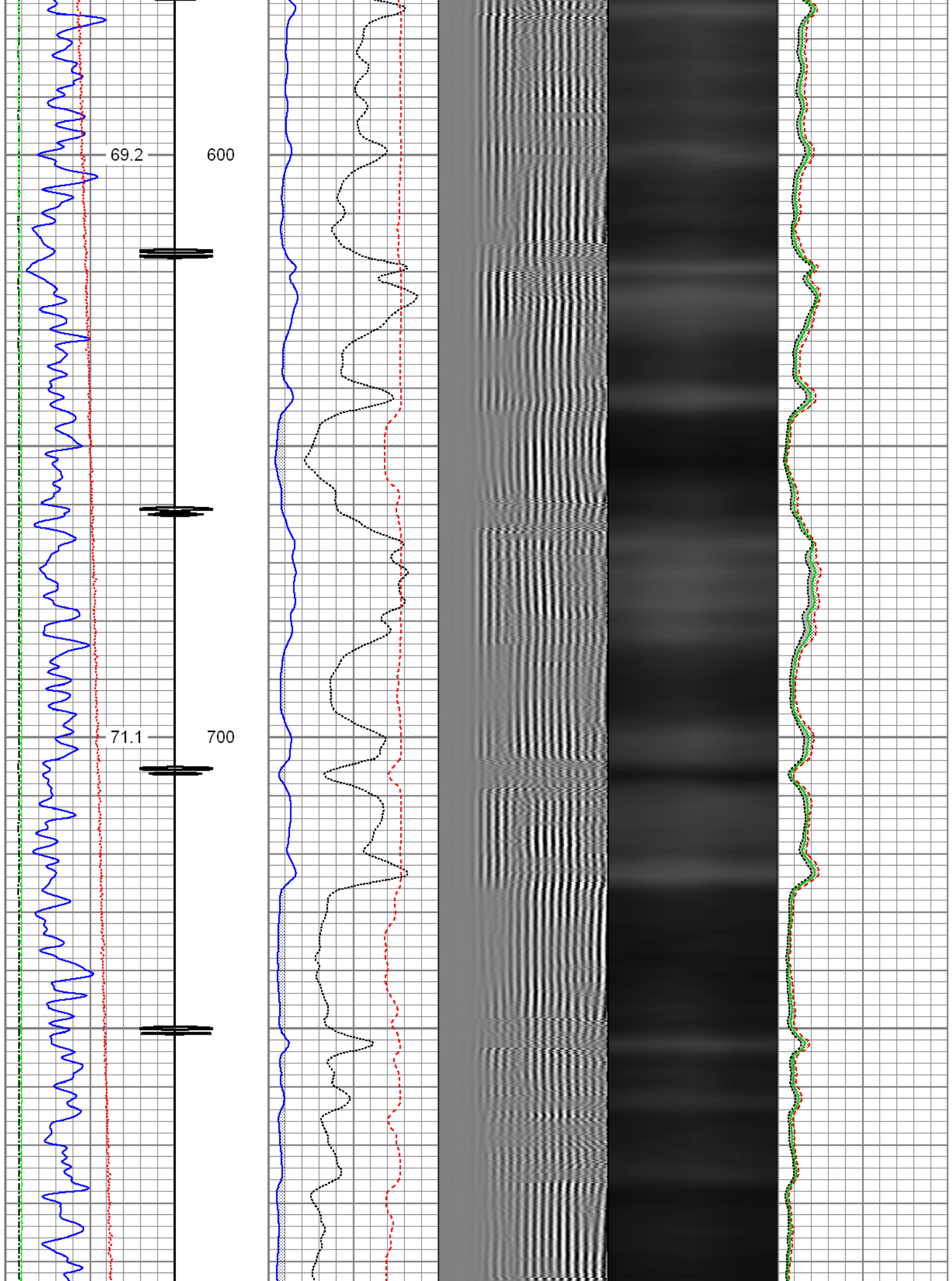
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Dataset Pathname: pass6
Presentation Format: radii
Dataset Creation: Tue Sep 29 09:52:15 2015 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

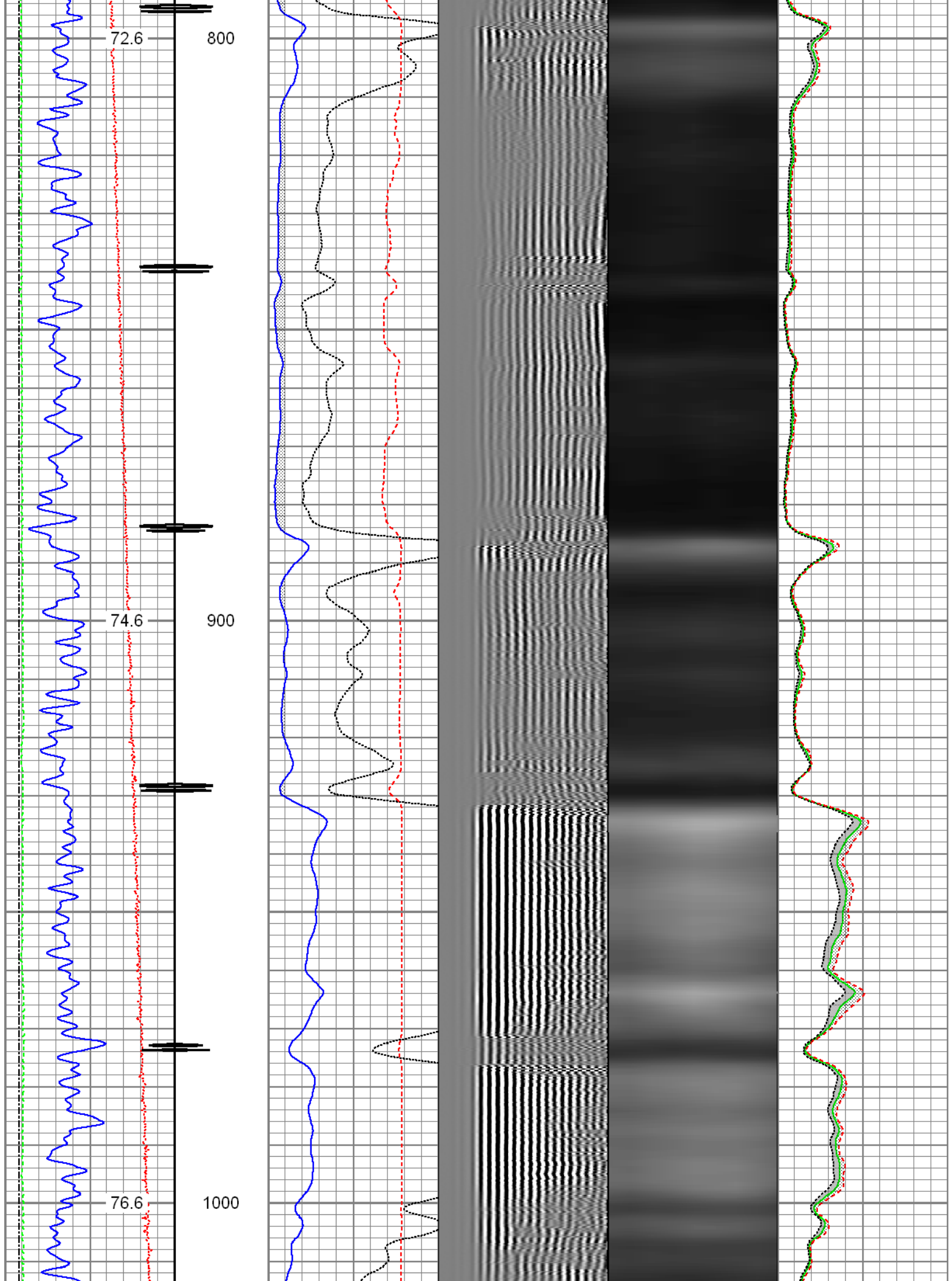
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

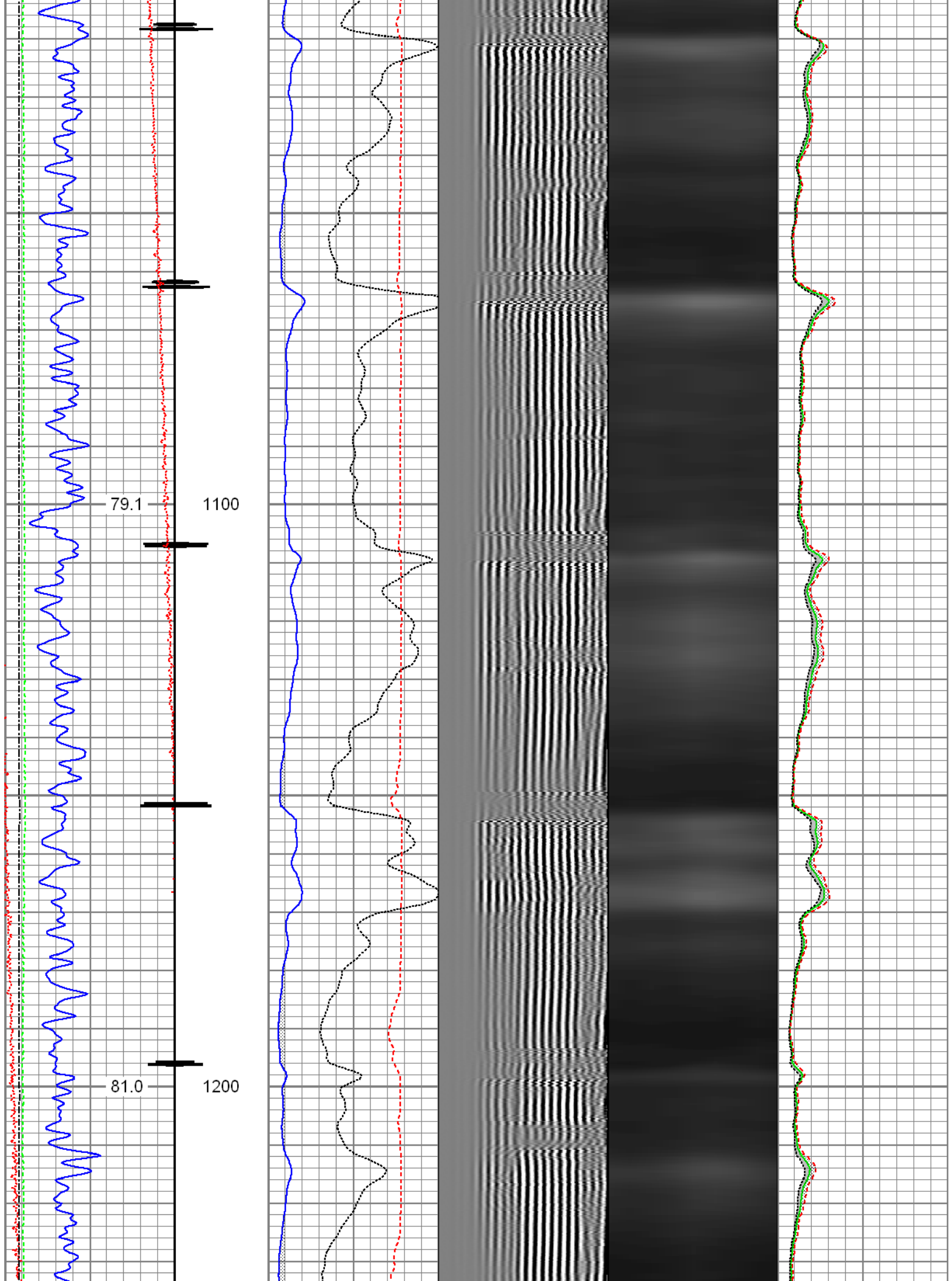


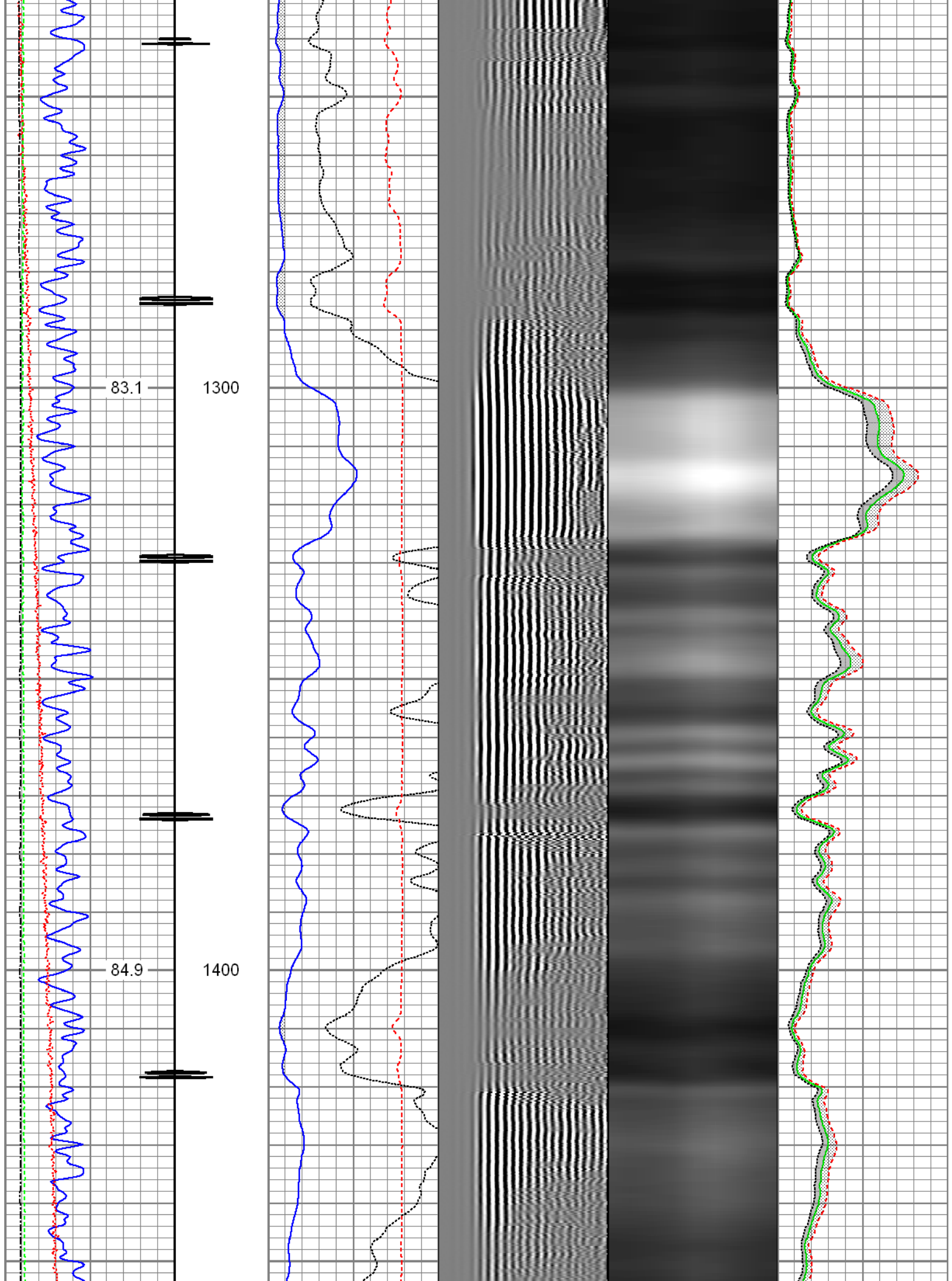


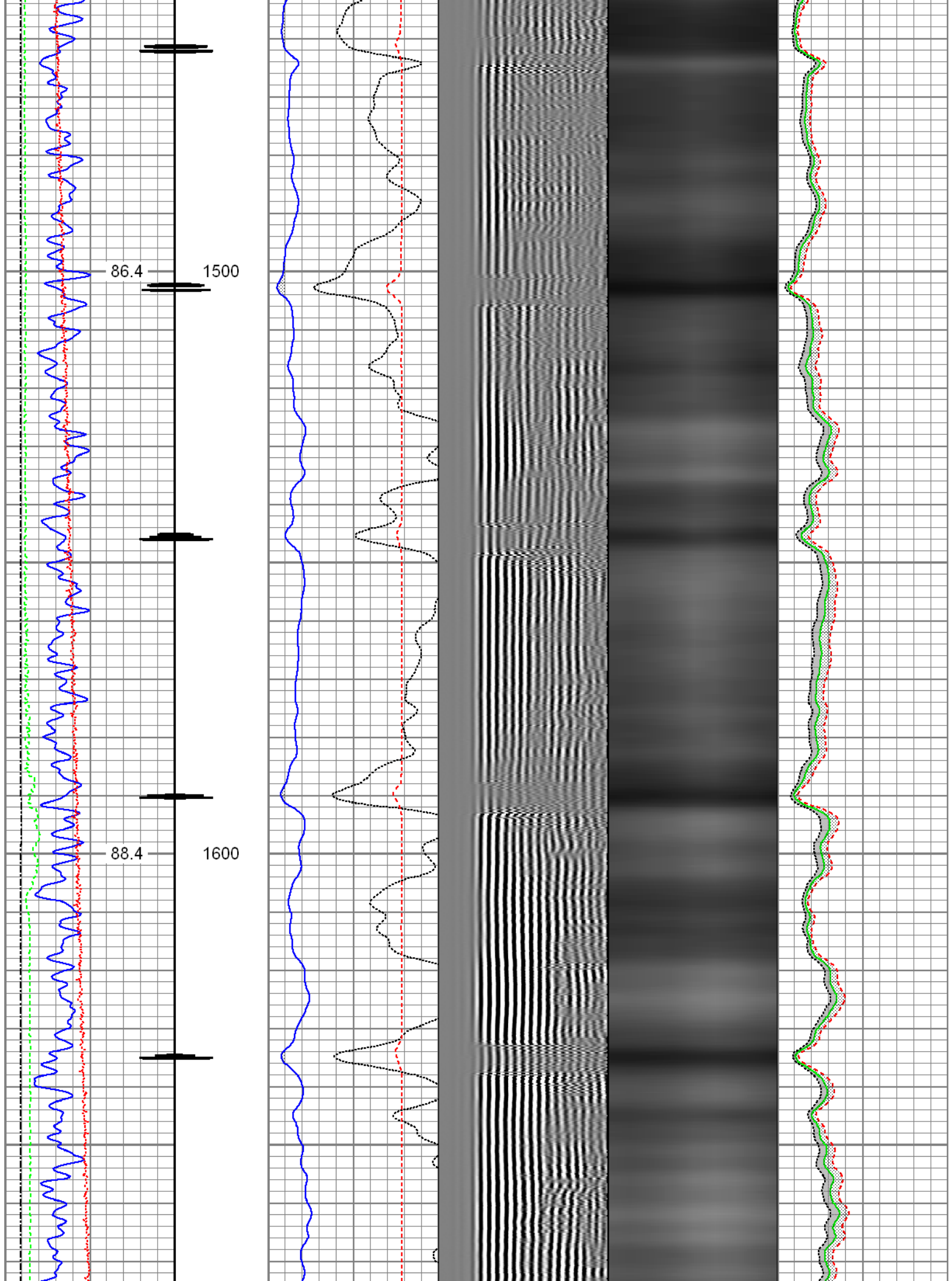


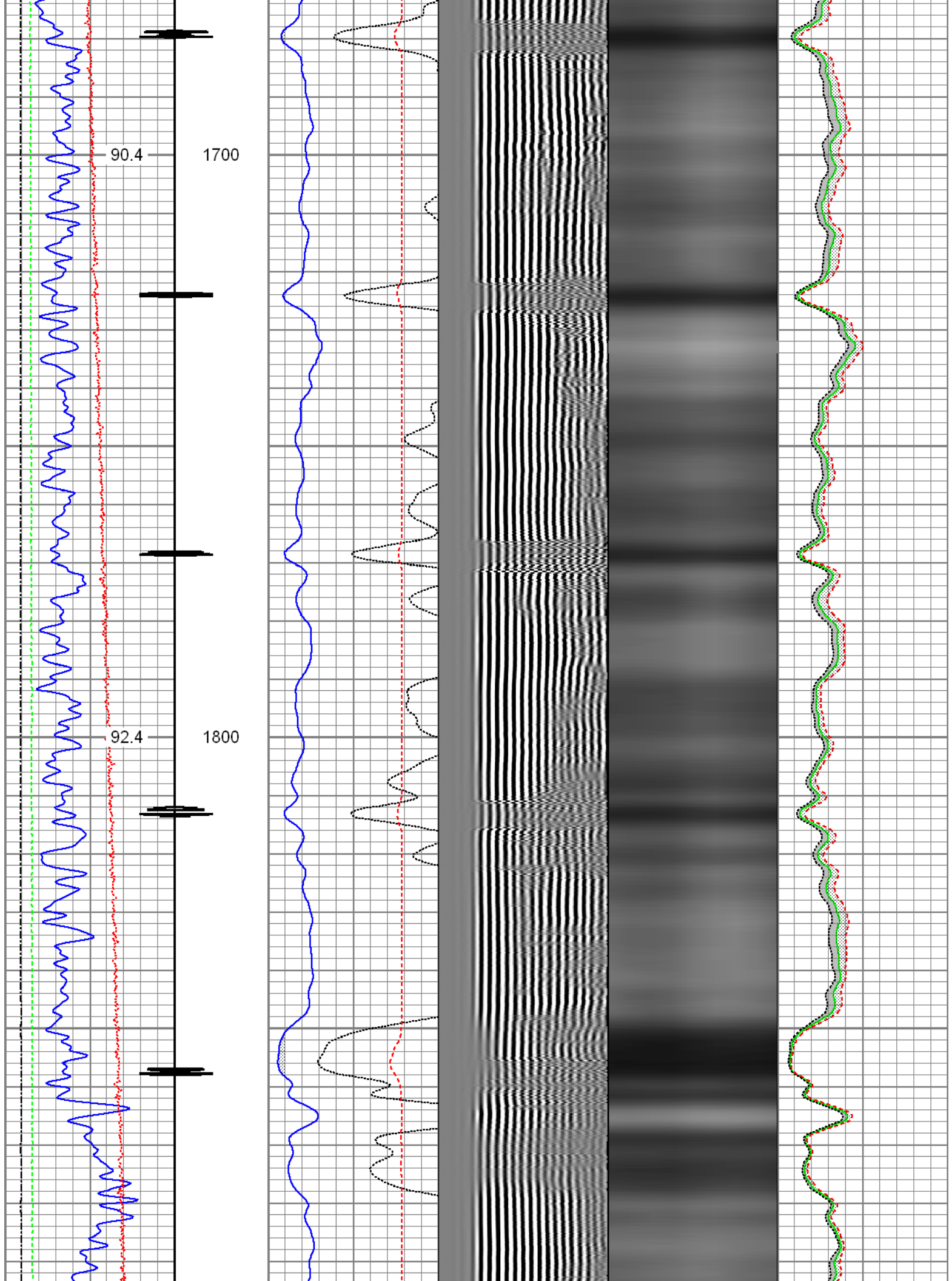


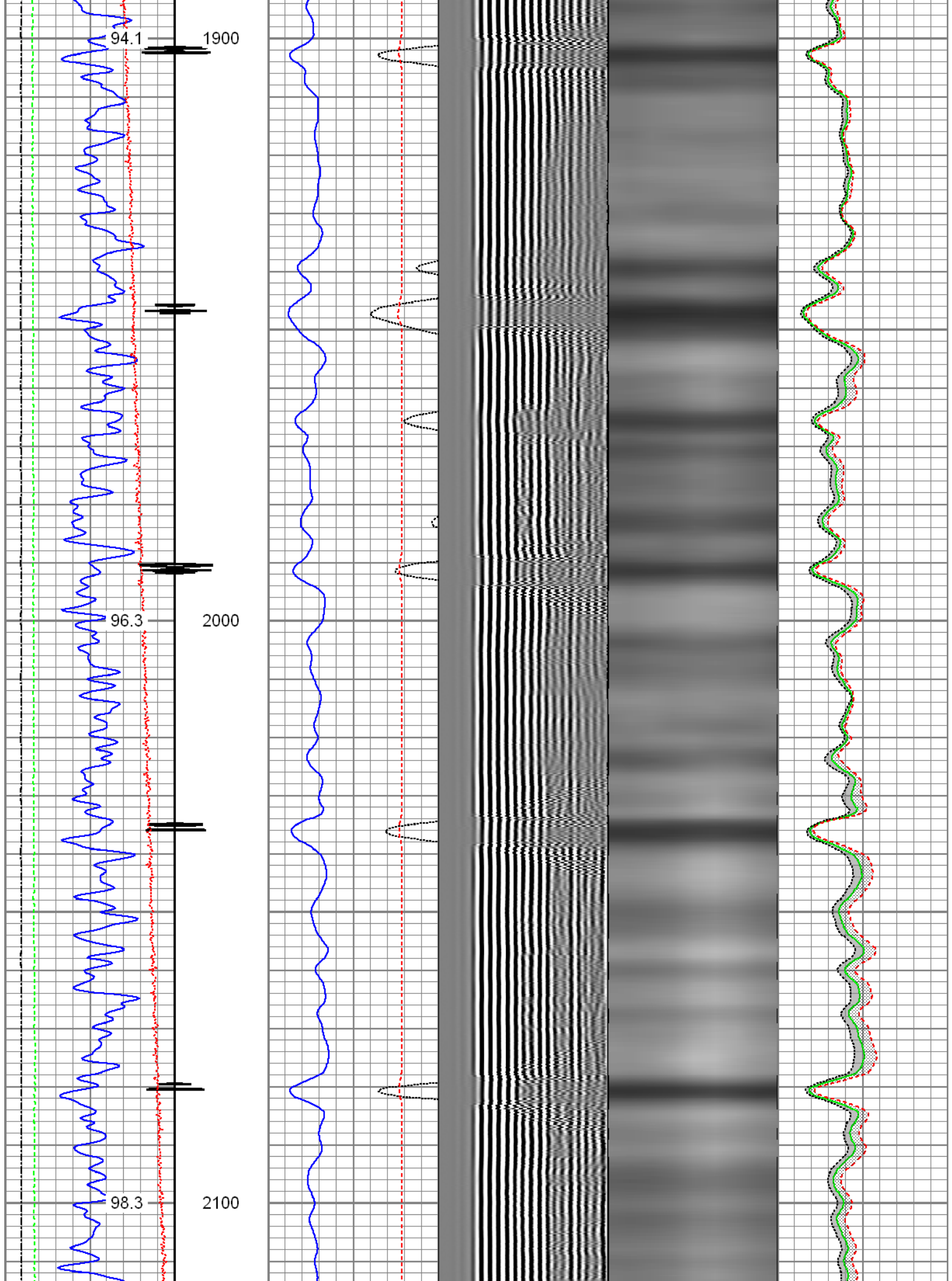


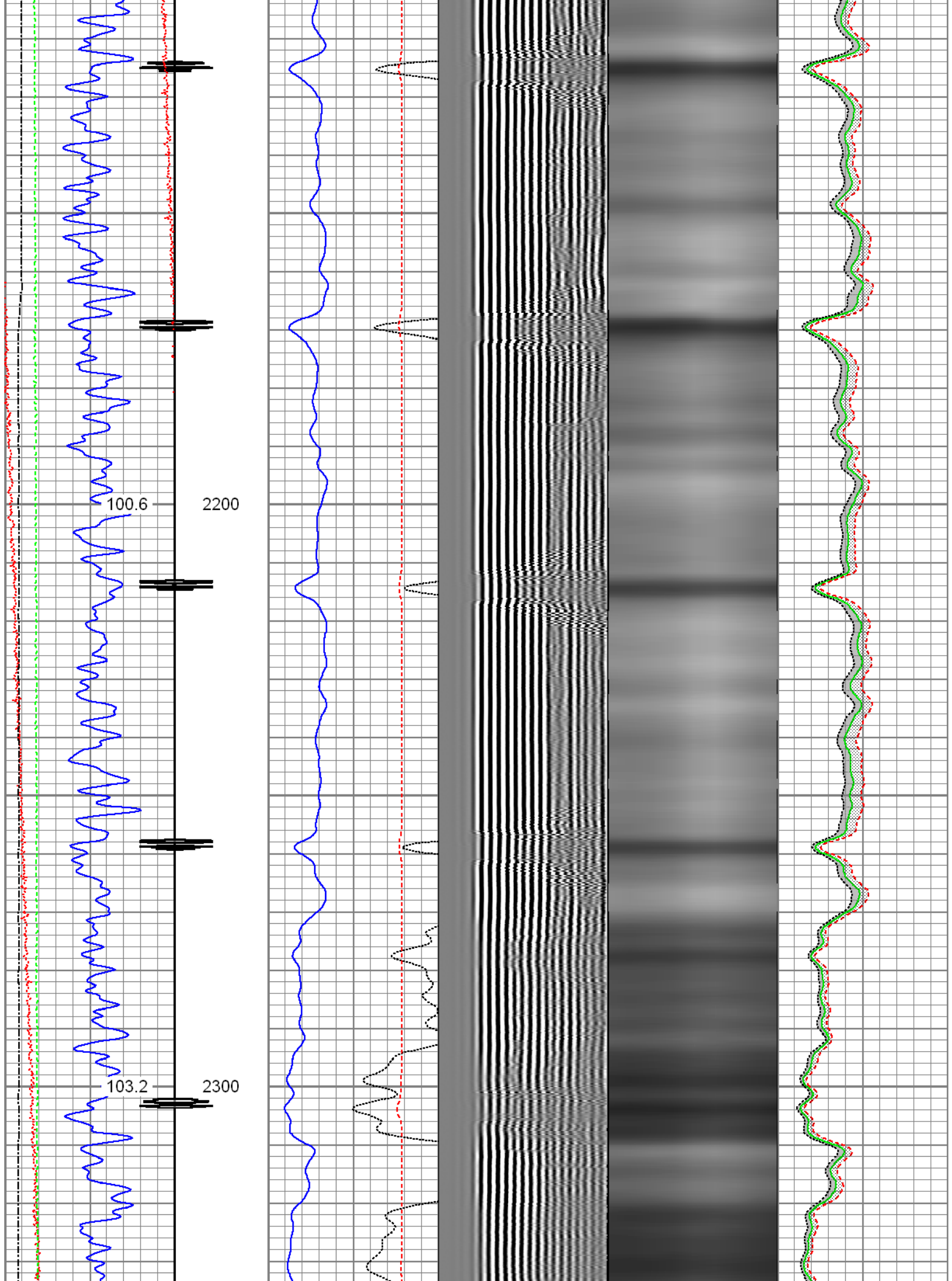


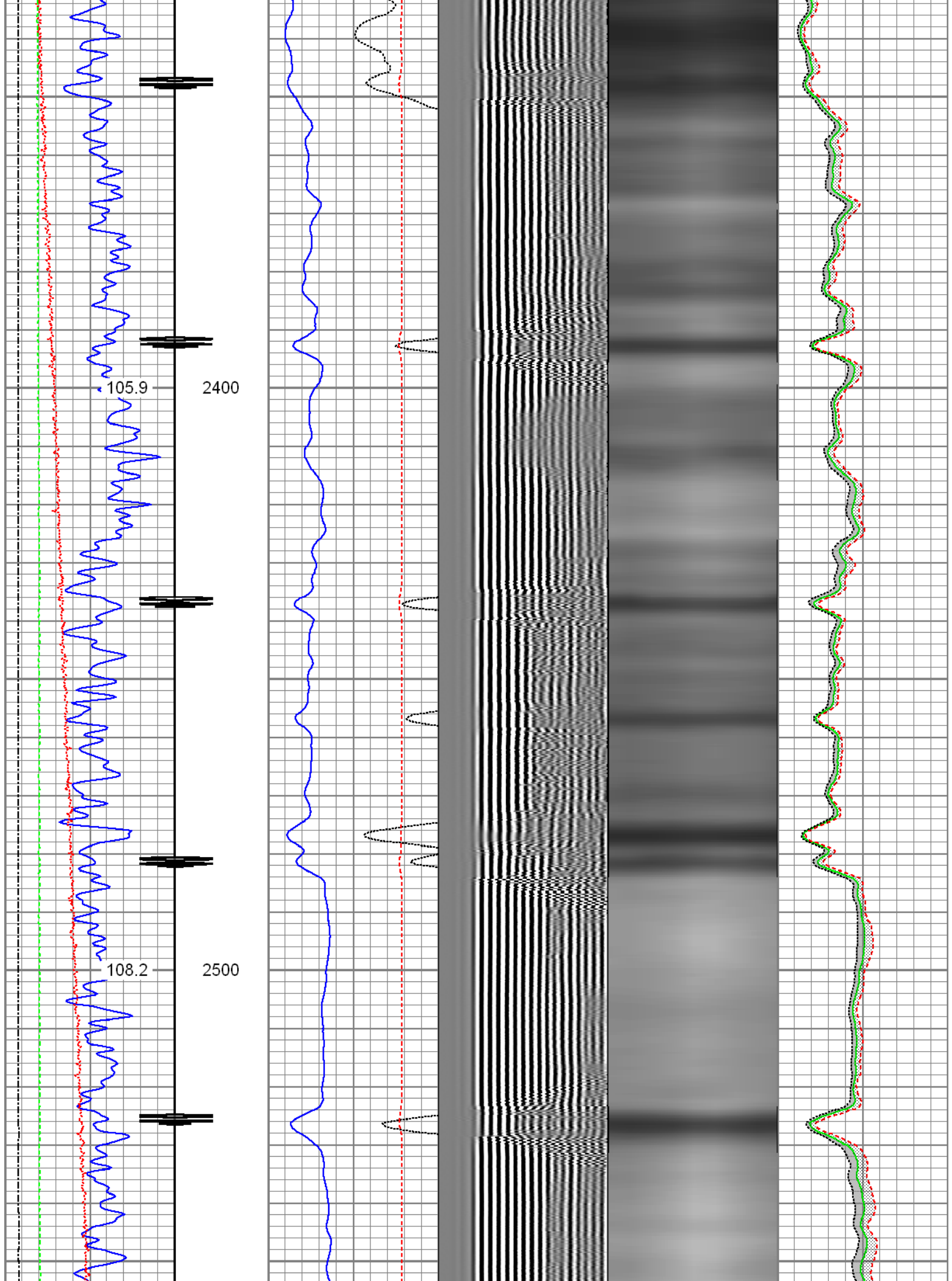


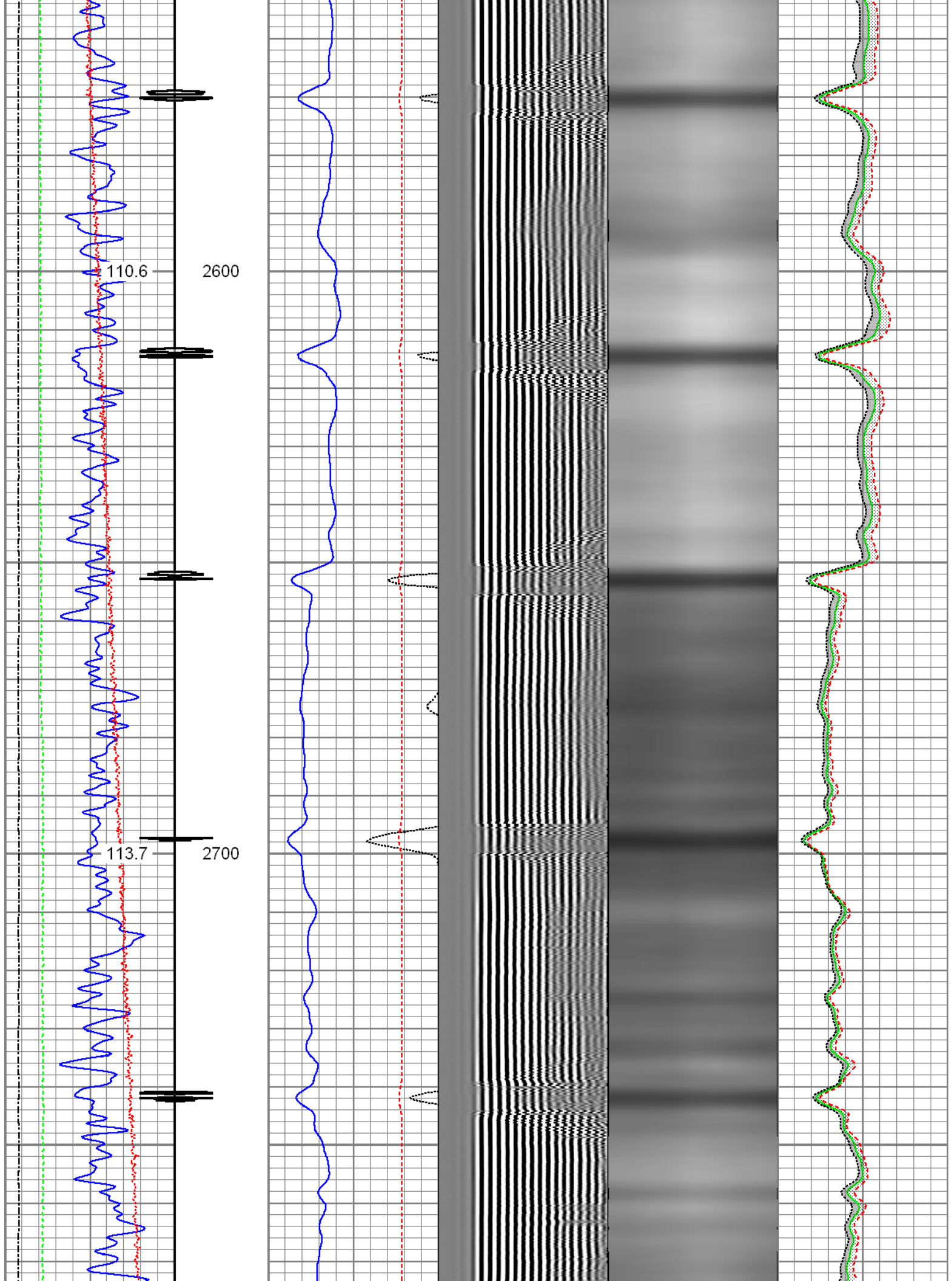


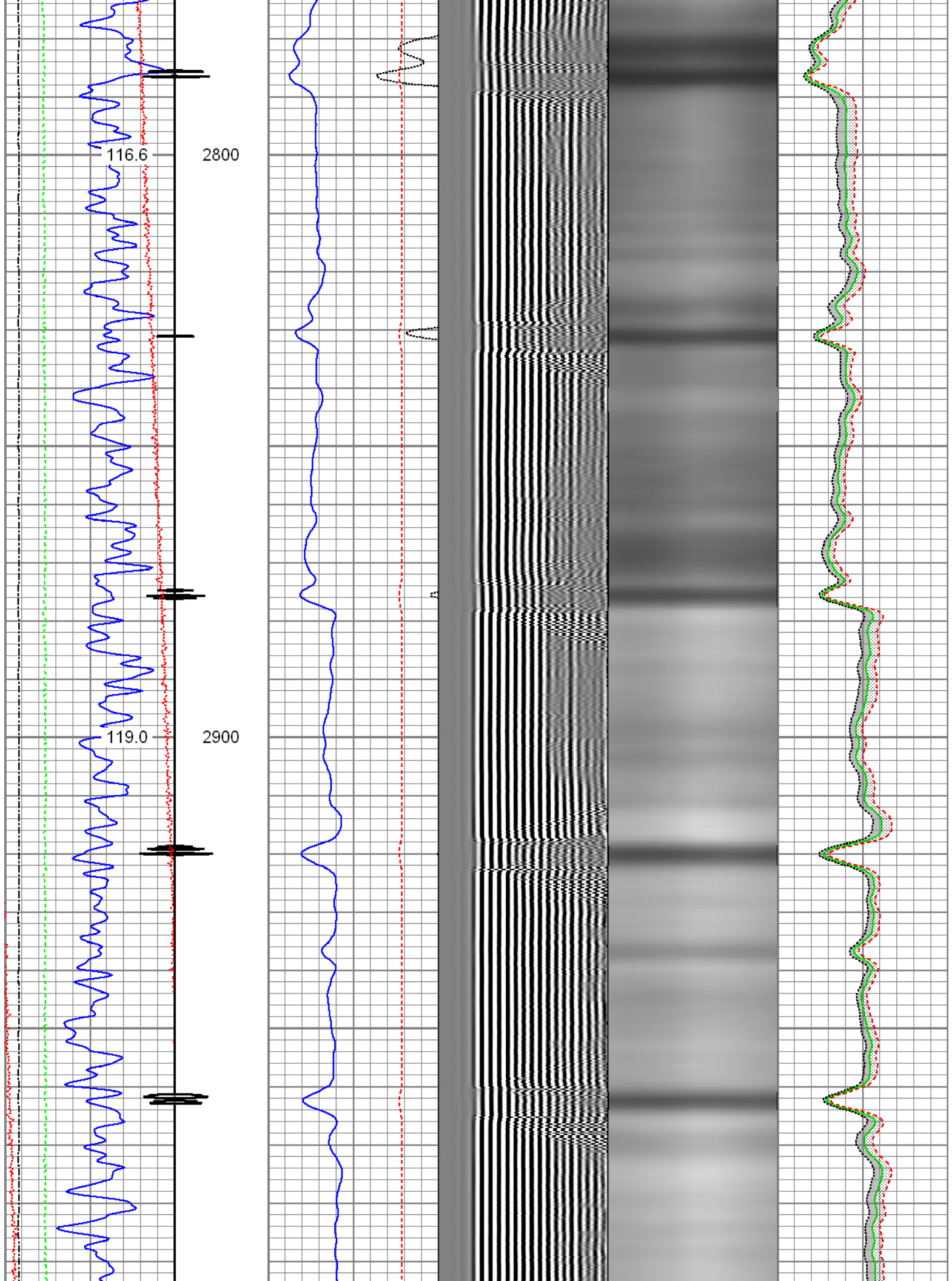


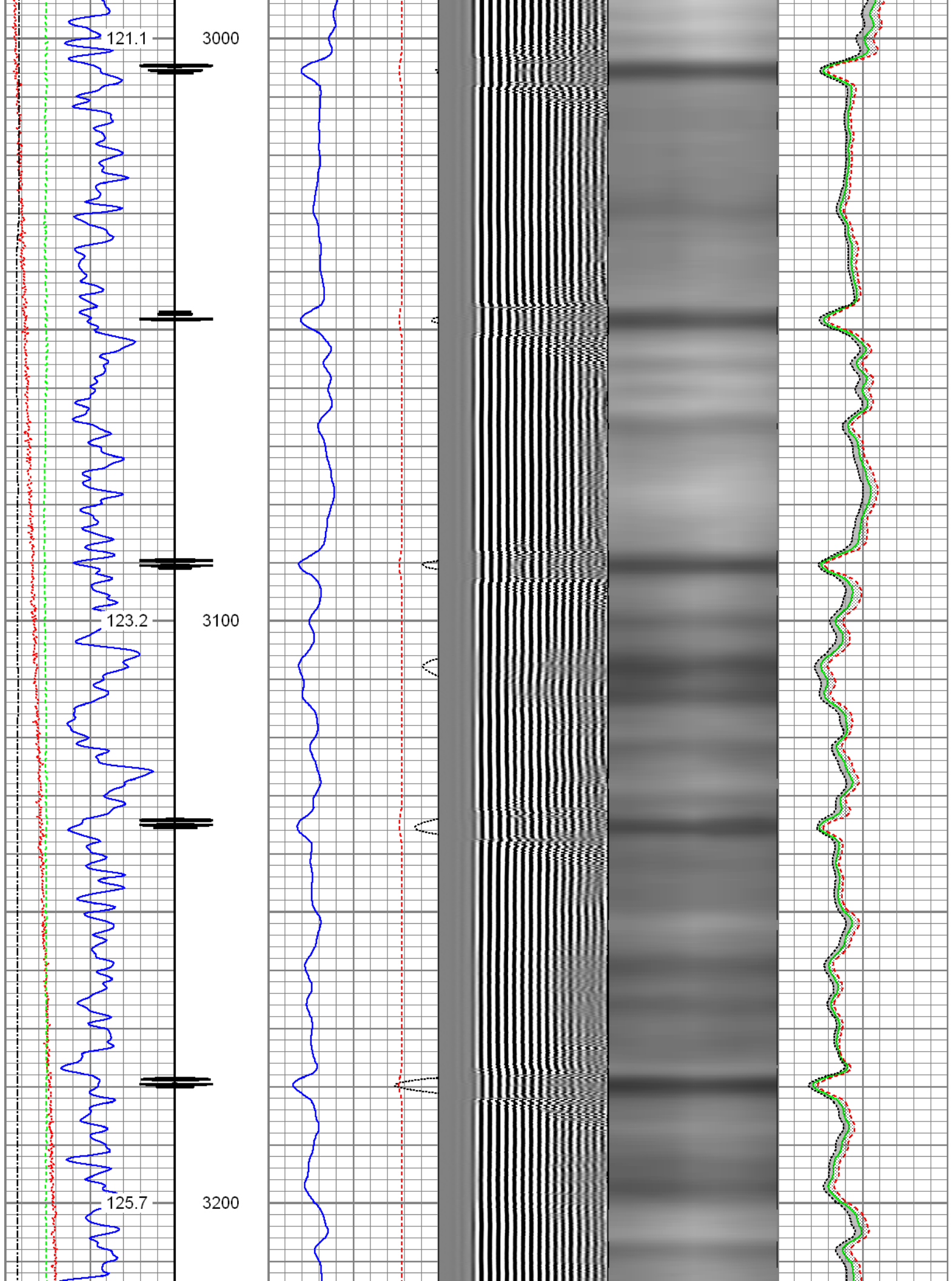


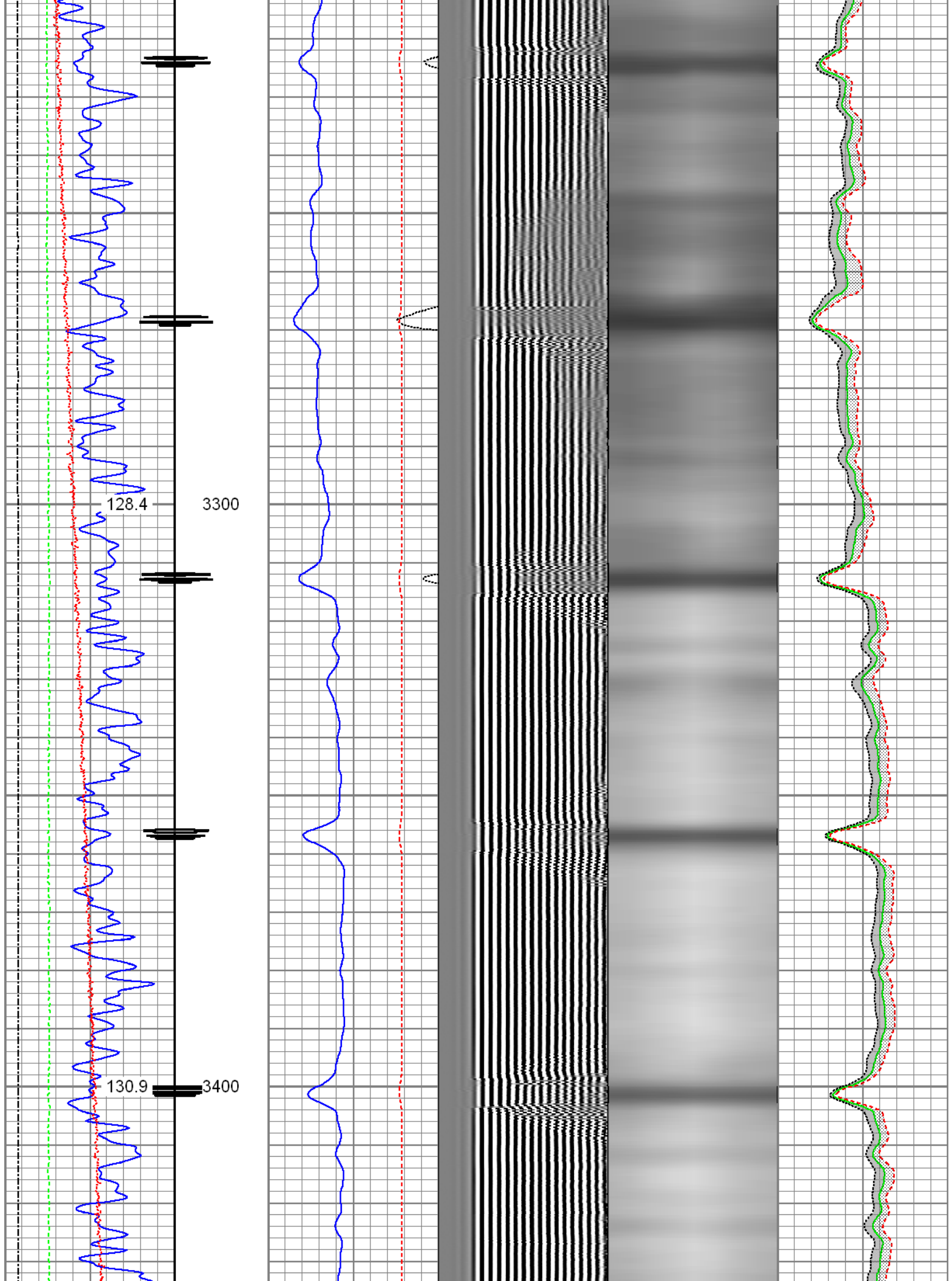


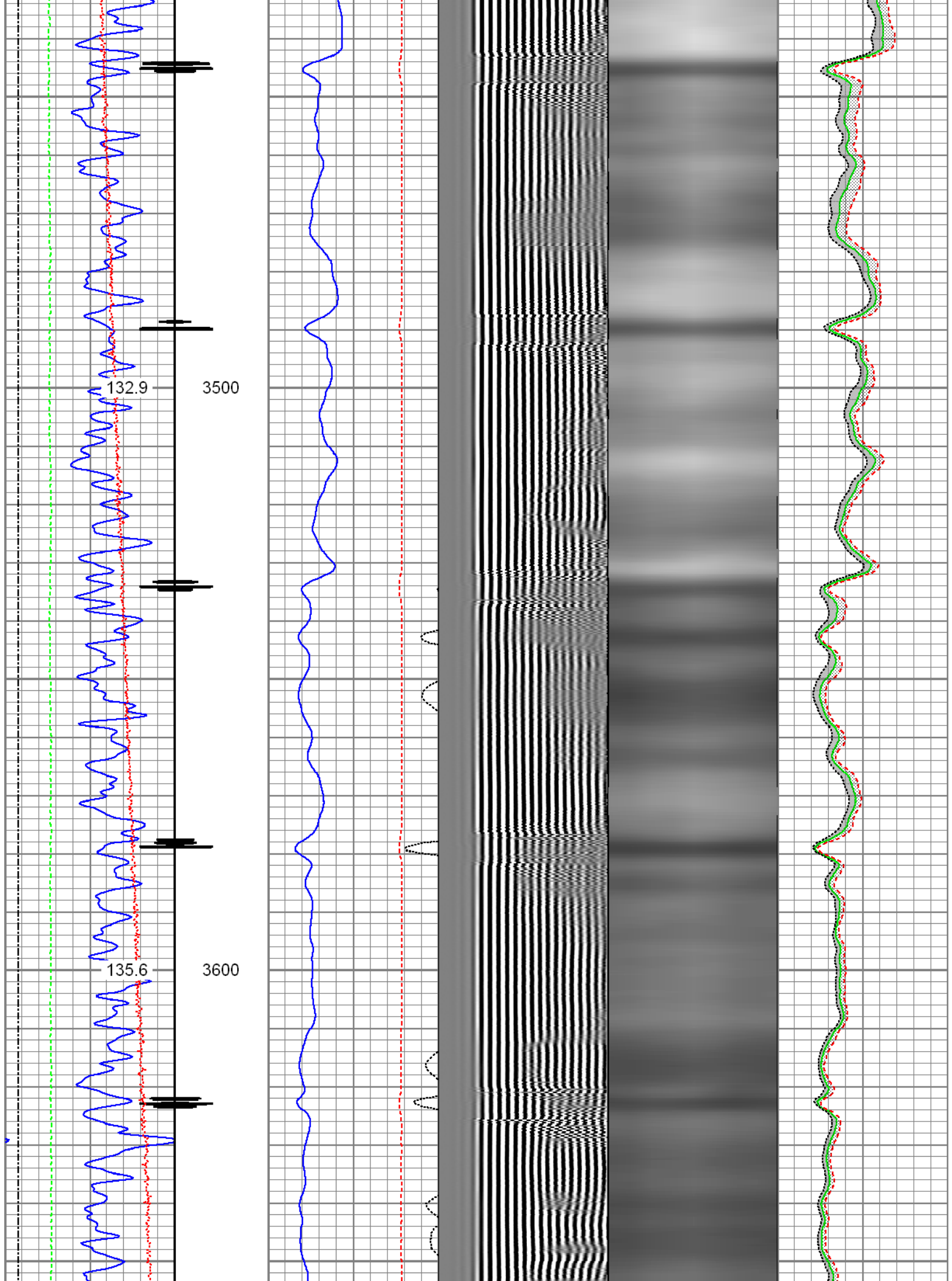


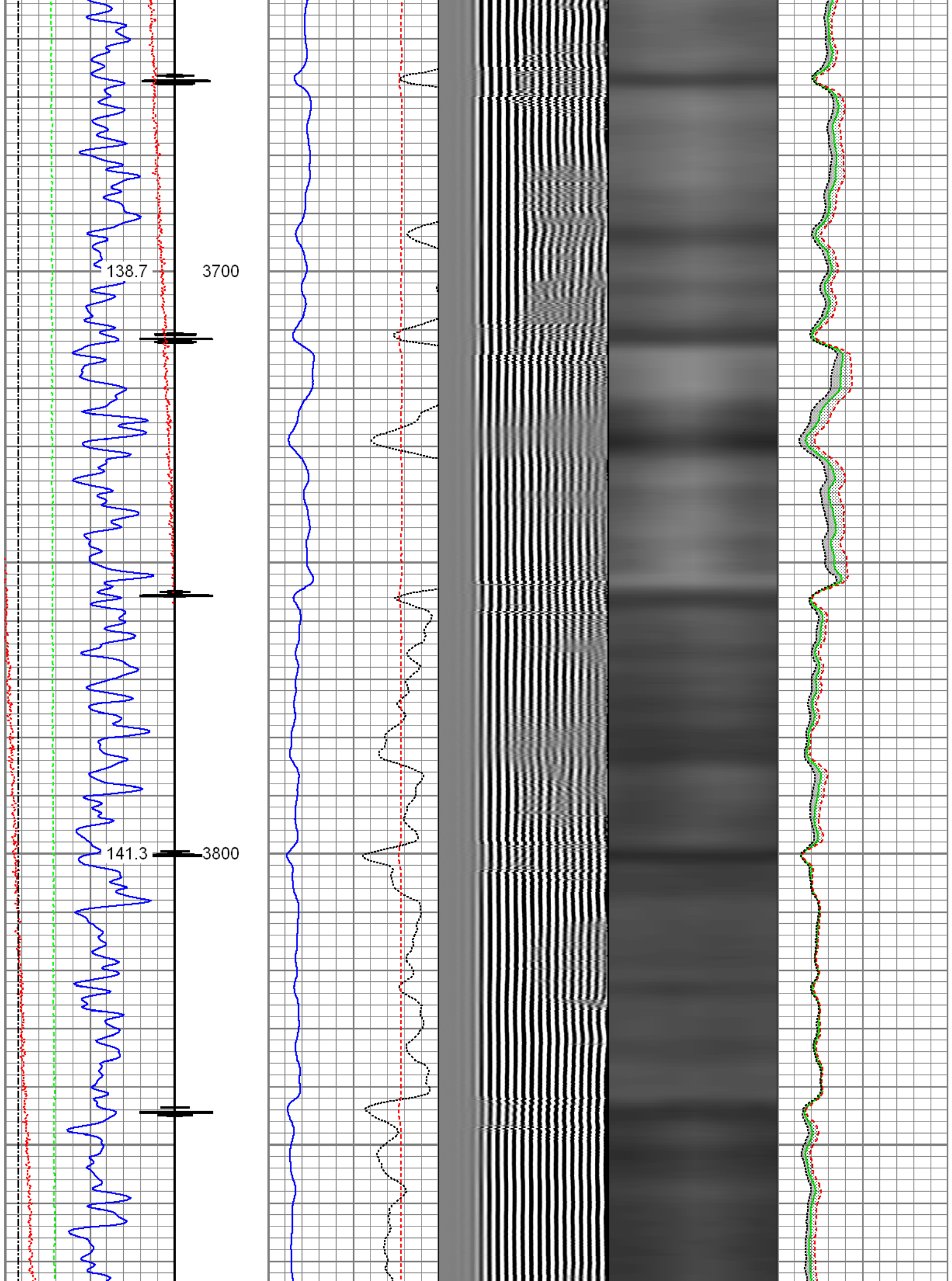


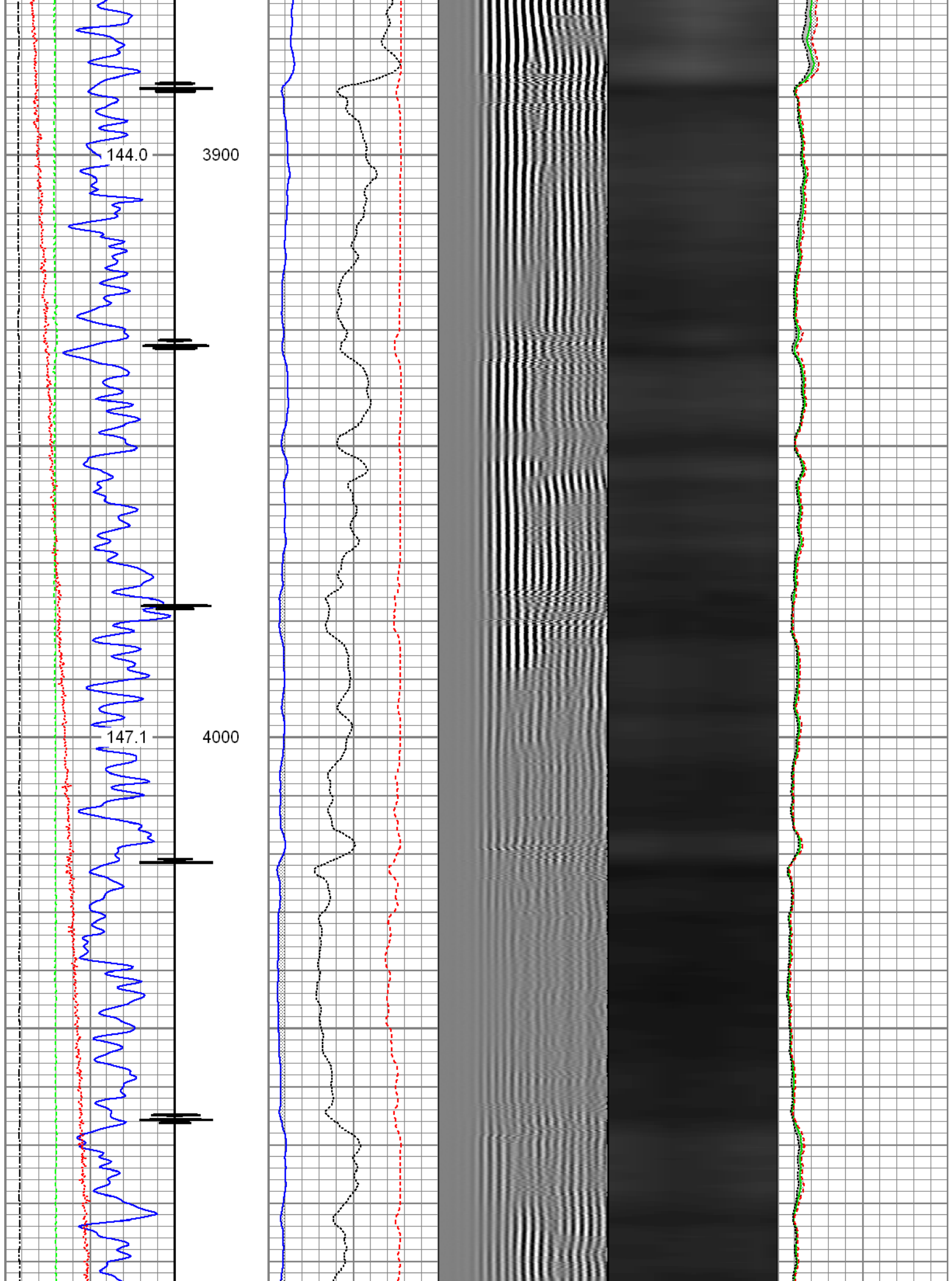


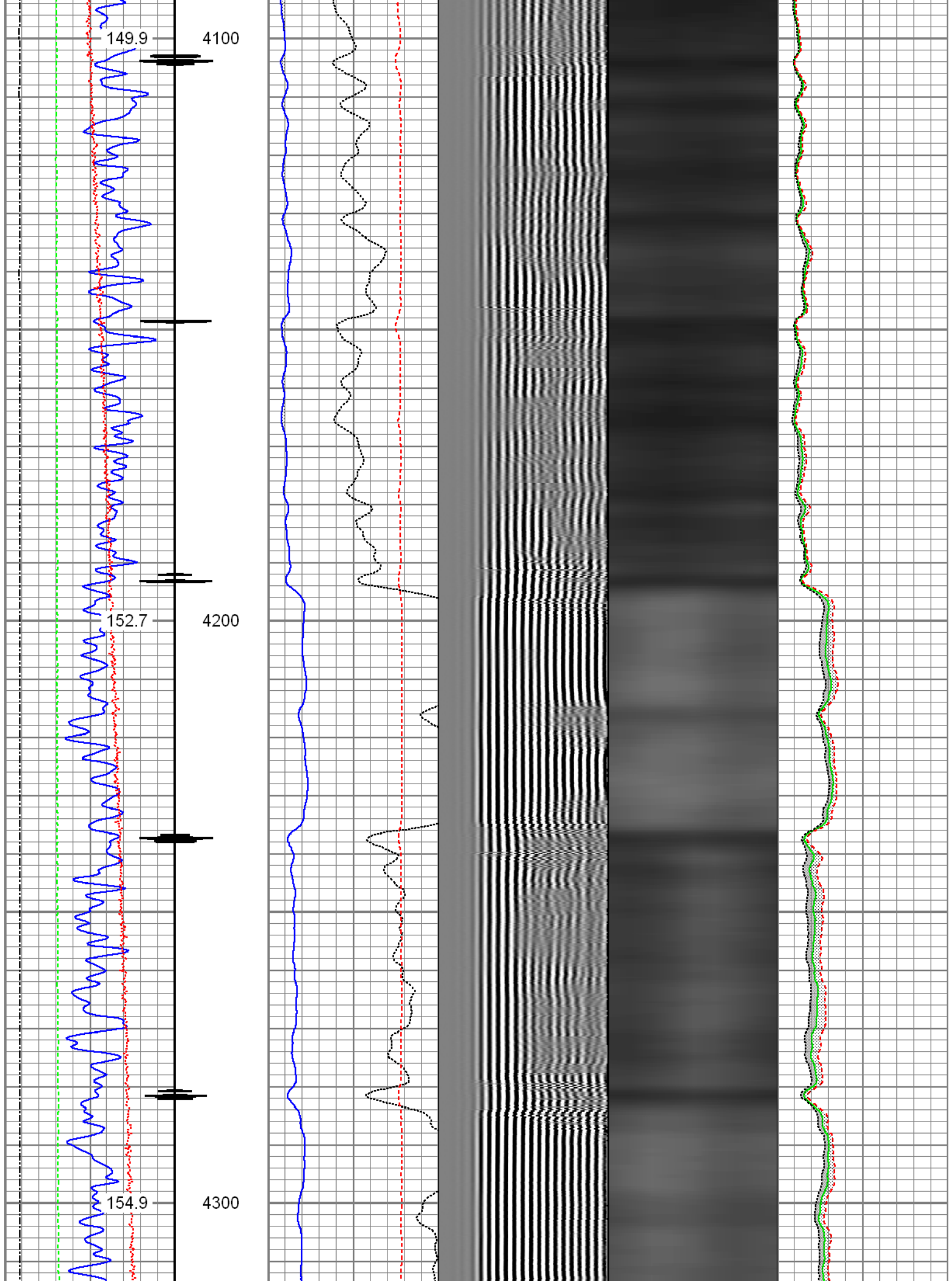


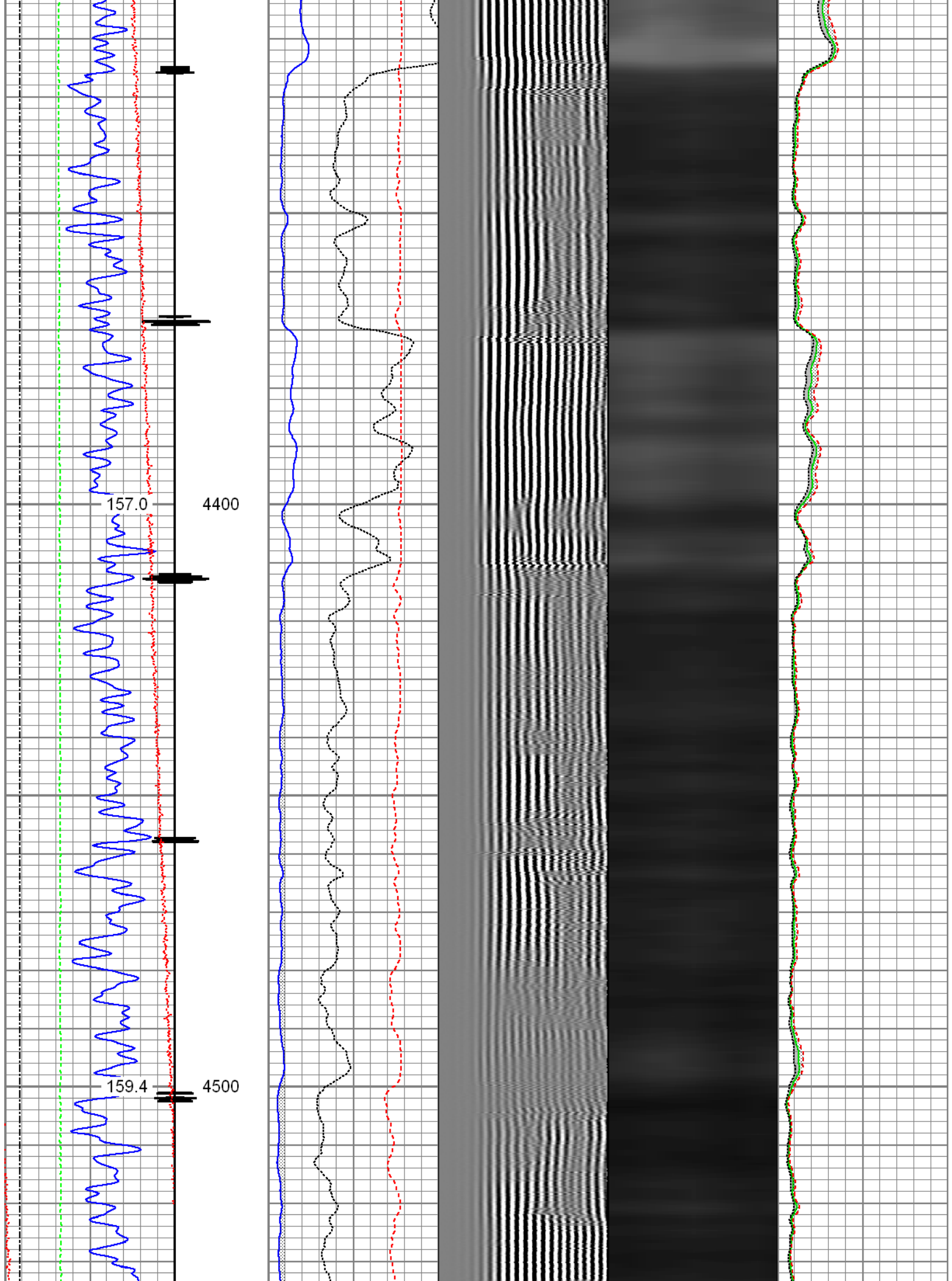


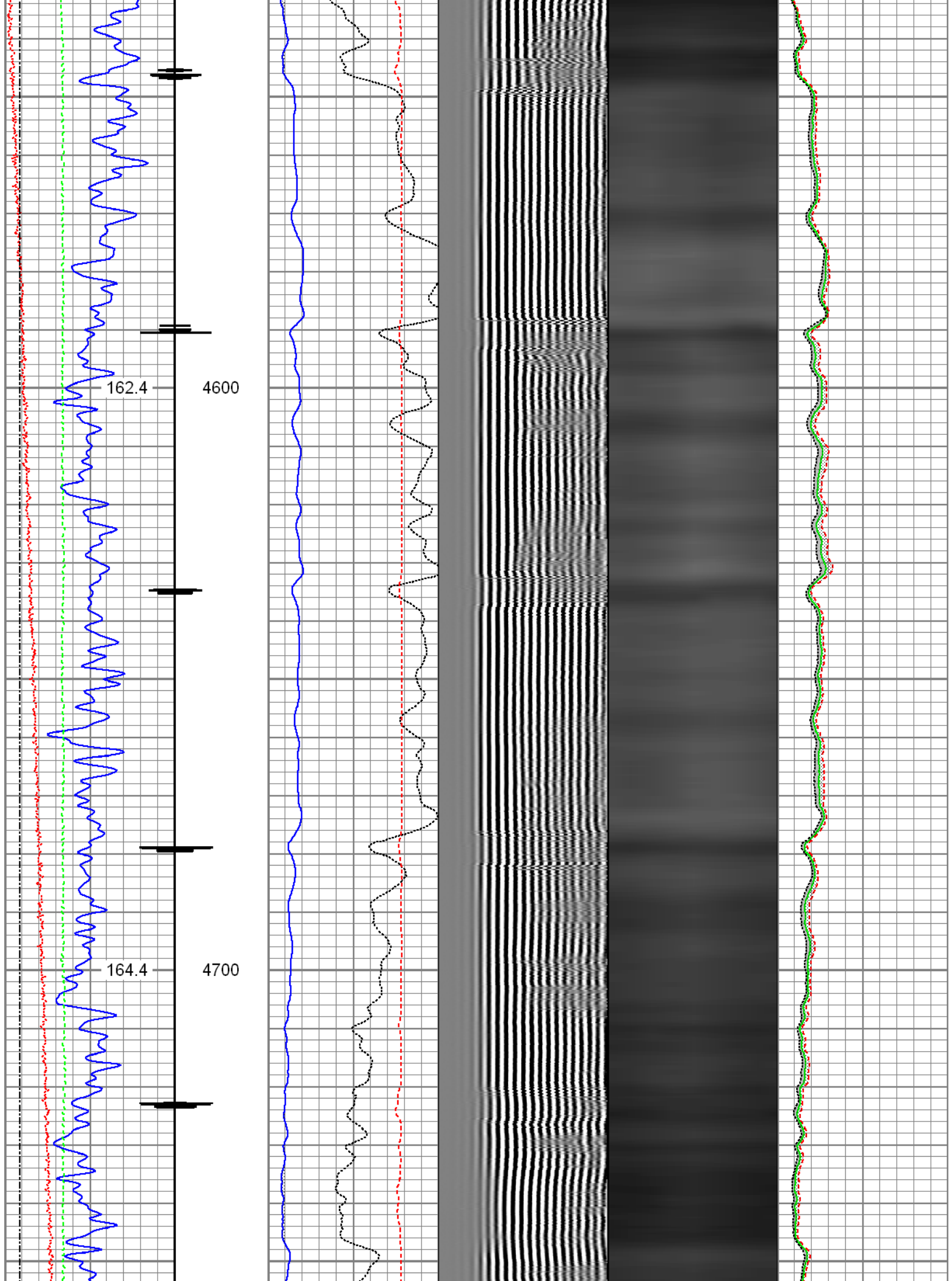


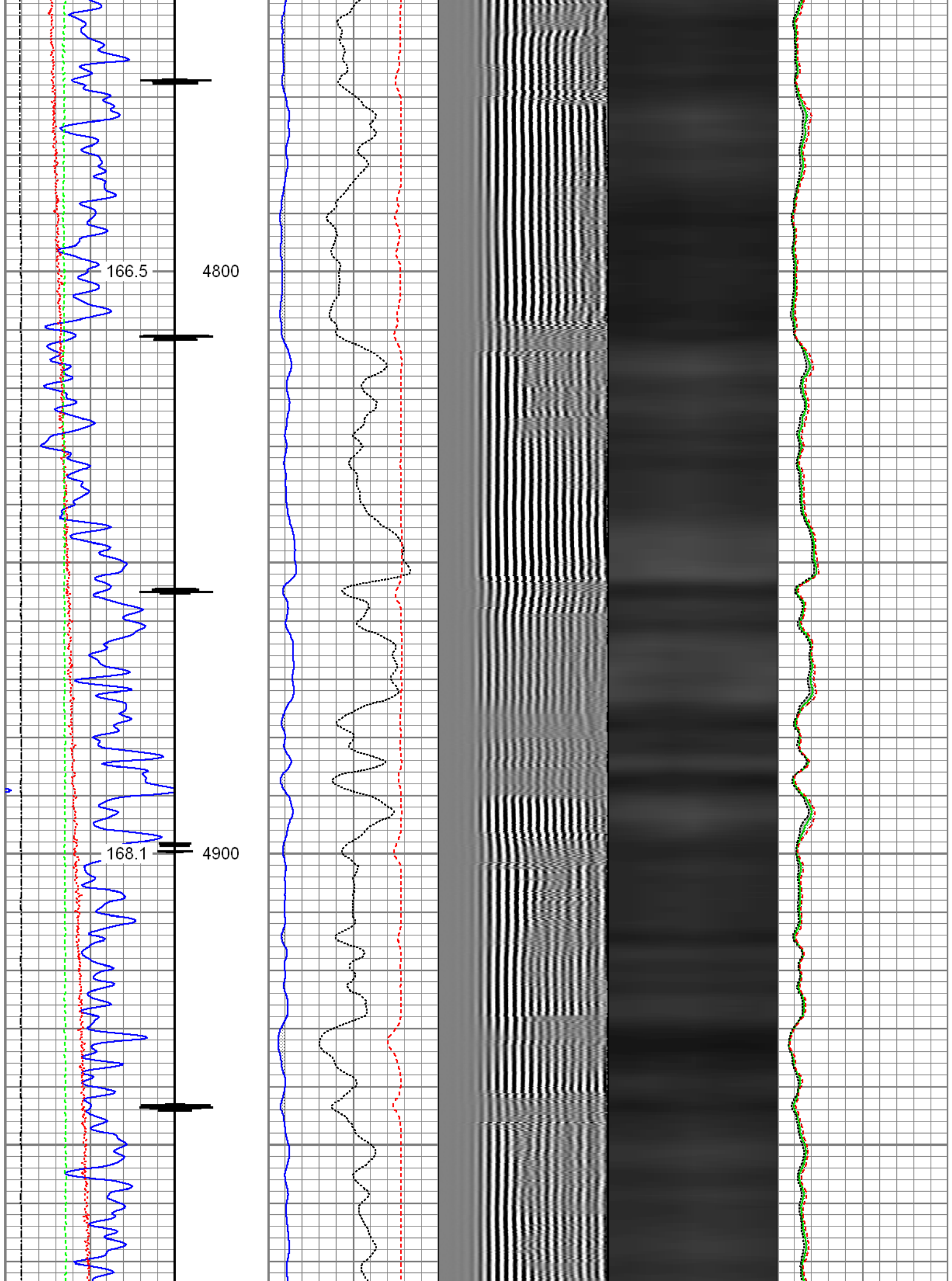


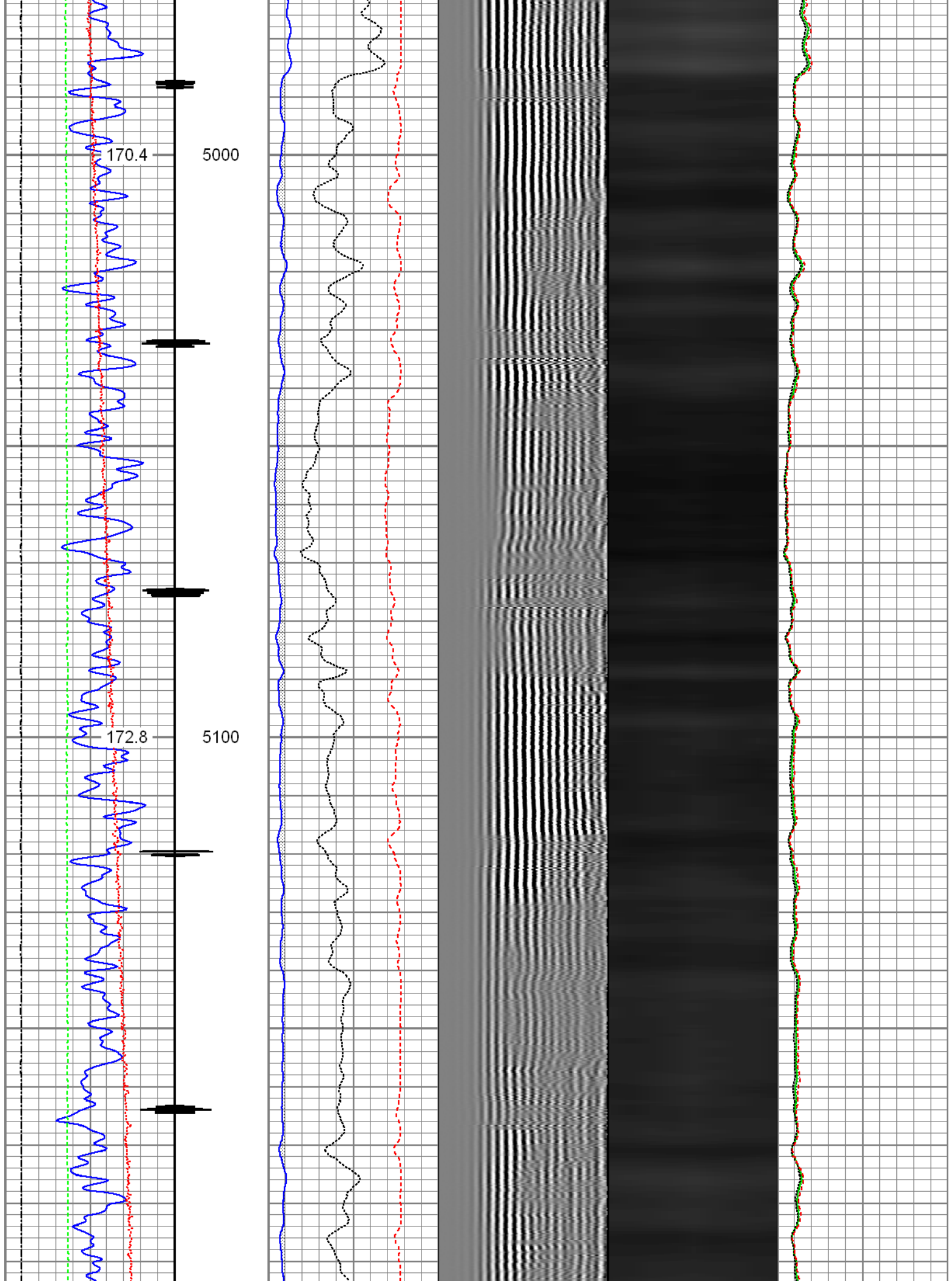


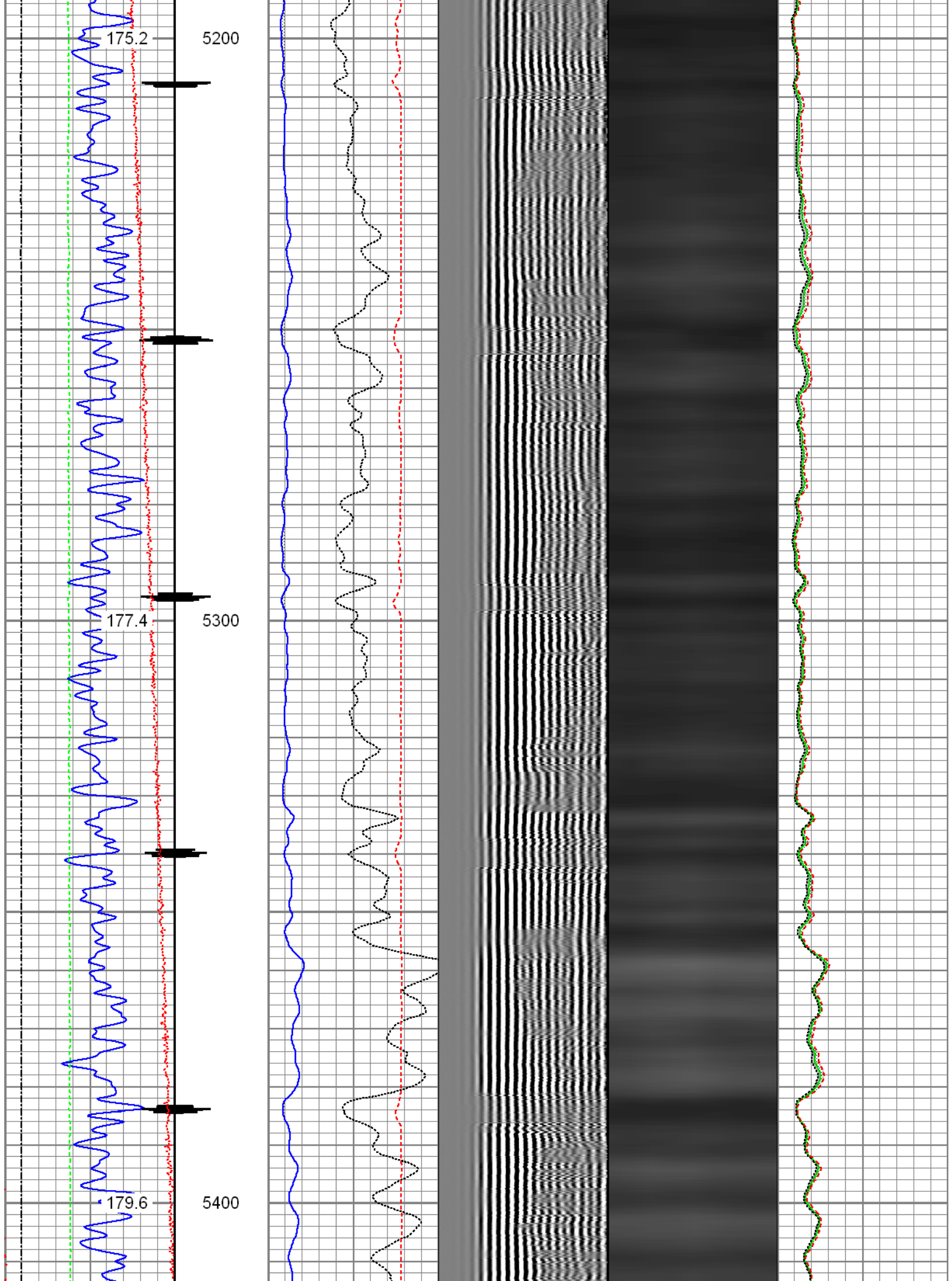


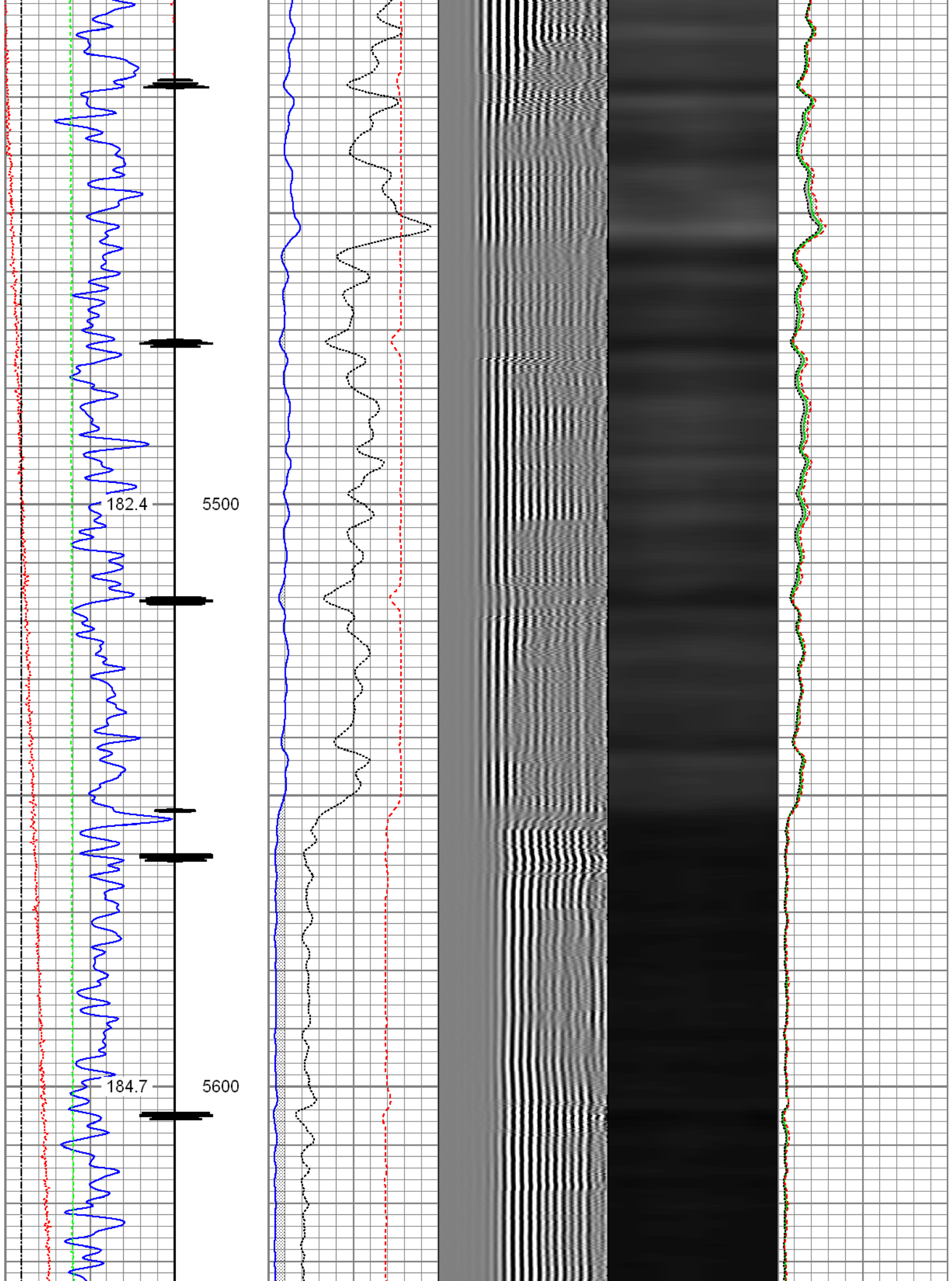


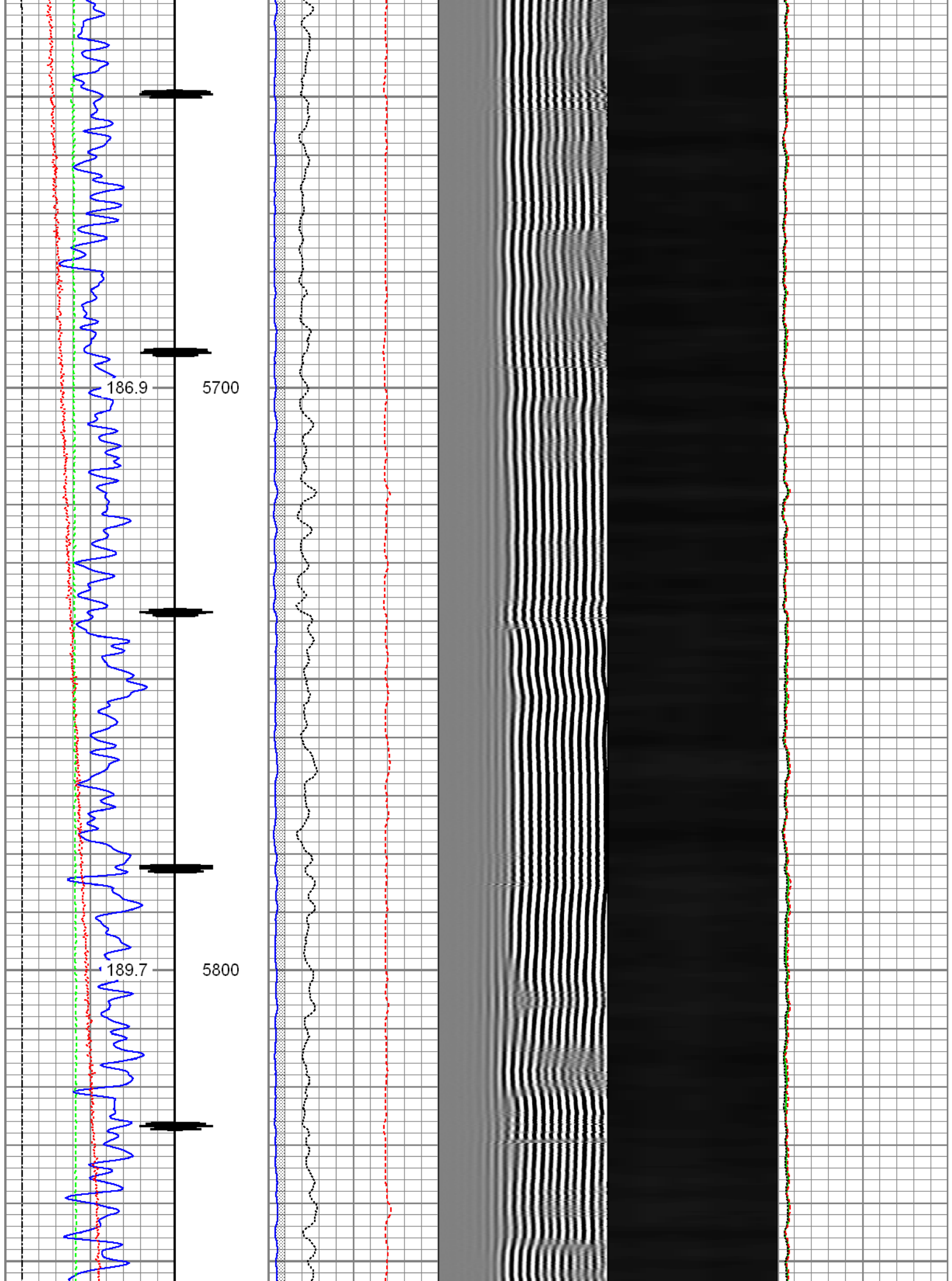


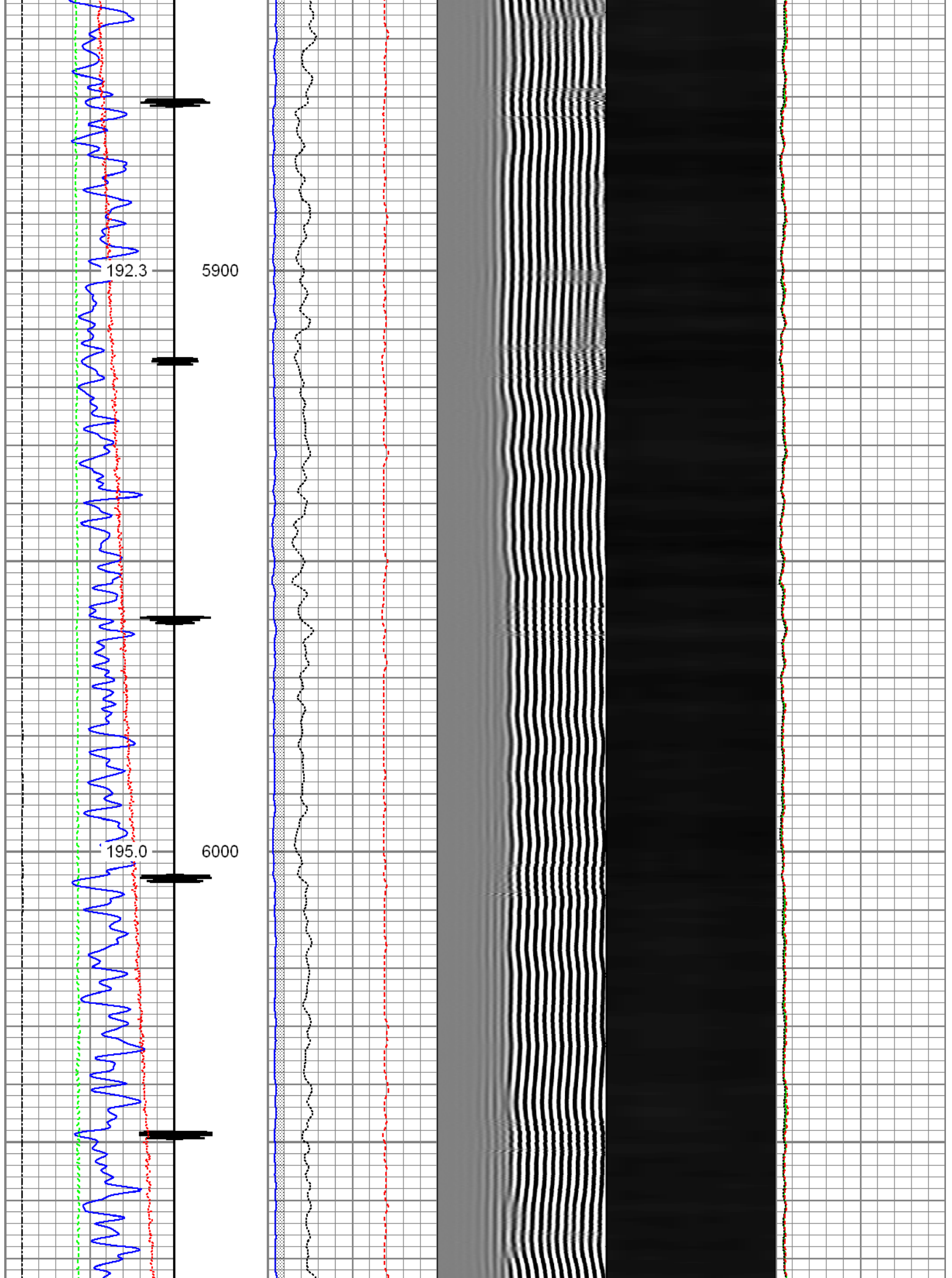


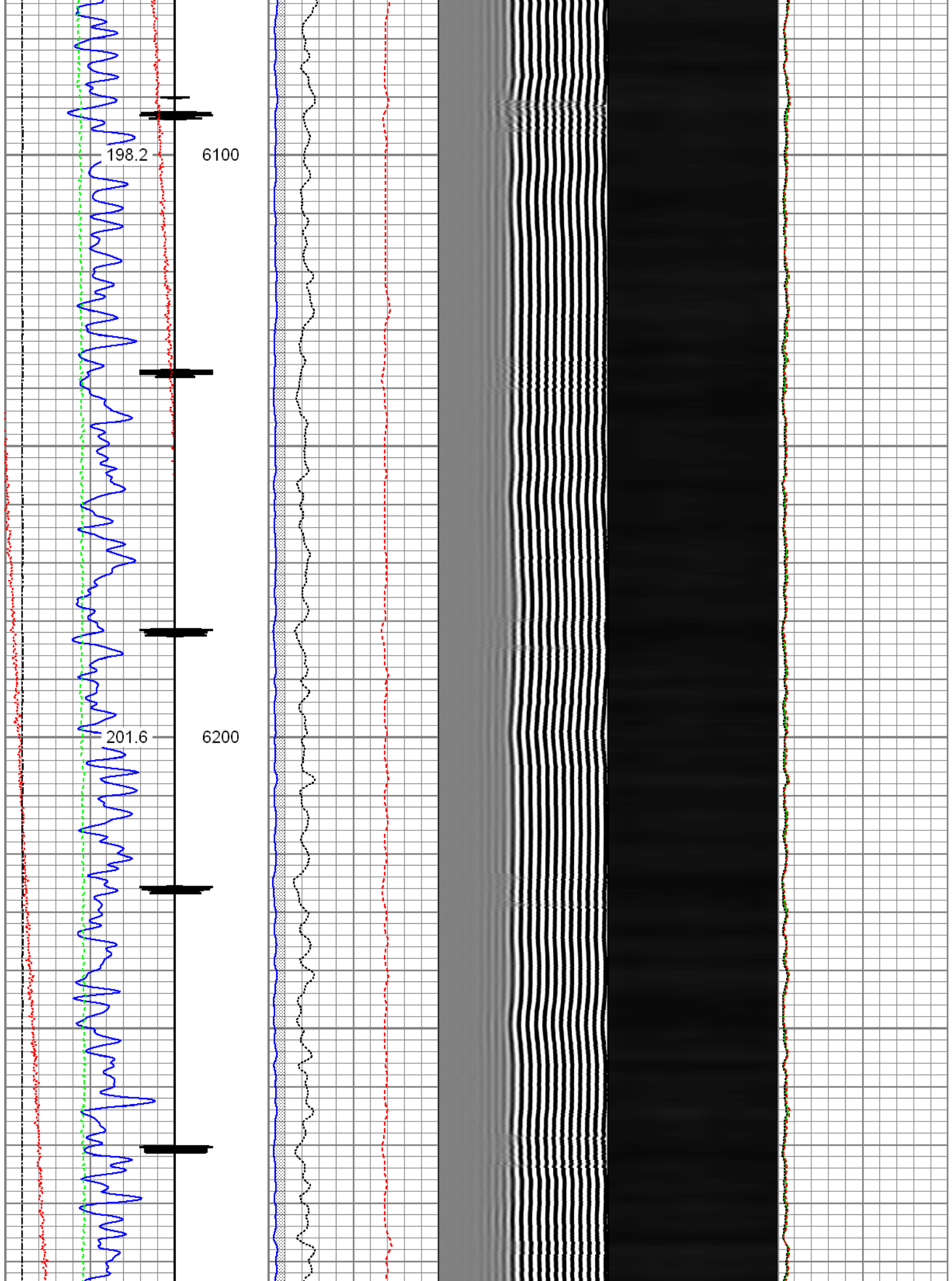


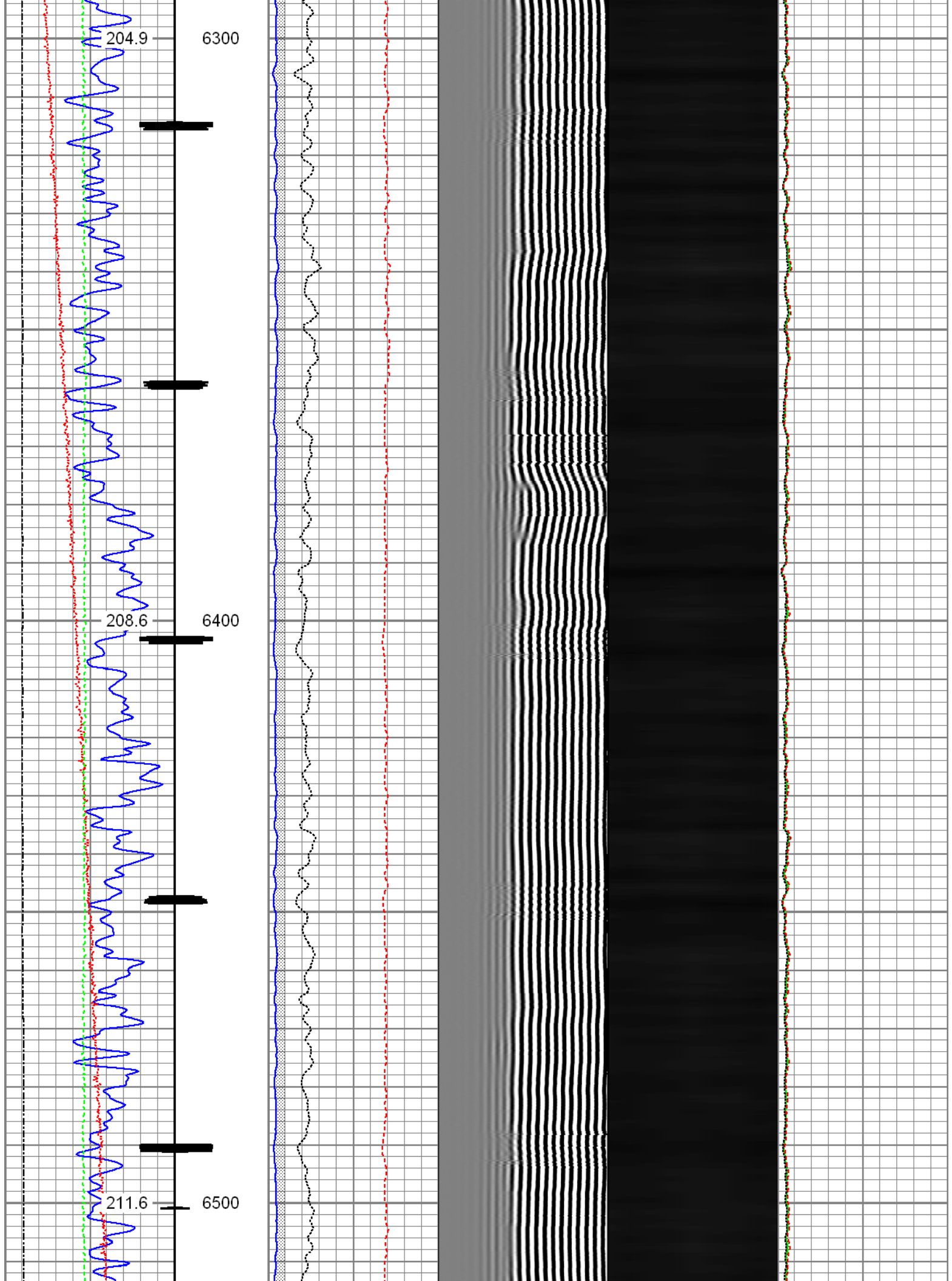


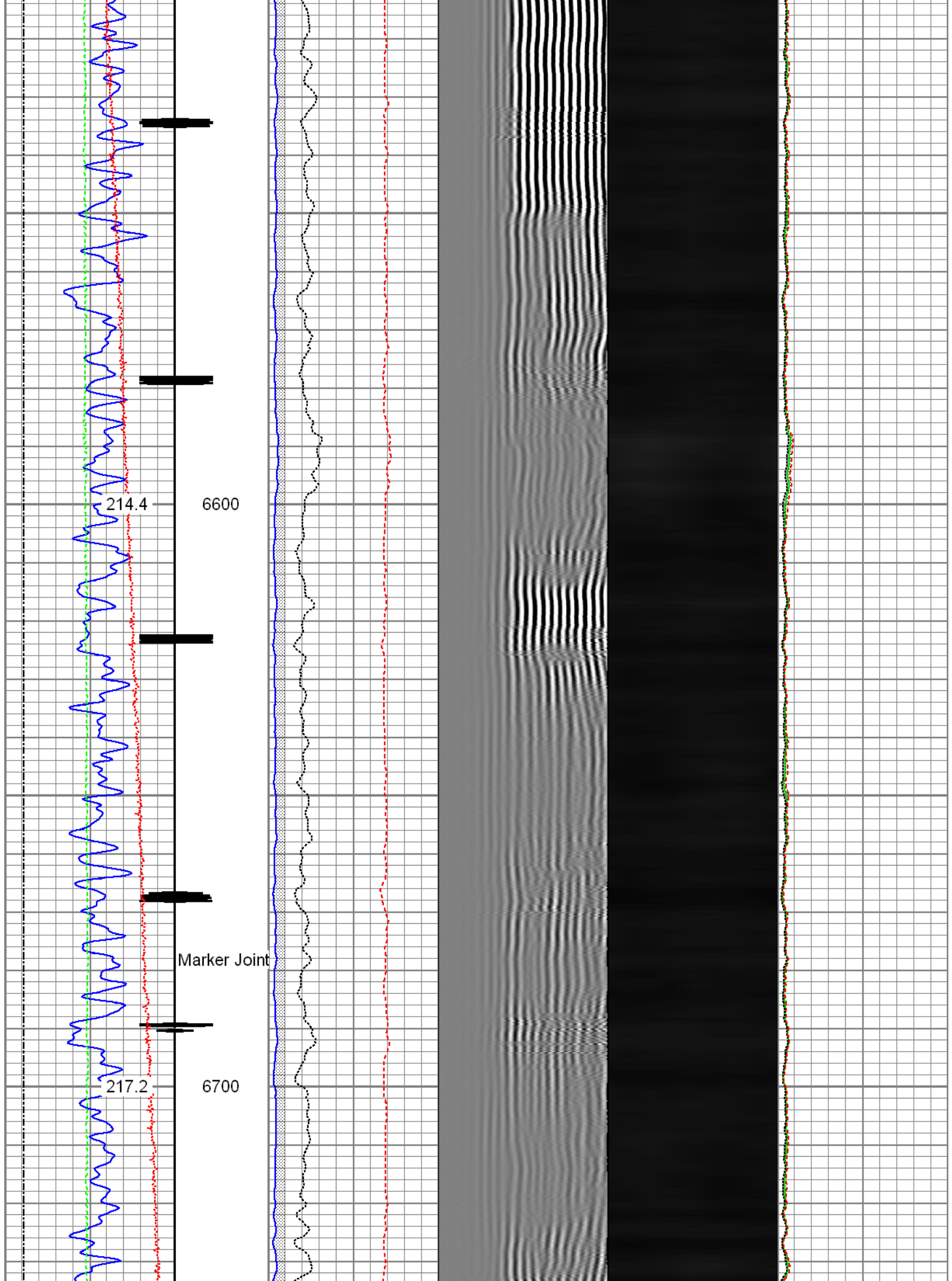


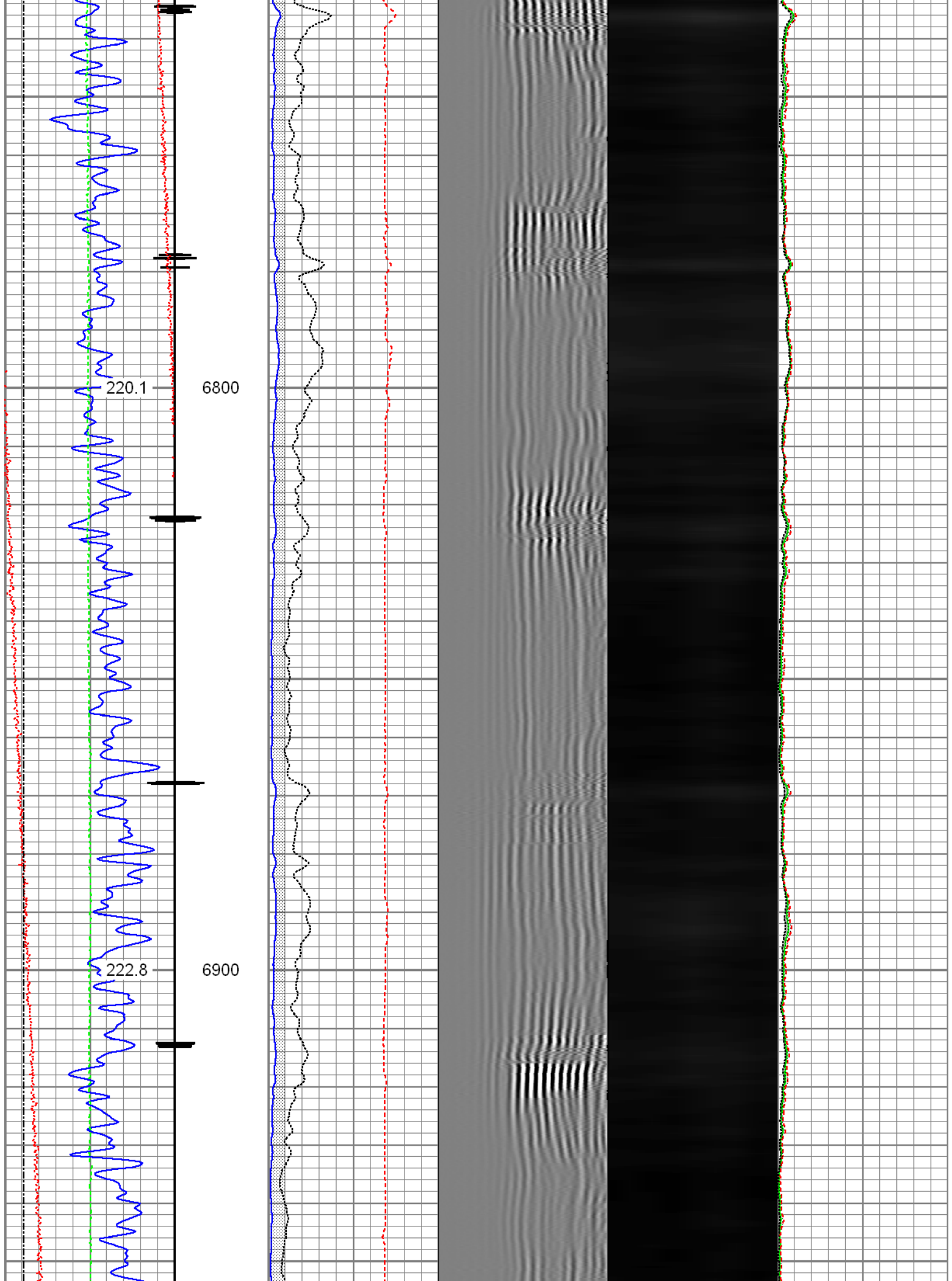


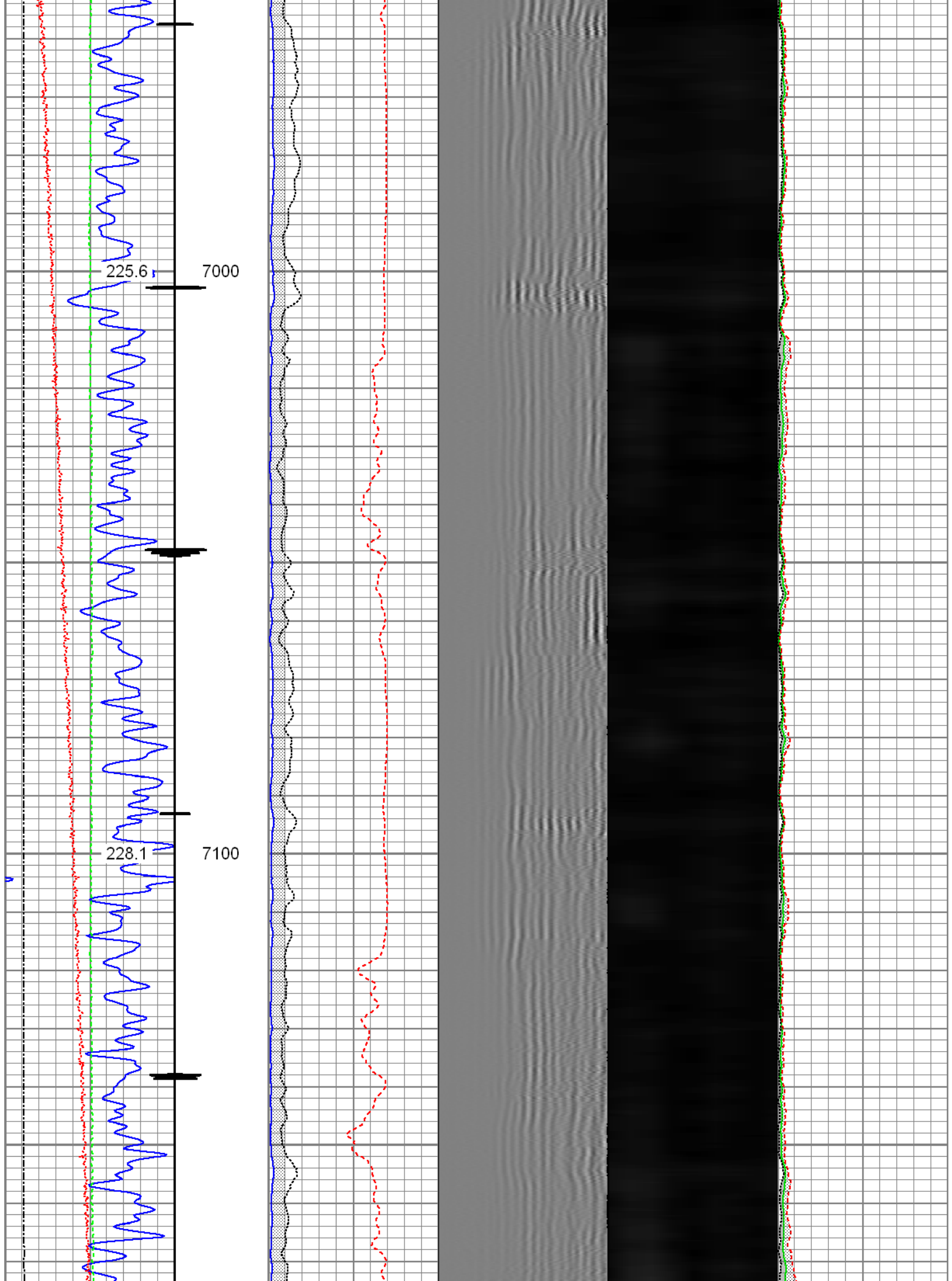


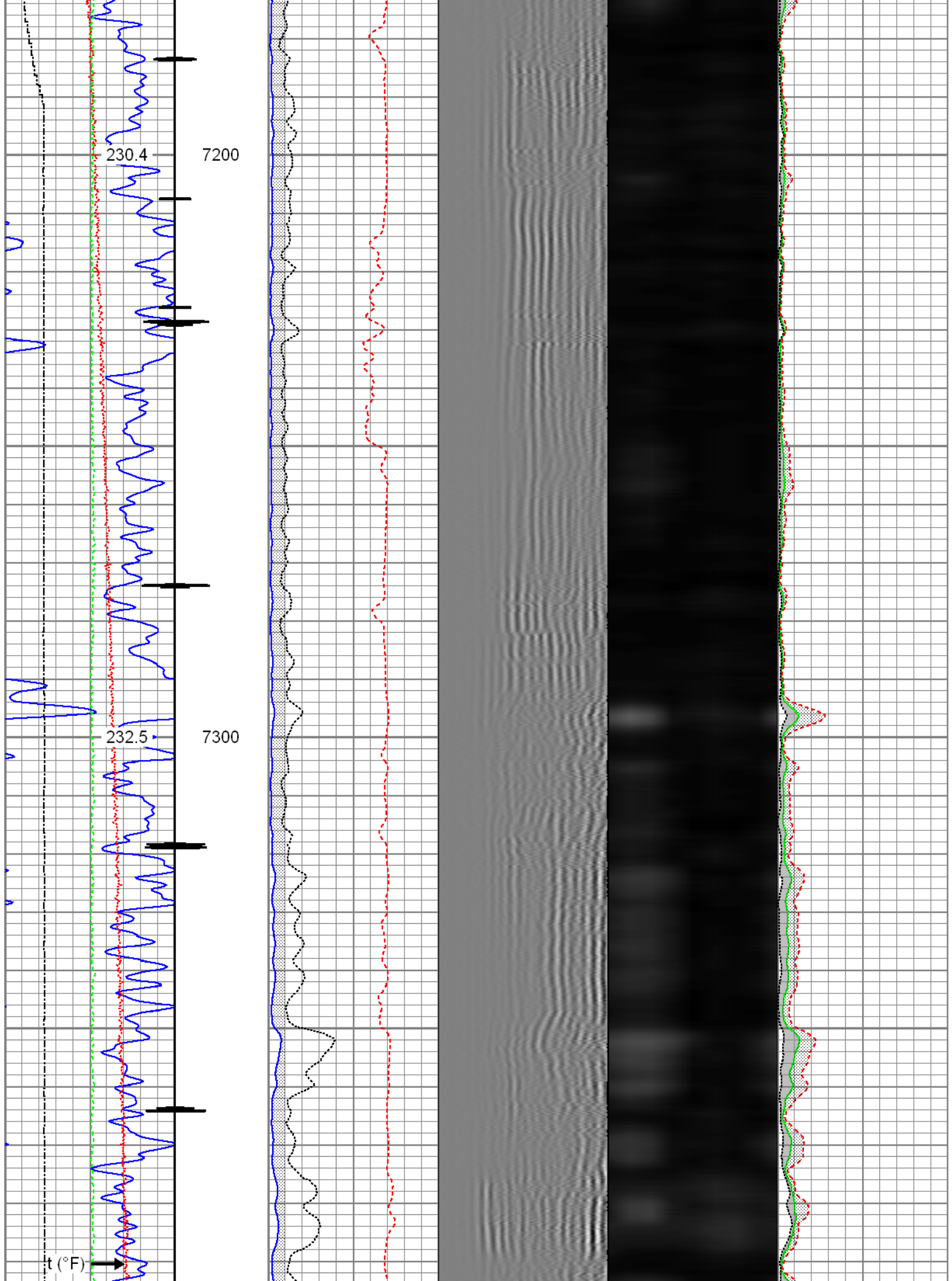


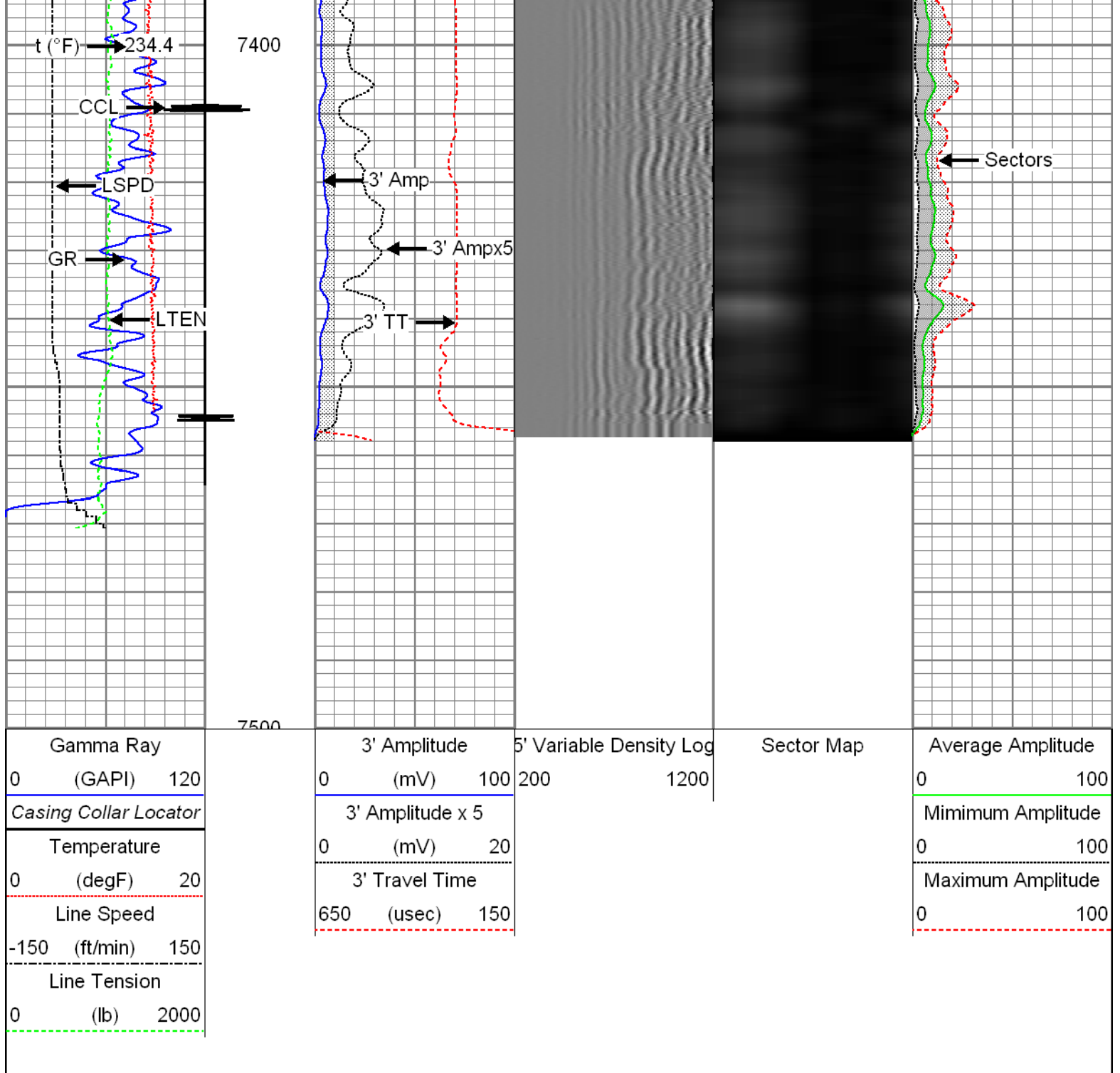








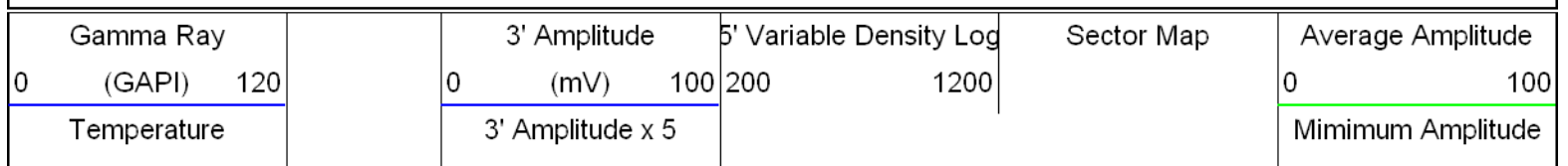




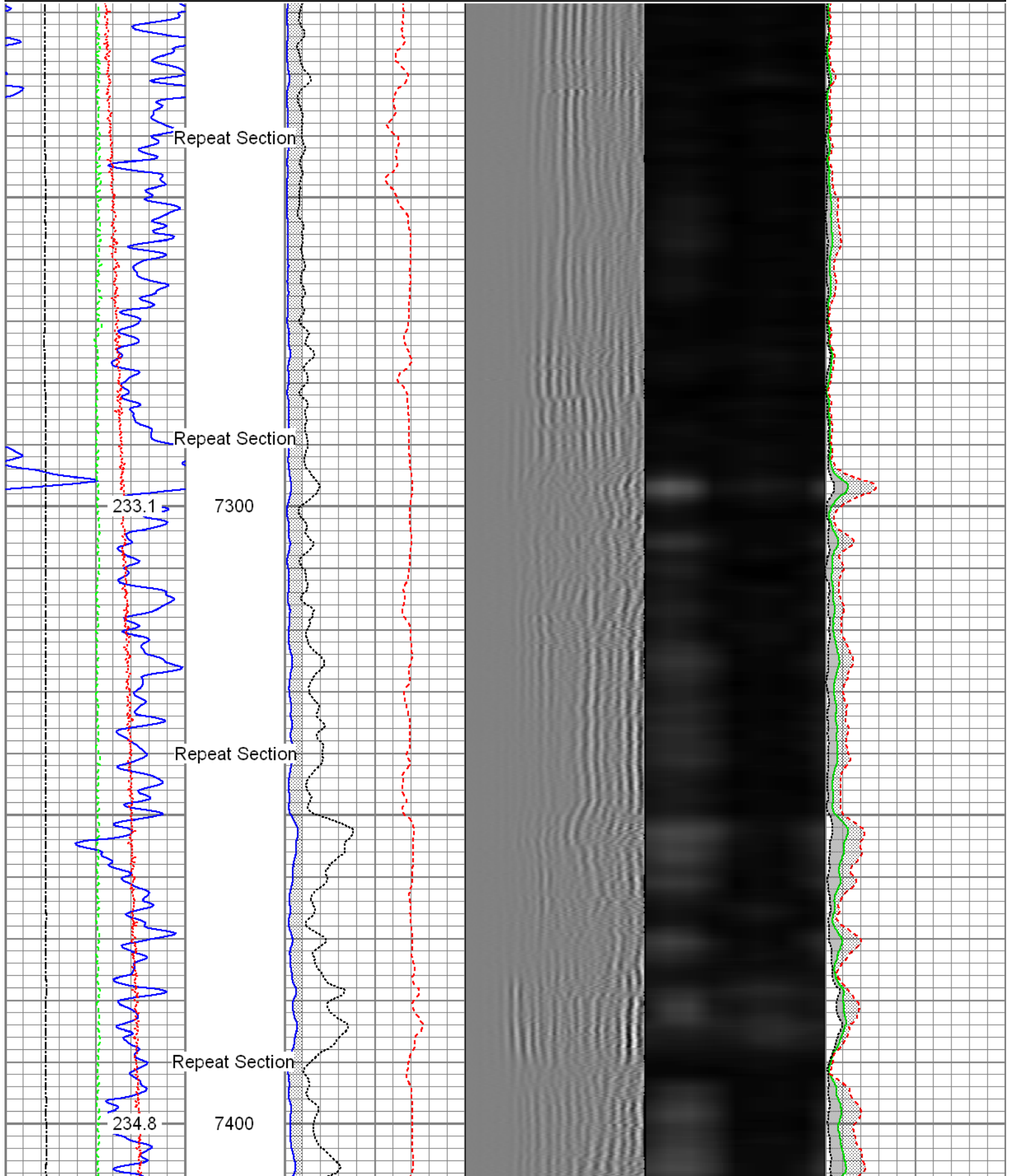
Repeat Pass

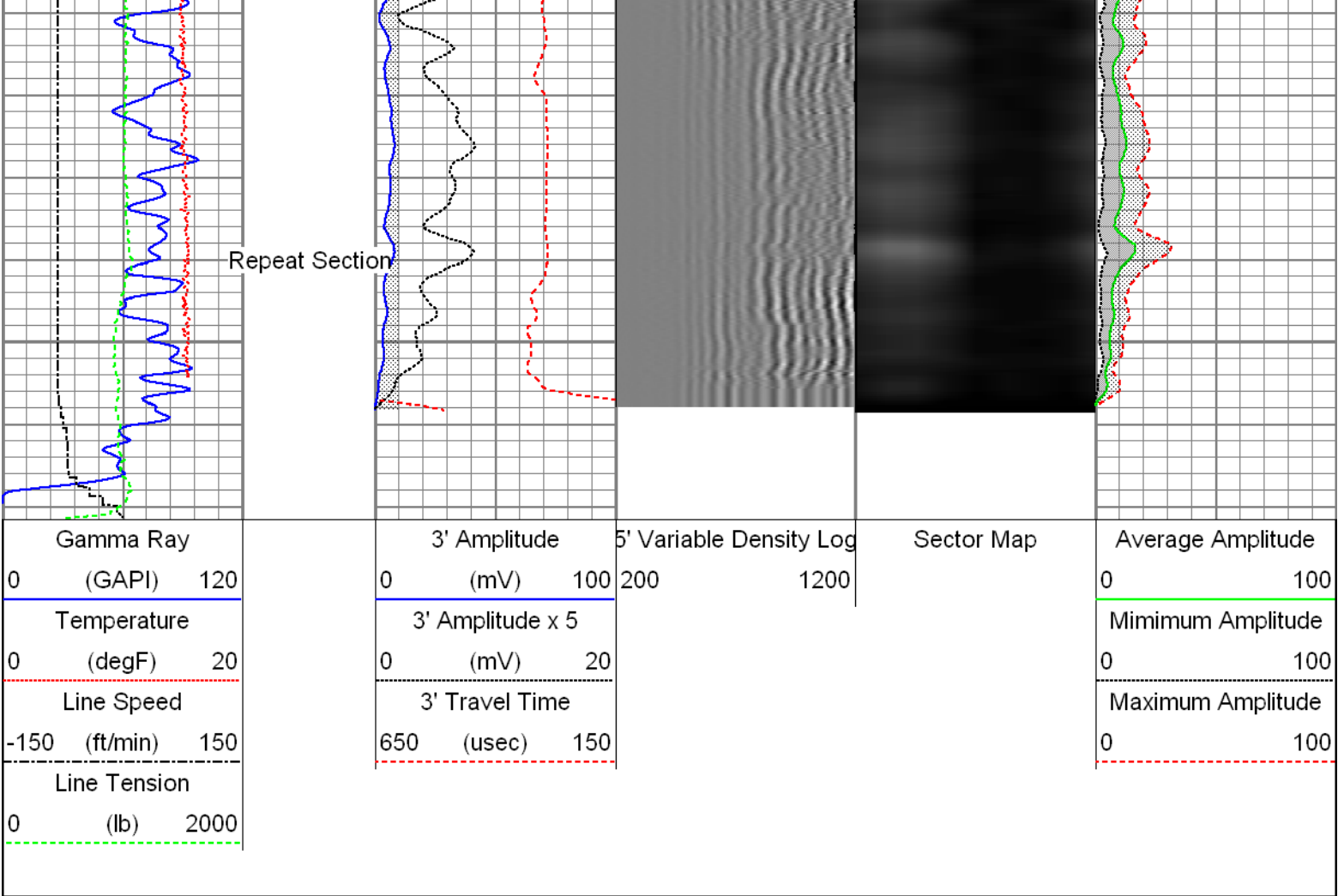
Recorded With 2800 PSI Surface Induced Pressure

Database File: 0512341490_anadarko_fehr 37n-29hz_09-29-15_rbl.db
 Dataset Pathname: pass4
 Presentation Format: radii
 Dataset Creation: Tue Sep 29 09:47:37 2015 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240



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
HeadVolt	19.49		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Temp	16.72					
WVFS1	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
WVFS2	14.55					
WVFS3	14.55					
WVFS4	14.55					
WVFS5	14.55					
WVFS6	14.55					

Tool Joint	Tool Joint Length (ft)	Tool Joint Diagram	Tool Joint Description	Tool Joint Length (ft)	Tool Joint Weight (lb)	Tool Joint O.D. (in)
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 (FW1212-026) 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: 0512341490_Anadarko_Fehr 37N-29HZ_09-29-15_RBL.db: field/well/run1/pass6

Total Length: 23.40 ft

Total Weight: 194.00 lb

O.D. 2.75 in

Calibration Report

Gamma Ray Calibration Report

Segmented Cement Bond Log Calibration Report

Master Calibration, performed Tue Sep 29 09:11:14 2015:

Raw (v)

	Raw (v)		Calibrated (mV)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.008	0.581	1.000	71.921	123.809	-0.047
CAL	0.680	0.613				
5'	0.011	0.537	1.000	71.921	134.759	-0.457
SUM						
S1	0.005	0.584	0.000	100.000	172.601	-0.841
S2	0.009	0.582	0.000	100.000	174.539	-1.530
S3	0.009	0.577	0.000	100.000	176.032	-1.498
S4	0.009	0.581	0.000	100.000	174.796	-1.562
S5	0.009	0.577	0.000	100.000	175.919	-1.559
S6	0.009	0.579	0.000	100.000	175.335	-1.580
S7	0.009	0.574	0.000	100.000	176.968	-1.614
S8	0.008	0.580	0.000	100.000	175.035	-1.457

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	0.680	0.613	1.000	0.000

Air Zero Calibration, performed Tue Sep 29 09:10:54 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 Fehr 37N-29HZ
Field Wattenberg
County Weld
State Colorado