



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company		Noble Energy Inc.	
Well		Moser H22-735	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API #: 05-123-40884	
SEC 27 TWP 3N RGE 65W		Other Services ---	
Permanent Datum		Ground Level	
Log Measured From		Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		4811'	
K.B. 4841'		D.F. 4840'	
G.L. 4811'			
Date		25-Jan-2016	
Run Number		One	
Depth Driller		14155 FT	
Depth Logger		7230 FT	
Bottom Logged Interval		7225 FT	
Top Log Interval		Surface	
Open Hole Size		7.875"	
Type Fluid		Water	
Density / Viscosity		8.34 lbm/gal	
Max. Recorded Temp.		249°F	
Estimated Cement Top		1195 FT	
Time Well Ready		ROA	
Time Logger on Bottom		1015	
Equipment Number		HD-0361	
Location		Fort Lupton, CO	
Recorded By		Chad Bryan	
Witnessed By		Bill Mansfield	
Borehole Record		Tubing Record	
Run Number		Bit	
From		To	
Size		Weight	
From		To	
Casing Record		Size (in)	
Surface Casing		9 5/8	
Intermediate #1		5 1/2	
Intermediate #2		20	
Liner		P110-1C	
Wgt (lbs/ft)		36	
Grade		J-55	
Top		30 FT	
Bottom		1850.3 FT	
14155 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 Kelly Bushing at 30 FT
Log ran from as deep as possible in heel to surface
Recorded with 2500 PSI surface induced pressure
No debris found on logging tools upon completion of operations

Thank you for choosing FMC Technologies Surface Integrated Services.



Main Pass

Recorded with 2500 PSI Surface Induced Pressure

Database File: c:\warrior\data\01-25-16_noble energy_moser h22-735_rb\01-25-16_noble energy_moser h22-735_r

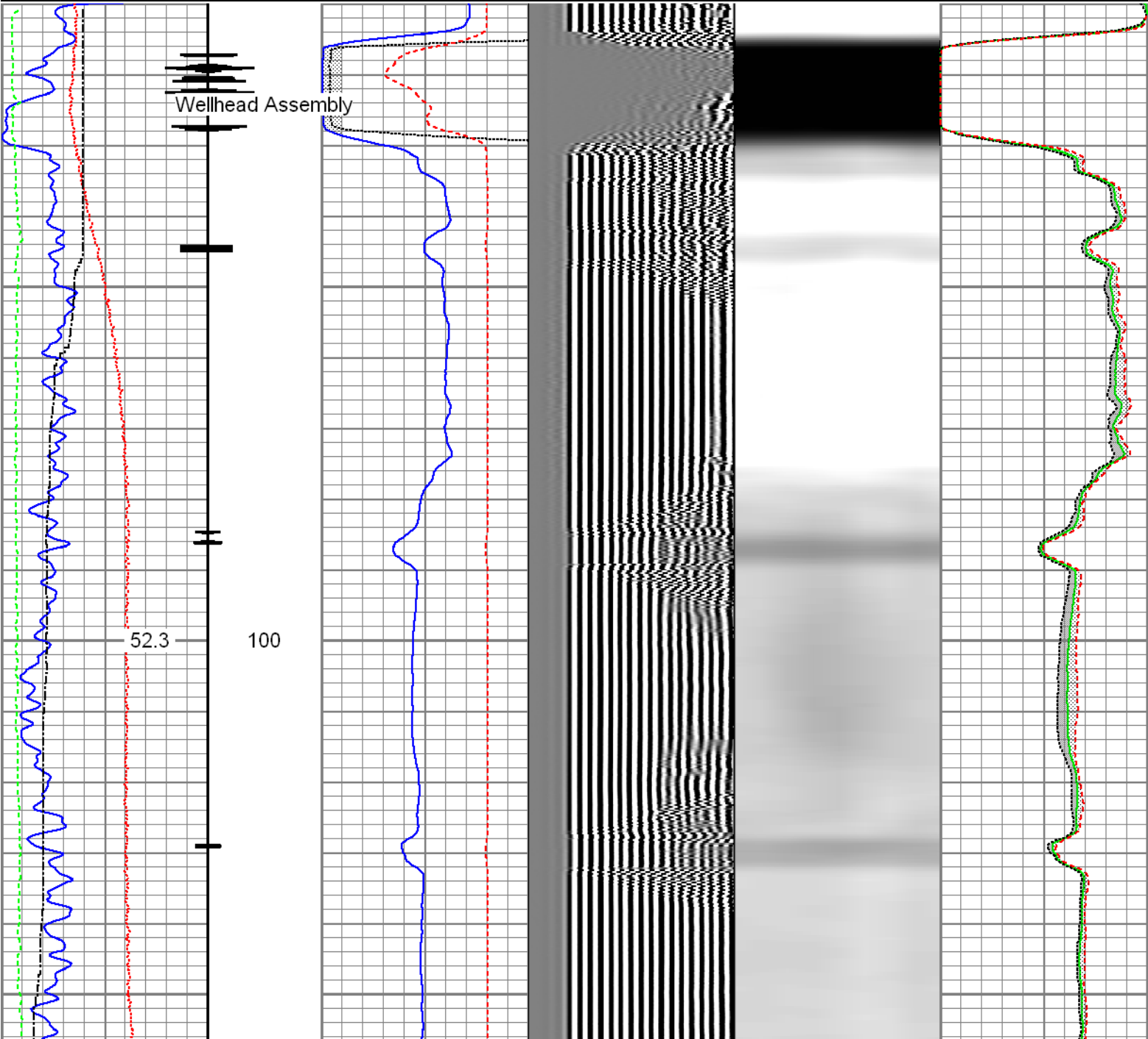
Dataset Pathname: main.1

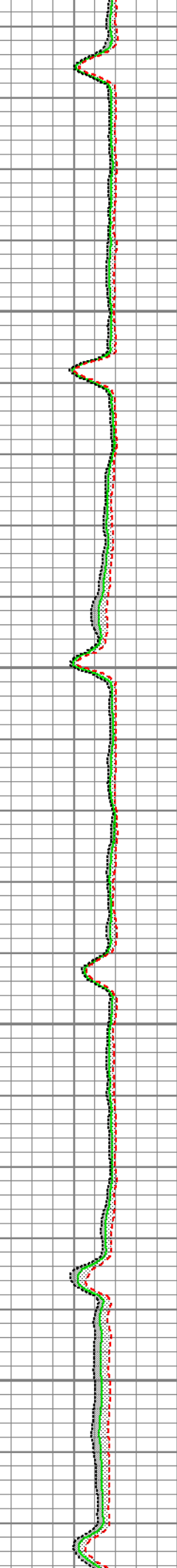
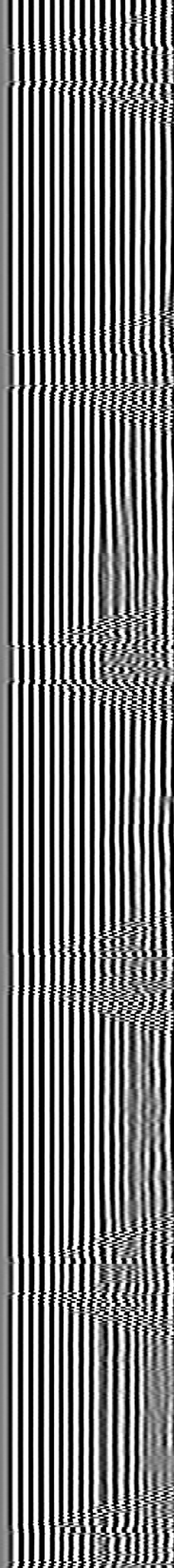
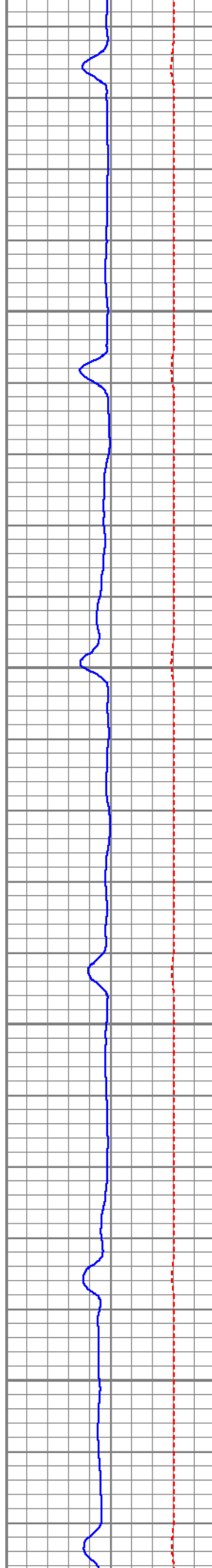
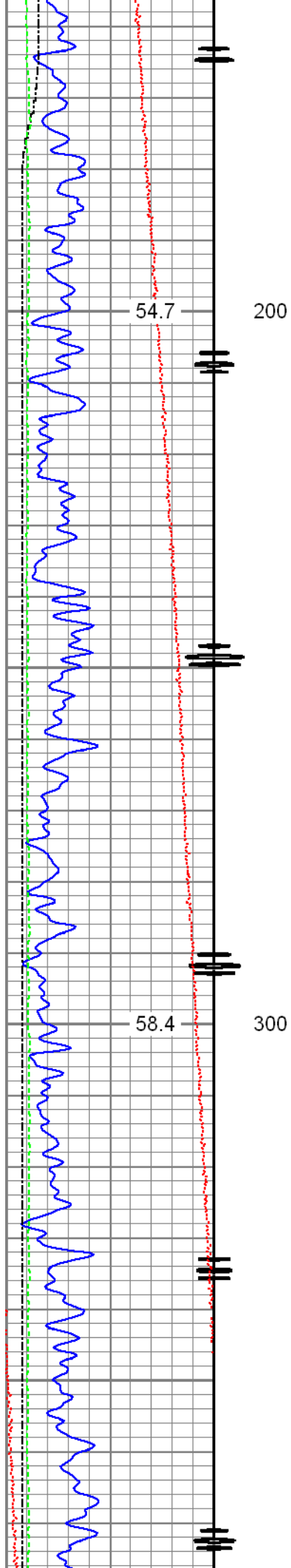
Presentation Format: radii

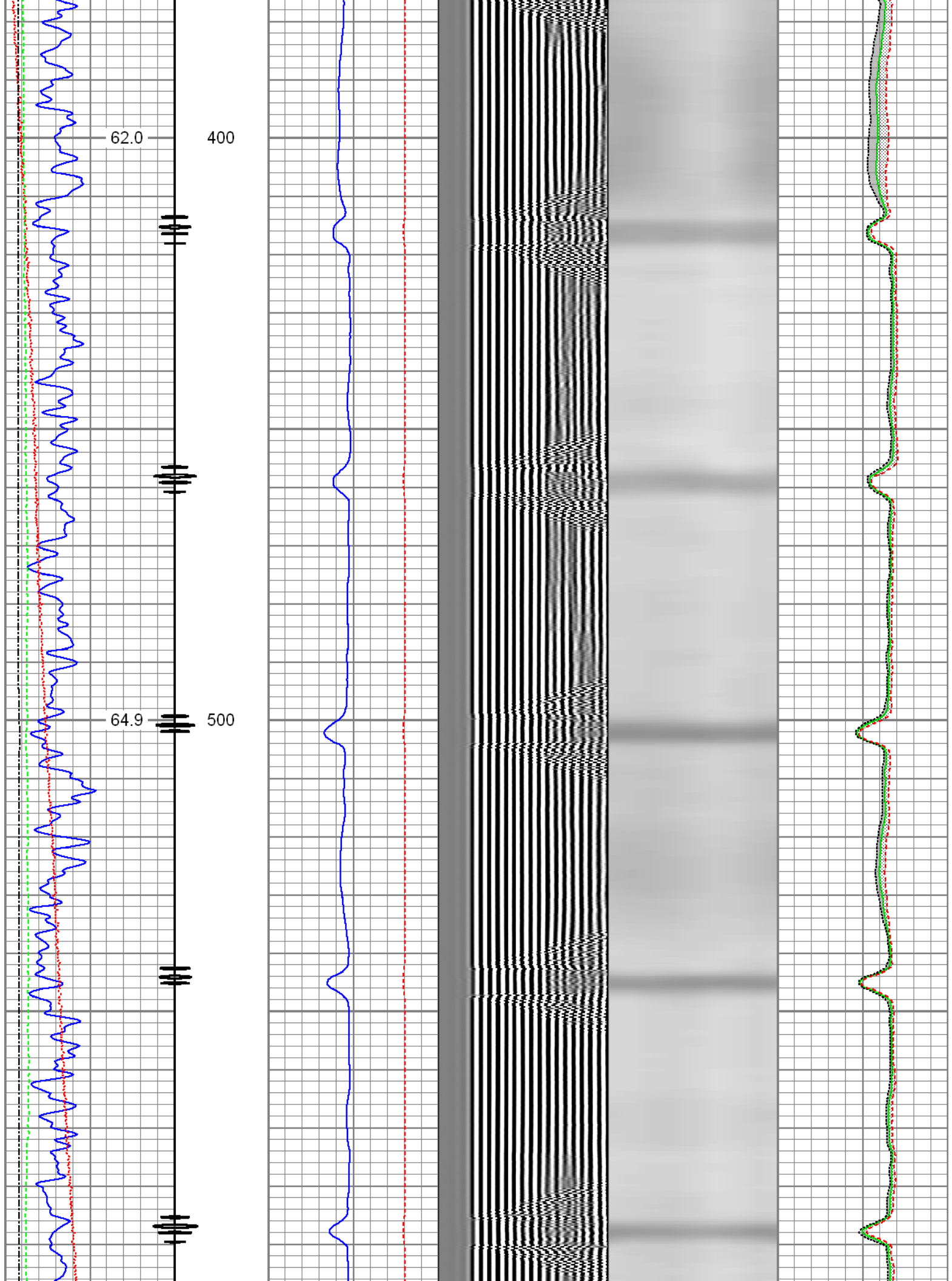
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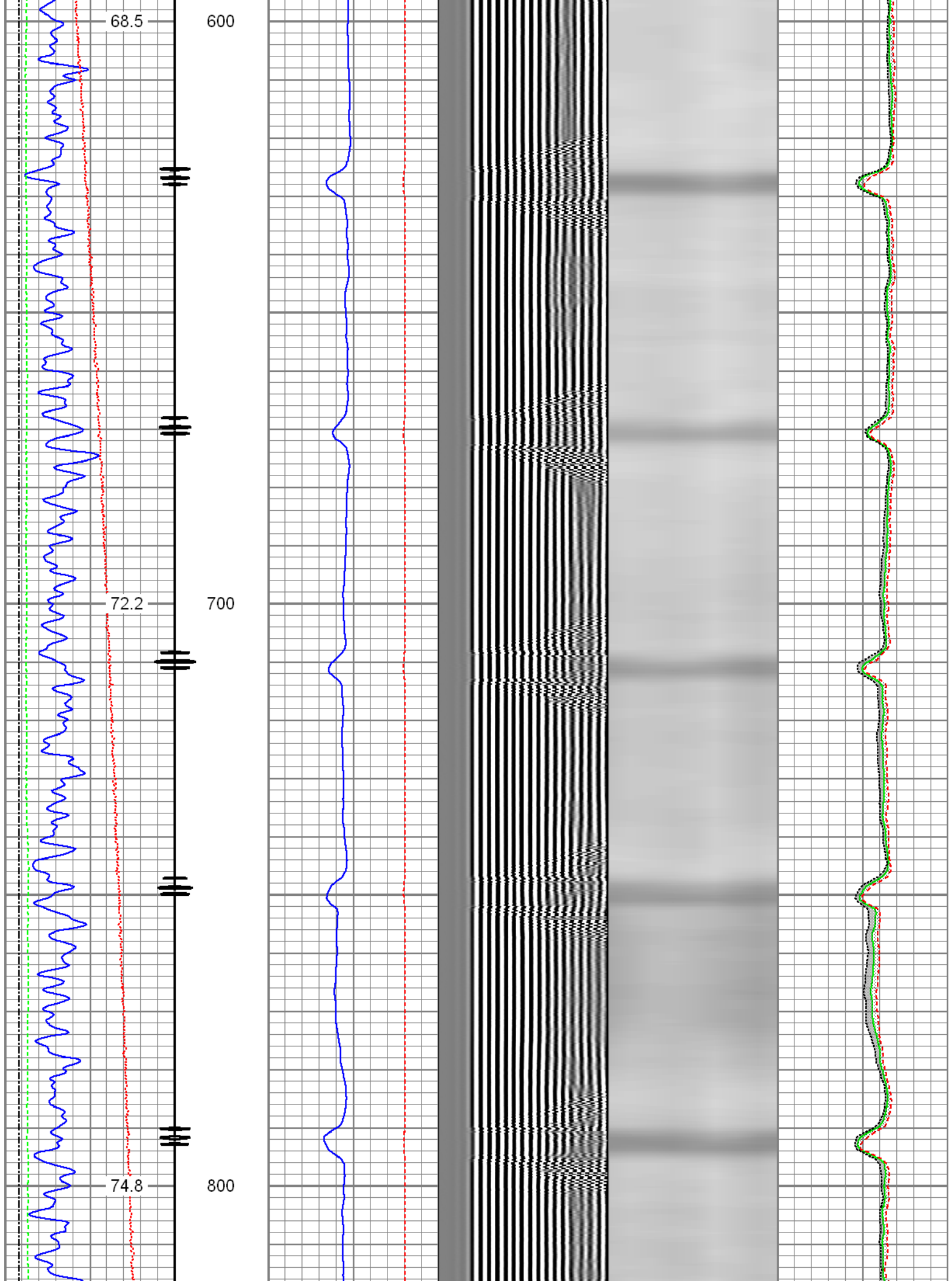
Charted by: Depth in Feet scaled 1:240

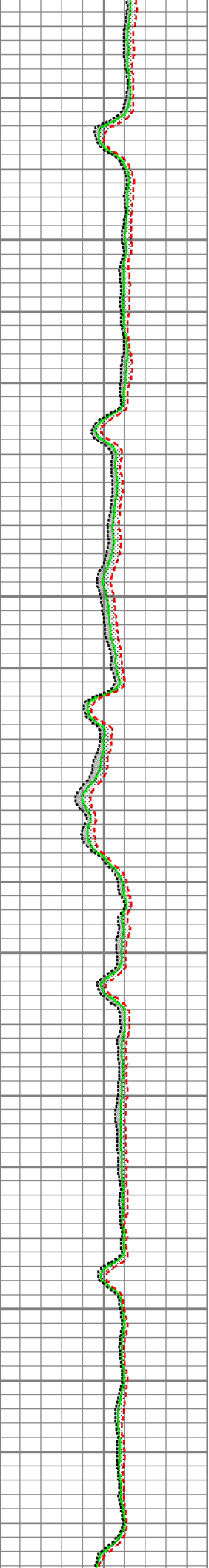
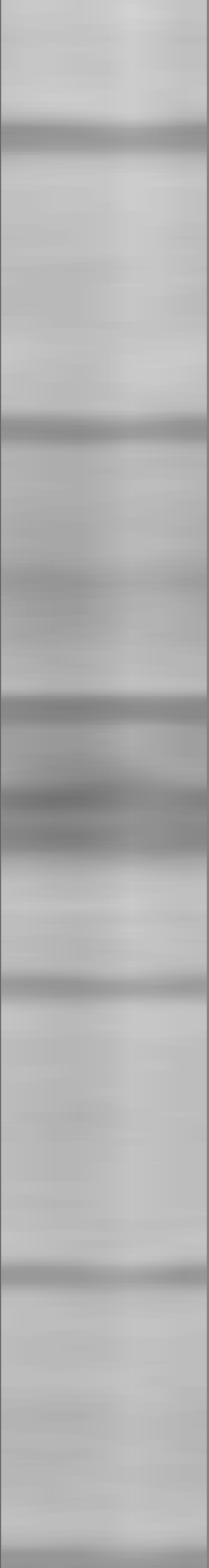
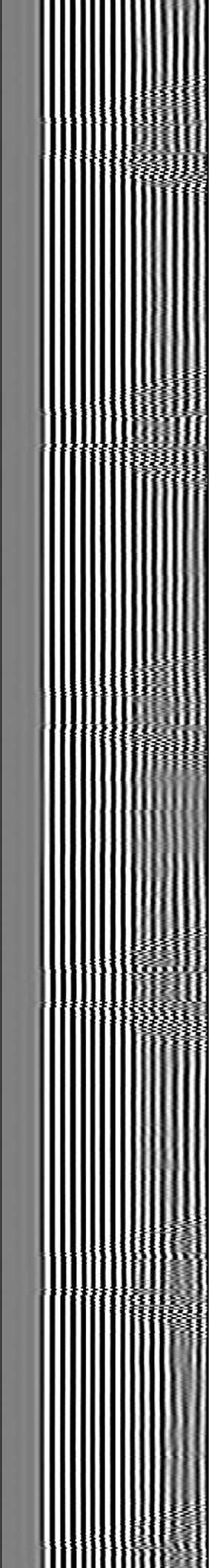
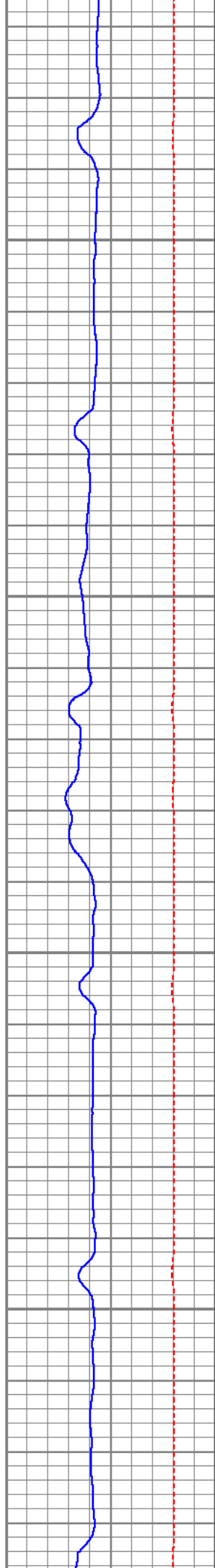
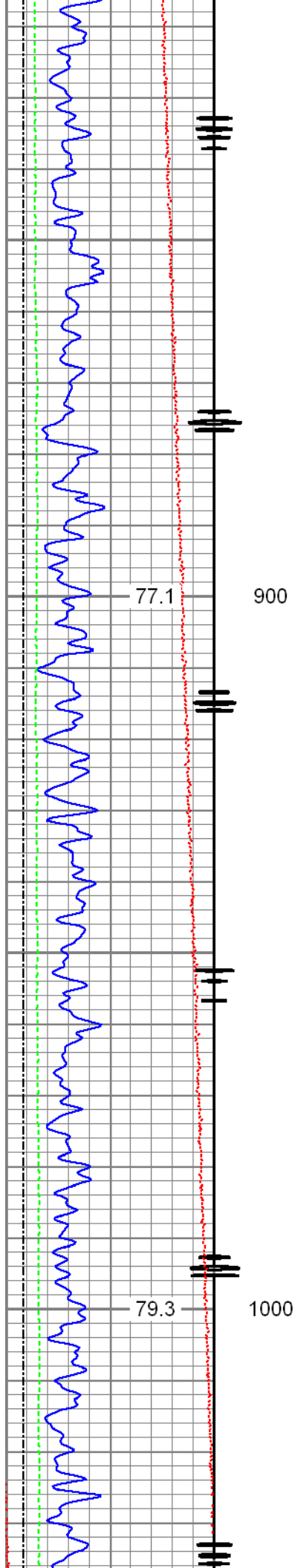
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

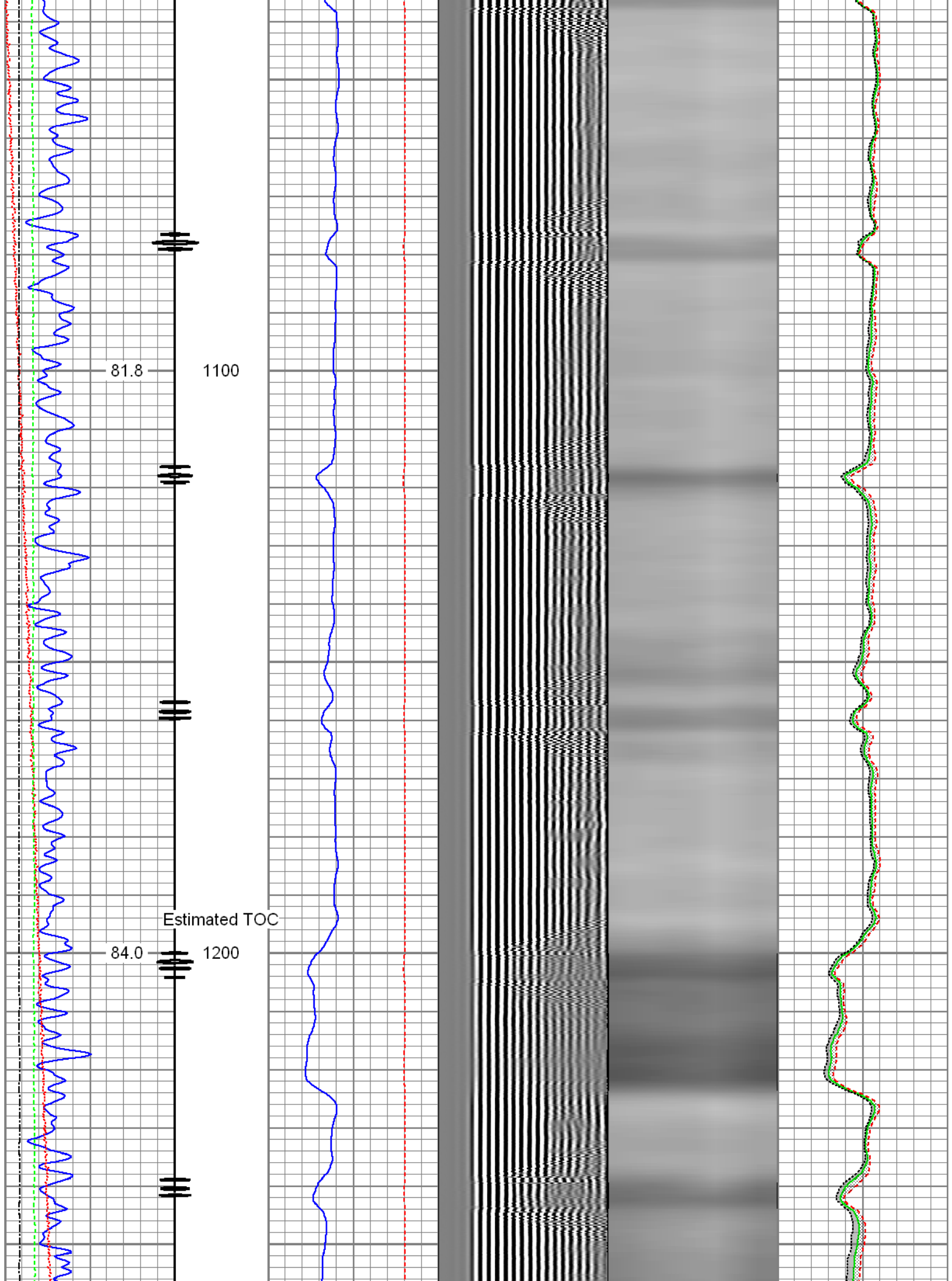


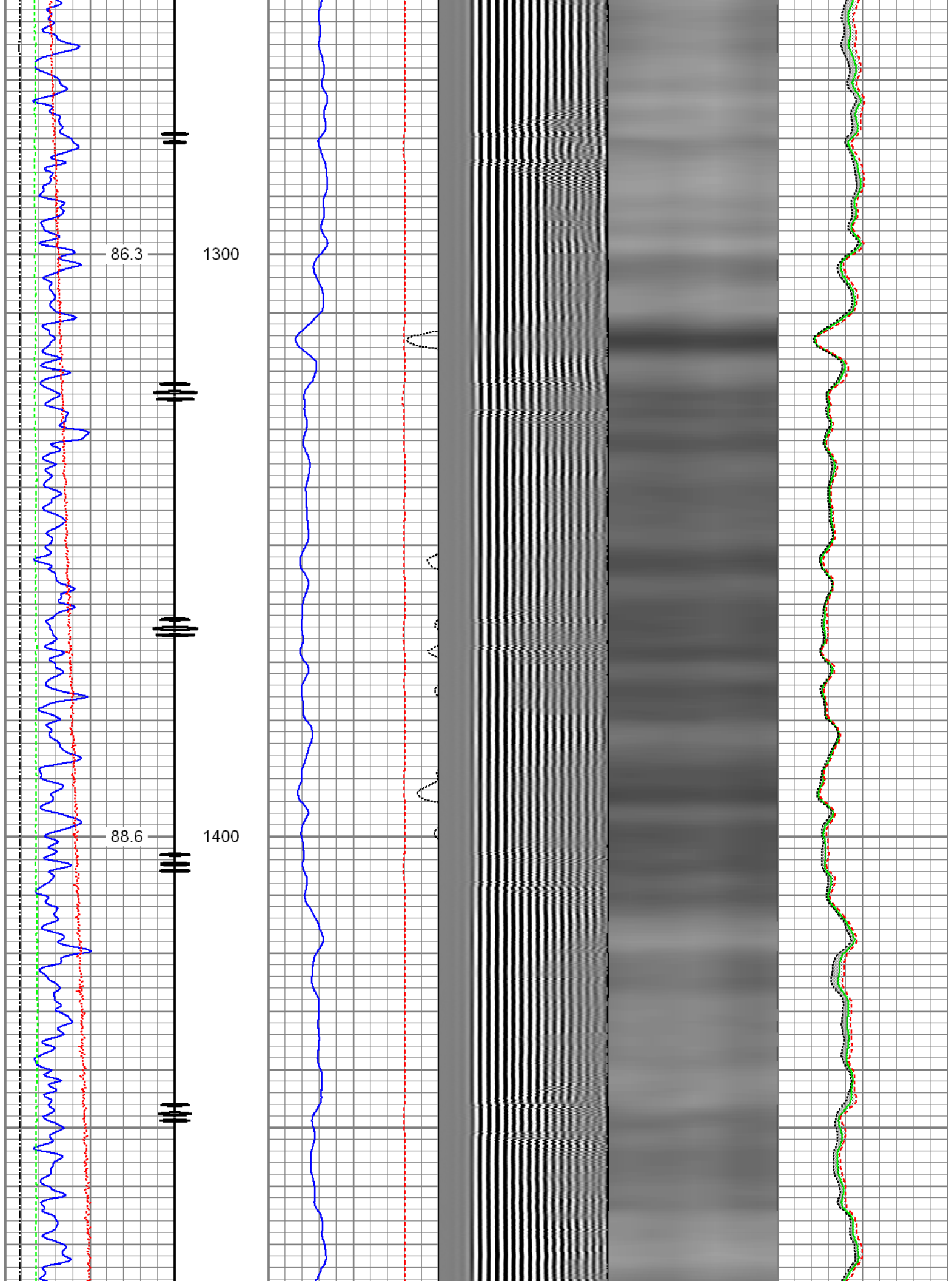


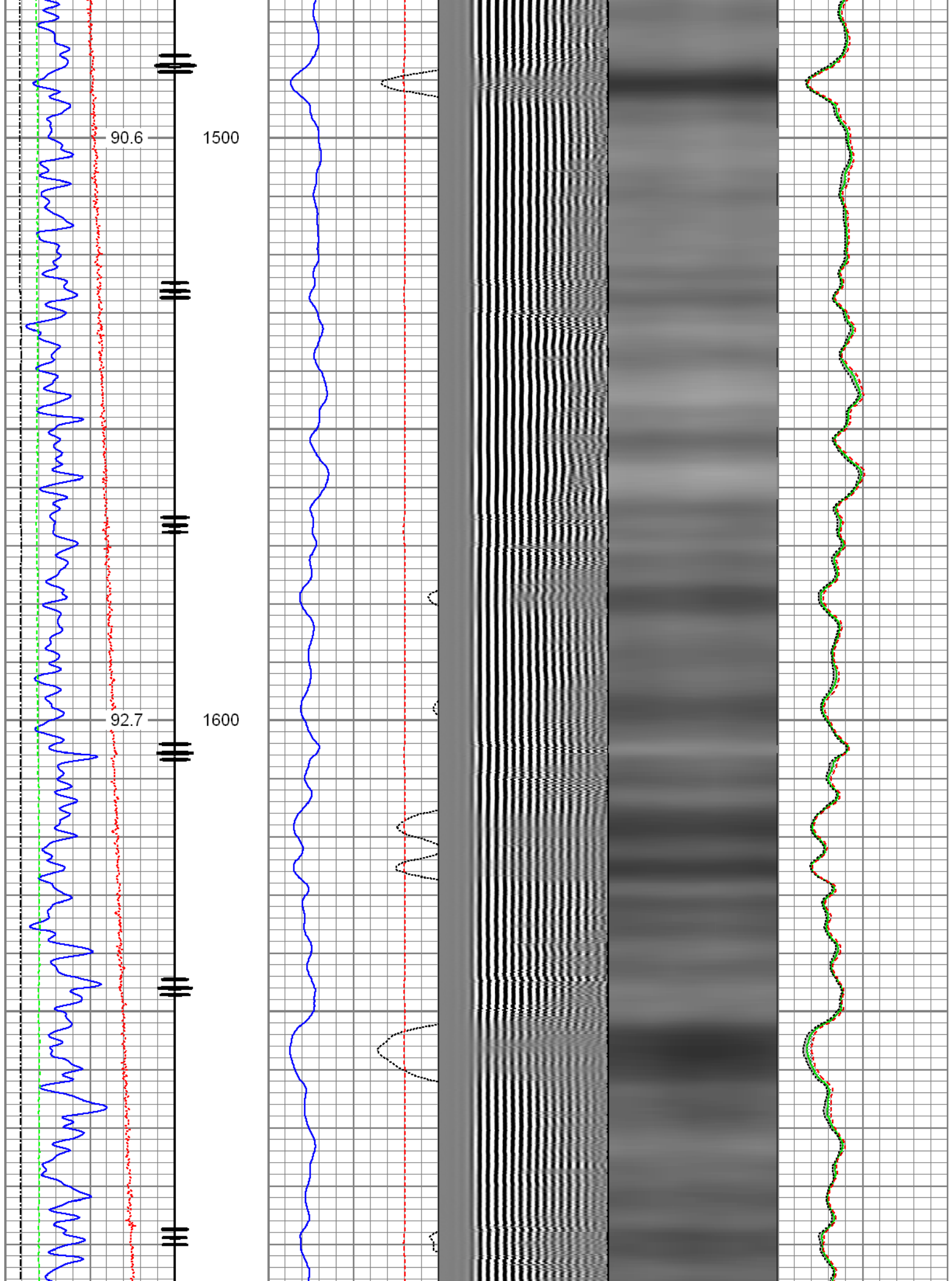


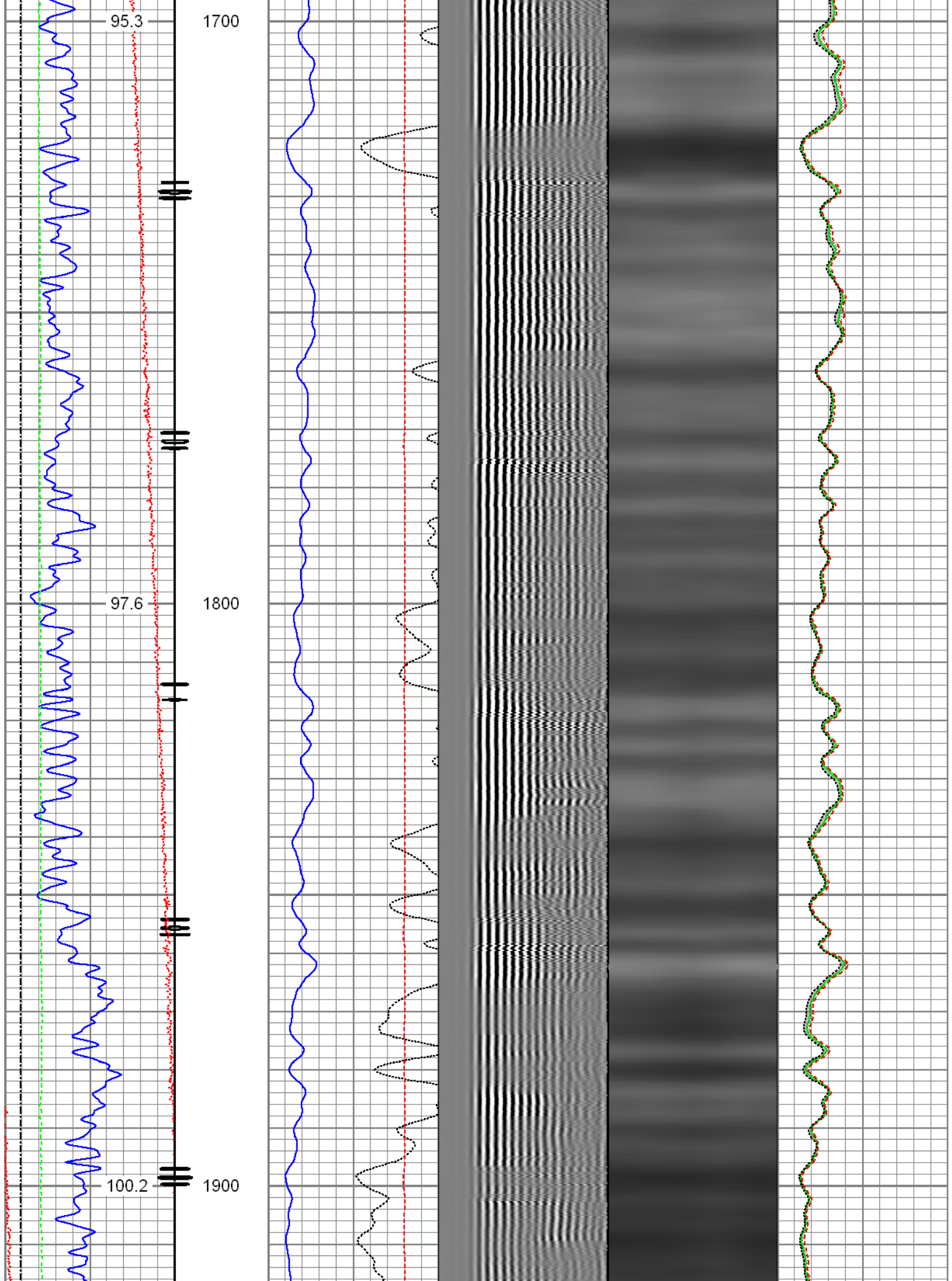


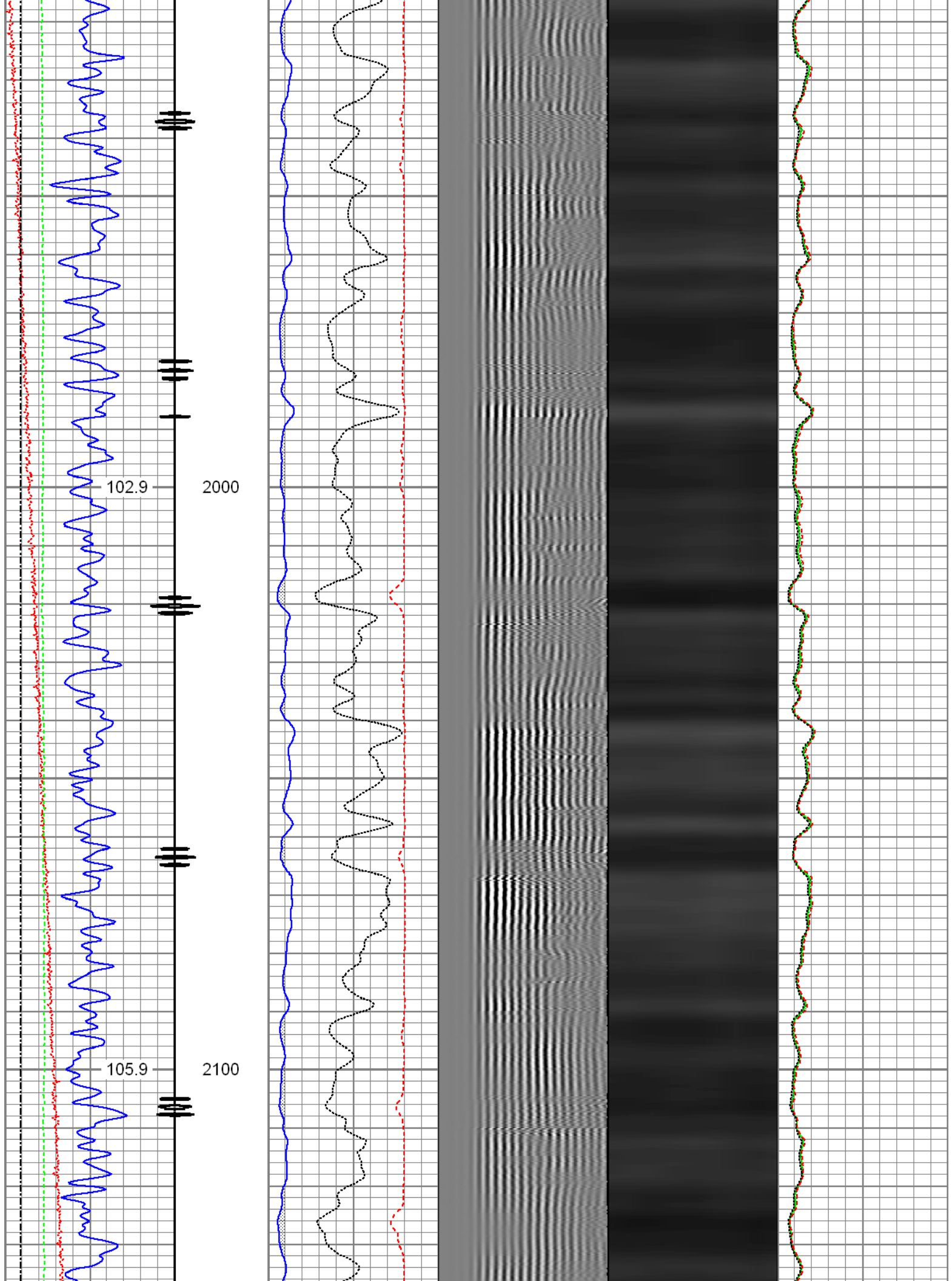


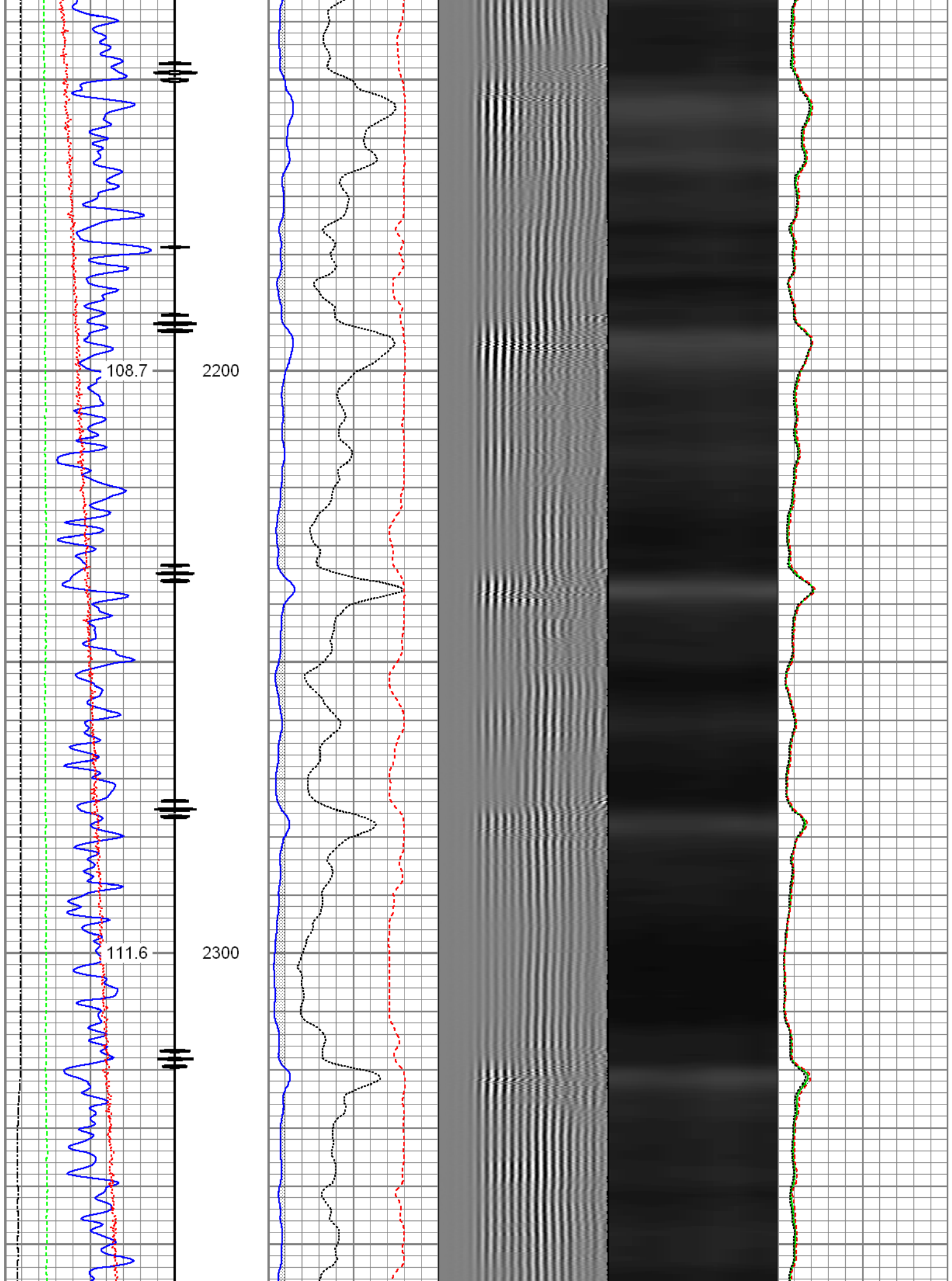


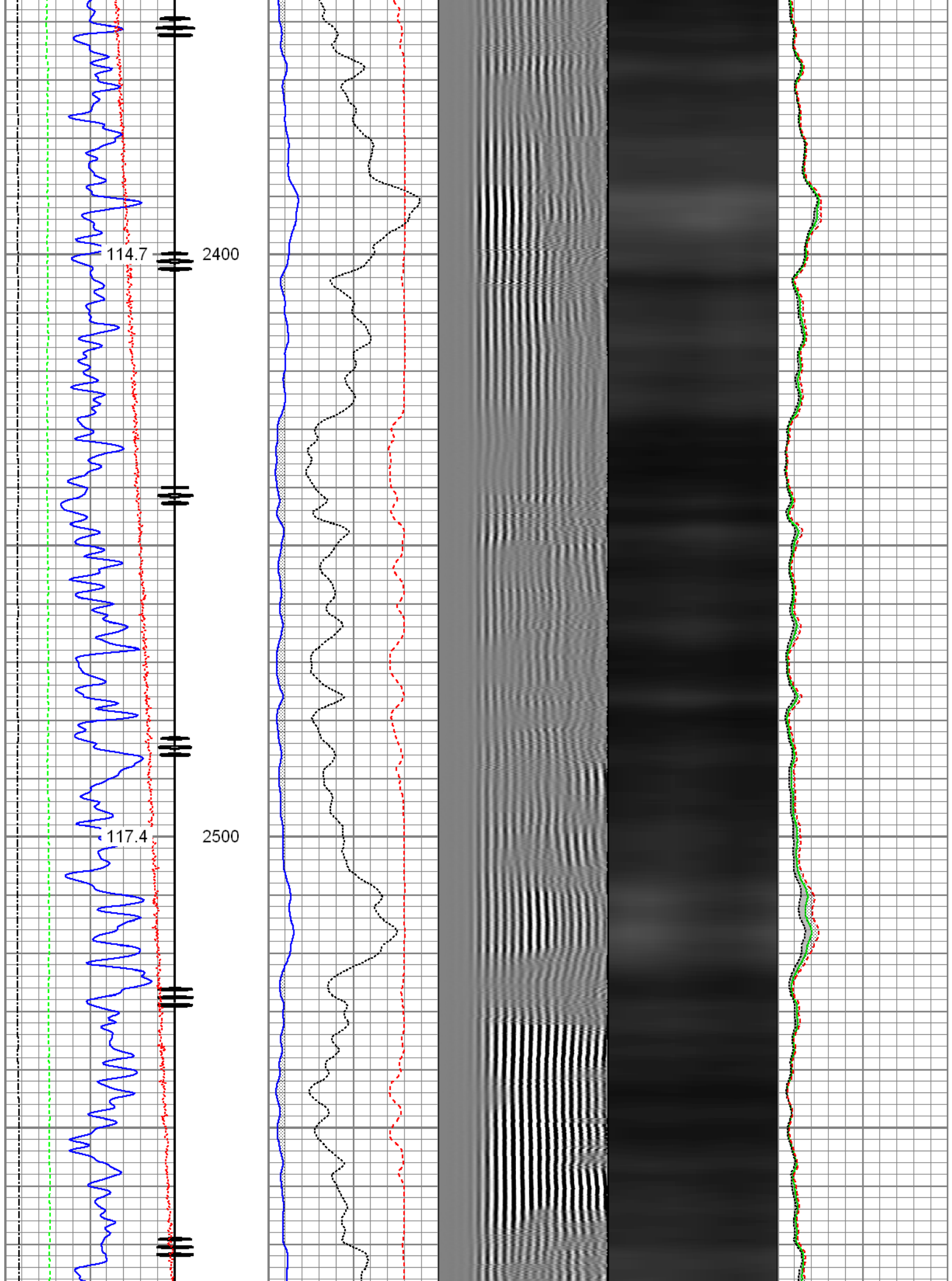


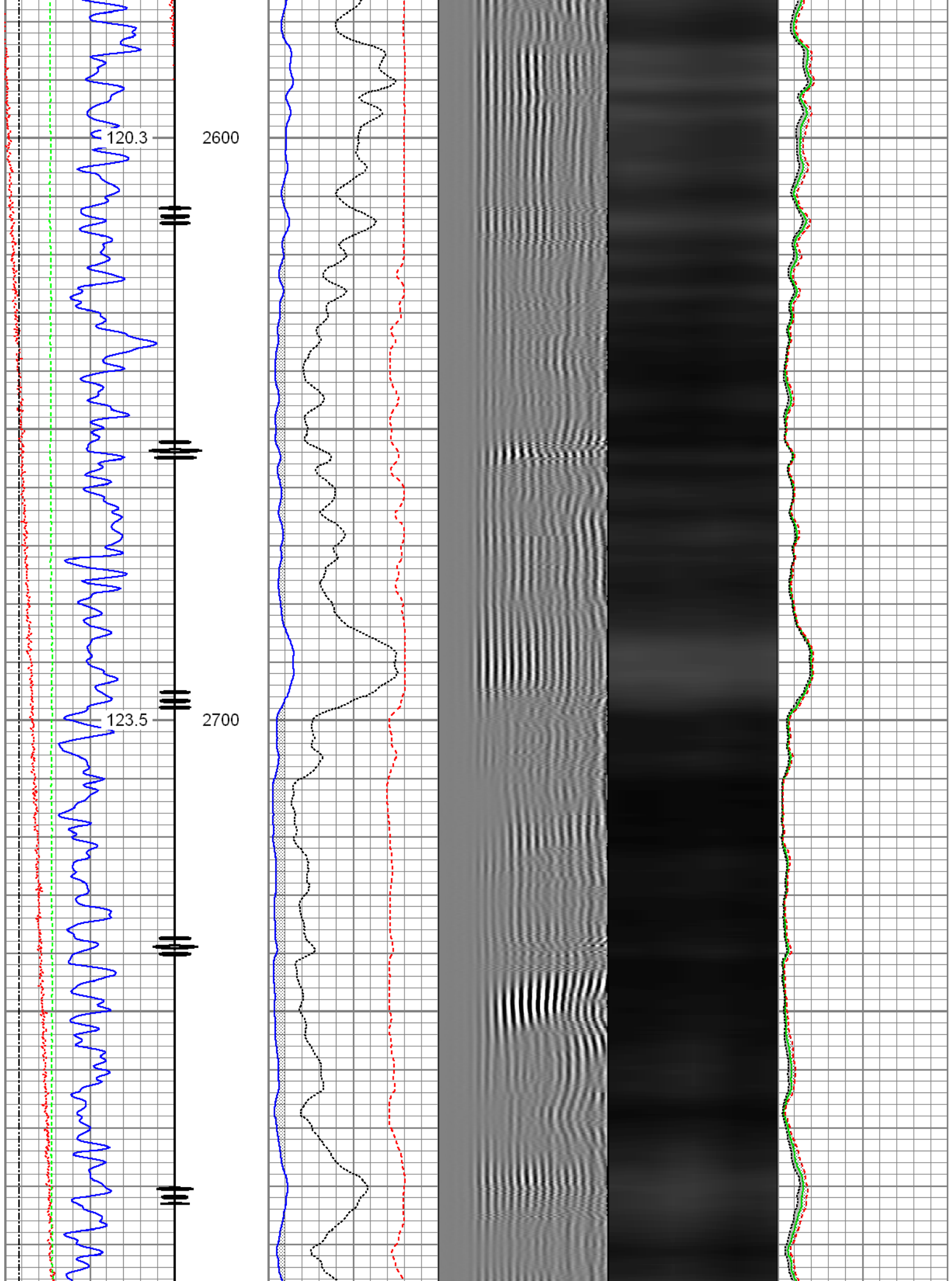


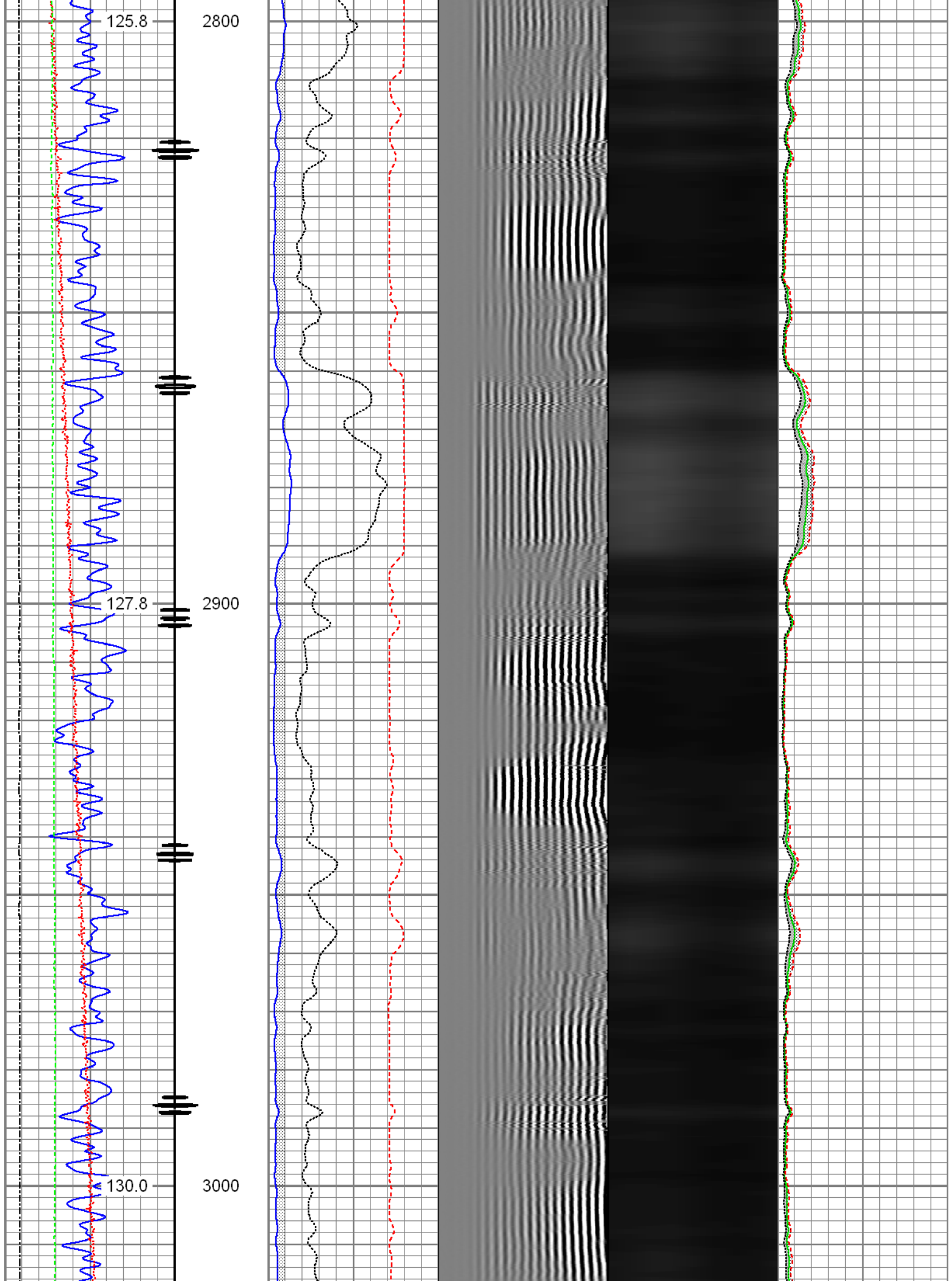


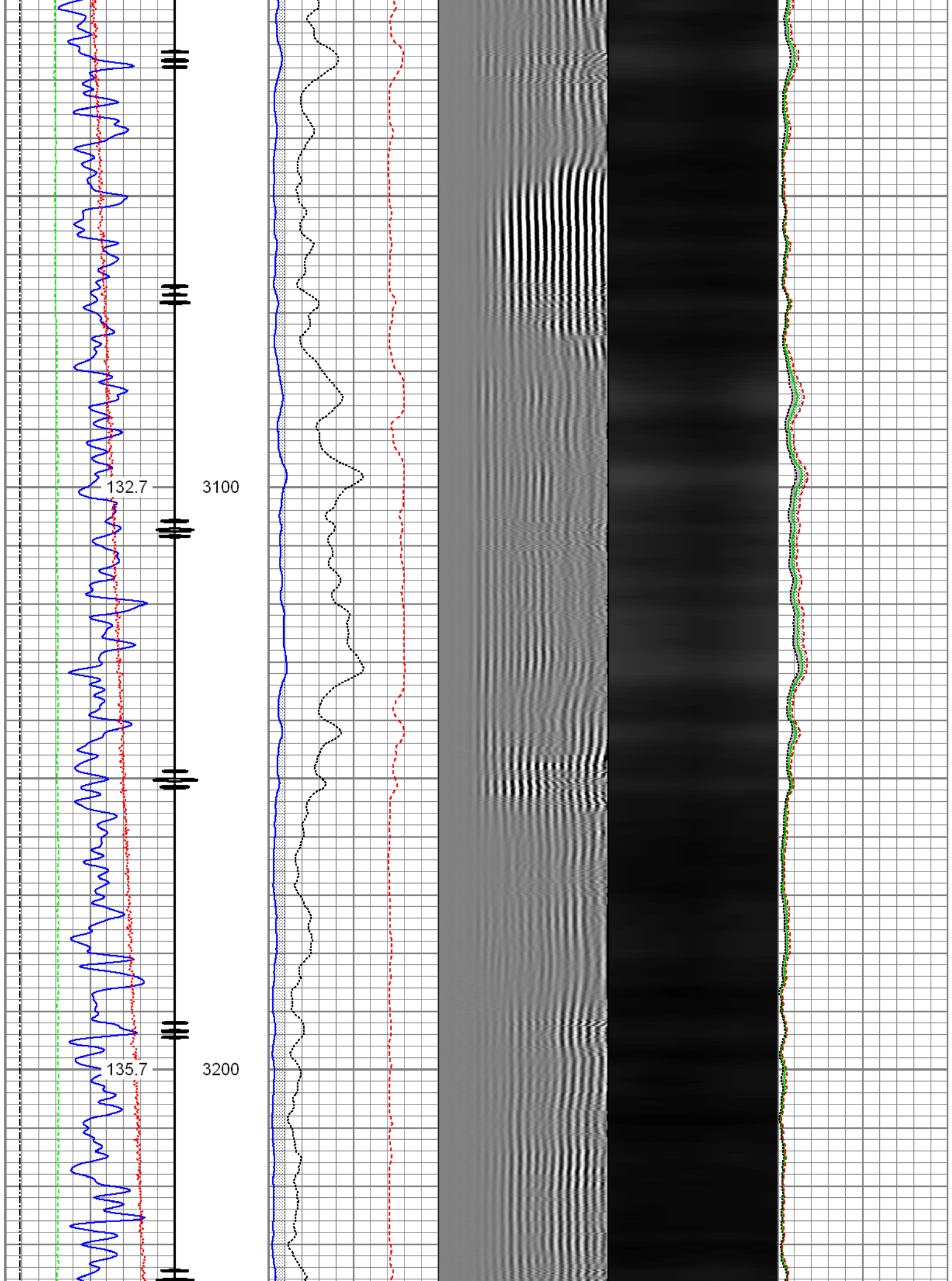


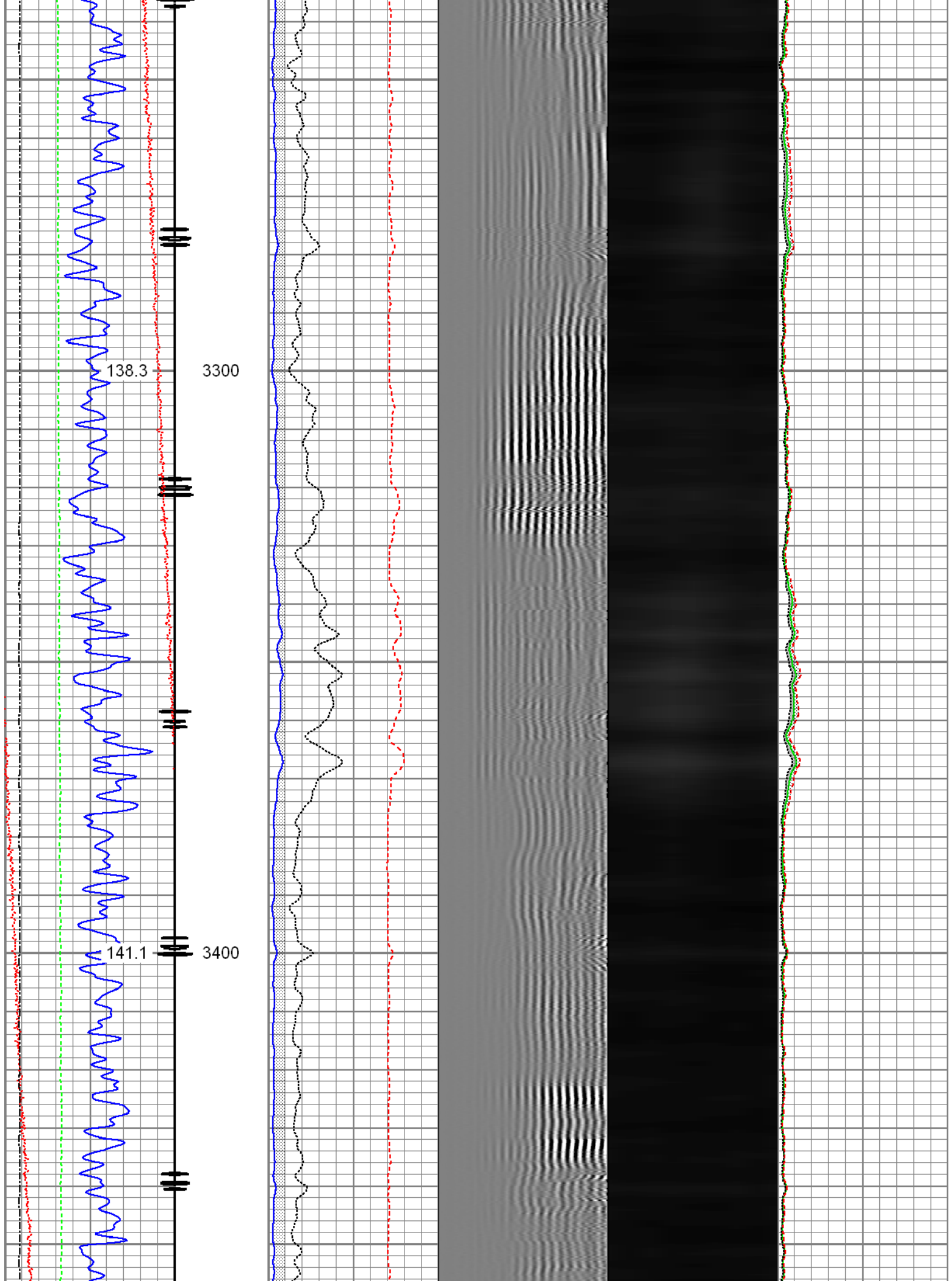


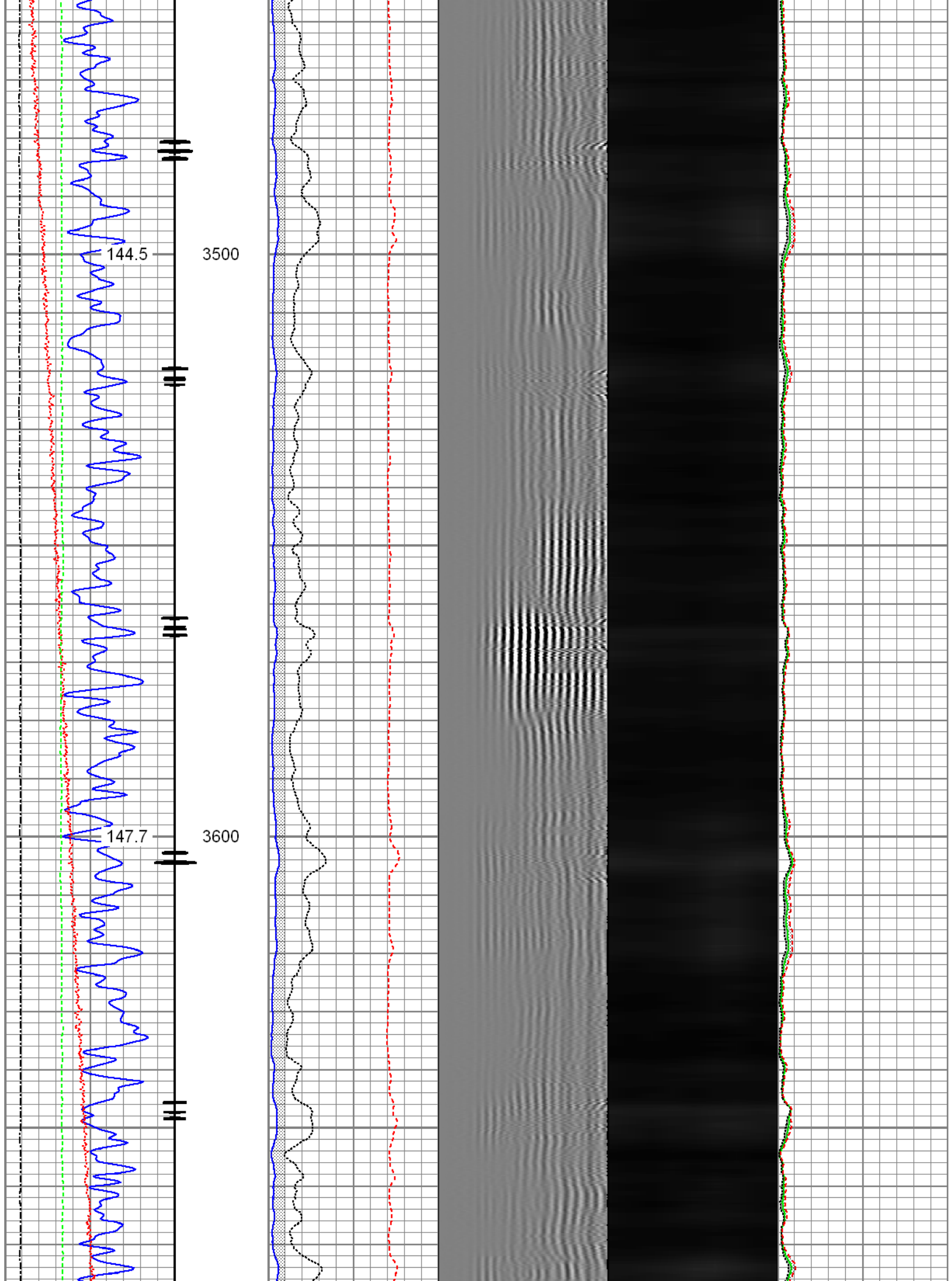


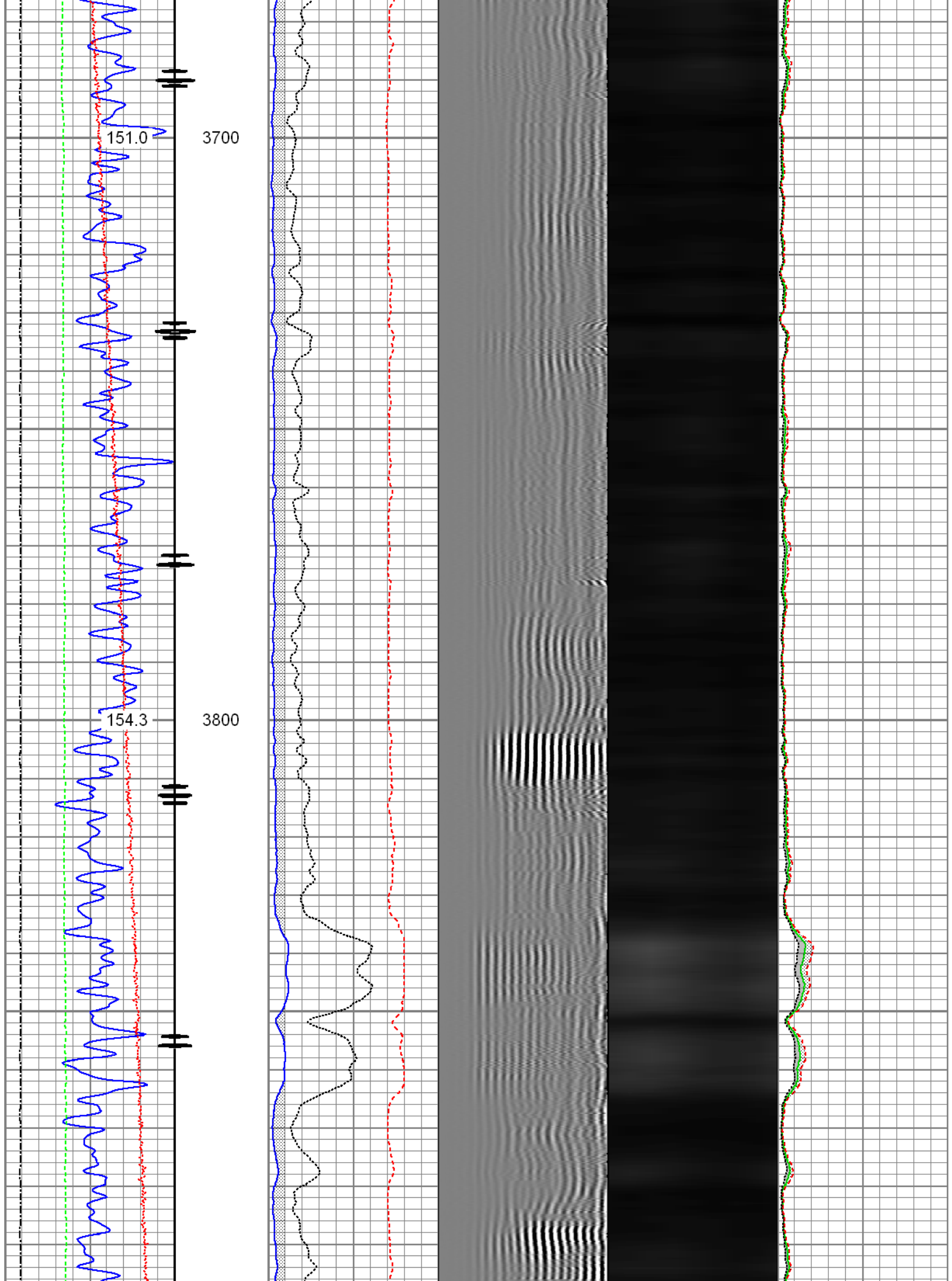


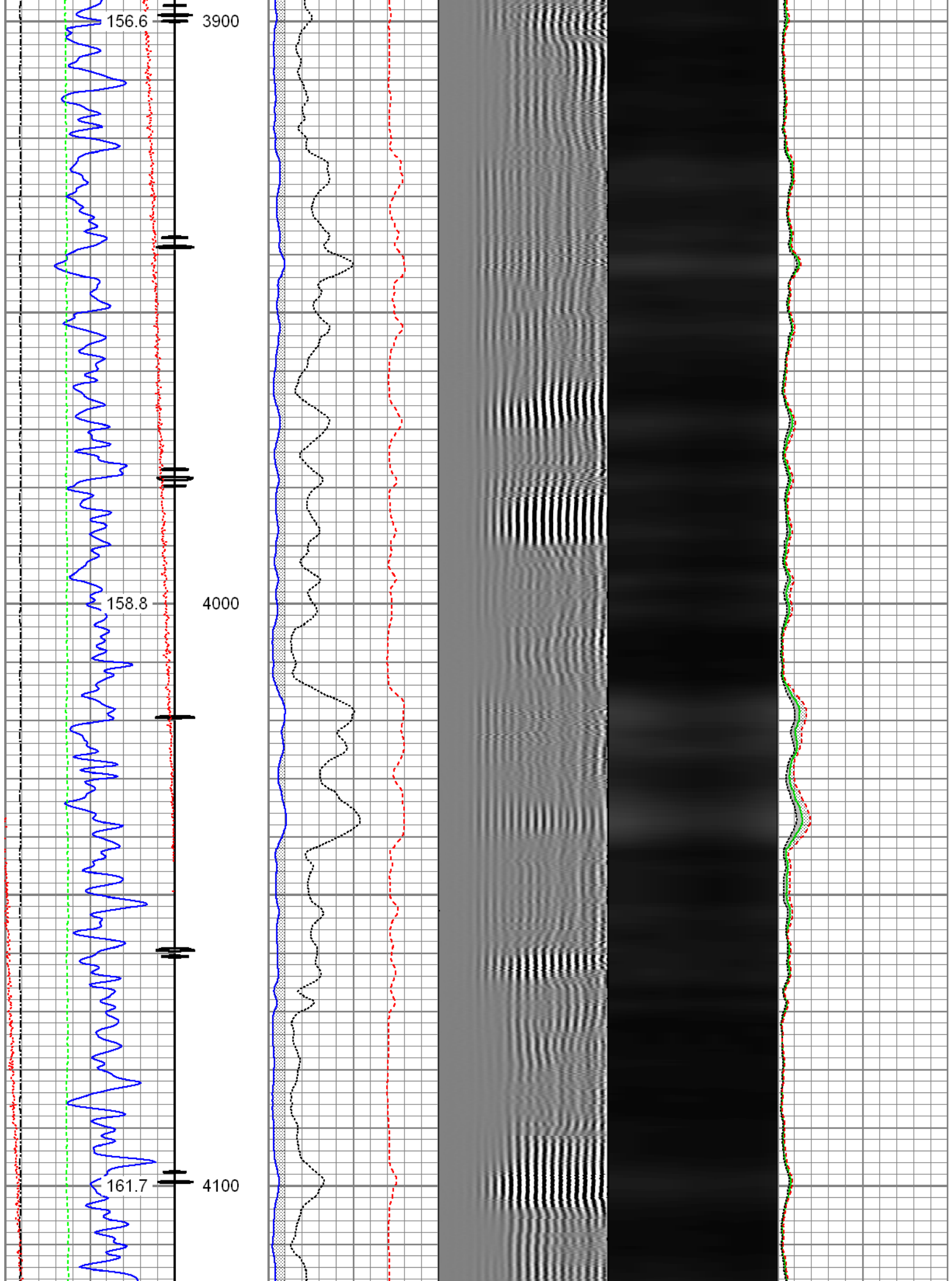


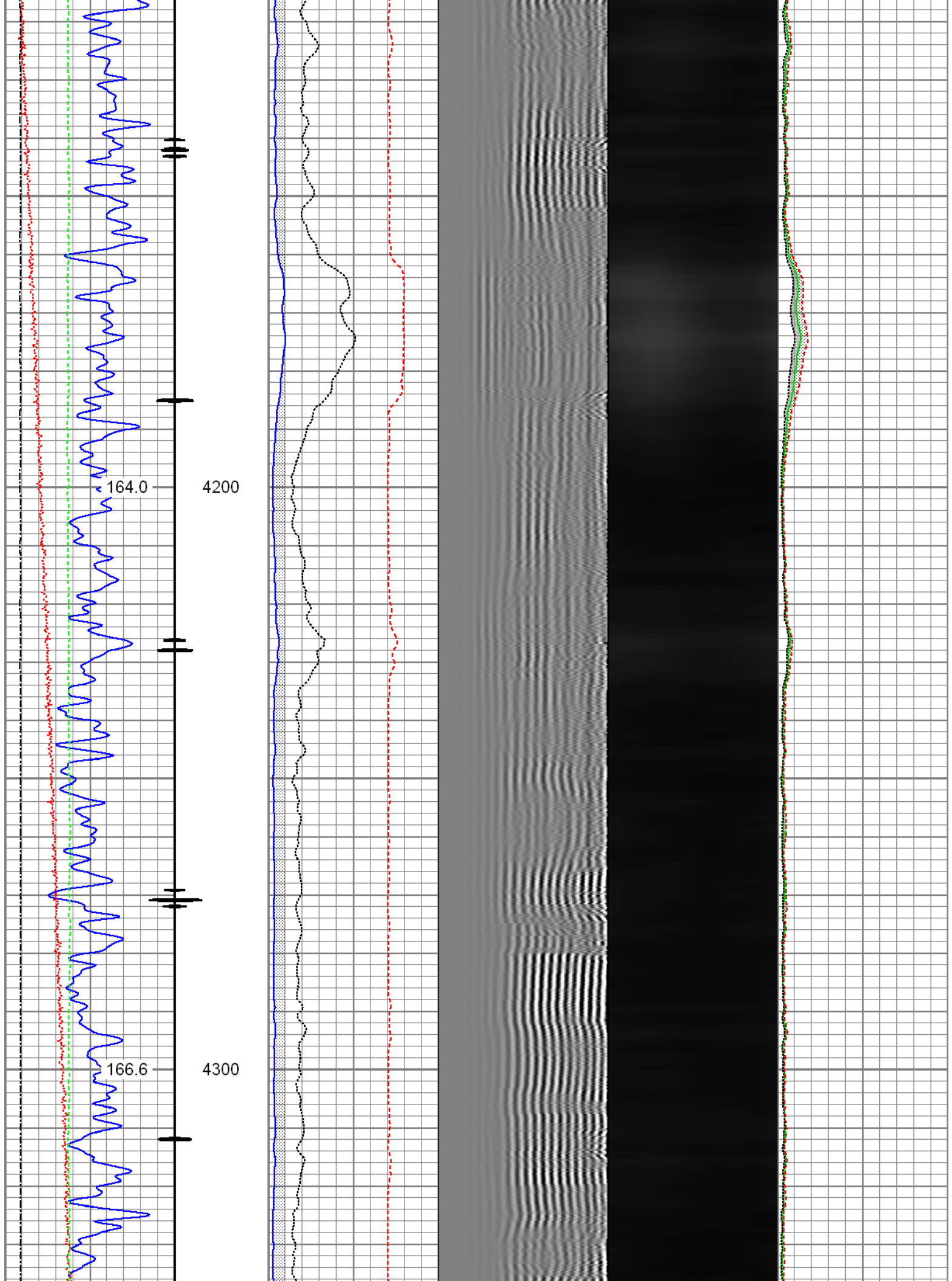


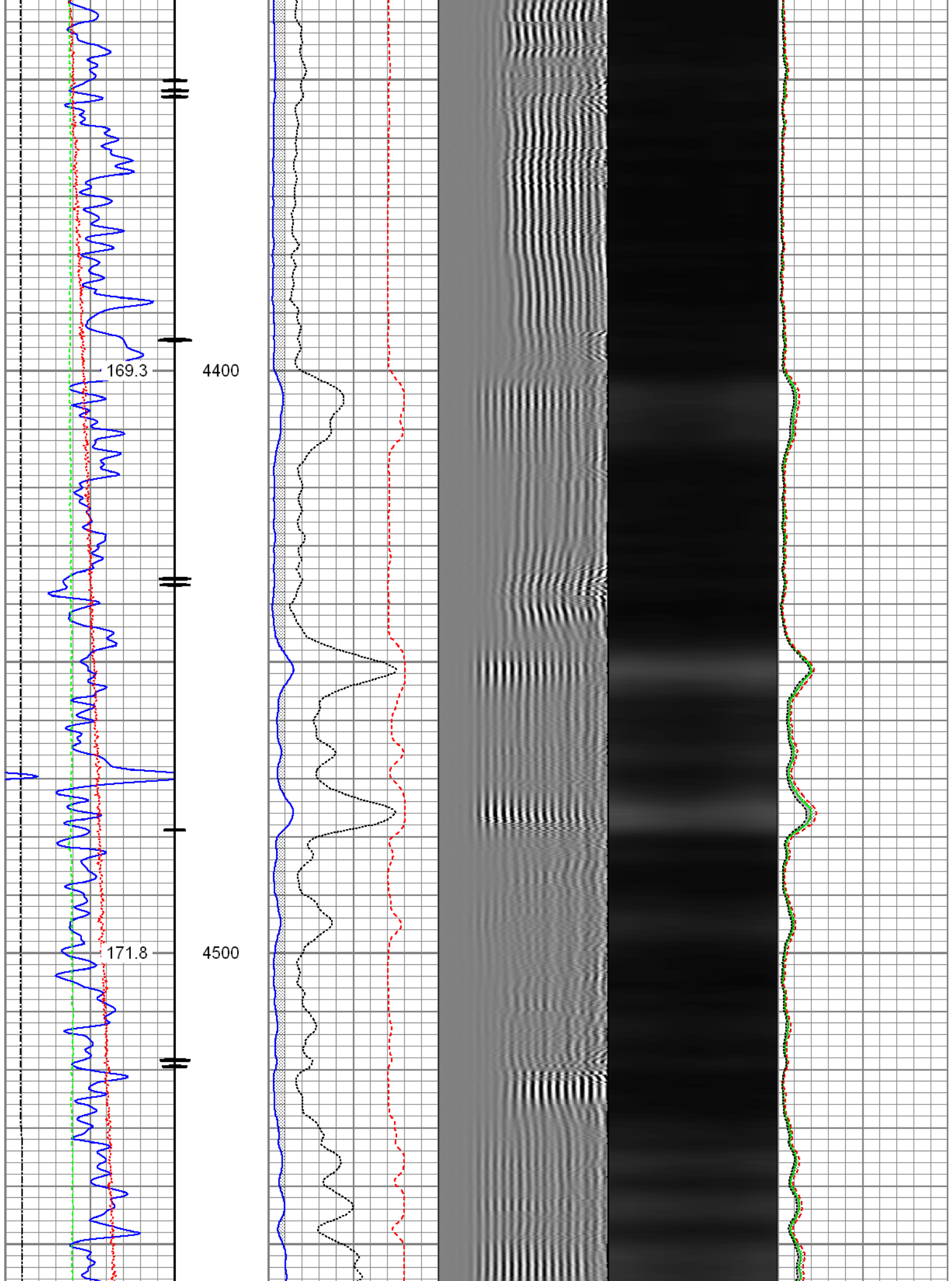


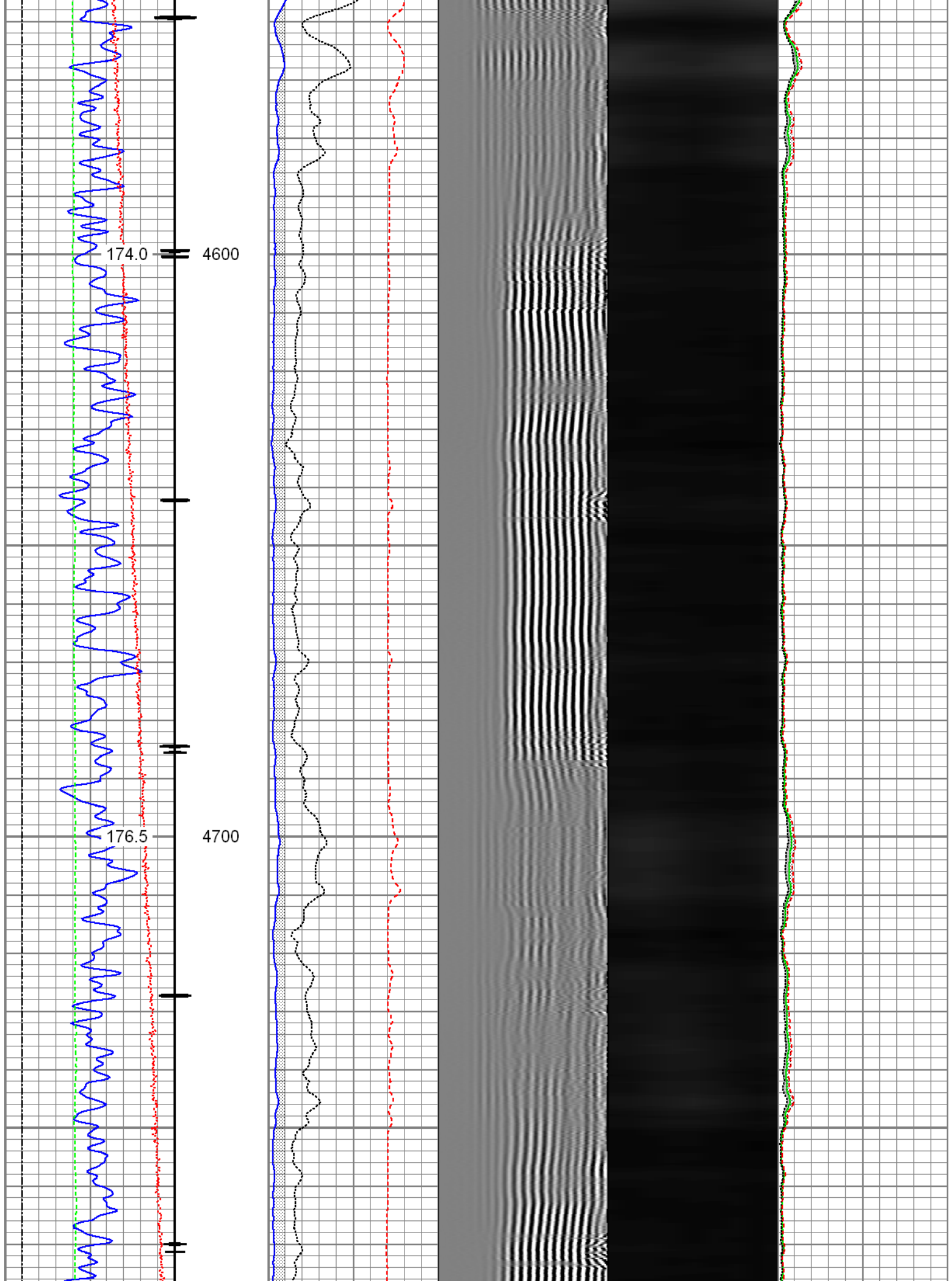


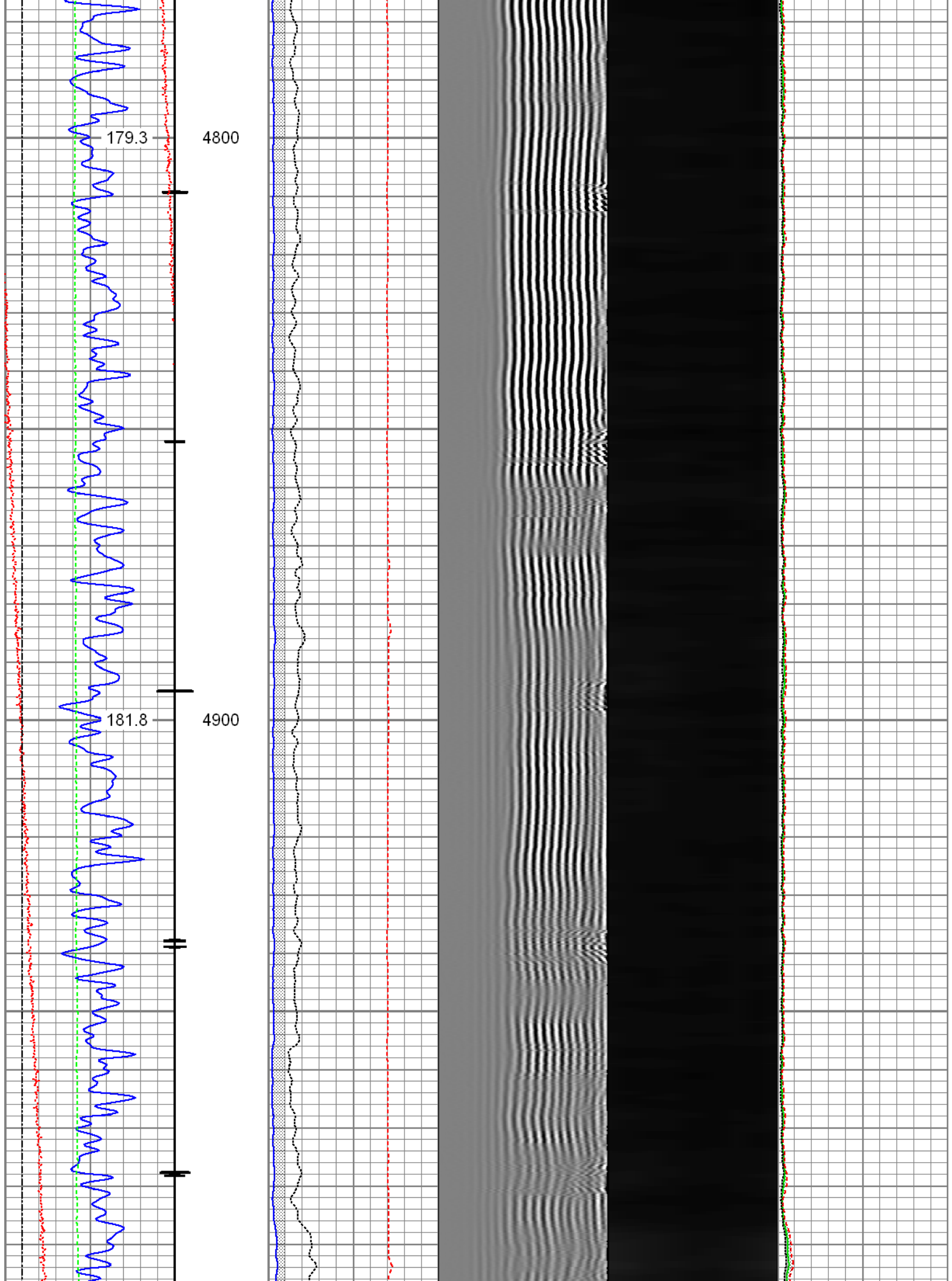


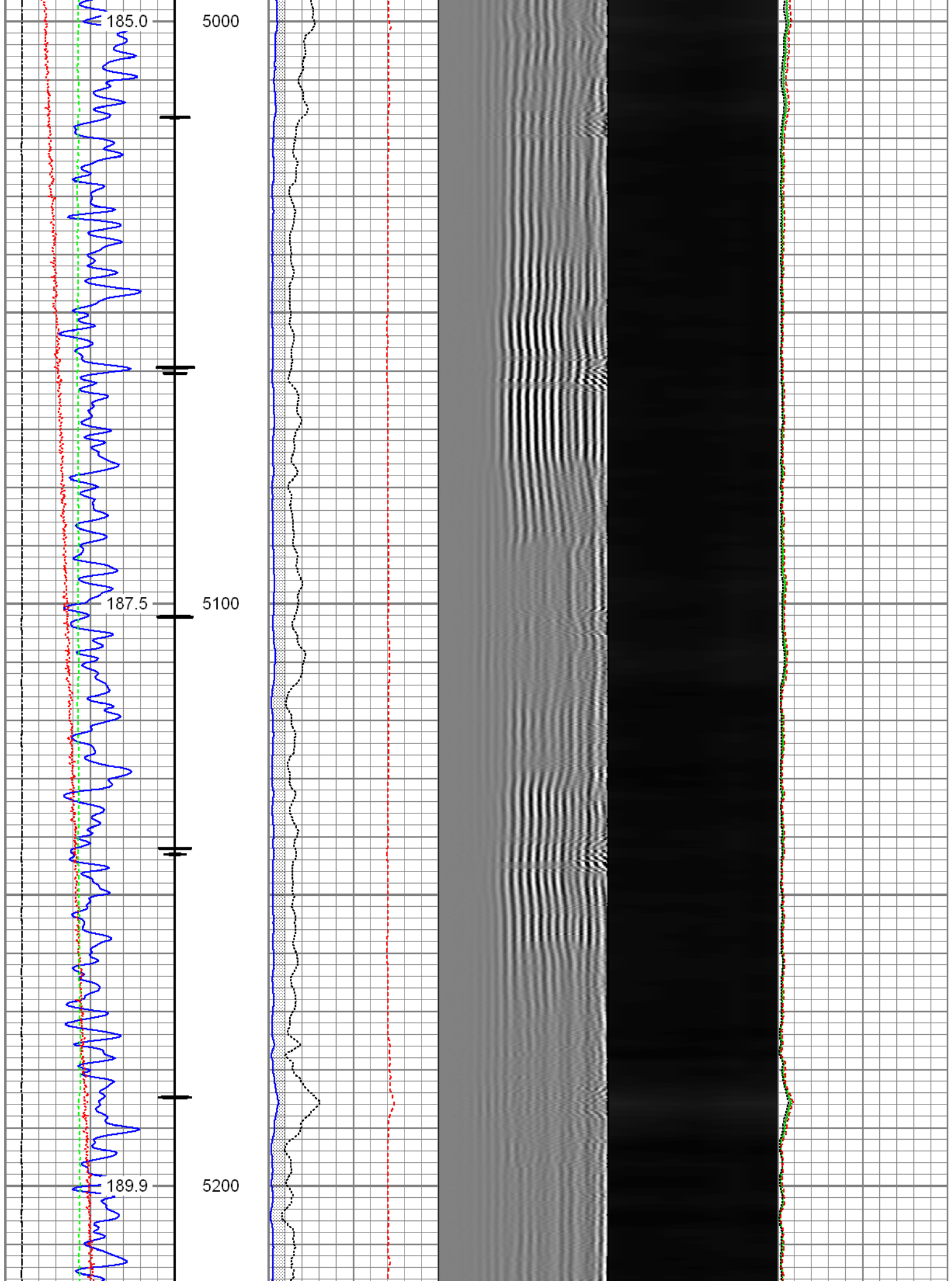


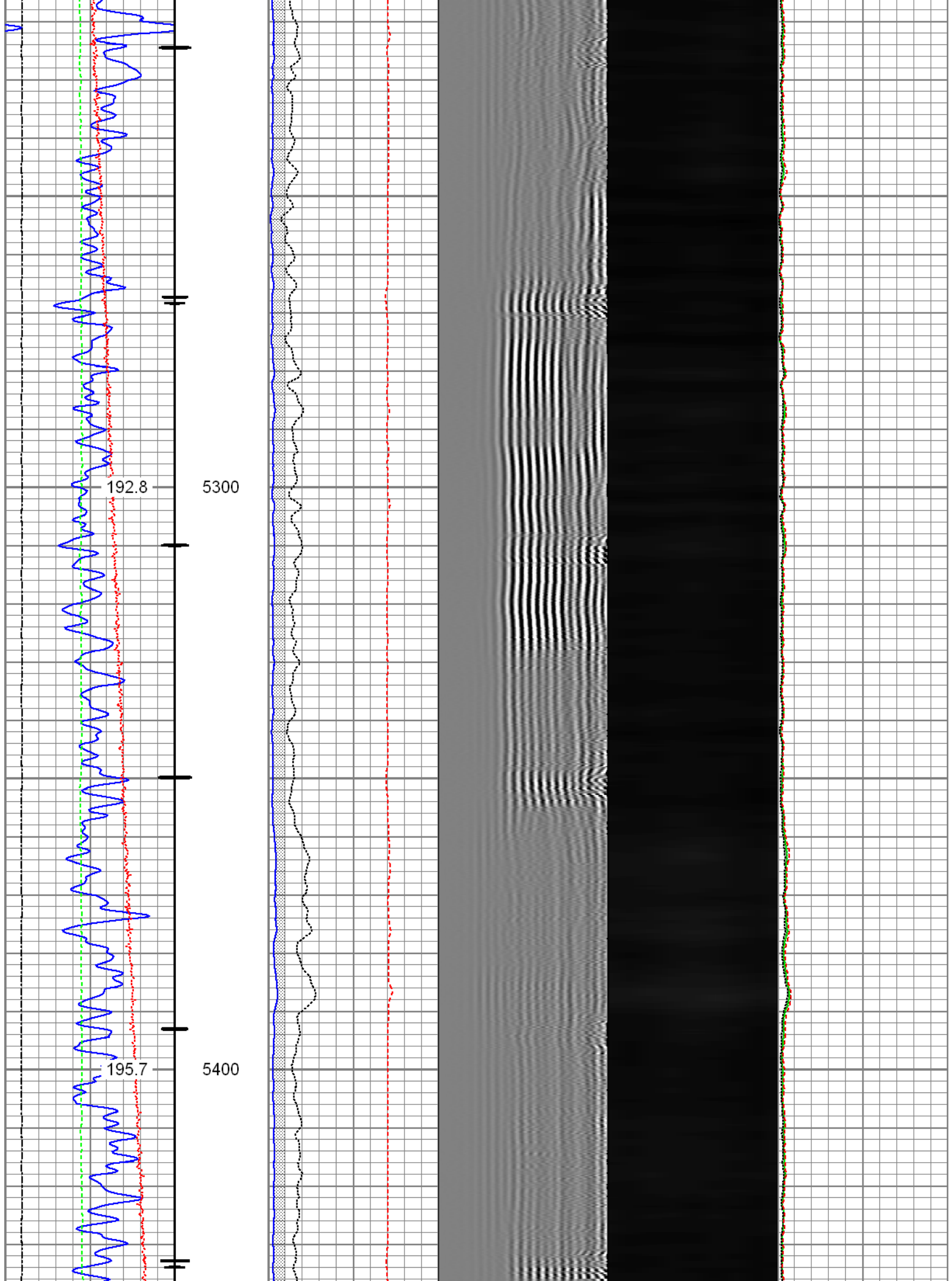


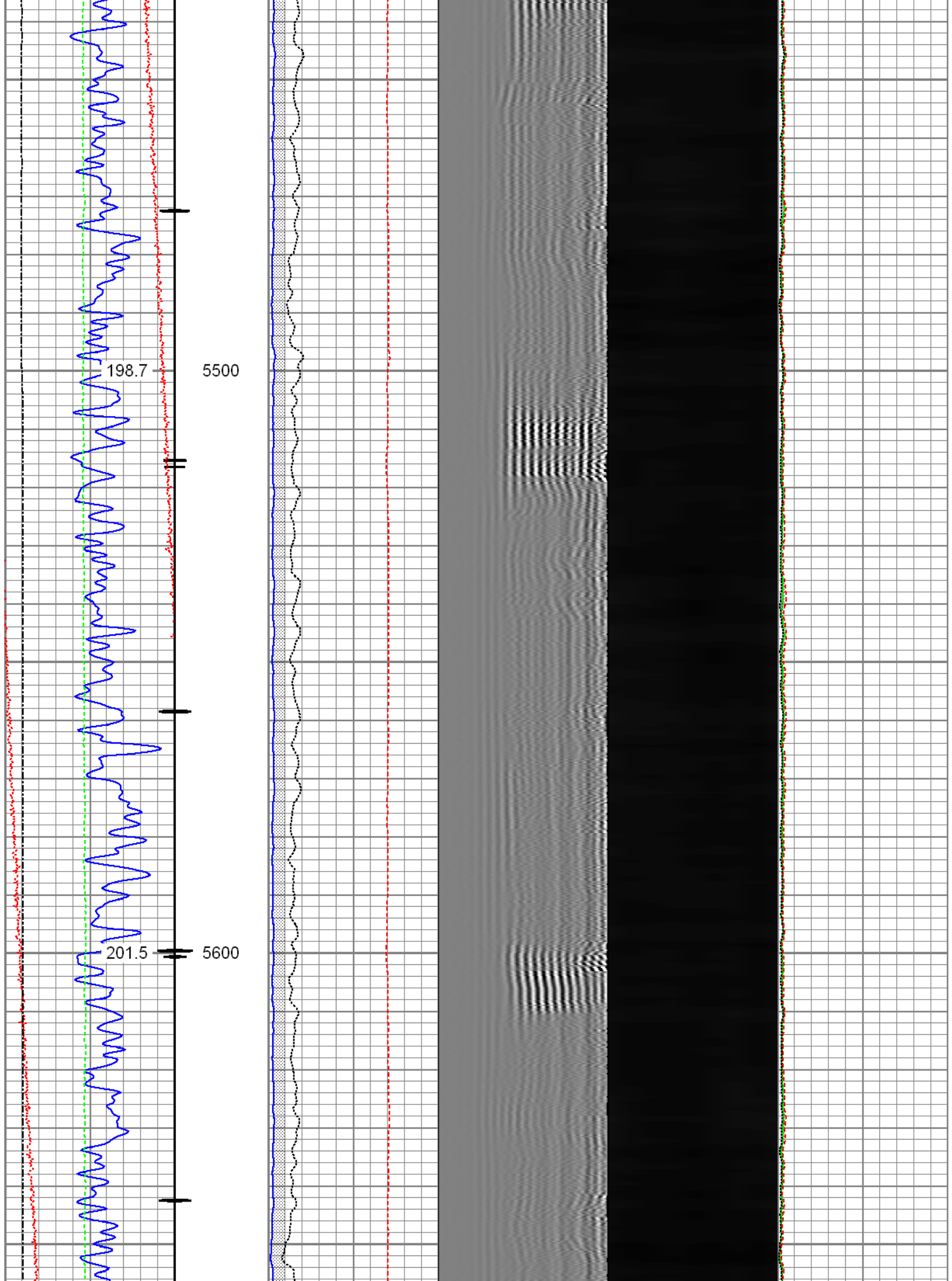


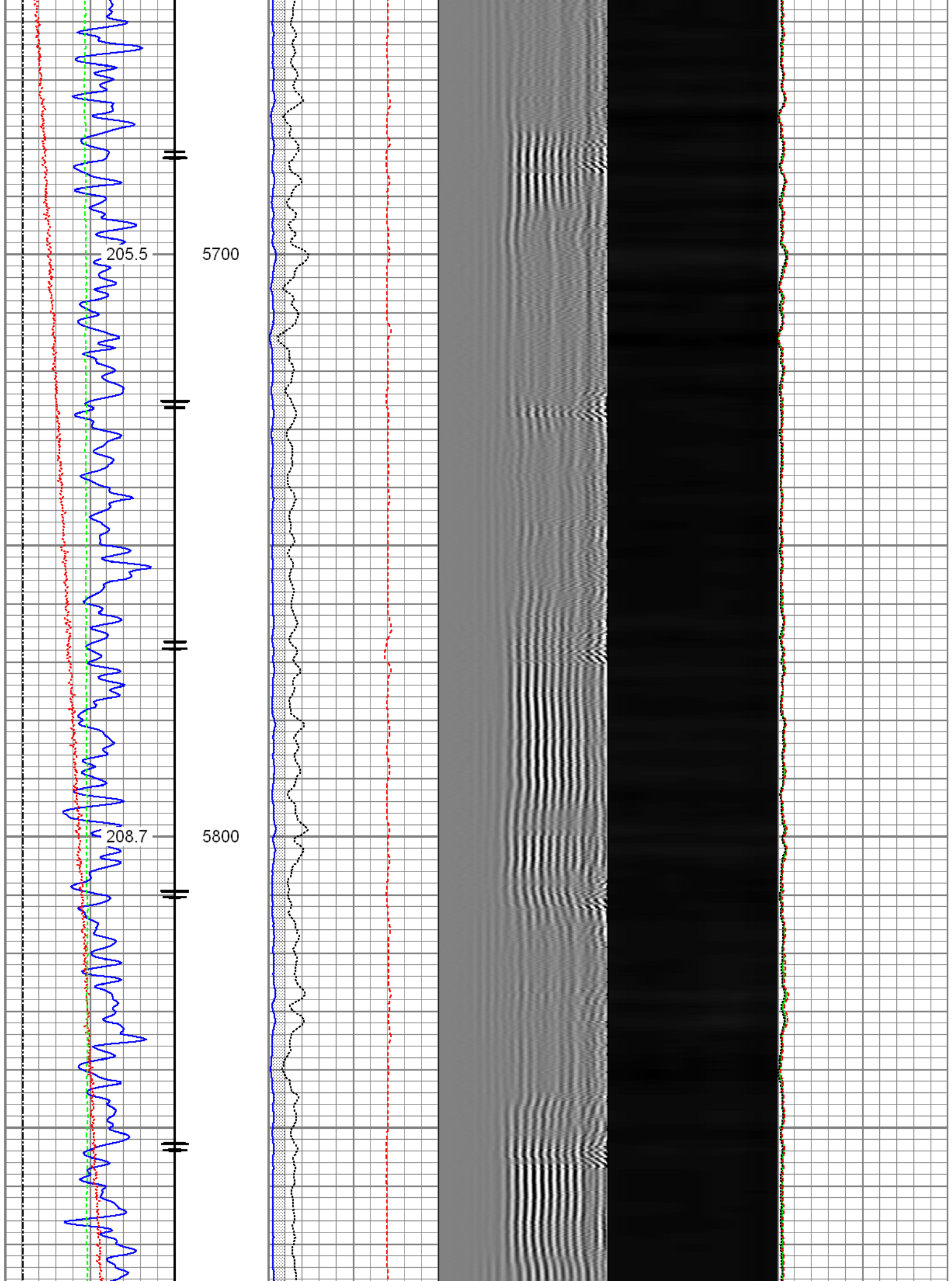


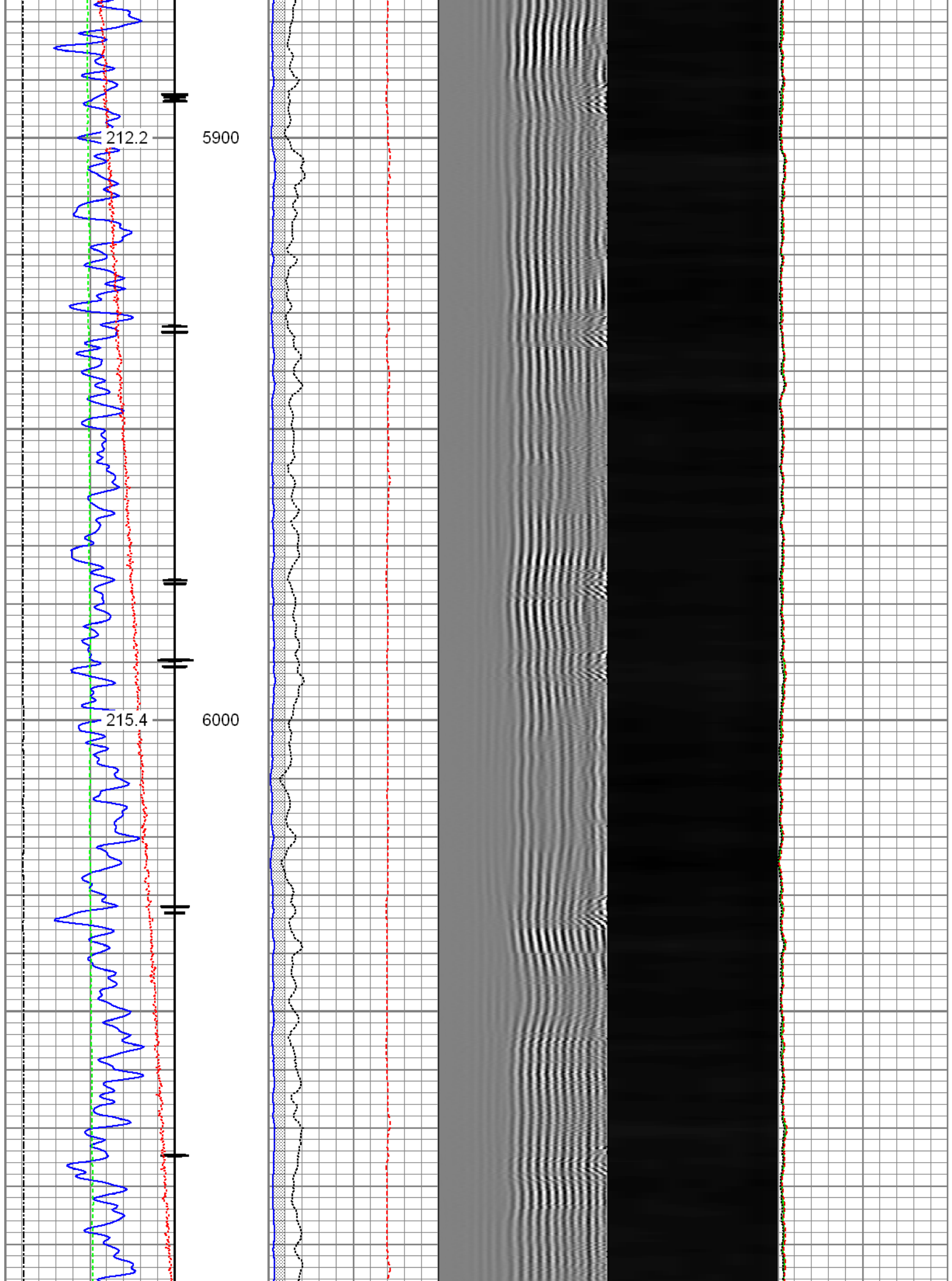


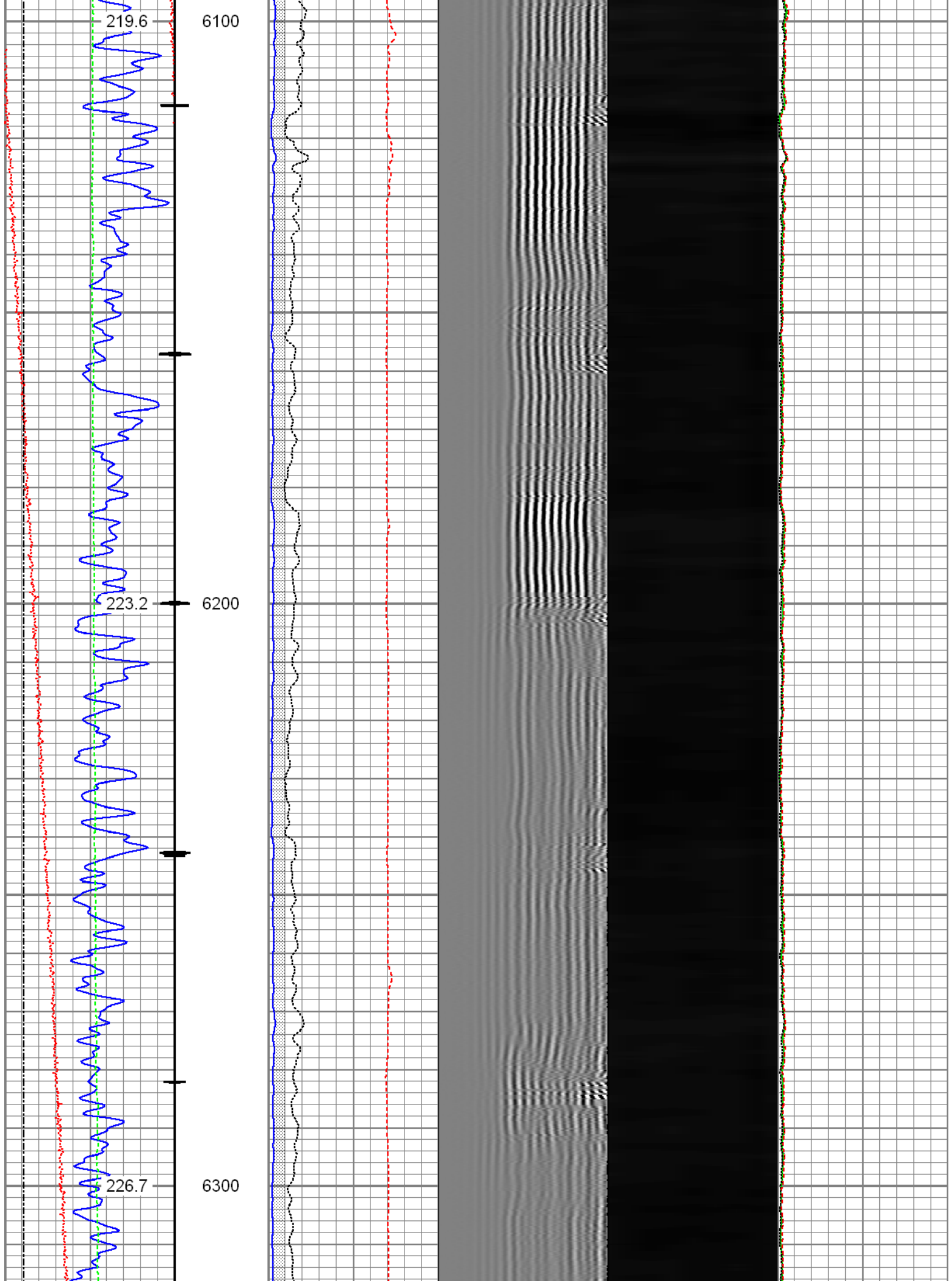


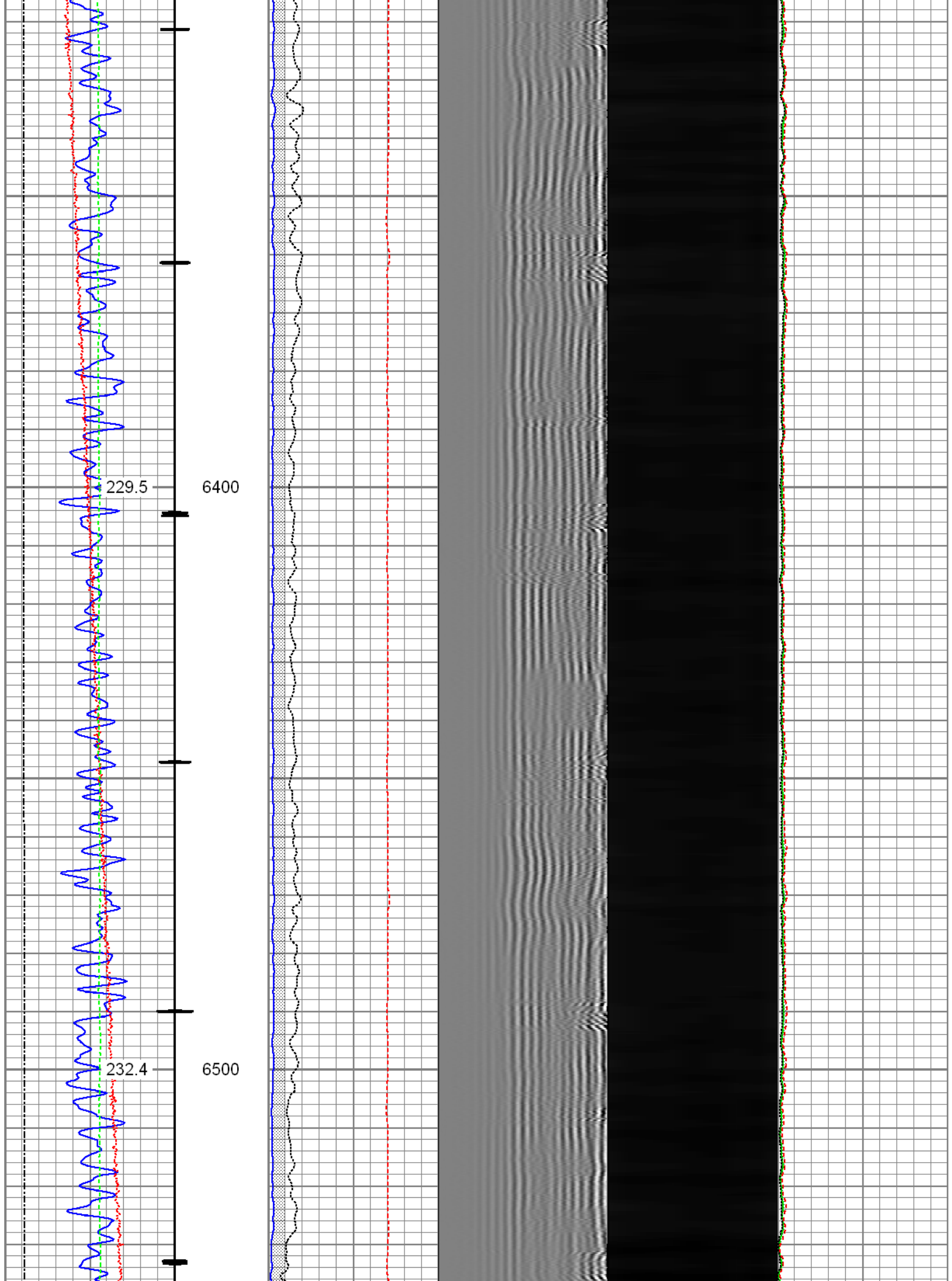


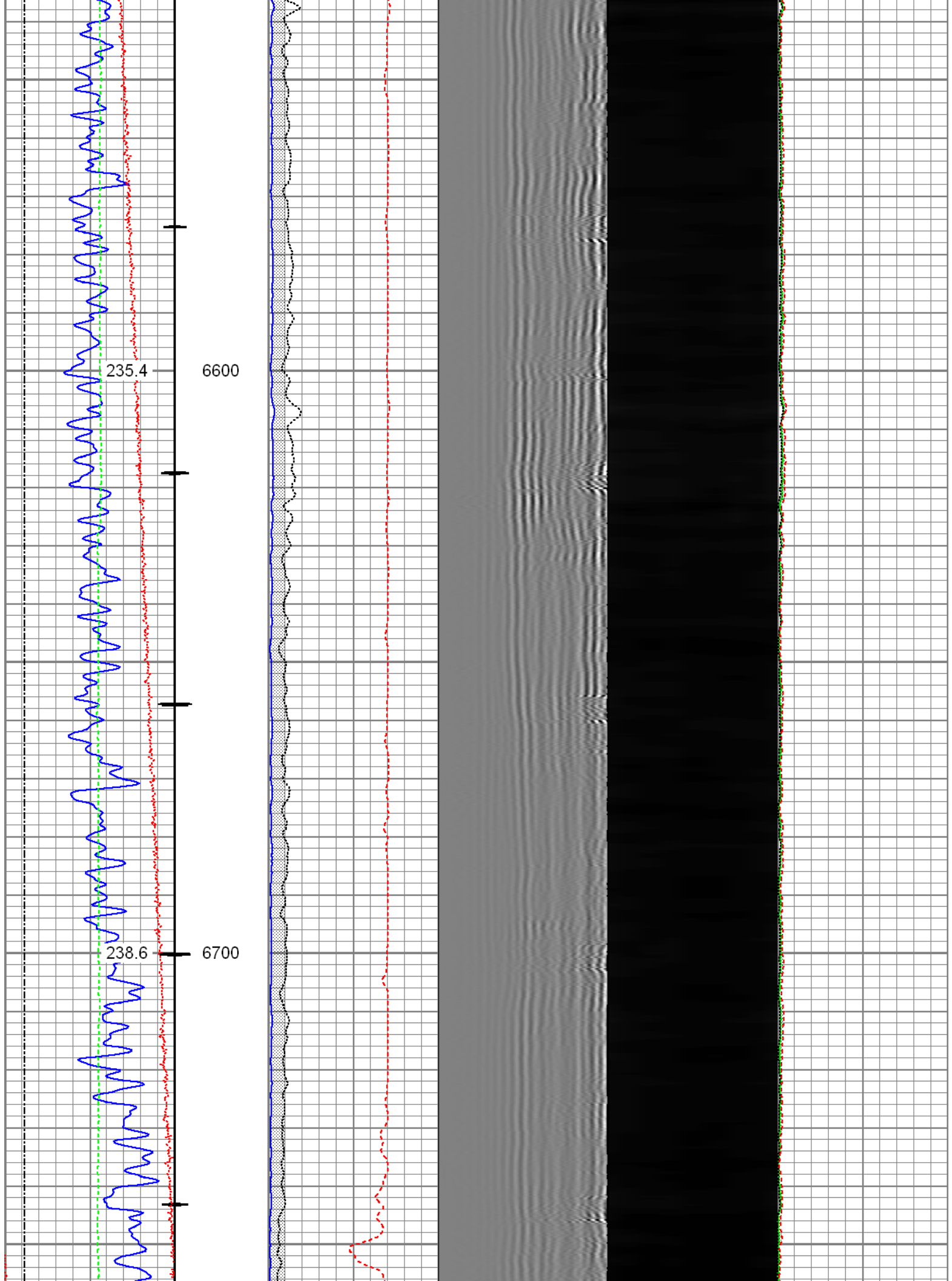


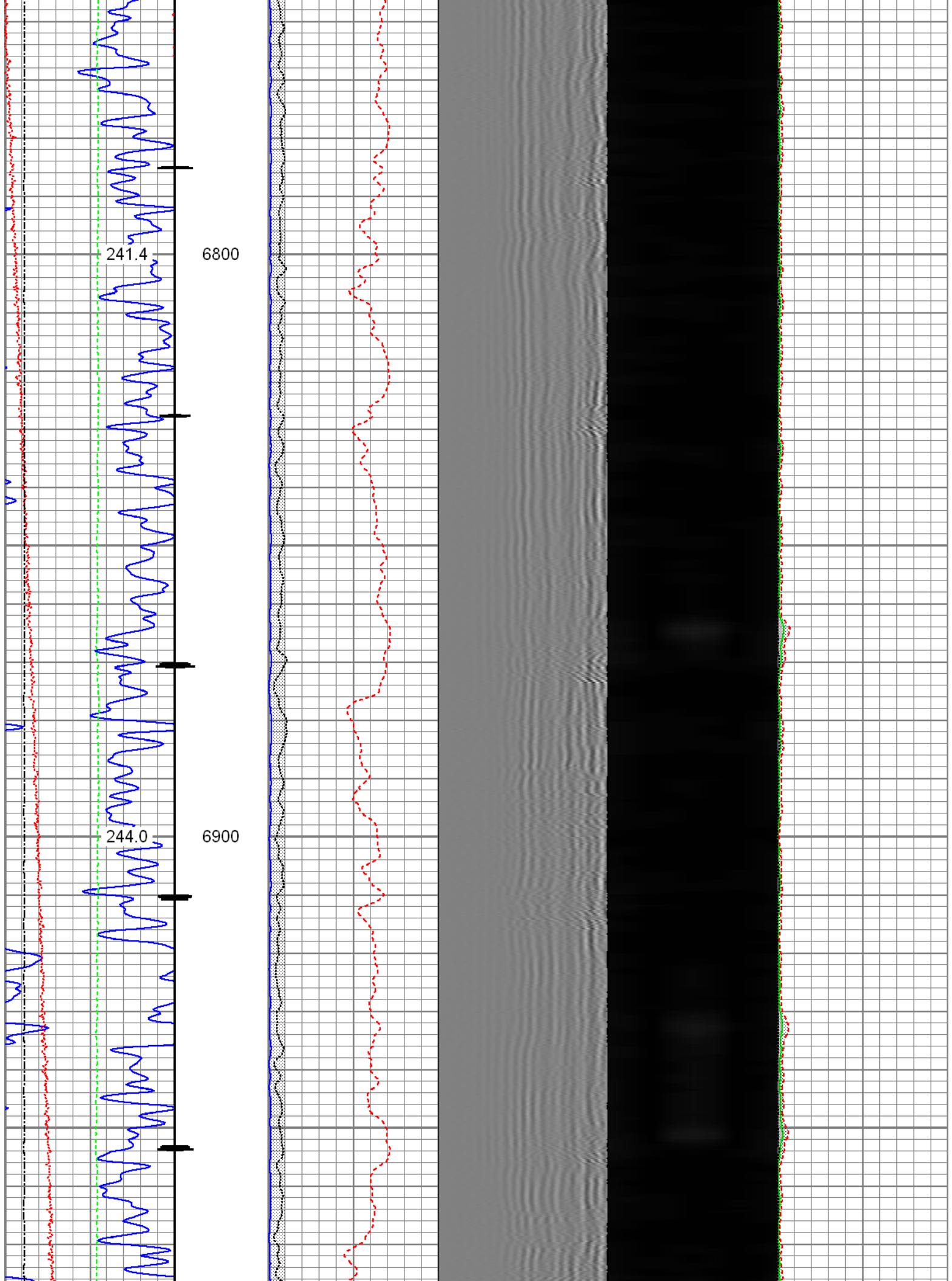


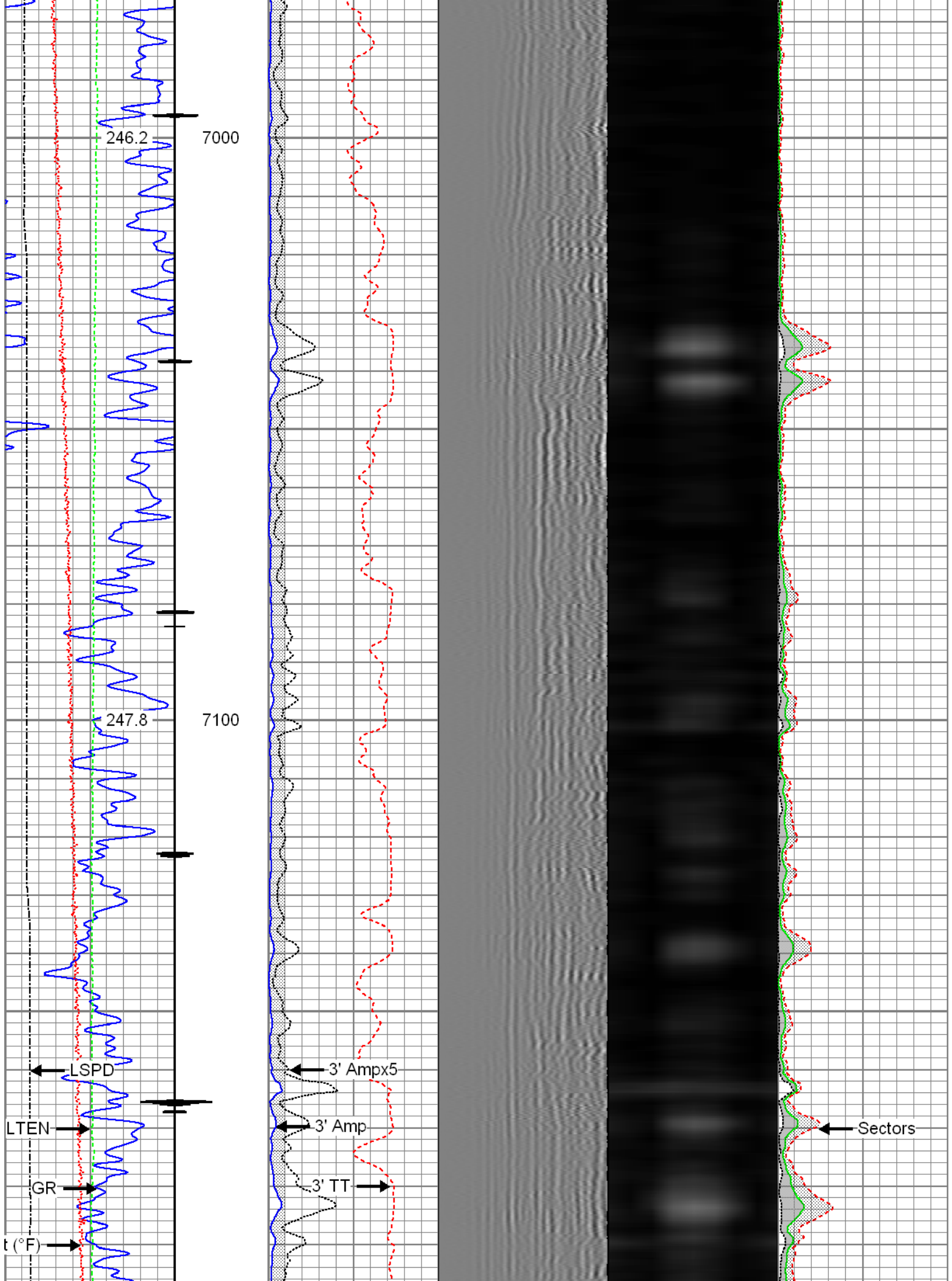


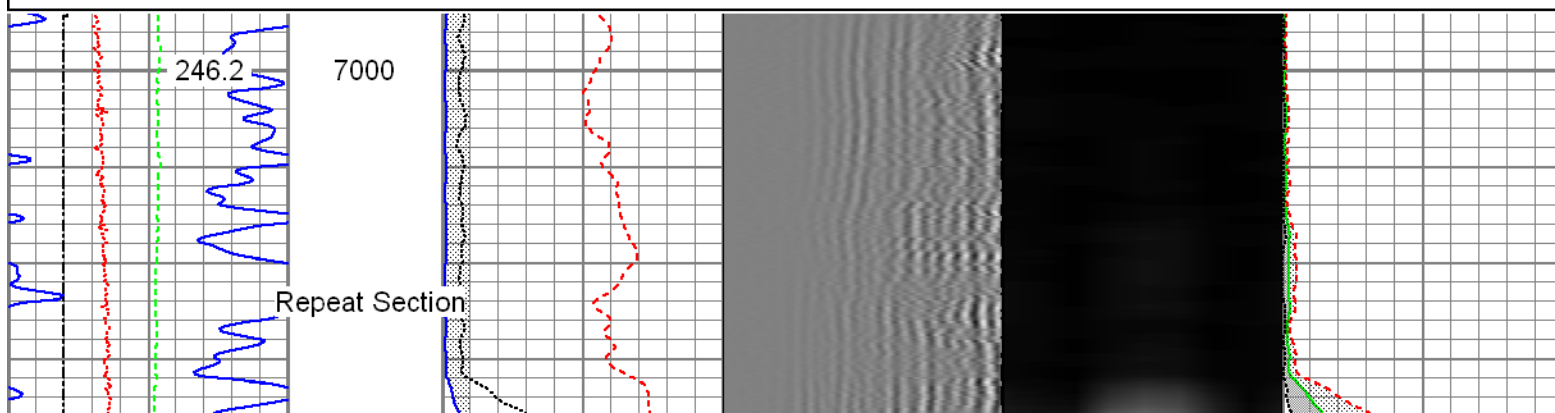
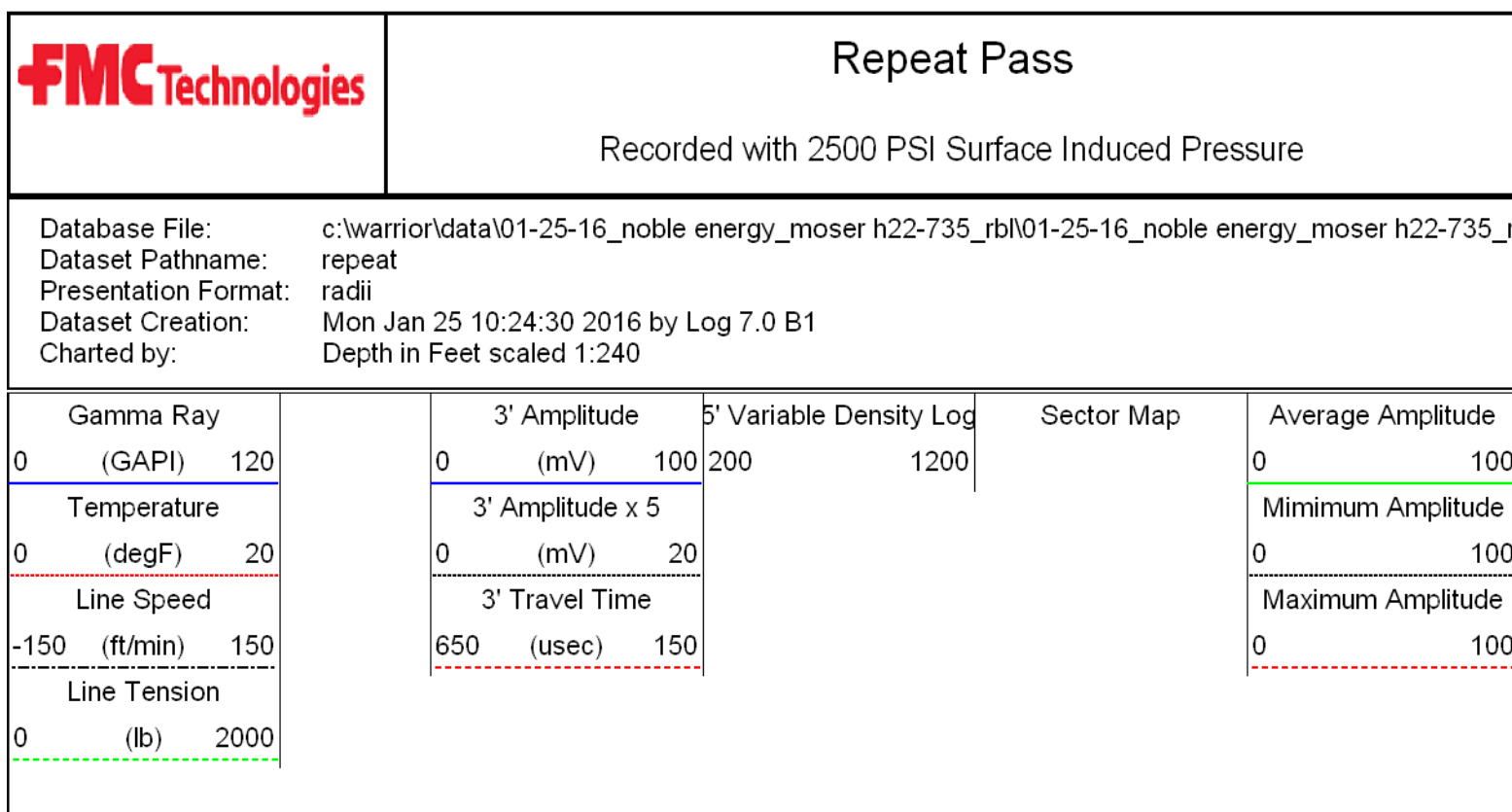
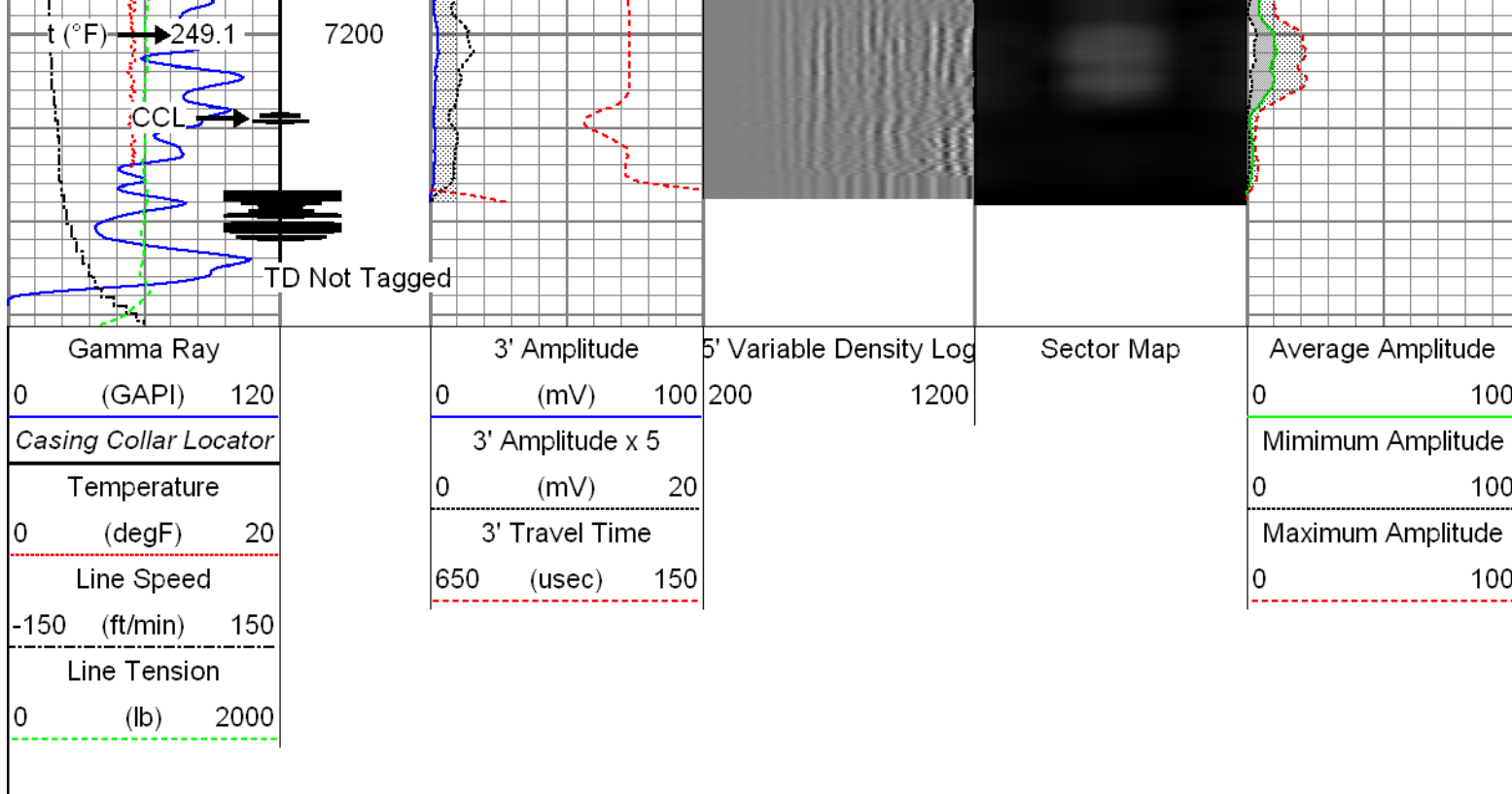


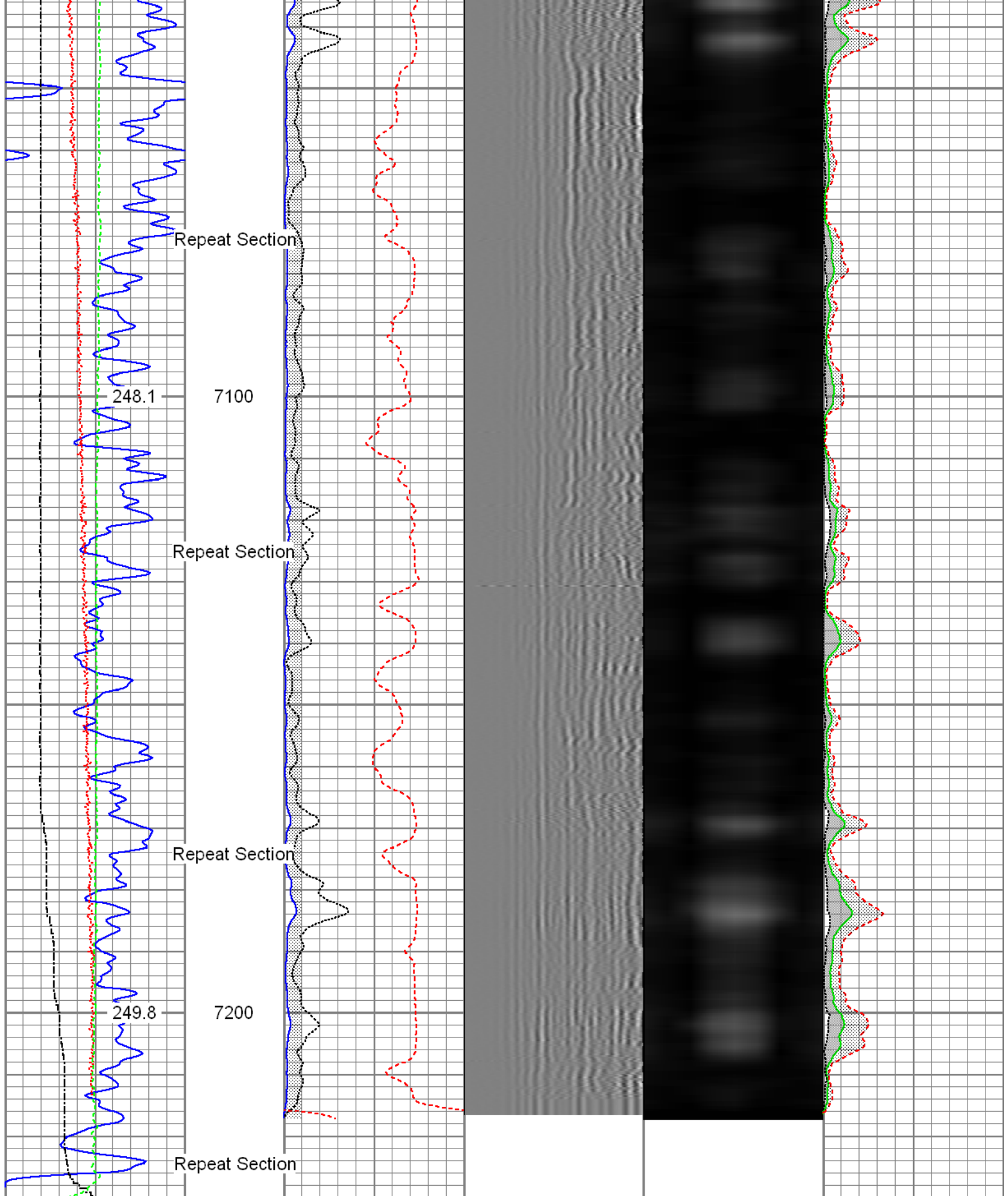




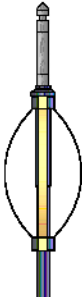

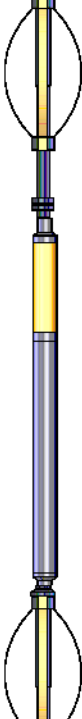








-150	(ft/min)	150	650	(usec)	150	0	100
Line Tension							
0	(lb)	2000					

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" (FW1305-096) 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					
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					
GR	3.77		Probe_CCL_GR-2.75"Digital (FW1212-026) Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.54	2.75	55.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00

Dataset: 01-25-16_Noble Energy_Moser H22-735_RBL.db: field/well/run1/main
 Total Length: 23.40 ft
 Total Weight: 194.00 lb
 O.D. 2.75 in

Calibration Report

Database File: c:\warrior\data\01-25-16_noble energy_moser h22-735_rbl\01-25-16_noble energy_moser h22-735_rbl.
 Dataset Pathname: main.1
 Dataset Creation: Tue Jan 26 14:26:50 2016 by Calc SCH 120430

Gamma Ray Calibration Report

Serial Number: FW1212-026
 Tool Model: 2.75"Digital
 Performed: Fri Nov 06 09:15:34 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: FW1305-096
 Tool Model: 2-3/4"

 Calibration Casing Diameter: 5.500 in
 Calibration Depth: 281.411 ft

Master Calibration, performed Tue Jan 26 14:26:47 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.610	0.800	71.921	117.983	-0.027
CAL	0.006	0.710				
5'	0.010	0.555	0.800	71.921	130.579	-0.536
SUM						
S1	0.005	0.570	0.000	100.000	177.222	-0.960
S2	0.008	0.564	0.000	100.000	180.011	-1.464
S3	0.008	0.579	0.000	100.000	174.982	-1.323
S4	0.007	0.605	0.000	100.000	167.177	-1.178
S5	0.008	0.649	0.000	100.000	156.178	-1.318
S6	0.008	0.670	0.000	100.000	151.155	-1.268
S7	0.009	0.657	0.000	100.000	154.305	-1.373
S8	0.008	0.616	0.000	100.000	164.653	-1.353

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	0.006	0.710	1.000	0.000

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.006	0.000	0.000
5'	0.007	0.000	-0.000
SUM			
S1	0.007	0.000	-0.000
S2	0.007	0.000	0.000
S3	0.007	0.000	0.000
S4	0.006	0.000	0.000
S5	0.006	0.000	0.000
S6	0.006	0.000	0.000
S7	0.006	0.000	0.000
S8	0.007	0.000	0.000



Company	Noble Energy Inc.
Well	Moser H22-735
Field	Wattenberg
County	Weld
State	Colorado