



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas OnShore L.P.		
Well	Sunflower 8N-17HZ		
Field	Wattenberg		
County	Weld		
State	Colorado		
Location:	Company	Kerr-McGee Oil & Gas OnShore L.P.	
	Well	Sunflower 8N-17HZ	
Location:	Field	Wattenberg	
	County	Weld	
Location:	State	Colorado	
	APL # :	05-123-42070	
Location:	SEC 8	TWP 2N	RGE 65W
	Permanent Datum	Ground Level	Elevation 4901'
Location:	Log Measured From	Kelly Bushing	20 FT
	Drilling Measured From	Kelly Bushing	Elevation 4901'
Location:	Other Services		Gauge Ring
	Elevation		K.B. 4921' D.F. 4920' G.L. 4901'

Date	11-Jan-2016
Run Number	Two
Depth Driller	12665 FT
Depth Logger	7206 FT
Bottom Logged Interval	7201 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	1015
Equipment Number	HD-0361
Location	Fort Lupton, CO
Recorded By	Chad Bryan
Witnessed By	Mario 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	36	J-55	Surface	1863 FT		
Intermediate #1	5 1/2	17	HCP-110	Surface	12665 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 6415 FT
Adjusted +.5 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7318 FT with no debris found
Log ran from as deep as possible in heel to surface
Recorded with 2800 PSI surface induced pressure
No debris found on logging tools upon completion of operations

Thank you for choosing FMC Technologies Surface Integrated Services.

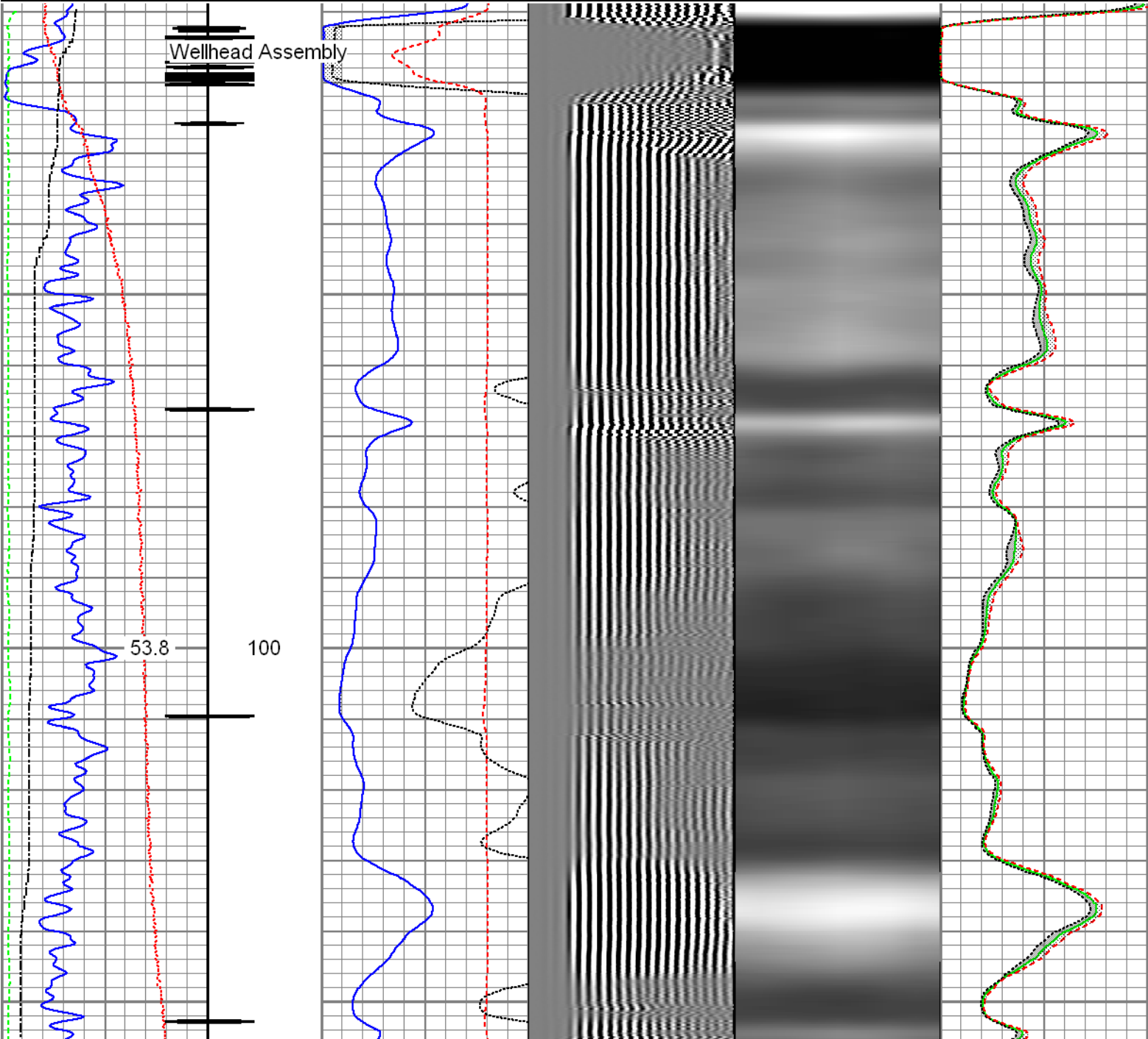


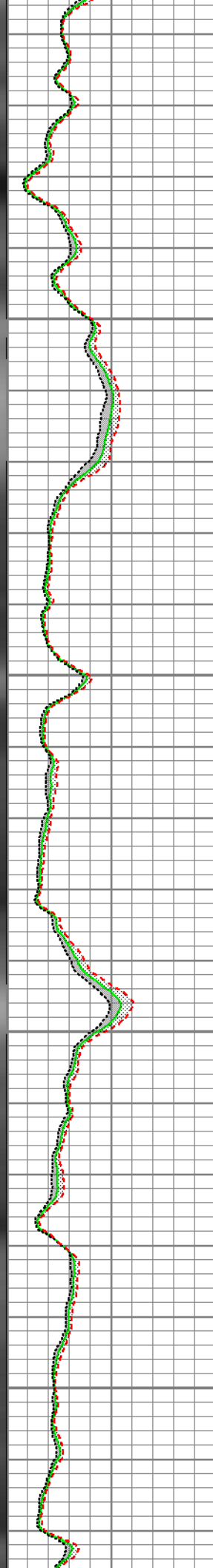
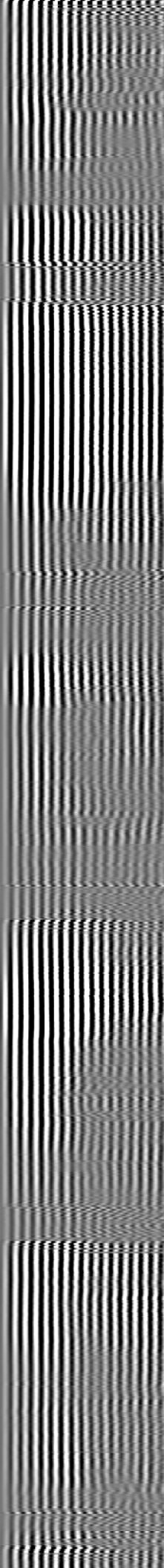
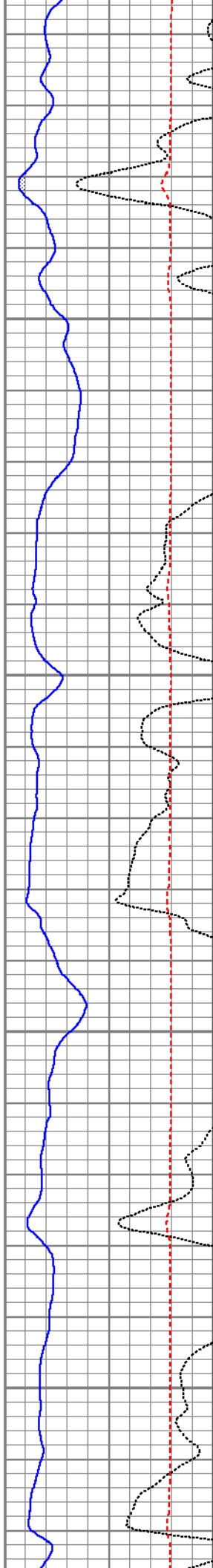
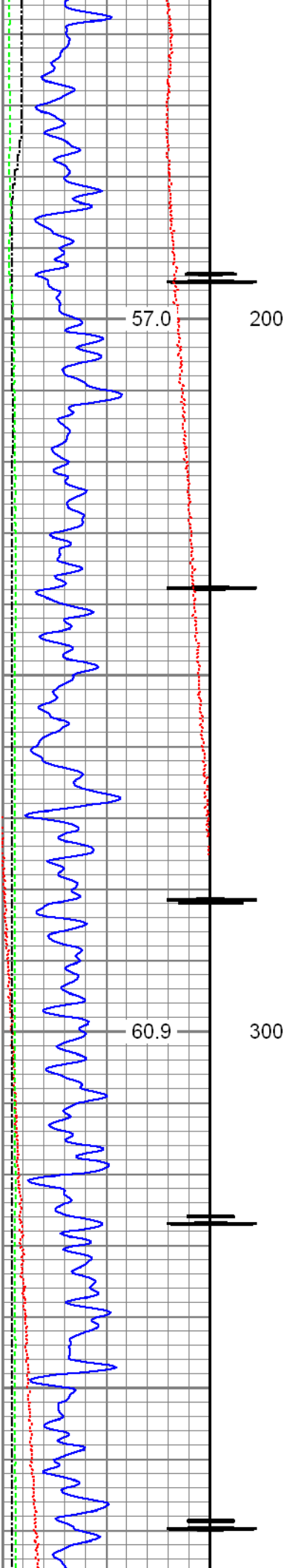
Main Pass

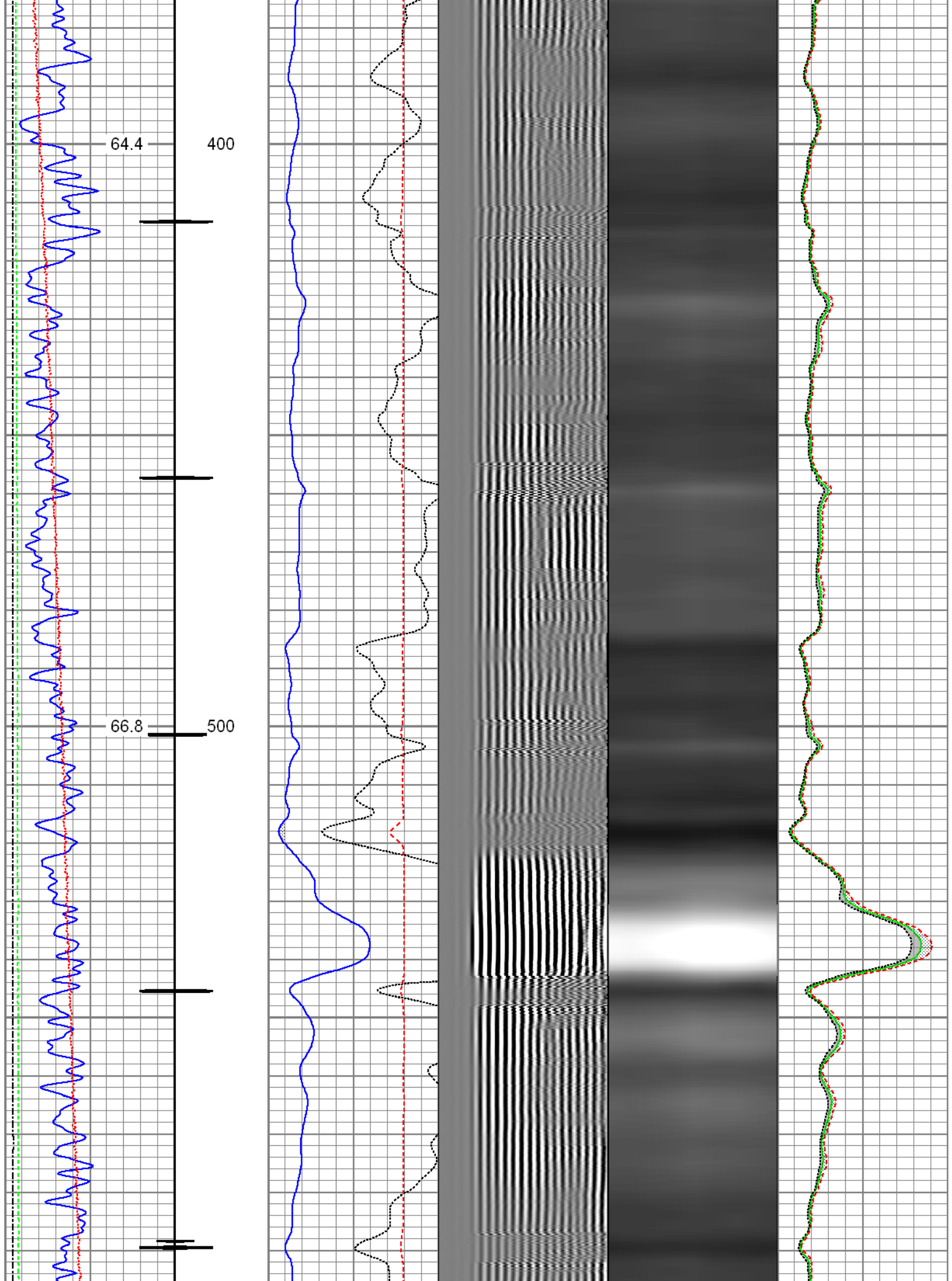
Recorded with 2800 PSI Surface Induced Pressure

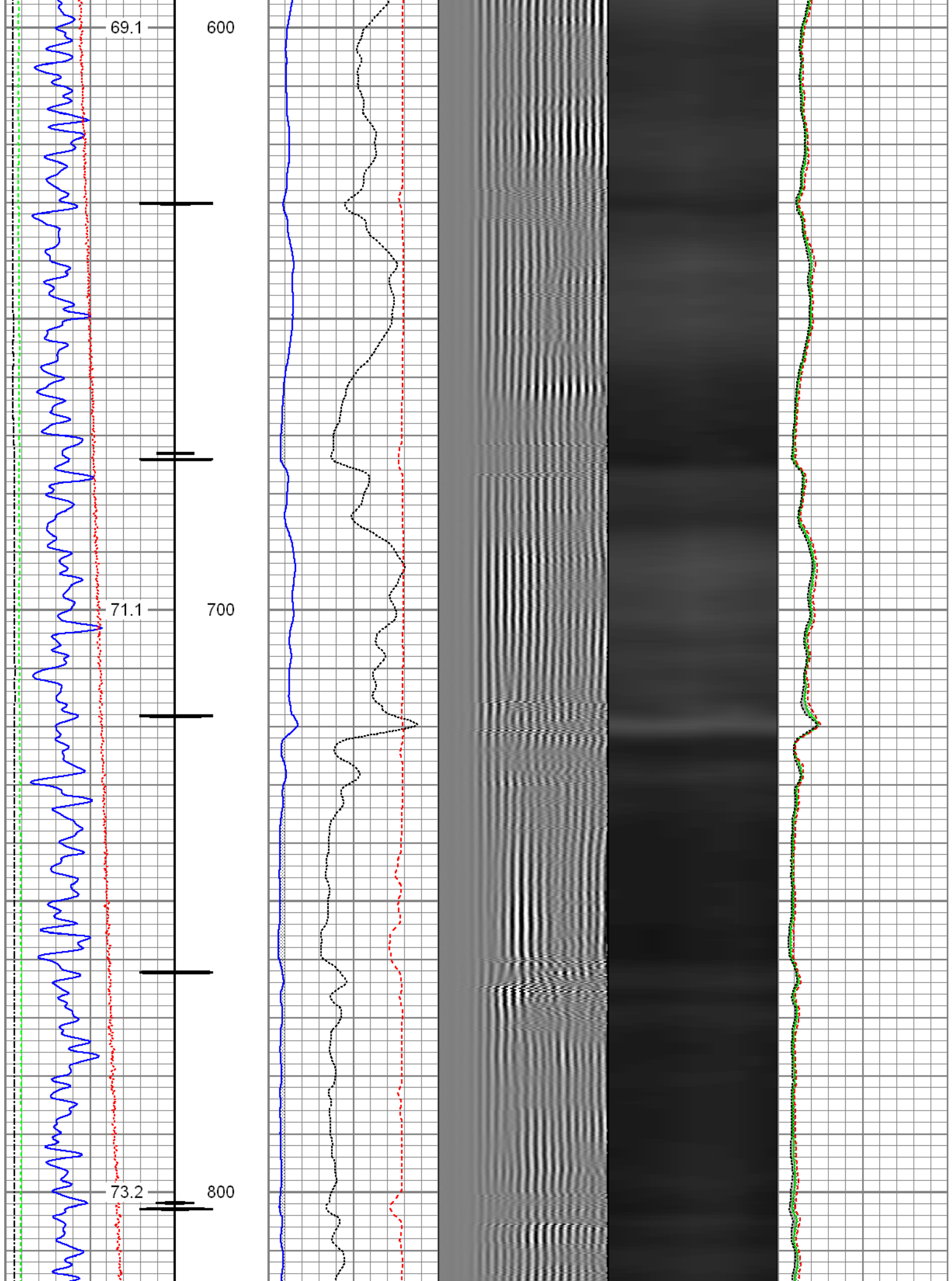
Database File: 0512342070_anadarko_sunflower 8n-17hz_01-11-16_rbl.db
Dataset Pathname: main
Presentation Format: radii
Dataset Creation: Mon Jan 11 10:15:31 2016 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

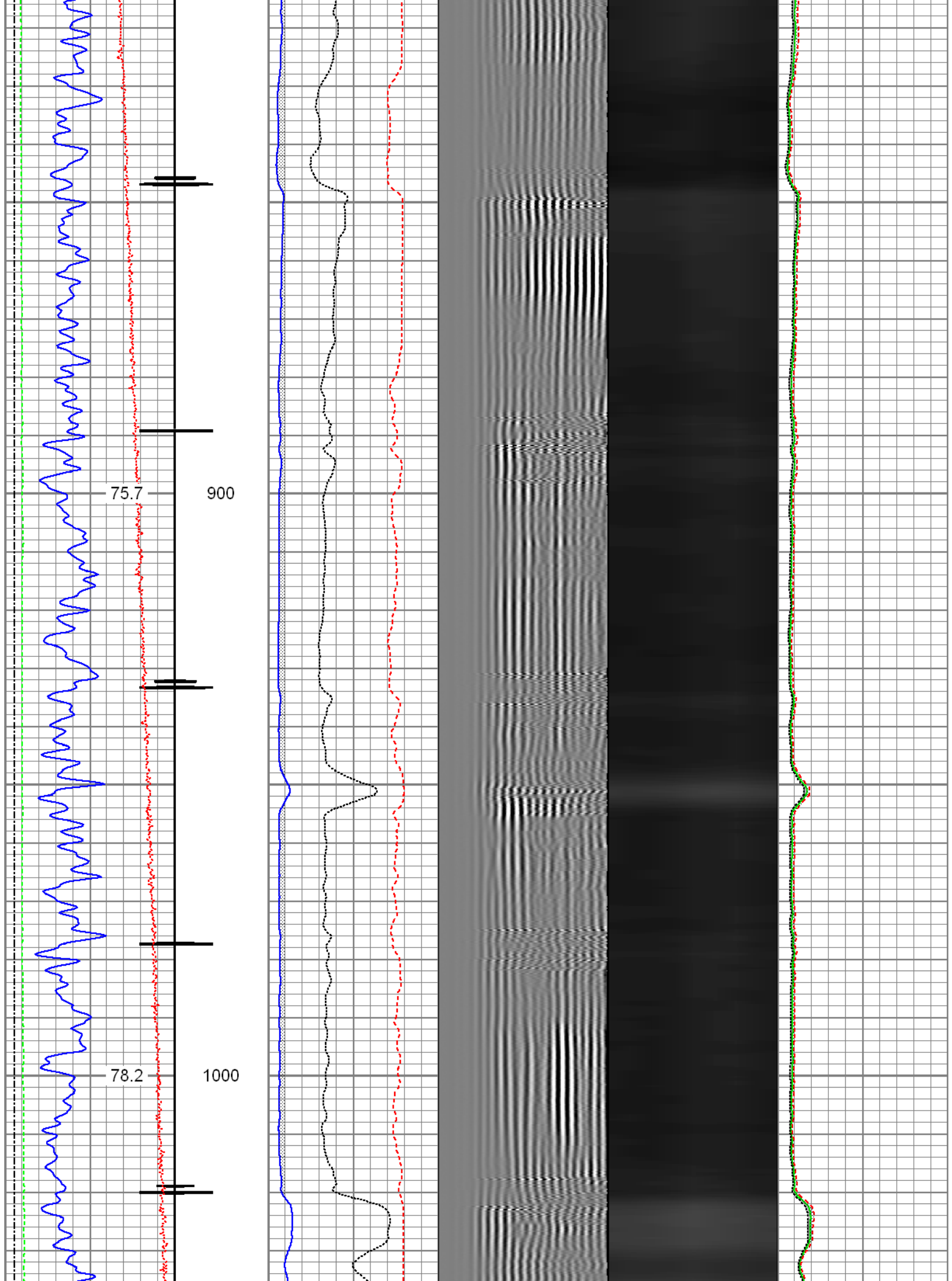
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

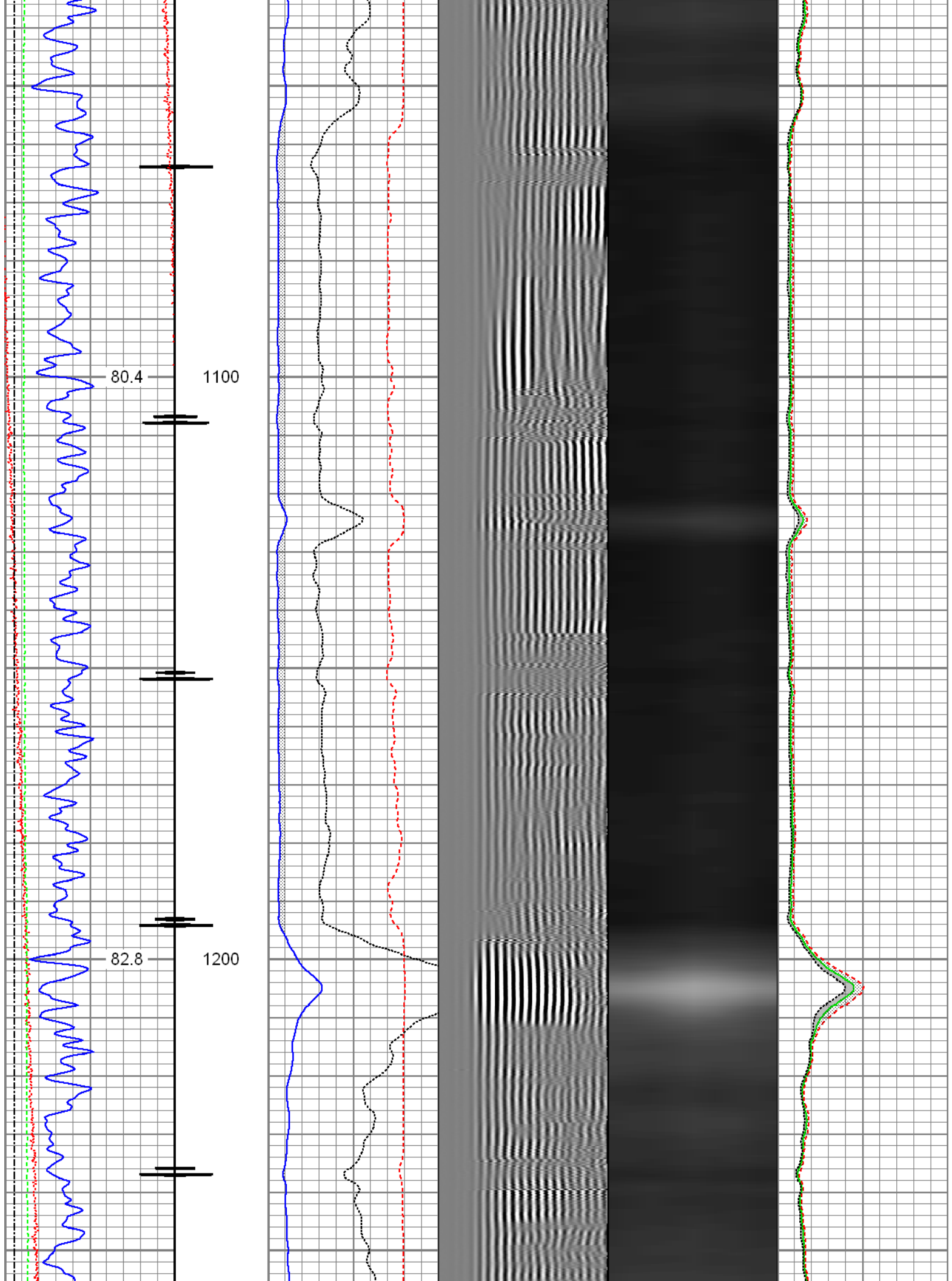


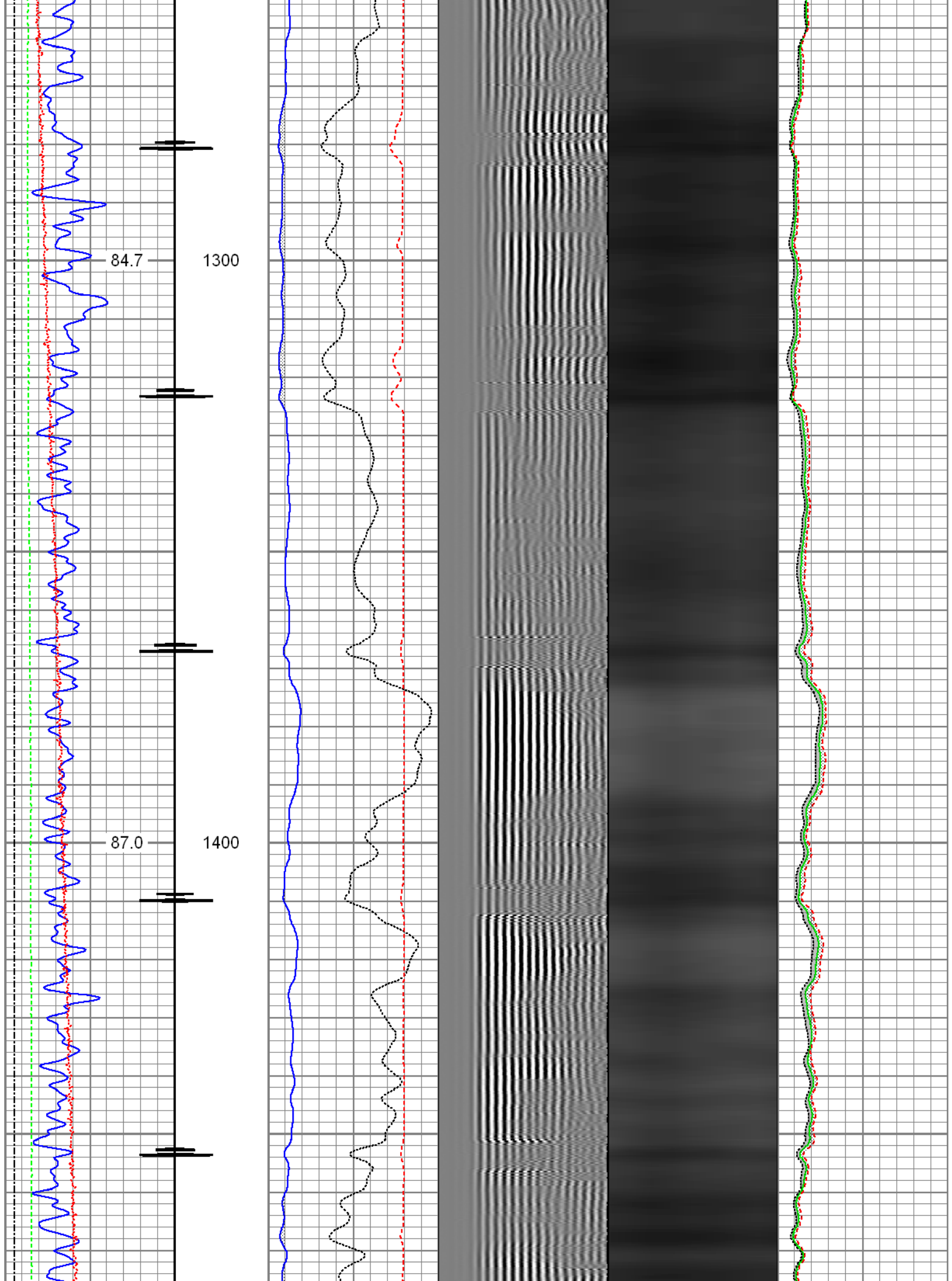


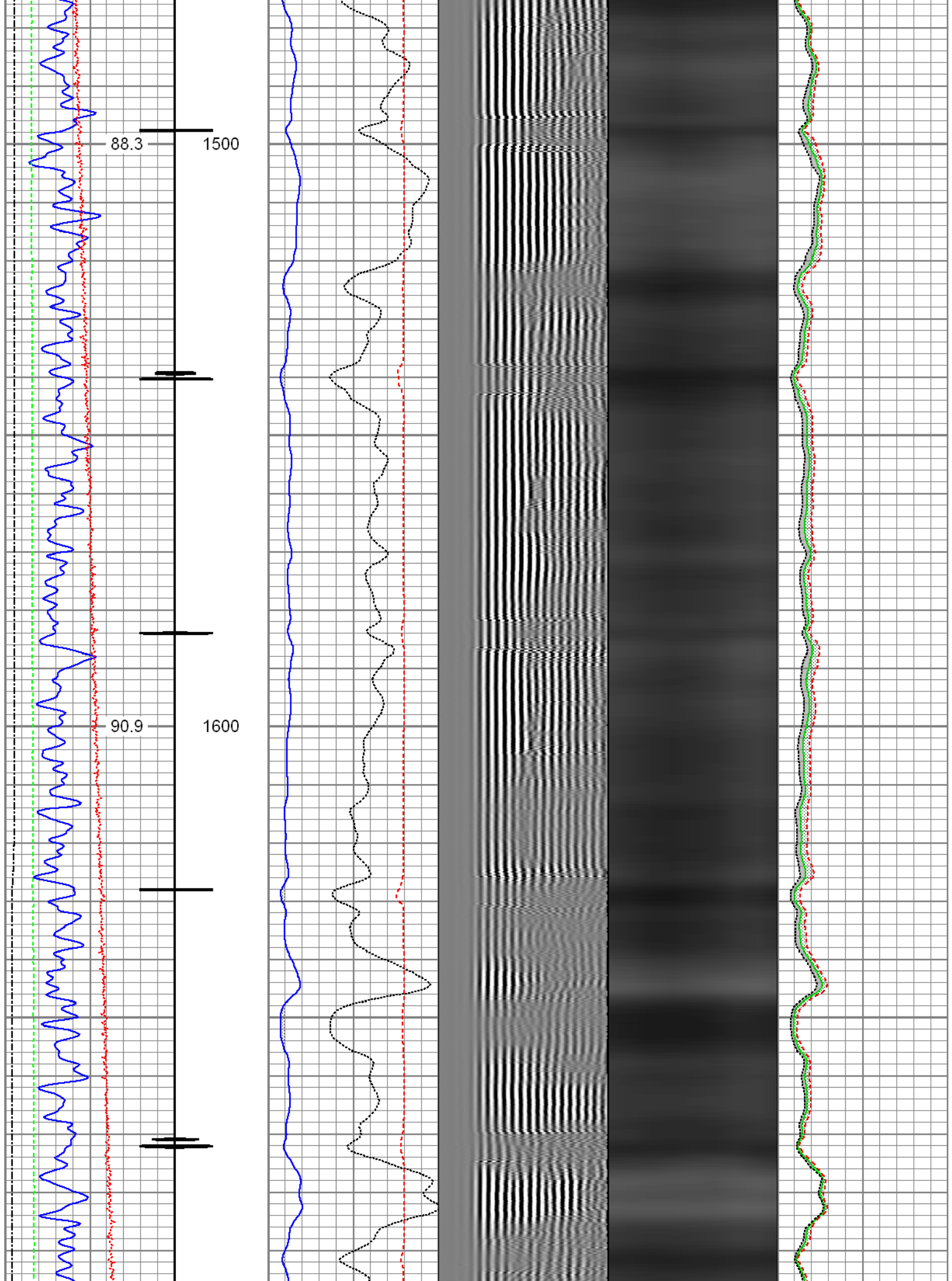


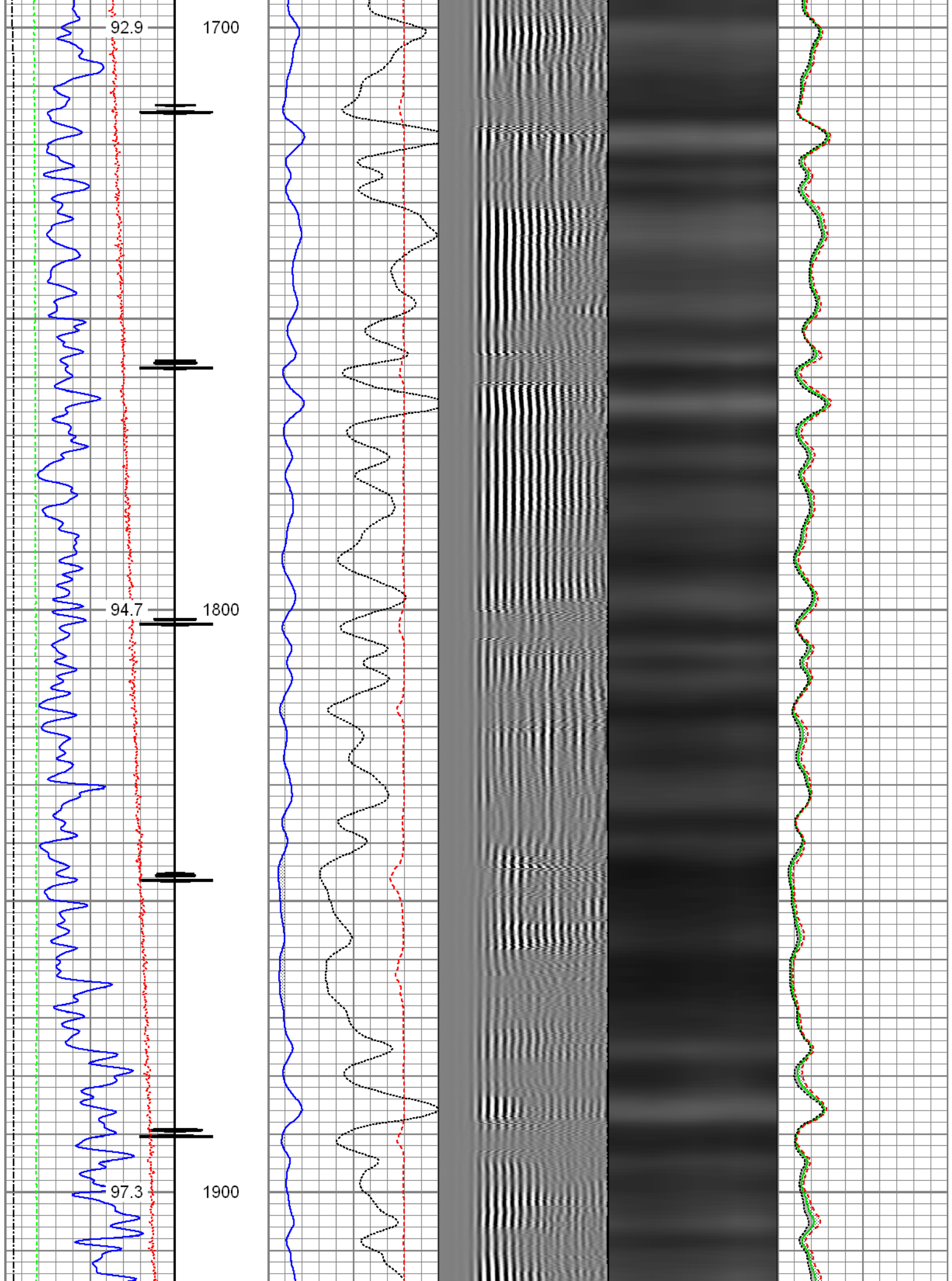


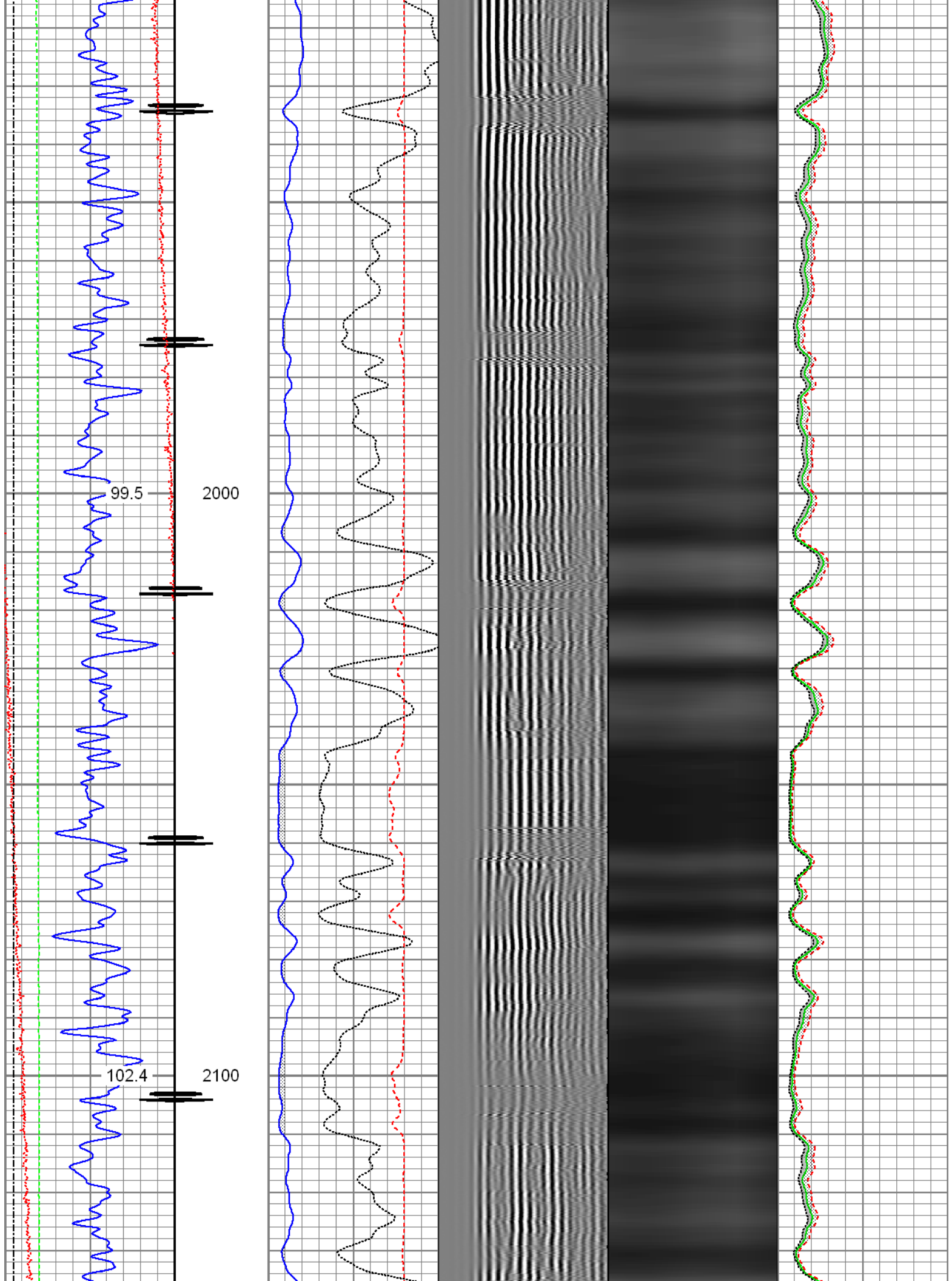


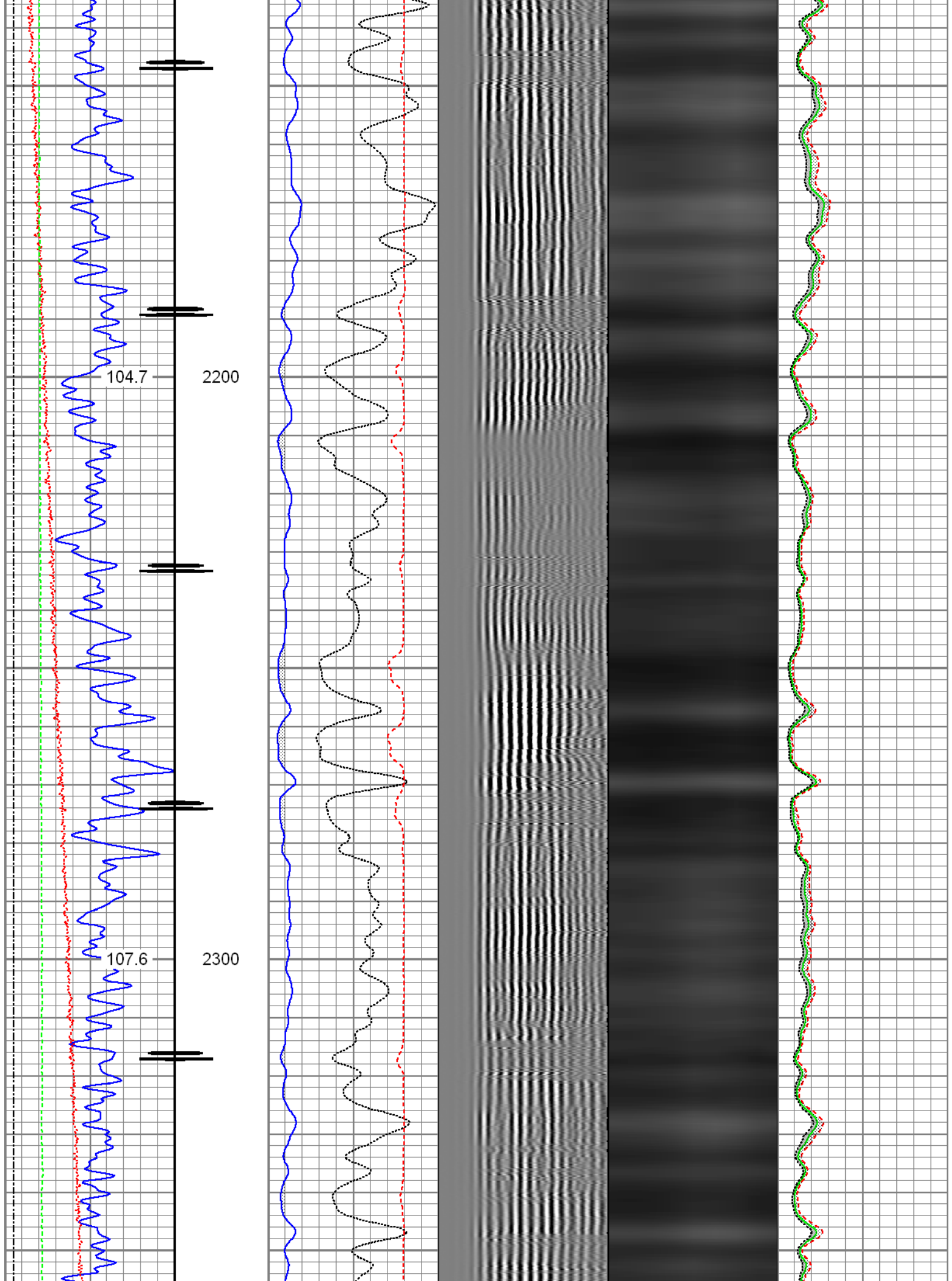


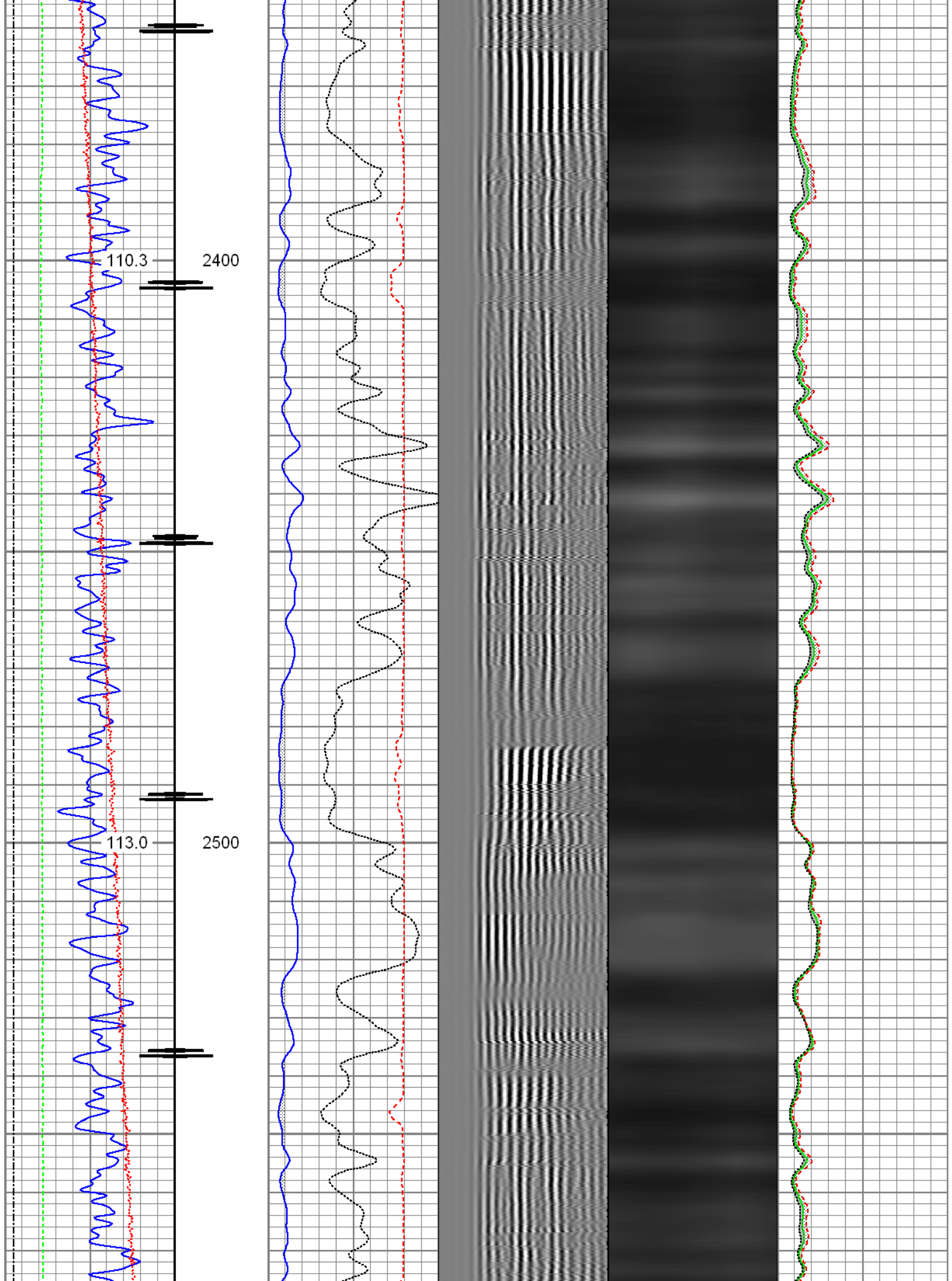


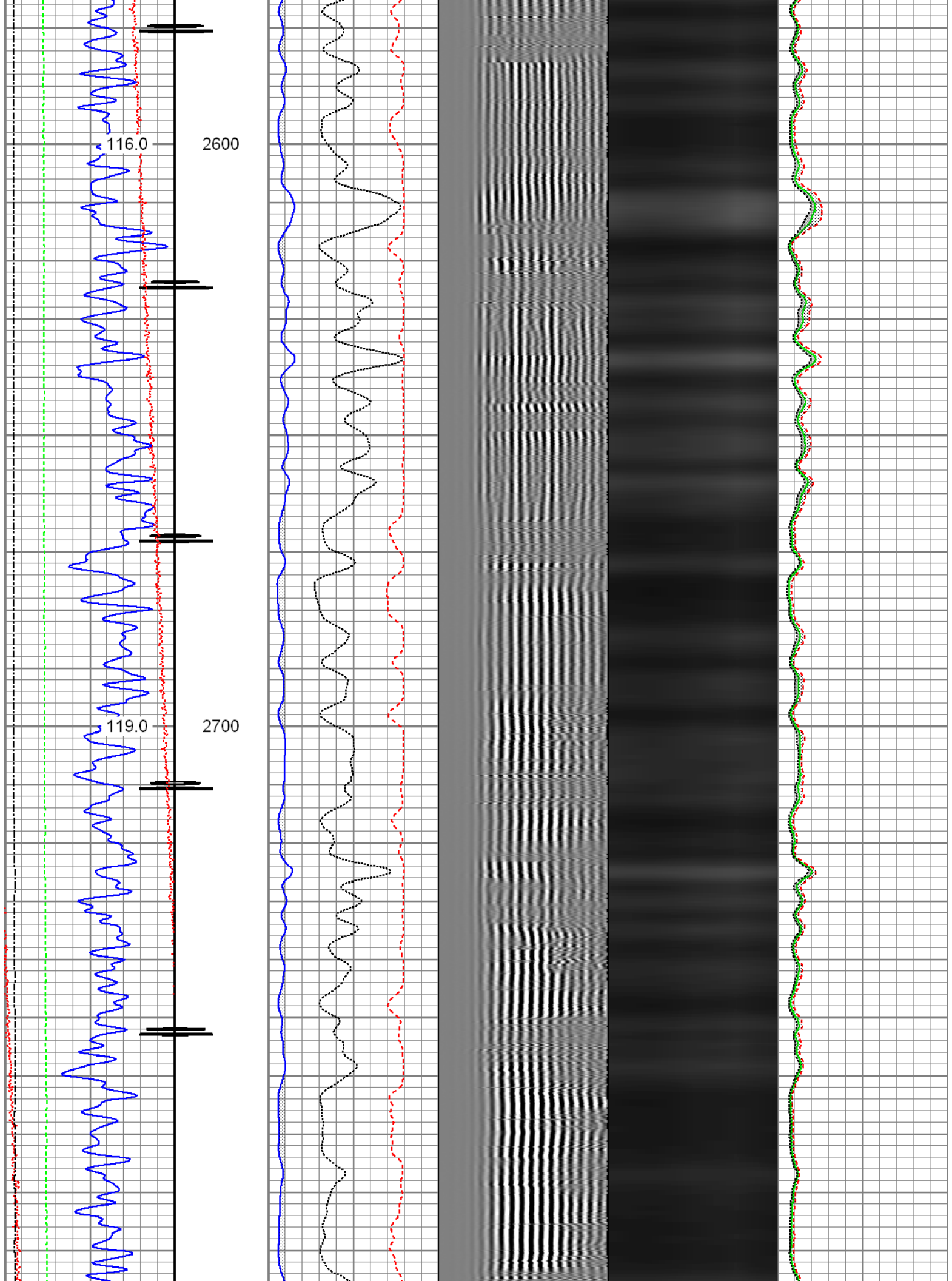


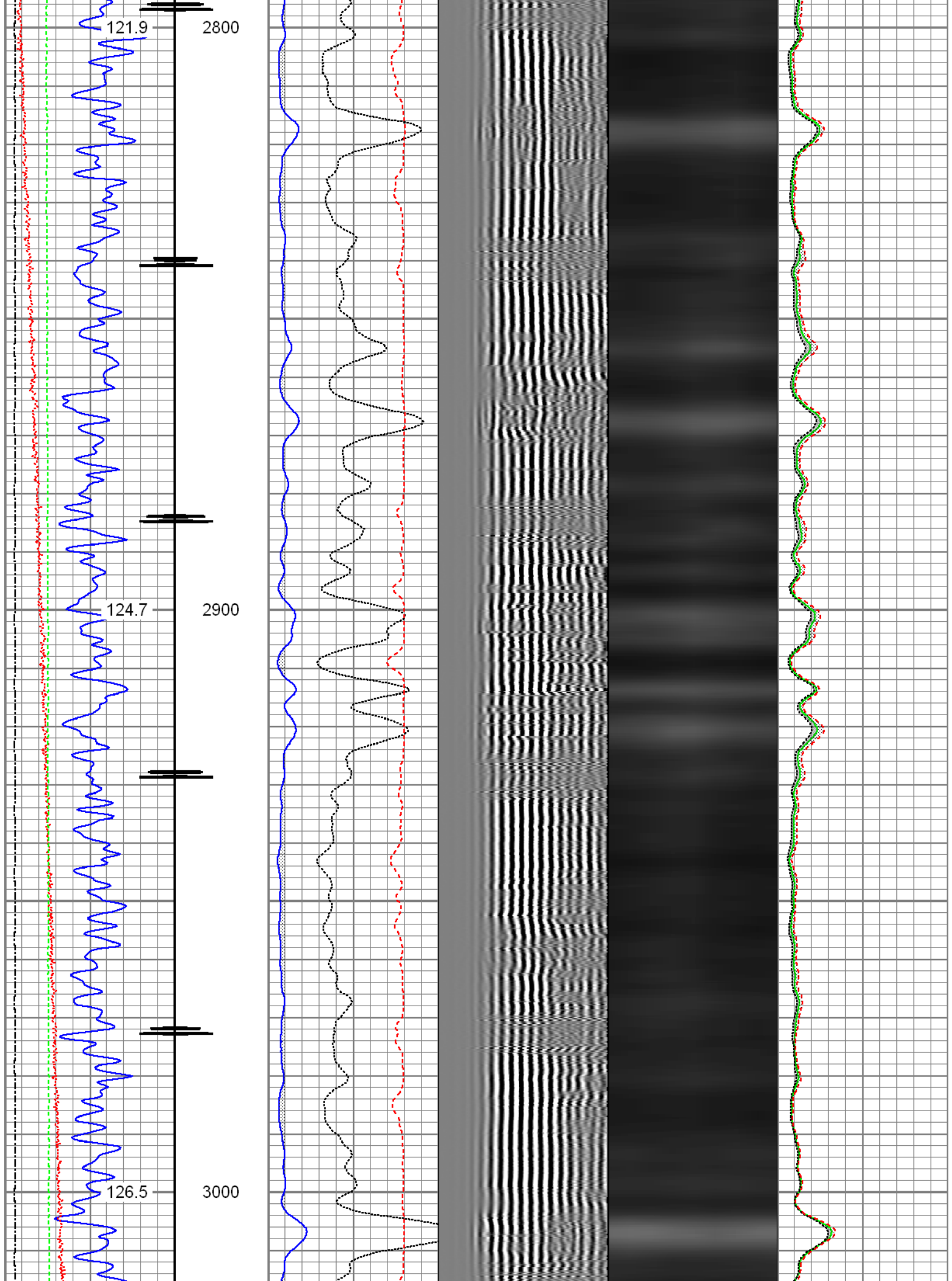


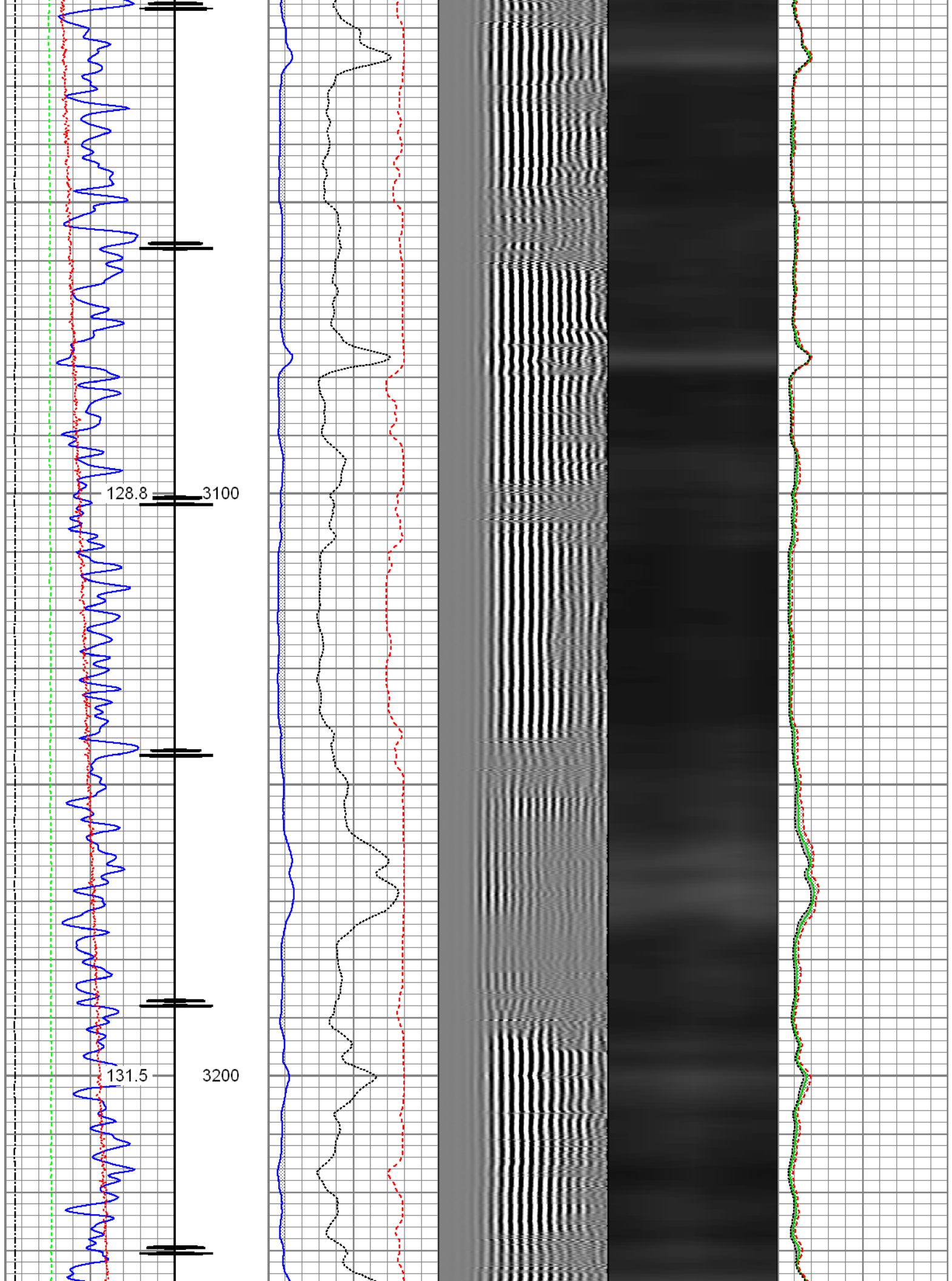


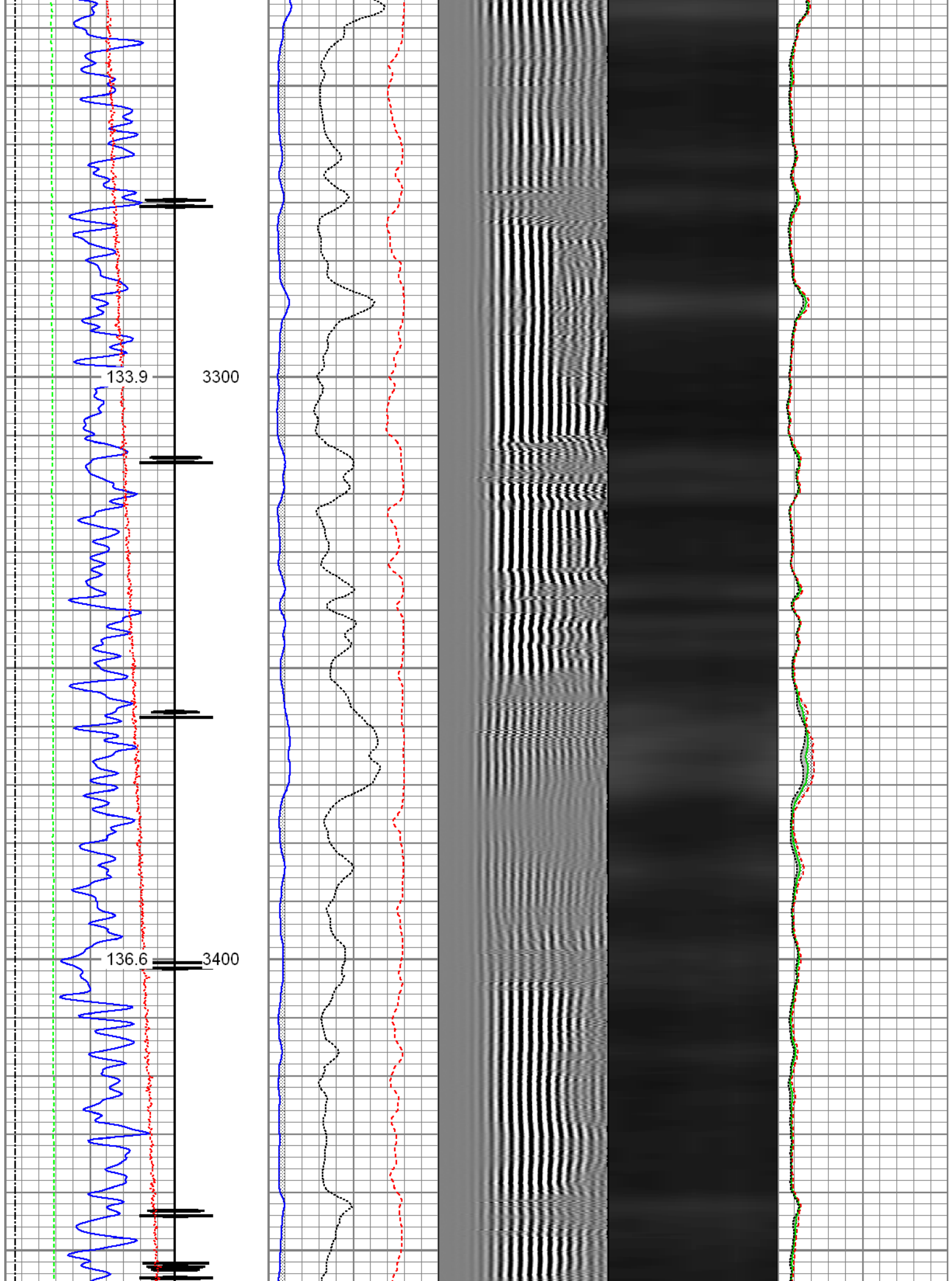


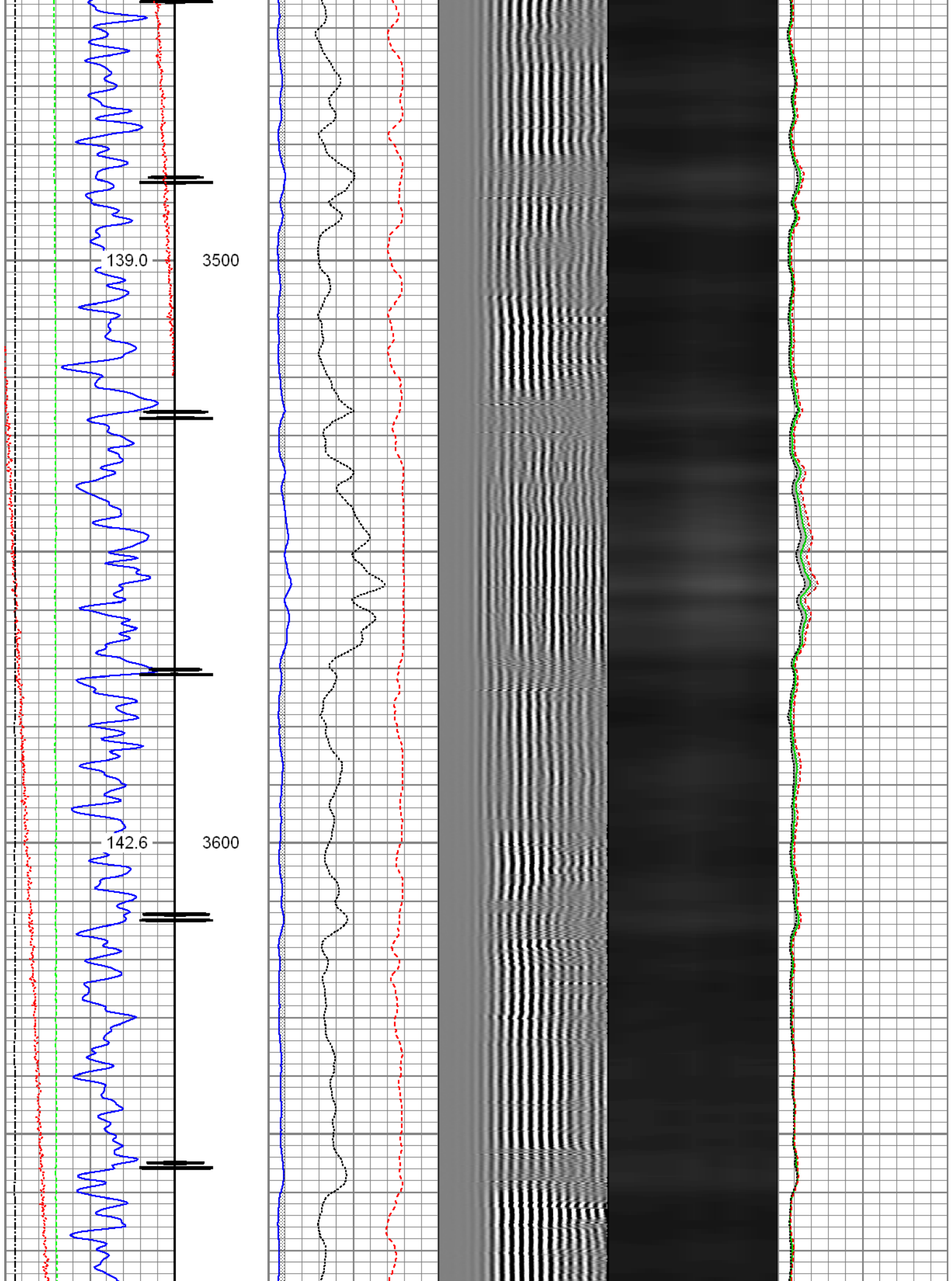


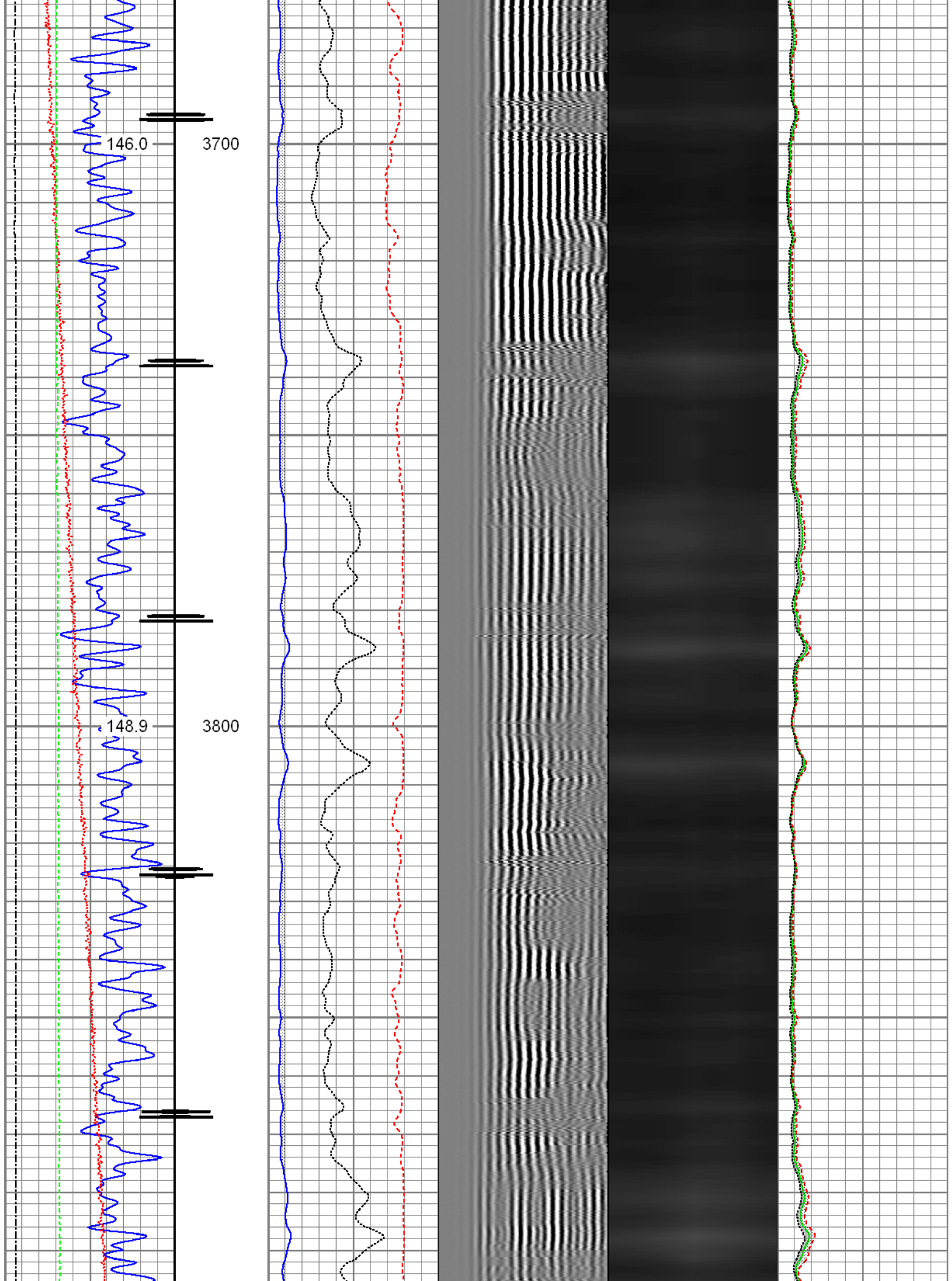


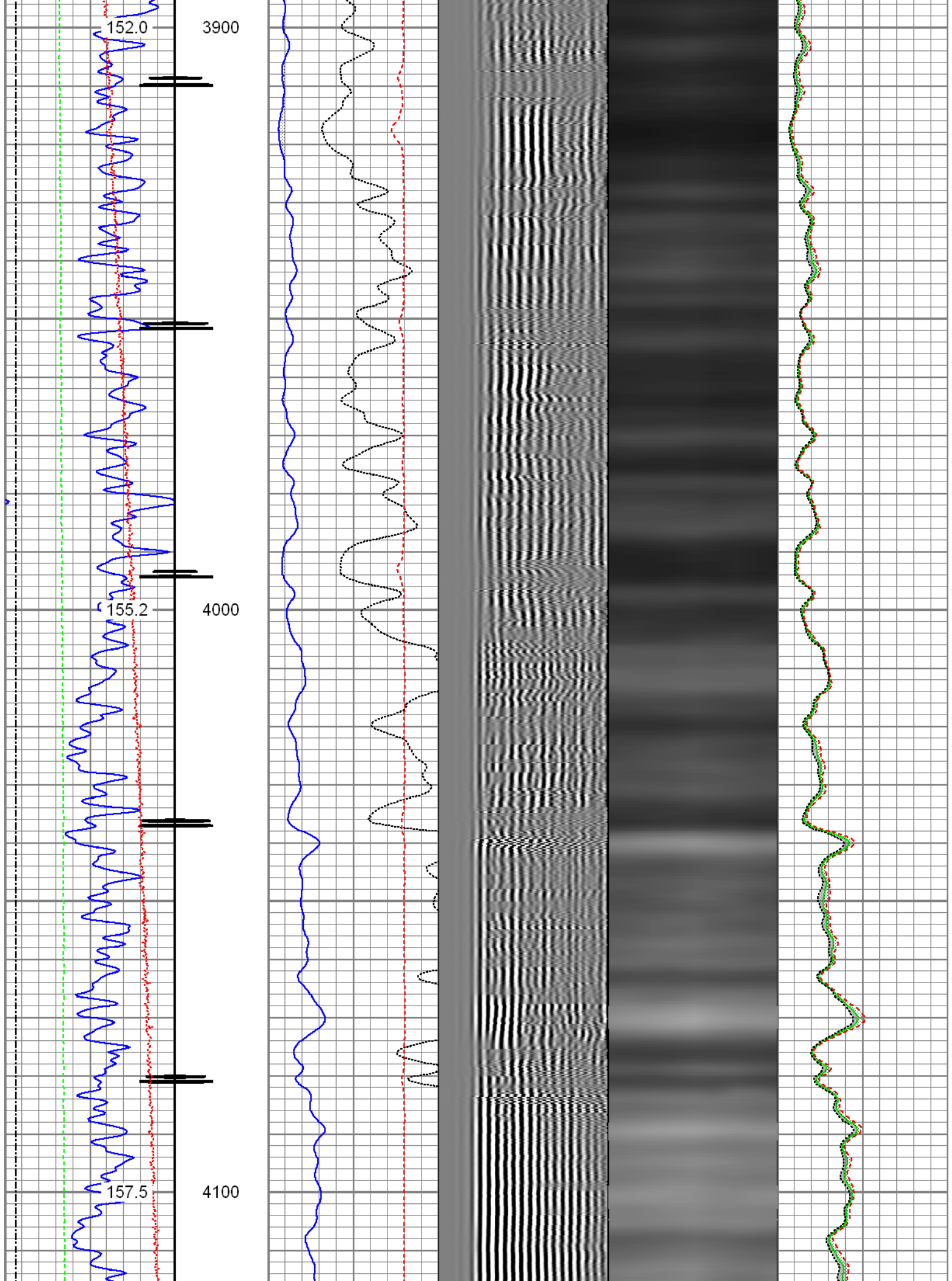


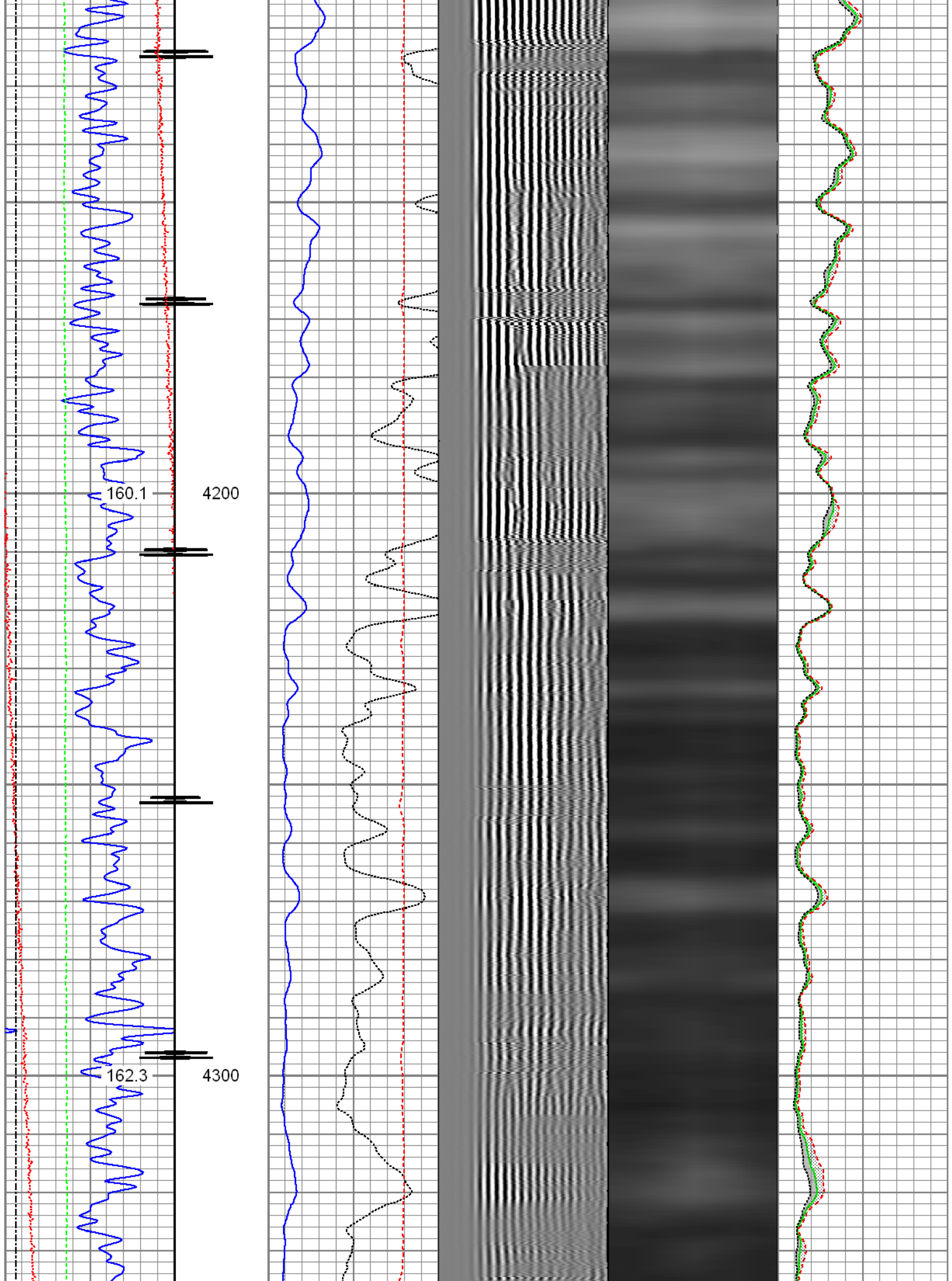


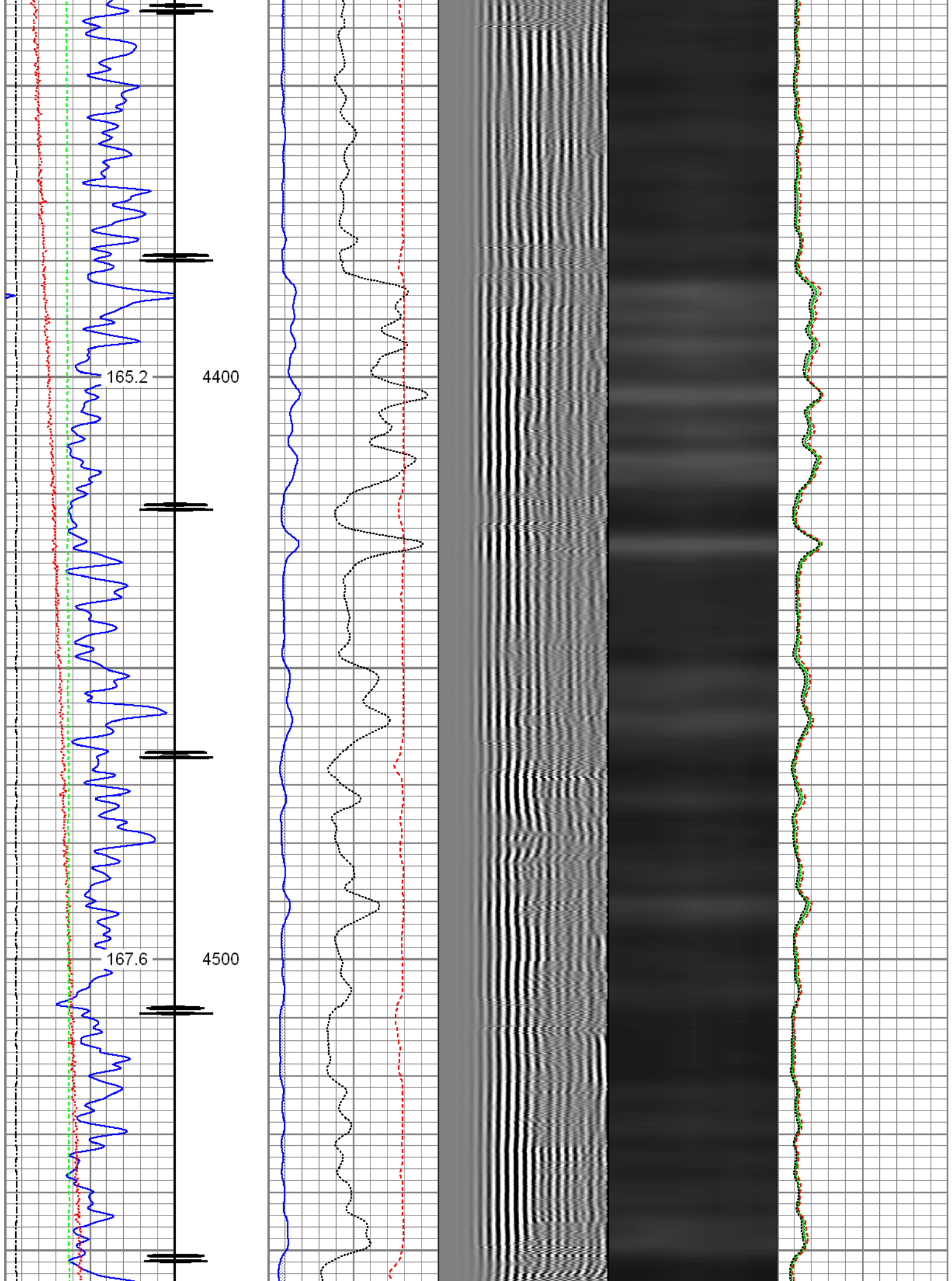


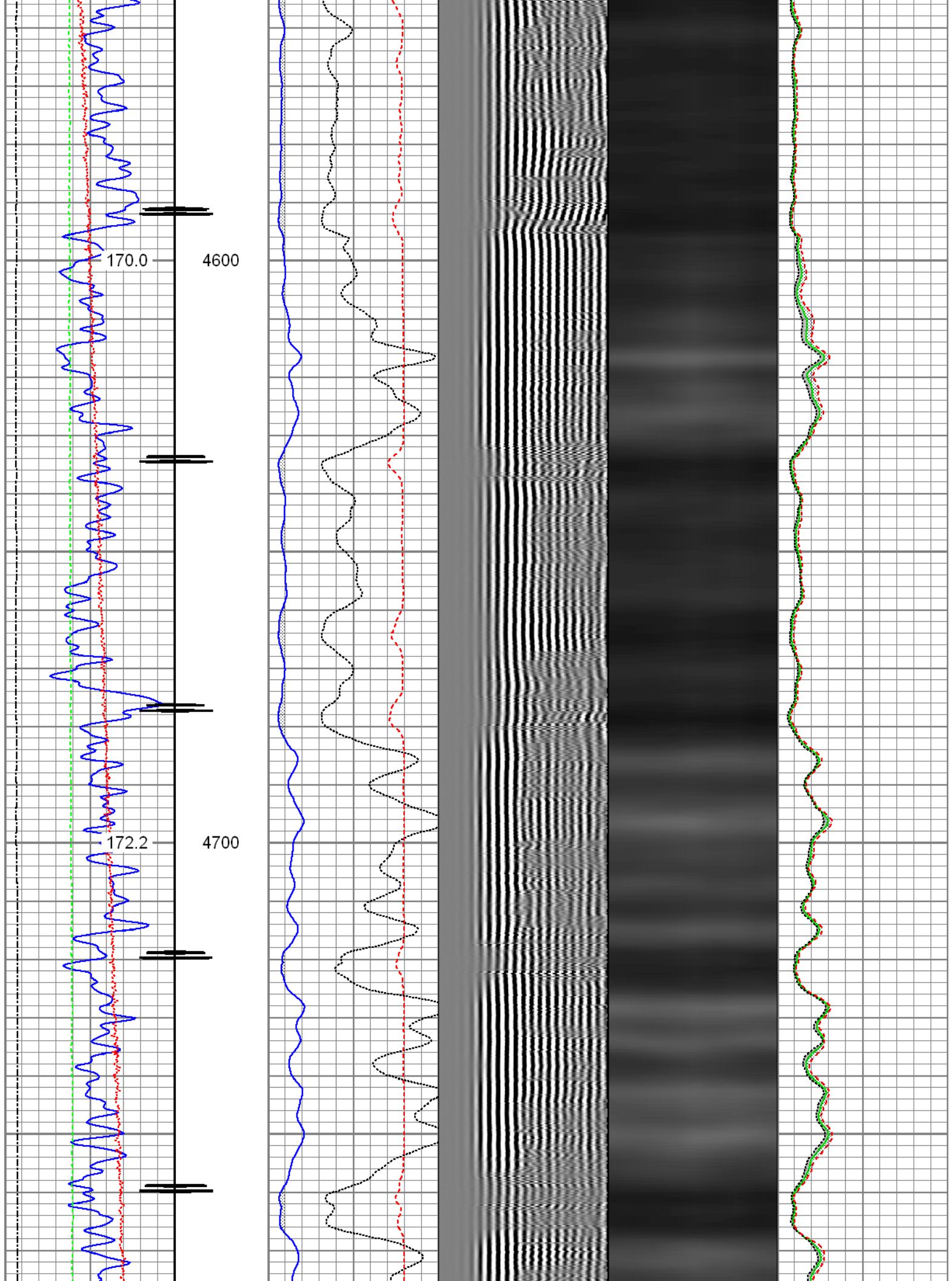


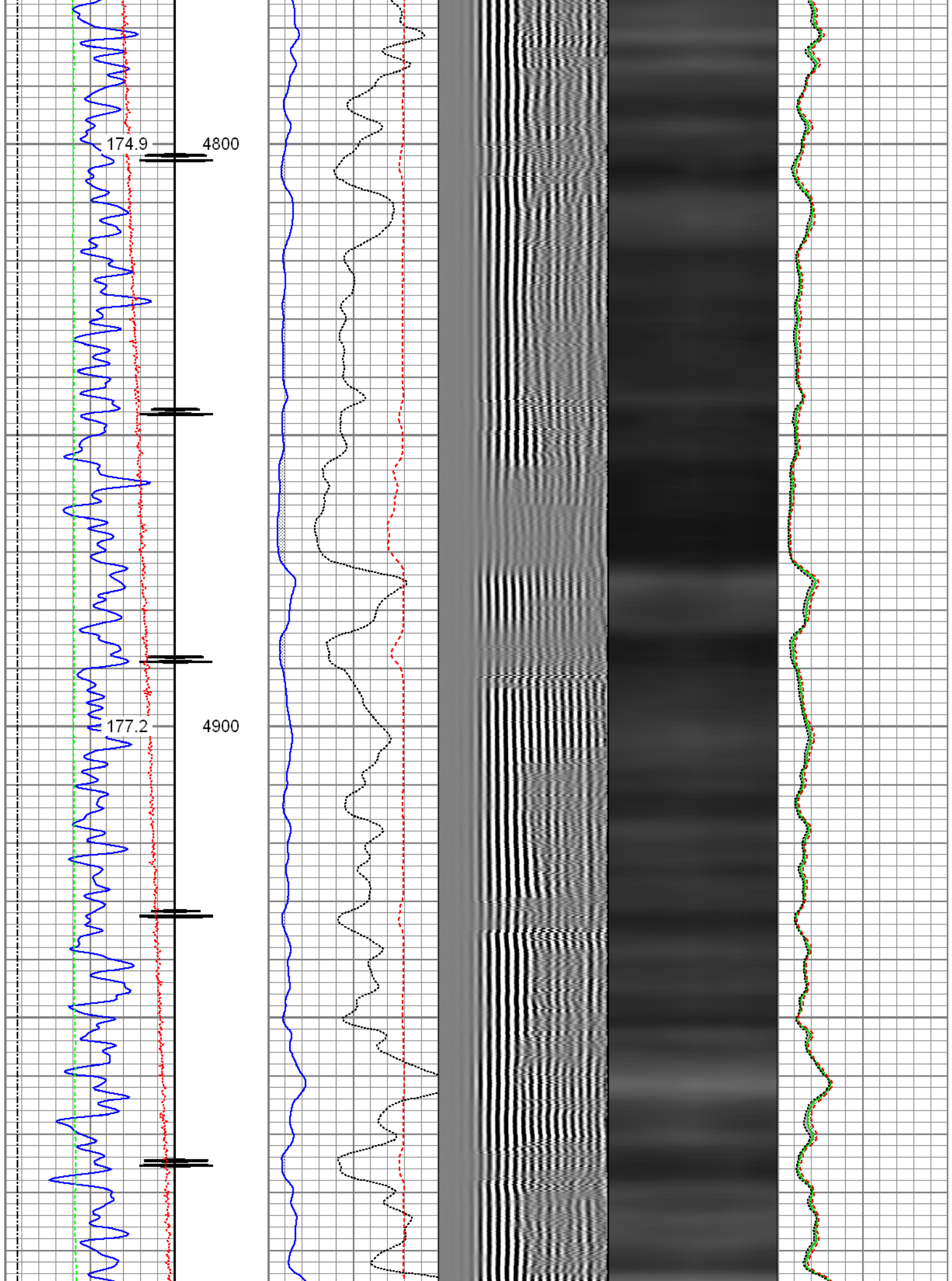


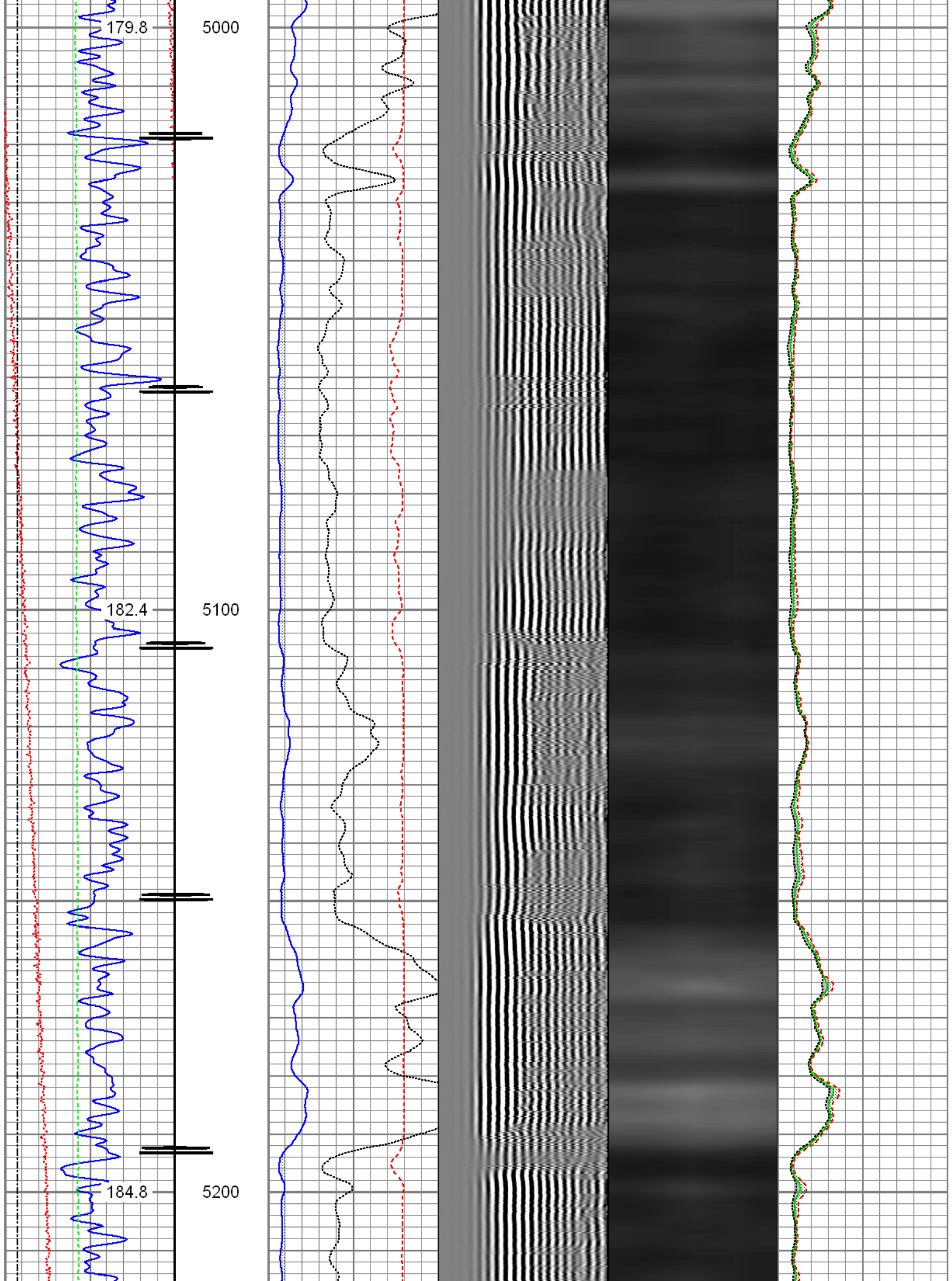


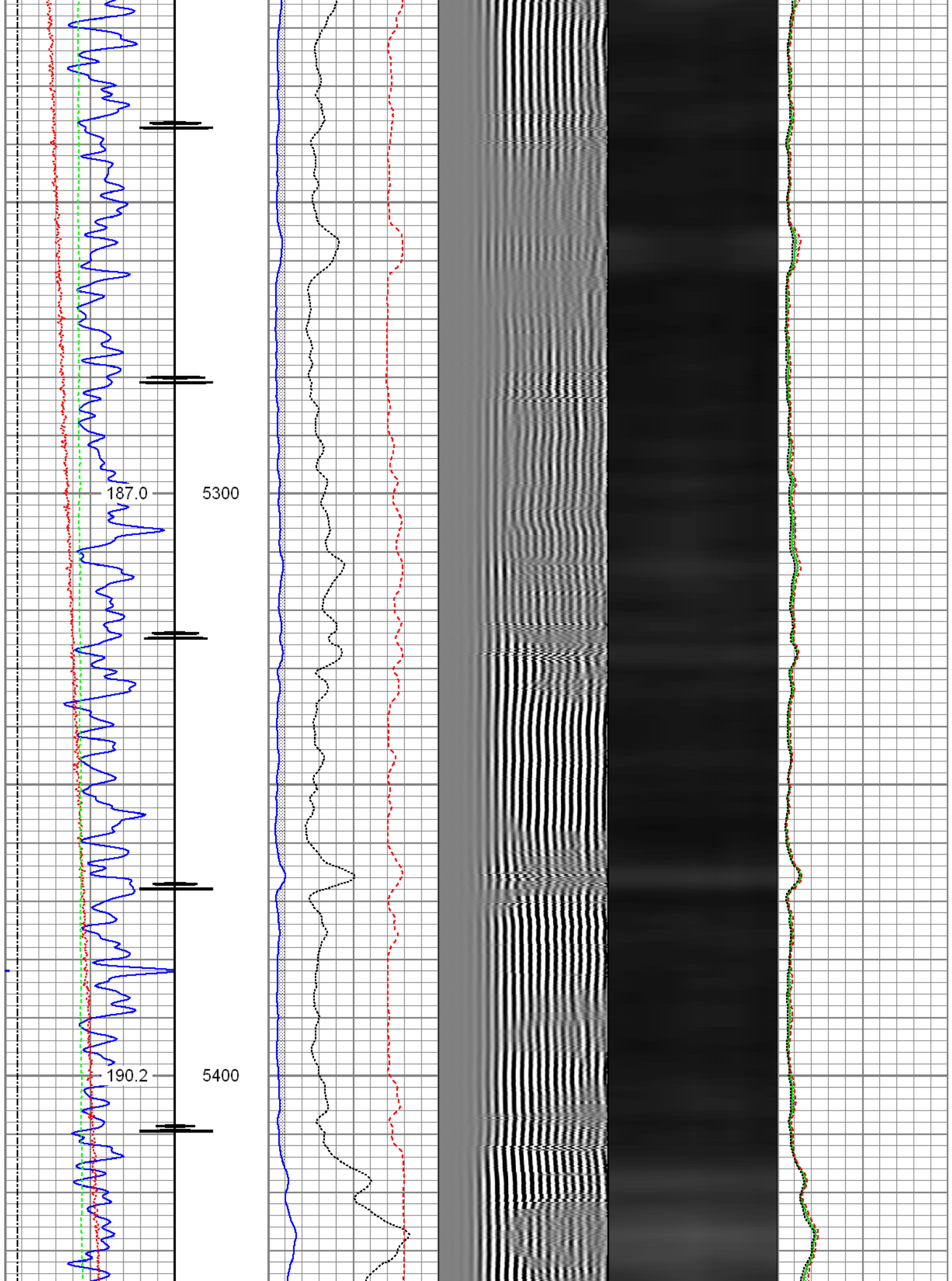


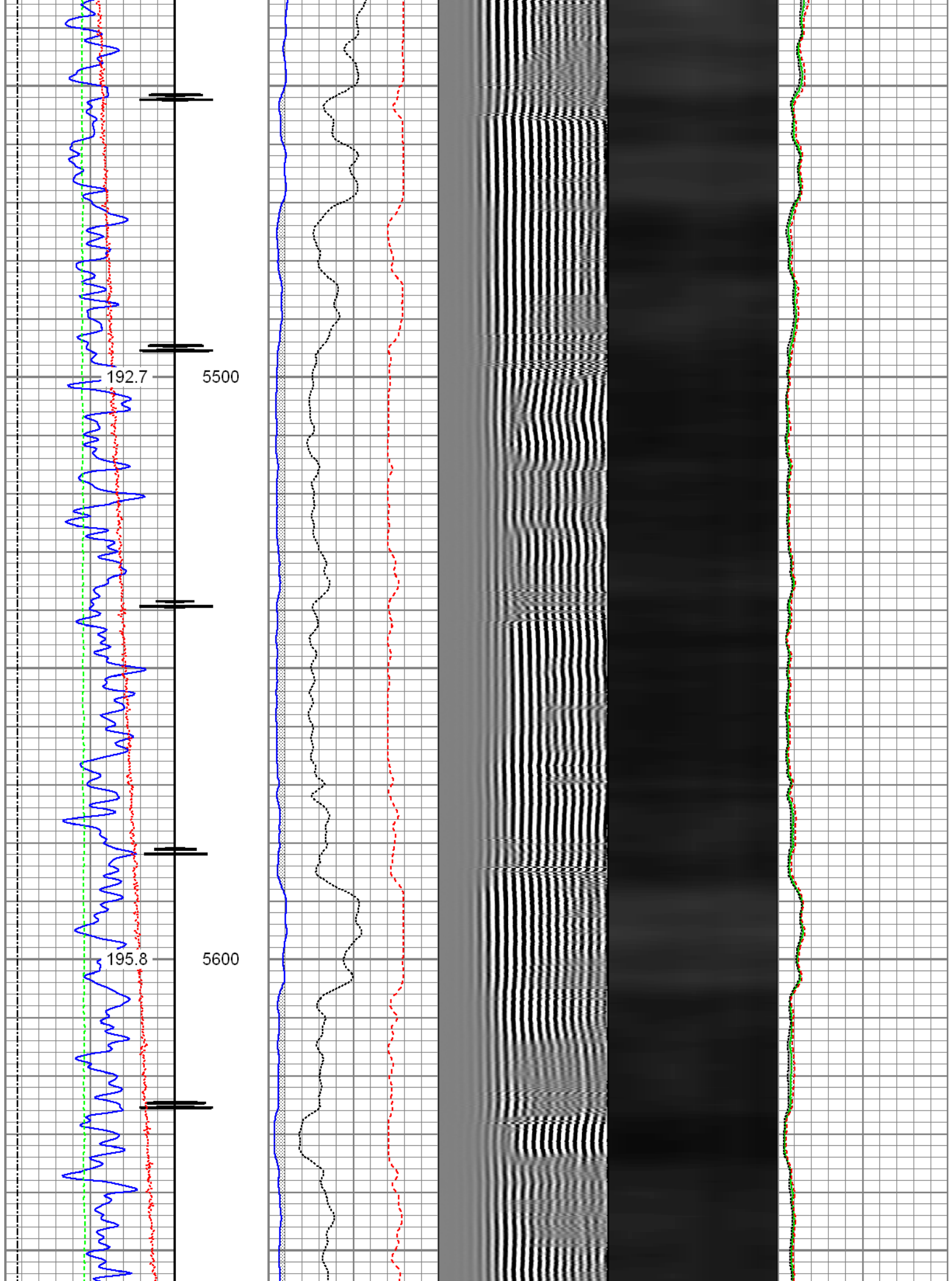


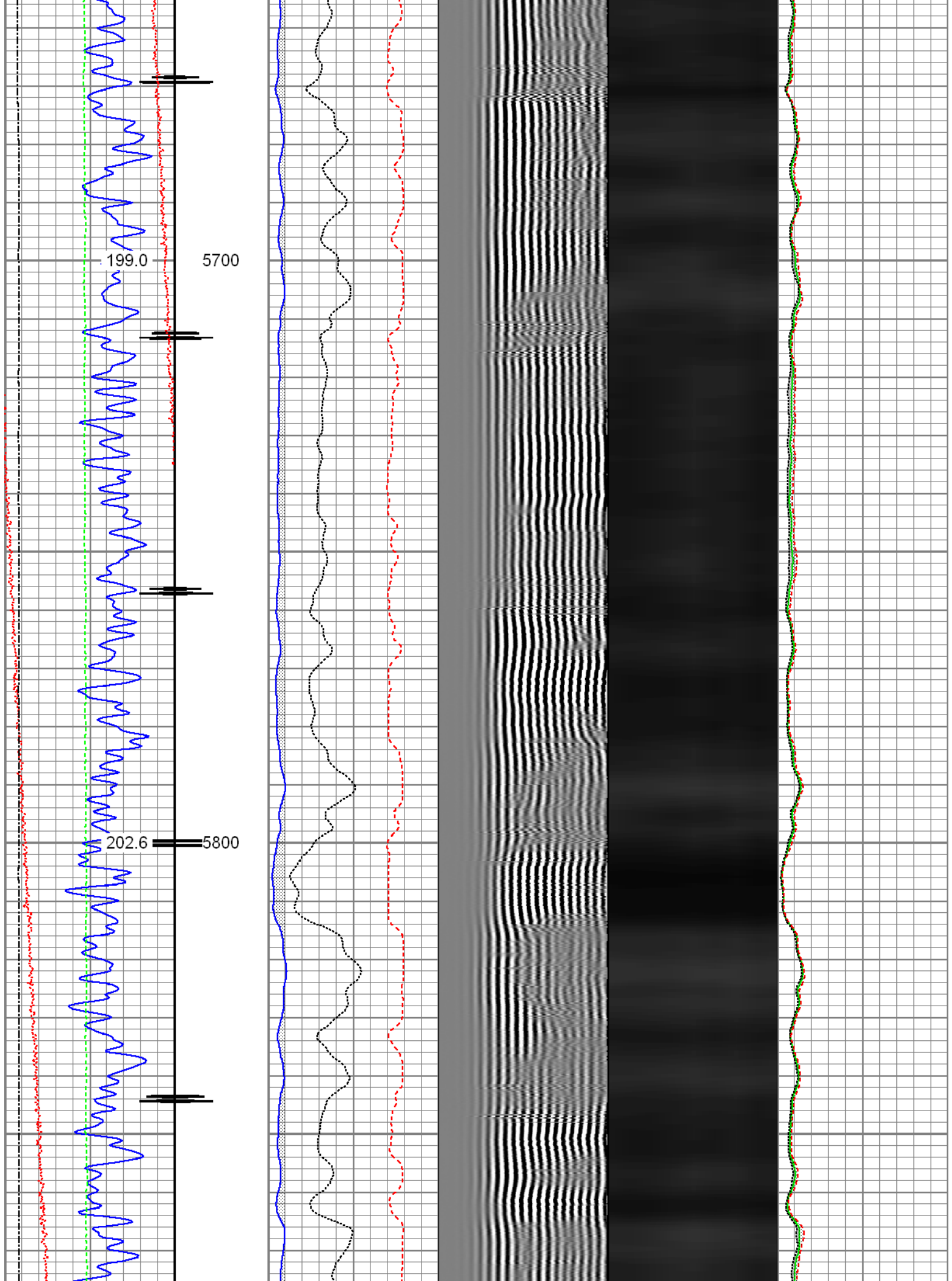


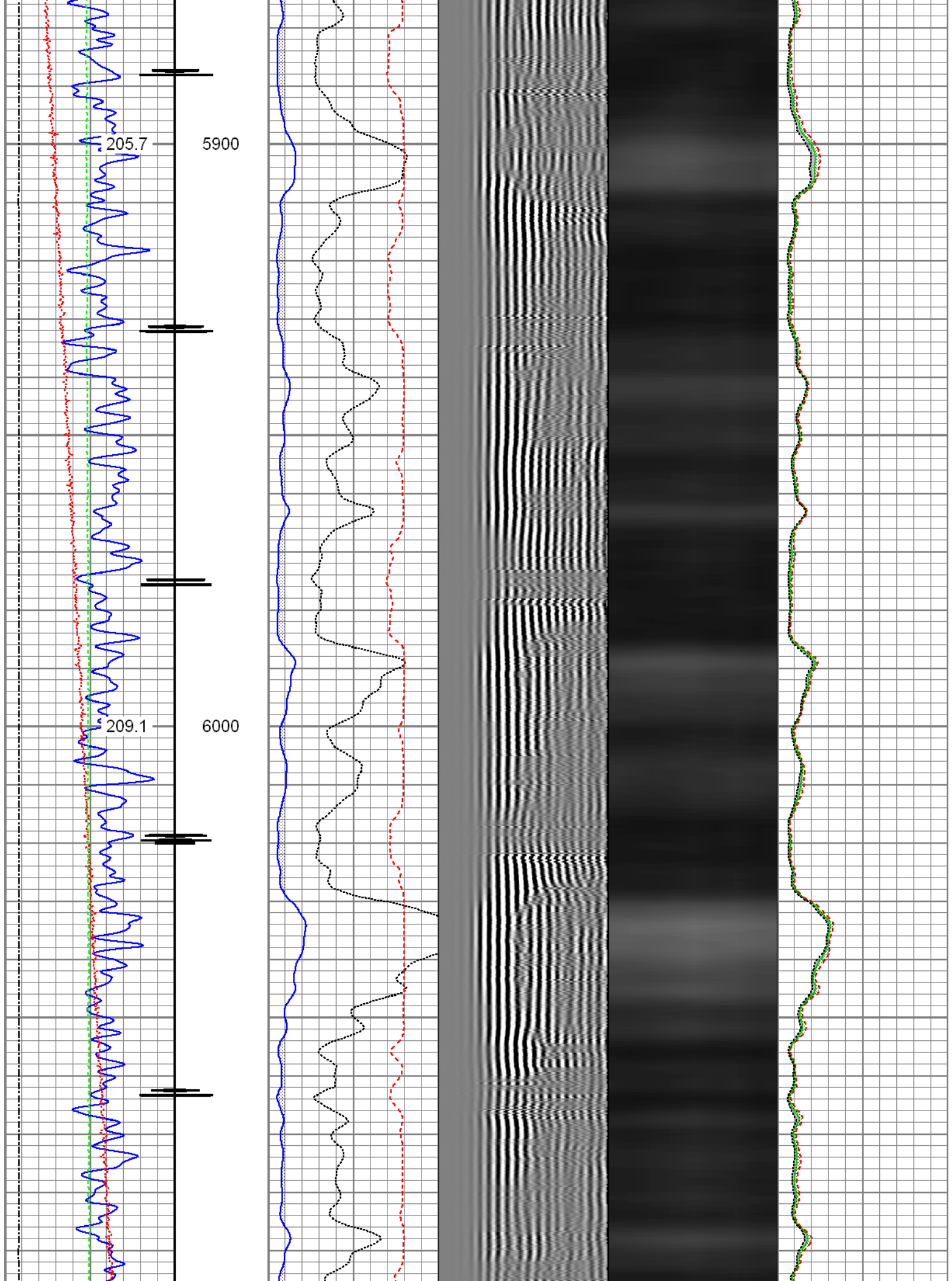


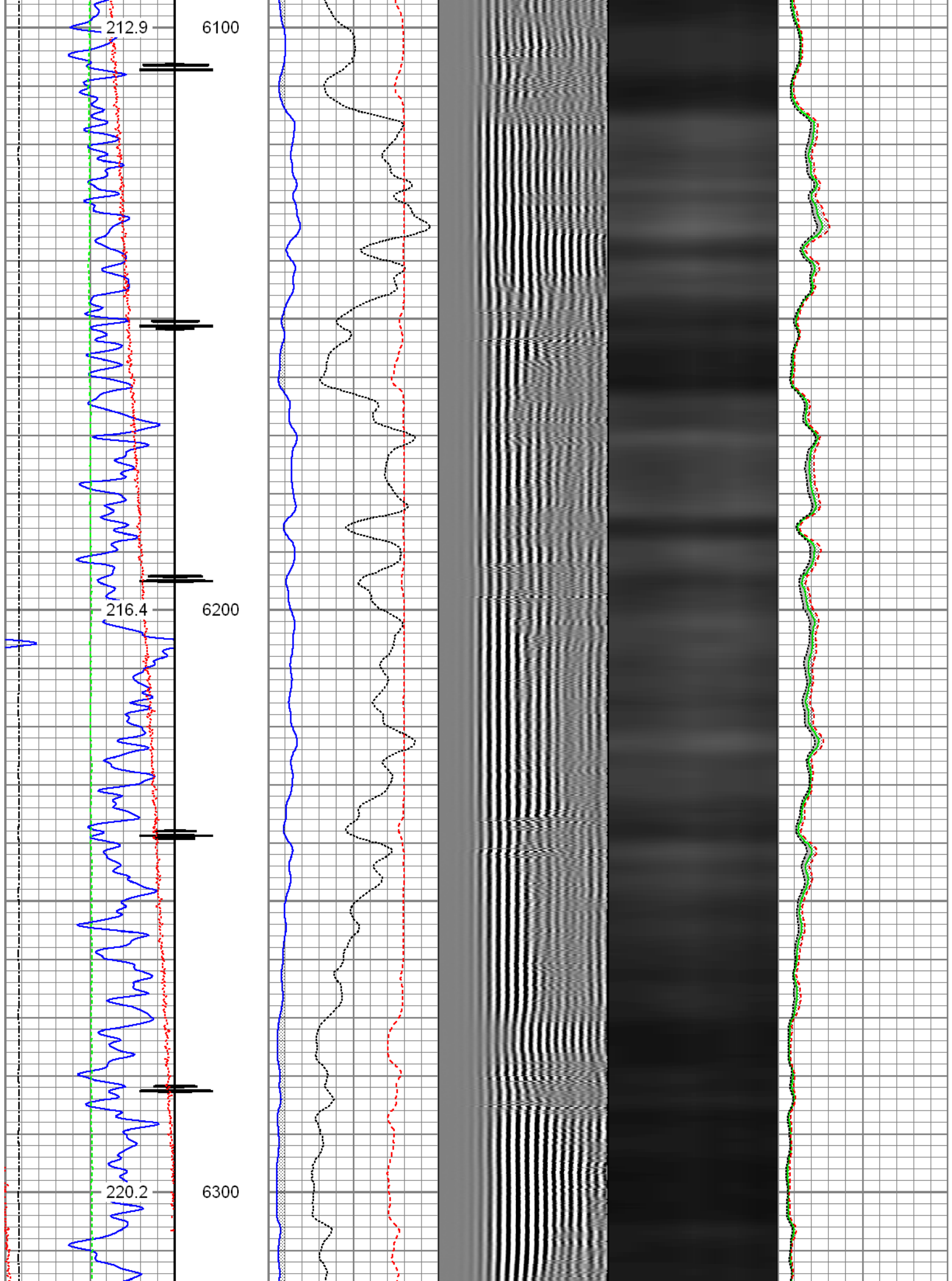


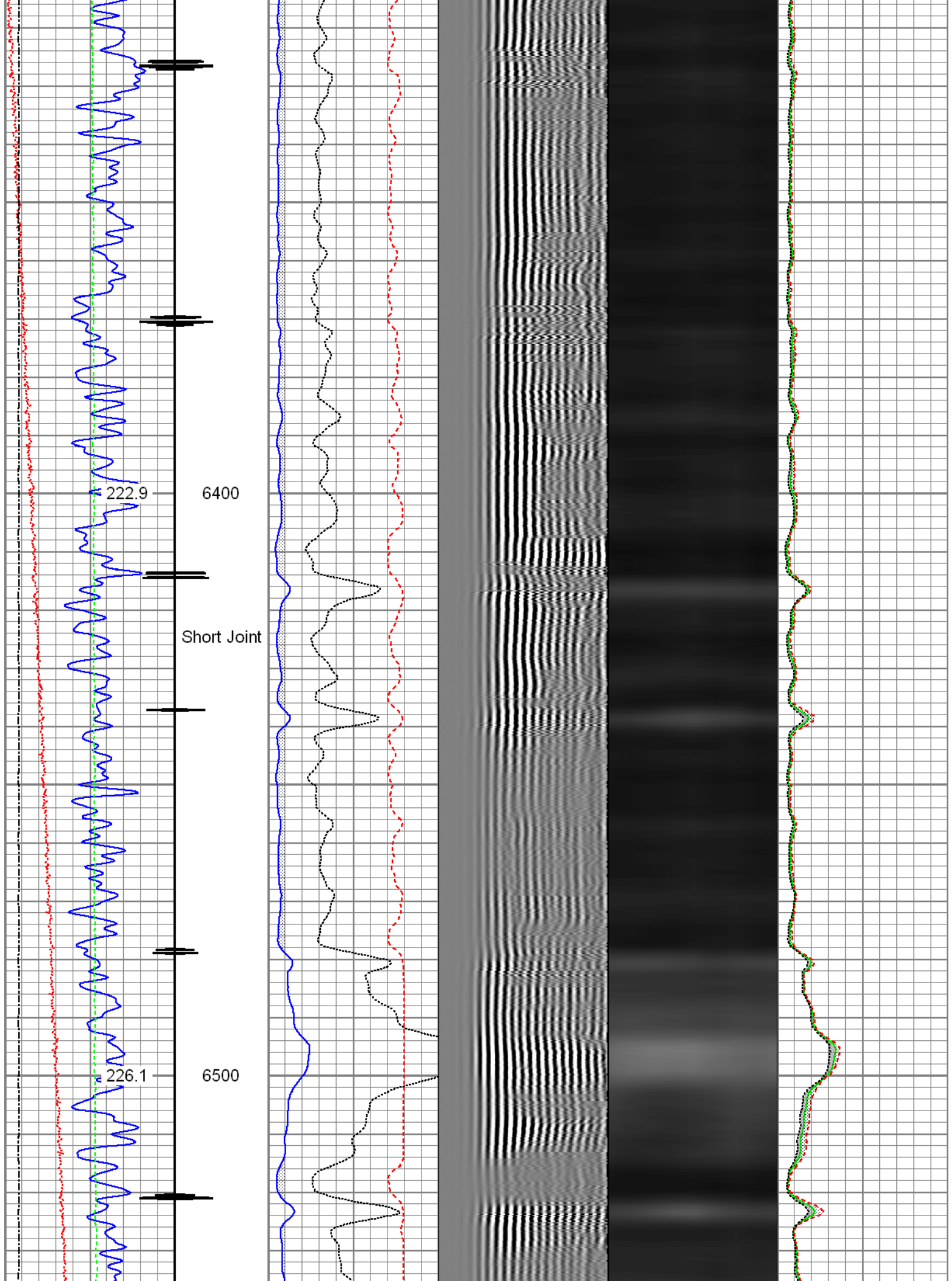


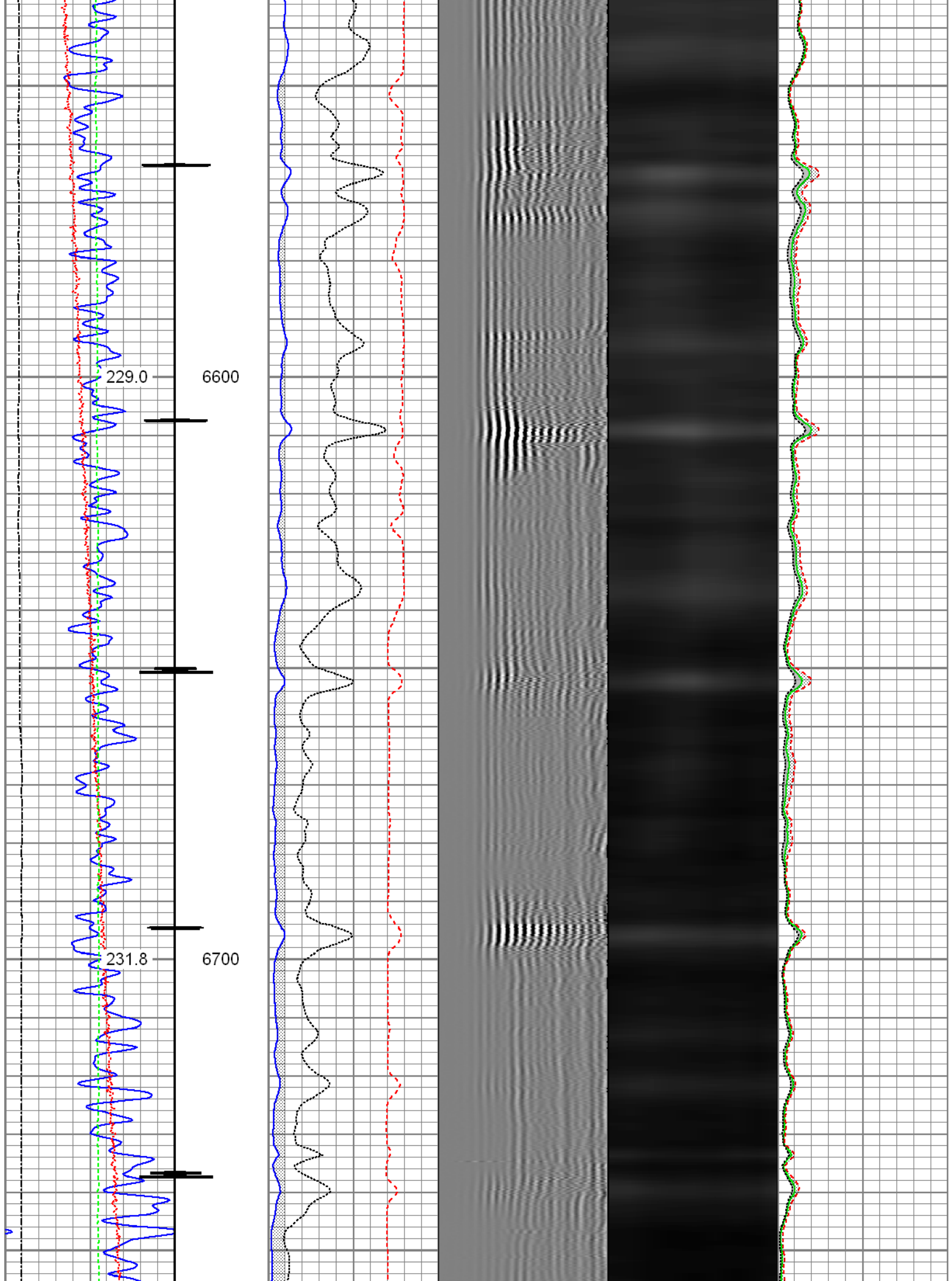


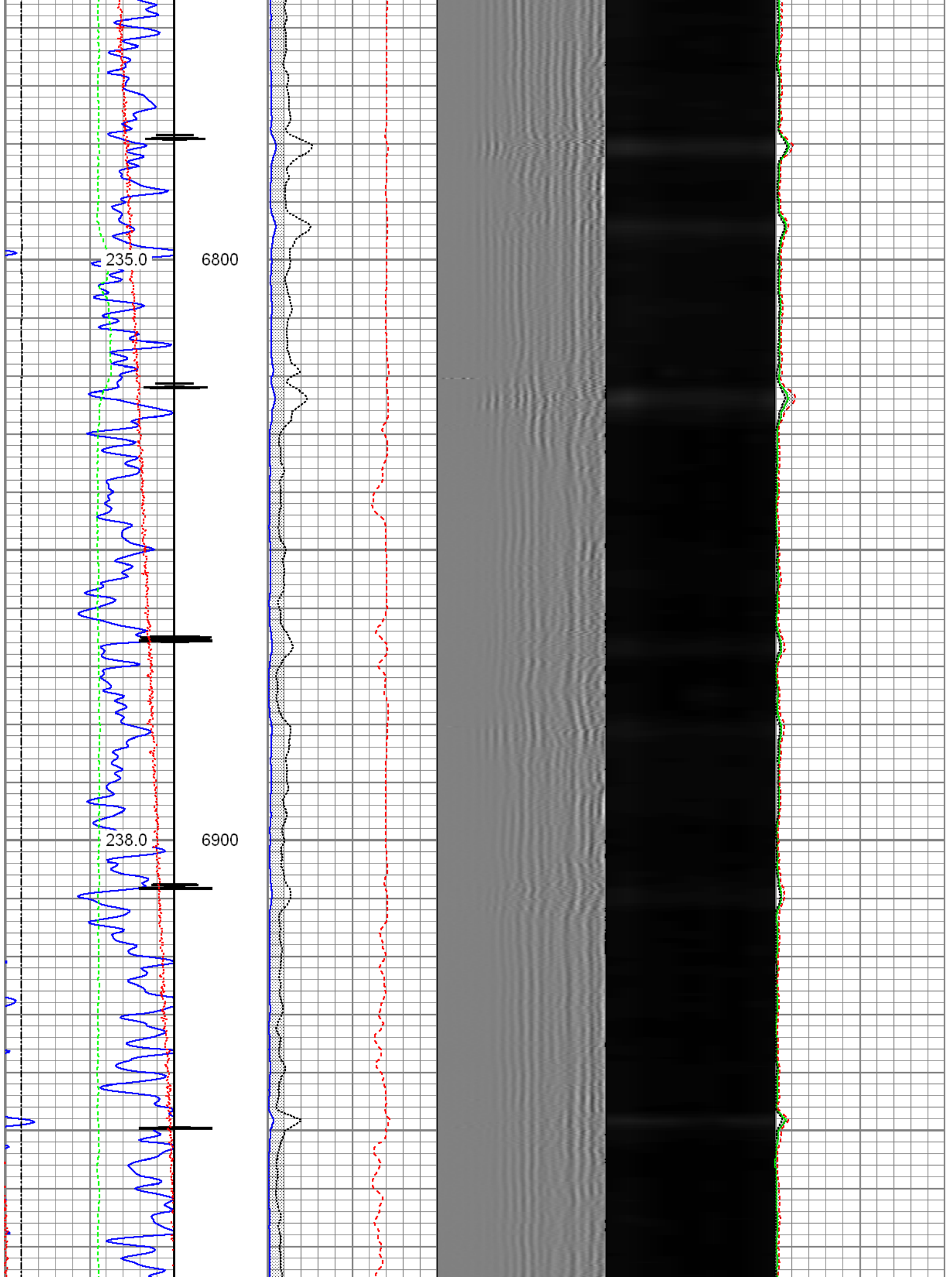


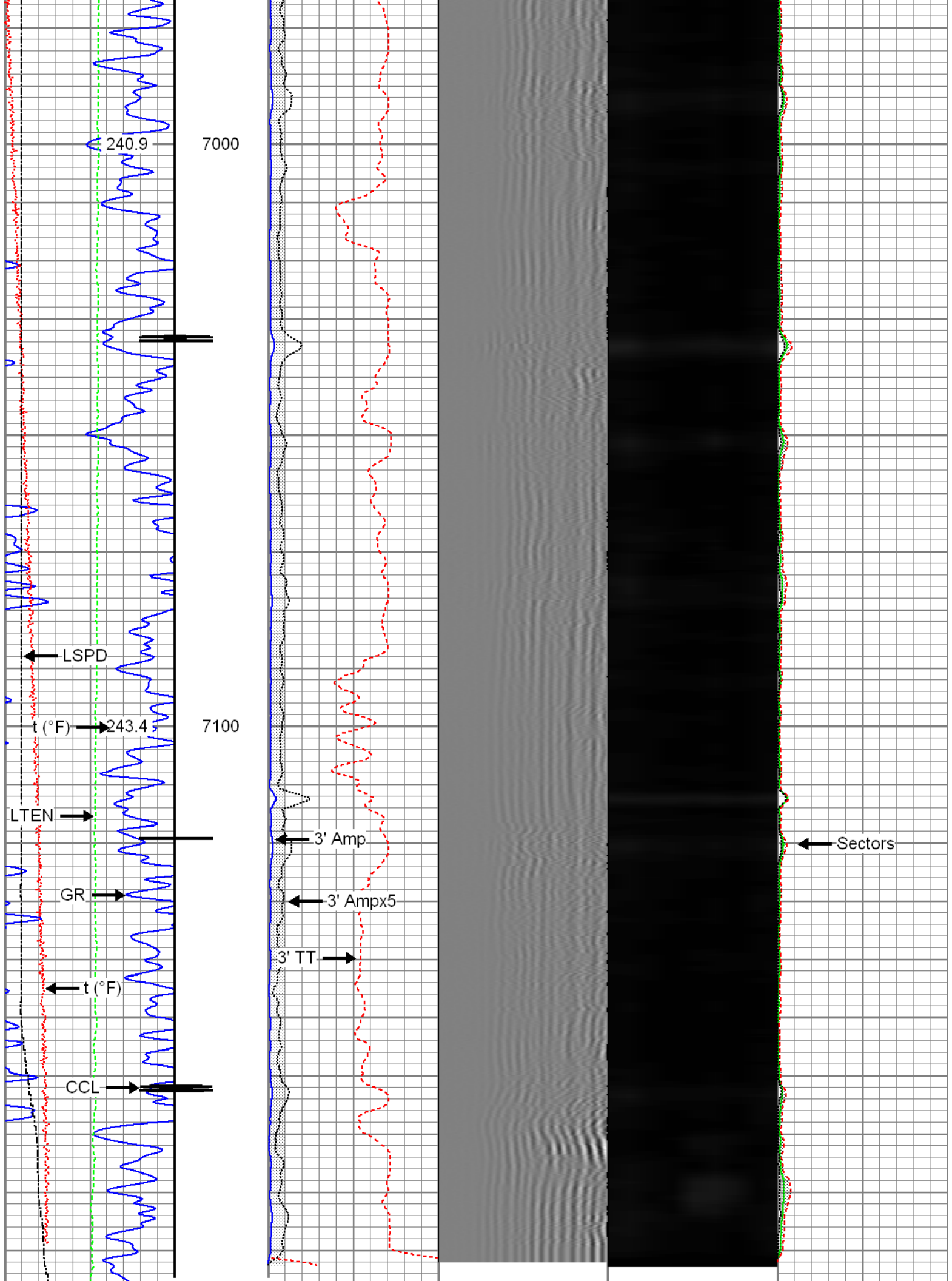


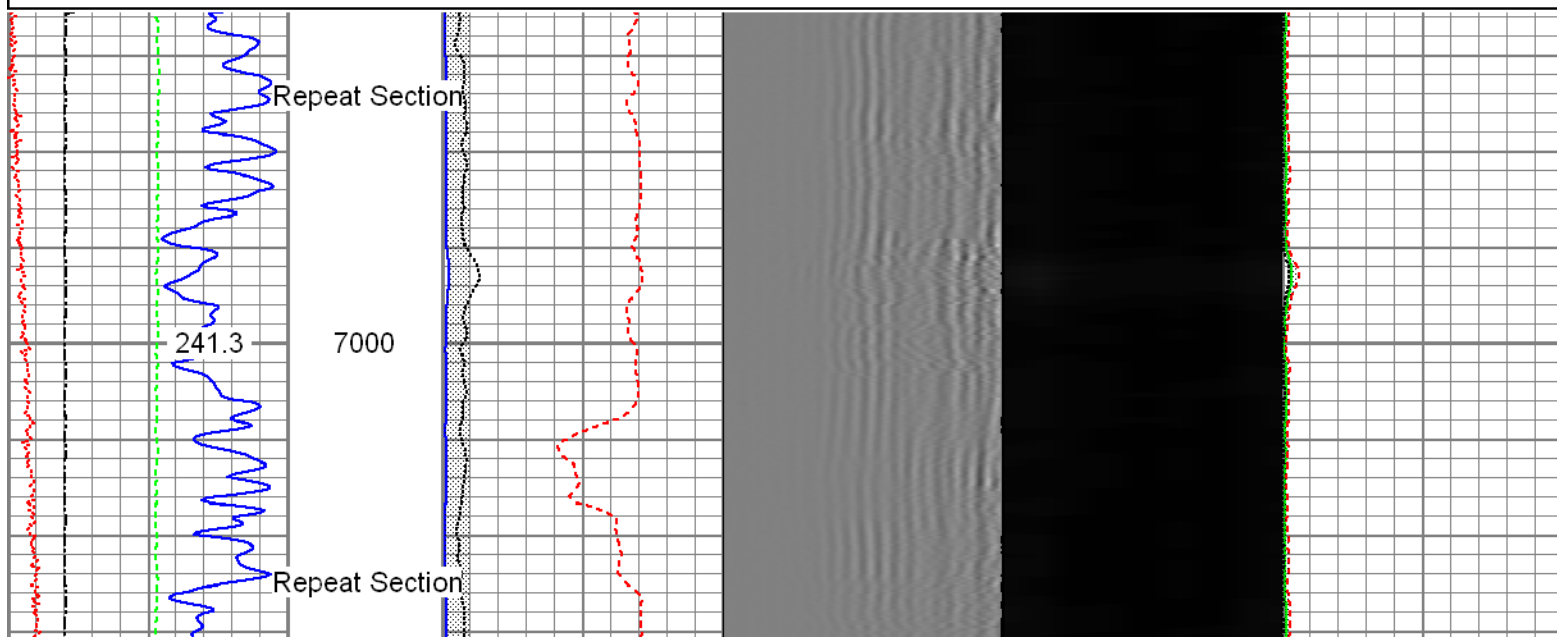
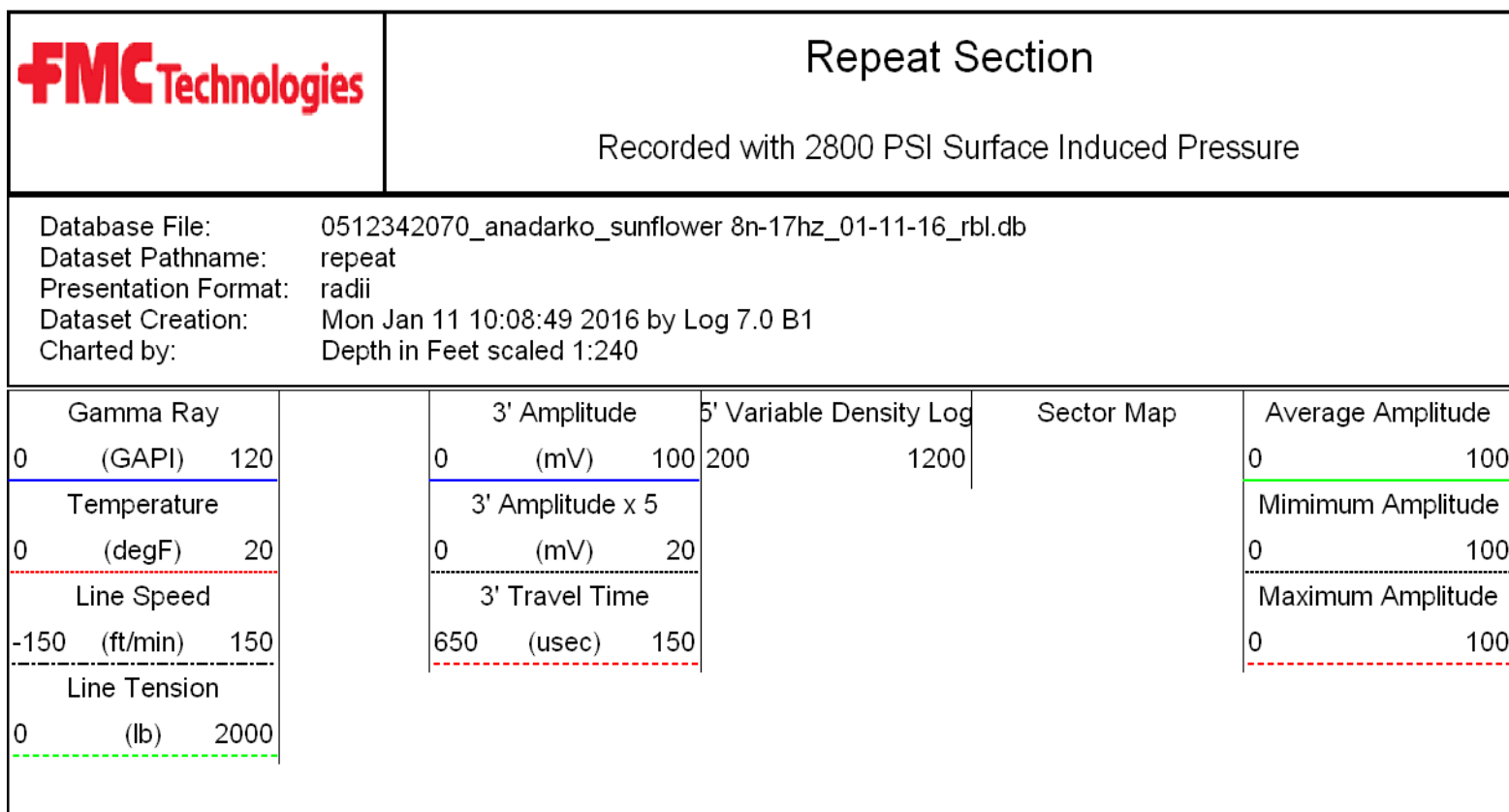
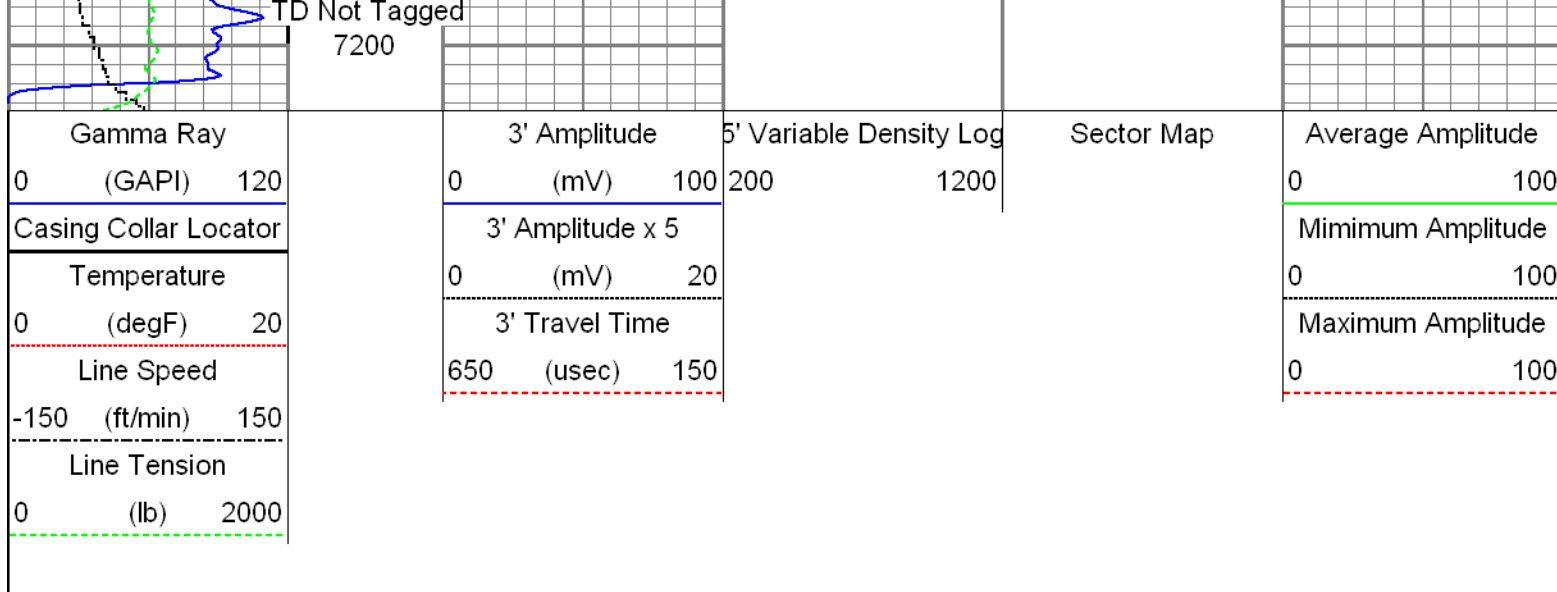


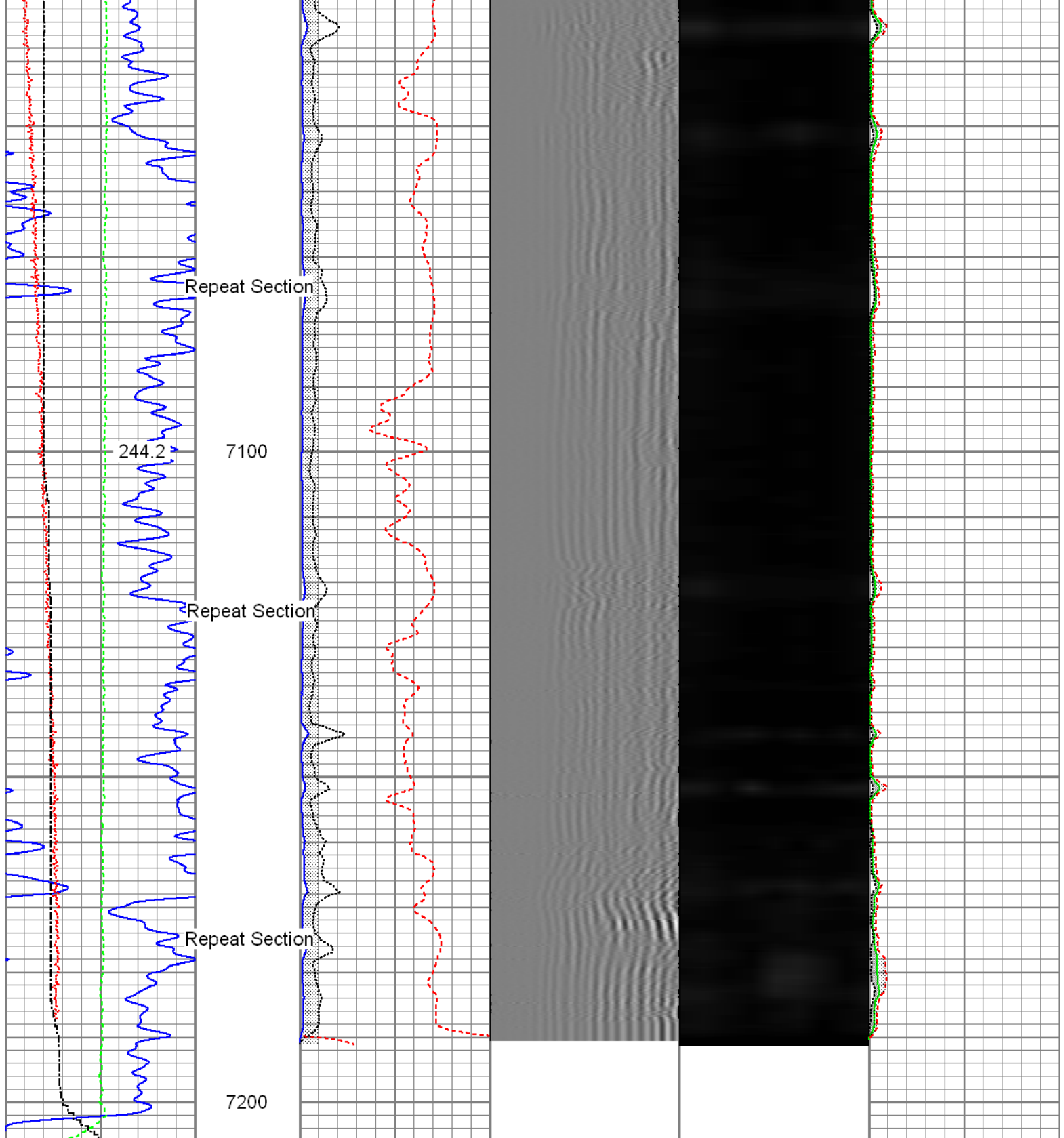



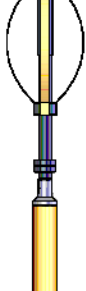










Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
HeadVolt	20.94		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Temp	18.17					
WVF3FT	16.00		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	16.00					
WVFS1	16.00					
WVFS2	16.00					
WVFS3	16.00					
WVFS4	16.00					
WVFS5	16.00					
WVFS6	16.00					
WVFS7	16.00					
WVFS8	16.00					
WVF5FT	15.00					
CCL DCCL	7.38		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
	7.38		CCL_LOG-Probe_SA_CCL (FW1307-076) Probe 2-3/4" Digital Six Magnet Logging CCL	2.66	2.75	35.00
GR	2.88		GR-Probe_SA_GR (FW1307-078) Probe 2-3/4" Scintillating Gamma Ray	3.33	2.75	55.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00

Total Weight: 229.00 lb
O.D. 2.75 in

Calibration Report

Database File: 0512342070_Anadarko_Sunflower 8N-17HZ_01-11-16_RBL.db
Dataset Pathname: main
Dataset Creation: Mon Jan 11 10:15:31 2016 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number: FW1307-078
Tool Model: Probe_SA_GR
Performed: Wed Dec 02 09:26:20 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: FW1305-098
Tool Model: 2-3/4"

Calibration Casing Diameter: 4.500 in
Calibration Depth: -0.002 ft

Master Calibration, performed Wed Dec 30 15:24:14 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.672	0.800	81.196	120.807	0.001
CAL	0.007	0.724				
5'	0.007	0.623	0.800	81.196	130.512	-0.081
SUM						
S1	0.007	0.673	0.000	100.000	150.094	-1.019
S2	0.007	0.669	0.000	100.000	151.027	-0.996
S3	0.007	0.669	0.000	100.000	150.968	-1.008
S4	0.007	0.673	0.000	100.000	149.938	-0.979
S5	0.007	0.670	0.000	100.000	150.727	-0.995
S6	0.007	0.670	0.000	100.000	150.702	-0.990
S7	0.006	0.668	0.000	100.000	151.133	-0.981
S8	0.007	0.666	0.000	100.000	151.735	-1.015


Internal Reference Calibration, performed Wed Dec 30 13:01:11 2015:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.007	0.723	0.007	0.724	1.002	-0.000

Air Zero Calibration, performed Wed Dec 30 13:00:22 2015:

	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	0.007	0.000	-0.000
S5	0.007	0.000	-0.000
S6	0.007	0.000	0.000
S7	0.006	0.000	0.000
S8	0.007	0.000	-0.000

	Company	Kerr-McGee Oil & Gas OnShore L.P.
	Well	Sunflower 8N-17HZ
	Field	Wattenberg
	County	Weld
	State	Colorado