



Radial Cement Bond Gamma Ray Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.			
Well	Camenisch 4C-35HZ			
Field	Wattenberg			
County	Weld			
State	Colorado			
Location:		API # : 05-123-43344		
SEC 2		TWP 1N	RGE 67W	Other Services Gauge Ring Elevation K.B. 5069' D.F. 5068' G.L. 5037'
Permanent Datum		Ground Level	Elevation	
Log Measured From		Kelly Bushing	32 FT	
Drilling Measured From		Kelly Bushing		

Date	20-JUN-2017		
Run Number	Two		
Depth Driller	14220 FT		
Depth Logger	7852 FT		
Bottom Logged Interval	7847 FT		
Top Log Interval	Surface		
Open Hole Size	8.50"		
Type Fluid	Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	239°F		
Estimated Cement Top	See Log		
Time Well Ready	ROA		
Time Logger on Bottom	15:45		
Equipment Number	HD-0343		
Location	Fort Lupton, CO		
Recorded By	J. Morrison		
Witnessed By	Kyle Carver		

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	1808 FT		
Intermediate #1	5 1/2	17	HC P110	Surface	14209 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 Kelly Bushing at 32 FT
Adjusted +1.5 FT to correlate with Kelly Bushing
Casing Tally reported Marker Joint at 7015 FT but recorded top at 6972 FT
They have a 67 FT Short Joint according to Prog.
Customer called engineer and they discovered that there is an extra joint approx. 43-44 FT
Gauge Ring/Junk Basket ran to 7943 FT with no debris found
Log ran from 7847 FT to surface
Log ran with 2800 PSI surface induced pressure
Logging tools were clean and free of debris upon completion of operations

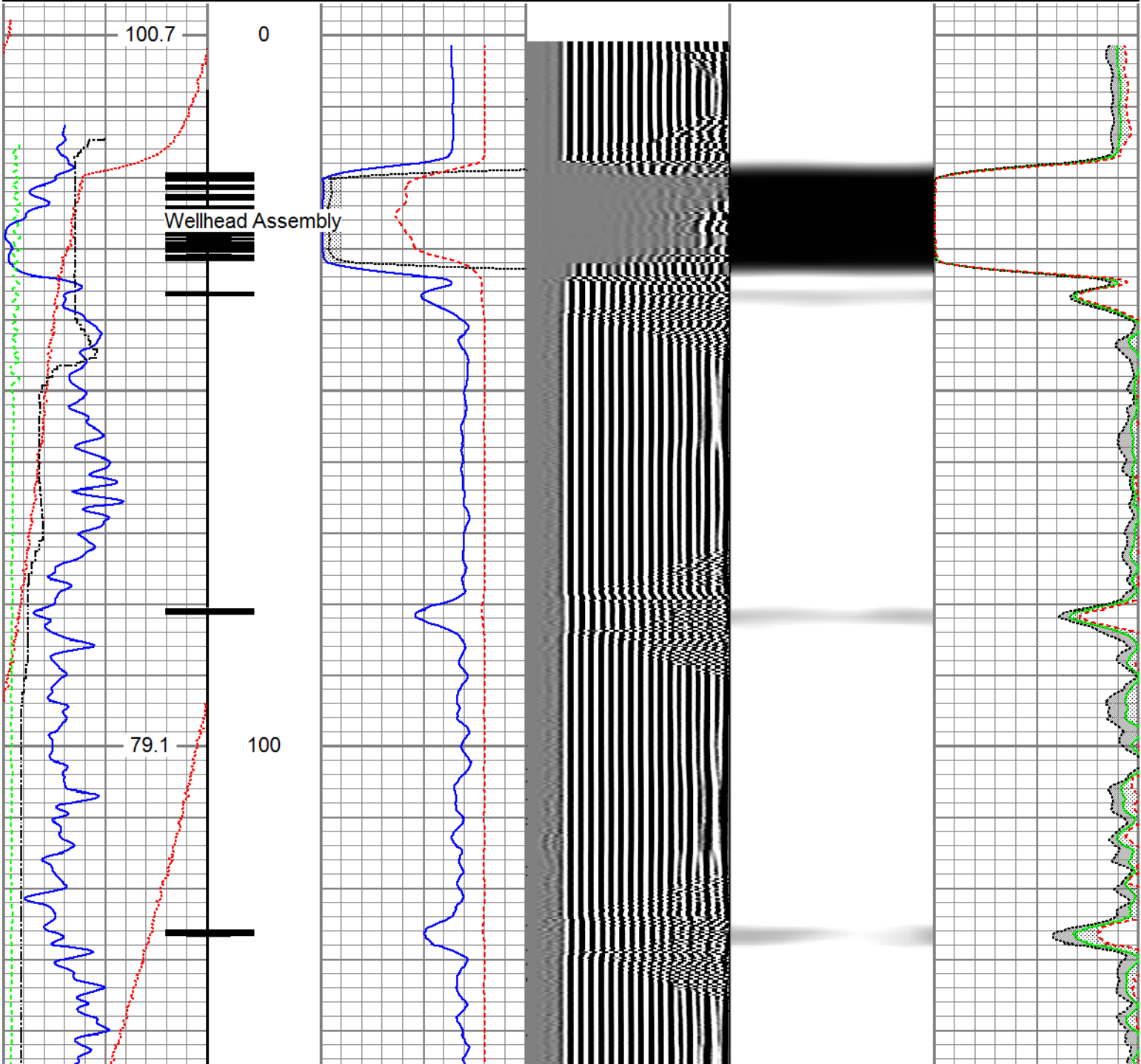
Thank you for choosing Reliance Oilfield Services, LLC!!

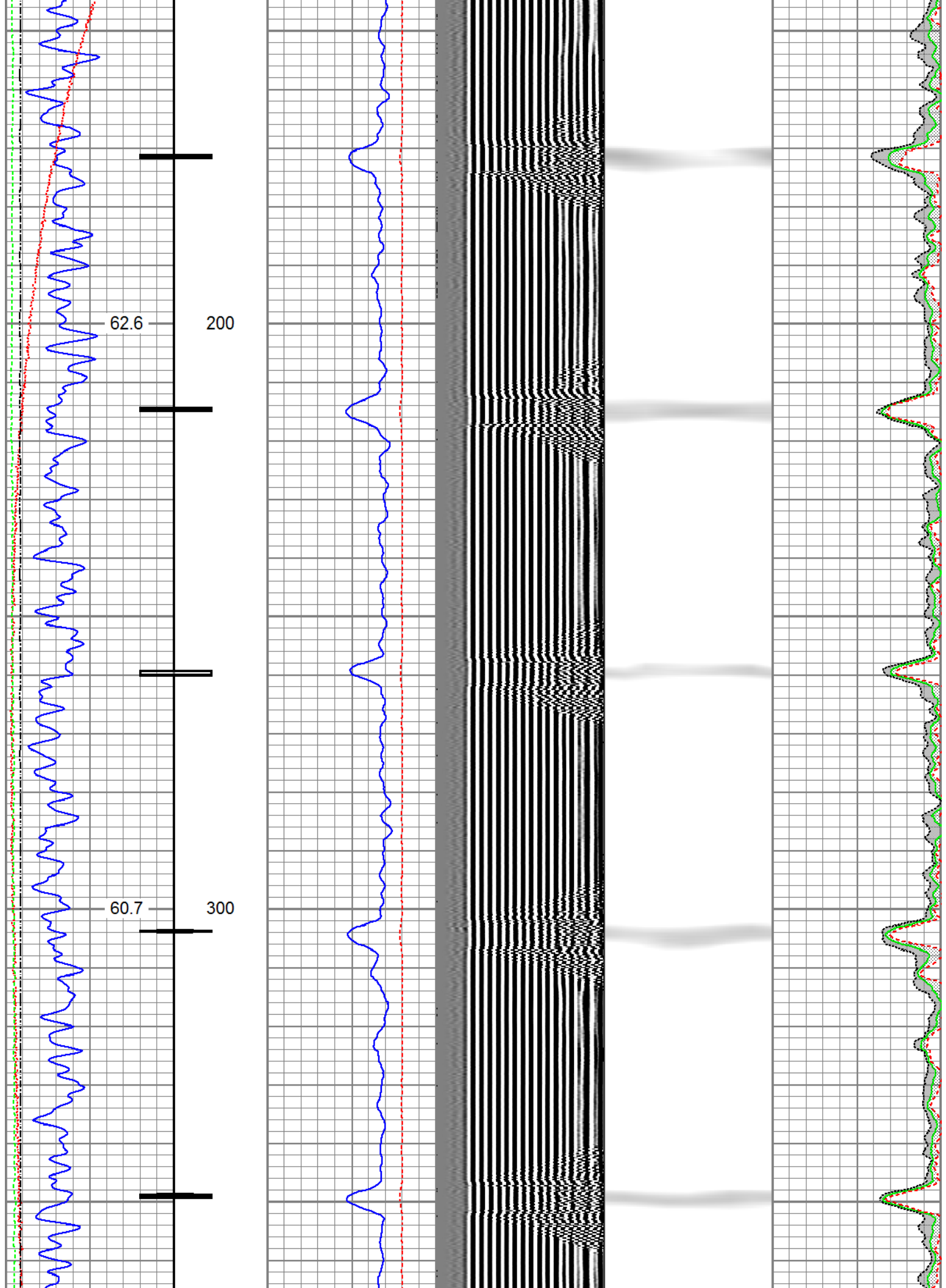


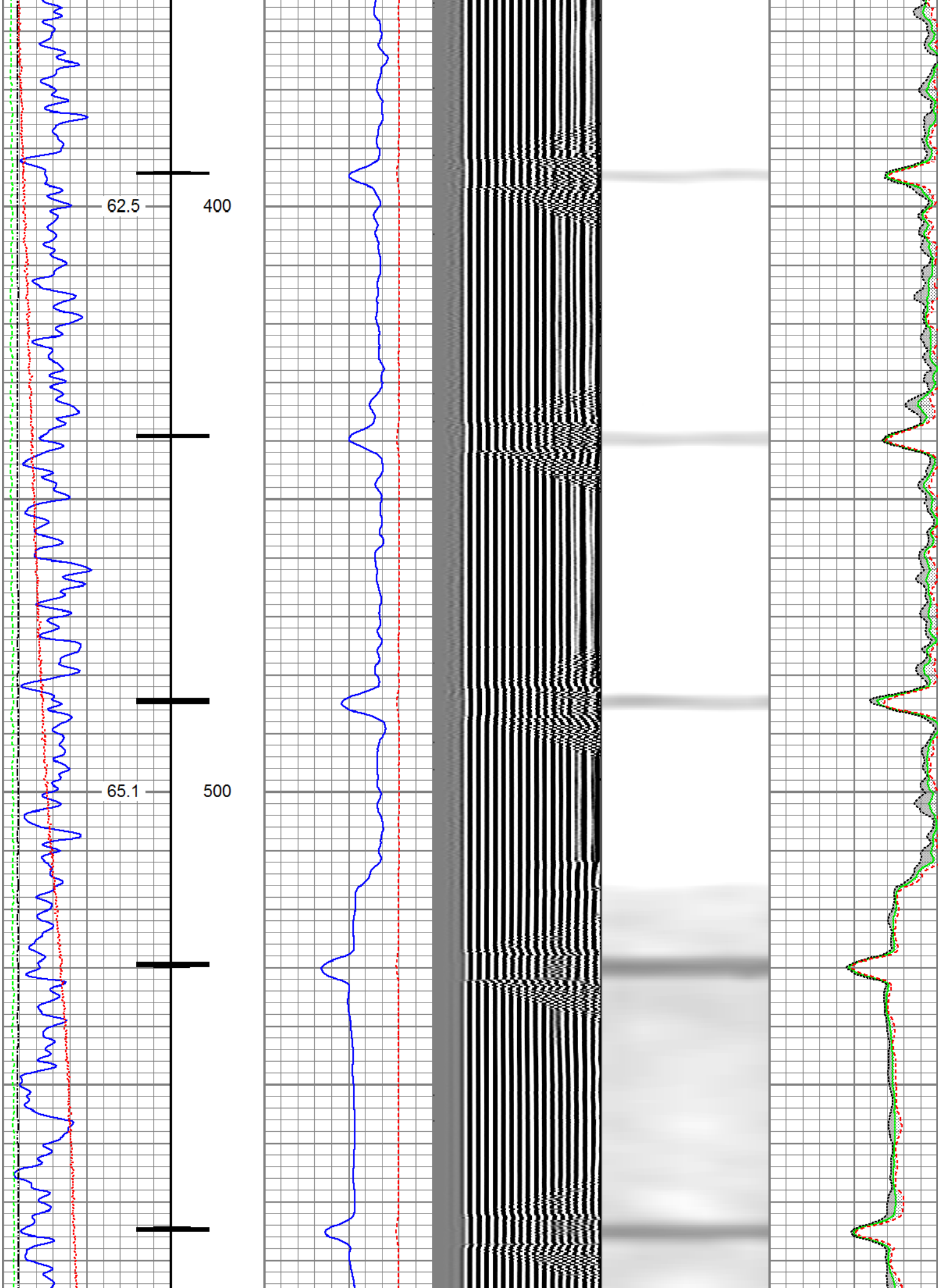
Main Pass

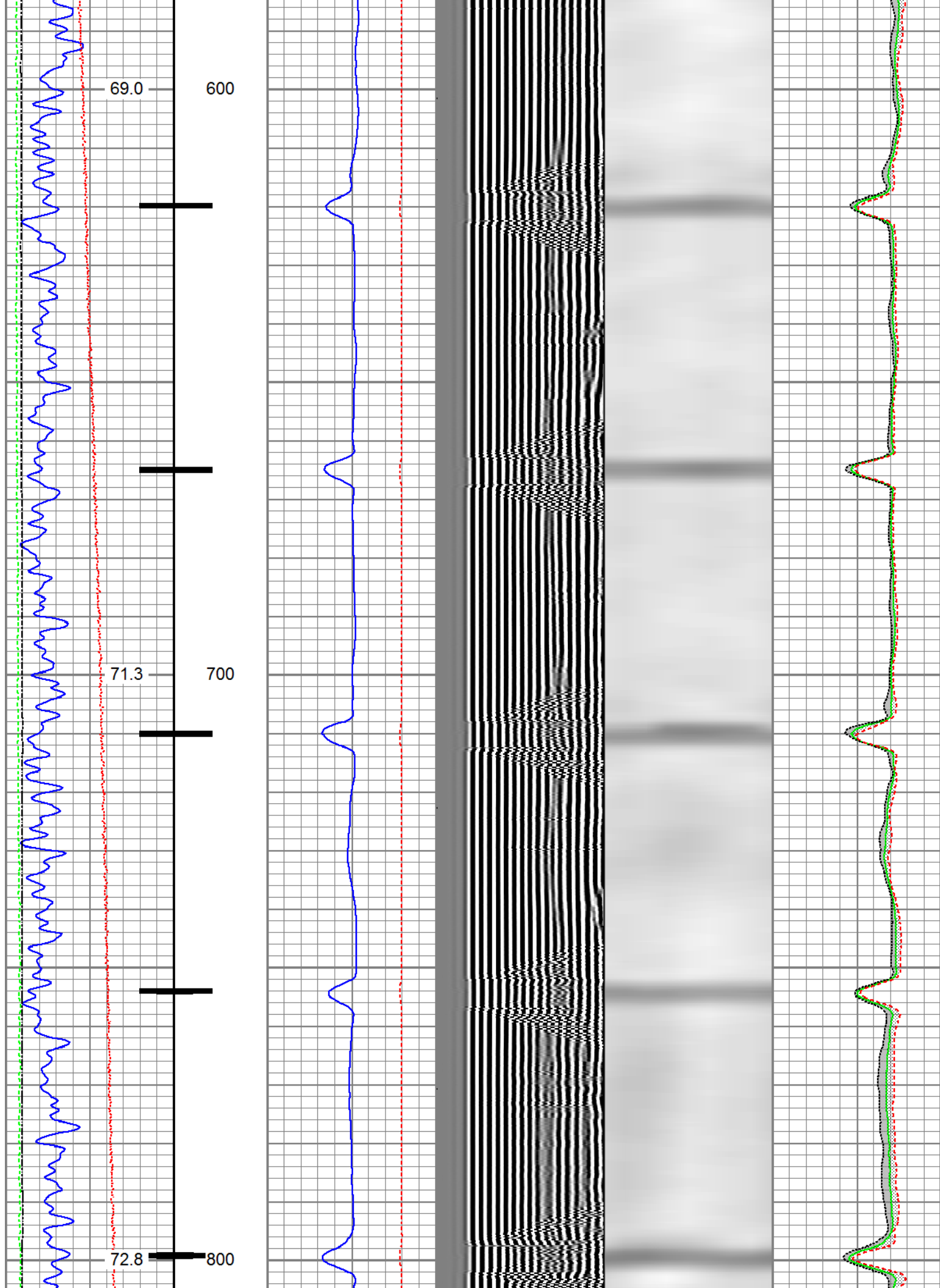
Recorded with 2800 PSI Surface Induced Pressure

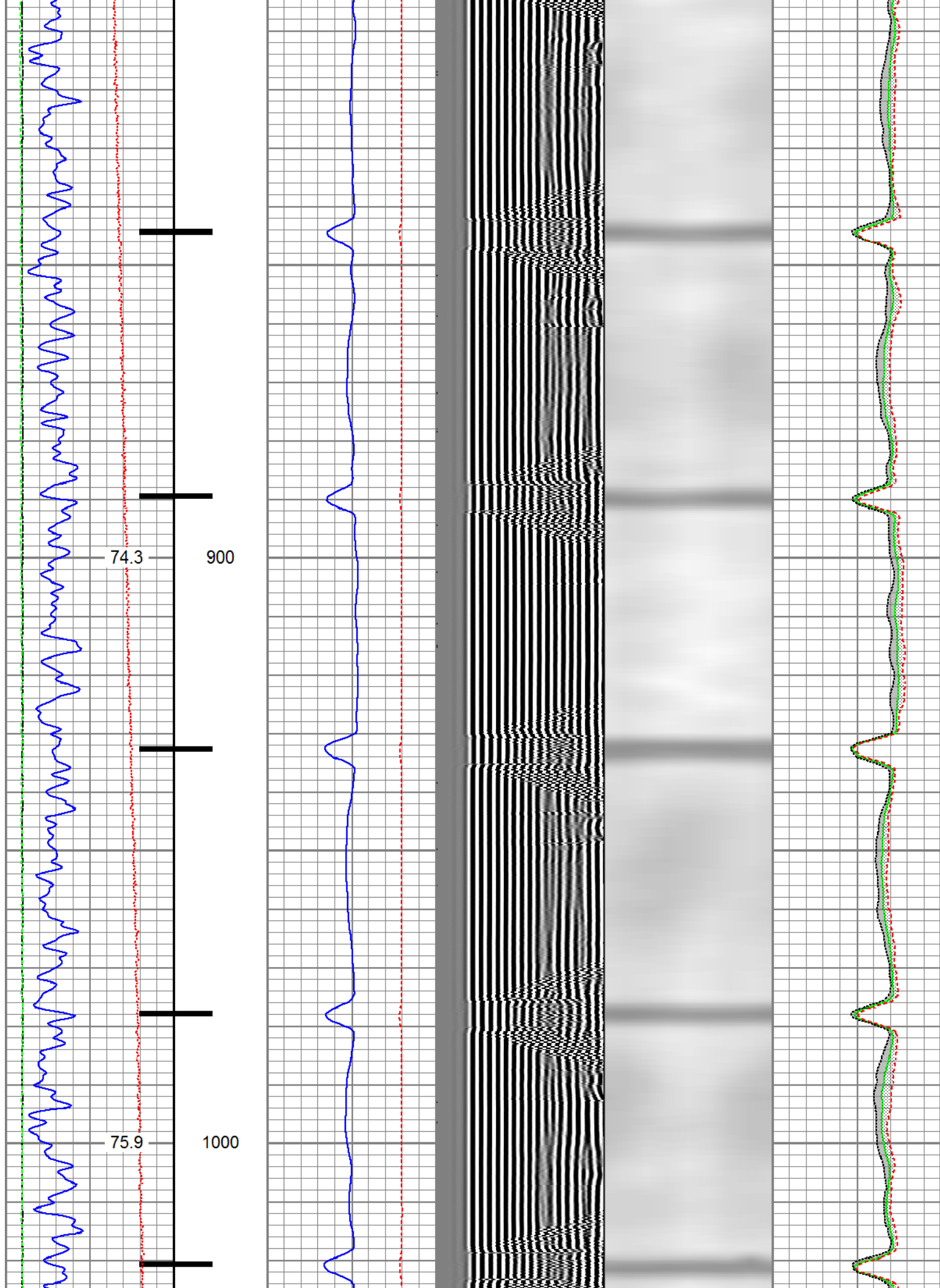
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

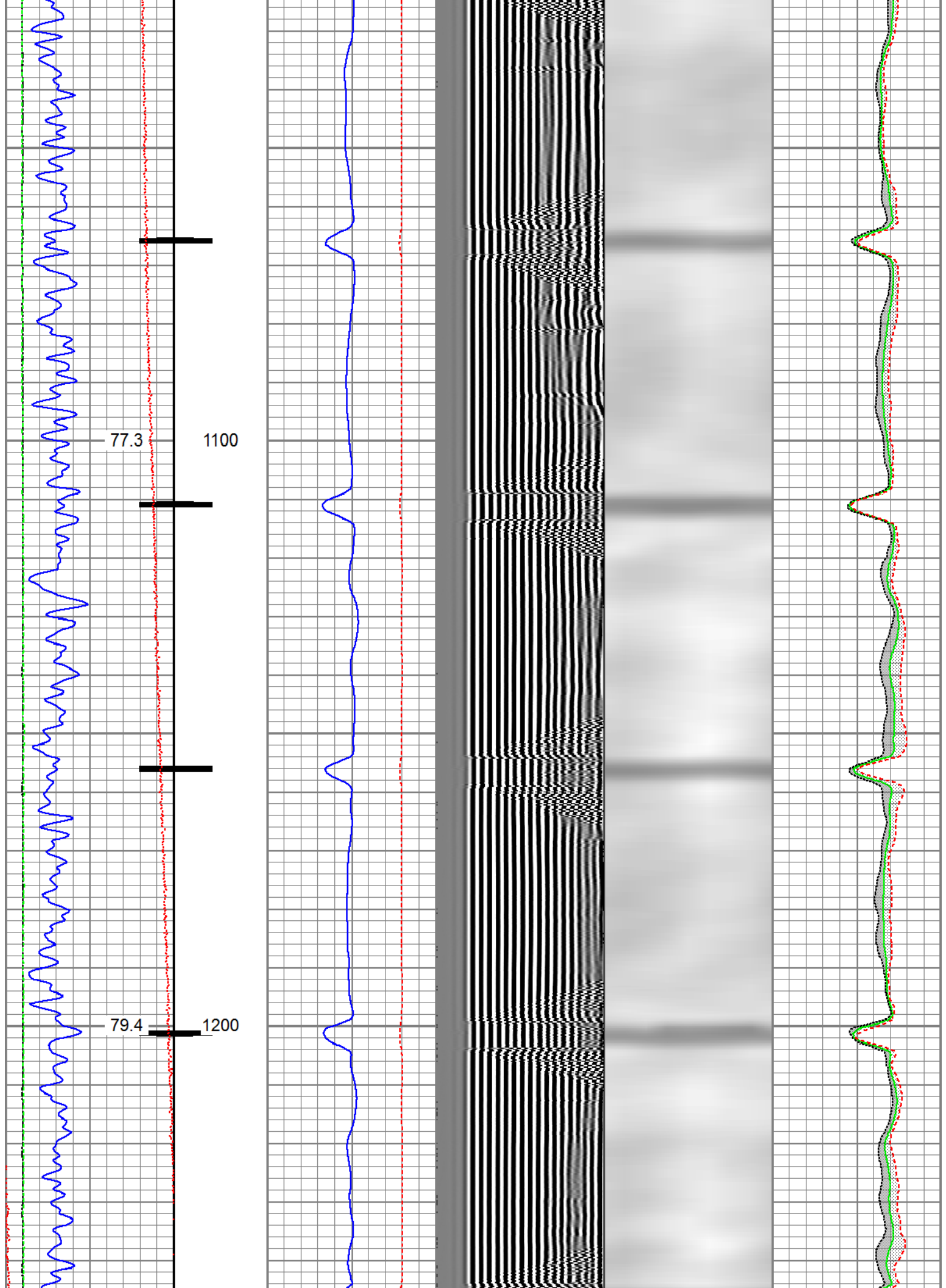


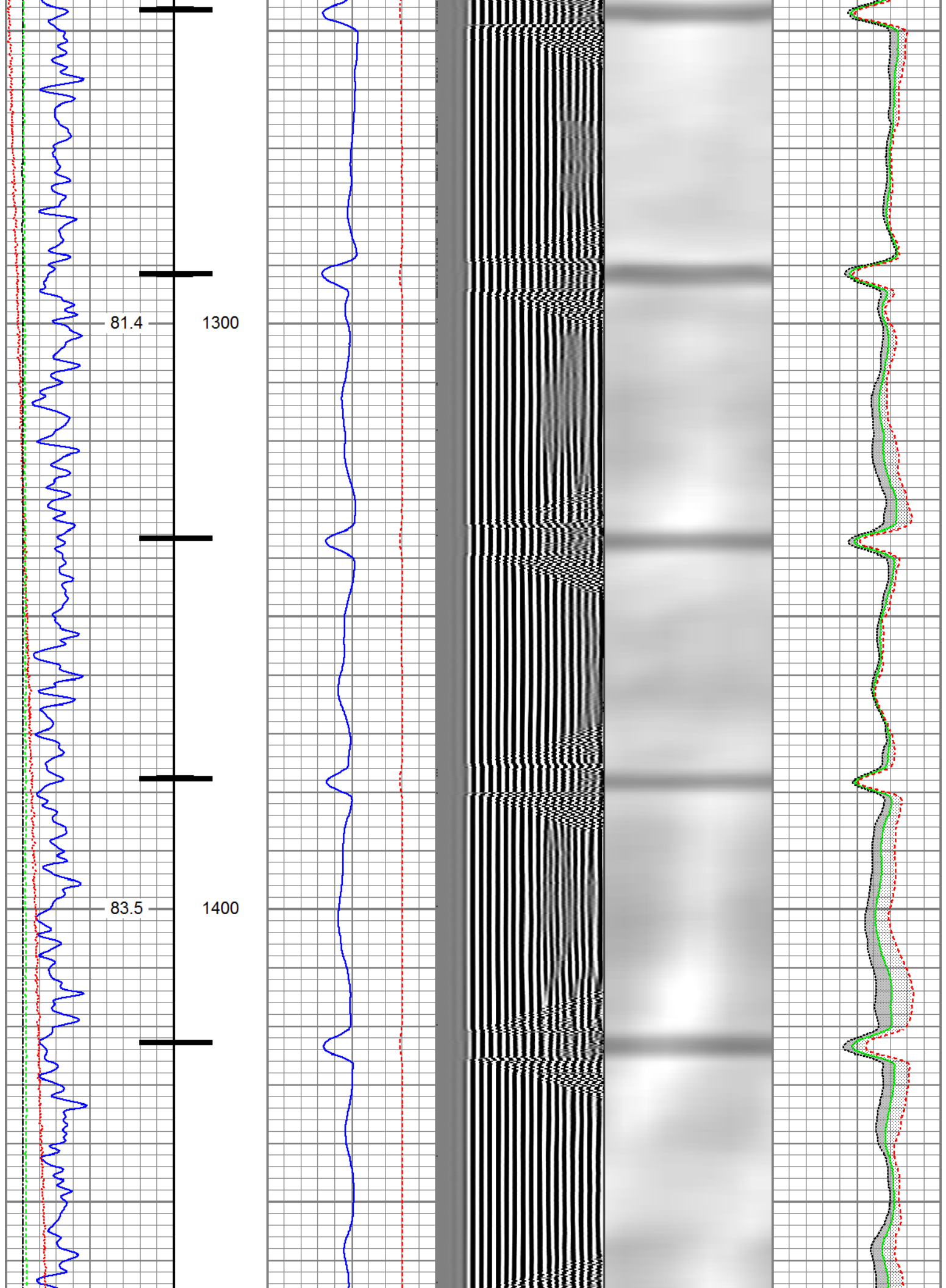


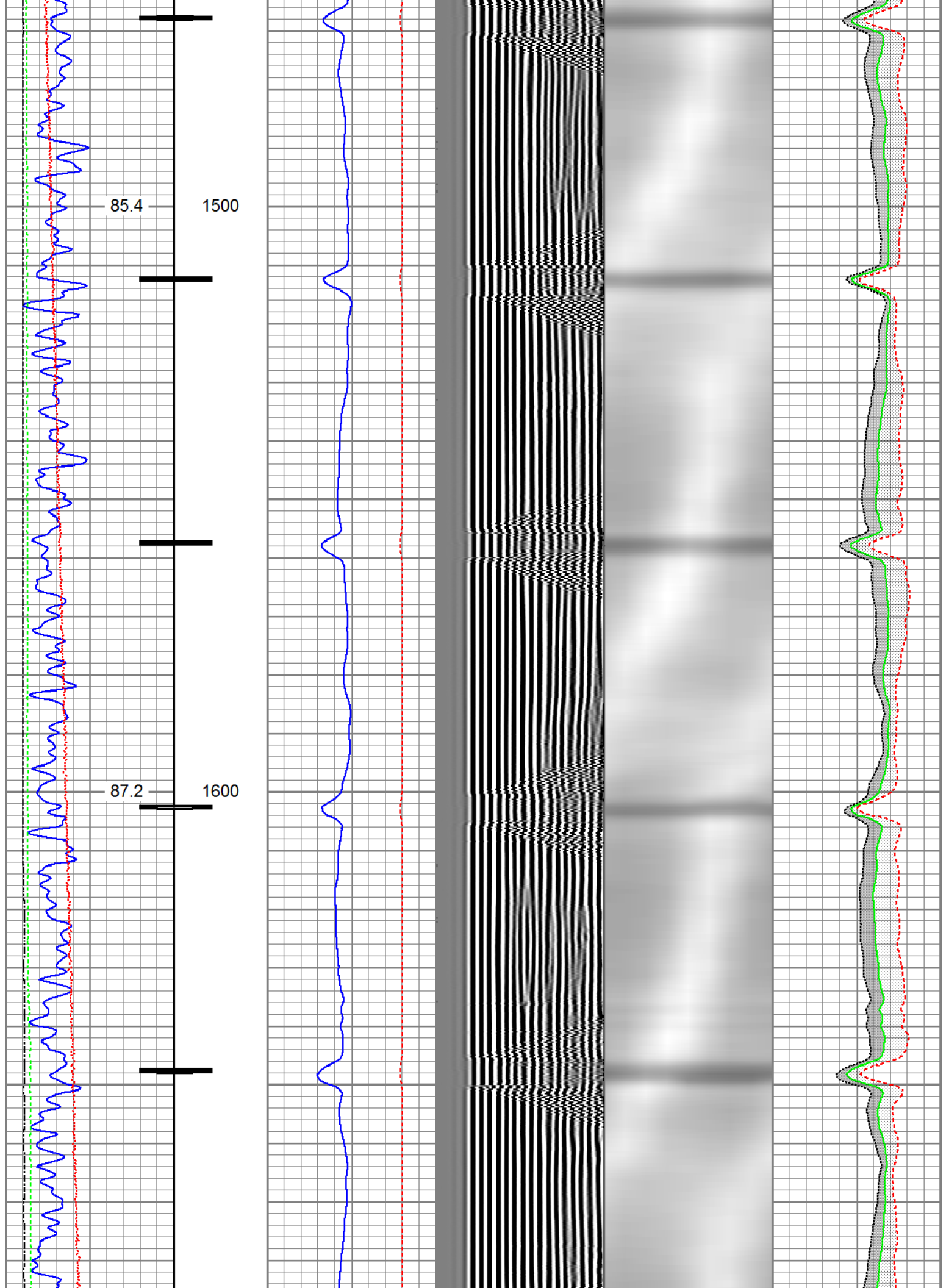


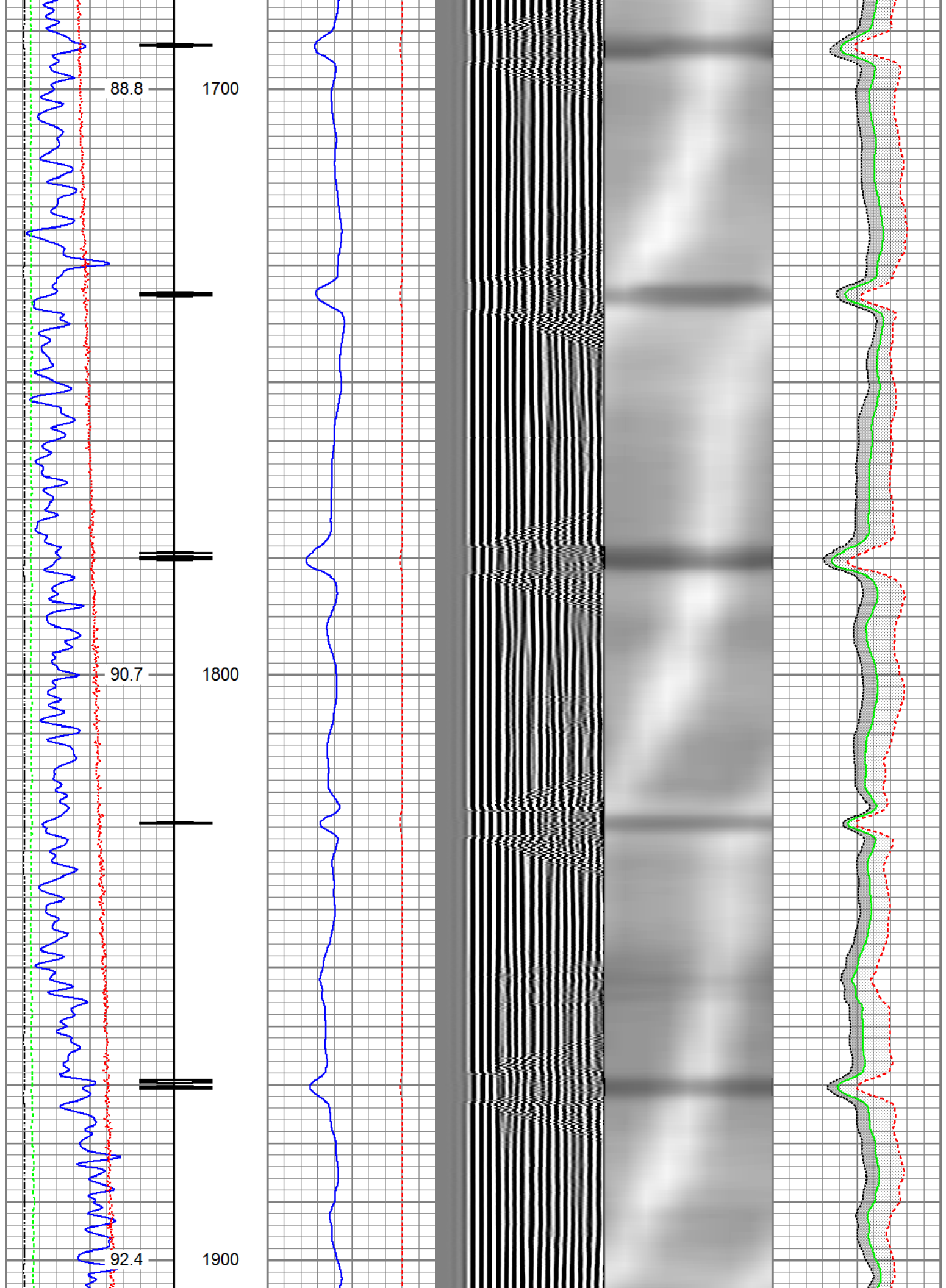


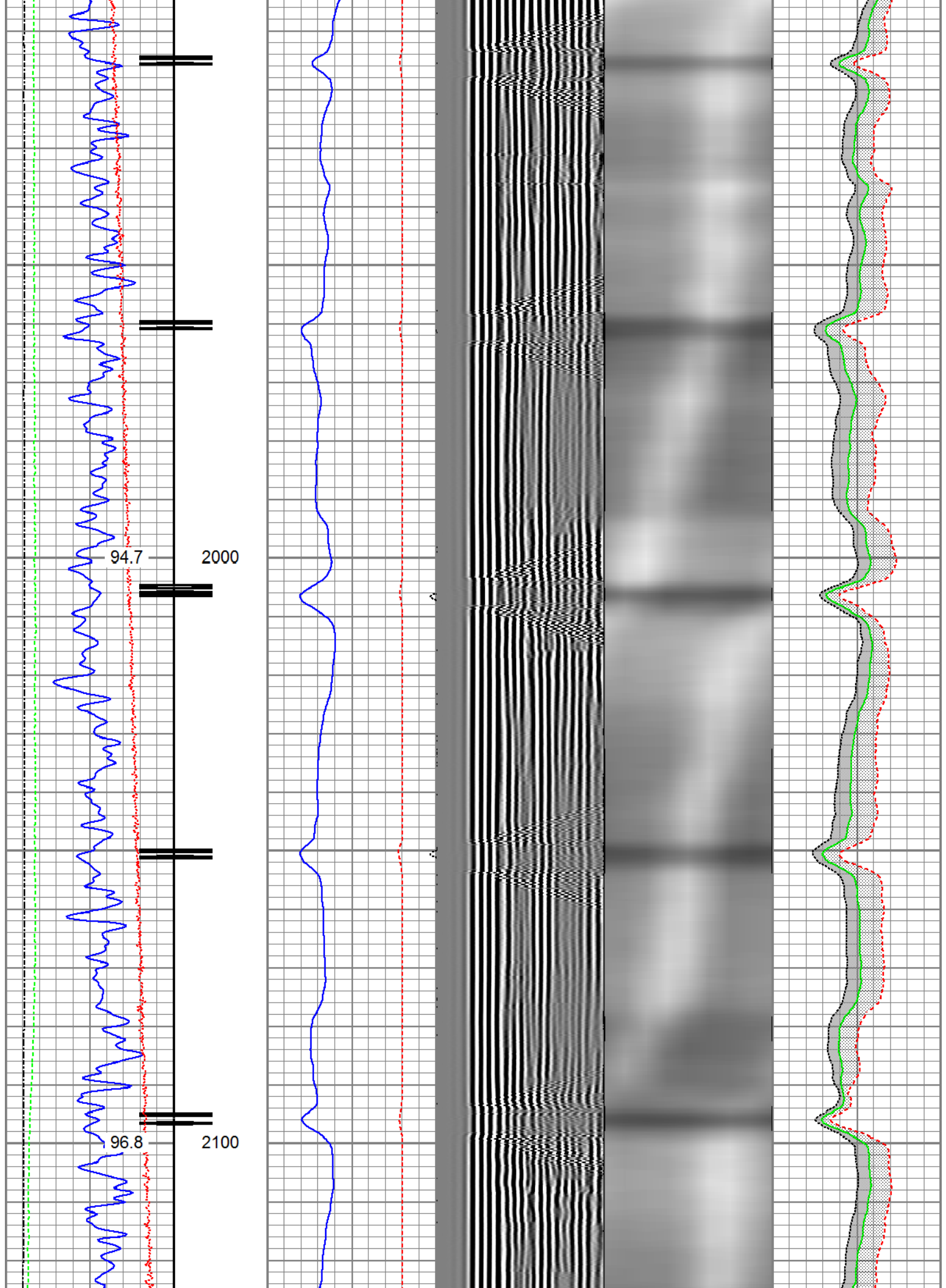


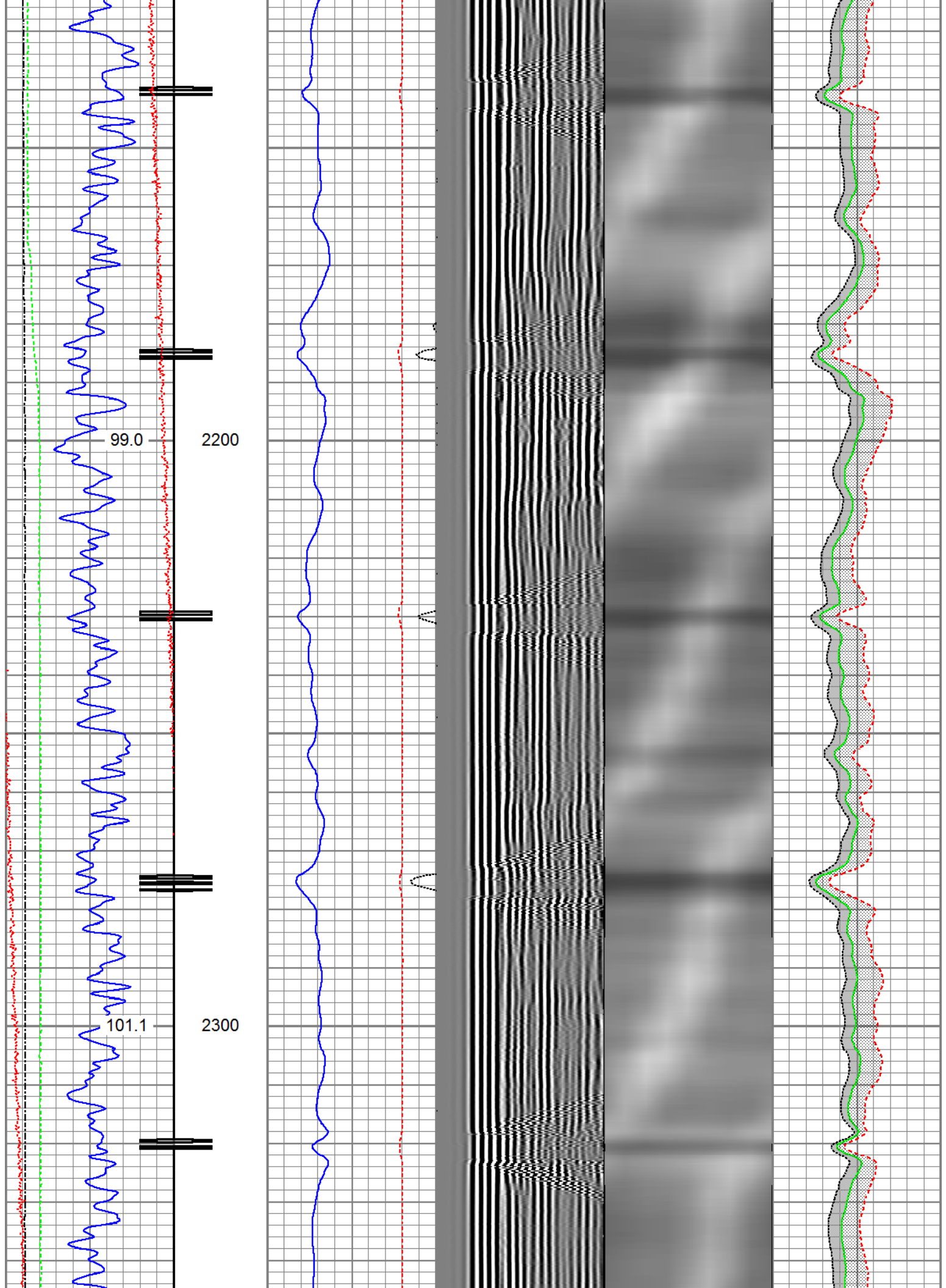


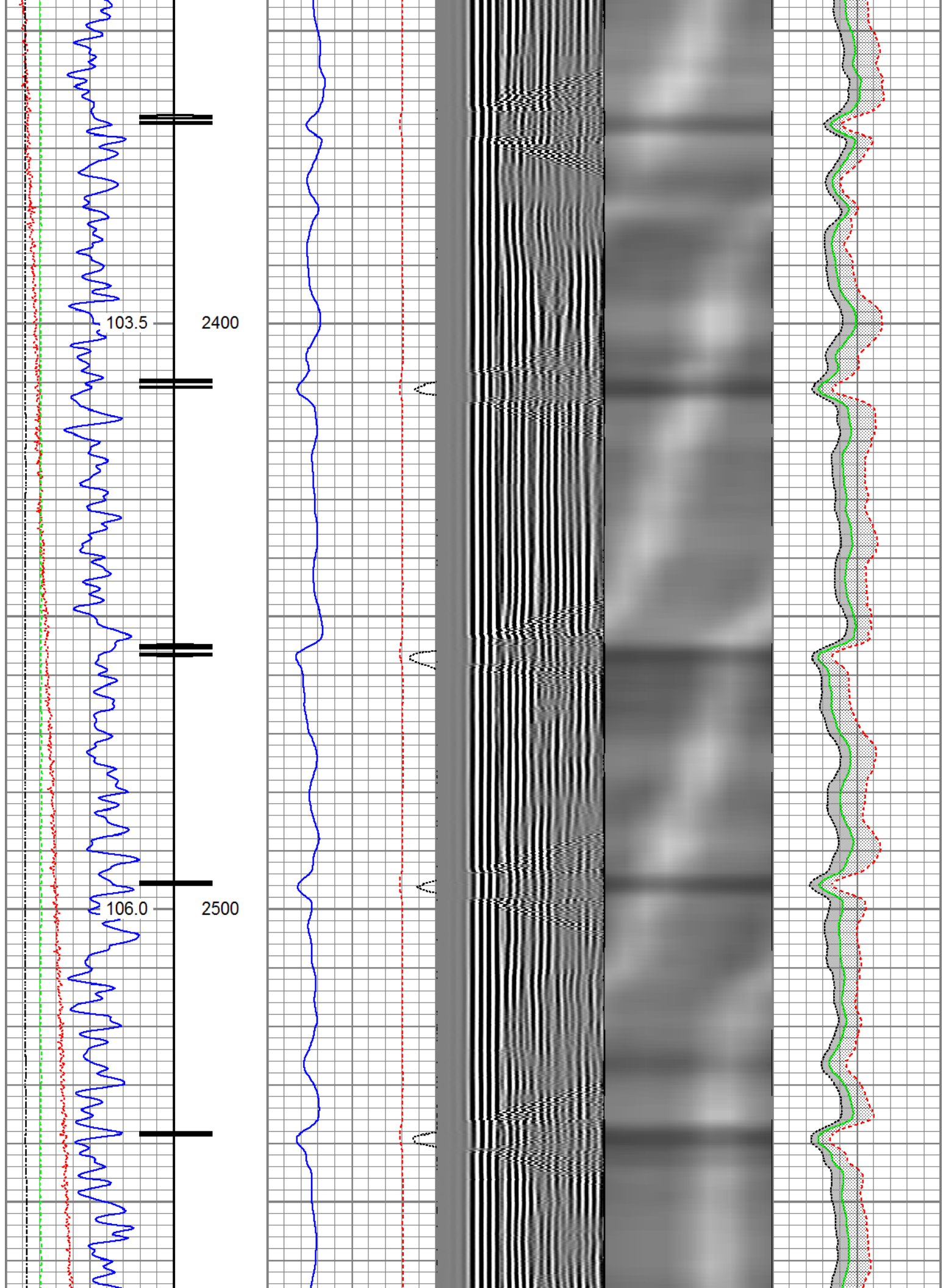


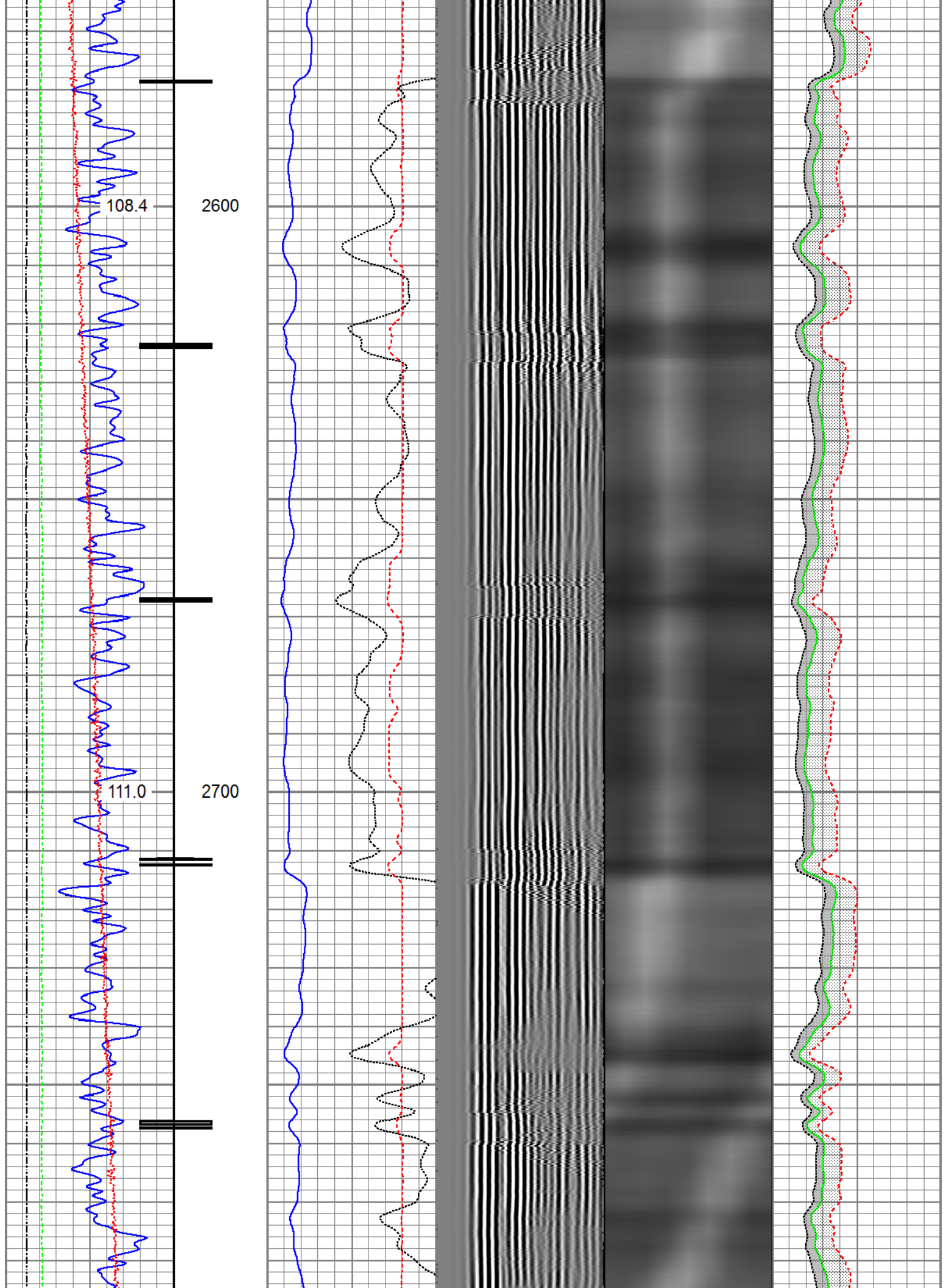


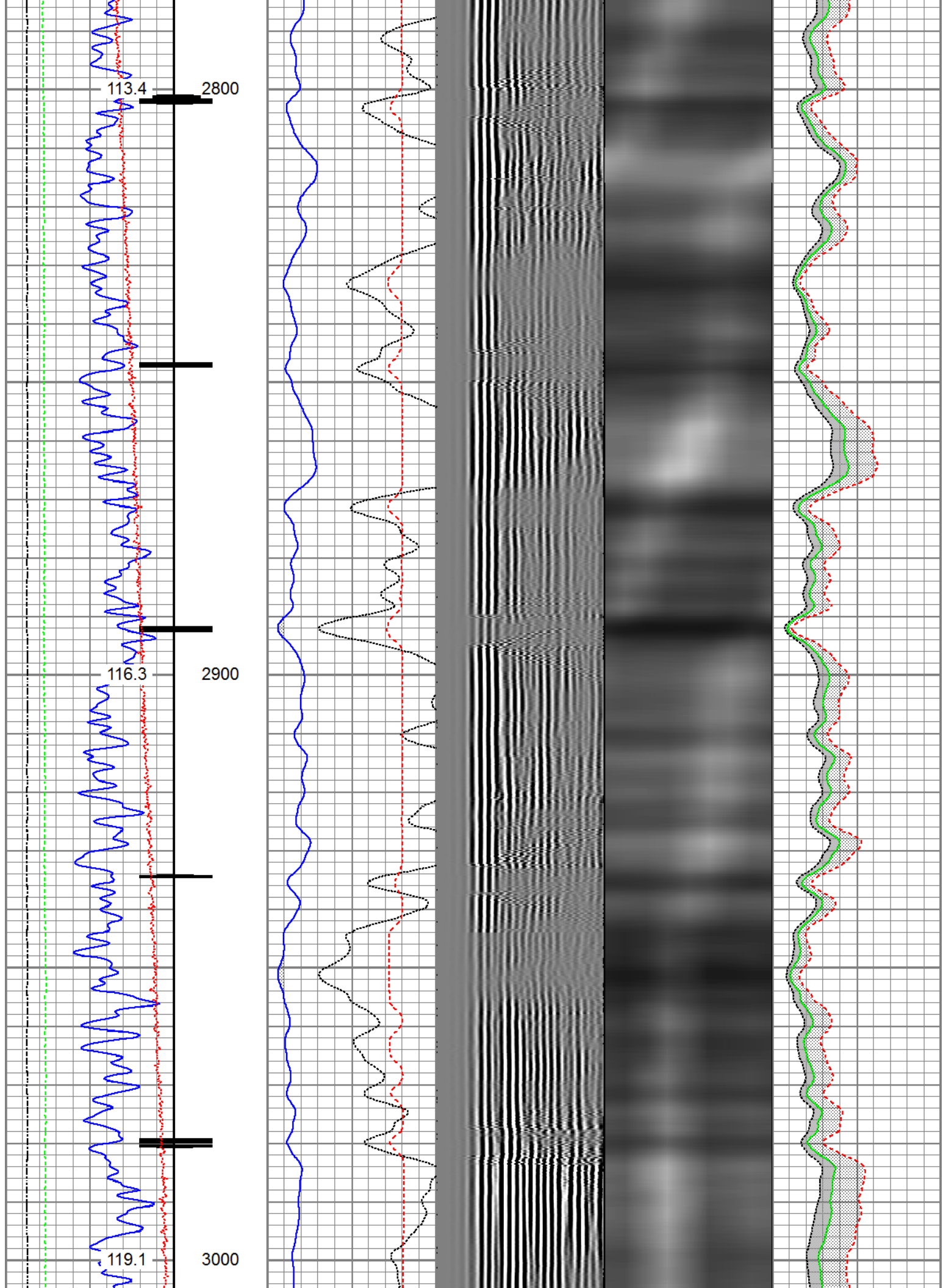


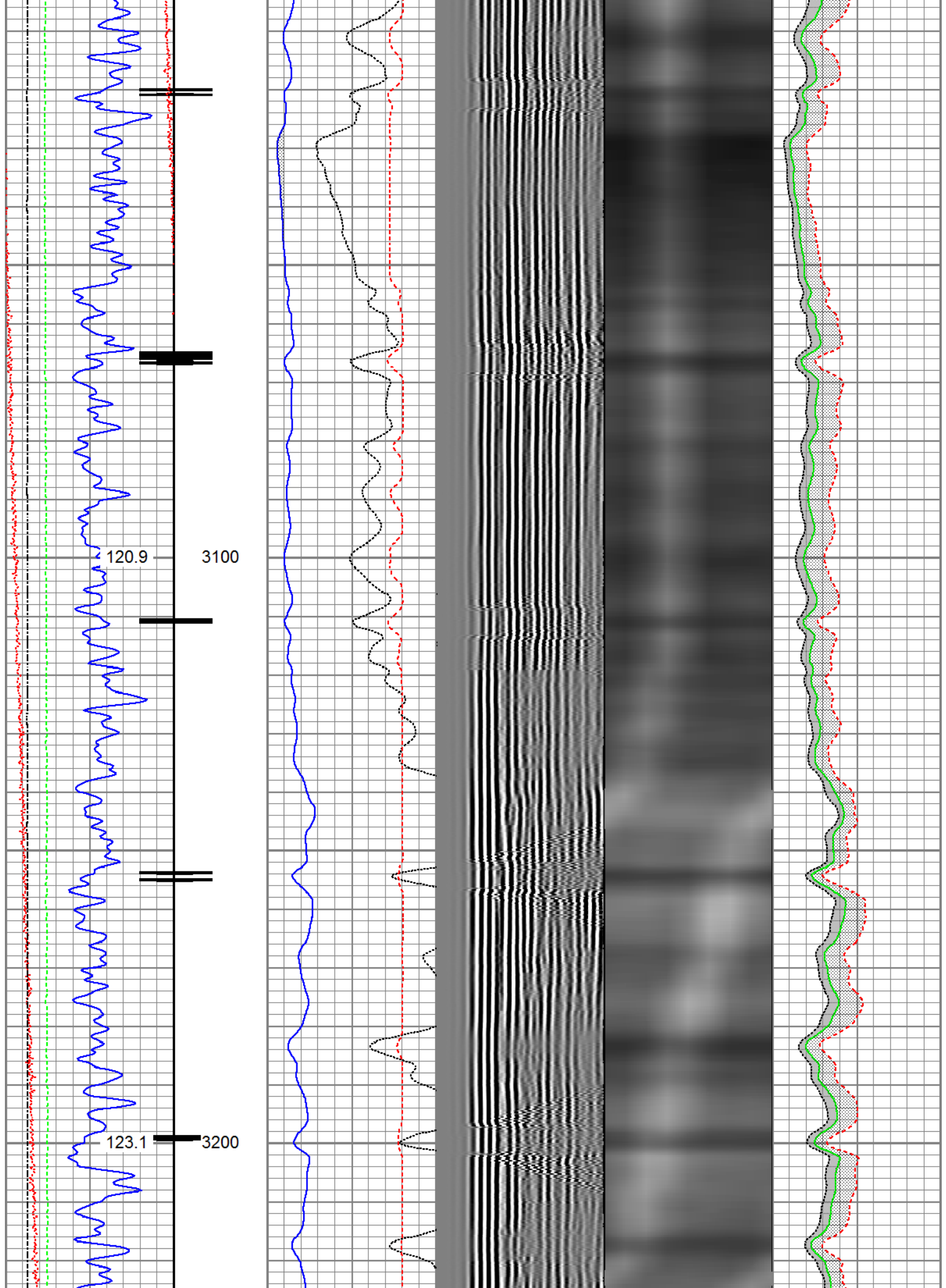


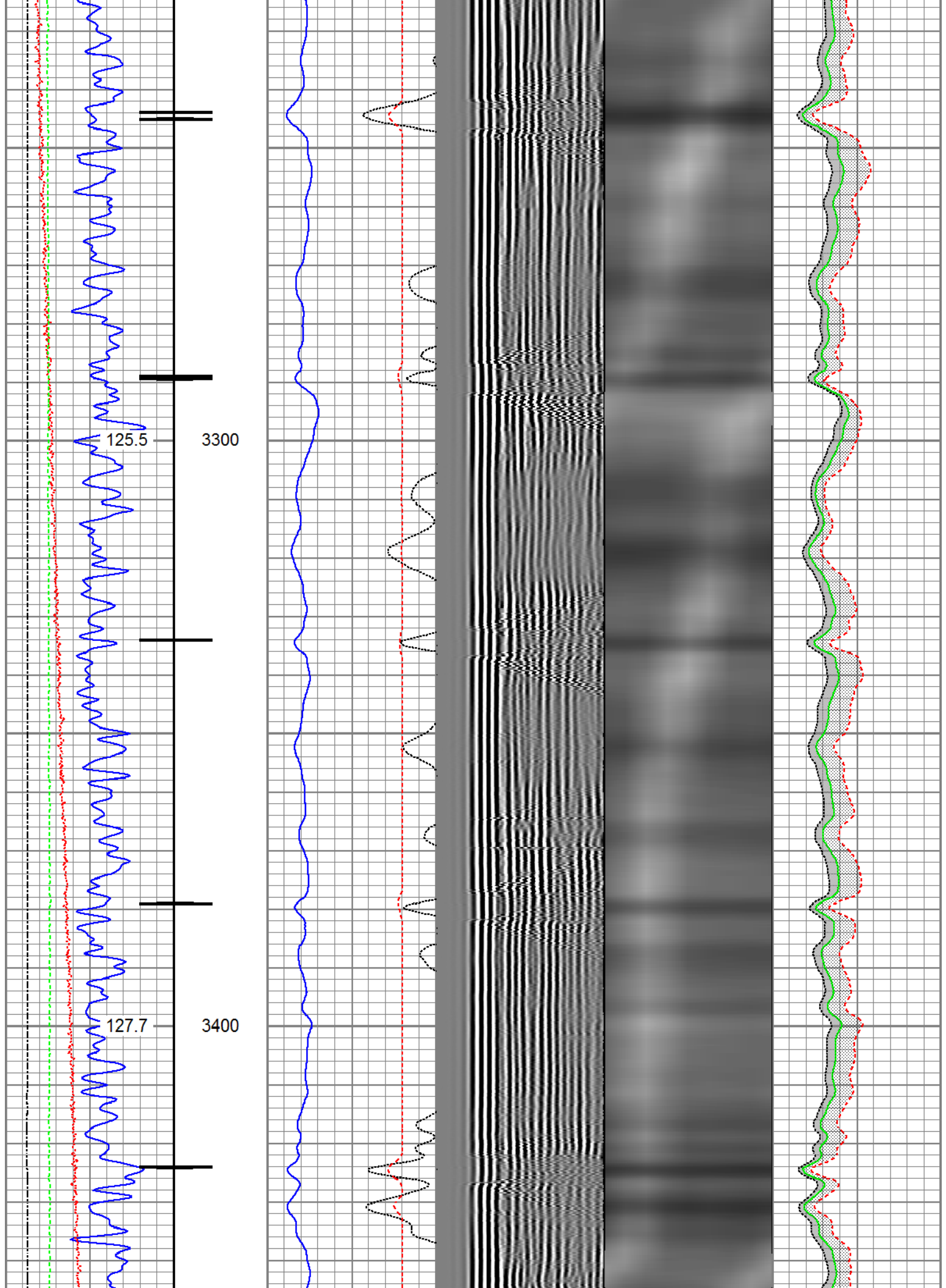


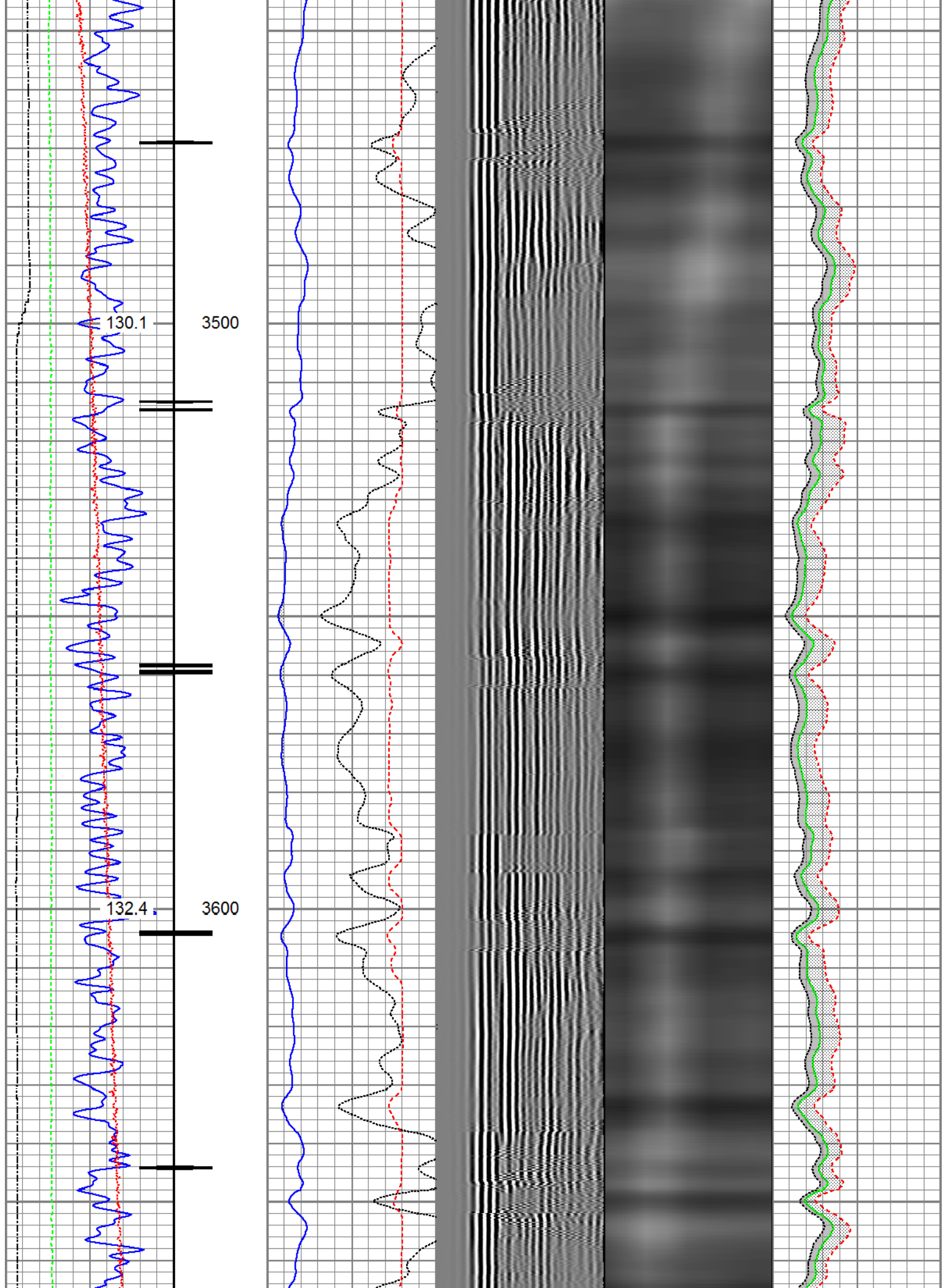


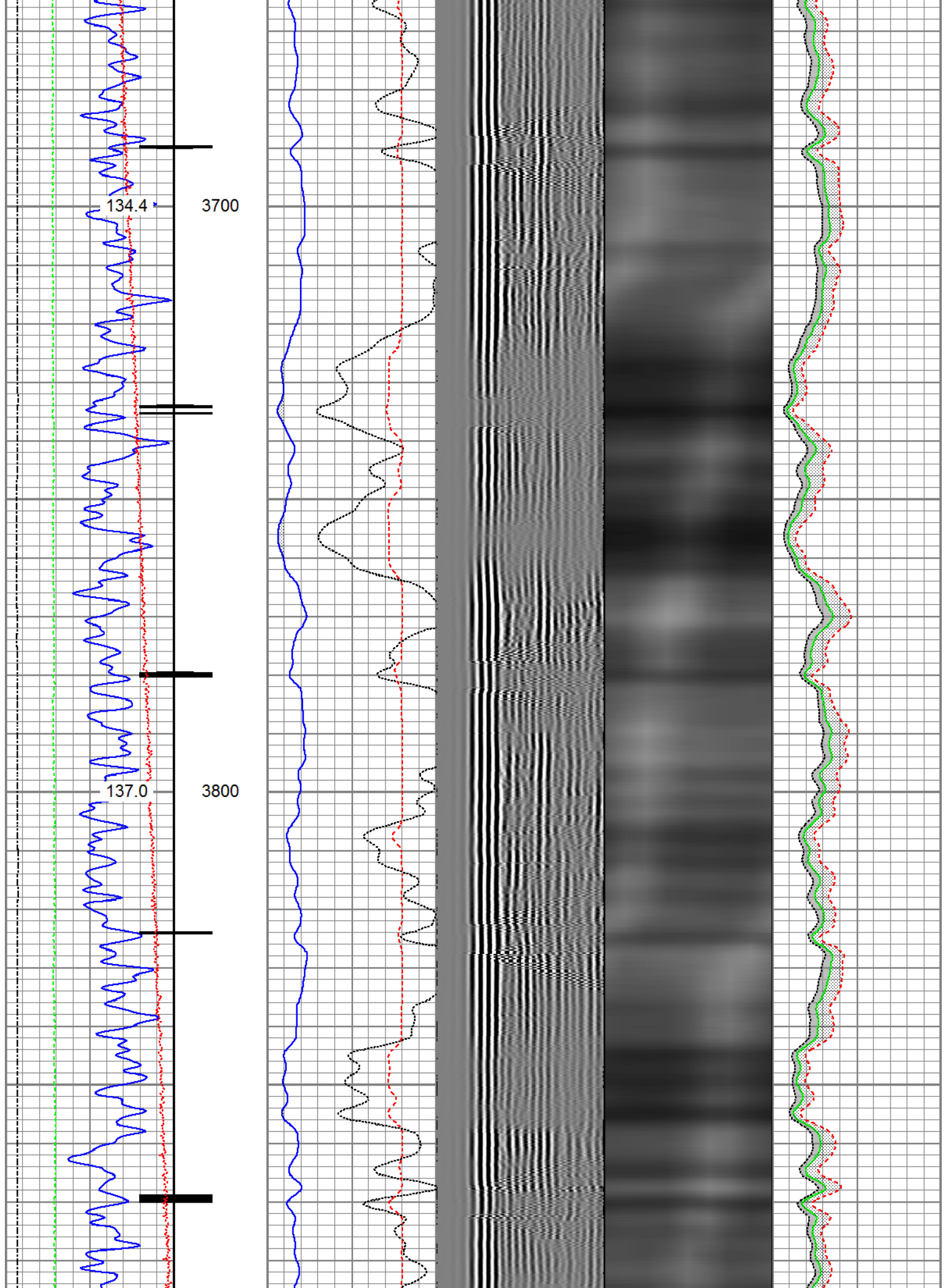


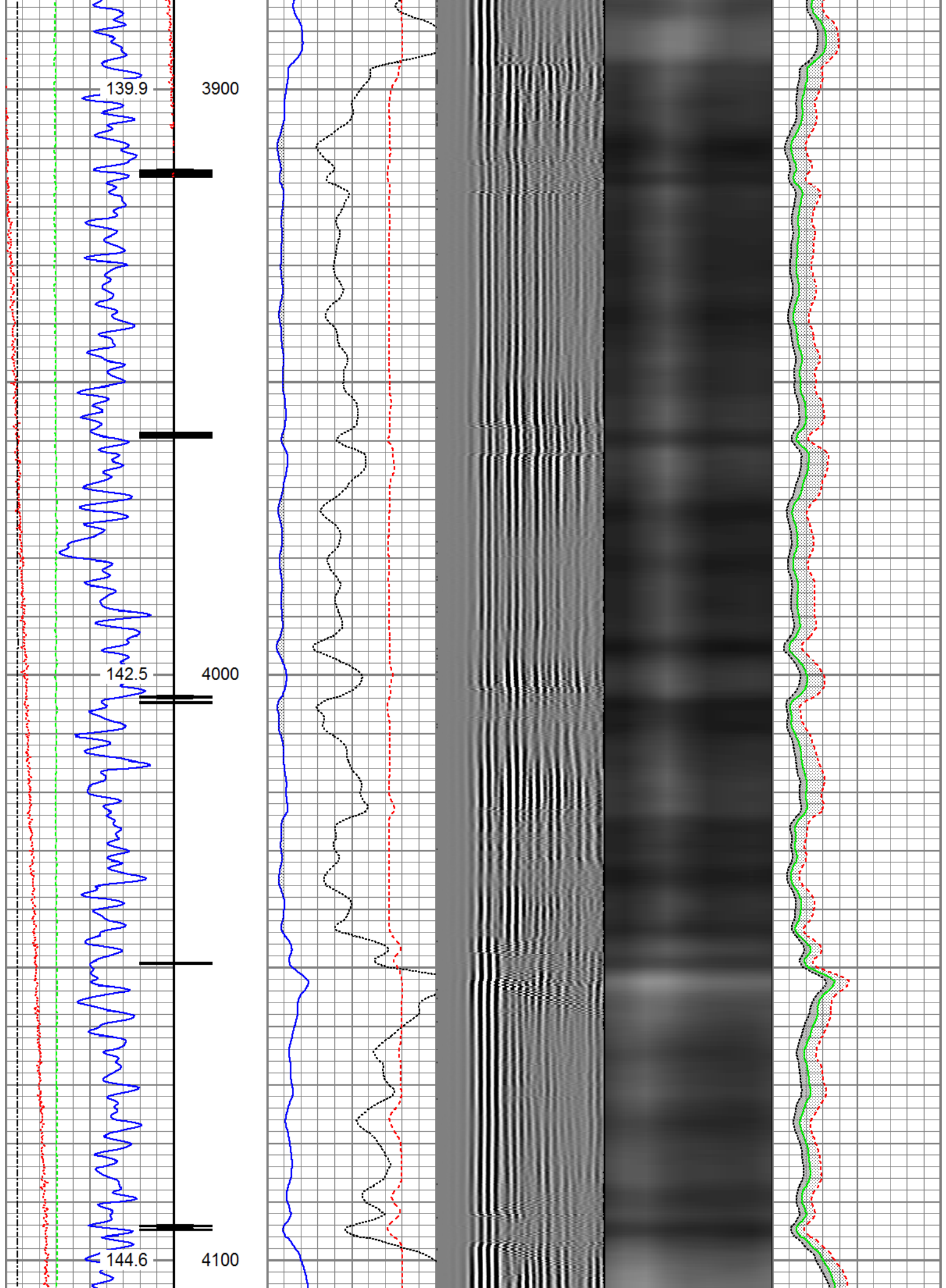


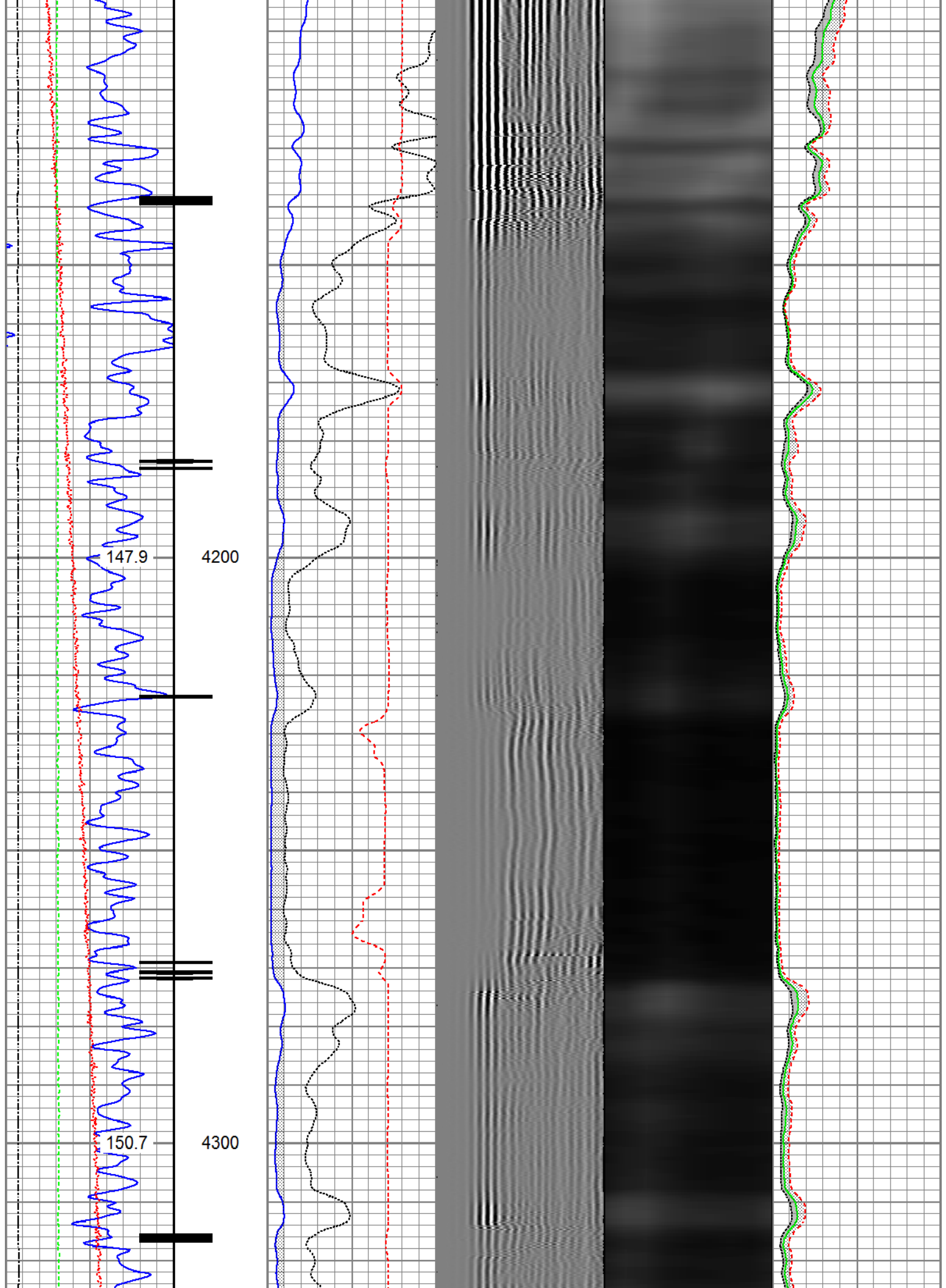


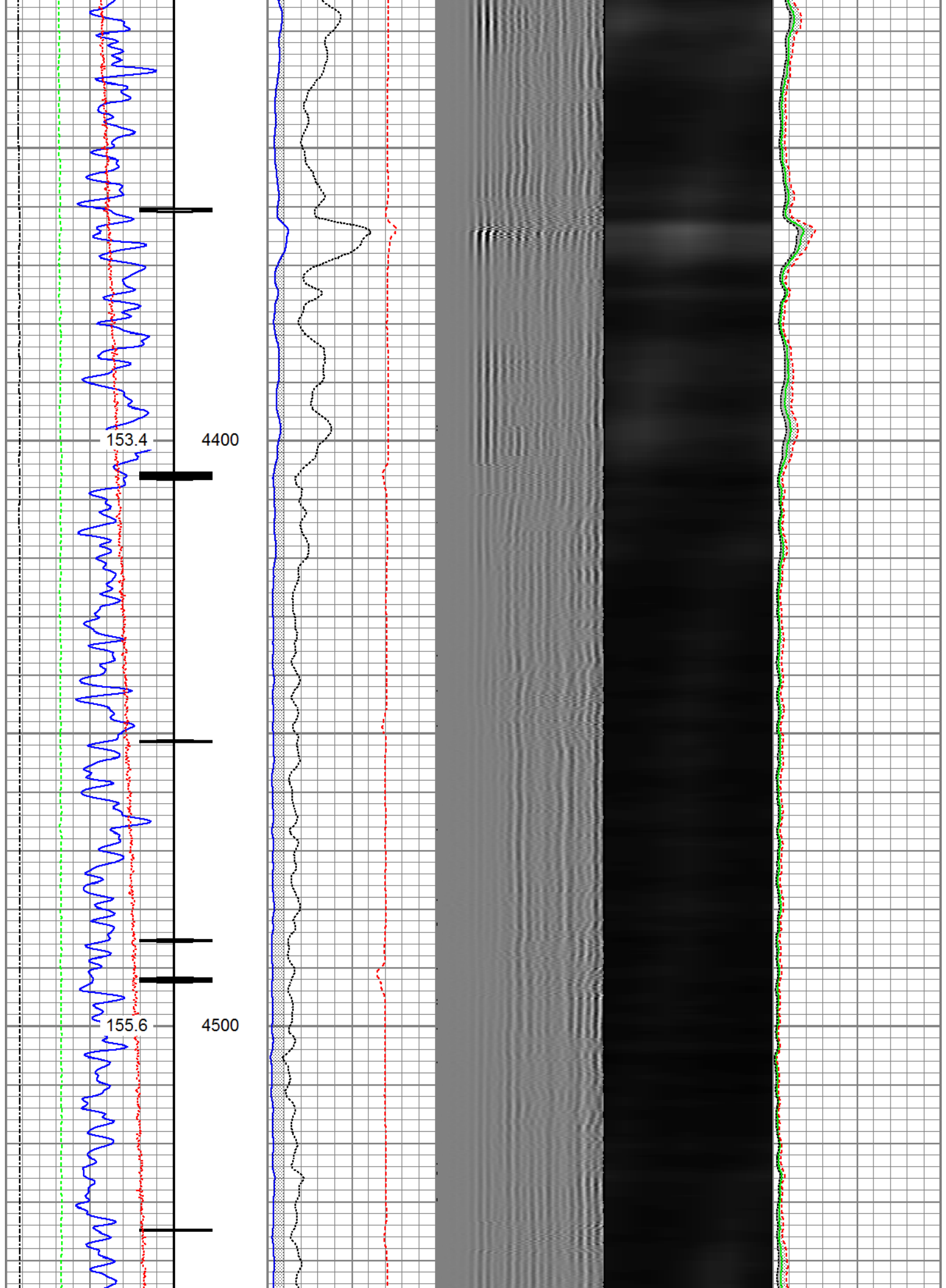


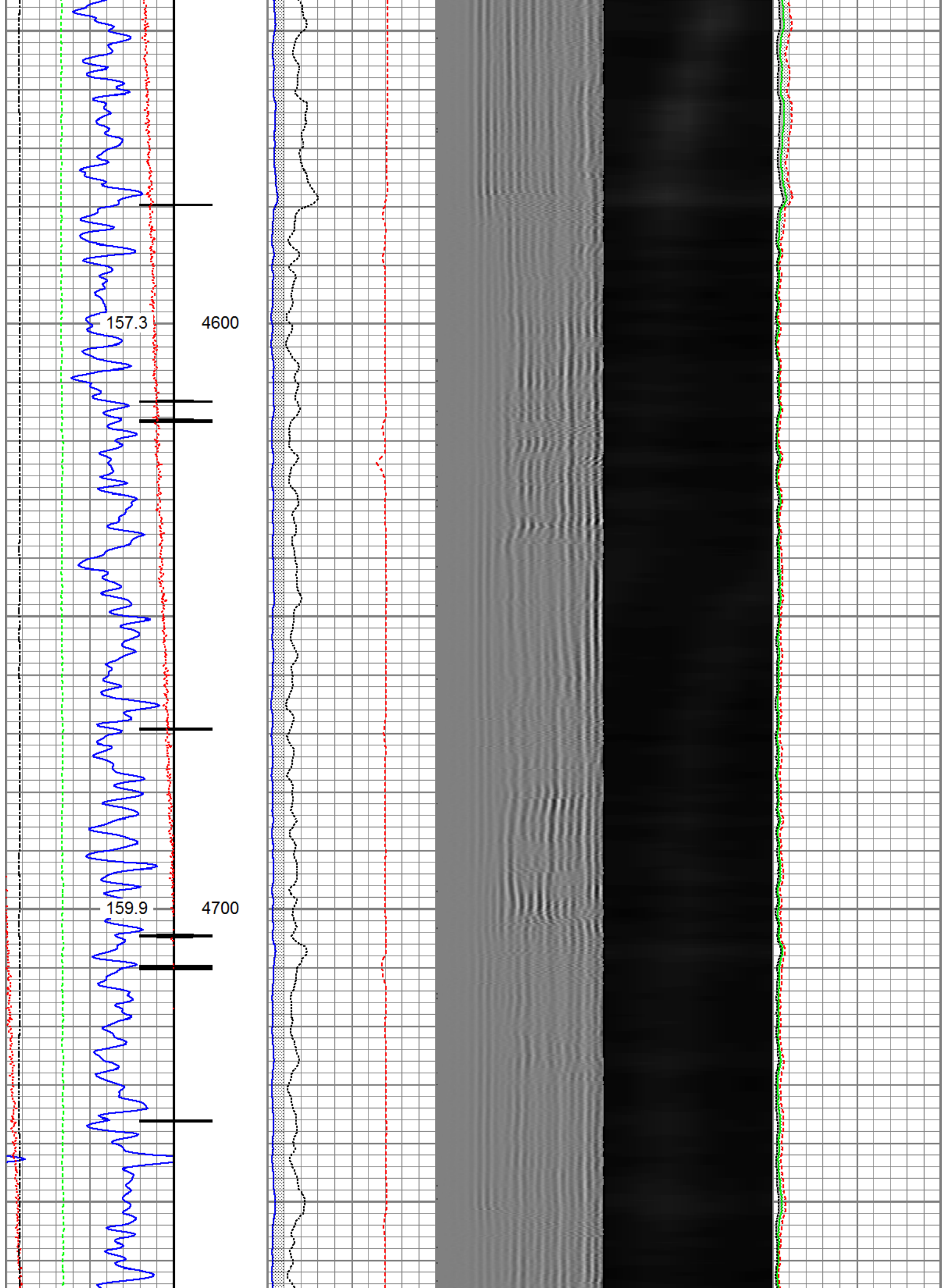


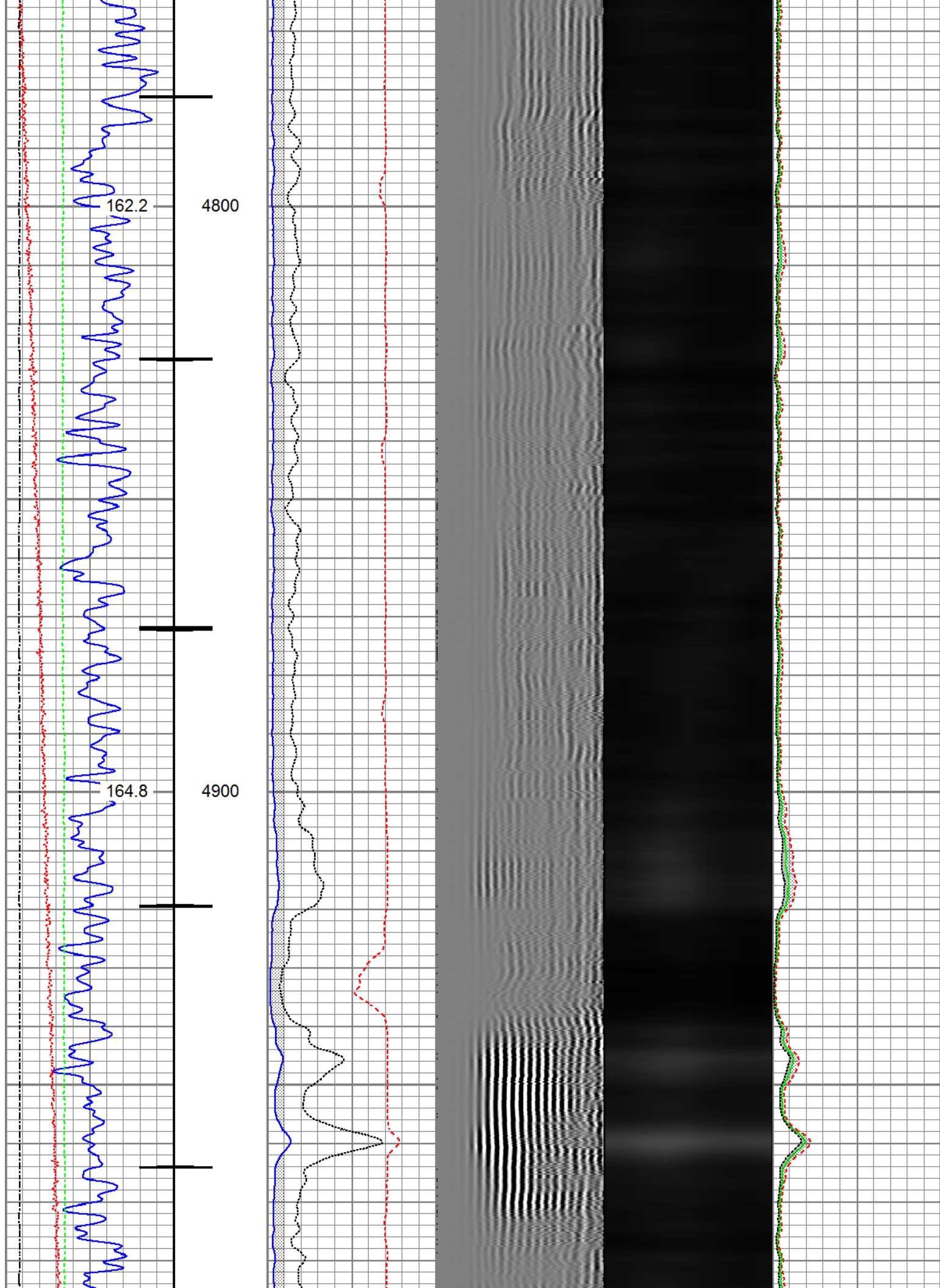


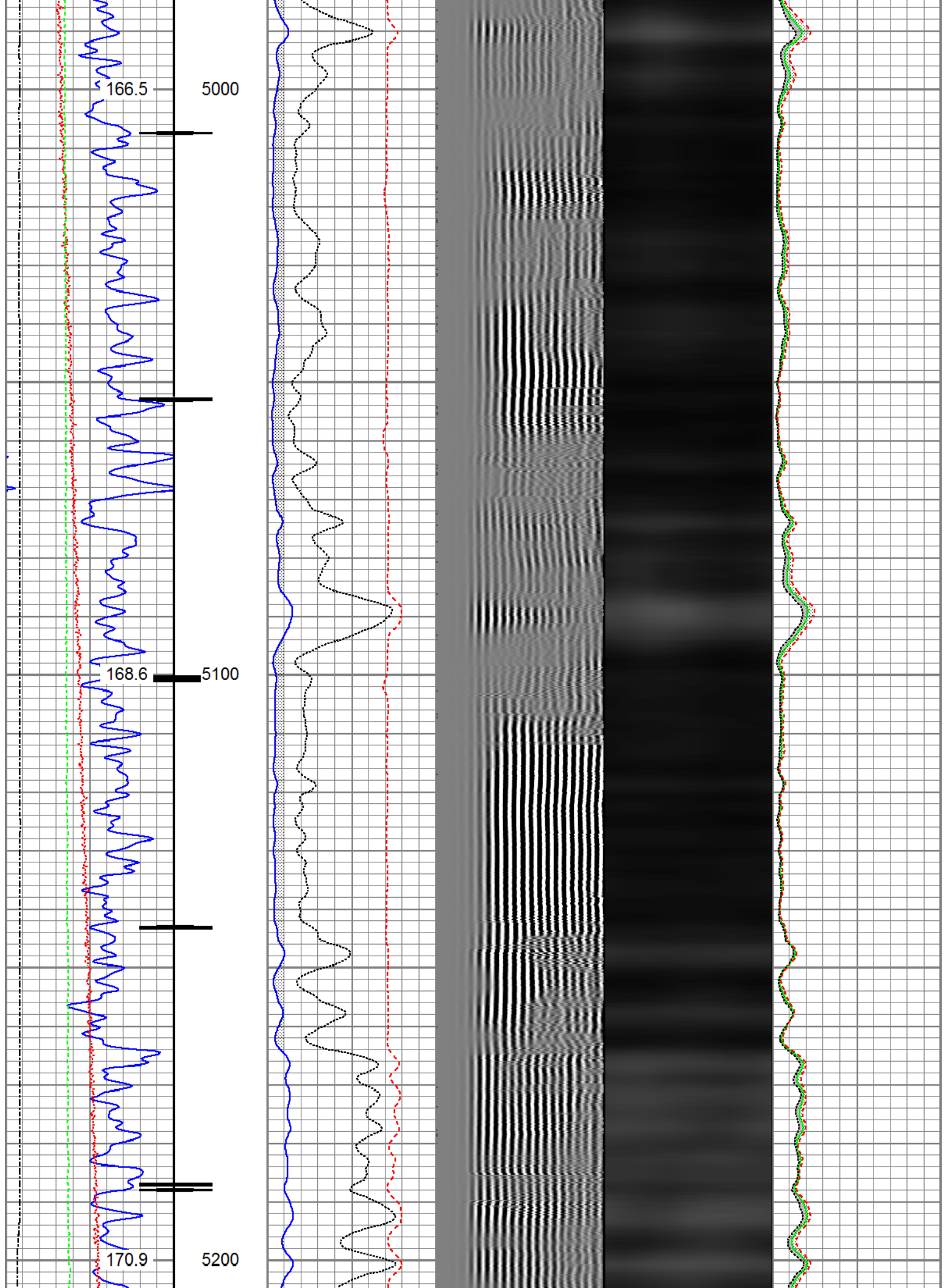


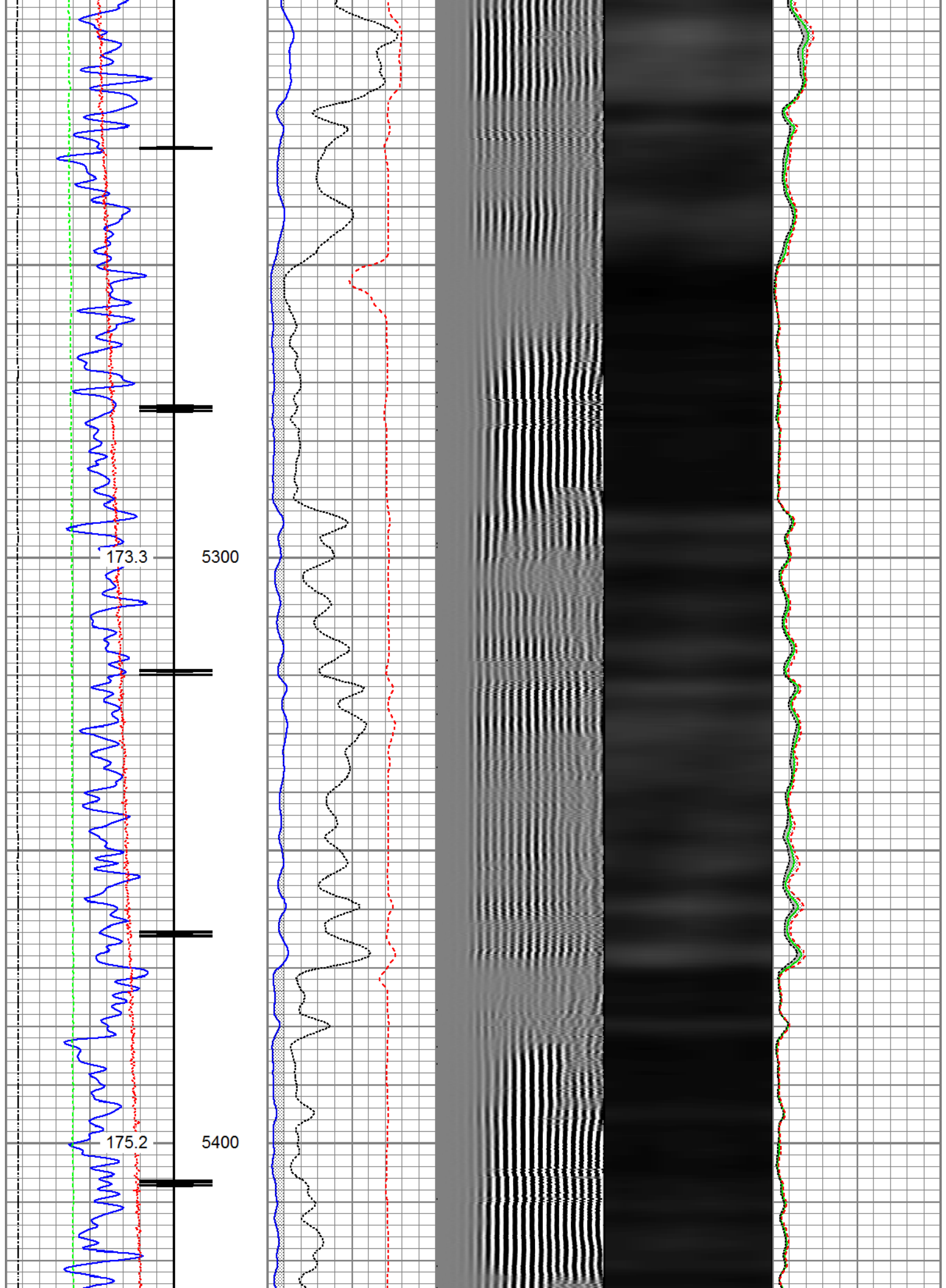


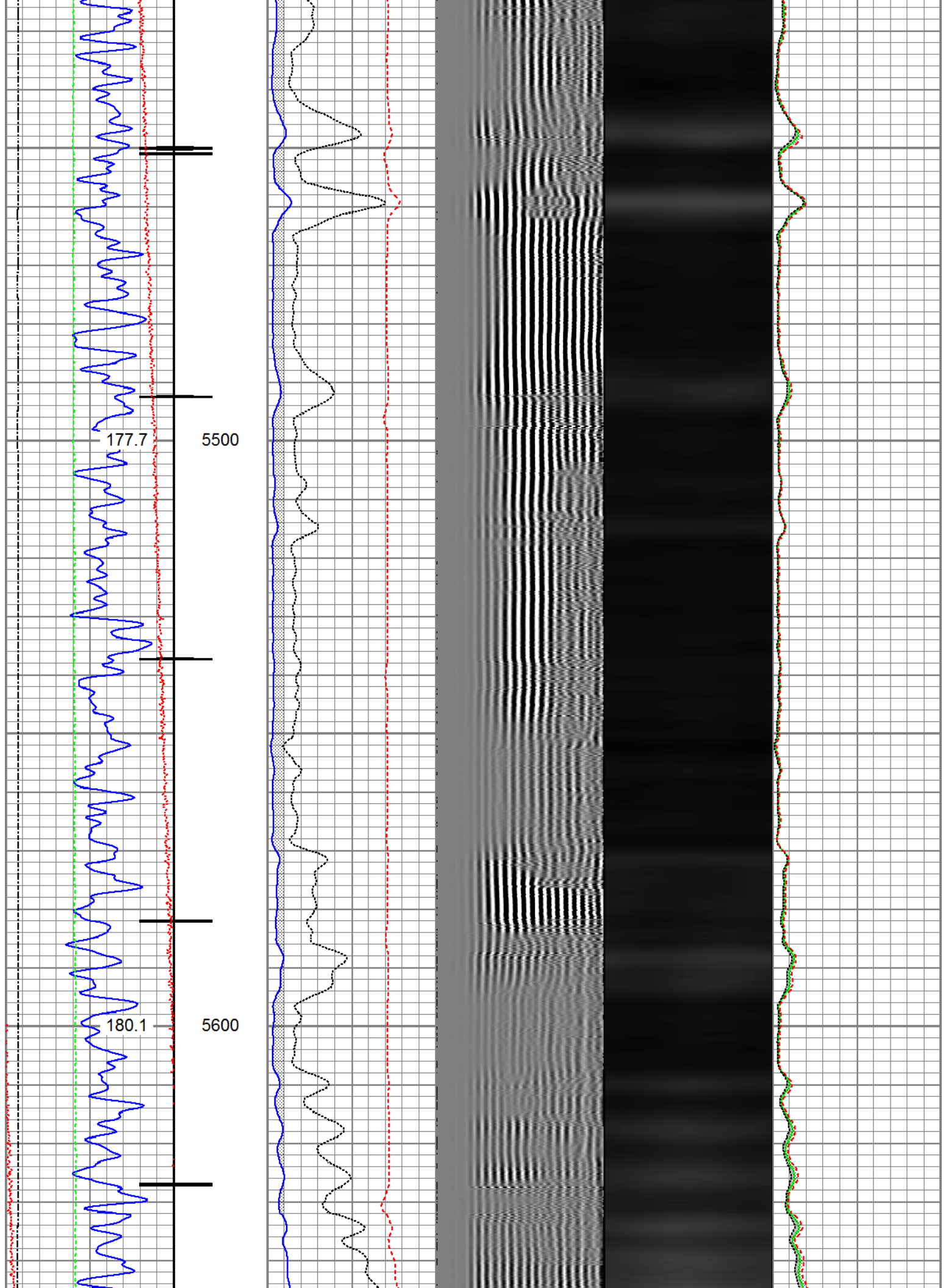


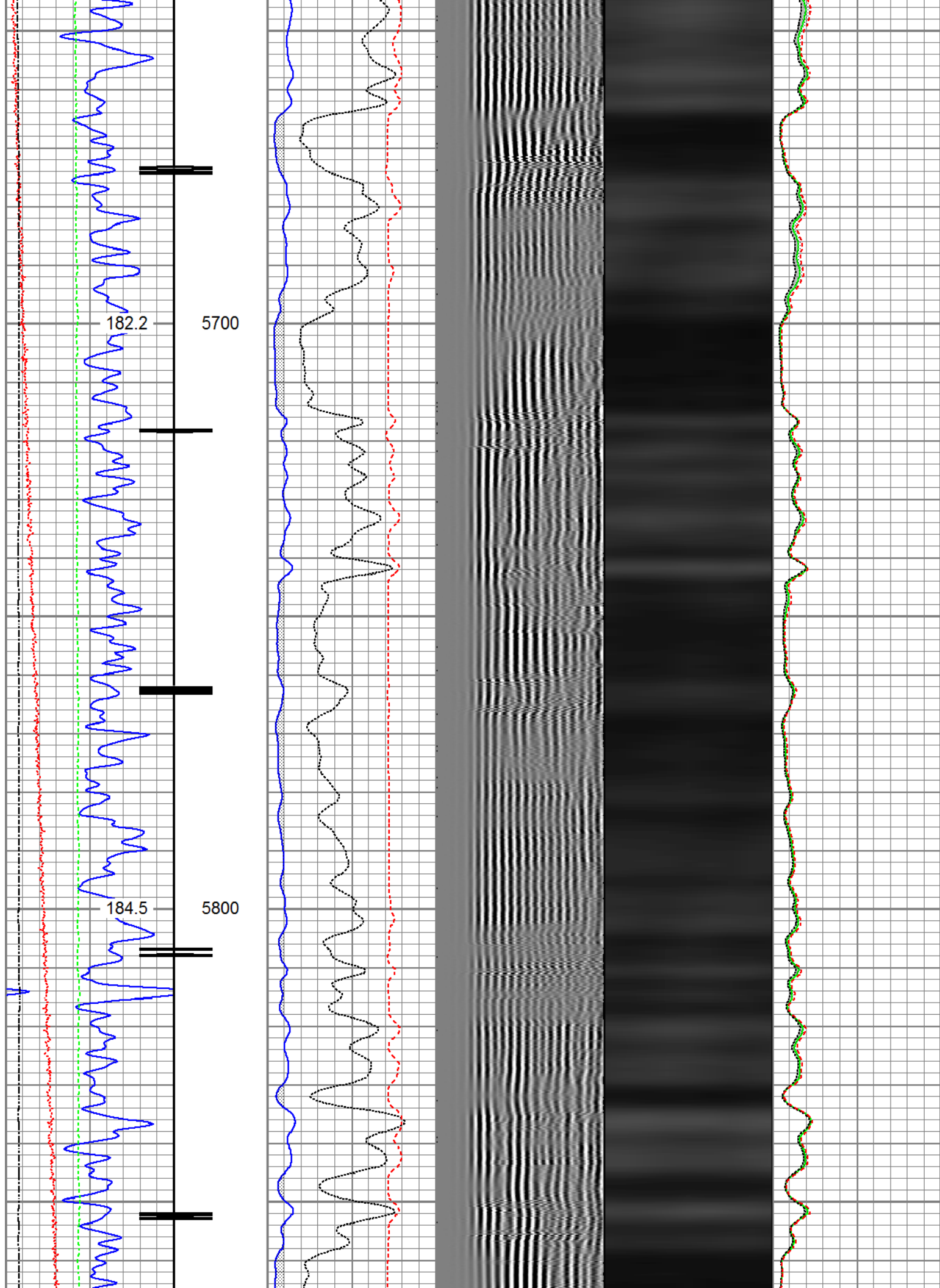


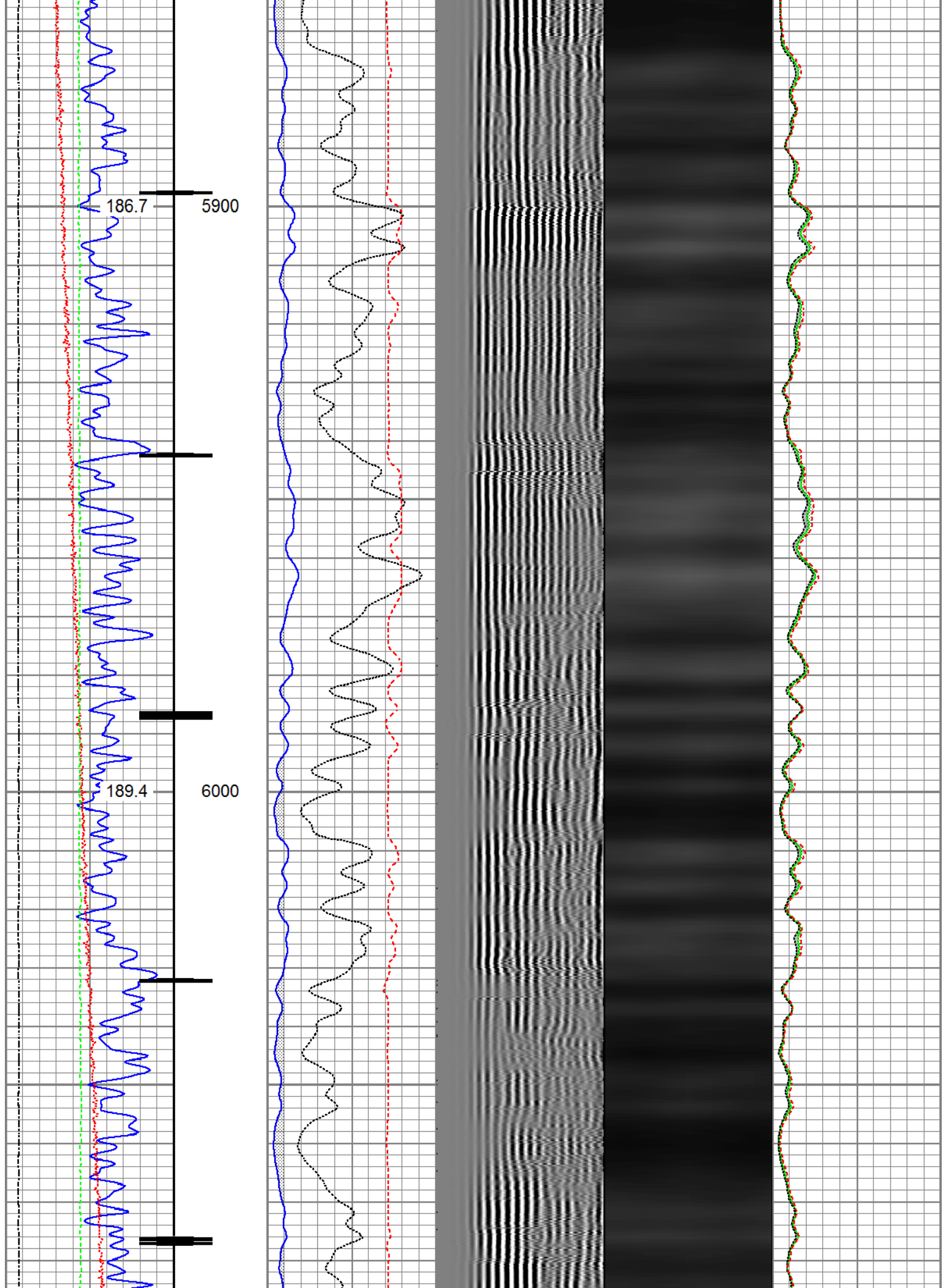


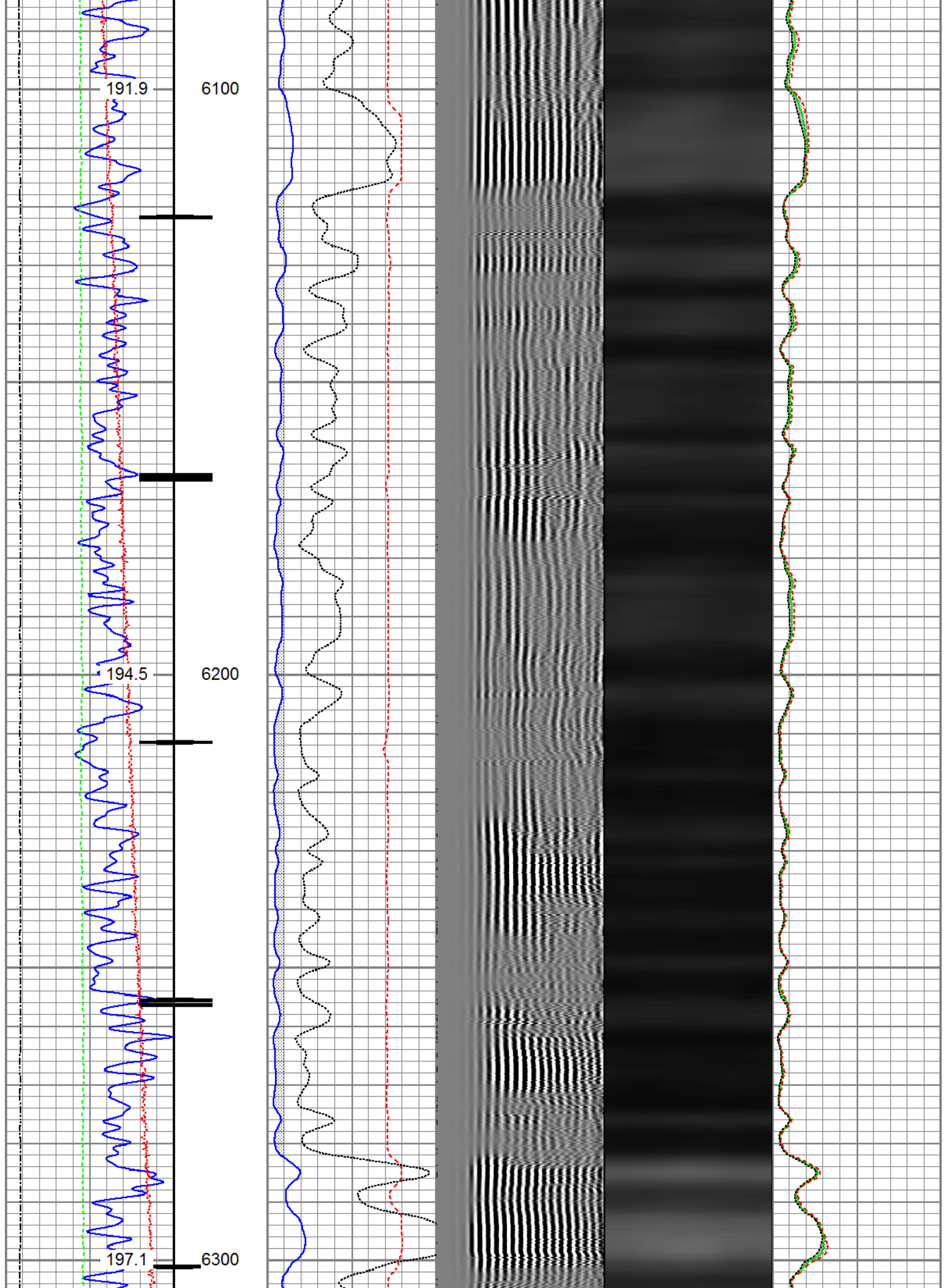


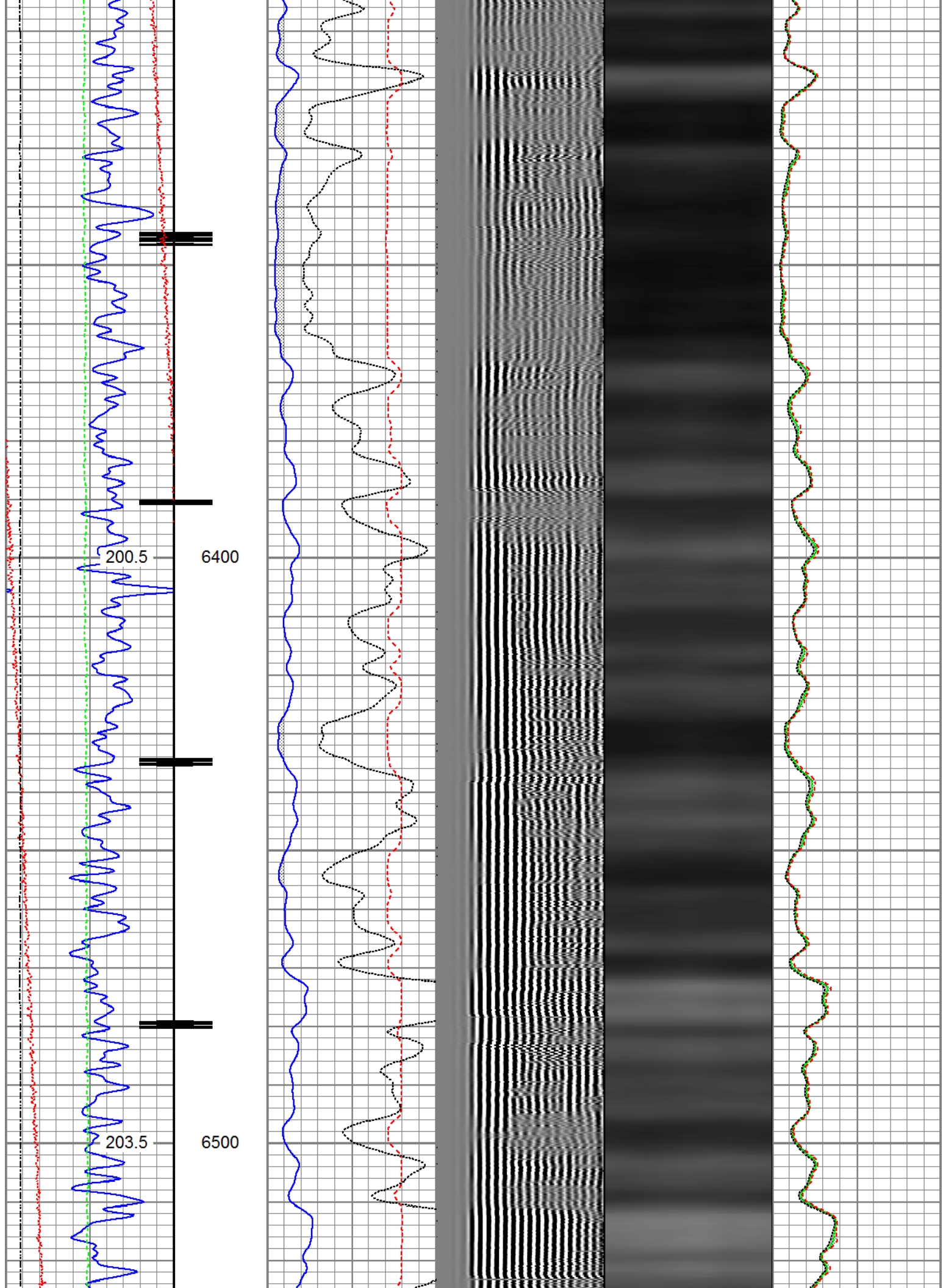


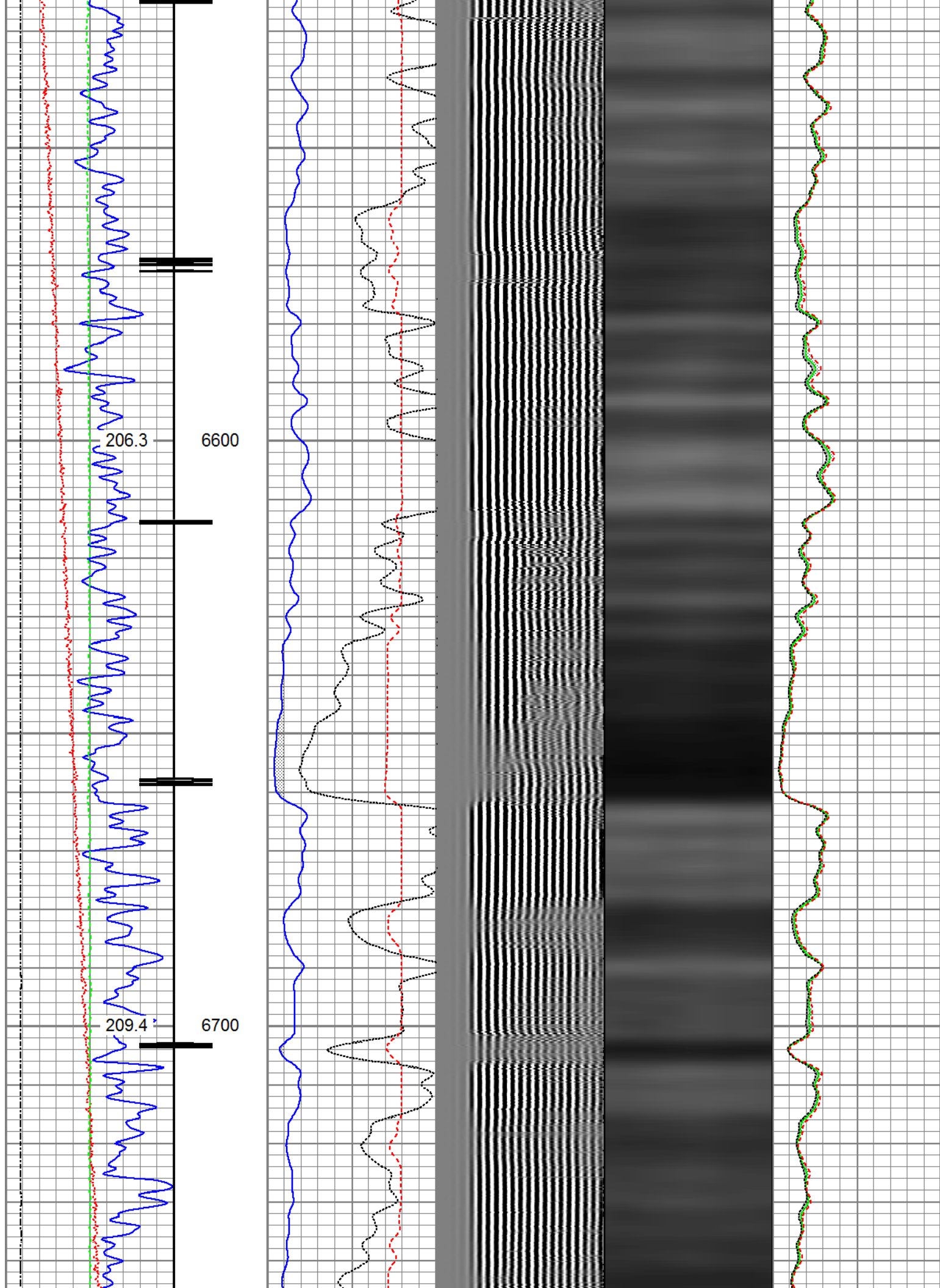


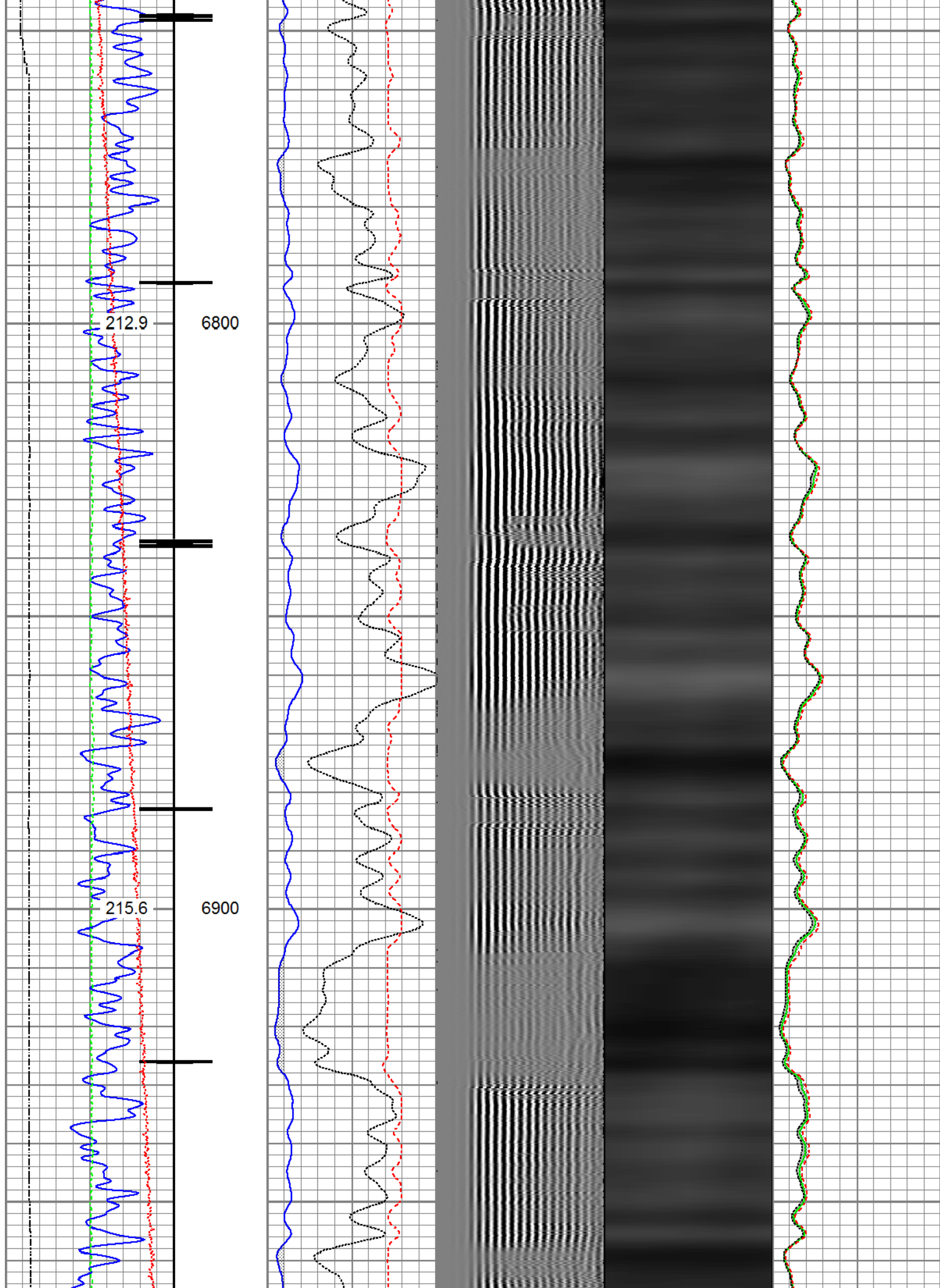


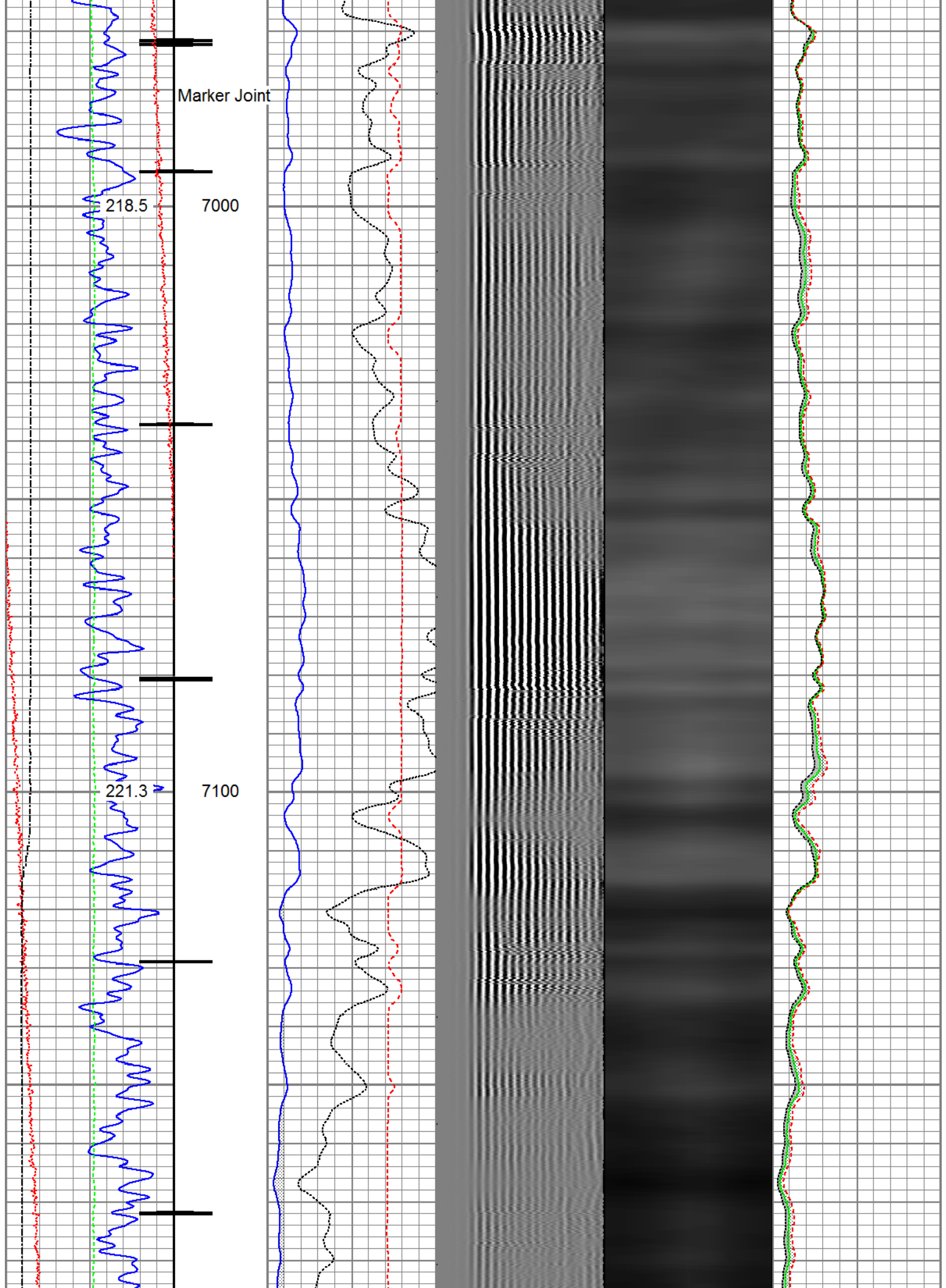


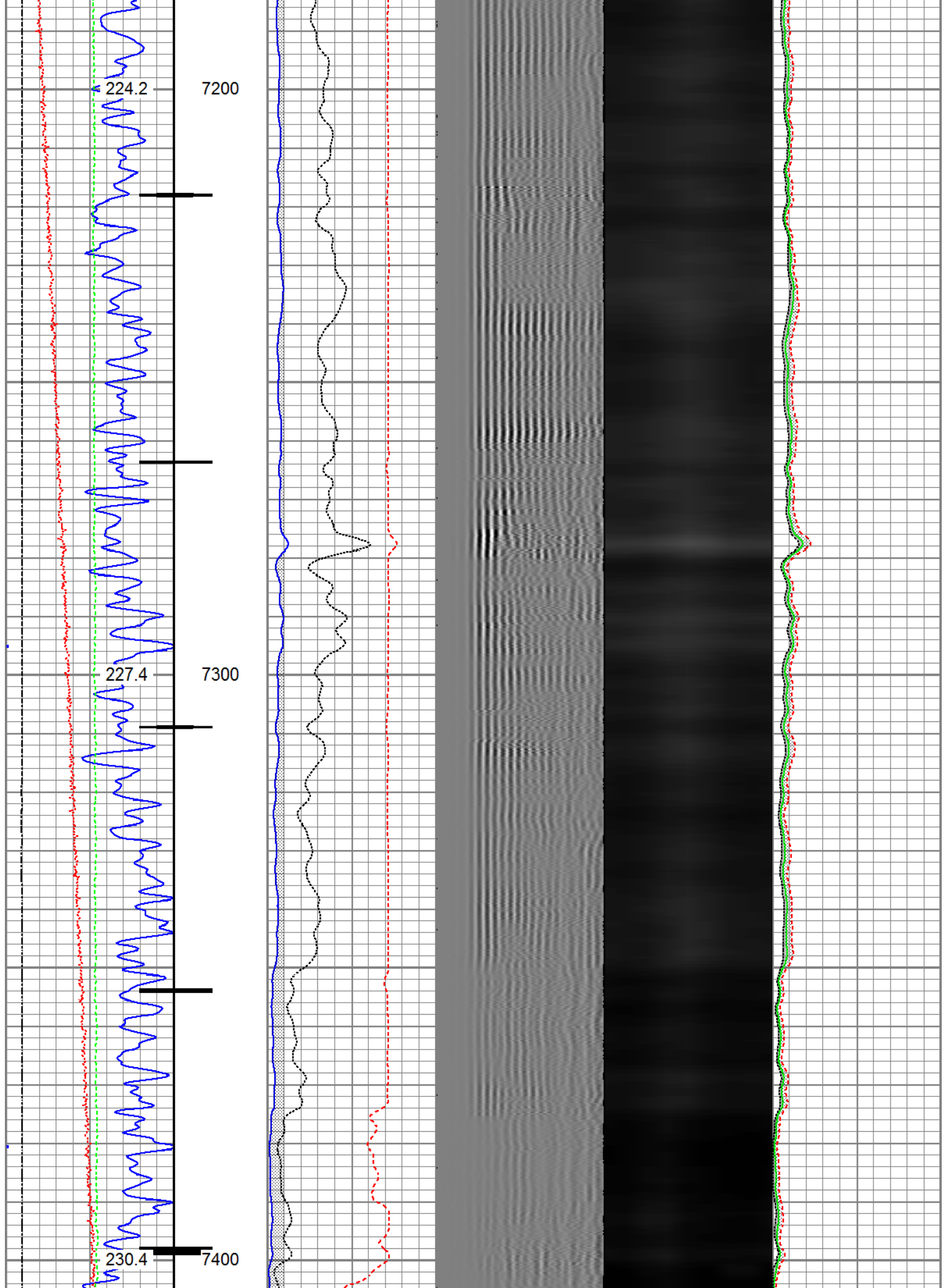


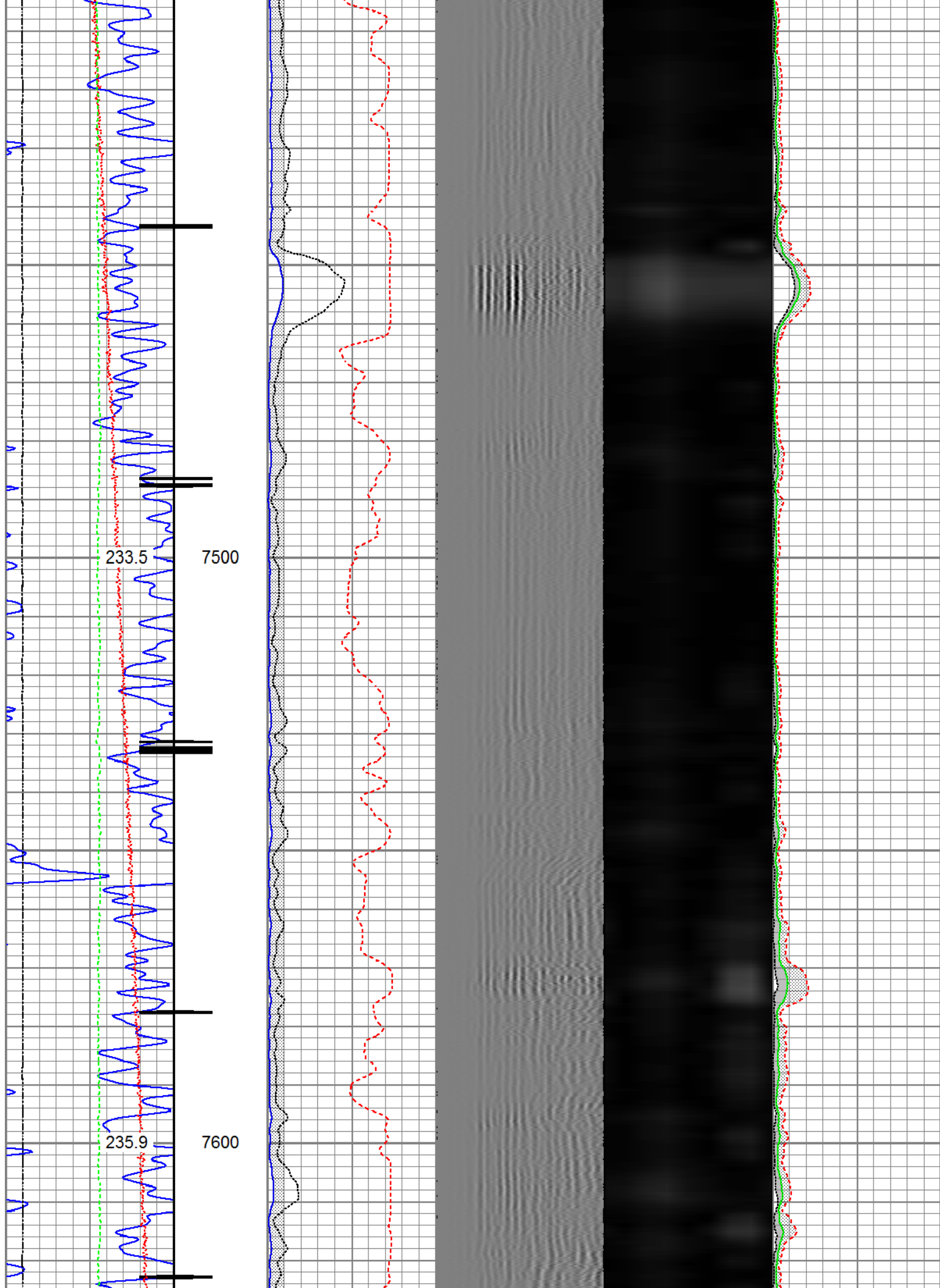


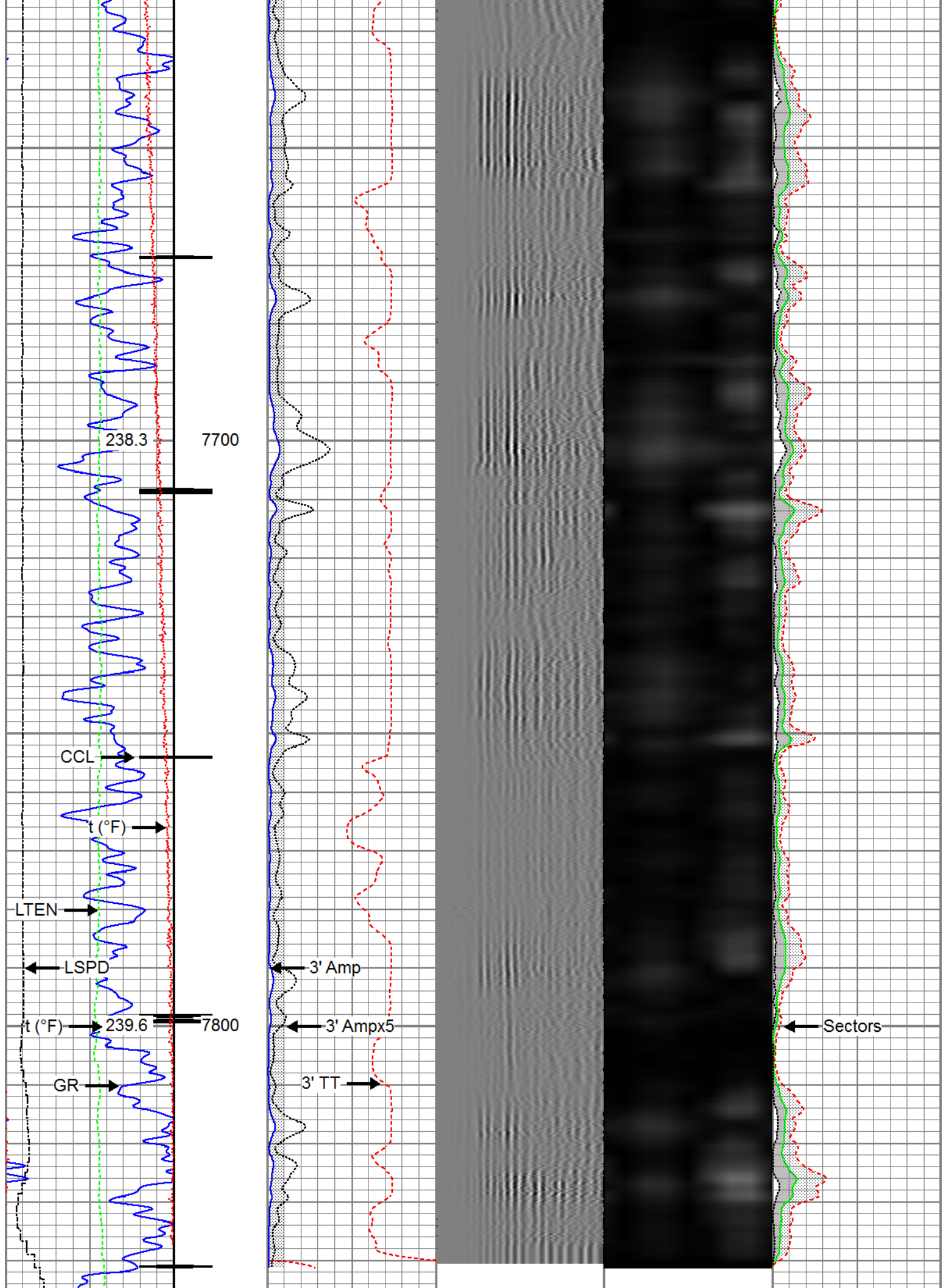


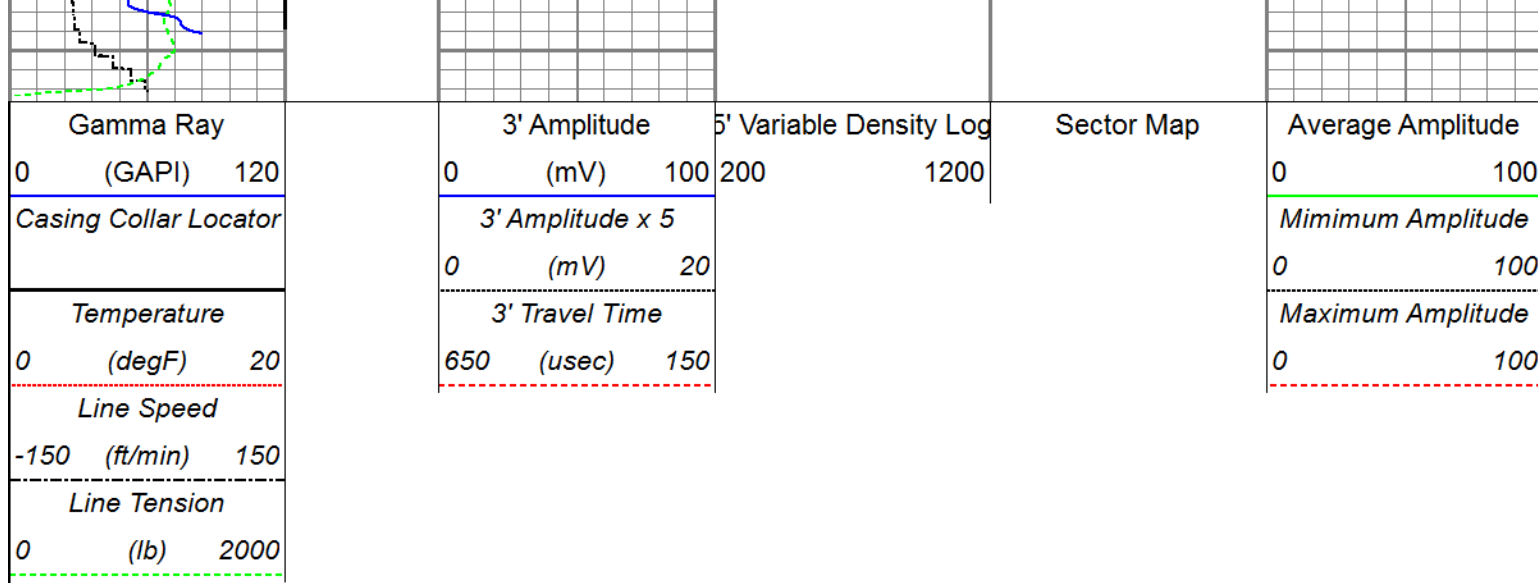








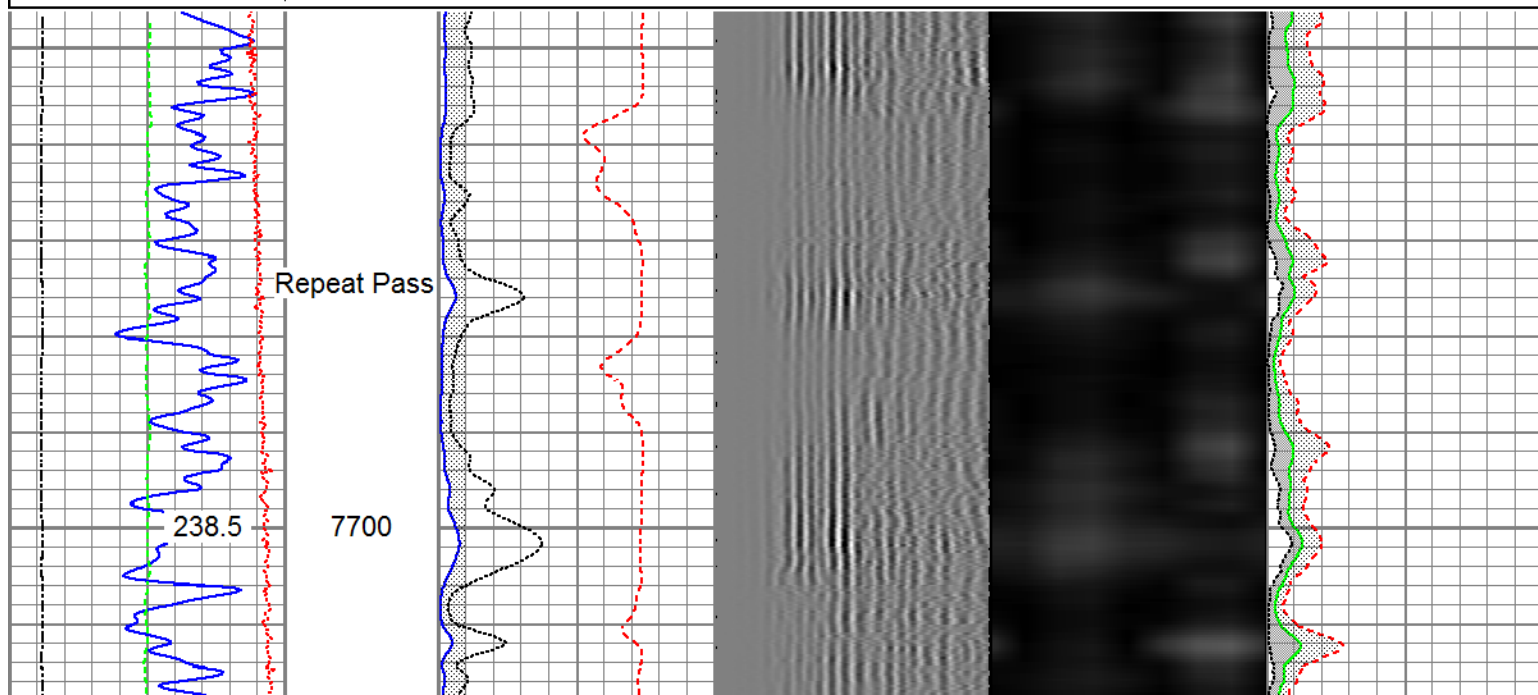
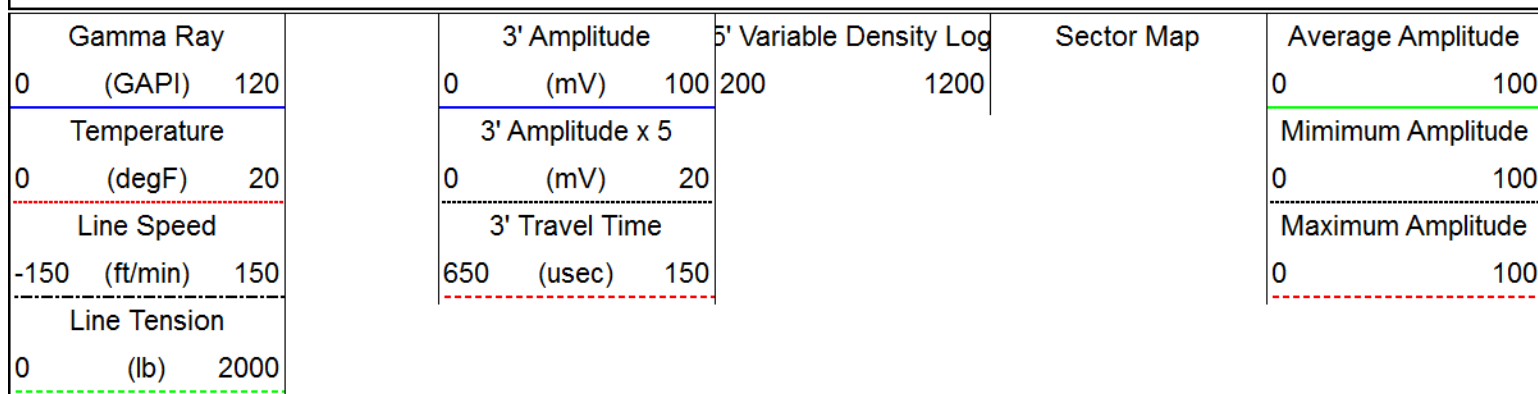


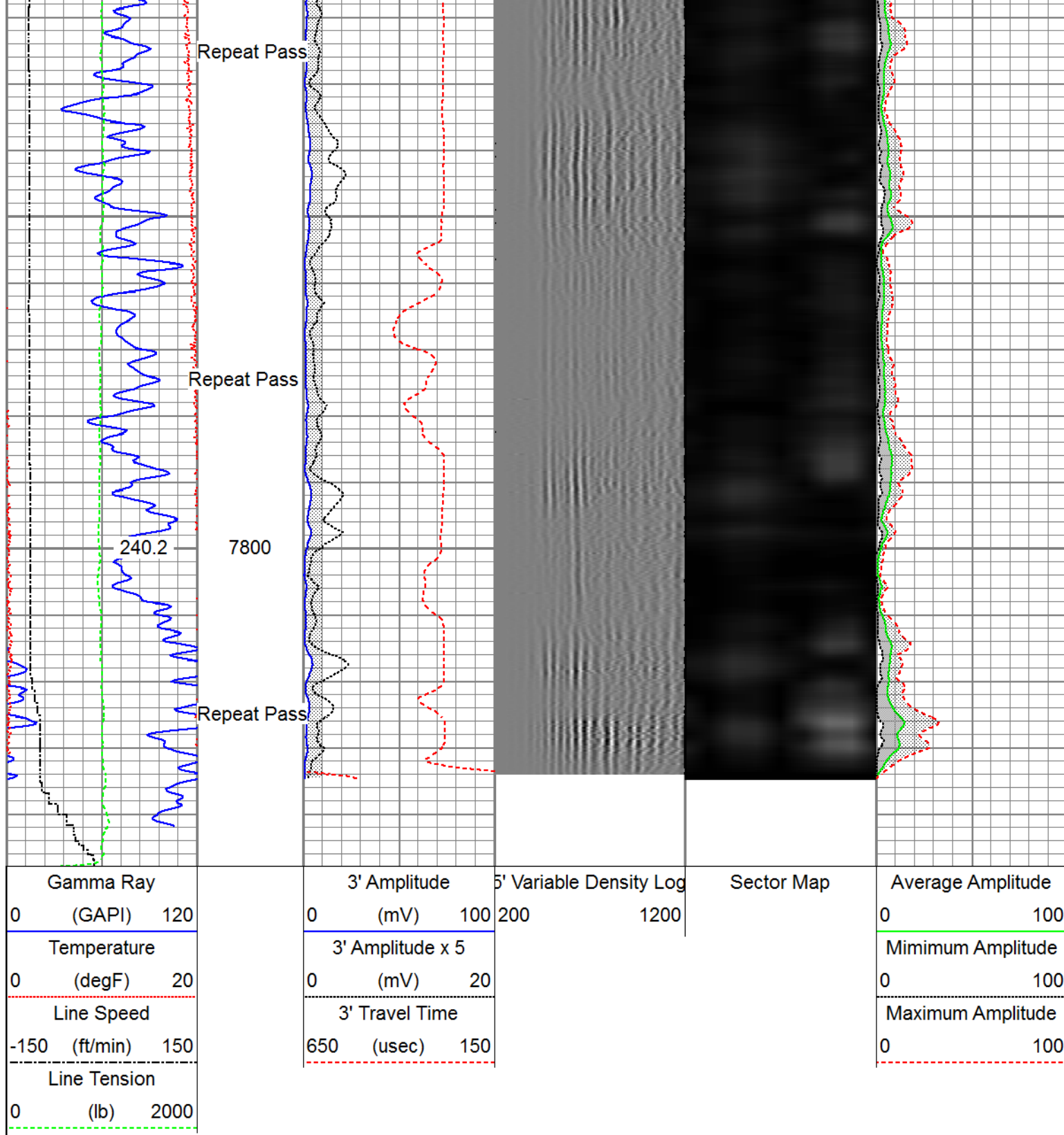



Repeat Pass

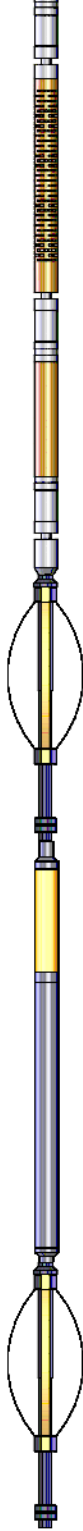
Recorded with 2800 PSI Surface Induced Pressure

Database File: anadarko_camenisch_4c_35hz_20jun2017_rbl_w8\processed_0512343344_anadarko_camenisch 4
Dataset Pathname: Repeat
Presentation Format: ros_radii
Dataset Creation: Tue Jun 20 15:36:36 2017
Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
HeadVolt	19.54		Titan_Electric_Cable_Heads-Titan_1-11/16"	16" 1.03	1.69	5.40
Temp	16.75		Electric Cable Head with 1" Fishing Neck			

WVFS8	14.58		Probe_RADII-C-P_RBT_2750 (FW1305-09)9.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	2.75	105.00
WVFS7	14.58				
WVFS6	14.58				
WVFS5	14.58				
WVFS4	14.58				
WVFS3	14.58				
WVFS2	14.58				
WVFS1	14.58				
WVFCAL	14.58				
WVF3FT	14.58				
WVF5FT	13.58				
HEADVOLT	10.33				
DCCL	6.51		Probe_ELine_BowSpring_Centralizer-P_EB2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
CCL	6.51				
GR	3.77		Probe_GR_CCL-P_CGR_2750_S (FW1212)4.57 Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	55.00
			Probe_ELine_BowSpring_Centralizer-P_EB2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
Dataset: PROCESSED_0512343344_Anadarko_Camenisch 4C-35HZ_06-20-17_RBL.db: field/well/run1/Main Total length: 20.55 ft Total weight: 205.40 lb O.D.: 2.75 in					

Calibration Report	
Database File	C:\ProgramData\Warrior\Data\anadarko_camenisch_4c_35hz_20jun2017_rbl_w8\PROCESSED_0512343344_Anadarko_Camenisch 4C-35HZ_06-20-17_RBL.db: field/well/run1/Main
Dataset Pathname	Main
Dataset Creation	Tue Jun 20 15:39:42 2017
Gamma Ray Calibration Report	
Serial Number:	FW1212-026
Tool Model:	P_CGR_2750_S
Performed:	Mon Aug 15 10:19:05 2016

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1305-096
Tool Model: P_RBT_2750

Calibration Casing Diameter: 5.500 in
Calibration Depth: 46.846 ft

Master Calibration, performed Tue Jun 20 10:49:46 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.822	0.800	71.921	86.855	0.484
CAL	0.831	0.831				
5'	0.005	0.791	0.800	71.921	90.578	0.312
SUM						
S1	-0.000	0.815	0.000	100.000	122.607	0.046
S2	0.005	0.817	0.000	100.000	123.060	-0.599
S3	0.006	0.813	0.000	100.000	123.920	-0.759
S4	0.004	0.809	0.000	100.000	124.164	-0.500
S5	0.004	0.813	0.000	100.000	123.591	-0.481
S6	0.004	0.820	0.000	100.000	122.461	-0.469
S7	0.004	0.822	0.000	100.000	122.148	-0.428
S8	0.004	0.823	0.000	100.000	122.057	-0.440

Internal Reference Calibration, performed Tue Nov 08 12:17:54 2016:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.831	0.831	1.000	0.000

Air Zero Calibration, performed Tue Jun 20 10:50:05 2017:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.004	0.000	-0.000
5'	0.005	0.000	0.000
SUM			
S1	-0.000	0.000	0.000
S2	0.004	0.000	0.001
S3	0.005	0.000	0.001
S4	0.004	0.000	-0.000
S5	0.004	0.000	0.000
S6	0.004	0.000	-0.000
S7	0.004	0.000	-0.000
S8	0.004	0.000	-0.000



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Field	Wattenberg
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