



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.			
Well	Powers 26N-27HZ			
Field	Wattenberg			
County	Weld			
State	Colorado			
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Well	Powers 26N-27HZ			
Field	Wattenberg			
County	Weld	State	Colorado	
Location:	API # : 05-123-41956		Other Services	
SEC 22 TWP 2N RGE 65W		Gauge Ring		
Permanent Datum	Ground Level	Elevation	4895'	
Log Measured From	Kelly Bushing	25 FT	K.B. 4920'	
Drilling Measured From	Kelly Bushing		D.F. 4919'	
			G.L. 4895'	

Date	09-Dec-2015
Run Number	Two
Depth Driller	13070 FT
Depth Logger	7385 FT
Bottom Logged Interval	7380 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	238°F
Estimated Cement Top	Surface
Time Well Ready	ROA
Time Logger on Bottom	13:15
Equipment Number	HD-0343
Location	Fort Lupton, CO
Recorded By	Robert Fogarty
Witnessed By	D.J. Anderson

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 LT&C	Surface	1878 FT		
Intermediate #1	5 1/2	17	HCP-110 LTC	Surface	13070 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 Top at 6316 FT  
Log Adjusted +1.5 FT to Correlate to Marker Joint Top  
Gauge Ring Ran to 7385 FT  
Log ran as deep as possible to surface  
Recorded with 2800 PSI surface induced pressure  
No debris found on logging tools upon completion of run

Thank you for choosing FMC Technologies Surface Integrated Services.

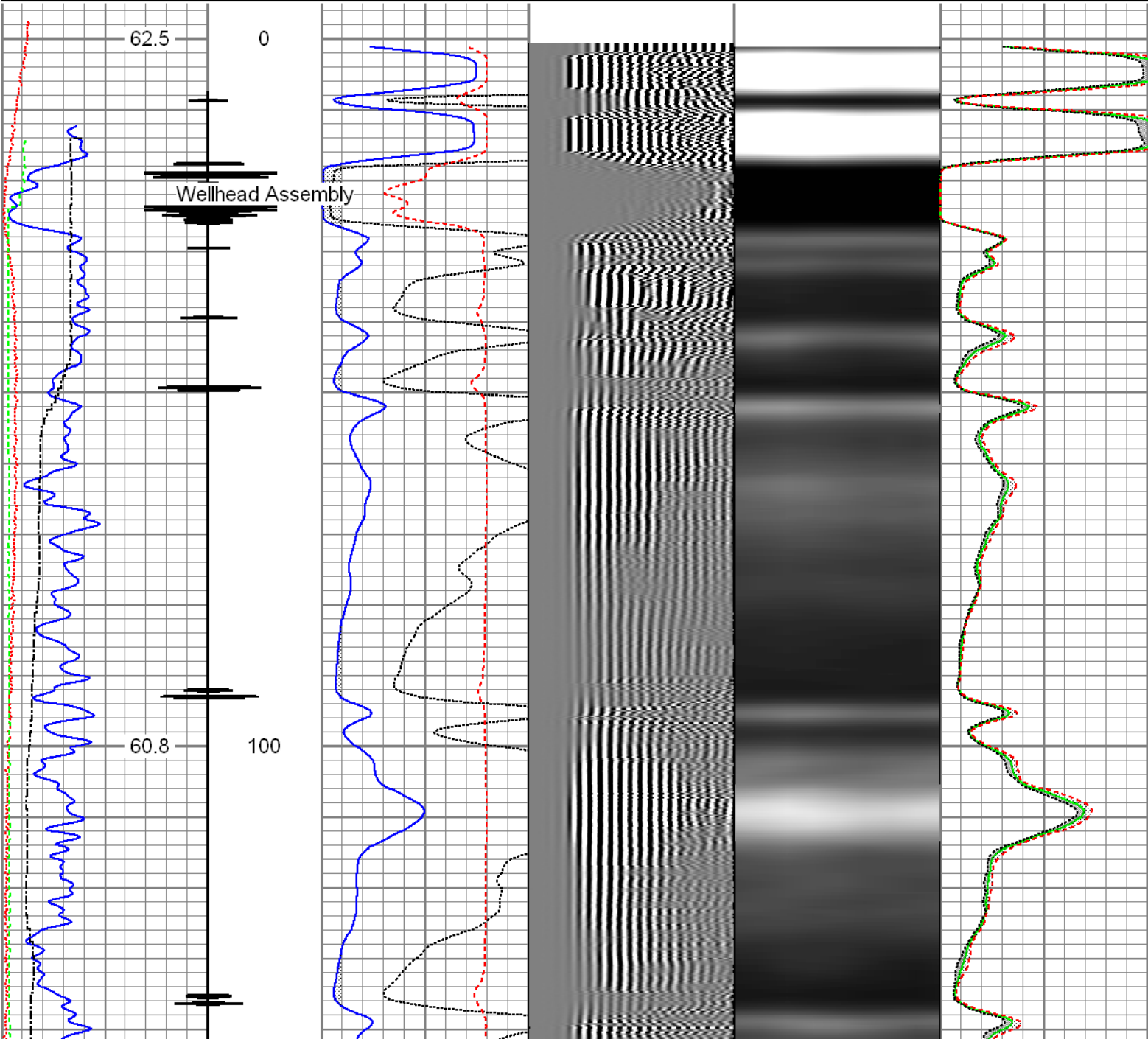


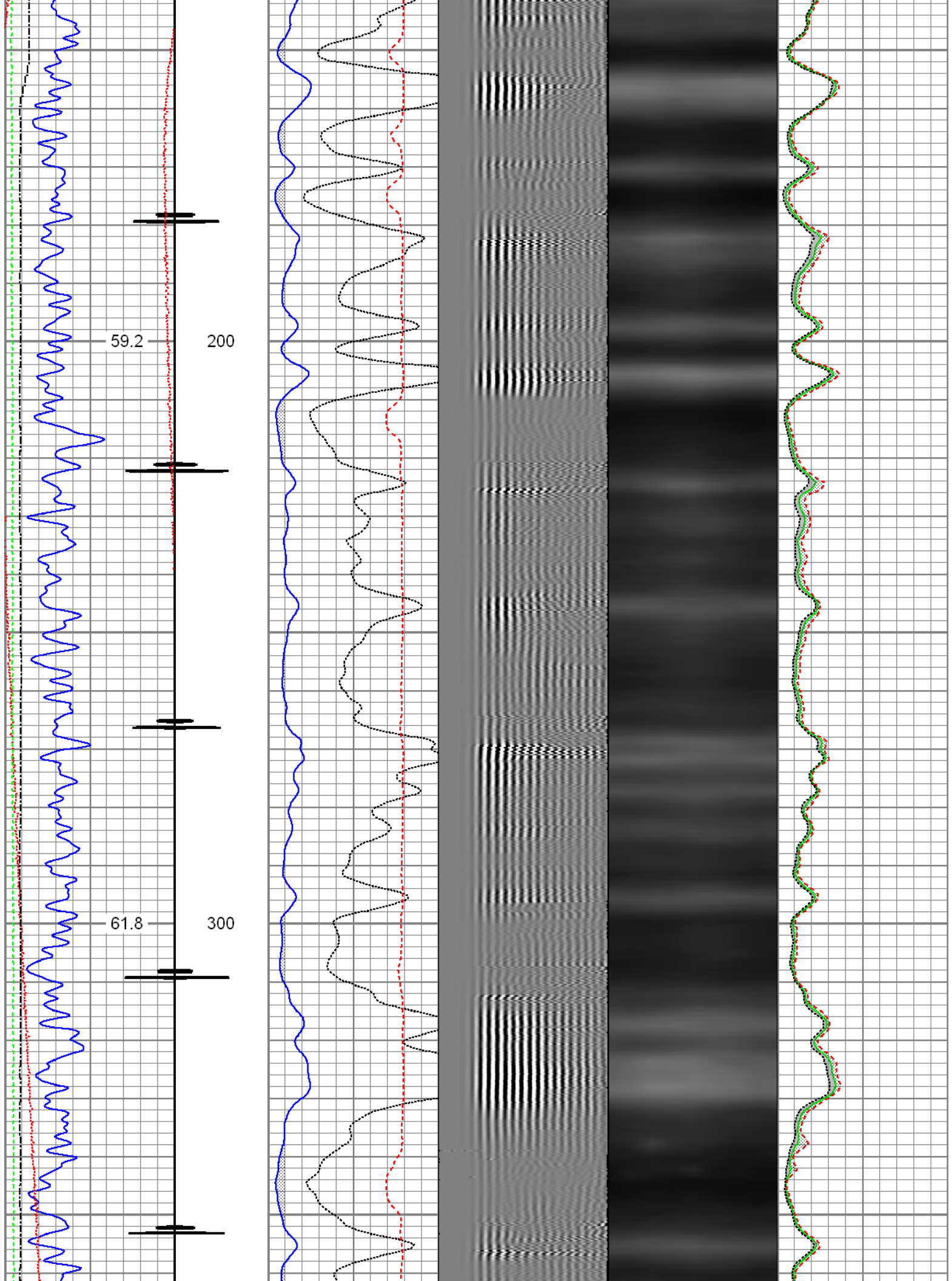
Main Pass

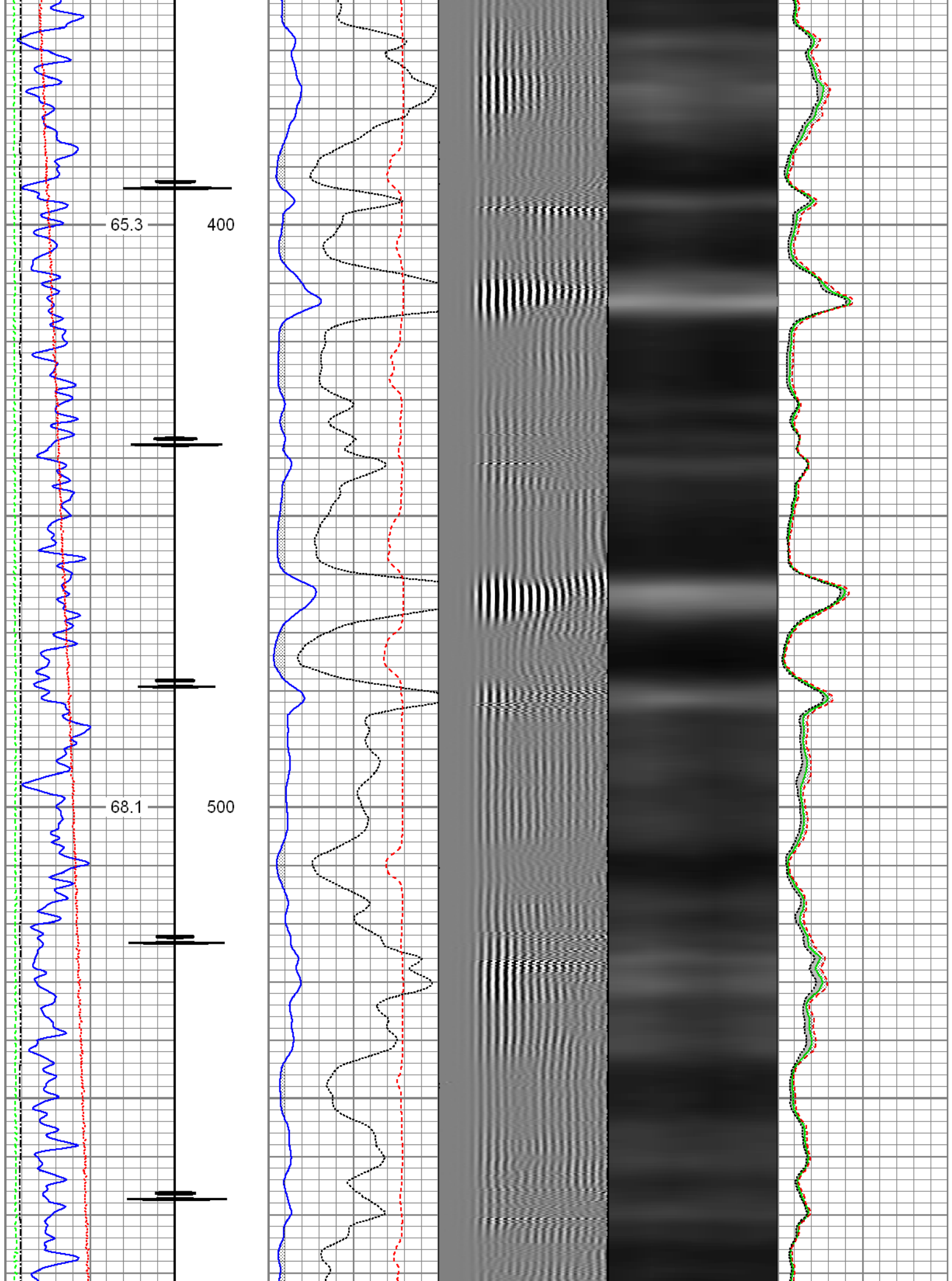
Recorded with 2800 PSI Surface Induced Pressure

Database File: 0512341956\_anadarko\_powers 26n-27hz\_12-09-15\_rbl.db  
Dataset Pathname: pass23  
Presentation Format: radii  
Dataset Creation: Wed Dec 09 13:14:35 2015 by Log 7.0 B1  
Charted by: Depth in Feet scaled 1:240

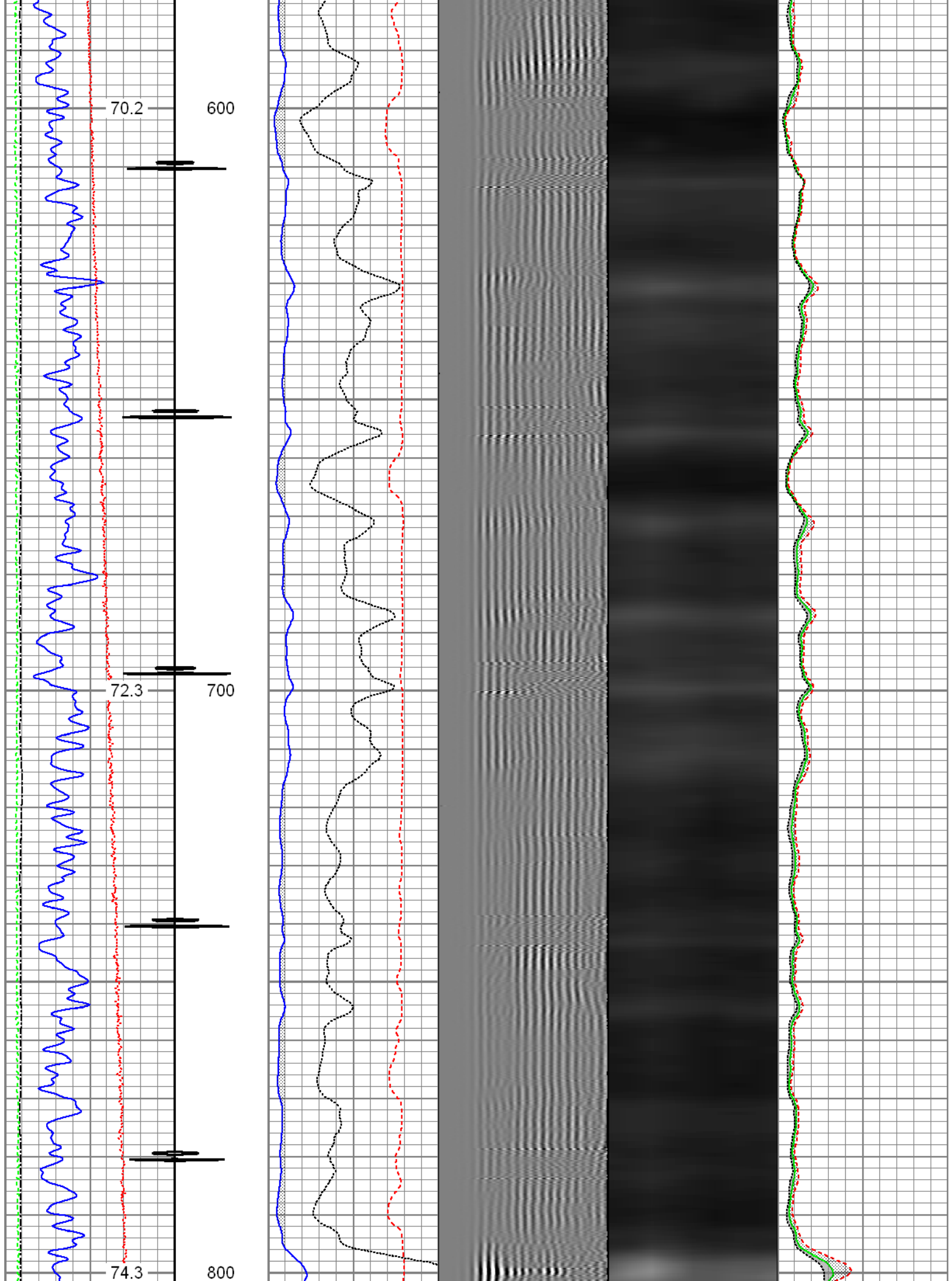
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

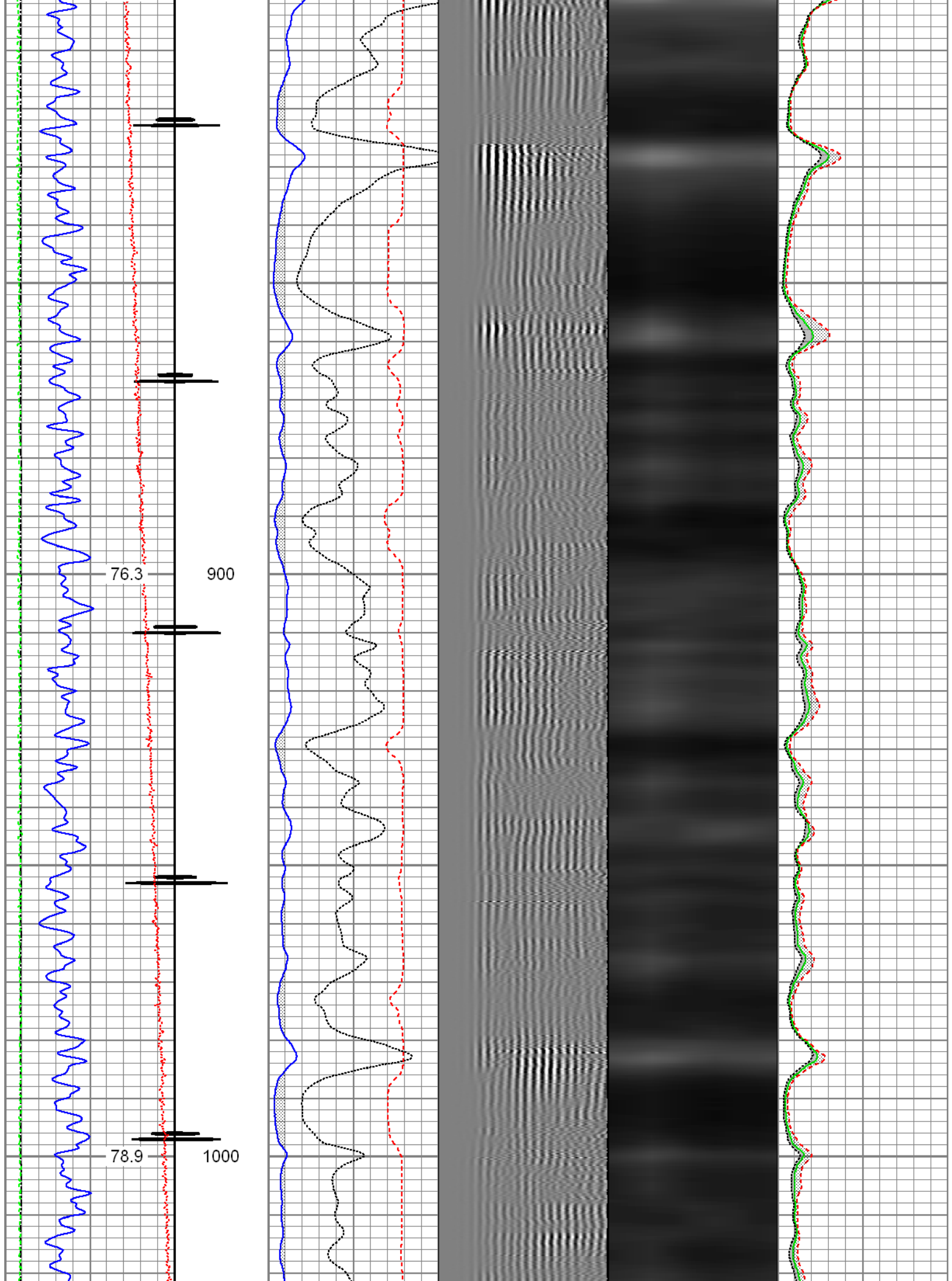


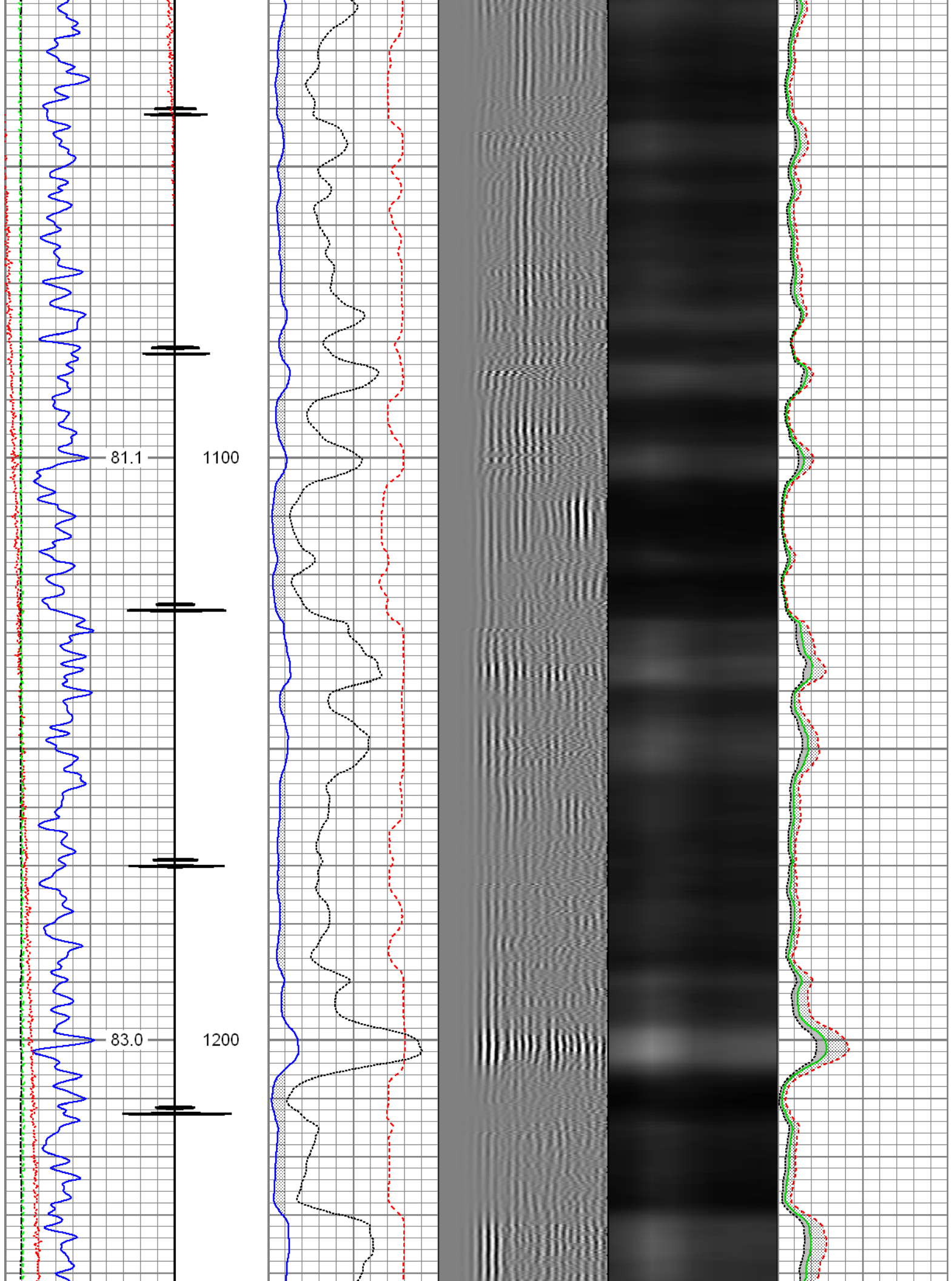


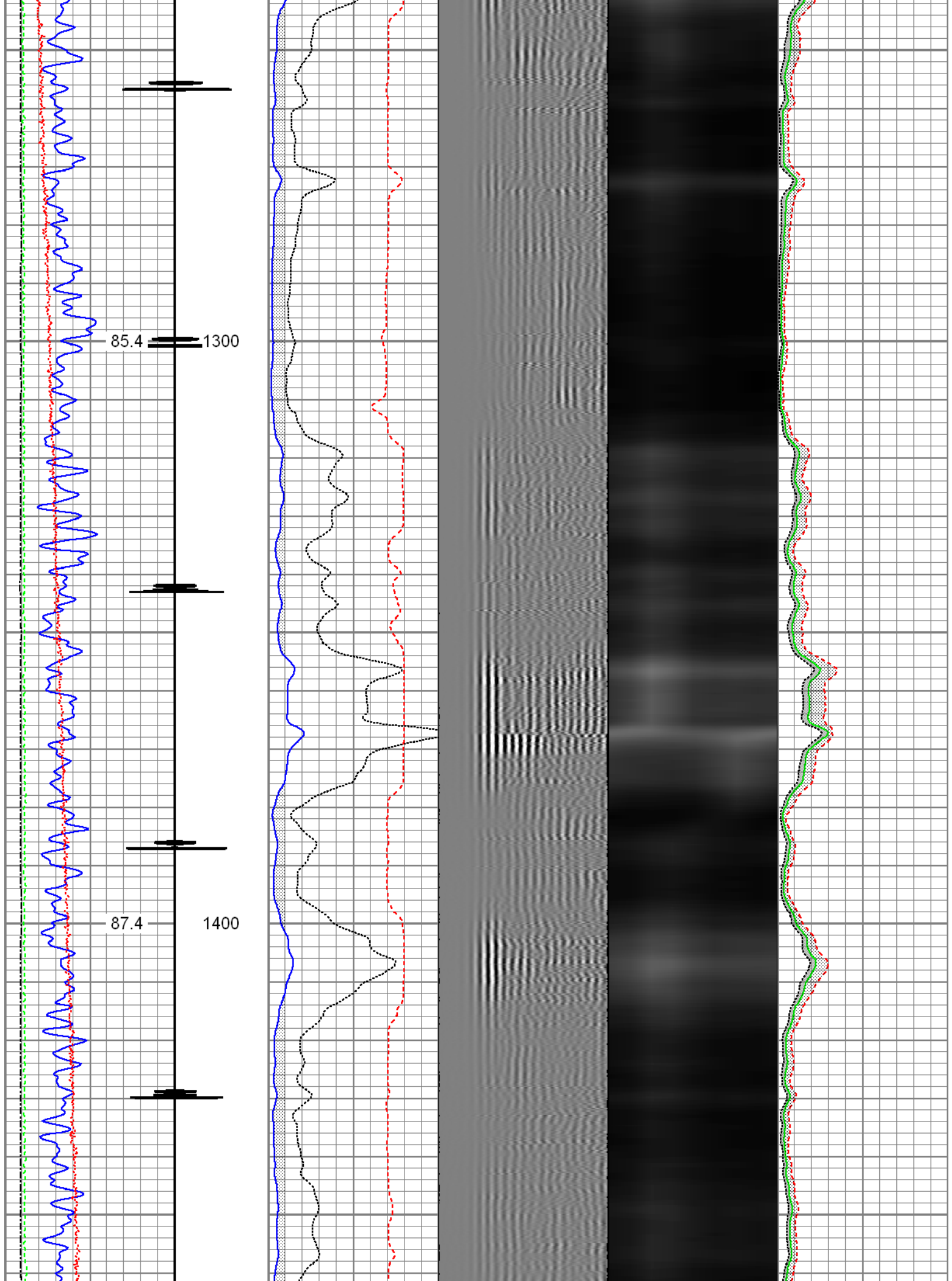




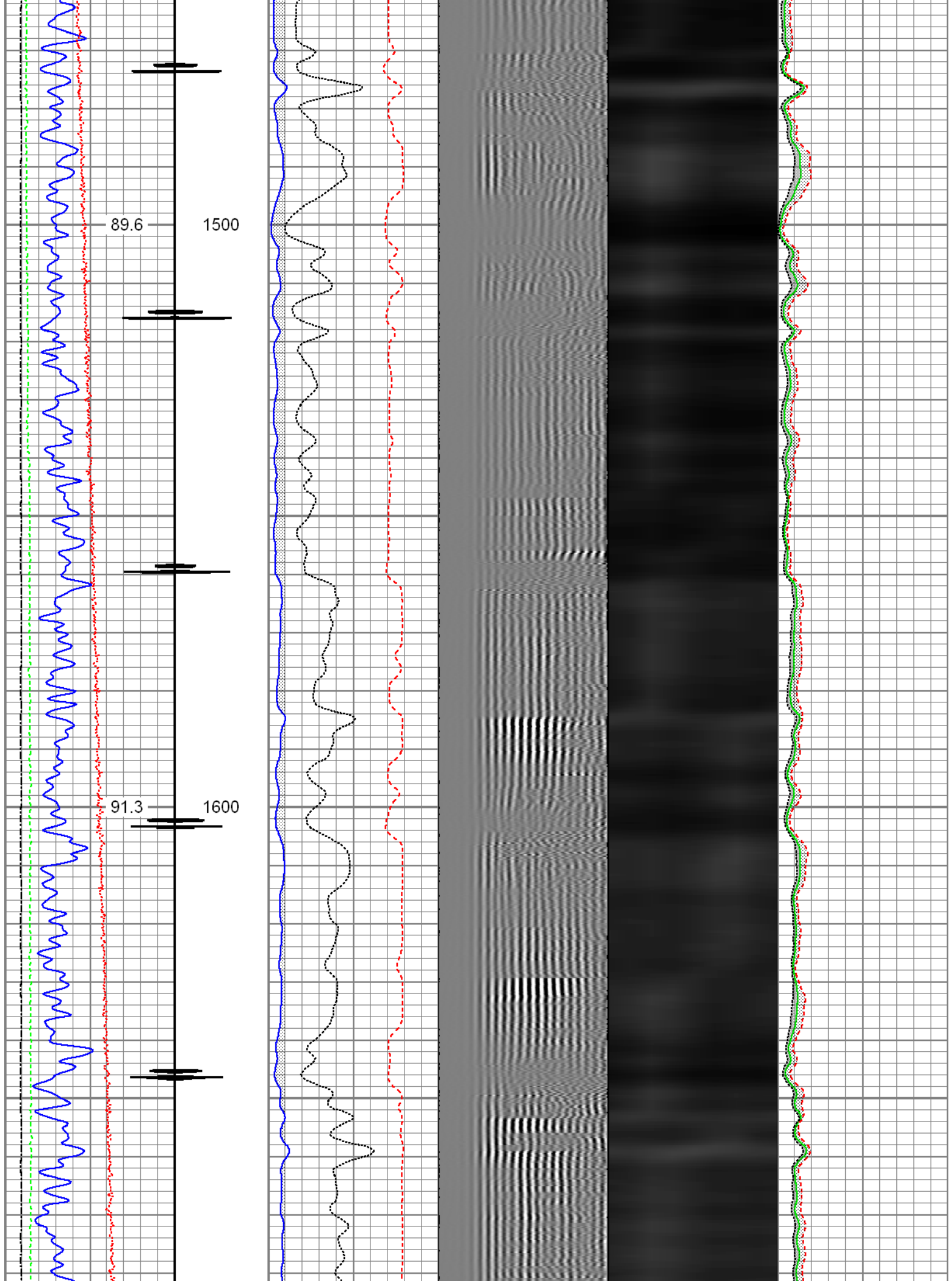


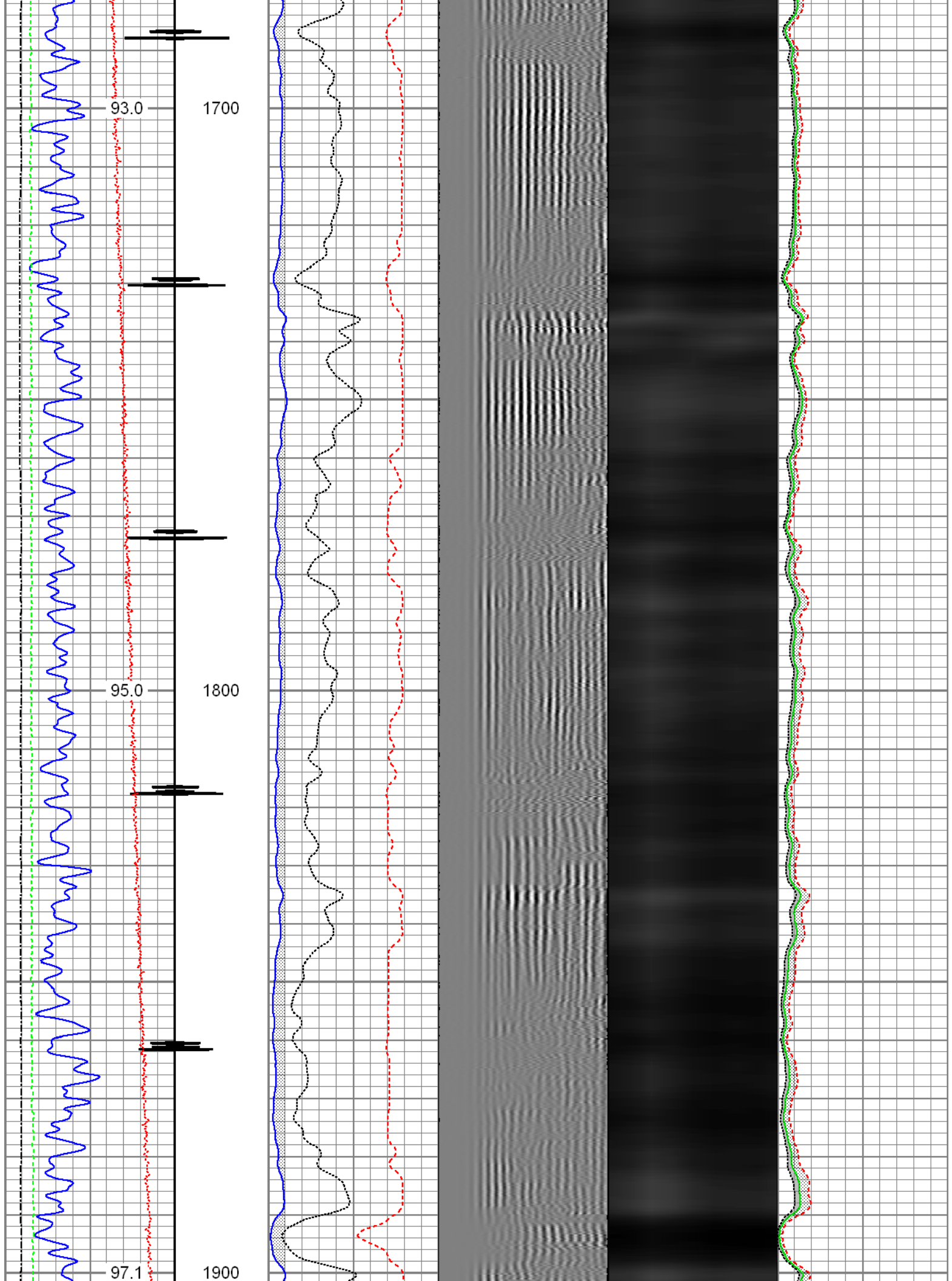


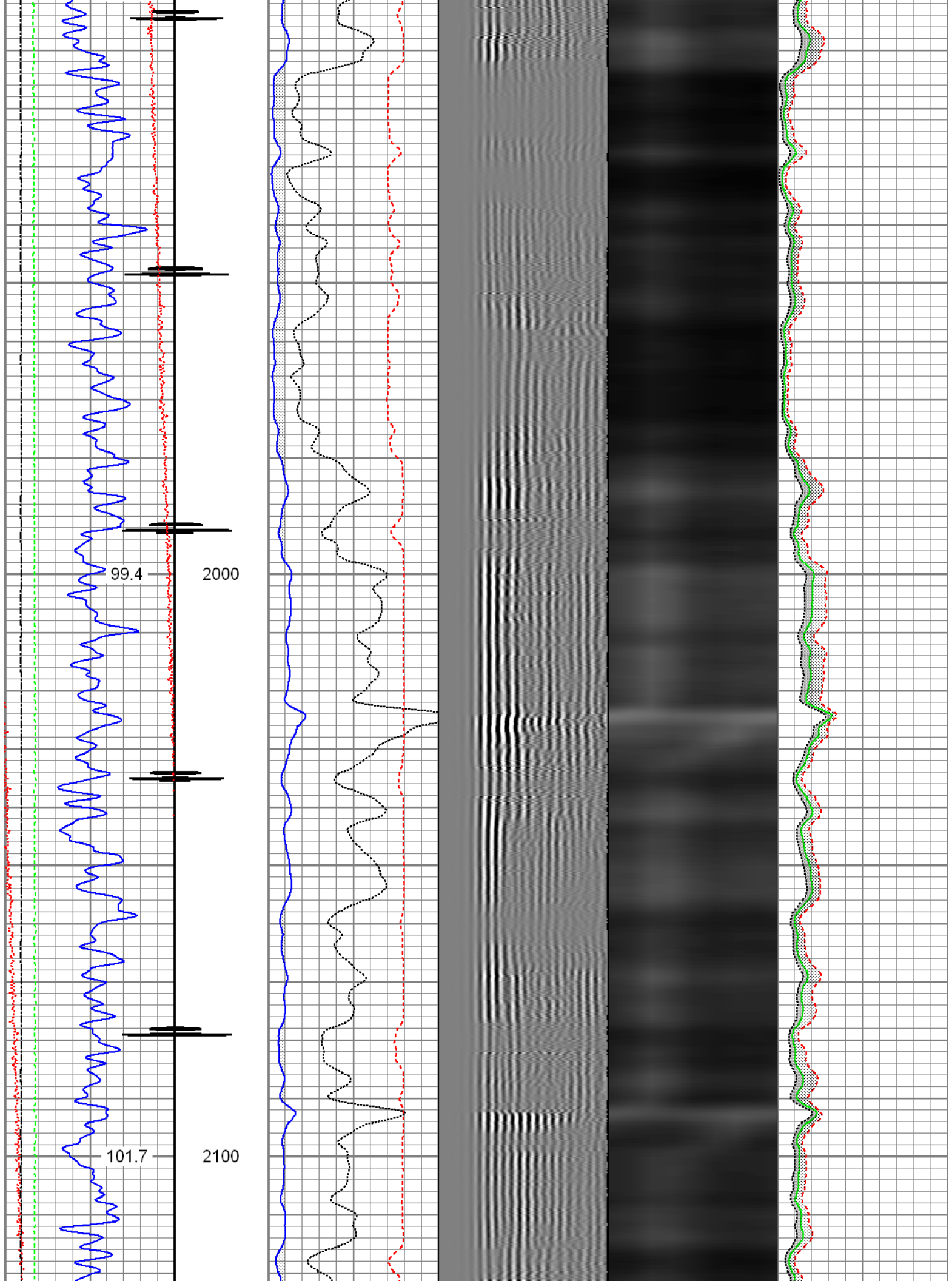


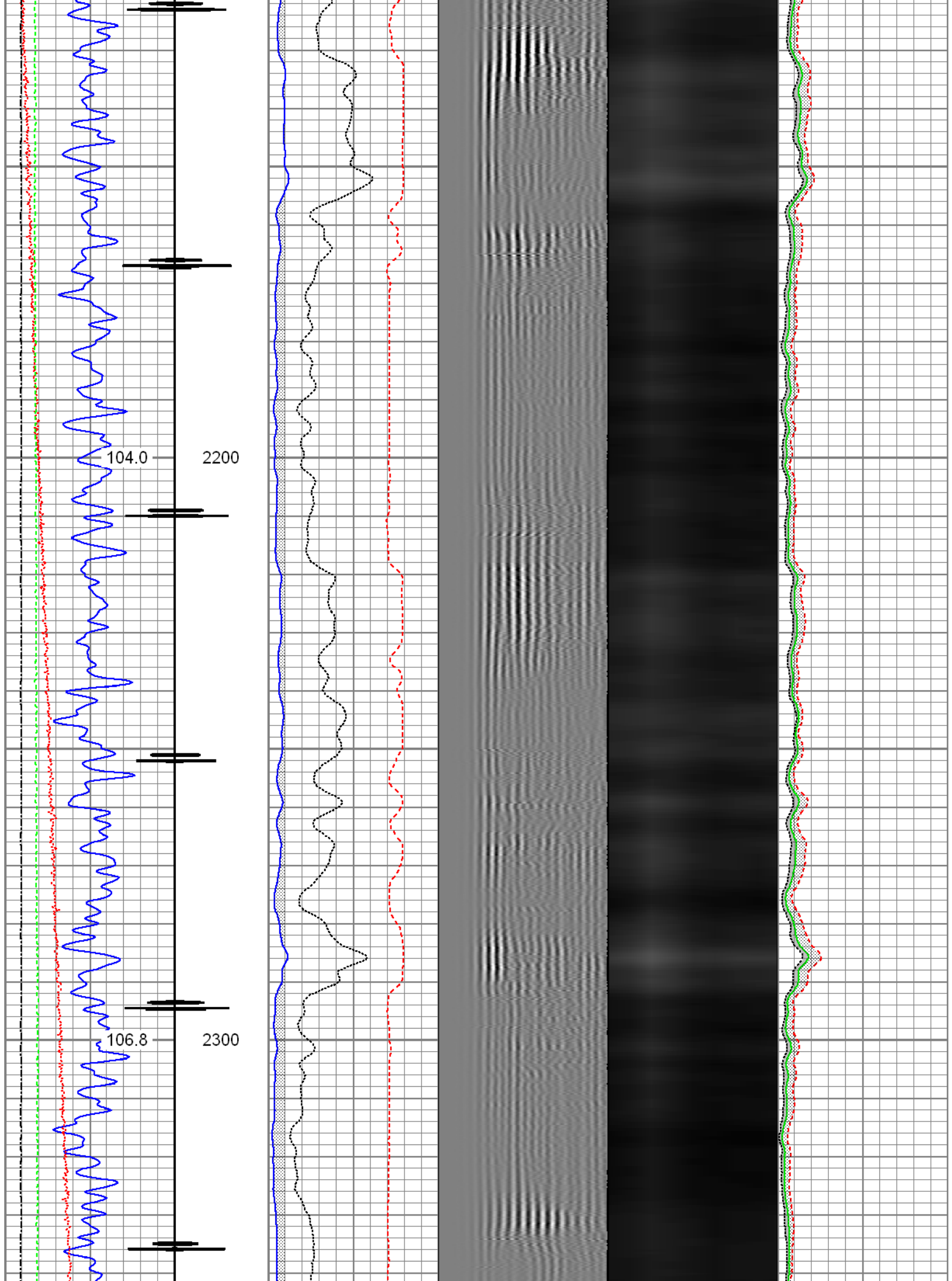




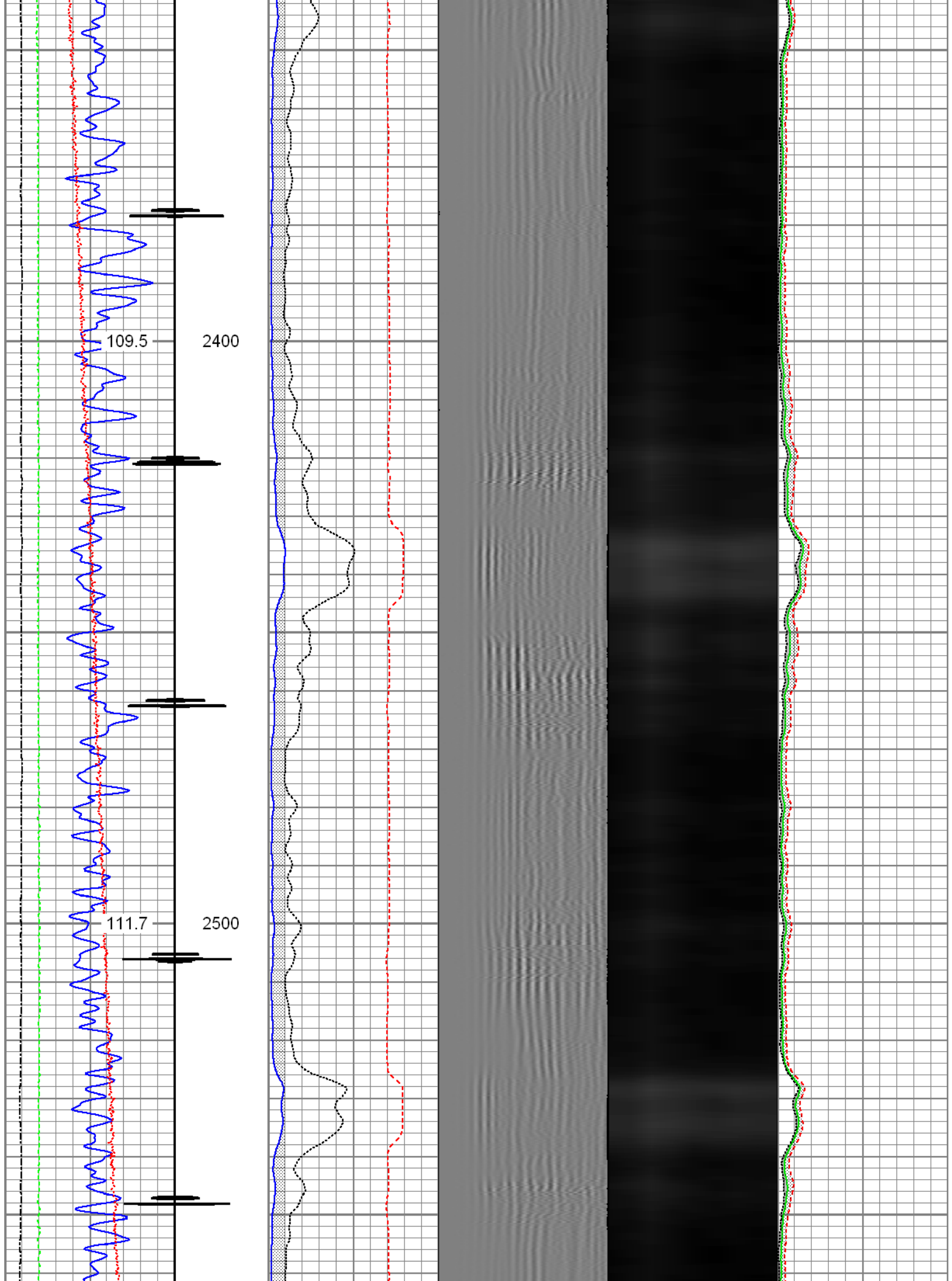


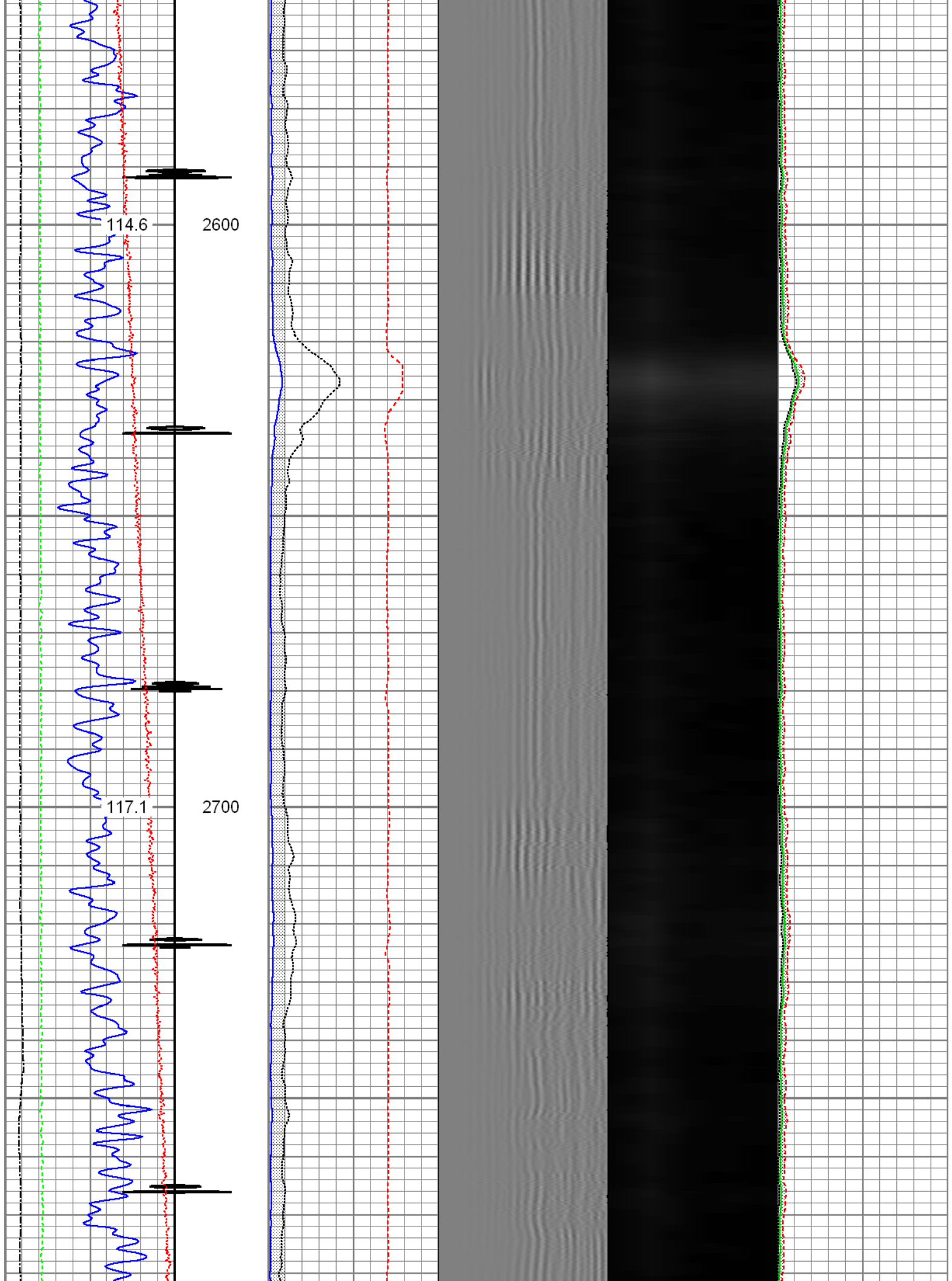


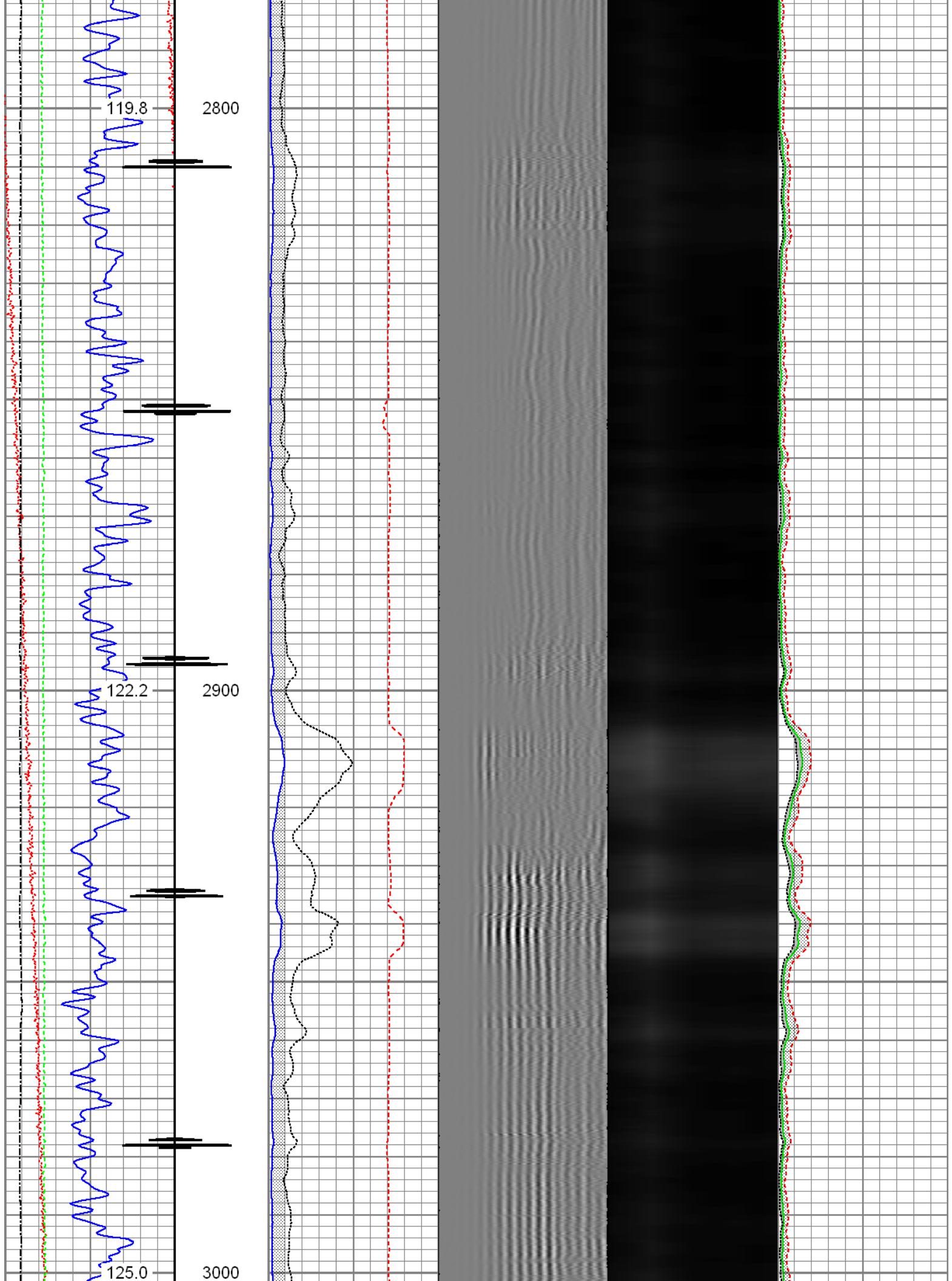


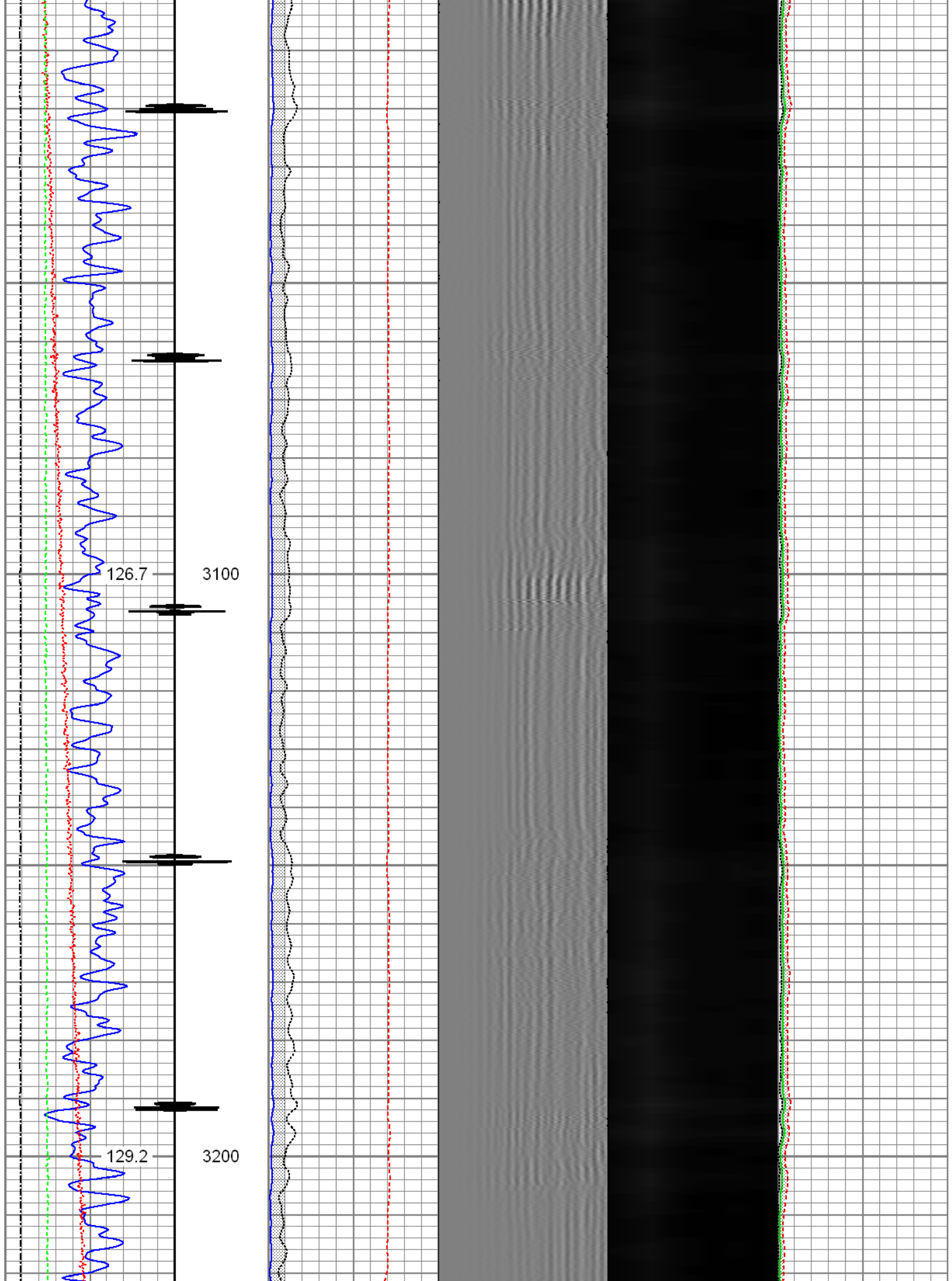




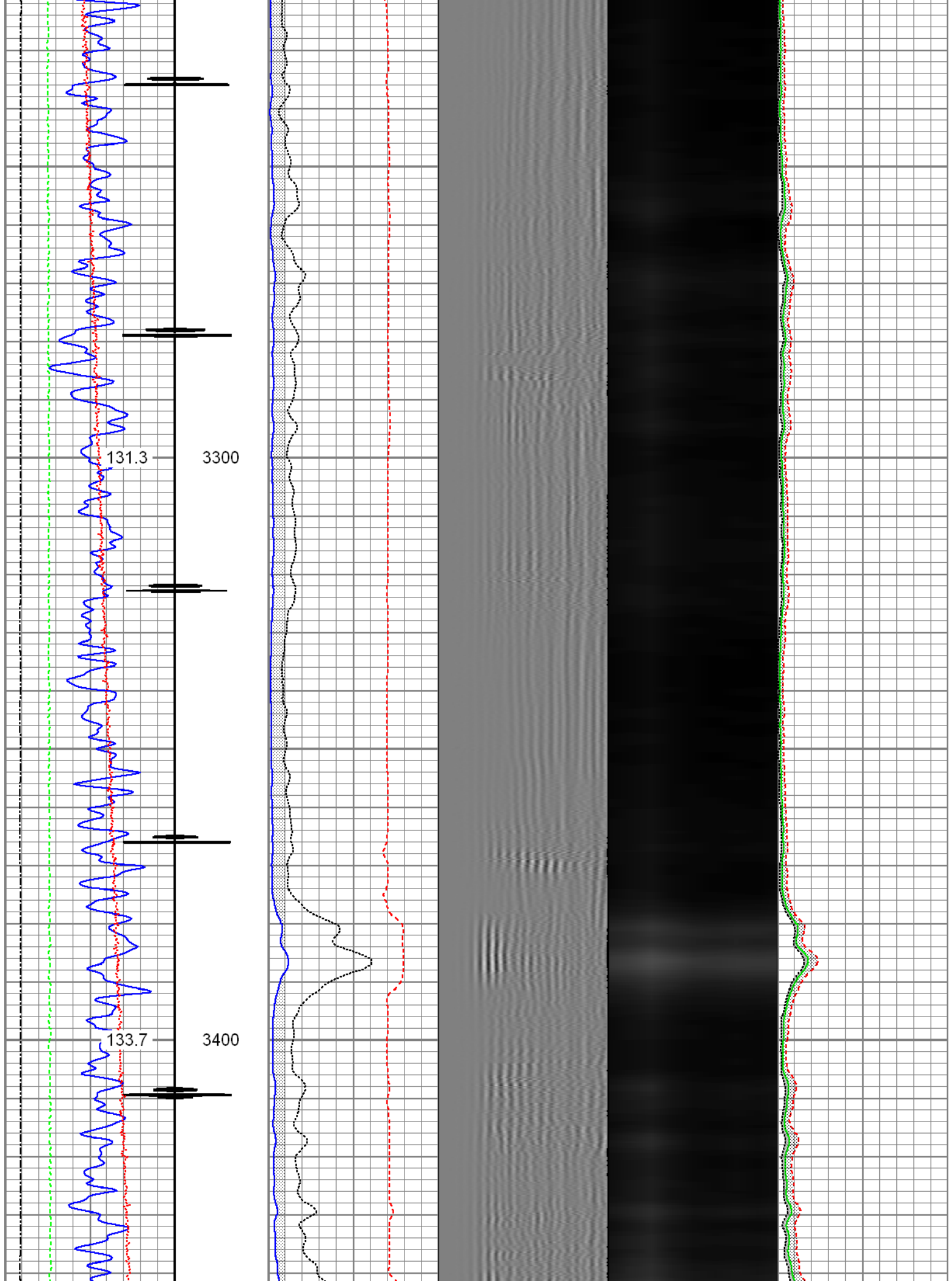


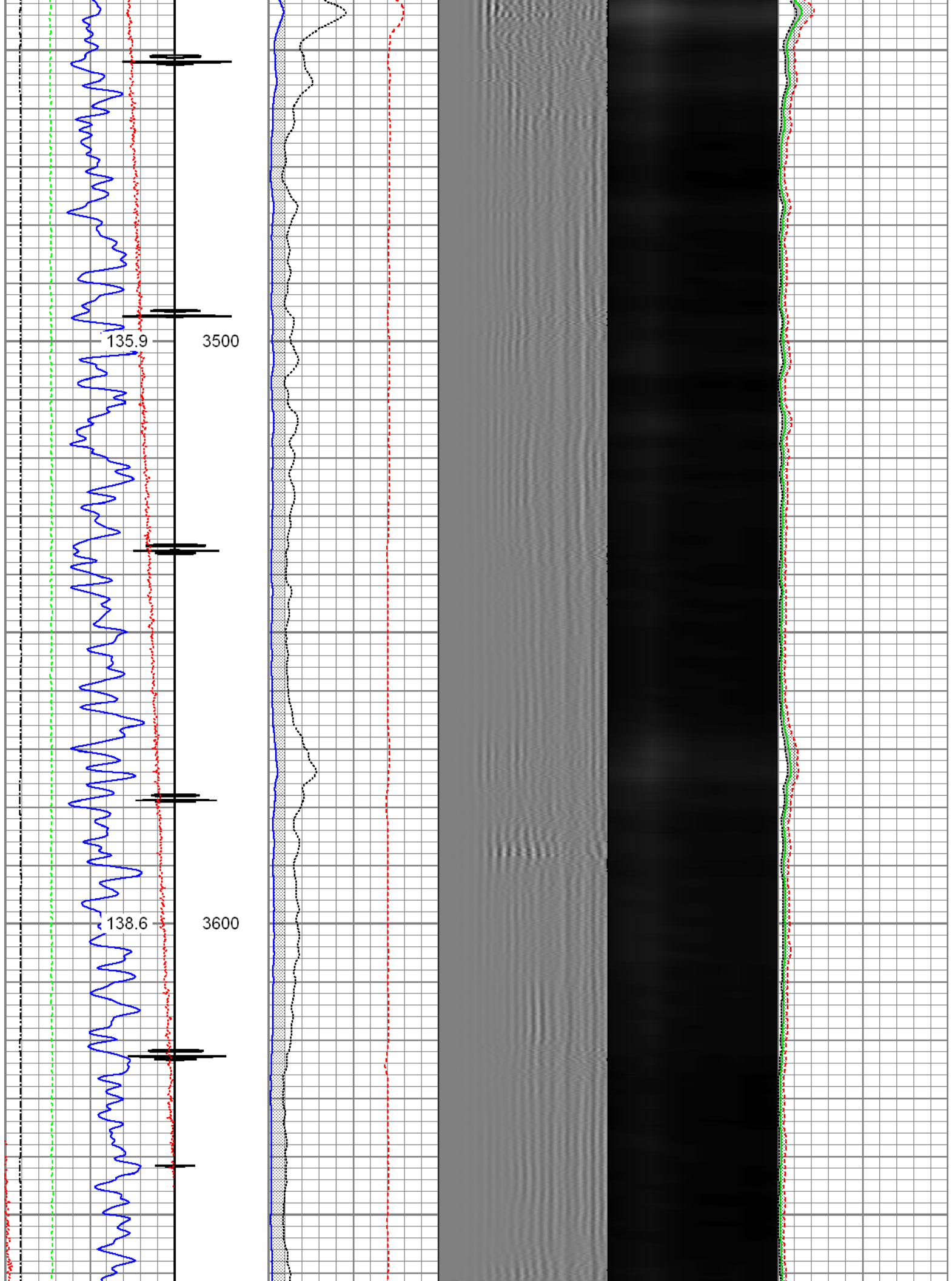


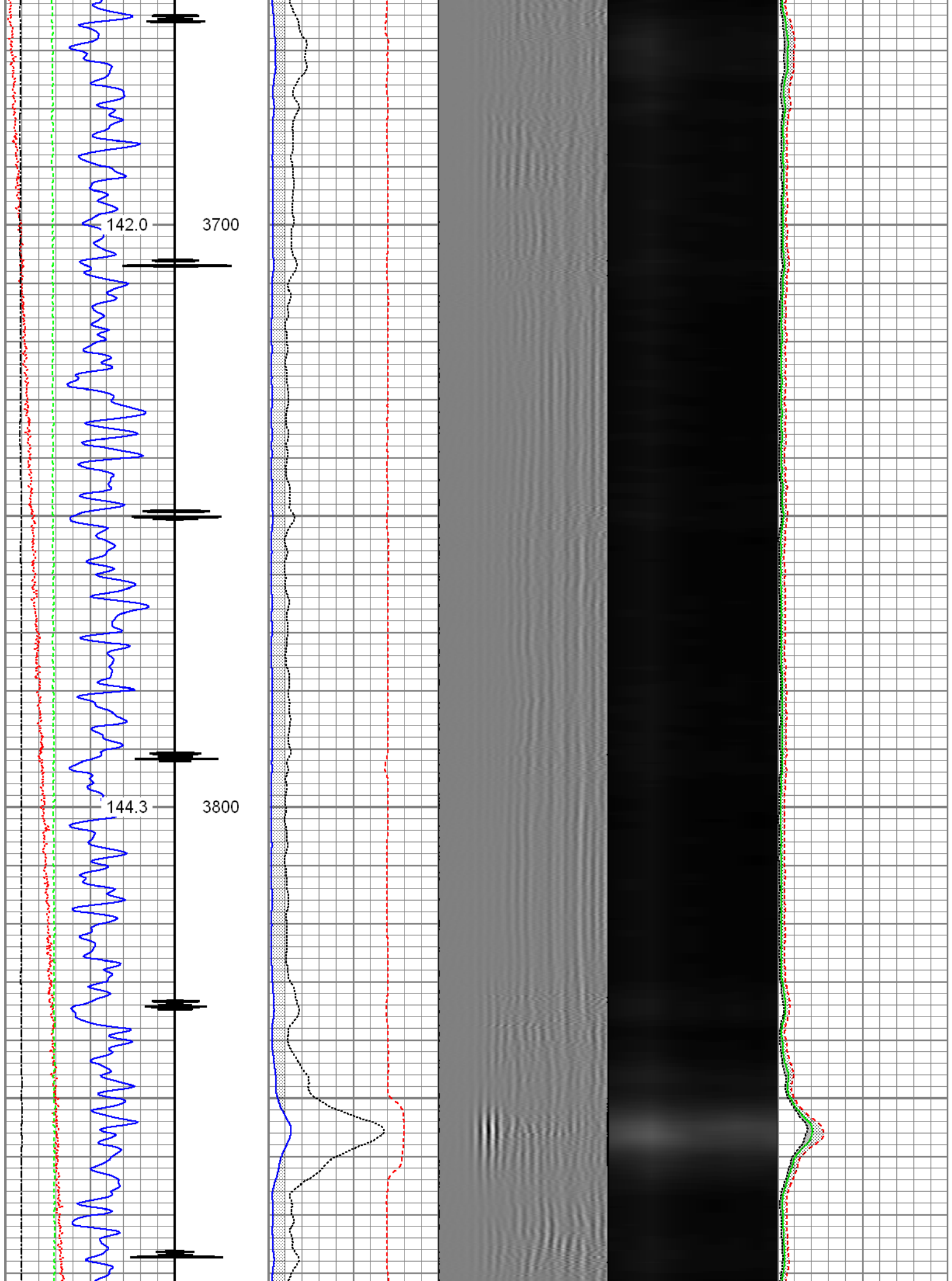


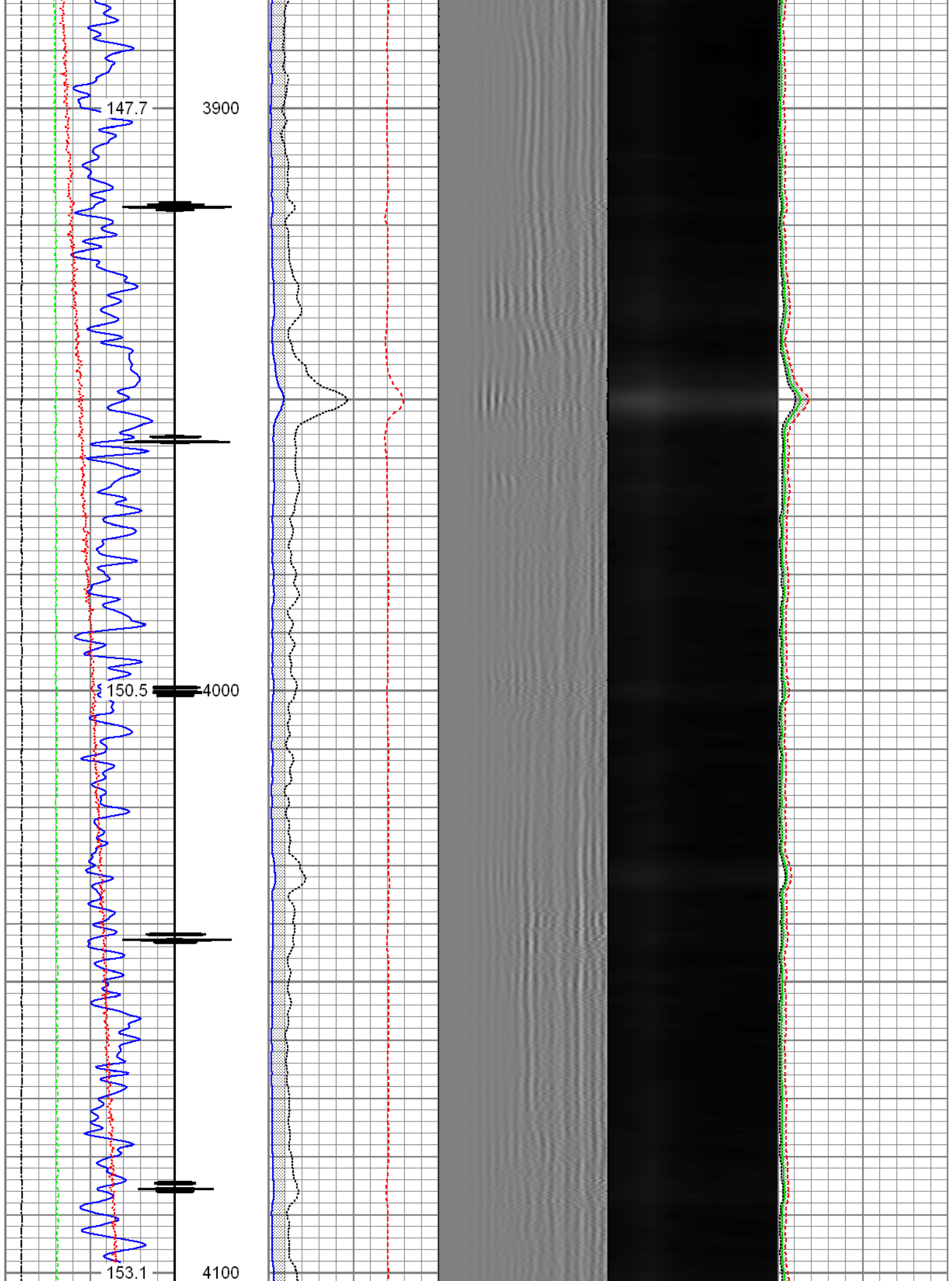




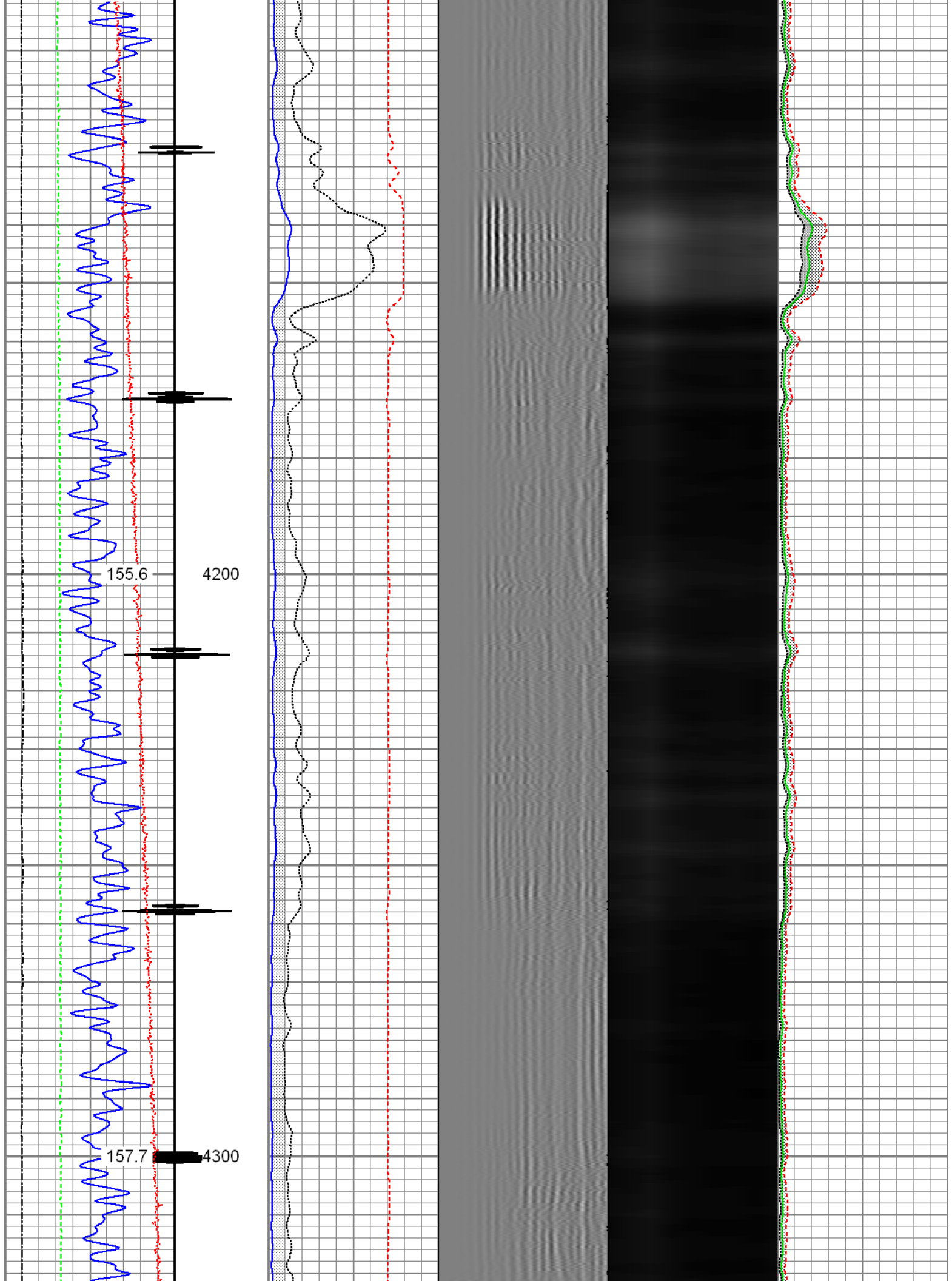


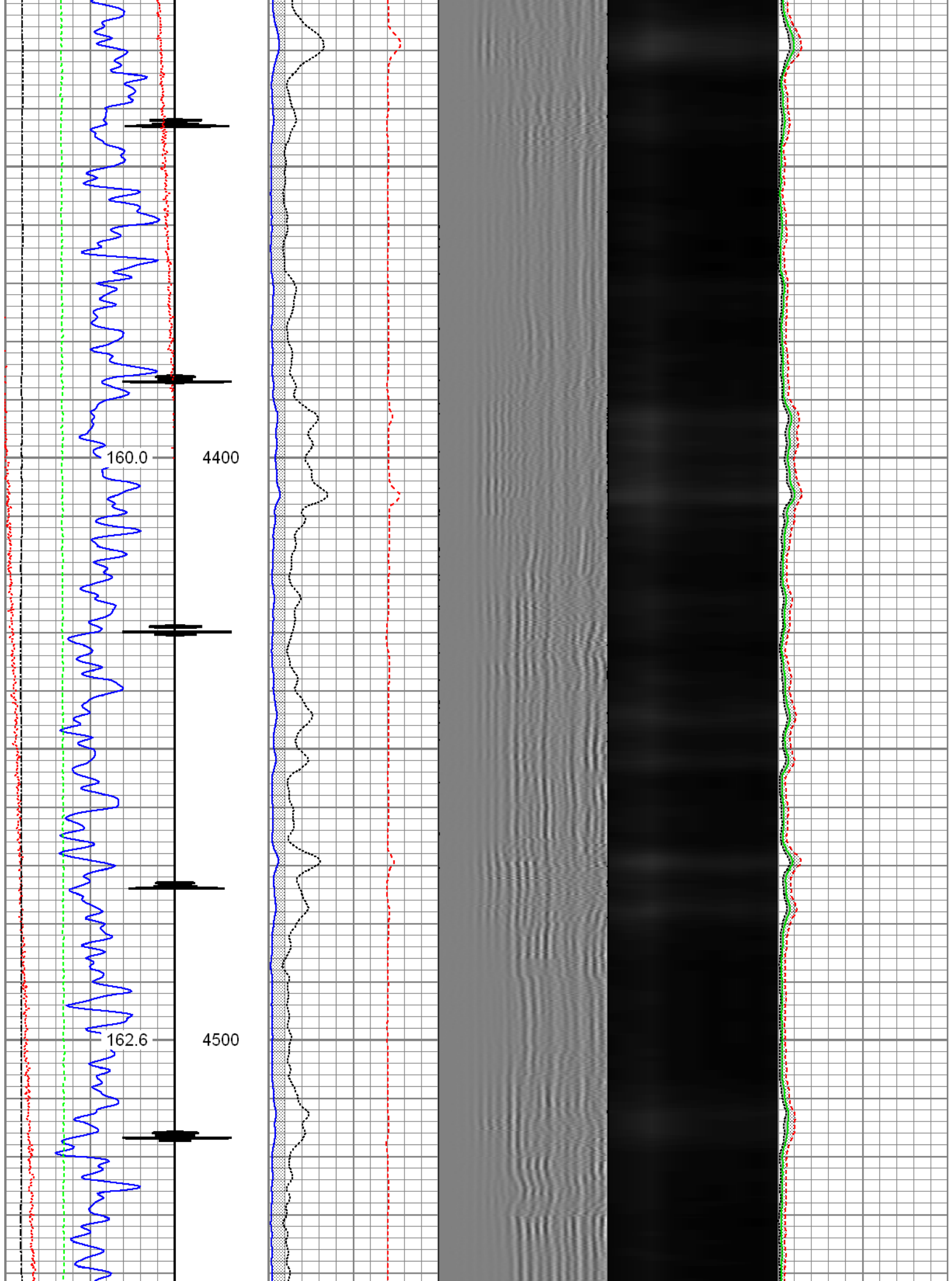


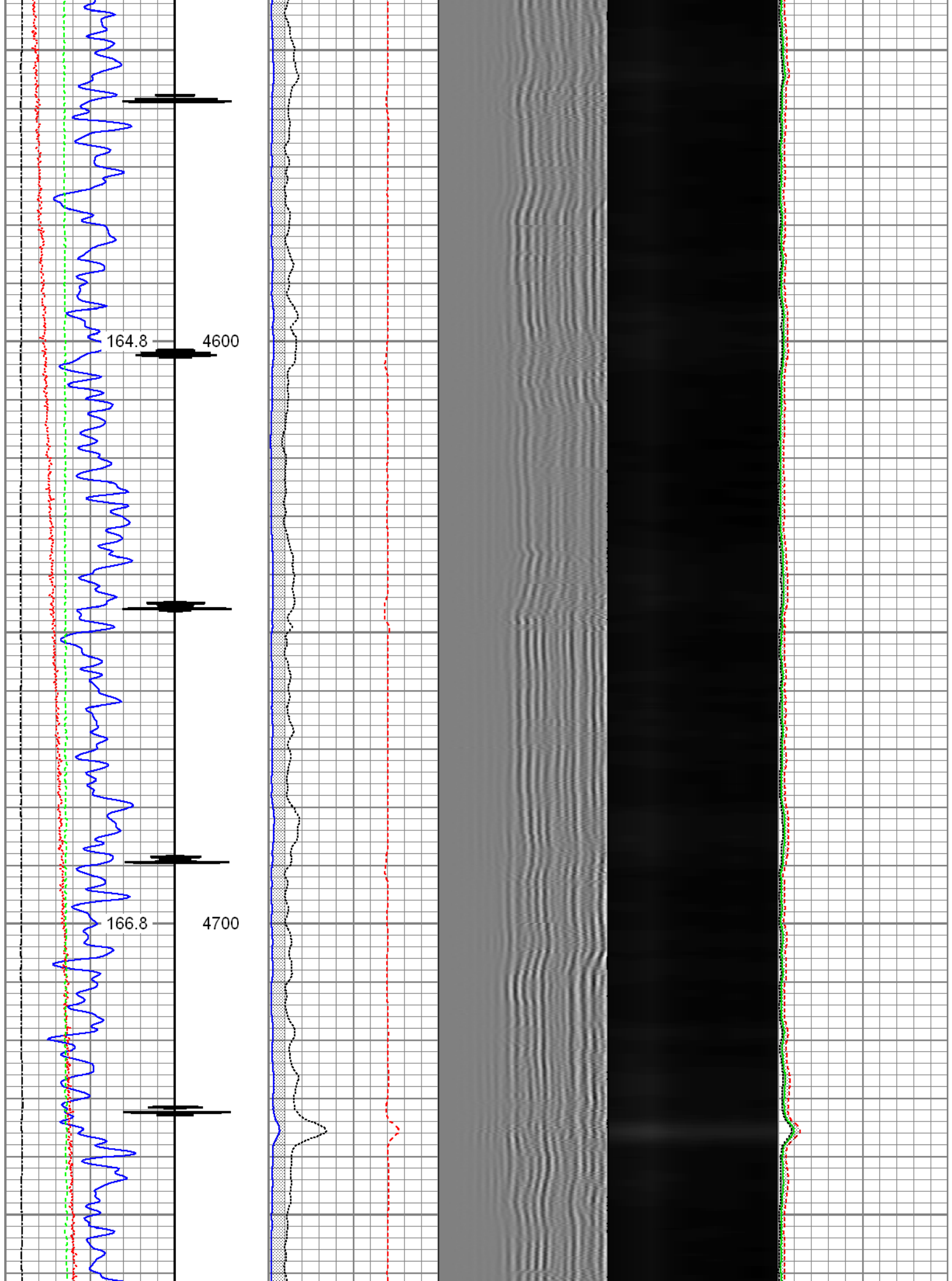


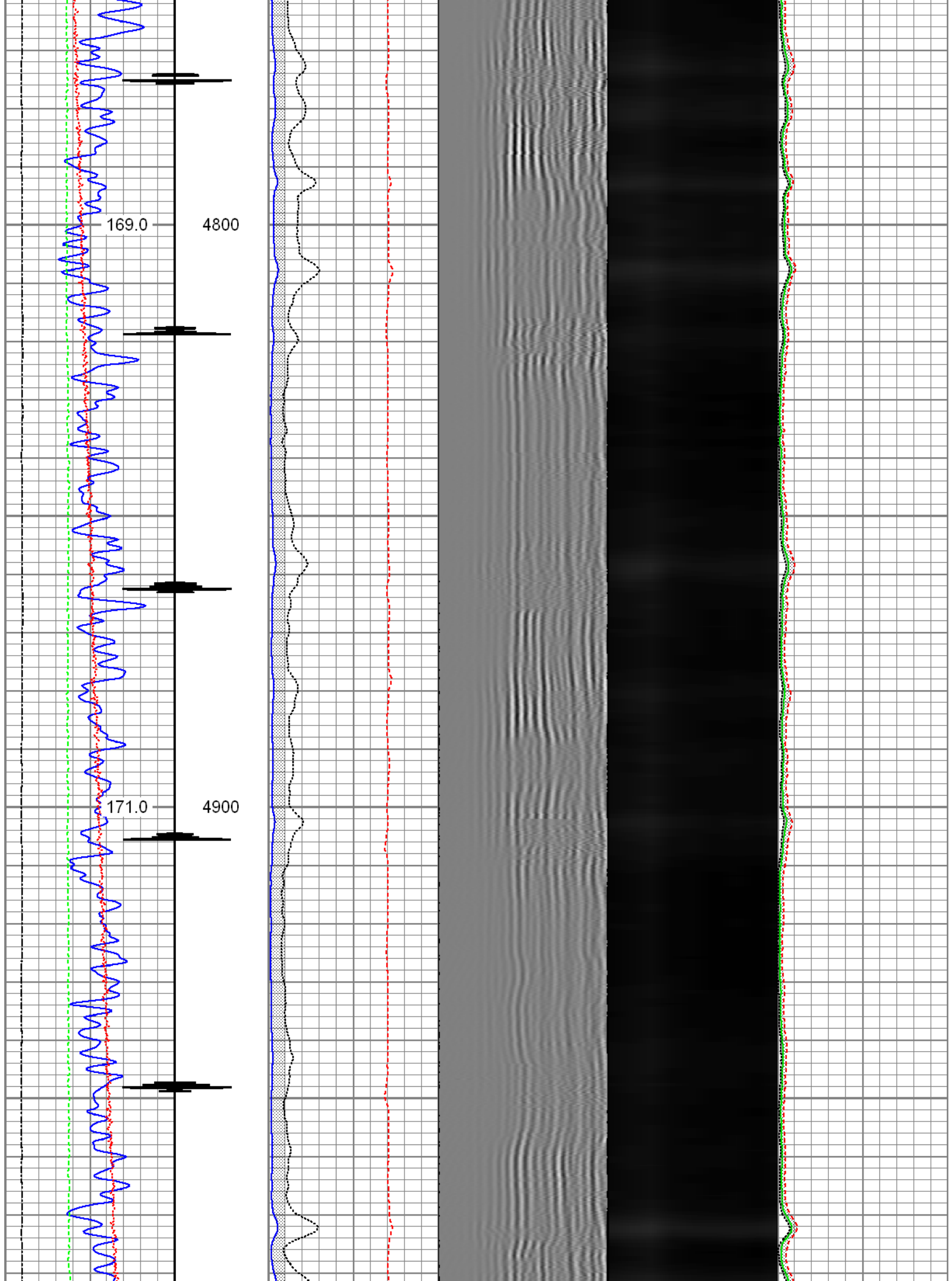




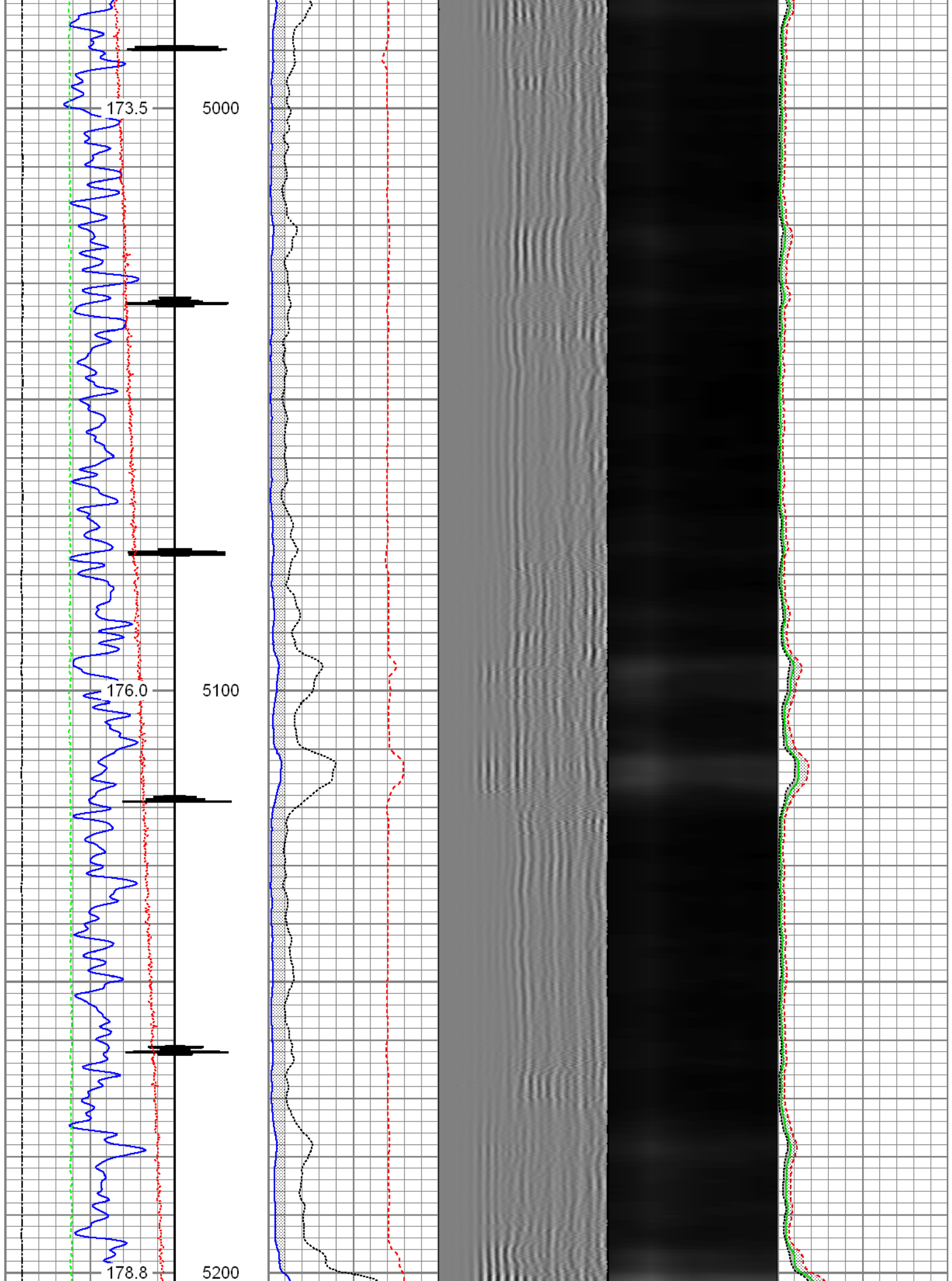


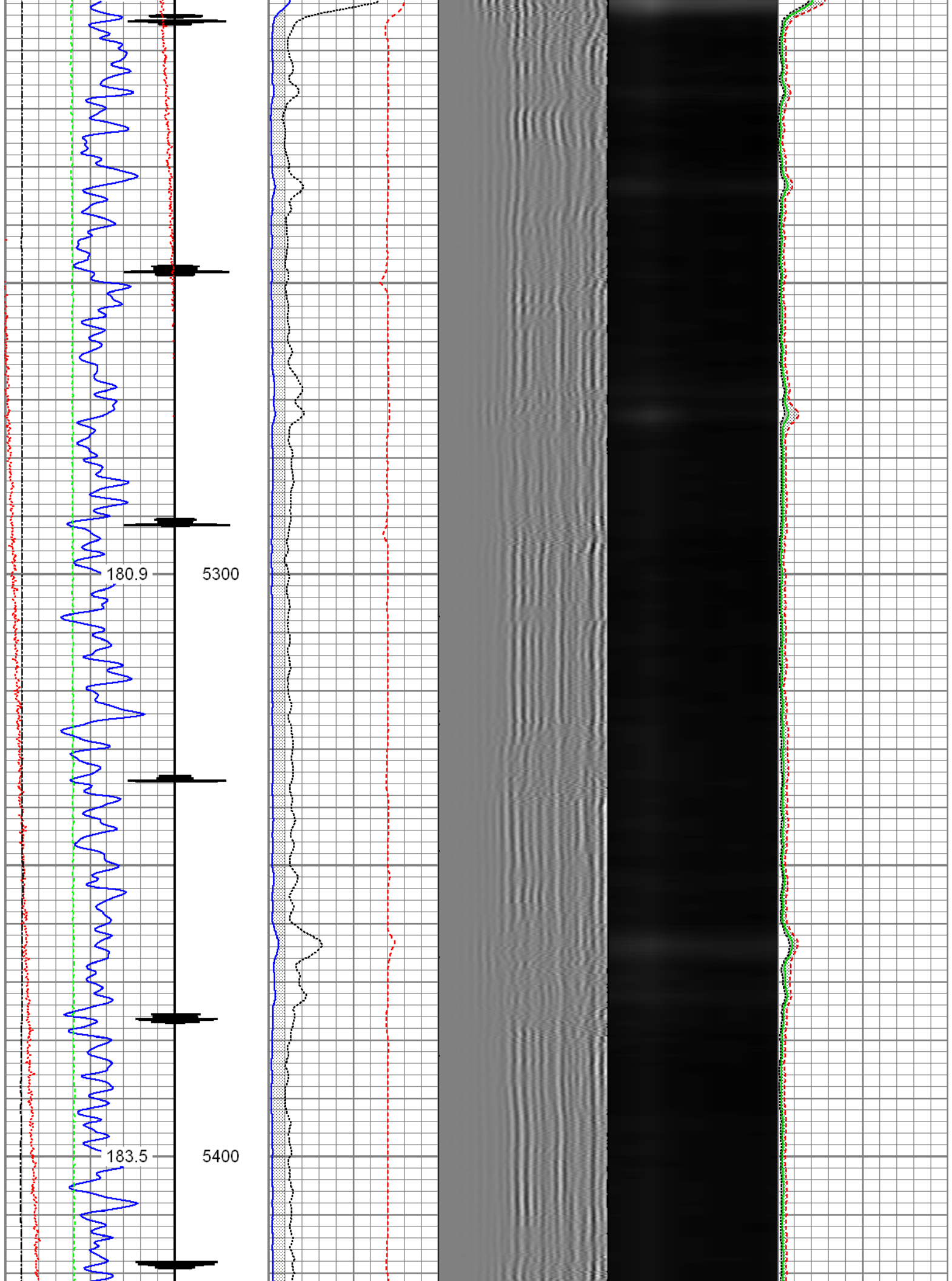


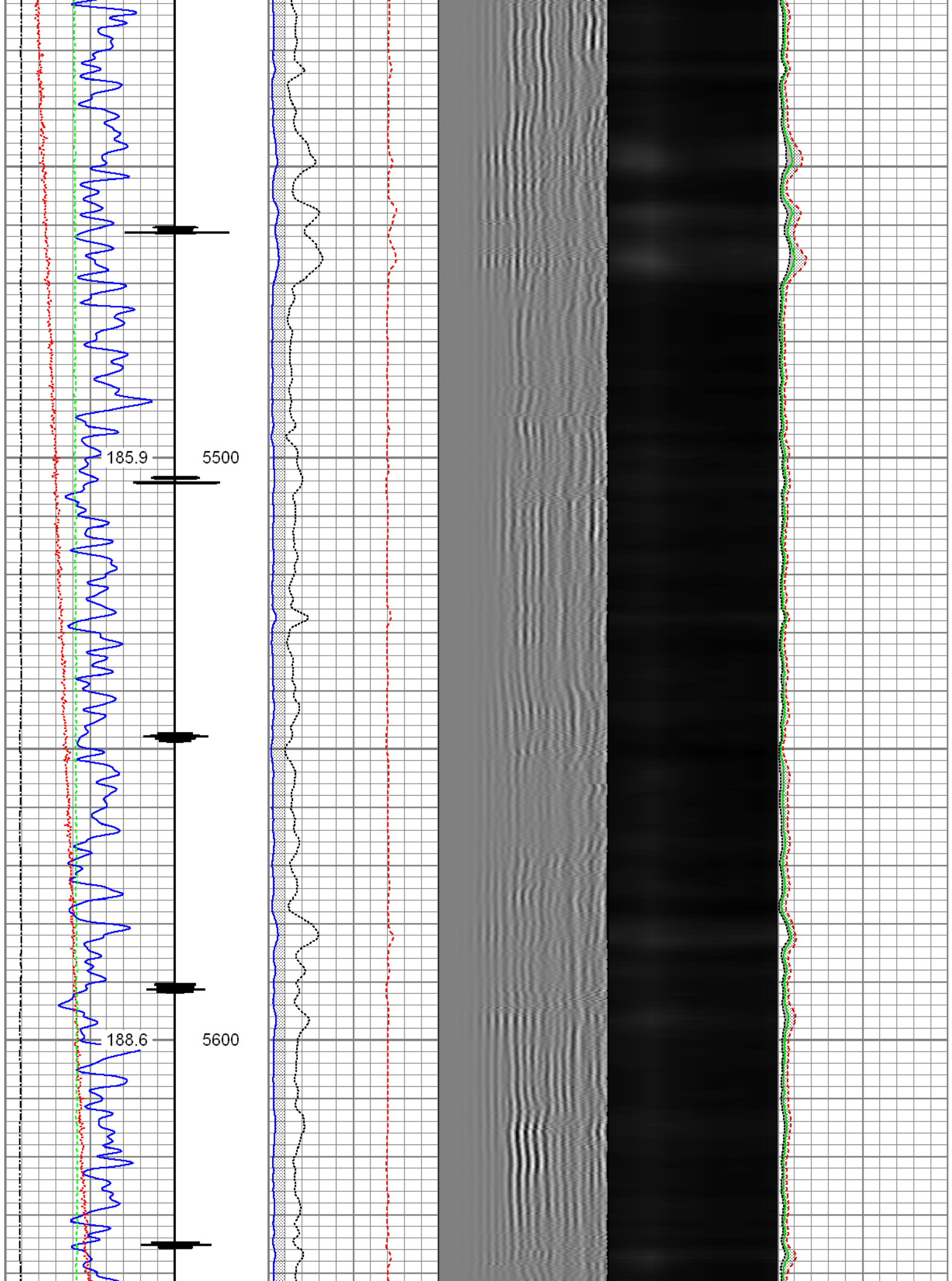


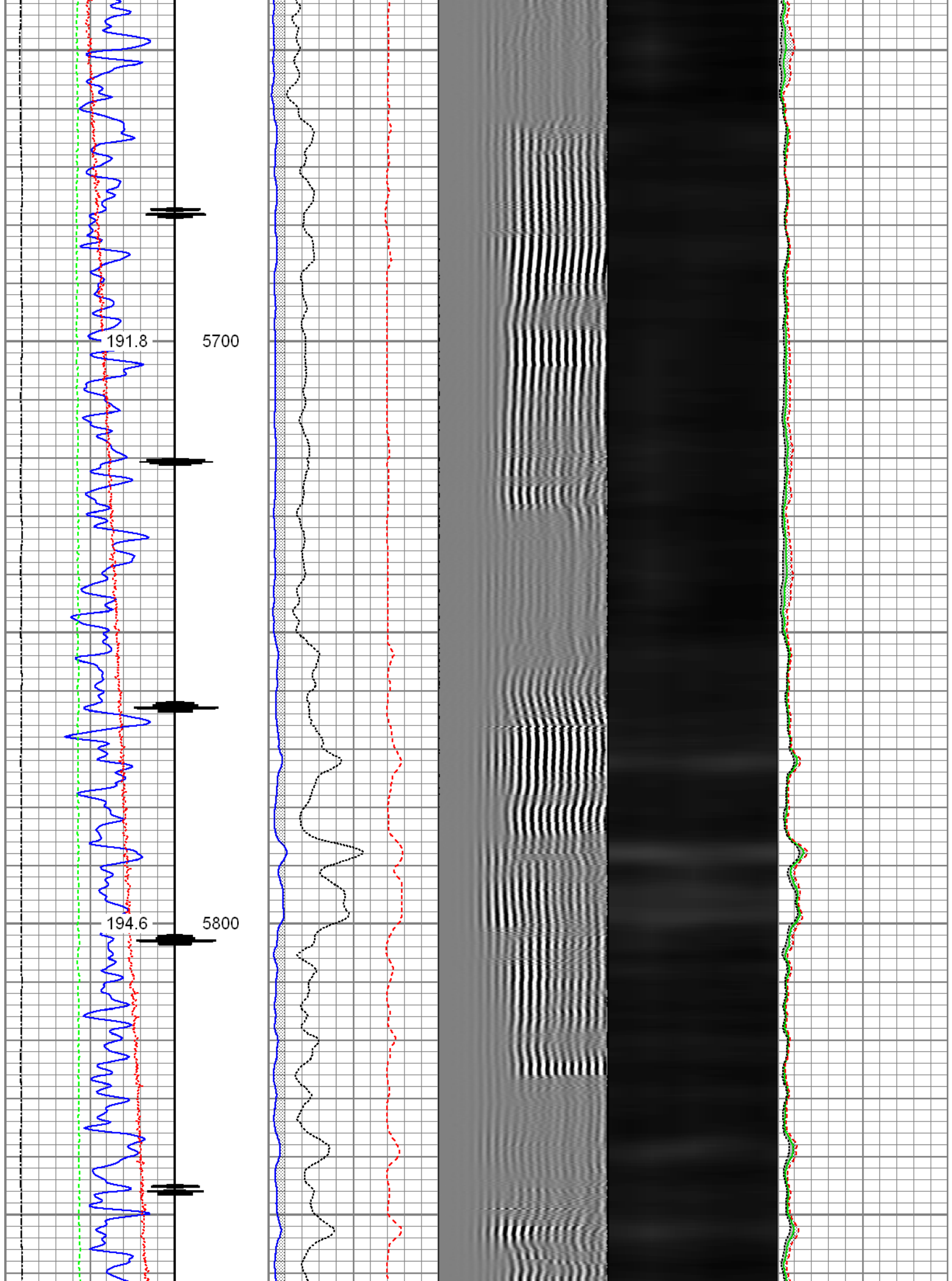




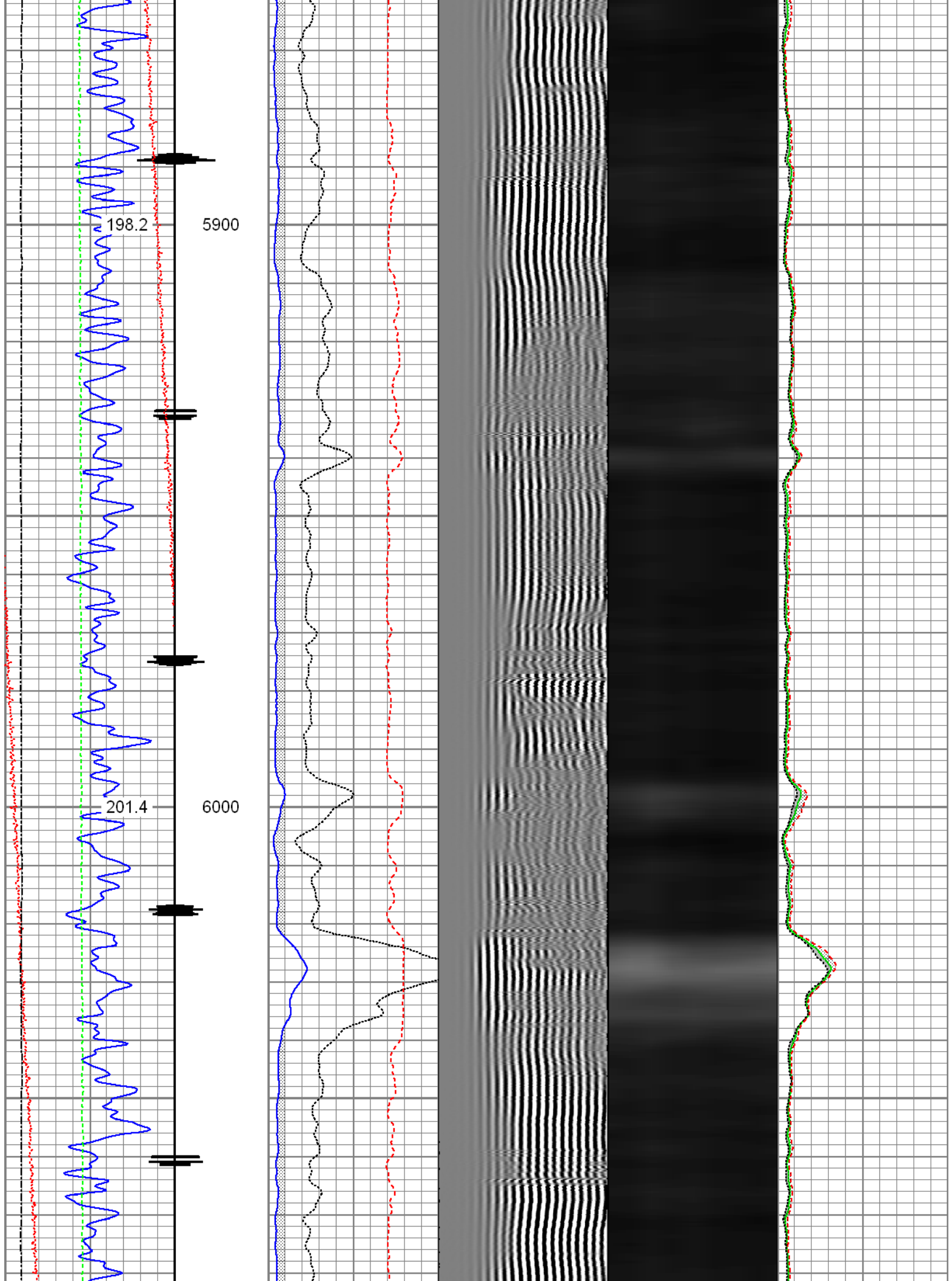


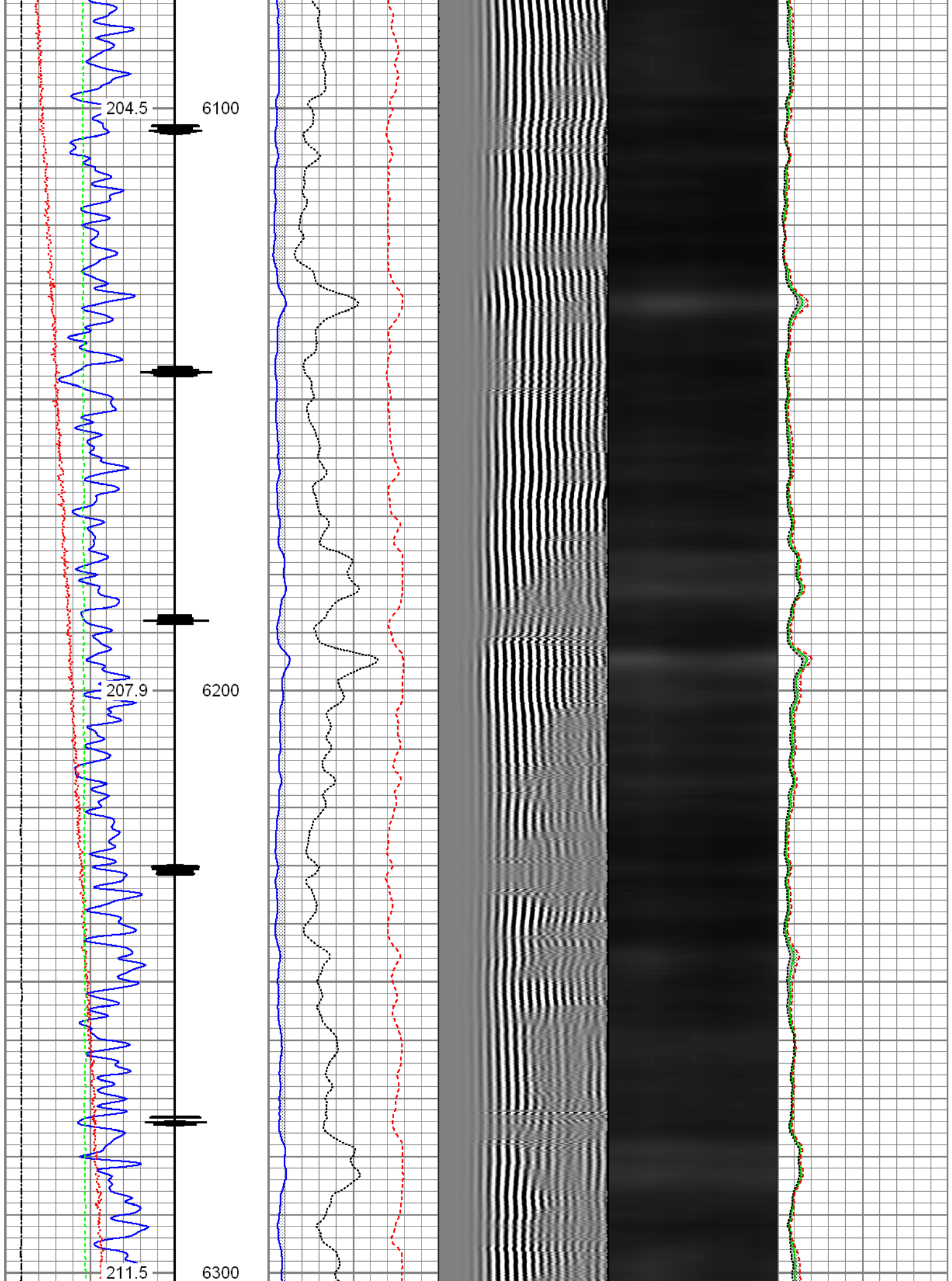


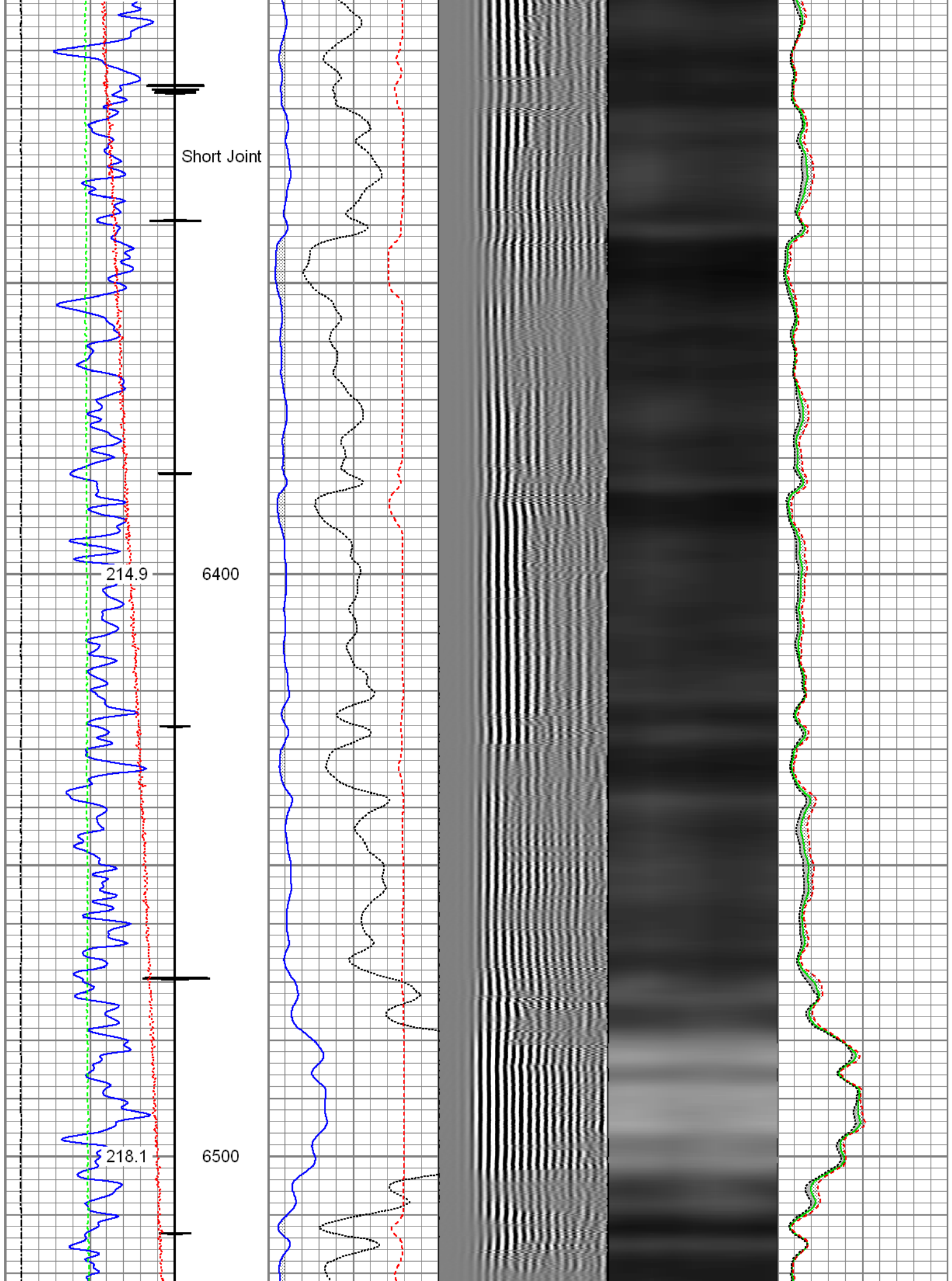


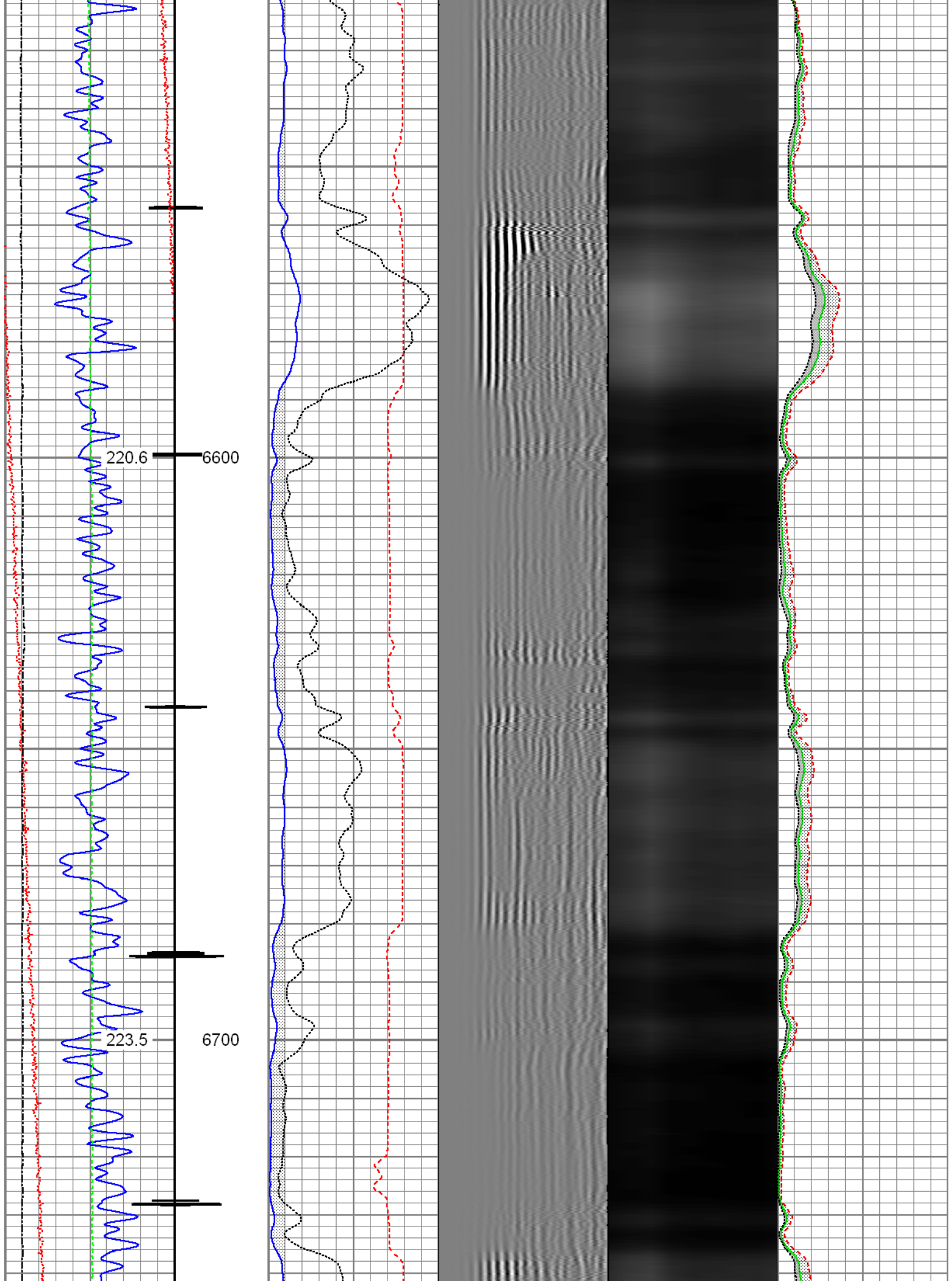




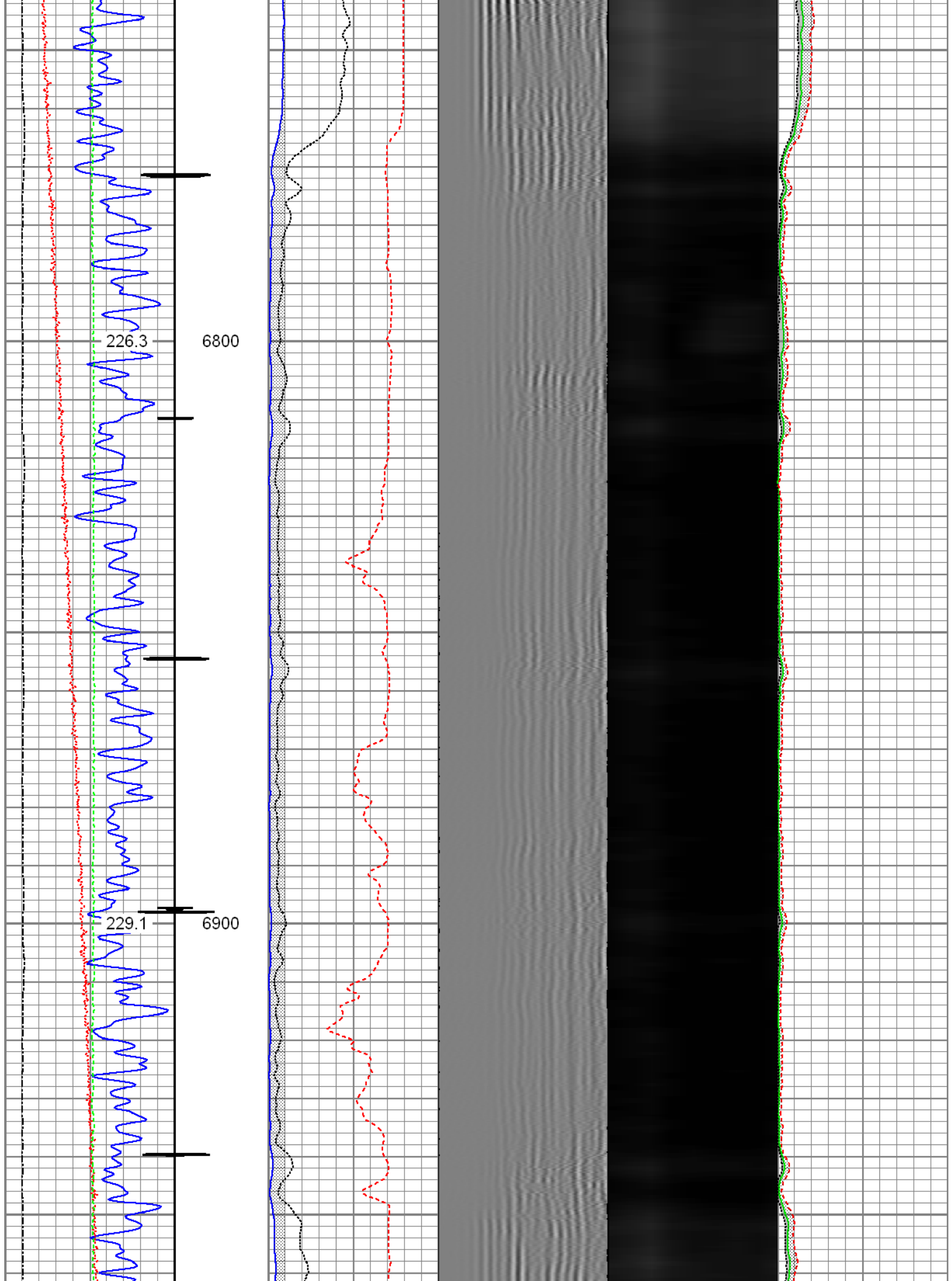


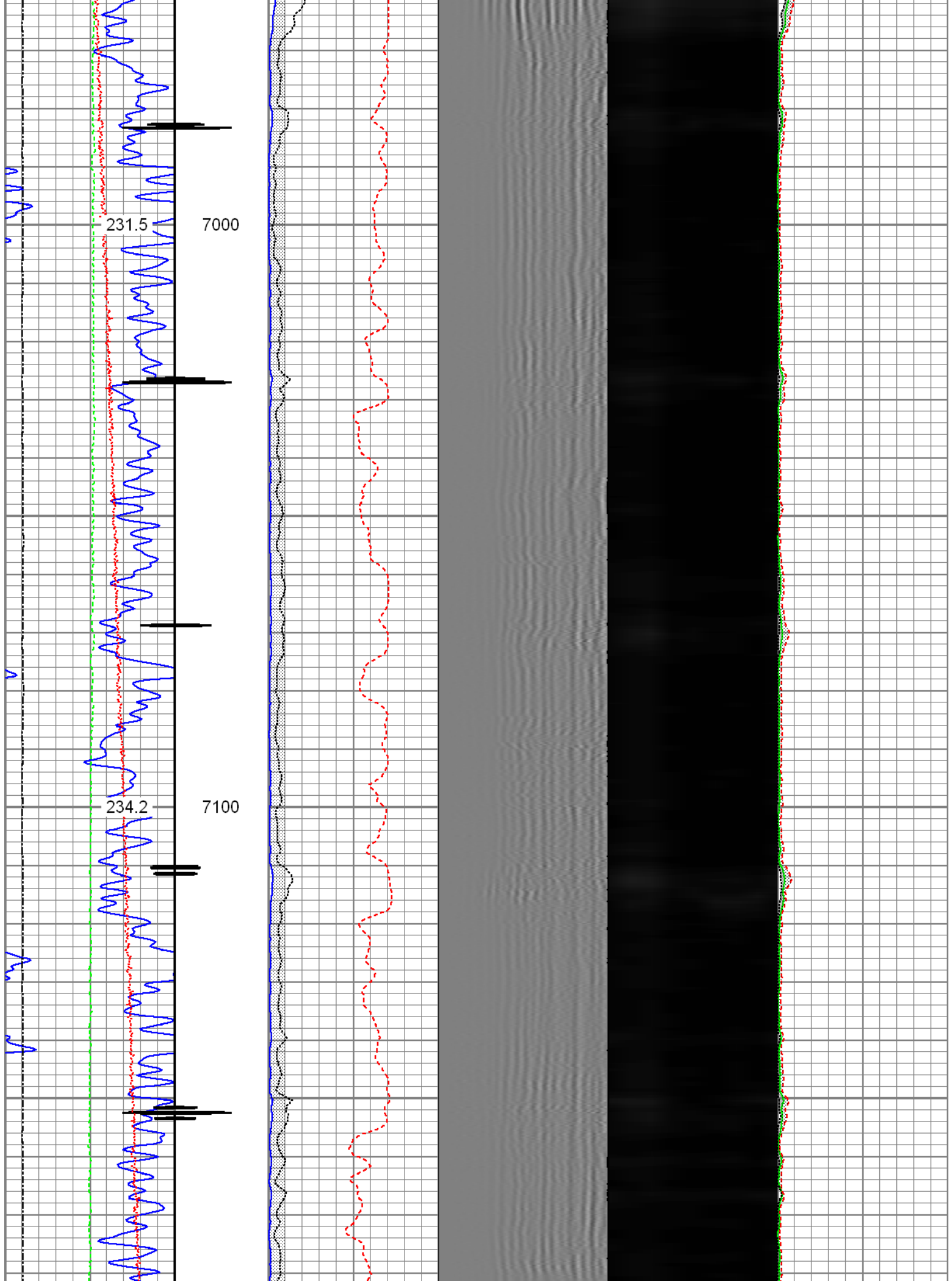


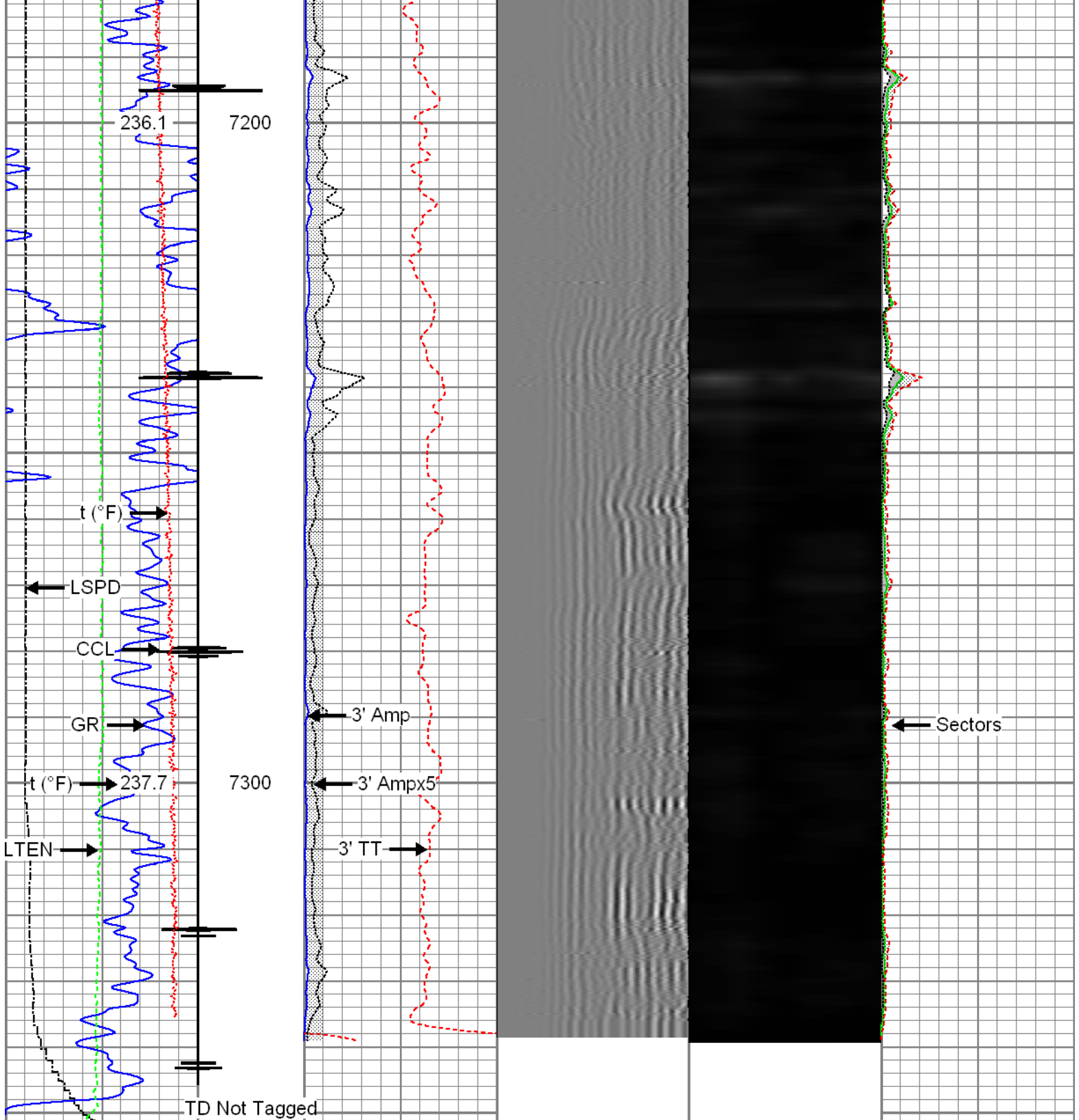












Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5 (mV)			Minimum Amplitude
Temperature (degF)	0 20			0 100
Line Speed (ft/min)	3' Travel Time (usec)			Maximum Amplitude
-150 150	650 150			0 100
Line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

Database File:

0512341956\_anadarko\_powers 26n-27hz\_12-09-15\_rbl.db

Dataset Pathname:

pass22

Presentation Format:

radii

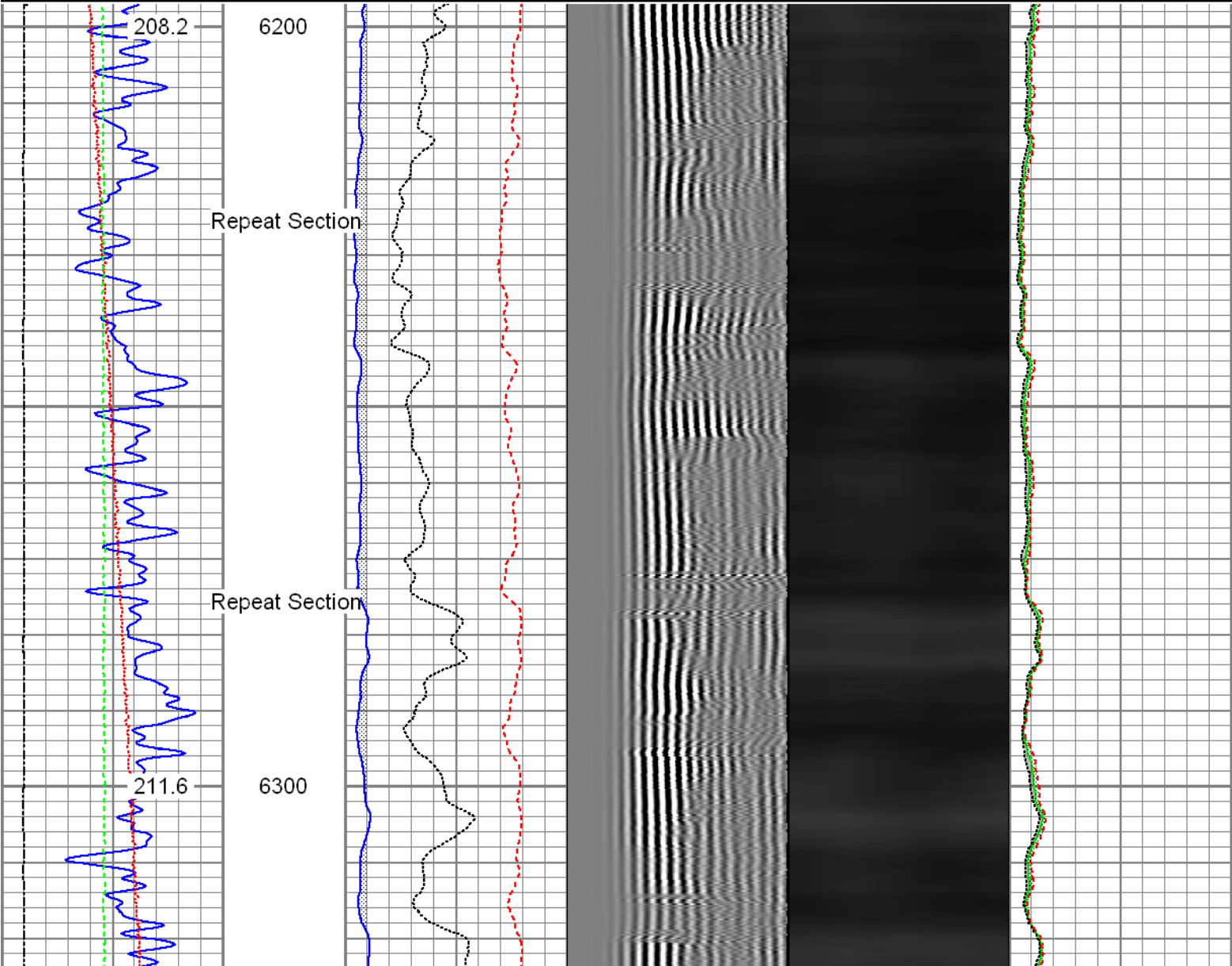
Dataset Creation:

Wed Dec 09 13:08:39 2015 by Log 7.0 B1

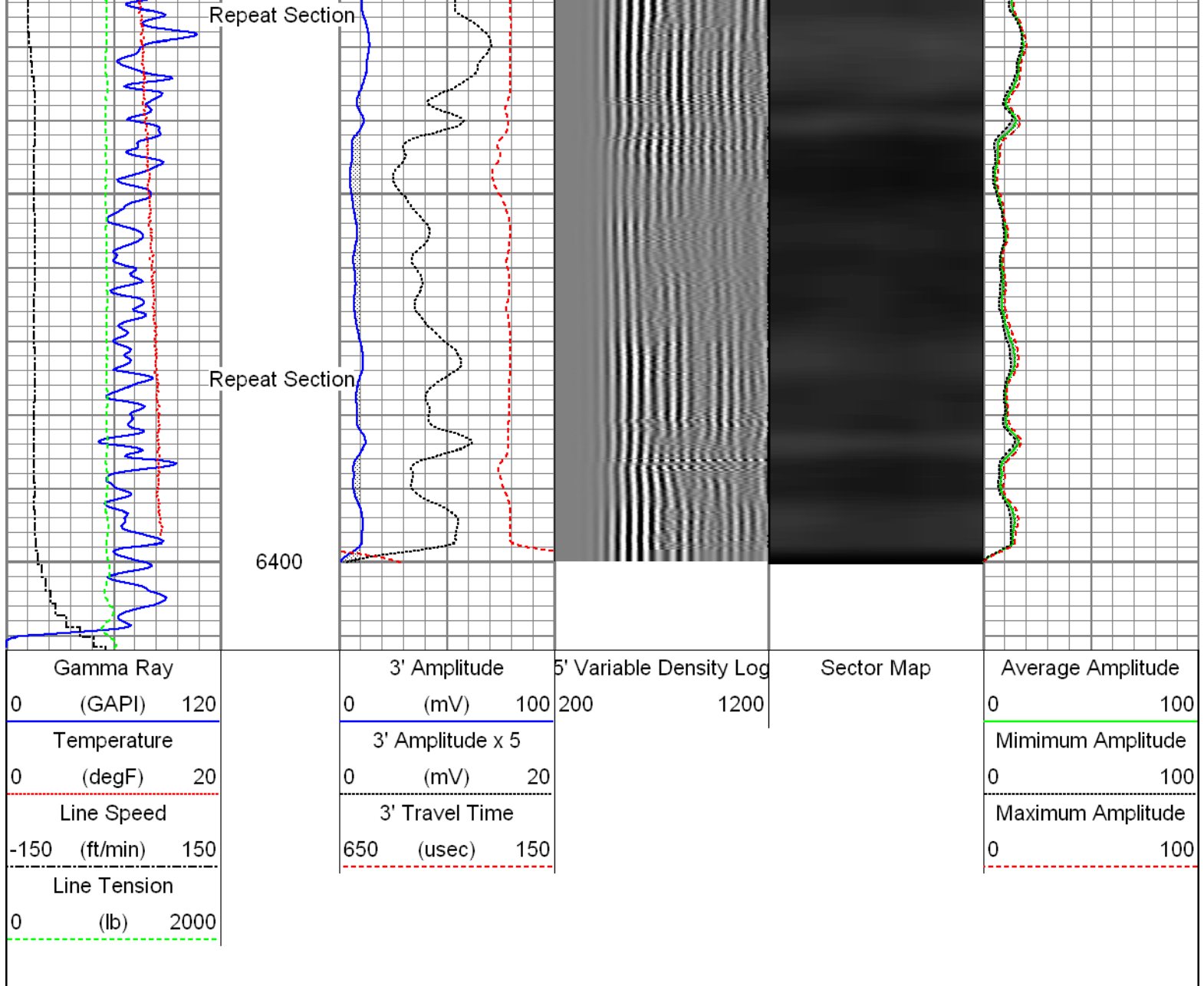
Charted by:


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
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					
WVE3FT	14.55		Probe_RADII-C-2-3/4" (FW1302-002) Probe 2-3/4" Sector Cement Bond Tool with	9.19	2.75	105.00

WVFCAL	14.55		Temperature Probe			
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					
			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 (FW1307-038) 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: 0512341956_Anadarko_Powers 26N-27HZ_12-09-15_RBL.db: field/well/run1/pass23 Total Length: 23.40 ft Total Weight: 194.00 lb O.D. 2.75 in						

Calibration Report		
Database File:	0512341956_Anadarko_Powers 26N-27HZ_12-09-15_RBL.db	
Dataset Pathname:	pass23	
Dataset Creation:	Wed Dec 09 13:14:35 2015 by Log 7.0 B1	
Gamma Ray Calibration Report		
Serial Number:	FW1307-038	
Tool Model:	2.75"Digital	
Performed:	Fri Sep 11 07:43:30 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:	FW1302-002	
Tool Model:	2-3/4"	

Calibration Casing Diameter:	5.500	in
Calibration Depth:	25.000	ft

Master Calibration, performed Wed Dec 09 12:52:16 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.658	0.800	71.921	108.706	0.418
CAL	0.801	0.804				
5'	0.002	0.594	0.800	71.921	120.032	0.595
SUM						
S1	0.003	0.622	0.000	100.000	161.476	-0.477
S2	0.004	0.615	0.000	100.000	163.604	-0.575
S3	0.003	0.626	0.000	100.000	160.335	-0.440
S4	0.004	0.667	0.000	100.000	150.752	-0.600
S5	0.003	0.713	0.000	100.000	140.787	-0.440
S6	0.005	0.711	0.000	100.000	141.769	-0.732
S7	0.006	0.670	0.000	100.000	150.555	-0.884
S8	0.007	0.646	0.000	100.000	156.497	-1.110

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	0.801	0.804	1.000	0.000

Air Zero Calibration, performed Wed Dec 09 12:51:56 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	Powers 26N-27HZ
Field	Wattenberg
County	Weld
State	Colorado