



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company Synergy Resources Corporation		Company Synergy Resources Corporation	
Well Orr State 23C-35-M		Well Orr State 23C-35-M	
Field Wattenberg		Field Wattenberg	
County Weld		County Weld	
State Colorado		State Colorado	
Location: API #: 05-123-43974		Other Services JB/GR RBP	
SEC 36 TWP 6N RGE 67W		Elevation	
Permanent Datum		Ground Level	
Log Measured From		Ground Level	
Drilling Measured From		Kelly Bushing	
Elevation 4724'		K.B. 4749'	
		D.F. 4748'	
		G.L. 4724'	
Date 17-APR-2017			
Run Number One			
Depth Driller 14075 FT			
Depth Logger 6405 FT			
Bottom Logged Interval 6400 FT			
Top Log Interval Surface			
Open Hole Size ---			
Type Fluid Water			
Density / Viscosity 8.34 lb/gal			
Max. Recorded Temp. 210°F			
Estimated Cement Top 40 FT			
Time Well Ready ROA			
Time Logger on Bottom 7:15 AM.			
Equipment Number HD-0324			
Location Fort Lupton, CO			
Recorded By Jason Morrison			
Witnessed By Graham Louis			
Borehole Record			
Run Number Bit From To Size Weight From To			
Casing Record			
Size (in) Wgt (lbs/Ft) Grade Top Bottom			
Surface Casing 5 1/2 20 HCP-110 Surface 14059 FT			
Intermediate #1			
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 Gound Level at 0 FT  
Casing Tally had Marker Joint at 6376 FT  
Marker Joint Top recorded at 6386 FT  
Did not log deep enough to record whole Marker Joint  
Log ran from 6405 FT to Surface  
Log ran with 2500 PSI surface induced pressure  
Logging tools were clean and free of debris upon completion of operations

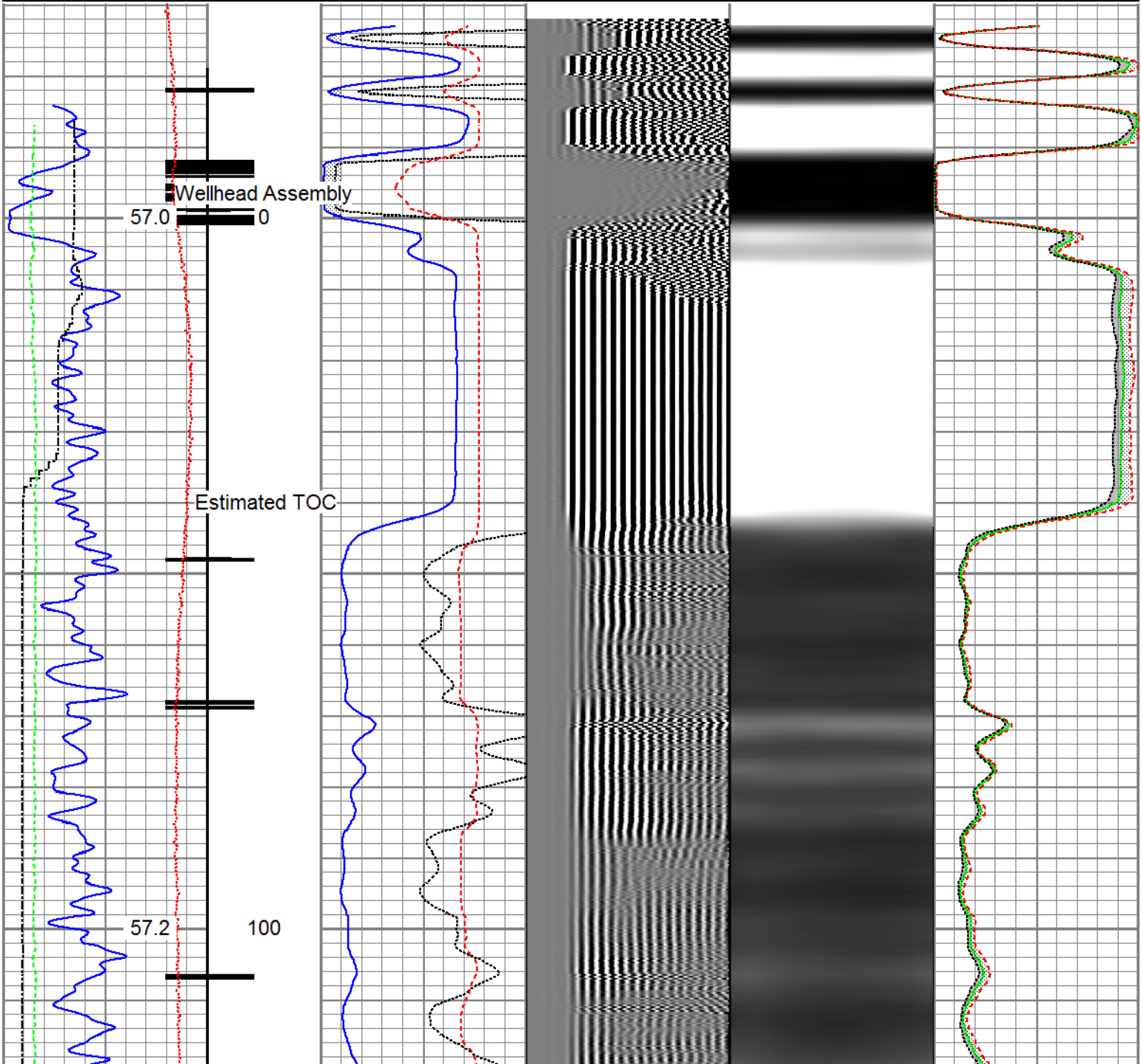
Thank you for choosing Reliance Oilfield Services, LLC!!

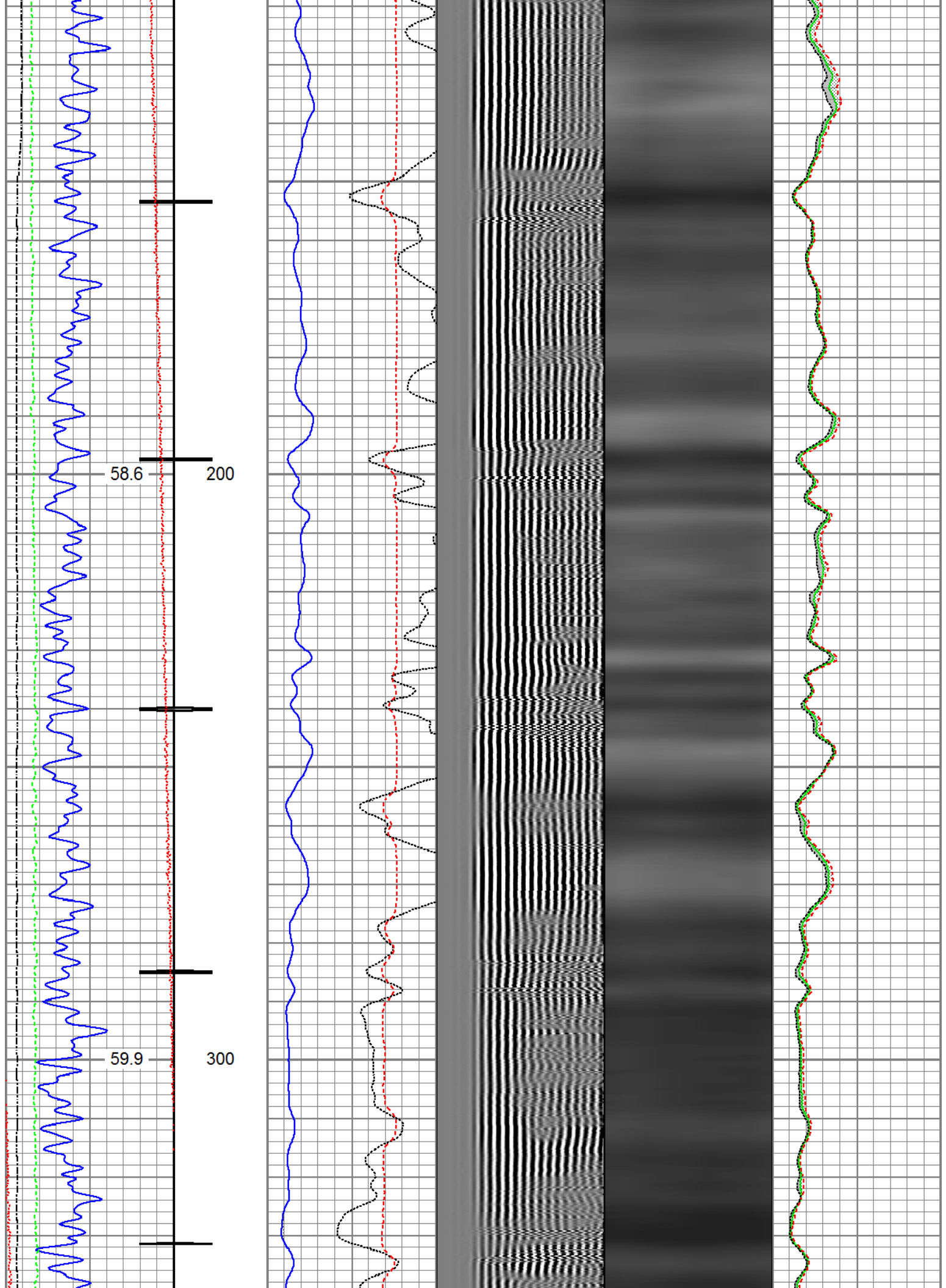


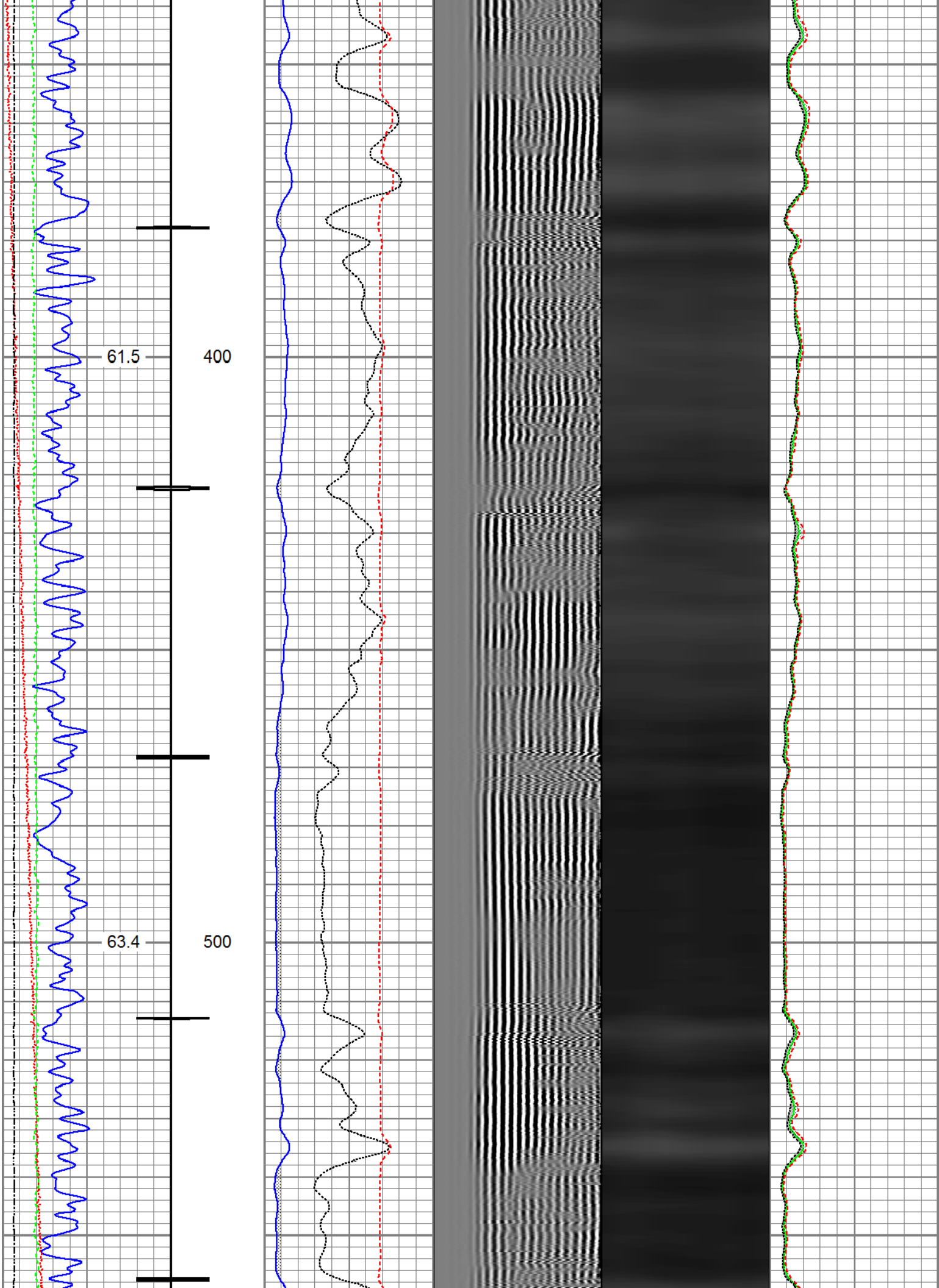
Main Pass

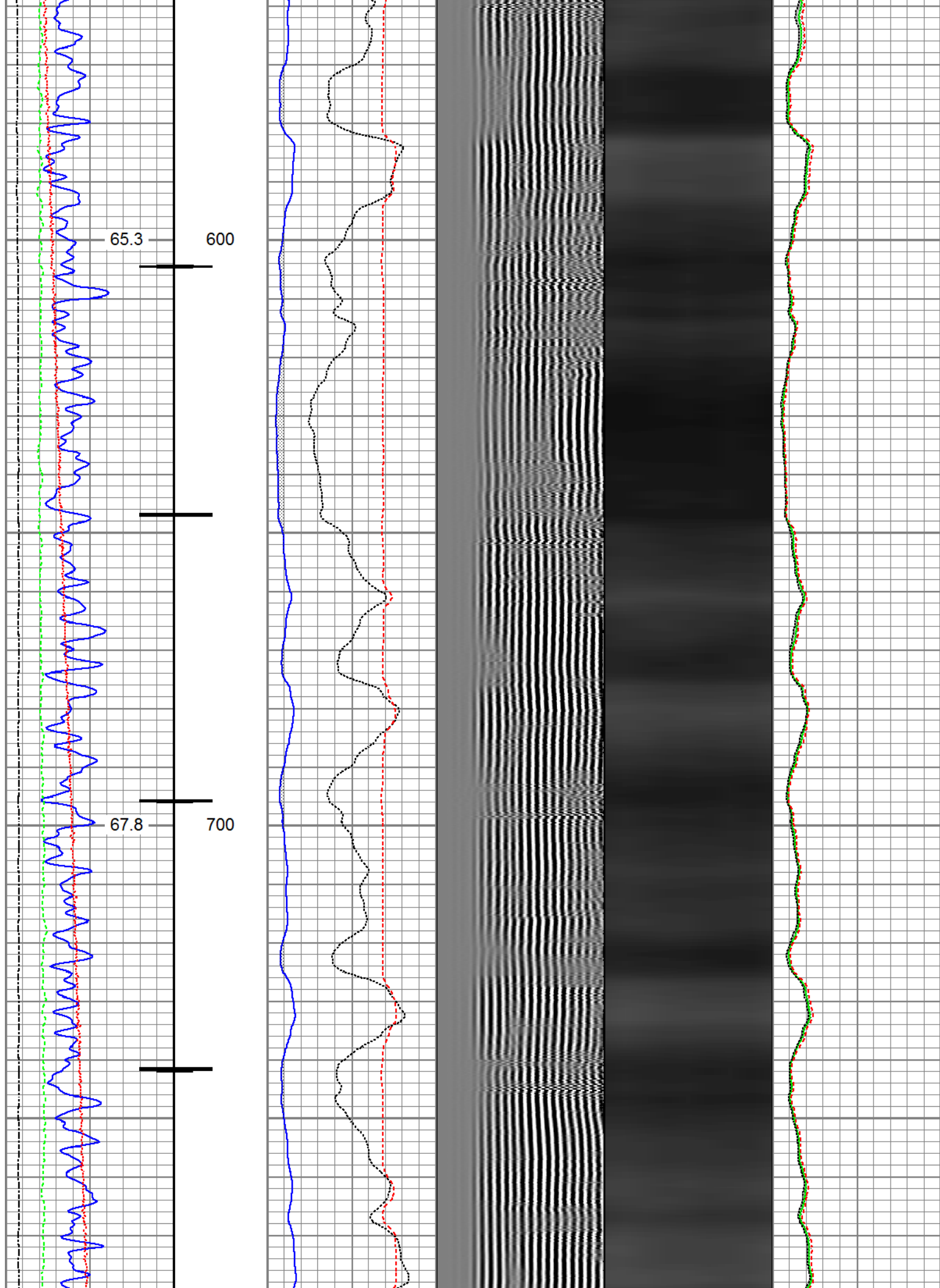
Recorded with 2500 PSI Surface Induced Pressure

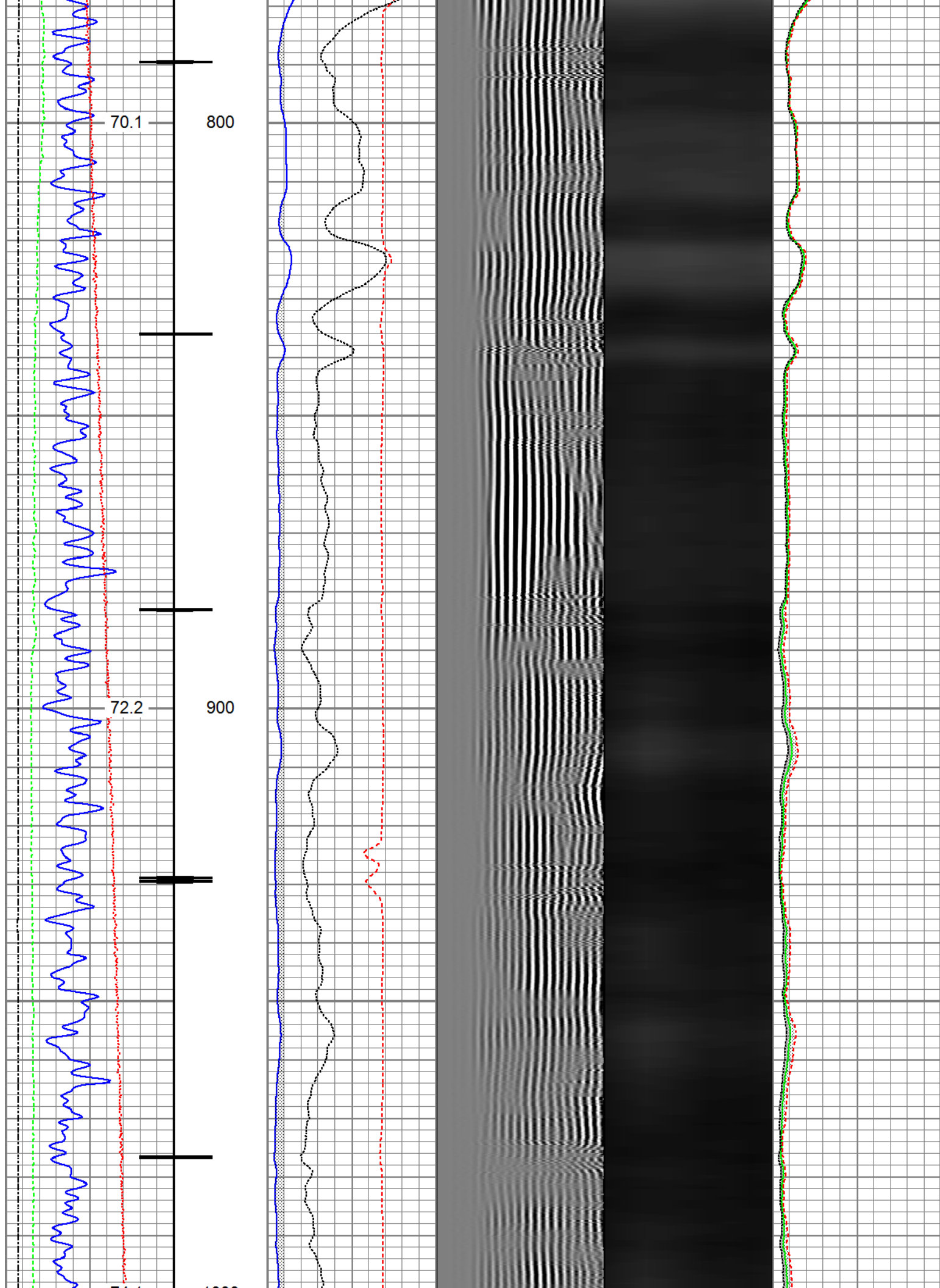
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

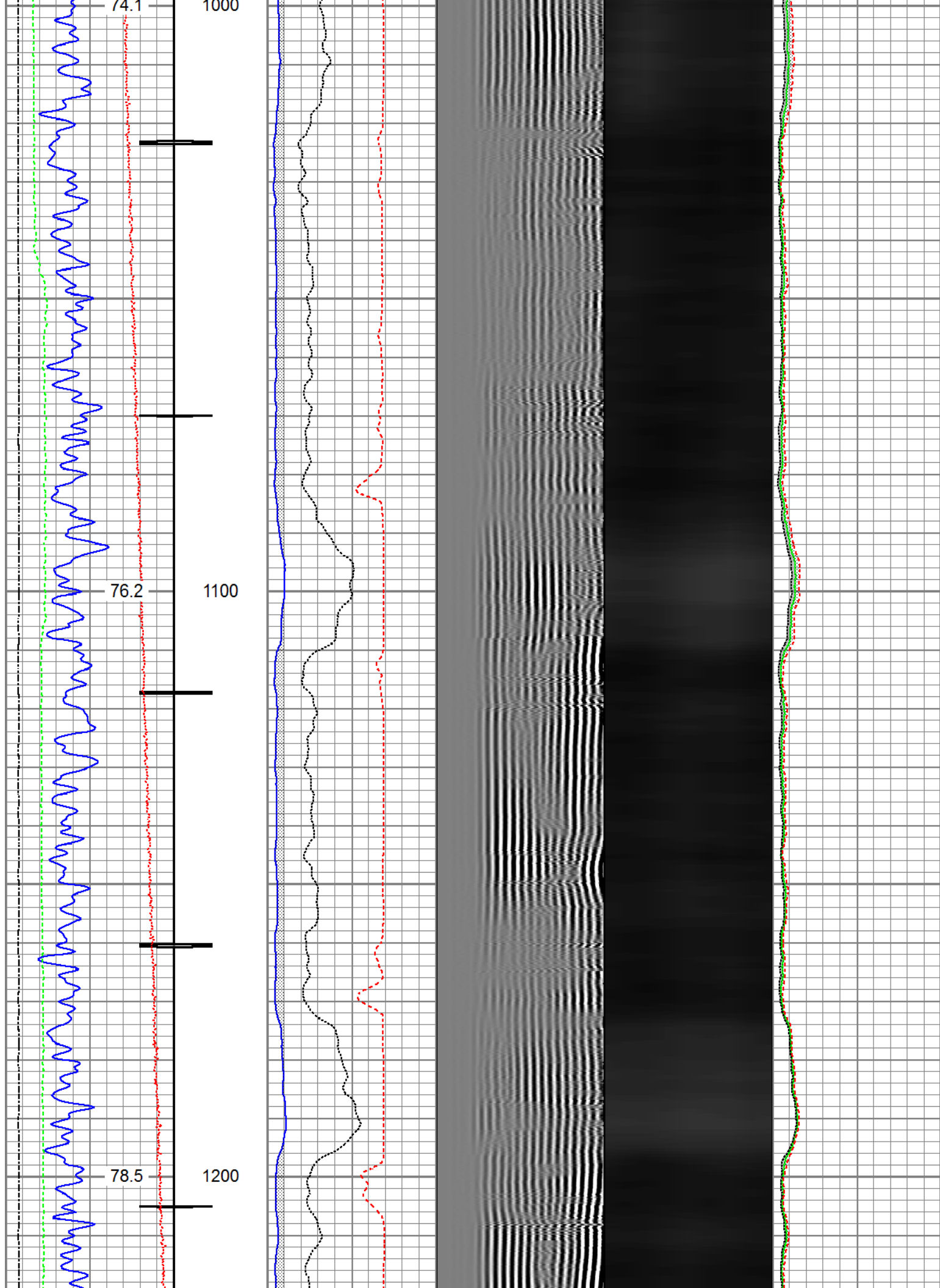


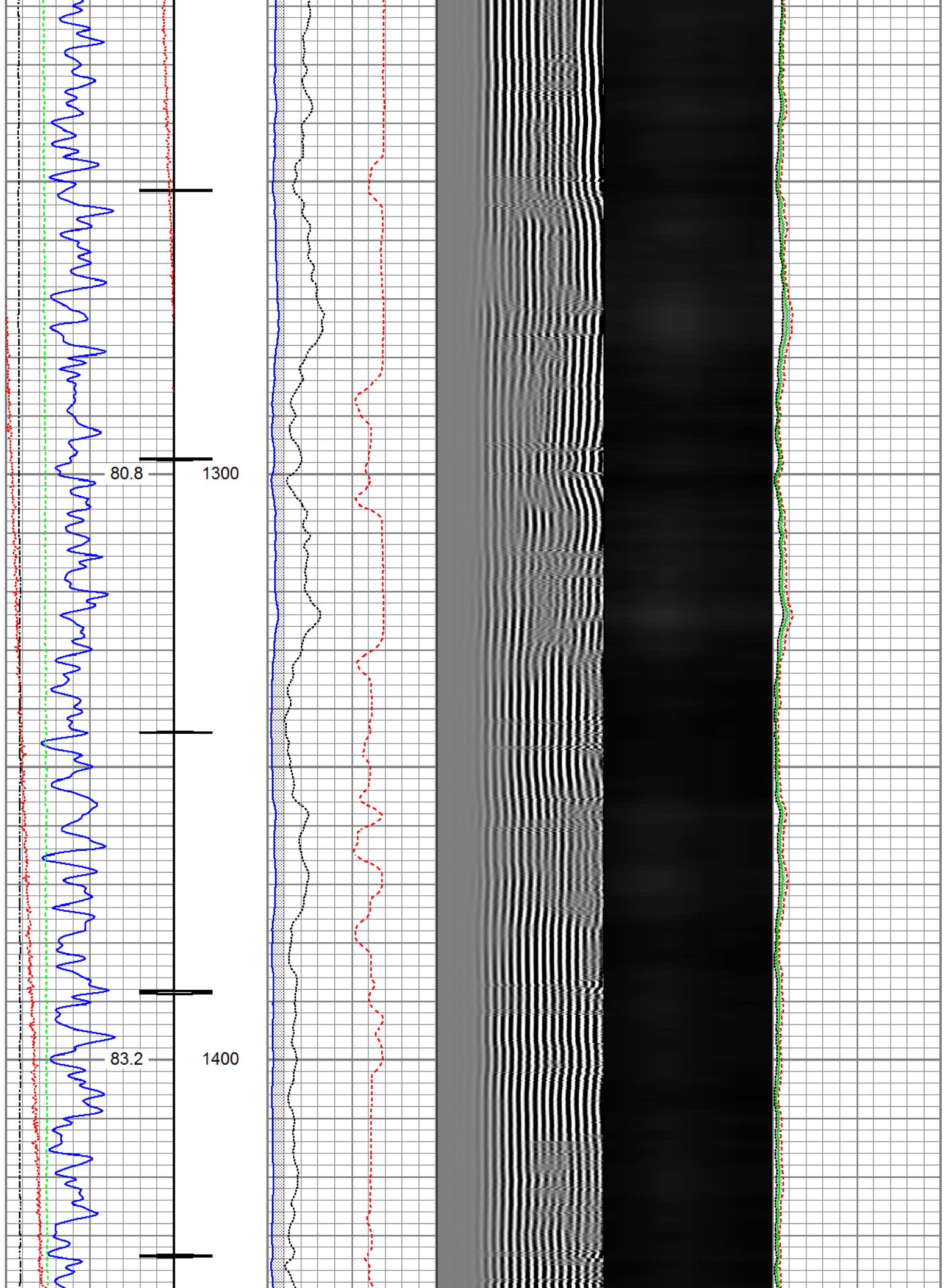


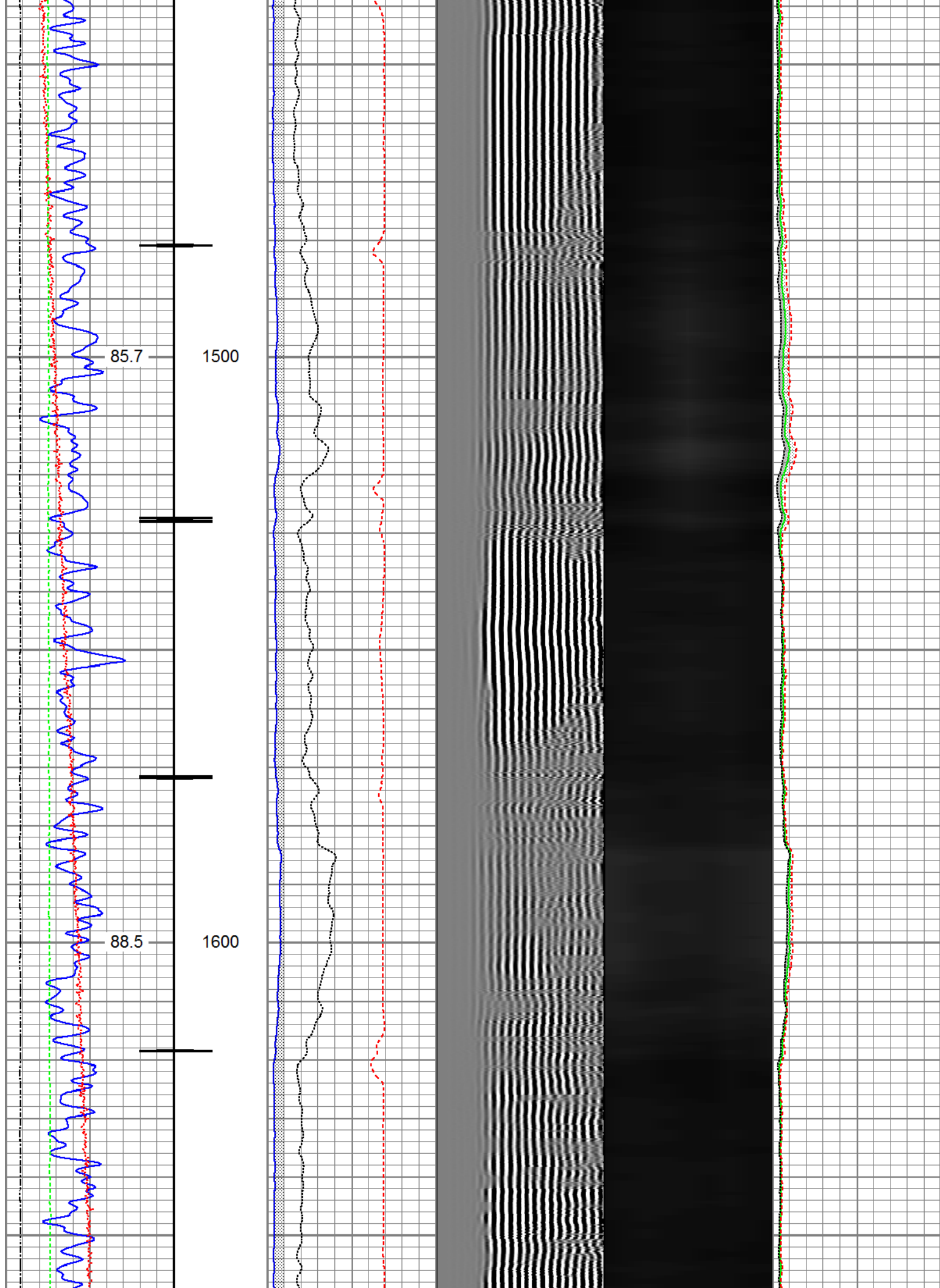


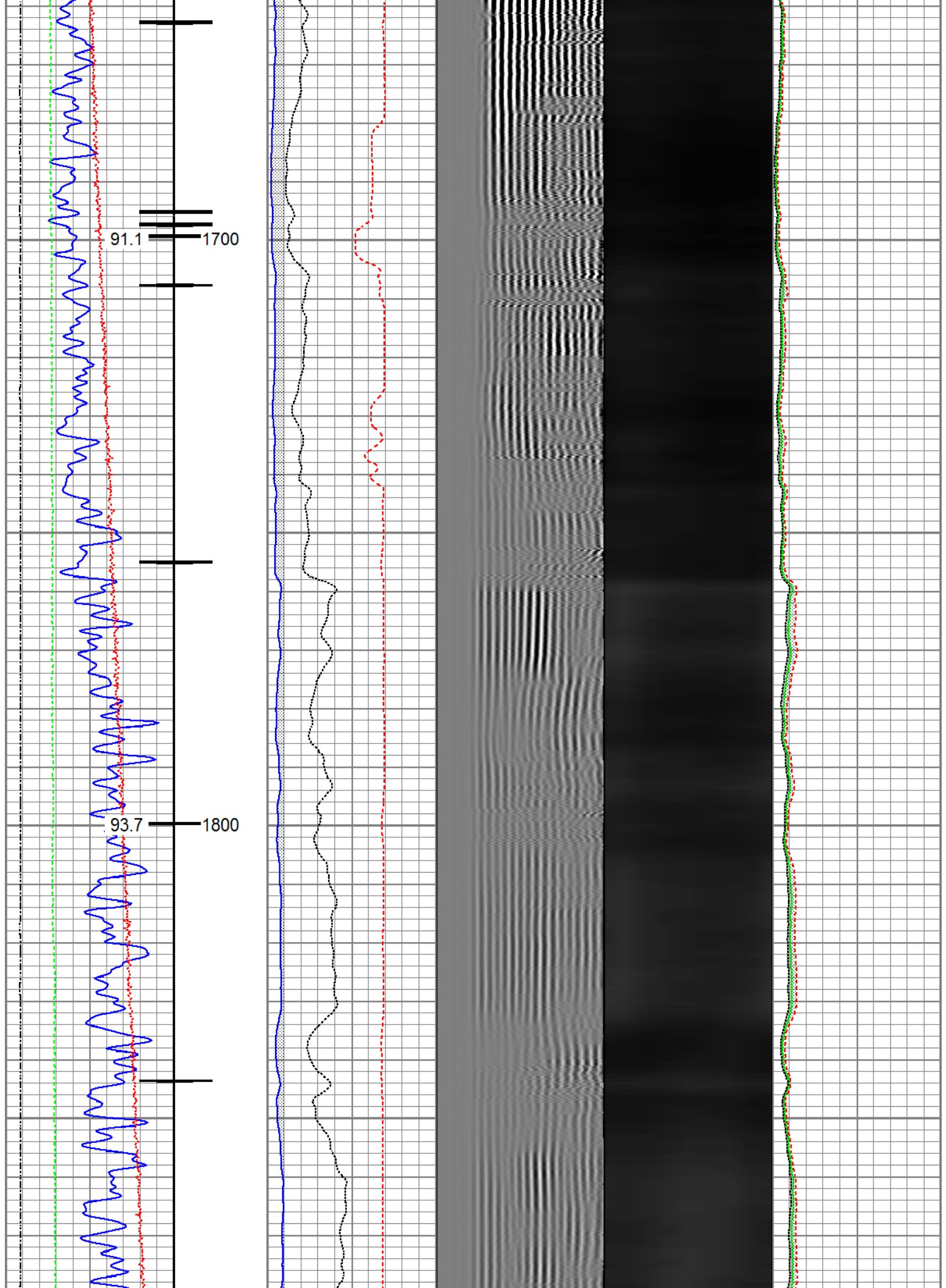


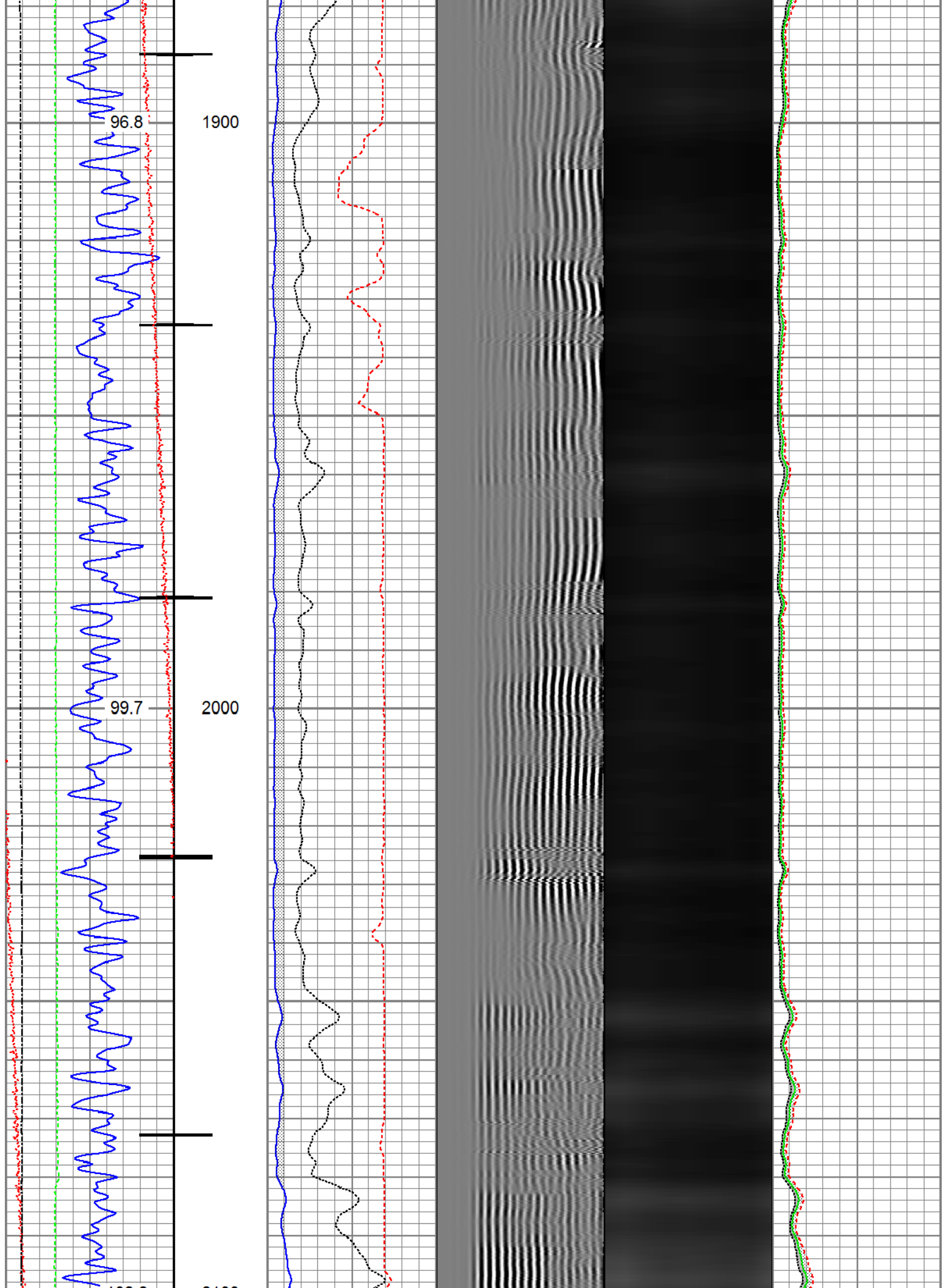


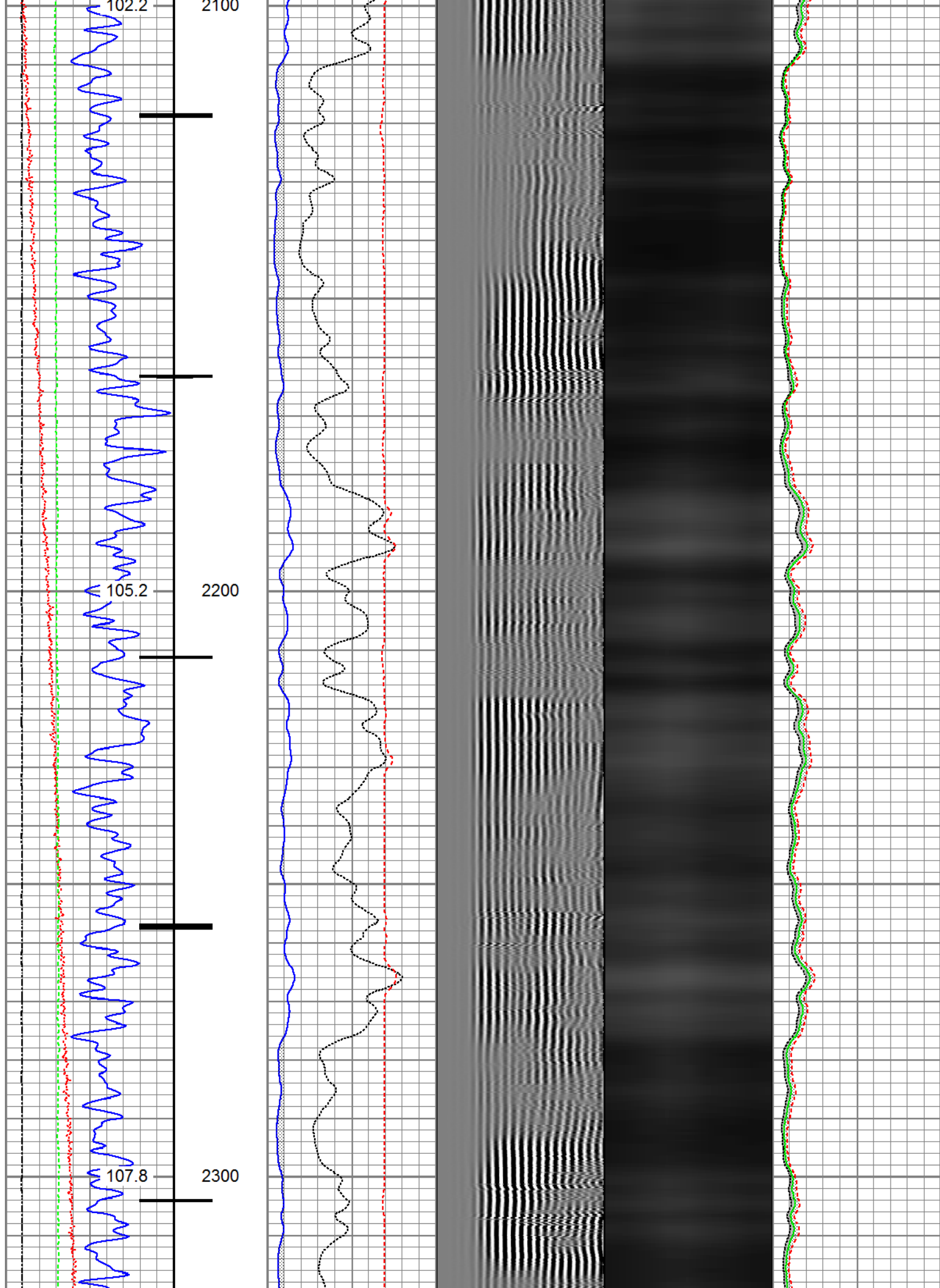


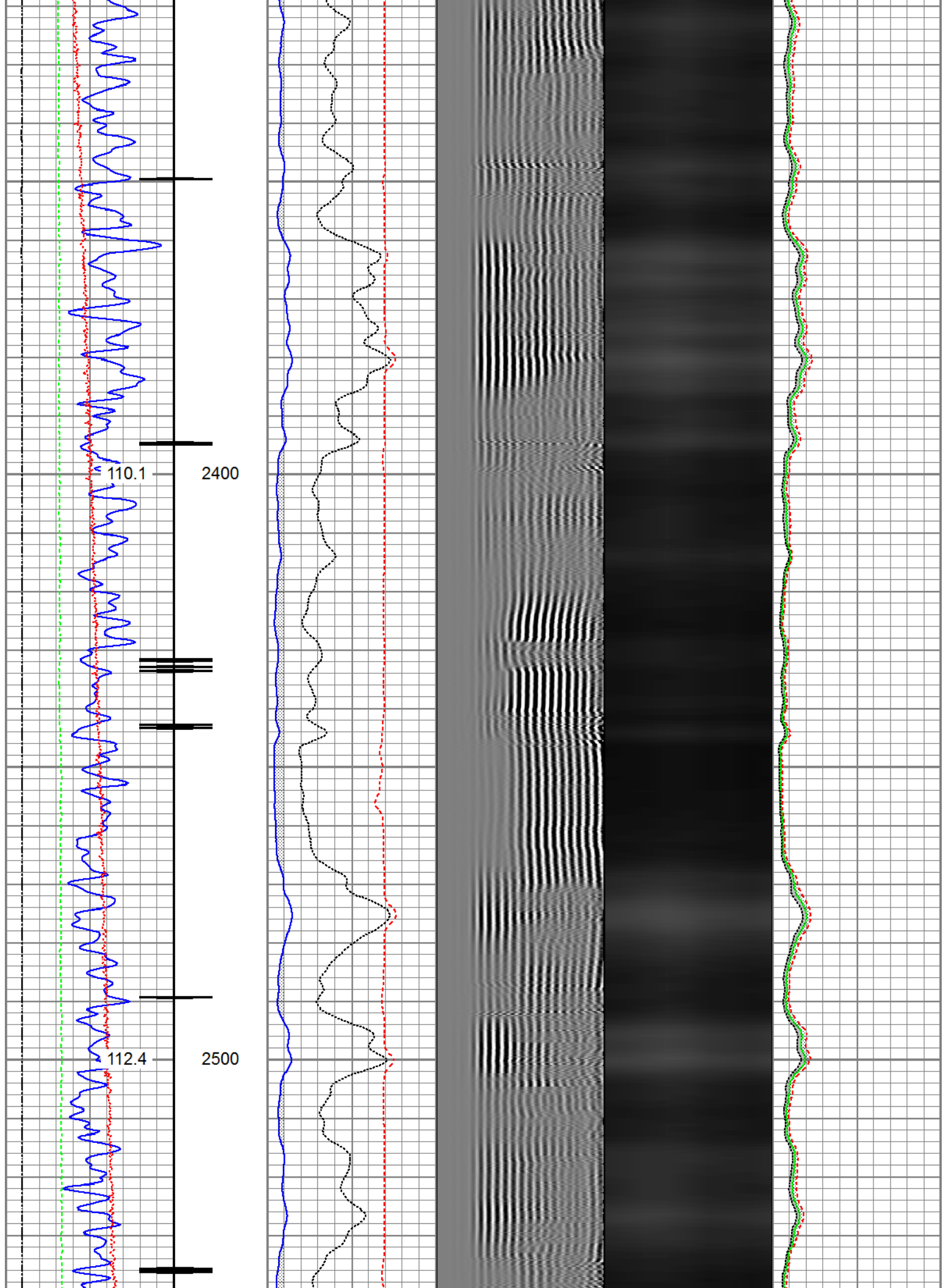


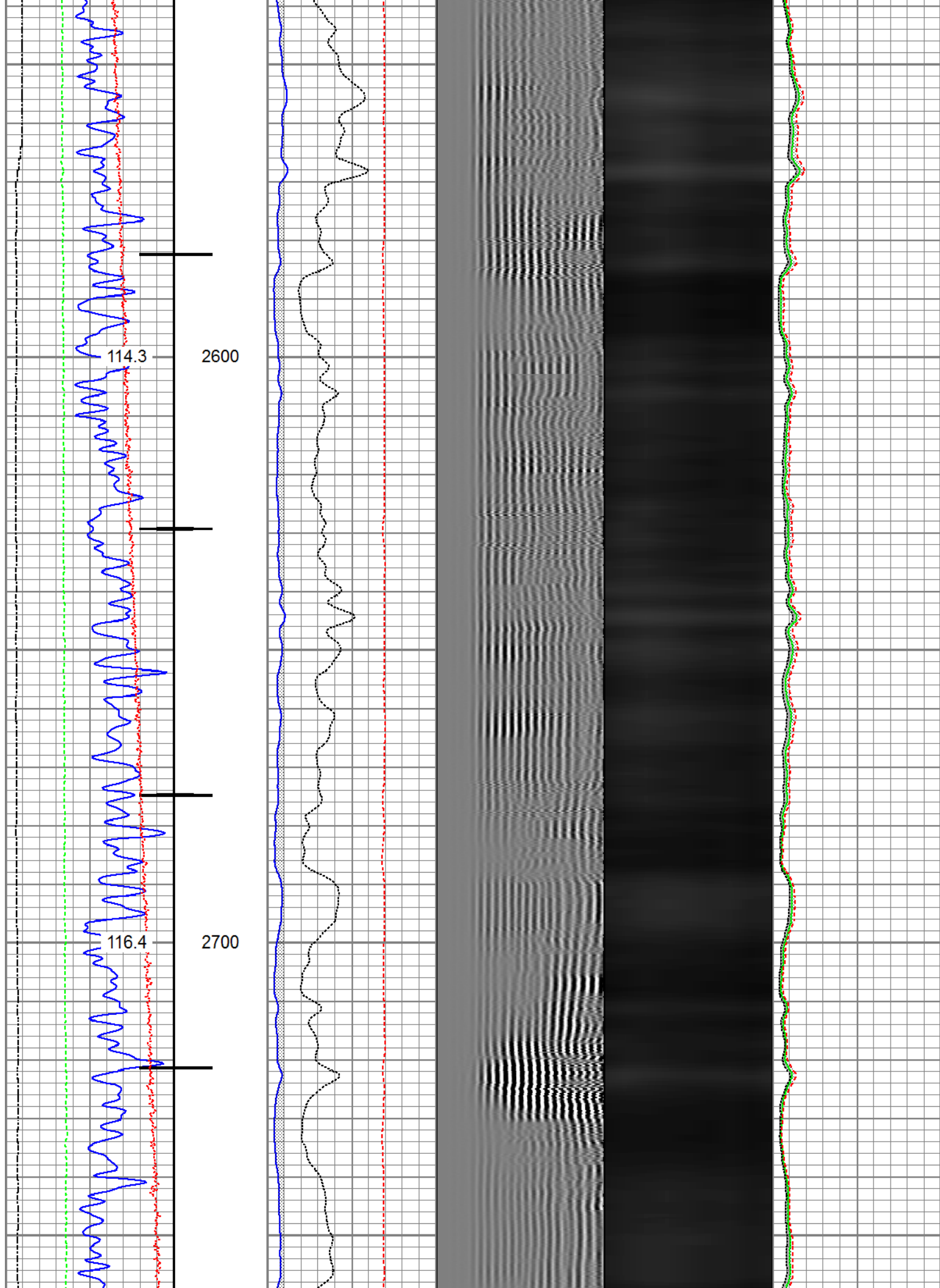


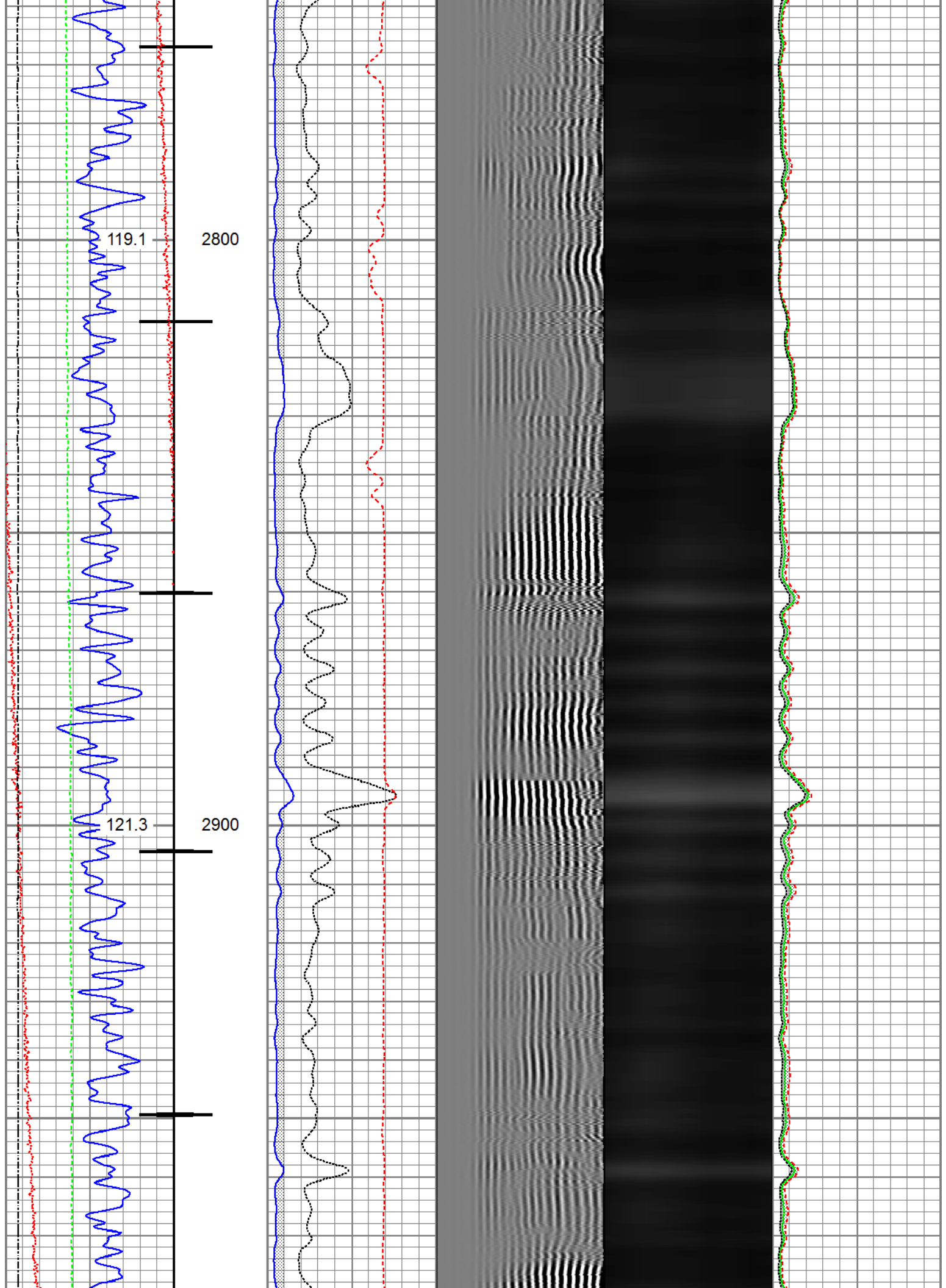


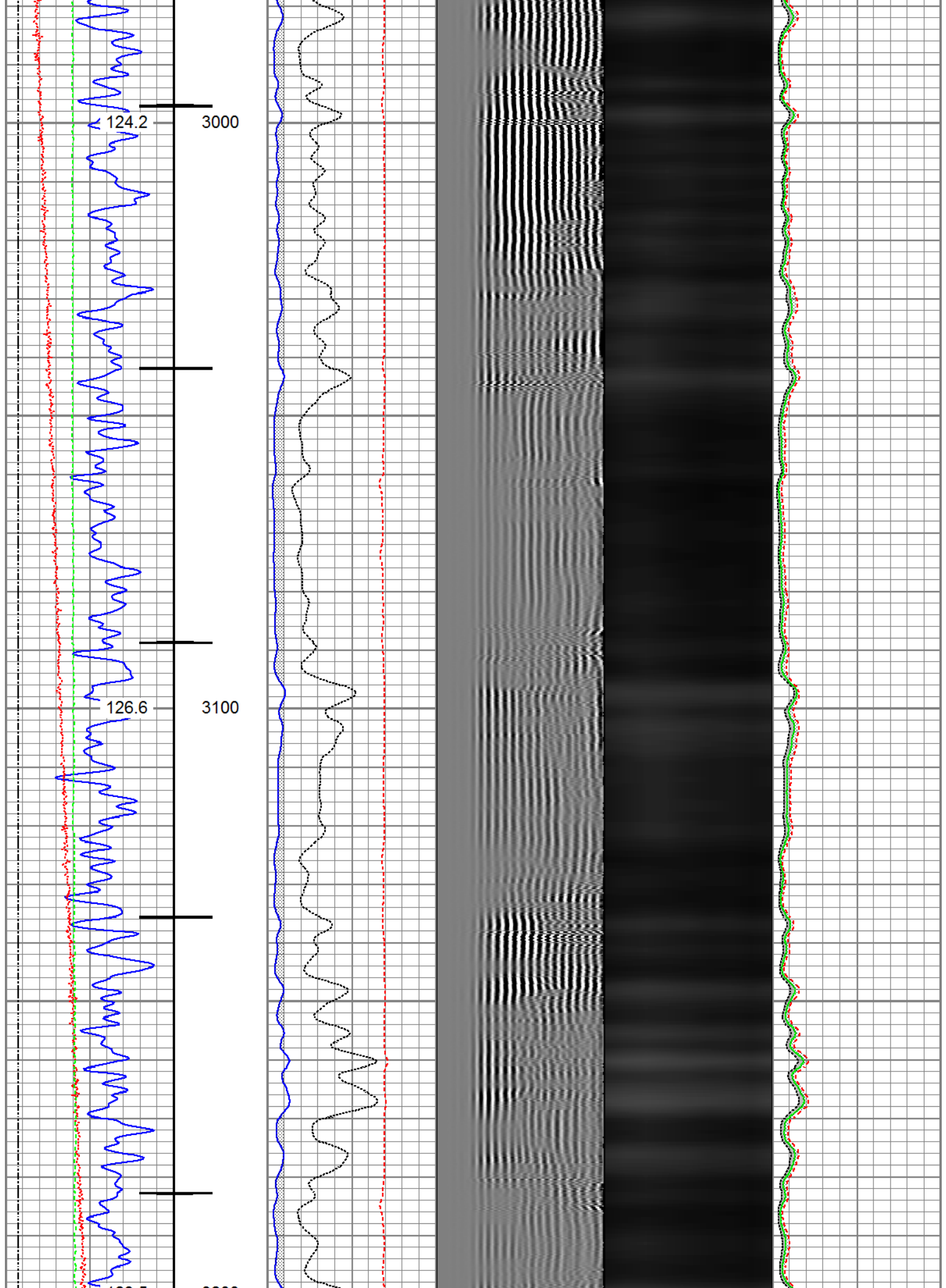


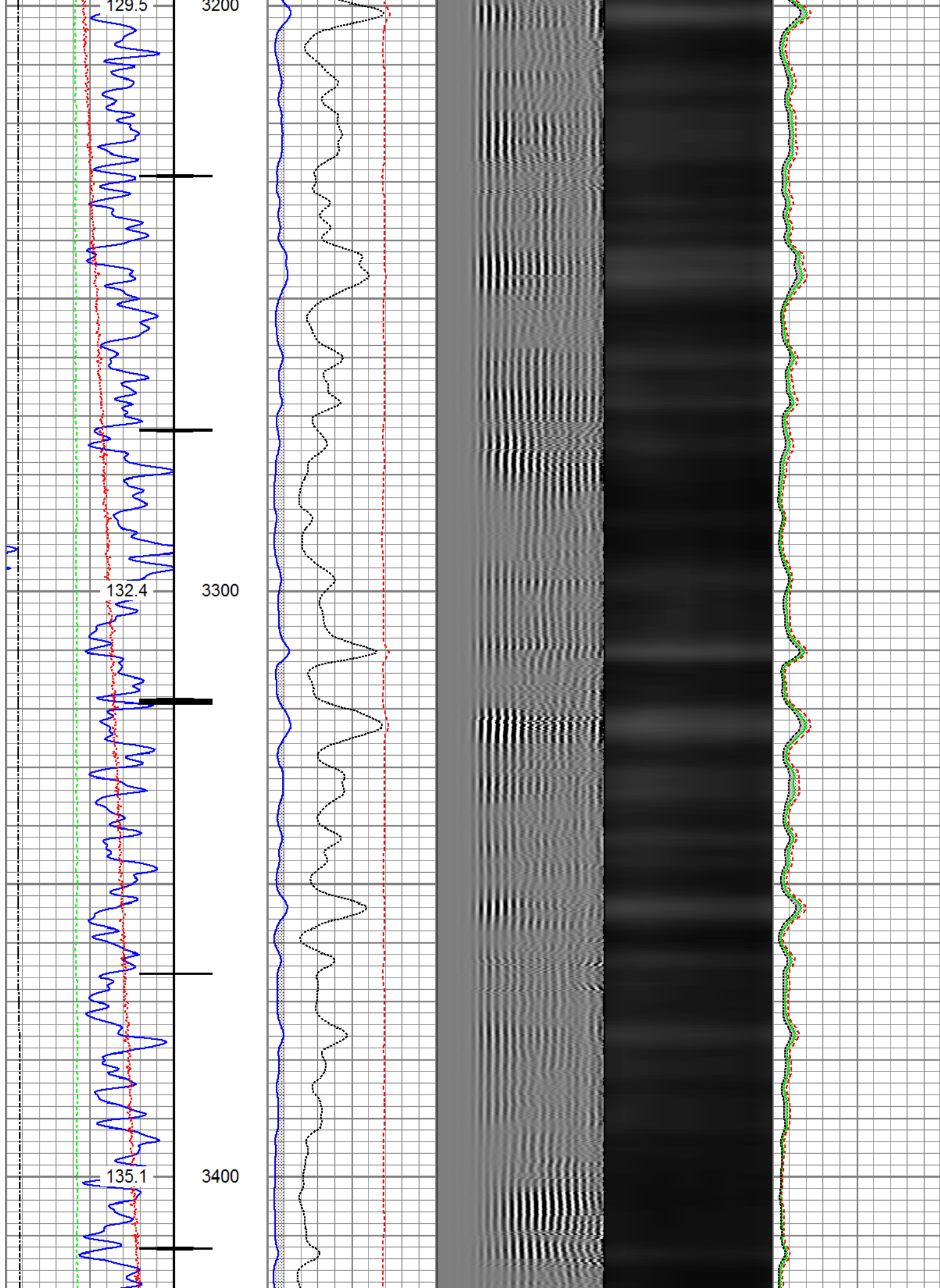


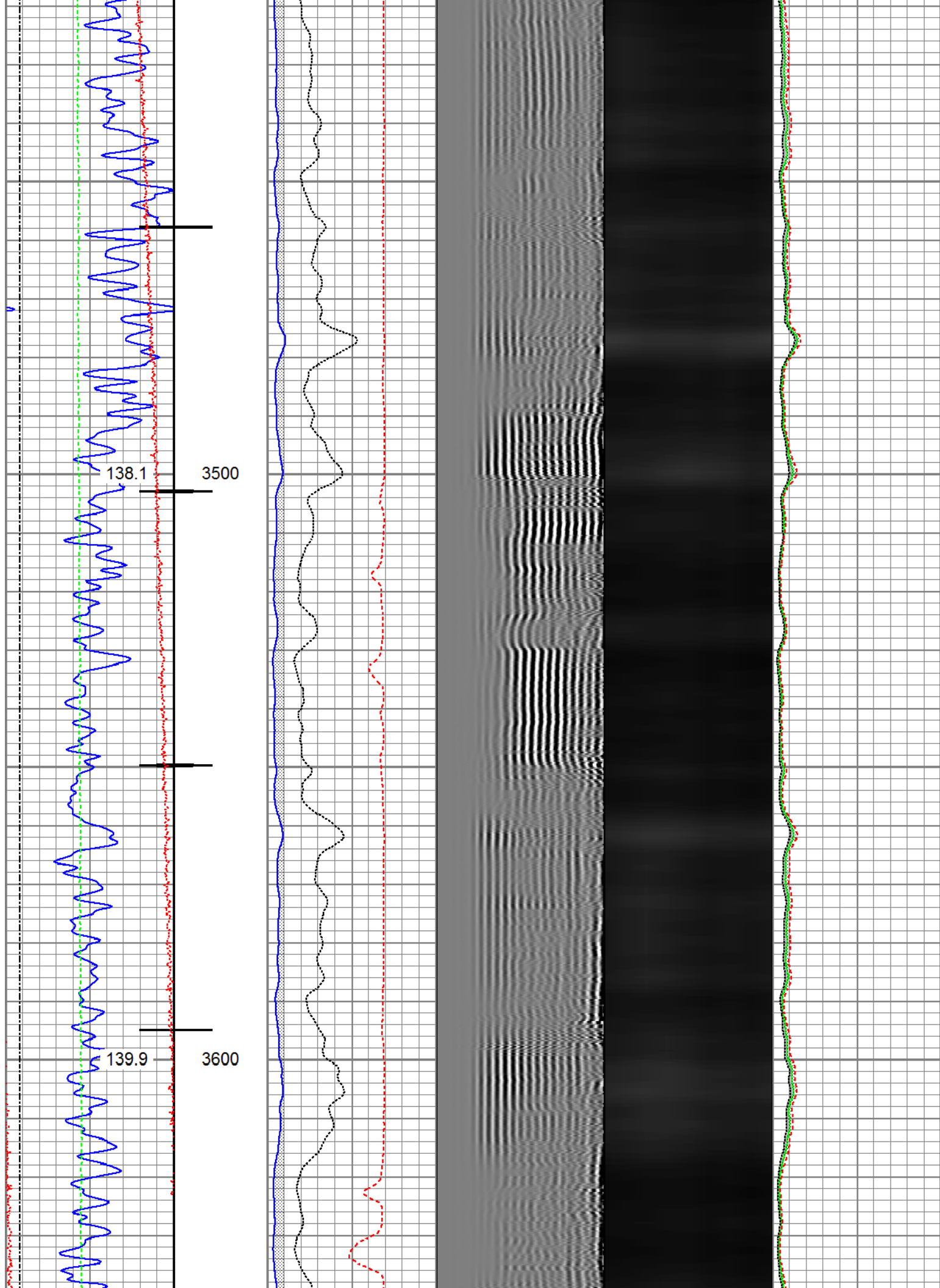


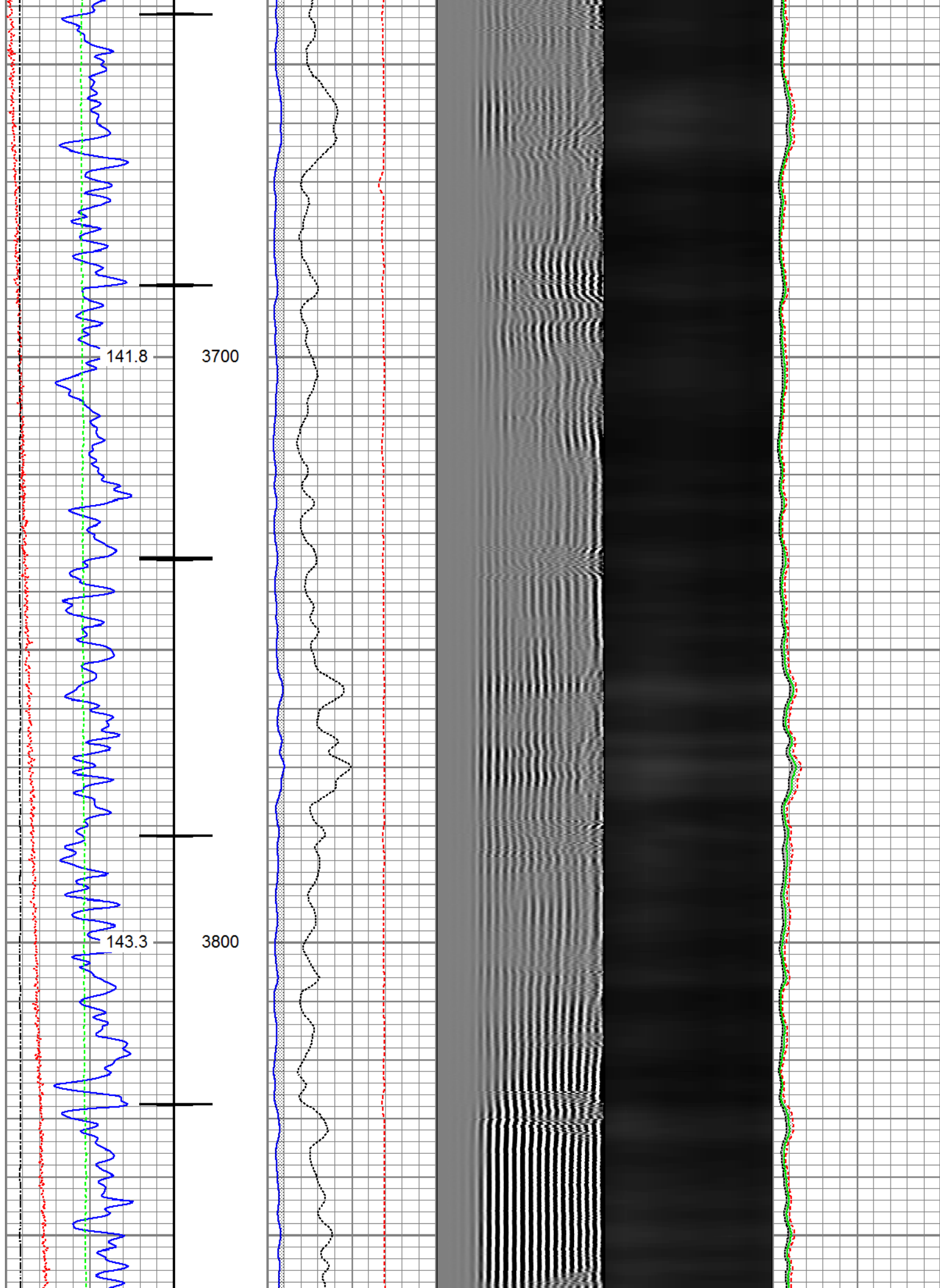


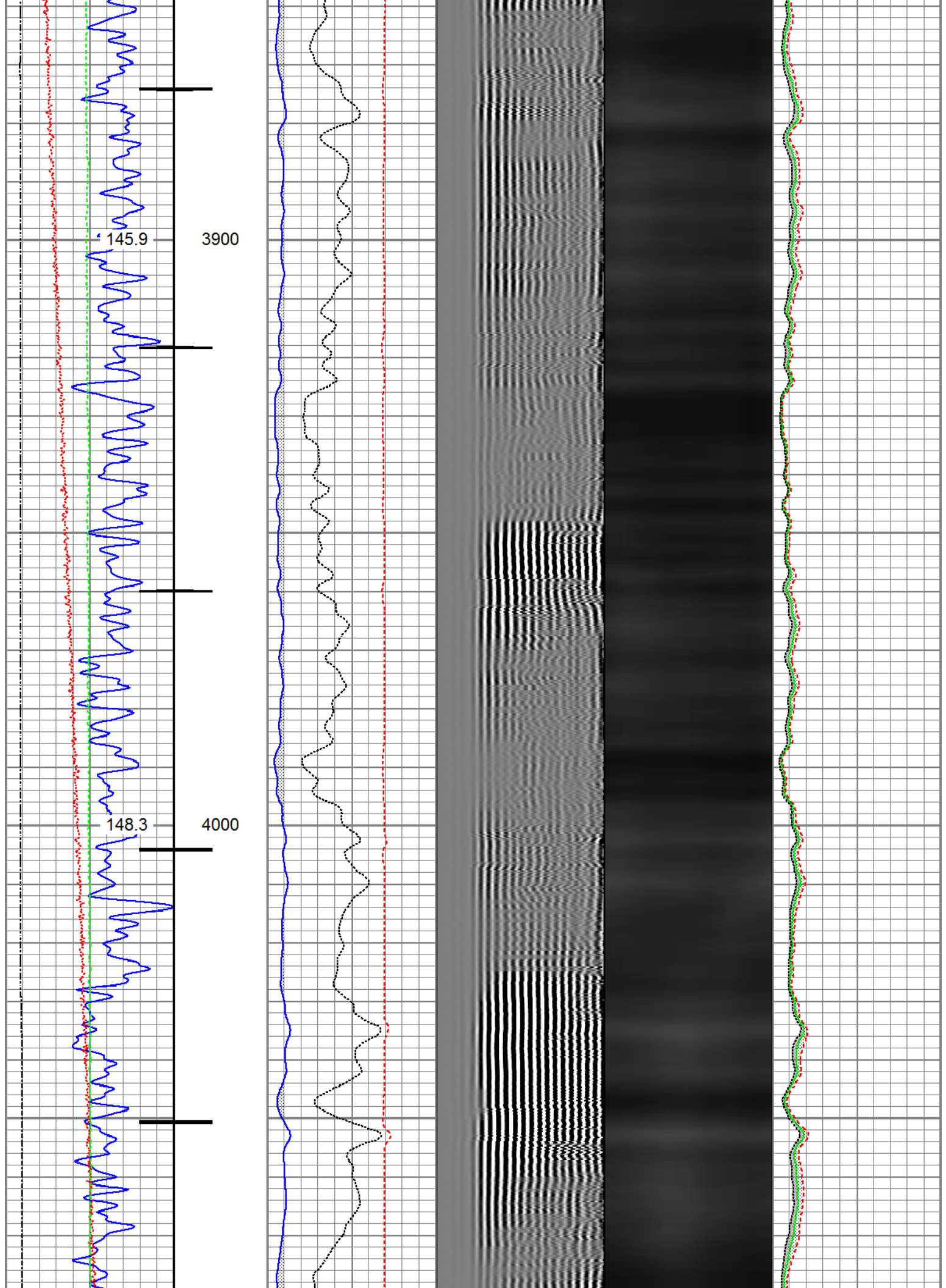


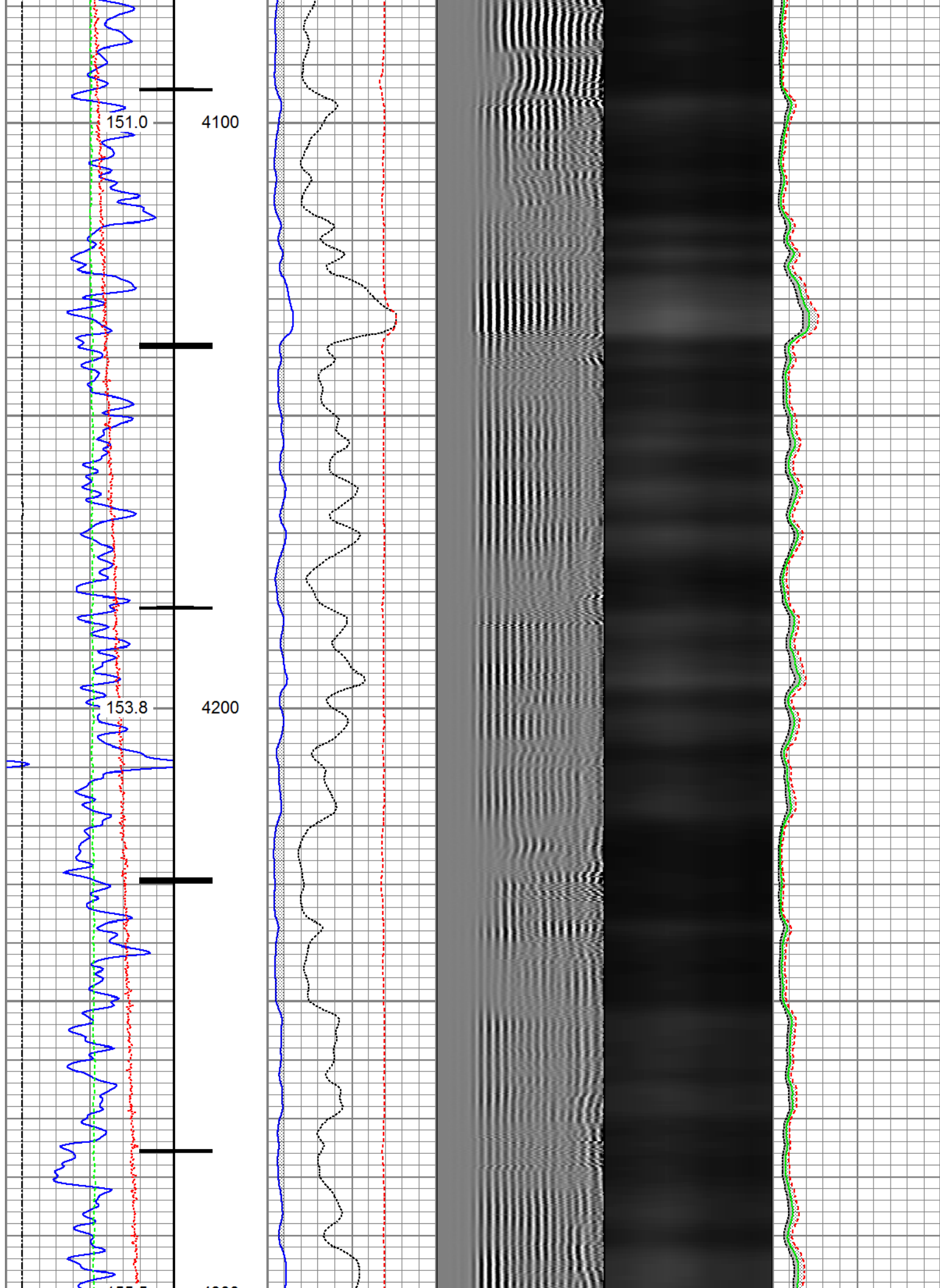


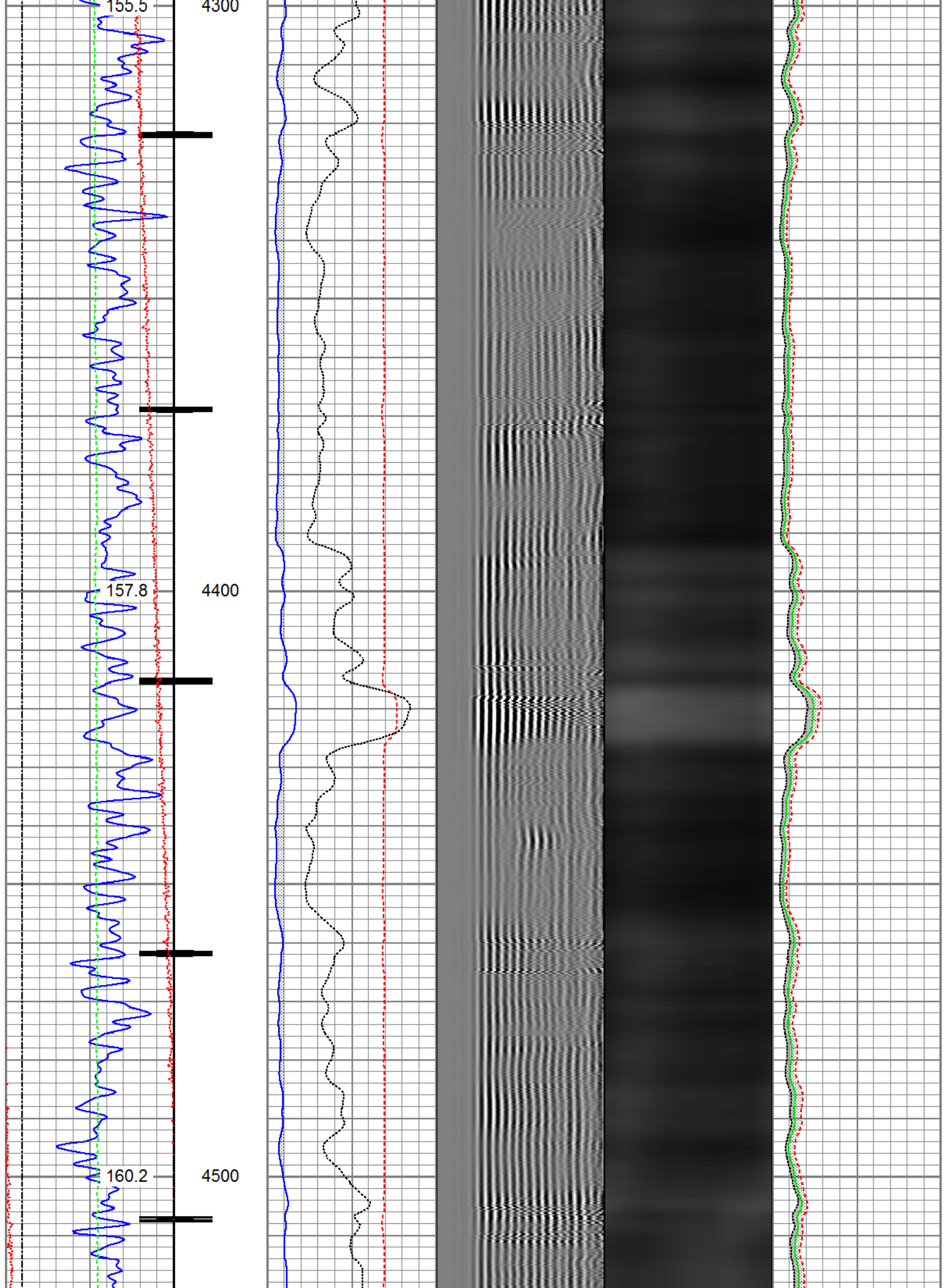


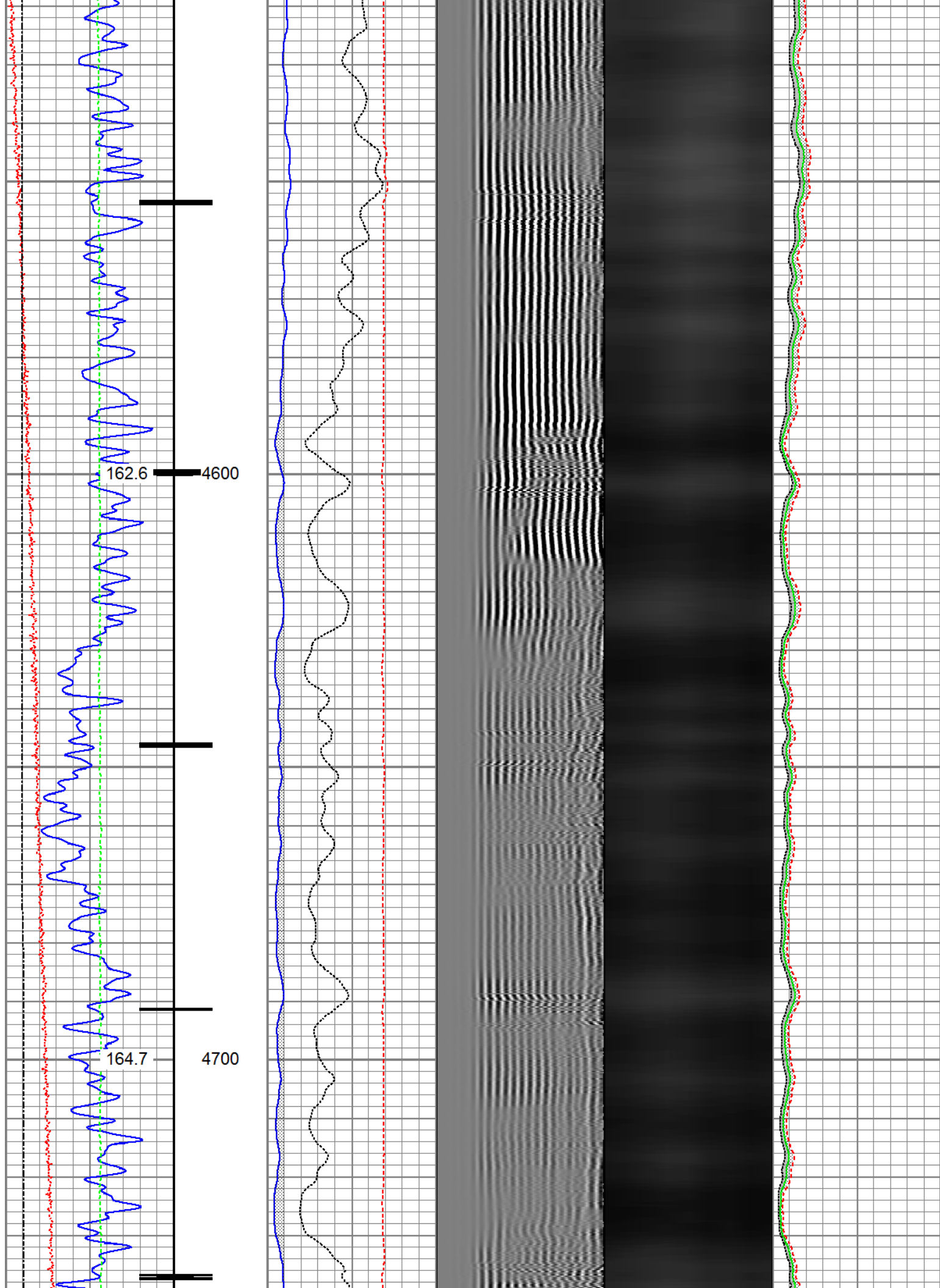


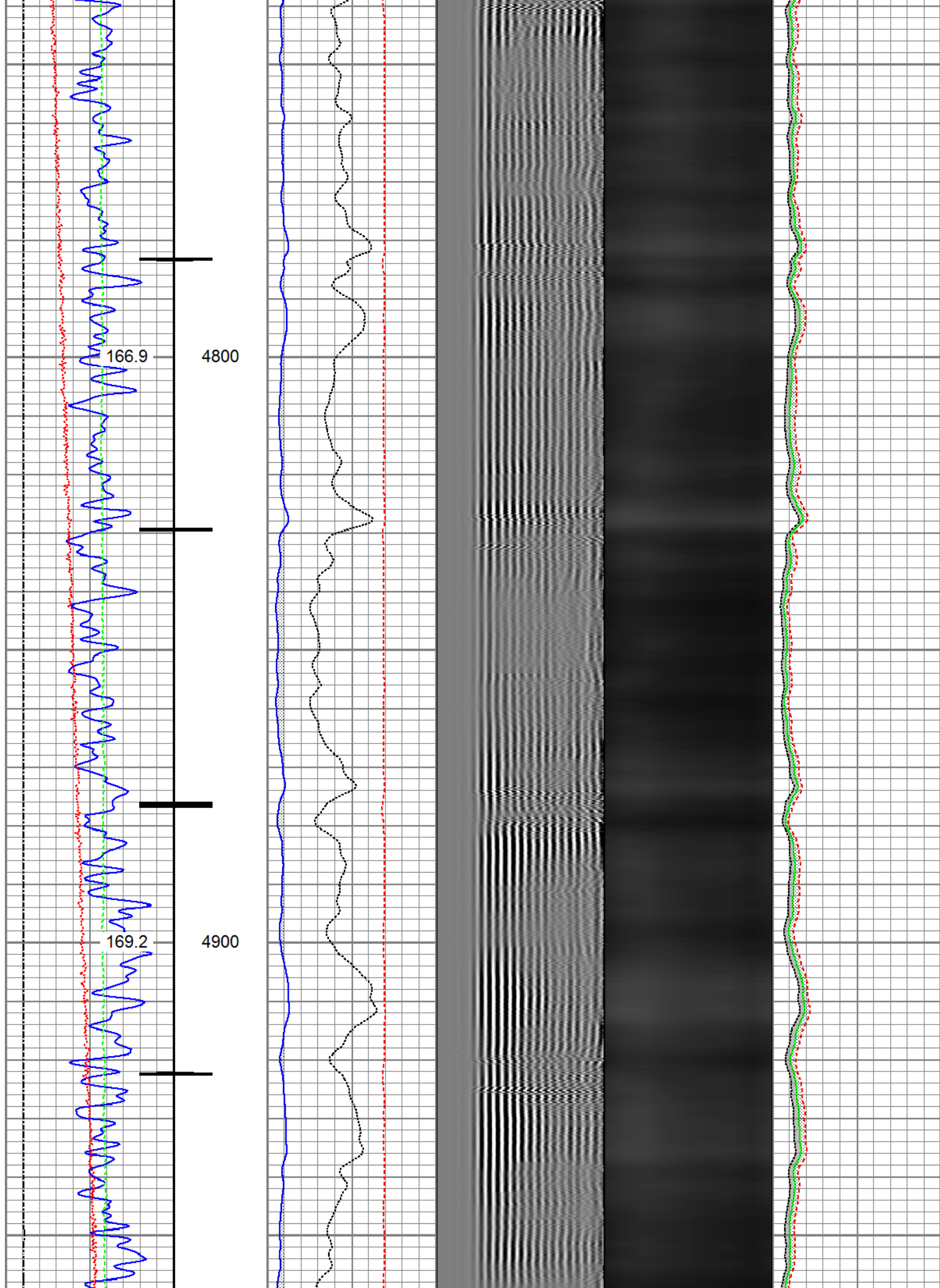


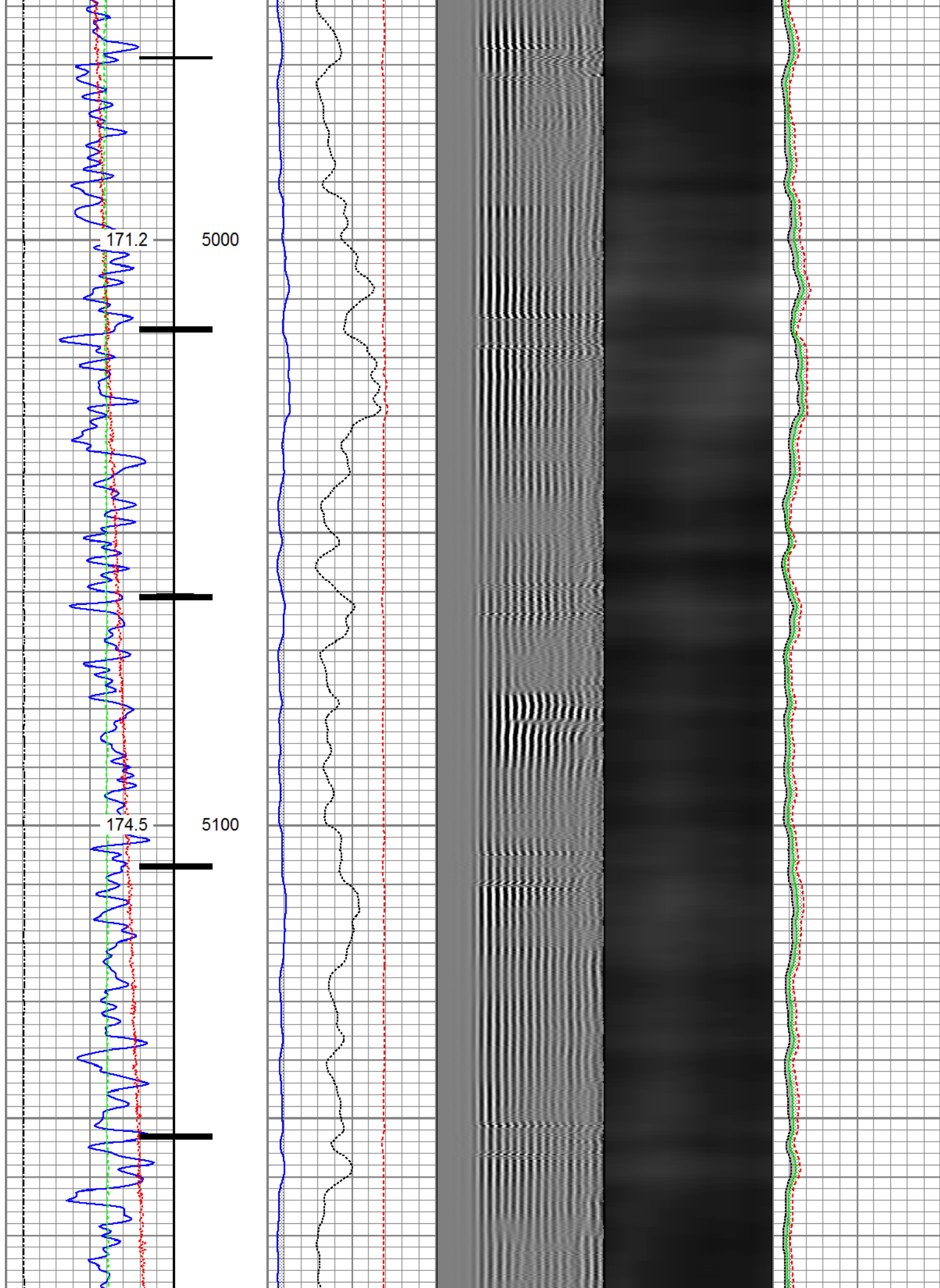


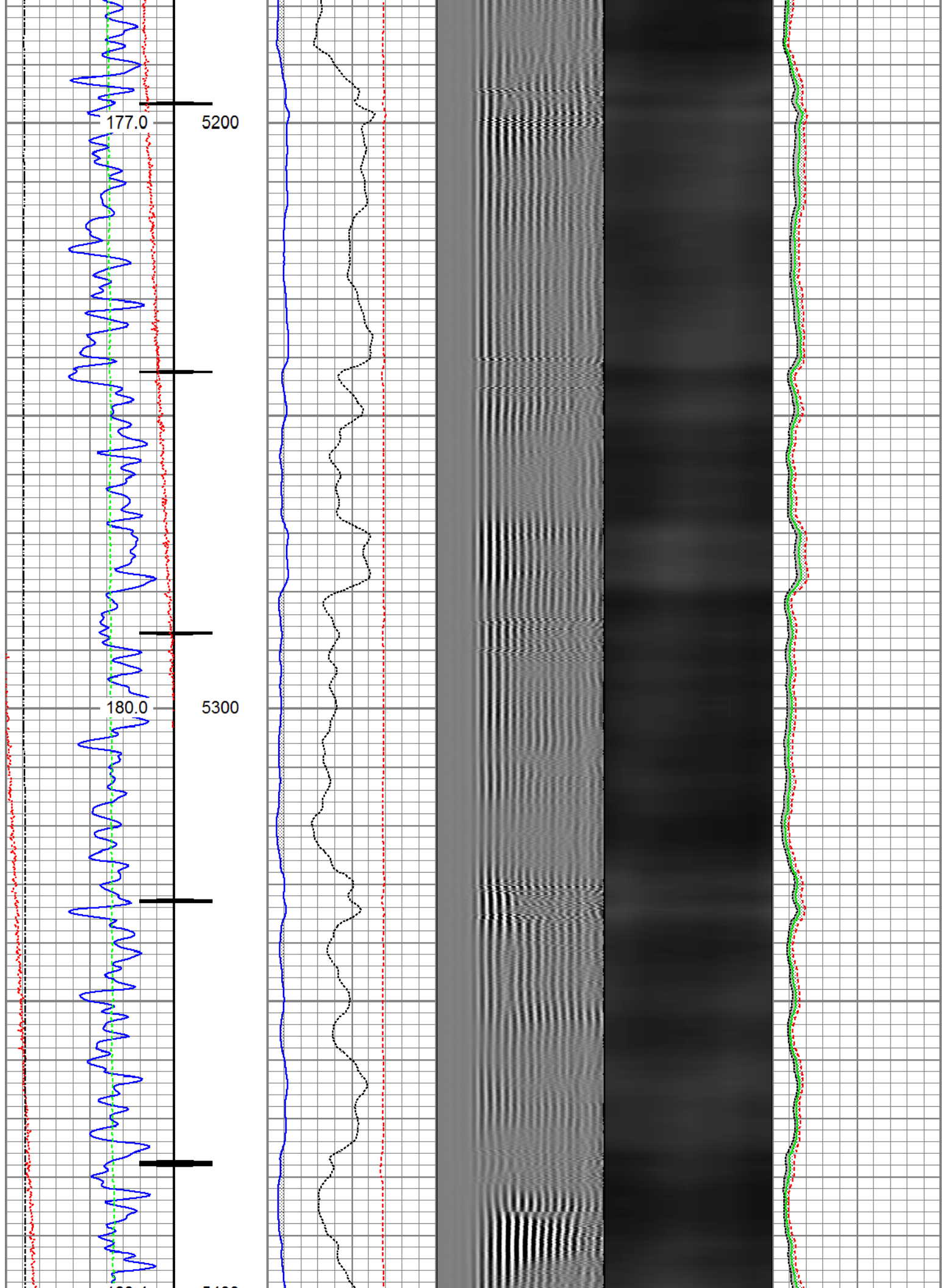


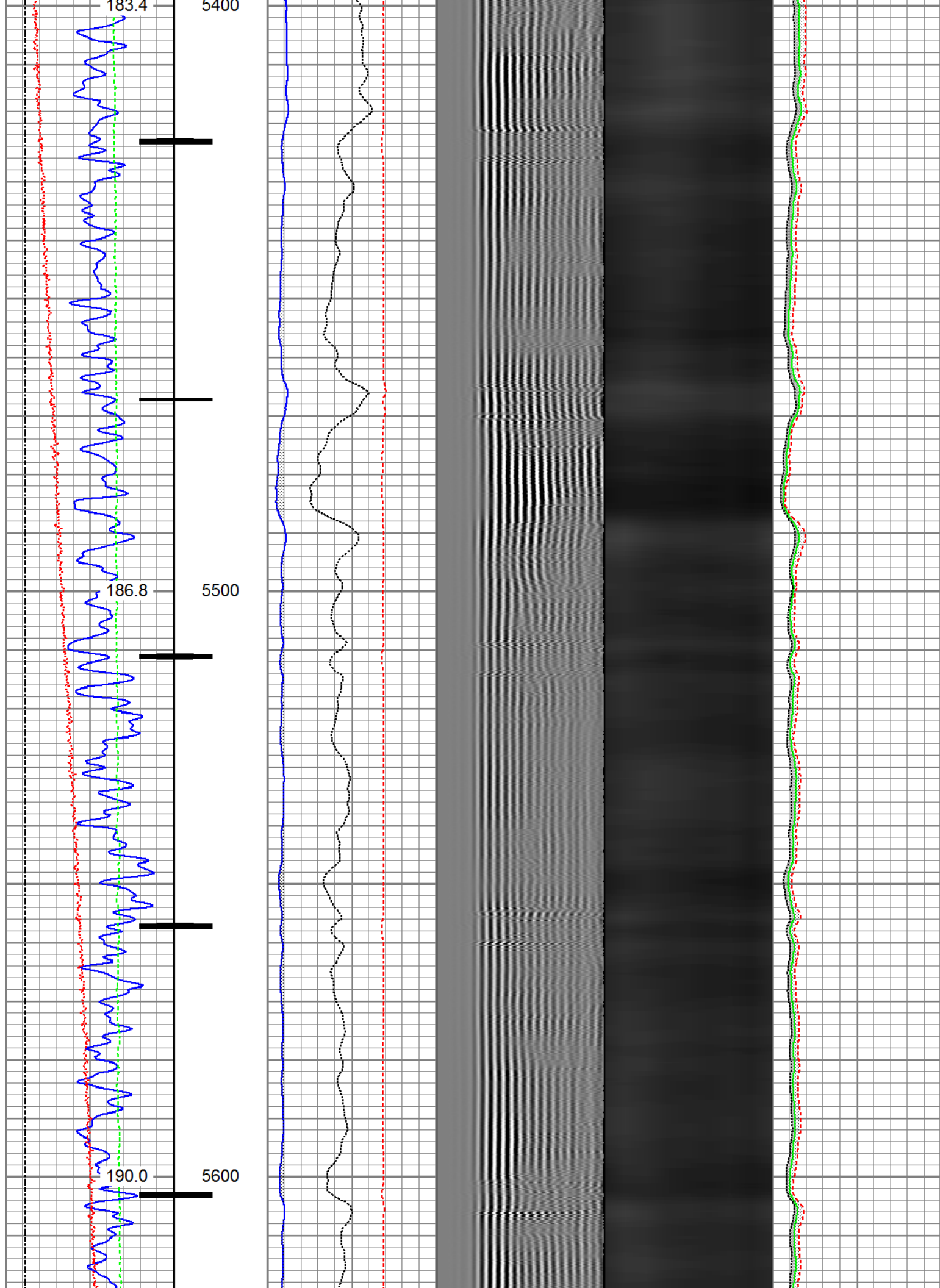


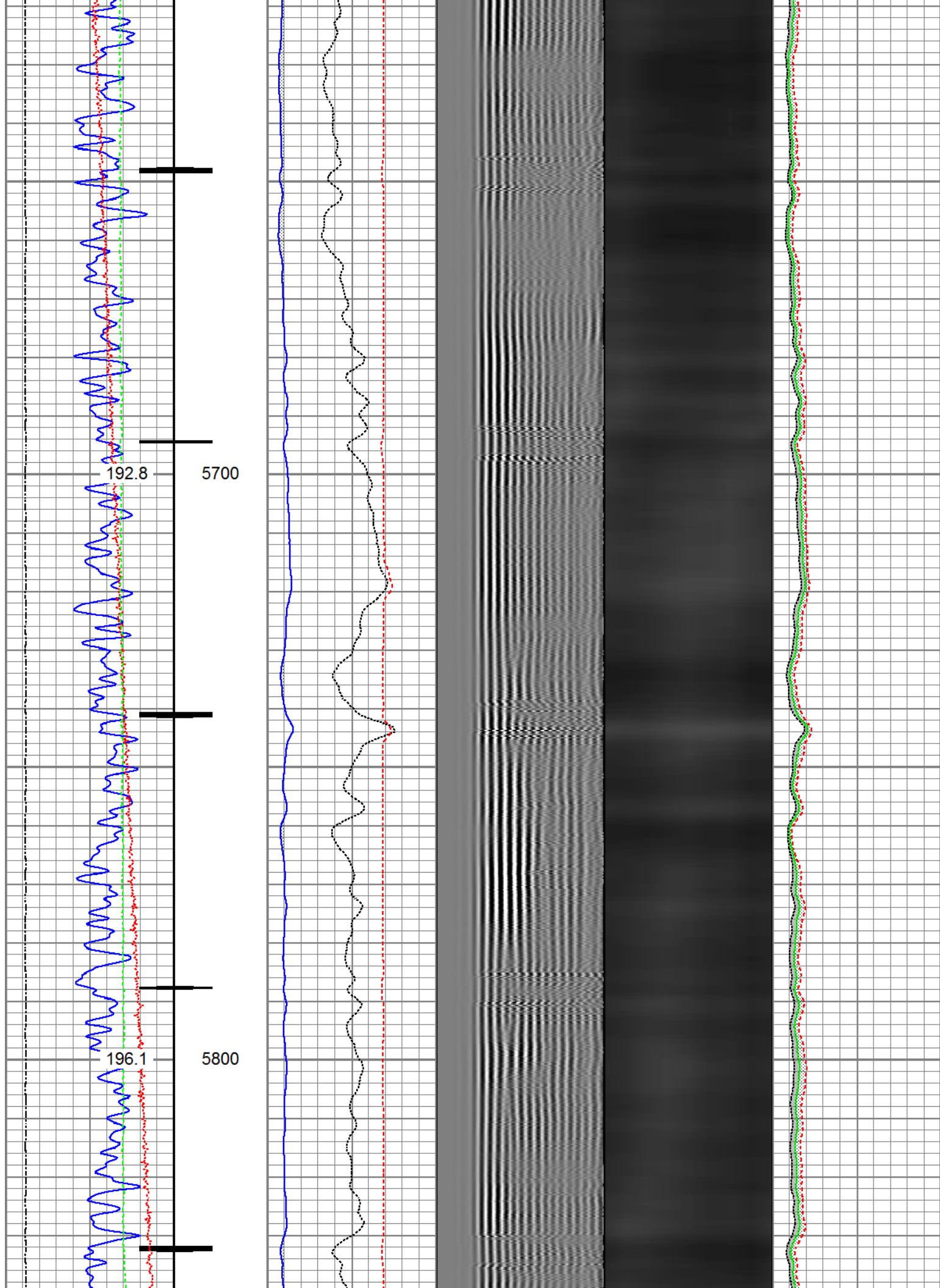


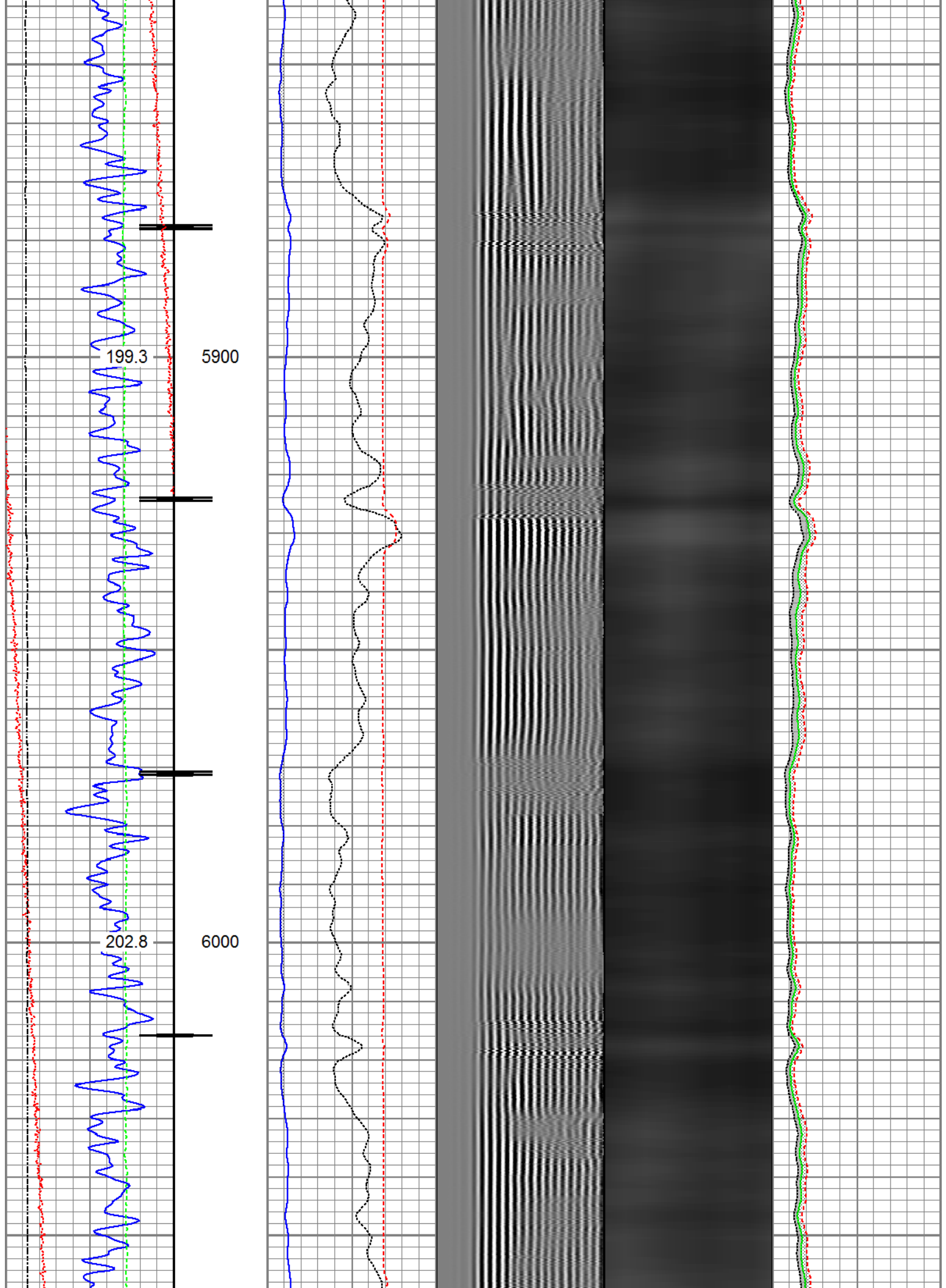










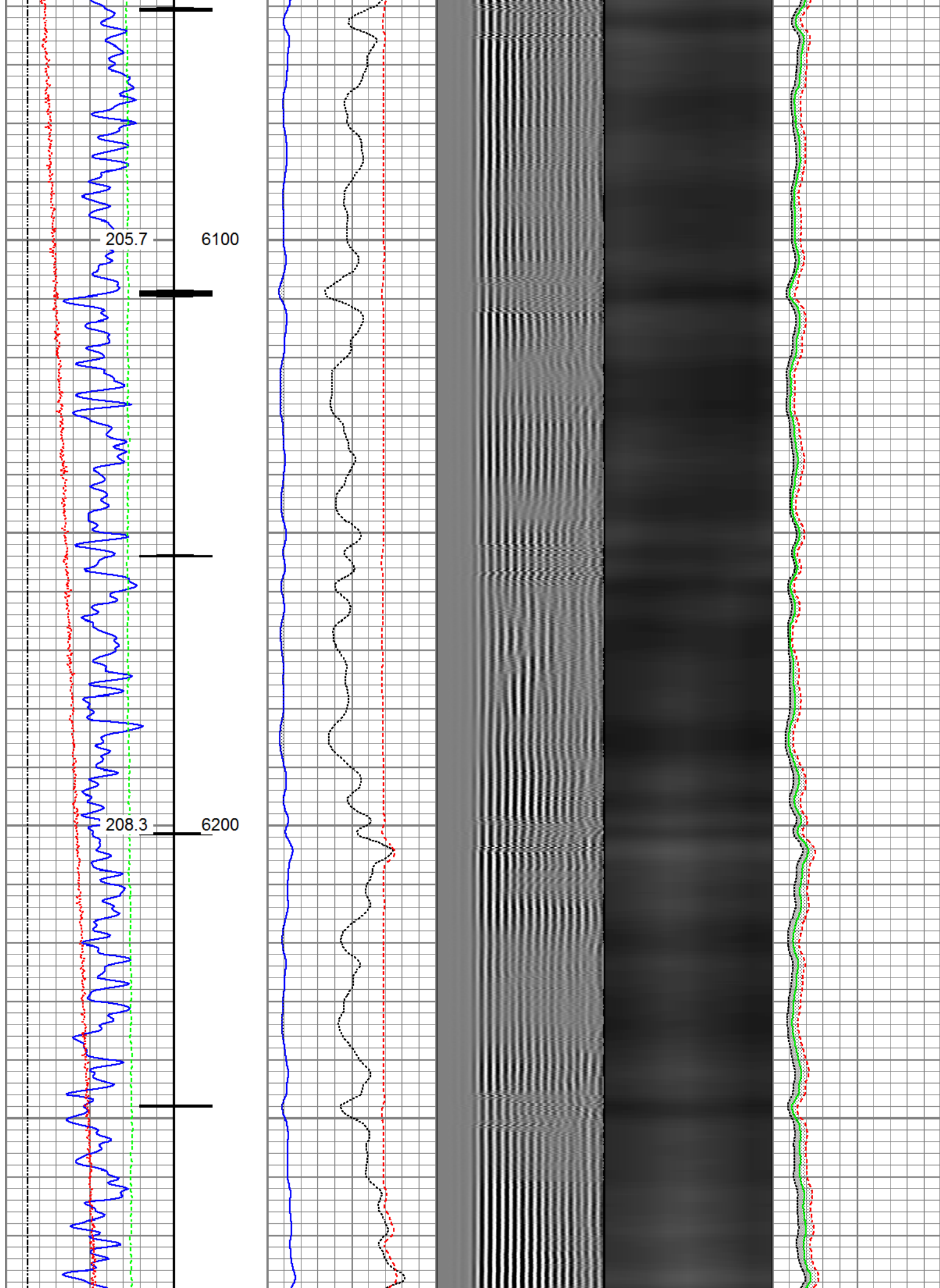


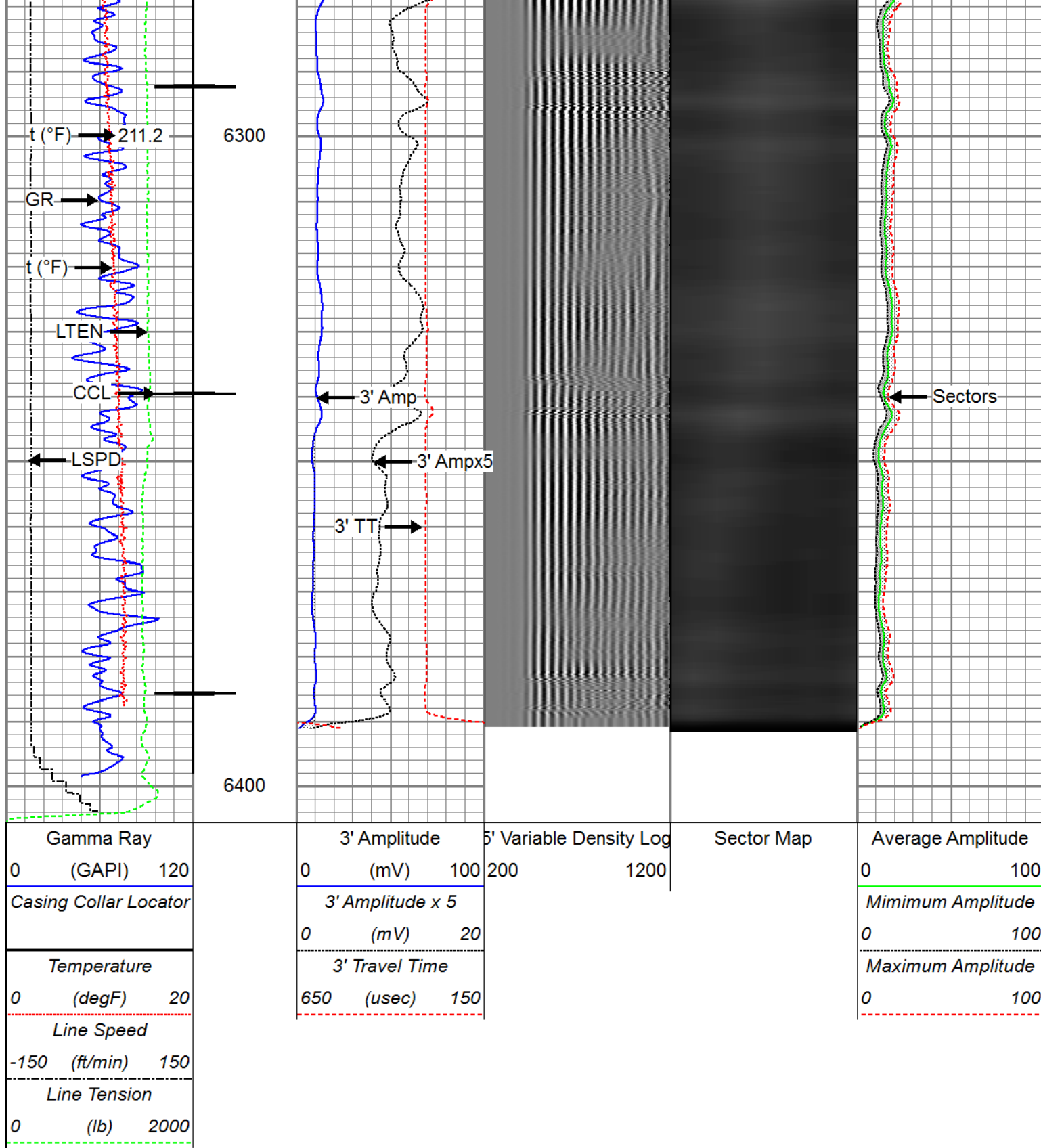
199.3

5900

202.8

6000



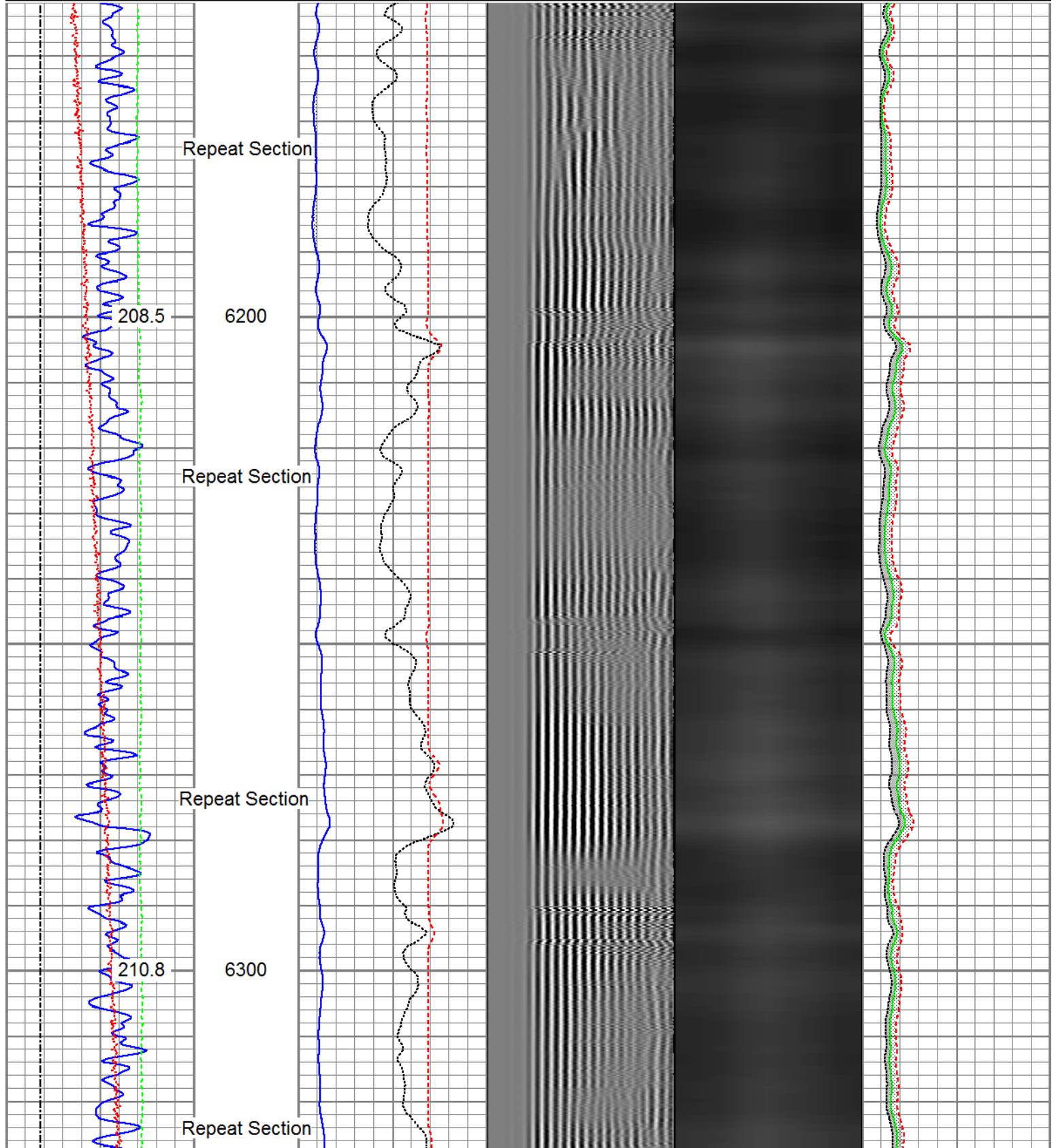


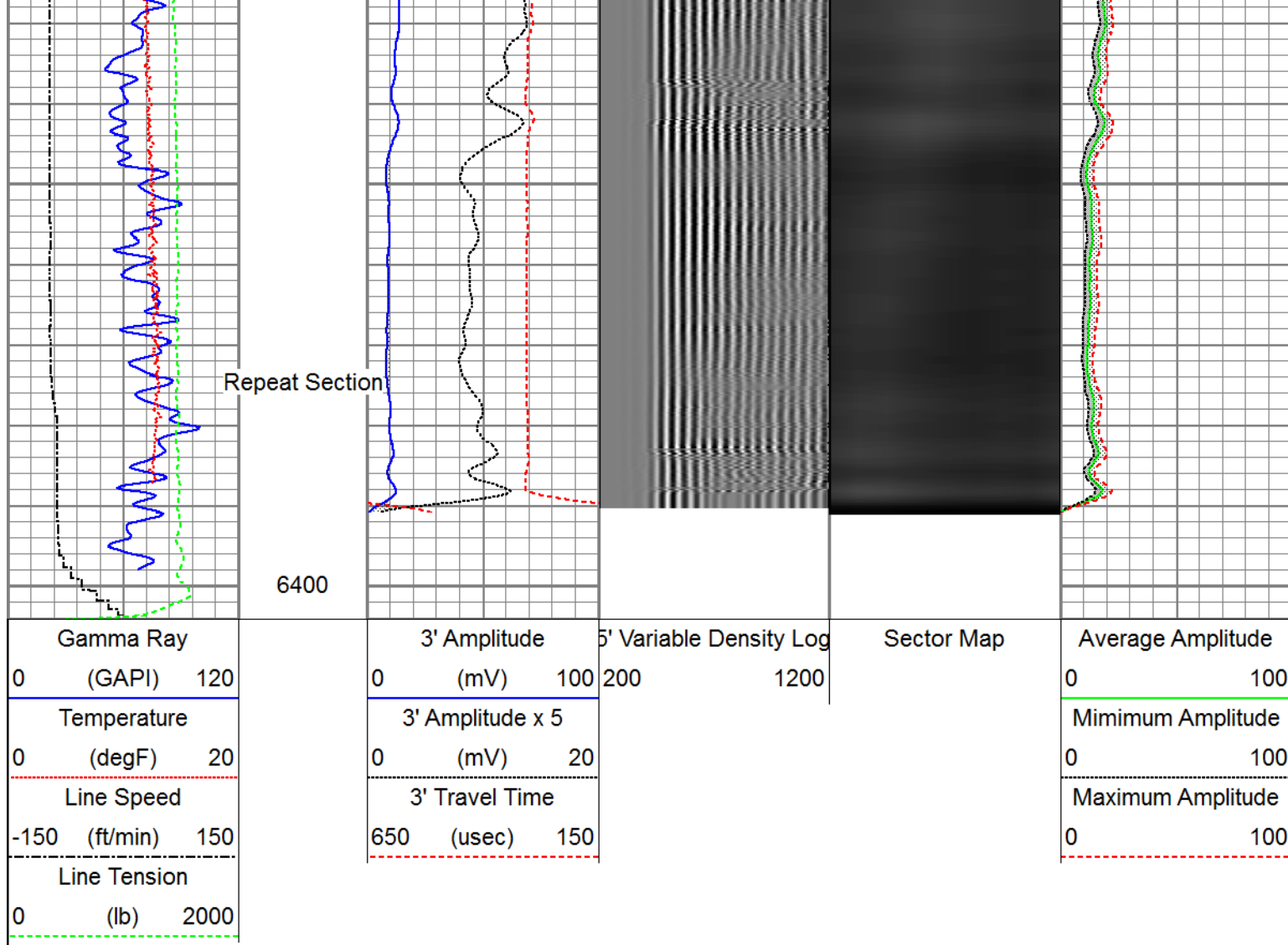
## Repeat Pass

Recorded with 2500 PSI Surface Induced Pressure

Database File	synergy_orr_state_23c_35_m_17_april_2017_rbl\processed_synergy_orr state 23c-35-m_04-17-17
Dataset Pathname	Repeat.1
Presentation Format	ros_radri
Dataset Creation	Tue Apr 25 09:36:06 2017
Charted by	Depth in Feet scaled 1:240

Charted by \_\_\_\_\_ Depth: 100





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/16" 1.03 Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40
			Probe_ELine_BowSpring_Centralizer-P_EB52.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.8875	2.75	20.00
Temp	16.72					
WVFS8	14.55		Probe_RADII-C-P_RBT_2750 (FW1305-09)9.19 Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75	105.00
WVFS7	14.55					
WVFS6	14.55					
WVFS5	14.55					
WVFS4	14.55					

WVFS3	14.55					
WVFS2	14.55					
WVFS1	14.55					
WVFCAL	14.55					
WVF3FT	14.55					
WVF5FT	13.55					
HeadVolt	10.30					
			Probe_ELine_BowSpring_Centralizer-P_EB	2.8875	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			
DCCL	6.51					
CCL	6.51					
			Probe_GR_CCL-P_CGR_2750_S (FW1307.4.54)	2.75	55.00	
			Probe 2-3/4" Digital CCL / Gamma Ray Combined			
GR	3.77					
			Probe_ELine_BowSpring_Centralizer-P_EB	2.8875	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			
Dataset: processed_synergy_orr state 23c-35-m_04-17-17_rbl.db: field/well/run1/Main.1 Total length: 23.40 ft Total weight: 225.40 lb O.D.: 2.75 in						

Calibration Report		
Database File	c:\programdata\warrior\data\synergy_orr_state_23c_35_m_17_april_2017_rbl\processed_synergy_orr	
Dataset Pathname	Main.1	
Dataset Creation	Mon Apr 17 10:13:52 2017	
Gamma Ray Calibration Report		
Serial Number:	FW1307-038	
Tool Model:	P_CGR_2750_S	
Performed:	Thu Nov 10 10:56:13 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6300	GAPI/cps
Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1305-098	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	18.612	ft

## Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.698	0.800	71.921	102.054	0.673
CAL	0.007	0.748				
5'	-0.022	0.537	0.800	71.921	127.239	3.635
SUM						
S1	0.002	0.703	0.000	100.000	142.530	-0.251
S2	0.002	0.712	0.000	100.000	140.855	-0.286
S3	0.002	0.726	0.000	100.000	138.121	-0.262
S4	0.002	0.709	0.000	100.000	141.350	-0.243
S5	0.002	0.711	0.000	100.000	141.043	-0.256
S6	0.002	0.705	0.000	100.000	142.176	-0.254
S7	0.002	0.708	0.000	100.000	141.685	-0.245
S8	0.001	0.703	0.000	100.000	142.490	-0.199

## Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	0.748	1.000	0.000

## Air Zero Calibration, performed Mon Apr 17 06:41:31 2017:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.007		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	0.007		0.000		0.000	
S8	0.007		0.000		-0.000	



Company	Synergy Resources Corporation
Well	Orr State 23C-35-M
Field	Wattenberg
County	Weld
State	Colorado