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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 Recorded Marker Joint at 5476-5486 FT Log ran from as deep as possible in heel to surface Recorded with 2500 PSI surface induced pressure Logging tools were clean and free of any debris upon completions of operations Thank you for choosing FMC Technologies Surface Integrated Services.



Recorded with 2500 PSI Surface Induced Pressure

Database File: c:\warrior\data\03-03-16_noble energy_wells ranch af05-655_rb\03-03-16_noble energy_wells ranch a

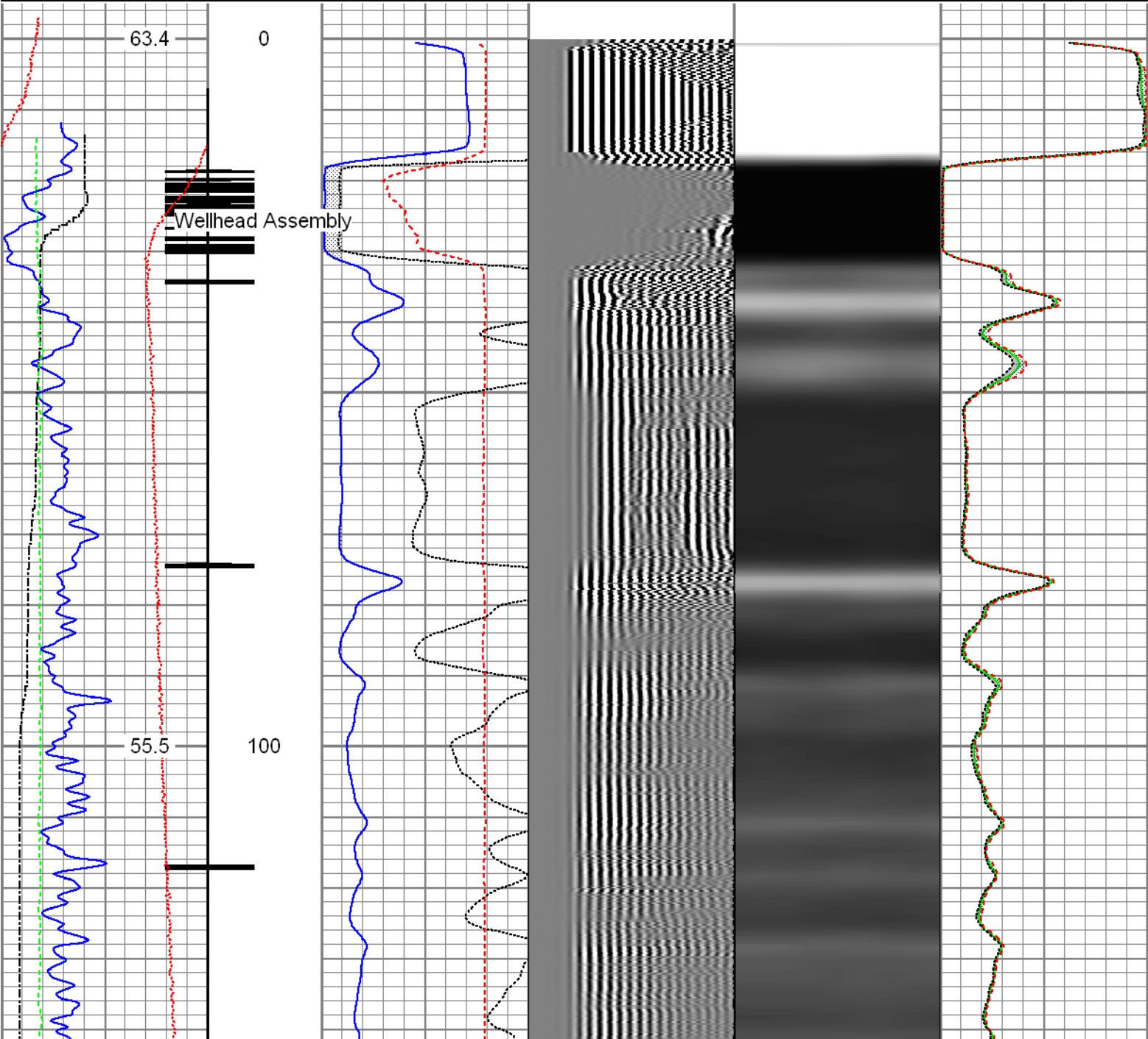
Dataset Pathname: pass6.1

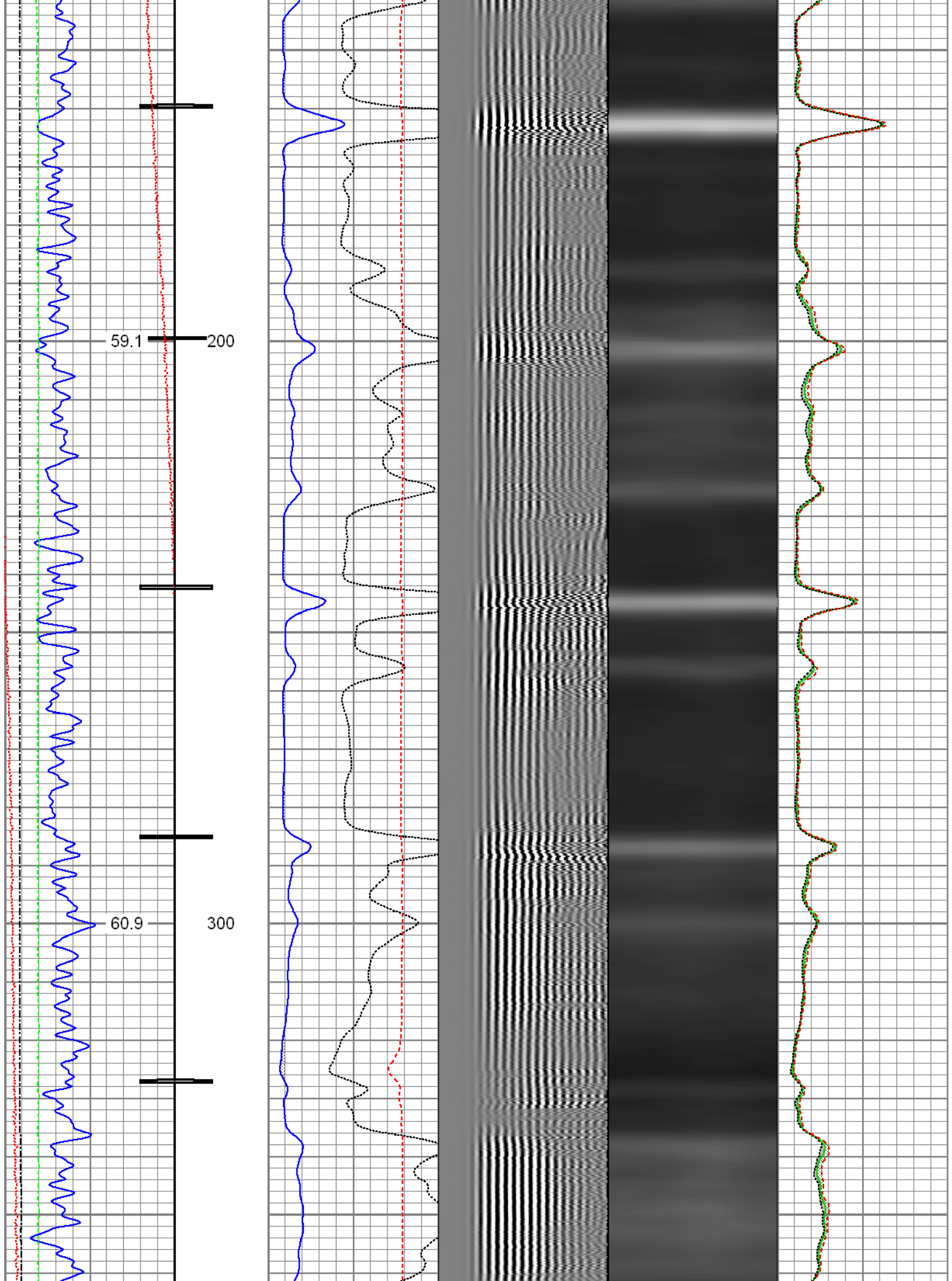
Presentation Format: radii

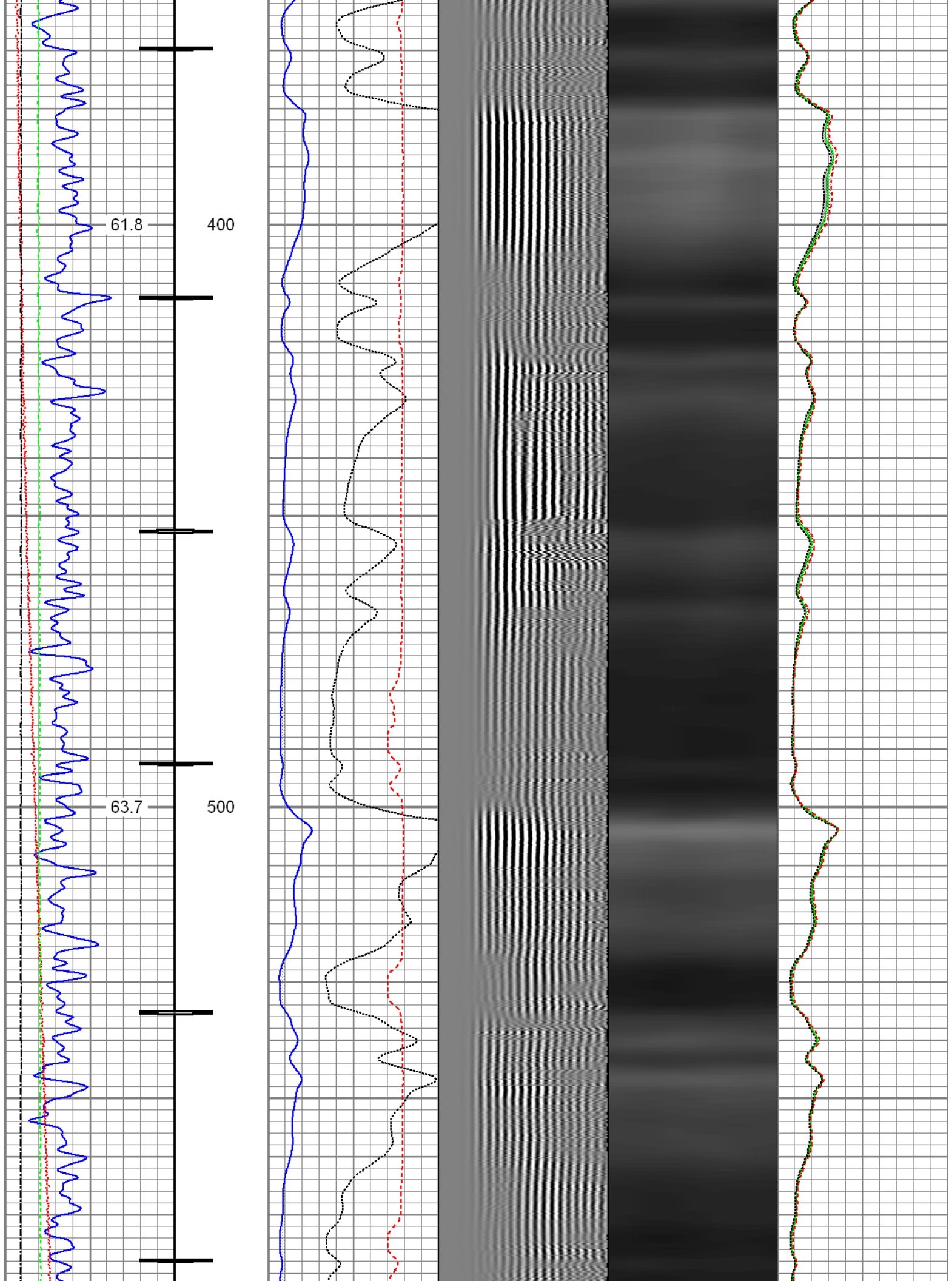
Dataset Creation: Thu Mar 03 15:52:04 2016 by Calc 7.0 B1

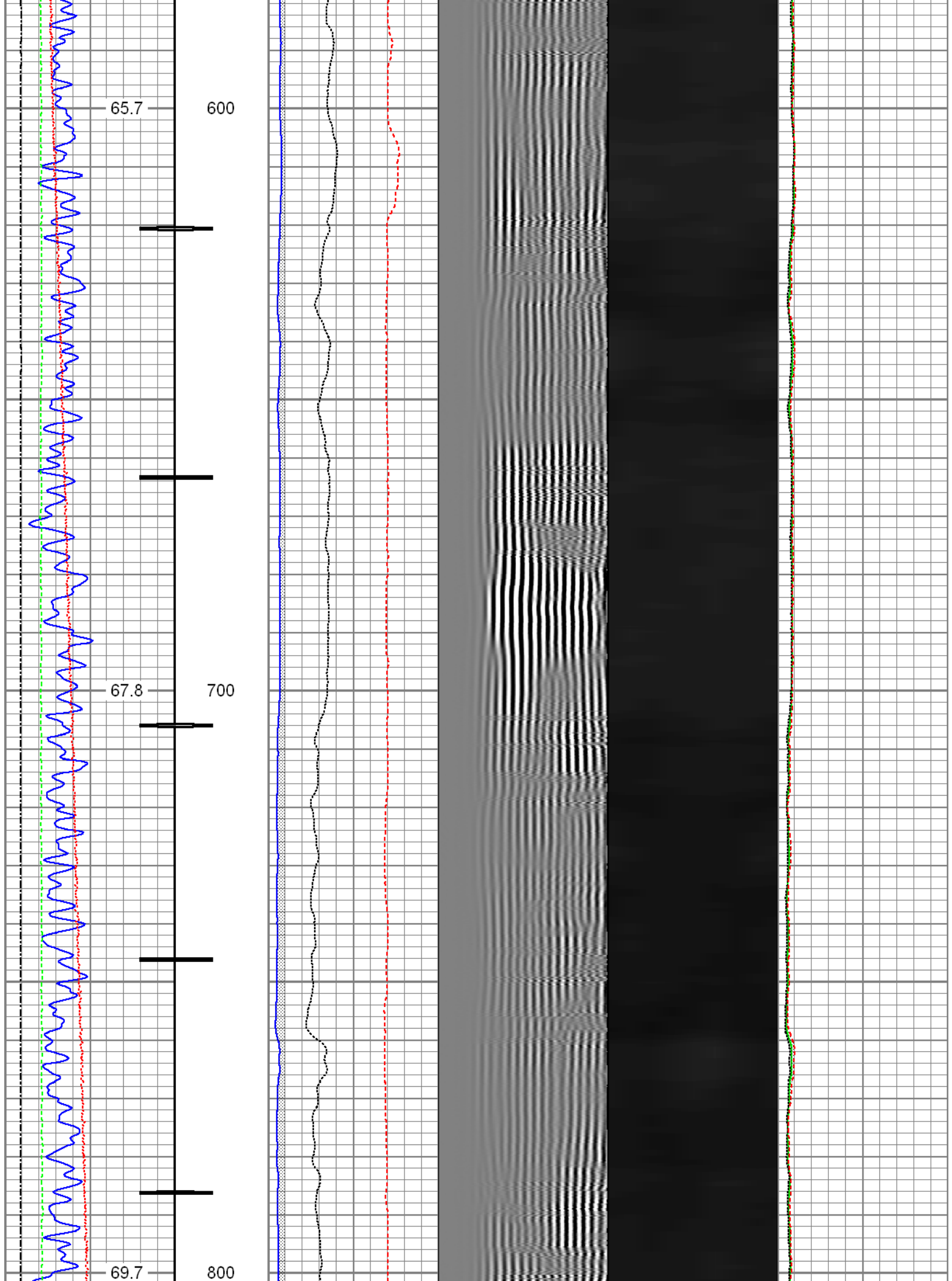
Charted by: Depth in Feet scaled 1:240

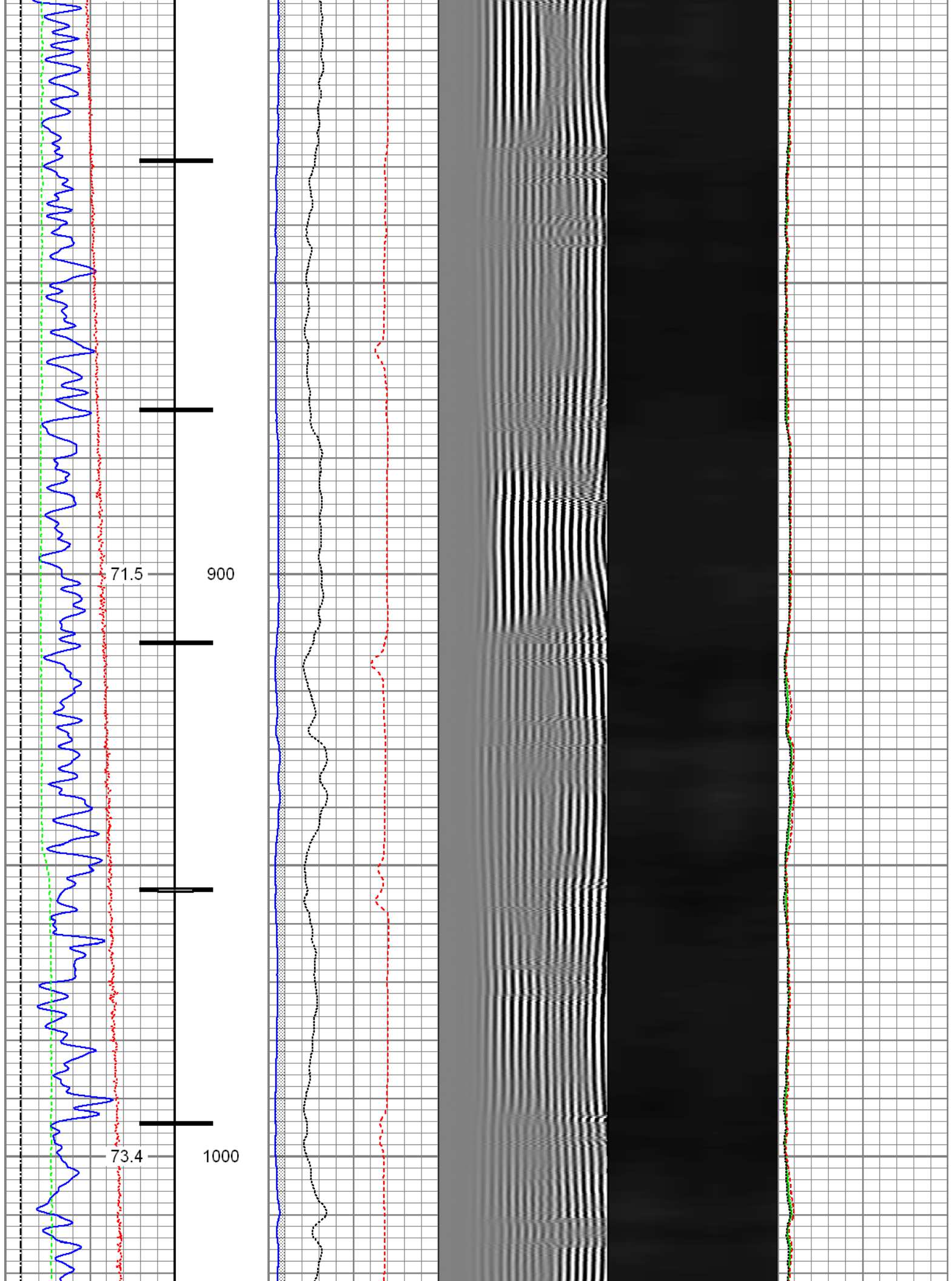
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150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

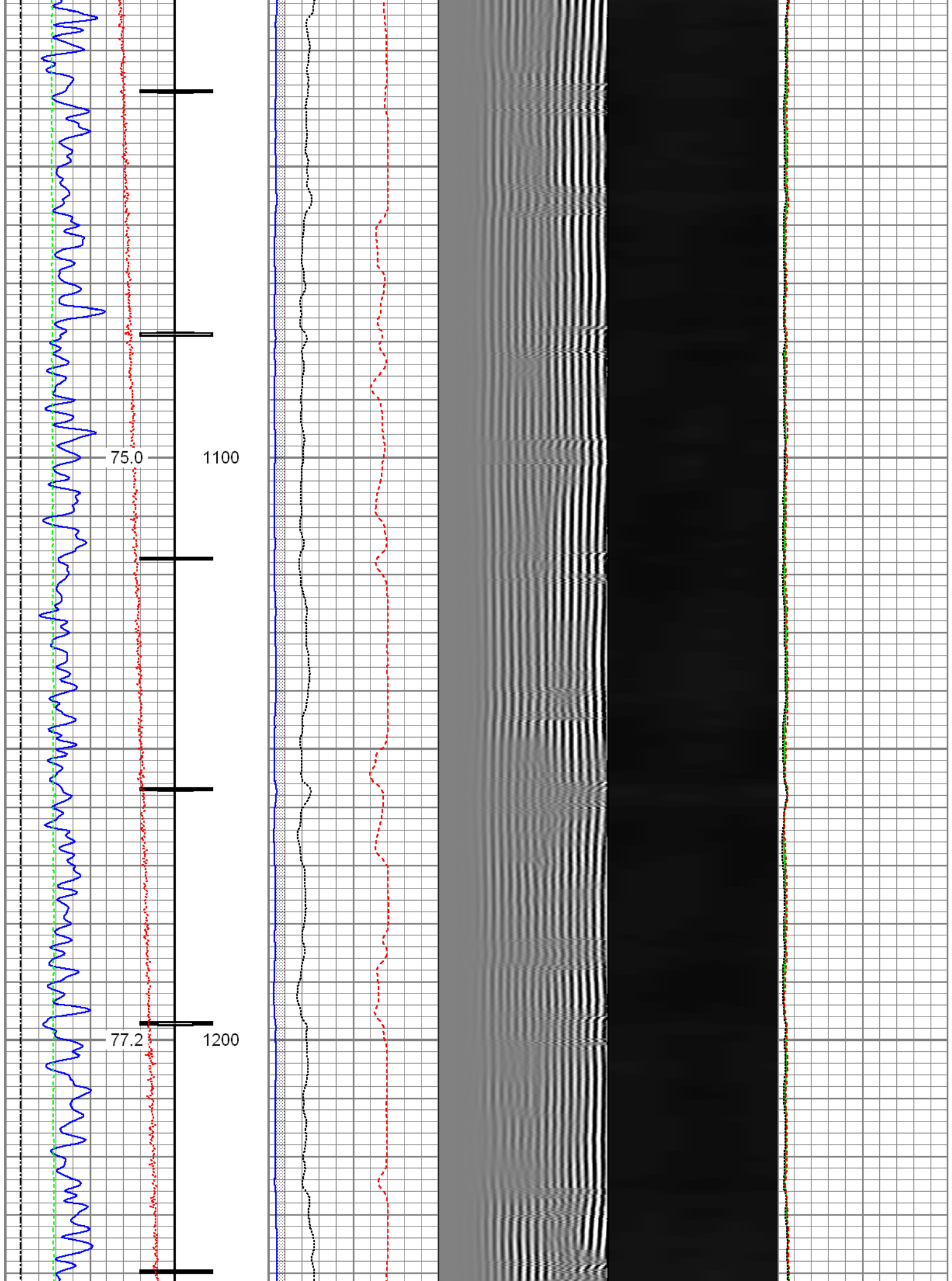


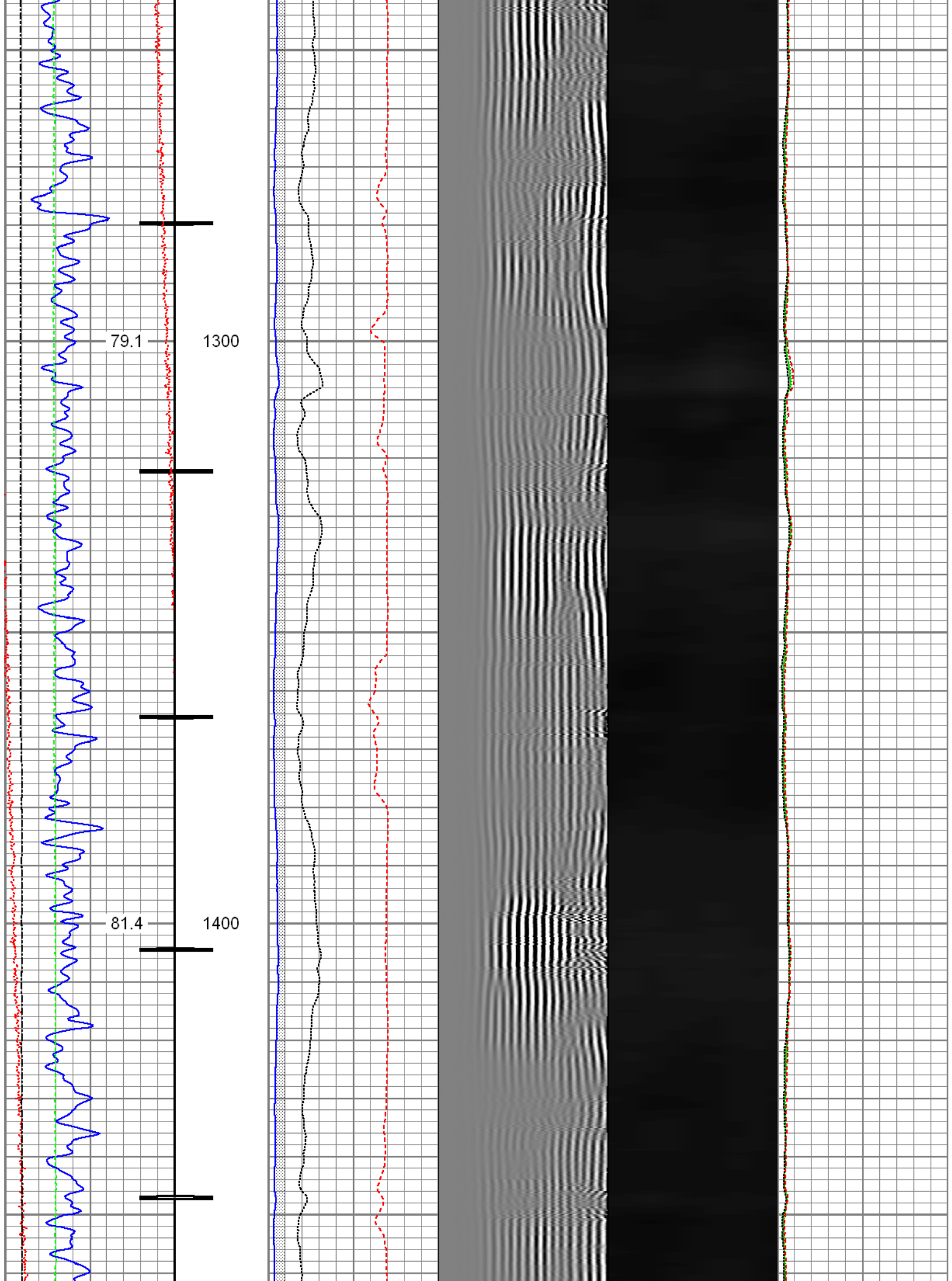


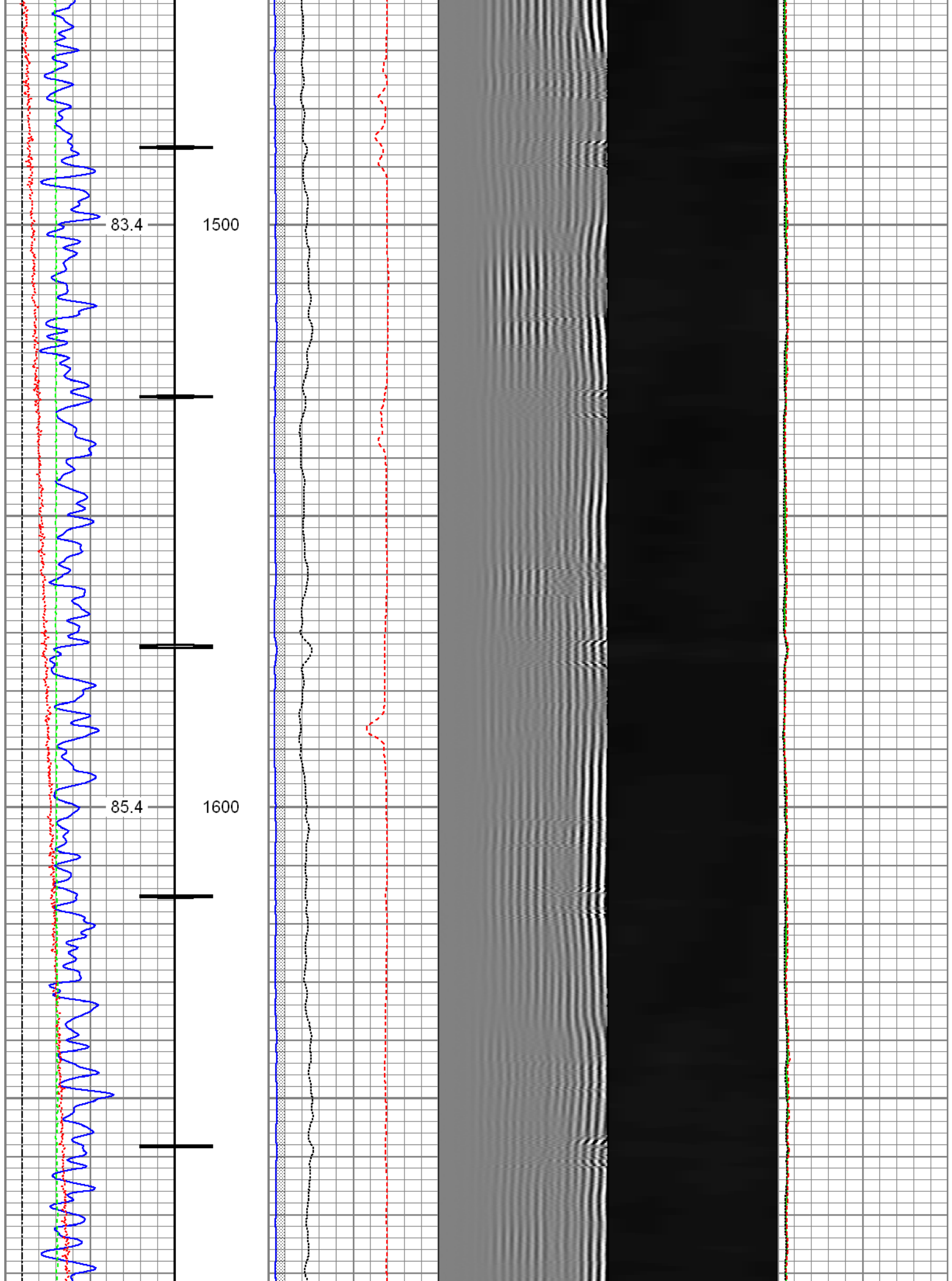


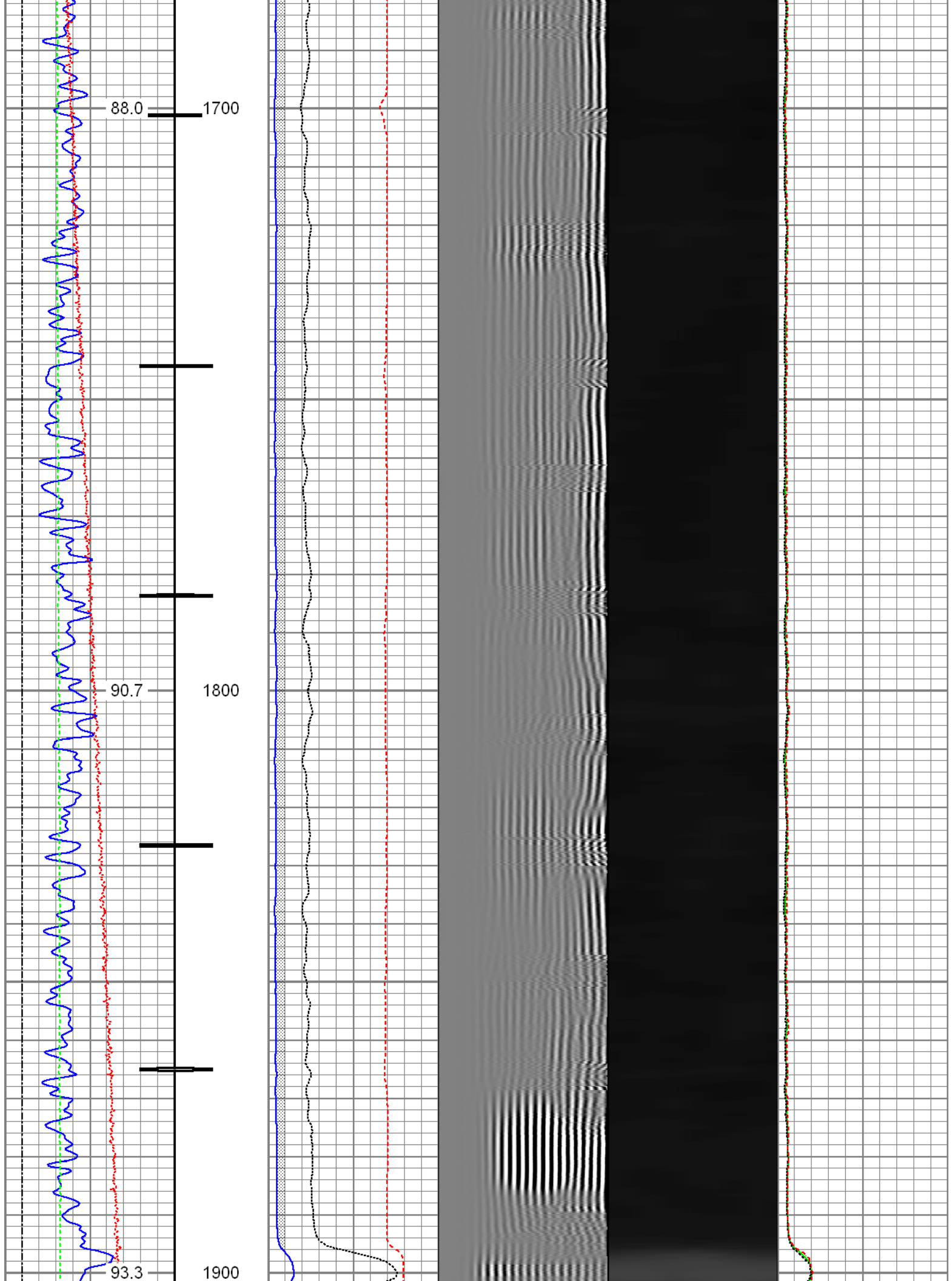


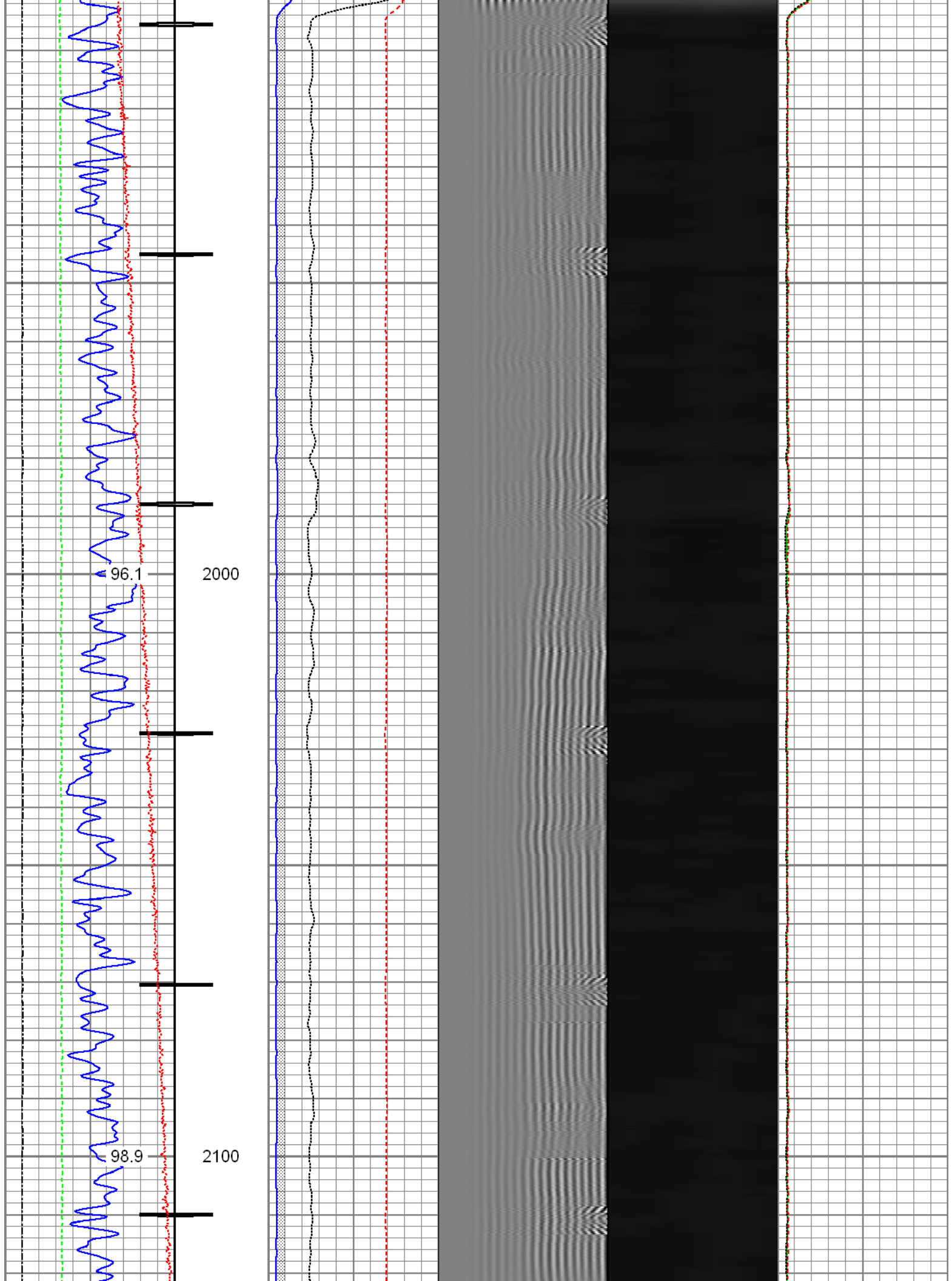


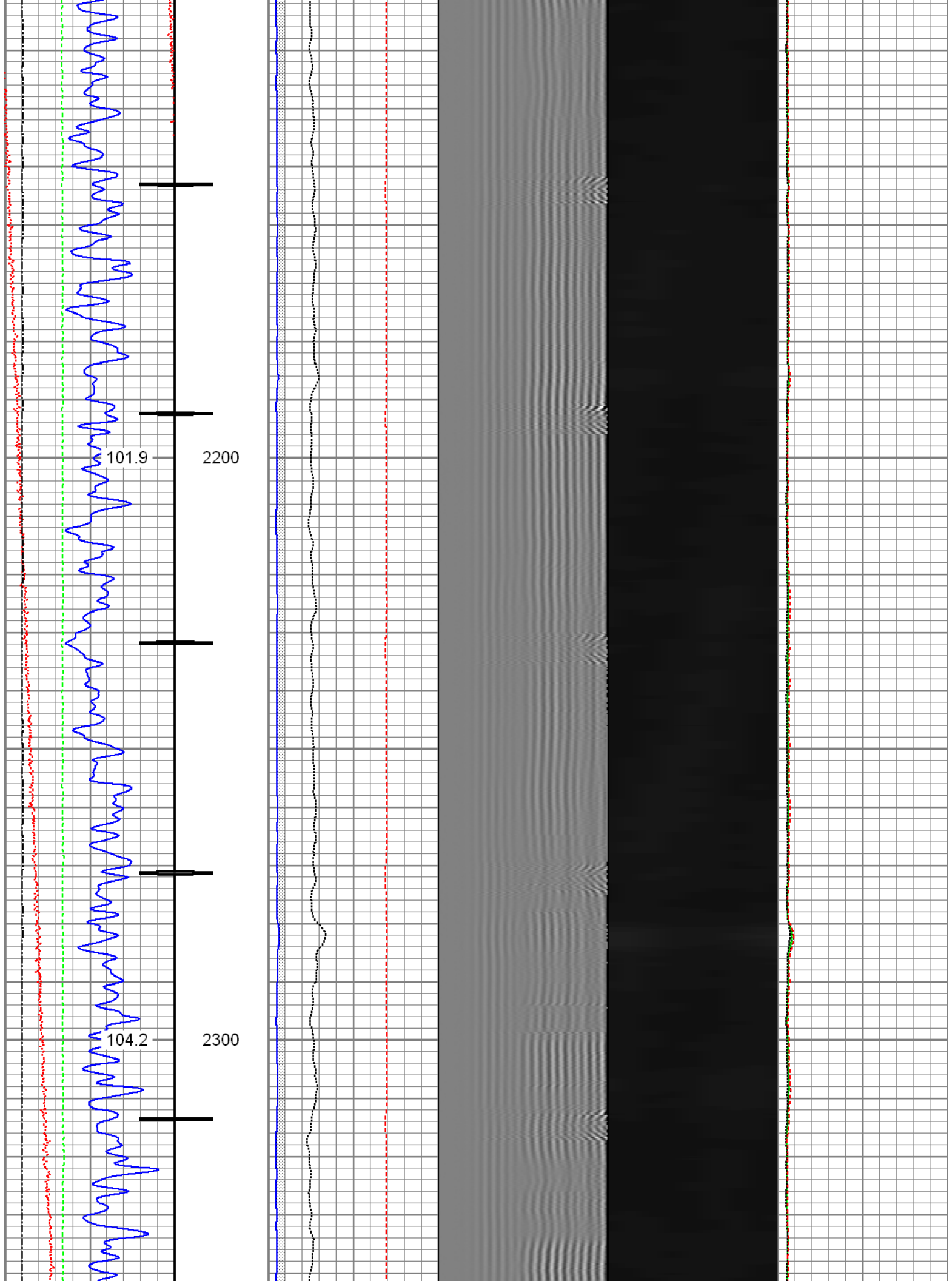


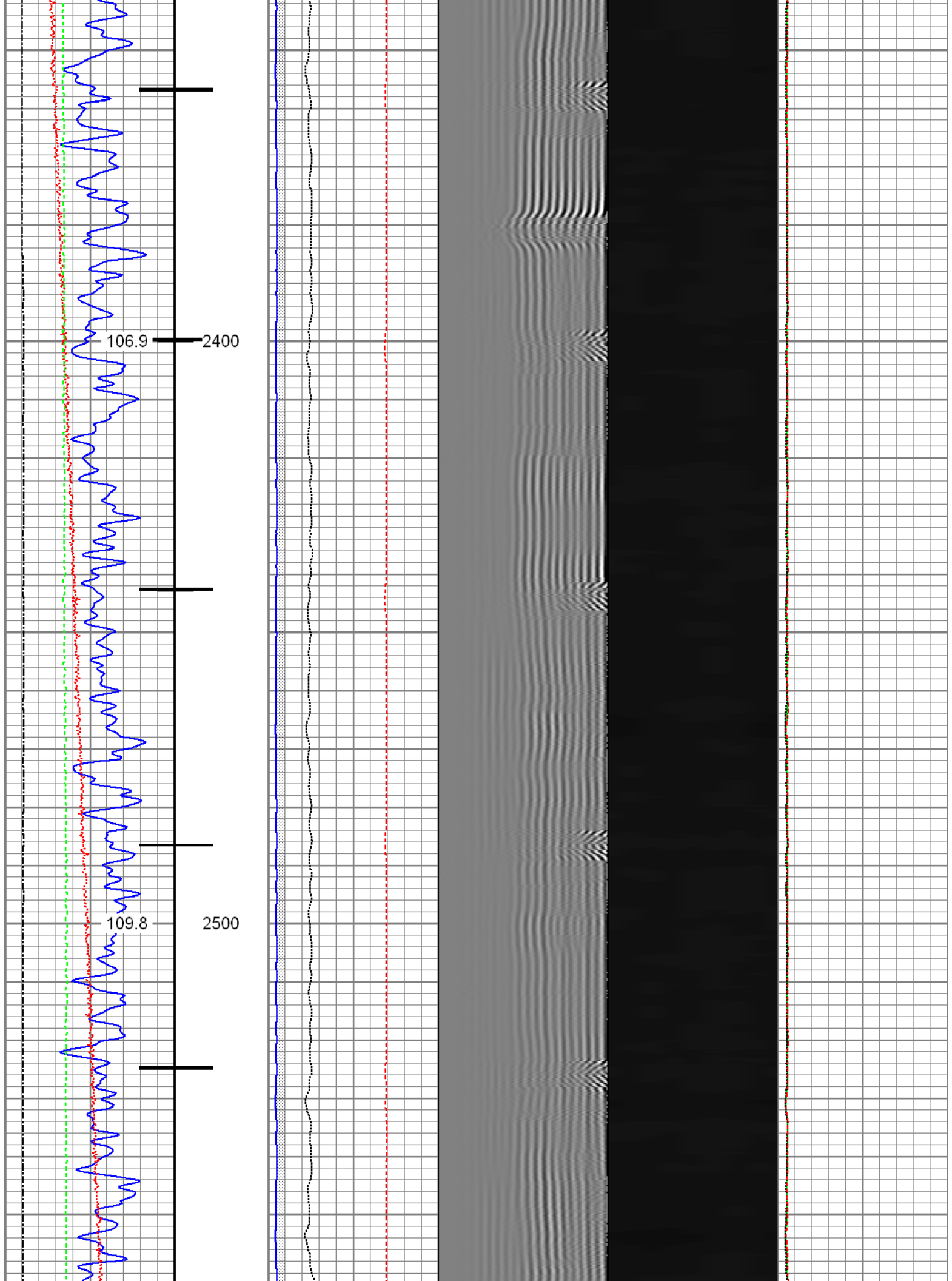


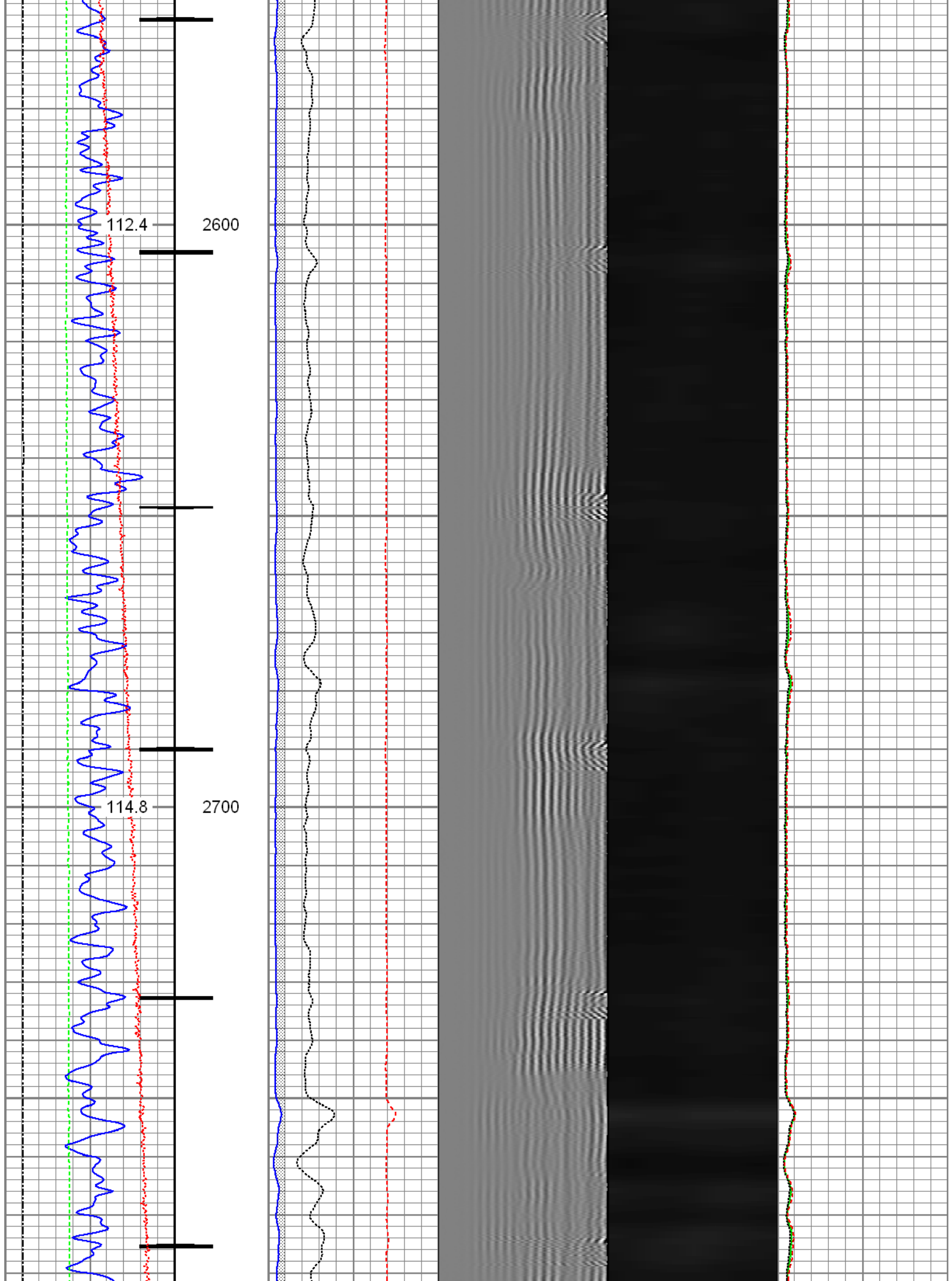


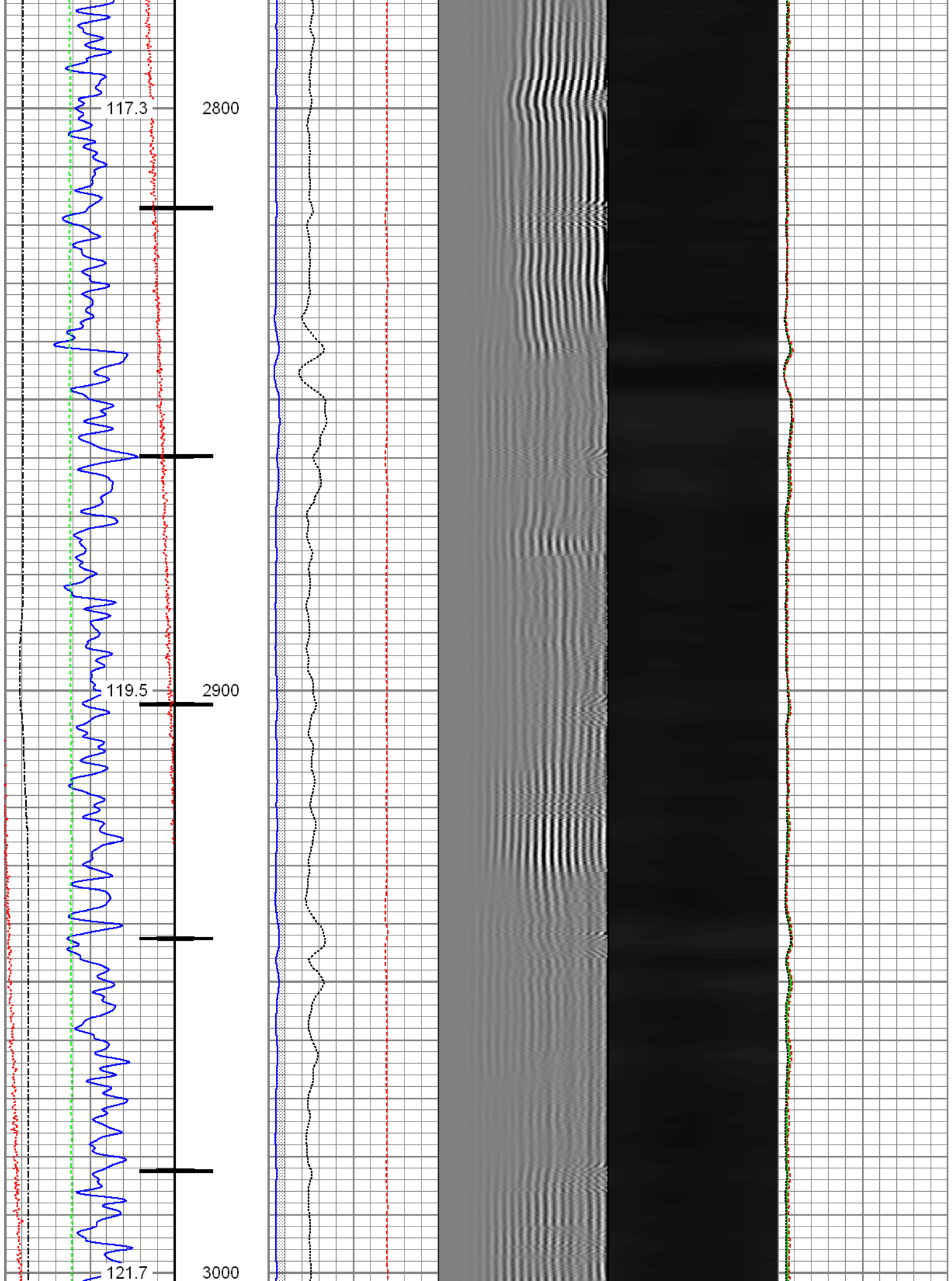


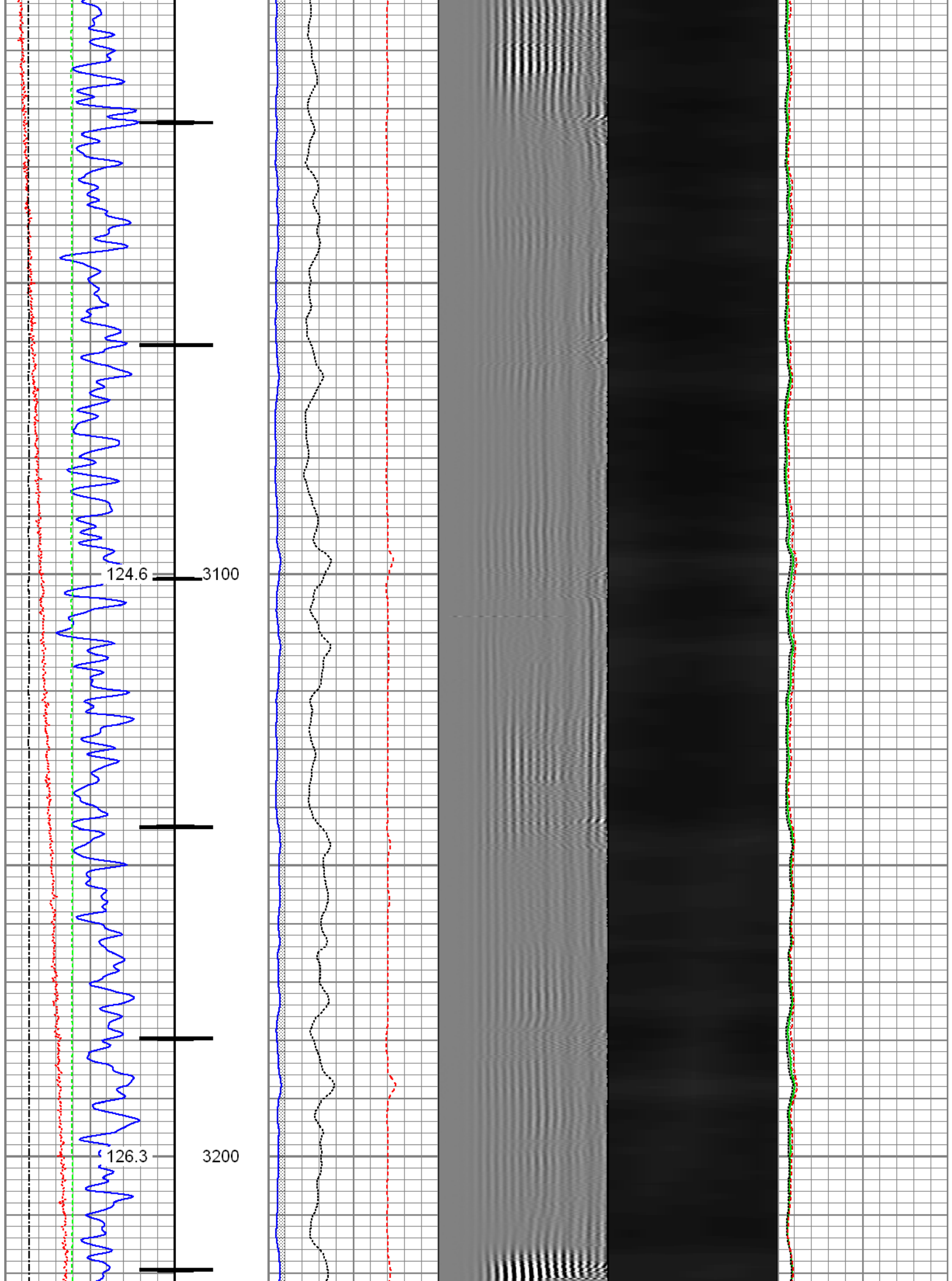


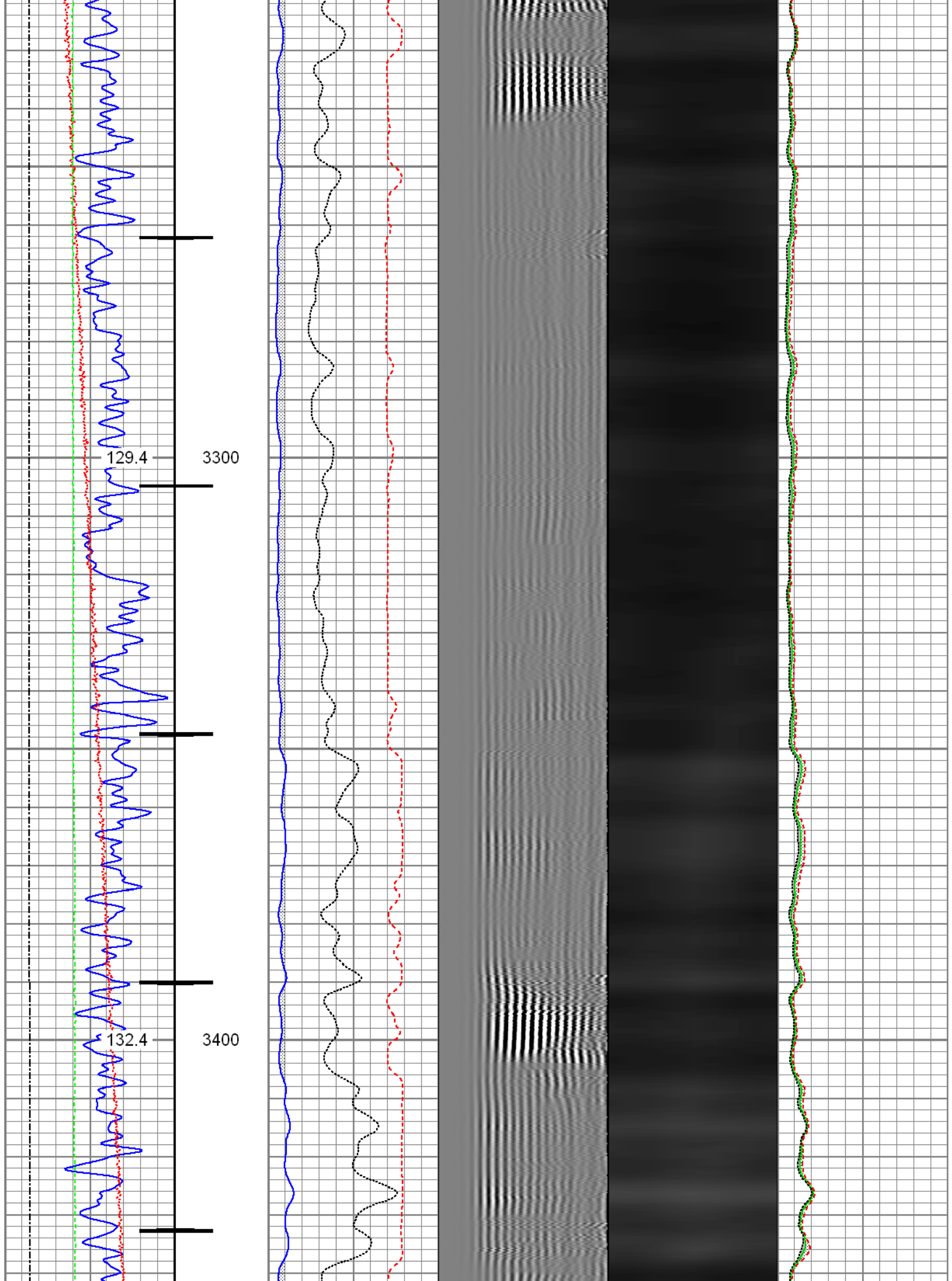


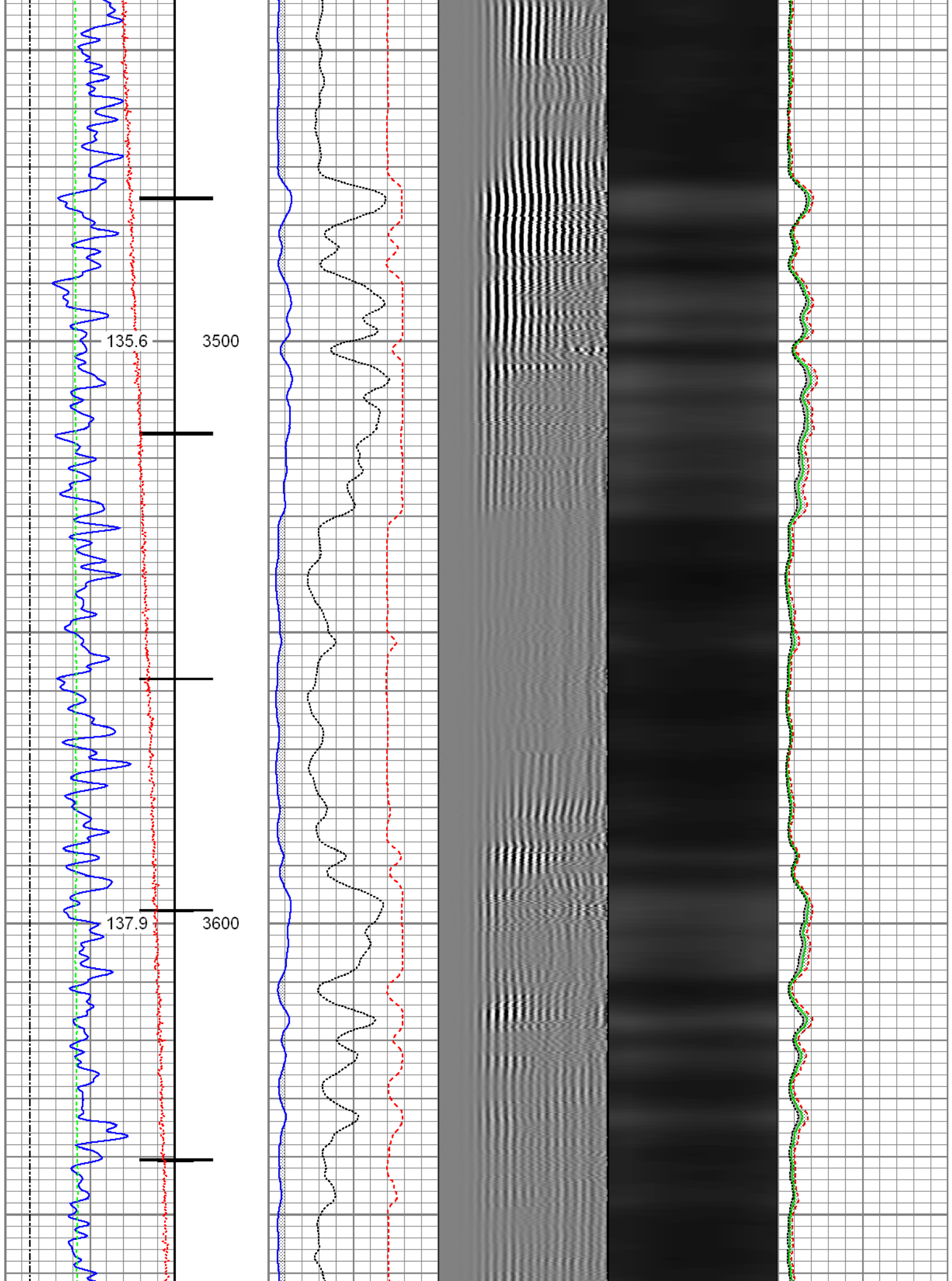


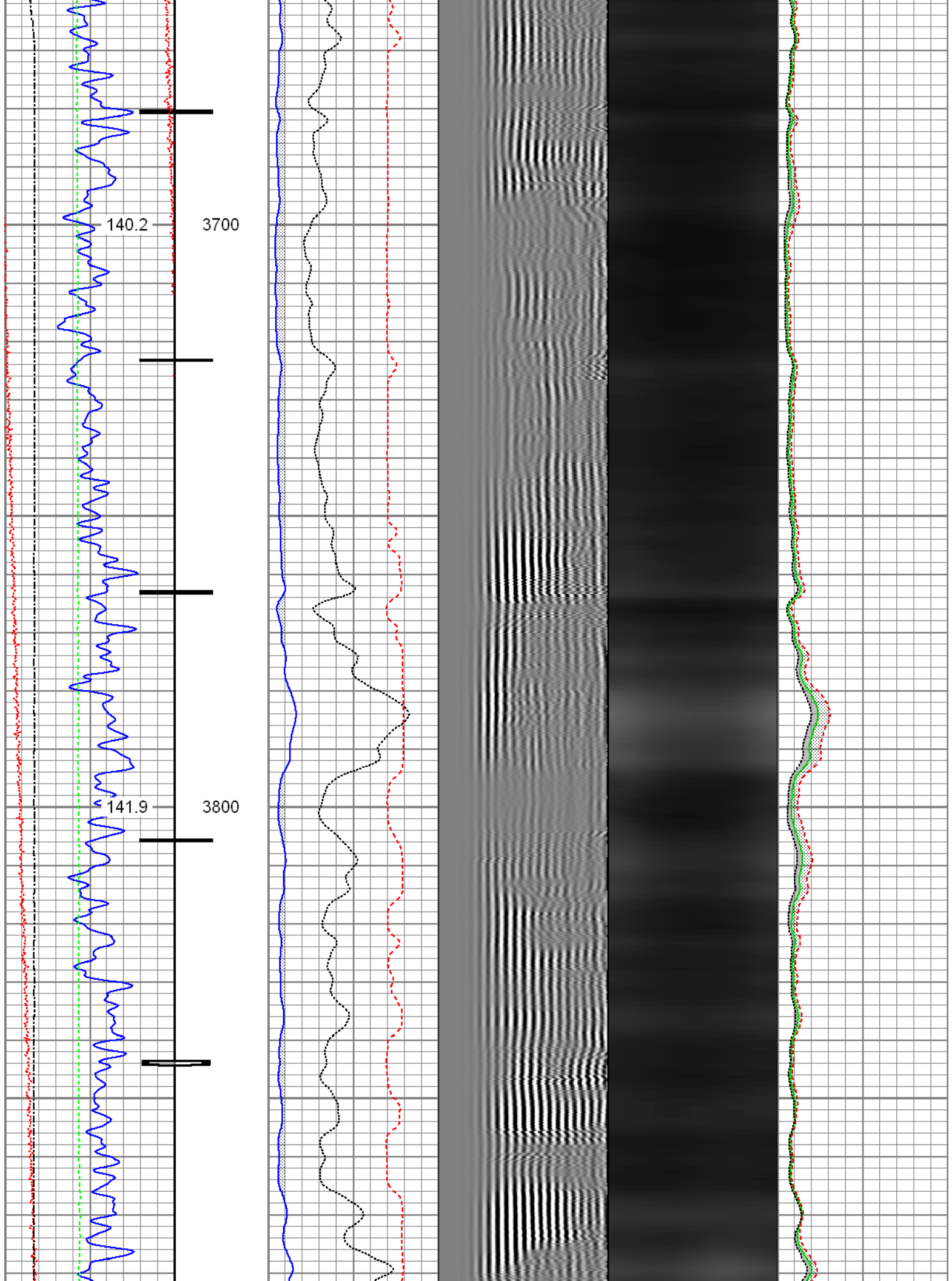


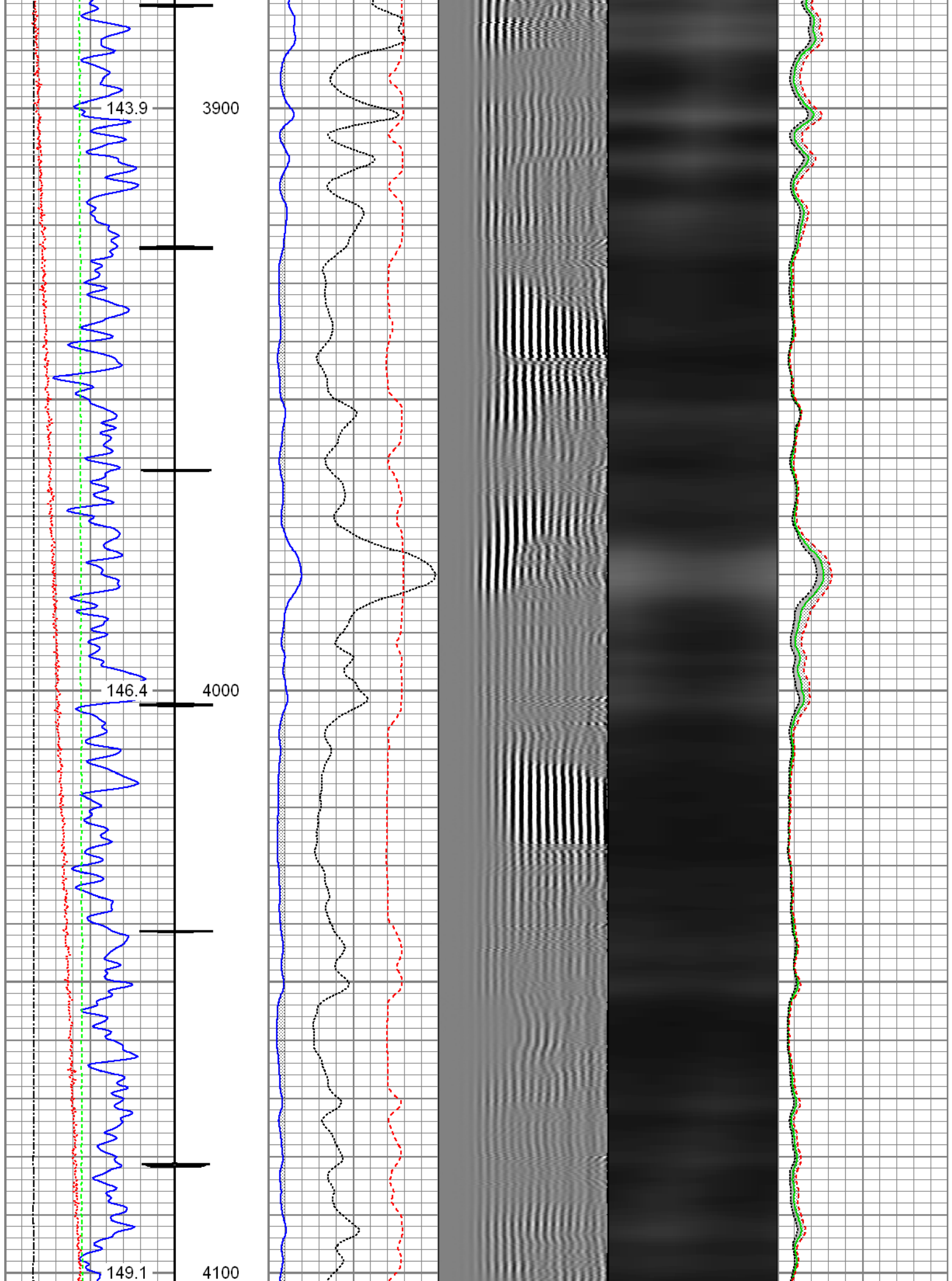


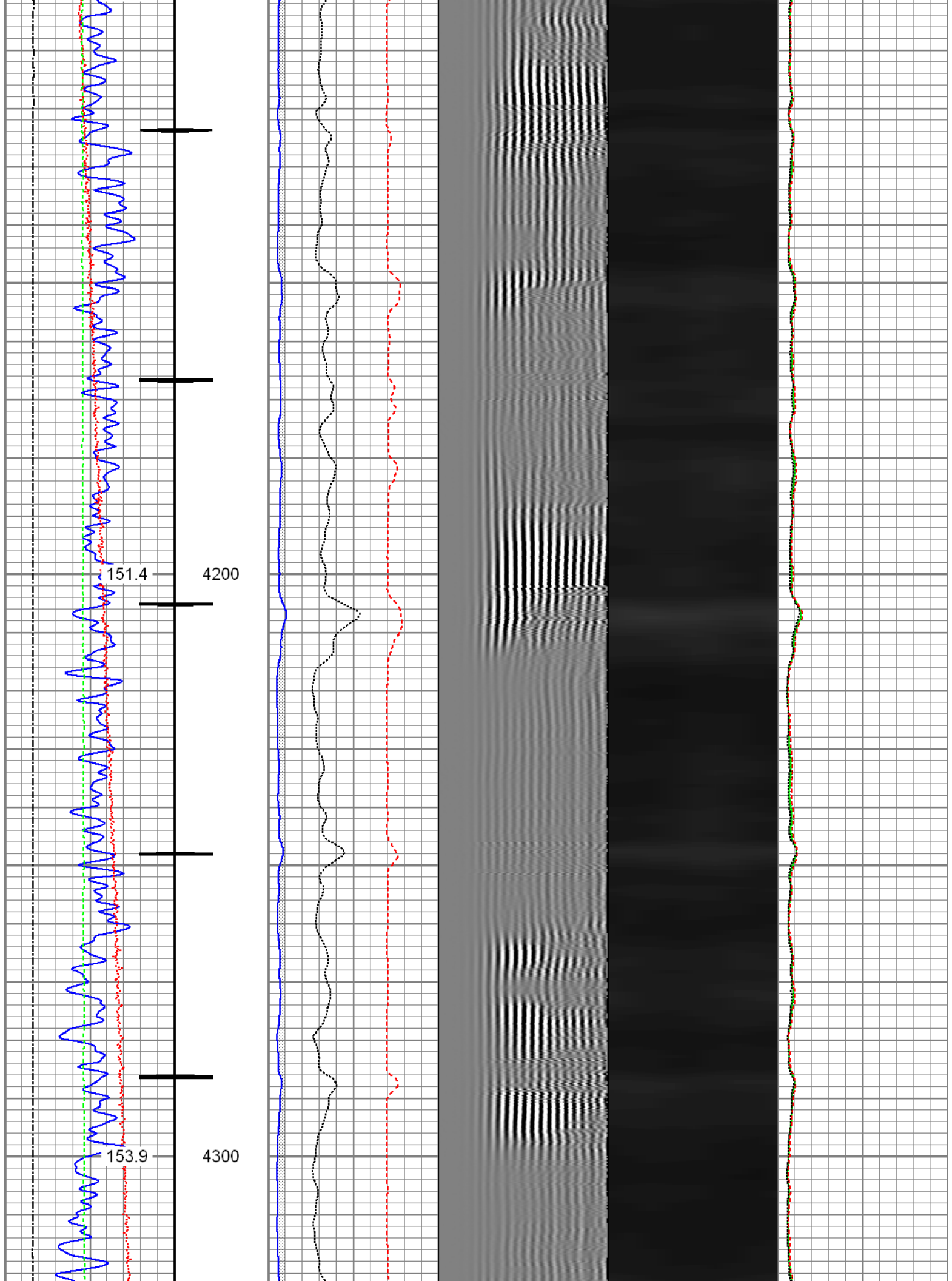


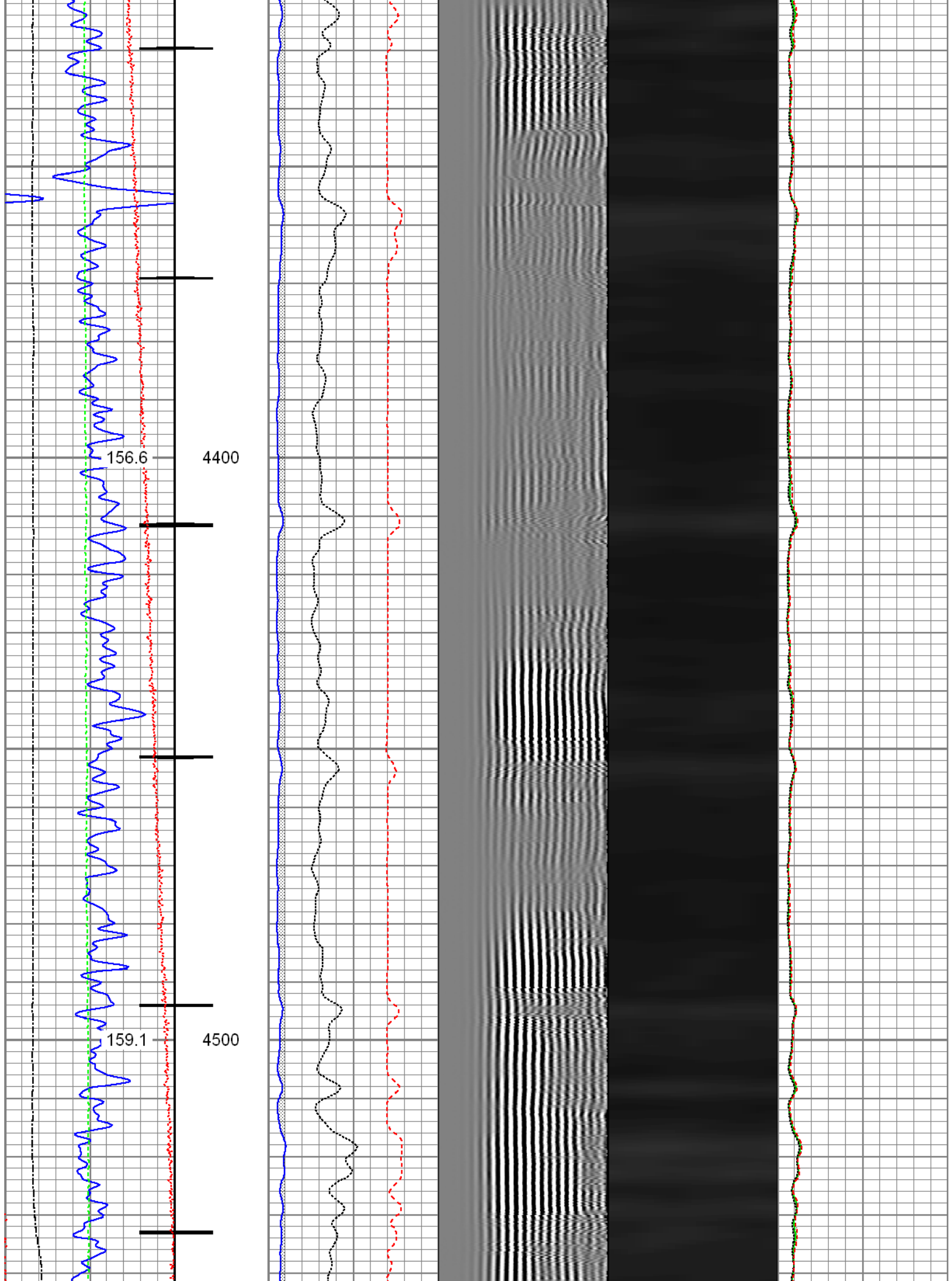


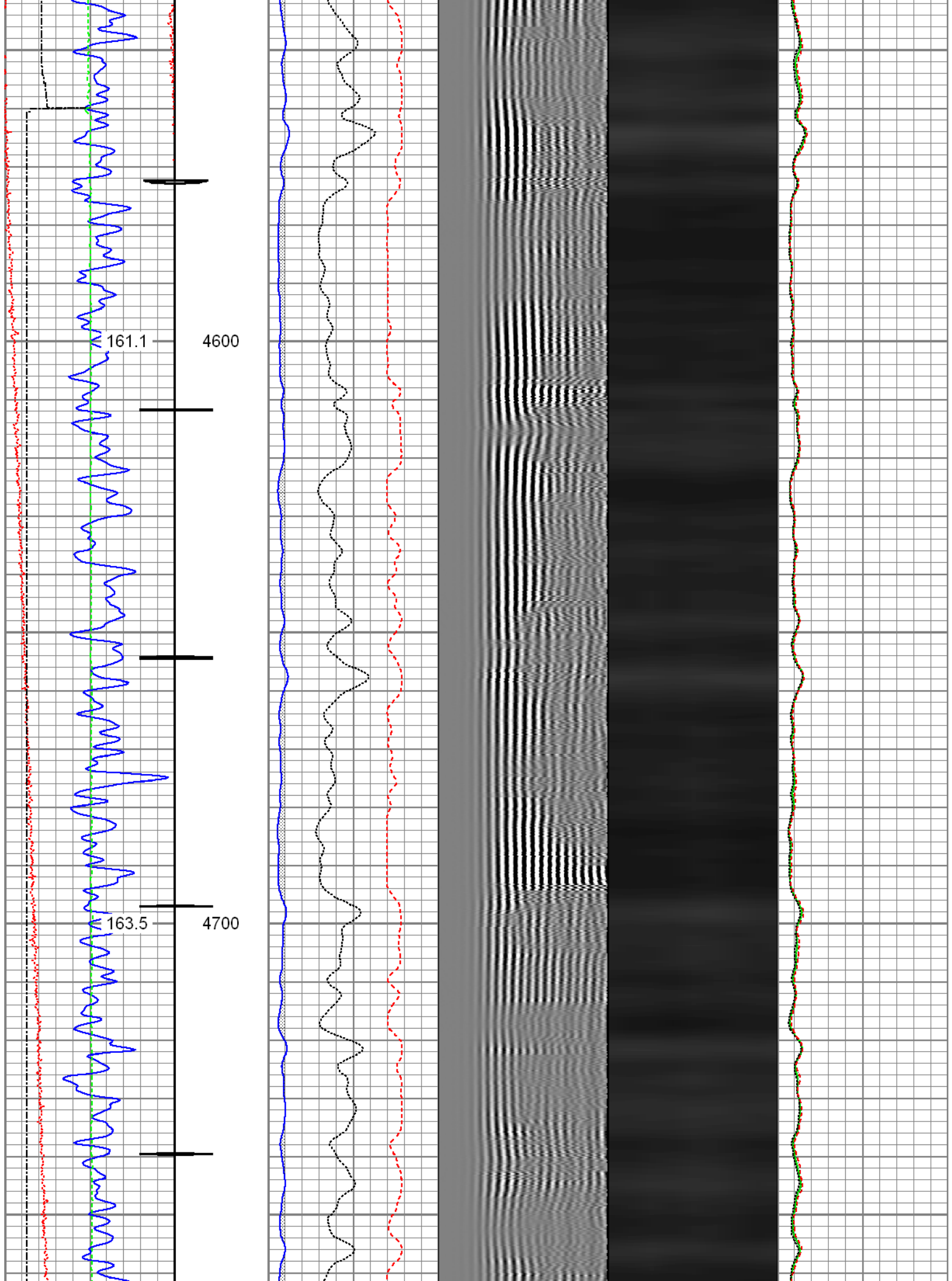


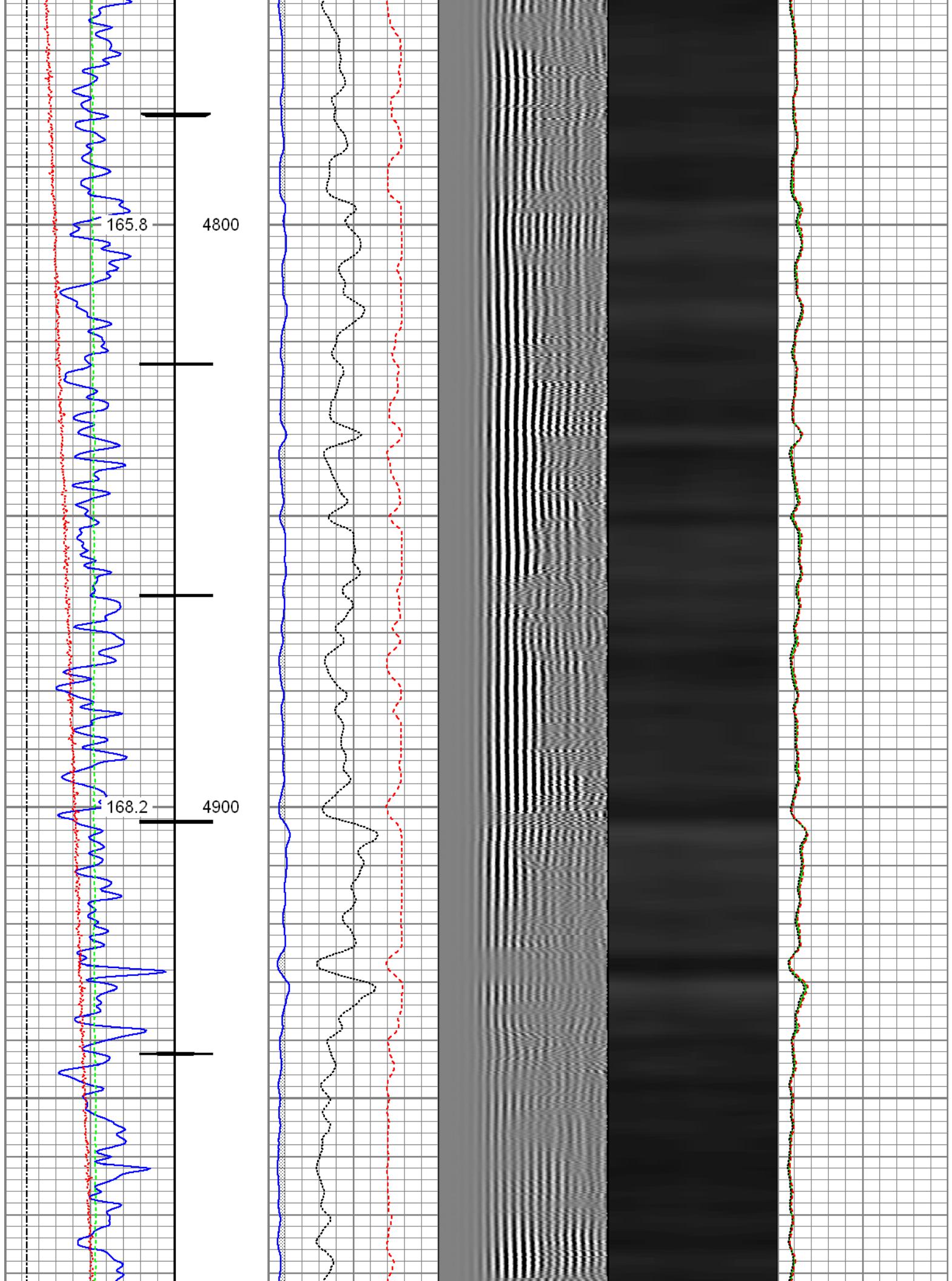


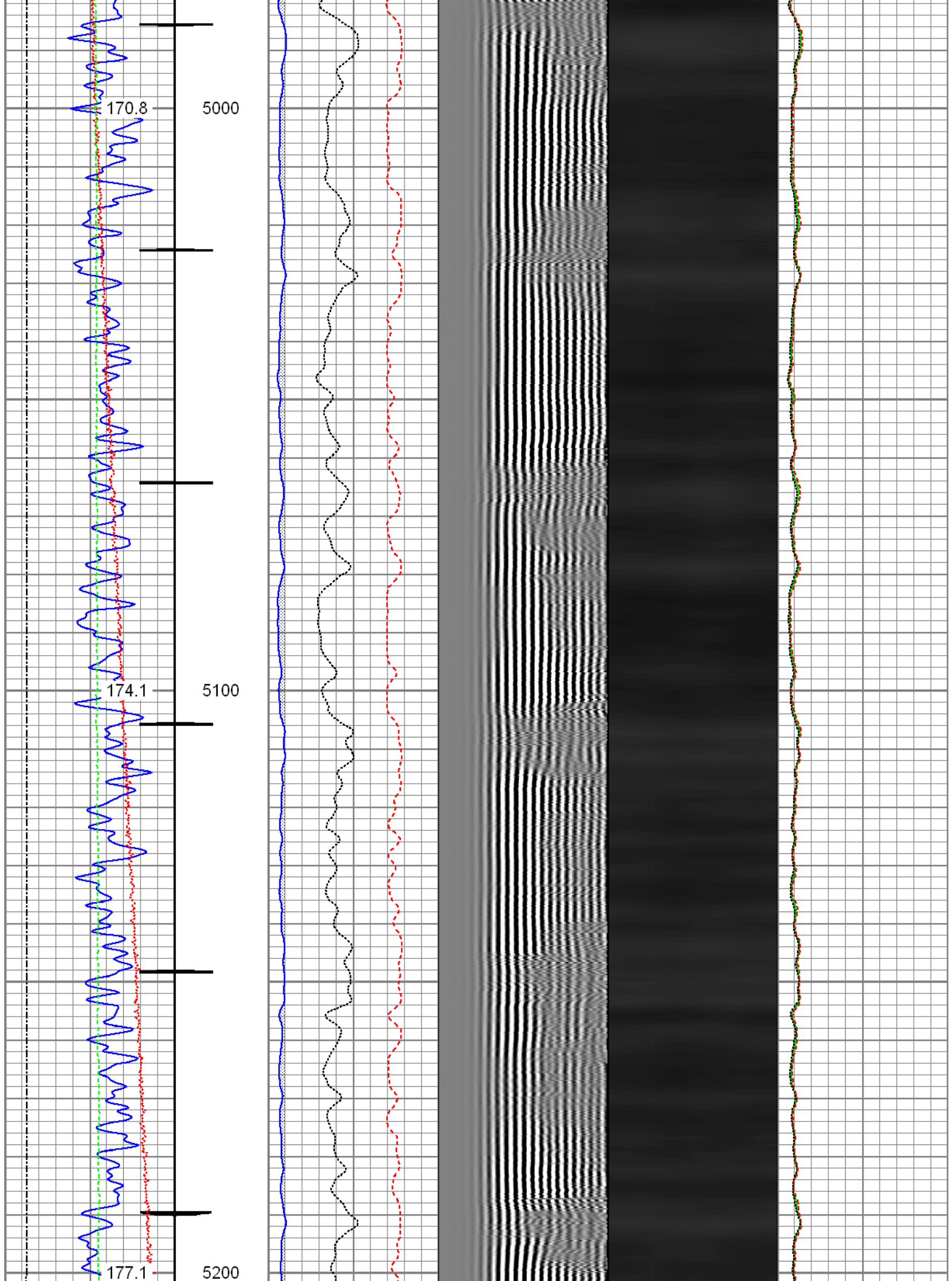


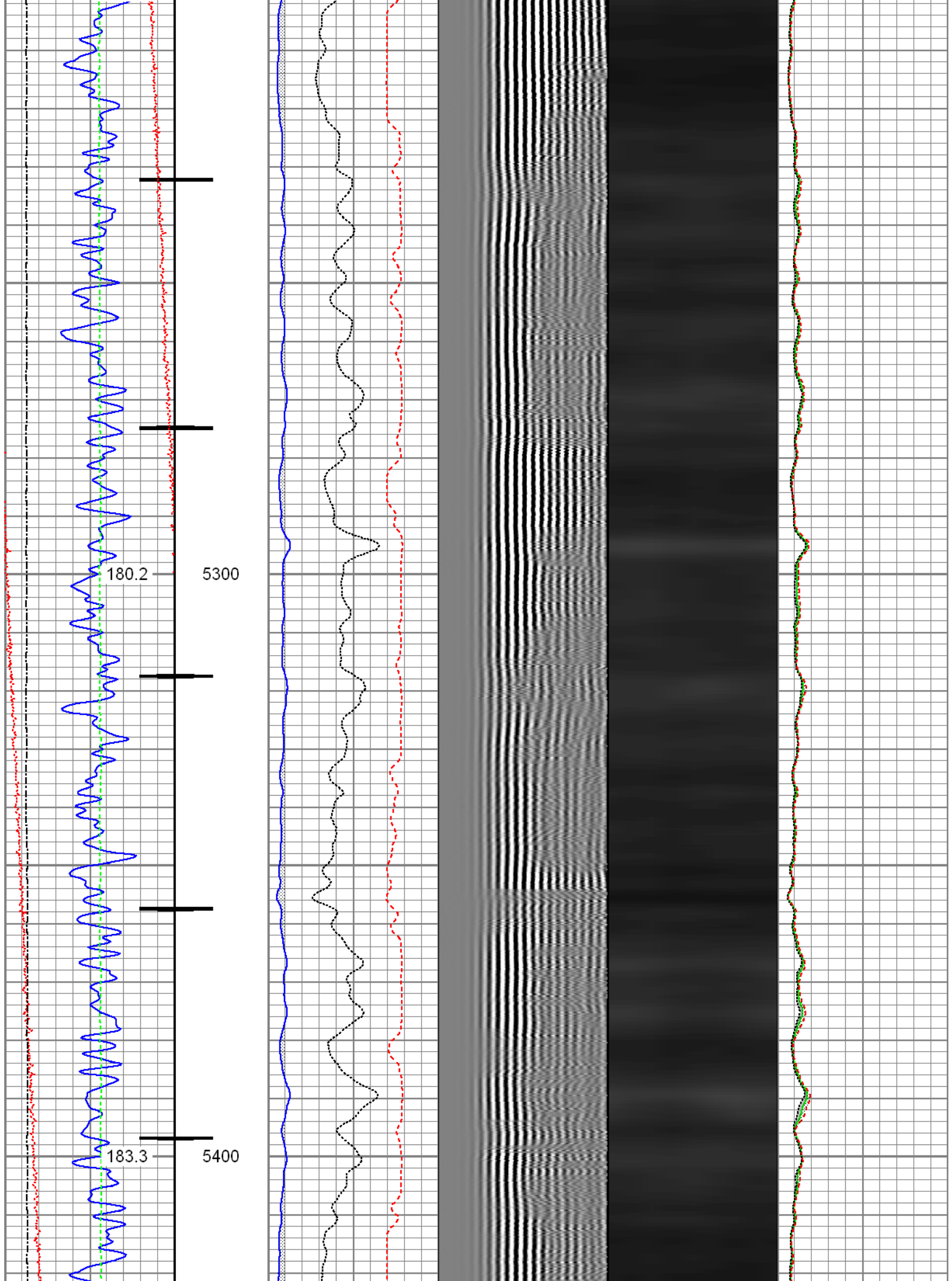


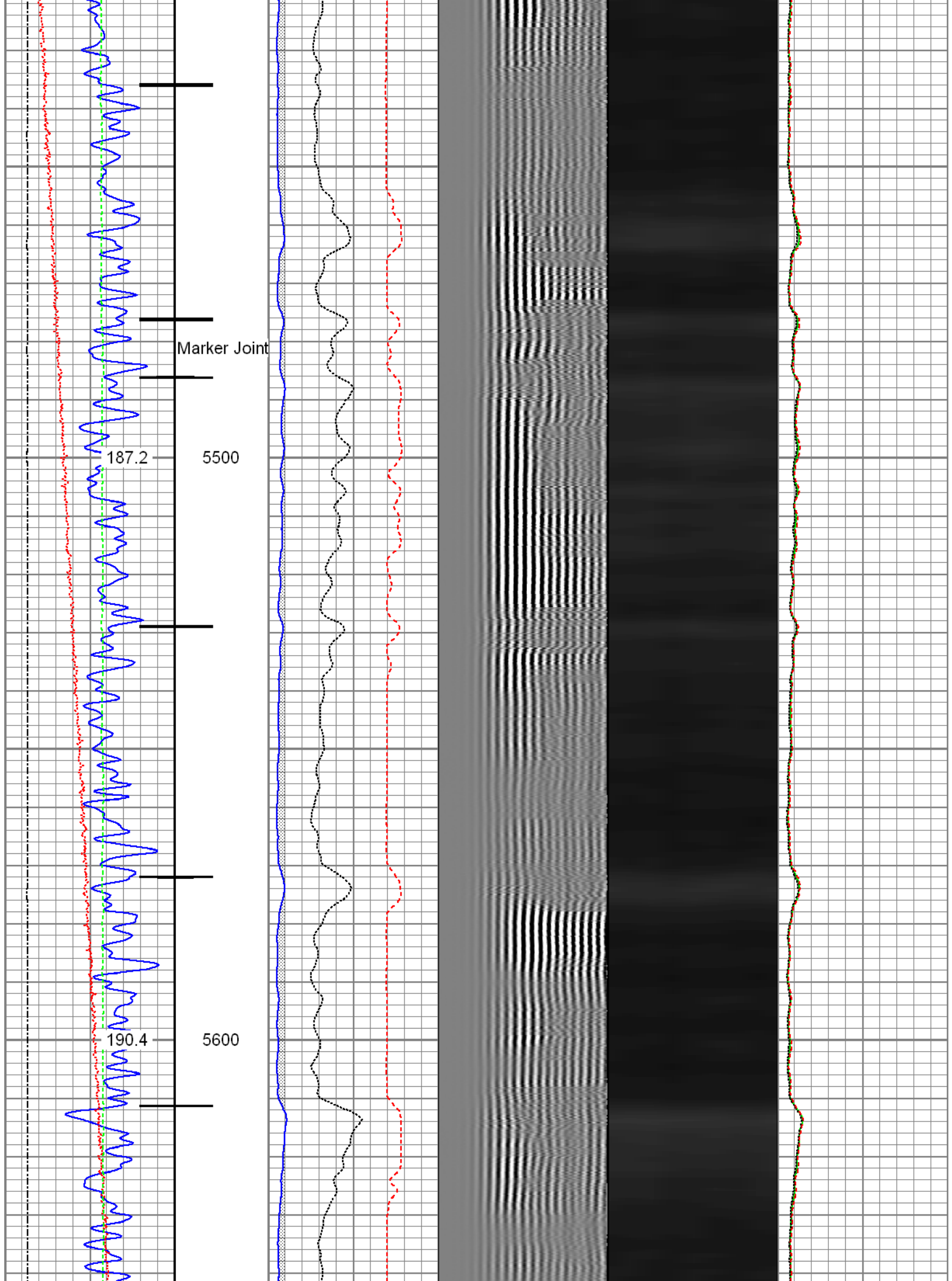


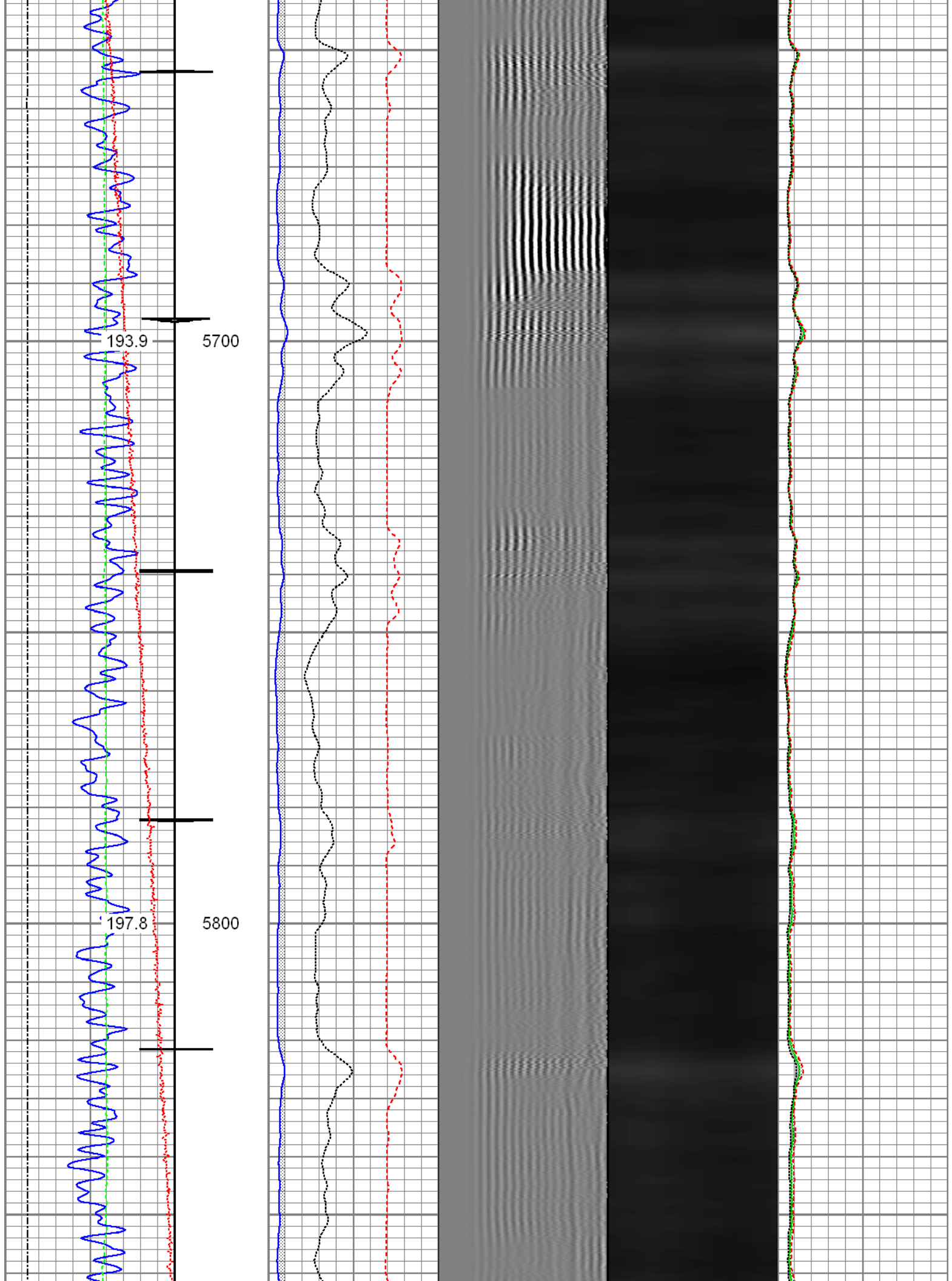


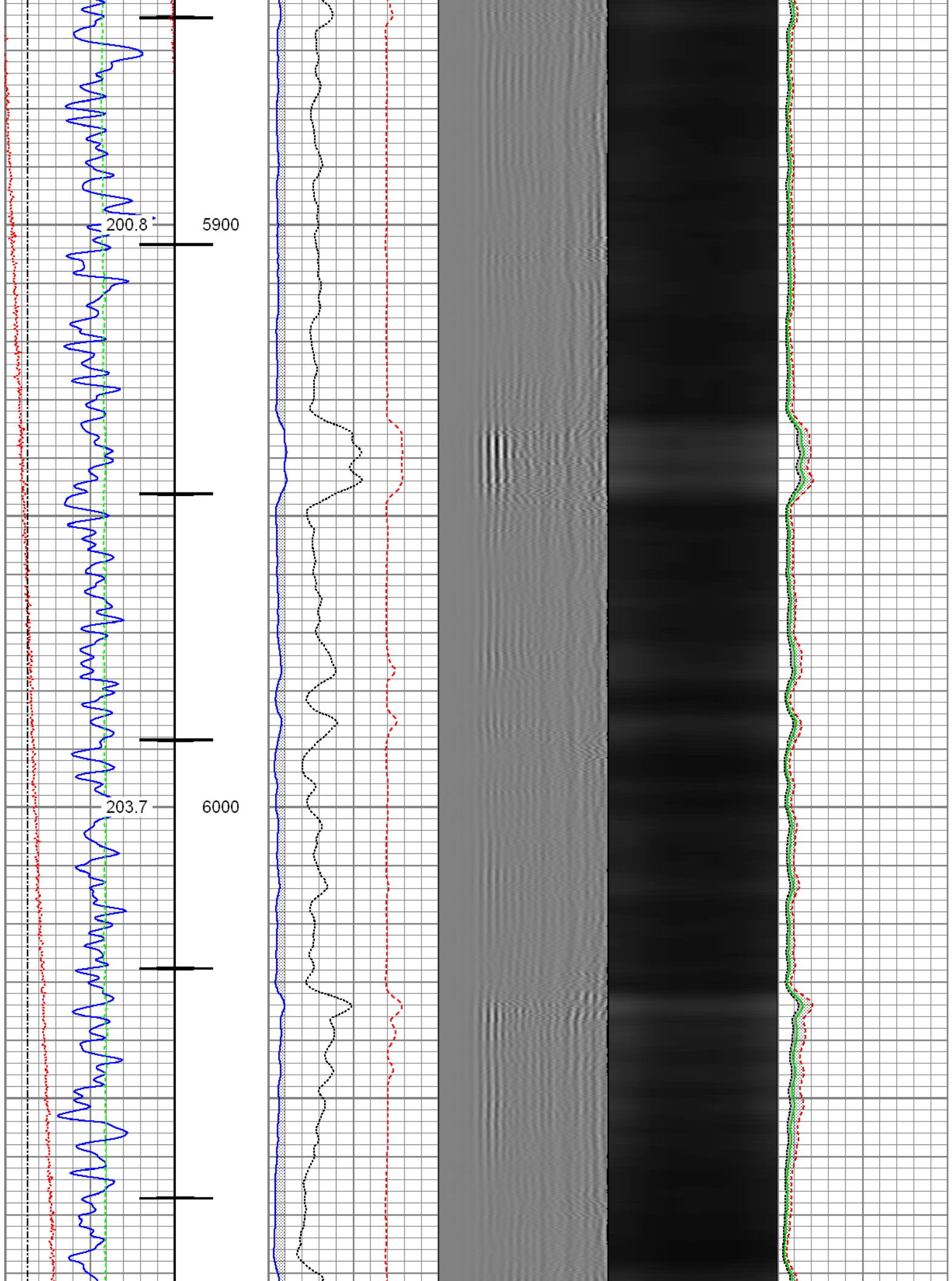


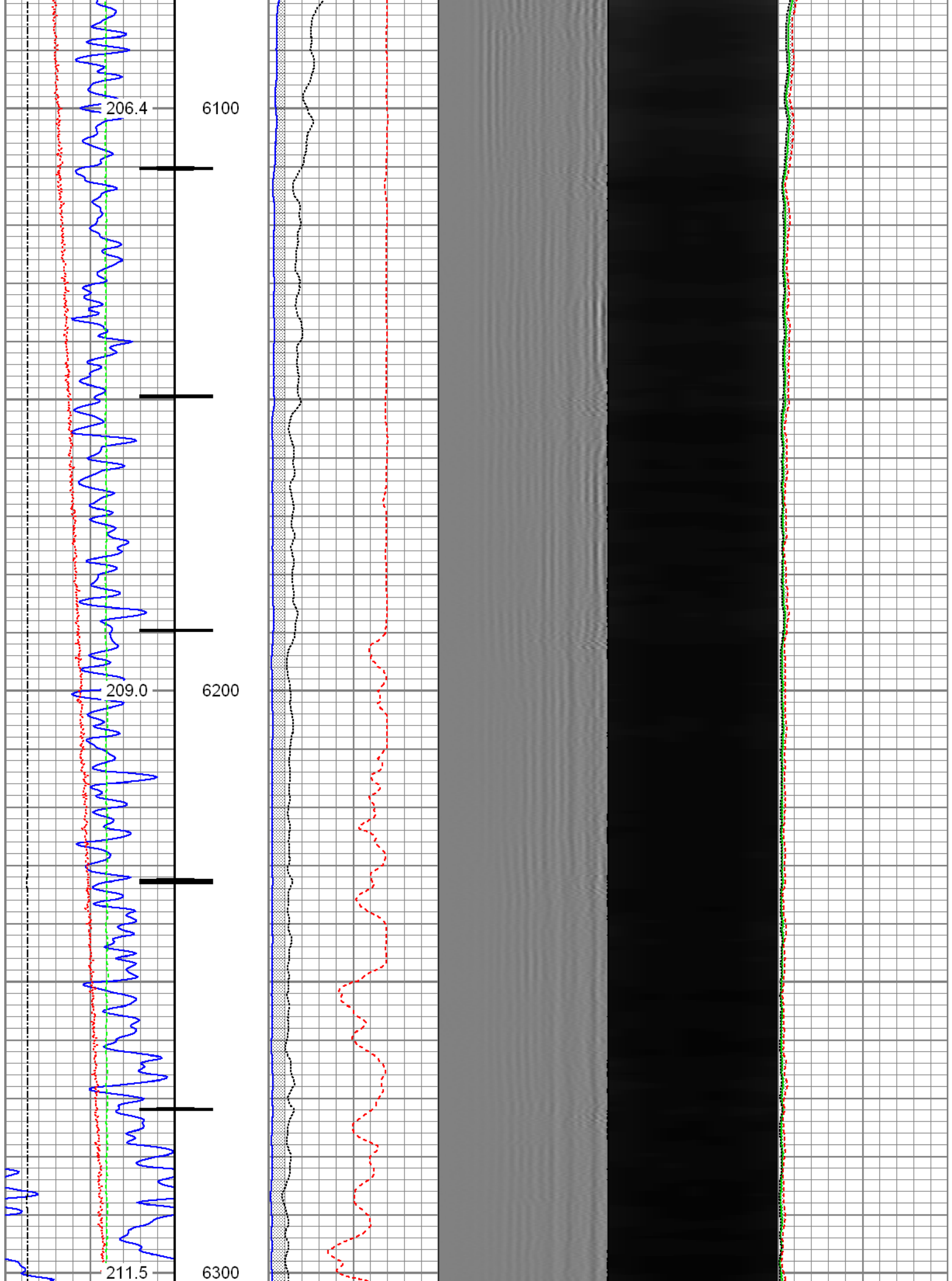


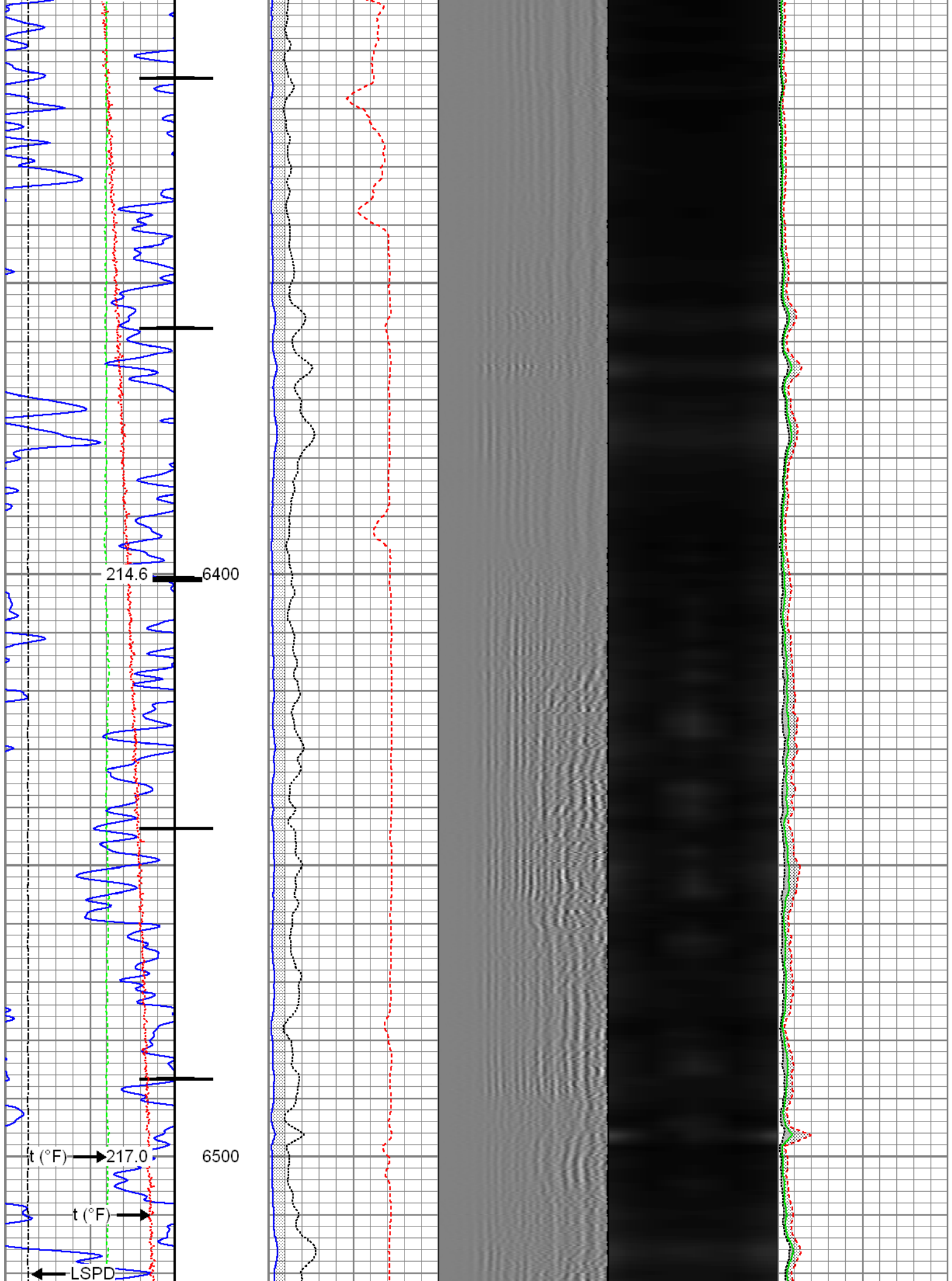










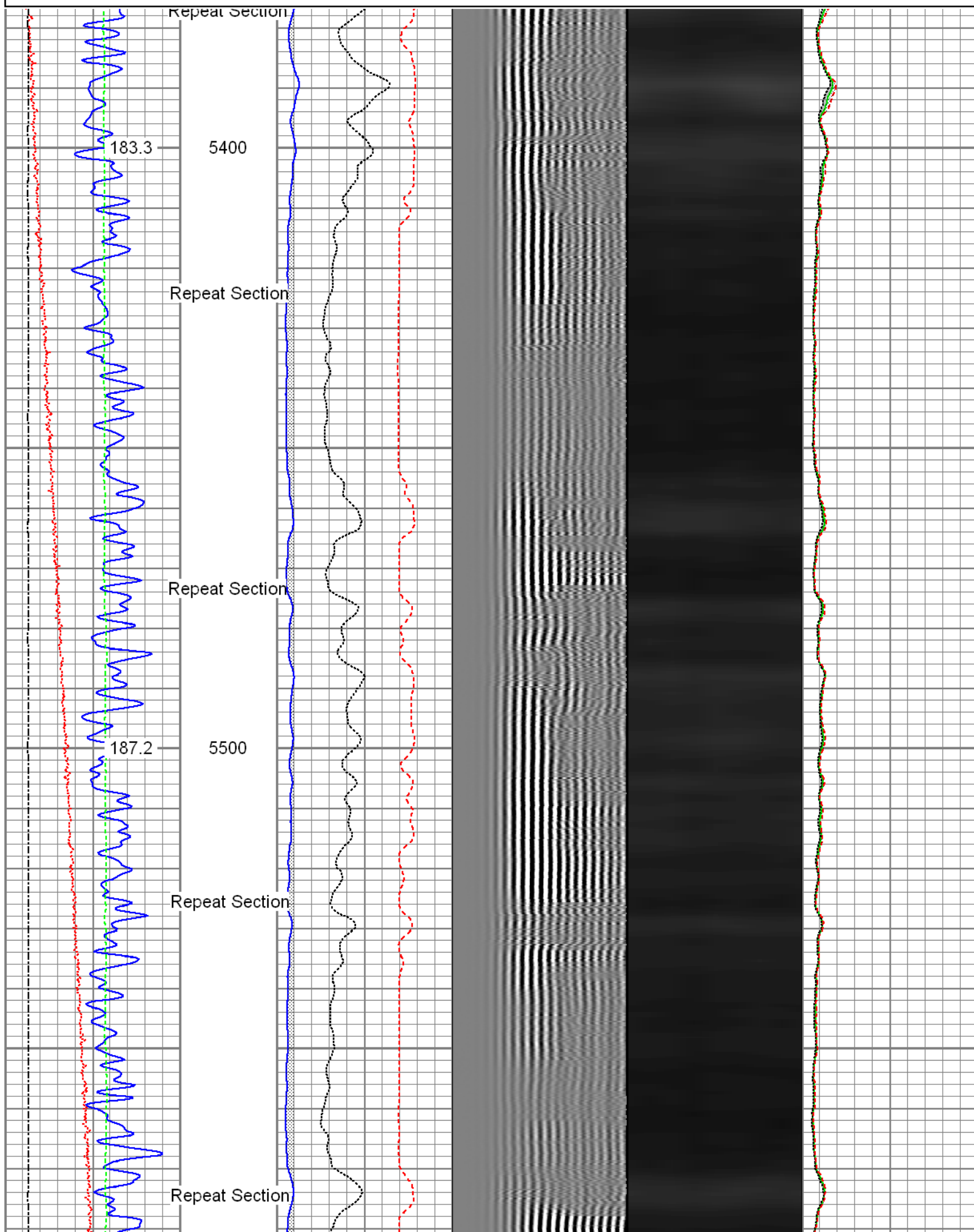


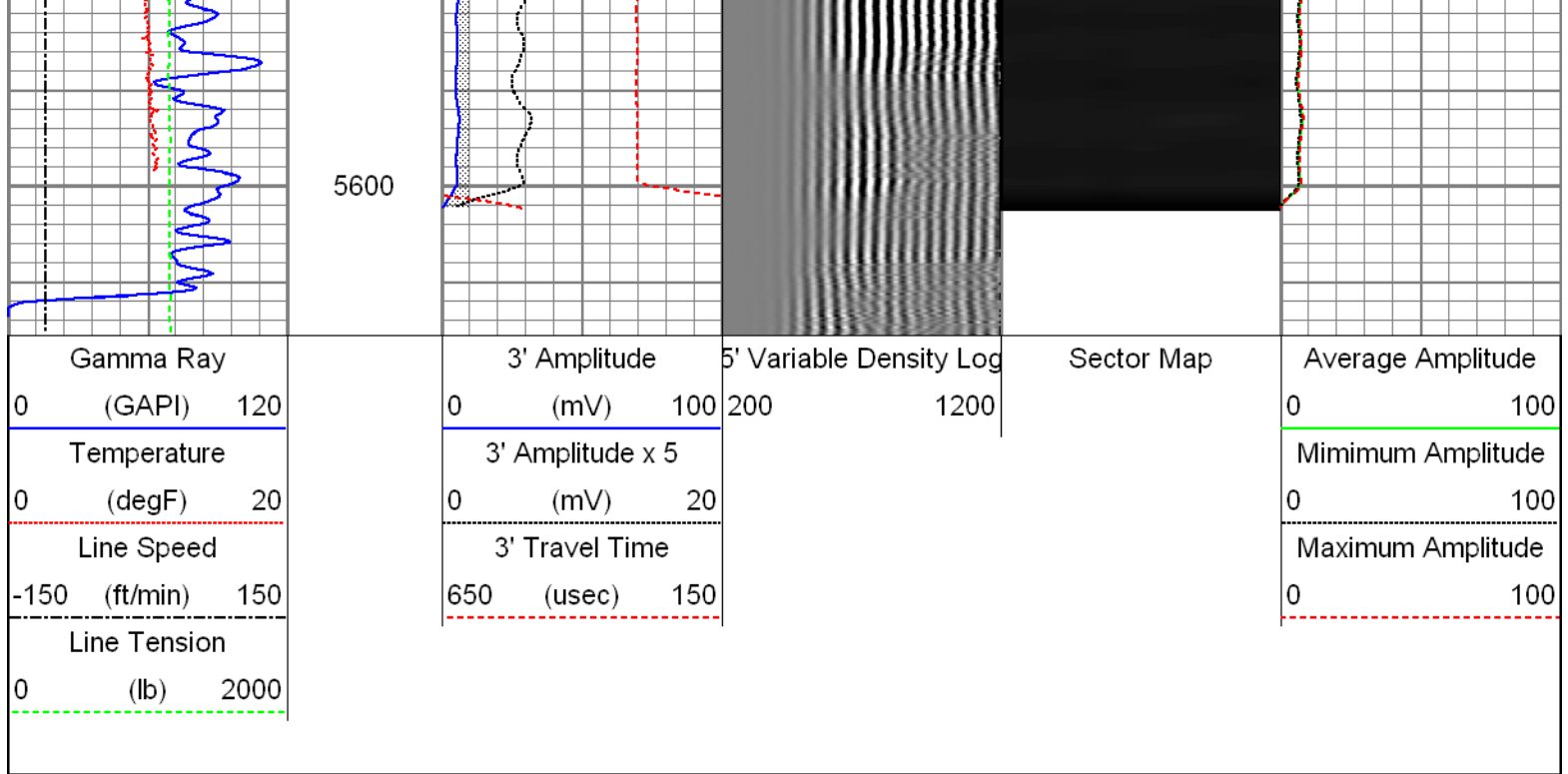
Line Tension

0

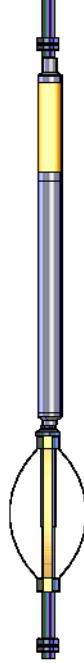
(lb)

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					
WVF3FT	14.55		Probe_RADII-C-2-3/4" (FW1302-002) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75	105.00
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					
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00

CCL	6.51		Probe_CCL_GR-2.75"Digital (FW1211-026) 4.54 Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	55.00
DCCL	6.51				
GR	3.77		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	10.00
Dataset: 03-03-16_Noble Energy_Wells Ranch AF05-655_RBL.db: field/well/run1/pass6.1 Total Length: 23.40 ft Total Weight: 194.00 lb O.D.: 2.75 in					

Calibration Report	
Database File:	C:\Warrior\Data\03-03-16_Noble Energy_Wells Ranch AF05-655_RBL\03-03-16_Noble Energy_Wells
Dataset Pathname:	pass6.1
Dataset Creation:	Thu Mar 03 15:52:04 2016 by Calc 7.0 B1

Gamma Ray Calibration Report		
Serial Number:	FW1211-026	
Tool Model:	2.75"Digital	
Performed:	Wed Feb 24 10:35:47 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6061	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:	429.683	ft

Master Calibration, performed Thu Mar 03 15:51:58 2016:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.552	0.800	71.921	128.994	0.737
CAL	0.006	0.644				
5'	0.000	0.479	0.800	71.921	148.636	0.756
SUM						
S1	0.001	0.527	0.000	100.000	190.124	-0.281

S2	0.001	0.521	0.000	100.000	192.316	-0.130
S3	0.000	0.531	0.000	100.000	188.610	-0.078
S4	0.001	0.552	0.000	100.000	181.406	-0.113
S5	0.000	0.575	0.000	100.000	174.184	-0.073
S6	0.001	0.573	0.000	100.000	174.732	-0.115
S7	0.000	0.563	0.000	100.000	177.915	-0.087
S8	0.001	0.555	0.000	100.000	180.523	-0.180

Internal Reference Calibration, performed Thu Mar 03 12:30:16 2016:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.006	0.643	0.006	0.644	1.003	0.000

Air Zero Calibration, performed Thu Mar 03 12:29:40 2016:

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



Company Noble Energy Inc.
Well Wells Ranch AF05-655
Field Wattenberg
County Weld
State Colorado