



County Weld State Colorado

[illegible]

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.

Log ran as per customer request
Depth referenced to Kelly Bushing at 20 FT
Adjusted +8 FT to Kelly Bushing
Casing Tally reported Marker Joint at 6645 FT
Could not record Marker Joint because RBP is at 6657 FT
Gauge Ring/Junk Basket ran to 7791 FT with no debris
Log ran from 6552 FT to Surface
Recorded with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

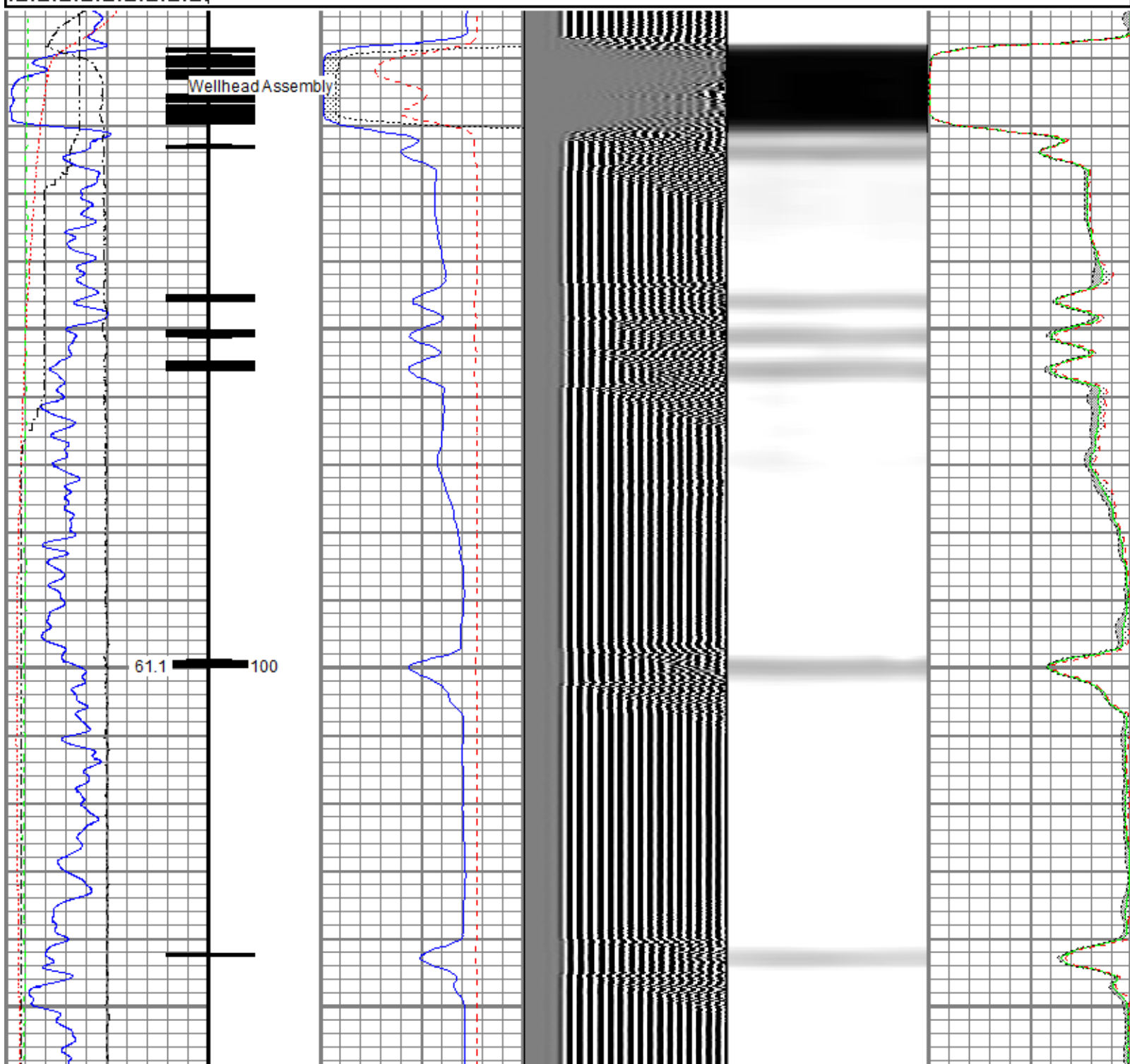
Thank you for choosing Reliance Oilfield Services, LLC!!

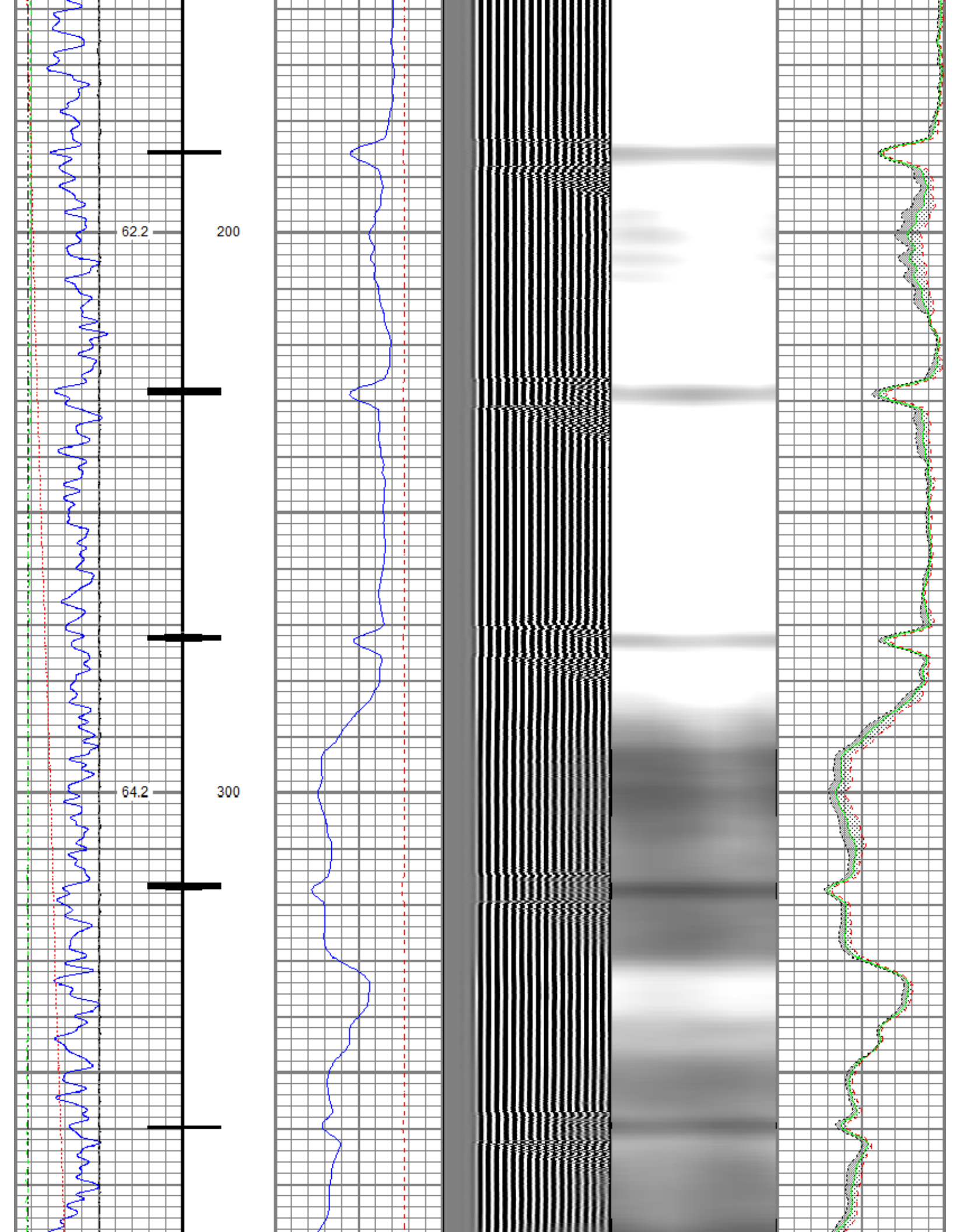
Main Pass

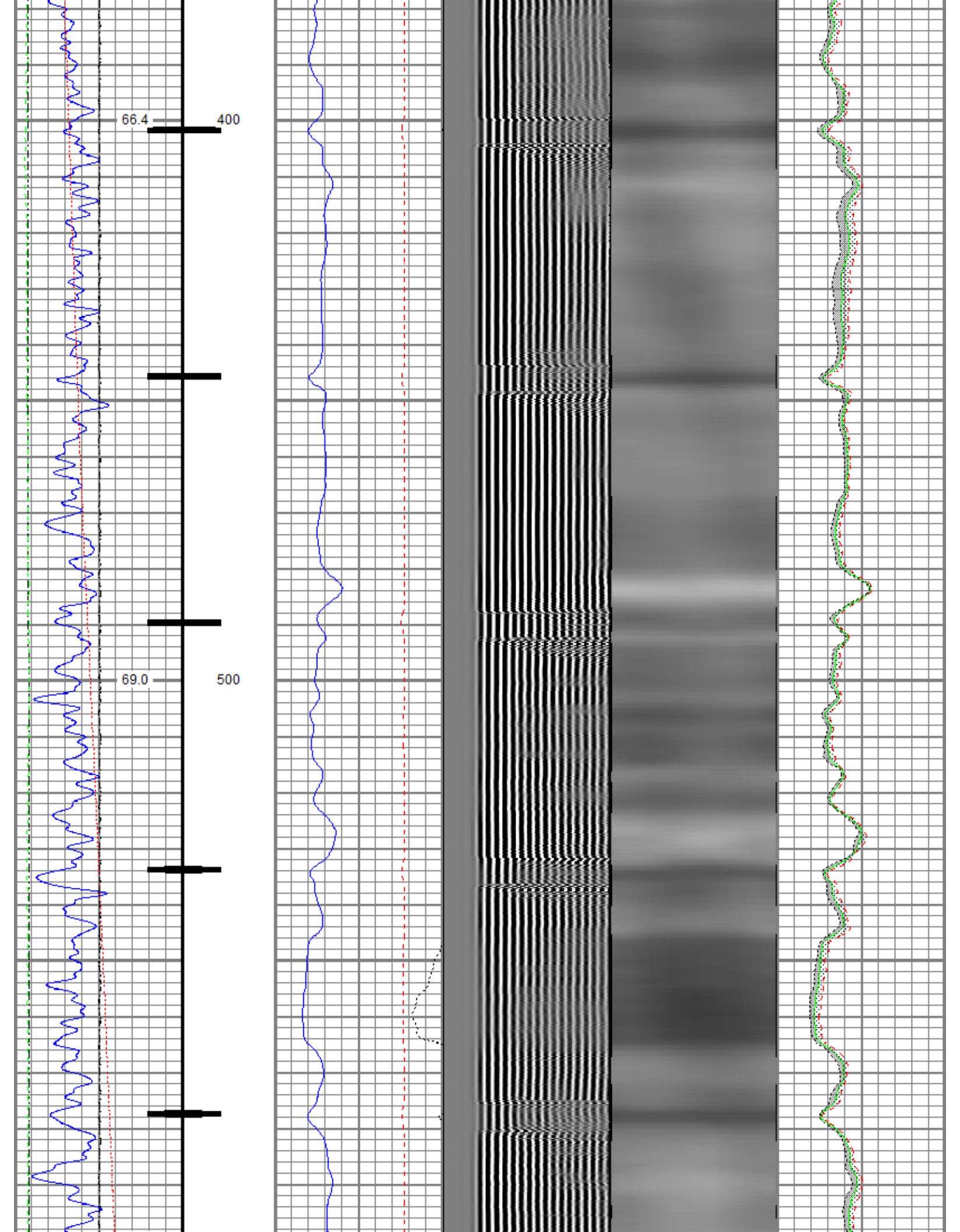


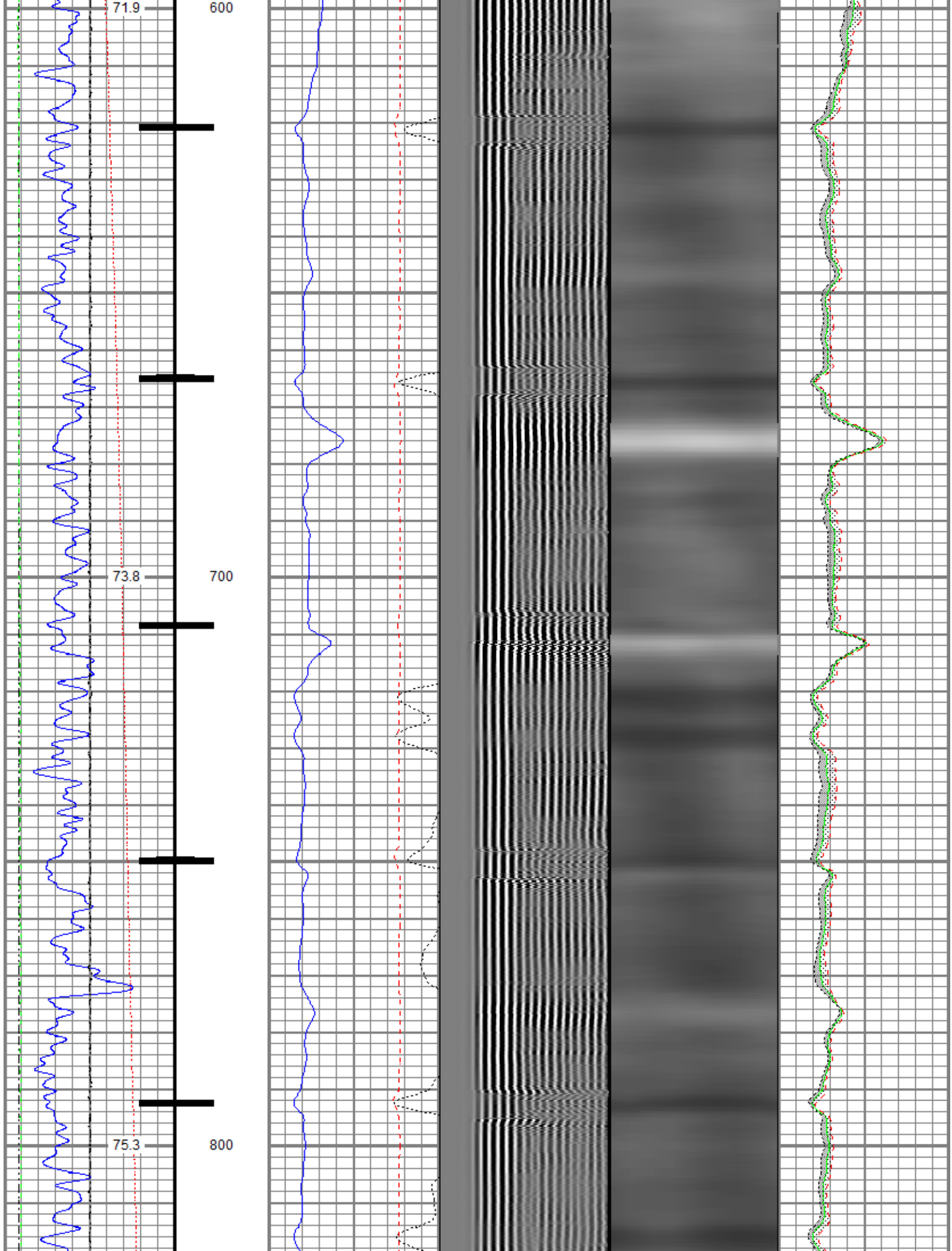
Database File anadarko\quarter circle 24-4hz\processed_0512346269_anadarko_quarter circle 24-4hz_rbl_06-12-18_2800 psi.db
 Dataset Pathname Main.5
 Presentation Format ros_radri
 Dataset Creation Thu Jun 14 12:29:01 2018
 Charted by Depth in Feet scaled 1:240

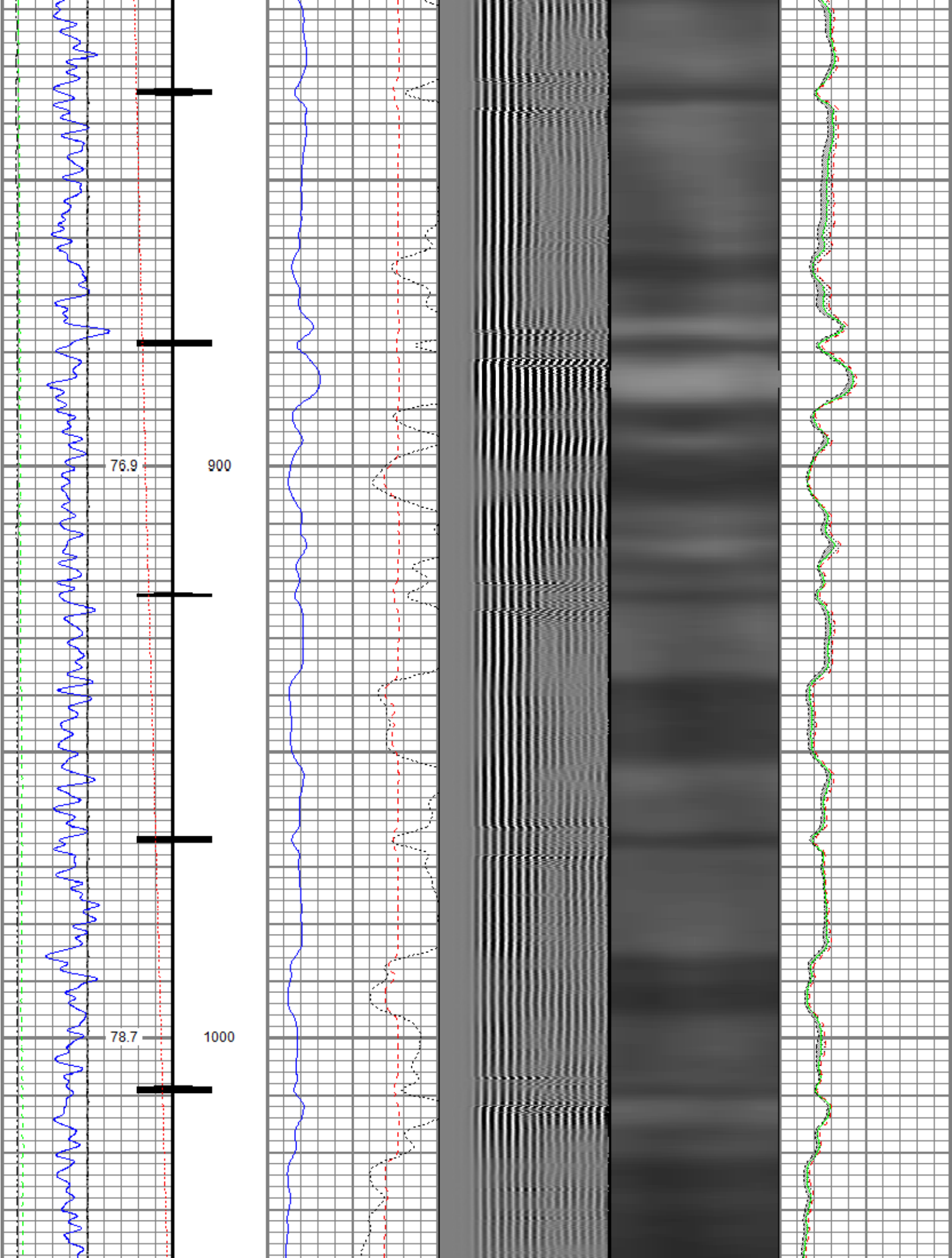
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min) 150						
Line Tension (lb) 2000						
Differential Temperature						
-2 (degF) 2						



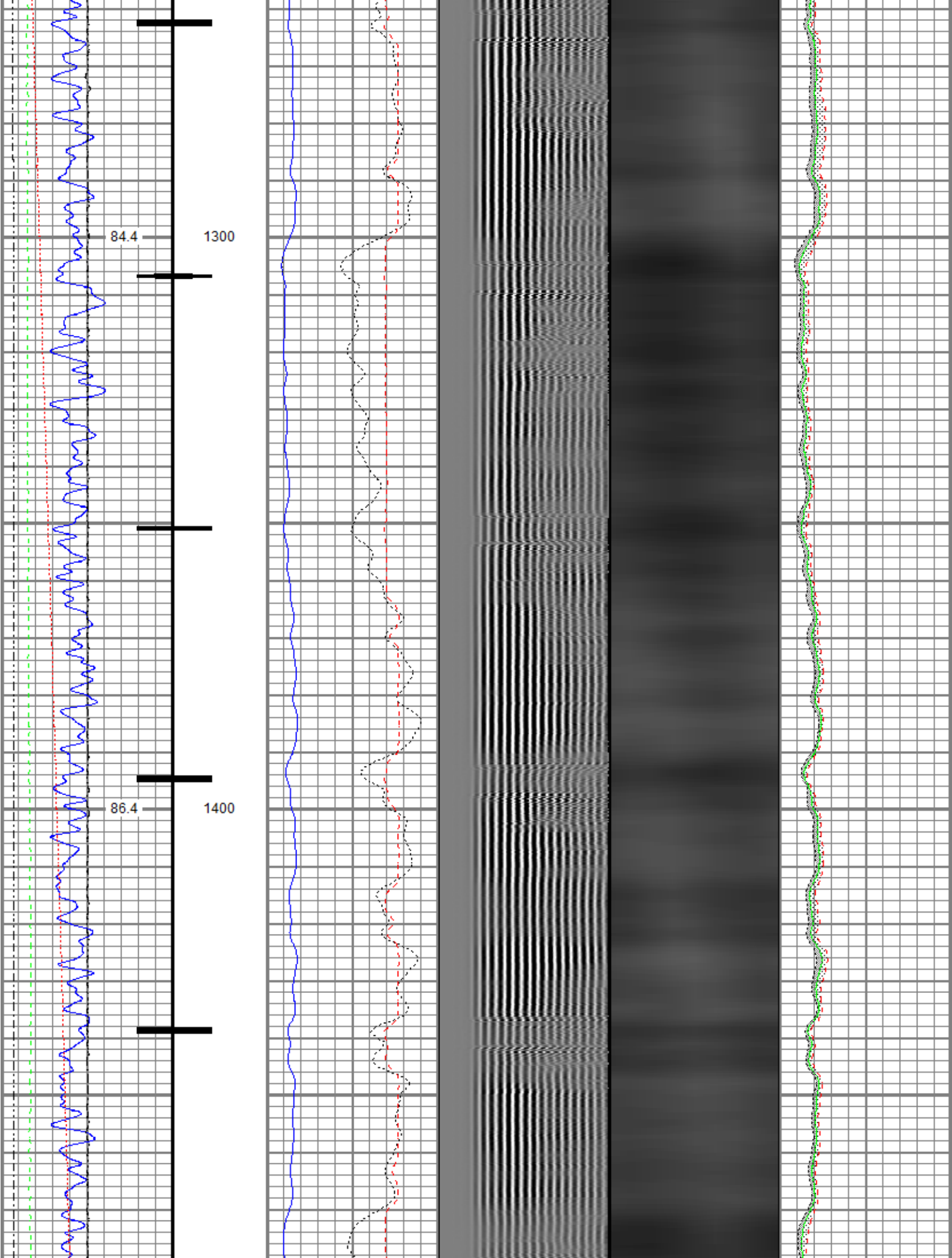


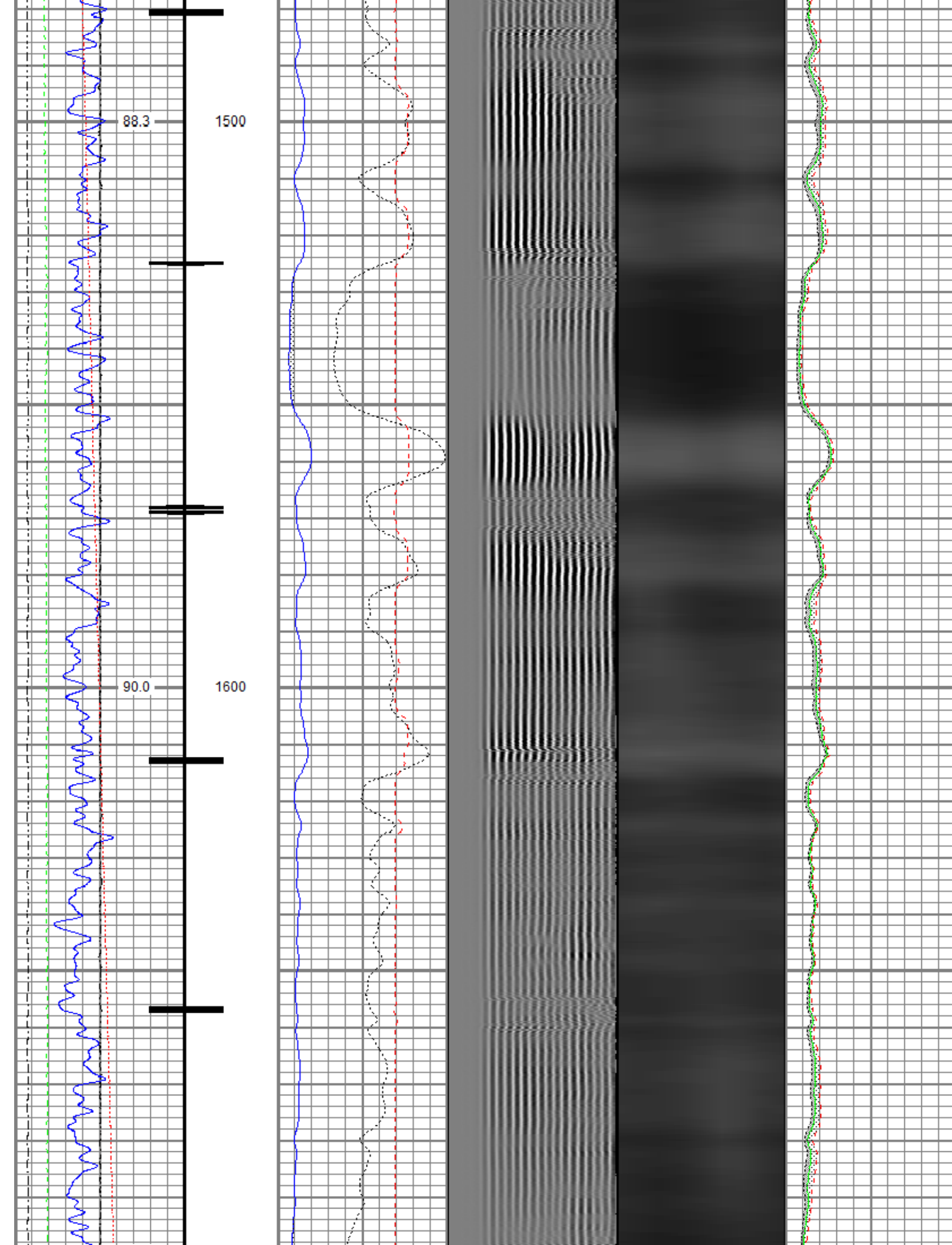








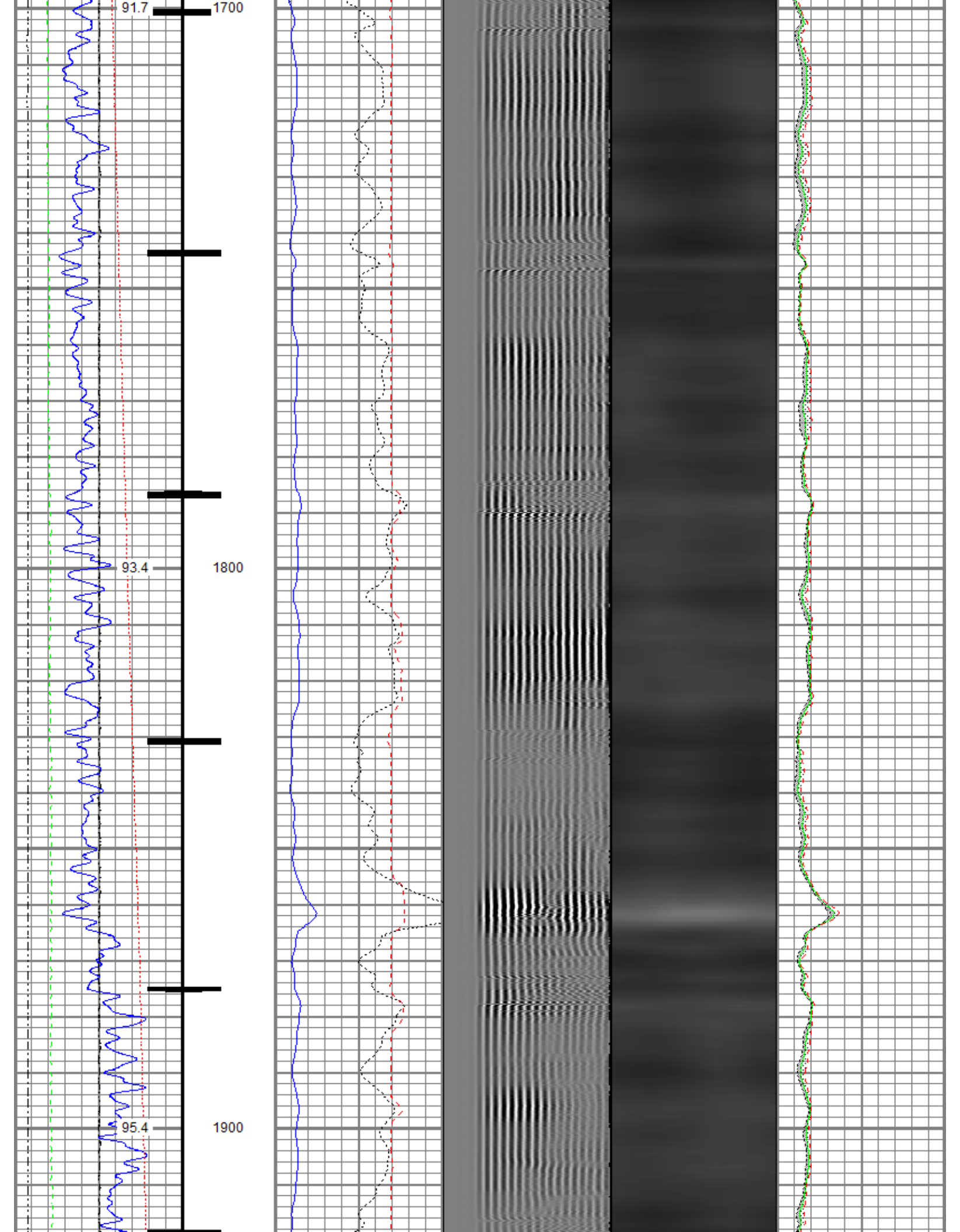


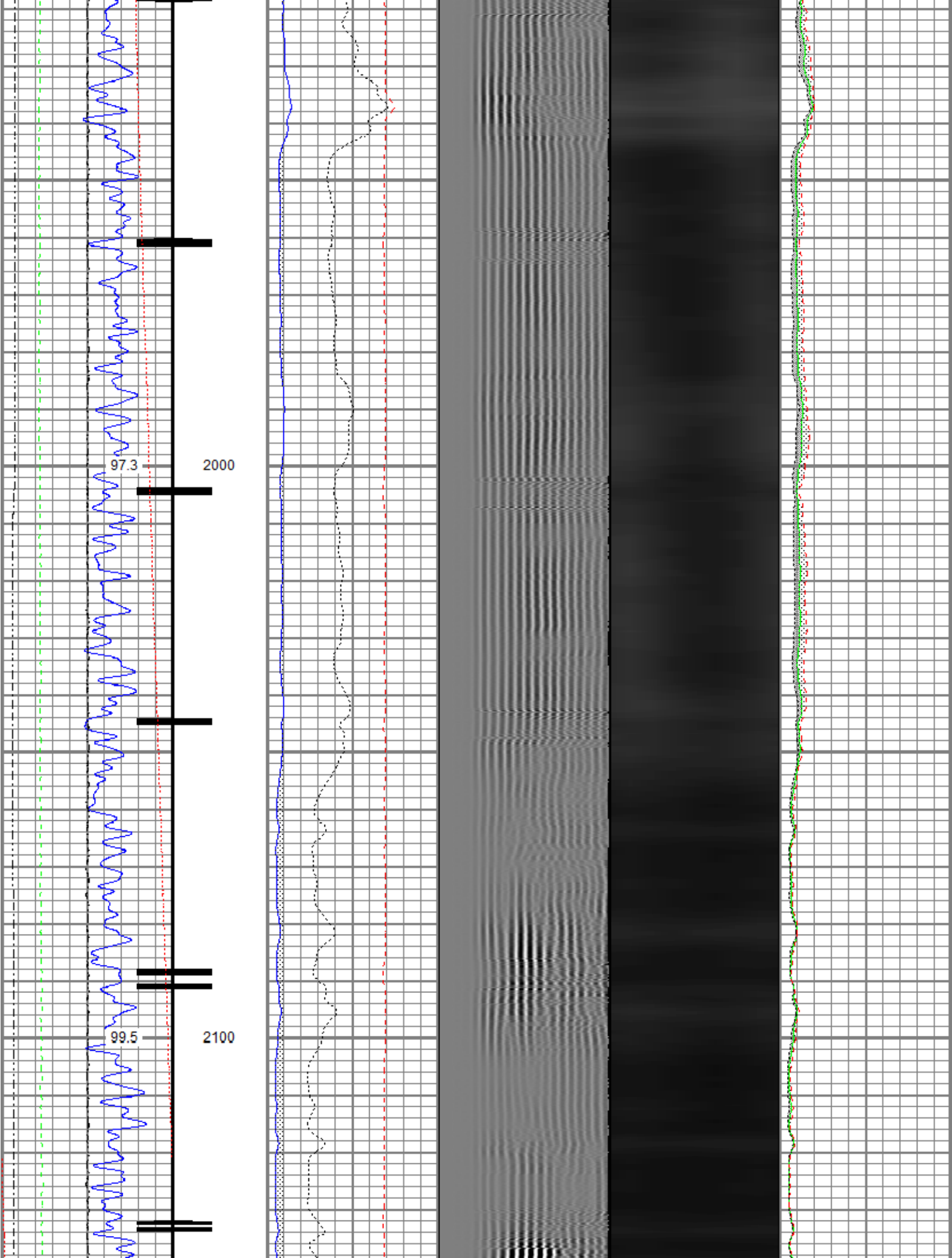


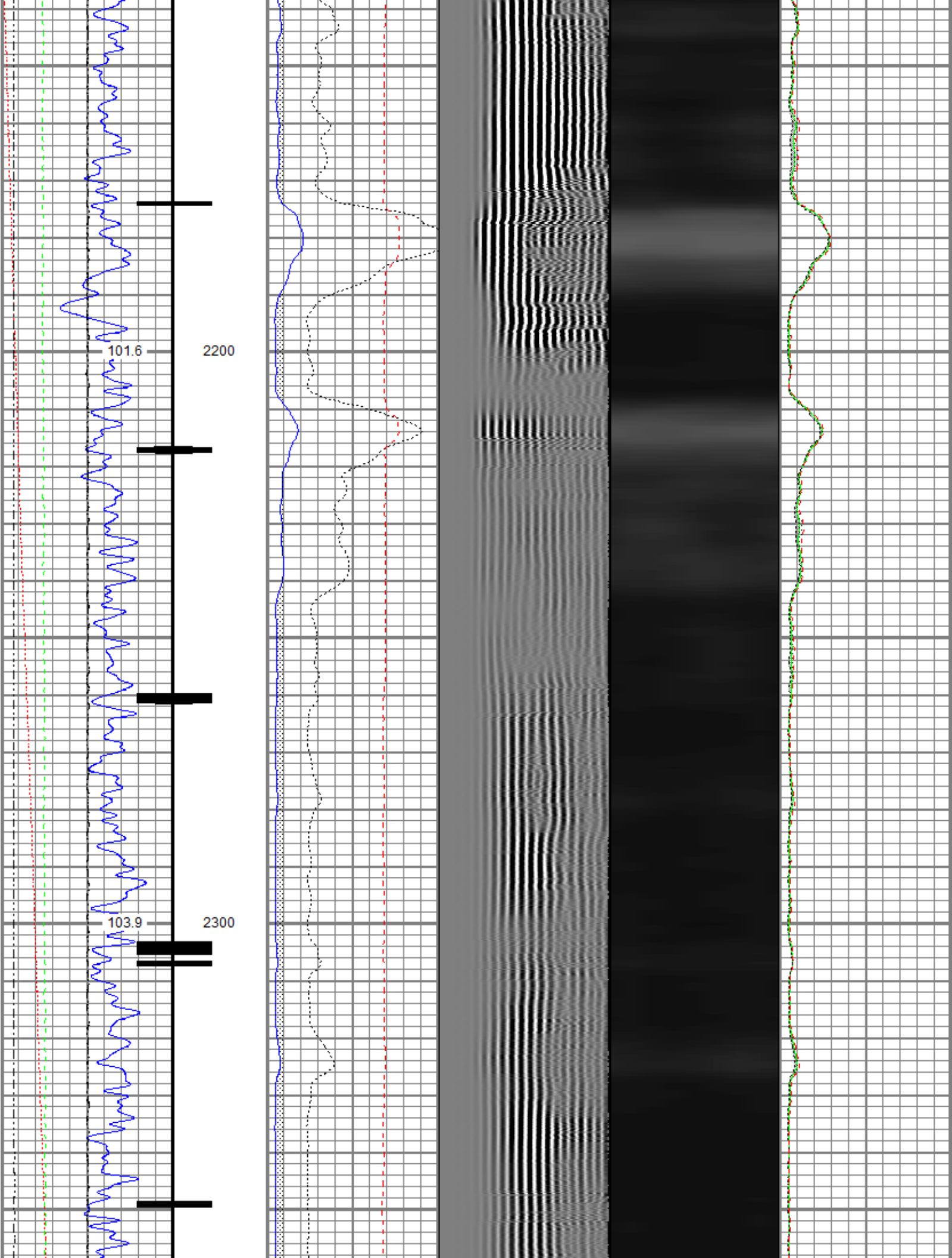
91.7 1700

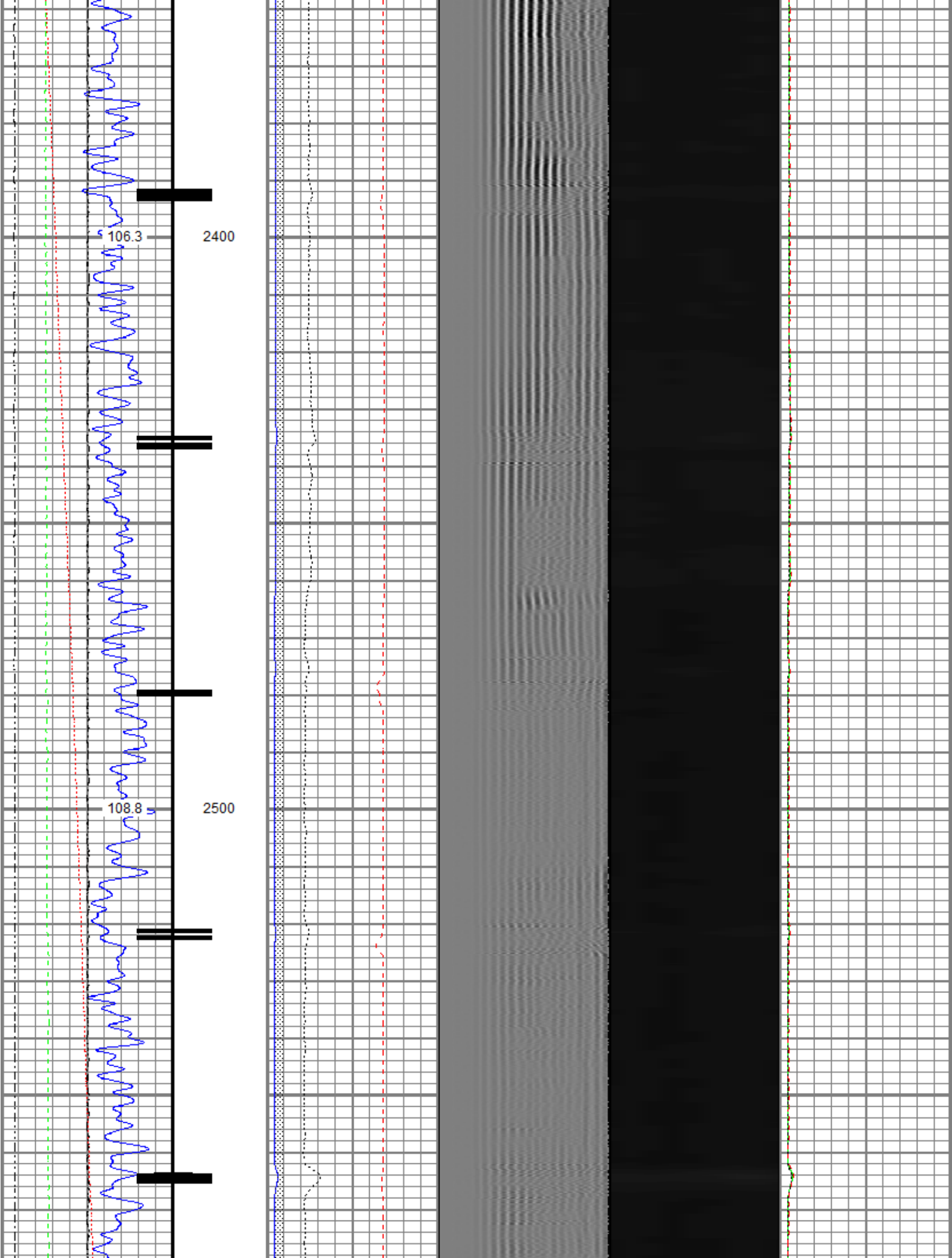
93.4 1800

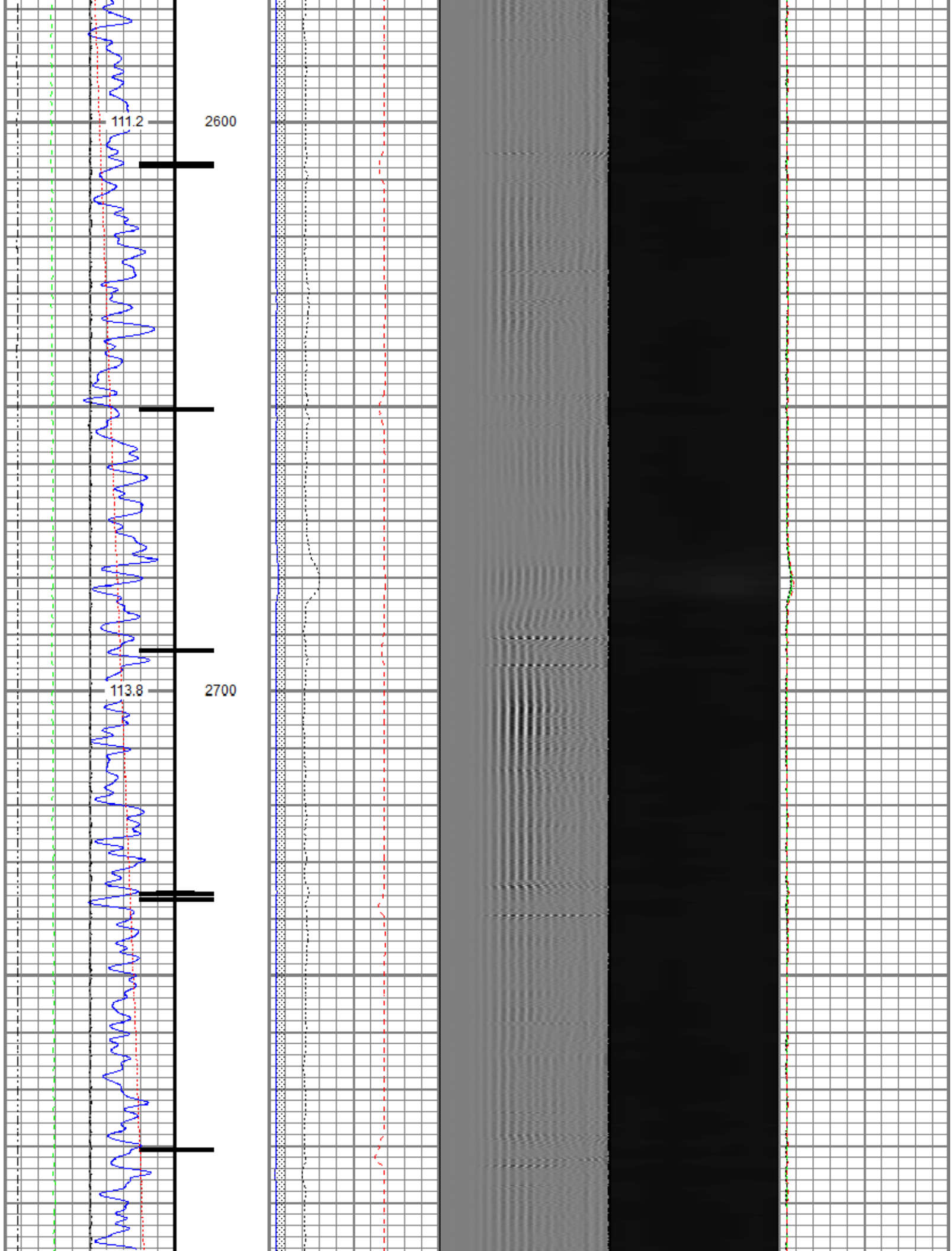
95.4 1900

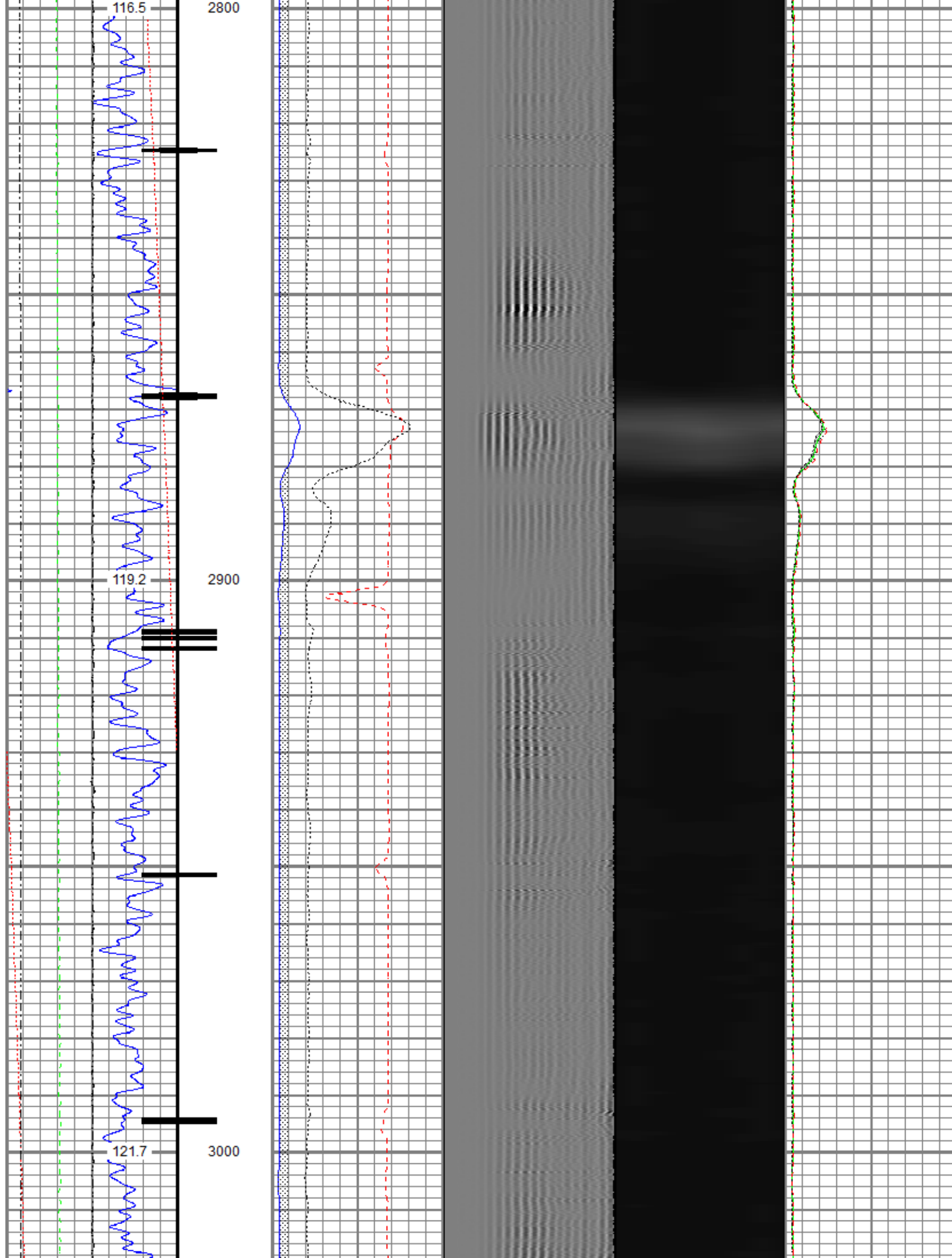


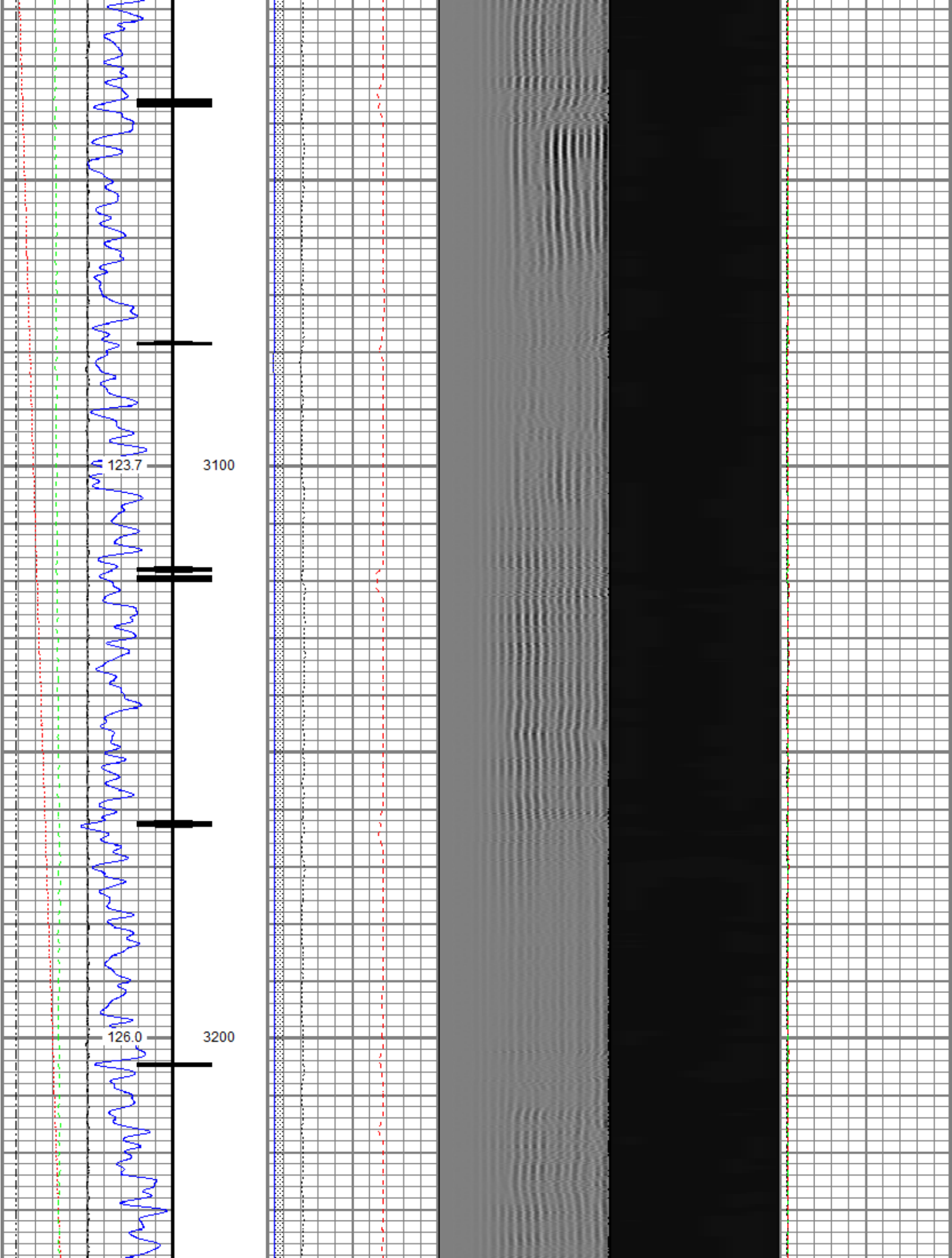


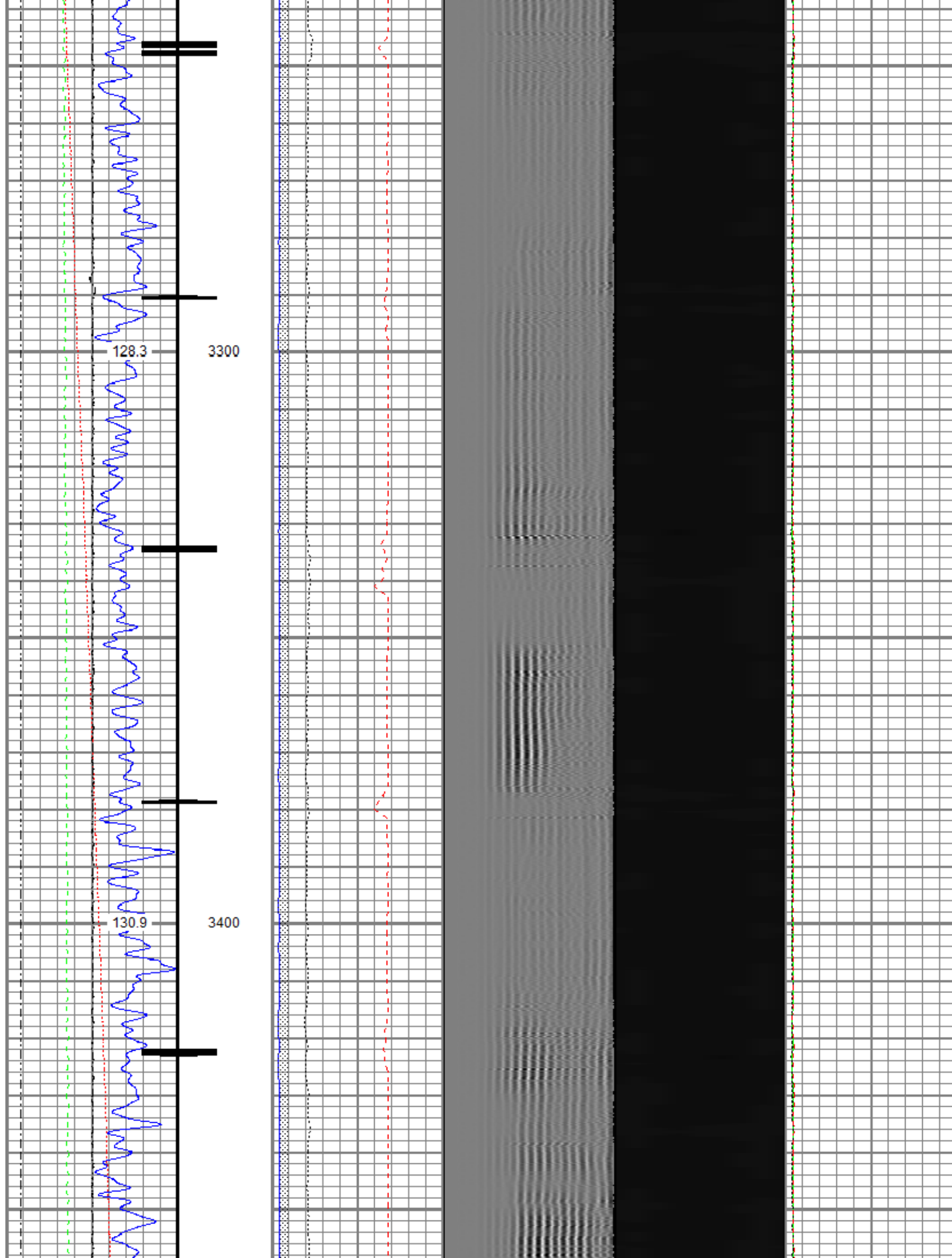


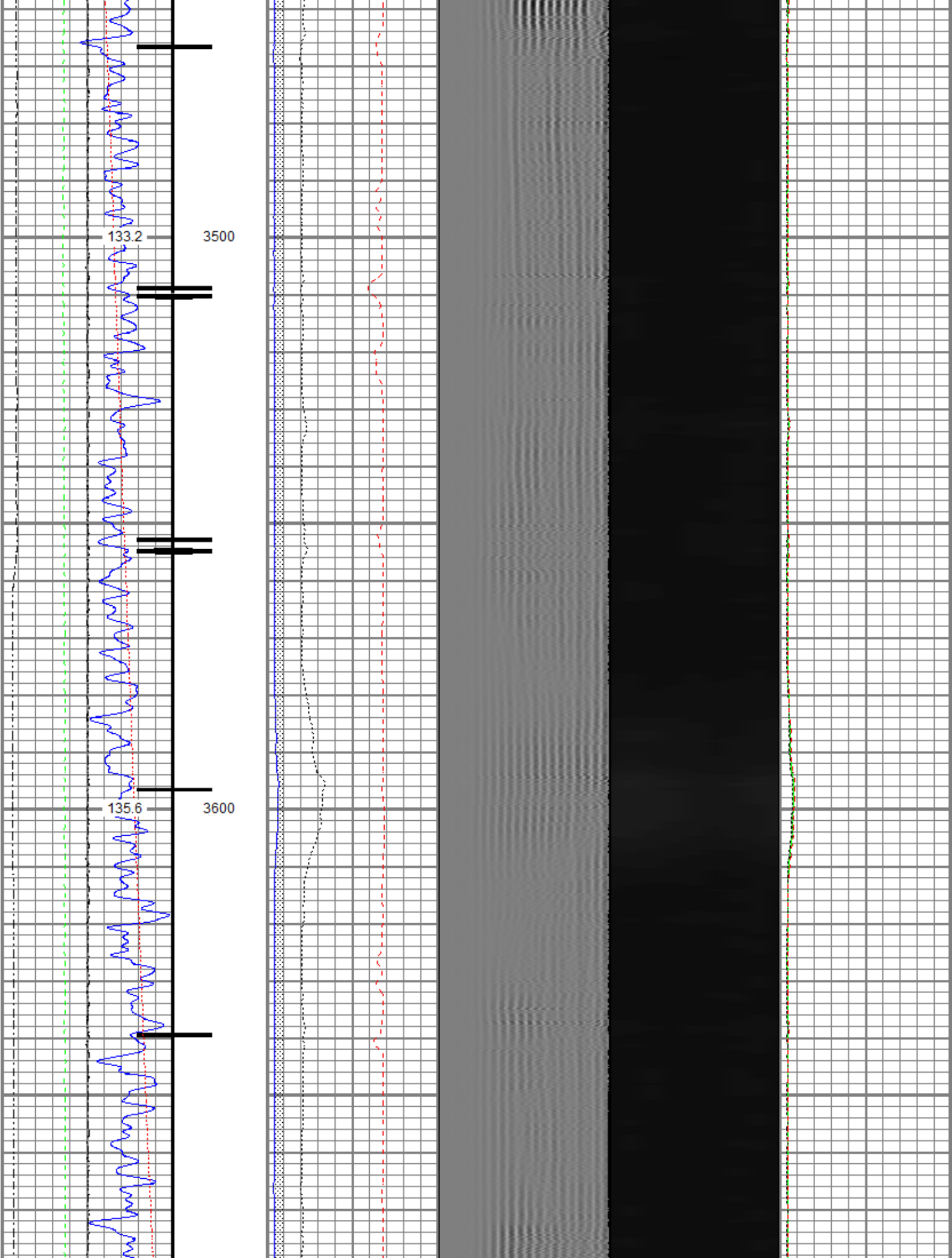


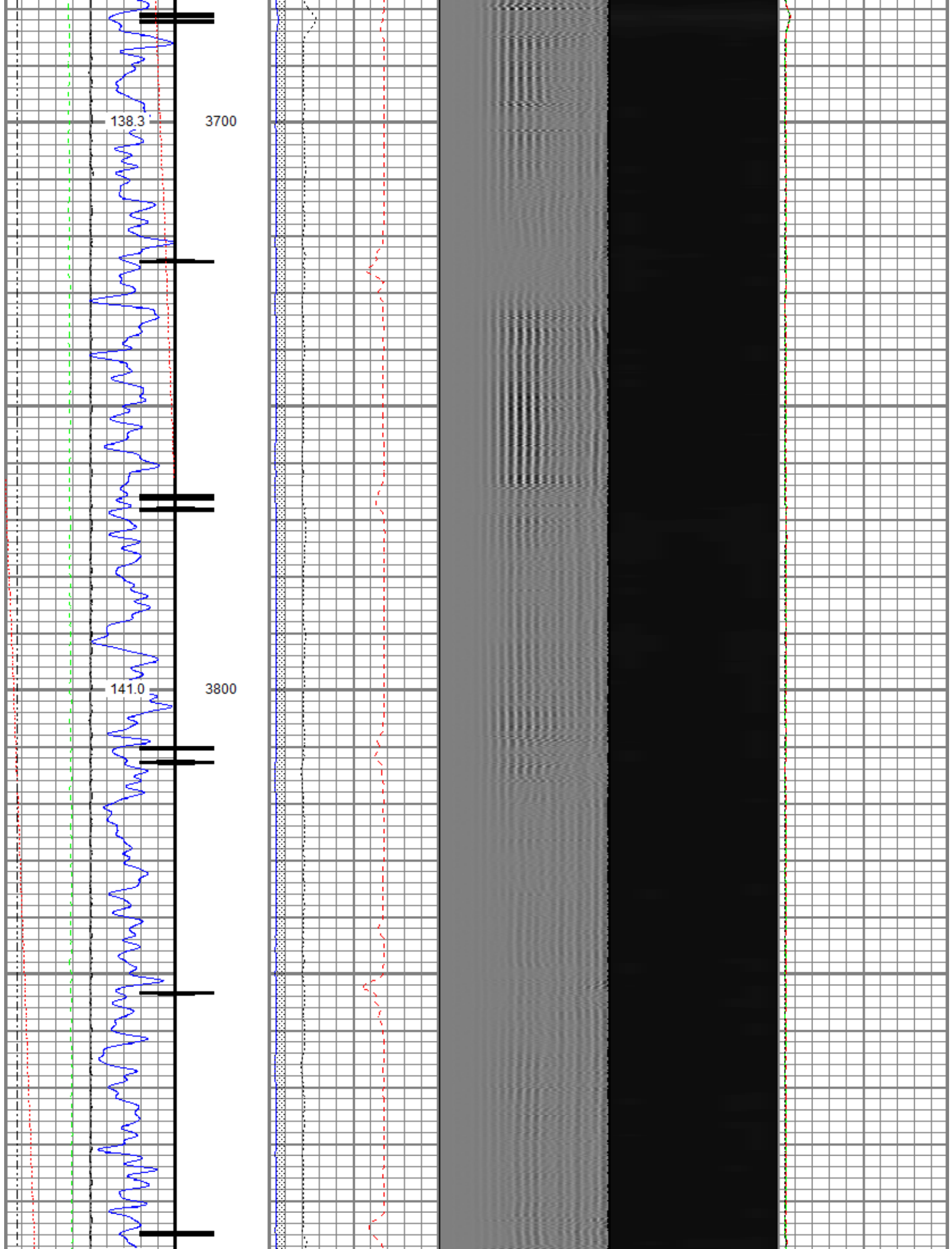


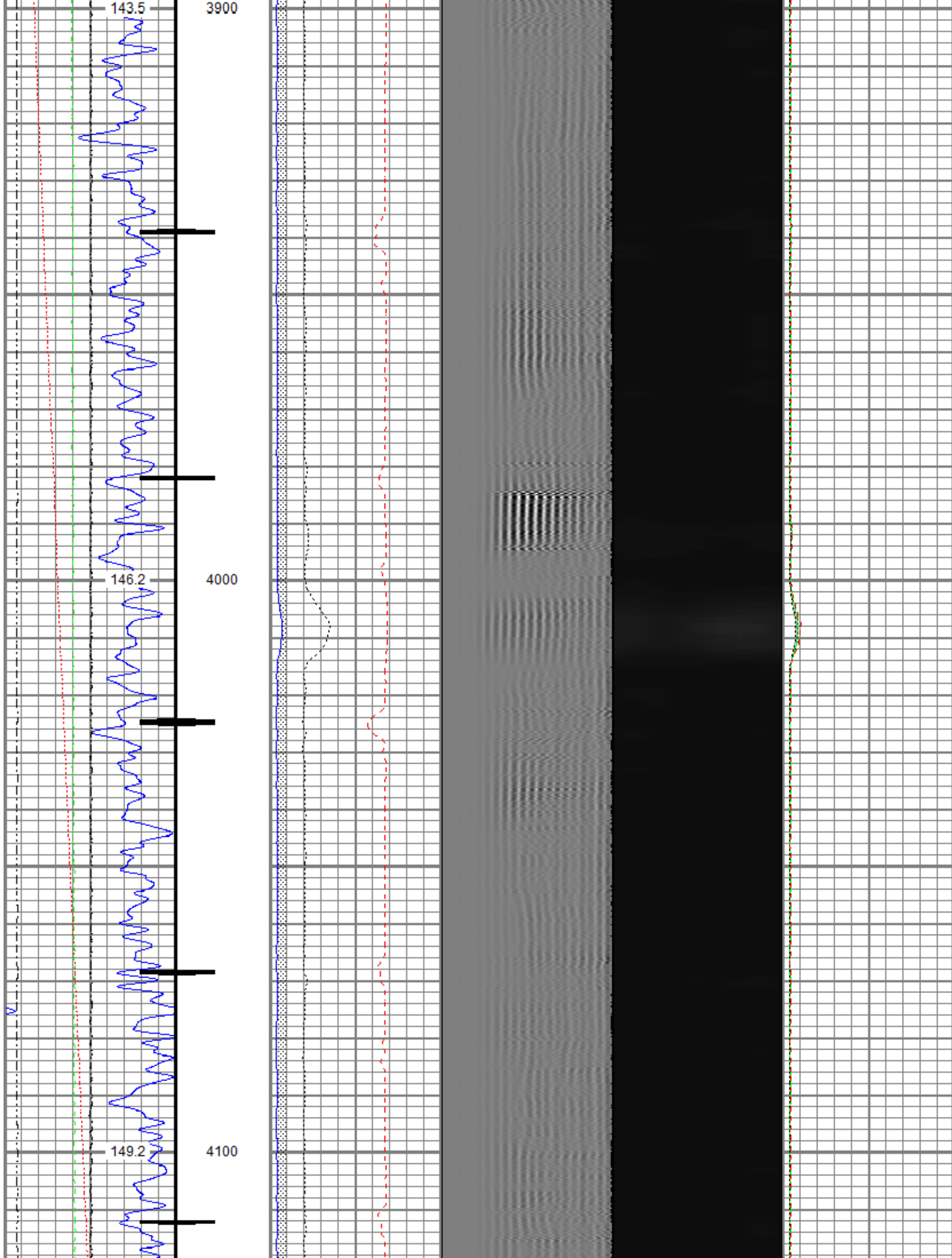


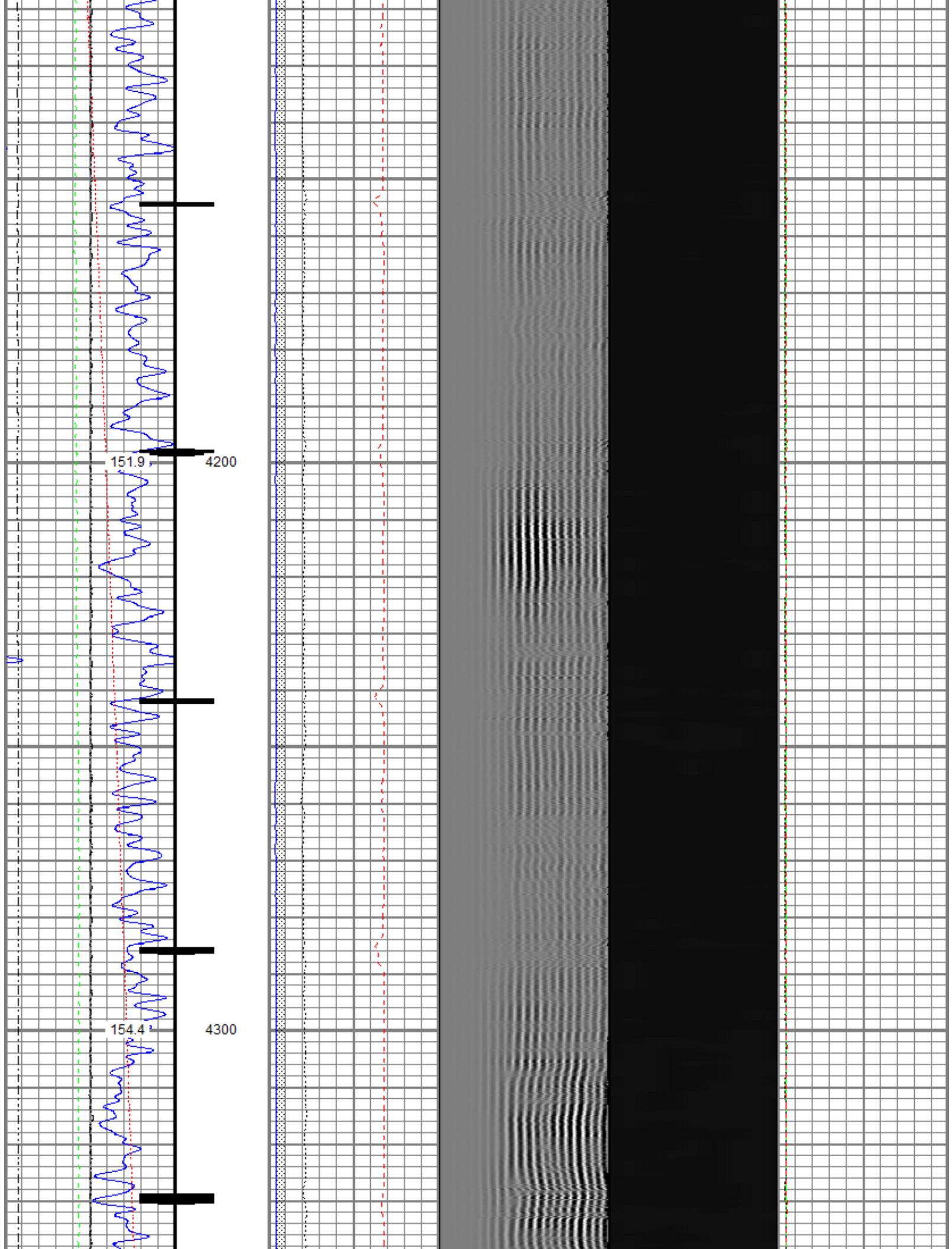


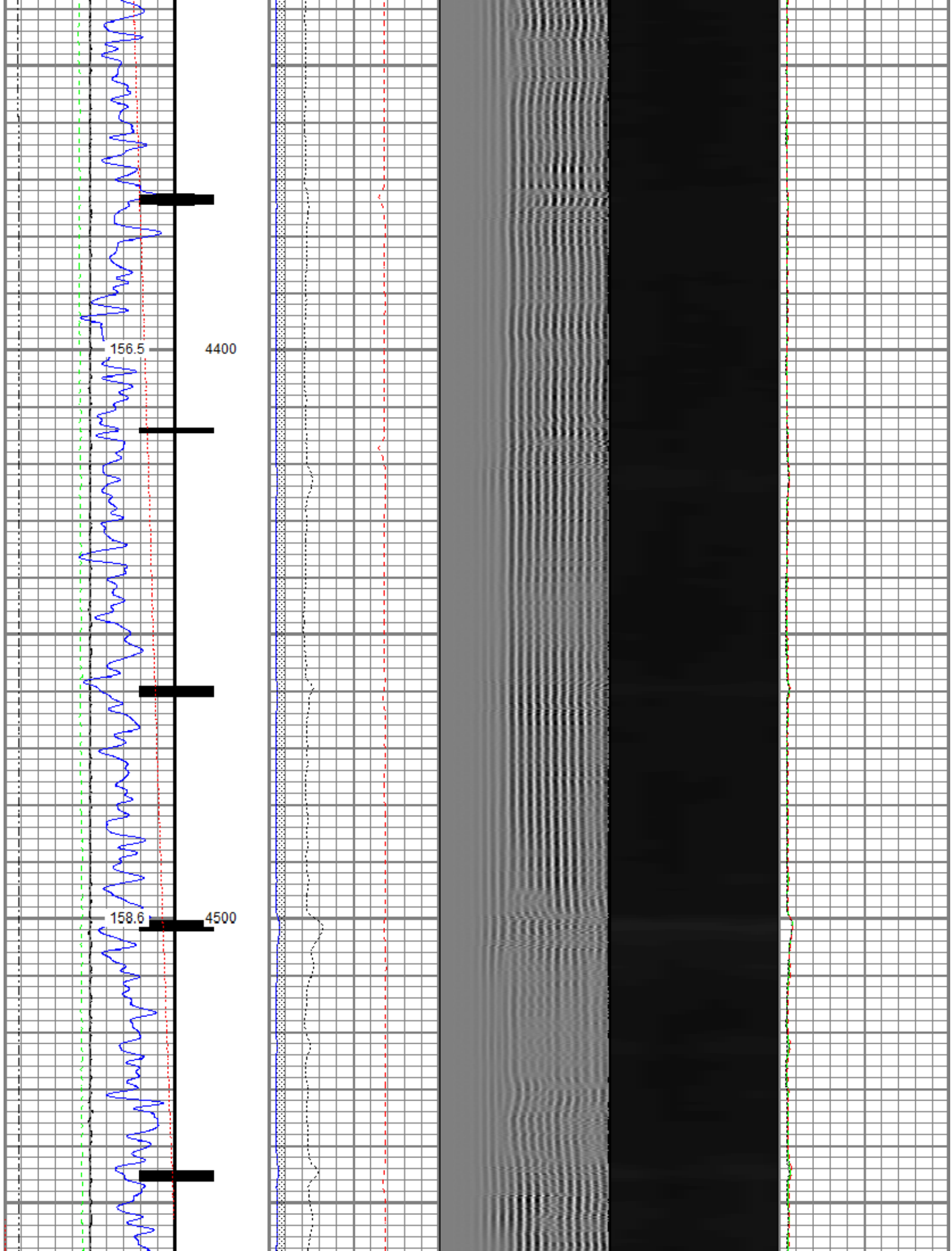


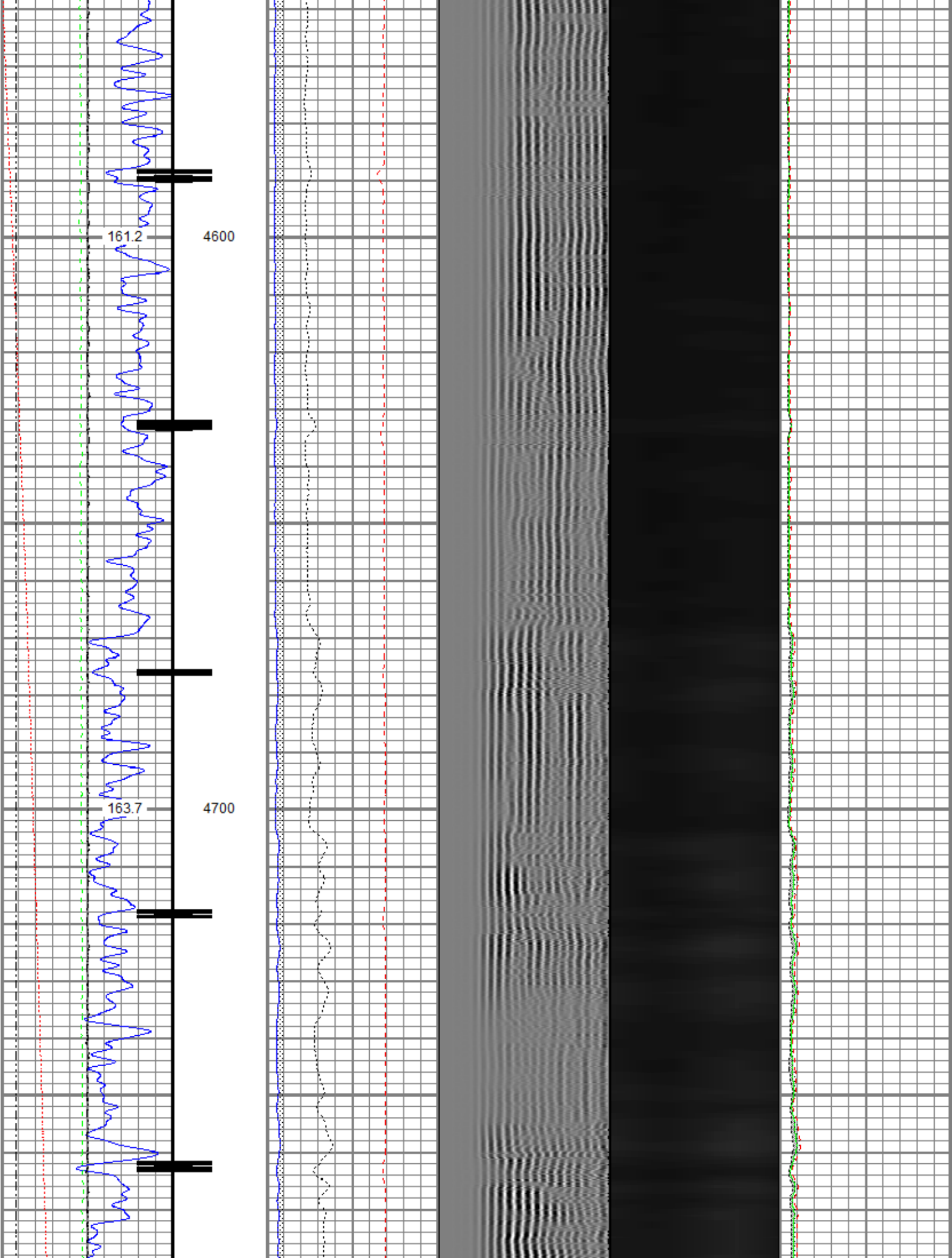


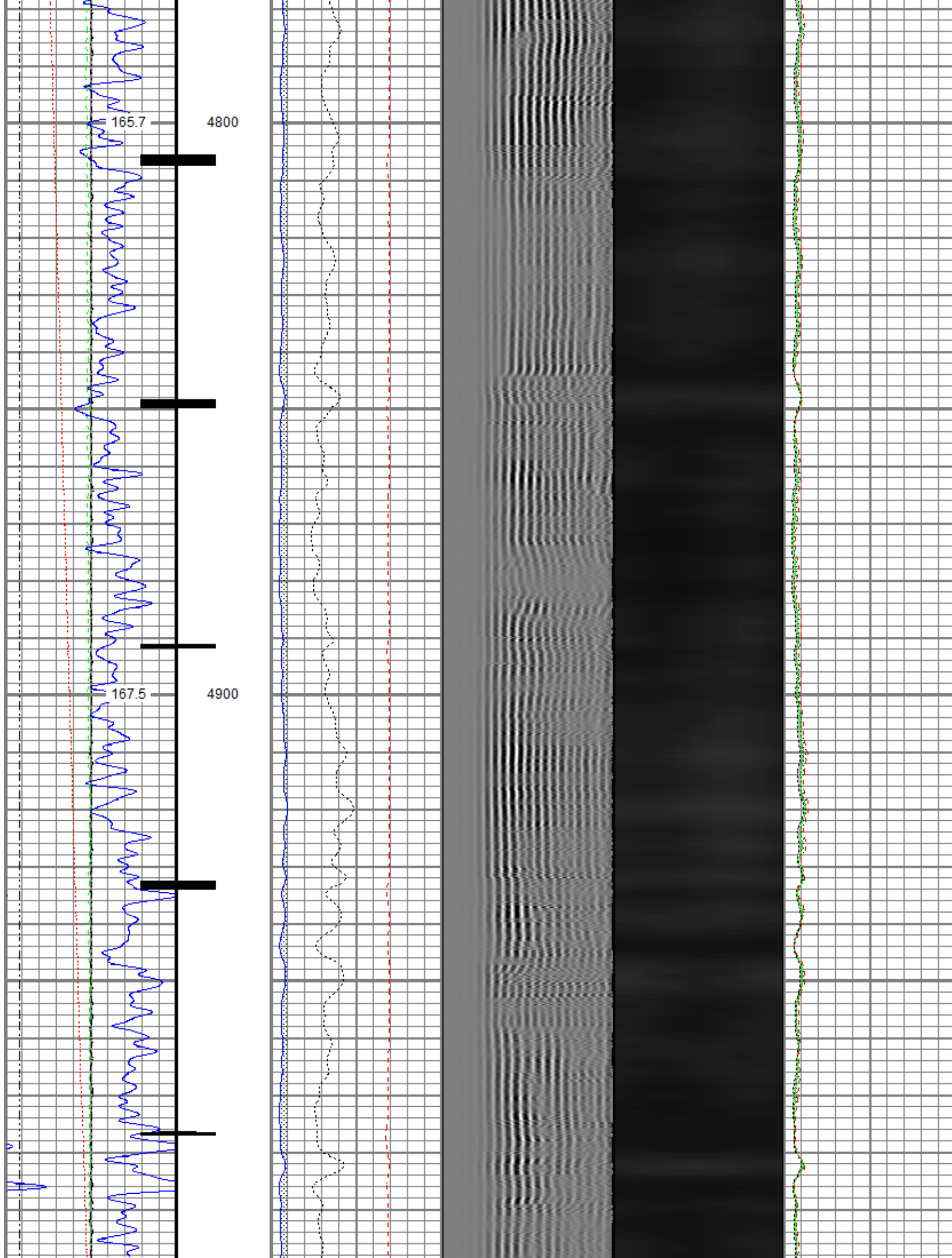


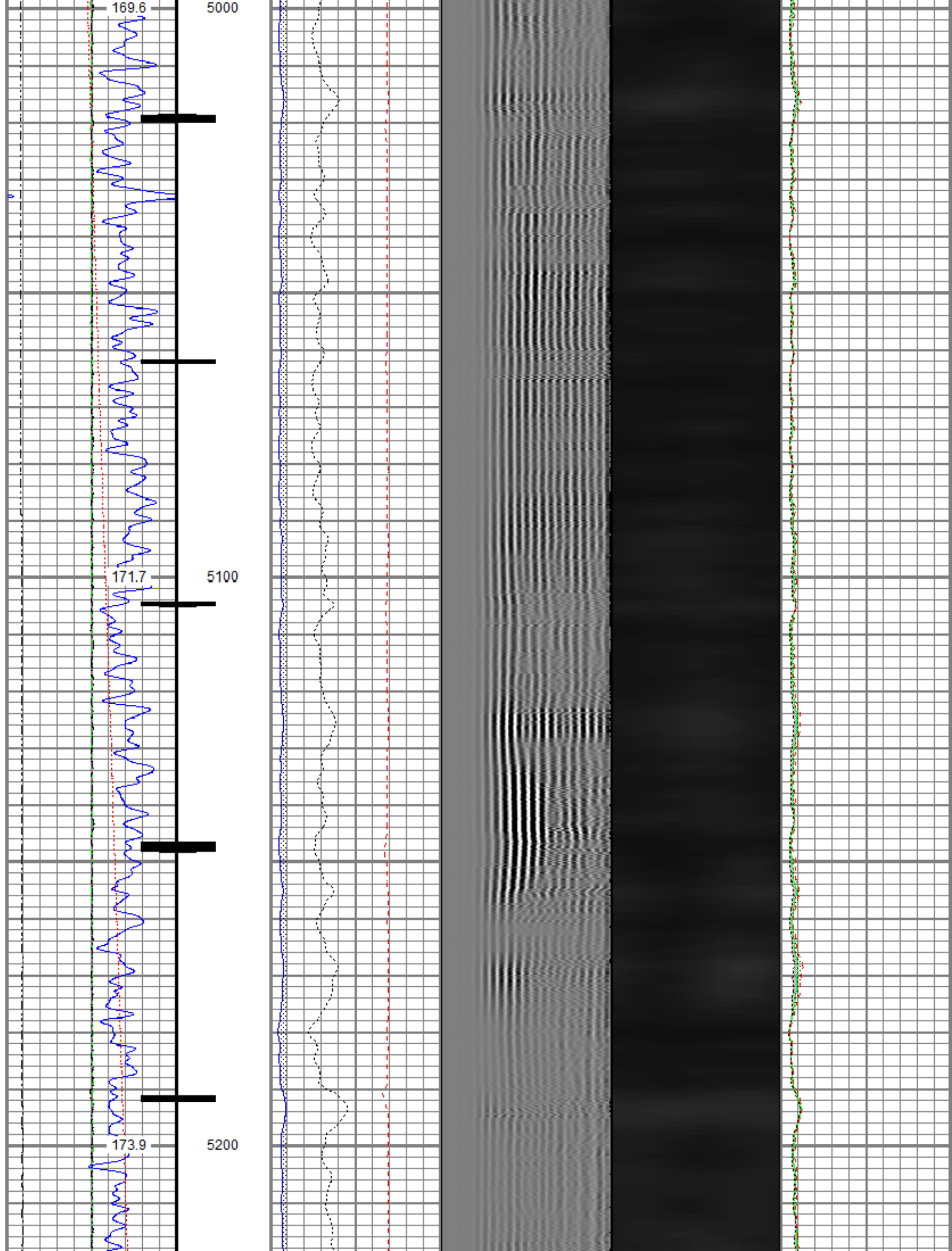


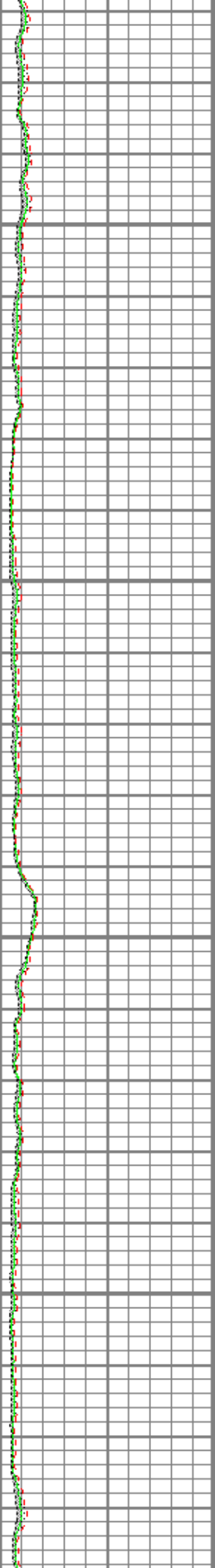
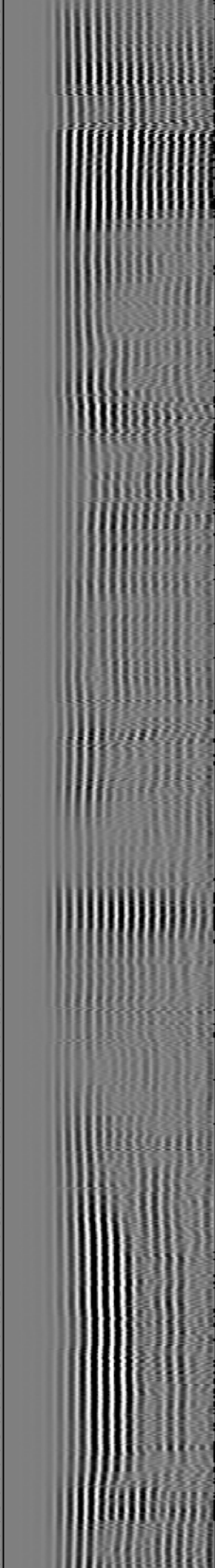
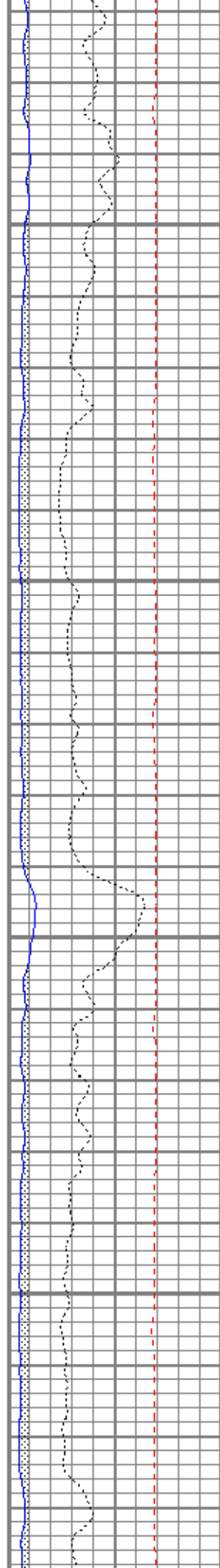
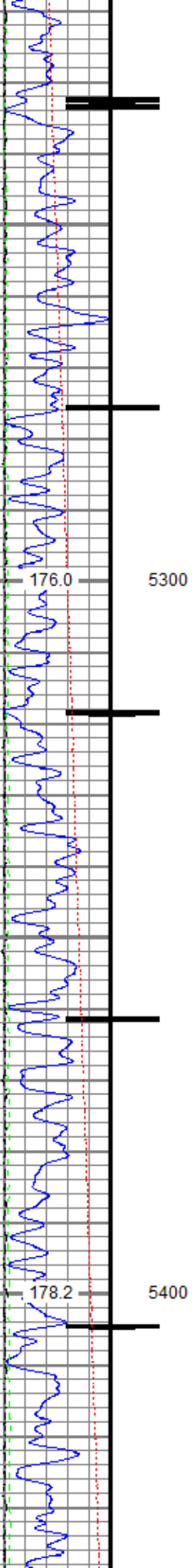


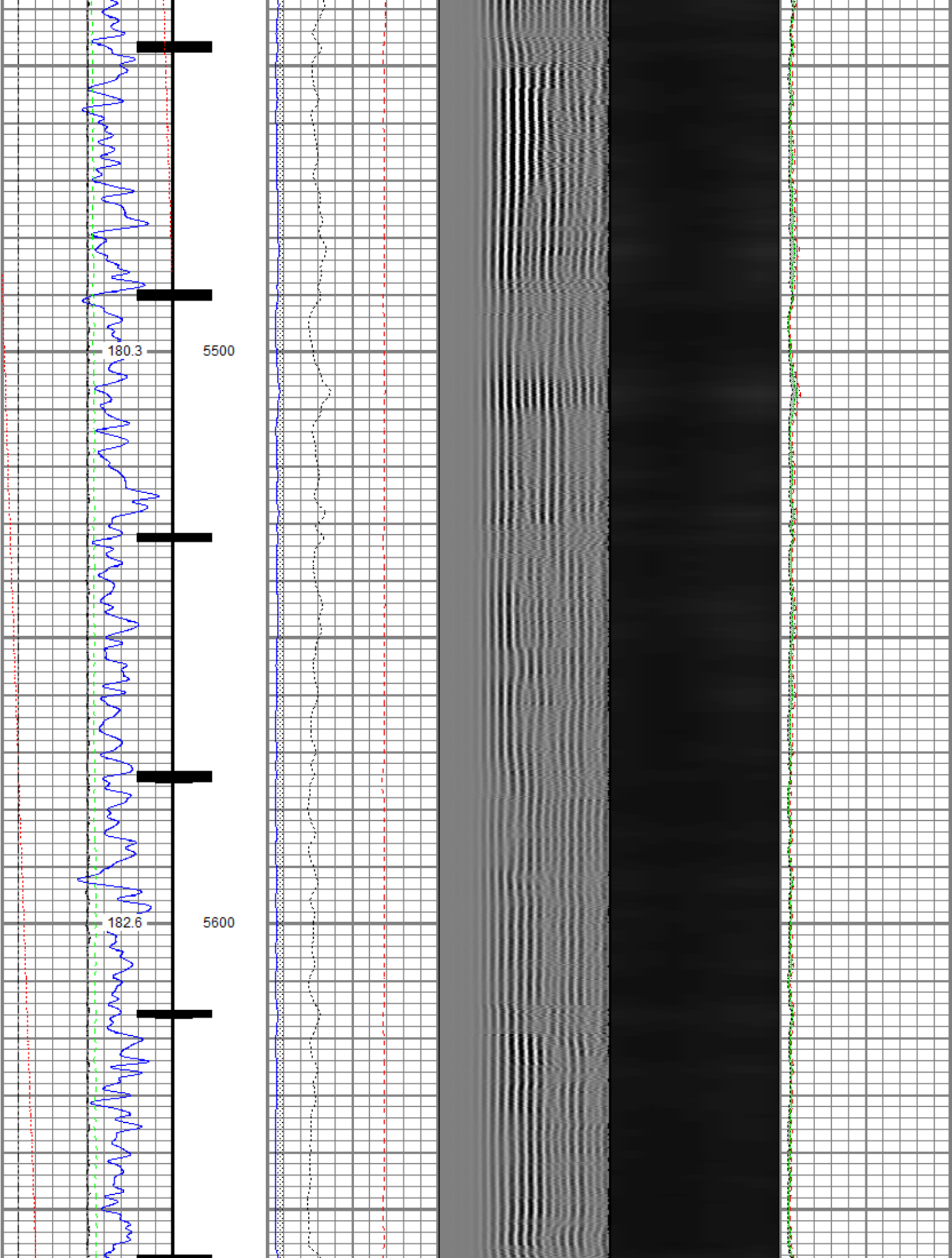


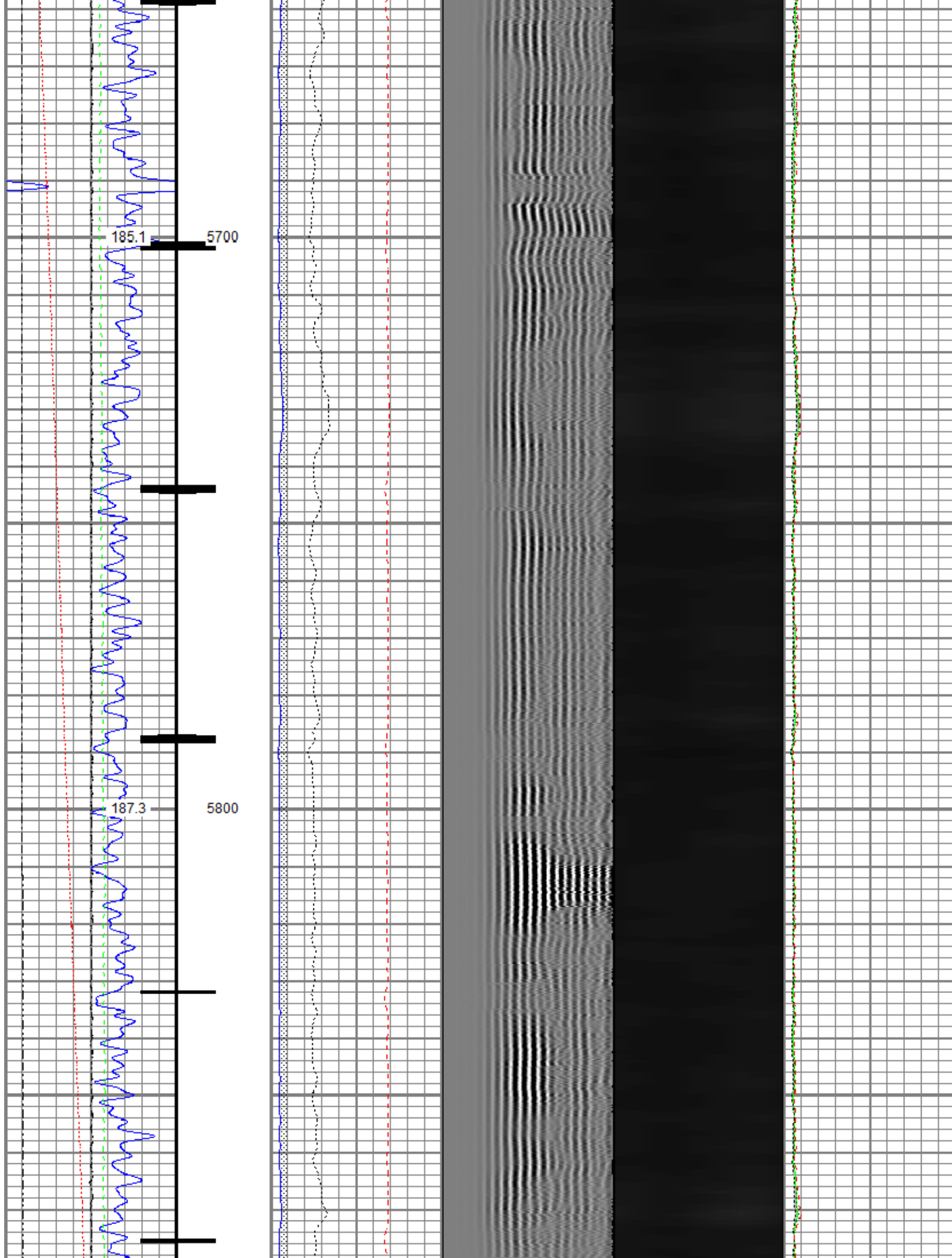










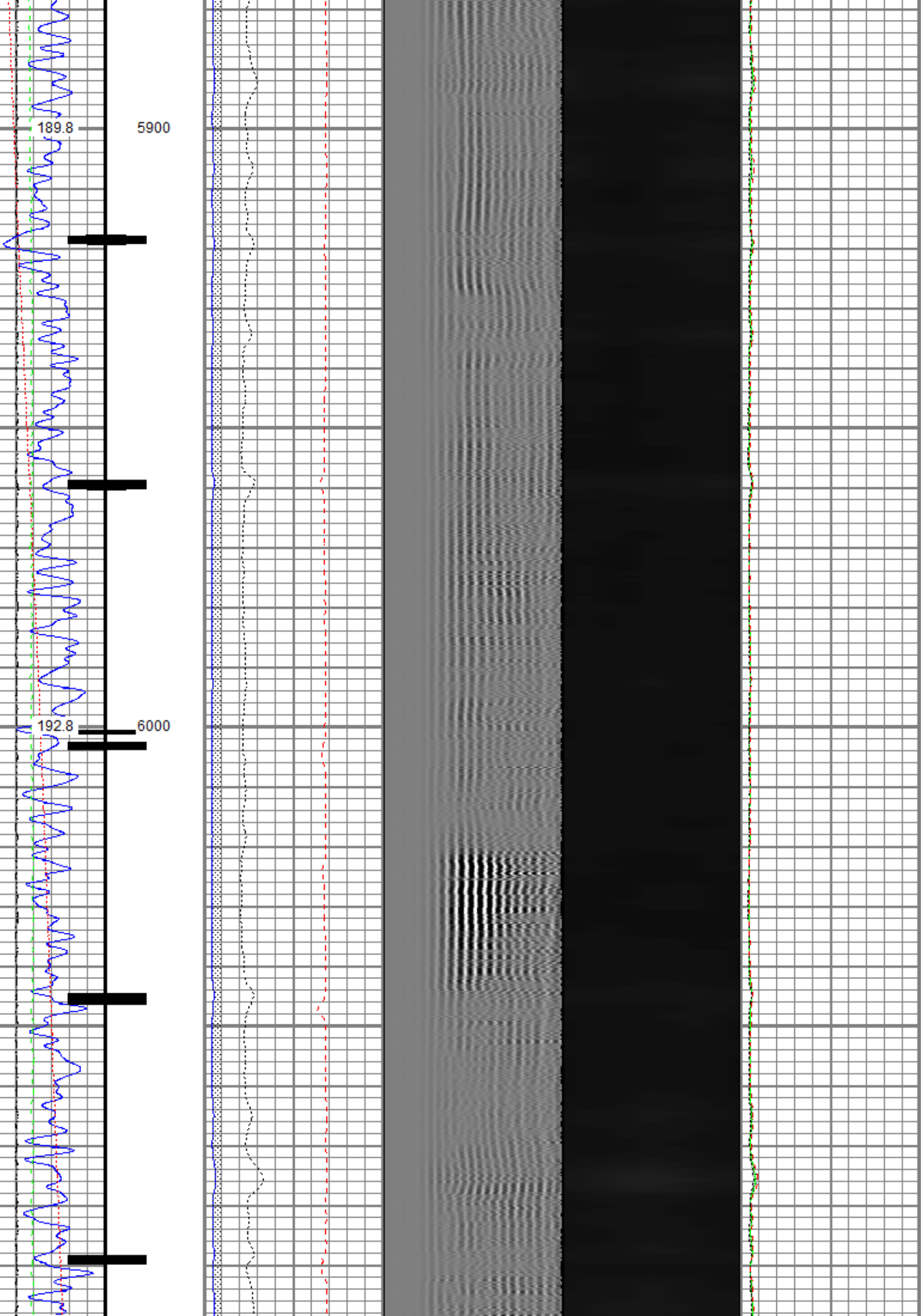


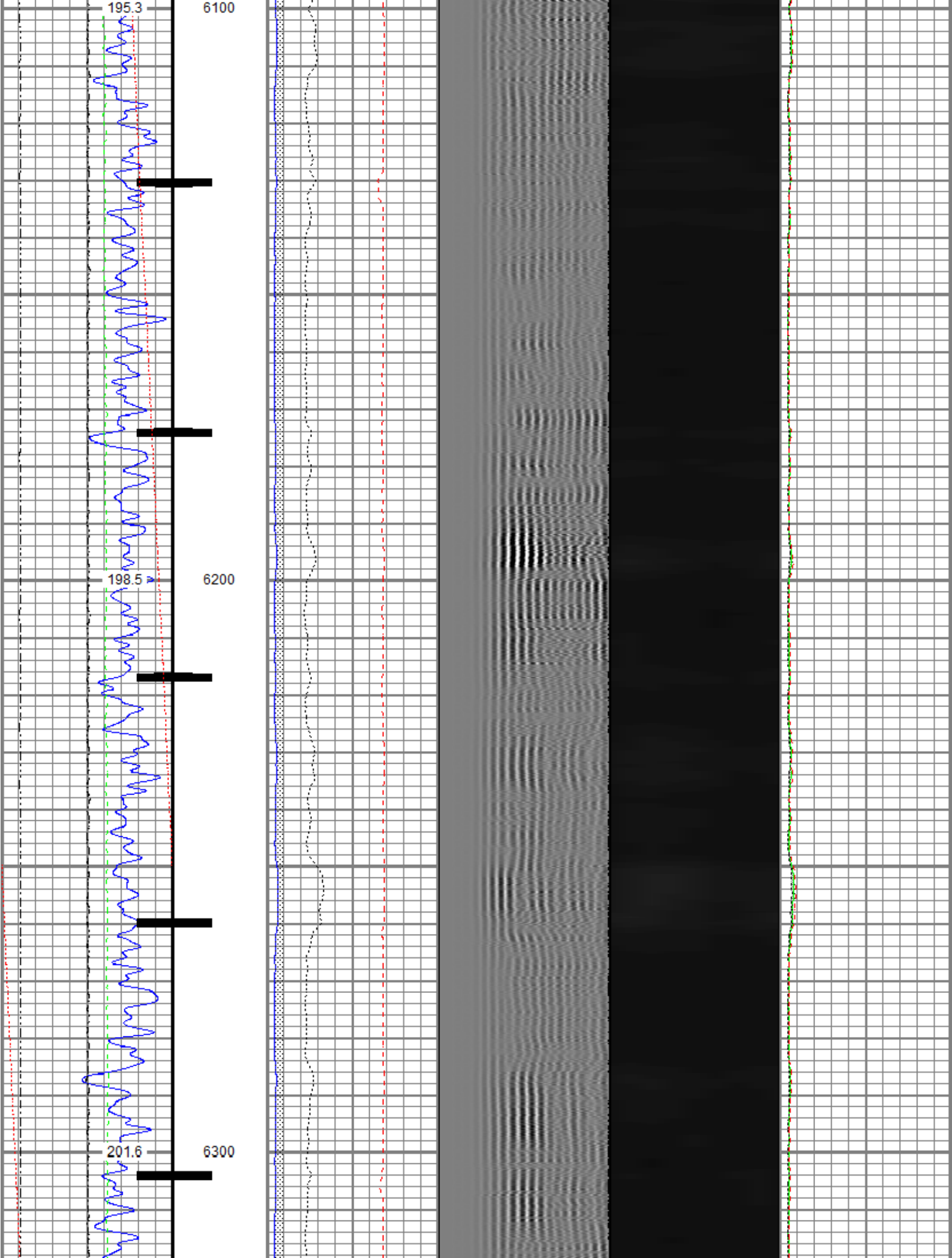
189.8

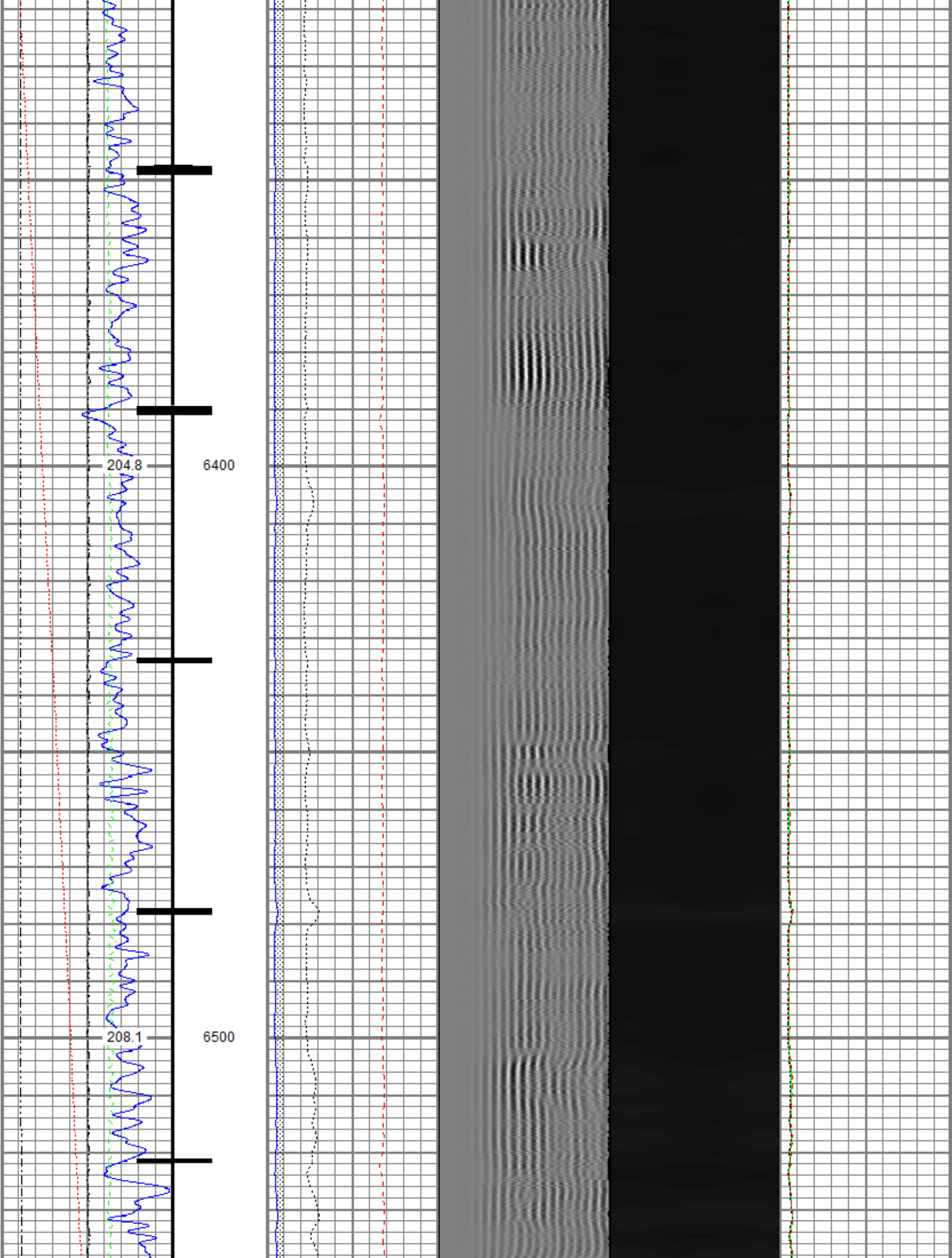
5900

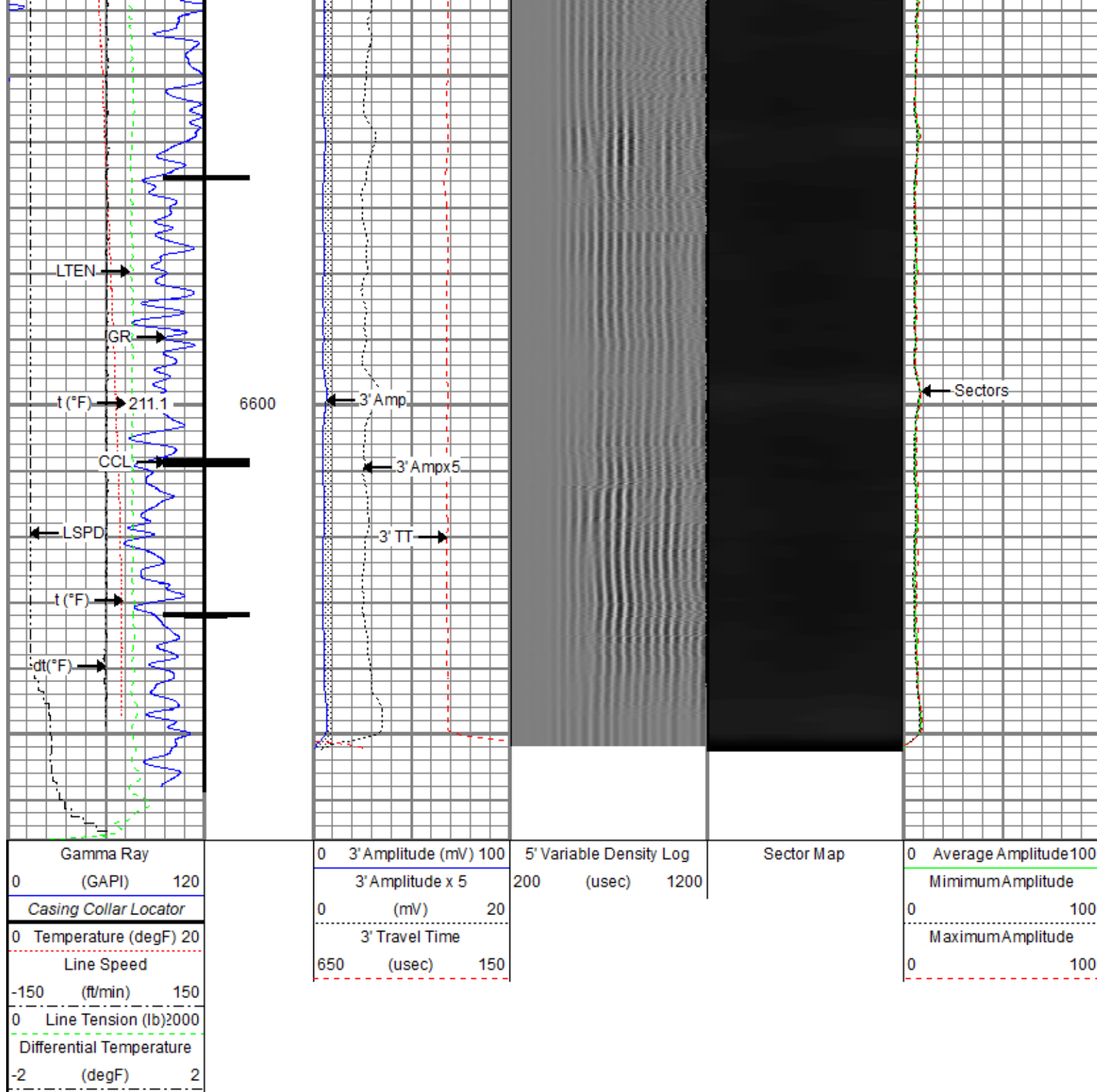
192.8

6000





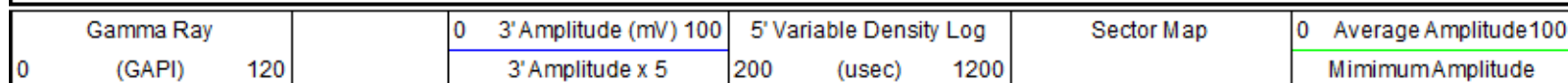




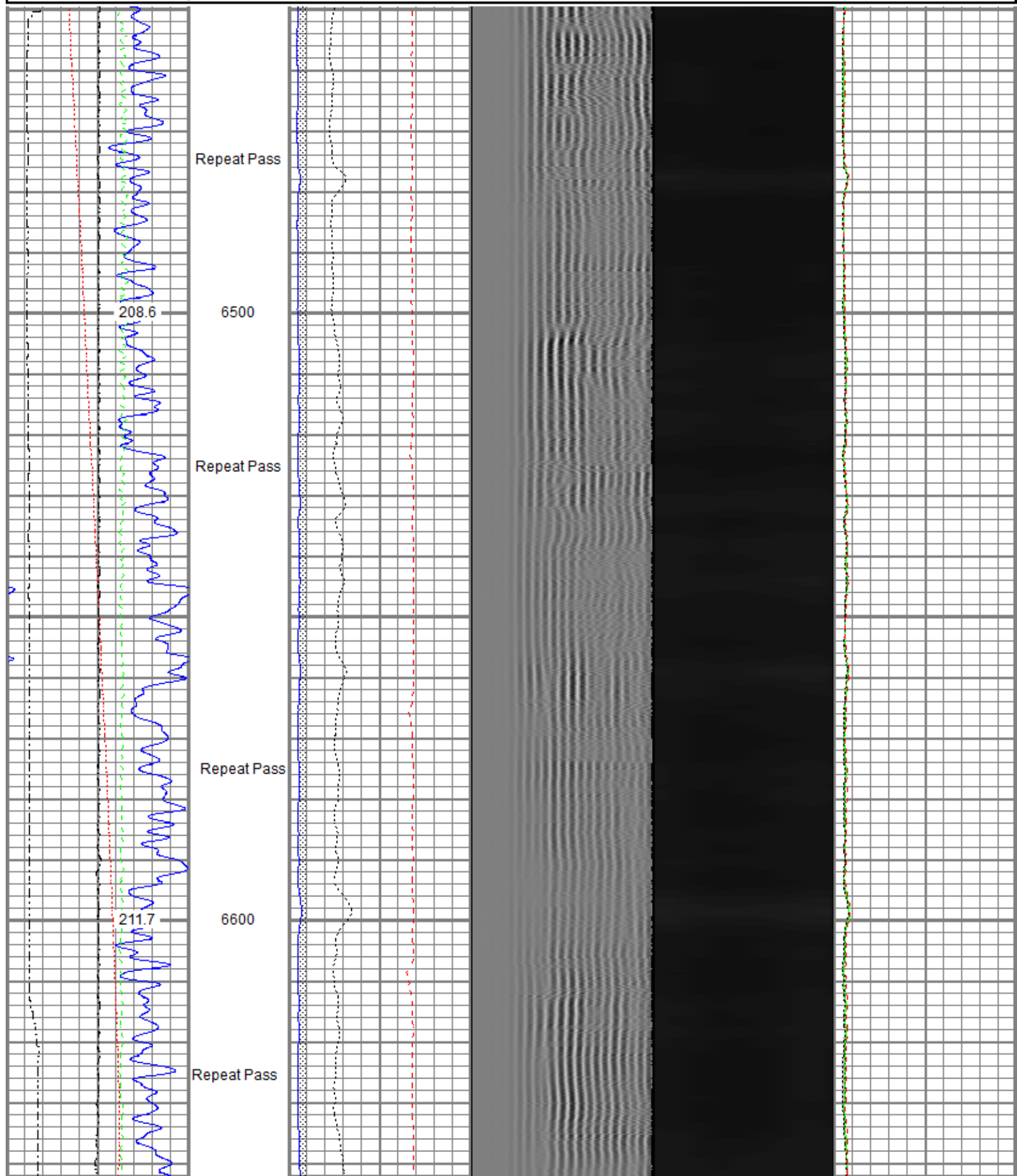
Repeat Pass

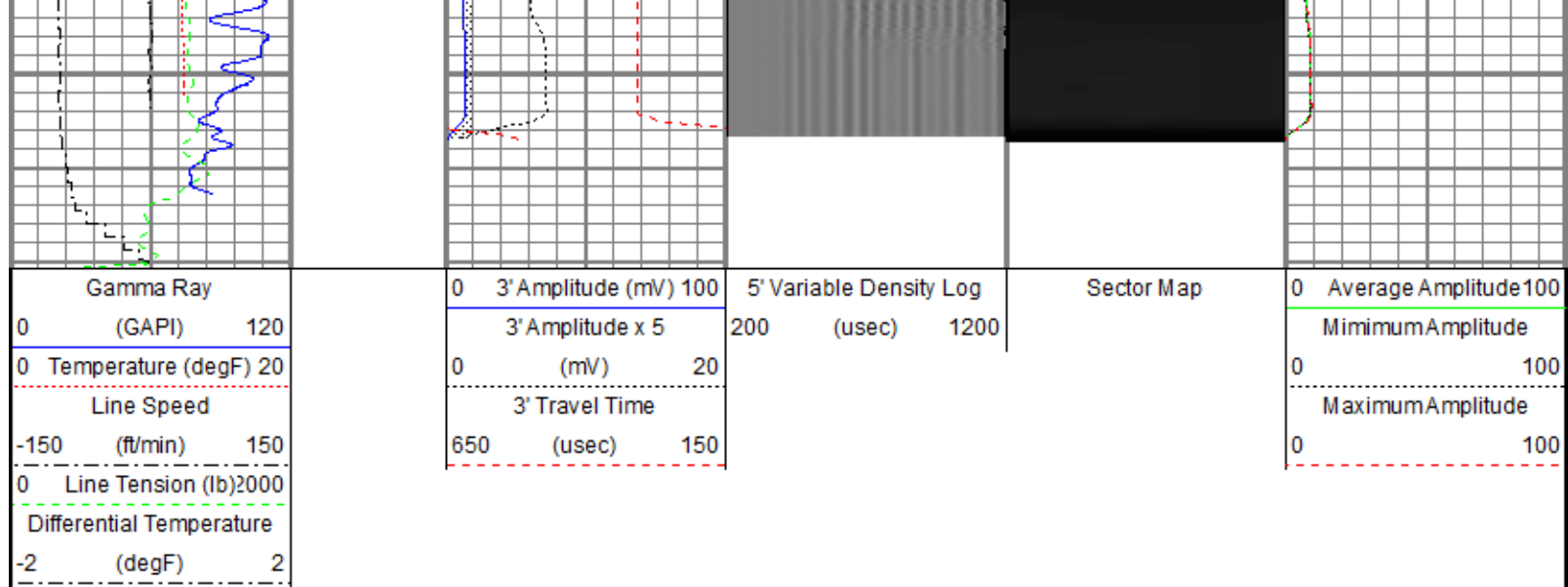
Recorded with 2800 PSI Surface Induced Pressure

Database File anadarko\quarter circle 24-4hz\processed_0512346269_anadarko_quarter circle 24-4hz_rbl_06-12-18_2800 psi.db
 Dataset Pathname Repeat.2
 Presentation Format ros_radri
 Dataset Creation Thu Jun 14 12:36:26 2018
 Charted by Depth in Feet scaled 1:240

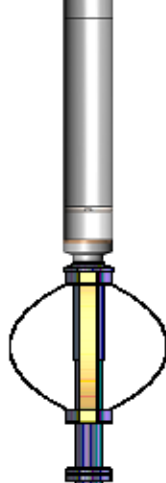


0	Temperature (degF)	20	0	(mV)	20	0		100
Line Speed			3' Travel Time			Maximum Amplitude		
-150	(ft/min)	150	650	(usec)	150	0		100
0	Line Tension (lb)	2000						
Differential Temperature								
-2	(degF)	2						





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.44	3.60
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
TEMP	17.33					
WVFS8	15.09		Probe Radii-2750 RBT (FW1305-096) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS7	15.09					
WVFS6	15.09					
WVFS5	15.09					
WVFS4	15.09					
WVFS3	15.09					
WVFS2	15.09					
WVFS1	15.09					
WVFCAL	15.09					
WVF3FT	15.09					
WVF5FT	14.09					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	7.08					
CCL\$1	7.08					

GR	5.75		Probe GR-CCL-2750 6PB (FW1304-132) Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT	4.80	2.75	55.00
			Probe ADPT-6P-GO Probe 2-3/4" 6-Pin Top to GO Bottom Adaptor Sub	0.28	2.75	2.00
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
Dataset: processed_0512346269_anadarko_quarter circle 24-4hz_rbl_06-12-18_2800 psi.db: field/well/run1/Main.5 Total length: 24.15 ft Total weight: 225.60 lb O.D.: 2.75 in						

Calibration Report	
Database File	c:\programdata\warrior\data\anadarko\quarter circle 24-4hz\processed_0512346269_anadarko_quarter circle 24-4hz_rbl_06-12-
Dataset Pathname	Main.5
Dataset Creation	Thu Jun 14 12:29:01 2018

Gamma Ray Calibration Report		
Serial Number:	FW1304-132	
Tool Model:	2750 6PB	
Performed:	Tue Nov 28 11:17:11 2017	
Calibrator Value:	637.0	GAPI
Background Reading:	109.1	cps
Calibrator Reading:	1009.7	cps
Sensitivity:	0.7072	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1305-096	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	0.000	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.663	0.800	71.921	107.463	0.652
CAL	0.692	0.696				
5'	0.001	0.618	0.800	71.921	115.166	0.726
SUM						
S1	0.001	0.622	0.000	100.000	161.162	-0.227
S2	0.001	0.639	0.000	100.000	156.776	-0.183
S3	0.002	0.665	0.000	100.000	150.685	-0.239
S4	0.002	0.689	0.000	100.000	145.417	-0.252
S5	0.002	0.708	0.000	100.000	141.465	-0.219
S6	0.002	0.698	0.000	100.000	143.627	-0.248
S7	0.002	0.675	0.000	100.000	148.471	-0.249
S8	0.002	0.650	0.000	100.000	154.435	-0.320

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

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.692	0.696	1.000	0.000

Air Zero Calibration, performed Tue Jun 12 05:57:06 2018:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.008		0.000		-0.000	
5'	0.008		0.000		0.000	
SUM						
S1	0.006		0.000		-0.000	
S2	0.009		0.000		-0.000	
S3	0.007		0.000		-0.000	
S4	0.008		0.000		-0.000	
S5	0.008		0.000		-0.000	
S6	0.008		0.000		0.000	
S7	0.009		0.000		0.000	
S8	0.008		0.000		0.000	

Temperature Calibration Report

Serial Number: FW1305-096
Tool Model: 2750 RBT
Performed: Sun Nov 12 13:42:10 2017

	Reference	Reading
Low Reference:	100.00 degF	109.43 degF
High Reference:	350.00 degF	405.87 degF
Gain:	0.84	
Offset:	7.72	
Delta Spacing	1	



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Quarter Circle 24-4HZ
Field	Wattenberg
County	Weld
State	Colorado