



County Weld State Colorado

Radial Cereb

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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.

Log ran as per customer request
Depth referenced to Marker Joint at 6515 FT
Adjusted +3 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7570 FT with no debris
Log ran from 40 FT above RBP
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!!

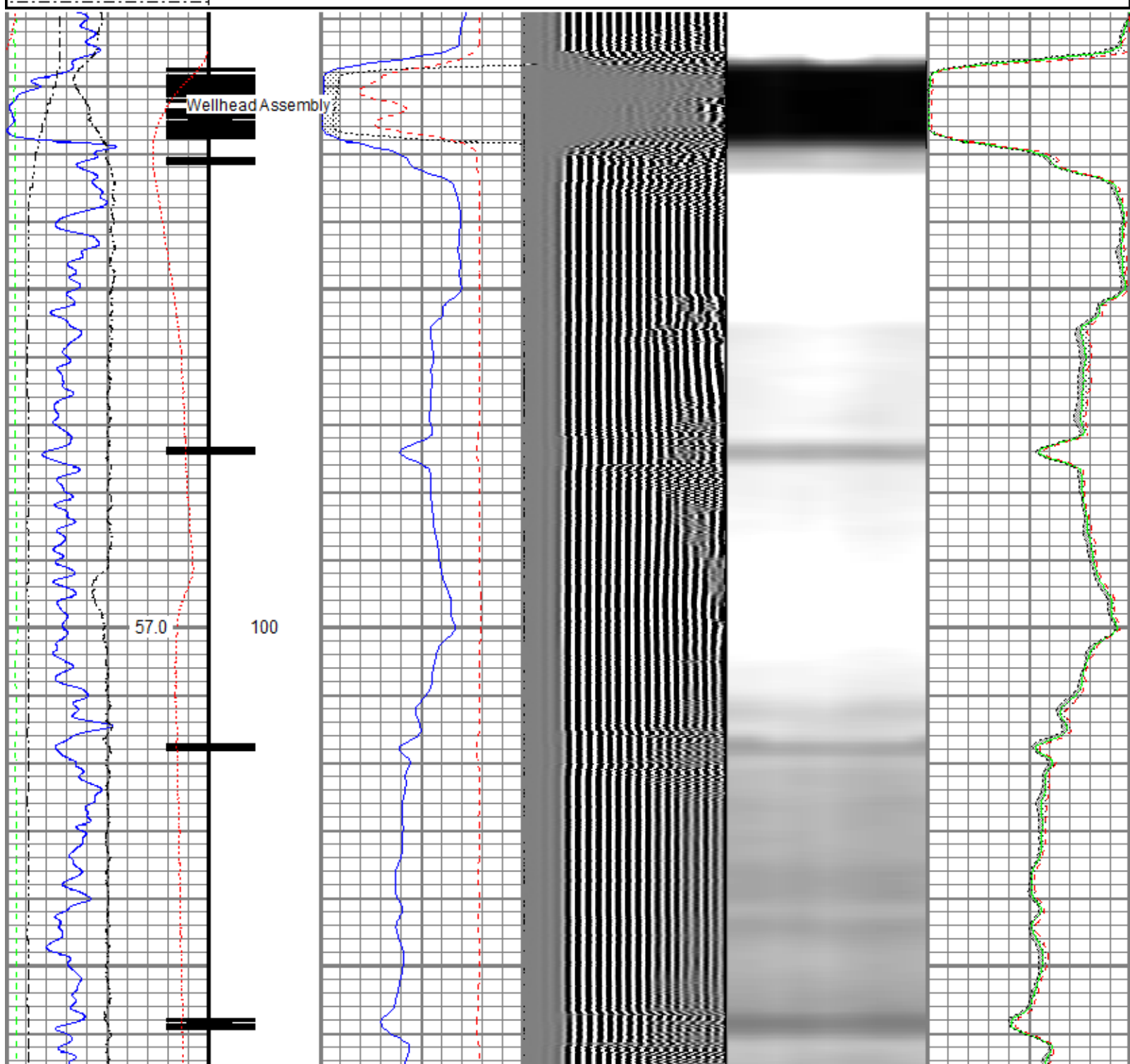


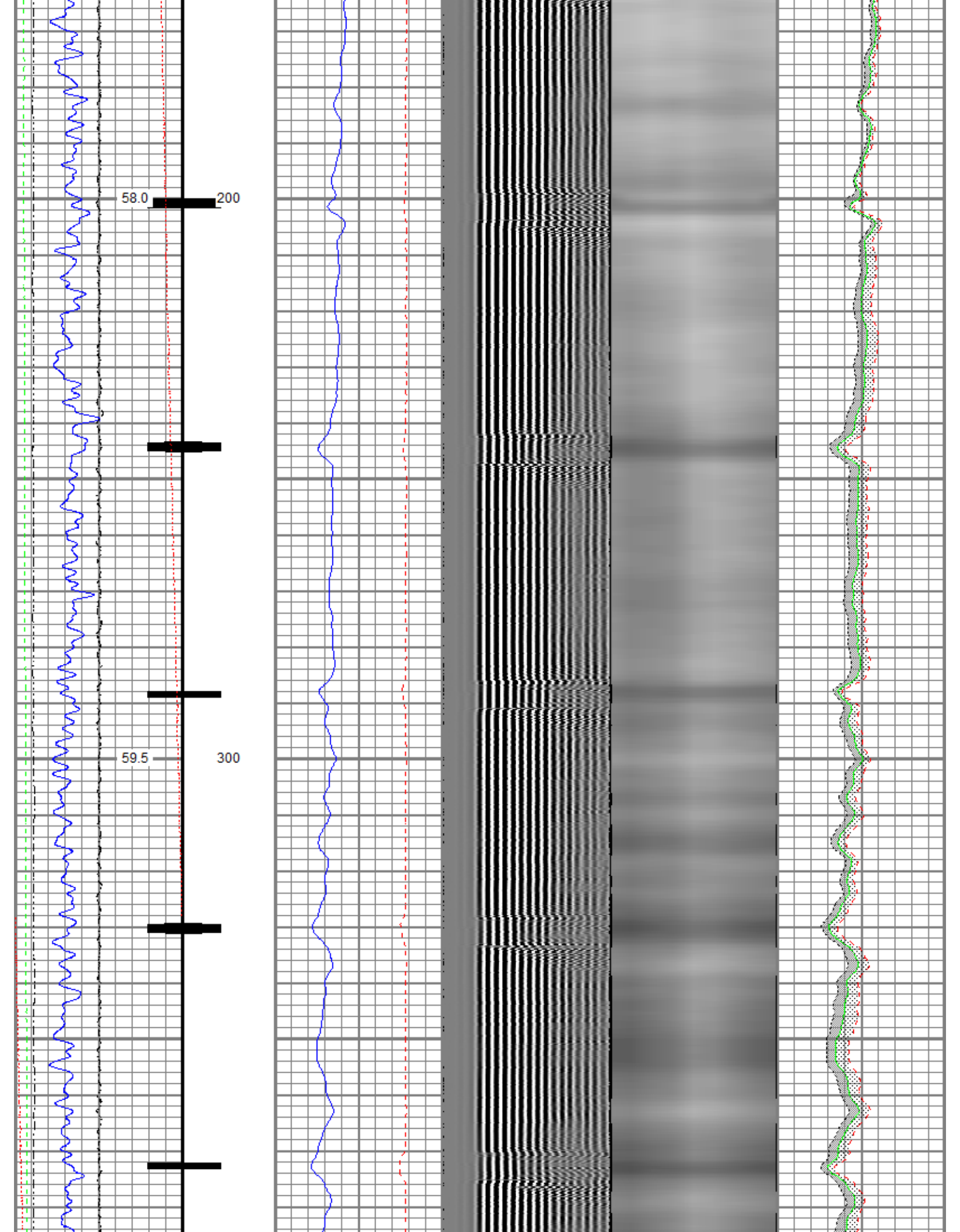
RELIANCE
OILFIELD SERVICES

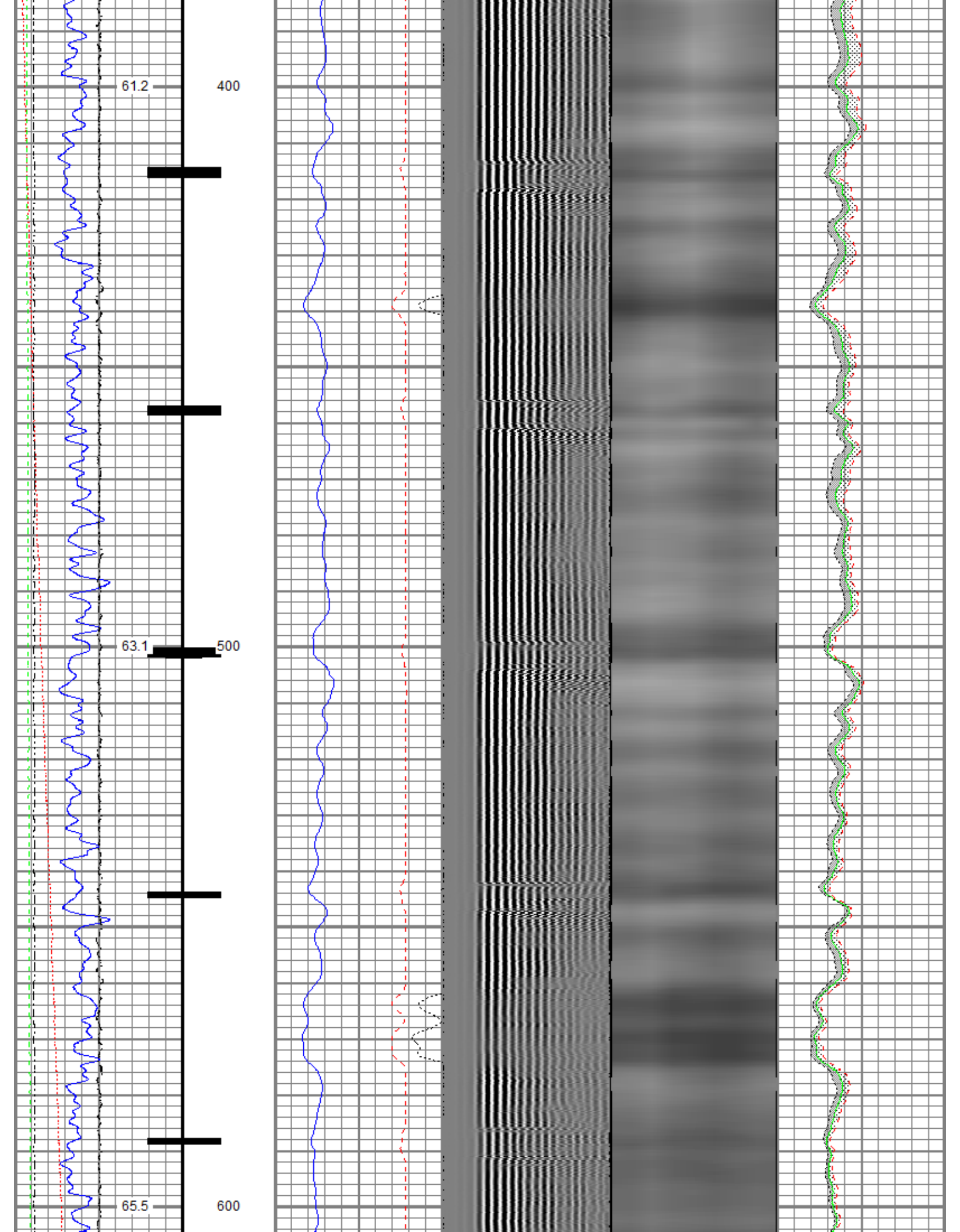
Recorded With 2000 PSI Surface-Induced Pressure

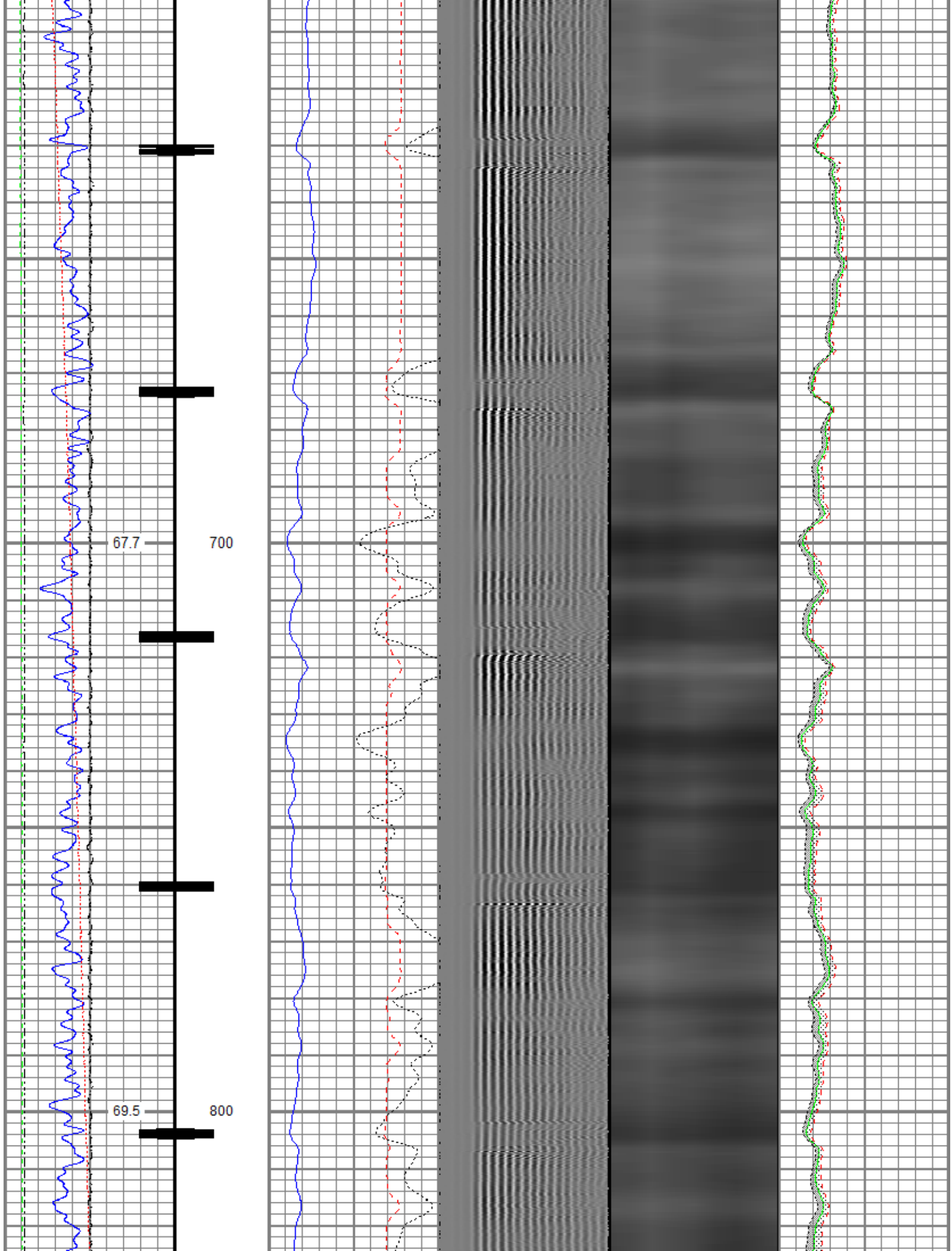
Database File anadarko\putter 27-7hz\processed_0512345128_anadarko_putter 27-7hz_rbl_02-27-18.db
 Dataset Pathname pass4.1
 Presentation Format ros_radri
 Dataset Creation Tue Feb 27 11:04:19 2018
 Charted by Depth in Feet scaled 1:240

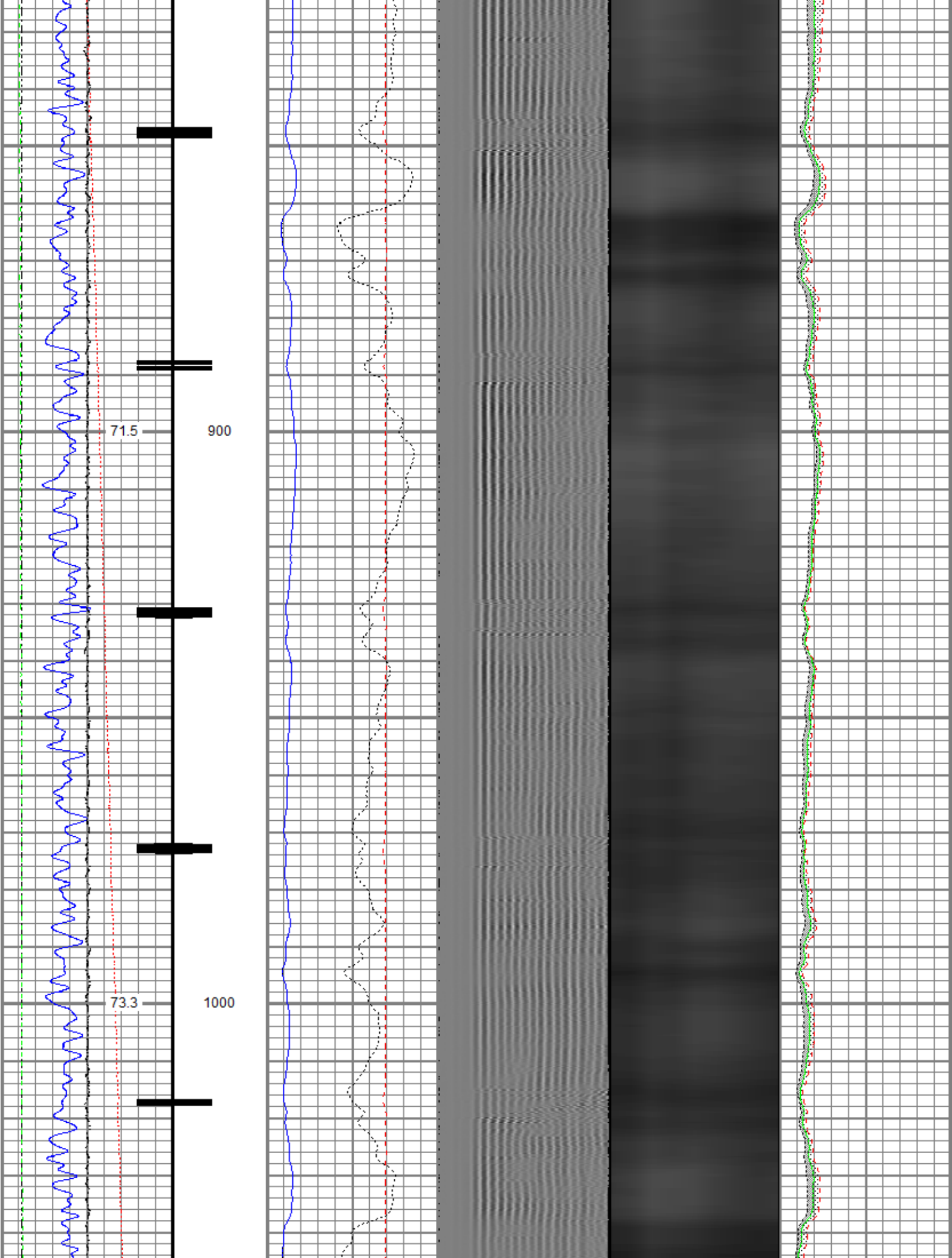
Gamma Ray	0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	0	Average Amplitude	100
(GAPI)	120	3' Amplitude x 5	200	(u sec)	1200		Minimum Amplitude	
Casing Collar Locator		0	(mV)	20		0		100
Temperature (degF)	20	3' Travel Time					Maximum Amplitude	
Line Speed		650	(u sec)	150		0		100
(ft/min)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

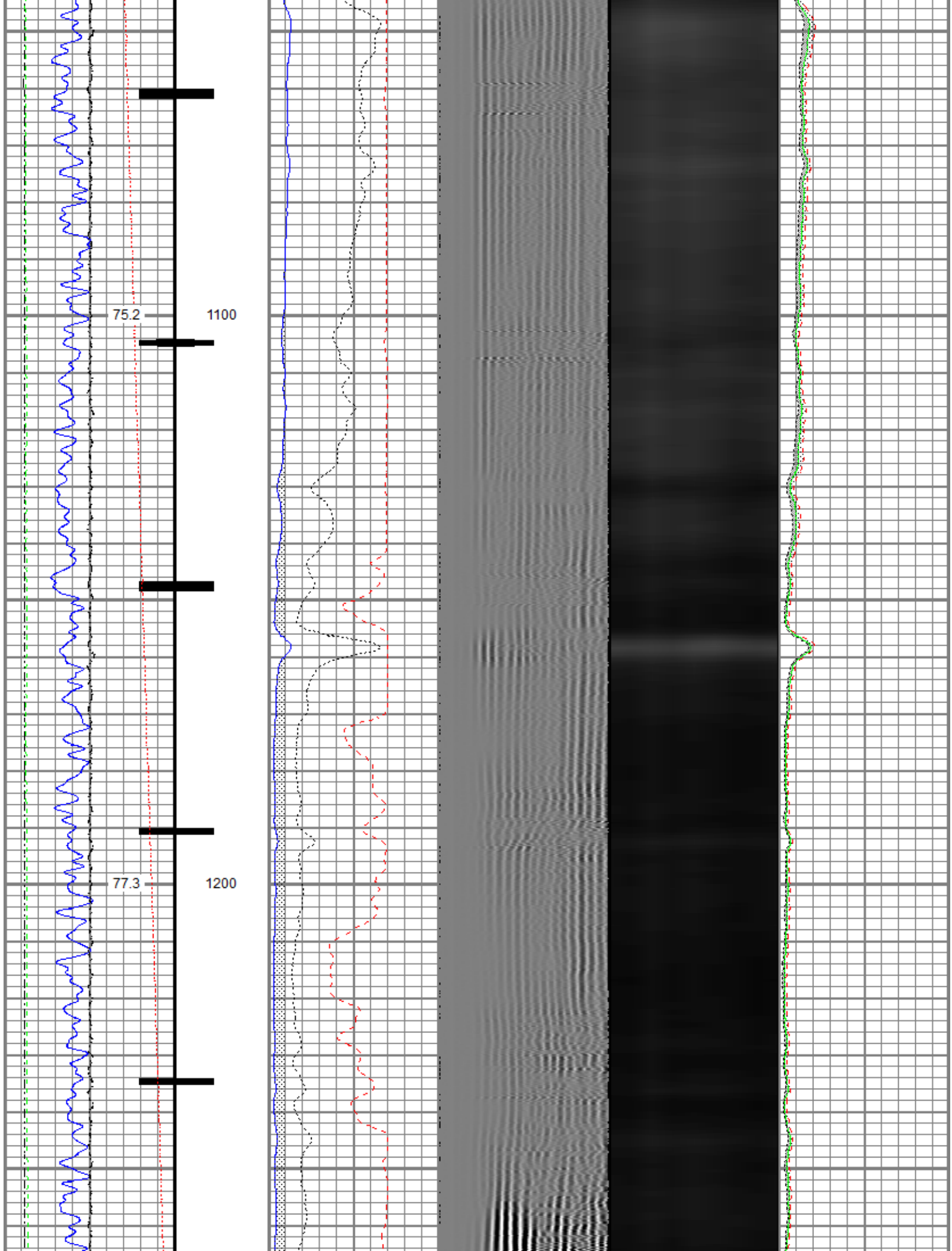


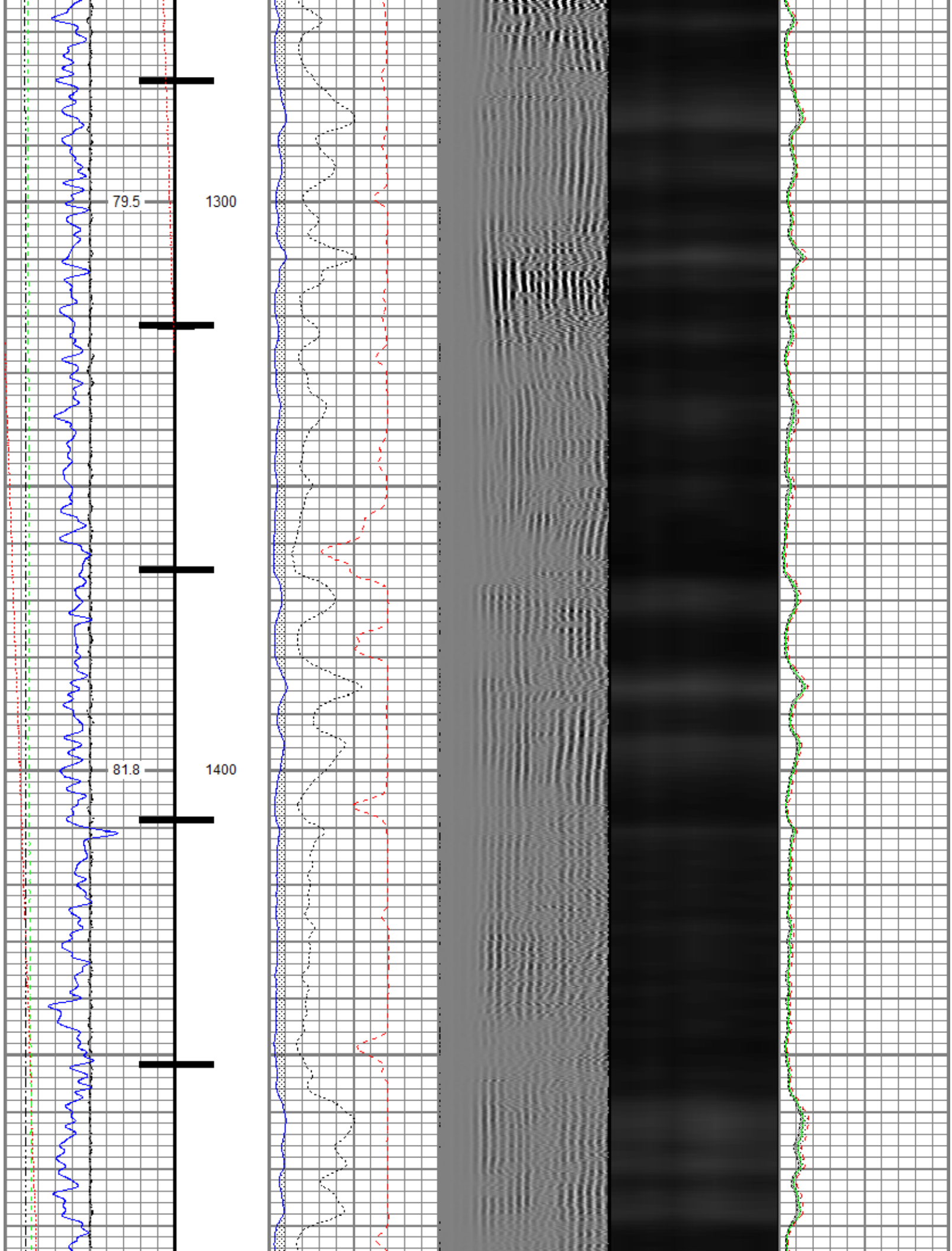


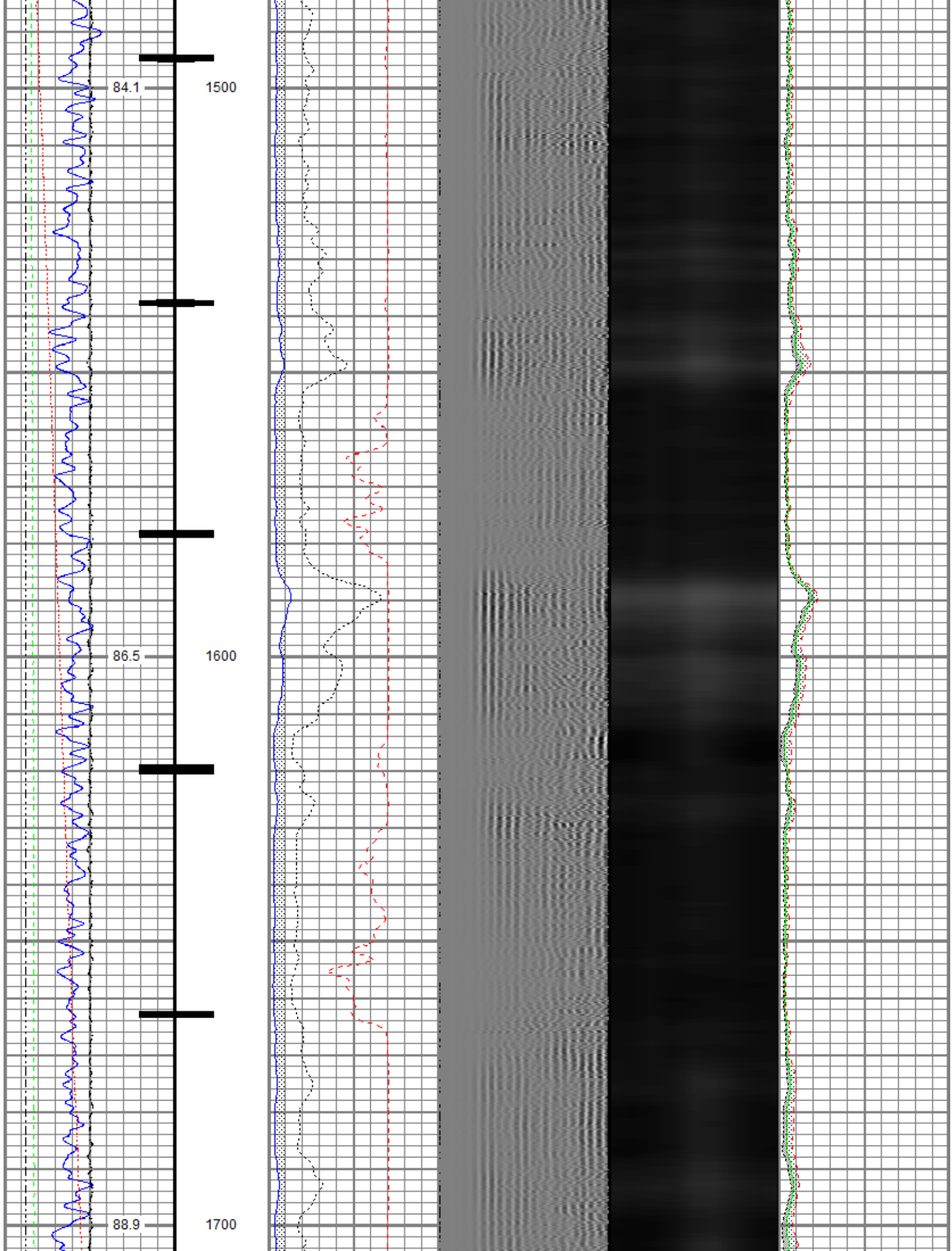


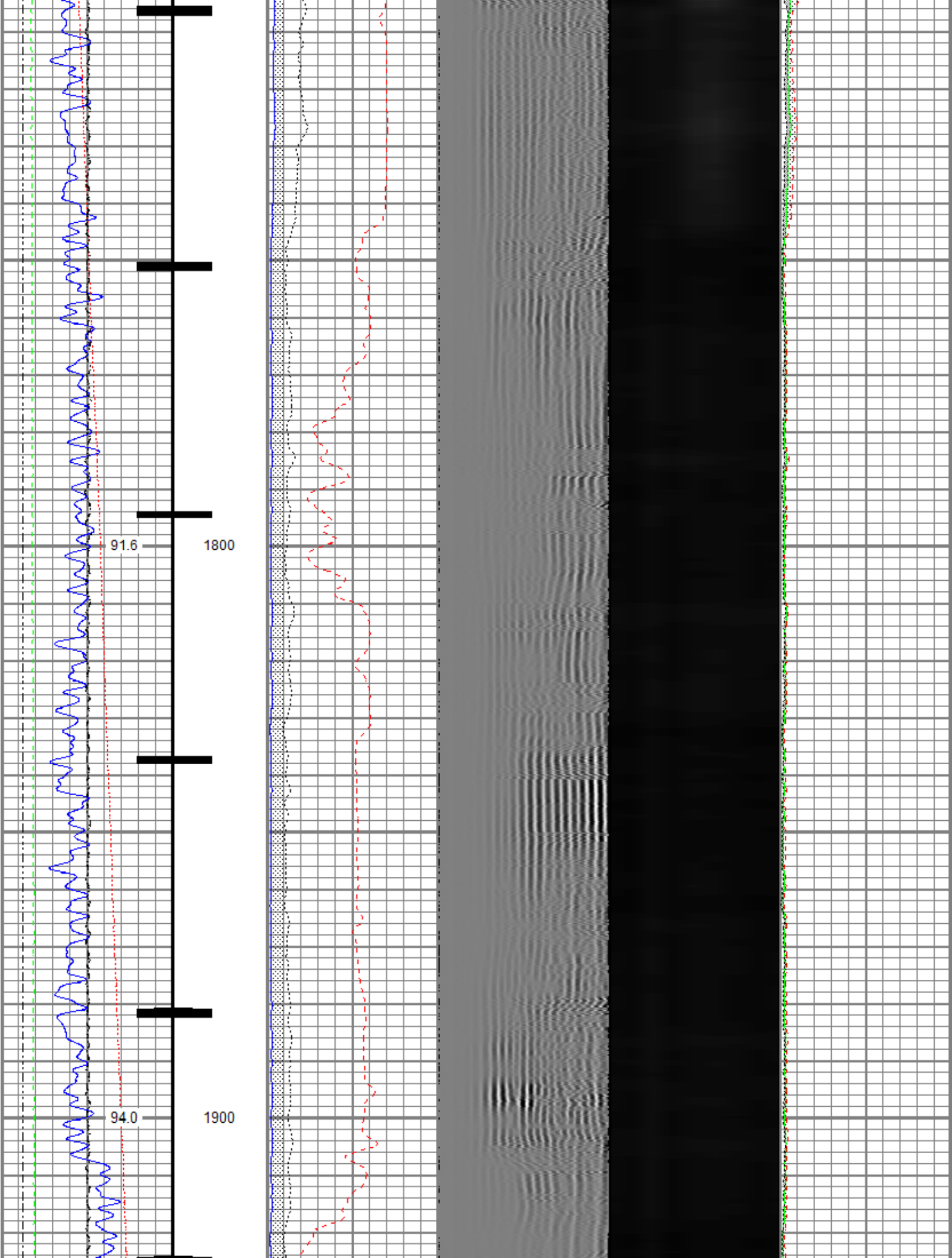


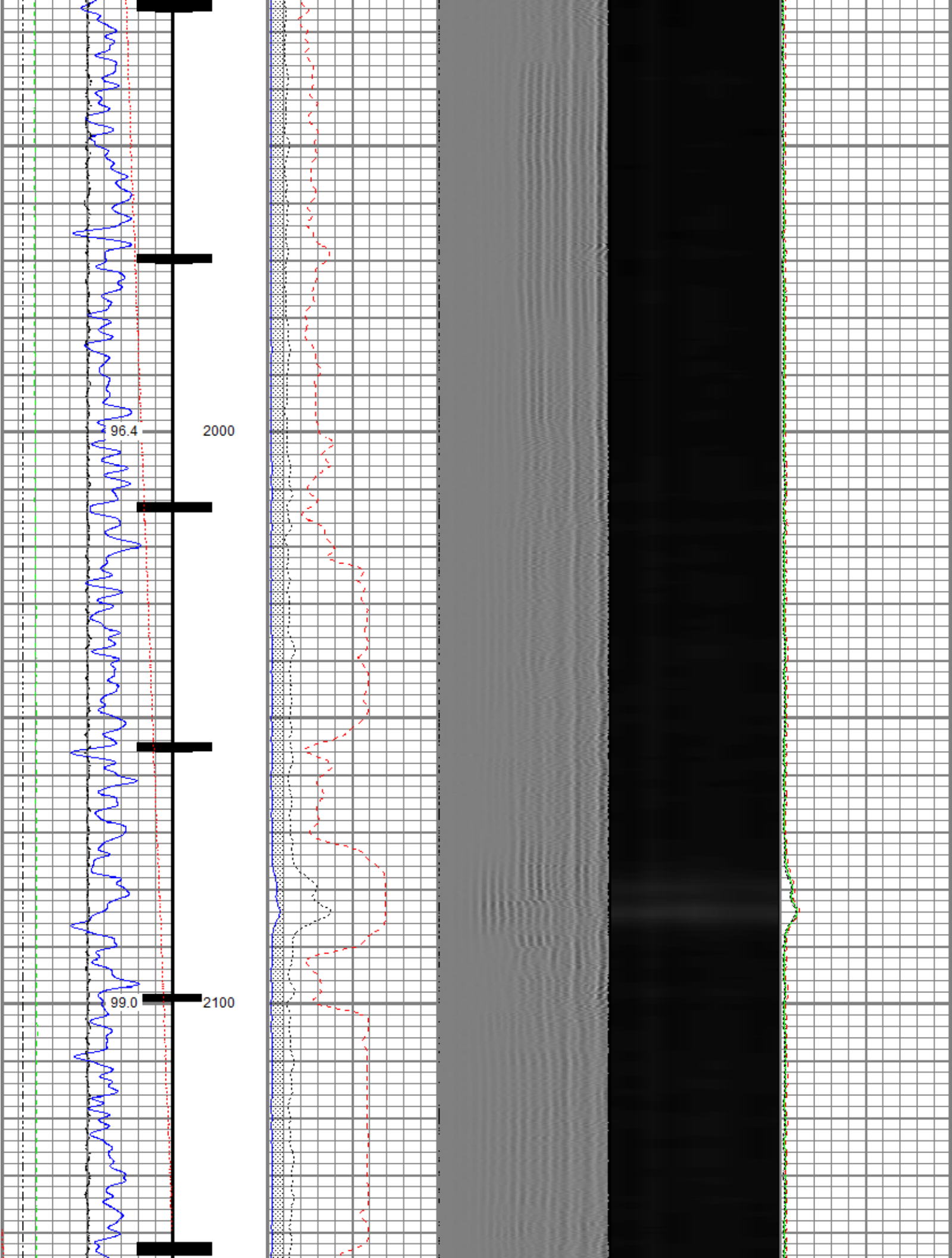


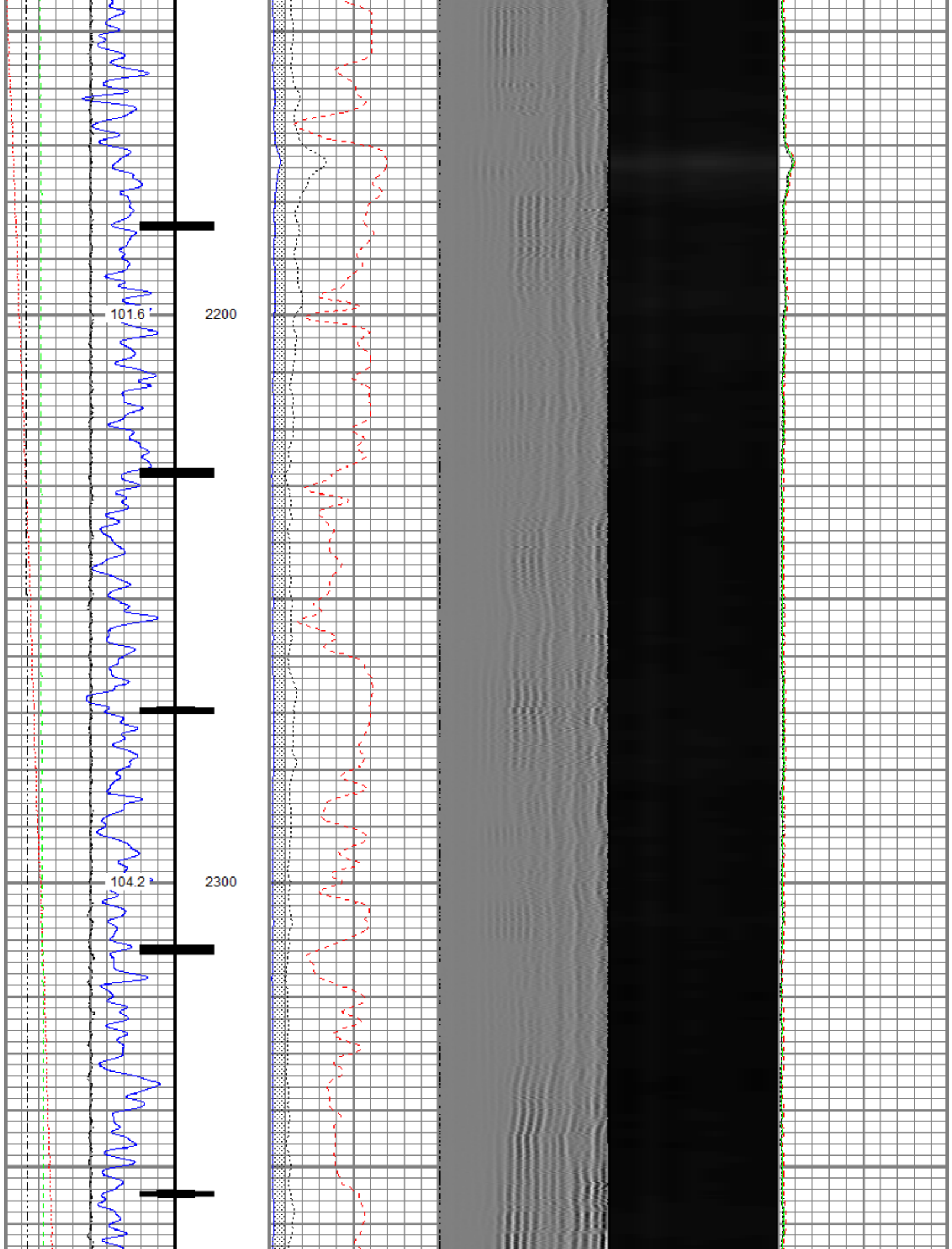


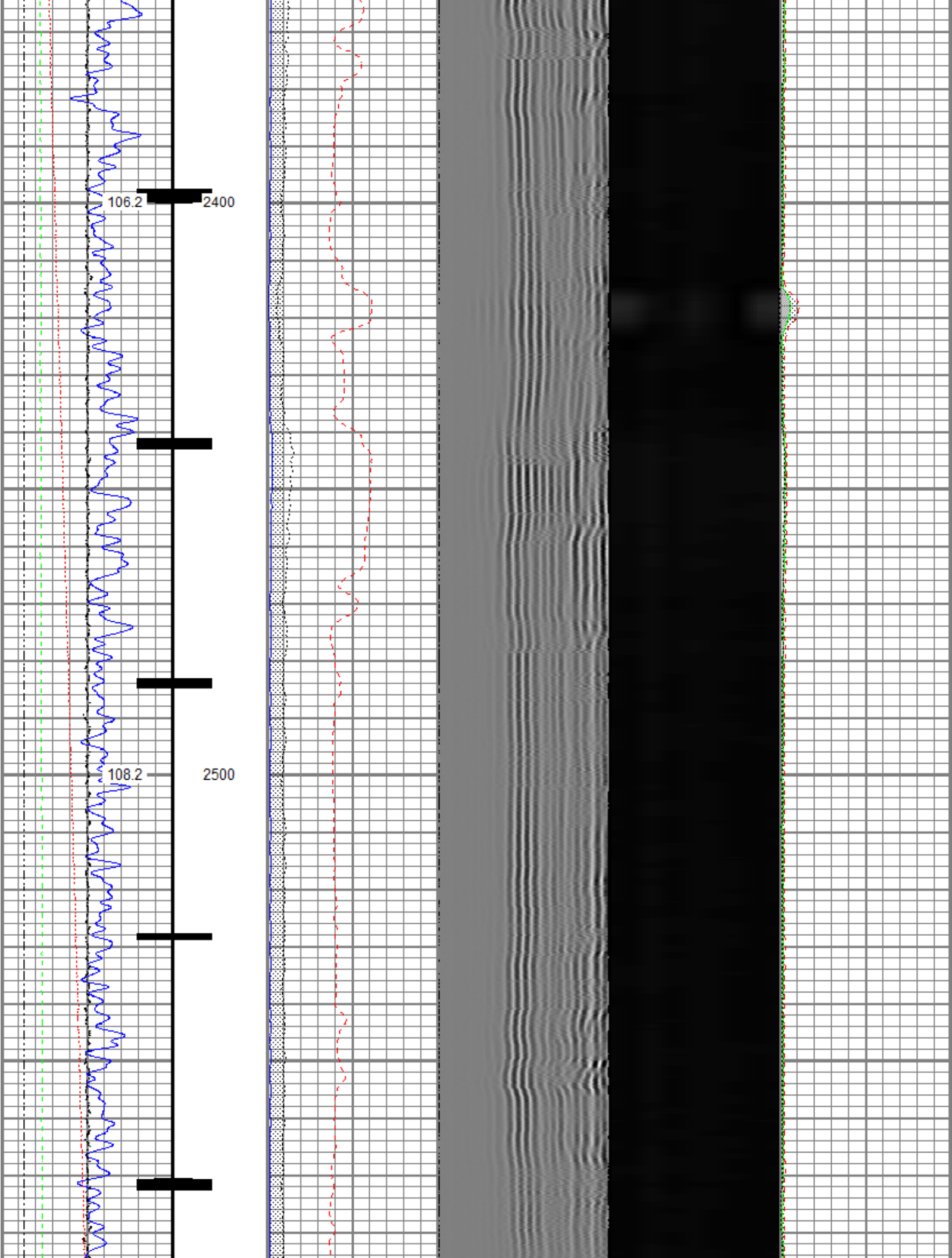


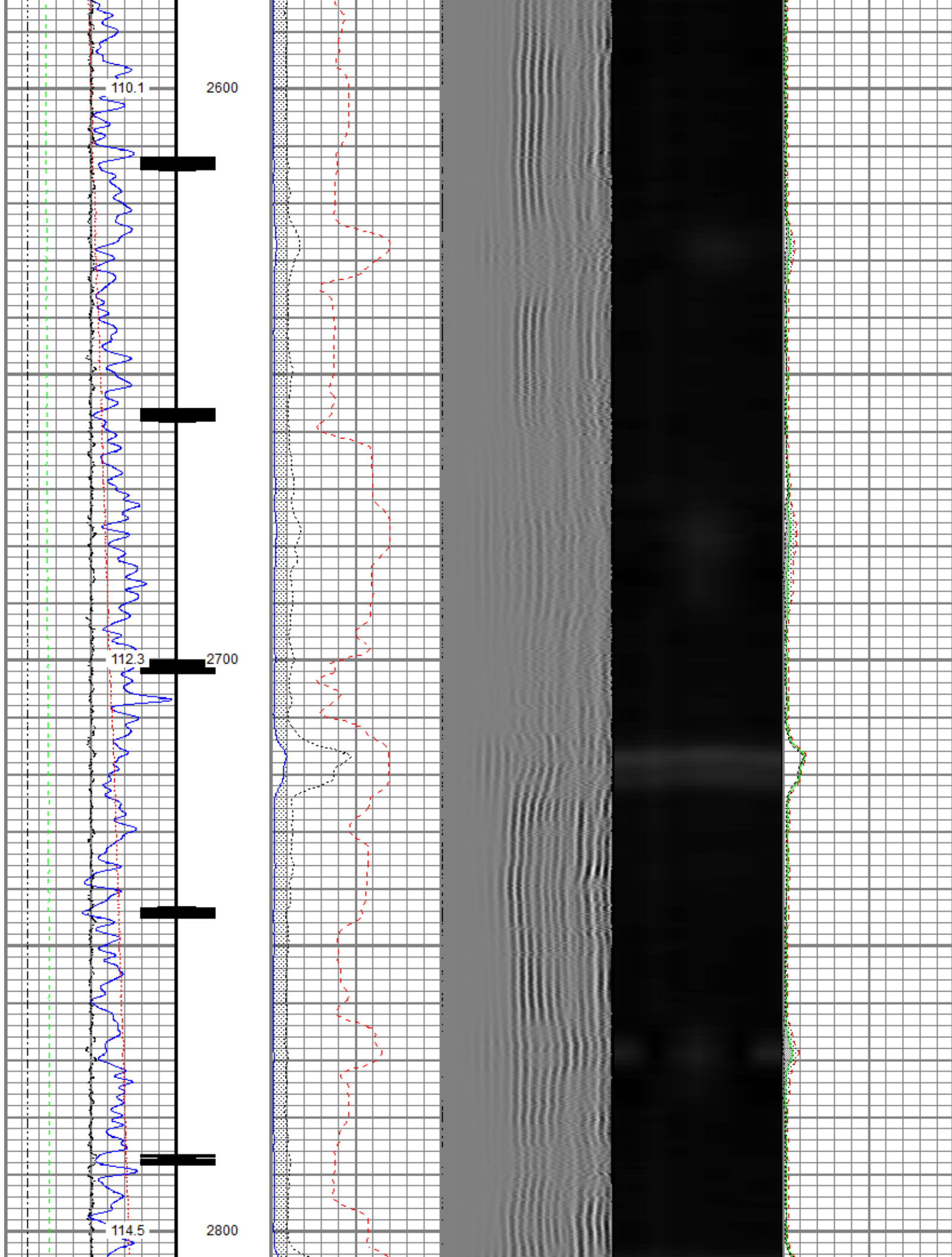


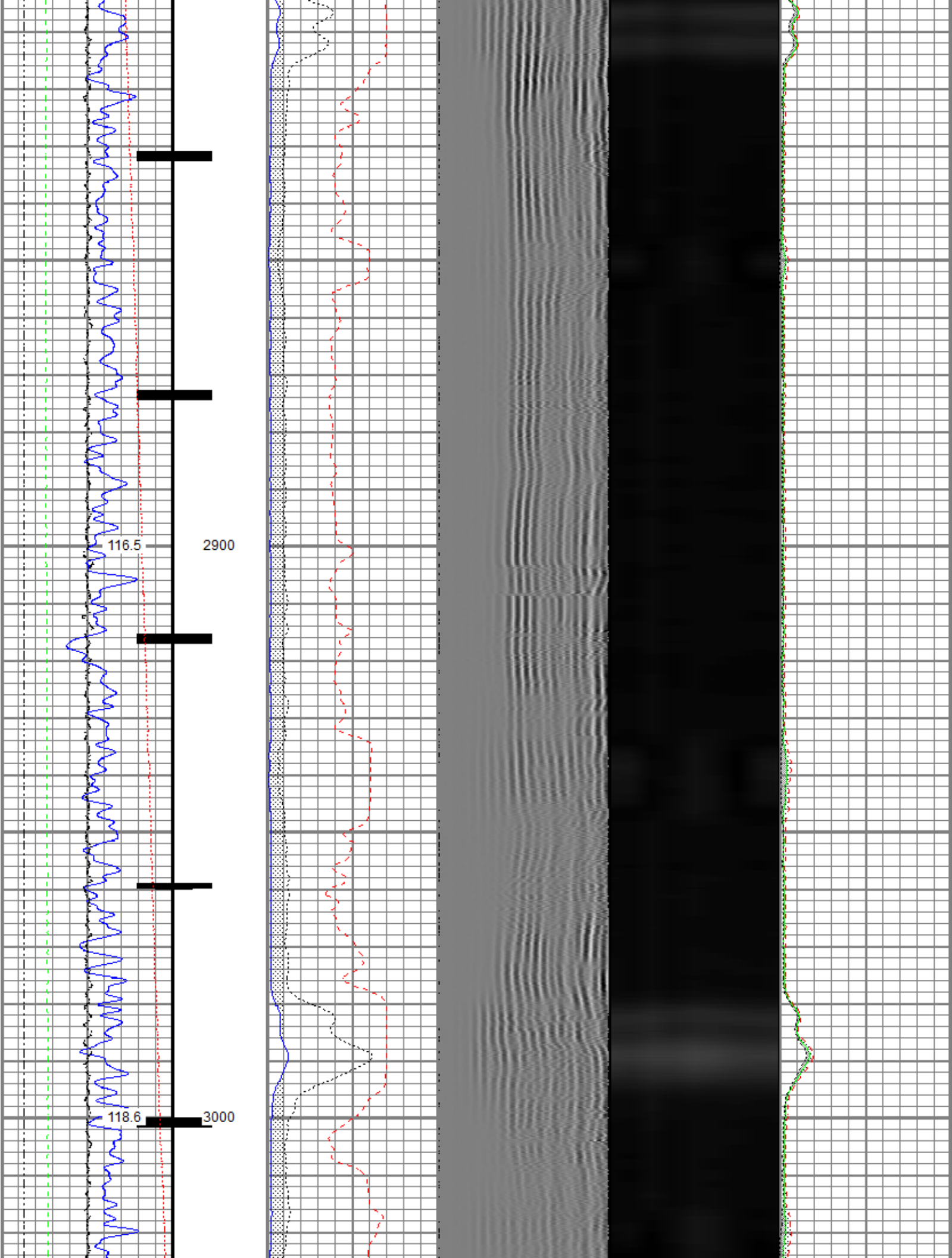


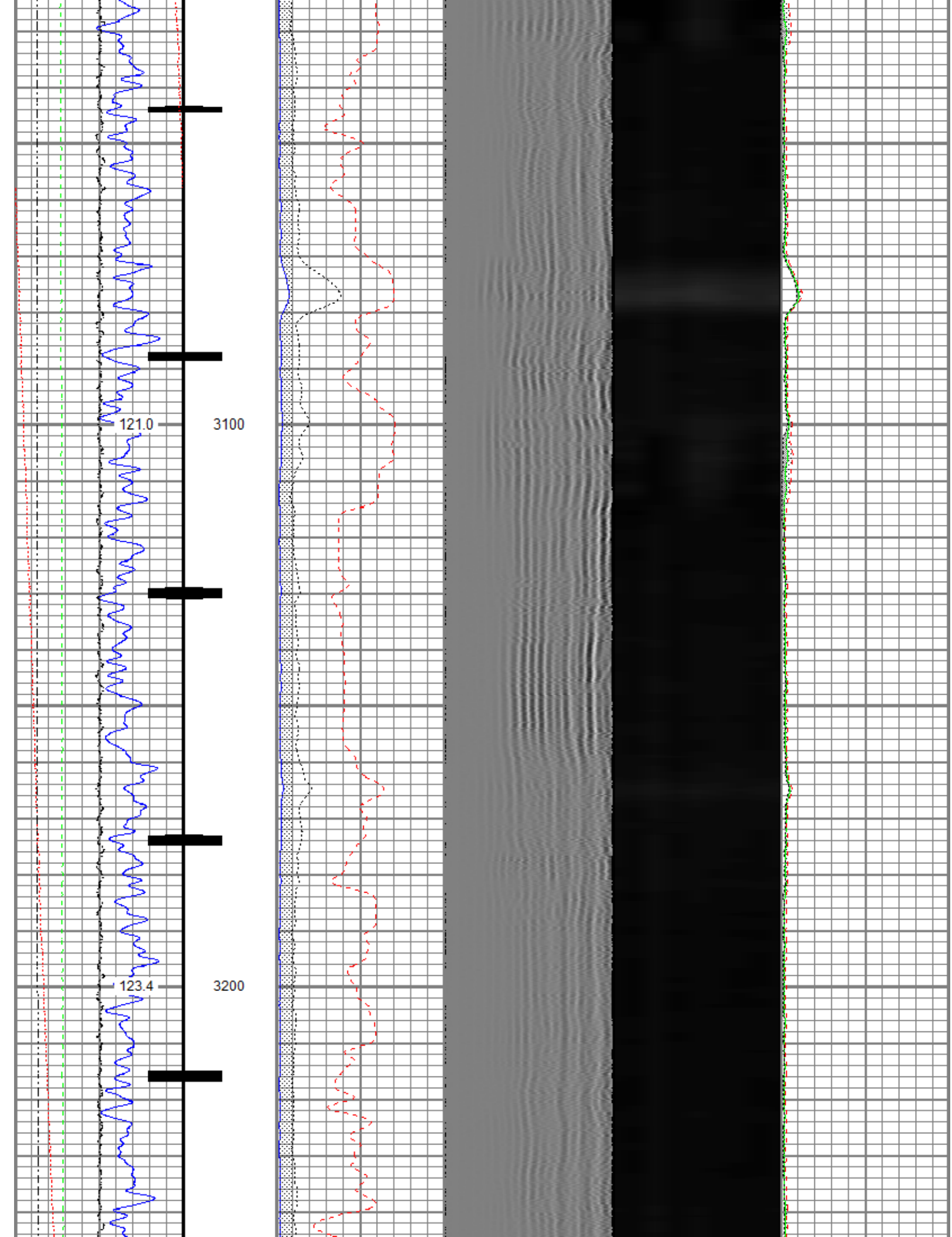


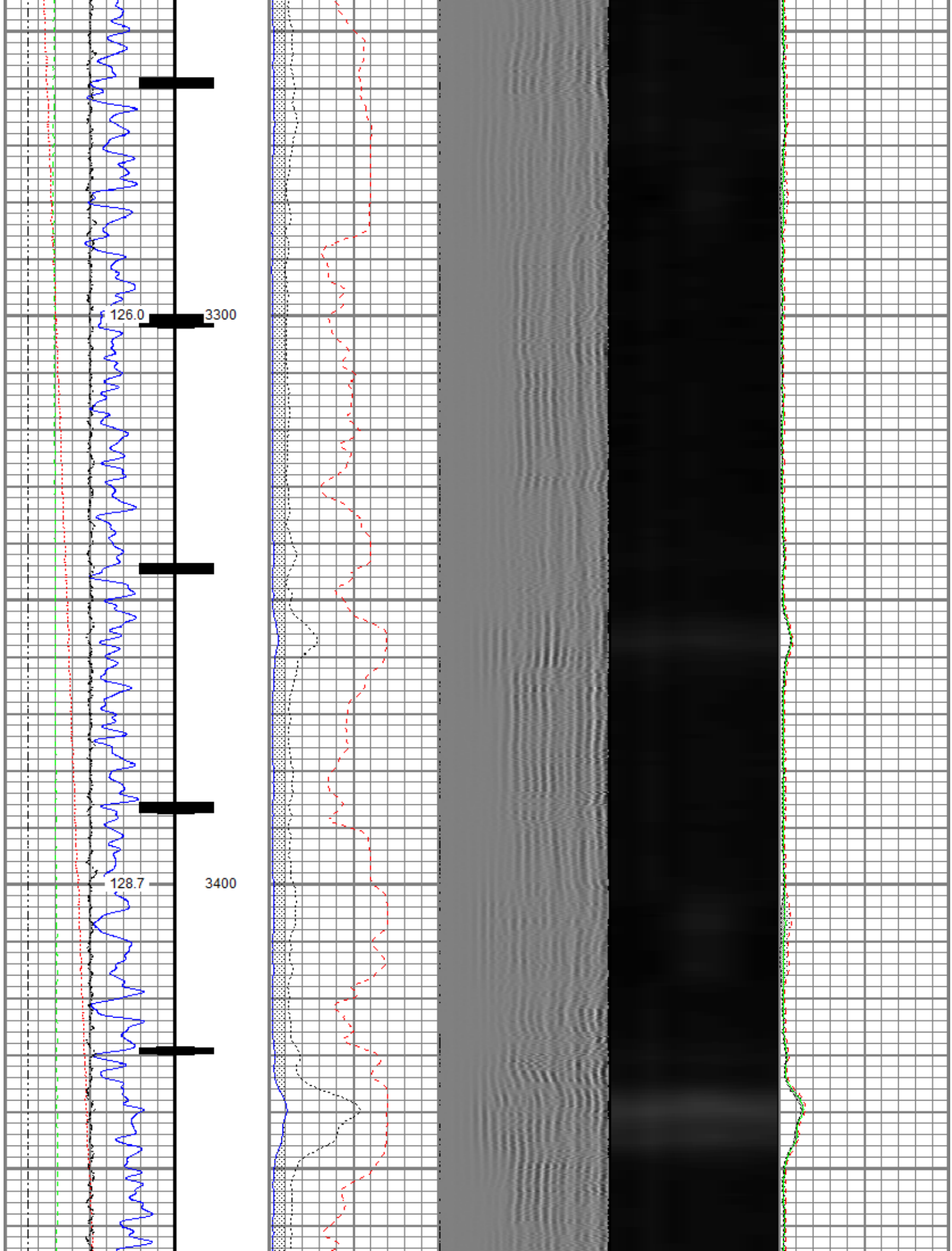


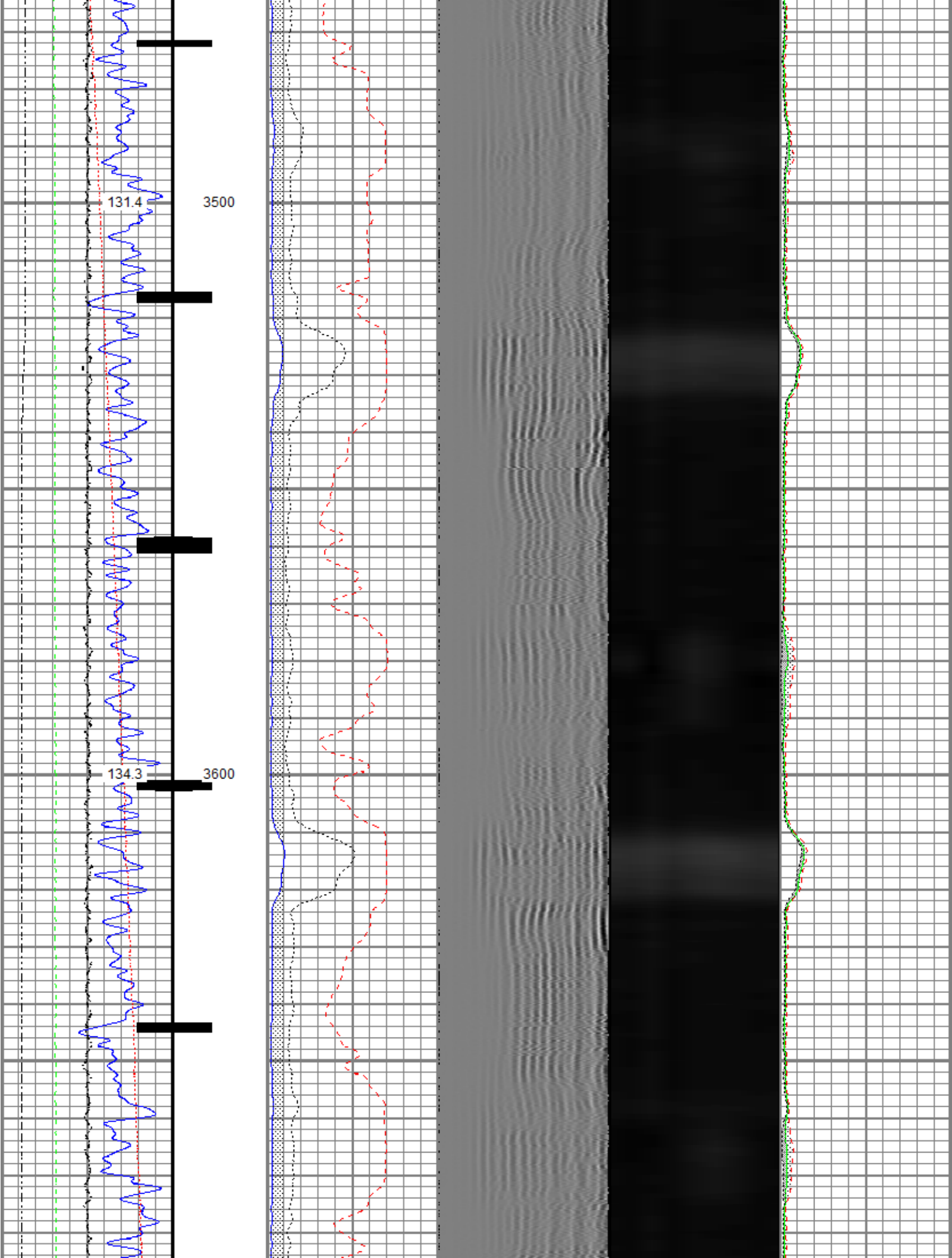


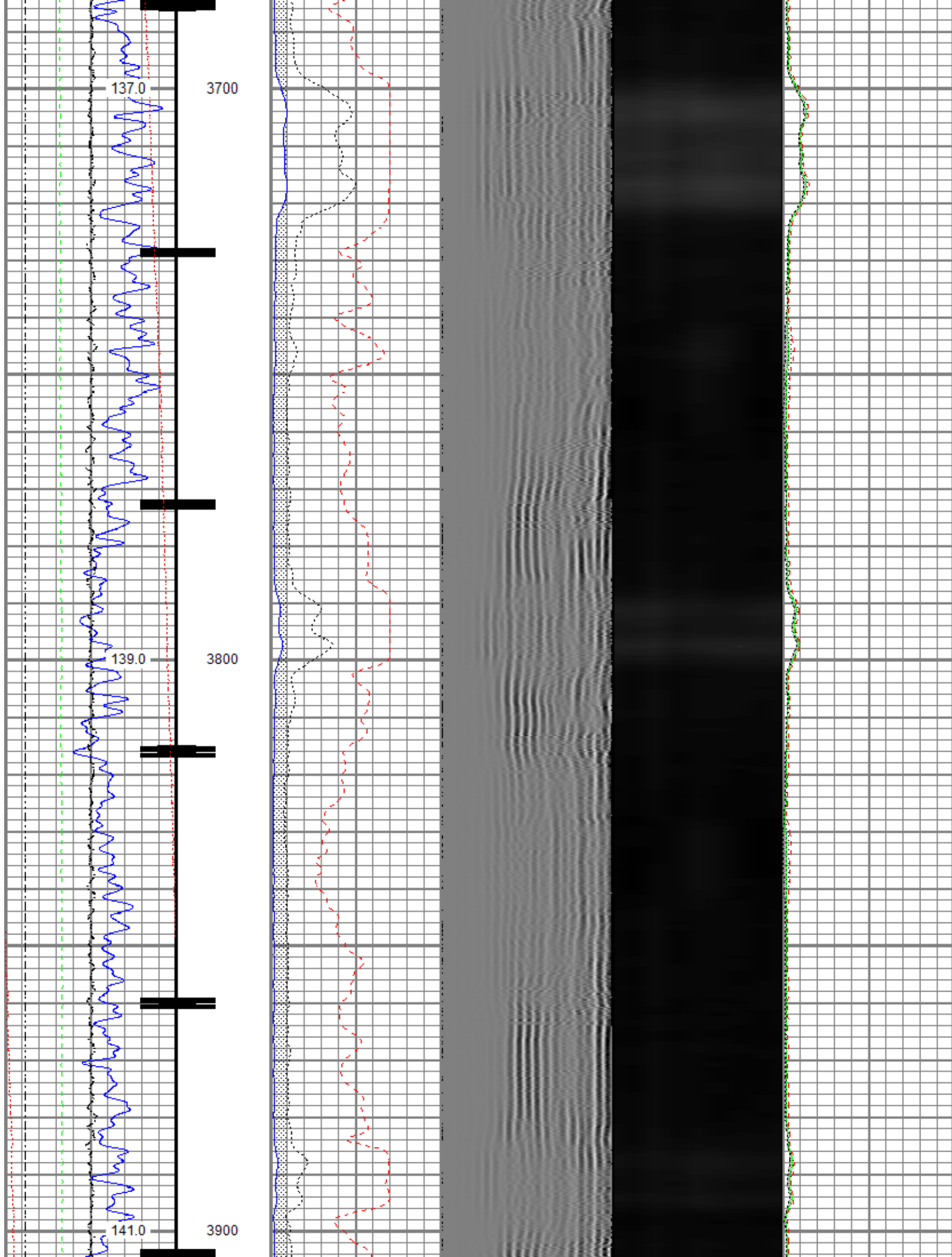


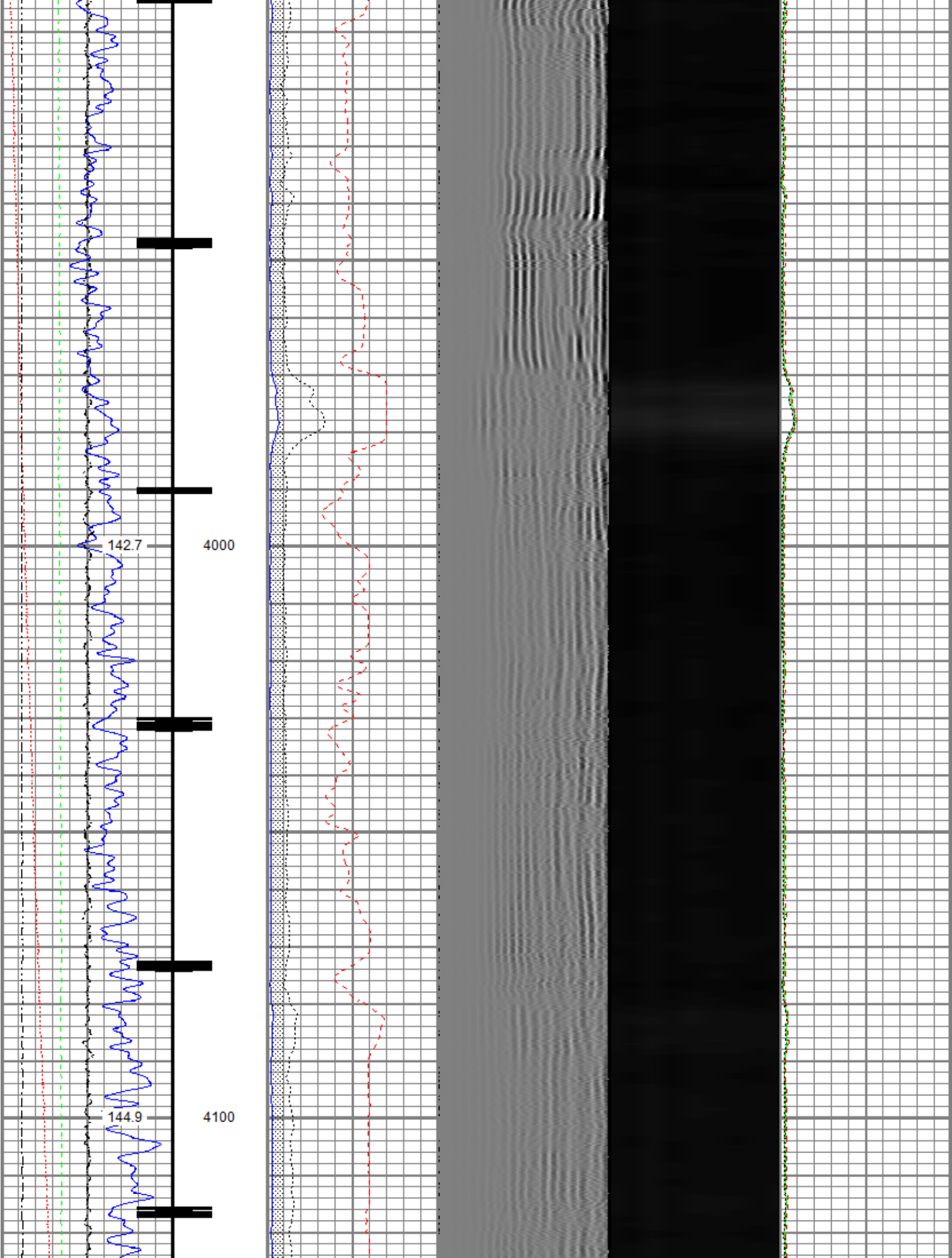


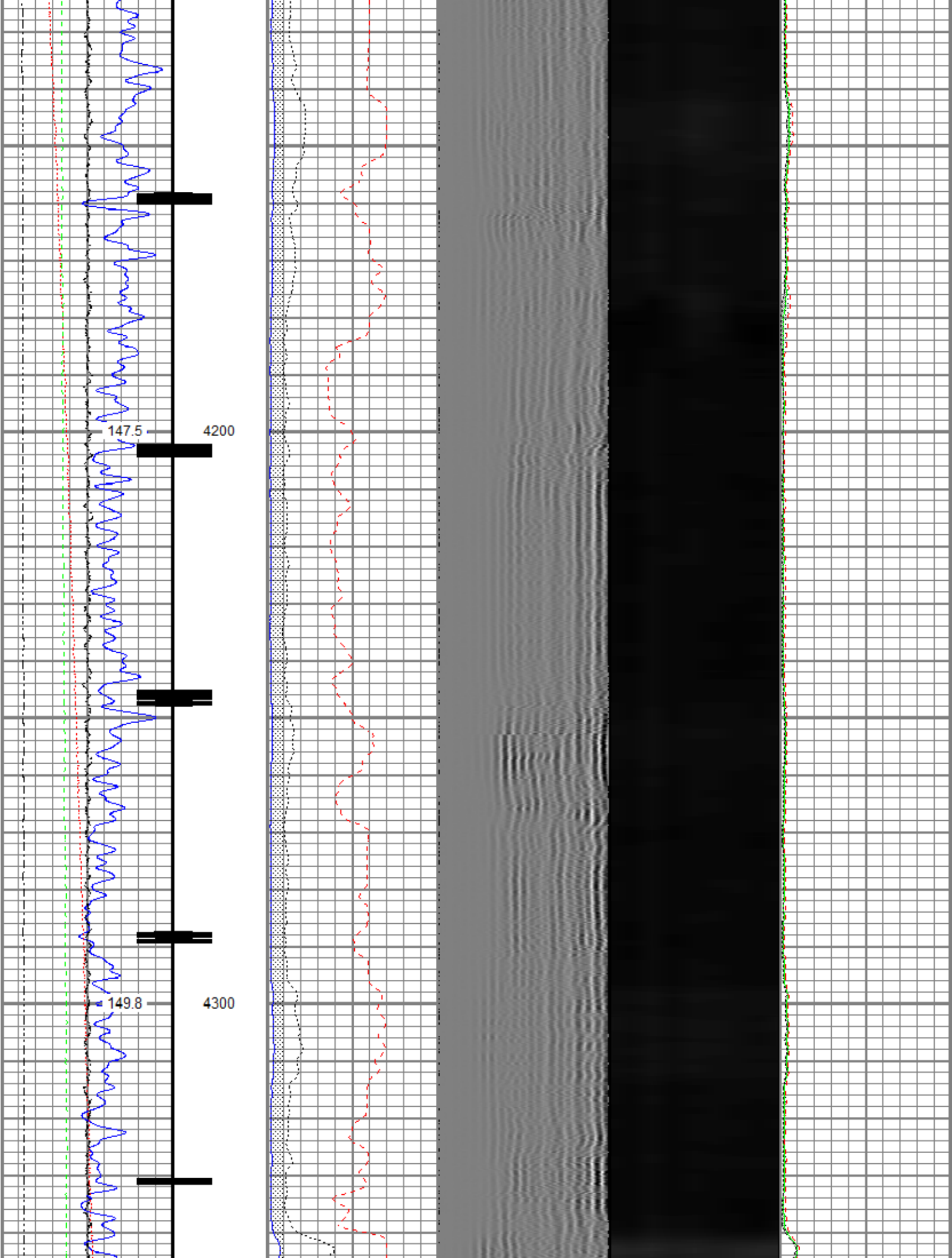


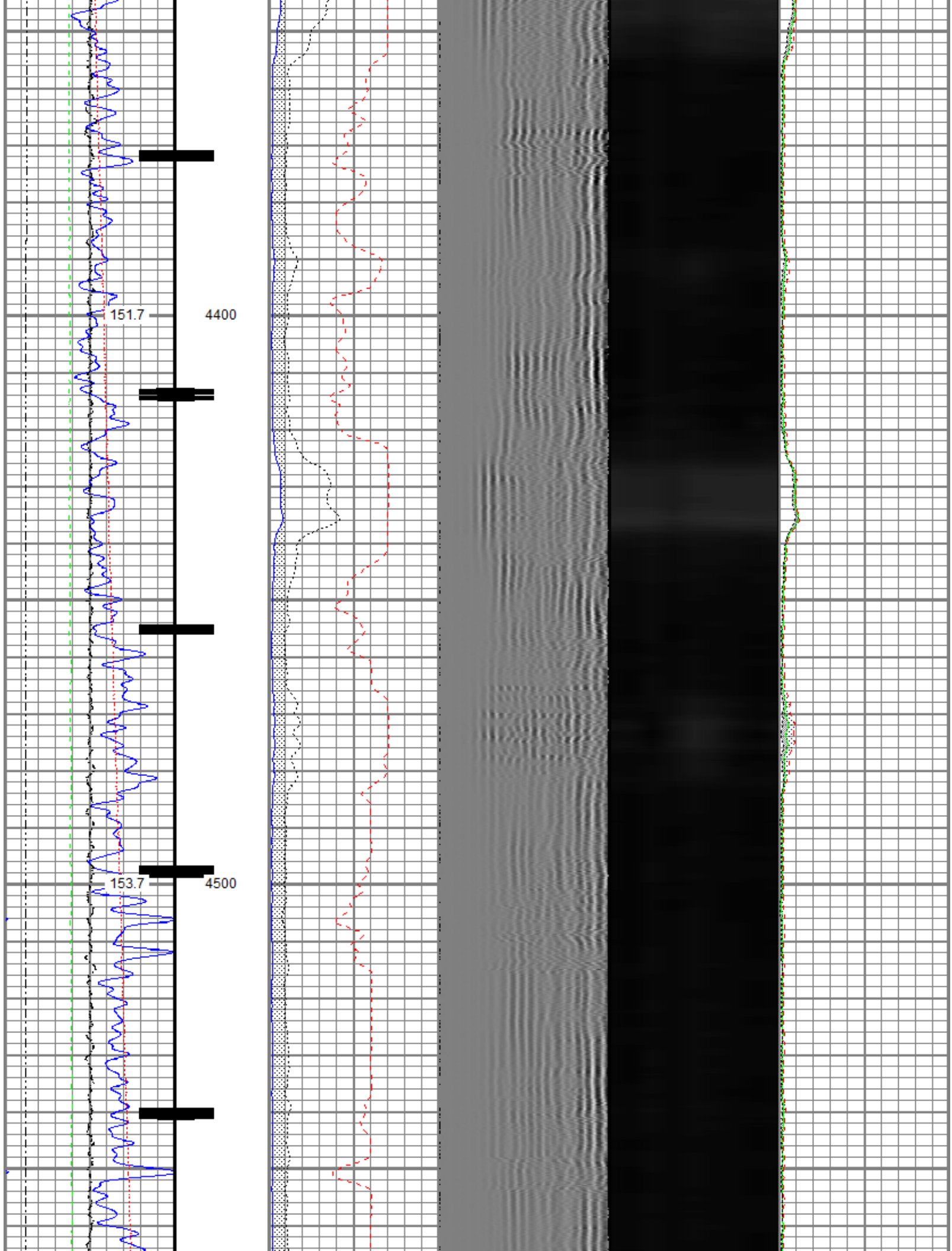


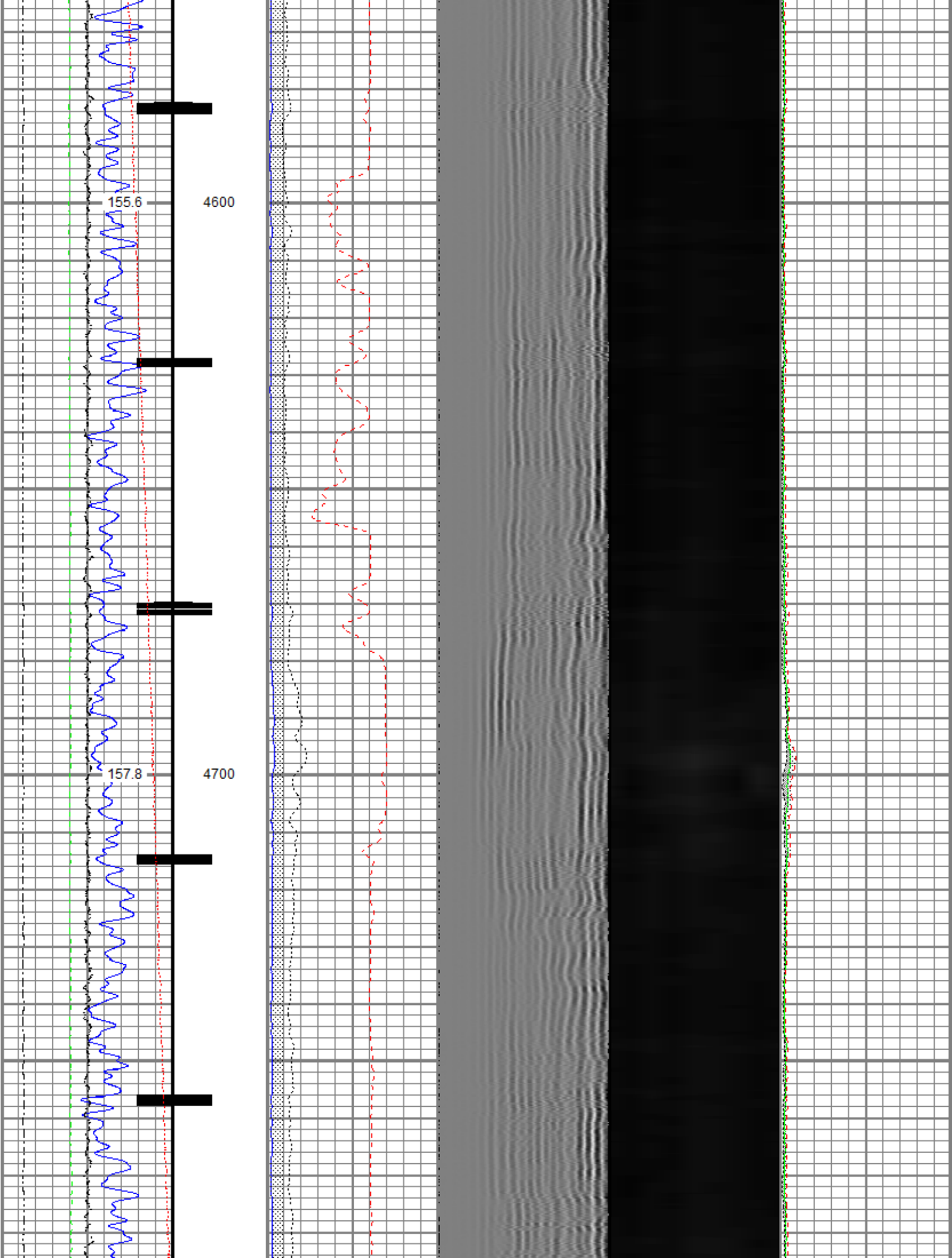


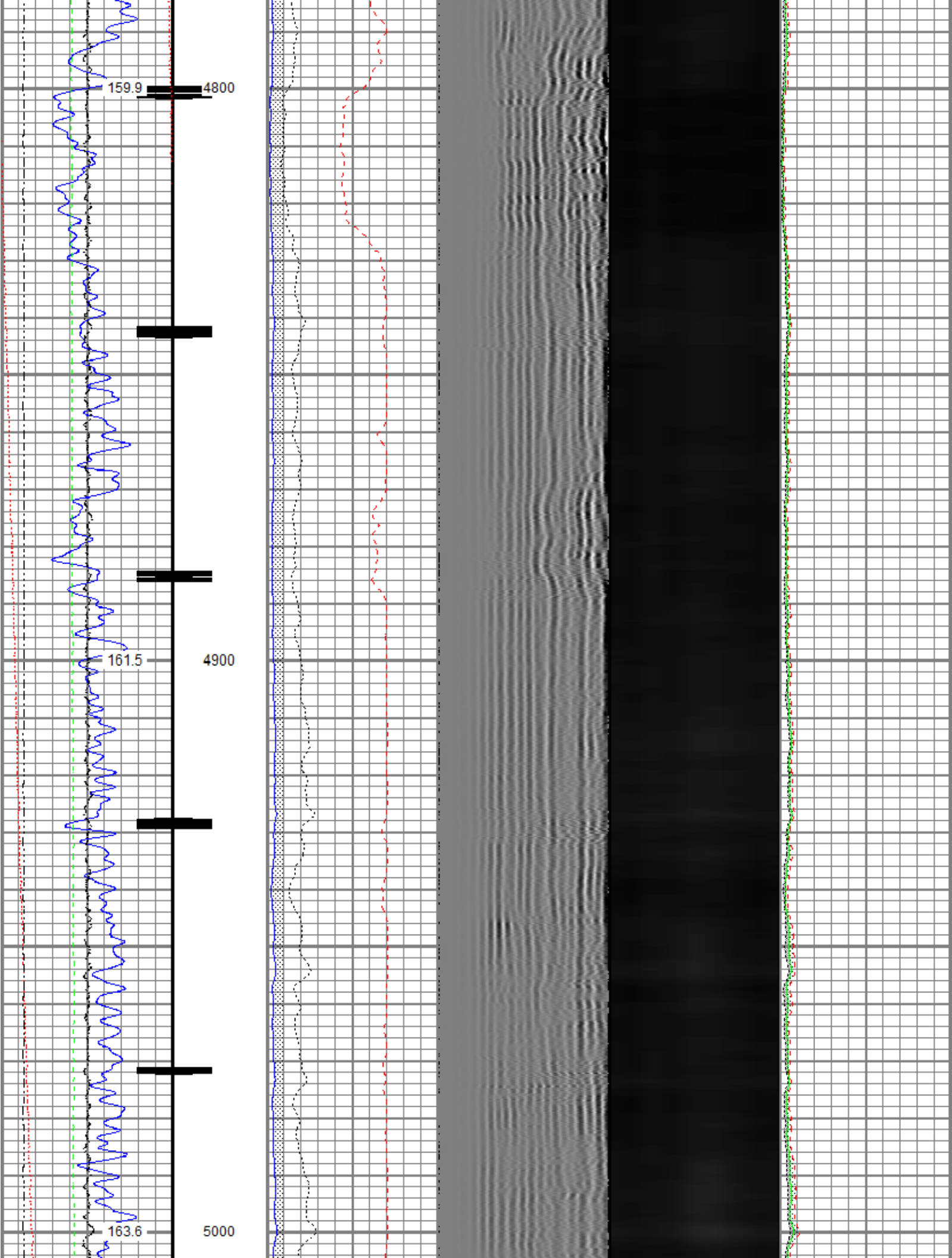


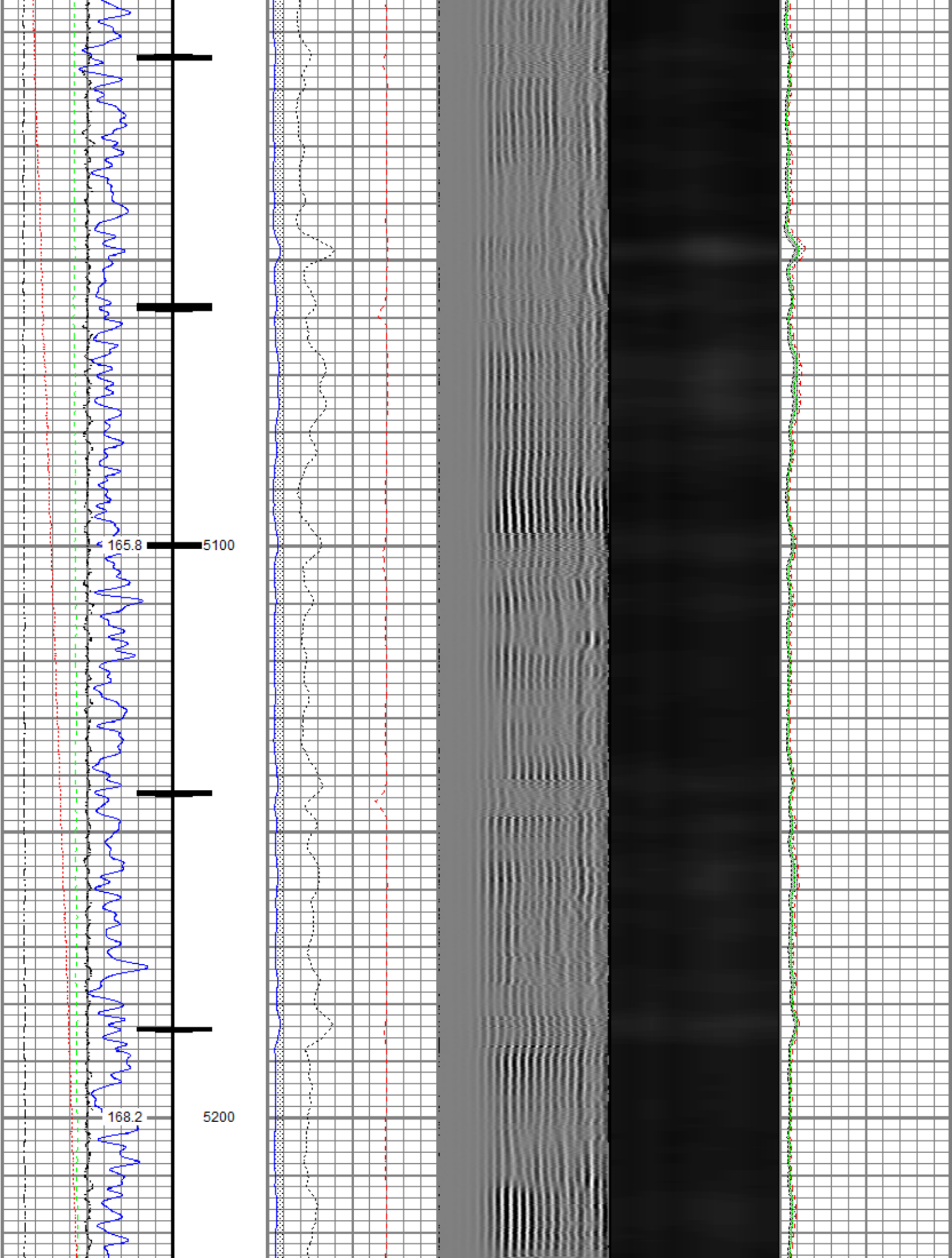


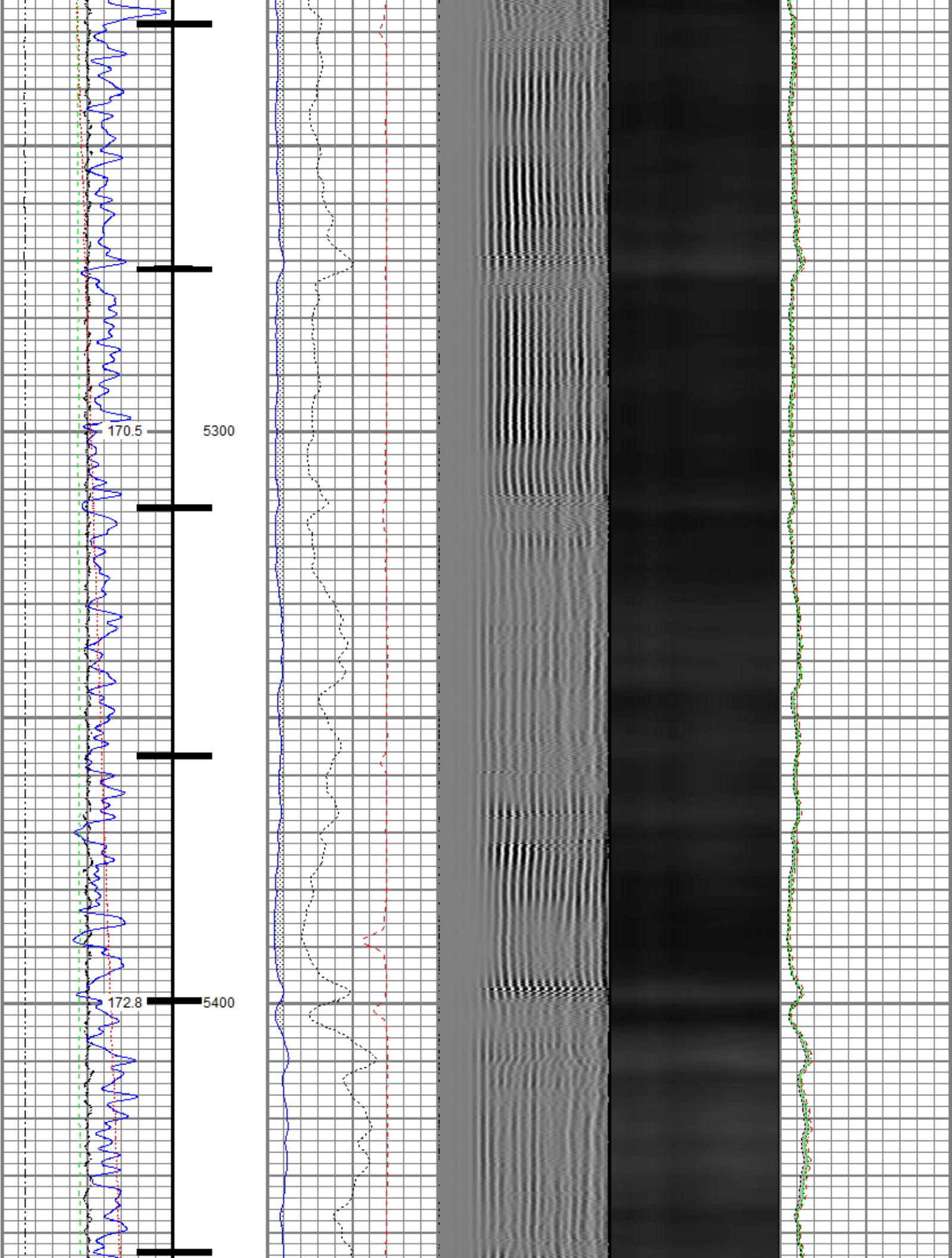


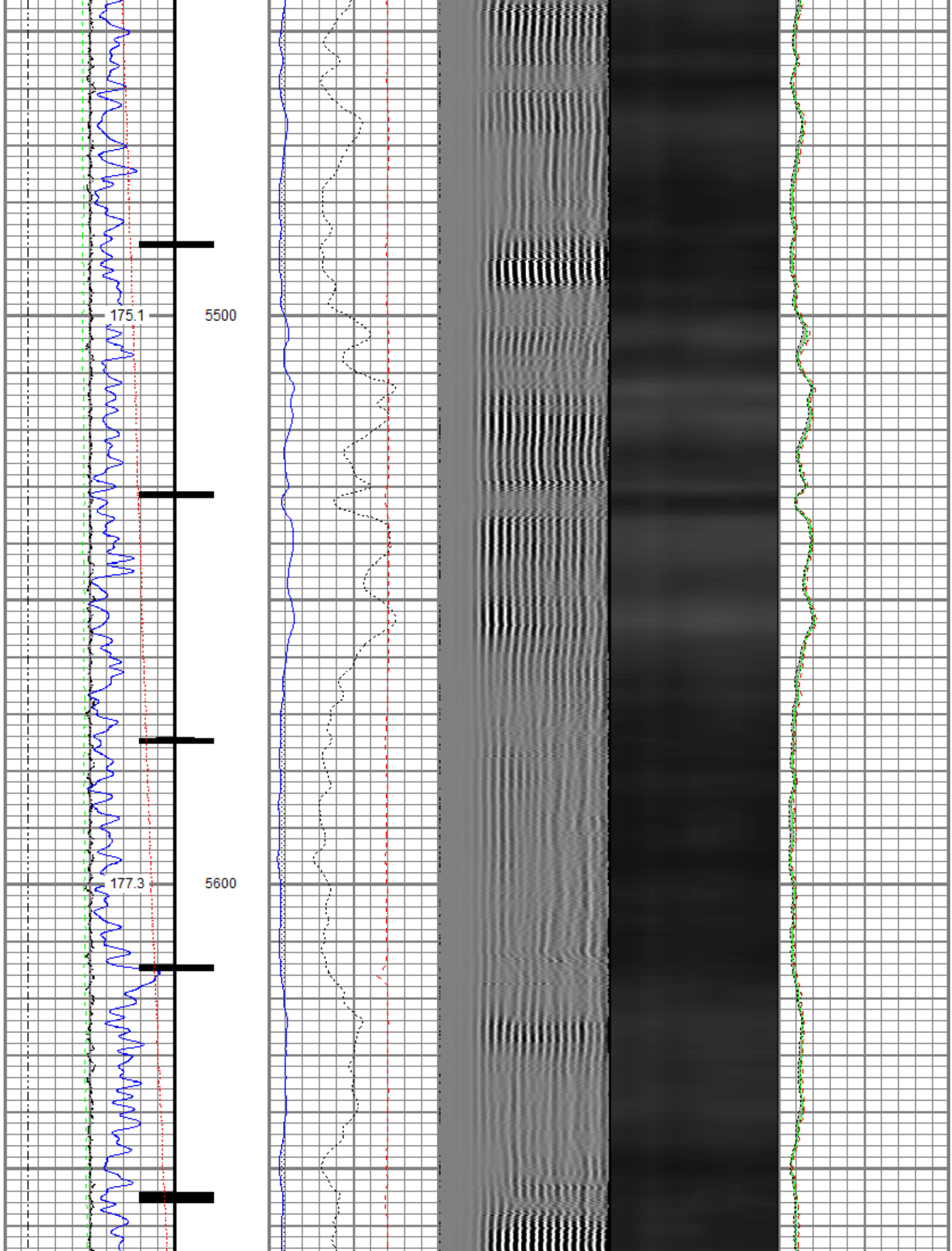


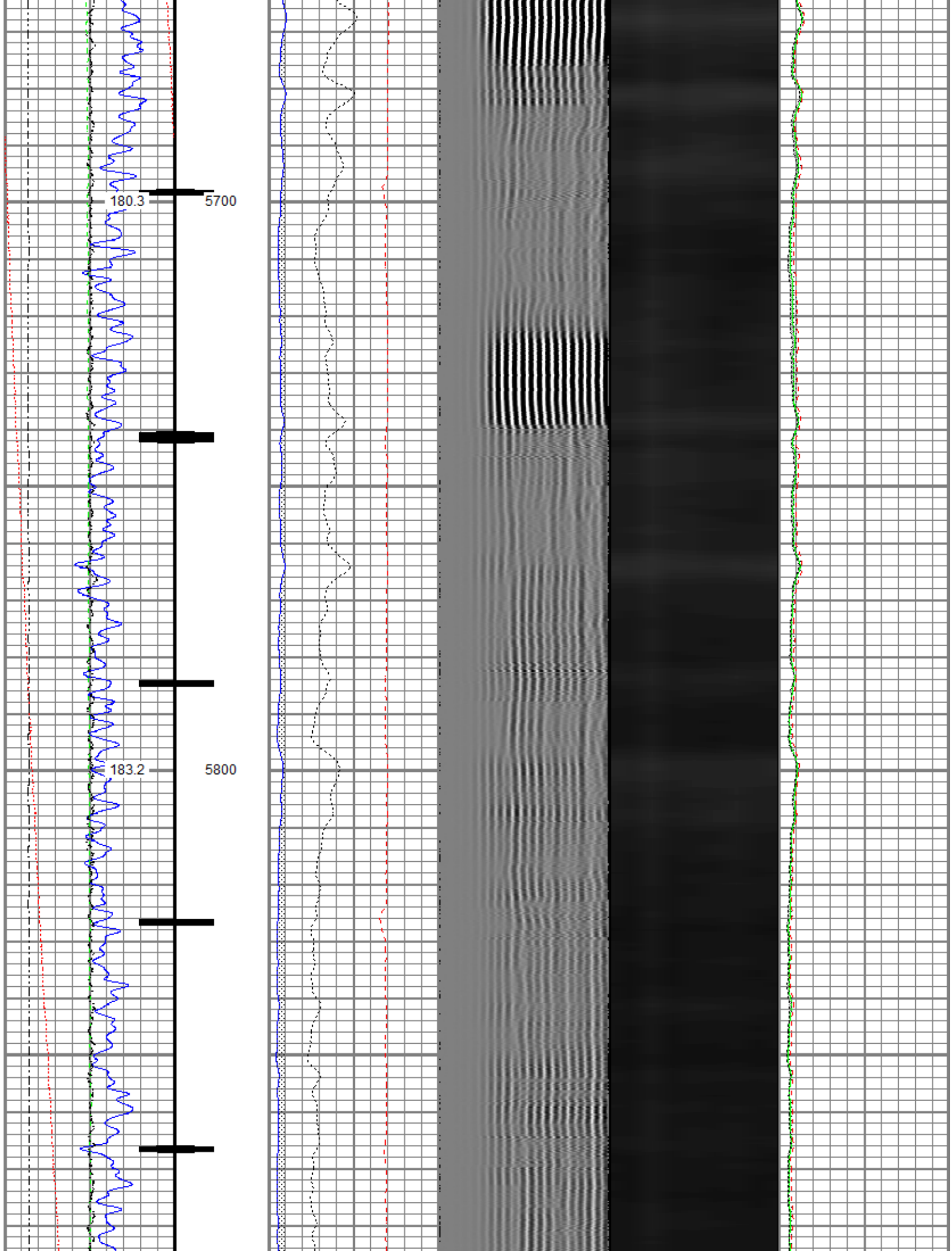


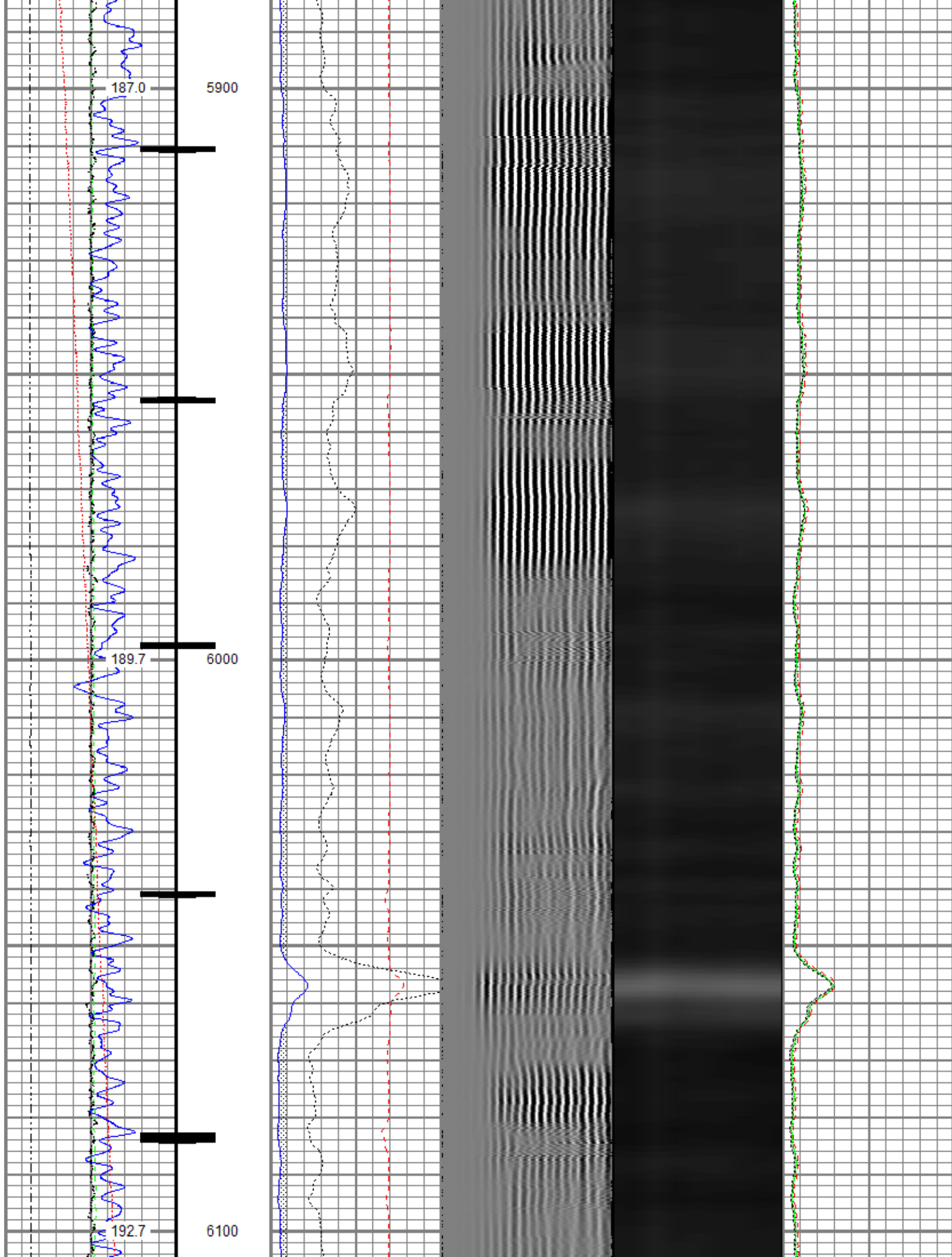


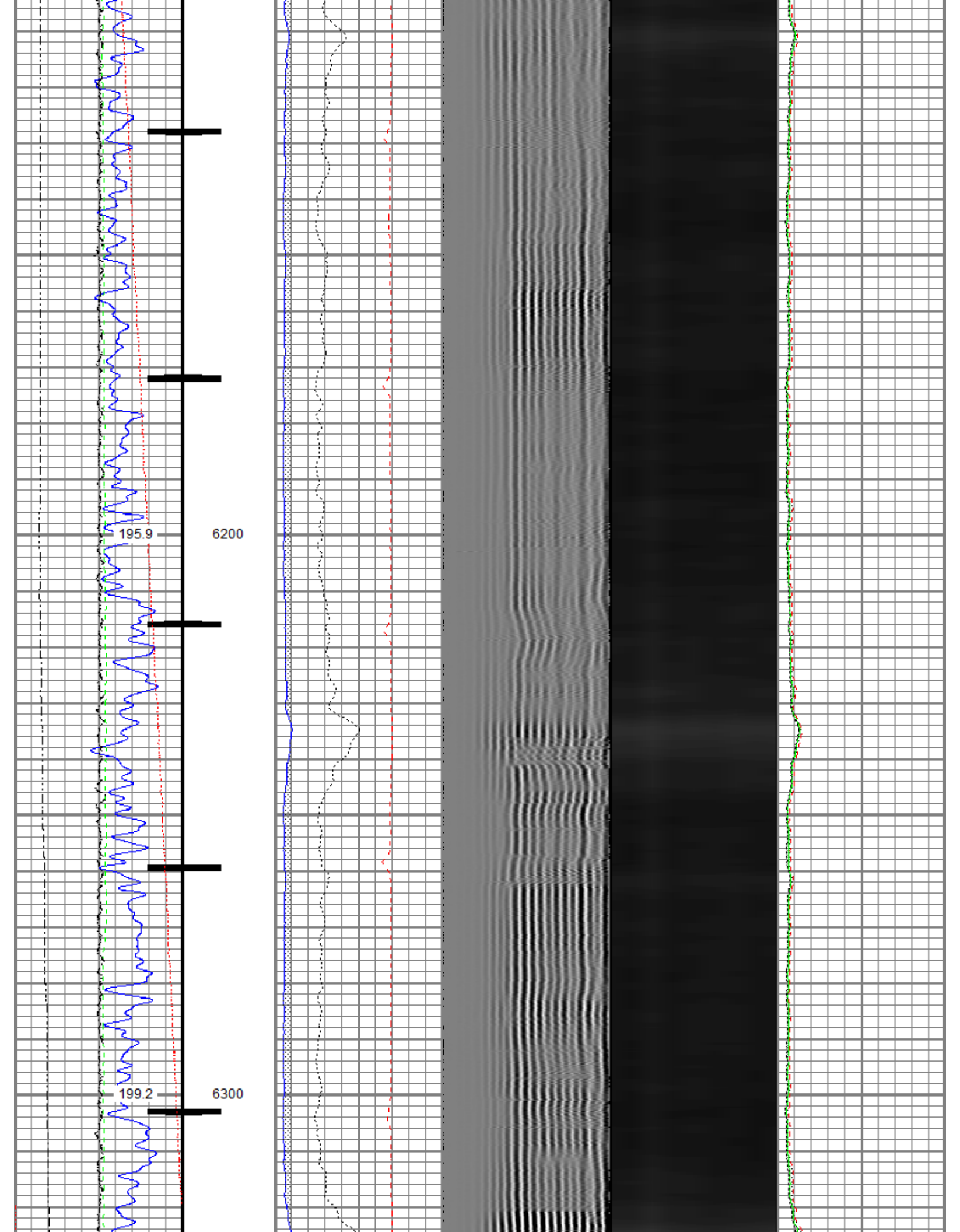


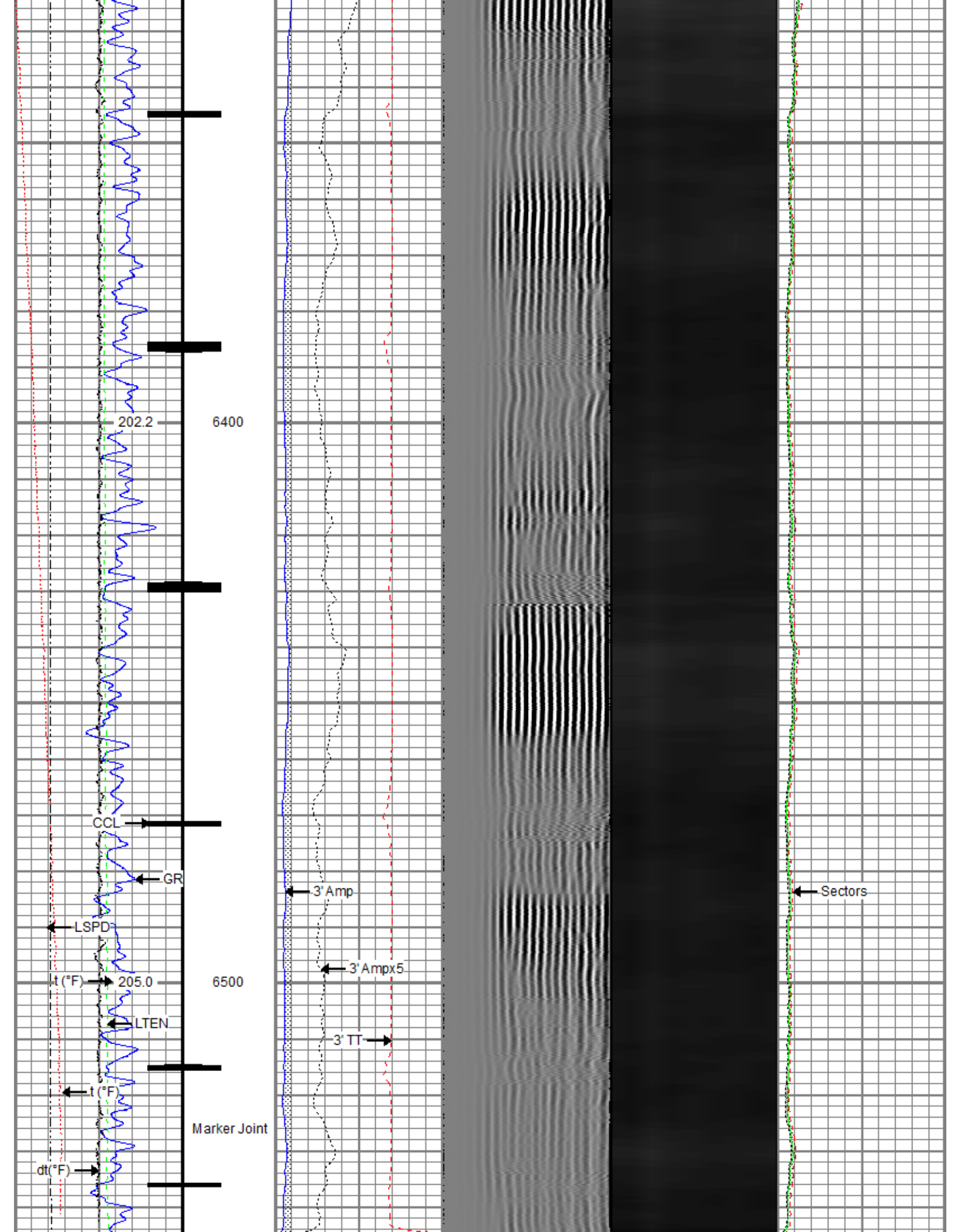


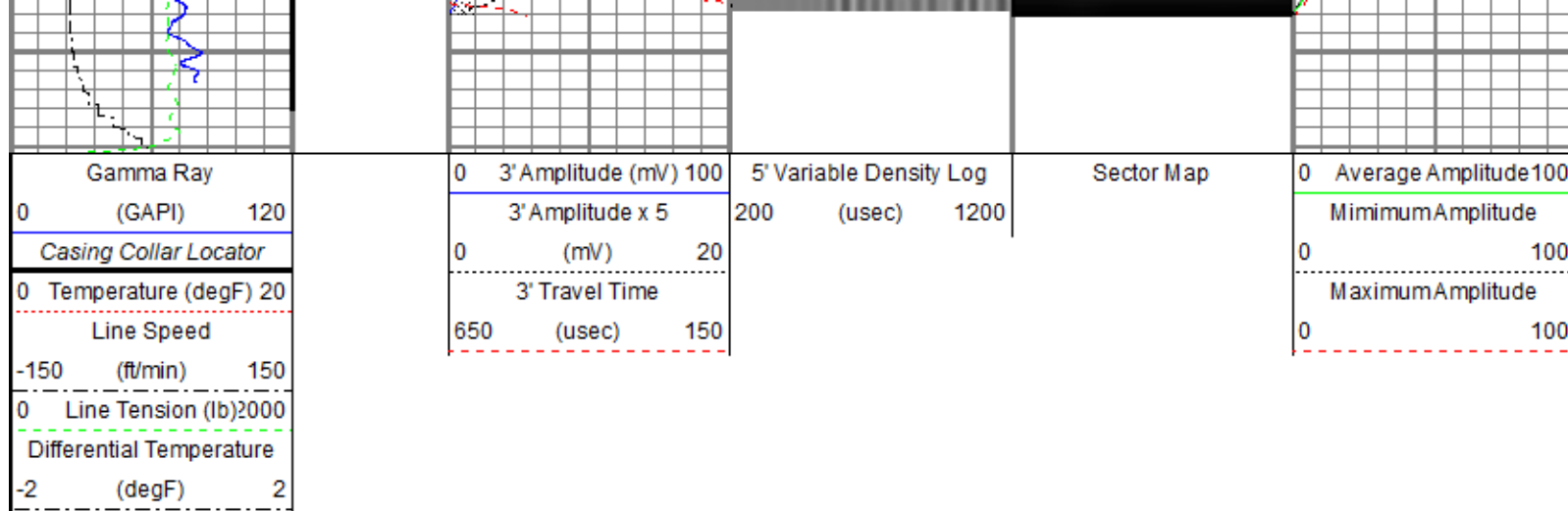








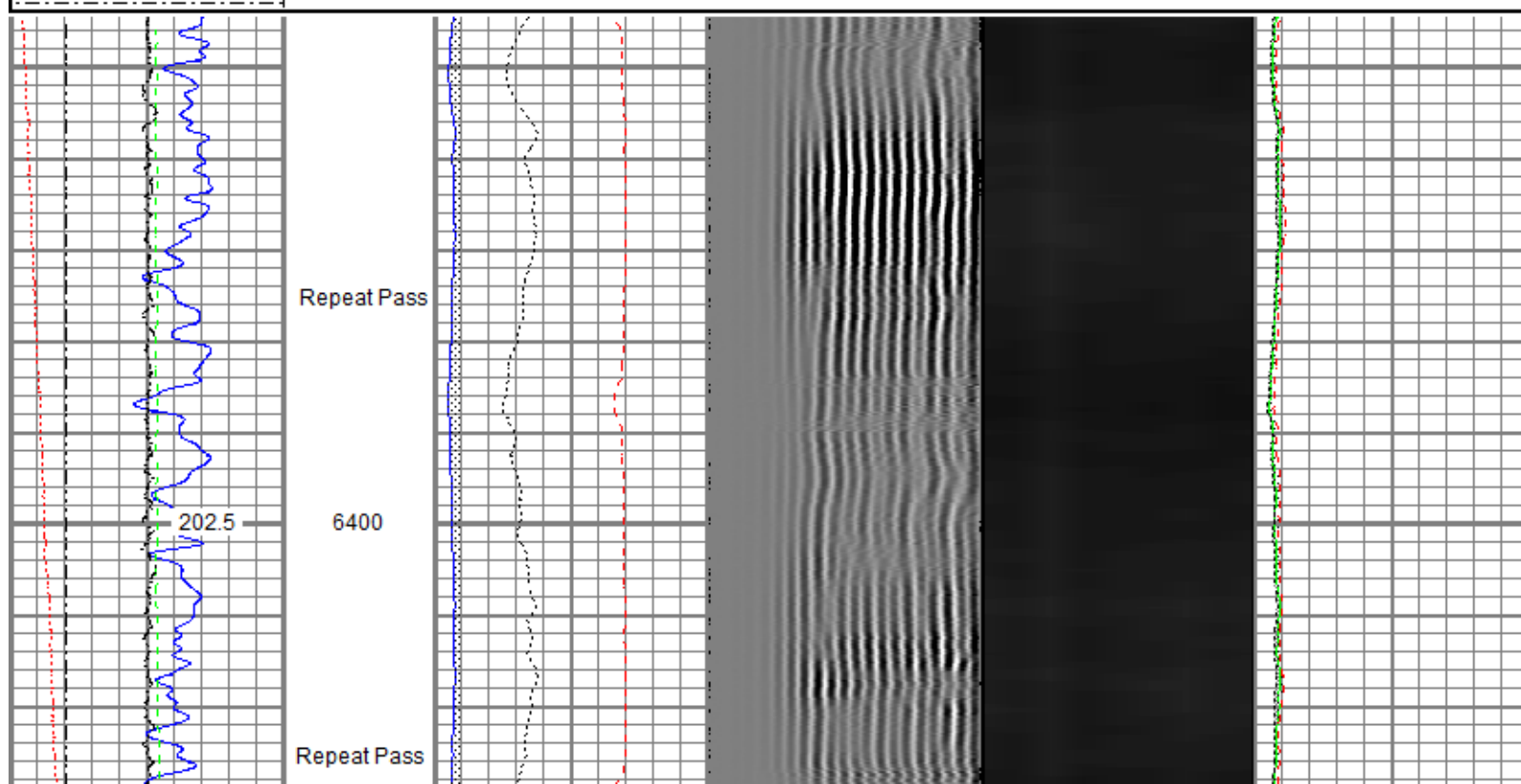
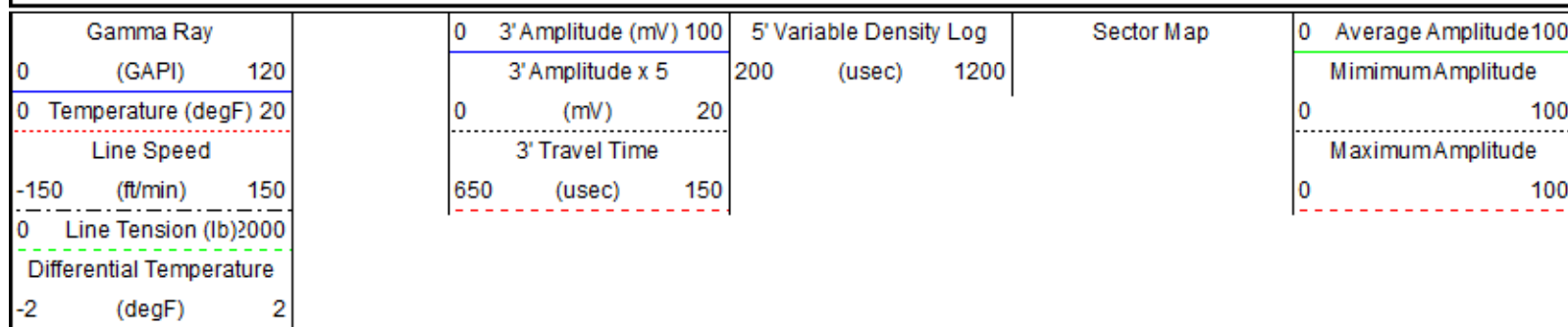


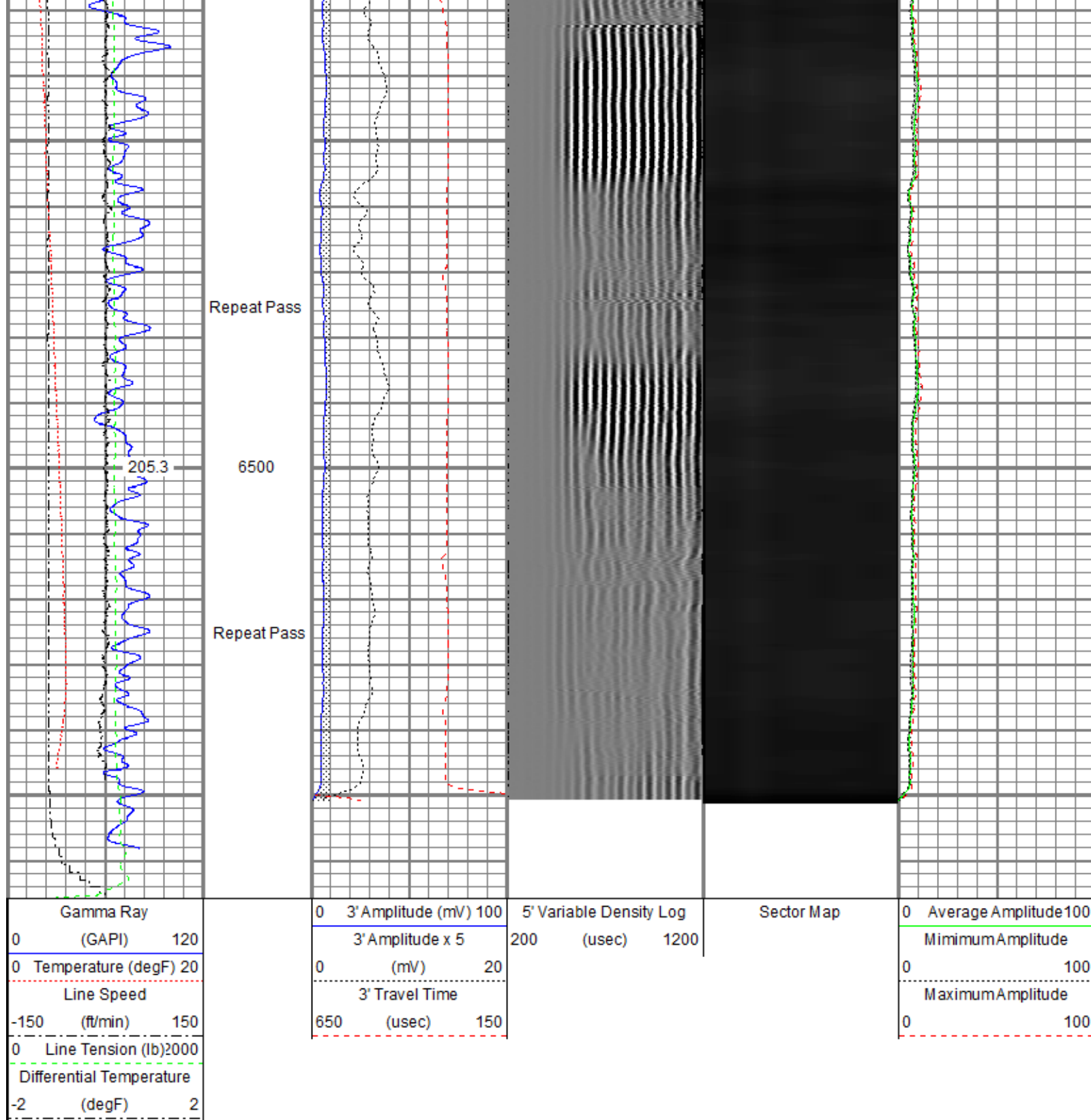


Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko\putter 27-7hz\processed_0512345128_anadarko_putter 27-7hz_rbl_02-27-18.db
 Dataset Pathname: pass2.2
 Presentation Format: ros_radri
 Dataset Creation: Wed Feb 28 13:51:16 2018
 Charted by: Depth in Feet scaled 1:240





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	18.23					
WVFS8	16.00		Probe Radii-2750 RBT (FW1308-091)	9.39	2.75	105.00
WVFS7	16.00		Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub			
WVFS6	16.00					
WVFS5	16.00					
WVFS4	16.00					
WVFS3	16.00					
WVFS2	16.00					
WVFS1	16.00					
WVFCAL	16.00					
WVF3FT	16.00					
WVF5FT	15.00					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	7.38		Probe CCL-2750 SA (FW1307-076)	2.66	2.75	35.00
CCL\$1	7.38		Probe 2-3/4" Digital Six Magnet Logging CCL			
GR	5.24		Probe GR-2750 SA (FW1307-078) Probe 2-3/4" Digital Stand Alone Gamma Ray	3.33	2.75	55.00
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
<div>Dataset: processed_0512345128_anadarko_putter 27-7hz_rbl_02-27-18.db: field/well/run1/pass4.1</div> <div>Total length: 25.06 ft</div> <div>Total weight: 258.60 lb</div> <div>O.D.: 2.75 in</div>						

Calibration Report		
Database File	c:\programdata\warrior\data\anadarko\putter 27-7hz\processed_0512345128_anadarko_putter 27-7hz_rbl_02-27-18.db	
Dataset Pathname	pass4.1	
Dataset Creation	Tue Feb 27 11:04:19 2018	
Gamma Ray Calibration Report		
Serial Number:	FW1307-078	
Tool Model:	2750 SA	
Performed:	Sun Nov 12 06:08:32 2017	
Calibrator Value:	637.0	GAPI

Background Reading:	108.2	cps
Calibrator Reading:	1134.5	cps
Sensitivity:	0.6207	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1308-091
Tool Model:	2750 RBT
Calibration Casing Diameter:	5.500 in
Calibration Depth:	48.410 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.502	0.800	71.921	141.849	0.705
CAL	0.751	0.752				
5'	0.000	0.476	0.800	71.921	149.484	0.752
SUM						
S1	0.001	0.468	0.000	100.000	214.084	-0.123
S2	0.001	0.481	0.000	100.000	207.973	-0.130
S3	-0.008	0.505	0.000	100.000	194.953	1.491
S4	0.001	0.541	0.000	100.000	185.066	-0.120
S5	0.001	0.567	0.000	100.000	176.591	-0.132
S6	0.001	0.555	0.000	100.000	180.400	-0.130
S7	-0.001	0.507	0.000	100.000	196.720	0.196
S8	0.001	0.484	0.000	100.000	206.997	-0.113

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.751	0.752	1.000	0.000

Air Zero Calibration, performed Sat Feb 24 09:58:13 2018:

	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

Temperature Calibration Report

Serial Number:	FW1308-091
Tool Model:	2750 RBT
Performed:	Sun Nov 12 13:50:54 2017

	Reference	Reading
Low Reference:	100.00 degF	104.72 degF
High Reference:	350.00 degF	392.24 degF

Gain:	0.87
Offset:	8.94
Delta Spacing	1



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Putter 27-7HZ
Field	Wattenberg
County	Weld
State	Colorado