



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.

Well Leinweber Fed 4C-8HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-44205

SEC 11 TWP 1N RGE 67W

Permanent Datum Ground Level Elevation 4958'

Log Measured From Kelly Bushing

17 FT

Drilling Measured From Kelly Bushing

Other Services
RBP
JBGR
Elevation
K.B. 4975'
D.F. ---
G.L. 4958'

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Field Wattenberg
County Weld
State Colorado

Date	07-MAR-2018			
Run Number	Three			
Depth Driller	18656 FT			
Depth Logger	6890 FT			
Bottom Logged Interval	6874 FT			
Top Log Interval	Surface			
Open Hole Size	8.50"			
Type Fluid	Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	225°F			
Estimated Cement Top	See Log			
Time Well Ready	ROA			
Time Logger on Bottom	13:00			
Equipment Number	HD-363			
Location	Fort Lupton, CO			
Recorded By	Carlos Sisneros			
Witnessed By	Mr. John McCarthy			
Borehole Record				
Run Number	Bit	From	To	Size
				Weight
				From
				To
Tubing Record				
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top
Surface Casing	9 5/8	36	J-55	Surface
Intermediate #1	5 1/2	17	HCP-110	Surface
Intermediate #2				
Inner				

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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 of 17 FT
Adjusted +6 FT to correlate with Kelly Bushing
Gauge Ring/Junk Basket ran to 7870 FT with no debris
Log ran from 50 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!!

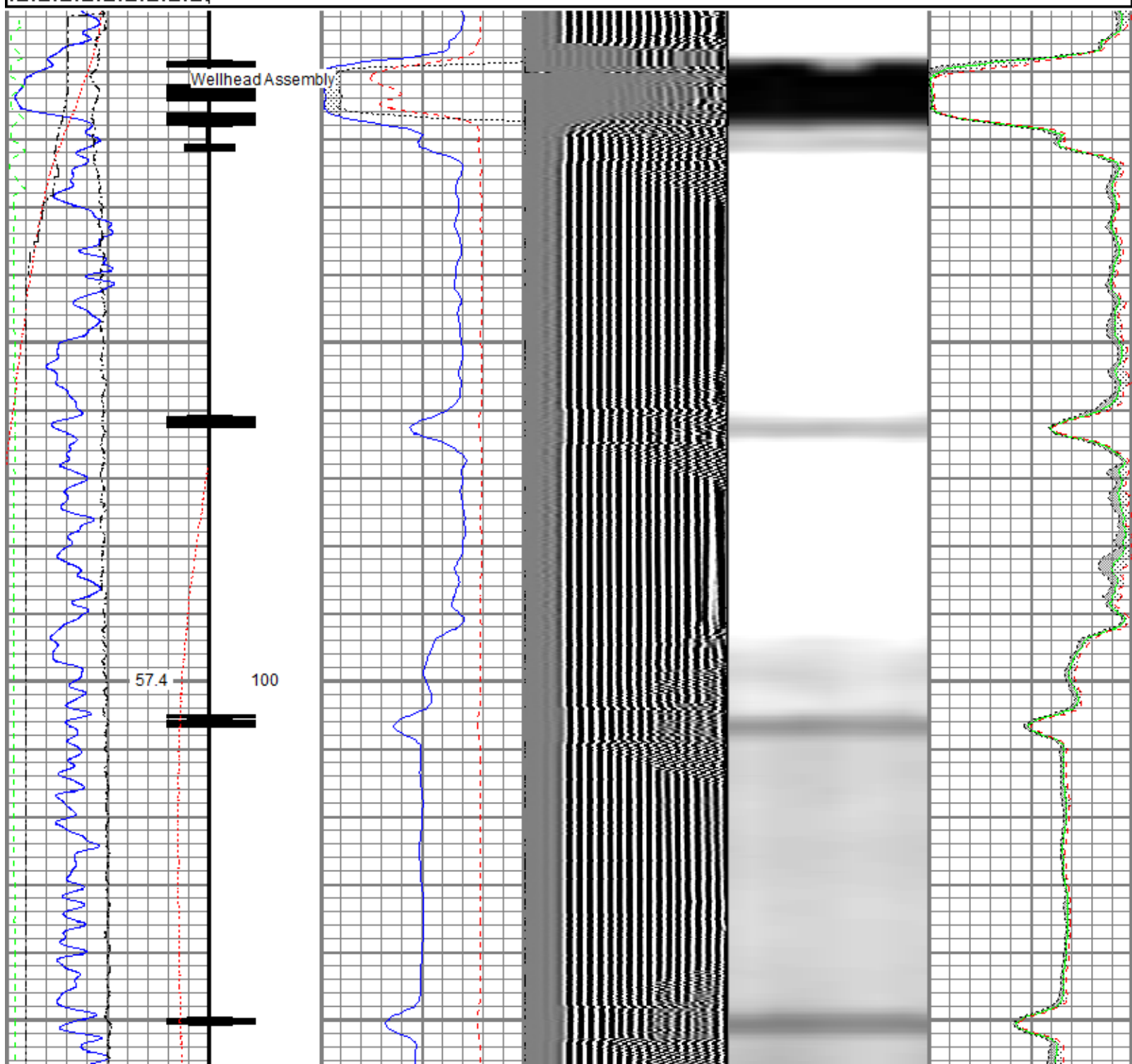
Main Pass

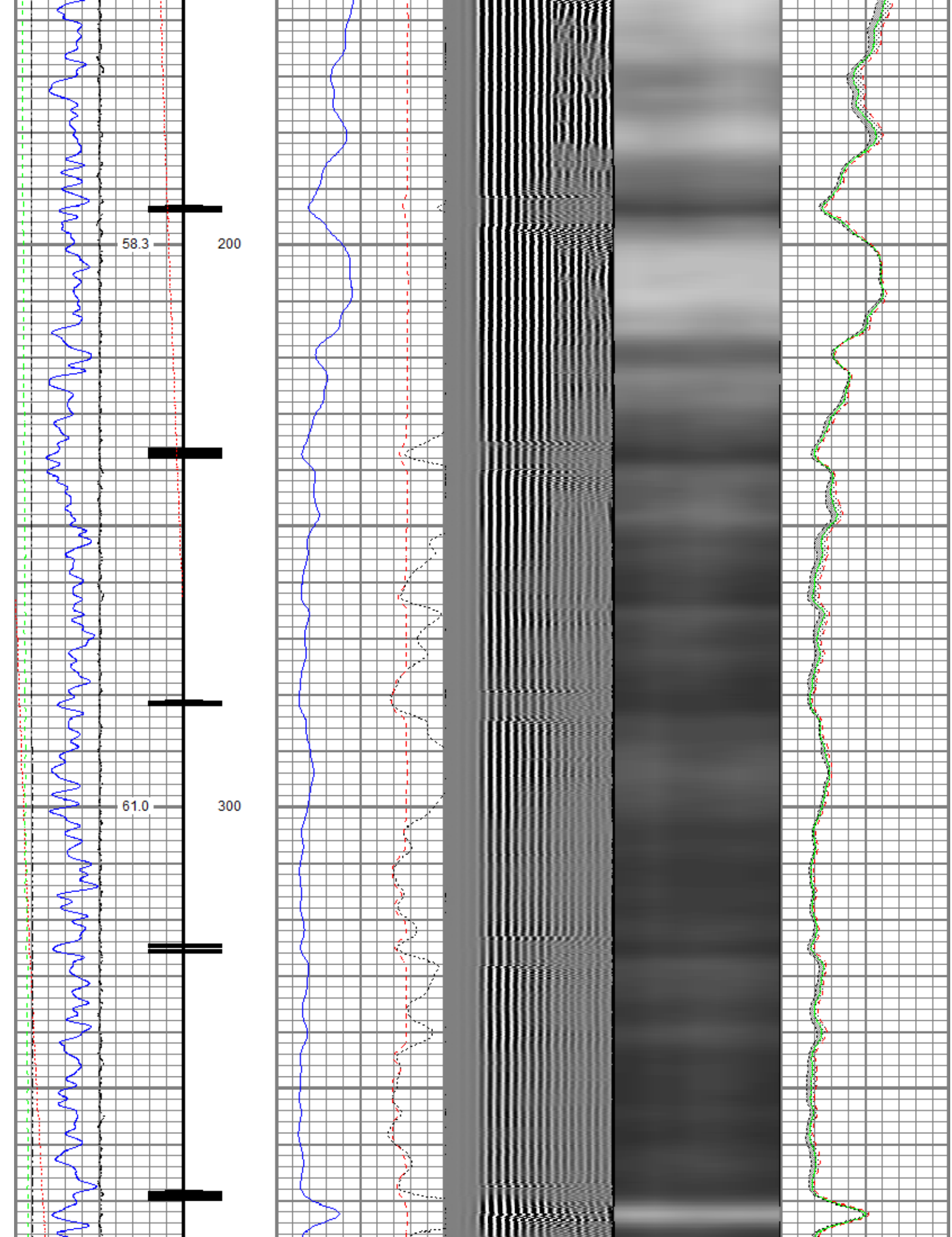


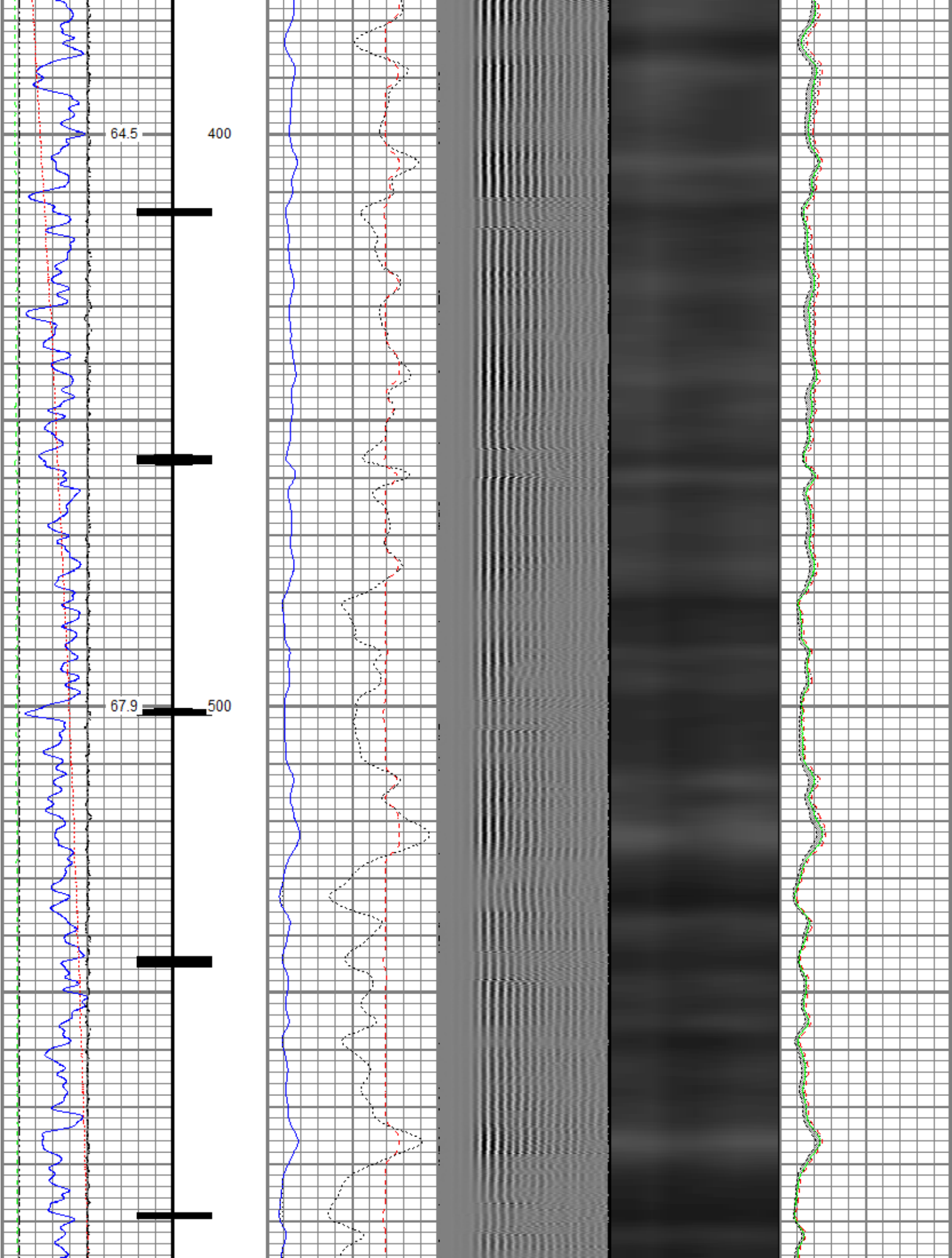
Recorded With 2800 PSI Surface Induced Pressure

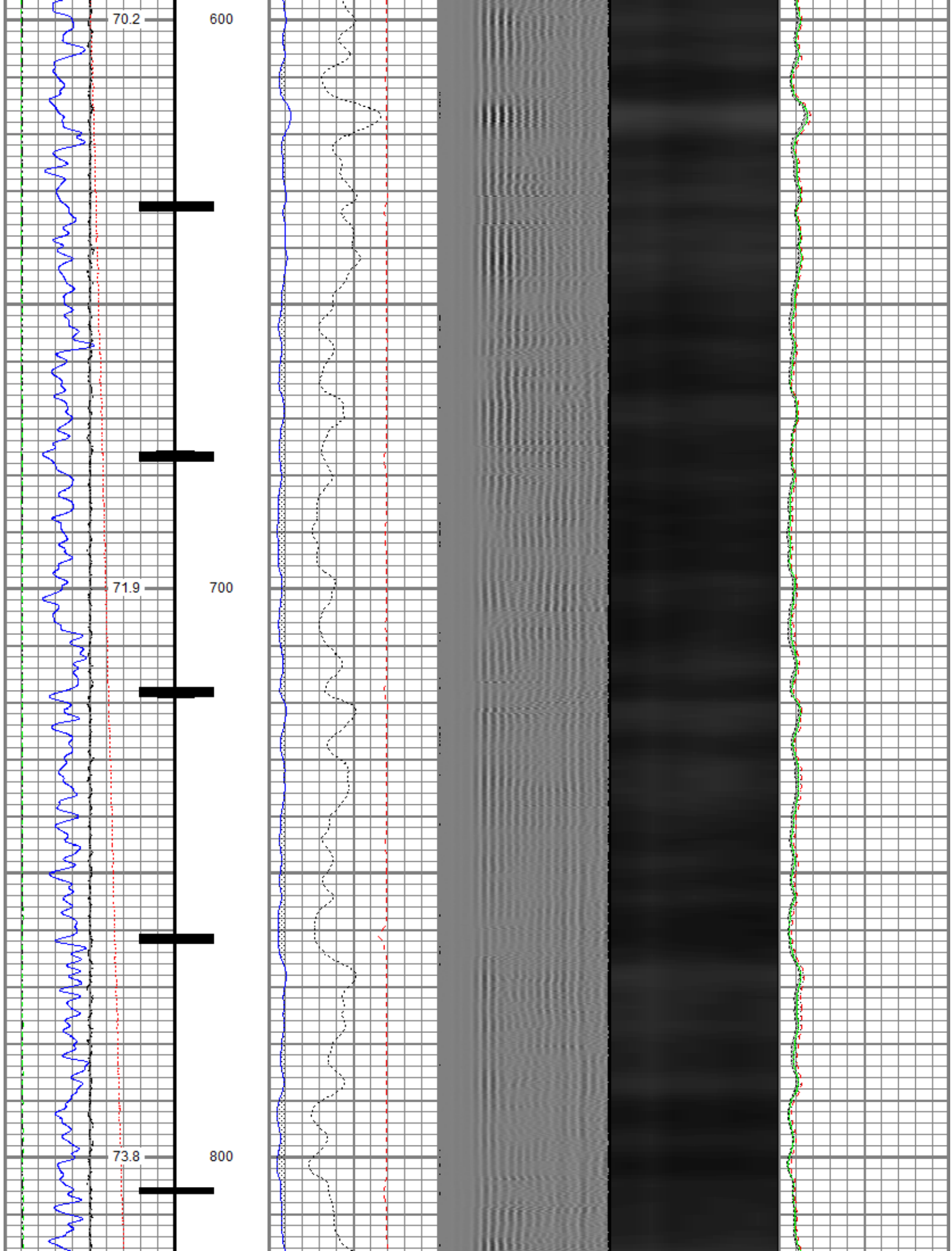
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Presentation Format	ros_radri
Dataset Creation	Wed Mar 07 14:13:12 2018
Charted by	Depth in Feet scaled 1:240

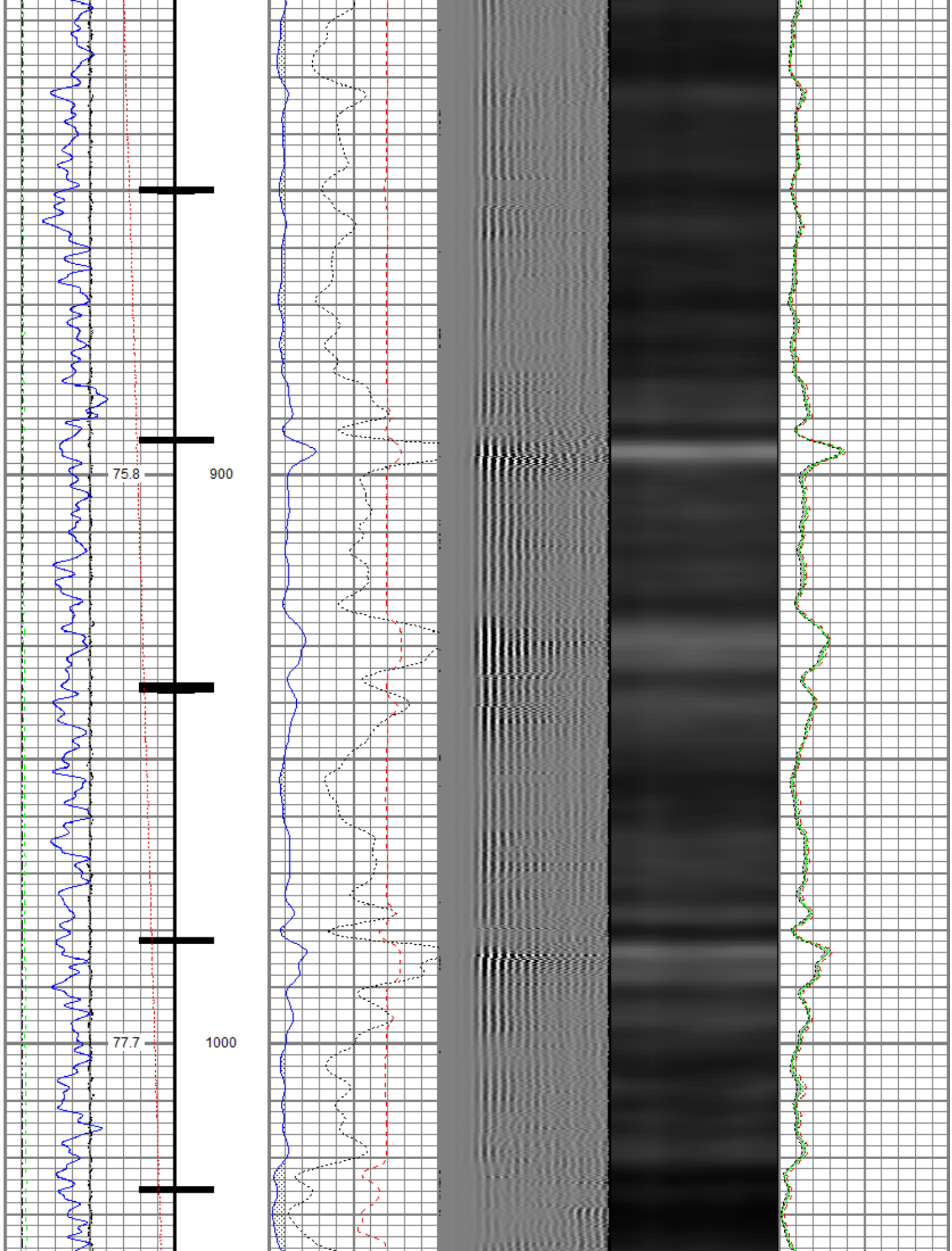
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
(ft/min) 150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

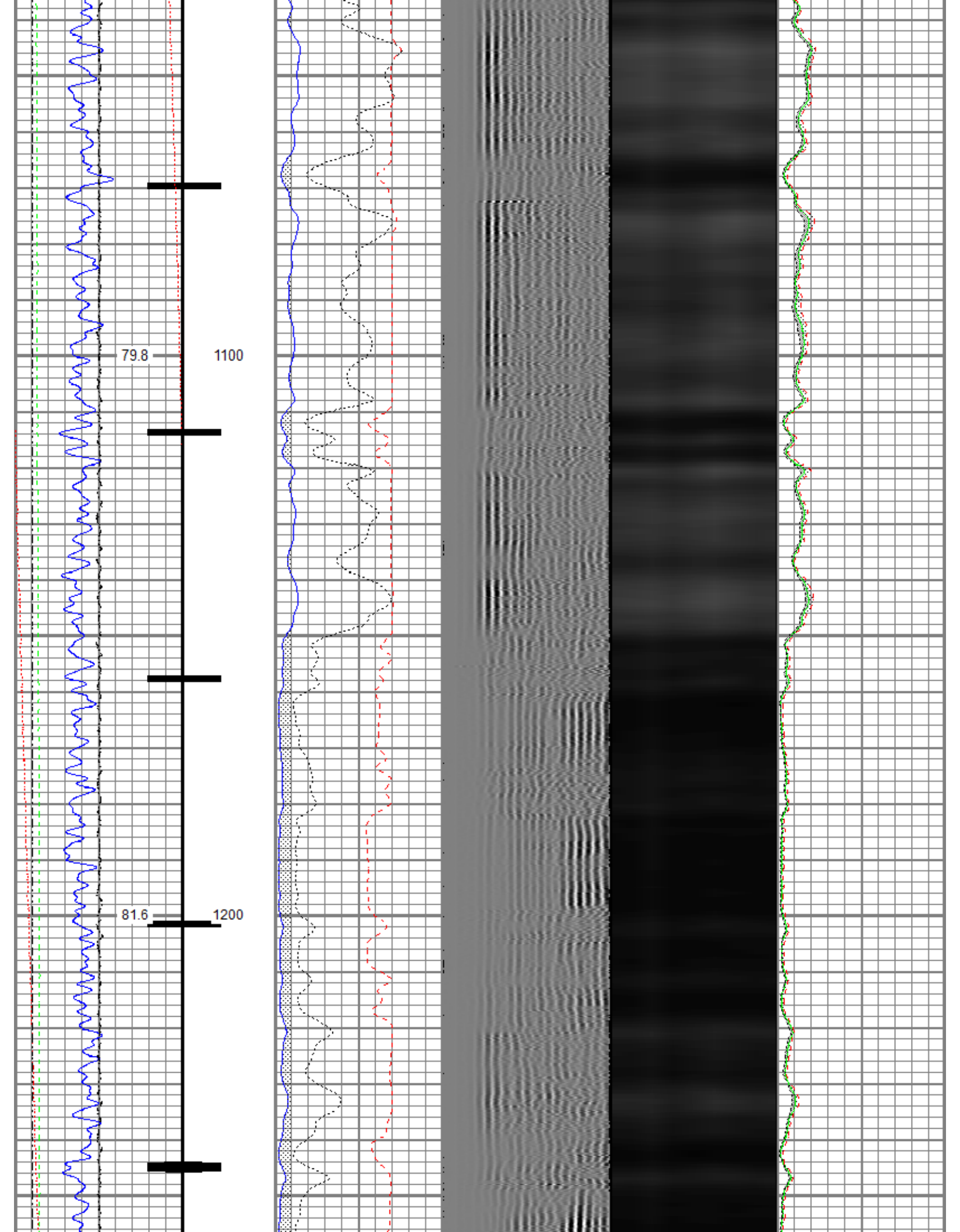


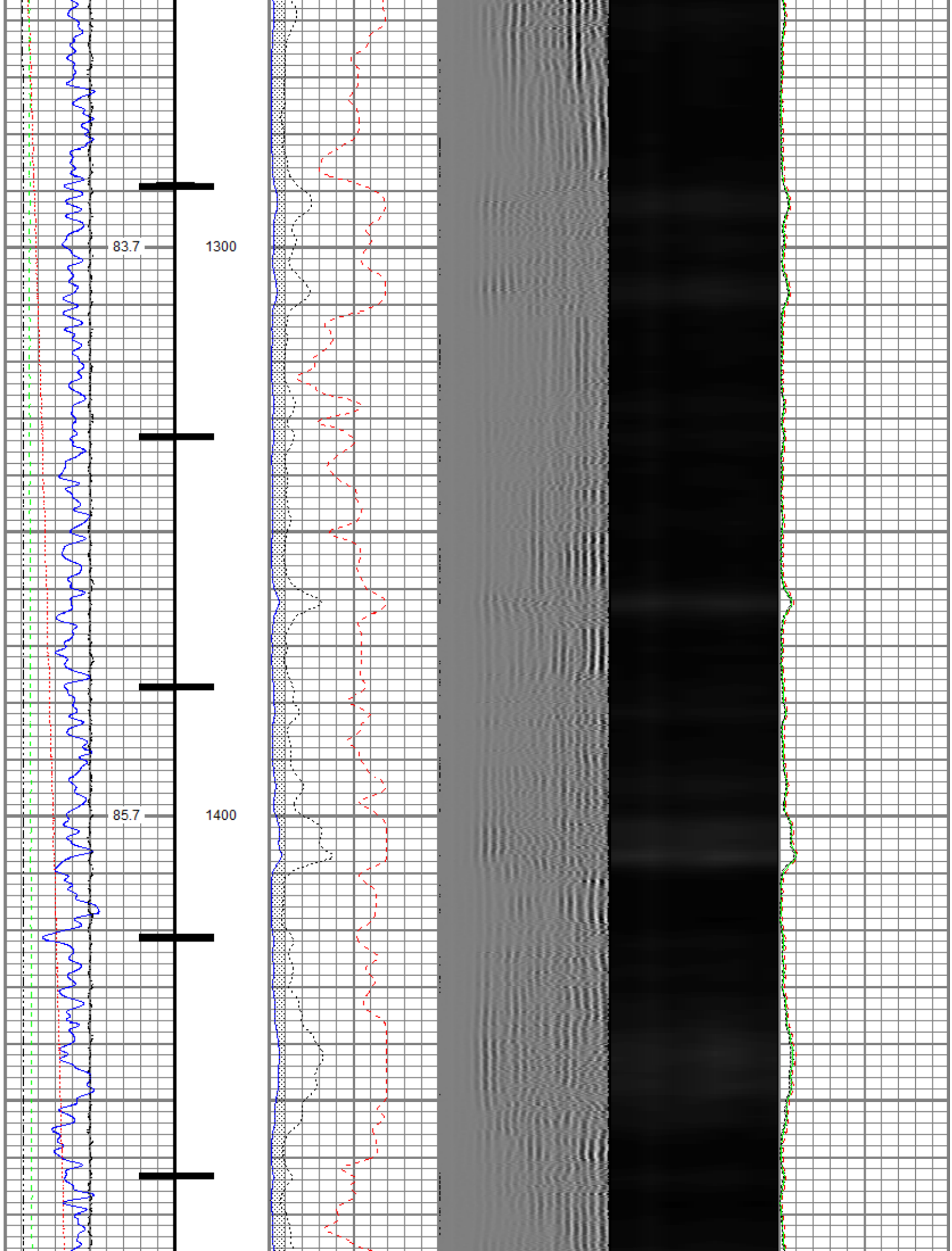


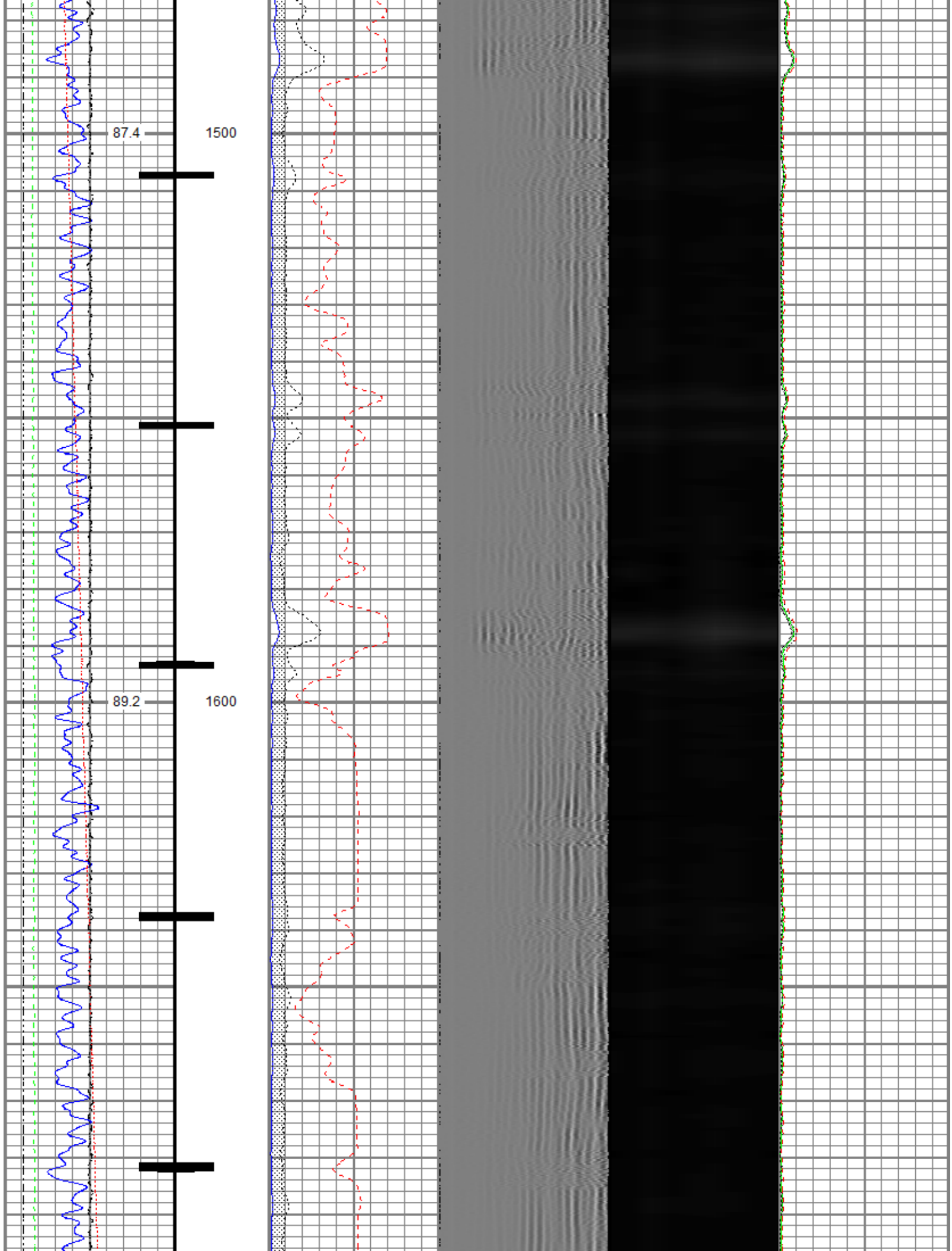


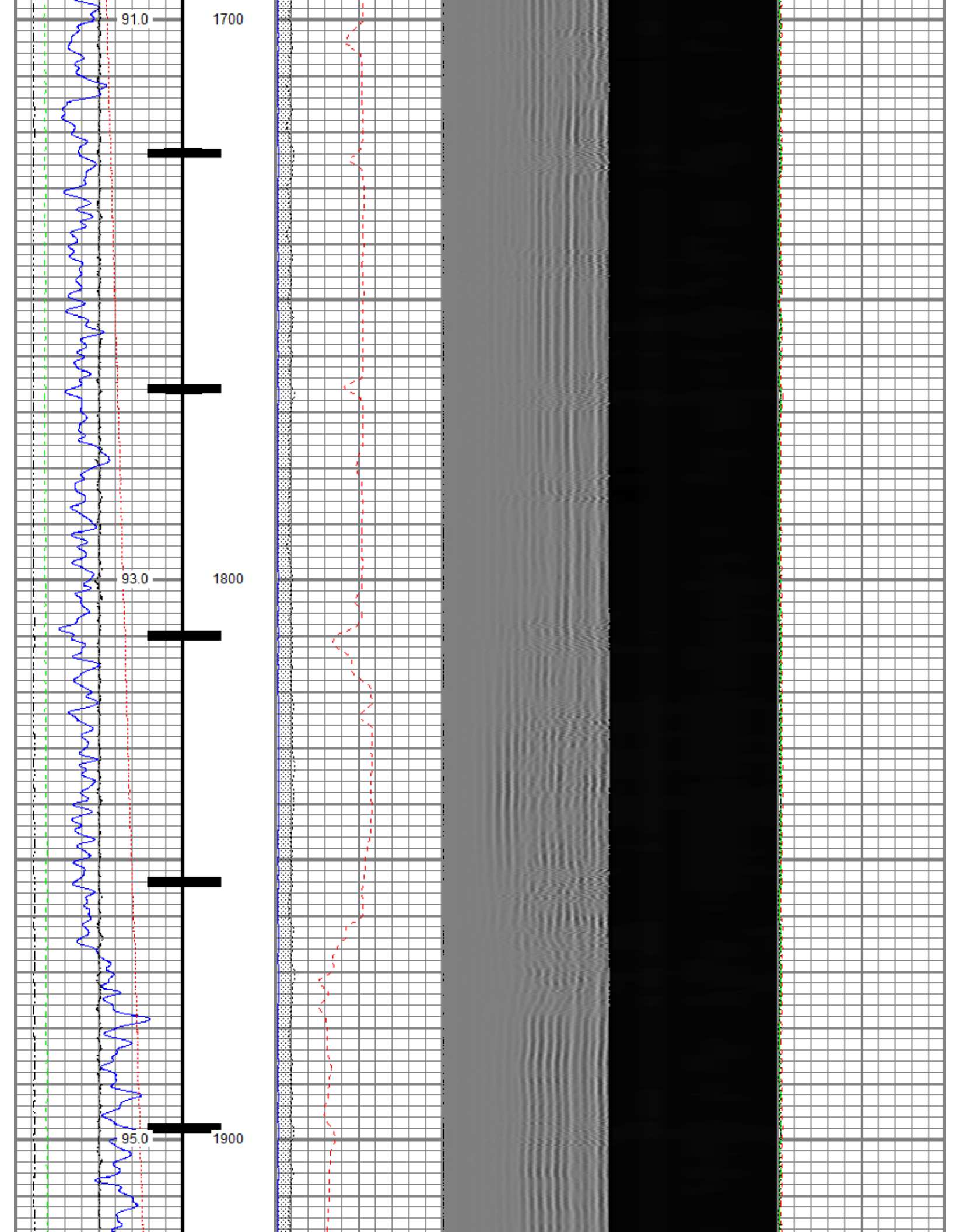


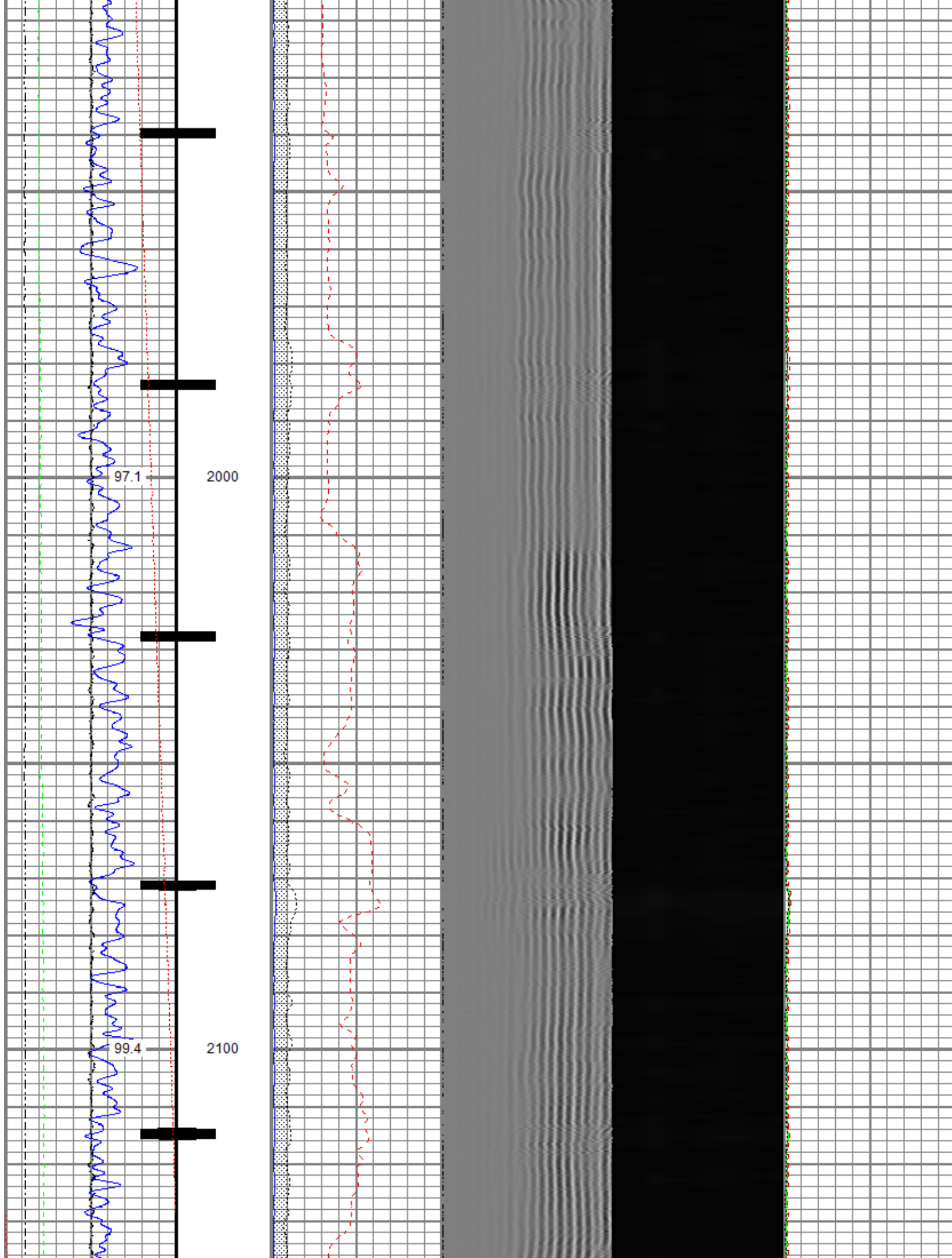


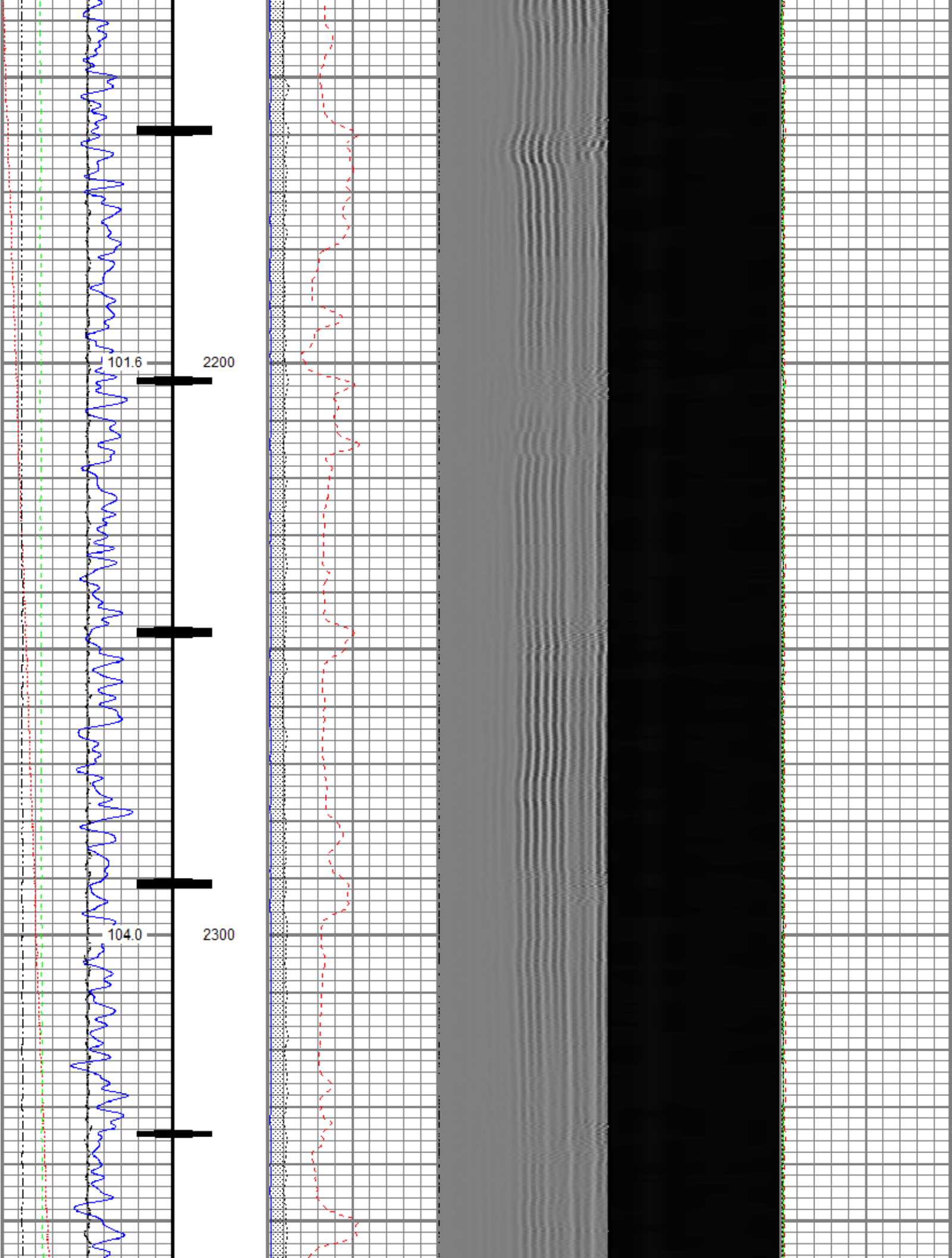


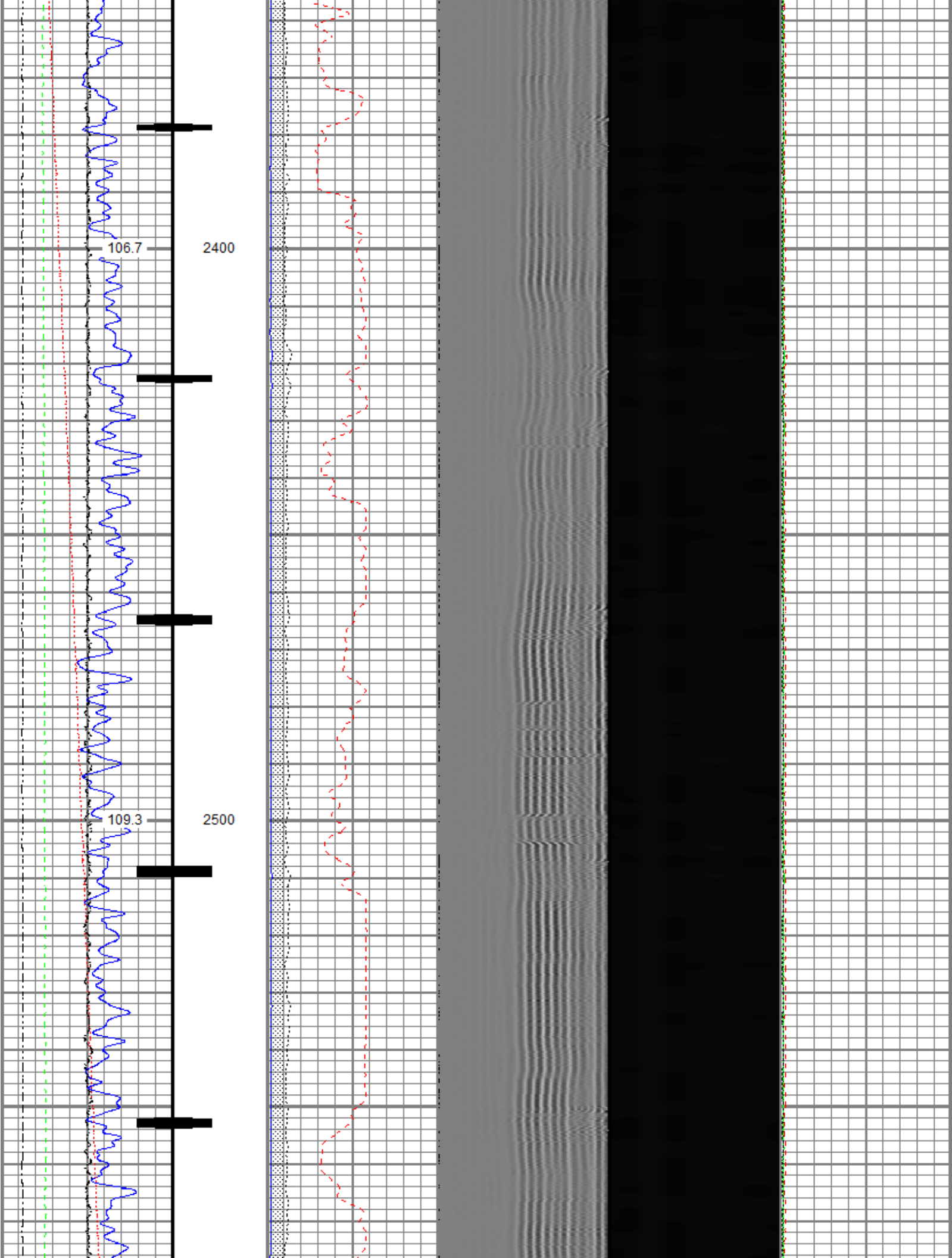


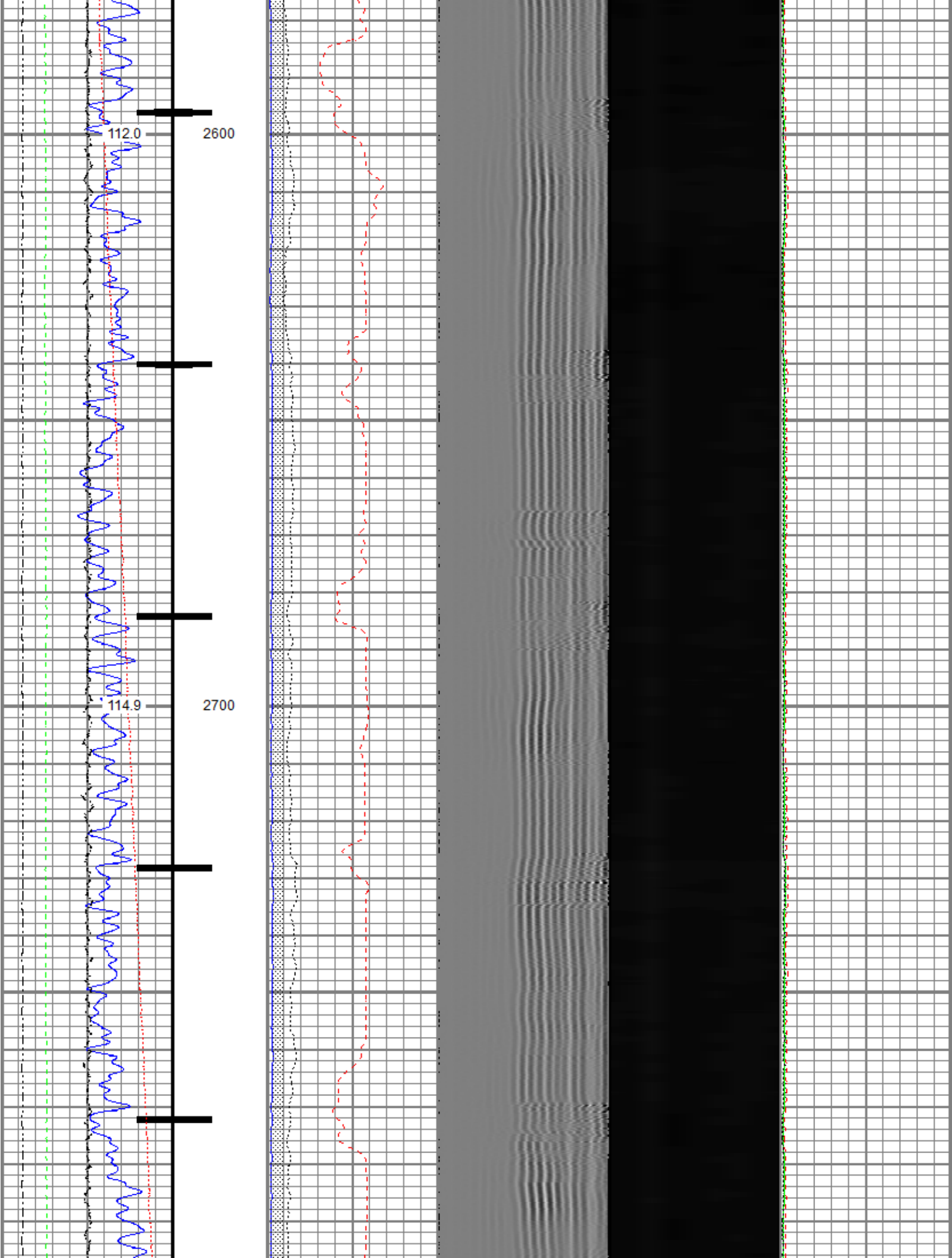


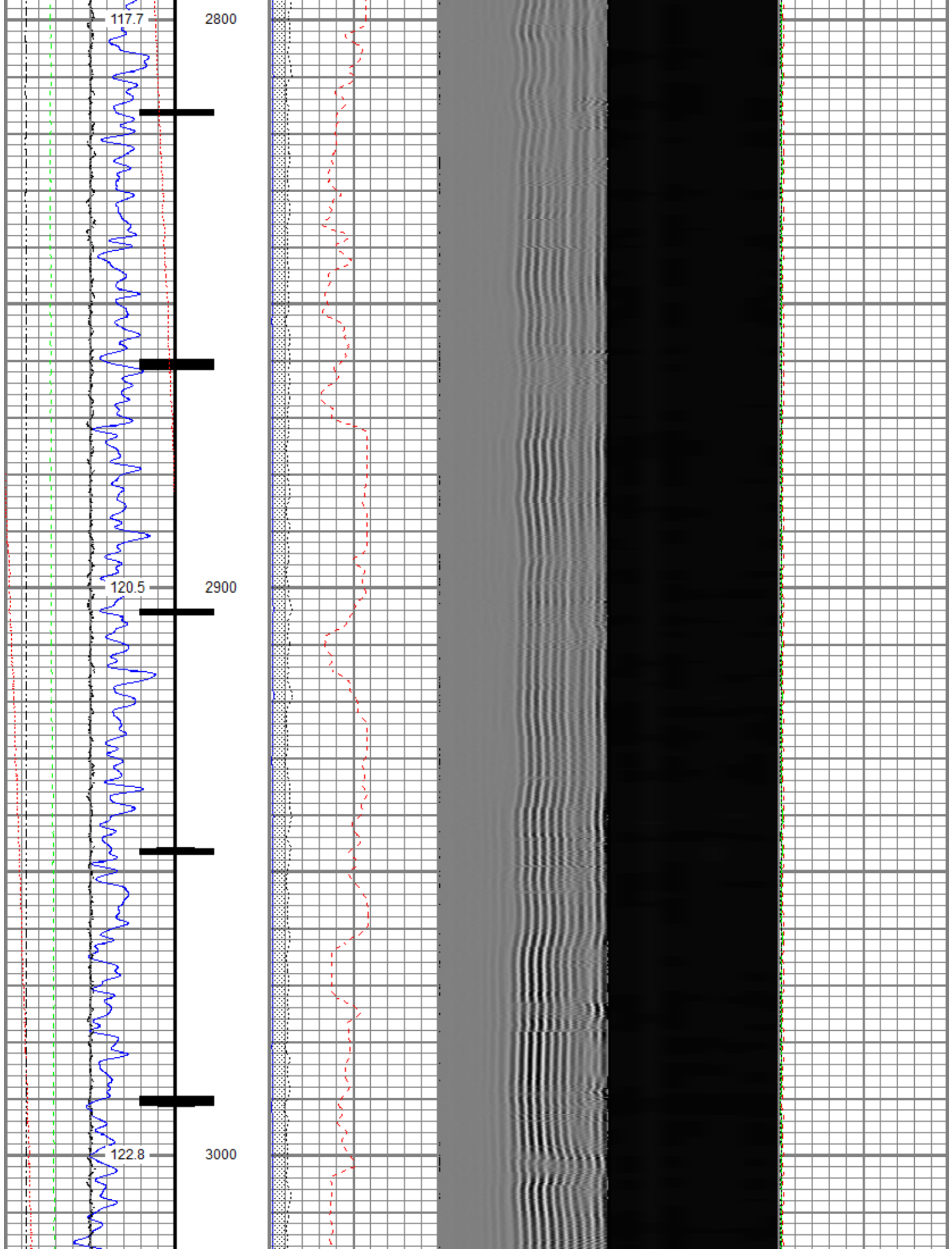


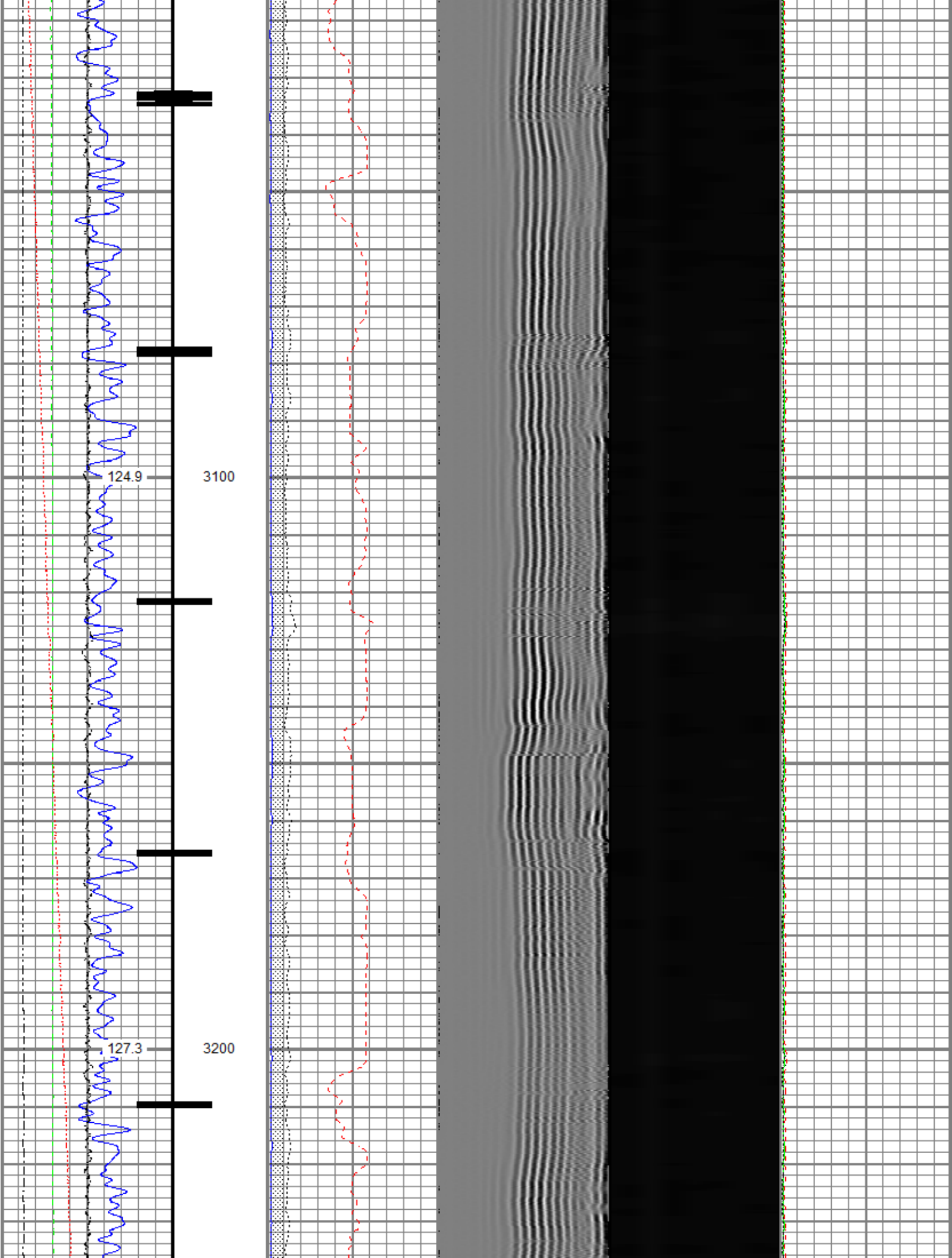


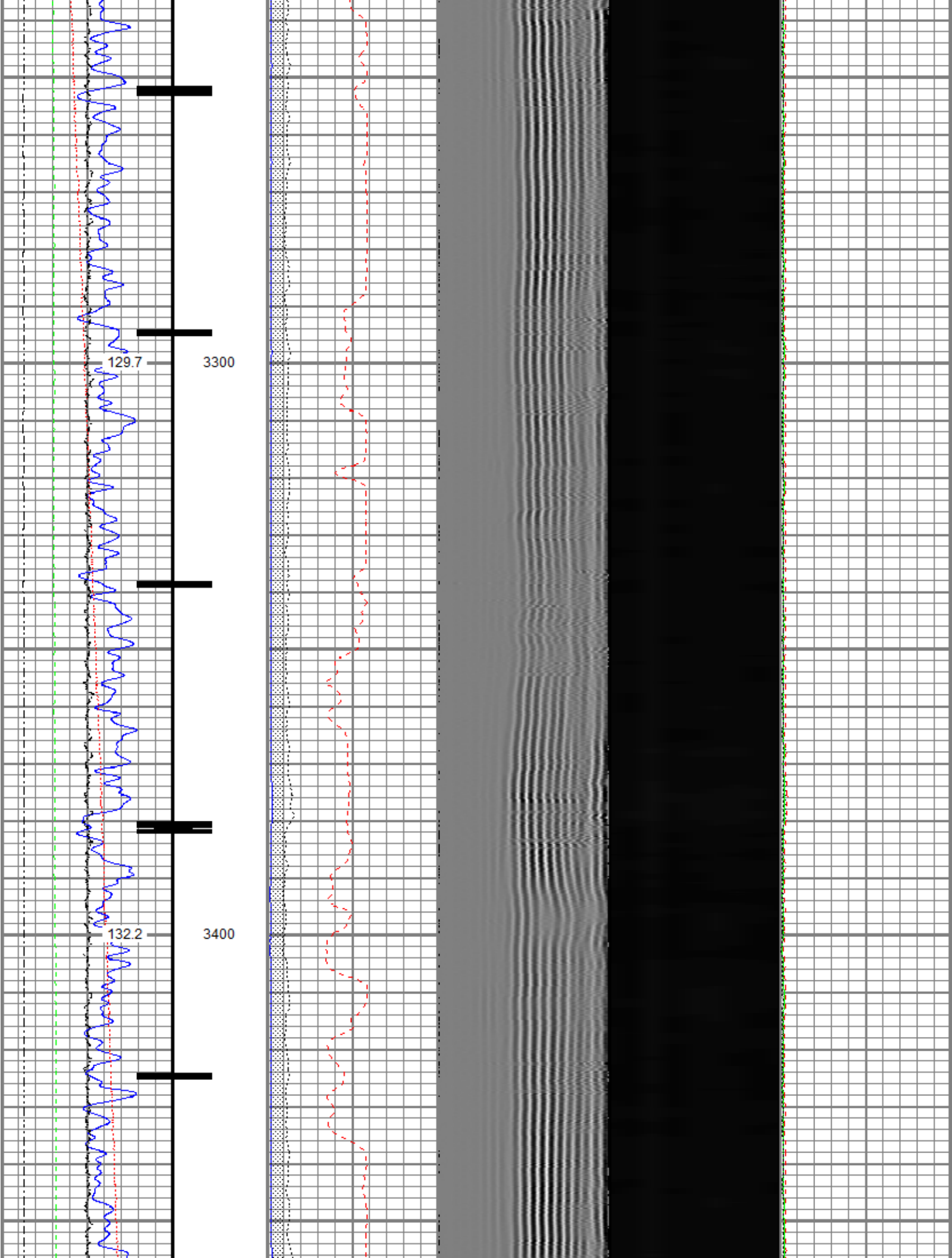


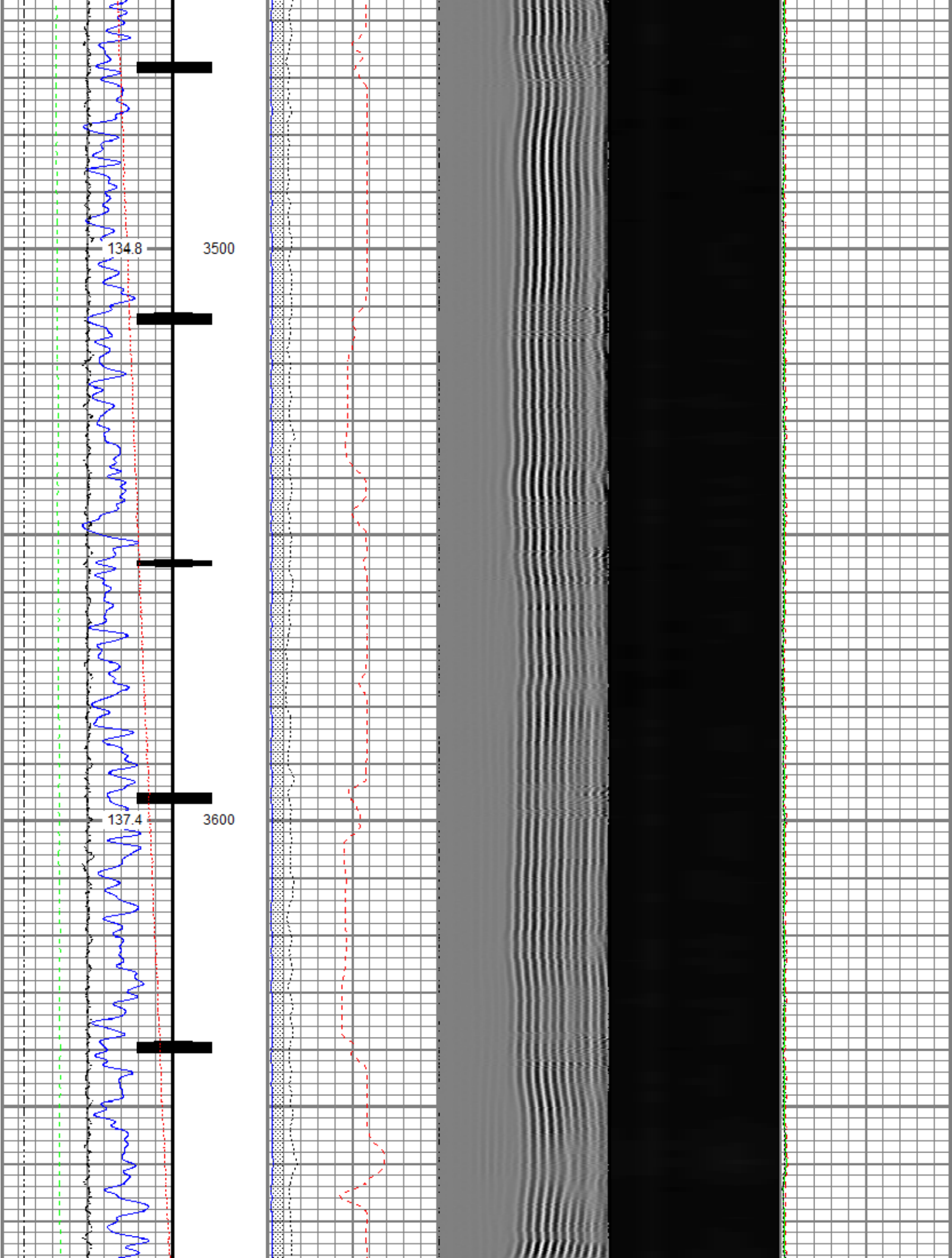


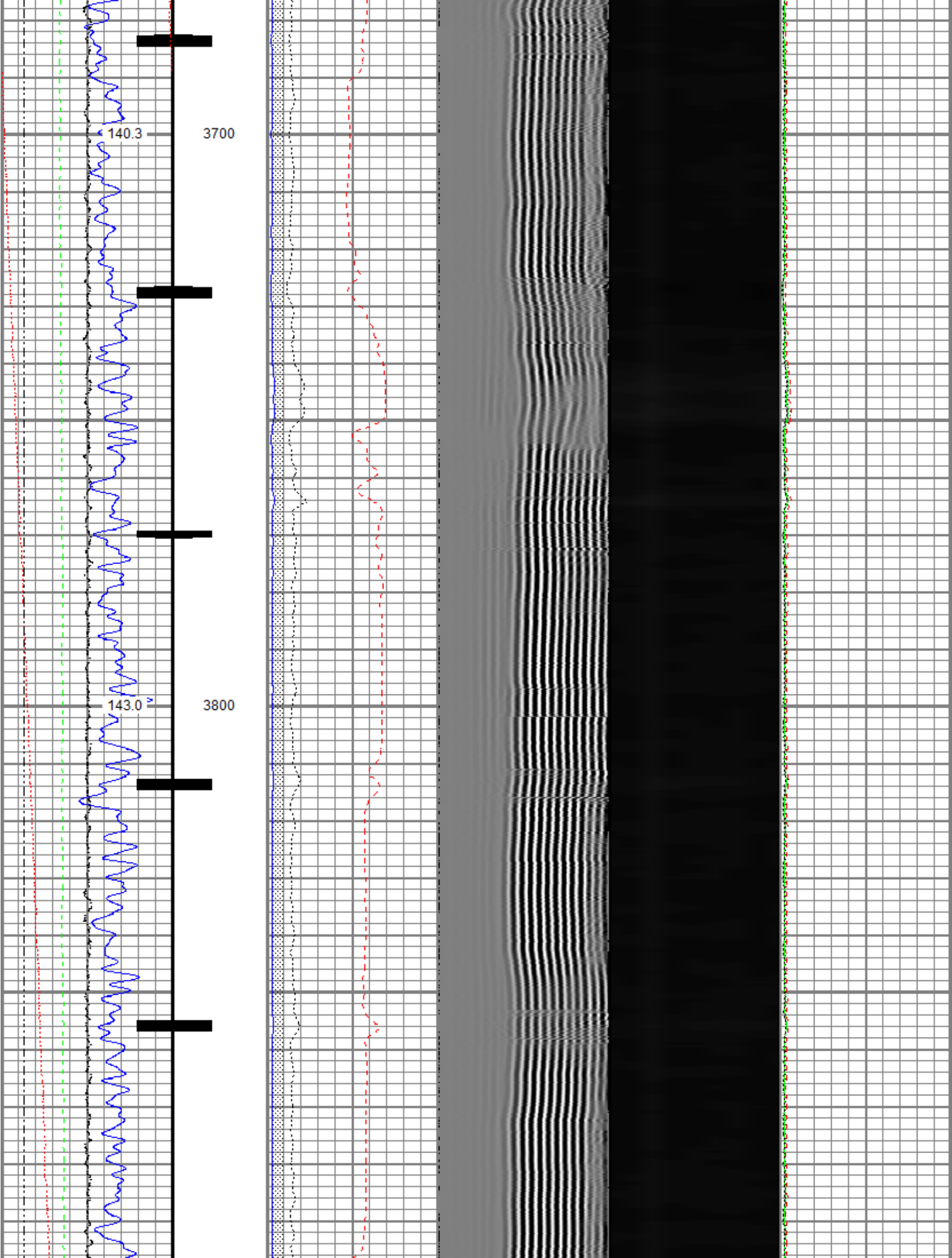


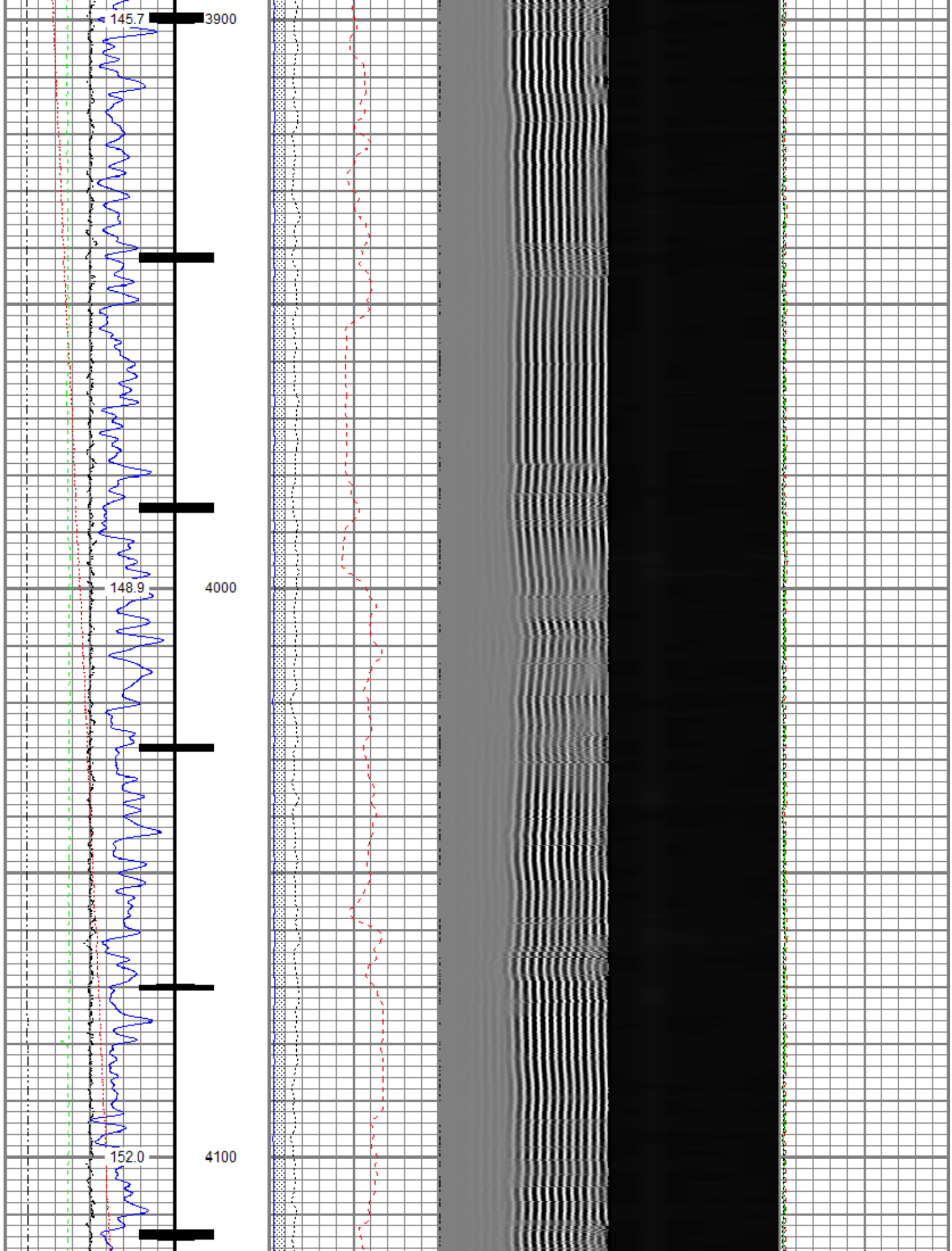


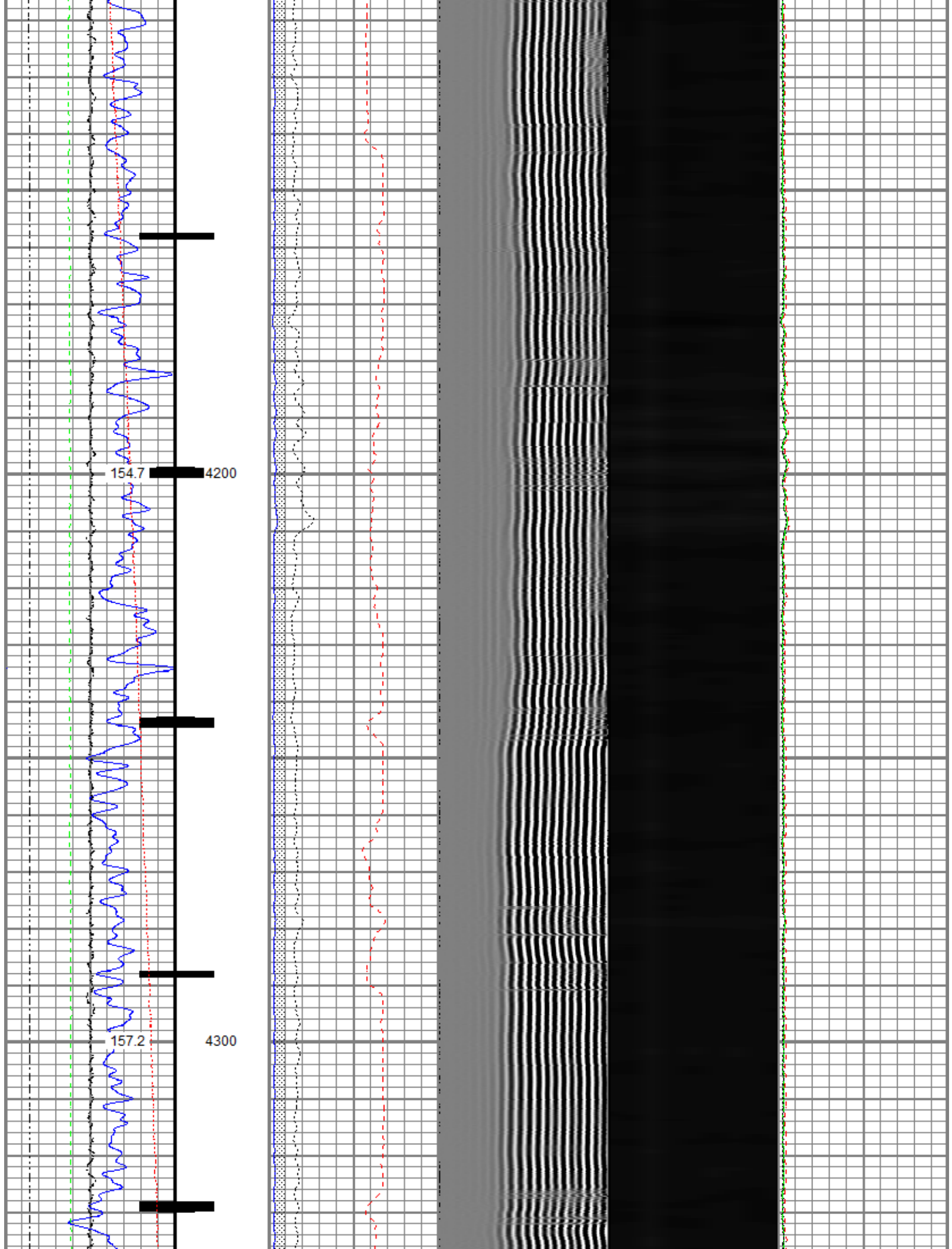


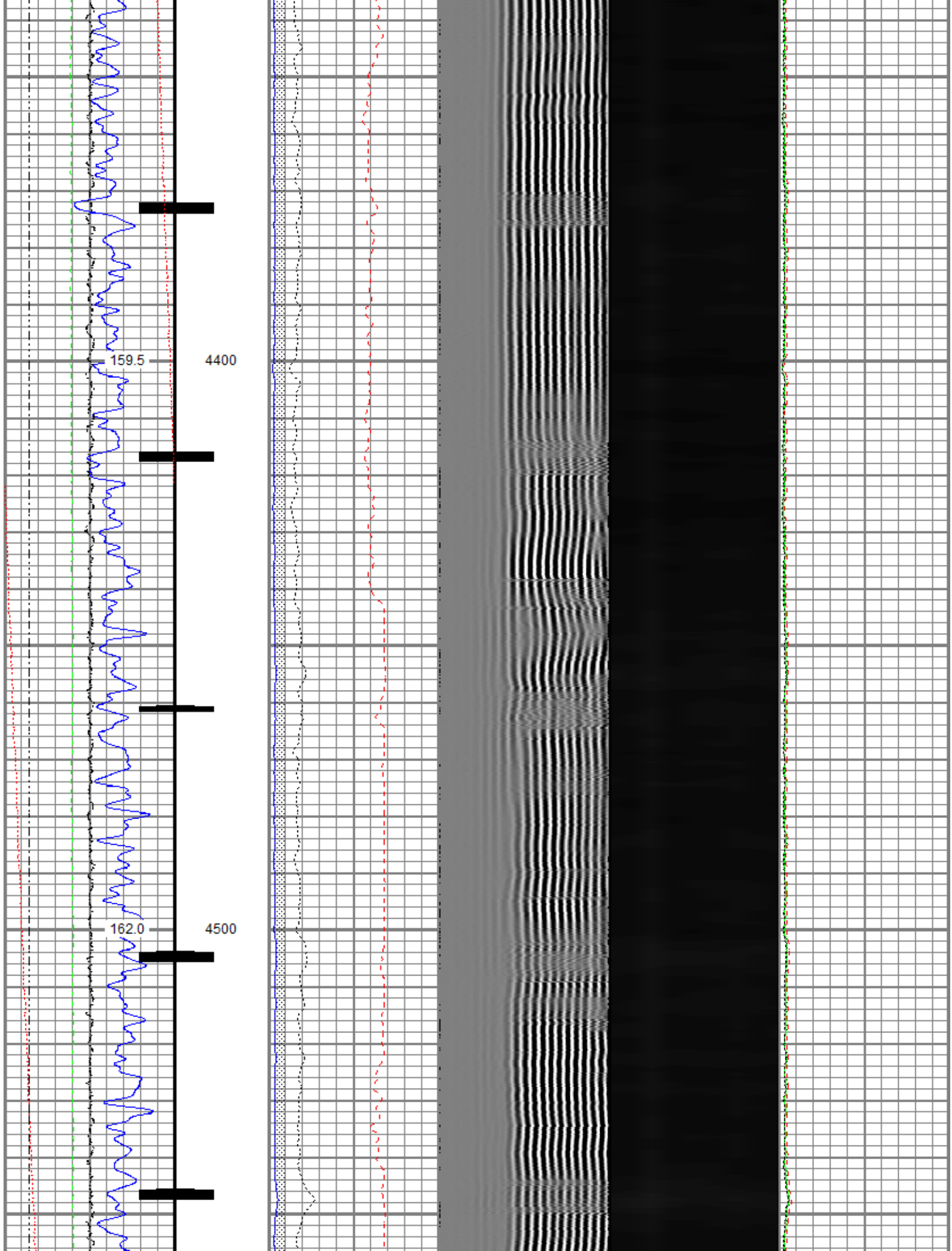


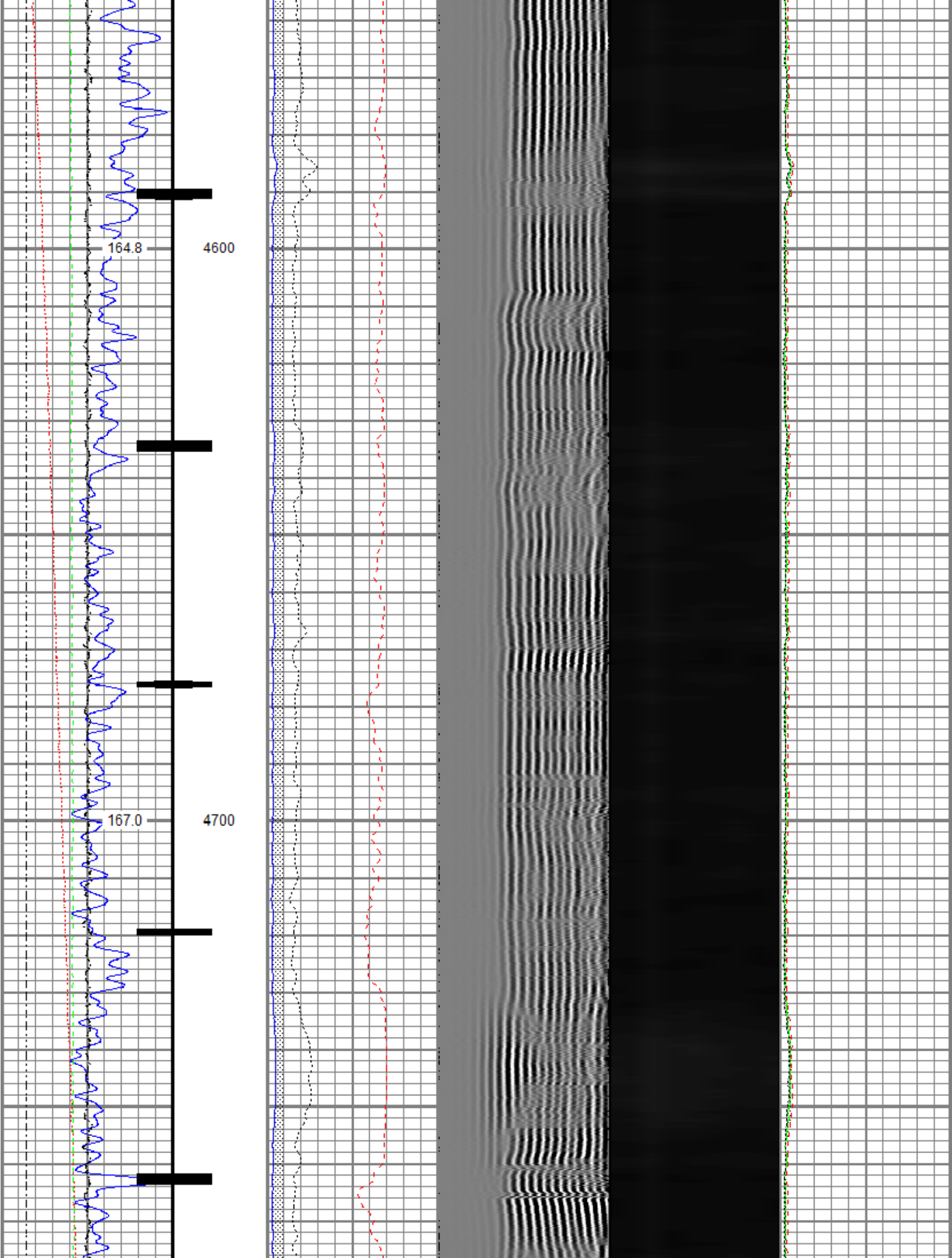


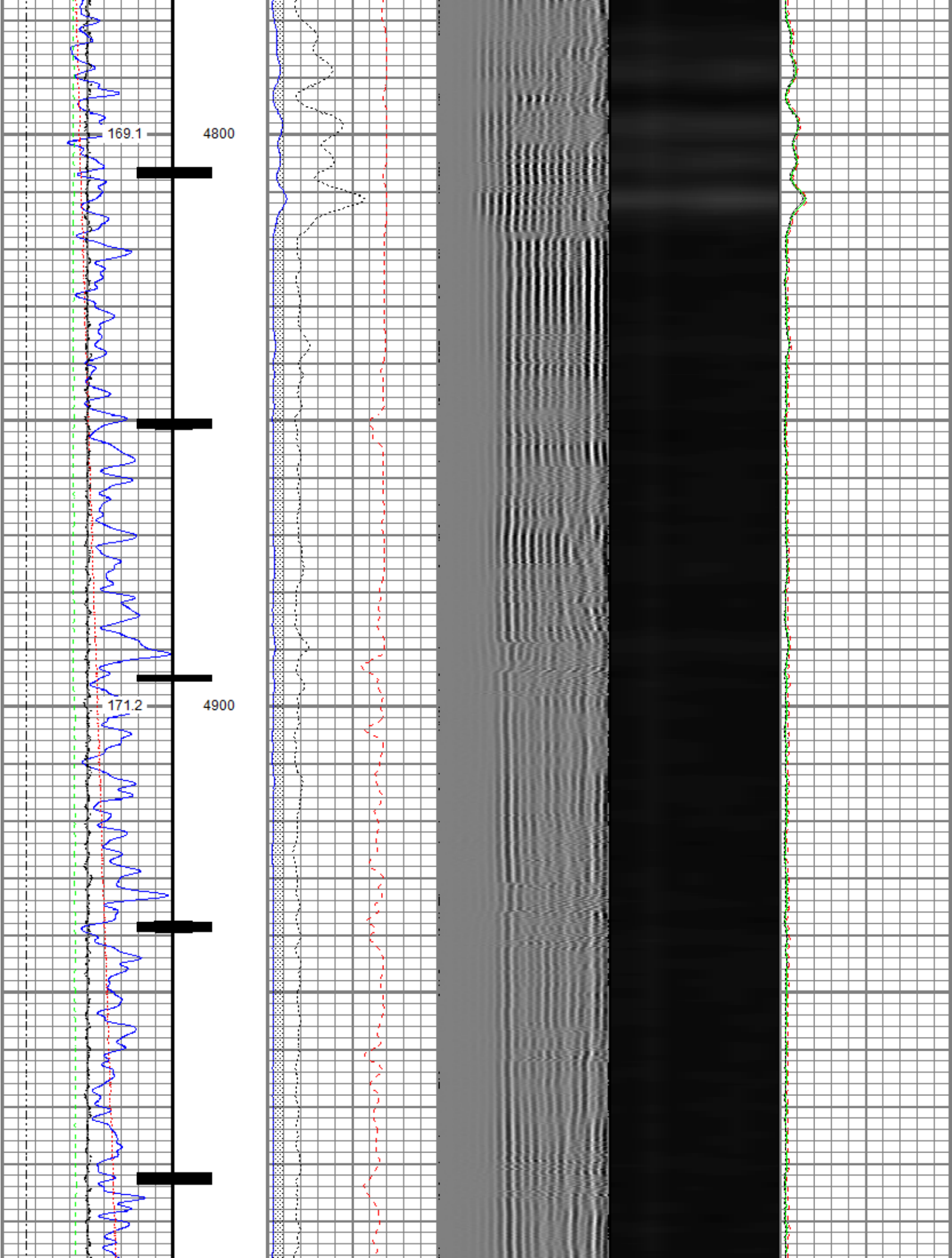


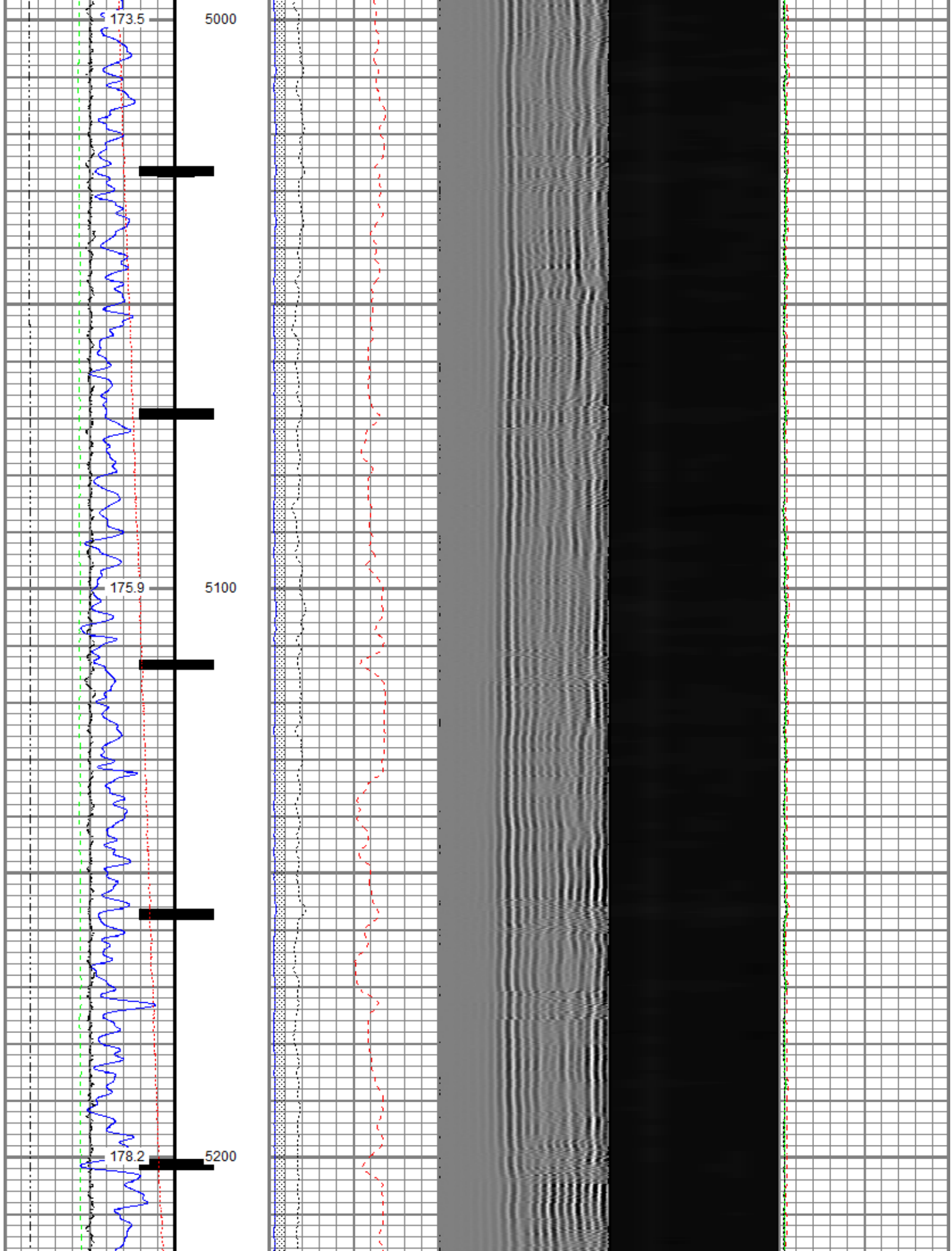


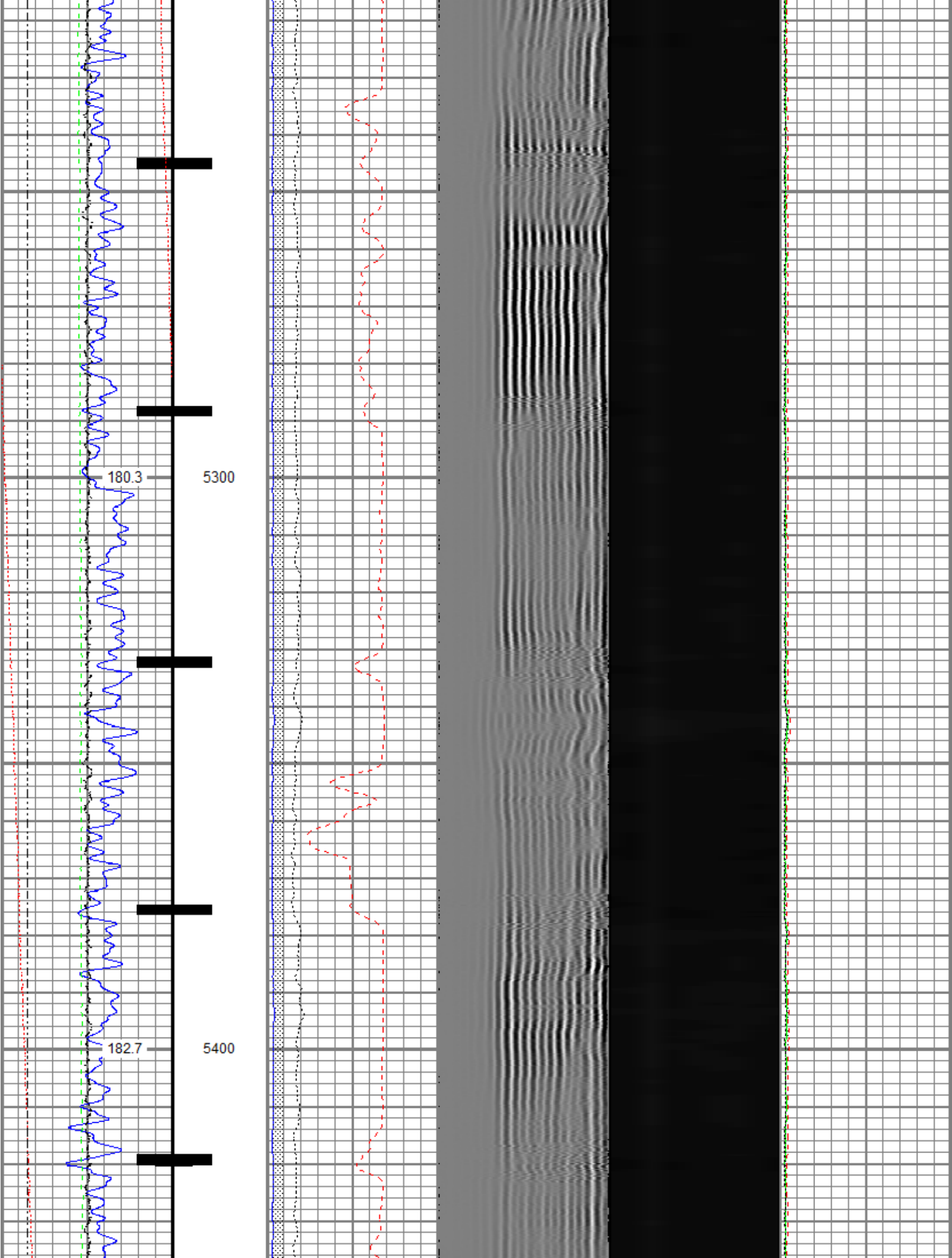


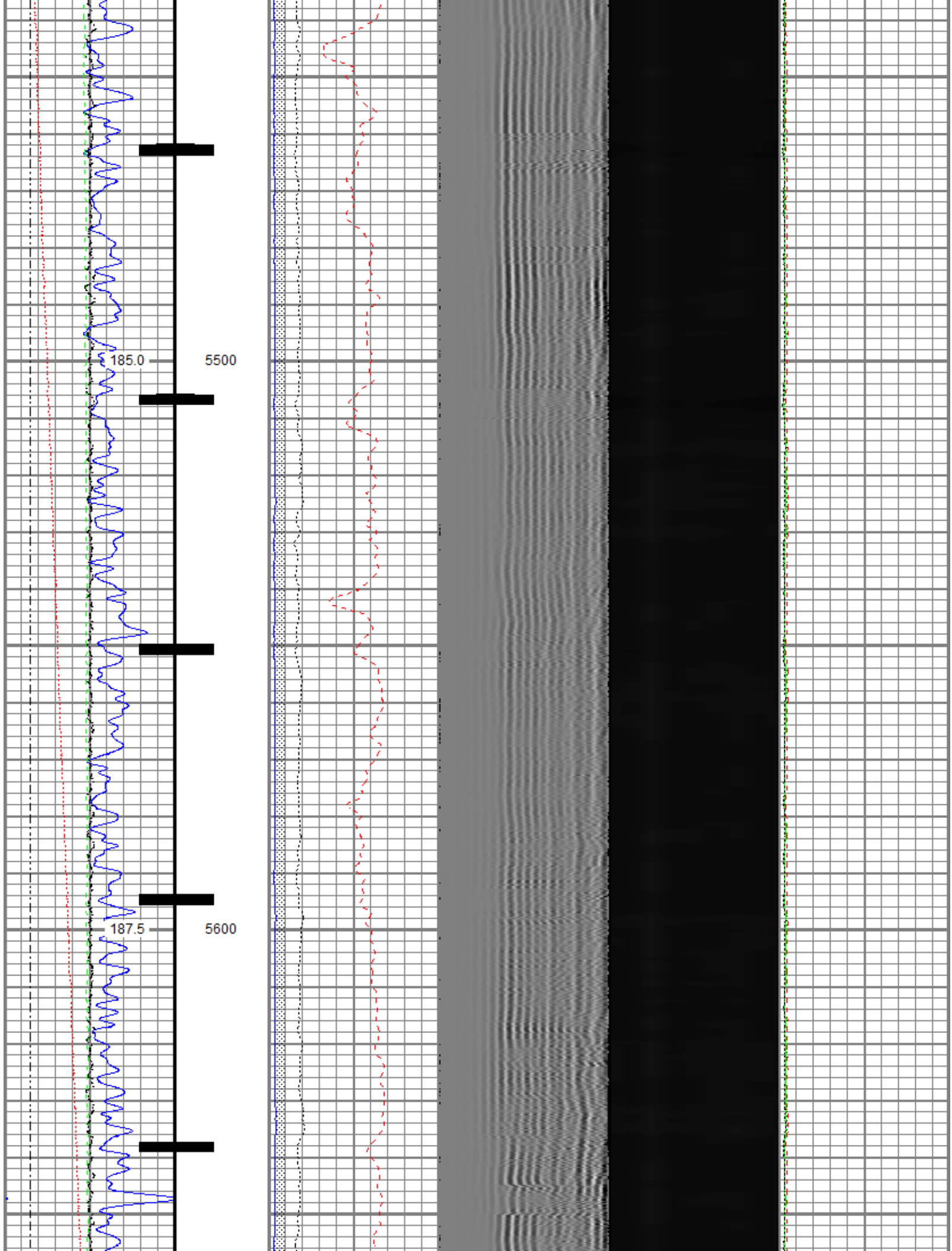


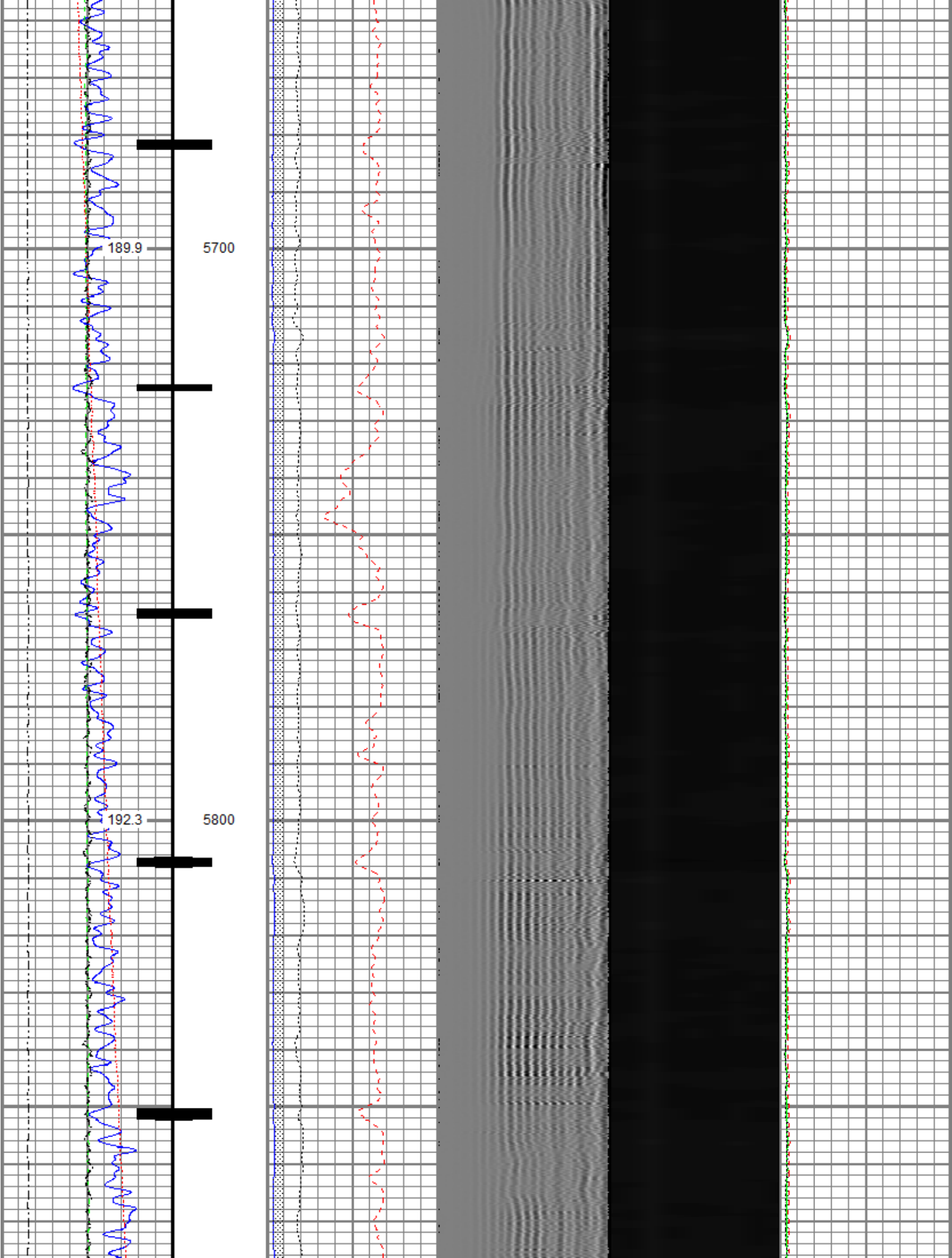


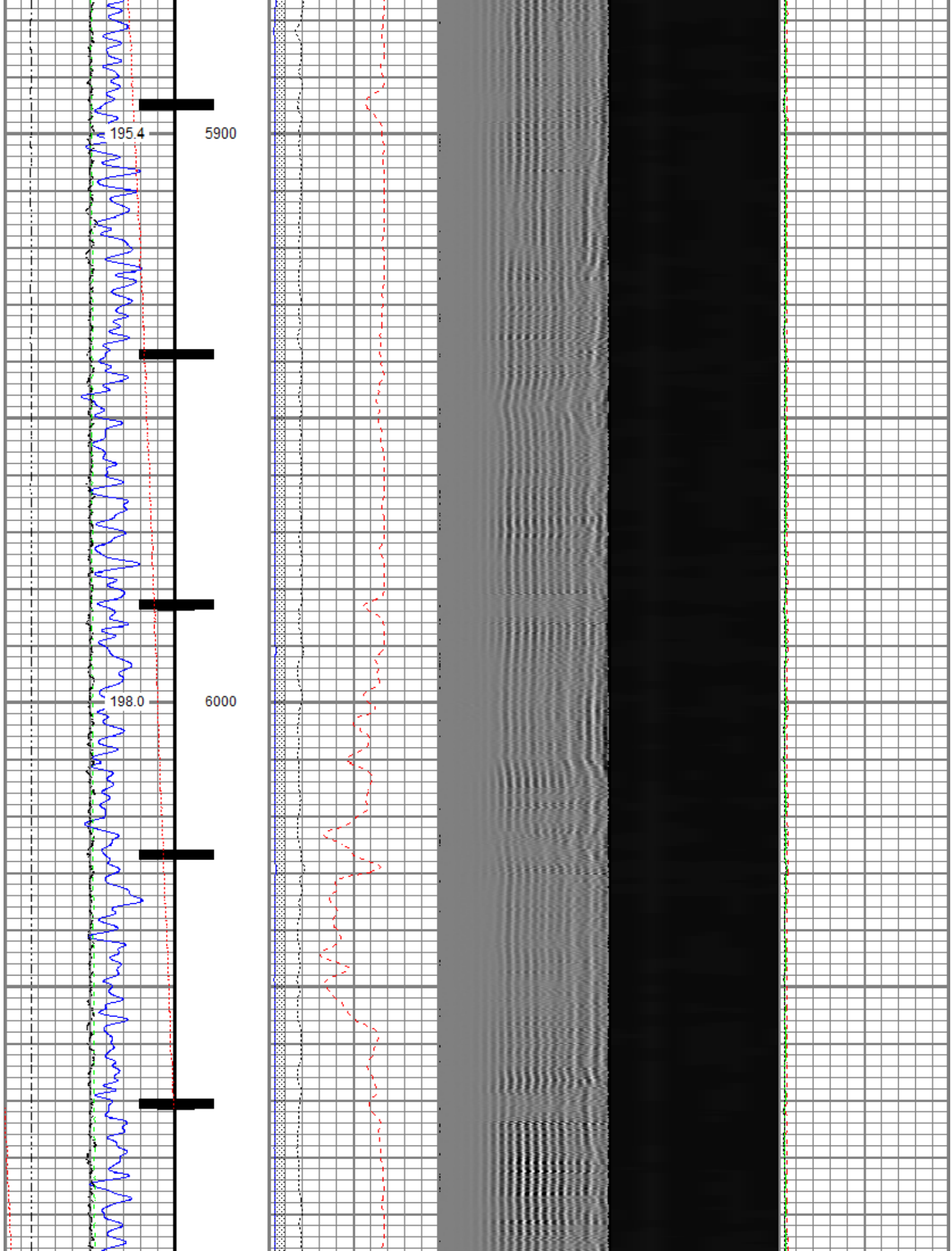


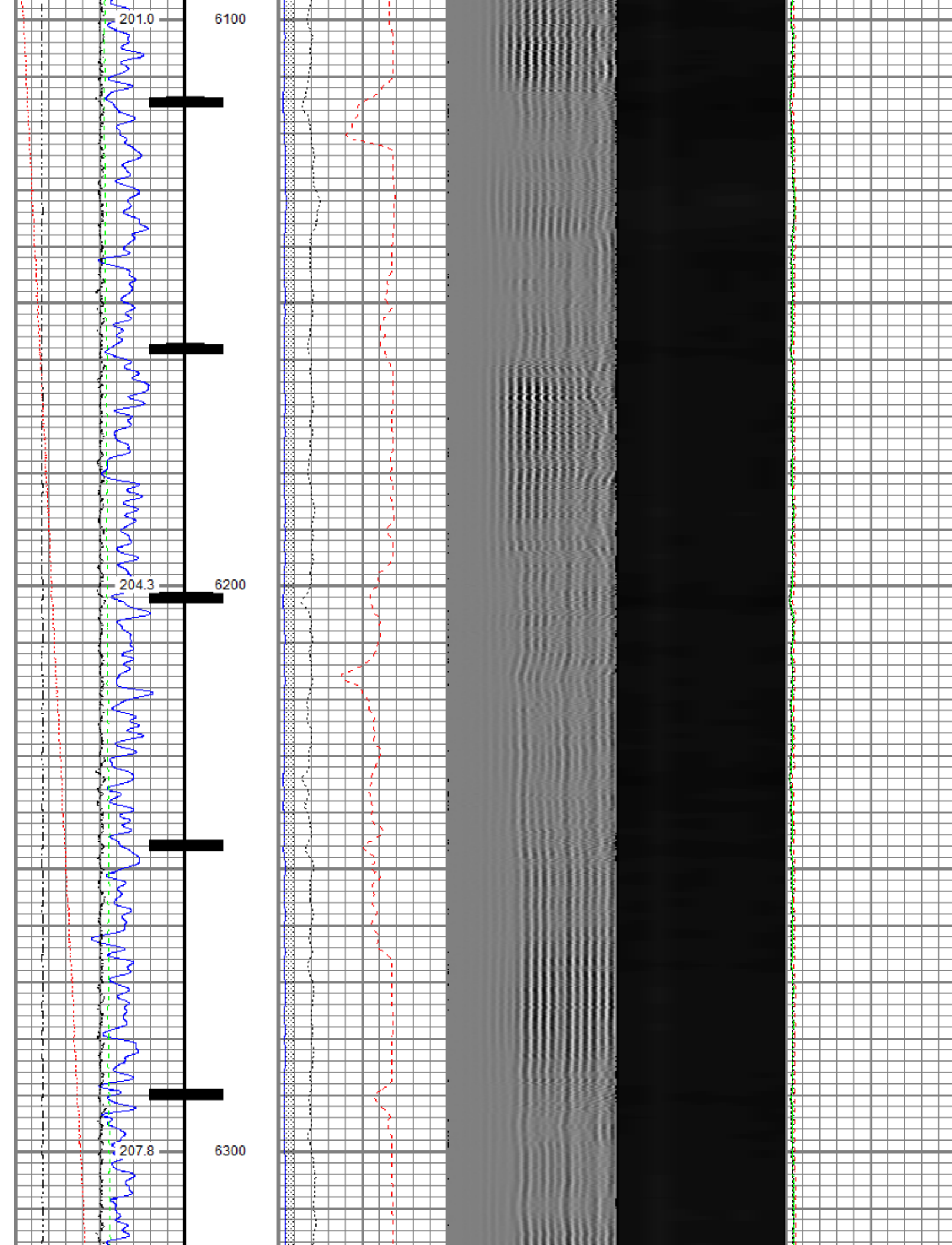


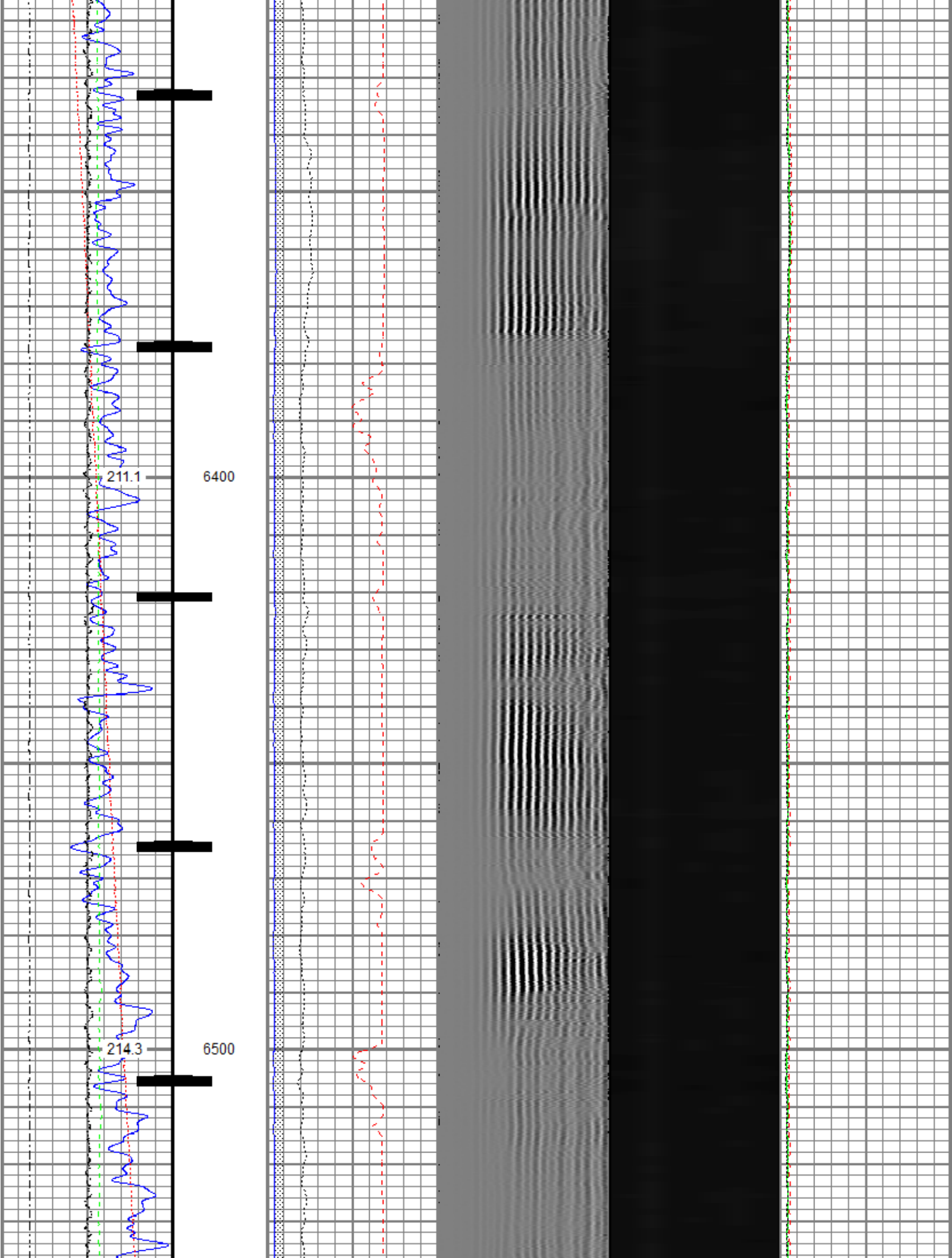


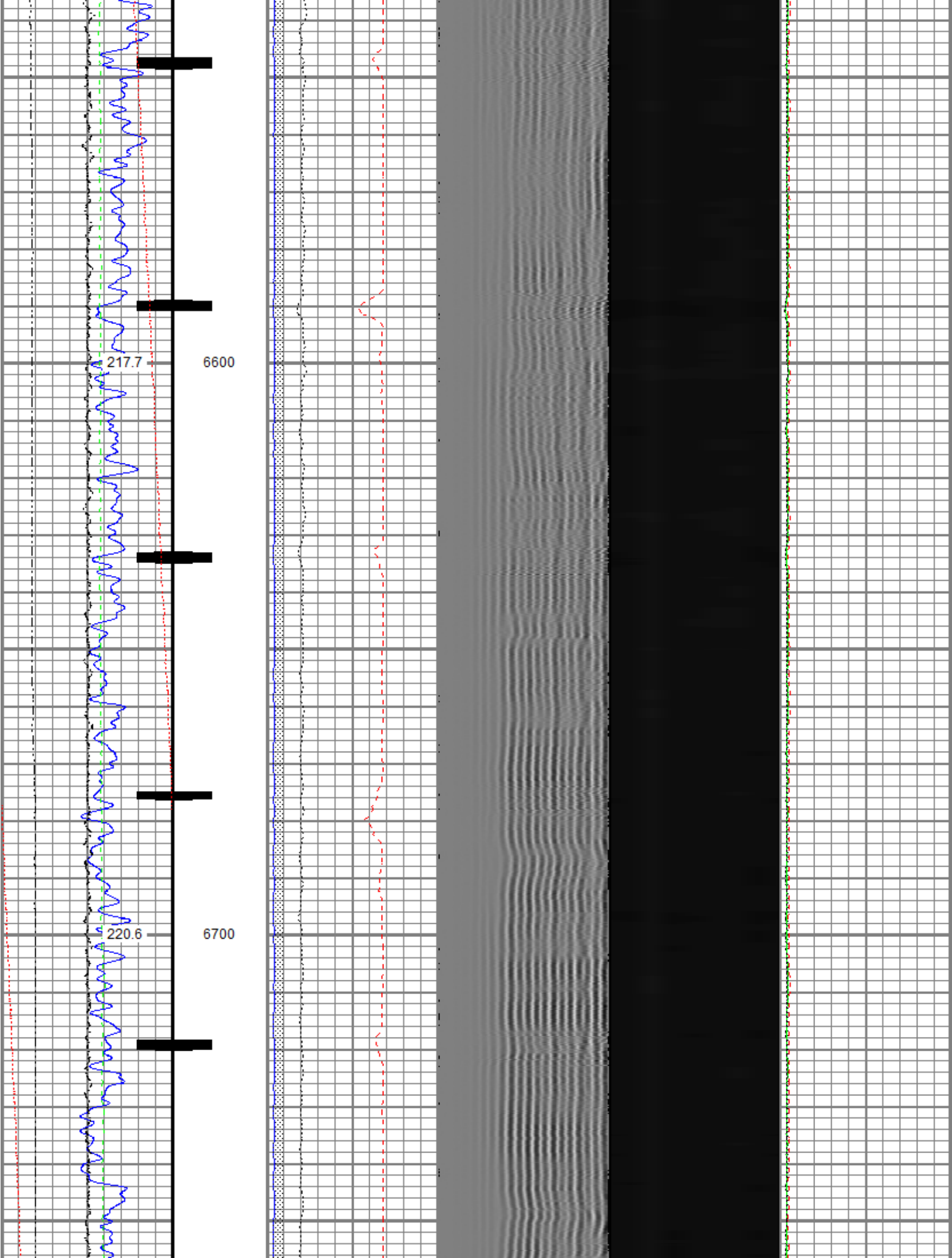


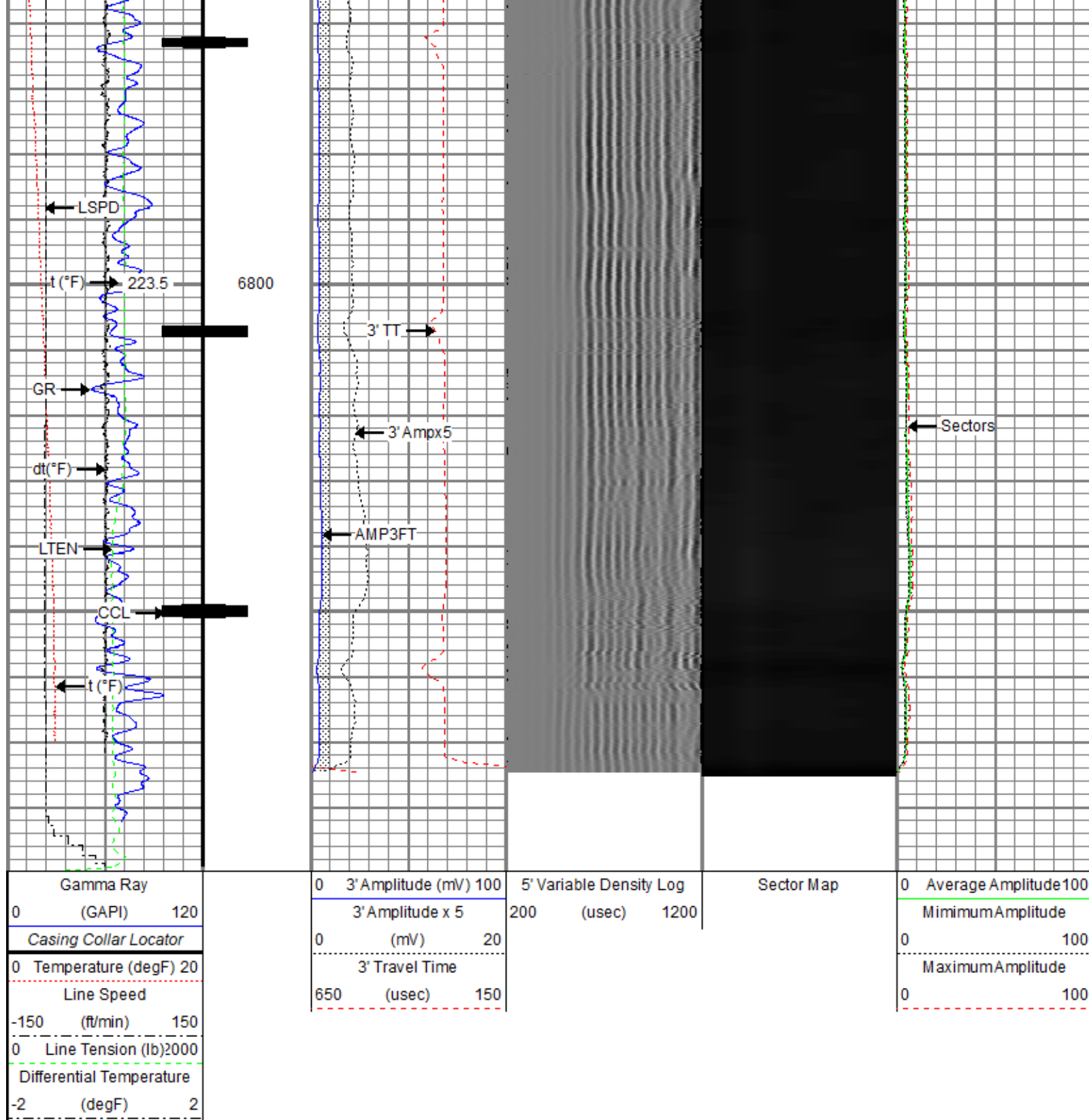








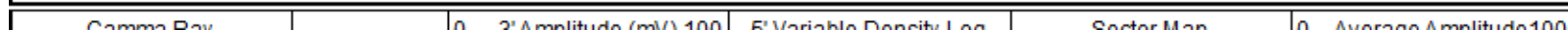




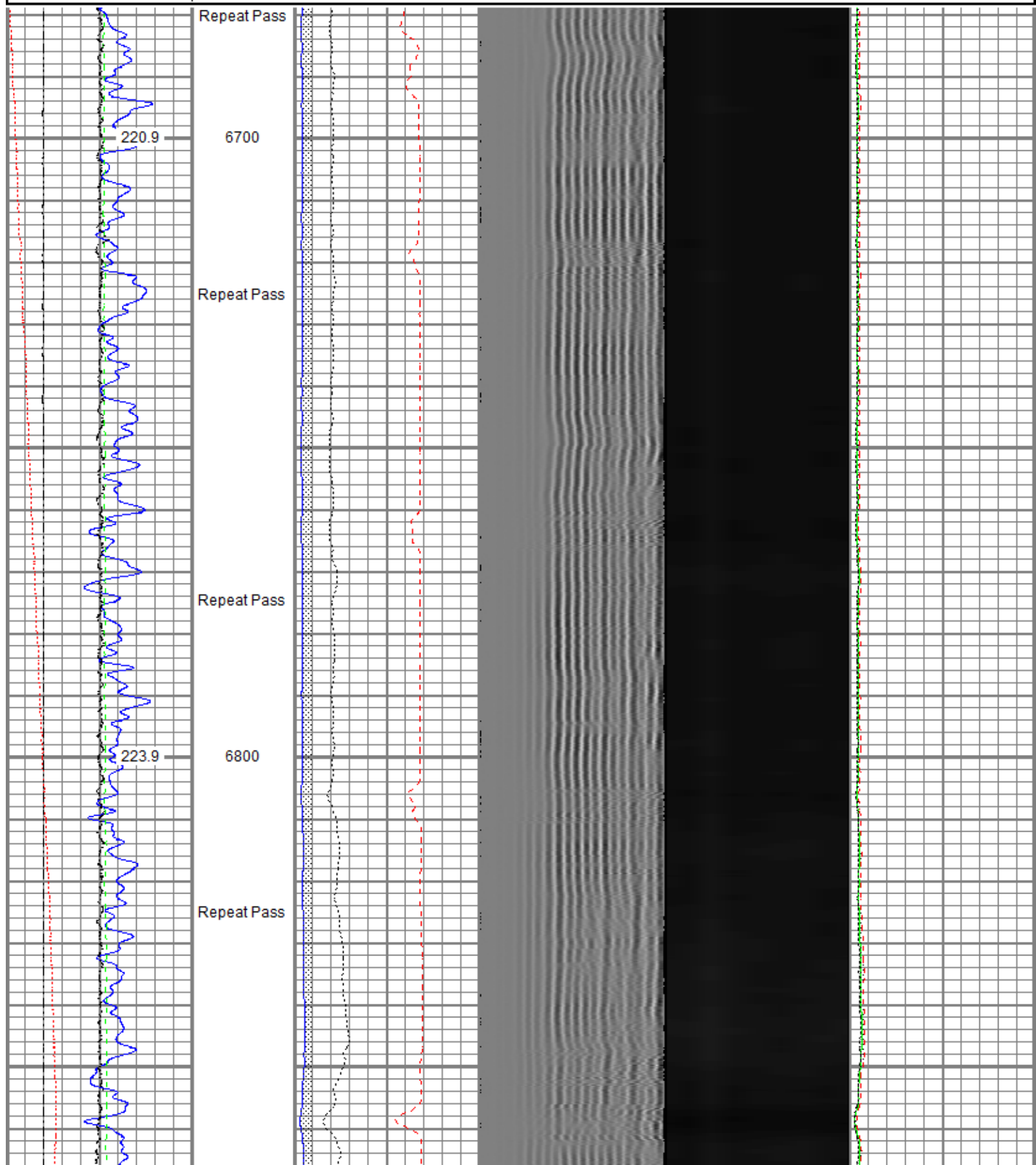
Repeat Pass

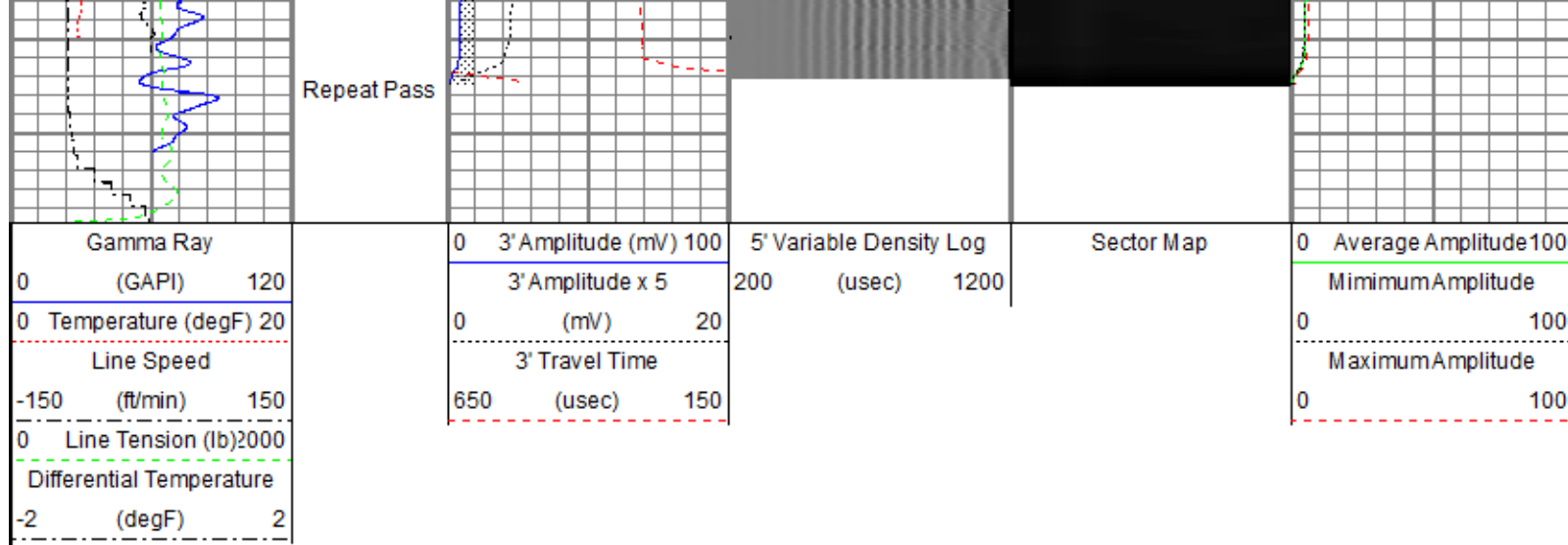
Recorded With 2800 PSI Surface Induced Pressure

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 Dataset Creation: Thu Mar 08 10:53:49 2018
 Charted by: Depth in Feet scaled 1:240

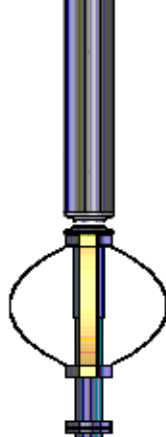


Gamma Ray			3' Amplitude (mV) 100			3' Variable Density Log			Sector Map			Average Amplitude 100					
0	(GAPI)	120	3' Amplitude x 5			200	(usec)	1200				MinimumAmplitude					
0	Temperature (degF)	20	0 (mV) 20									0 100					
Line Speed			3' Travel Time									MaximumAmplitude					
-150	(ft/min)	150	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
			Probe Radii-2750 RBT (FW1308-091) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
TEMP	18.23					
WVFS8	16.00					
WVFS7	16.00					
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) Probe 2-3/4" Digital Six Magnet Logging CCL	2.66	2.75	35.00
CCL\$1	7.38					

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
Dataset: 0512344205_anadarko_leinweber fed 4c-8hz_rbl_03-07-18.db: field/well/run1/pass4.1 Total length: 25.06 ft Total weight: 258.60 lb O.D.: 2.75 in						

Calibration Report	
Database File	c:\programdata\warrior\data\anadarko\leinweber fed 4c-8hz\0512344205_anadarko_leinweber fed 4c-8hz_rbl_03-07-18.db
Dataset Pathname	pass4.1
Dataset Creation	Wed Mar 07 14:13:12 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:	69.045	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.624	0.800	71.921	114.035	0.726
CAL	0.722	0.723				
5'	0.000	0.589	0.800	71.921	120.815	0.776
SUM						
S1	0.001	0.613	0.000	100.000	163.360	-0.090
S2	0.000	0.617	0.000	100.000	162.277	-0.081
S3	-0.009	0.658	0.000	100.000	149.969	1.285
S4	0.001	0.703	0.000	100.000	142.404	-0.078
S5	0.001	0.748	0.000	100.000	133.834	-0.087
S6	0.001	0.701	0.000	100.000	142.708	-0.085
S7	0.001	0.627	0.000	100.000	159.561	-0.095
S8	0.001	0.617	0.000	100.000	162.153	-0.089

Internal Reference Calibration, performed (Not Performed):						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.722	0.723	1.000	0.000

Air Zero Calibration, performed Wed Mar 07 12:33:30 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	Leinweber Fed 4C-8HZ
Field	Wattenberg
County	Weld
State	Colorado