



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

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

Well JDB 15-4HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-49223

SEC 15 TWP 1N RGE 66W

Permanent Datum Ground Level Elevation 5153'

Log Measured From Ground Level 0 FT

Drilling Measured From Kelly Bushing

Other Services  
JBGR  
RBP

Elevation  
K.B. 5170'  
D.F. ---  
G.L. 5153'

Company Kerr-McGee Oil & Gas Onshore, L.P.  
Well JDB 15-4HZ  
Field Wattenberg  
County Weld  
State Colorado

Date	31-JUL-2019
Run Number	Three
Depth Driller	14033 FT
Depth Logger	7456 FT
Bottom Logged Interval	7441 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	222°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	12:50
Equipment Number	HD-361
Location	Platteville, CO
Recorded By	G. Lueck
Witnessed By	J. McMillan
Borehole Record	
Run Number	Bit From To
Size (in)	Size Weight From To
Wgt (lbs/ft)	
Surface Casing	9 5/8 36 J-55 Surface 1923 FT
Intermediate #1	5 1/2 17 HCP-110 Surface 14023 FT
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 Casing Tally reported Marker Joint at 7377 FT  
Adjusted +5 FT to correlate with Marker Joint  
Gauge Ring/Junk Basket ran to 8347 FT  
Retrievable Bridge Plug set at 7477 FT  
Log ran with 0 PSI Surface Induced Pressure  
Logging tools were clean and free of debris upon completion of operations  
  
Thank you for choosing Reliance Oilfield Services, LLC!!

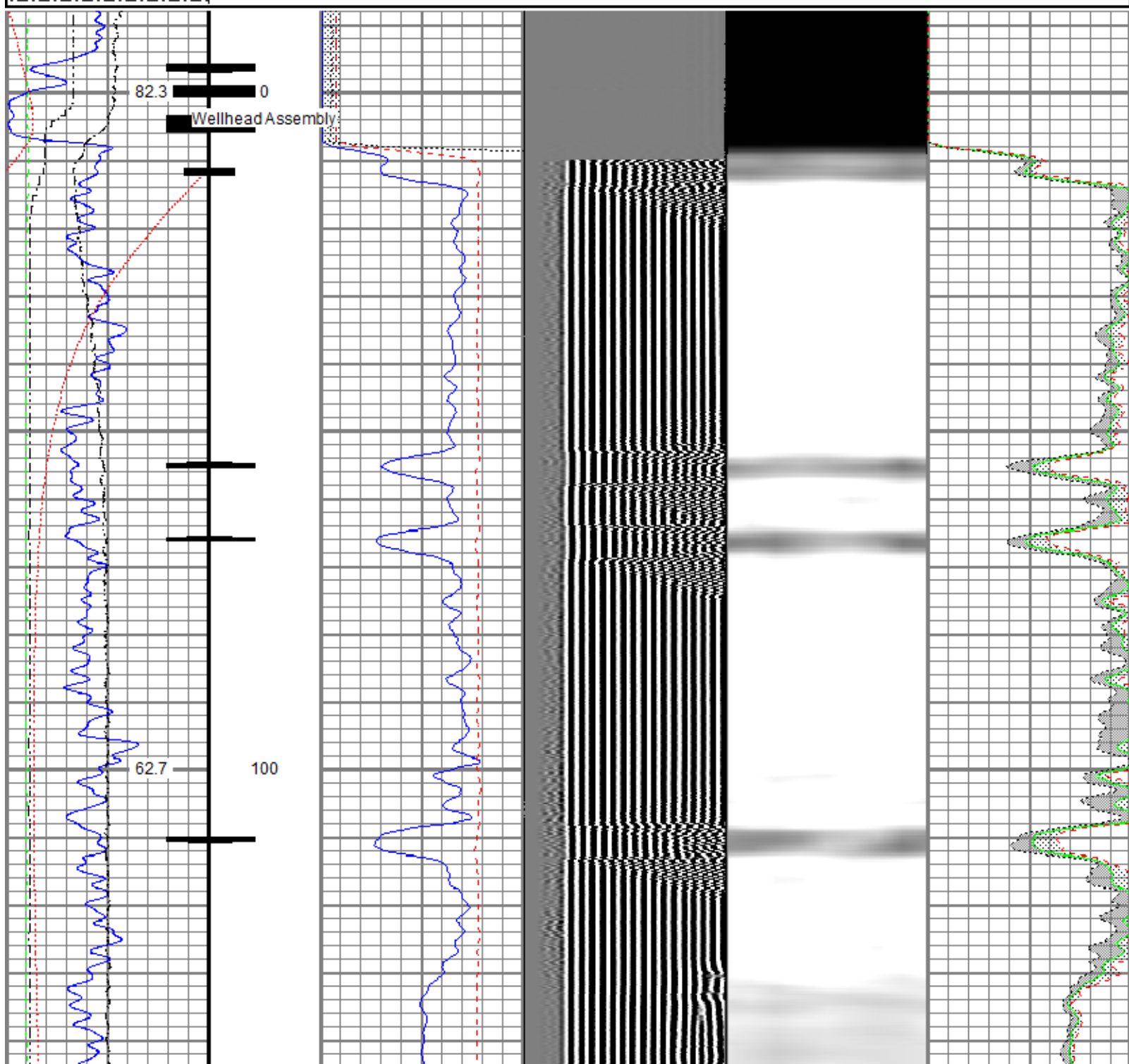
Main Pass

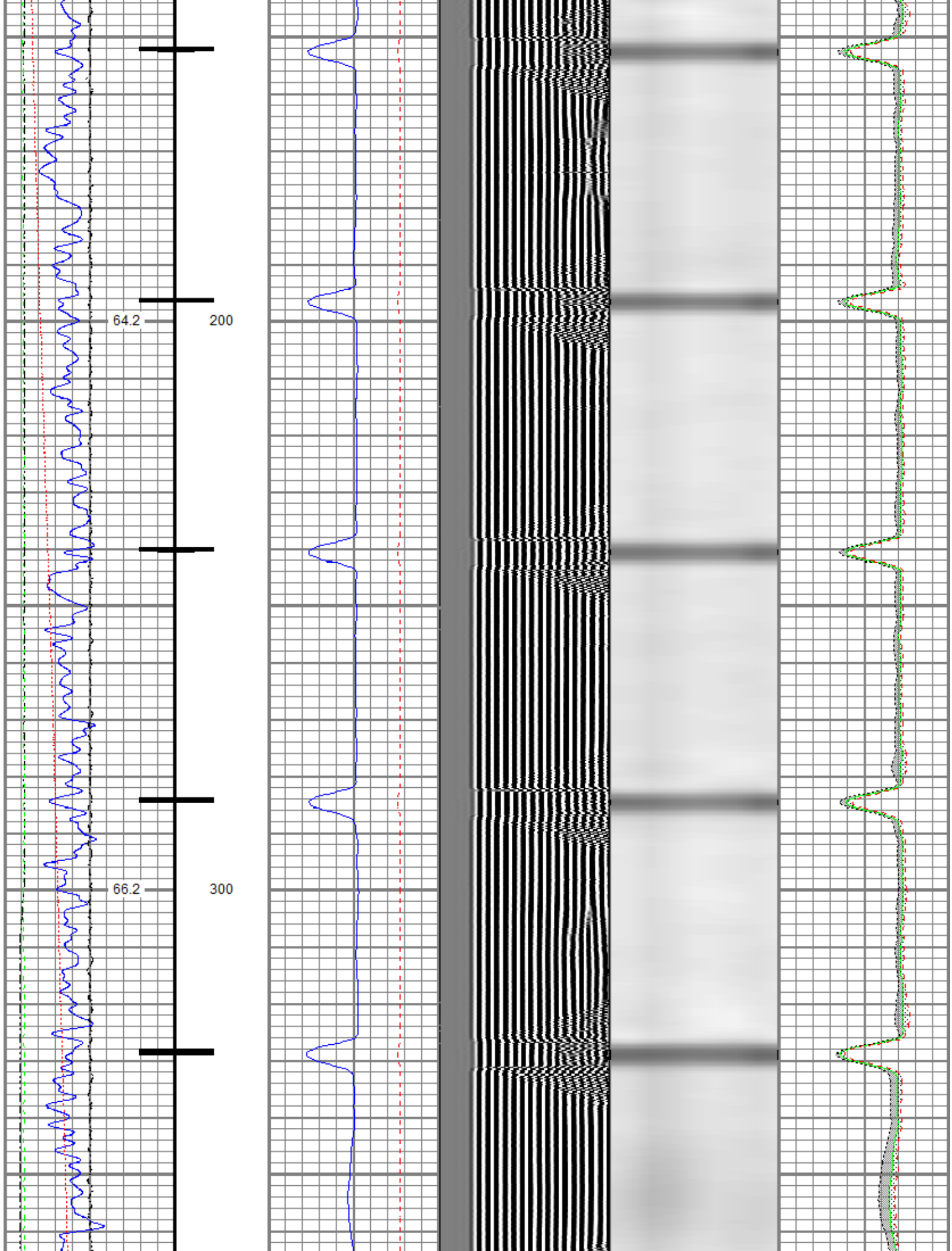


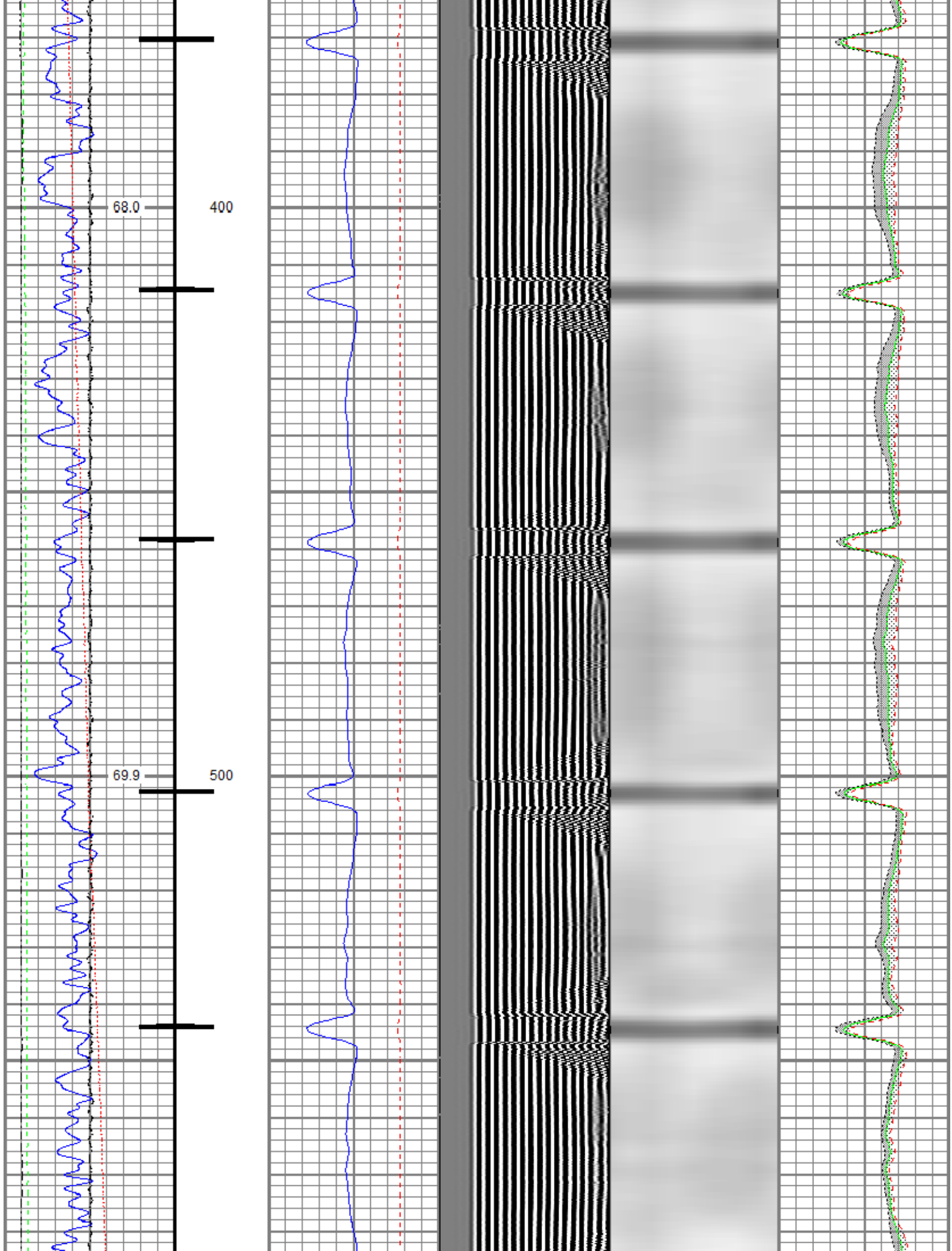
Recorded With 0 PSI Surface Induced Pressure

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Presentation Format	ros_radri
Dataset Creation	Thu Aug 01 13:23:15 2019
Charted by	Depth in Feet scaled 1:240

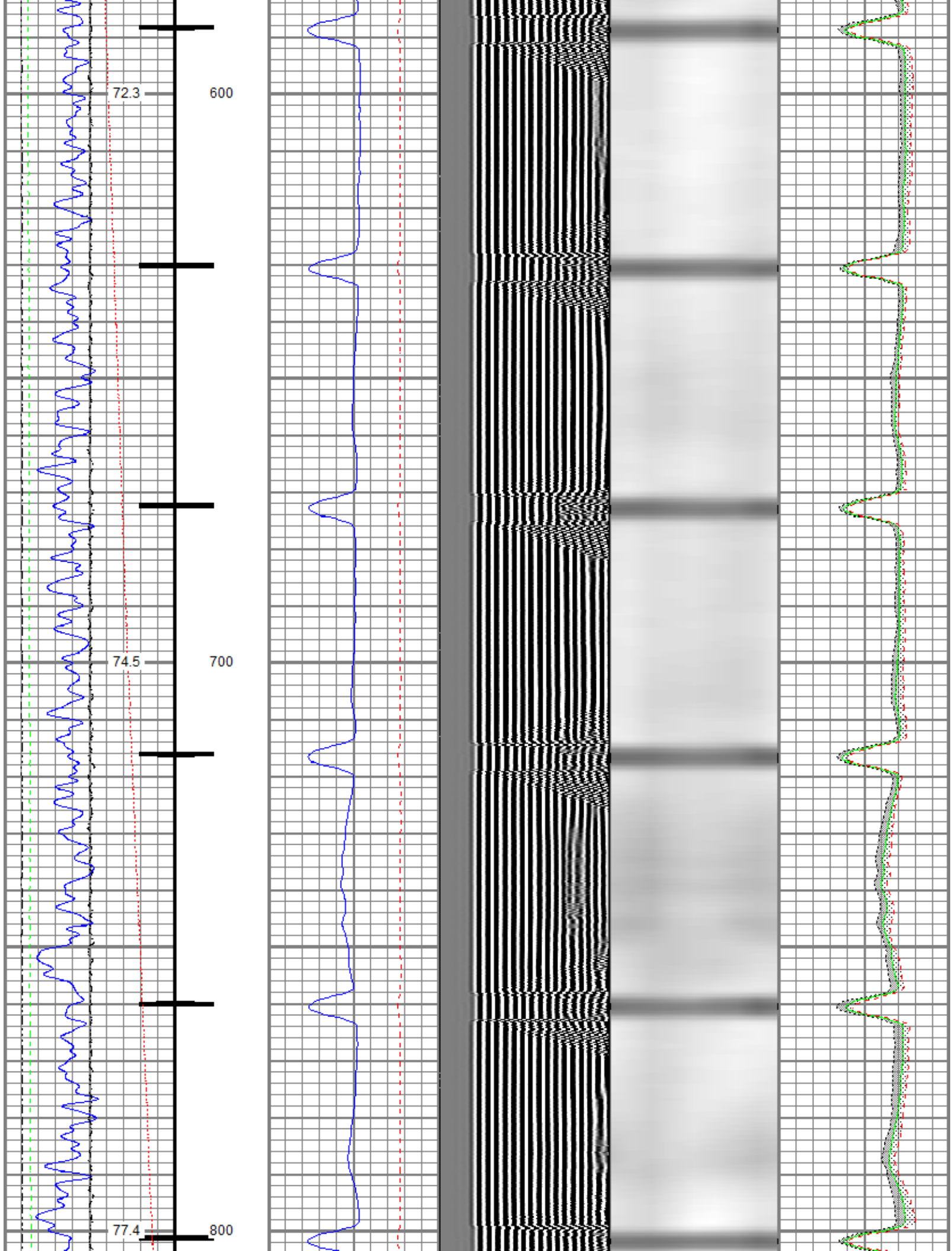
Gamma Ray	0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	0	Average Amplitude	100
(GAPI)	120	3' Amplitude x 5	200	(u sec)			Minimum Amplitude	
Casing Collar Locator		(mV)	20					
0 Temperature (degF)	20	3' Travel Time					Maximum Amplitude	
Line Speed		650 (u sec)	150					
-150 (ft/min)	150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

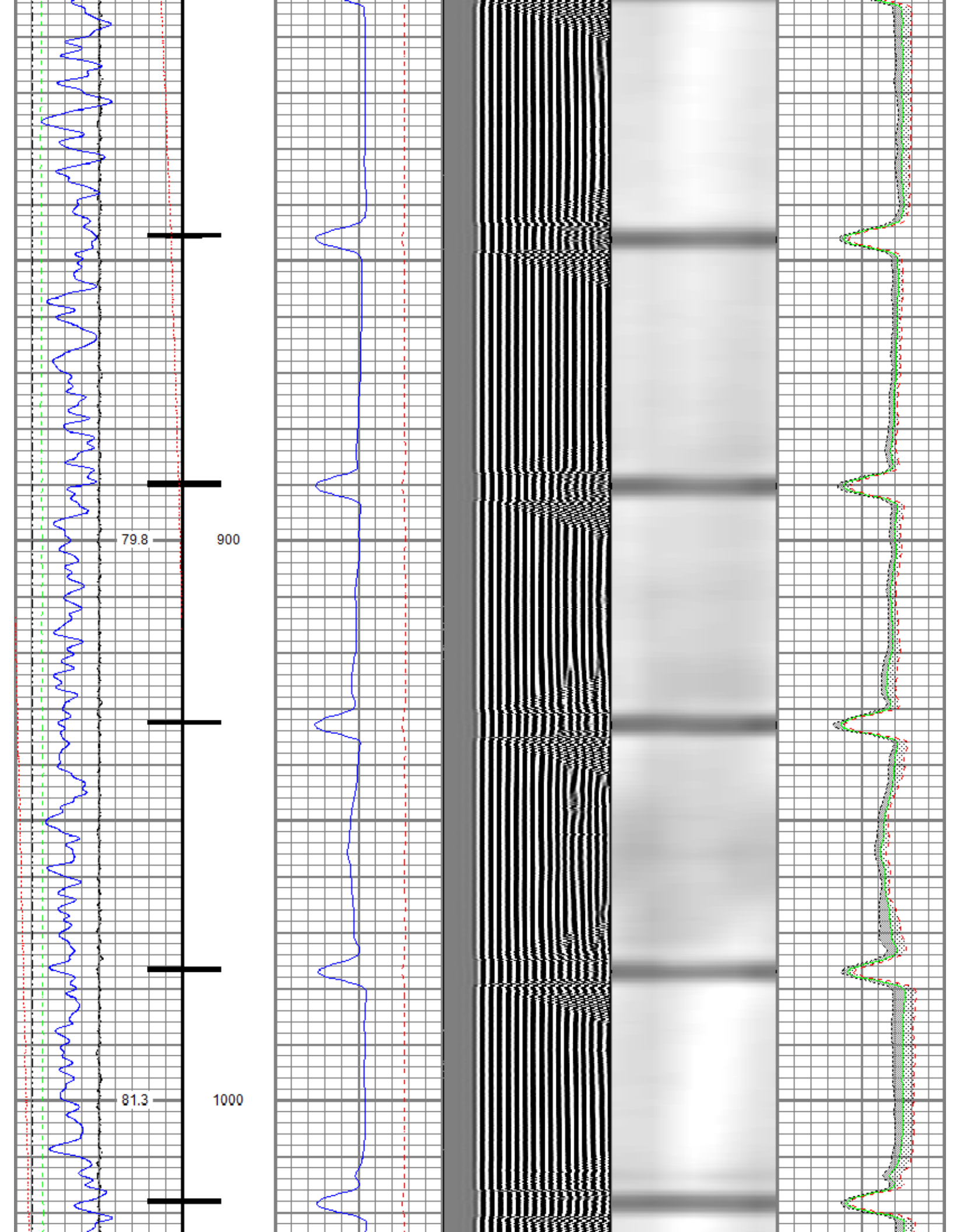


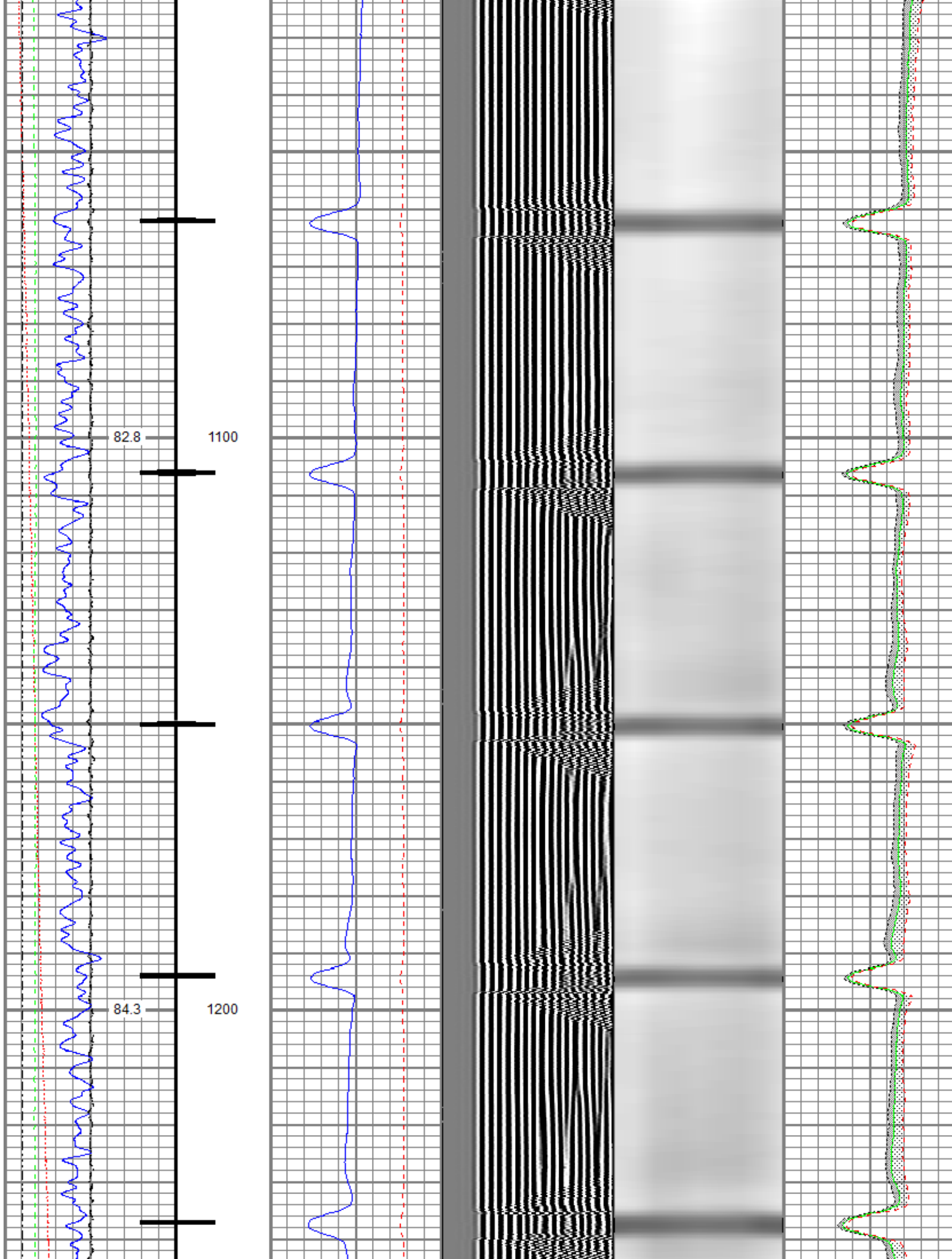


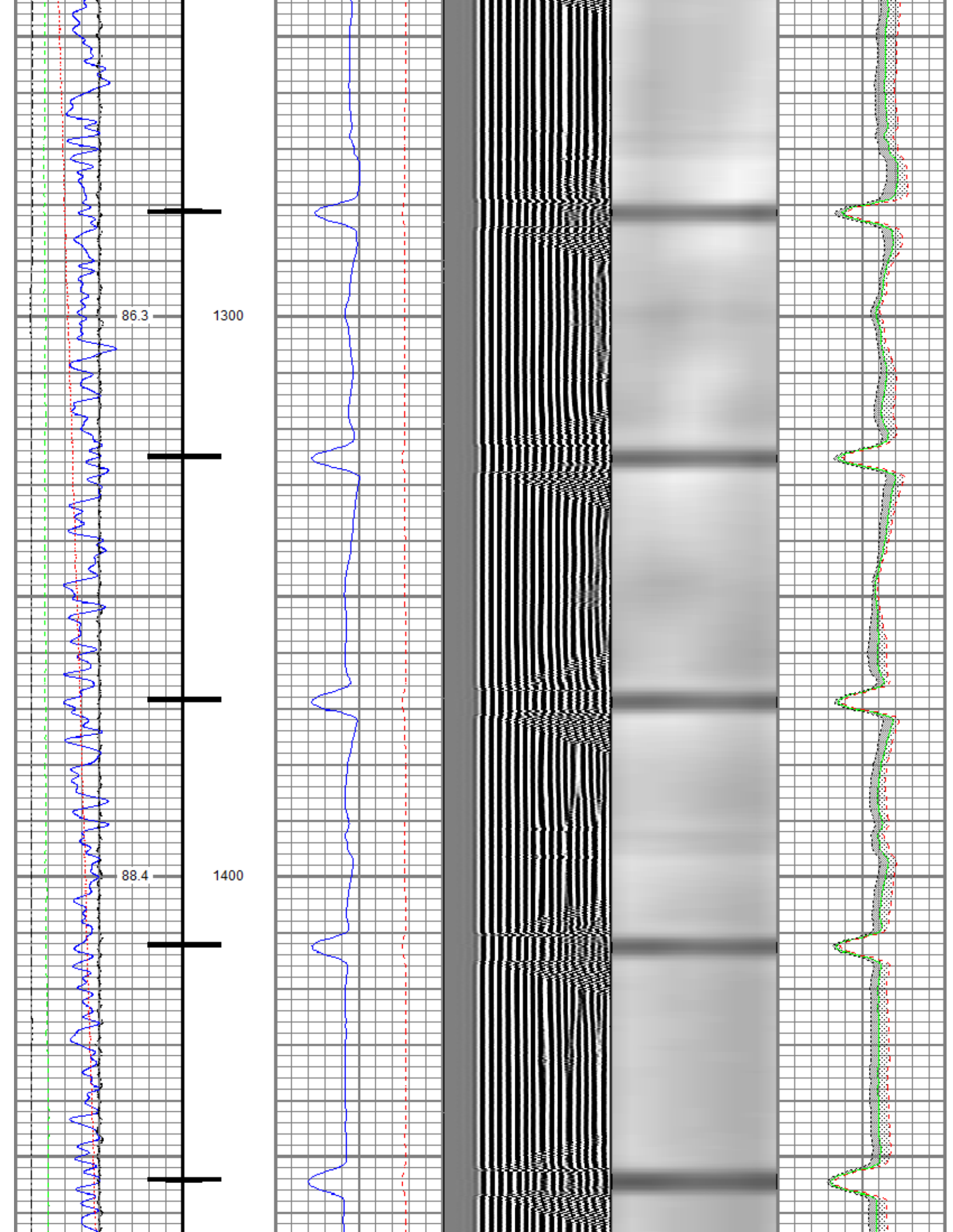




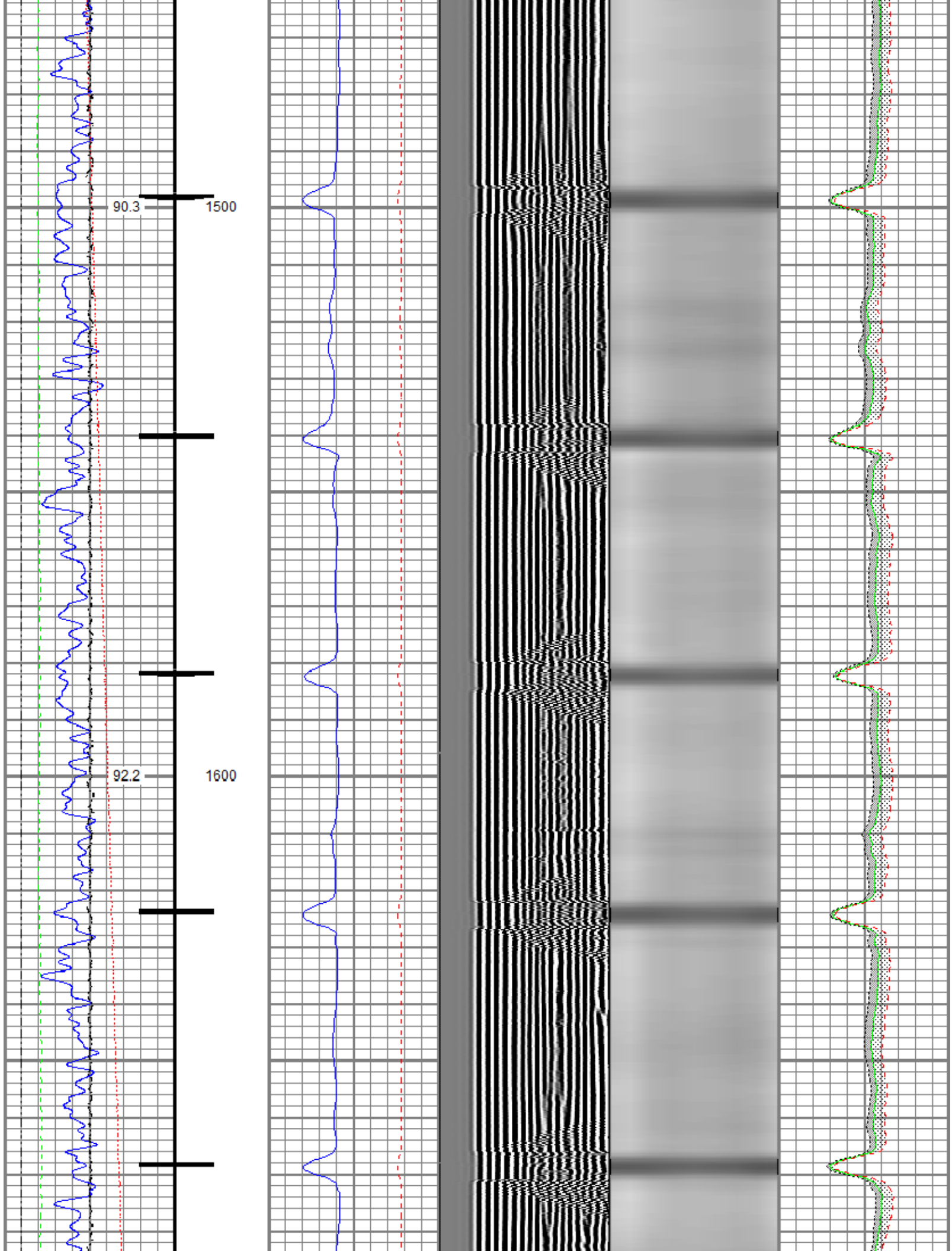


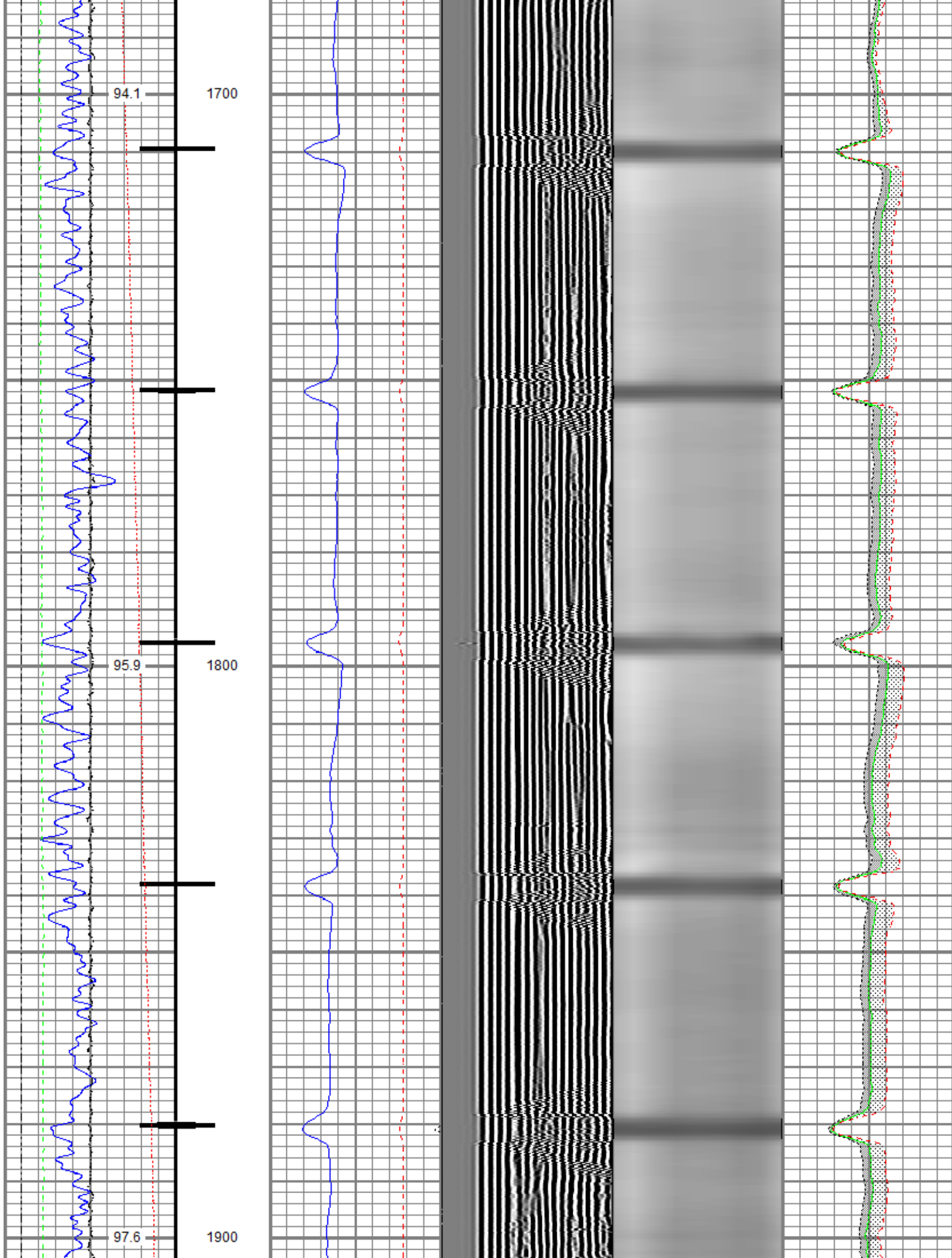


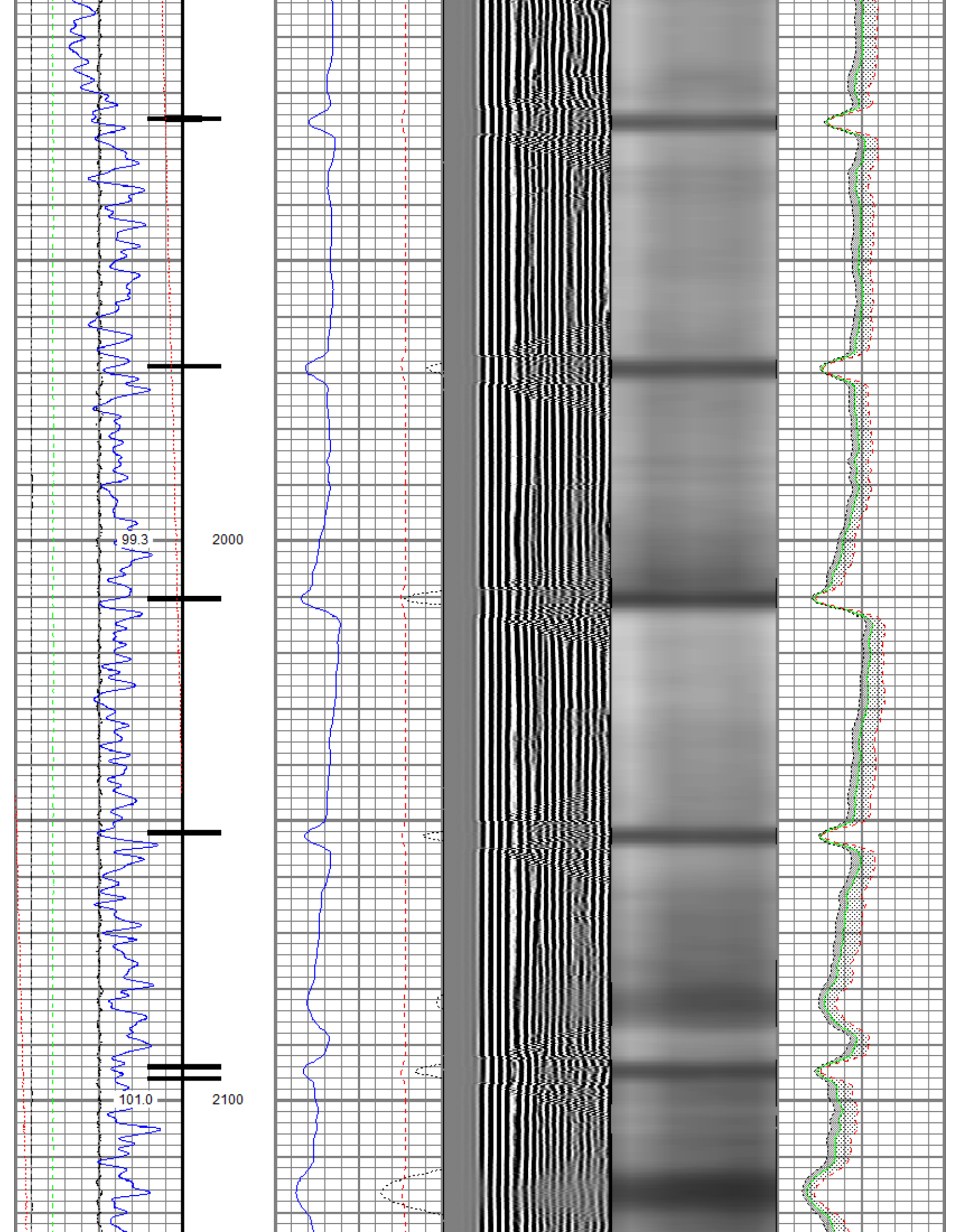




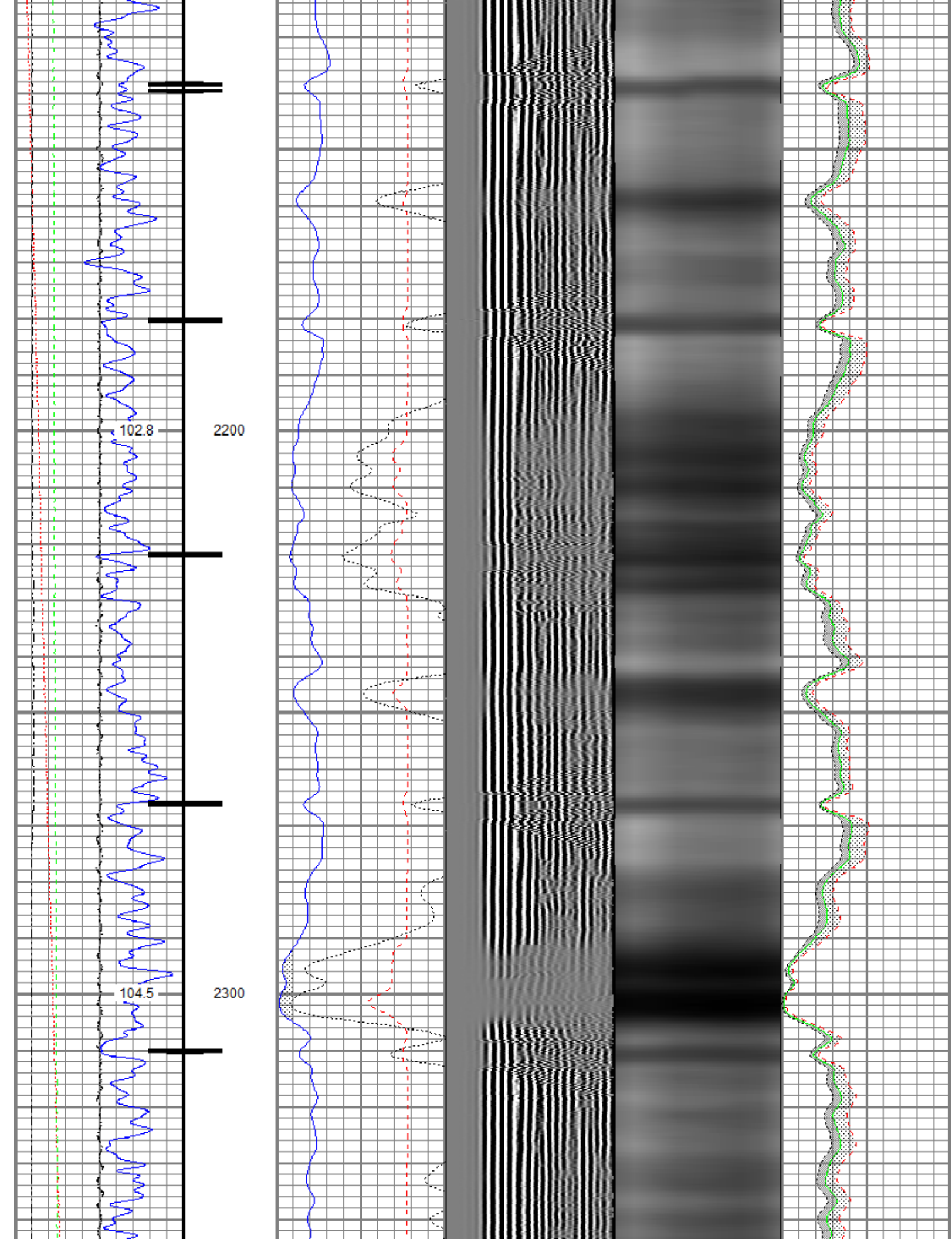




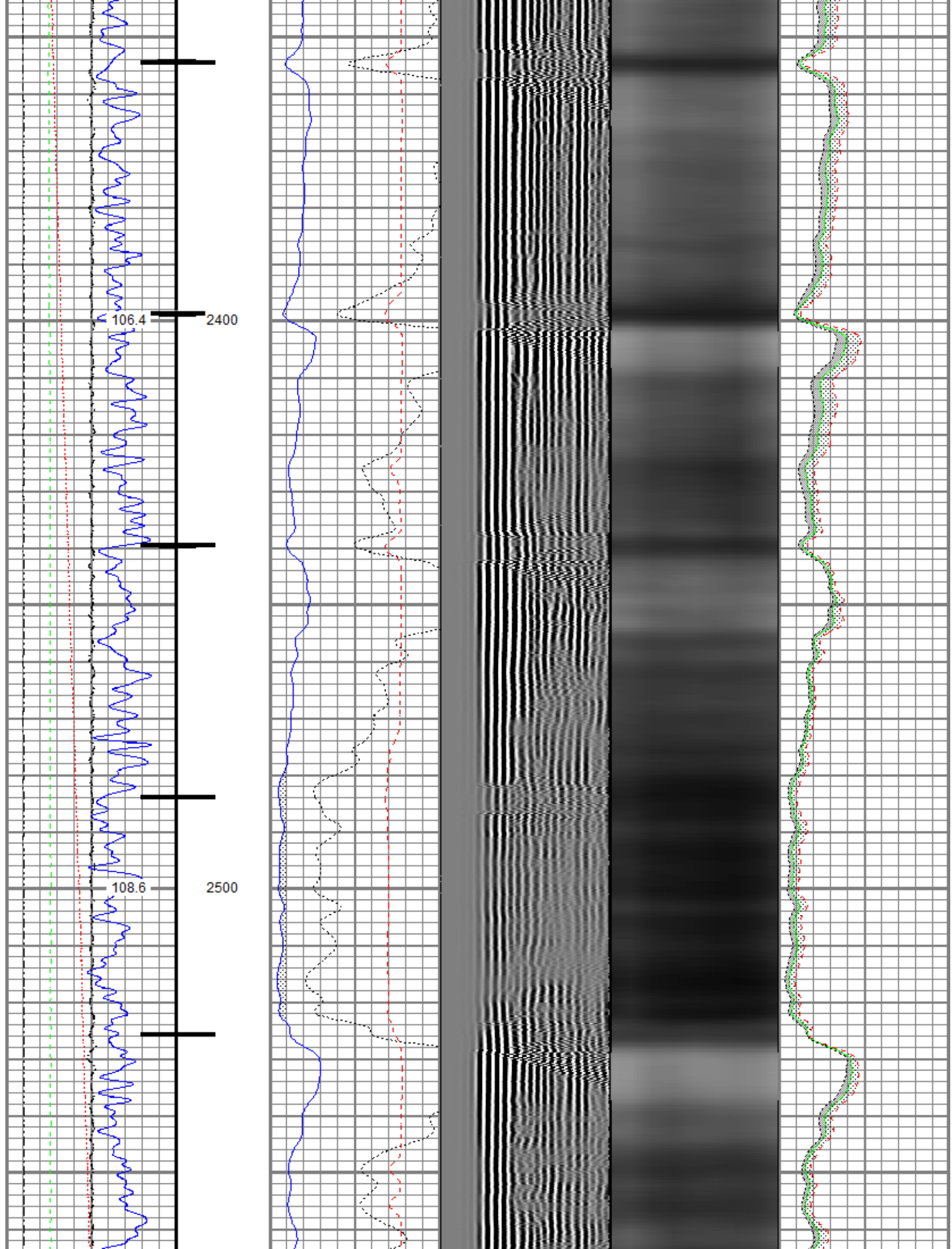


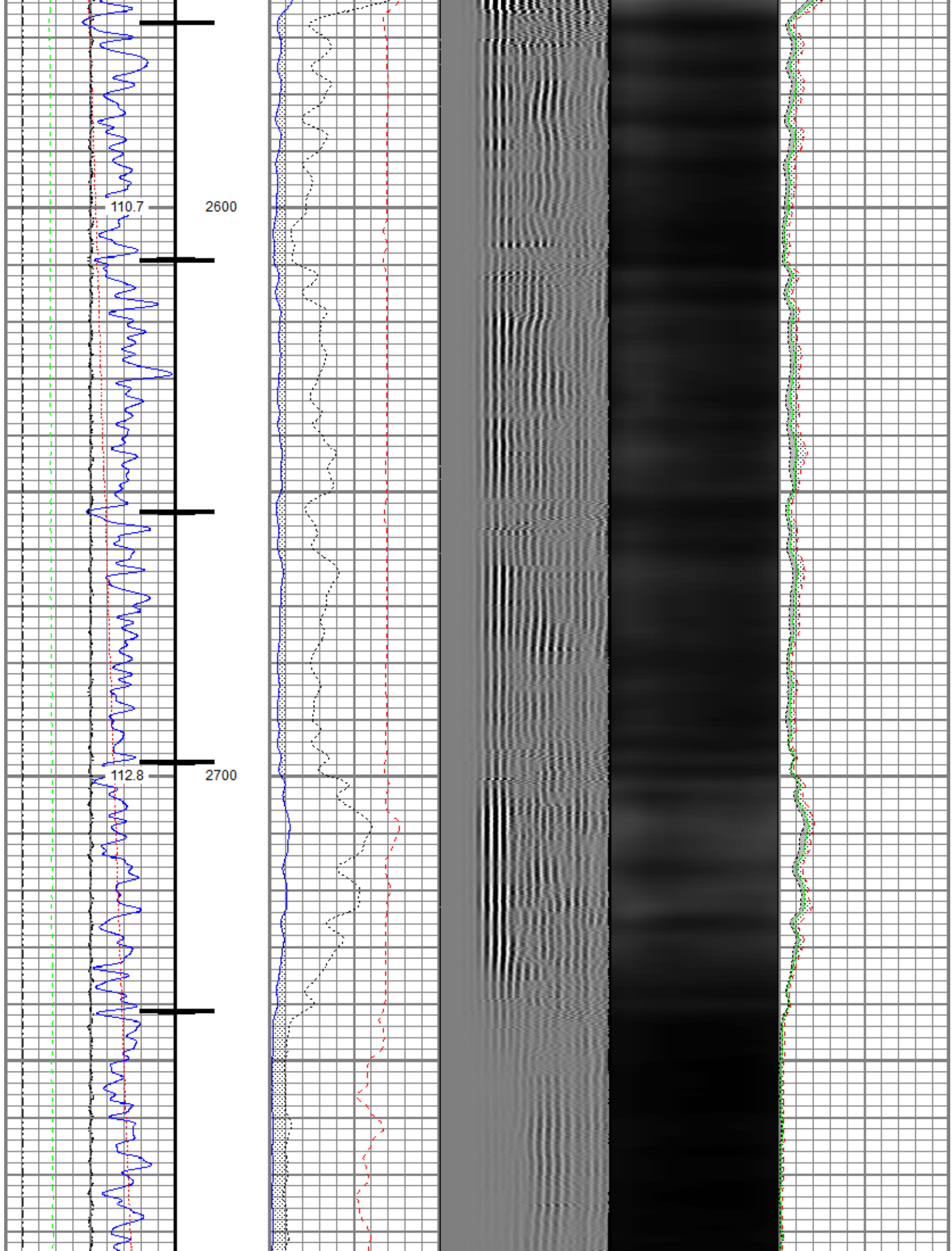


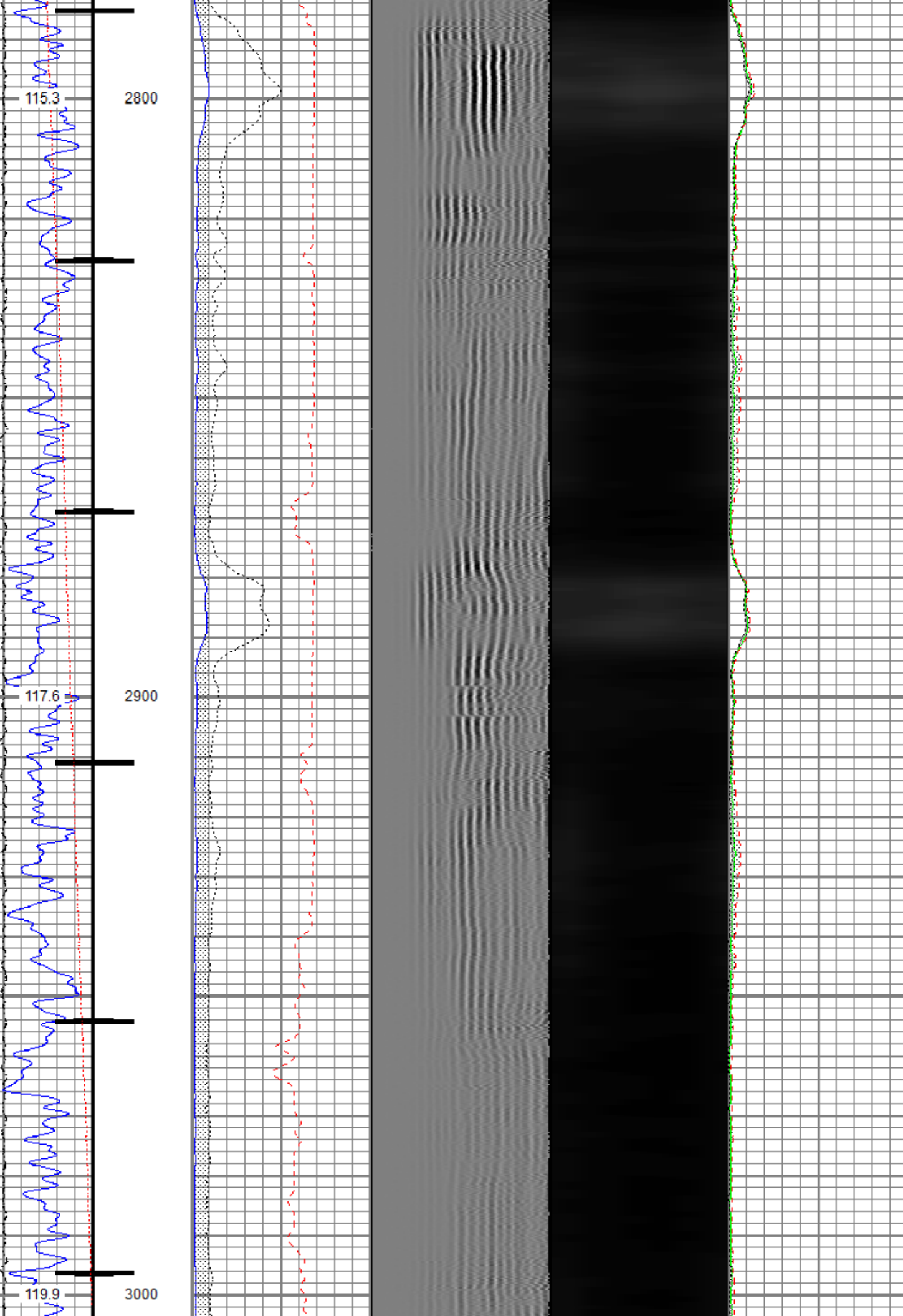


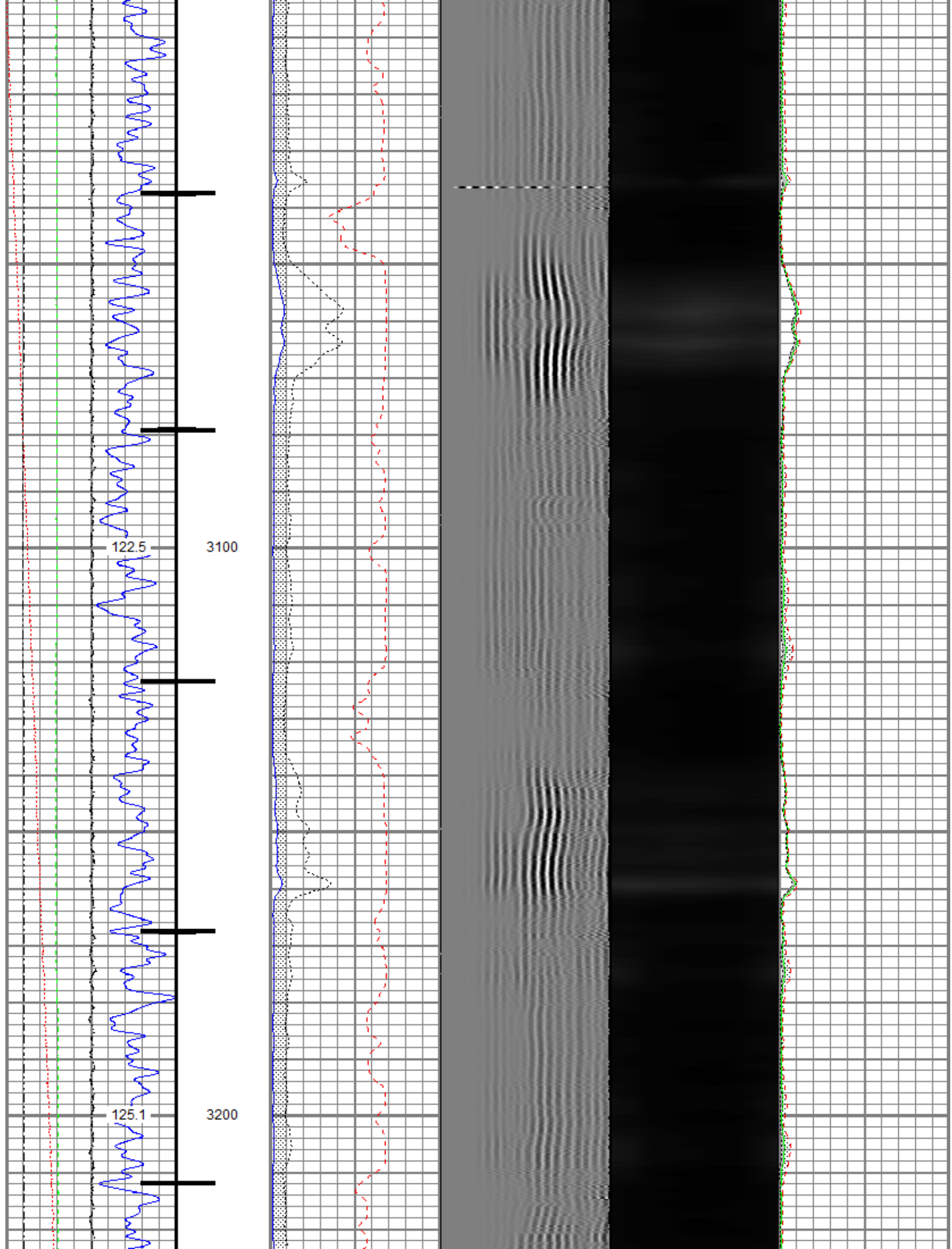




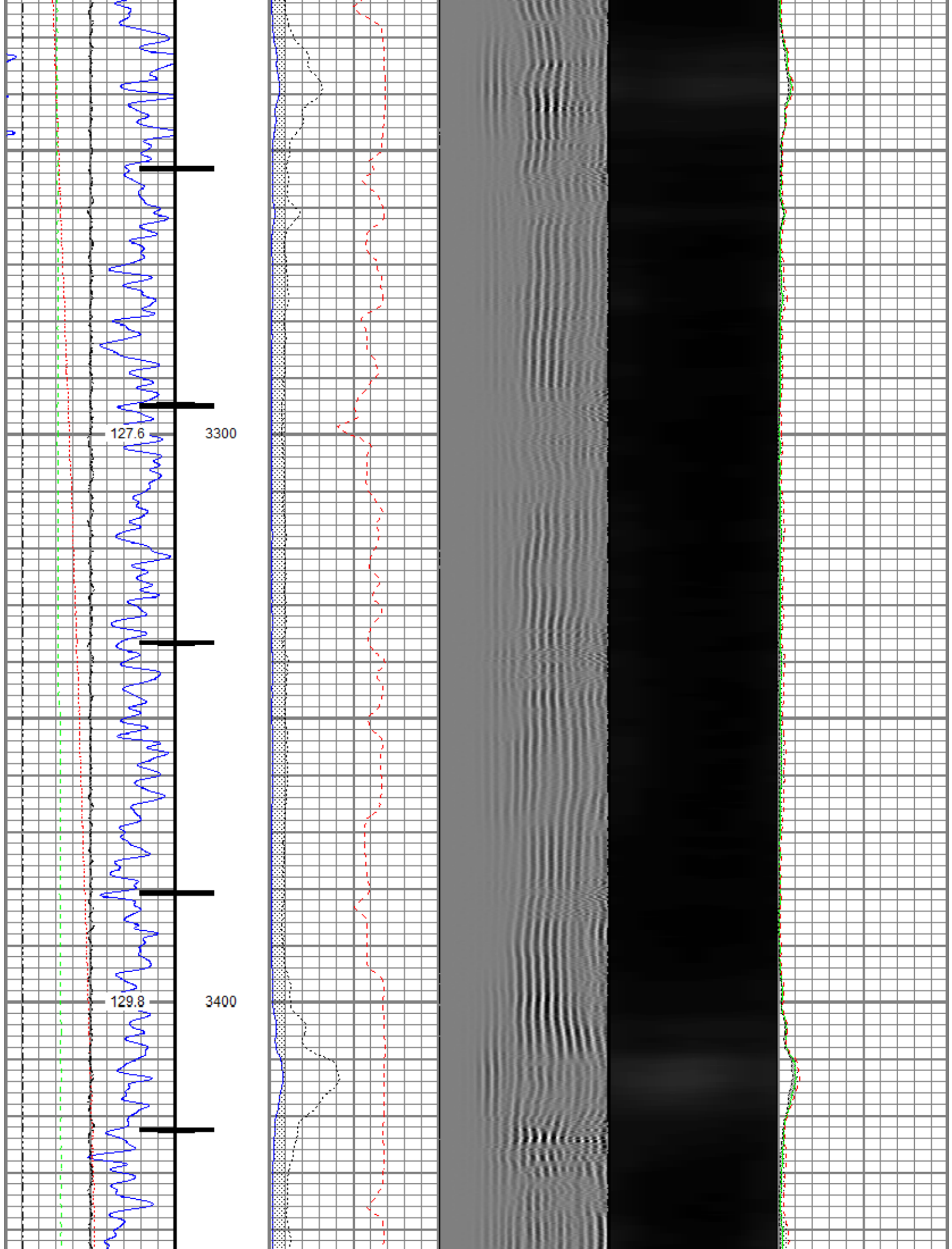


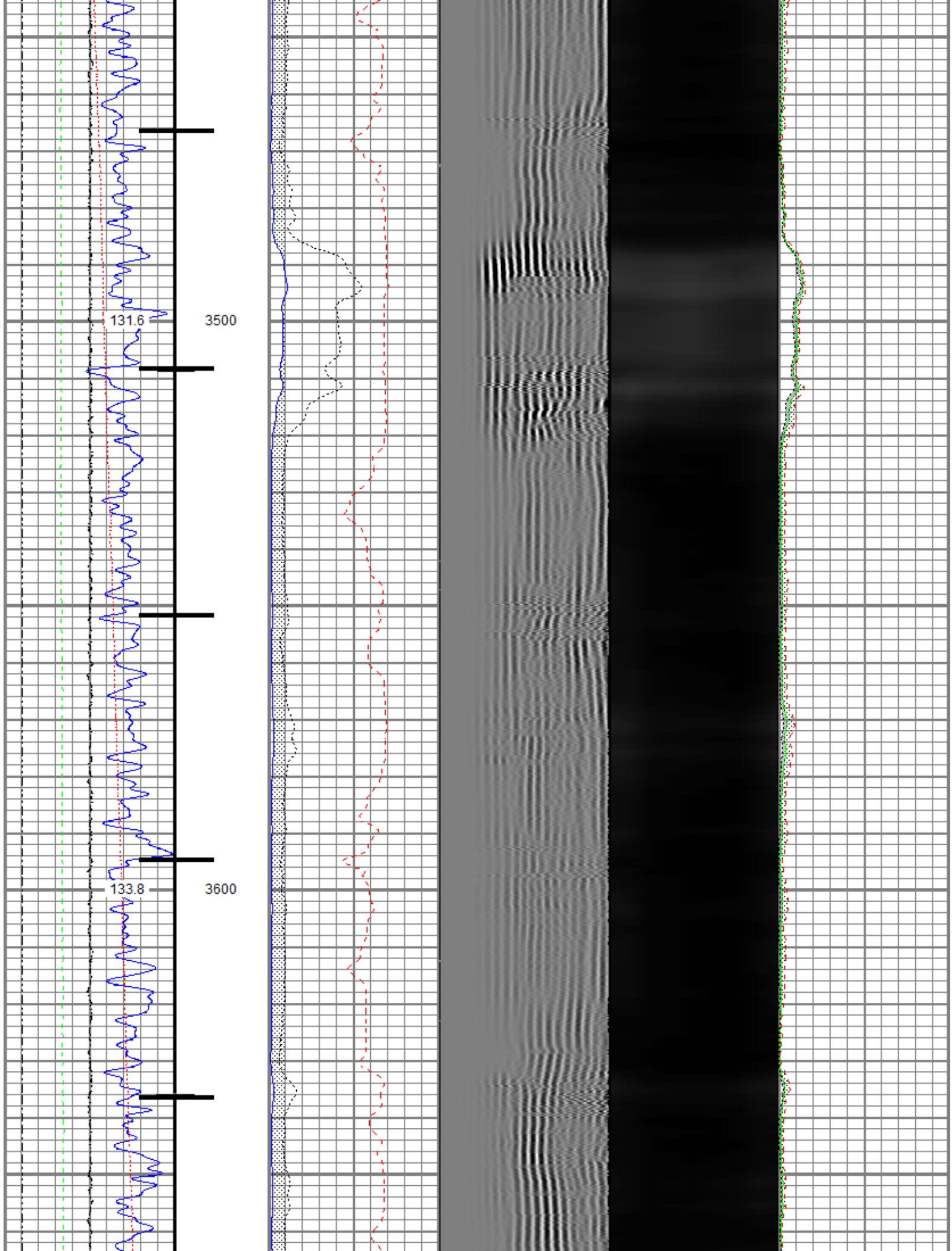


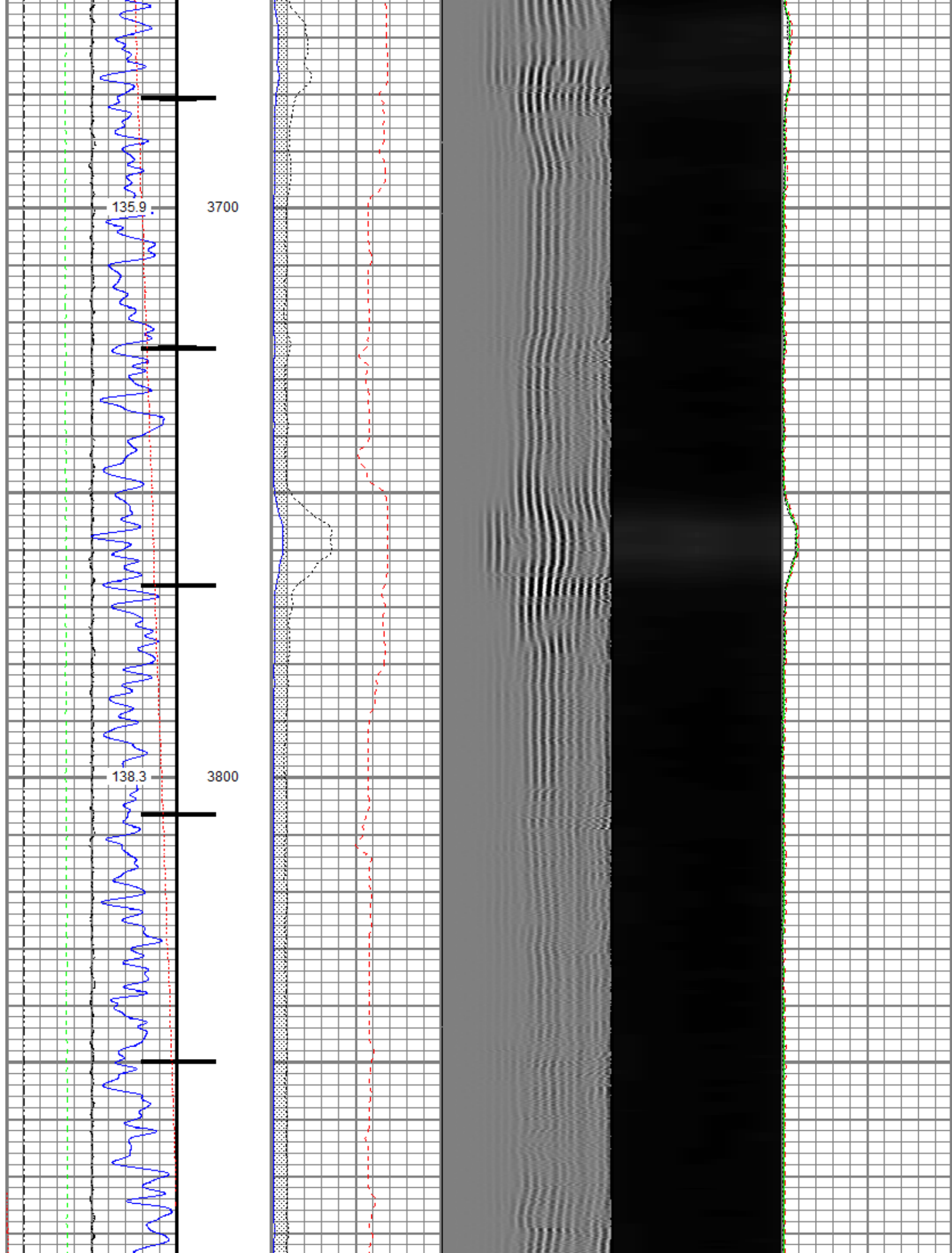


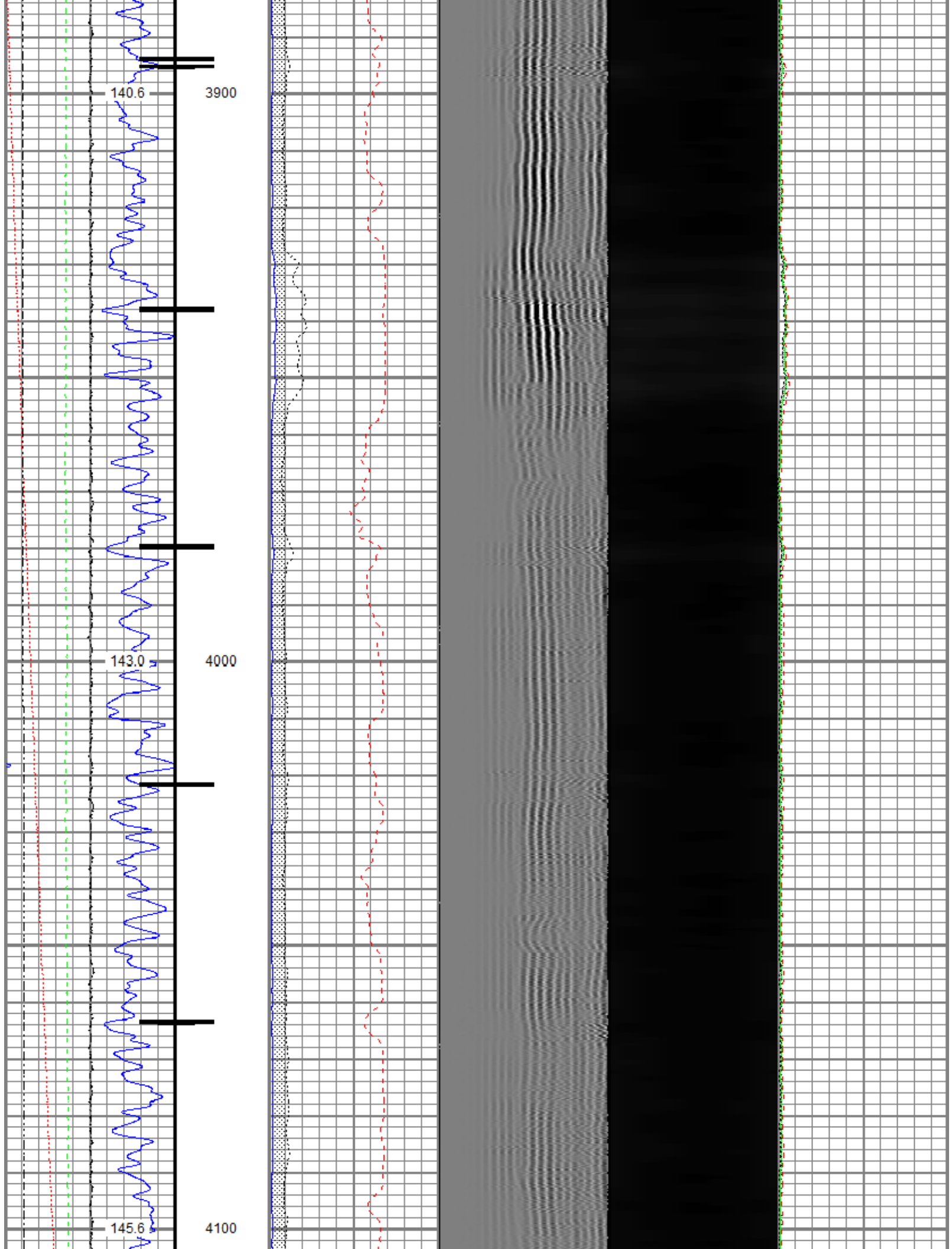




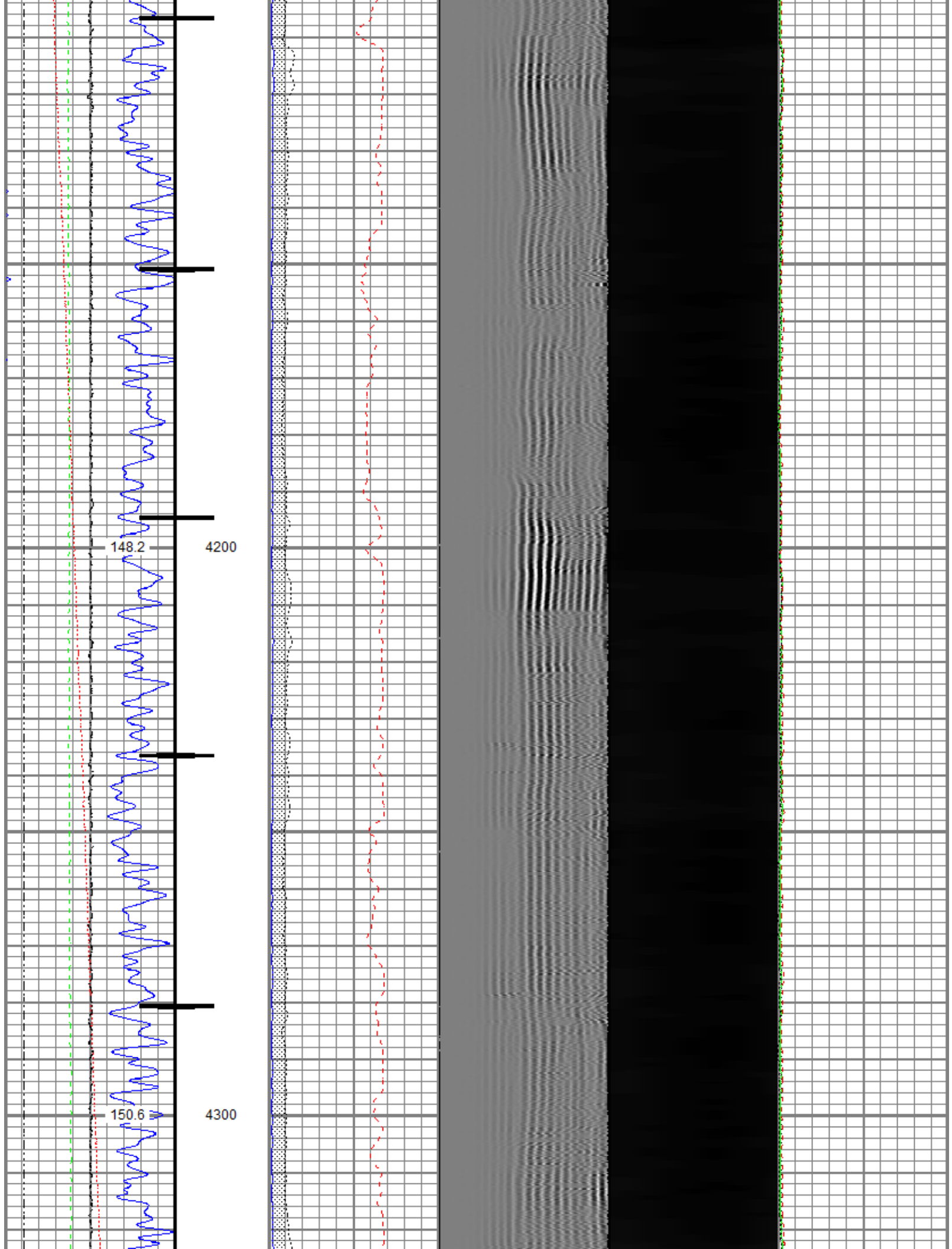


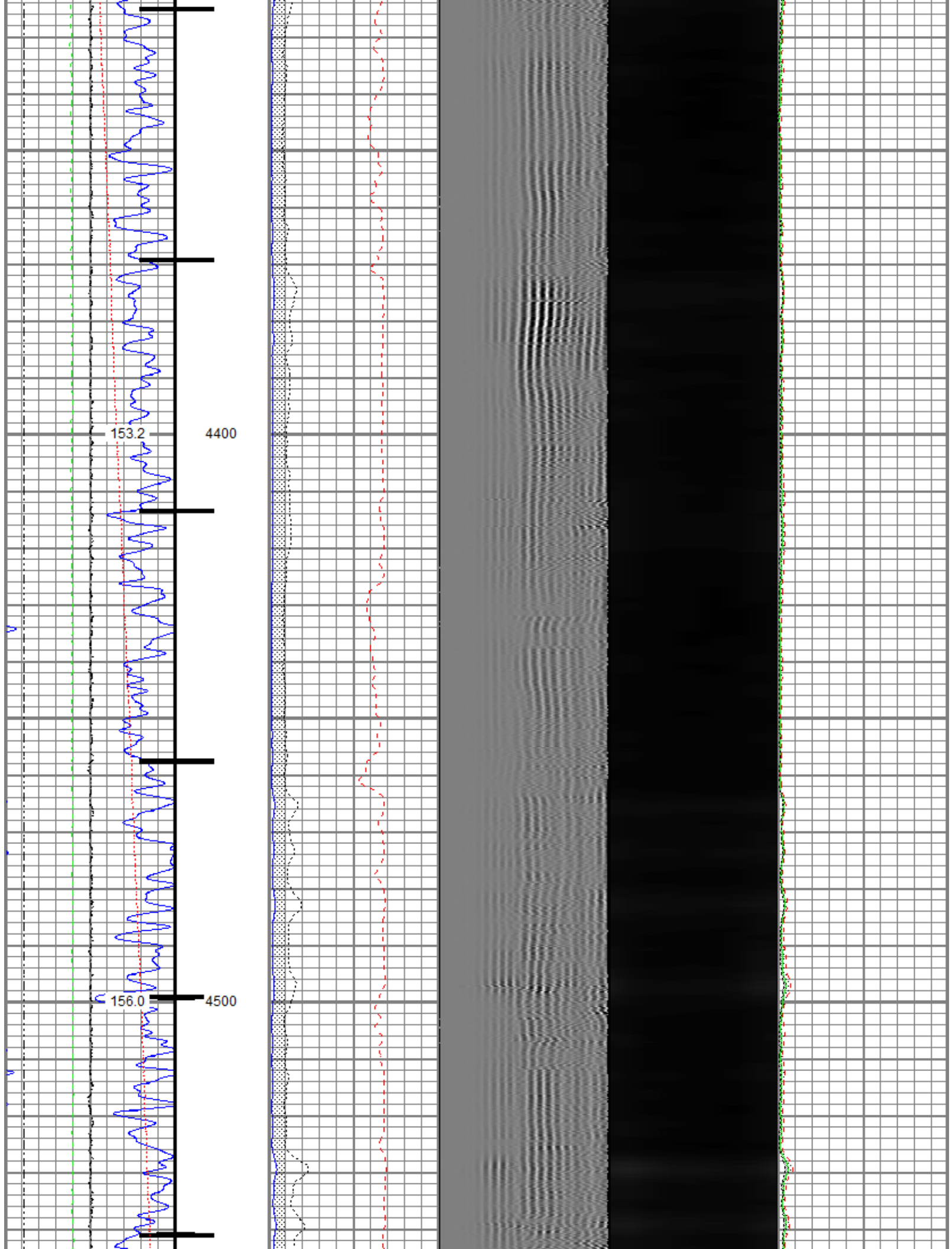


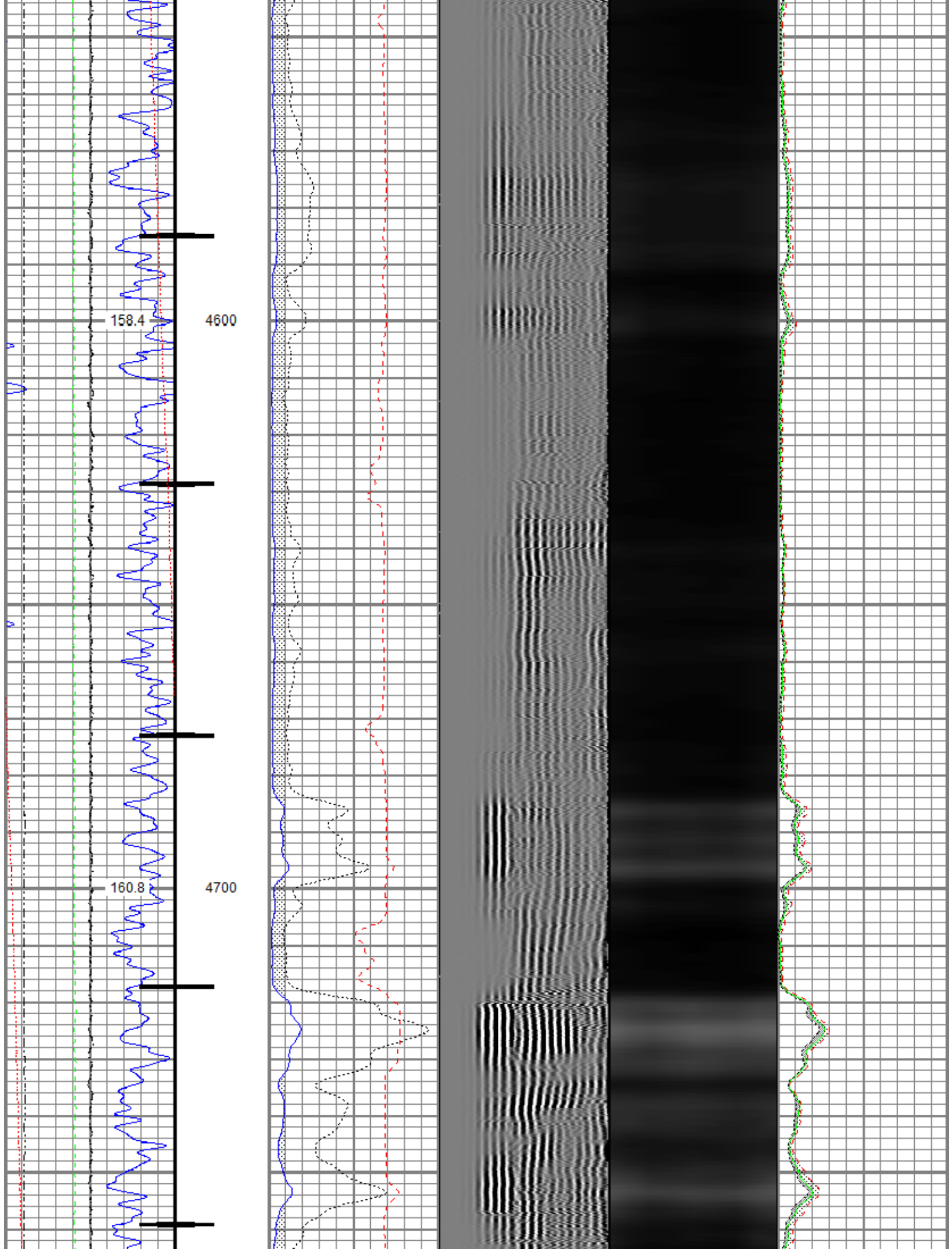


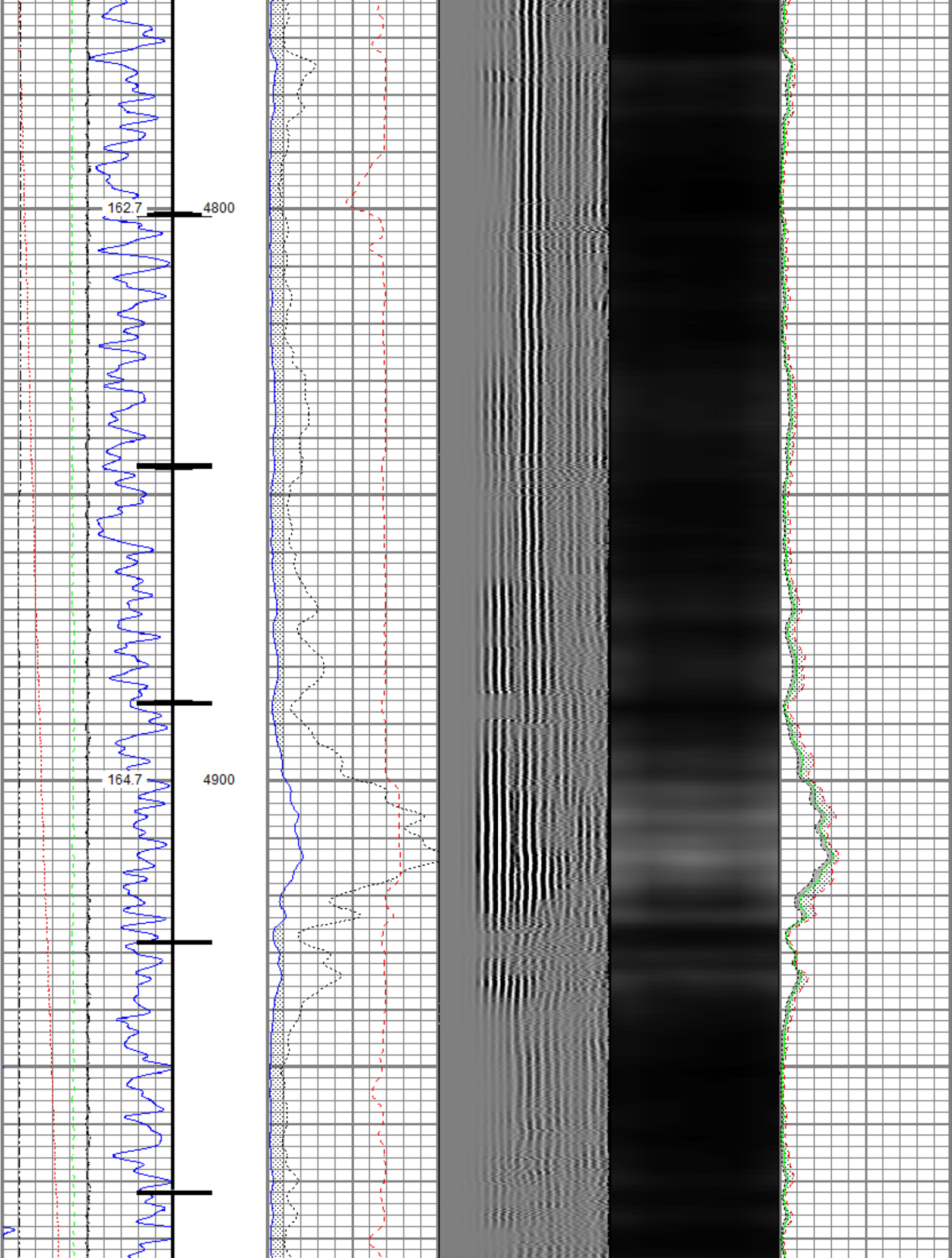




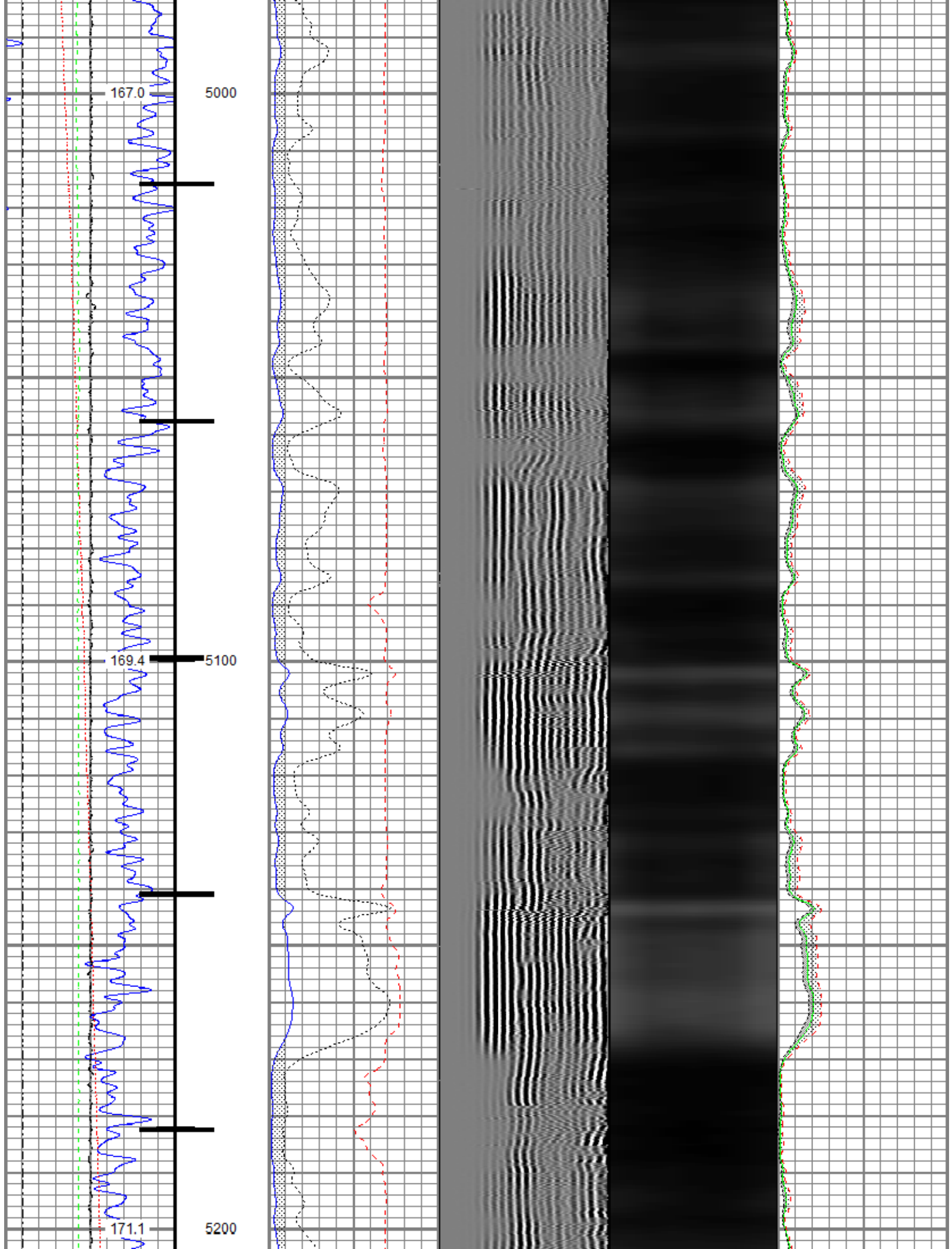


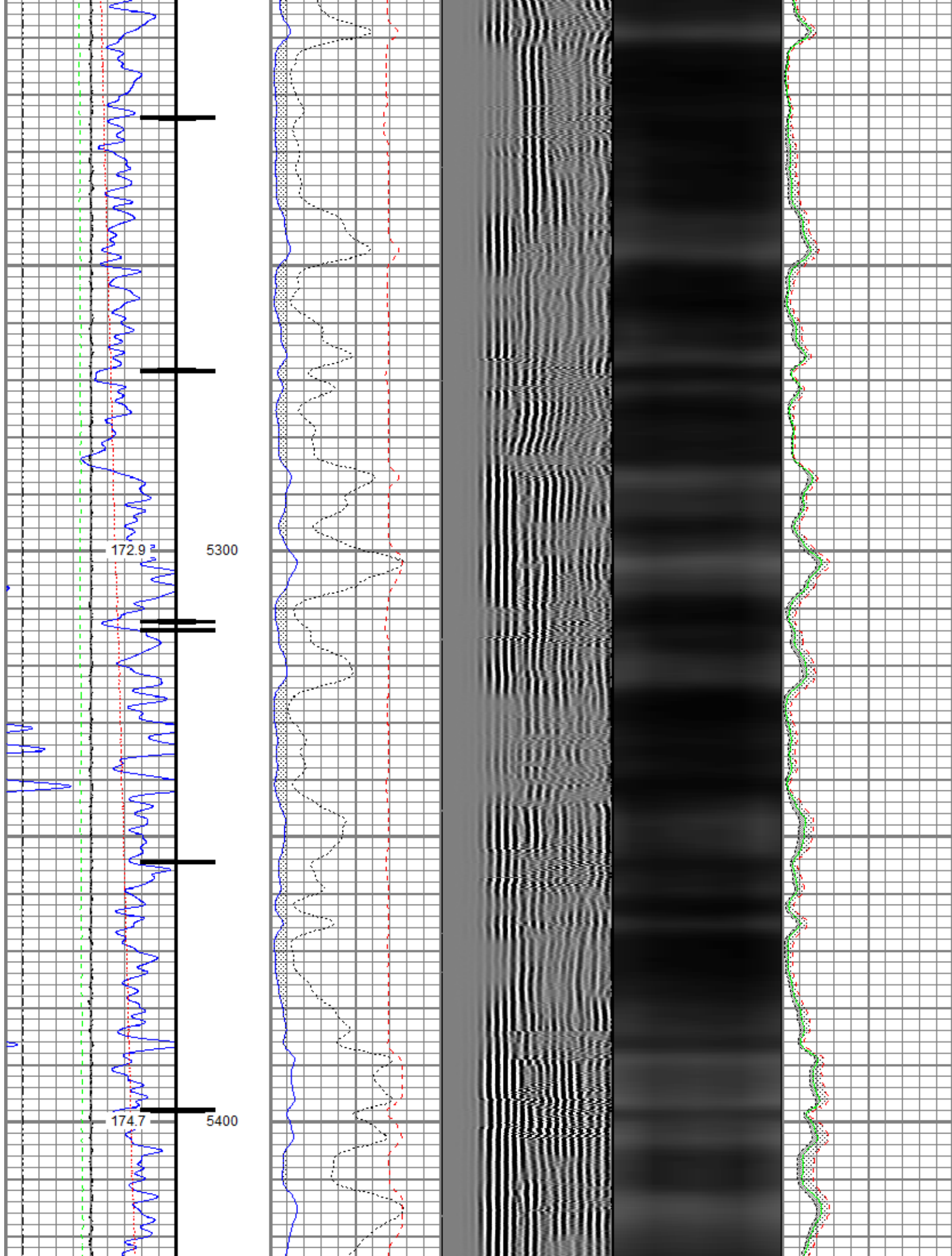


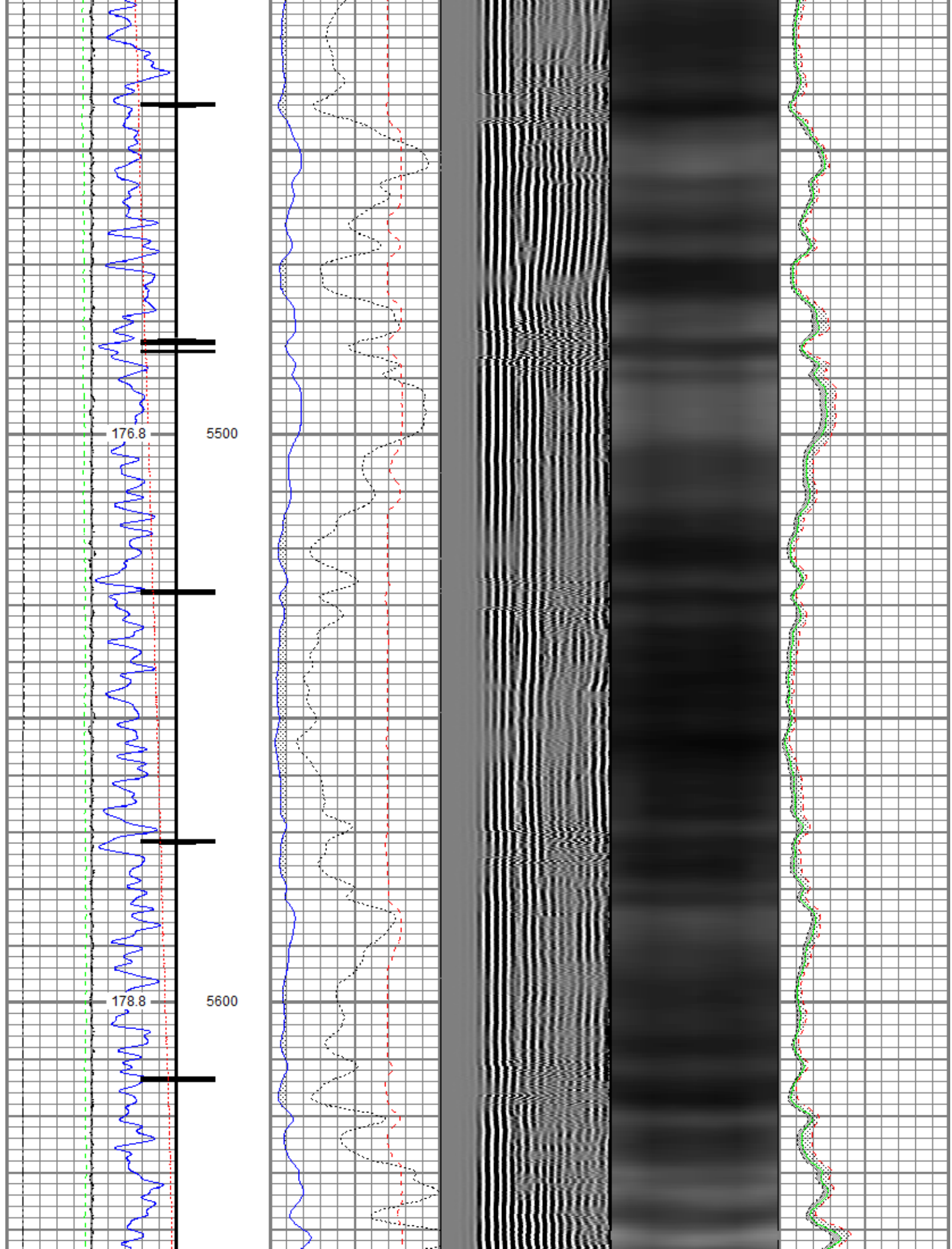




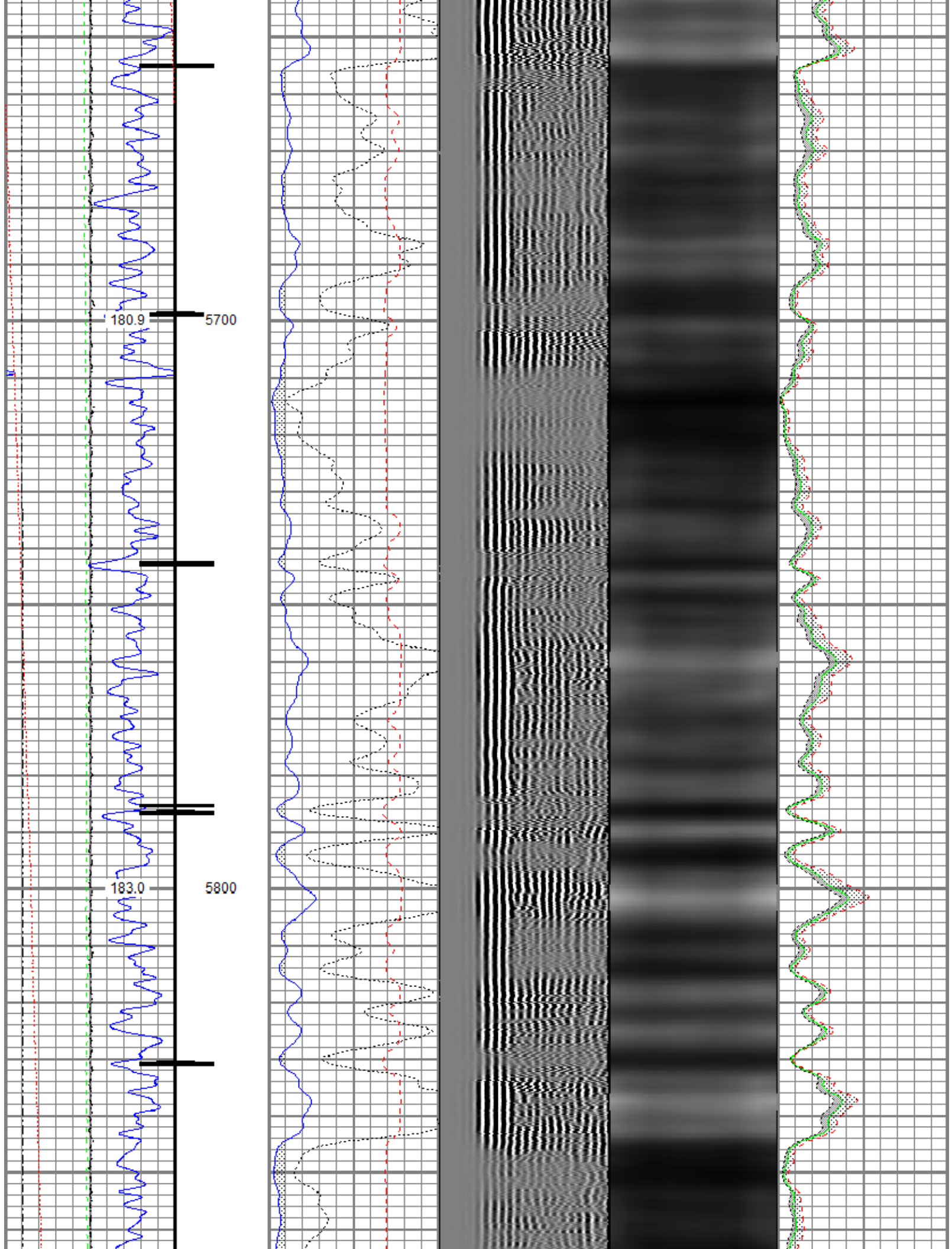




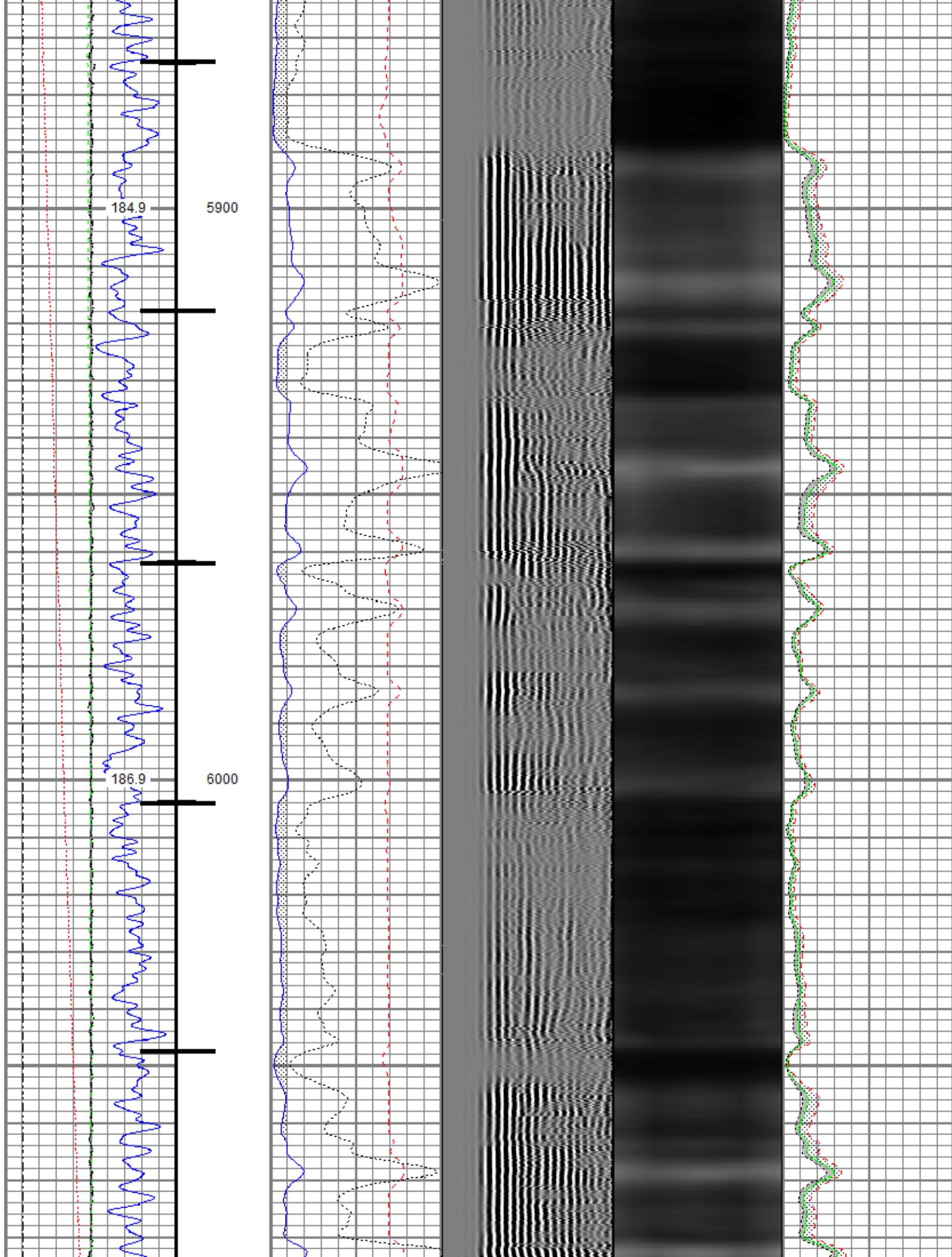


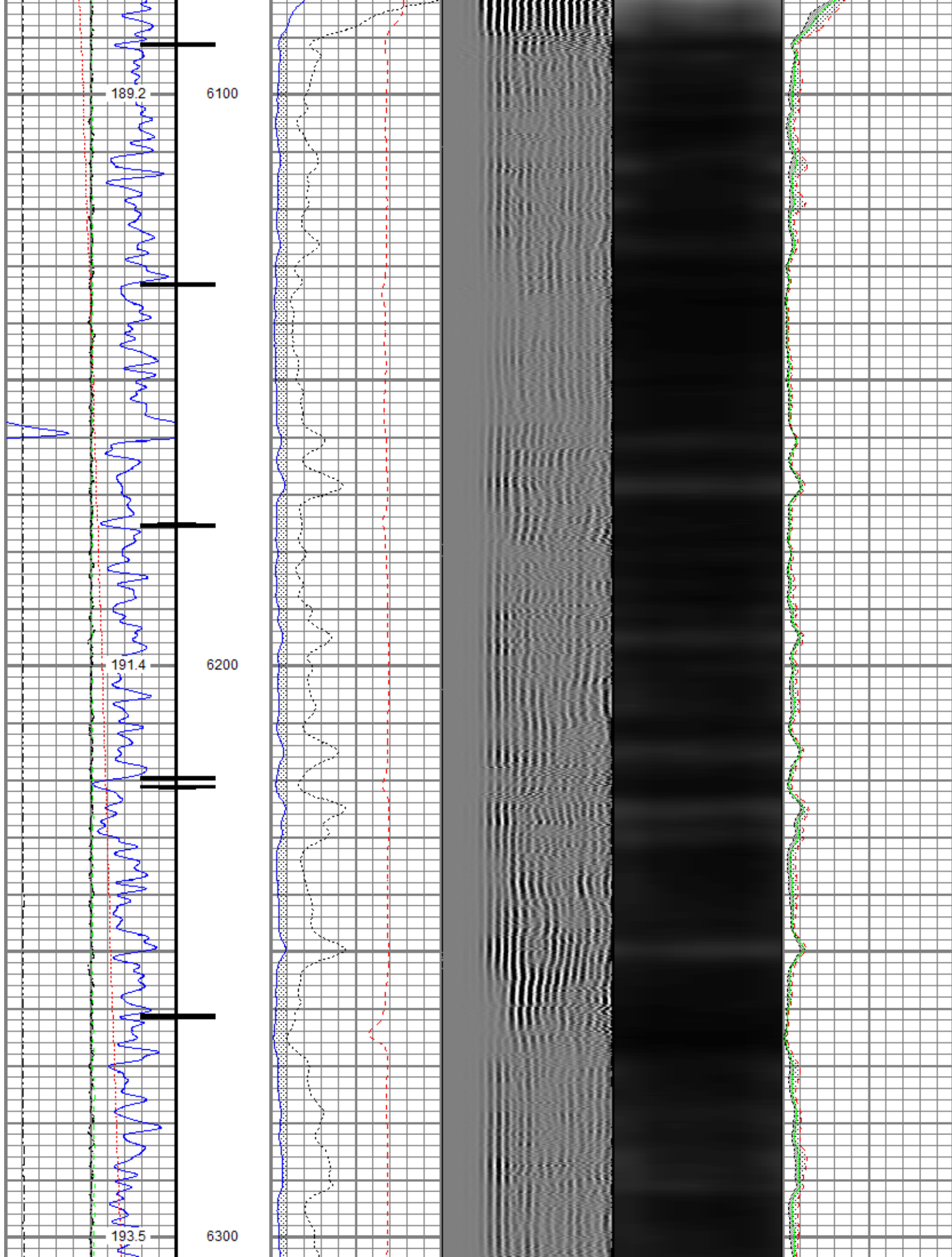


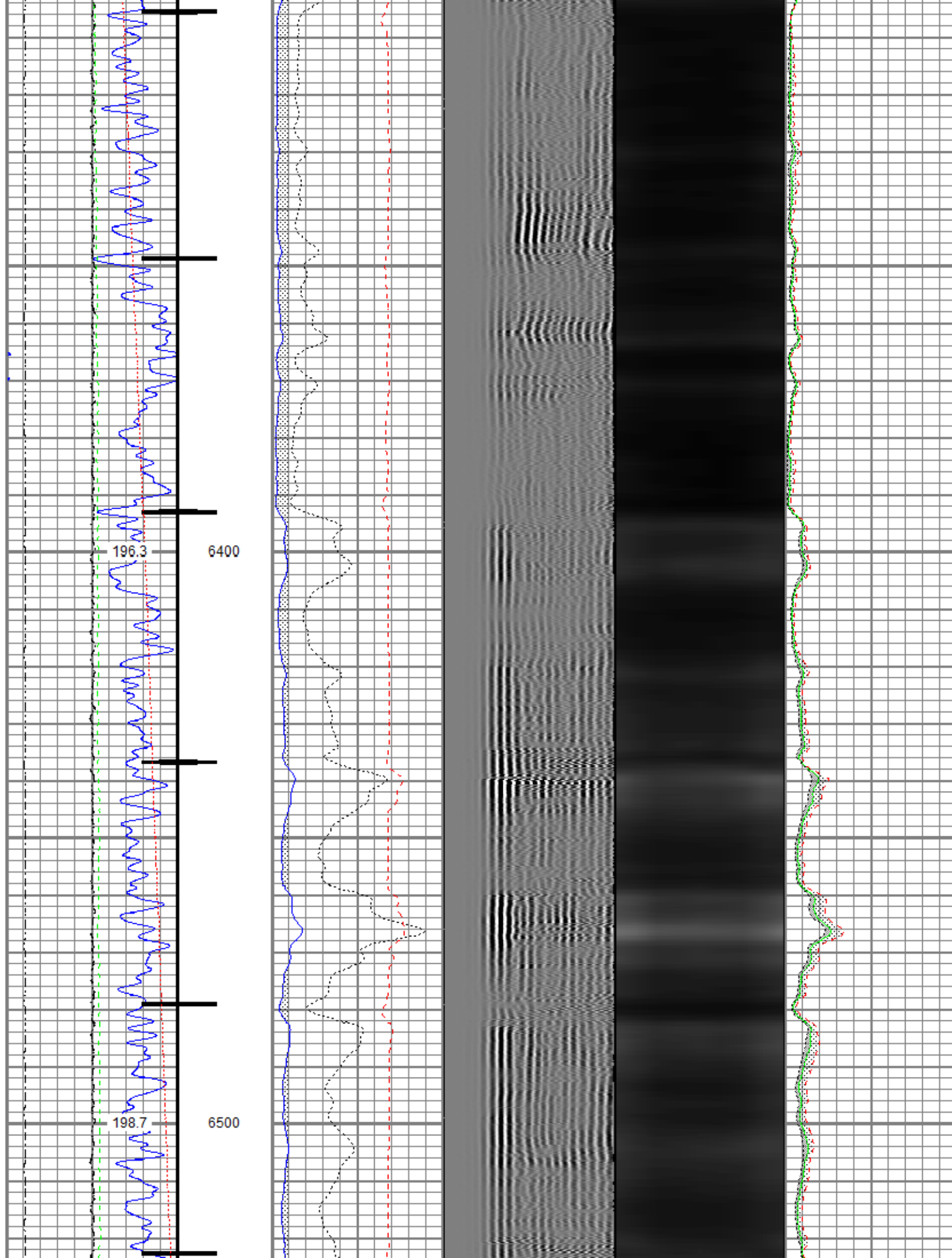




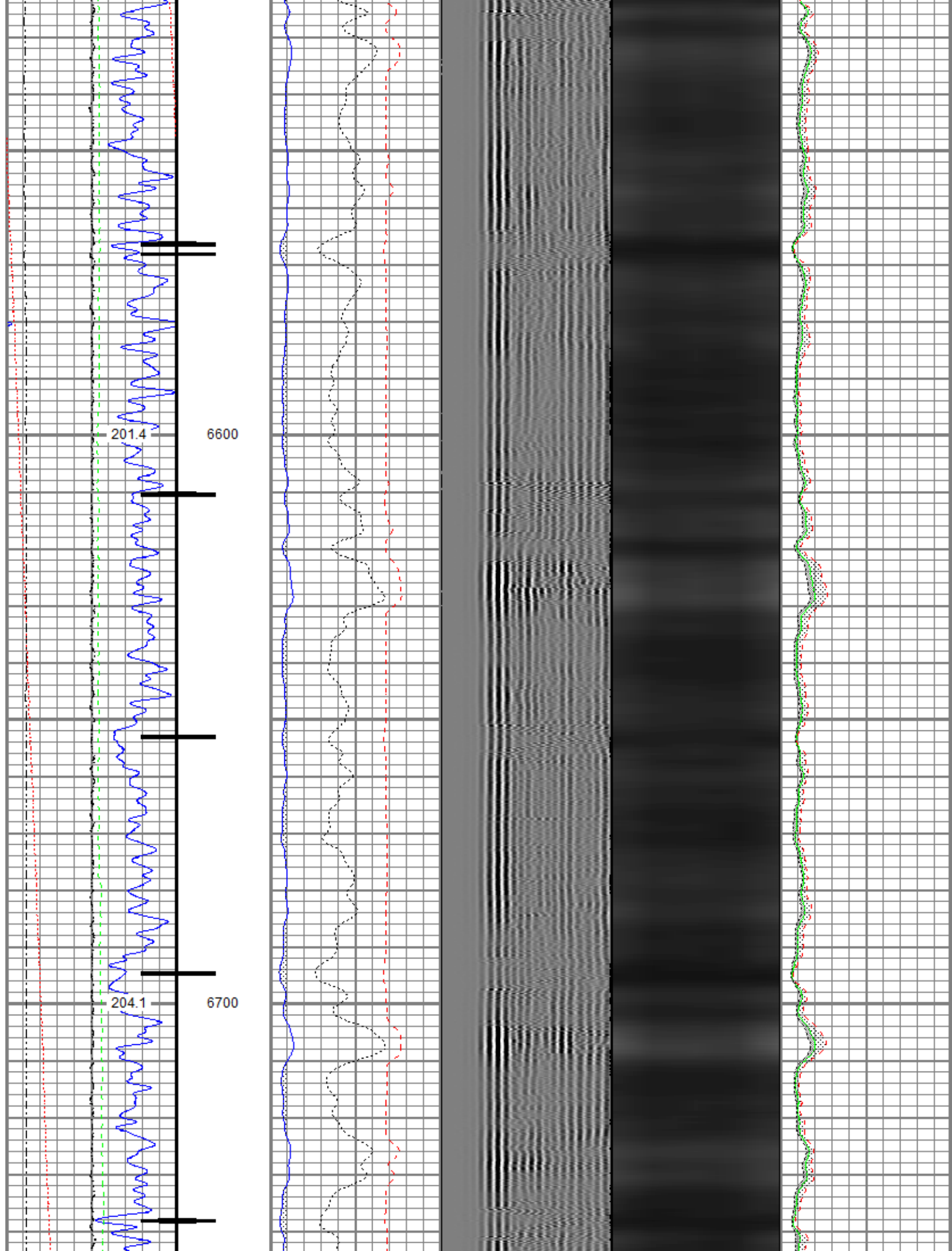




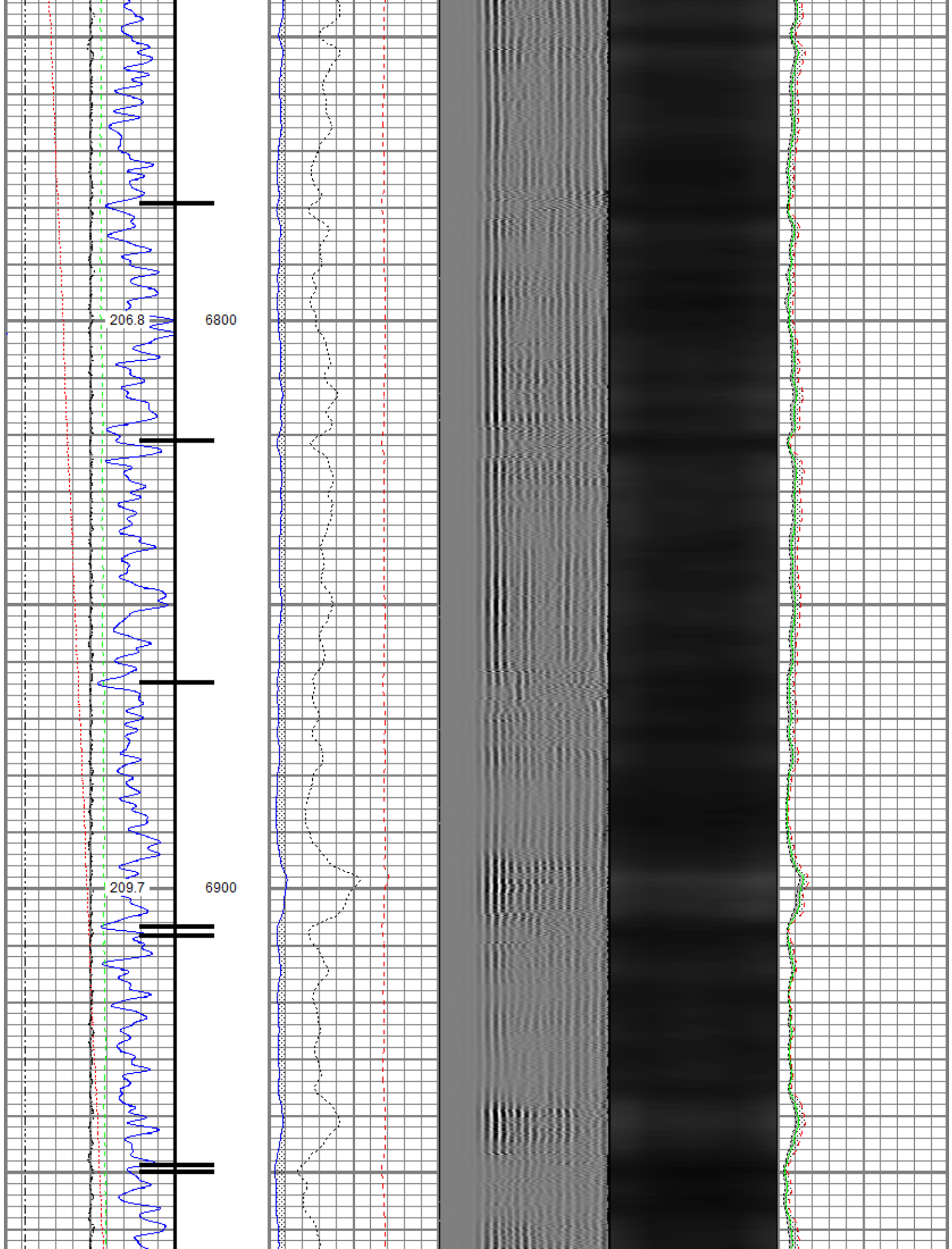


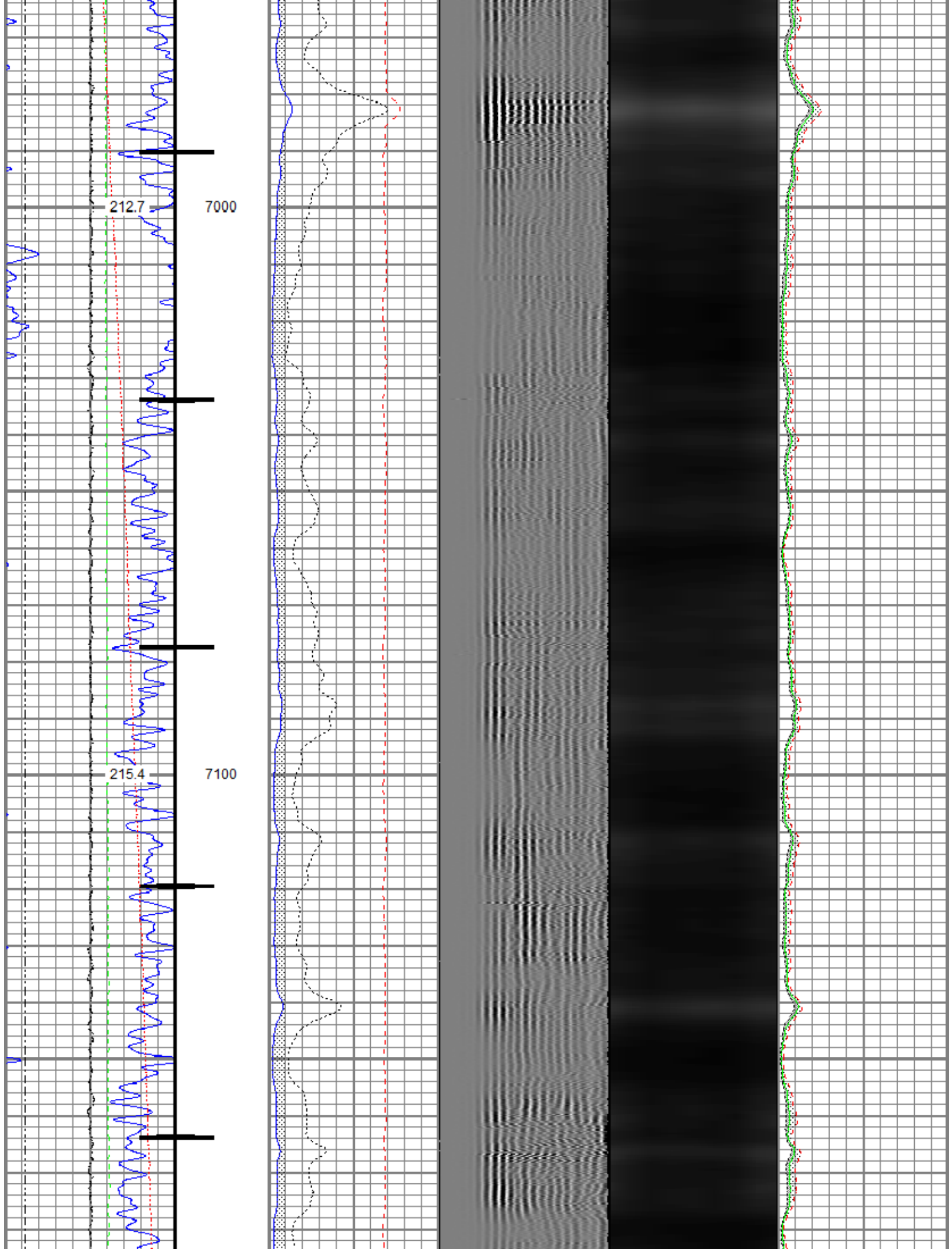


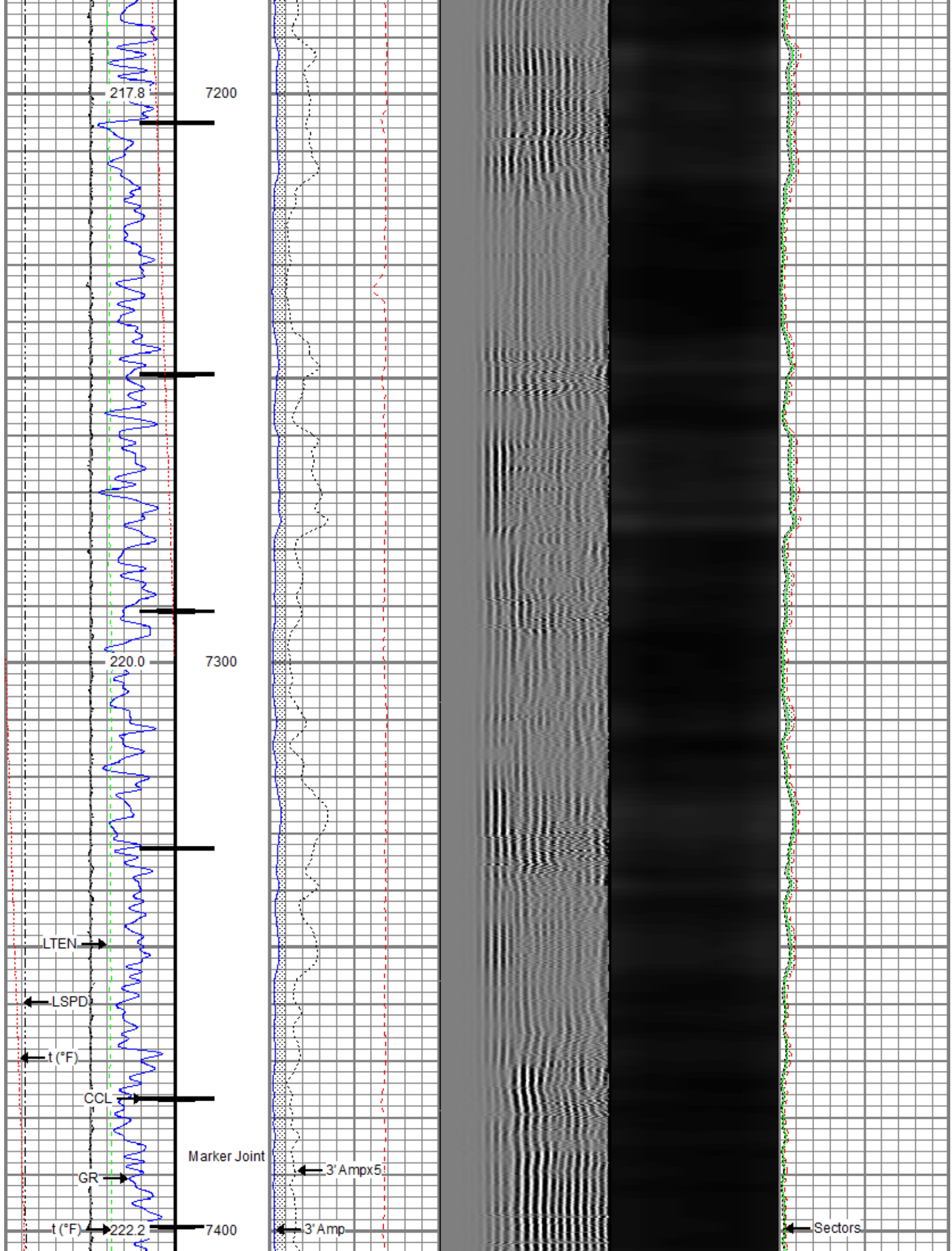


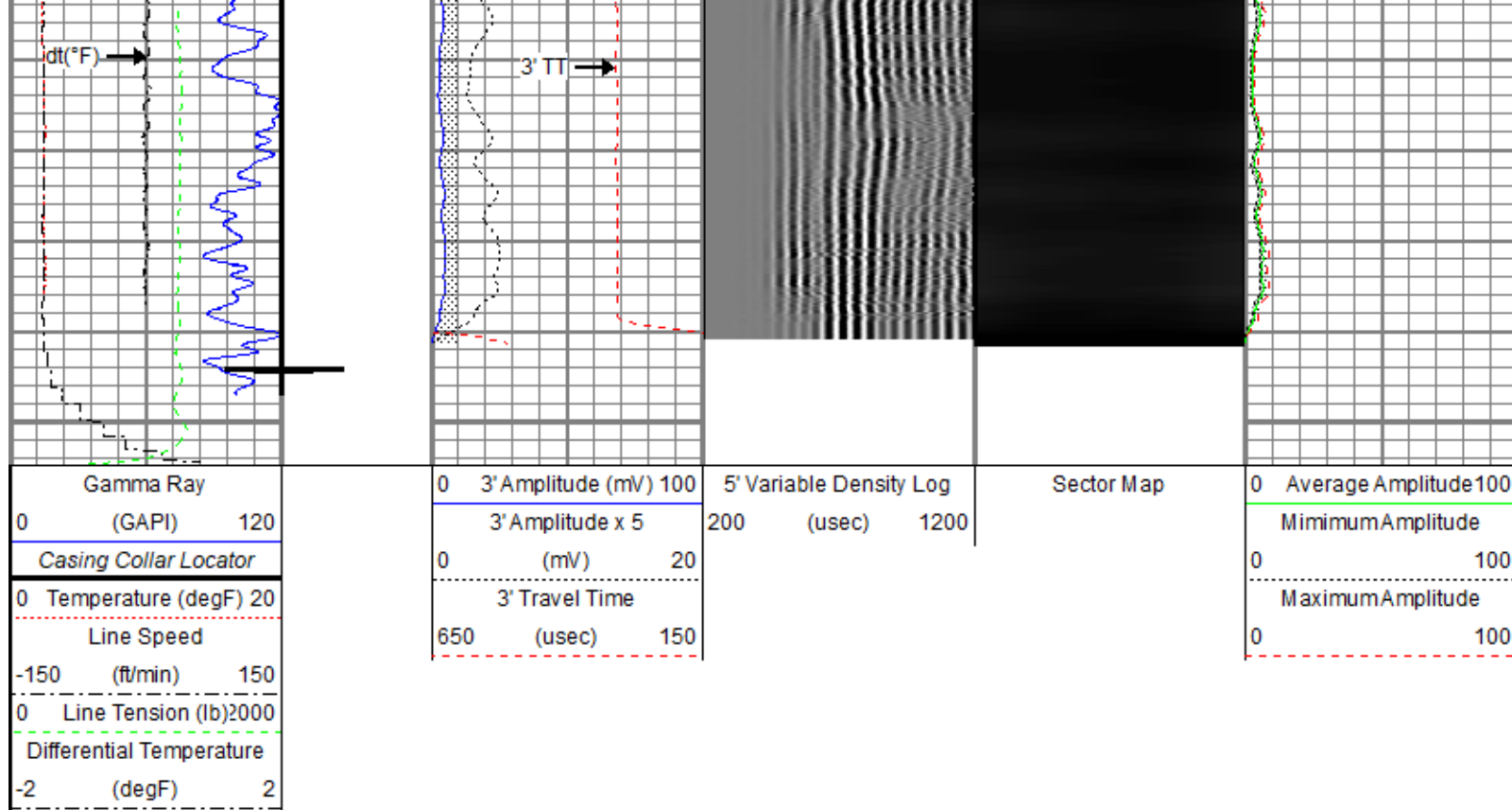








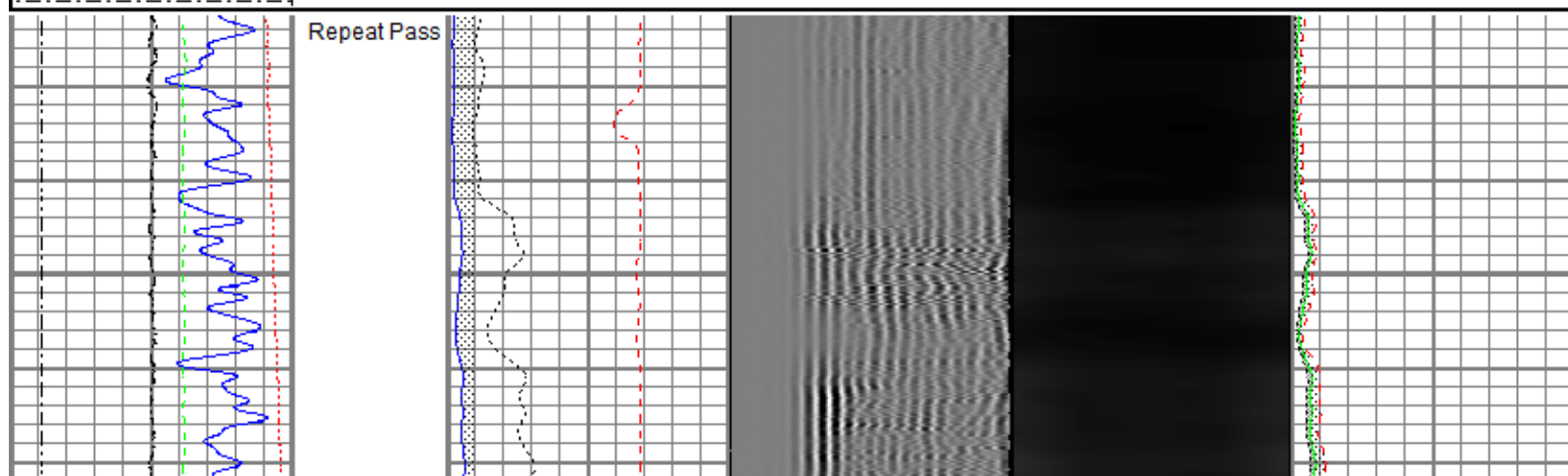
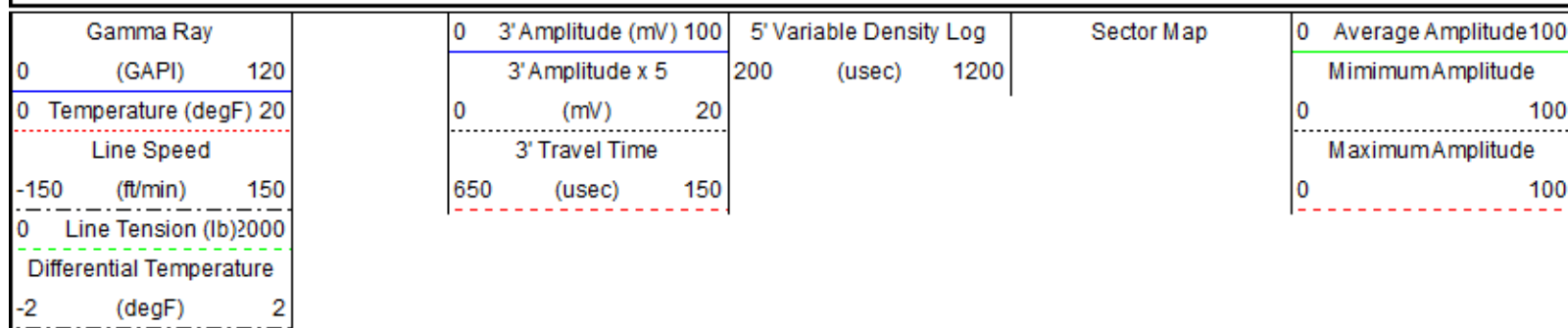




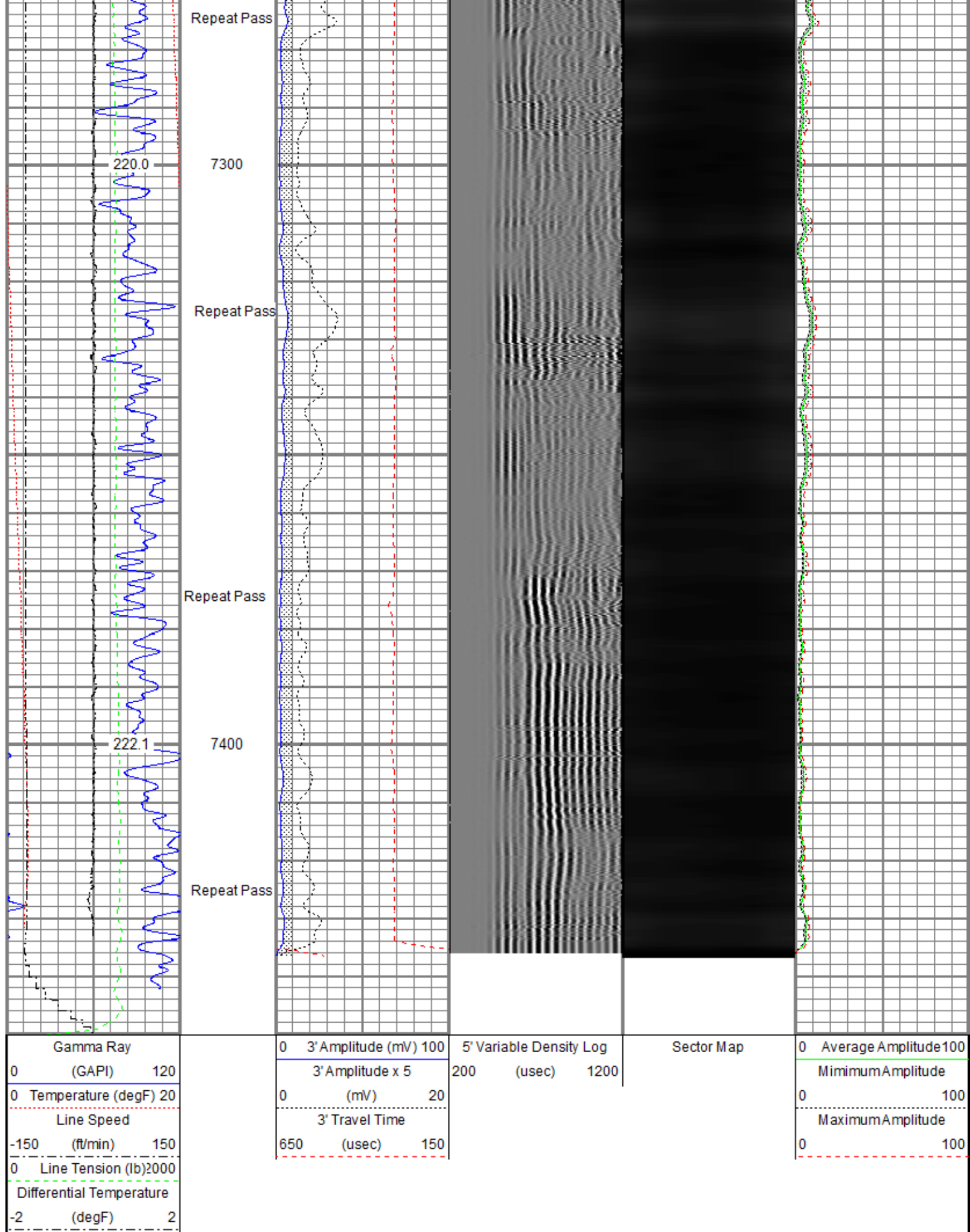
## Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File anadarko\0512349223\_anadarko\_jbd 15-4hz\_rbl\_07-31-19\processed\_0512349223\_anadarko\_jbd 15-4hz\_rbl\_07-31-19.db  
 Dataset Pathname 0rbl/pass1.2  
 Presentation Format ros\_radri  
 Dataset Creation Thu Aug 01 13:30:46 2019  
 Charted by Depth in Feet scaled 1:240









Calibration Report						
Database File	c:\programdata\warrior\data\anadarko\0512349223_anadarko_jbd 15-4hz_rbl_07-31-19\processed_0512349223_anadarko_jbd					
Dataset Pathname	0rbl/pass3.2					
Dataset Creation	Thu Aug 01 13:23:15 2019					
Gamma Ray Calibration Report						
Serial Number:	101001					
Tool Model:	2750 6PB					
Performed:	Mon Oct 01 11:32:32 2018					
Calibrator Value:	637.0	GAPI				
Background Reading:	100.6	cps				
Calibrator Reading:	981.1	cps				
Sensitivity:	0.7235	GAPI/cps				
Segmented Cement Bond Log Calibration Report						
Serial Number:	FW0712-020					
Tool Model:	2750 RBT					
Calibration Casing Diameter:	5.500	in				
Calibration Depth:	103.526	ft				
Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.809	0.800	71.921	88.688	0.184
CAL	0.006	0.615				
5'	0.009	0.712	0.800	71.921	101.110	-0.087
SUM						
S1	0.007	0.778	0.000	100.000	129.687	-0.901
S2	0.007	0.799	0.000	100.000	126.252	-0.906
S3	0.006	0.841	0.000	100.000	119.745	-0.749
S4	0.005	0.837	0.000	100.000	120.196	-0.614
S5	0.007	0.809	0.000	100.000	124.653	-0.885
S6	0.008	0.788	0.000	100.000	128.217	-0.984
S7	0.009	0.784	0.000	100.000	129.046	-1.109
S8	0.008	0.781	0.000	100.000	129.336	-1.034
Internal Reference Calibration, performed (Not Performed):						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.006	0.615	1.000	0.000
Air Zero Calibration, performed (Not Performed):						
	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

S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Temperature Calibration Report

Serial Number: FW0712-020  
Tool Model: 2750 RBT  
Performed: Mon Oct 01 11:32:14 2018

	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: JDB 15-4HZ  
Field: Wattenberg  
County: Weld  
State: Colorado