



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company PDC Energy Inc
Well Pharaoh 5N
Field Wattenberg
County Weld State Colorado

Company PDC Energy Inc
Well Pharaoh 5N
Field Wattenberg
County Weld
State Colorado

Location: API #: 05-123-48834
SEC 36 TWP 5N RGE 64W
Permanent Datum Ground Level Elevation 4593'
Log Measured From Ground Level 0 FT
Drilling Measured From Kelly Bushing
Other Services
Elevation
K.B. 4621'
D.F. ---
G.L. 4593'

Date	11-FEB-2021	One		
Run Number		16827 FT		
Depth Driller		6879 FT		
Depth Logger		6872 FT		
Bottom Logged Interval		Surface		
Top Log Interval		8.5"		
Open Hole Size		Water		
Type Fluid		8.34 lb/gal		
Density / Viscosity		232°F		
Max. Recorded Temp.		See Log		
Estimated Cement Top		ROA		
Time Well Ready		08:00		
Time Logger on Bottom		HD-361		
Equipment Number		Platteville, CO		
Location		G. Lueck		
Recorded By		B. Myers		
Witnessed By				
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	20	P-110	Surface
Intermediate #2				
Inner				

<<< Fold Here >>>

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

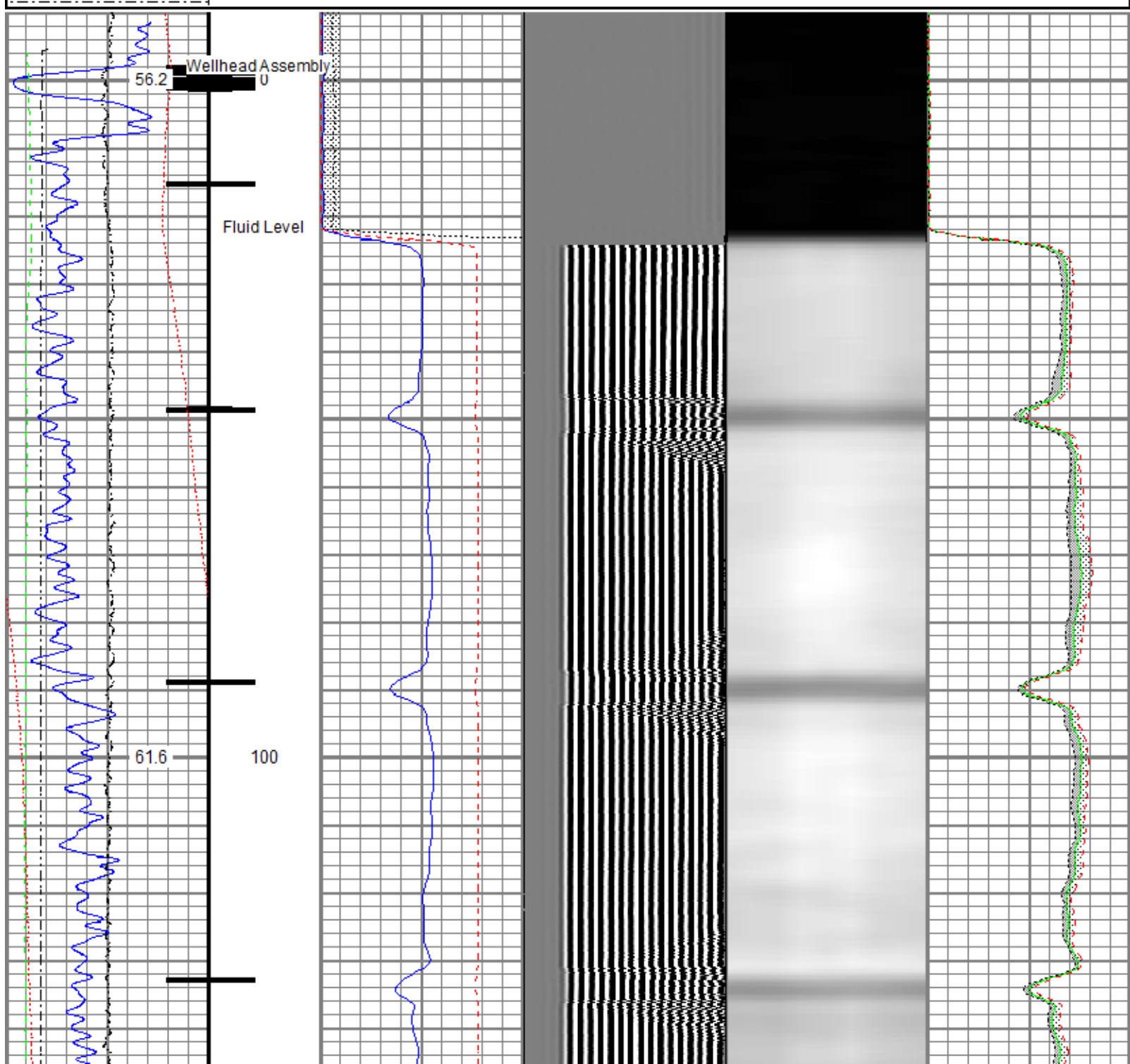
Log ran as per customer request
Depth referenced to Casing Tally reported Marker Joint at 6010 FT
Adjusted +2 FT to correlate with Marker Joint
Log ran with 0 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations
Thank you for choosing Reliance Oilfield Services, LLC!!

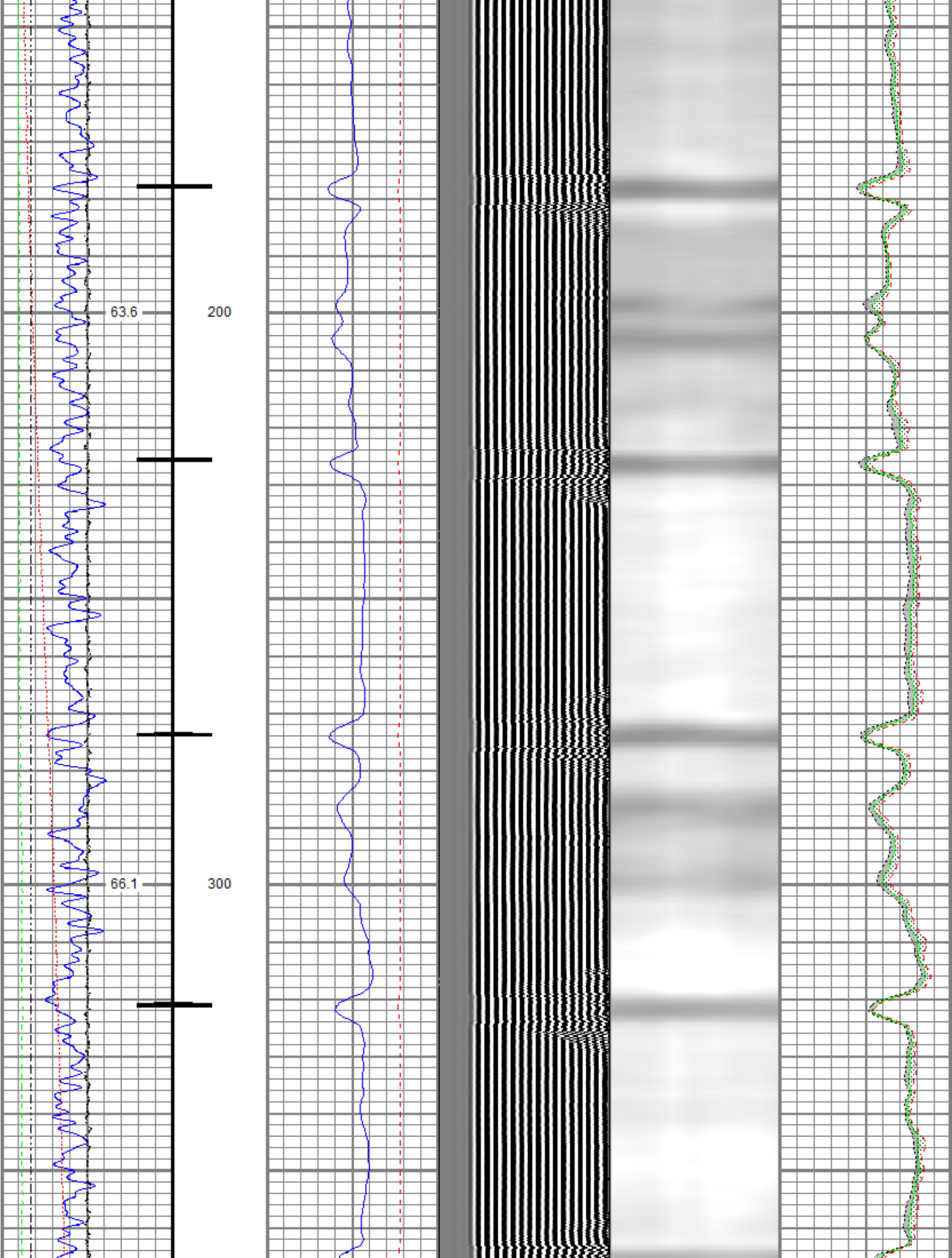
Main Pass

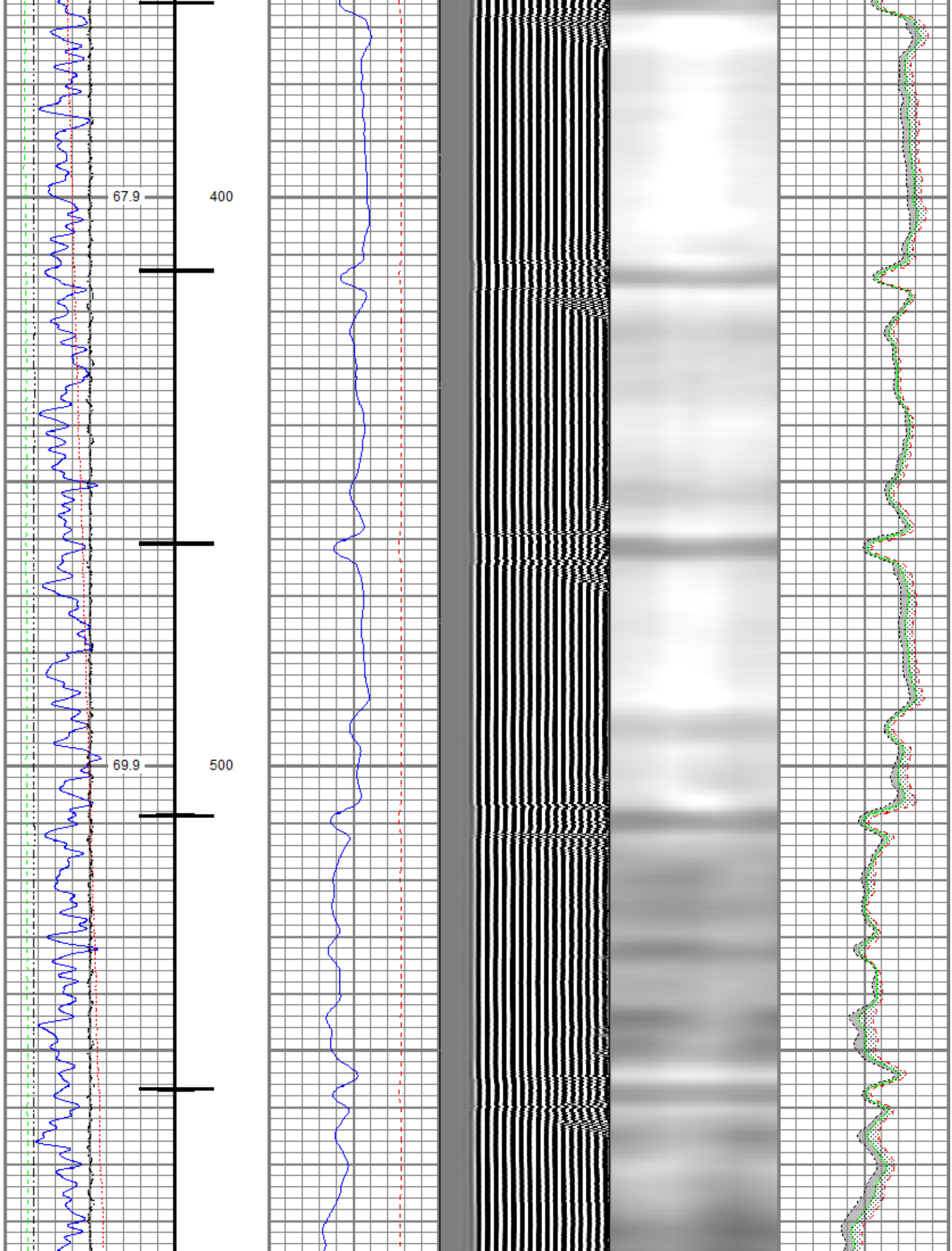


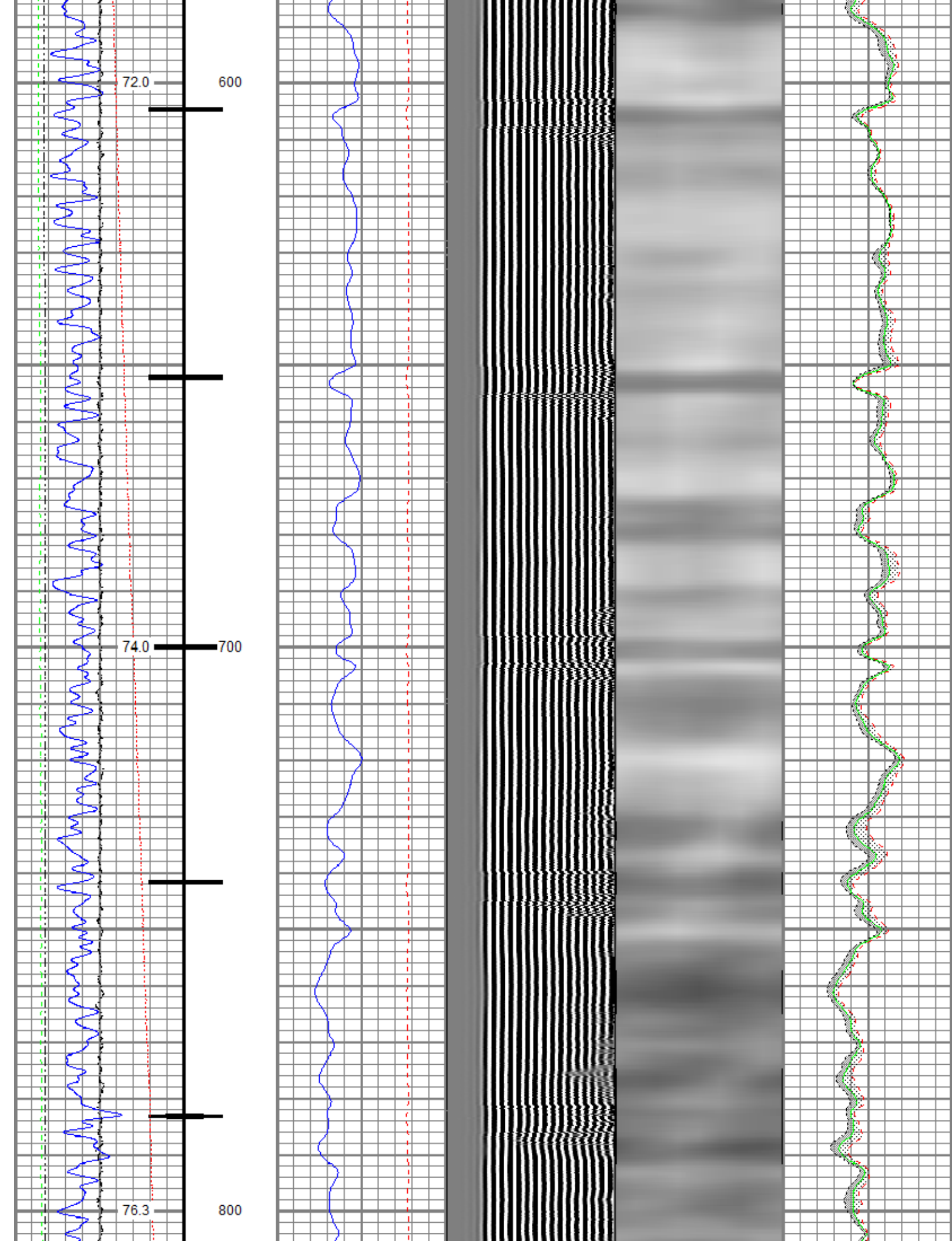
Database File pharaoh 5n_rbl_02-11-21\pdc_pharaoh 5n_rbl_02-11-21.db
 Dataset Pathname pass5.2
 Presentation Format ros_radri
 Dataset Creation Fri Feb 12 17:47:04 2021
 Charted by Depth in Feet scaled 1:240

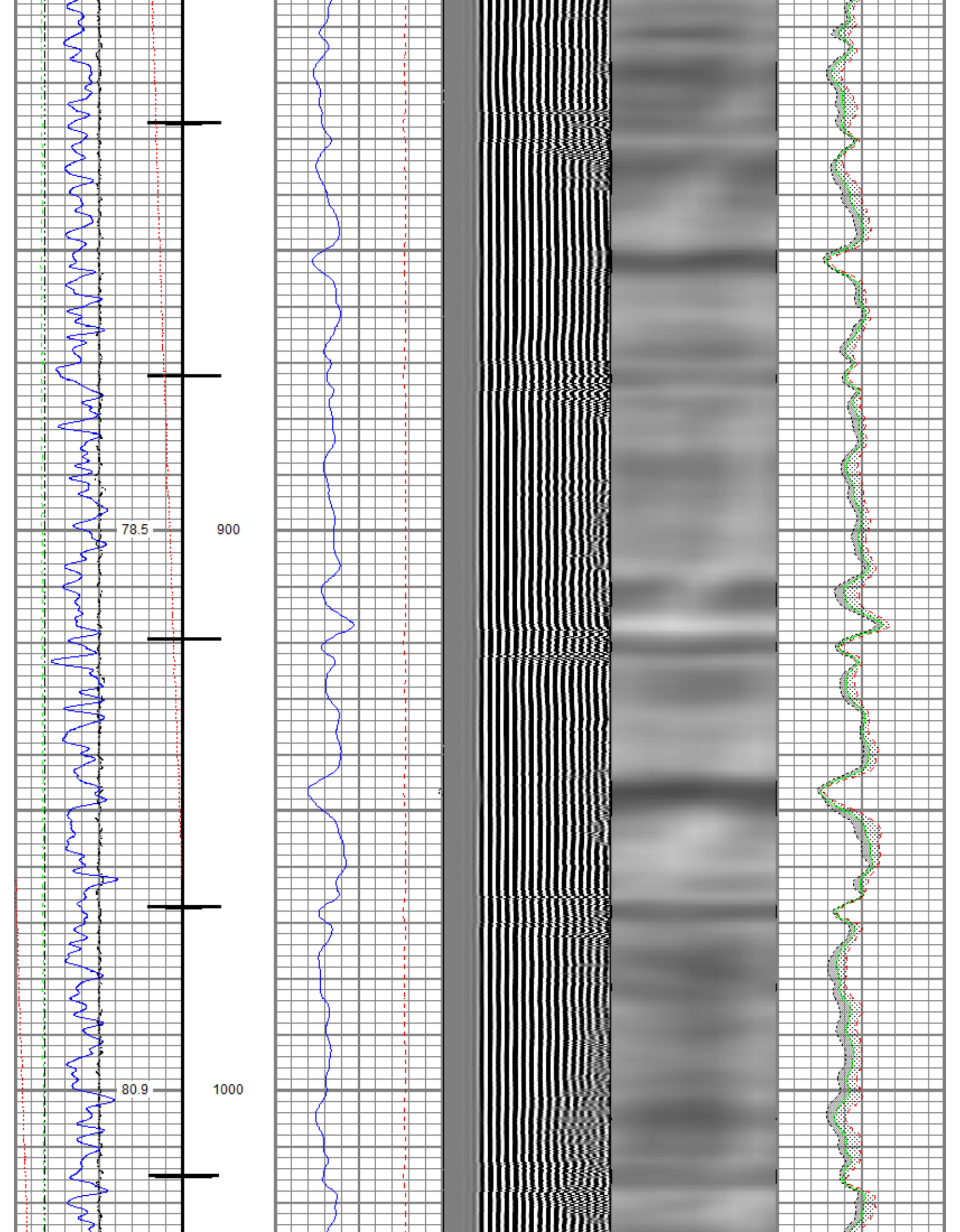
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
(ft/min) 150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

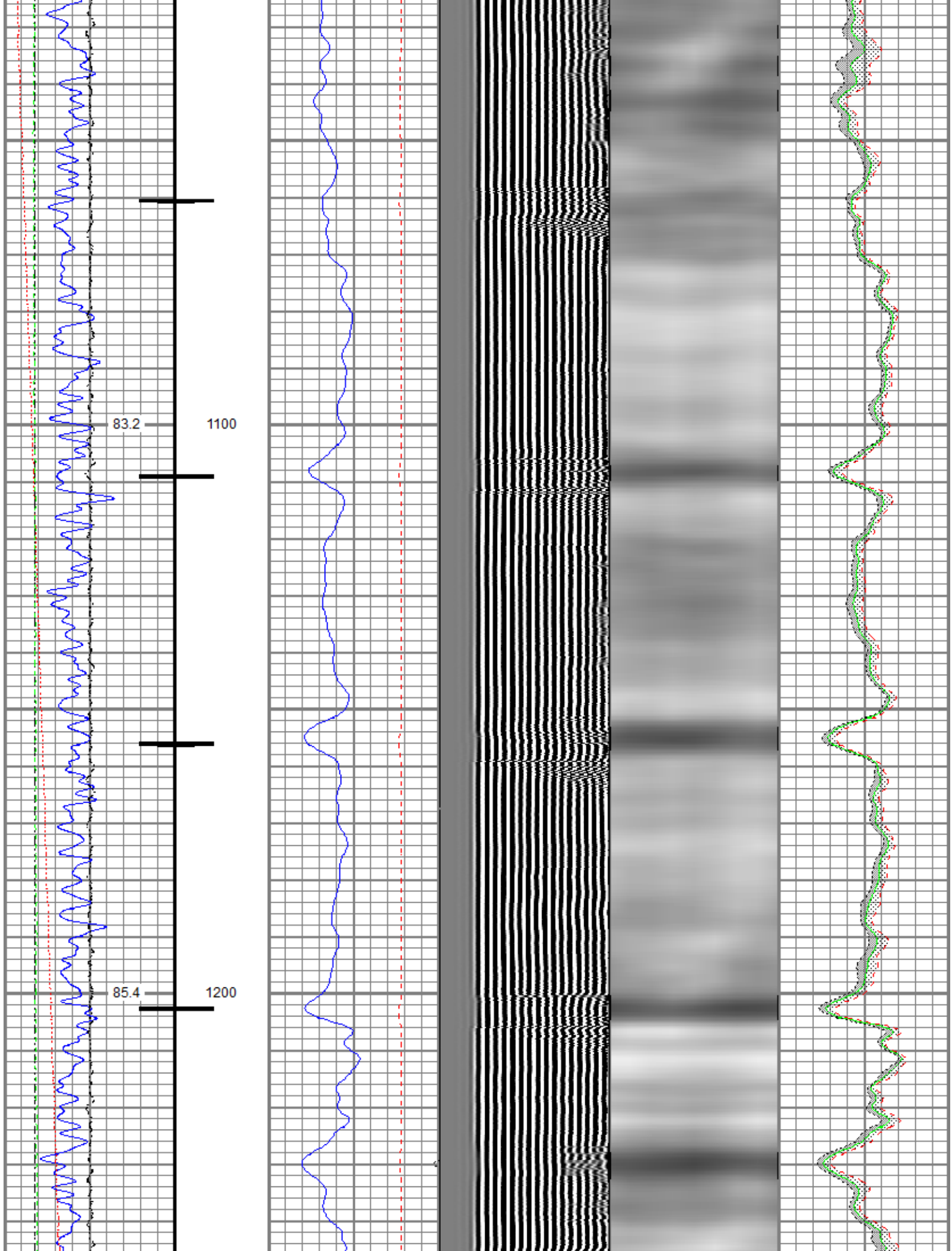


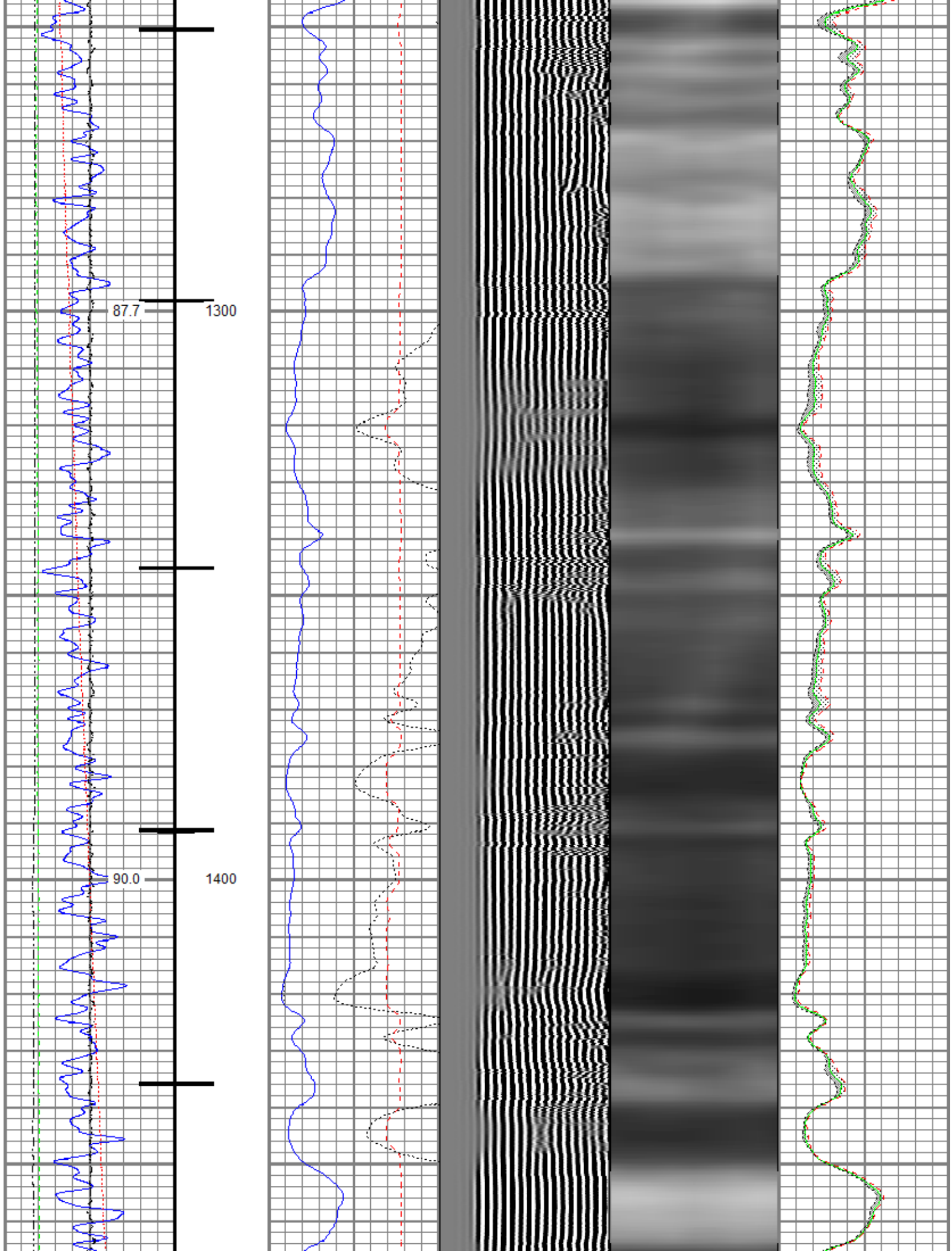


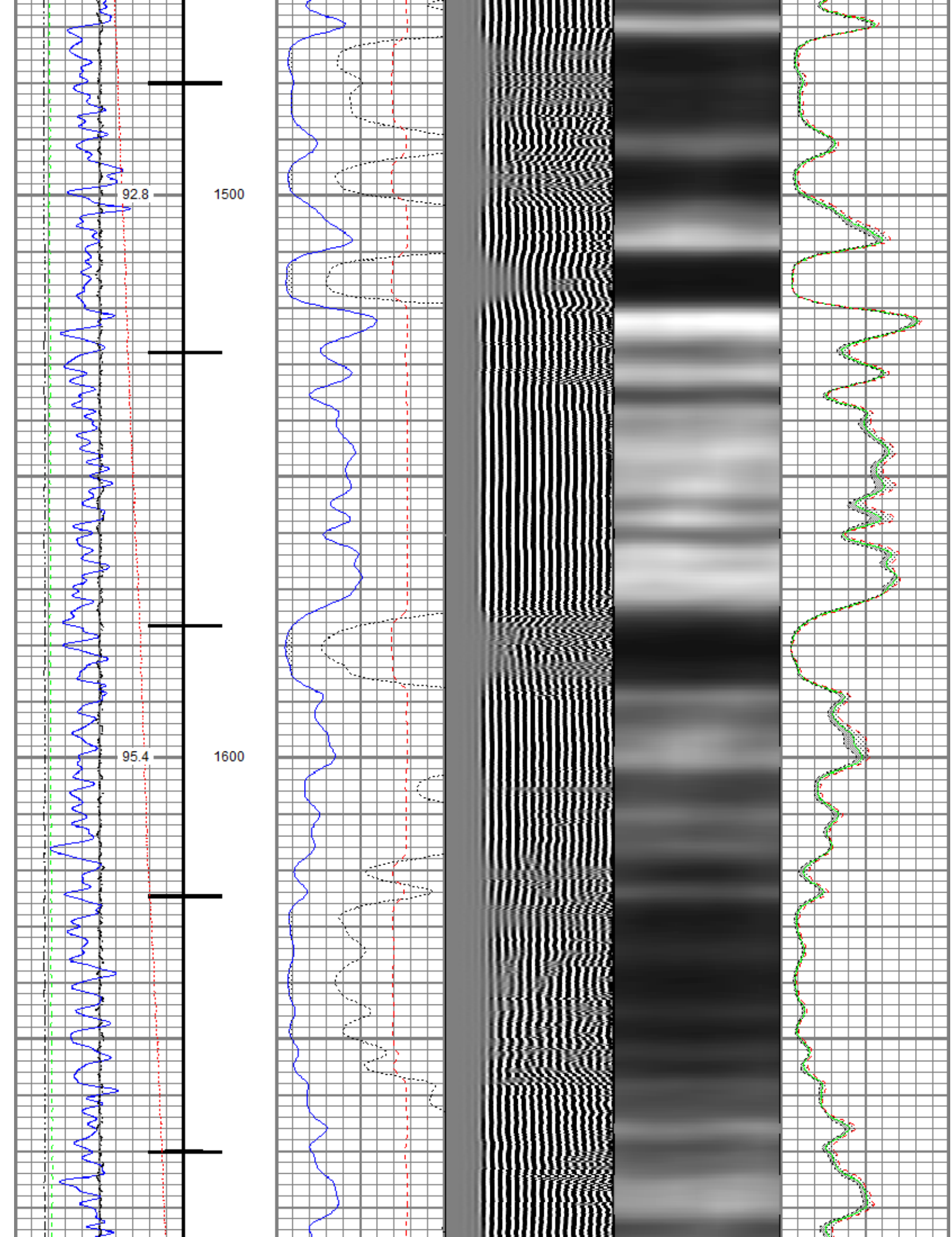


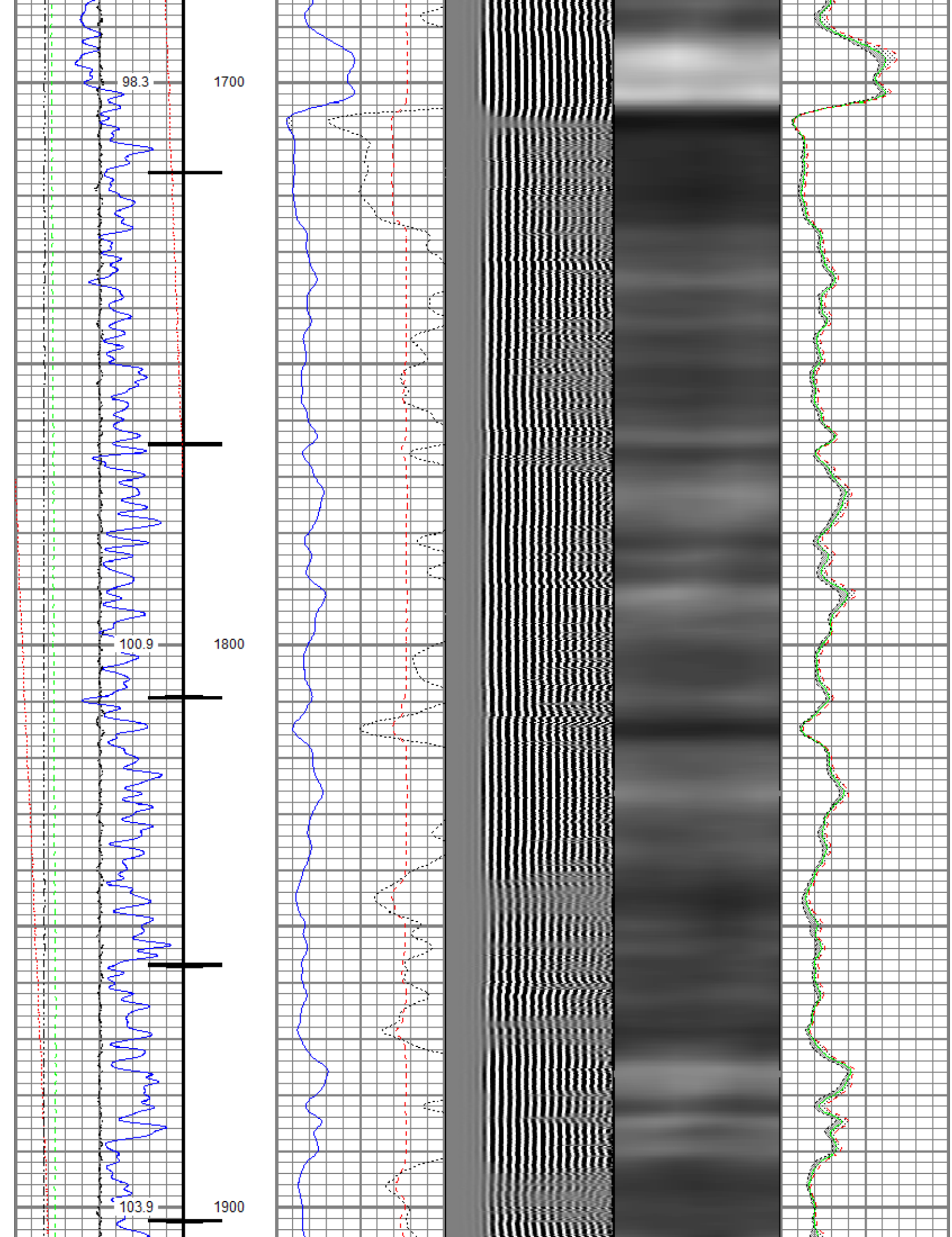


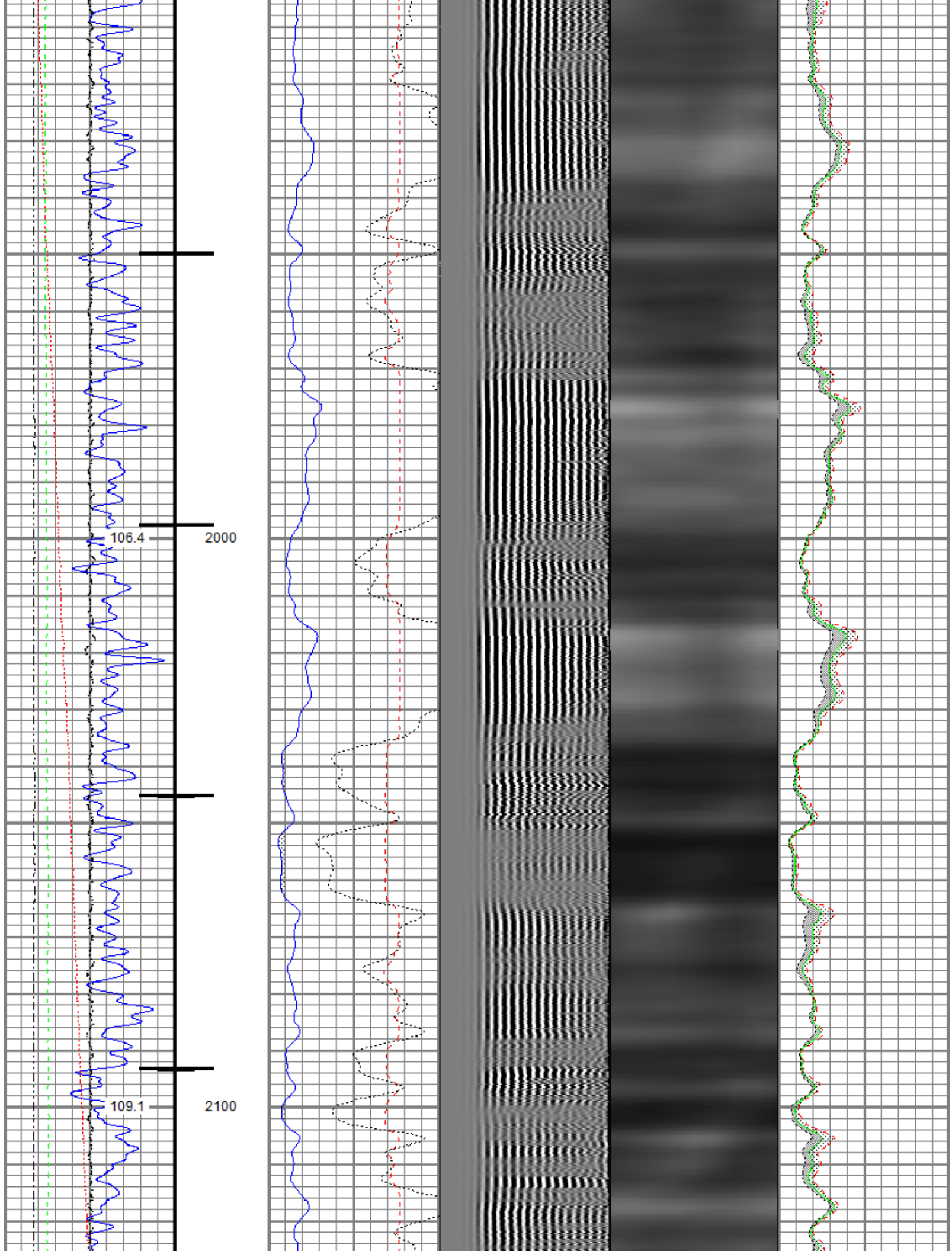


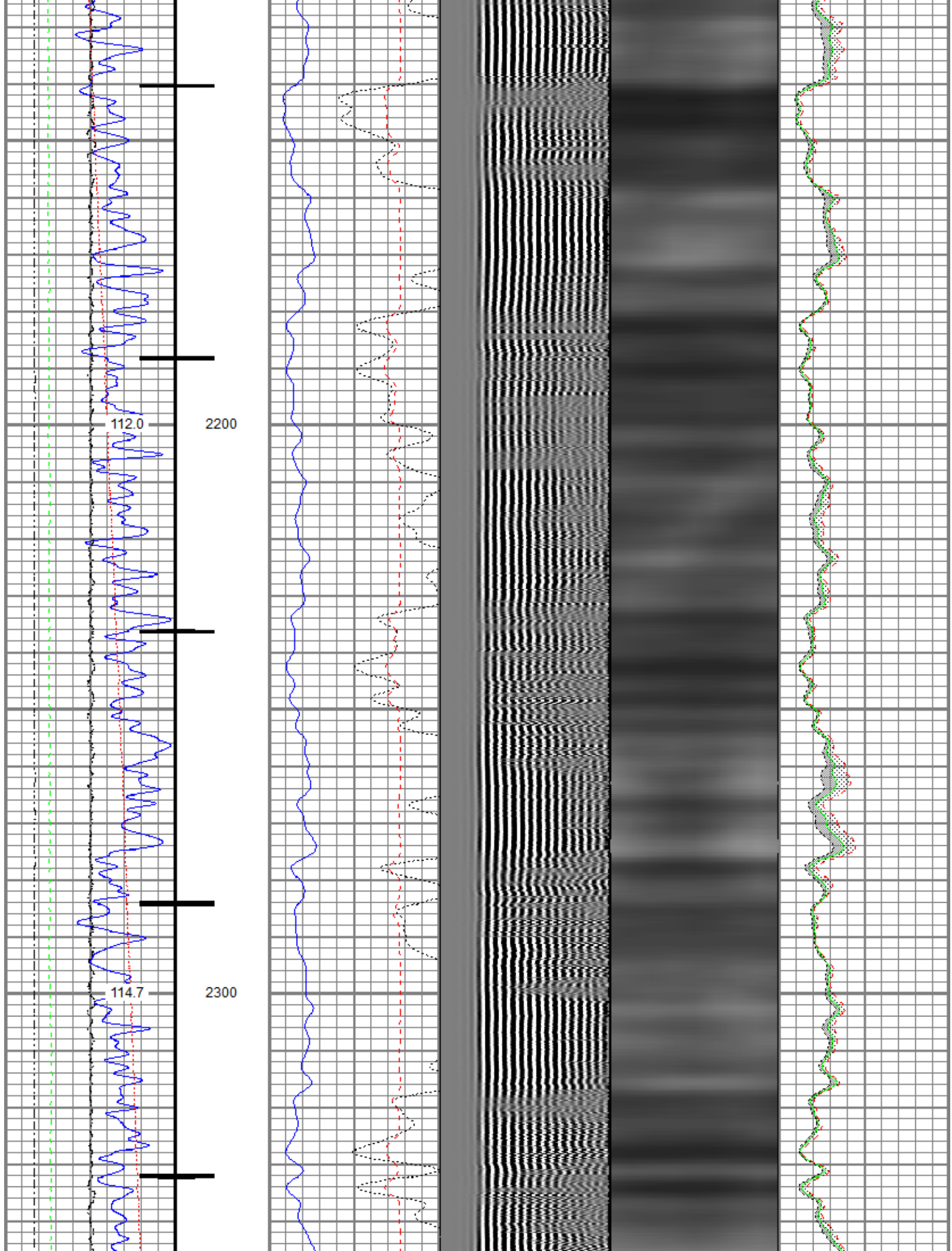


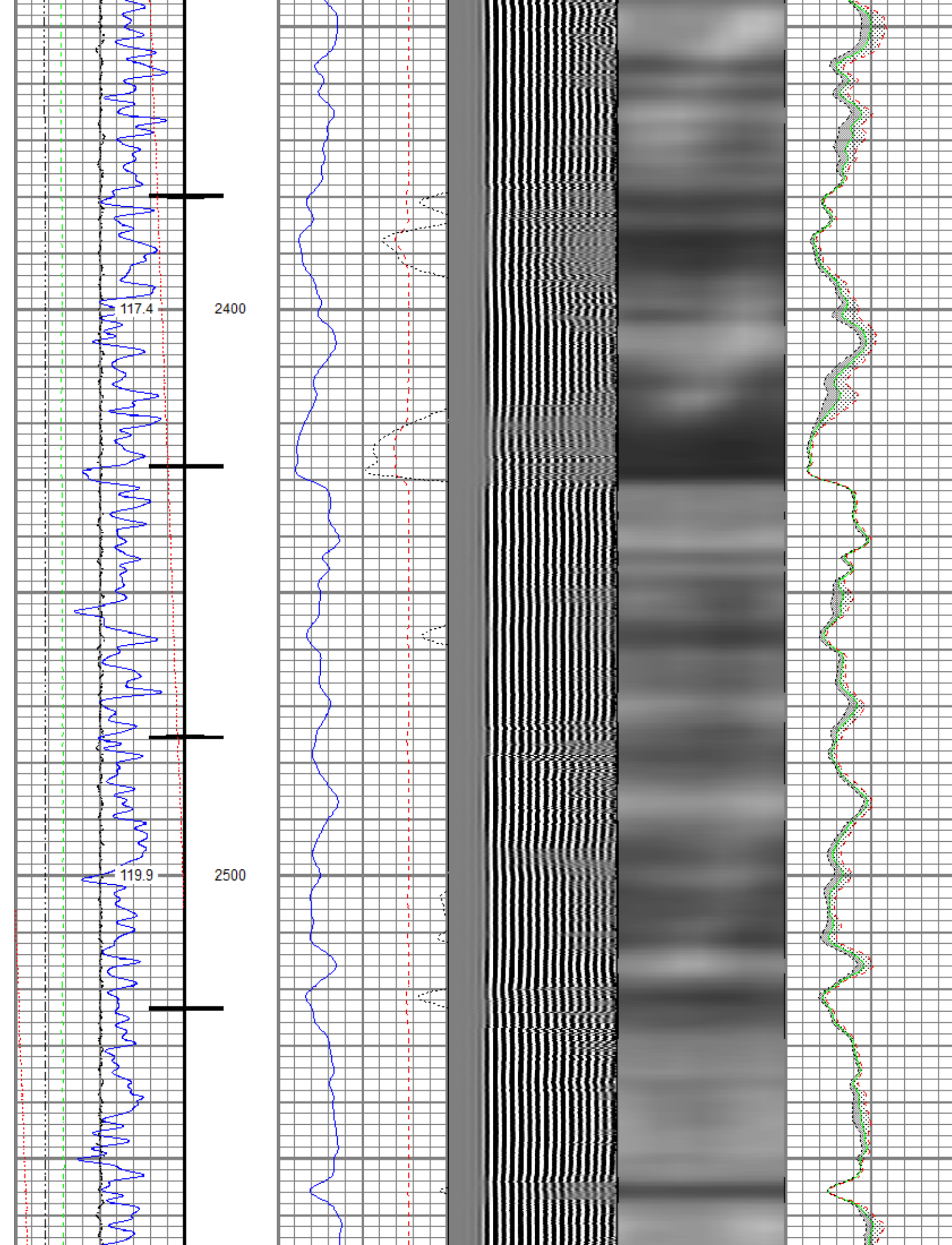


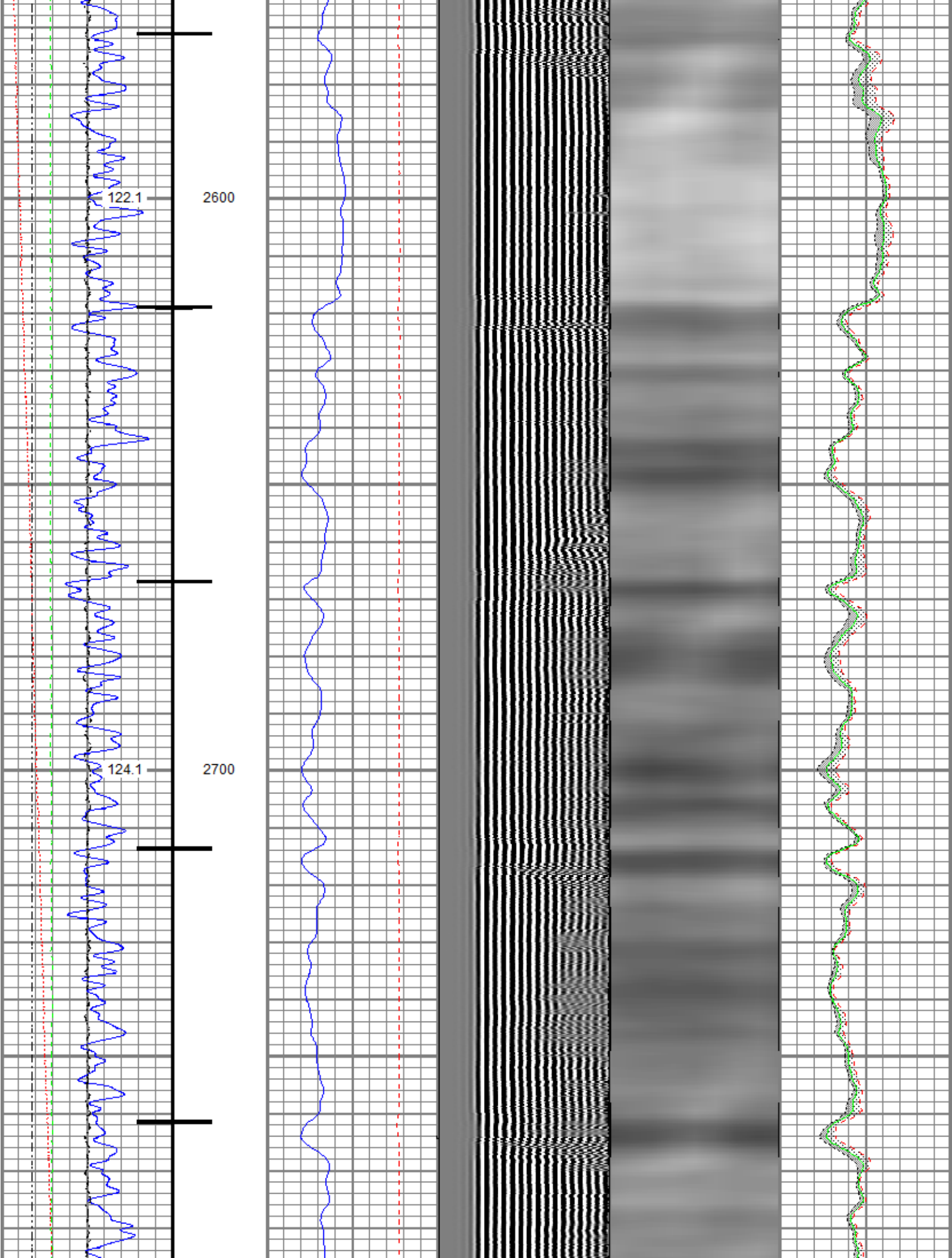


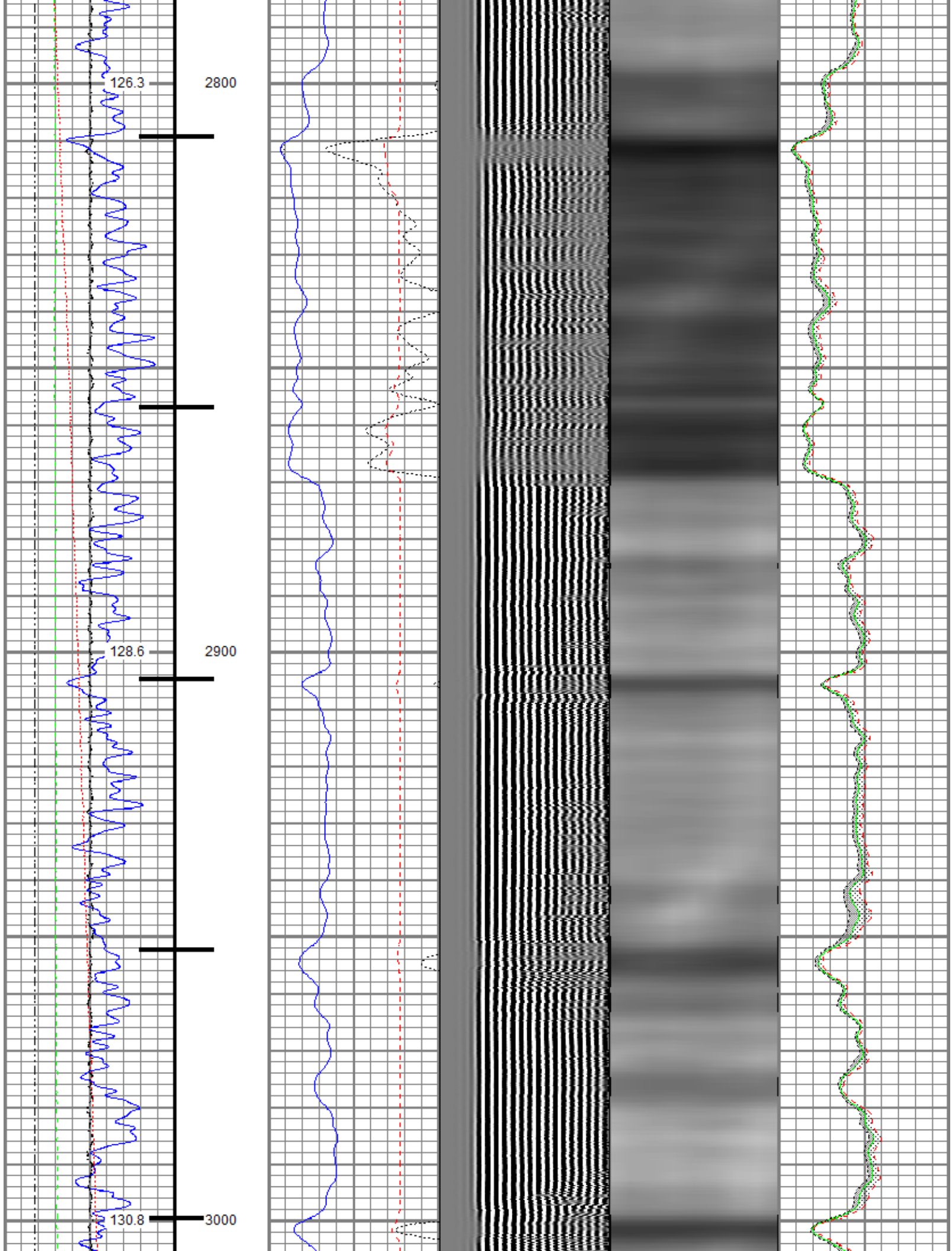


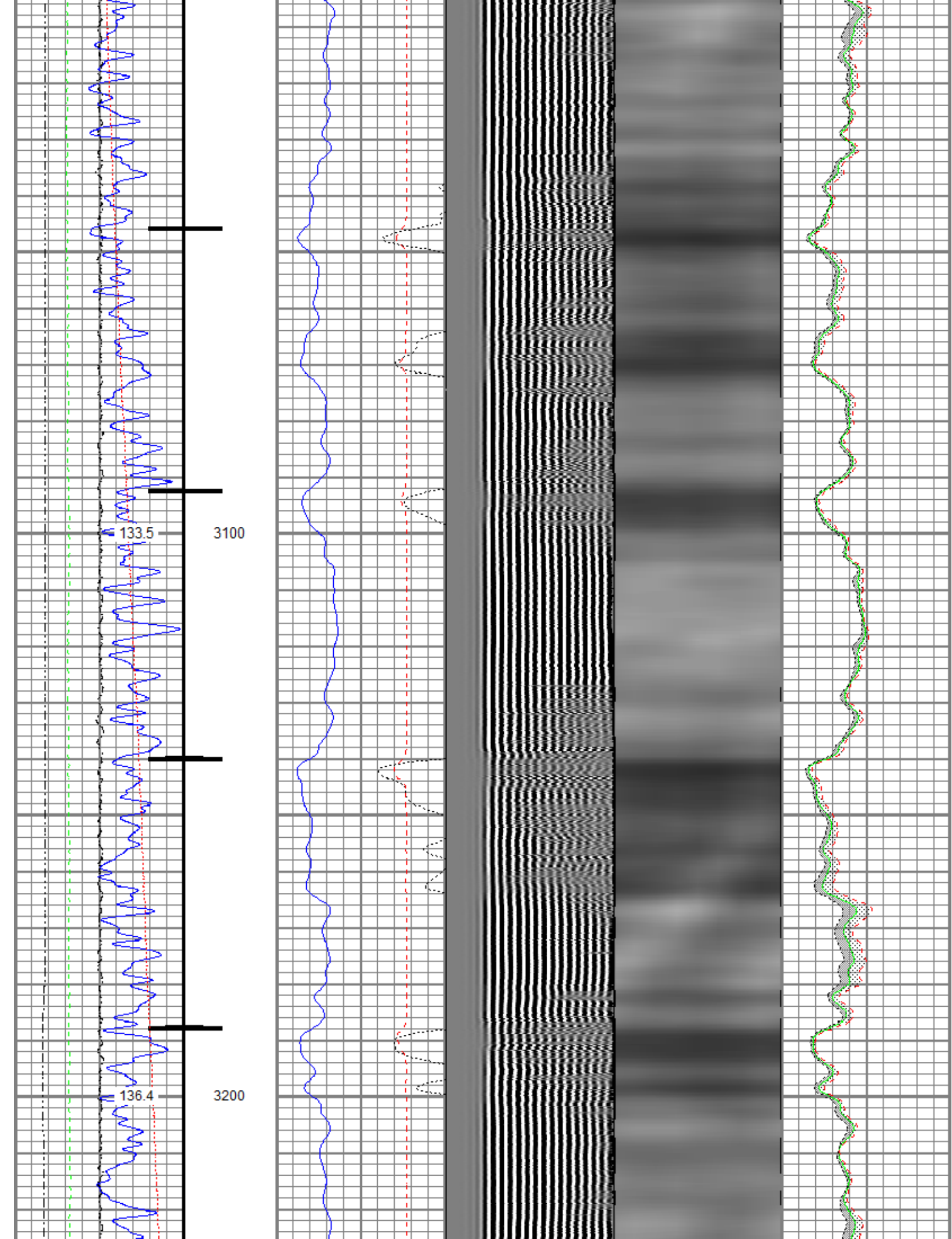


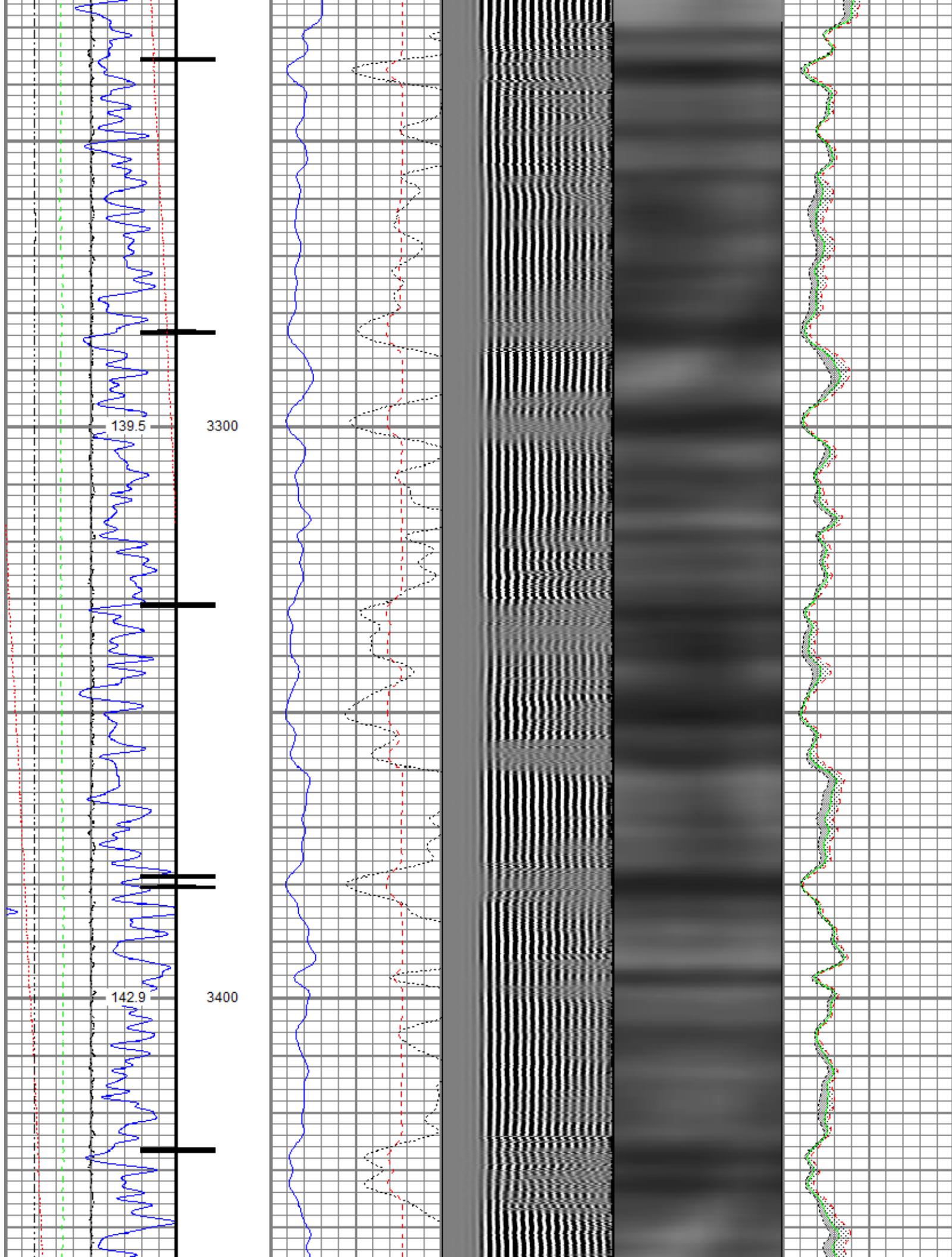


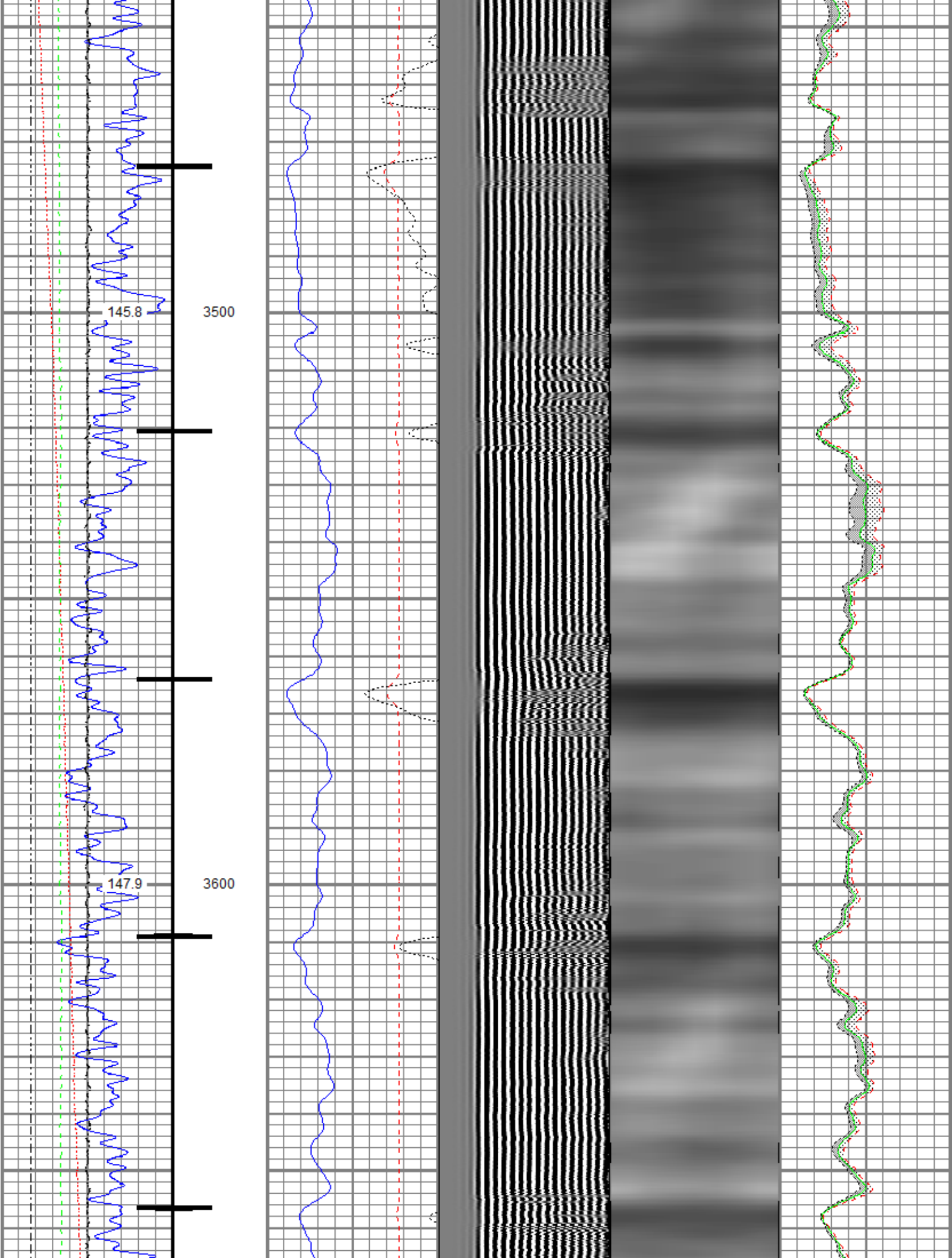


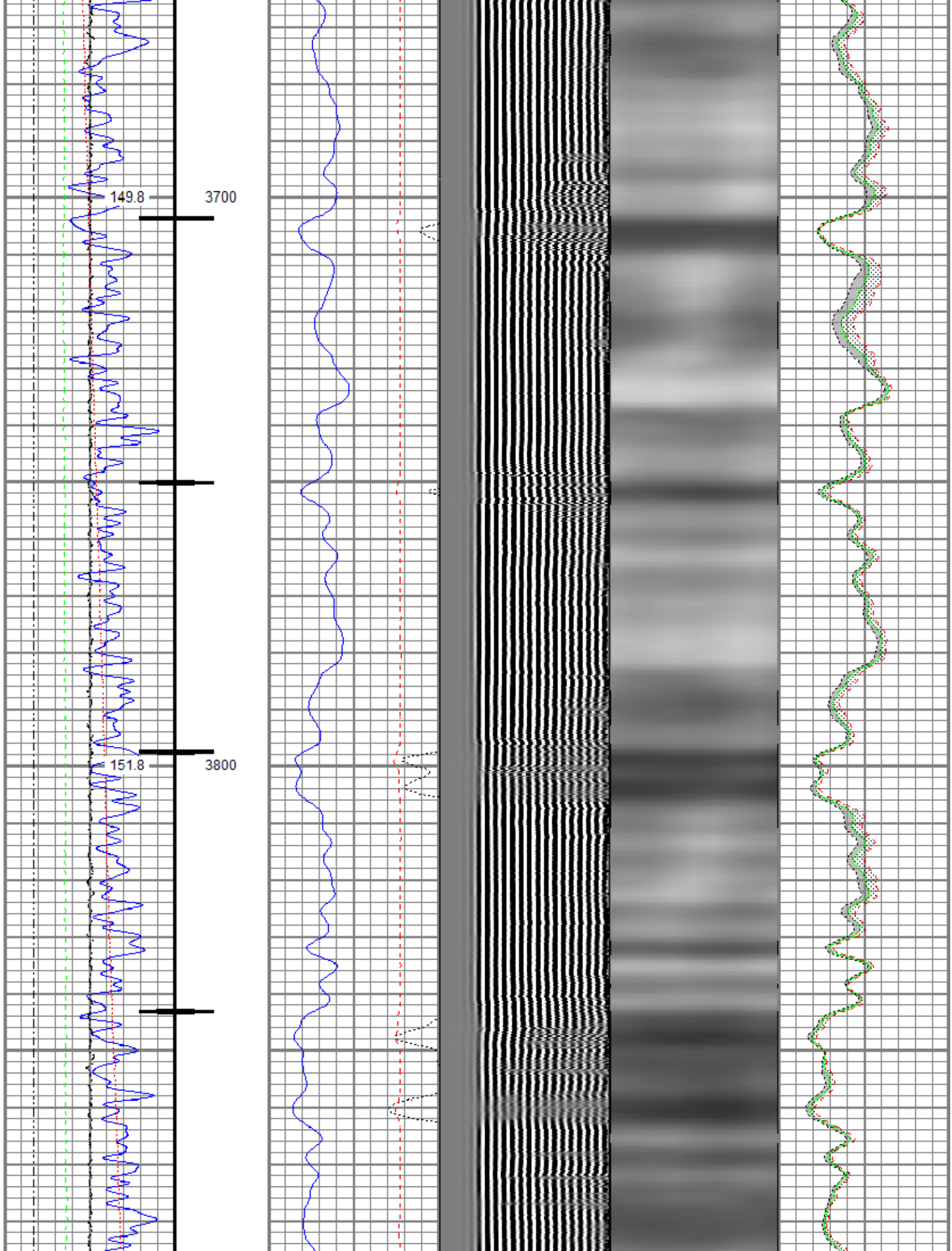


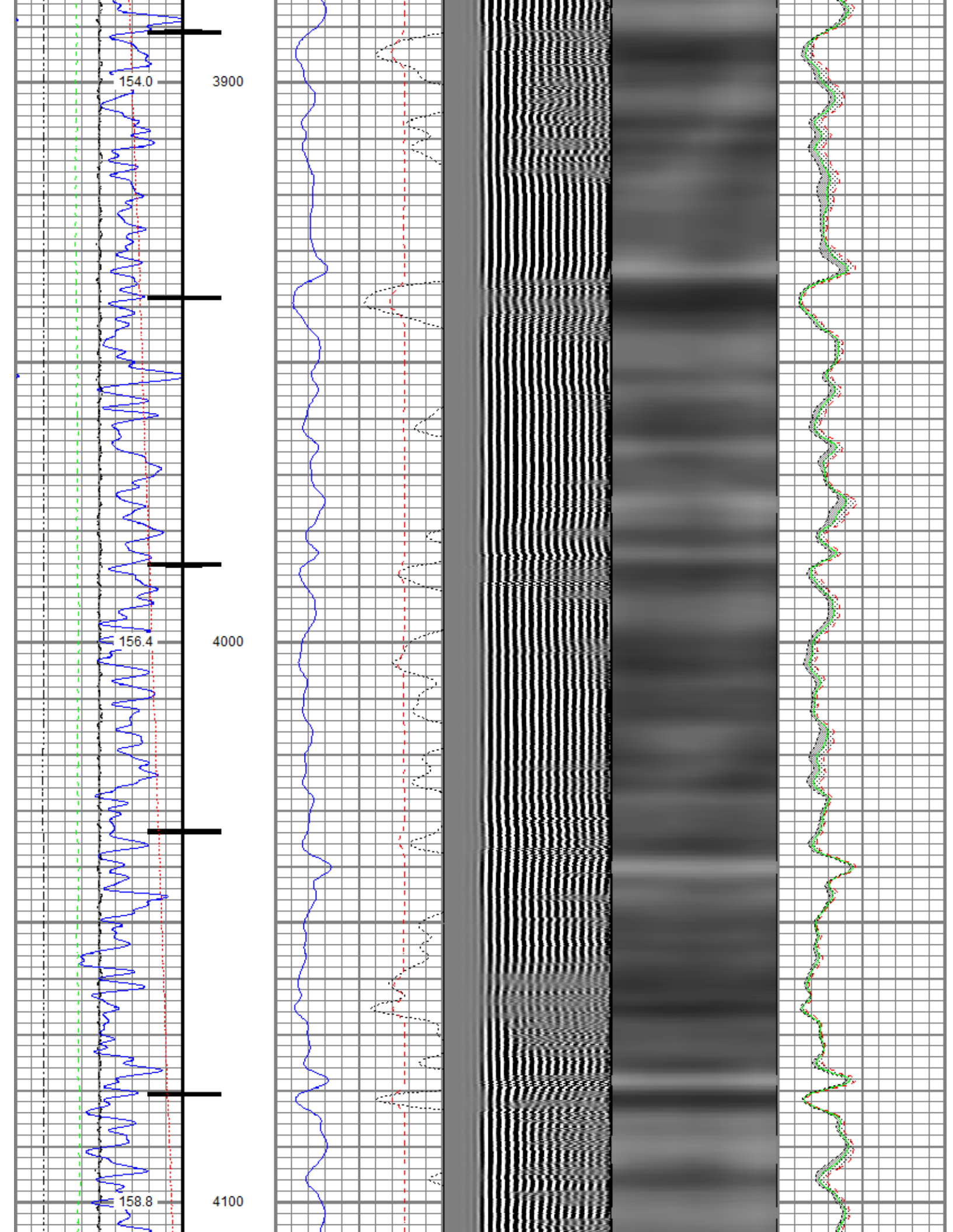


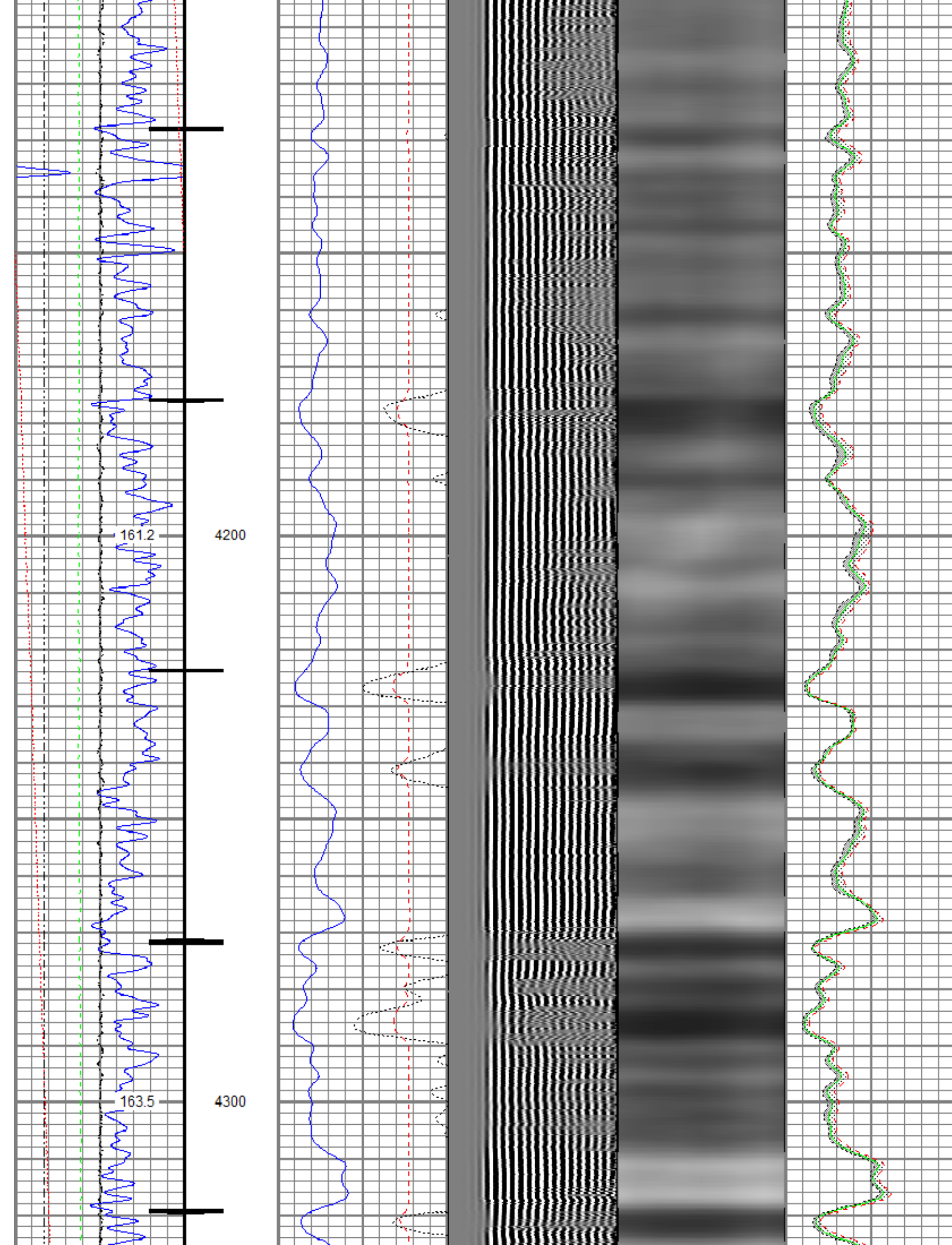


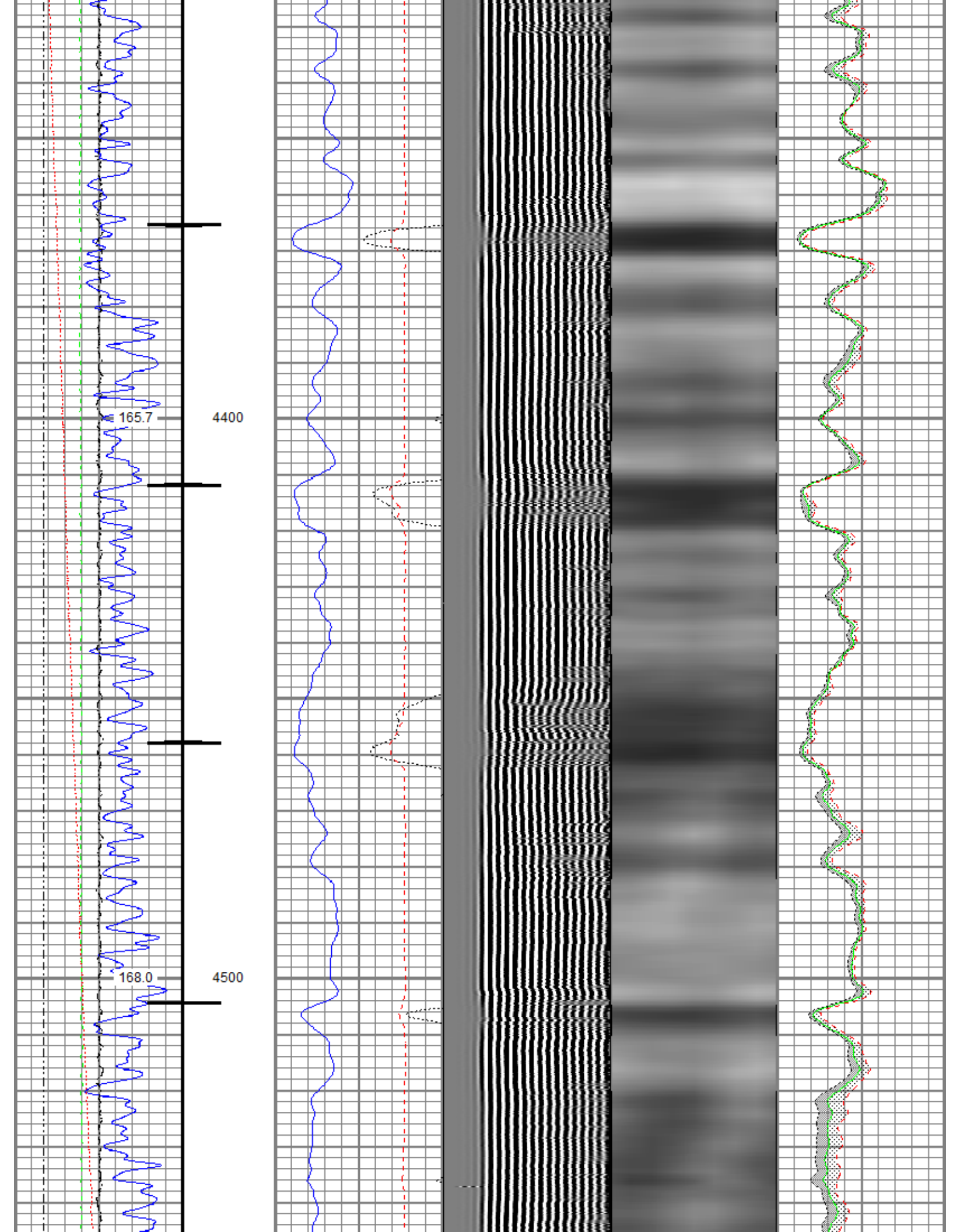


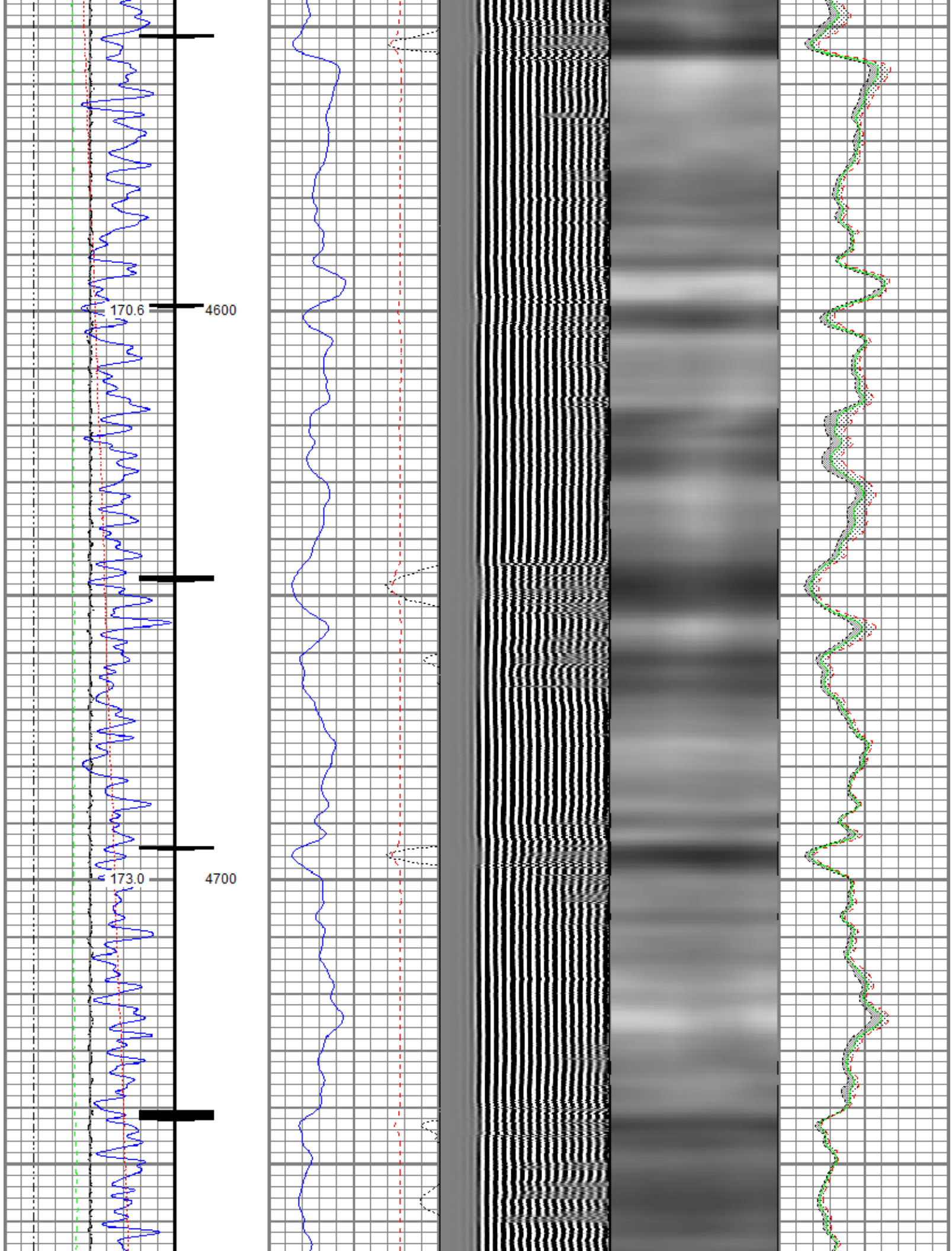


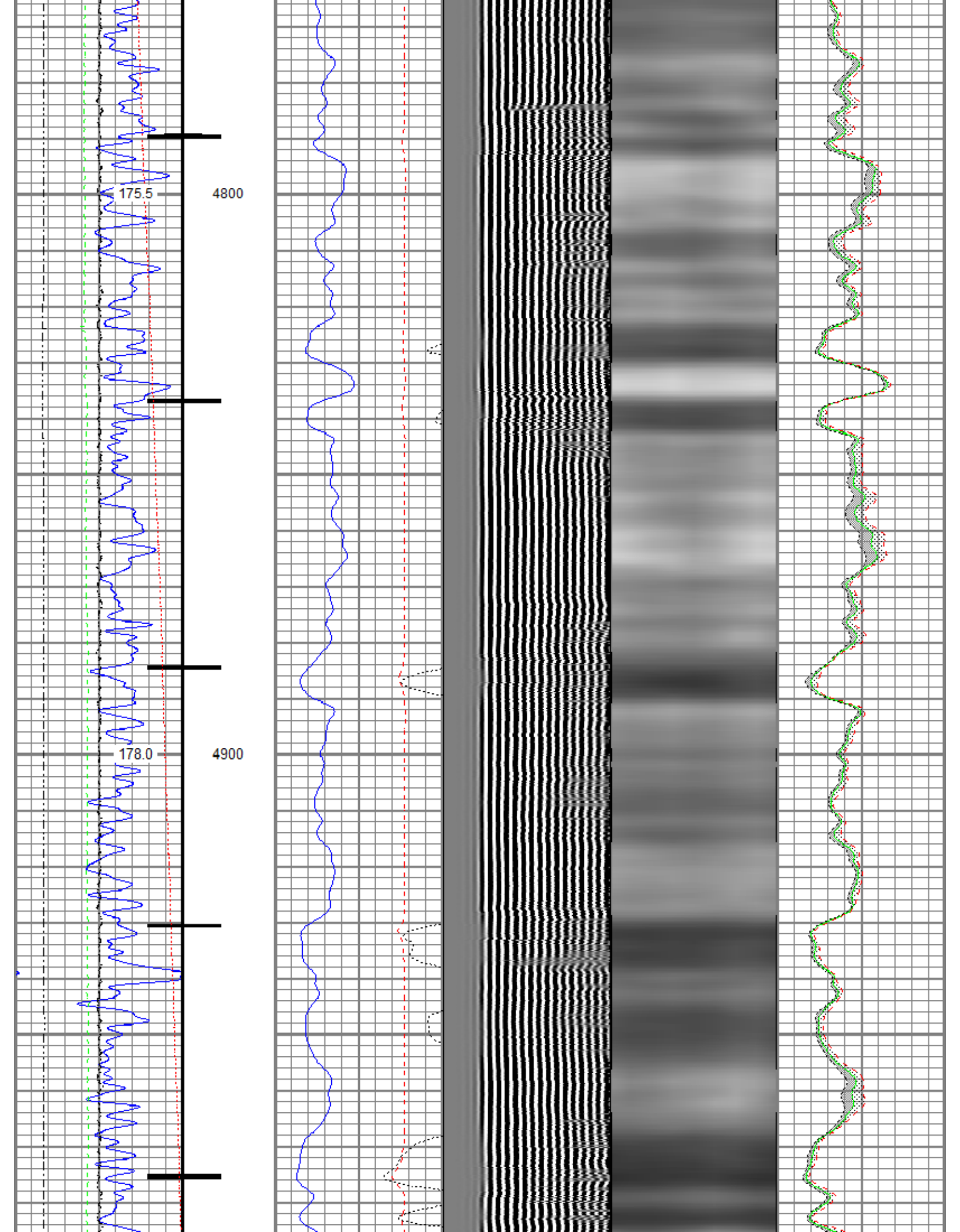


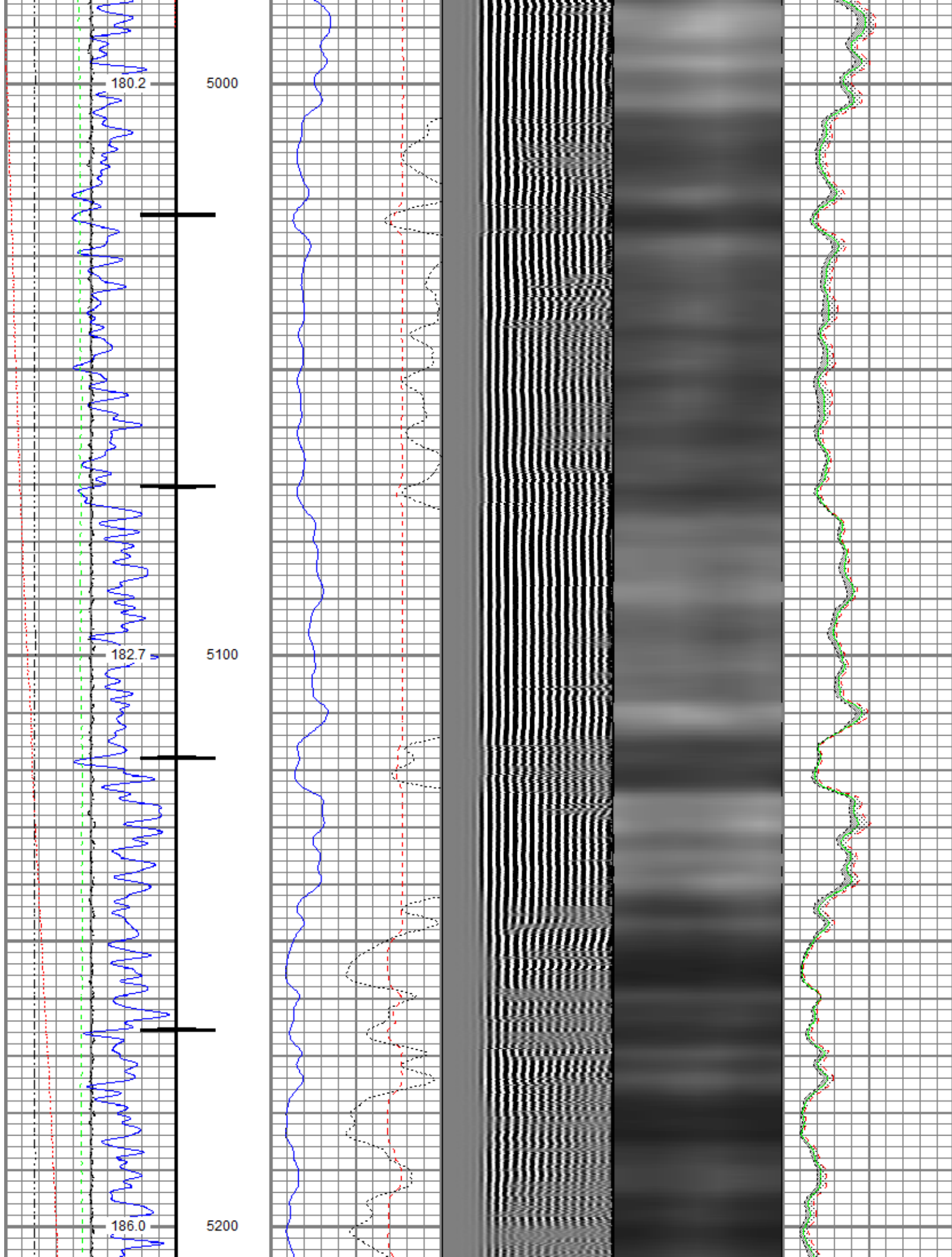


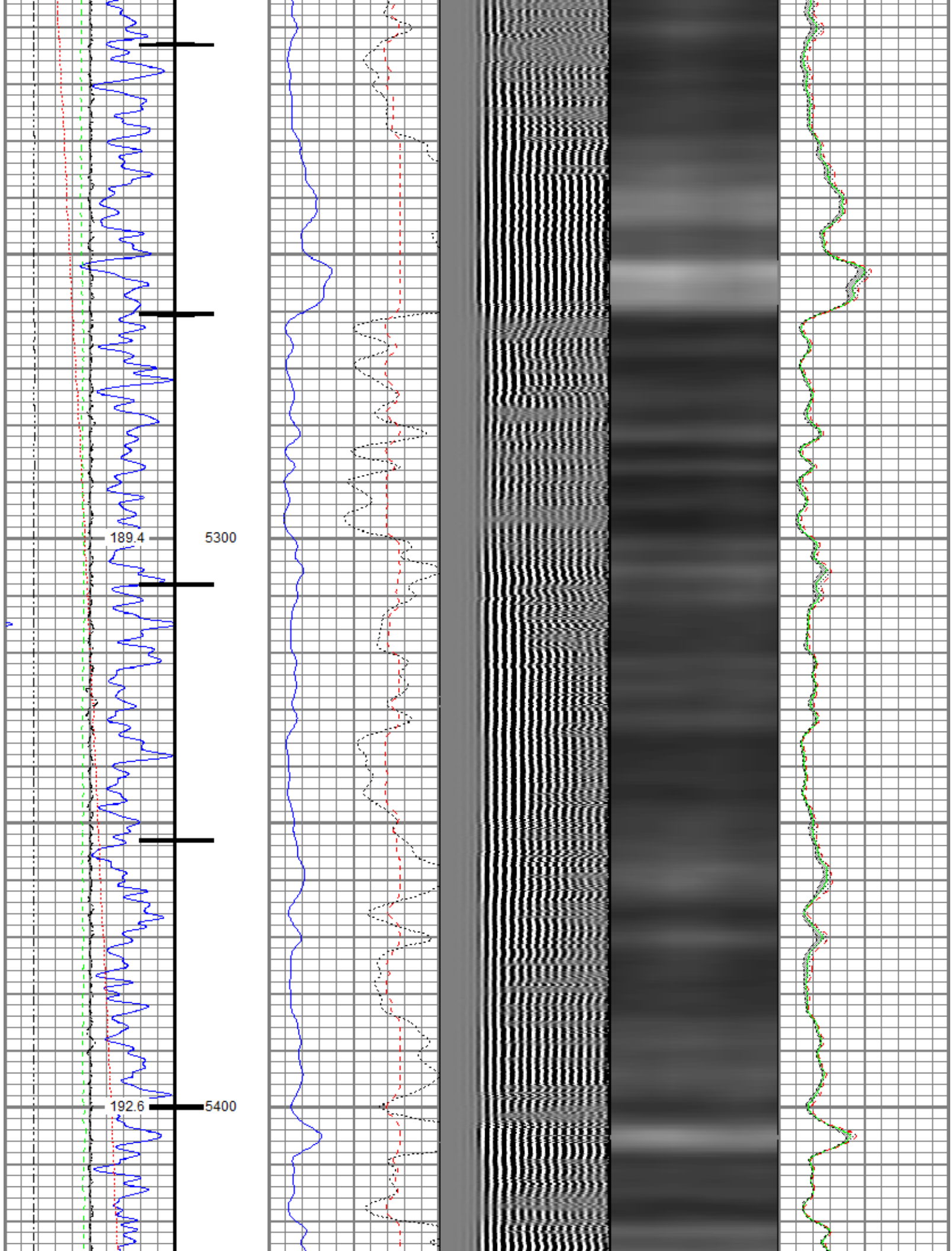


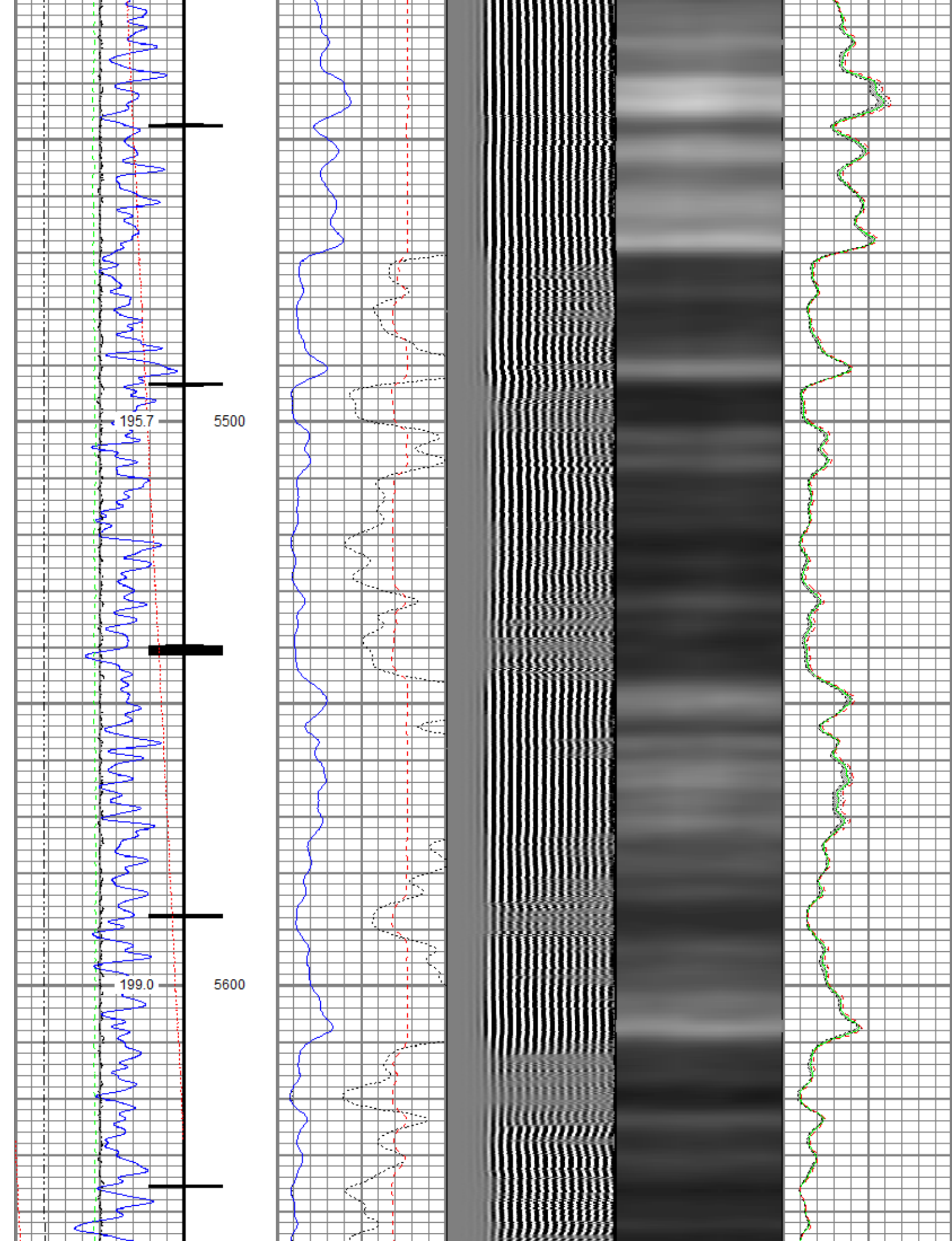


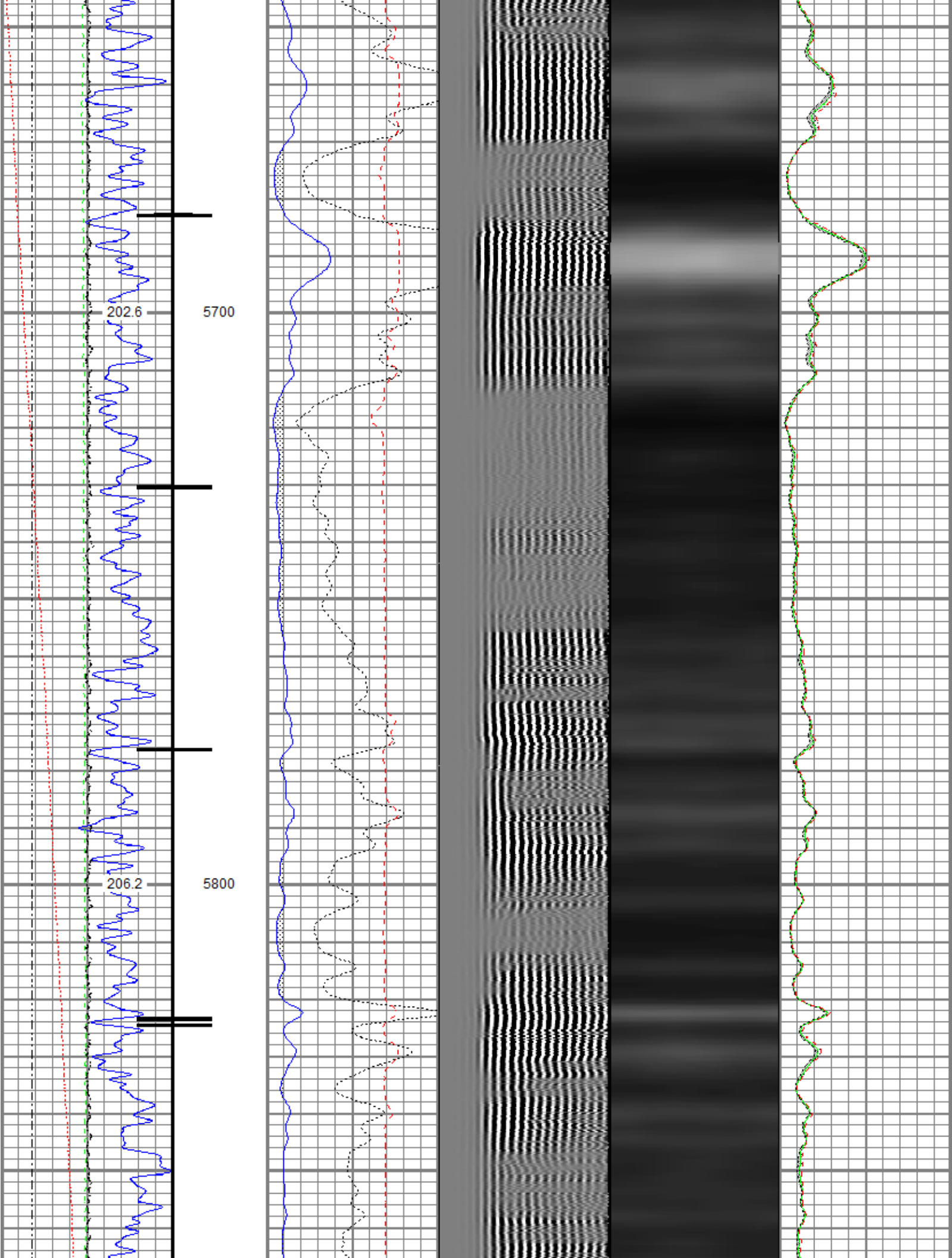


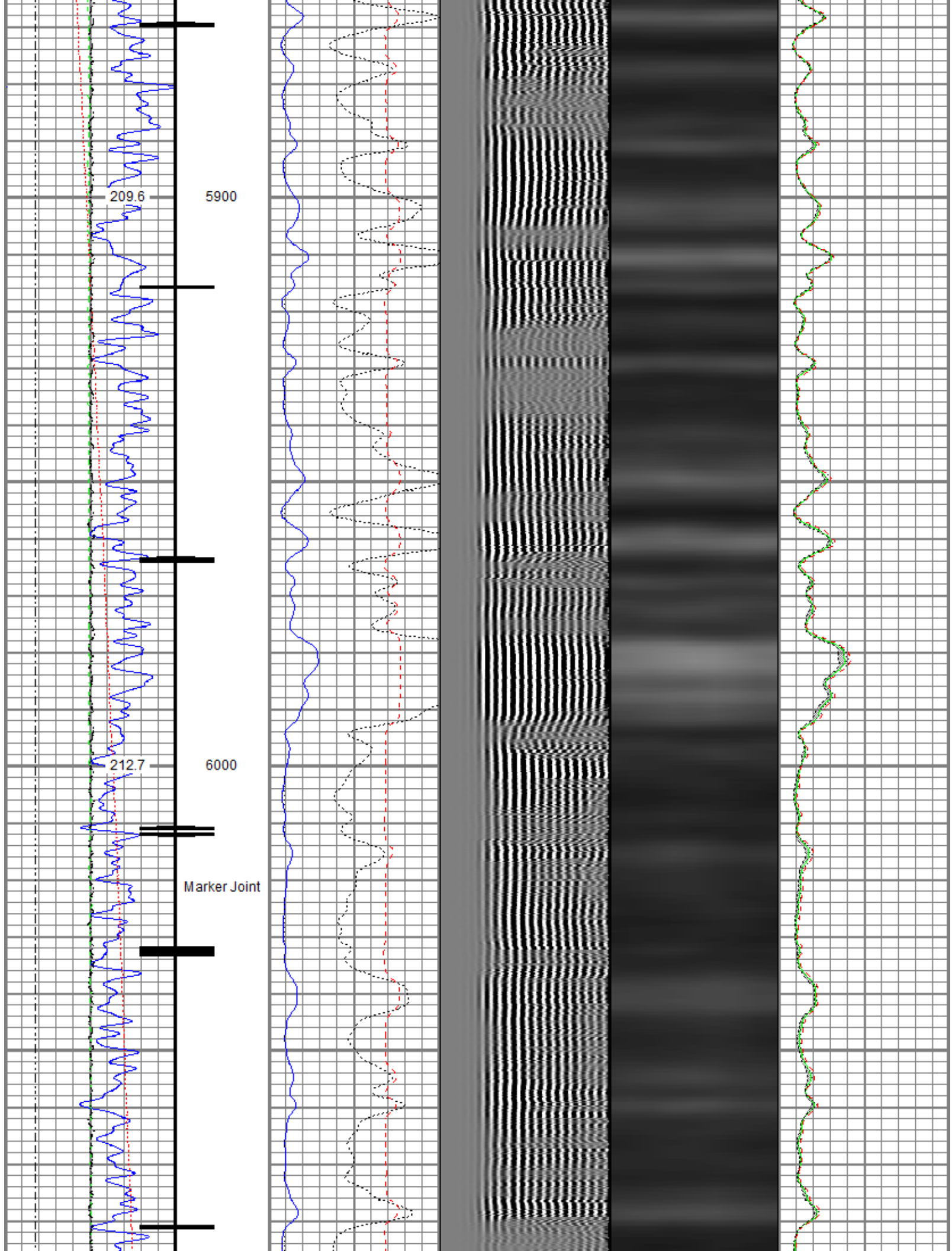


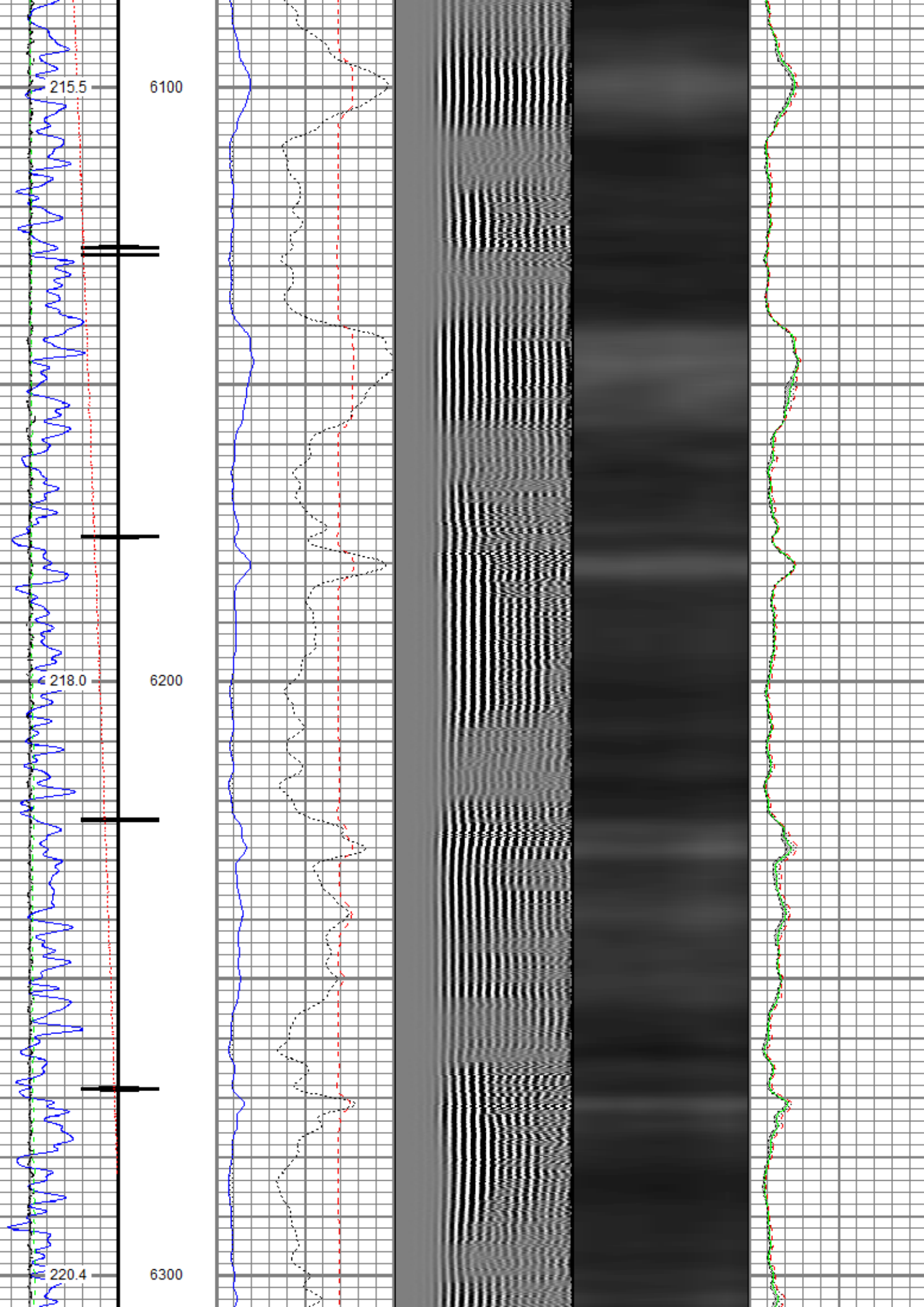


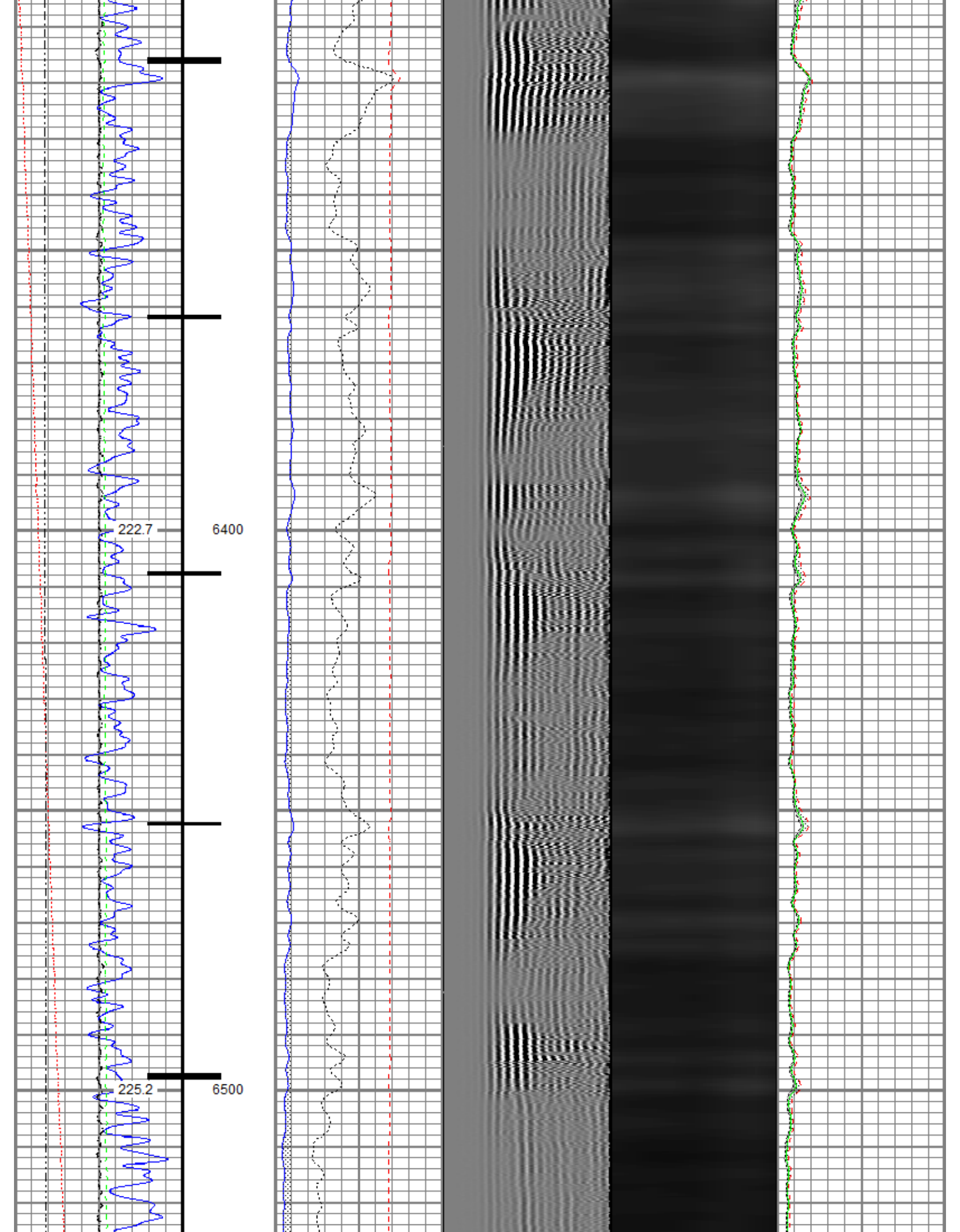


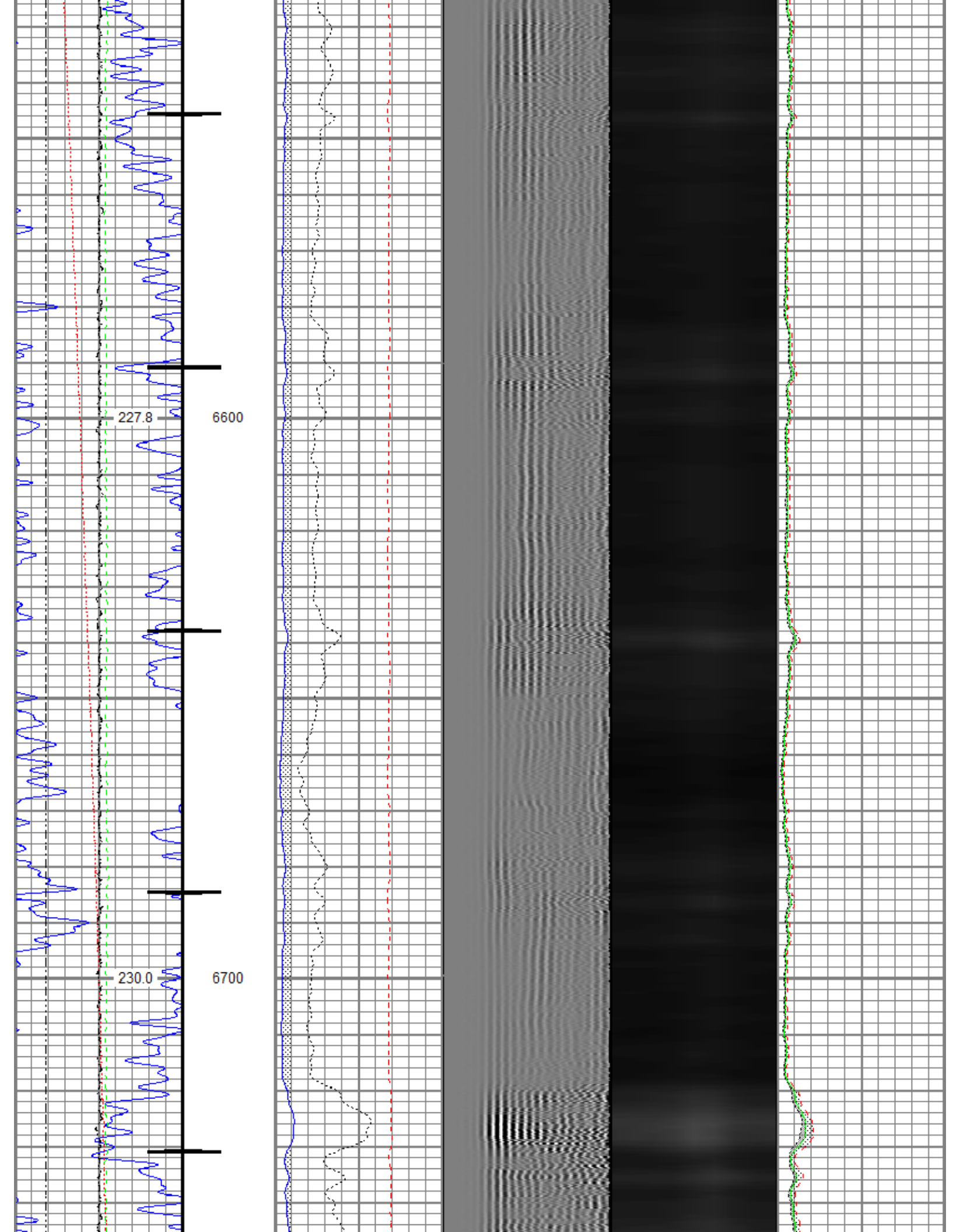


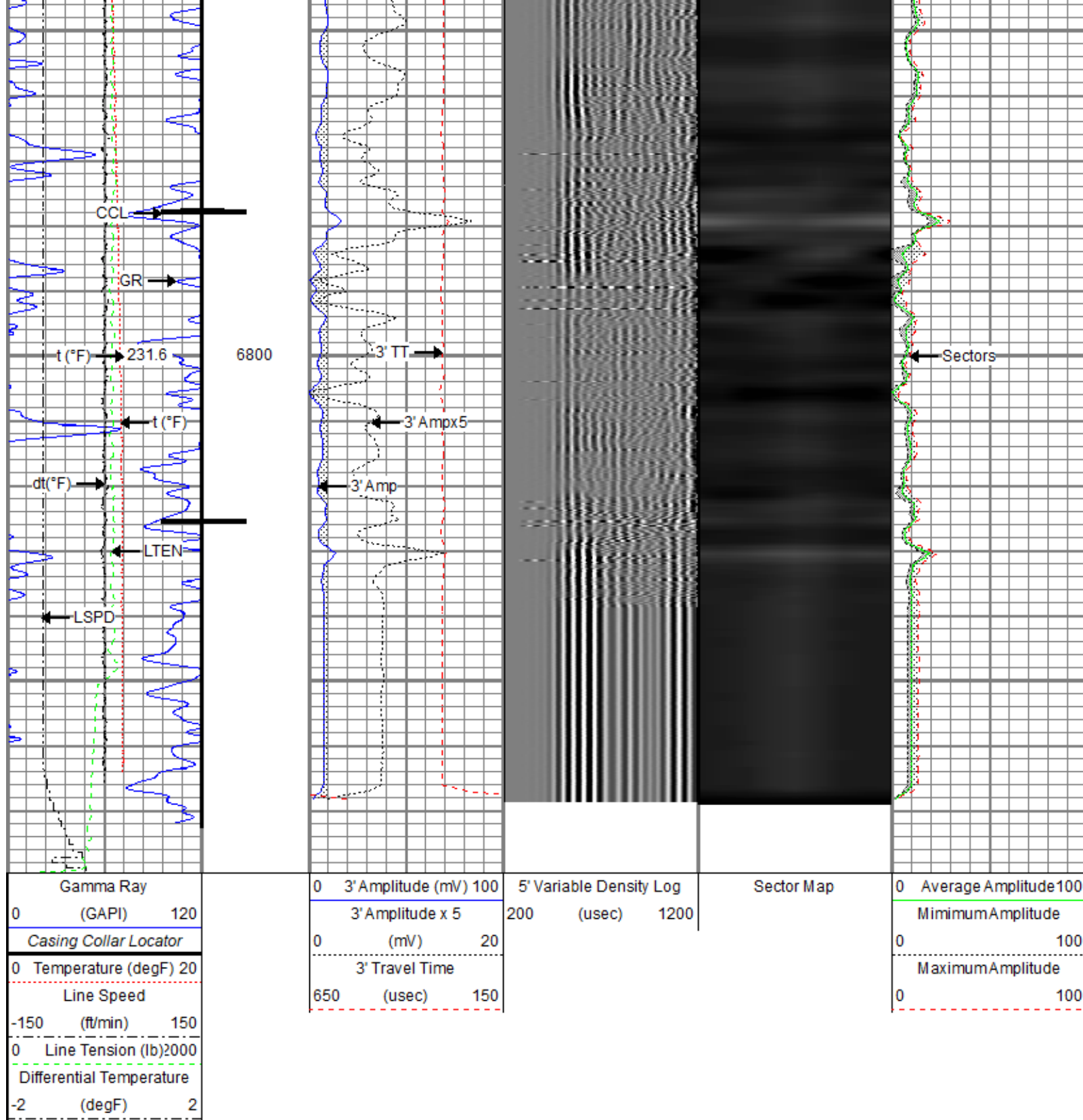










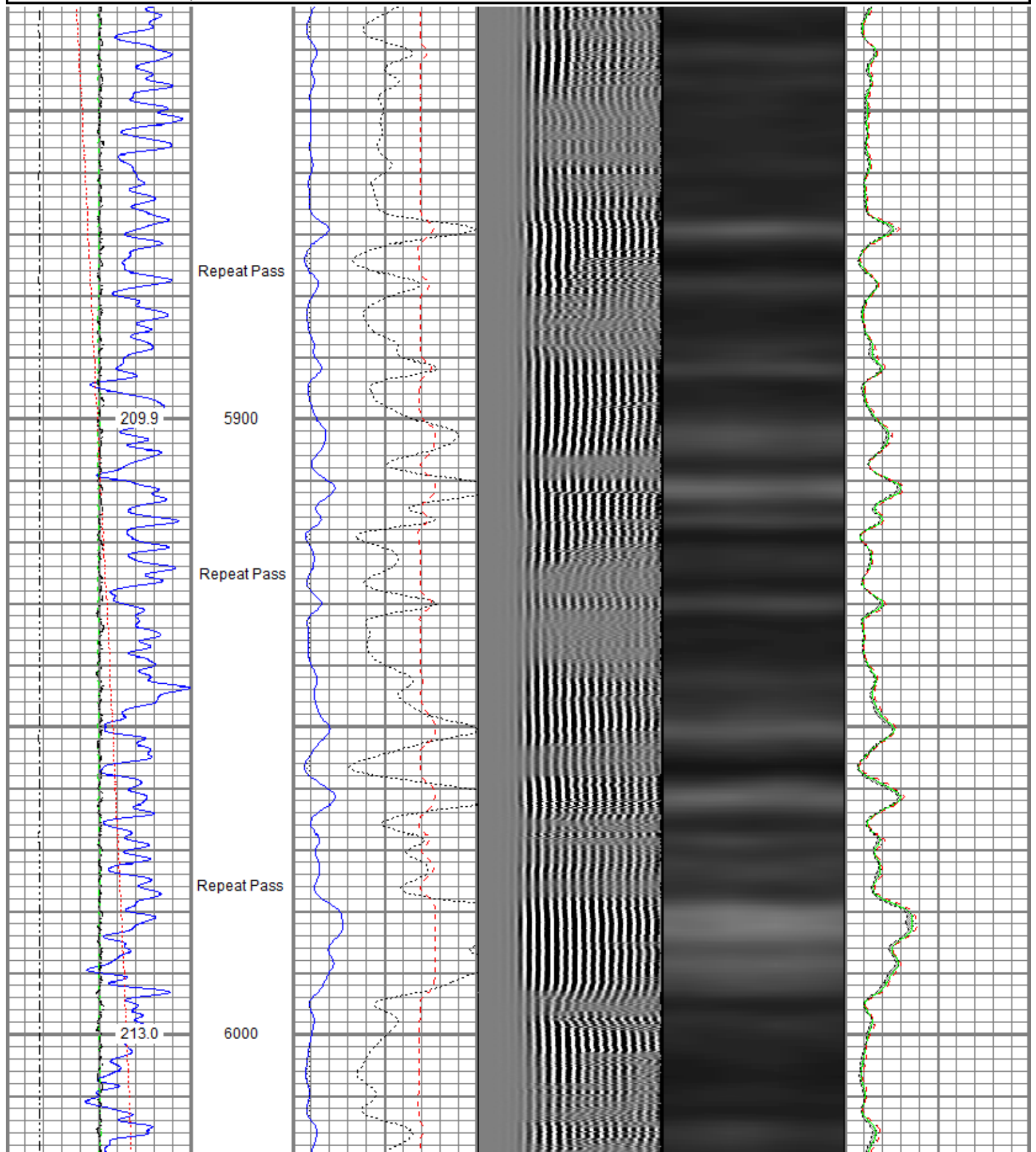


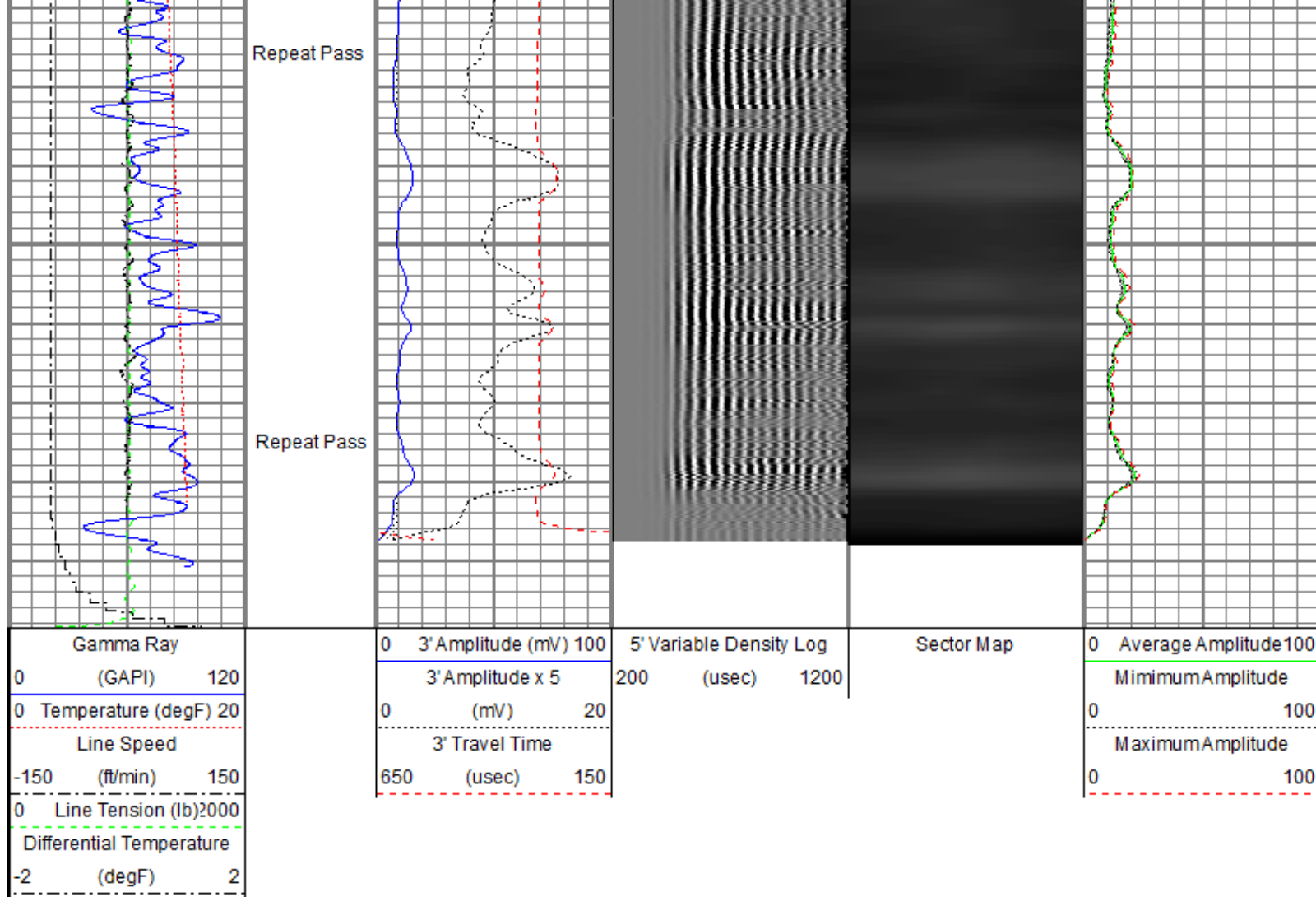
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

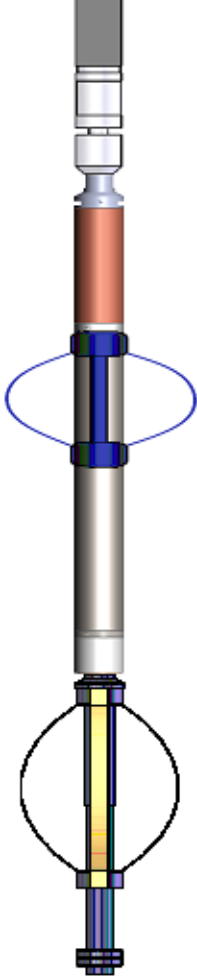
Database File pharaoh 5n_rbl_02-11-21\pdc_pharaoh 5n_rbl_02-11-21.db
Dataset Pathname pass3.1
Presentation Format ros_radri
Dataset Creation Fri Feb 12 17:52:47 2021
Charted by Depth in Feet scaled 1:240

Gamma Ray			3' Amplitude (mV) 100			5' Variable Density Log			Sector Map			Average Amplitude 100		
0	(GAPI)	120	3' Amplitude x 5			200	(usec)	1200				Minimum Amplitude		
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)
TEMP	14.16		Titan CHD-14375 GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	3.60
			SO BS CENT-2750-4500 Slip Over 2-3/4" I.D. for 4-1/2" O.D. Casing Bow Spring Centralizer	1.33	3.25	10.00
WVFS8	11.93		Probe Radii-2750 RBT (FW0712-020)	9.39	2.75	105.00
WVFS7	11.93		Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub			
WVFS6	11.93					
WVFS5	11.93					
WVFS4	11.93					
WVFS3	11.93					
WVFS2	11.93					
WVFS1	11.93					

WVF3T	11.93					
WVFCAL	11.93					
WVF3FT	11.93					
WVF5FT	10.93					
CCL\$2	6.80					
CCL\$1	6.80					
GR	5.46		SO BS CENT-2750-4500 Slip Over 2-3/4" I.D. for 4-1/2" O.D. Casing Bow Spring Centralizer 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	1.33 4.80	3.25 2.75	10.00 55.00

	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.680	0.800	71.921	104.719	0.727
CAL	0.006	0.667				
5'	0.000	0.681	0.800	71.921	104.474	0.758
SUM						
S1	0.001	0.665	0.000	100.000	150.464	-0.090
S2	0.001	0.660	0.000	100.000	151.710	-0.098
S3	0.001	0.675	0.000	100.000	148.236	-0.103
S4	0.001	0.690	0.000	100.000	145.065	-0.126
S5	0.001	0.720	0.000	100.000	139.040	-0.145
S6	0.001	0.720	0.000	100.000	139.006	-0.132
S7	0.001	0.715	0.000	100.000	139.936	-0.112
S8	0.001	0.680	0.000	100.000	147.127	-0.099

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.006	0.667	1.000	0.000

Air Zero Calibration, performed Wed Feb 10 07:53:47 2021:

	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: FW0712-020
Tool Model: 2750 RBT
Performed: Tue Dec 03 09:24:53 2019

	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 PDC Energy Inc
Well Pharaoh 5N
Field Wattenberg
County Weld
State Colorado