



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company SRC Energy Inc		Well Harvesters State 4N-16C-M		Field Wattenberg		County Weld		State Colorado							
Location:		API # : 05-123-46358		Other Services											
SEC 15 TWP 6N RGE 66W															
Permanent Datum		Ground Level		Elevation		4801'									
Log Measured From		Ground Level		0 FT											
Drilling Measured From		Kelly Bushing													
Date		20-JUN-2018													
Run Number		One													
Depth Driller		15037 FT (GL)													
Depth Logger		6651 FT													
Bottom Logged Interval		6636 FT													
Top Log Interval		Surface													
Open Hole Size		---													
Type Fluid		Water													
Density / Viscosity		8.34 lb/gal													
Max. Recorded Temp.		210°F													
Estimated Cement Top		See Log													
Time Well Ready		ROA													
Time Logger on Bottom		09:16													
Equipment Number		HD-361													
Location		Fort Lupton, CO													
Recorded By		Greg Lueck													
Witnessed By		Nate Brehmer													
Borehole Record		Bit		From		To		Size		Weight		From		To	
Casing Record		Size (in)		Wgt (lbs/ft)		Grade		Top		Bottom					
Surface Casing		9 5/8		36		---		Surface		1761.21 FT					
Intermediate #1		5 1/2		20		---		Surface		15024.77 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
Log measured from Ground Level at 0 FT
Depth referenced to Casing Tally reported Marker Joint at 6560 FT
Adjusted -9 FT to correlate with Marker Joint
Log ran from 50 FT above RBP
Log ran with 2500 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

Thank you for choosing Reliance Oilfield Services, LLC!!

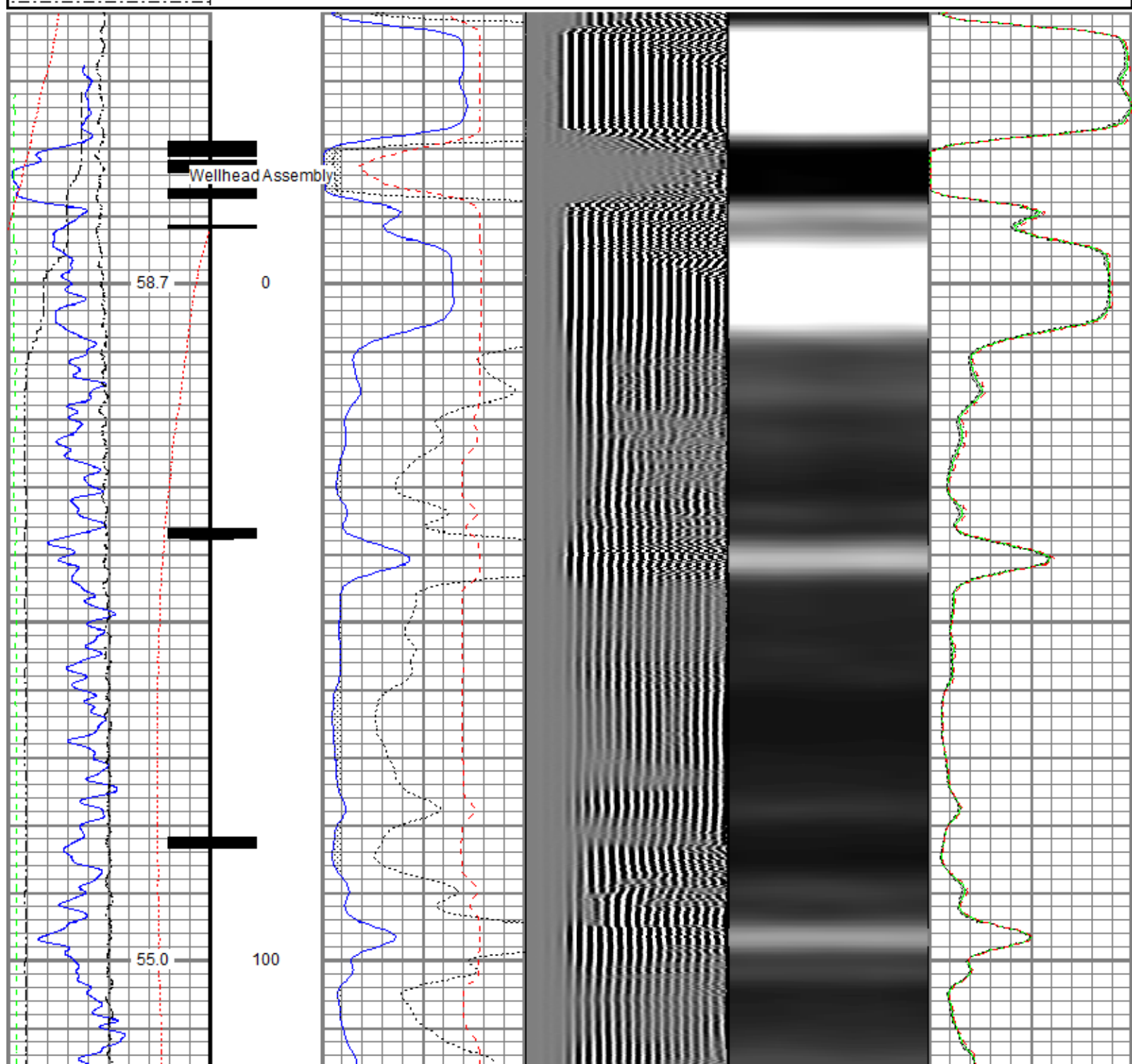


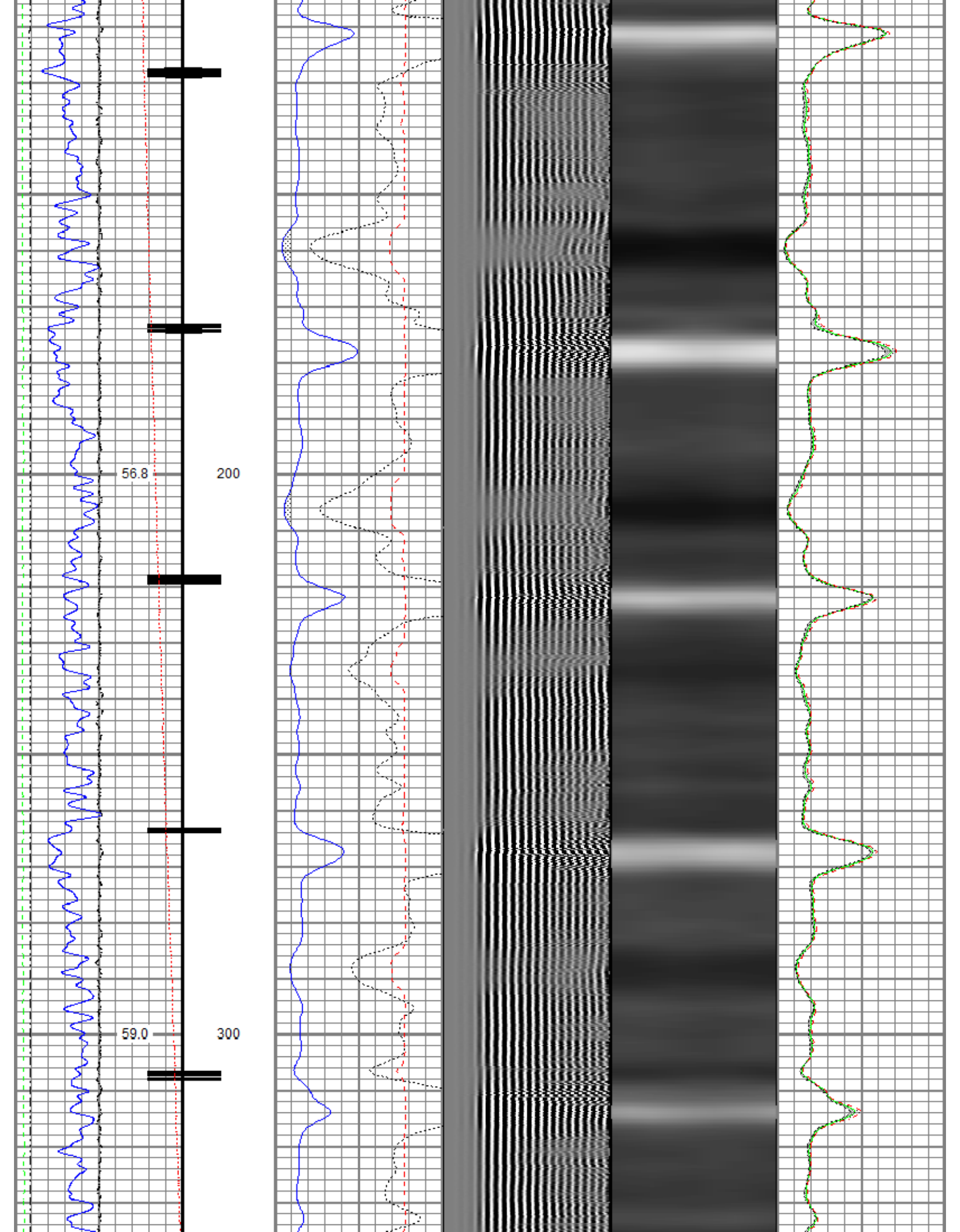
Main Pass

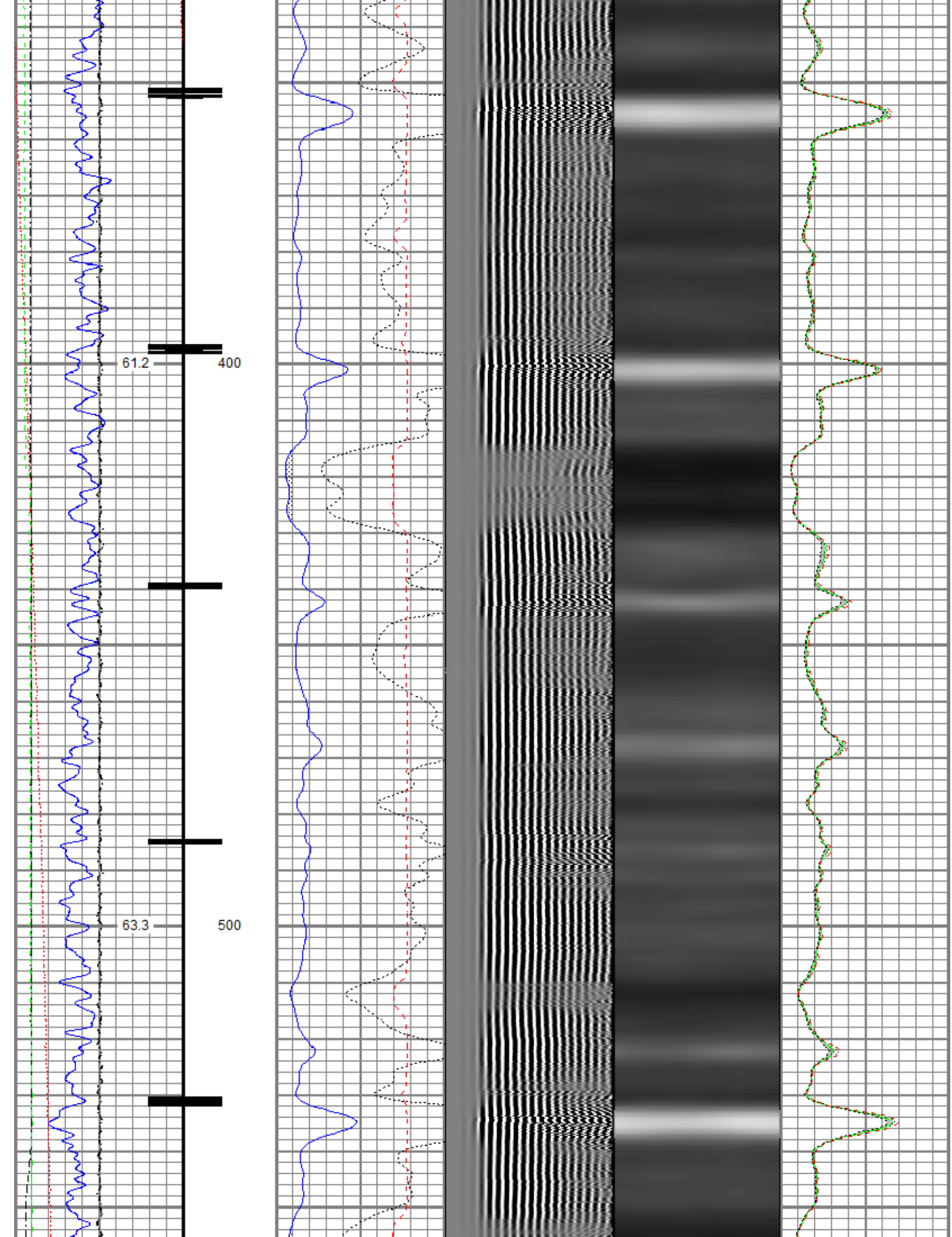
Recorded With 2500 PSI Surface Induced Pressure

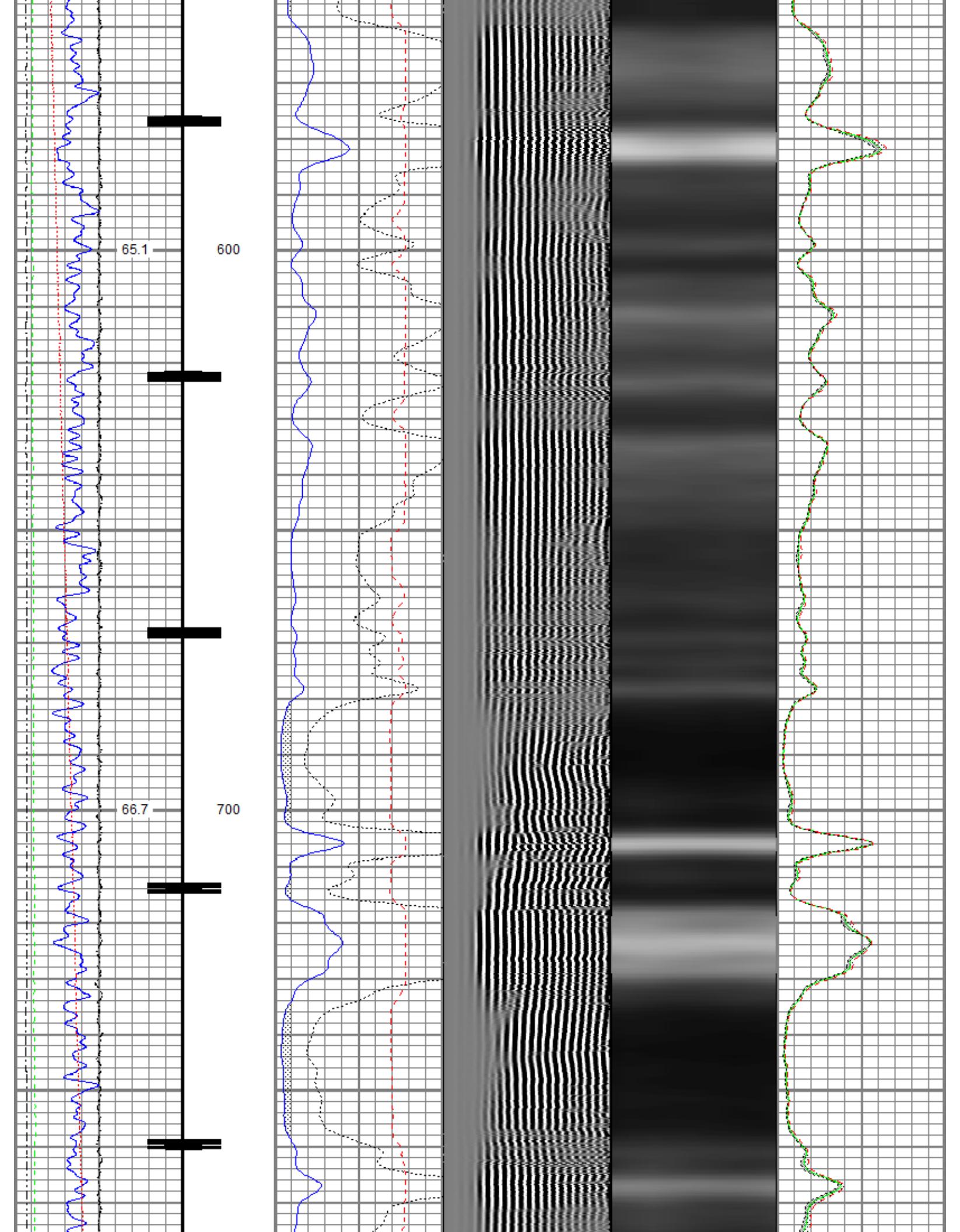
Database File src\harvesters state 4n-16c-misc energy_harvesters state 4n-16c-m_rbl_06-20-18.db
 Dataset Pathname pass4.1
 Presentation Format ros_radri
 Dataset Creation Wed Jun 20 10:15:41 2018
 Charted by Depth in Feet scaled 1:240

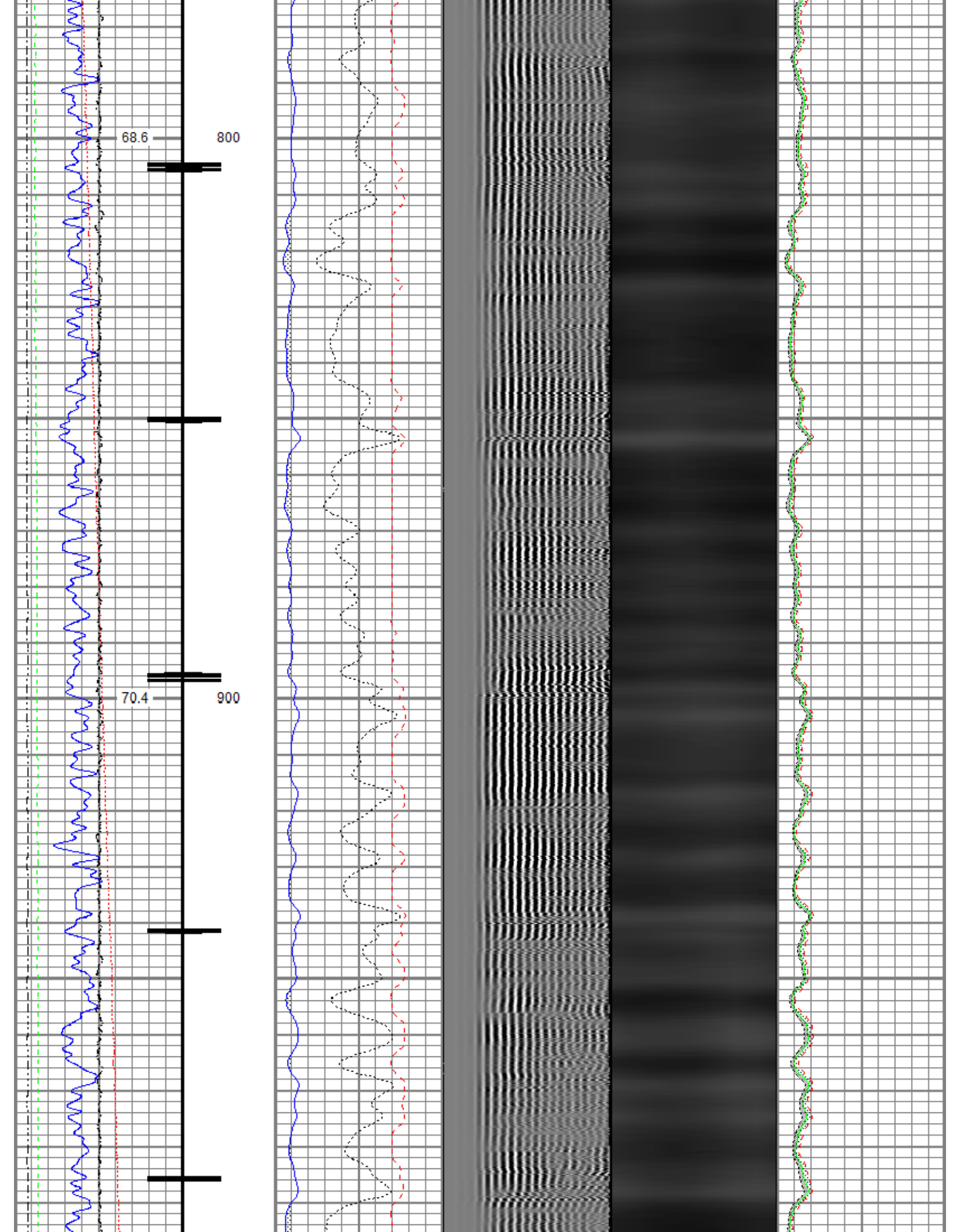
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min)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

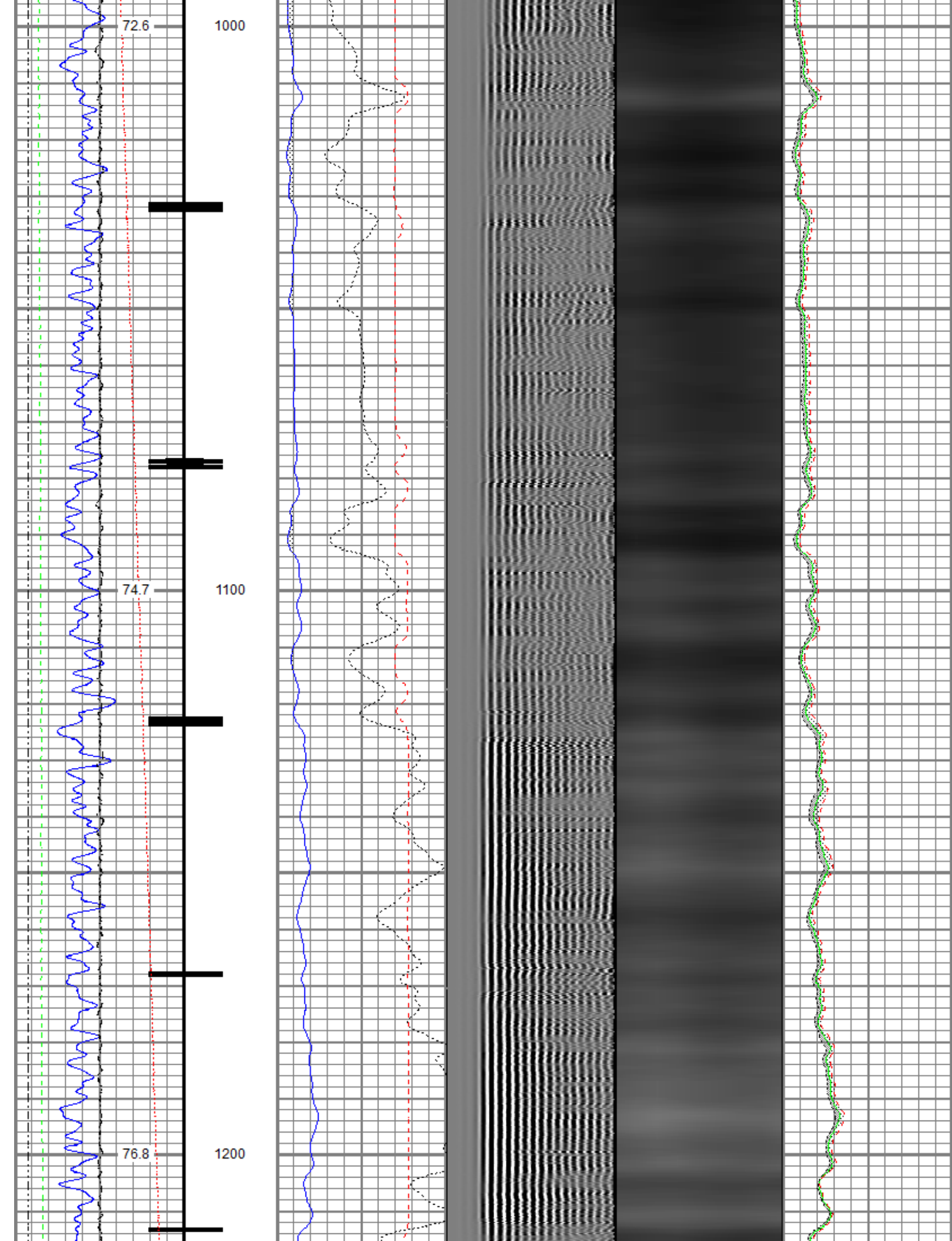


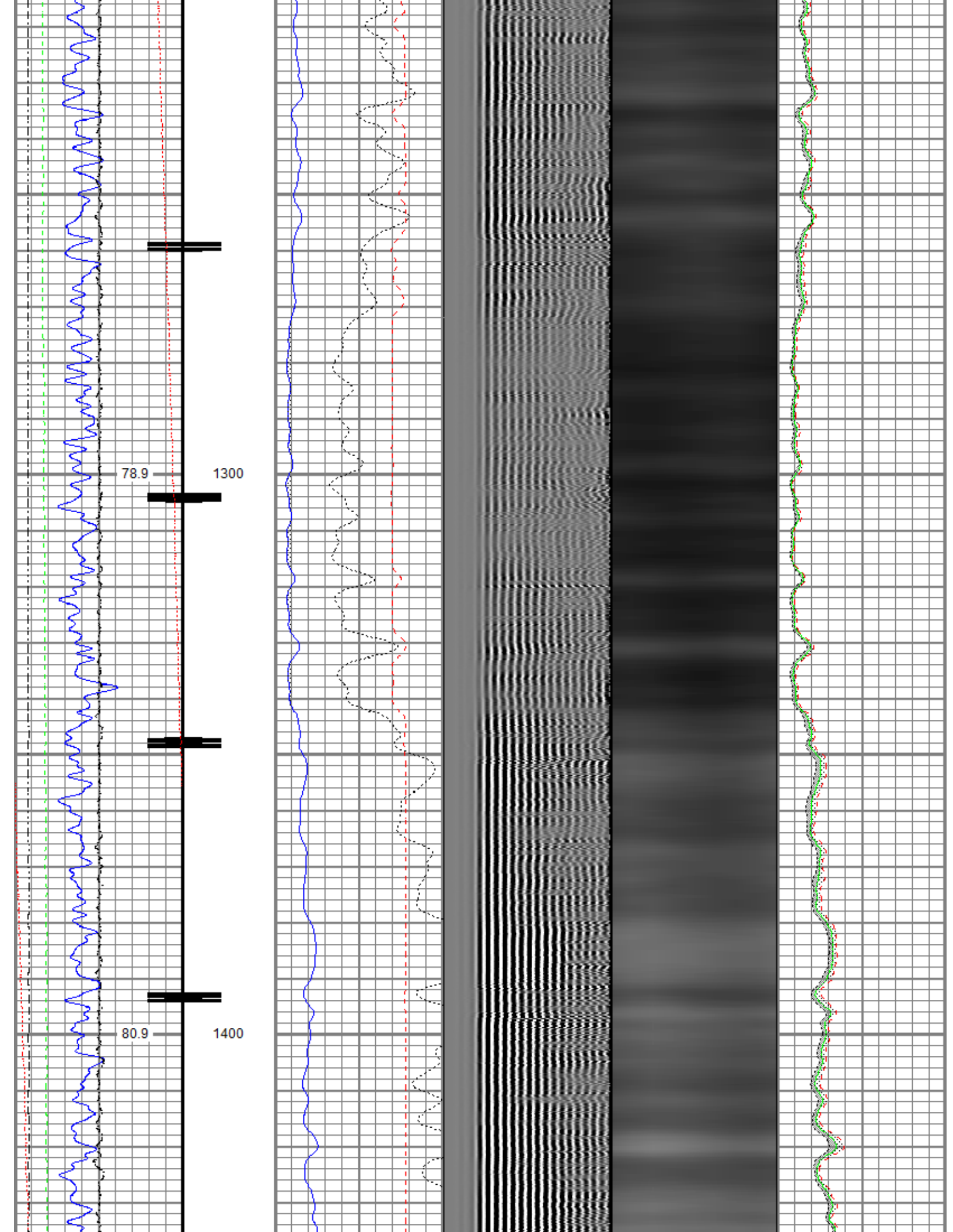


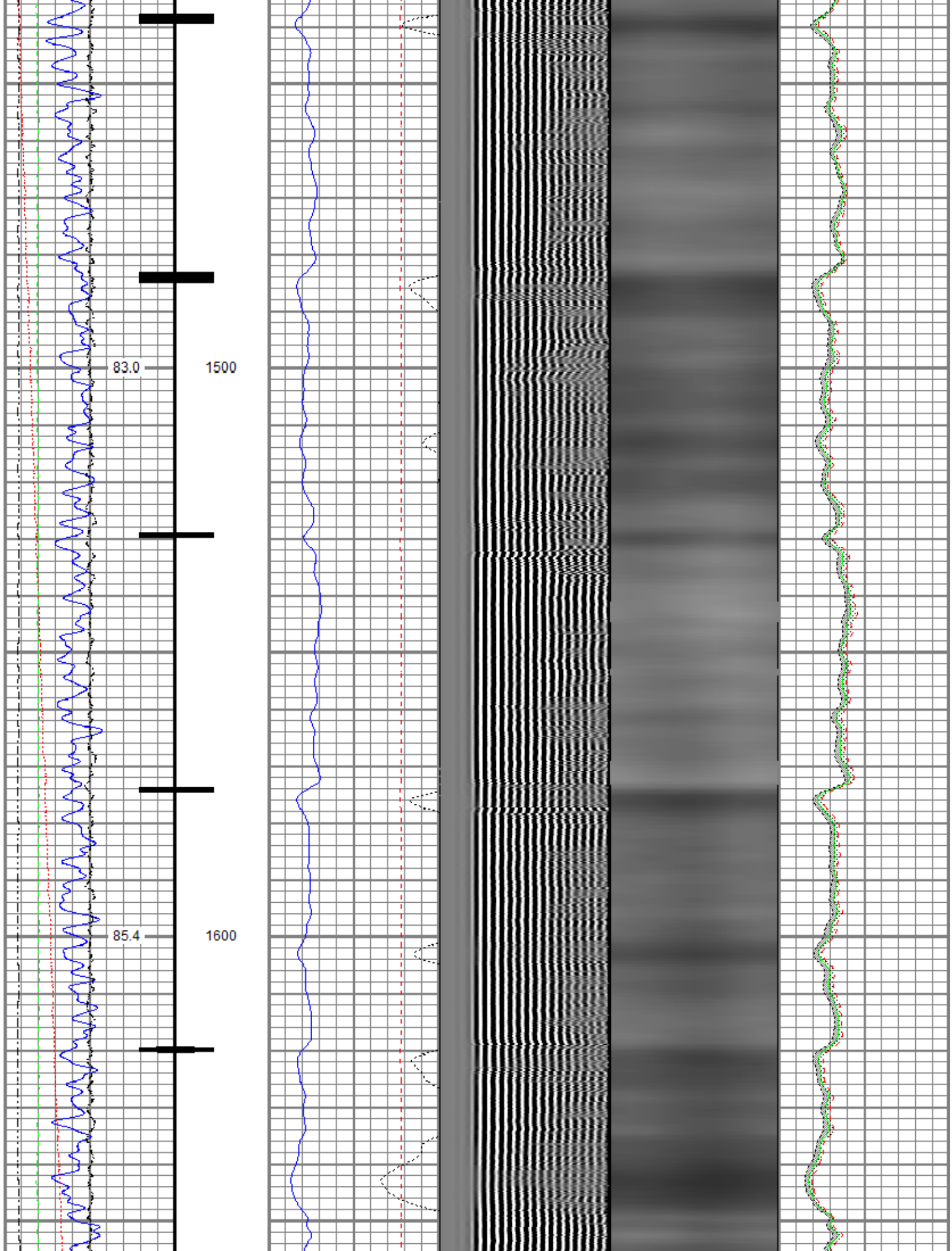


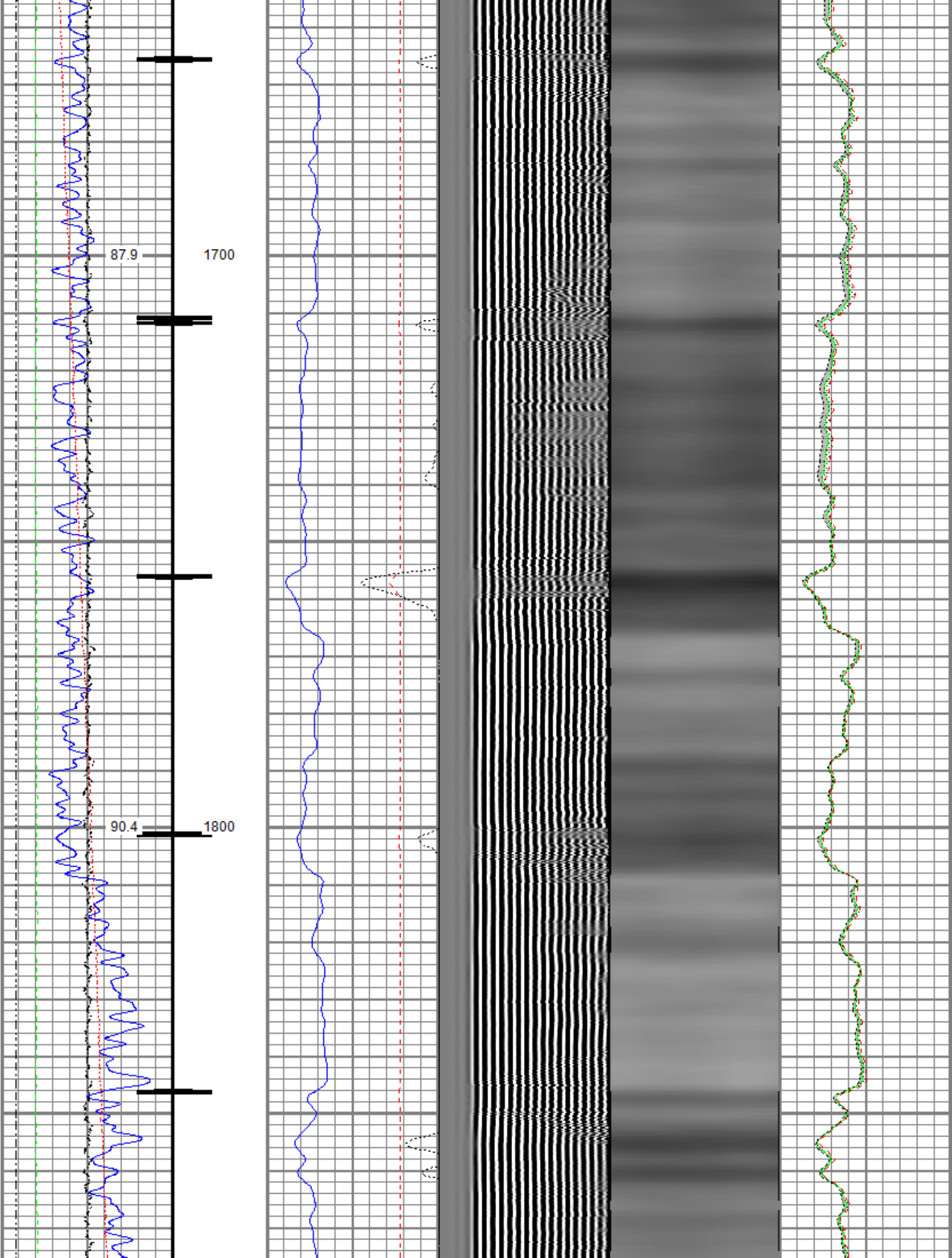


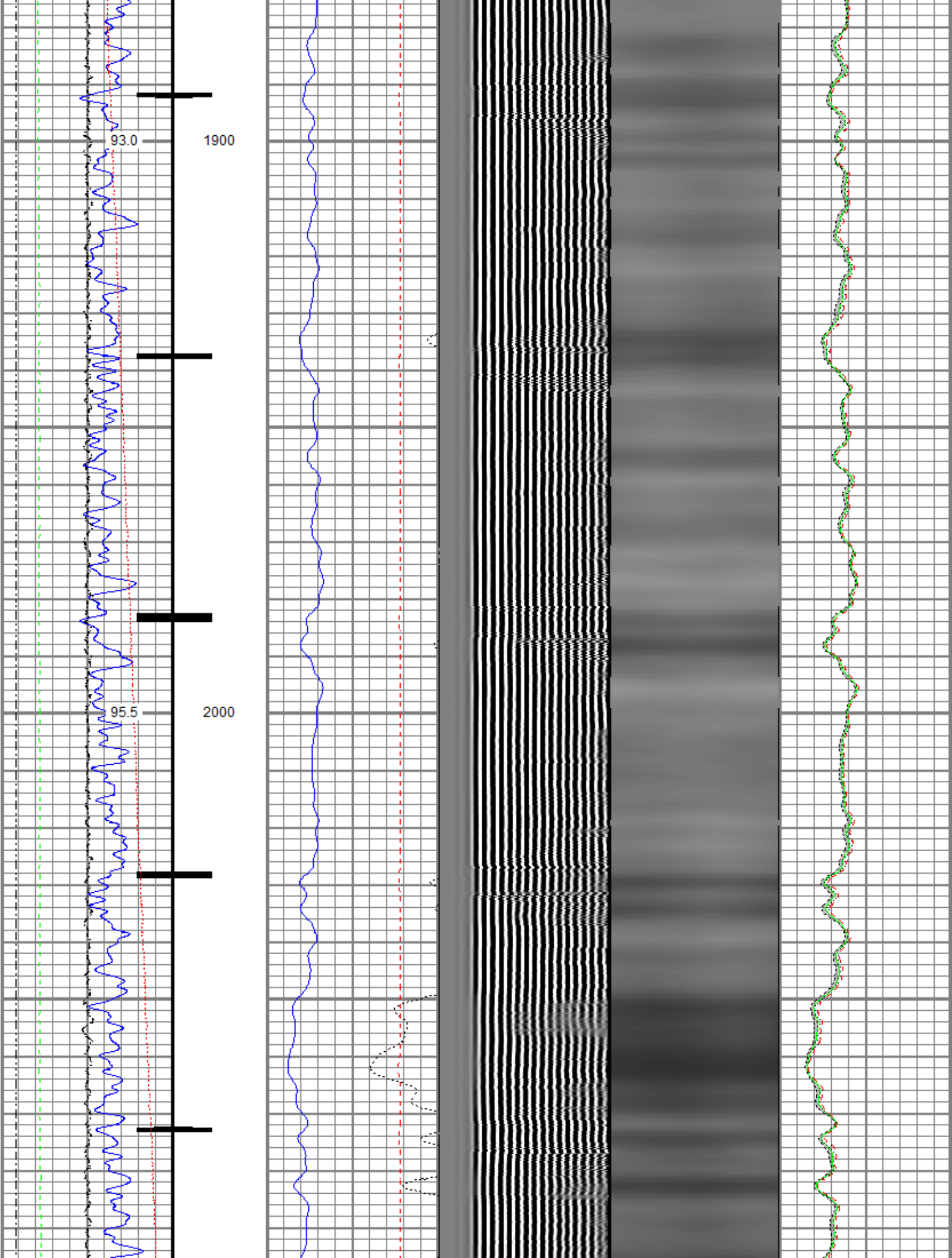


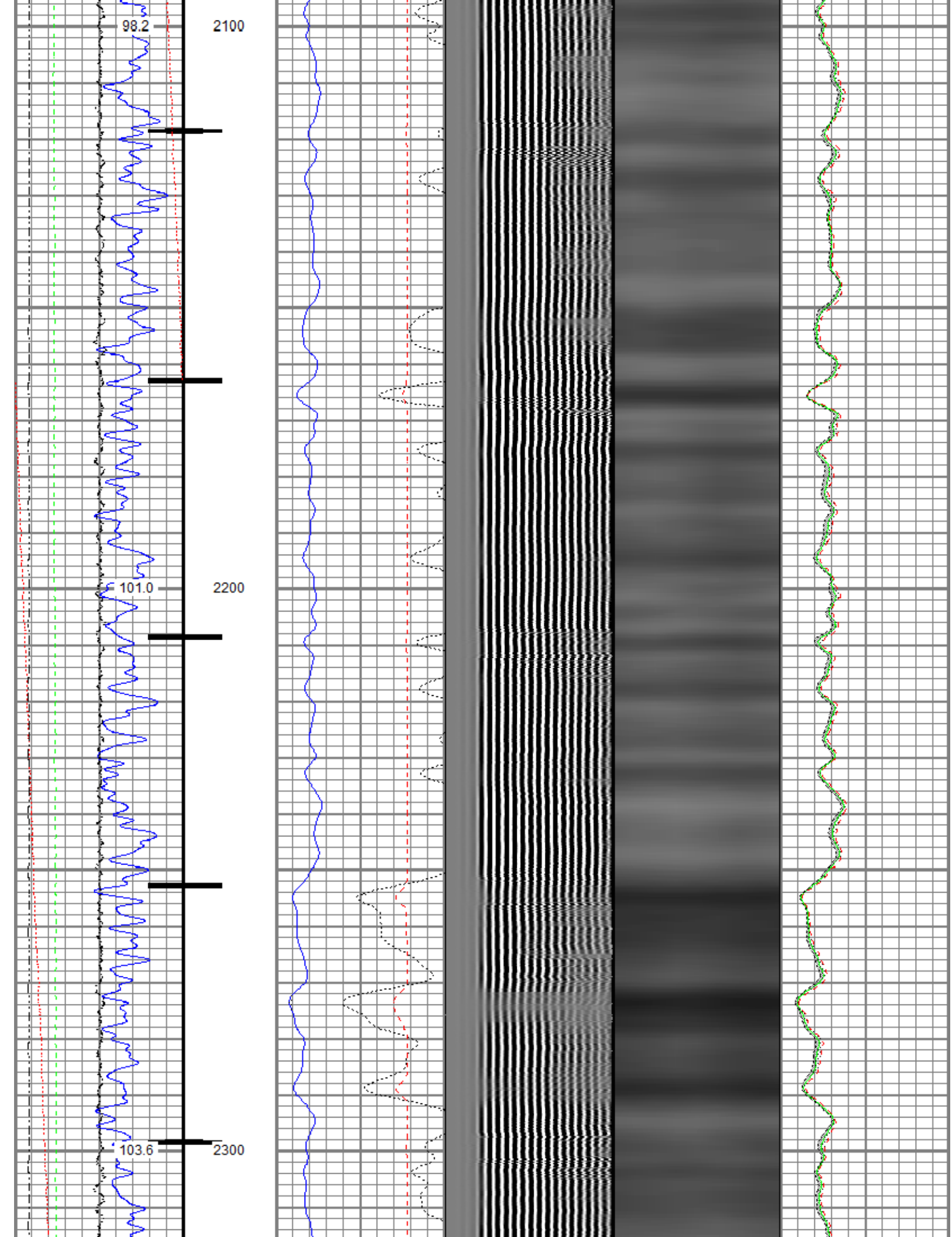


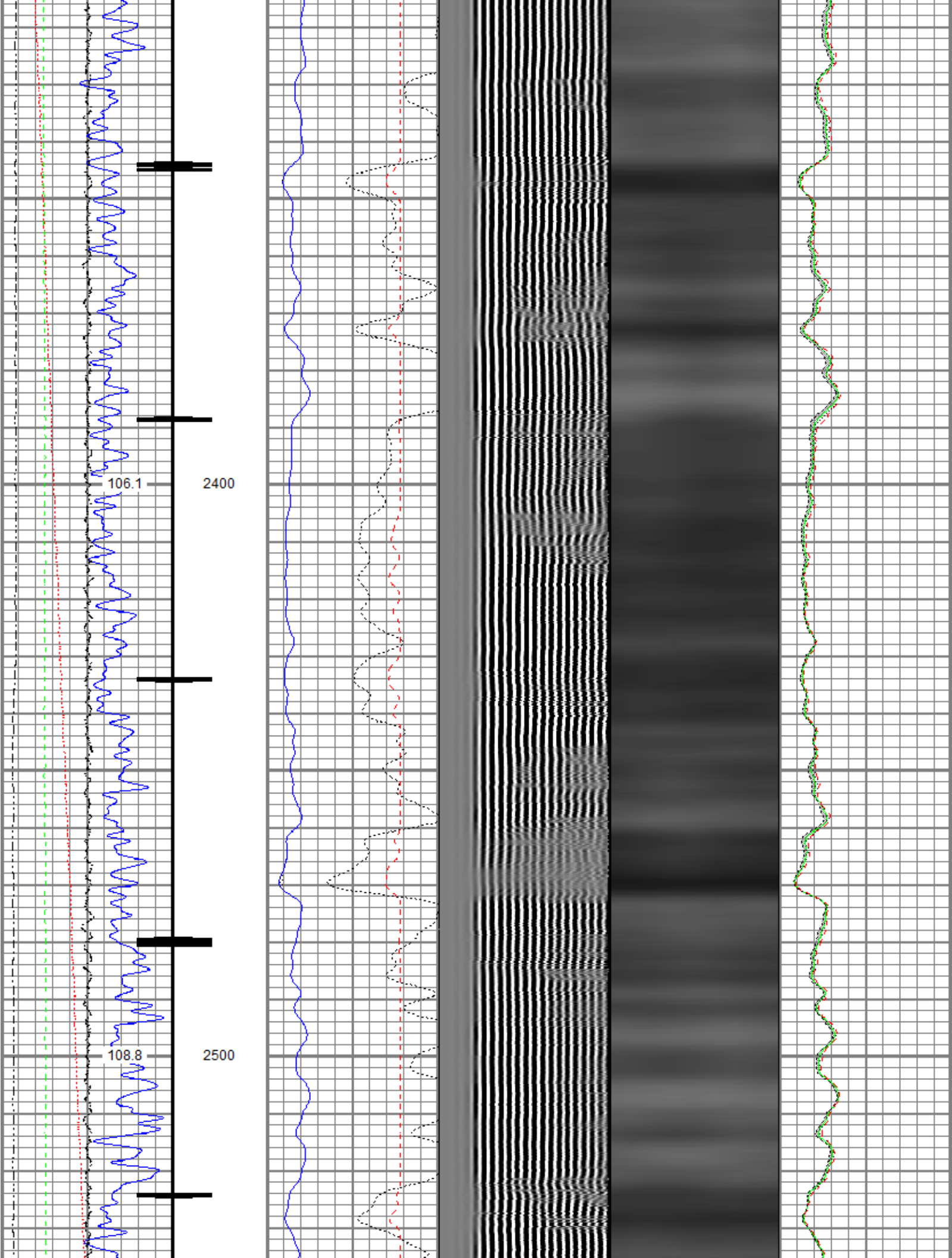


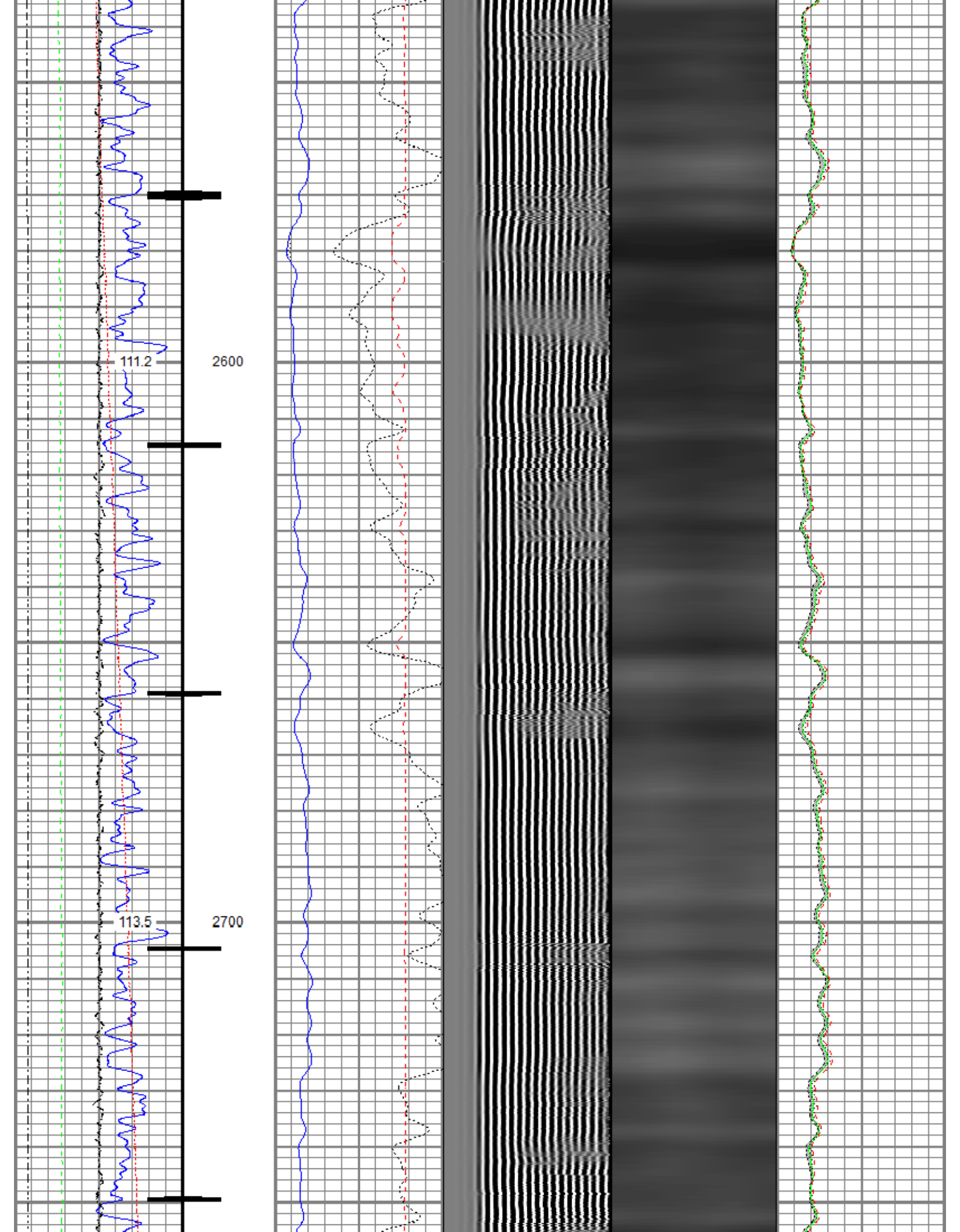


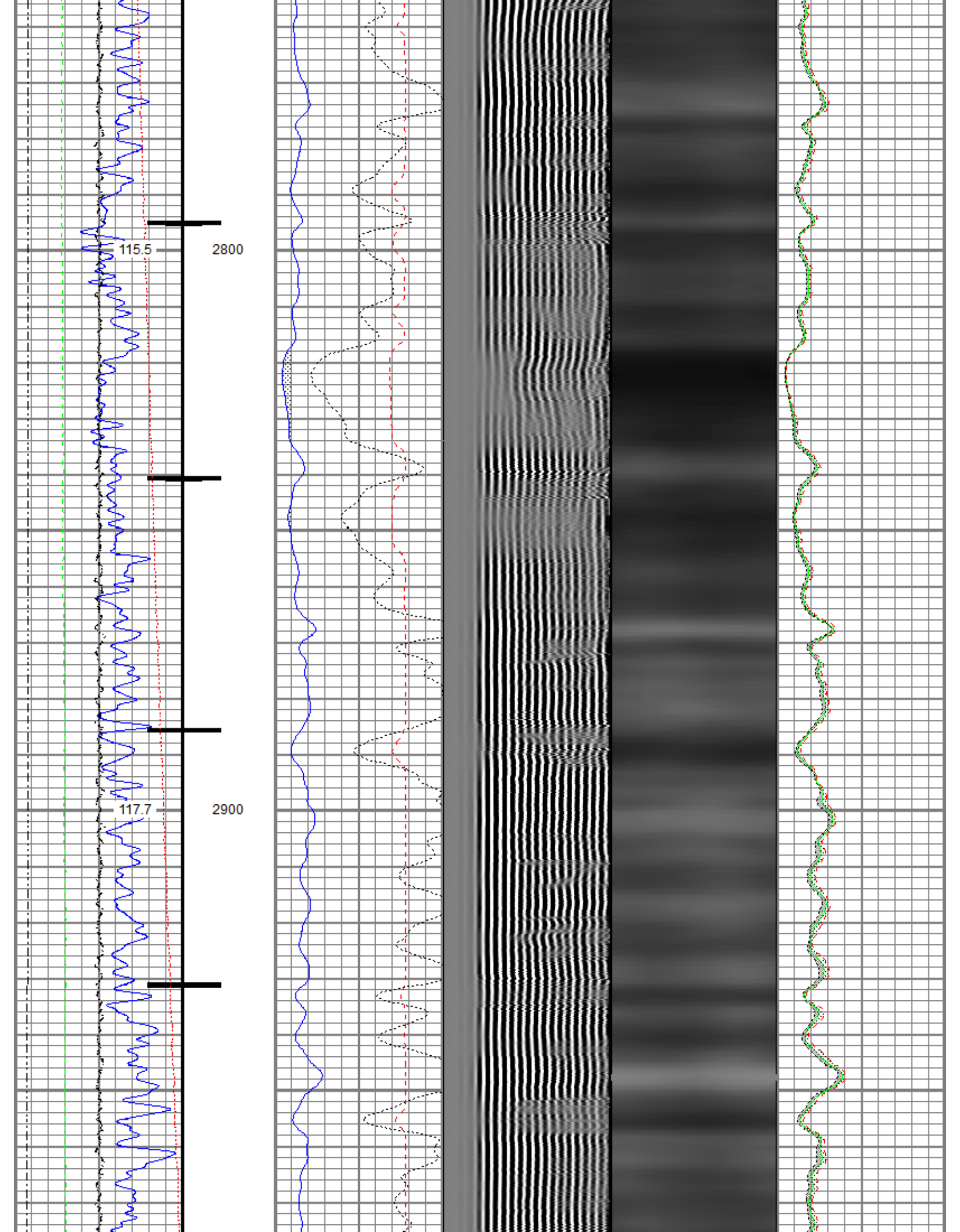


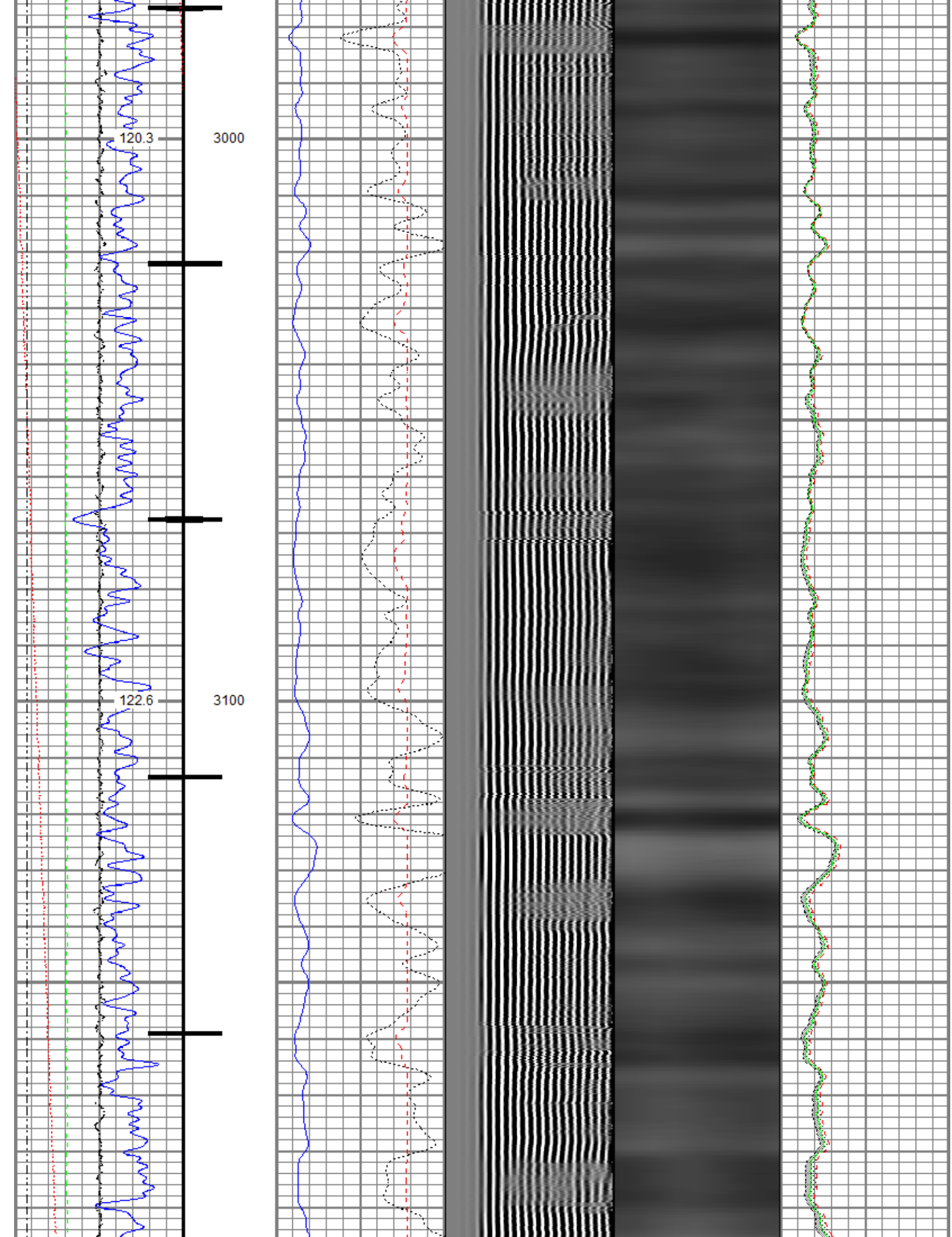


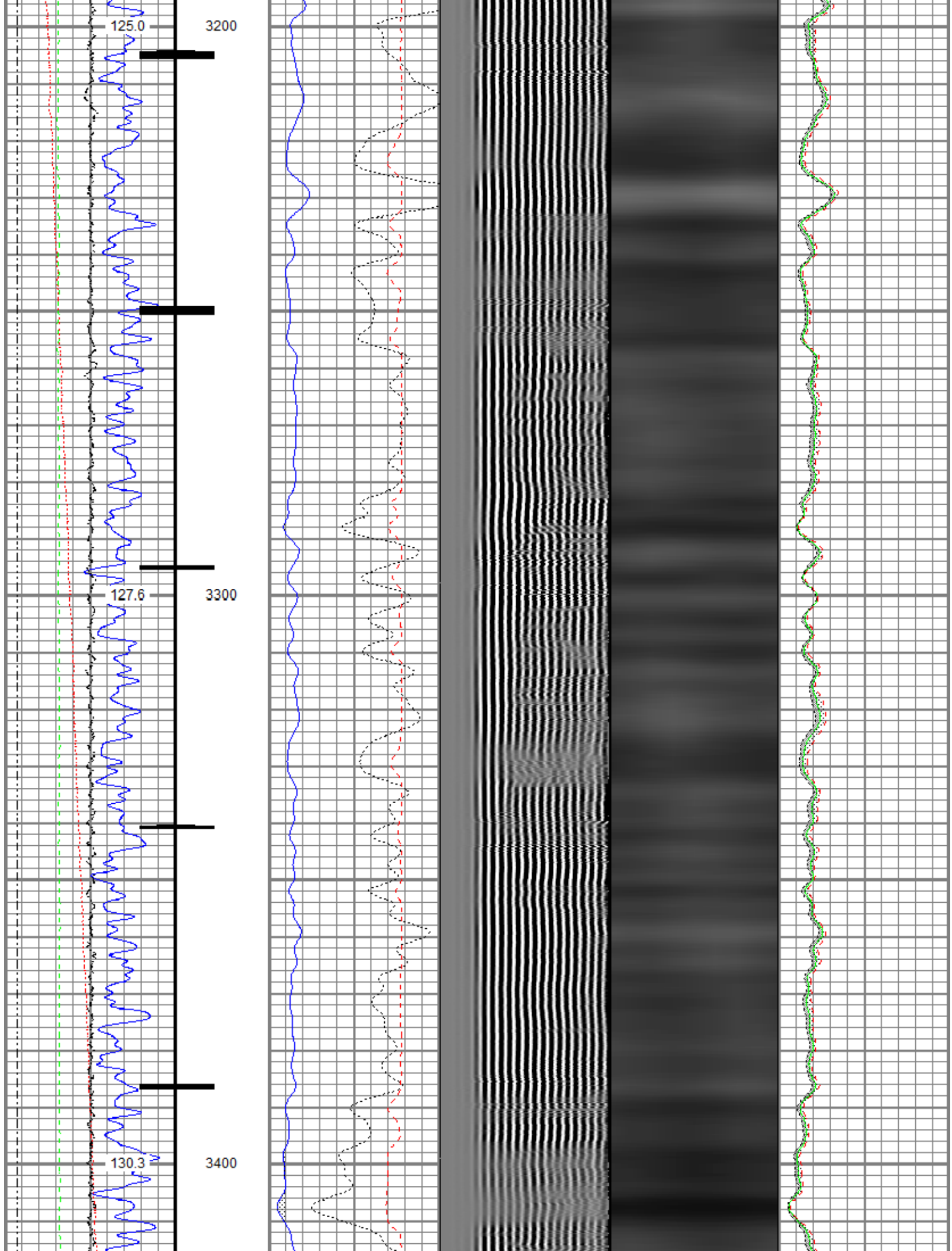


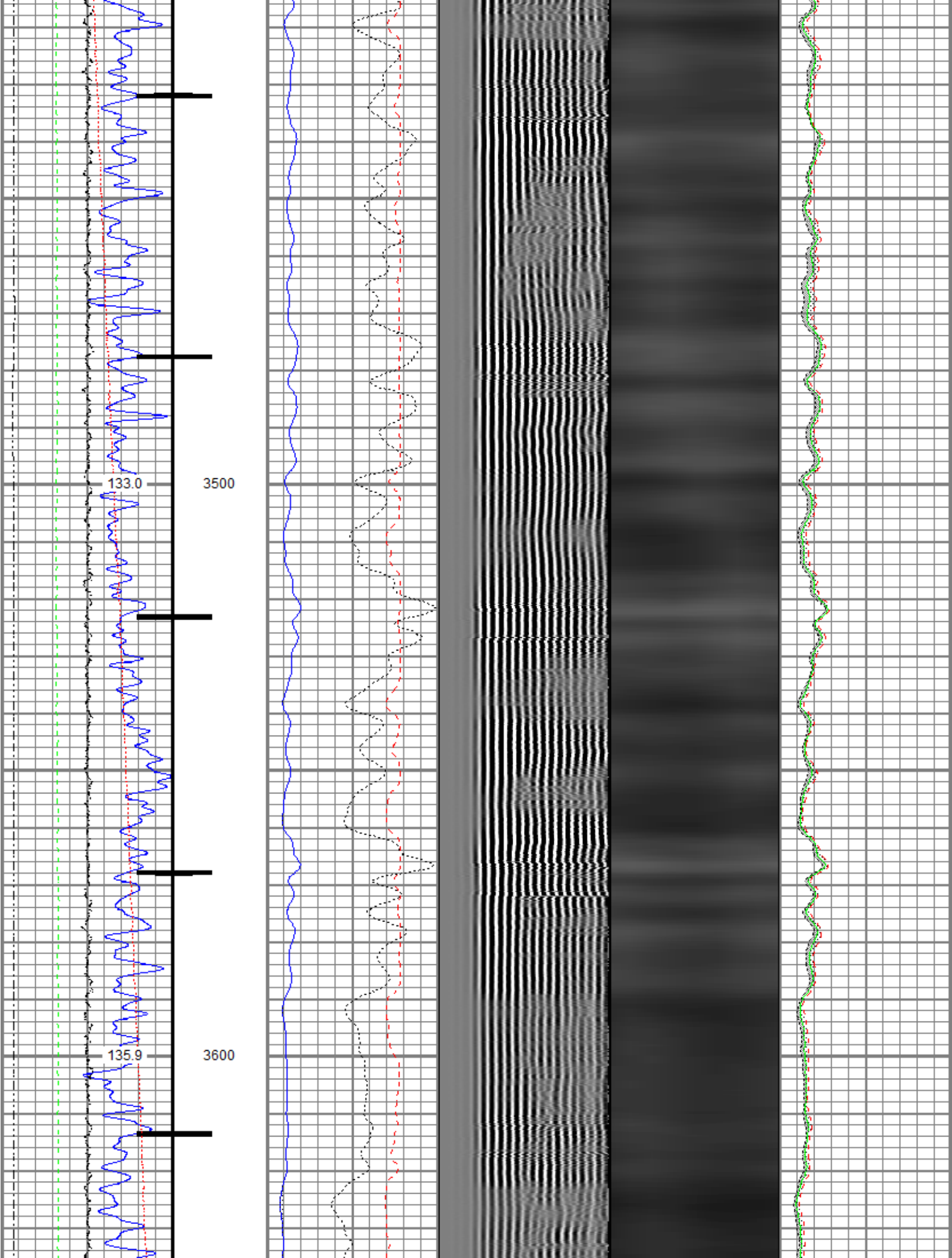


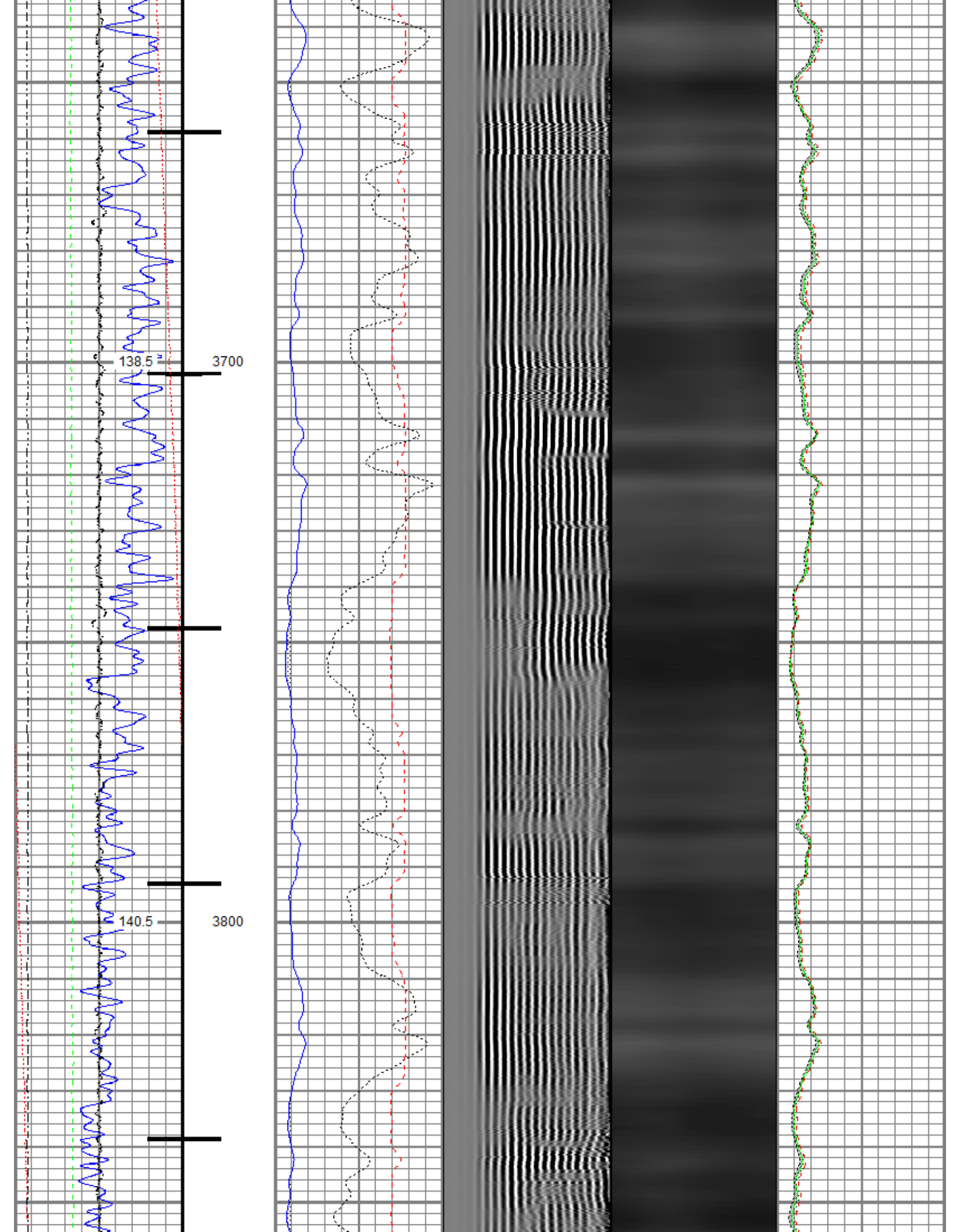


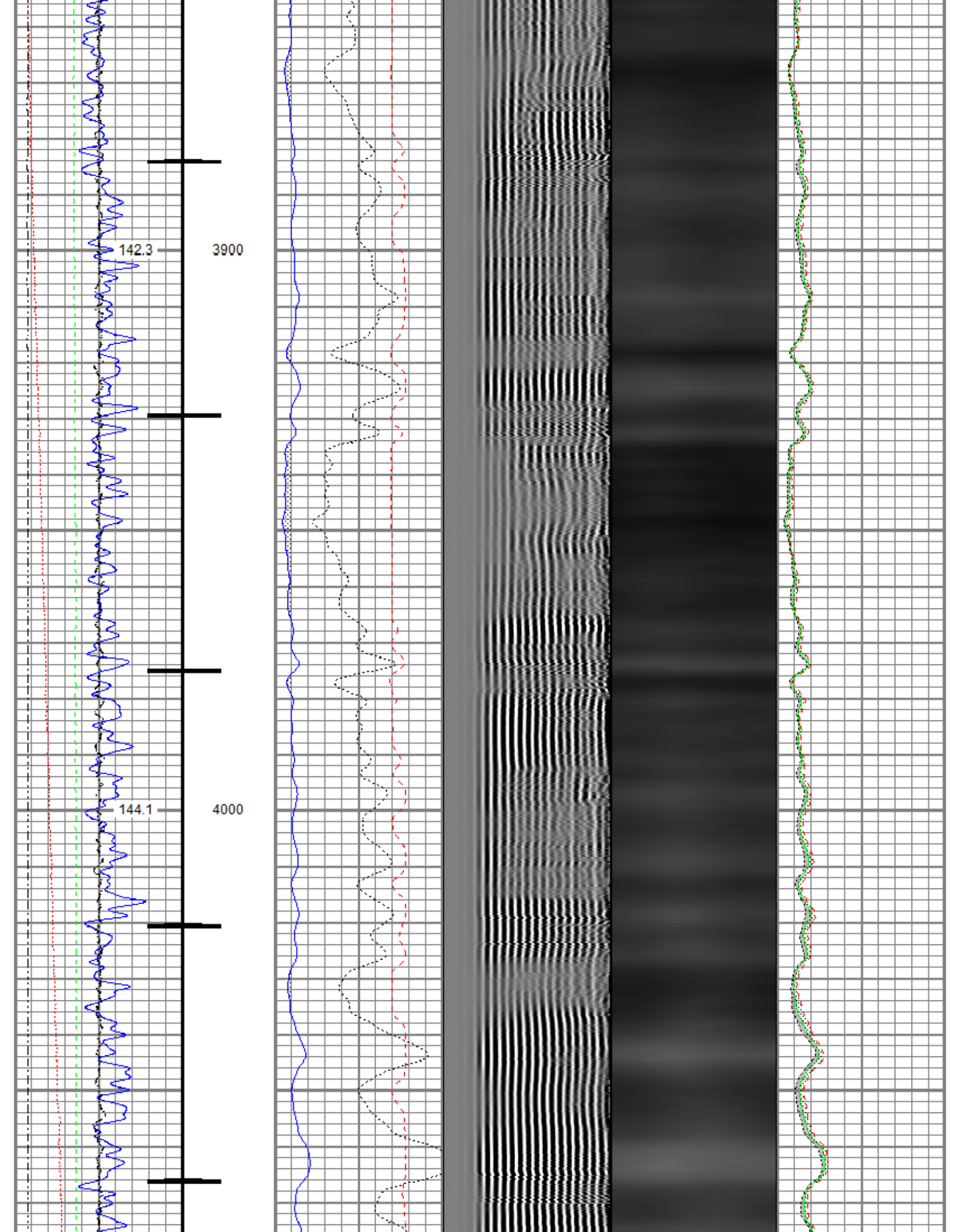


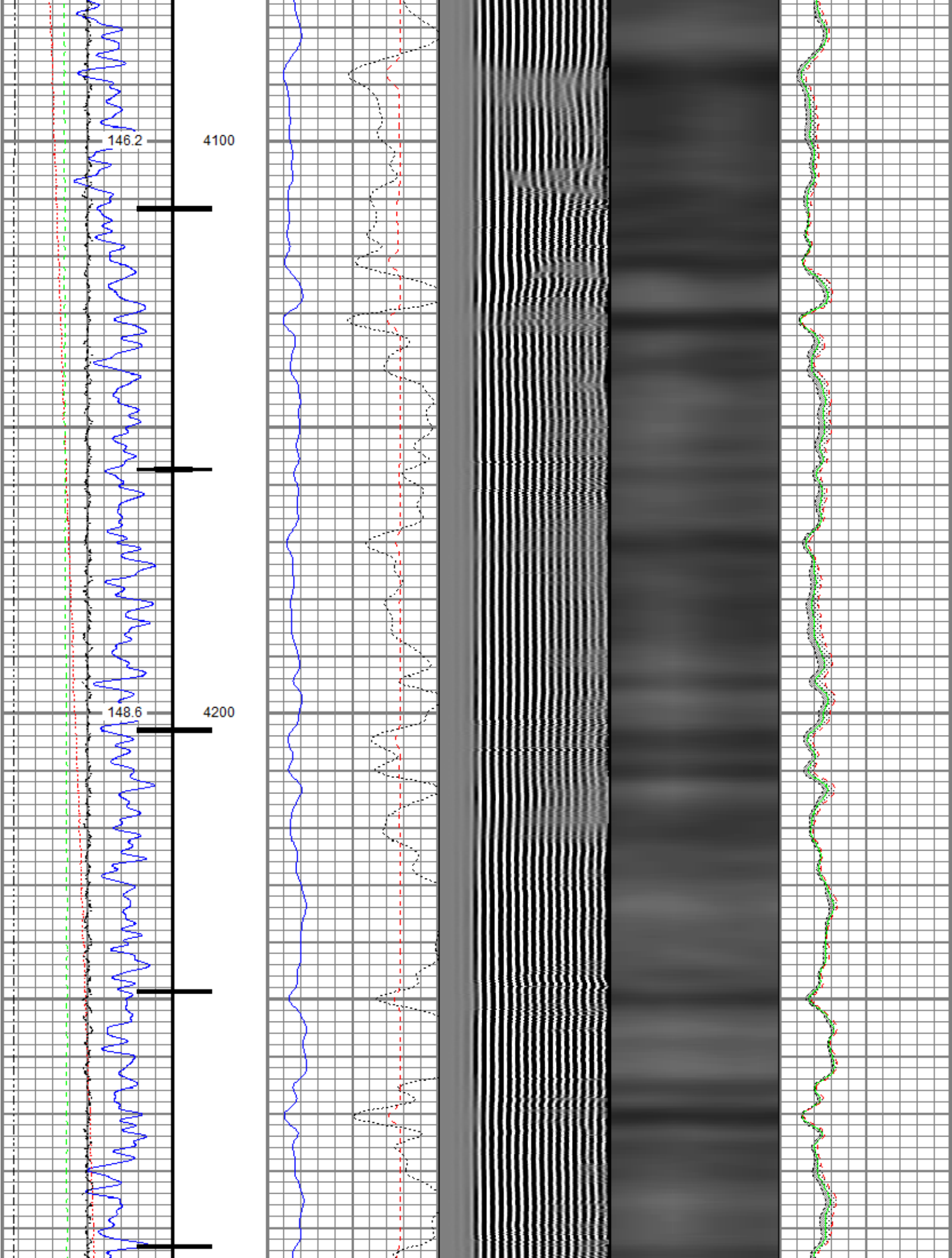


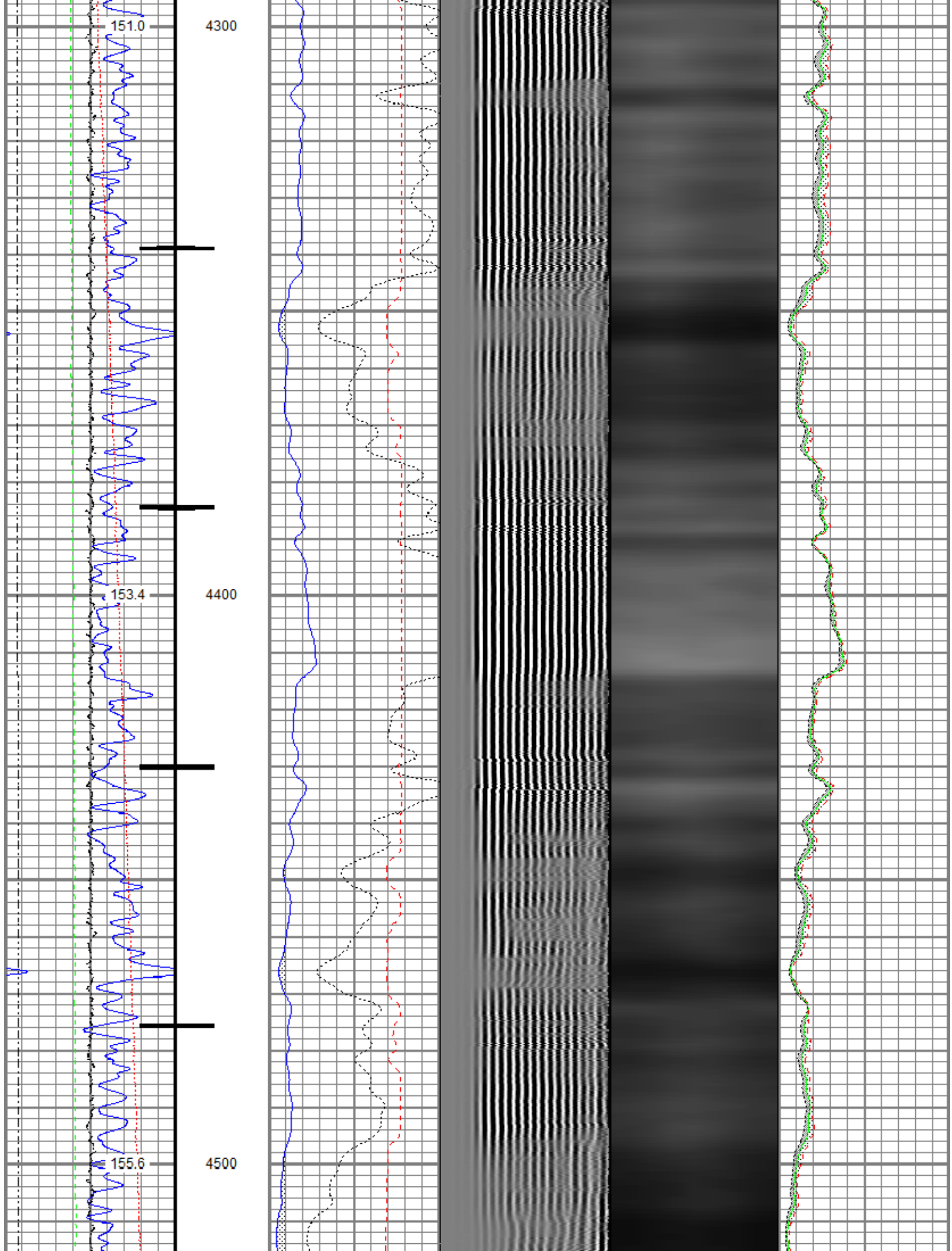


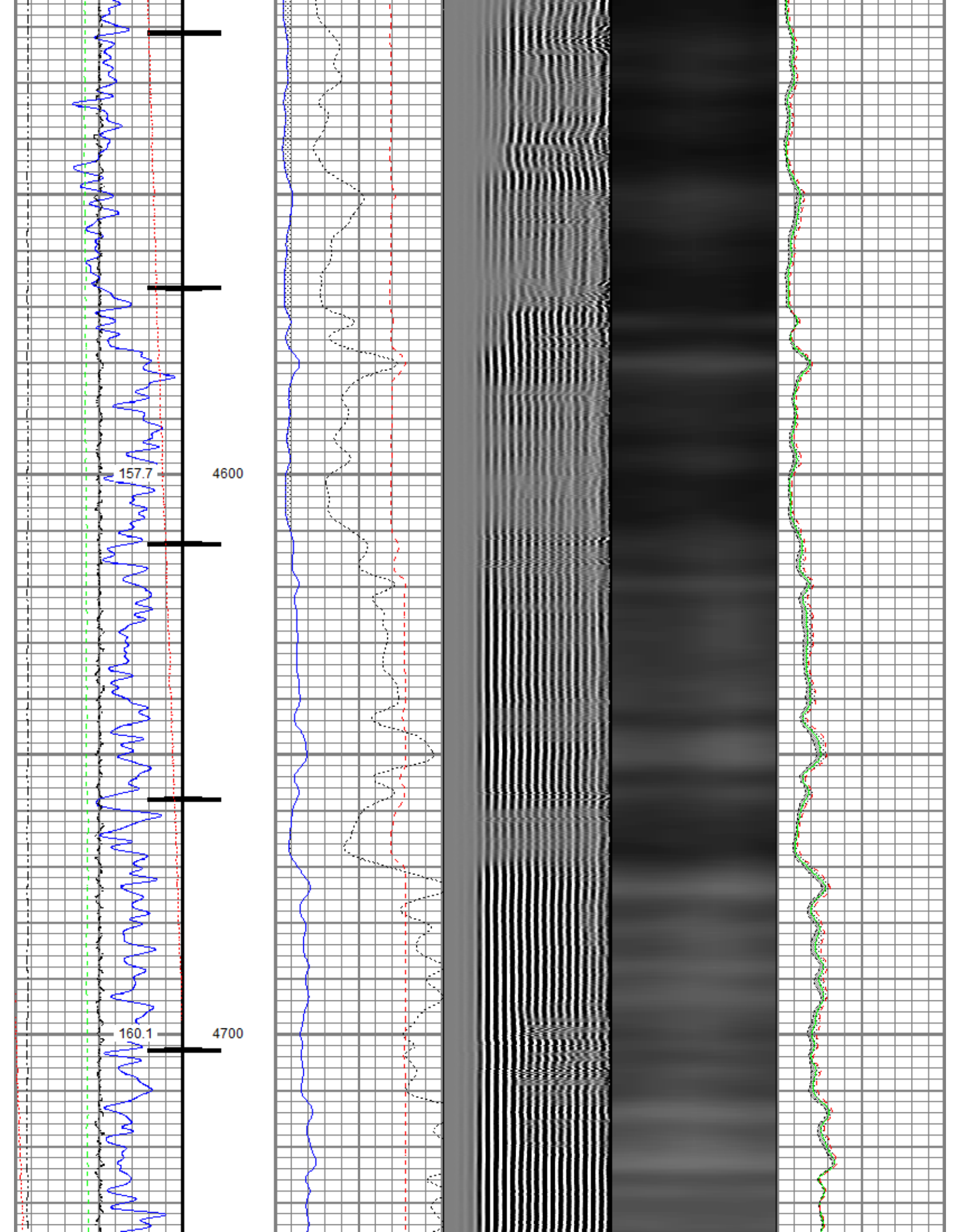


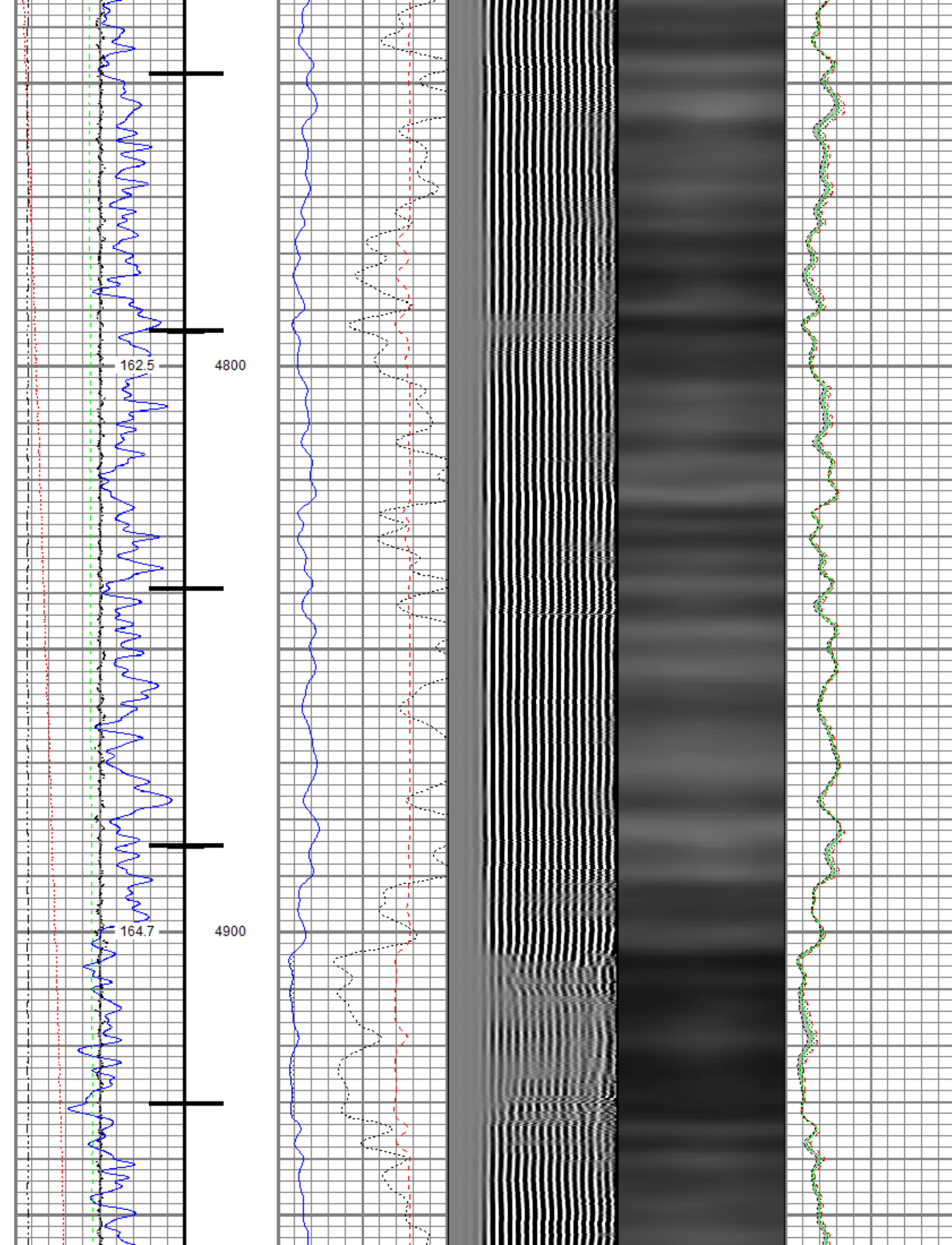


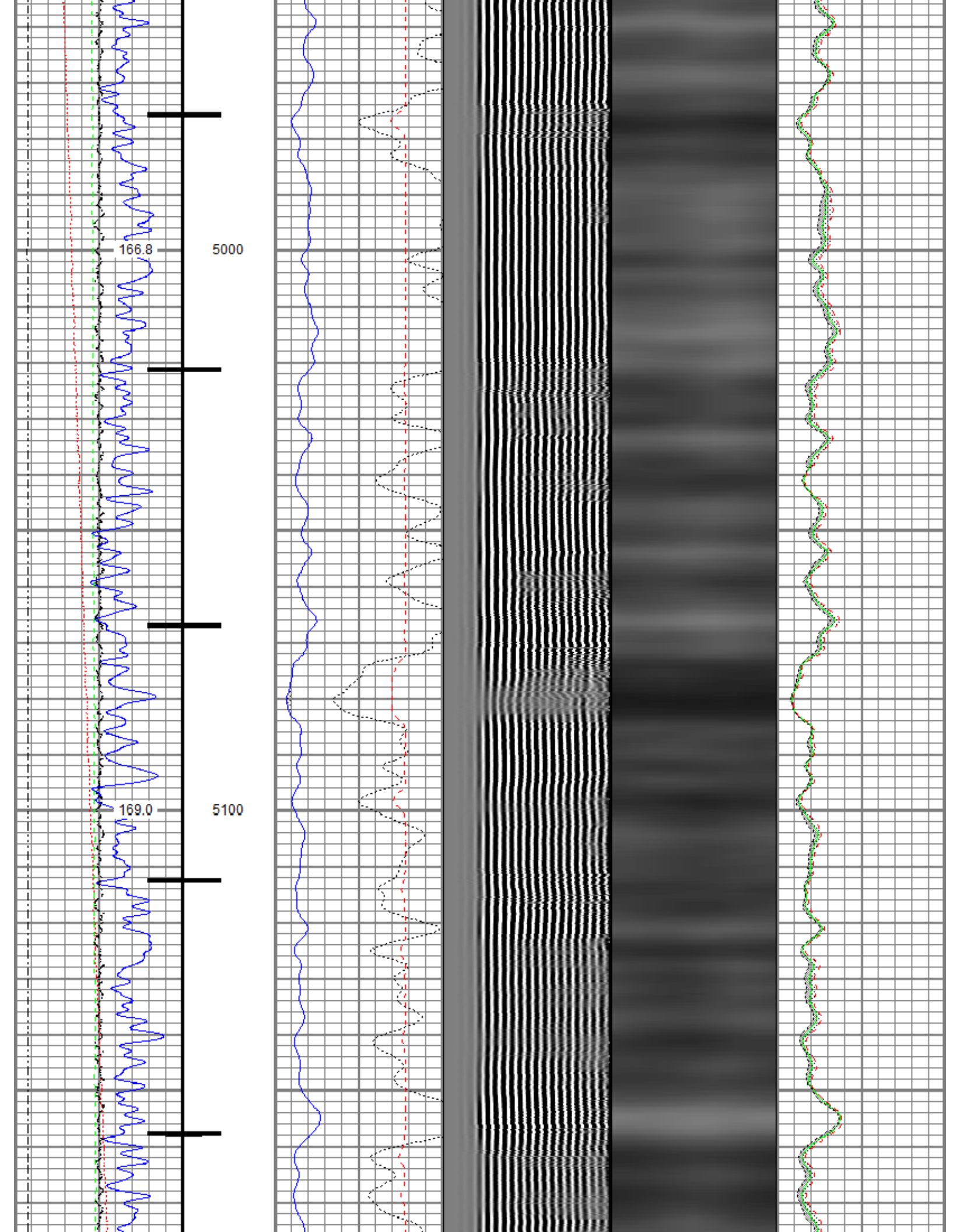


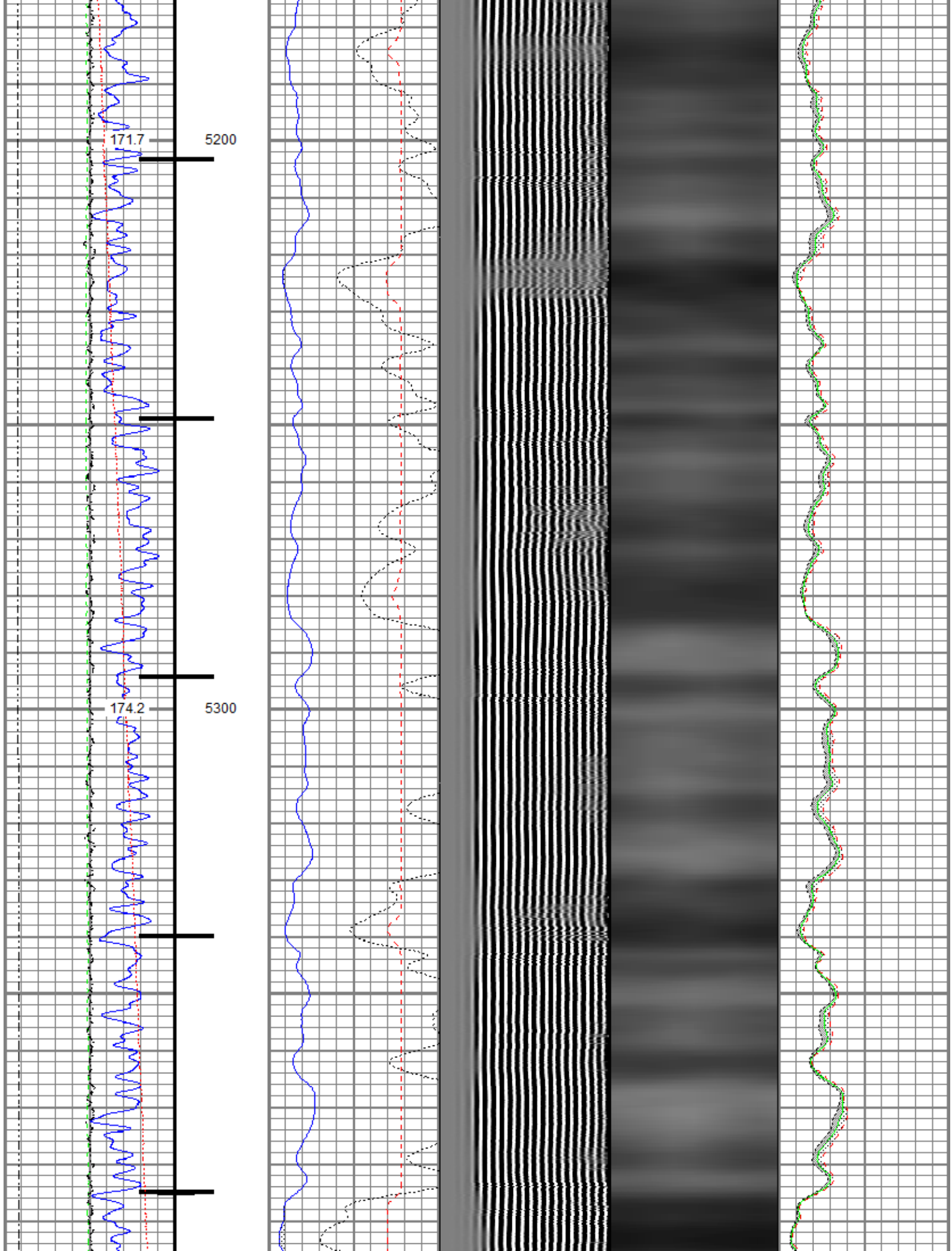


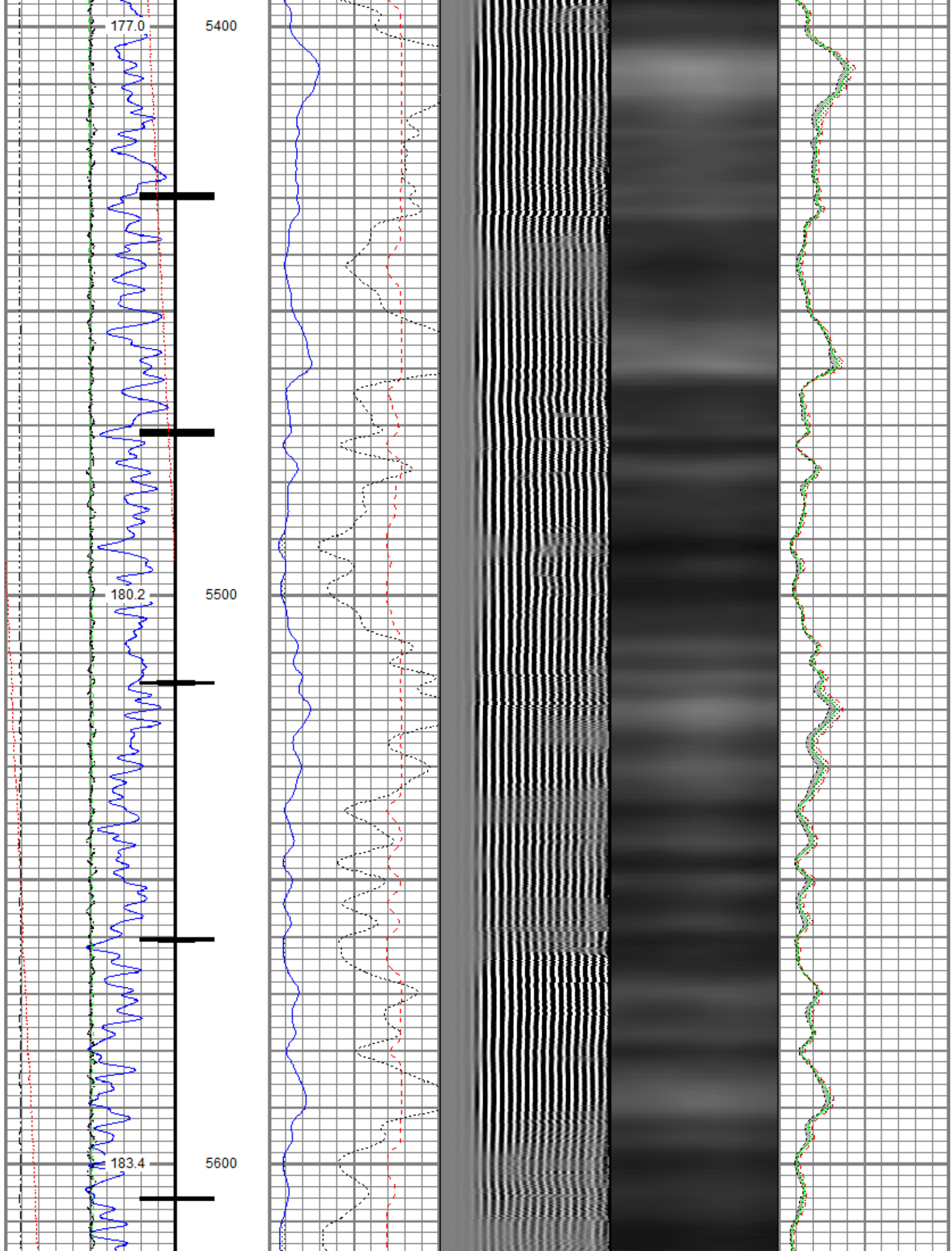


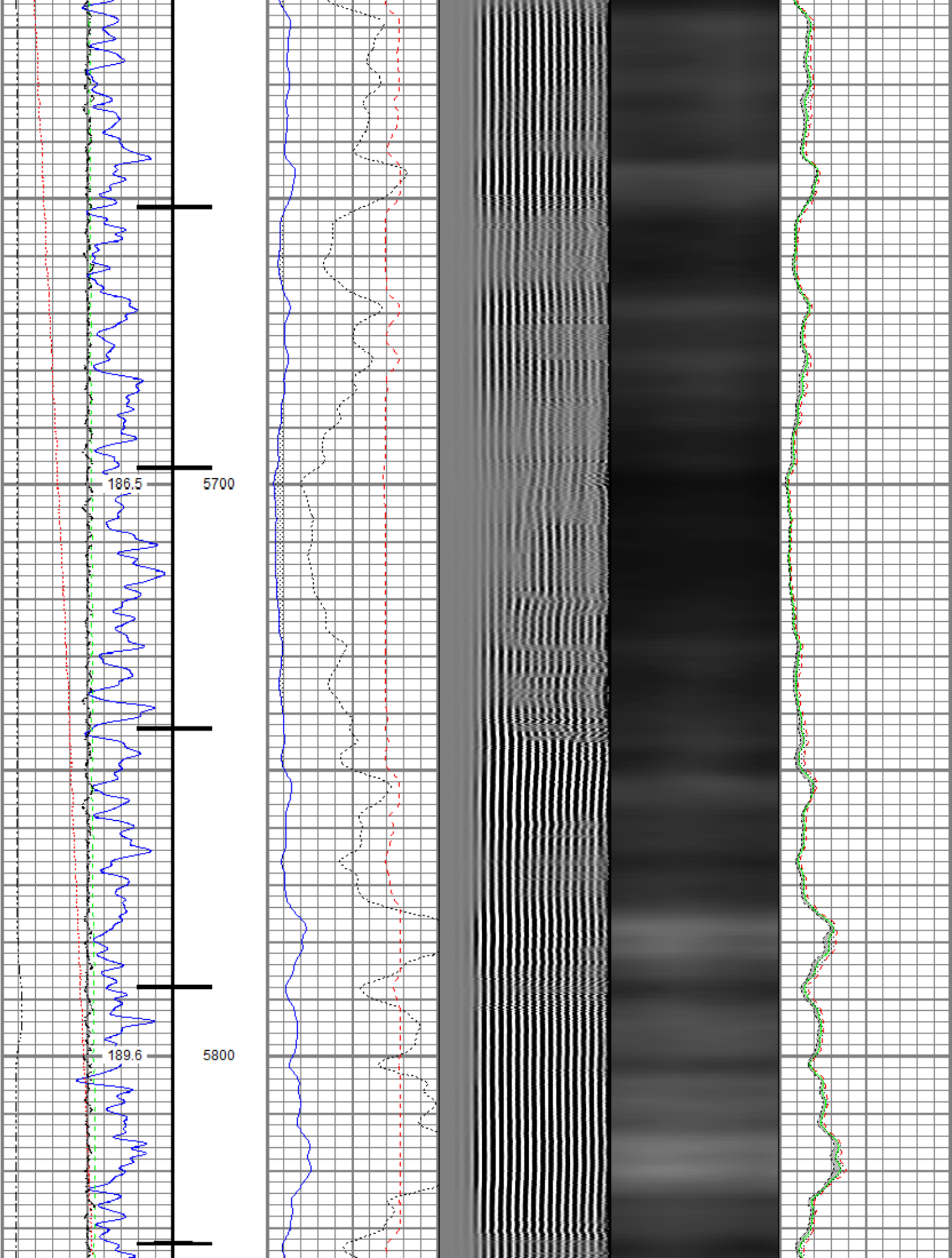


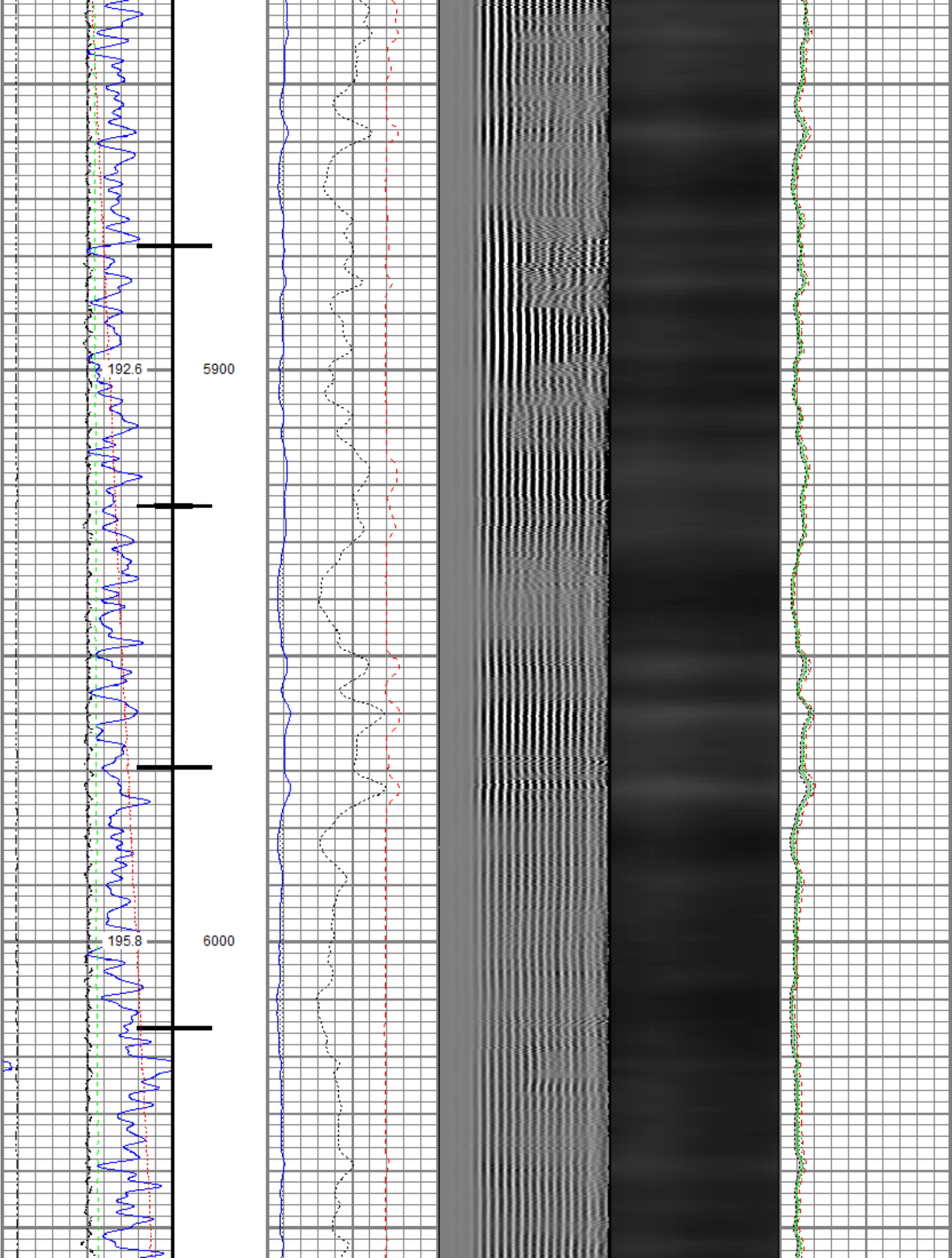


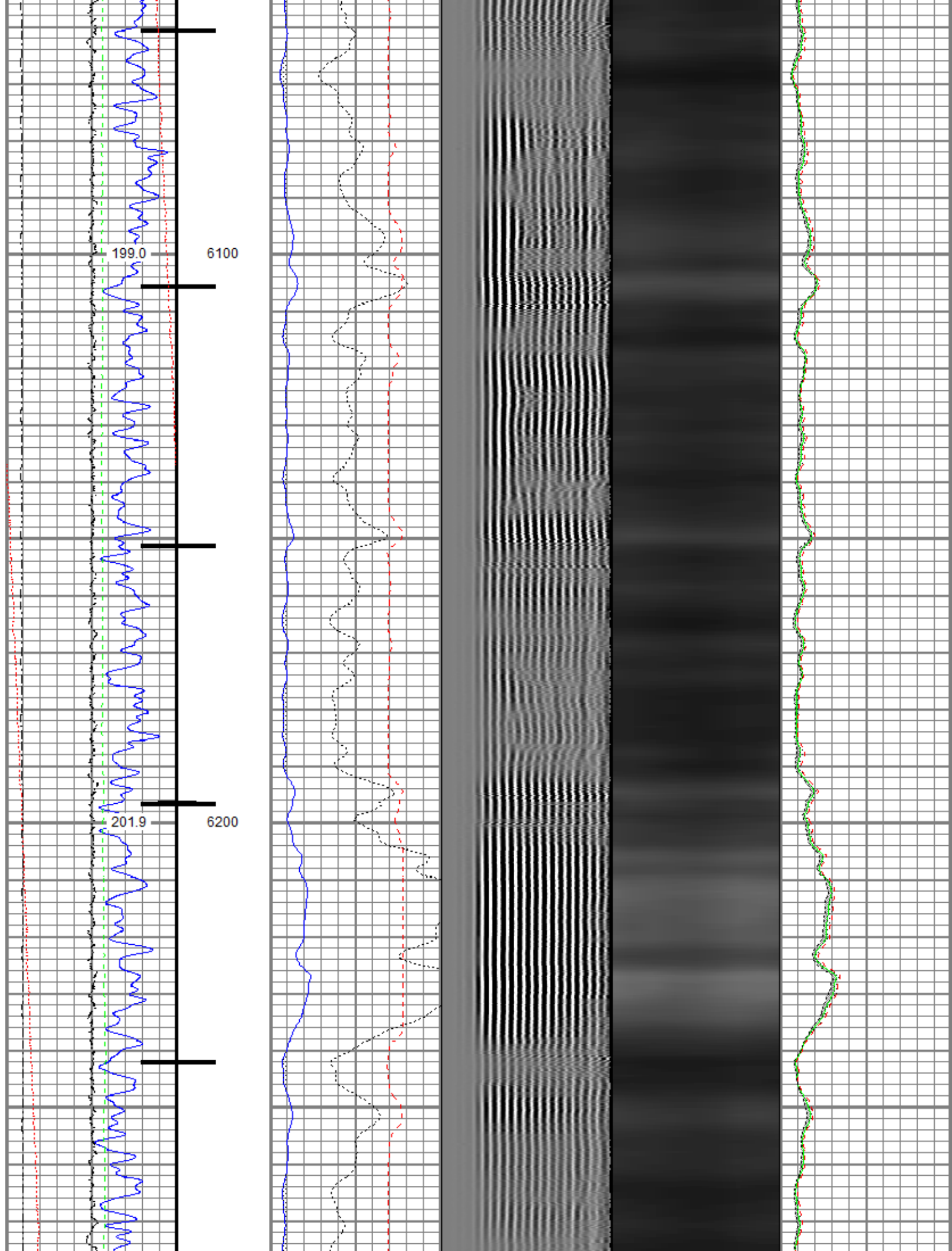


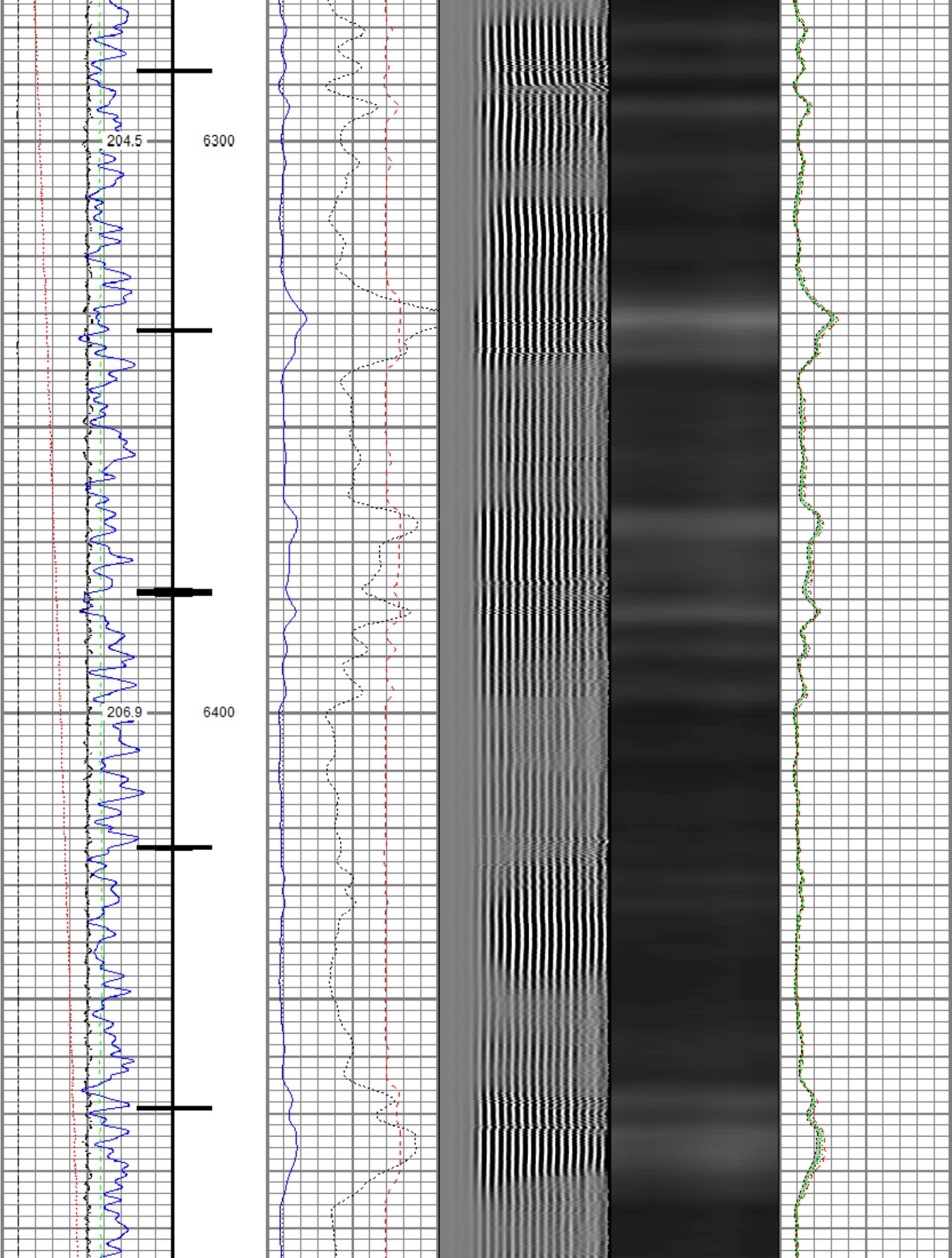


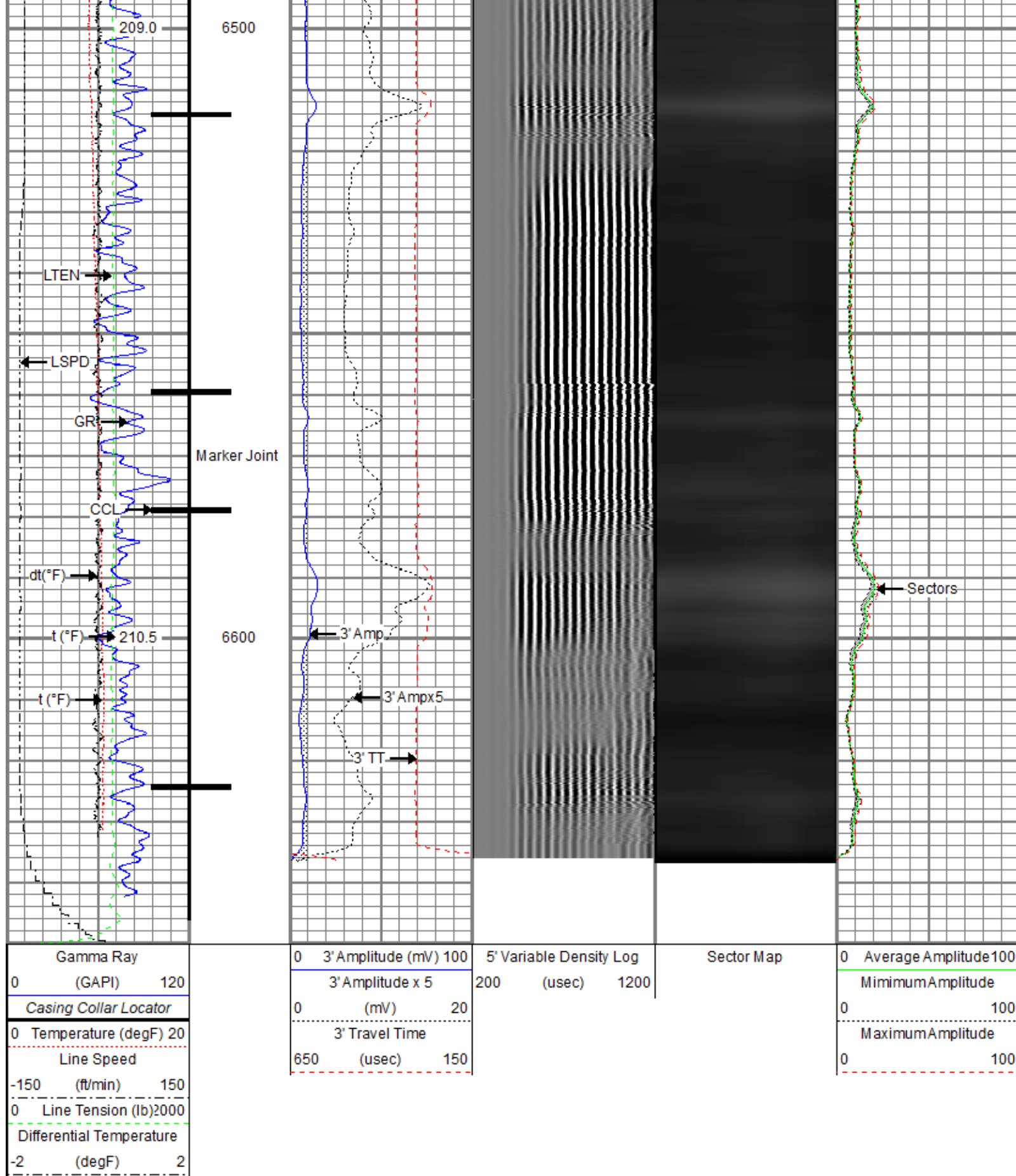






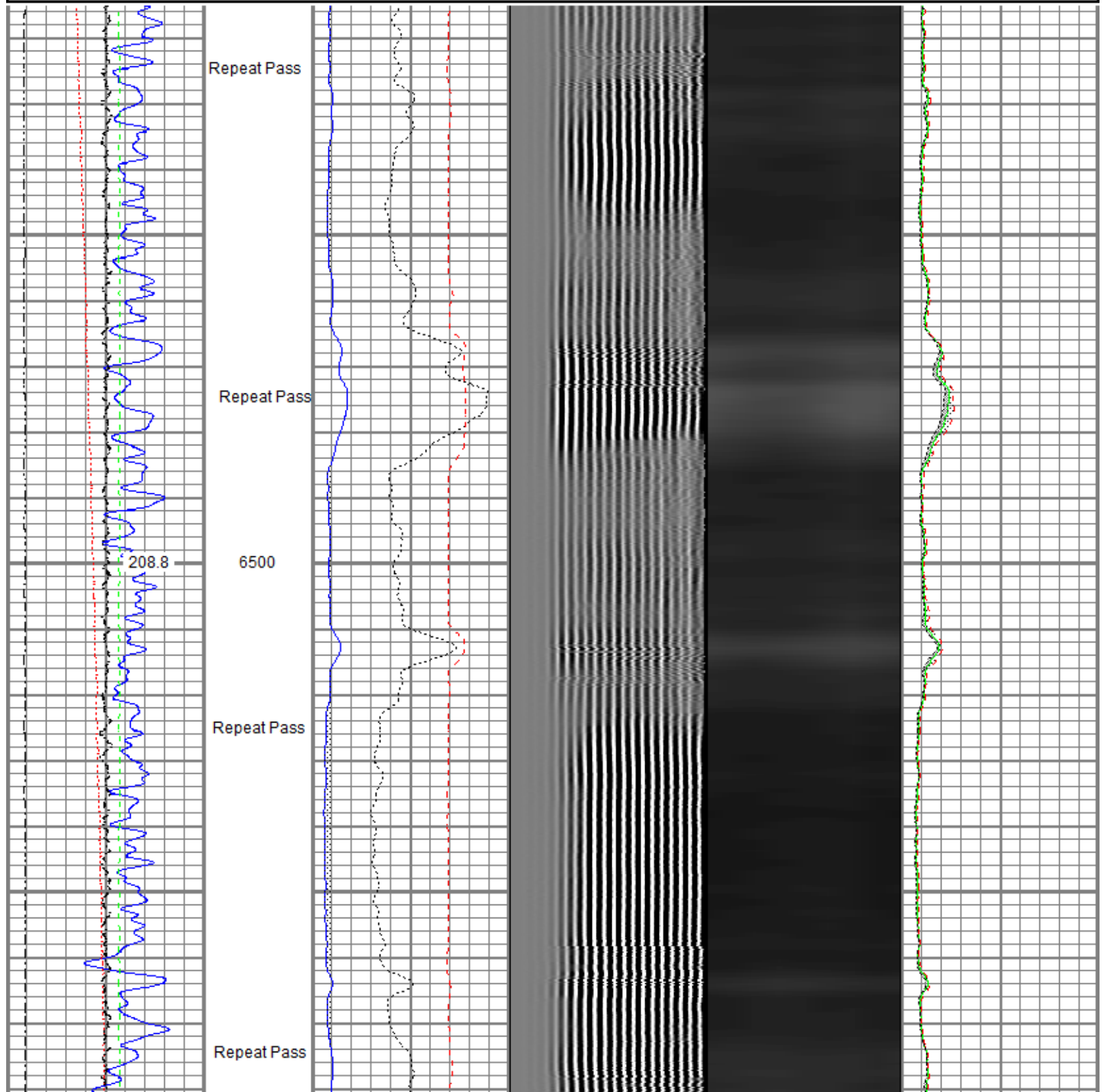


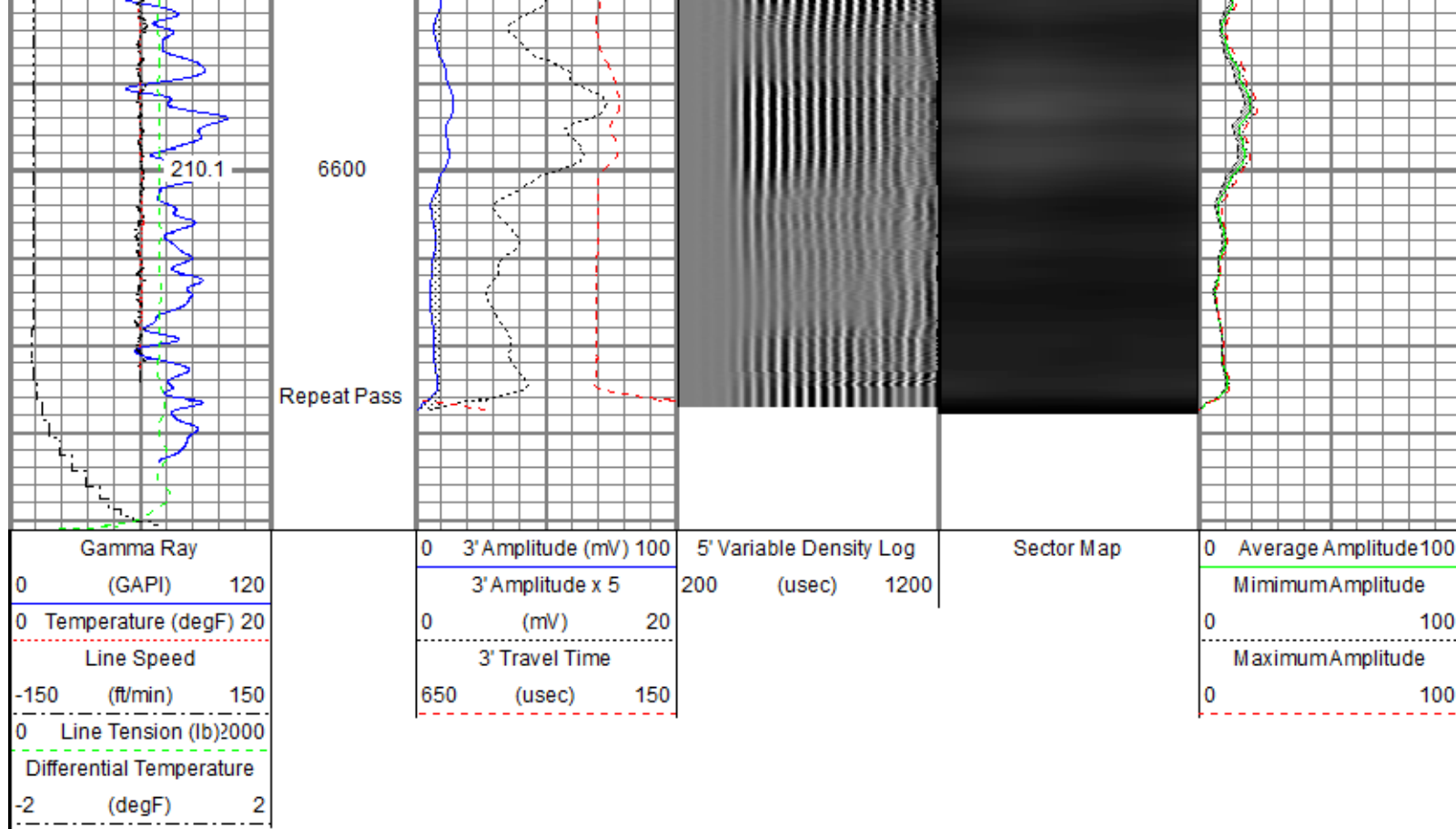




Repeat Pass

Gamma Ray			0 3' Amplitude (mV) 100			5' Variable Density Log			Sector Map			0 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)
			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 (FW1302-002) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
TEMP	17.04					
WVFS8	14.81					
WVFS7	14.81					
WVFS6	14.81					
WVFS5	14.81					
WVFS4	14.81					
WVFS3	14.81					
WVFS2	14.81					
WVFS1	14.81					
WVFCAL	14.81					
WVF3FT	14.81					
WVF5FT	14.81					

WVF5F1	13.81			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	6.80						
CCL\$1	6.80						
GR	5.46			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 CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
Dataset: SRC Energy_Harvesters State 4N-16C-M_RBL_06-20-18.db: field/well/run1/pass4.1 Total length: 23.86 ft Total weight: 223.60 lb O.D.: 2.75 in							

Calibration Report						
Database File	C:\ProgramData\Warrior\Data\SRC\Harvesters State 4N-16C-M\SRC Energy_Harvesters State 4N-16C-M_RBL_06-20-18.db					
Dataset Pathname	pass4.1					
Dataset Creation	Wed Jun 20 10:15:41 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:	FW1302-002					
Tool Model:	2750 RBT					
Calibration Casing Diameter:	5.500	in				
Calibration Depth:	-13.468	ft				
Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.853	0.800	71.921	83.566	0.671
CAL	0.006	0.775				
5'	-0.004	0.865	0.800	71.921	81.836	1.102
SUM						

S1	0.001	0.852	0.000	100.000	117.622	-0.164
S2	0.001	0.795	0.000	100.000	126.035	-0.166
S3	0.001	0.770	0.000	100.000	130.057	-0.165
S4	0.001	0.795	0.000	100.000	125.983	-0.176
S5	0.002	0.880	0.000	100.000	113.862	-0.196
S6	0.002	0.953	0.000	100.000	105.144	-0.210
S7	0.002	0.958	0.000	100.000	104.602	-0.211
S8	0.002	0.920	0.000	100.000	108.871	-0.176

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.006	0.775	1.000	0.000

Air Zero Calibration, performed Wed Jun 20 08:43:03 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: FW1302-002
Tool Model: 2750 RBT
Performed: Sun Nov 12 13:28:07 2017

	Reference	Reading
Low Reference:	100.00 degF	110.72 degF
High Reference:	350.00 degF	409.18 degF

Gain: 0.84
Offset: 7.26
Delta Spacing: 1



Company: SRC Energy Inc
Well: Harvesters State 4N-16C-M
Field: Wattenberg
County: Weld
State: Colorado