



County Adams State Colorado

K.B.	5076"
D.F.	---
G.L.	5049"

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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 Casing Tally reported Flotation Collar at 6692 FT  
Adjusted -19 FT to correlate with Flotation Collar  
Using Flotation Collar as 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!!

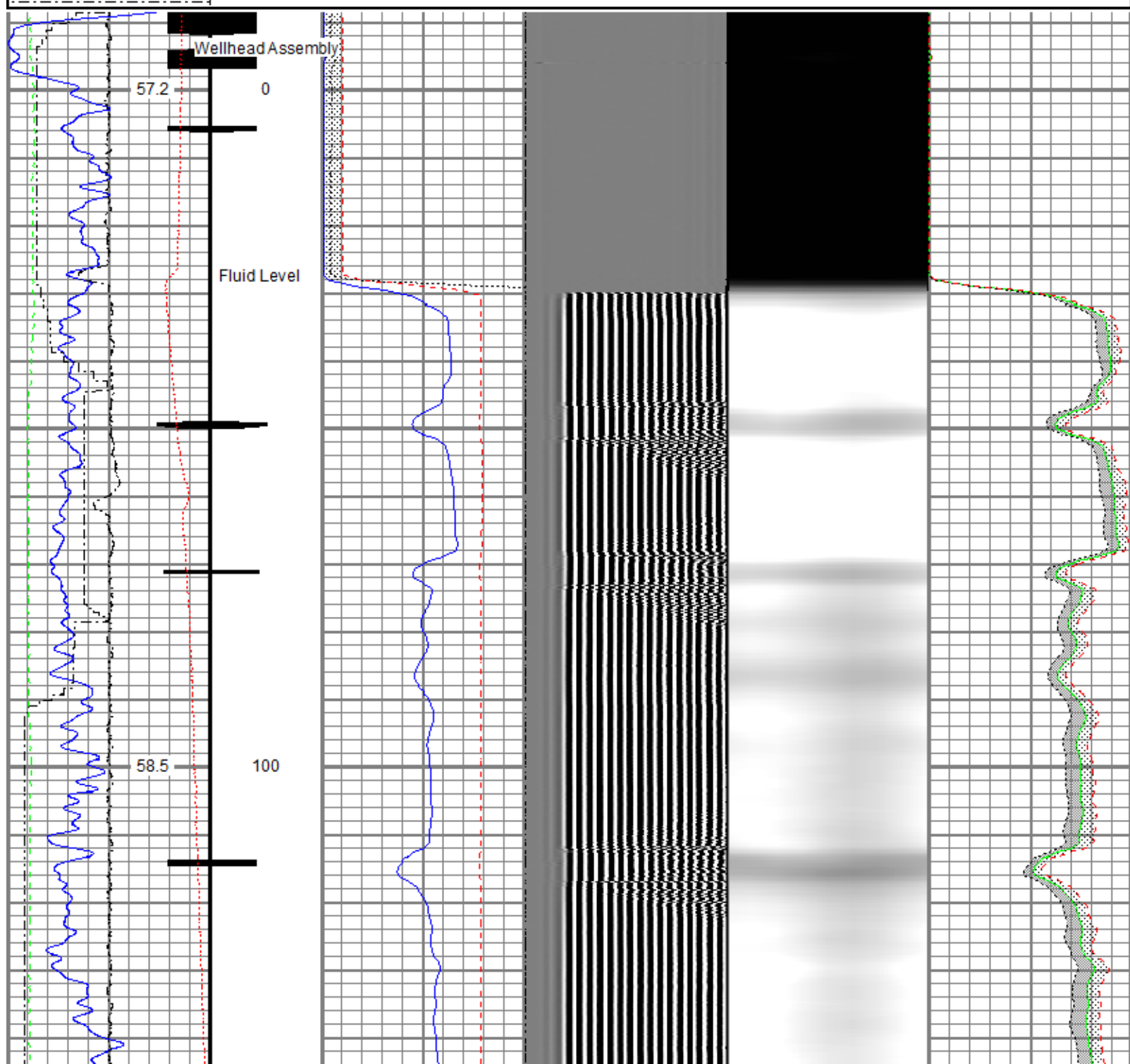
## Main Pass

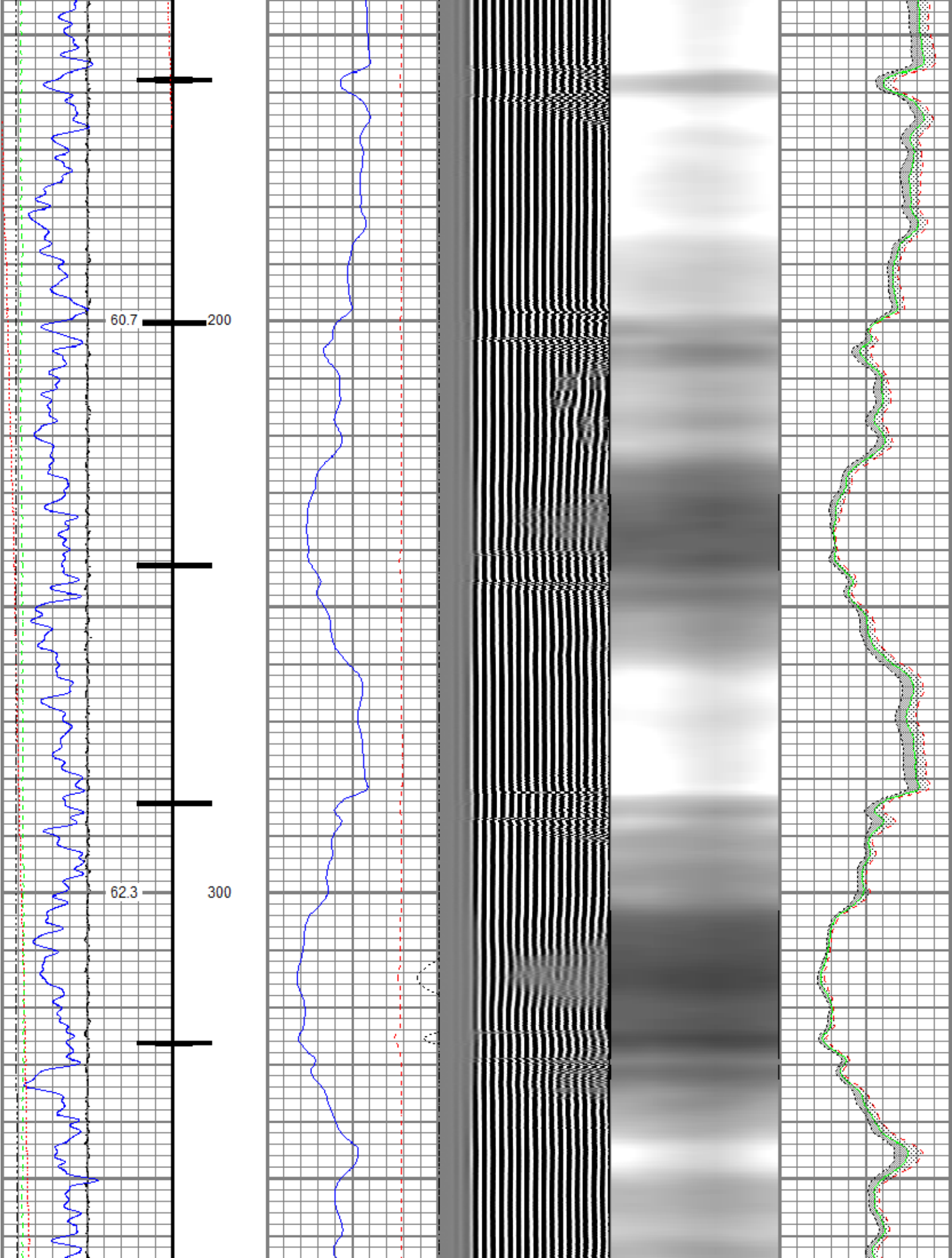


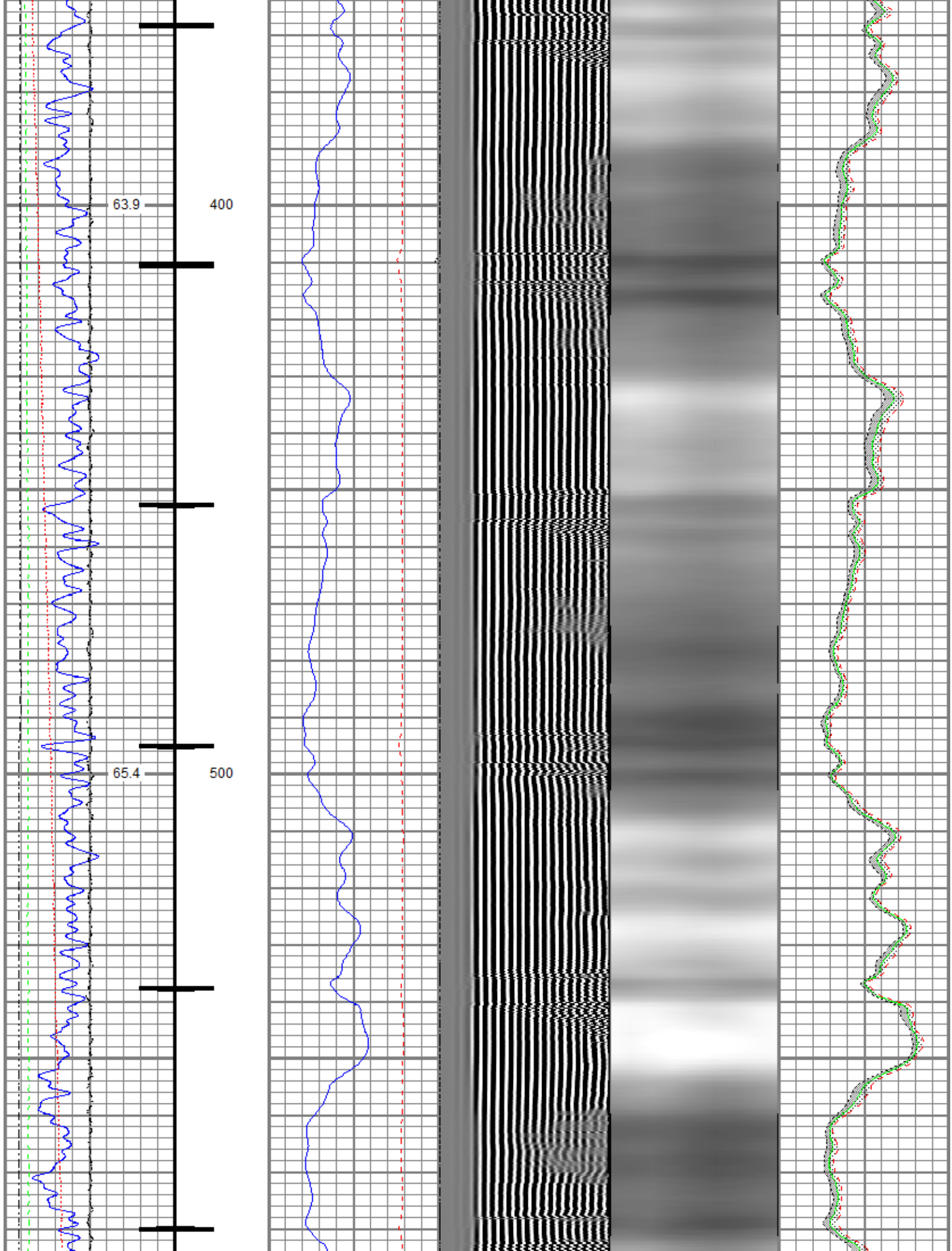
Recorded With 0 PSI Surface-Induced Pressure

Database File petro\petro\_bef west 16\_rbl\_04-02-19\processed\_petro\_bef west 16\_rbl\_04-02-19.db  
 Dataset Pathname Main.3  
 Presentation Format ros\_radri  
 Dataset Creation Tue Apr 02 14:12:15 2019  
 Charted by Depth in Feet scaled 1:240

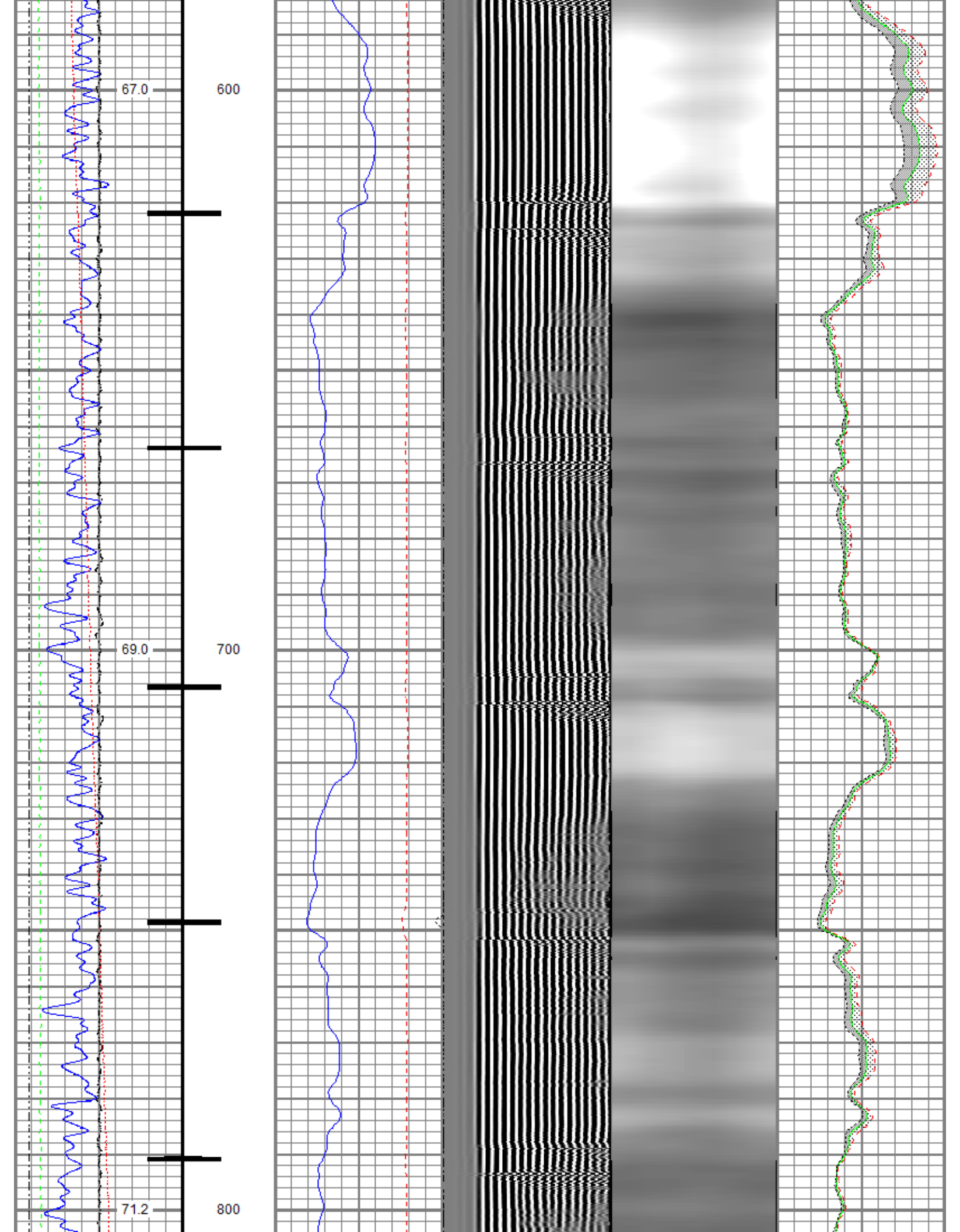
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min) 150				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

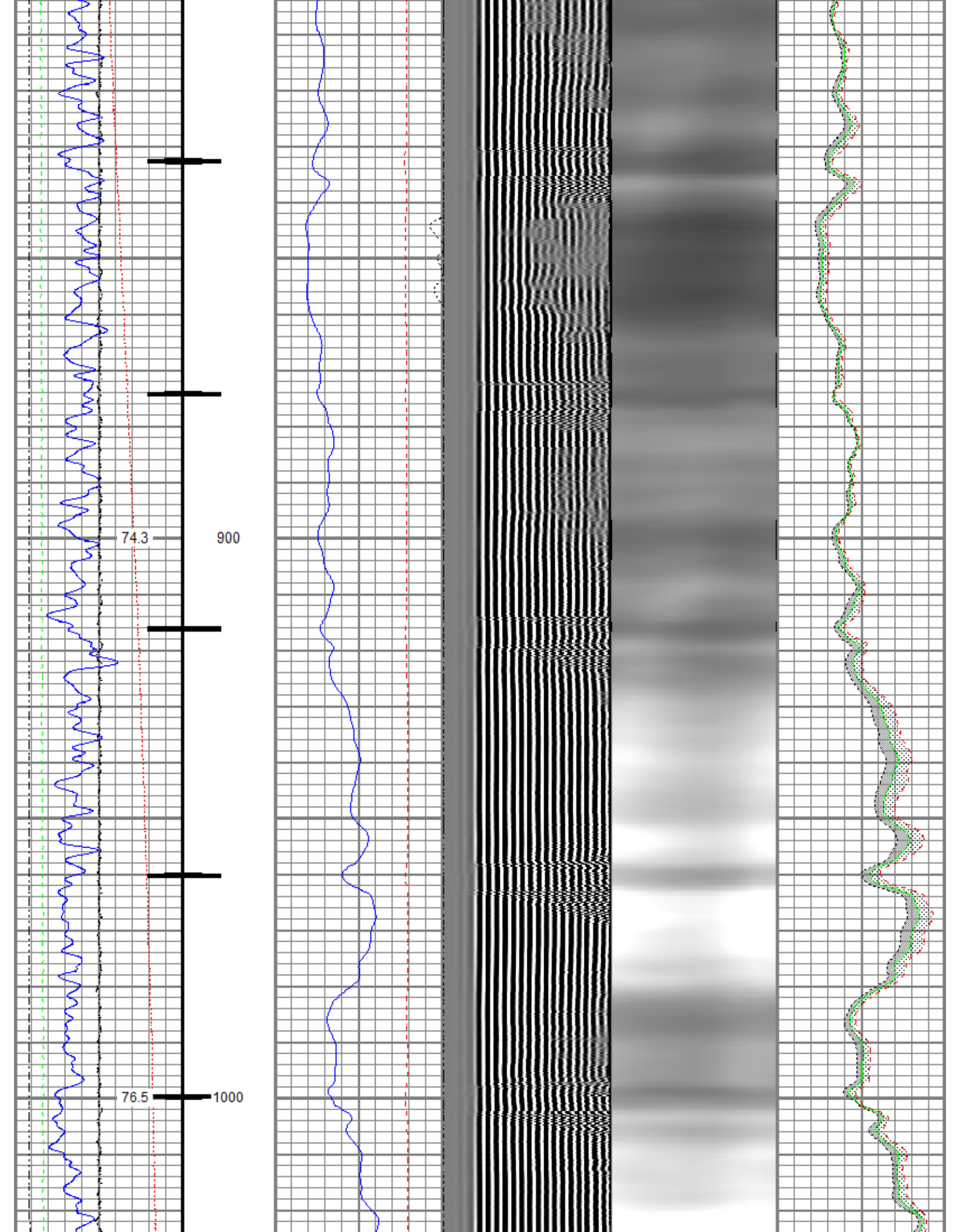


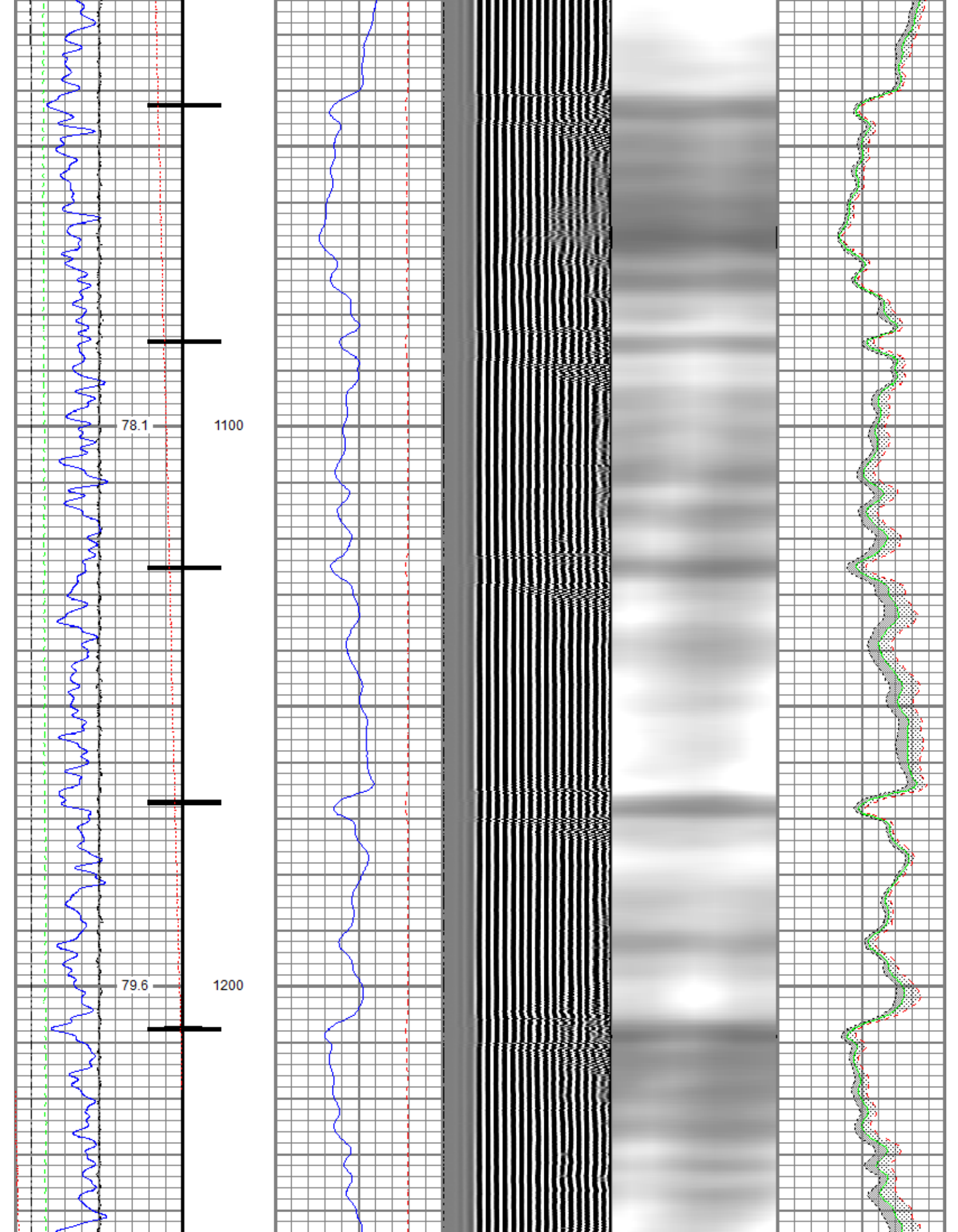




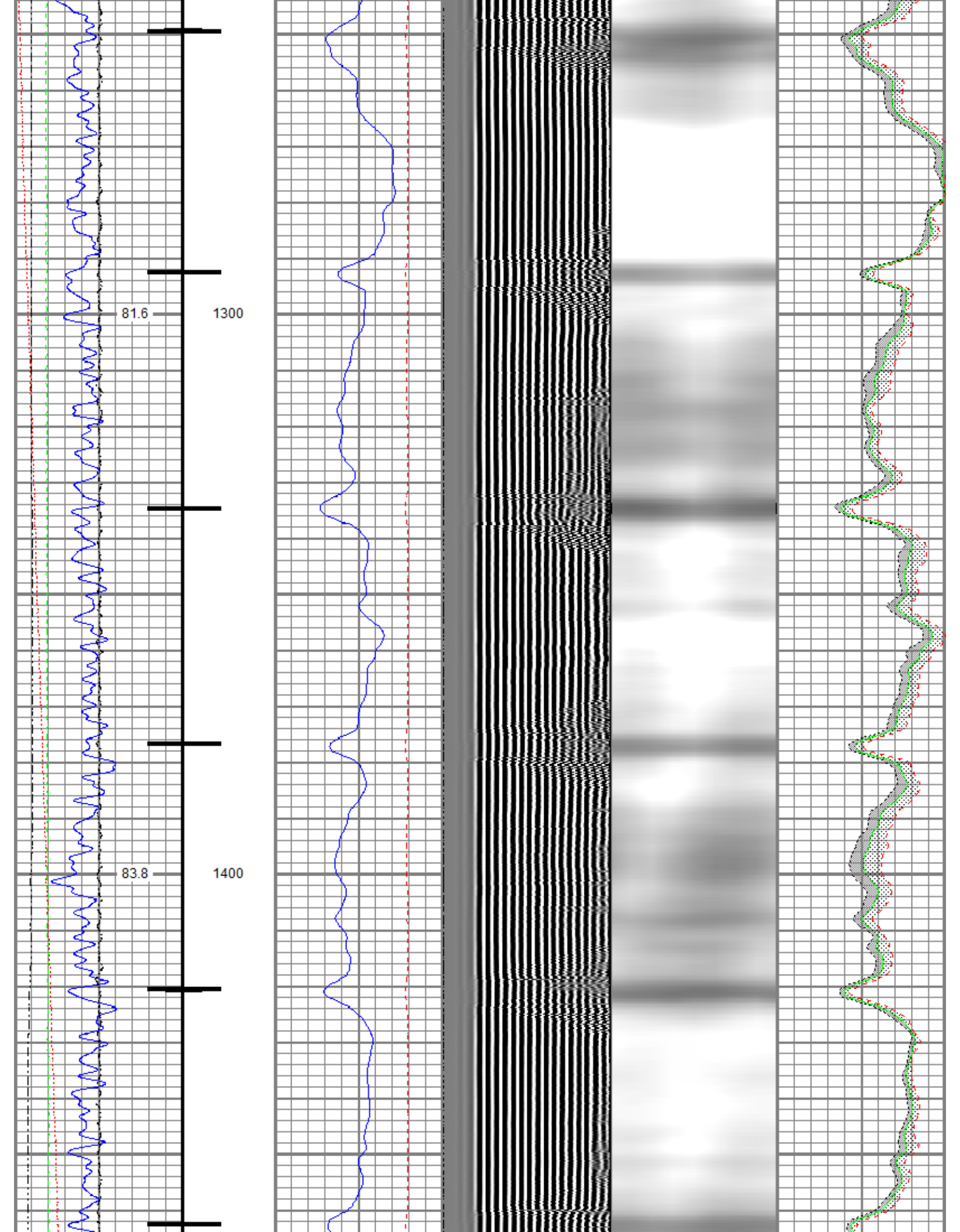




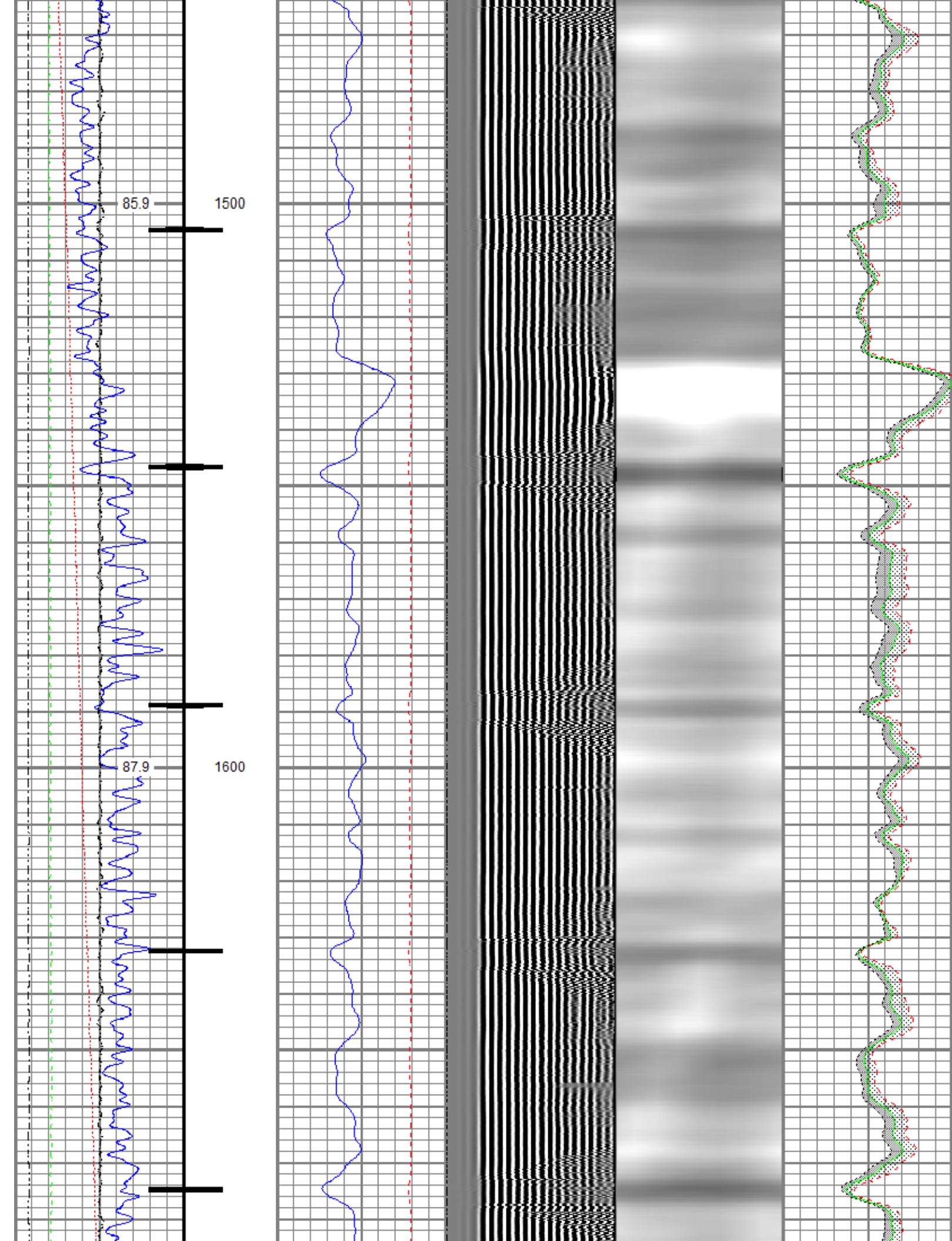


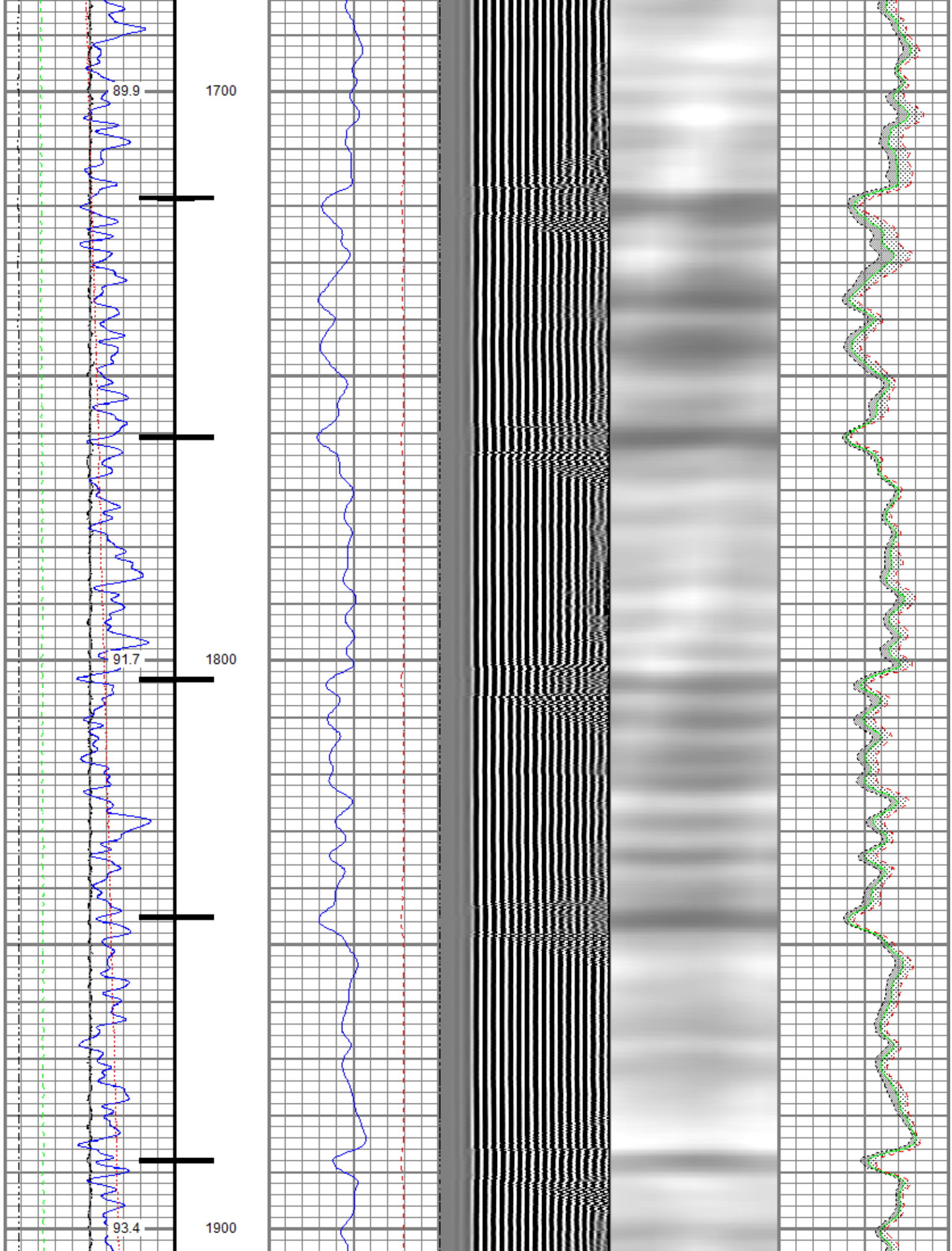


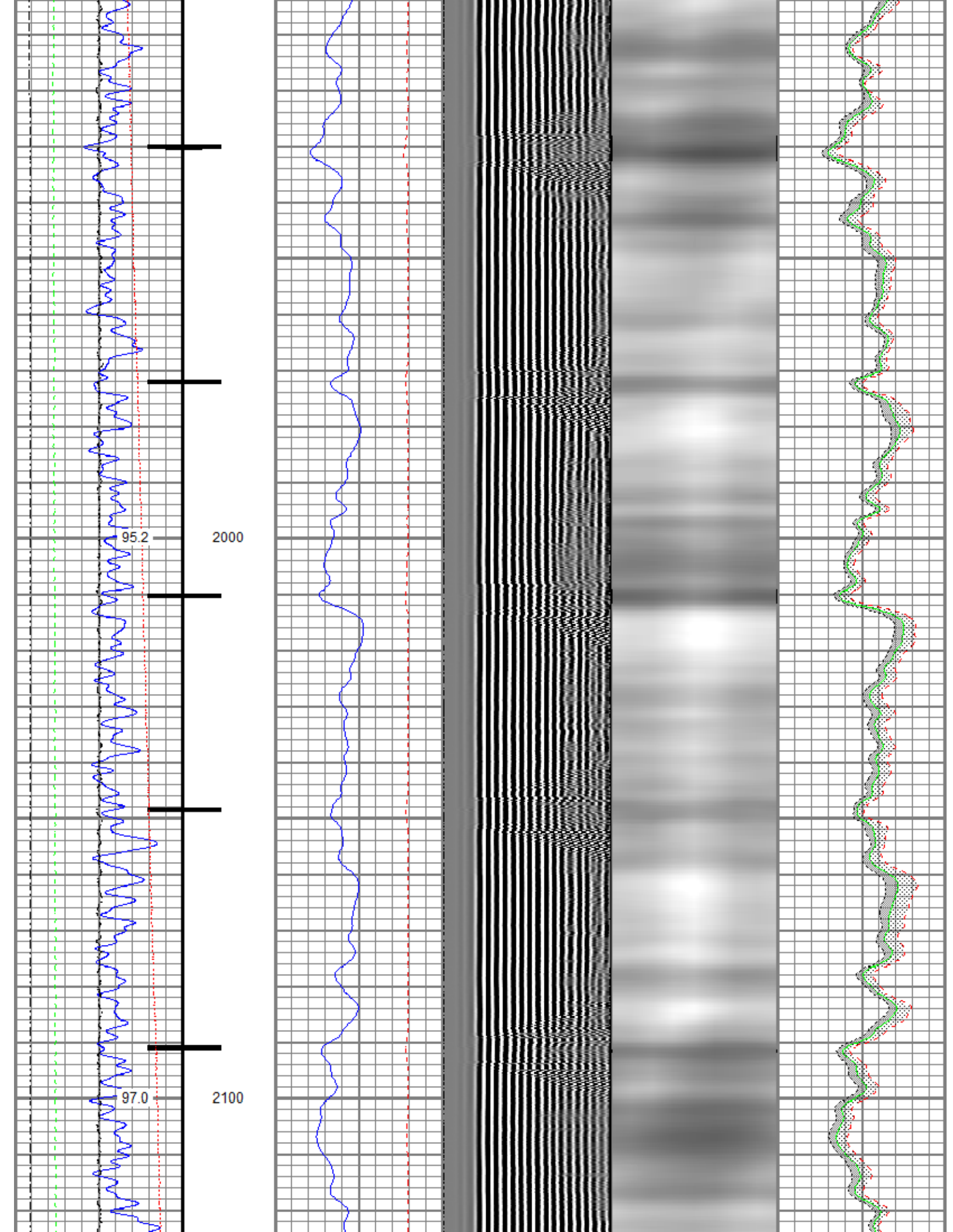




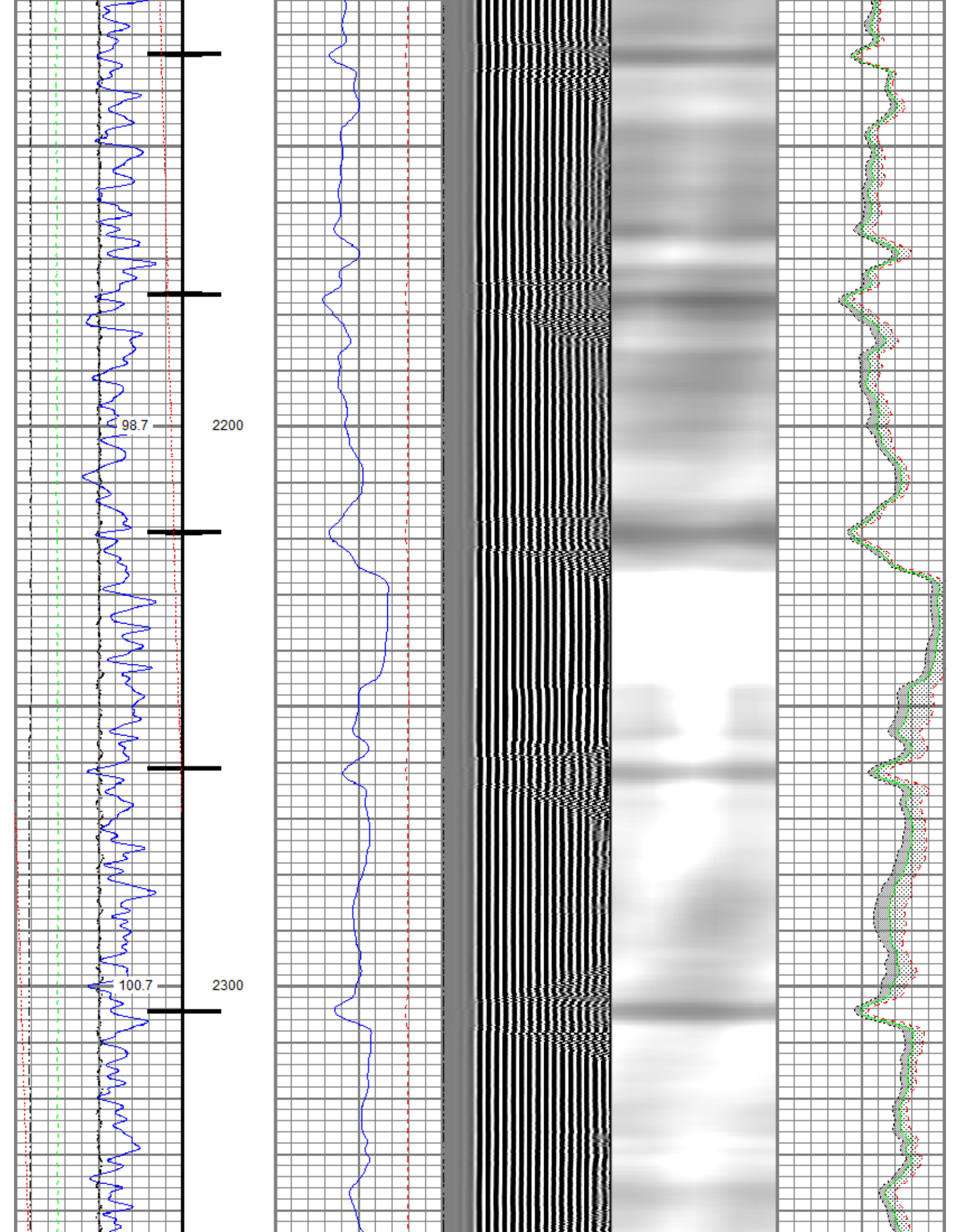




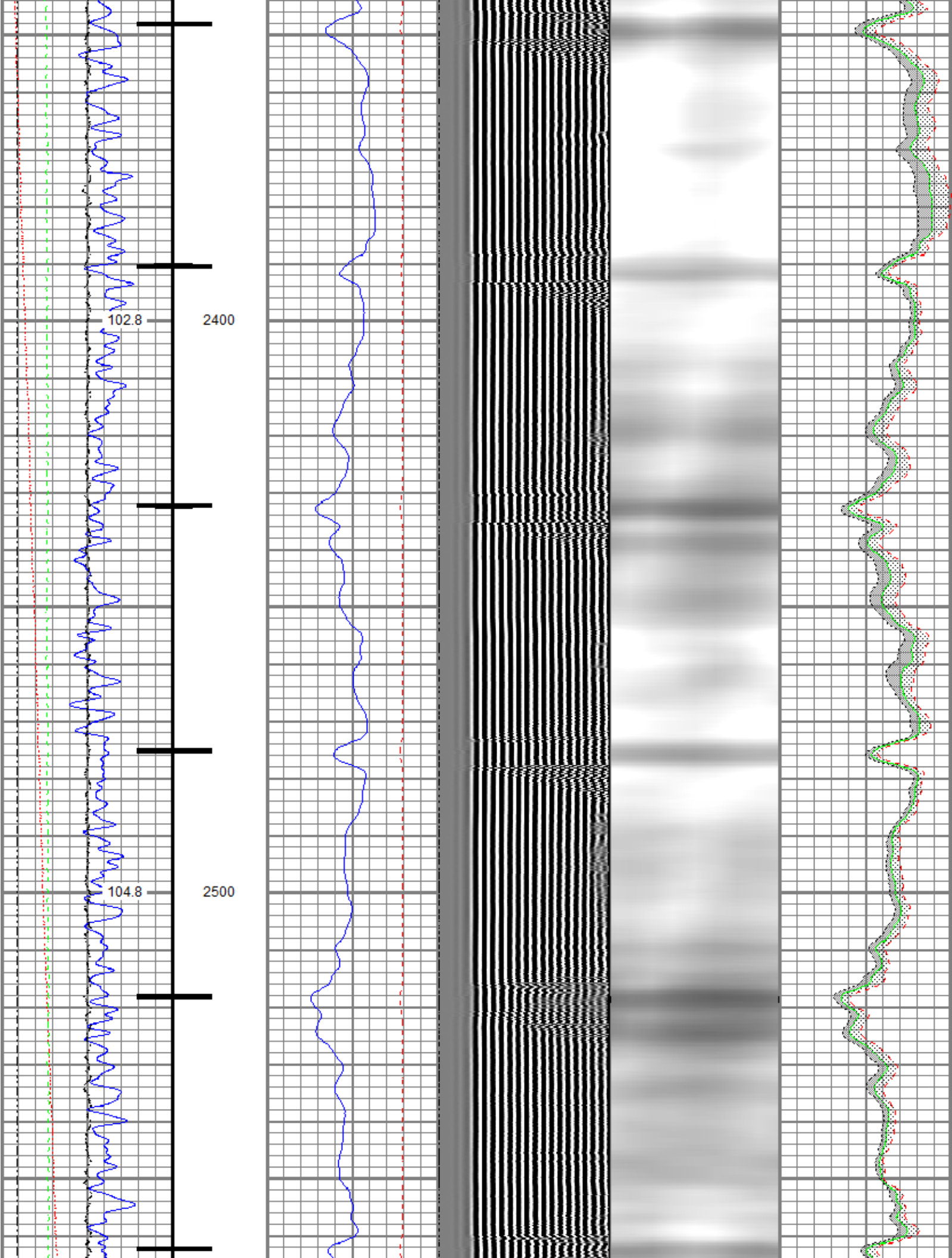


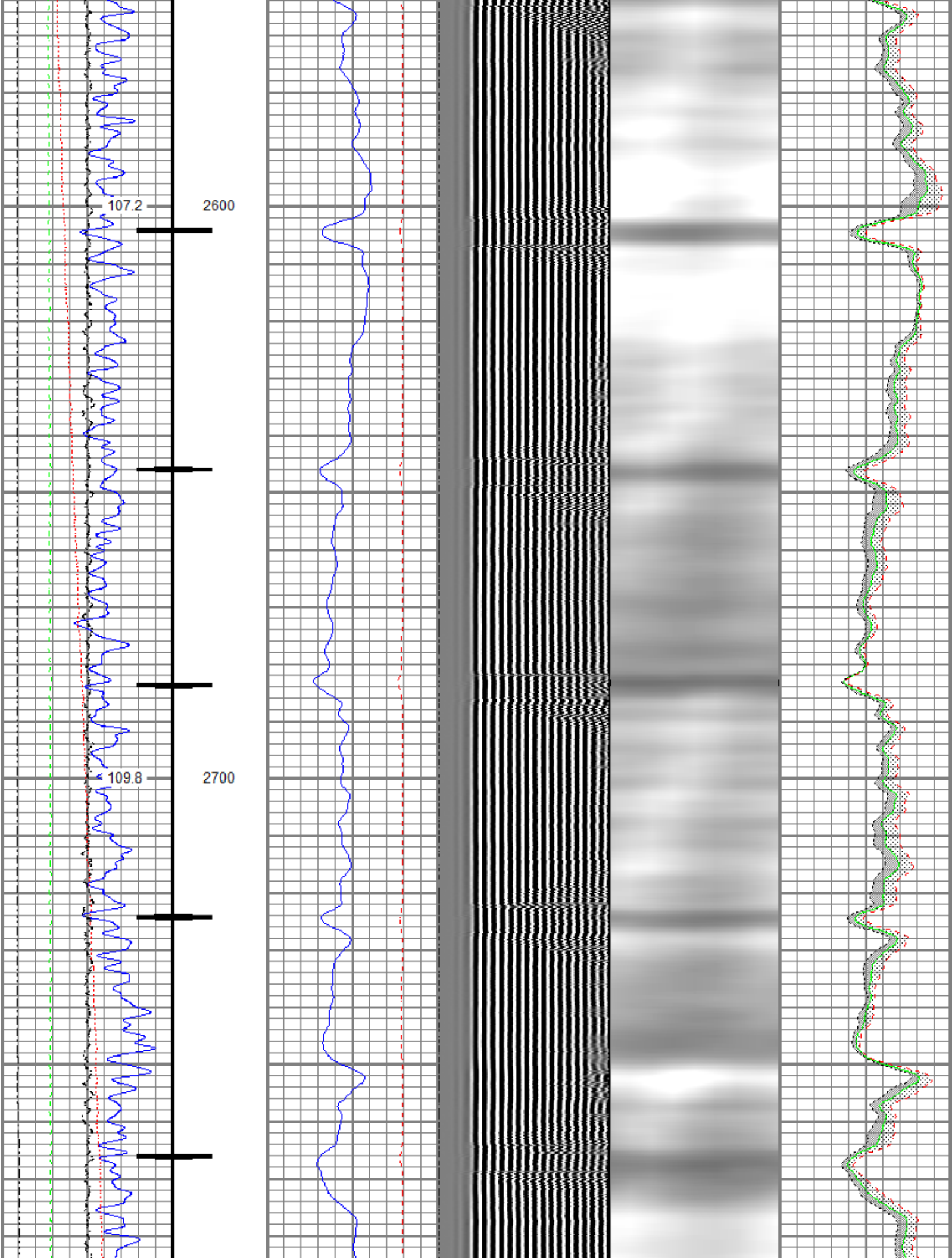


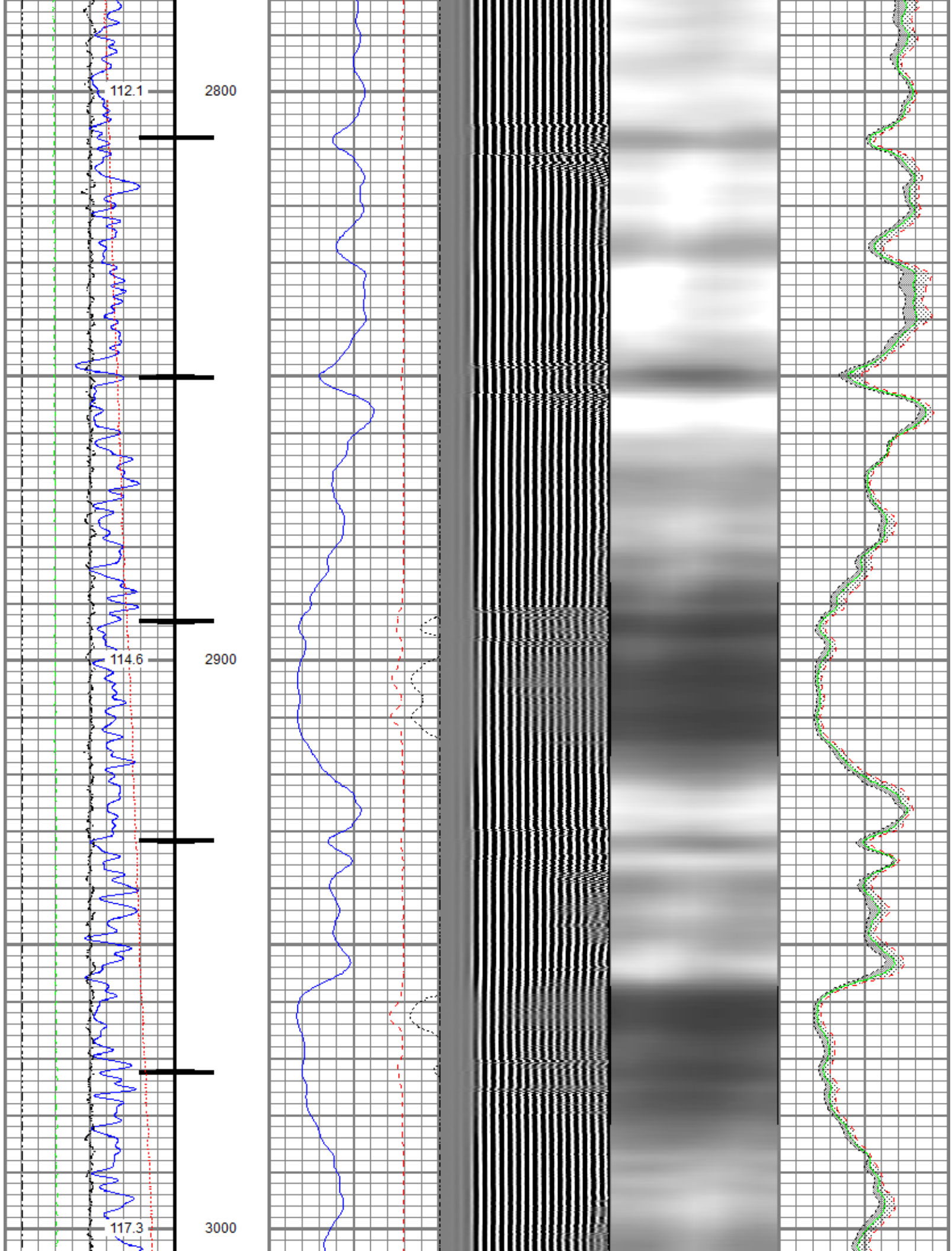




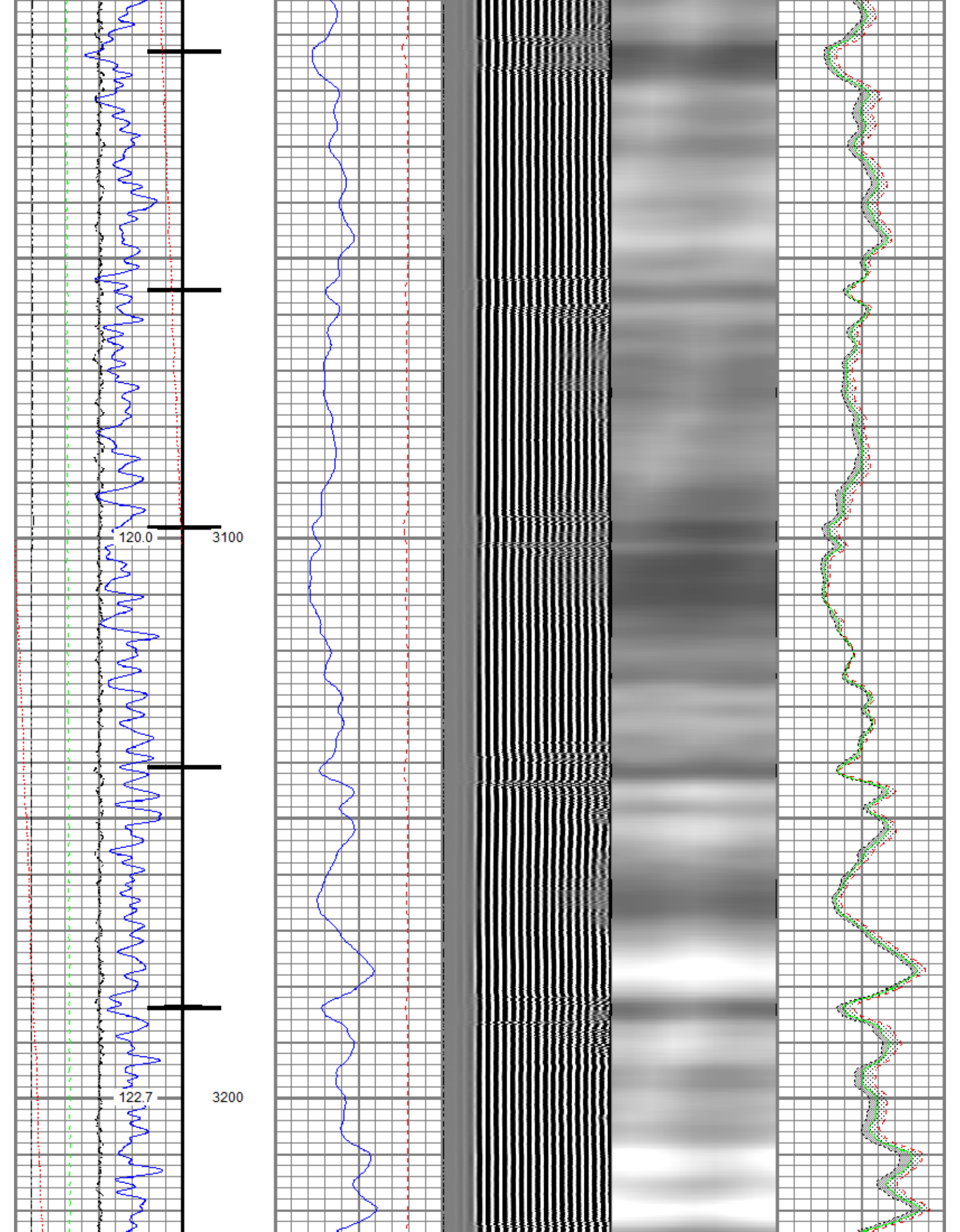




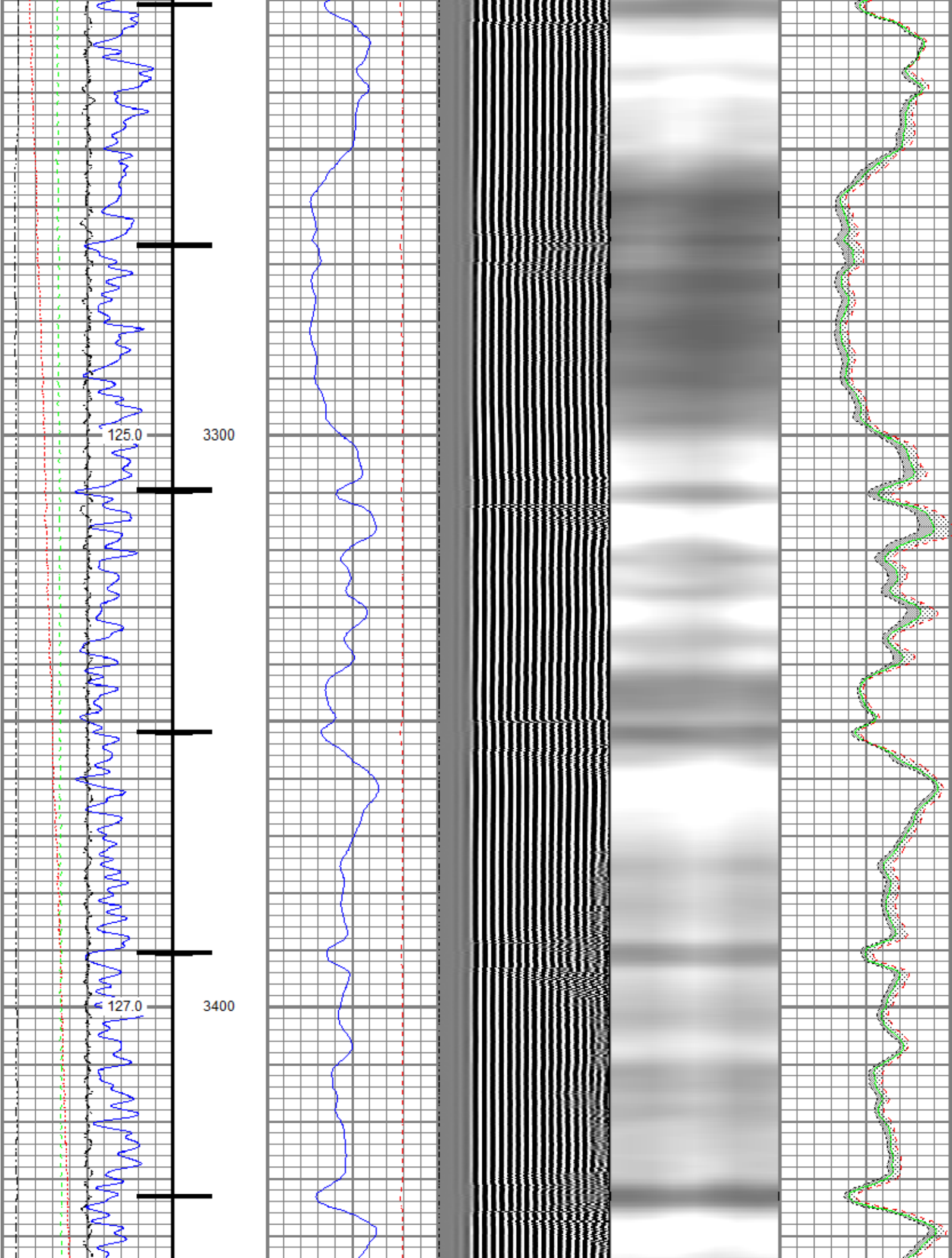


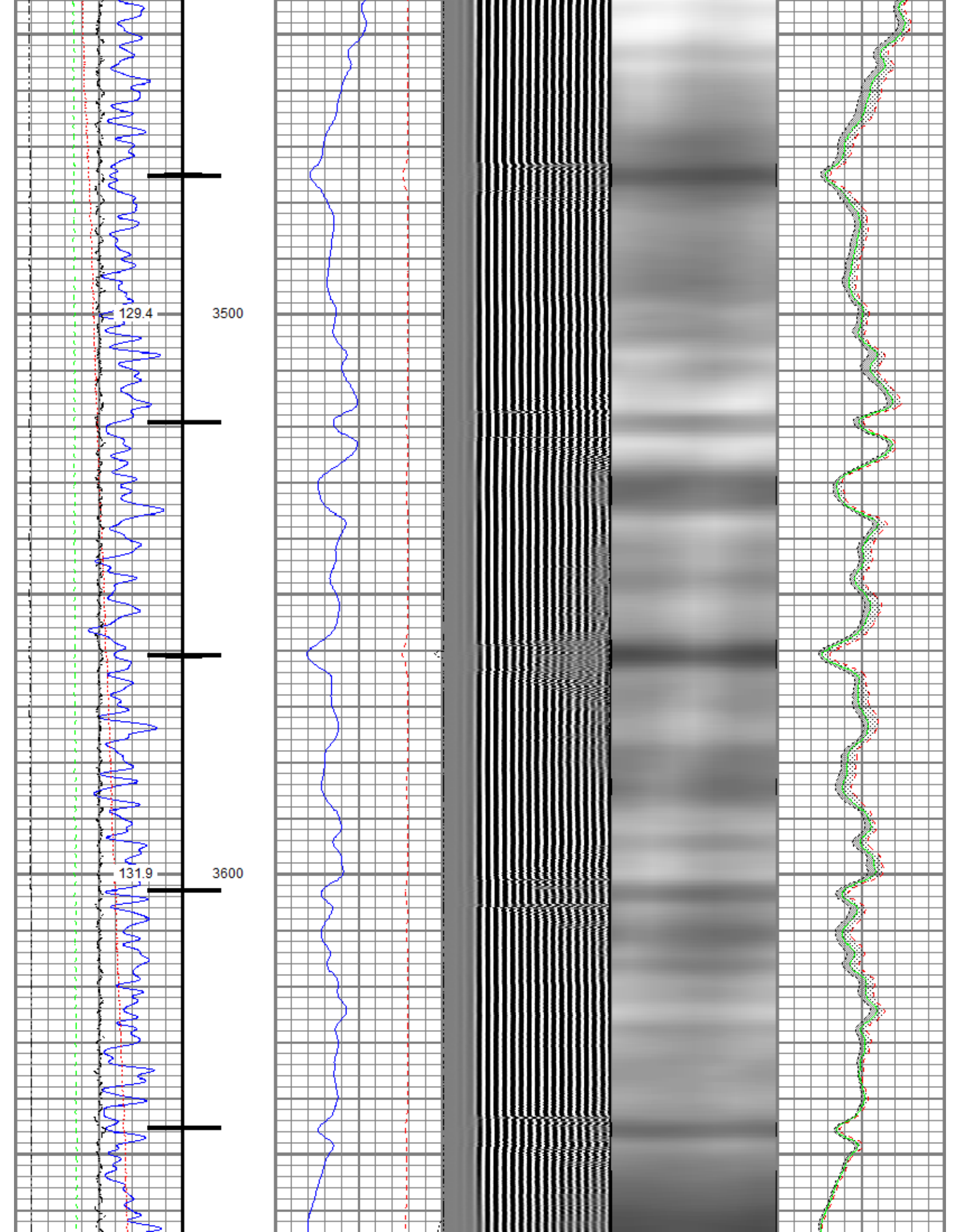


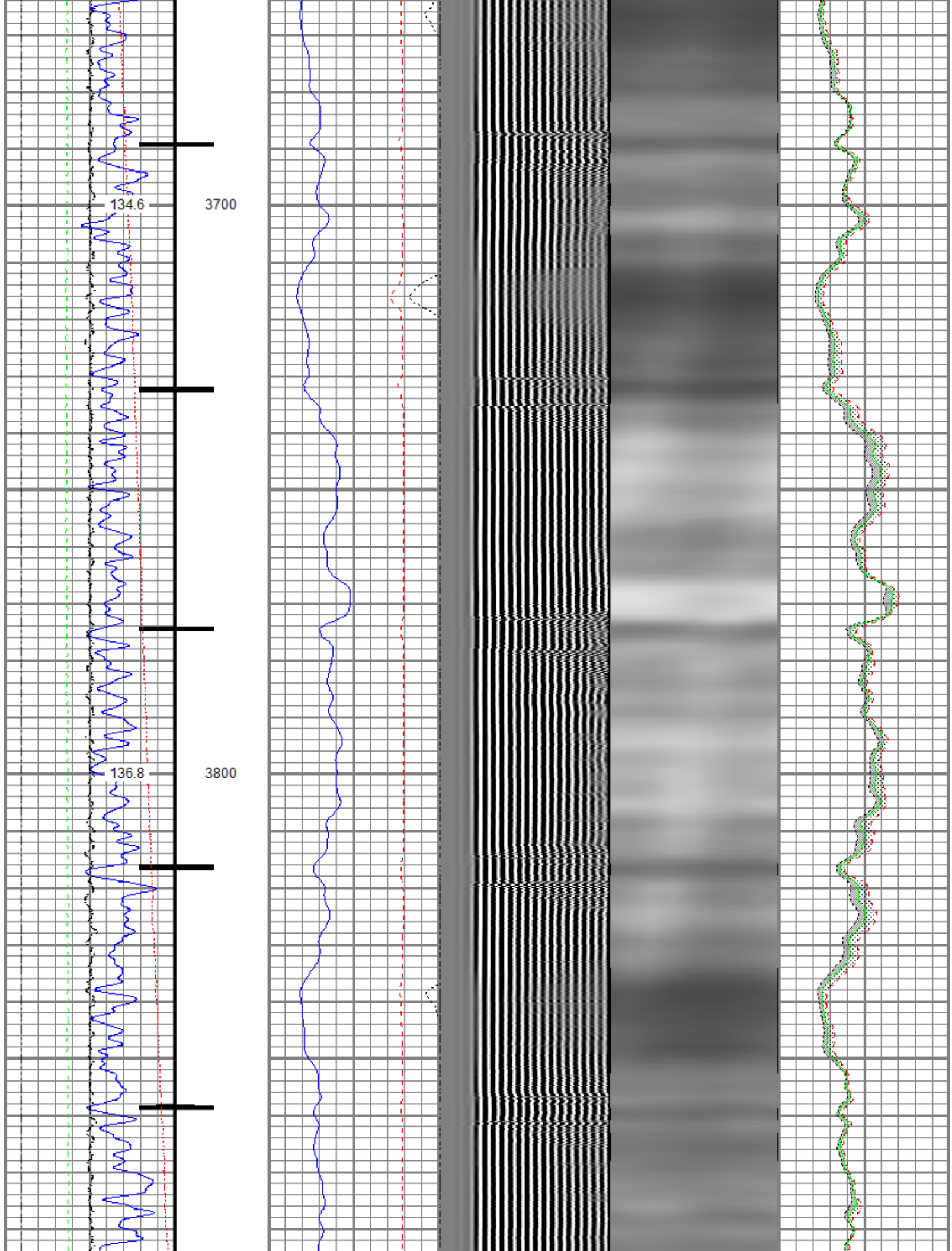




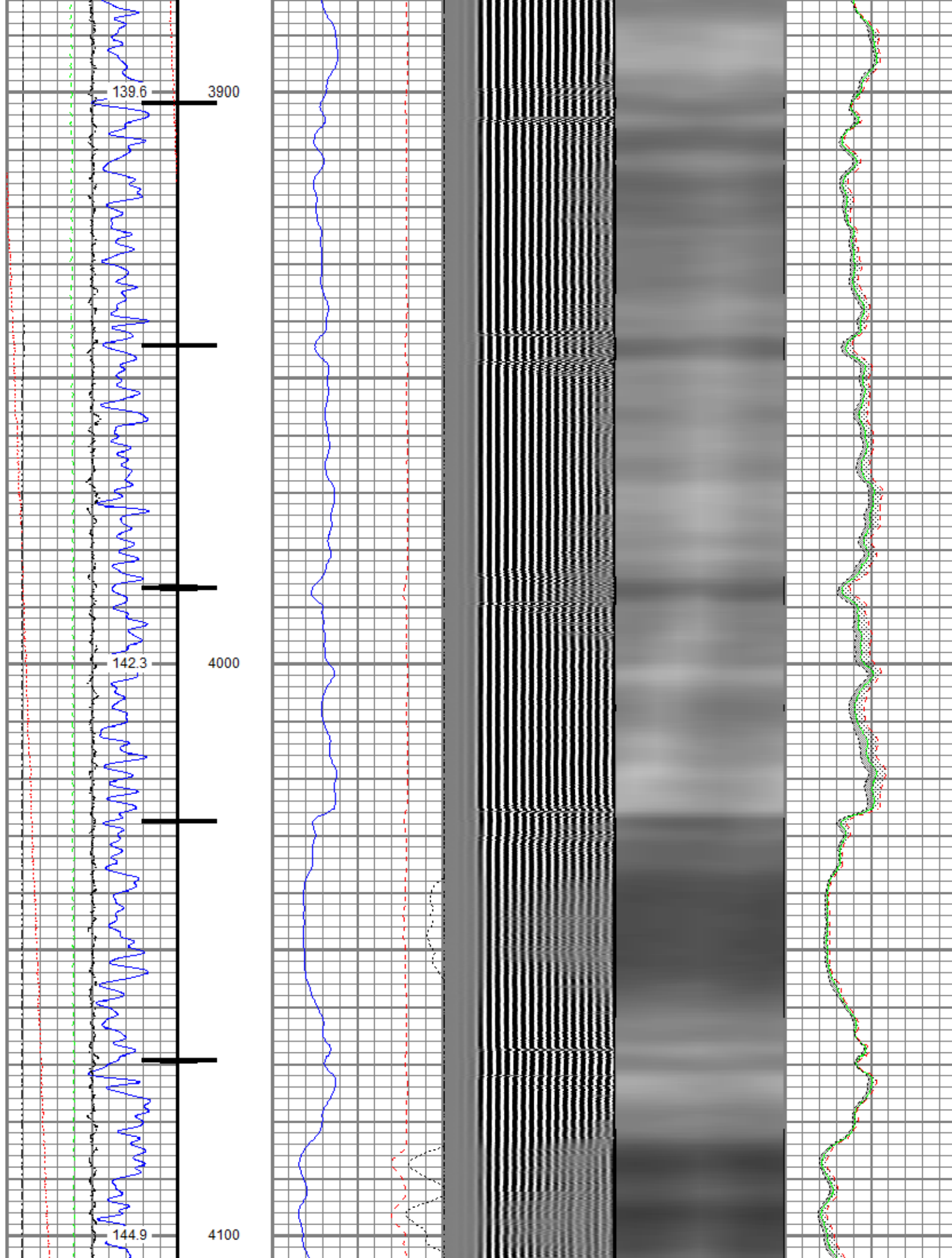




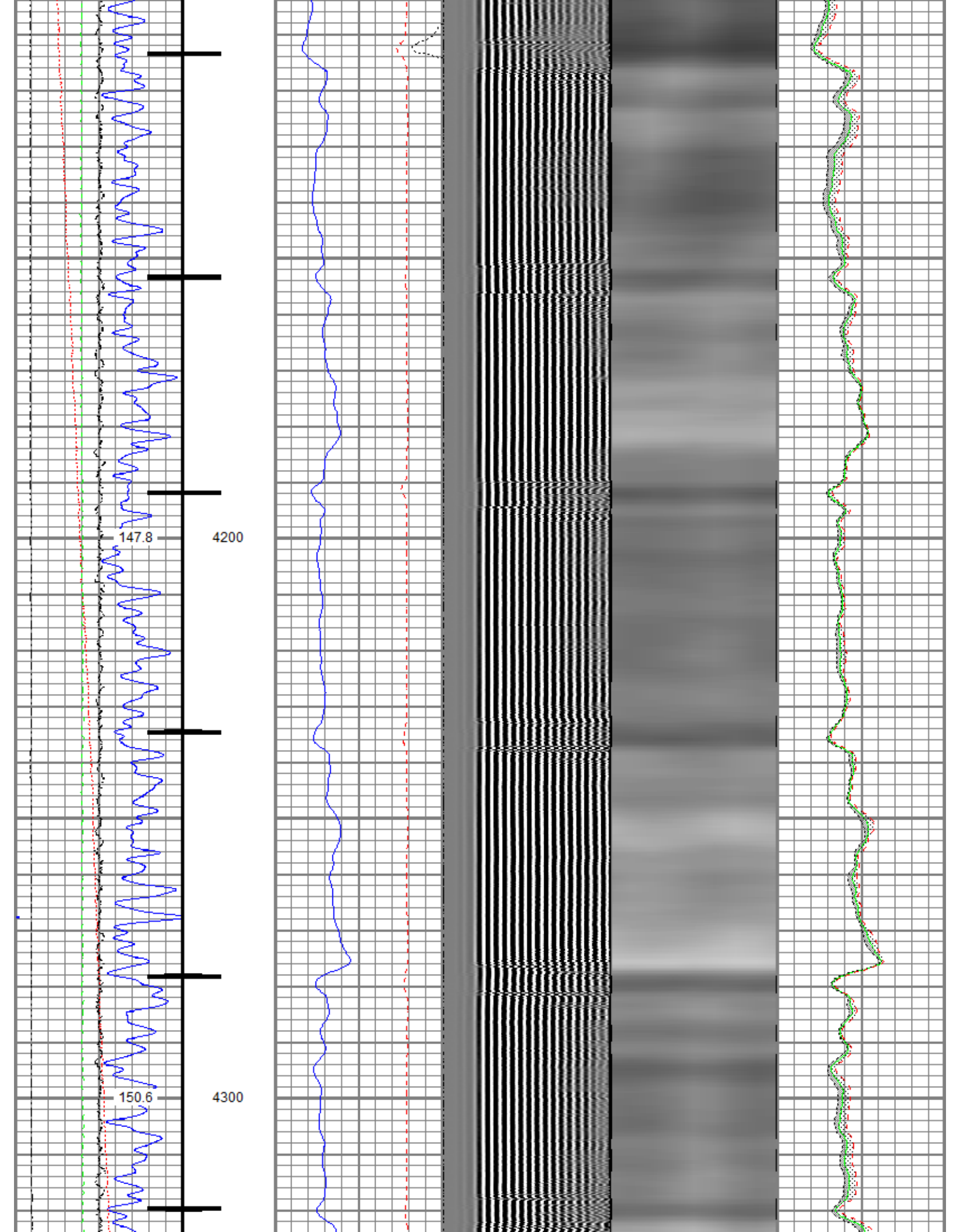


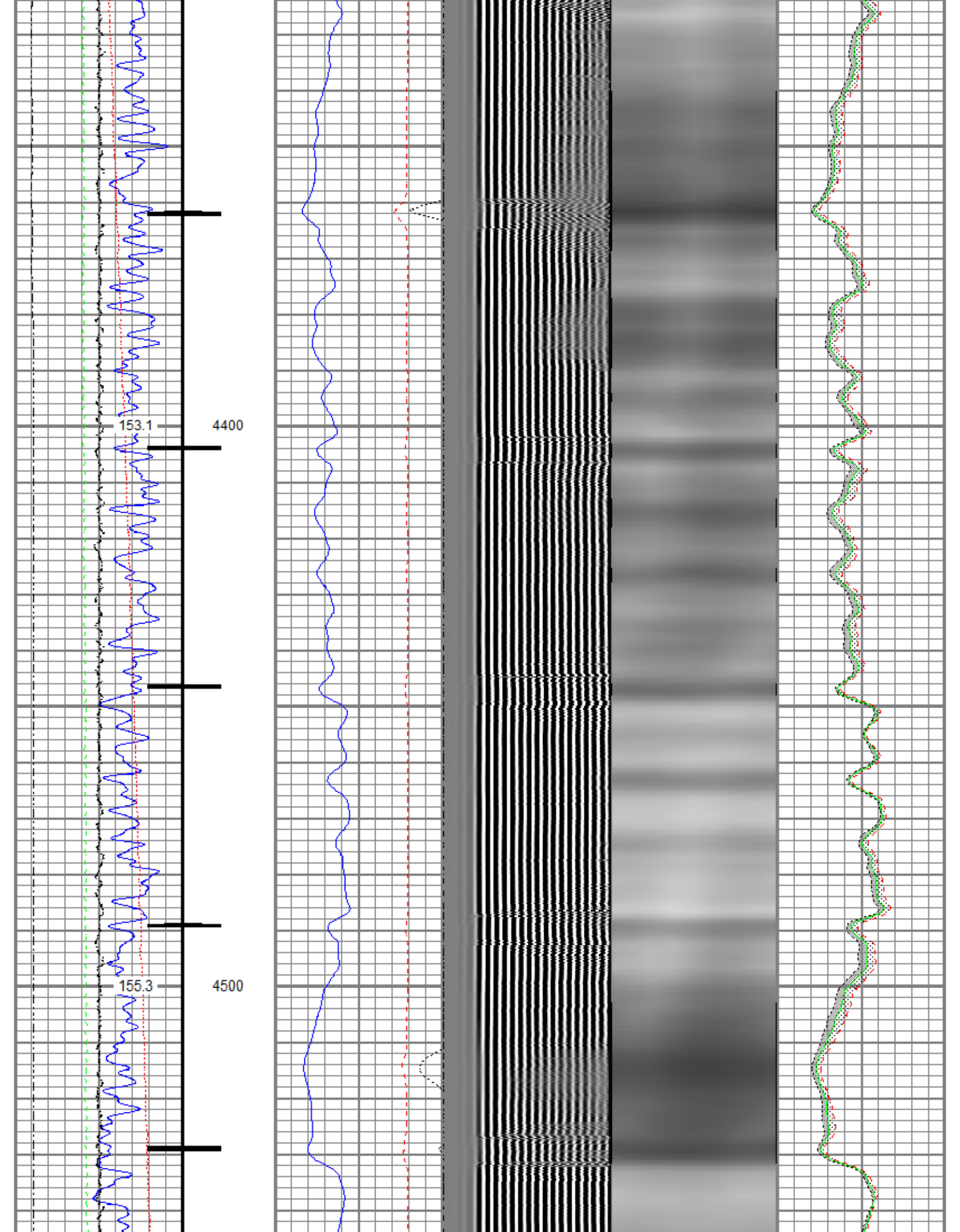


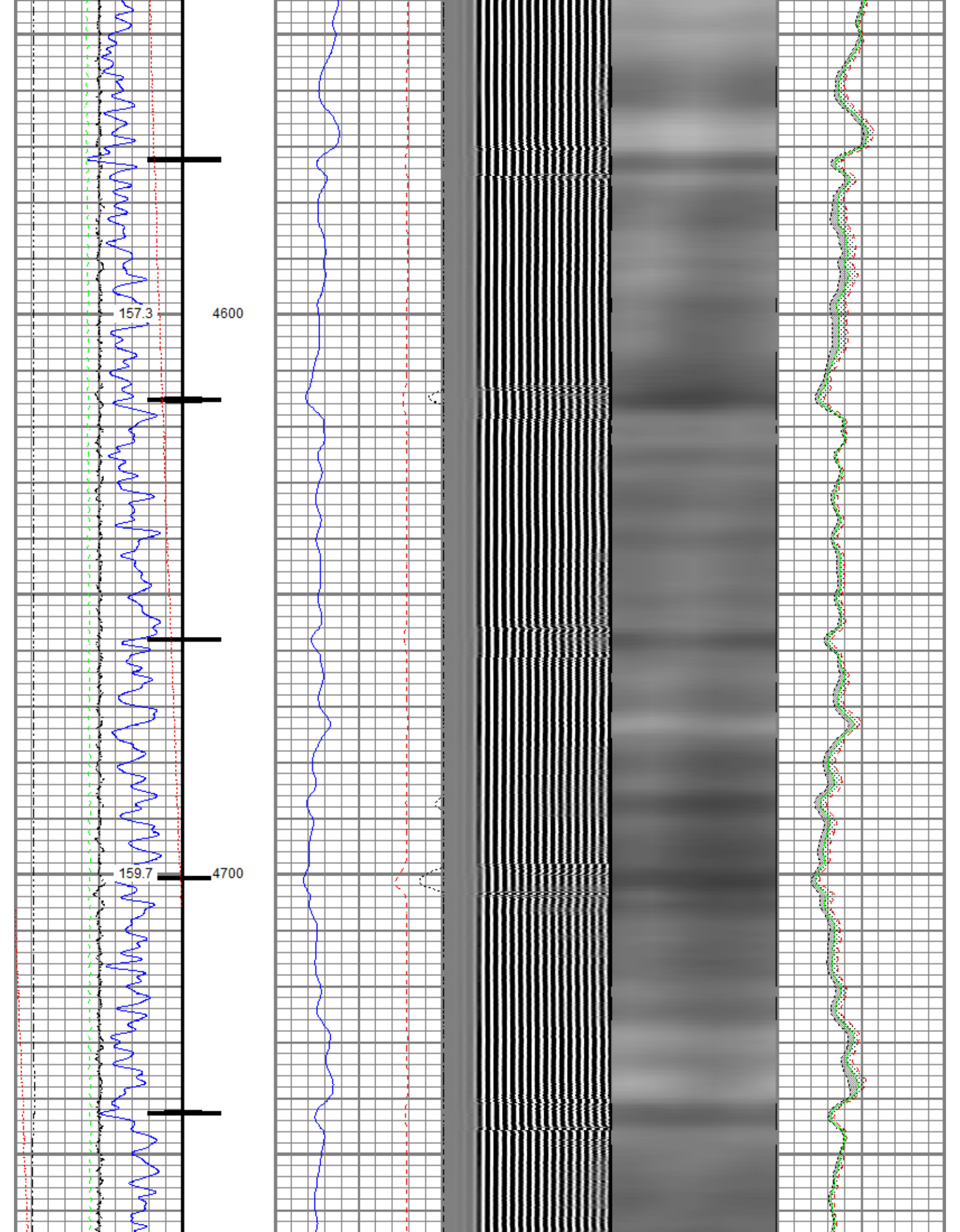




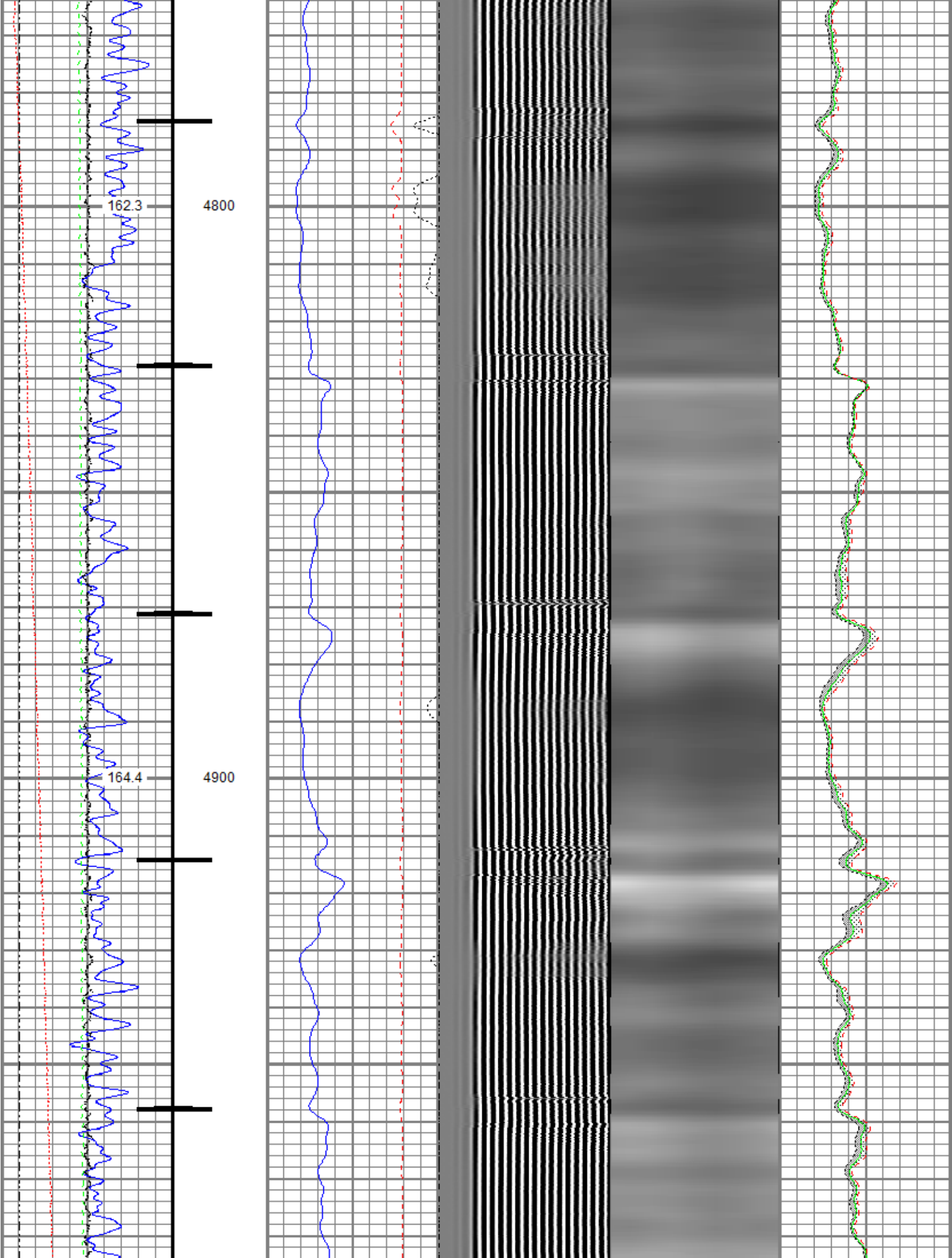


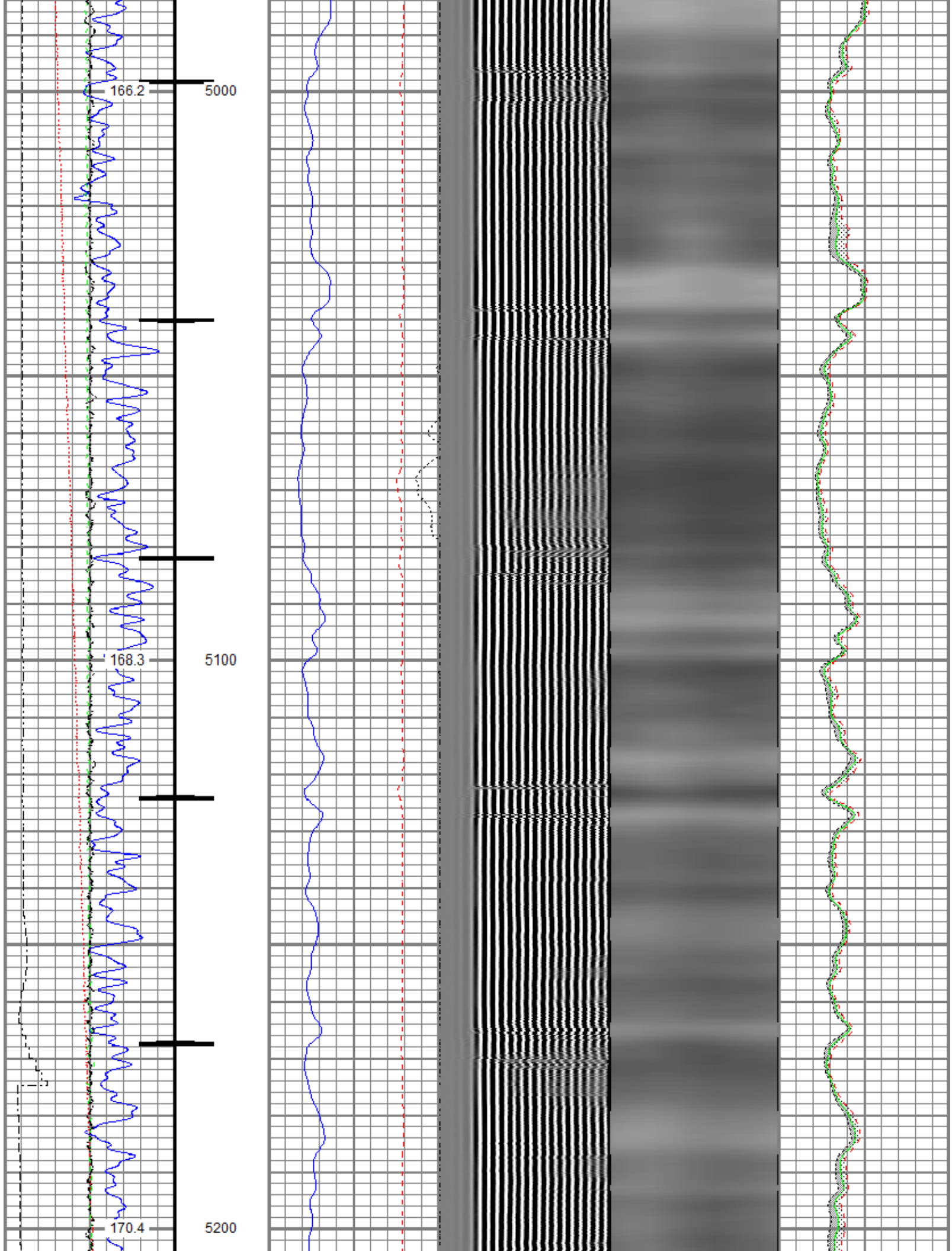


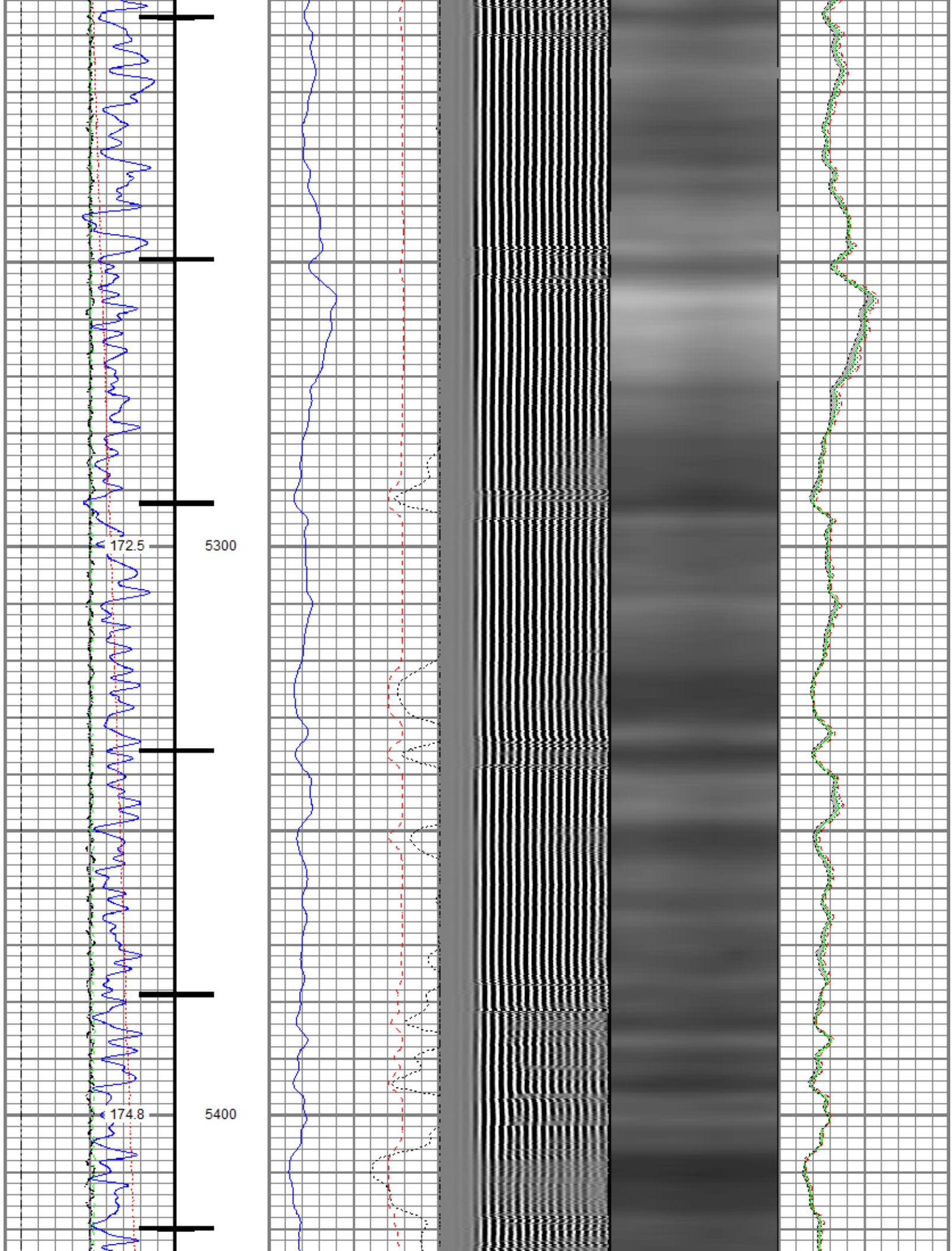




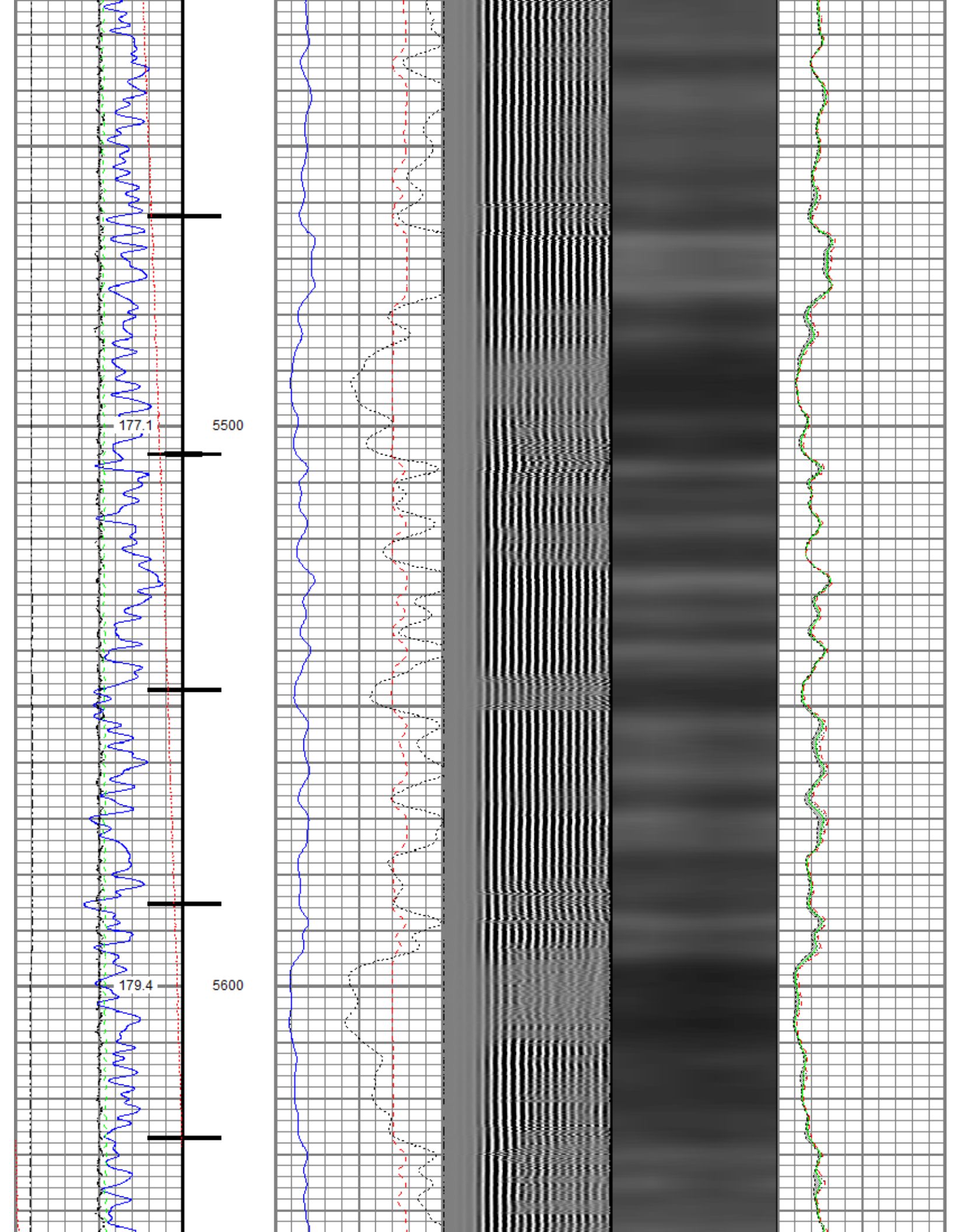


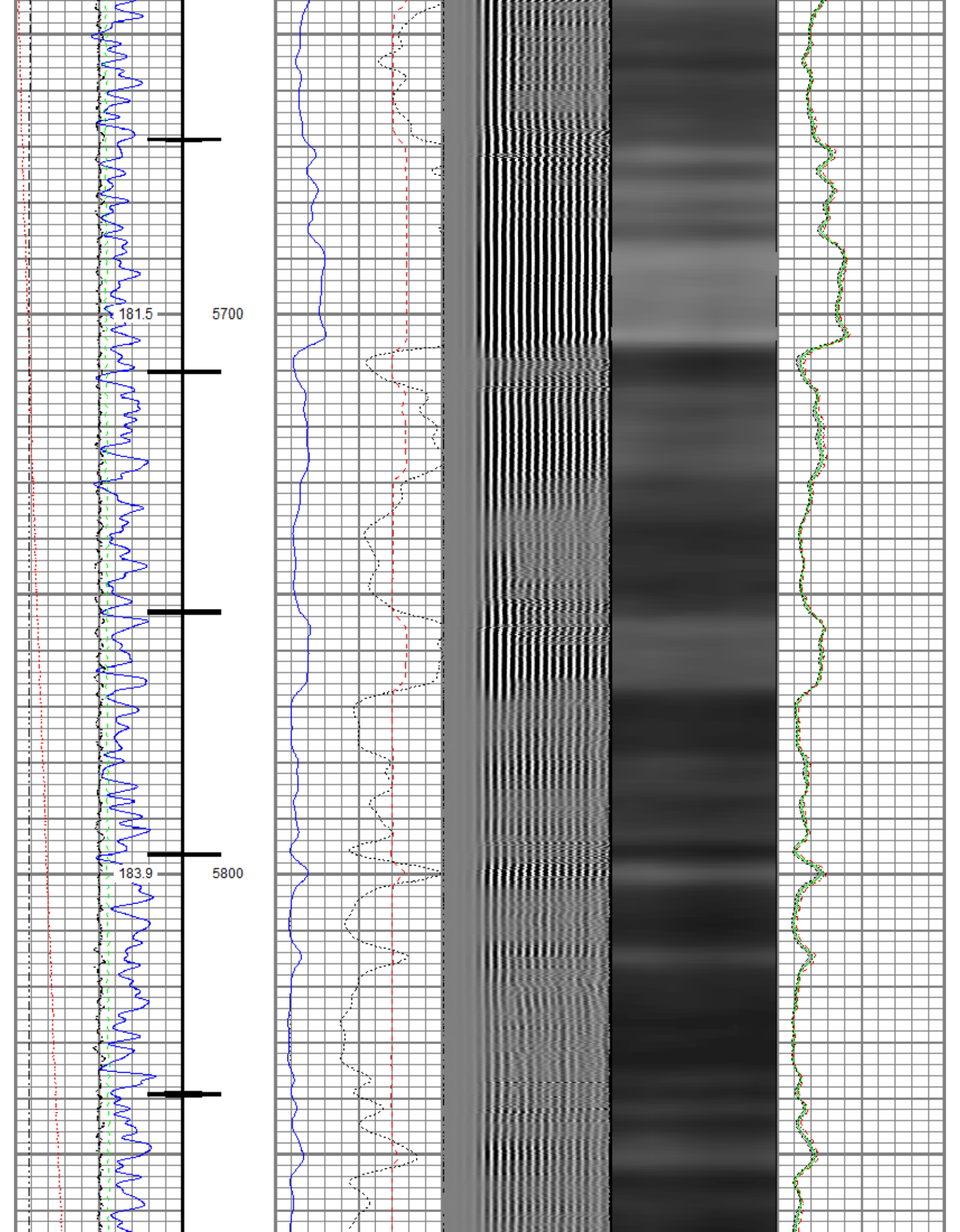


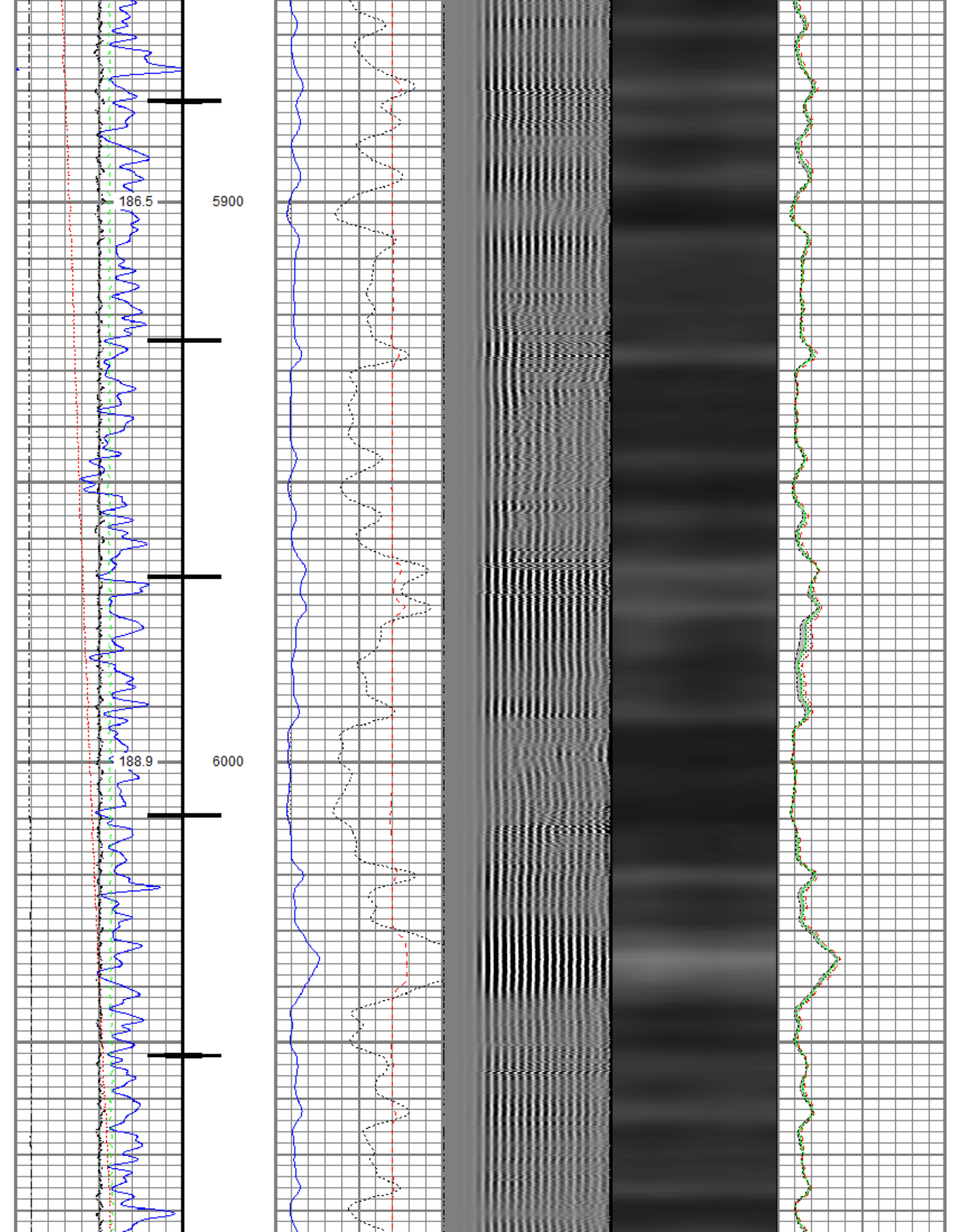




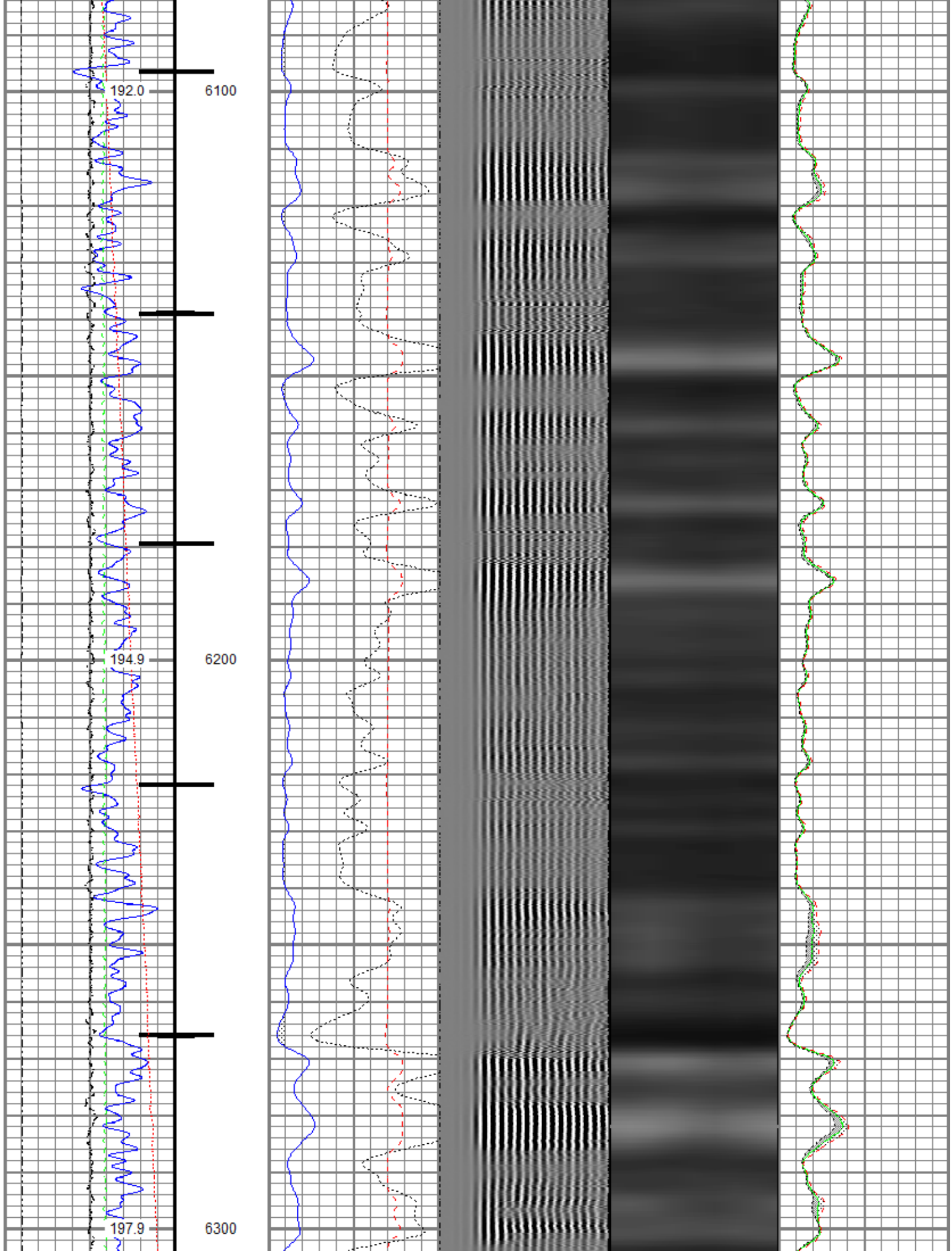


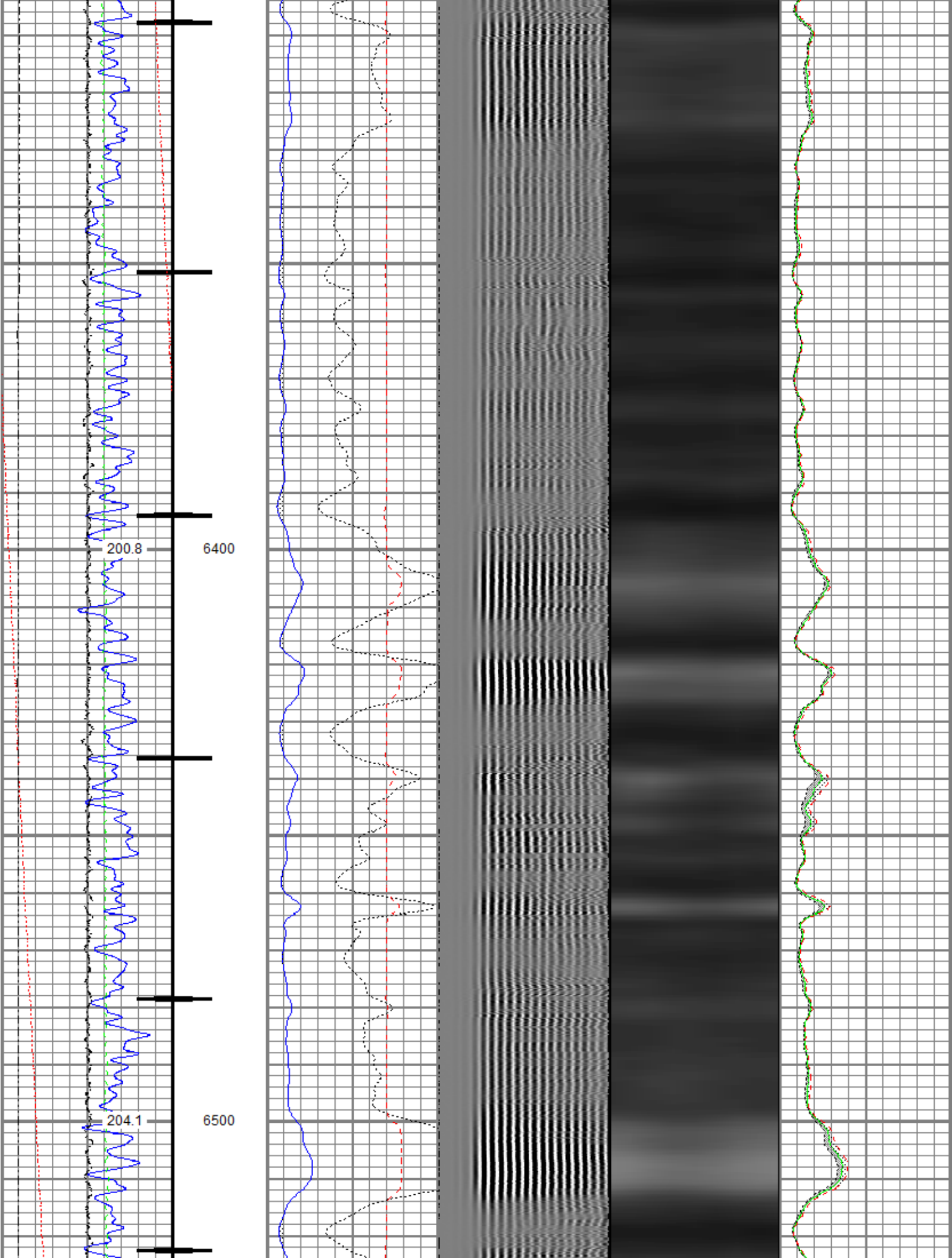


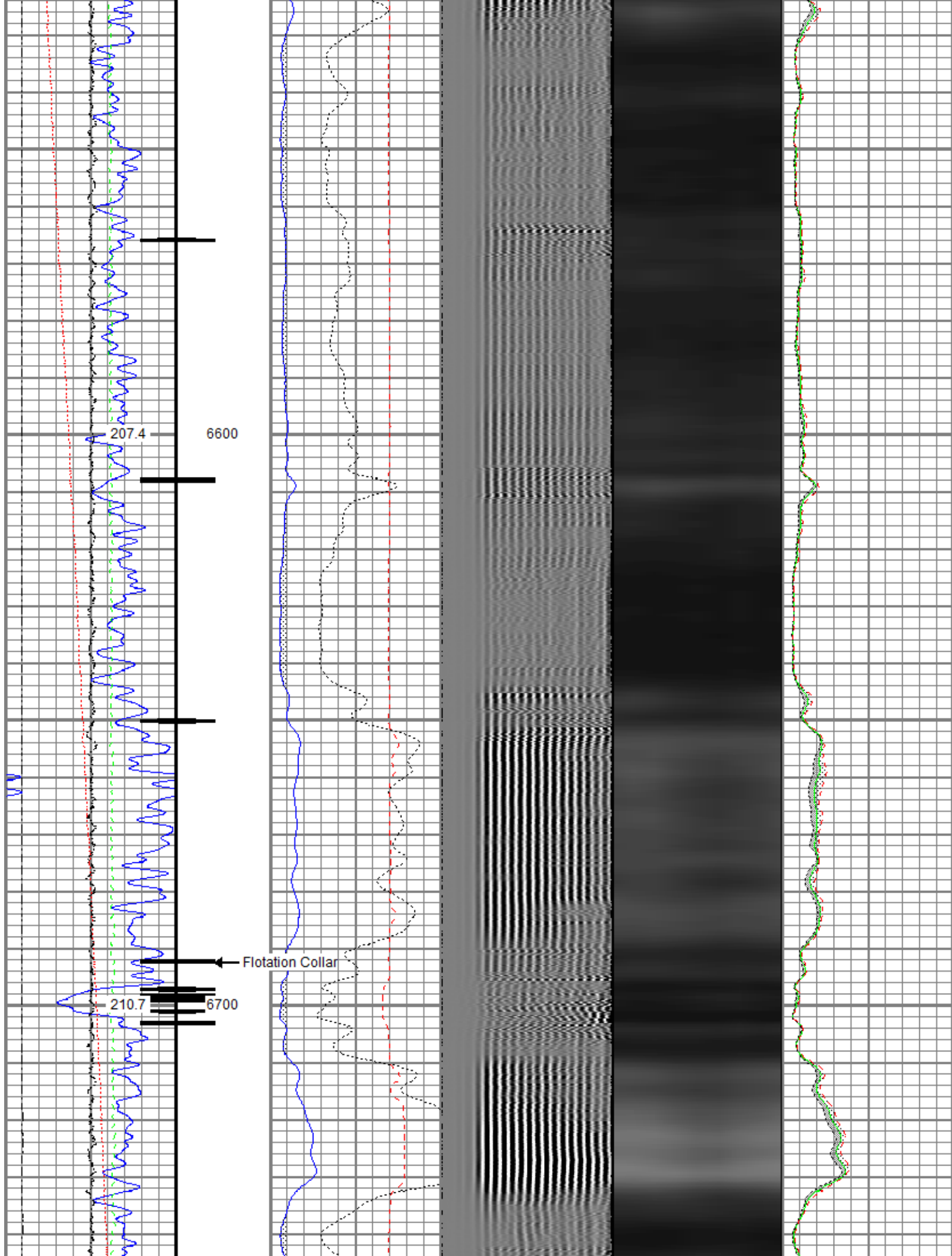




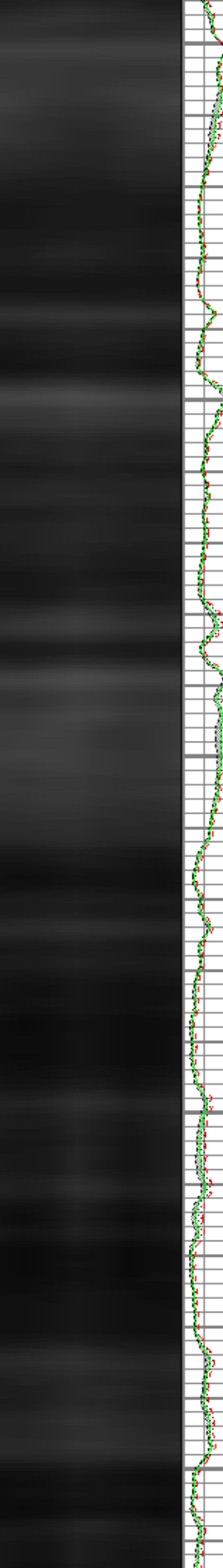
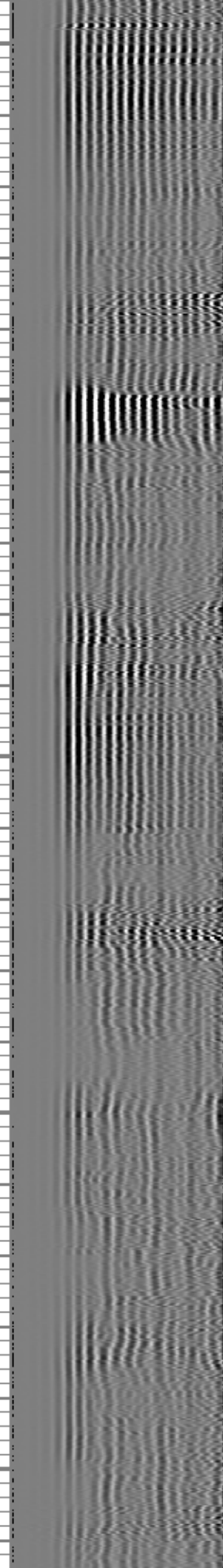
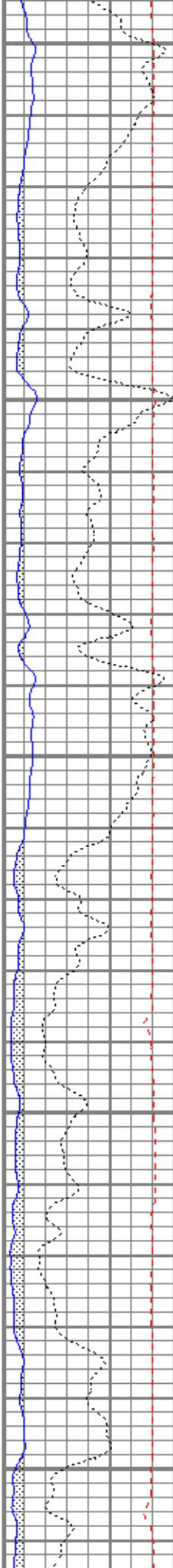
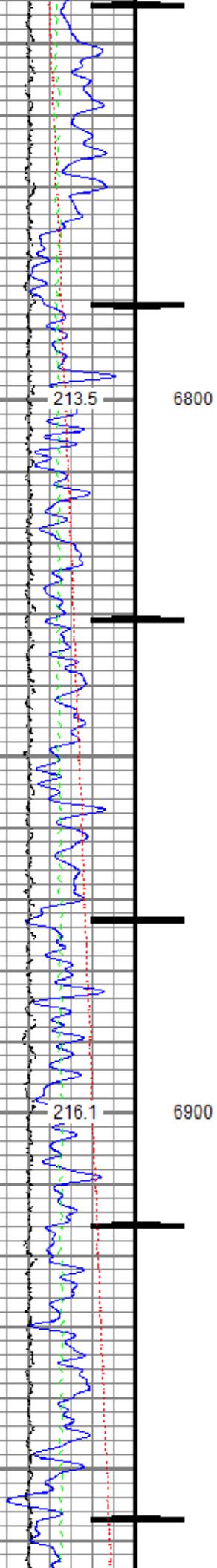


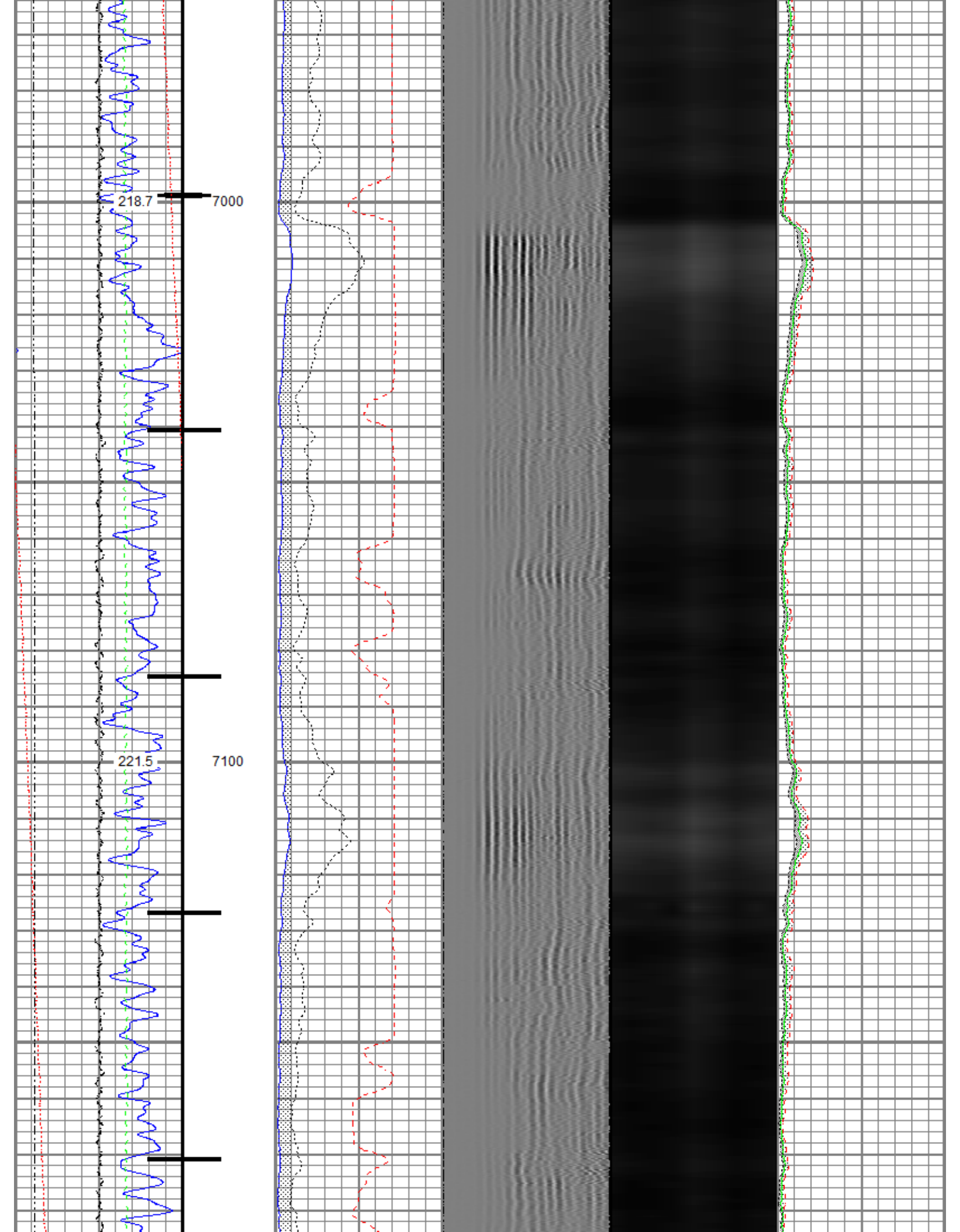


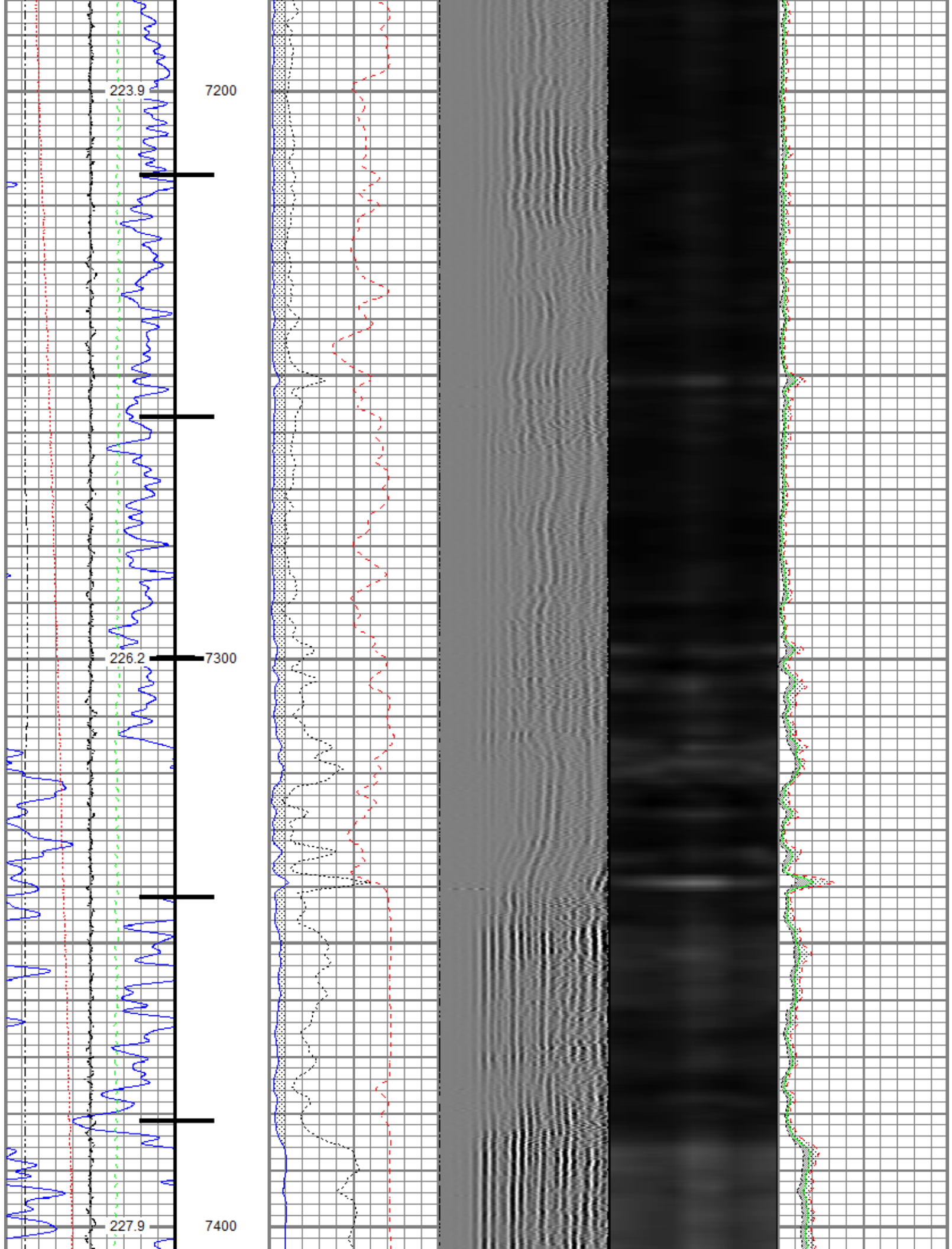




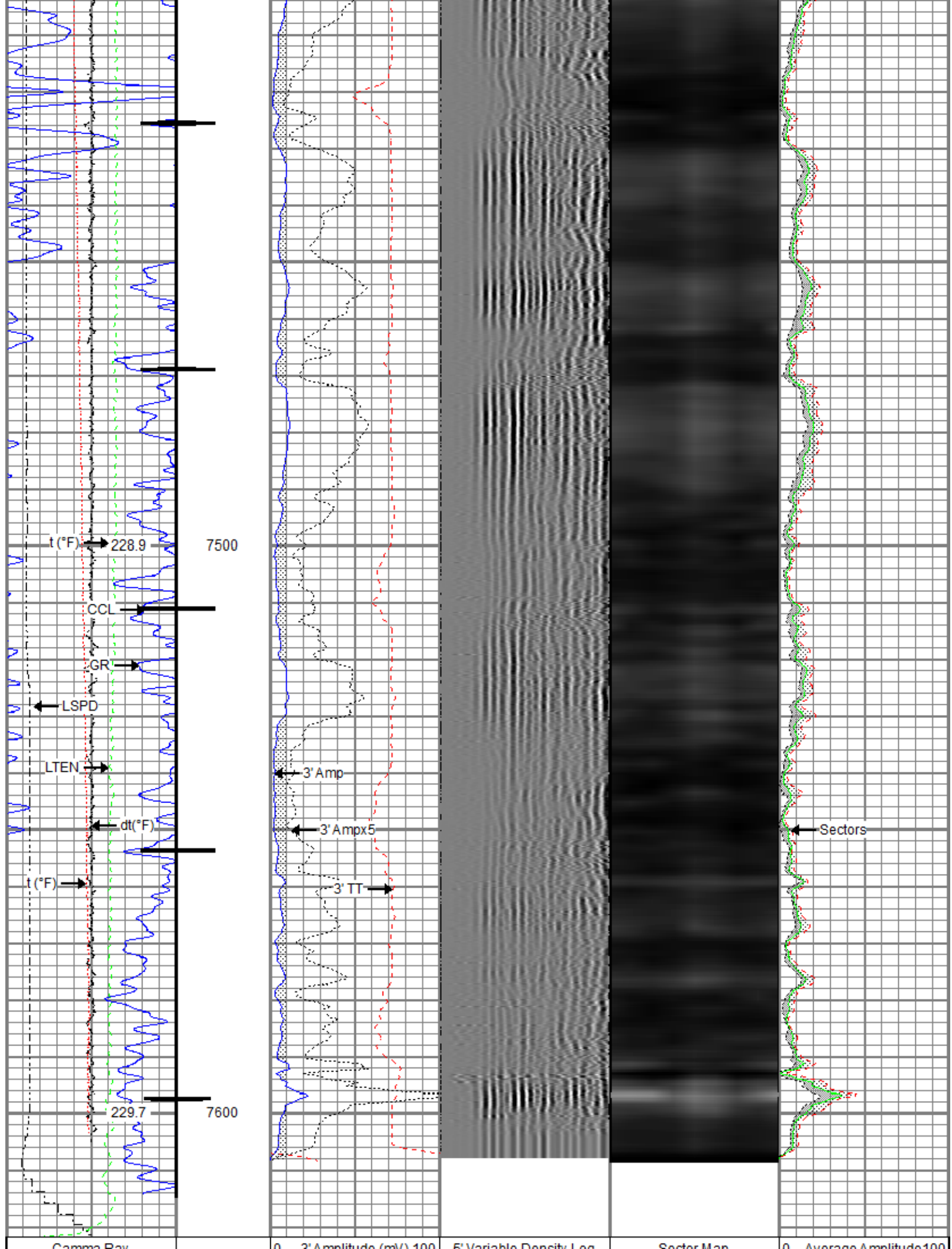












Gamma Ray			0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
0 (GAPI) 120				3' Amplitude x 5	200	1200		Minimum Amplitude
Casing Collar Locator			0	(mV) 20			0	100
0 Temperature (degF) 20				3' Travel Time				Maximum Amplitude
Line Speed			650	(usec) 150			0	100
-150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

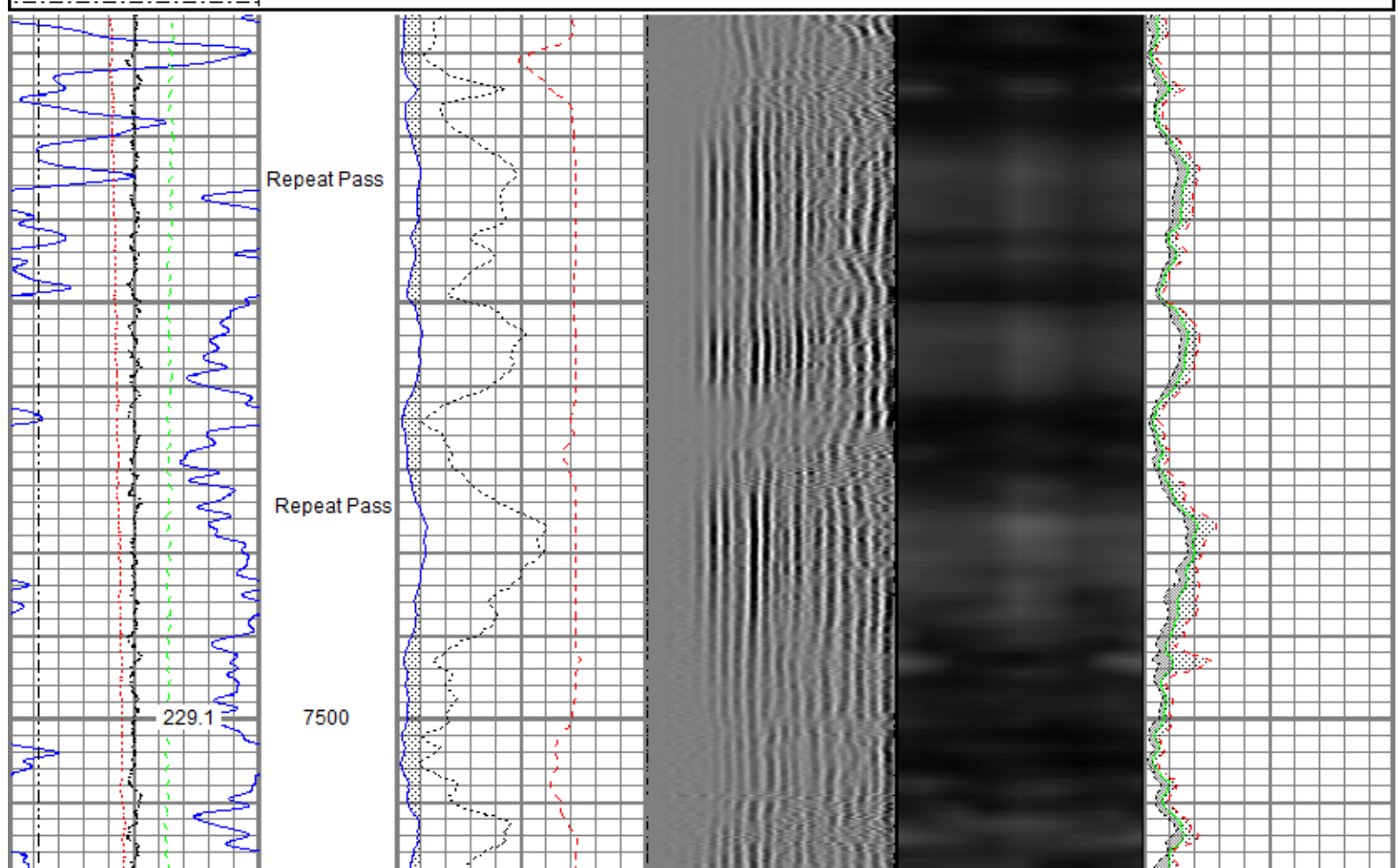


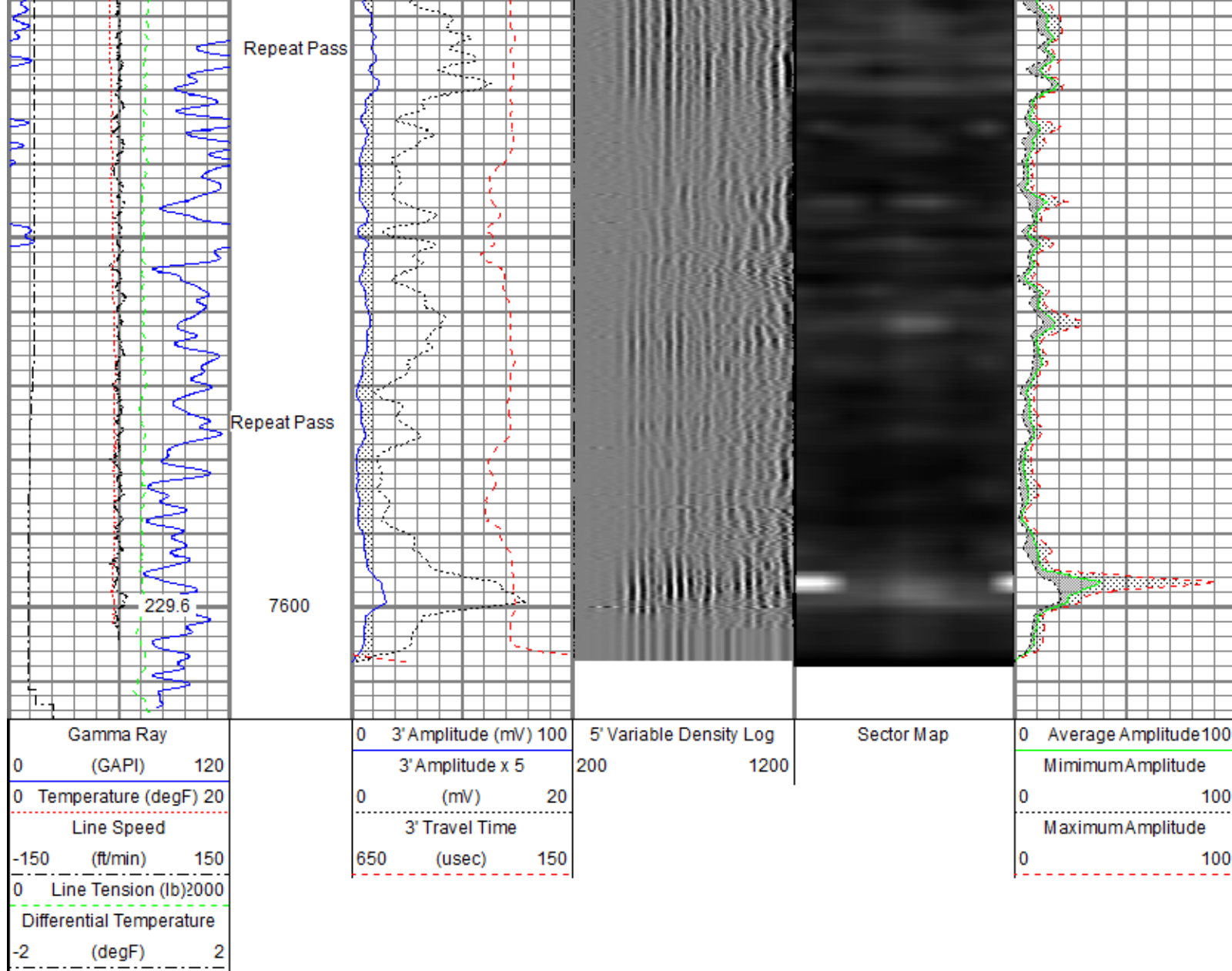
## Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File petro\petro\_bef west 16\_rbl\_04-02-19\processed\_petro\_bef west 16\_rbl\_04-02-19.db  
Dataset Pathname Repeat.3  
Presentation Format ros\_radri  
Dataset Creation Tue Apr 02 15:26:53 2019  
Charted by Depth in Feet scaled 1:240

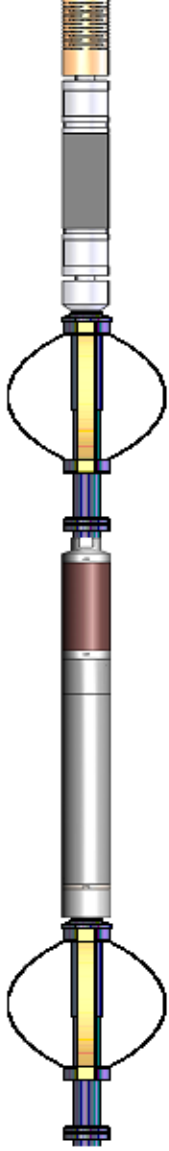
Gamma Ray			0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
0 (GAPI) 120				3' Amplitude x 5	200	1200		Minimum Amplitude
0 Temperature (degF) 20			0	(mV) 20			0	100
Line Speed				3' Travel Time				Maximum Amplitude
-150 (ft/min) 150			650	(usec) 150			0	100
0 Line Tension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





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
TEMP             WVFS8	17.04		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



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	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 (101001) 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: processed_petro_bef west 16_rbl_04-02-19.db: field/well/run1/Main.3 Total length: 23.86 ft Total weight: 223.60 lb O.D.: 2.75 in						

Calibration Report			
Database File	c:\programdata\warrior\data\petro\petro_bef west 16_rbl_04-02-19\processed_petro_bef west 16_rbl_04-02-19.db		
Dataset Pathname	Main.3		
Dataset Creation	Tue Apr 02 14:12:15 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:	FW1308-091		
Tool Model:	2750 RBT		
Calibration Casing Diameter:	5.500	in	
Calibration Depth:	-3.706	ft	

## Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.516	0.800	71.921	139.533	-0.141
CAL	0.728	0.728				
5'	0.010	0.405	0.800	71.921	179.947	-0.951
SUM						
S1	0.006	0.486	0.000	100.000	208.393	-1.282
S2	0.008	0.502	0.000	100.000	202.414	-1.644
S3	0.010	0.516	0.000	100.000	197.621	-1.898
S4	0.007	0.522	0.000	100.000	194.095	-1.382
S5	0.006	0.550	0.000	100.000	184.082	-1.169
S6	0.007	0.551	0.000	100.000	183.922	-1.325
S7	0.007	0.524	0.000	100.000	193.263	-1.337
S8	0.008	0.506	0.000	100.000	200.845	-1.567

## Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.728	0.728	1.000	0.000

## Air Zero Calibration, performed Tue Apr 02 09:26:42 2019:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.007		0.000		0.000	
5'	0.009		0.000		-0.001	
SUM						
S1	0.006		0.000		0.000	
S2	0.007		0.000		-0.000	
S3	0.006		0.000		0.001	
S4	0.007		0.000		-0.000	
S5	0.006		0.000		0.000	
S6	0.006		0.000		0.000	
S7	0.007		0.000		-0.000	
S8	0.006		0.000		0.001	

## Temperature Calibration Report

Serial Number: FW1308-091  
Tool Model: 2750 RBT  
Performed: Mon Oct 01 11:32:16 2018

	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: Petro Operating Company LLC  
Well: BEF West 16  
Field: Wattenberg  
County: Adams

State

Colorado