



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

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

Well MC 3-3HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-49760

SEC 3 TWP 1N RGE 68W

Permanent Datum Ground Level Elevation 5044'

Log Measured From Kelly Bushing

26 FT

Drilling Measured From

Kelly Bushing

Other Services  
JBGR  
RBP  
Elevation  
K.B. 5070'  
D.F. ---  
G.L. 5044'

Company Kerr-McGee Oil & Gas Onshore, L.P.  
Well MC 3-3HZ  
Field Wattenberg  
County Weld  
State Colorado

Date	11-AUG-2019			
Run Number	One			
Depth Driller	19507 FT			
Depth Logger	7998 FT			
Bottom Logged Interval	7983 FT			
Top Log Interval	Surface			
Open Hole Size	---			
Type Fluid	Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	235°F			
Estimated Cement Top	See Log			
Time Well Ready	ROA			
Time Logger on Bottom	10:28			
Equipment Number	HD-361			
Location	Platteville, CO			
Recorded By	J. Morrison			
Witnessed By	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 Casing Tally reported Marker Joint at 7339 FT  
Adjusted 0 FT to correlate with Marker Joint  
Gauge Ring/Junk Basket ran to 8156 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!!

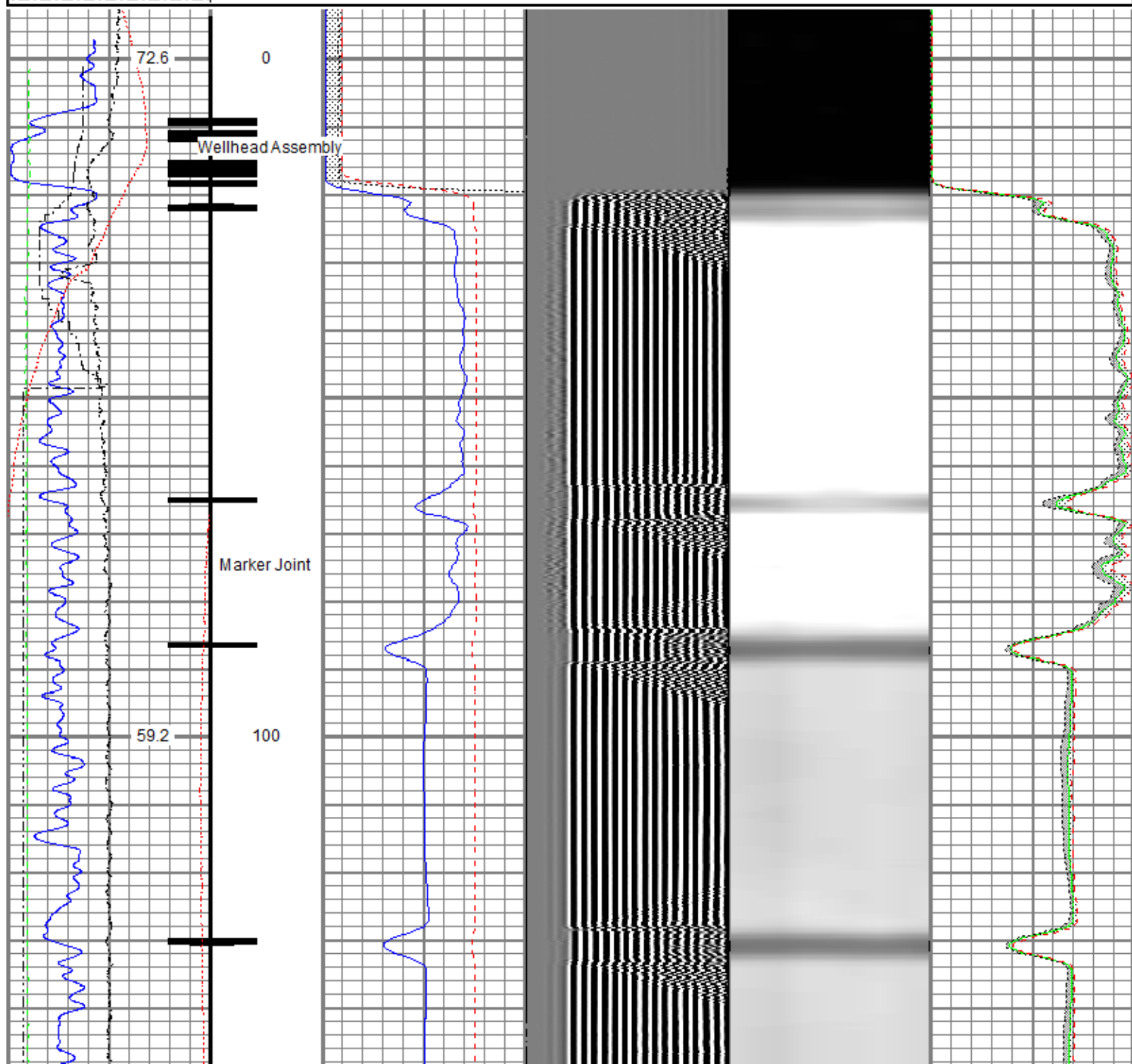
Main Pass

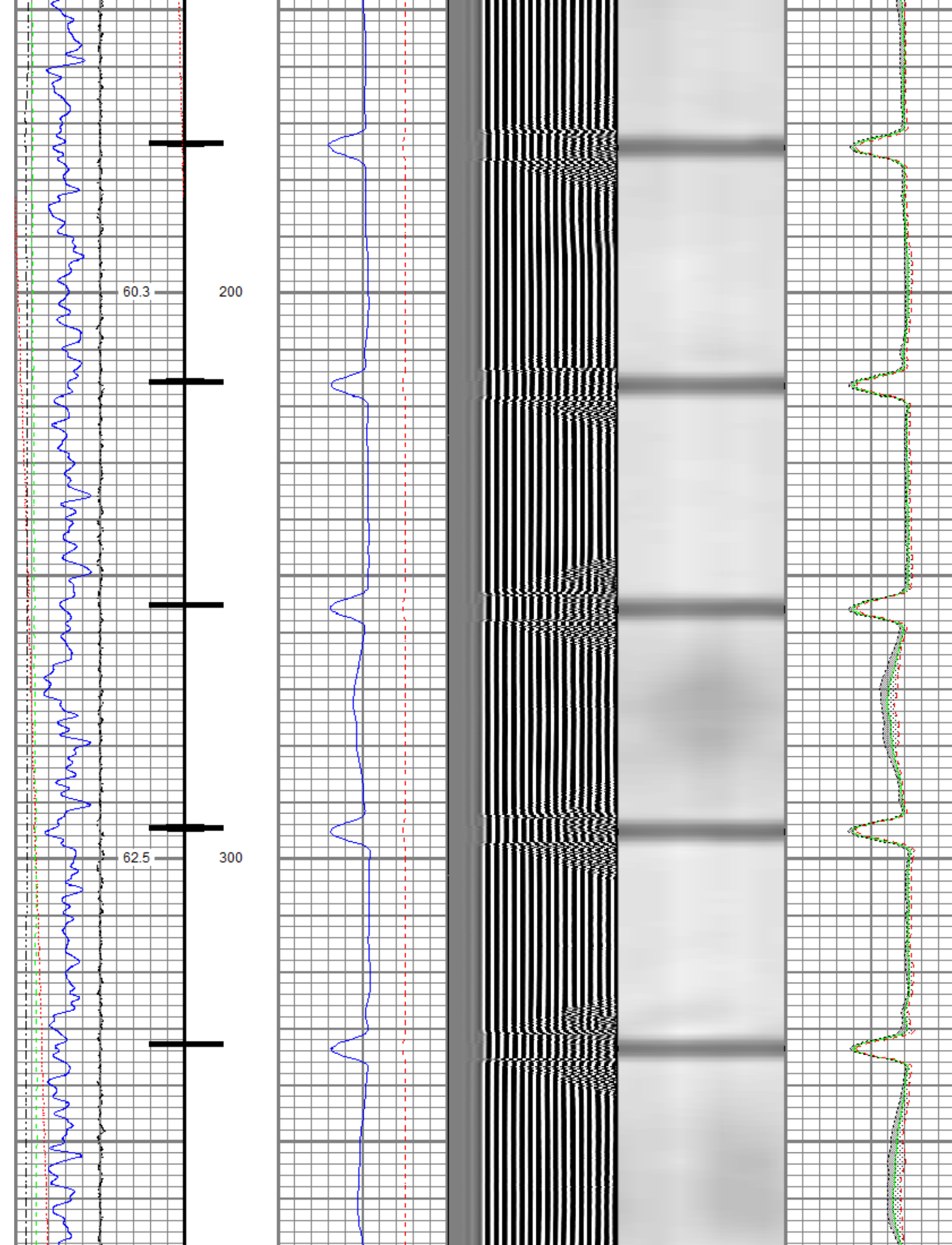


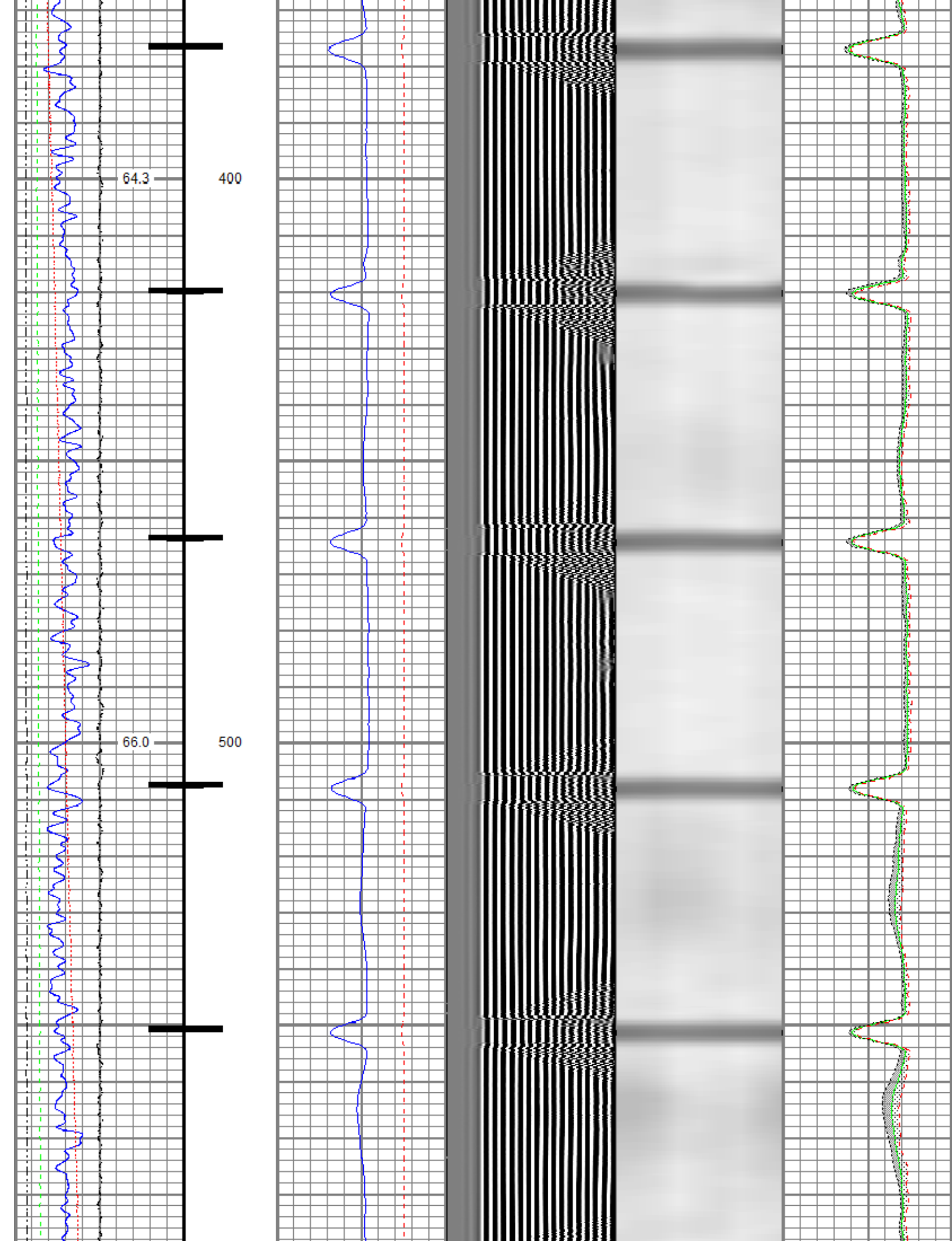
Recorded With 0 PSI Surface Induced Pressure

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Presentation Format	ros_radrii
Dataset Creation	Sun Aug 11 11:37:17 2019
Charted by	Depth in Feet scaled 1:240

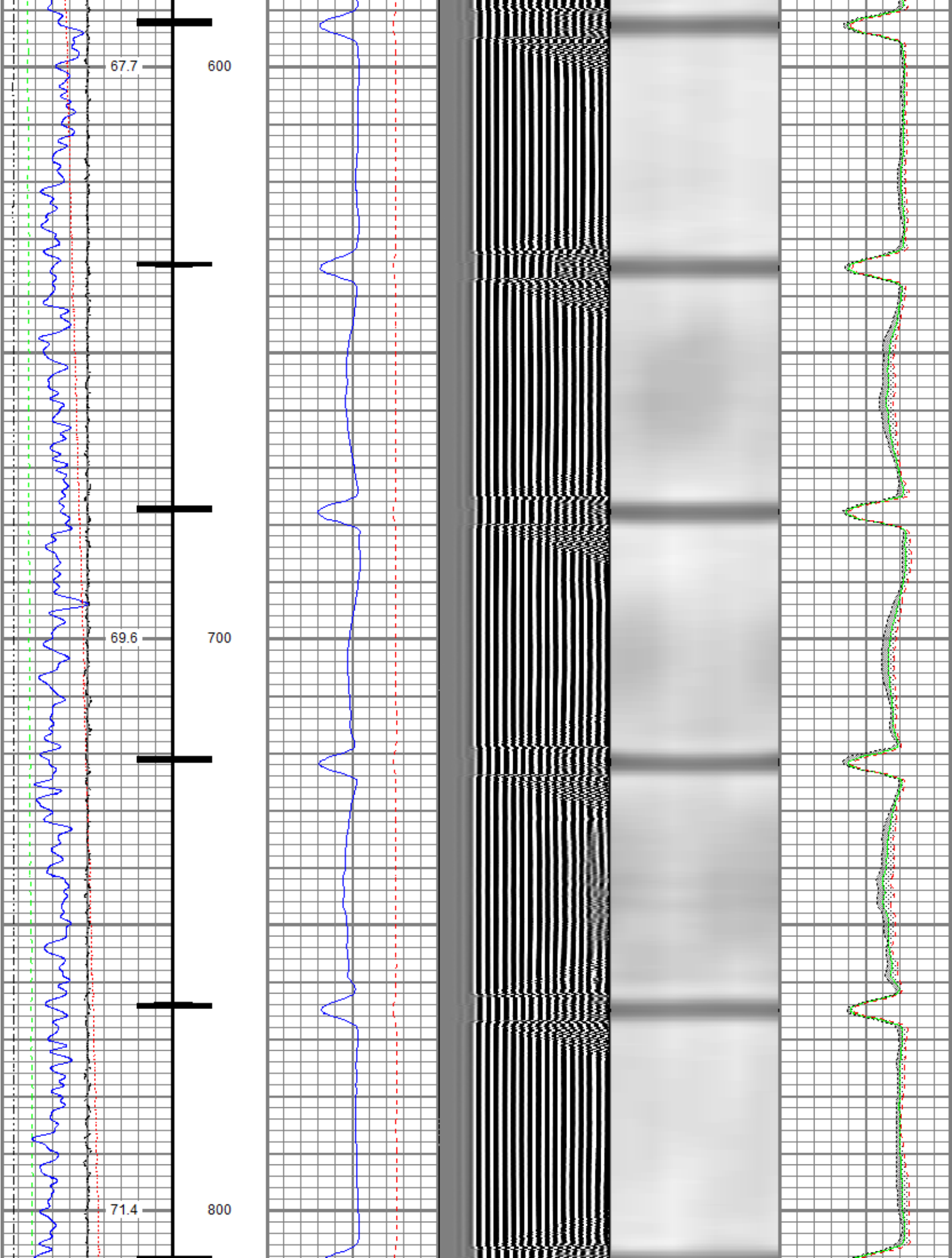
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min)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

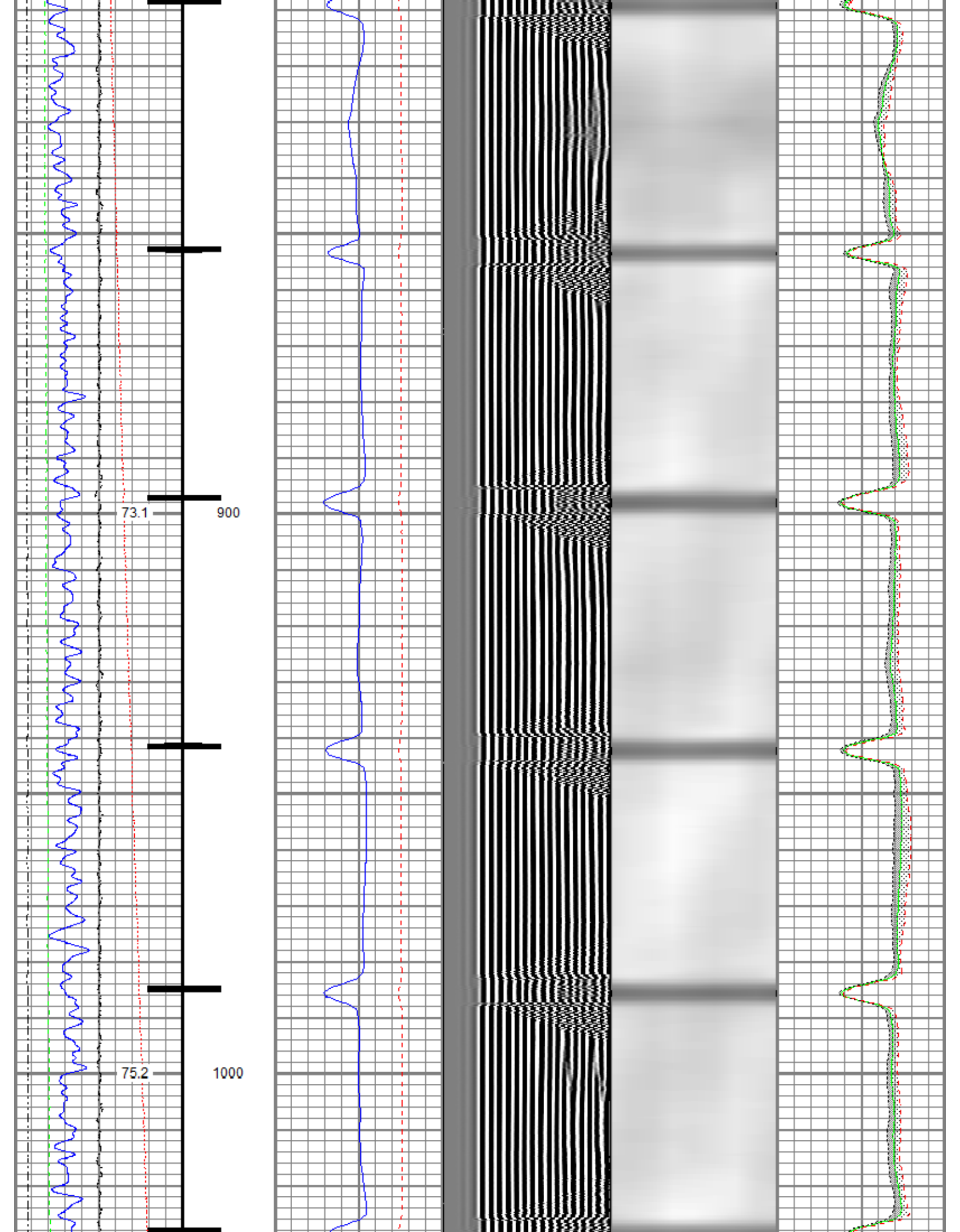


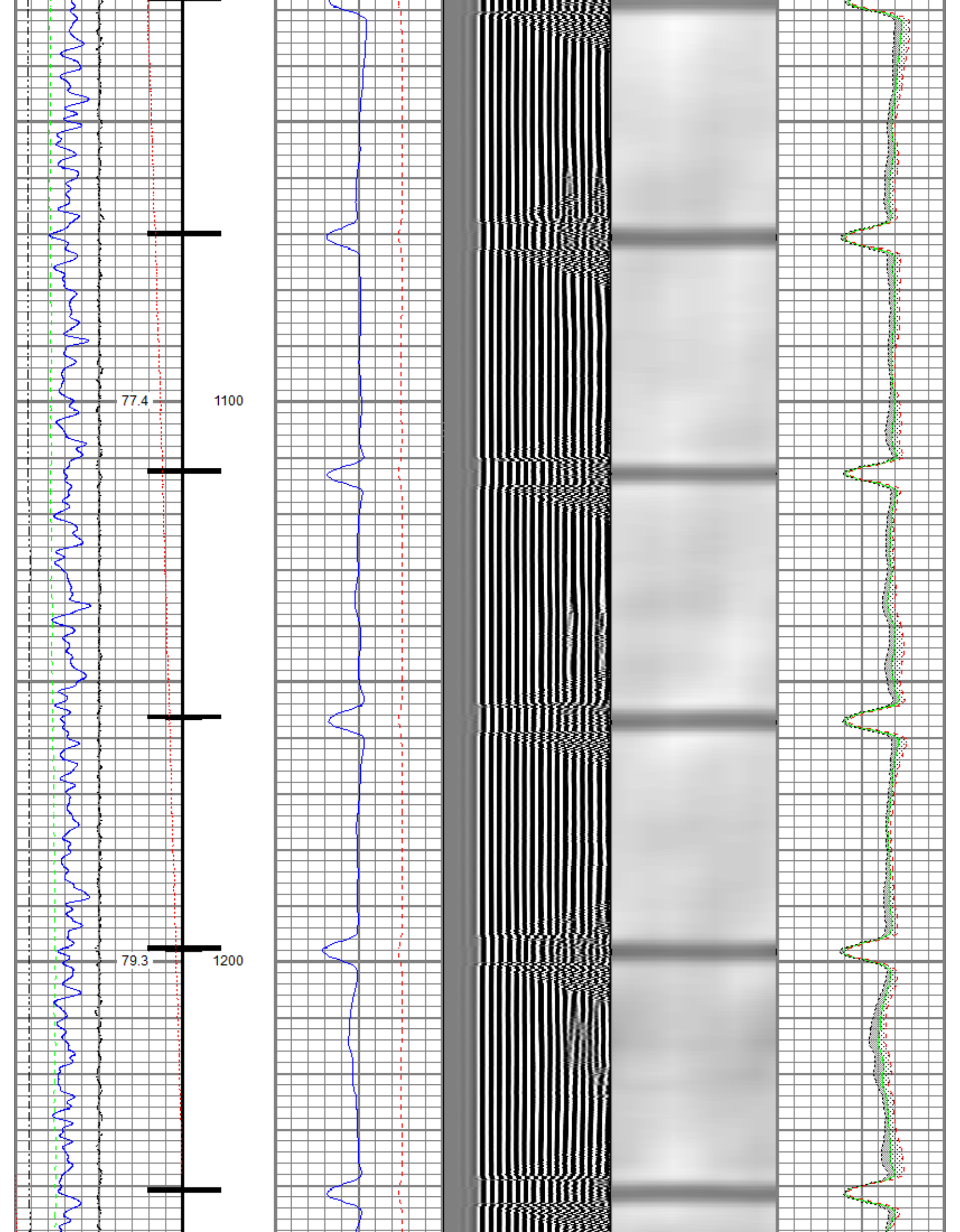


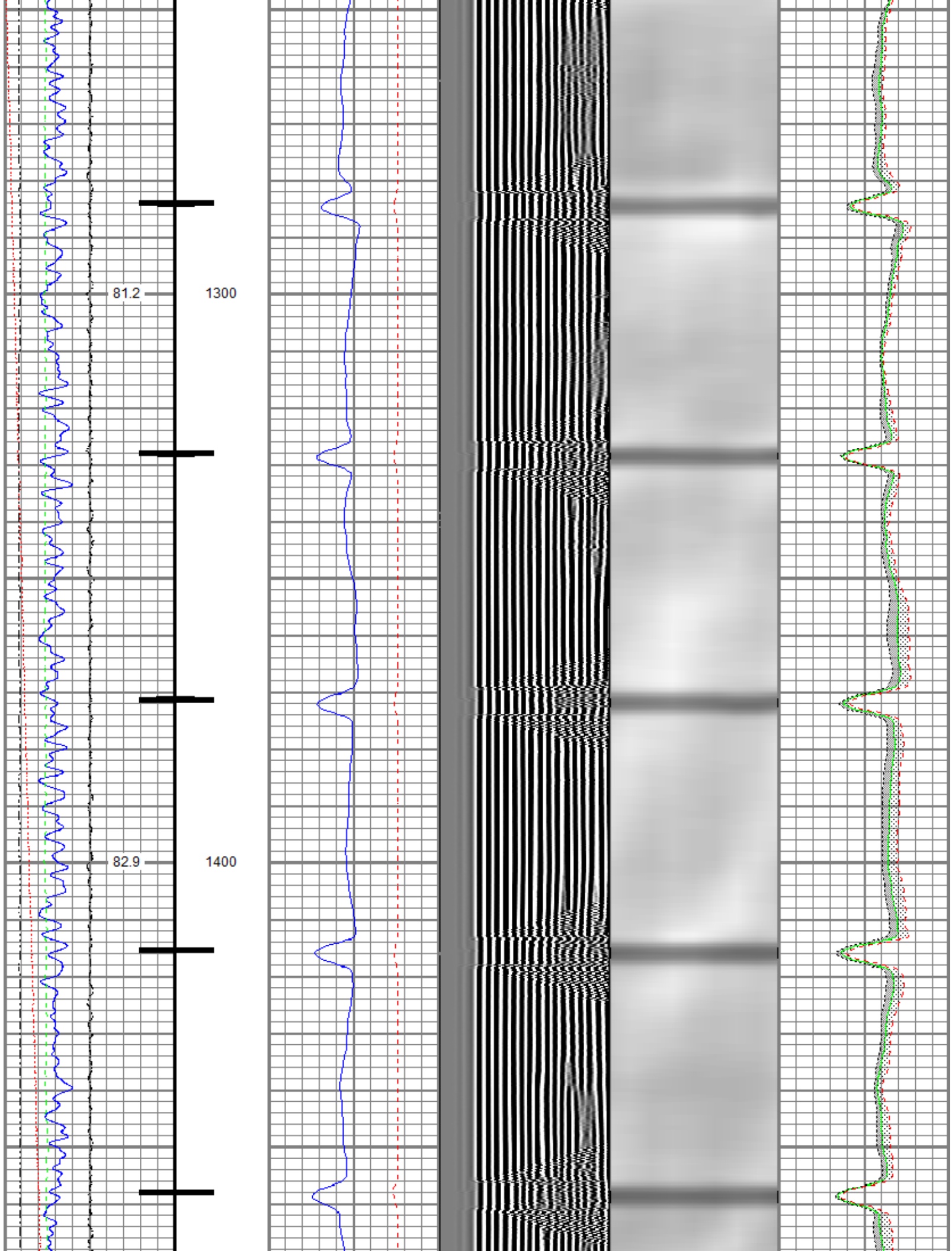




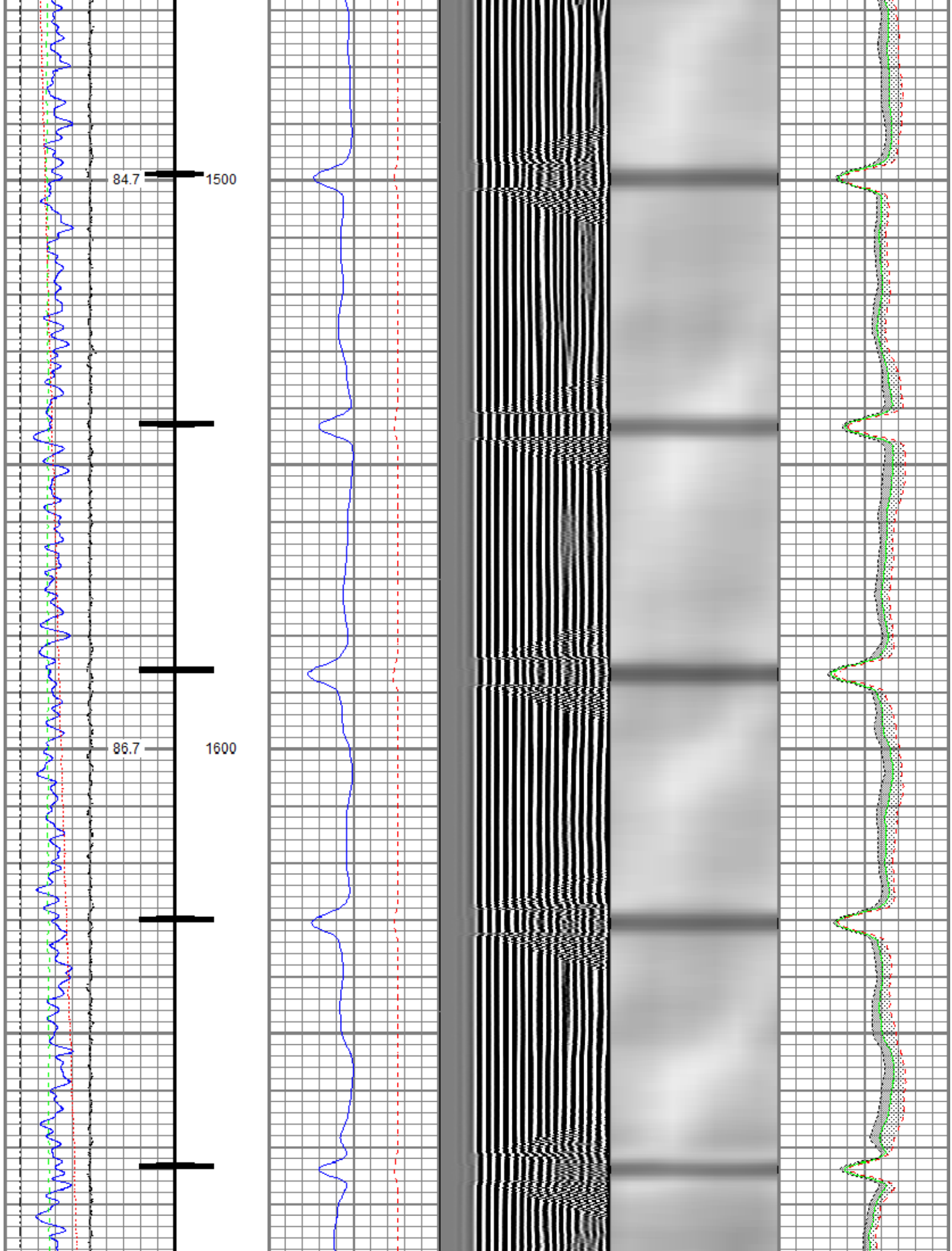


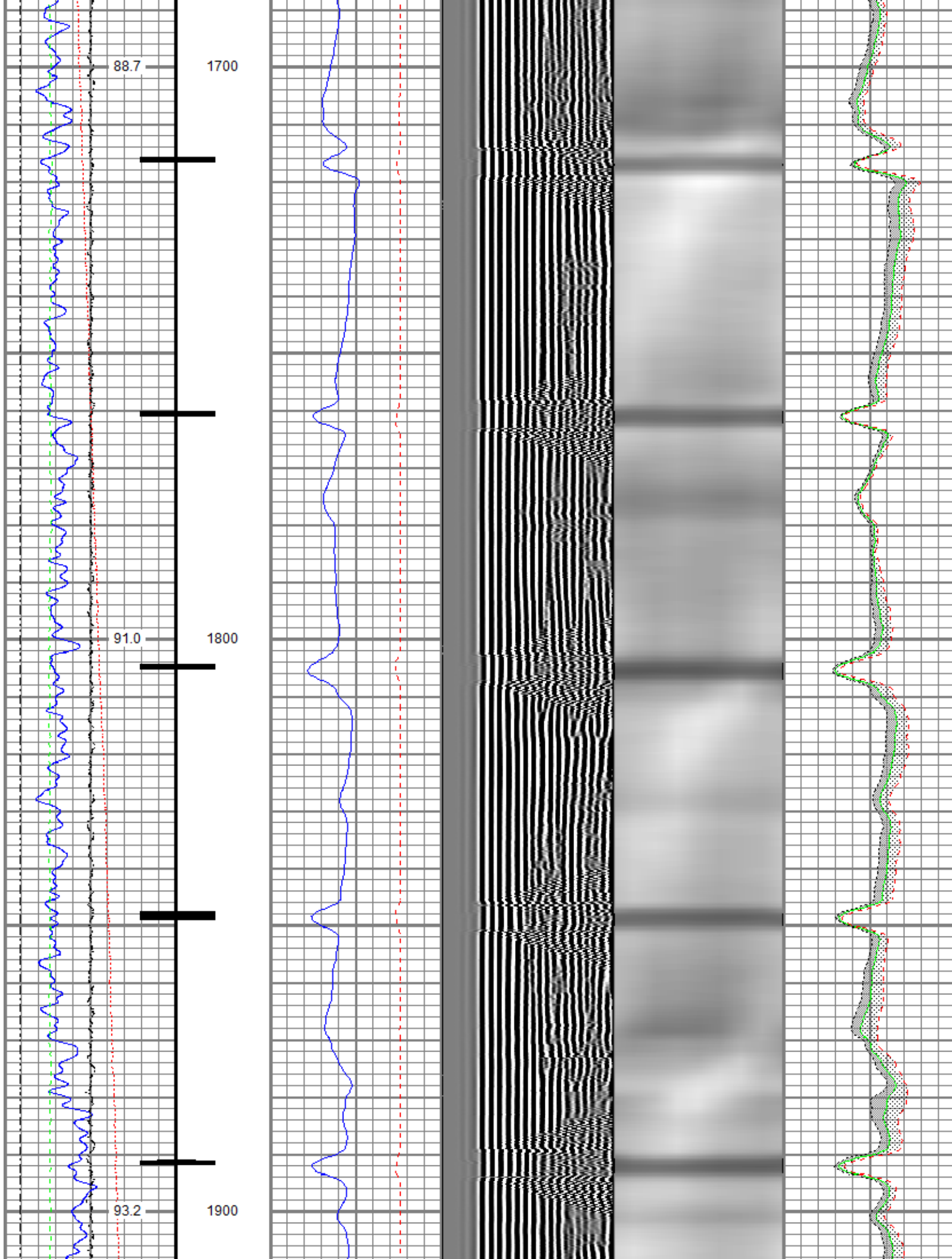


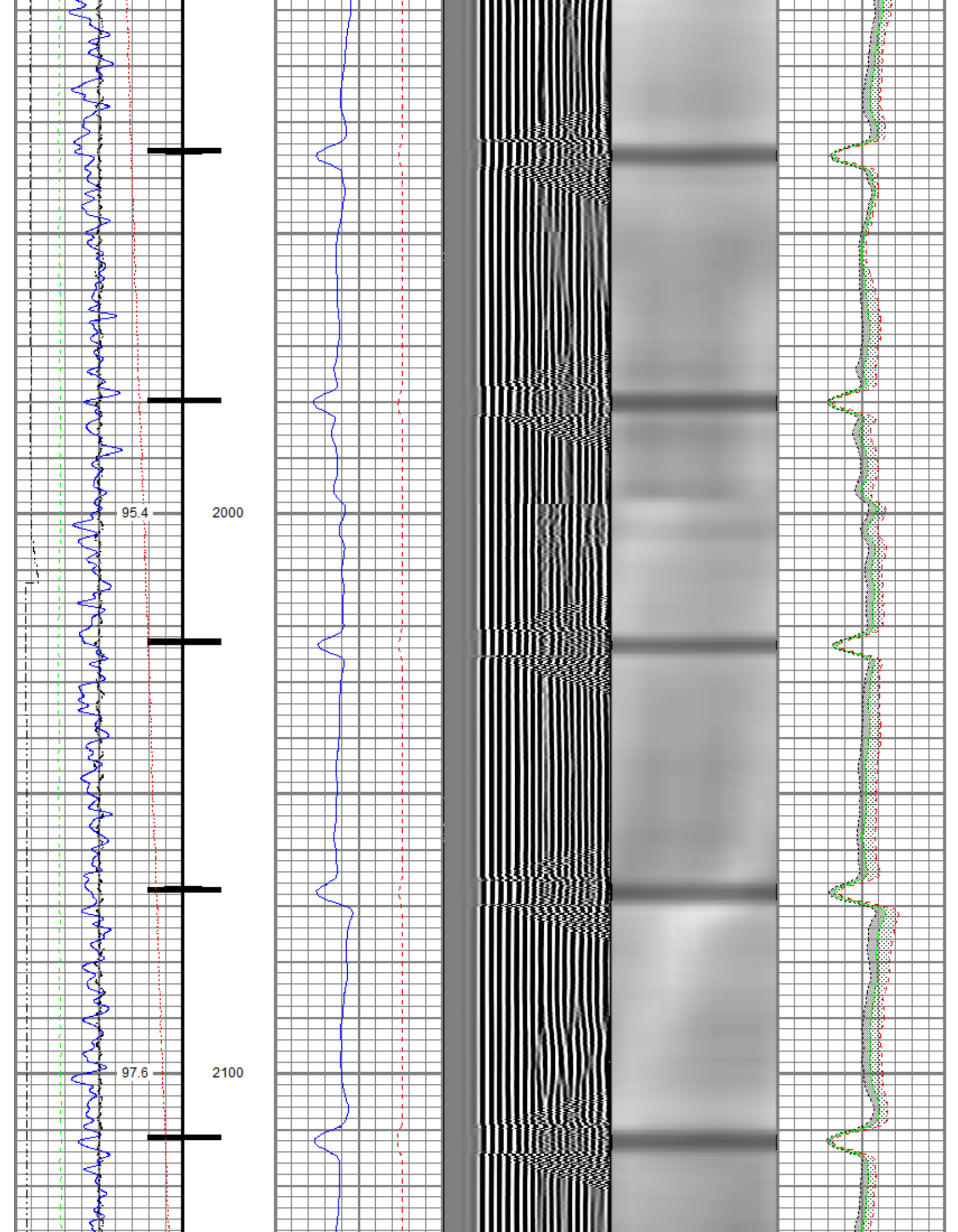




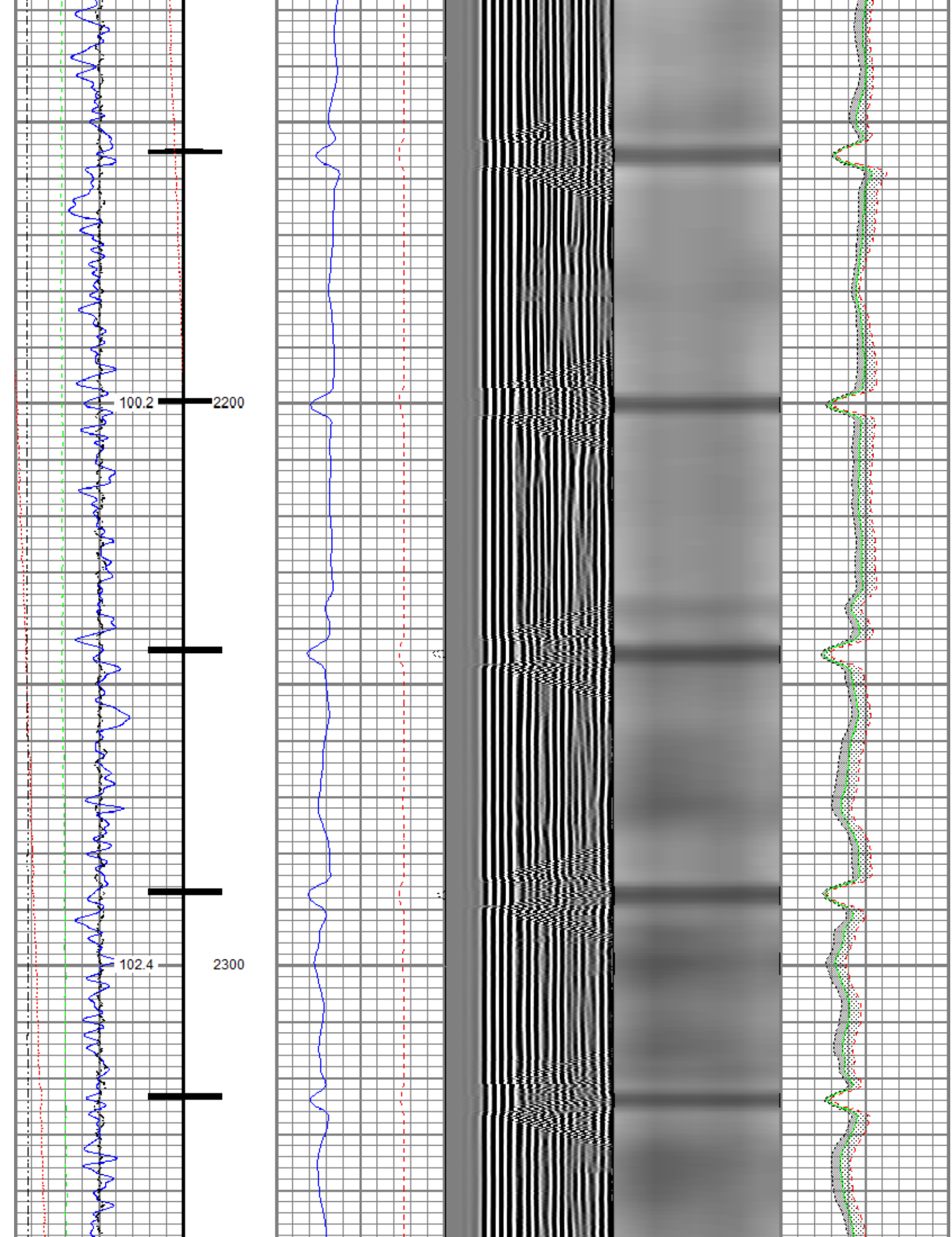




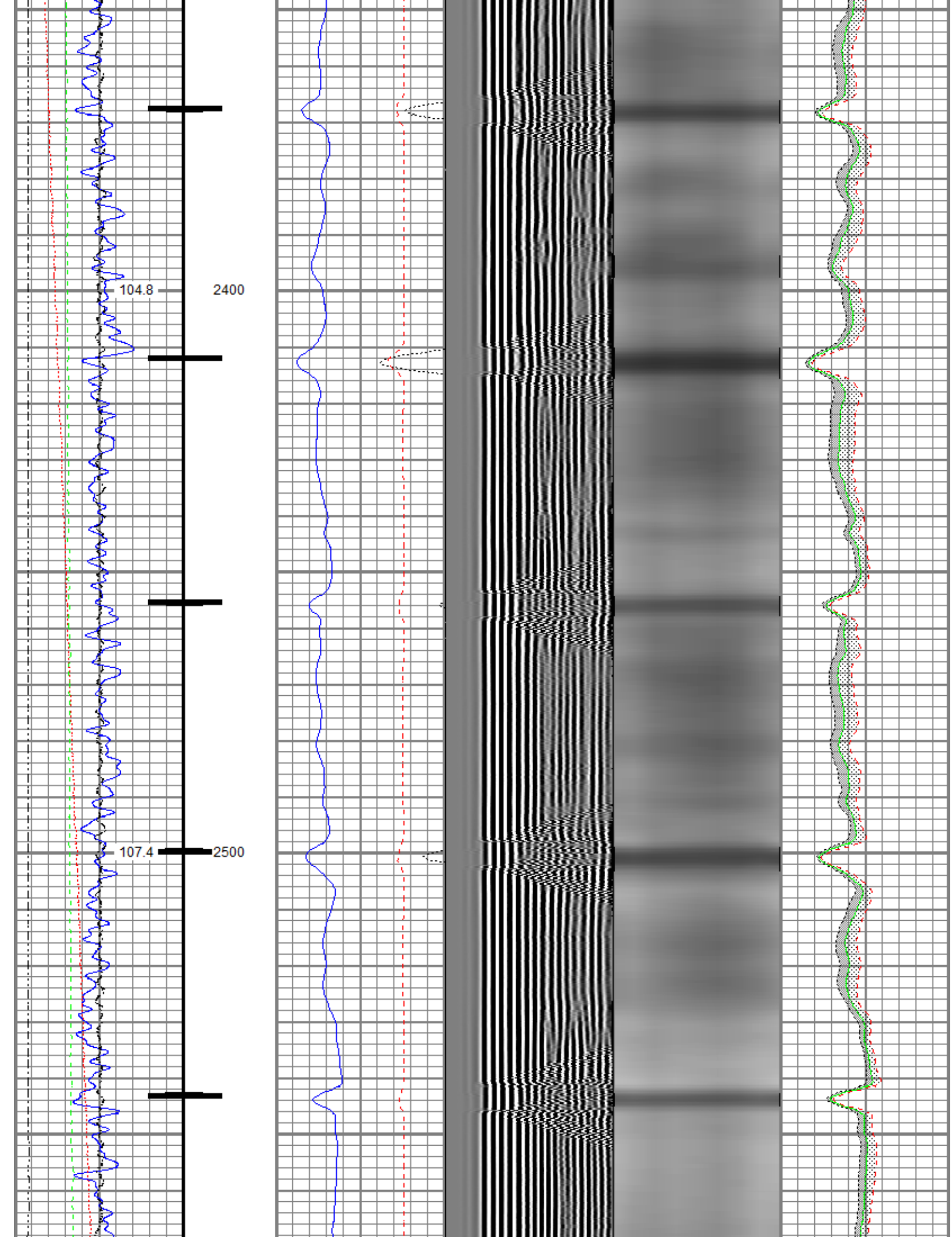


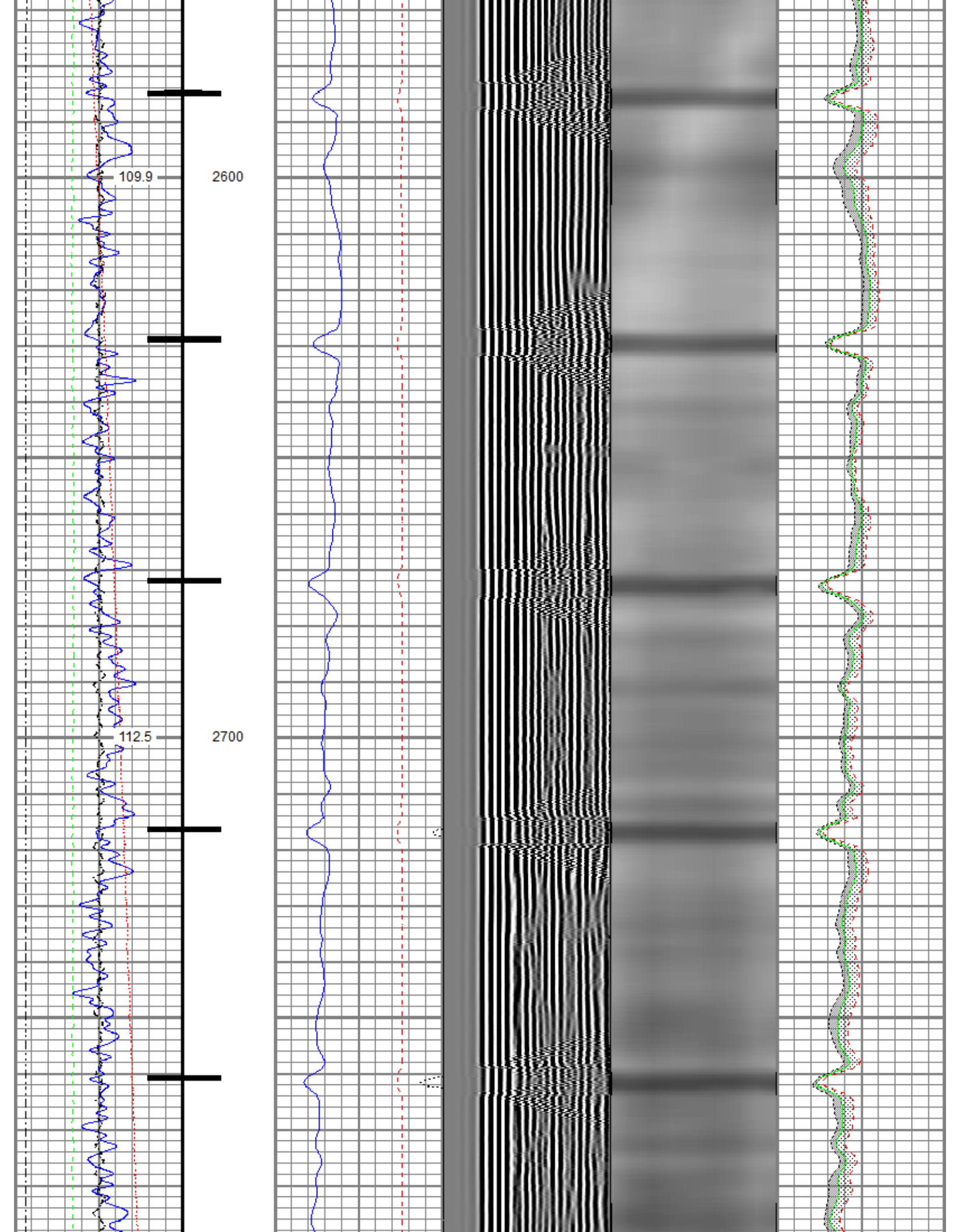


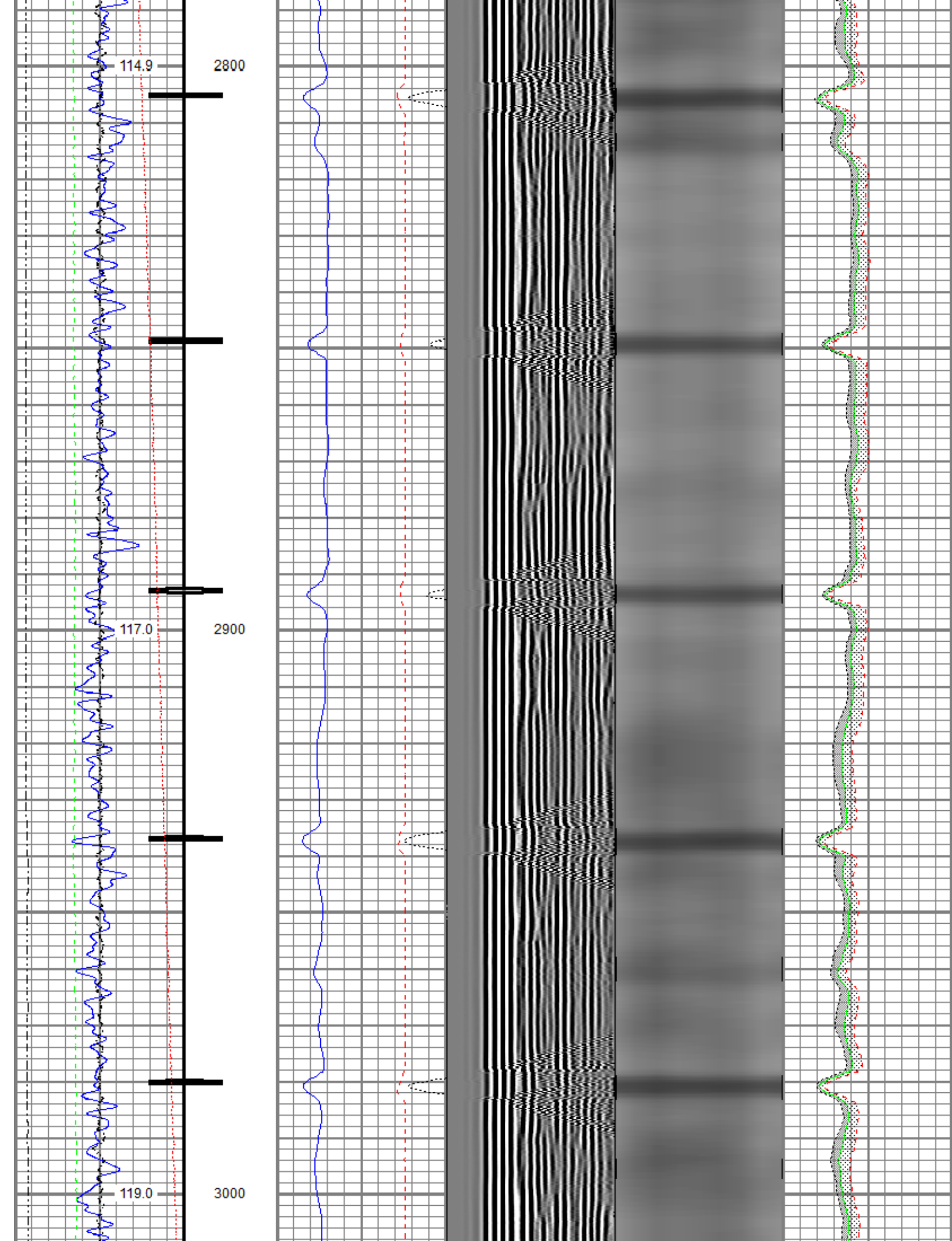




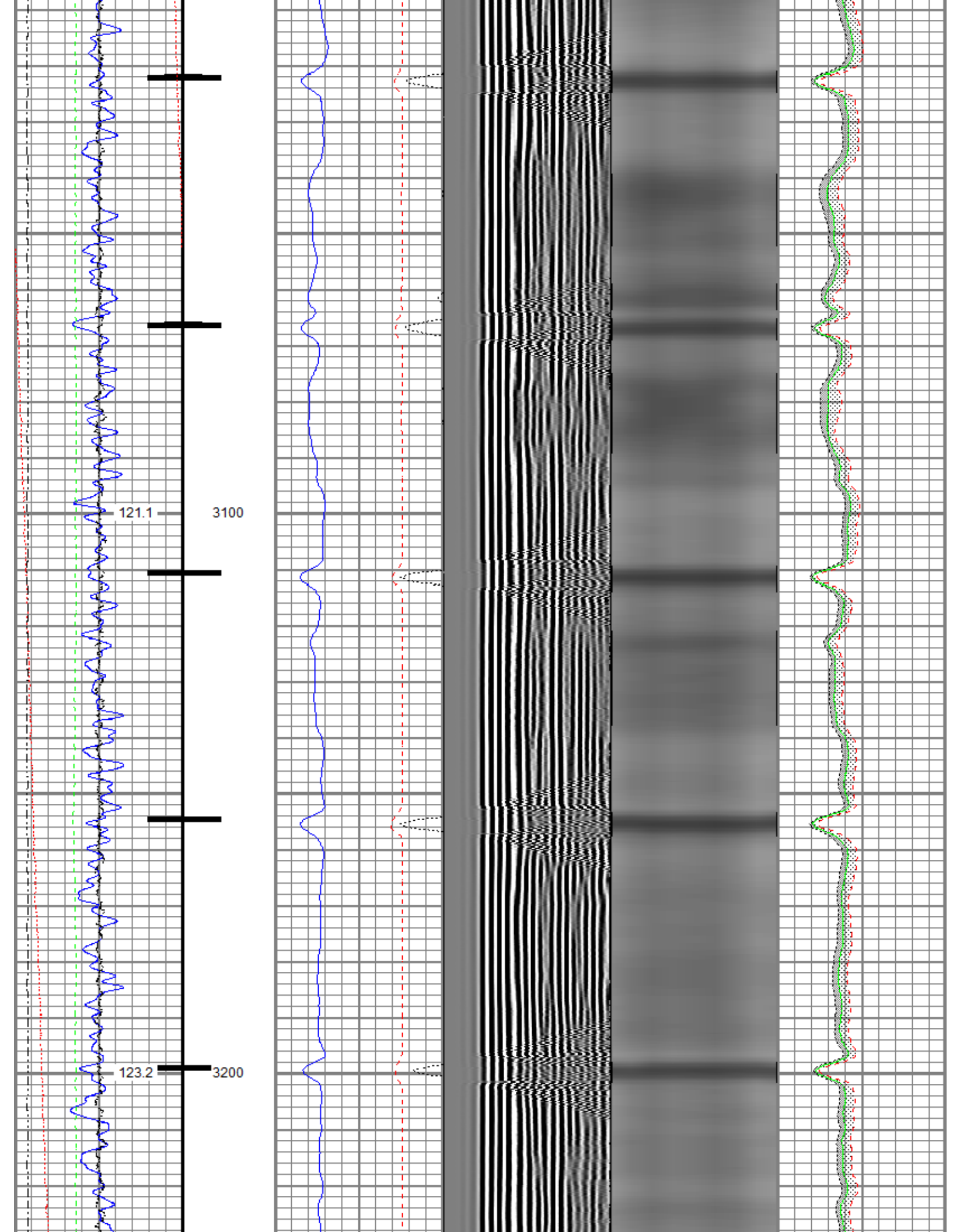




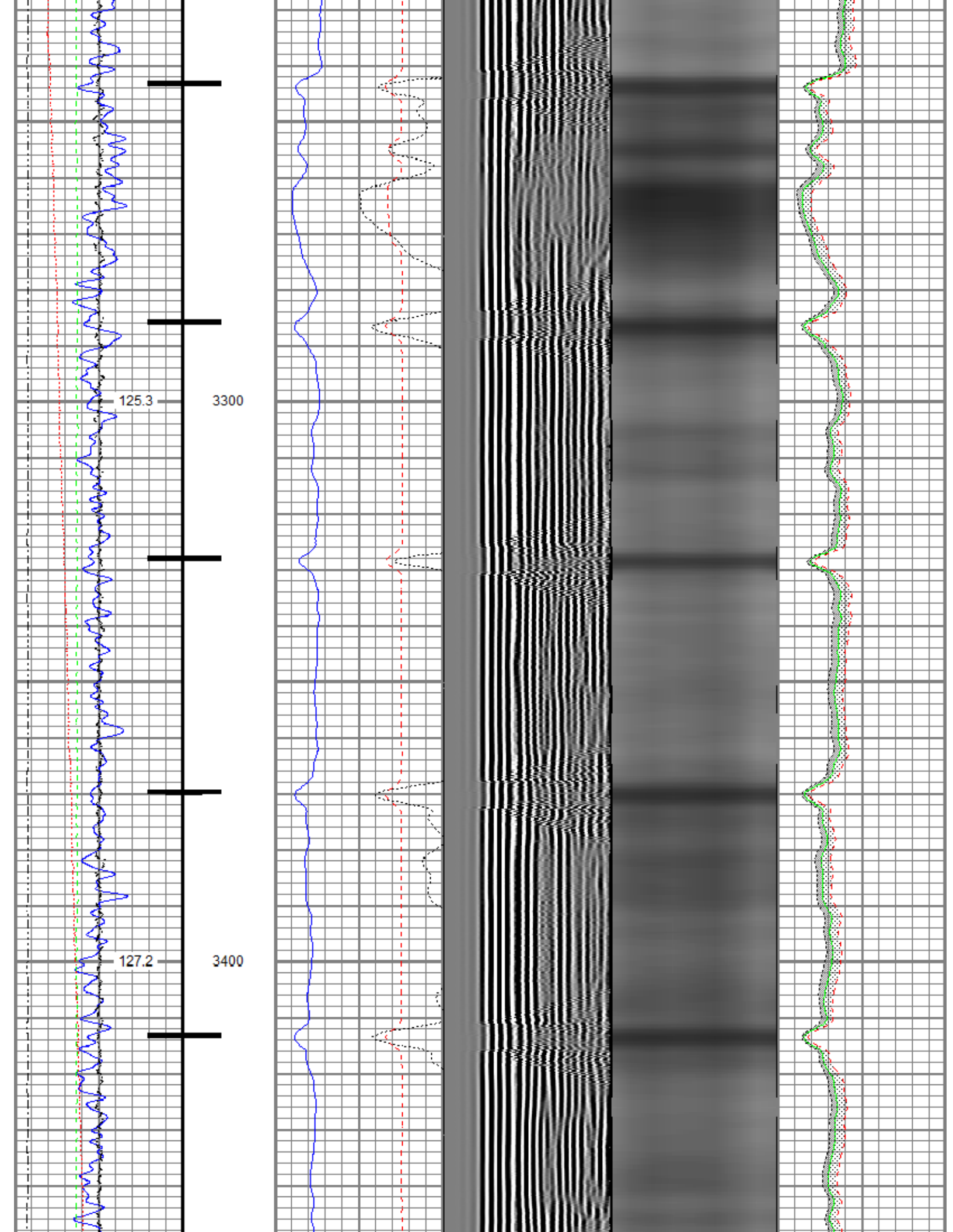


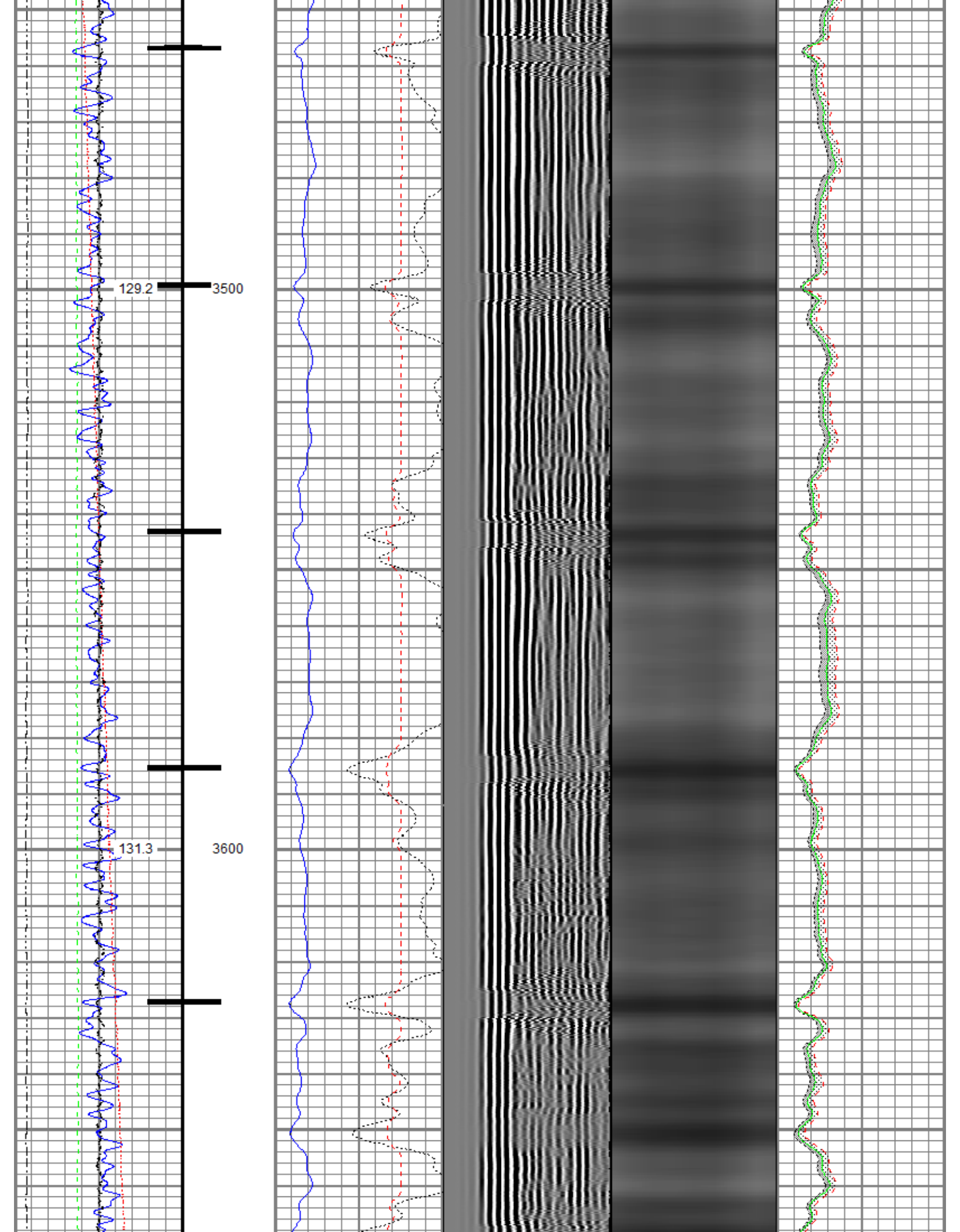


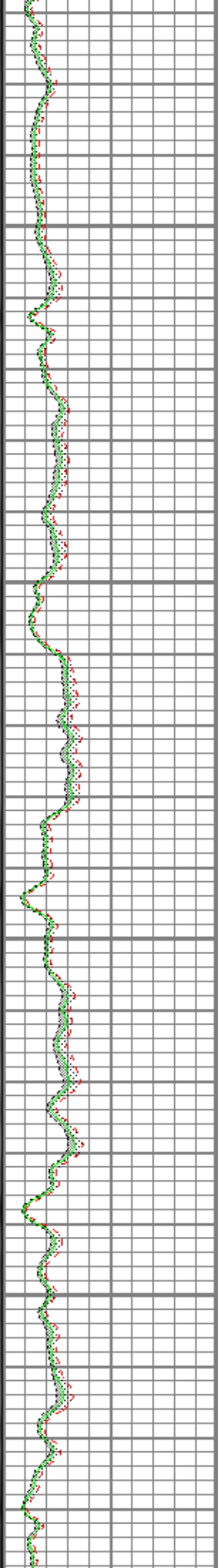
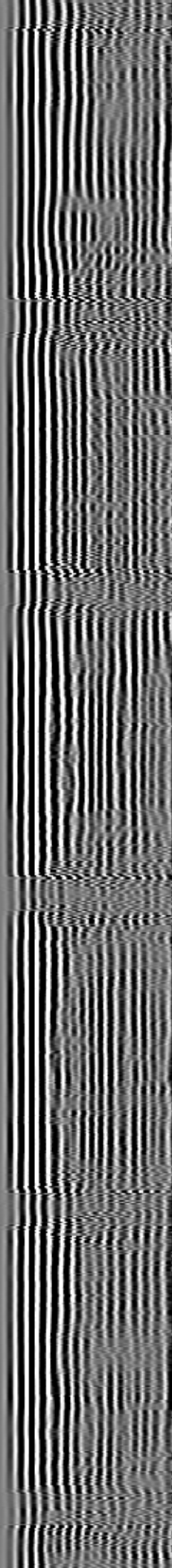
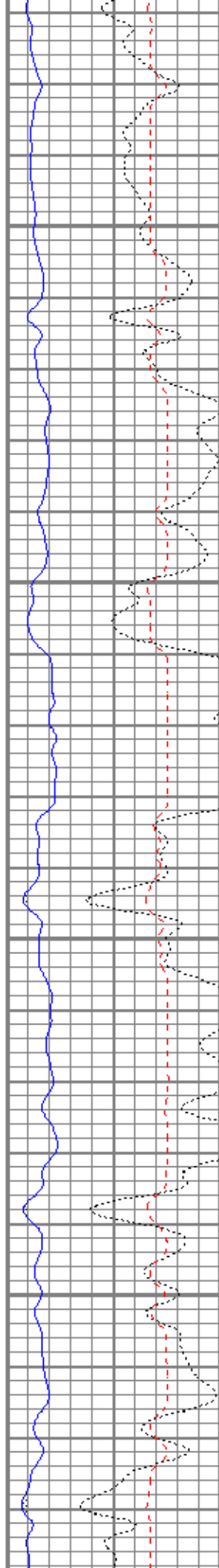
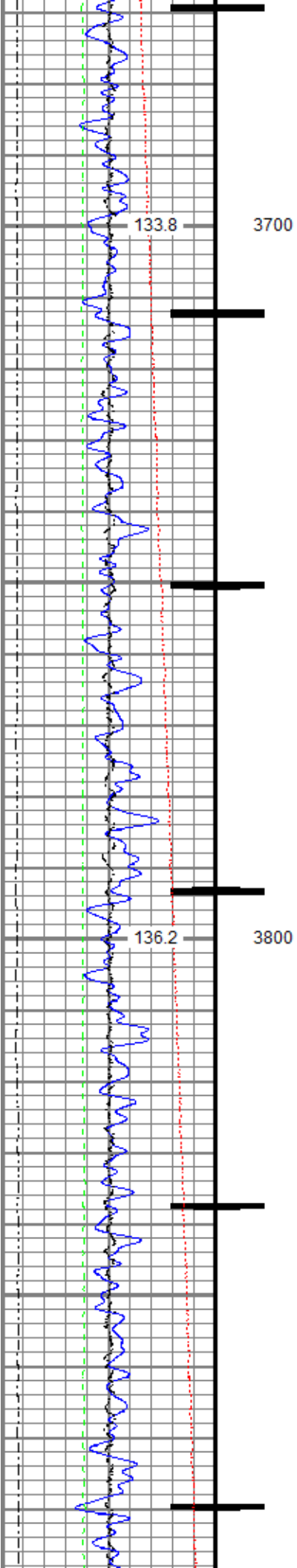




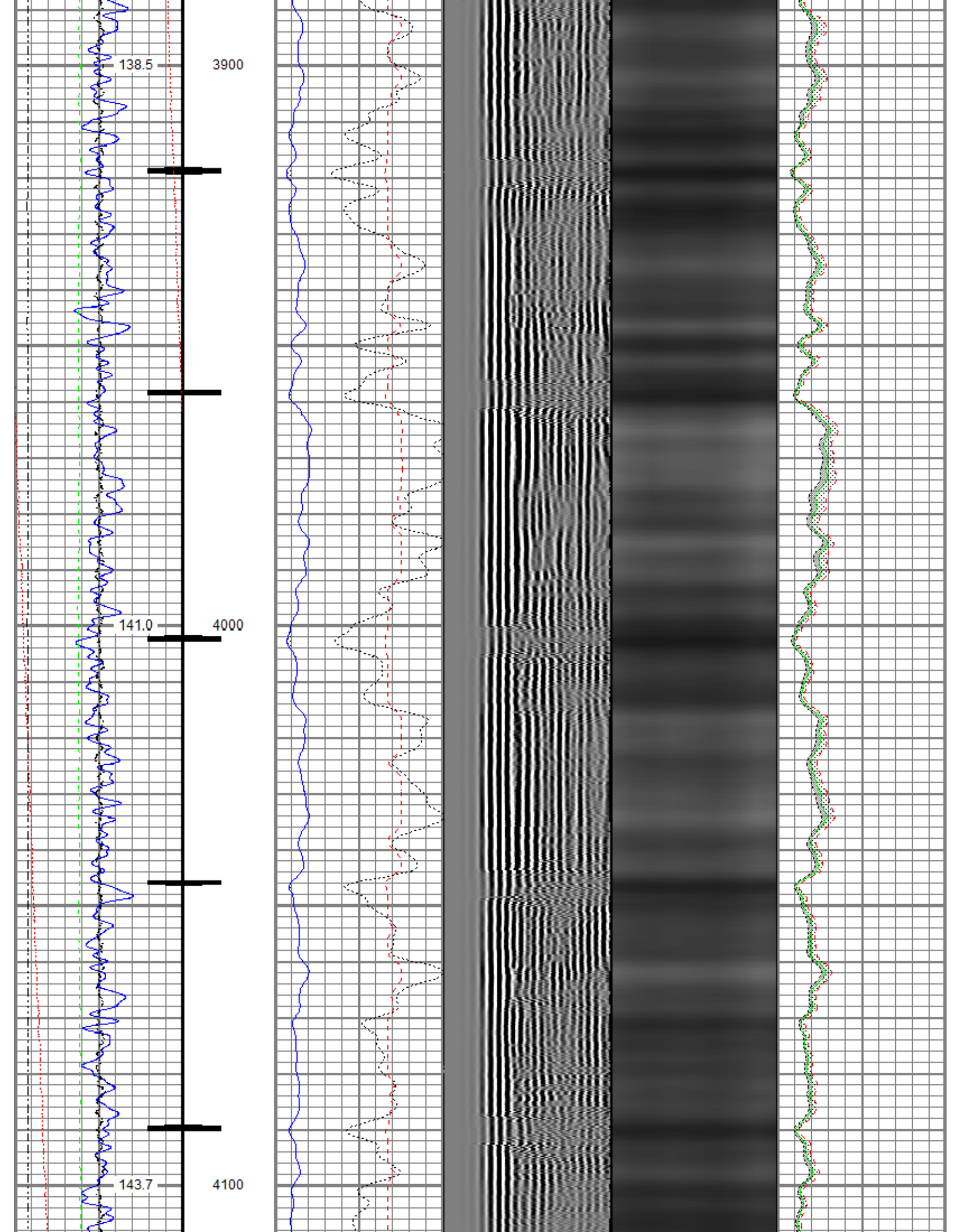




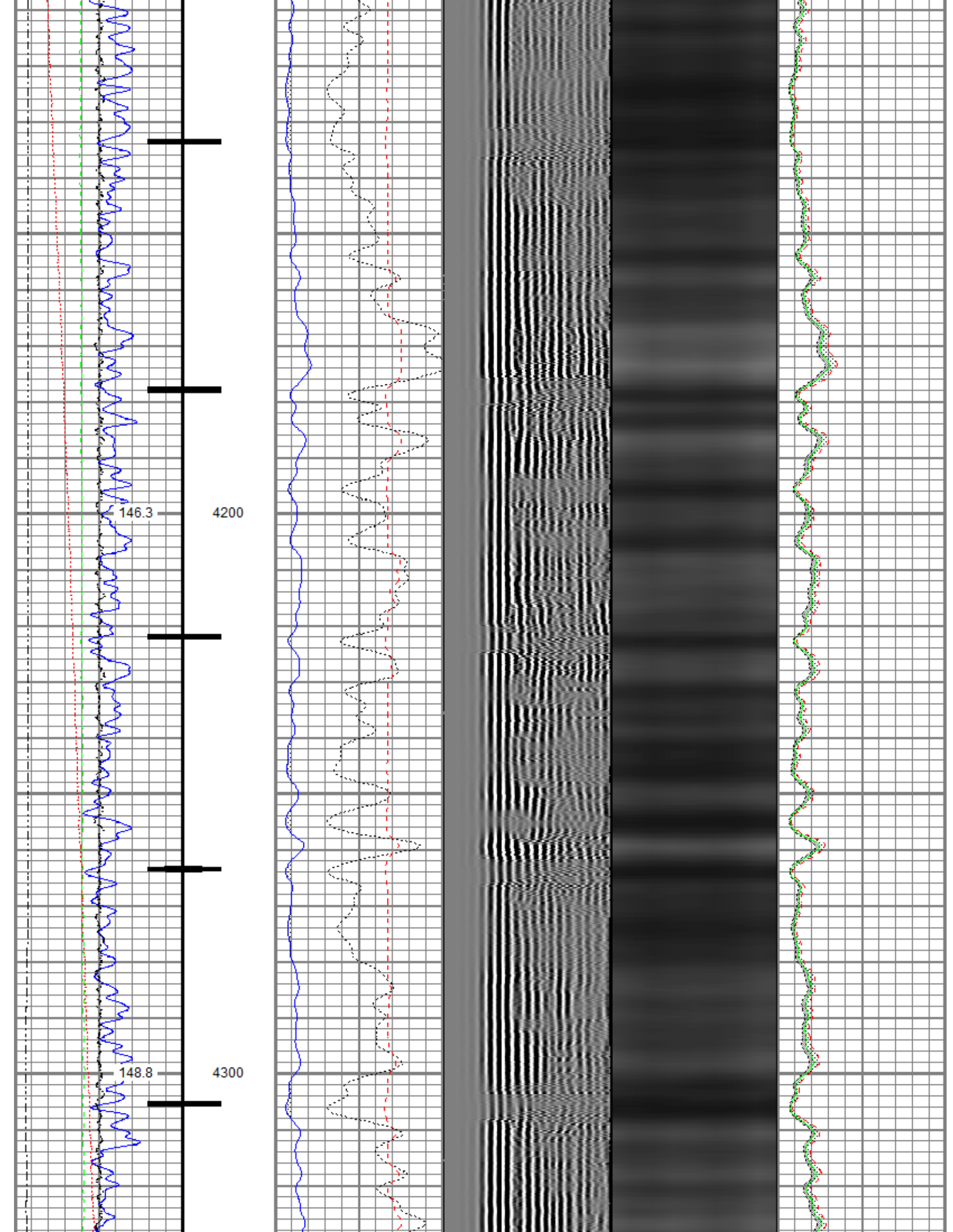


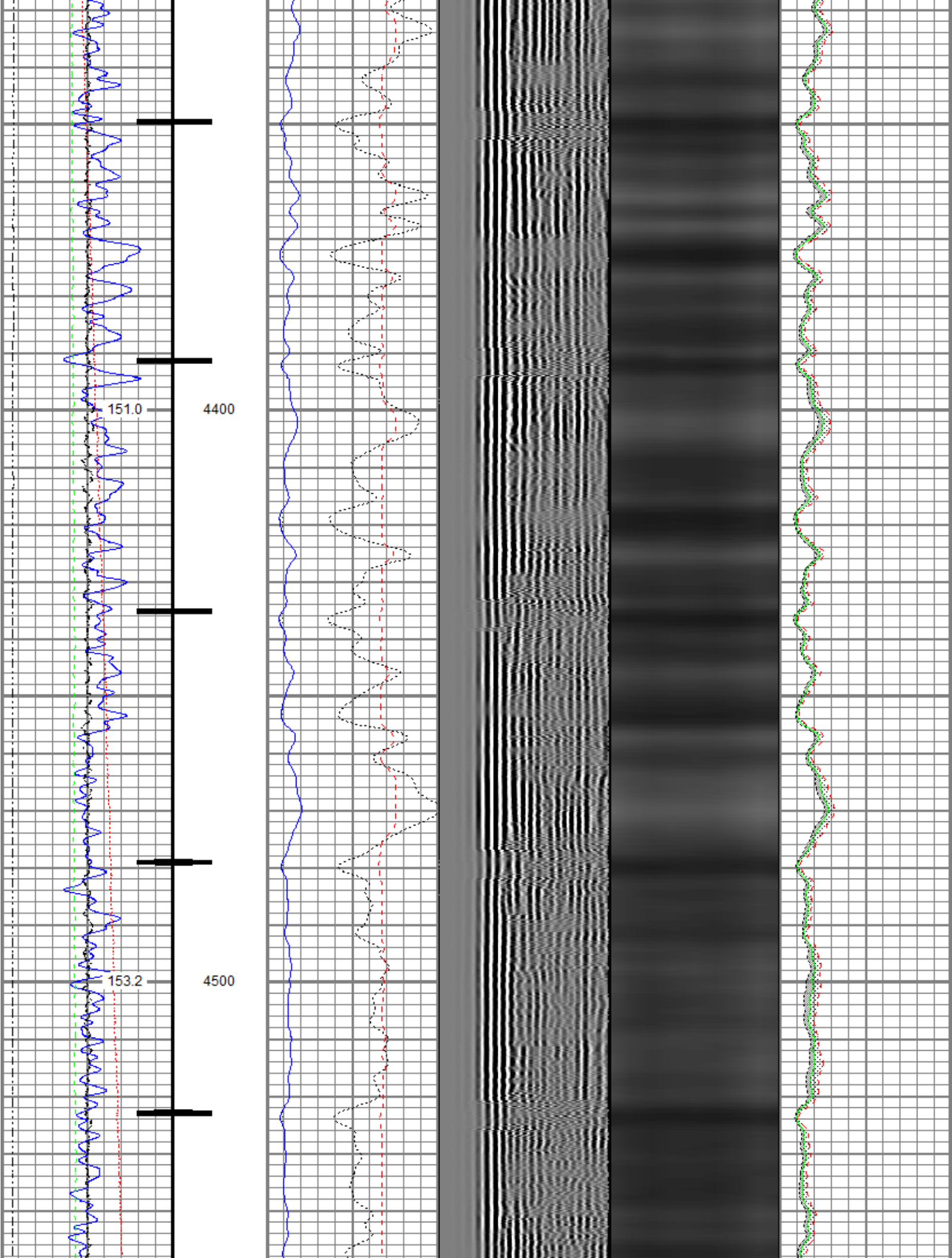


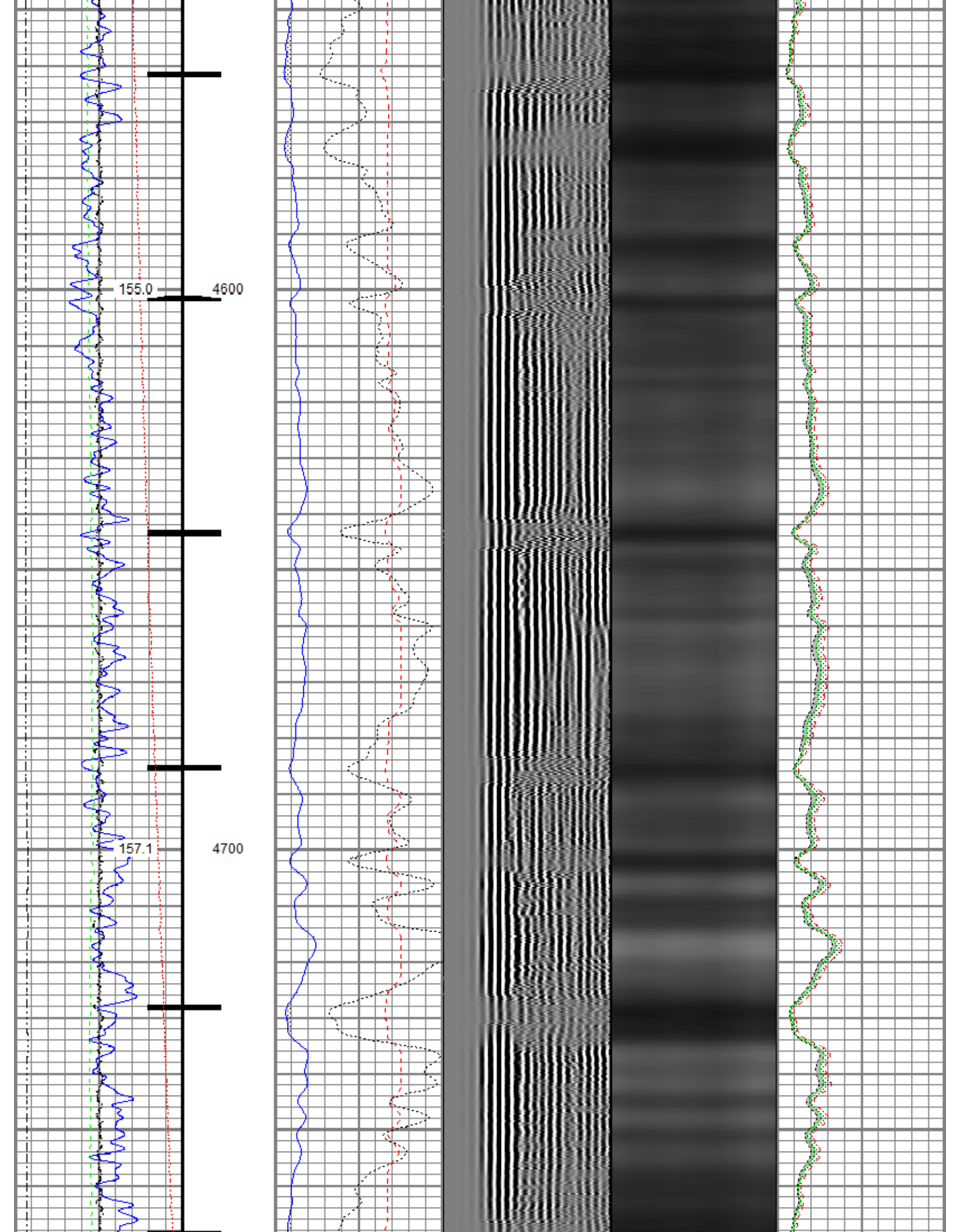




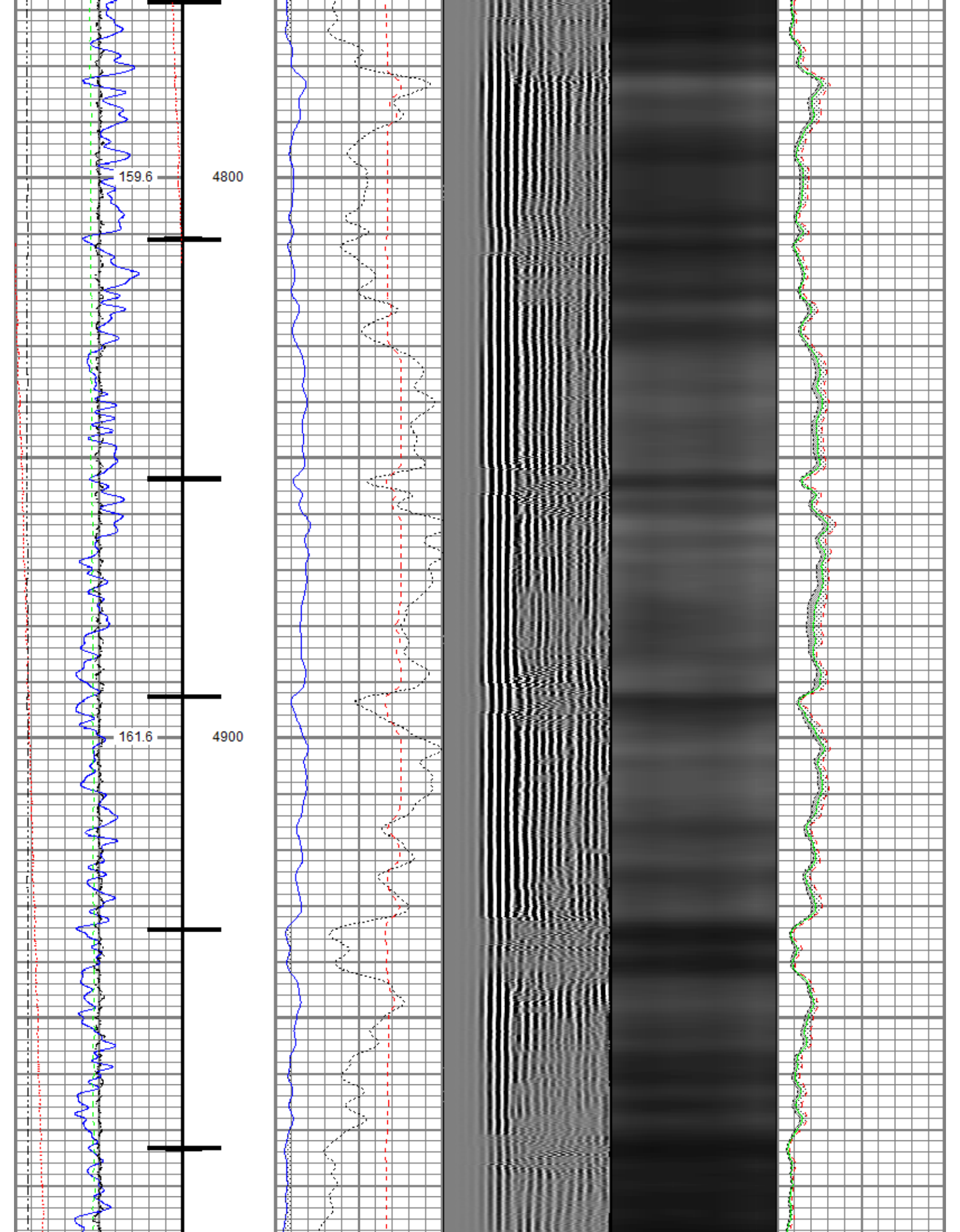




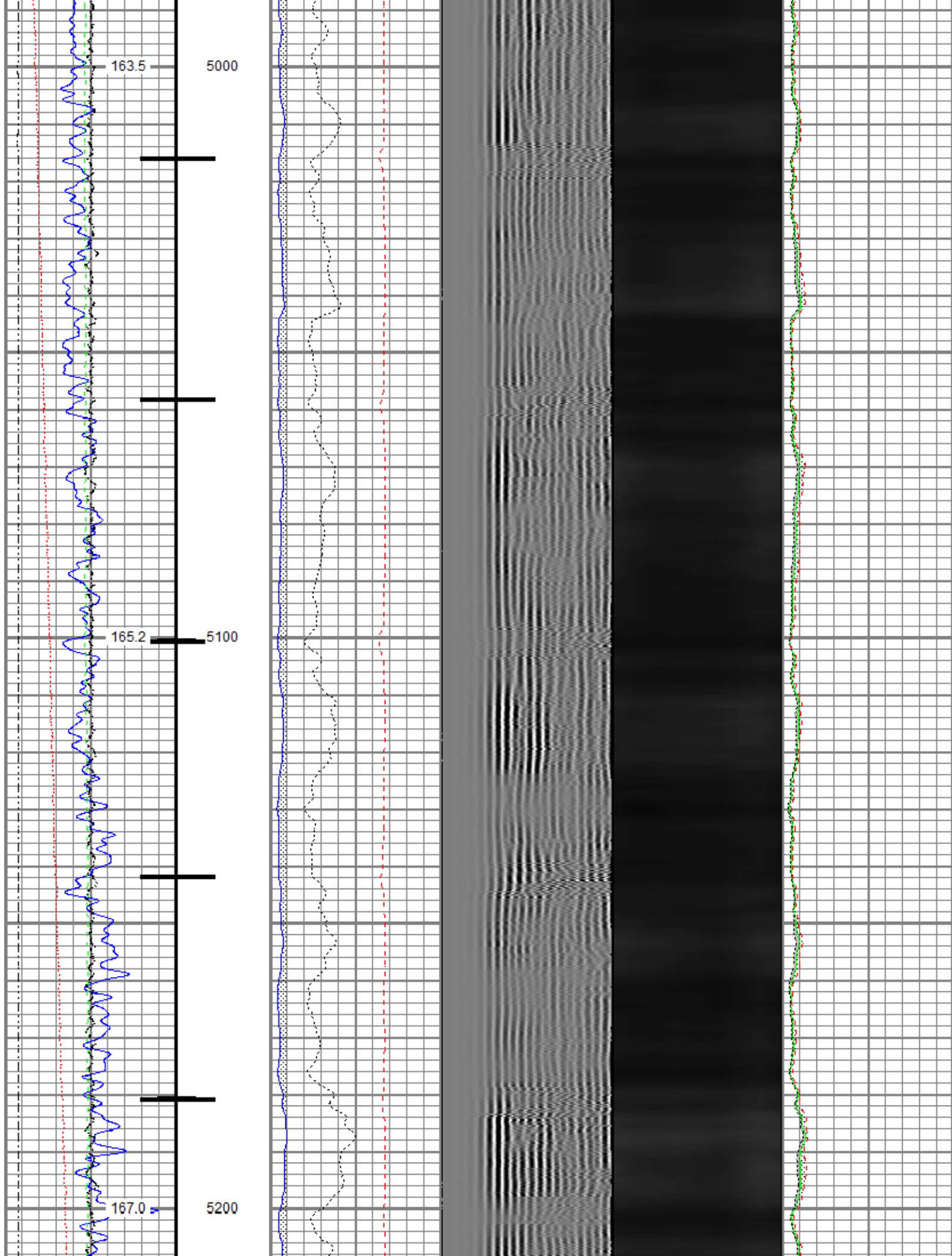


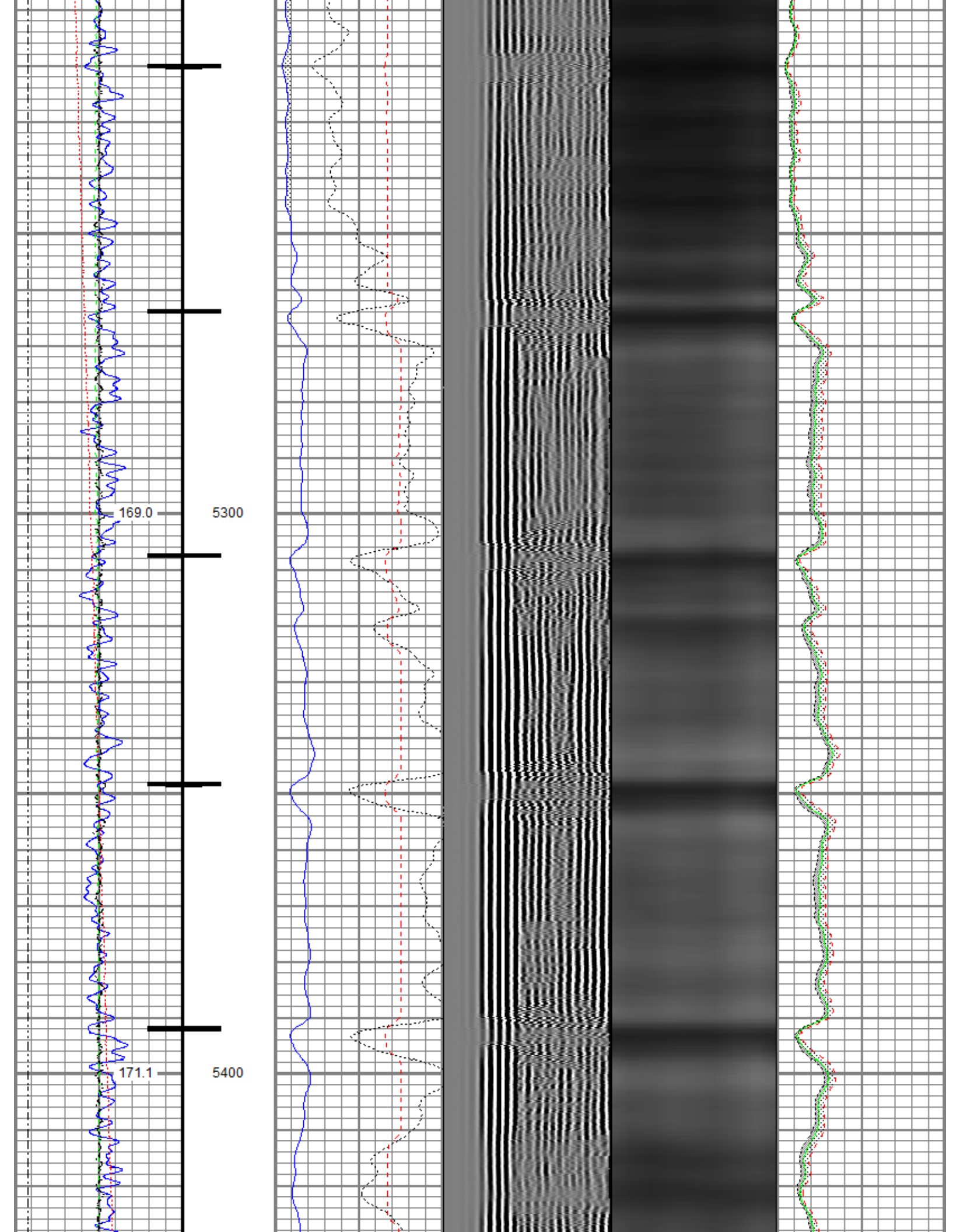


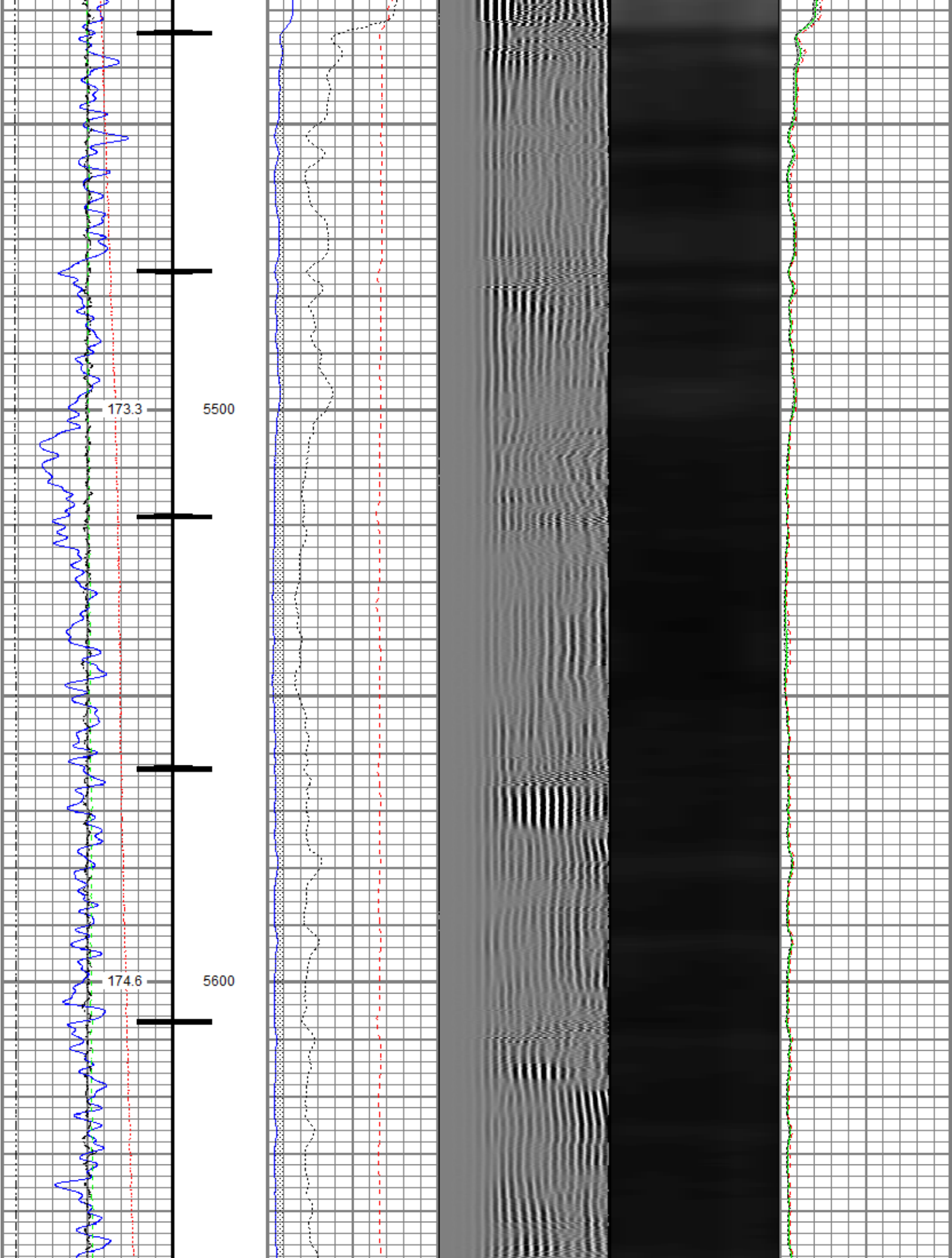


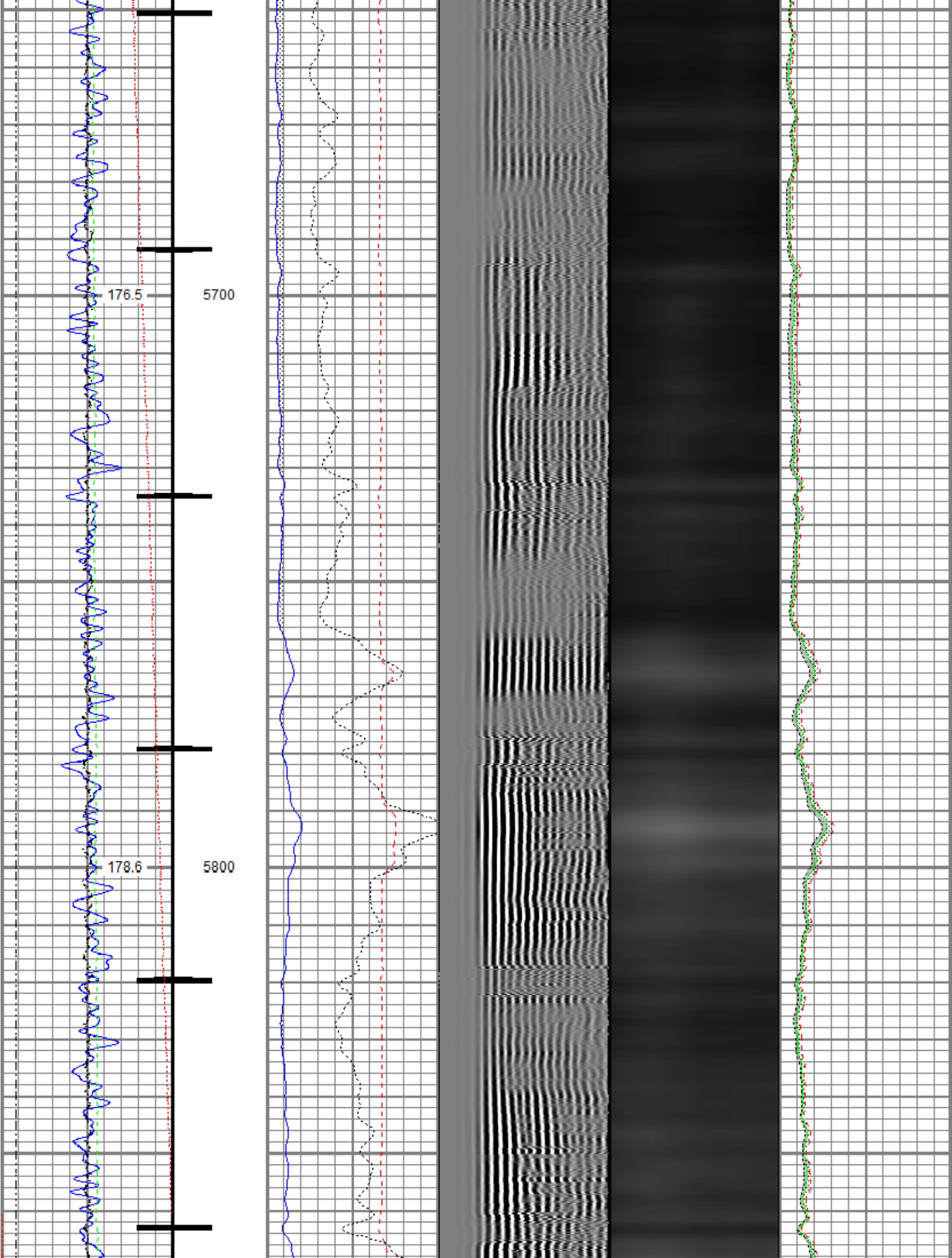




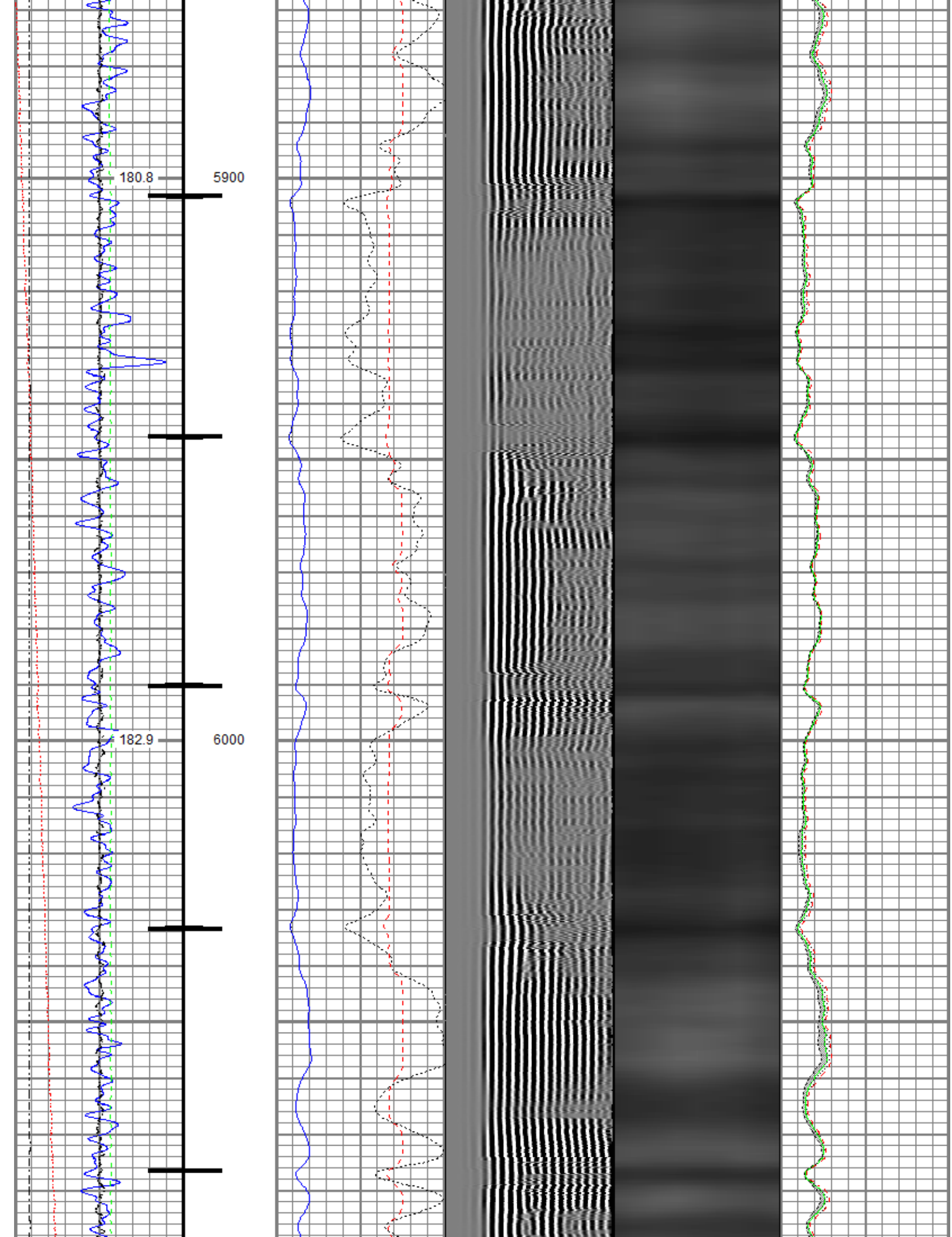


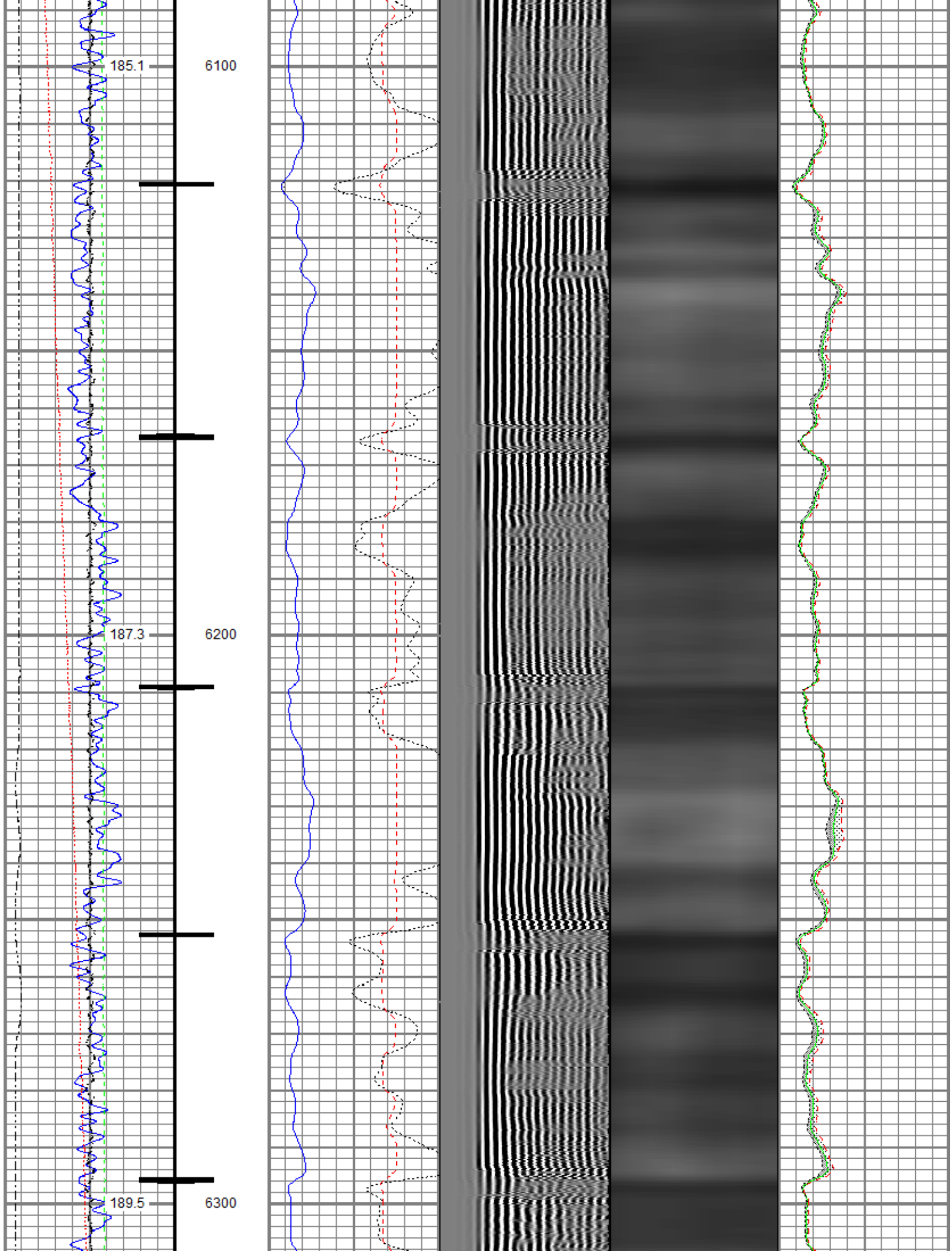


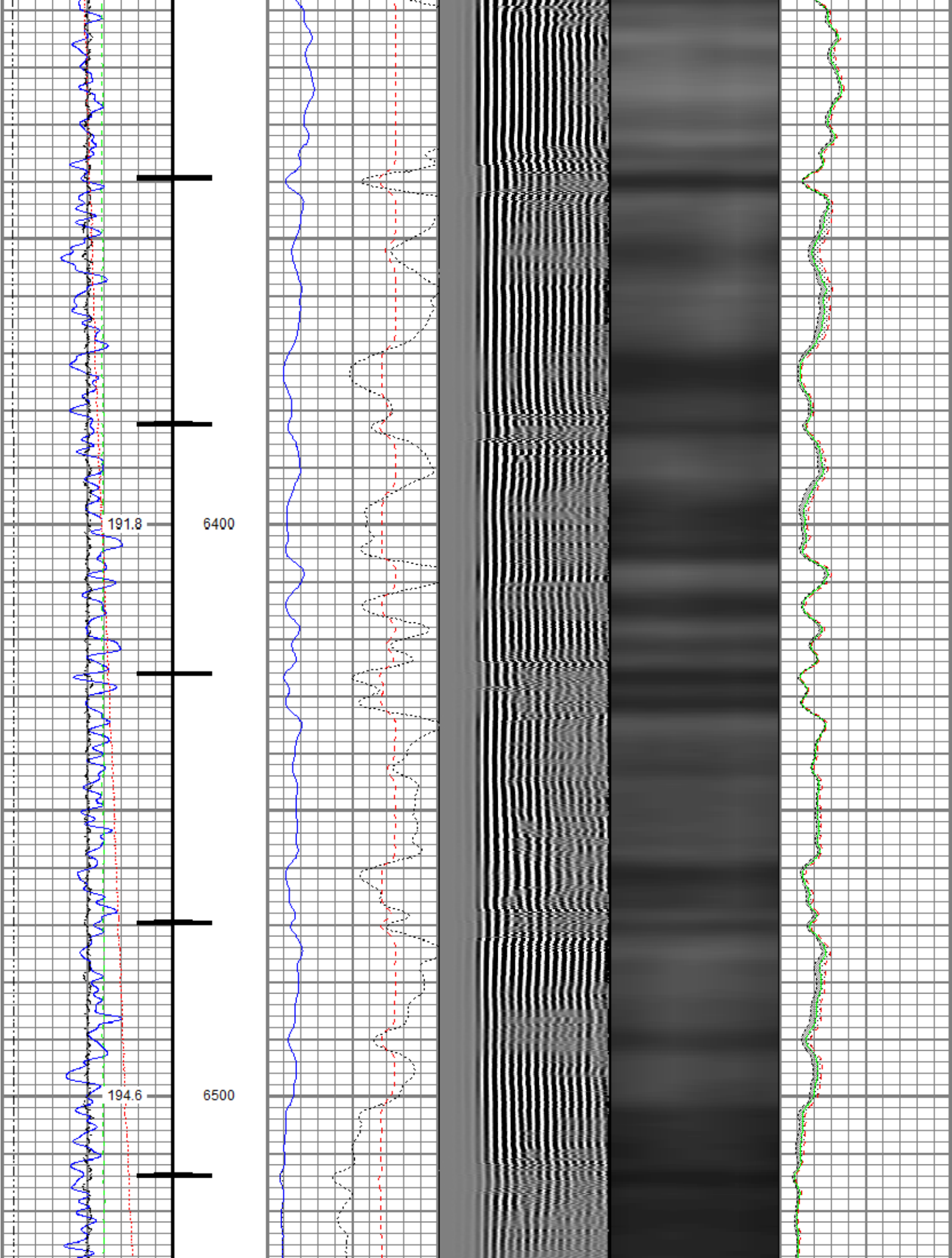




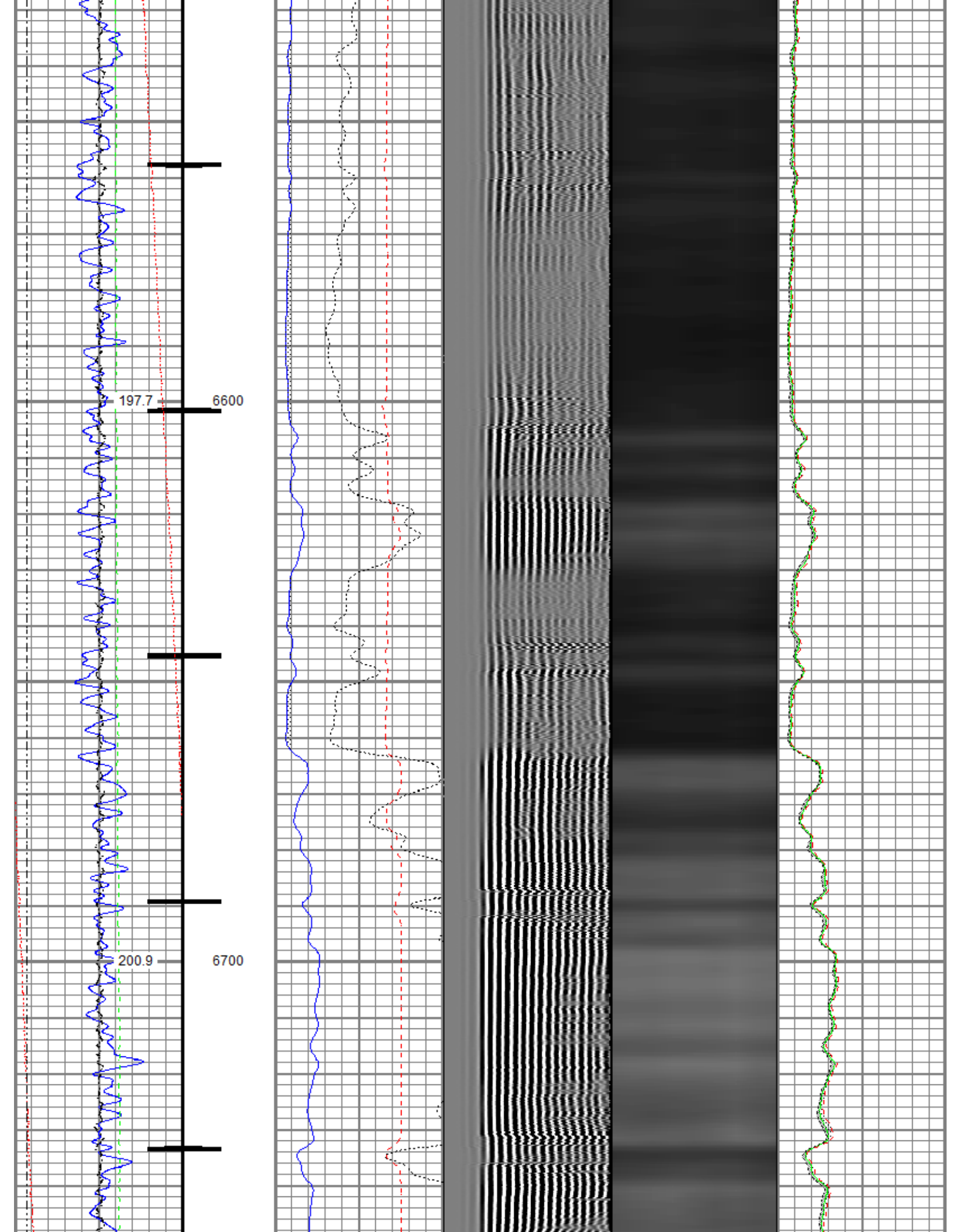




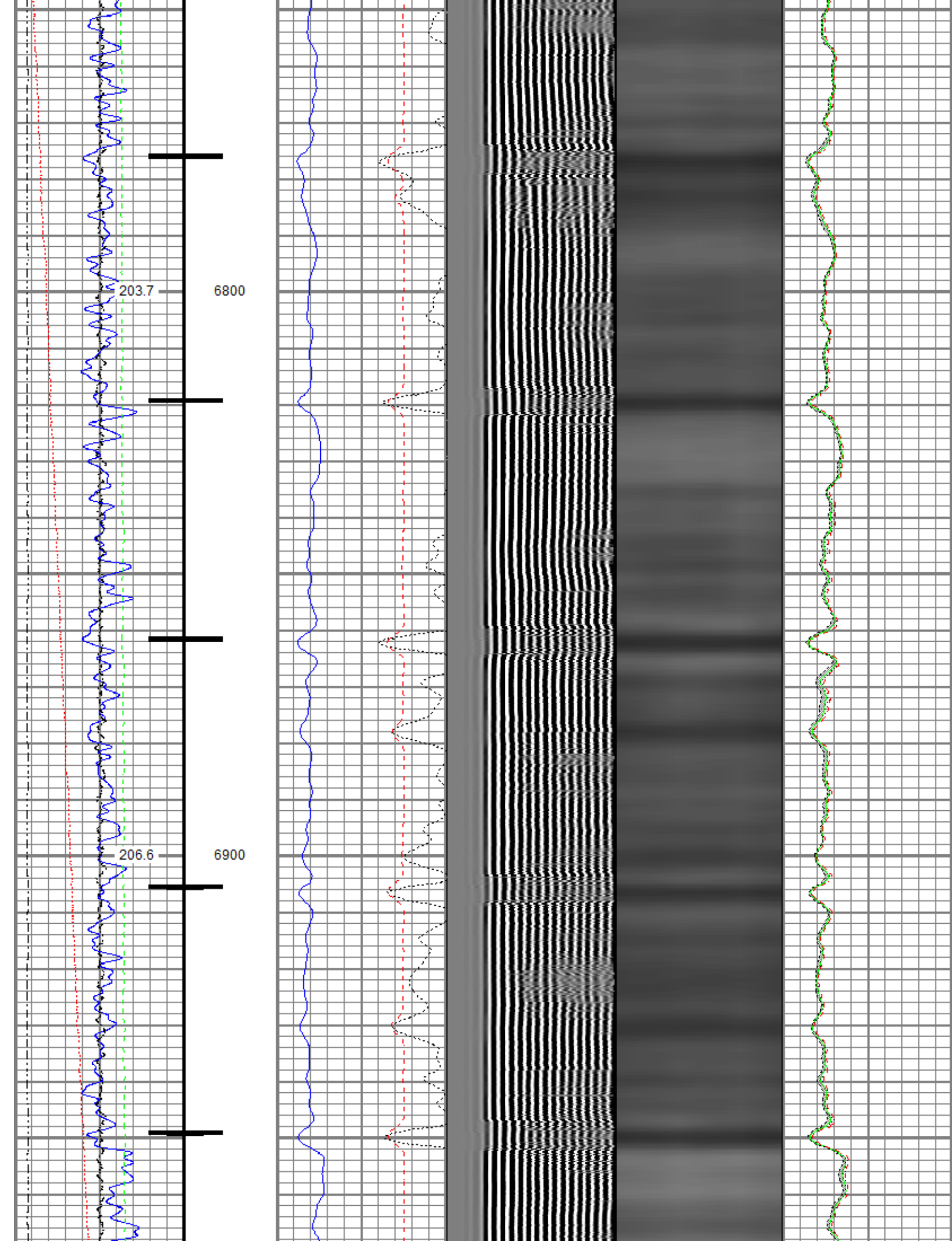


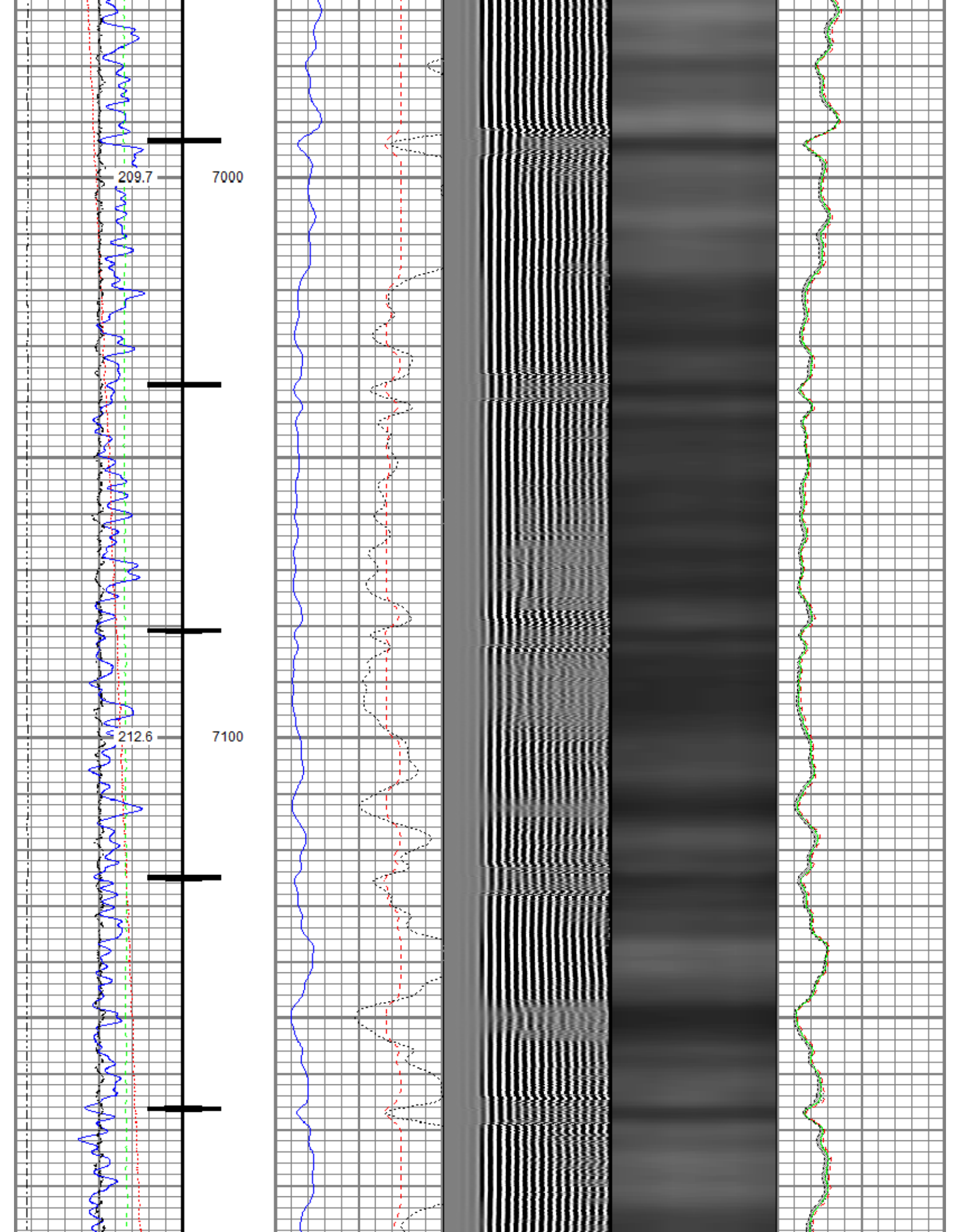


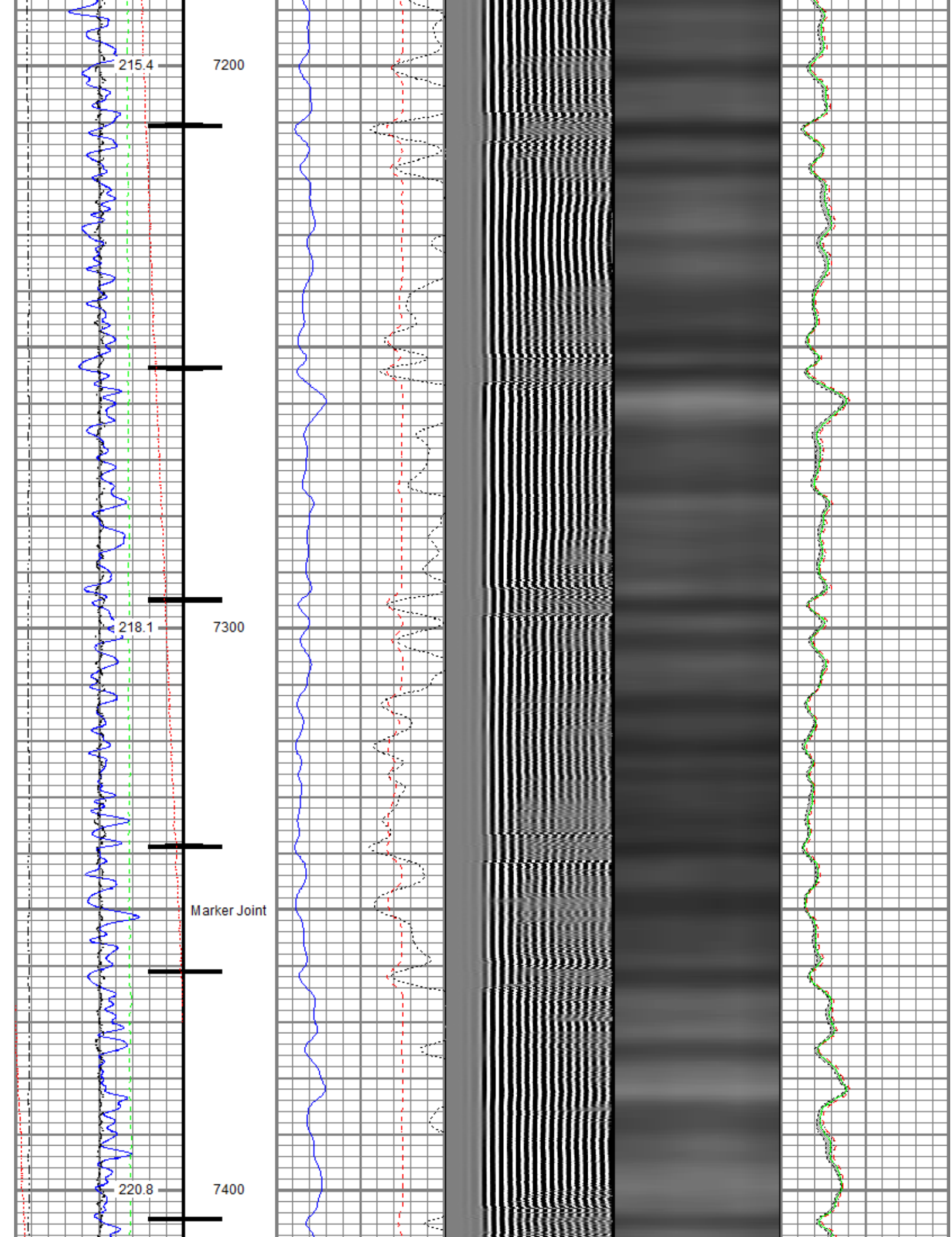




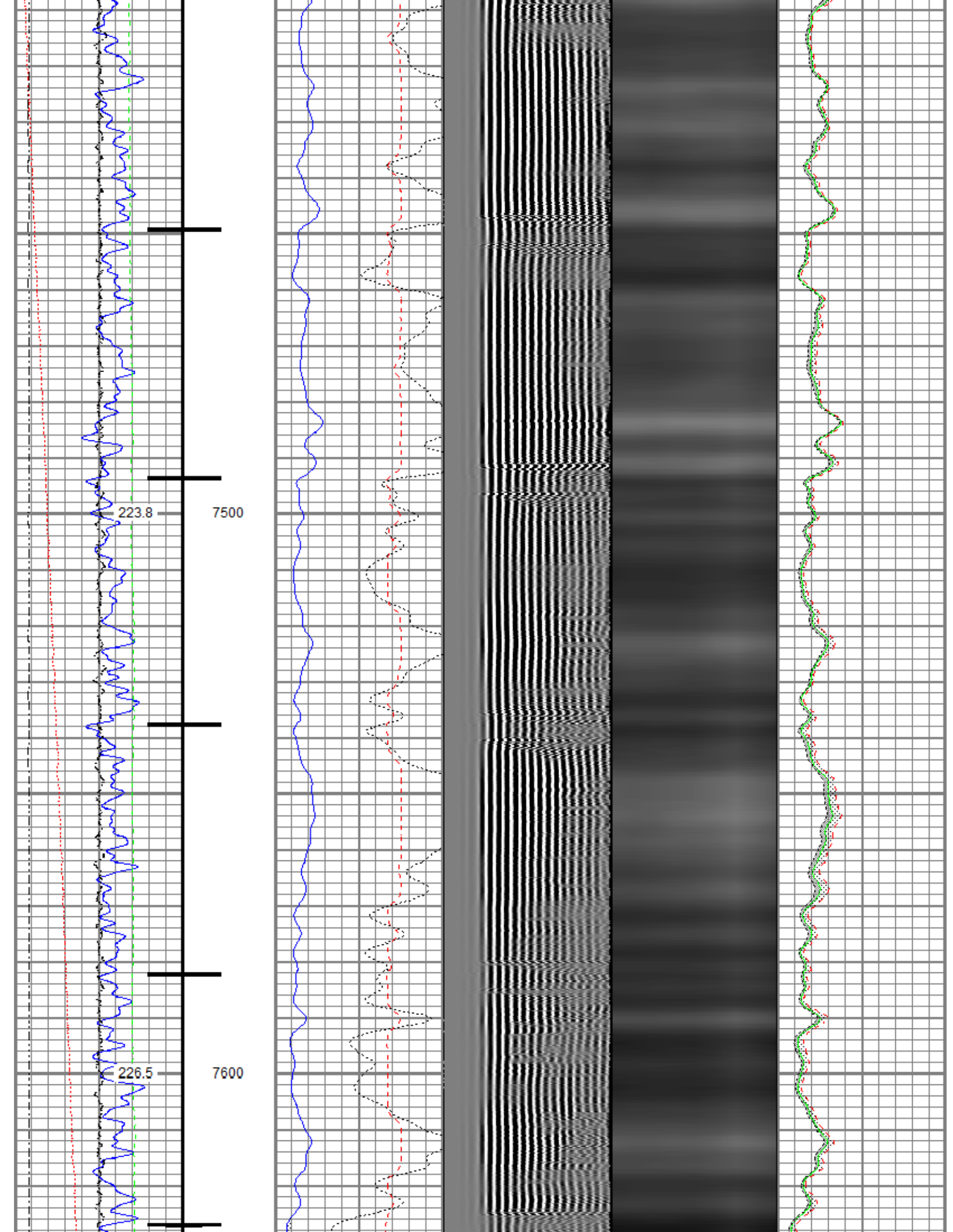




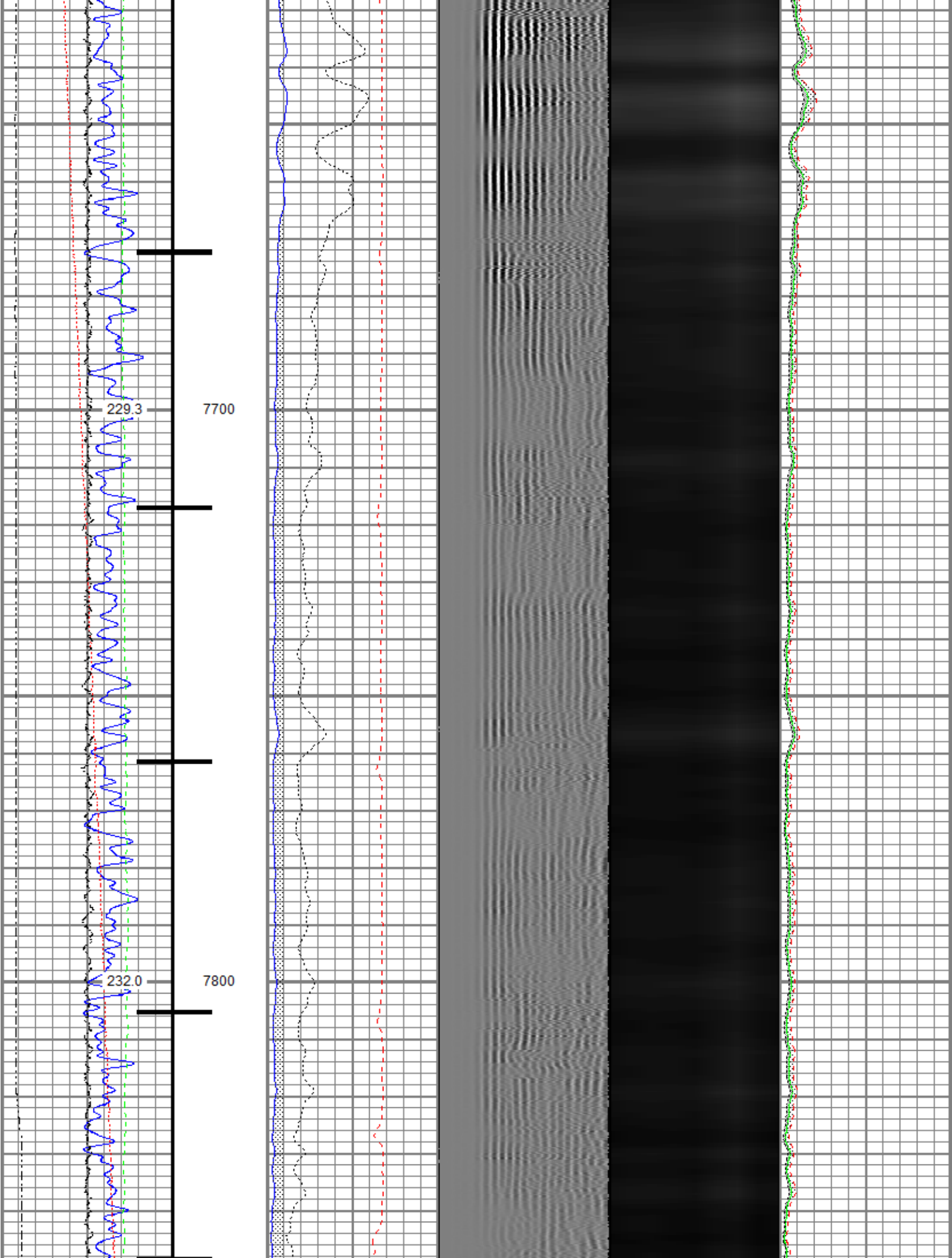


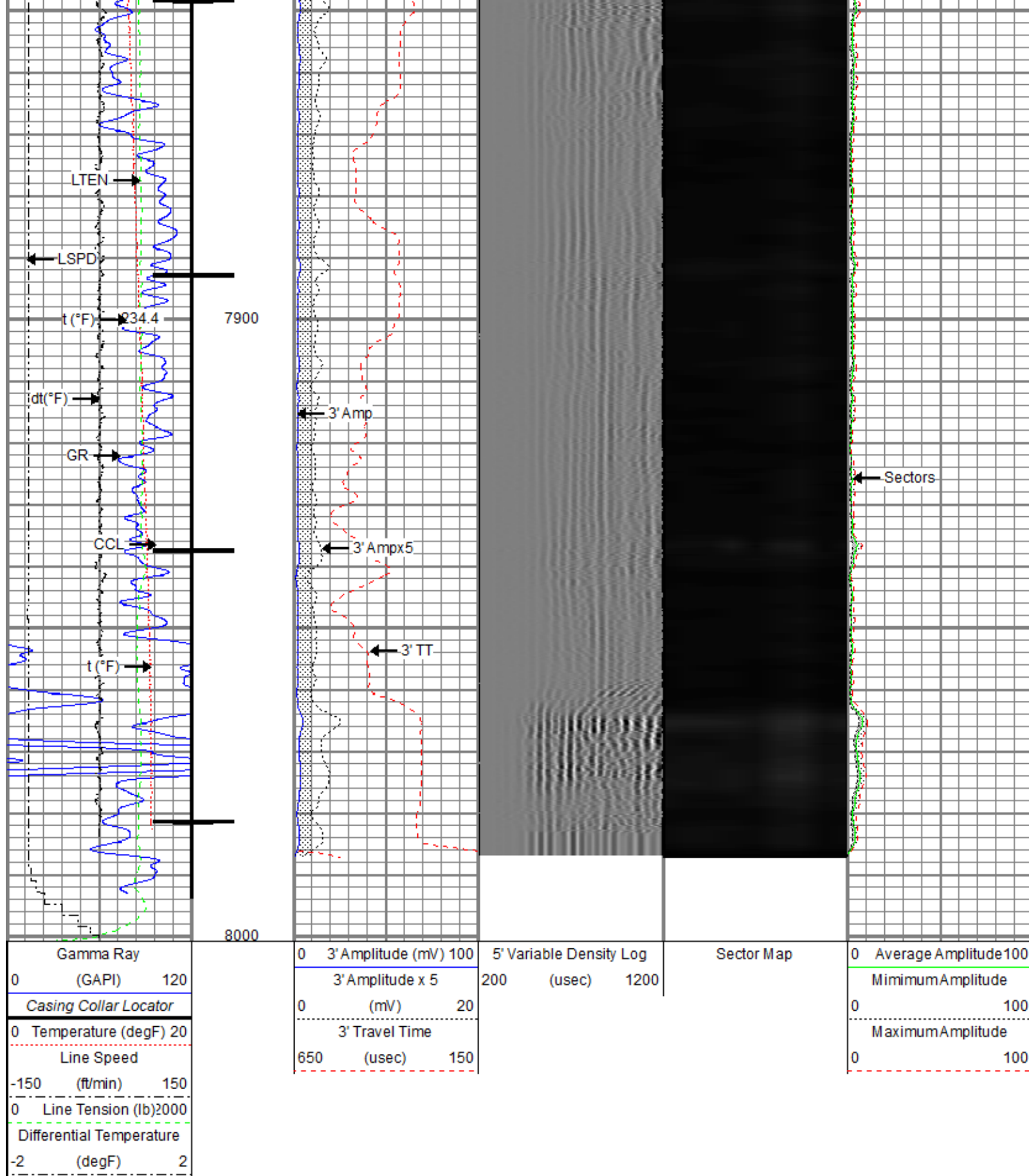










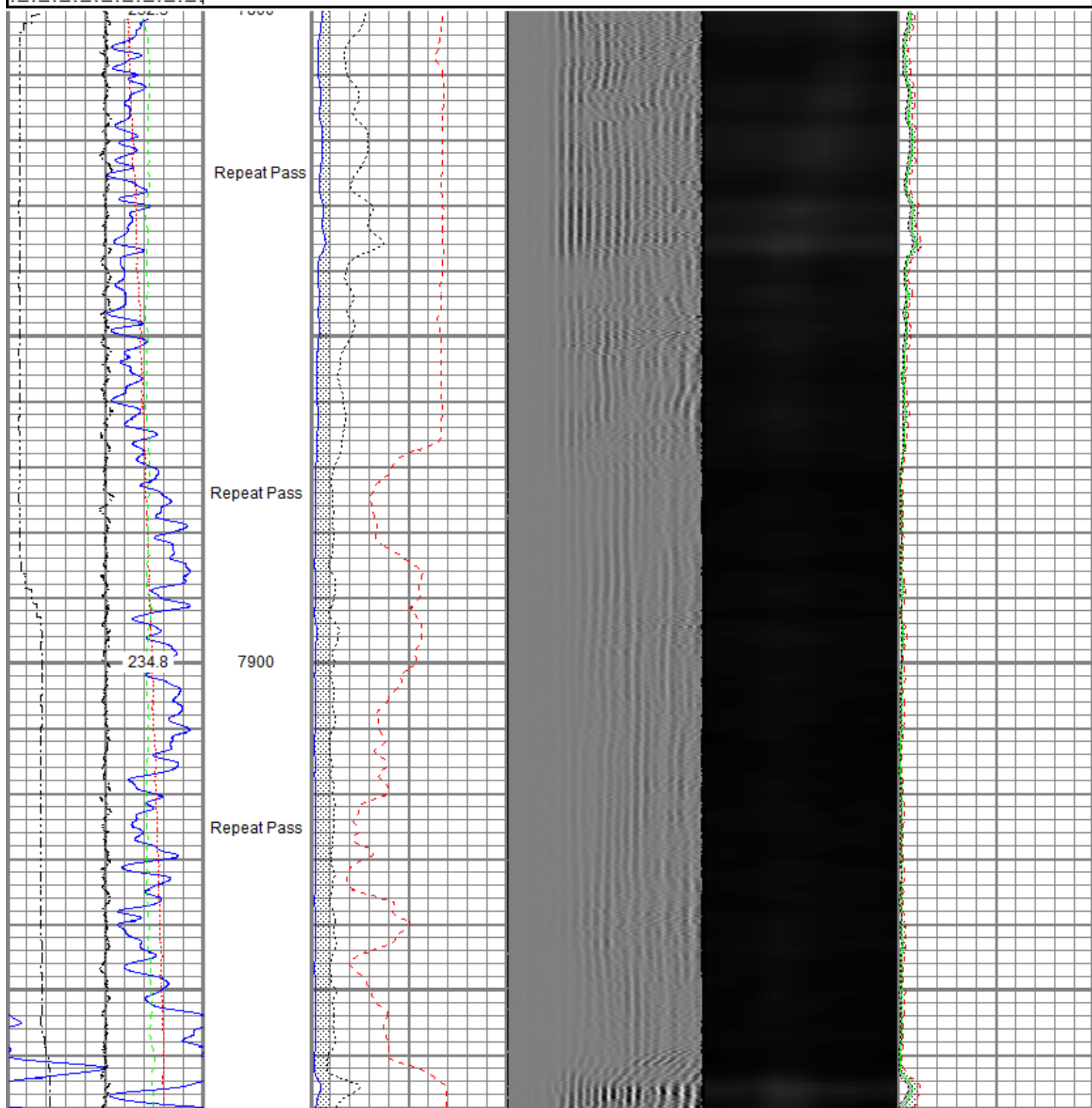


Repeat Pass

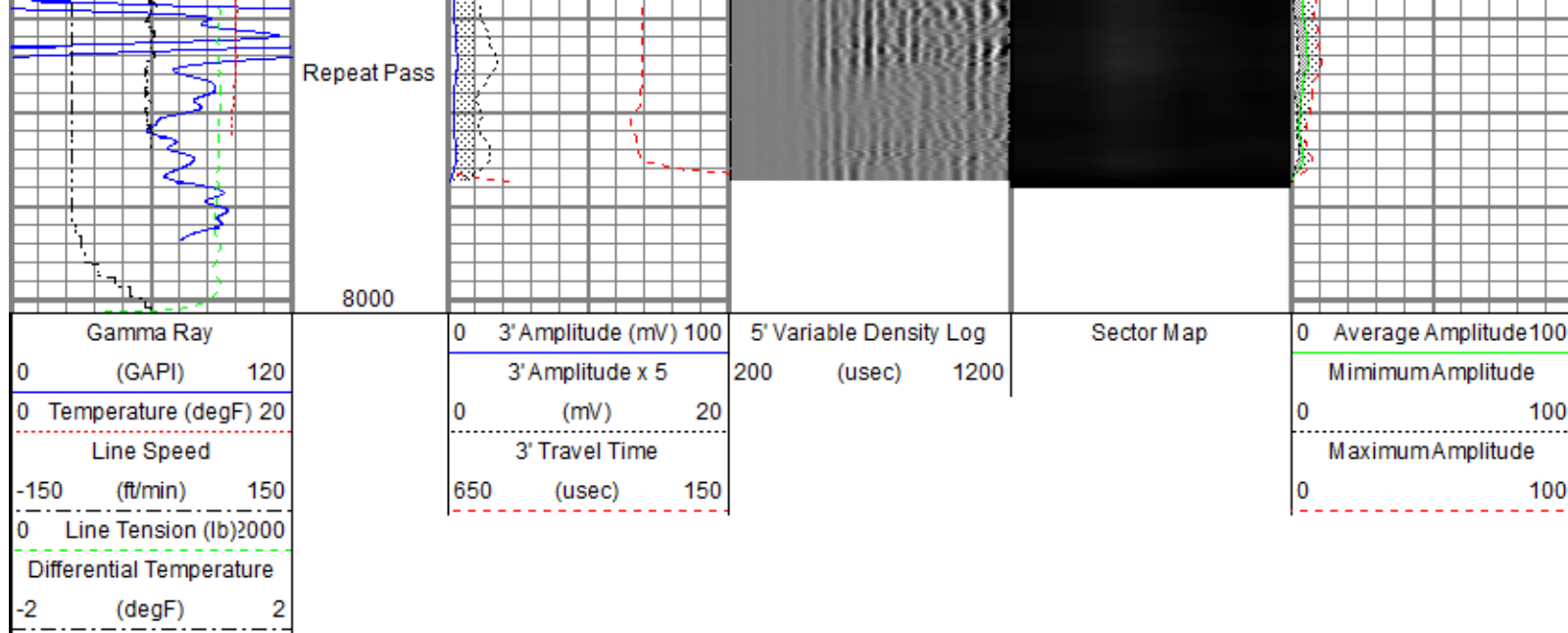
Recorded With 0 PSI Surface Induced Pressure

Database File	anadarko\0512349\60_anadarko_mc 3-3hz_rbl_08-11-19\processed_0512349\60_anadarko_mc 3-3hz_rbl_08-11-19.db
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Presentation Format	ros_radri
Dataset Creation	Tue Aug 13 10:17:43 2019
Charted by	Depth in Feet scaled 1:240

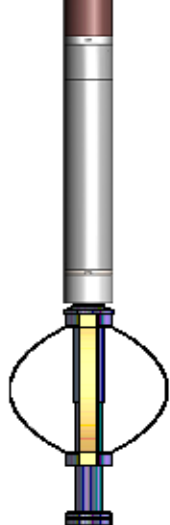
Gamma Ray			0	3' Amplitude (mV) 100		5' Variable Density Log		Sector Map		0	Average Amplitude 100	
0	(GAPI) 120		3' Amplitude x 5		200	(usec) 1200				Minimum Amplitude		
0 Temperature (degF) 20			0 (mV) 20						0		100	
Line Speed			3' Travel Time								Maximum Amplitude	
-150	(ft/min) 150		650 (usec) 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	17.04		Titan CHD-14375 GO	1.03	1.44	3.60
			Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck			
			Probe CENT-2750	2.88	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			
			Probe Radii-2750 RBT (FW1308-091)	9.39	2.75	105.00
			Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub			
			Probe CENT-2750	2.88	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			
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	13.81					
CCI \$2	6.80					

CCL\$1	6.80		Probe GR-CCL-2750 6PB (FW1810-001) Probe 2-3/4" rev.1 Digital Scintillation Gamma Ray/CCL Combined with 6 Pin Bottom for CNT	4.80	2.75	55.00
GR	5.46		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
Dataset: processed_0512349760_anadarko_mc 3-3hz_rbl_08-11-19.db: field/well/0PSI/Main.1 Total length: 23.86 ft Total weight: 223.60 lb O.D.: 2.75 in						

Calibration Report	
Database File	c:\programdata\warrior\data\anadarko\0512349760_anadarko_mc 3-3hz_rbl_08-11-19\processed_0512349760_anadarko_mc 3
Dataset Pathname	0PSI/Main.1
Dataset Creation	Sun Aug 11 11:37:17 2019

Gamma Ray Calibration Report		
Serial Number:	FW1810-001	
Tool Model:	2750 6PB	
Performed:	Sat Nov 10 12:22:37 2018	
Calibrator Value:	637.0	GAPI
Background Reading:	100.1	cps
Calibrator Reading:	1264.5	cps
Sensitivity:	0.5471	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1308-091	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	-24.938	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	114.135	0.733
CAL	0.674	0.675				
5'	-0.001	0.620	0.800	71.921	114.620	0.905
SUM						
S1	0.000	0.639	0.000	100.000	156.629	-0.074
S2	0.001	0.644	0.000	100.000	155.380	-0.083
S3	0.001	0.644	0.000	100.000	155.470	-0.131
S4	0.000	0.620	0.000	100.000	161.428	-0.055
S5	0.001	0.646	0.000	100.000	155.026	-0.094
S6	0.001	0.660	0.000	100.000	151.623	-0.082
S7	0.001	0.644	0.000	100.000	155.512	-0.131
S8	0.000	0.662	0.000	100.000	151.201	-0.073

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.674	0.675	1.000	0.000

Air Zero Calibration, performed Sun Aug 11 05:53:01 2019:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.007		0.000		0.000	
5'	0.008		0.000		0.000	
SUM						
S1	0.004		0.000		0.000	
S2	0.007		0.000		0.000	
S3	0.006		0.000		0.000	
S4	0.007		0.000		-0.000	
S5	0.006		0.000		0.000	
S6	0.007		0.000		-0.000	
S7	0.006		0.000		0.000	
S8	0.006		0.000		0.000	

#### 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	Kerr-McGee Oil & Gas Onshore, L.P.
Well	MC 3-3HZ
Field	Wattenberg
County	Weld
State	Colorado