



Radial Cement Bond
Gamma Ray
Casing Collar Log

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

Well JDB 15-11HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-49217

SEC 15 TWP 1N RGE 66W

Permanent Datum Ground Level Elevation 5153'

Log Measured From Ground Level

Drilling Measured From Kelly Bushing

Other Services
GR/JB
RBP

Elevation

K.B. 5170'

D.F. ---

G.L. 5153'

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Well JDB 15-11HZ
Field Wattenberg
County Weld
State Colorado

Date	01-AUG-2019
Run Number	One
Depth Driller	18423 FT
Depth Logger	7131 FT
Bottom Logged Interval	7116 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	223°F
Estimated Cement Top	See Log
Time Well Ready	ROA
Time Logger on Bottom	10:07
Equipment Number	HD-0363
Location	Platteville, CO
Recorded By	J. Morrison
Witnessed By	John McCarthy
Borehole Record	
Run Number	Bit From To
Size (in)	Size Weight From To
Wgt (lbs/ft)	
Casing Record	
Surface Casing	9 5/8 36 J-55 Surface 1847 FT
Intermediate #1	5 1/2 17 HCP-110 Surface 18413 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 7050 FT
Adjusted +1 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 8073 FT
Retrievable Bridge Plug set at 7140 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!!

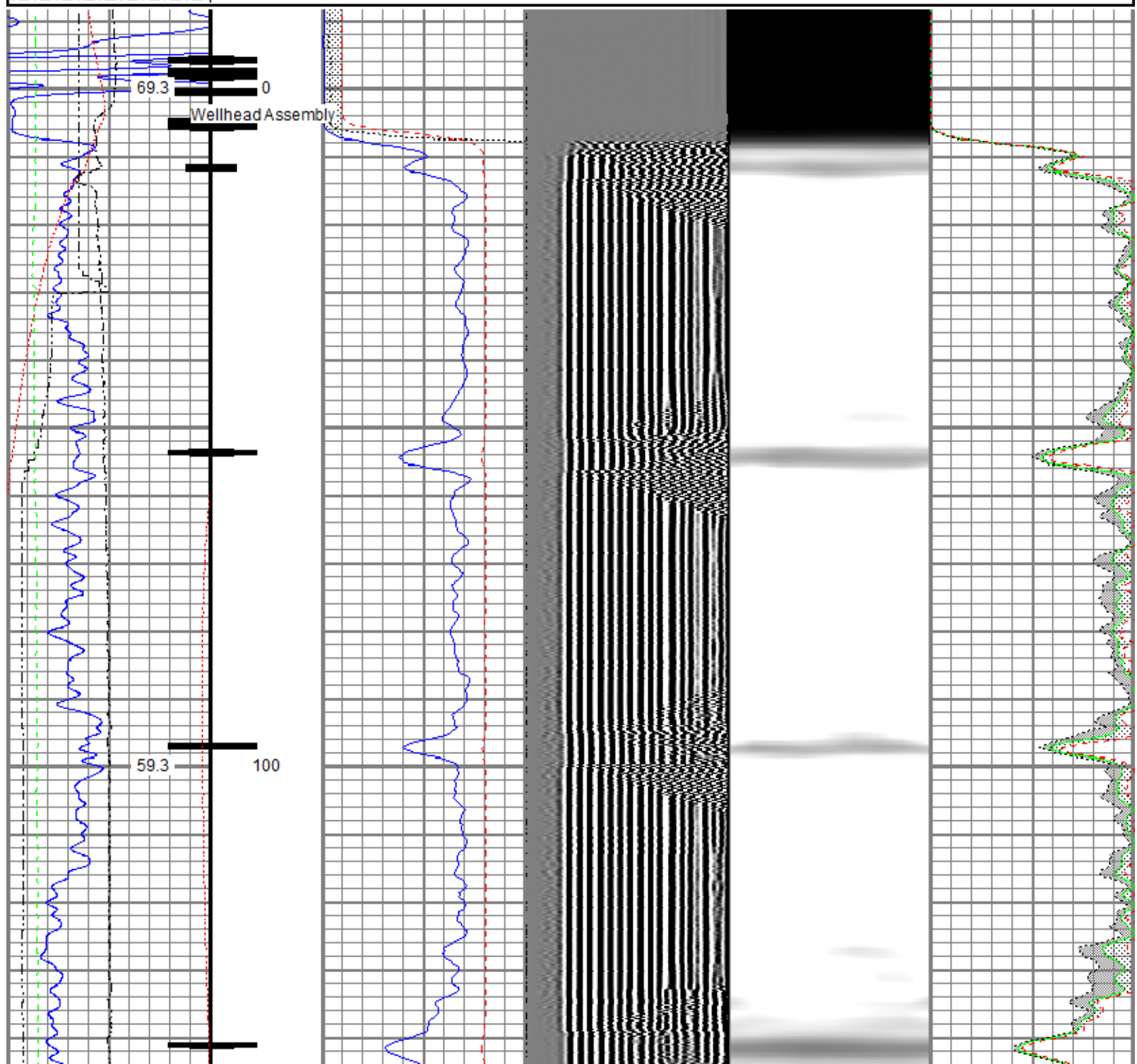
Main Pass

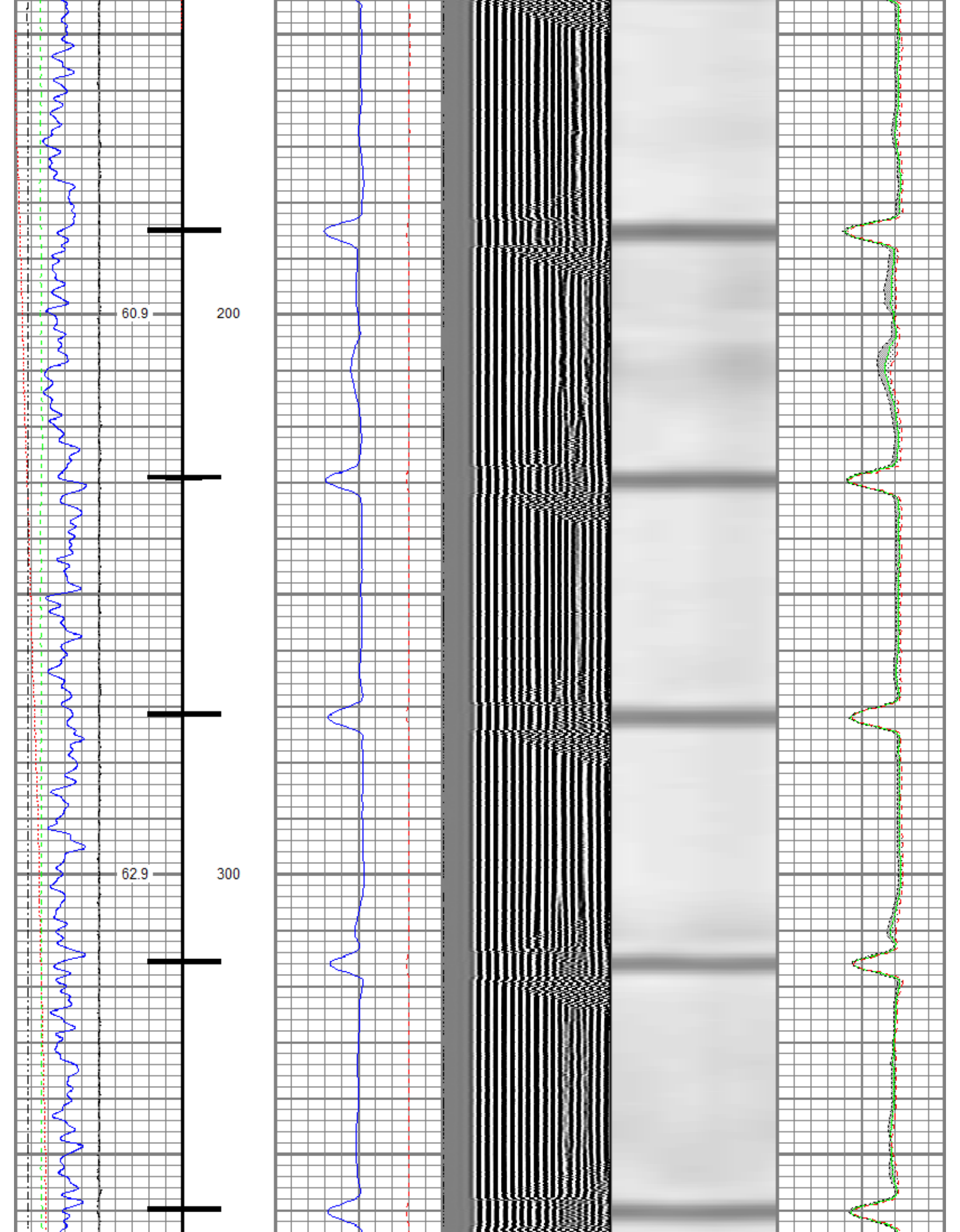


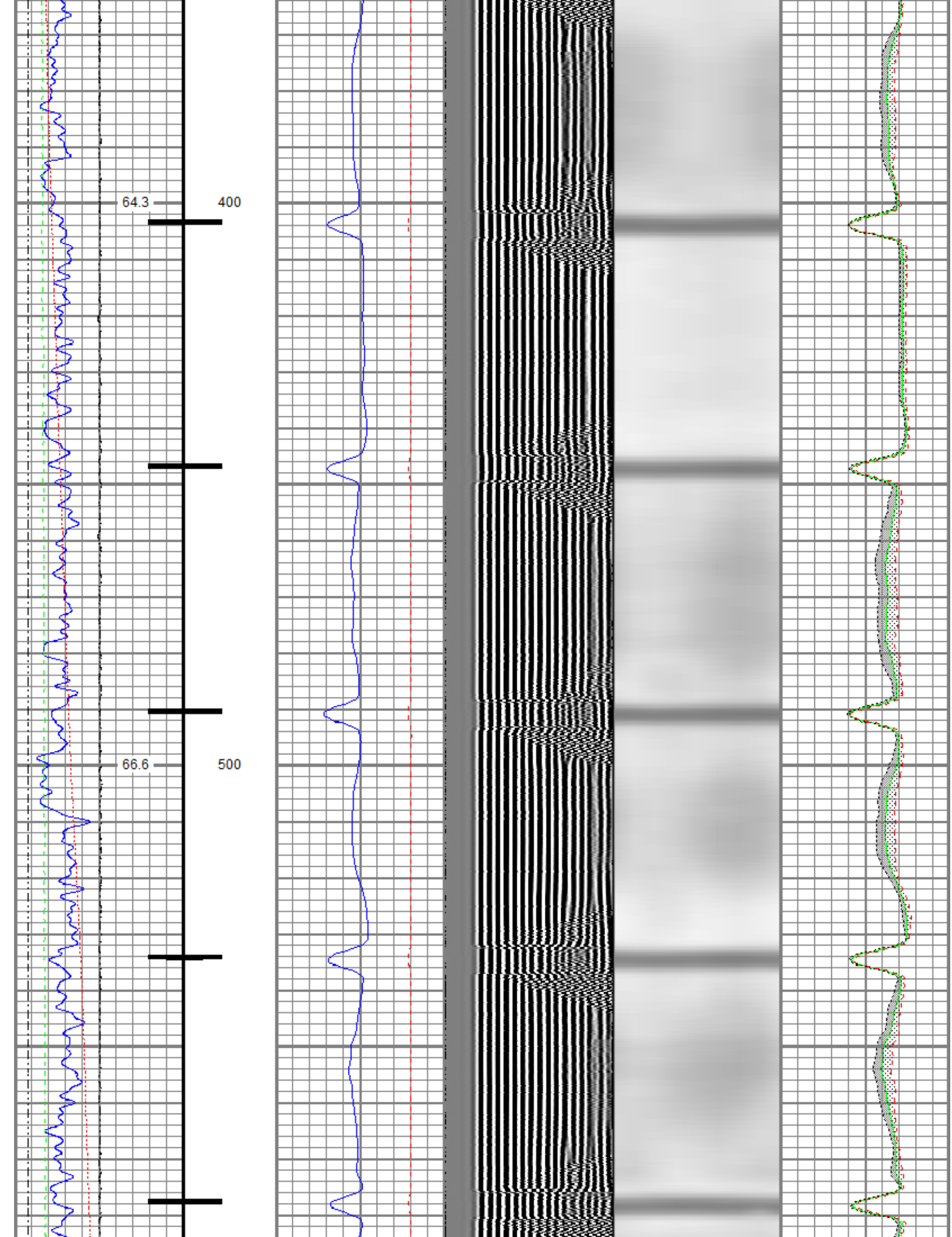
Recorded With 0 PSI Surface Induced Pressure

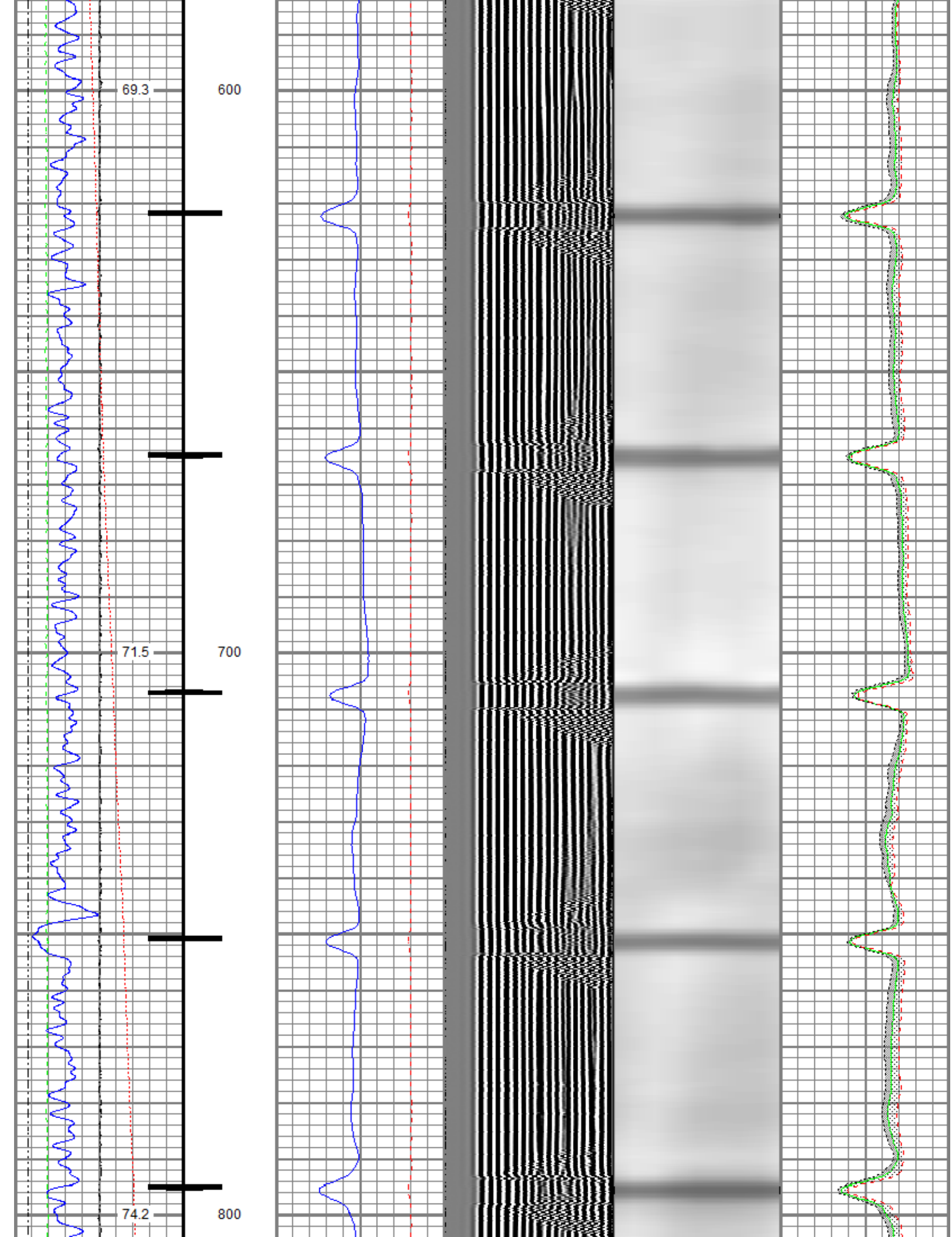
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Presentation Format	ros_radri
Dataset Creation	Sat Aug 03 11:56:29 2019
Charted by	Depth in Feet scaled 1:240

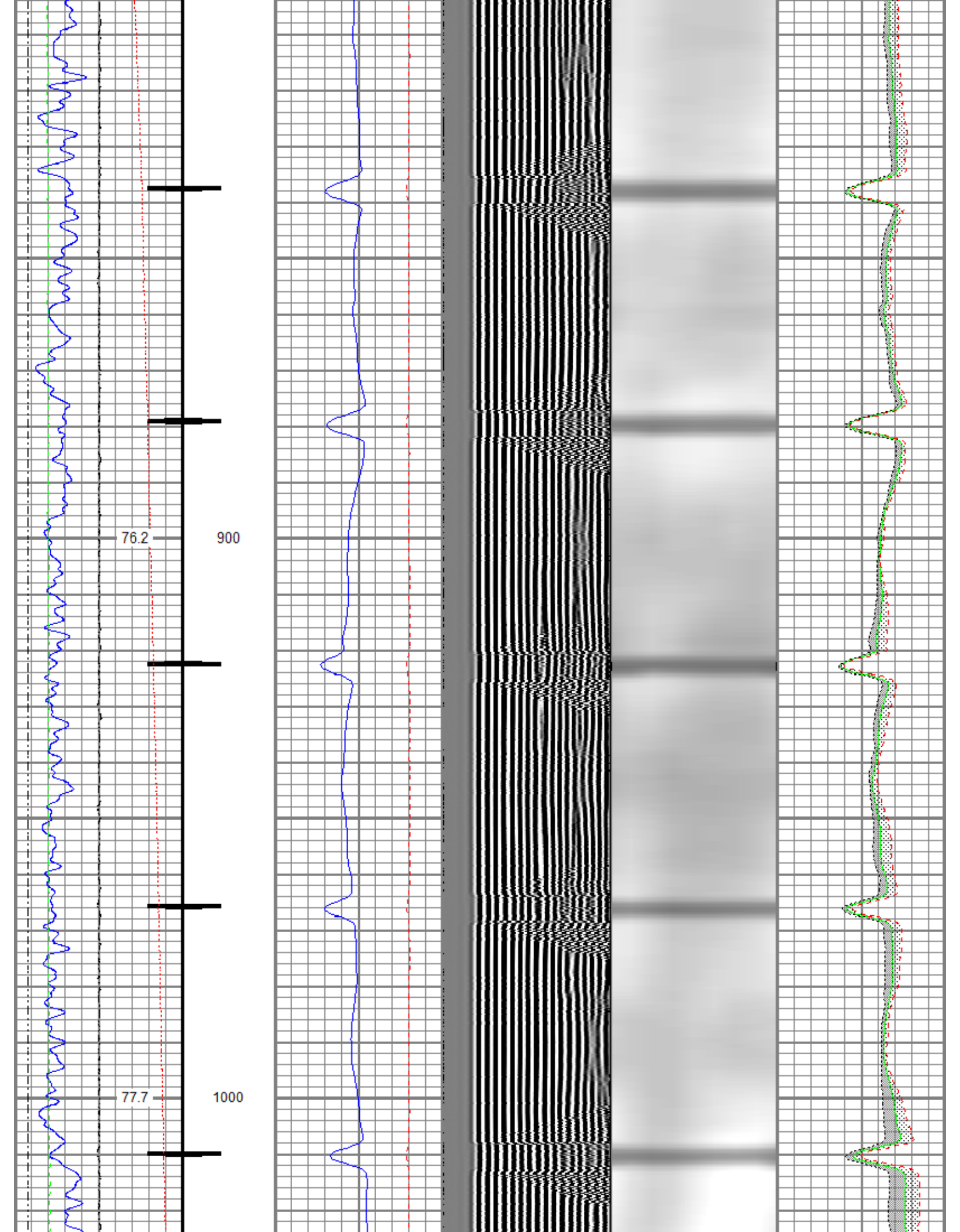
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min)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

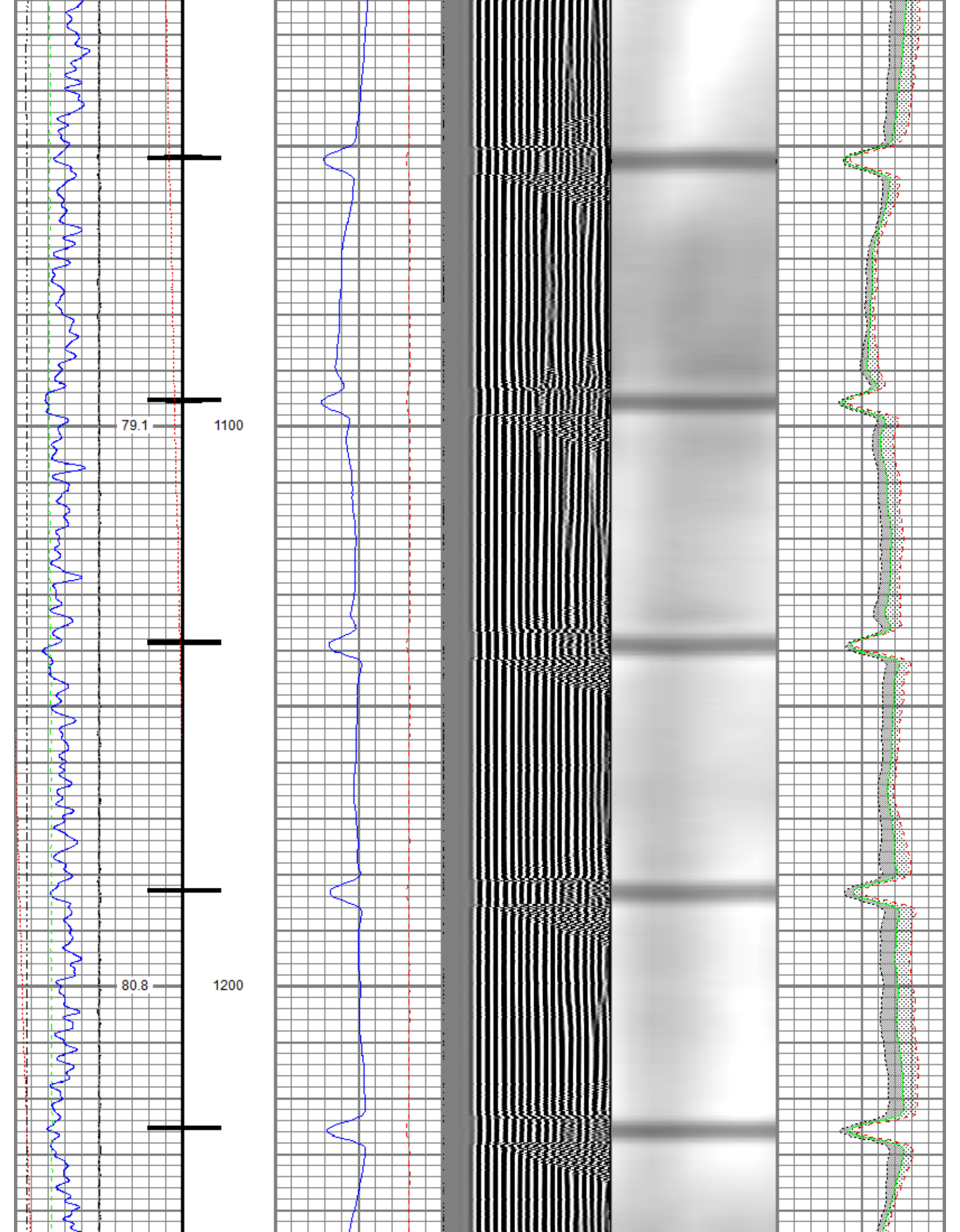


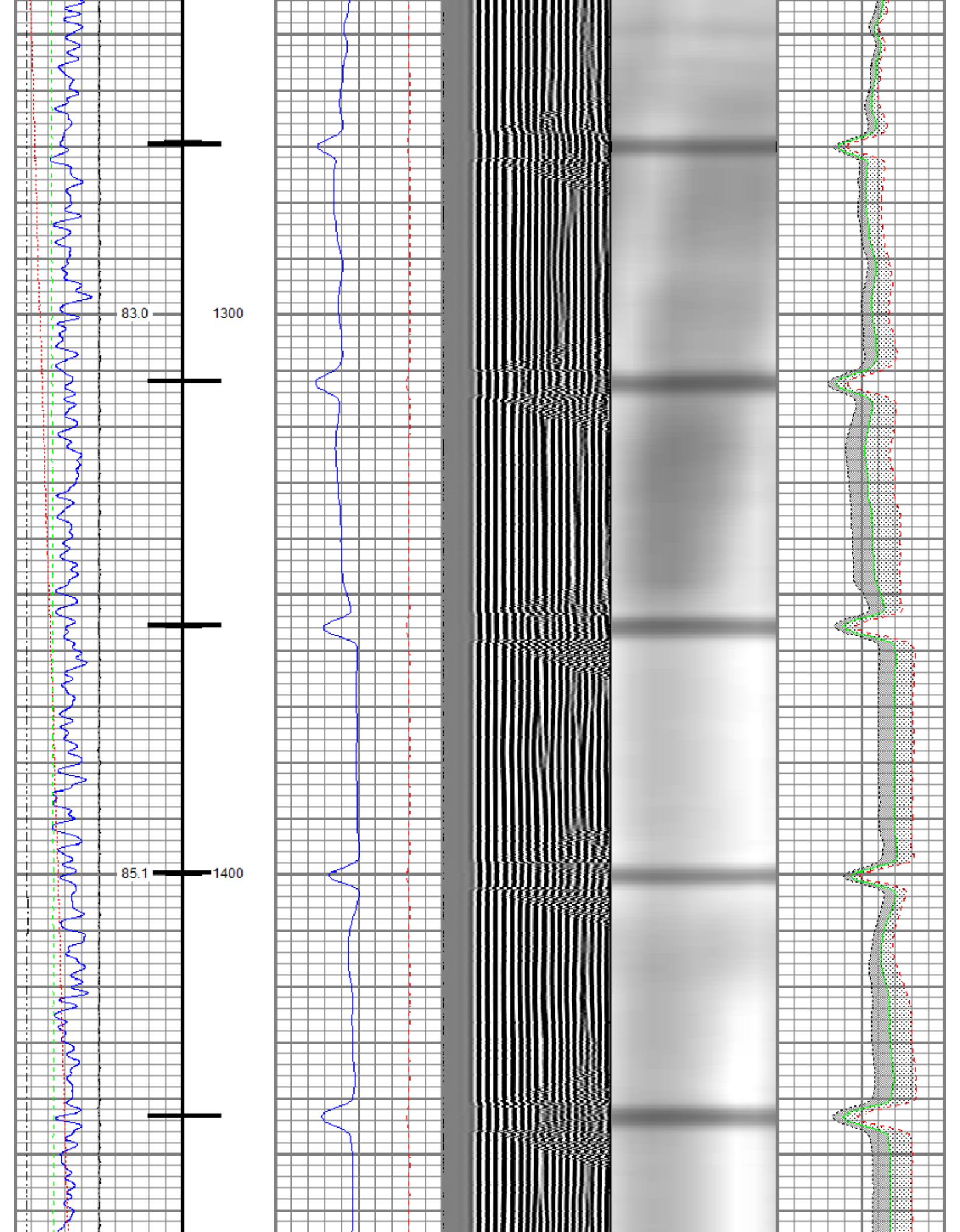


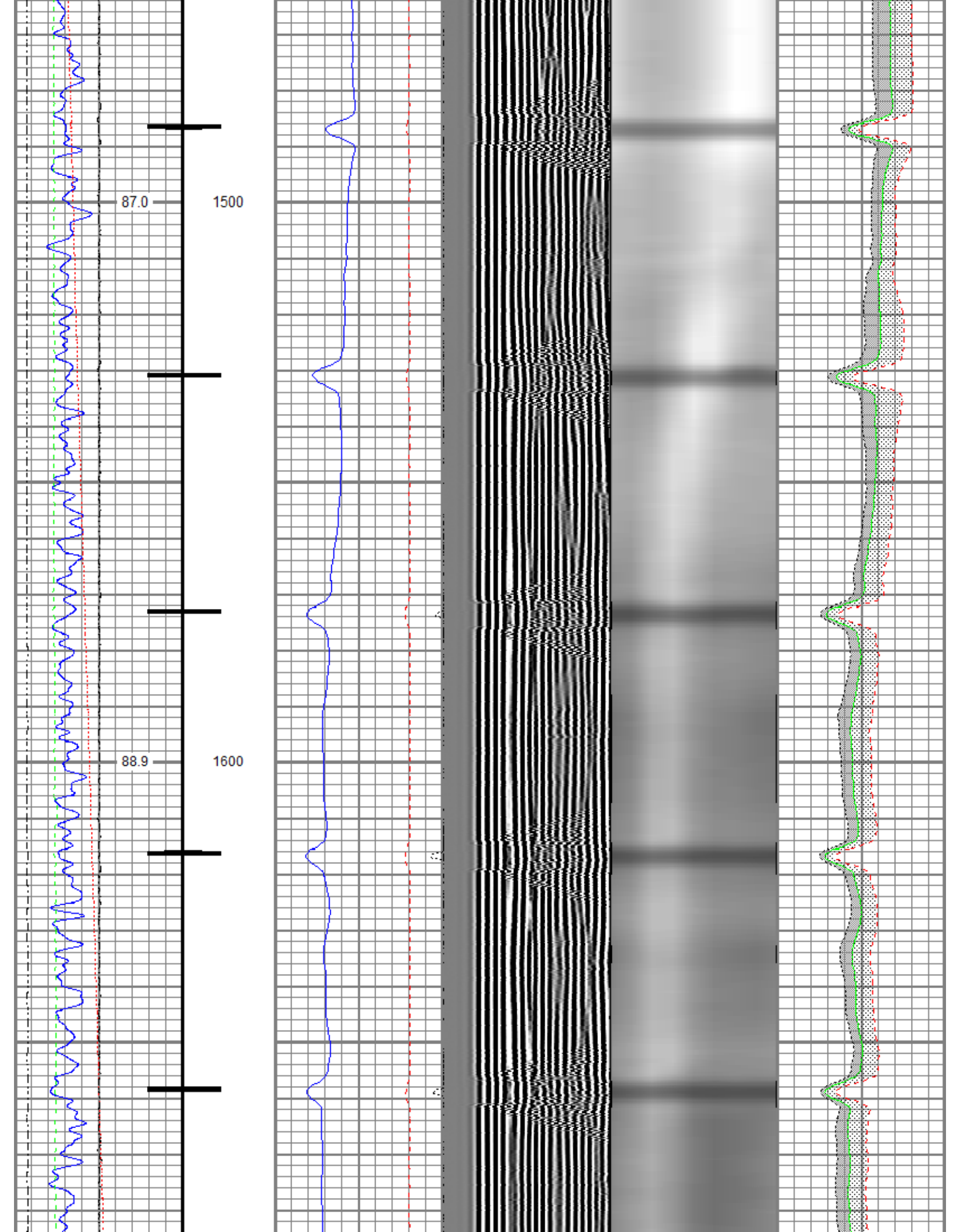


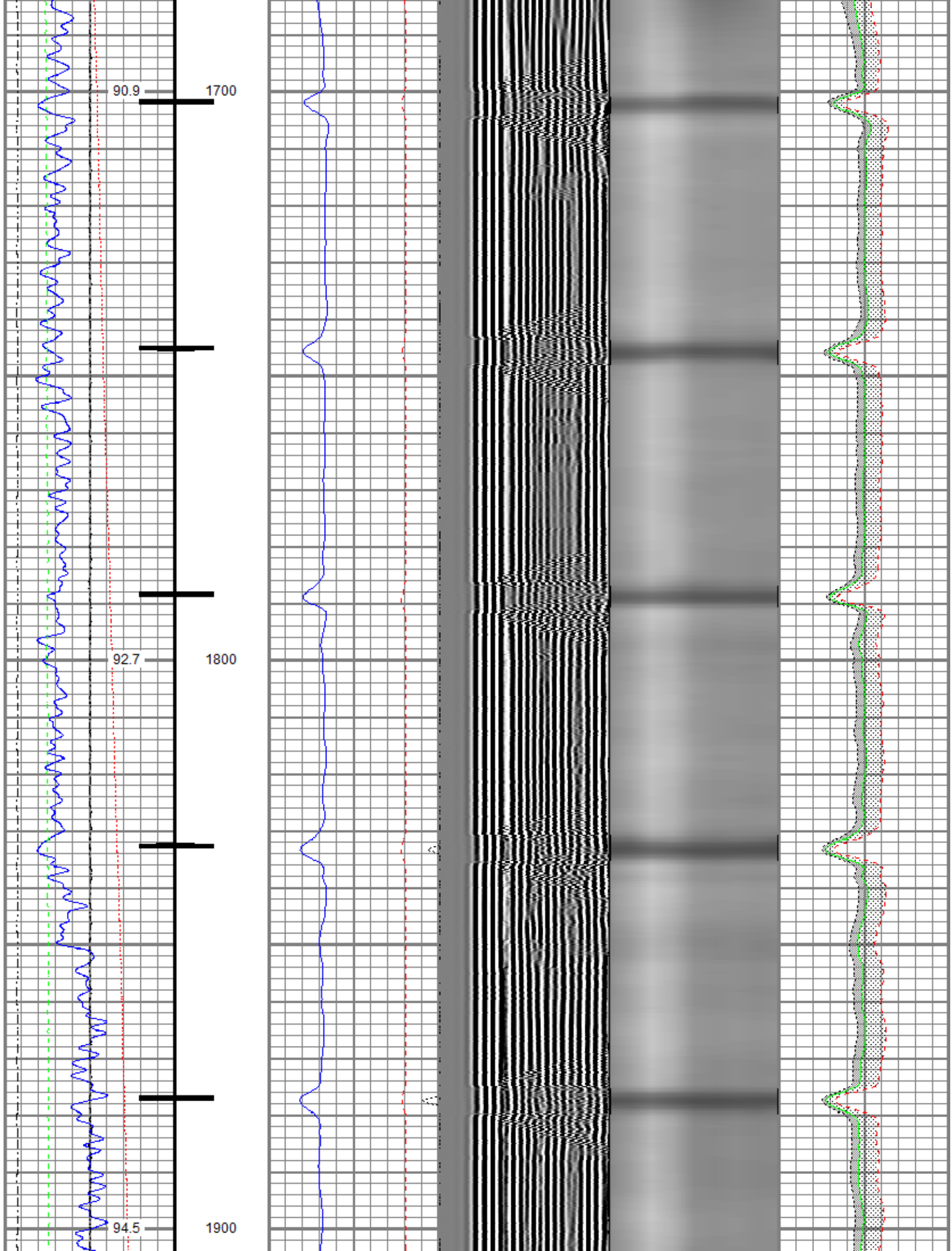


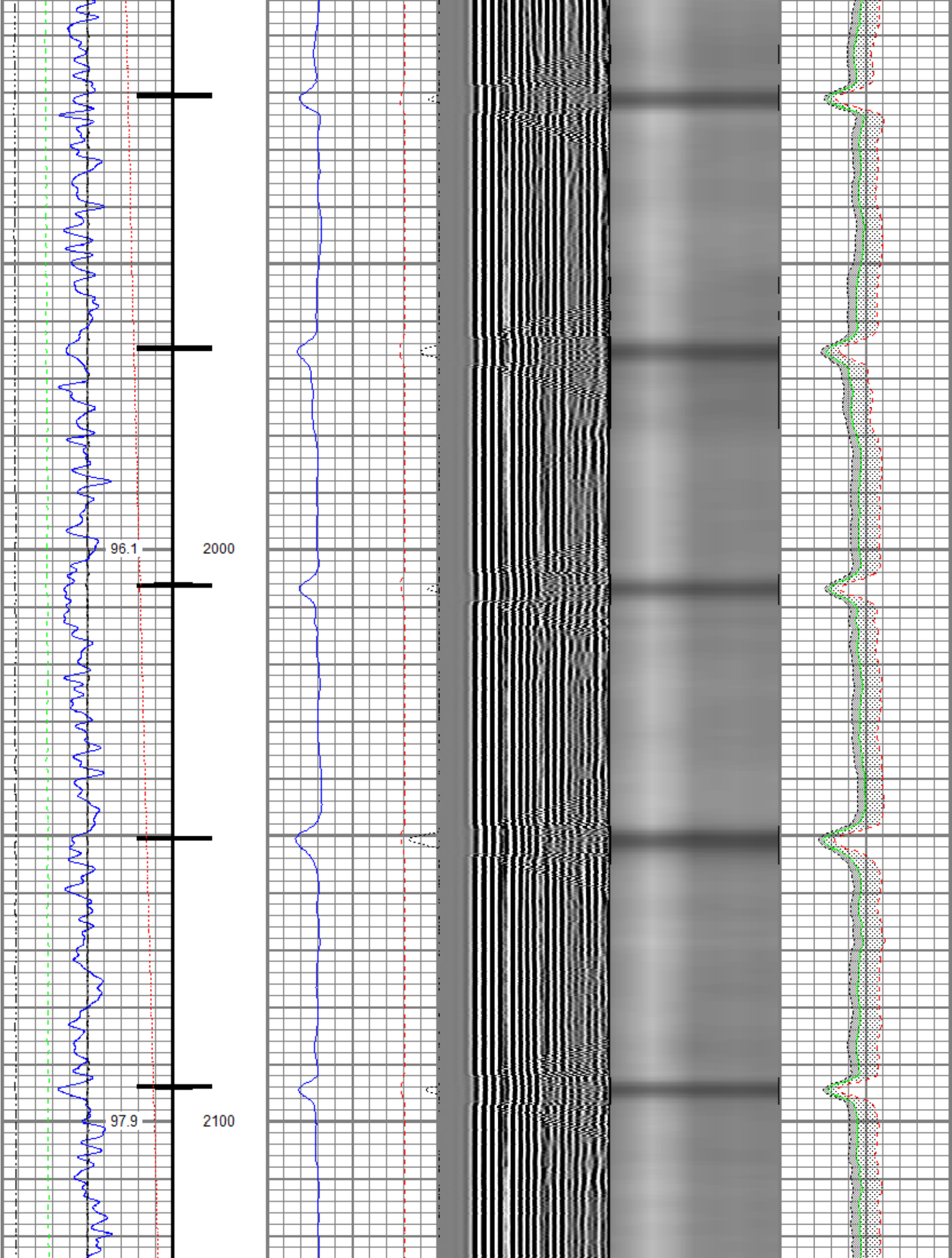


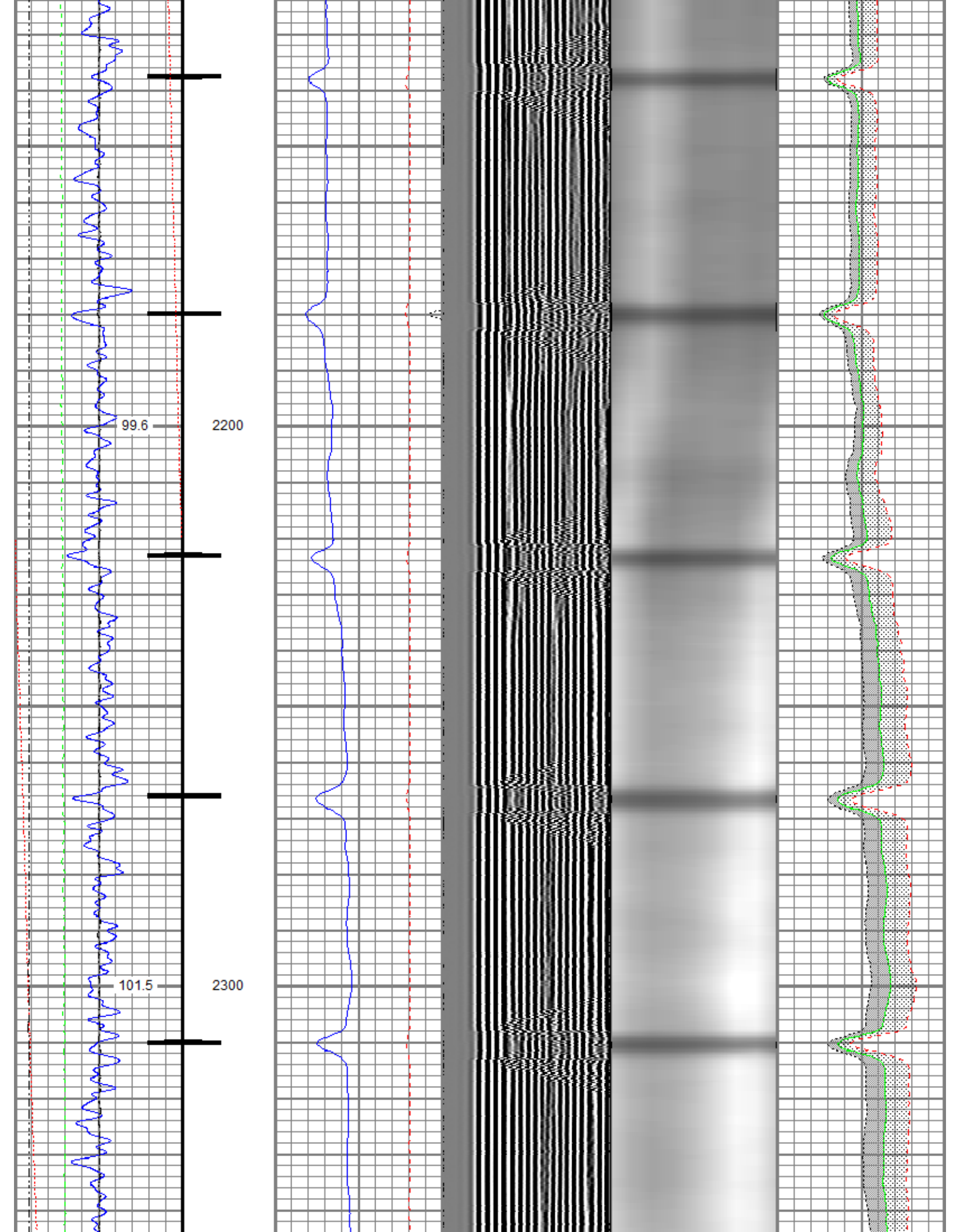


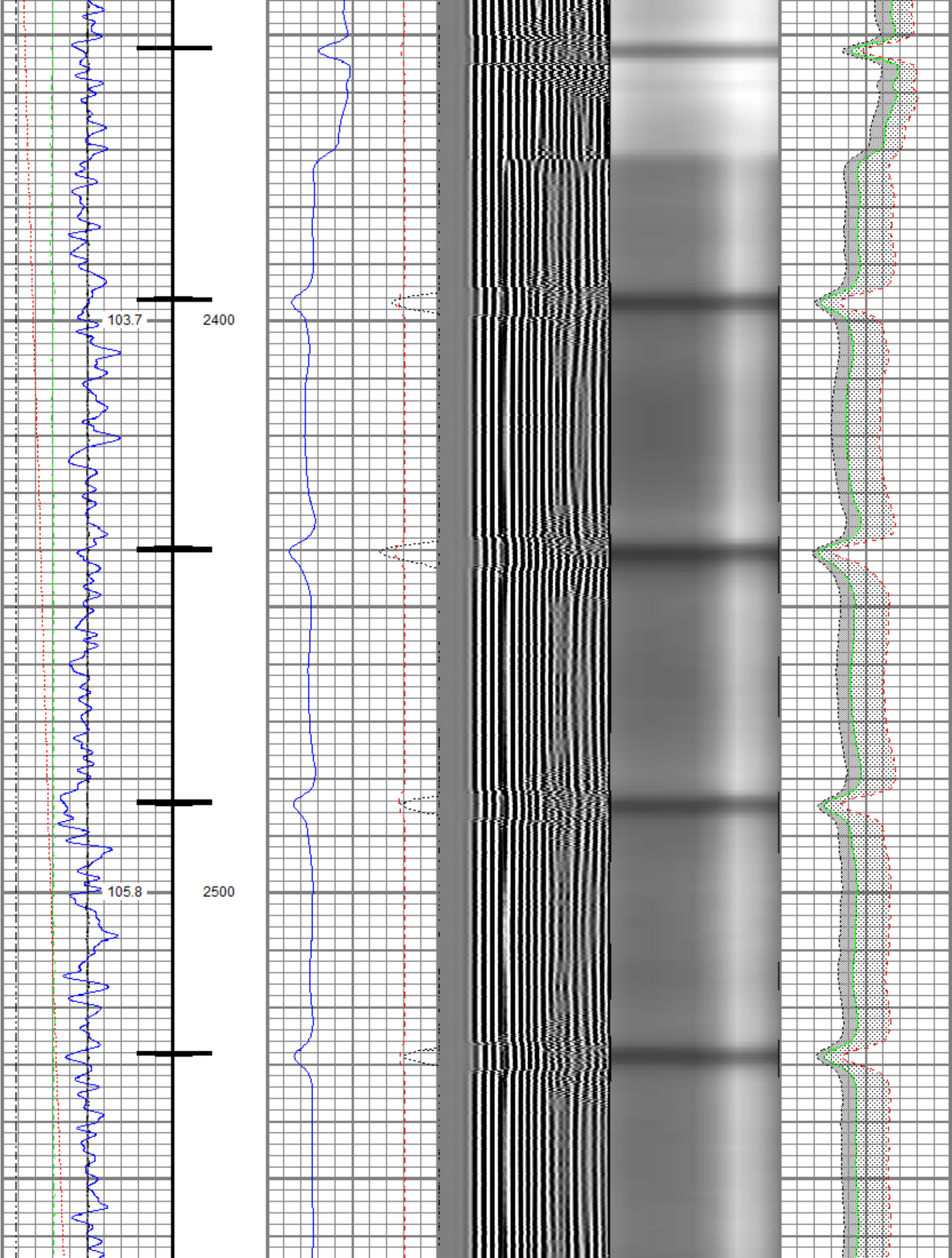


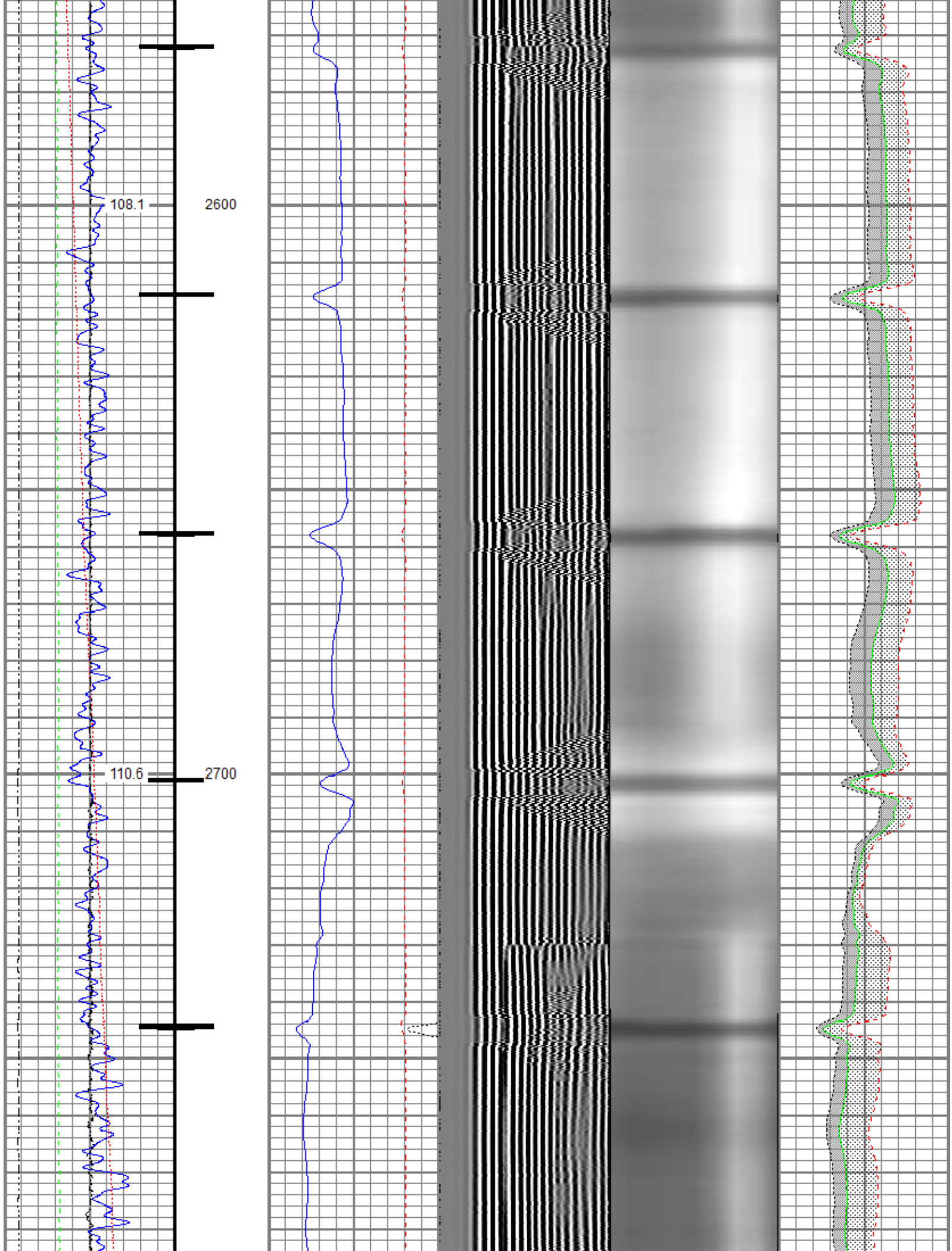


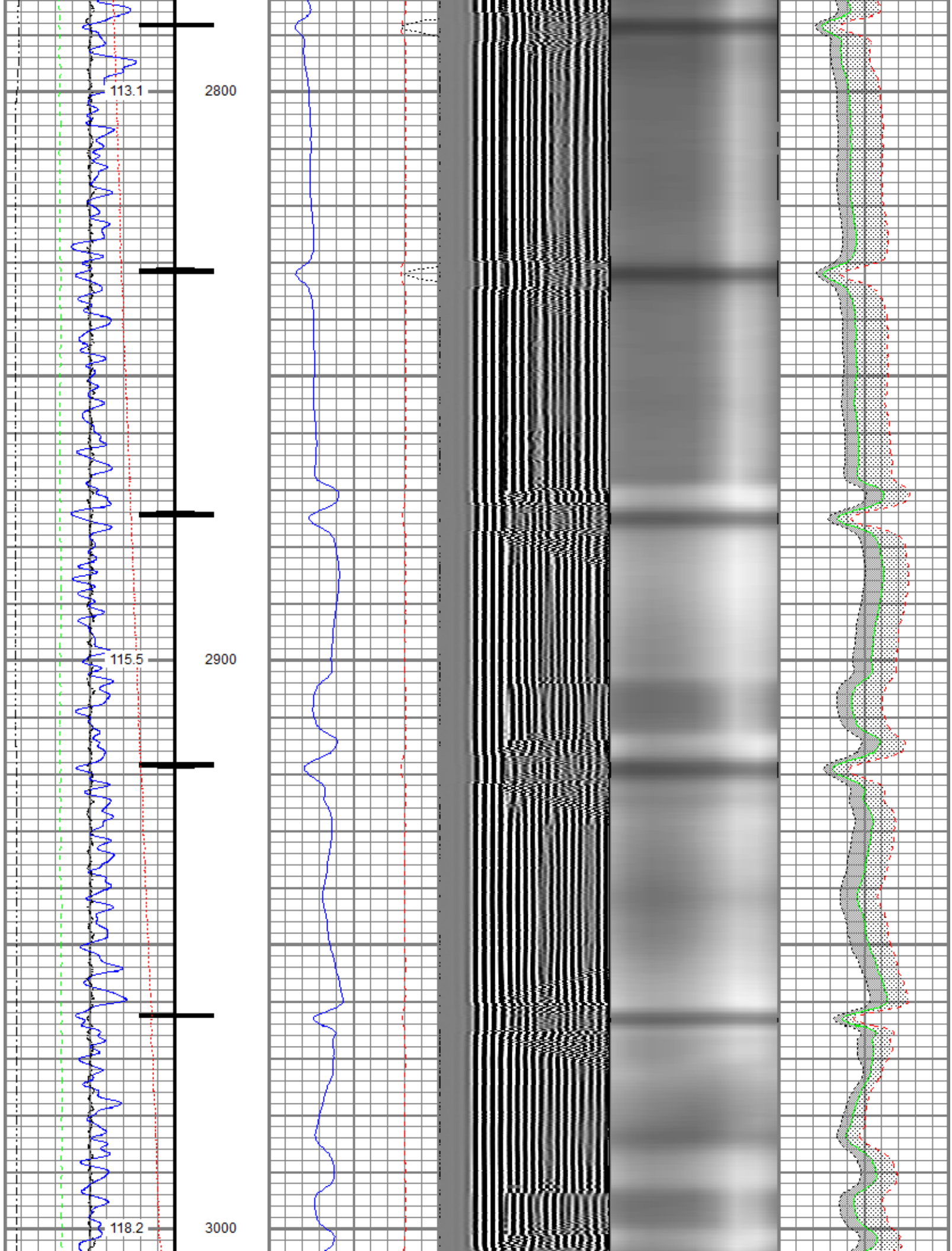


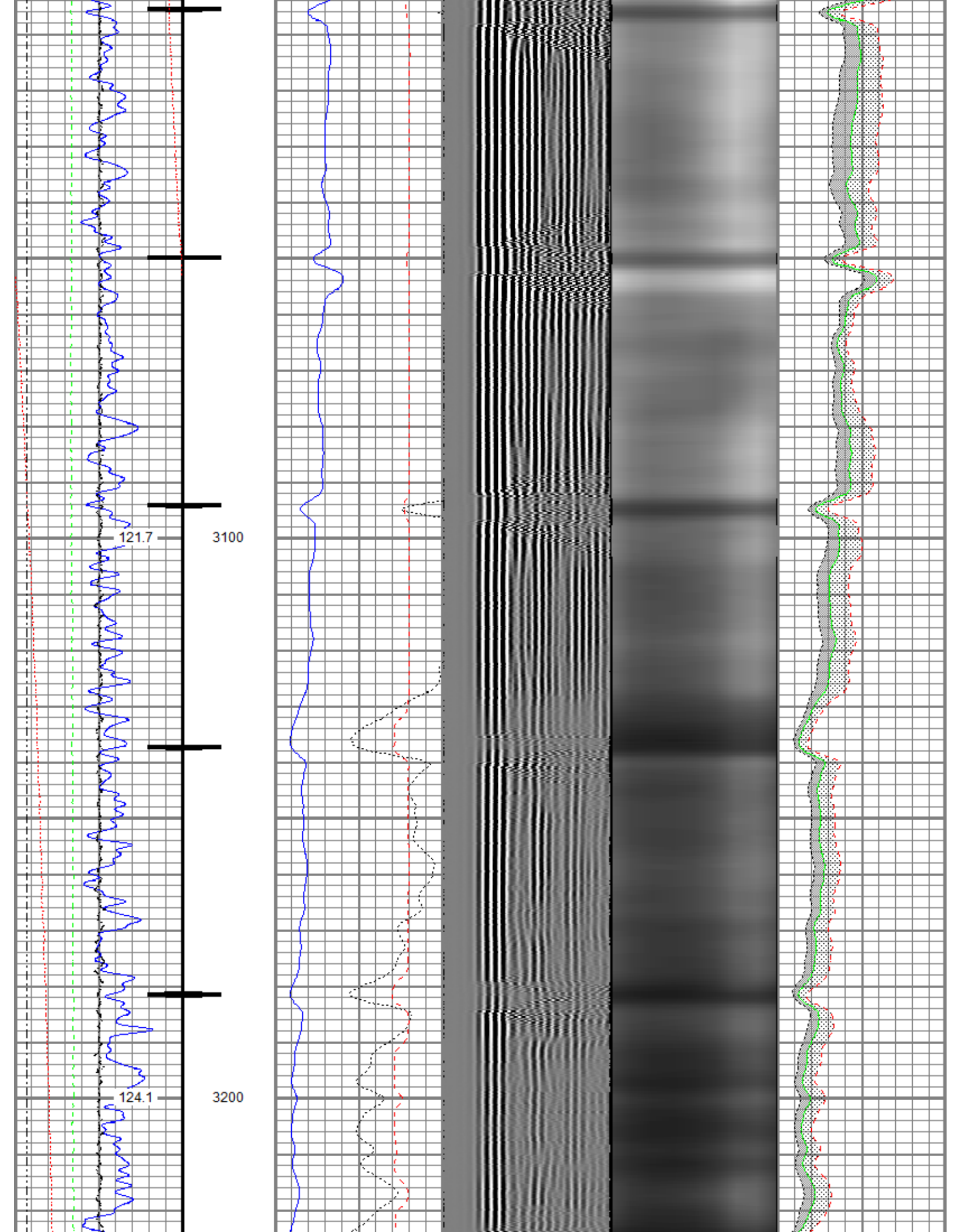


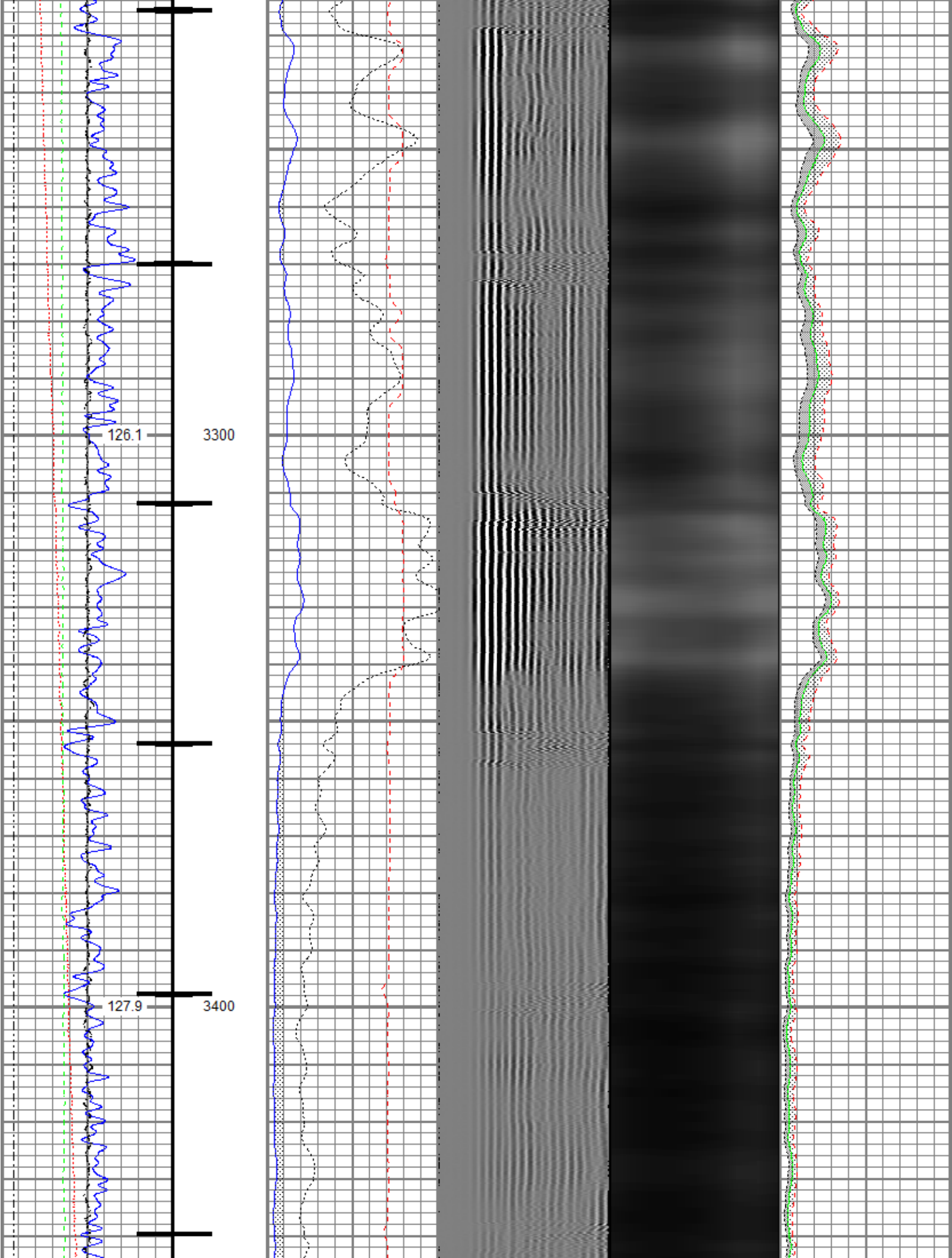


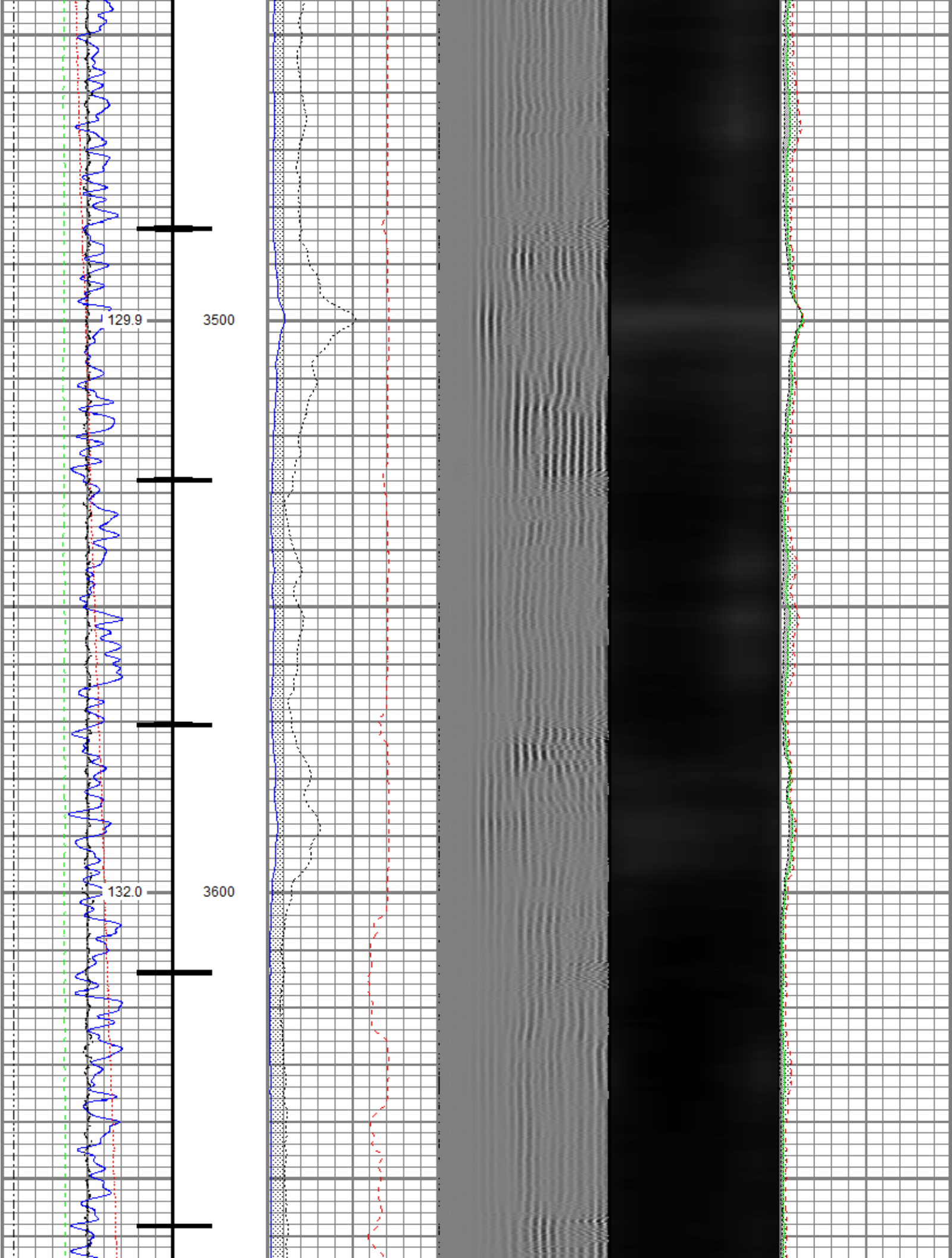


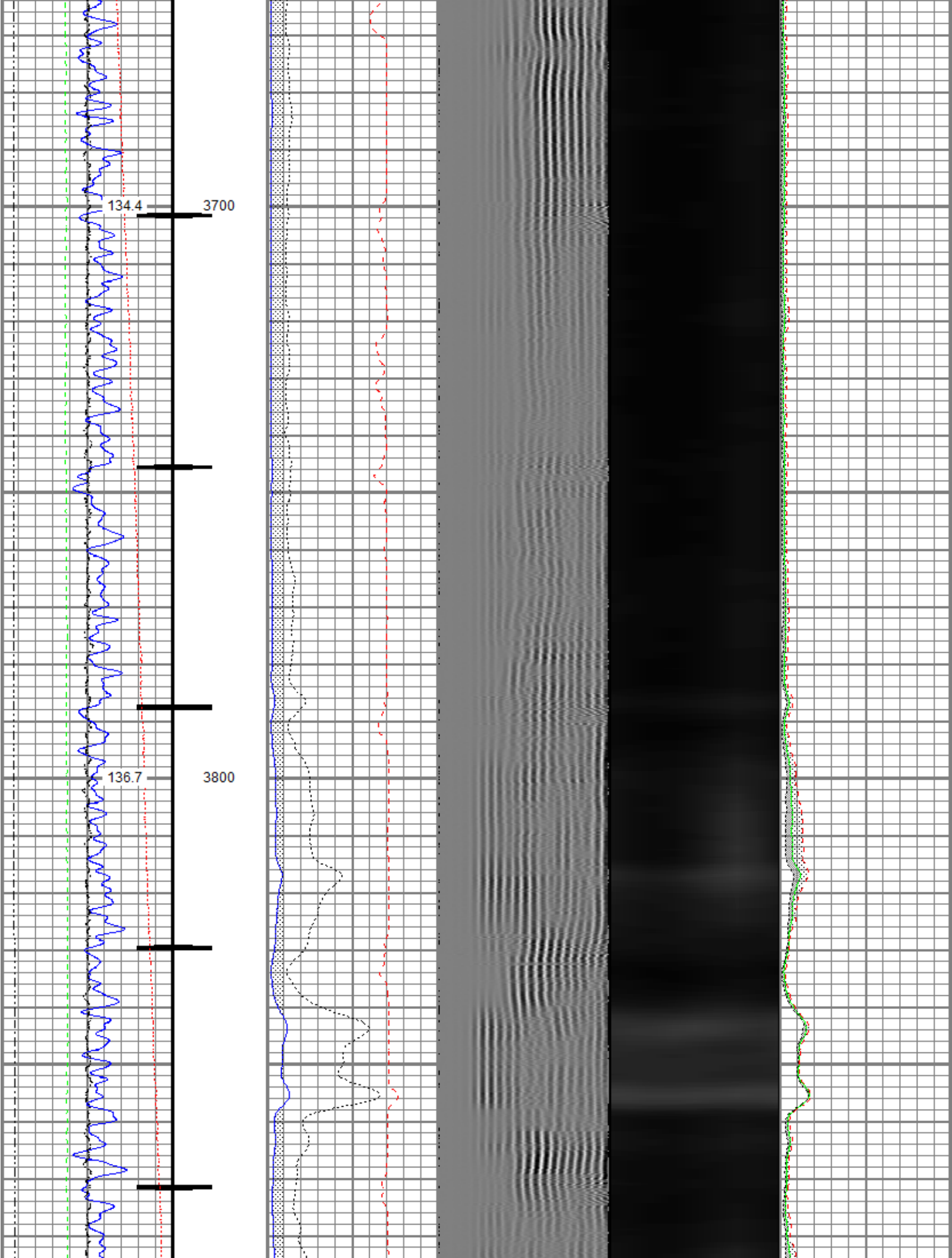


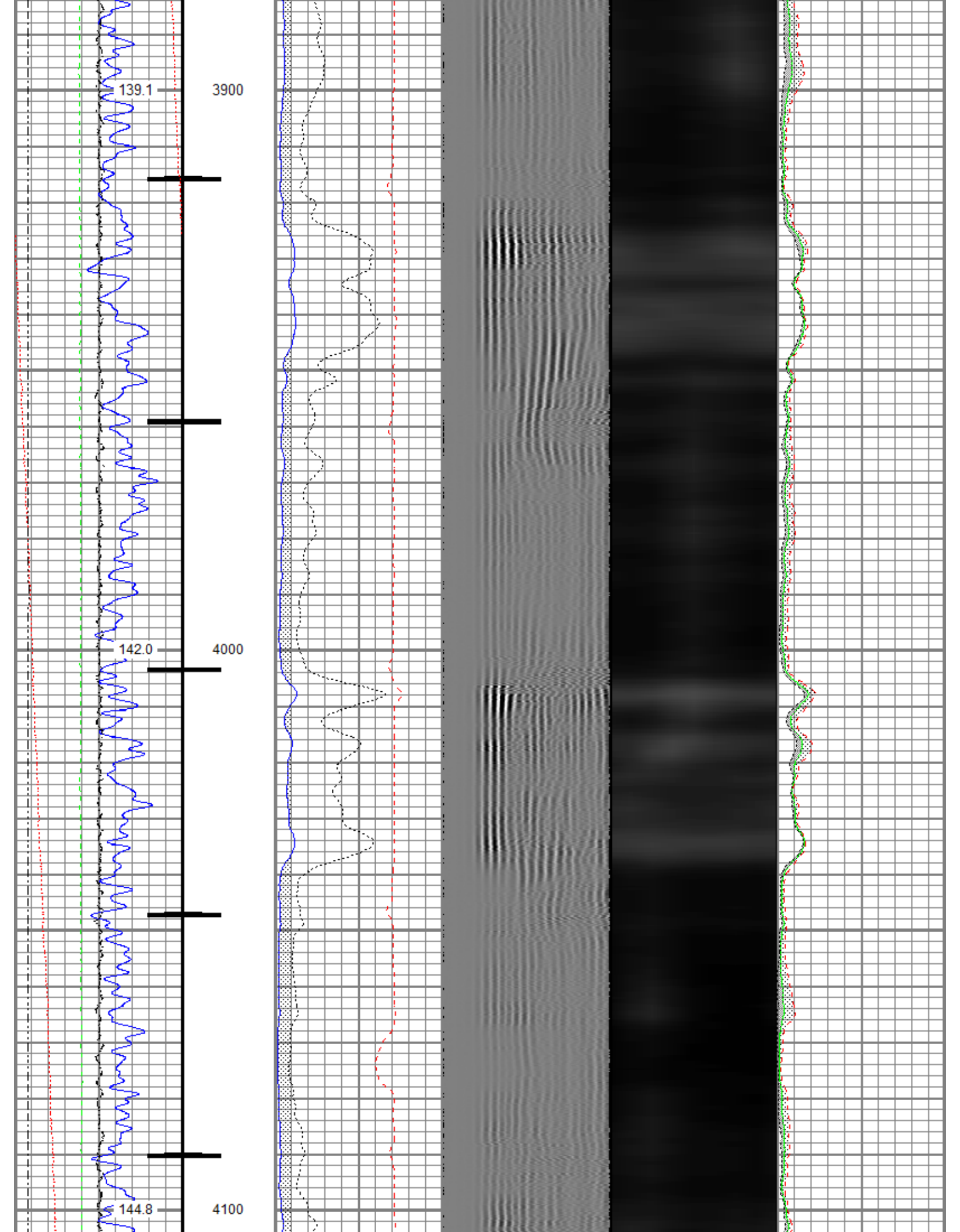


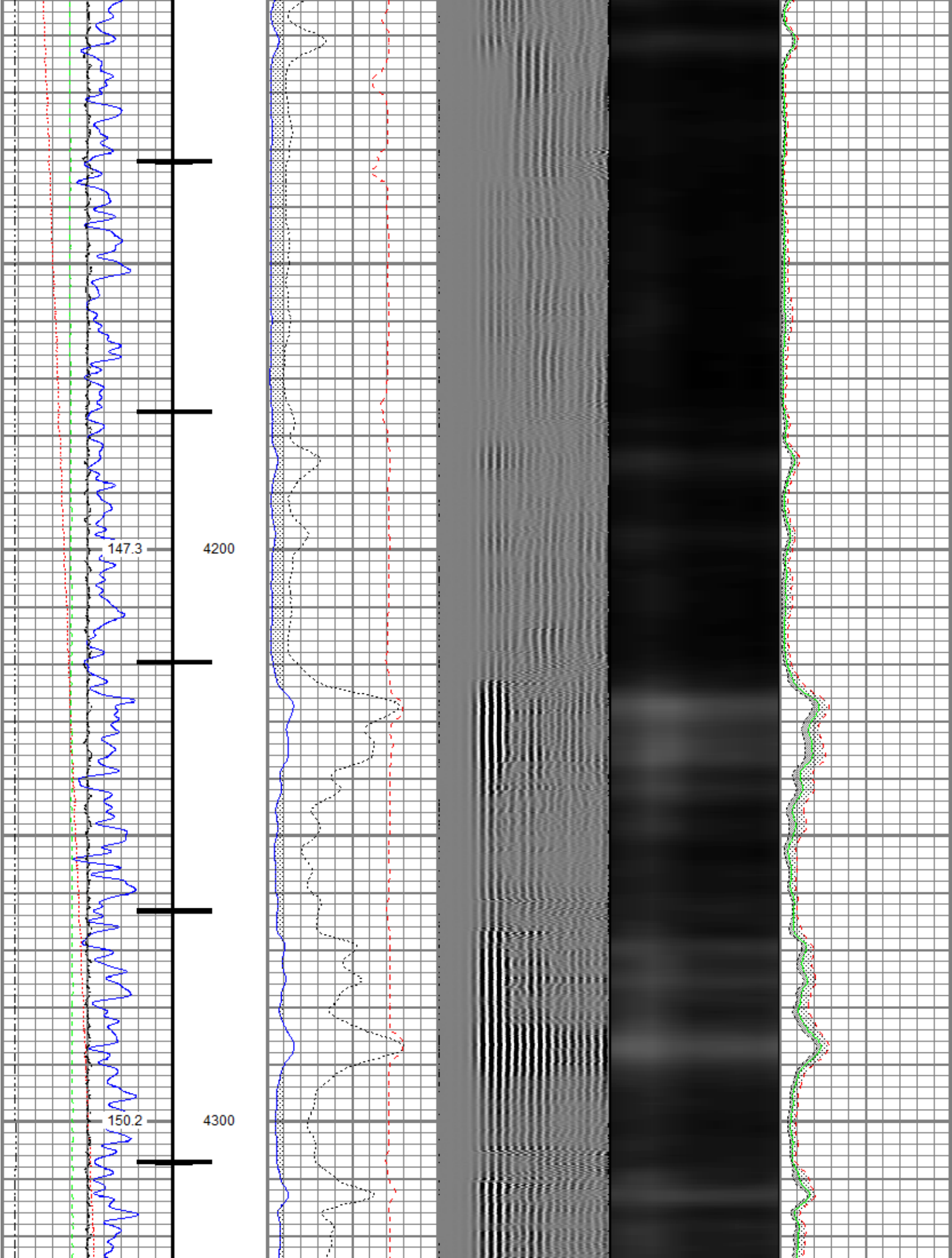


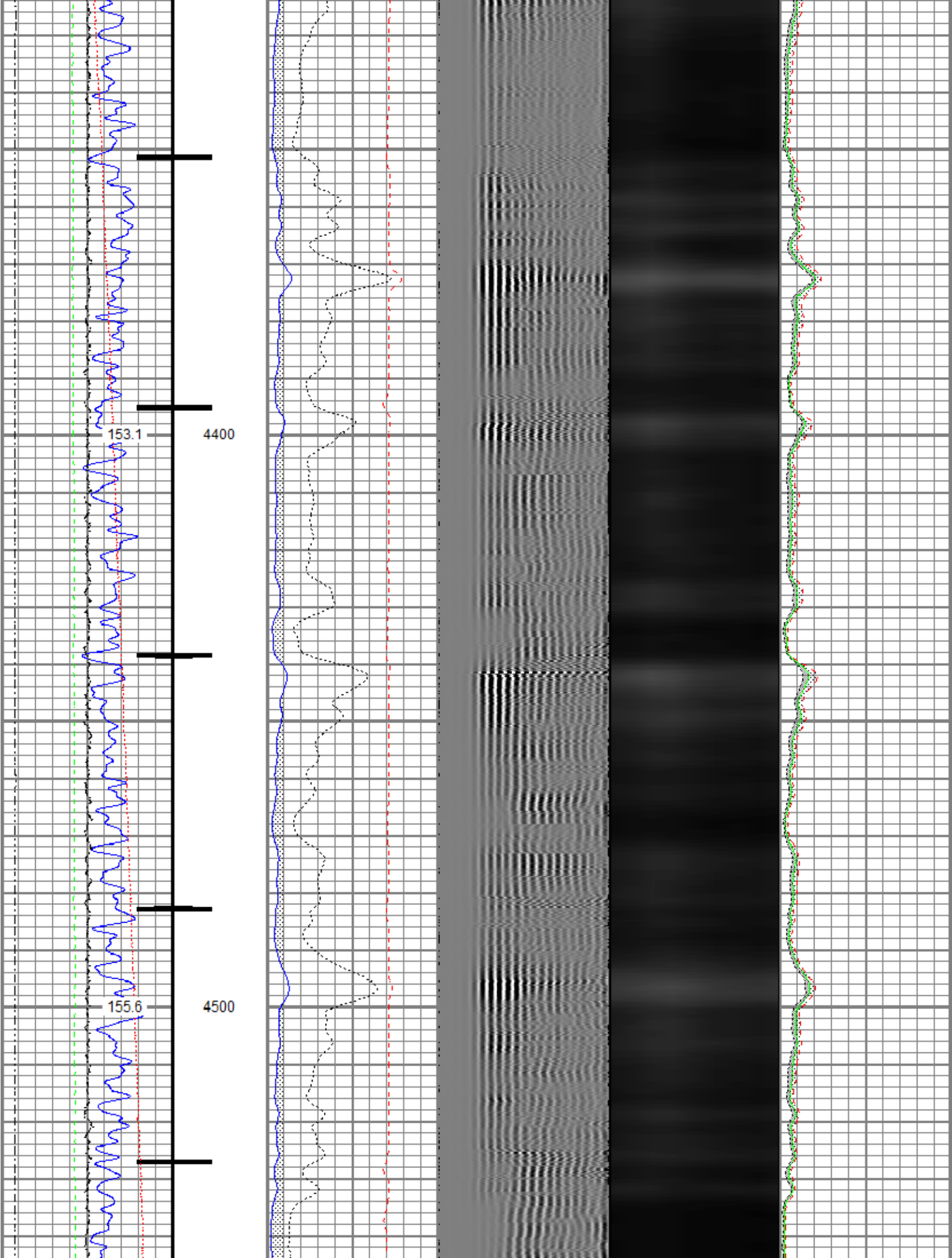


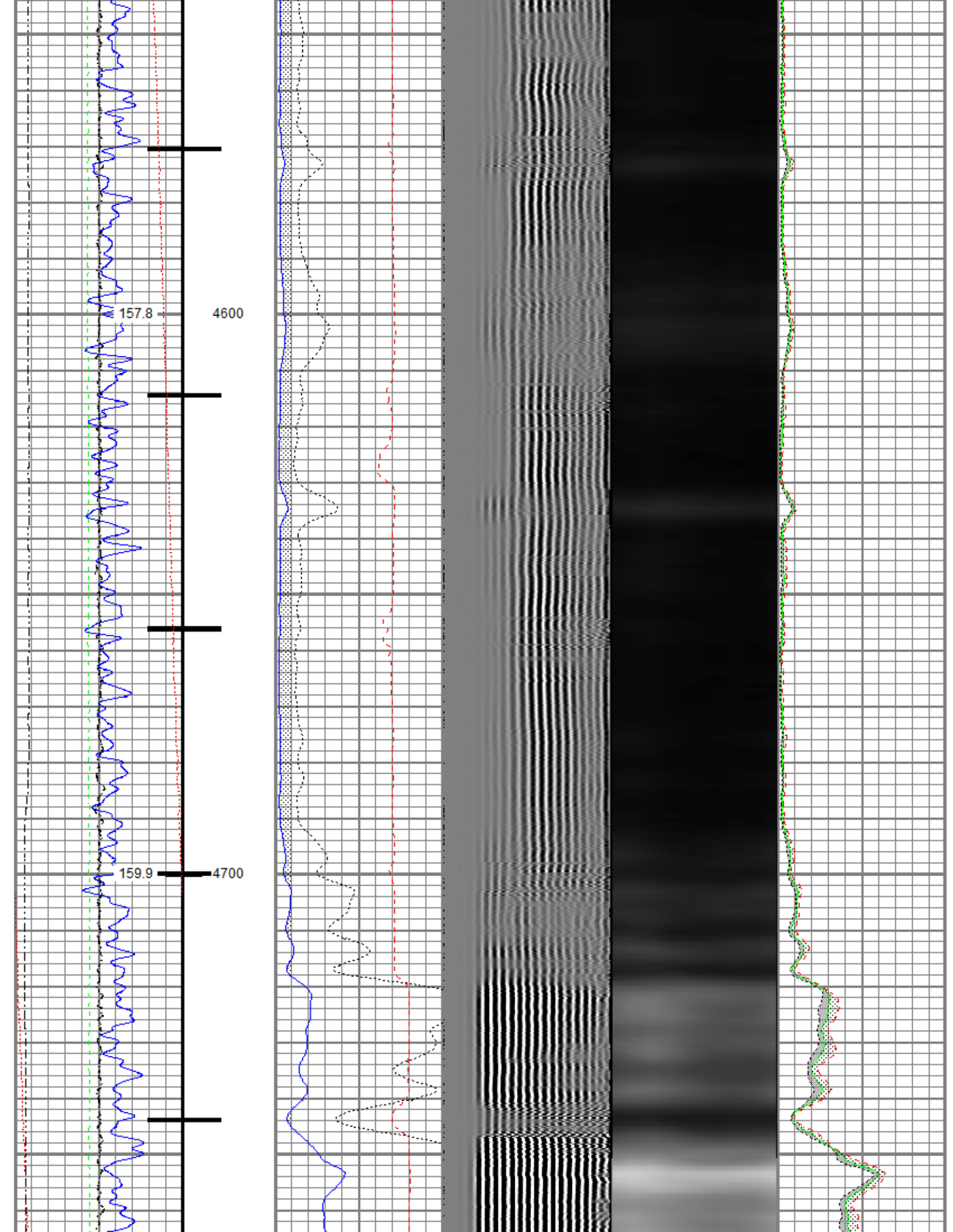


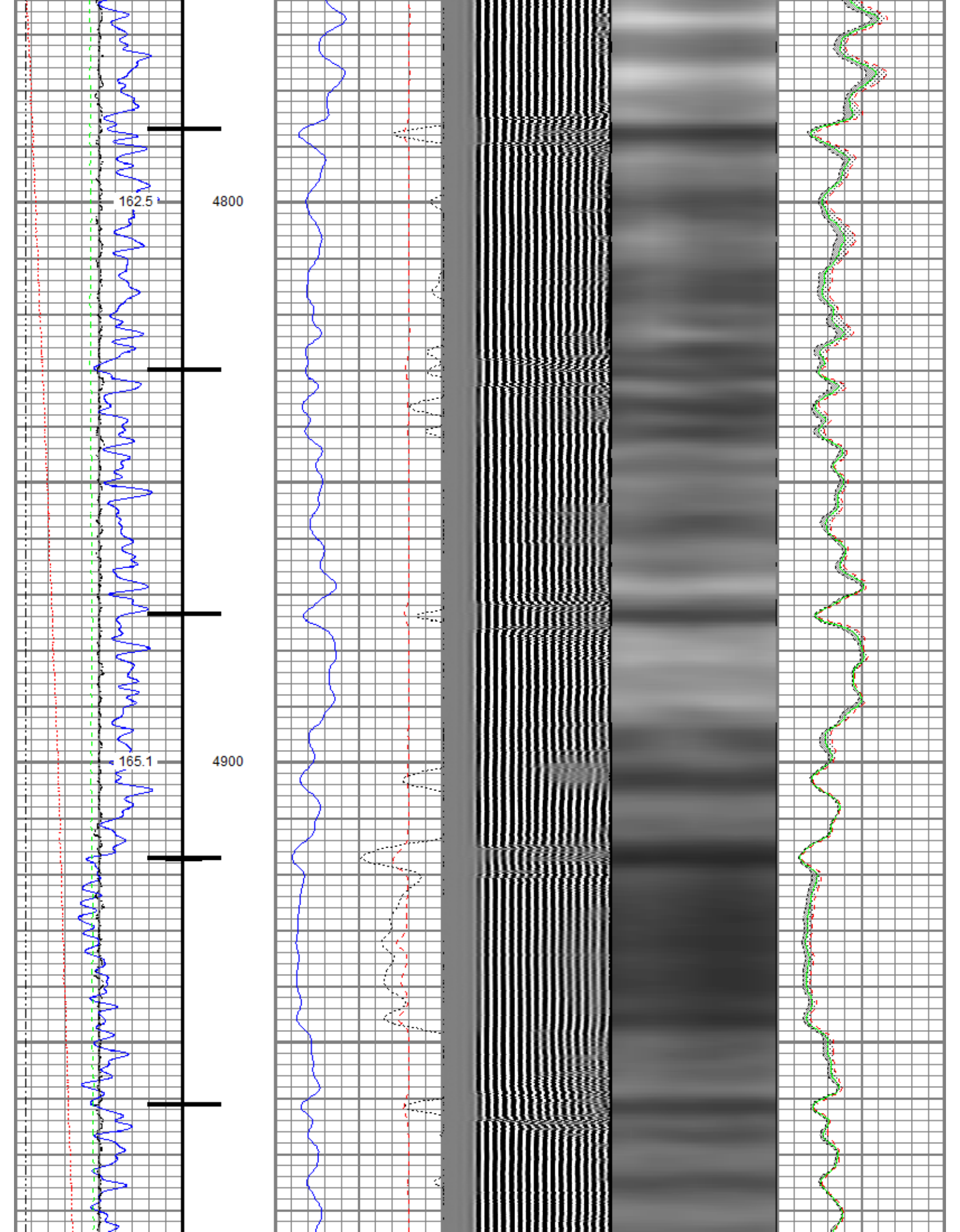


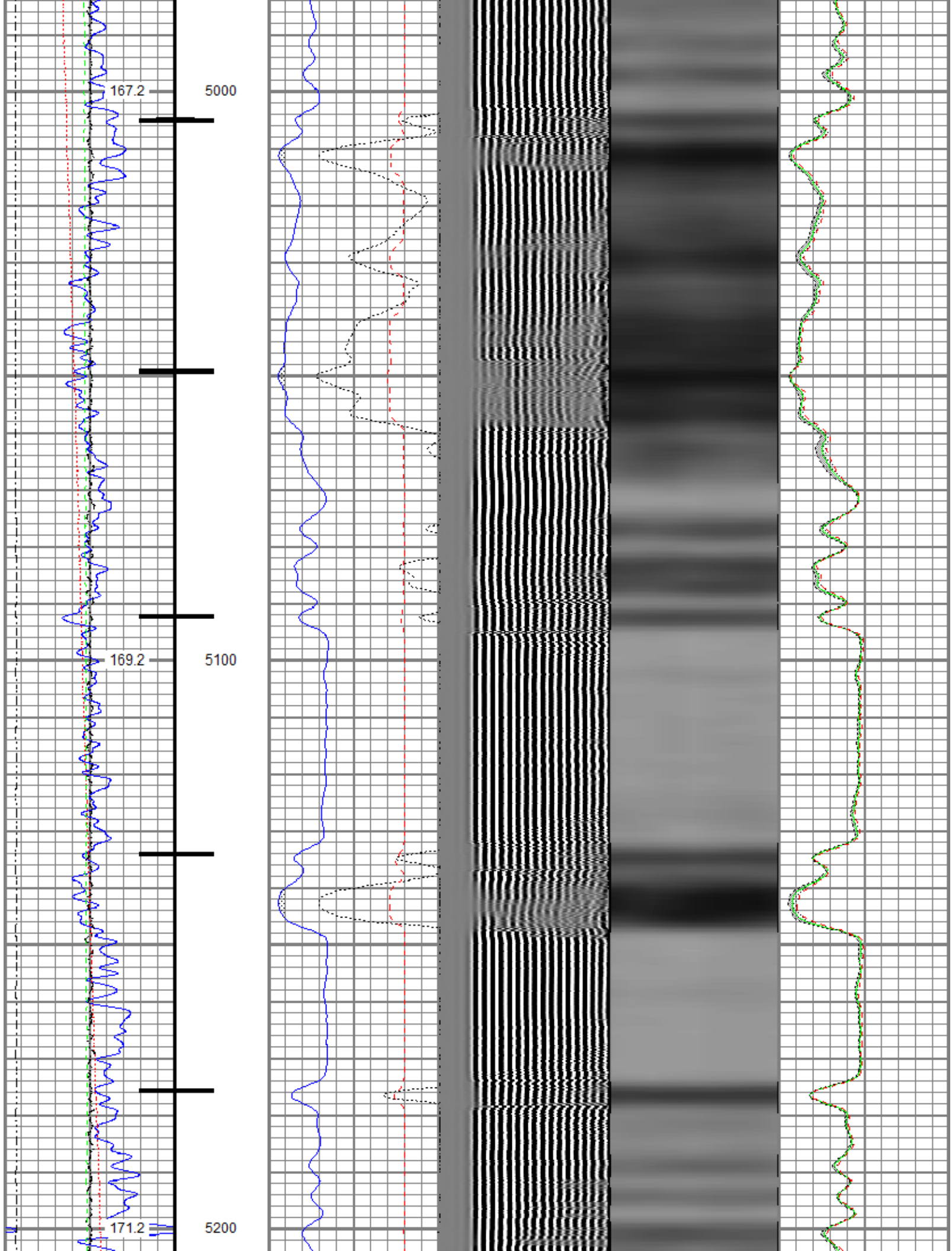


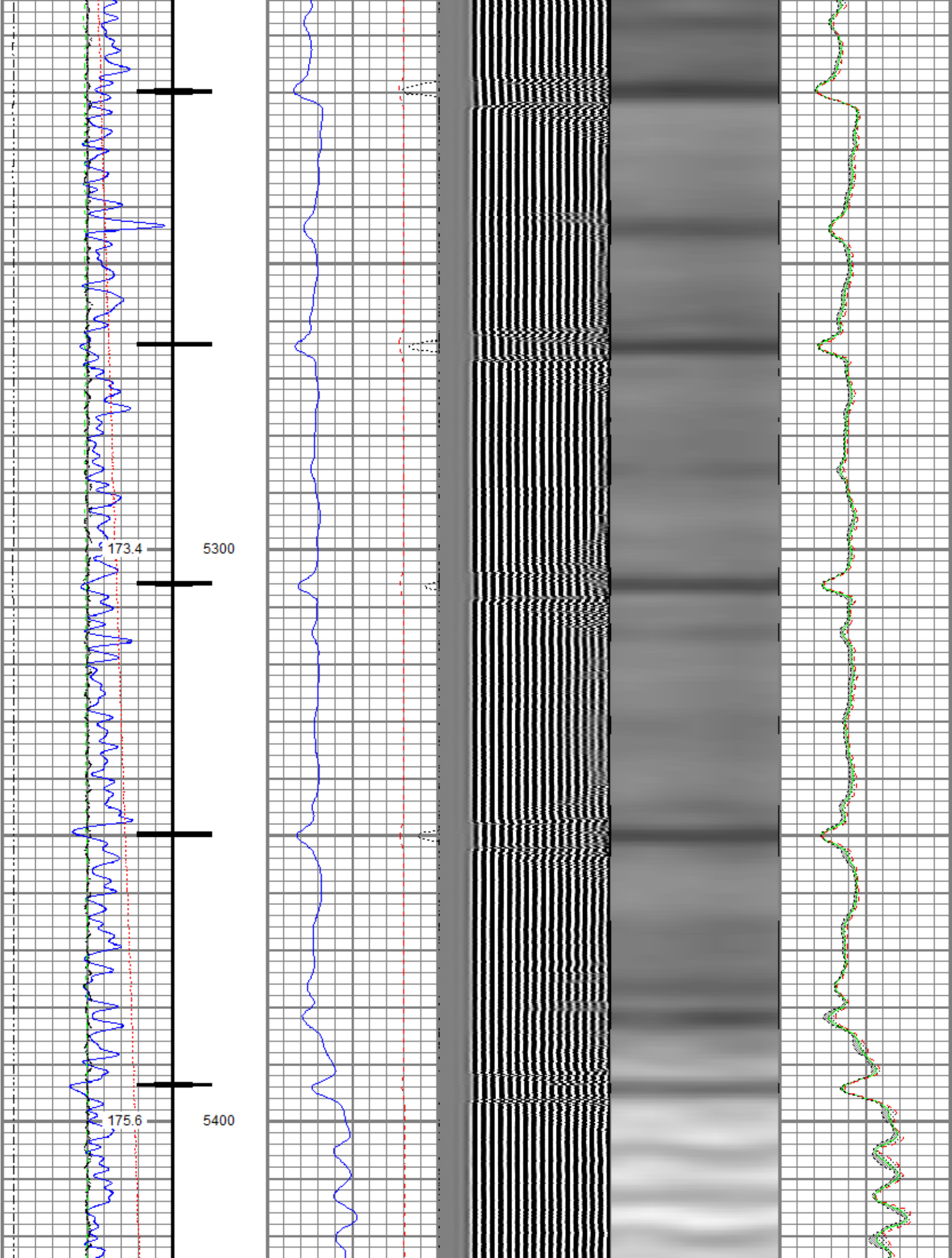


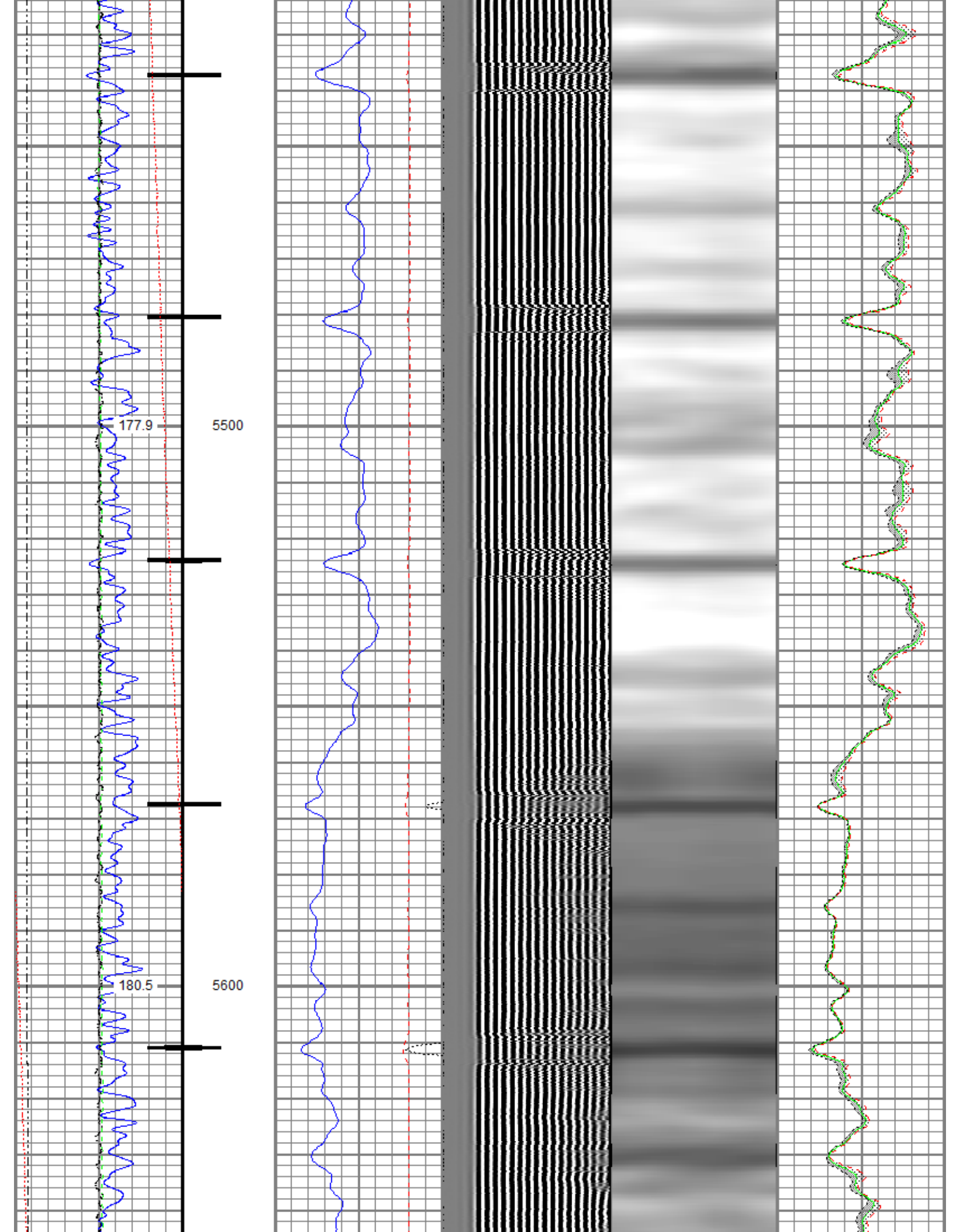


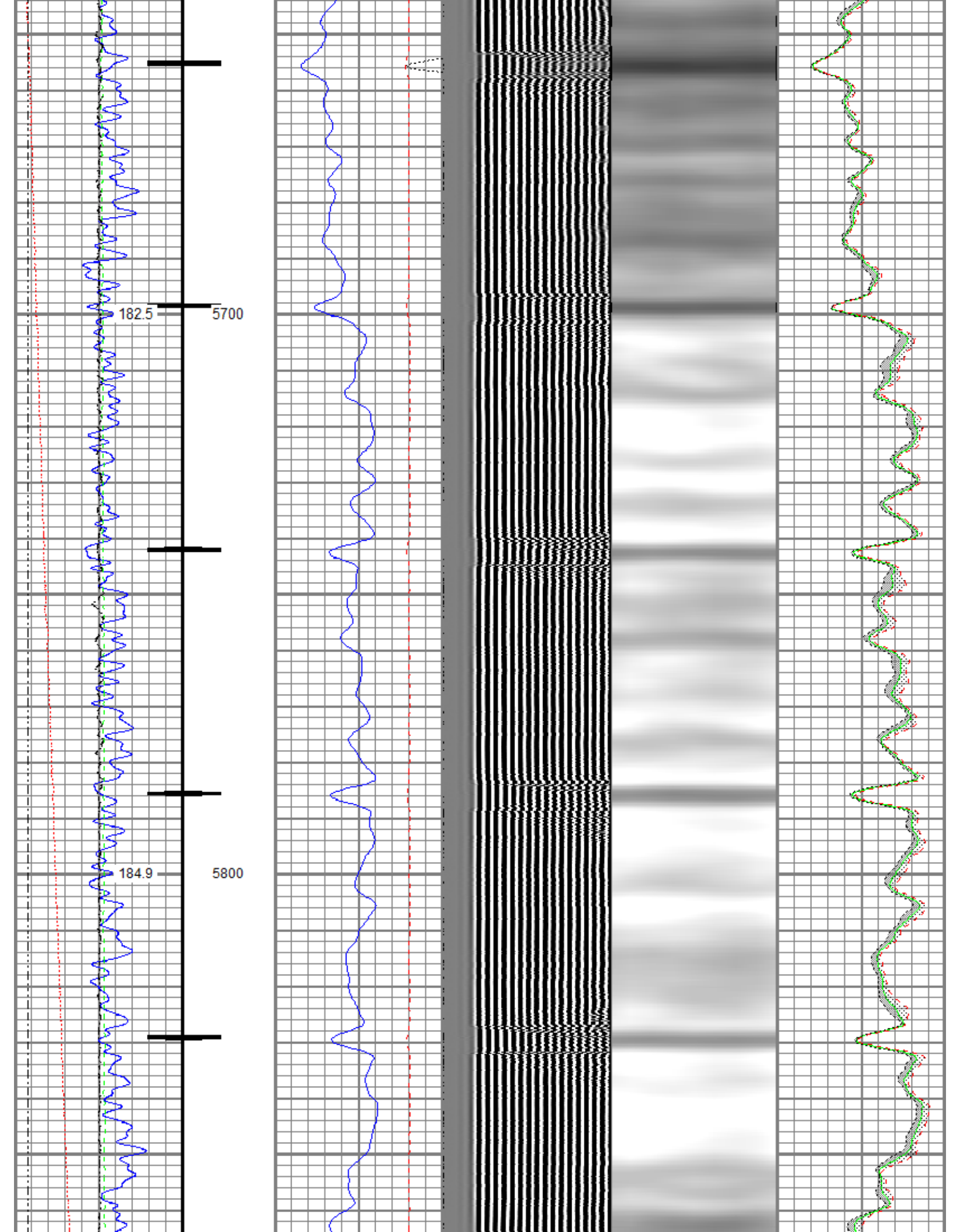


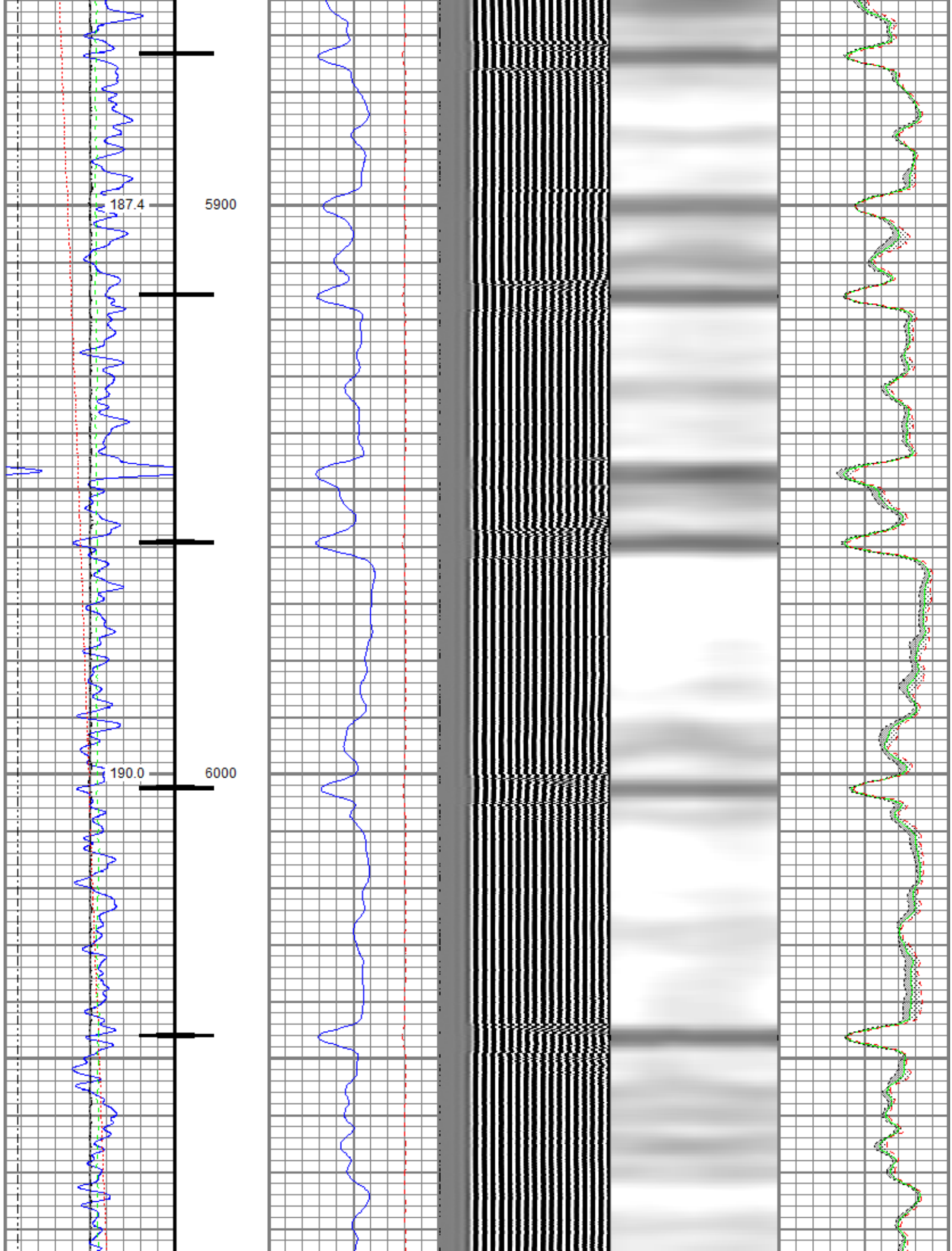


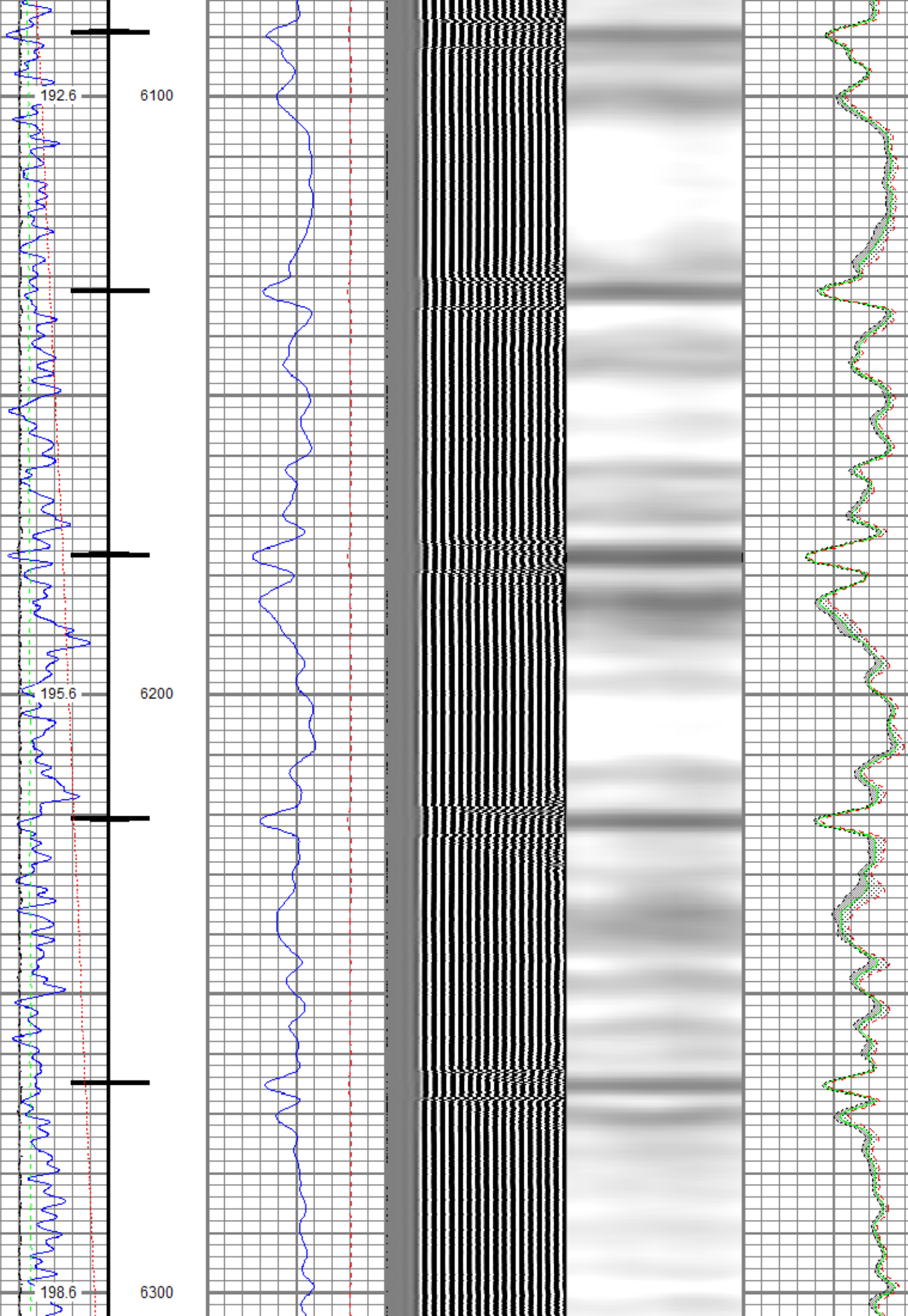


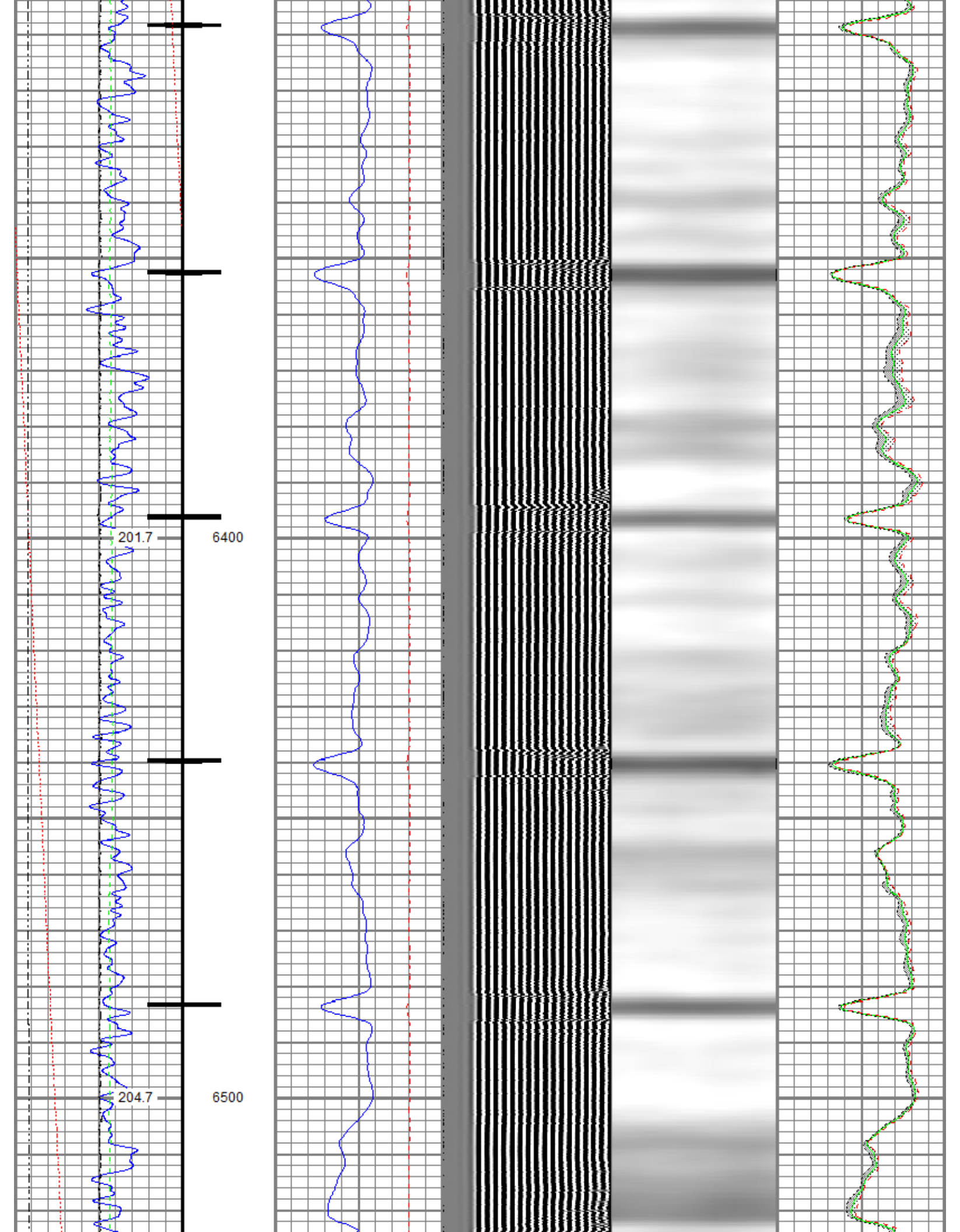


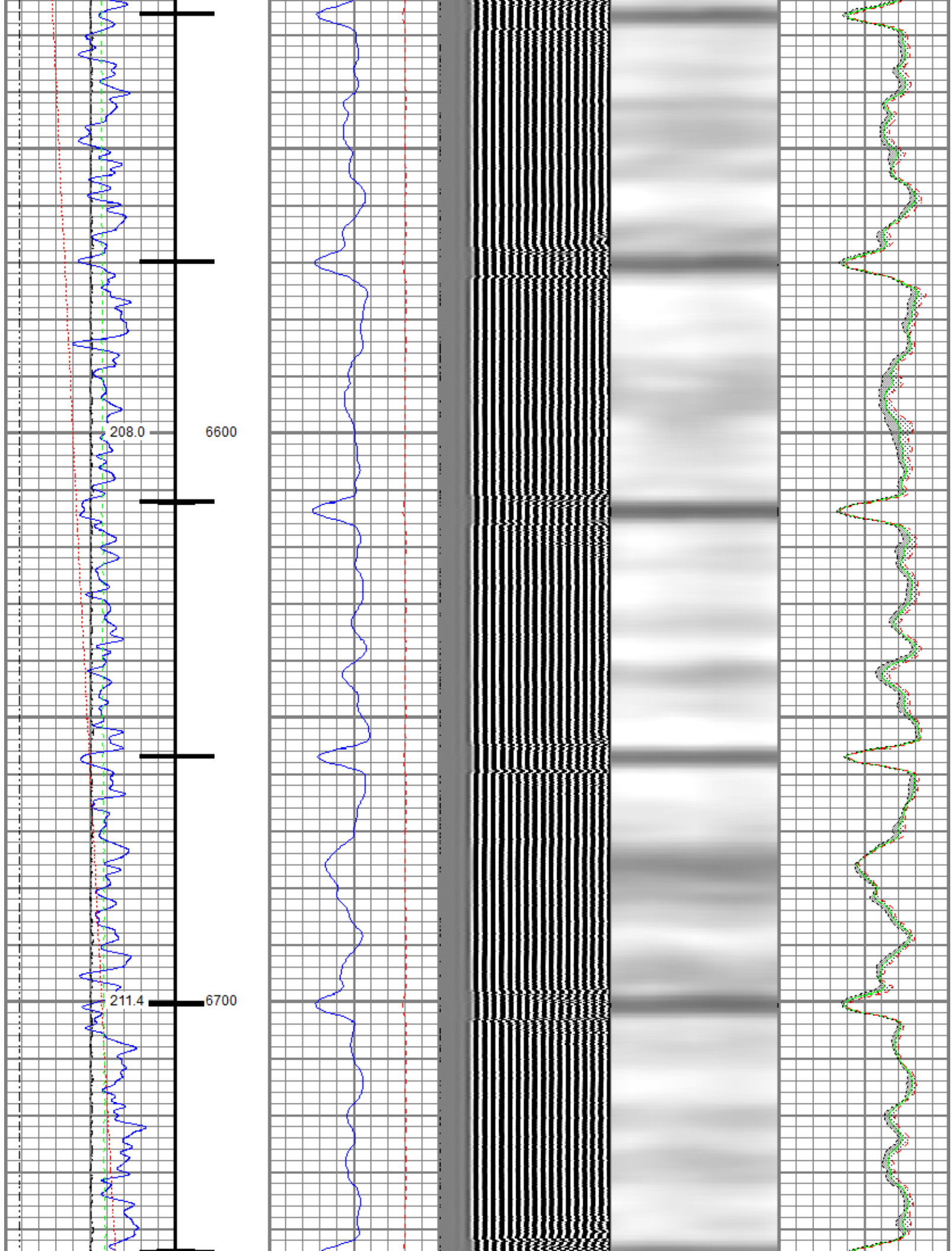


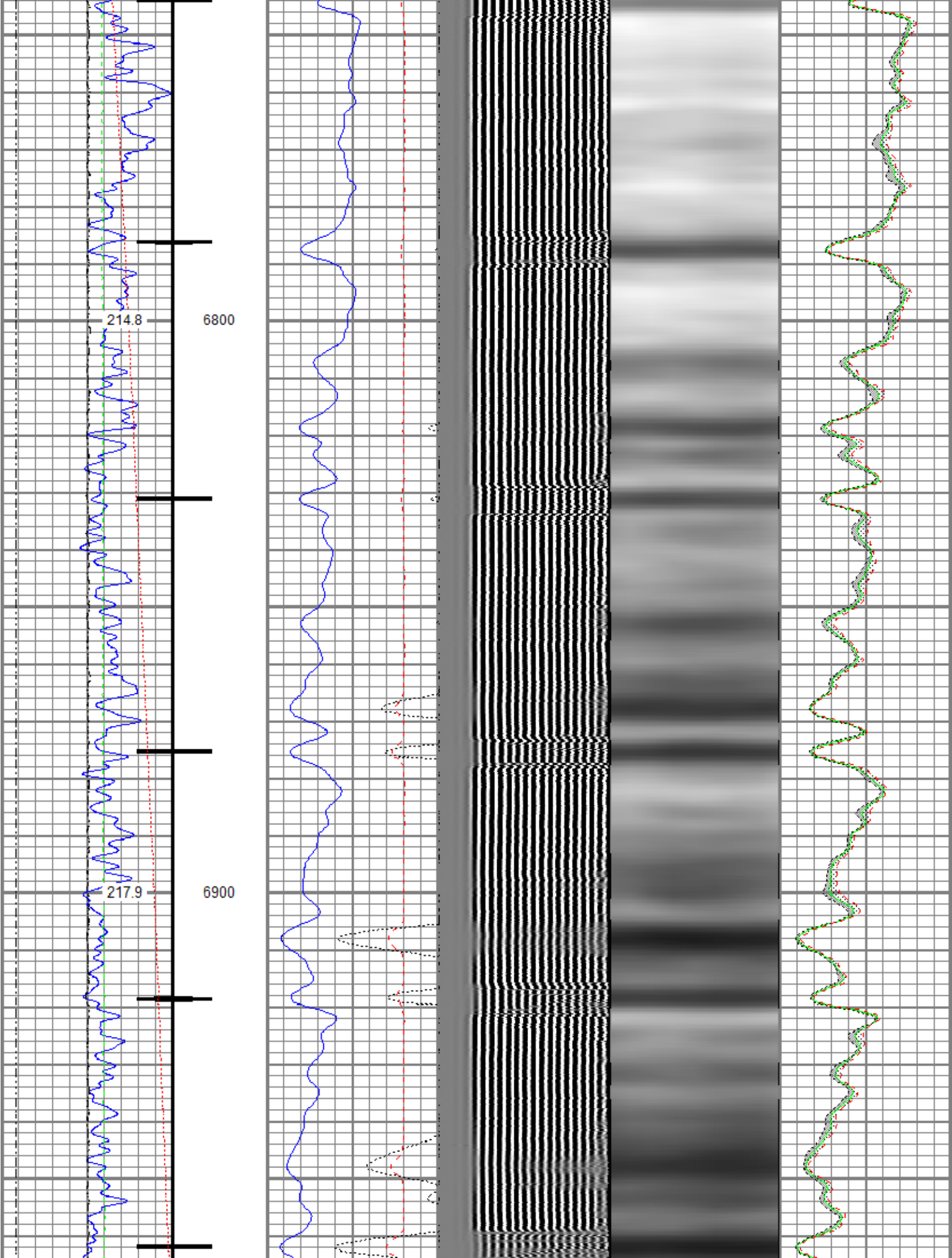


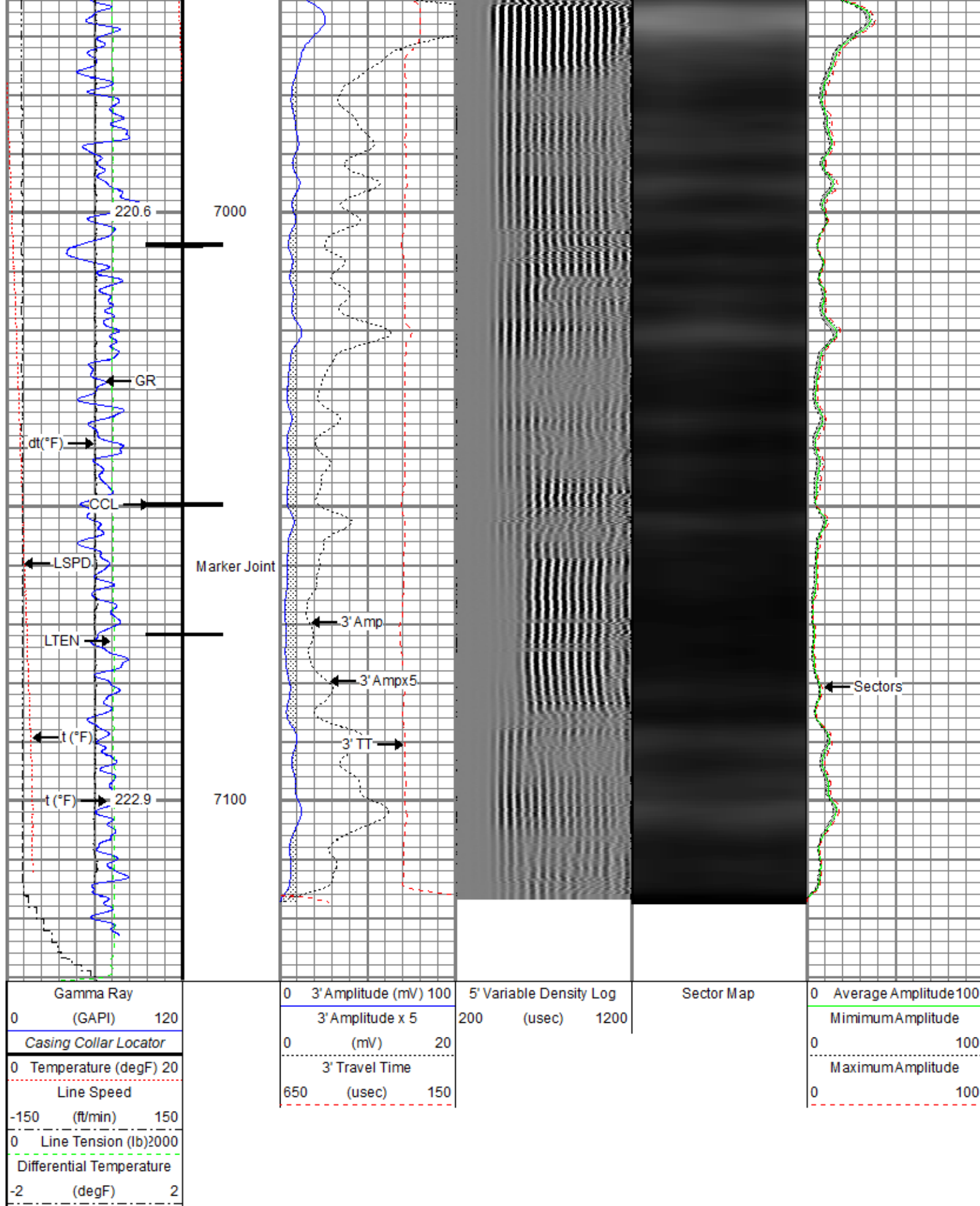






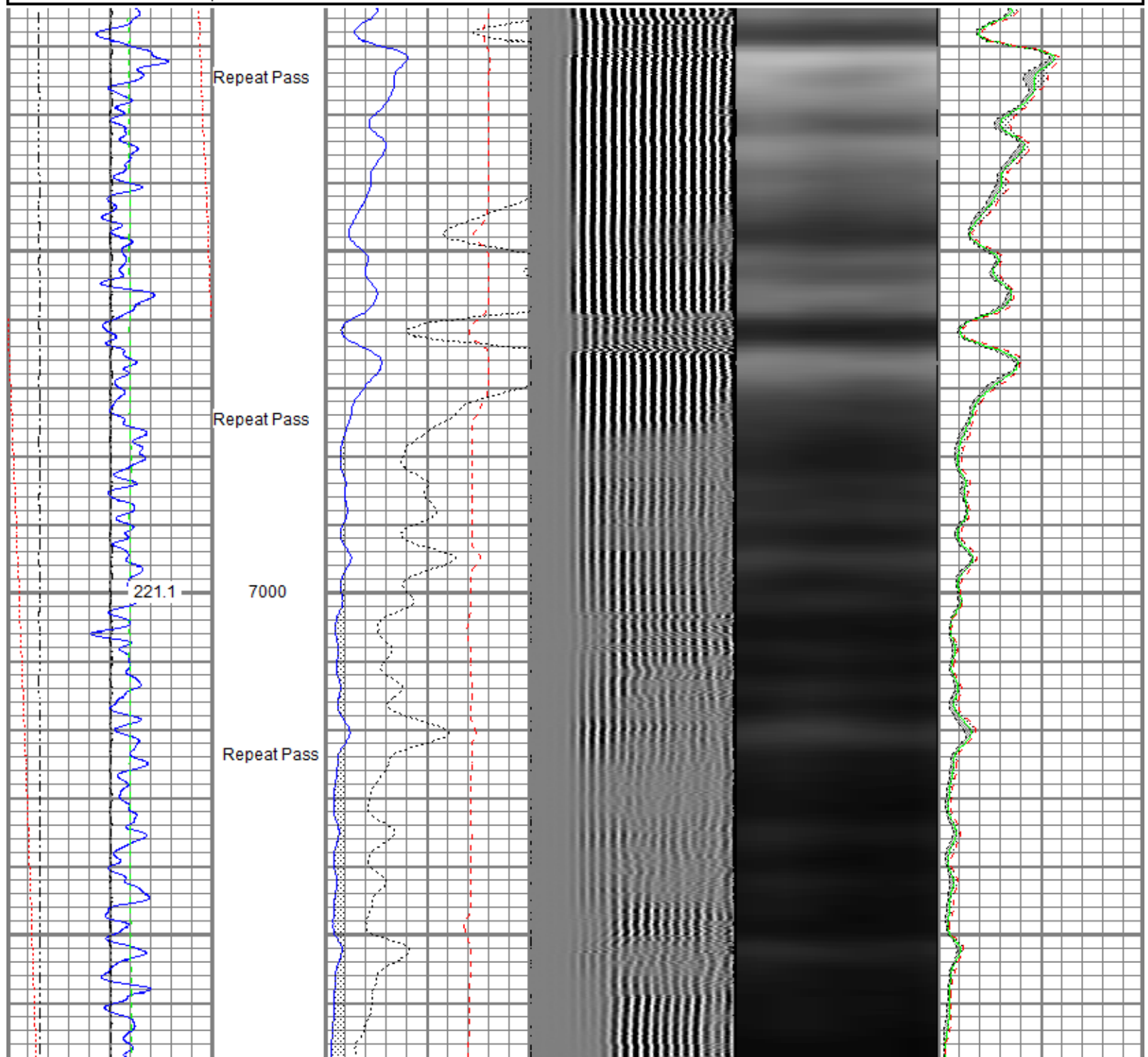


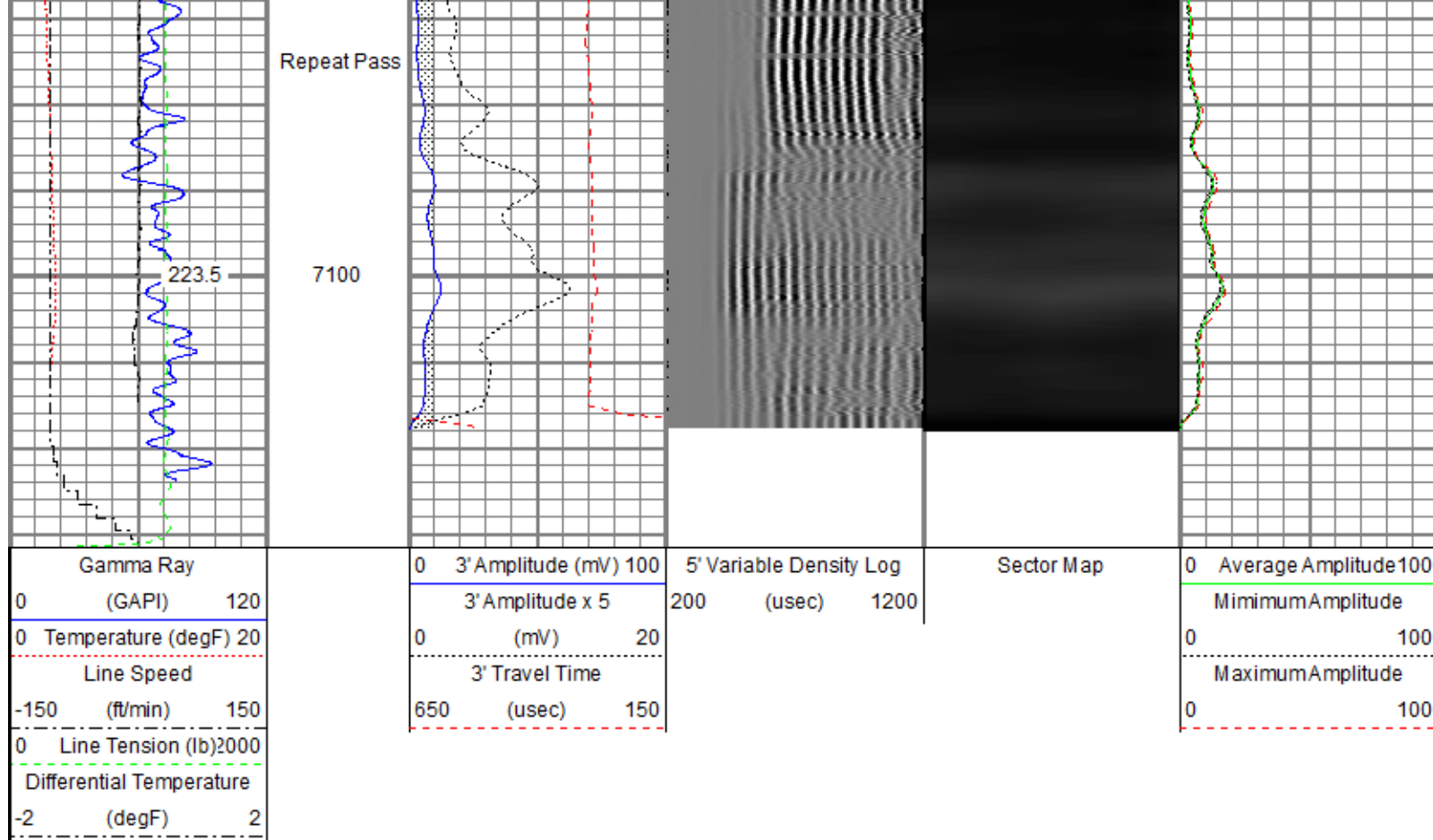





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 Presentation Format ros_radrii
 Dataset Creation Sat Aug 03 12:05:43 2019
 Charted by Depth in Feet scaled 1:240

Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
0 Temperature (degF) 20		(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 (120855) 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					
WVF3ET	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 (FW1810-044) 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_0512349217_anadarko_jdb 15-11hz_rbl_08-01-19.db: field/well/0PSI/Main.2 Total length: 23.86 ft Total weight: 223.60 lb O.D.: 2.75 in						

Calibration Report	
Database File	c:\programdata\warrior\data\anadarko\0512349217_anadarko_jdb 15-11hz_rbl_08-01-19\processed_0512349217_anadarko_jd
Dataset Pathname	0PSI/Main.2
Dataset Creation	Sat Aug 03 11:56:29 2019

Gamma Ray Calibration Report		
Serial Number:	FW1810-044	
Tool Model:	2750 6PB	
Performed:	Sat Nov 10 12:23:27 2018	
Calibrator Value:	637.0	GAPI
Background Reading:	105.3	cps
Calibrator Reading:	1221.0	cps
Sensitivity:	0.5709	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	120855	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	10.194	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.698	0.800	71.921	102.837	0.183
CAL	0.760	0.761				
5'	0.008	0.597	0.800	71.921	120.846	-0.200

SUM						
S1	0.003	0.670	0.000	100.000	149.914	-0.400
S2	0.005	0.709	0.000	100.000	141.910	-0.675
S3	0.004	0.748	0.000	100.000	134.435	-0.602
S4	0.006	0.743	0.000	100.000	135.721	-0.790
S5	0.005	0.716	0.000	100.000	140.731	-0.764
S6	0.005	0.693	0.000	100.000	145.332	-0.711
S7	0.005	0.684	0.000	100.000	147.306	-0.759
S8	0.006	0.672	0.000	100.000	150.177	-0.969

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.760	0.761	1.000	0.000

Air Zero Calibration, performed Thu Aug 01 06:19:46 2019:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.005		0.000		0.000	
5'	0.005		0.000		0.001	
SUM						
S1	0.003		0.000		-0.000	
S2	0.006		0.000		-0.000	
S3	0.006		0.000		-0.000	
S4	0.006		0.000		-0.000	
S5	0.006		0.000		0.000	
S6	0.005		0.000		-0.000	
S7	0.005		0.000		0.000	
S8	0.005		0.000		0.000	

Temperature Calibration Report

Serial Number: 120855
Tool Model: 2750 RBT
Performed: Mon Oct 01 11:32:15 2018

	Reference	Reading
Low Reference:	100.00 degF	112.30 degF
High Reference:	350.00 degF	394.75 degF

Gain: 0.89
Offset: 0.60
Delta Spacing: 1



Company: Kerr-McGee Oil & Gas Onshore, L.P.
Well: JDB 15-11HZ
Field: Wattenberg
County: Weld
State: Colorado