



Radial Cement Bond
Gamma Ray
Casing Collar Log

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

Well MAB 15-12HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-49235

SEC 15 TWP 1N RGE 66W

Permanent Datum Ground Level Elevation 5113'

Log Measured From Ground Level 0 FT

Drilling Measured From Kelly Bushing

Other Services
JBGR
WRP

Elevation
K.B. 5130'
D.F. ---
G.L. 5113'

Date 20-JUN-2019

Run Number Three

Depth Driller 18911 FT

Depth Logger 7000 FT

Bottom Logged Interval 6986 FT

Top Log Interval Surface

Open Hole Size 7.875"

Type Fluid Water

Density / Viscosity 8.34 lb/gal

Max. Recorded Temp. 220°F

Estimated Cement Top See Log

Time Well Ready ROA

Time Logger on Bottom 12:20

Equipment Number HD-361

Location Plateville, CO

Recorded By G. Lueck

Witnessed By J. McCarthy

Borehole Record

Bit From To

Size

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Tubing Record

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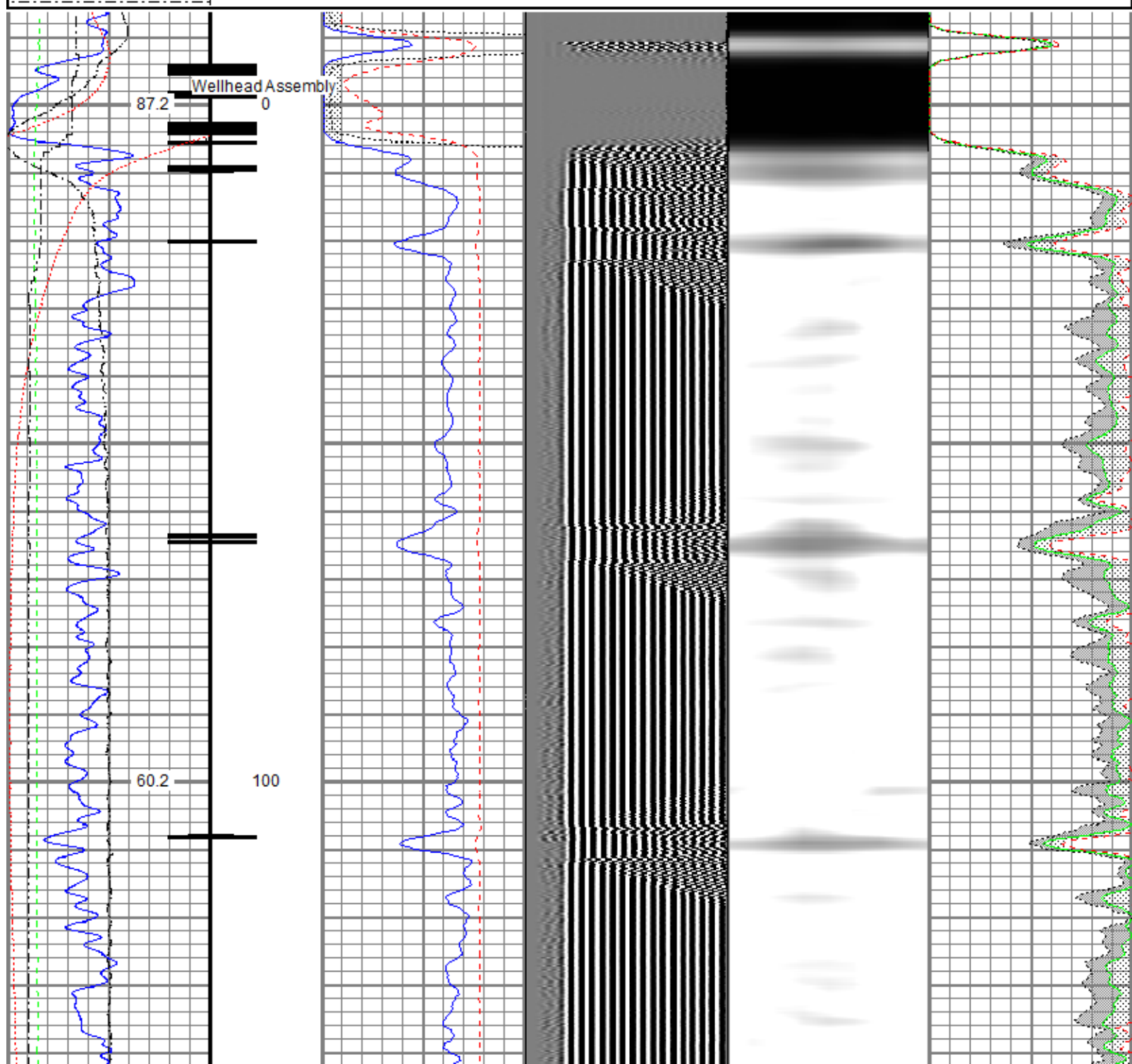
Size

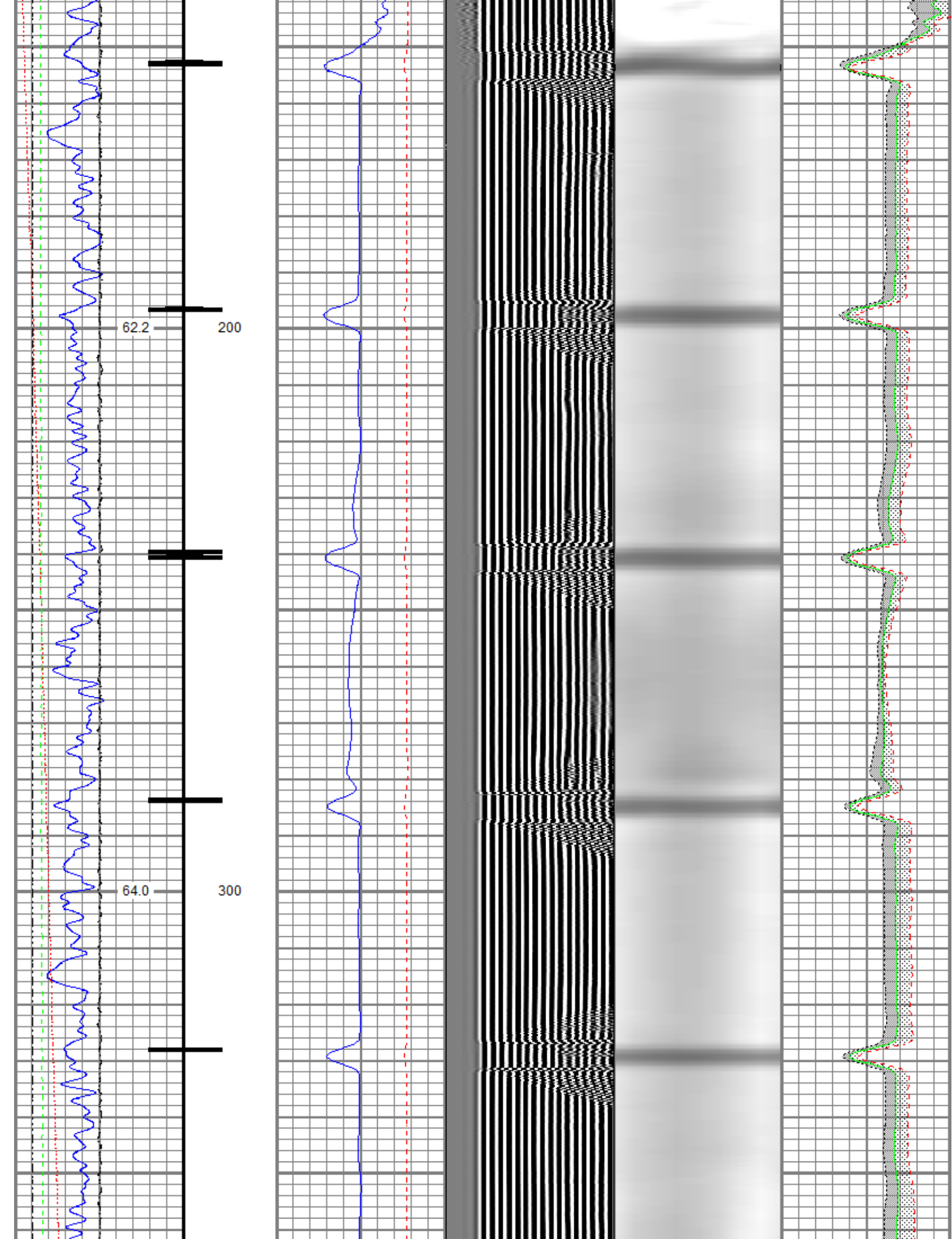
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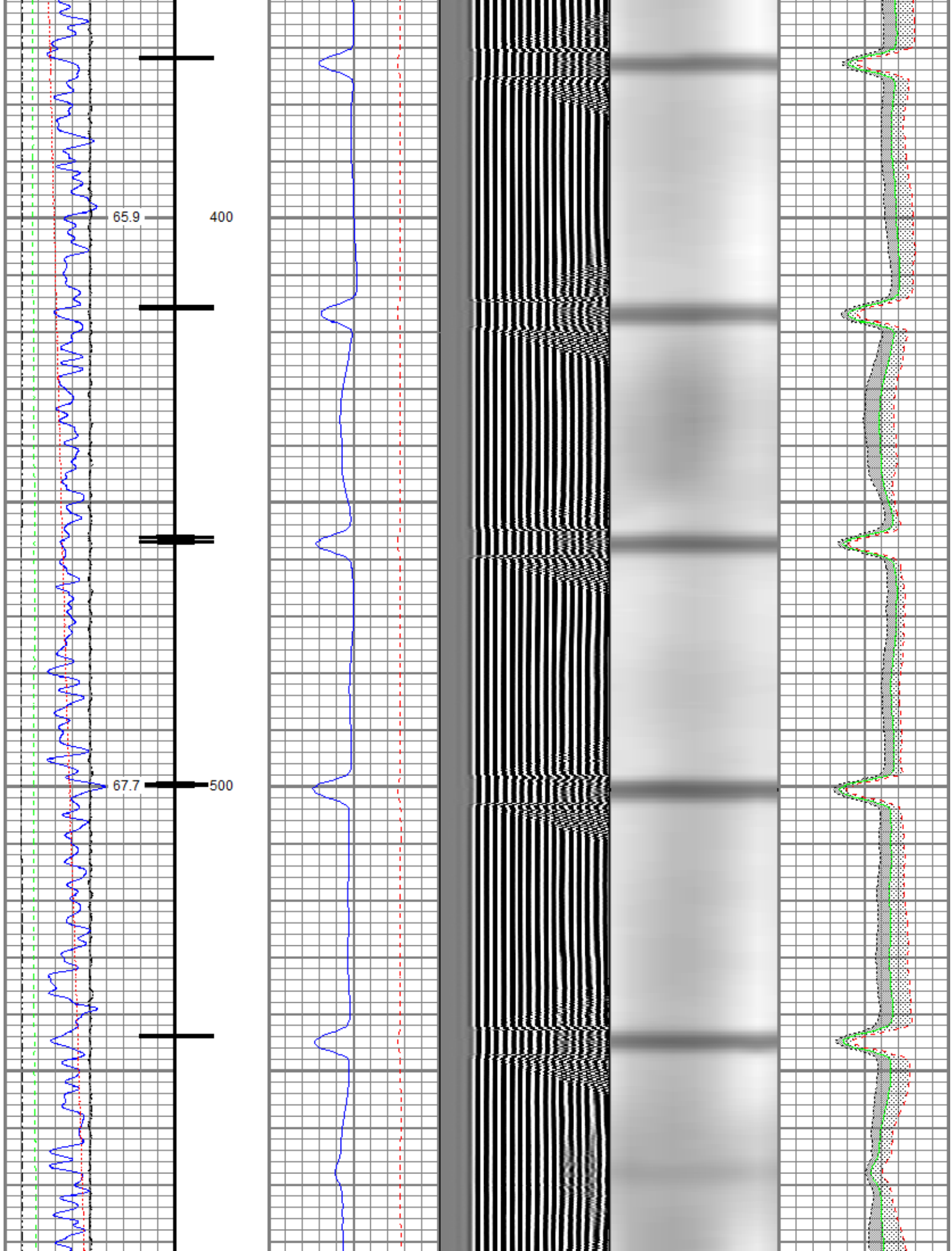
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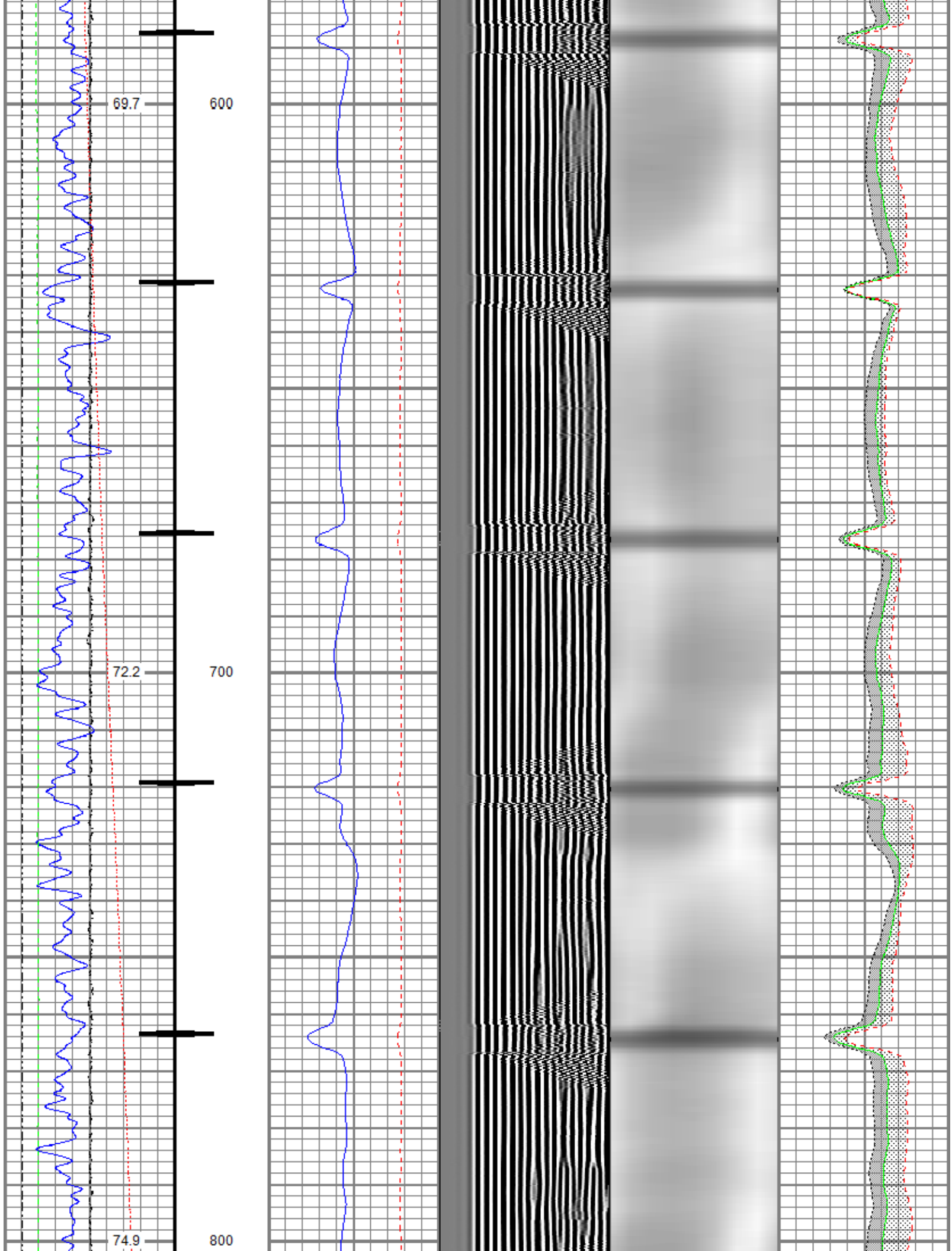
Database File anadarko_mab 15-12hz_rbl_06-20-19\0512349235_anadarko_mab 15-12hz_rbl_06-20-19.db
 Dataset Pathname pass4.2
 Presentation Format ros_radri
 Dataset Creation Fri Jun 21 10:16:42 2019
 Charted by Depth in Feet scaled 1:240

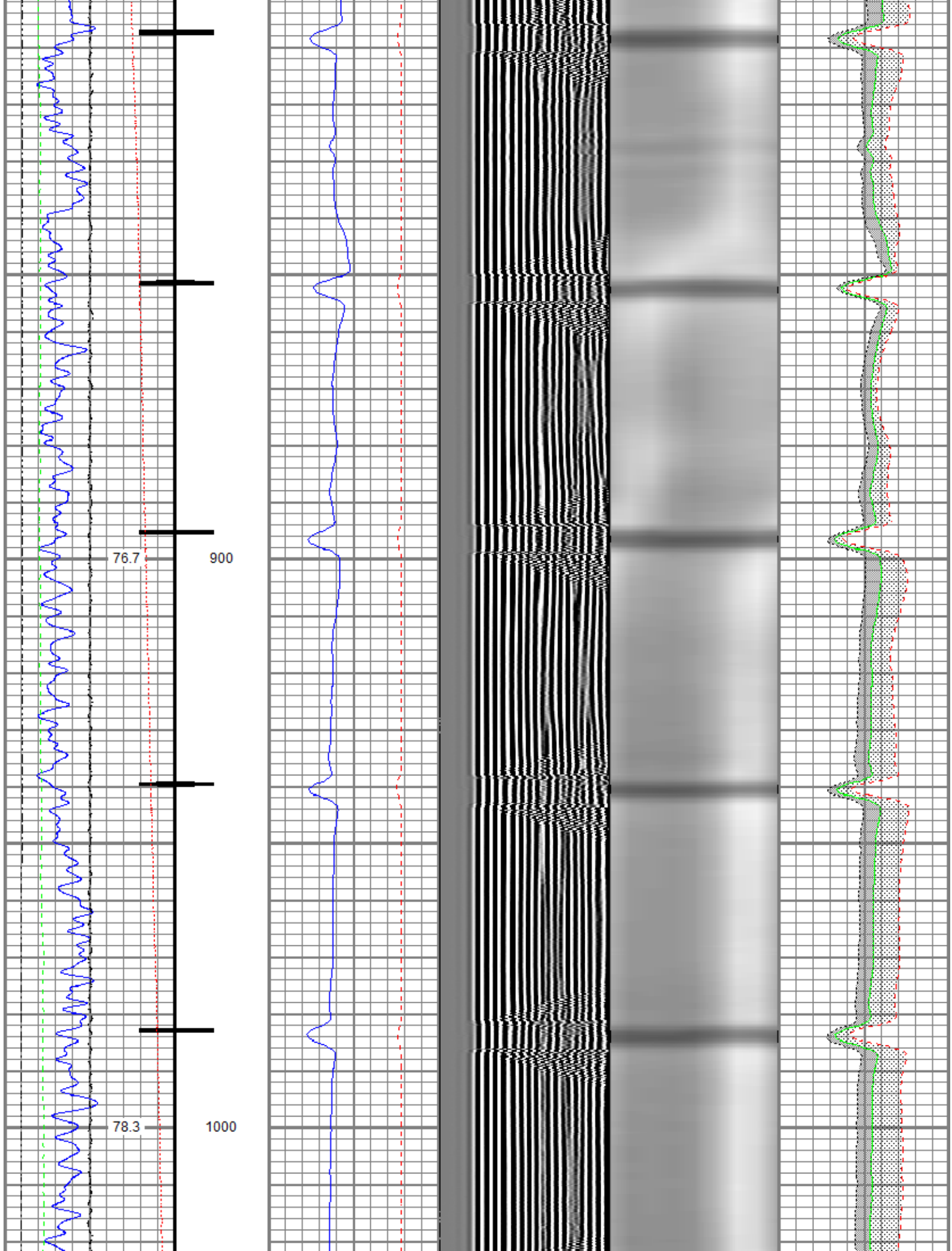
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200 (usec) 1200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
-150 (ft/min)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

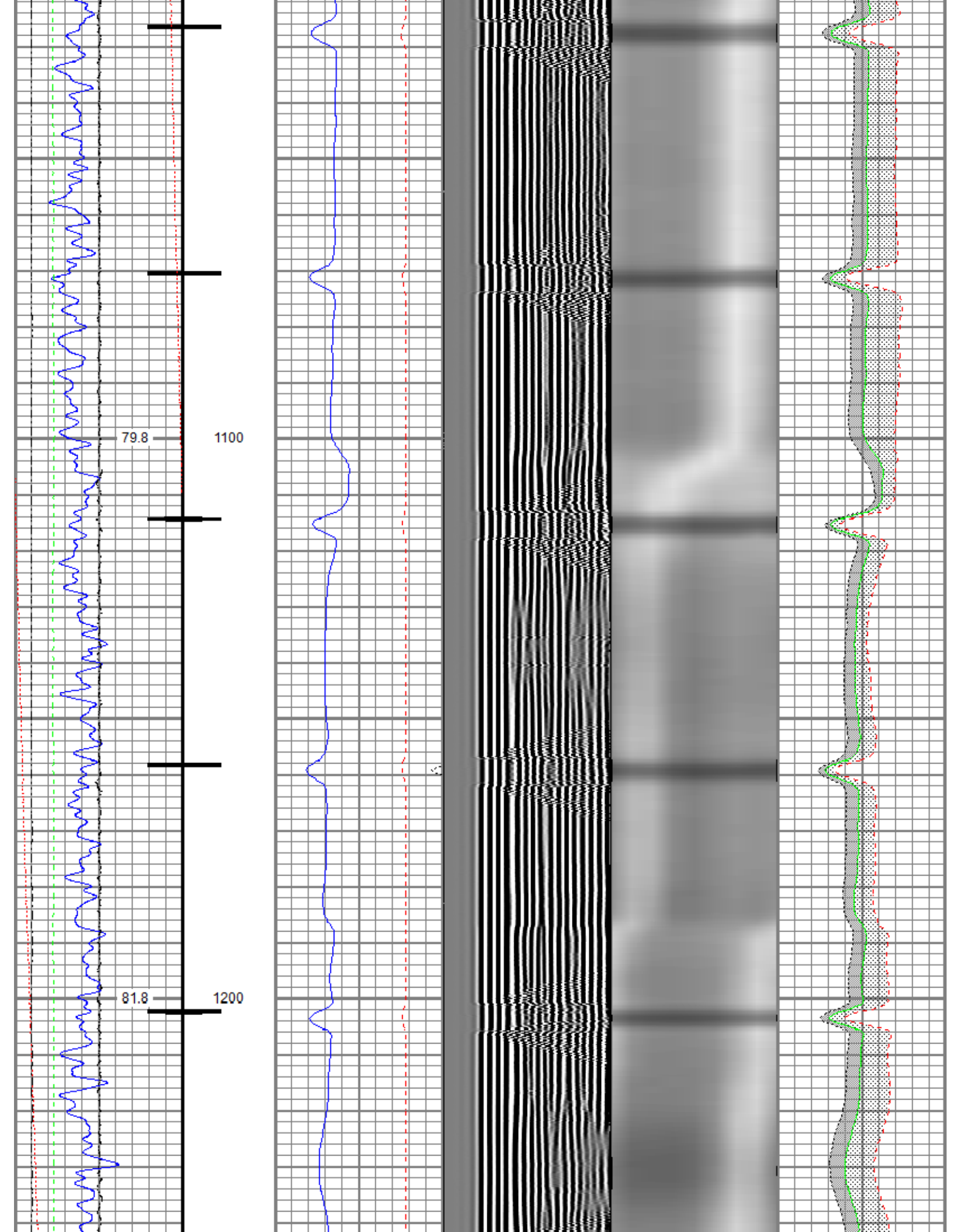


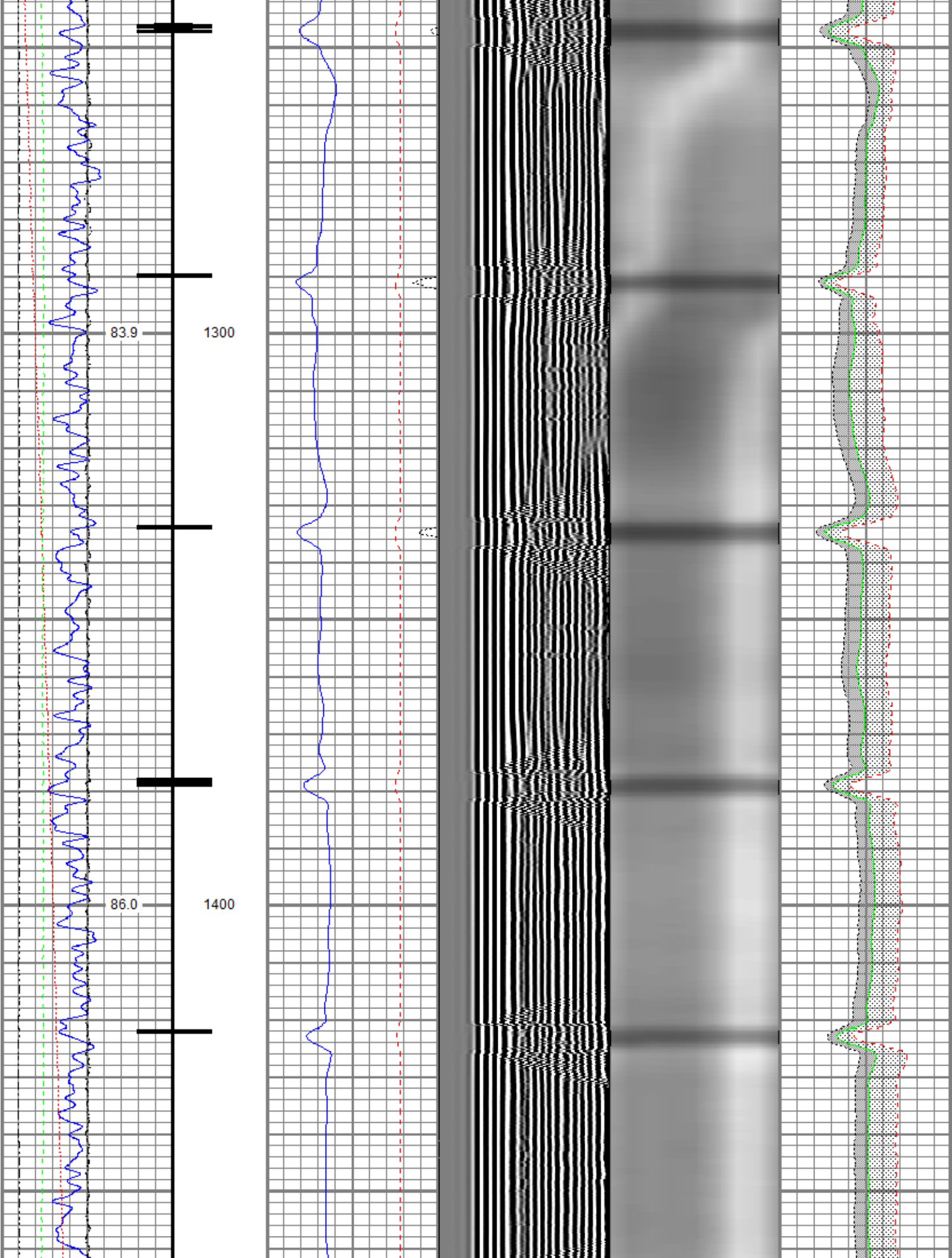


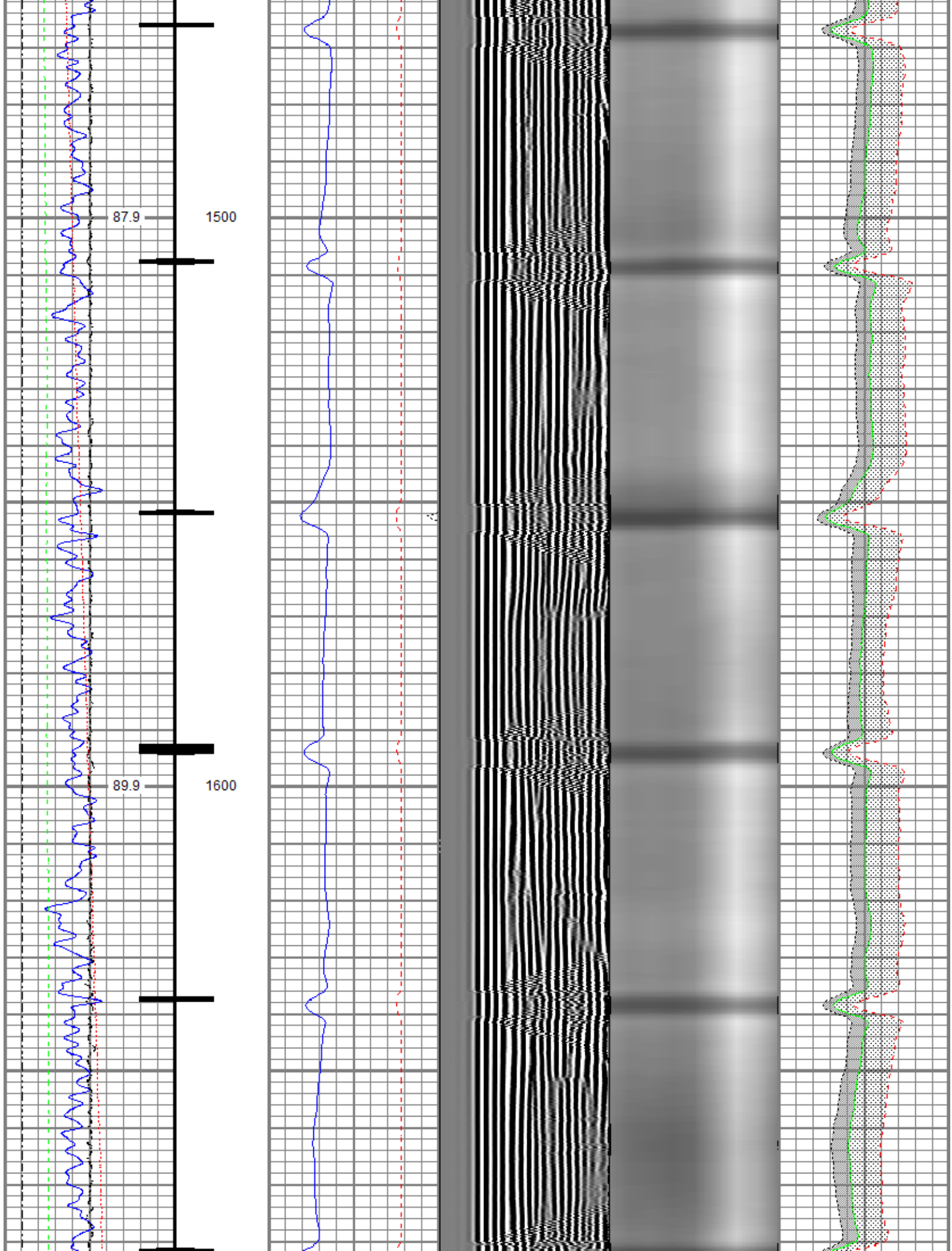


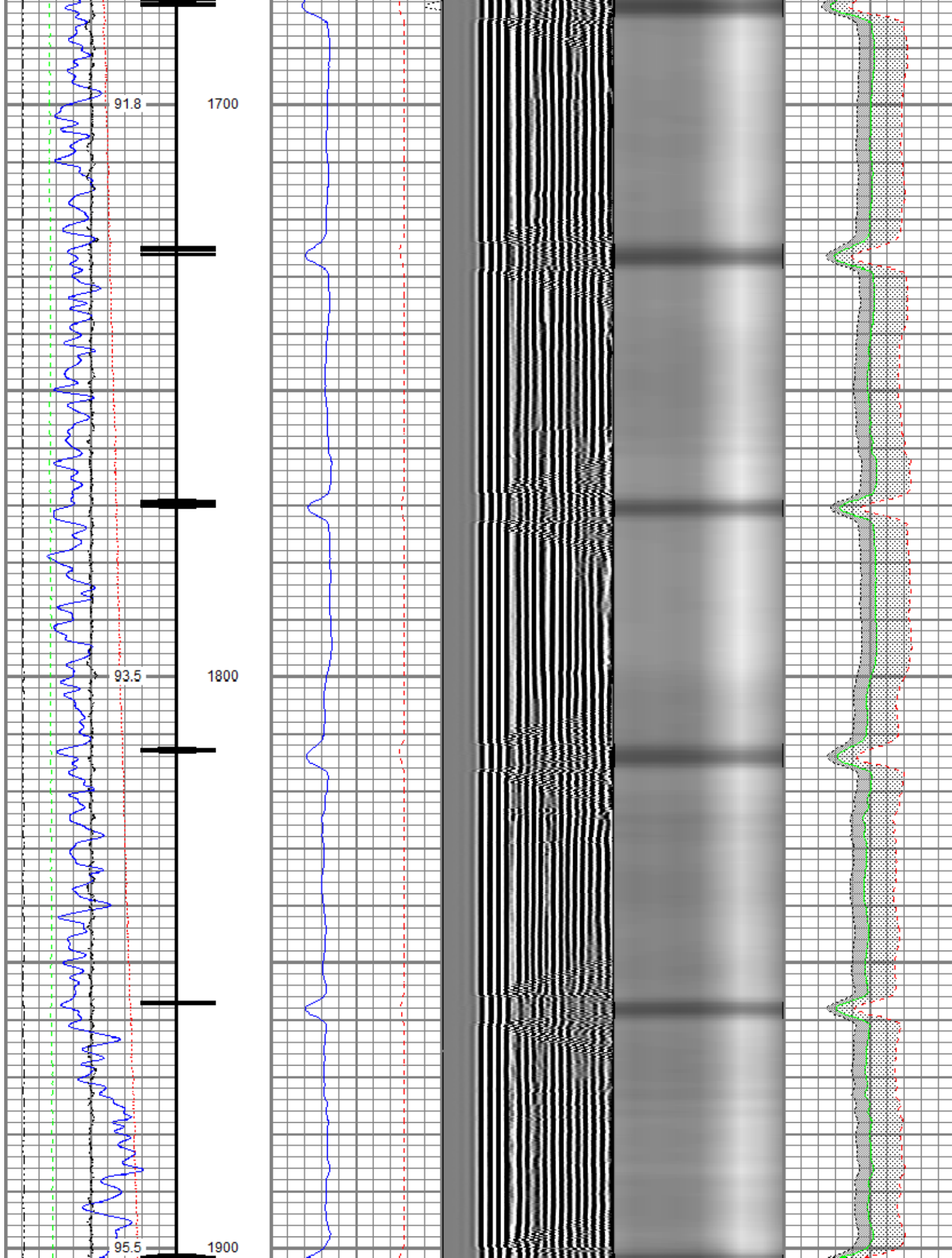


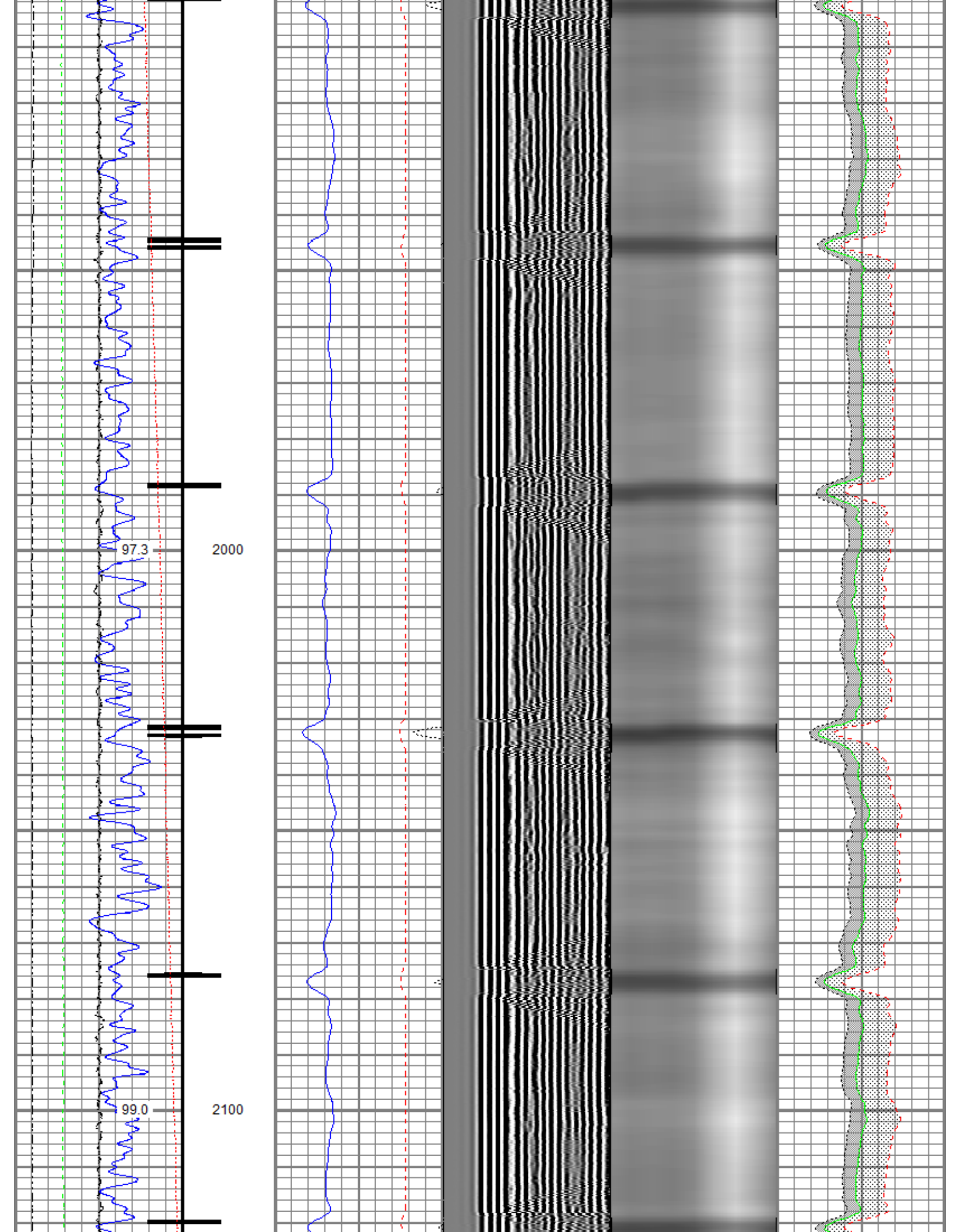


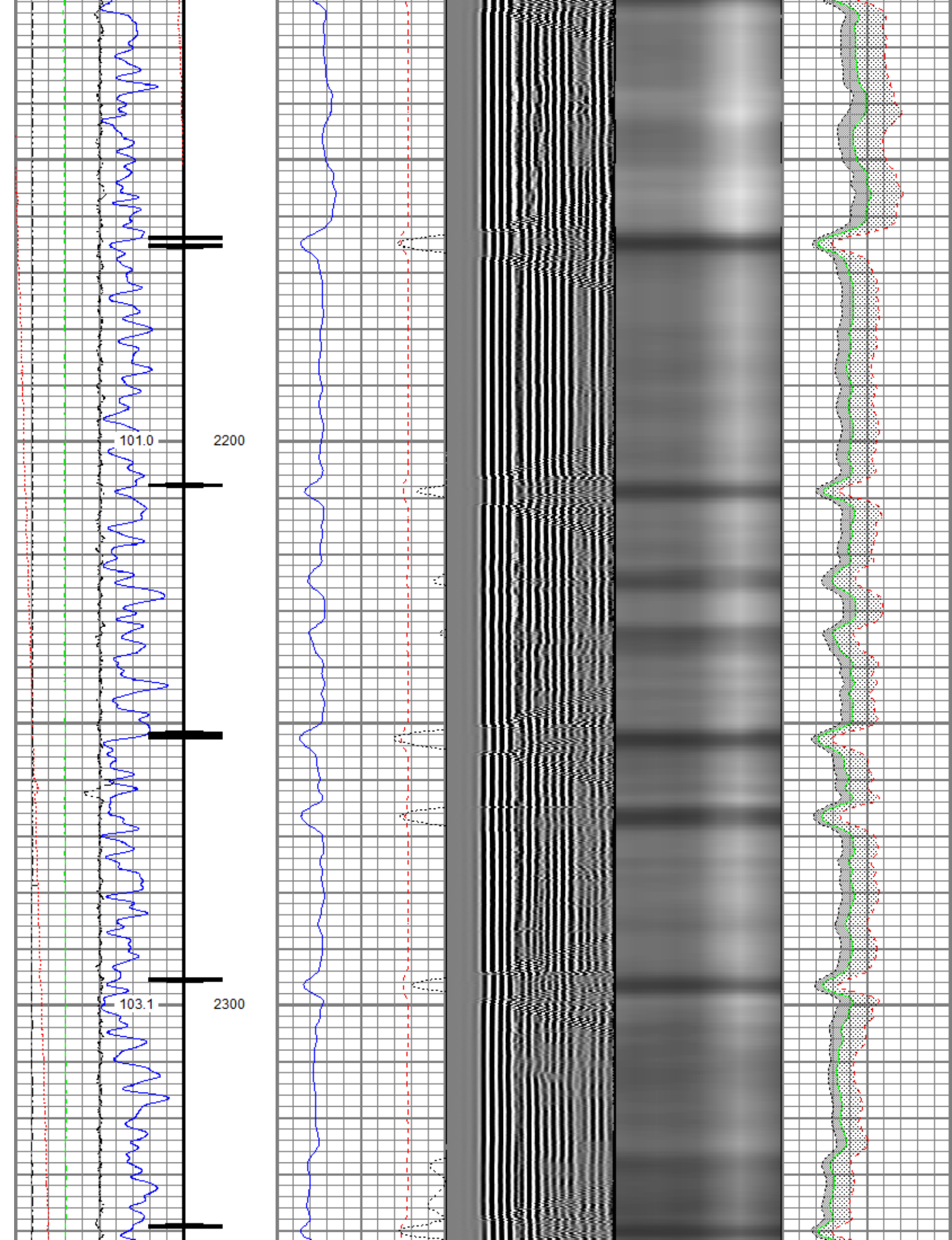


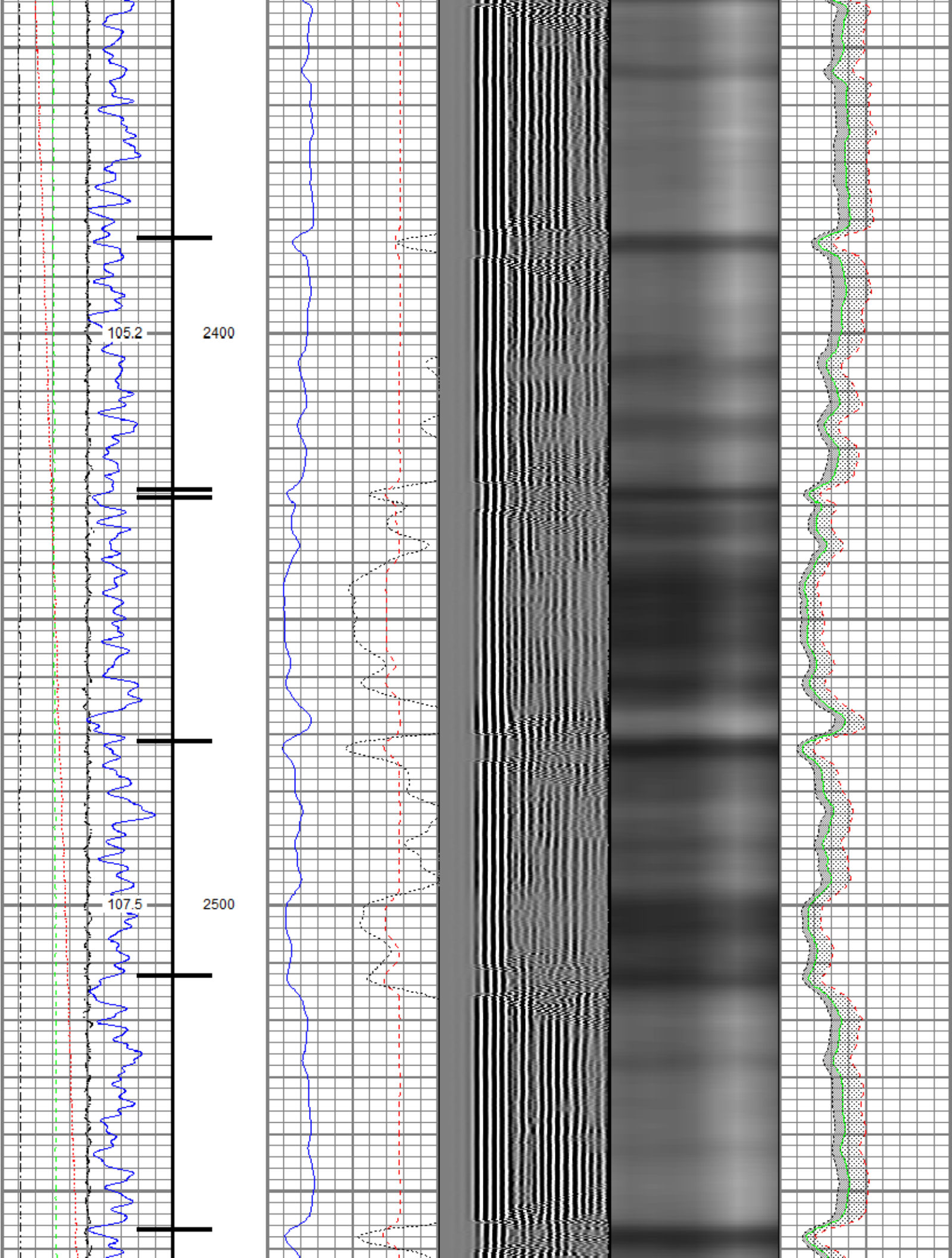


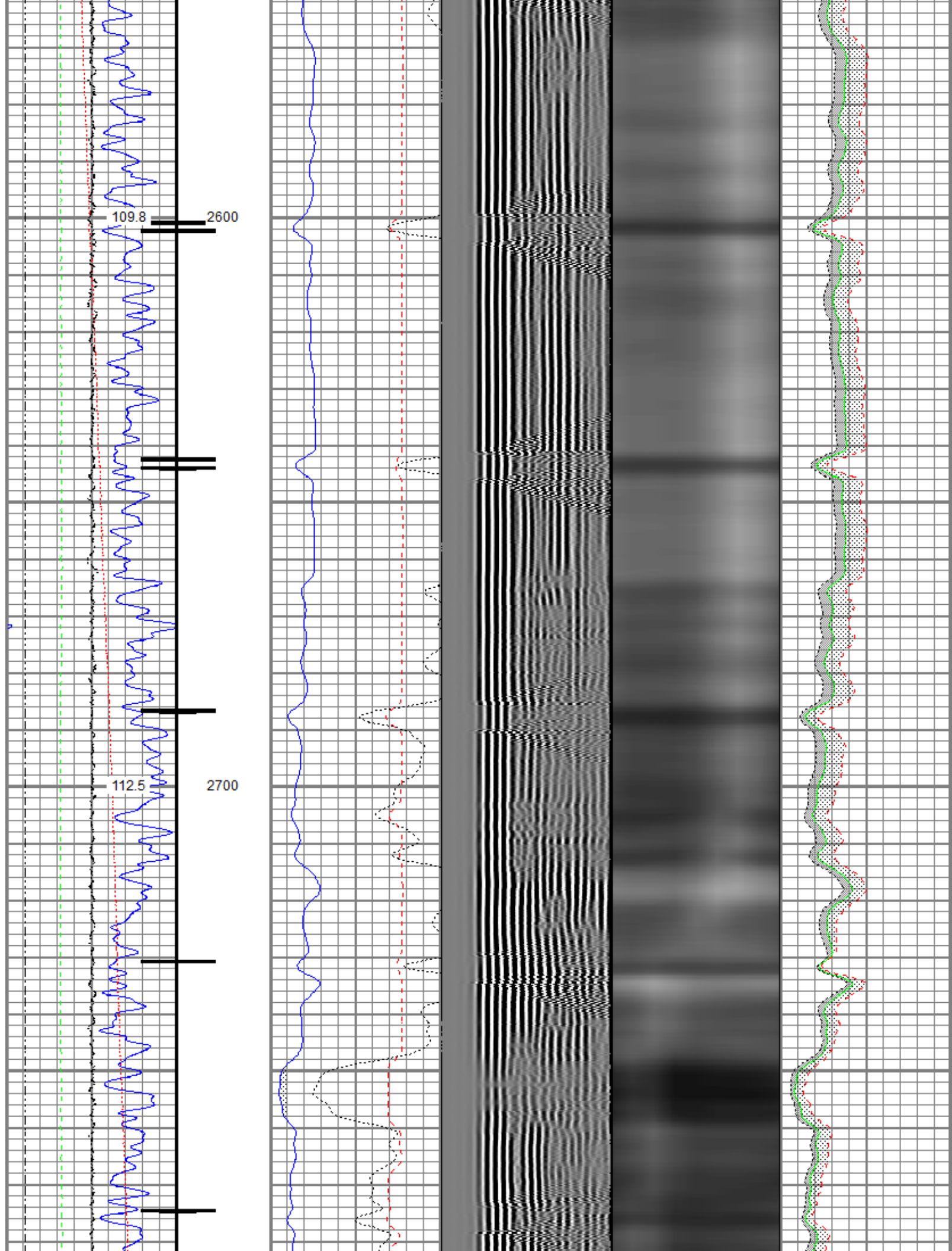


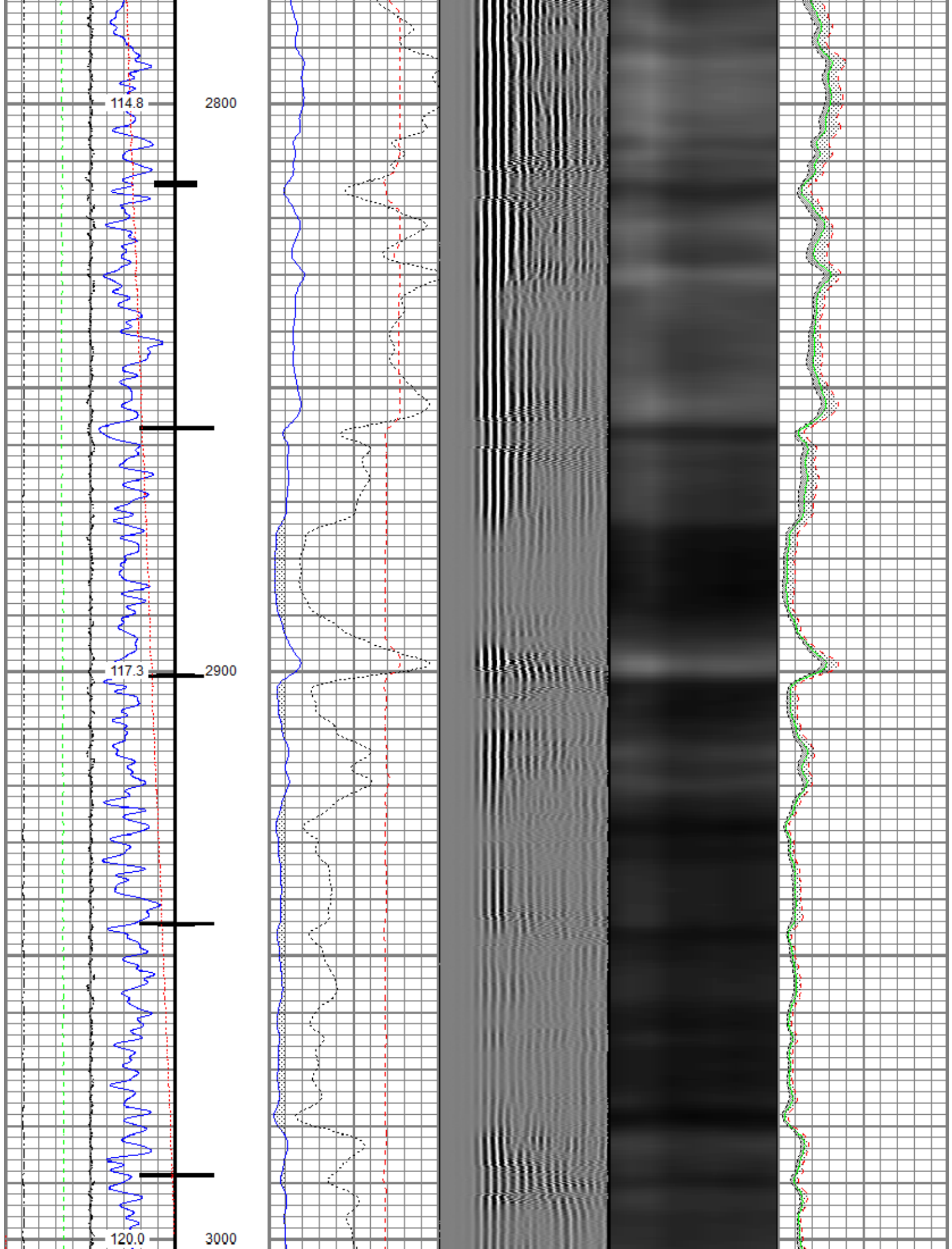


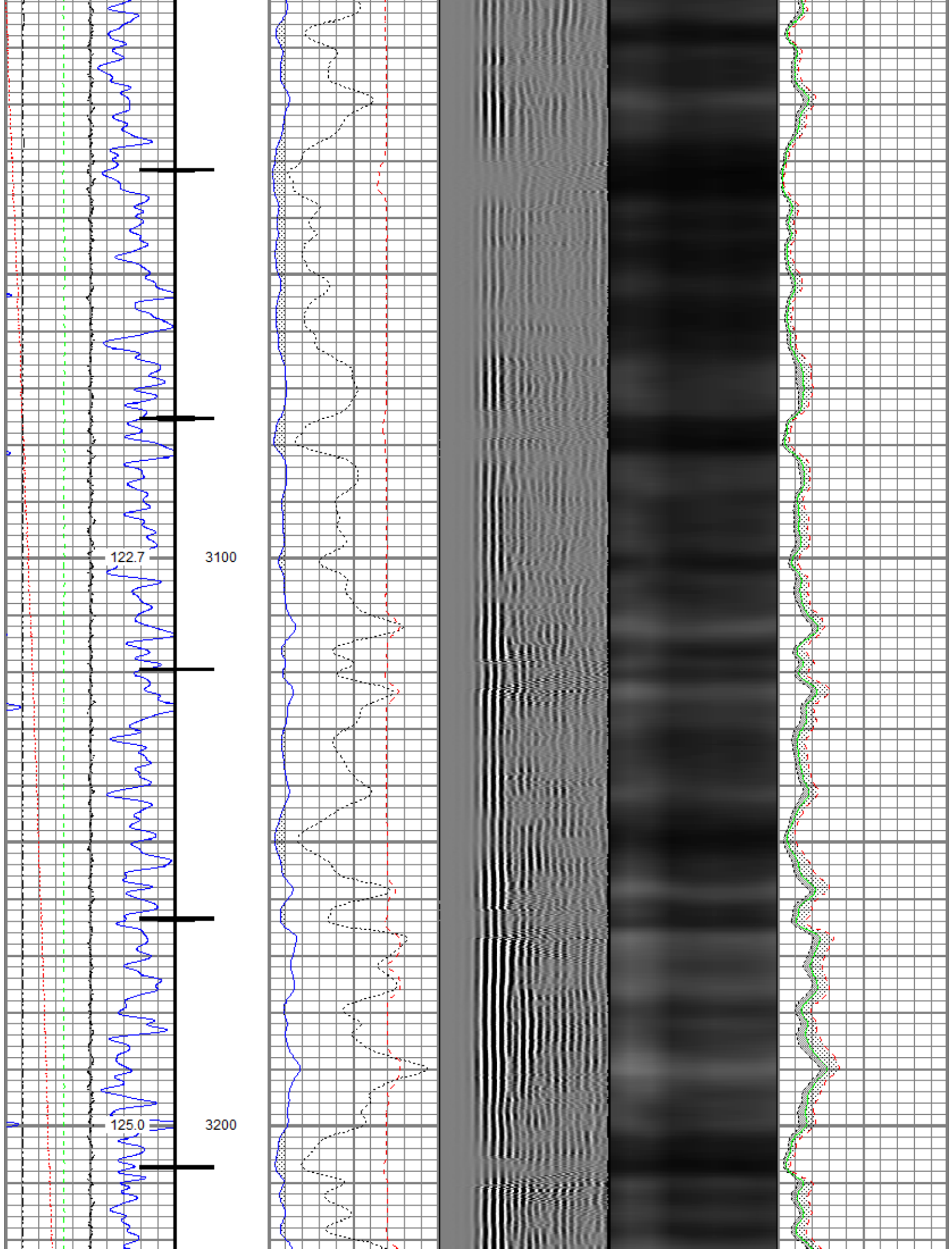


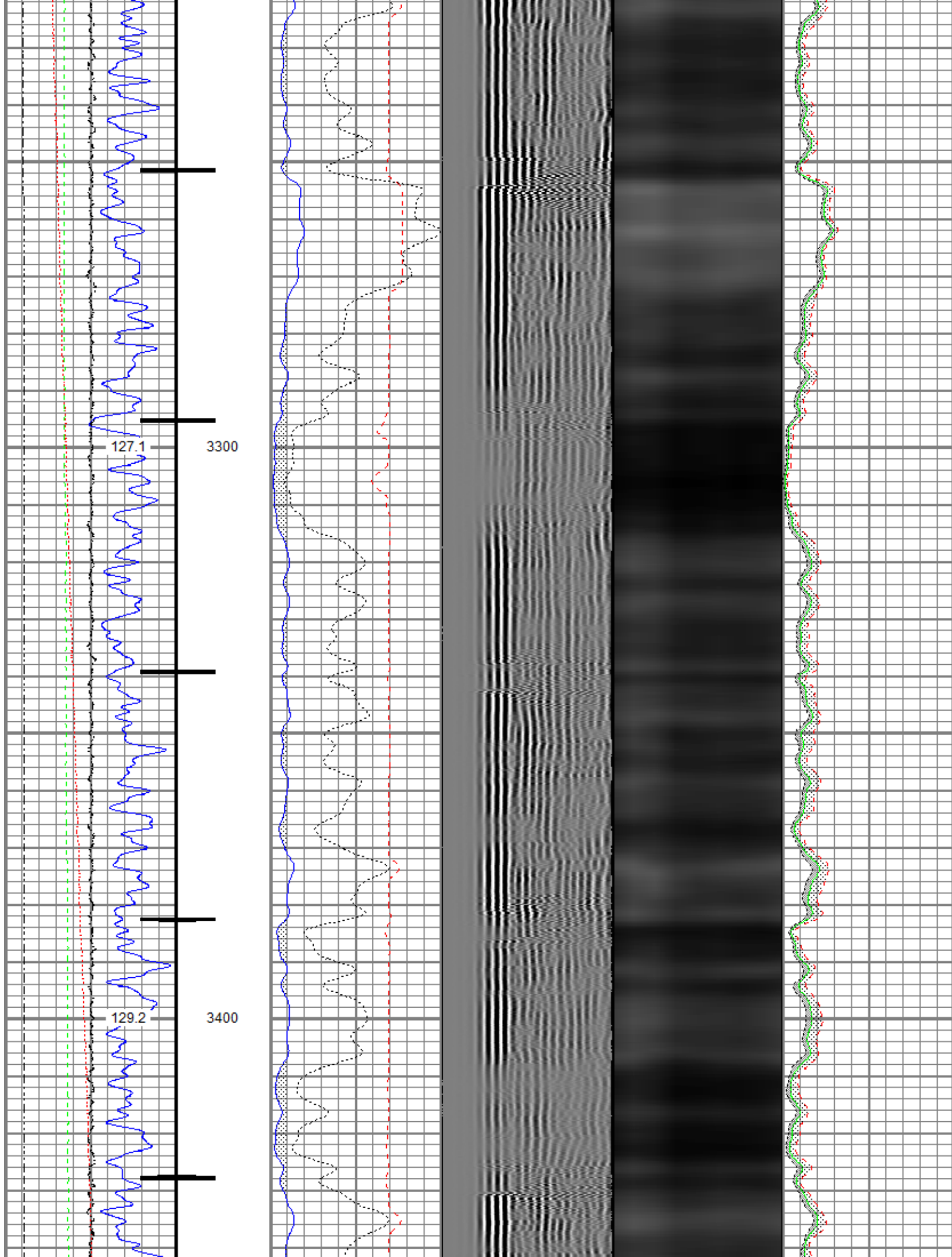


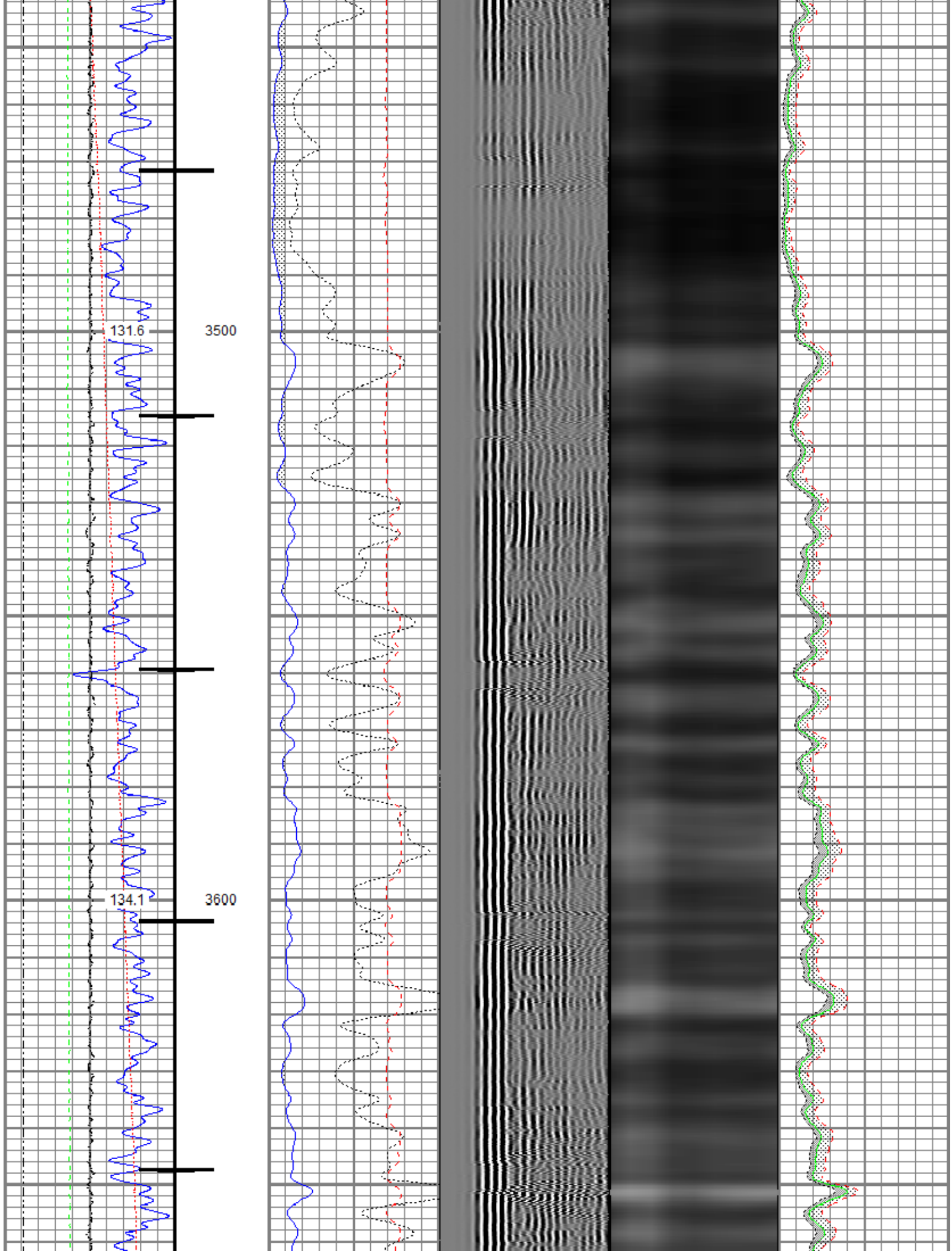


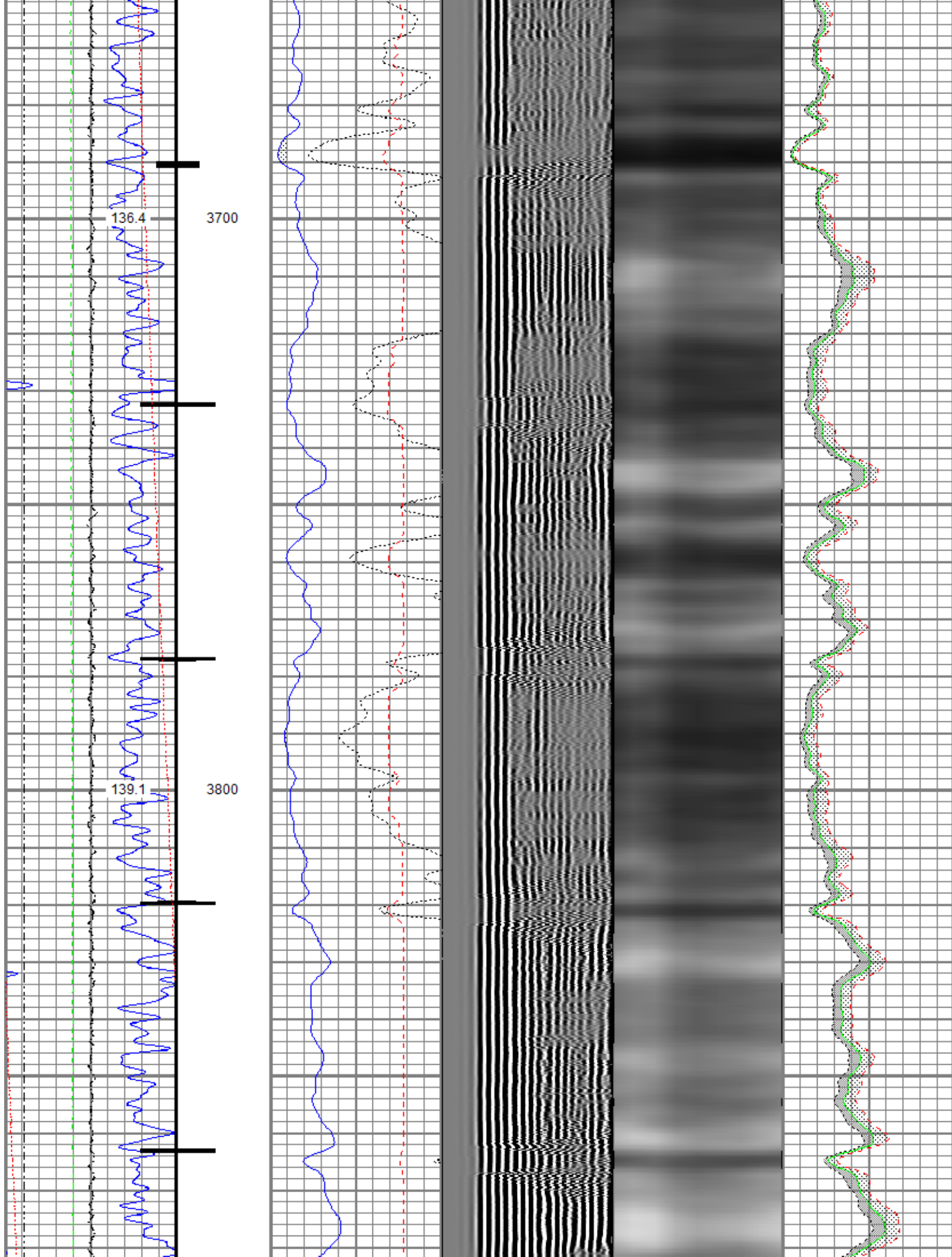


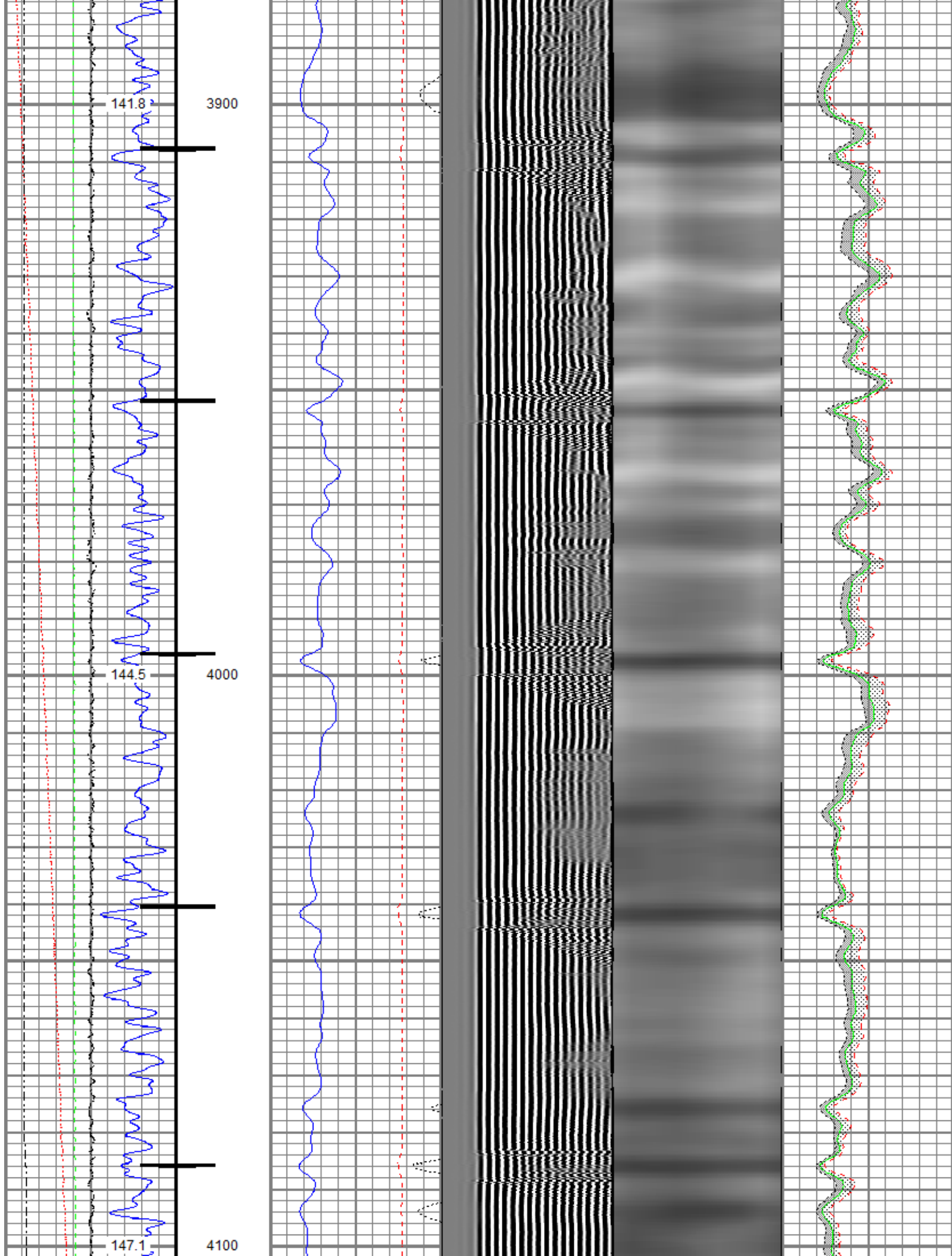


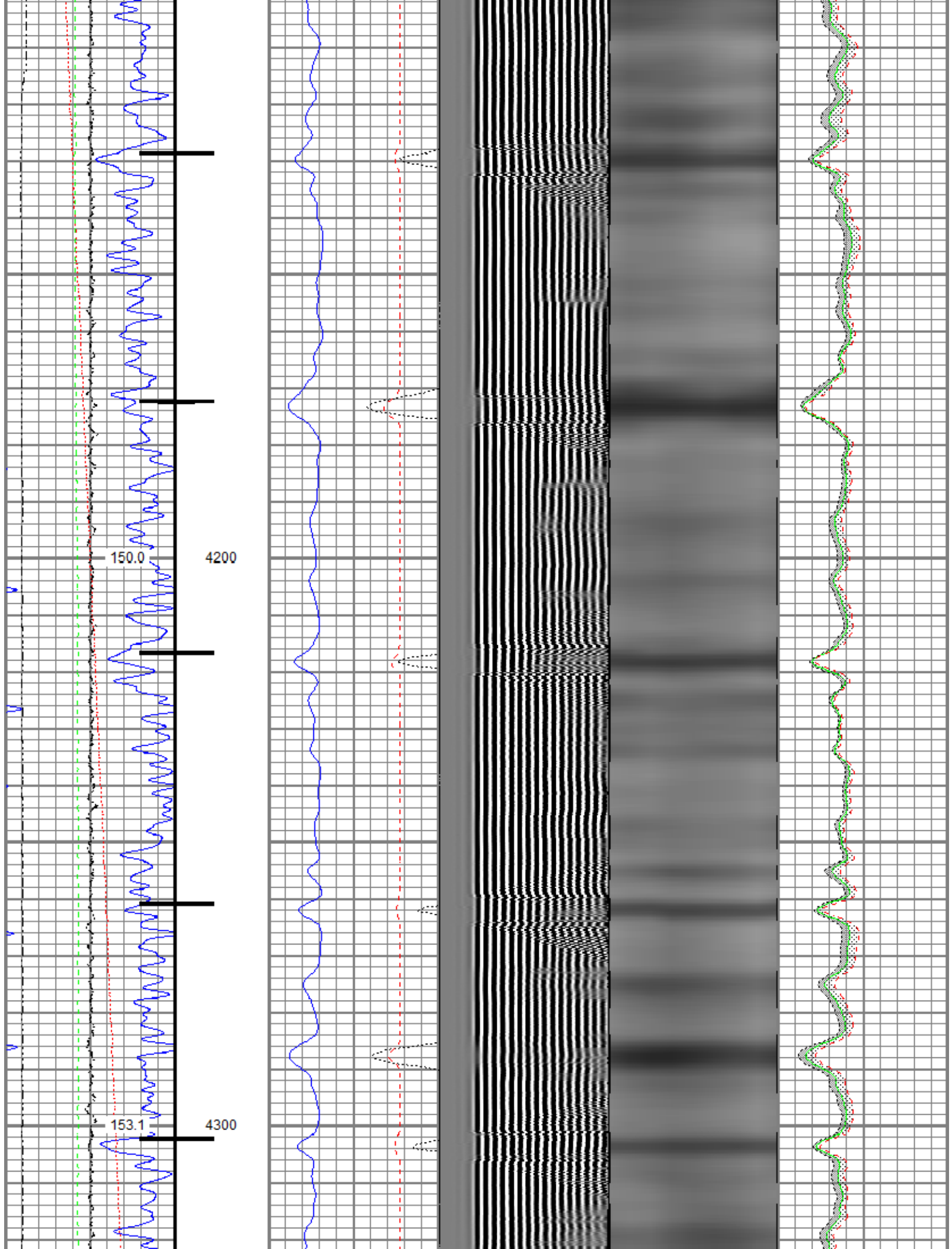


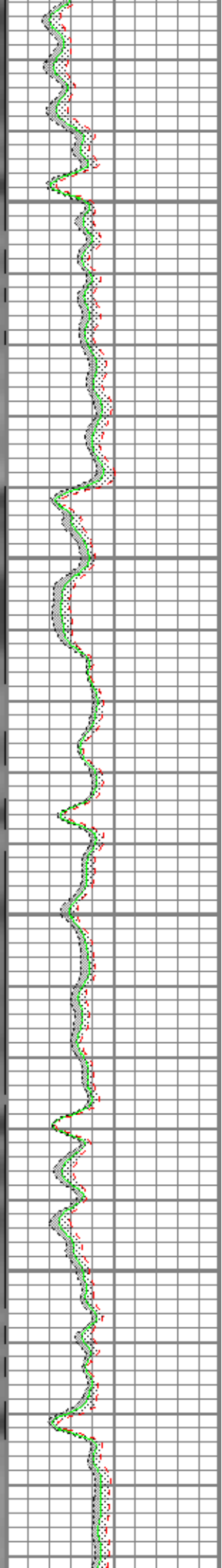
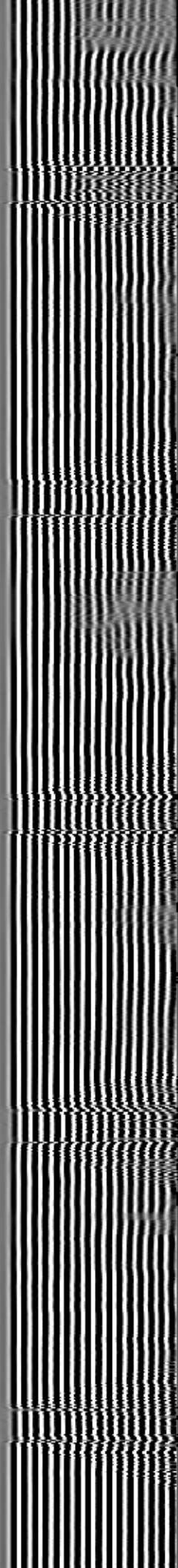
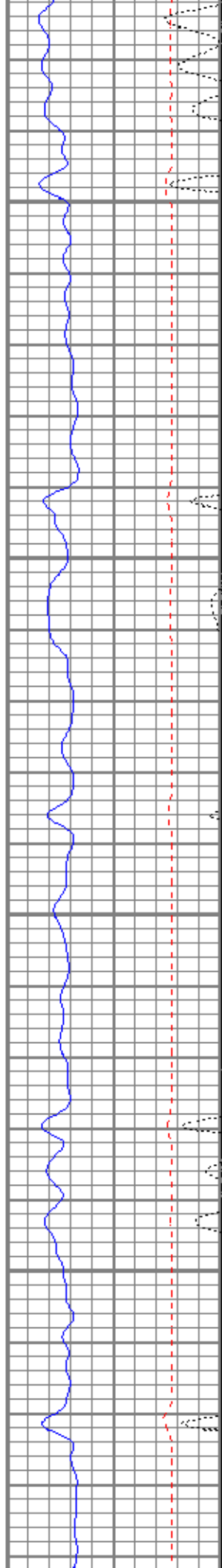
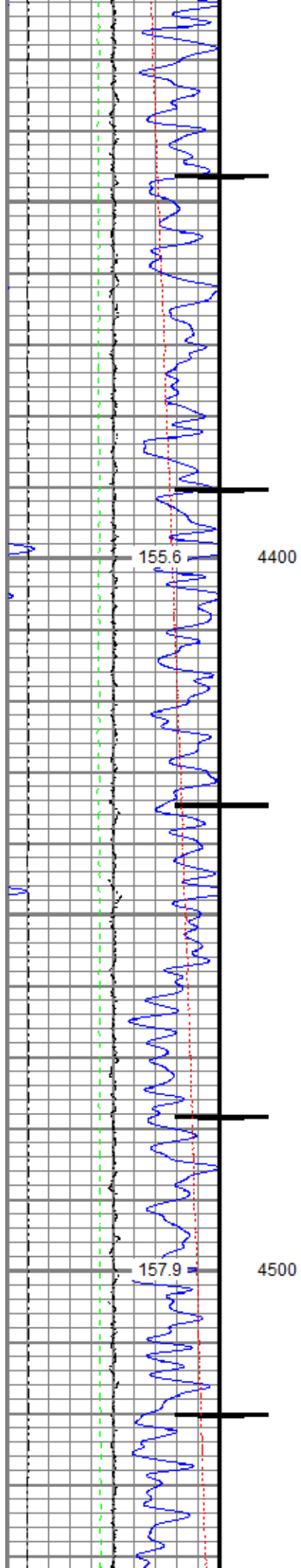


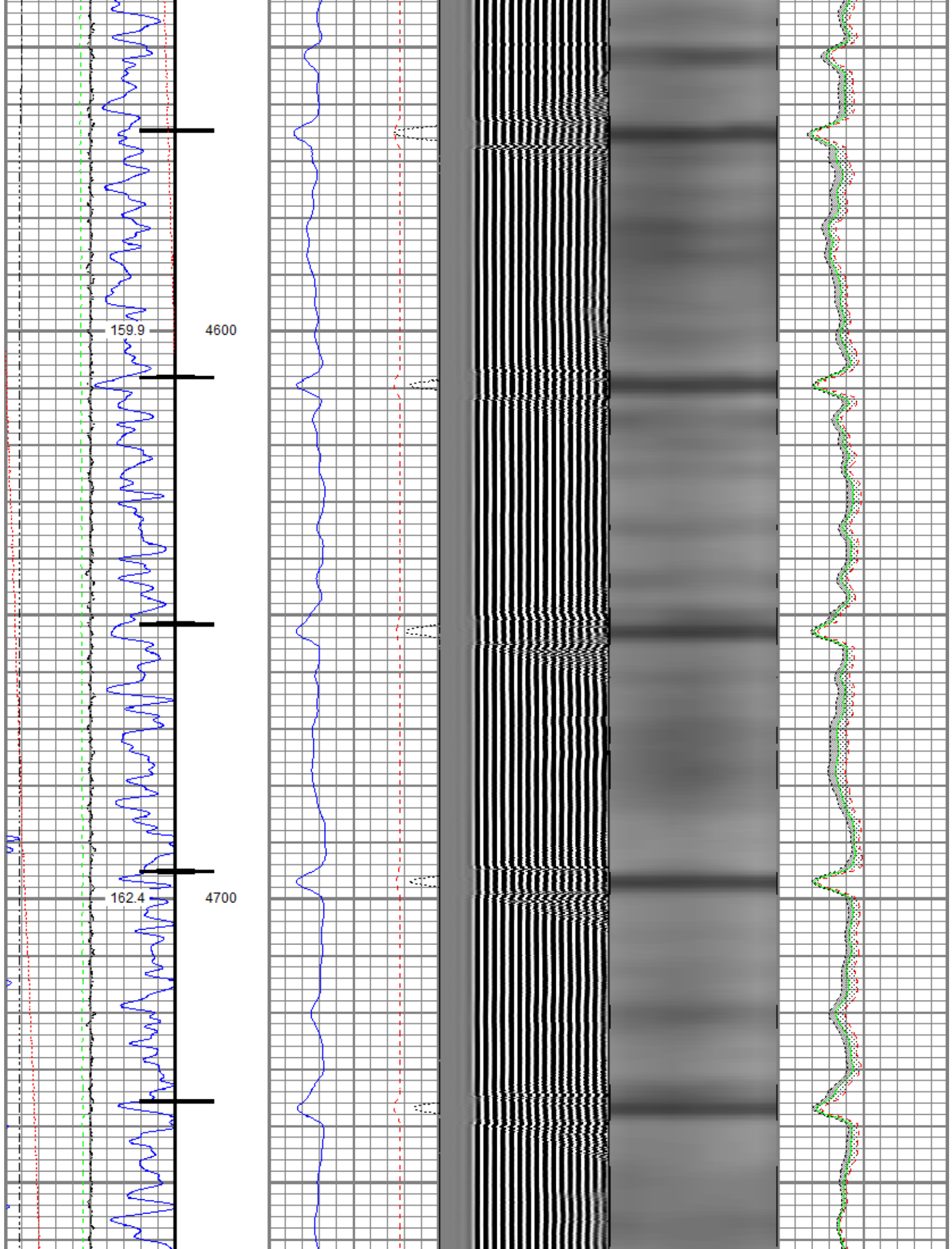


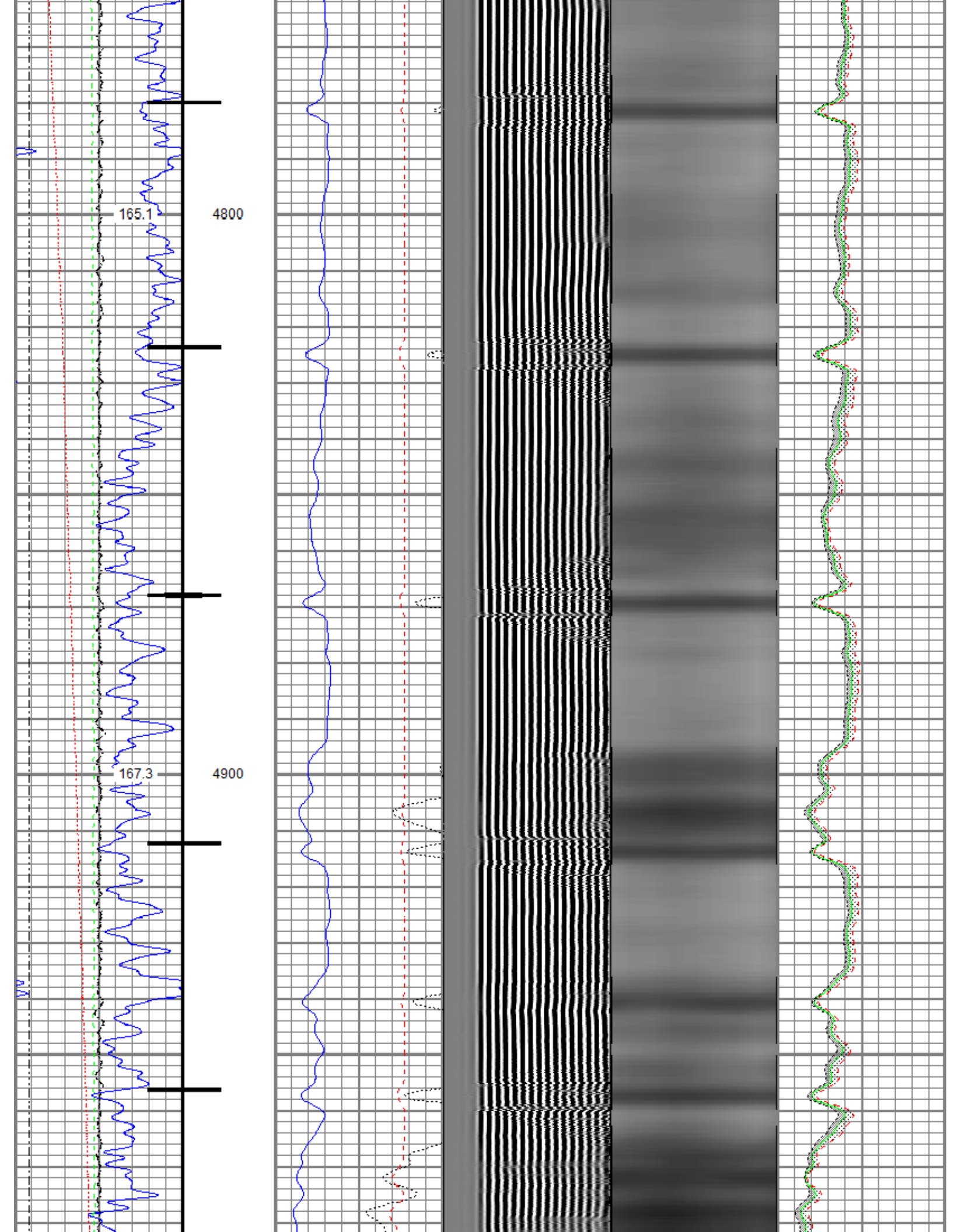


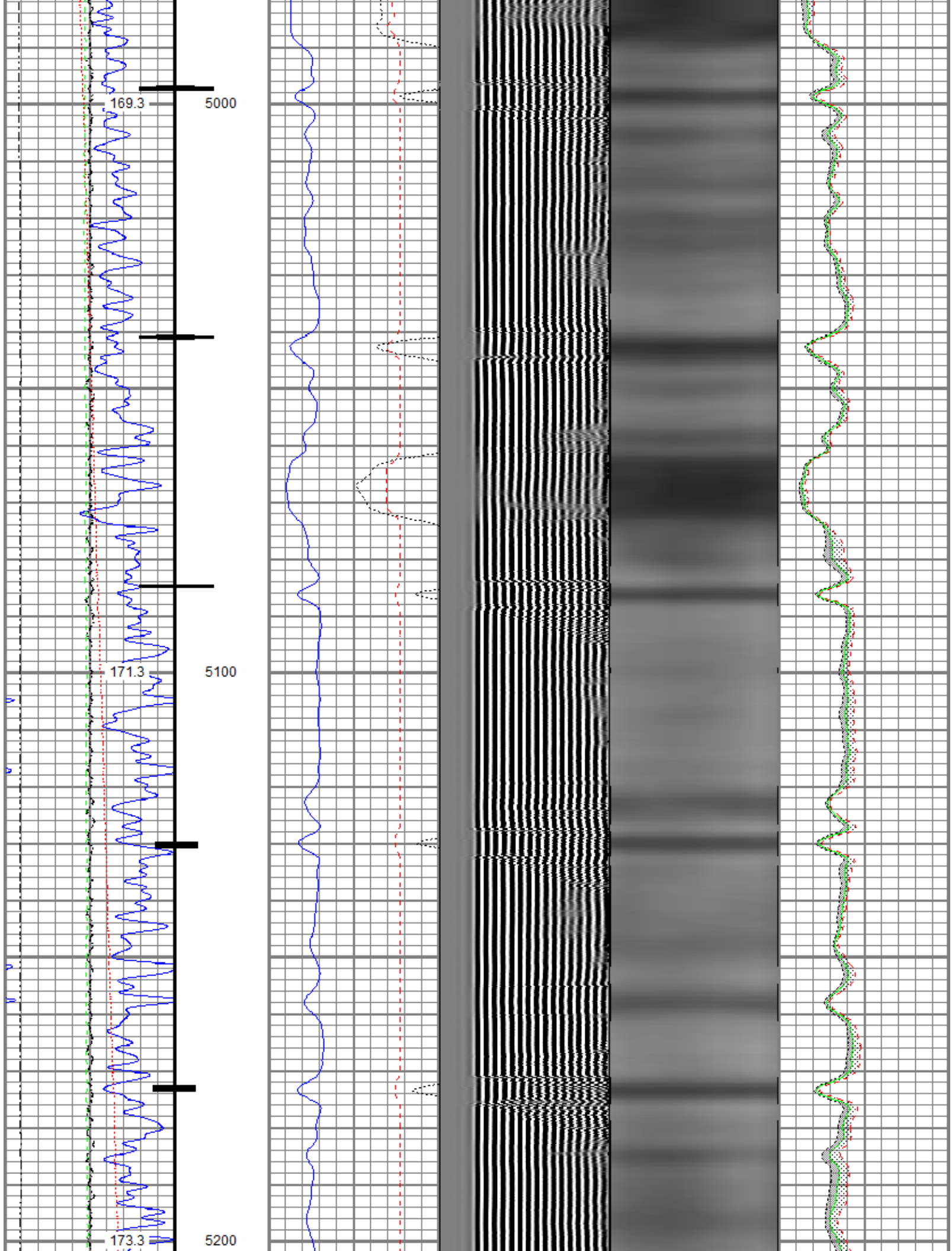


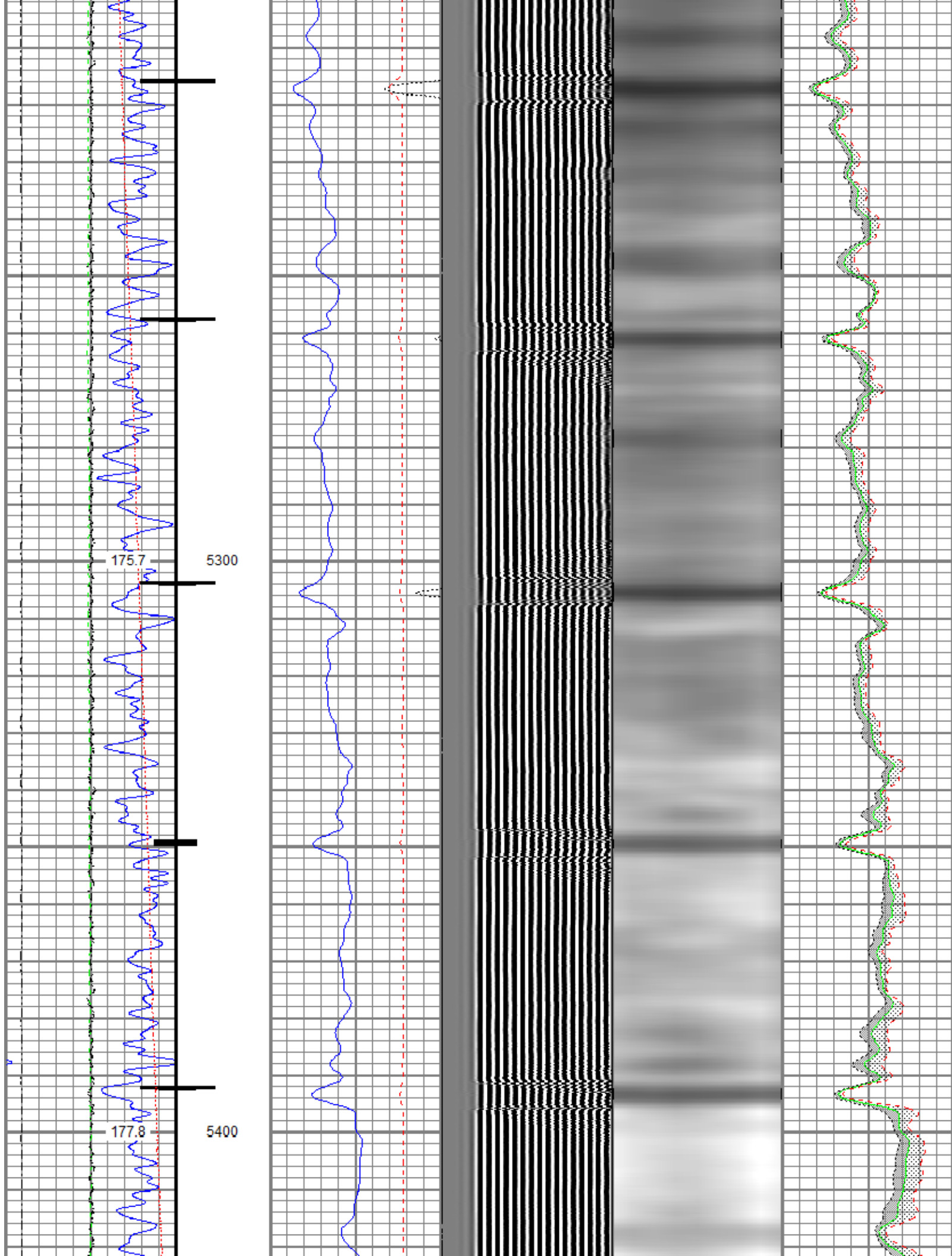


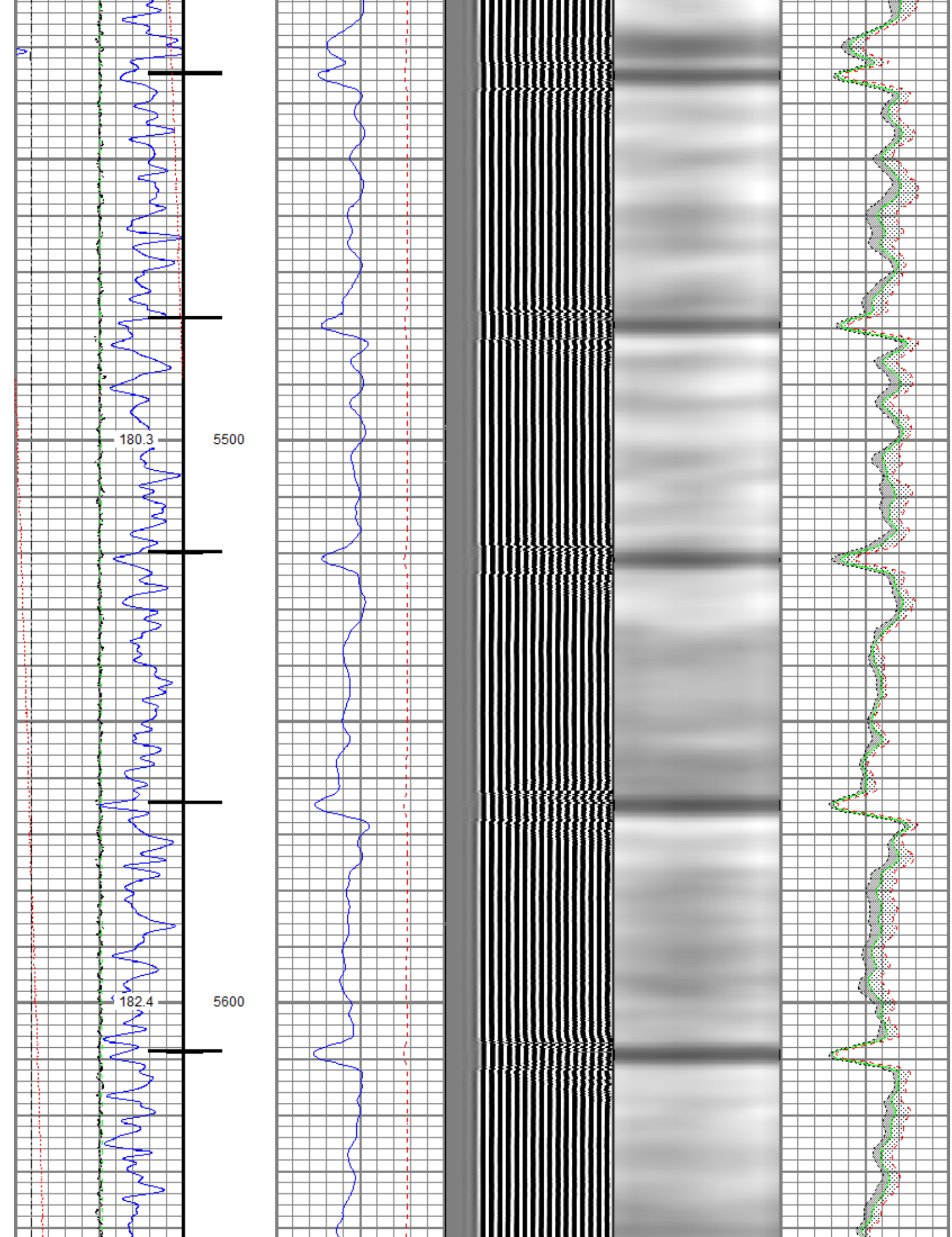


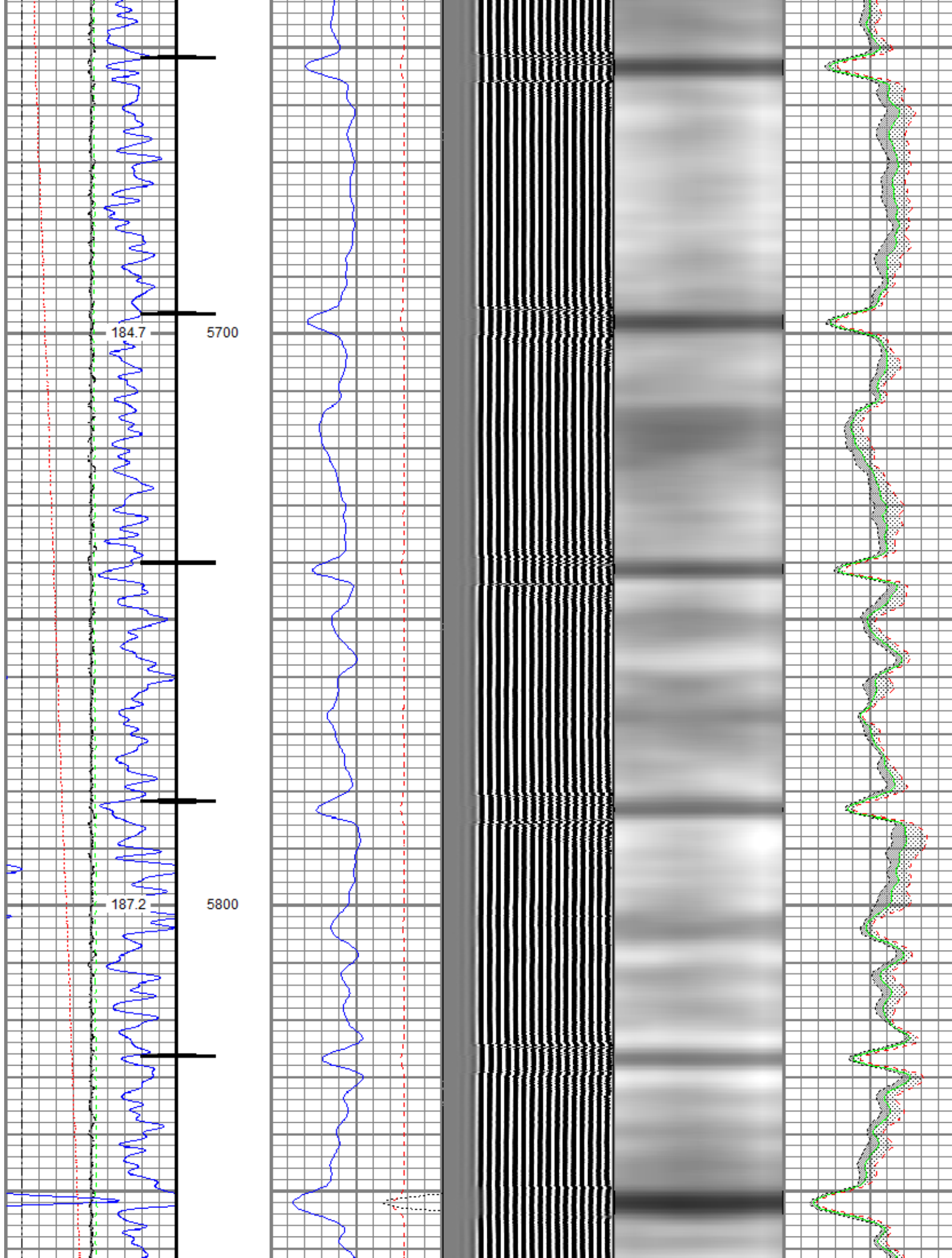


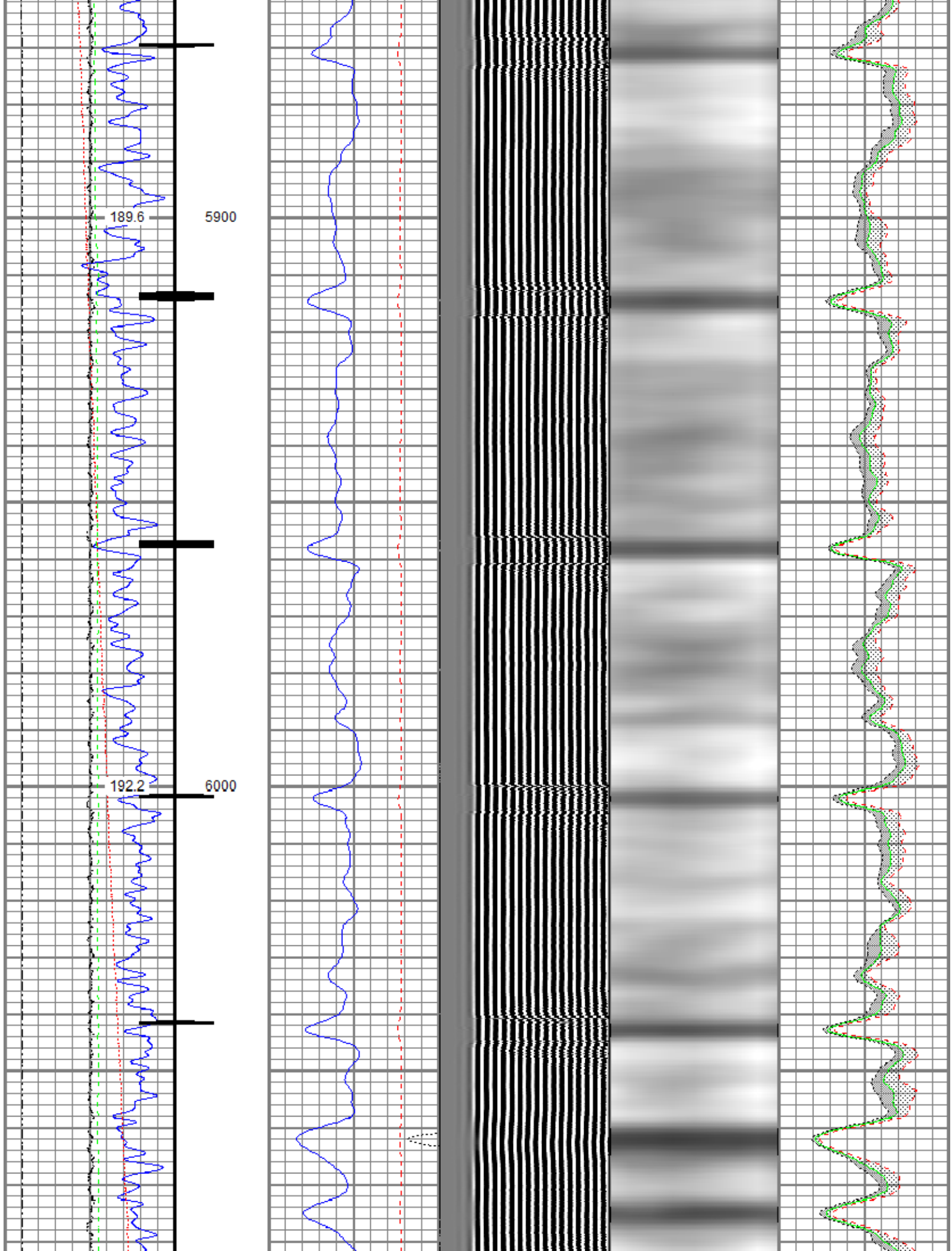


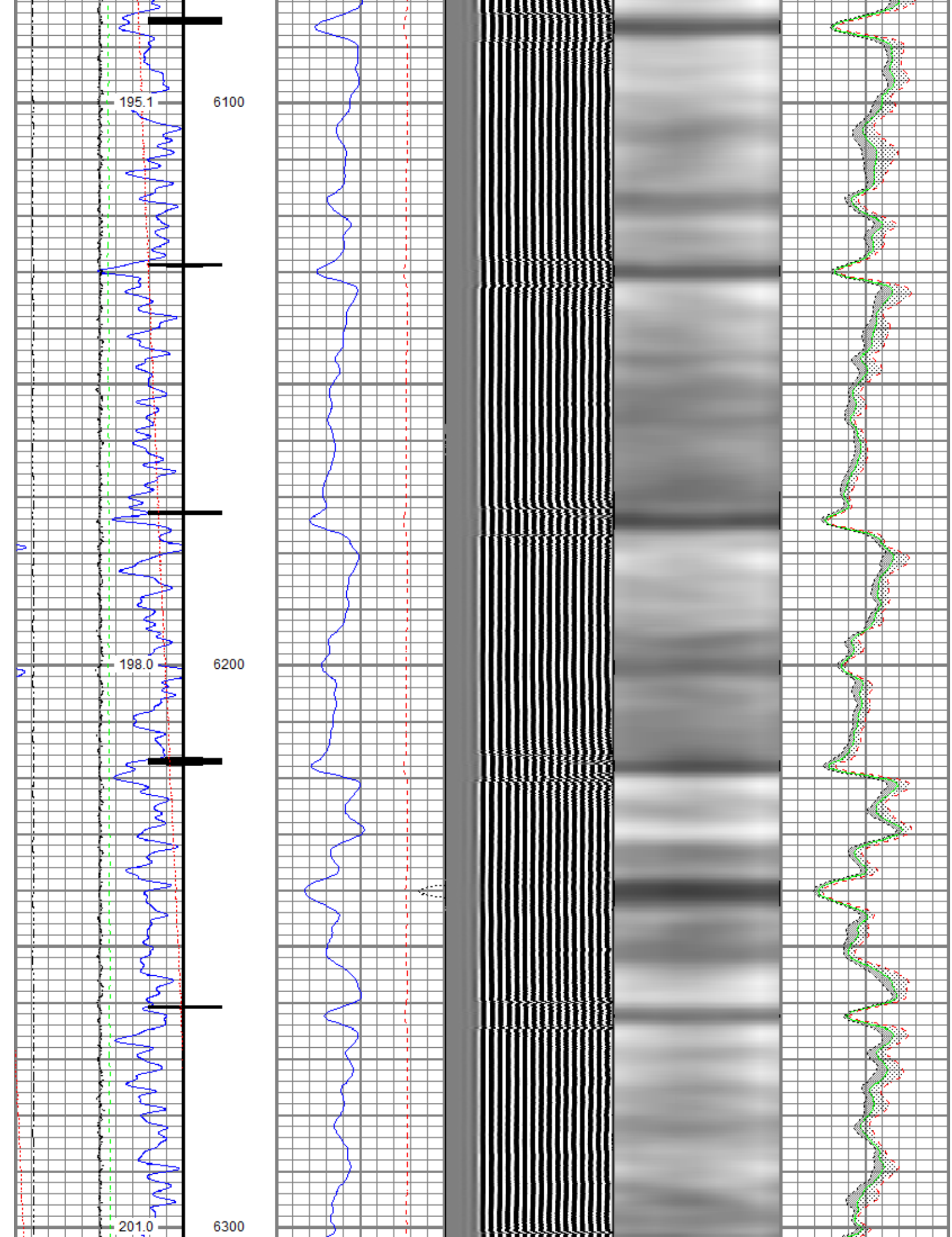


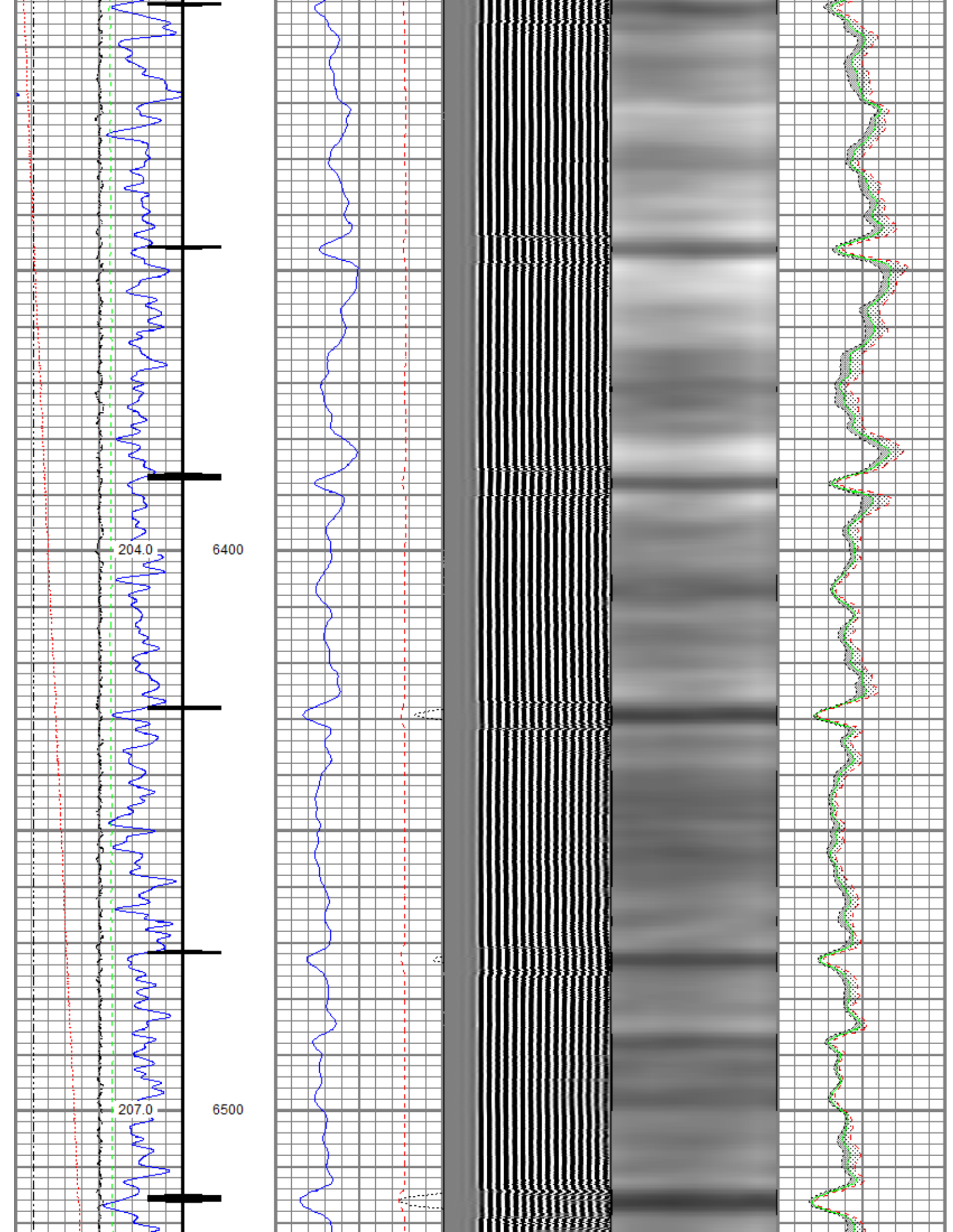


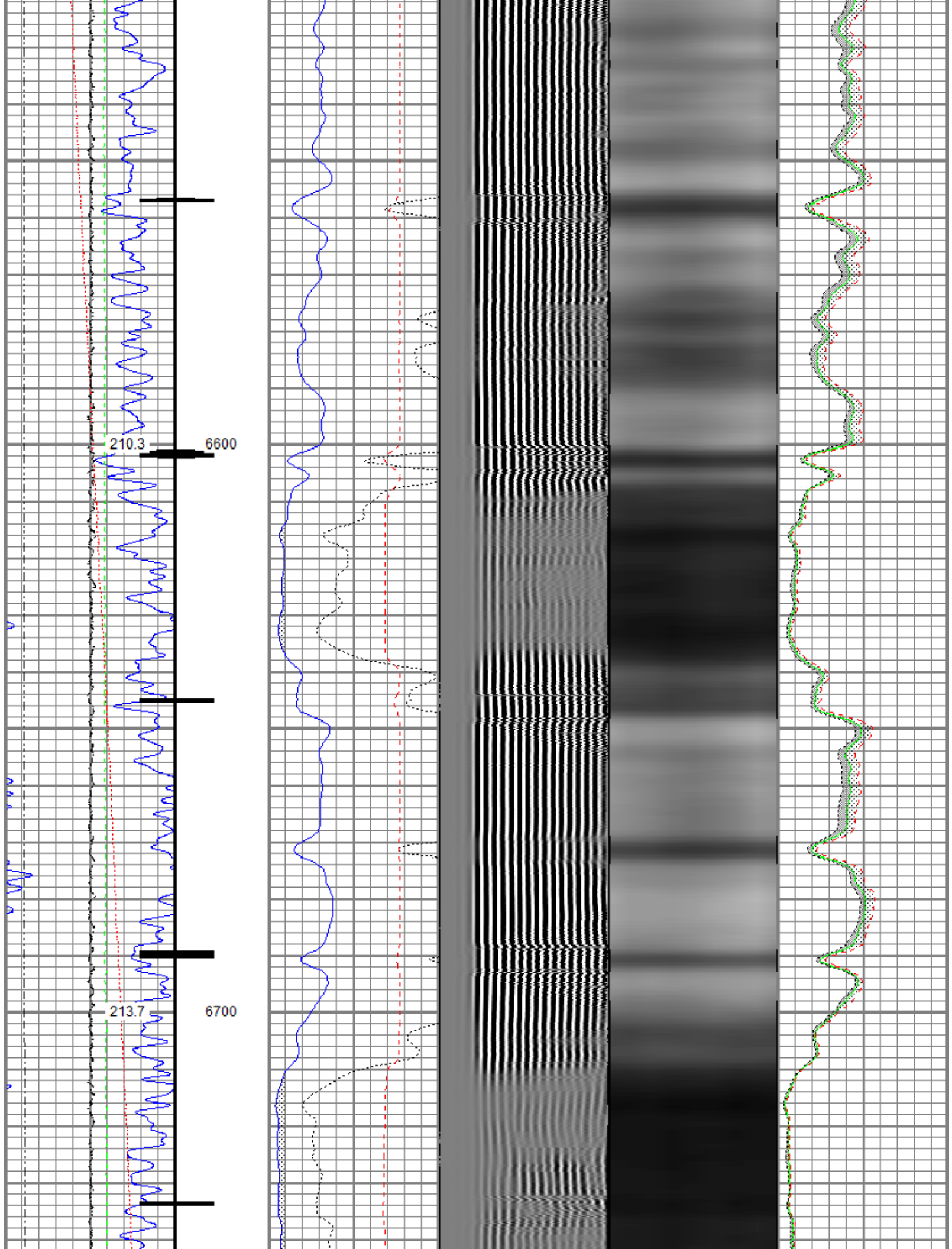


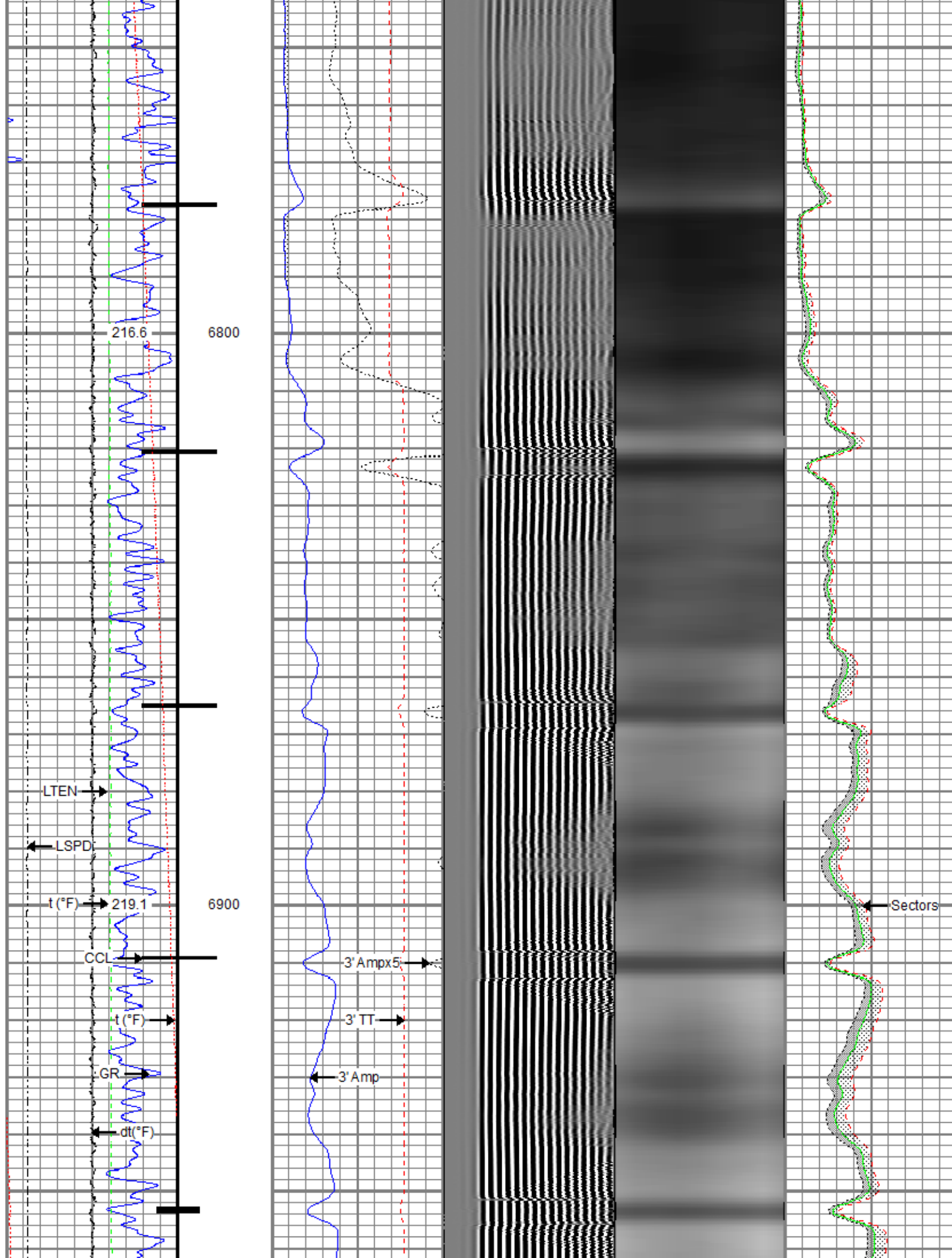




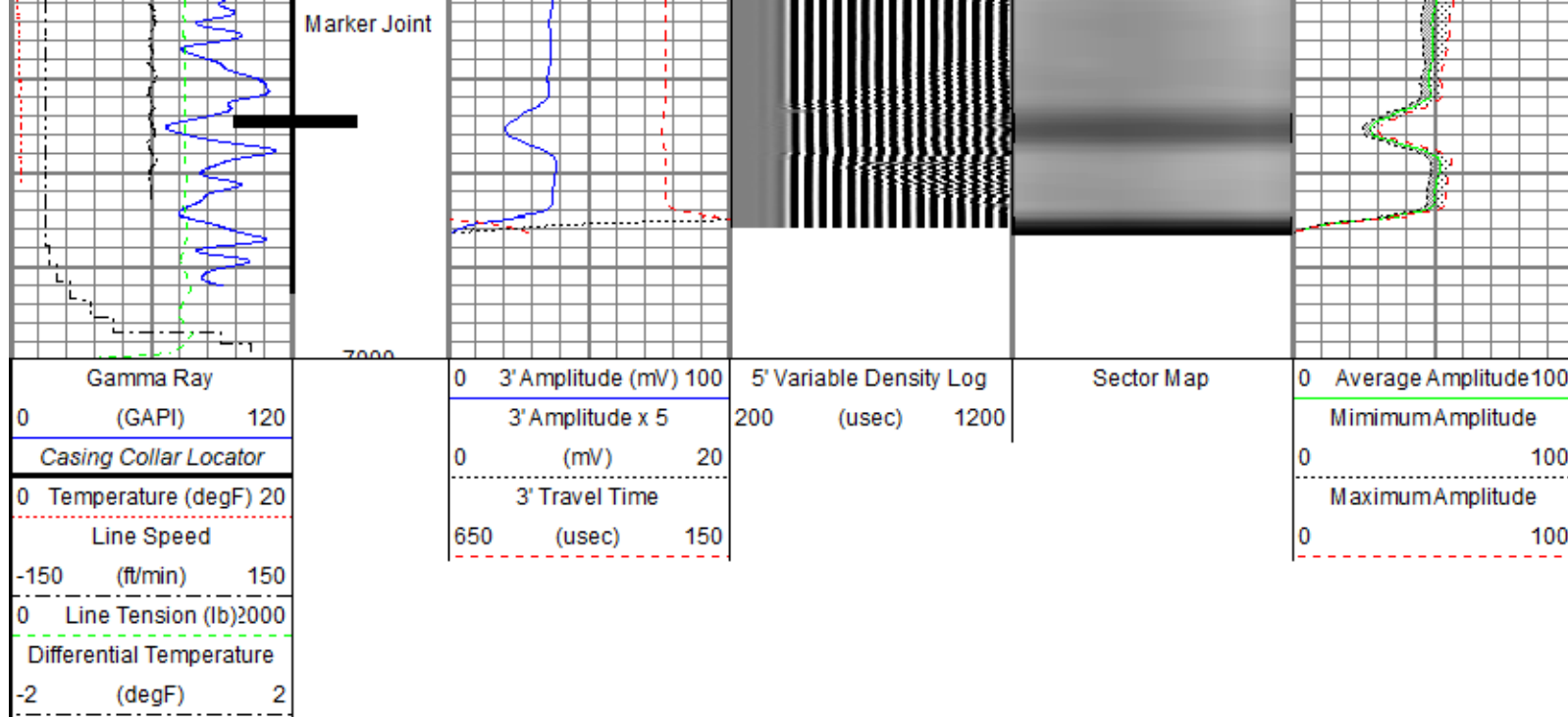








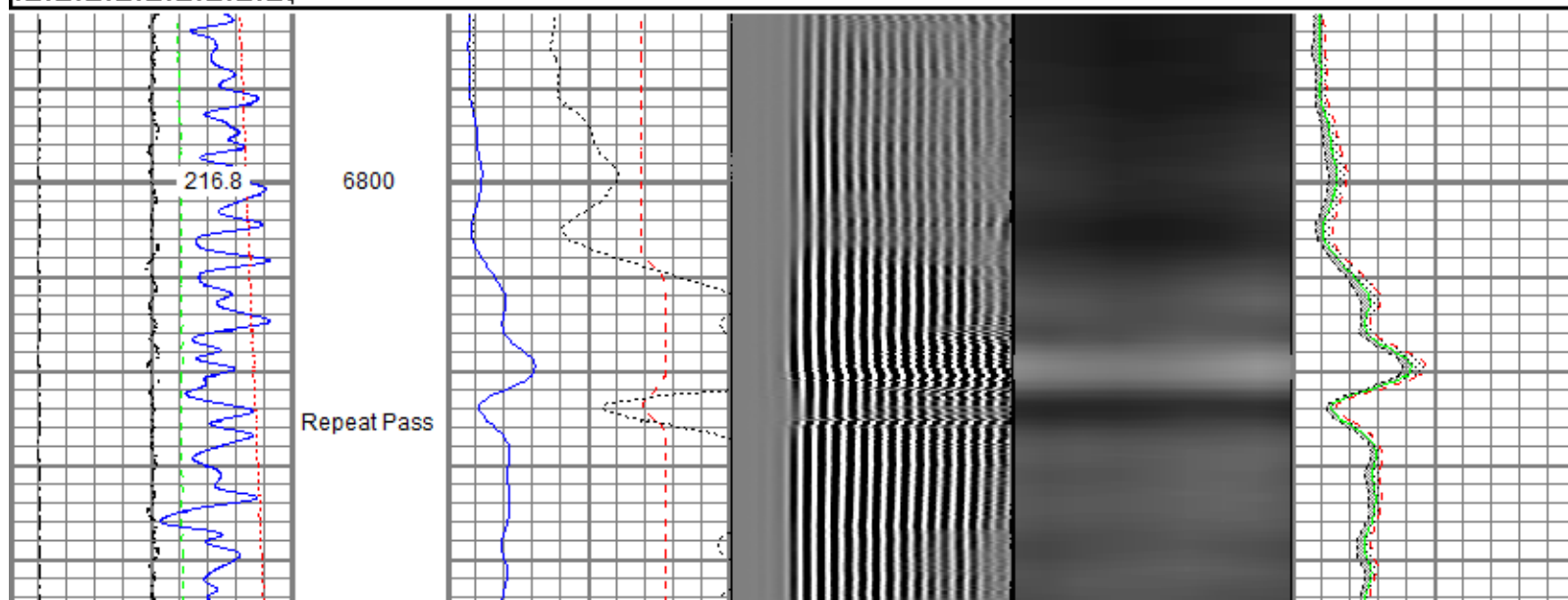
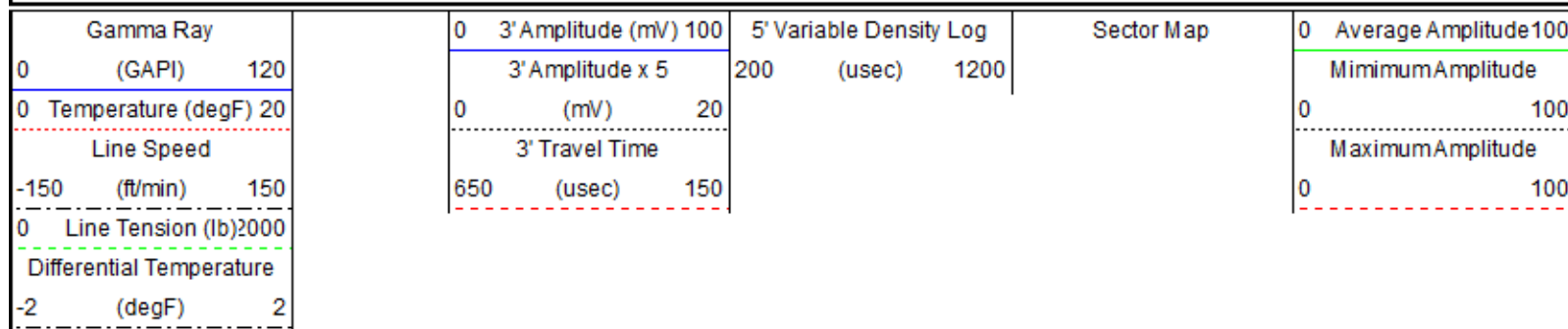
Marker Joint

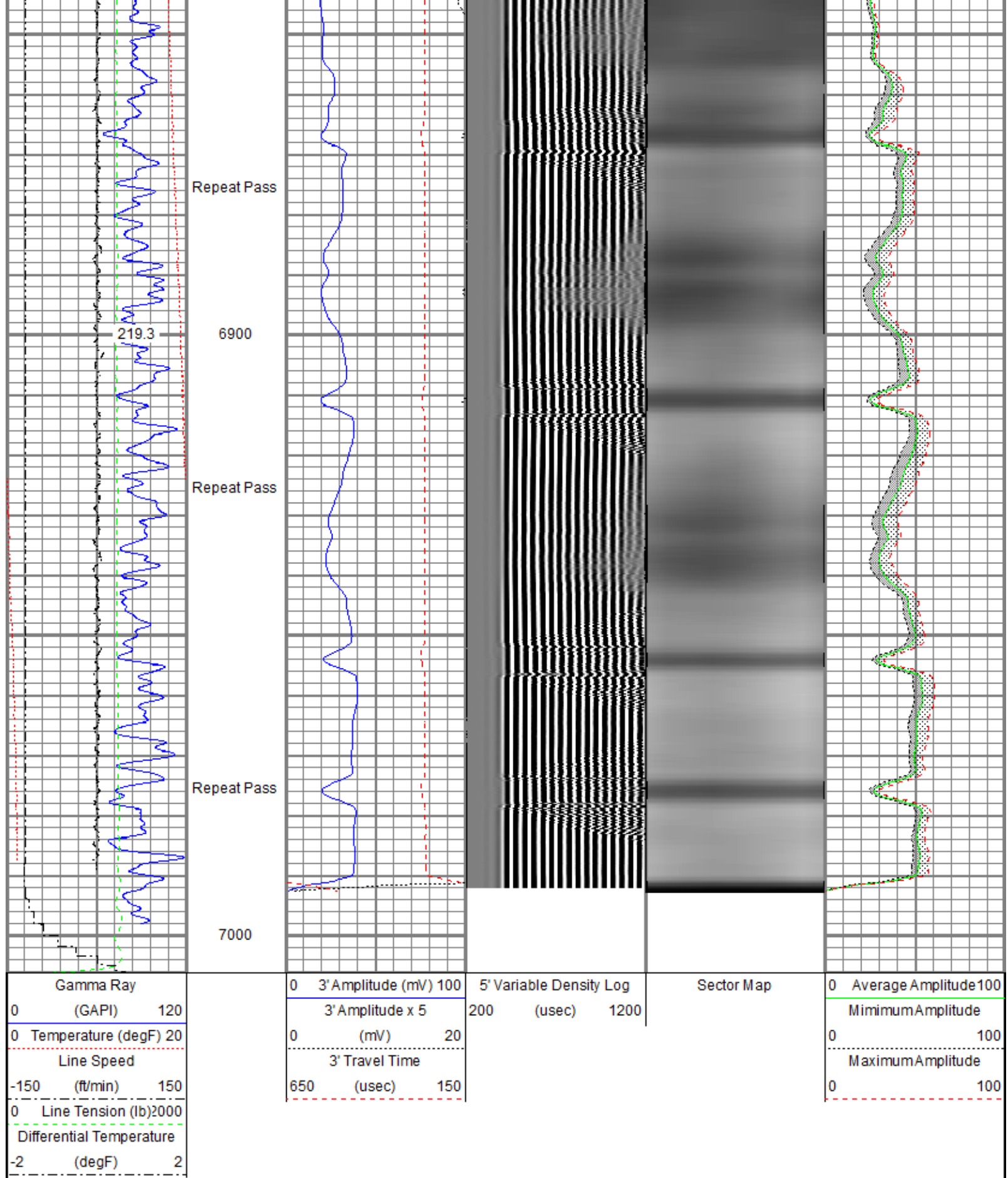


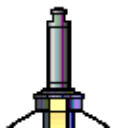
Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

Database File: anadarko_mab 15-12hz_rbl_06-20-19\0512349235_anadarko_mab 15-12hz_rbl_06-20-19.db
 Dataset Pathname: pass2.2
 Presentation Format: ros_radri
 Dataset Creation: Fri Jun 21 10:20:10 2019
 Charted by: Depth in Feet scaled 1:240





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
TEMP	17.04					
WVFS8	14.81		Probe Radii-2750 RBT (FW1305-098) 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: 0512349235_anadarko_mab 15-12hz_rbl_06-20-19.db: field/well/run1/pass4.2 Total length: 23.86 ft Total weight: 223.60 lb O.D.: 2.75 in						

Calibration Report

Database File c:\programdata\warrior\data\anadarko_mab 15-12hz_rbl_06-20-19\0512349235_anadarko_mab 15-12hz_rbl_06-20-19.db
 Dataset Pathname pass4.2
 Dataset Creation Fri Jun 21 10:16:42 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:	FW1305-098					
Tool Model:	2750 RBT					
Calibration Casing Diameter:	5.500	in				
Calibration Depth:	-51.101	ft				
Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.677	0.800	71.921	106.215	0.054
CAL	0.006	0.700				
5'	0.010	0.649	0.800	71.921	111.292	-0.295
SUM						
S1	0.005	0.665	0.000	100.000	151.543	-0.736
S2	0.007	0.711	0.000	100.000	141.855	-0.926
S3	0.008	0.724	0.000	100.000	139.625	-1.130
S4	0.010	0.725	0.000	100.000	139.834	-1.421
S5	0.009	0.730	0.000	100.000	138.689	-1.233
S6	0.007	0.700	0.000	100.000	144.215	-0.999
S7	0.010	0.642	0.000	100.000	158.165	-1.529
S8	0.008	0.636	0.000	100.000	159.219	-1.253
Internal Reference Calibration, performed (Not Performed):						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.006	0.700	1.000	0.000
Air Zero Calibration, performed Thu Jun 20 06:09:36 2019:						
	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						

Tool Model: 2750 RBT
Performed: Mon Oct 01 11:32:17 2018

	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	Kerr-McGee Oil & Gas Onshore, L.P.
Well	MAB 15-12HZ
Field	Wattenberg
County	Weld
State	Colorado