



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	Sakata-State 24-36				
Field	Wattenberg				
County	Weld				
State	Colorado				
Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	Sakata-State 24-36				
Field	Wattenberg				
County	Weld	State	Colorado		
Location:	API # : 05-123-07880		Other Services		
SEC 36 TWP 1N RGE 67W			GR/ CIBP		
Permanent Datum	Ground Level	Elevation	Elevation		
Log Measured From	Kelly Bushing	10 FT	K.B. 4969'		
Drilling Measured From	Kelly Bushing		D.F. 4968'		
			G.L. 4959'		

Date	04-MAY-2017					
Run Number	Three					
Depth Driller	8222 FT					
Depth Logger	7809 FT					
Bottom Logged Interval	7805 FT					
Top Log Interval	Surface					
Open Hole Size	7.85"					
Type Fluid	Water					
Density / Viscosity	8.34 lb/gal					
Max. Recorded Temp.	236°F					
Estimated Cement Top	See Log					
Time Well Ready	ROA					
Time Logger on Bottom	16:52 PM					
Equipment Number	HD-343					
Location	Fort Lupton, CO					
Recorded By	J. Fresquez					
Witnessed By	Jody Cornell					
Borehole Record						Tubing Record
Run Number	Bit	From	To	Size	Weight	From To
Casing Record	Size (in)	Wgt (lbs/Ft)		Grade	Top	Bottom
Surface Casing	8 5/8	20		---	Surface	154 FT
Intermediate #1	4 1/2	10.5		---	Surface	11 FT
Intermediate #2	4 1/2	11.6		---	11 FT	8213 FT
Liner						

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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 Kelly Bushing at 10 FT
Adjusted +10 FT to correlate to Kelly Bushing
Log ran from 7805 FT to Surface
Recorded with 0 PSI surface induced pressure
Logging tools were clean and free of any debris upon completion of operations

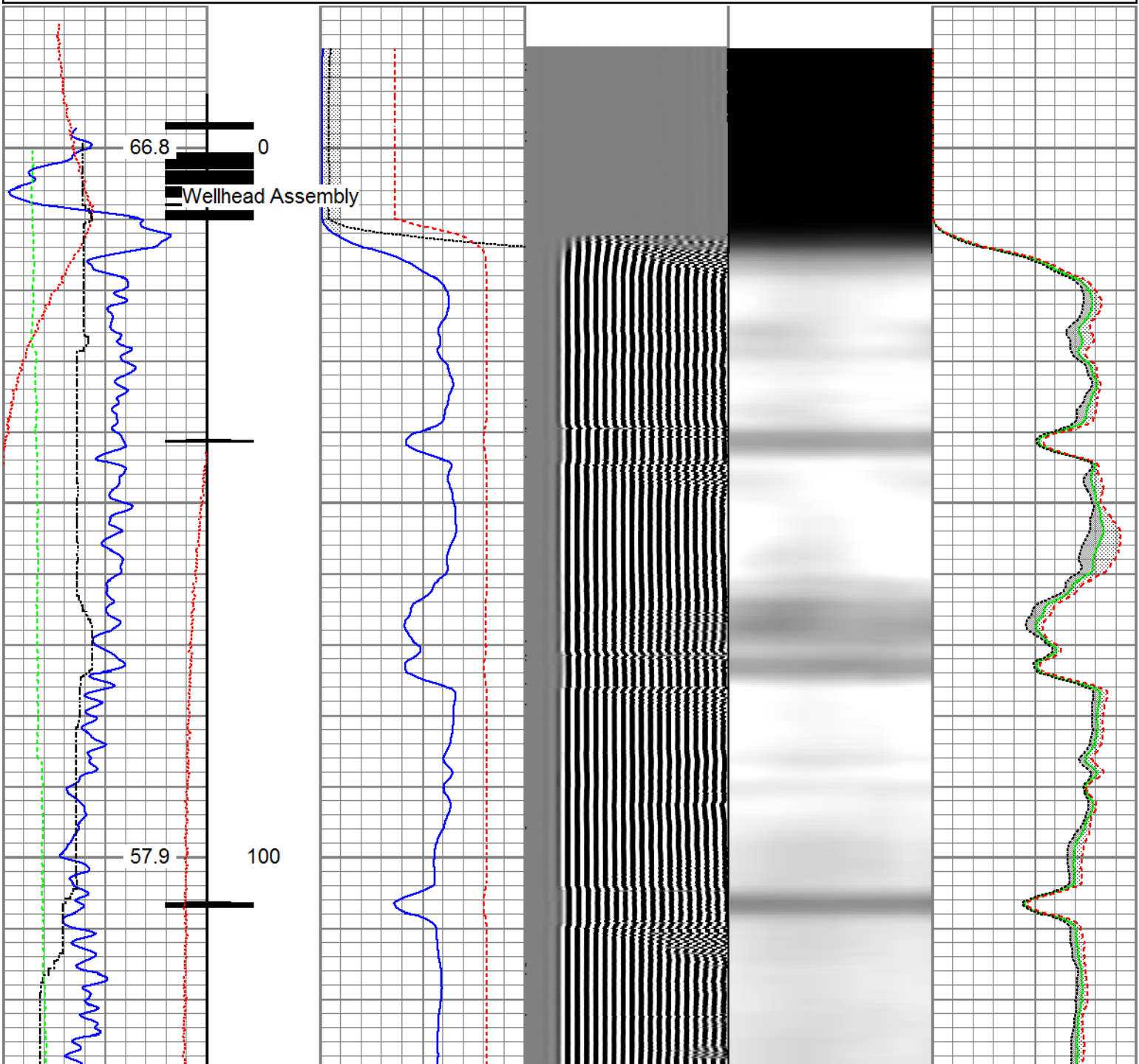
Thank you for choosing Reliance Oilfield Services, LLC!!

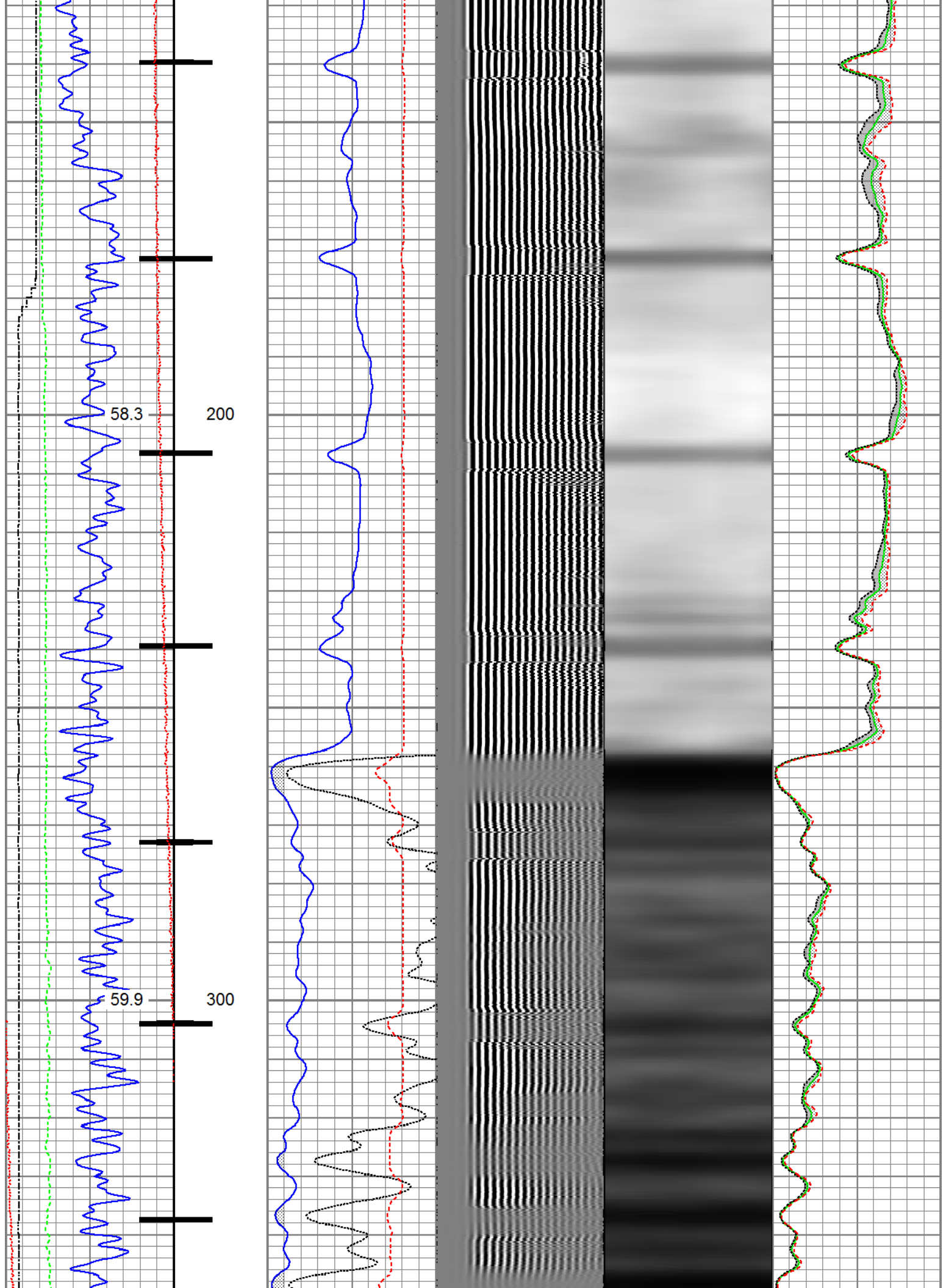


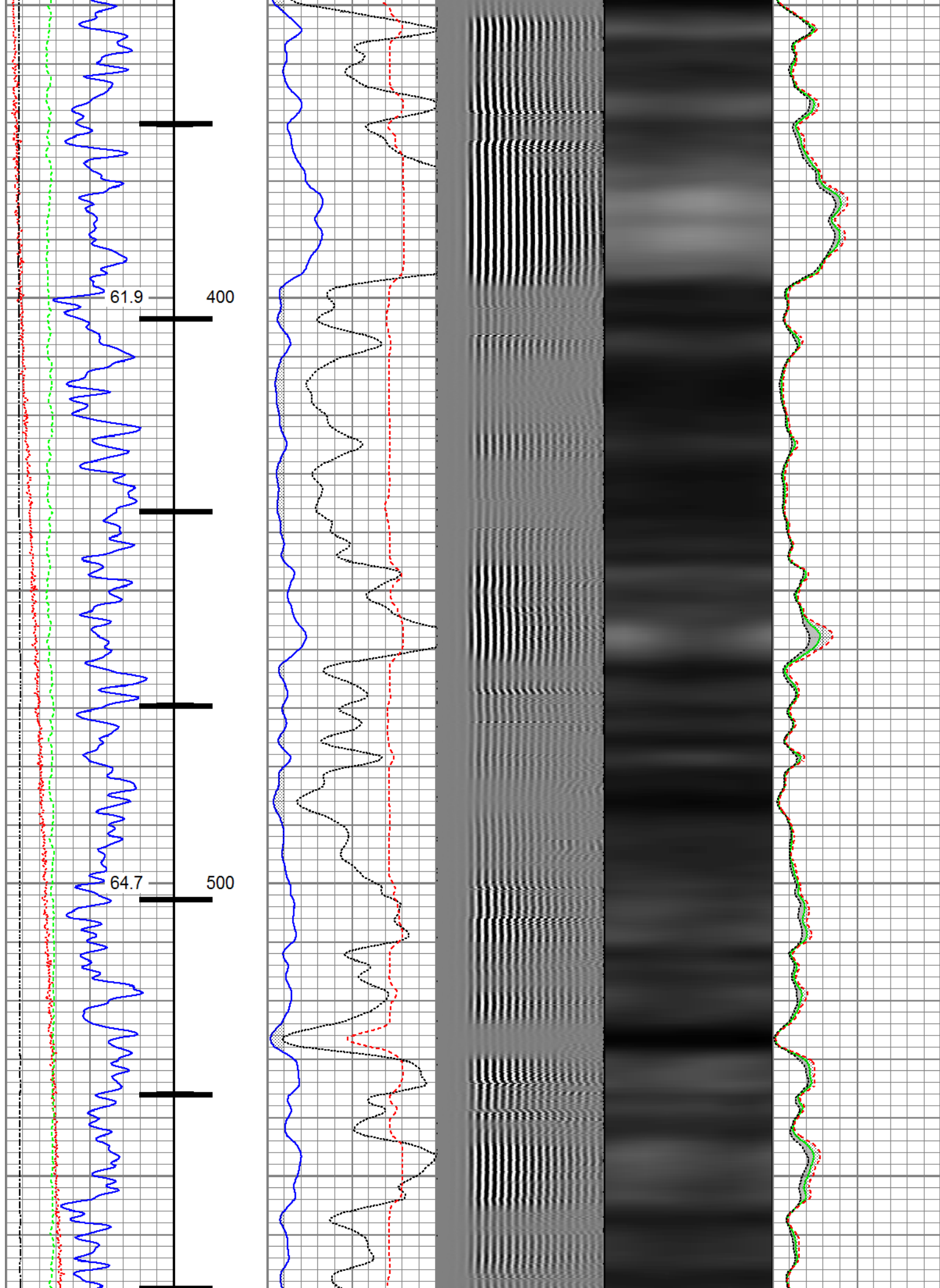
Main Pass

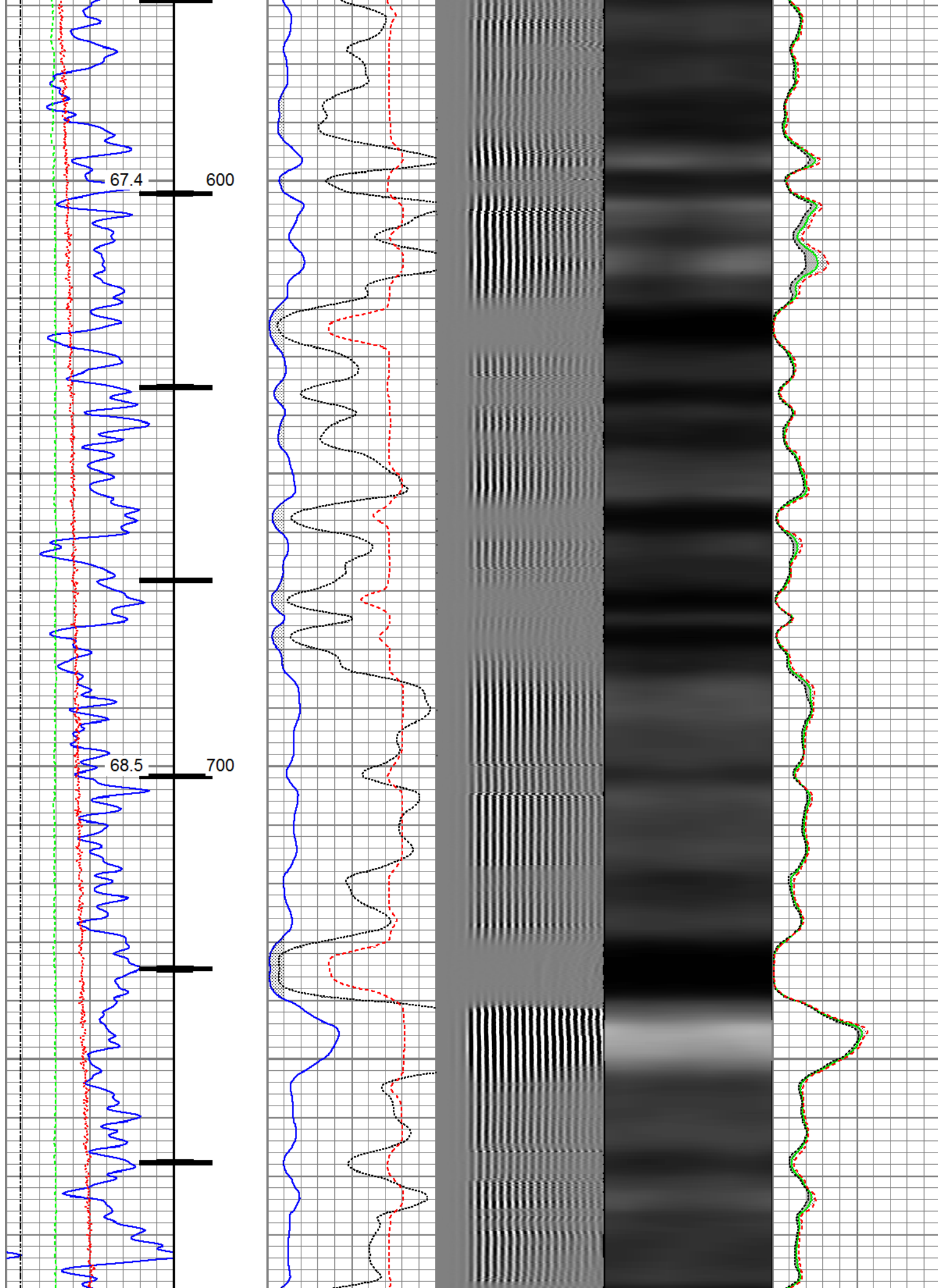
Recorded with 0 PSI Surface Induced Pressure

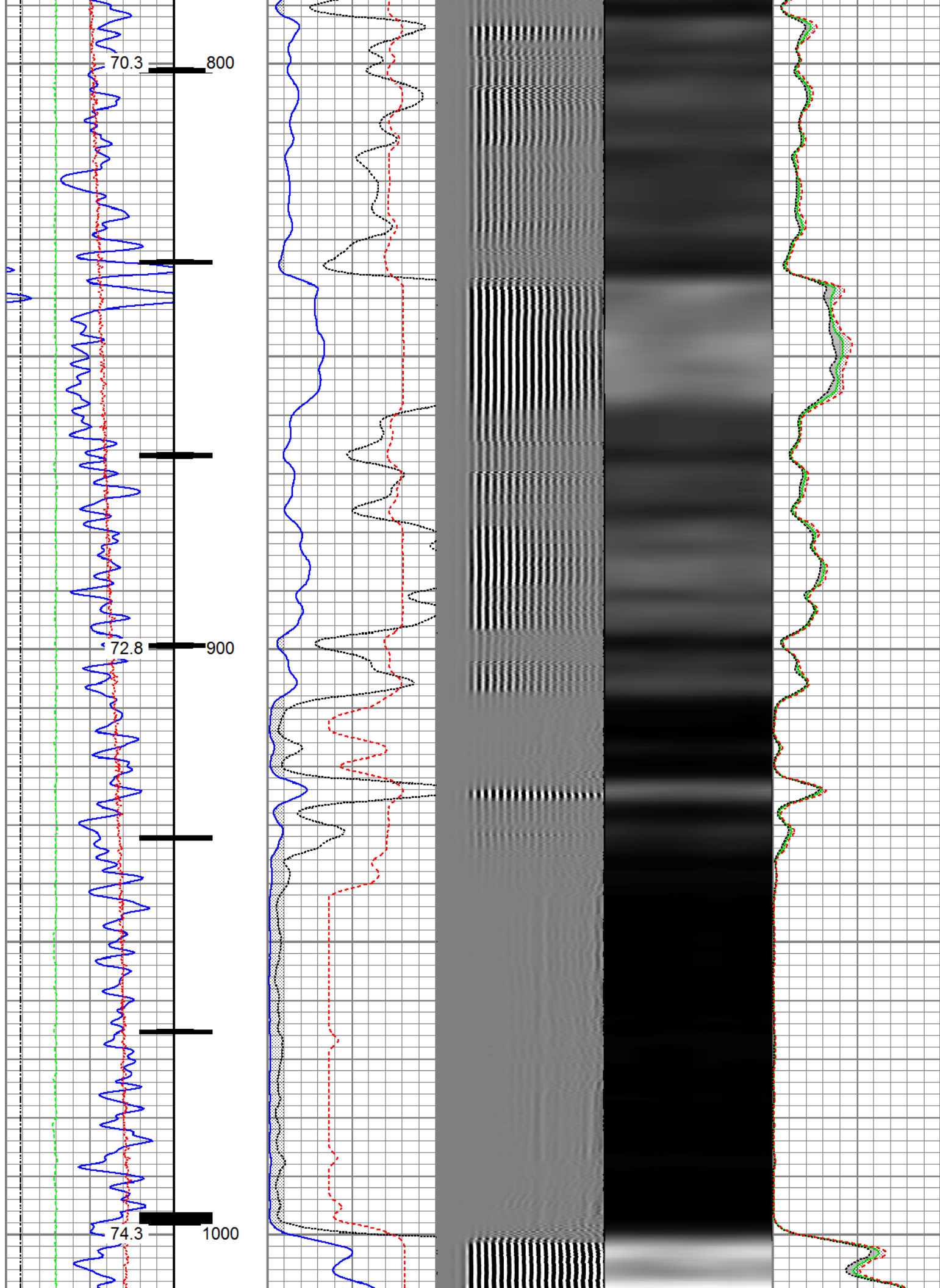
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 20	650 (usec) 150			0 100
Line Speed				
-150 (ft/min)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

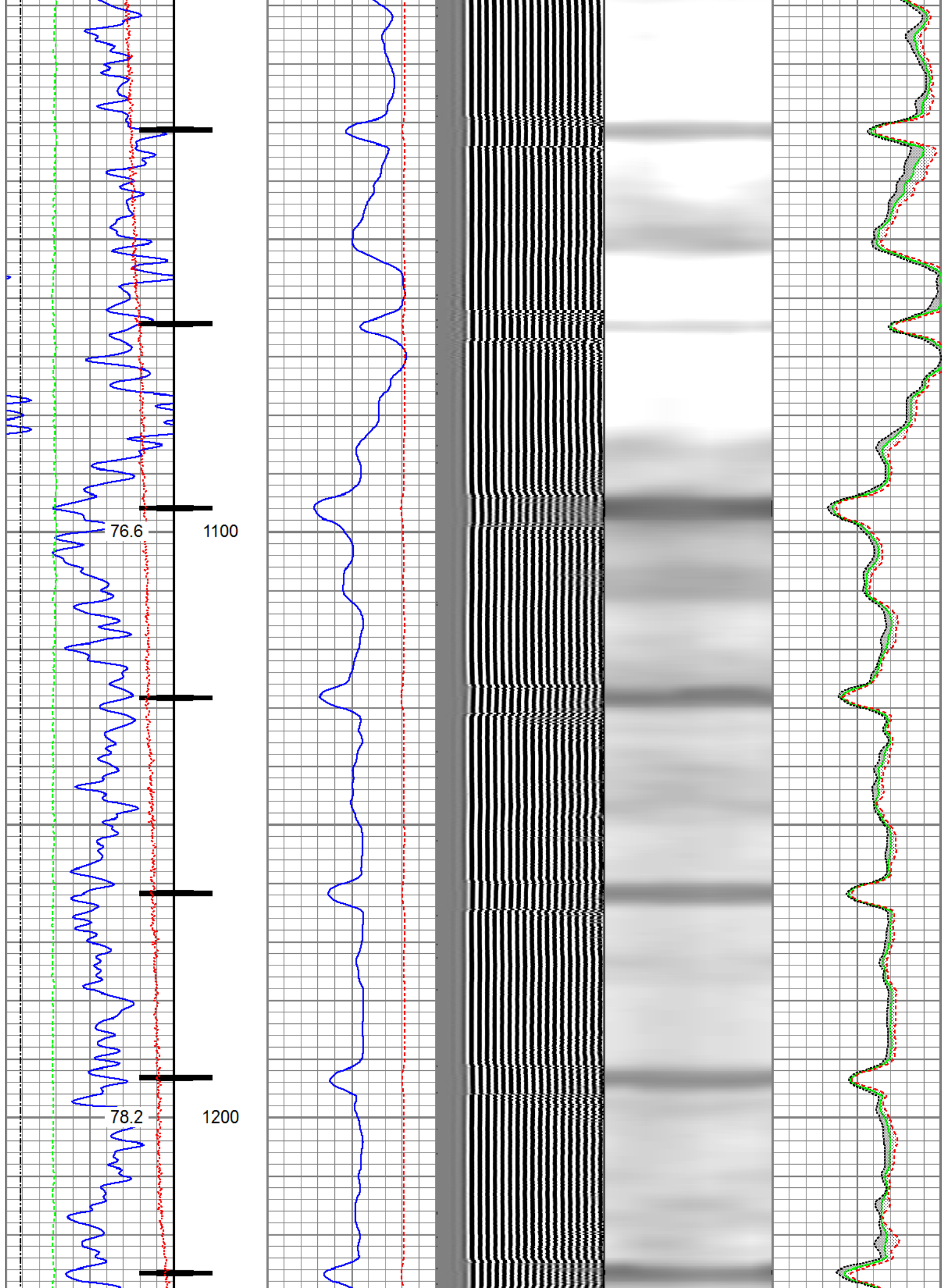


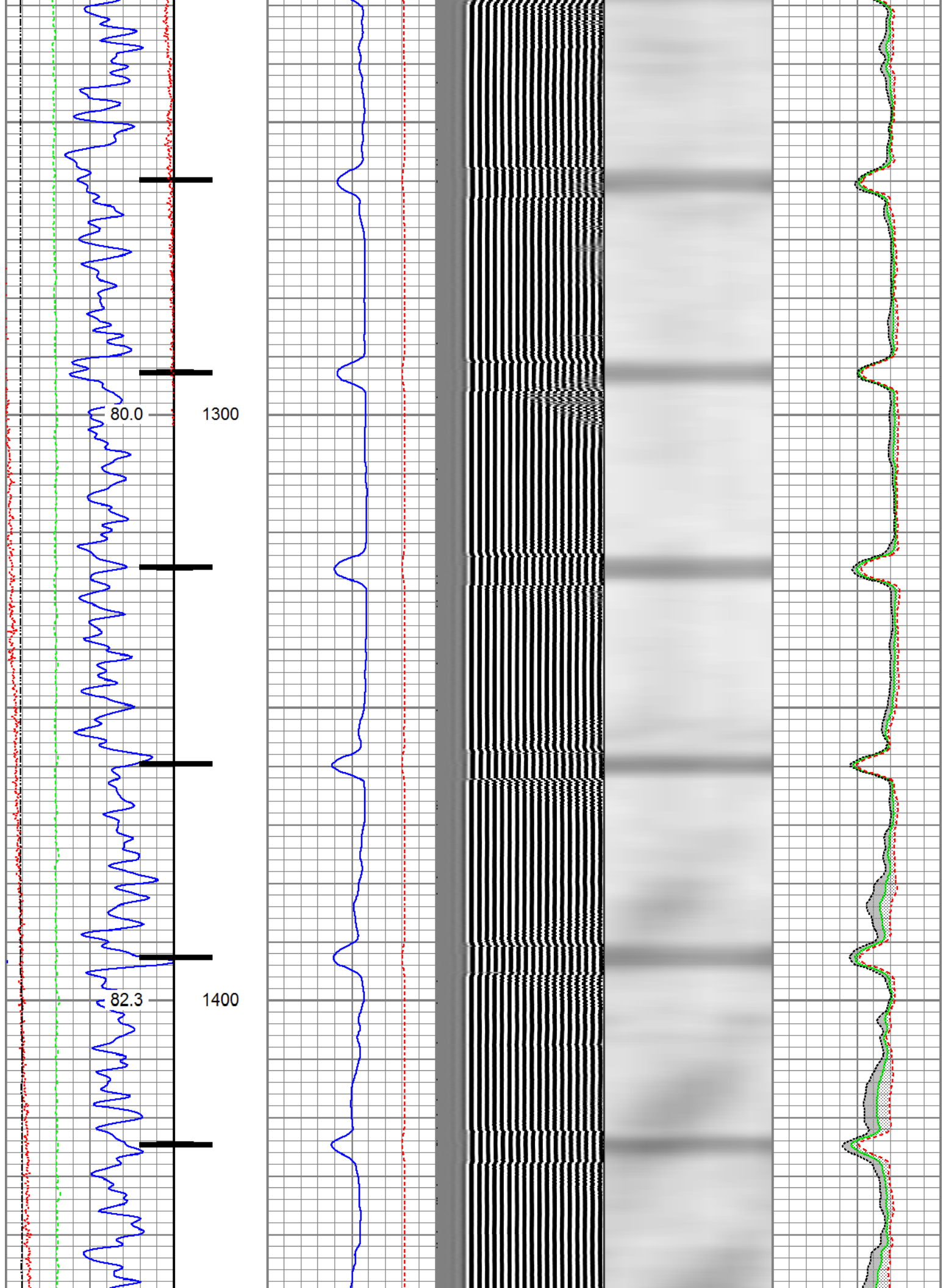


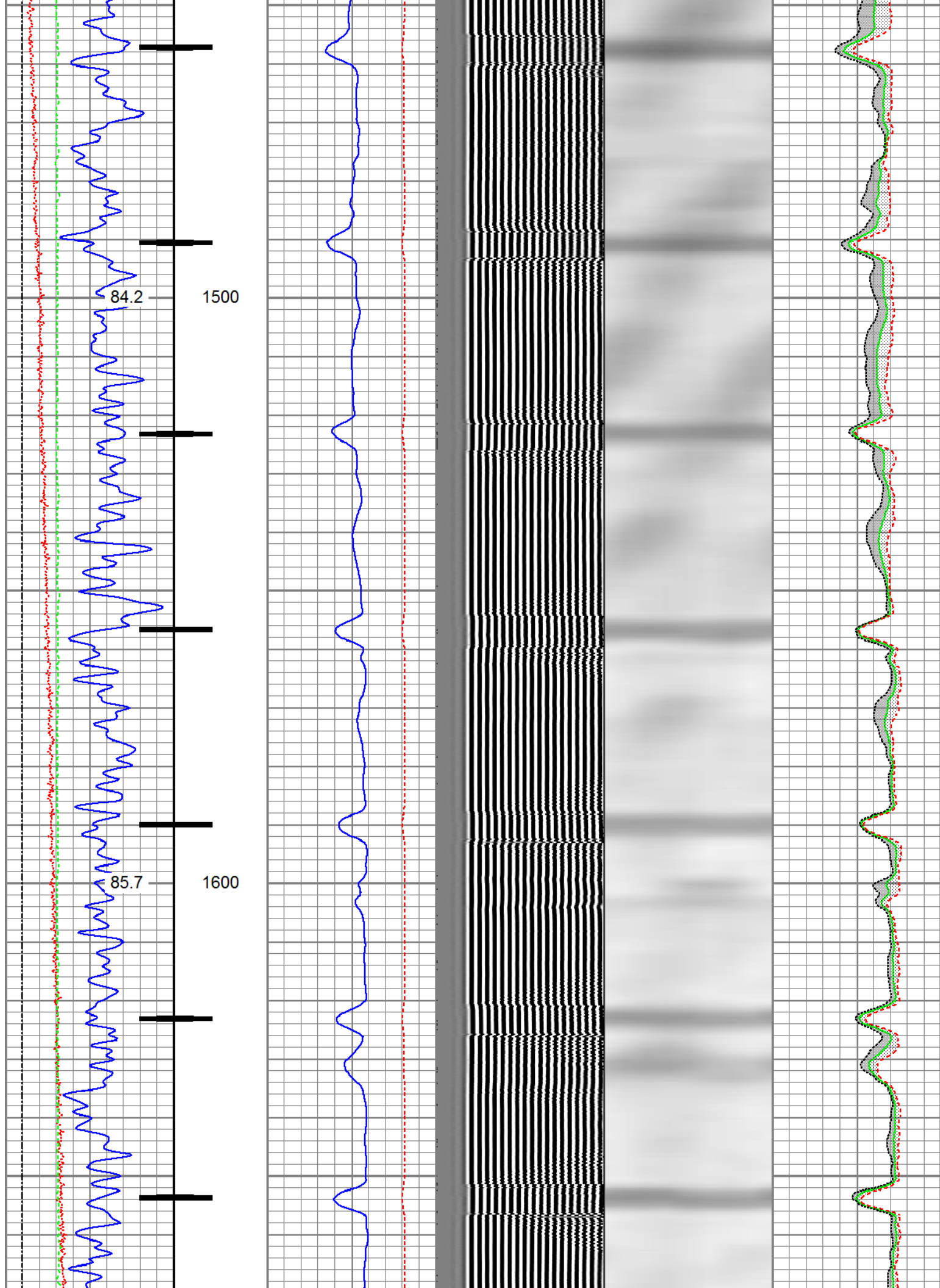


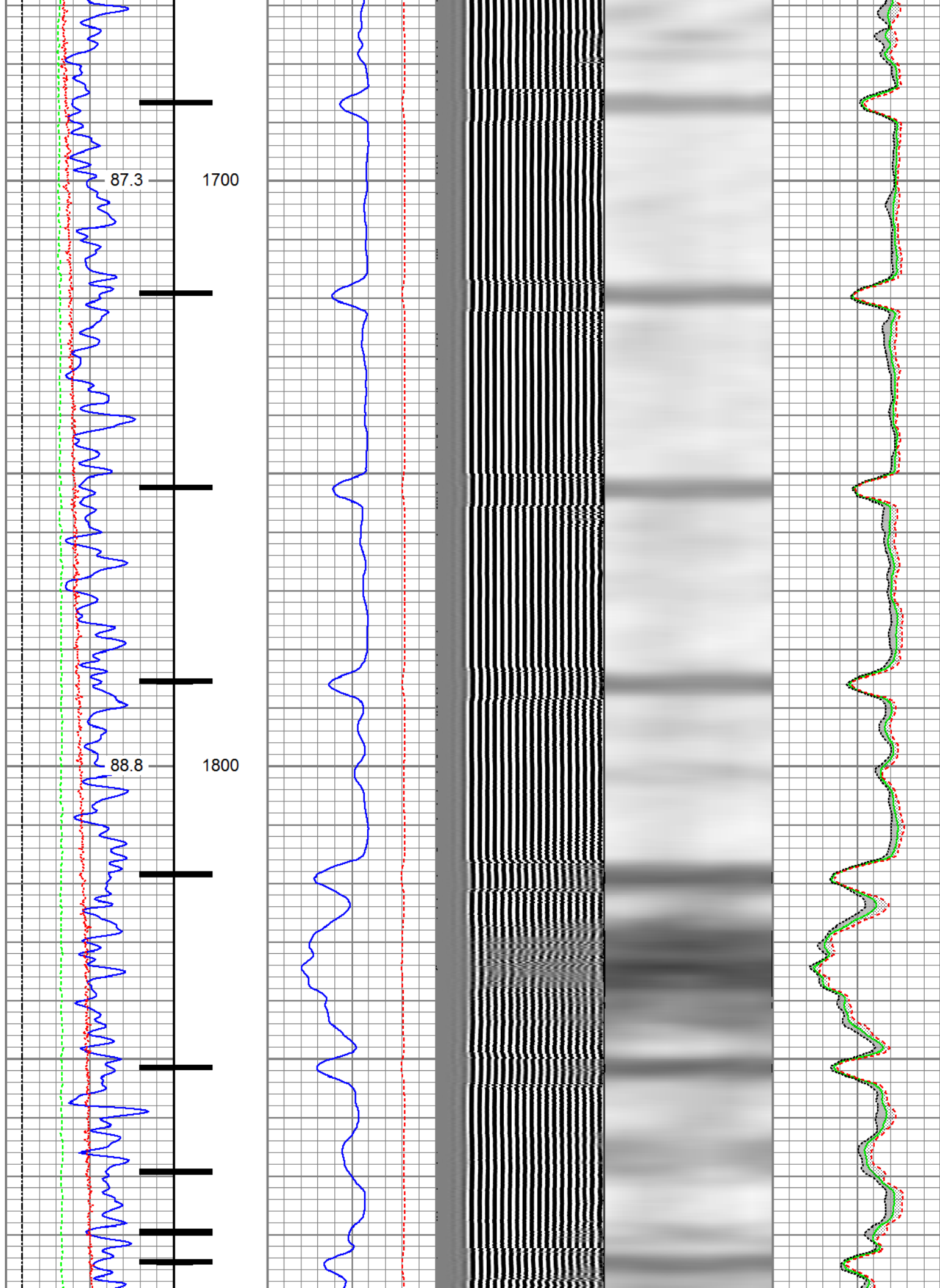


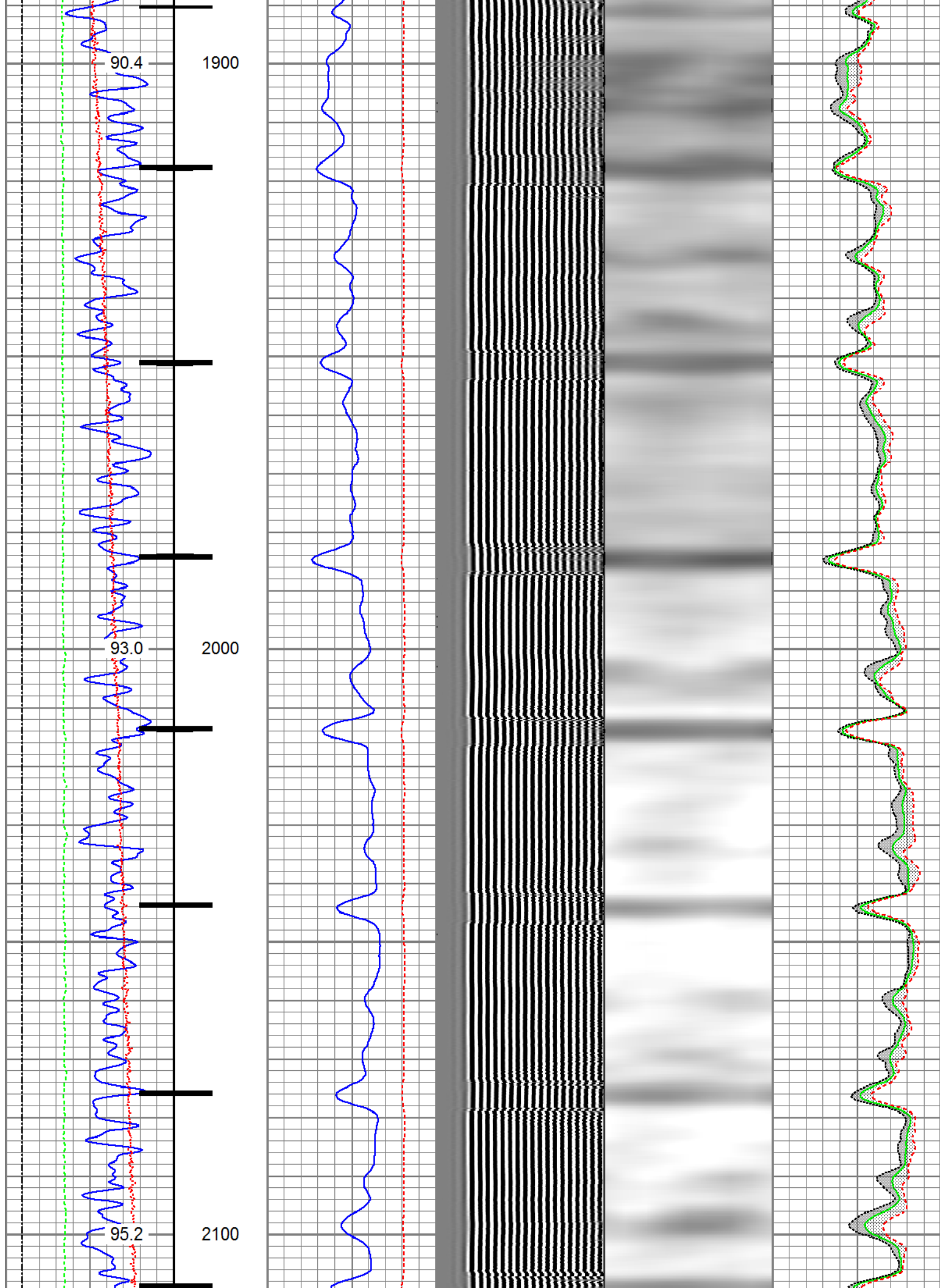


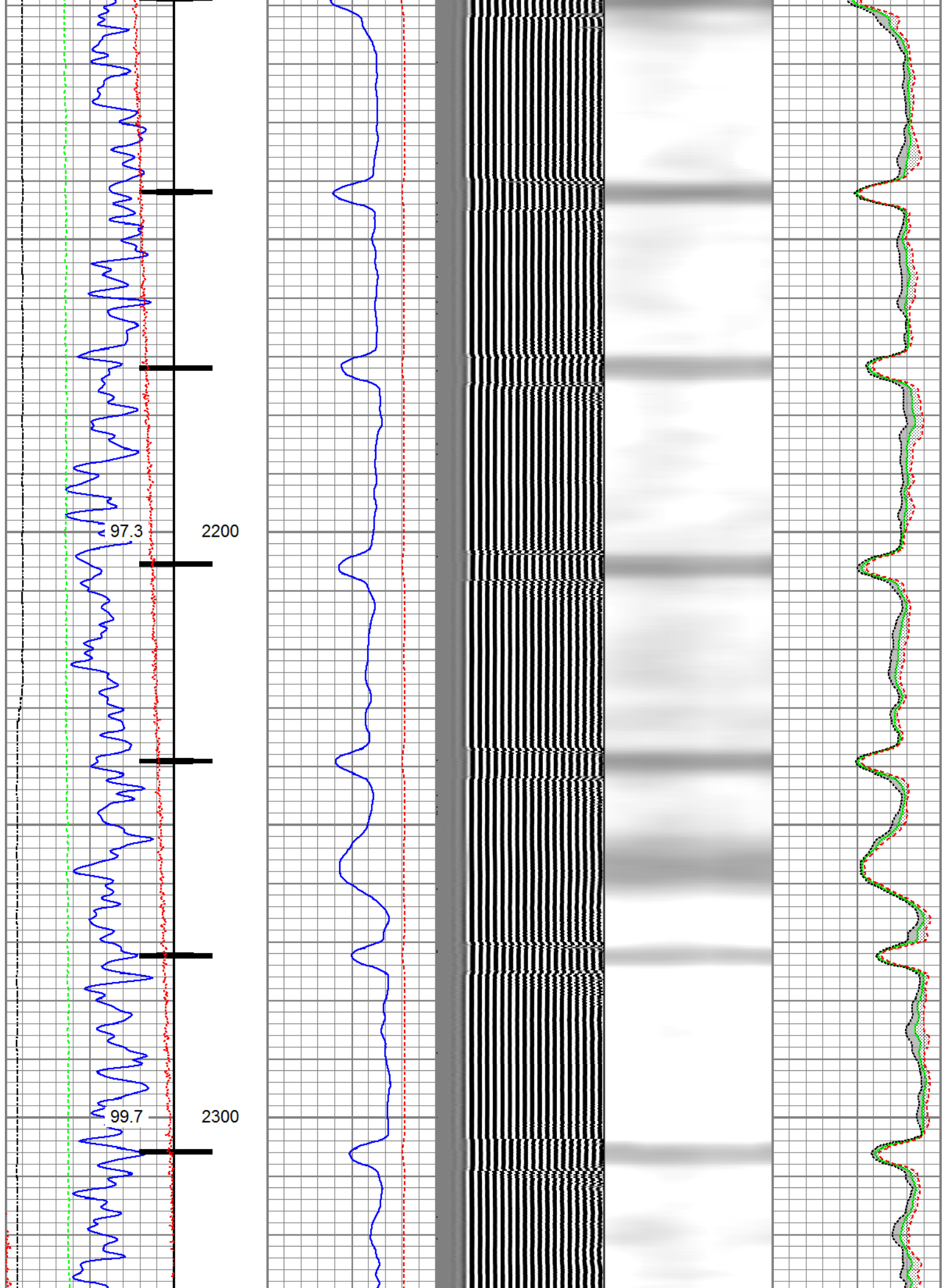


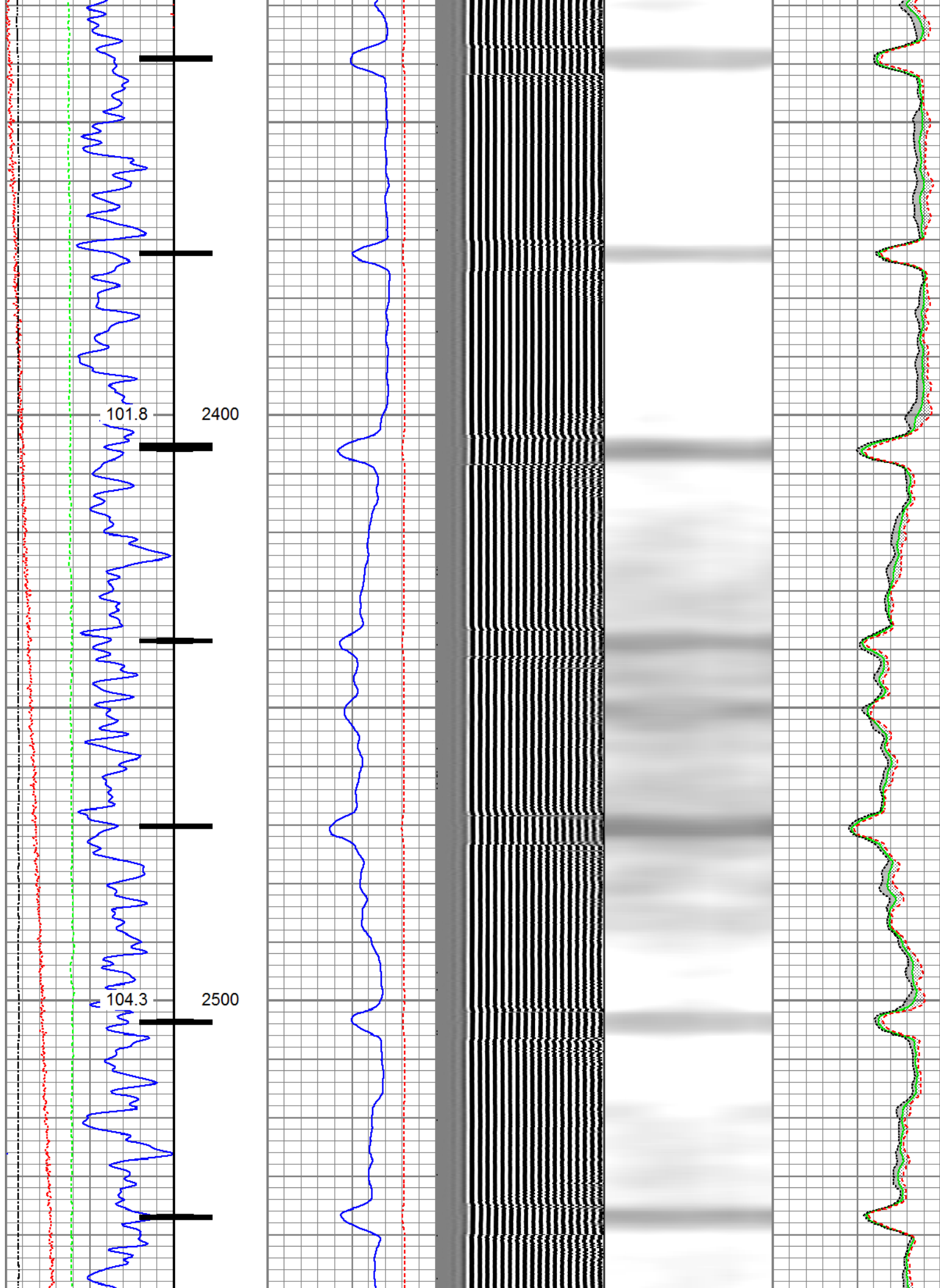


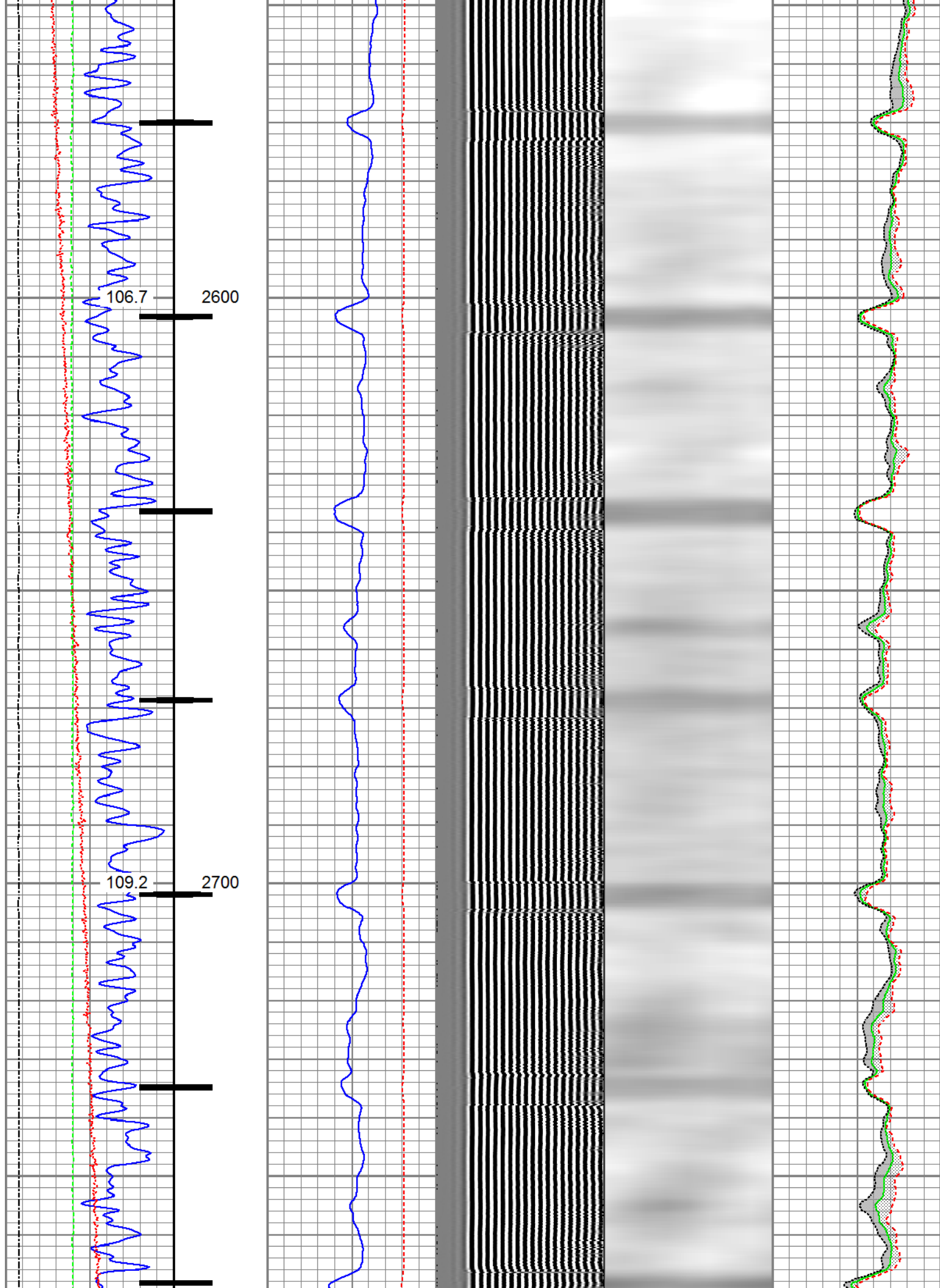


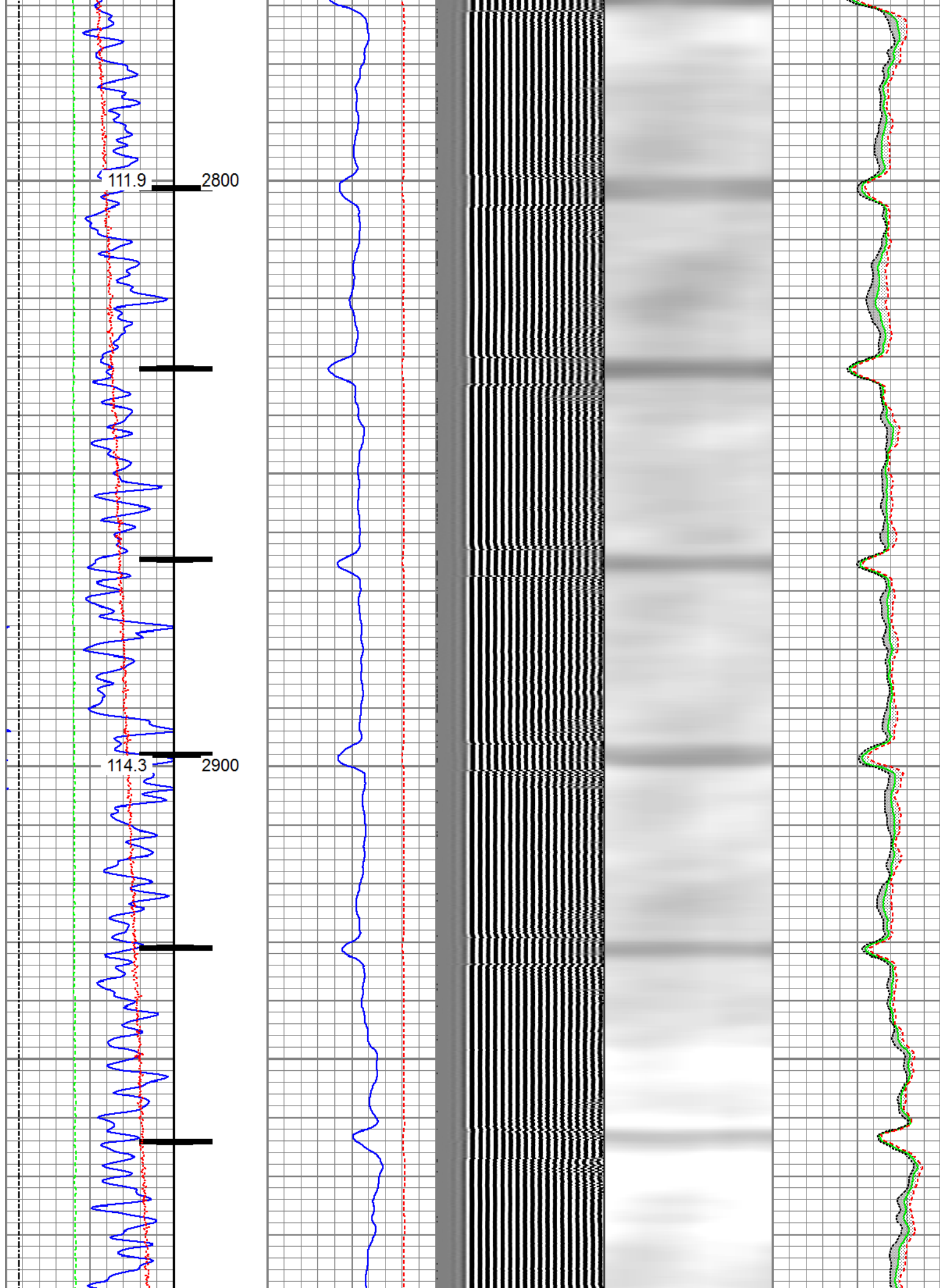


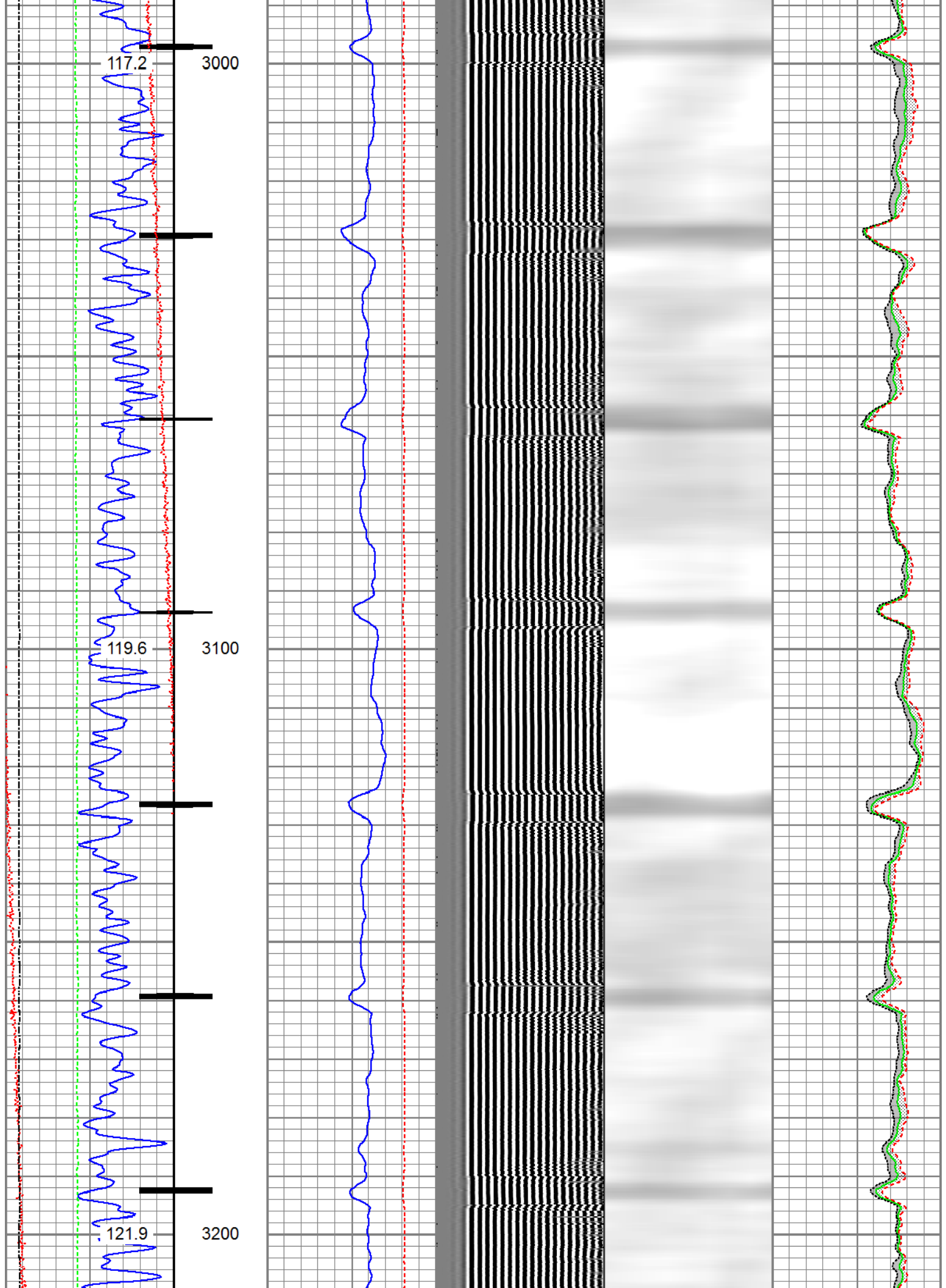


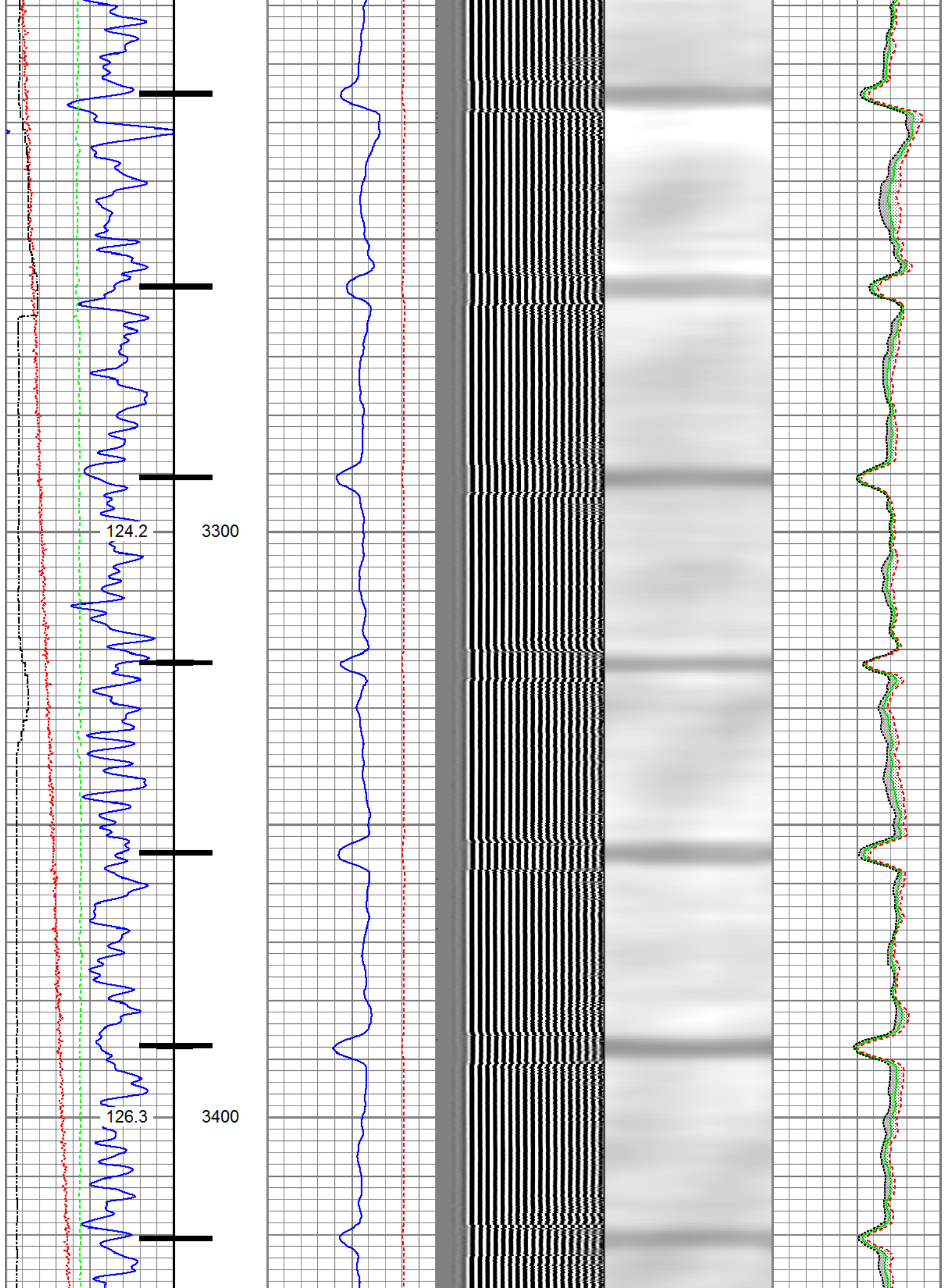


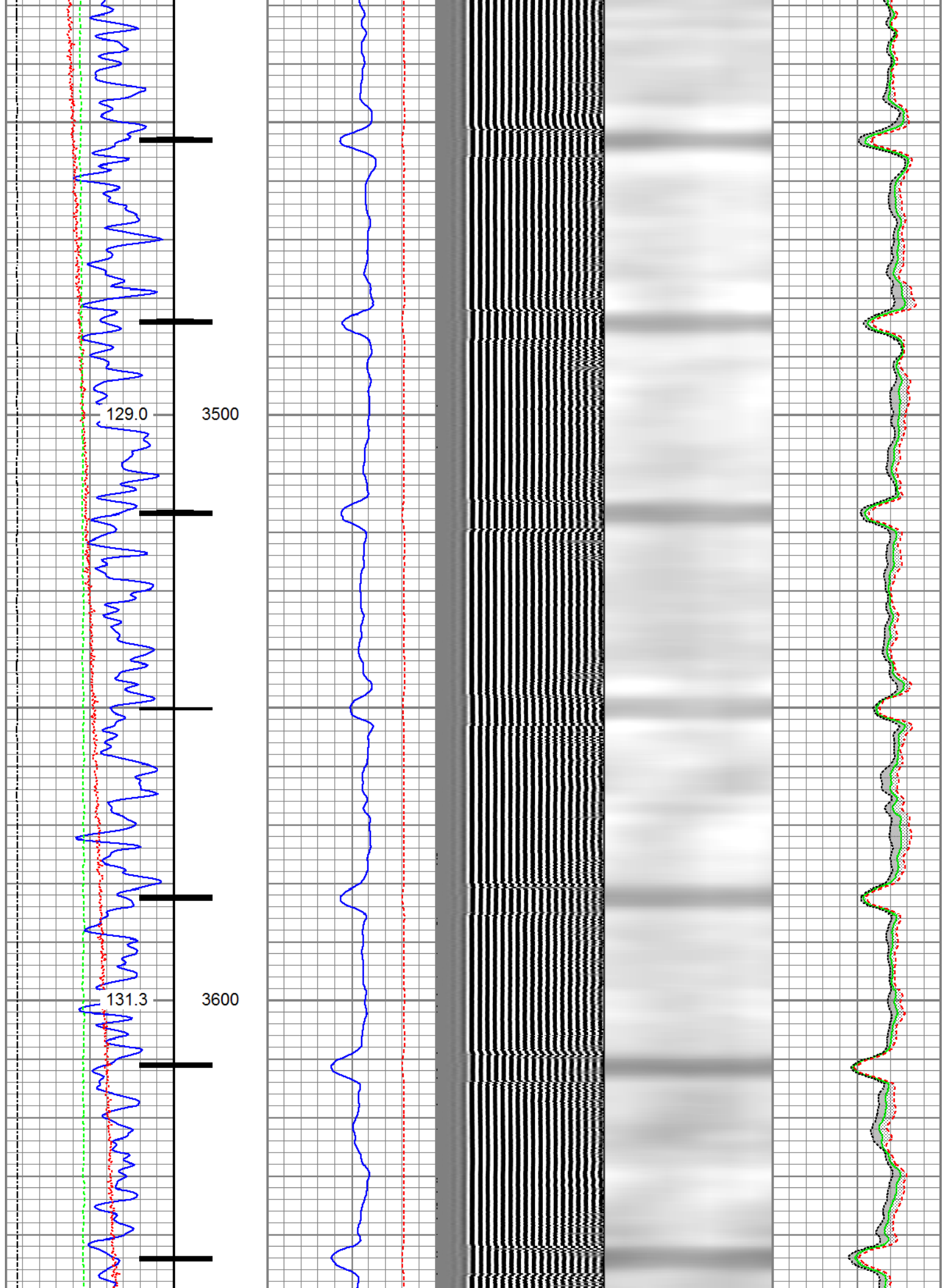


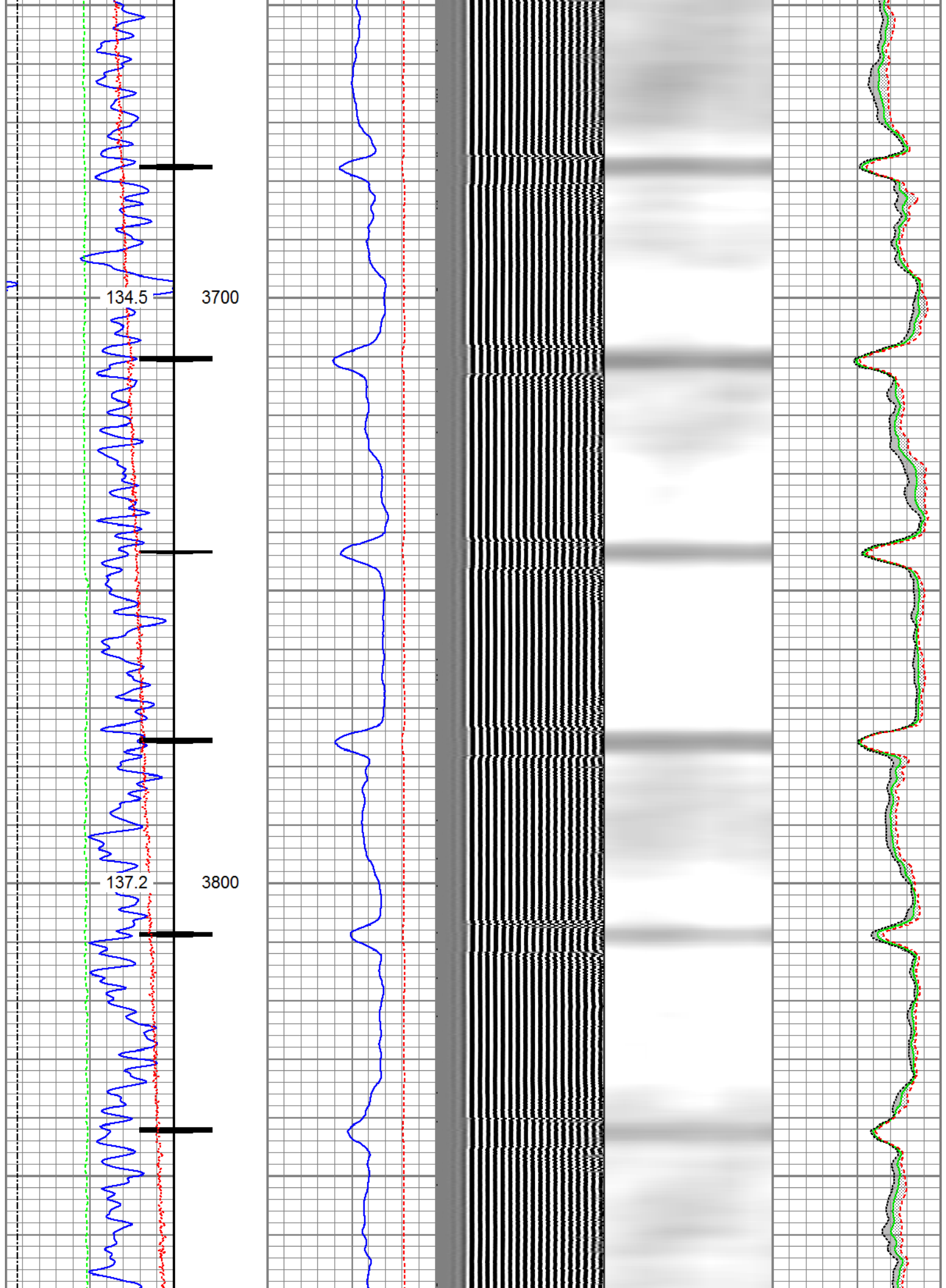


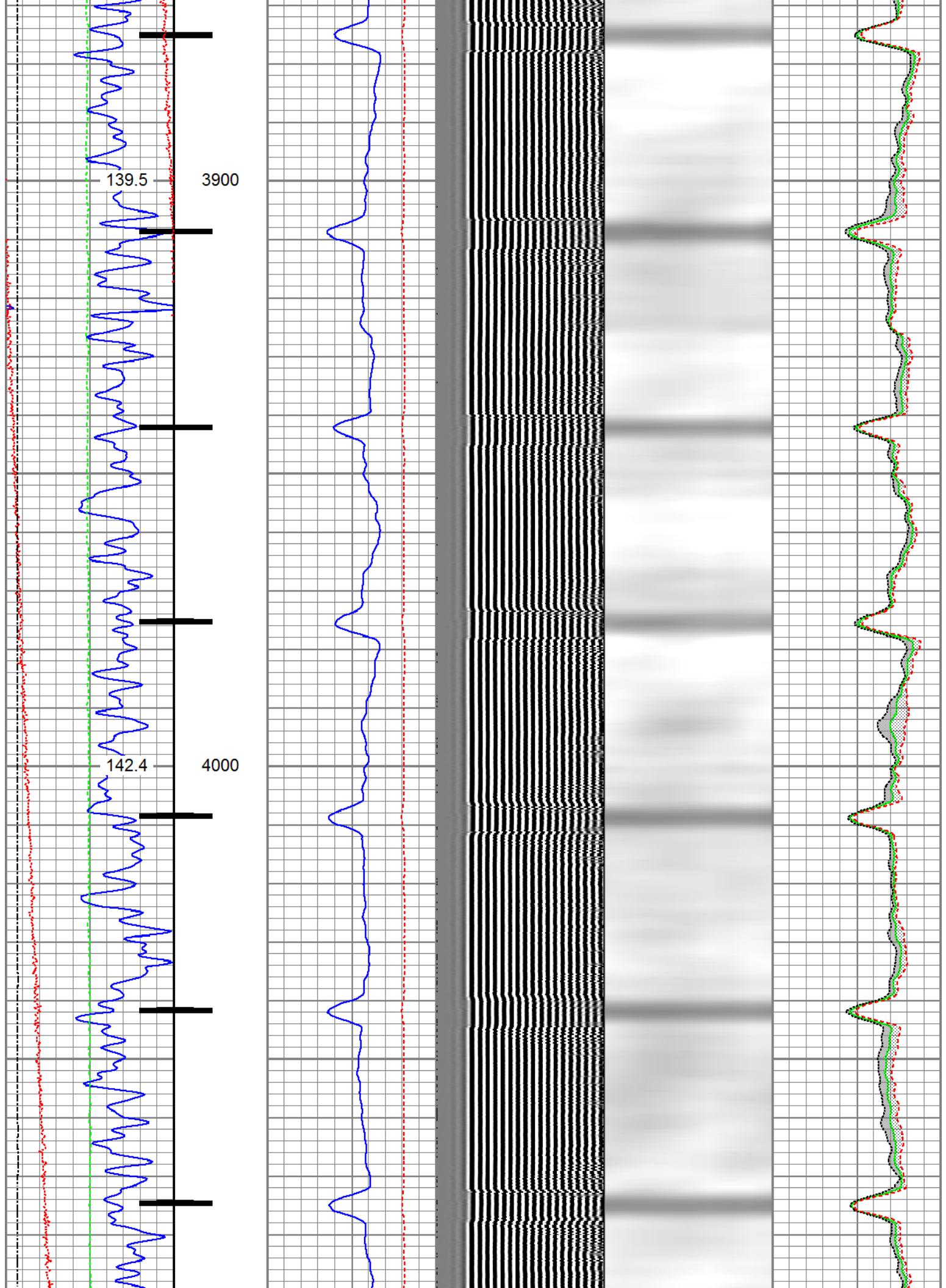


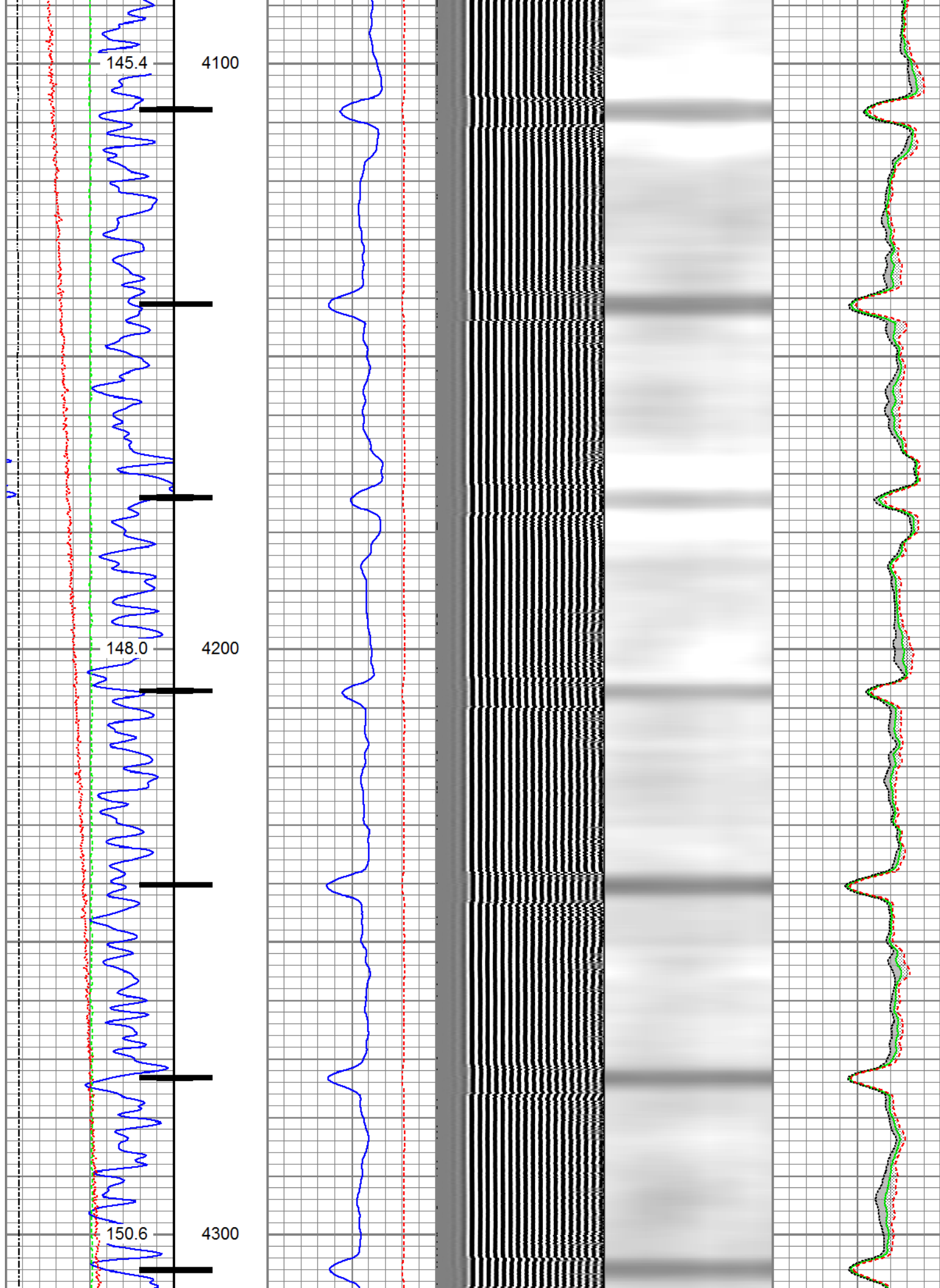


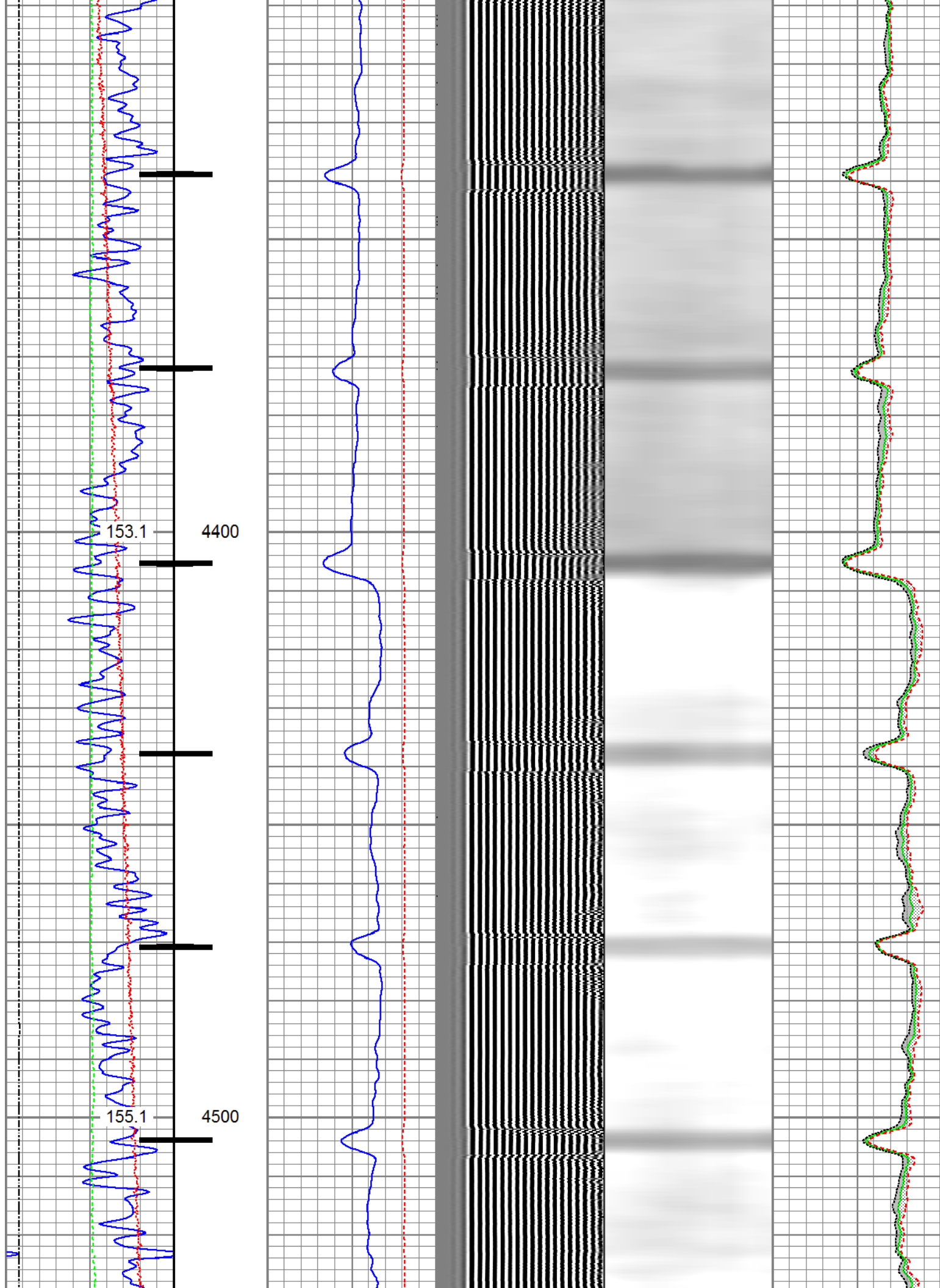


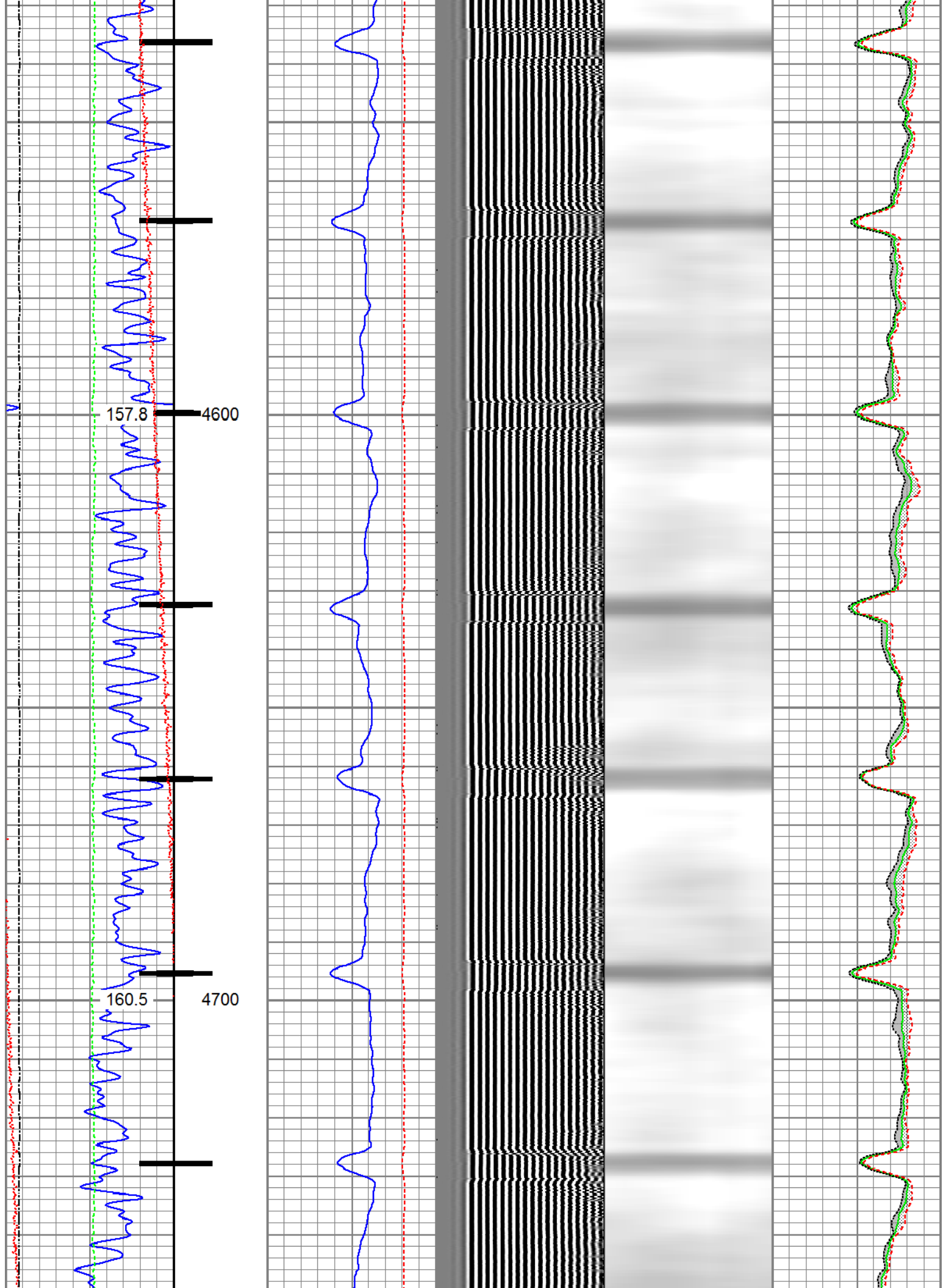


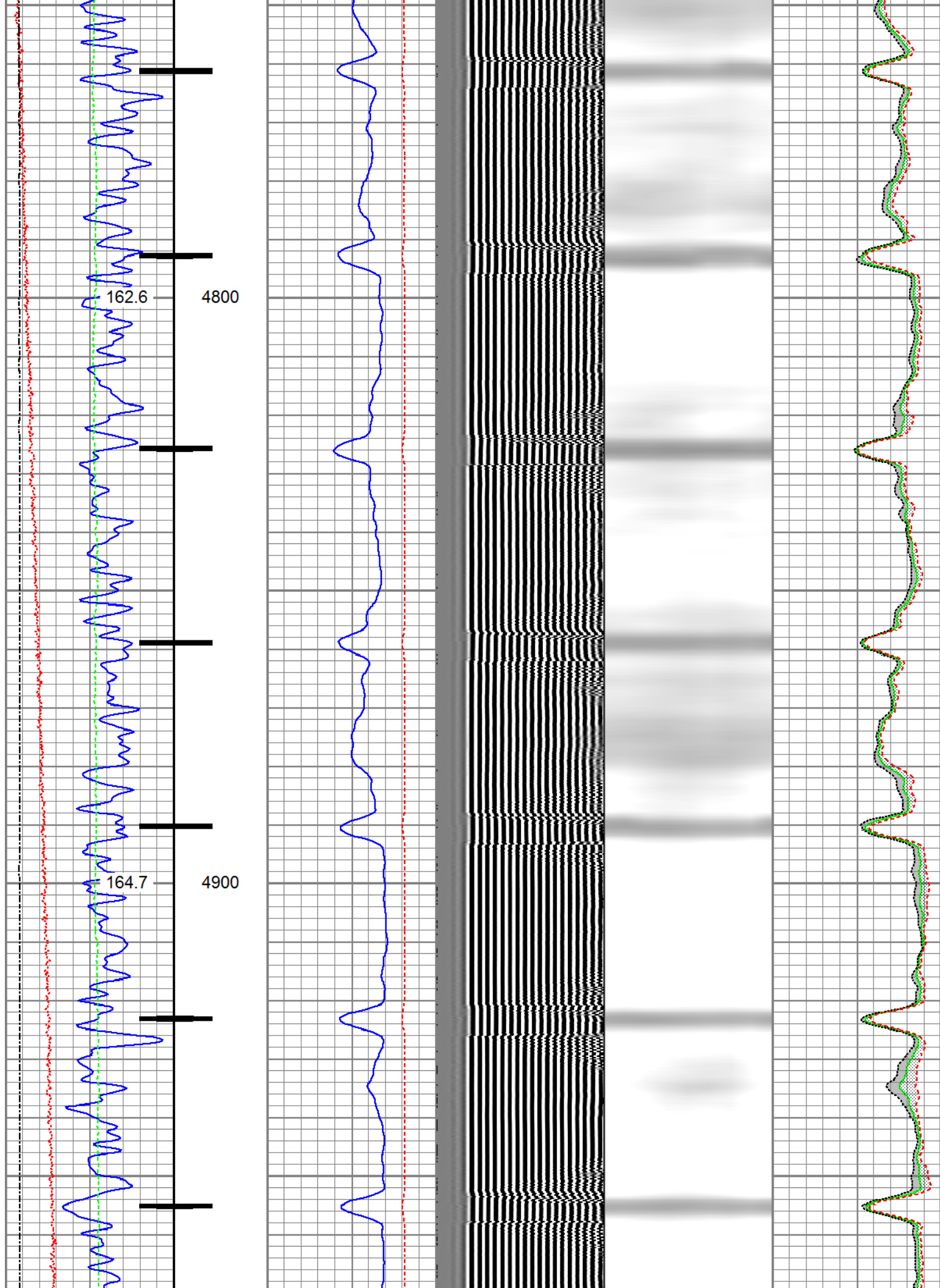


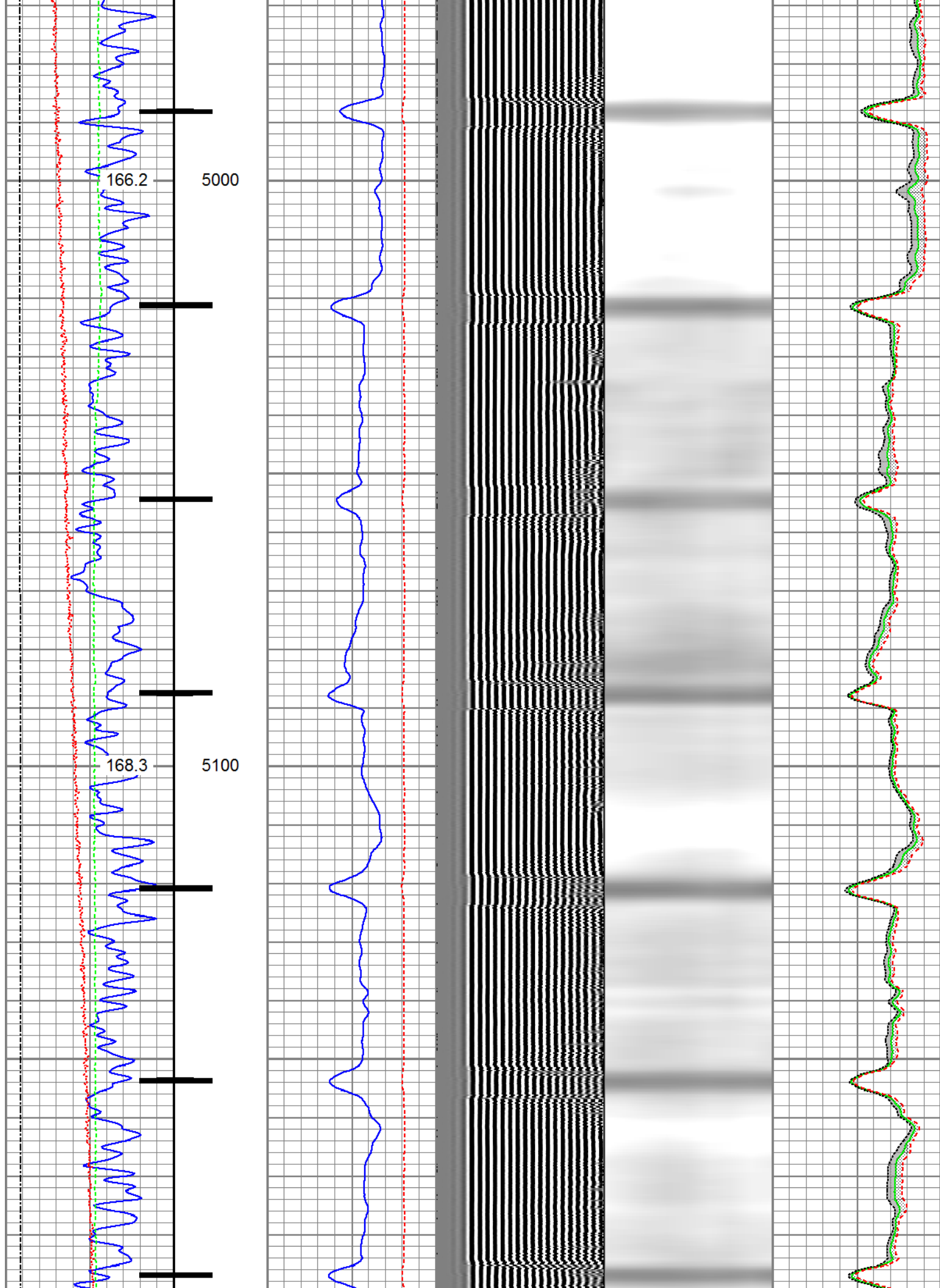


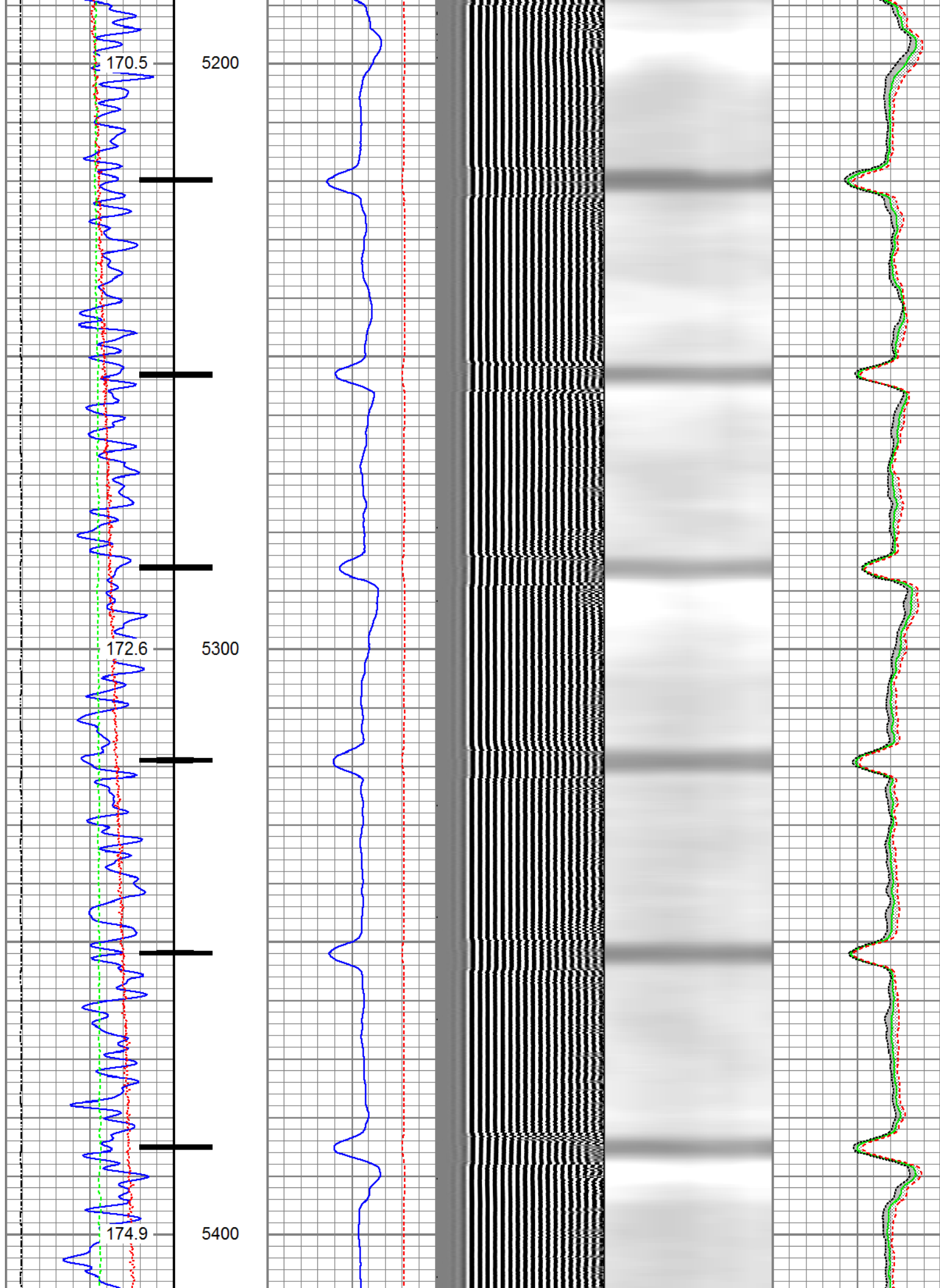


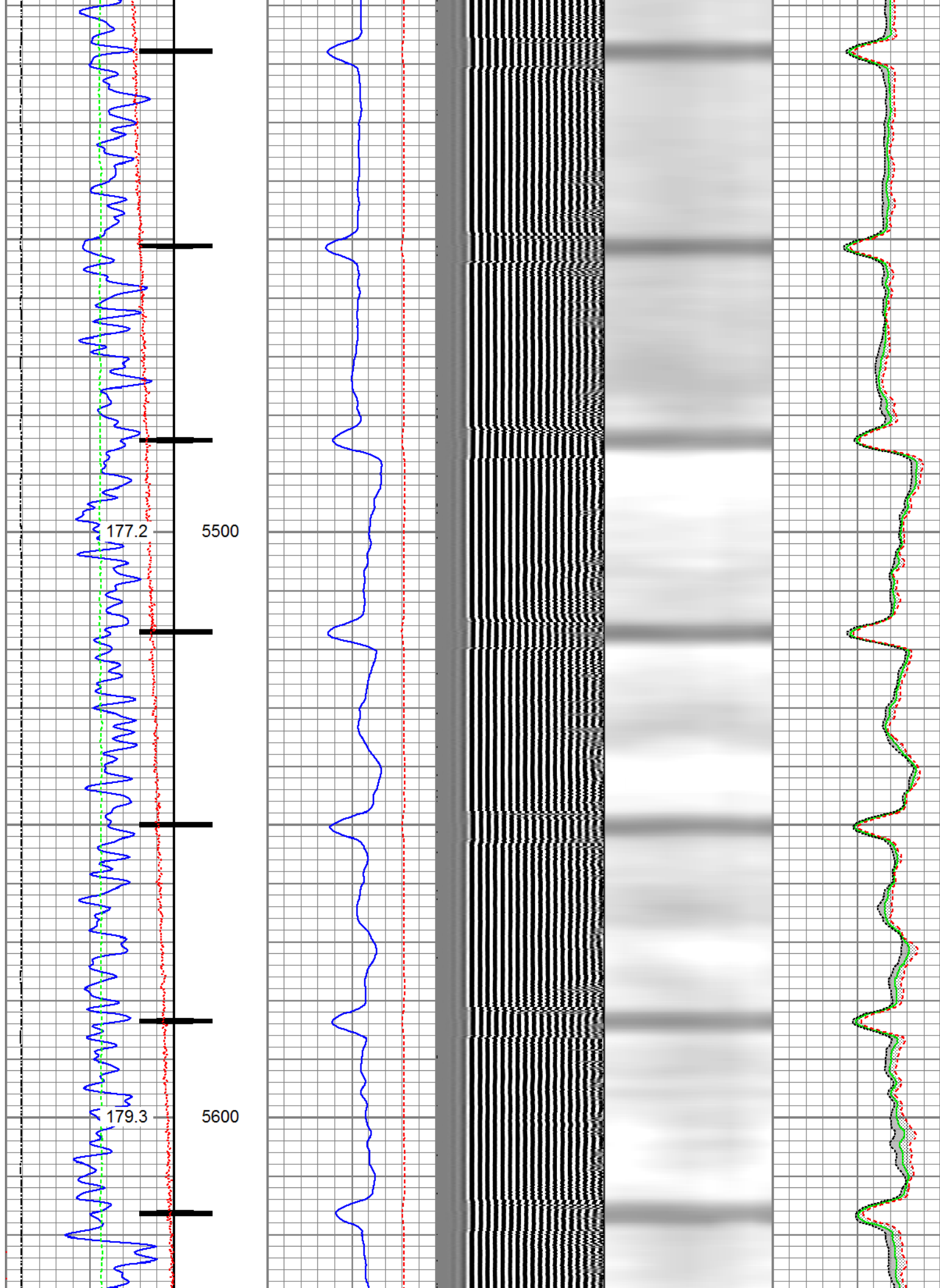


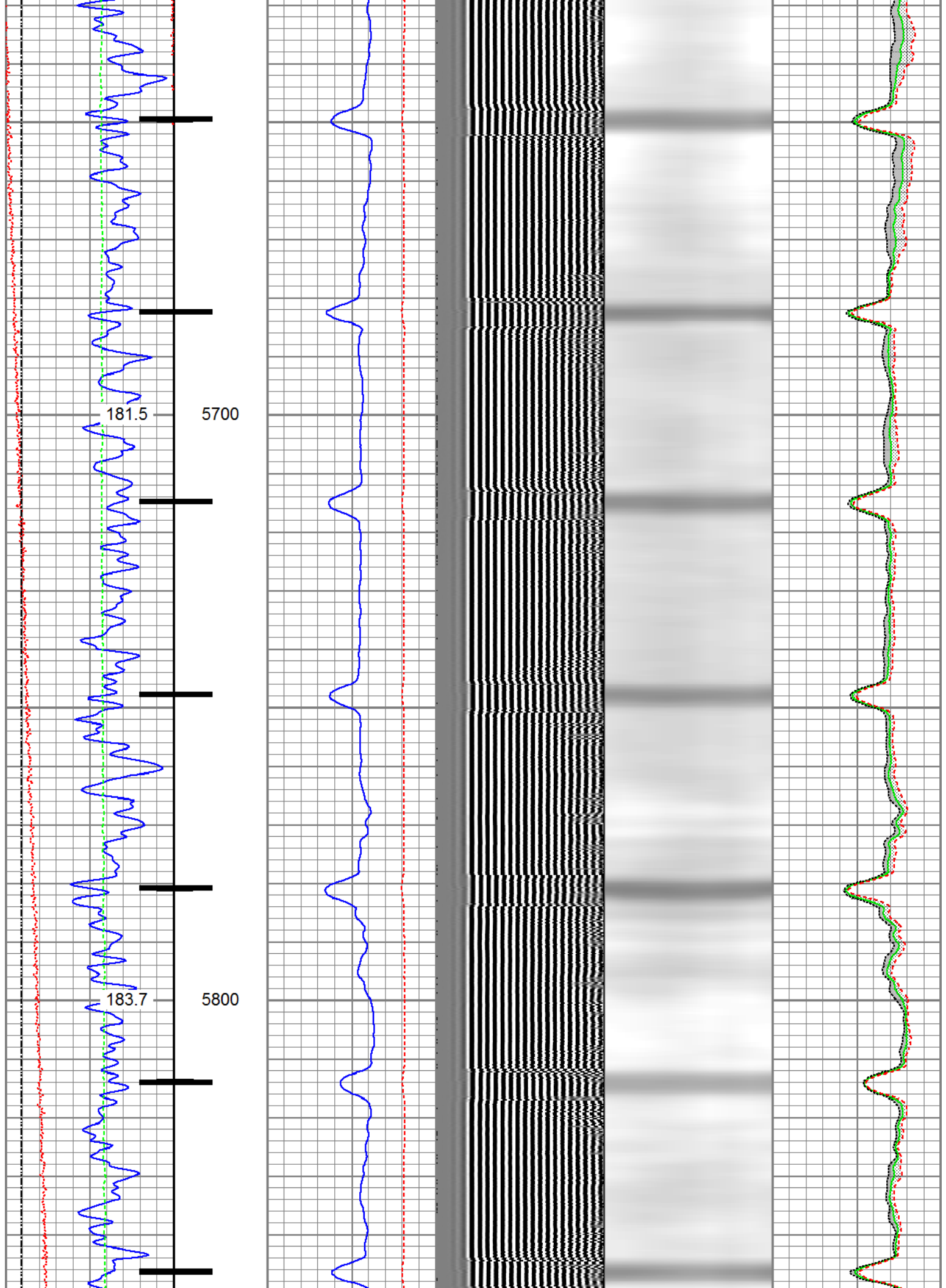


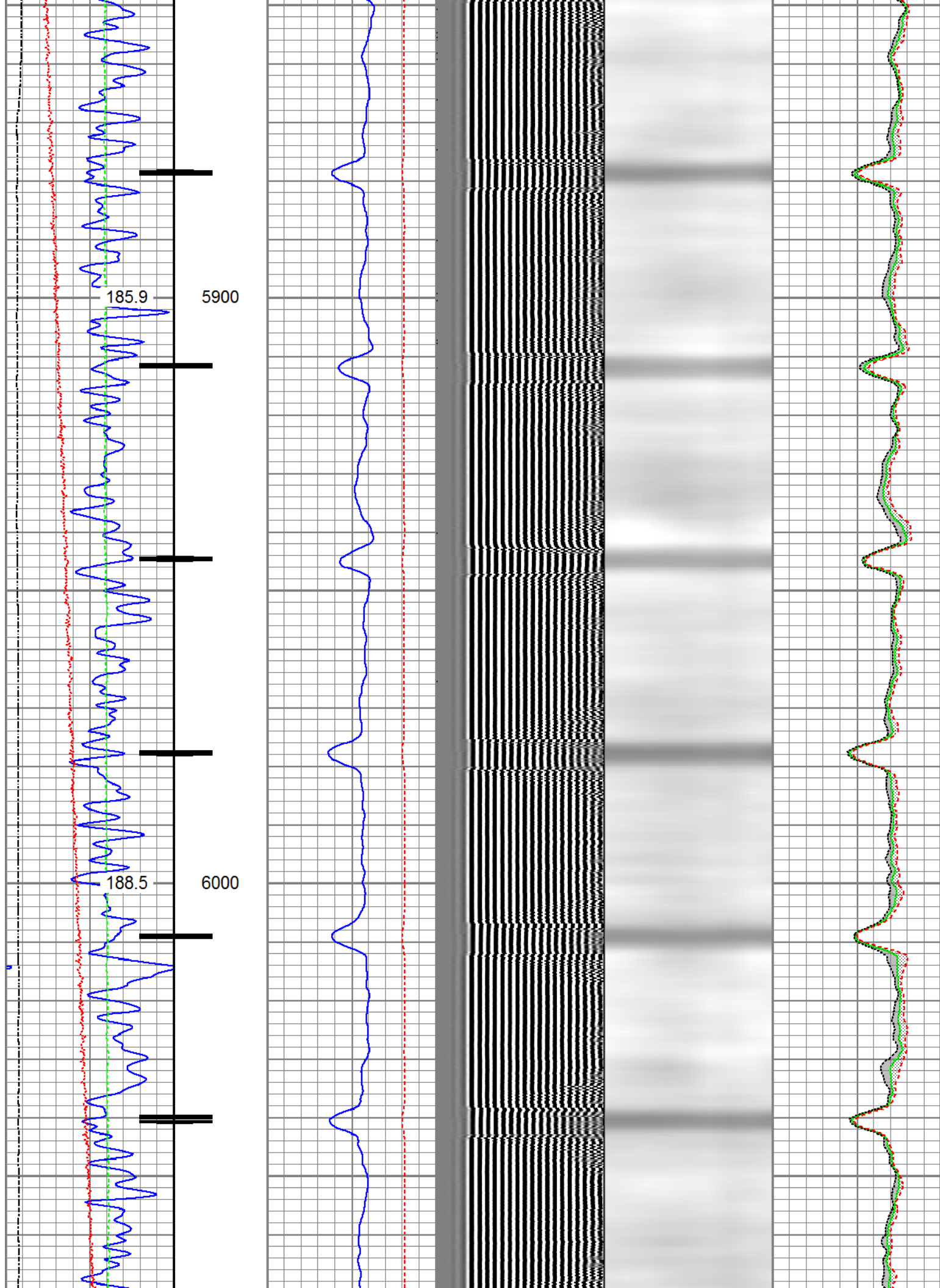


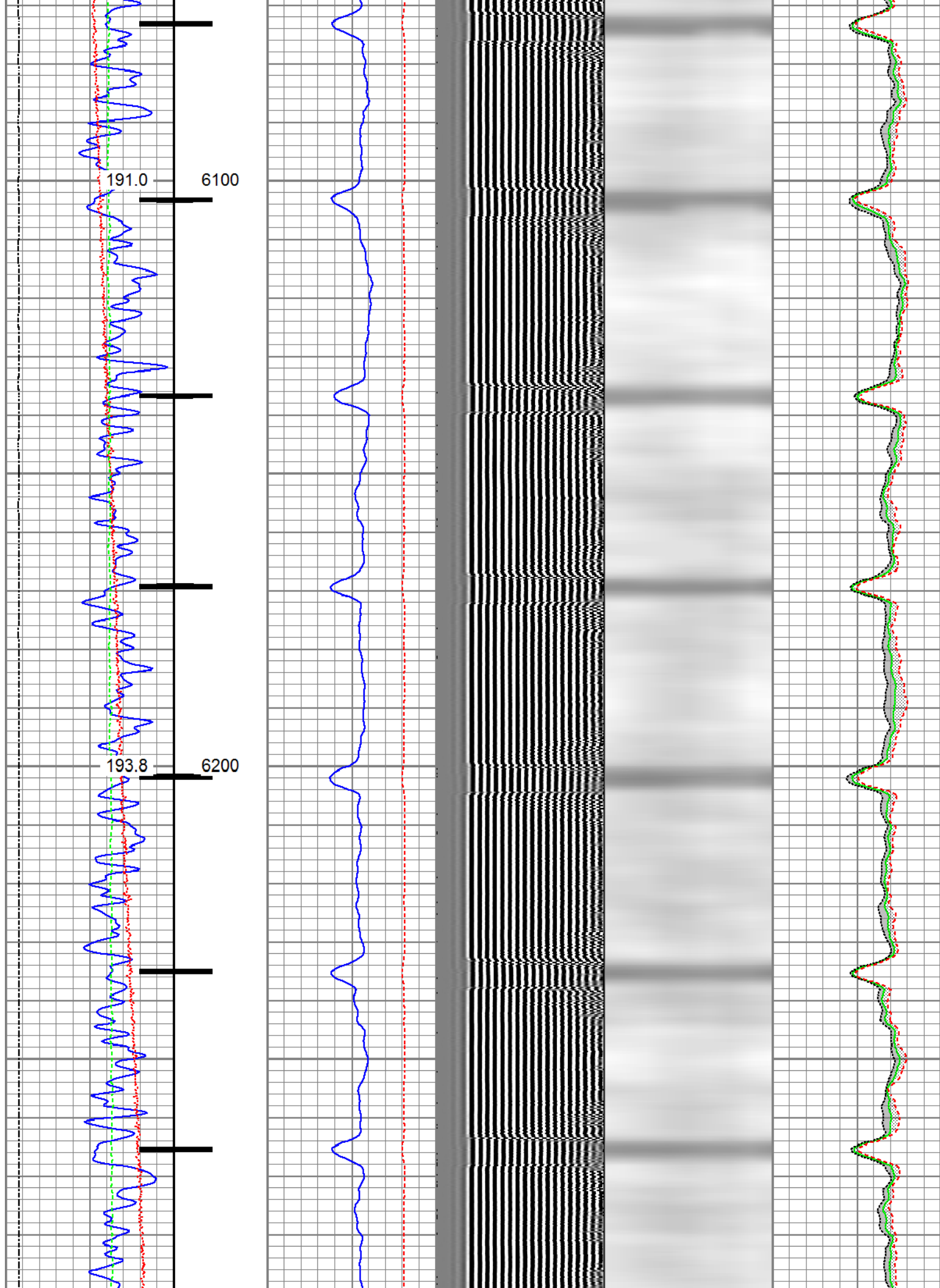


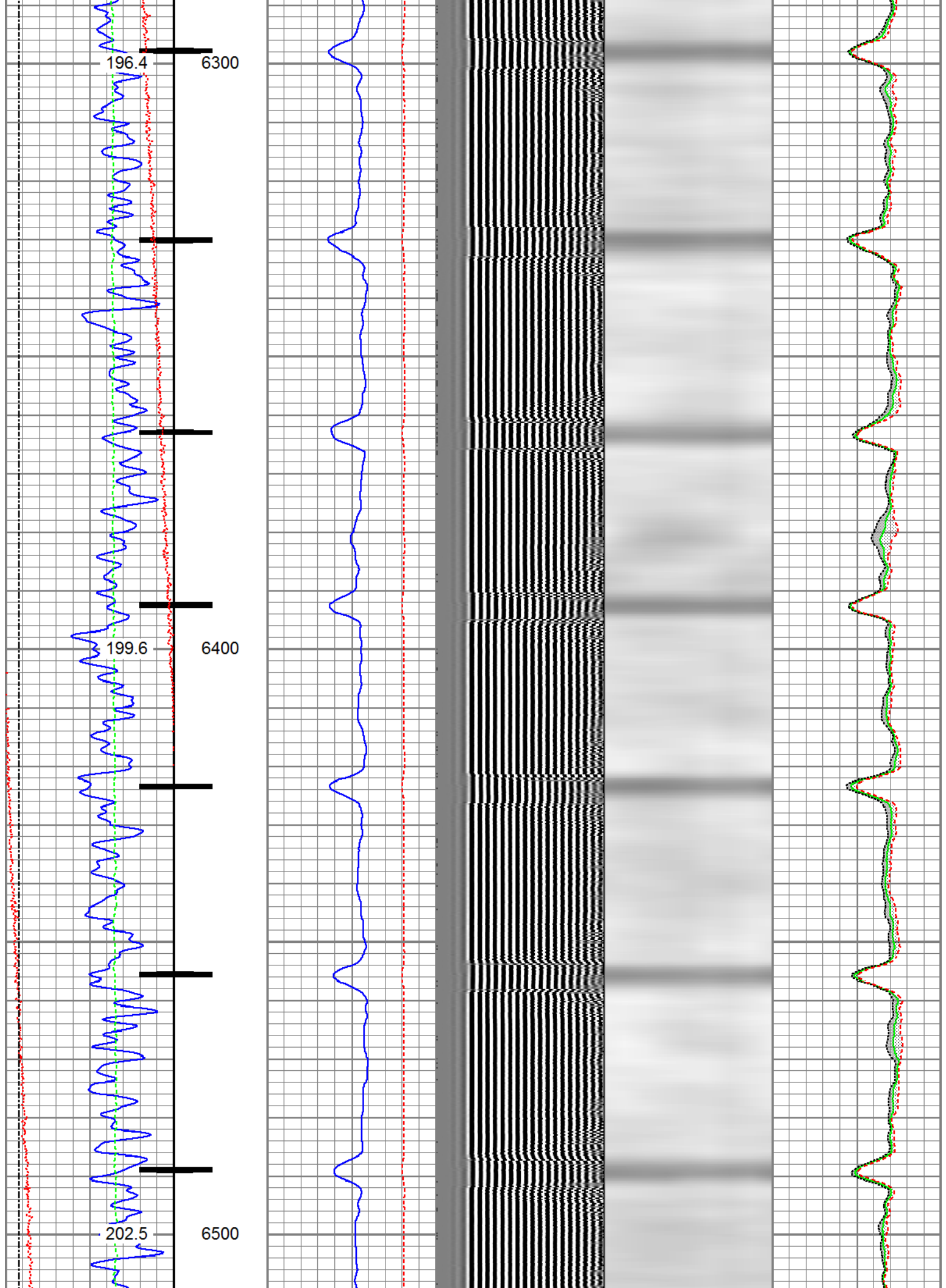


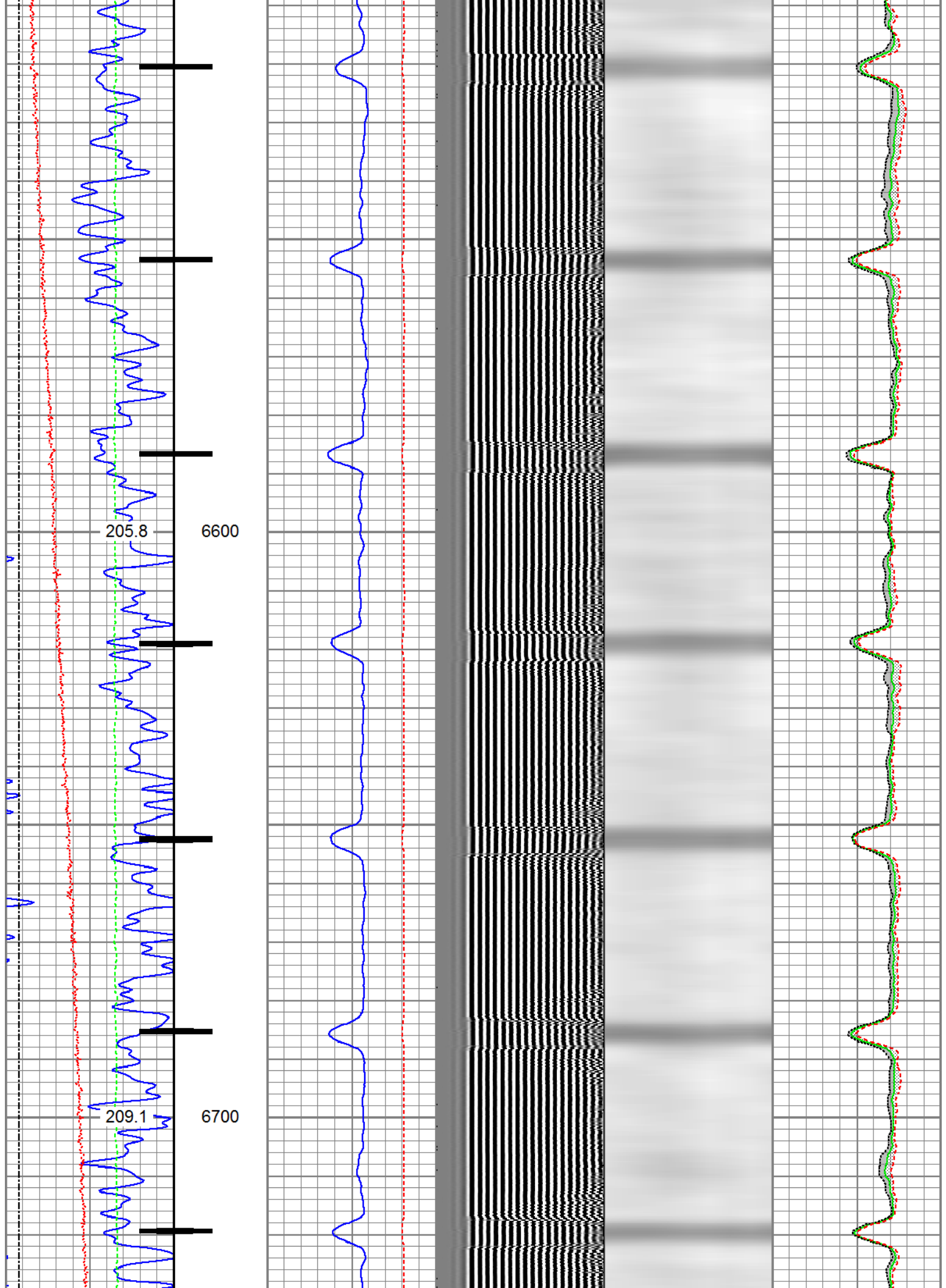


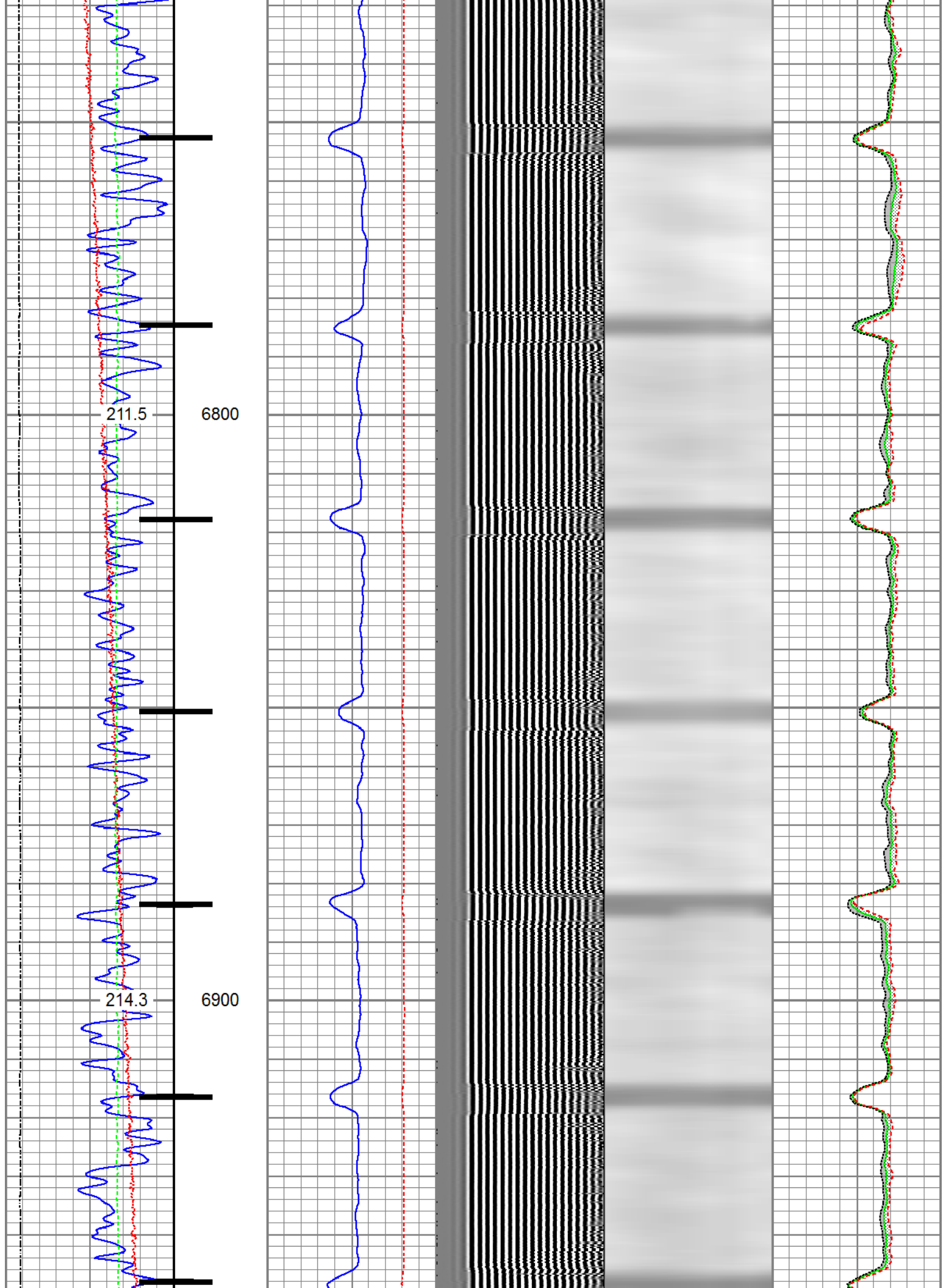


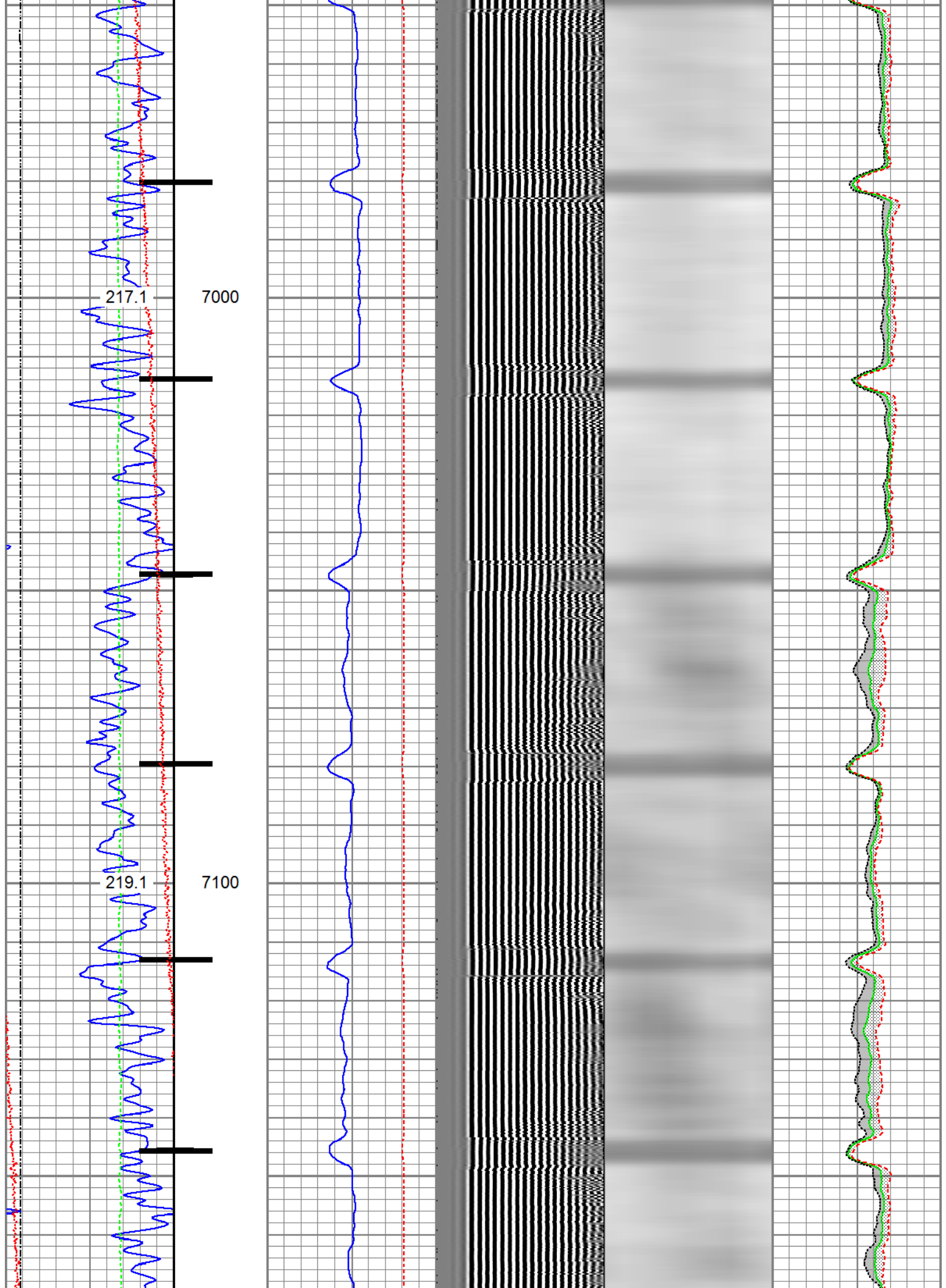


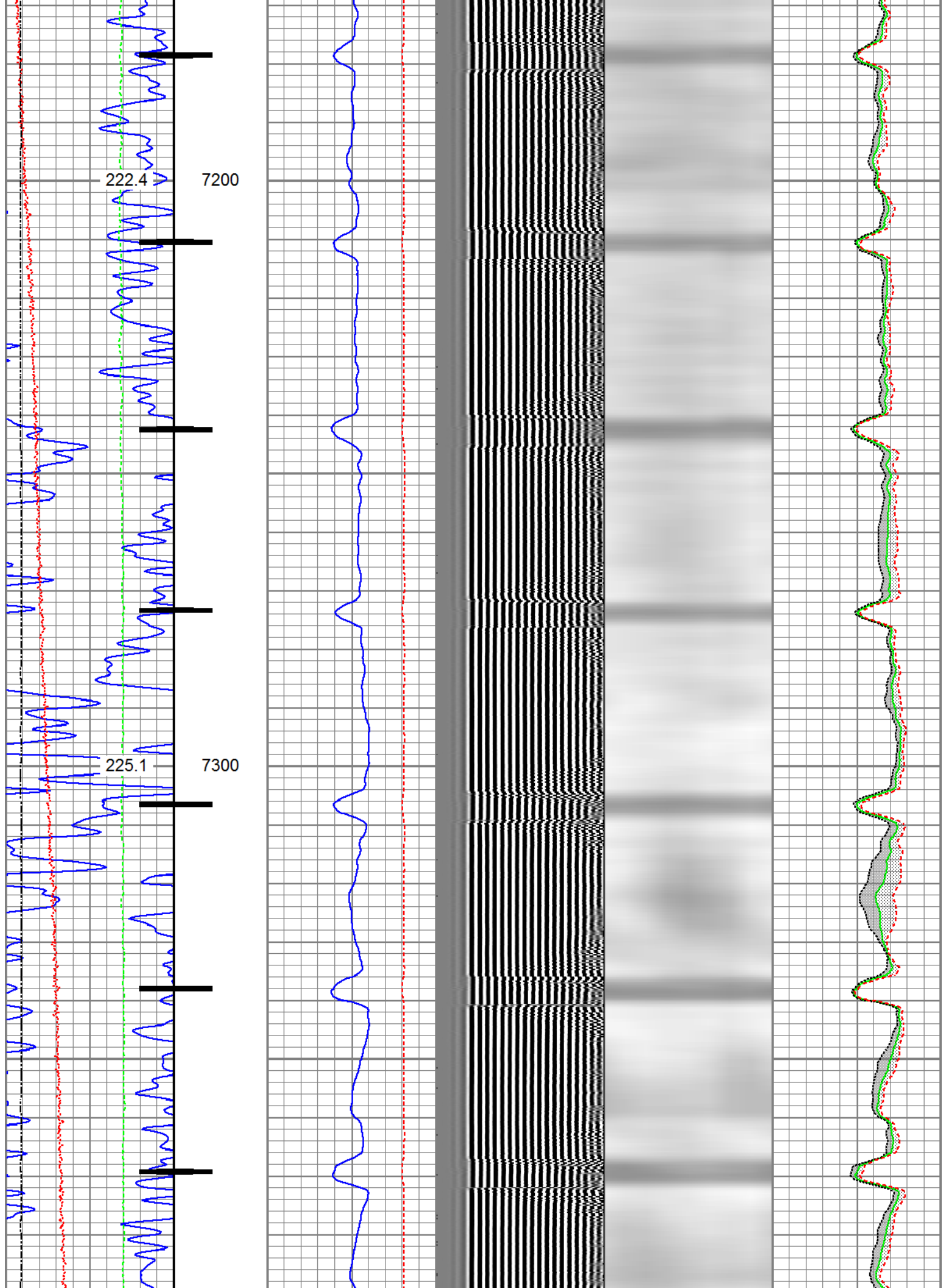


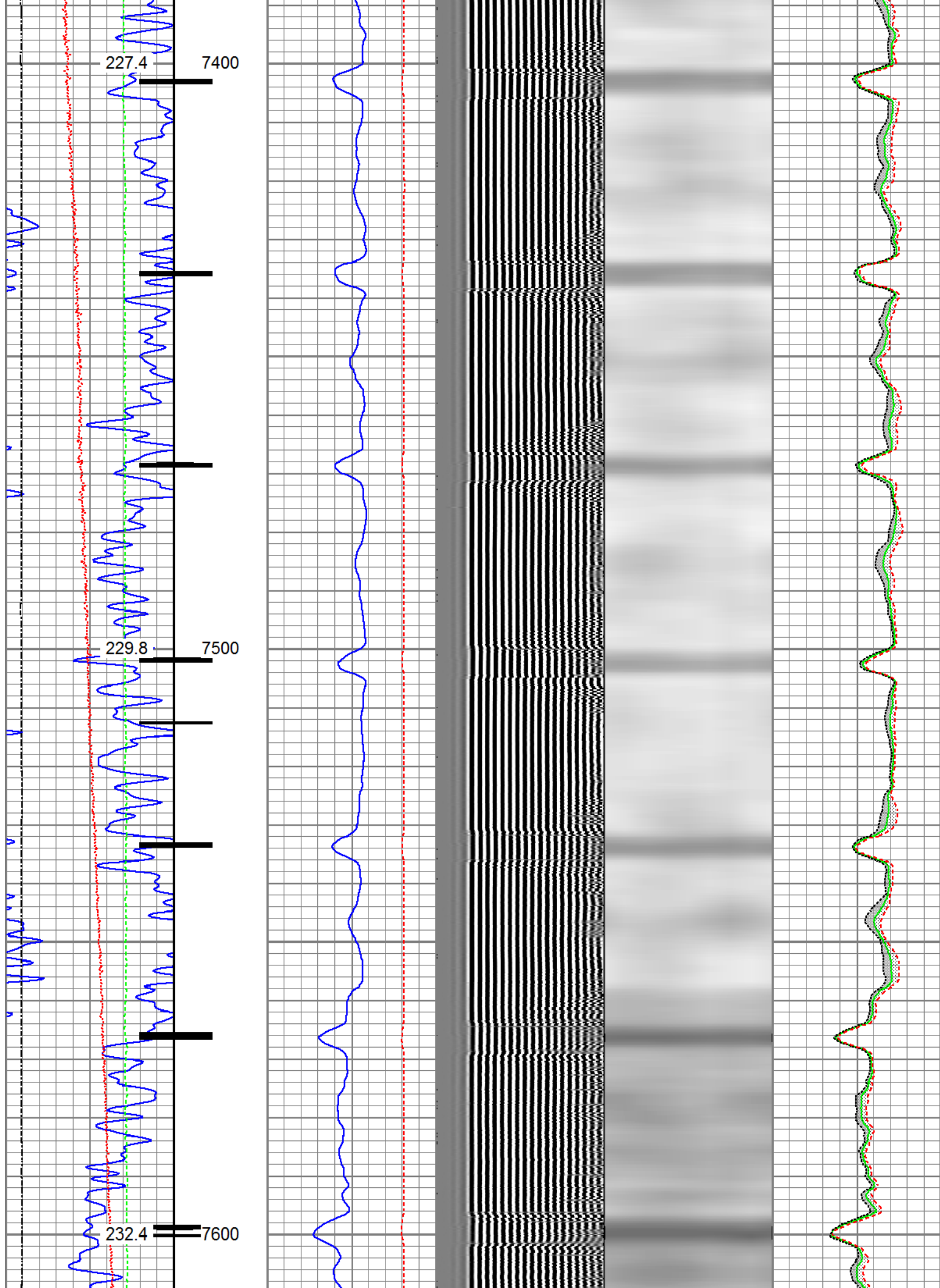


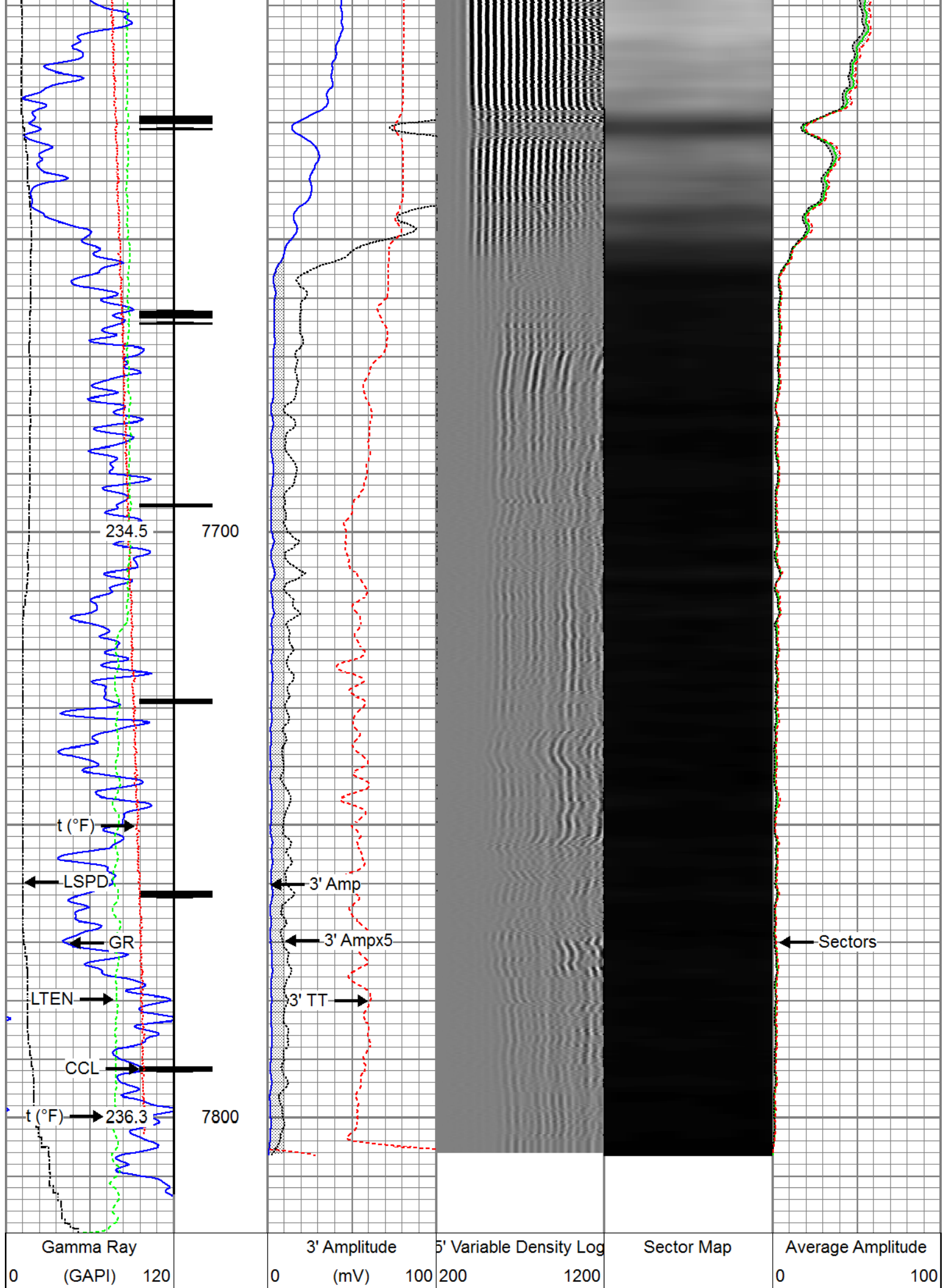












Casing Collar Locator	3' Amplitude x 5 0 (mV) 20	Minimum Amplitude 0 100
Temperature 0 (degF) 20	3' Travel Time 650 (usec) 150	Maximum Amplitude 0 100
Line Speed -150 (ft/min) 150		
Line Tension 0 (lb) 2000		

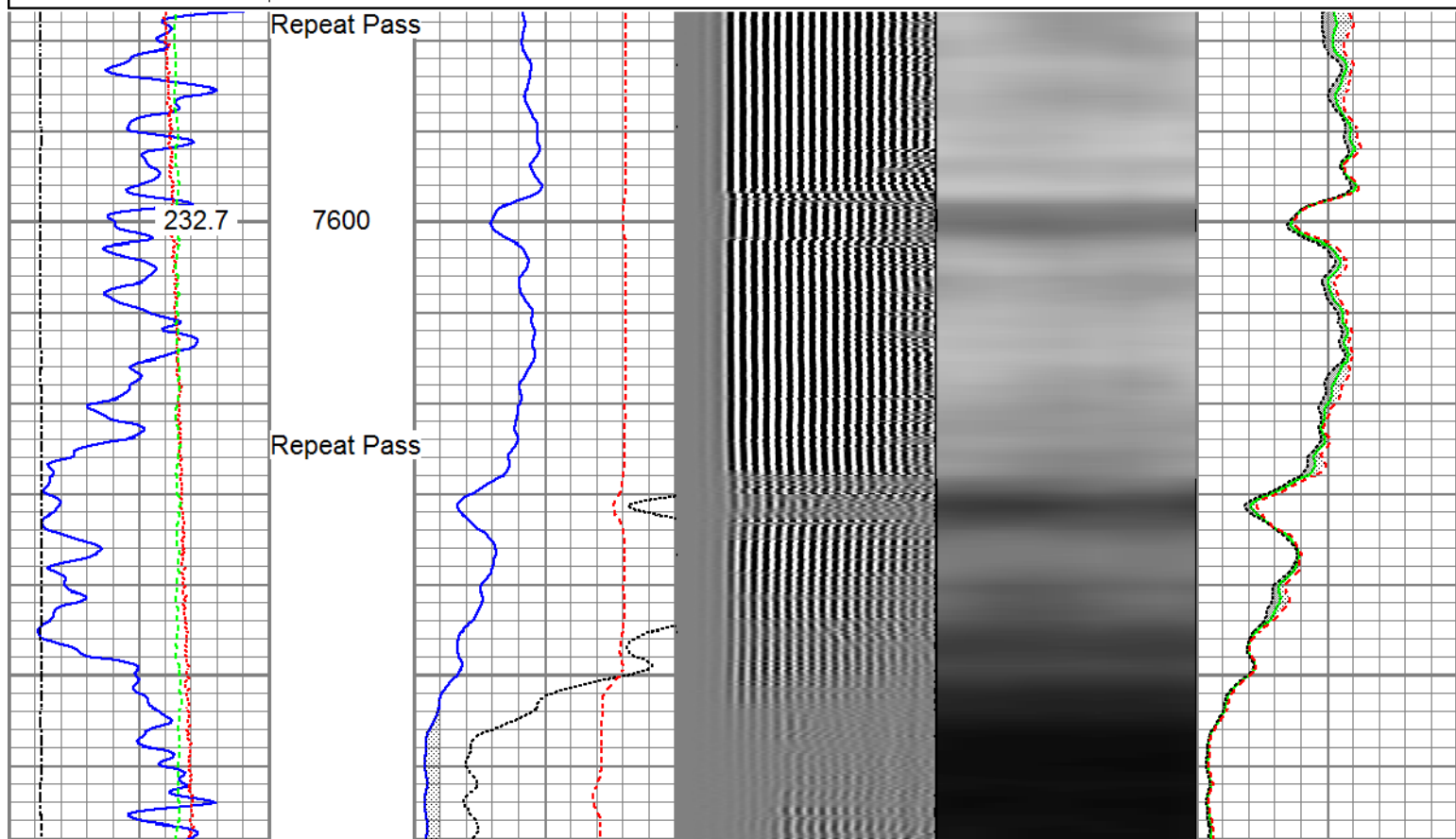


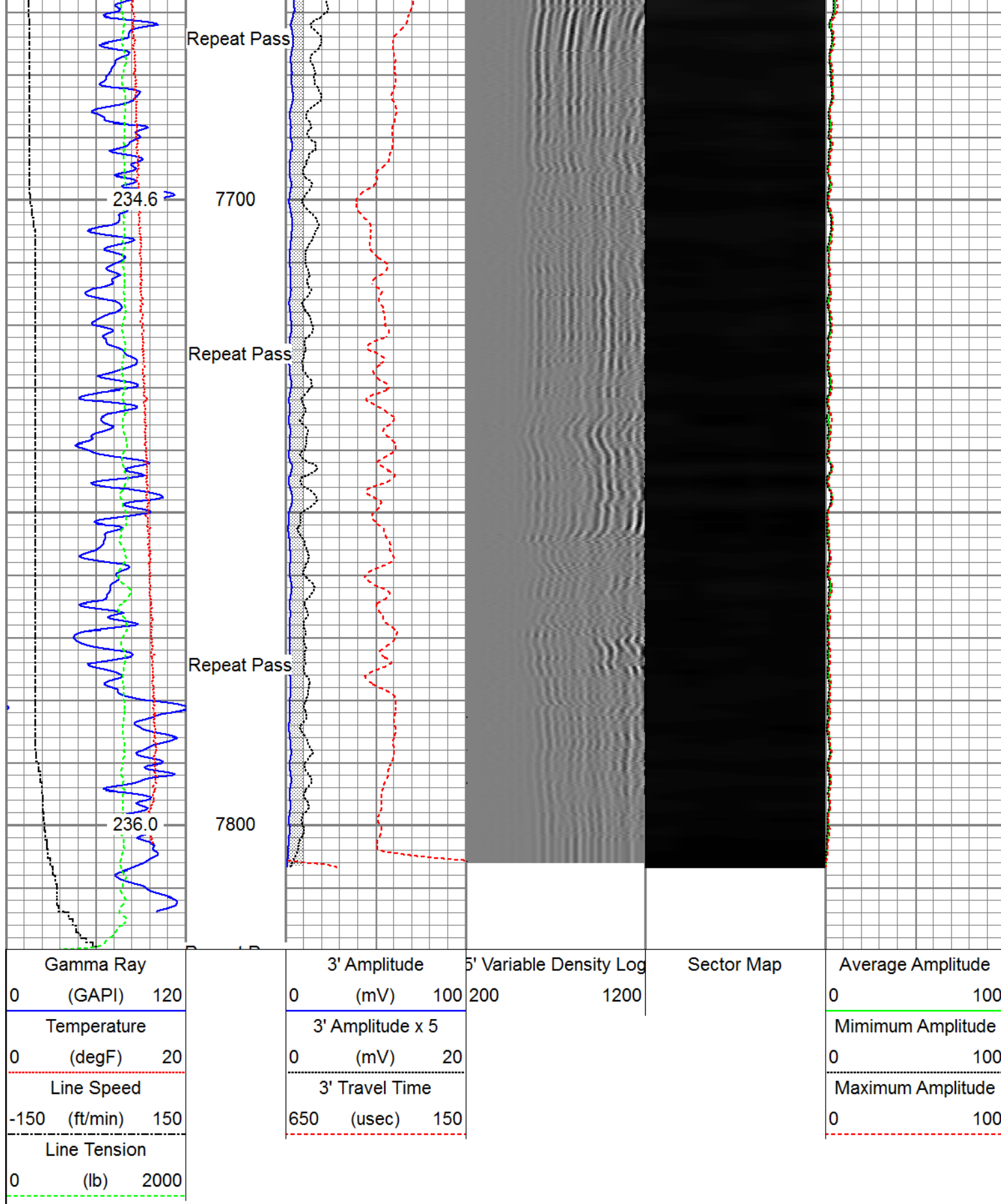
Repeat Section


Recorded with 0 PSI Surface Induced Pressure

Database File 0512307880_anadarko_sakata state 24-36_05-04-17_rbl\processed_0512307880_anadarko_sakata
Dataset Pathname repeat
Presentation Format ros_radrii
Dataset Creation Thu May 04 16:50:13 2017
Charted by Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan_Electric_Cable_Heads-Titan_1-11/16" Electric Cable Head with 1" Fishing Neck	1.03	1.69	5.40

			Probe_ELine_BowSpring_Centralizer-P_EB\$2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
HeadVolt	19.54				
Temp	16.75				
WVFS8	14.58		Probe_RADII-C-P_RBT_2750 (FW1302-0029.19) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	2.75	105.00
WVFS7	14.58				
WVFS6	14.58				
WVFS5	14.58				
WVFS4	14.58				
WVFS3	14.58				
WVFS2	14.58				
WVFS1	14.58				
WVFCAL	14.58				
WVF3FT	14.58				
WVF5FT	13.58				
HEADVOLT	10.33				
			Probe_ELine_BowSpring_Centralizer-P_EB\$2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
DCCL	6.51				
CCL	6.51				
			Probe_GR_CCL-P_CGR_2750_S (FW12124.57) Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	55.00
GR	3.77				
			Probe_ELine_BowSpring_Centralizer-P_EB\$2.8875 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.75	20.00
Dataset: processed_0512307880_anadarko_sakata state 24-36_05-04-17_rbl.db: field/well/run1/main Total length: 23.43 ft Total weight: 225.40 lb O.D.: 2.75 in					

Calibration Report	
Database File	c:\programdata\warrior\data\0512307880_anadarko_sakata state 24-36_05-04-17_rbl\processed_051
Dataset Pathname	main
Dataset Creation	Thu May 04 16:54:37 2017

Gamma Ray Calibration Report

Serial Number:	FW1212-026	
Tool Model:	P_CGR_2750_S	
Performed:	Mon Aug 15 10:19:05 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.6	cps
Sensitivity:	0.6000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	FW1302-002	
Tool Model:	P_RBT_2750	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	0.000	ft

Master Calibration, performed Wed Apr 19 17:21:15 2017:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.002	0.761	0.800	81.196	105.953	0.545
CAL	0.757	0.779				
5'	0.001	0.729	0.800	81.196	110.384	0.715
SUM						
S1	-0.001	0.756	0.000	100.000	132.050	0.127
S2	0.003	0.755	0.000	100.000	132.845	-0.349
S3	0.003	0.756	0.000	100.000	132.782	-0.386
S4	0.003	0.759	0.000	100.000	132.212	-0.402
S5	0.003	0.768	0.000	100.000	130.633	-0.351
S6	0.004	0.765	0.000	100.000	131.246	-0.460
S7	0.004	0.769	0.000	100.000	130.643	-0.485
S8	0.004	0.764	0.000	100.000	131.510	-0.525

Internal Reference Calibration, performed Wed Aug 03 10:40:08 2016:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.757	0.779	1.000	0.000

Air Zero Calibration, performed Wed Apr 19 14:22:01 2017:

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

S6	0.003	0.000	0.001
S7	0.003	0.000	0.000
S8	0.004	0.000	-0.000



RELIANCE
OILFIELD SERVICES

Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Sakata-State 24-36
Field	Wattenberg
County	Weld
State	Colorado