



Radial Cement Bond
Gamma Ray
Casing Collar Log

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

Well Verde 13-14HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-46251

Other Services
GR/JB
RBP
RBL 0 PSI

SEC 13 TWP 1N RGE 66W

Elevation

Permanent Datum Ground Level Elevation 5071'

Log Measured From Kelly Bushing 26 FT

Drilling Measured From Kelly Bushing

K.B. 5097'
D.F. ---
G.L. 5071'

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Well Verde 13-14HZ
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Date	23-JUN-2018	Four		
Run Number		18960 FT		
Depth Driller		6913 FT		
Depth Logger		6898 FT		
Bottom Logged Interval		Surface		
Top Log Interval		7.875'		
Open Hole Size		Water		
Type Fluid		8.34 lb/gal		
Density / Viscosity		217°F		
Max. Recorded Temp.		See Log		
Estimated Cement Top		ROA		
Time Well Ready		16:22		
Time Logger on Bottom		HD-325		
Equipment Number		Fort Lupton, CO		
Location		M. Hayes		
Recorded By		Kyle Carver		
Witnessed By				
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 6824 FT
Gauge Ring/Junk Basket ran to 7929 FT with no debris
5.50" RBP Set @ 6960 FT
Log ran from 6898 FT to surface
Recorded with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

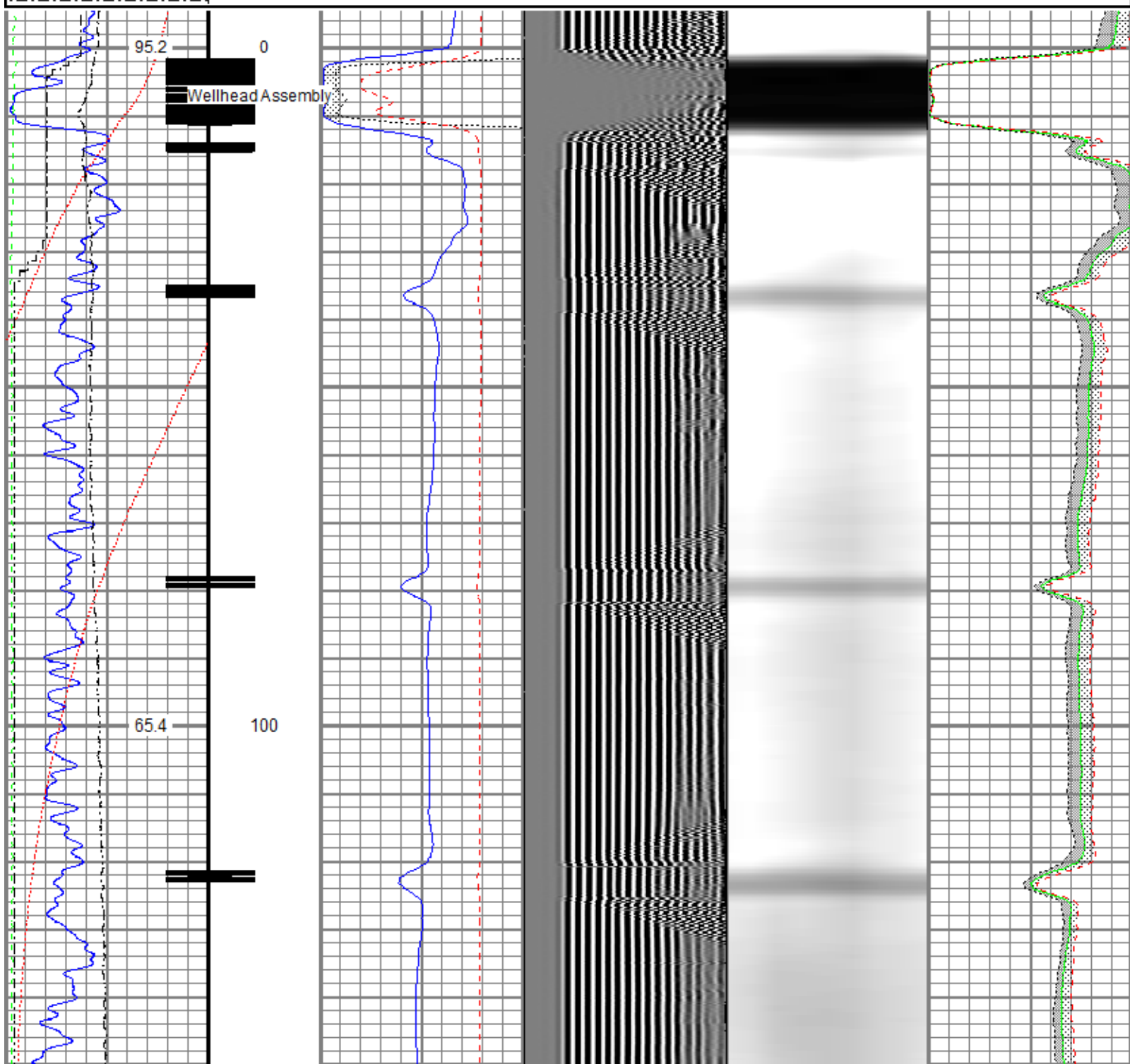
Thank you for choosing Reliance Oilfield Services, LLC!!

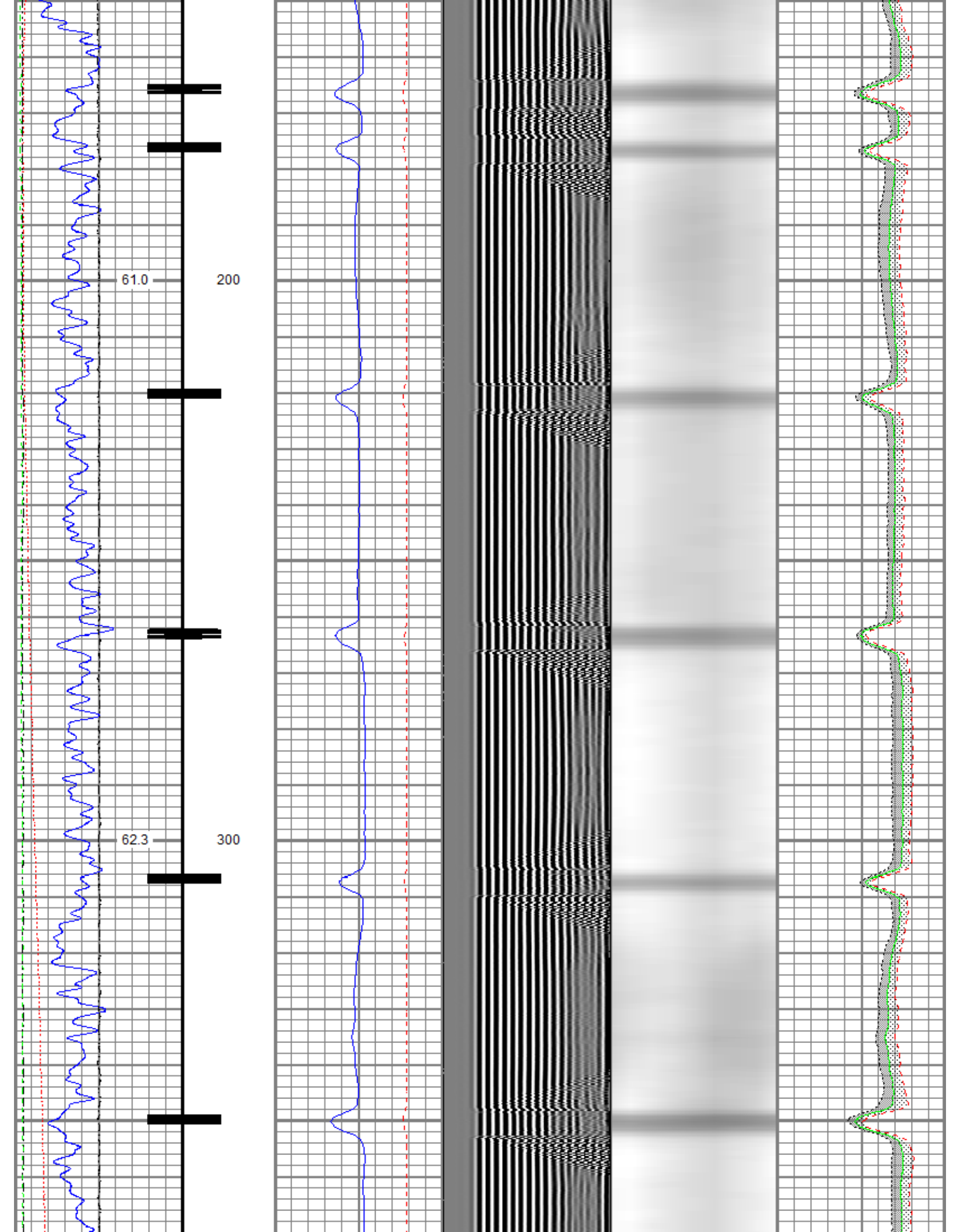
Main Pass

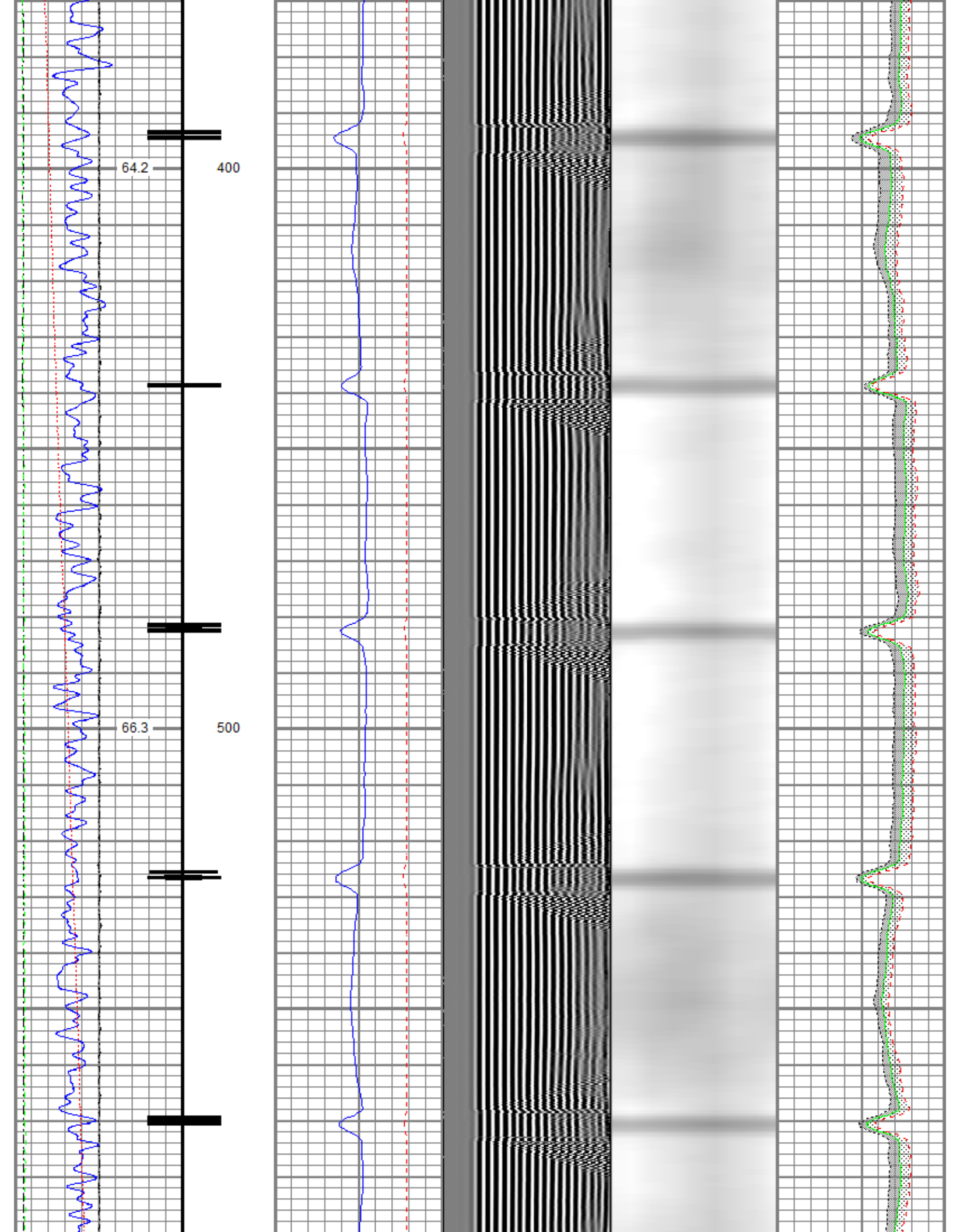


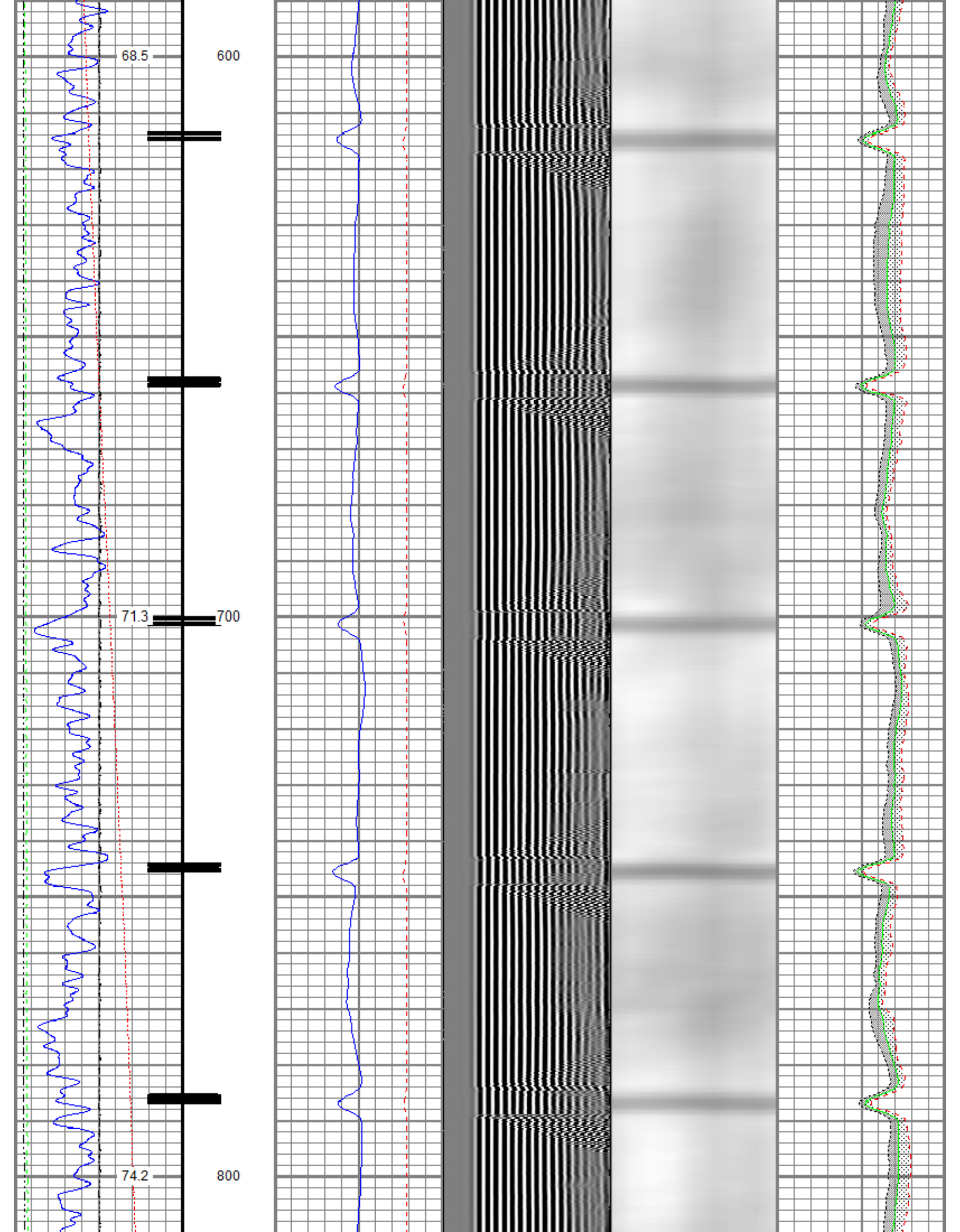
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Dataset Pathname	pass4.1
Presentation Format	ros_radrii
Dataset Creation	Sat Jun 23 17:16:57 2018
Charted by	Depth in Feet scaled 1:240

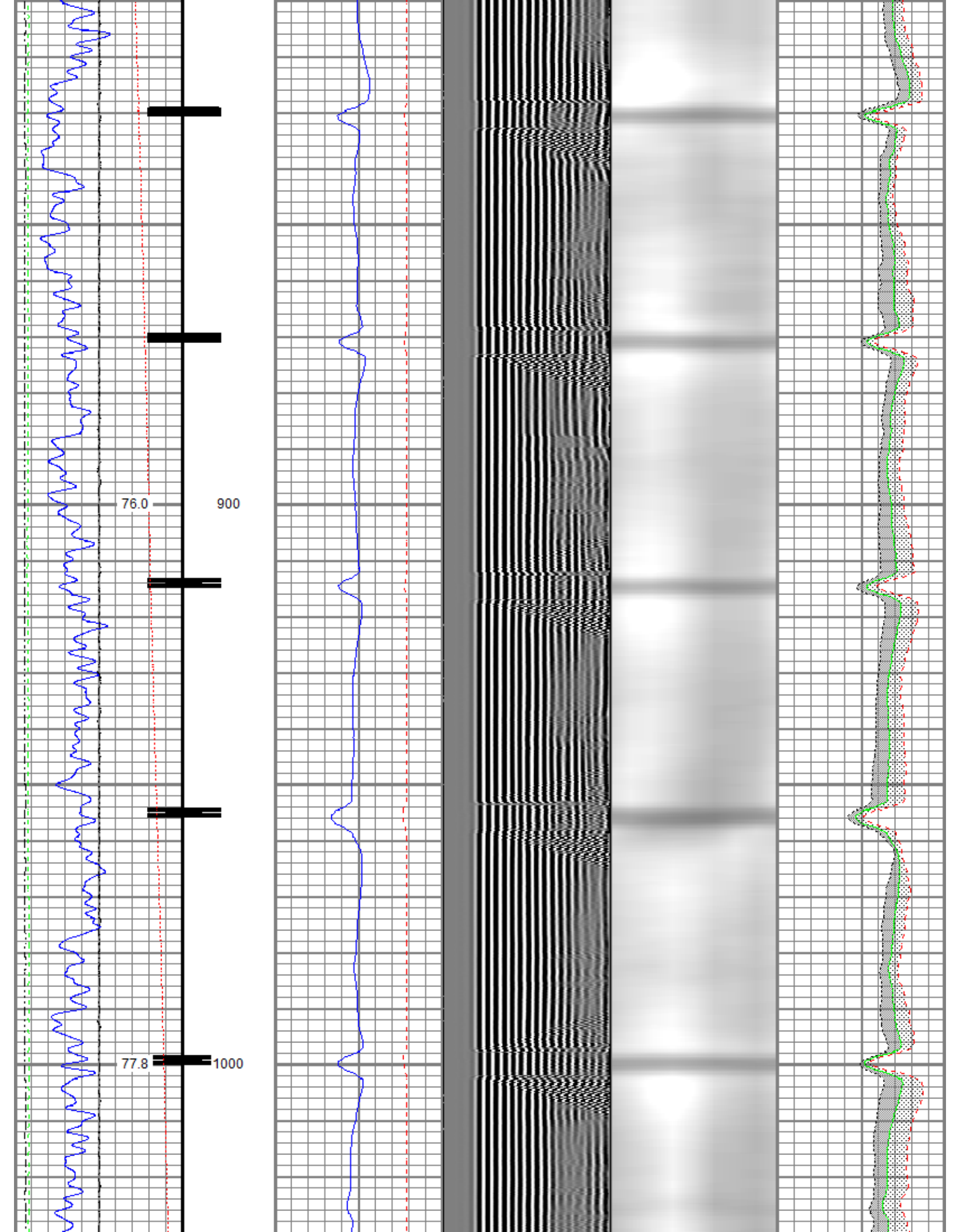
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Casing Collar Locator	0	(mV) 20			0	100
Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed	650	(usec) 150			0	100
(ft/min) 150						
Line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

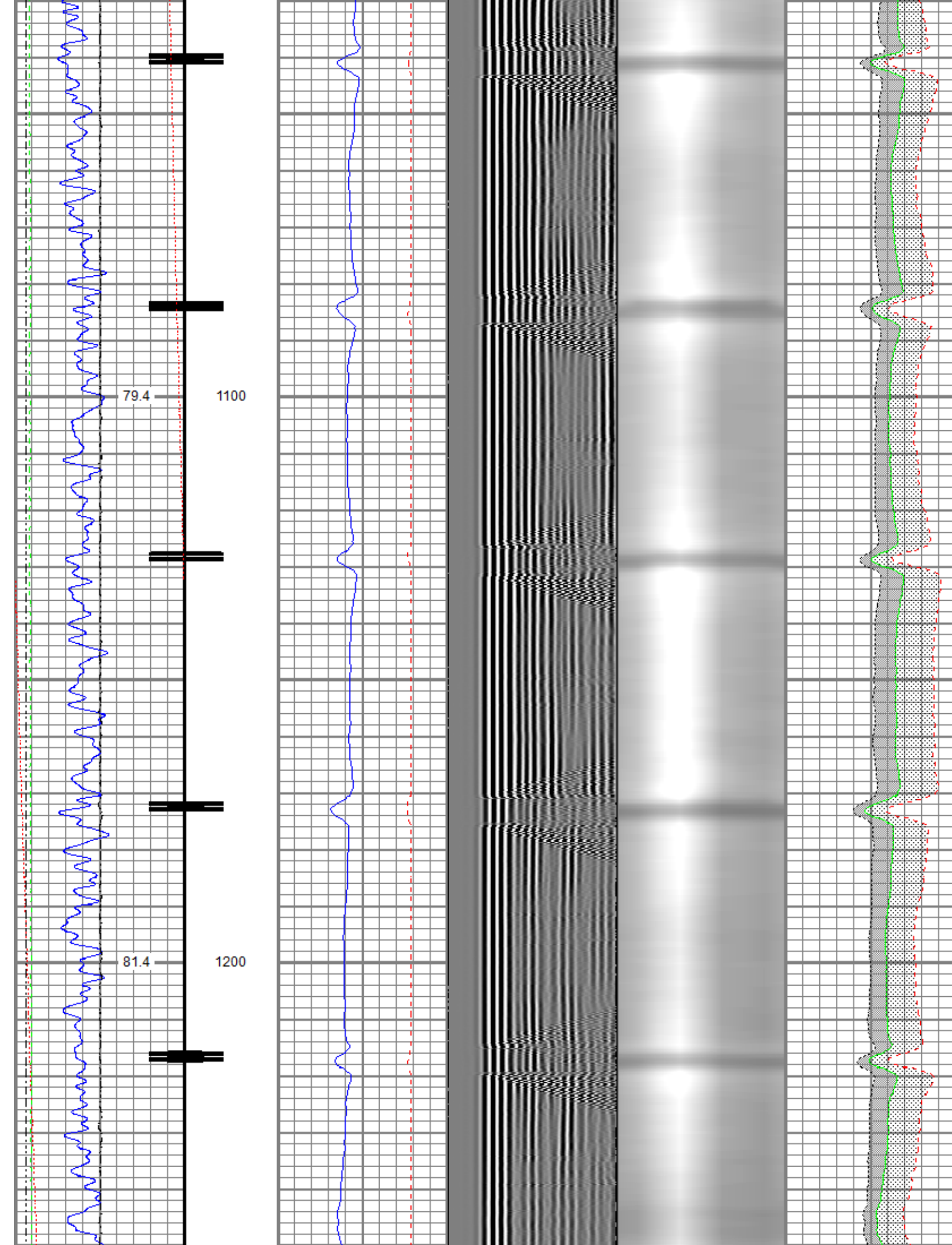


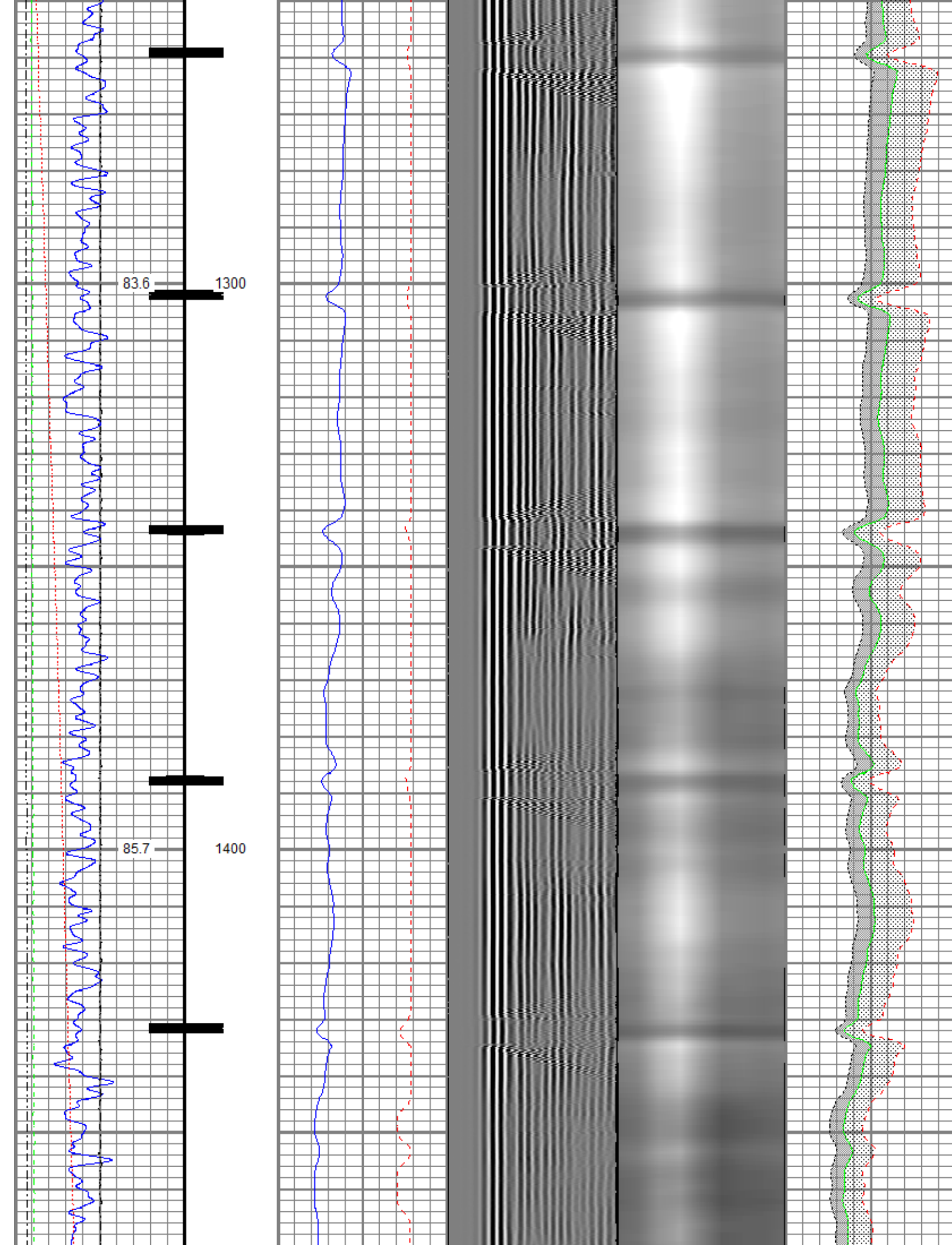


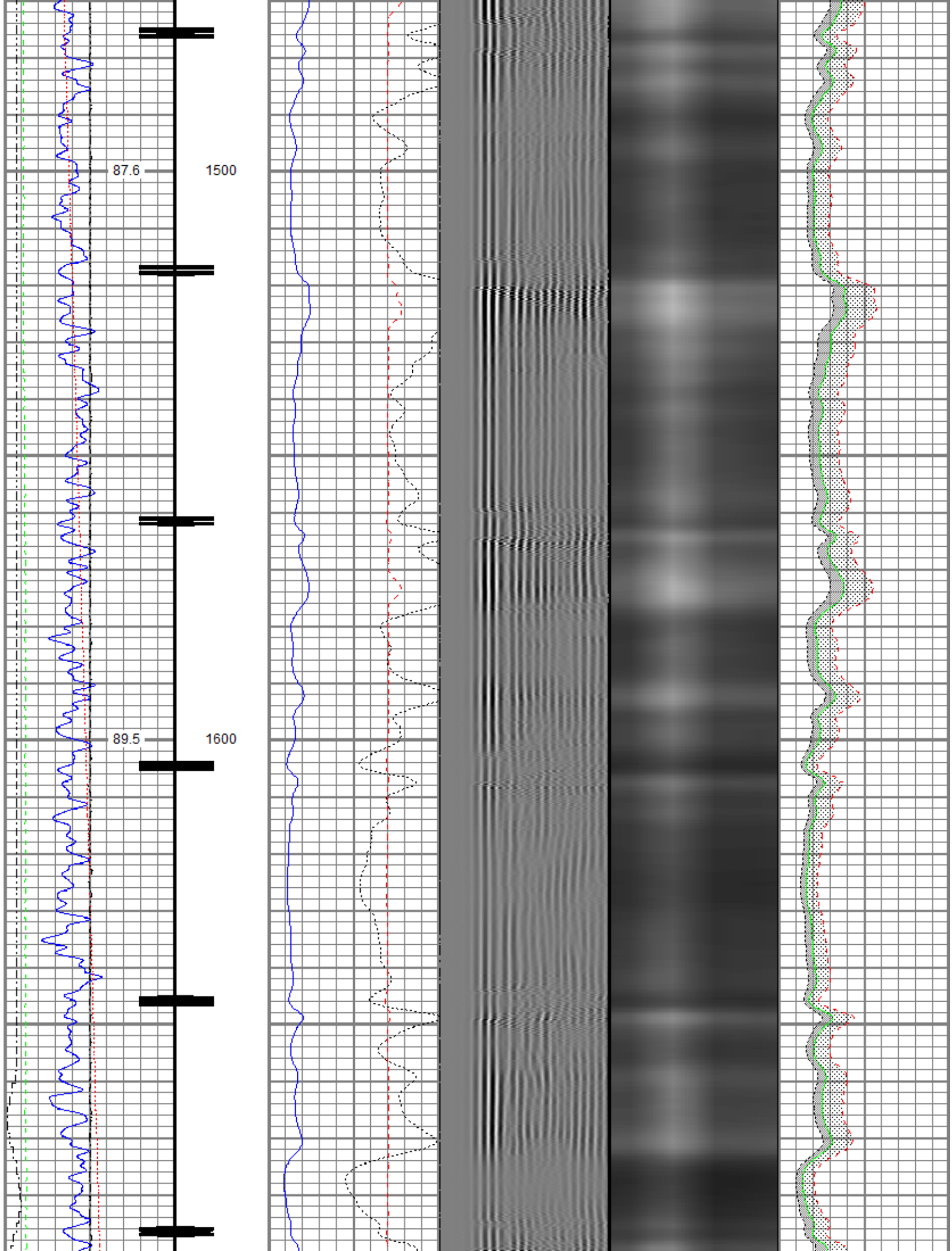


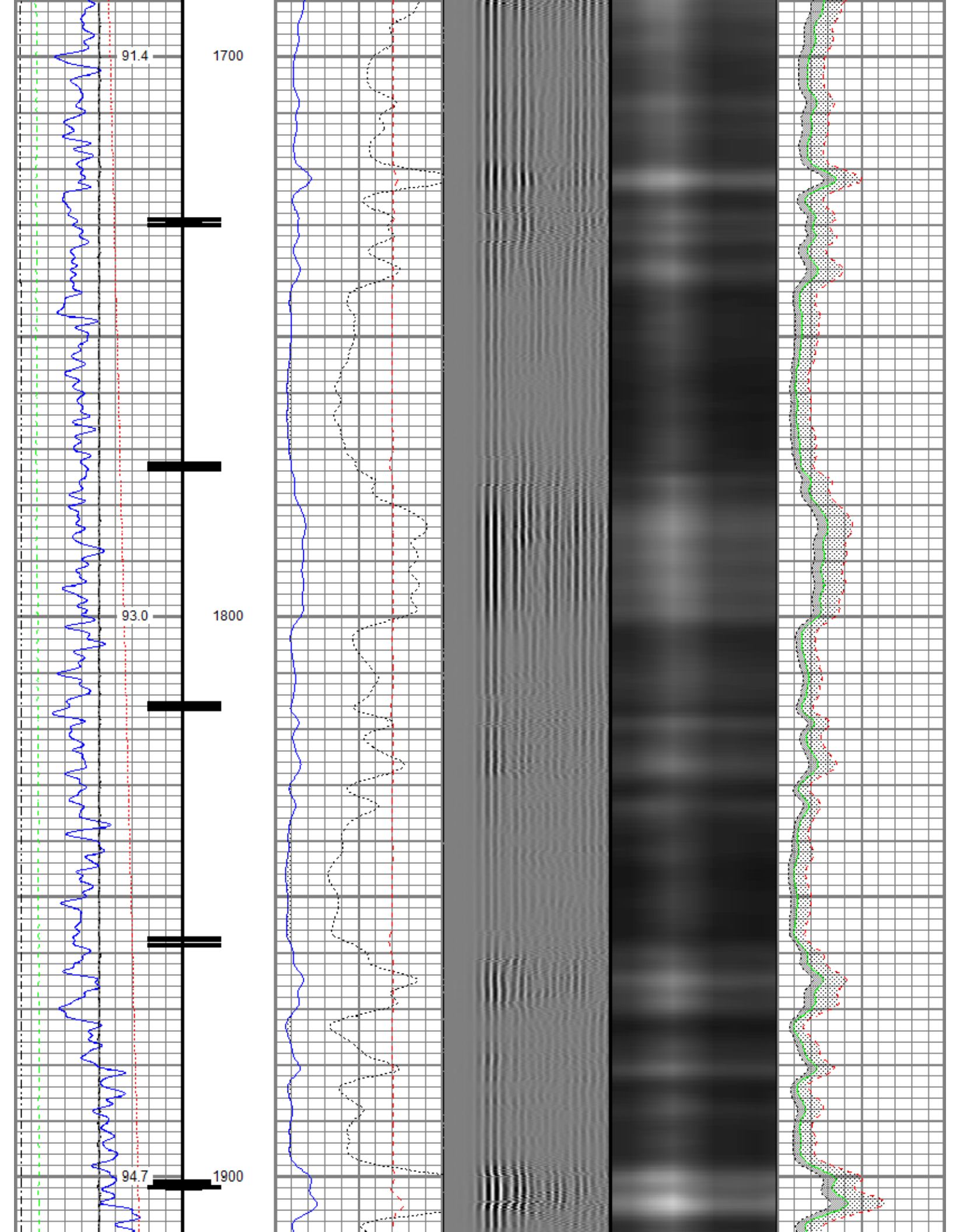


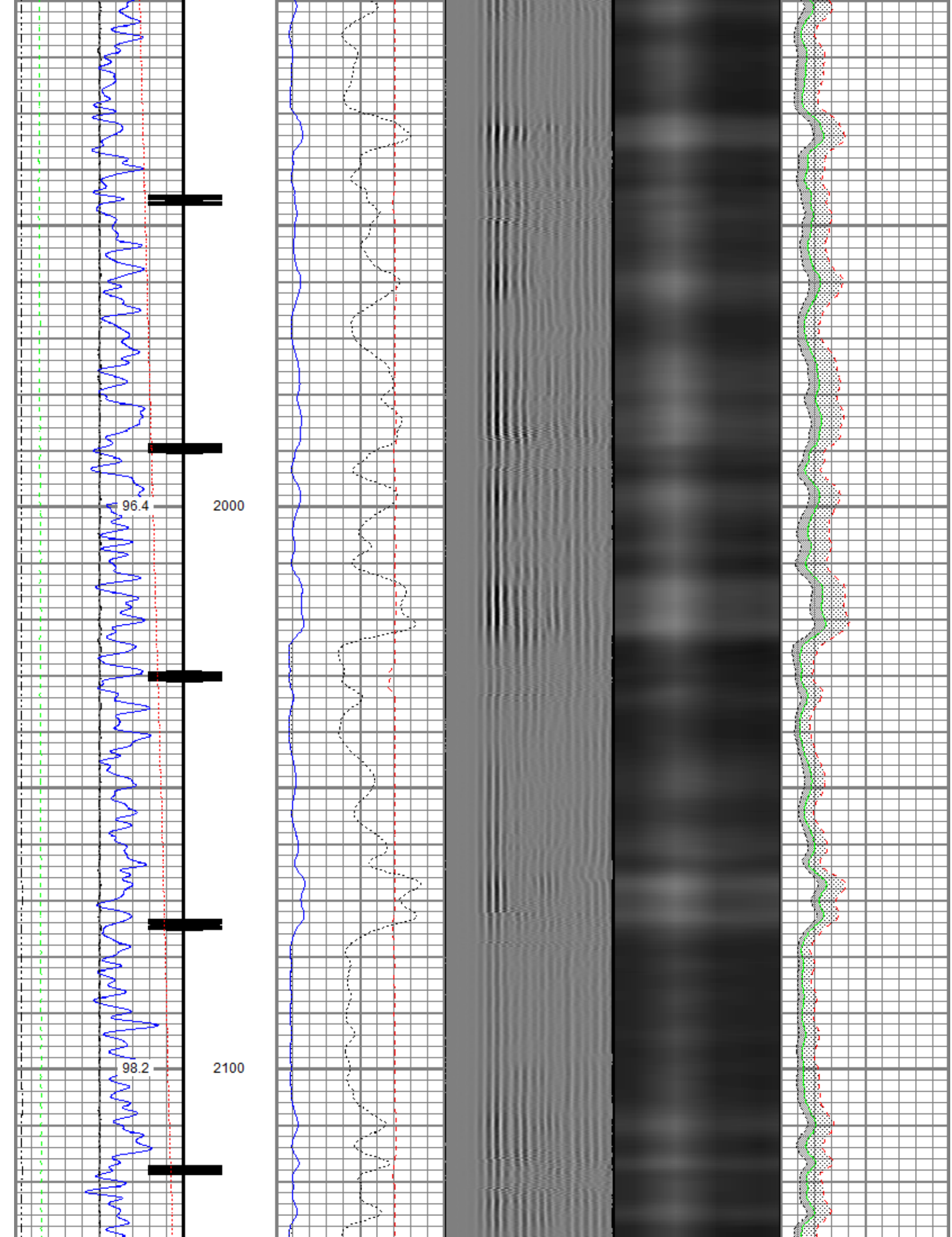


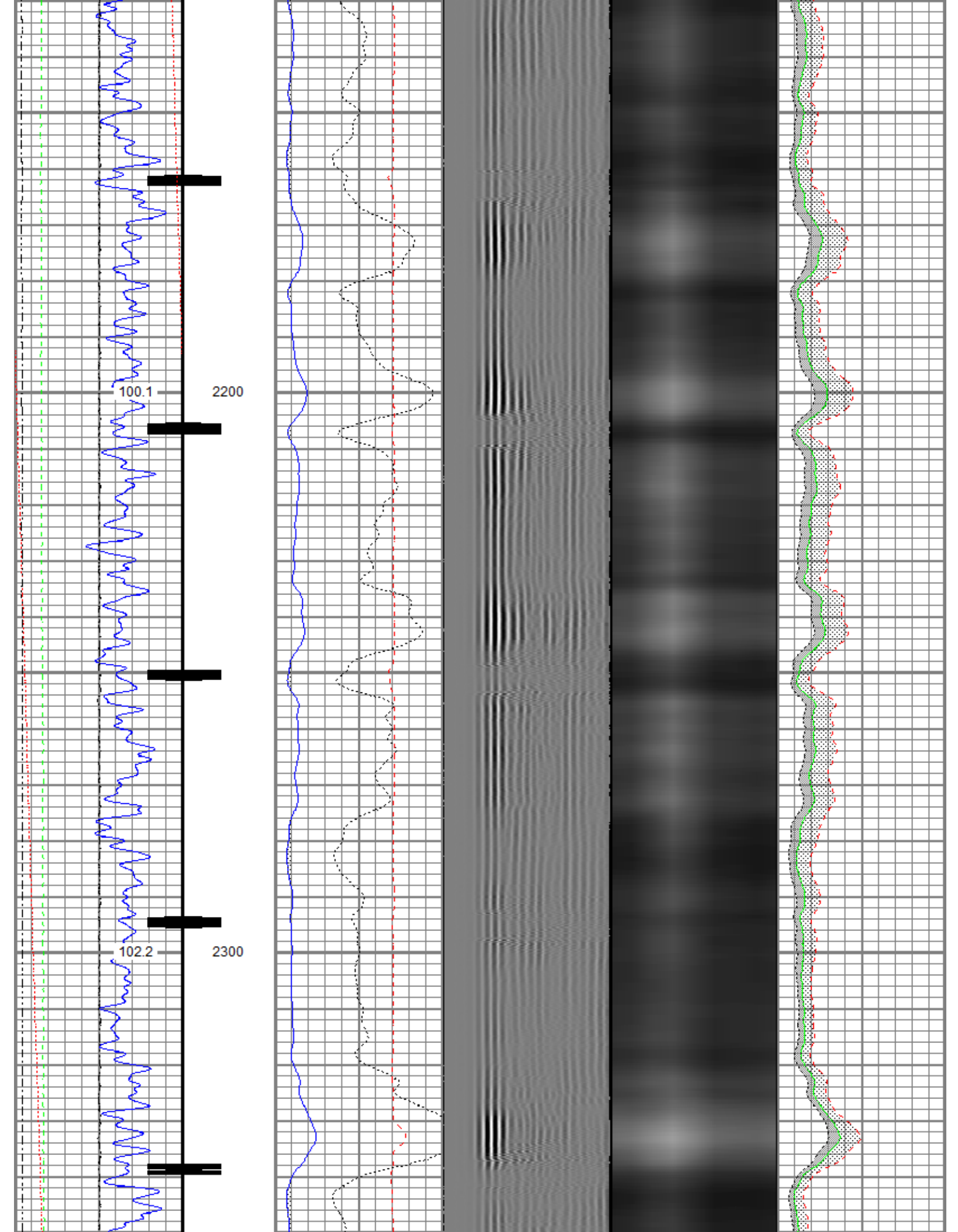


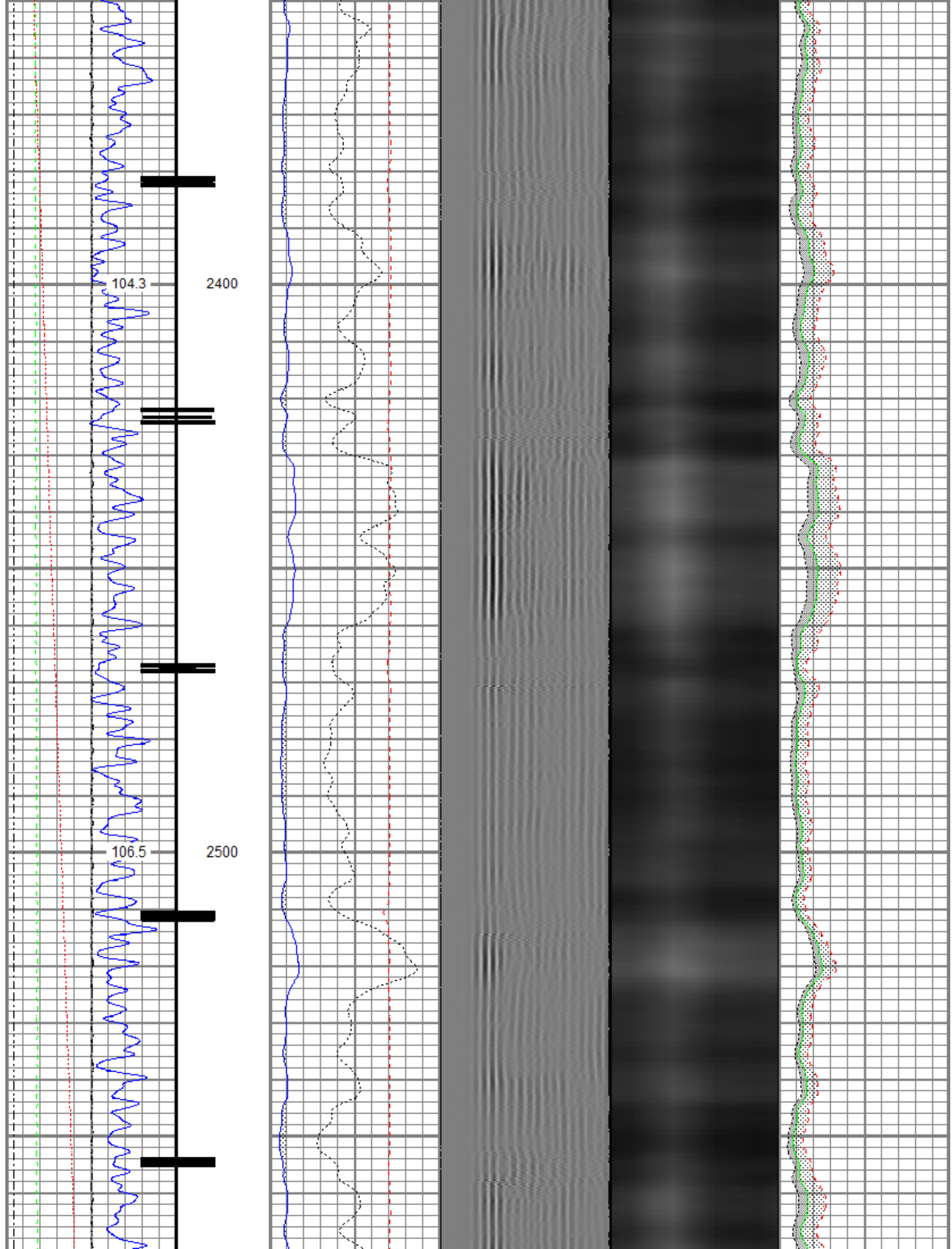


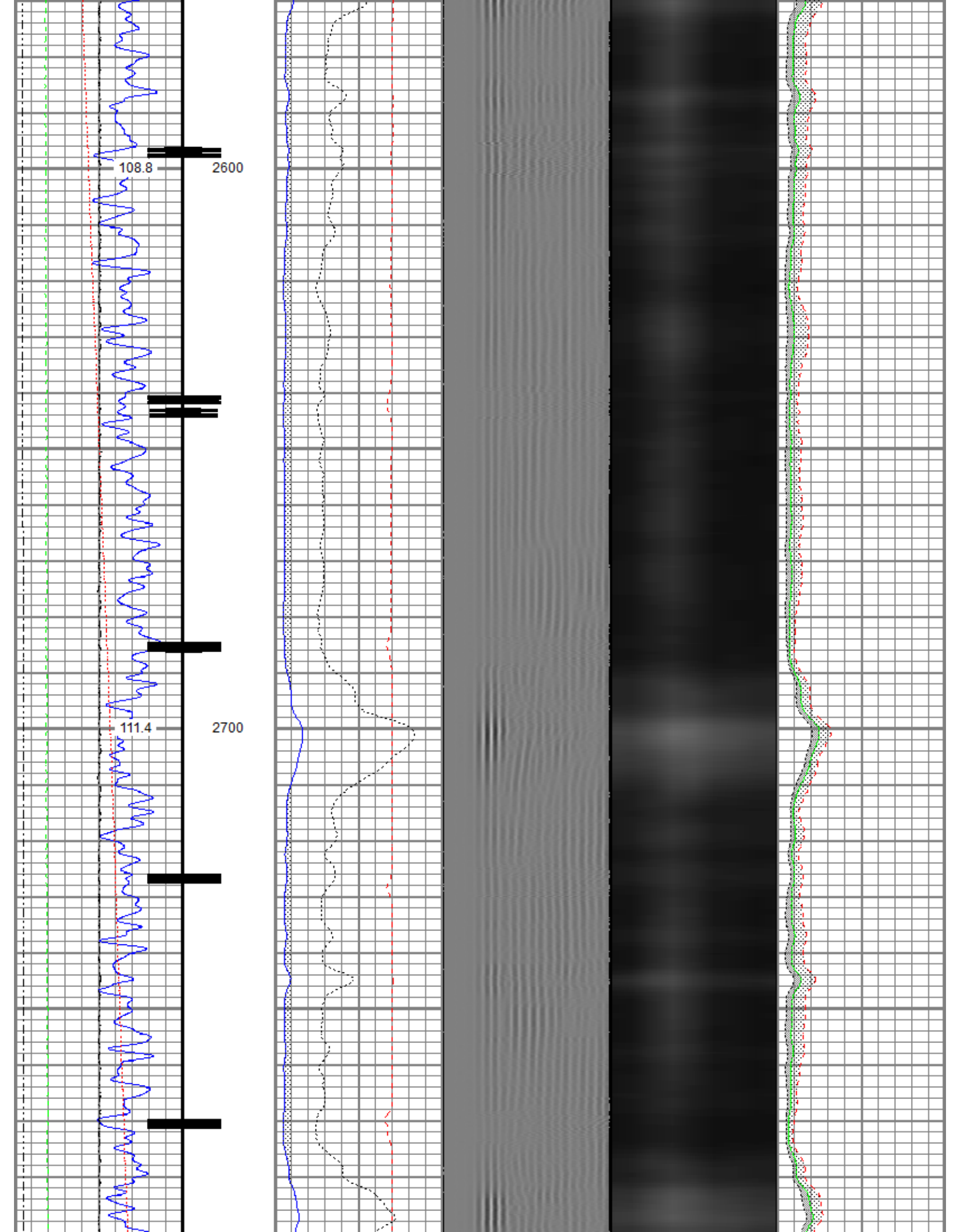


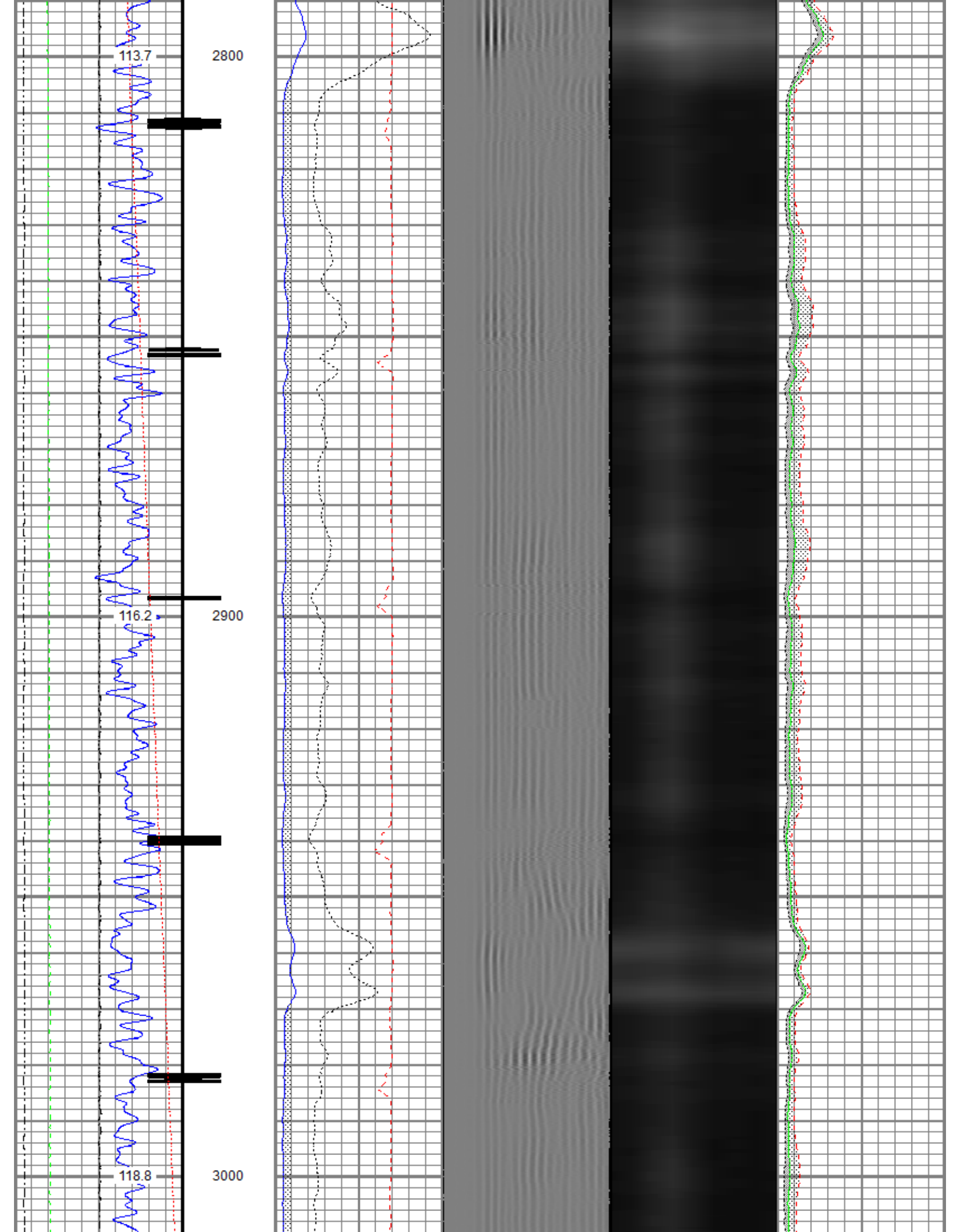


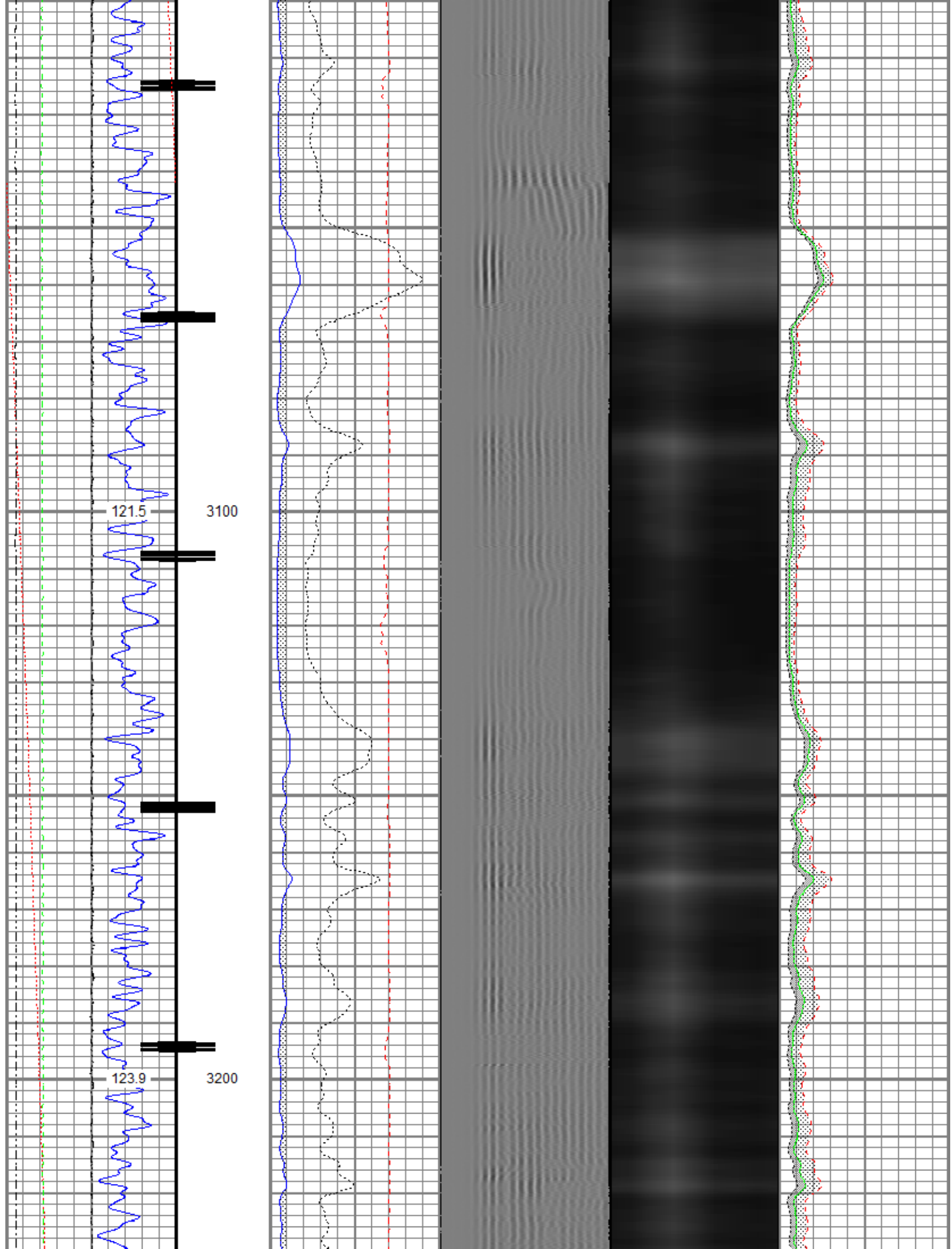


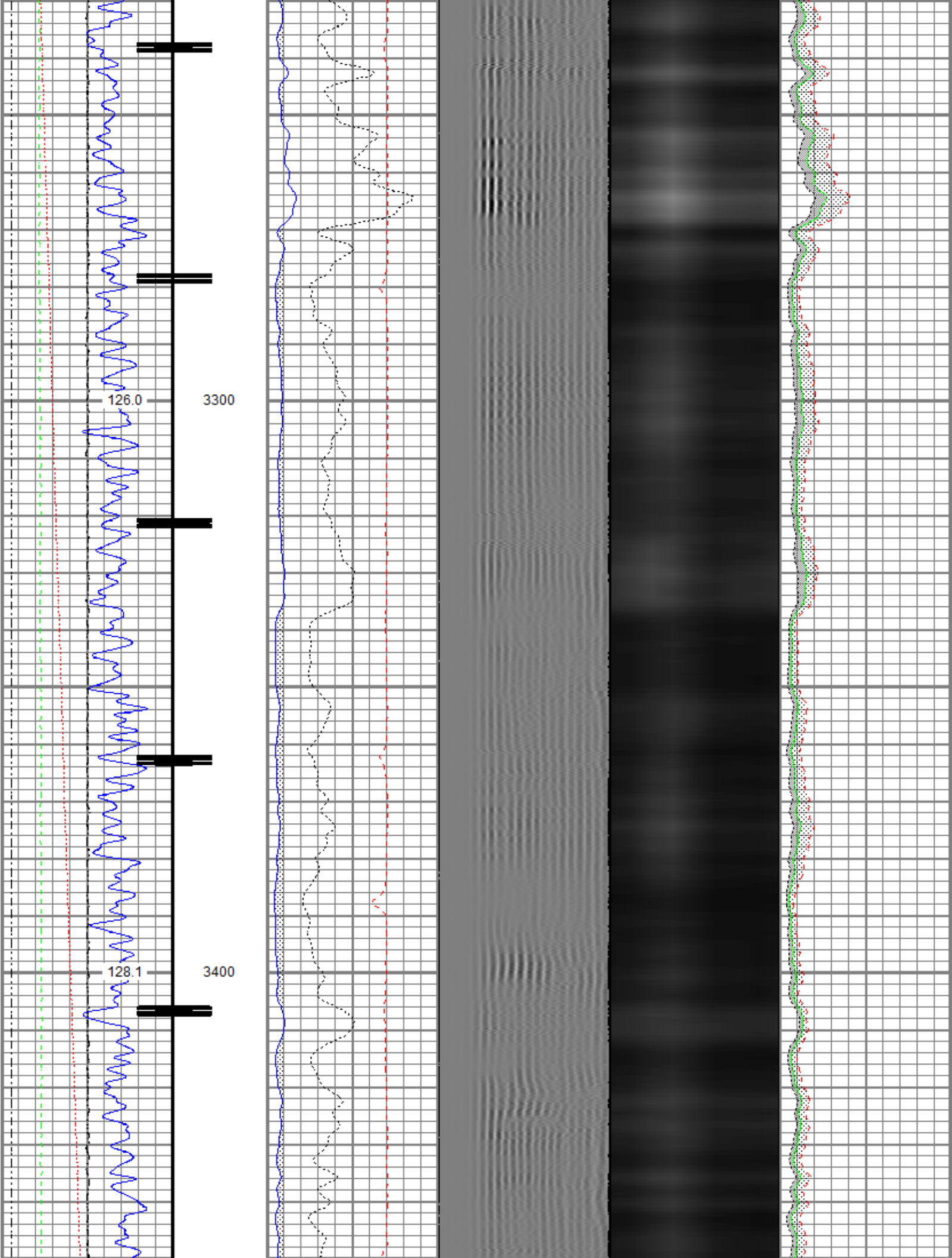


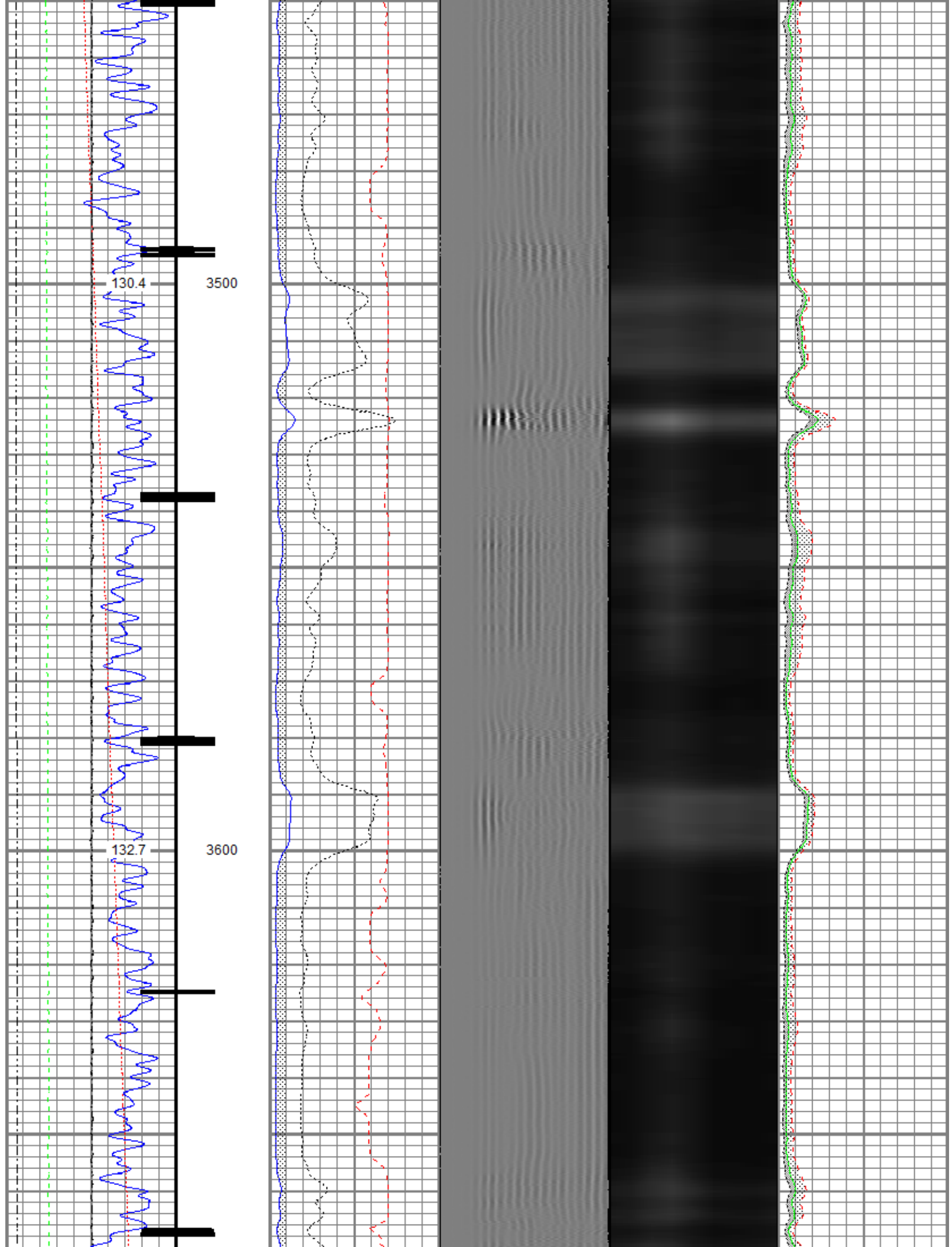


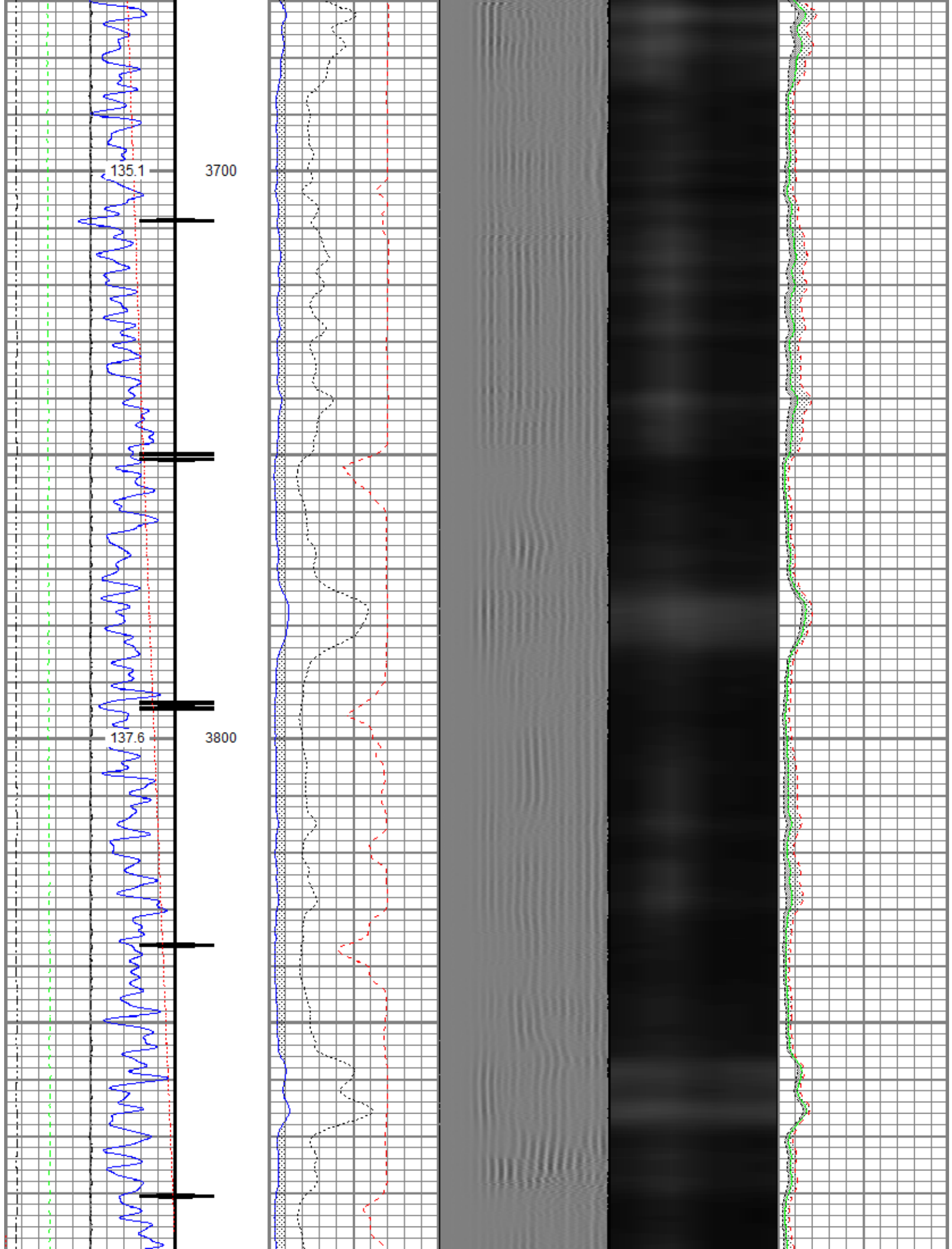


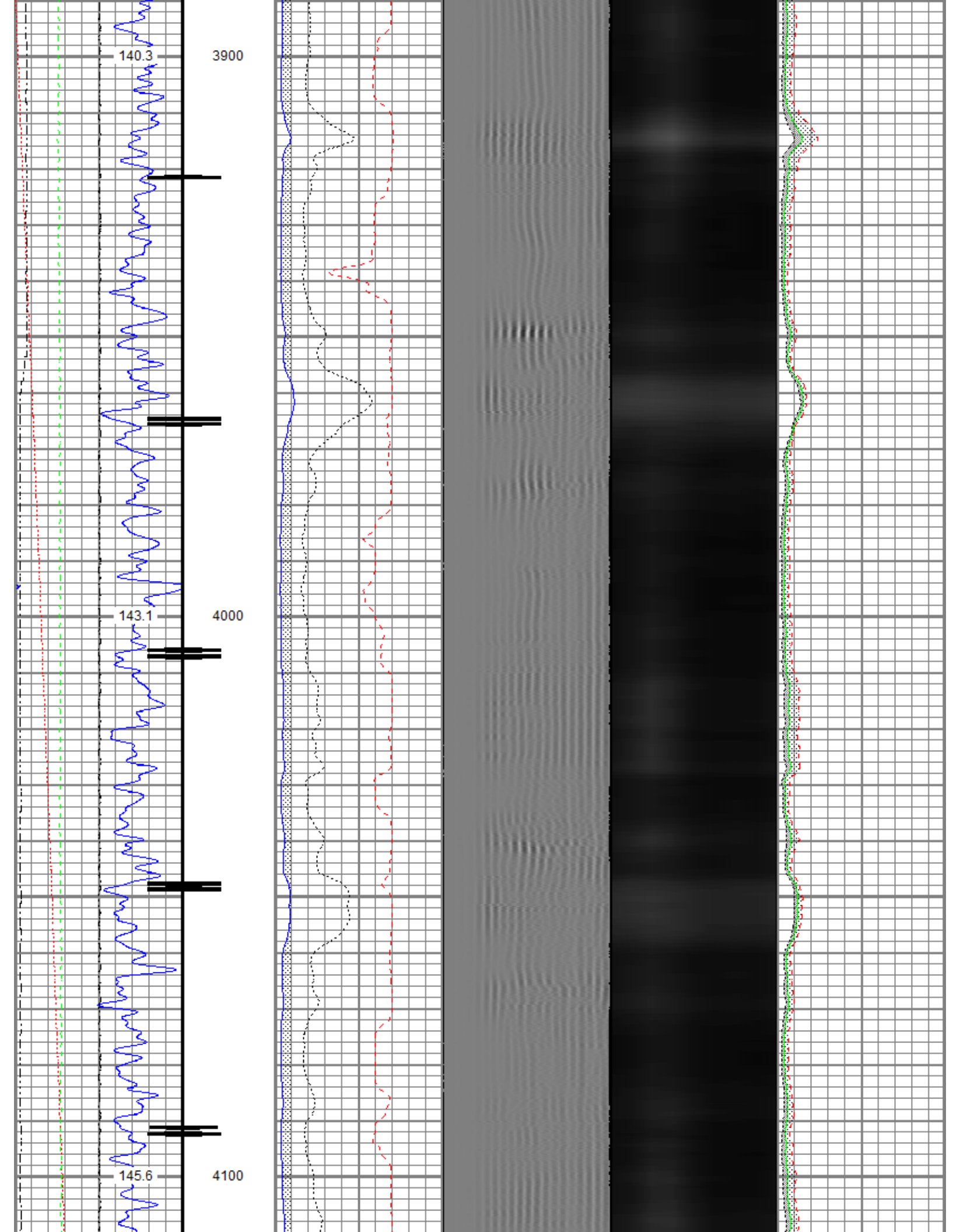


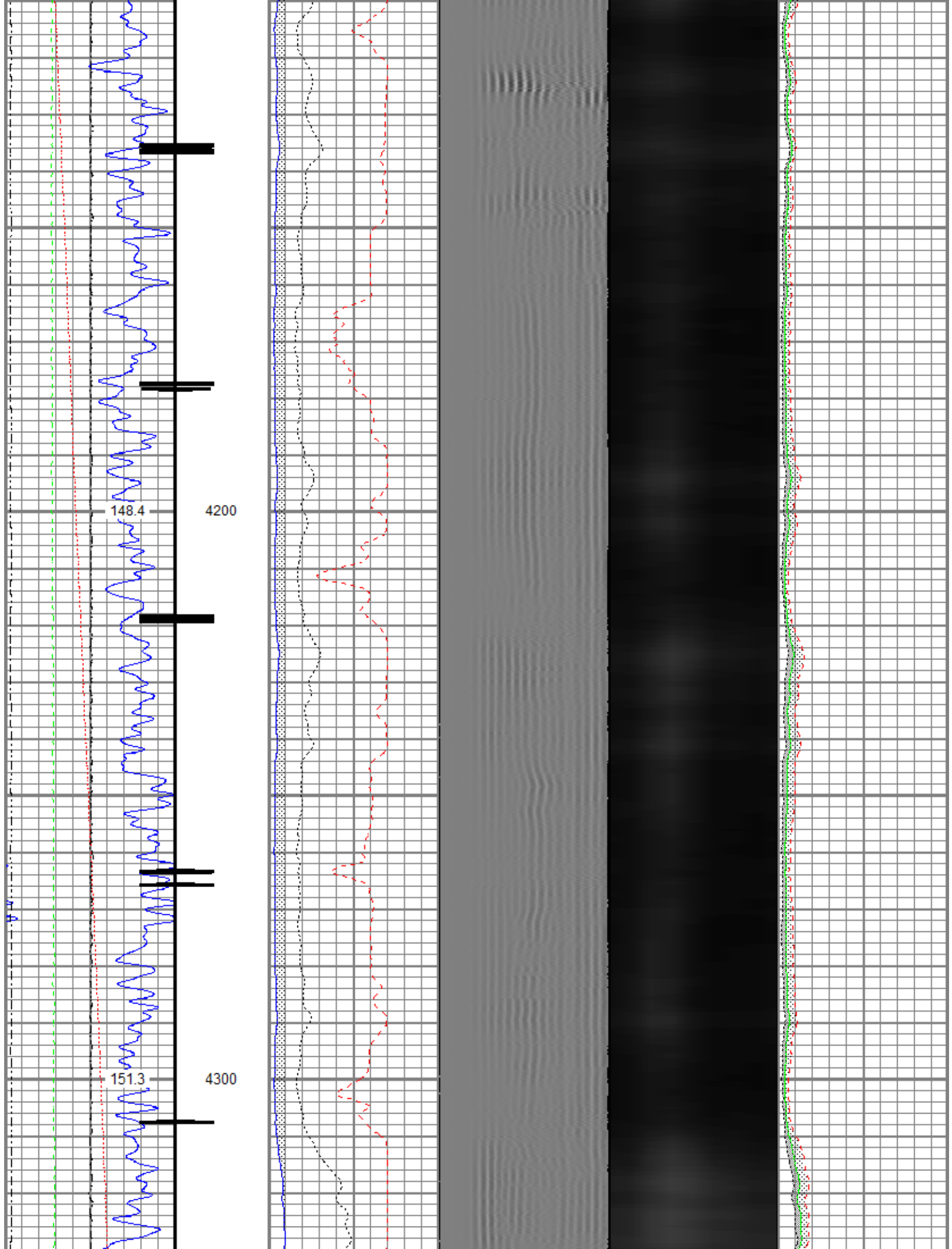


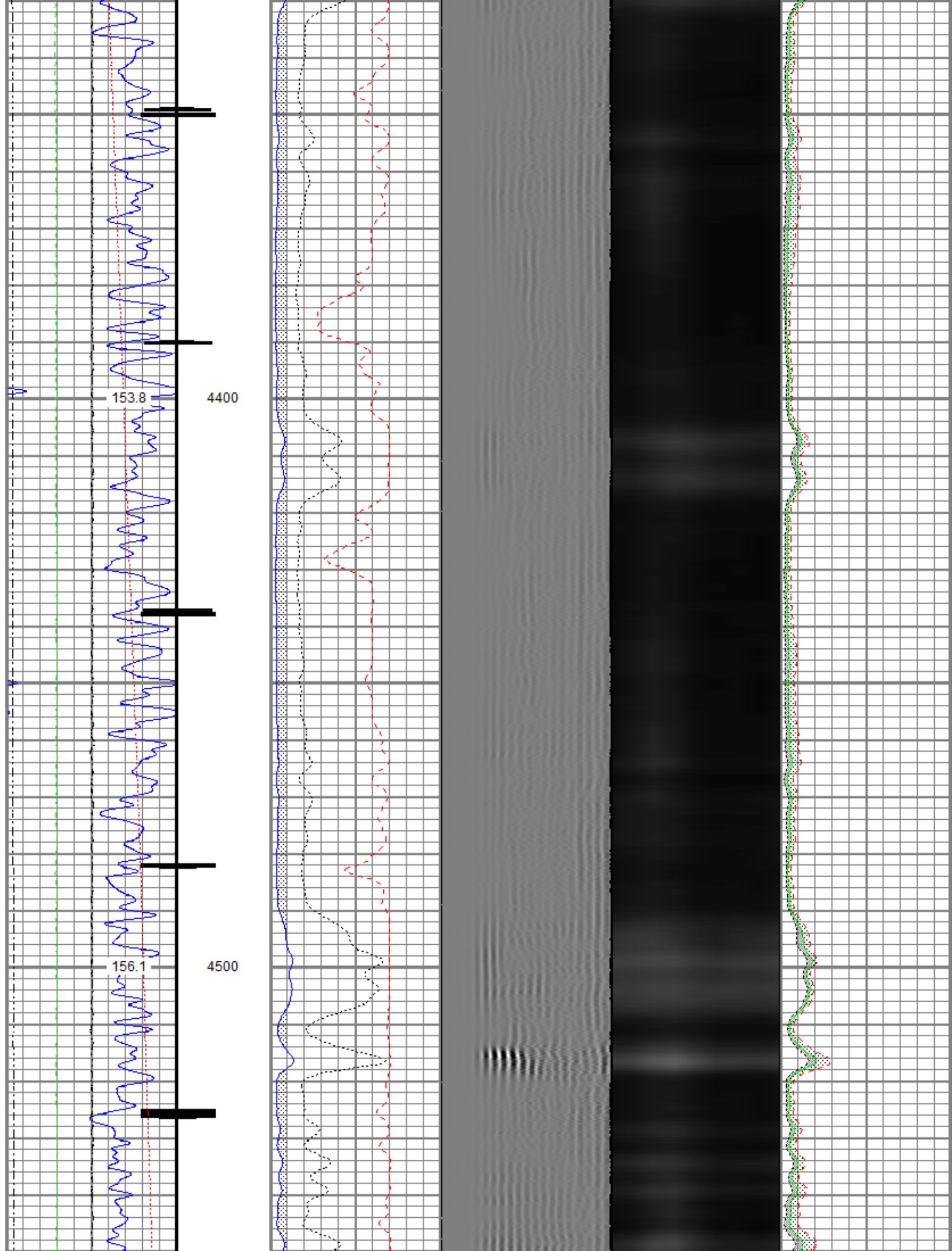


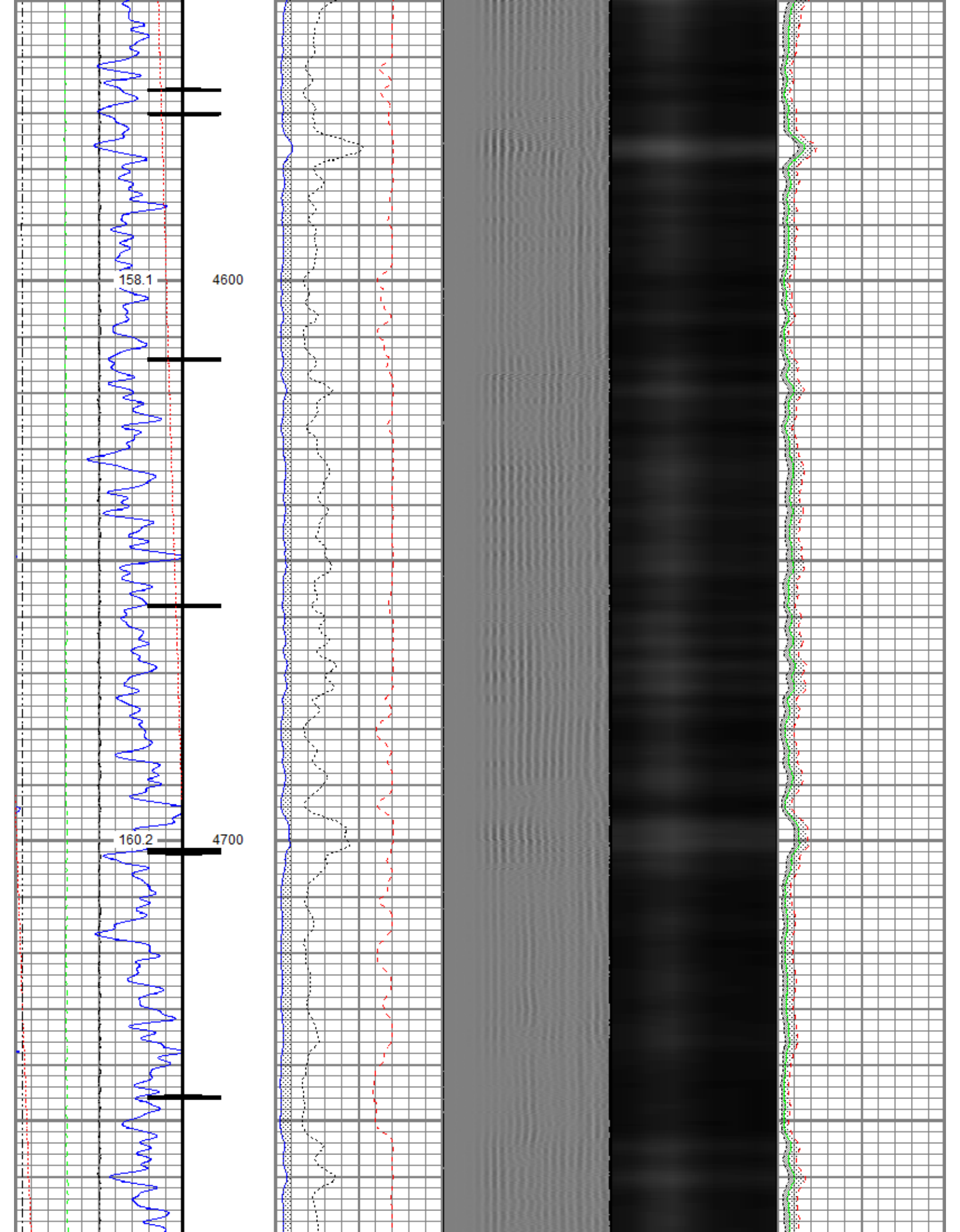


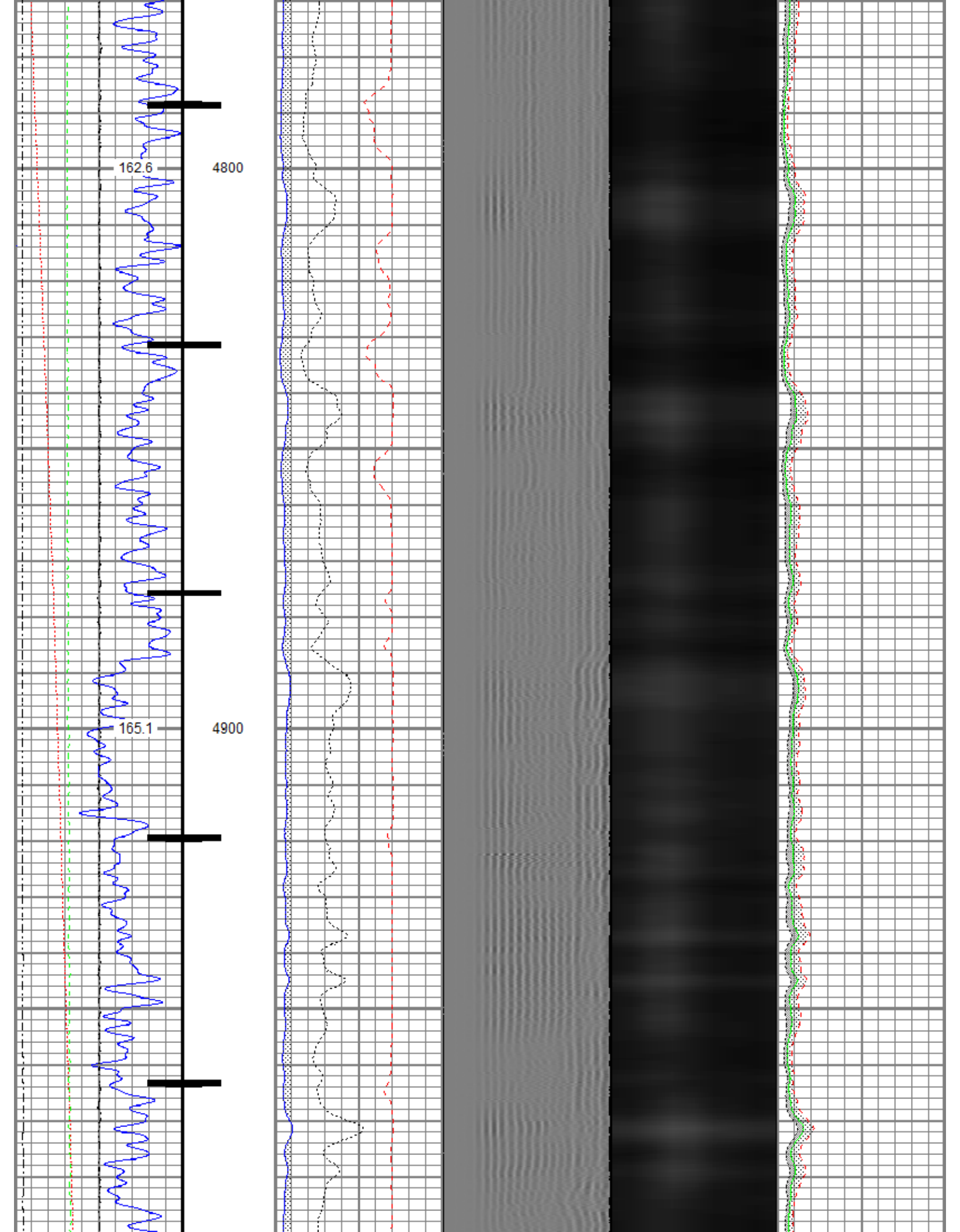


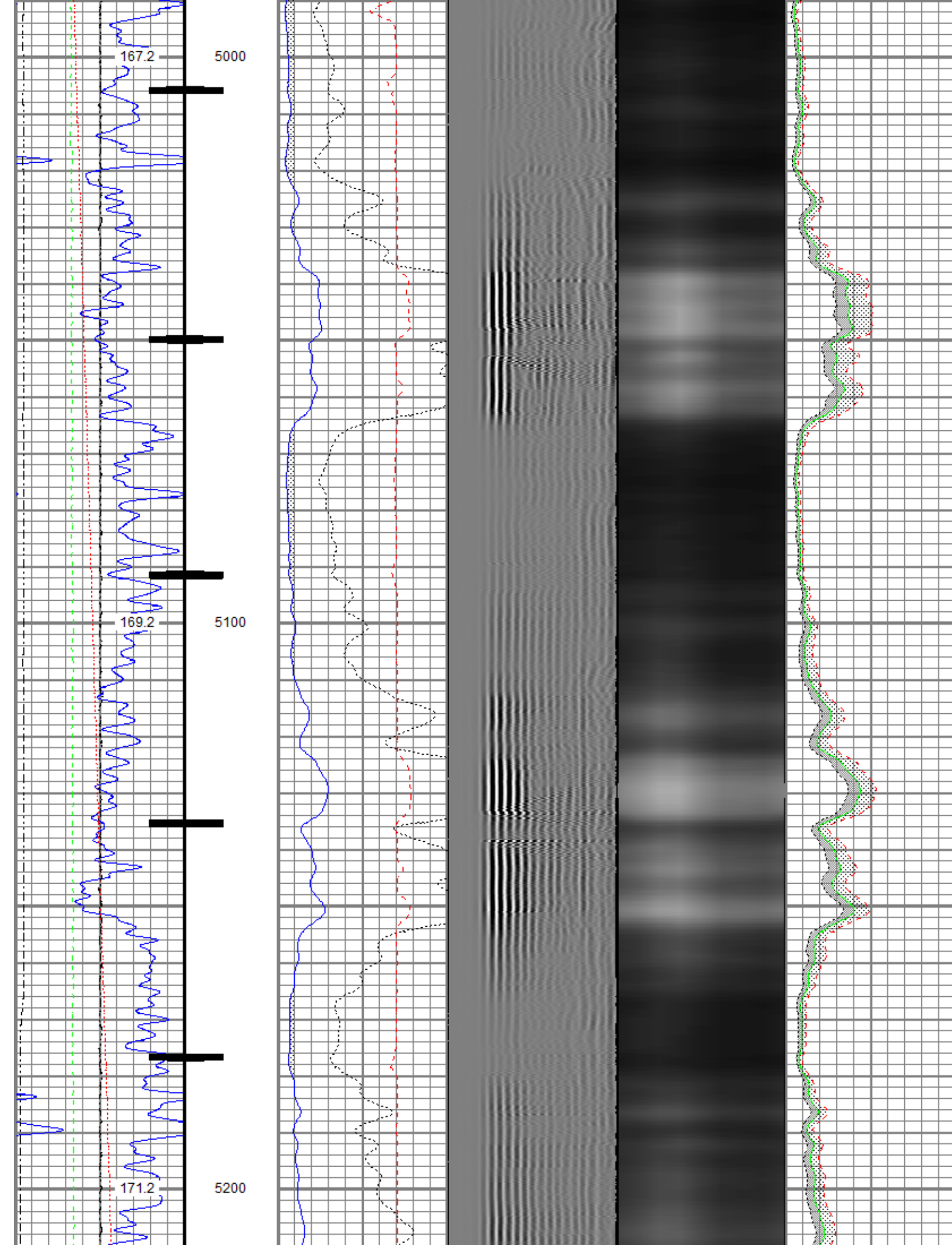


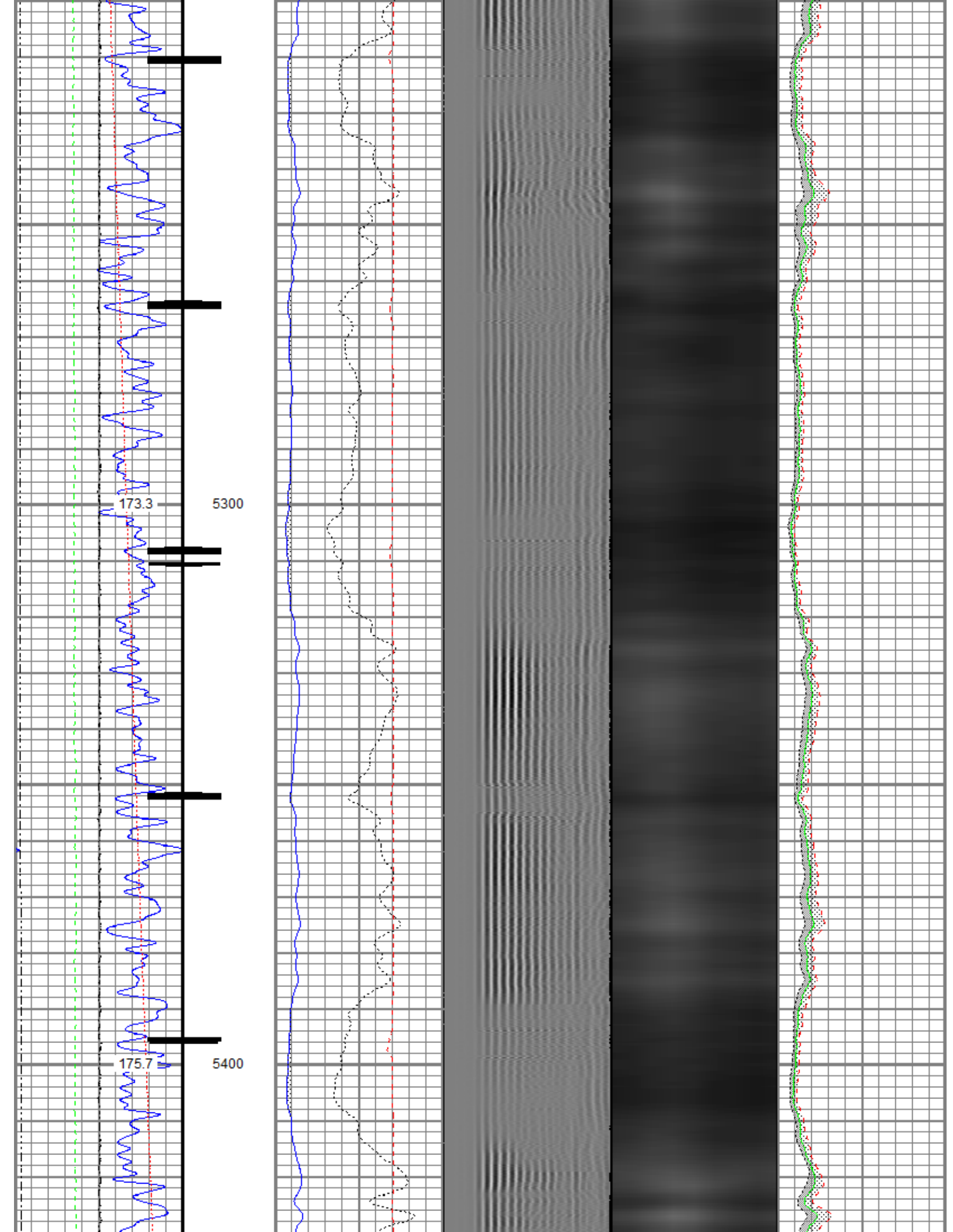


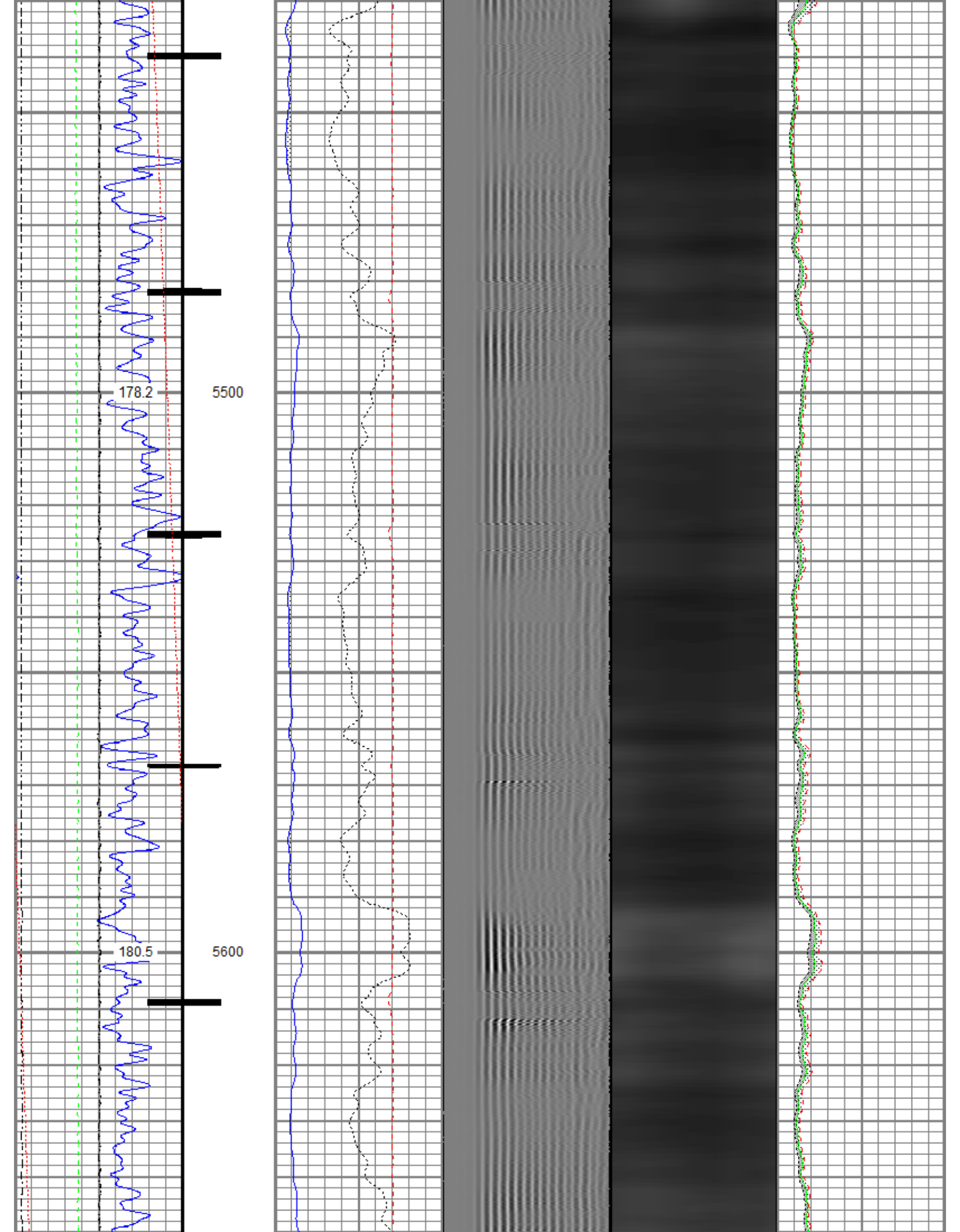


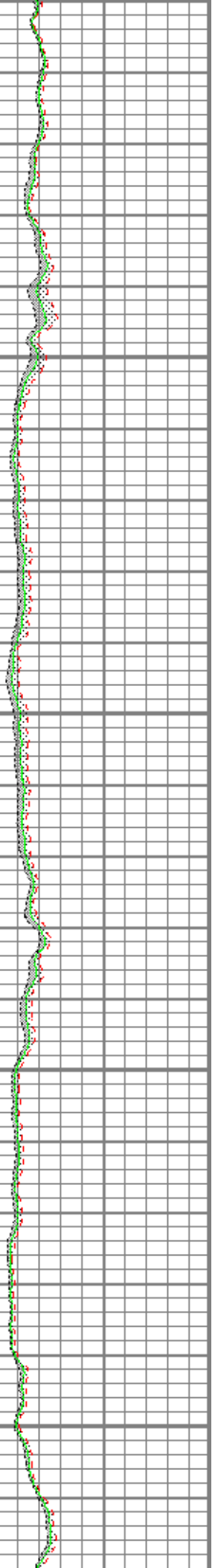
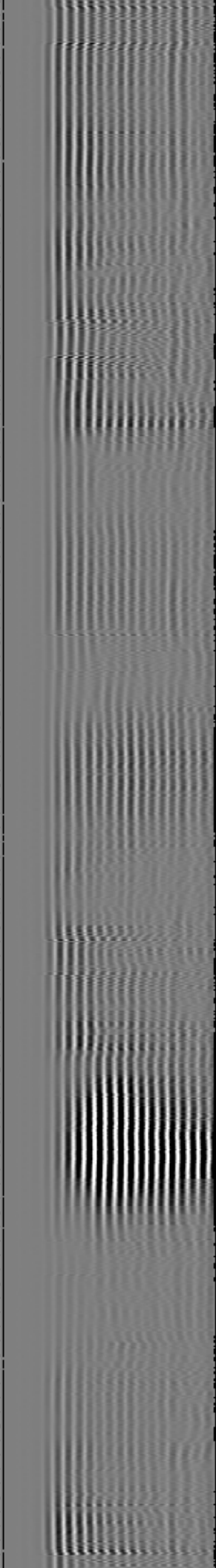
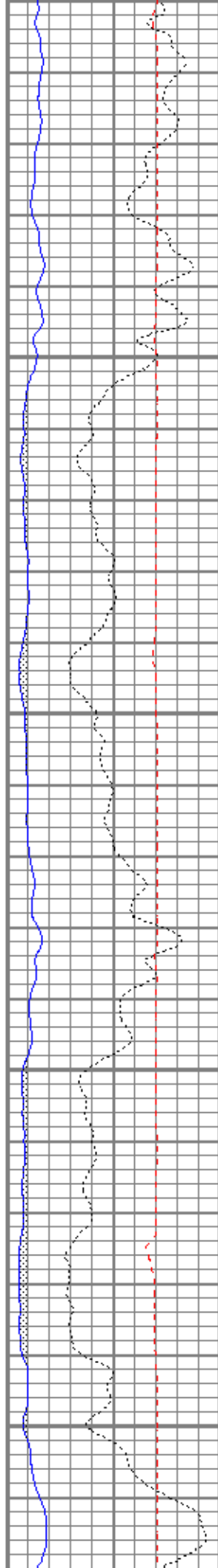
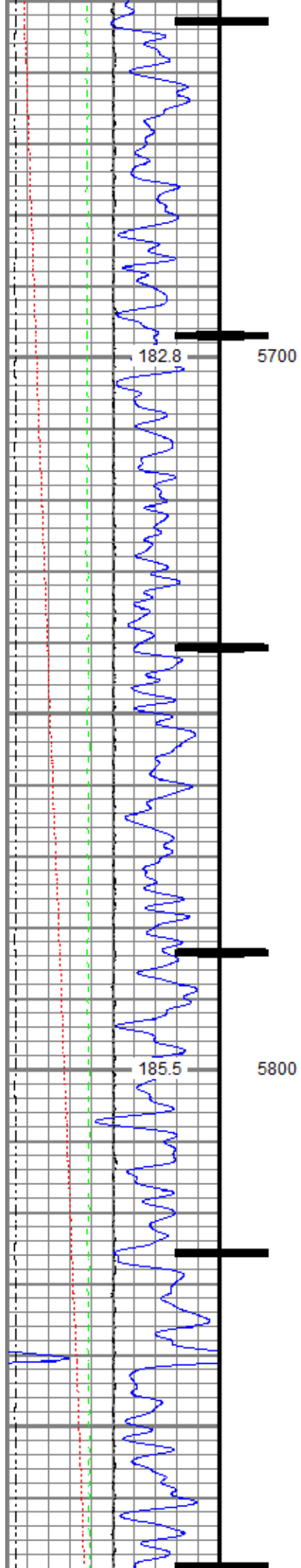


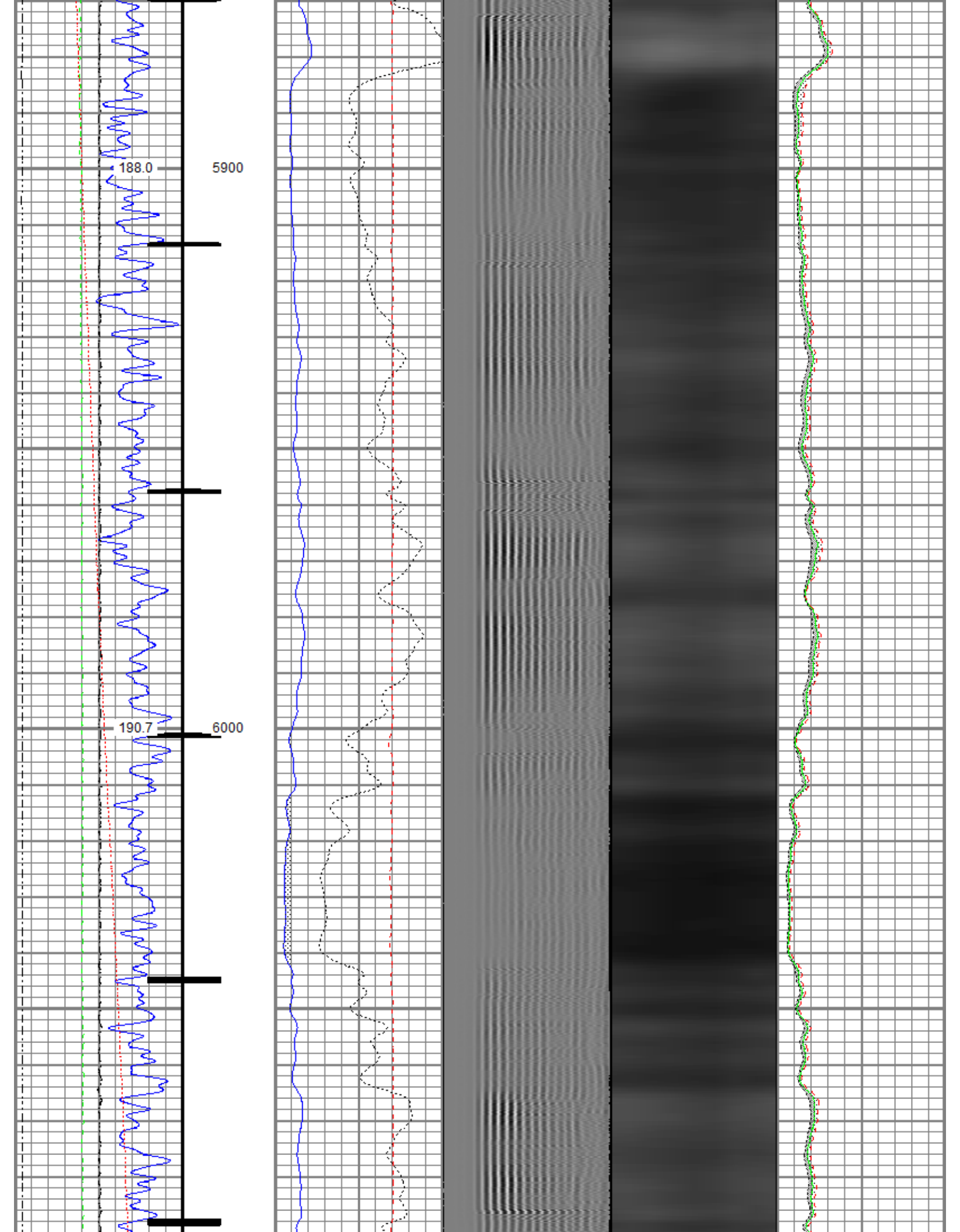


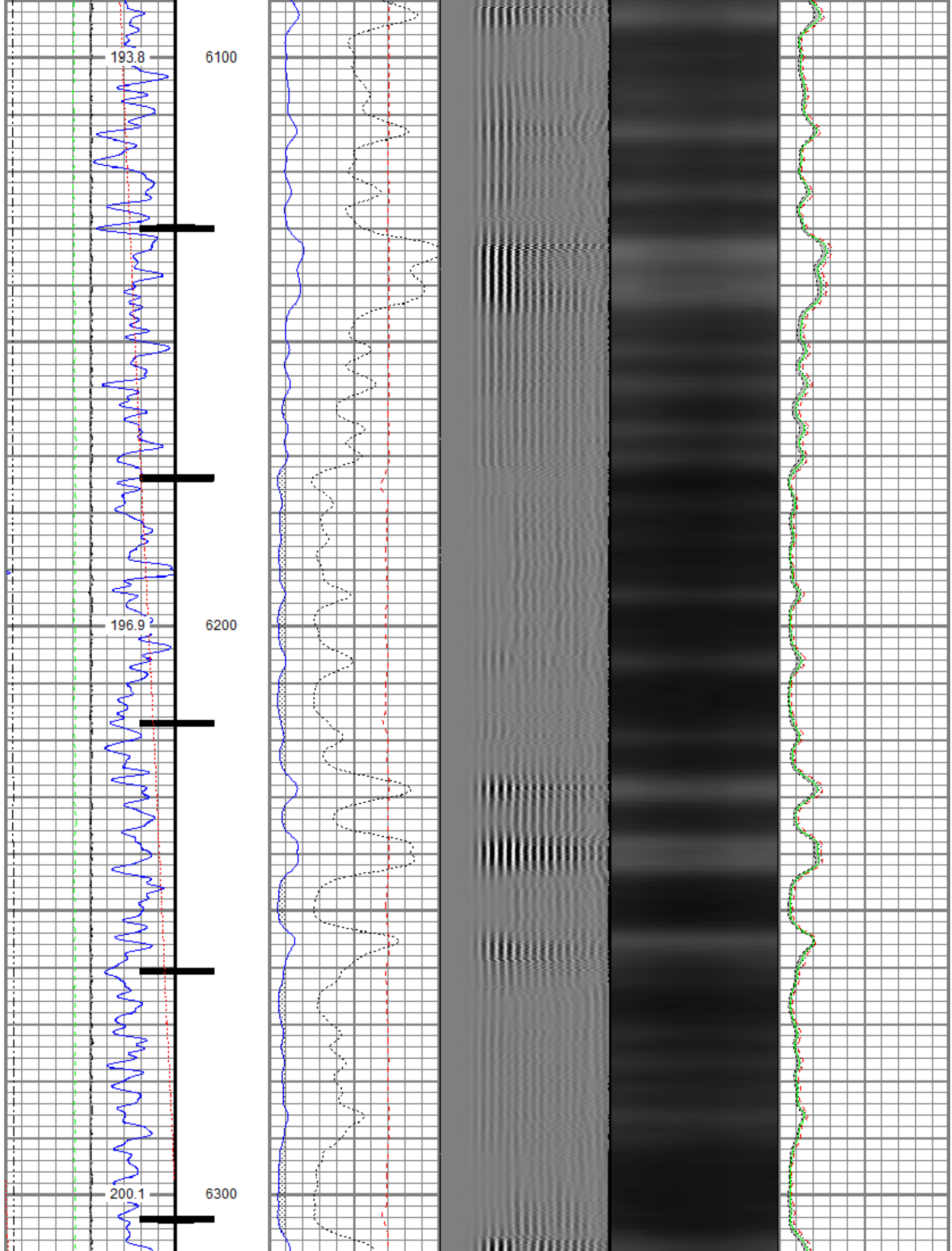


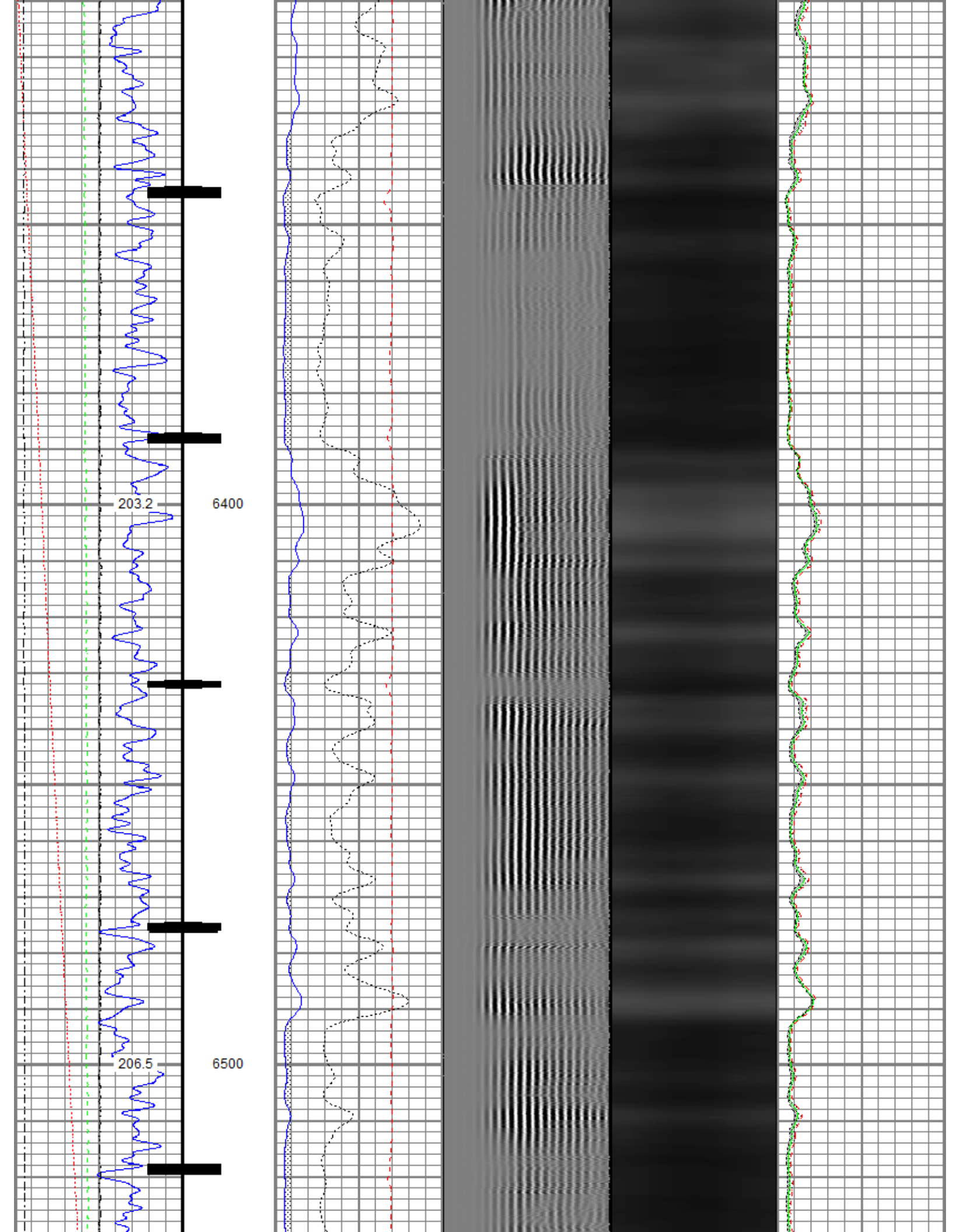


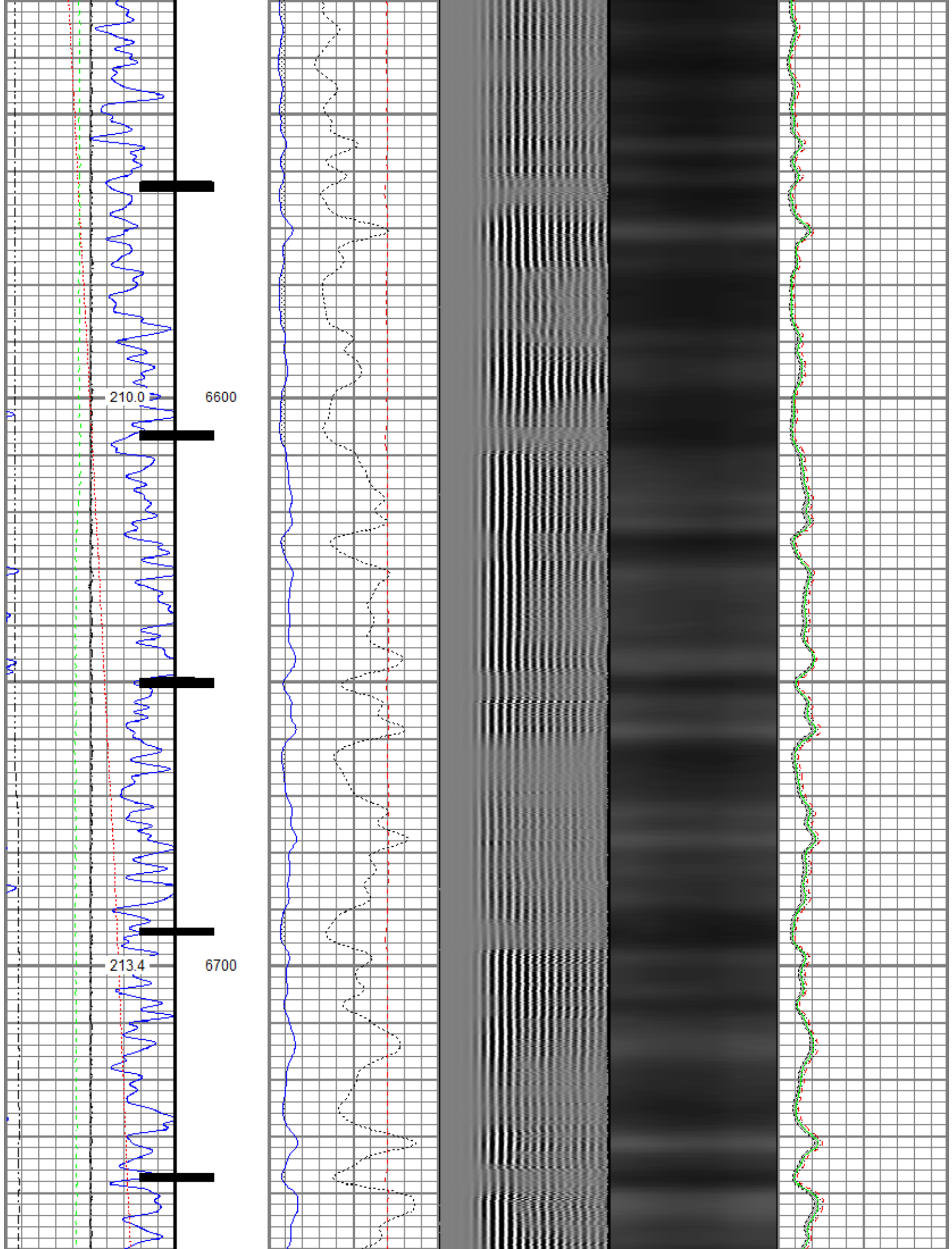


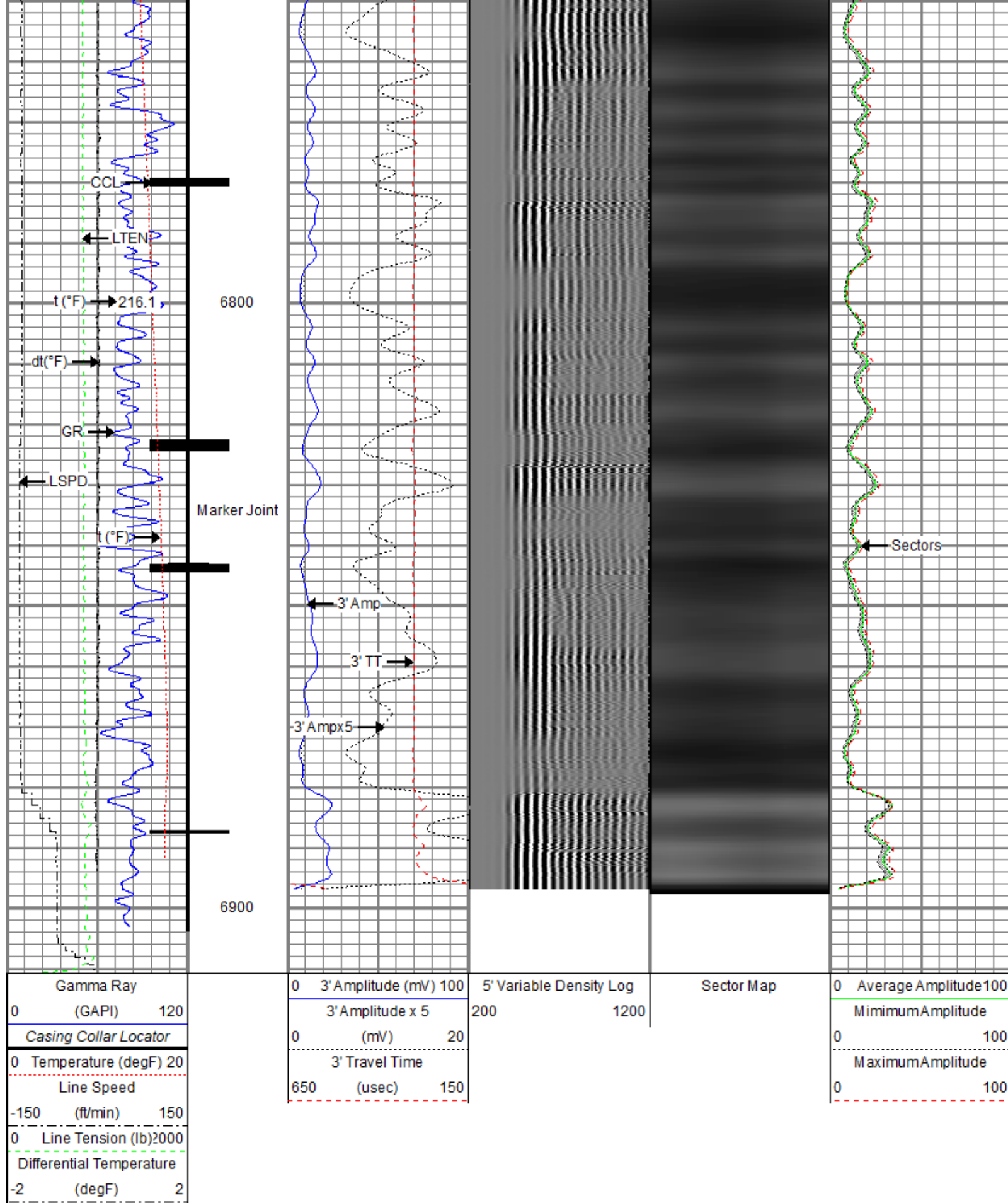






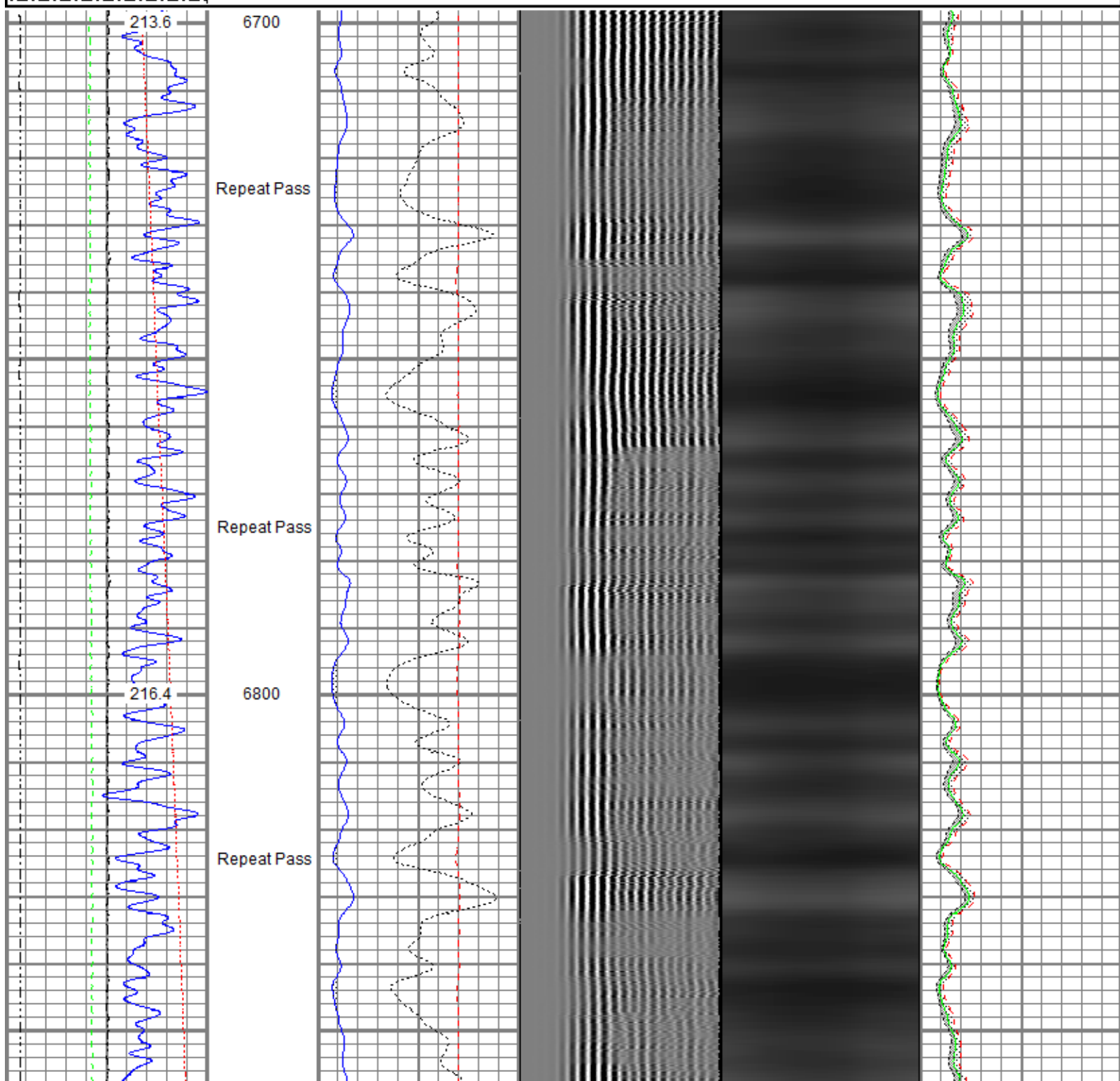


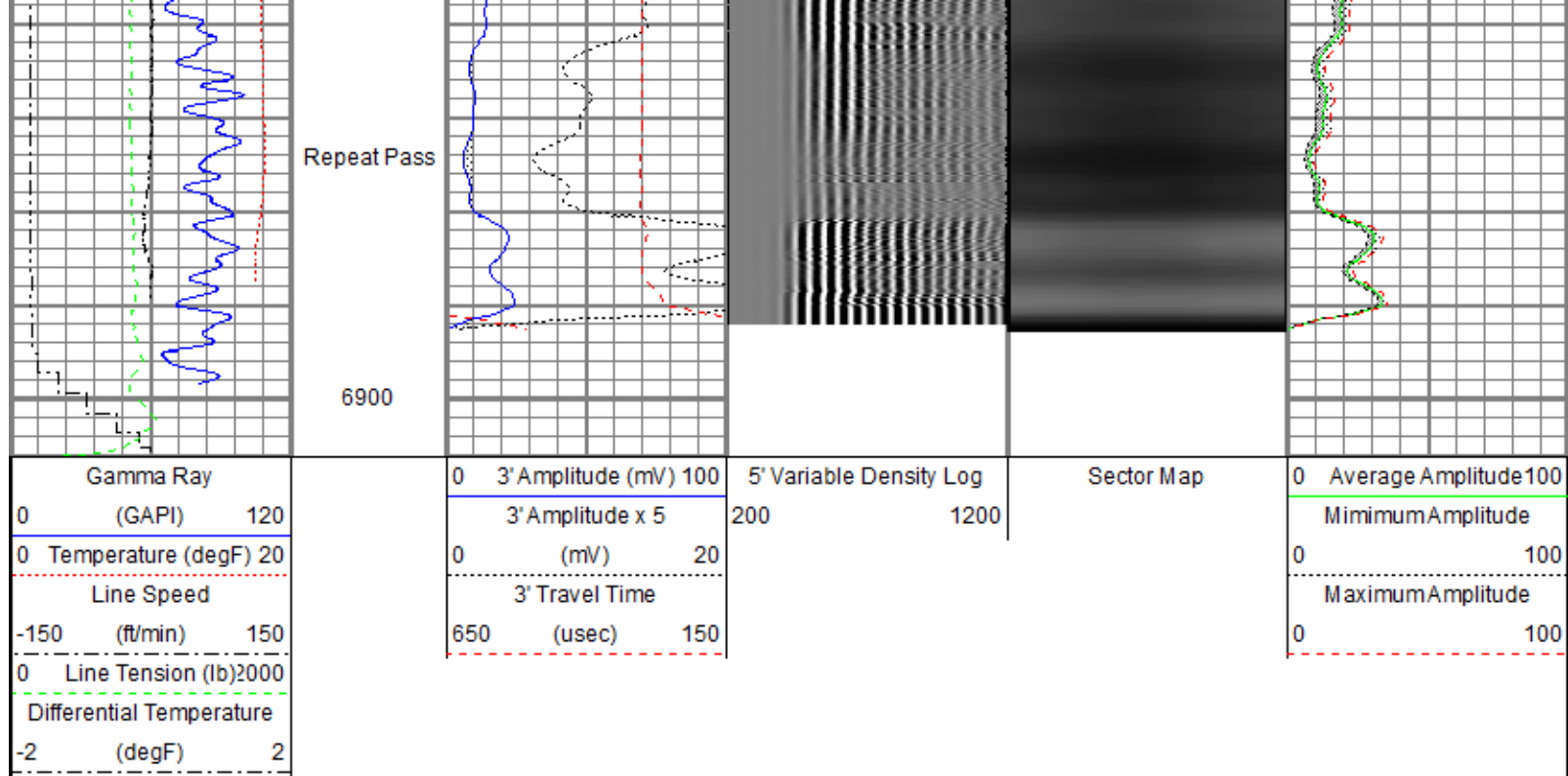





Database File	0512346251_anadarko_verde 13-14hz_rbl_06-23-18\0512346251_anadarko_verde 13-14hz_rbl_06-23-18_2800 psi.db
Dataset Pathname	pass2.3
Presentation Format	ros_radrii
Dataset Creation	Mon Jun 25 15:18:58 2018
Charted by	Depth in Feet scaled 1:240

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
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 (FW1305-096) 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					
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		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	
CCL\$1	6.80						
GR	5.46						
				Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
Dataset:		0512346251_Anadarko_Verde 13-14HZ_RBL_06-23-18_2800 PSI.db: field/well/run1/pass4.1					
Total length:		23.86 ft					
Total weight:		223.60 lb					
O.D.:		2.75 in					

Calibration Report	
Database File	C:\ProgramData\Warrior\Data\0512346251_Anadarko_Verde 13-14HZ_RBL_06-23-18\0512346251_Anadarko_Verde 13-14HZ
Dataset Pathname	pass4.1
Dataset Creation	Sat Jun 23 17:16:57 2018

Gamma Ray Calibration Report		
Serial Number:	101001	
Tool Model:	2750 6PB	
Performed:	Sun Nov 12 11:25:32 2017	
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:	FW1305-096	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	-100.681	ft

Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.003	0.389	0.800	71.921	184.113	0.245
CAL	0.440	0.503				
5'	0.002	0.366	0.800	71.921	195.377	0.464
SUM						
S1	0.002	0.372	0.000	100.000	270.327	-0.471
S2	0.003	0.371	0.000	100.000	272.068	-0.807
S3	0.003	0.381	0.000	100.000	264.397	-0.837
S4	0.003	0.392	0.000	100.000	257.445	-0.808

S5	0.003	0.411	0.000	100.000	245.405	-0.770
S6	0.003	0.417	0.000	100.000	241.492	-0.752
S7	0.003	0.399	0.000	100.000	252.252	-0.729
S8	0.003	0.394	0.000	100.000	255.837	-0.714

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.440	0.503	1.000	0.000

Air Zero Calibration, performed Fri Apr 20 09:20:04 2018:

	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

Serial Number: FW1305-096
Tool Model: 2750 RBT
Performed: Sun Nov 12 13:42:10 2017

	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: Verde 13-14HZ
Field: Wattenberg
County: Weld
State: Colorado