



Radial Cement Bond
Gamma Ray
Casing Collar Log

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

Well English Farms 8-9HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-46593

Other Services
JB/GR
RBP
RBL 0 PSI

SEC 8 TWP 1N RGE 65W

Elevation

Permanent Datum Ground Level Elevation 4945'
Log Measured From Kelly Bushing 26 FT
Drilling Measured From Kelly Bushing

K.B. 4971'
D.F. ---
G.L. 4945'

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Date	16-SEP-2018			
Run Number	Four			
Depth Driller	20638 FT			
Depth Logger	6773 FT			
Bottom Logged Interval	6757 FT			
Top Log Interval	Surface			
Open Hole Size	---			
Type Fluid	Water			
Density / Viscosity	8.34 lb/gal			
Max. Recorded Temp.	229°F			
Estimated Cement Top	See Log			
Time Well Ready	ROA			
Time Logger on Bottom	11:20			
Equipment Number	HD-363			
Location	Plateville, CO			
Recorded By	M. Hayes			
Witnessed By	Kyle Carver			
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 6720 FT
Adjusted +2 FT To Correlate with Marker Joint
Ran JB/GR down to 7666 FT
Log ran from 6757 FT to Surface
Recorded with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations

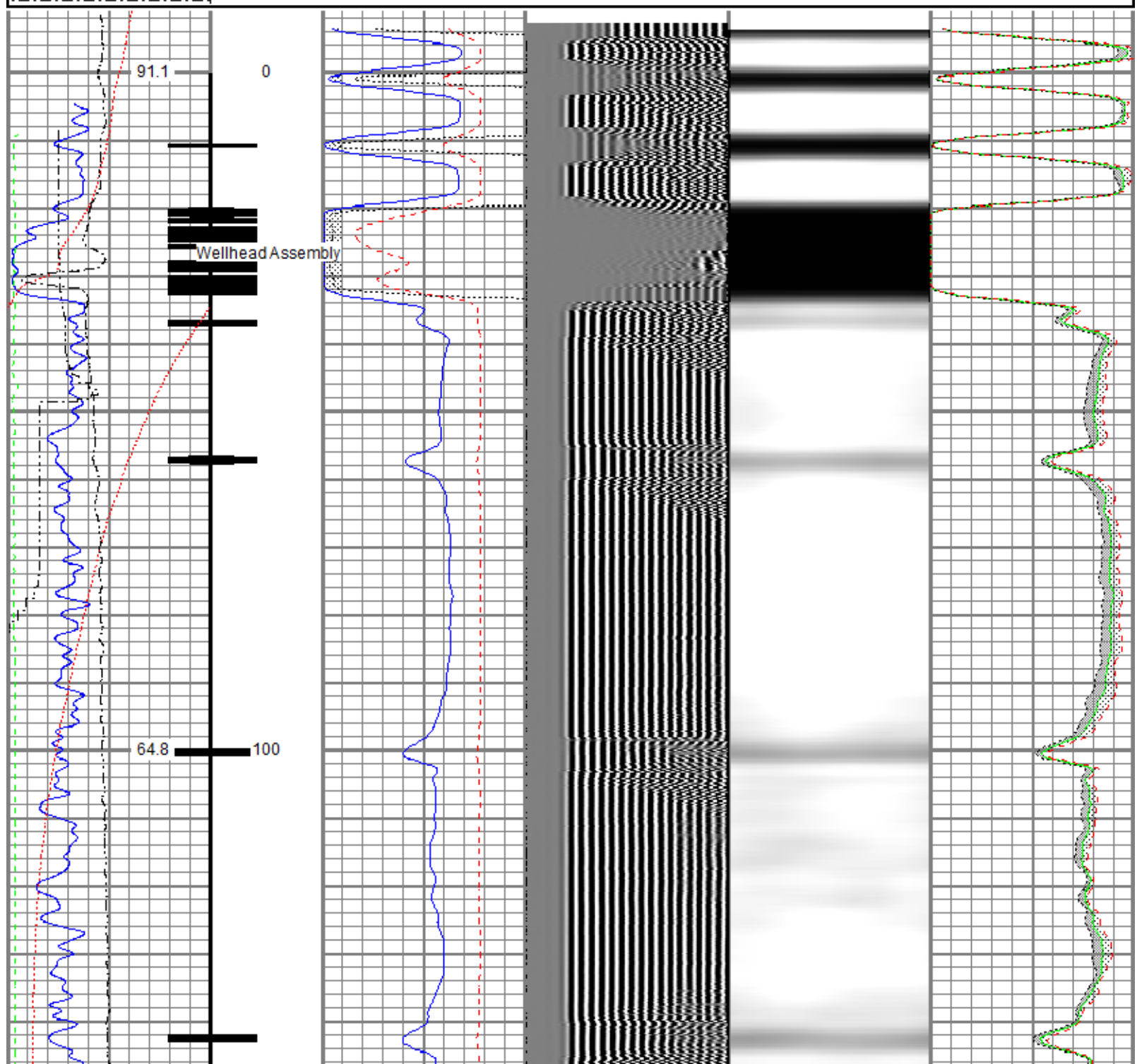
Thank you for choosing Reliance Oilfield Services, LLC!!

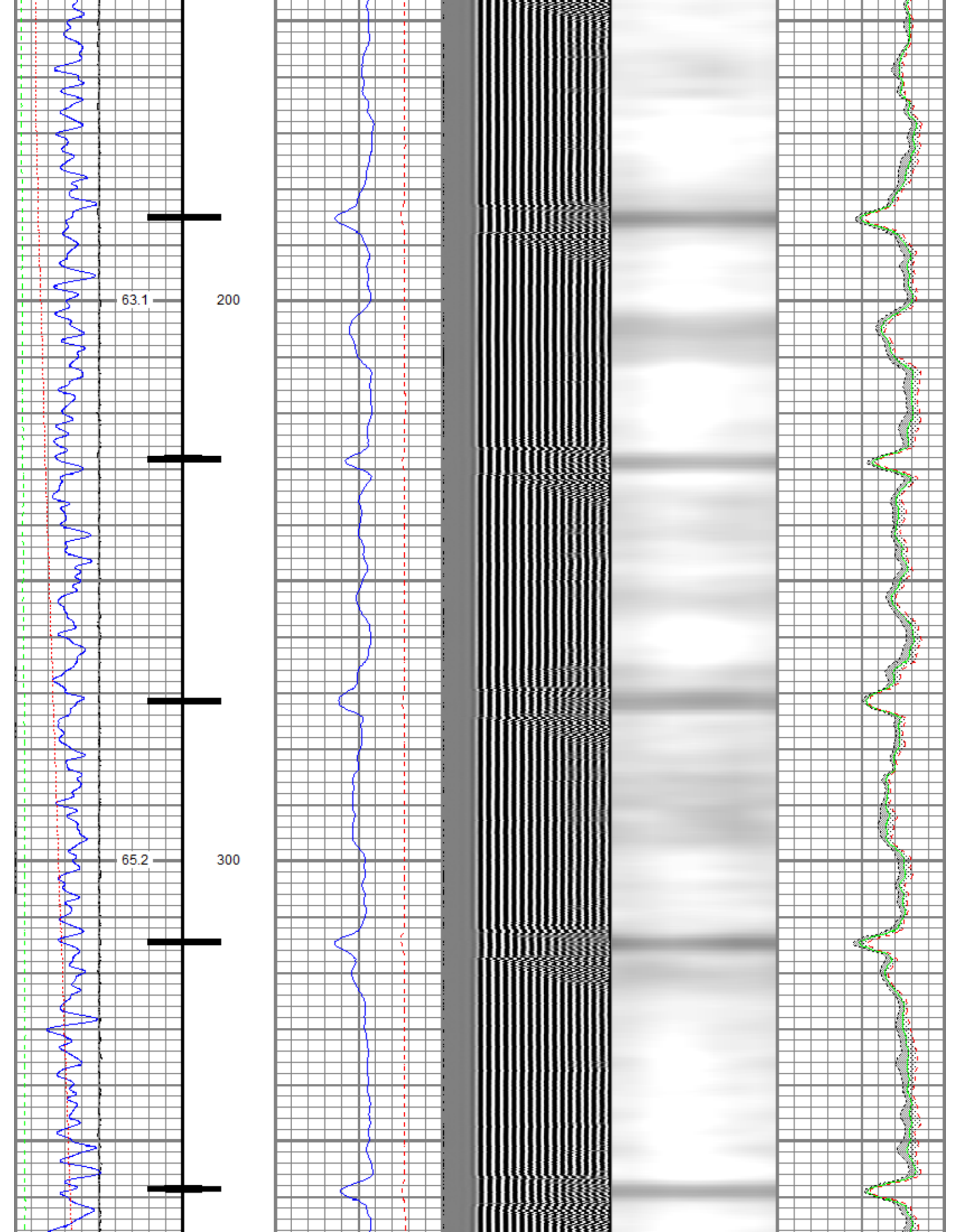
Main Pass

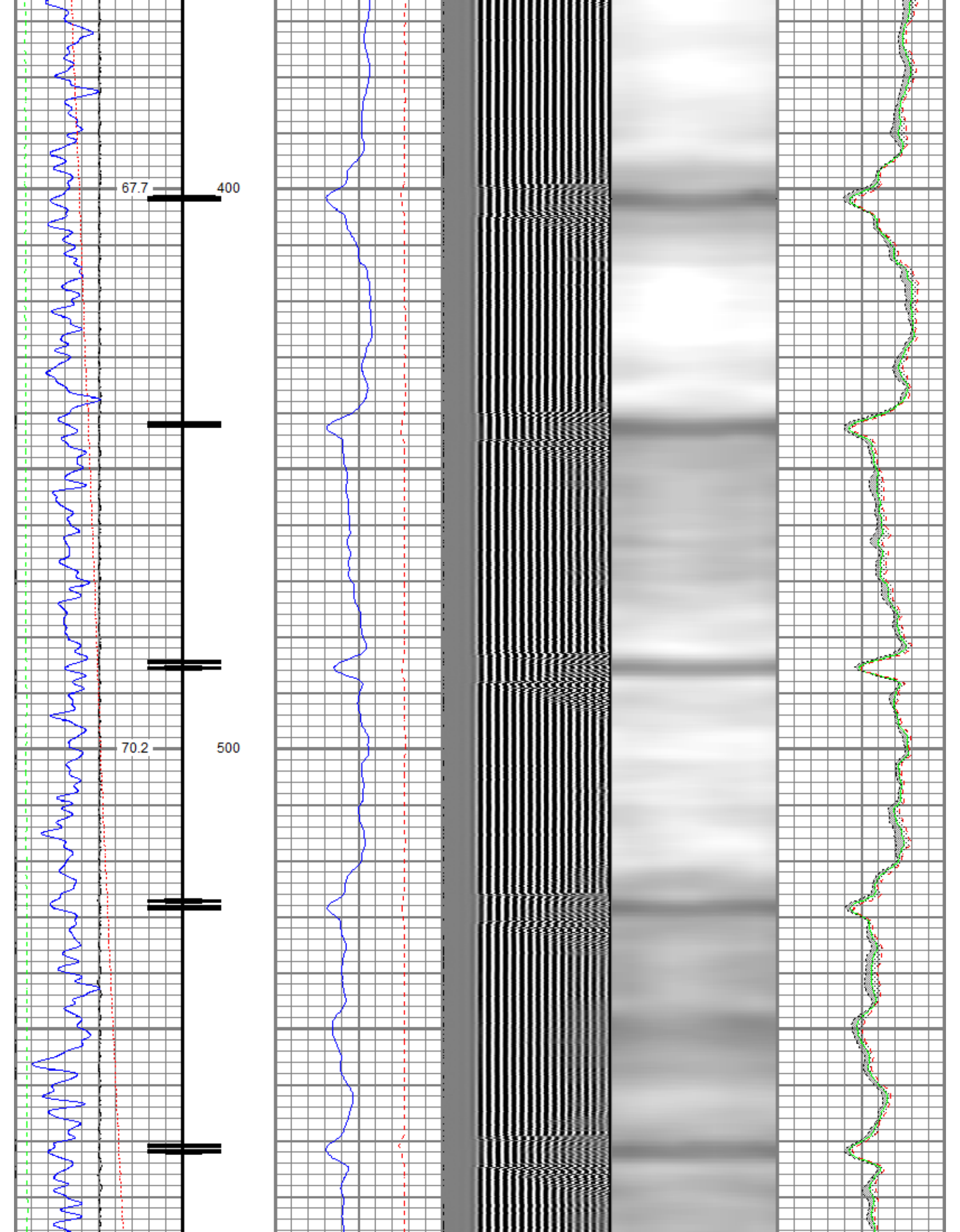


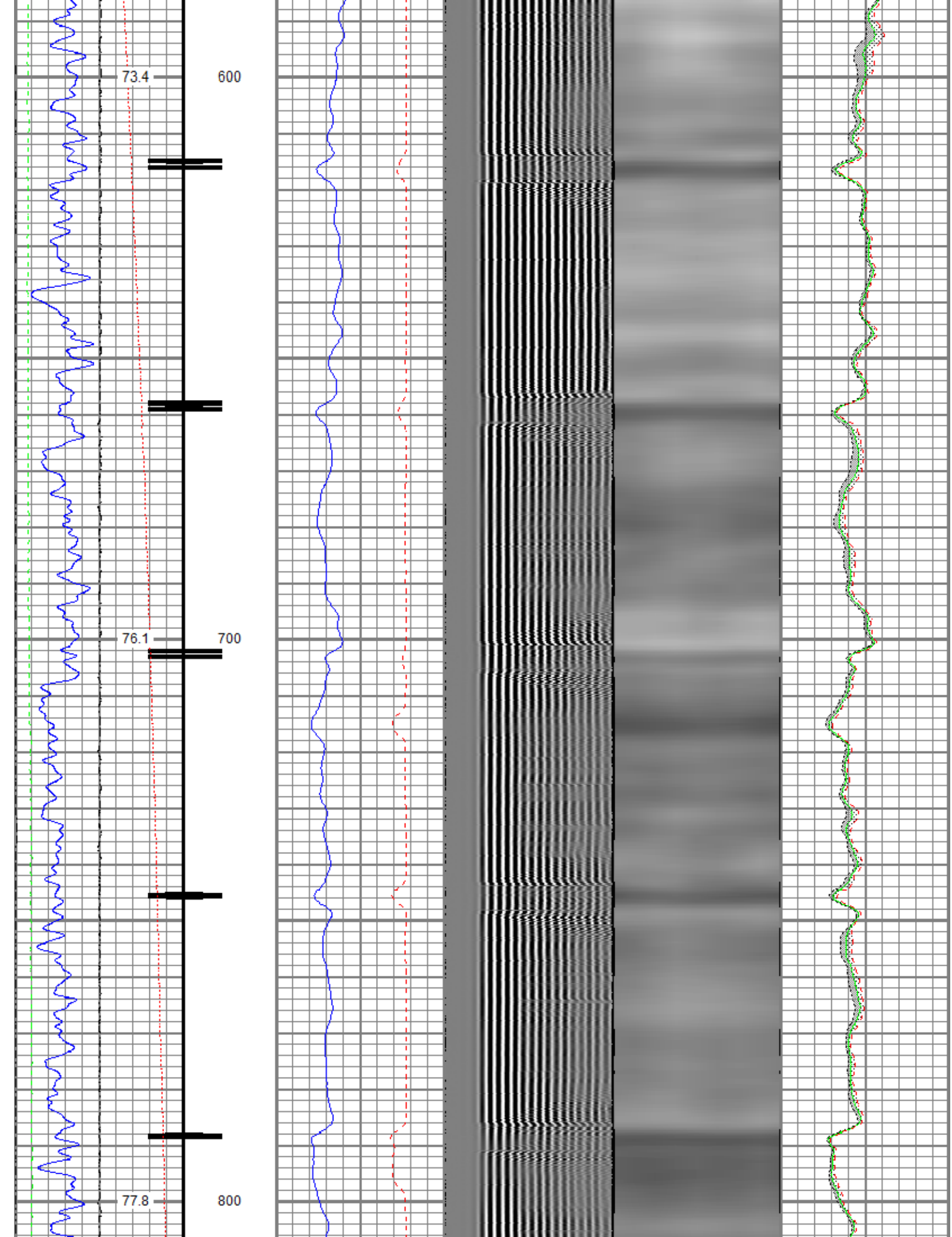
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Dataset Pathname	pass4.2
Presentation Format	ros_radri
Dataset Creation	Mon Sep 17 10:20:22 2018
Charted by	Depth in Feet scaled 1:240

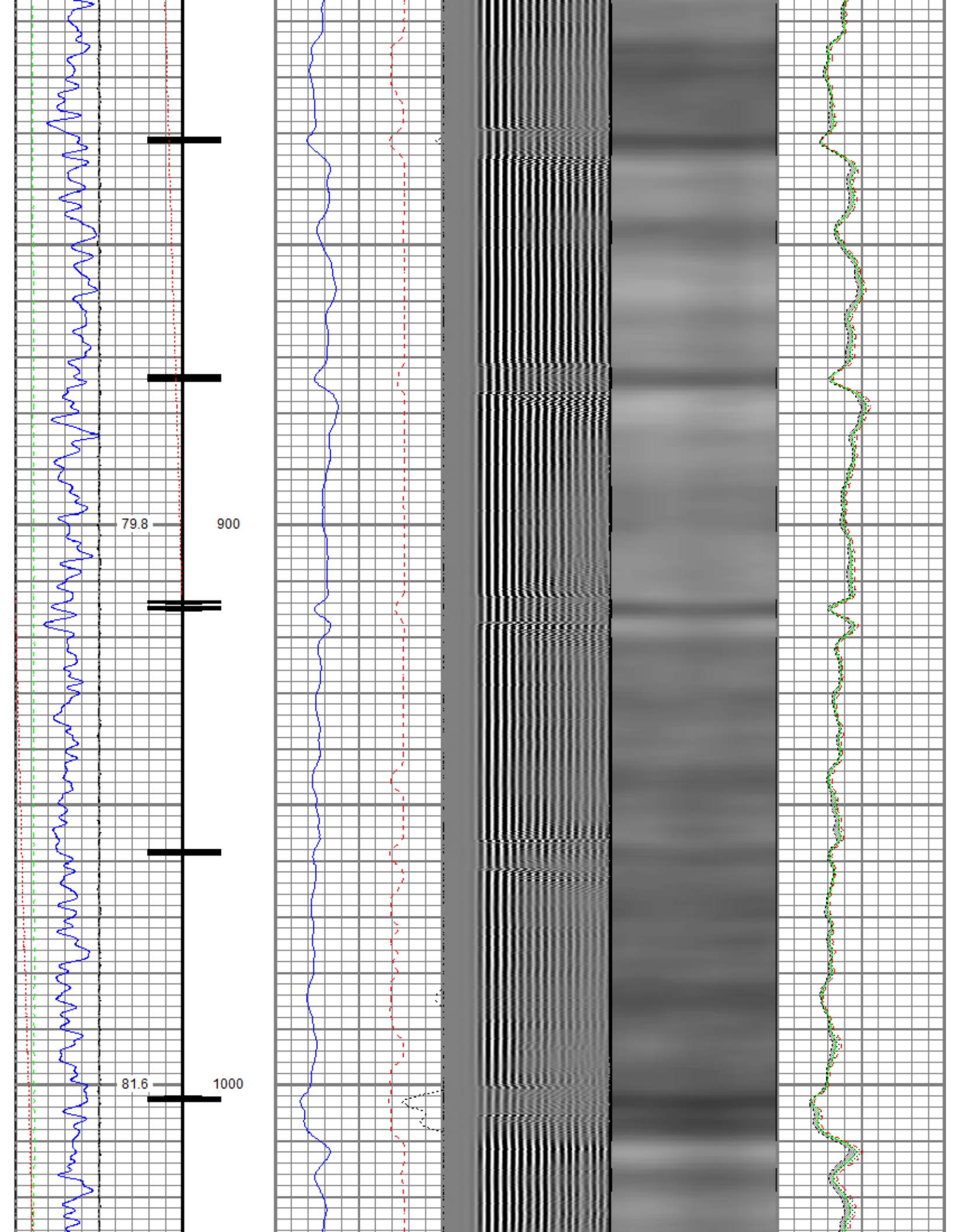
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Casing Collar Locator		0 (mV) 20			0	100
0 Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed		650 (usec) 150			0	100
-150 (ft/min) 150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

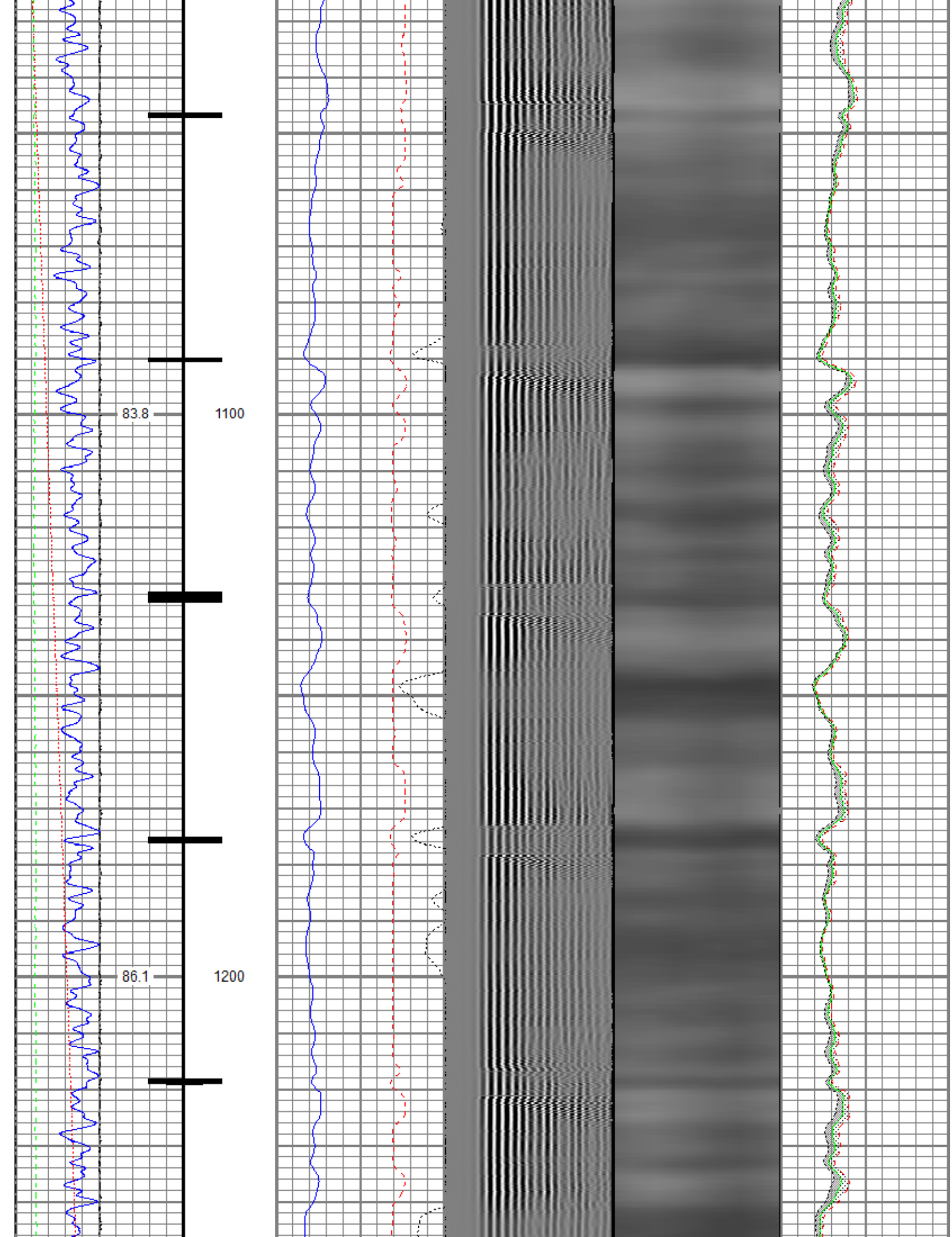


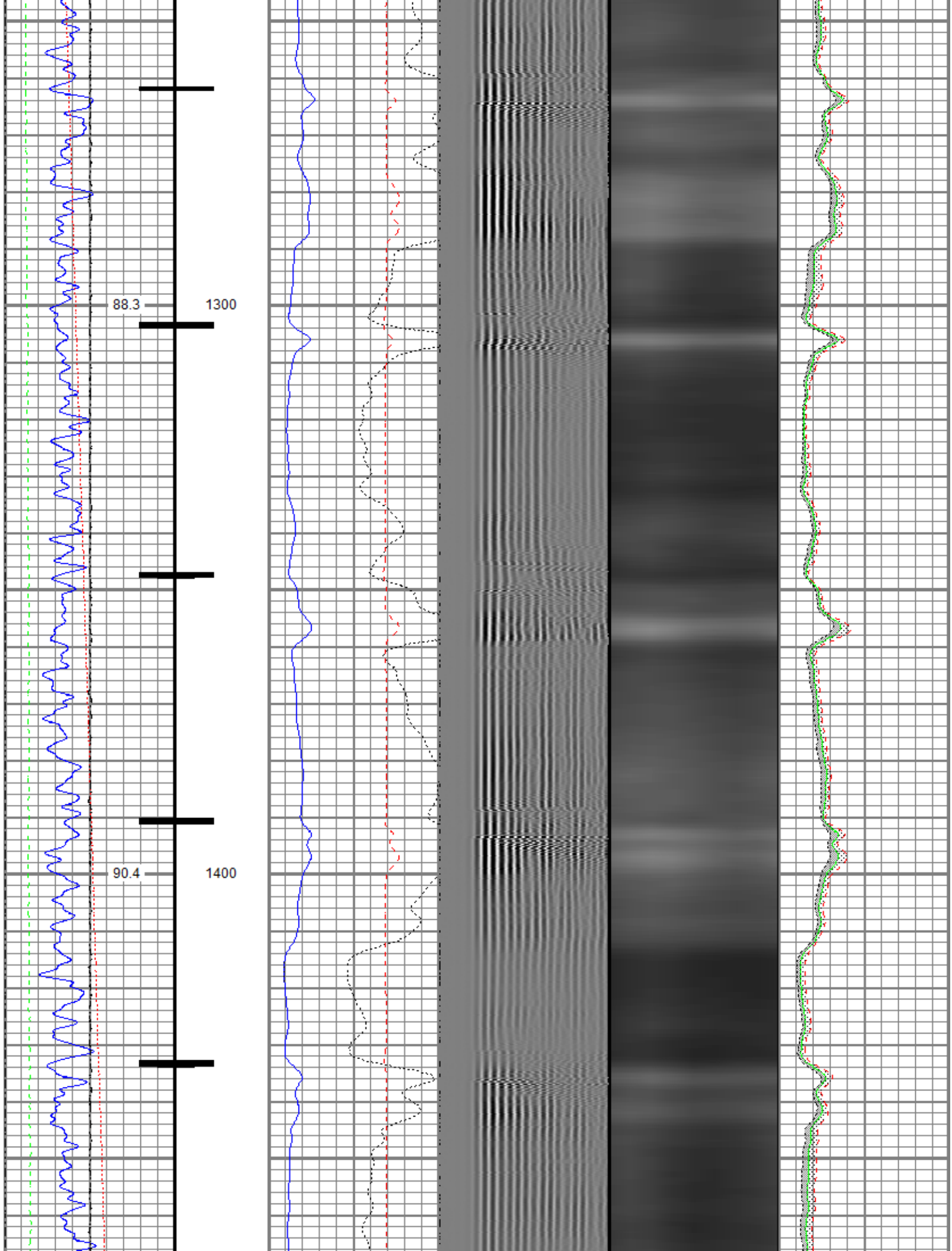


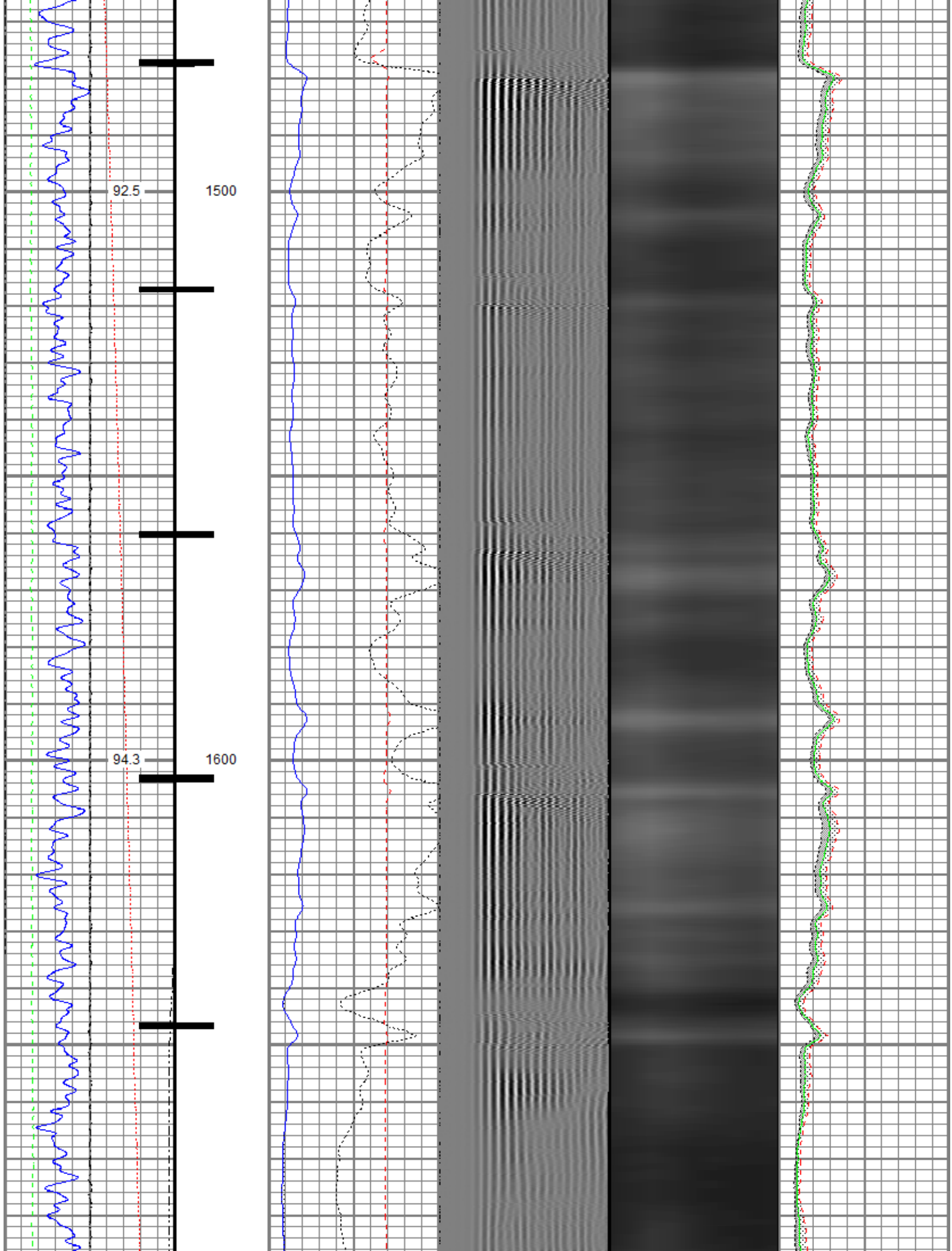


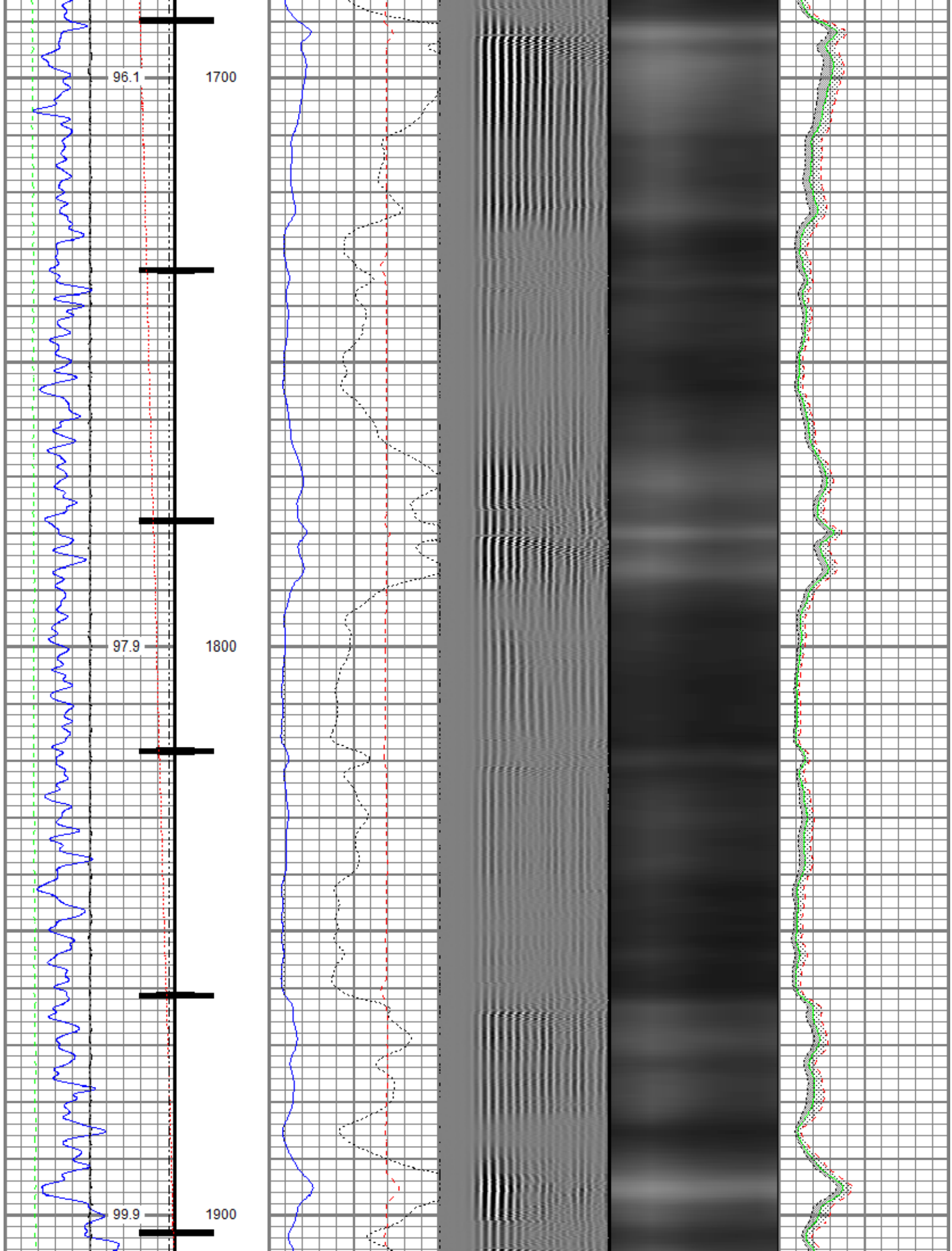


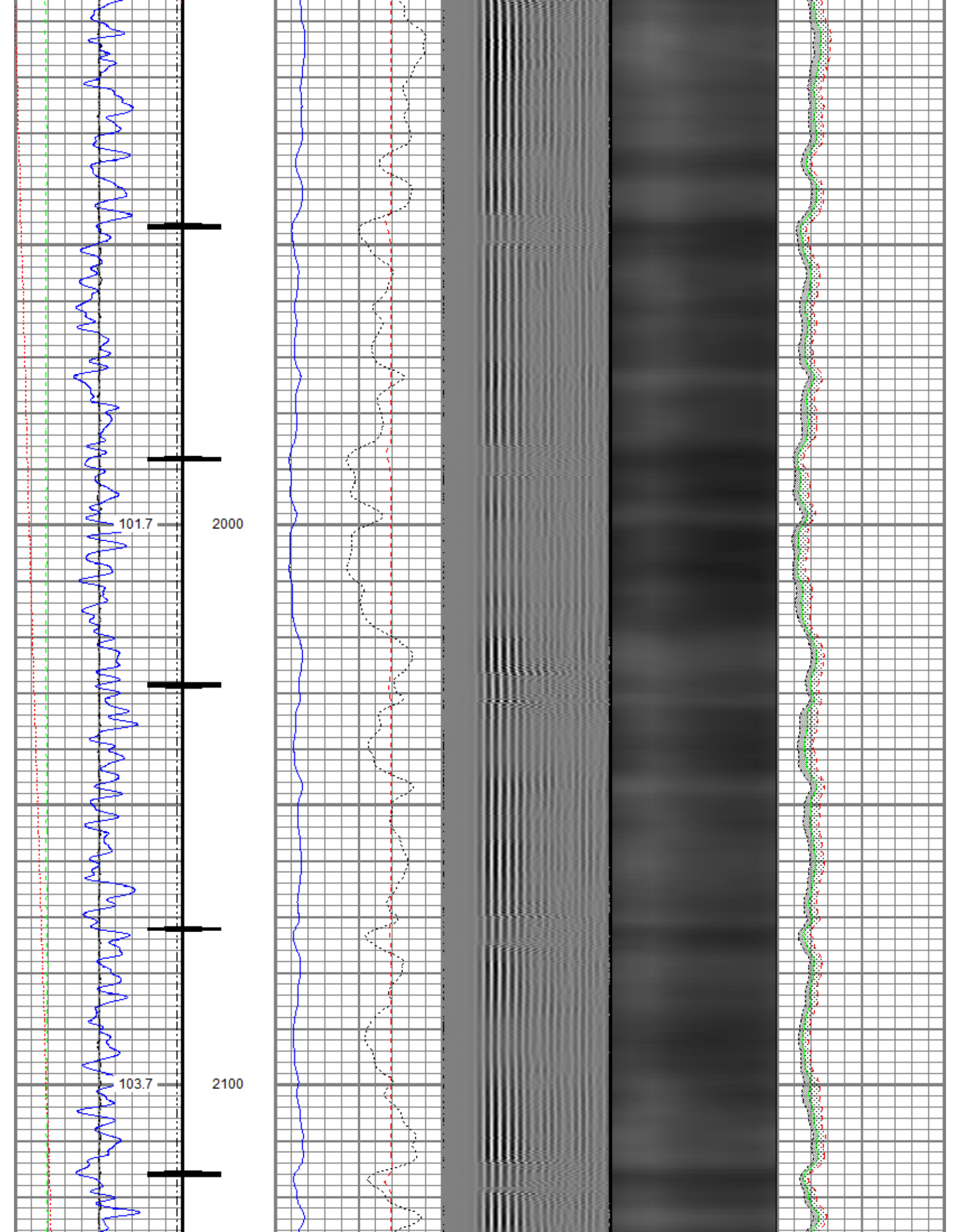


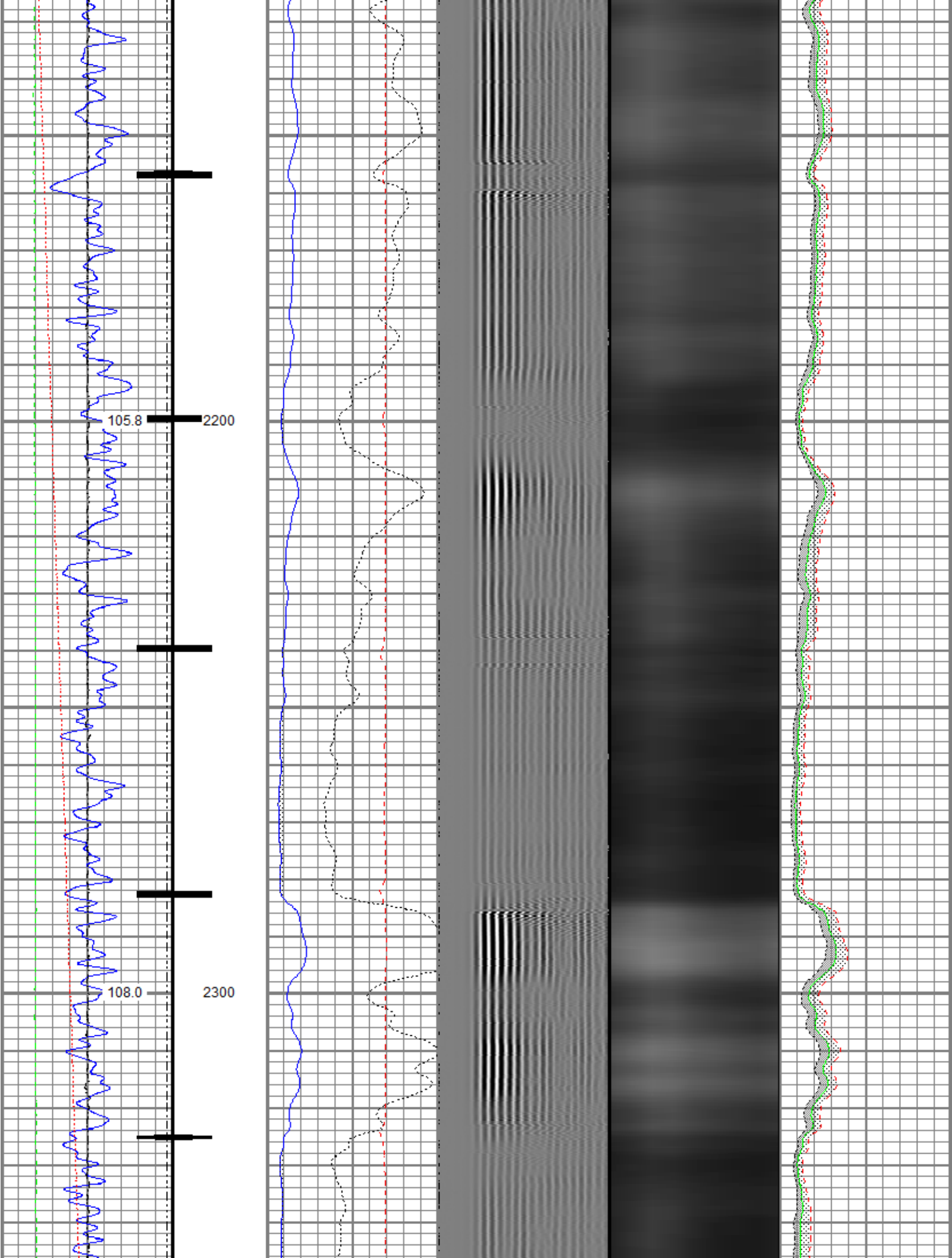


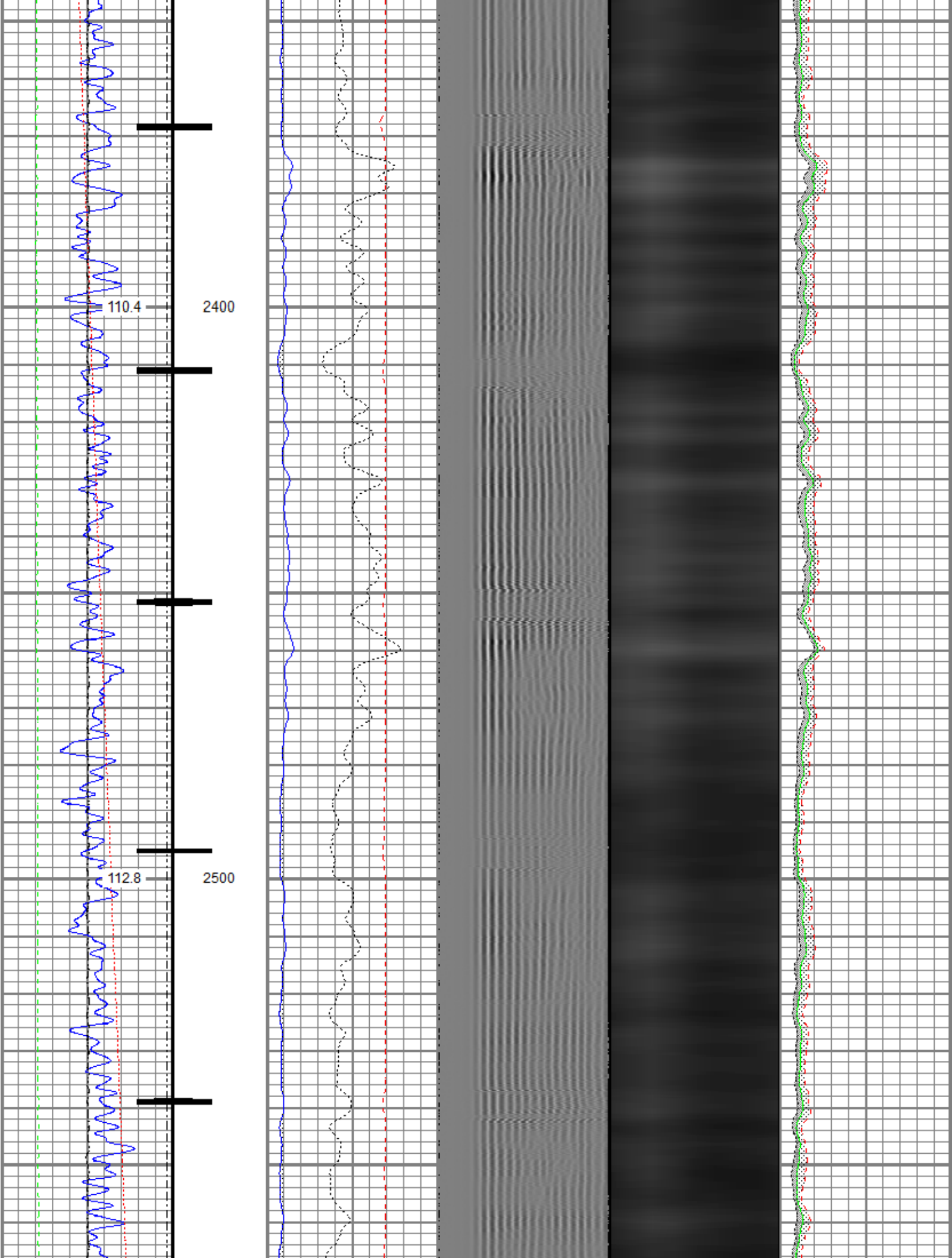


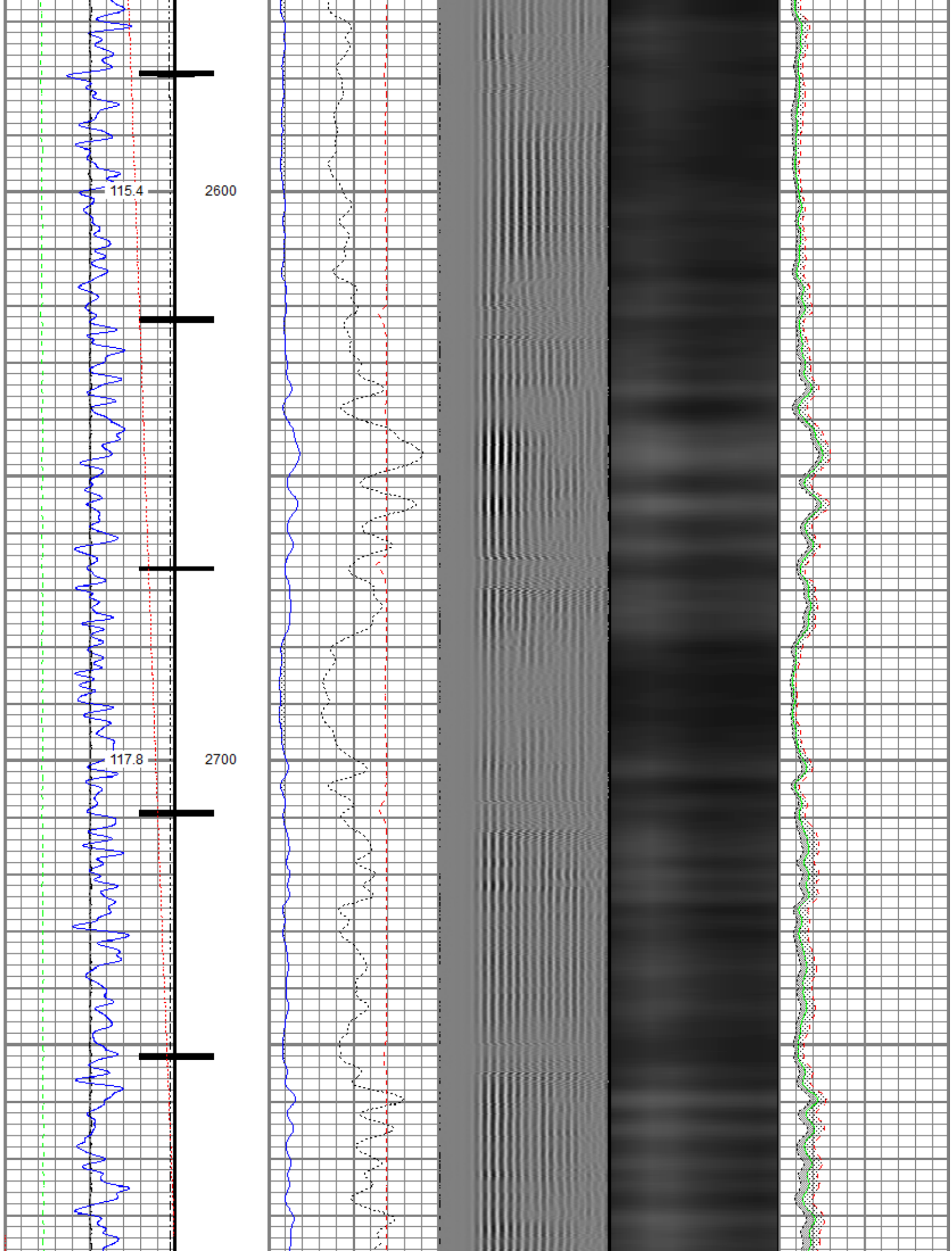


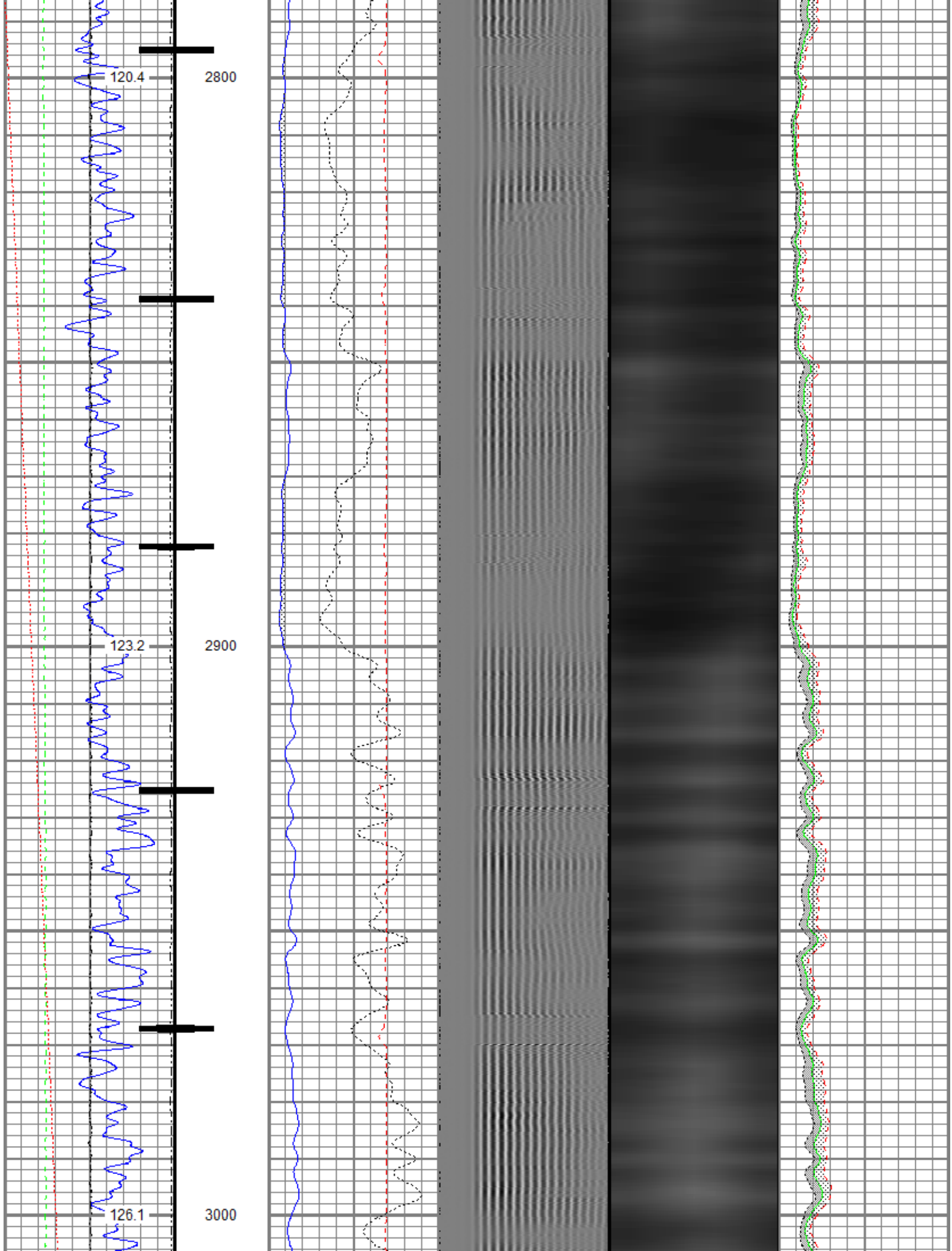


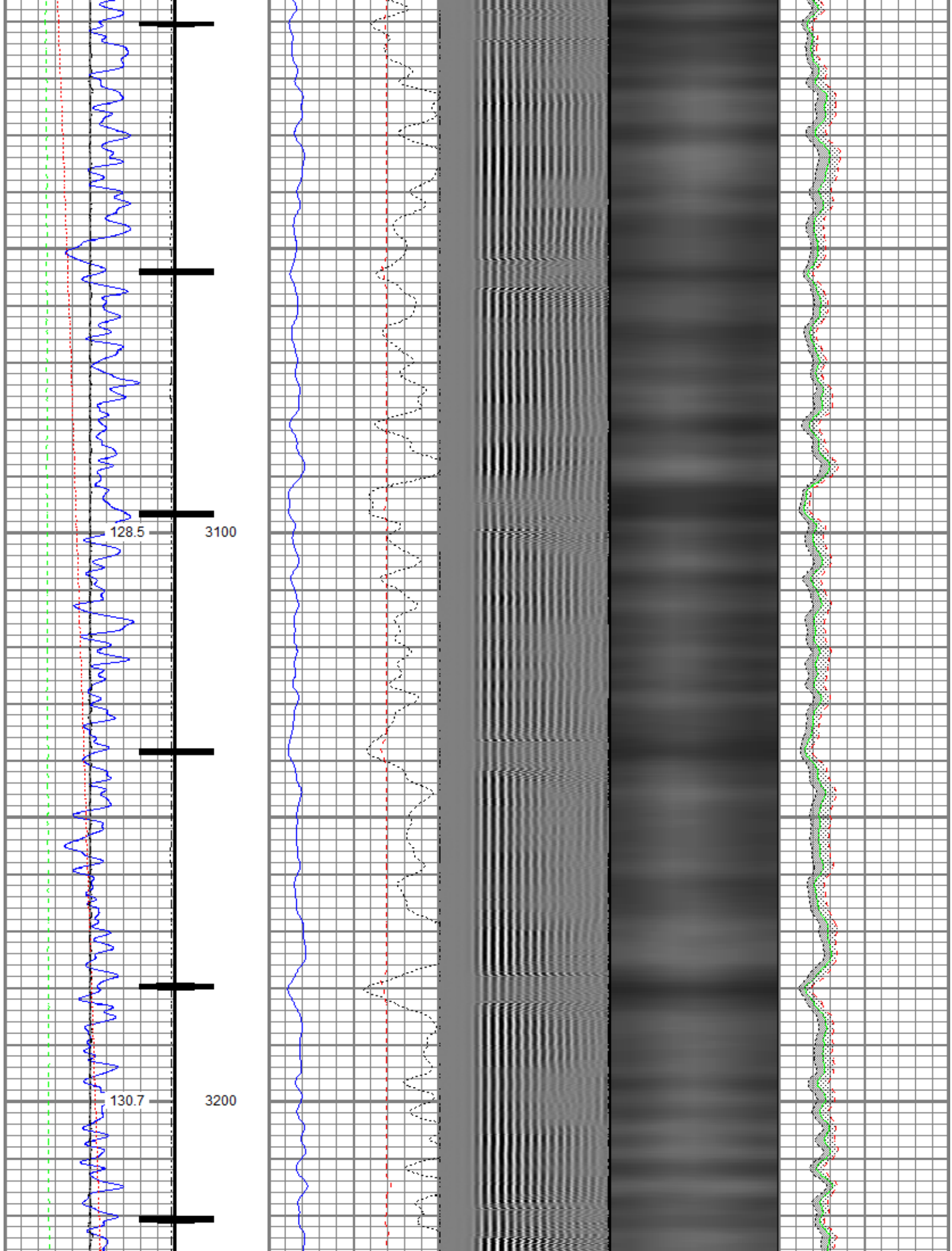


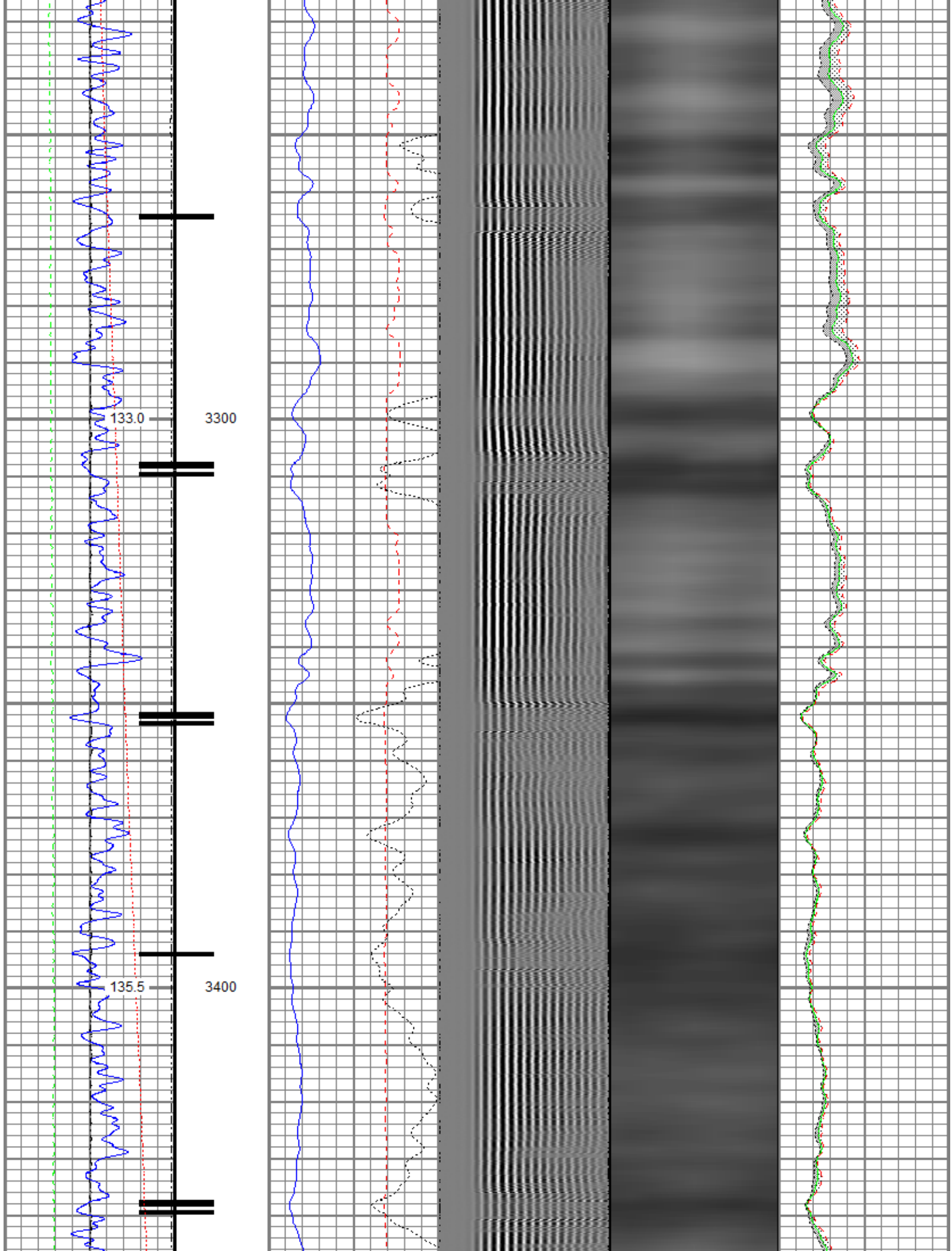


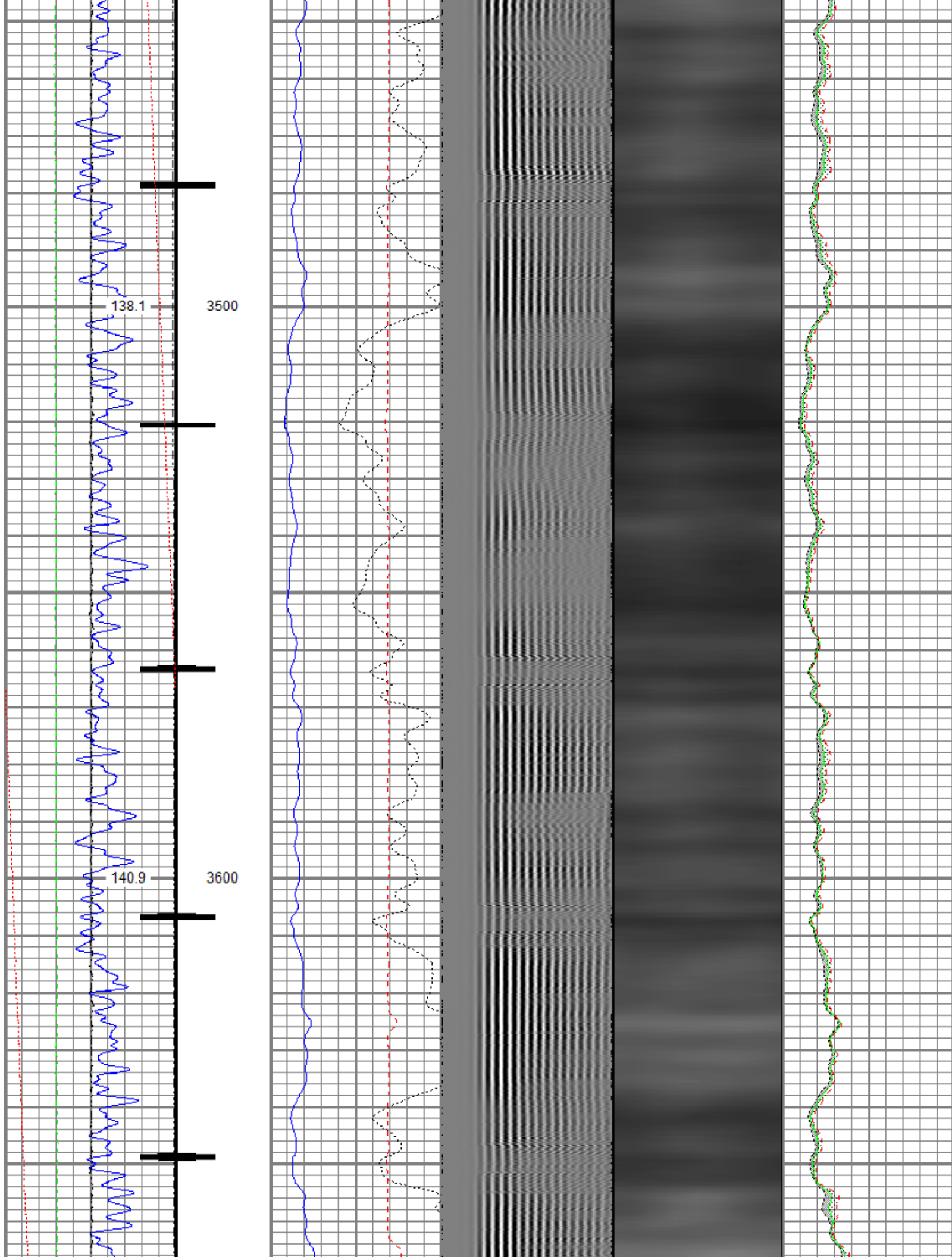


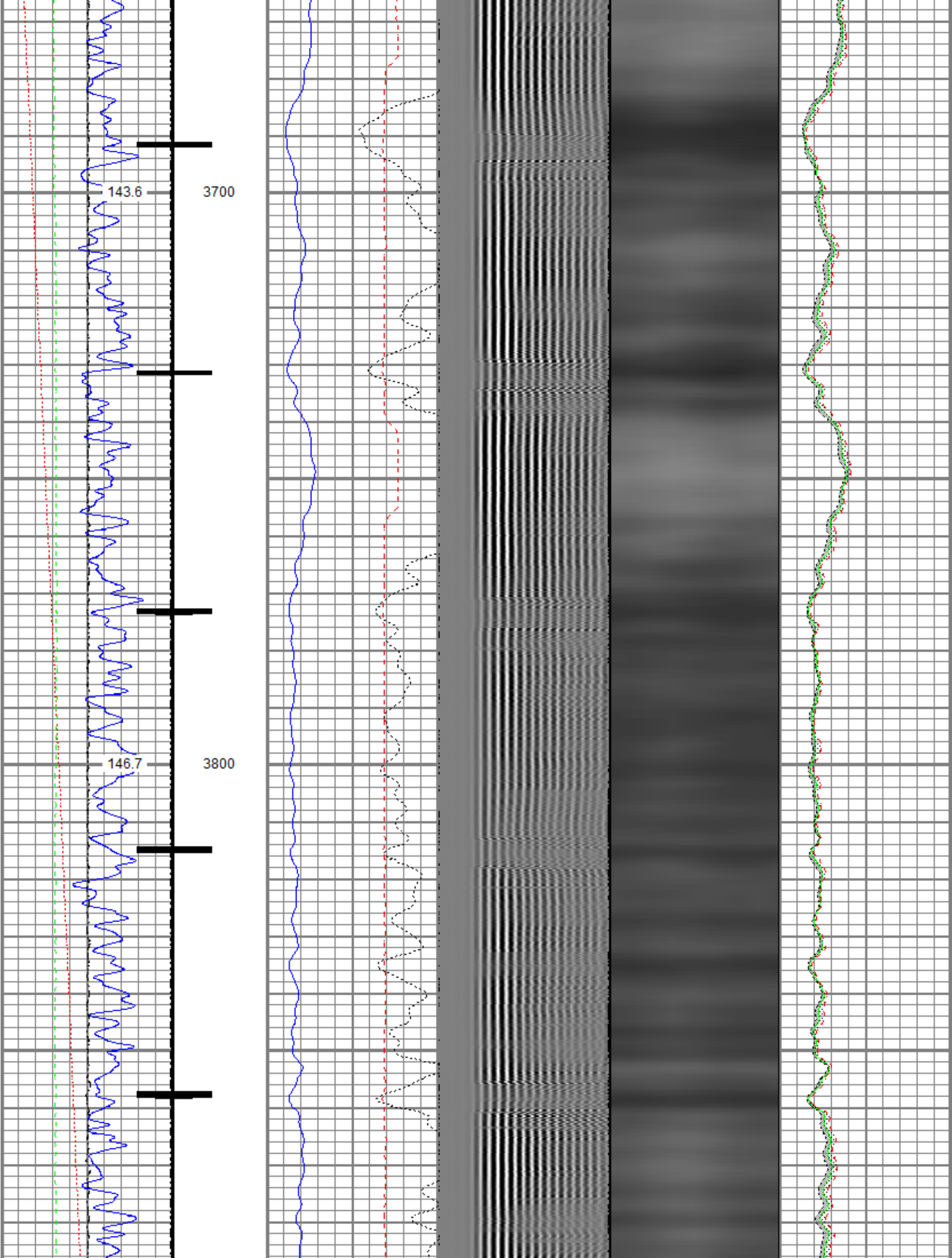


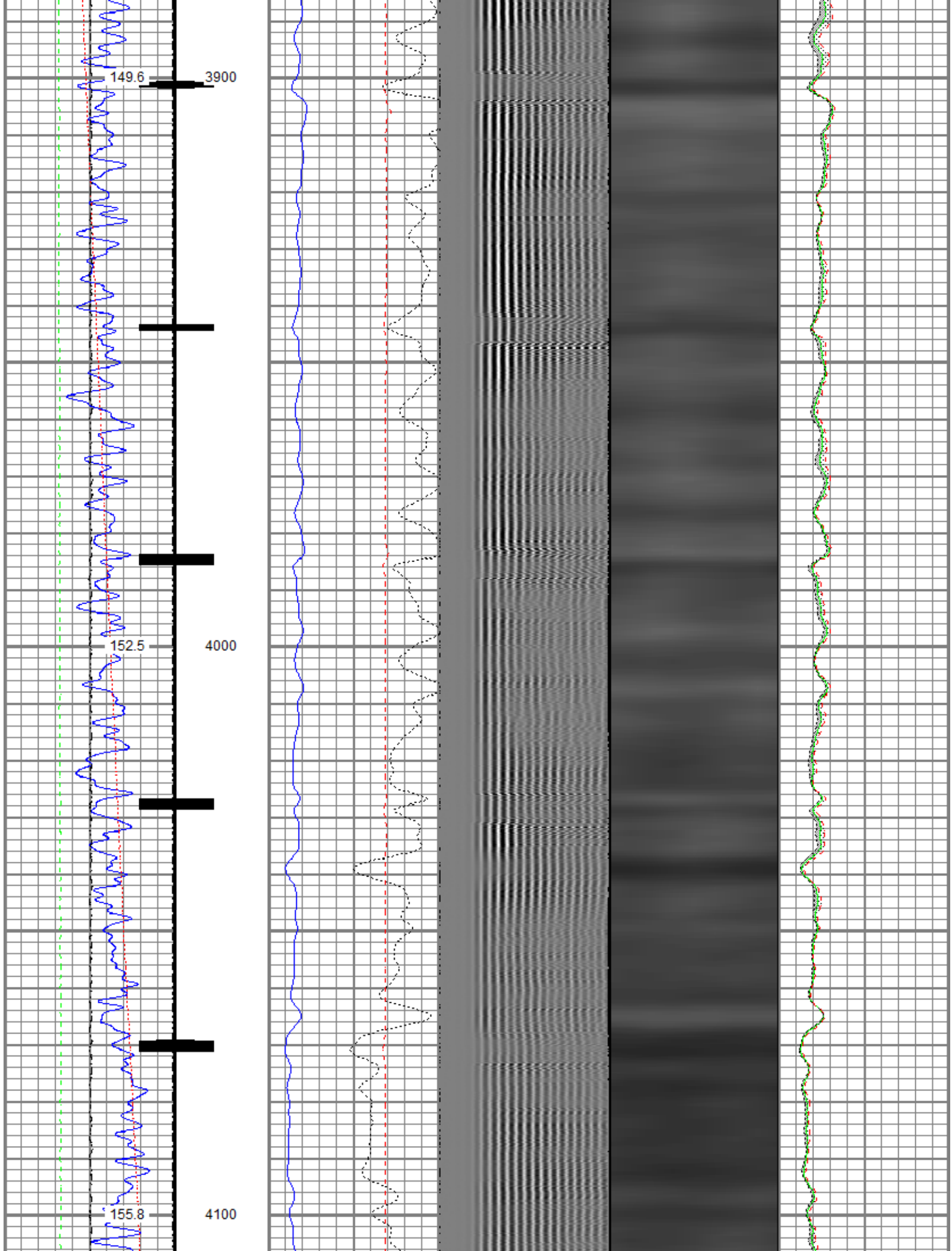


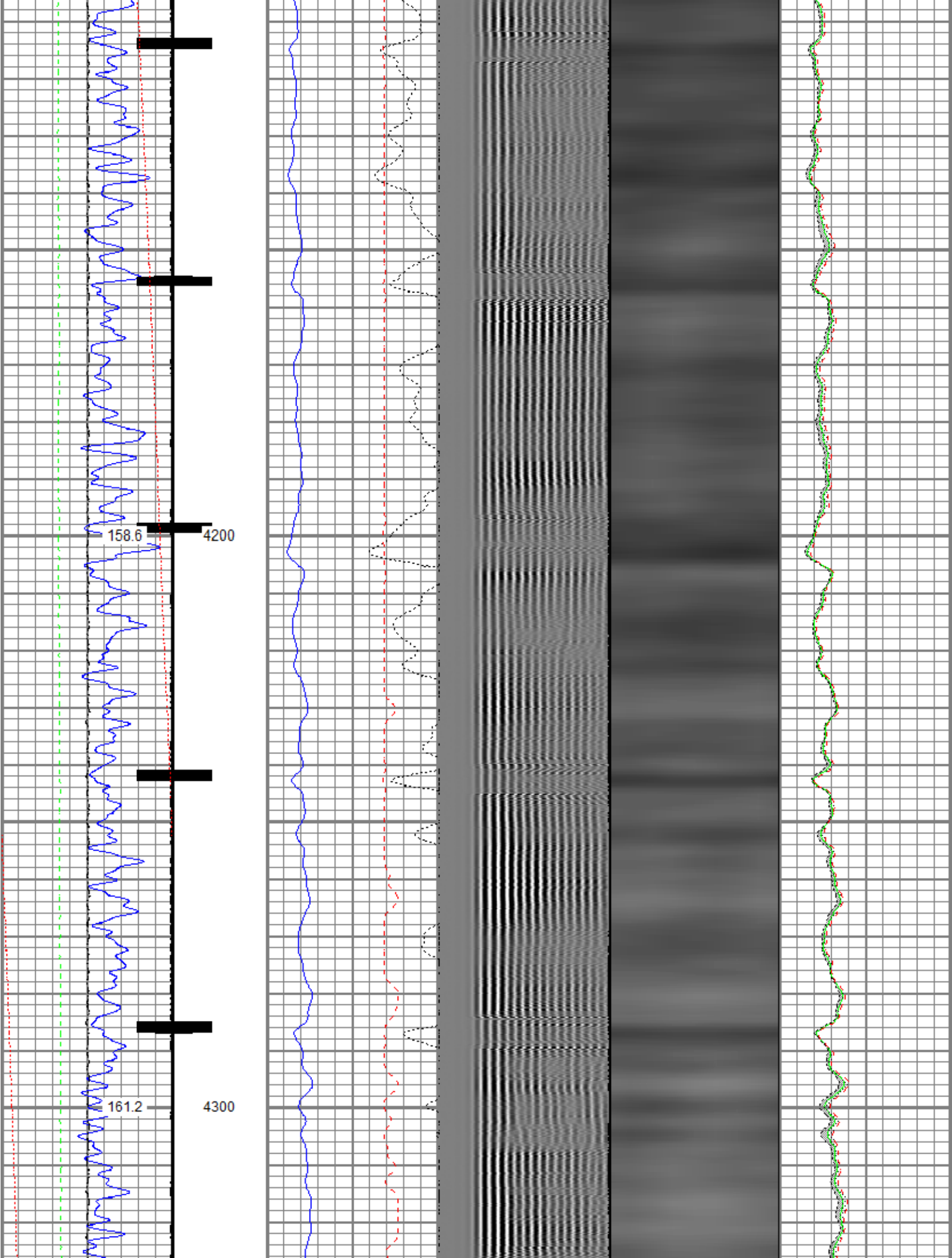


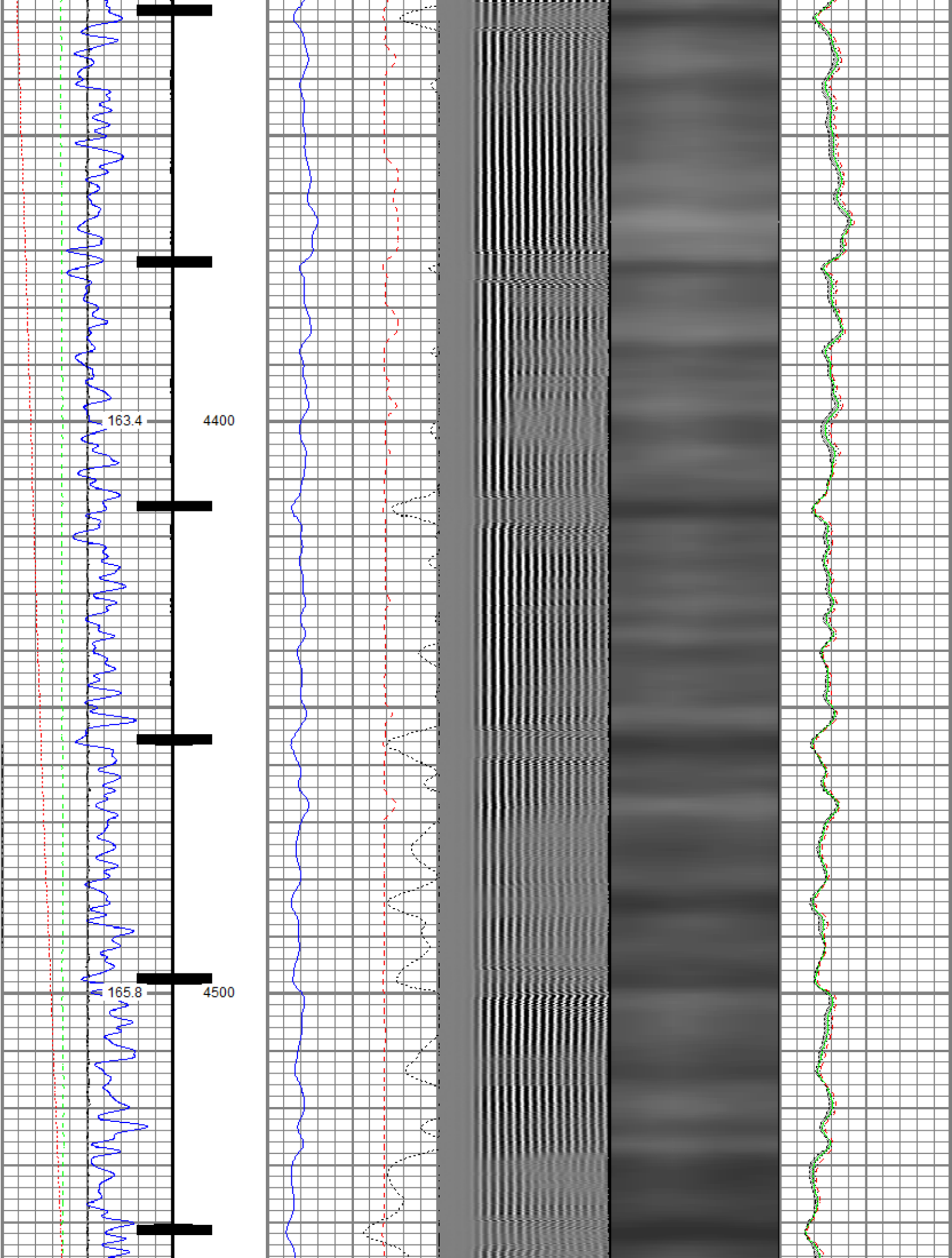


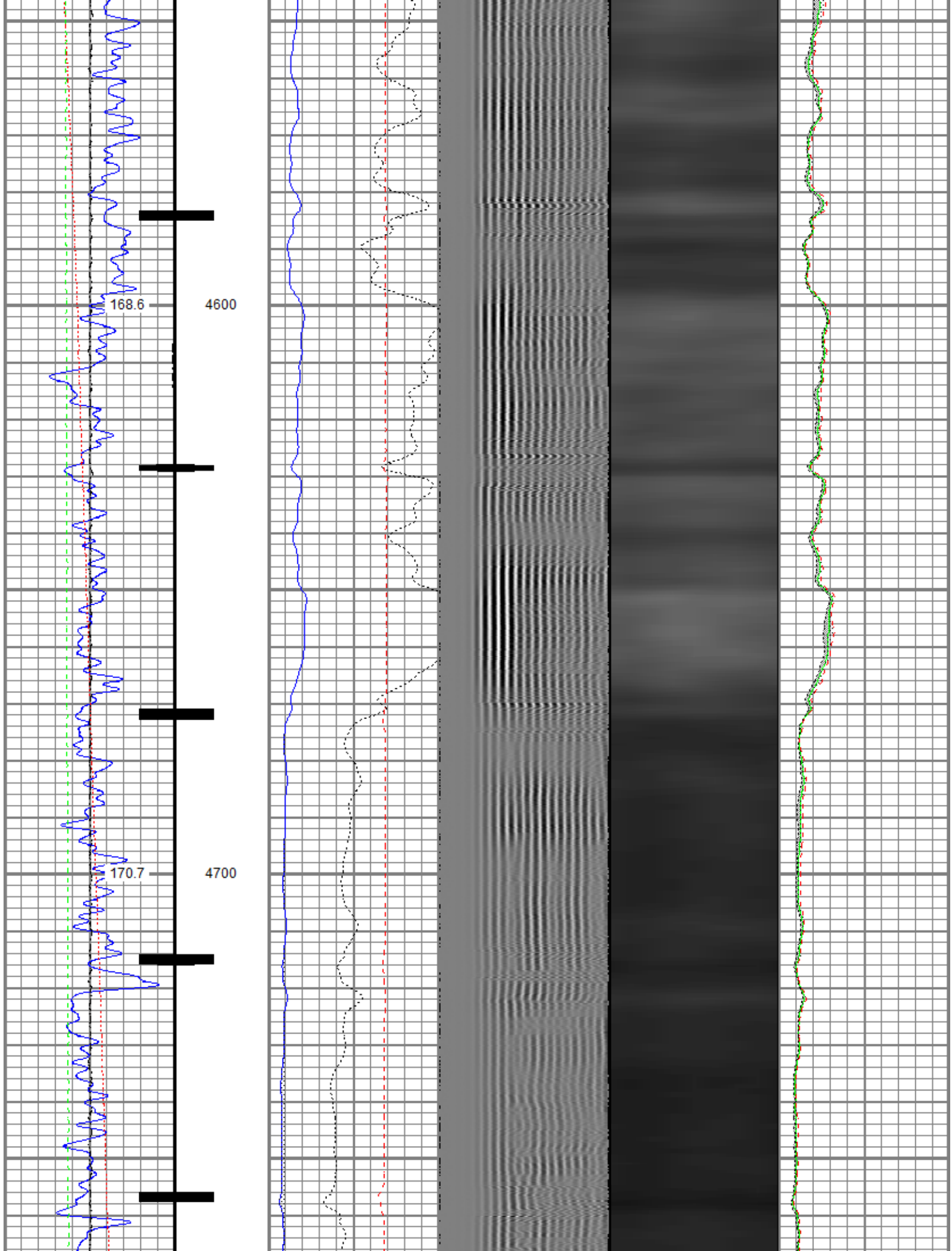


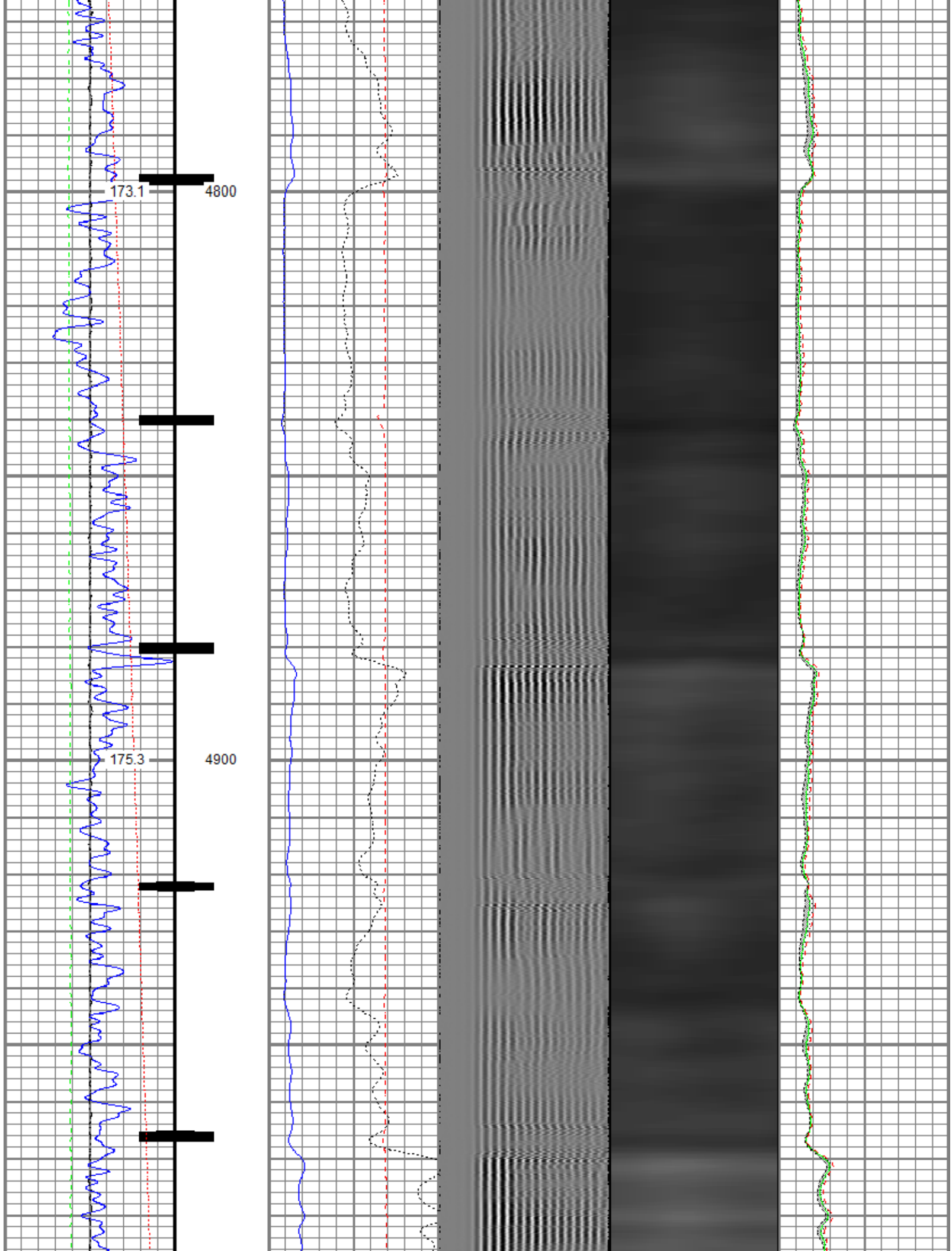


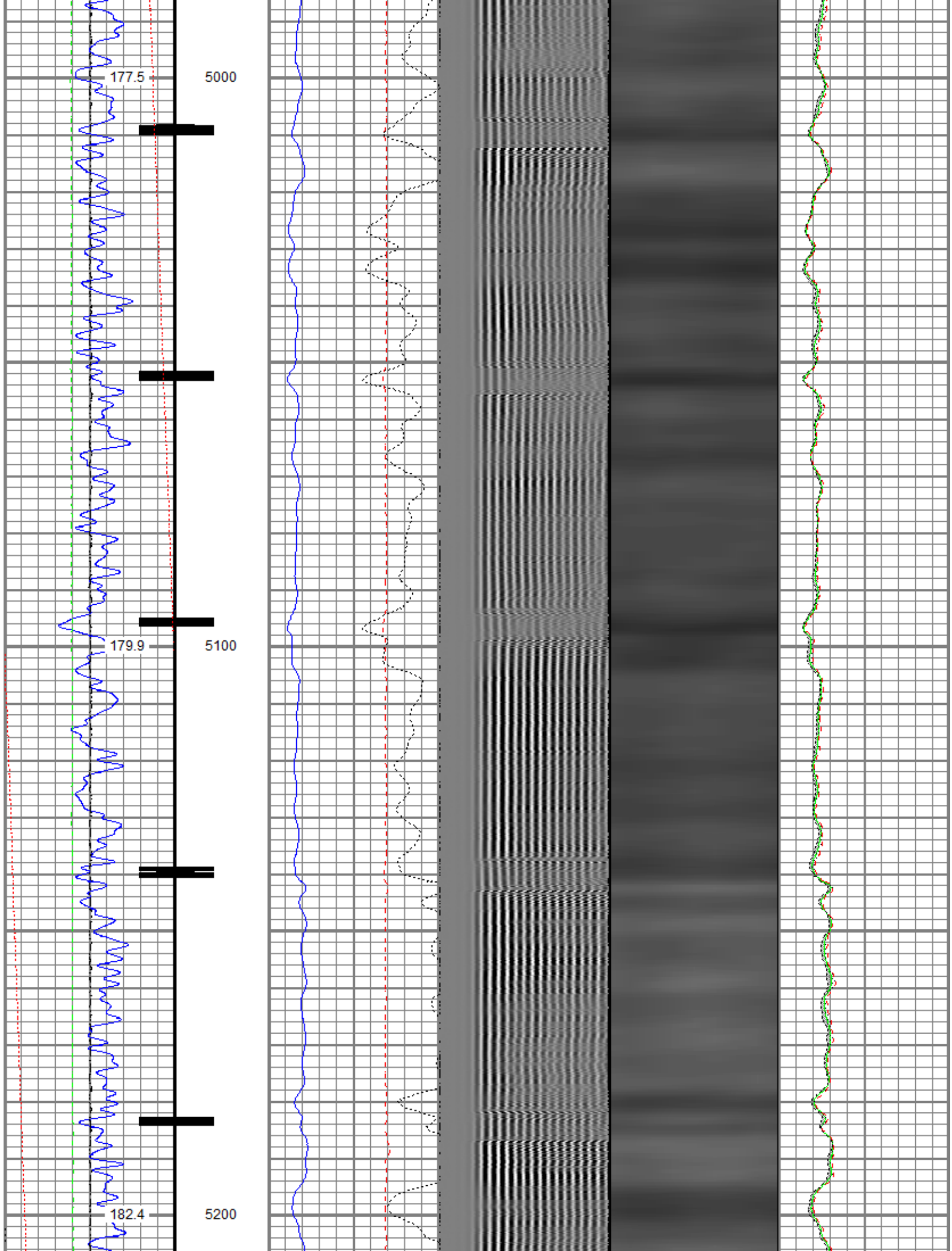


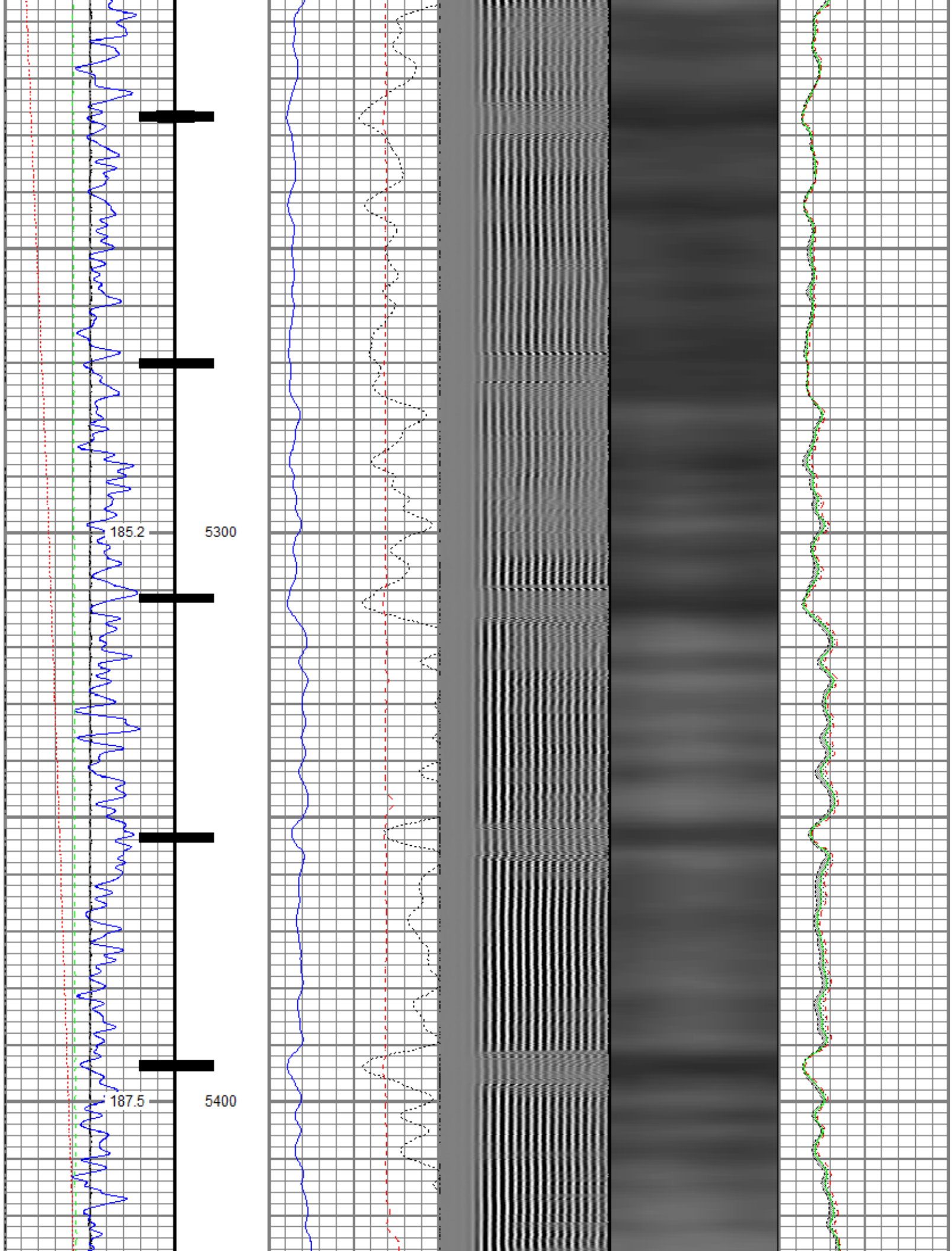


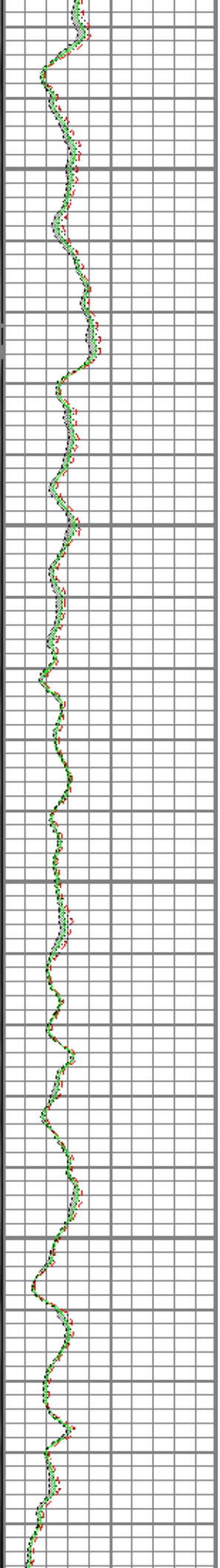
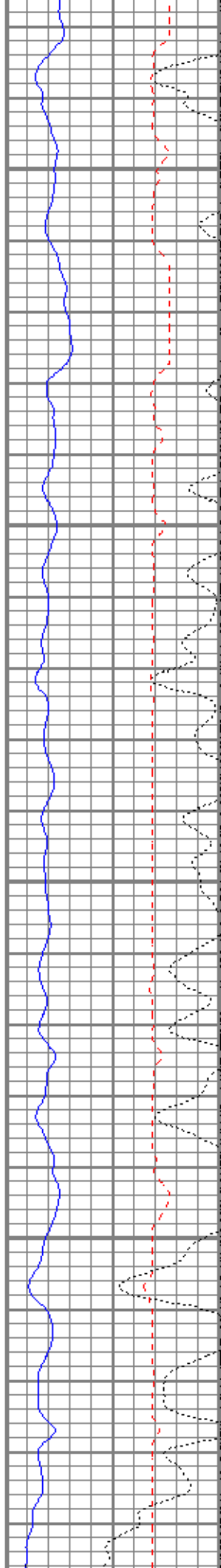
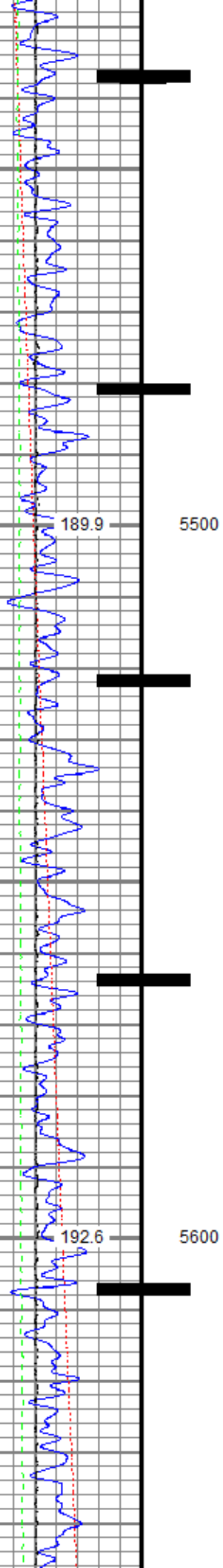


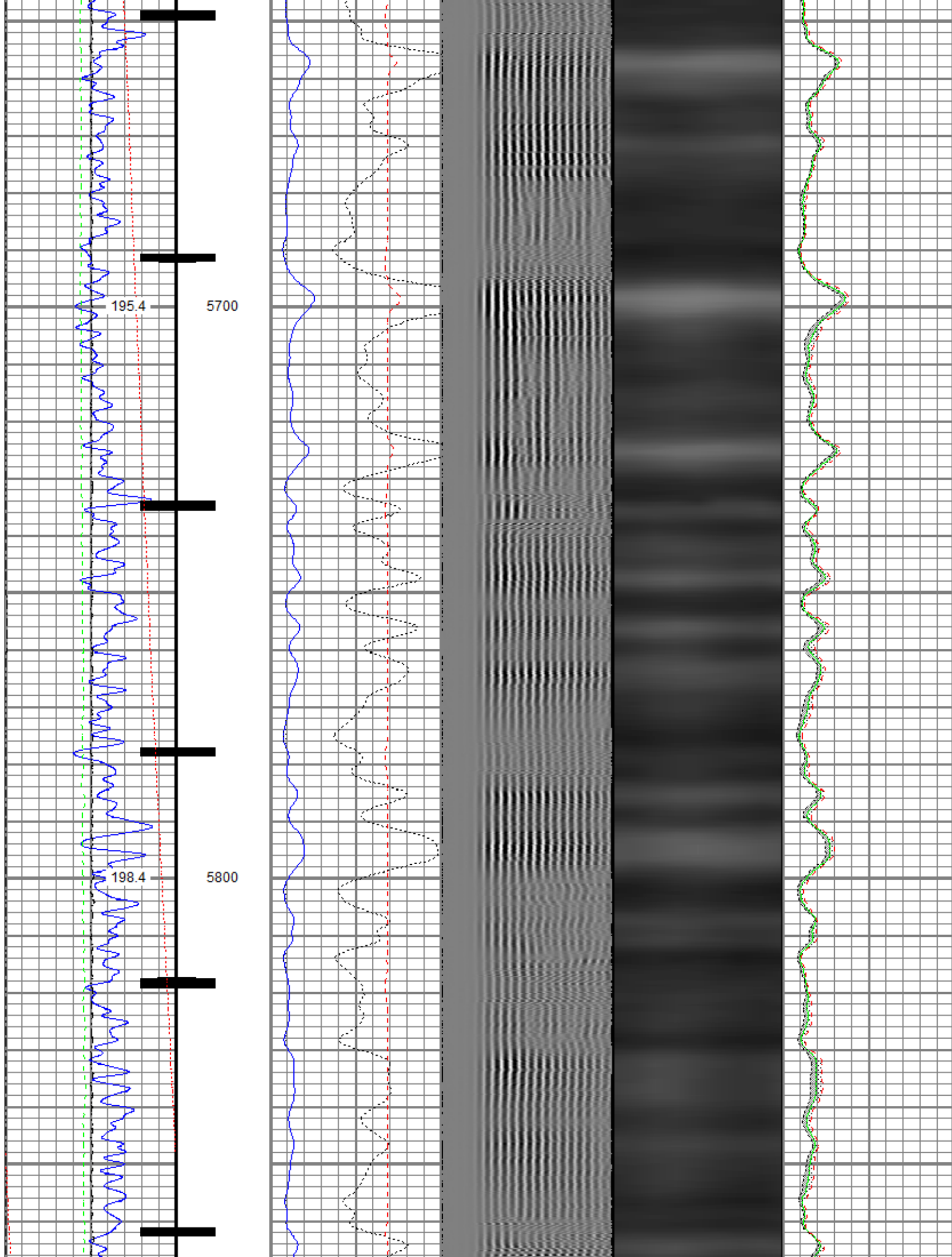


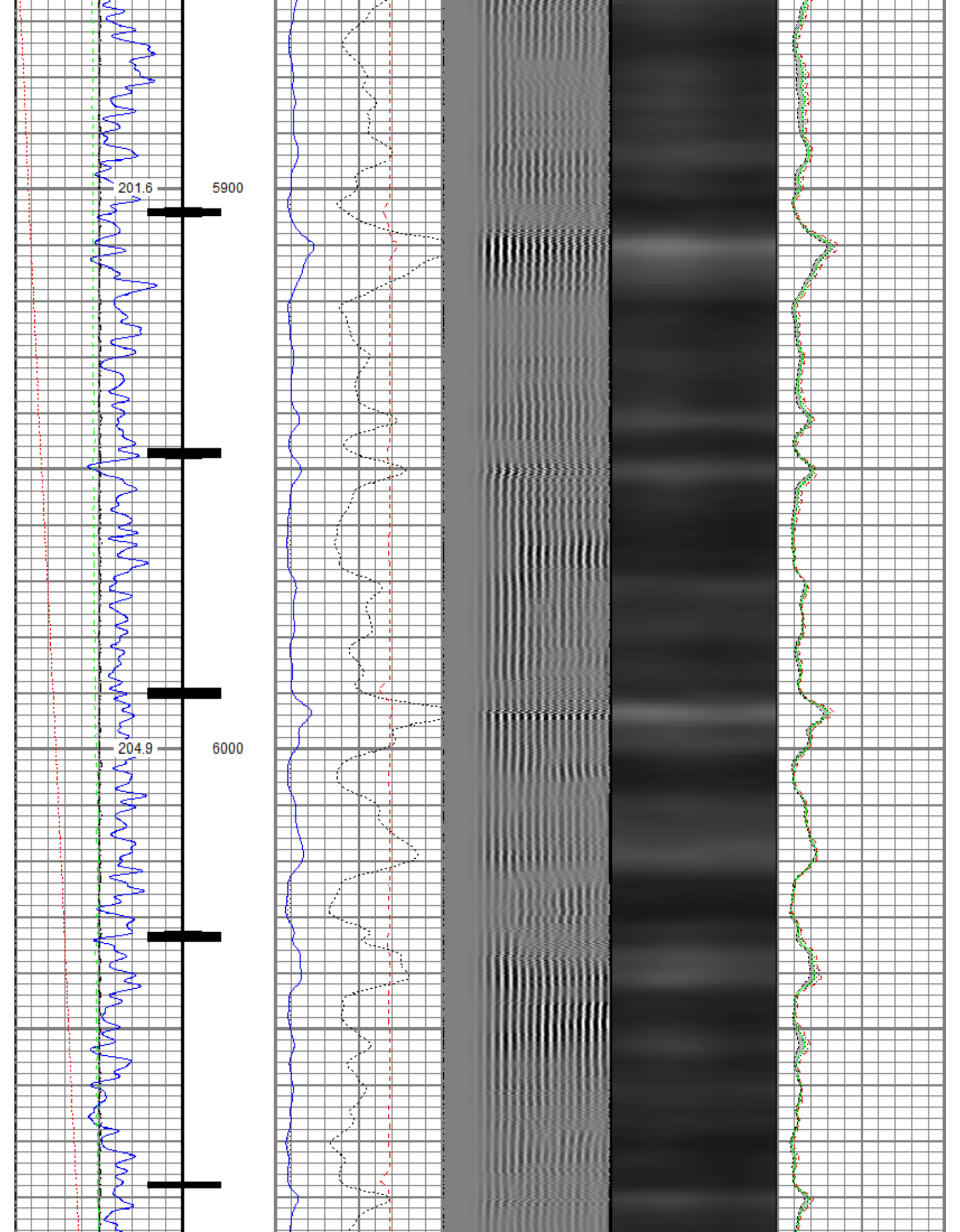


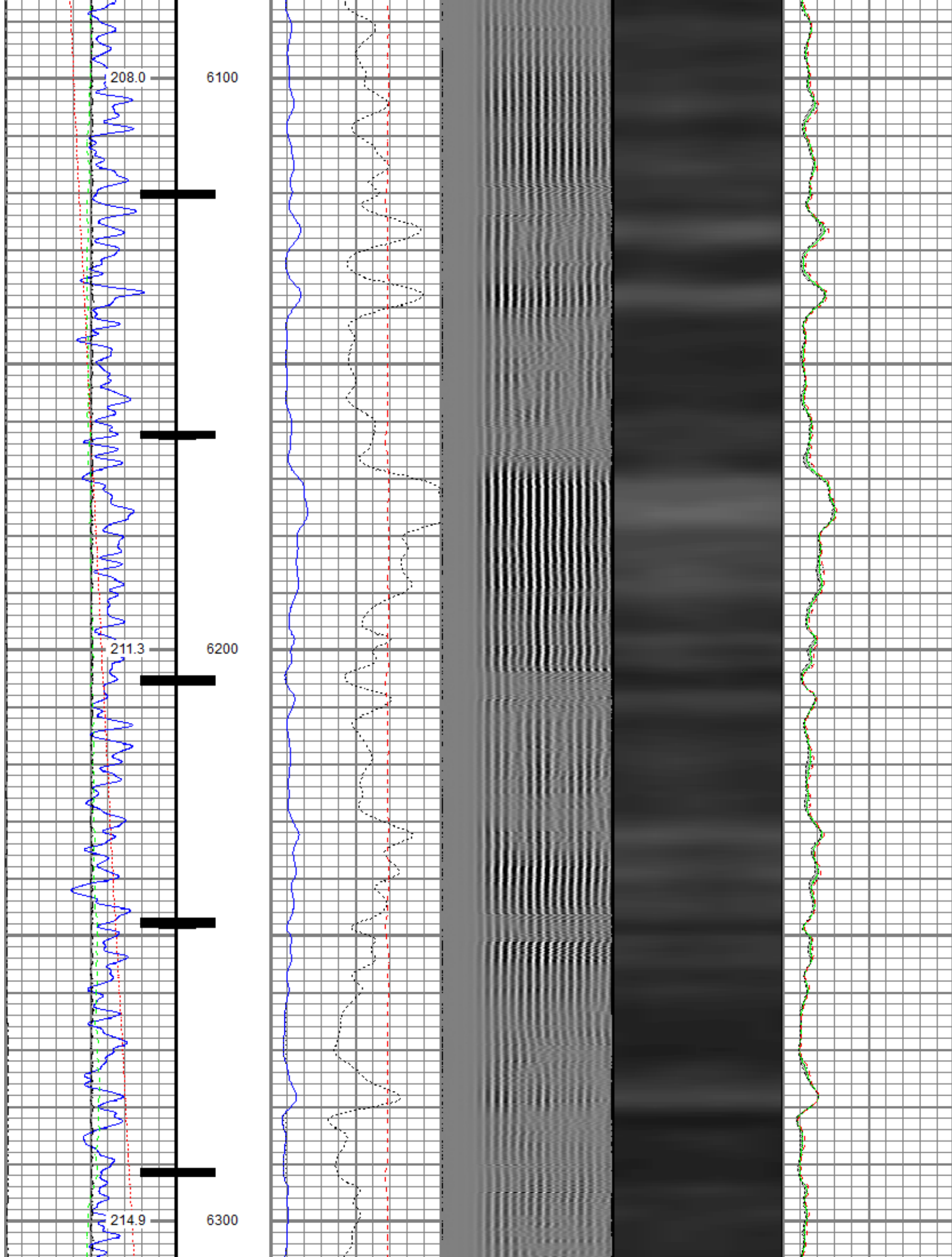


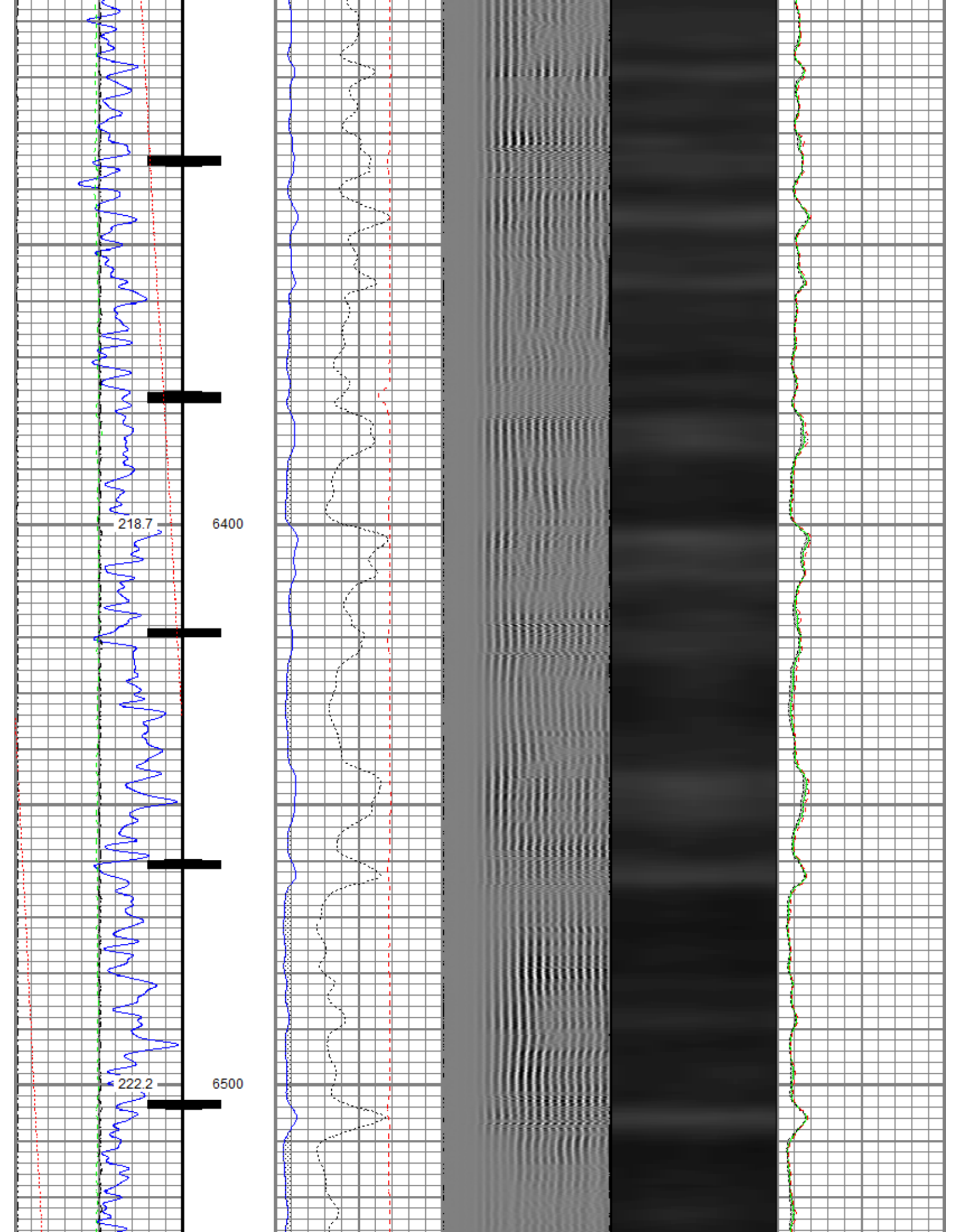


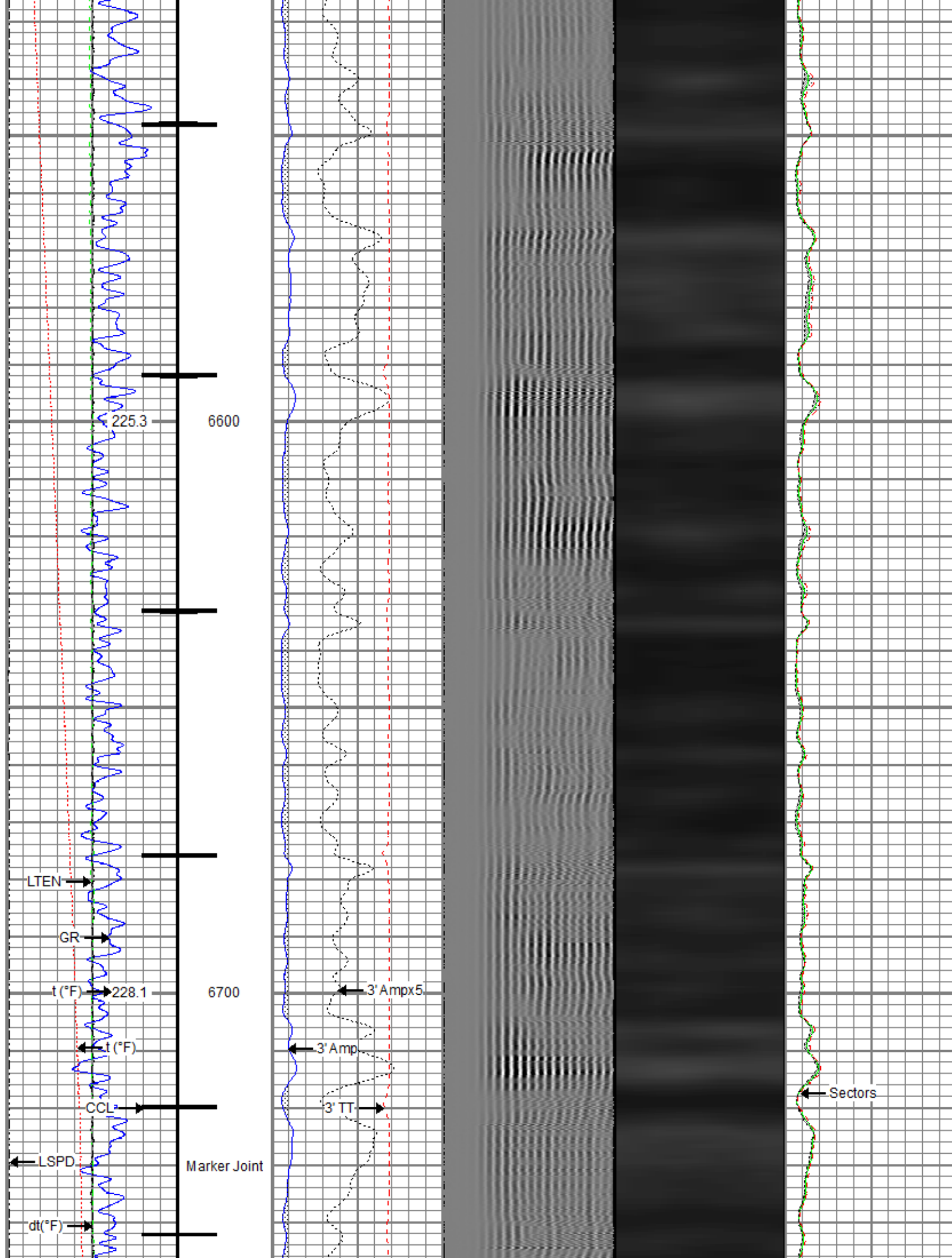


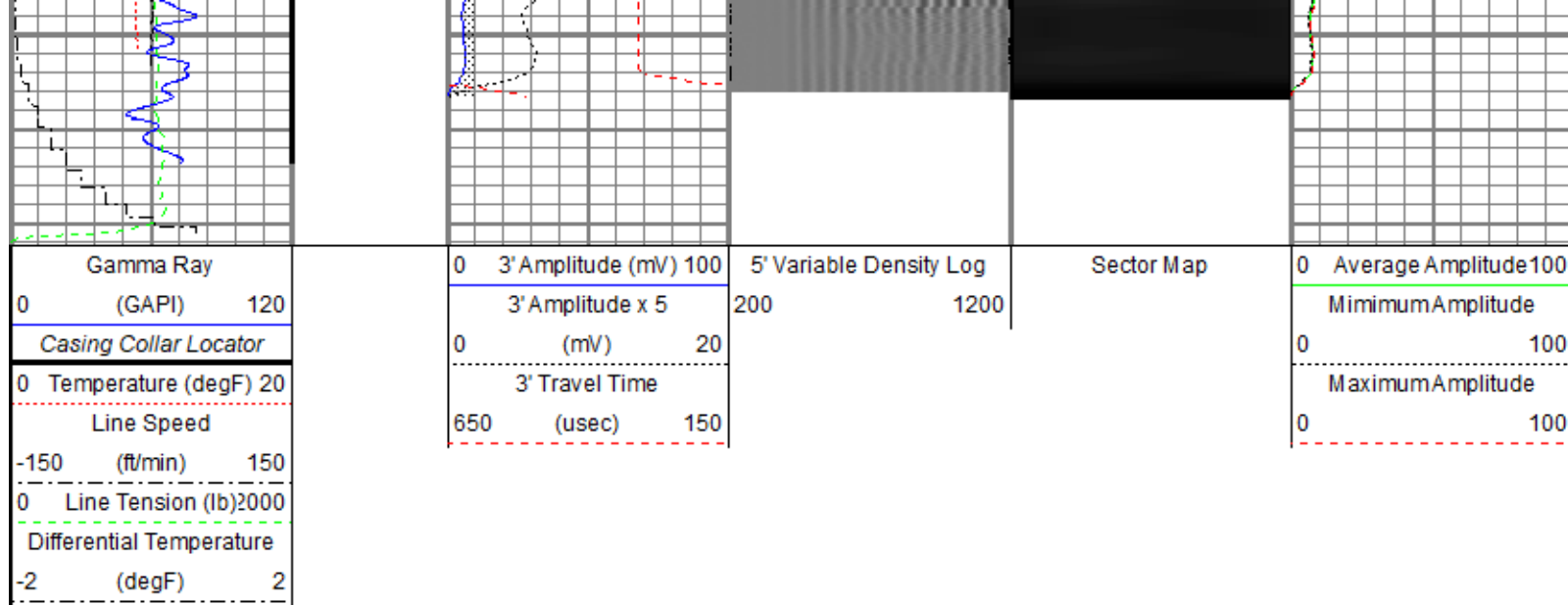








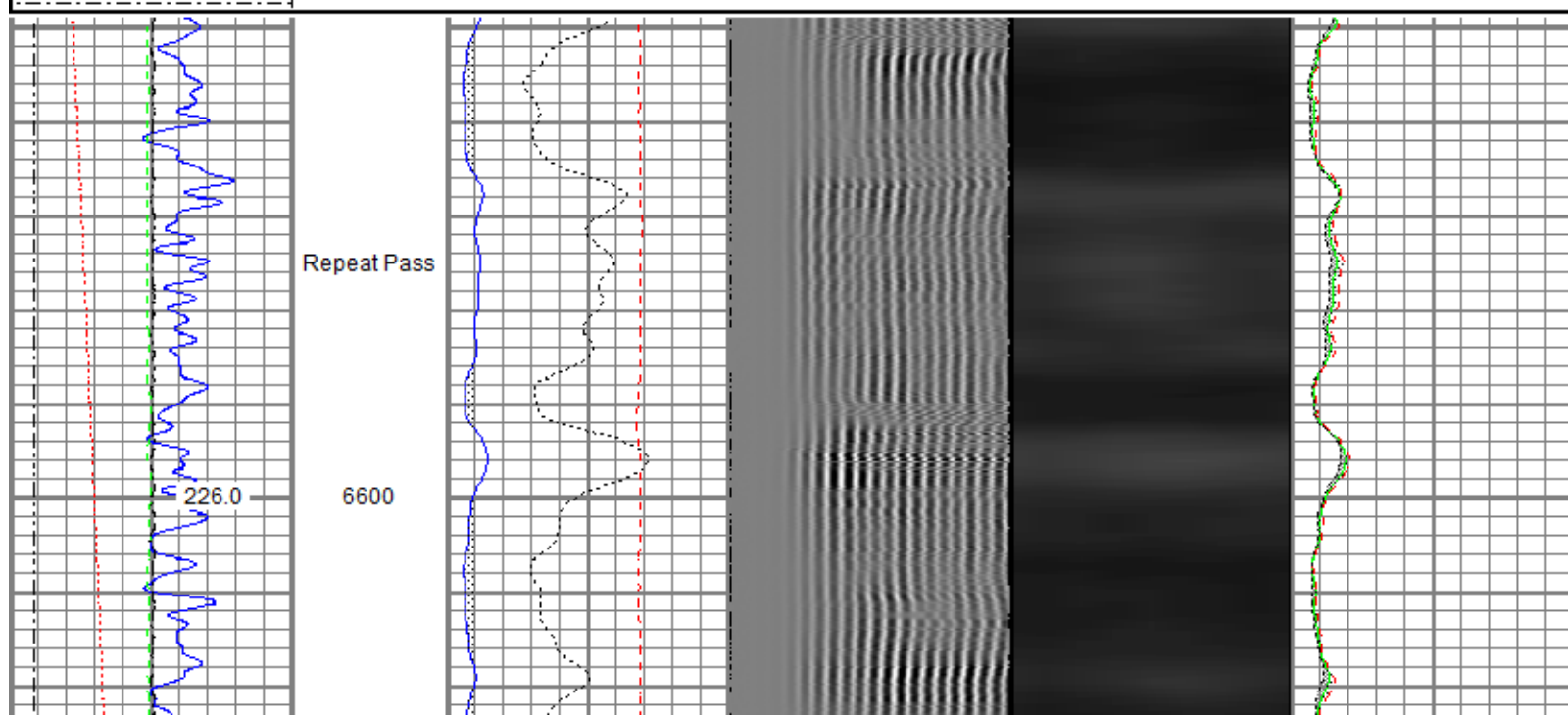
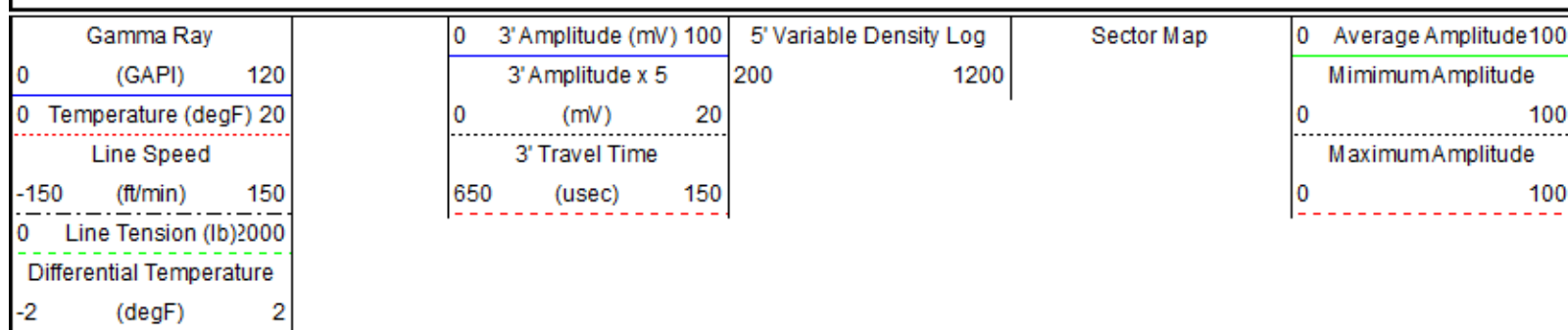


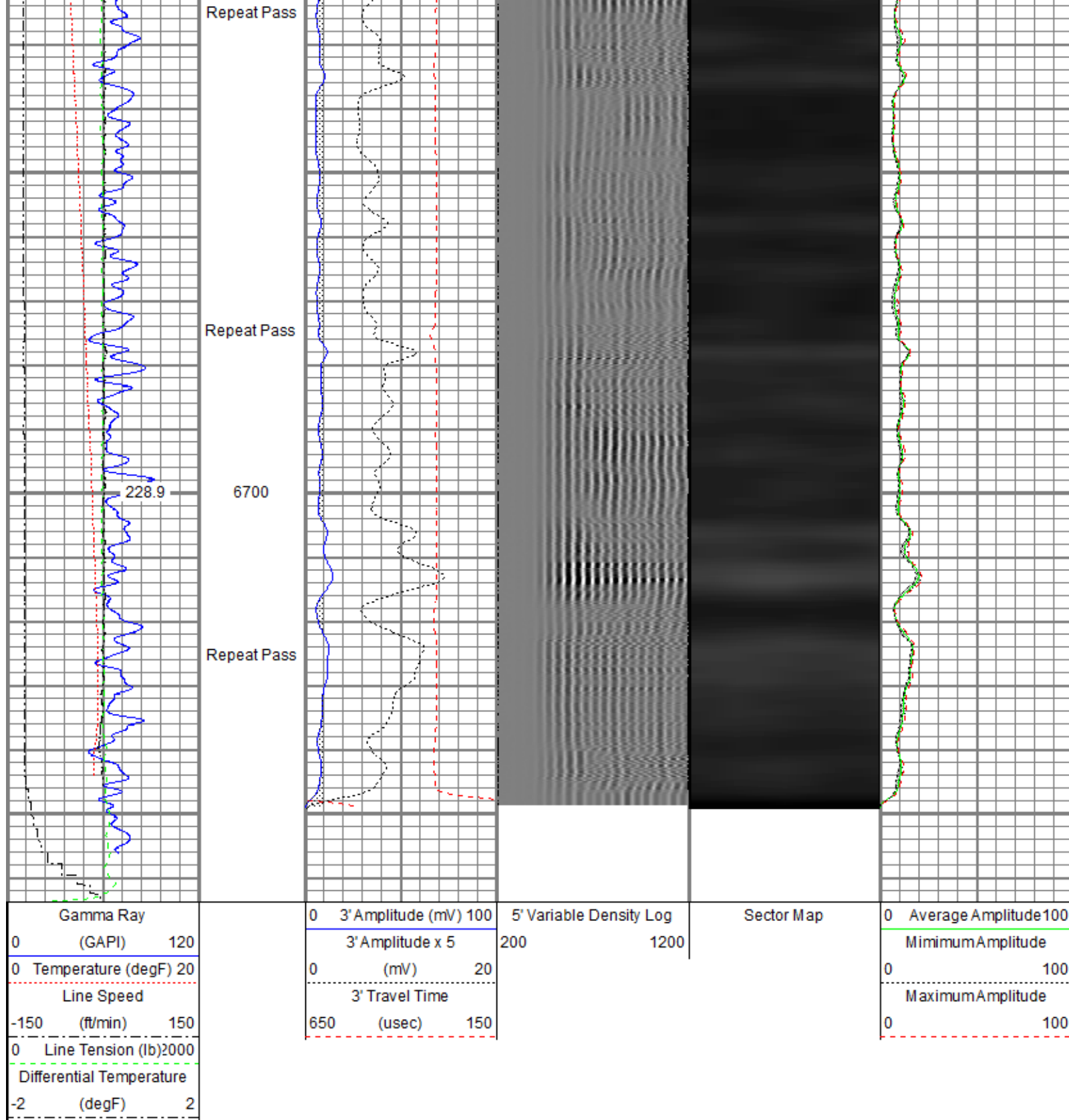


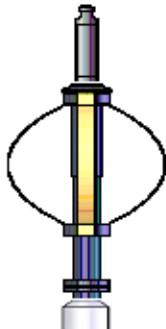
Repeat Pass

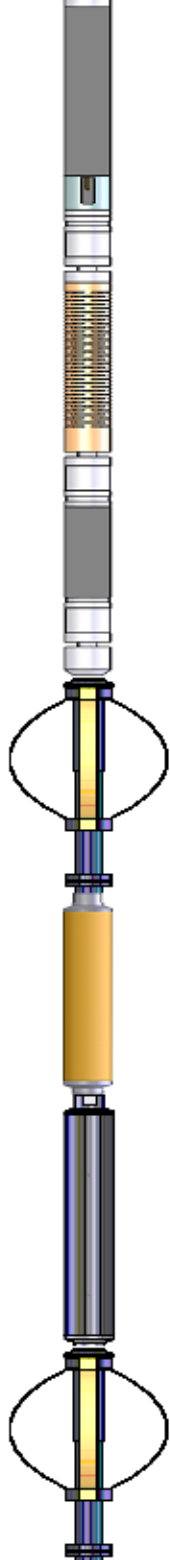
Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko\0512346593_anadarko_english farms 8-9hz_rbl_09-16-18\0512346593_anadarko_english farms 8-9hz_rbl_09-16-18
 Dataset Pathname: pass2.1
 Presentation Format: ros_radial
 Dataset Creation: Mon Sep 17 10:33:20 2018
 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	18.23					
WVFS8	16.00		Probe Radii-2750 RBT (FW1308-091)	9.39	2.75	105.00
WVFS7	16.00		Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub			
WVFS6	16.00					
WVFS5	16.00					
WVFS4	16.00					
WVFS3	16.00					
WVFS2	16.00					
WVFS1	16.00					
WVFCAL	16.00					
WVF3FT	16.00					
WVF5FT	15.00					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	7.38	Probe CCL-2750 SA (FW1307-076) Probe 2-3/4" Digital Six Magnet Logging CCL	2.66	2.75	35.00	
CCL\$1	7.38					
GR	5.24	Probe GR-2750 SA (FW1307-078) Probe 2-3/4" Digital Stand Alone Gamma Ray	3.33	2.75	55.00	
		Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00	
Dataset: 0512346593_anadarko_english farms 8-9hz_rbl_09-16-18_2800 psi.db: field/well/run1/pass4.2						
Total length: 25.06 ft						
Total weight: 258.60 lb						
O.D.: 2.75 in						

Calibration Report	
Database File	c:\programdata\warrior\data\anadarko\0512346593_anadarko_english farms 8-9hz_rbl_09-16-18\0512346593_anadarko_english
Dataset Pathname	pass4.2
Dataset Creation	Mon Sep 17 10:20:22 2018
Gamma Ray Calibration Report	
Serial Number:	FW1307-078
Tool Model:	2750 SA
Performed:	Sun Nov 12 06:08:32 2017

Calibrator Value:	637.0	GAPI
Background Reading:	108.2	cps
Calibrator Reading:	1134.5	cps
Sensitivity:	0.6207	GAPI/cps

Segmented Cement Bond Log Calibration Report
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Serial Number:	FW1308-091	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	-7.007	ft

Master Calibration, performed Sun Sep 16 06:49:37 2018:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.381	0.800	71.921	188.582	-0.003
CAL	0.004	0.387				
5'	0.004	0.363	0.800	71.921	198.104	-0.037
SUM						
S1	0.004	0.386	0.000	100.000	262.001	-1.052
S2	0.004	0.386	0.000	100.000	261.675	-1.102
S3	0.004	0.381	0.000	100.000	265.552	-1.102
S4	0.004	0.377	0.000	100.000	268.045	-1.142
S5	0.004	0.380	0.000	100.000	266.078	-1.140
S6	0.004	0.381	0.000	100.000	265.388	-1.072
S7	0.004	0.382	0.000	100.000	264.976	-1.106
S8	0.004	0.380	0.000	100.000	266.060	-1.117

Internal Reference Calibration, performed (Not Performed):						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.387	1.000	0.000

Air Zero Calibration, performed Sun Sep 16 06:50:04 2018:						
	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.004		0.000		-0.000	
5'	0.004		0.000		0.000	
SUM						
S1	0.004		0.000		-0.000	
S2	0.004		0.000		-0.000	
S3	0.004		0.000		0.000	
S4	0.004		0.000		0.000	
S5	0.004		0.000		0.000	
S6	0.004		0.000		-0.000	
S7	0.004		0.000		-0.000	
S8	0.004		0.000		-0.000	

Temperature Calibration Report

Serial Number:	FW1308-091		
Tool Model:	2750 RBT		
Performed:	Sun Nov 12 13:50:54 2017		
	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	English Farms 8-9HZ
Field	Wattenberg
County	Weld
State	Colorado