



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

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

Well Quarter Circle 24-8HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-46260

SEC 24 TWP 1N RGE 67W

Permanent Datum Ground Level Elevation 4941'  
Log Measured From Kelly Bushing 20 FT  
Drilling Measured From Kelly Bushing

Other Services  
JB GR  
RBP  
RBL 0 PSI  
Elevation

K.B. 4961'  
D.F. ---  
G.L. 4941'

Company Kerr-McGee Oil & Gas Onshore, L.P.  
Well Quarter Circle 24-8HZ  
Field Wattenberg  
County Weld  
State Colorado

Date	14-JUL-2018									
Run Number	Four									
Depth Driller	17779 FT									
Depth Logger	6573 FT									
Bottom Logged Interval	6558 FT									
Top Log Interval	Surface									
Open Hole Size	---									
Type Fluid	Water									
Density / Viscosity	8.34 lb/gal									
Max. Recorded Temp.	213°F									
E estimated Cement Top	See Log									
Time Well Ready	ROA									
Time Logger on Bottom	15:15									
E equipment Number	HD-363									
Location	Plateville, CO									
Recorded By	M. Hayes									
Witnessed By	Justin McMillan									
Borehole Record										
Run Number	Bit	From	To	Size	Weight	From	To			
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom					
Surface Casing	9 5/8	36	J-55	Surface	1842 FT					
Intermediate #1	5 1/2	17	HCP 110	Surface	17738 FT					
Intermediate #2										
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 20 FT  
Adjusted -9.8 FT to correlate with Kelly Bushing  
Gauge Ring/Junk Basket ran to 7644 FT with no debris  
Log ran 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!!

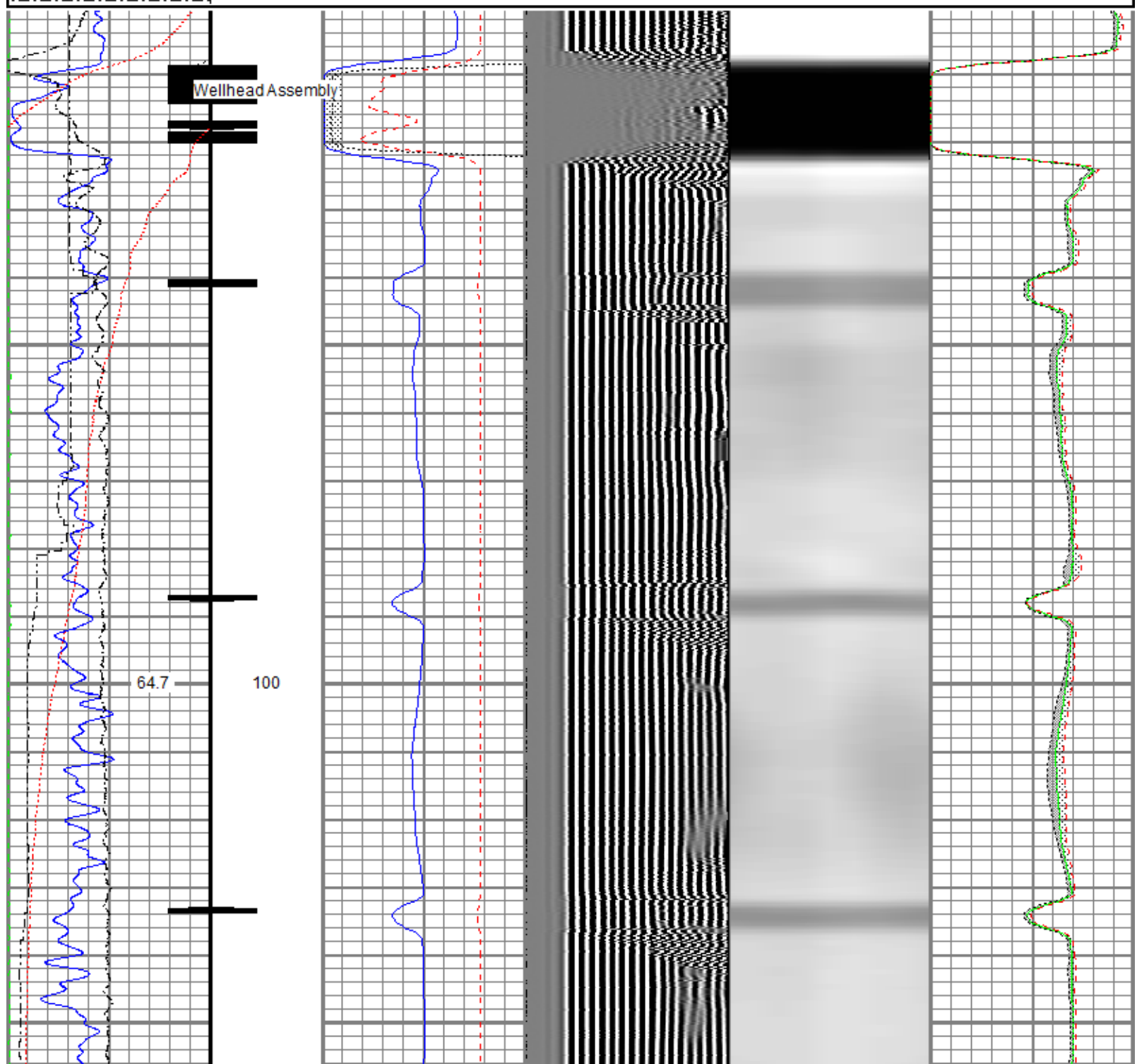
Main Pass

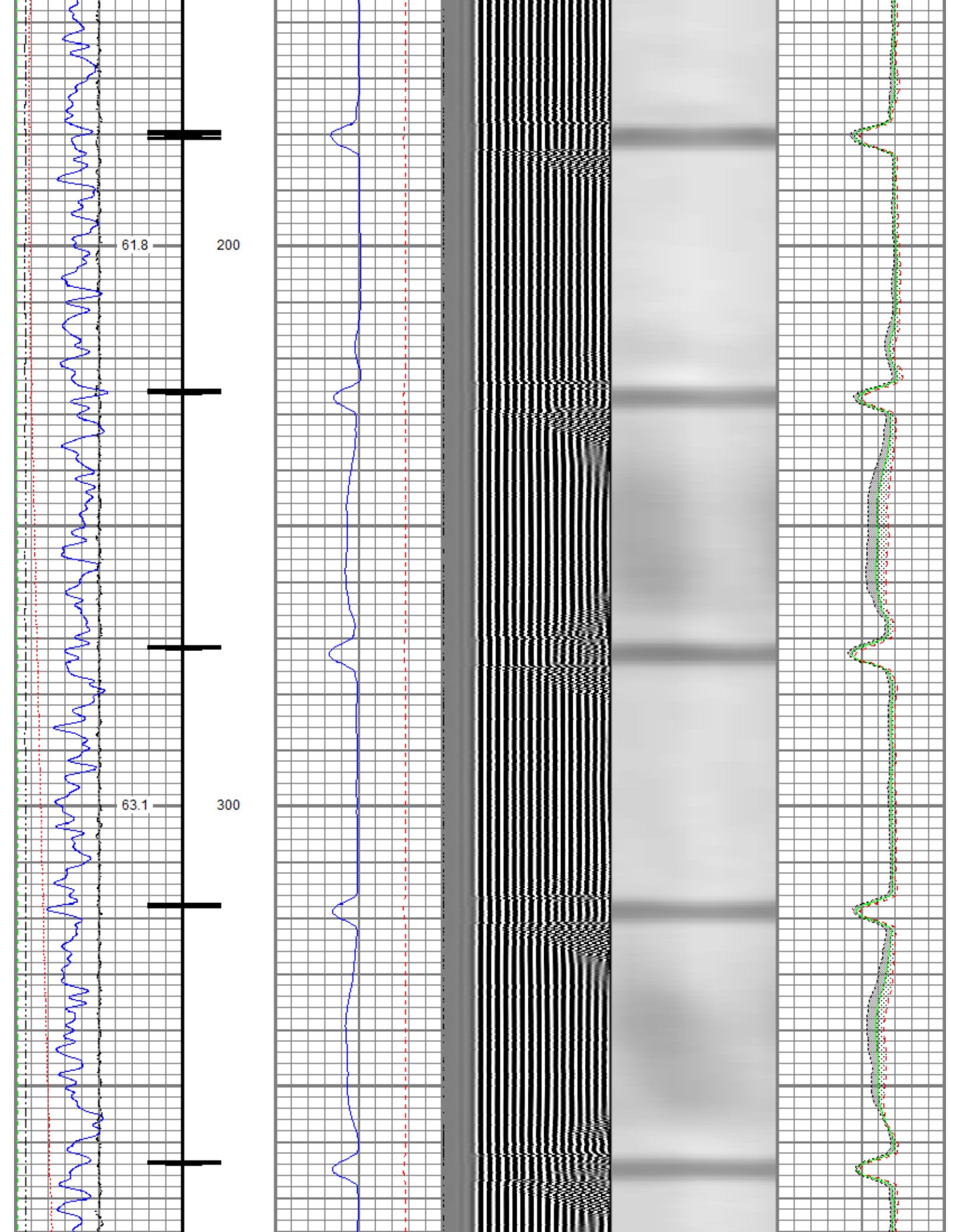


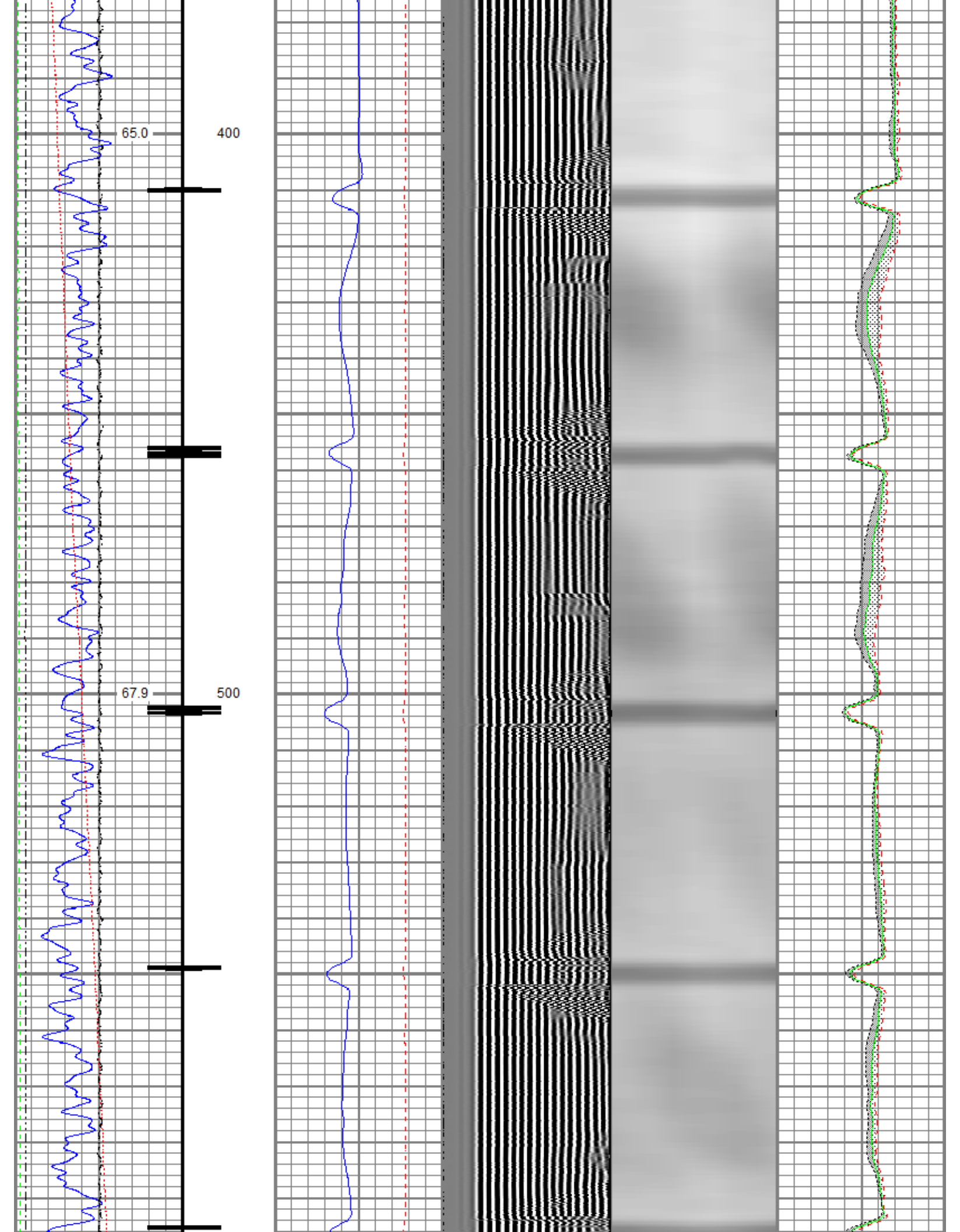
Recorded With 2800 PSI Surface Induced Pressure

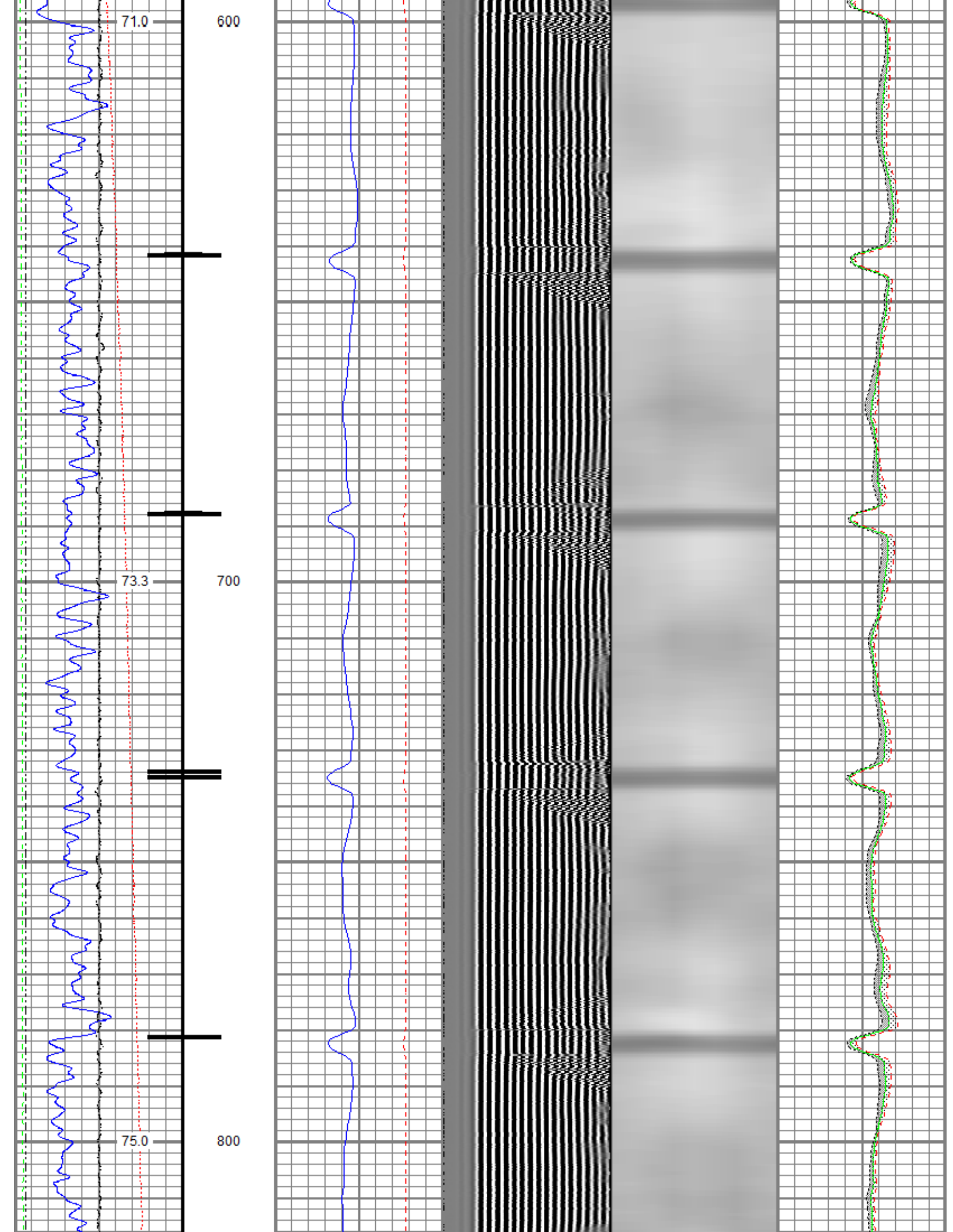
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Dataset Pathname	pass2.3
Presentation Format	ros_radri
Dataset Creation	Sat Jul 14 16:00:03 2018
Charted by	Depth in Feet scaled 1:240

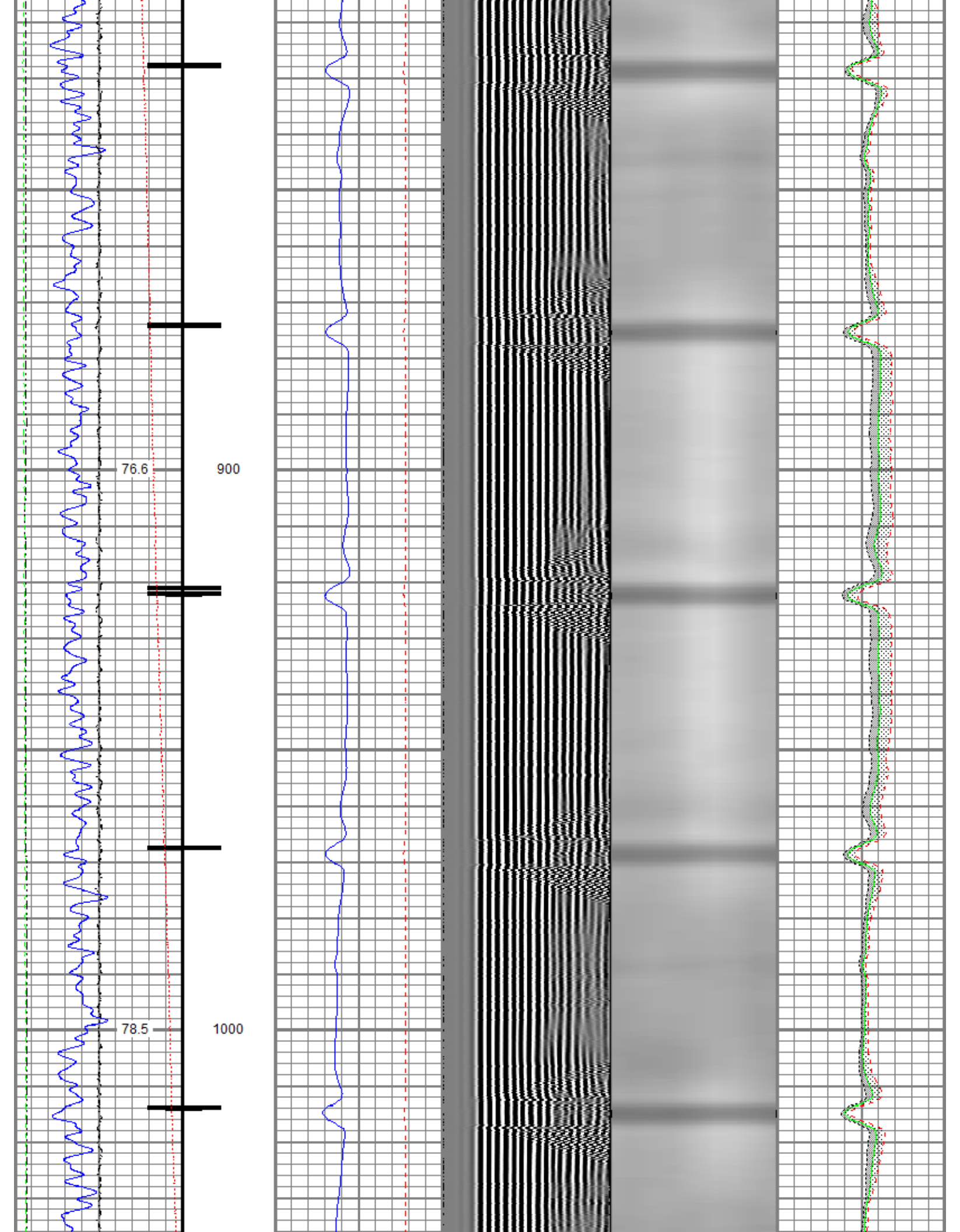
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Casing Collar Locator		0 (mV) 20			0	100
0 Temperature (degF) 20		3' Travel Time				Maximum Amplitude
Line Speed		650 (usec) 150			0	100
-150 (ft/min) 150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

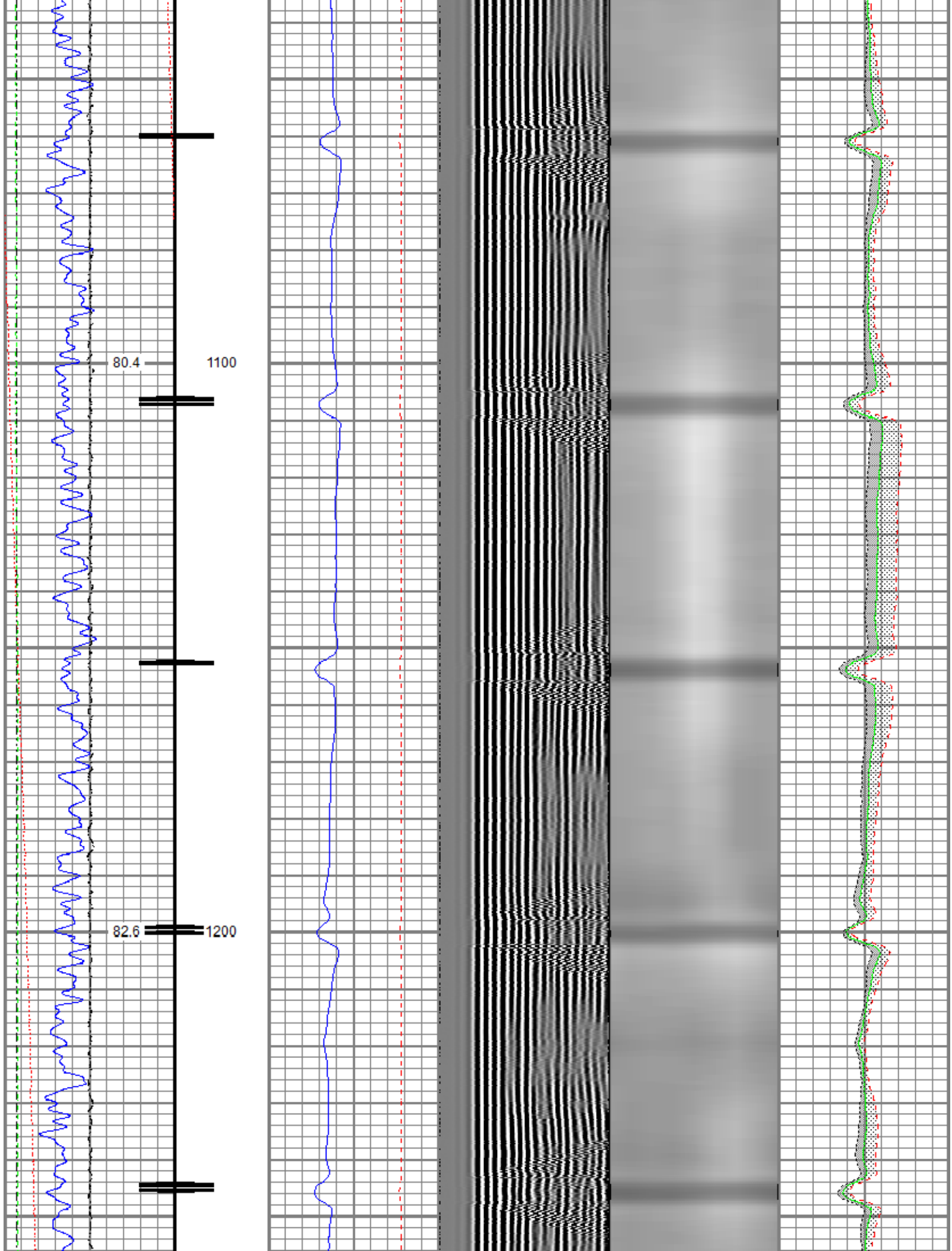


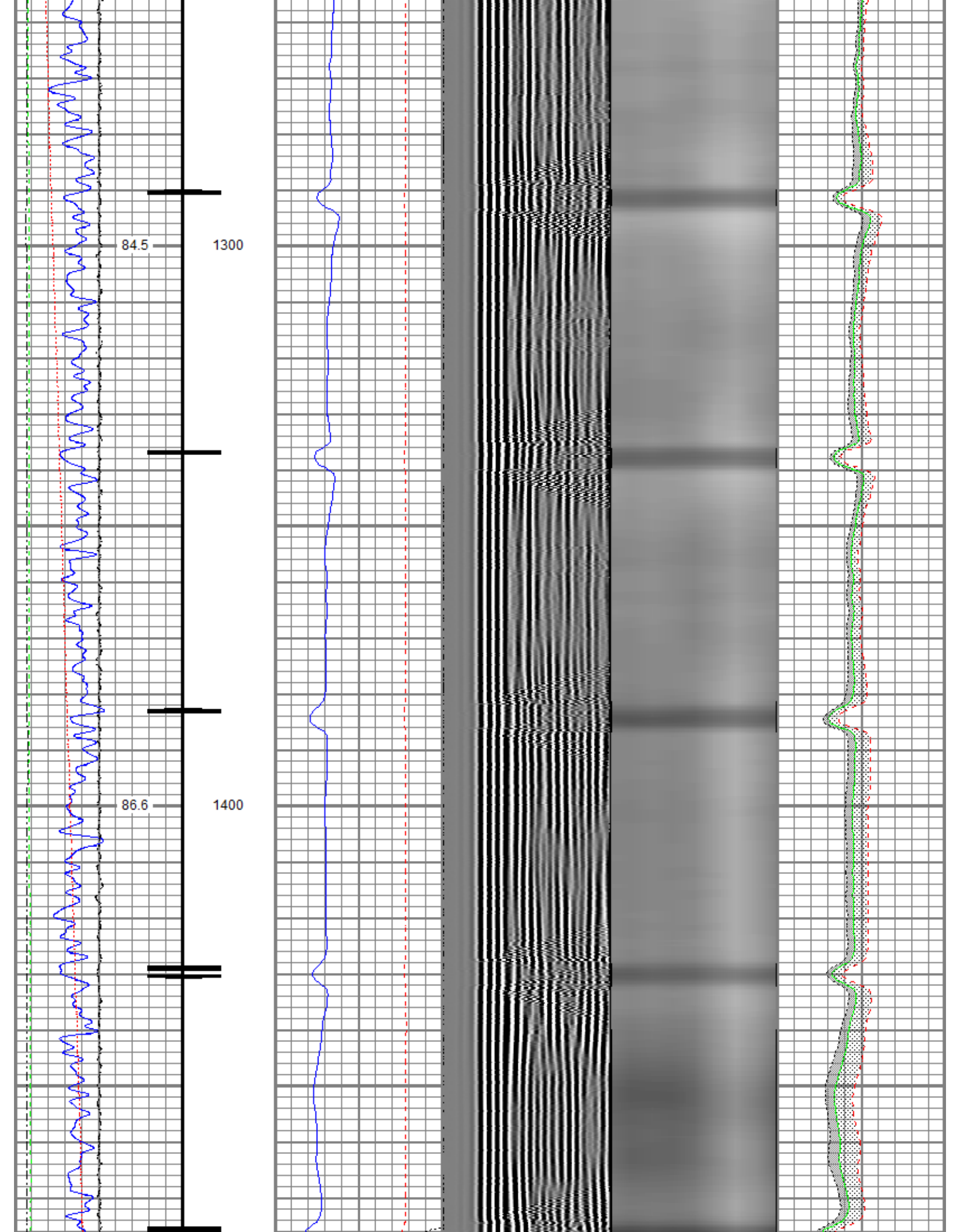


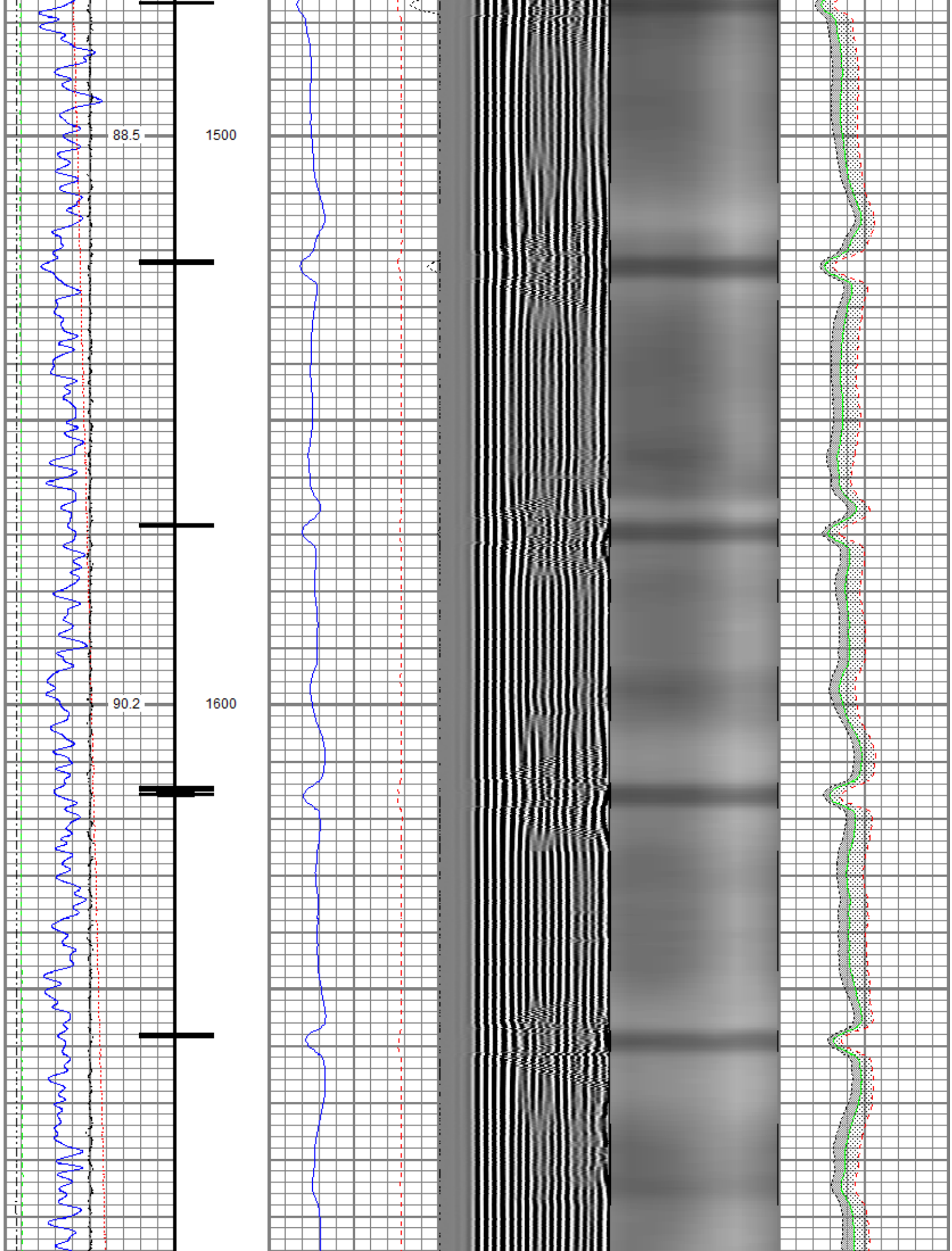


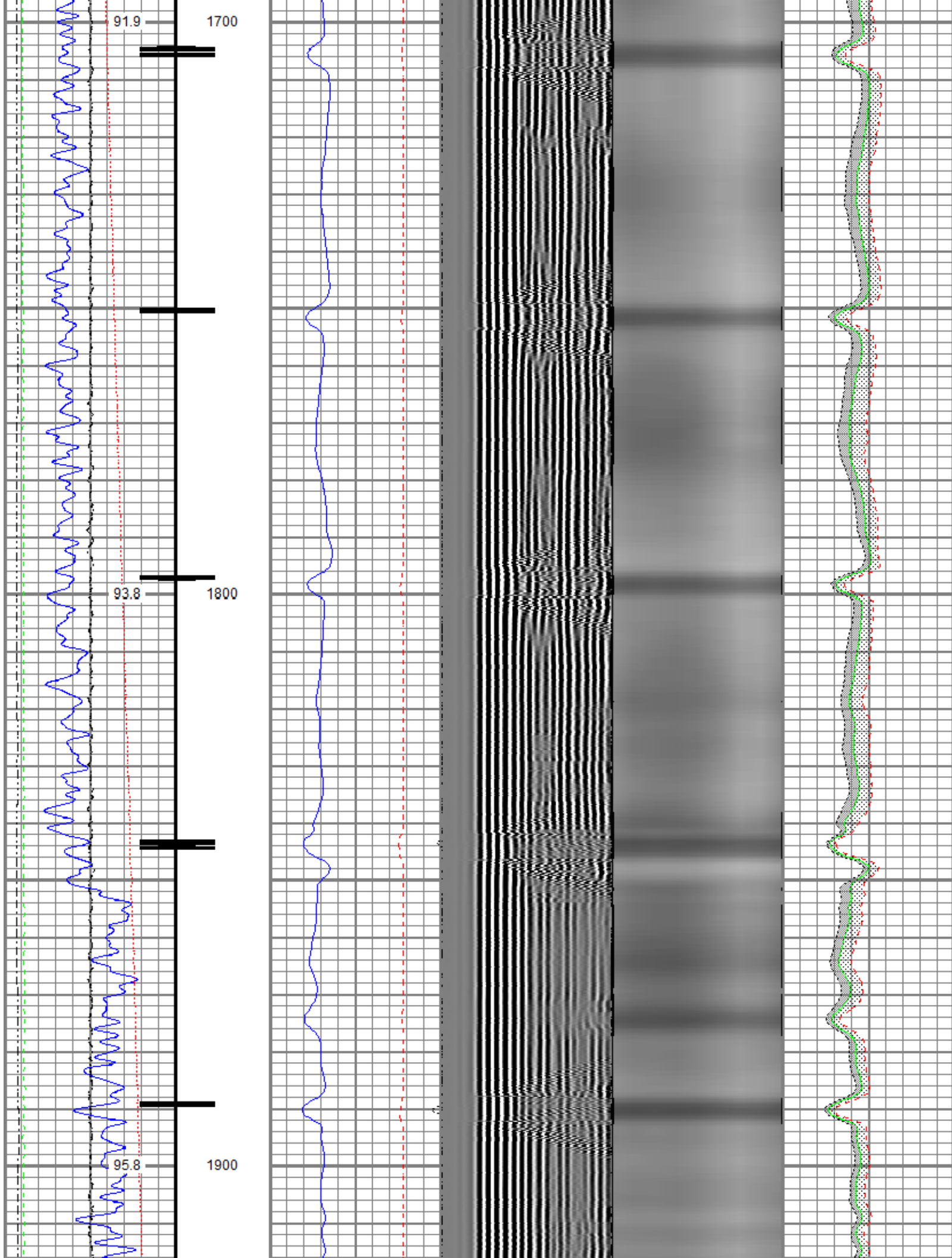


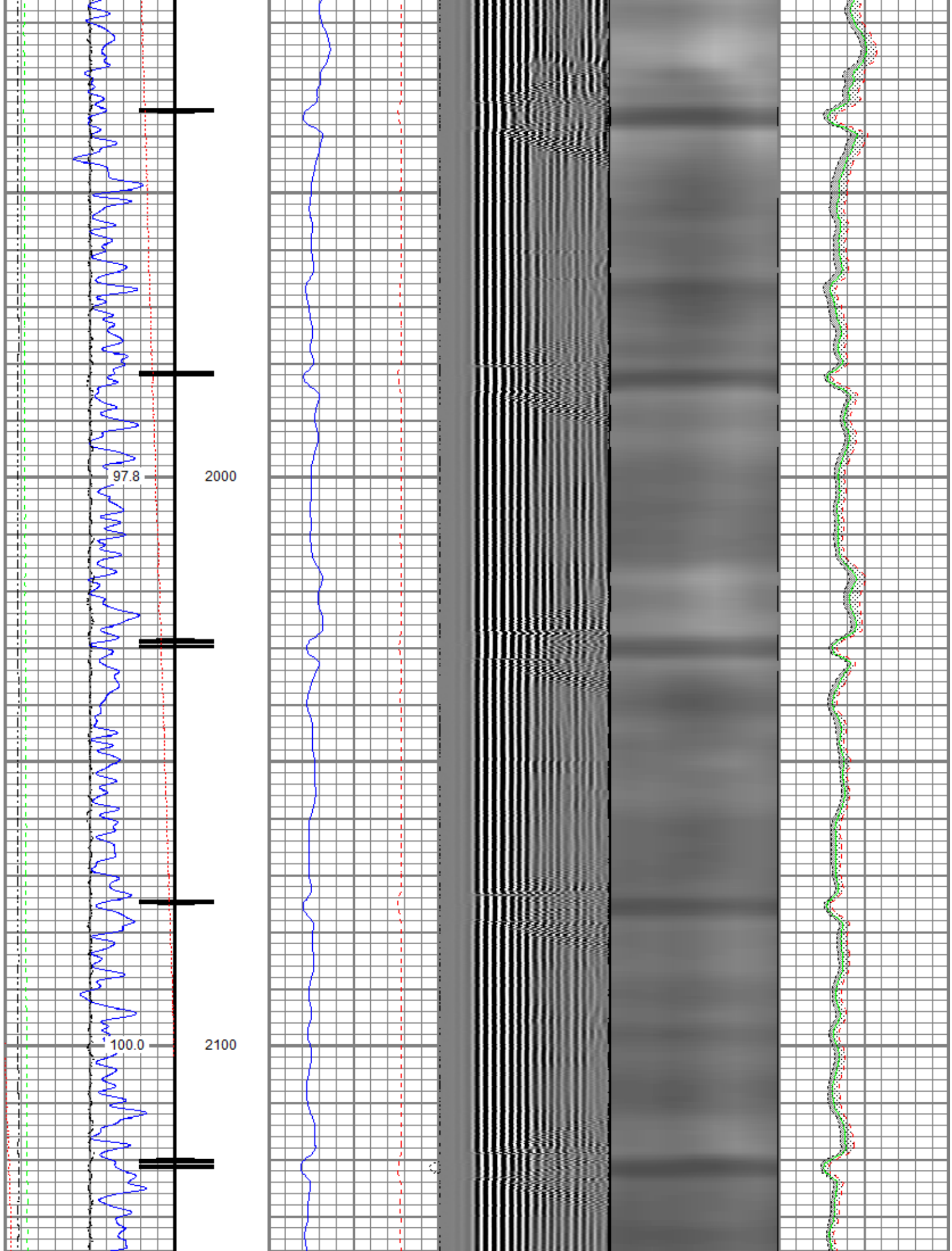


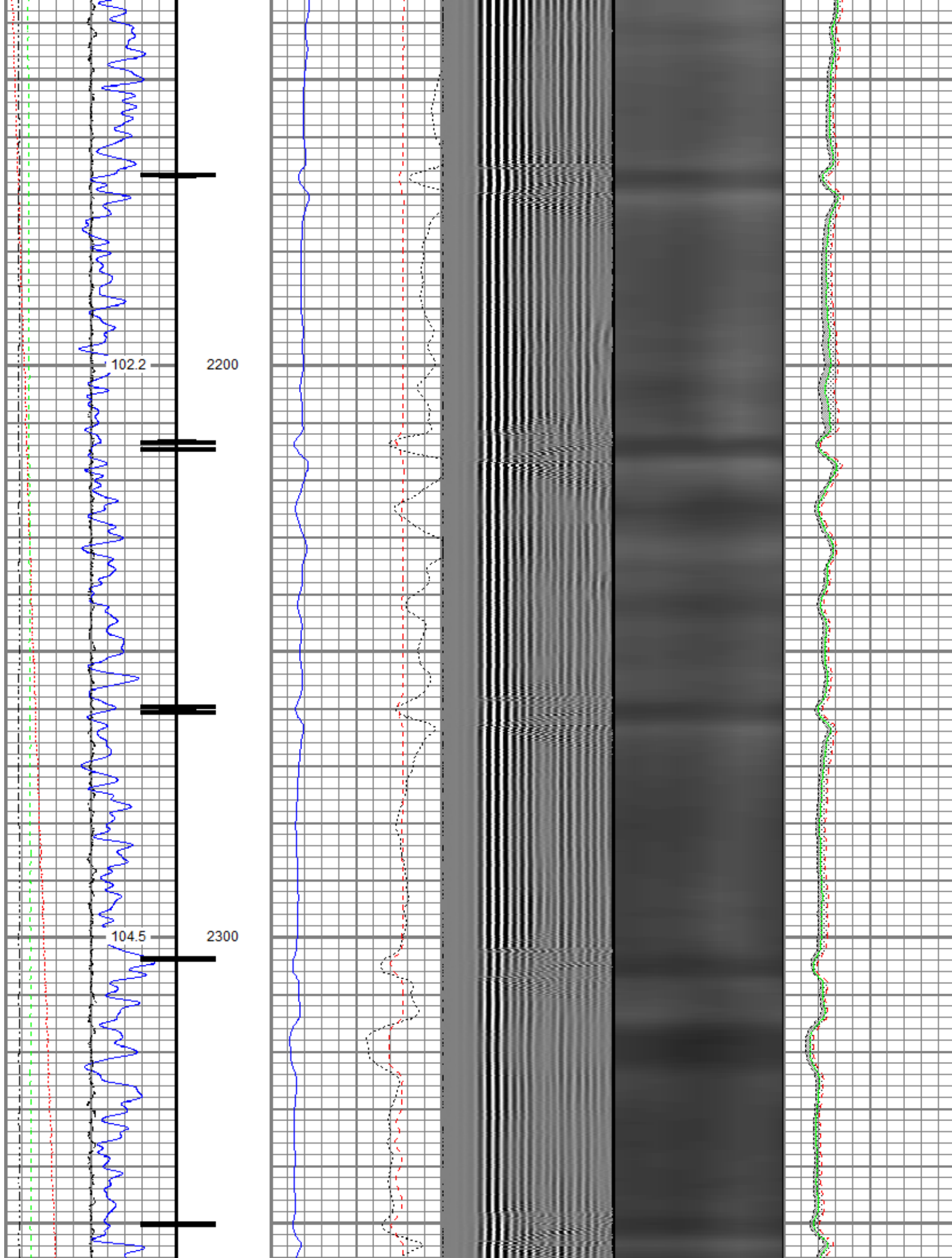


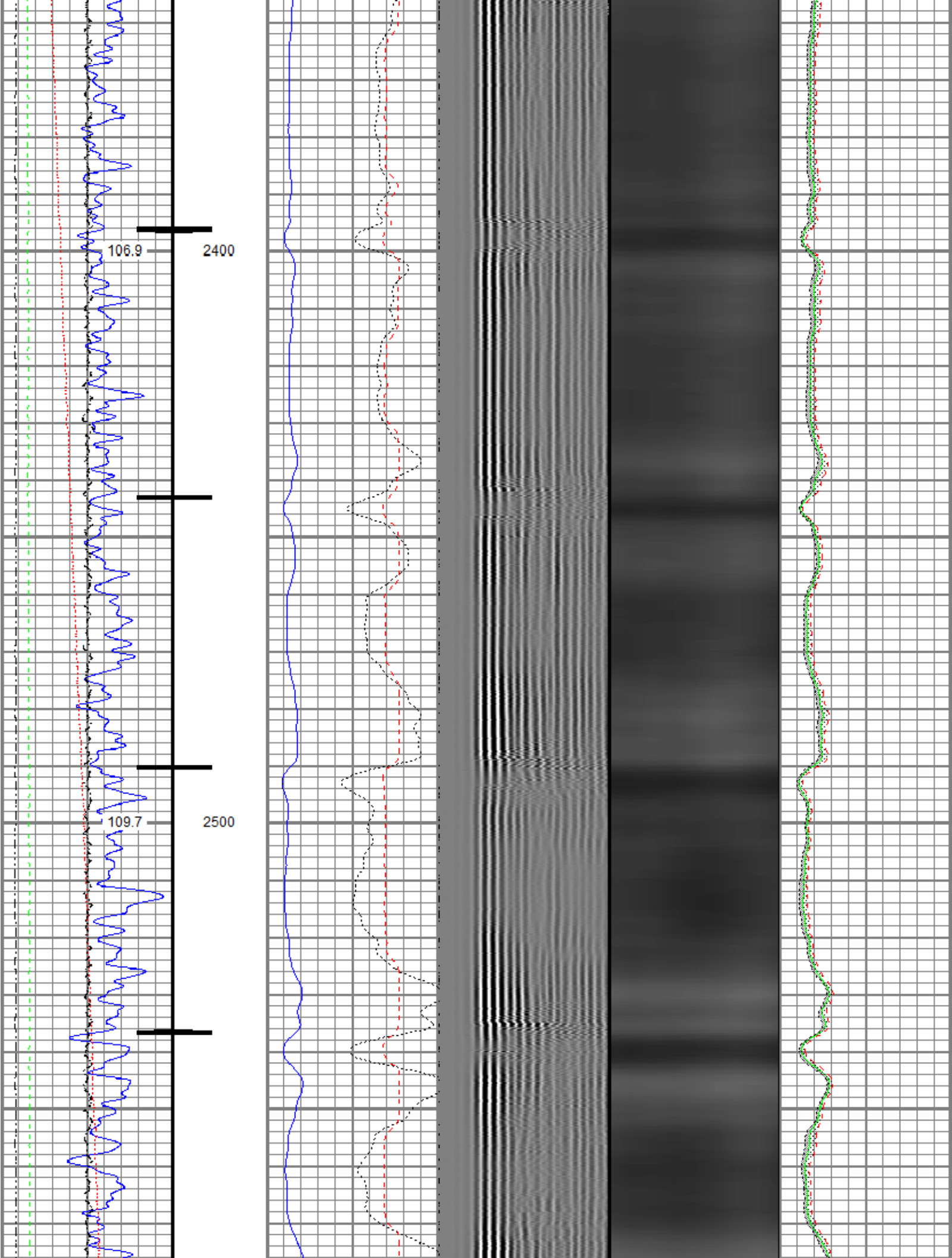


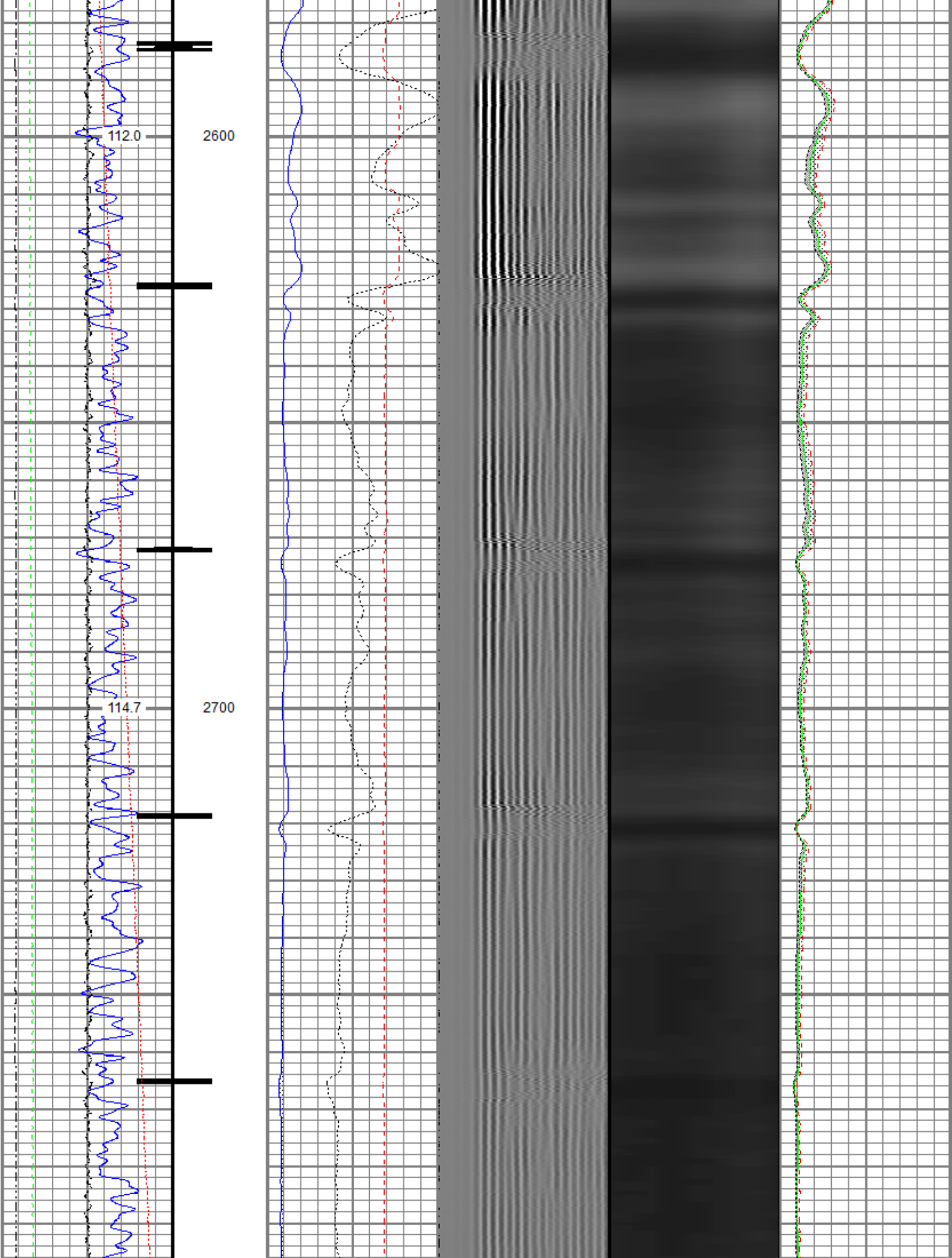


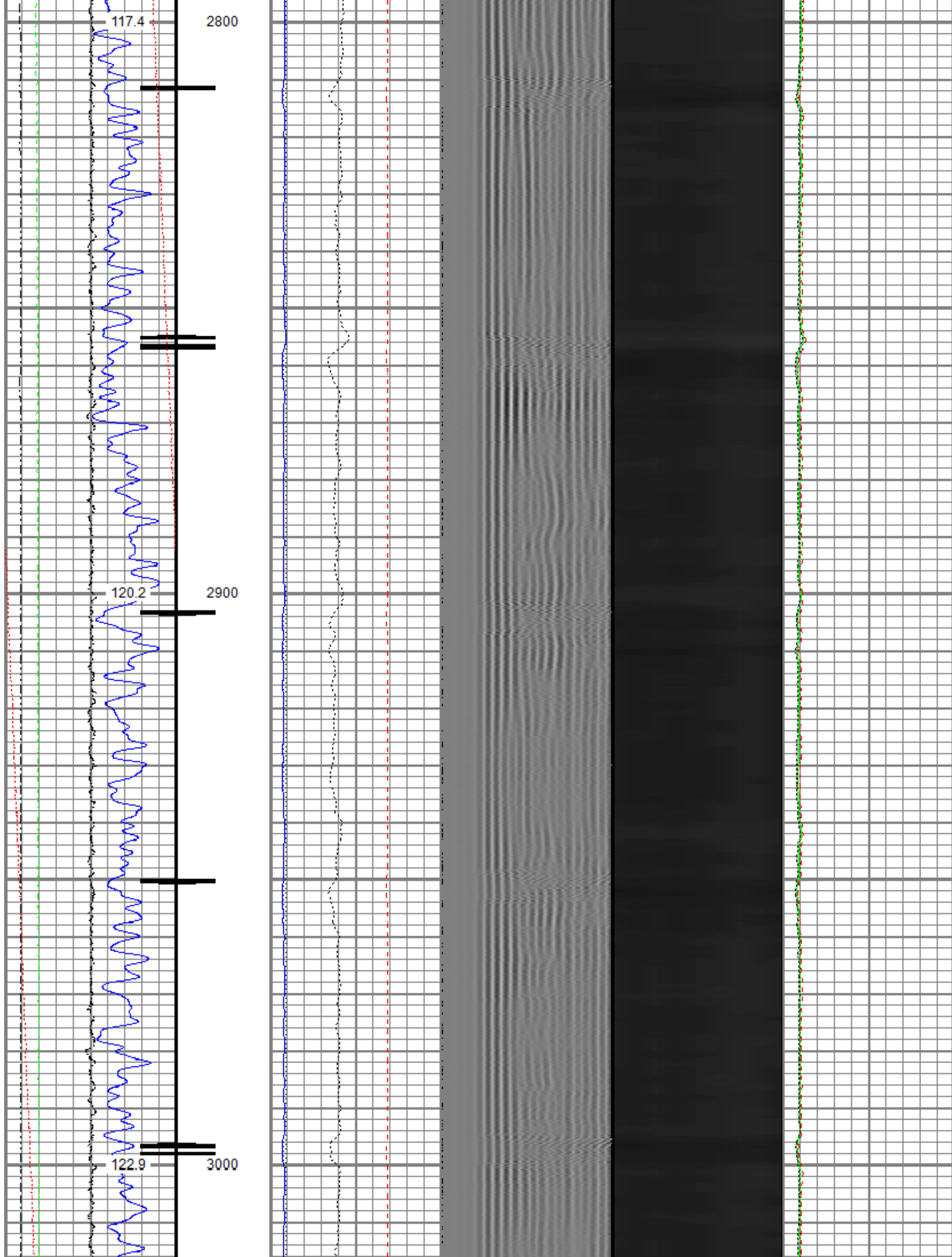


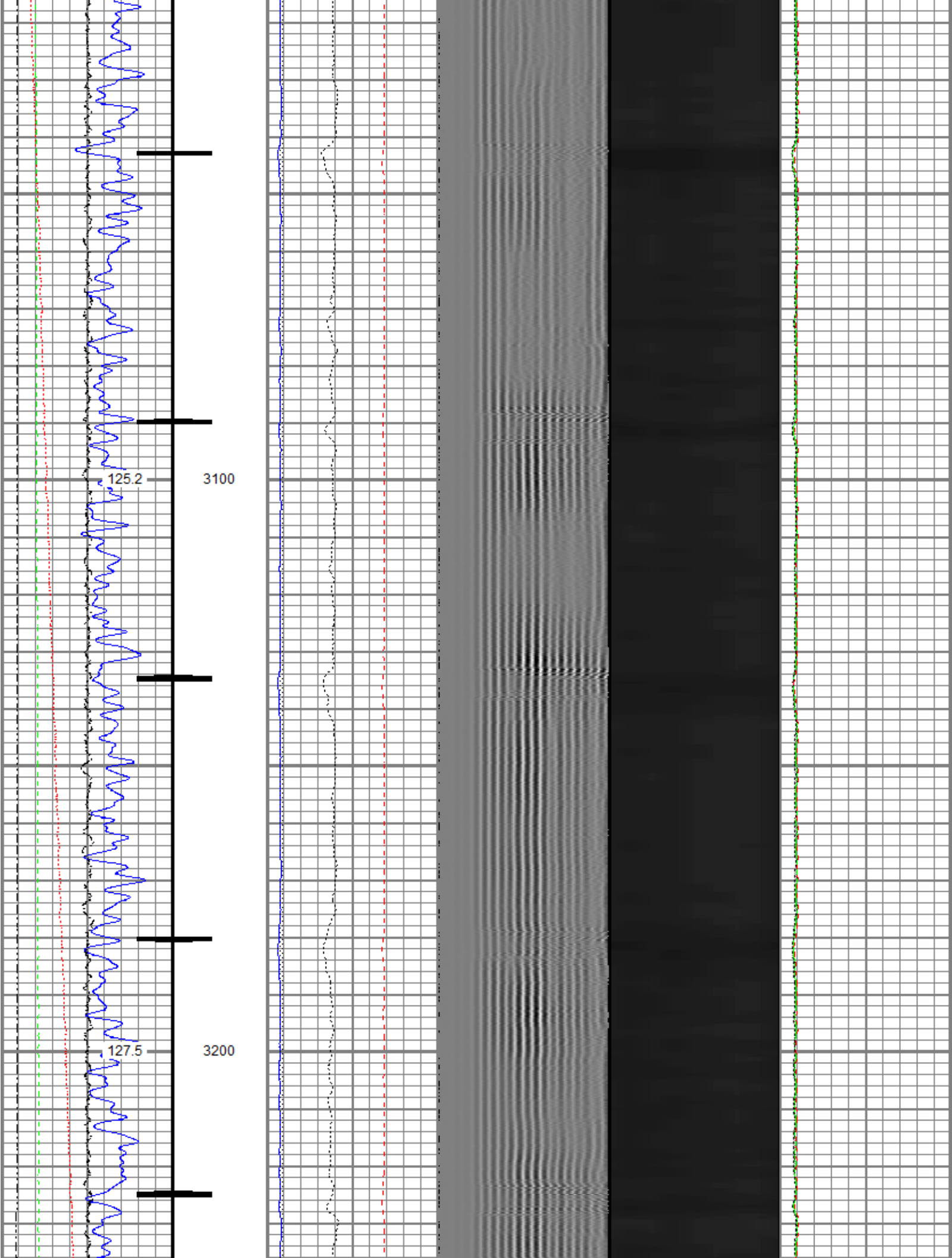


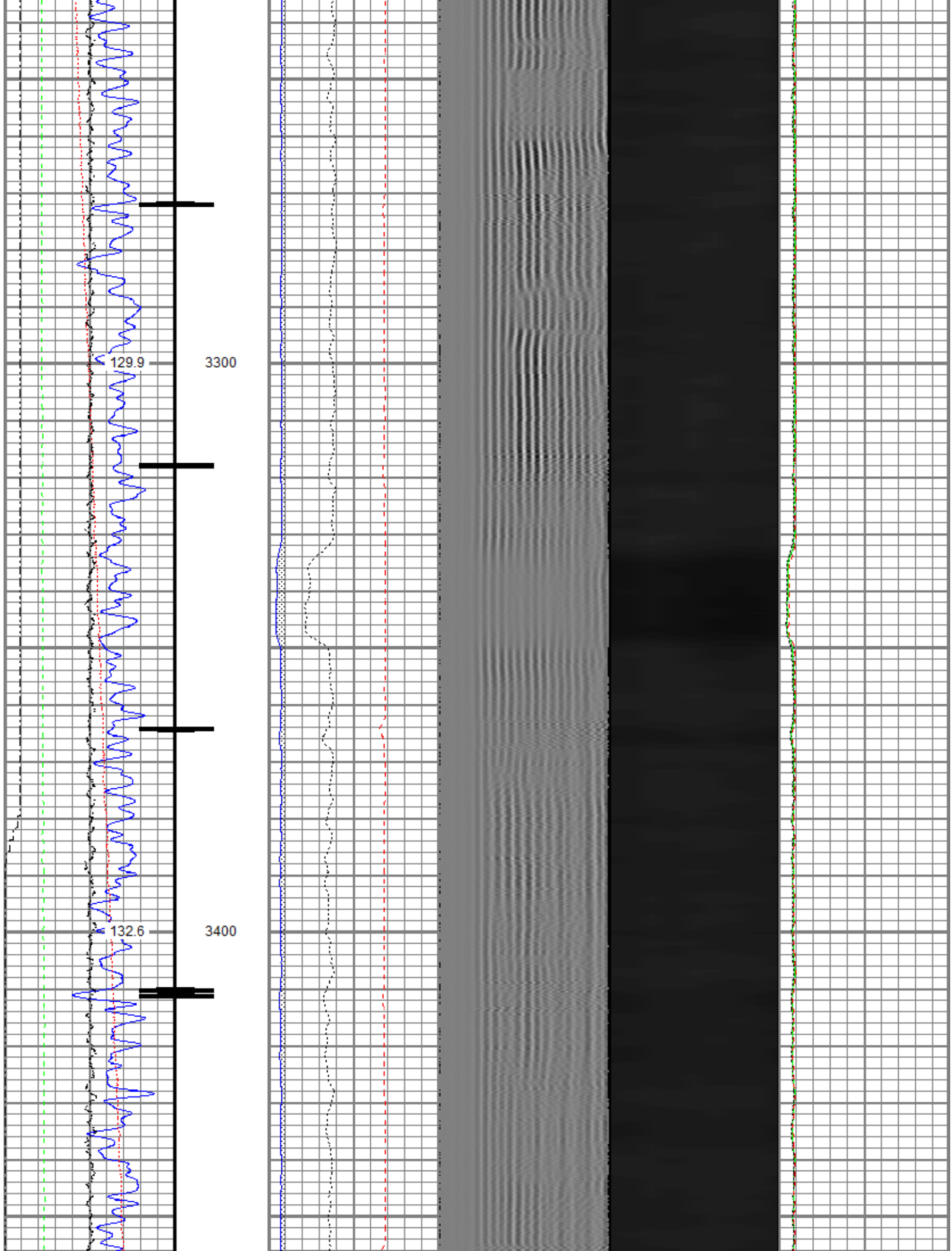


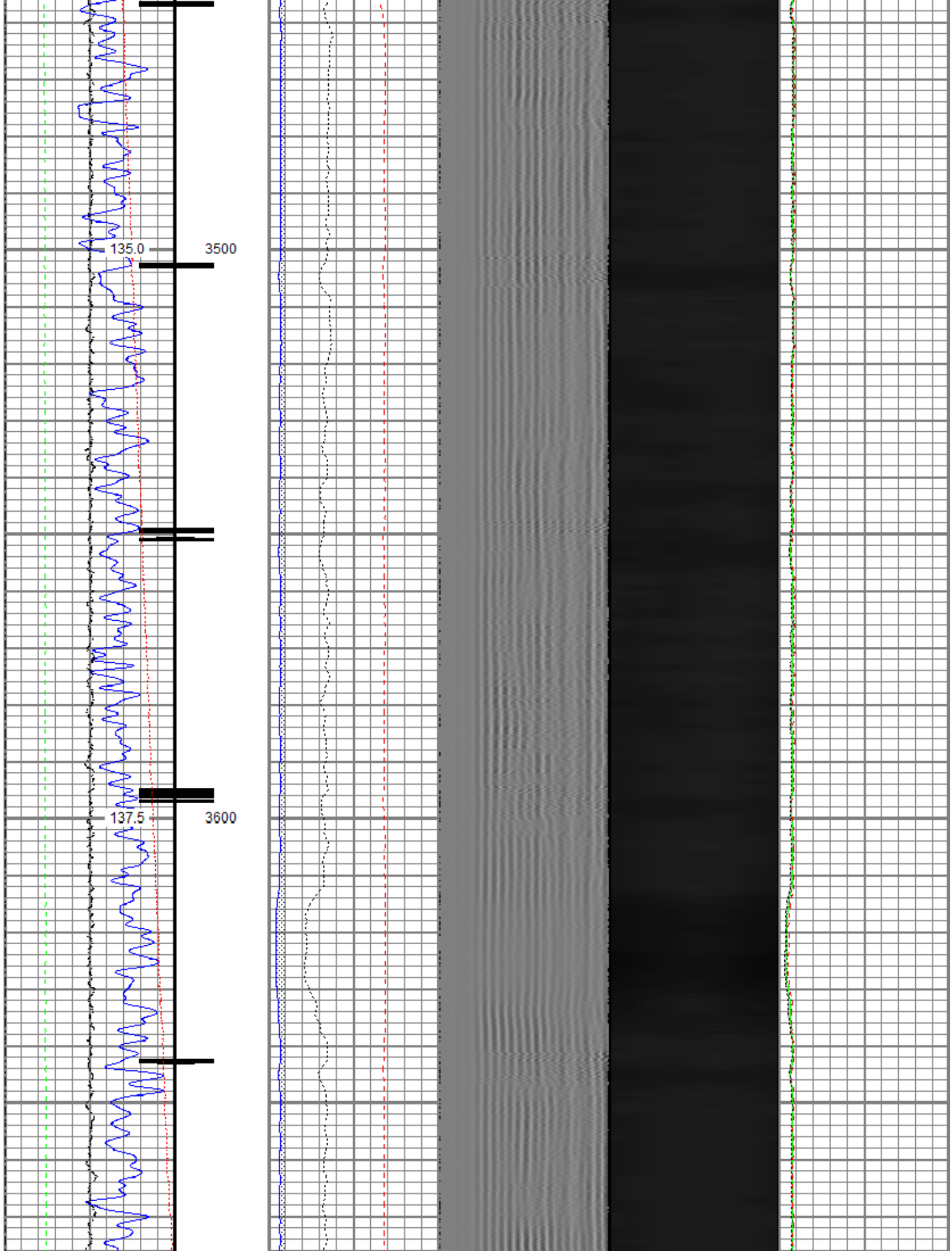


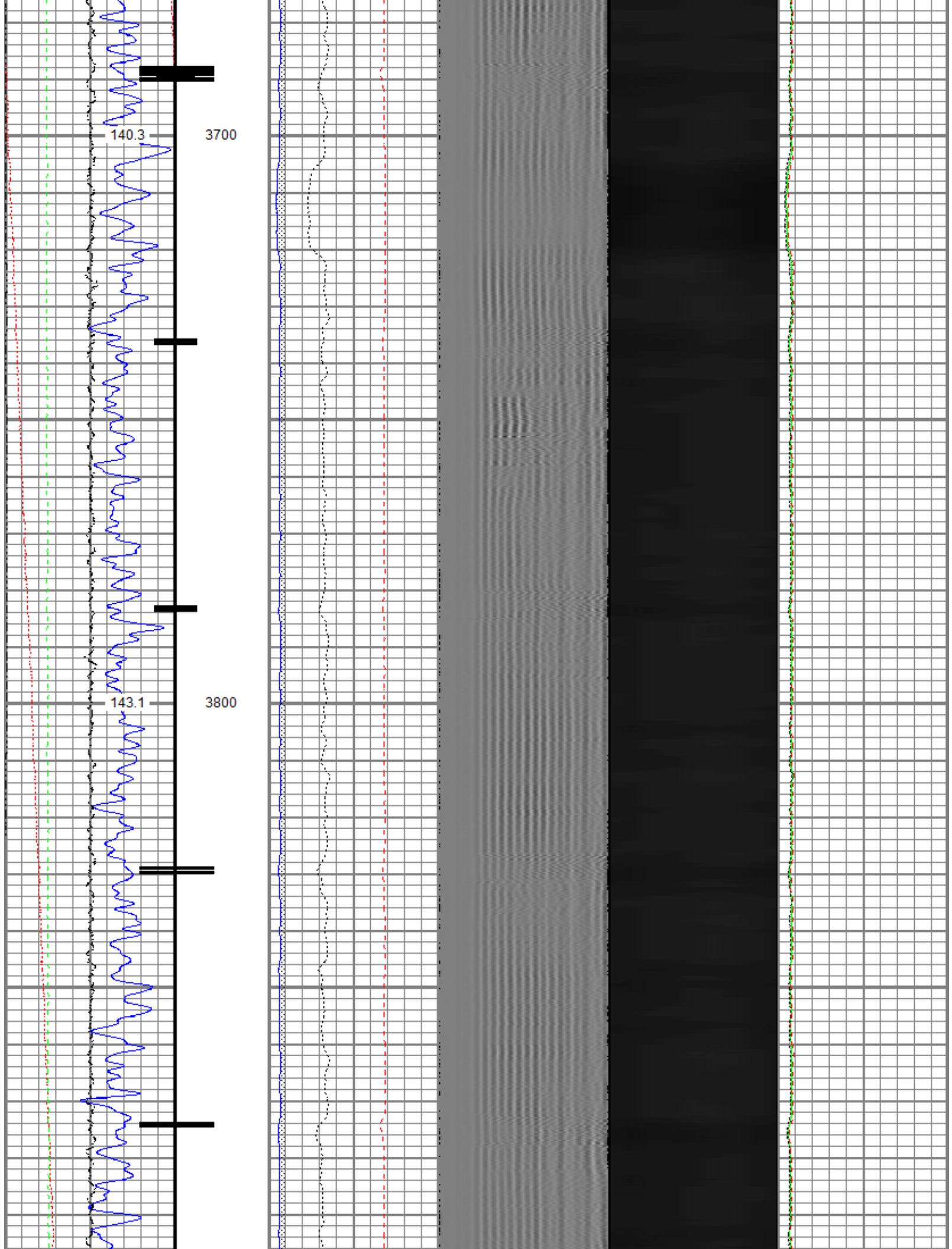


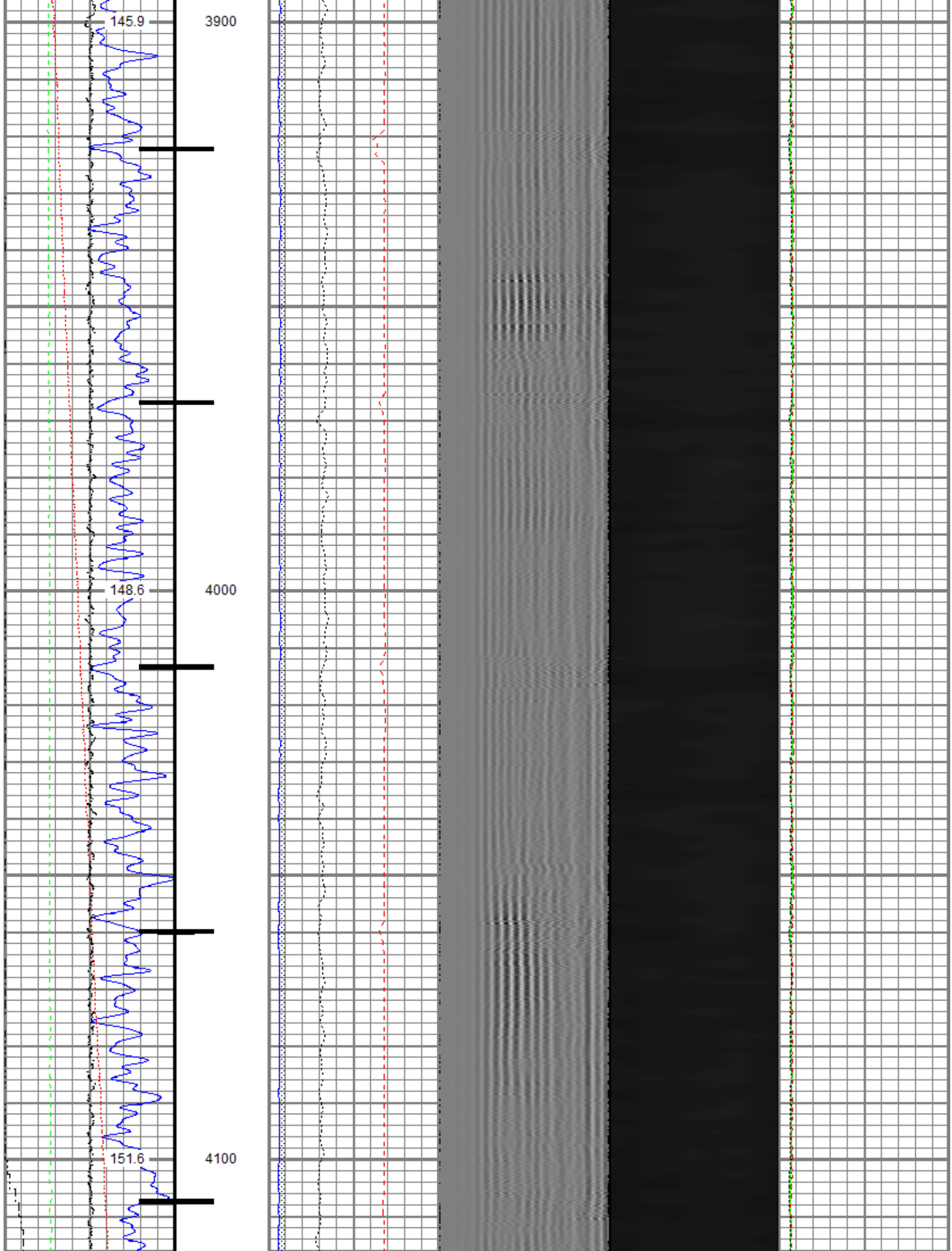


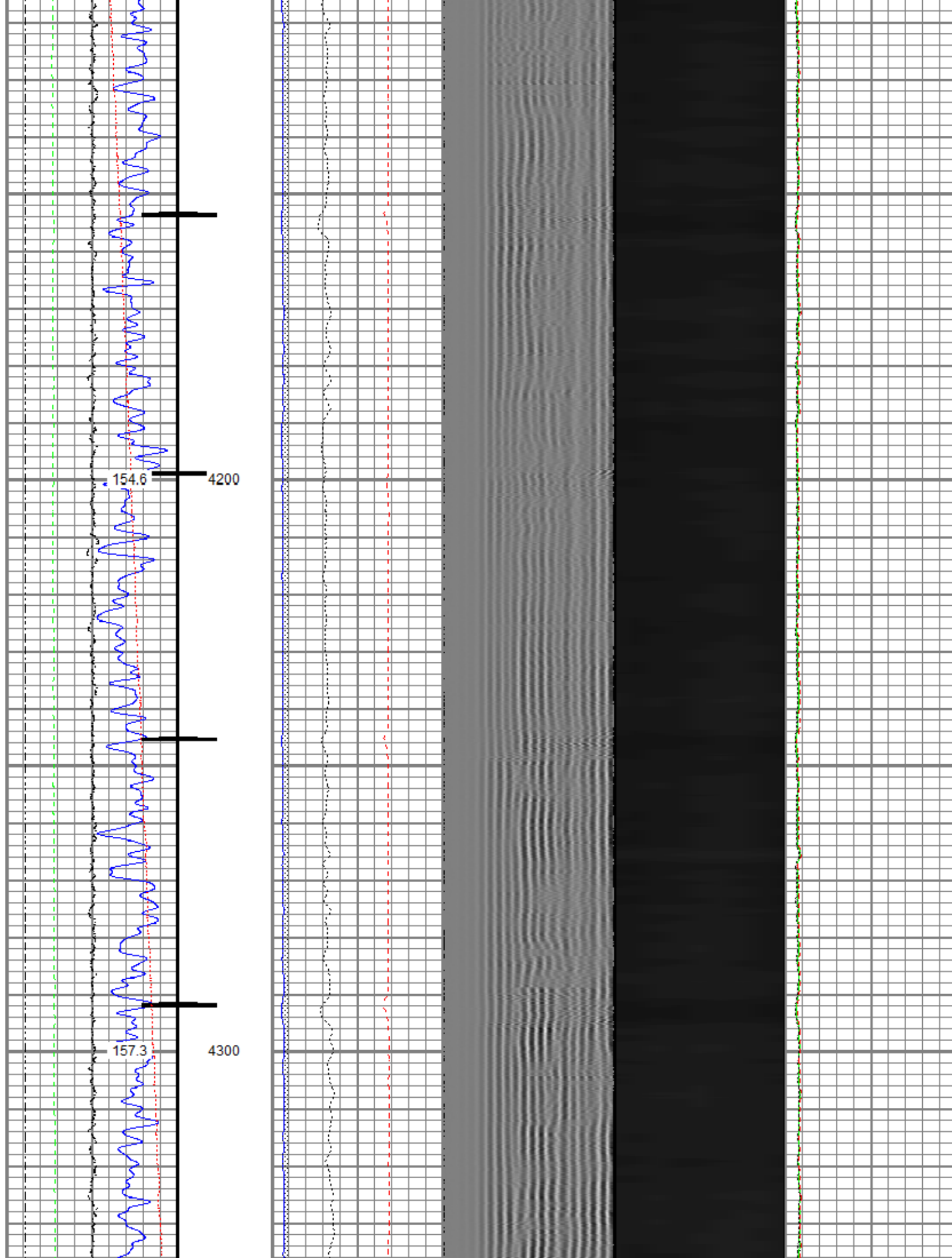


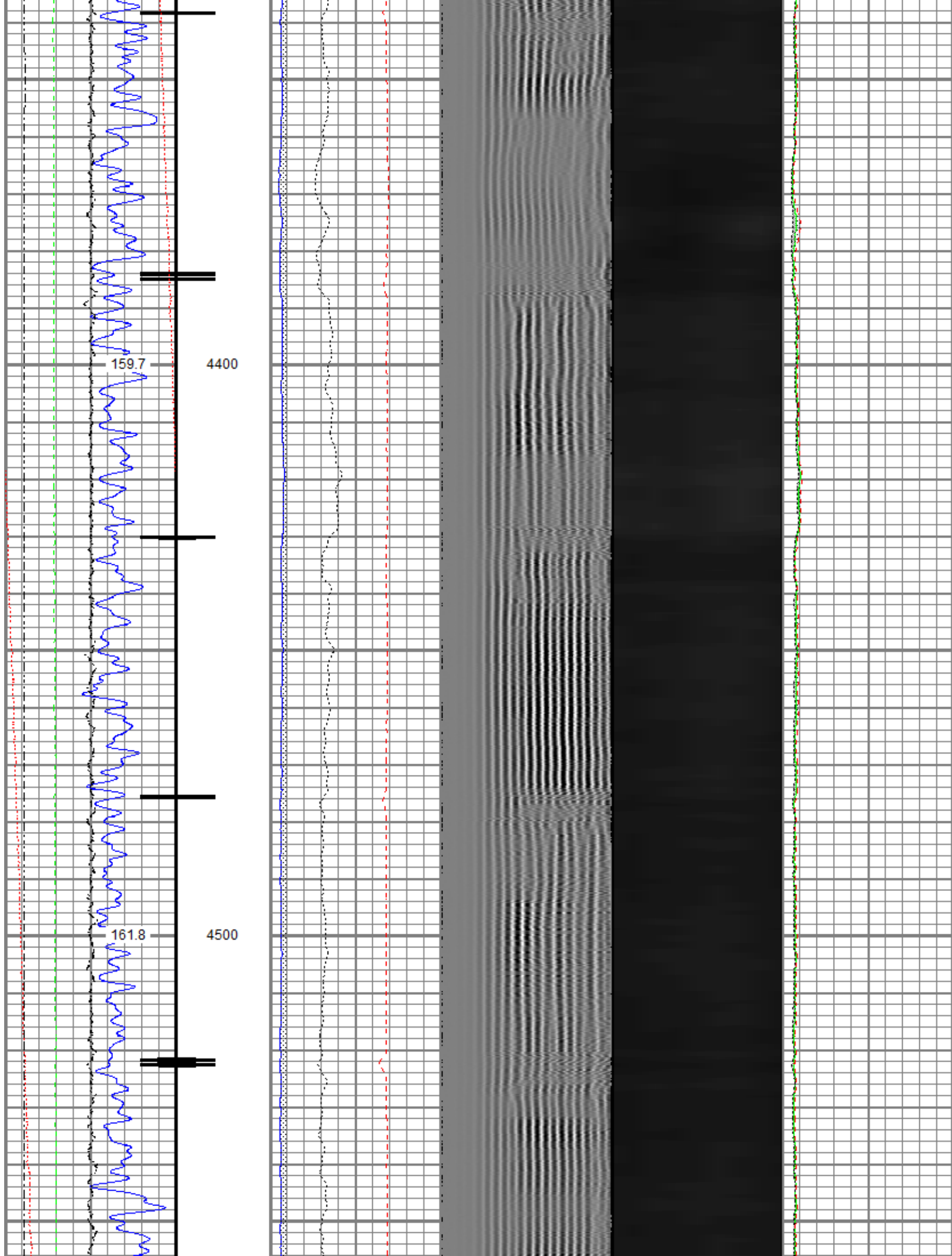


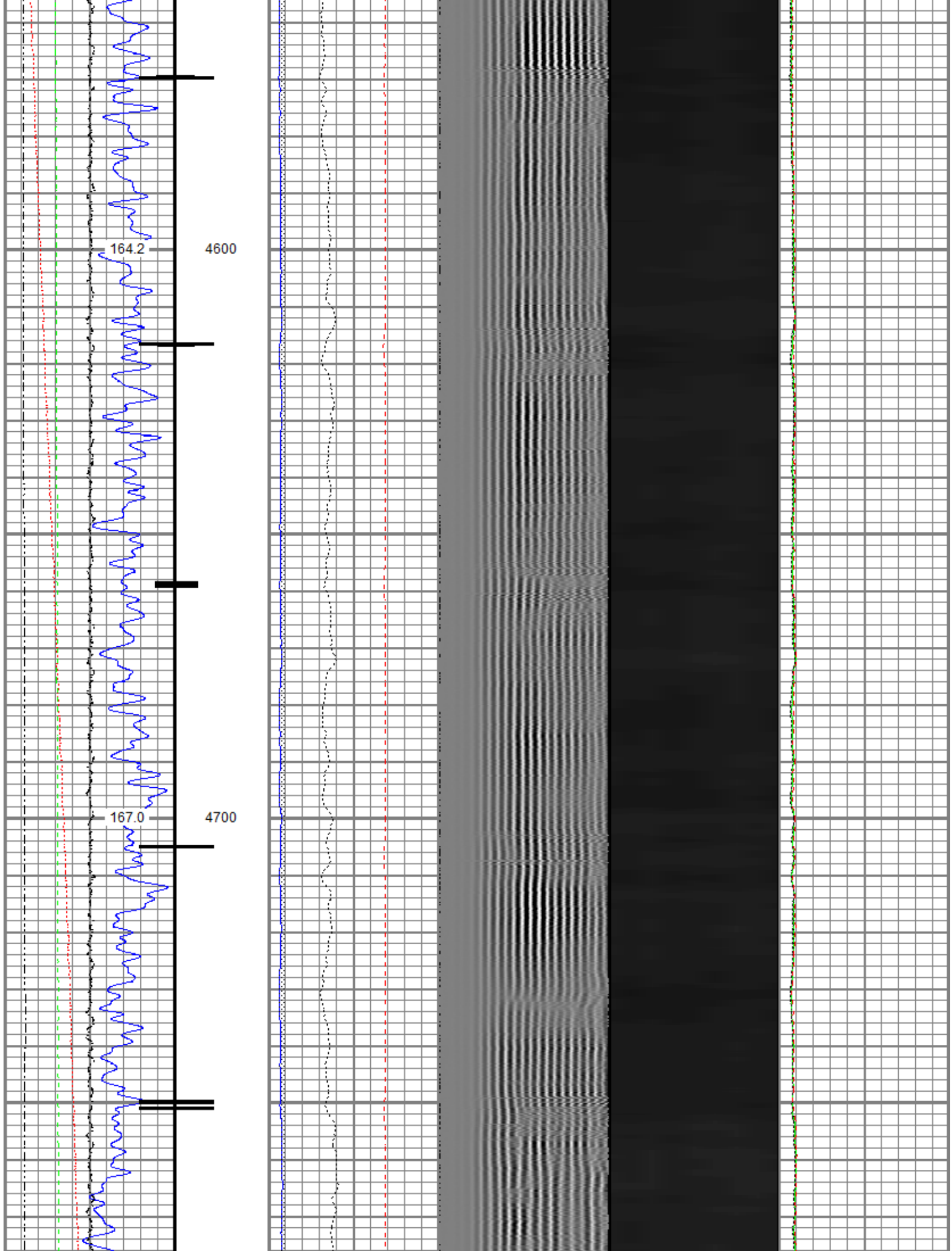


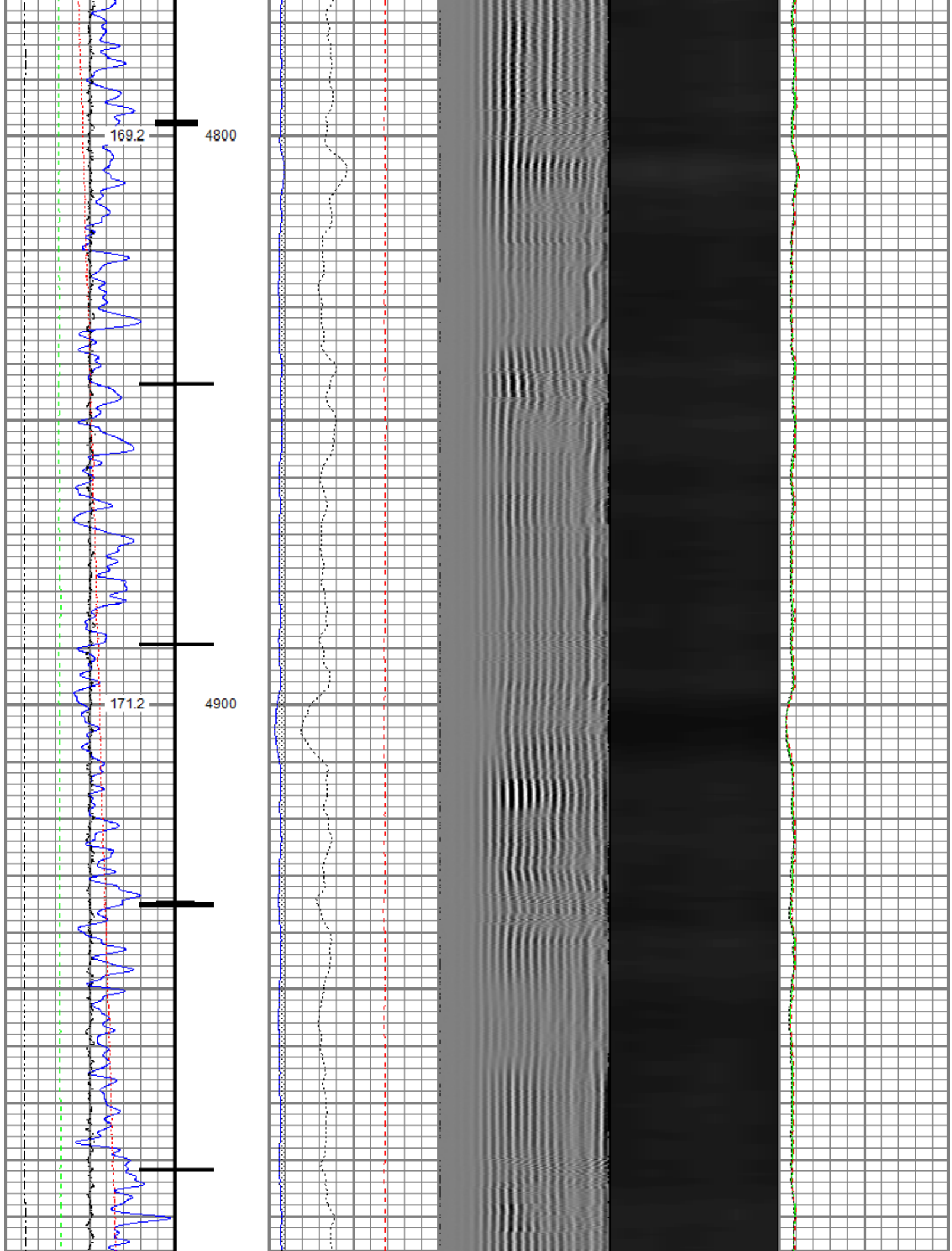


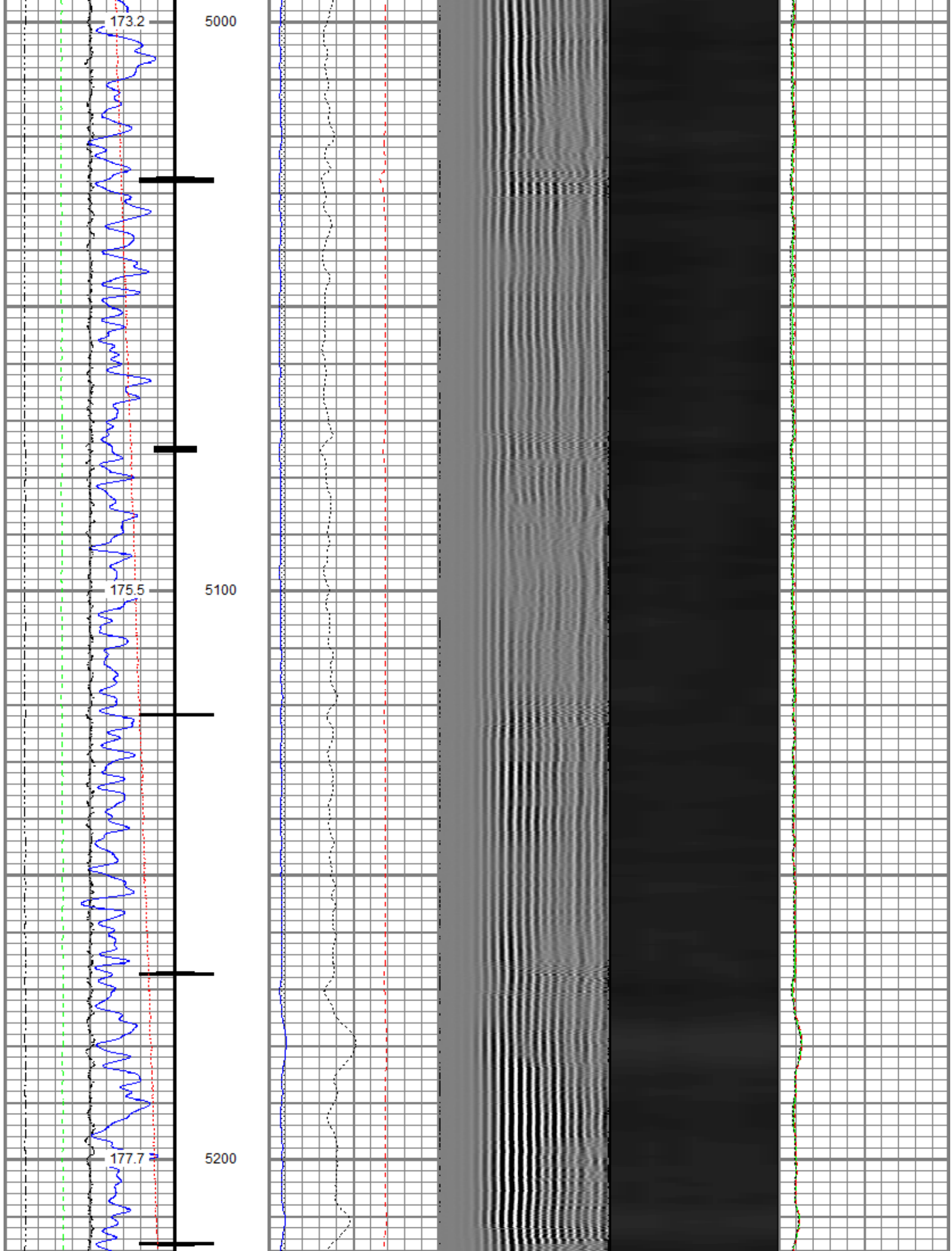


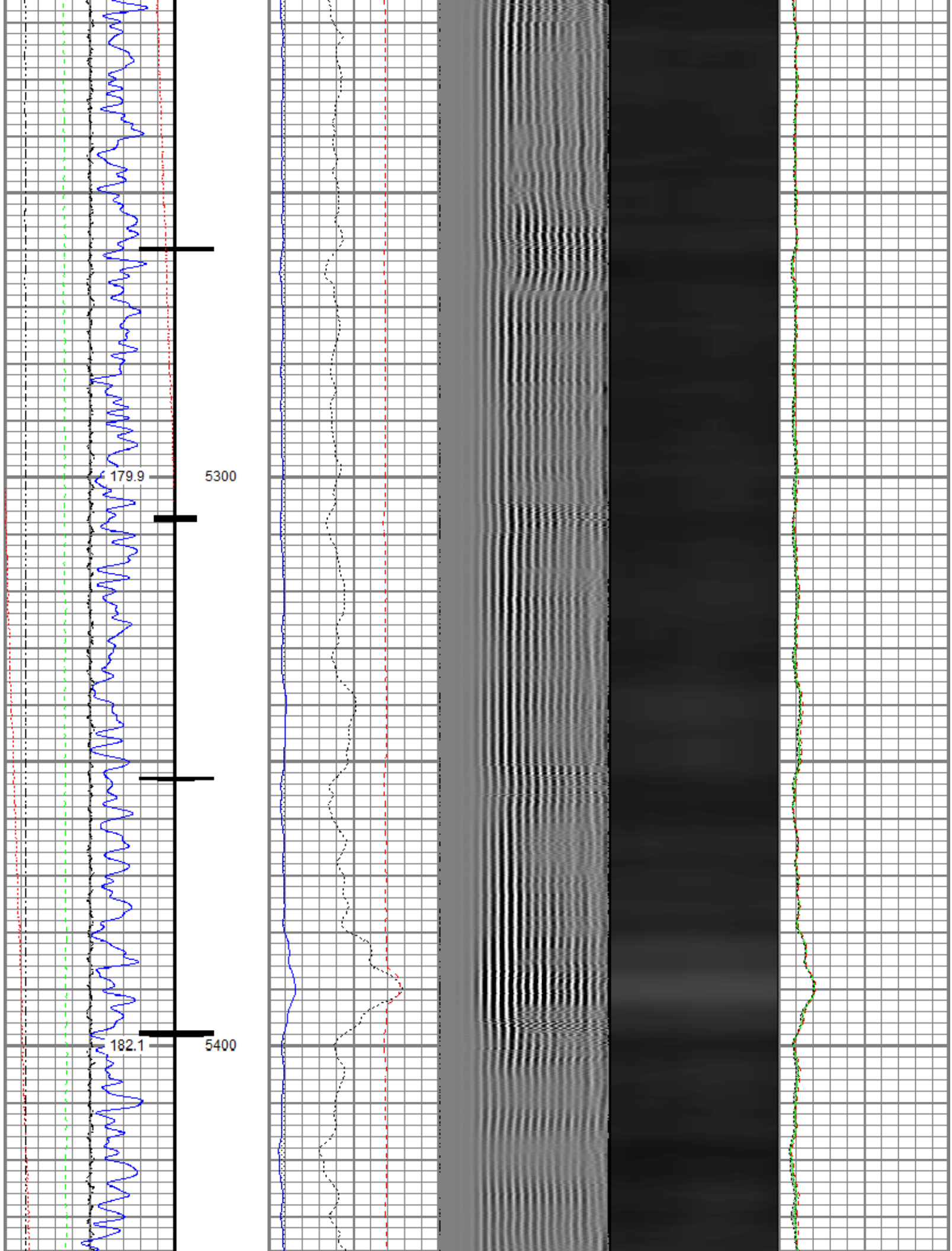


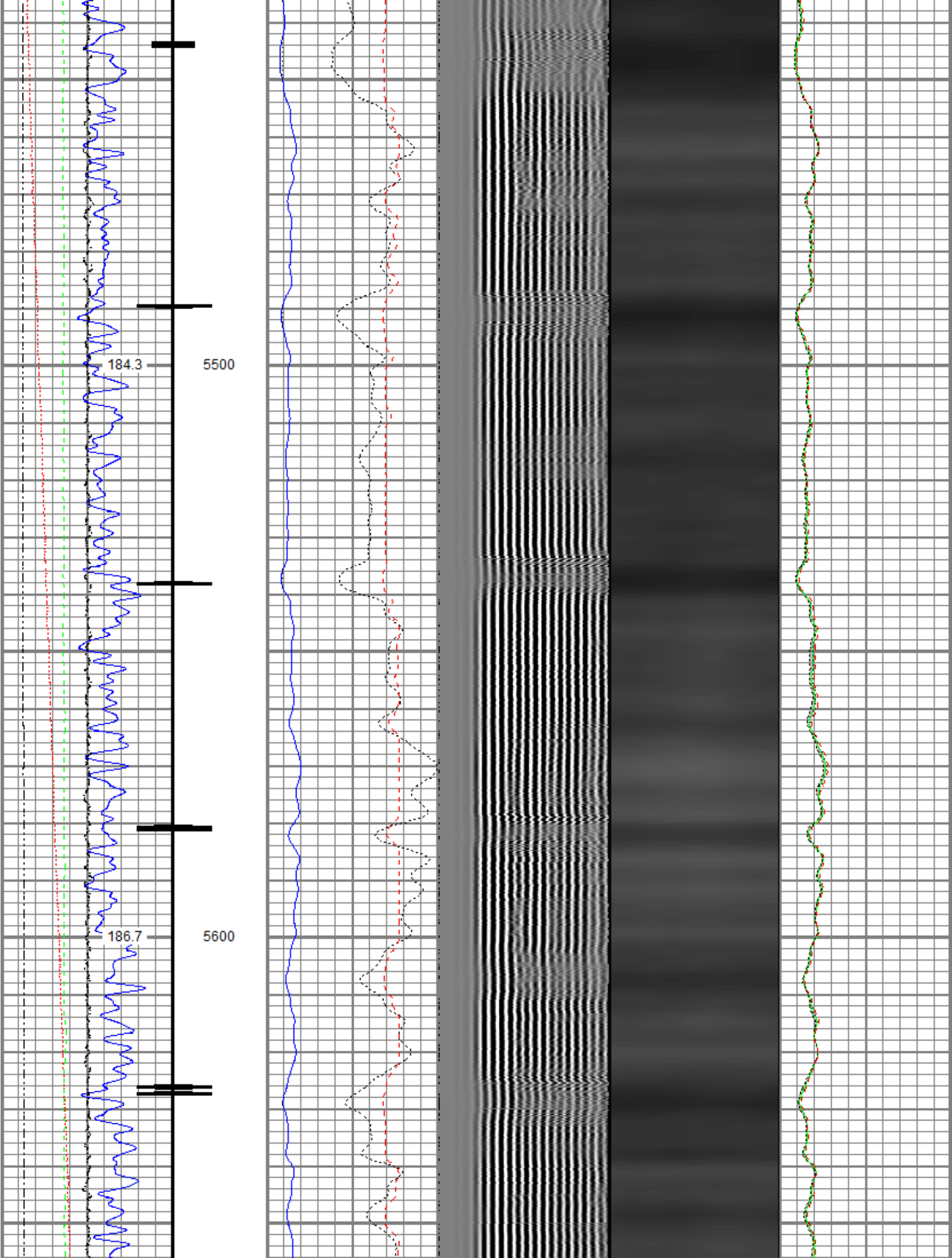


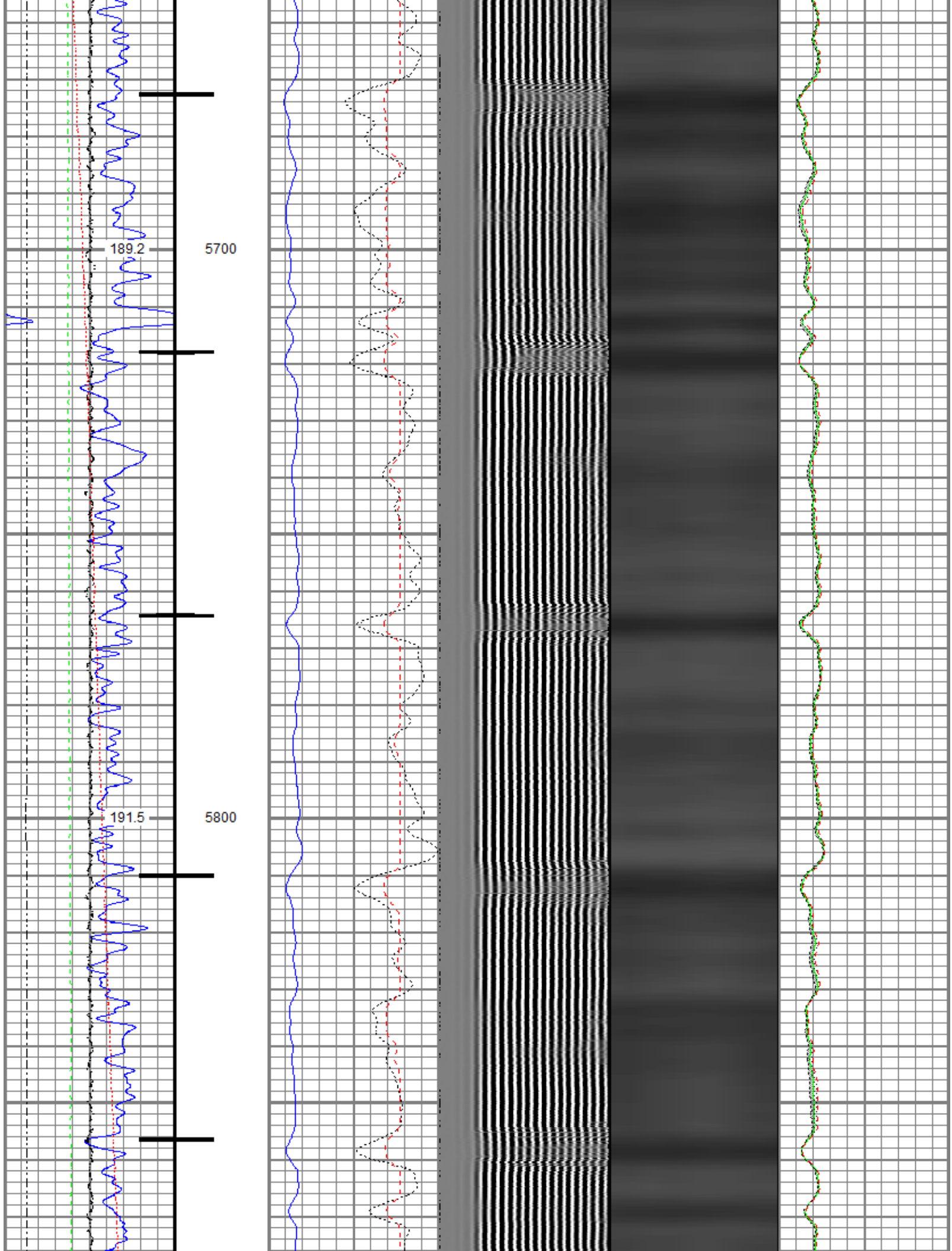


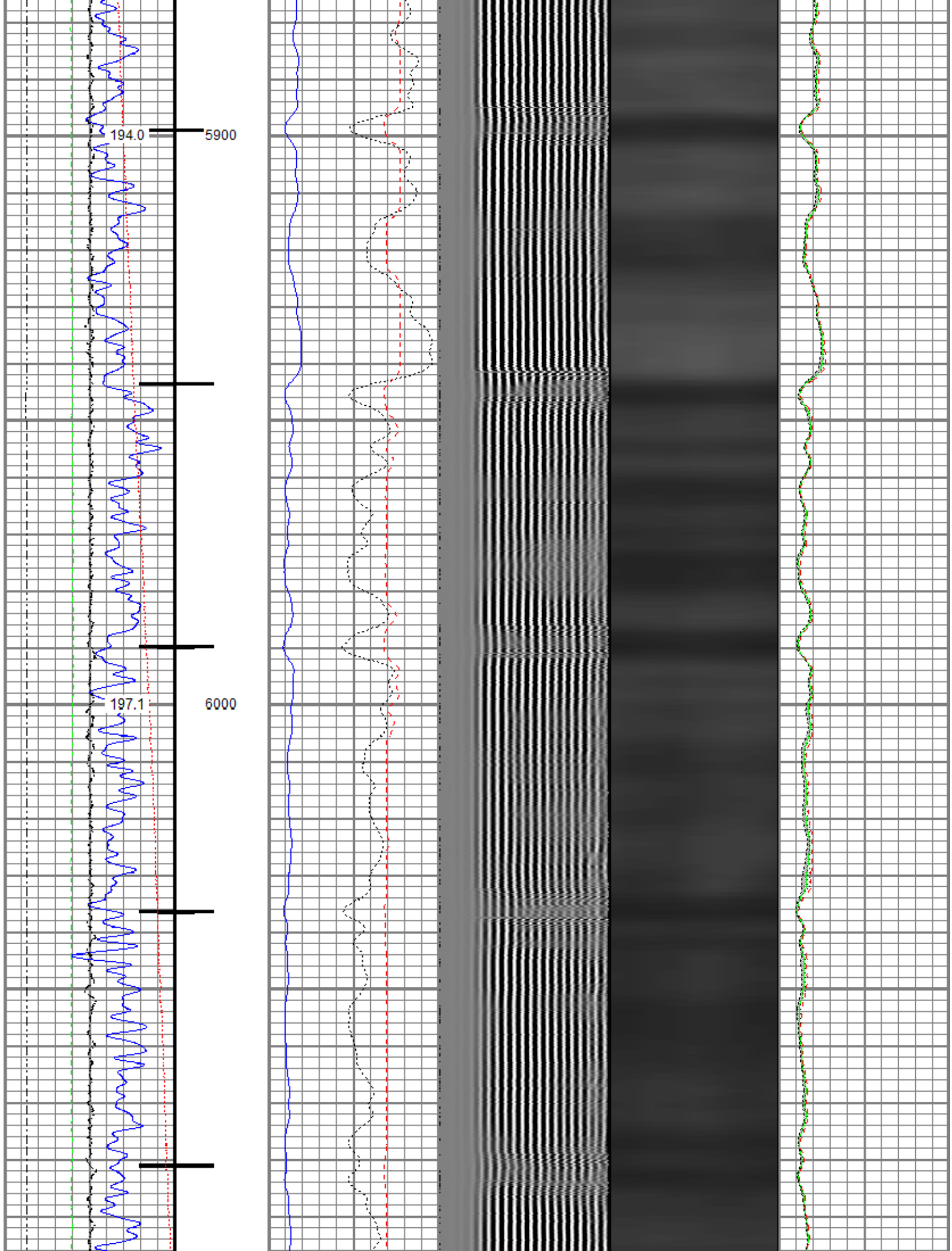


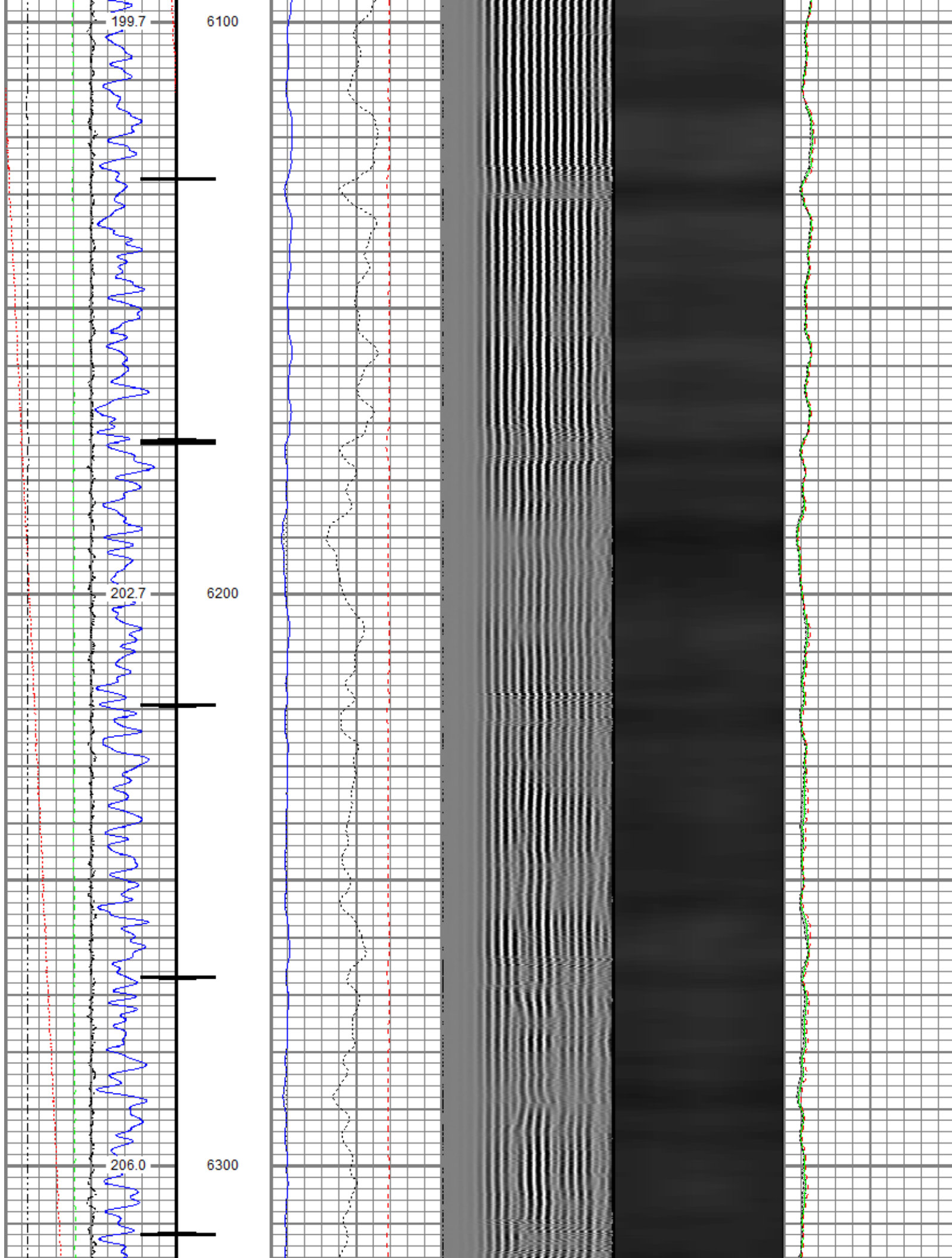


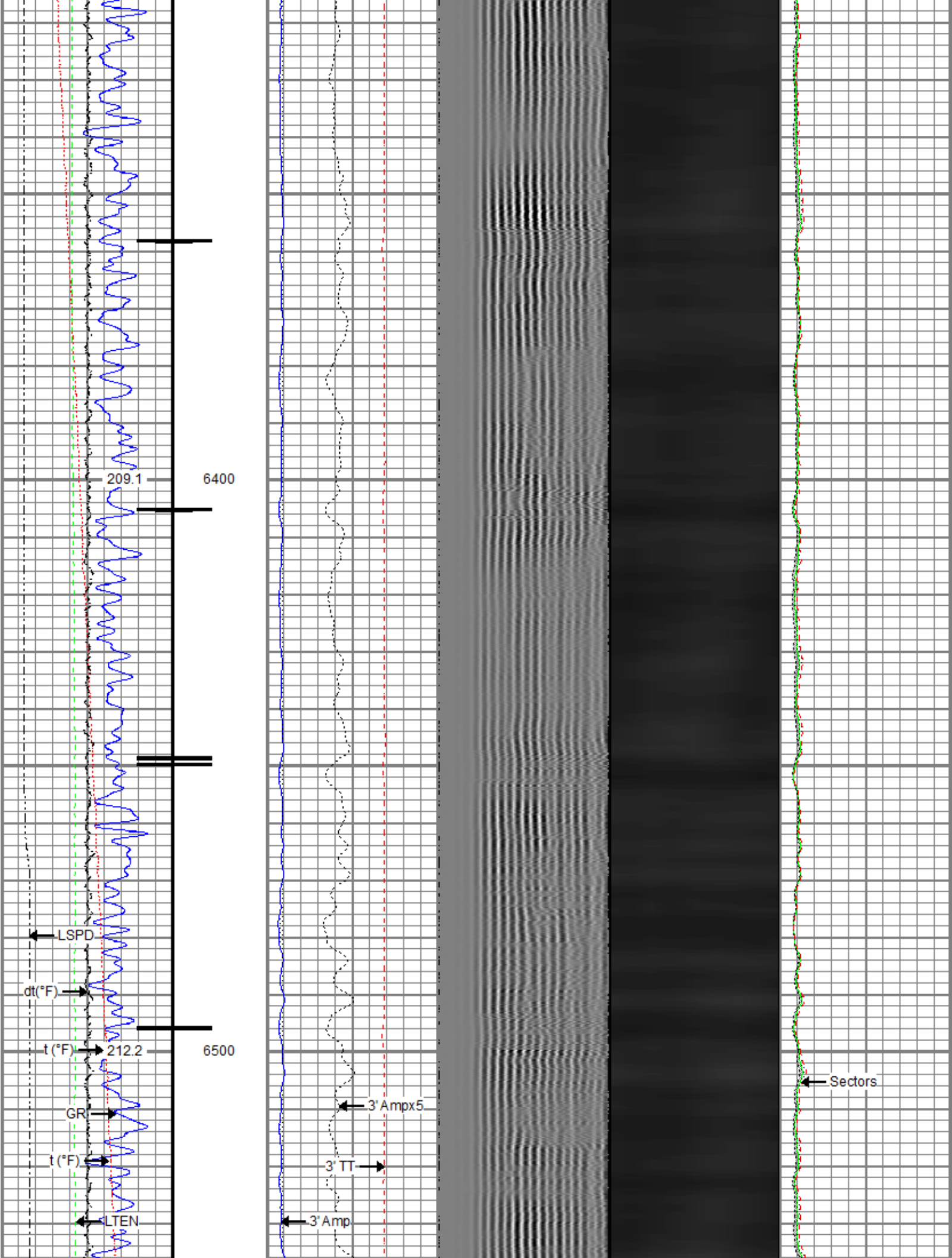


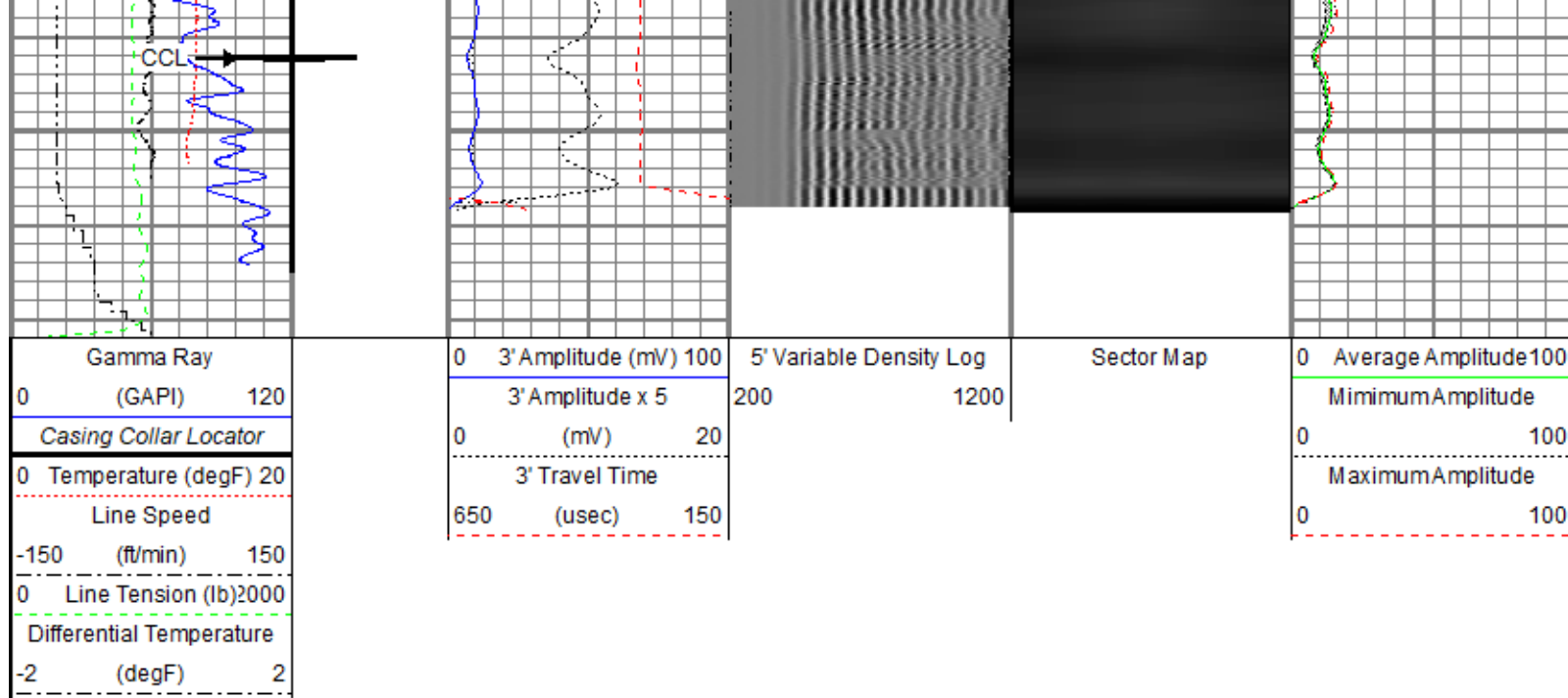








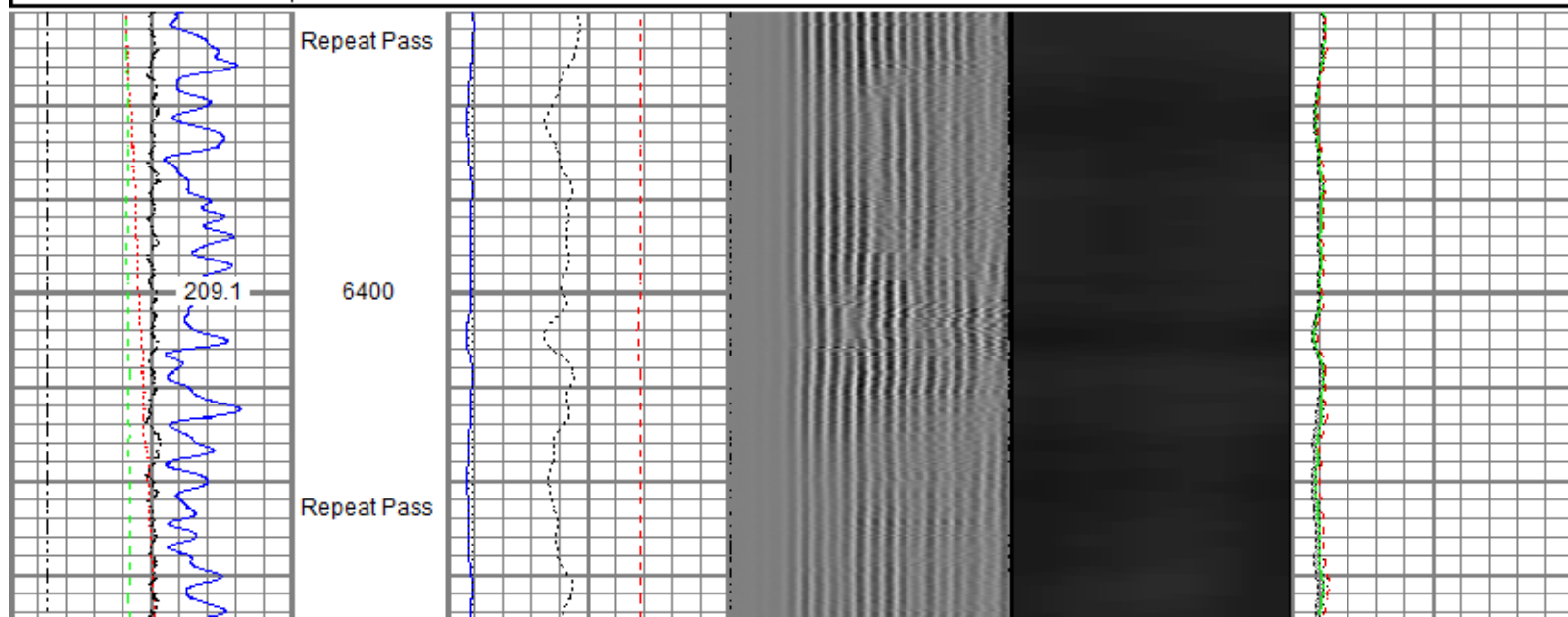
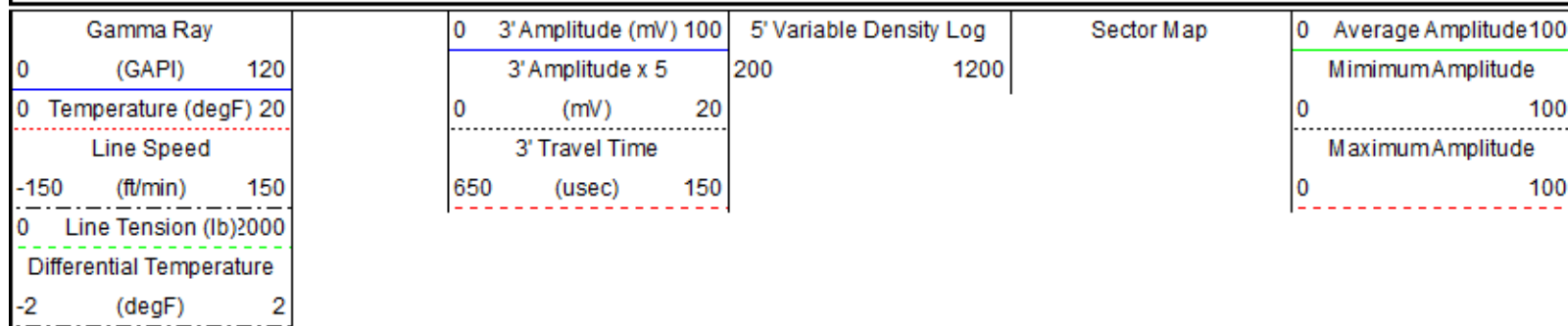


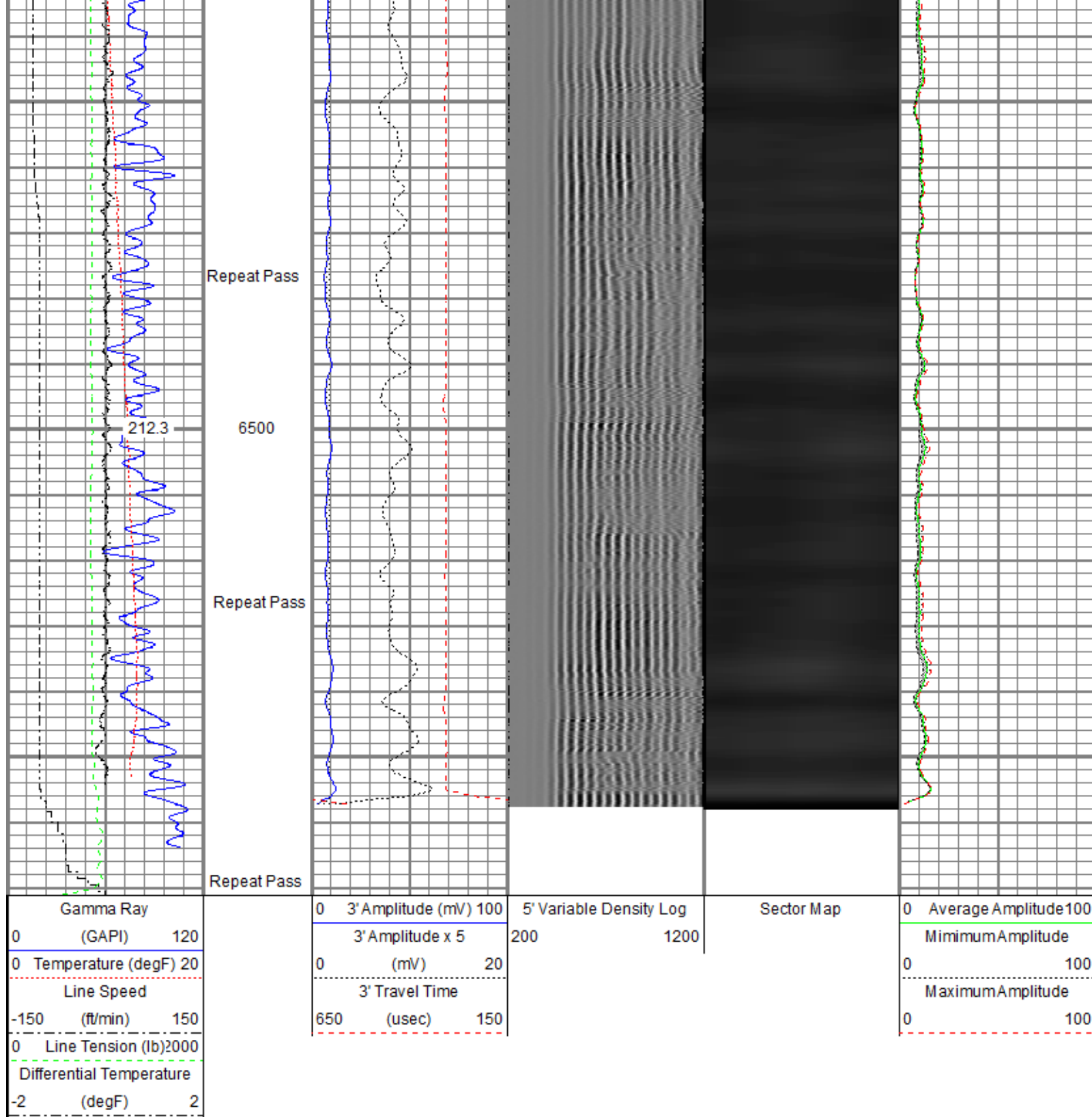


## Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko\0512346260\_anadarko\_quarter circle 24-8hz\_rbl\_07-14-18\0512346260\_anadarko\_quarter circle 24-8hz\_rbl\_07-14-18  
 Dataset Pathname: pass2  
 Presentation Format: ros\_radial  
 Dataset Creation: Sat Jul 14 14:58:07 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	1.03	1.44	3.60
			Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
			Probe CENT-2750	2.88	2.75	20.00
			Probe 2-3/4" Electric Inline Bowspring Centralizer			

TEMP	17.04	
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Calibration Report	
Database File	C:\ProgramData\Warrior\Data\Anadarko\0512346260_Anadarko_Quarter Circle 24-8HZ_RBL_07-14-18\0512346260_Anadarko
Dataset Pathname	pass2.3
Dataset Creation	Sat Jul 14 16:00:03 2018

Gamma Ray Calibration Report	
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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:	FW1308-091
Tool Model:	2750 RBT
Calibration Casing Diameter:	5.500 in
Calibration Depth:	33.896 ft

Master Calibration, performed Sat Jul 14 06:55:18 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	0.676	0.800	71.921	105.914	0.360
CAL	0.004	0.727				
5'	0.004	0.609	0.800	71.921	117.649	0.299
SUM						
S1	0.004	0.673	0.000	100.000	149.364	-0.562
S2	0.004	0.681	0.000	100.000	147.721	-0.613
S3	0.004	0.685	0.000	100.000	146.892	-0.572
S4	0.004	0.680	0.000	100.000	147.929	-0.655
S5	0.004	0.682	0.000	100.000	147.444	-0.621
S6	0.005	0.687	0.000	100.000	146.579	-0.669
S7	0.004	0.682	0.000	100.000	147.532	-0.616
S8	0.004	0.683	0.000	100.000	147.253	-0.602

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.727	1.000	0.000

Air Zero Calibration, performed Sat Jul 14 06:55:43 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	0.005	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	Quarter Circle 24-8HZ
Field	Wattenberg
County	Weld
State	Colorado