



Radial Cement Bond
Gamma Ray
Casing Collar Log

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

Well Verde 13-16HZ

Field Wattenberg

County Weld State Colorado

Location: API #: 05-123-46257

Other Services
Gauge Ring
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'

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Verde 13-16HZ
Field Wattenberg
County Weld
State Colorado

Date	21-JUN-2018	Four		
Run Number		18867 FT		
Depth Driller		6872 FT		
Depth Logger		6857 FT		
Bottom Logged Interval		Surface		
Top Log Interval		---		
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		07:30		
Time Logger on Bottom		HD-0324		
Equipment Number		Platteville, 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 Marker Joint at 6835 FT
Adjusted 4.5 FT to correlate with Marker Joint
Gauge Ring/Junk Basket ran to 7906 FT with no debris
Set RBP at 6890 FT
Log ran from 6857 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

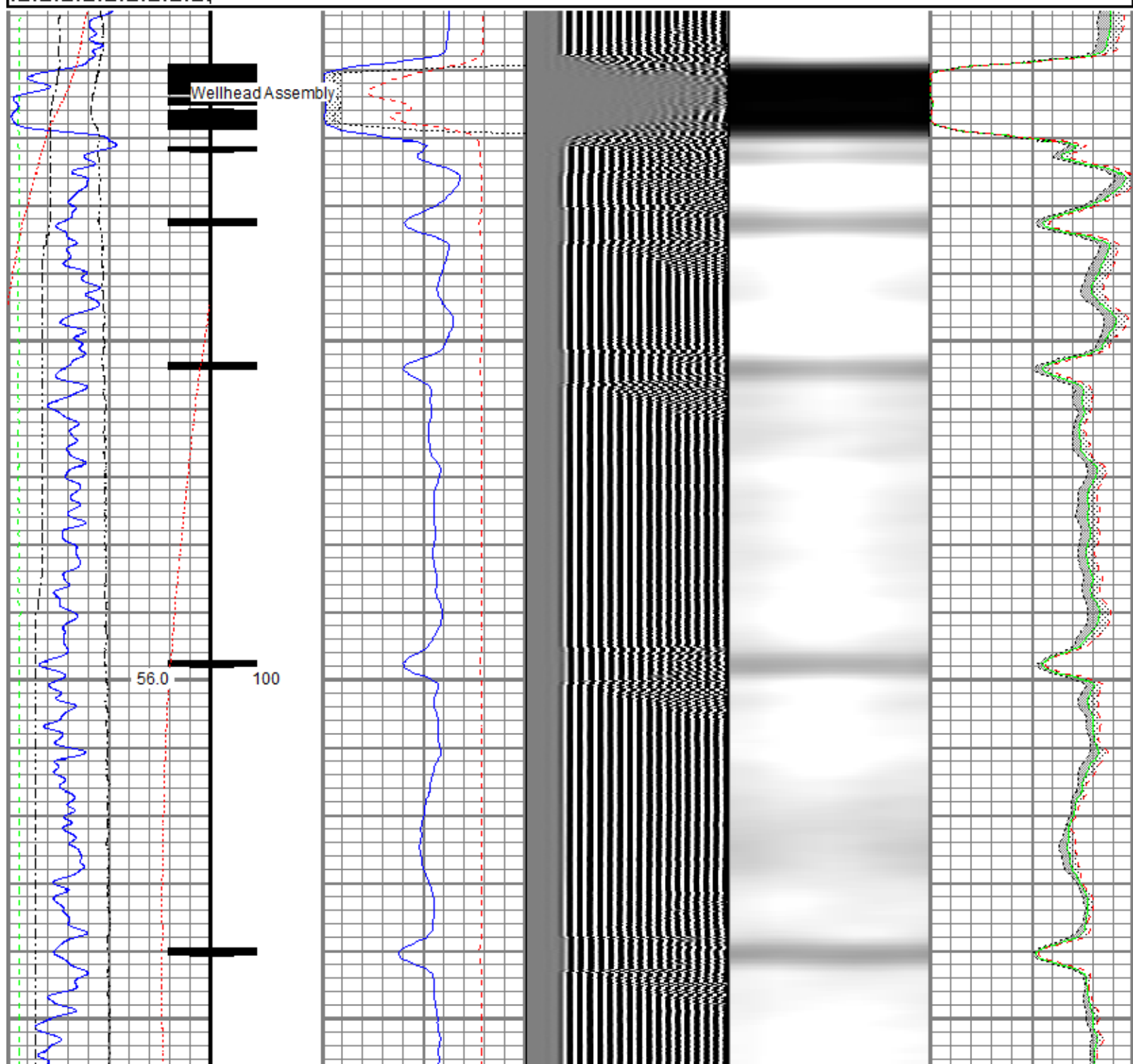


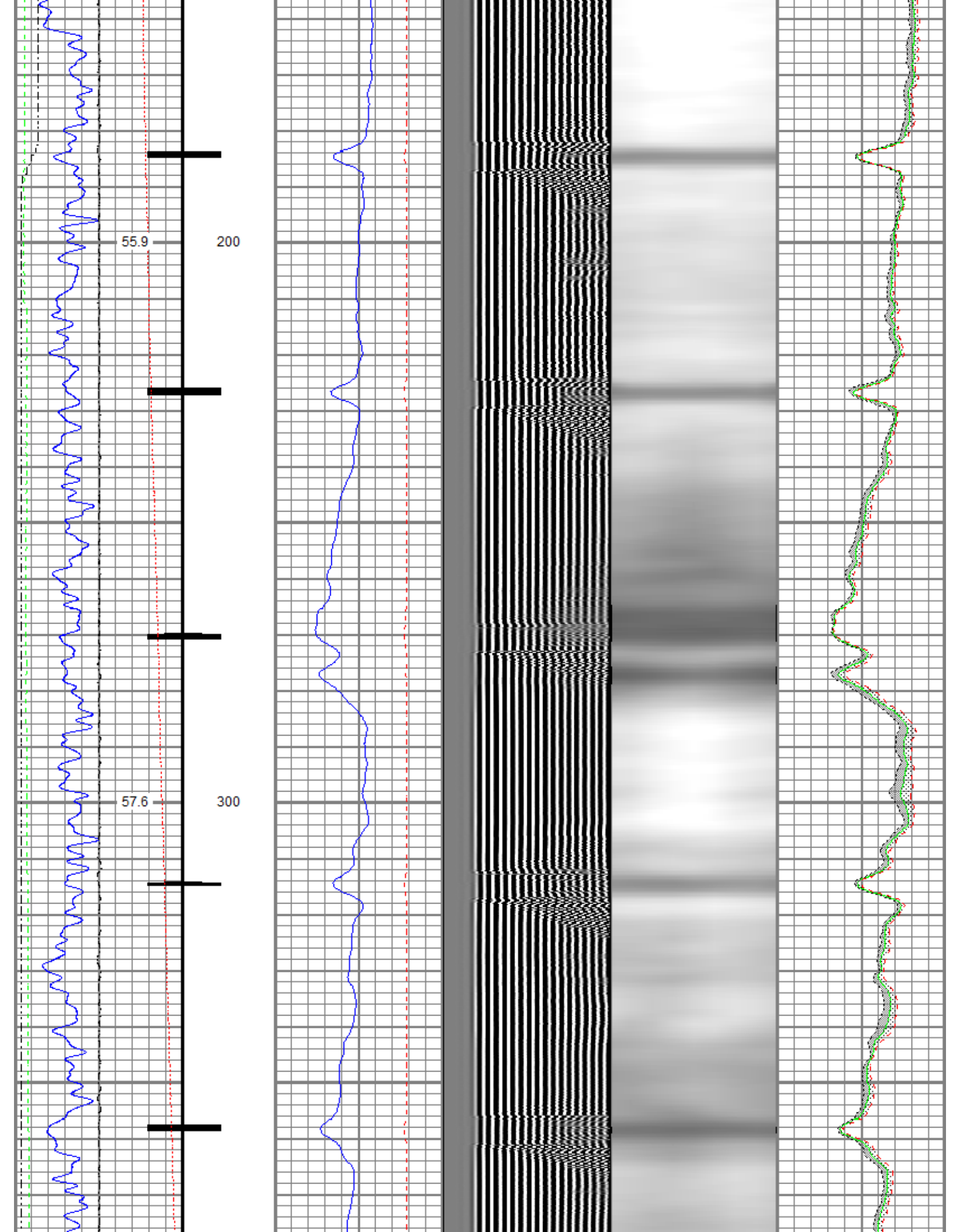
Recorded With 2800 PSI Surface Induced Pressure

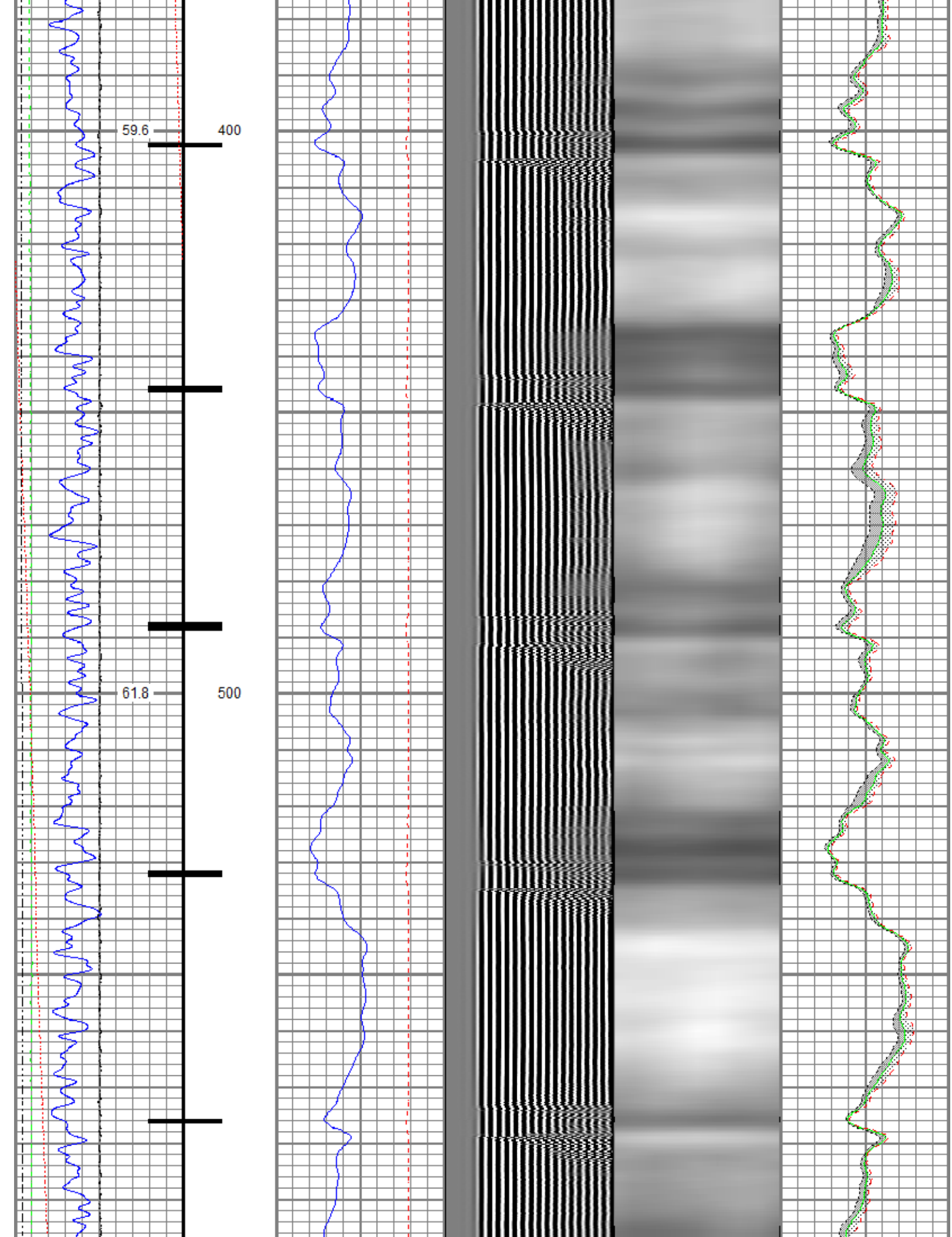
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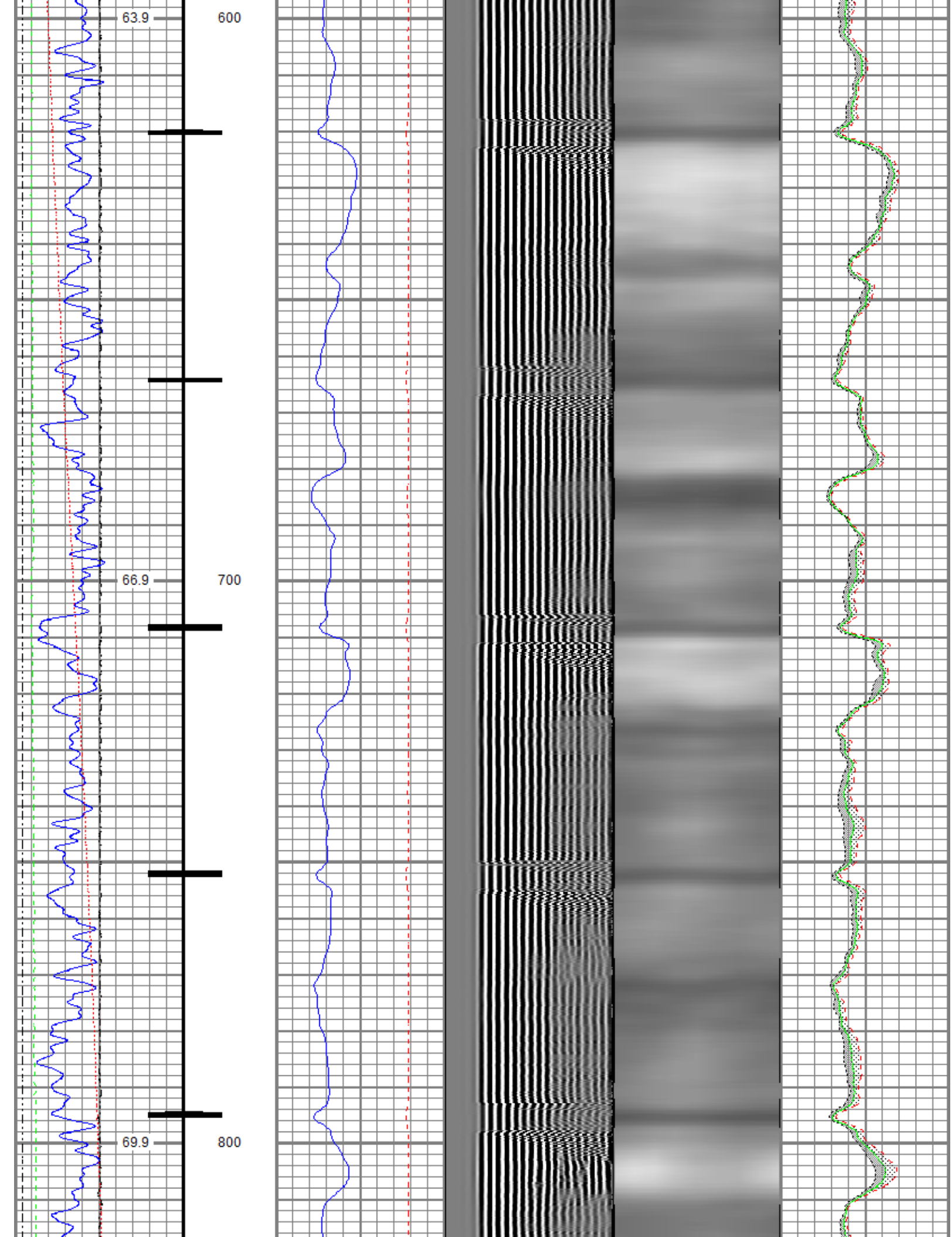
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 Dataset Pathname pass1.7
 Presentation Format ros_radrii
 Dataset Creation Thu Jun 21 08:26:05 2018
 Charted by Depth in Feet scaled 1:240

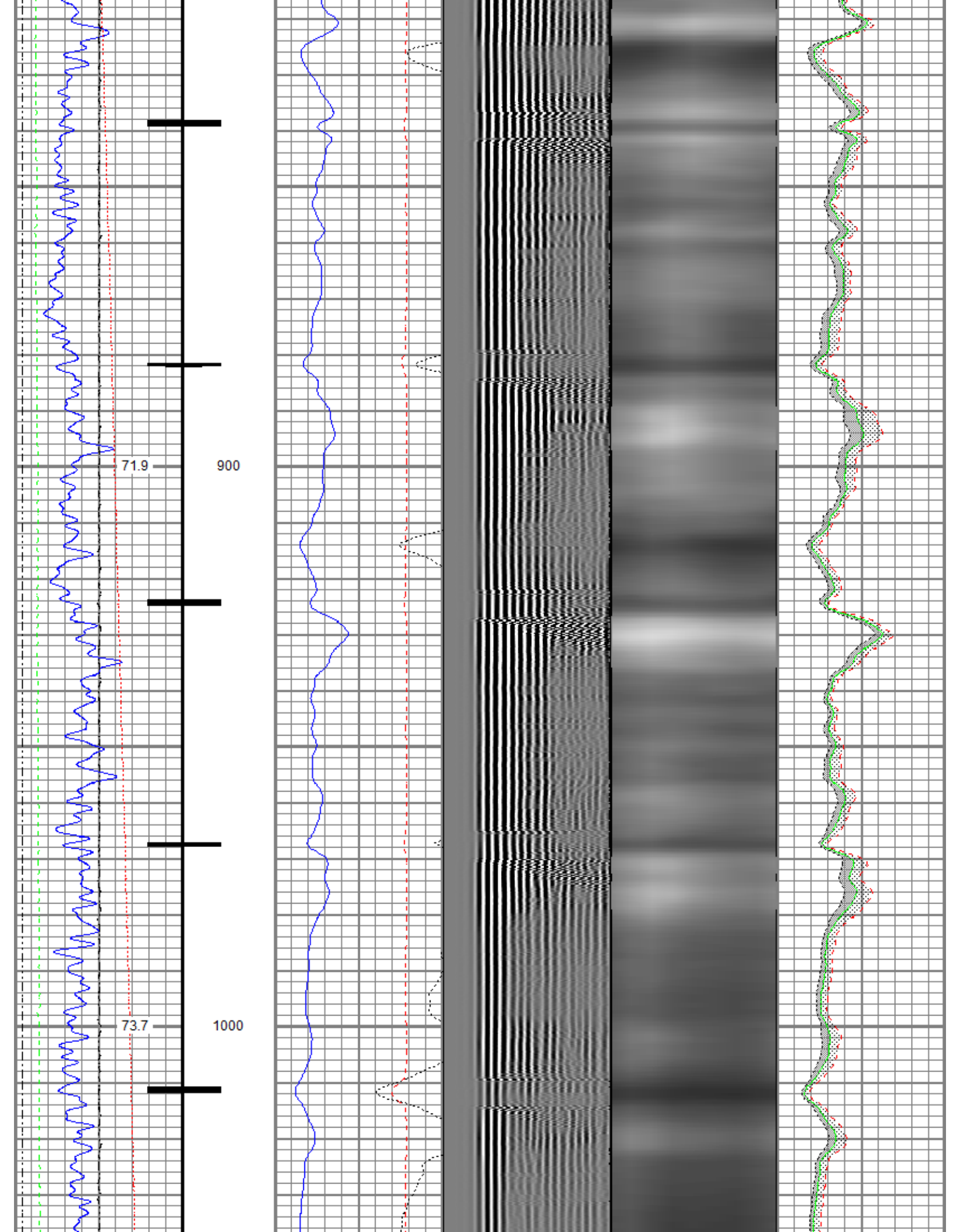
Gamma Ray	0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	0	Average Amplitude	100
(GAPI)	120	3' Amplitude x 5	200	(u sec)	1200		Minimum Amplitude	
Casing Collar Locator		0	(mV)	20		0	100	
0 Temperature (degF)	20	3' Travel Time					Maximum Amplitude	
Line Speed		650	(u sec)	150		0	100	
-150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

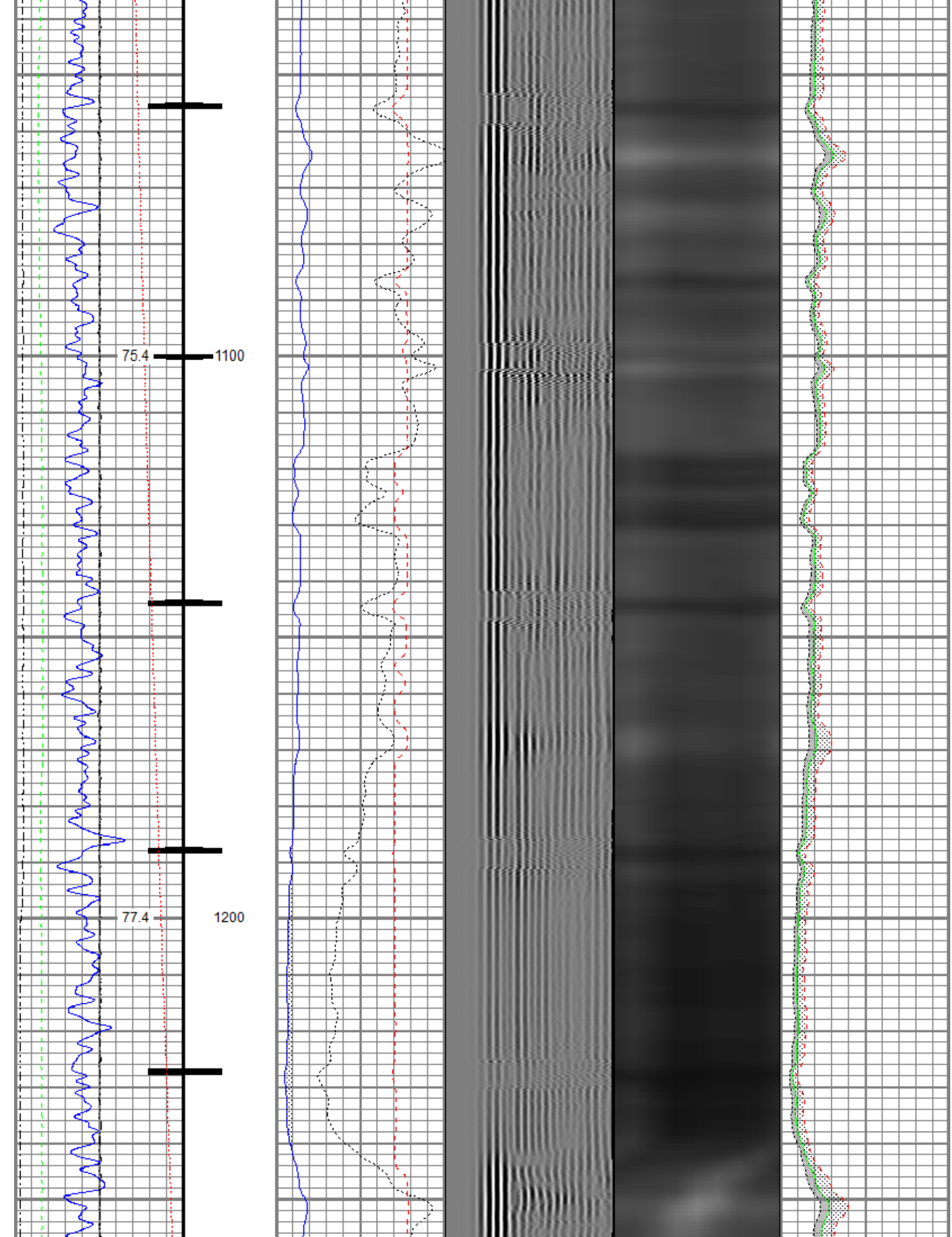


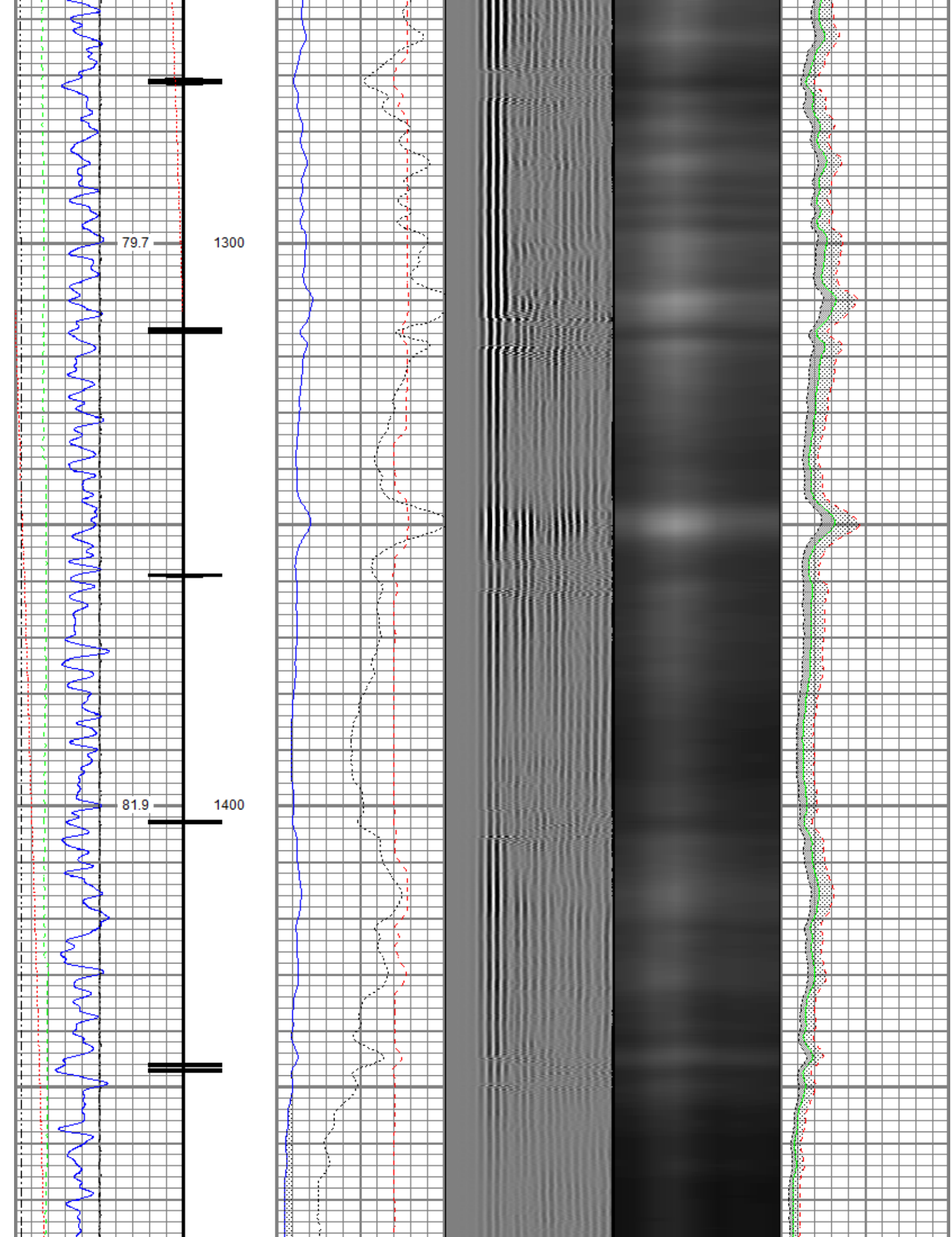


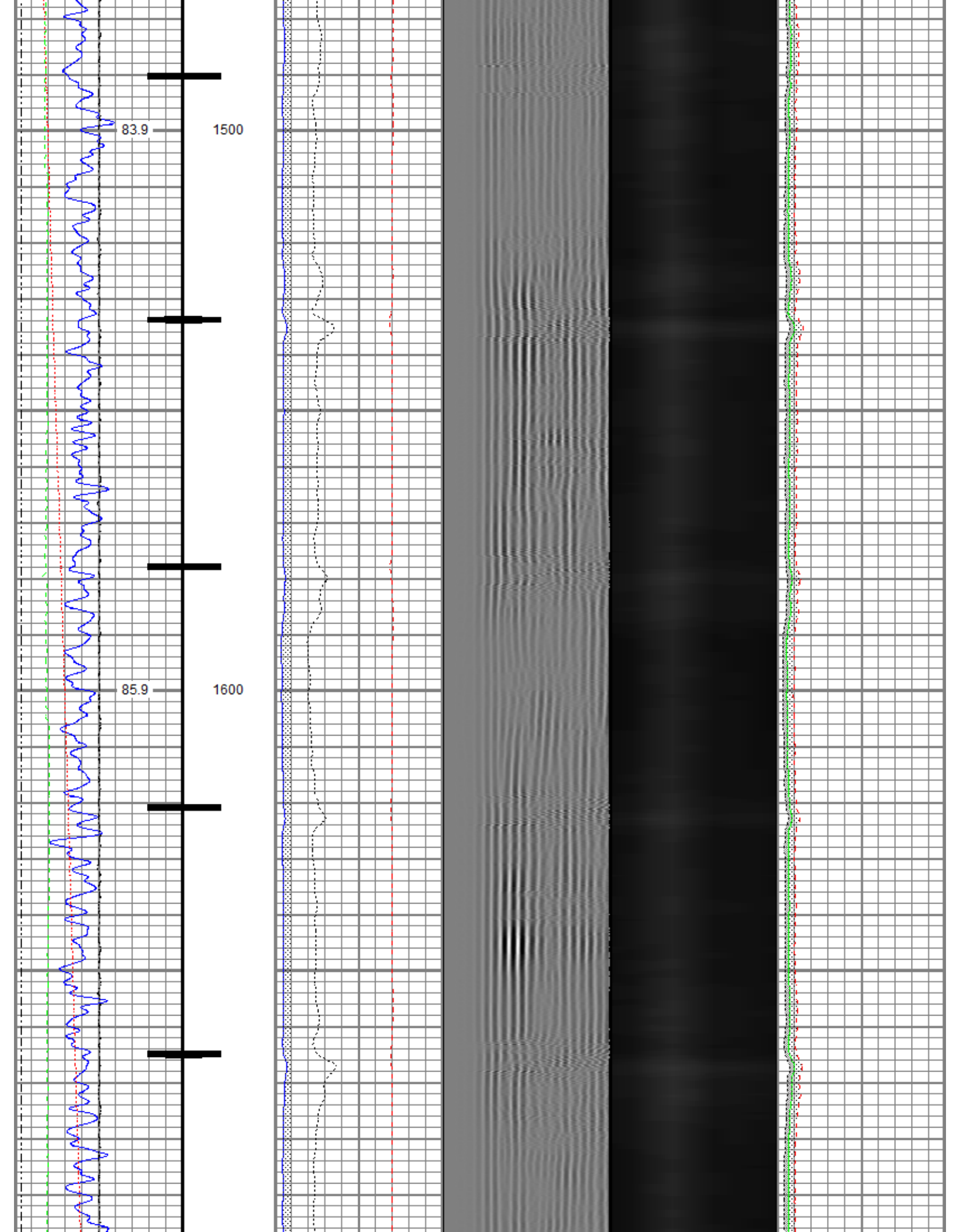


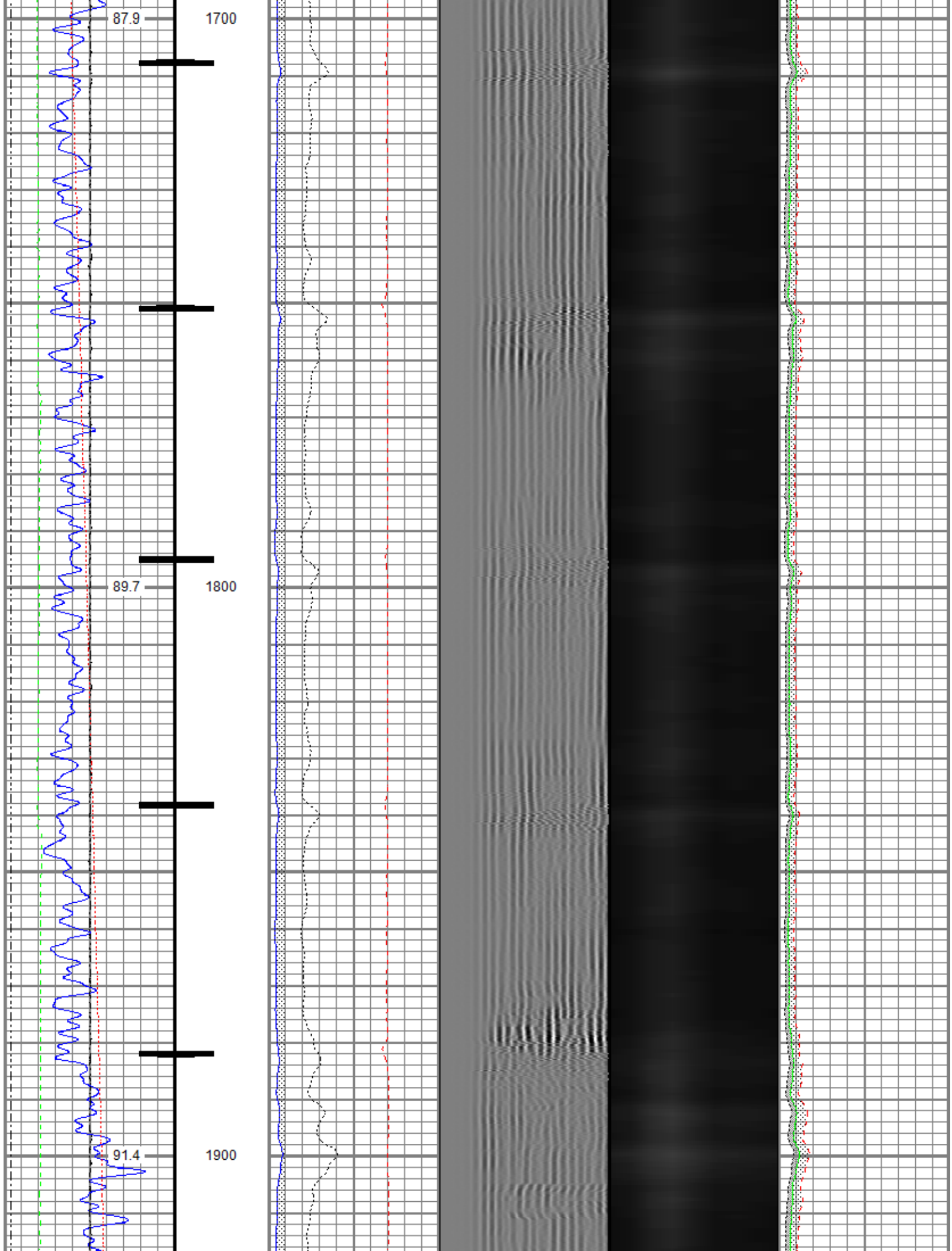


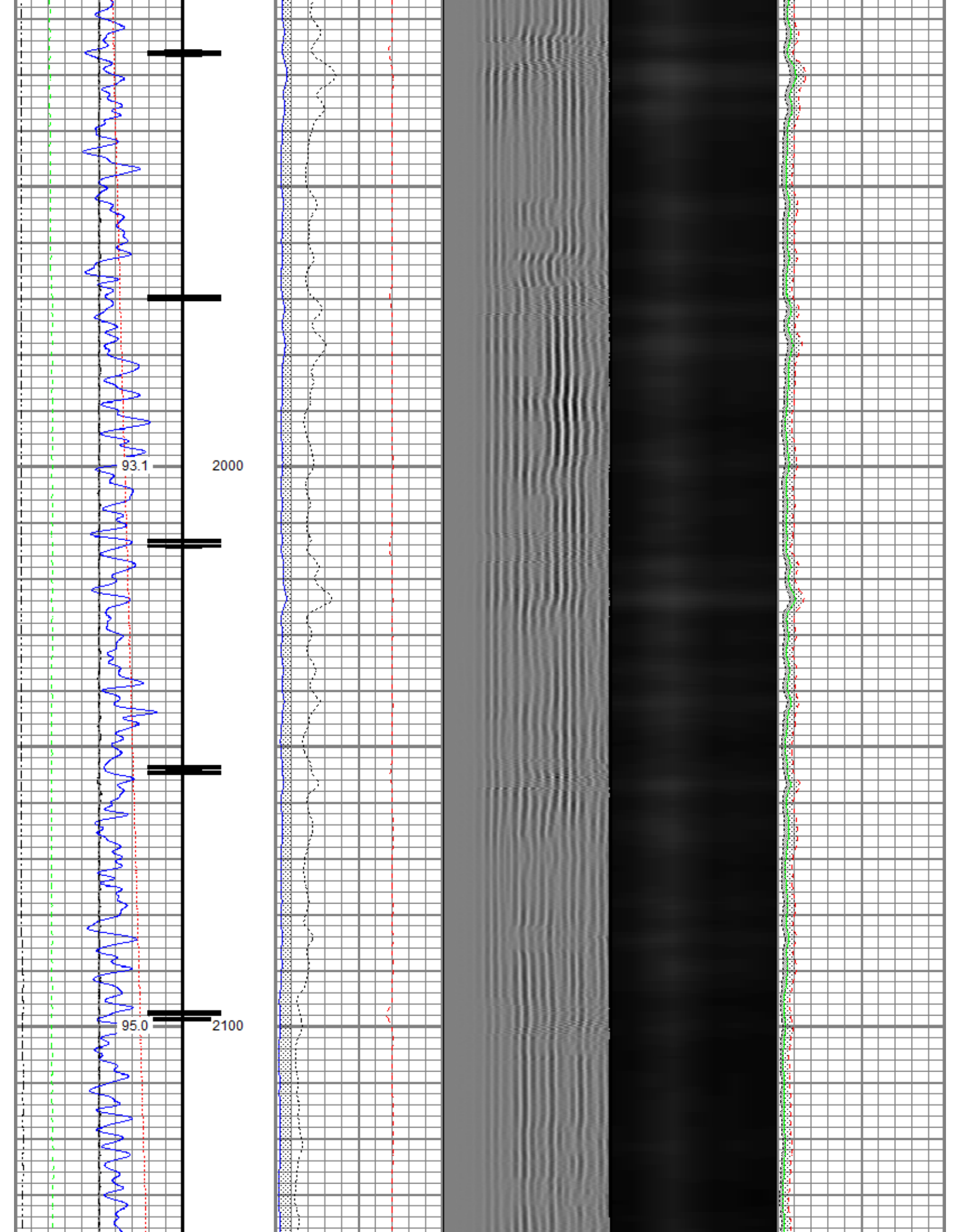


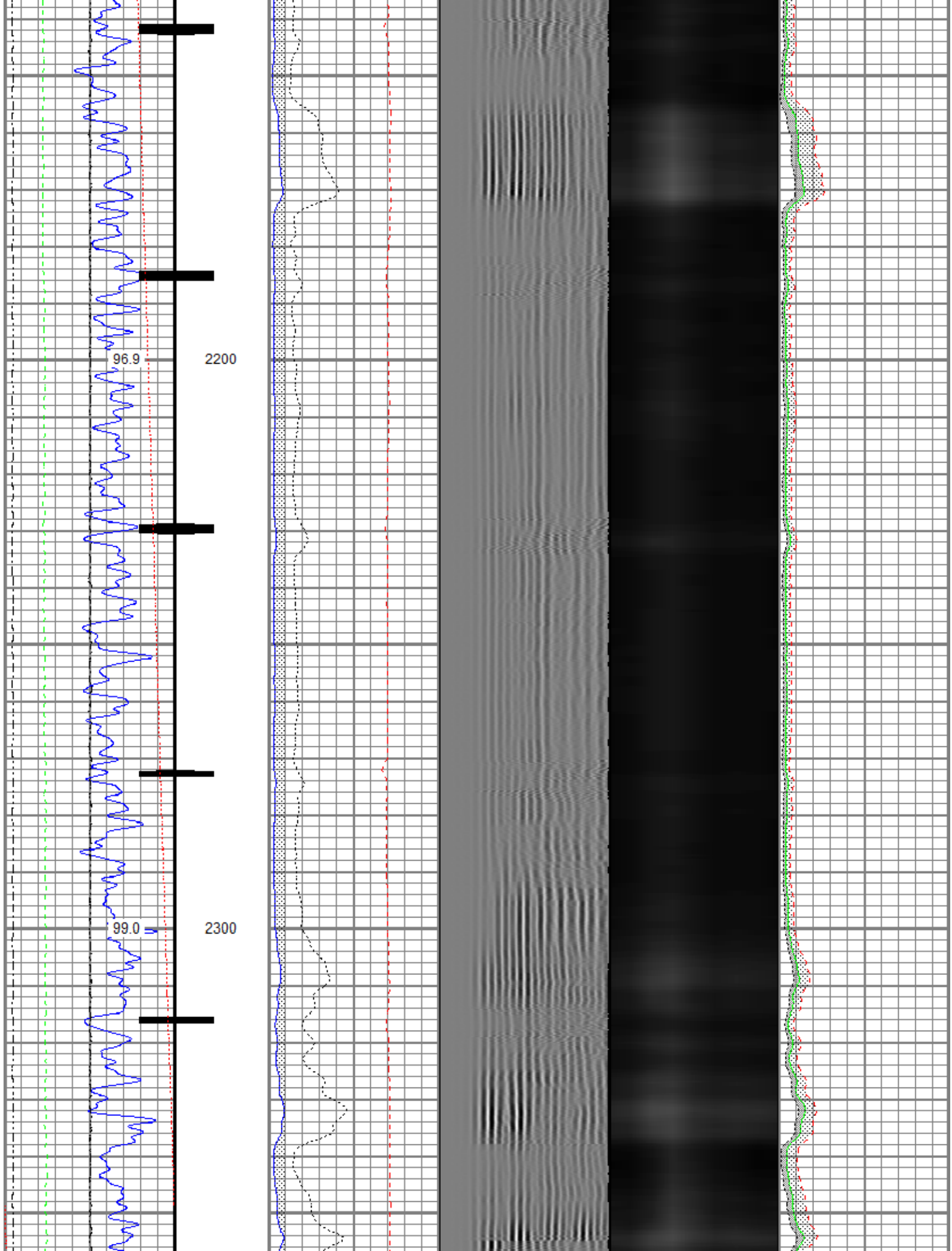


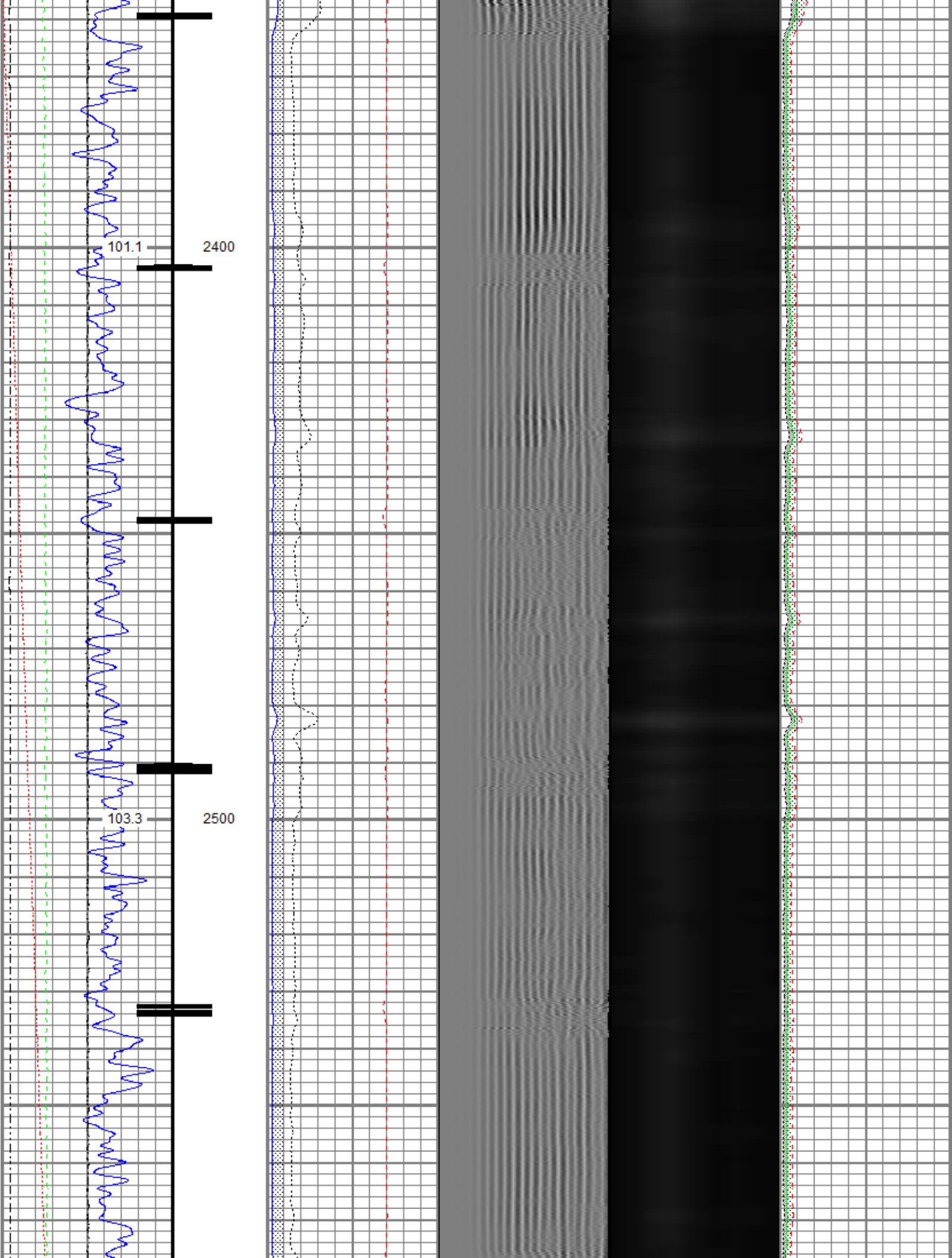


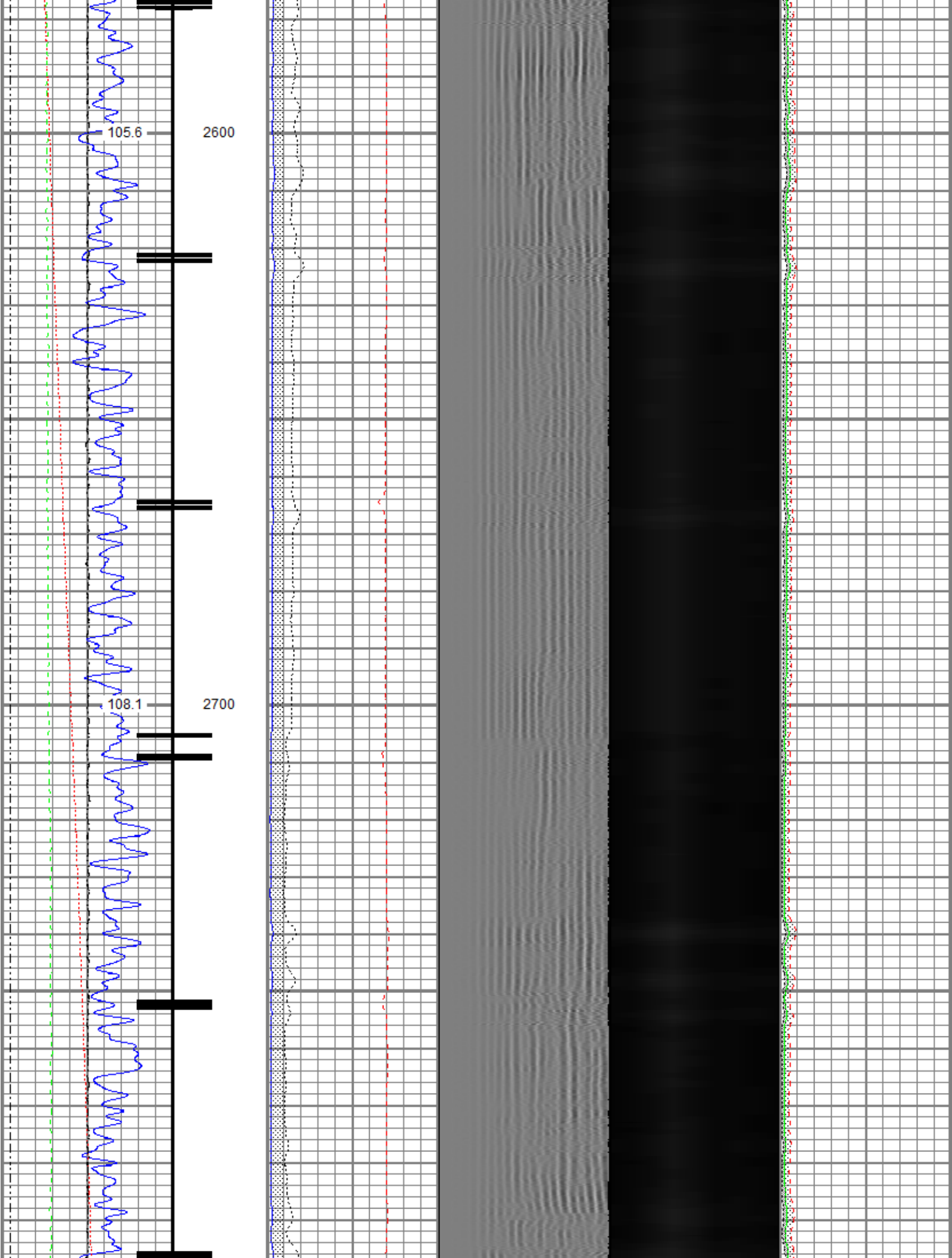


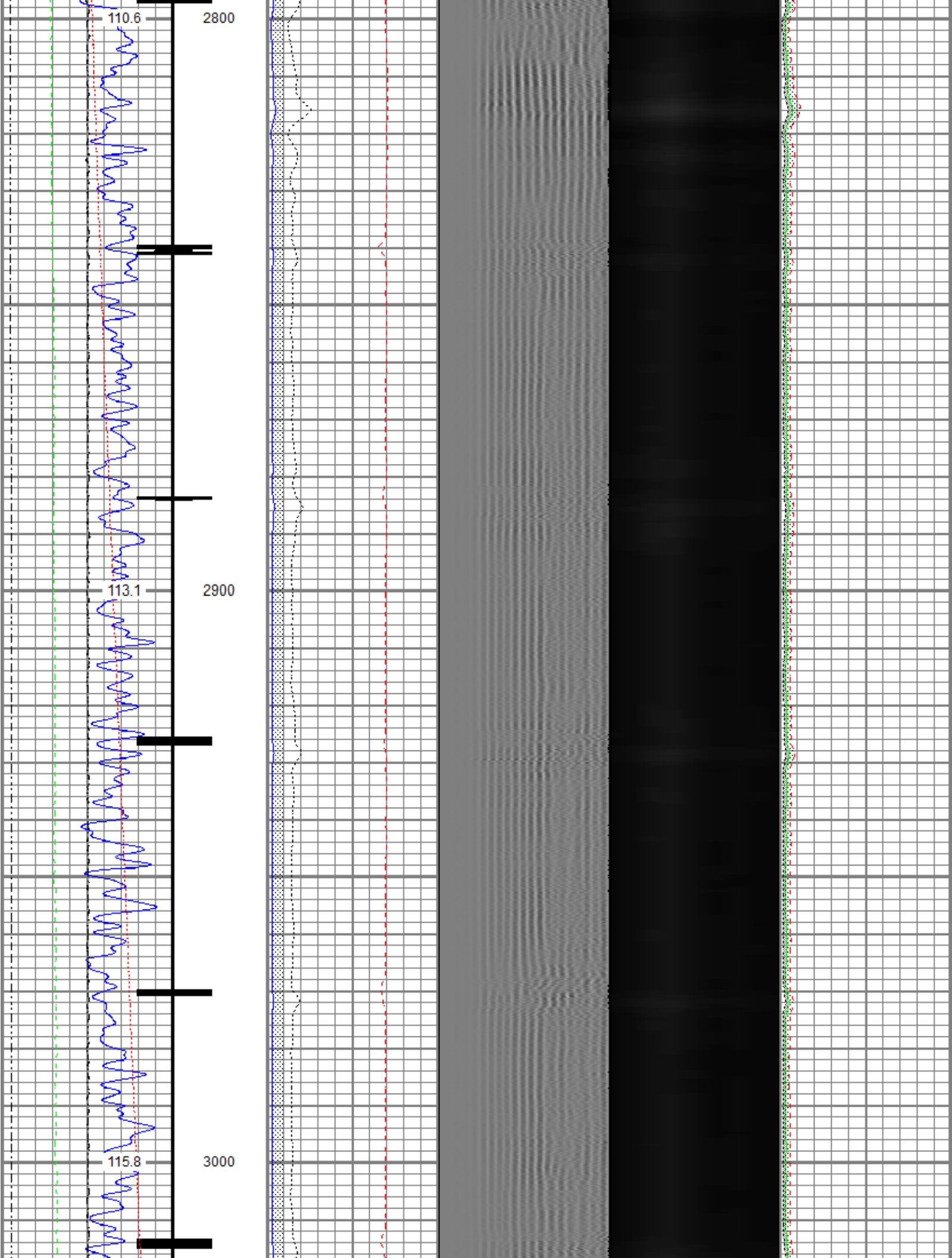


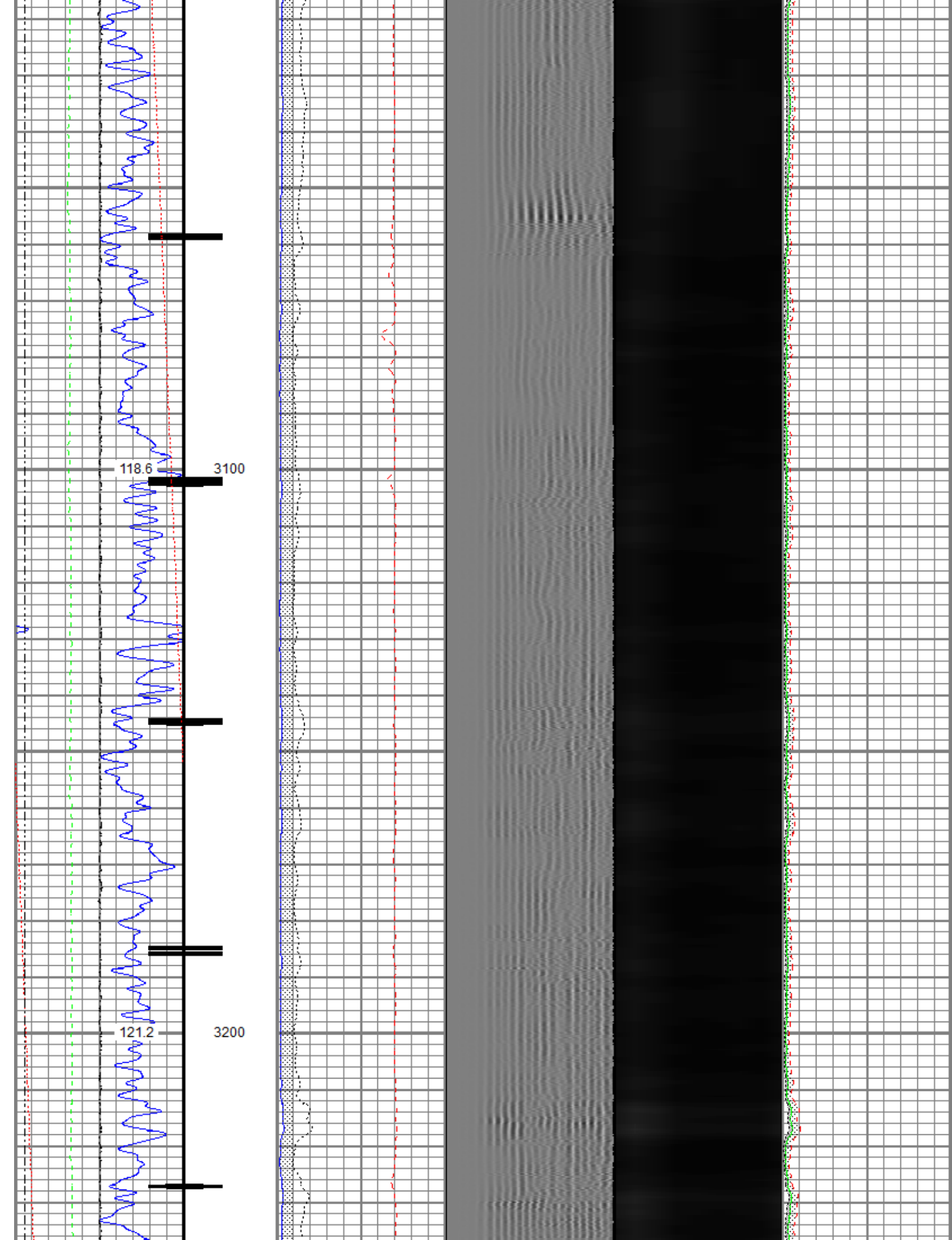


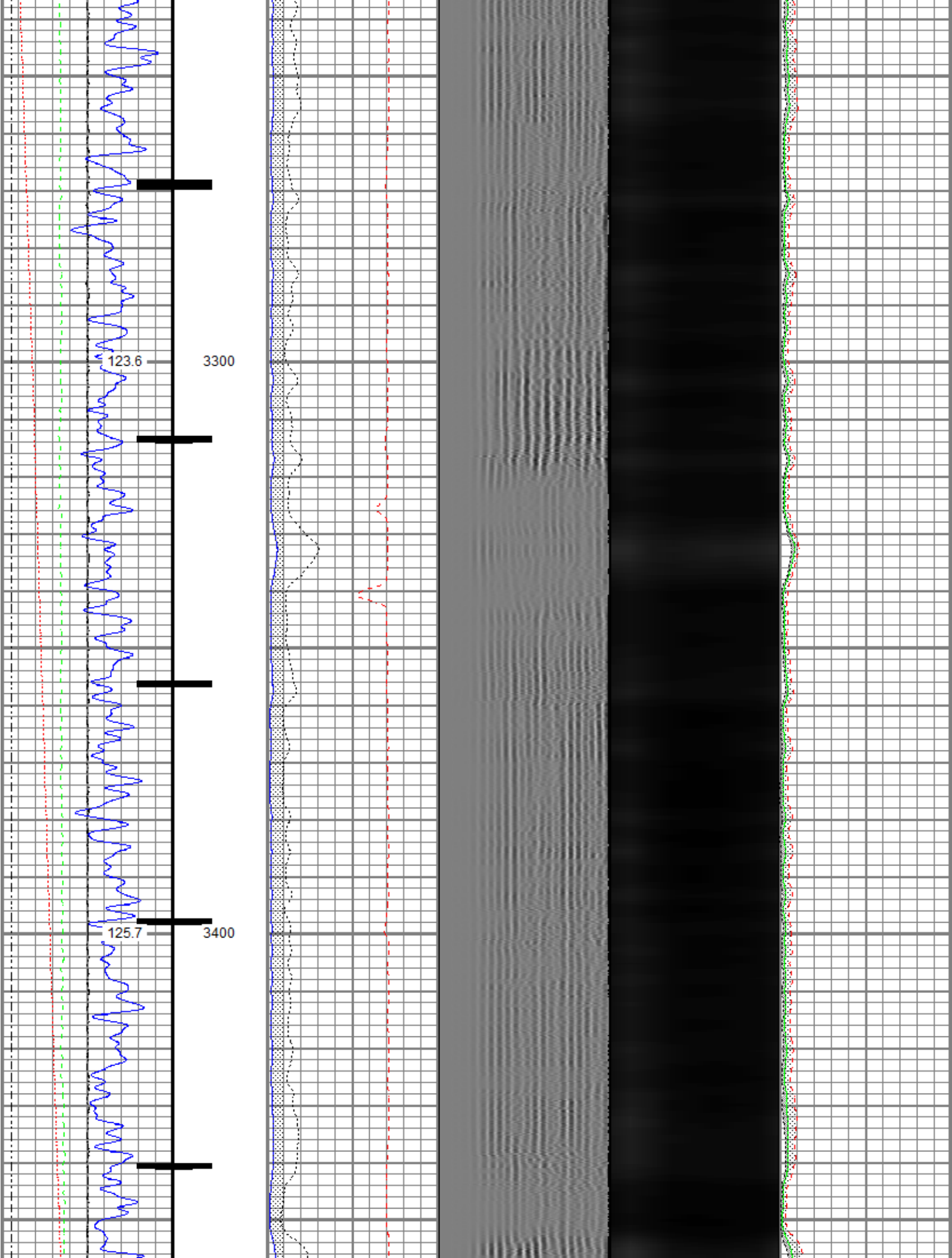


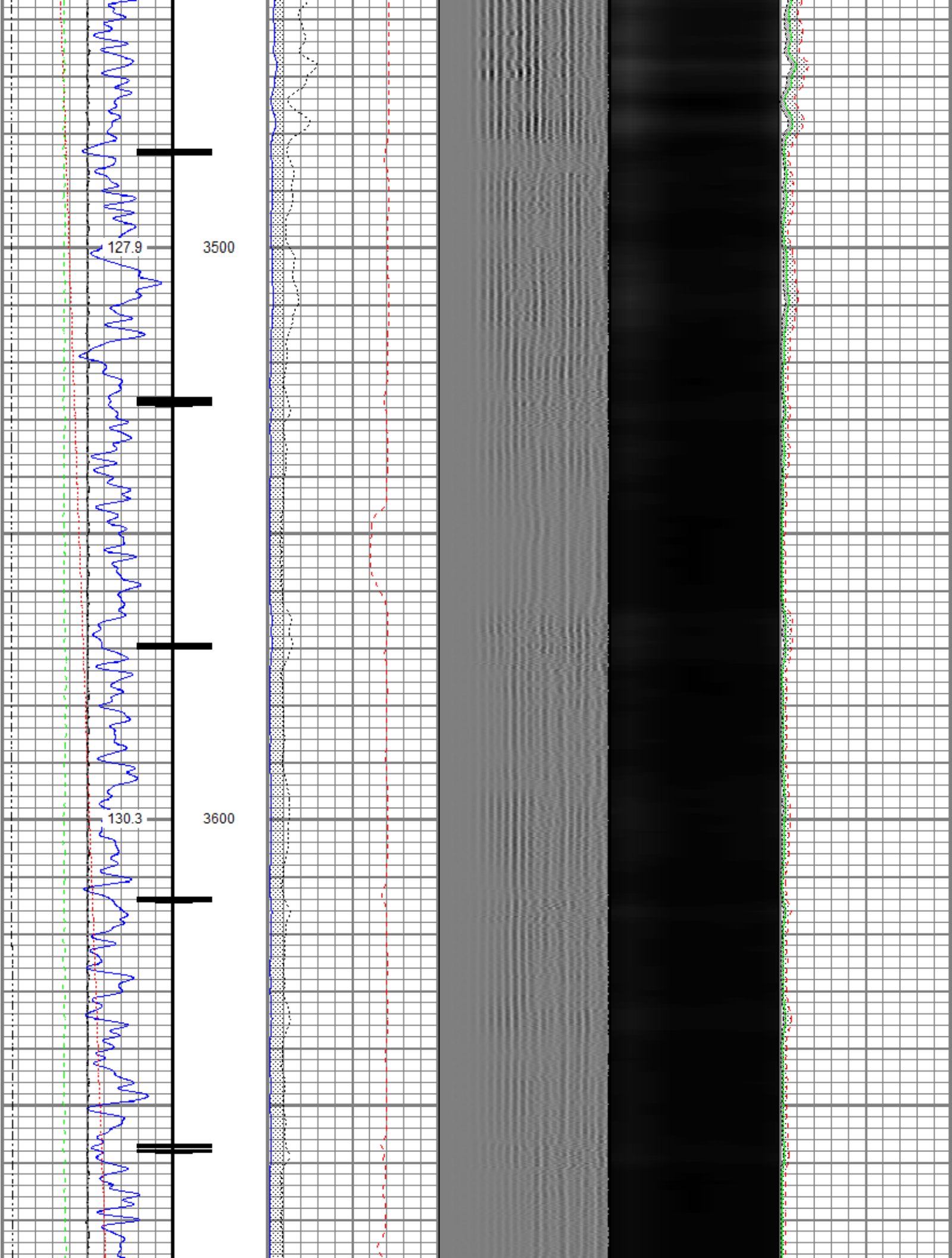






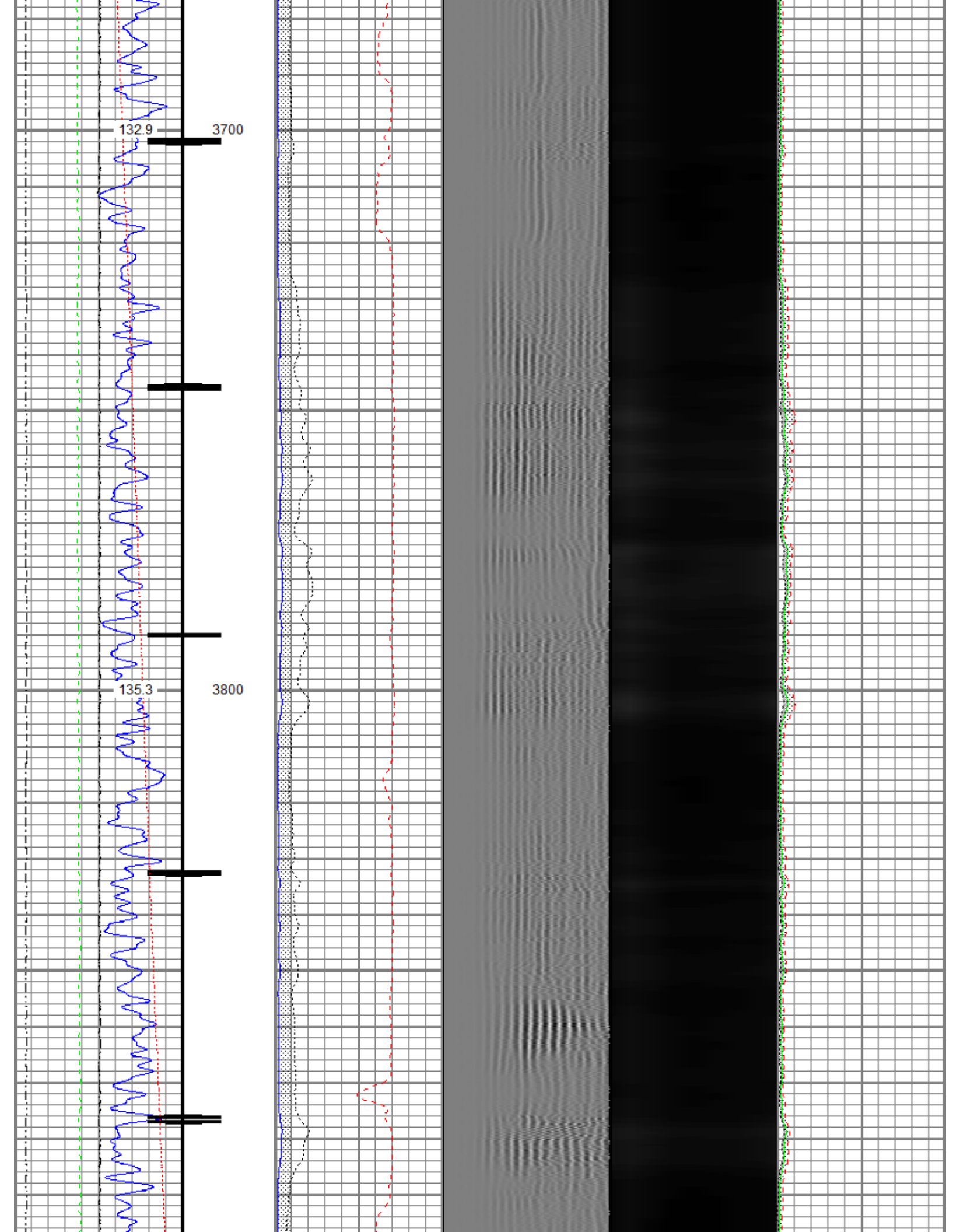


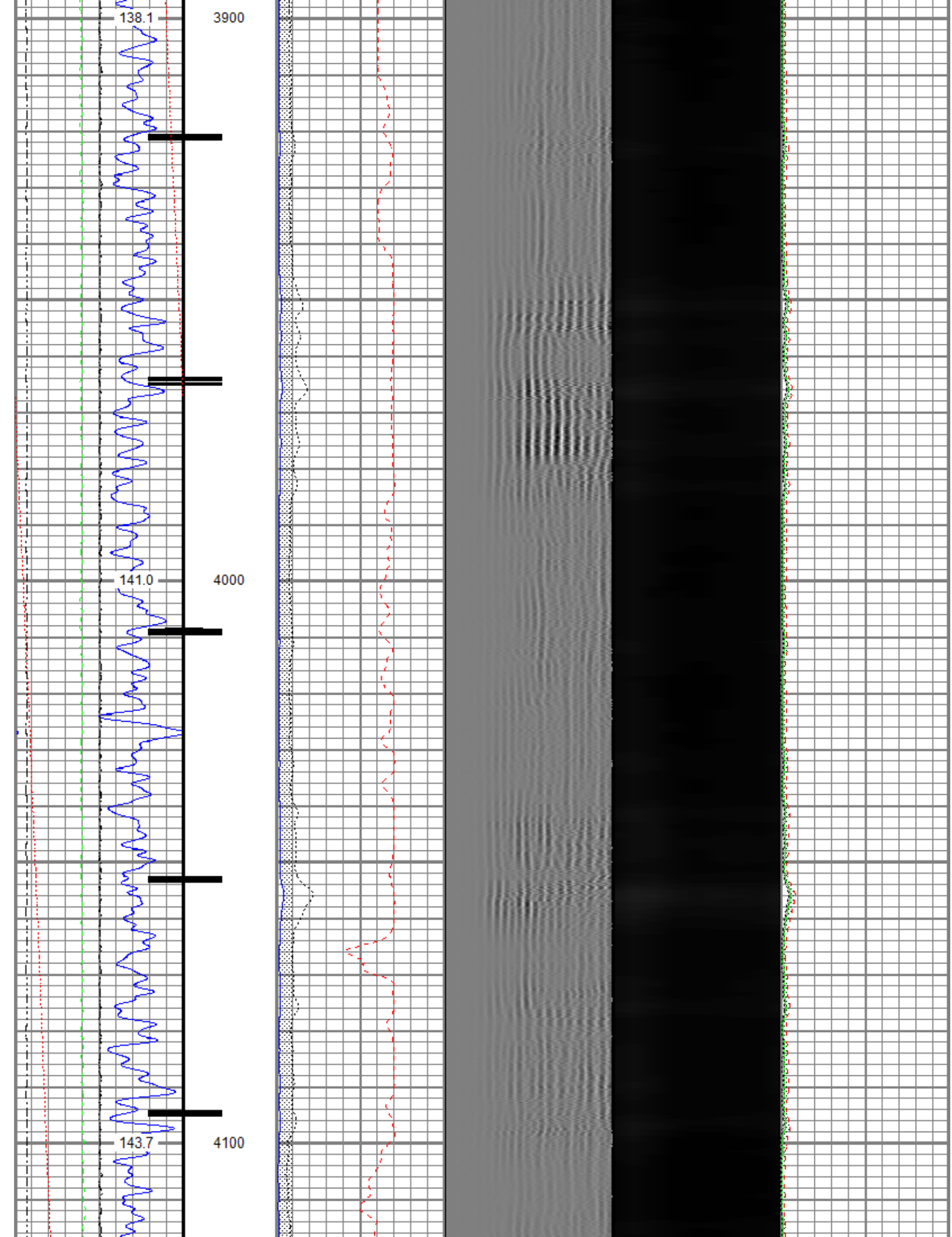


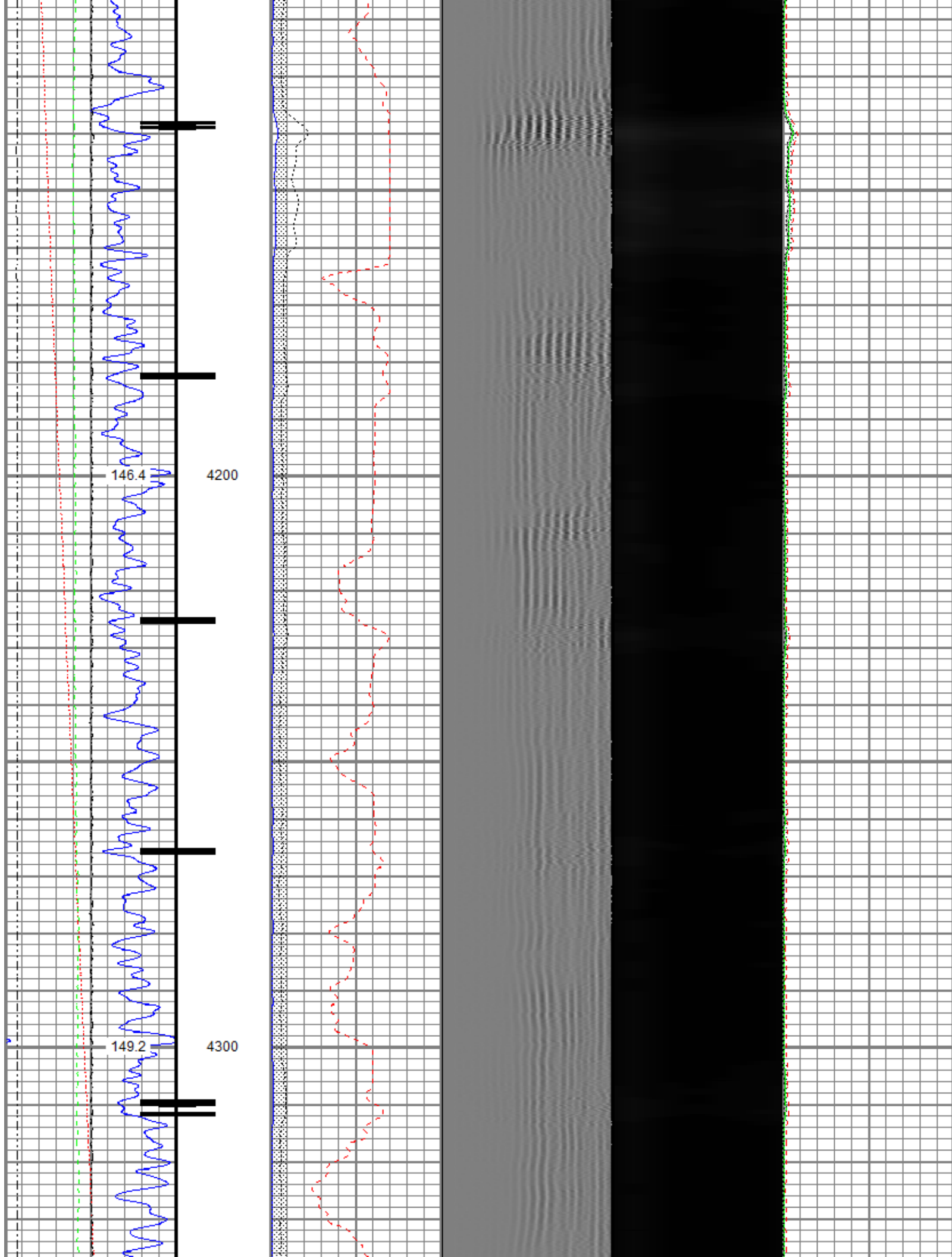


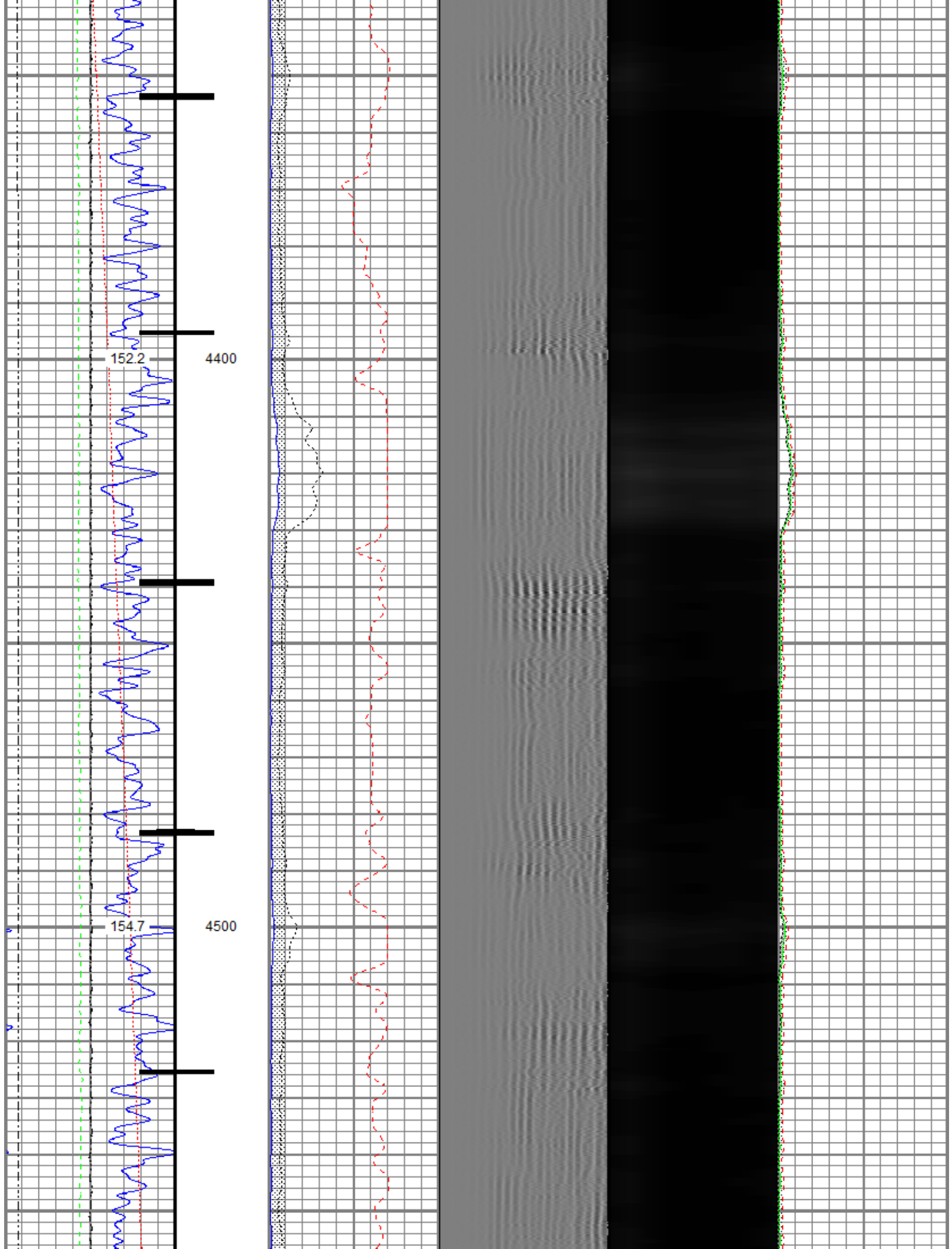
132.9 3700

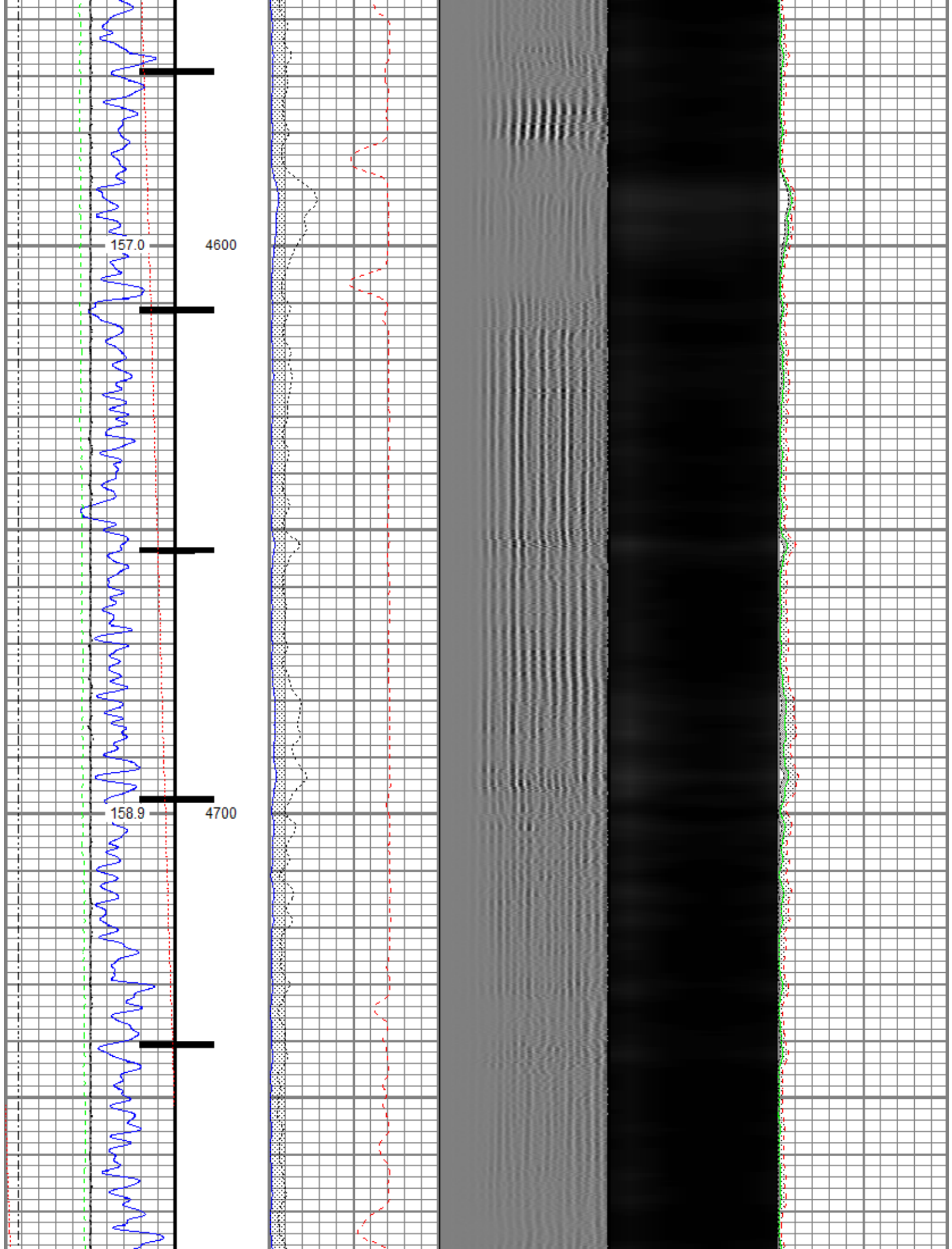
135.3 3800

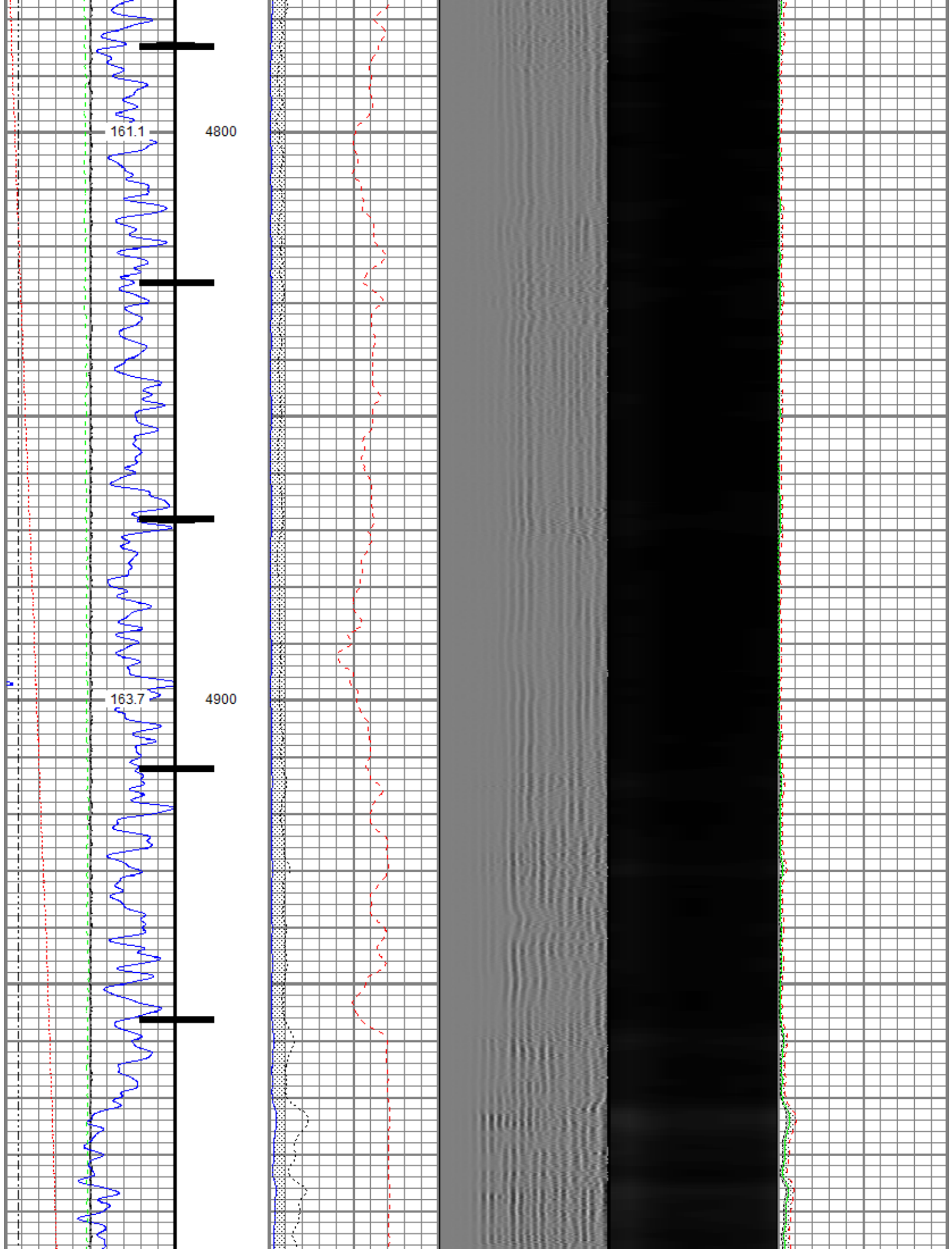


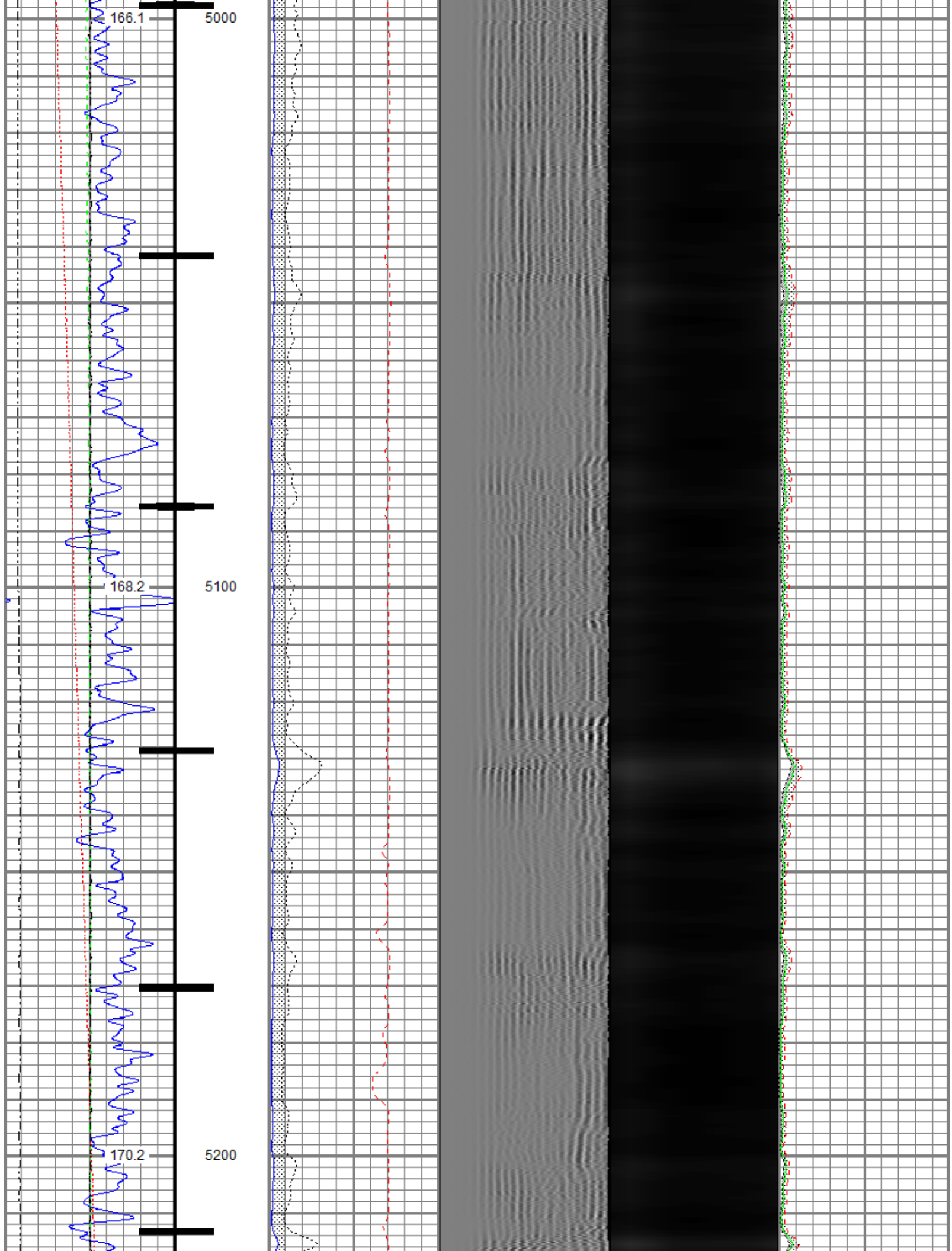


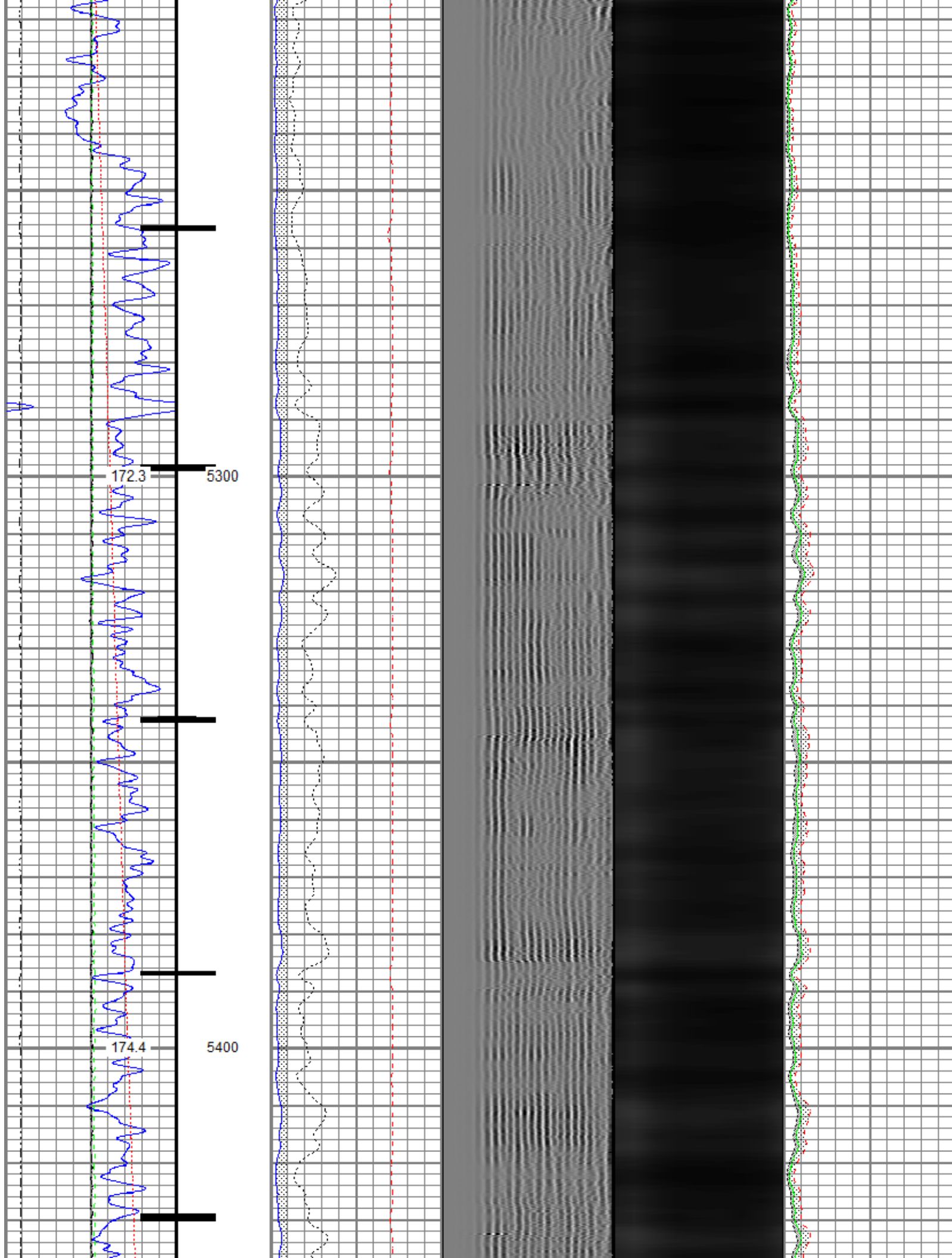


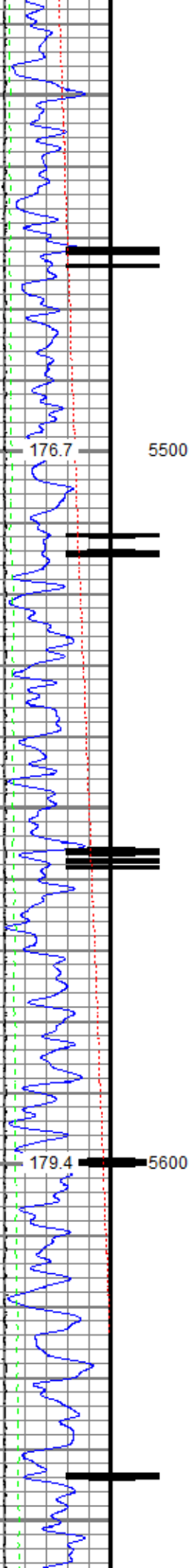




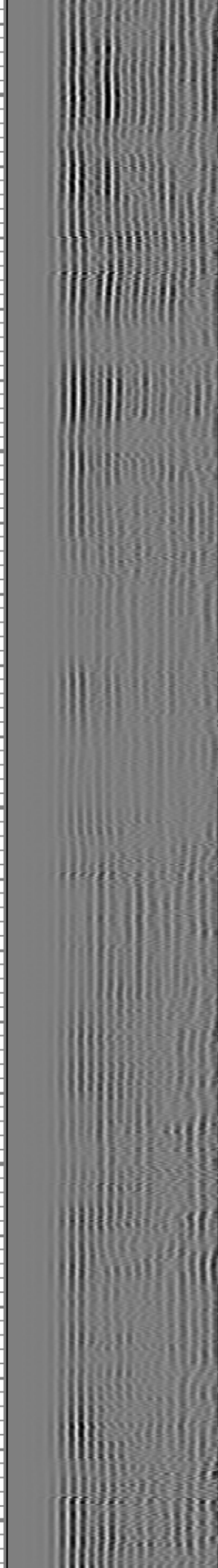
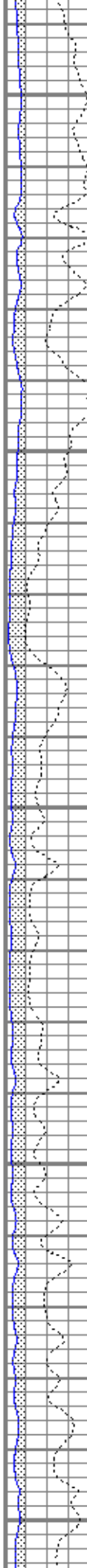


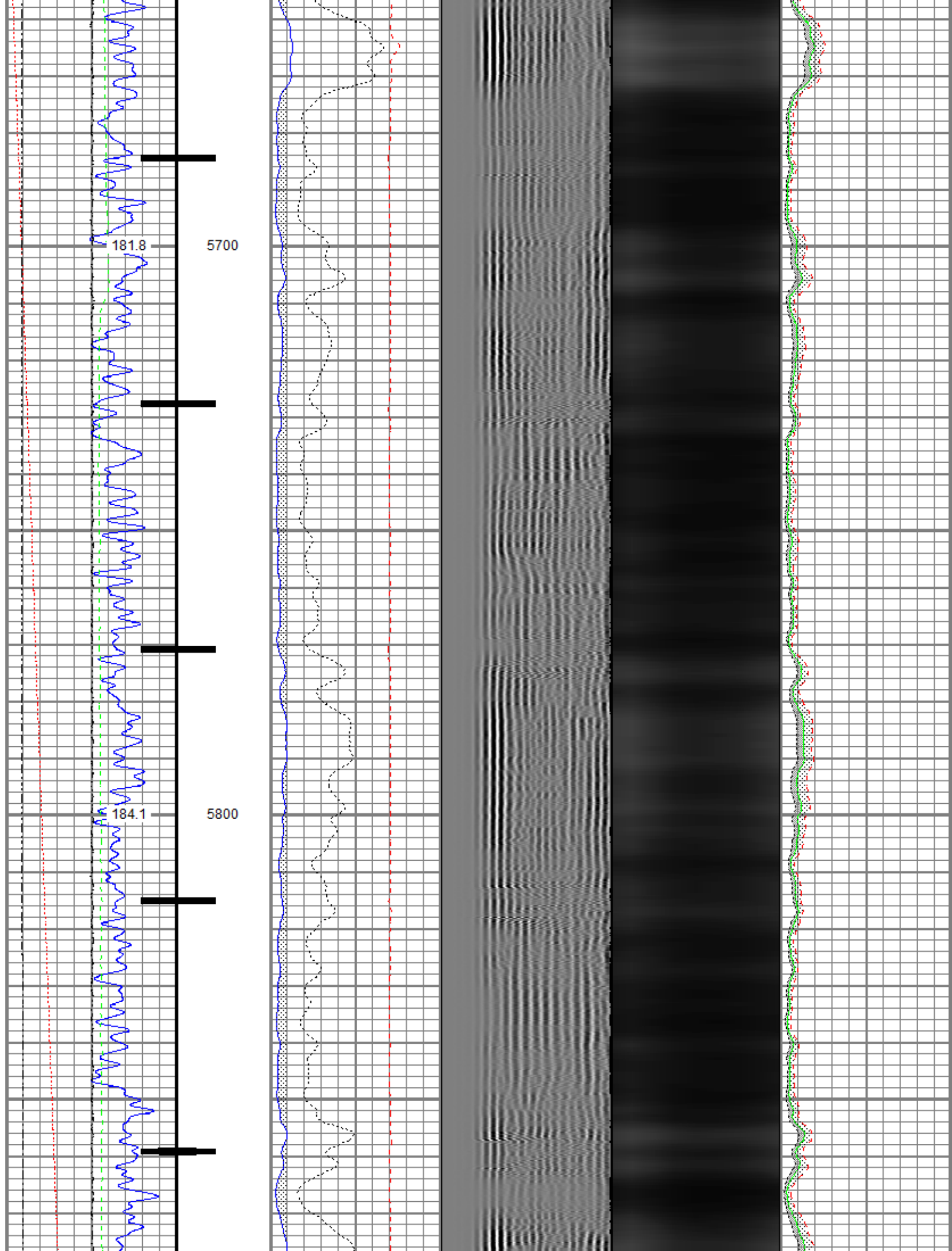


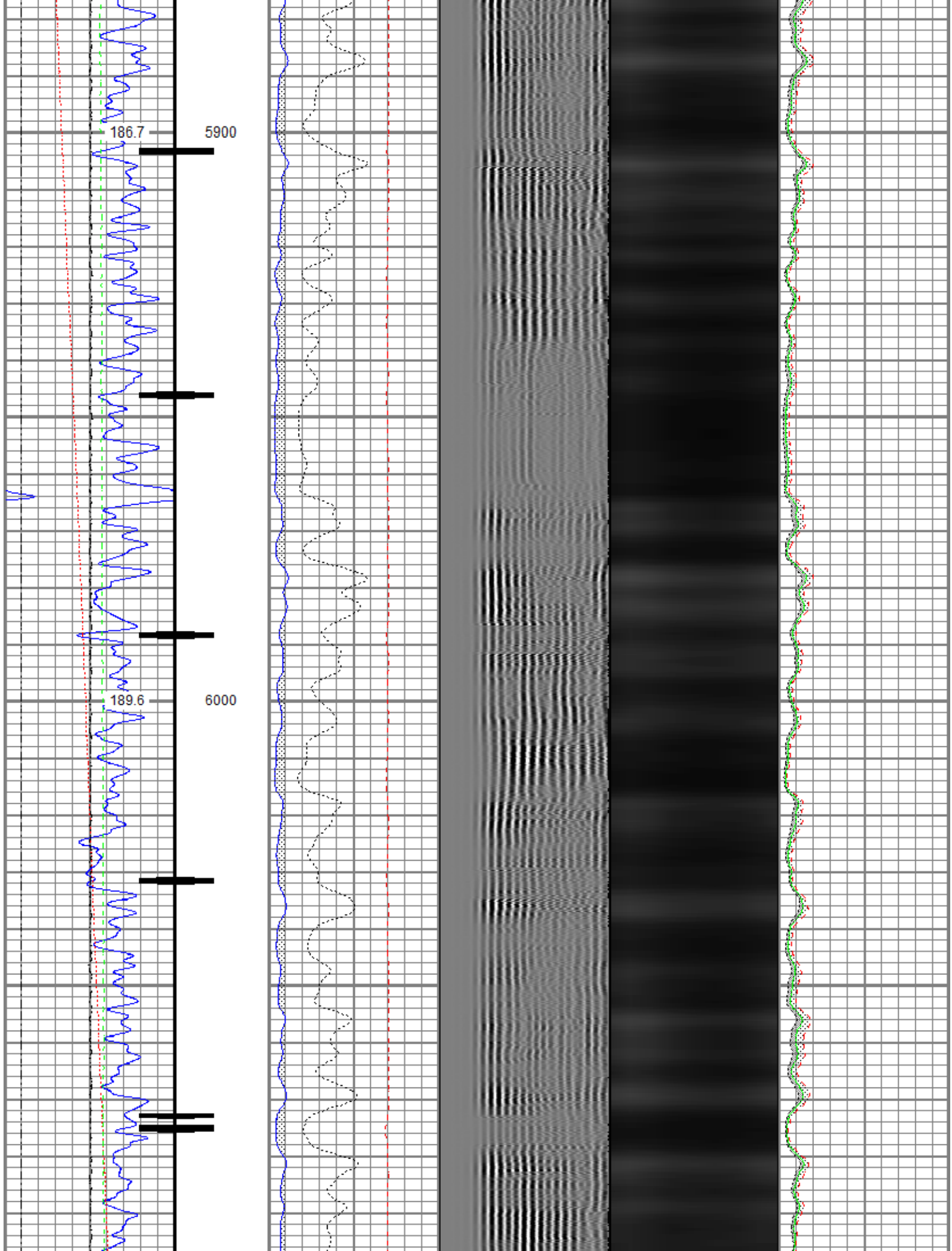


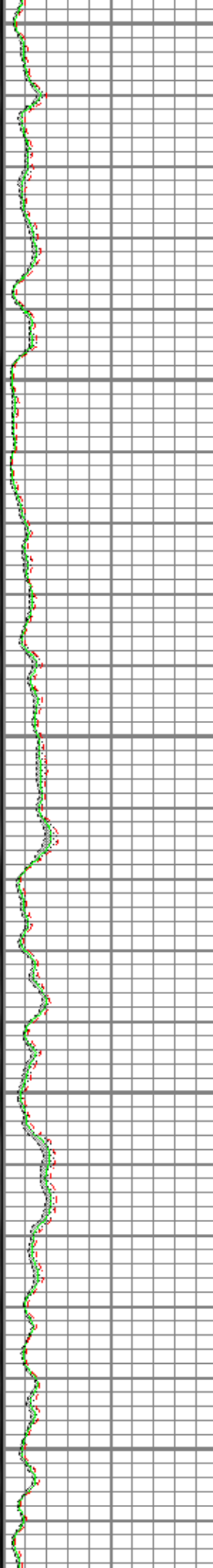
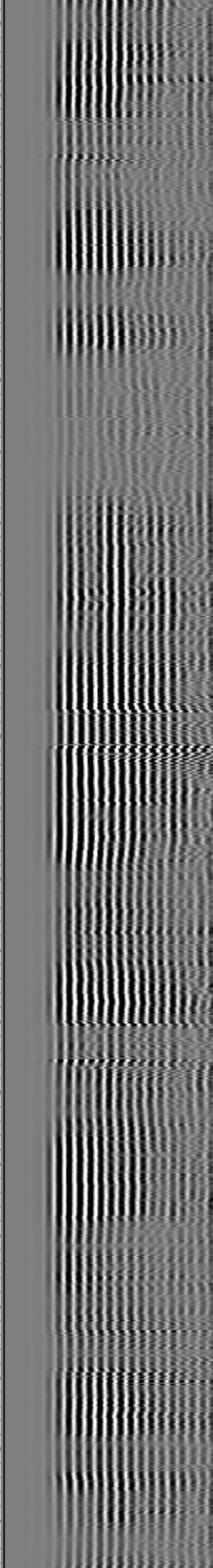
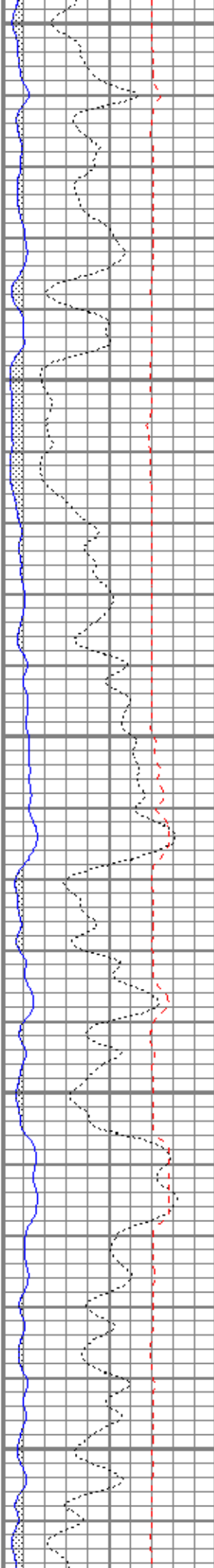
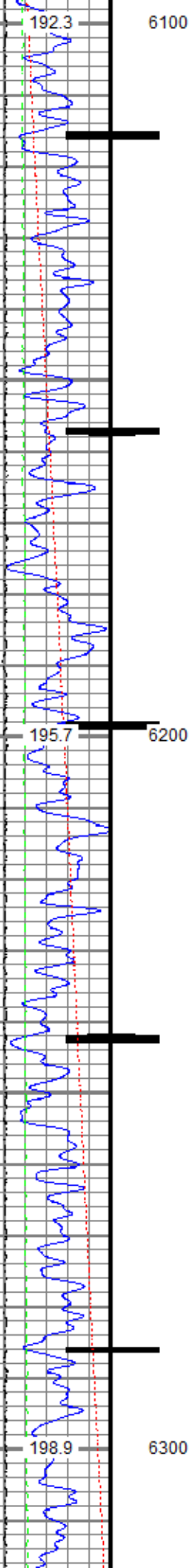


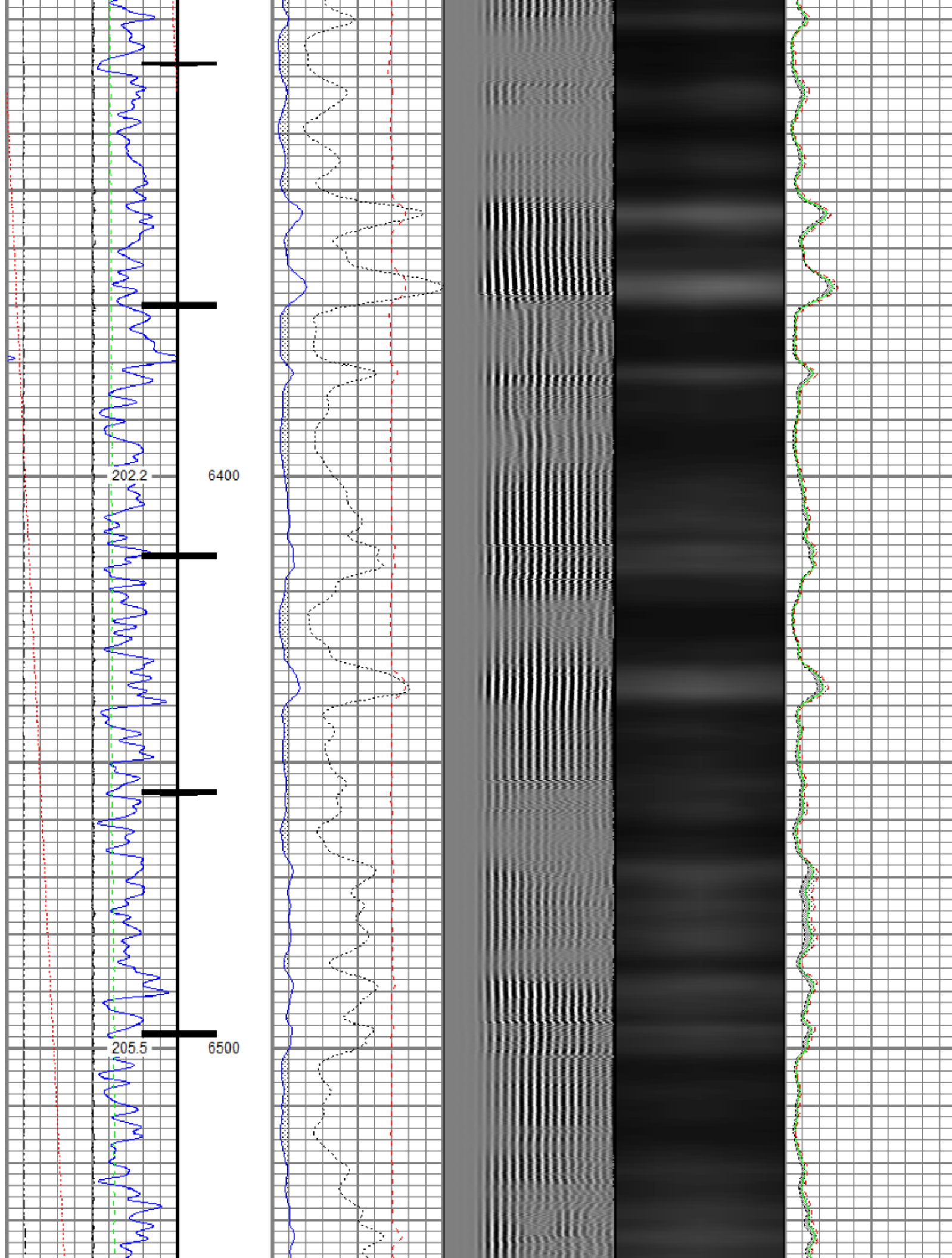
179.4 5600

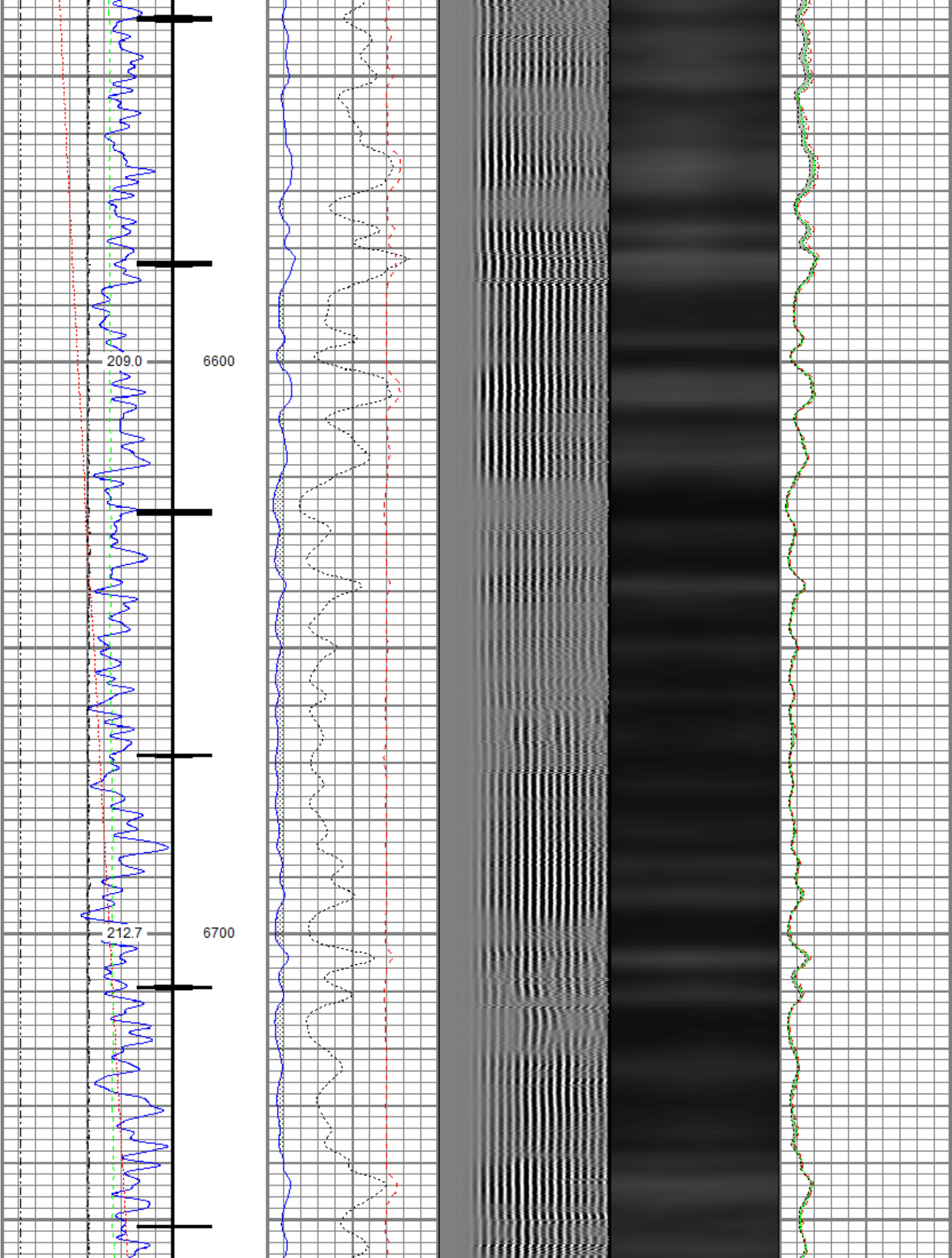


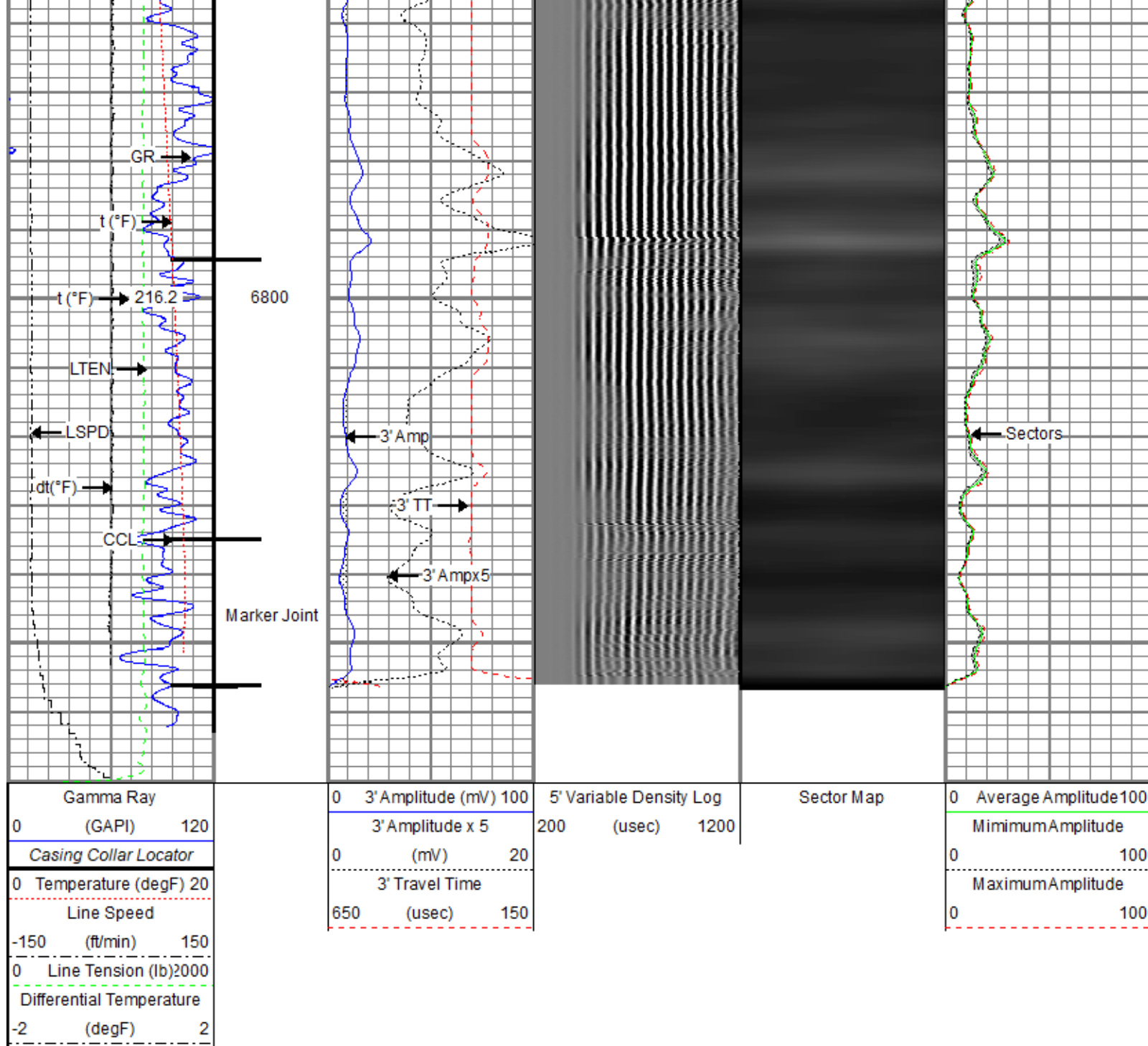








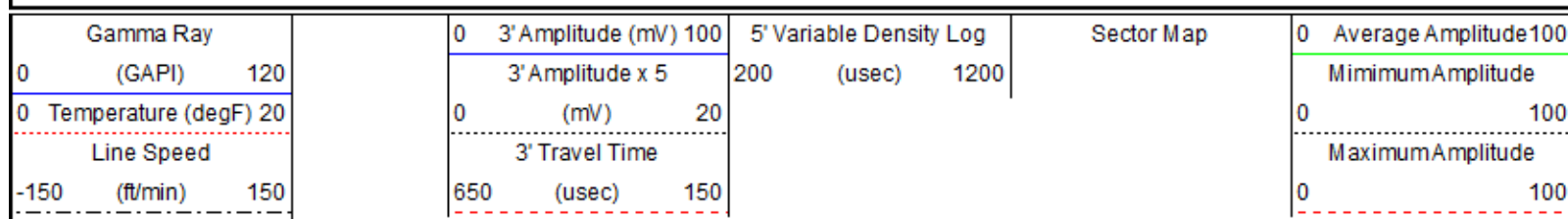




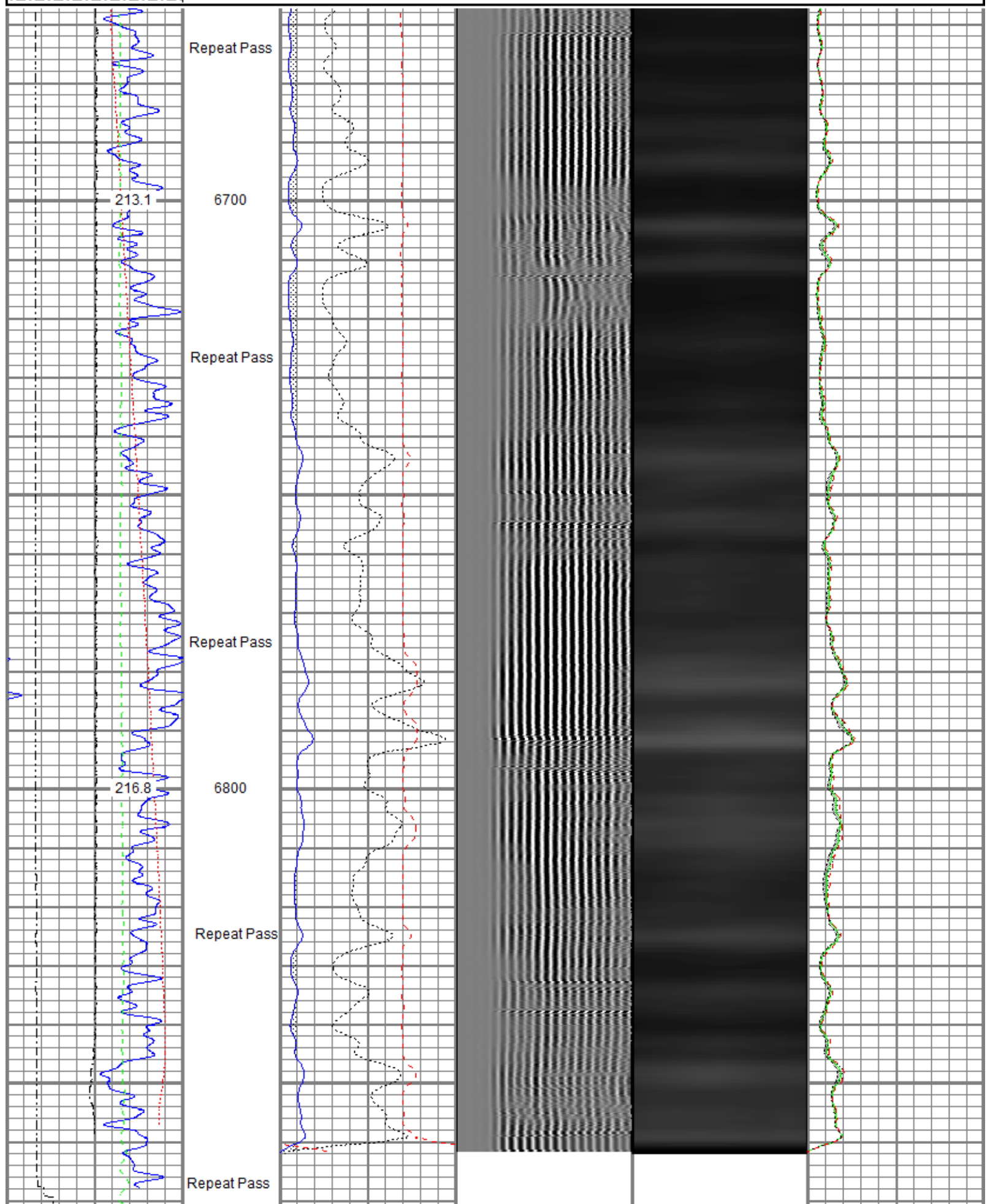
Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko\verde 13-16hz\0512346257_anadarko_verde 13-16hz_rbl_06-20-18_2800 psi.db
 Dataset Pathname: pass1.3
 Presentation Format: ros_radri
 Dataset Creation: Thu Jun 21 07:25:44 2018
 Charted by: Depth in Feet scaled 1:240

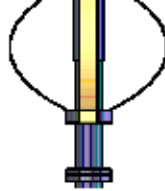


0 Line Tension (lb) 2000
Differential Temperature
-2 (degF) 2



0 (GAPI) 120	0 3' Amplitude x 5 200 (mV) 100 (usec) 1200	0 Average Amplitude 100
0 Temperature (degF) 20	0 (mV) 20	0 Minimum Amplitude 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)
TEMP	17.33		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 (120855) Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub	9.39	2.75	105.00
WVFS8	15.09					
WVFS7	15.09					
WVFS6	15.09					
WVFS5	15.09					
WVFS4	15.09					
WVFS3	15.09					
WVFS2	15.09					
WVFS1	15.09					
WVFCAL	15.09					
WVF3FT	15.09					
WVF5FT	14.09					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	7.08					
CCL\$1	7.08					
GR	5.75		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 ADPT-6P-GO Probe 2-3/4" 6-Pin Top to GO Bottom Adaptor Sub	0.28	2.75	2.00



Probe CENT-2750
Probe 2-3/4" Electric Inline Bowspring Centralizer

2.88

2.75

20.00

Dataset: 0512346257_Anadarko_Verde 13-16HZ_RBL_06-20-18_2800 PSI.db: field/well/run1/pass1.7
Total length: 24.15 ft
Total weight: 225.60 lb
O.D.: 2.75 in

Calibration Report

Database File C:\ProgramData\Warrior\Data\Anadarko\Verde 13-16HZ\0512346257_Anadarko_Verde 13-16HZ_RBL_06-20-18_2800 PSI.db
Dataset Pathname pass1.7
Dataset Creation Thu Jun 21 08:26:05 2018

Gamma Ray Calibration Report

Serial Number: 101001
Tool Model: 2750 6PB
Performed: Mon Jun 18 10:09:36 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: 120855
Tool Model: 2750 RBT

Calibration Casing Diameter: 5.500 in
Calibration Depth: 20.784 ft

Master Calibration, performed Wed Jun 20 08:47:27 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.699	0.800	71.921	102.763	0.070
CAL	0.007	0.703				
5'	0.007	0.660	0.800	71.921	108.902	0.057
SUM						
S1	0.007	0.698	0.000	100.000	144.615	-0.997
S2	0.007	0.707	0.000	100.000	142.785	-1.002
S3	0.007	0.700	0.000	100.000	144.281	-1.032
S4	0.007	0.697	0.000	100.000	144.909	-1.001
S5	0.007	0.695	0.000	100.000	145.256	-0.959
S6	0.007	0.694	0.000	100.000	145.599	-1.020
S7	0.007	0.696	0.000	100.000	145.176	-0.973
S8	0.007	0.692	0.000	100.000	146.022	-1.034


Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	0.703	1.000	0.000

Air Zero Calibration, performed Wed Jun 20 08:47:52 2018:

	Raw (V)	Calibrated (V)	Results
	Zero	Zero	Offset
3'	0.007	0.000	0.000
5'	0.007	0.000	-0.000
SUM			
S1	0.007	0.000	0.000
S2	0.007	0.000	0.000
S3	0.007	0.000	0.001
S4	0.007	0.000	0.000
S5	0.007	0.000	0.000
S6	0.007	0.000	0.000
S7	0.007	0.000	0.000
S8	0.007	0.000	0.000

Temperature Calibration Report			
Serial Number:	120855		
Tool Model:	2750 RBT		
Performed:	Mon Jun 18 10:05:52 2018		
	Reference	Reading	
Low Reference:	100.00 degF	112.30	degF
High Reference:	350.00 degF	394.75	degF
Gain:	0.89		
Offset:	0.60		
Delta Spacing	1		

	Company	Kerr-McGee Oil & Gas Onshore, L.P.
	Well	Verde 13-16HZ
	Field	Wattenberg
	County	Weld
	State	Colorado