



County Weld State Colorado

G.L. 4974

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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.

Log ran as per customer request  
Depth referenced to Casing Tally reported Mark Joint at 6482 FT  
Adjusted +6 FT to correlate with Marker Joint  
Gauge Ring/Junk Basket ran to 7635 FT with no debris  
Log ran from as deep as possible in heel to Surface  
Recorded with 2800 PSI Surface Induced Pressure  
Logging tools were clean and free of any debris upon completion of operations

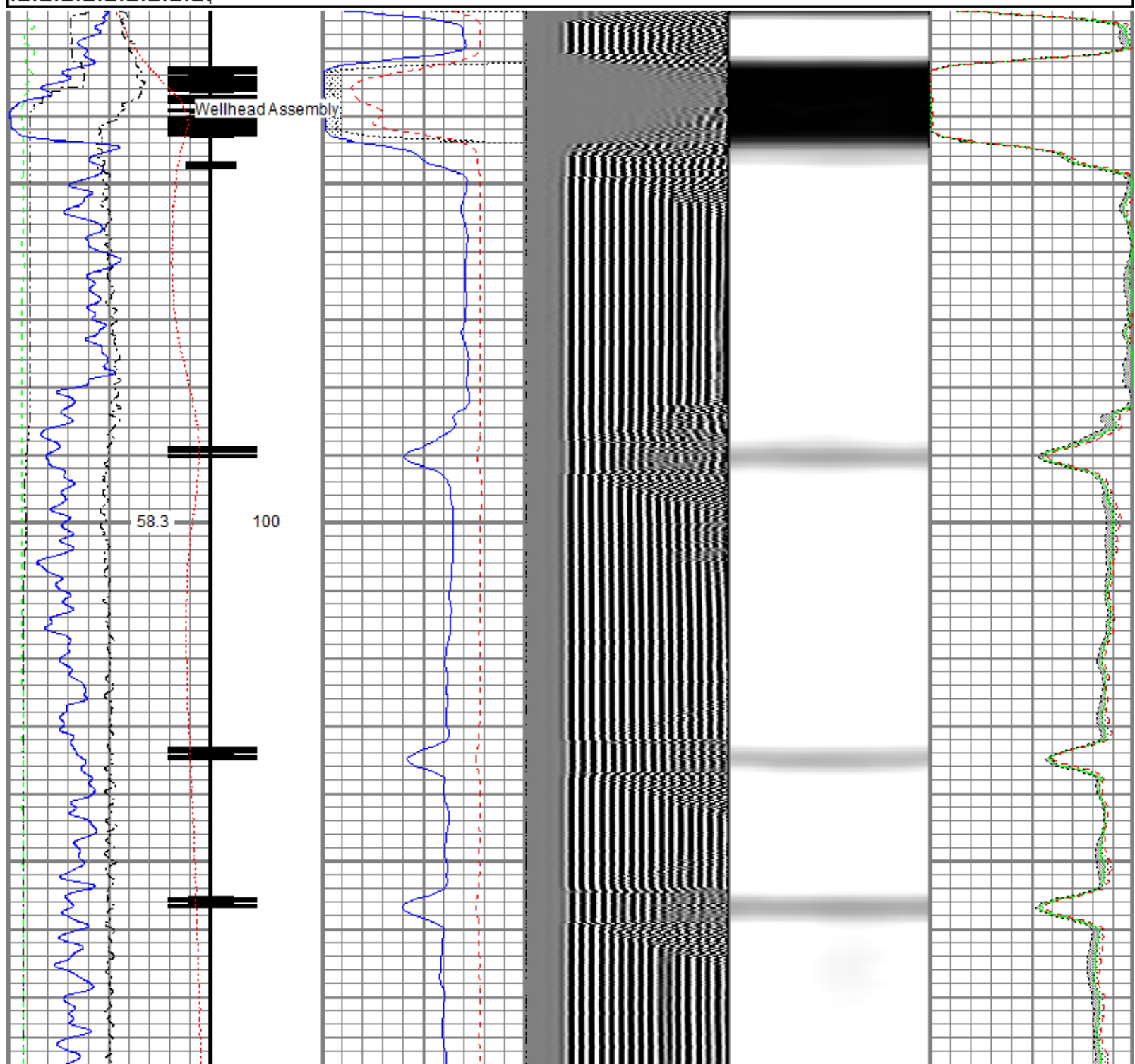
Thank you for choosing Reliance Oilfield Services, LLC!!

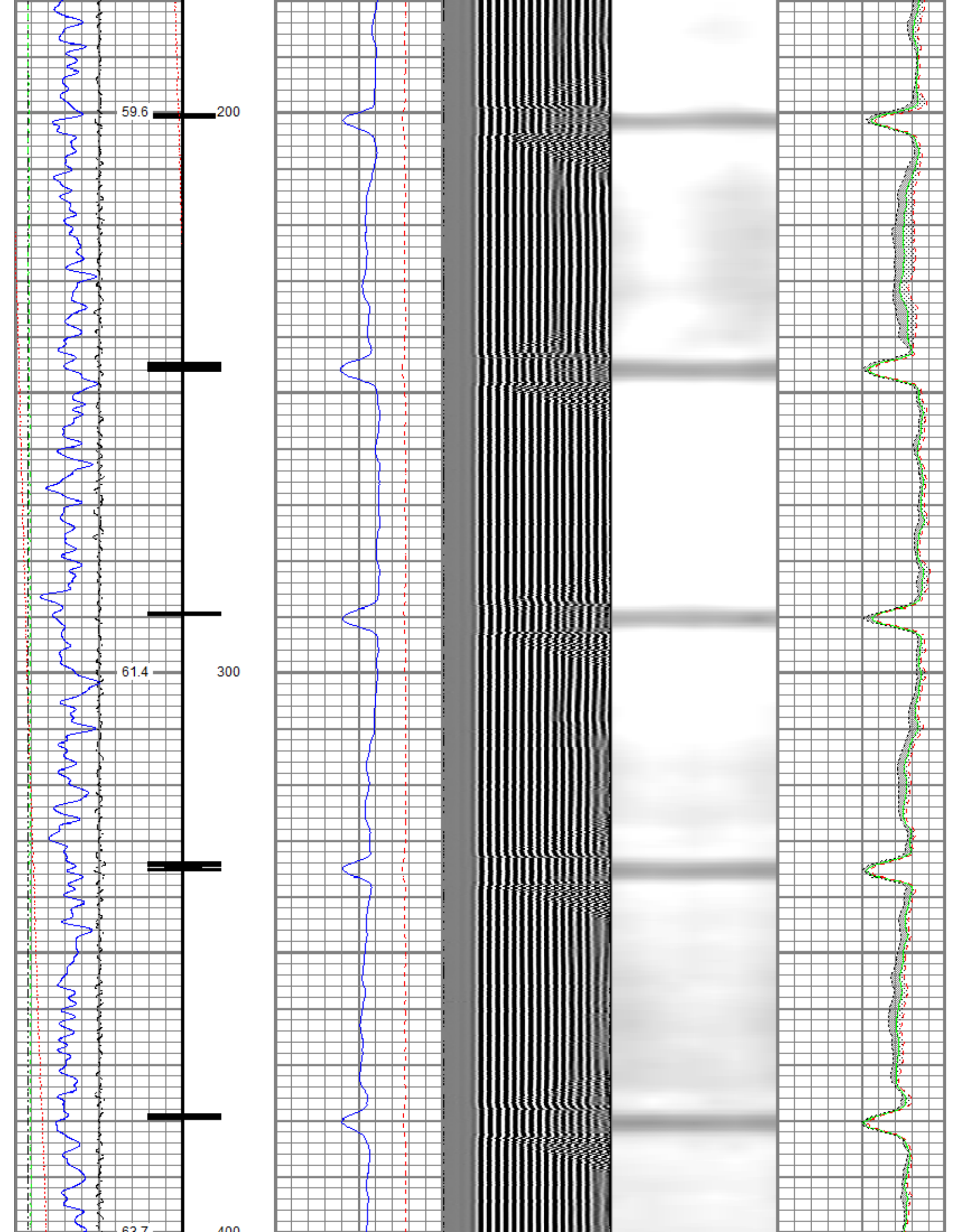


Recorded With 2800 PSI Surface Induced Pressure

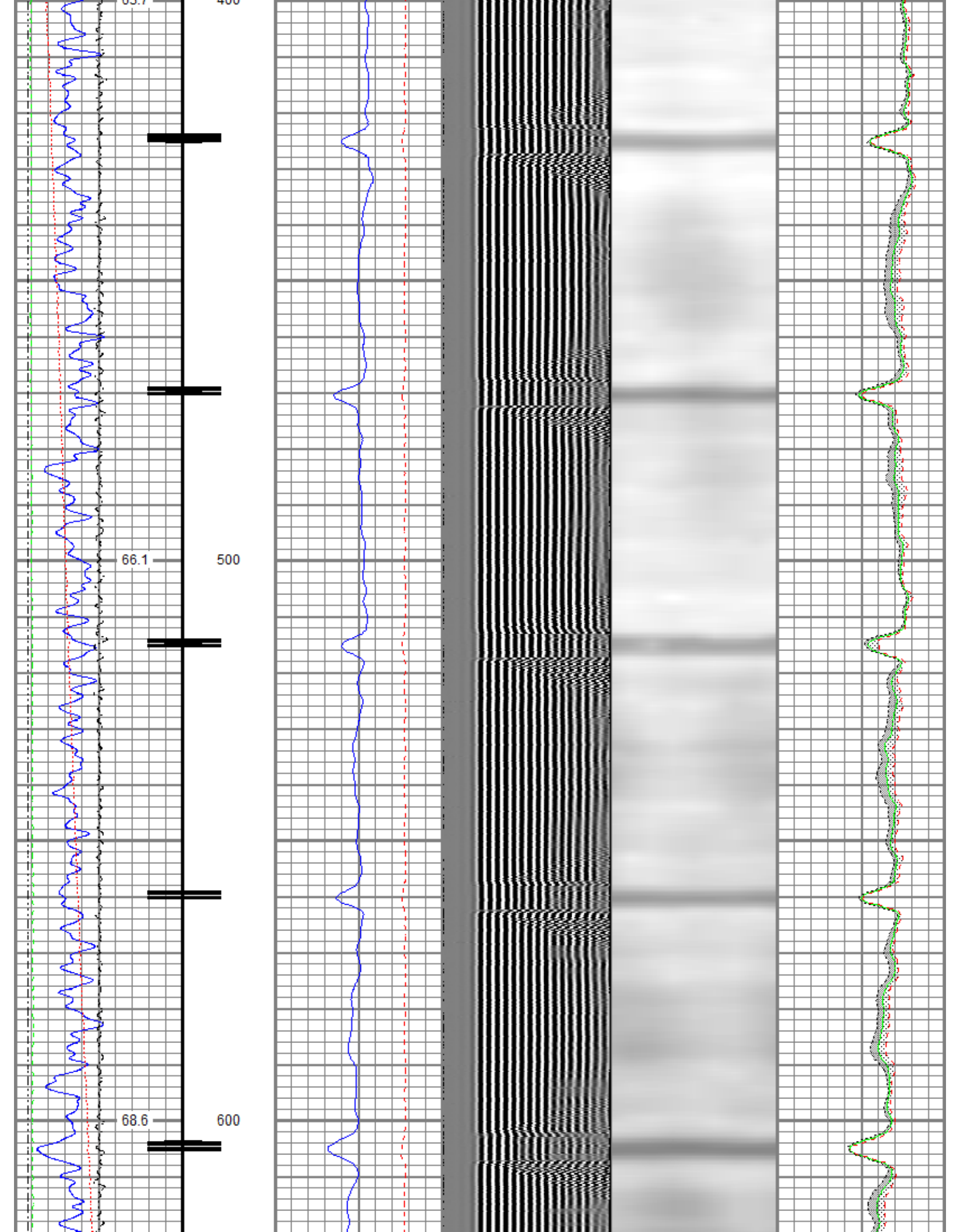
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Dataset Pathname	pass3.1
Presentation Format	ros_radri
Dataset Creation	Sat Jan 06 15:05:48 2018
Charted by	Depth in Feet scaled 1:240

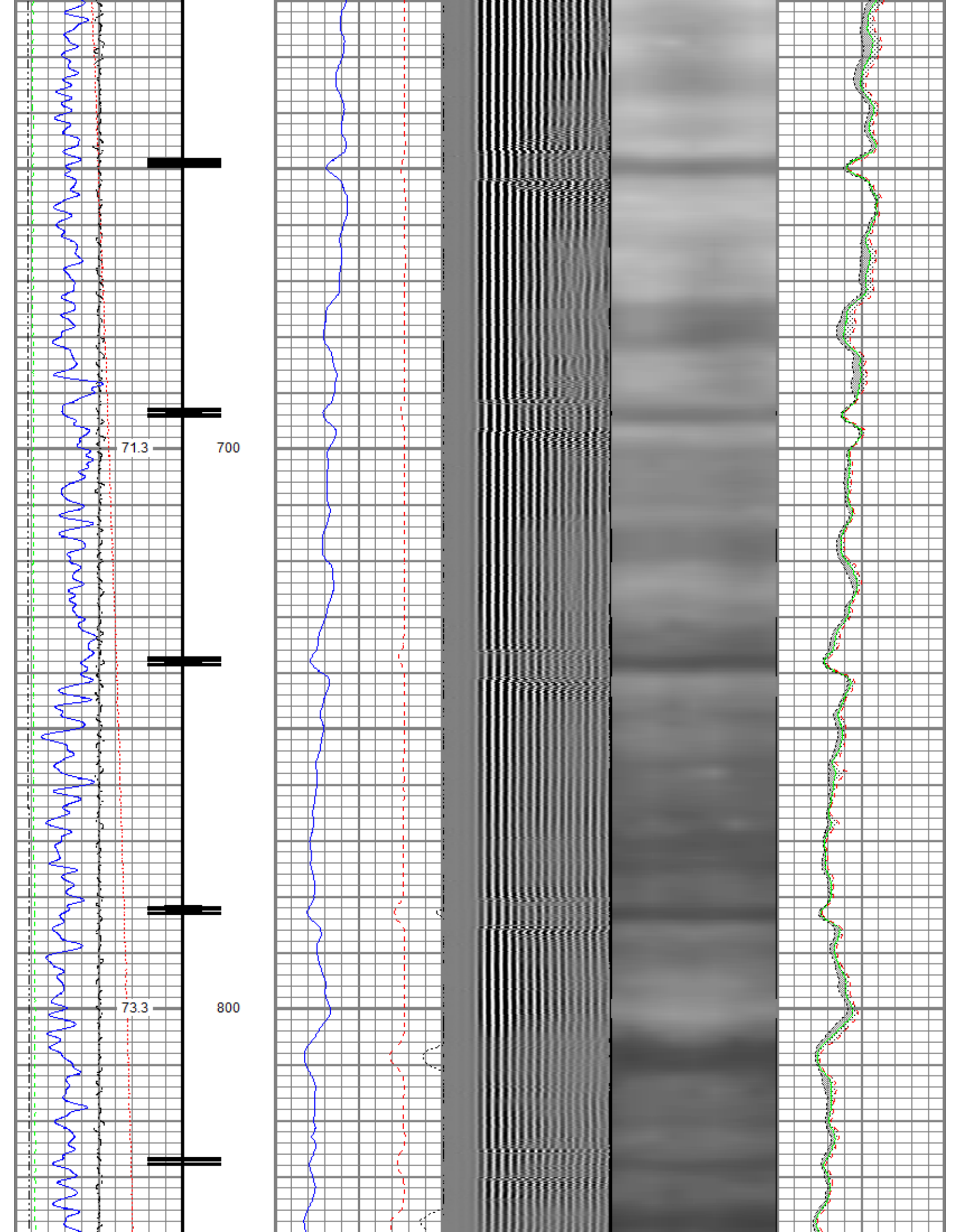
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI)	120	3' Amplitude x 5	200	1200		Minimum Amplitude
Casing Collar Locator		0	(mV)	20	0	100
Temperature (degF)	20	3' Travel Time				Maximum Amplitude
Line Speed		650	(usec)	150	0	100
(ft/min)	150					
Line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

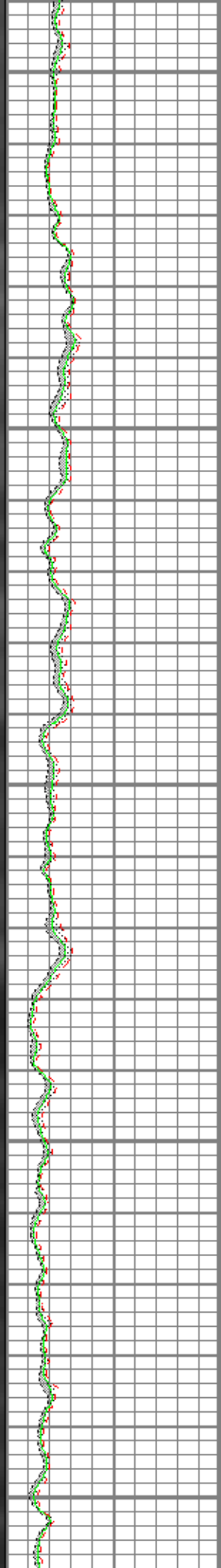
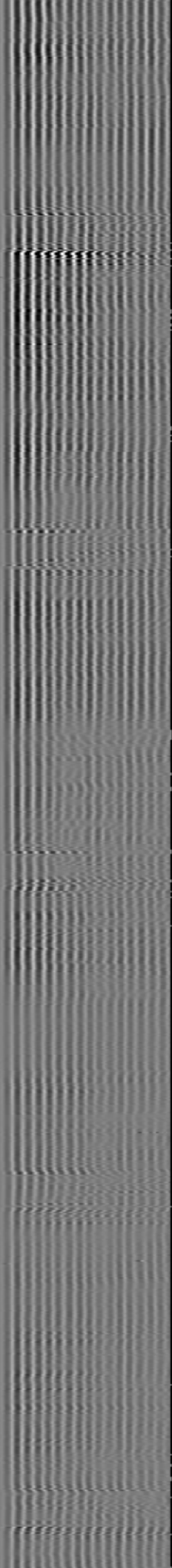
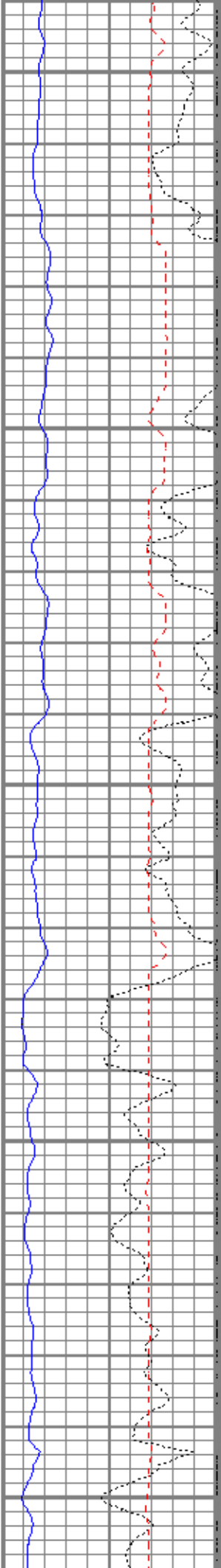
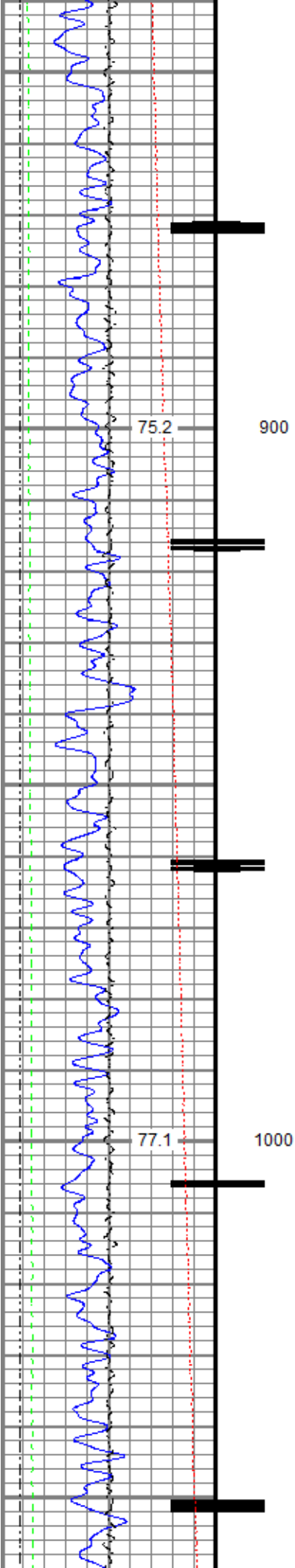


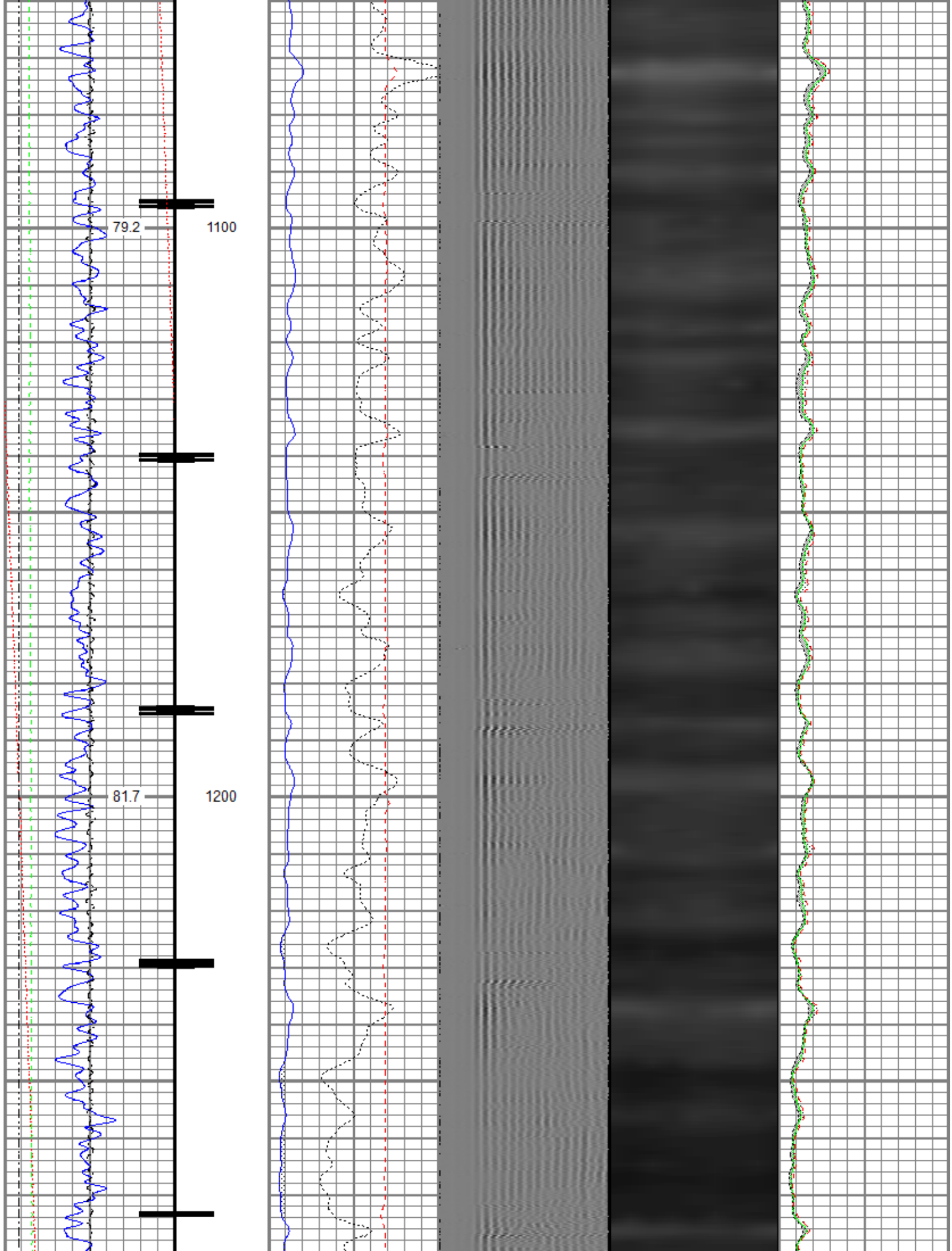




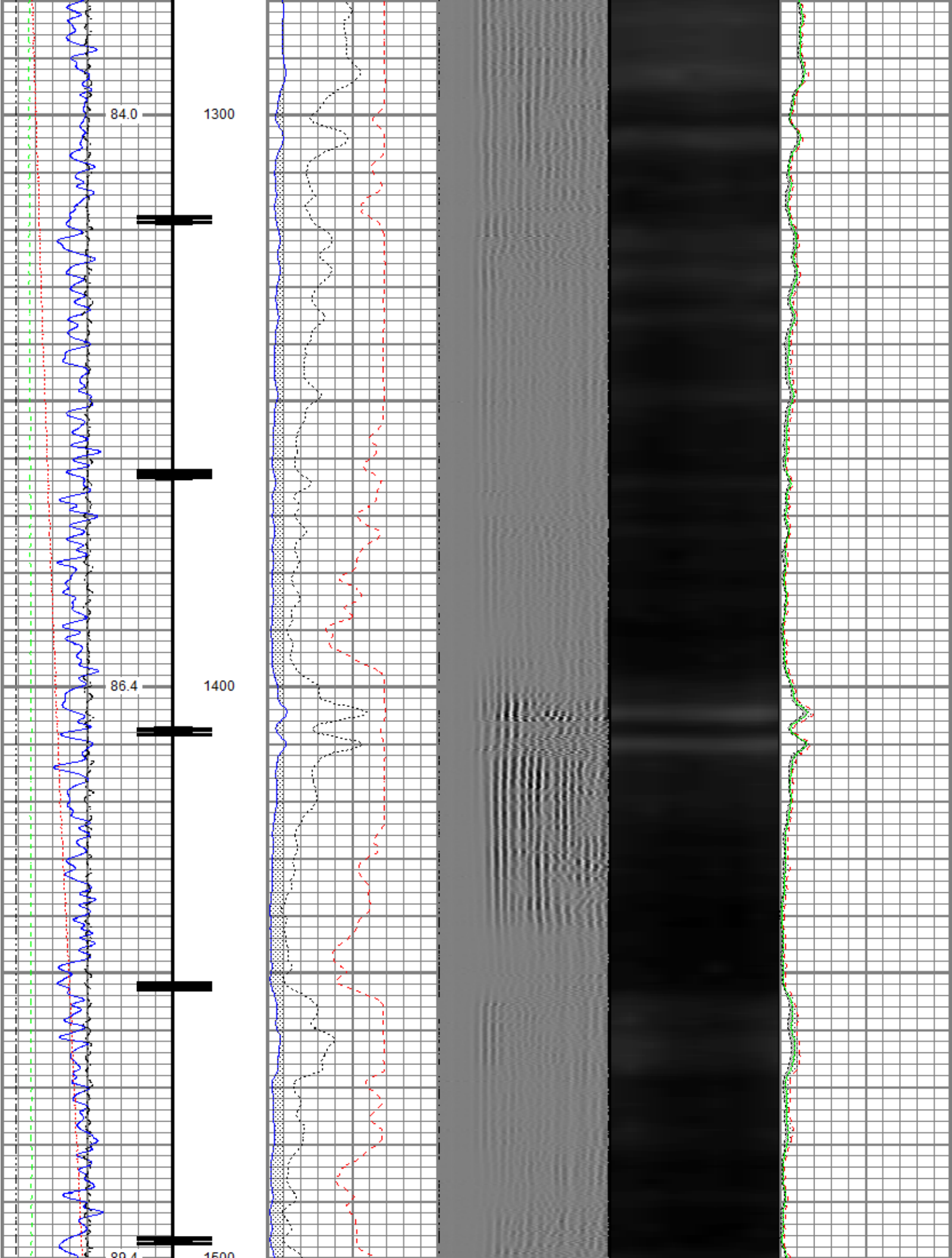




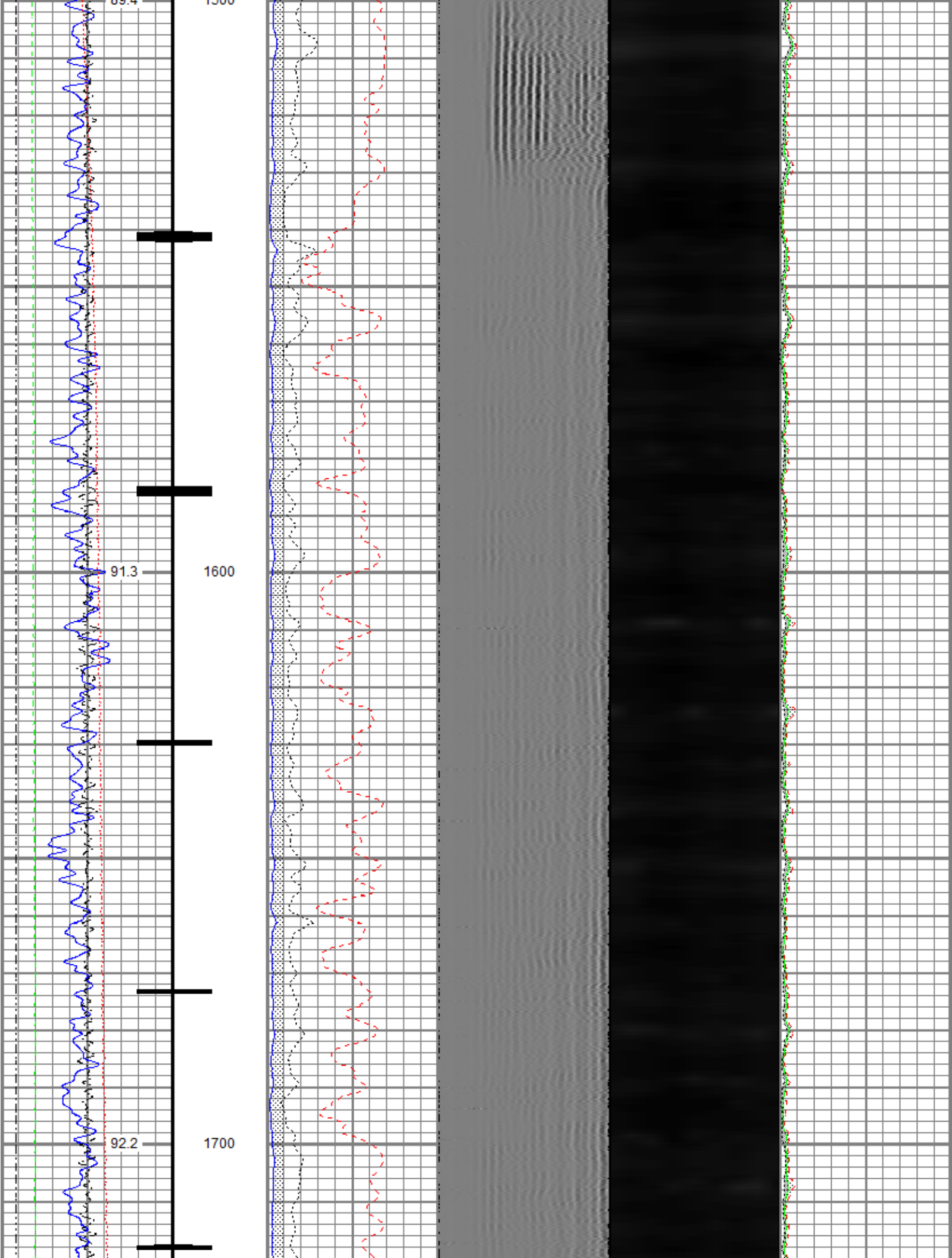


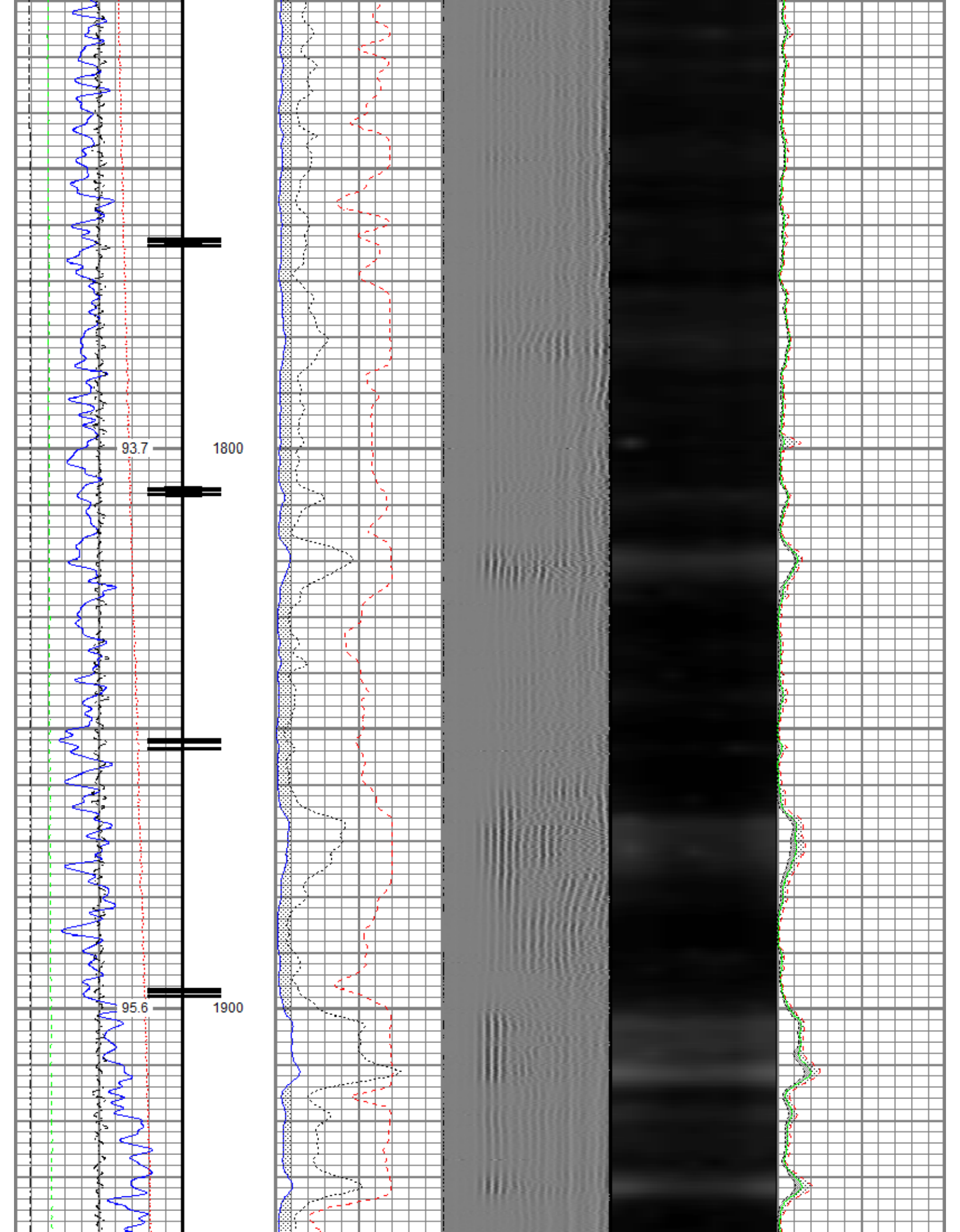


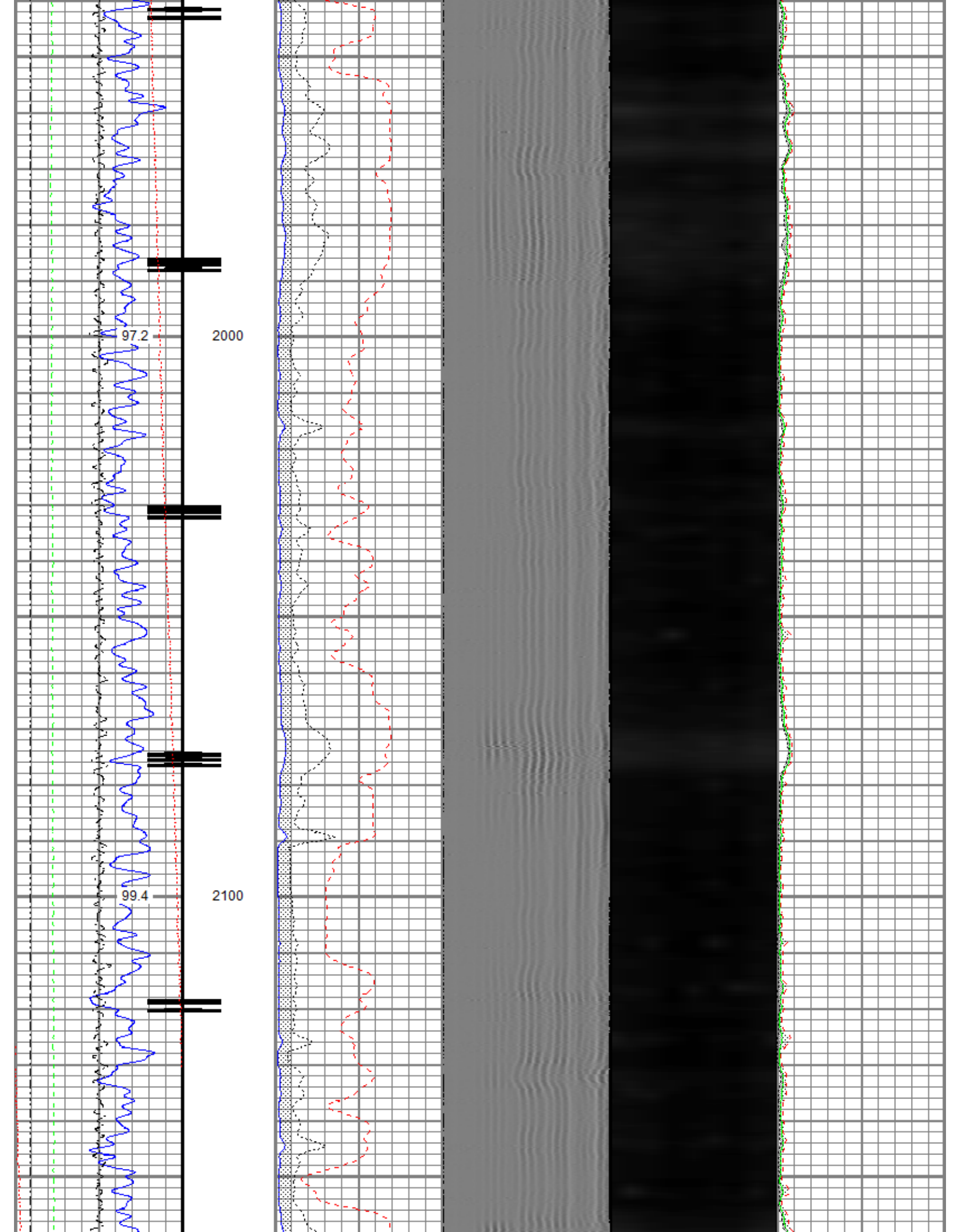


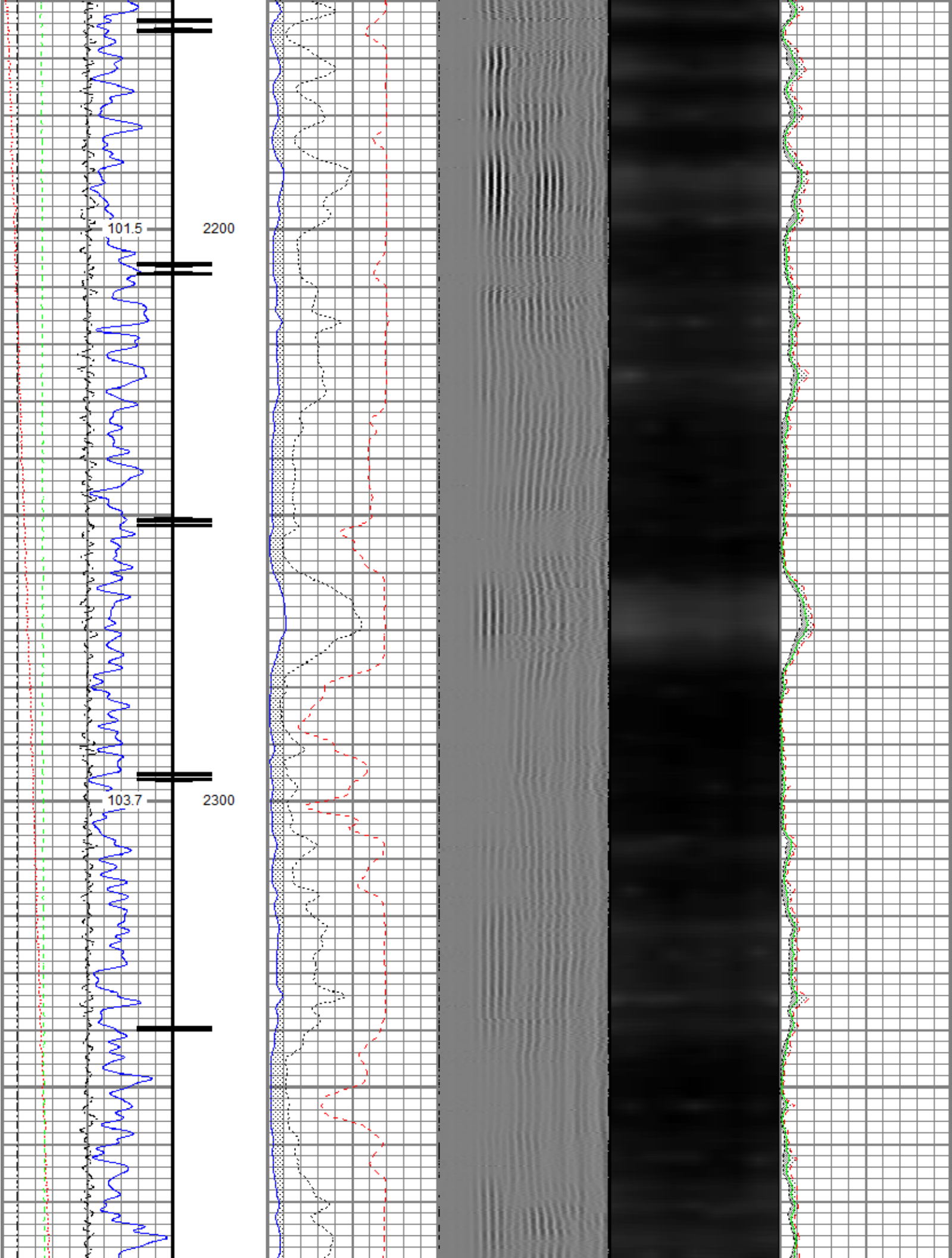




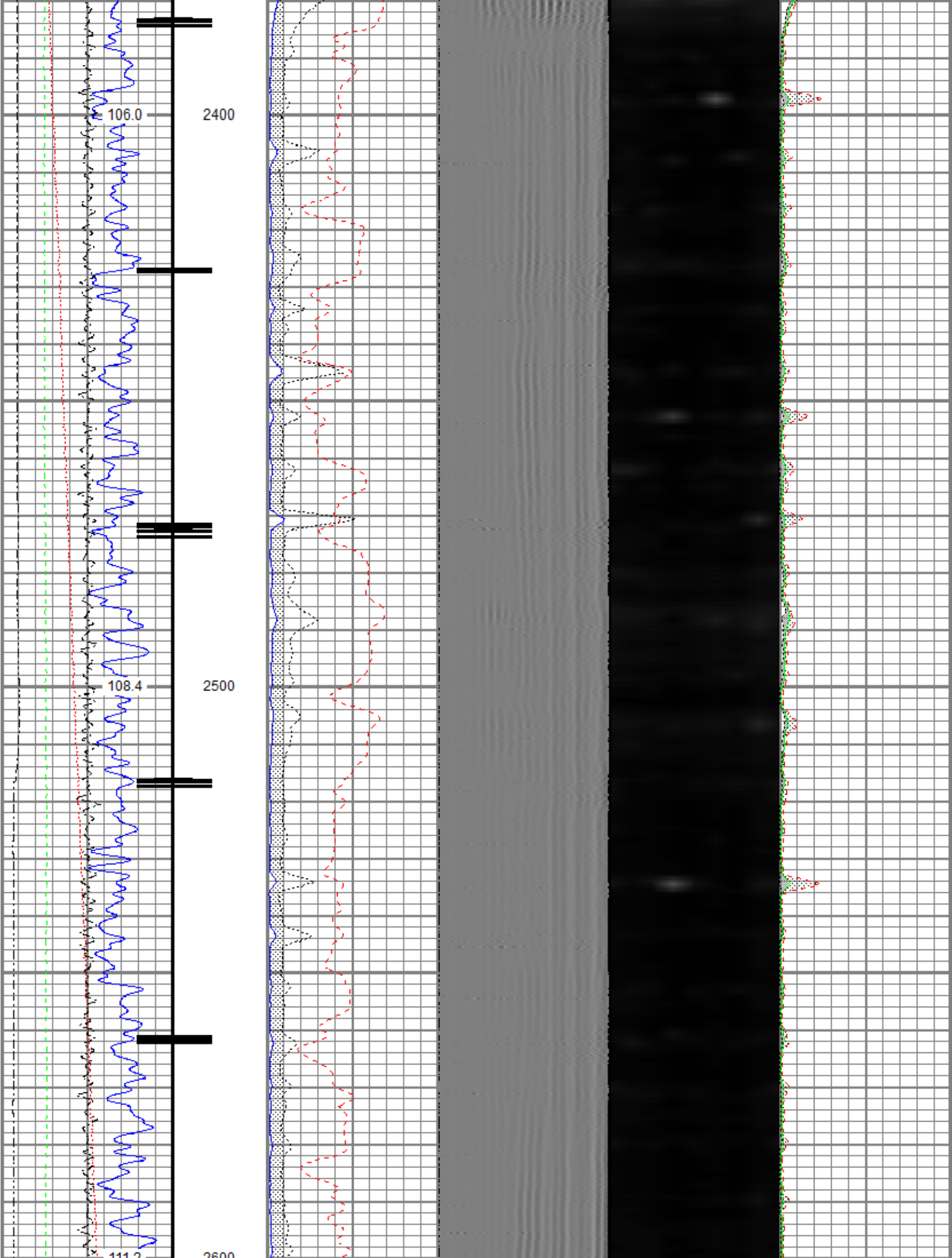


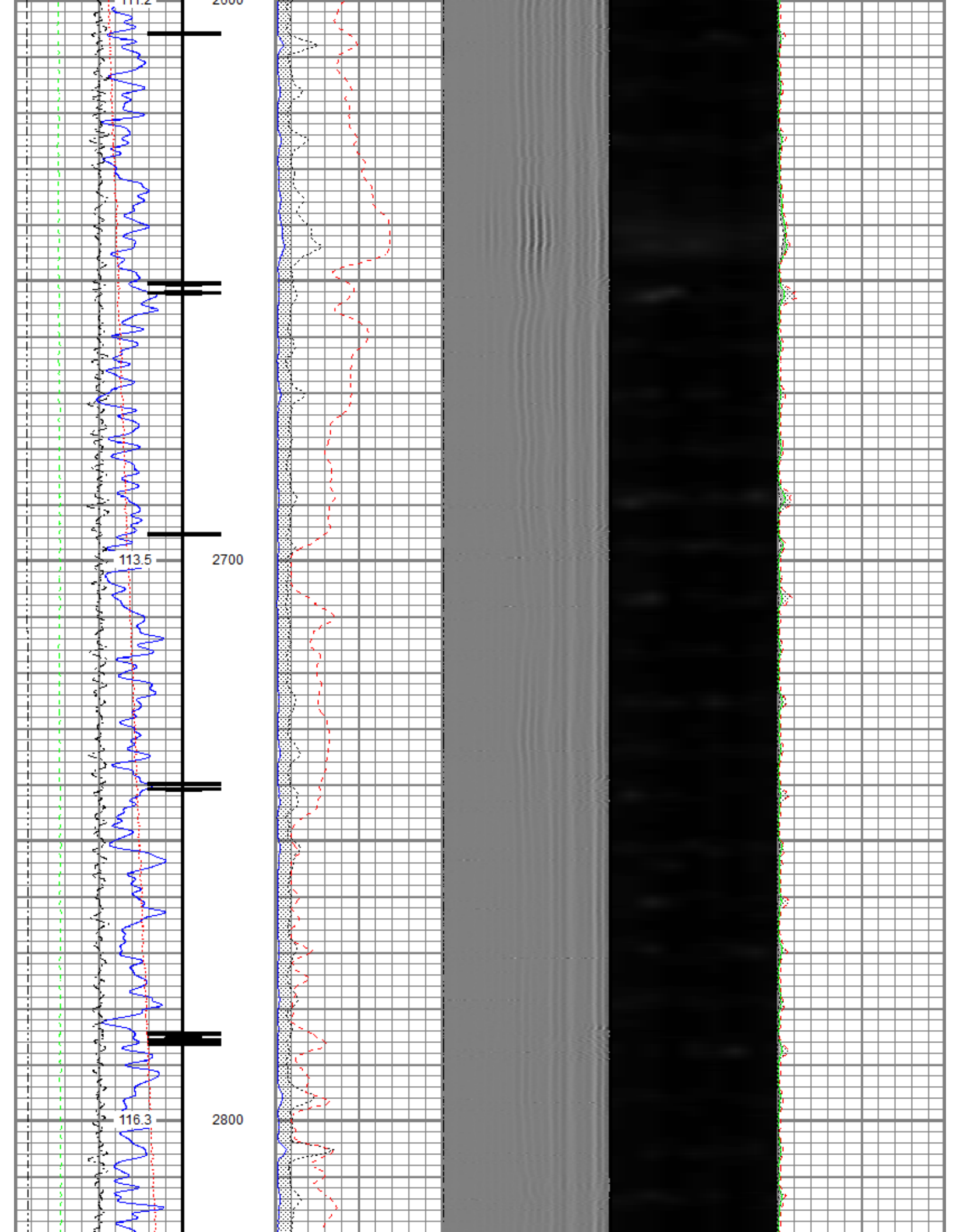


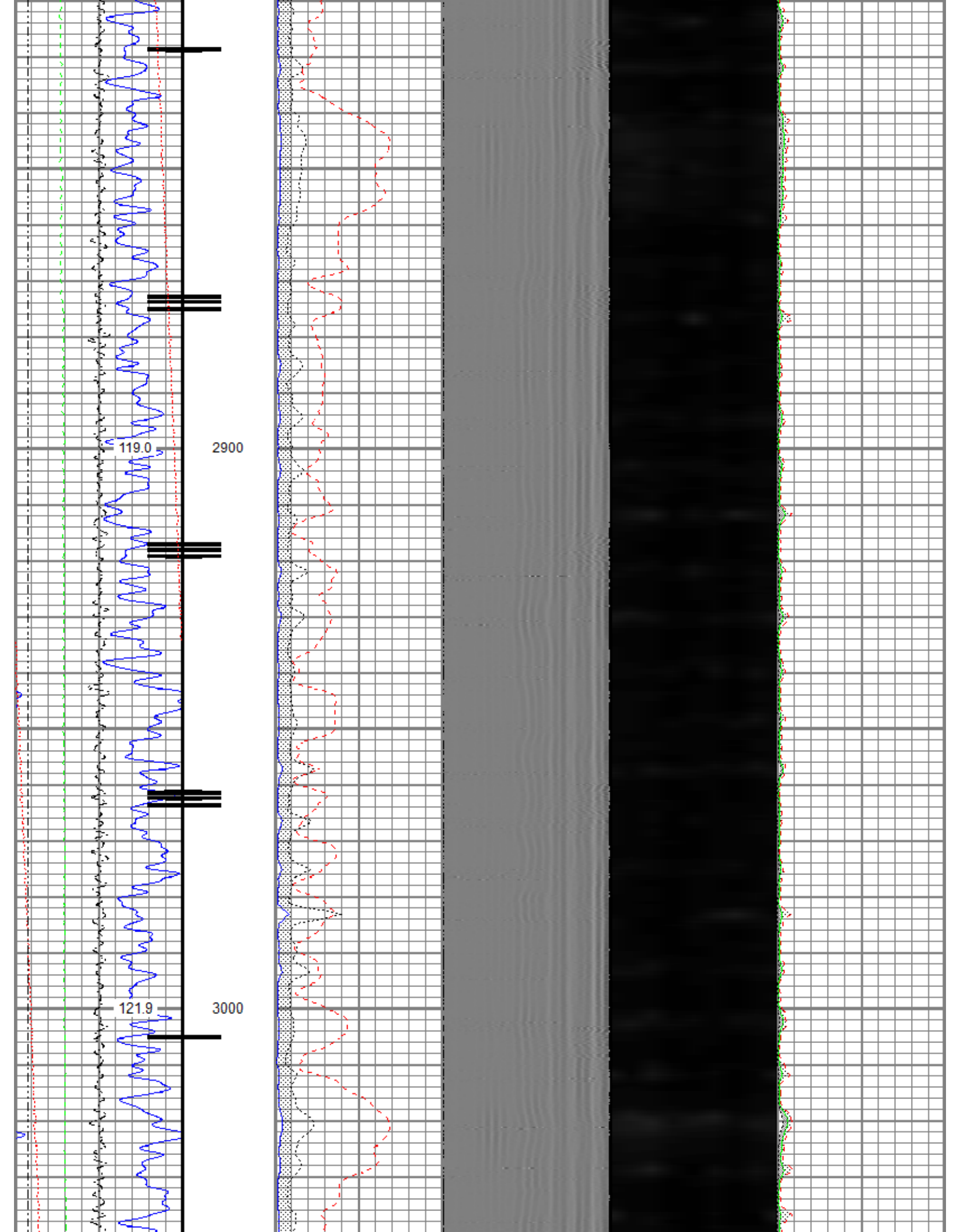


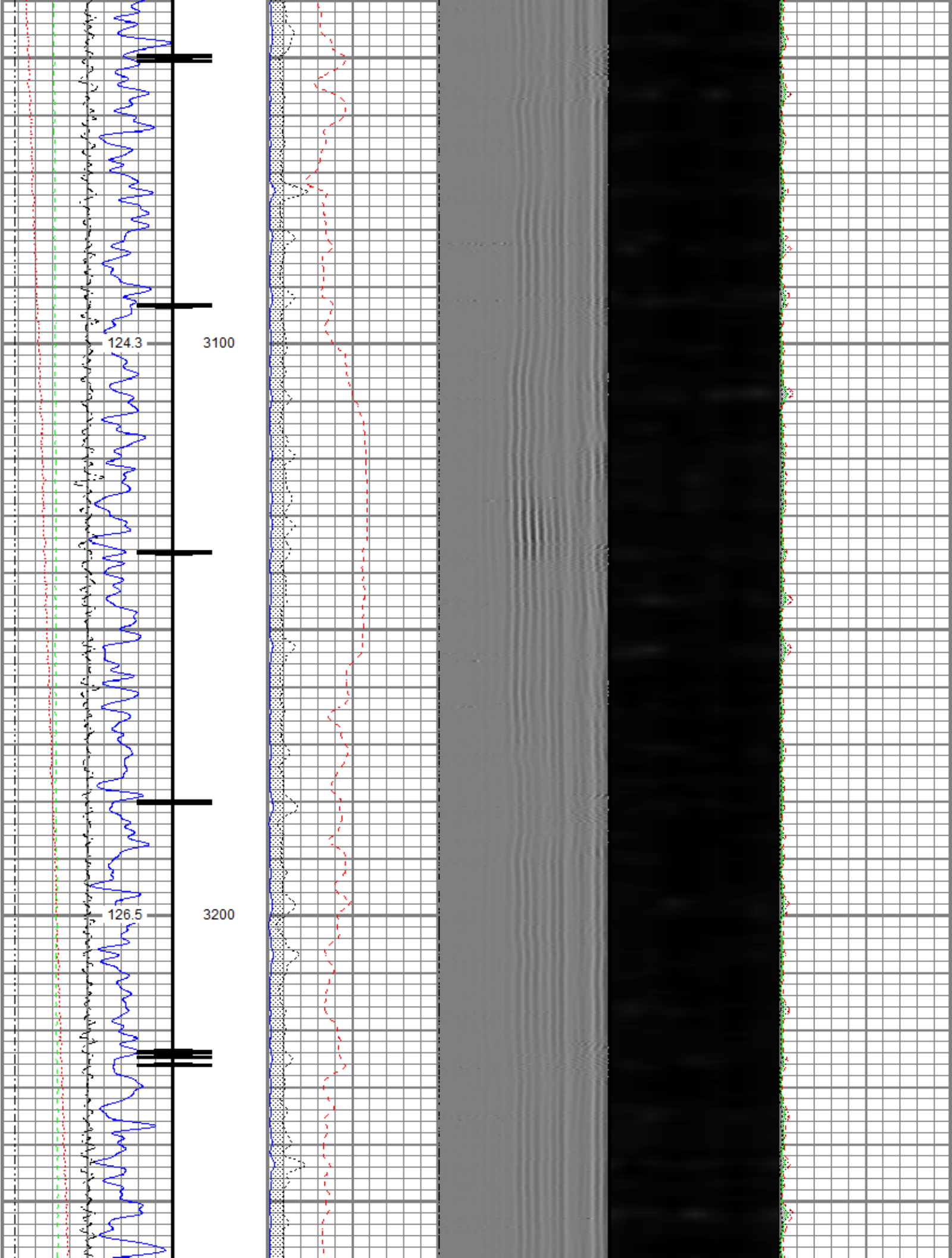




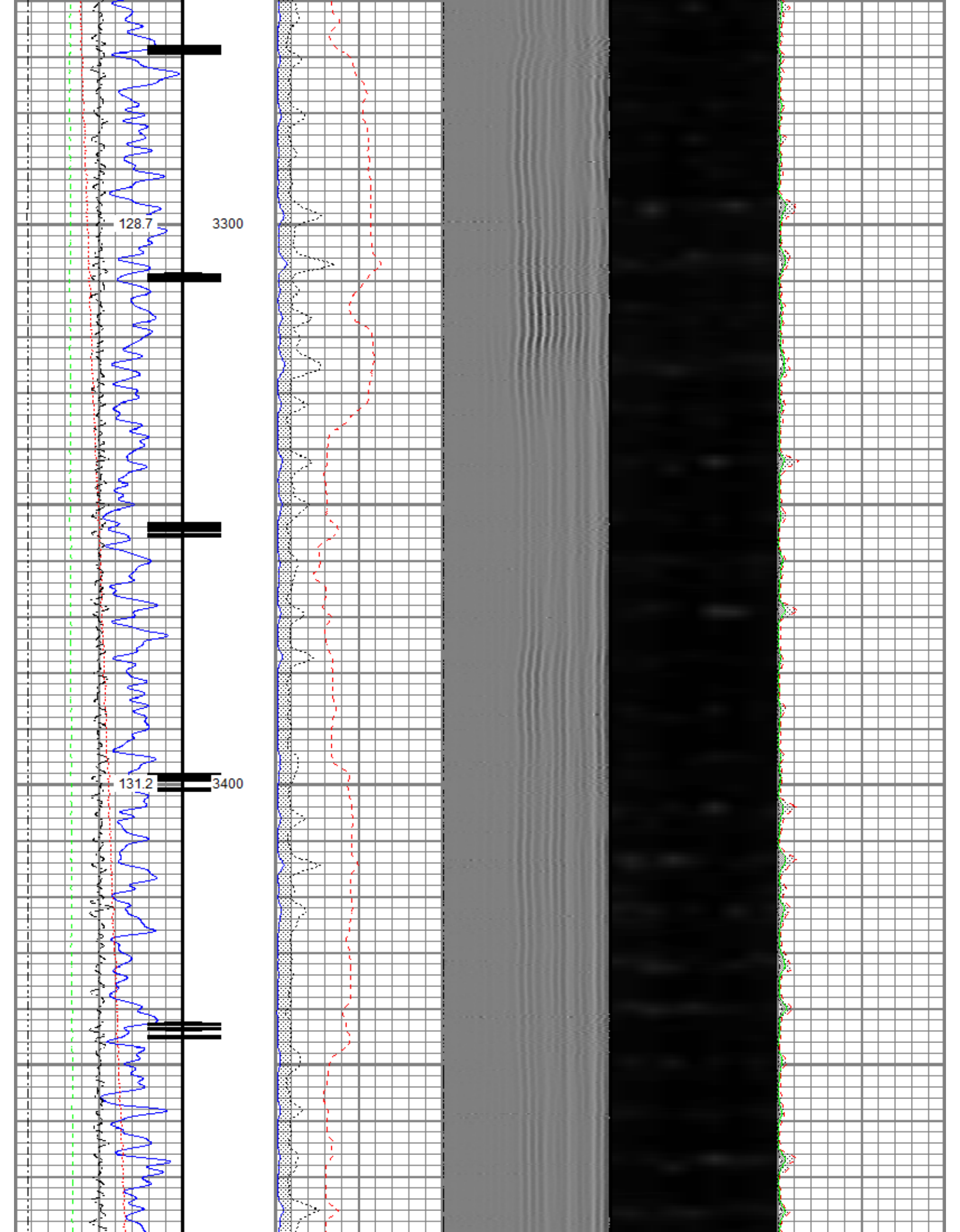


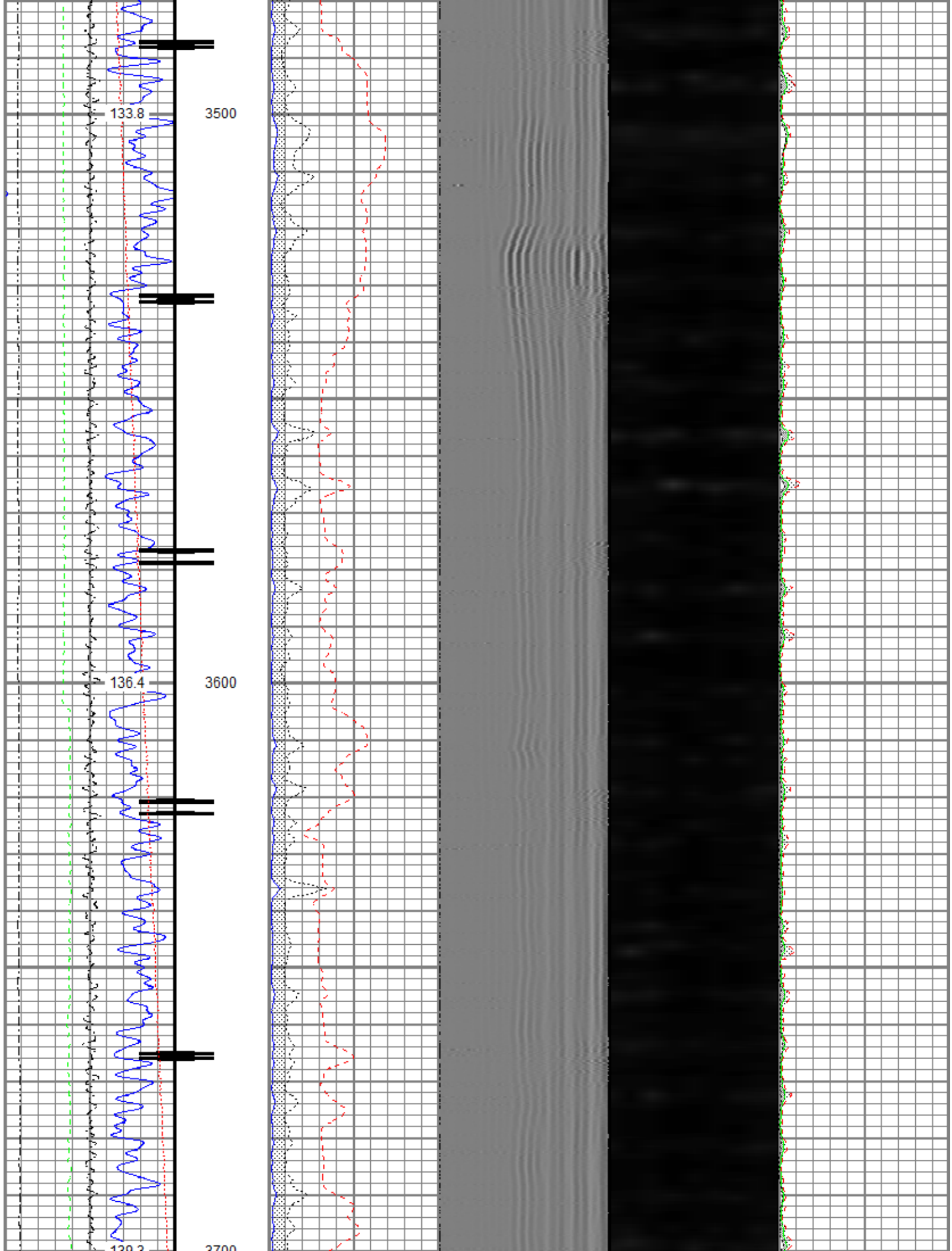


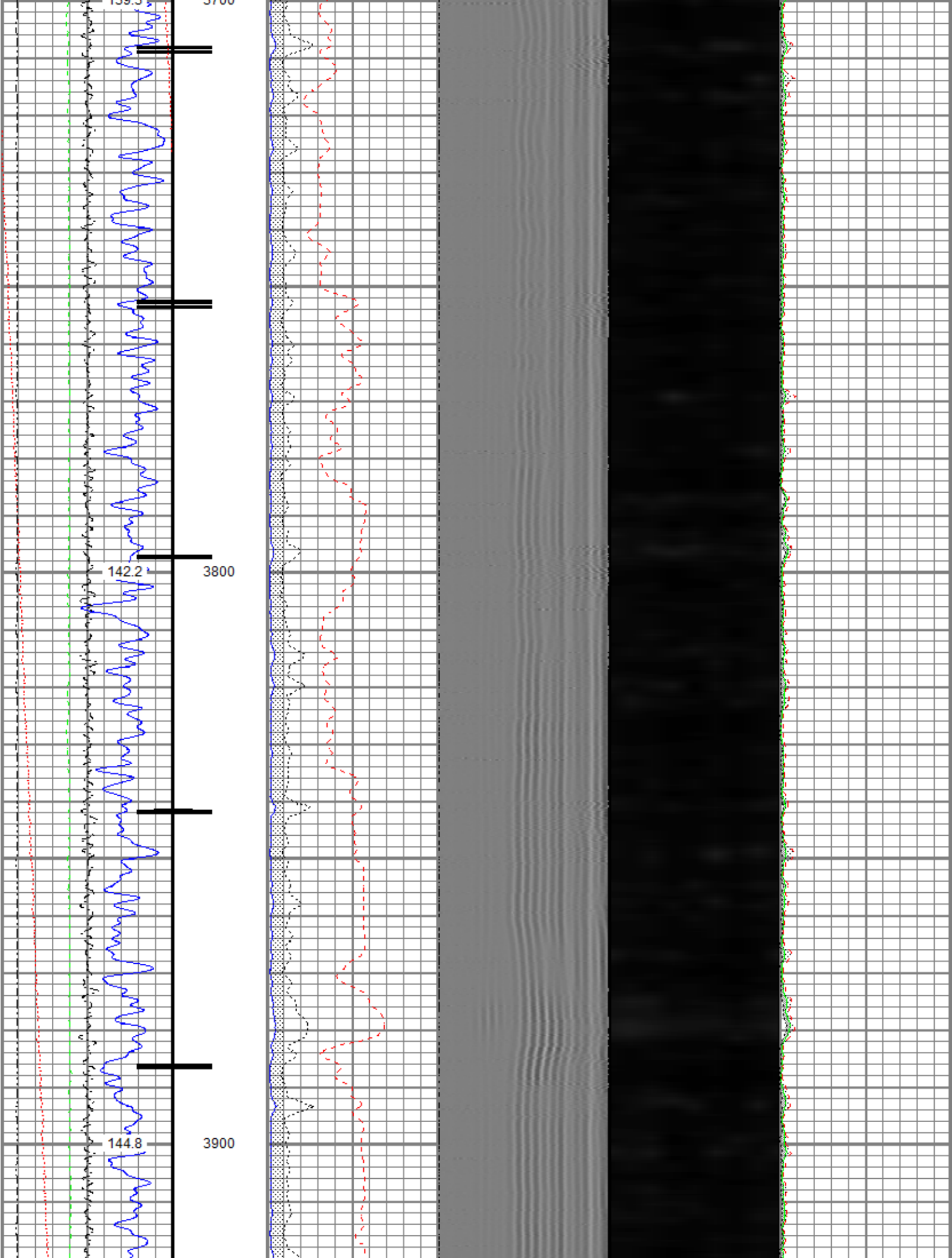


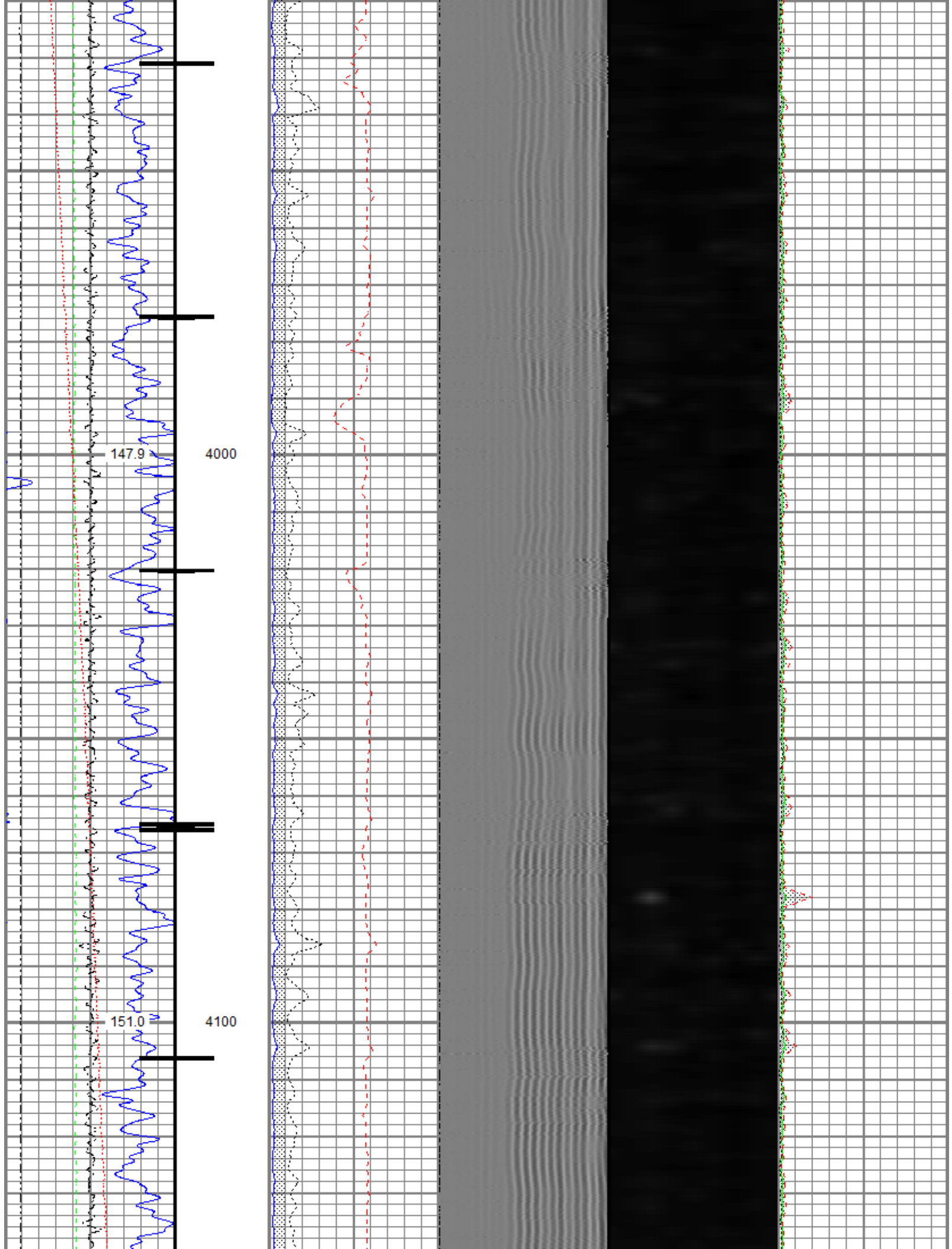




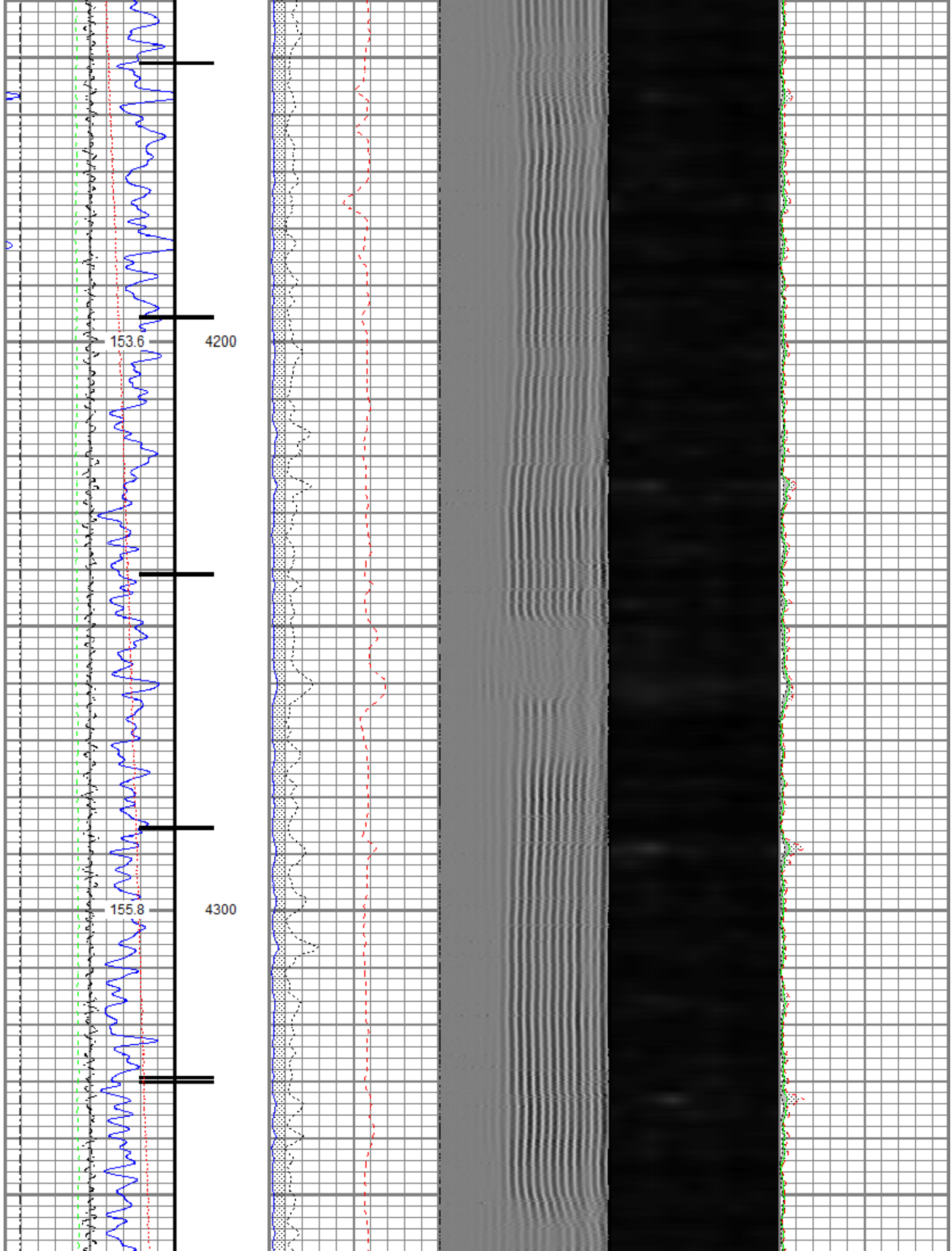


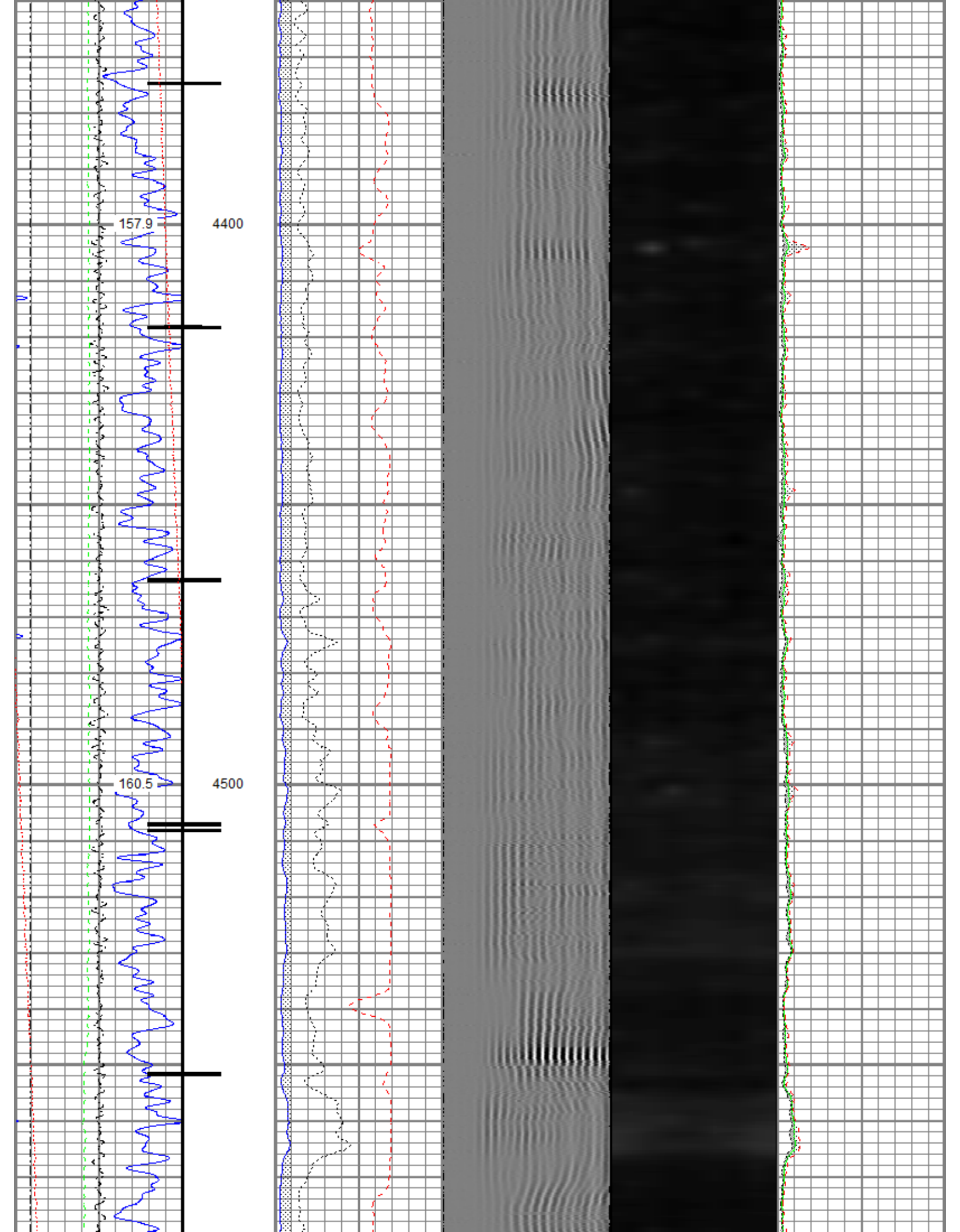


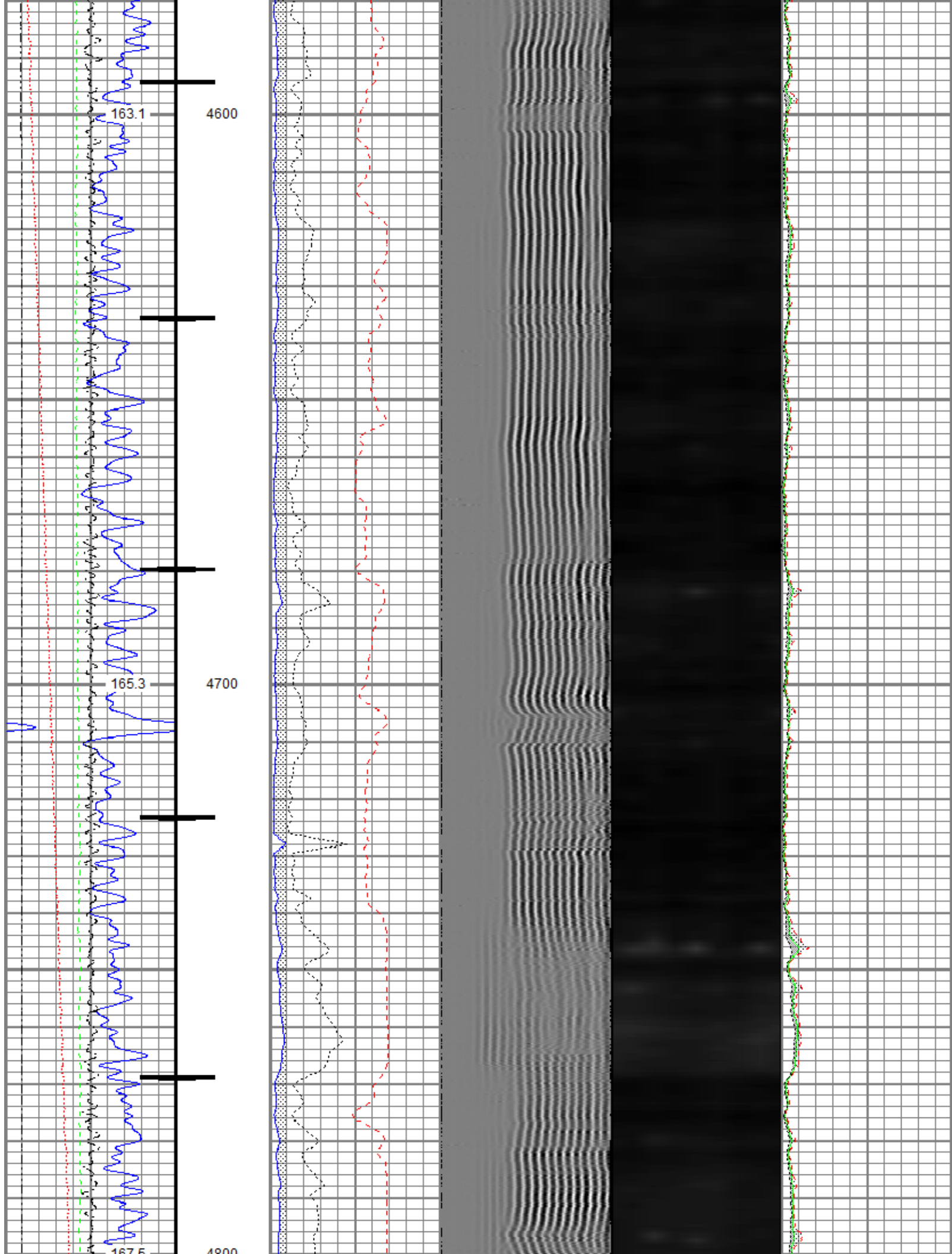


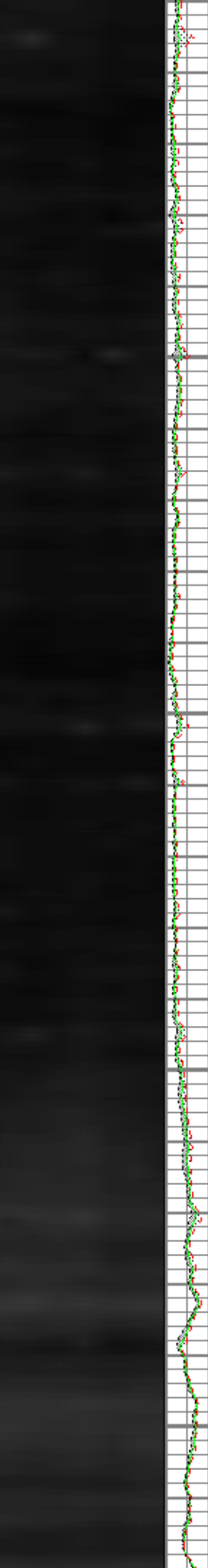
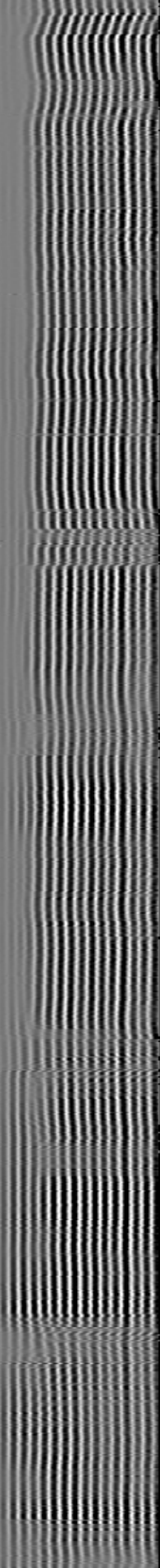
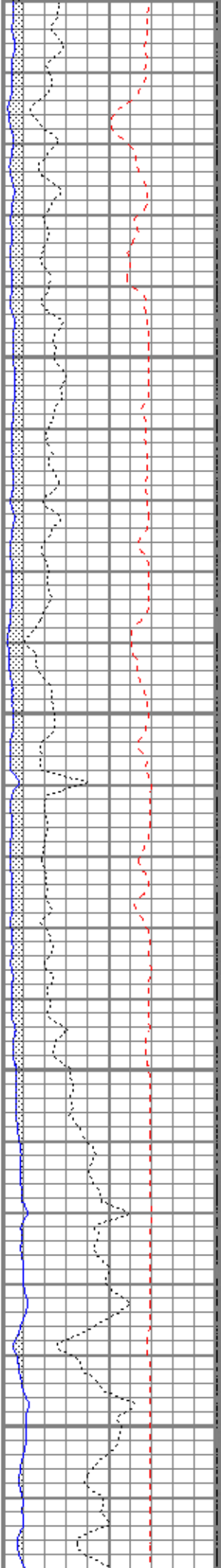
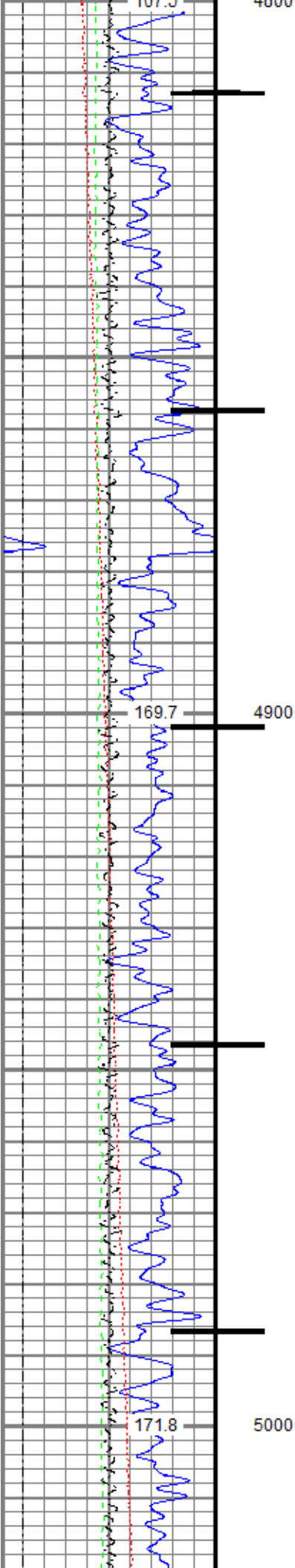












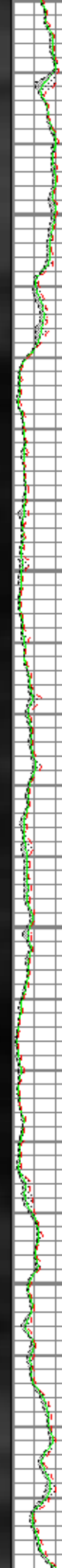


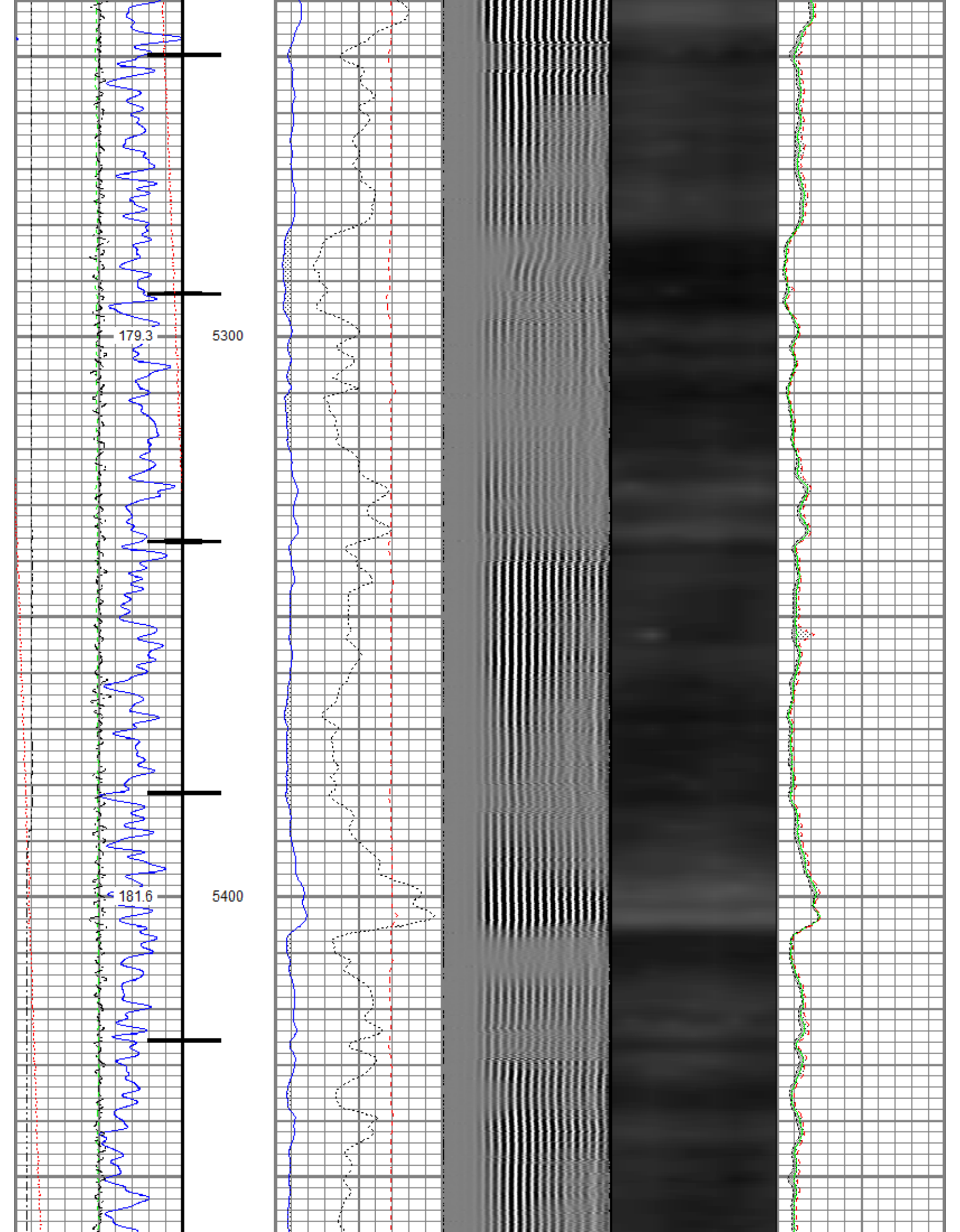
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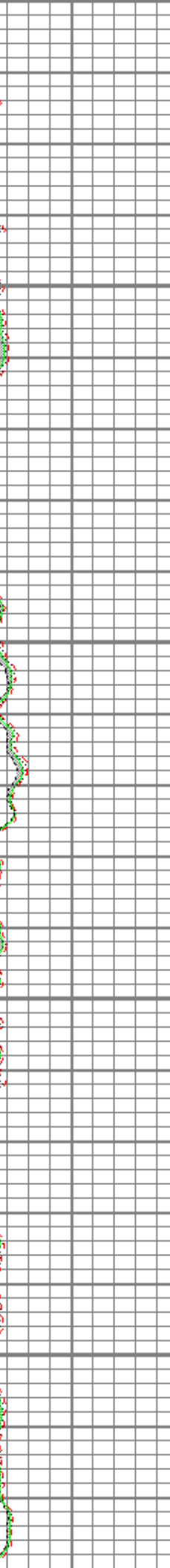
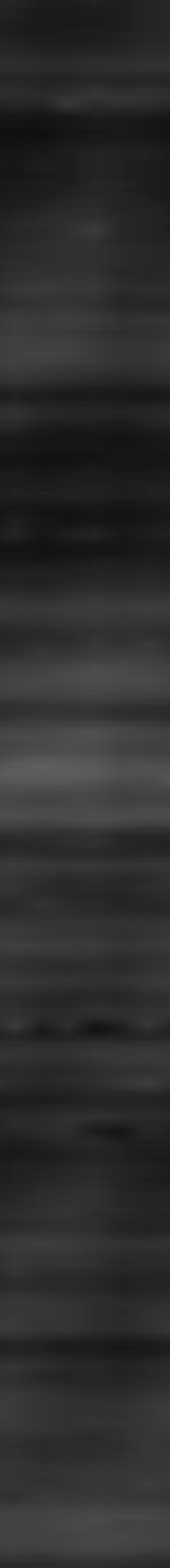
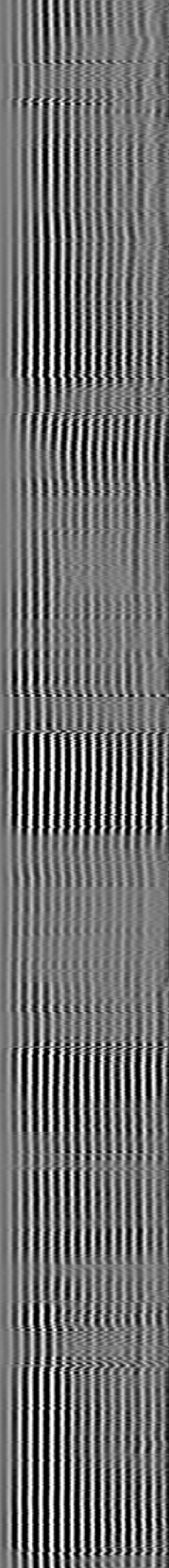
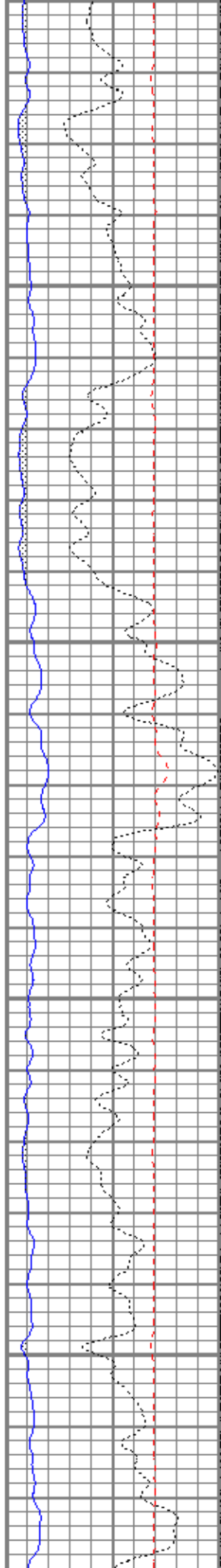
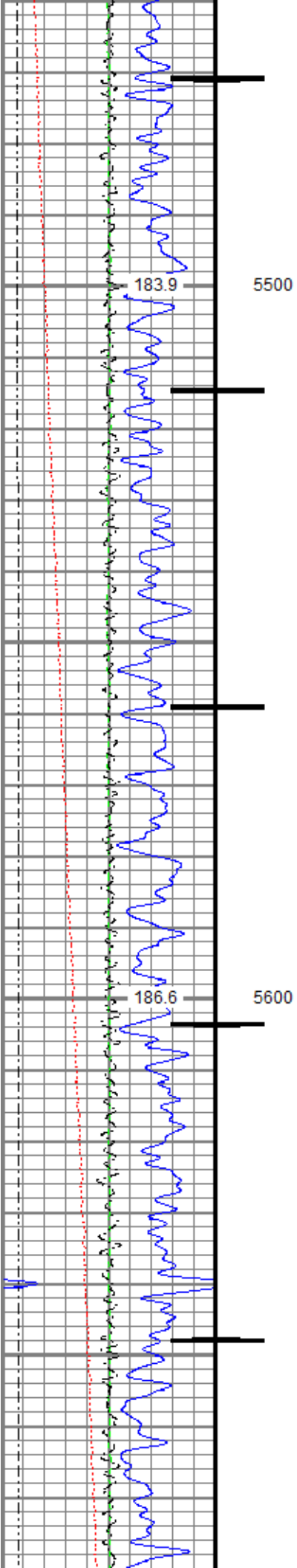
5100

176.5

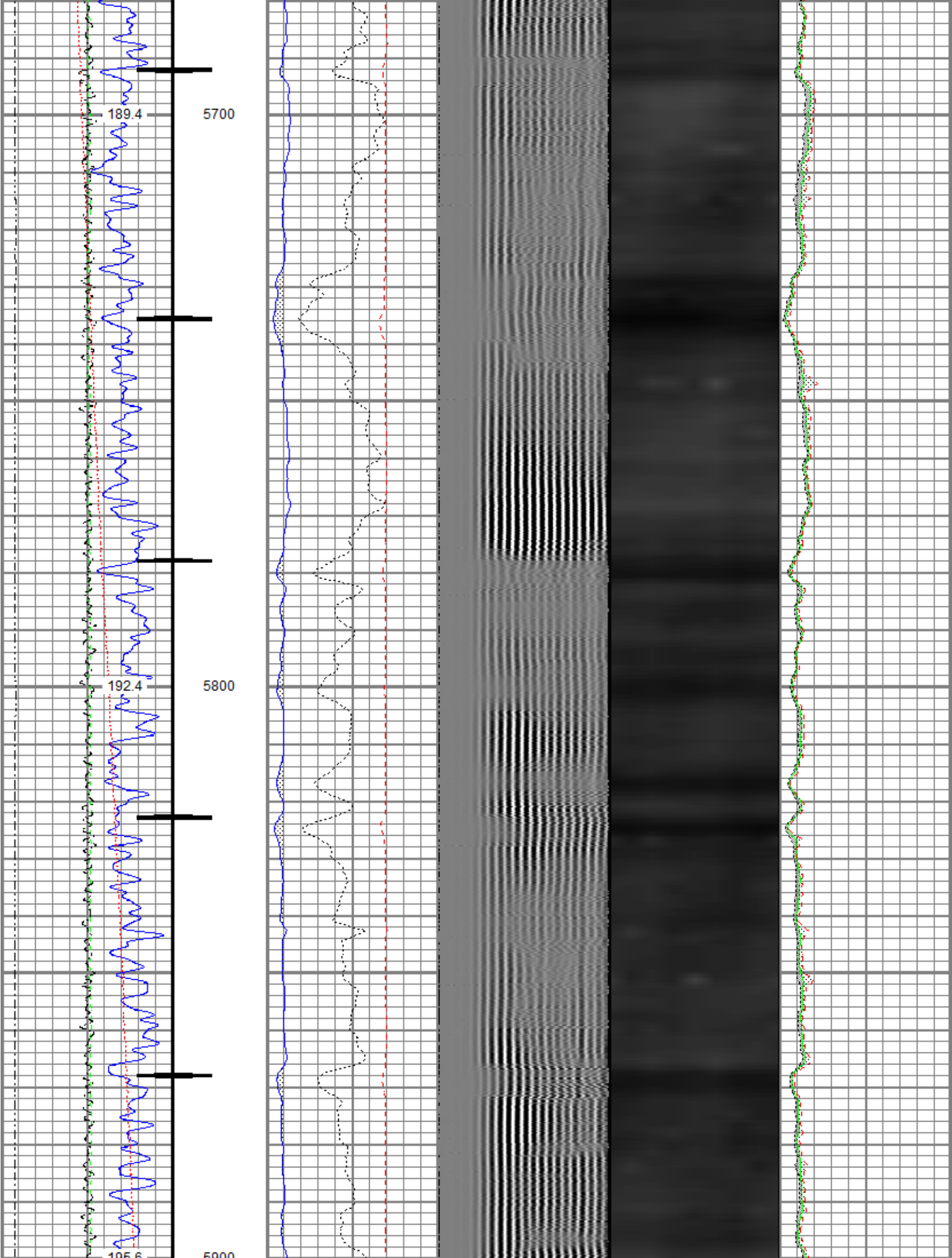
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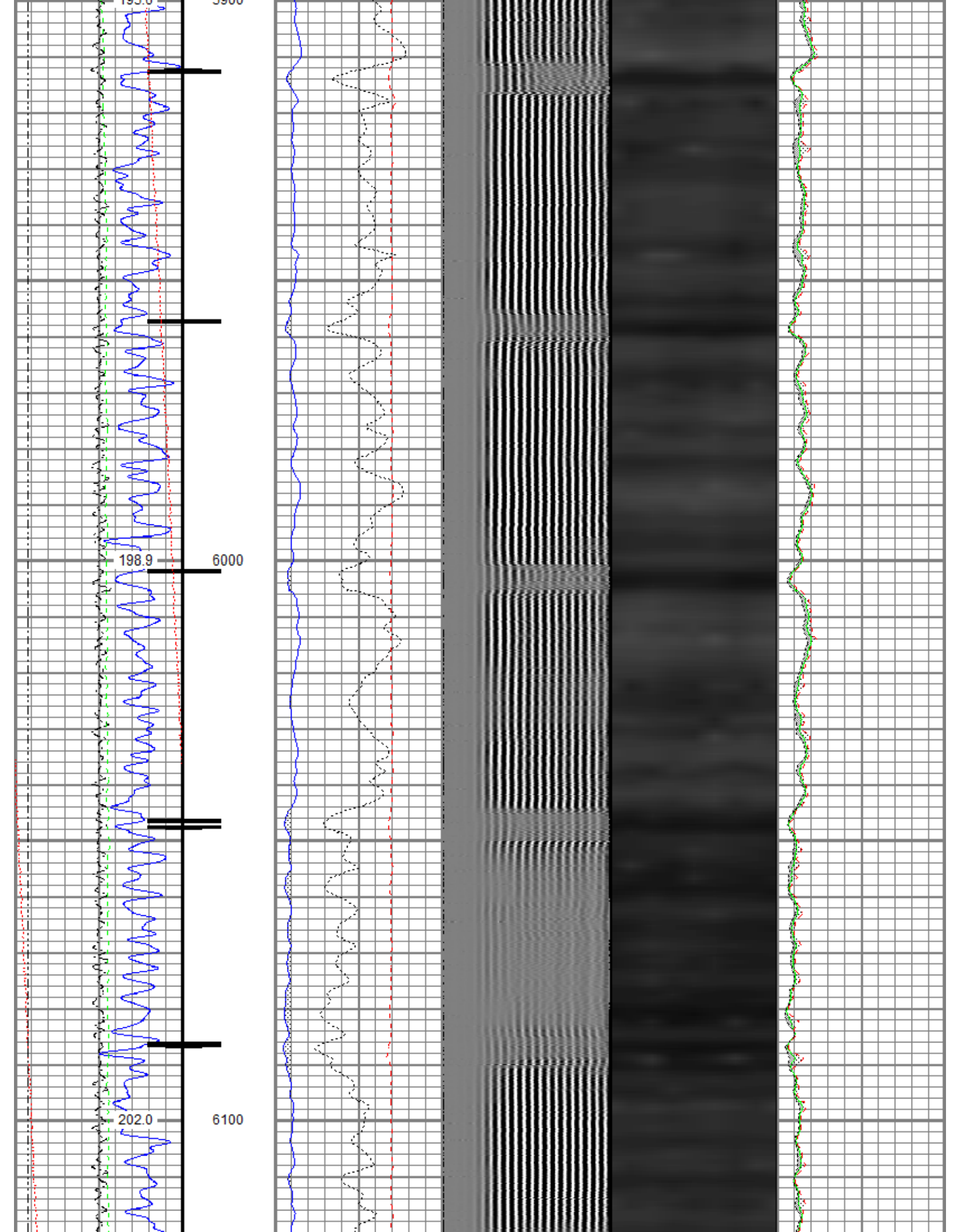


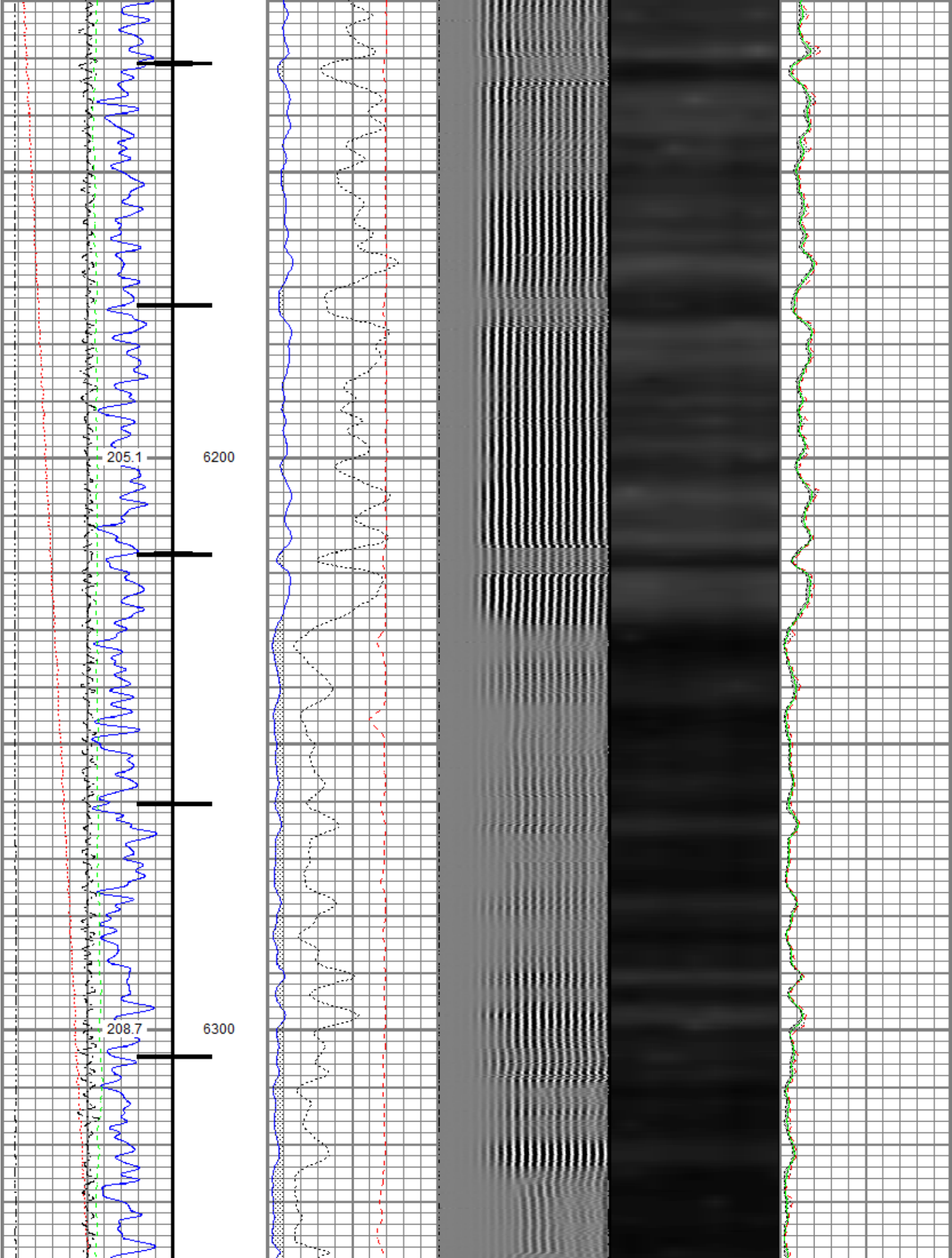


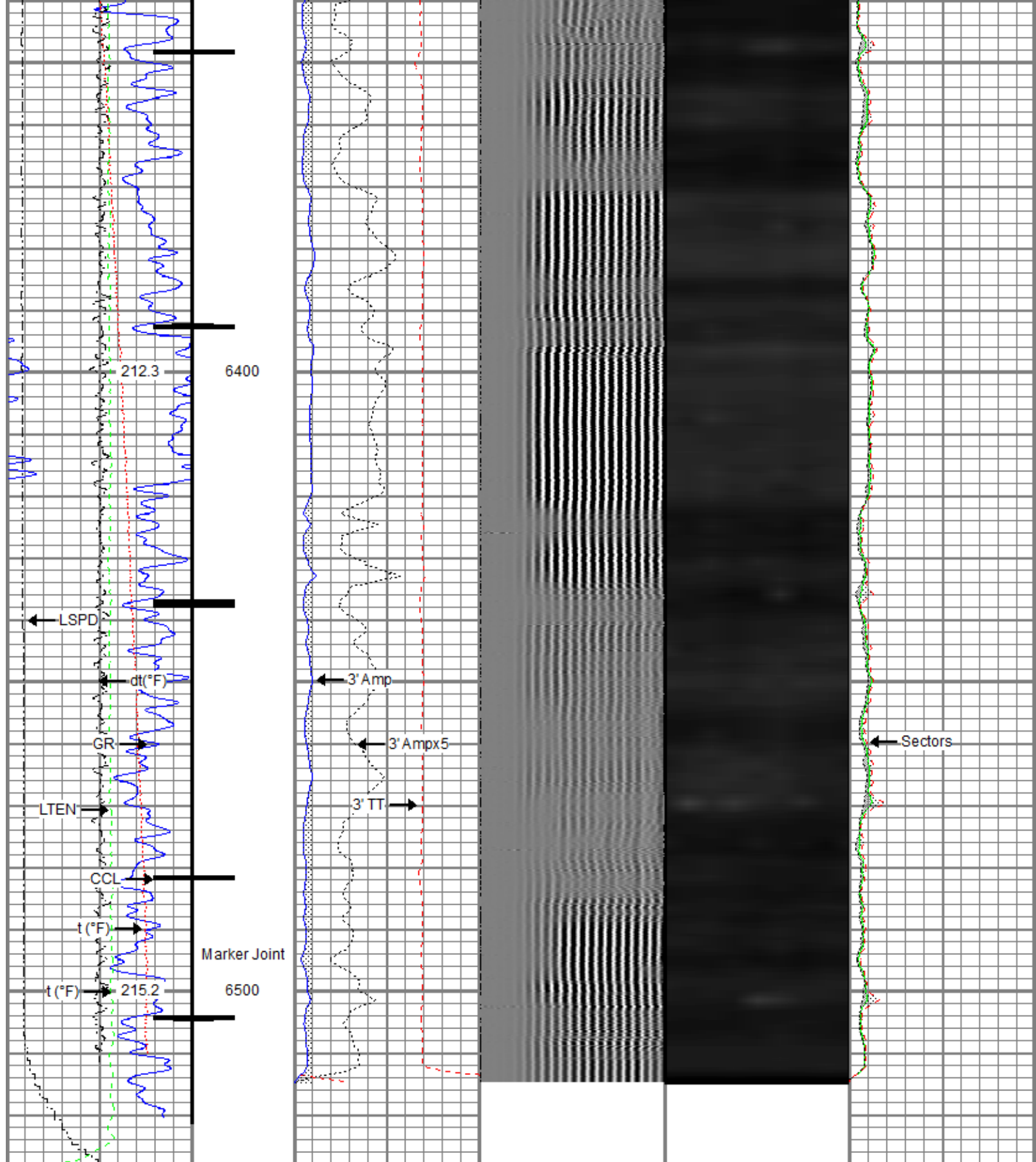












Gamma Ray (GAPI)	0	120
Casing Collar Locator	0	20
Temperature (degF)	0	20
Line Speed (ft/min)	-150	150
Line Tension (lb)	0	2000
Differential Temperature	0	20
3' Amplitude (mV)	0	100
3' Amplitude x 5 (mV)	0	20
3' Travel Time (usec)	650	150
5' Variable Density Log	200	1200
Sector Map	0	100
Average Amplitude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



Differential Temperature  
-2 (degF) 2

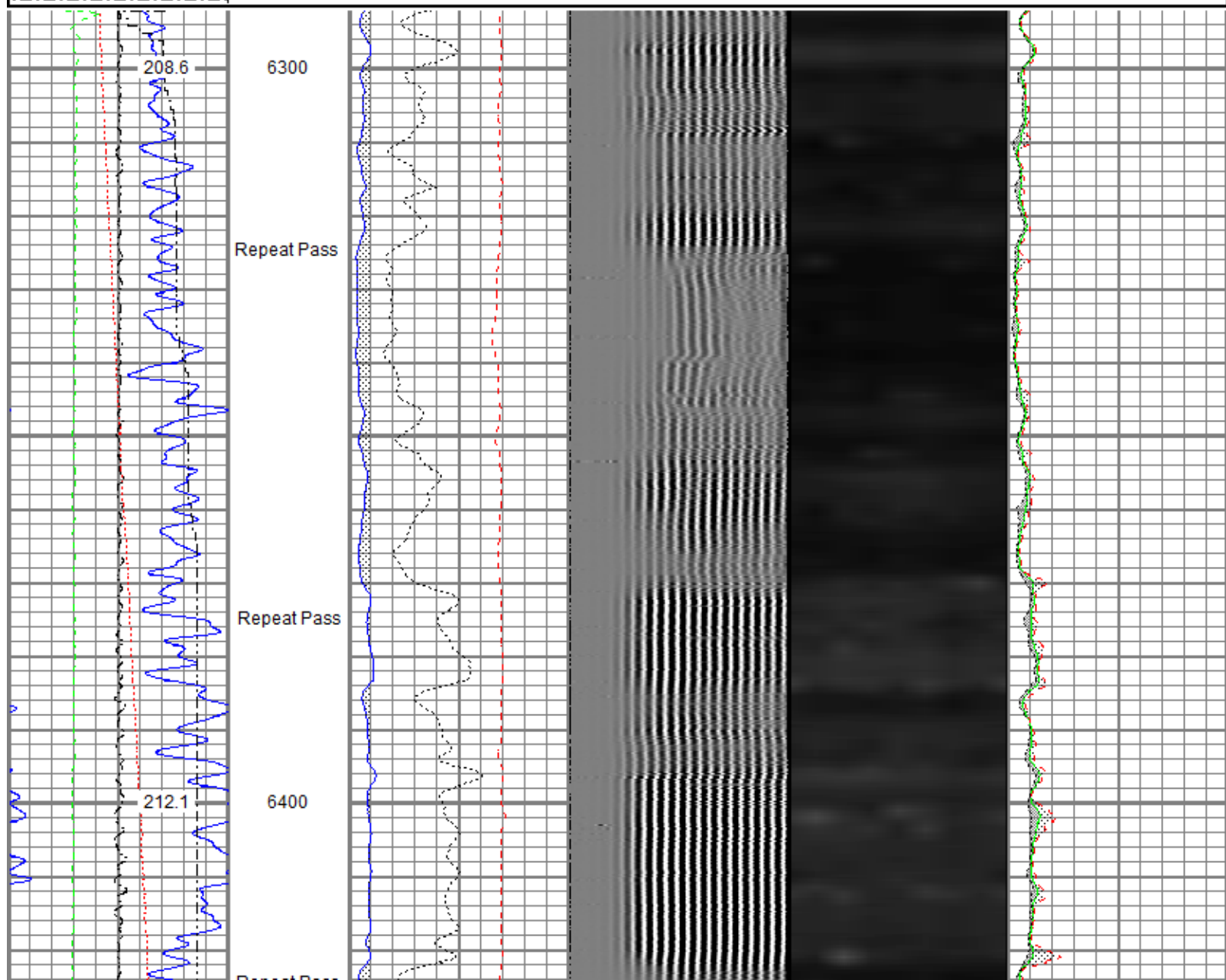


## Repeat Pass

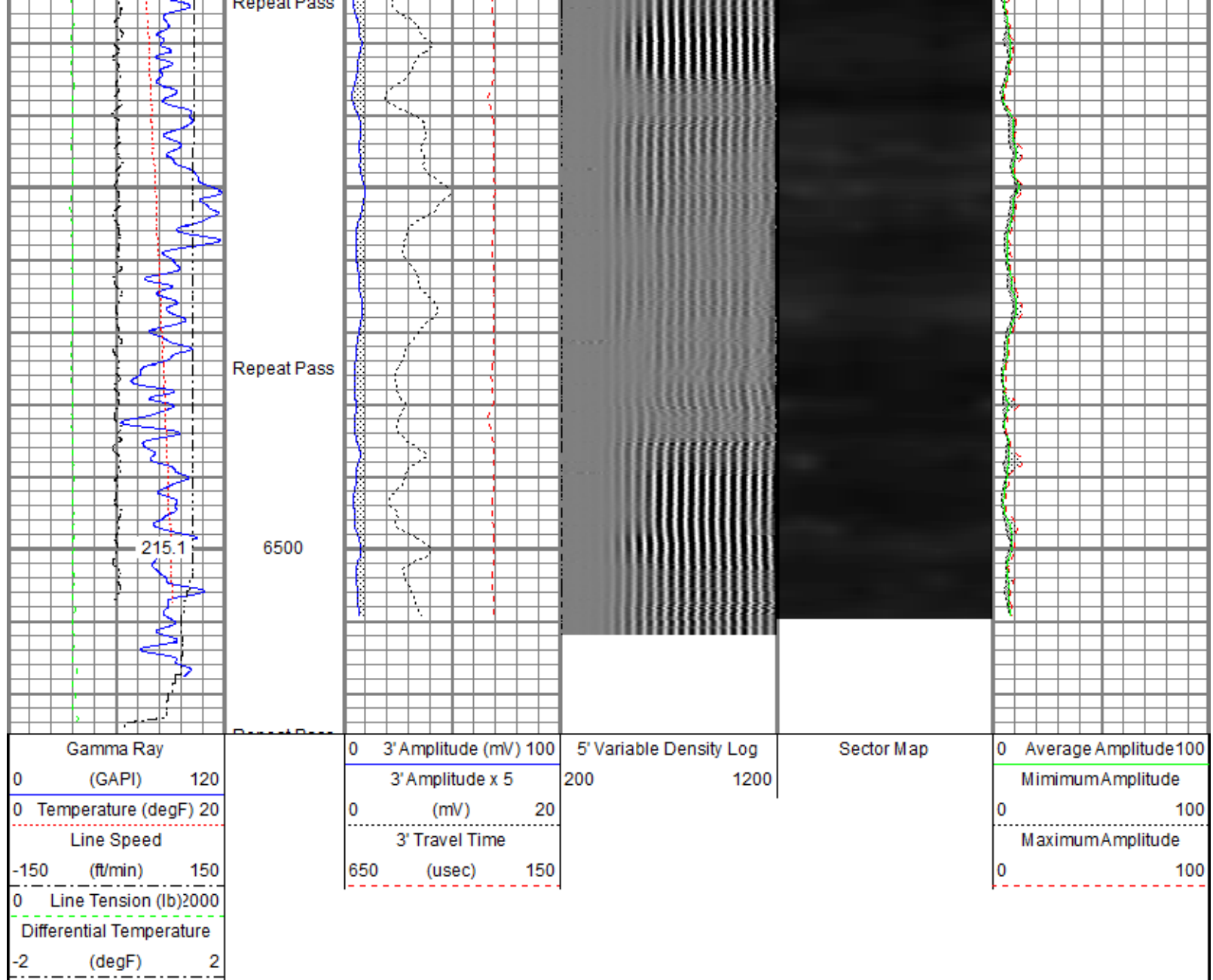
Recorded With 2800 PSI Surface Induced Pressure

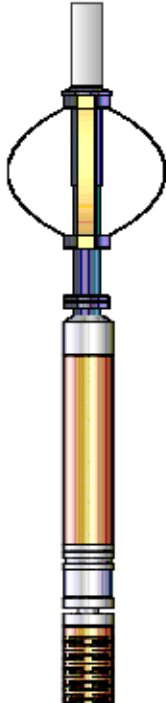
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Dataset Pathname pass2.1  
Presentation Format ros\_radil  
Dataset Creation Sat Jan 06 15:29:54 2018  
Charted by Depth in Feet scaled 1:240

Gamma Ray	0 3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0 Average Amplitude 100
0 (GAPI) 120	3' Amplitude x 5	200 1200		Minimum Amplitude
0 Temperature (degF) 20	0 (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)
TEMP	16.75		Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.69	5.40
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
			Probe Radii-2750 RBT (FW1305-096)	9.39	2.75	105.00

WVFS8	14.52		Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub			
WVFS7	14.52					
WVFS6	14.52					
WVFS5	14.52					
WVFS4	14.52					
WVFS3	14.52					
WVFS2	14.52					
WVFS1	14.52					
WVFCAL	14.52					
WVF3FT	14.52					
WVF5FT	13.52					
HEADVOLT	10.27					
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00
CCL\$2	6.51					
CCL\$1	6.51					
GR	5.26		Probe GR-CCL-2750 GOB (FW1212-026) Probe 2-3/4" rev.2 Digital Scintillation Gamma Ray/CCL Combined	4.51	2.75	55.00
			Probe CENT-2750 Probe 2-3/4" Electric Inline Bowspring Centralizer	2.88	2.75	20.00

Calibration Report		
Database File	c:\programdata\warrior\data\0512345249_anadarko_robin 9-17hz_rbl_01-03-18\0512345249_anadarko_robin 9-17hz_rbl_01-03-18	
Dataset Pathname	pass3.1	
Dataset Creation	Sat Jan 06 15:05:48 2018	
Gamma Ray Calibration Report		
Serial Number:	FW1212-026	
Tool Model:	2750 GOB	
Performed:	Sun Nov 12 12:27:51 2017	
Calibrator Value:	637.0	GAPI
Background Reading:	113.7	cps
Calibrator Reading:	1029.1	cps
Sensitivity:	0.6959	GAPI/cps
Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1305-096	
Tool Model:	2750 RBT	
Calibration Casing Diameter:	5.500	in

Calibration Using Division:

28.352

ft

## Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	0.473	0.800	71.921	152.397	-0.130
CAL	0.004	0.549				
5'	0.009	0.410	0.800	71.921	177.519	-0.823
SUM						
S1	0.006	0.481	0.000	100.000	210.370	-1.174
S2	0.007	0.458	0.000	100.000	222.055	-1.599
S3	0.007	0.451	0.000	100.000	225.599	-1.686
S4	0.006	0.452	0.000	100.000	224.213	-1.290
S5	0.008	0.471	0.000	100.000	215.811	-1.656
S6	0.006	0.487	0.000	100.000	207.693	-1.164
S7	0.007	0.494	0.000	100.000	205.366	-1.361
S8	0.007	0.499	0.000	100.000	203.544	-1.506

## Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.549	1.000	0.000

## Air Zero Calibration, performed Thu Jan 04 06:50:35 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** Robin 9-17HZ  
**Field** Wattenberg

County

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