



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.		Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Sunflower 7N-17HZ		Well		Sunflower 7N-17HZ	
Field		Wattenberg		Field		Wattenberg	
County		Weld		County		Weld	
State		Colorado		State		Colorado	
Location:				API #: 05-123-42069		Other Services	
SEC 8 TWP 2N RGE 65W				JB/GR		Elevation	
Permanent Datum				Ground Level		4901'	
Log Measured From				Kelly Bushing		20 FT	
Drilling Measured From				Kelly Bushing		G.L. 4901'	
Date		12-Jan-2016					
Run Number		One					
Depth Driller		12615 FT					
Depth Logger		7152 FT					
Bottom Logged Interval		7148 FT					
Top Log Interval		Surface					
Open Hole Size		7.875"					
Type Fluid		Water					
Density / Viscosity		8.34 lbm/gal					
Max. Recorded Temp.		240°F					
Estimated Cement Top		64 FT					
Time Well Ready		ROA					
Time Logger on Bottom		9:11 A.M.					
Equipment Number		HD-0325					
Location		Fort Lupton, CO					
Recorded By		J. Morrison					
Witnessed By		Mario Torres					
Borehole Record				Tubing 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	J55	Surface	1883 FT		
Intermediate #1							
Intermediate #2							
Liner	5 1/2	17	HCP-110	Surface	12615 FT		
Marker Joint				6427 FT - 6450 FT			

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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 6427 FT
Adjusted log 0 FT to correlate with Marker Joint
Gauge Ring ran to 7278 FT with no debris
Recorded with 2800 PSI Surface Induced Pressure
Logging tools were clean and free of any debris upon completion of operations

Thank you for choosing FMC Technologies Surface Integrated Services.



Main Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File:0512342069_anadarko_sunflower 7n-17hz_01-12-16_rbl.db

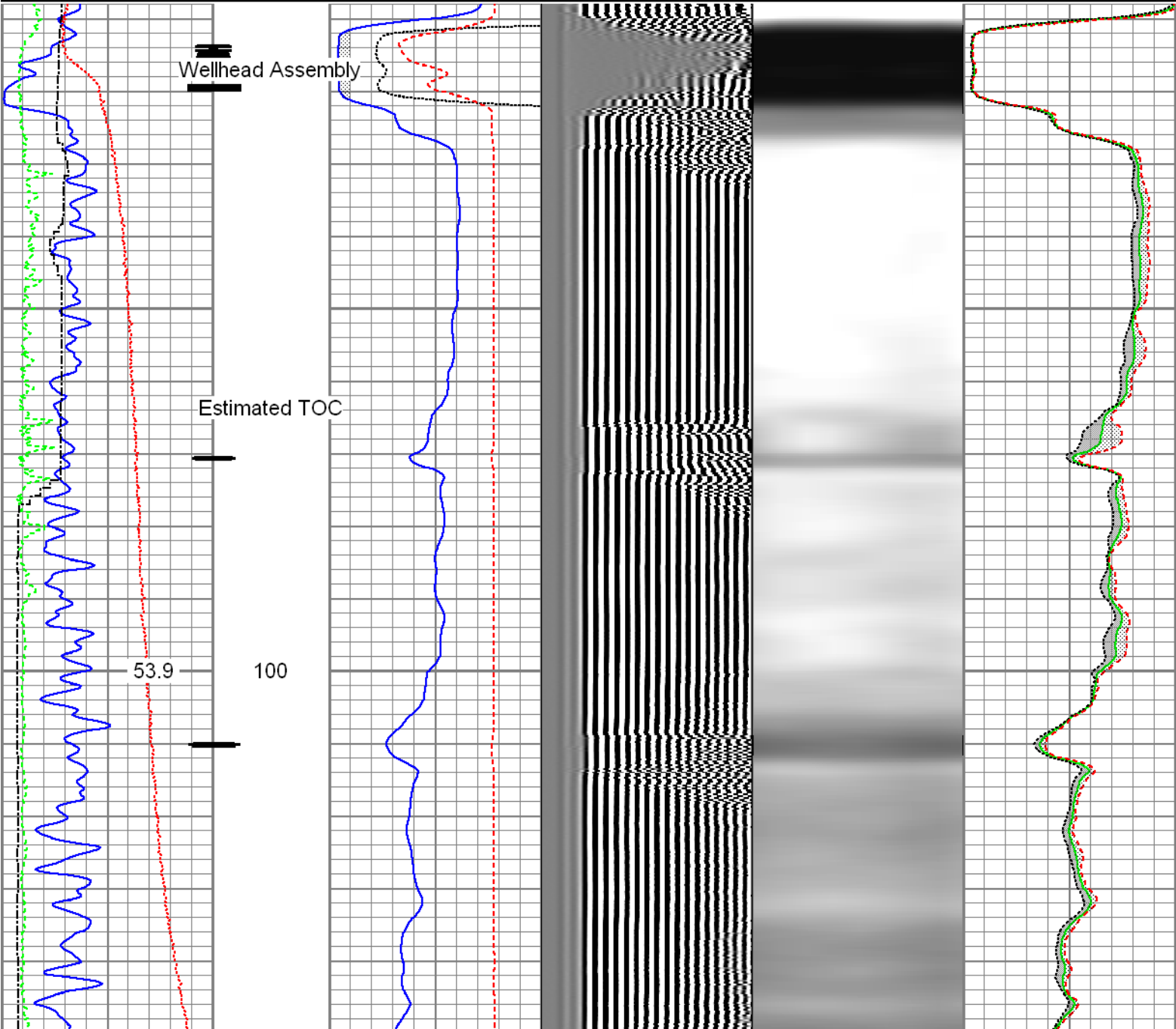
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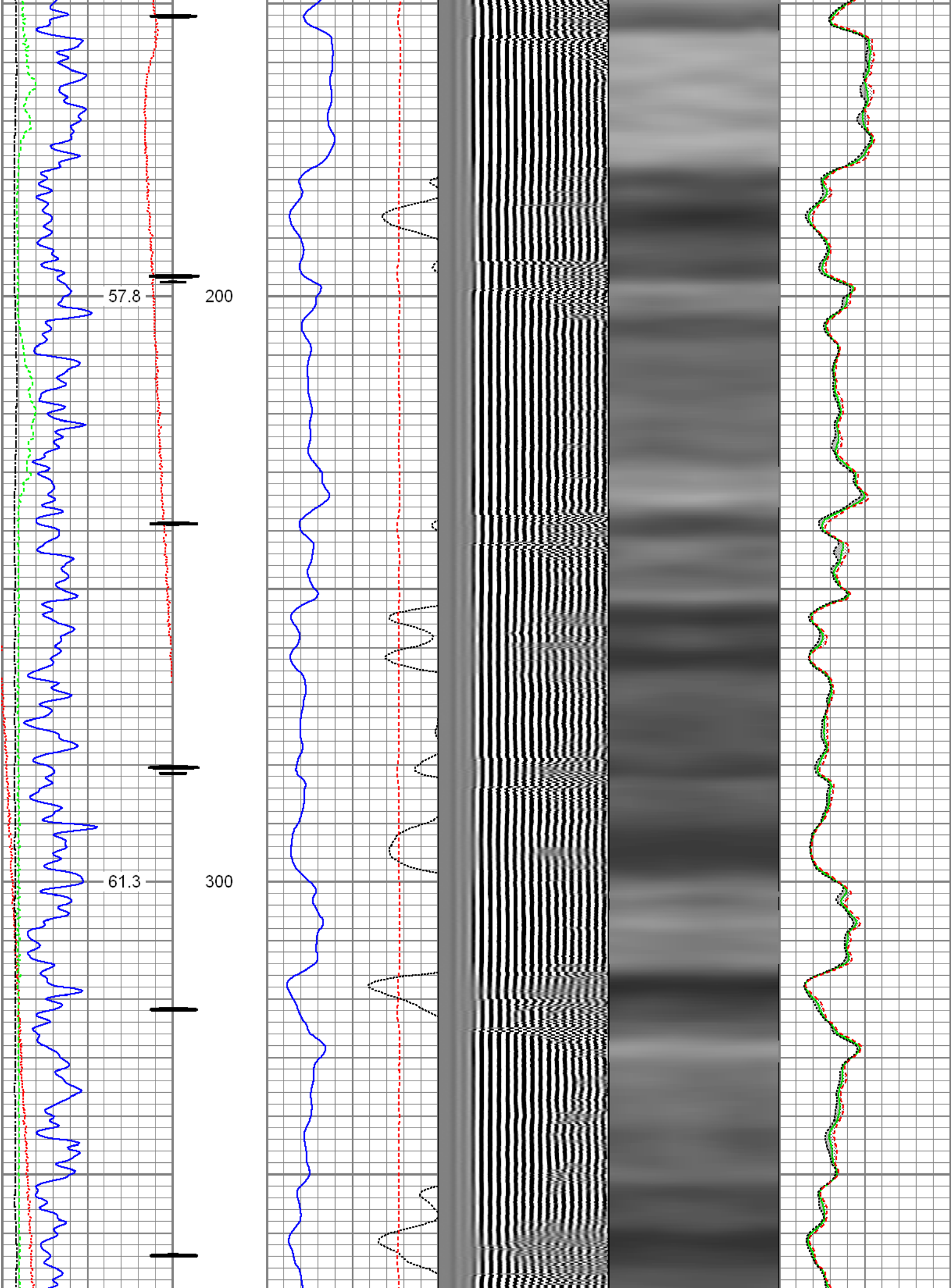
Presentation Format:radii

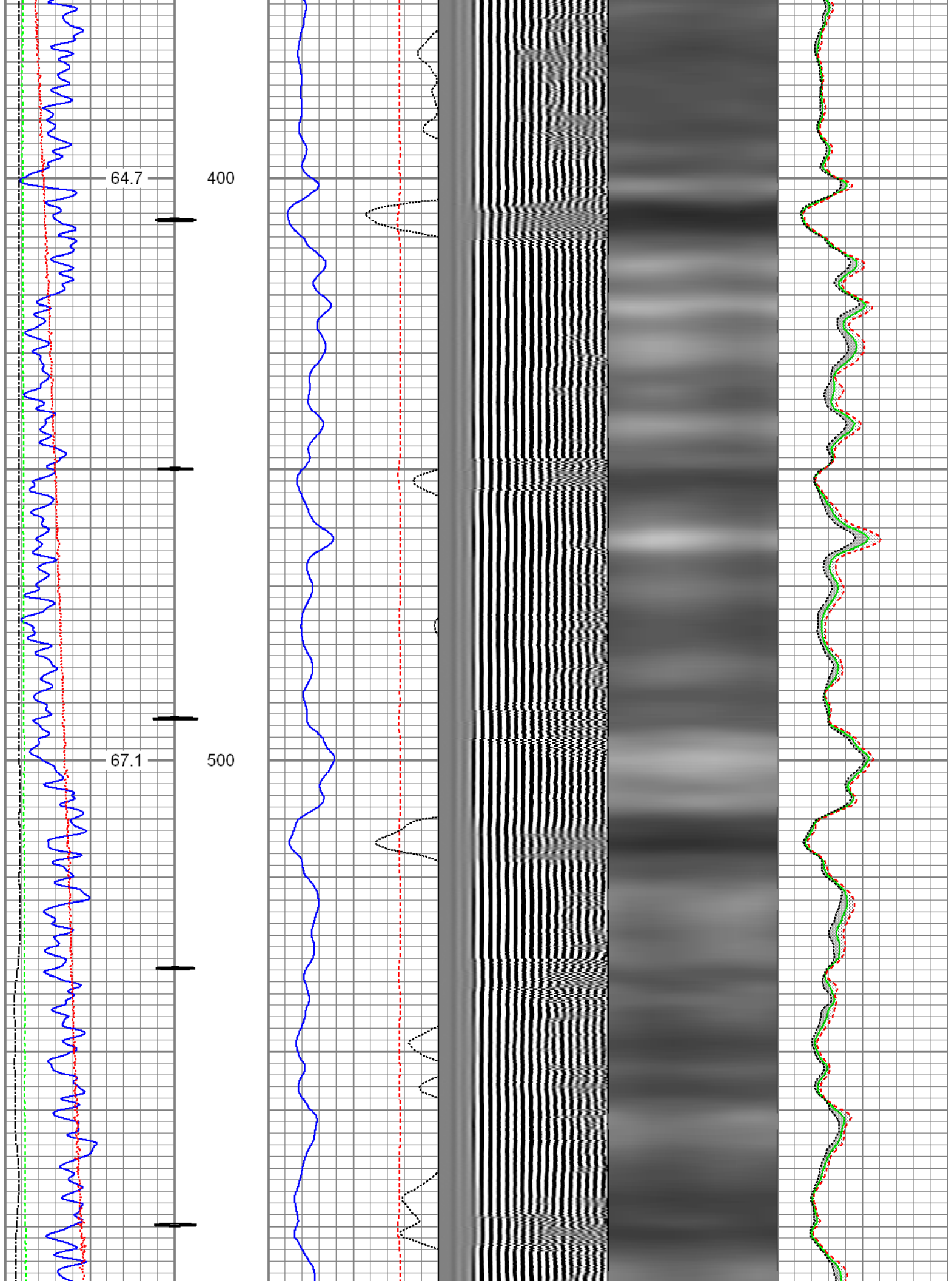
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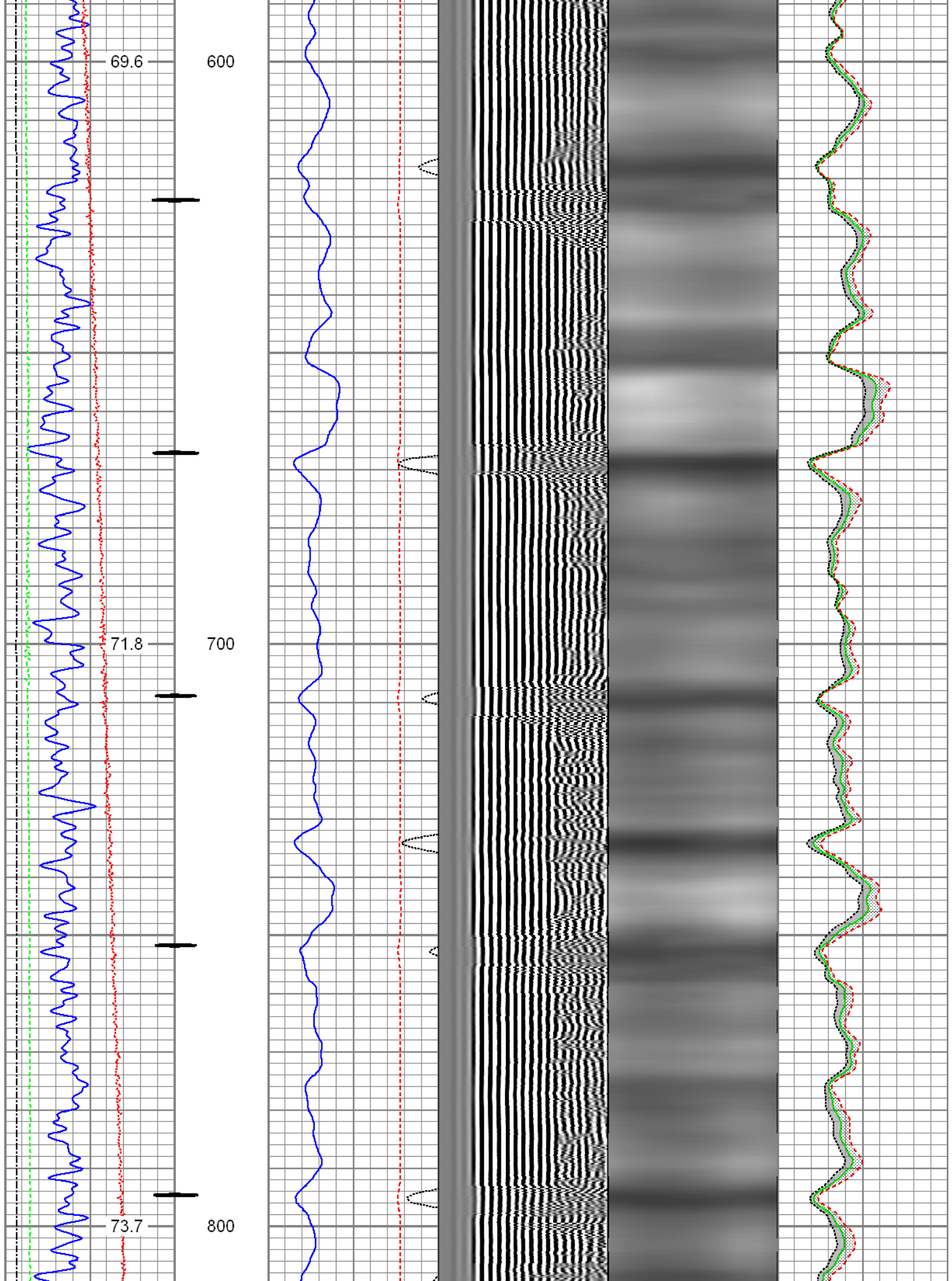
Charted by:Depth in Feet scaled 1:240

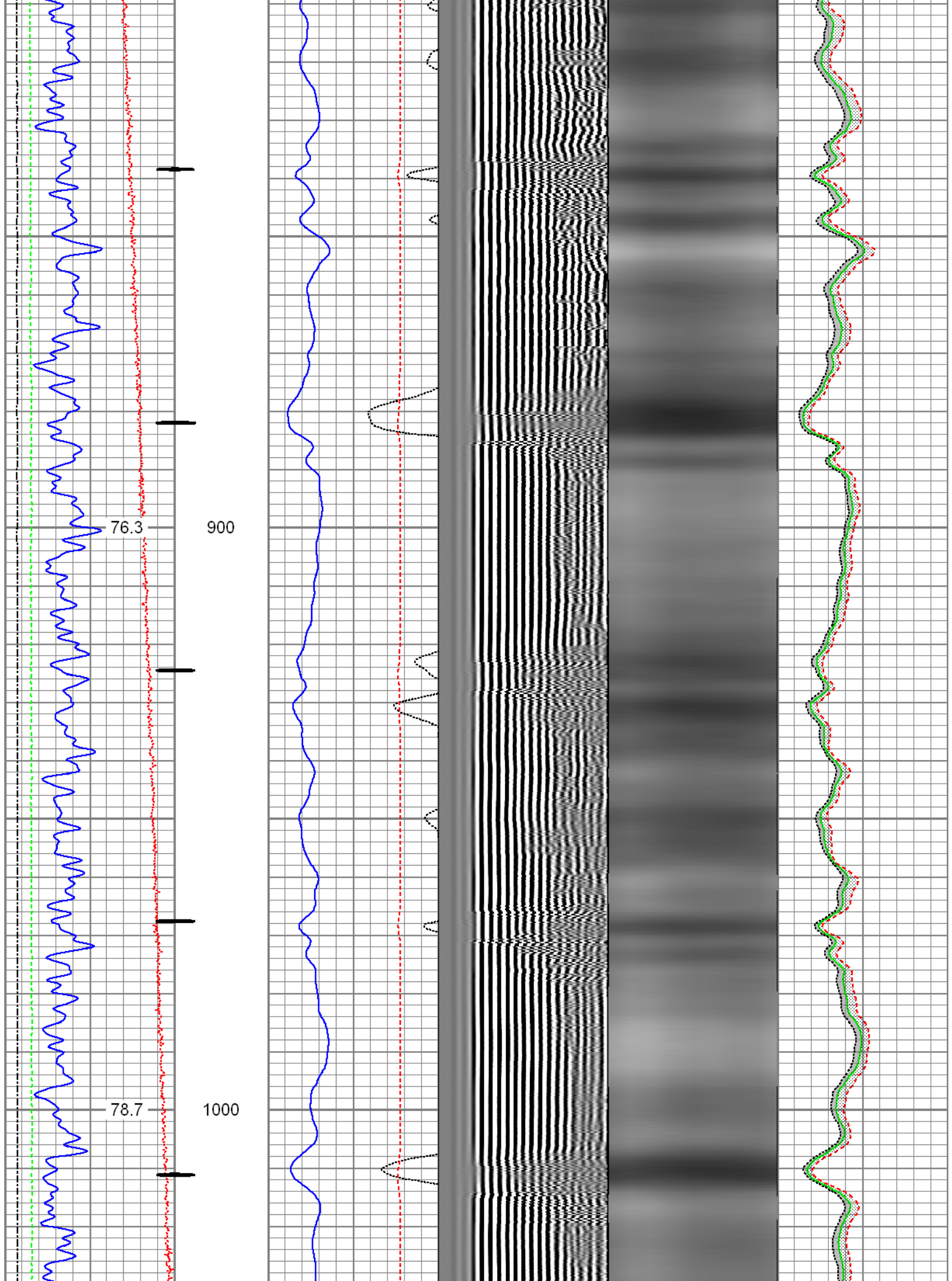
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Temperature	3' Amplitude x 5			Mimimum Amplitude
0 (degF) 20	0 (mV) 20			0 100
Line Speed	3' Travel Time			Maximum Amplitude
-150 (ft/min) 150	650 (usec) 150			0 100
Line Tension				
0 (lb) 2000				
Casing Collar Locator				
10 0.3				

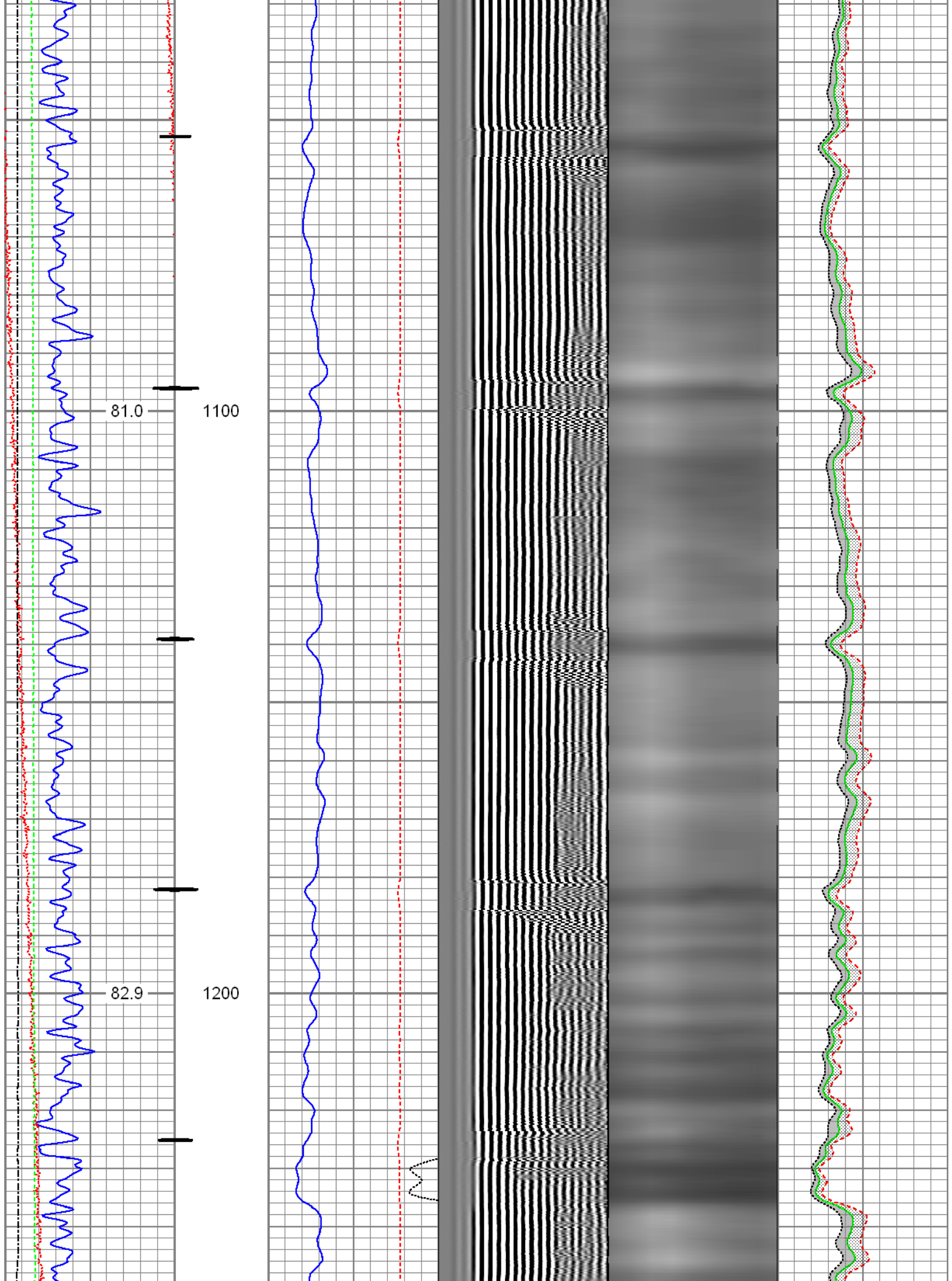


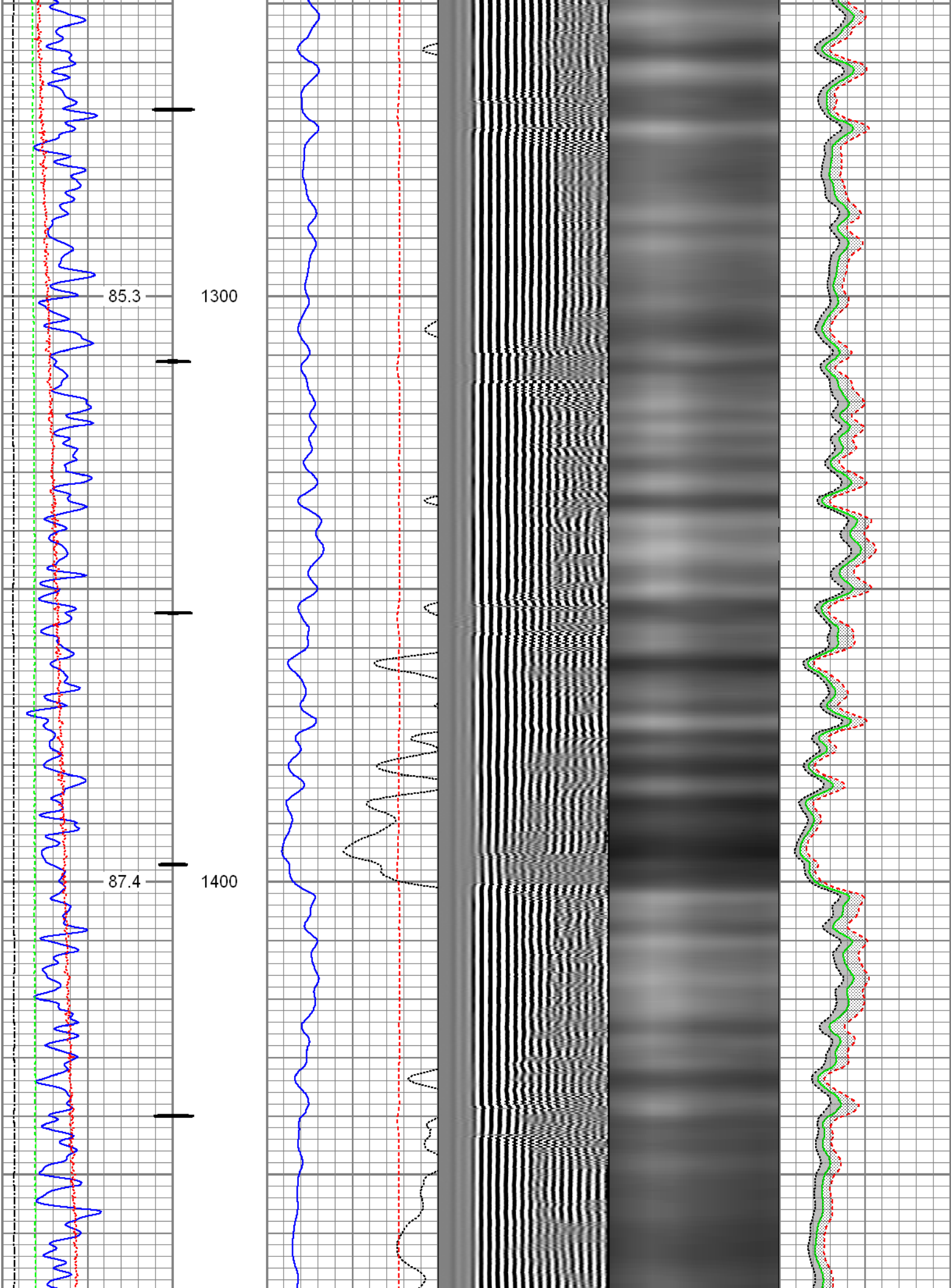


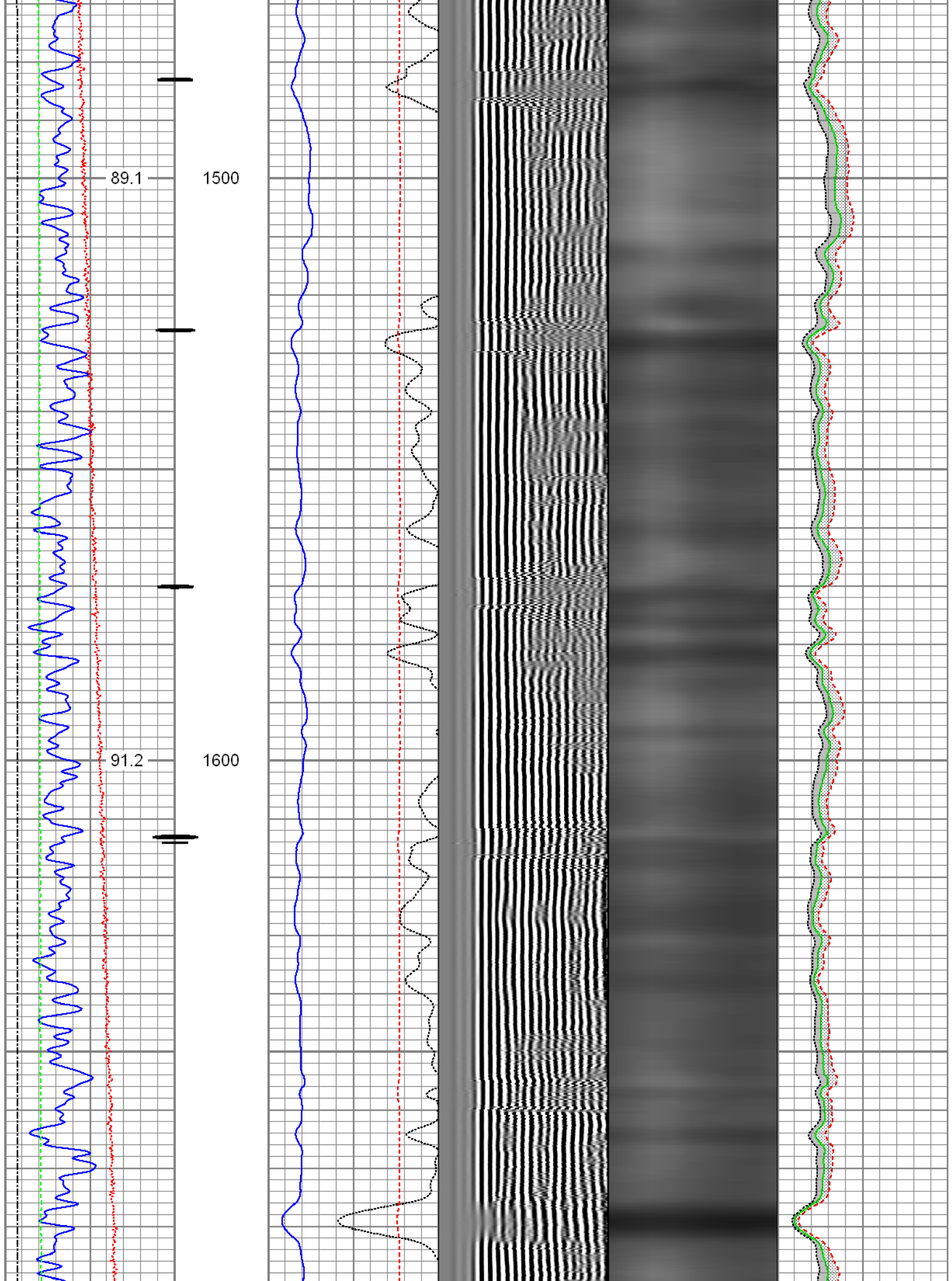


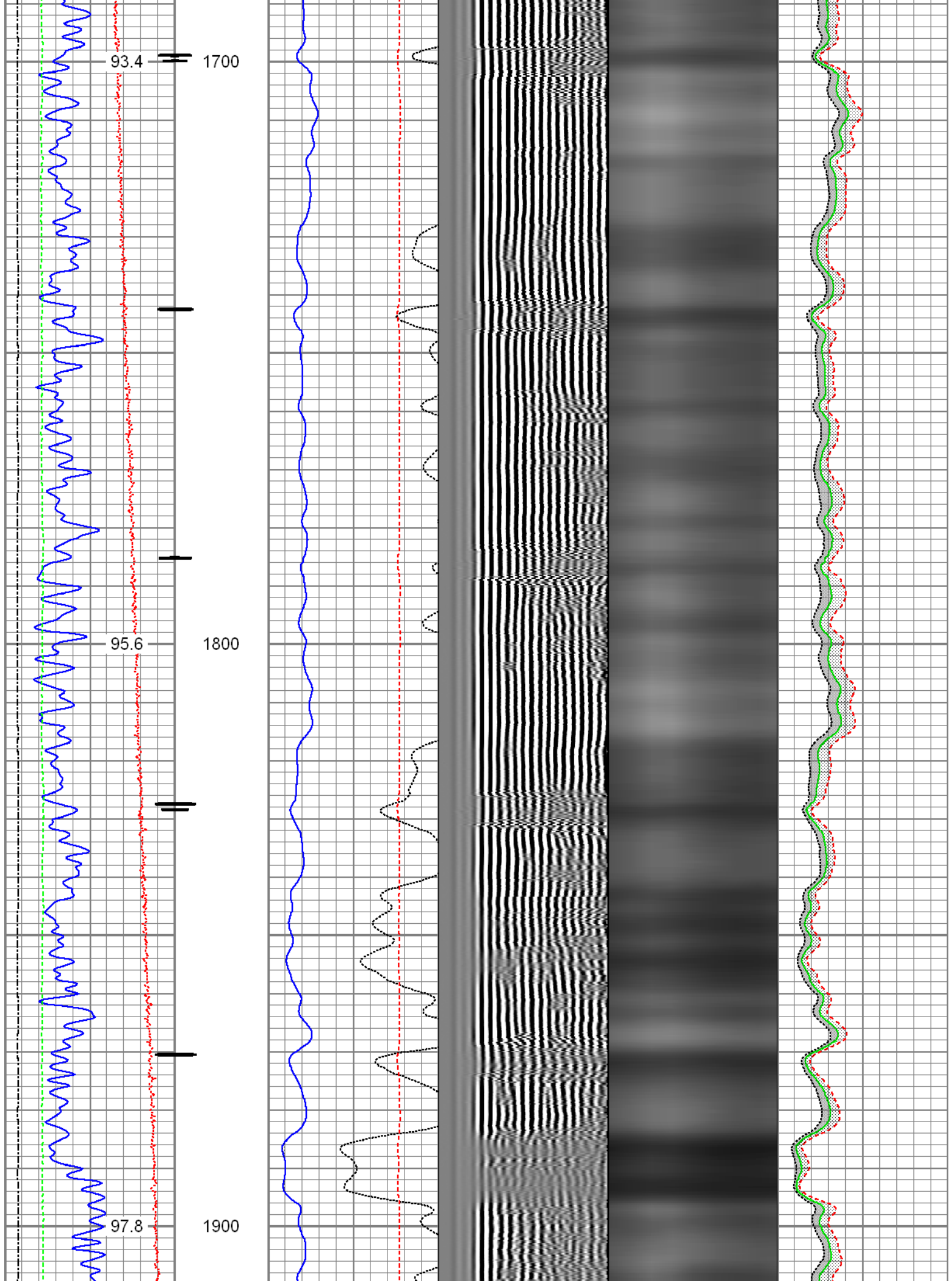


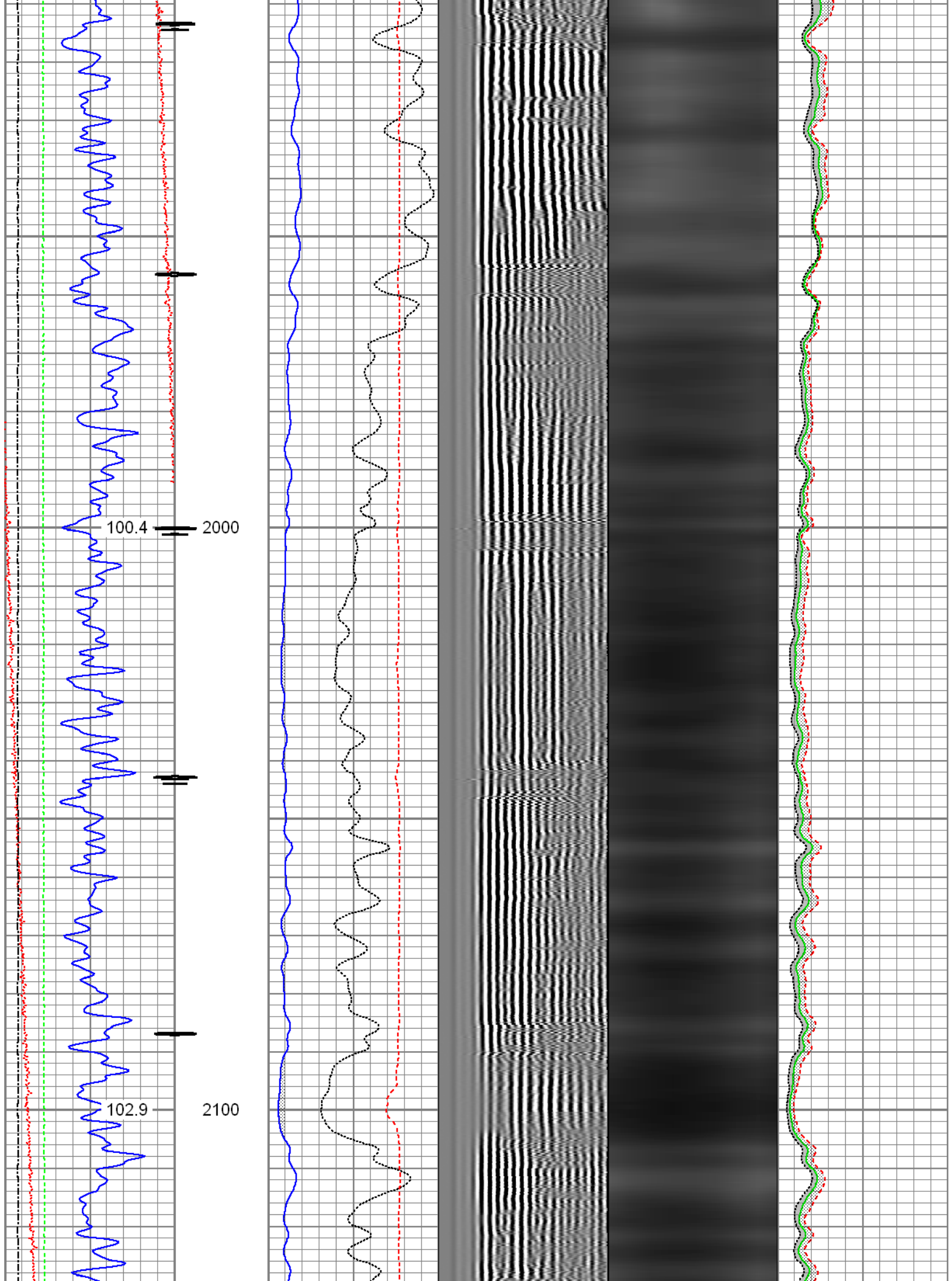


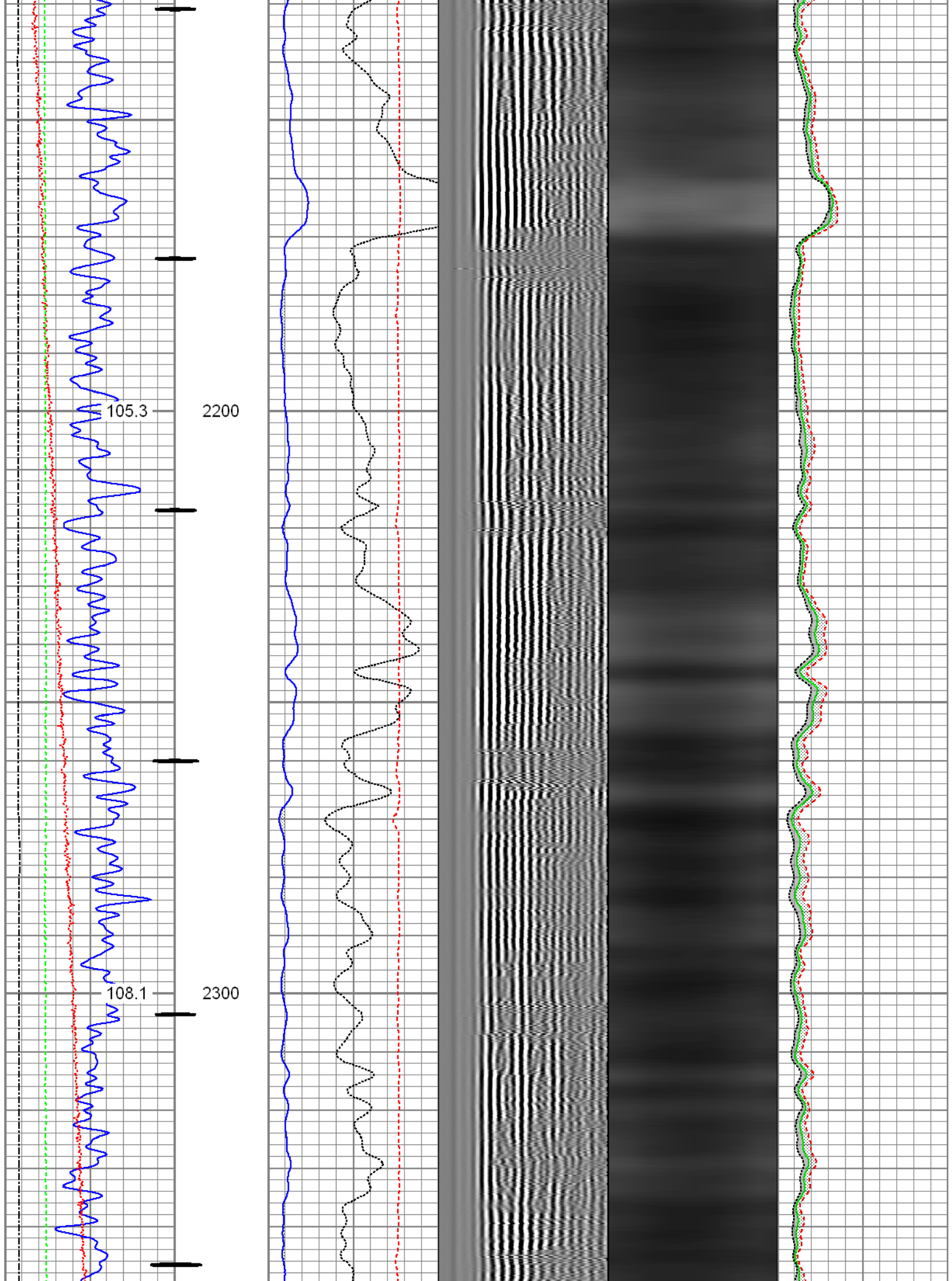


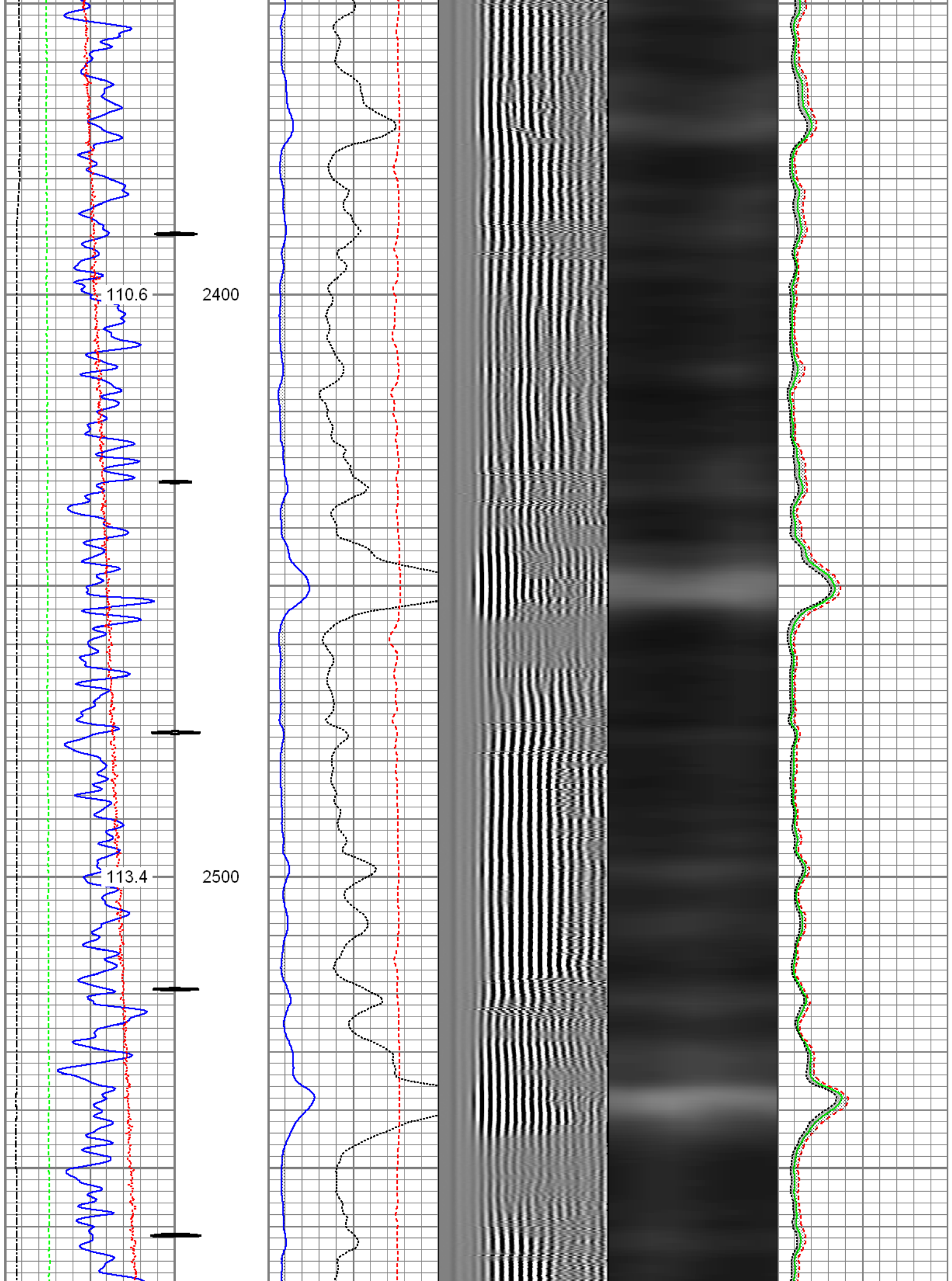


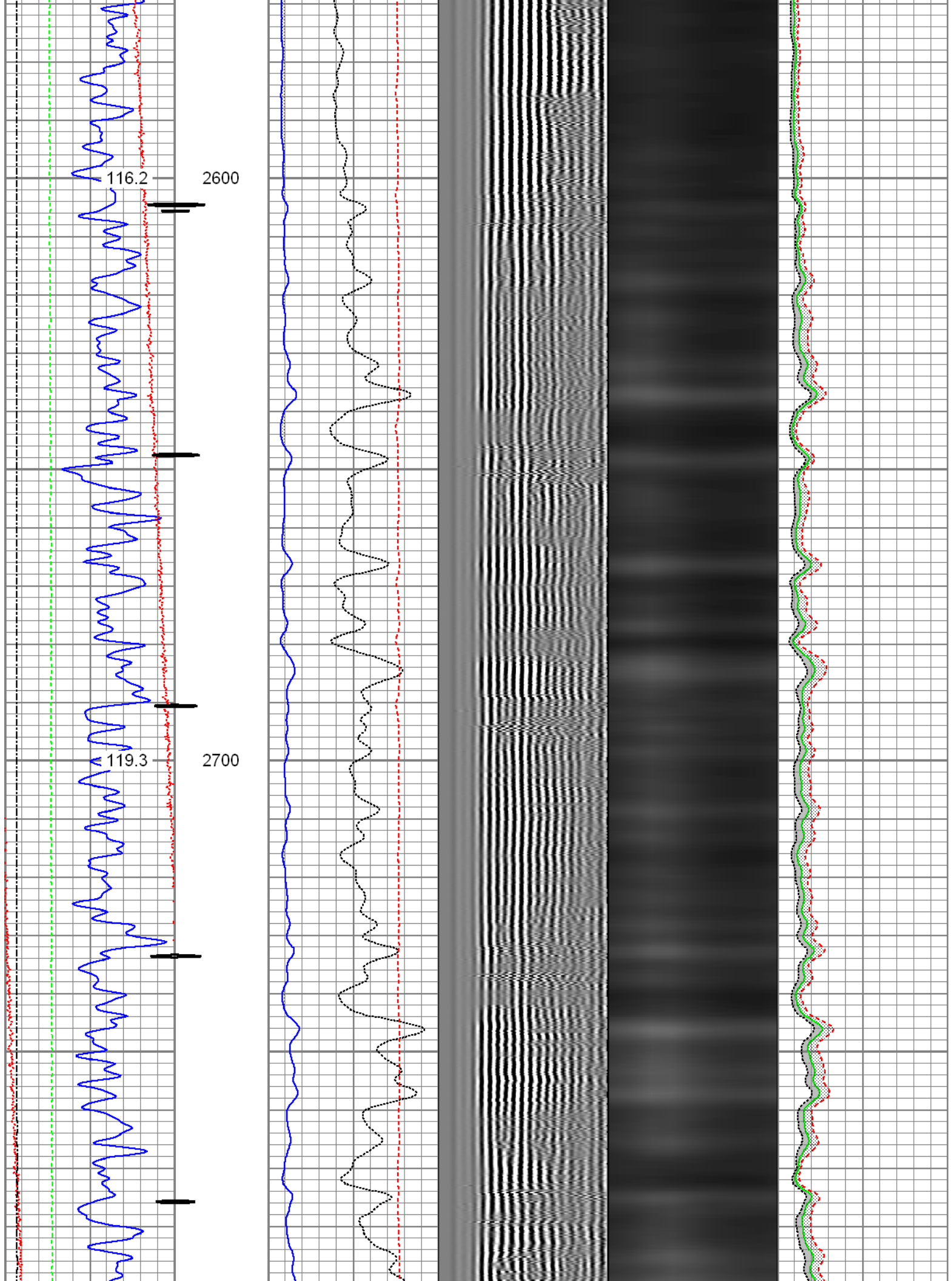


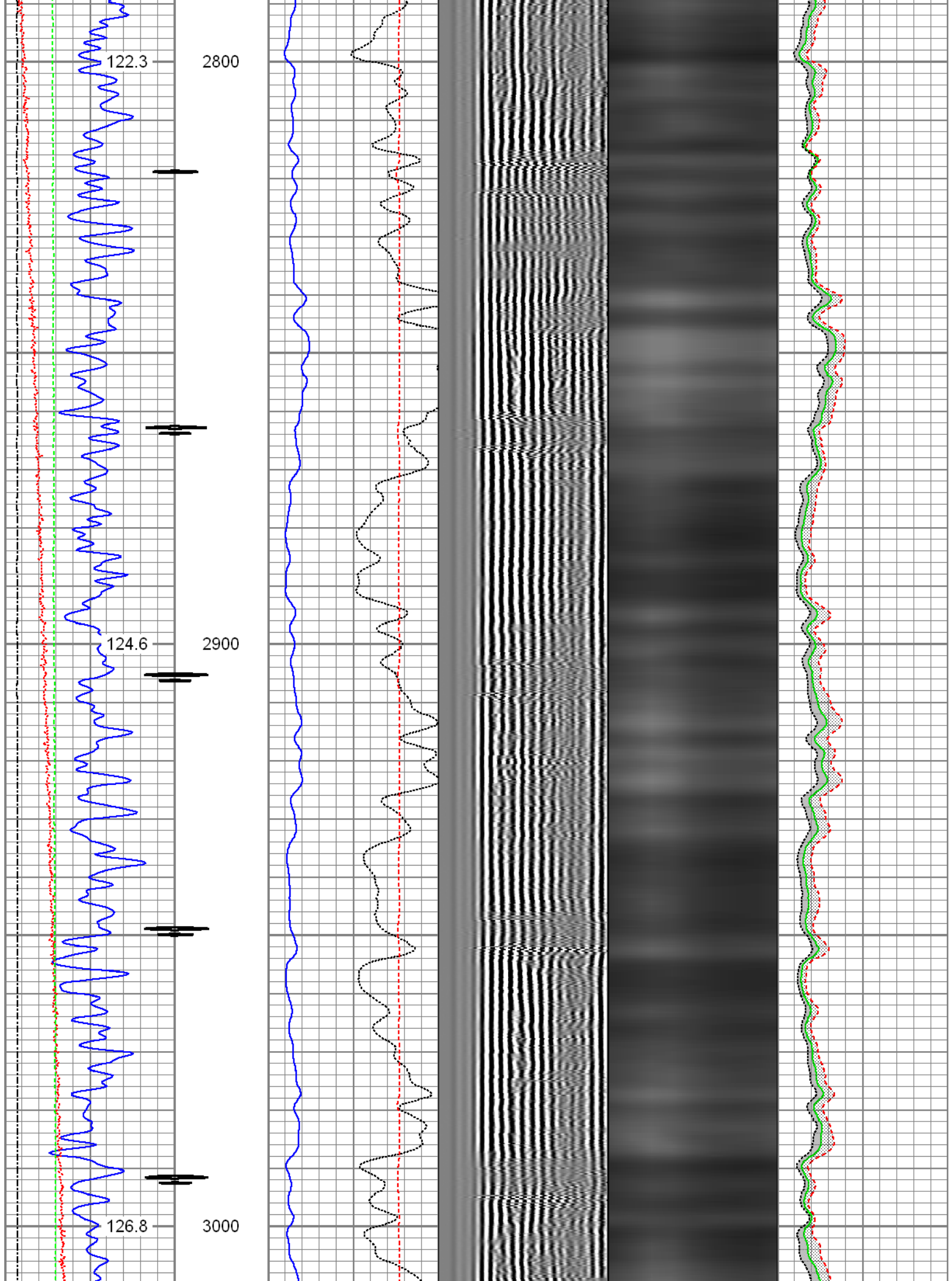


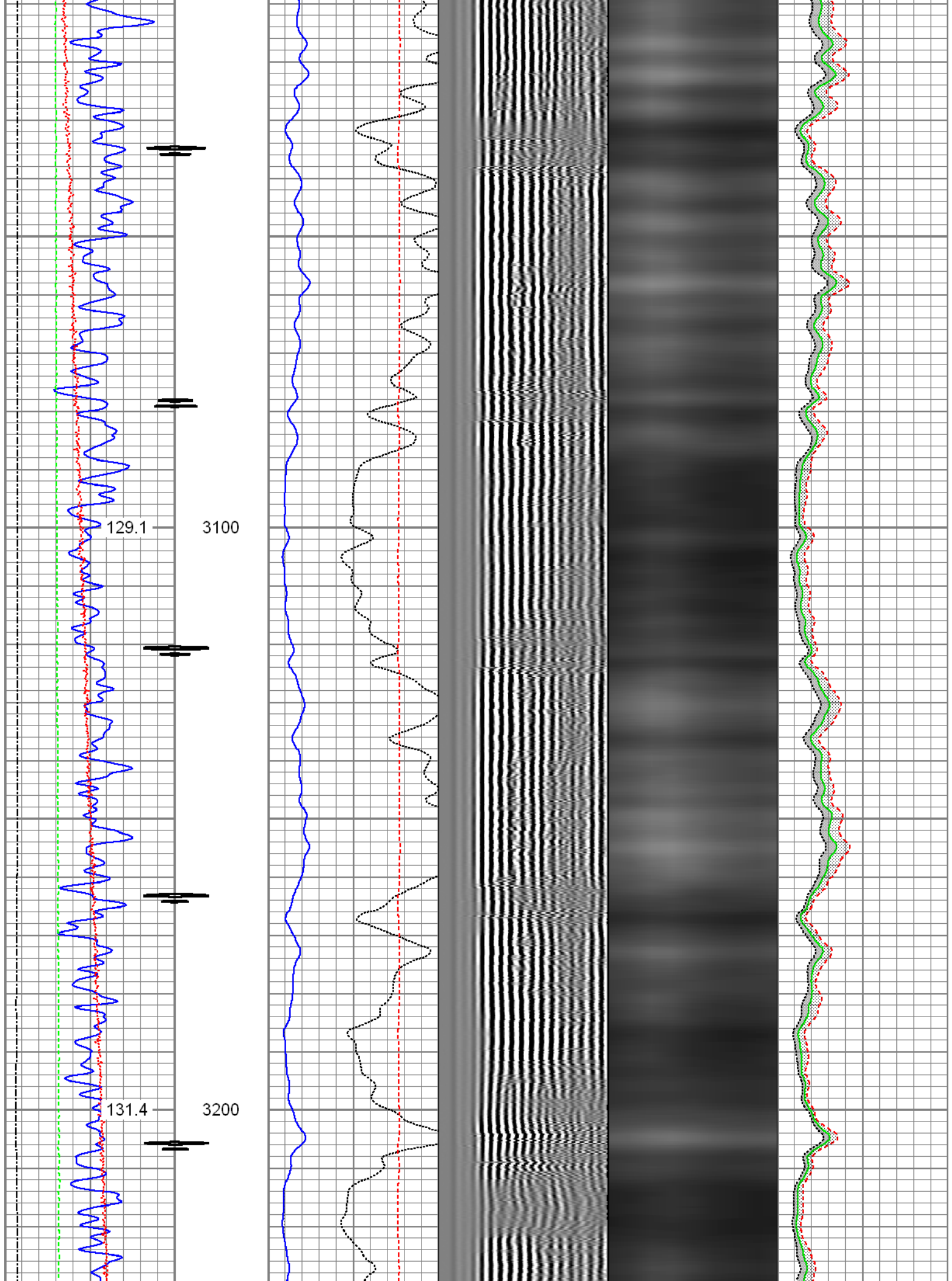


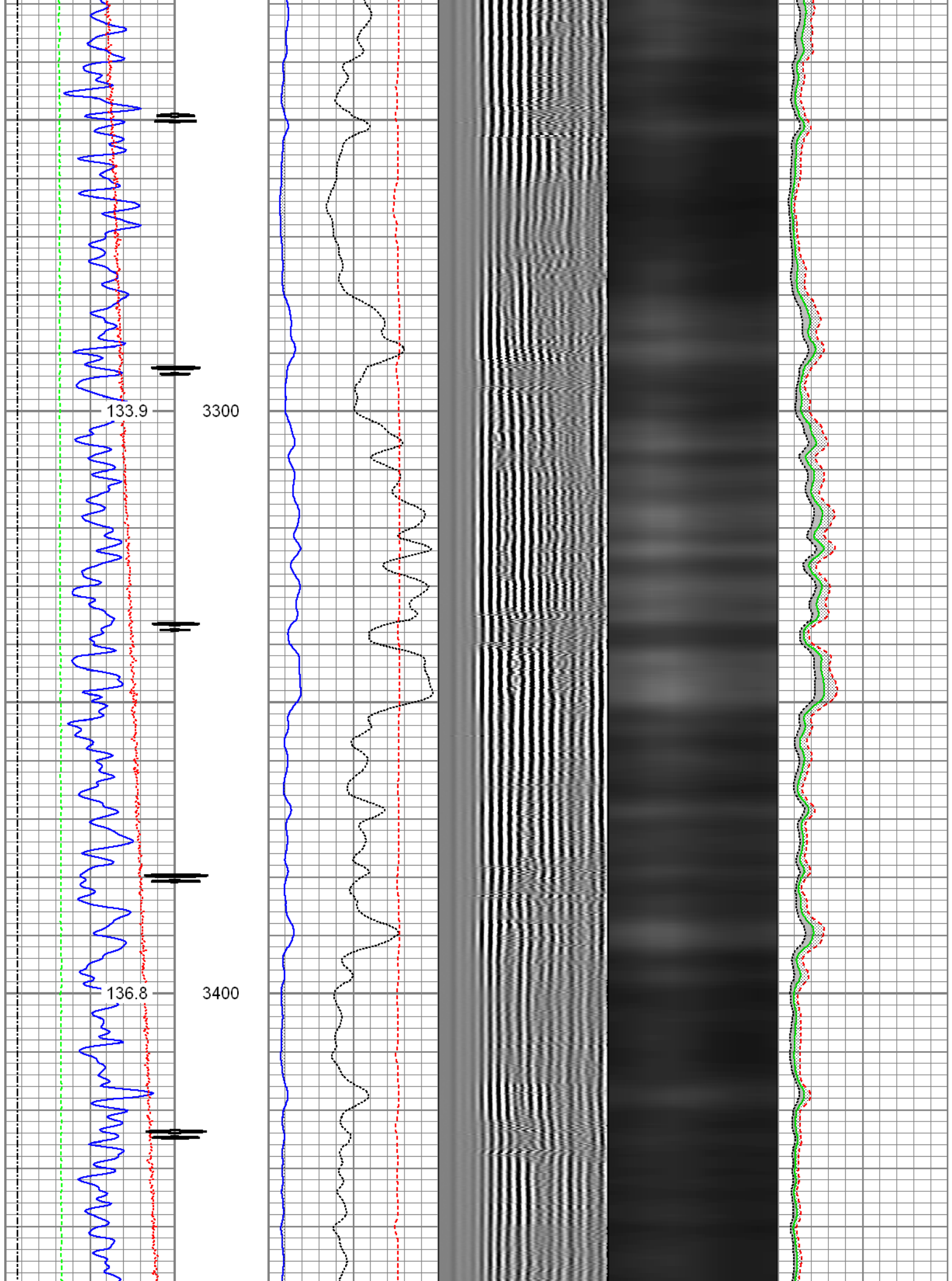


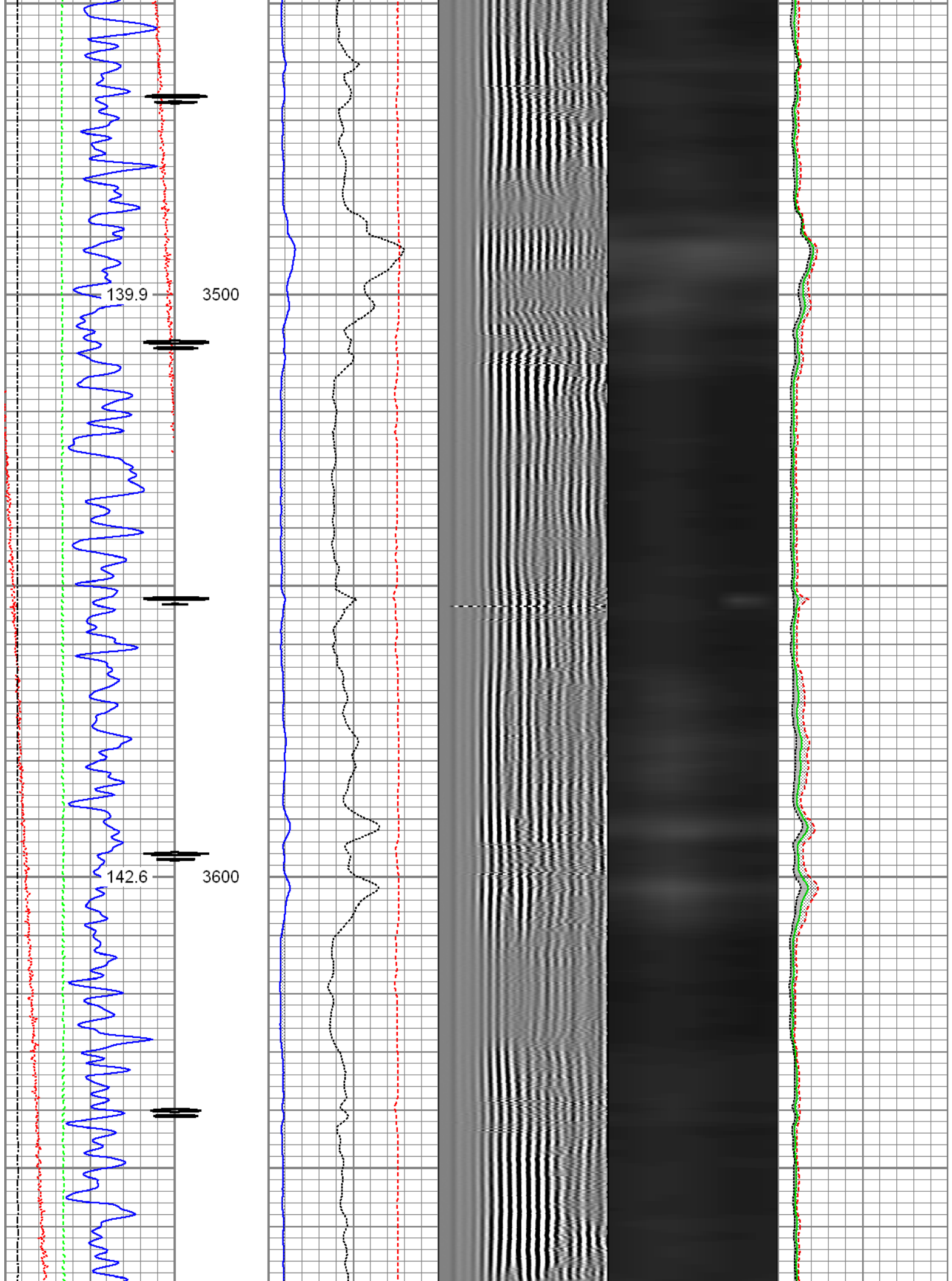


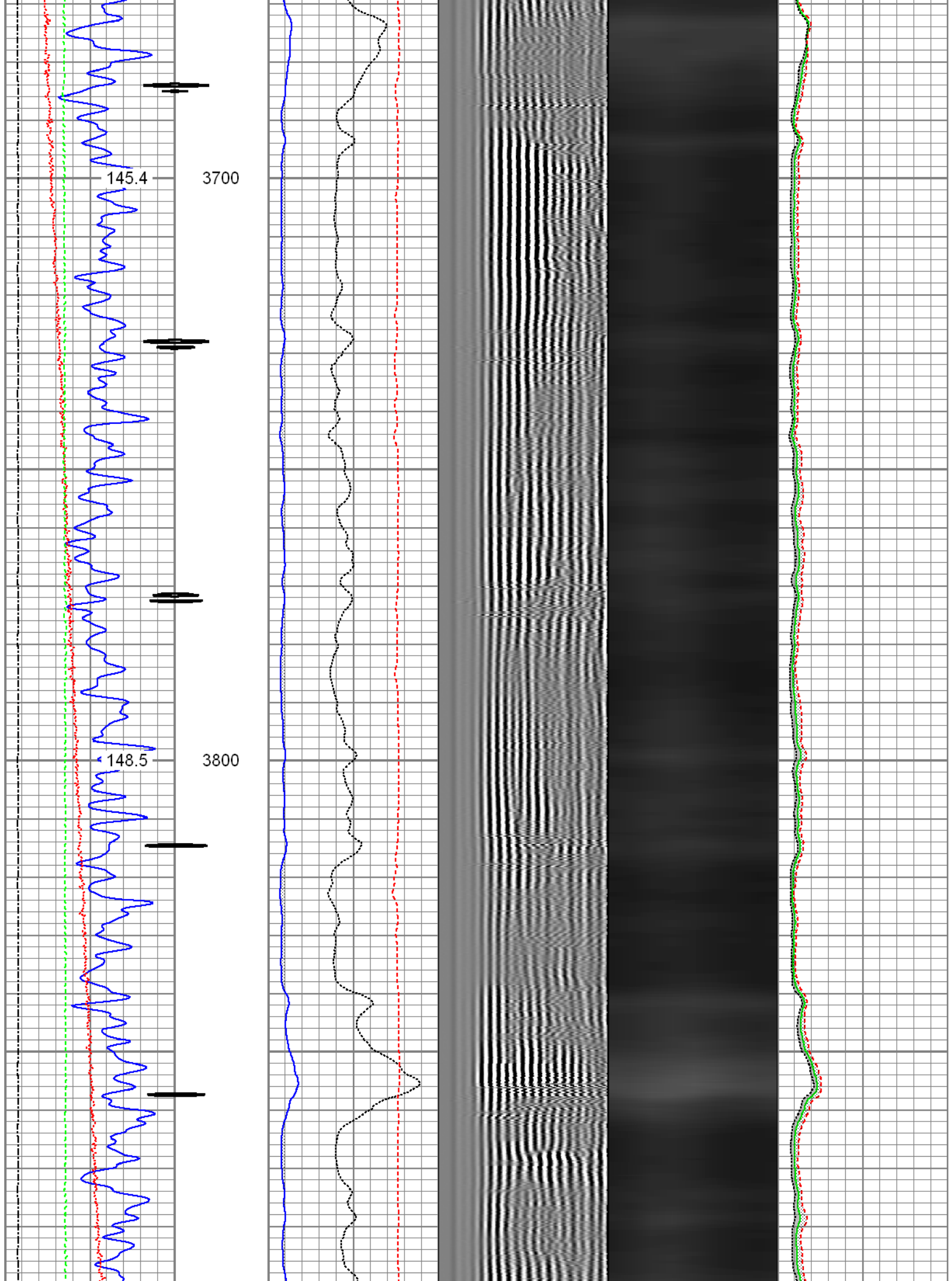


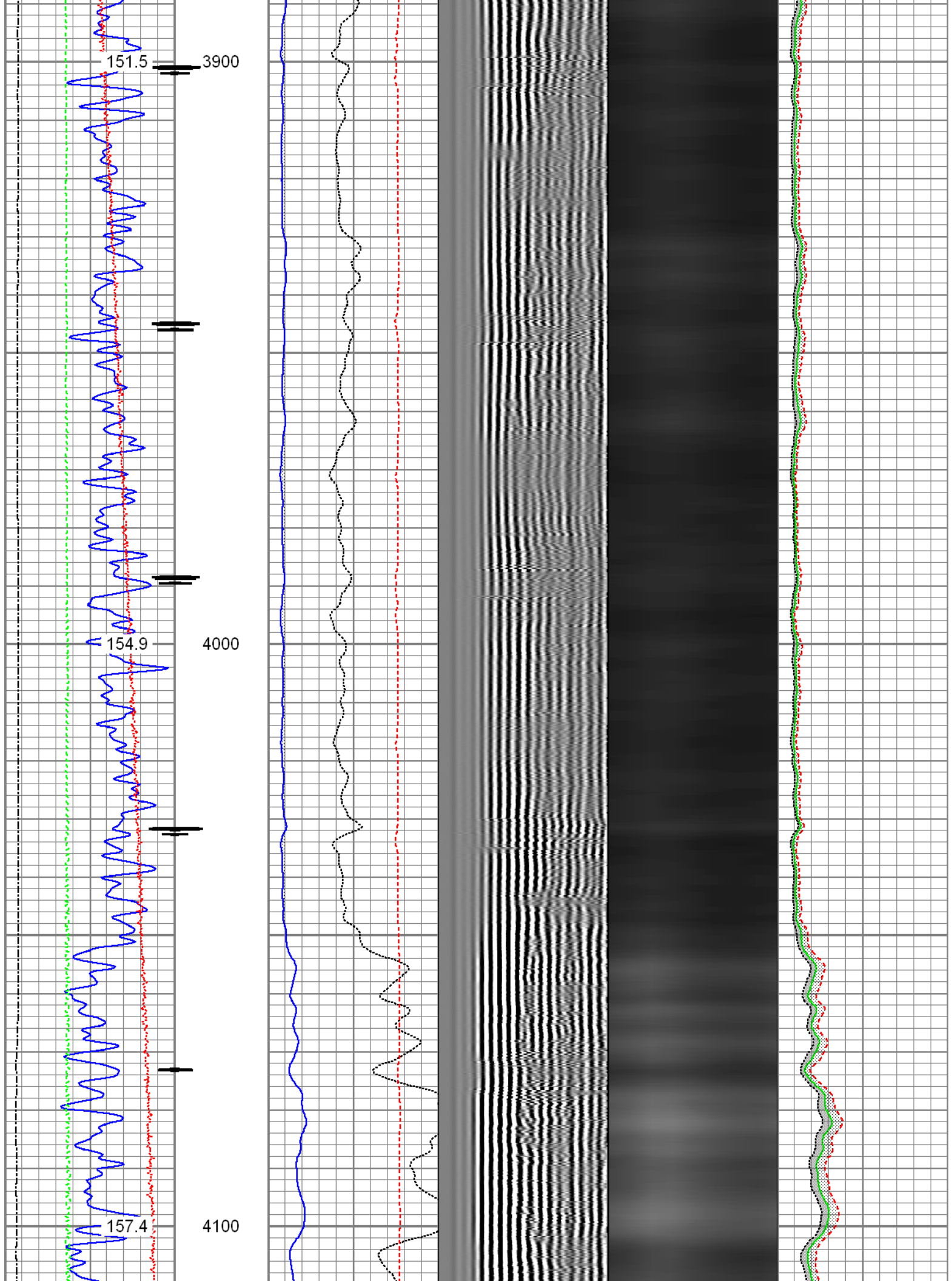


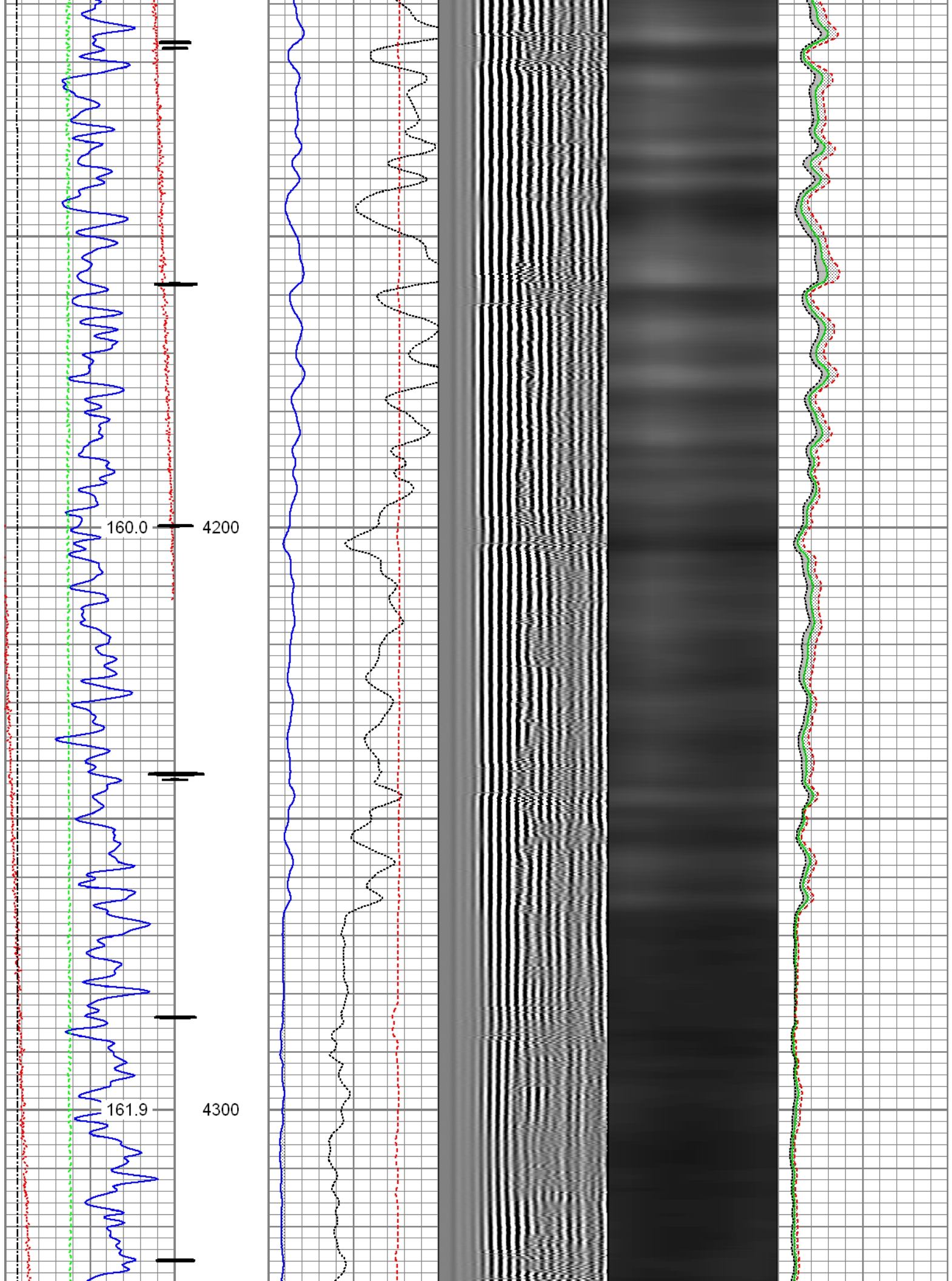


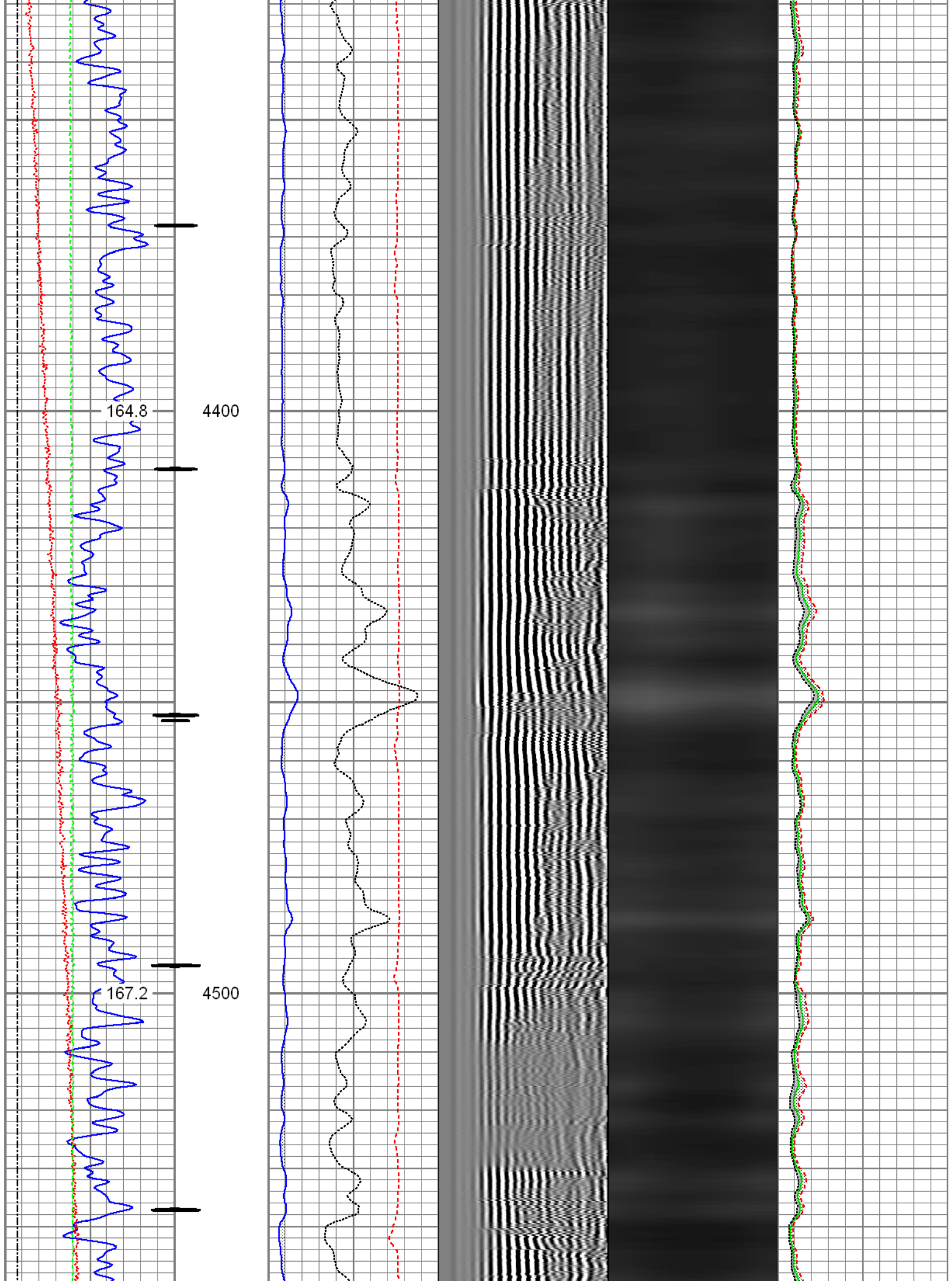


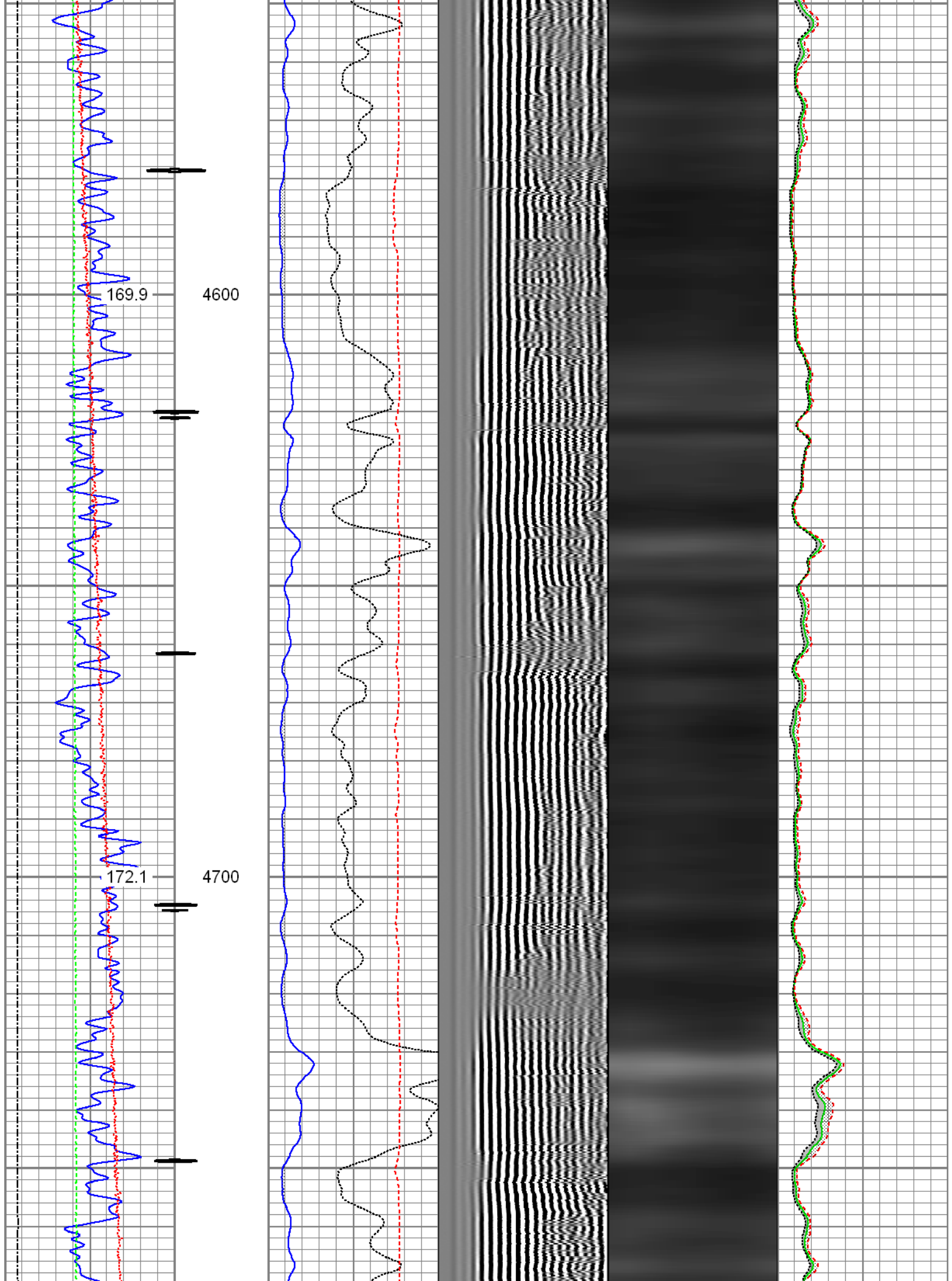


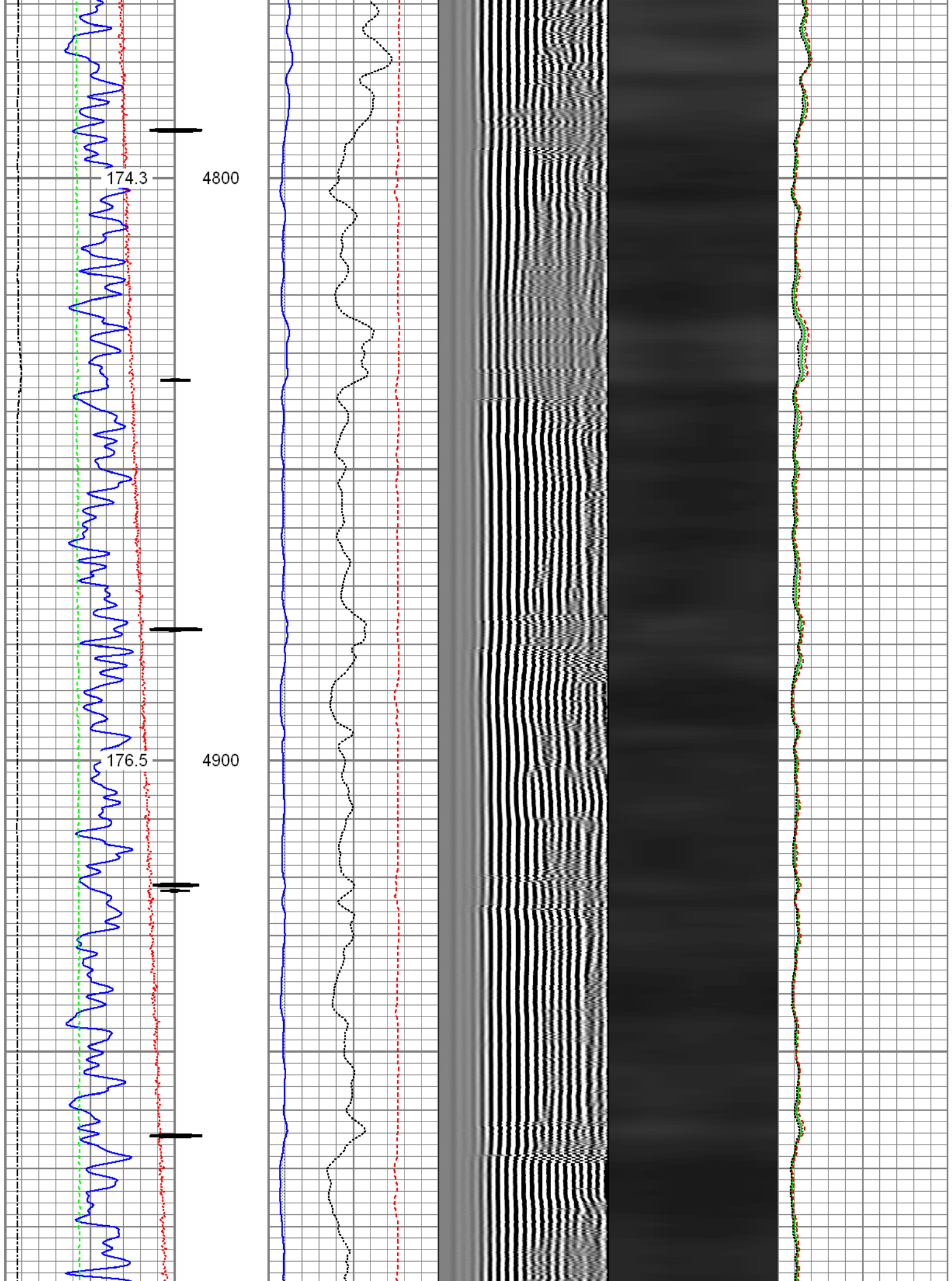


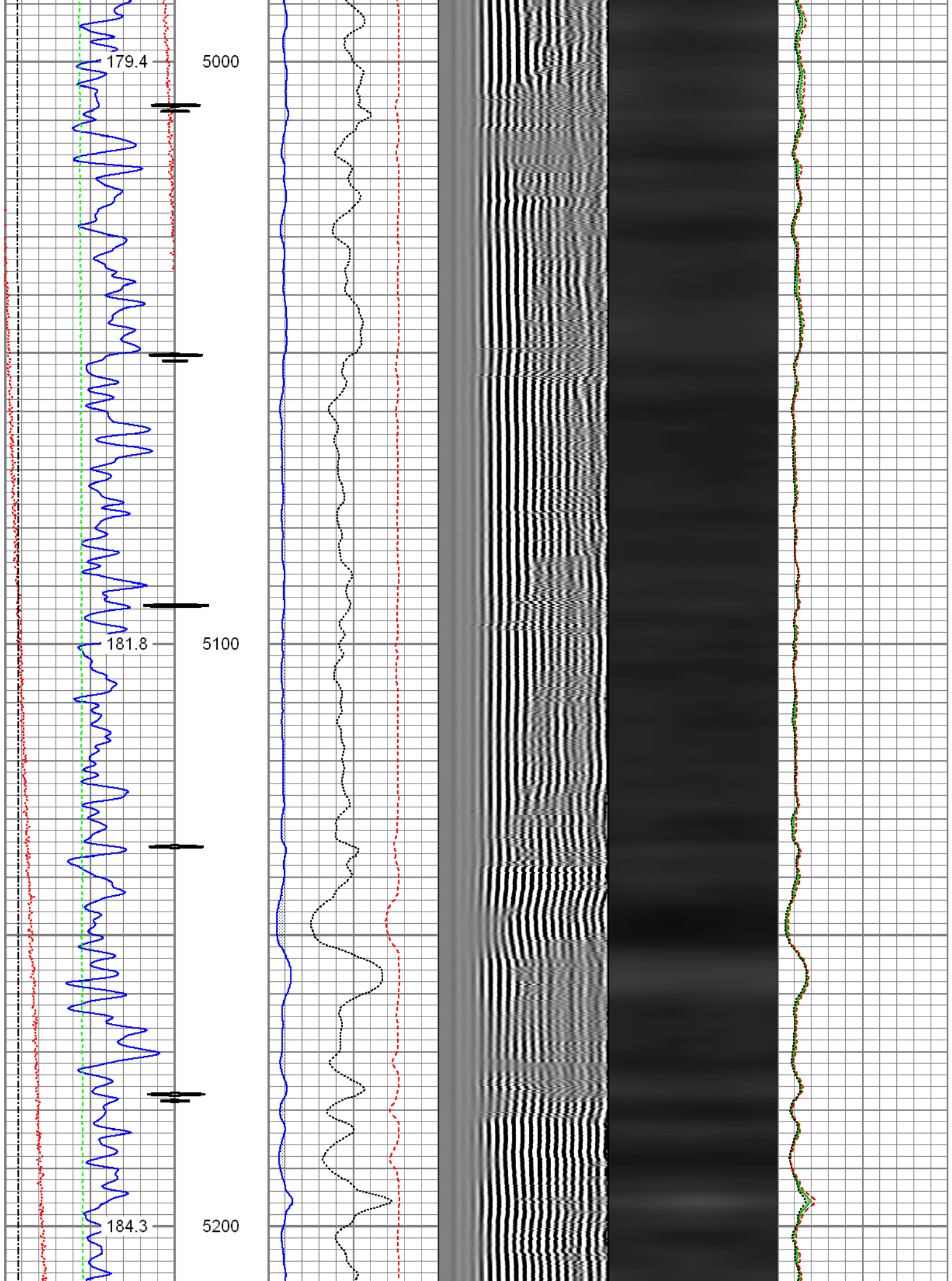


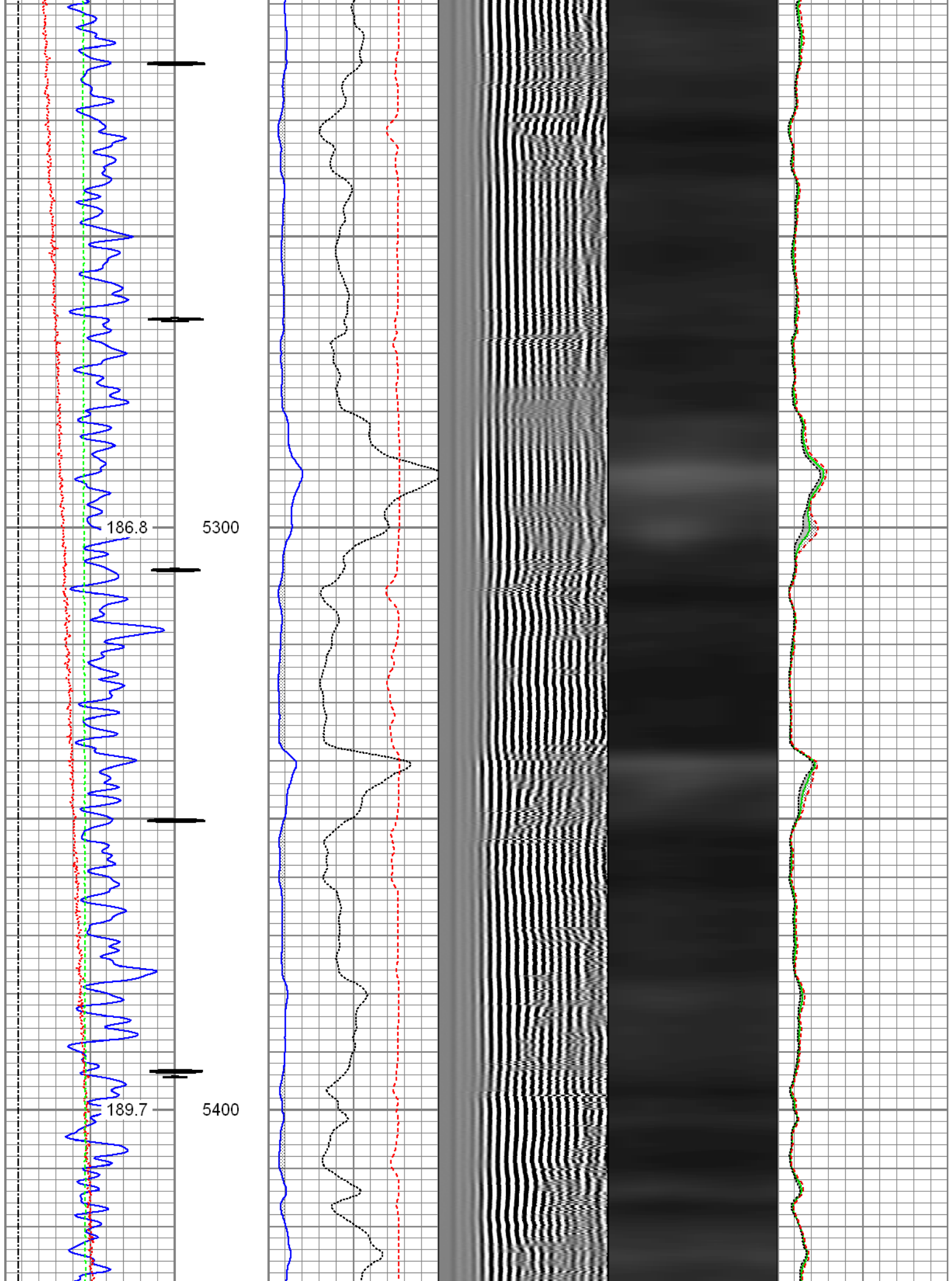


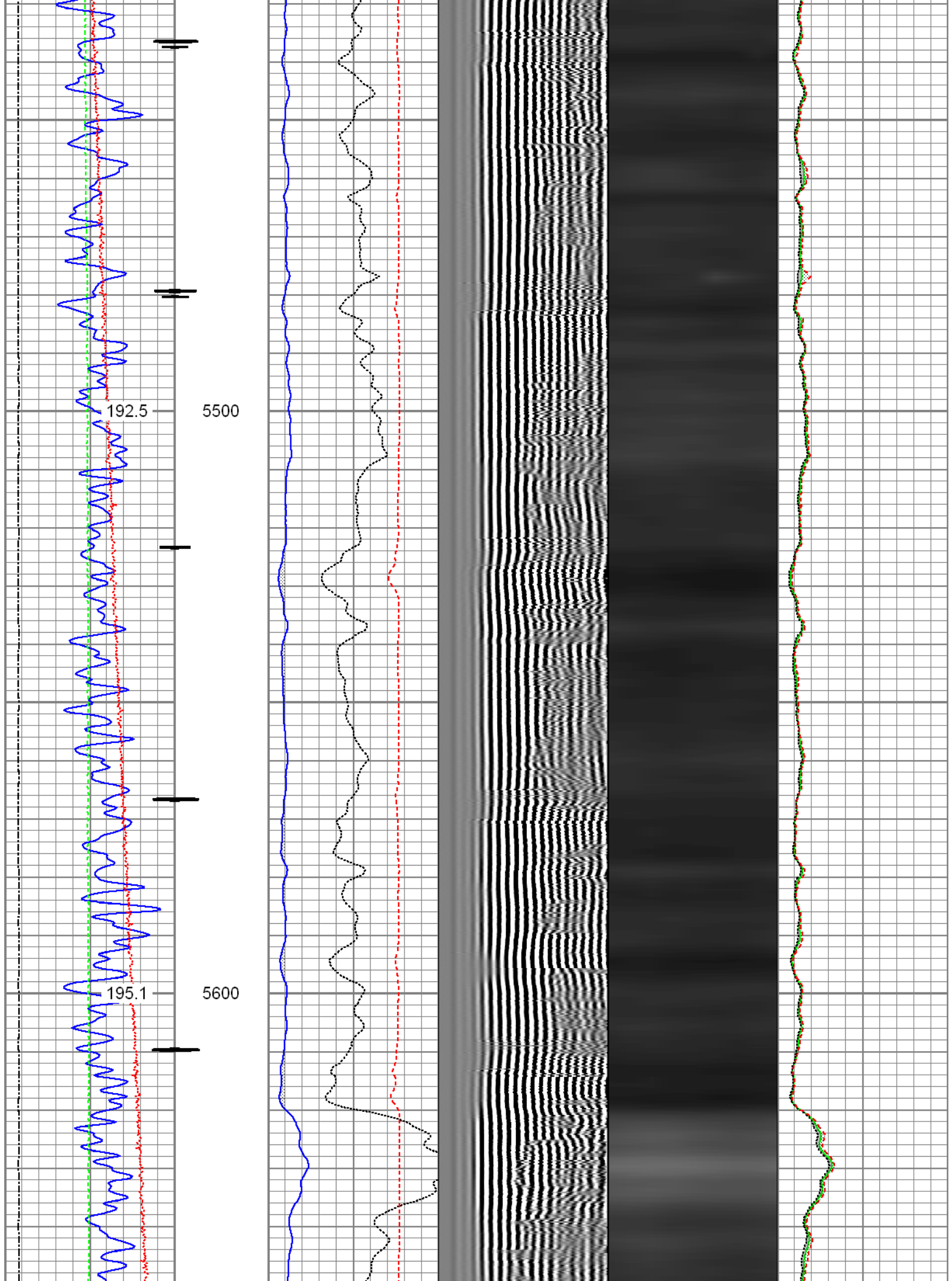


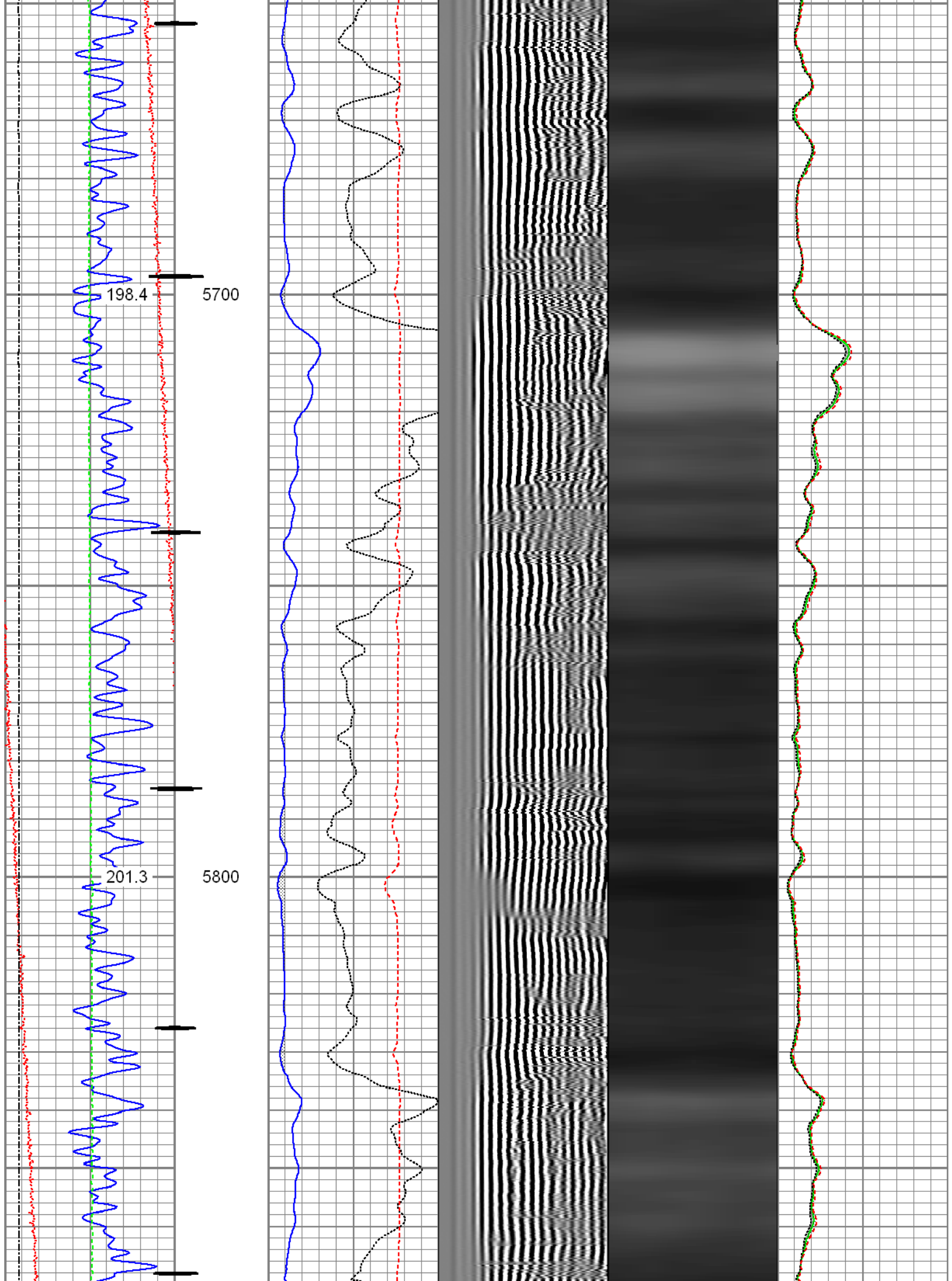


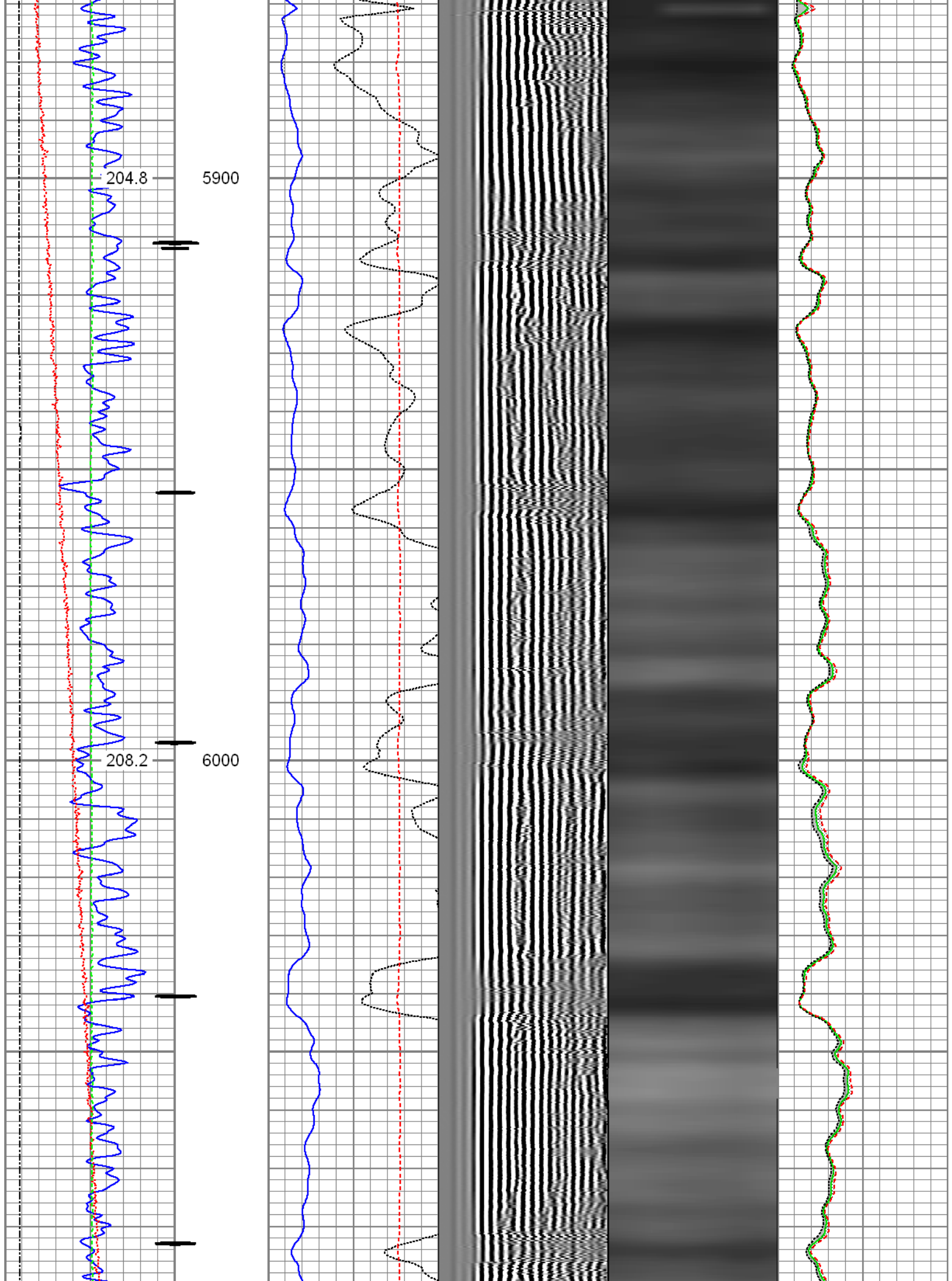


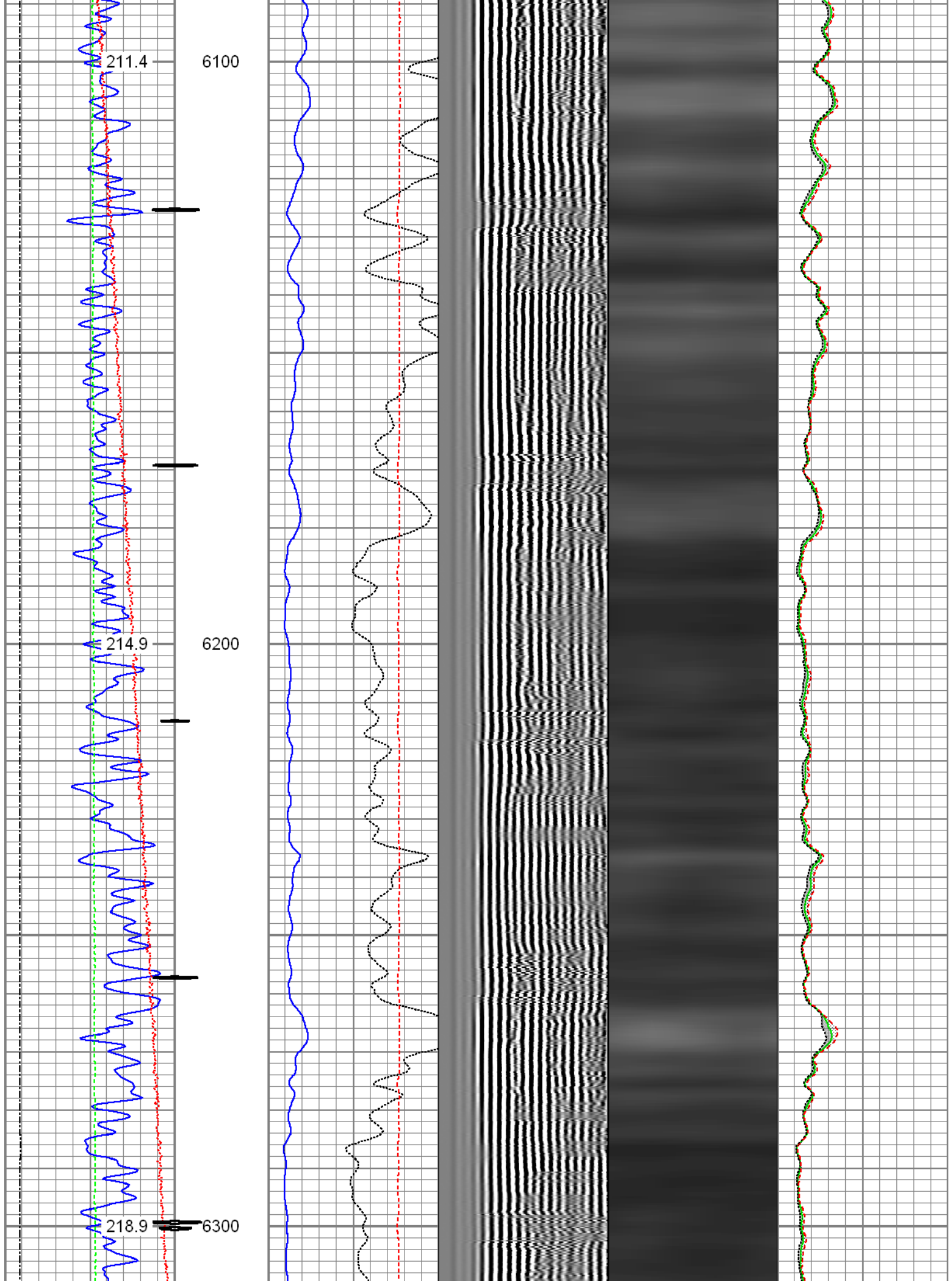


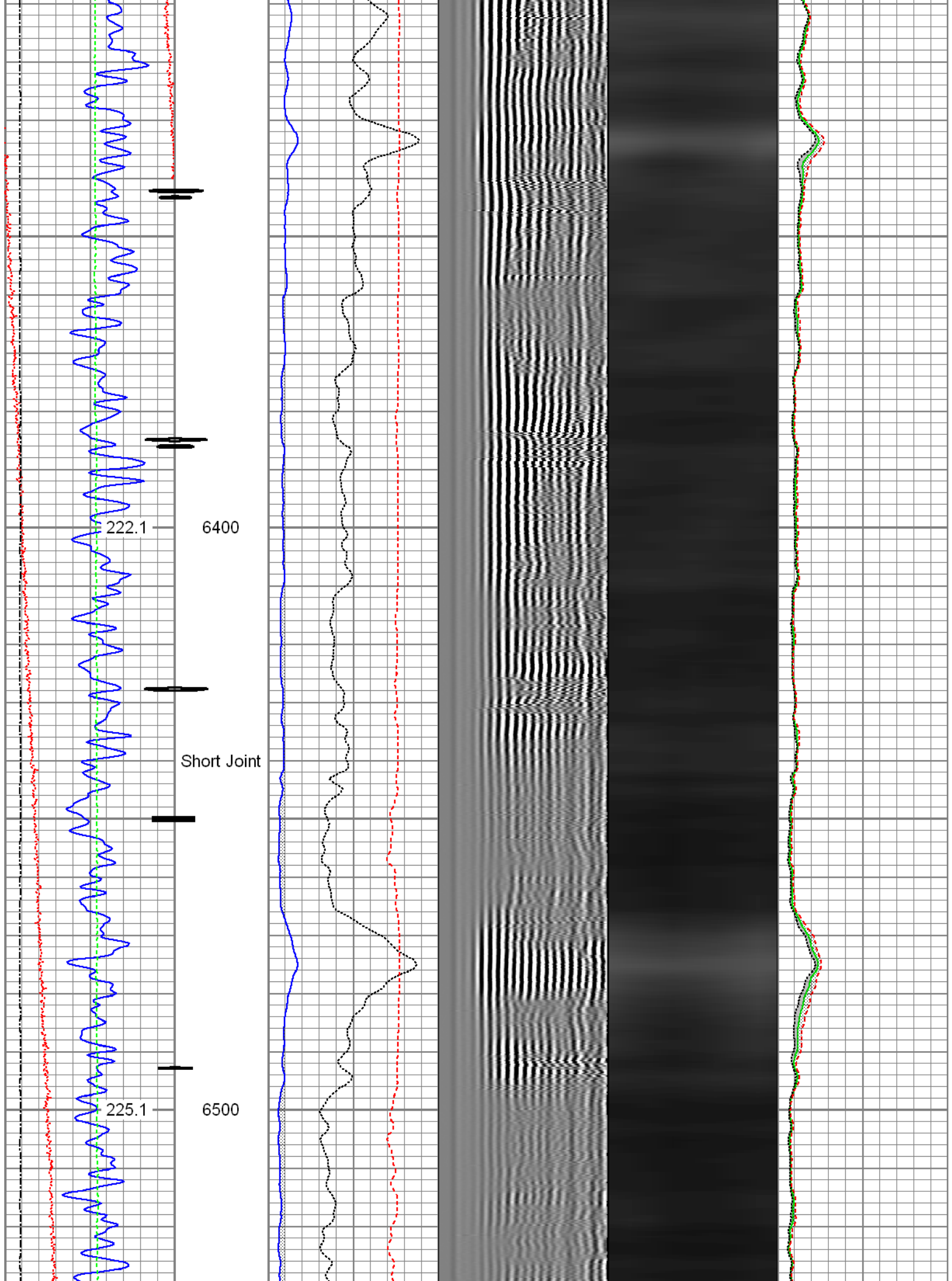


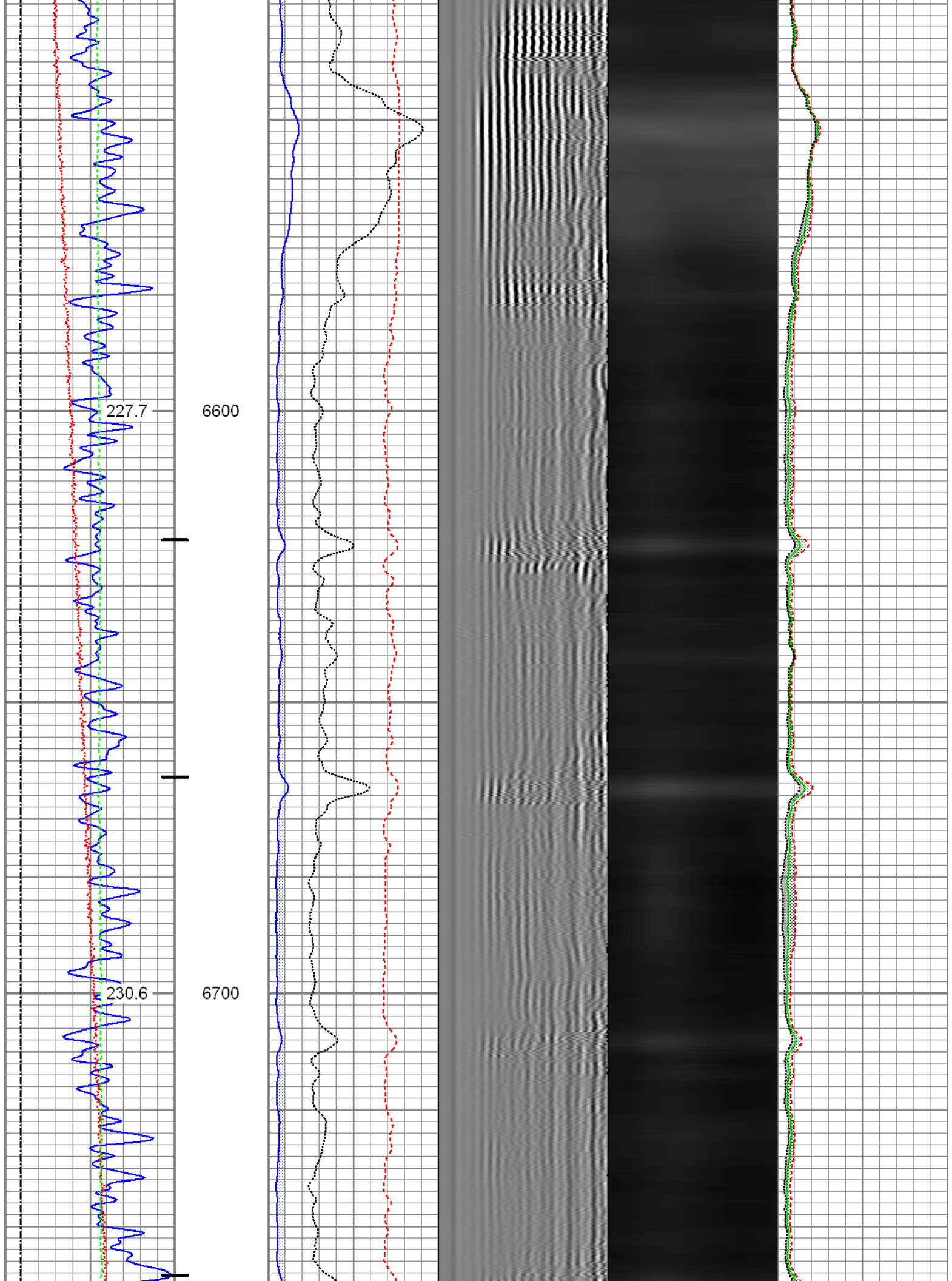


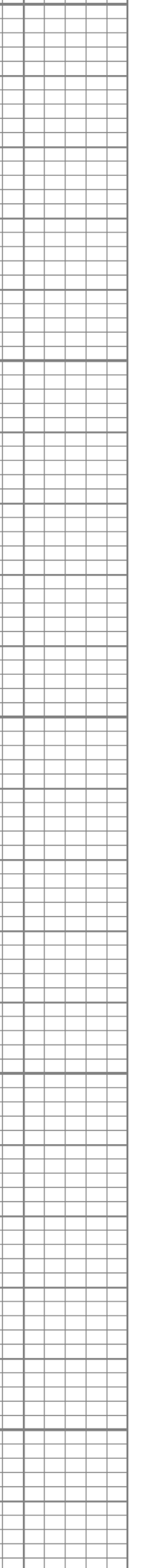
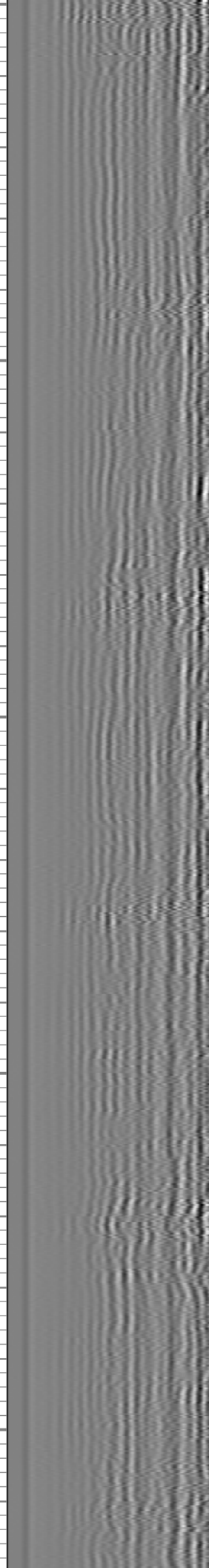
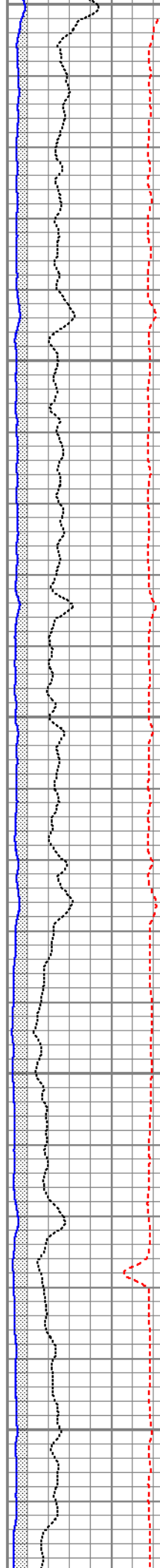
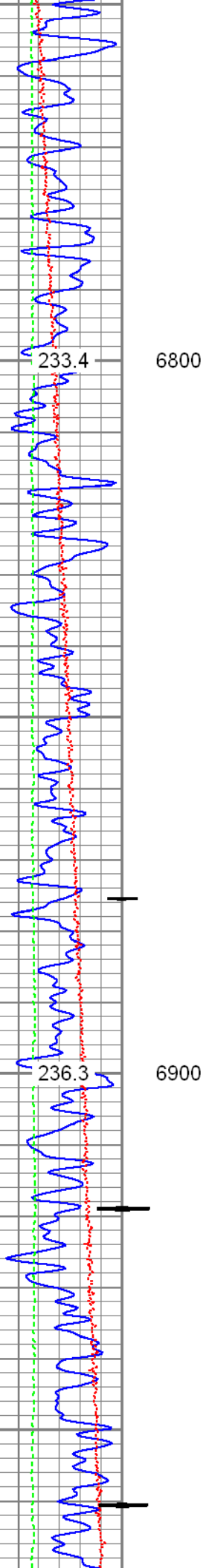


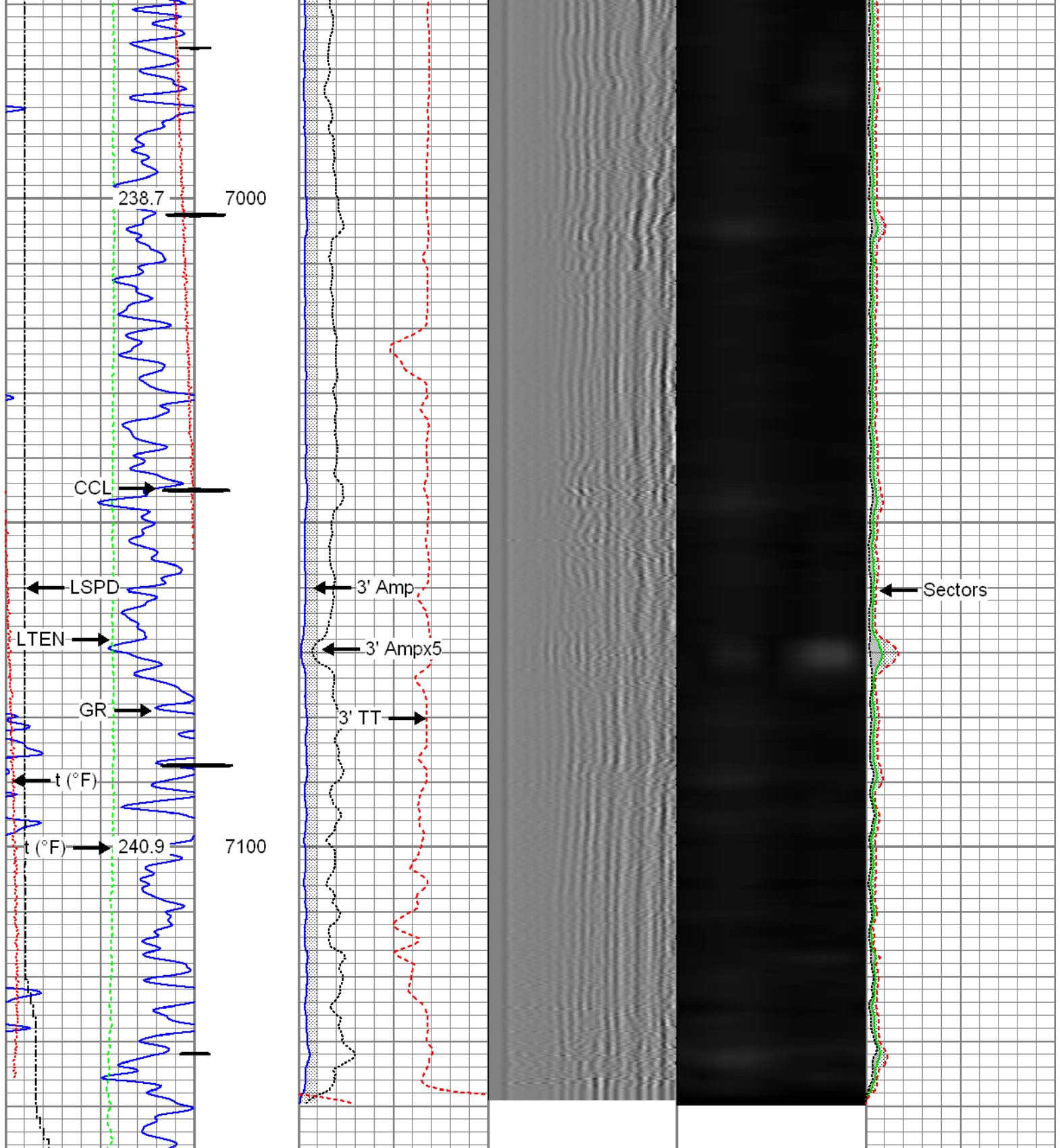













Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Temperature (degF)	3' Amplitude x 5 (mV)			Minimum Amplitude
0 20	0 20			0 100
Line Speed (ft/min)	3' Travel Time (usec)			Maximum Amplitude
-150 150	650 150			0 100
Line Tension (lb)	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



Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure

Database File:

Dataset Pathname:

Presentation Format:

Dataset Creation:

Charted by:

0512342069_anadarko_sunflower 7n-17hz_01-12-16_rbl.db

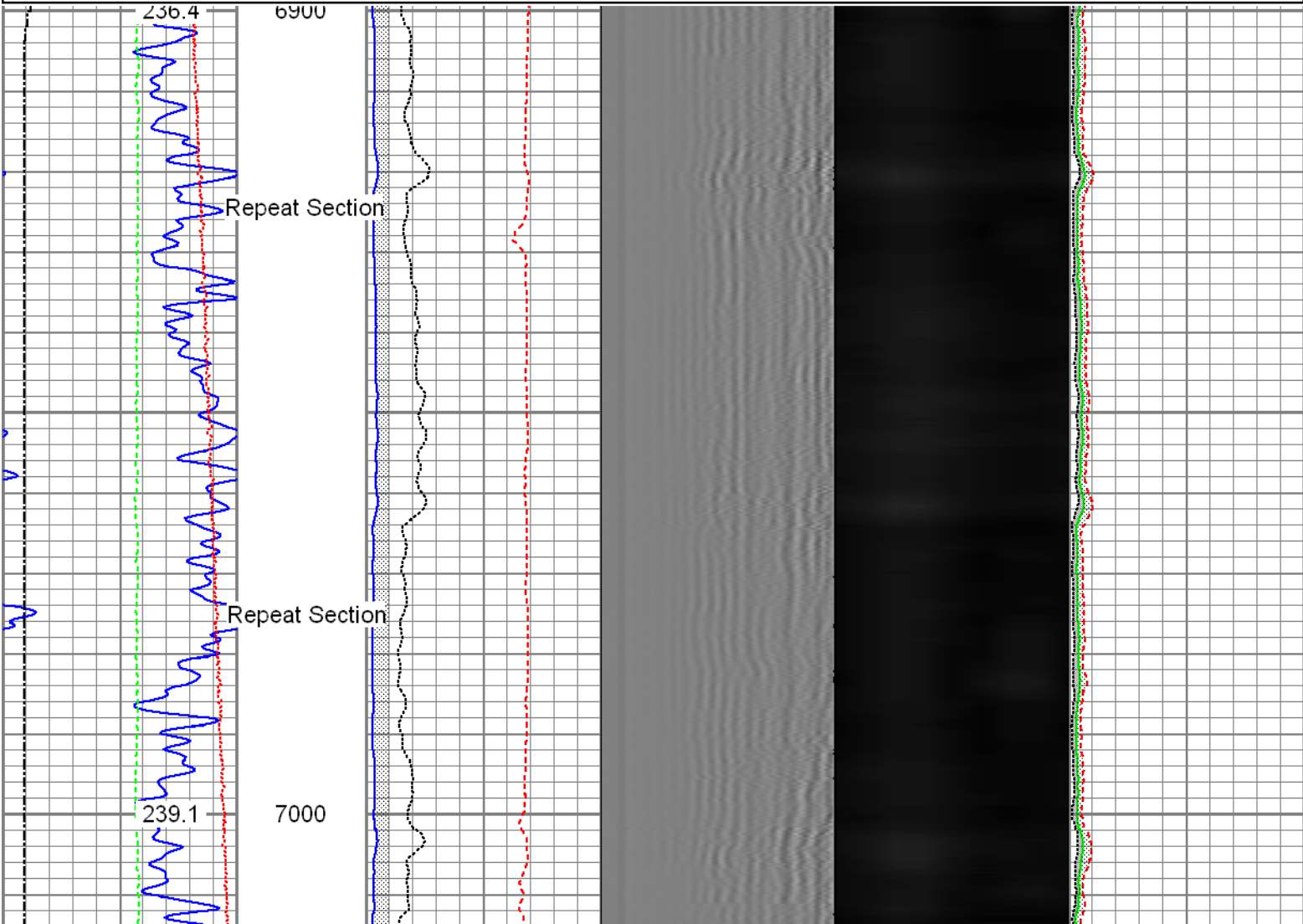
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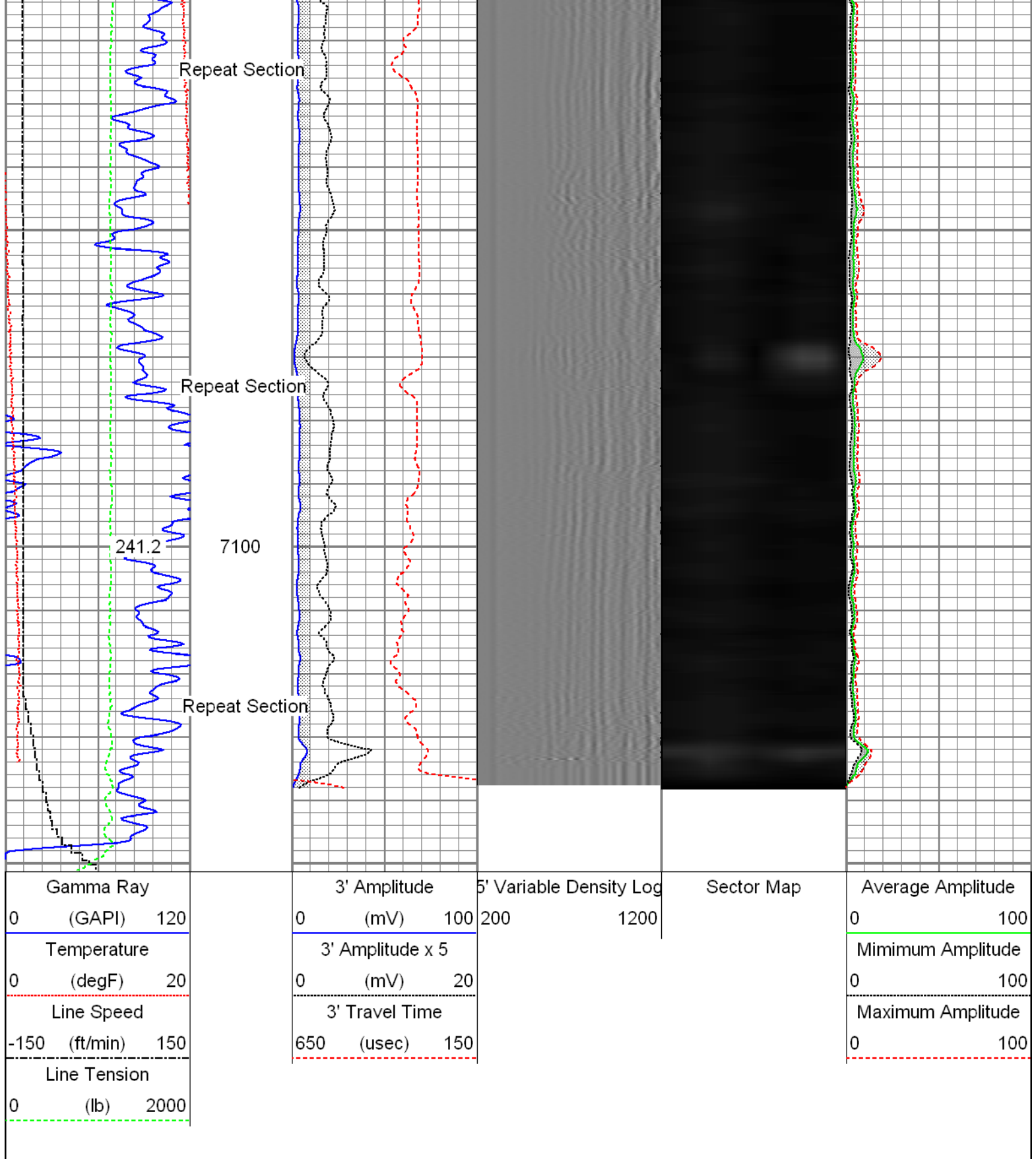
radii

Wed Jan 13 09:14:52 2016 by Calc SCH 120430

Depth in Feet scaled 1:240

<div>Gamma Ray</div> <div>0 (GAPI) 120</div> <hr/> <div>Temperature</div> <div>0 (degF) 20</div> <hr/> <div>Line Speed</div> <div>-150 (ft/min) 150</div> <hr/> <div>Line Tension</div> <div>0 (lb) 2000</div> <hr/>	<div>3' Amplitude</div> <div>0 (mV) 100</div> <hr/> <div>3' Amplitude x 5</div> <div>0 (mV) 20</div> <hr/> <div>3' Travel Time</div> <div>650 (usec) 150</div> <hr/>	<div>5' Variable Density Log</div> <div>200 1200</div>	<div>Sector Map</div>	<div>Average Amplitude</div> <div>0 100</div> <hr/> <div>Minimum Amplitude</div> <div>0 100</div> <hr/> <div>Maximum Amplitude</div> <div>0 100</div> <hr/>
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Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Controller	2.88	2.75	10.00

Wellbore Data					
Tool / Measurement	Depth (ft)	Diagram	Description	Weight (lb)	Diameter (in)
Head/Volt	19.49				
Temp	16.72				
WVFS3FT	14.55		Probe_RADII-C-2-3/4" (FW1302-002) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75
WVFCAL	14.55				
WVFS1	14.55				
WVFS2	14.55				
WVFS3	14.55				
WVFS4	14.55				
WVFS5	14.55				
WVFS6	14.55				
WVFS7	14.55				
WVFS8	14.55				
WVF5FT	13.55				
CCL DCCL	6.51 6.51		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75
GR	3.77		Probe_CCL_GR-2.75" Digital (FW1212-026) Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.54	2.75
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75
Dataset: 0512342069_anadarko_sunflower 7n-17hz_01-12-16_rbl.db: field/well/run1/main.4 Total Length: 23.40 ft Total Weight: 194.00 lb O.D. 2.75 in					

Serial Number: FW1212-026
Tool Model: 2.75"Digital
Performed: Fri Jan 08 09:20:24 2016

Calibrator Value: 1.0 GAPI
Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps
Sensitivity: 0.6000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1302-002
Tool Model: 2-3/4"
Calibration Casing Diameter: 5.500 in
Calibration Depth: 7151.198 ft

Master Calibration, performed Wed Jan 13 08:55:37 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	0.659	0.800	71.921	108.060	0.730
CAL	0.710	0.741				
5'	0.000	0.574	0.800	71.921	123.973	0.763
SUM						
S1	0.000	0.667	0.000	100.000	149.969	-0.060
S2	0.001	0.658	0.000	100.000	152.094	-0.102
S3	0.001	0.650	0.000	100.000	153.979	-0.130
S4	0.001	0.645	0.000	100.000	155.290	-0.120
S5	0.001	0.652	0.000	100.000	153.531	-0.080
S6	0.000	0.660	0.000	100.000	151.606	-0.042
S7	0.000	0.668	0.000	100.000	149.701	-0.045
S8	0.000	0.682	0.000	100.000	146.628	-0.047

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.710	0.741	1.000	0.000

Air Zero Calibration, performed Tue Jan 12 09:00:57 2016:

	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	



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Sunflower 7N-17HZ
Field	Wattenberg
County	Weld
State	Colorado