



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	Tedford 29N-28HZ				
Field	Wattenberg				
County	Weld				
State	Colorado				
Company	Kerr-McGee Oil & Gas Onshore, L.P.				
Well	Tedford 29N-28HZ				
Field	Wattenberg				
County	Weld	State	Colorado		
Location:	API # : 05-123-41794		Other Services		
SEC 28 TWP 2N RGE 66W			Gauge Ring		
Permanent Datum	Ground Level	Elevation	4965'	Elevation	
Log Measured From	Kelly Bushing	25 FT		K.B. 4990'	
Drilling Measured From	Kelly Bushing			D.F. 4989'	
				G.L. 4965'	

Date	22-OCT-2015
Run Number	Two
Depth Driller	13082 FT
Depth Logger	7679 FT
Bottom Logged Interval	7612 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	237°F
Estimated Cement Top	Surface
Time Well Ready	ROA
Time Logger on Bottom	13:18
Equipment Number	HD-0343
Location	Fort Lupton, CO
Recorded By	Robert Fogarty
Witnessed By	Levi McArthur

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	J-55 LT&C	Surface	1857 FT		
Intermediate #1	5 1/2	17	HCP-110 LTC	Surface	13079 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
Log correlated to 25 FT Kelly Bushing
Casing Tally reported Marker Joint Top at 6758 FT
Log recorded Marker Joint Top at 6750 FT
Gauge Ring Ran to 7679 FT
Log ran as deep as possible to surface
Log was ran with 2800 PSI surface induced pressure
No debris found on logging tools upon completion of run

Thank you for choosing FMC Technologies Completion Services, Inc.!!

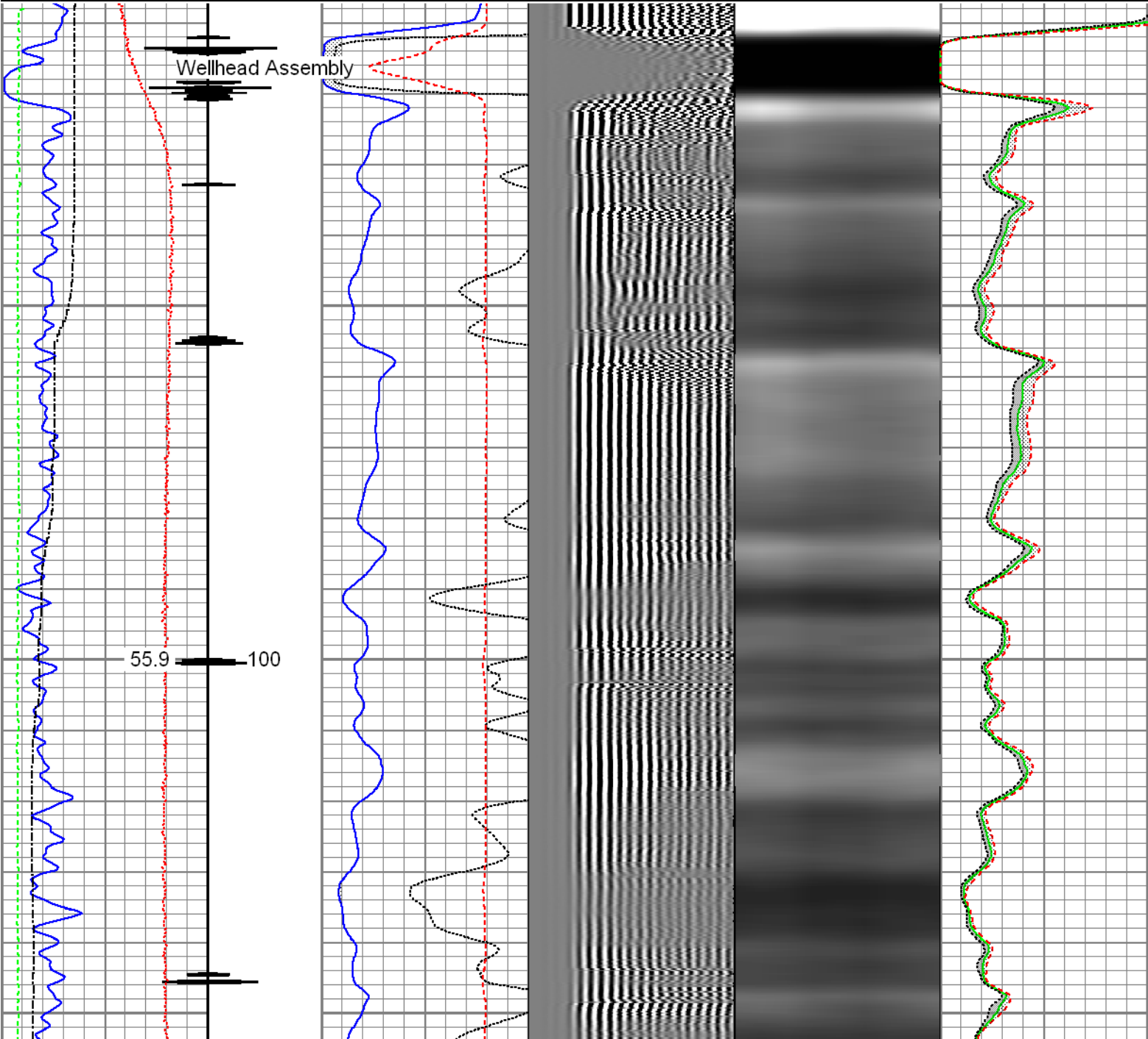


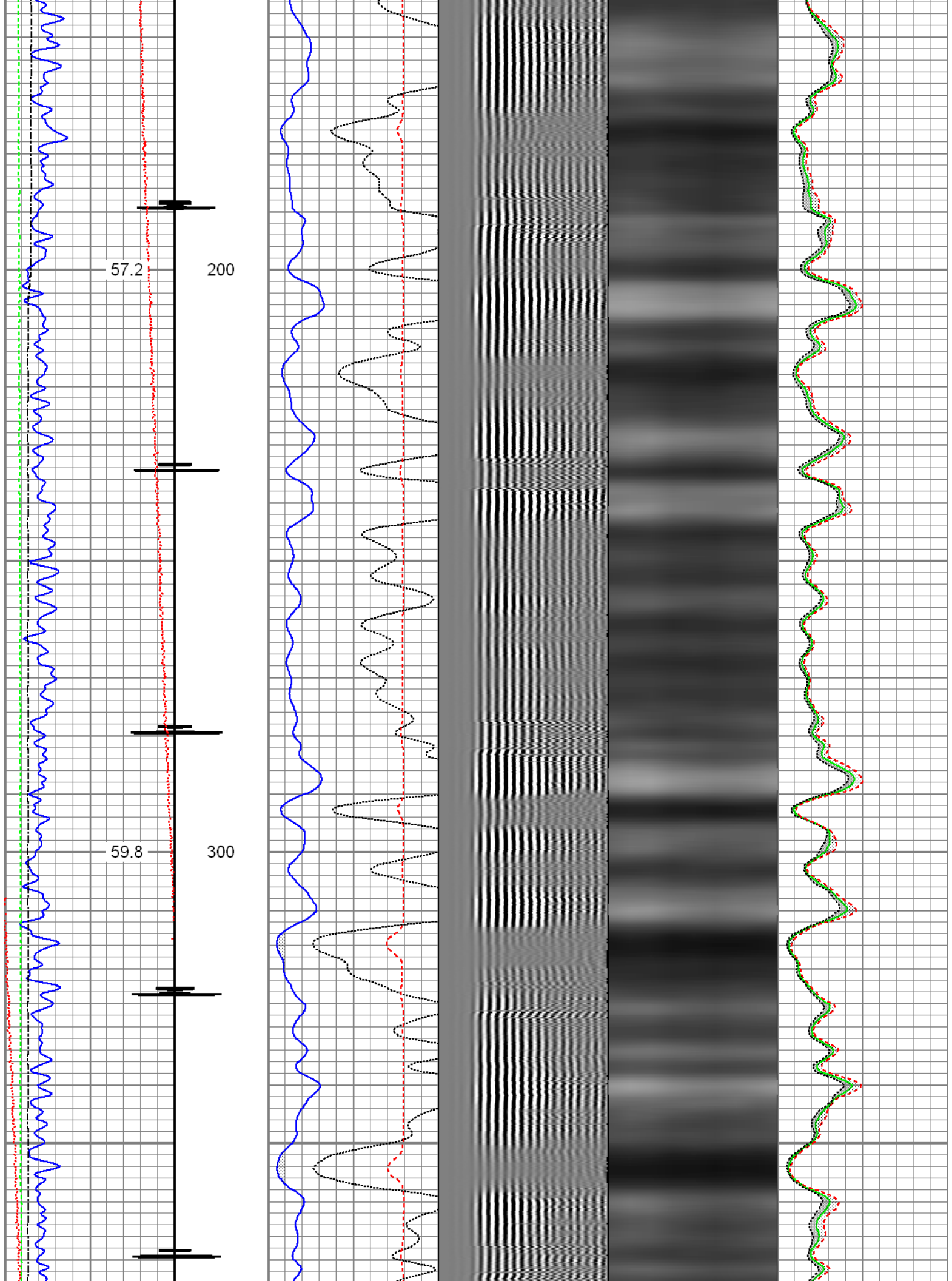
Main Pass

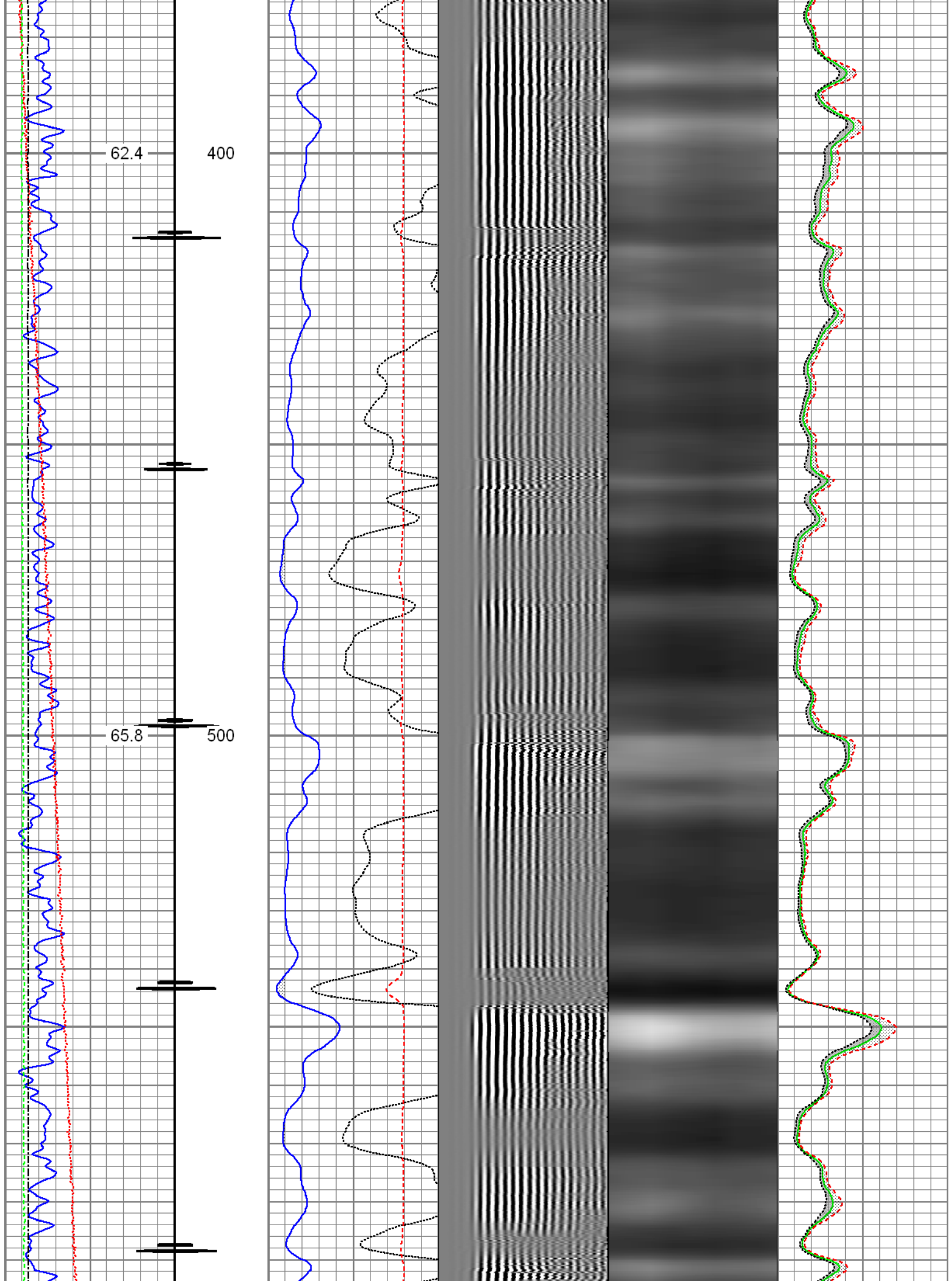
Recorded with 2800 PSI Surface Induced Pressure

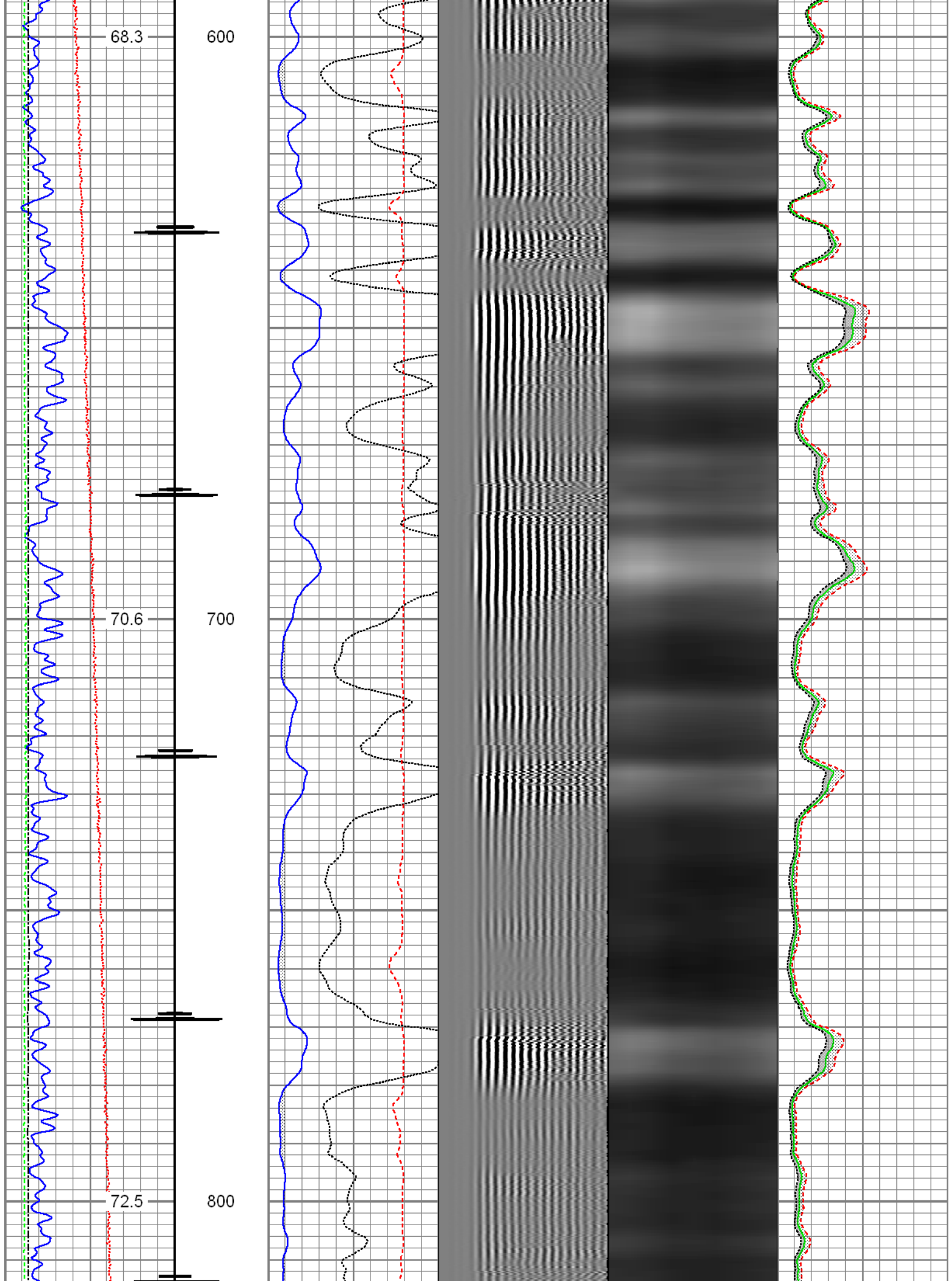
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Presentation Format: radii
Dataset Creation: Thu Oct 22 13:17:22 2015 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

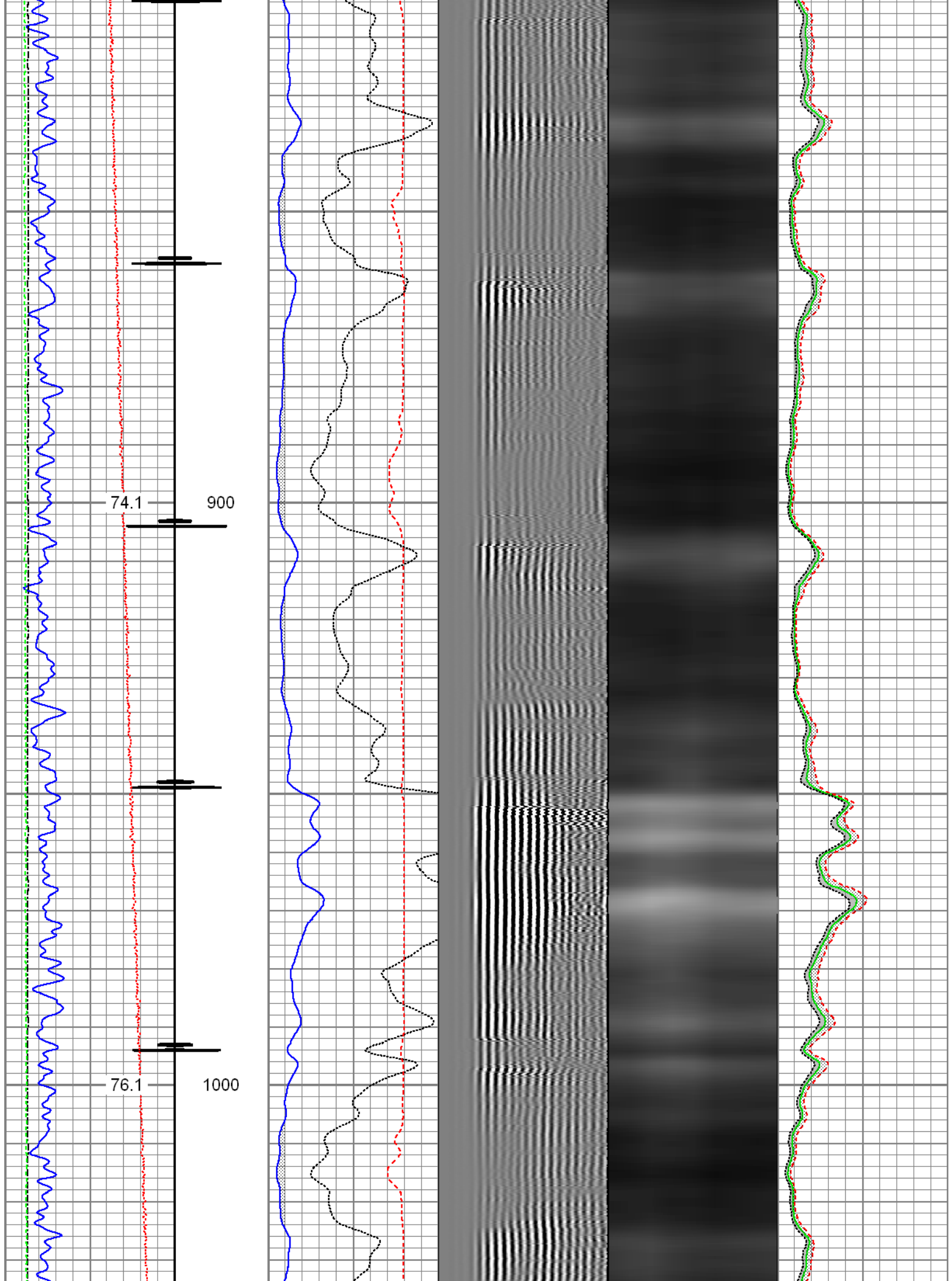
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 170	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150				
Line Tension				
0 (lb) 2000				

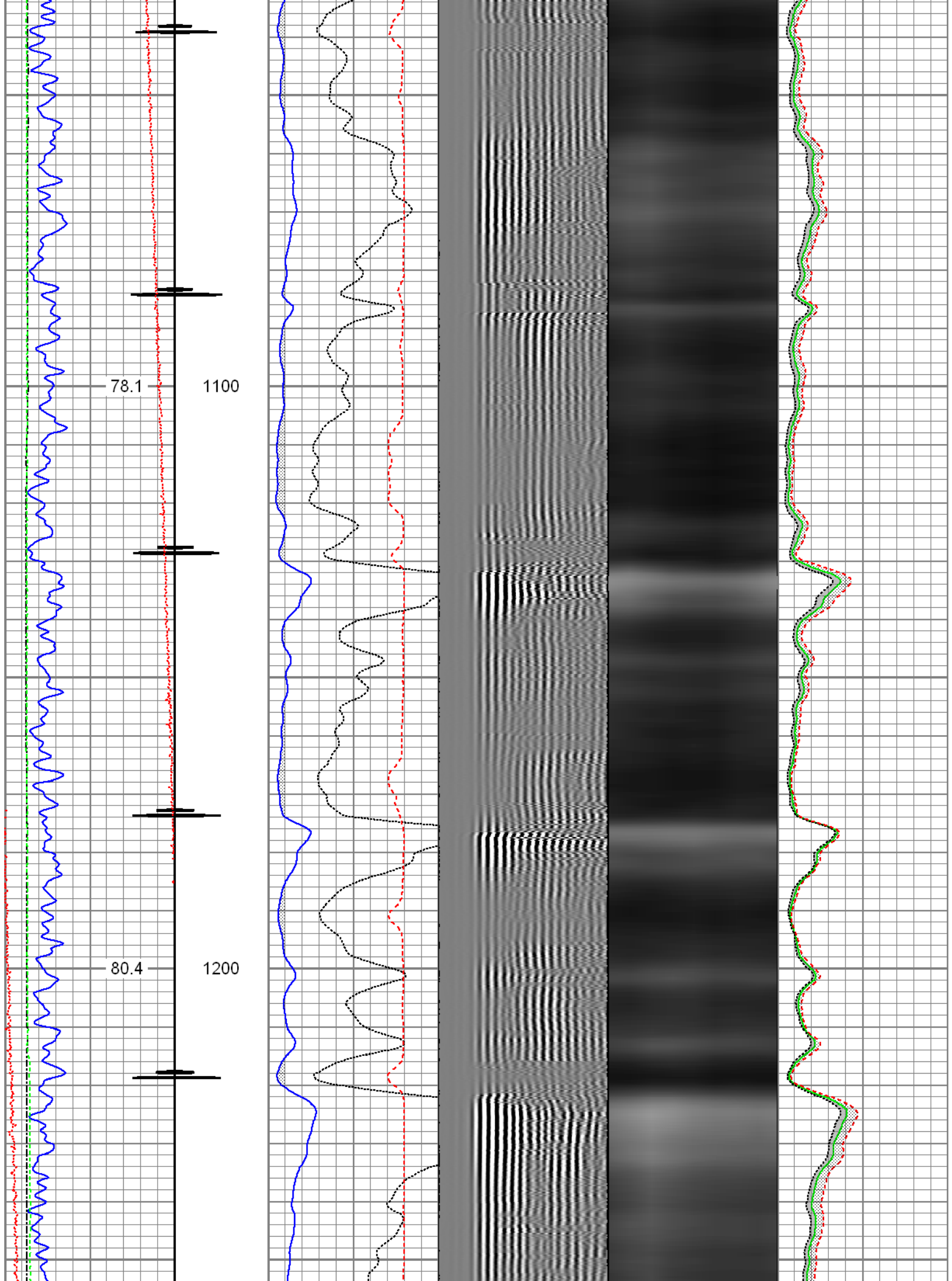


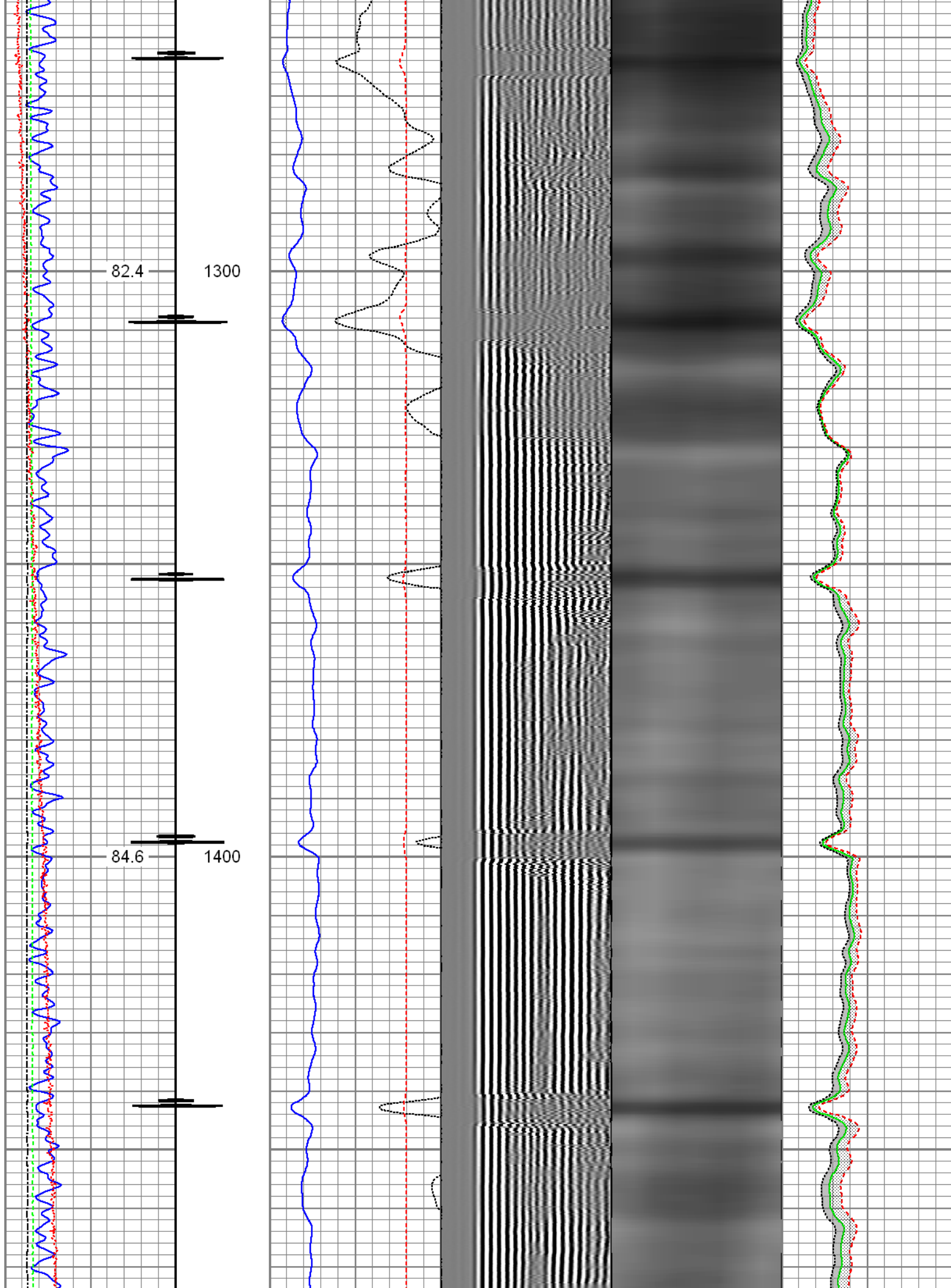


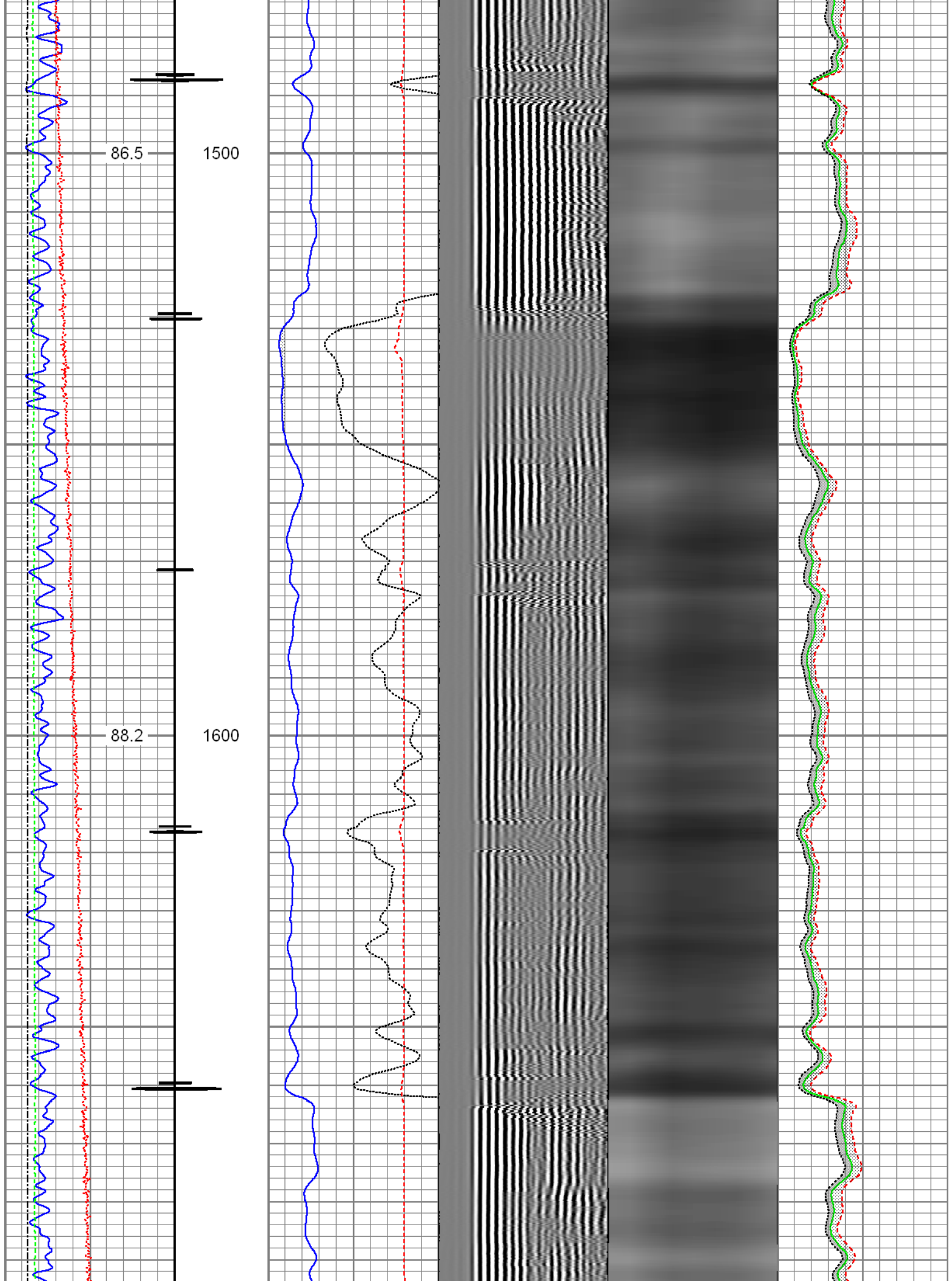


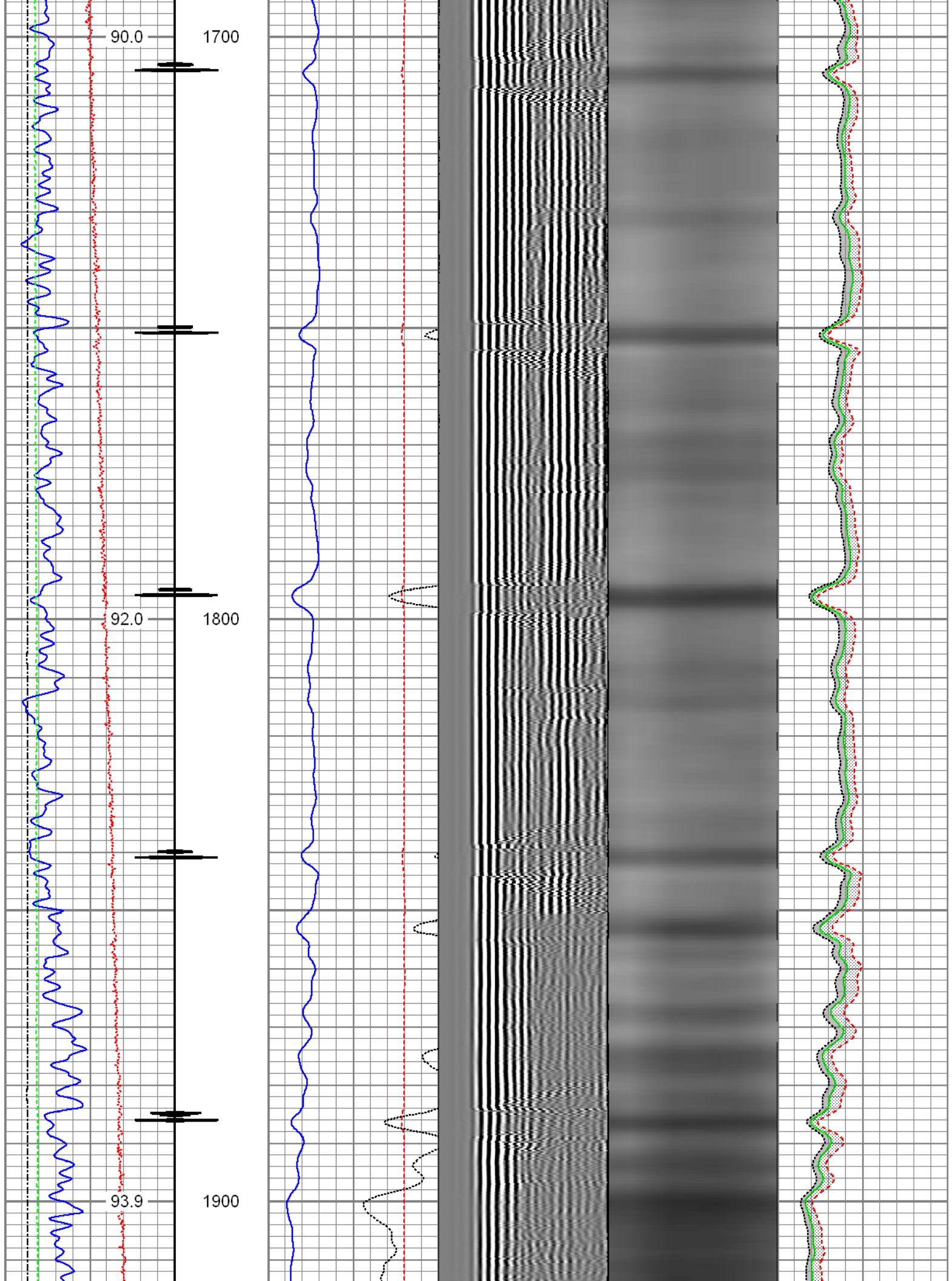


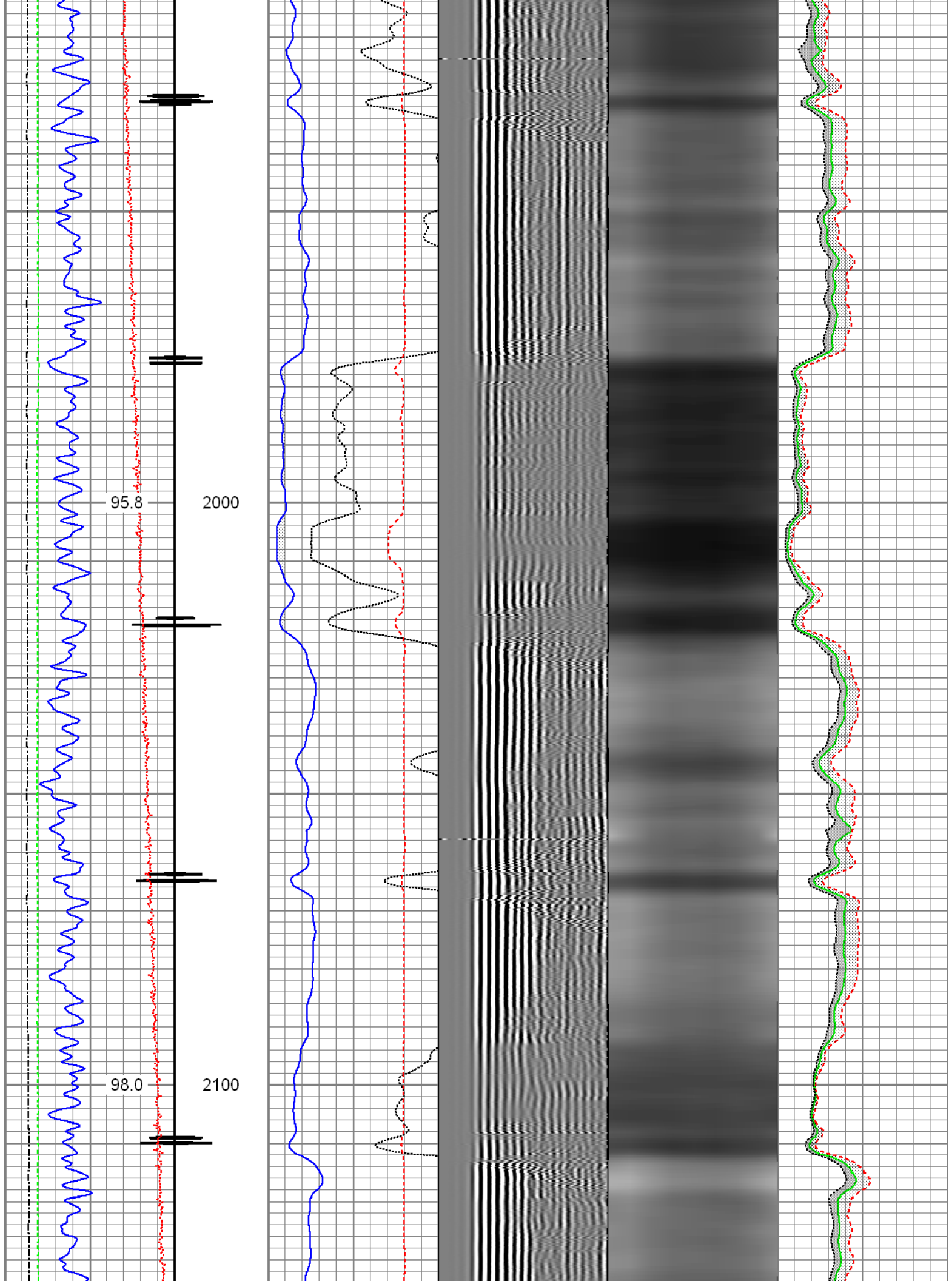


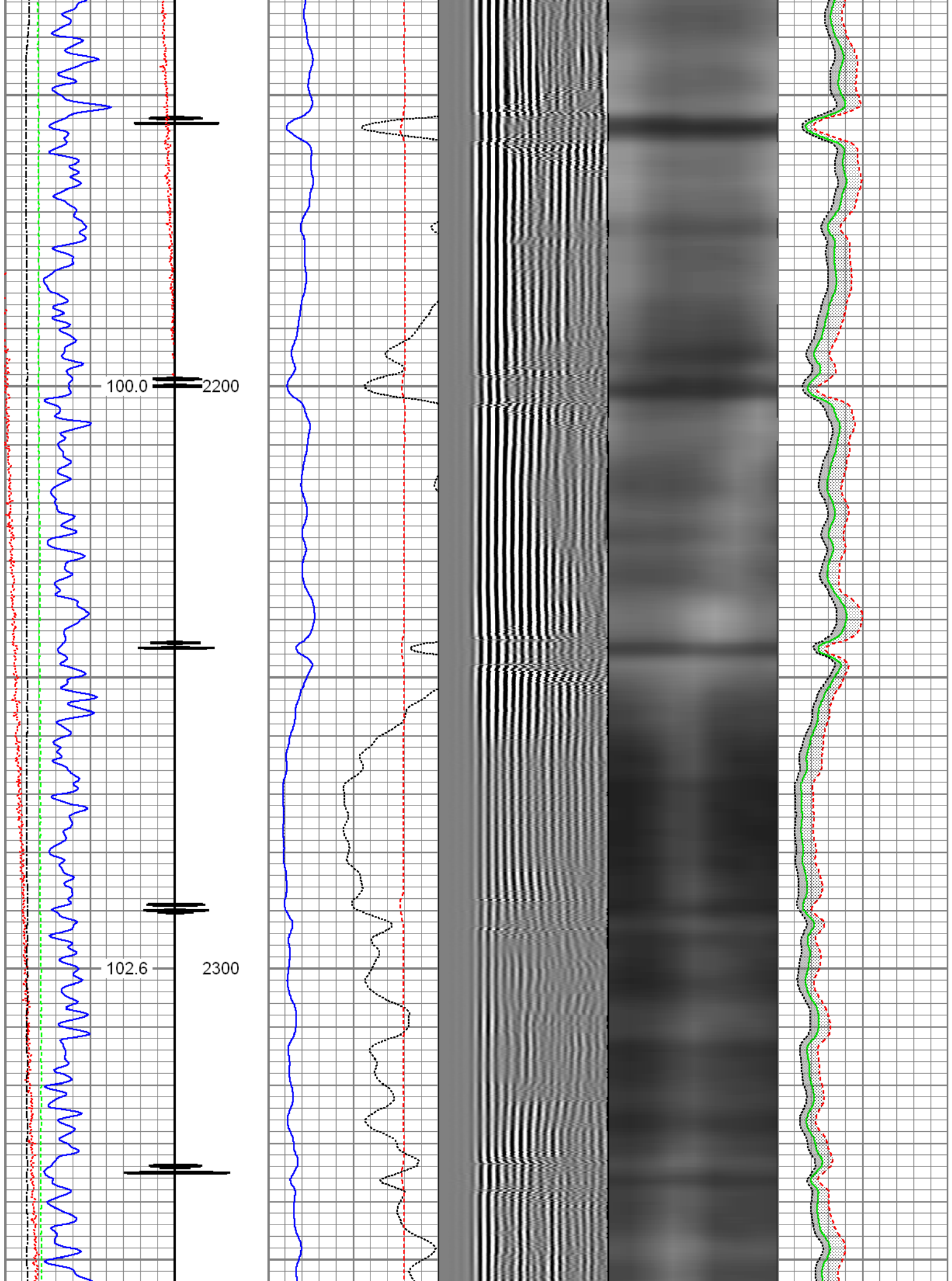


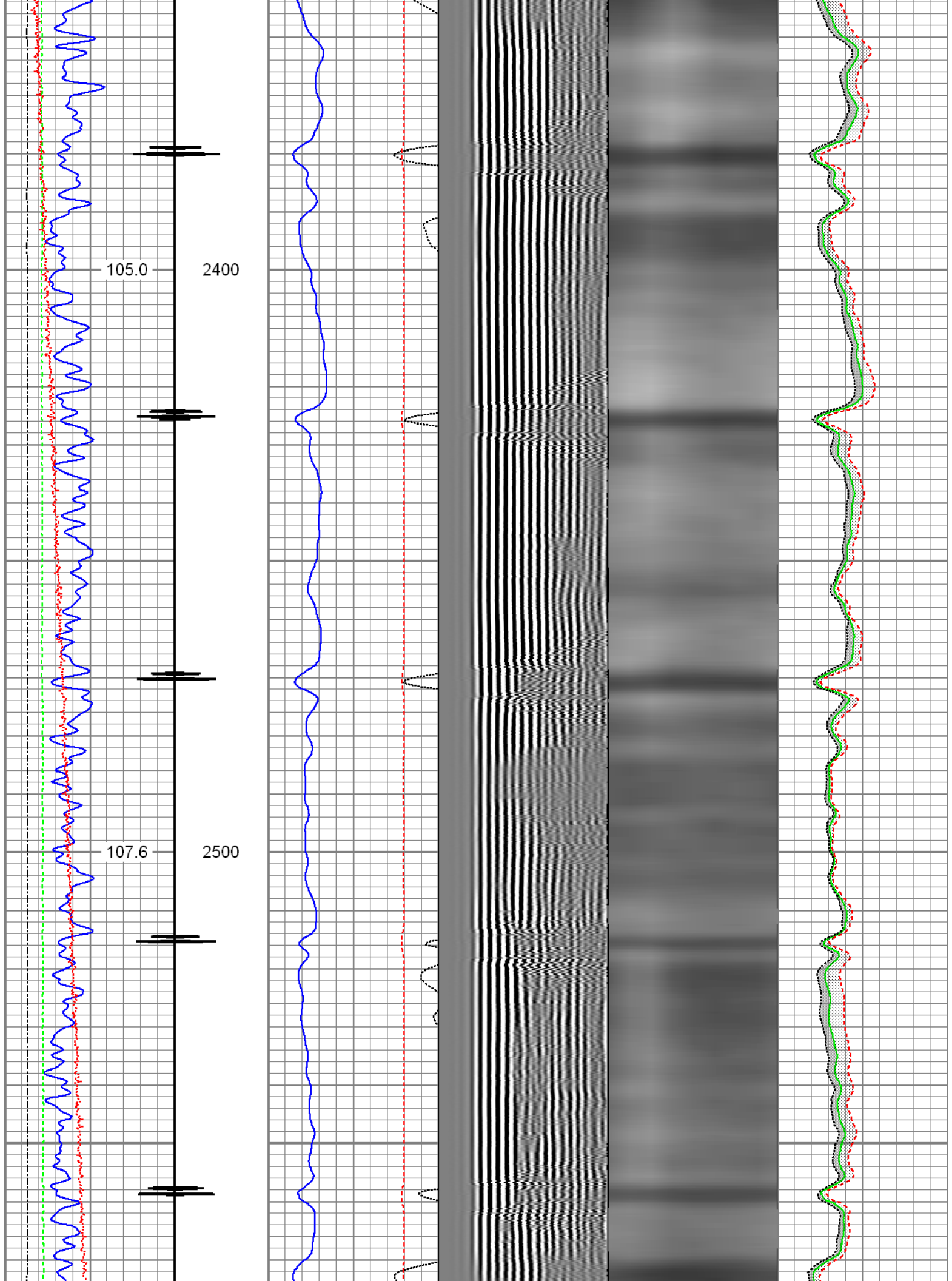


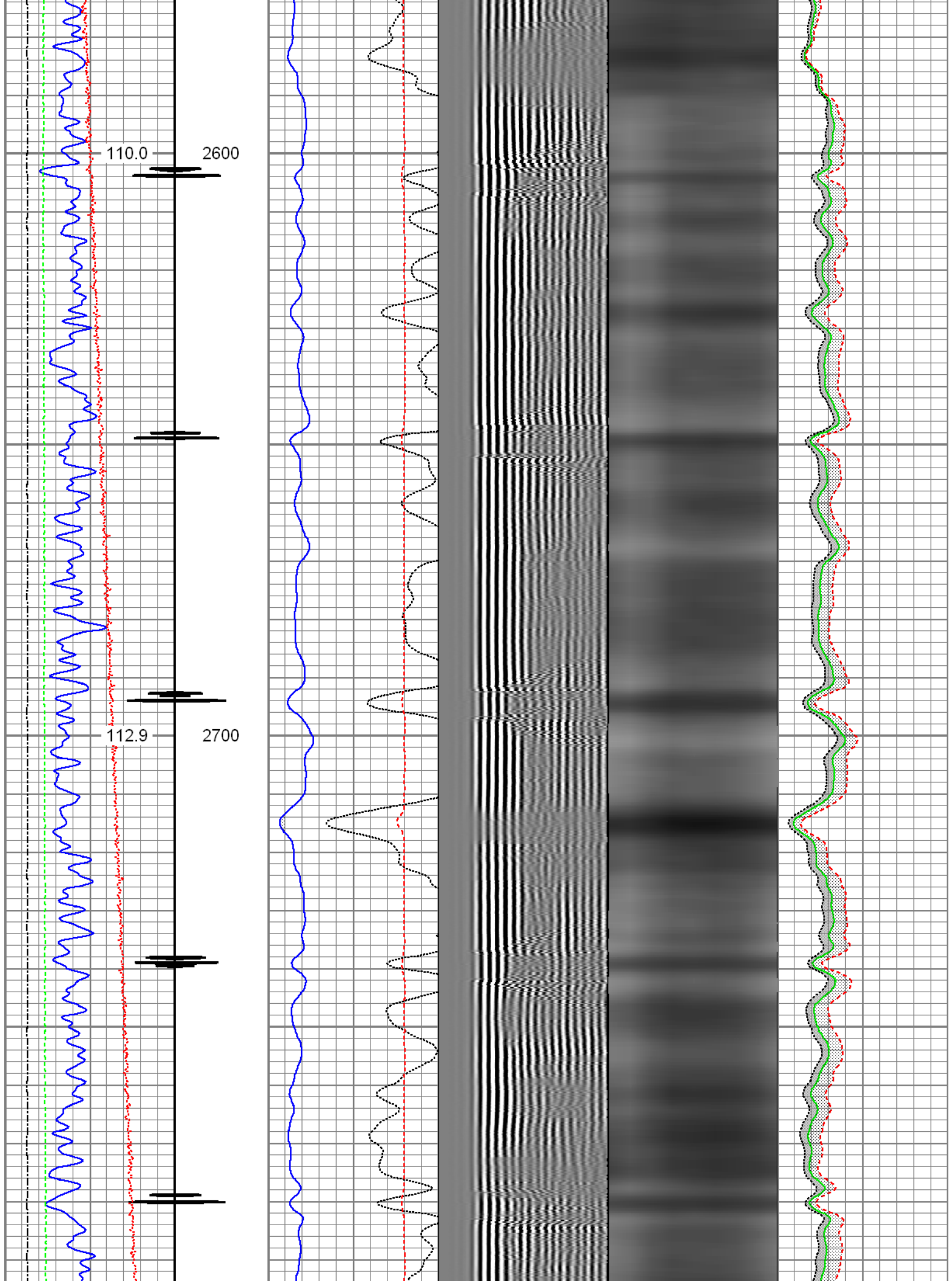


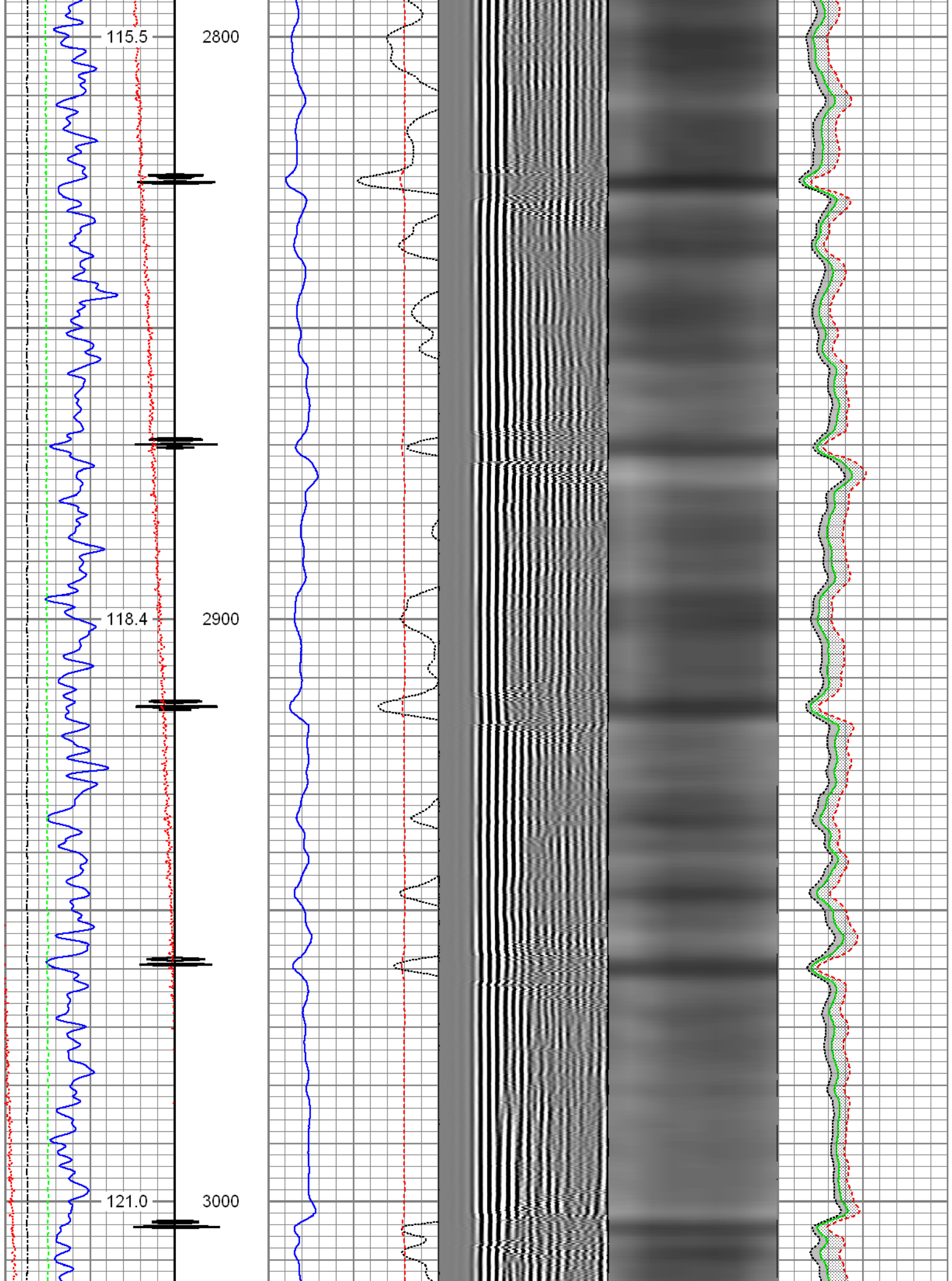


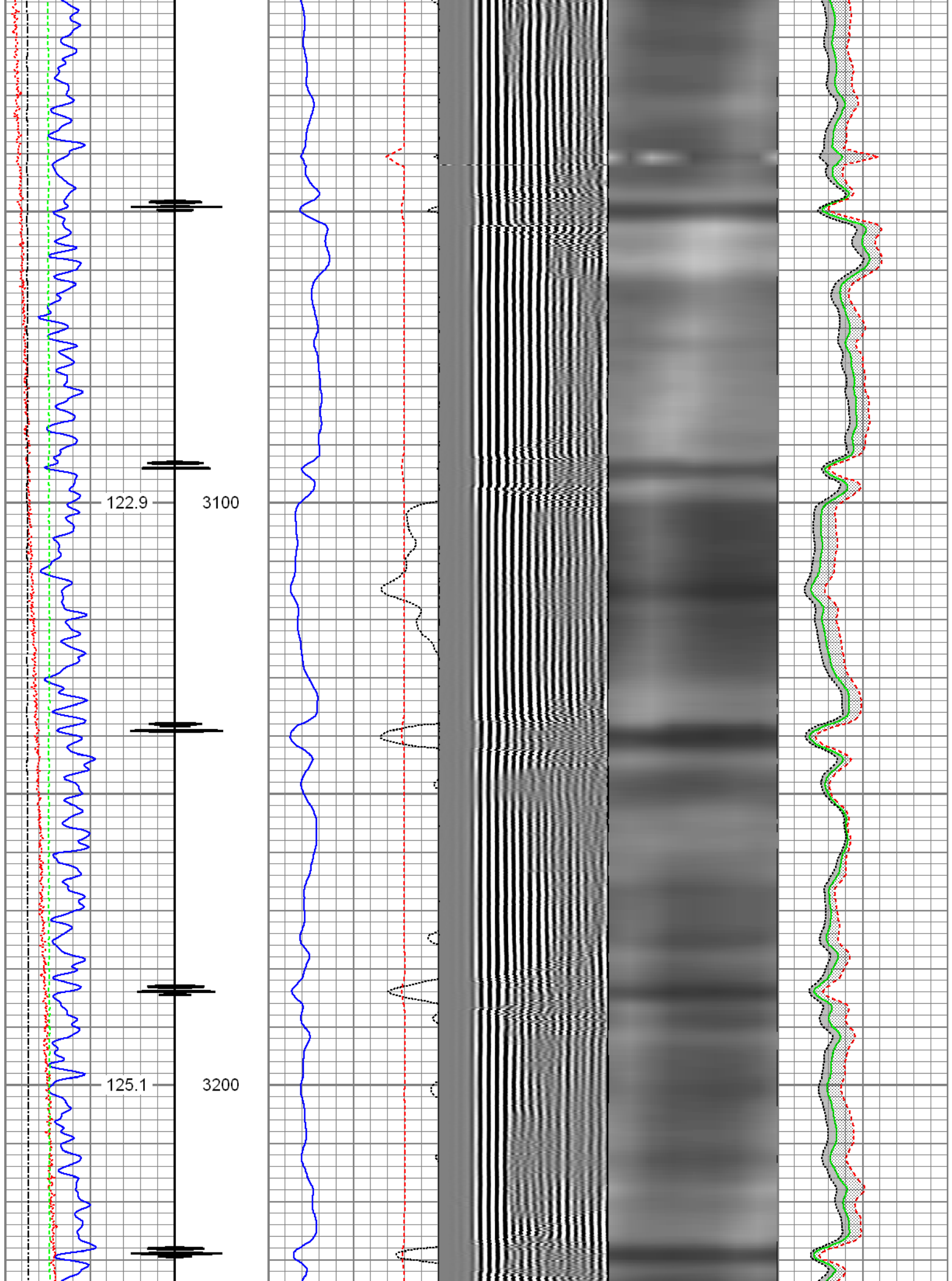


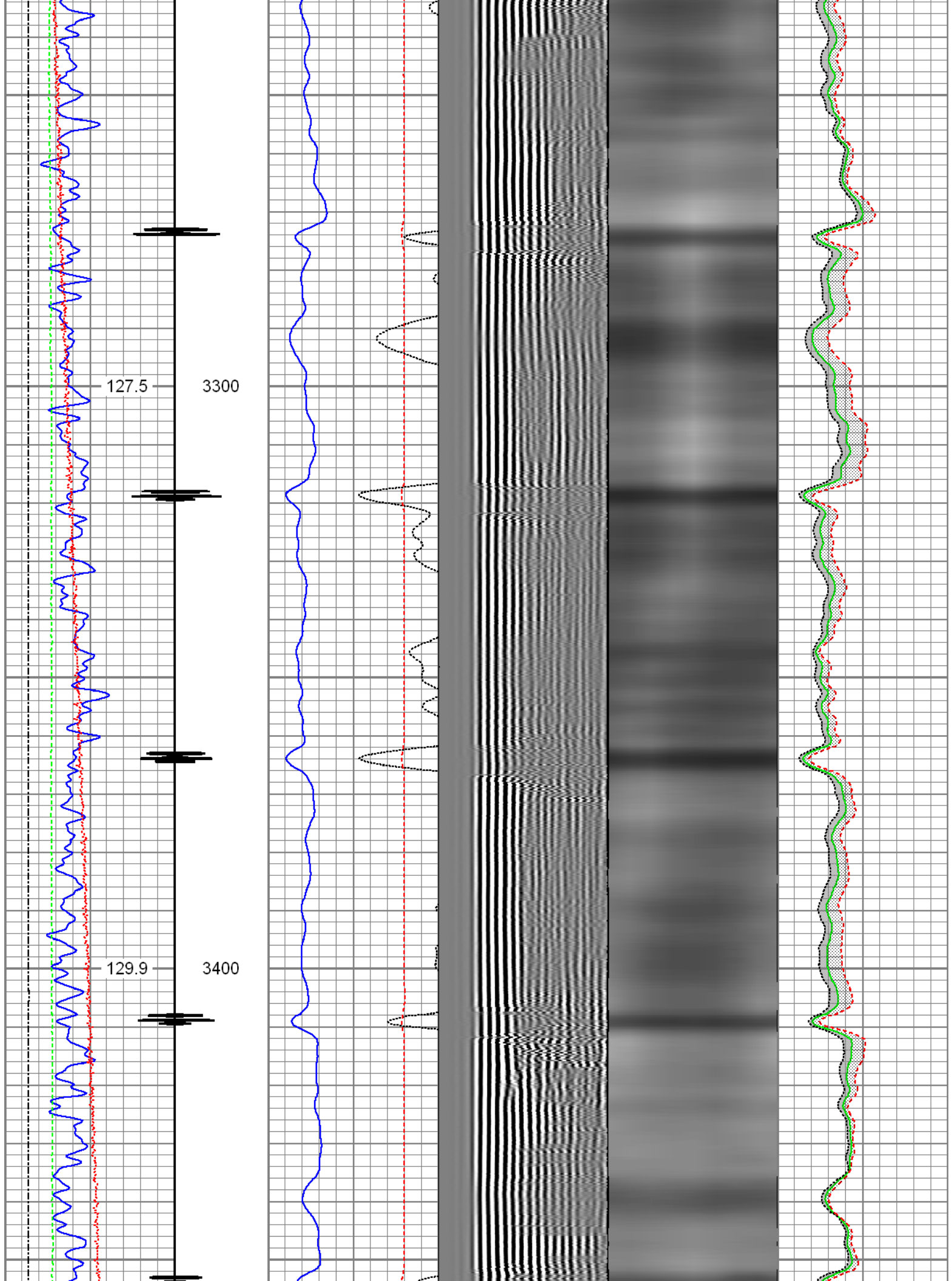


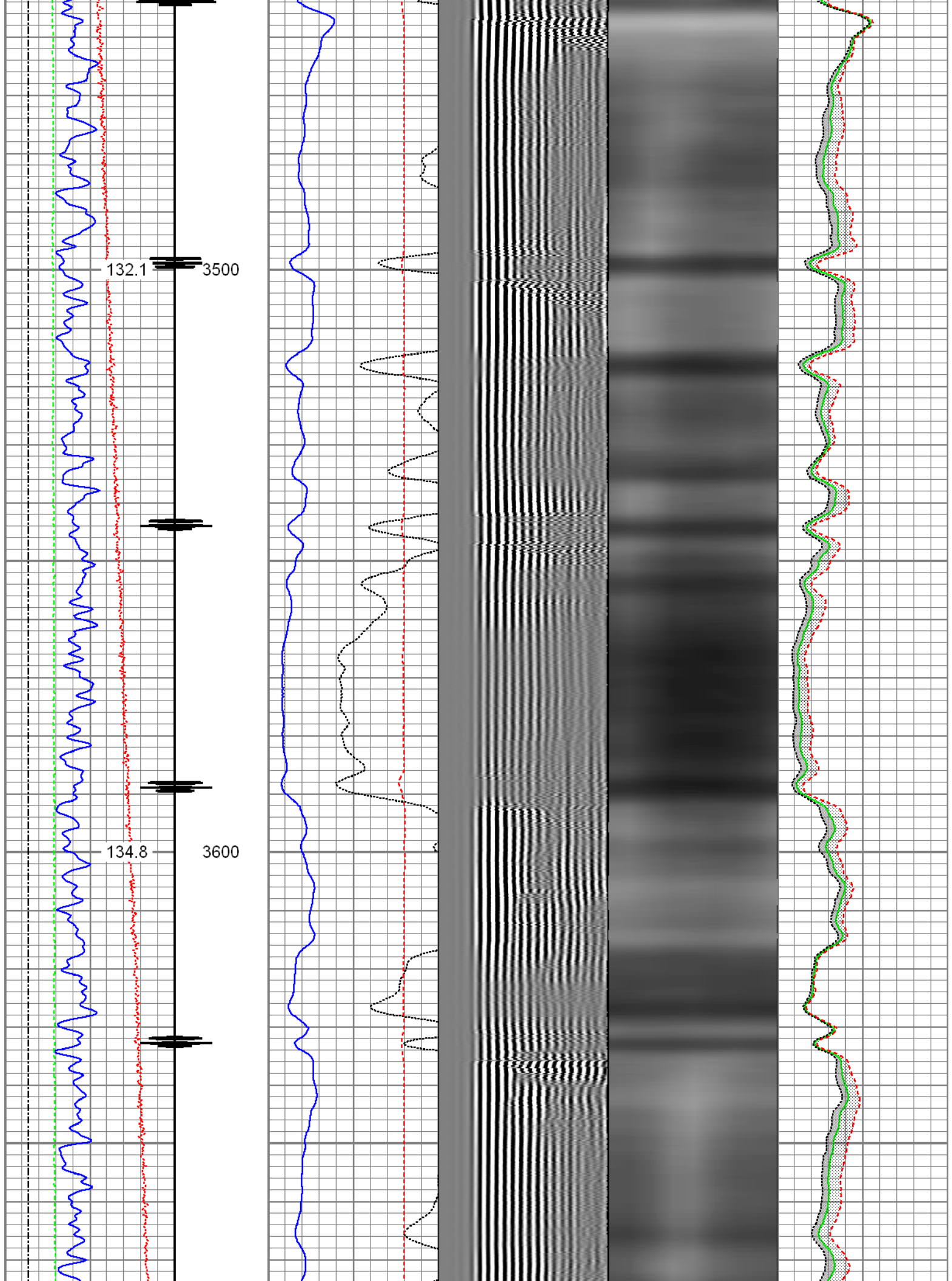


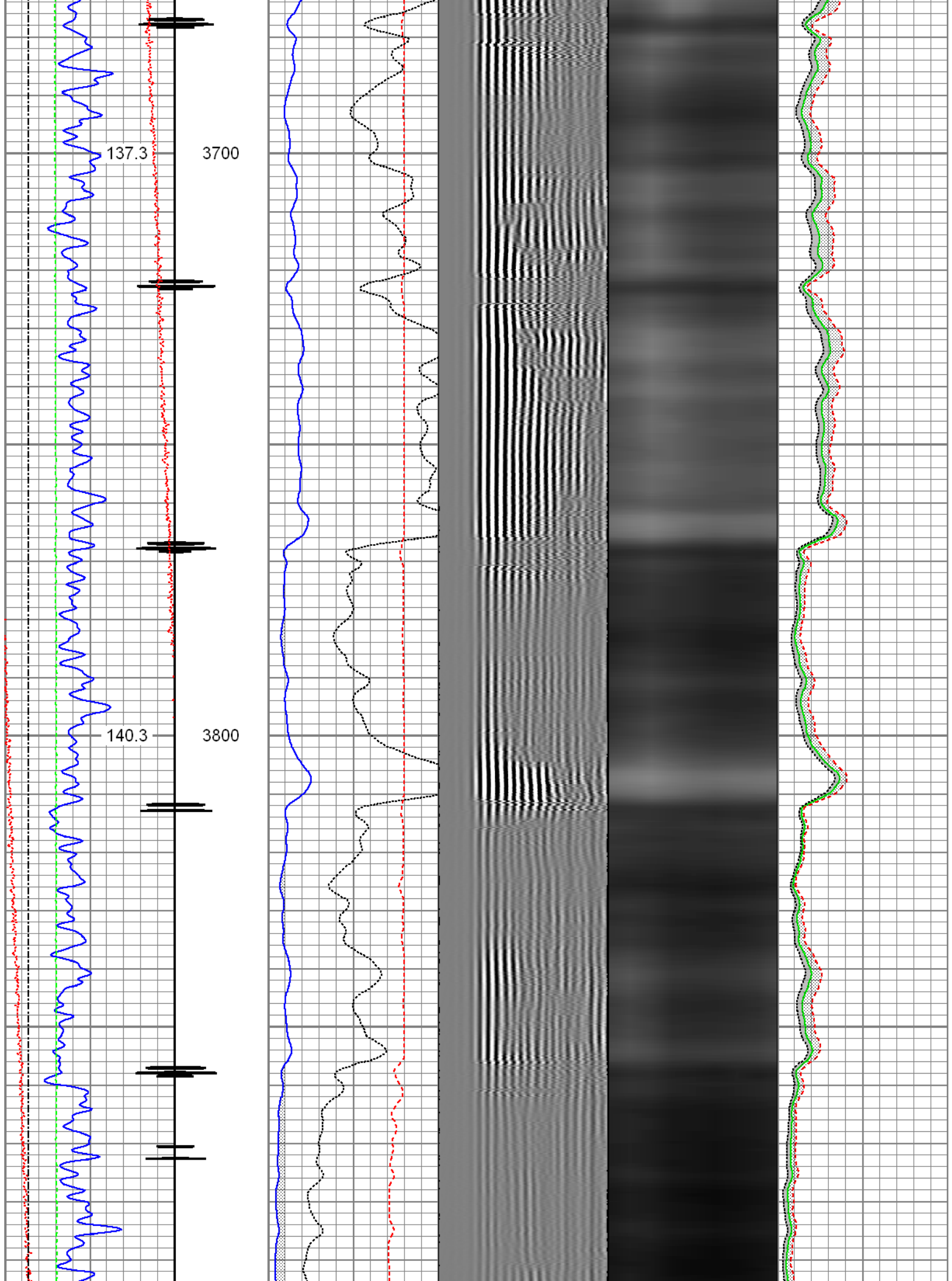


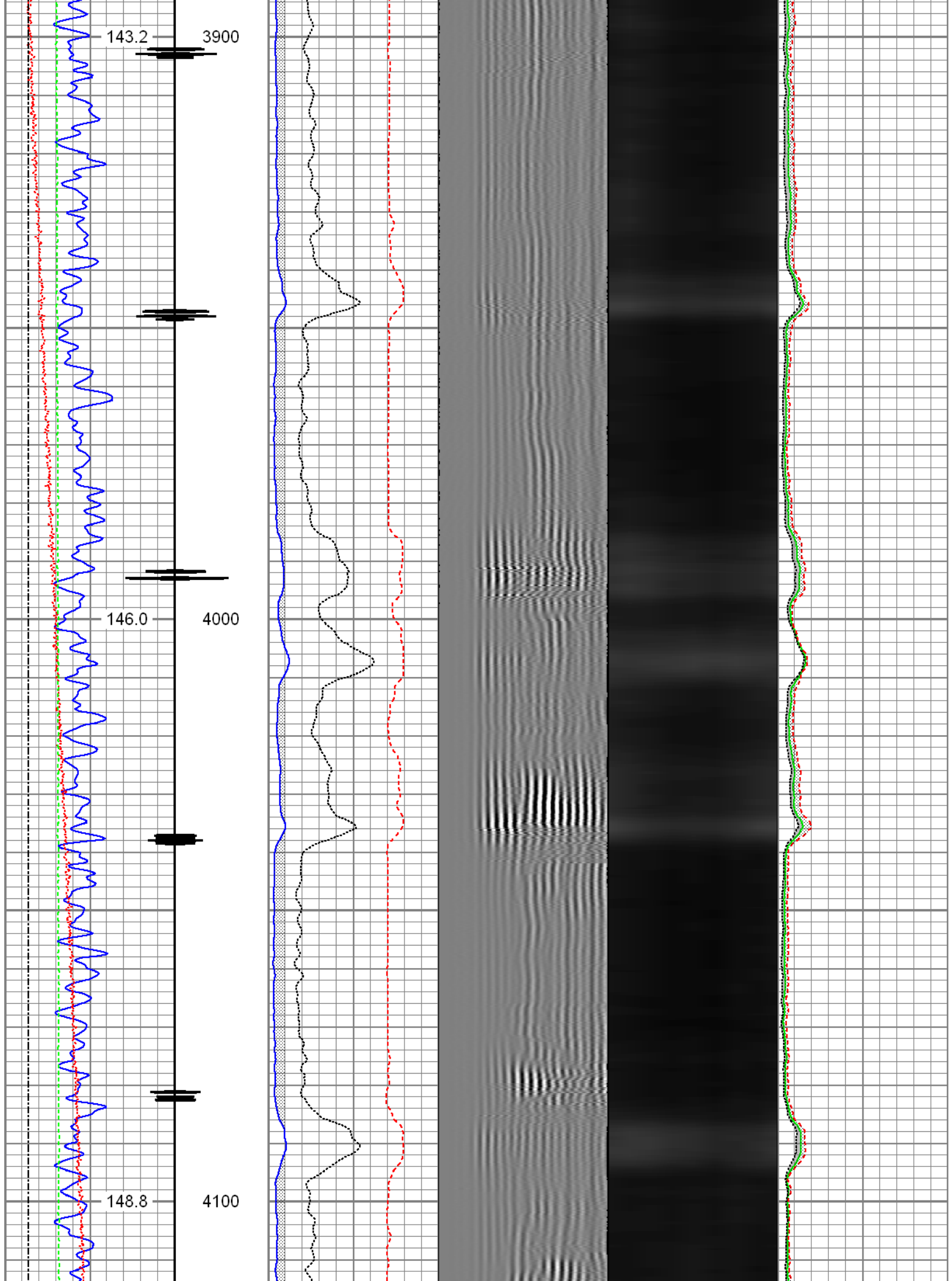


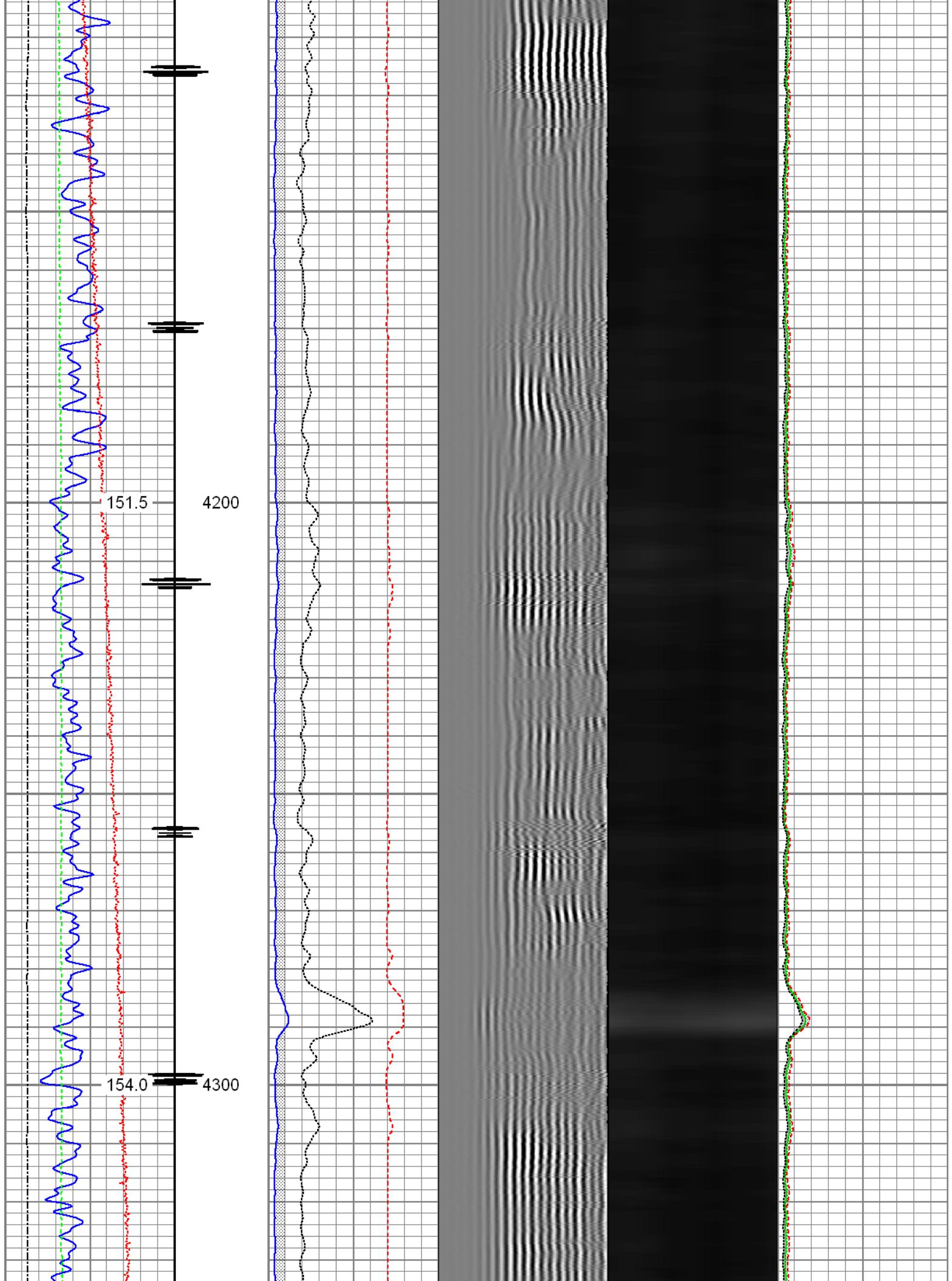


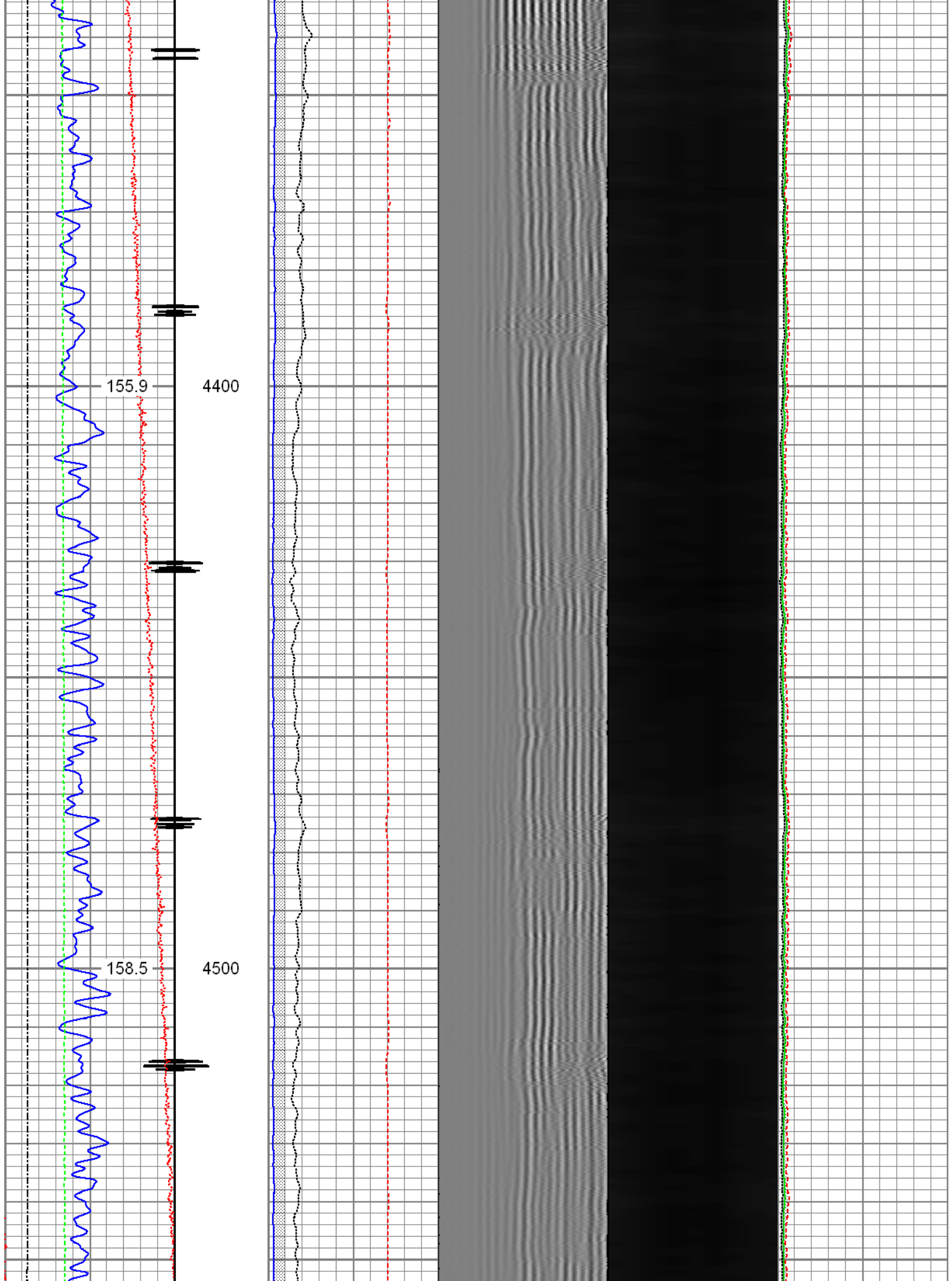


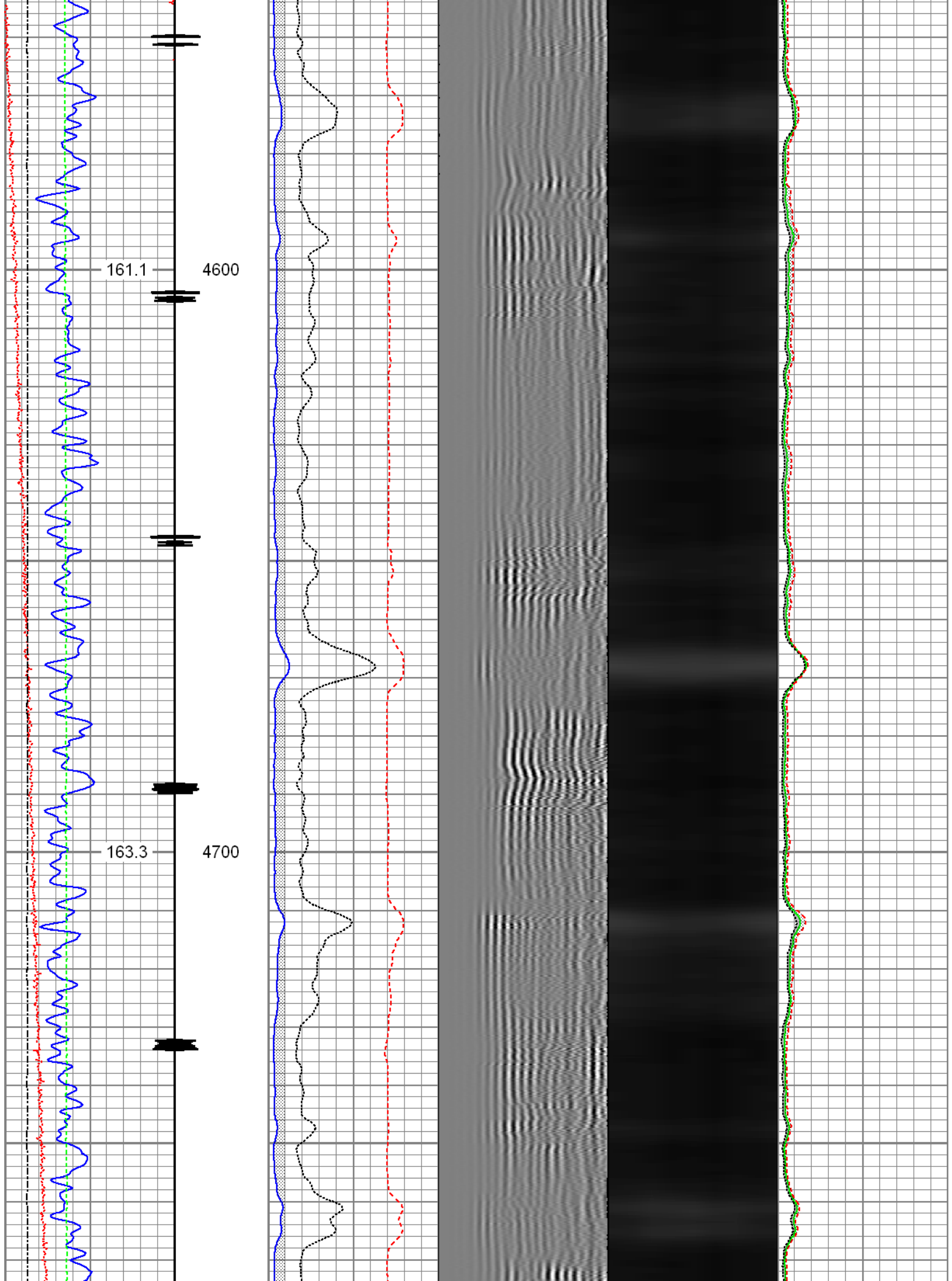


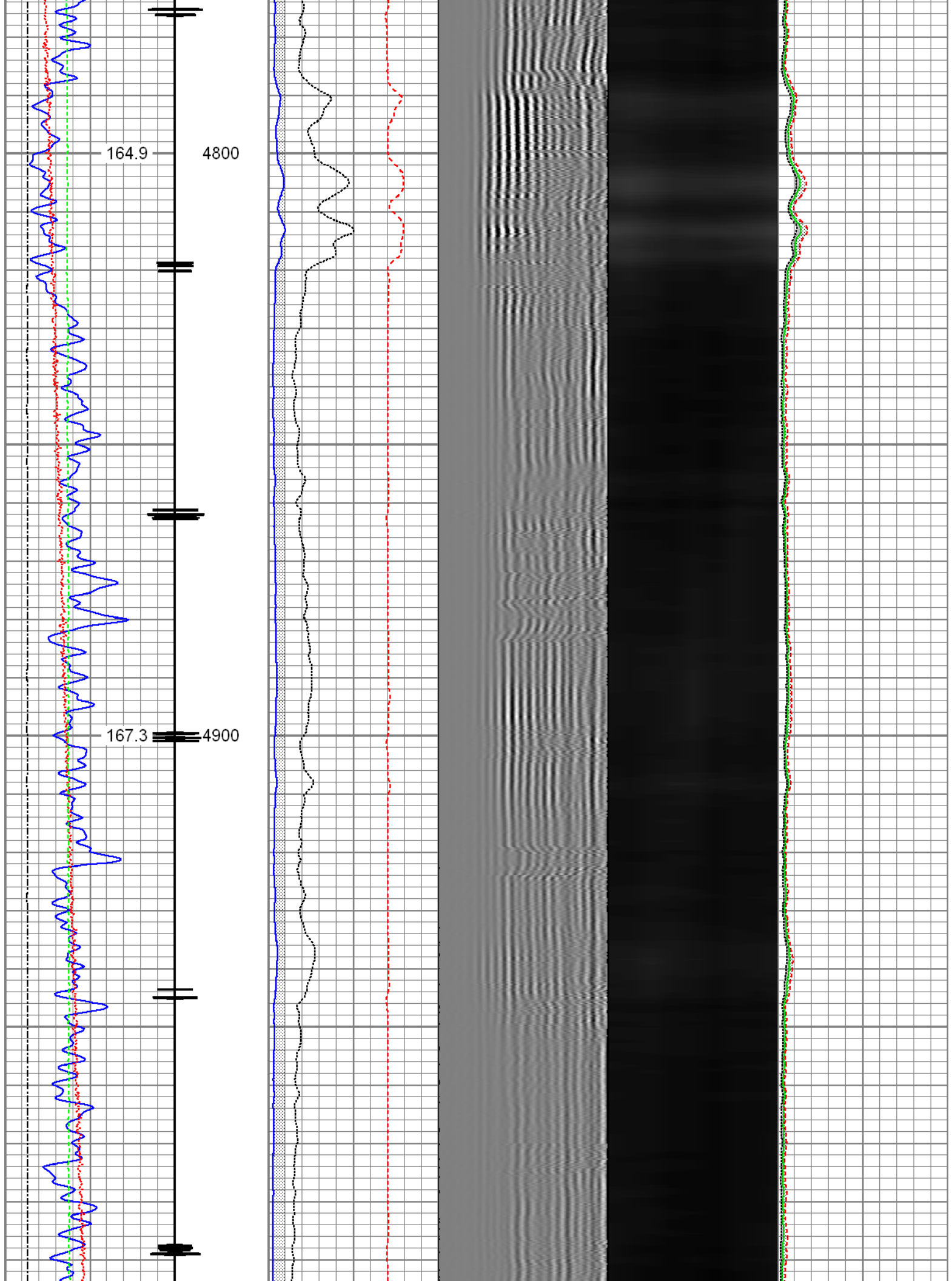


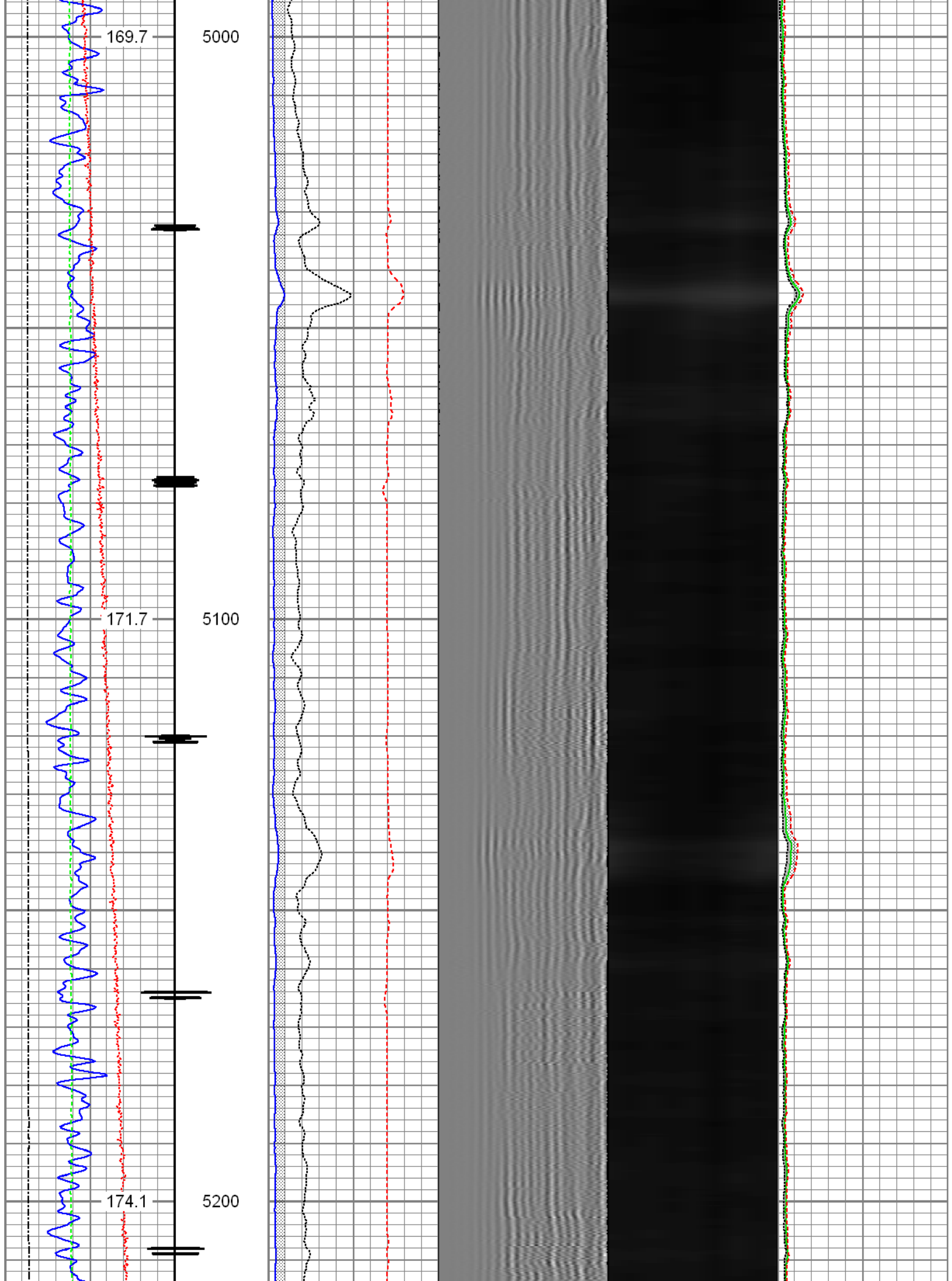


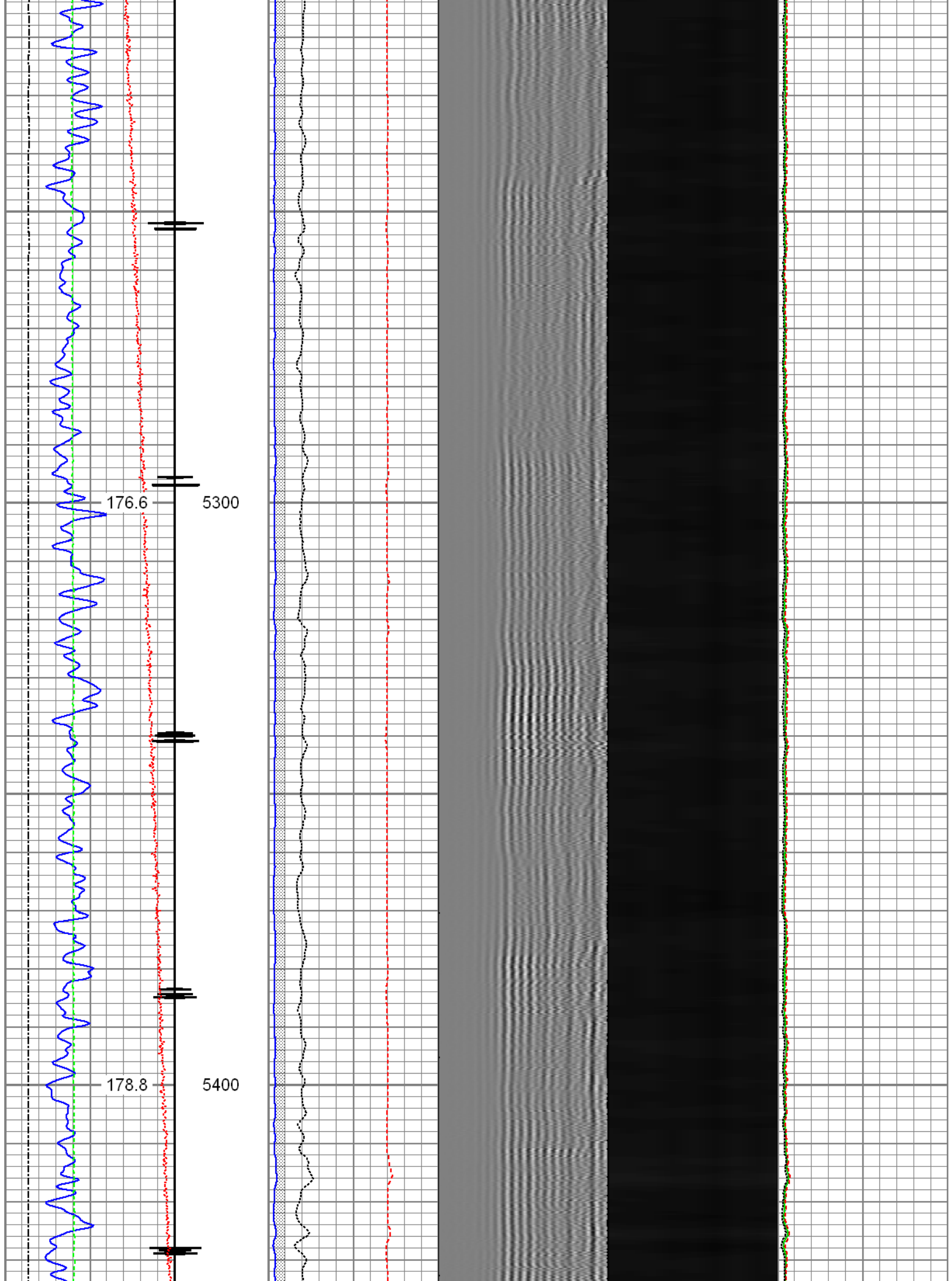


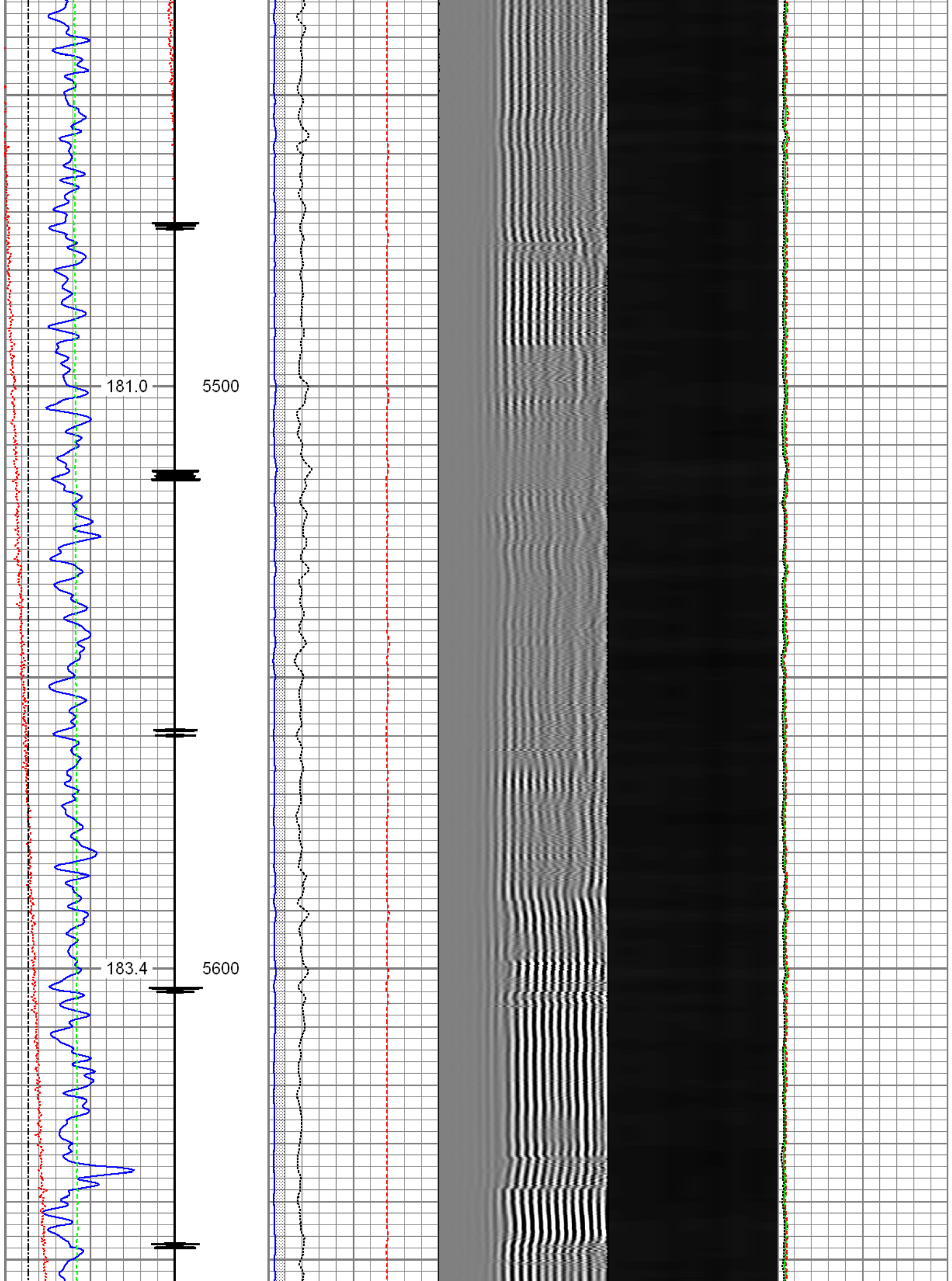


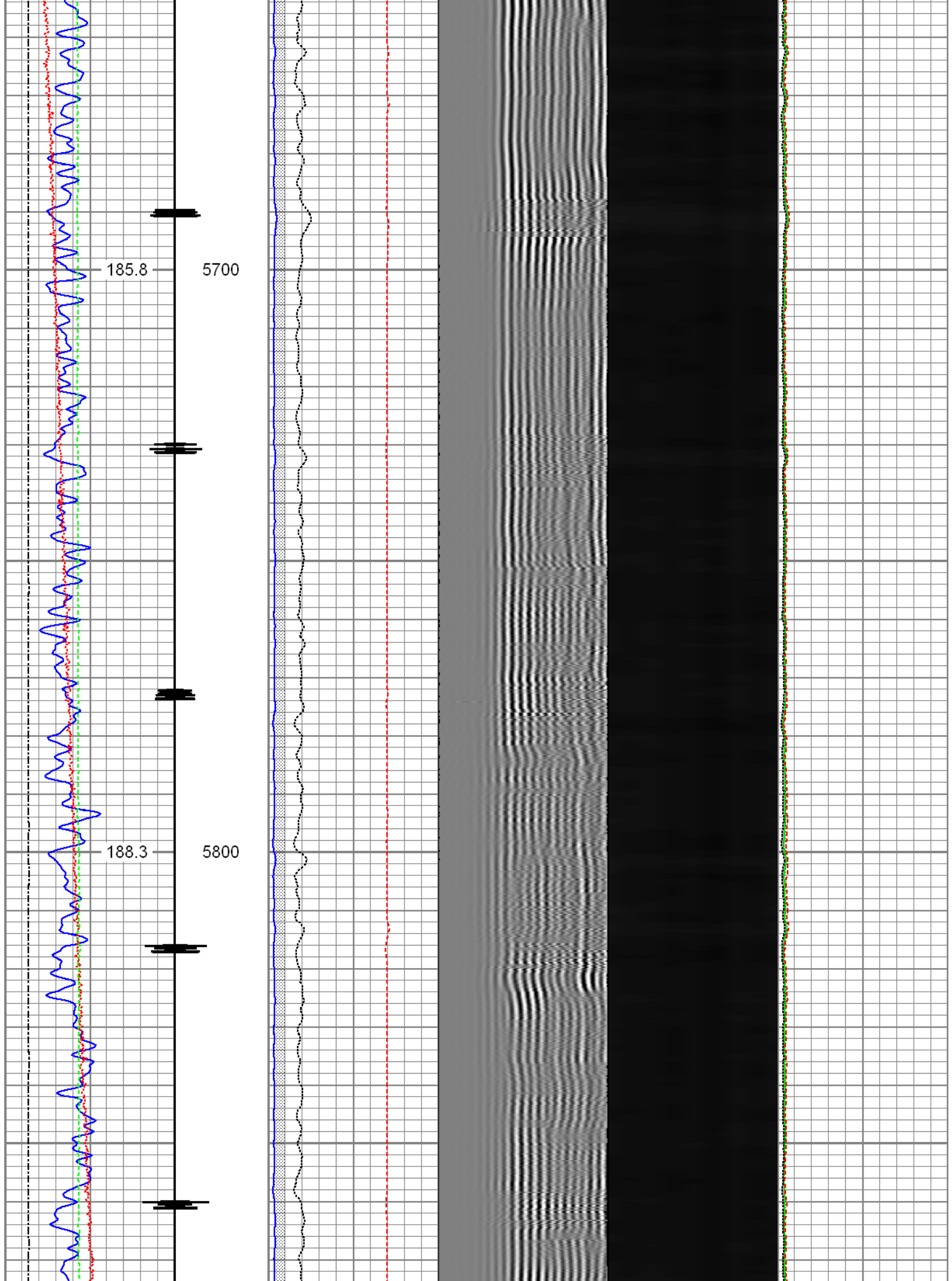


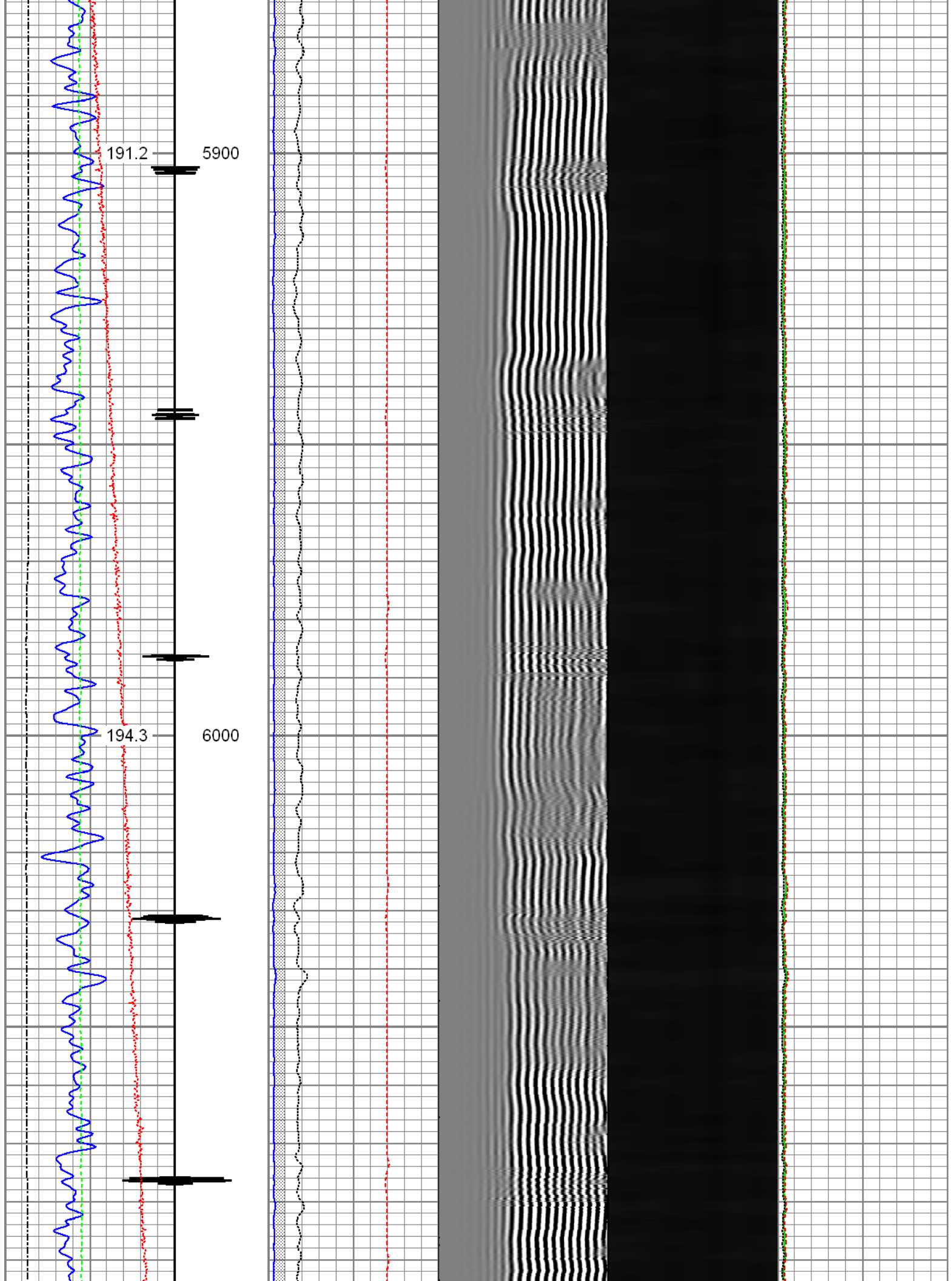


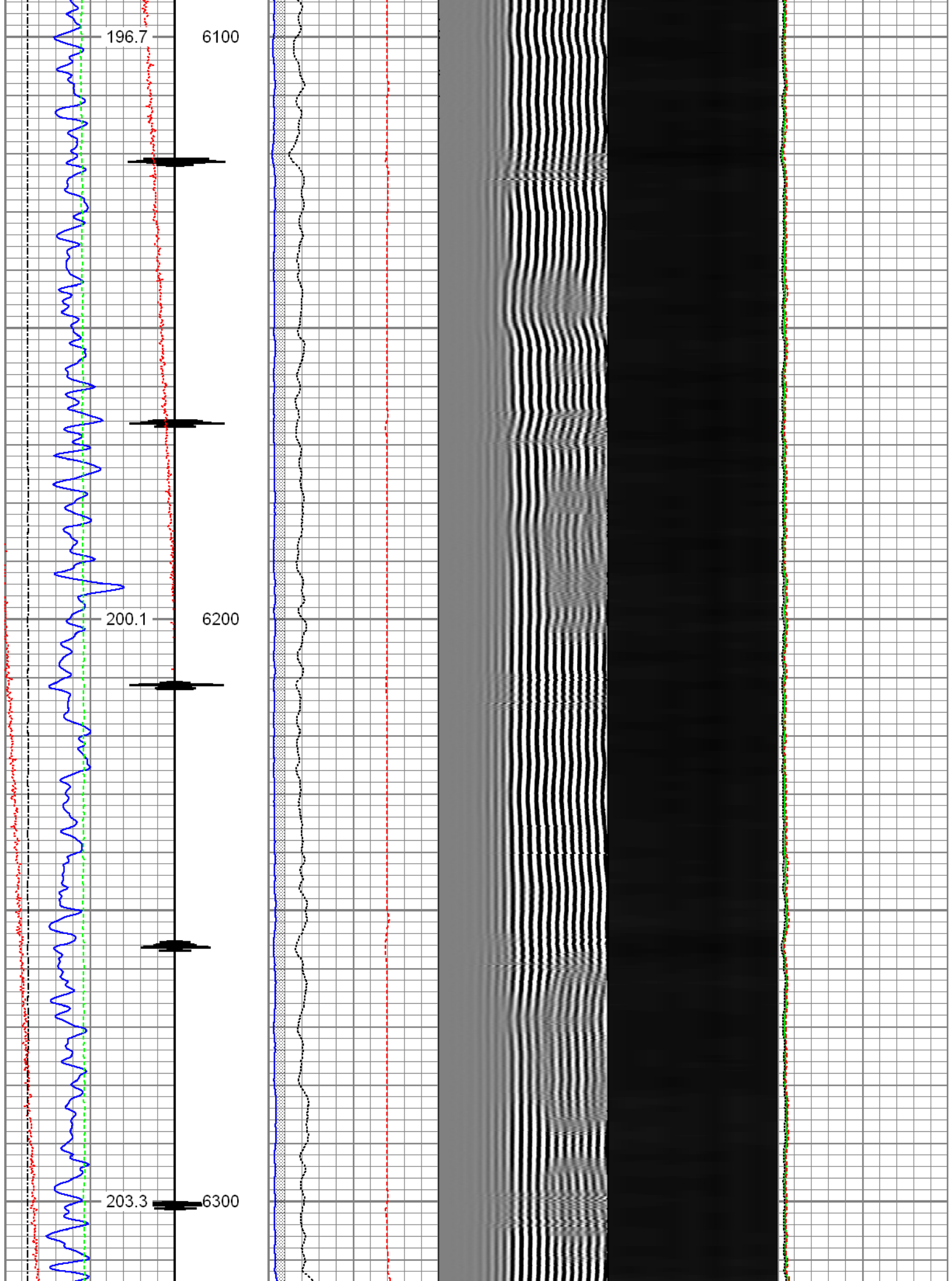


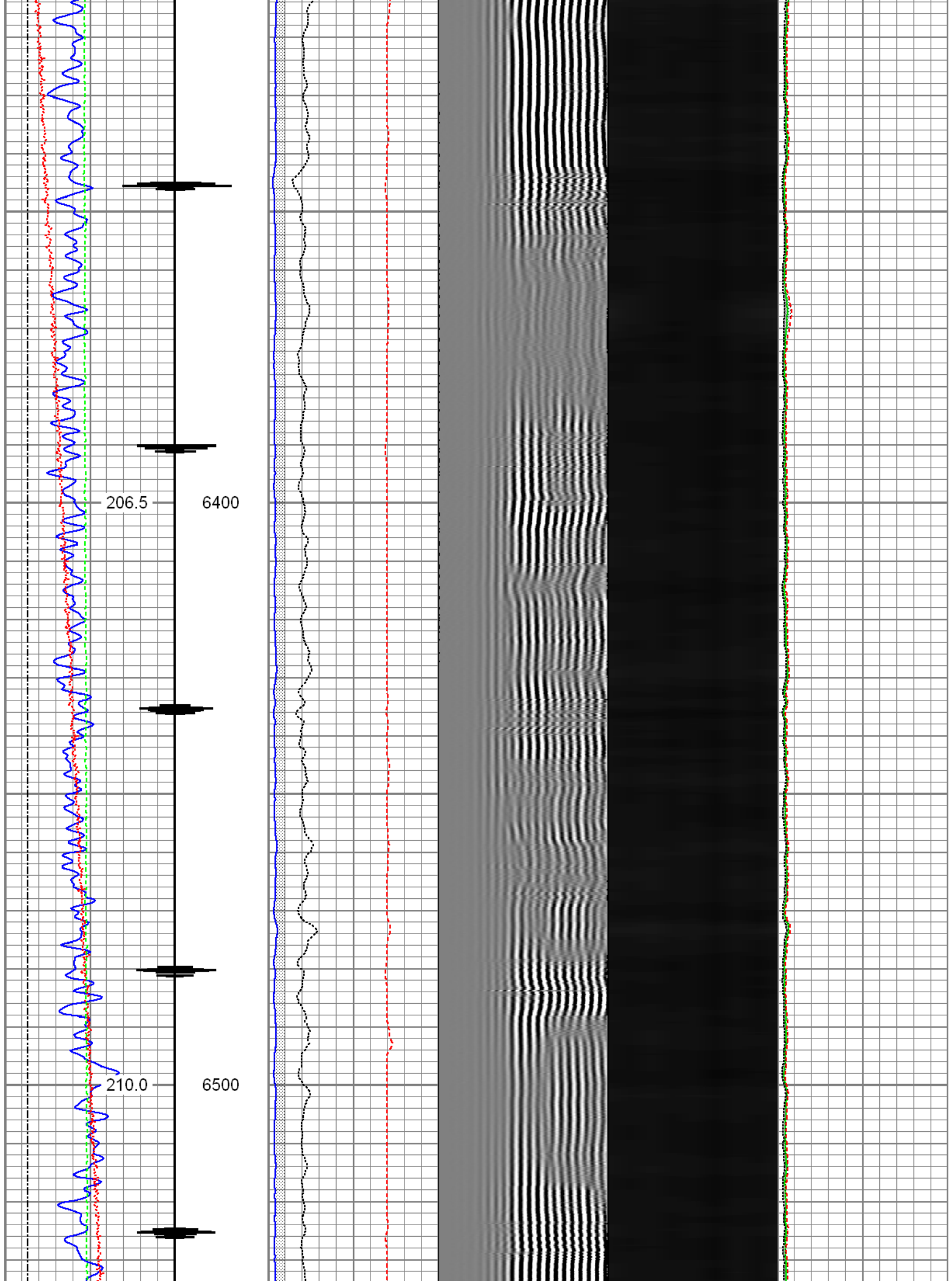


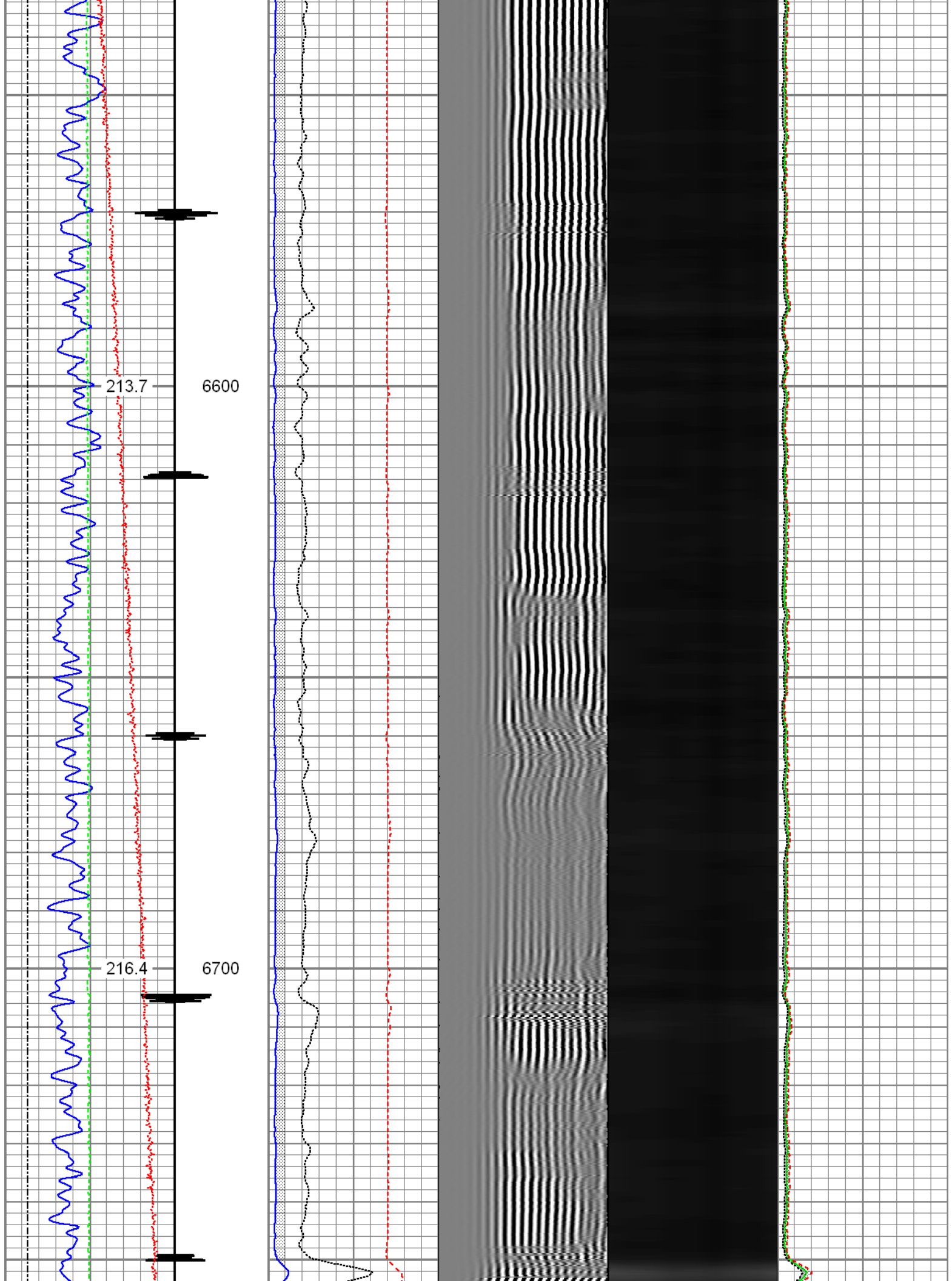


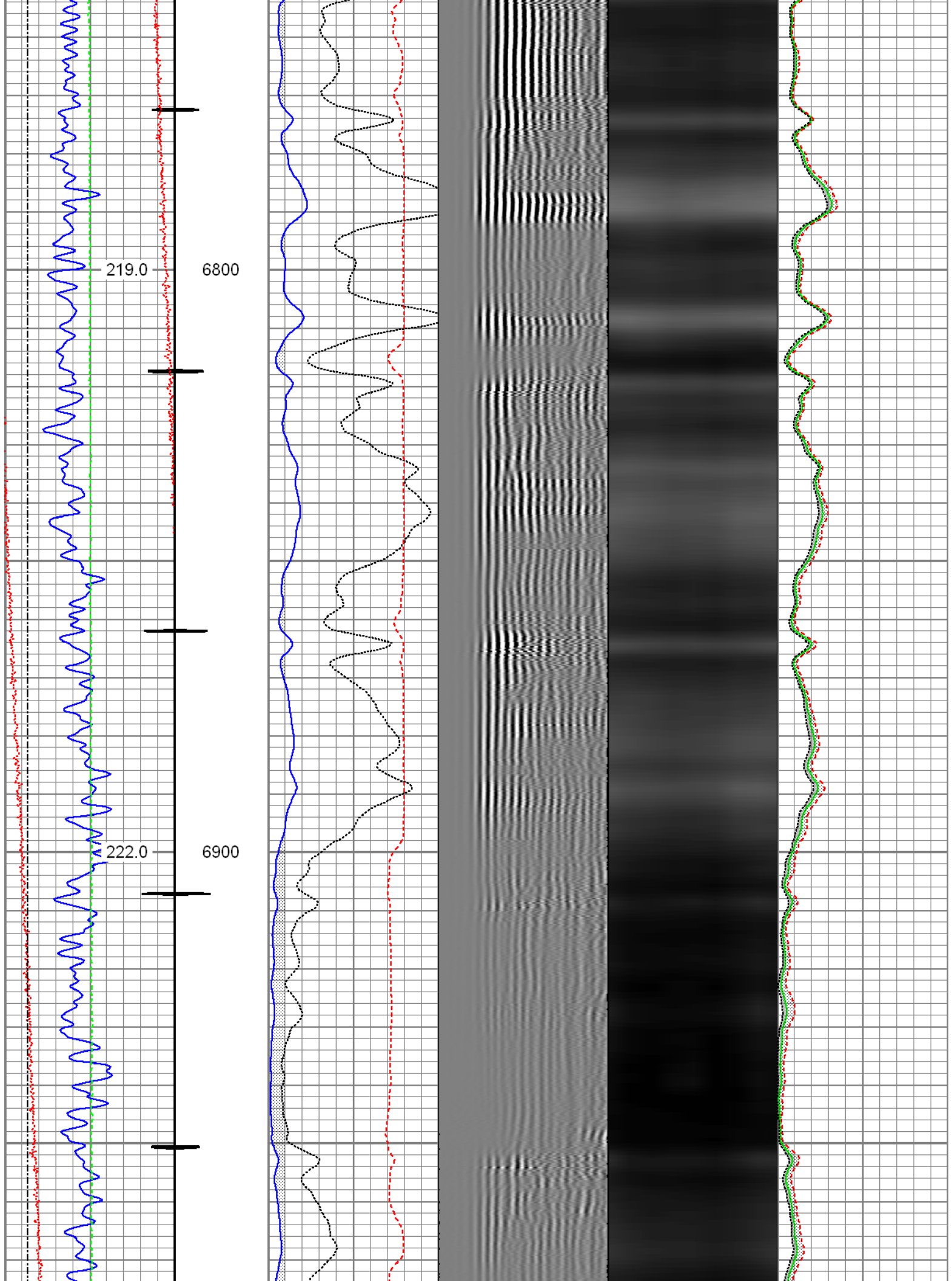


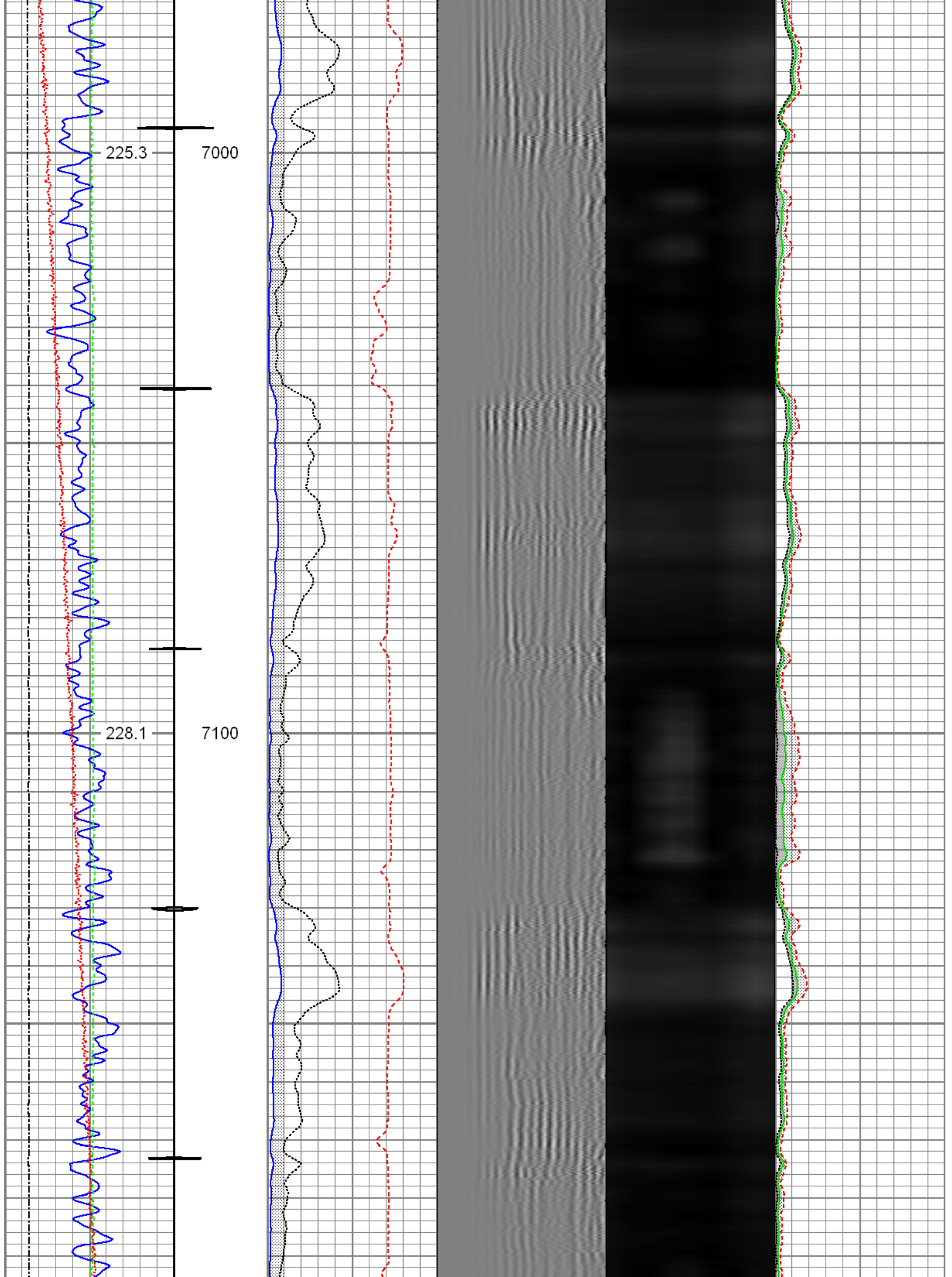


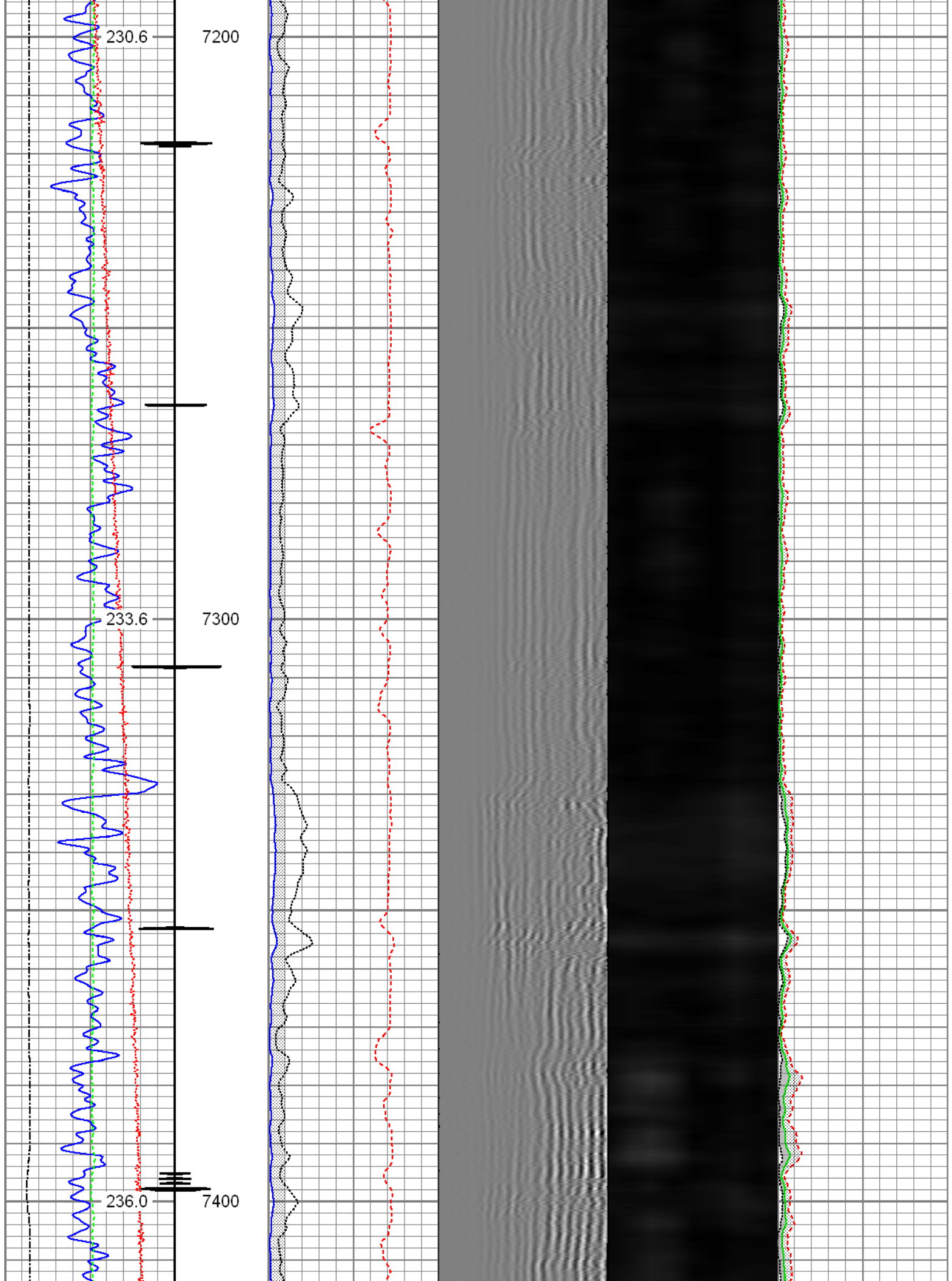


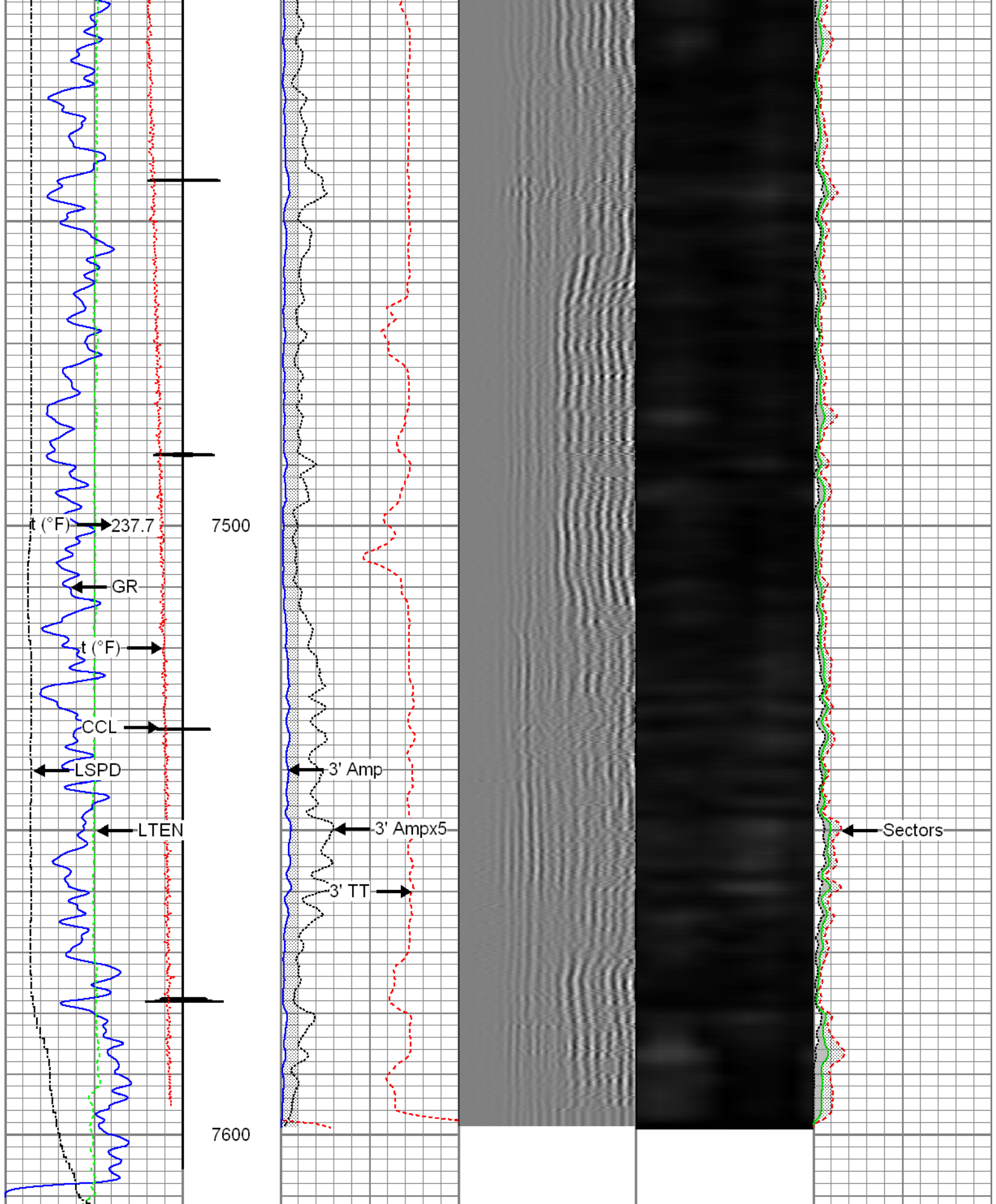













(degF)	20	3' Travel Time	650 (usec)	150	Maximum Amplitude	0	100
Line Speed	-150 (ft/min)	150					
Line Tension	0 (lb)	2000					



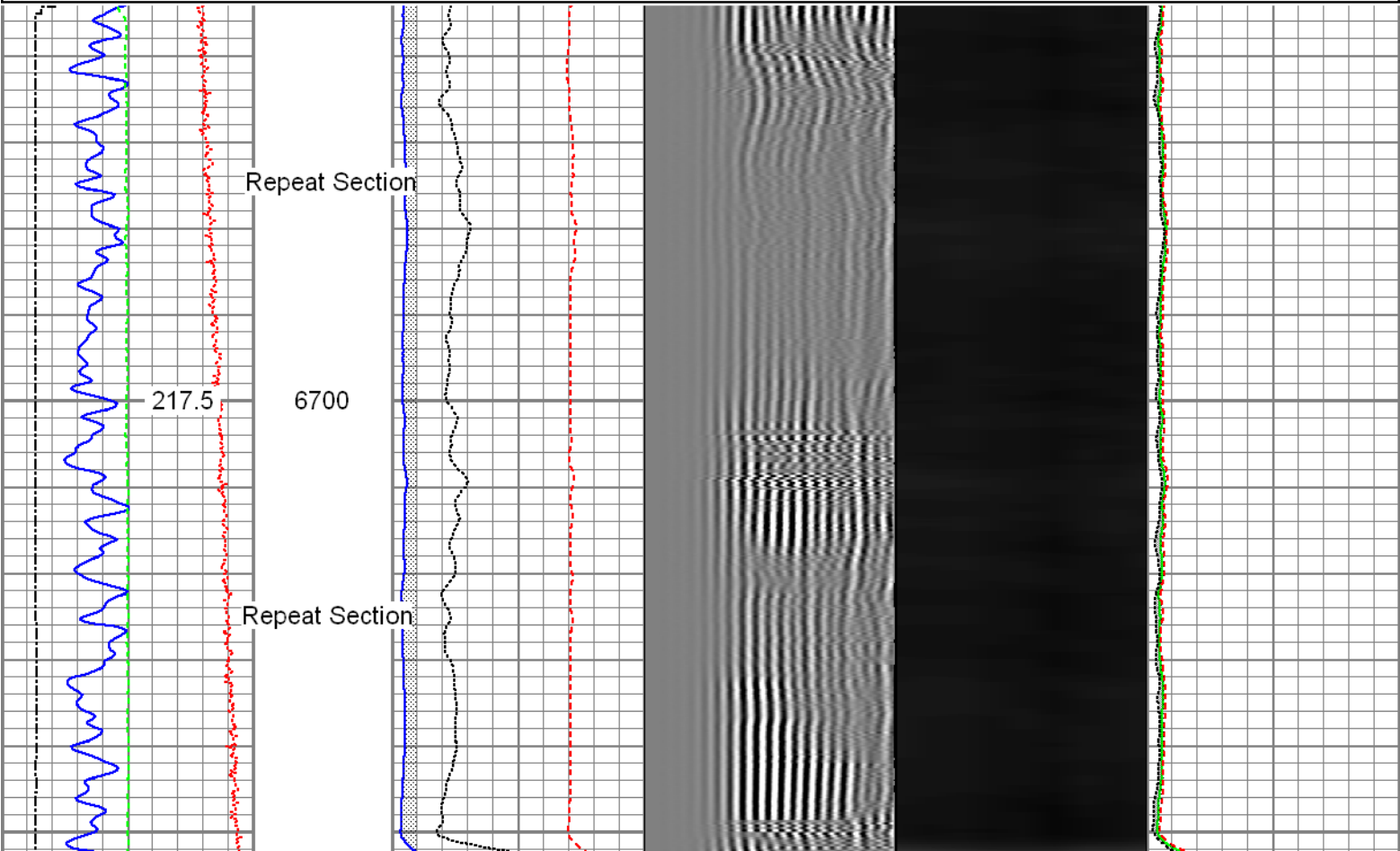
Repeat Pass

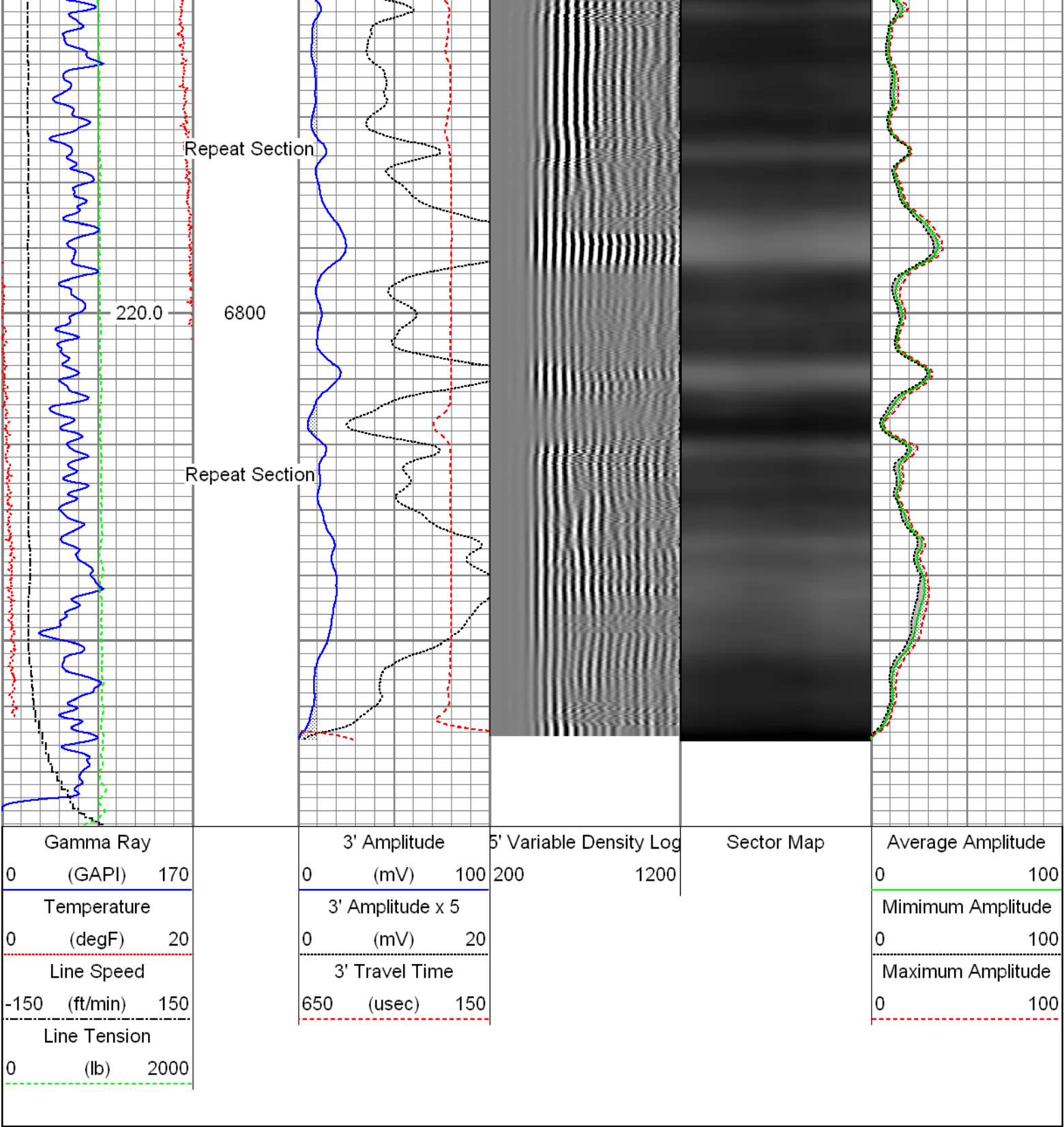
Recorded with 2800 PSI Surface Induced Pressure

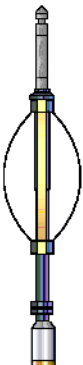
Database File:
Dataset Pathname:
Presentation Format:
Dataset Creation:
Charted by:


processed_0512341794_anadarko_tedford 29n-28hz_10-22-15_rbl.db
pass12
radii
Thu Oct 22 13:10:37 2015 by Log 7.0 B1
Depth in Feet scaled 1:240

<div>Gamma Ray</div> <div>0 (GAPI) 170</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>Mimimum 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)
HeadVolt	19.49		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 Centralizer	2.88	2.75	10.00

Temp	16.72						
WVF3FT	14.55		Probe_RADII-C-2-3/4" (FW1305-098) Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.19	2.75	105.00	
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						
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00	
CCL	6.51						
DCCL	6.51						
			Probe_CCL_GR-2.75"Digital (FW1307-038) Probe 2-3/4" Digital CCL / Gamma Ray Combined	4.54	2.75	55.00	
GR	3.77						
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00	
Dataset: PROCESSED_0512341794_Anadarko_Tedford 29N-28HZ_10-22-15_RBL.db: field/well/run1/pass14							
Total Length: 23.40 ft							
Total Weight: 194.00 lb							
O.D. 2.75 in							

Calibration Report	
Database File:	PROCESSED_0512341794_Anadarko_Tedford 29N-28HZ_10-22-15_RBL.db
Dataset Pathname:	pass14
Dataset Creation:	Thu Oct 22 13:17:22 2015 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number:	FW1307-038
Tool Model:	2.75"Digital
Performed:	Fri Sep 11 07:43:30 2015

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:	FW1305-098
Tool Model:	2-3/4"
Calibration Casing Diameter:	5.500 in
Calibration Depth:	25.000 ft

Master Calibration, performed Thu Oct 22 12:47:38 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.003	0.626	0.800	71.921	114.065	0.463
CAL	0.810	0.919				
5'	0.006	0.394	0.800	71.921	183.353	-0.299
SUM						
S1	0.001	0.598	0.000	100.000	167.378	-0.149
S2	0.004	0.608	0.000	100.000	165.458	-0.602
S3	0.002	0.628	0.000	100.000	159.763	-0.386
S4	0.004	0.655	0.000	100.000	153.733	-0.666
S5	0.004	0.665	0.000	100.000	151.253	-0.567
S6	0.007	0.645	0.000	100.000	156.857	-1.141
S7	0.003	0.623	0.000	100.000	161.273	-0.522
S8	0.003	0.598	0.000	100.000	167.907	-0.465

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	0.810	0.919	1.000	0.000

Air Zero Calibration, performed Thu Oct 22 12:47:21 2015:

	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	Refrimco Oil & Gas Onshore, L.P.
Well	Tedford 29N-28HZ
Field	Wattenberg
County	Weld
State	Colorado