



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil and Gas Onshore LP	Company	Kerr-McGee Oil and Gas Onshore LP
Well	Powers 2C-27HZ	Well	Powers 2C-27HZ
Field	Wattenberg	Field	Wattenberg
County	Weld	County	Weld
State	Colorado	State	Colorado
Location:		API # : 05-123-41955	Other Services
SEC 22 TWP 2N RGE 65W		Ground Level	Elevation
Permanent Datum		Ground Level	Elevation
Log Measured From		Kelly Bushing	25 FT
Drilling Measured From		Kelly Bushing	Elevation
			K.B. 4918'
			D.F. 4917'
			G.L. 4893'

Date	09-DEC-2015	Two	
Run Number		13315 FT	
Depth Driller		7400 FT	
Depth Logger		7399 FT	
Bottom Logged Interval		Surface	
Top Log Interval		7.875"	
Open Hole Size		Water	
Type Fluid		8.34 lbm/gal	
Density / Viscosity		246°F	
Max. Recorded Temp.		Surface	
Estimated Cement Top		ROA	
Time Well Ready		09:00	
Time Logger on Bottom		HD-0331	
Equipment Number		Fort Lupton, CO	
Location		C. Bryan	B. Kalkworf
Recorded By		DJ Anderson	
Witnessed By			

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 LT&C	Surface	1867 FT		
Intermediate #1	5 1/2	17	P-110	Surface	13315 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 Marker Joint at 6597 FT
Adjusted log -35 FT to correlate with Marker Joint
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.

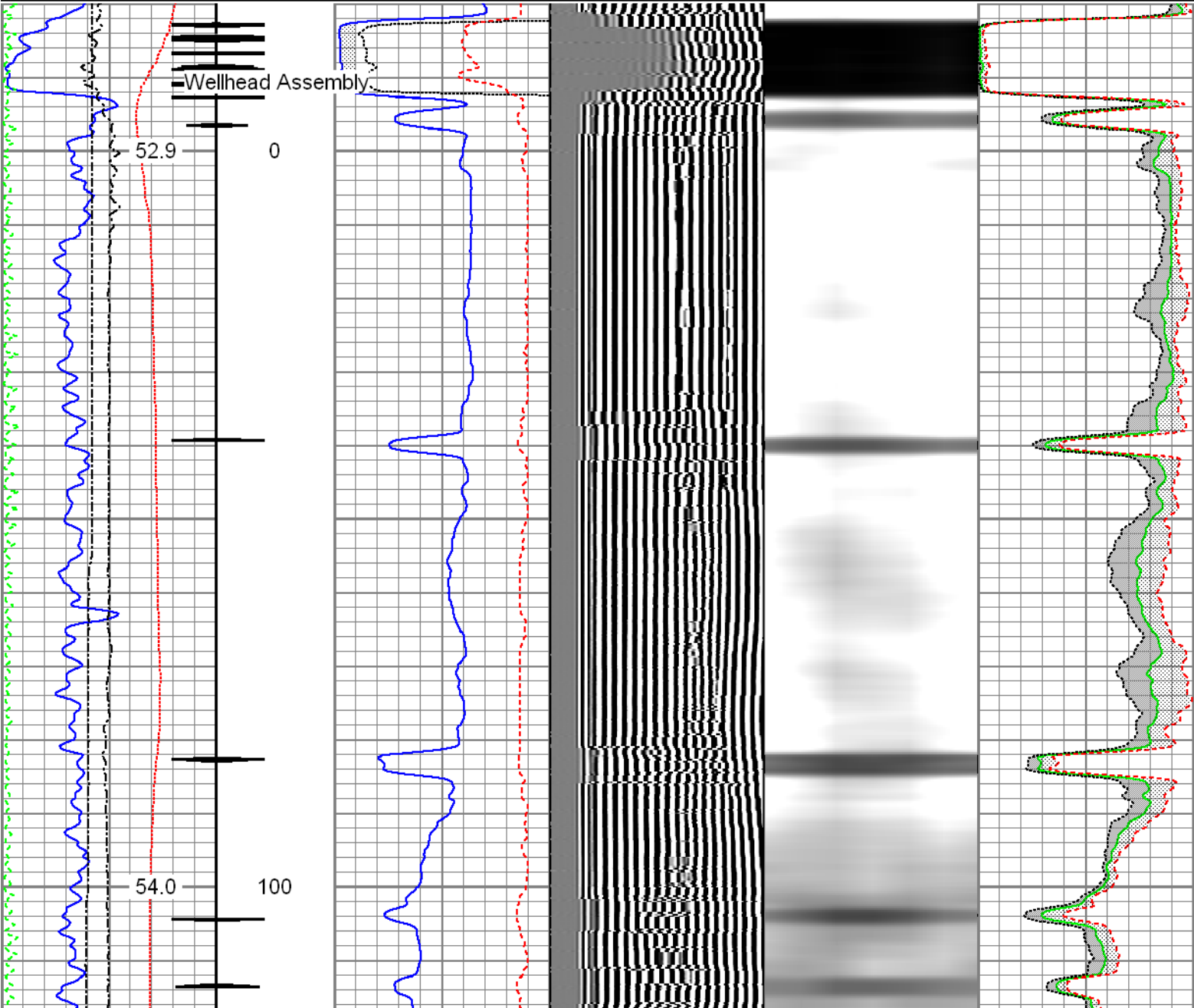


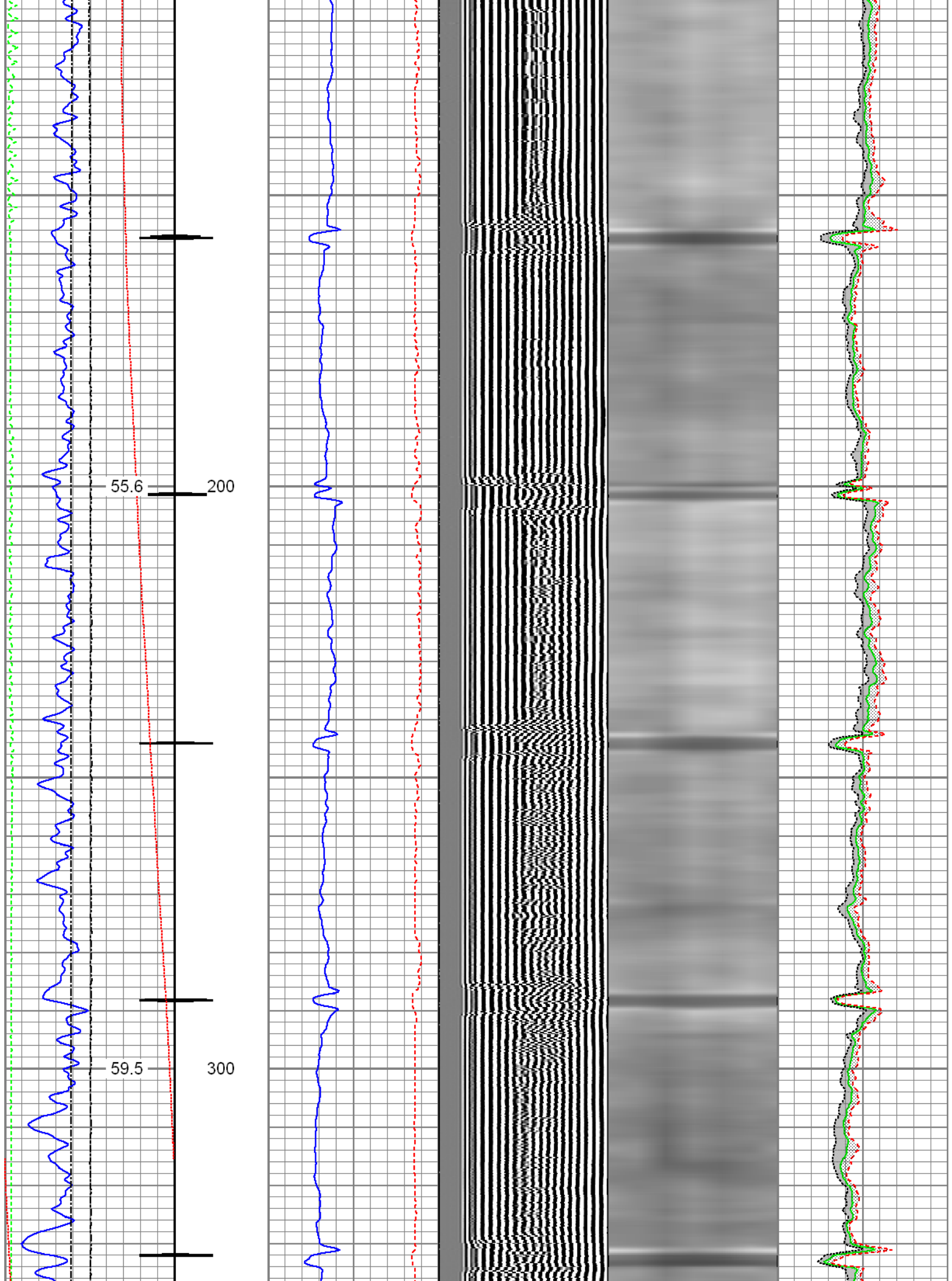
Main Pass

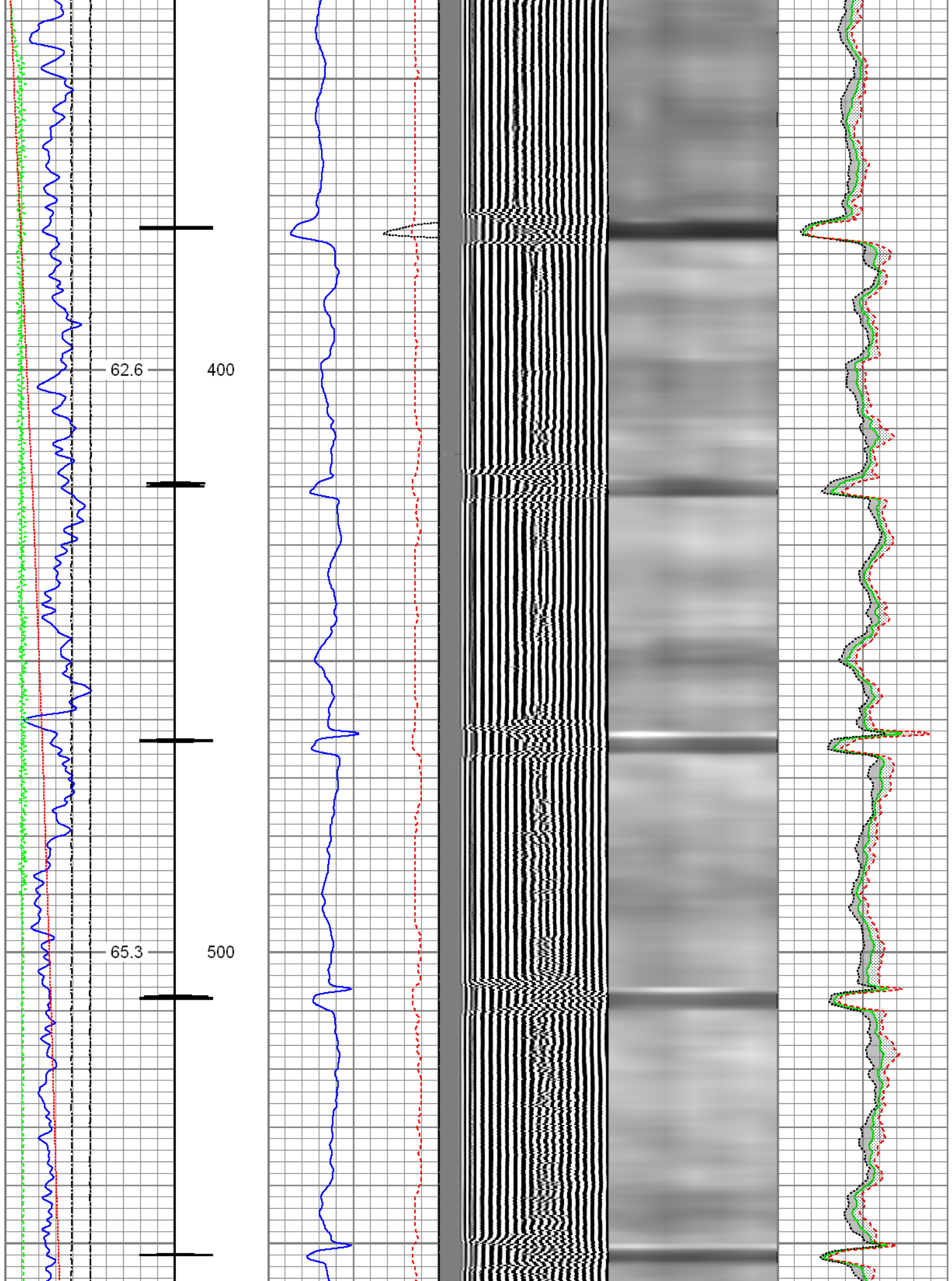
Recorded With 2800 PSI Surface Induced Pressure

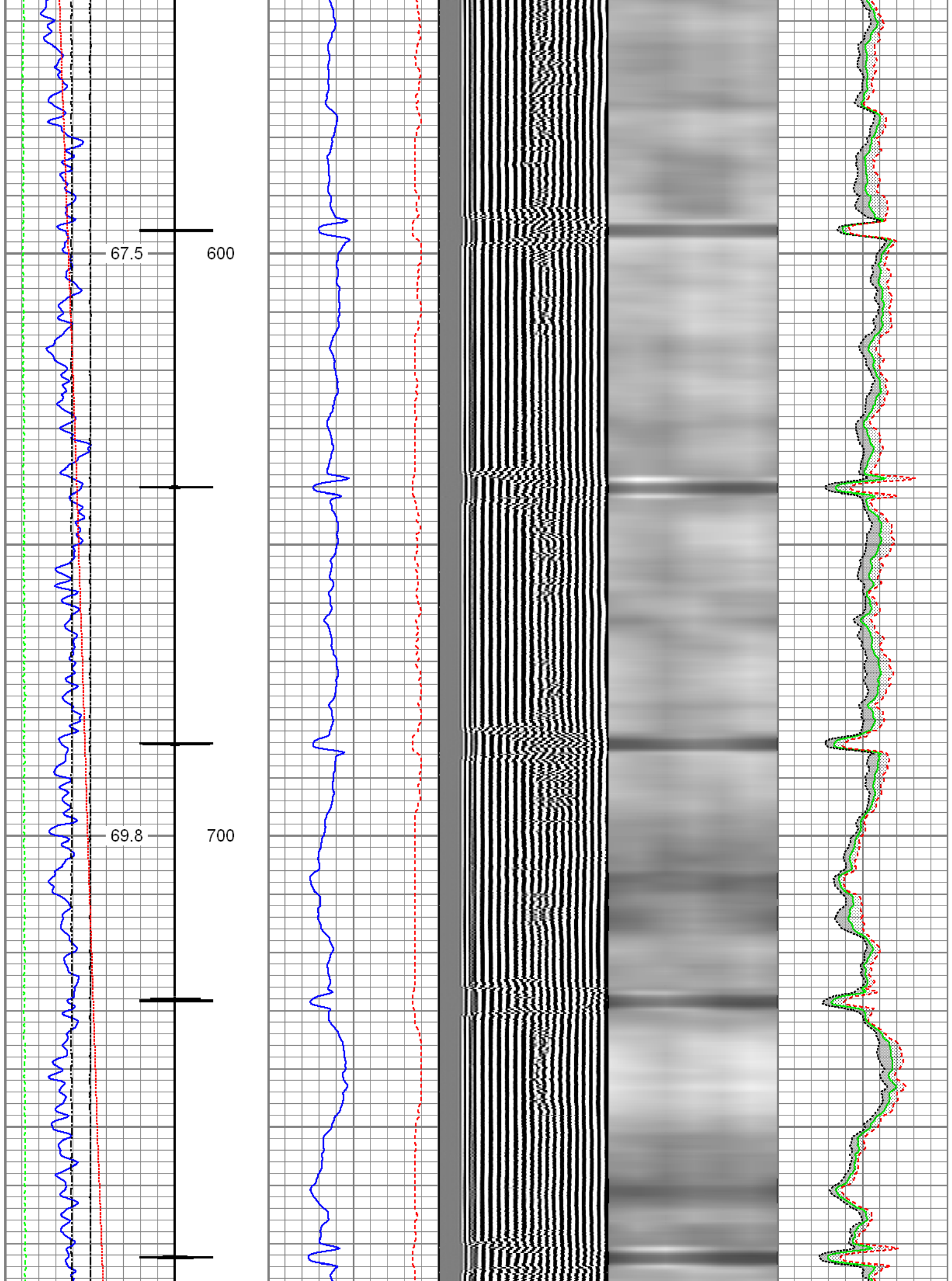
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Dataset Pathname: main.2.1
Presentation Format: rbt003
Dataset Creation: Fri Dec 11 12:58:47 2015 by Calc 7.0 B1
Charted by: Depth in Feet scaled 1:240

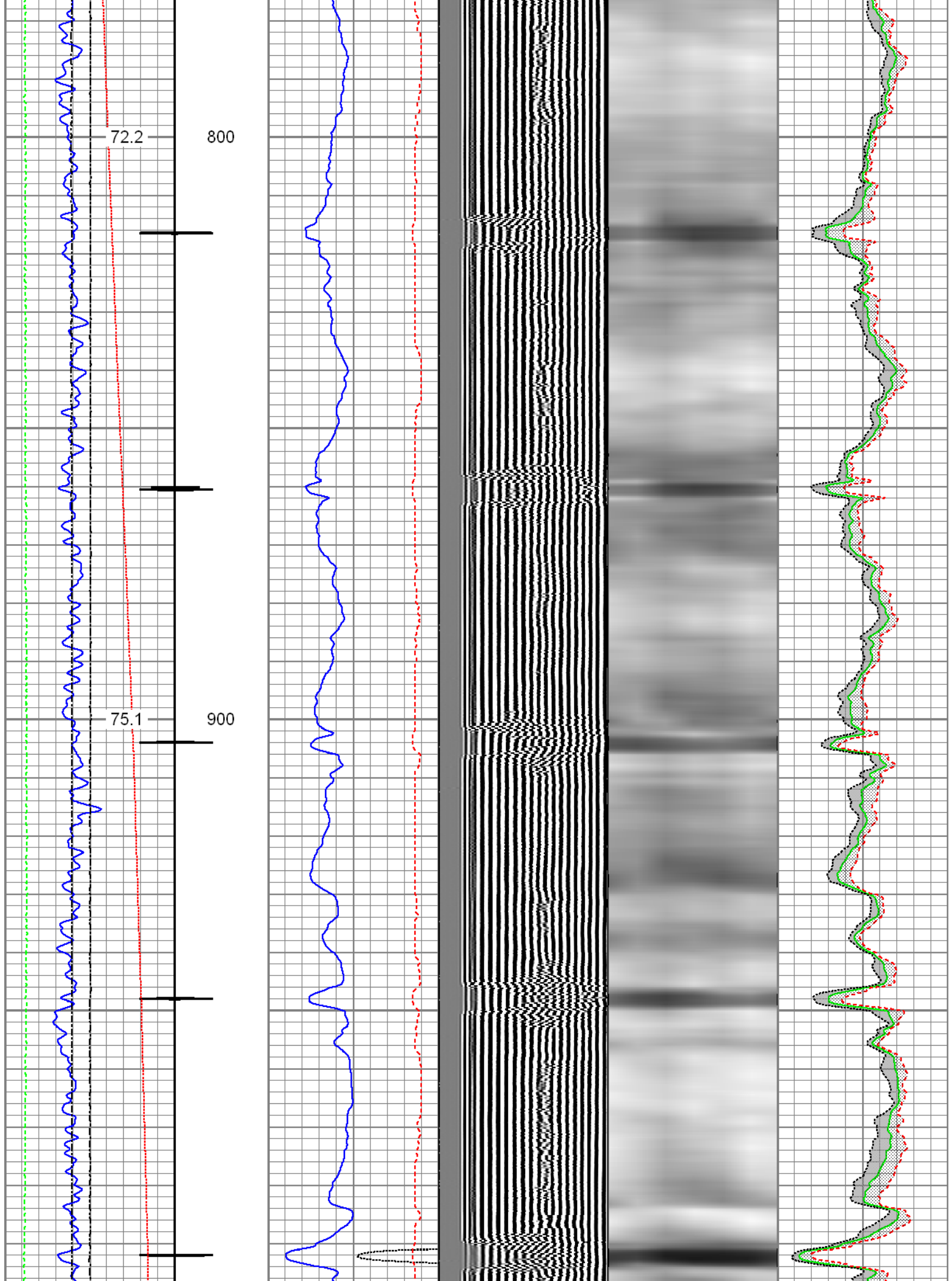
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Line Speed	0 (mV) 20			0 100
-150 (ft/min) 150	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000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

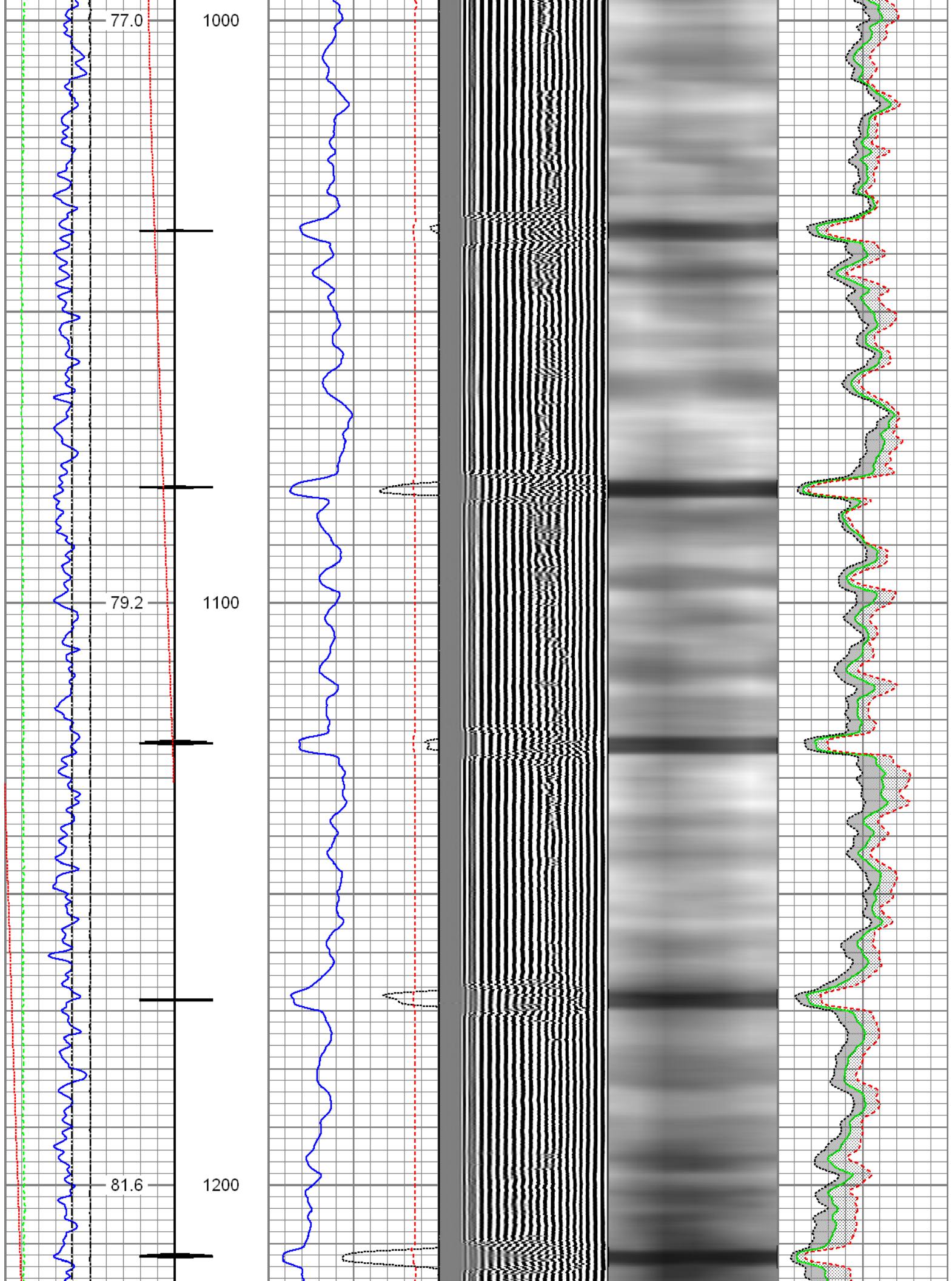


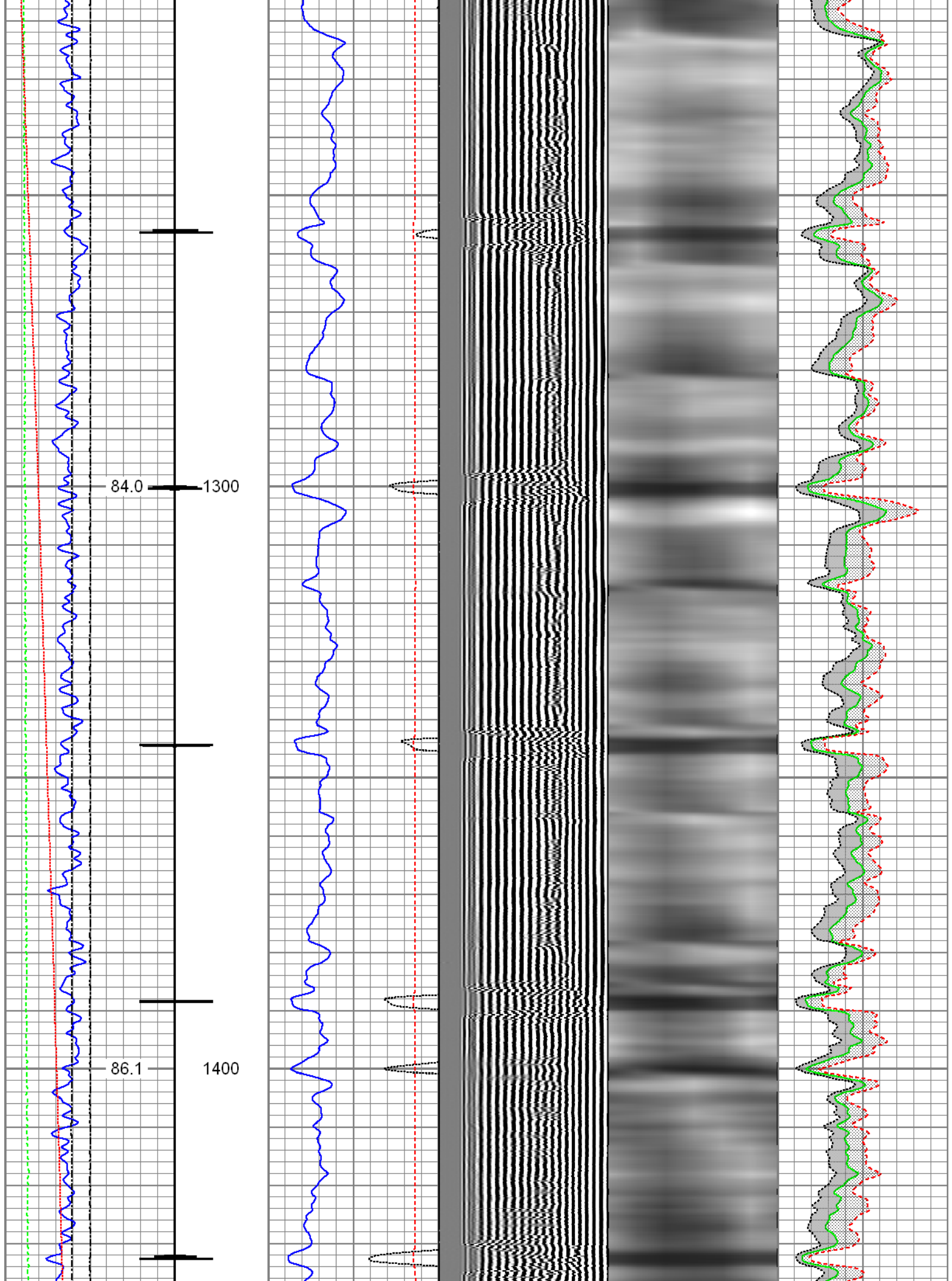


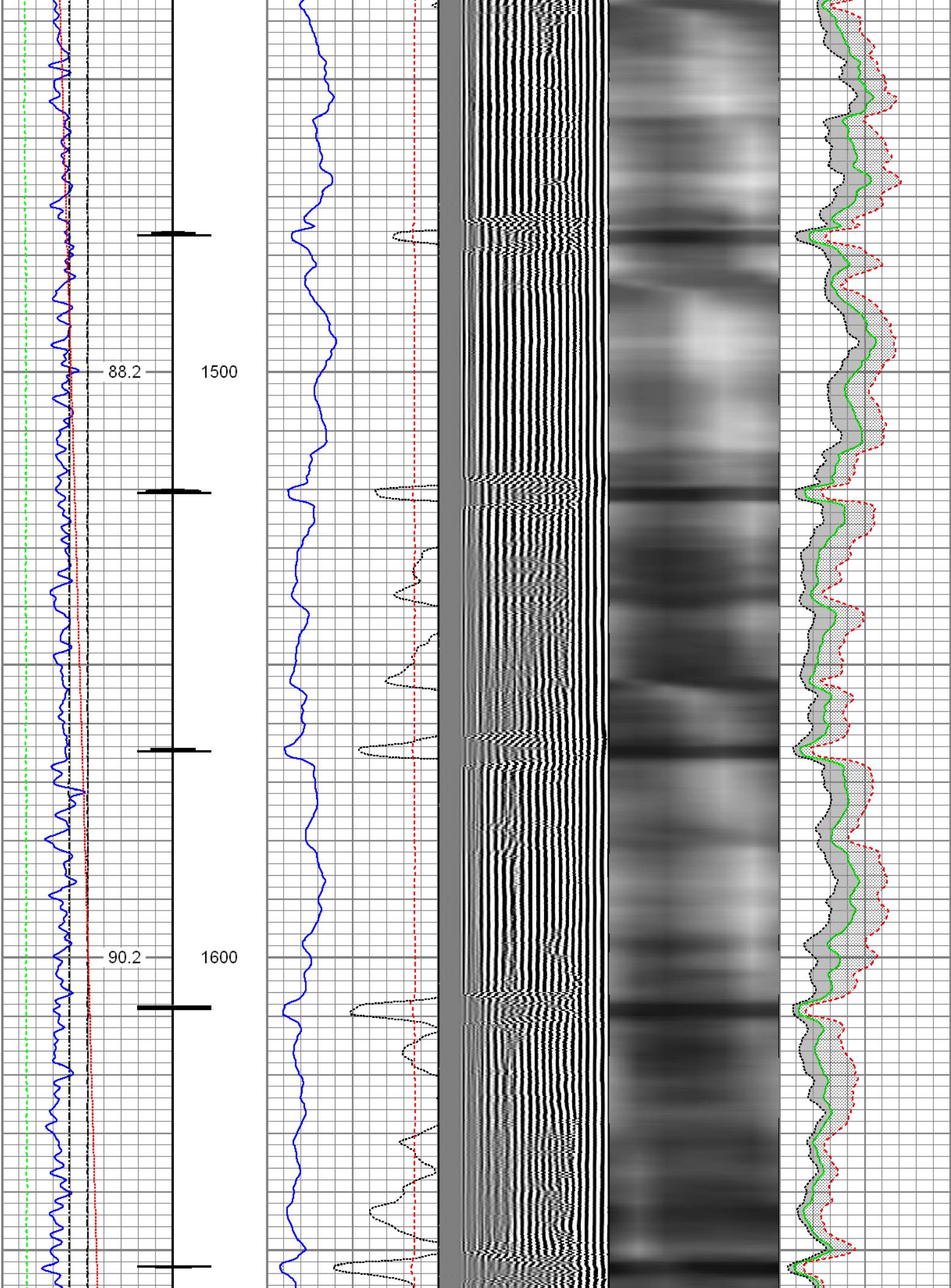


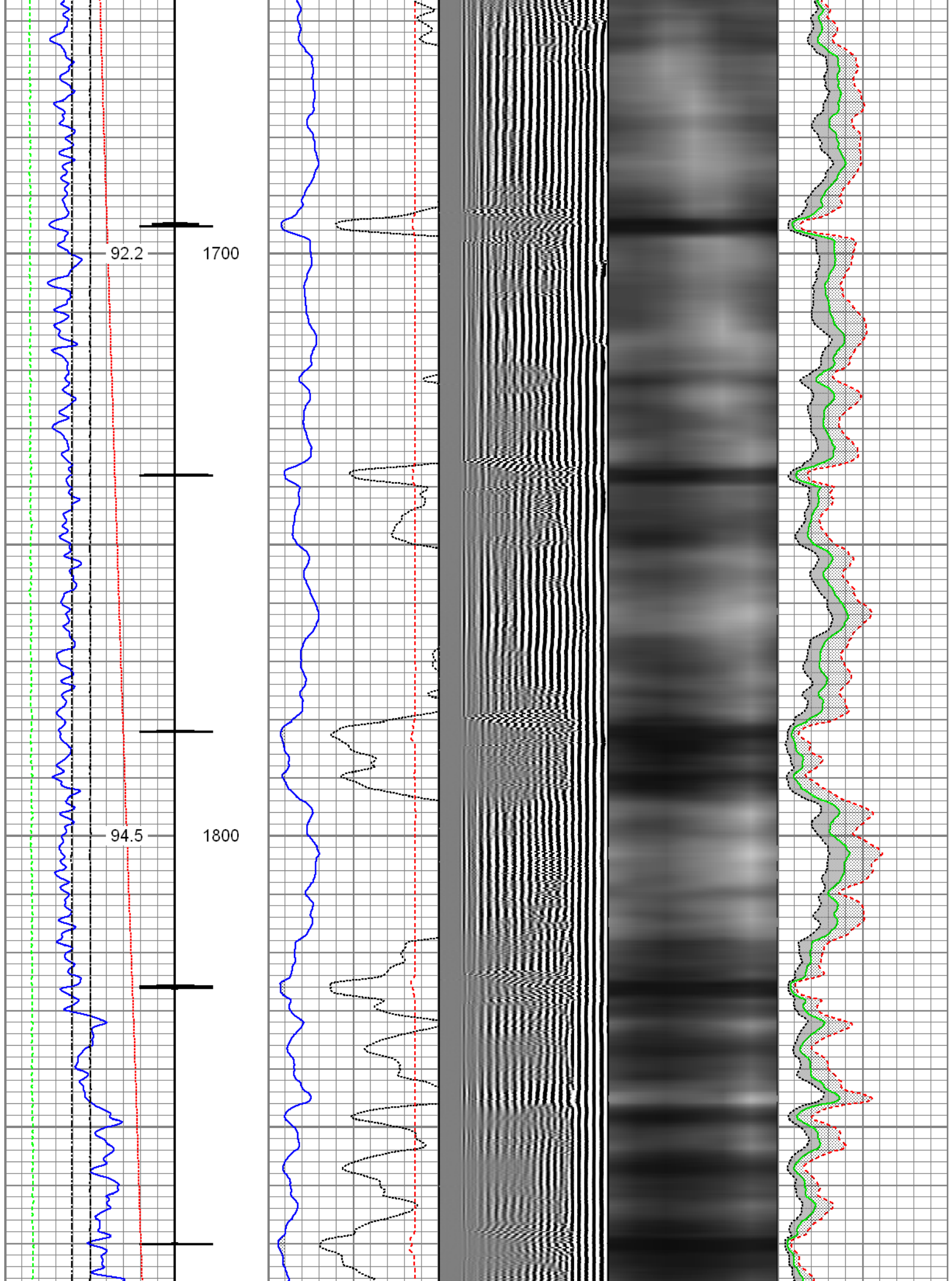


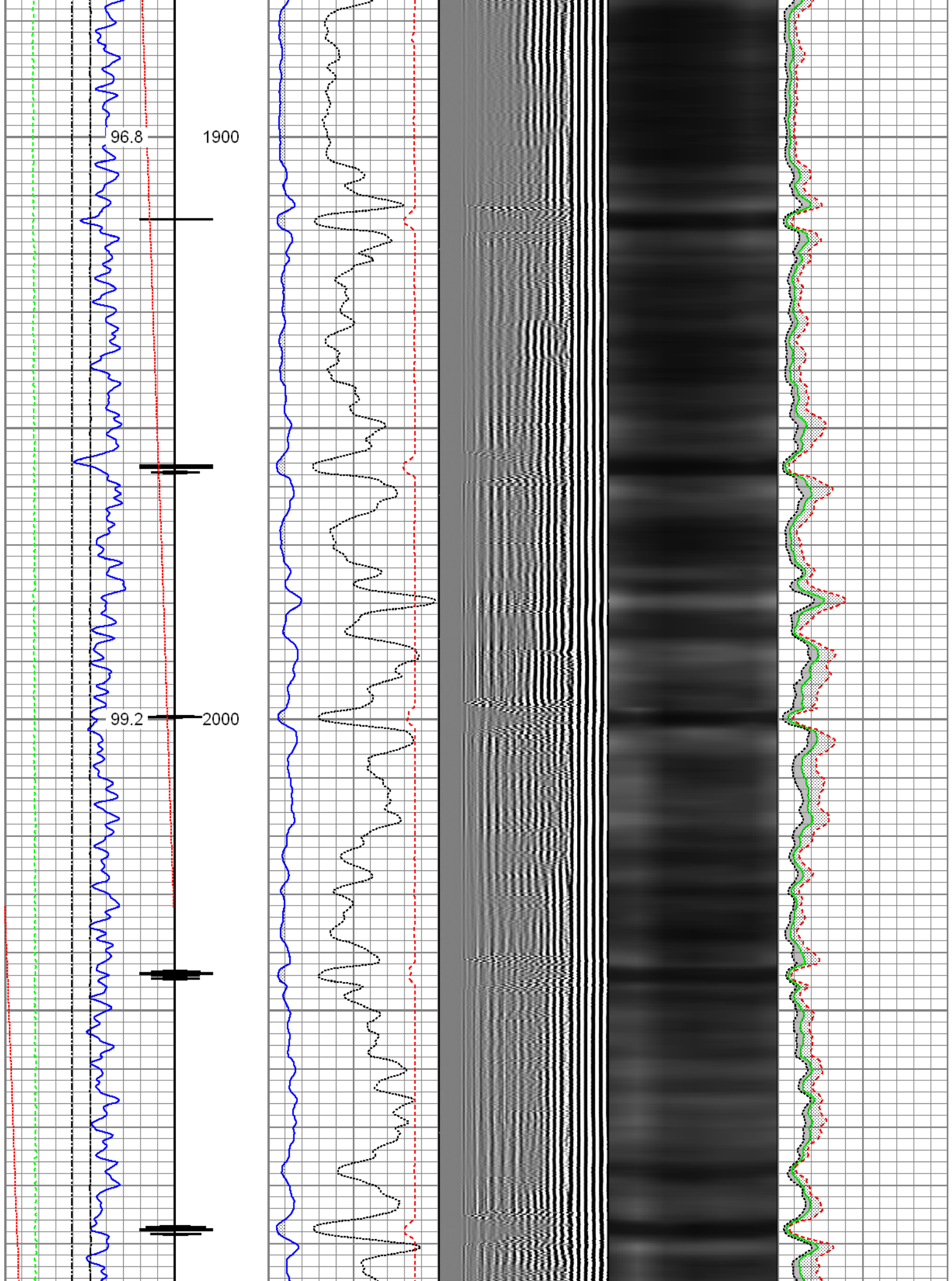


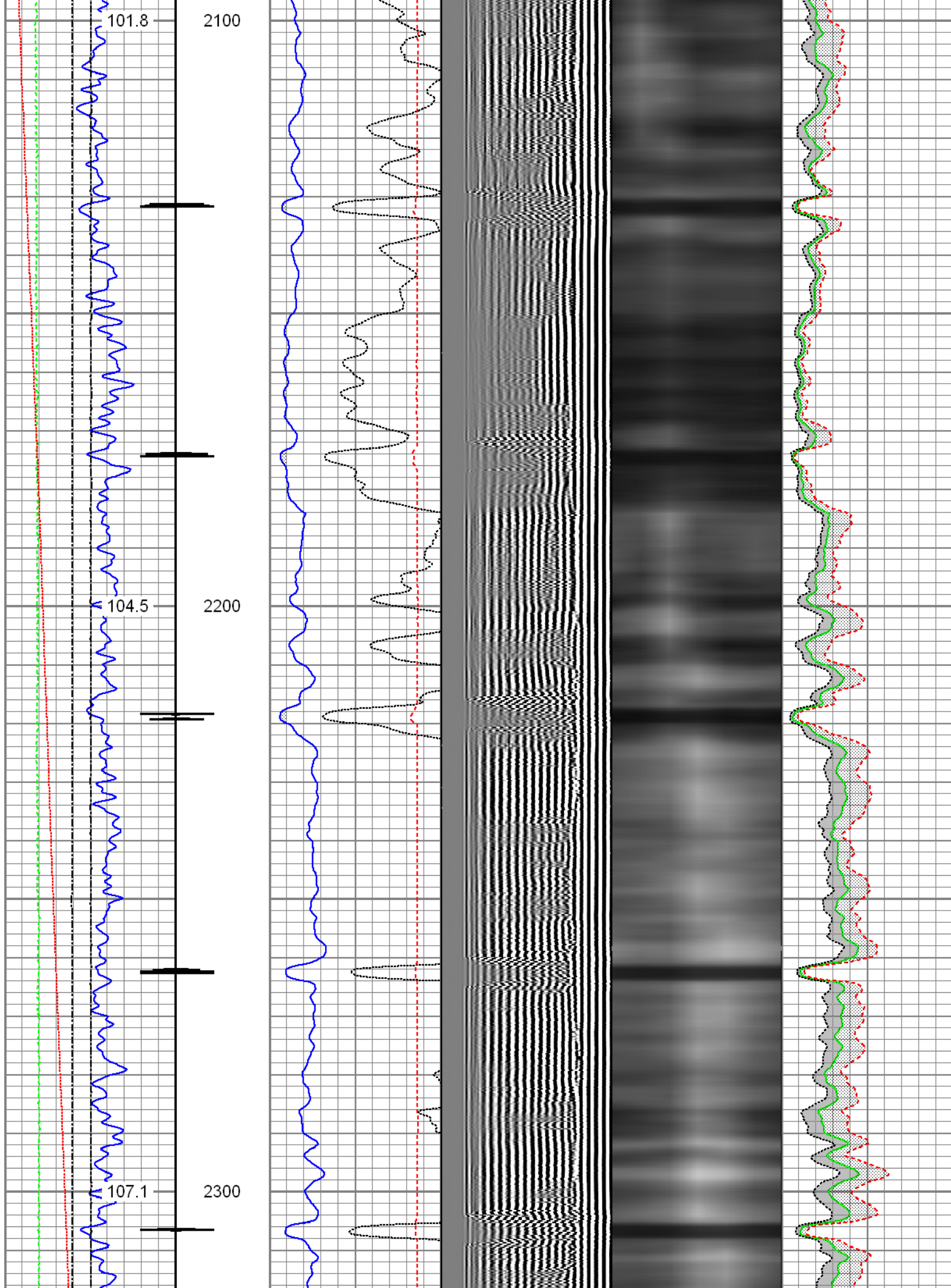


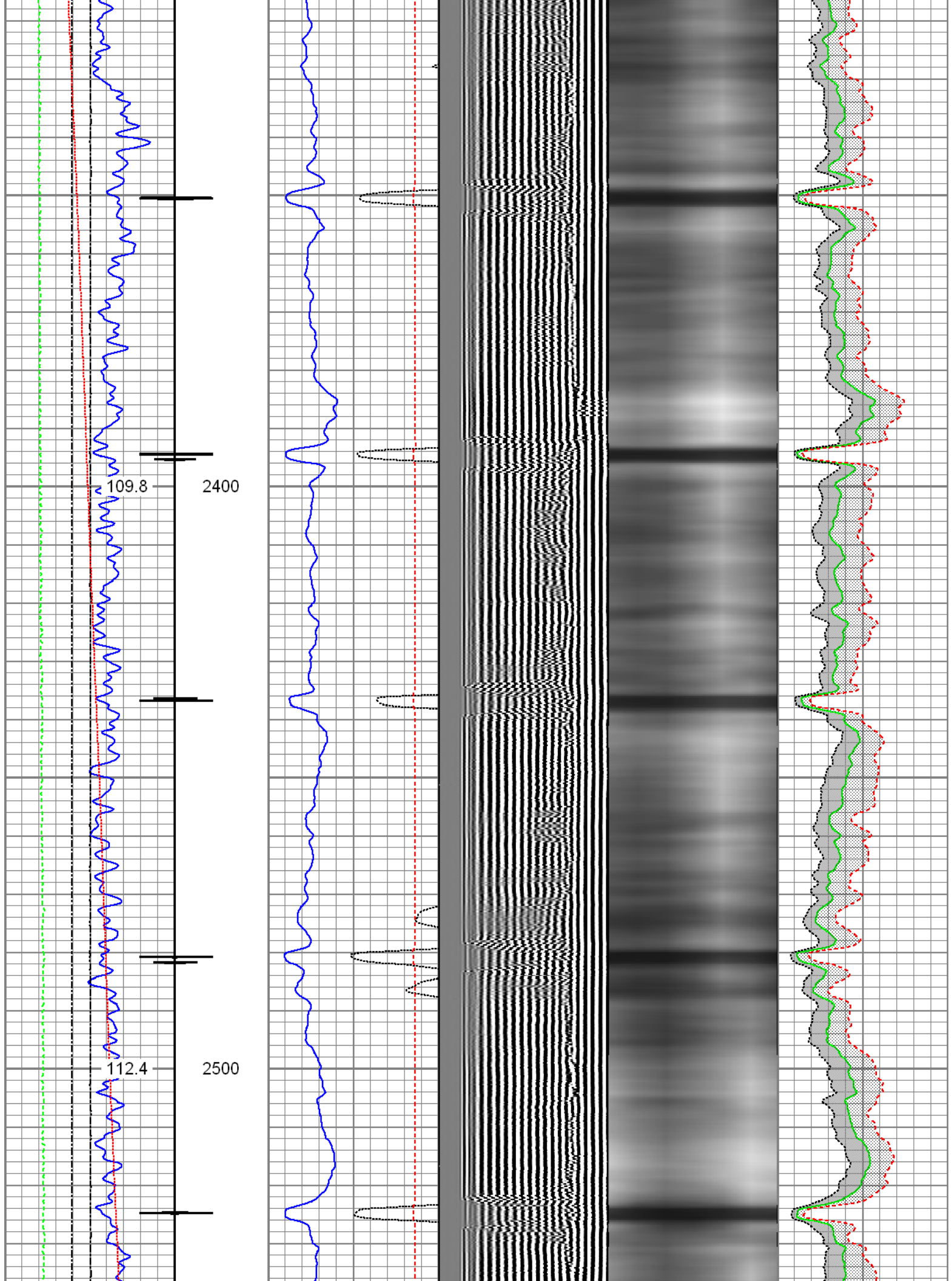


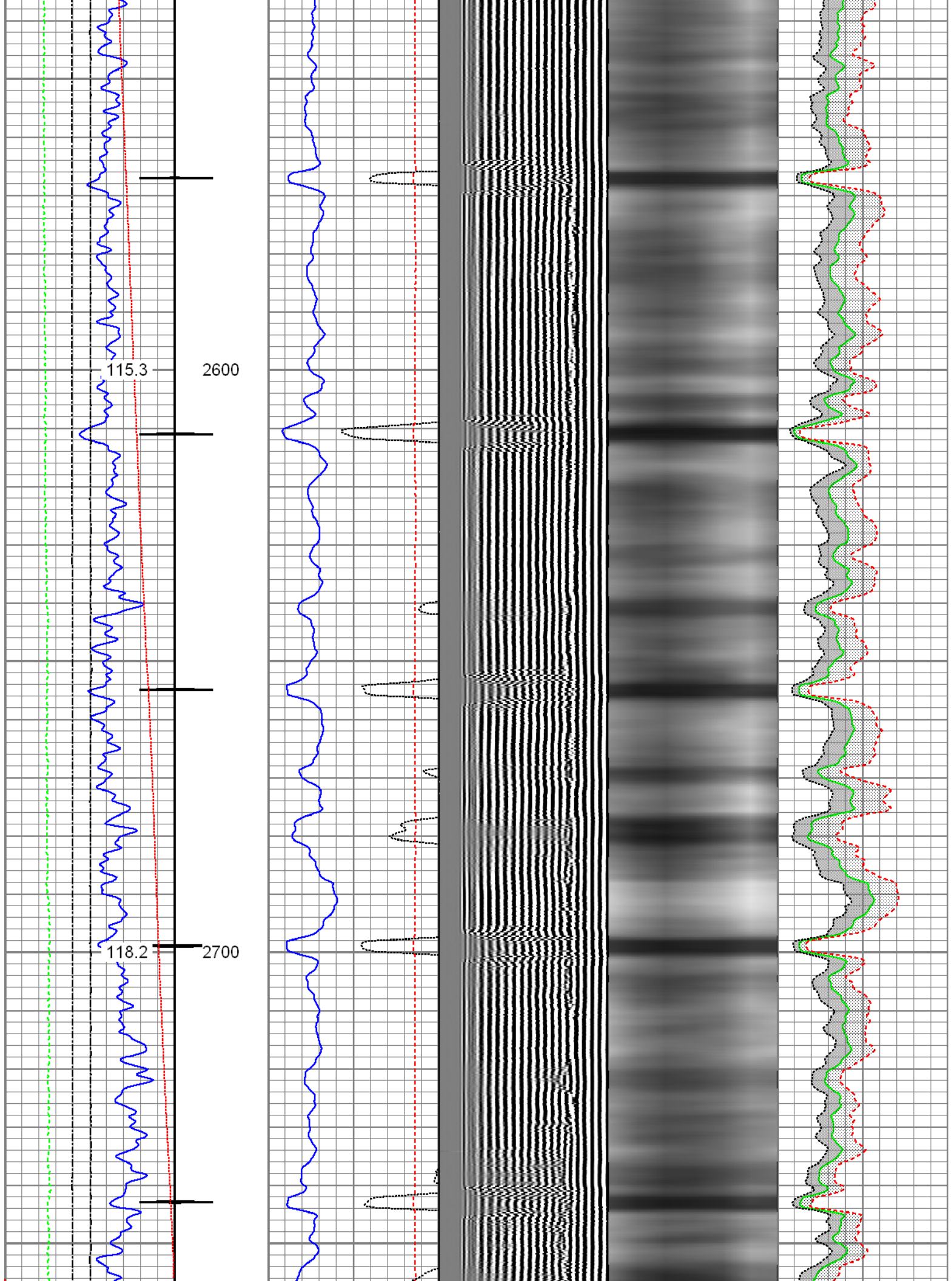


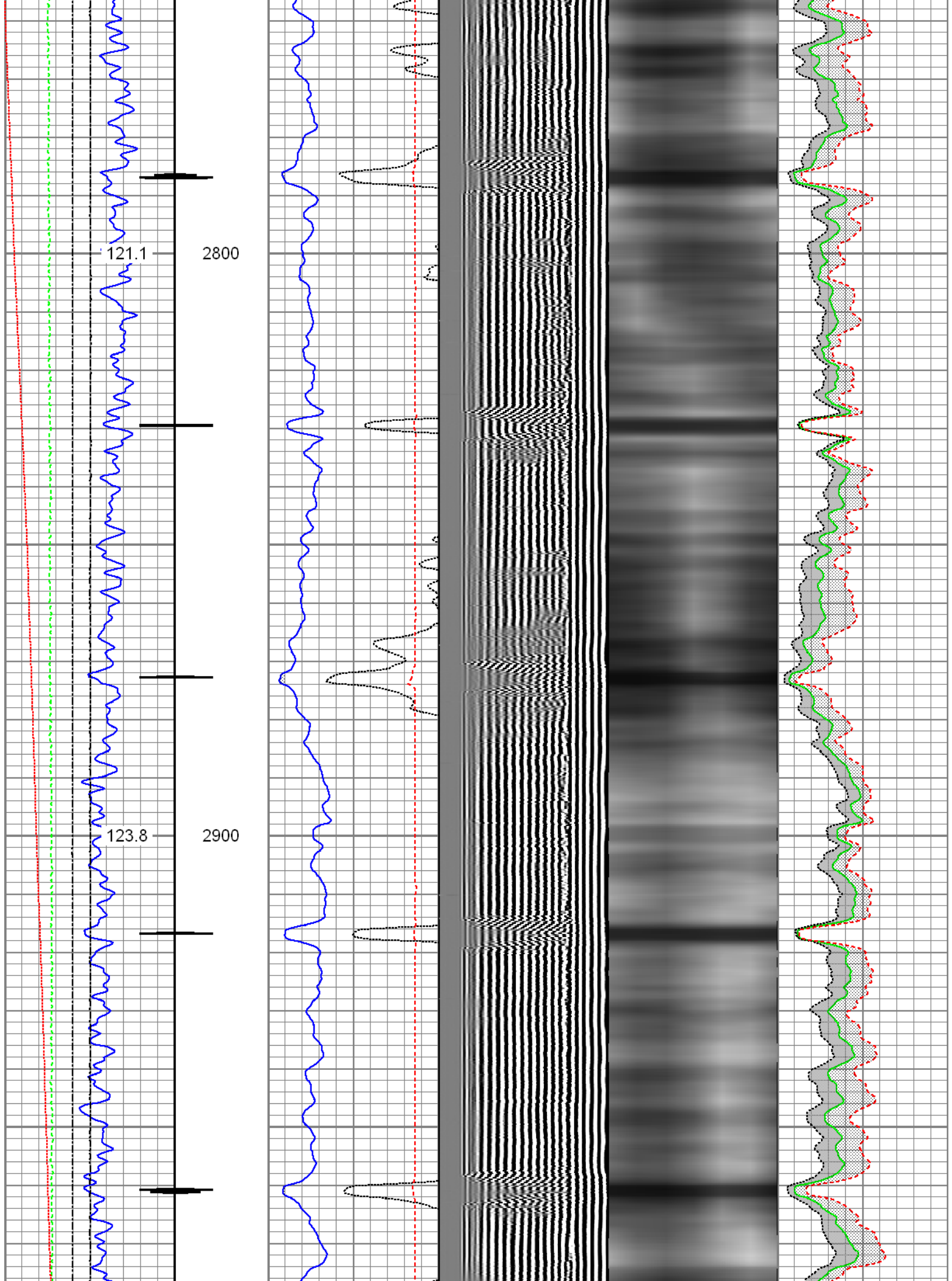


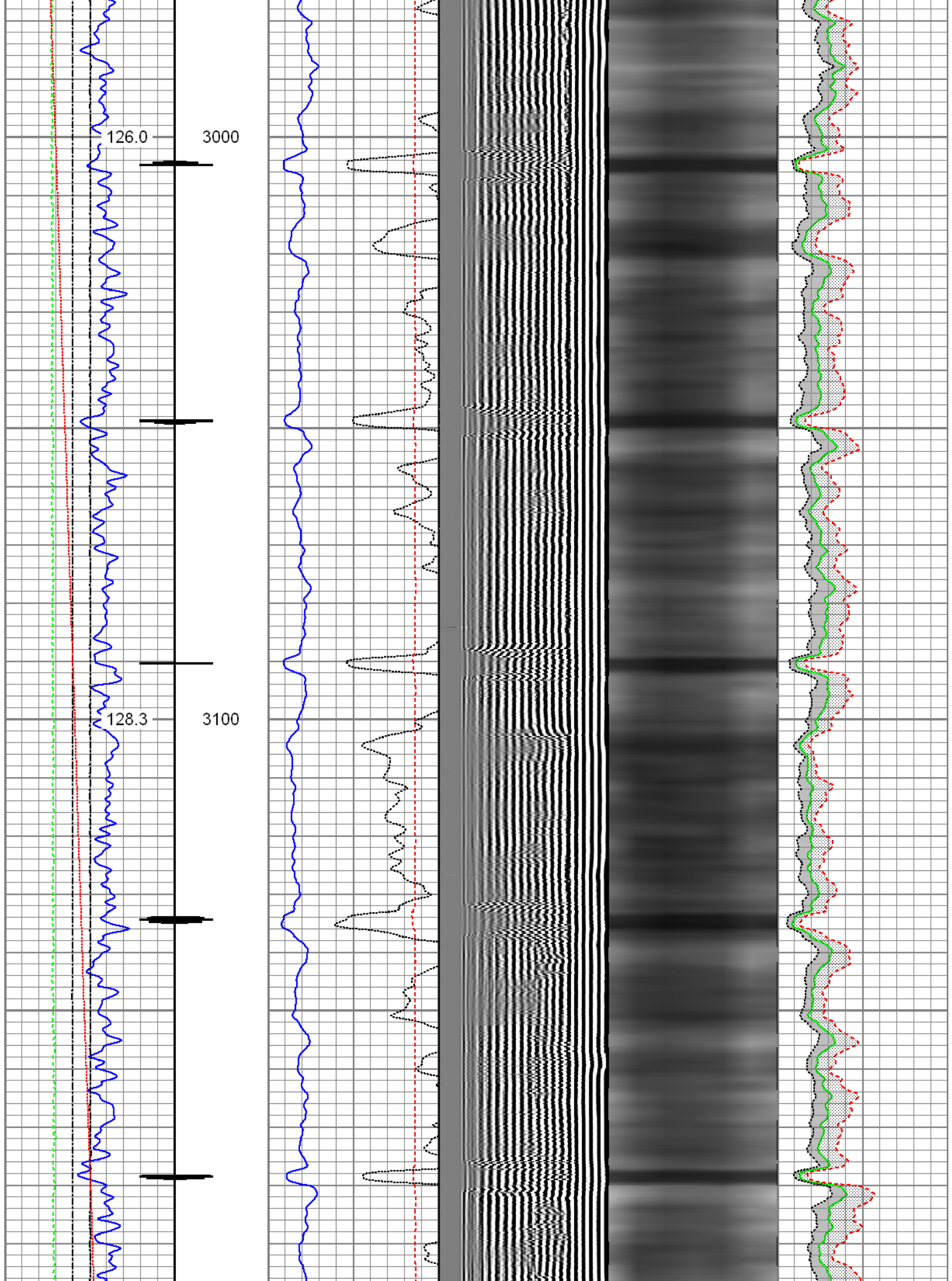


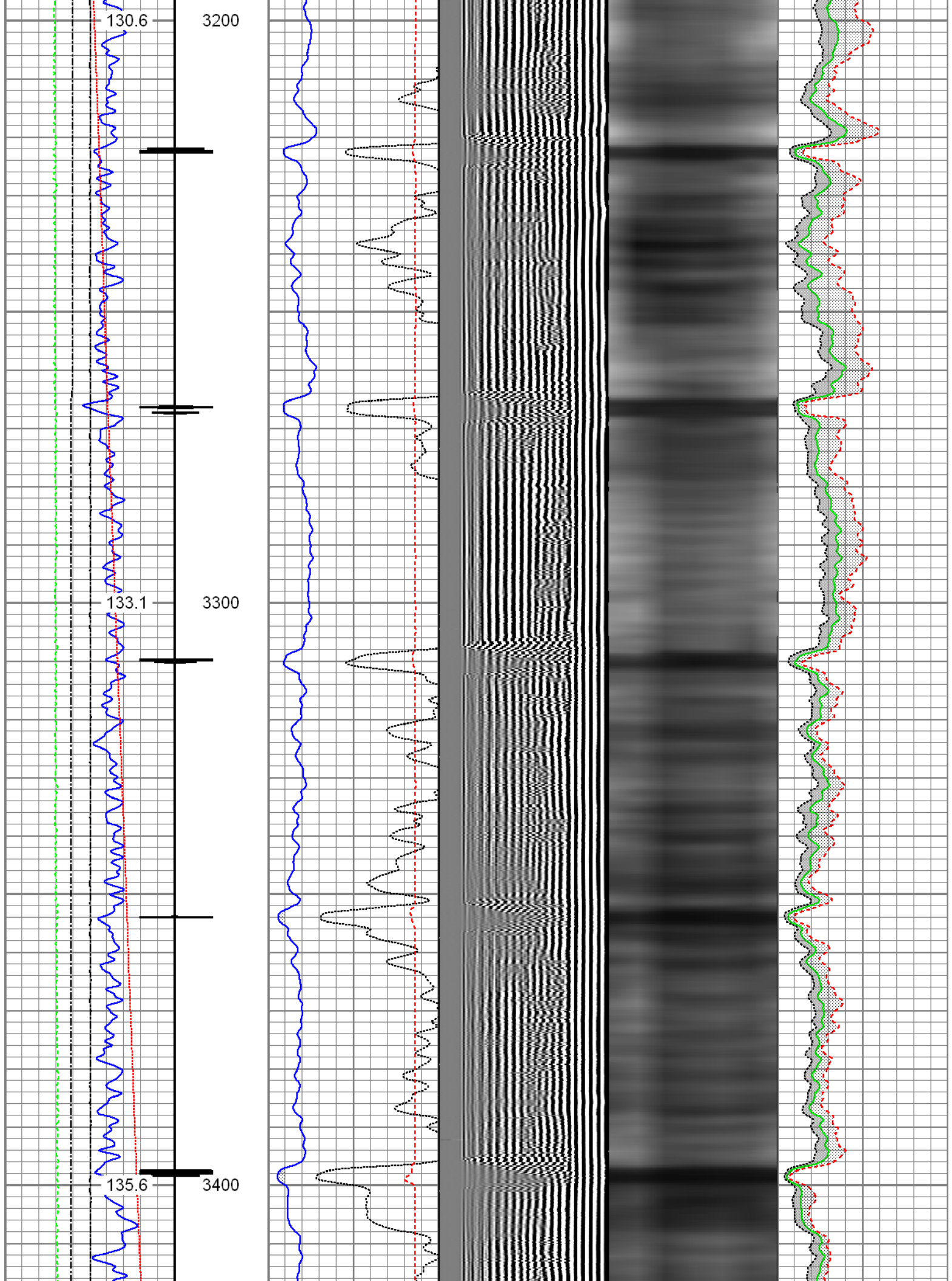


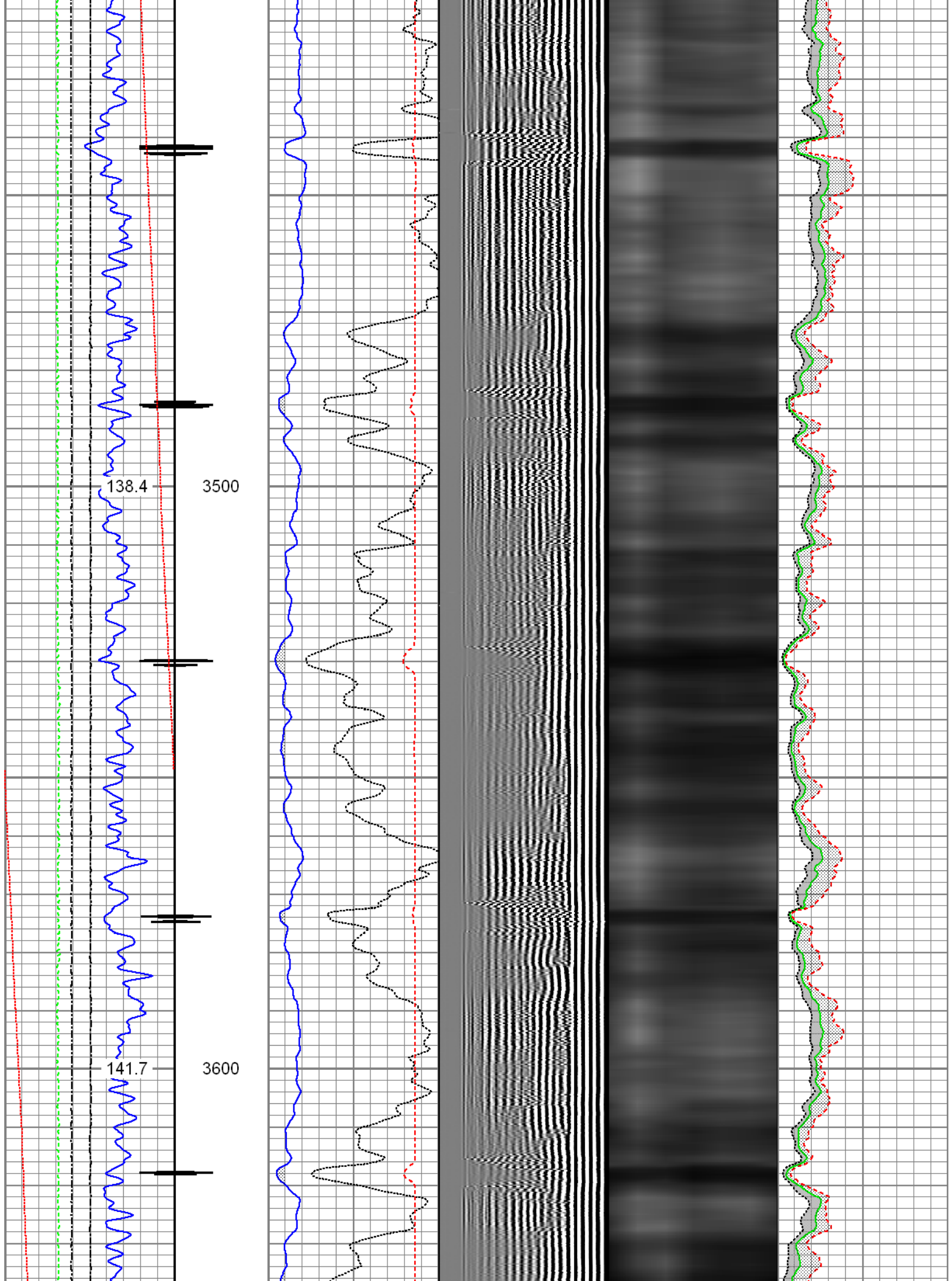


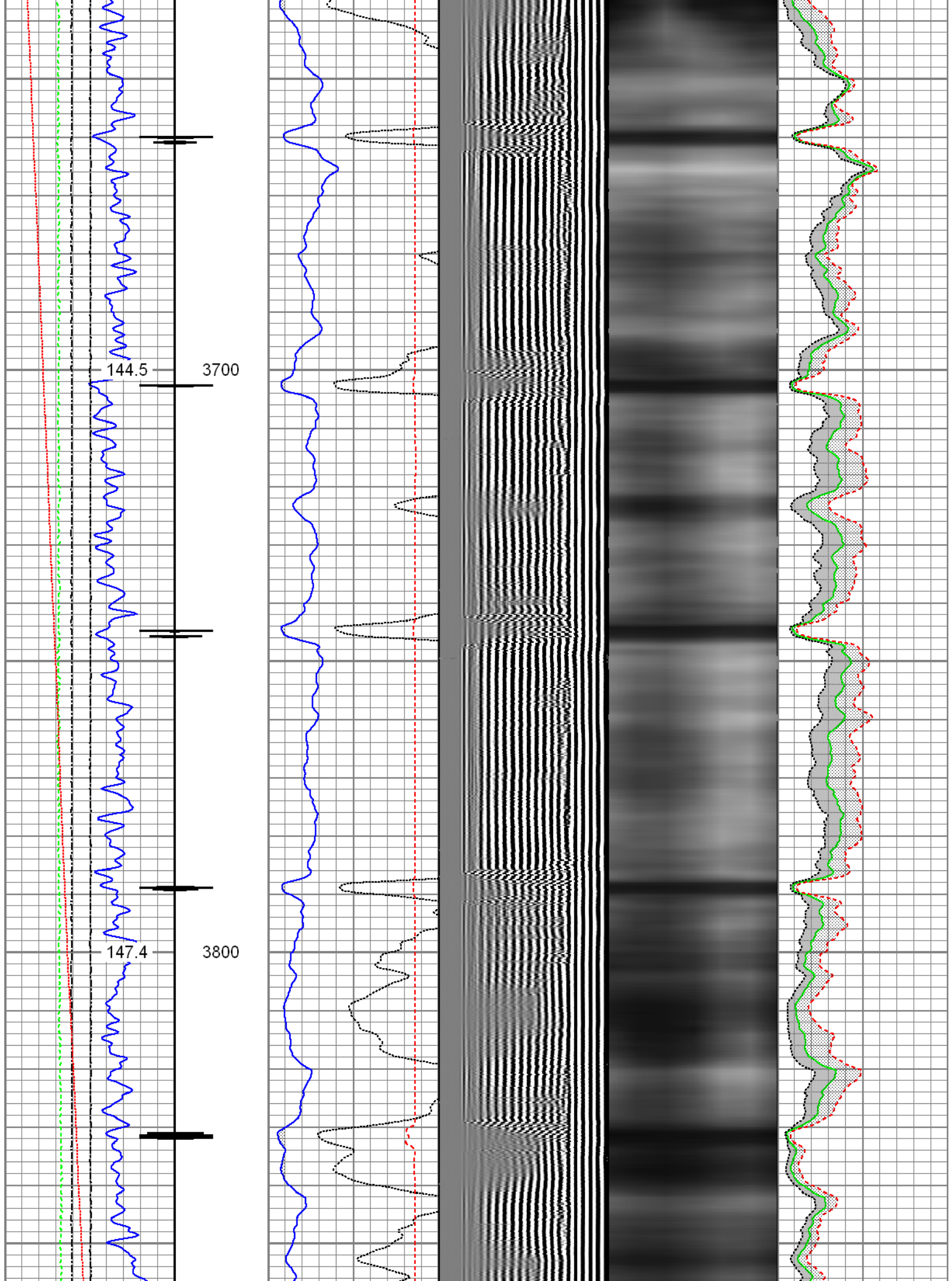


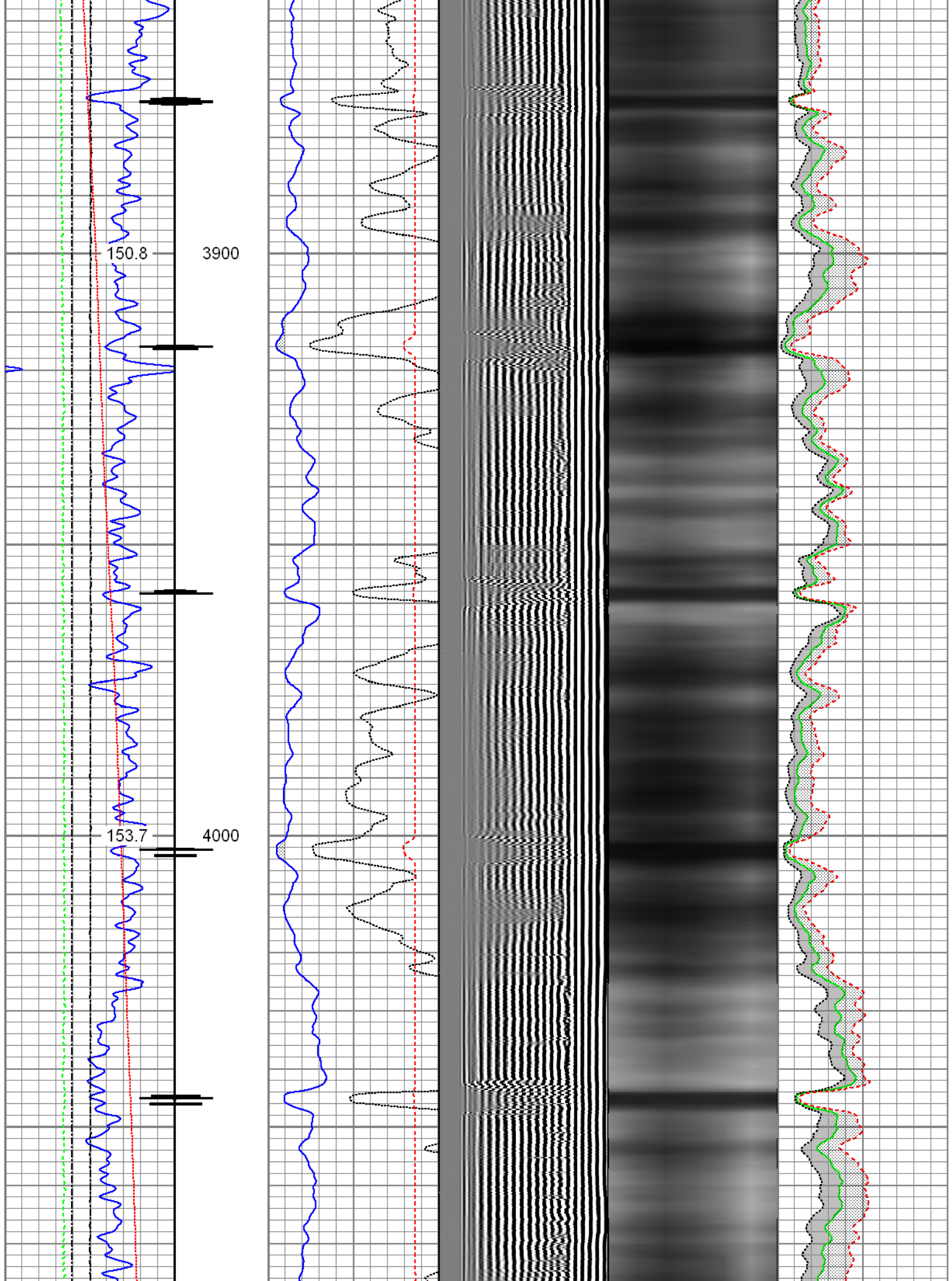


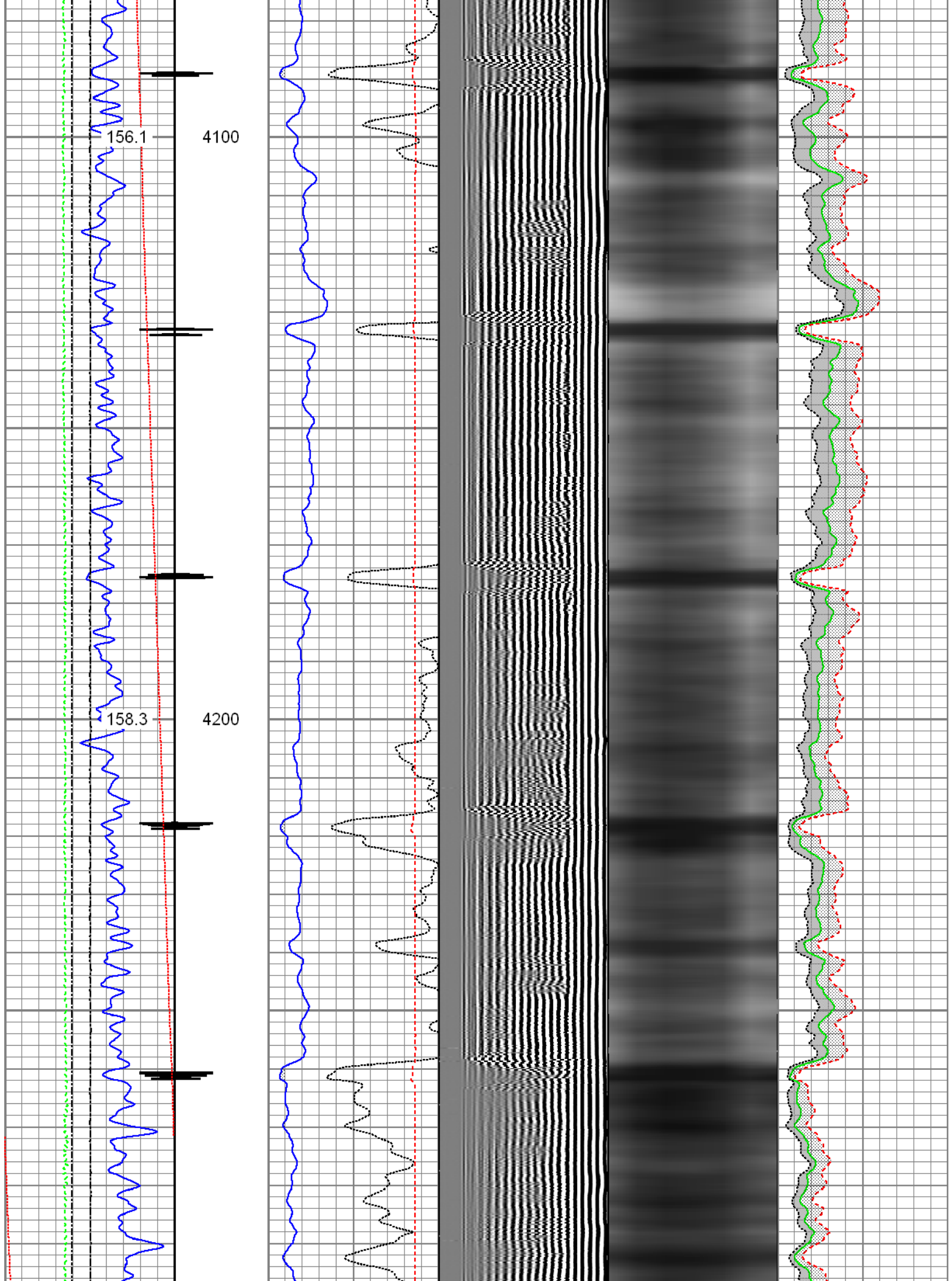


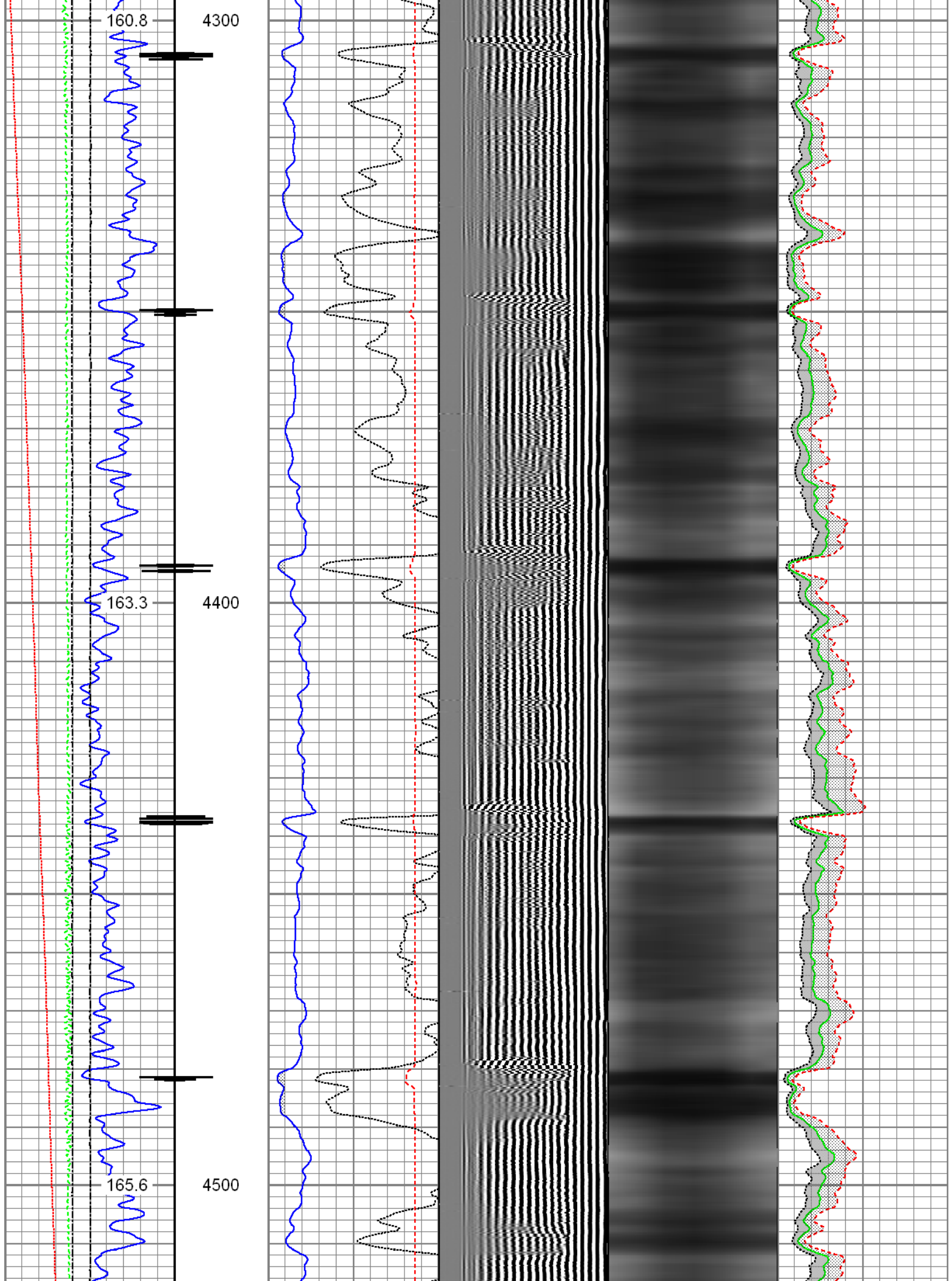


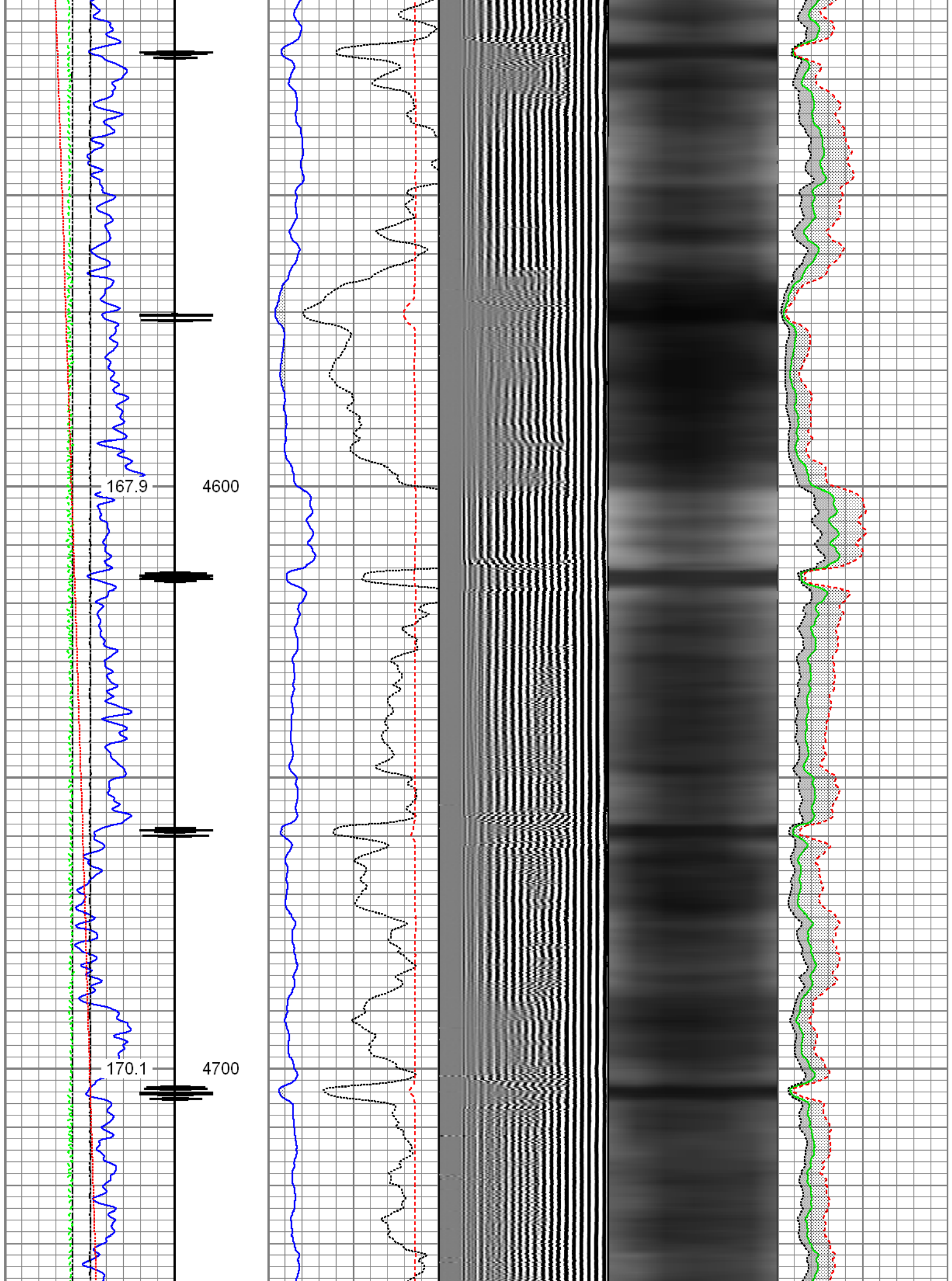


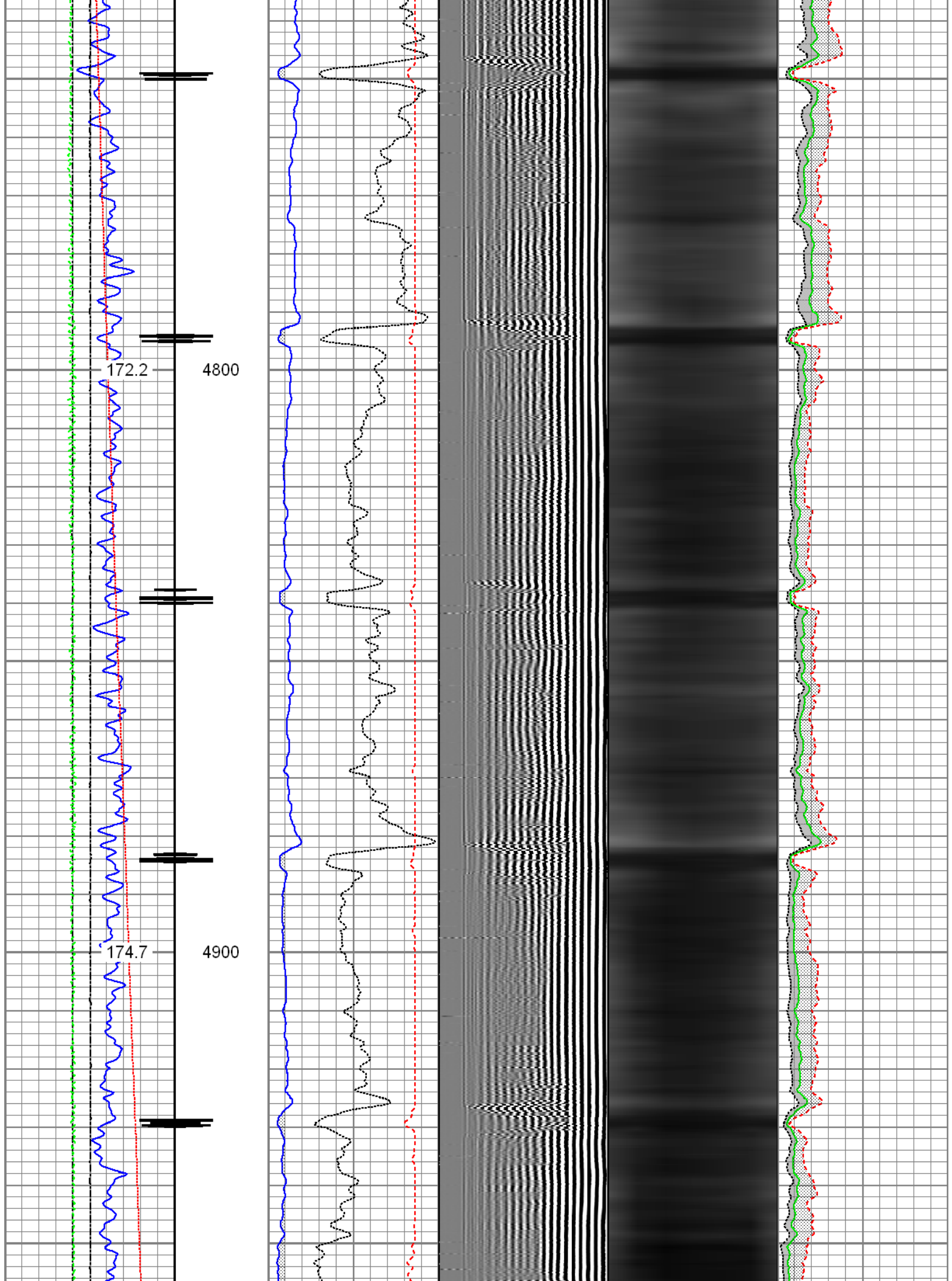


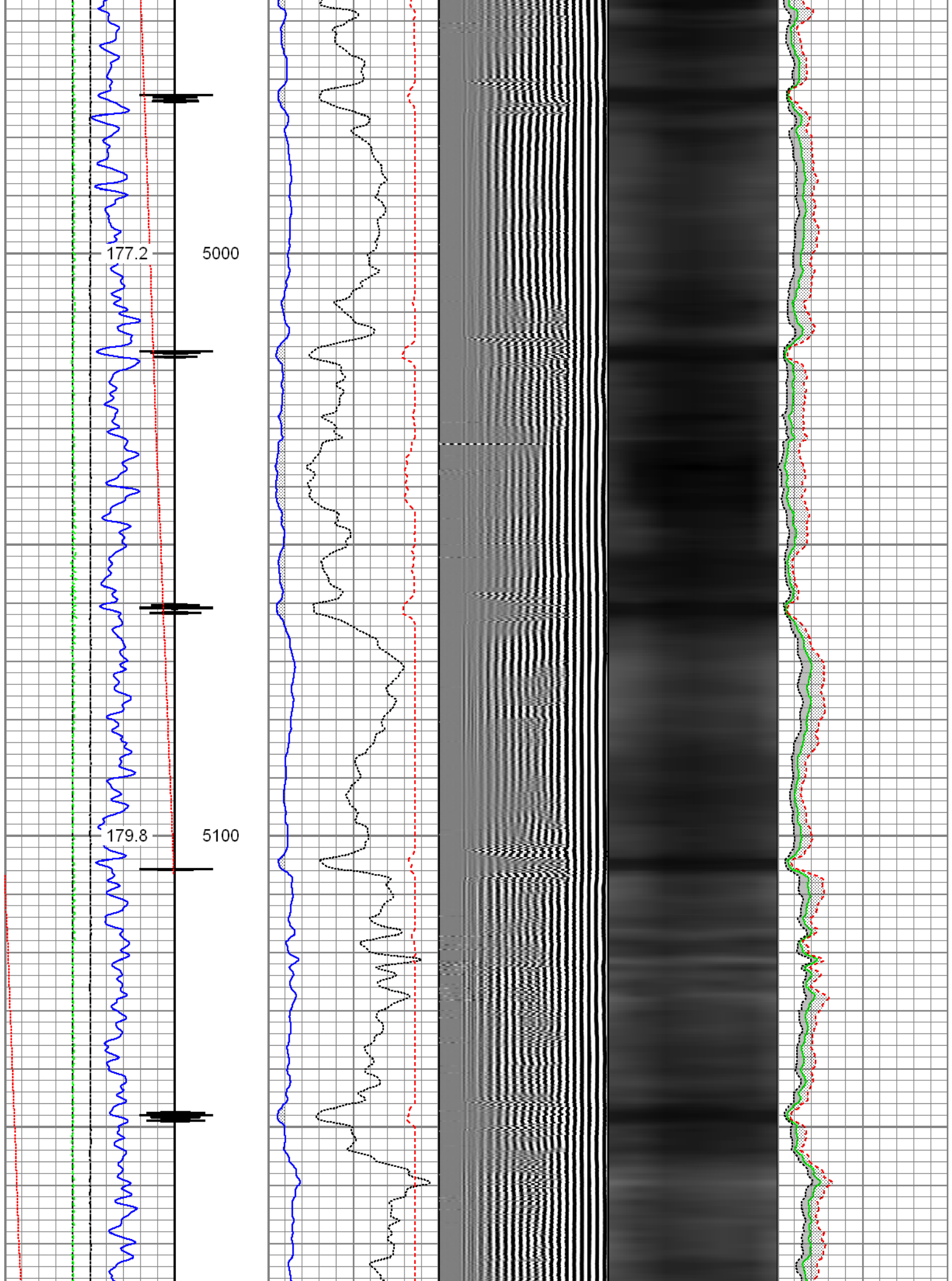


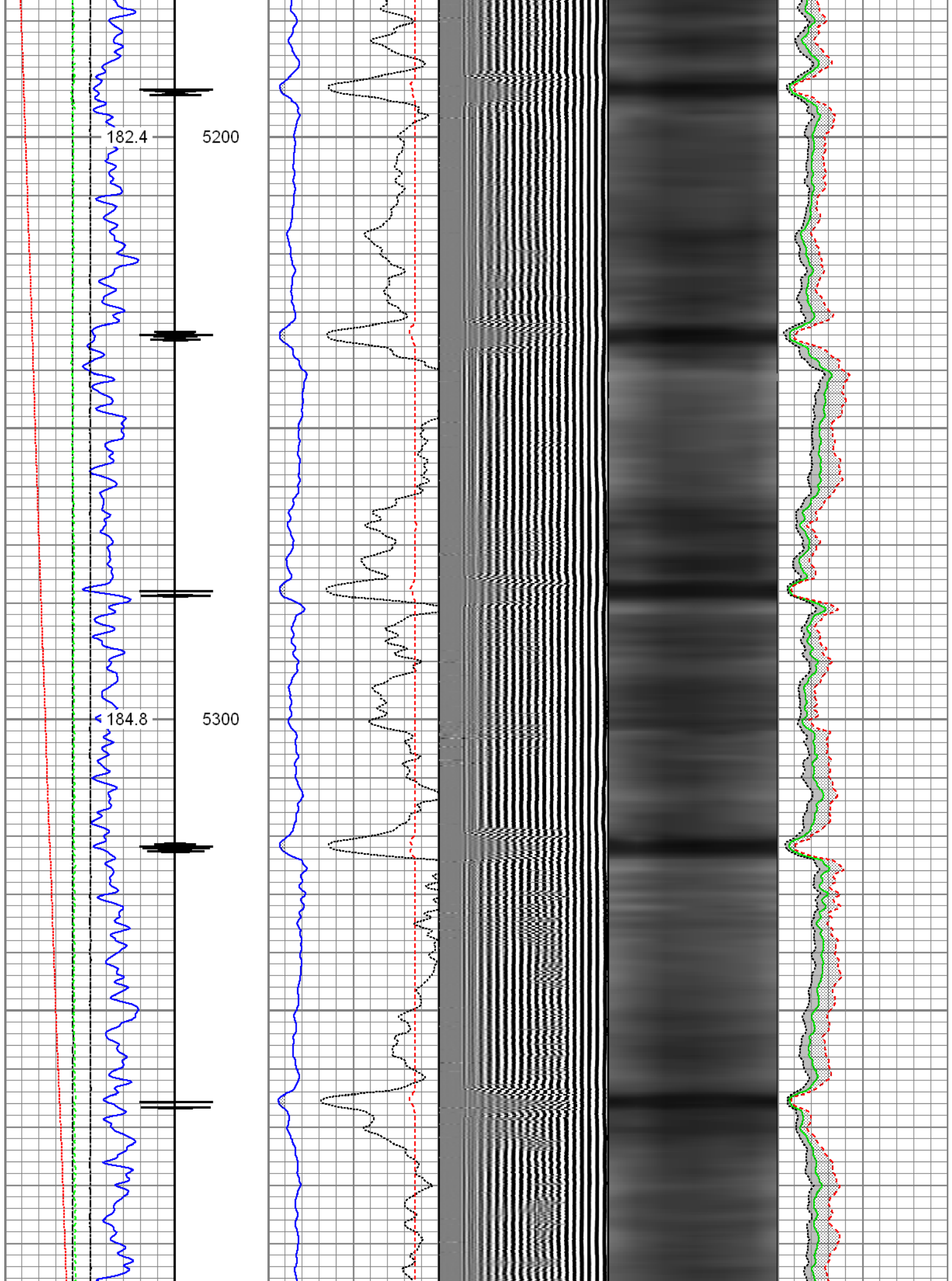


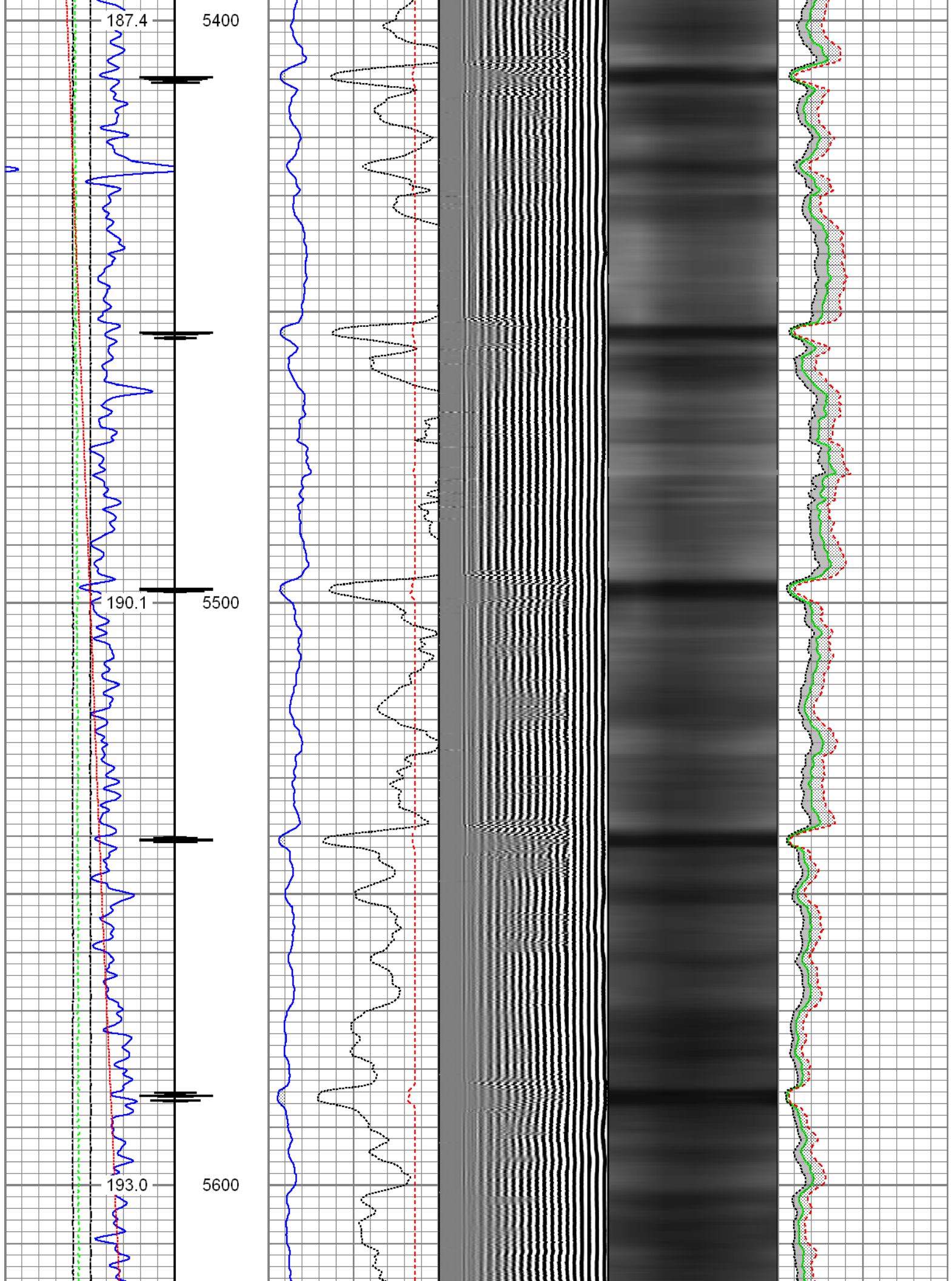


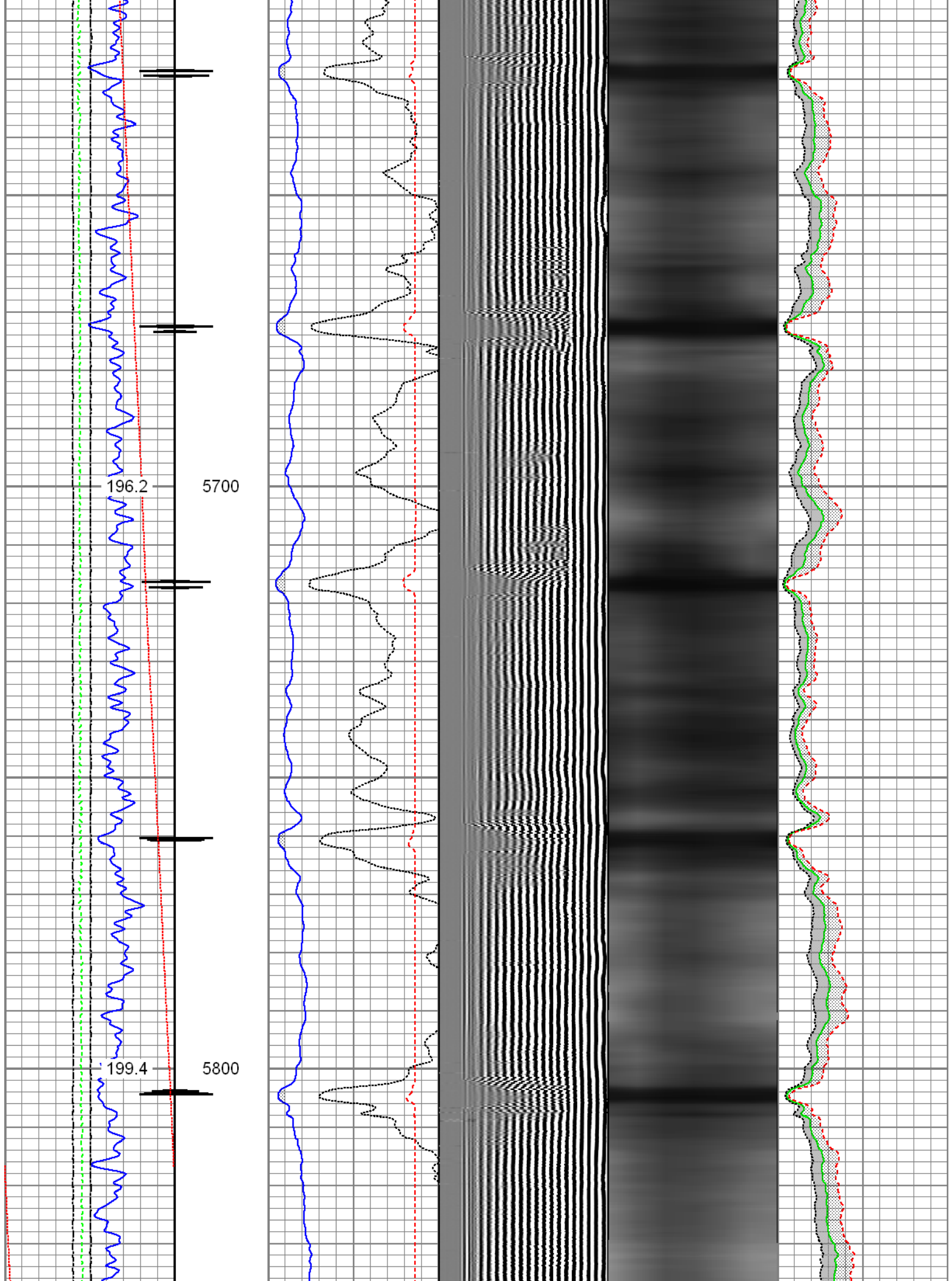


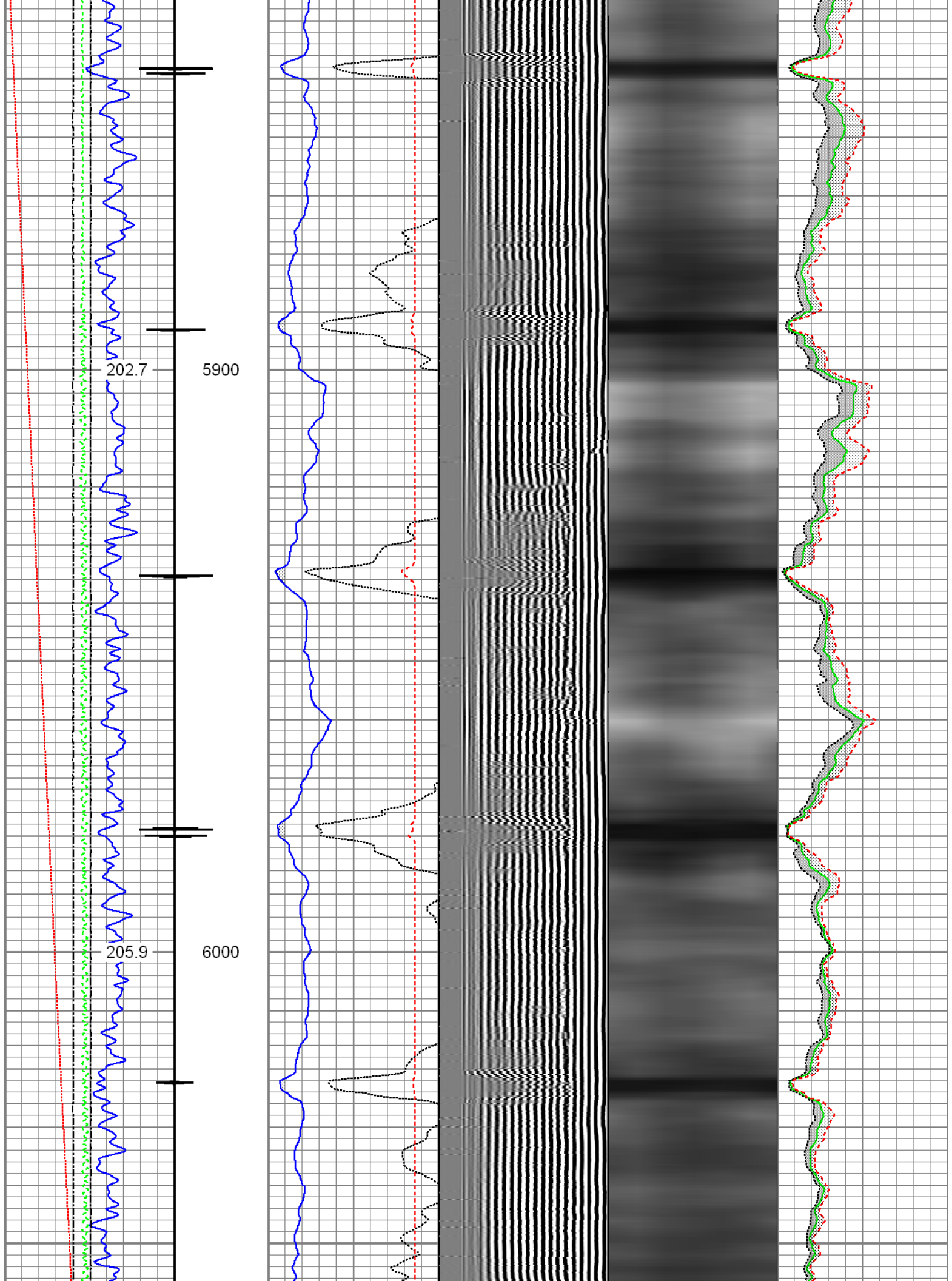


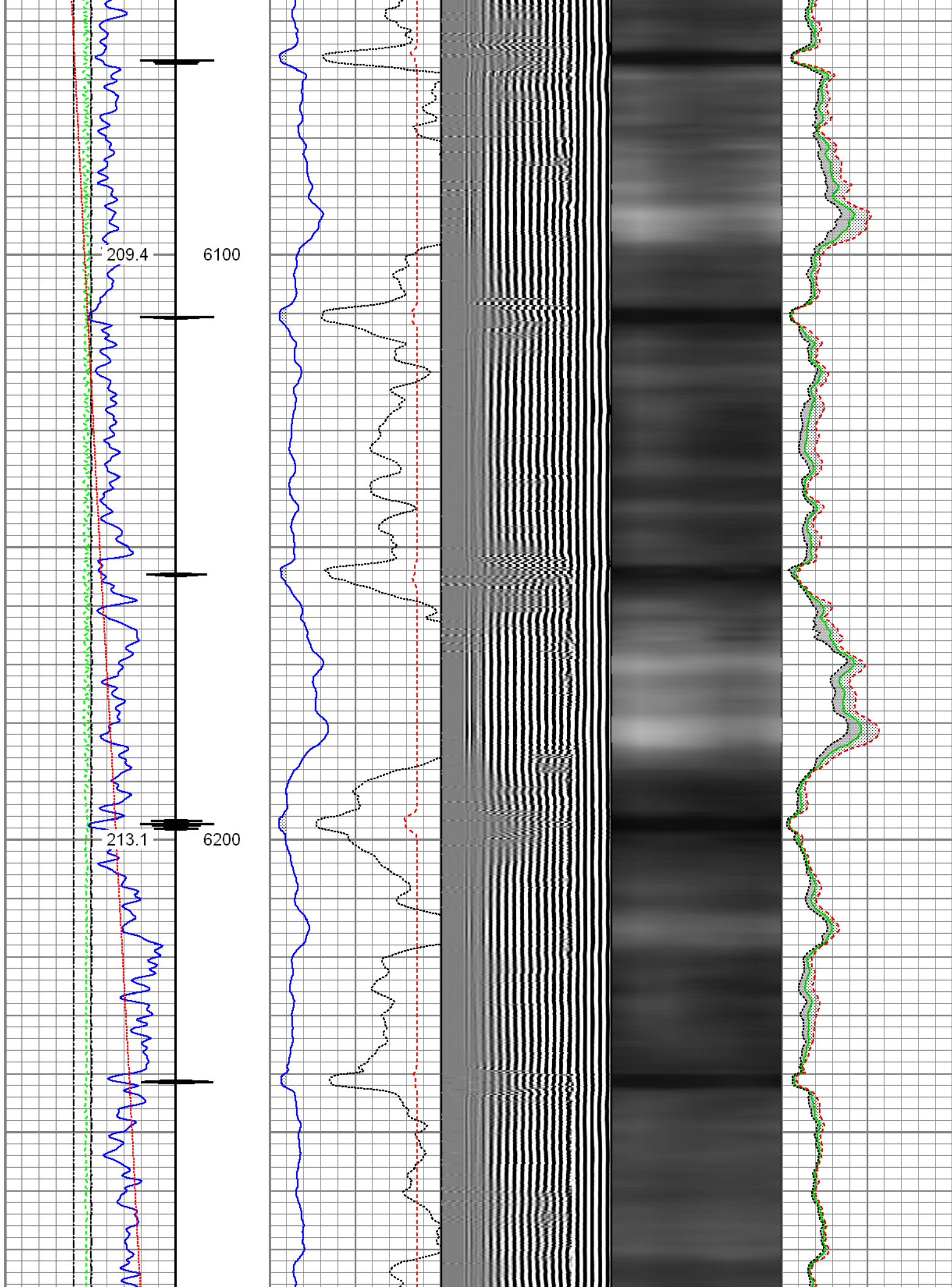


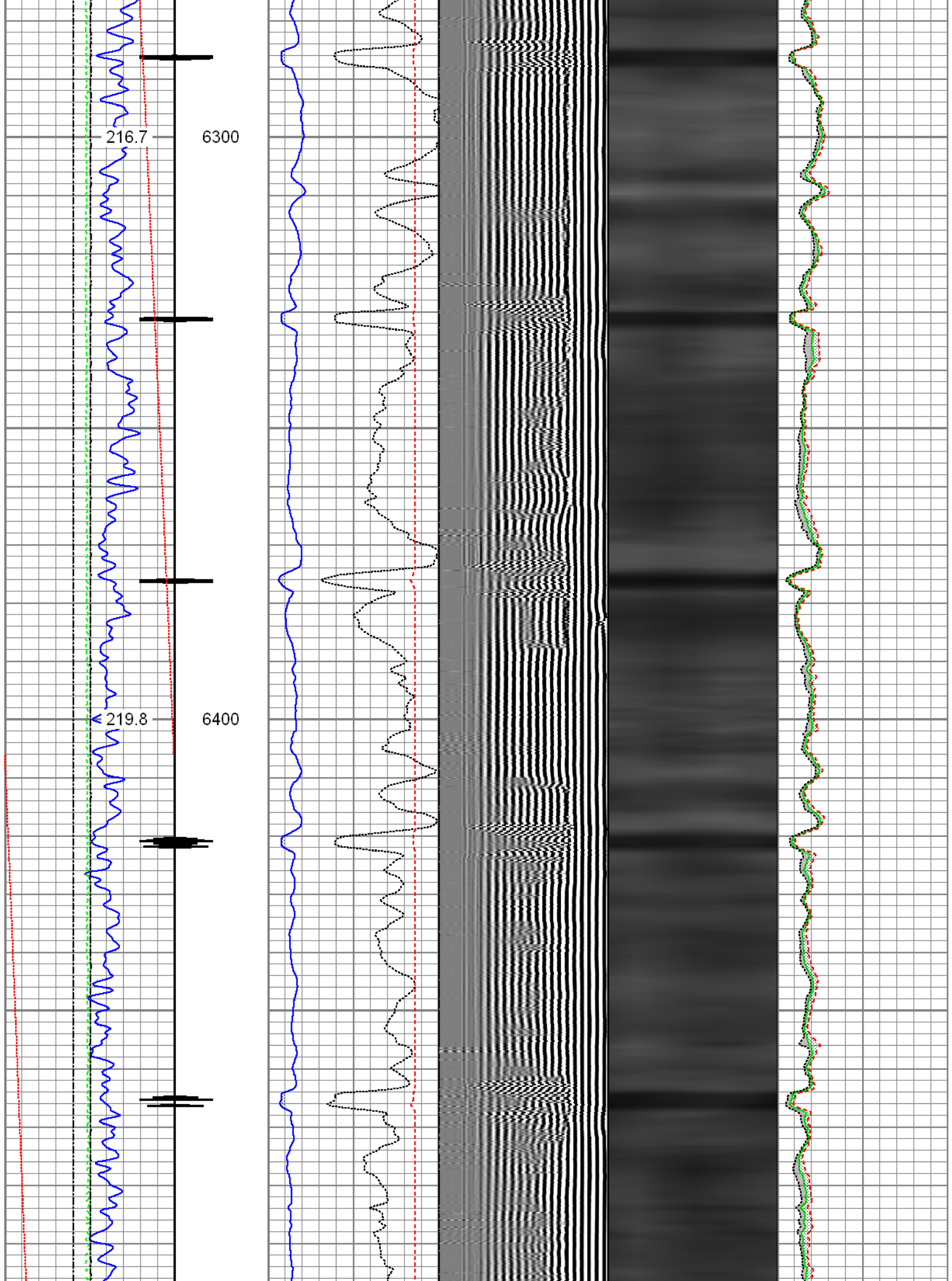


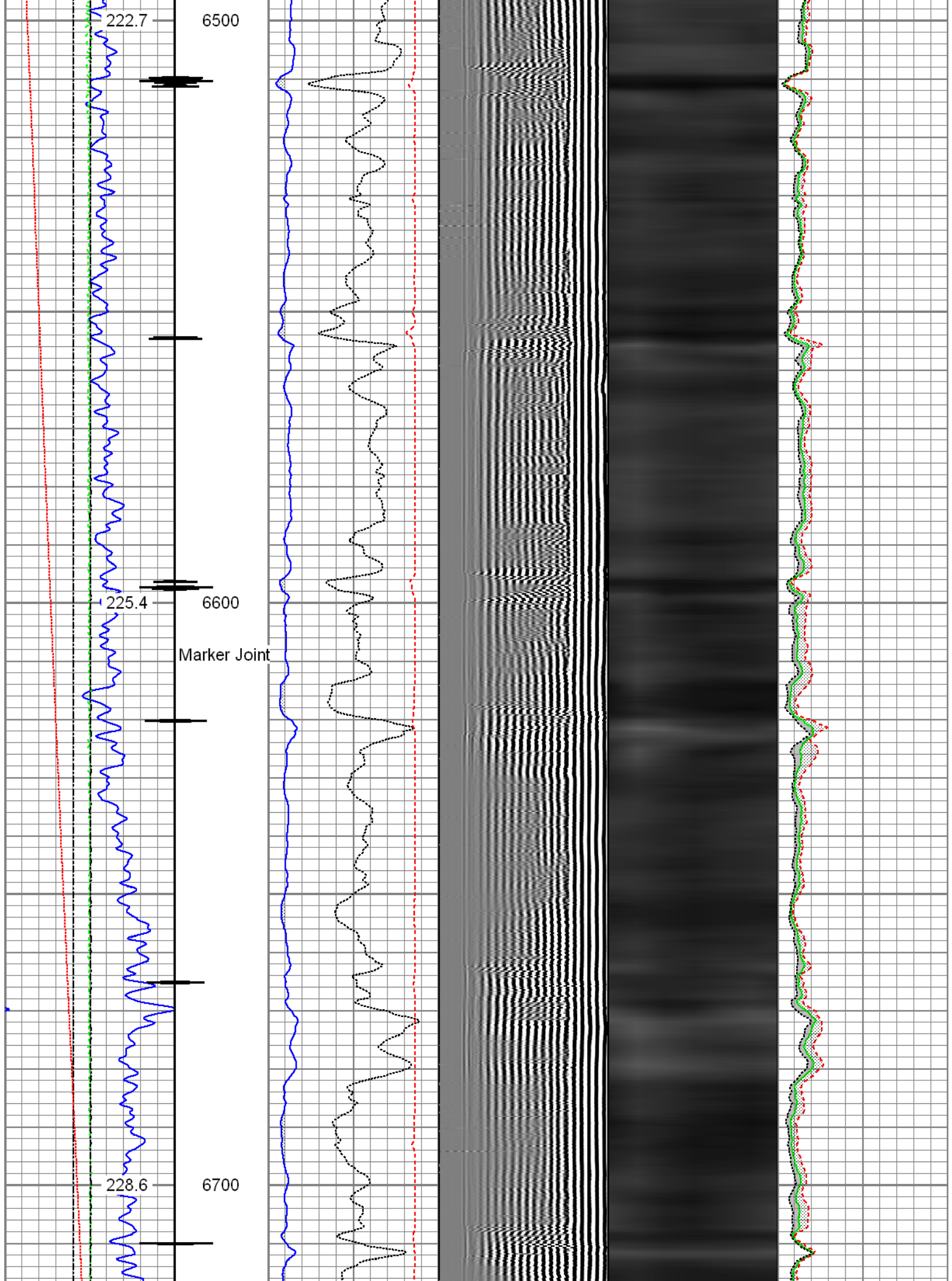


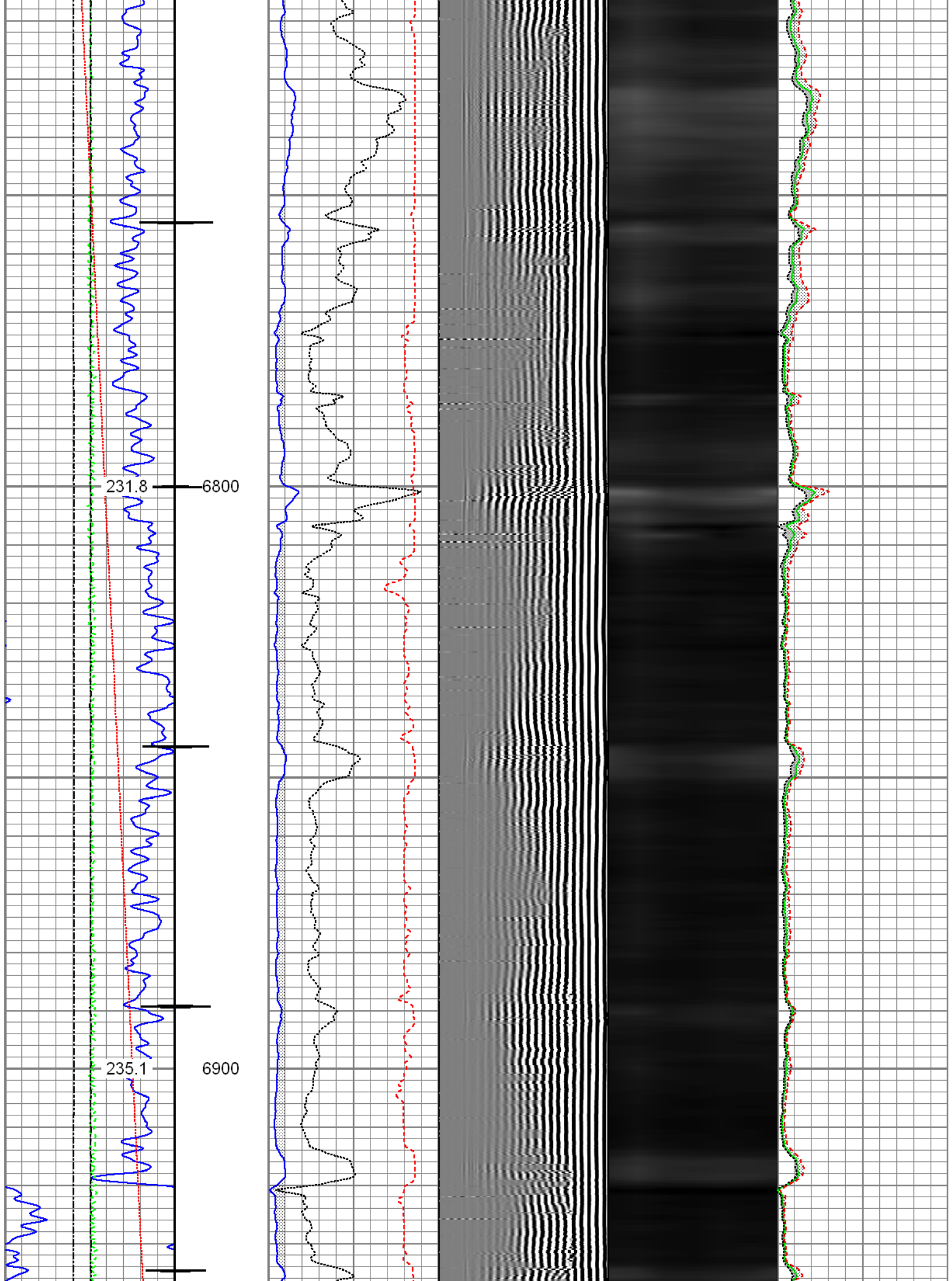


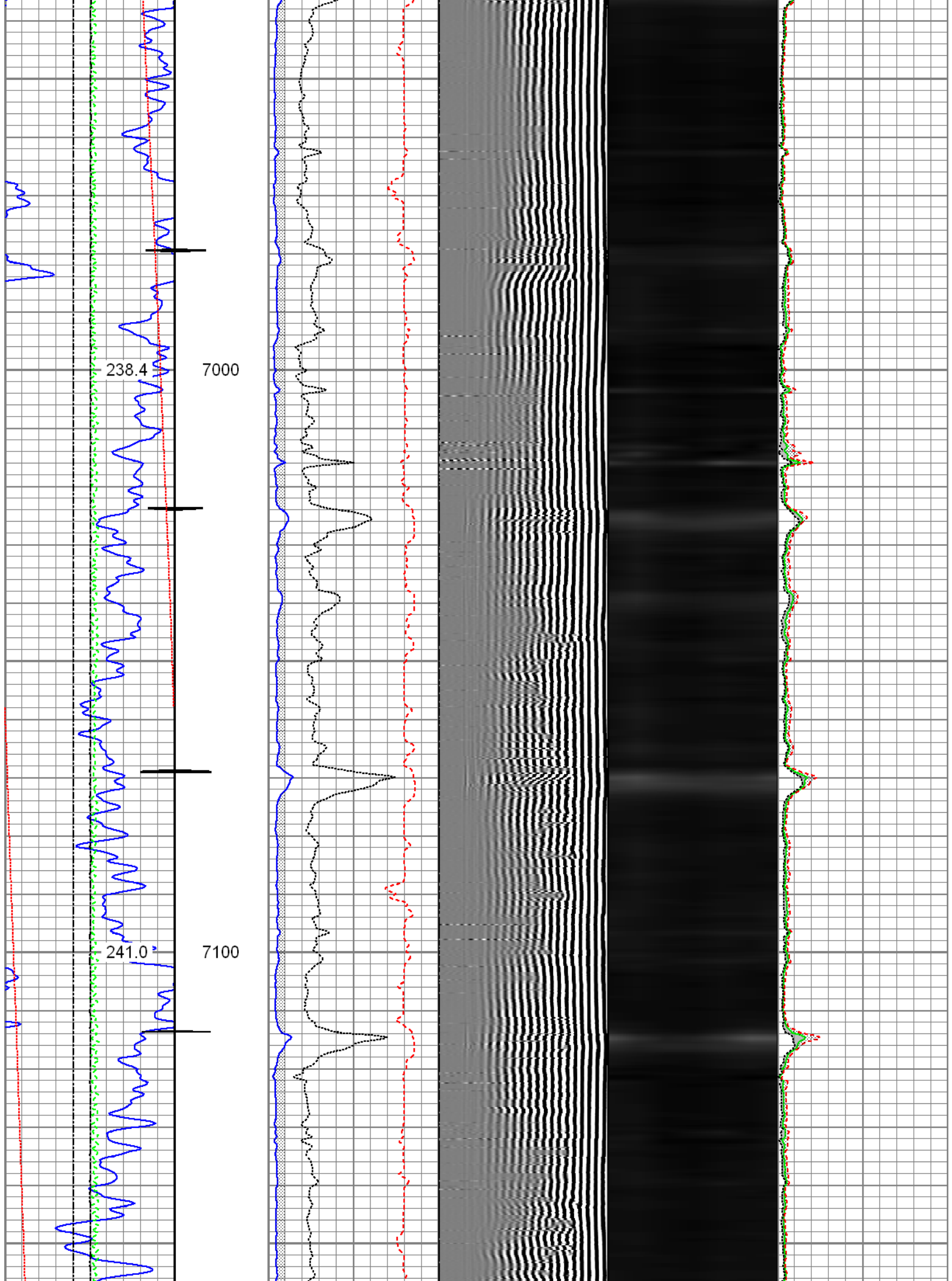


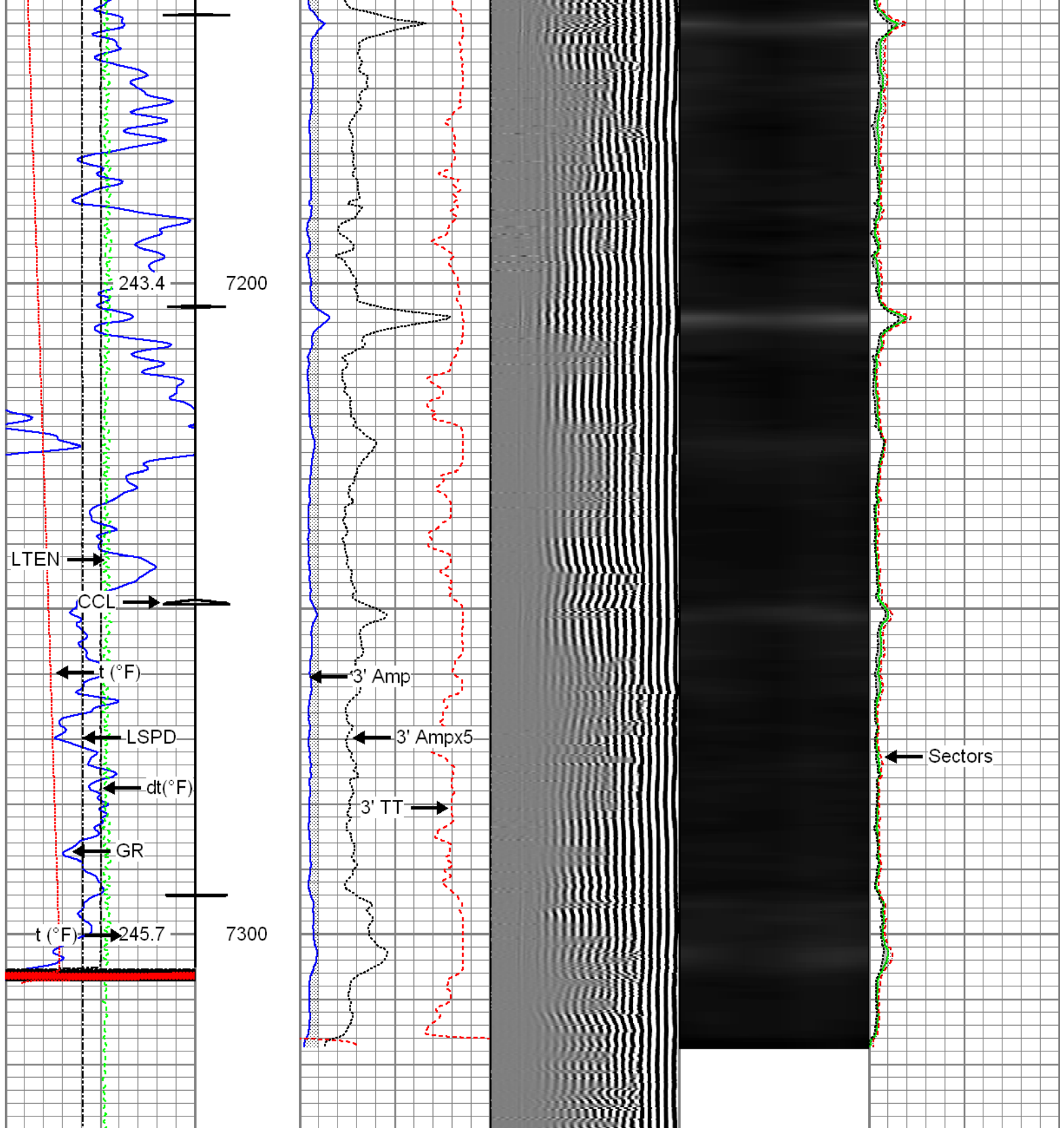












Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5 (mV)			Minimum Amplitude
Line Speed (ft/min)	0 20			0 100
-150 150	3' Travel Time (usec)			Maximum Amplitude
Line Tension (lb)	650 150			0 100
0 2000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

Temperature
0 (degF) 20

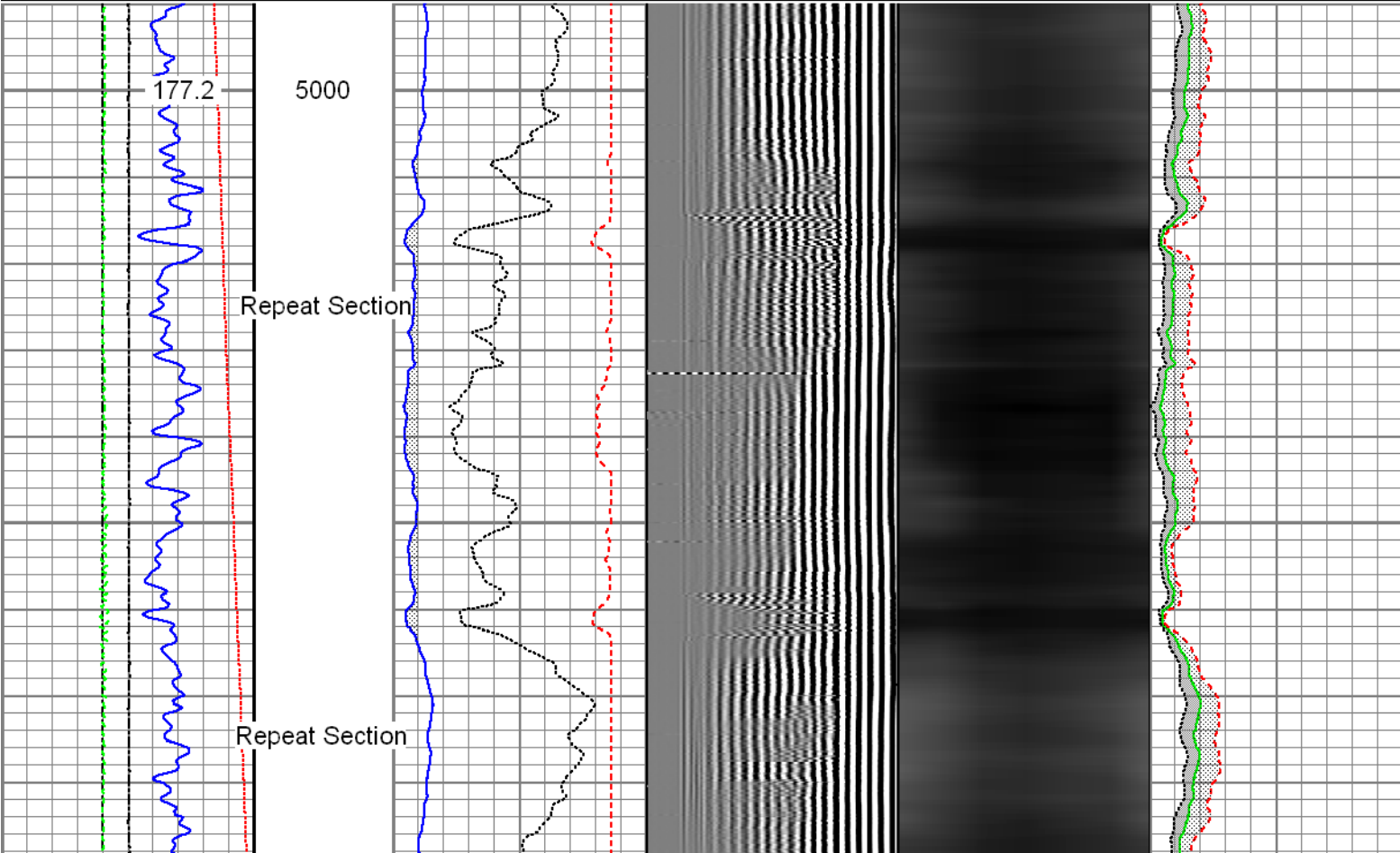


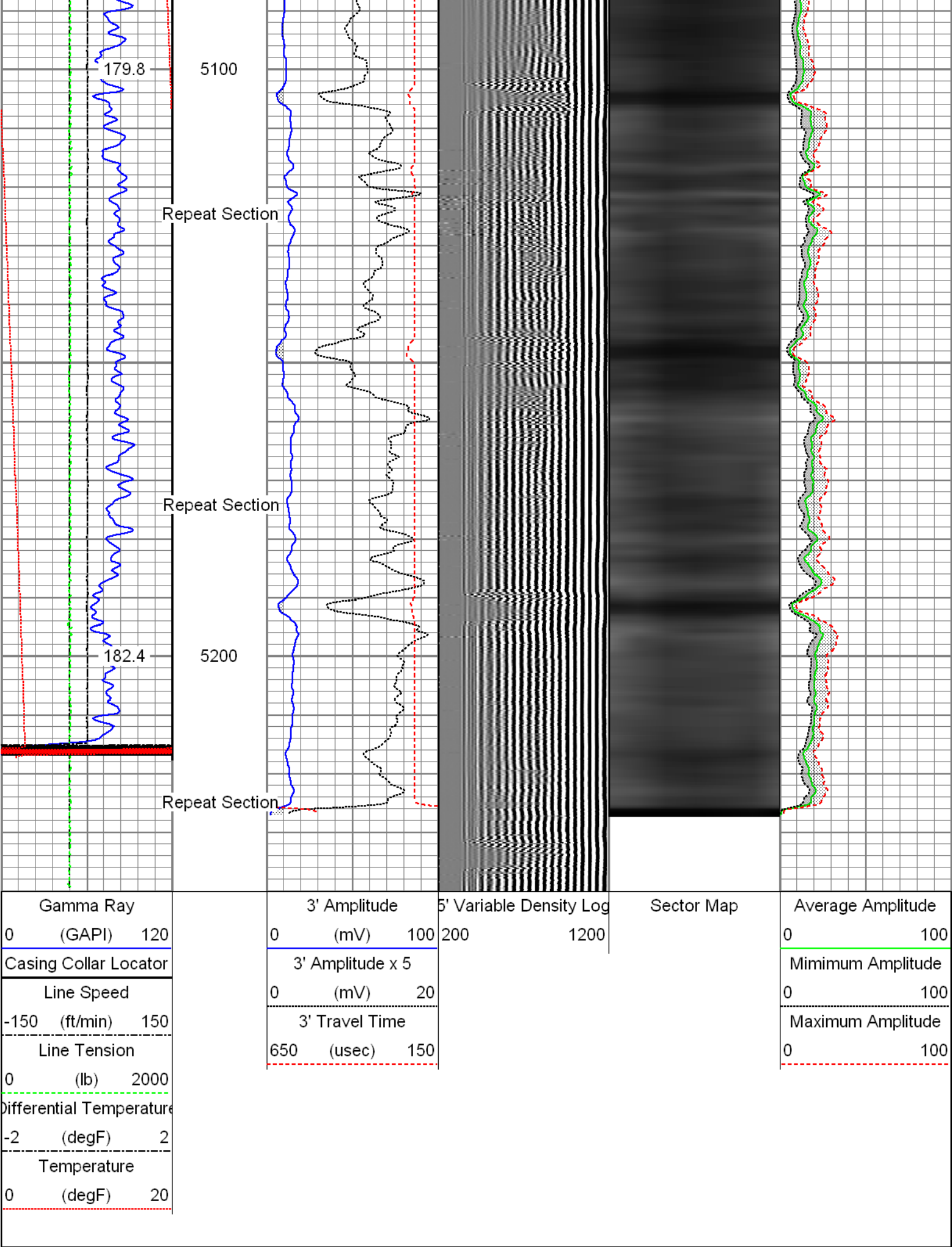
Repeat Section

Recorded With 2800 PSI Surface Induced Pressure

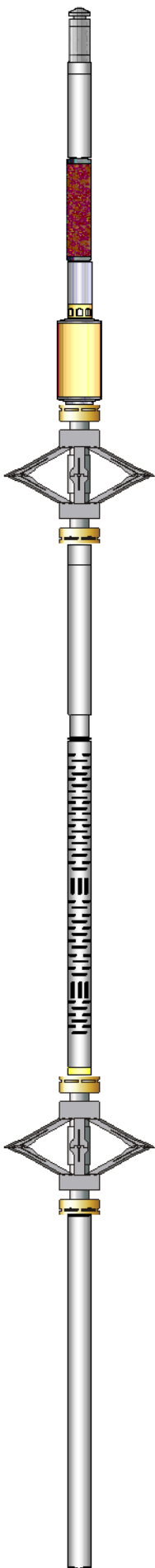
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Dataset Pathname: repeat.1
Presentation Format: rbt003
Dataset Creation: Fri Dec 11 13:11:45 2015 by Calc 7.0 B1
Charted by: Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Log (ft)	OD (in)	Wt (lb)
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Sensor	Onset (ft)	Schematic	Description	Lenr (ft)	OD (in)	Wt (lb)
GR	24.79		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (211461) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10024770) Production Gamma Ray	1.93	1.69	9.50
TEMP	23.39		UW_PRT-UW_PRT_016 (10025095) Platinum Resistance Thermometer	1.04	1.69	5.20
CCL	22.14		UW_CCL-UW_CCL_028 (10009470) Ultrawire 3-1/8" CCL	1.61	3.13	36.00
			UW_PRC-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WVF3FT	14.21		UW_RBT-UW_RBT_003 (Default003) Sondex Ultrawire 1-11/16" Radial Bond Tool	9.93	1.69	42.00
WVFS1	14.21					
WVFS2	14.21					
WVFS3	14.21					
WVFS4	14.21					
WVFS5	14.21					
WVFS6	14.21					
CBLTEMP	14.21					
CBLROT	14.21					
WVF5FT	13.21					
			UW_PRC #3 -DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
			CNL-007 (1005) Compensated Neutron Logging Tool	6.61	1.69	30.00
CNLSC	1.53					
CNSSC	1.12					
TSTAMP	0.00					

Dataset:
0512341955_Anadarko_Powers 2C-27HZ_12-09-15_RBL.db: field/well/run1/main.2.1

Total Length:
29.03 ft

Total Weight:
198.20 lb

O.D.
3.13 in

Calibration Report

Database File: 0512341955_Anadarko_Powers 2C-27HZ_12-09-15_RBL.db
 Dataset Pathname: main.2.1
 Dataset Creation: Fri Dec 11 12:58:47 2015 by Calc 7.0 B1

Compensated Neutron Calibration Report

Serial Number:	1005		
Tool Model:	007		
Master Calibration	Tue Jun 03 09:29:29 2014		
Detector	Readings		
Short Space	240.87	cps	
Long Space	303.55	cps	
Ratio	Measured	Reference	
	0.8150	Sleeve: 1.0000	
CNRAT Gain K	1.0271		

Before Survey			
Detector	Readings		
Short Space		cps	
Long Space		cps	
	Measured	Reference	
Ratio			

After Survey			
Detector	Readings		
Short Space		cps	
Long Space		cps	
	Measured	Reference	
Ratio			

Segmented Cement Bond Log Calibration Report

Serial Number:	Default003
Tool Model:	UW_RBT_003
Calibration Casing Diameter:	9.625 in
Calibration Depth:	25.012 ft

Master Calibration, performed Fri Dec 11 12:58:34 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.032	1.306	1.000	71.921	53.014	2.709
5FT	-0.042	1.120	1.000	71.921	61.005	3.580
S1	0.001	0.952	0.000	100.000	105.096	-0.069
S2	-0.001	0.958	0.000	100.000	104.213	0.121
S3	-0.010	0.982	0.000	100.000	100.848	0.967
S4	-0.008	1.010	0.000	100.000	98.313	0.738
S5	-0.024	0.917	0.000	100.000	106.255	2.522
S6	-0.030	0.879	0.000	100.000	109.955	3.352

Temperature Calibration Report

Serial Number: 10025095
 Tool Model: UW_PRT_016
 Performed: Wed Feb 11 13:43:20 2015

Point #	Reading	Reference
1	12798.00 cps	68.00 degF
2	18136.00 cps	104.00 degF
3	29513.00 cps	176.00 degF
4	40905.00 cps	248.00 degF
5	52487.00 cps	320.00 degF
6	58362.00 cps	356.00 degF
7	cps	degF
8	cps	degF
9	cps	degF
10	cps	degF

Gamma Ray Calibration Report

Serial Number: 10024770
 Tool Model: UW_PGR_020
 Performed: Sun Jun 13 13:33:21 1993

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps



Company: Kerr-McGee Oil and Gas Onshore LP
 Well: Powers 2C-27HZ
 Field: Wattenberg
 County: Weld
 State: Colorado