



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company	Kerr-McGee Oil & Gas Onshore, L.P.		
Well	State 30-16		
Field	Wattenberg		
County	Weld		
State	Colorado		
Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		State 30-16	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-29115	
SEC 16		TWP 1N	
Ground Level		RGE 68W	
Log Measured From		Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		---	
Permanent Datum		Ground Level	
Log Measured From		Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		K.B. 5175' D.F. 5174' G.L. 5160'	

Date	01-Jan-2016
Run Number	One
Depth Driller	8390 FT
Depth Logger	4186 FT
Bottom Logged Interval	4181 FT
Top Log Interval	Surface
Open Hole Size	7.875"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	145°F
Estimated Cement Top	730 FT
Time Well Ready	15:15
Time Logger on Bottom	8:48 AM
Equipment Number	HD-0311
Location	Ft. Lupton, CO
Recorded By	A. Olmsted
Witnessed By	Nick Lange

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	8 5/8	24	K-55	15 FT	1003 FT		
Intermediate #1	4 1/2	11.6	K-55	15 FT	8372 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 ran from 4186 FT to surface
Depth referenced to KB zero at 15 FT
Recorded with 0 PSI Surface Induced Pressure
Logging tools were clean and free of debris upon completion of operations
Thank you for choosing FMC Technologies Surface Integrated Services.

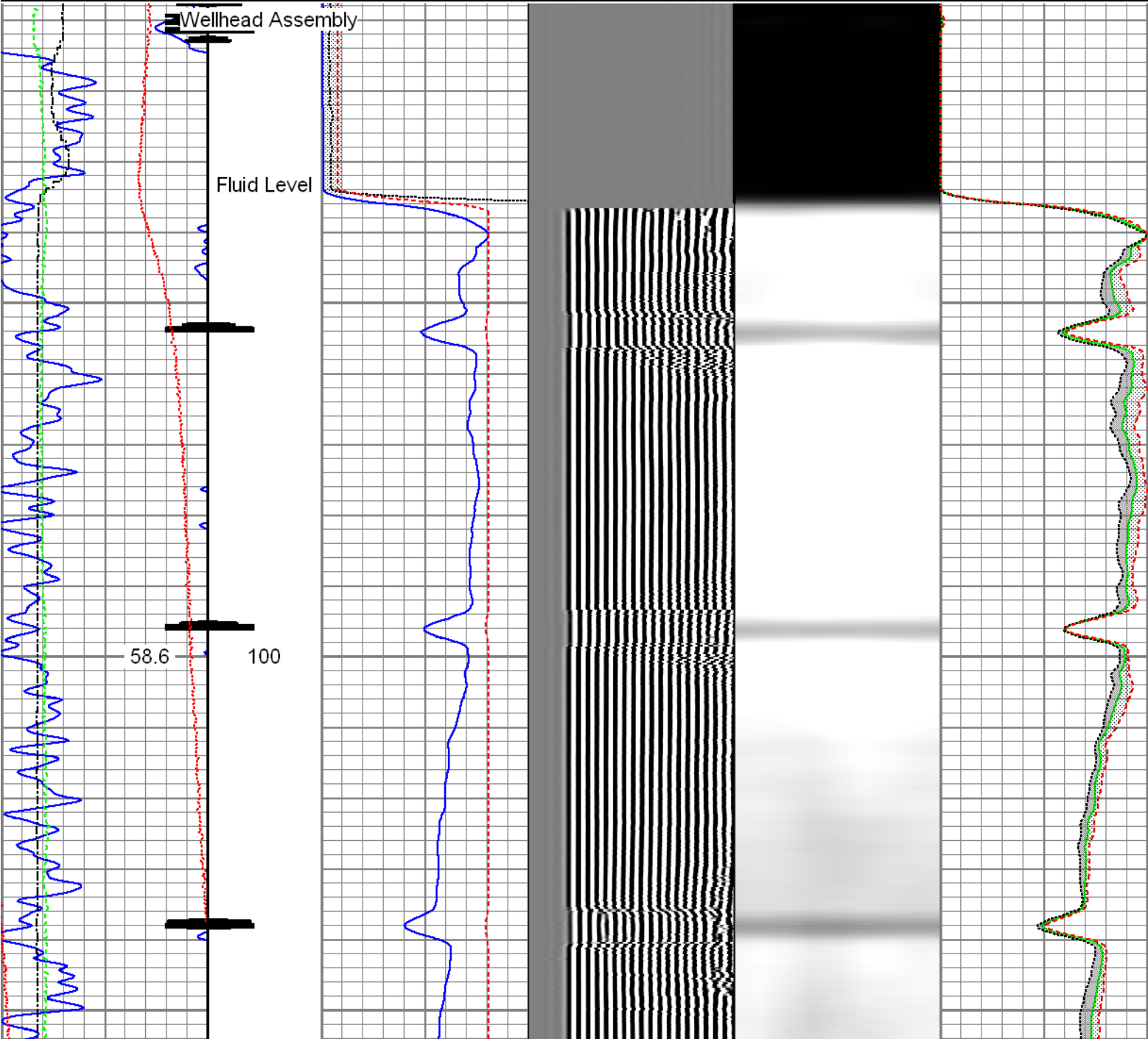


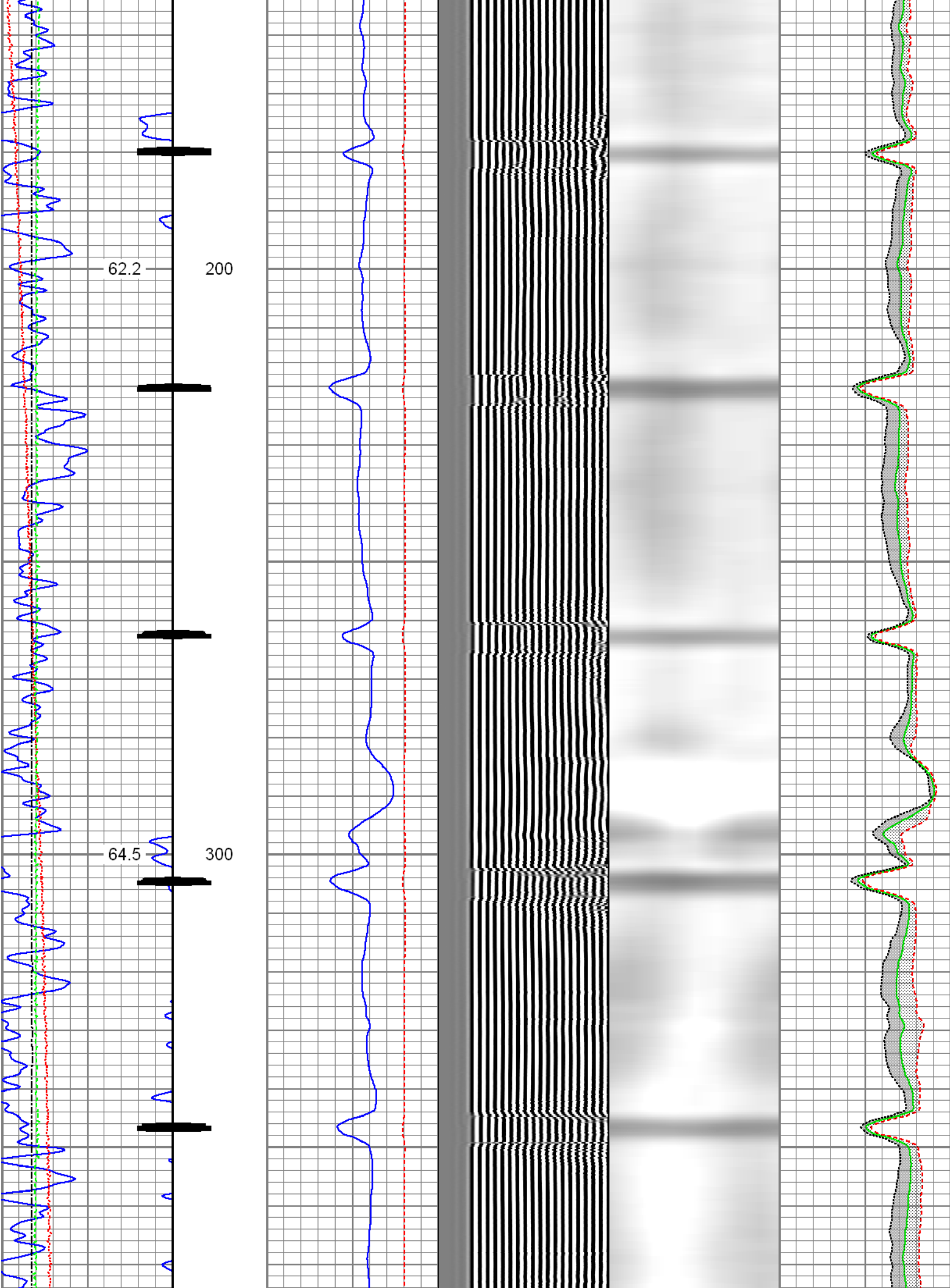
Main Pass

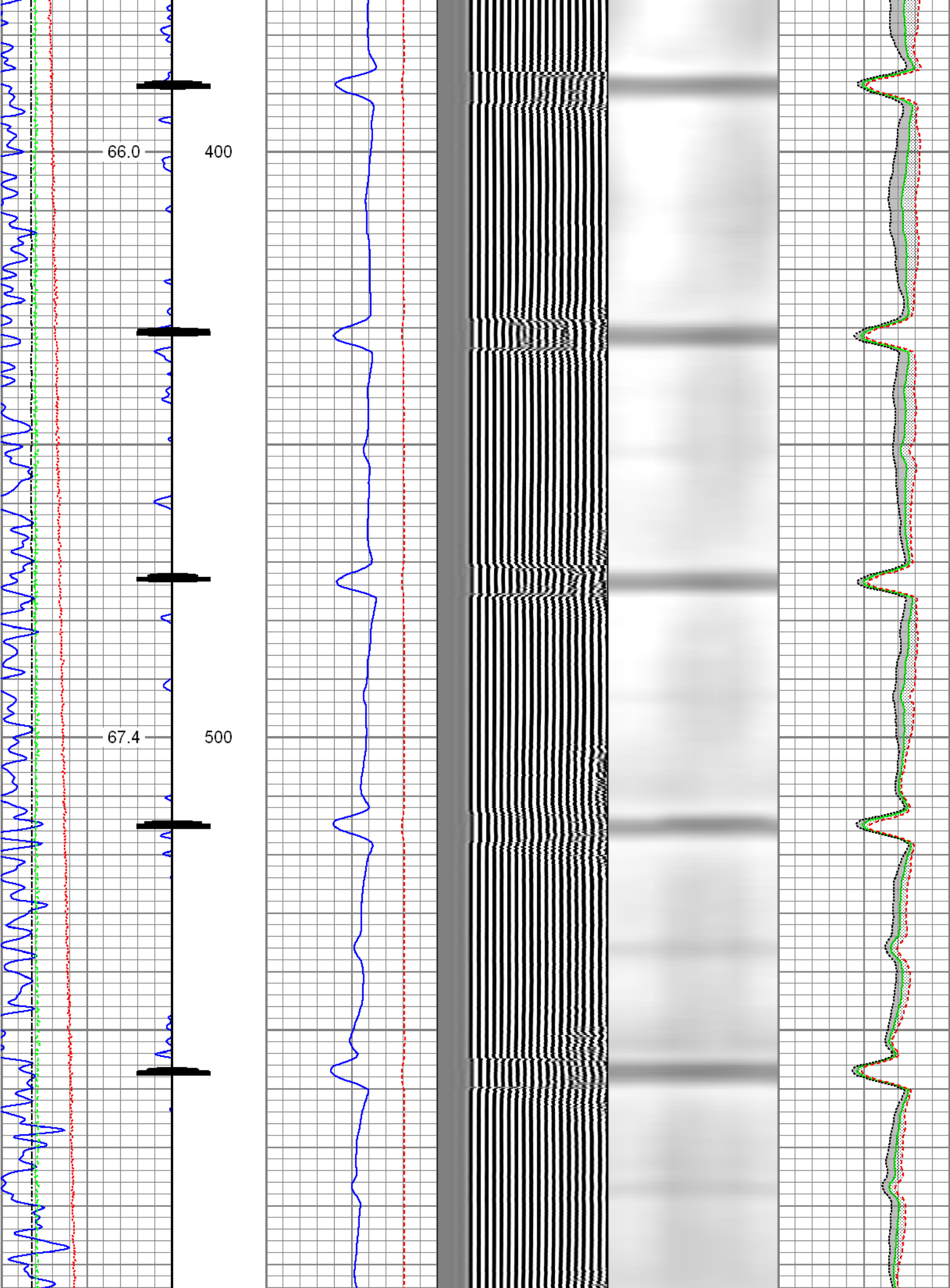
Recorded with 0 PSI Surface Induced Pressure

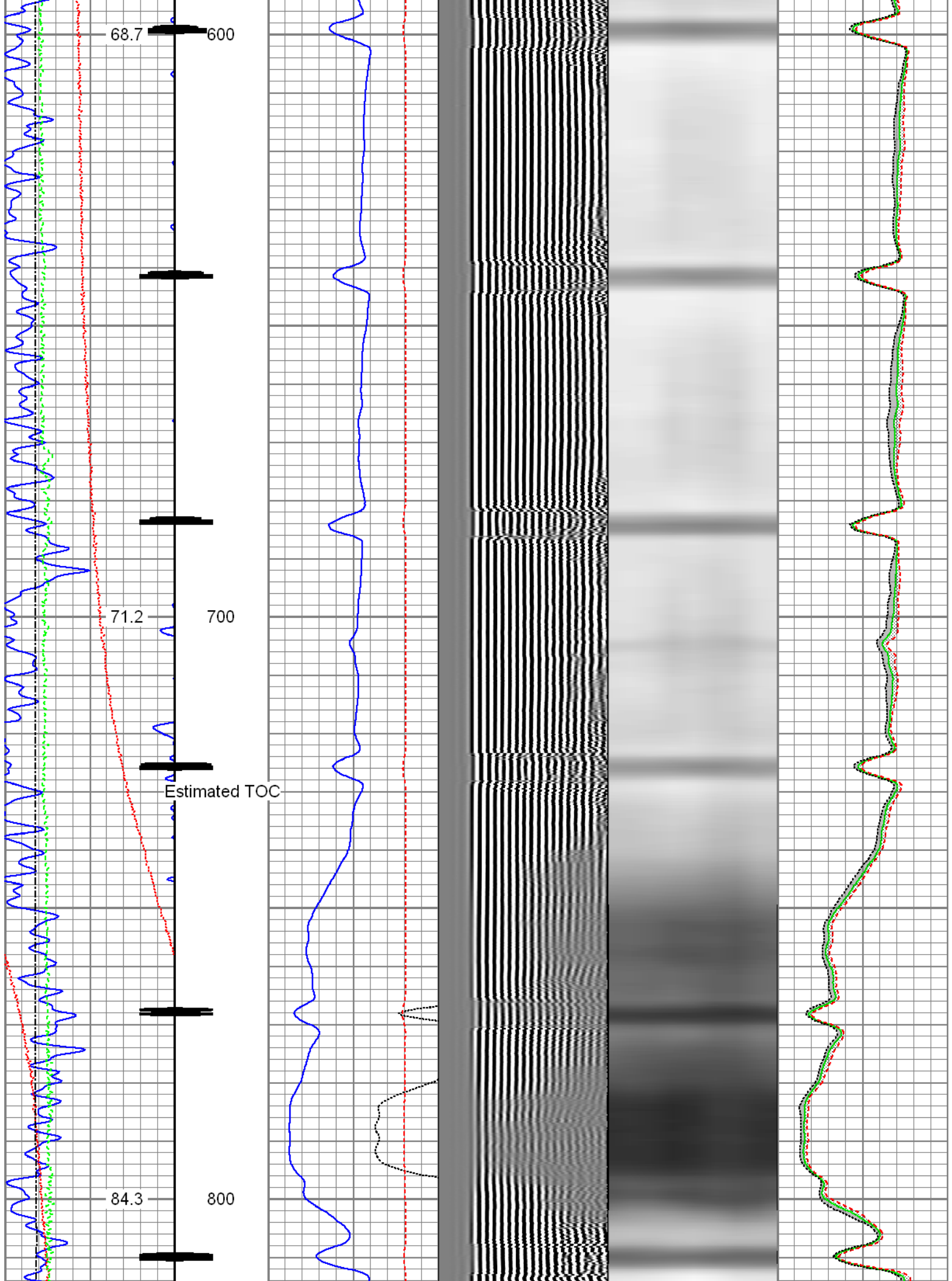
Database File: 0512329115_anadarko_state 30-16_01-01-16_rbl.db
Dataset Pathname: pass6.1
Presentation Format: radii
Dataset Creation: Fri Jan 01 09:33:49 2016 by Calc 7.0 B1
Charted by: Depth in Feet scaled 1:240

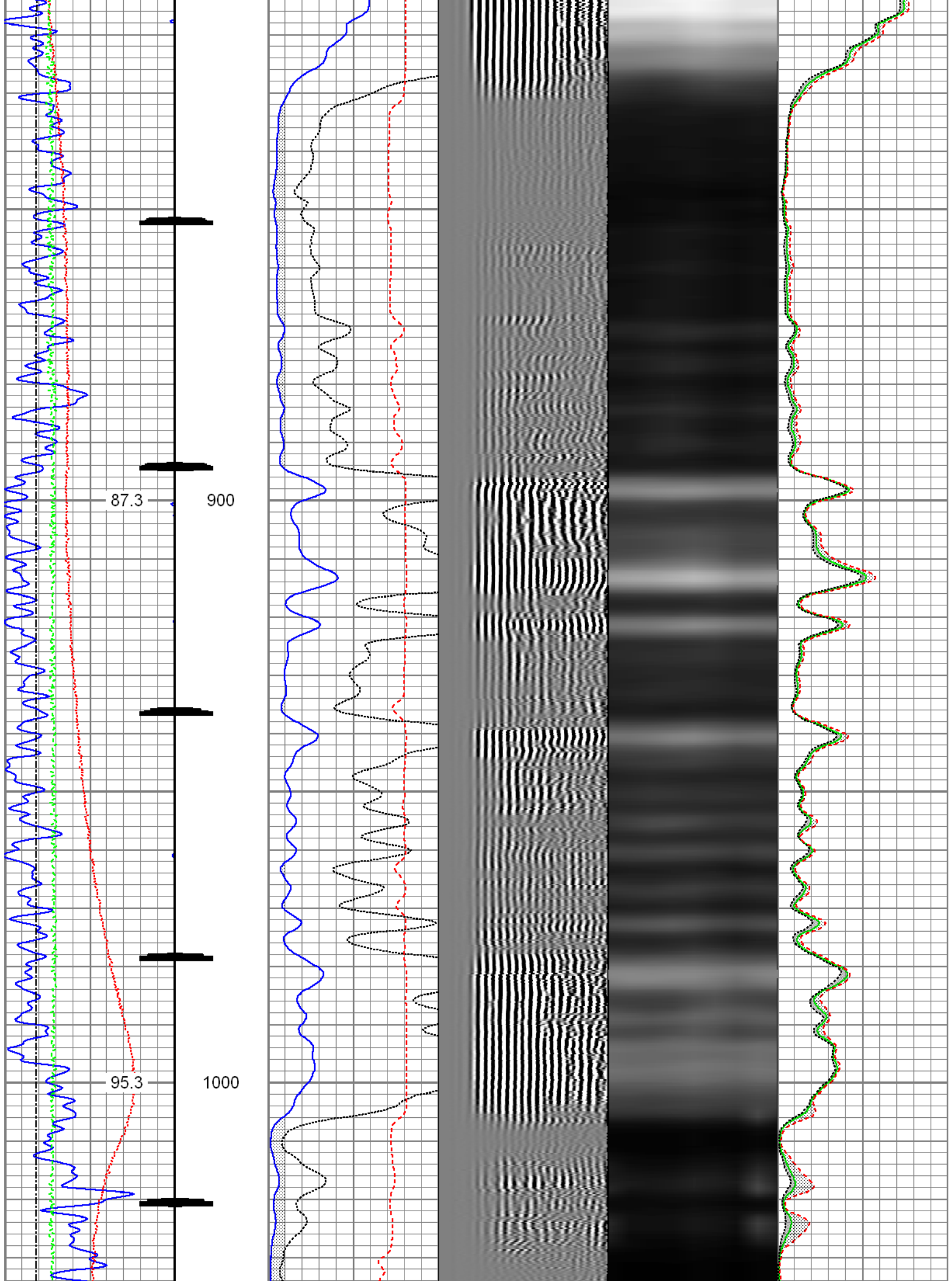
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
30 (GAPI) 130	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Temperature	0 (mV) 20			0 100
0 (degF) 20	3' Travel Time			Maximum Amplitude
Line Speed	650 (usec) 150			0 100
-150 (ft/min) 150				
Line Tension				
0 (lb) 2000				

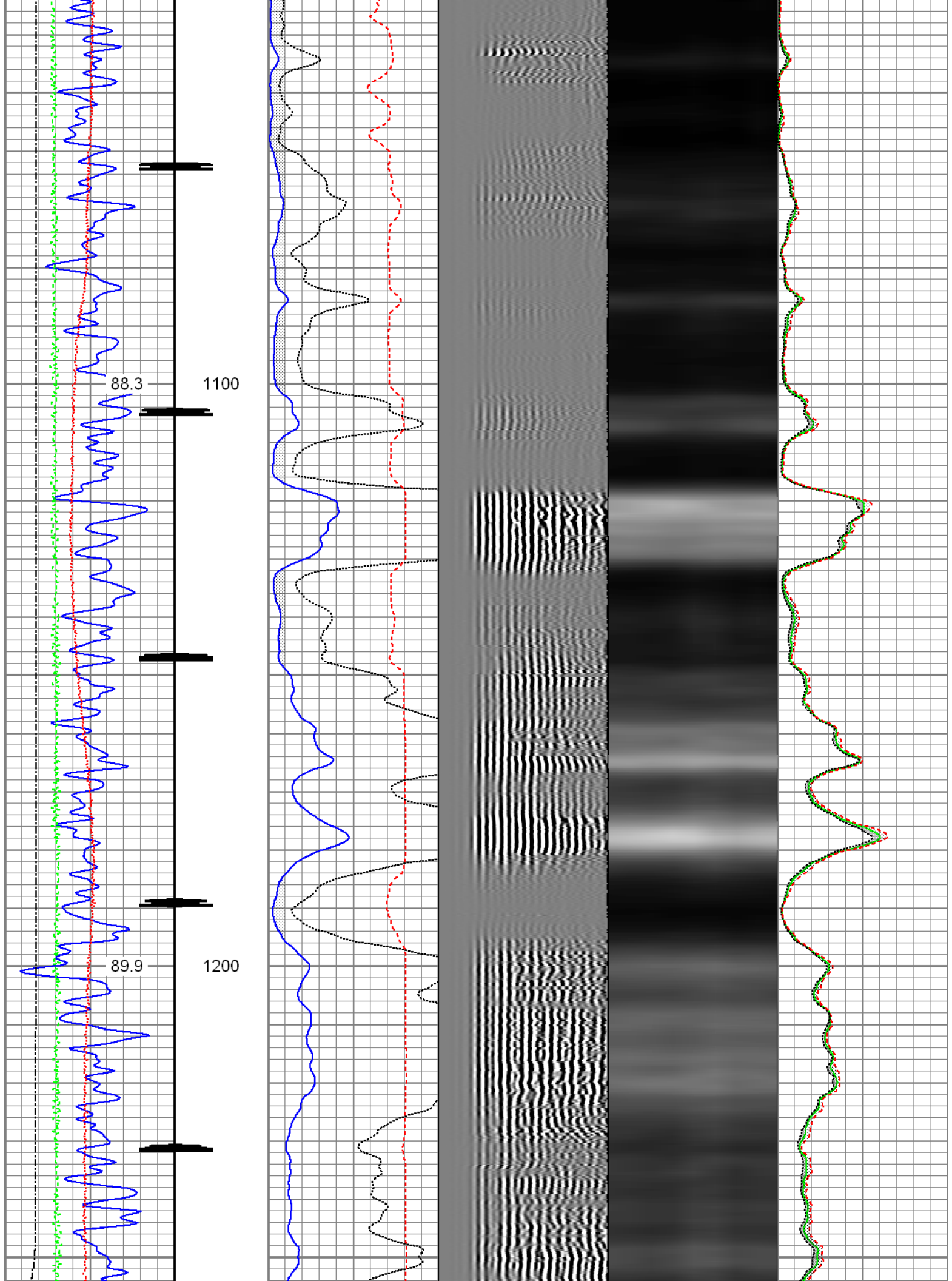


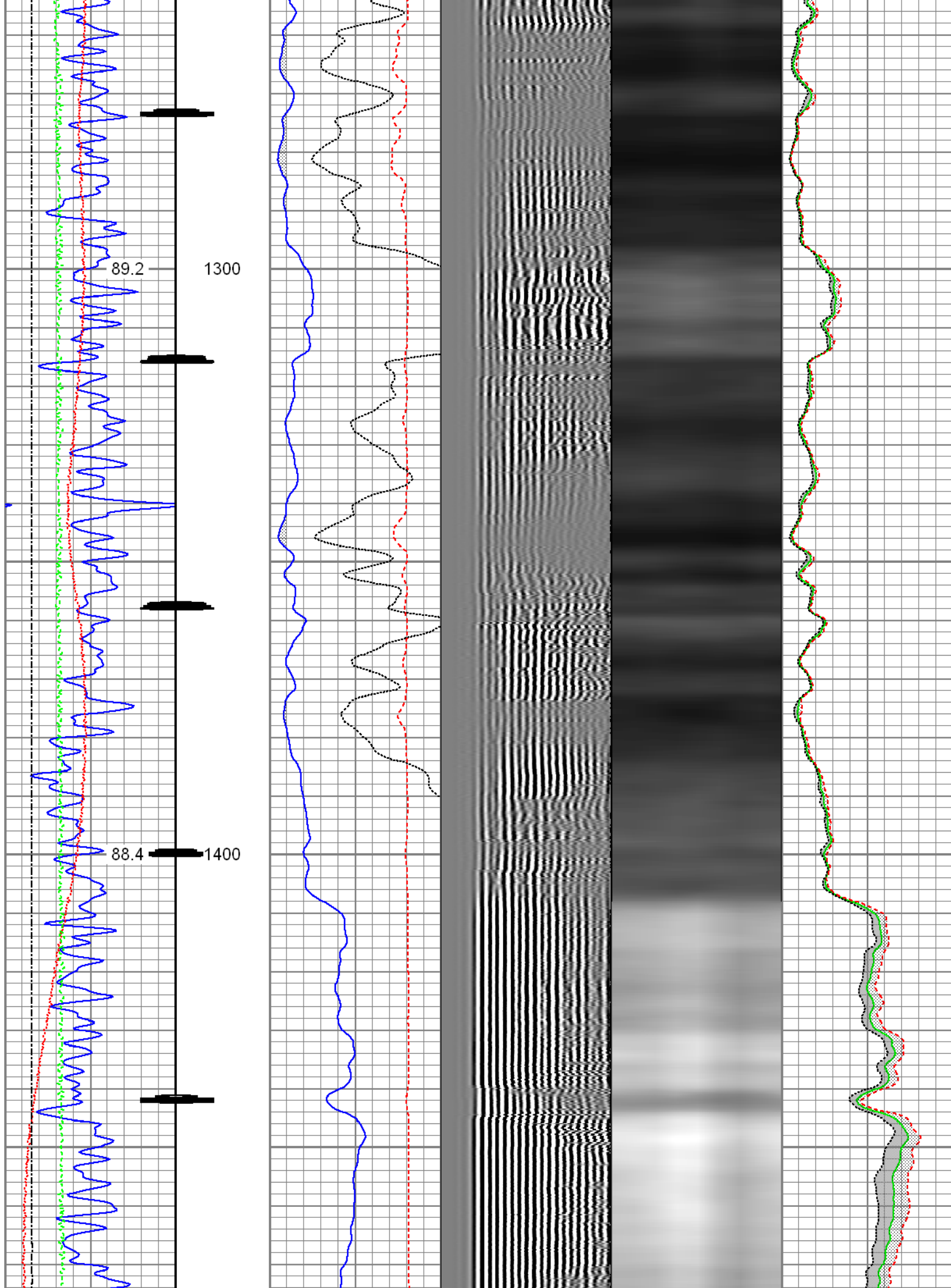


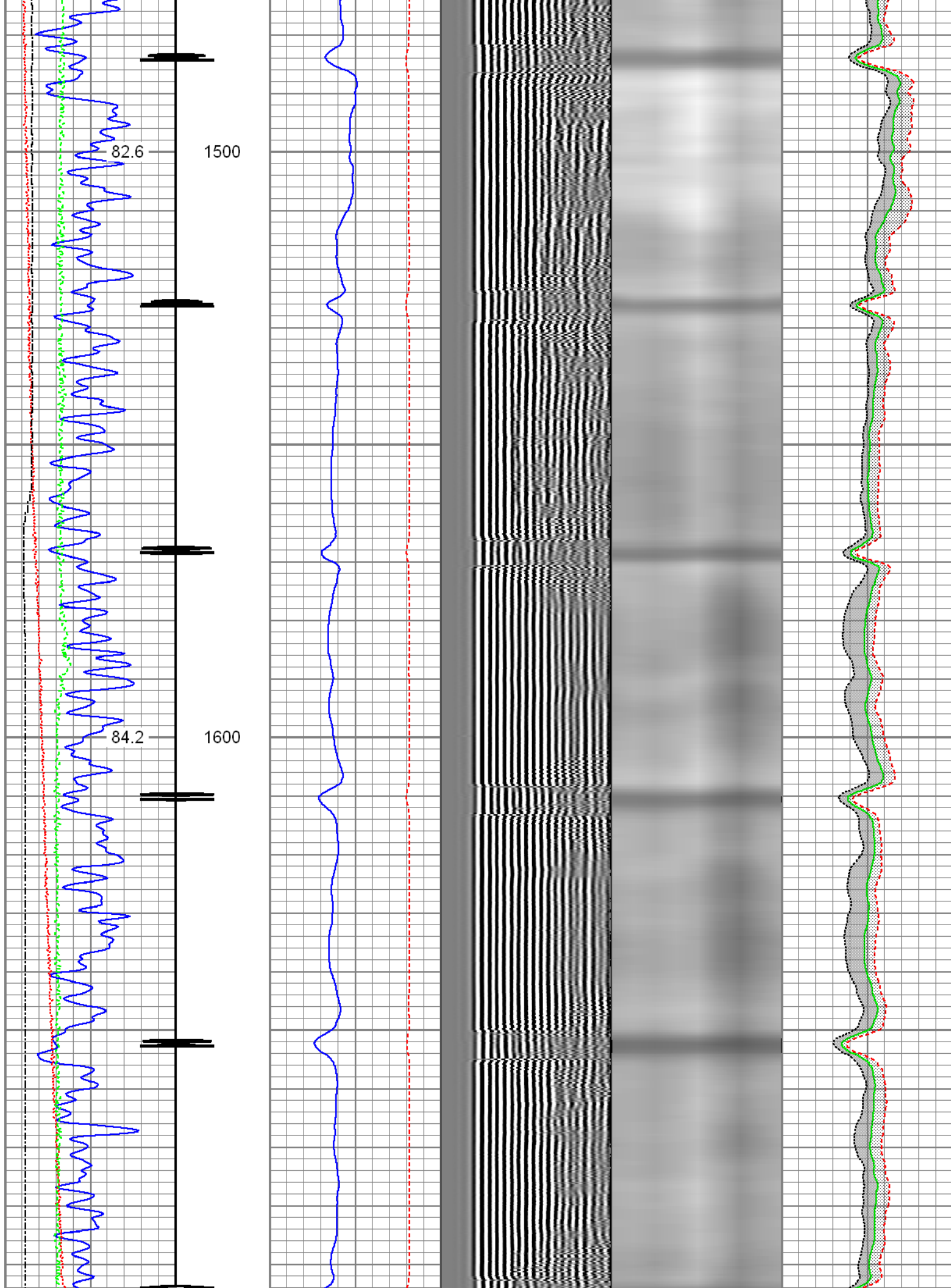


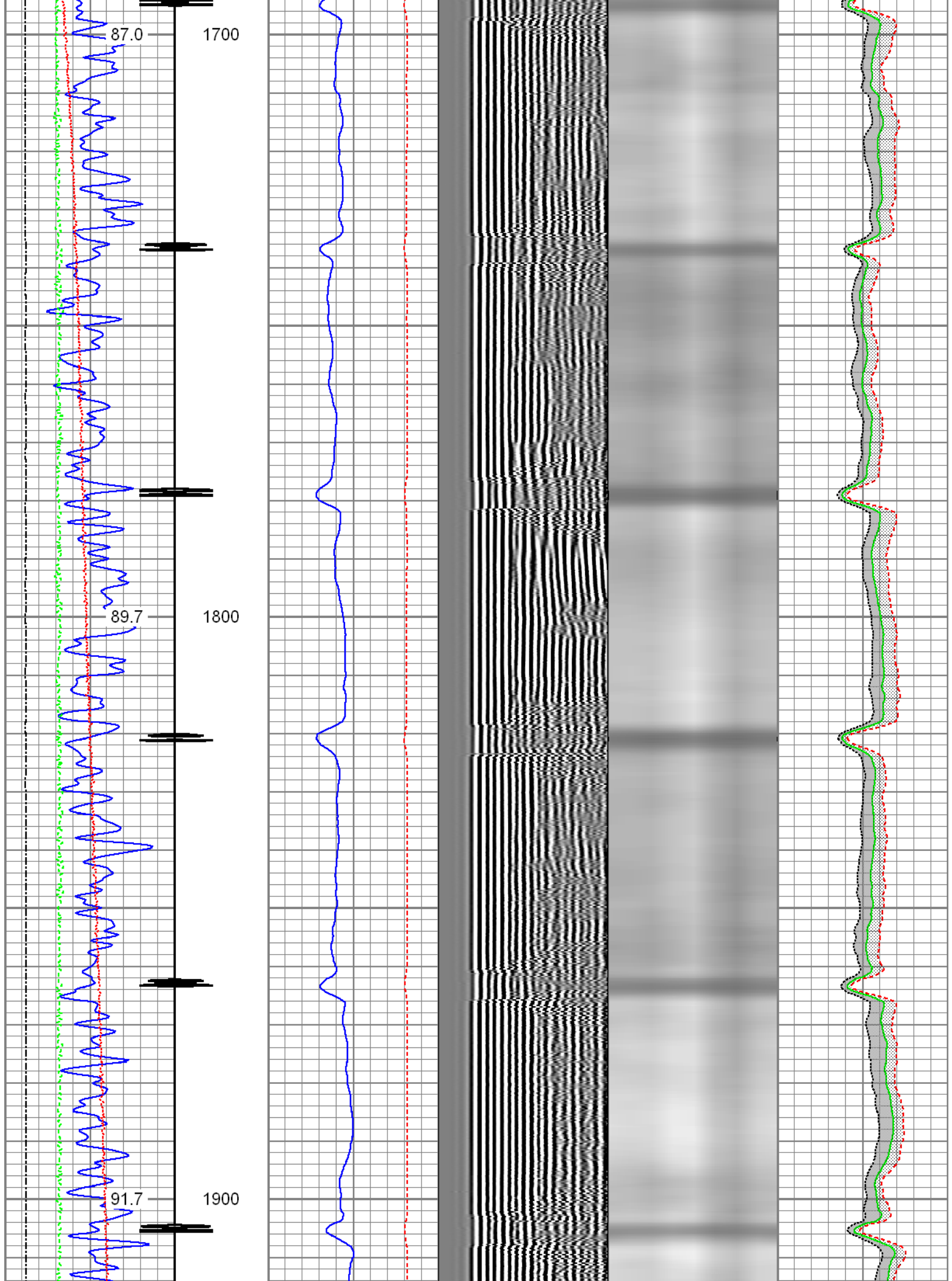


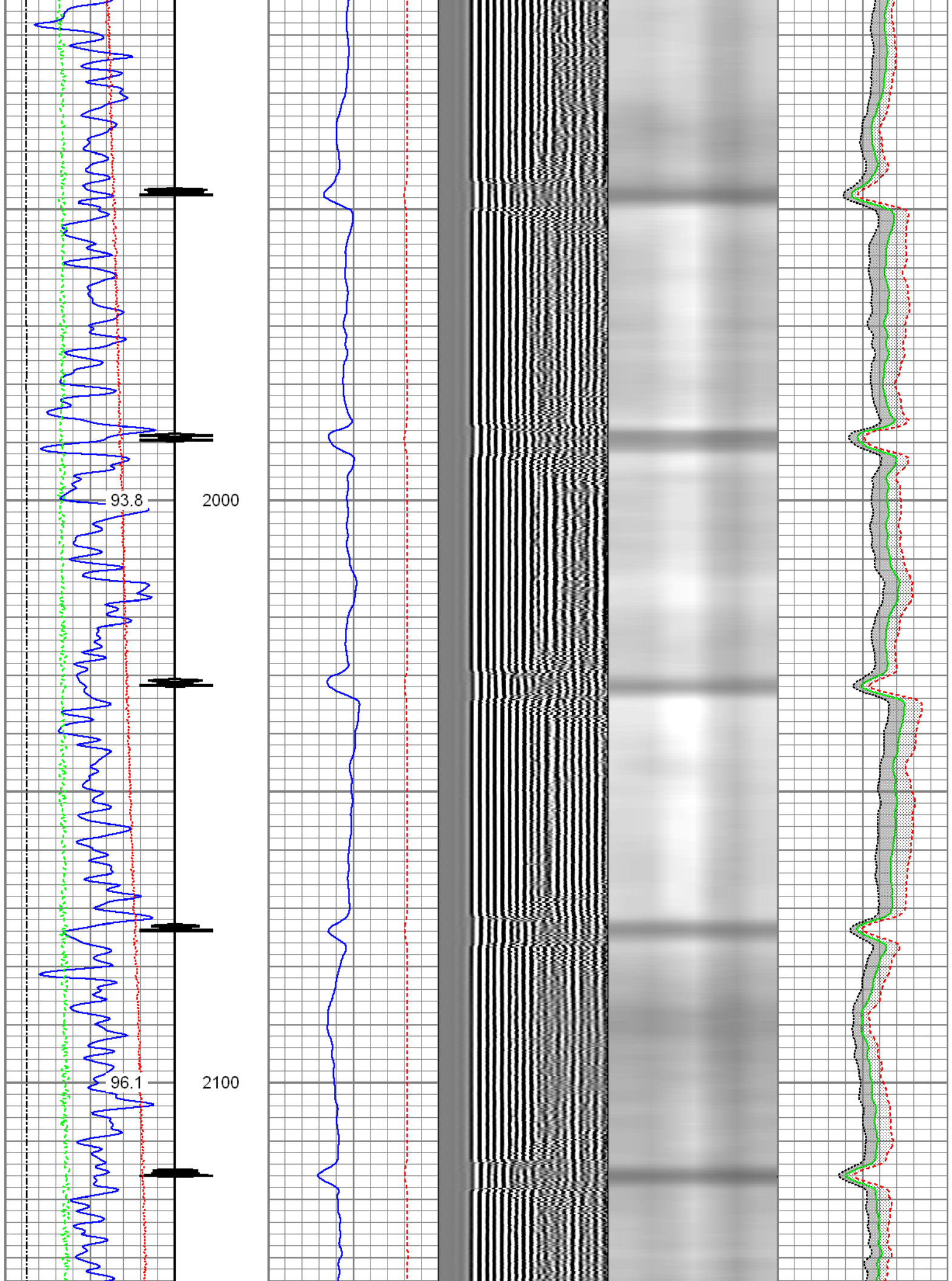


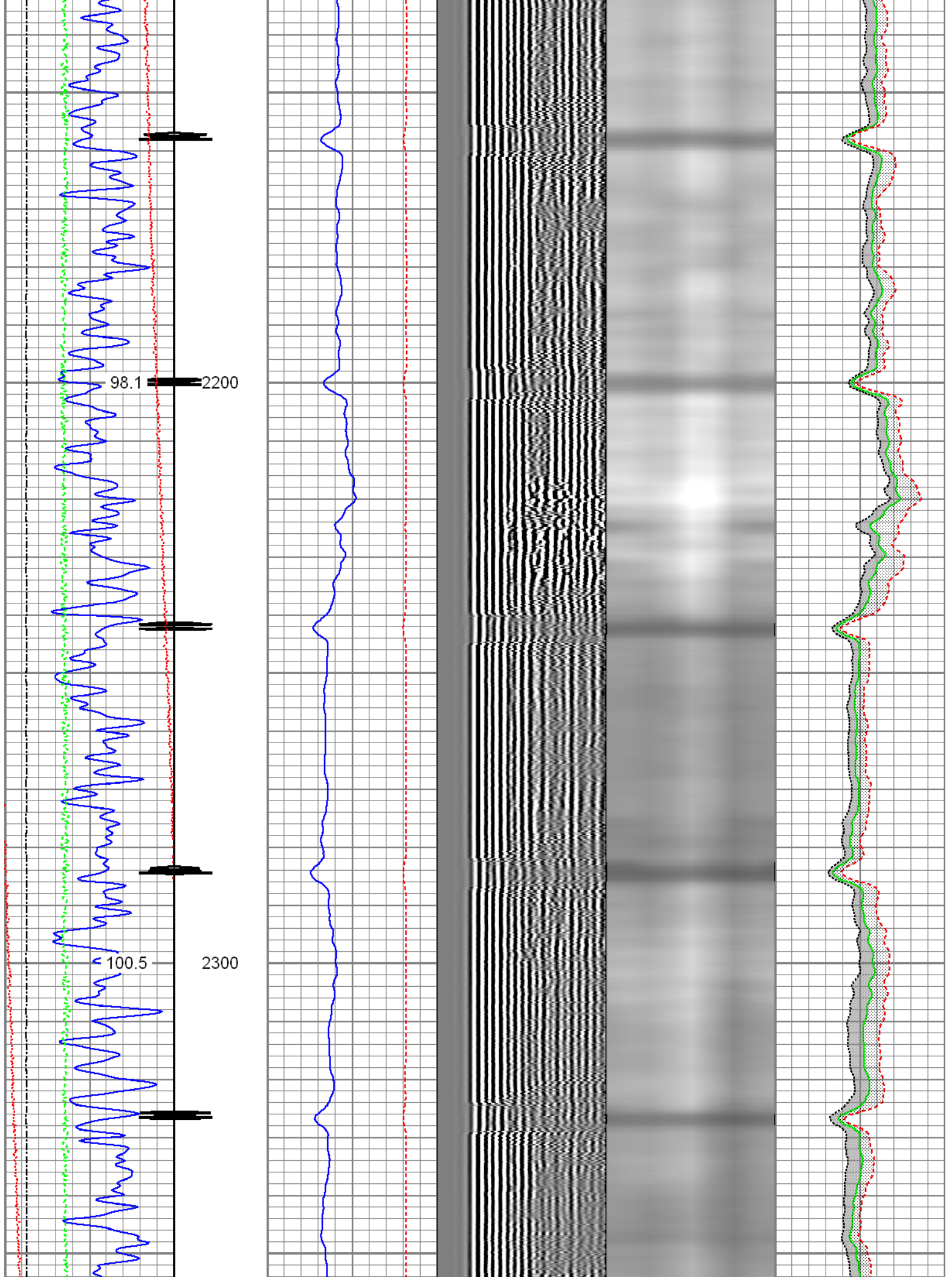


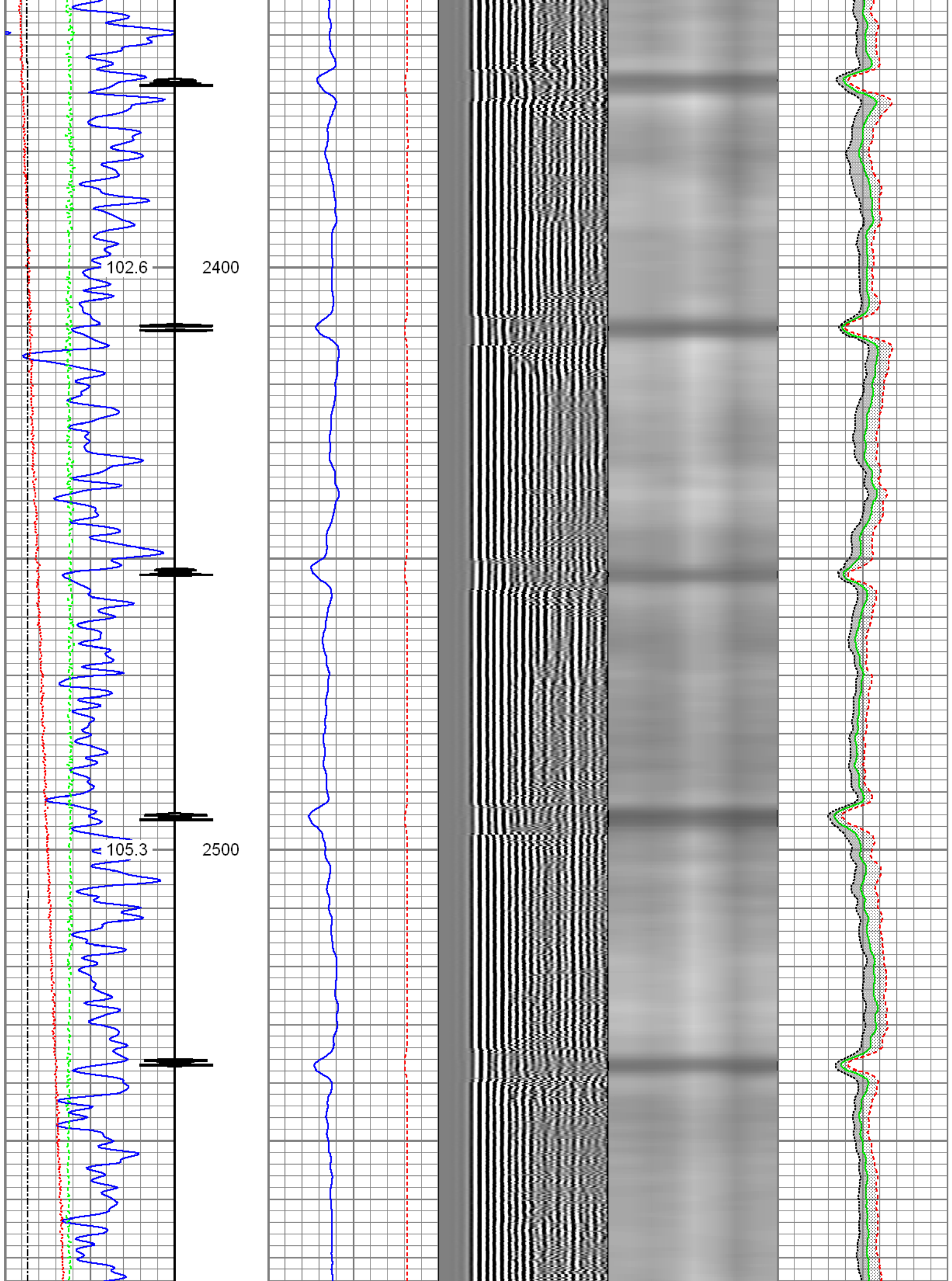


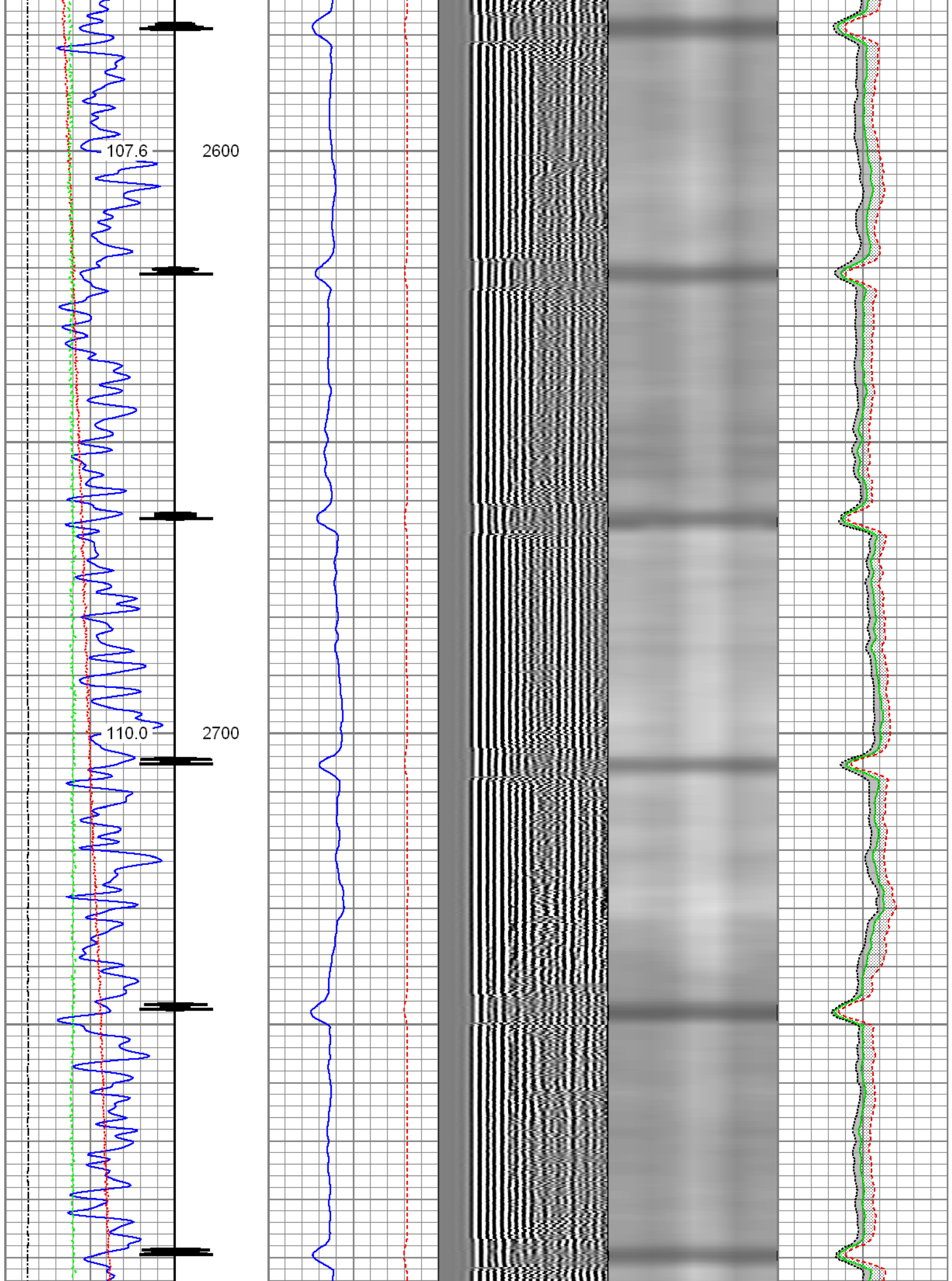


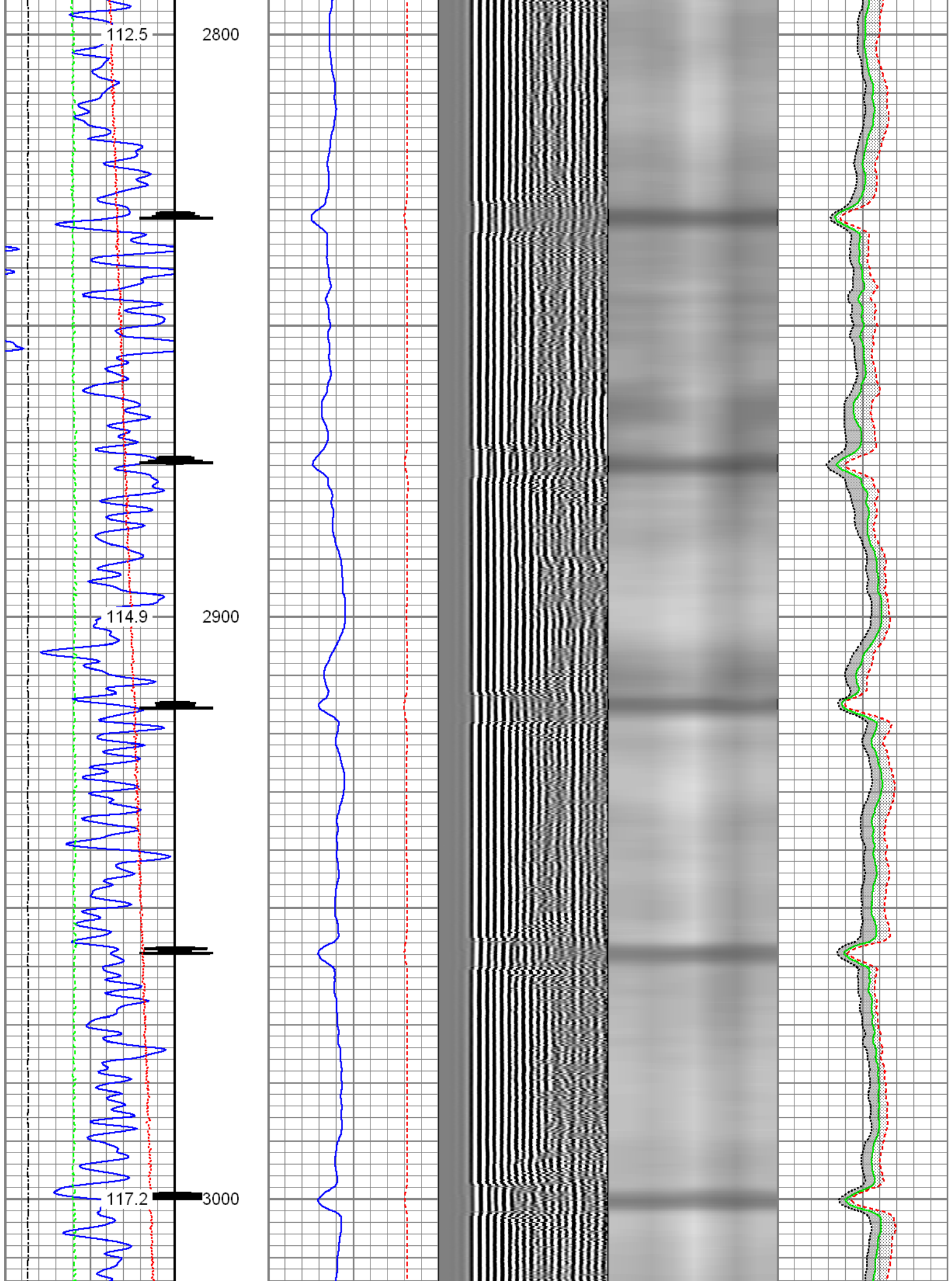


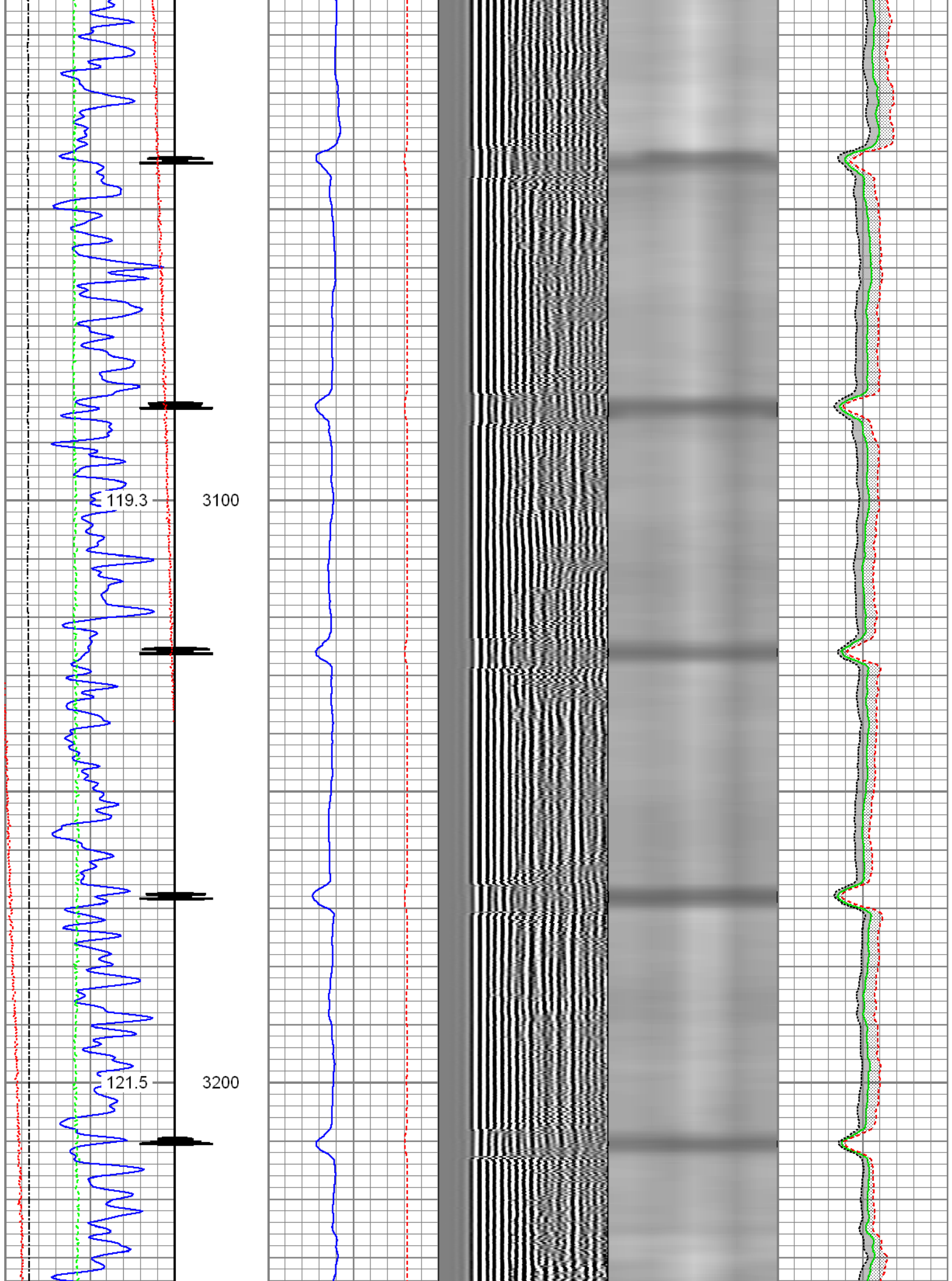


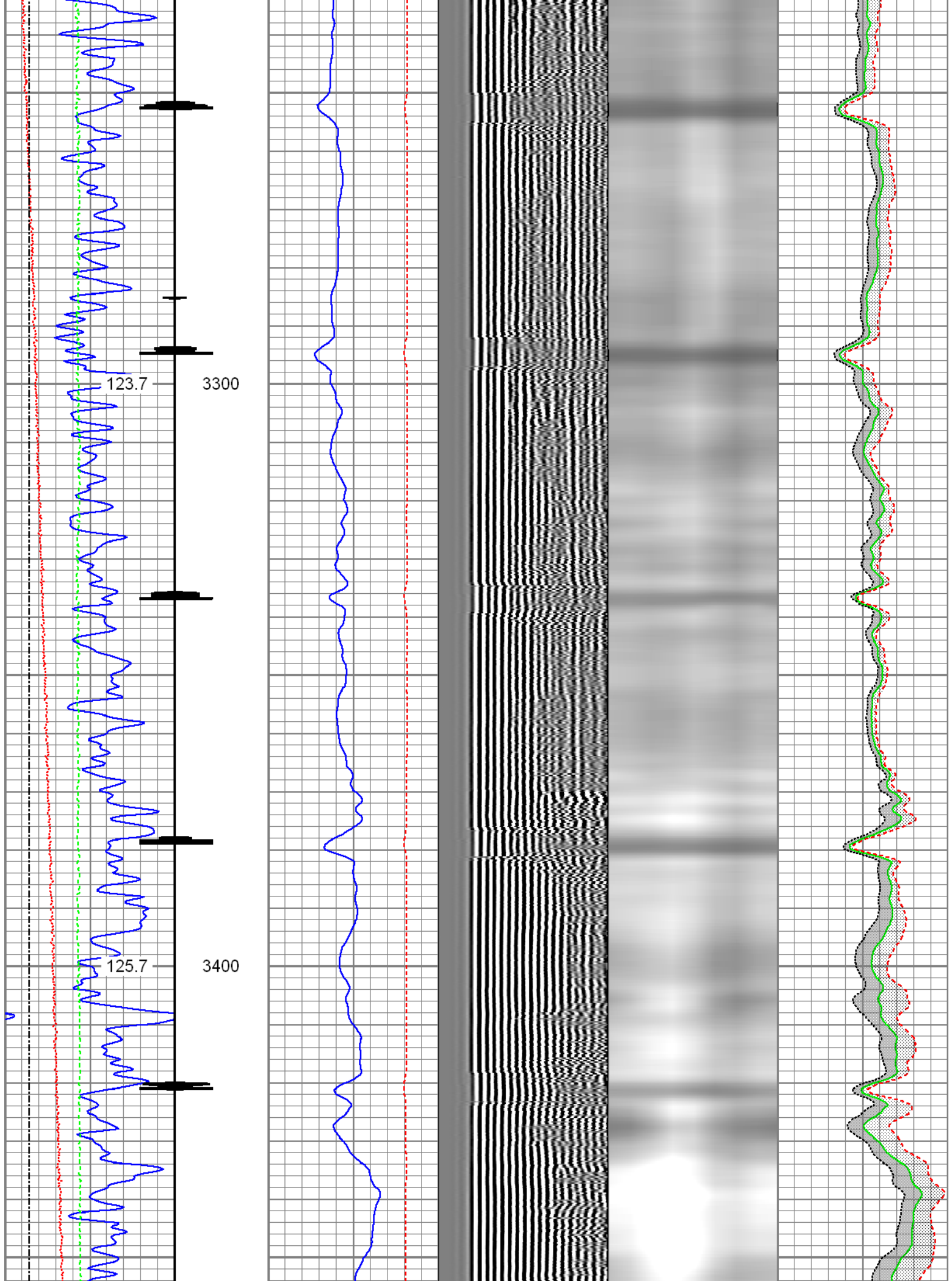


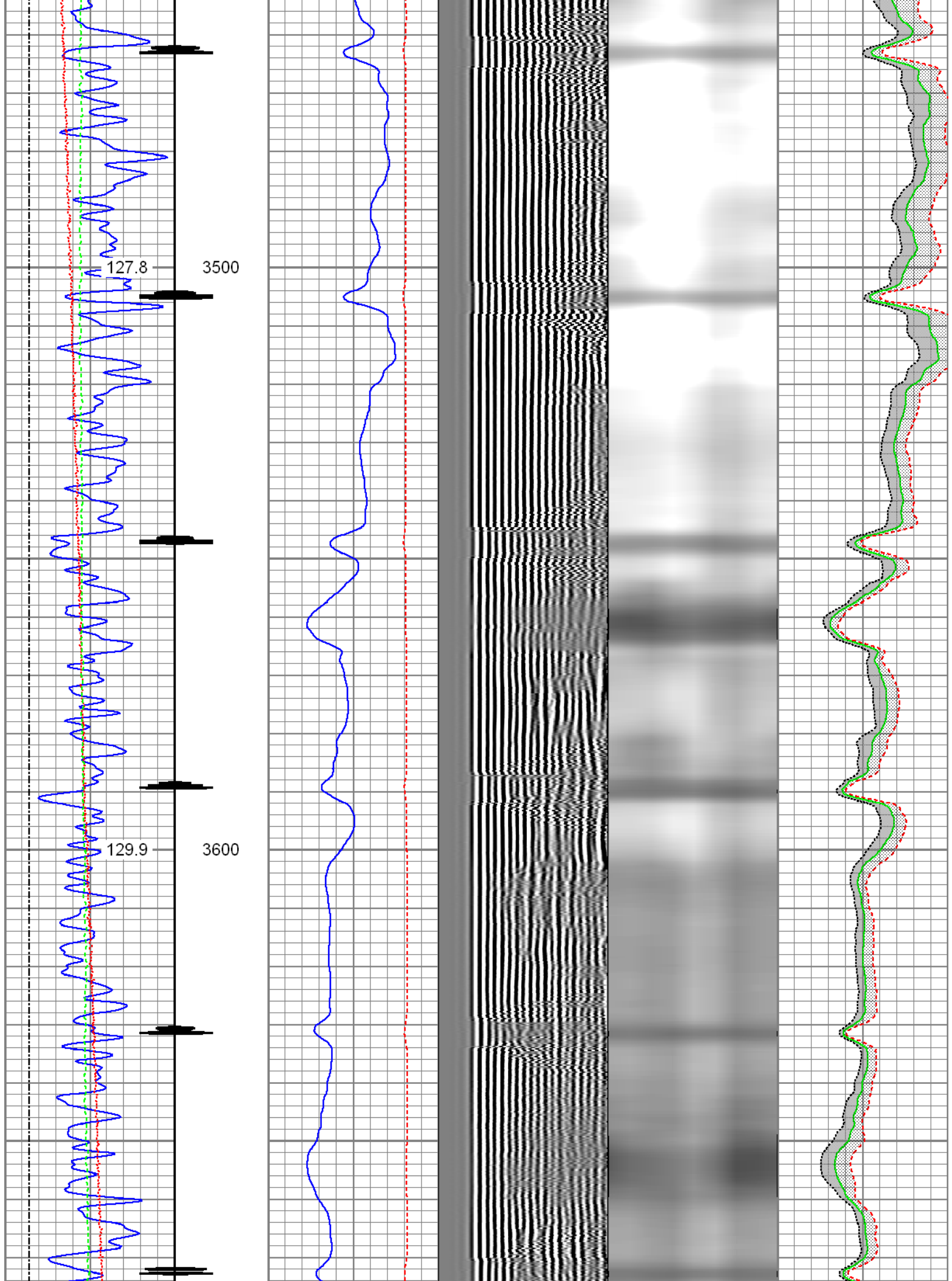


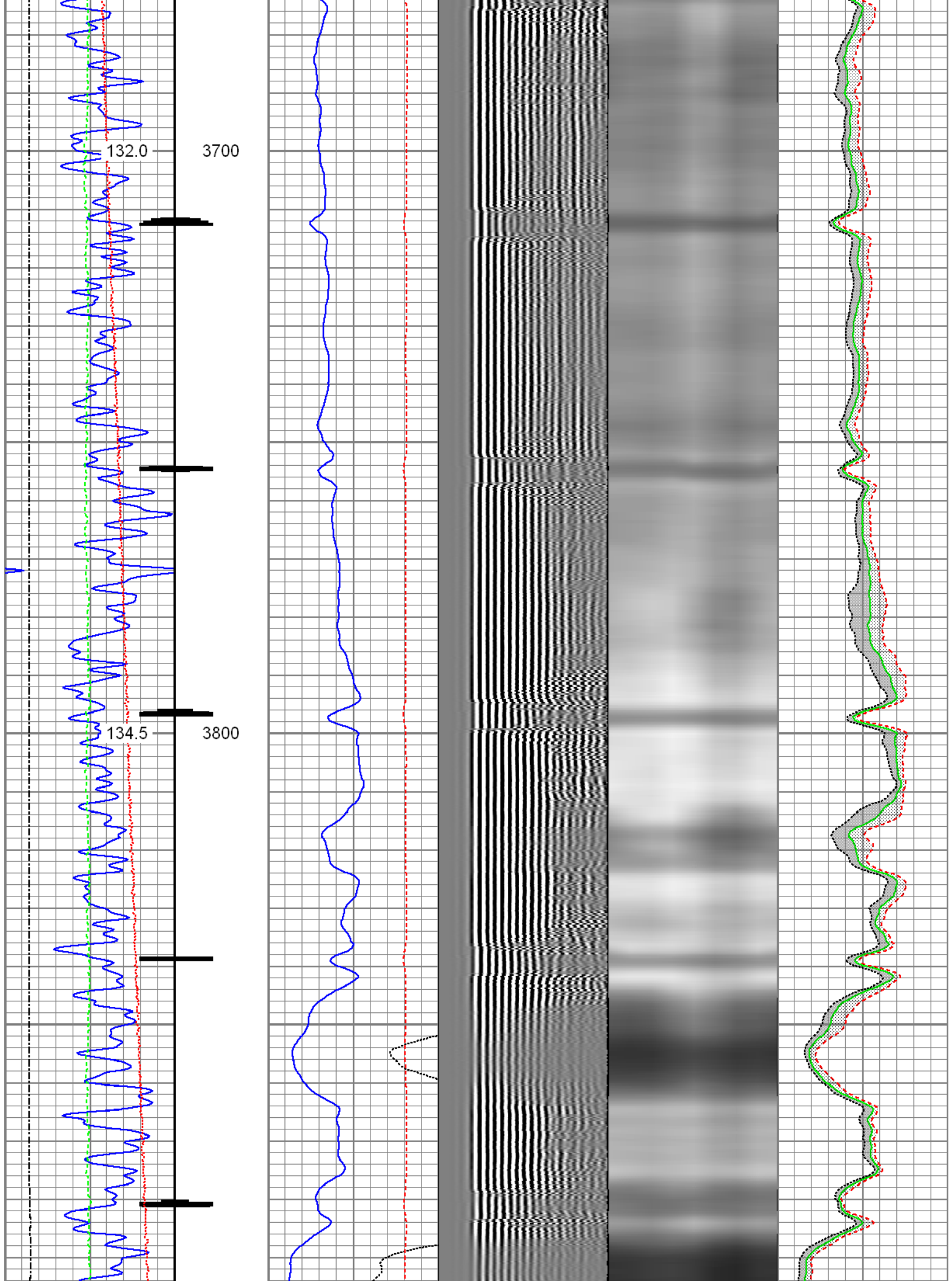


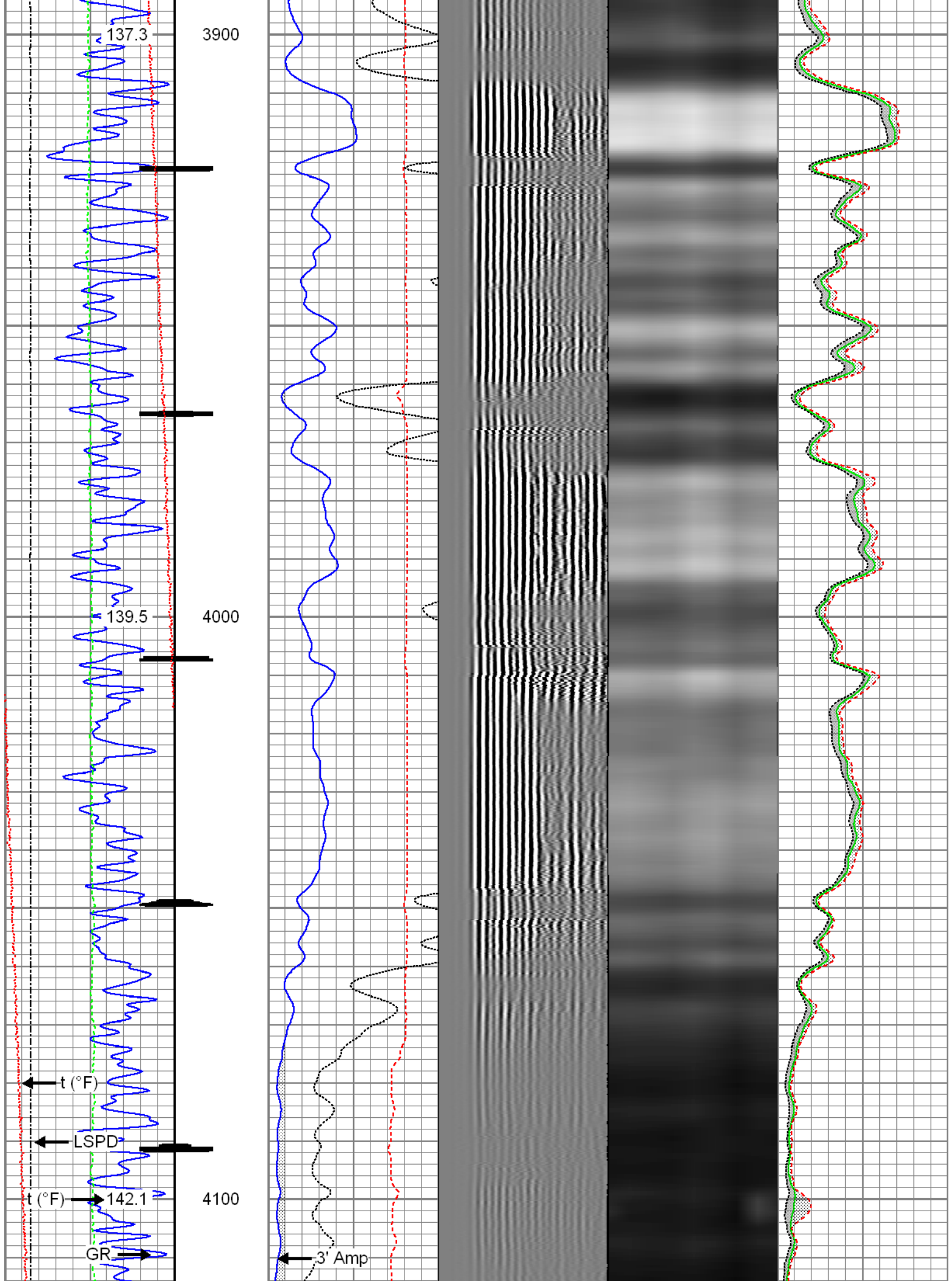


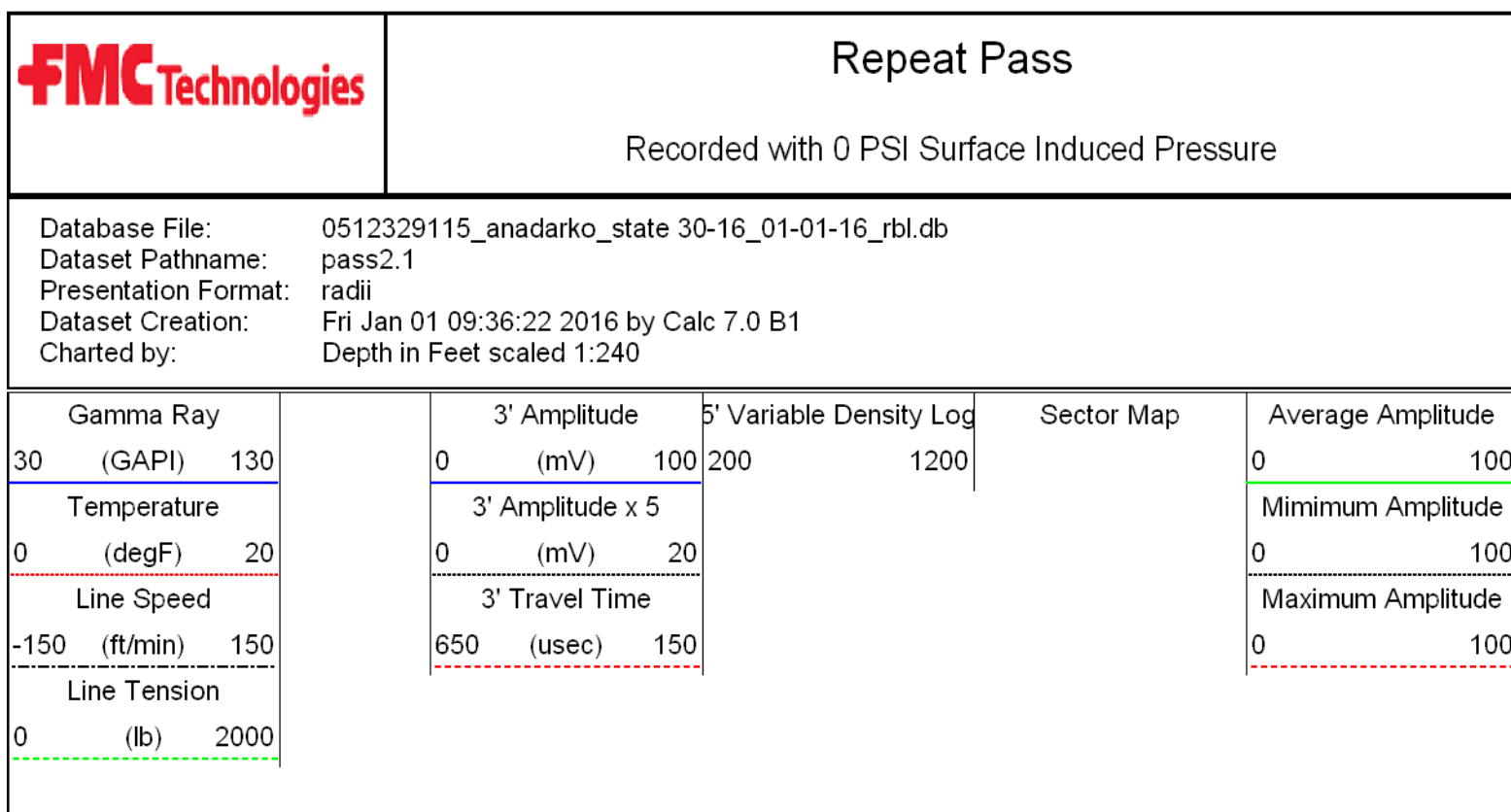
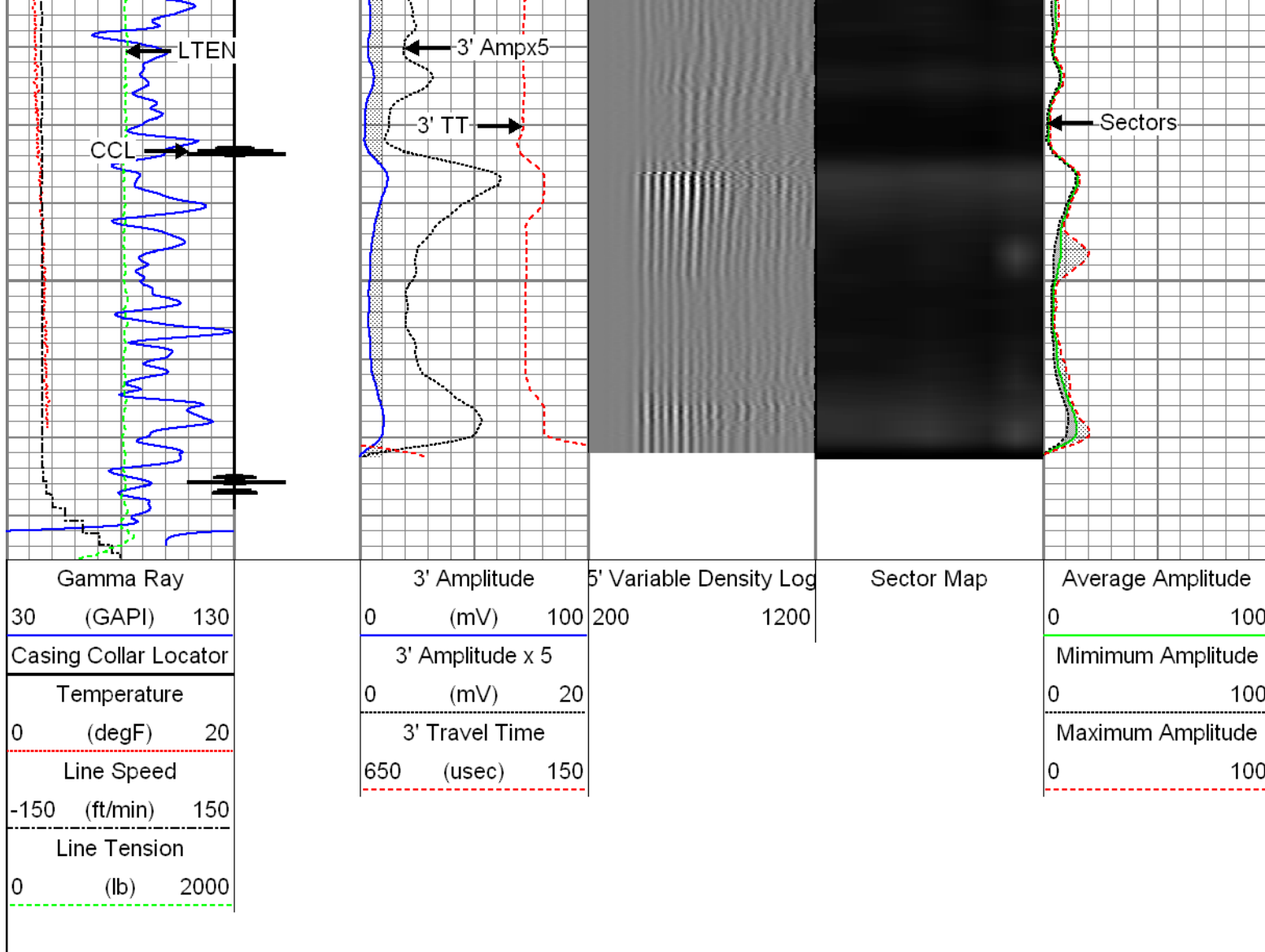


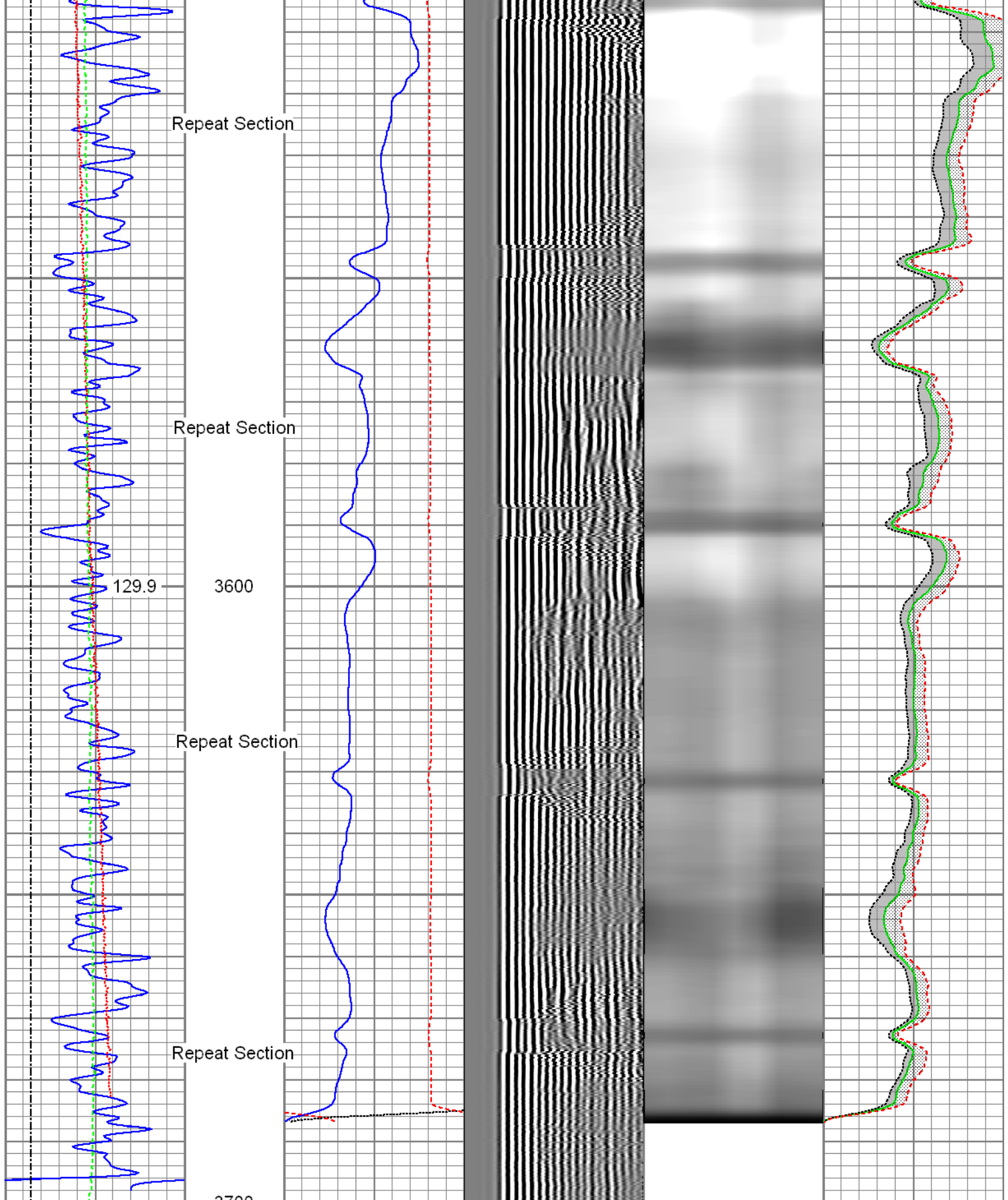















-150	(ft/min)	150	650	(usec)	150	0	100
Line Tension							
0	(lb)	2000					

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" (FW1305-096) 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					
CCL DCCL	6.51	Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00	
	6.51					
		Probe_CCL_GR-2.75"Digital (FW1212-026) 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	

			Centralizer			
	Dataset:	0512329115_Anadarko_State 30-16_01-01-16_RBL.db: field/well/run1/pass2.1				
	Total Length:	23.40 ft				
	Total Weight:	194.00 lb				
	O.D.	2.75 in				

Calibration Report	
Database File:	0512329115_Anadarko_State 30-16_01-01-16_RBL.db
Dataset Pathname:	pass6.1
Dataset Creation:	Fri Jan 01 09:33:49 2016 by Calc 7.0 B1

Gamma Ray Calibration Report		
Serial Number:	FW1212-026	
Tool Model:	2.75"Digital	
Performed:	Wed Dec 23 16:53:47 2015	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6700	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW1305-096	
Tool Model:	2-3/4"	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	7.000	ft

Master Calibration, performed Fri Jan 01 09:33:44 2016:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.005	0.571	0.800	81.196	142.154	0.027
CAL	0.771	0.783				
5'	0.008	0.504	0.800	81.196	161.990	-0.435
SUM						
S1	0.001	0.539	0.000	100.000	186.052	-0.247
S2	0.006	0.542	0.000	100.000	186.606	-1.121
S3	0.005	0.566	0.000	100.000	178.222	-0.865
S4	0.006	0.623	0.000	100.000	161.884	-0.907
S5	0.005	0.697	0.000	100.000	144.573	-0.709
S6	0.006	0.686	0.000	100.000	147.030	-0.855
S7	0.005	0.606	0.000	100.000	166.511	-0.878
S8	0.006	0.554	0.000	100.000	182.433	-1.070

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	0.771	0.783	1.000	0.000

Air Zero Calibration, performed Fri Jan 01 08:00:30 2016:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.005	0.000	0.000
5'	0.008	0.000	-0.000
SUM			
S1	0.002	0.000	0.000
S2	0.005	0.000	0.000
S3	0.005	0.000	0.000
S4	0.006	0.000	0.000
S5	0.005	0.000	0.000
S6	0.006	0.000	0.000
S7	0.006	0.000	-0.000
S8	0.006	0.000	-0.001



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	State 30-16
Field	Wattenberg
County	Weld
State	Colorado