



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company				Whiting Oil & Gas Corporation			
Well				Razor 27K-3406B			
Field				Wildcat			
County				Weld			
State				Colorado			
Location:				API # : 05-123-37708			
Permanent Datum				SHL: 2322' FSL 1947' FWL			
Log Measured From				Lat/Long: 40.808594/-103.853714			
Drilling Measured From				SEC 27 TWP 10N RGE 58W			
Ground Level				Elevation 4749'			
Kelly Bushing				16.8 FT			
Kelly Bushing				K.B. 4765.8'			
				D.F. 4764'			
				G.L. 4749'			
Date				September 24, 2013			
Run Number				One			
Depth Driller				12382 FT			
Depth Logger				4800 FT			
Bottom Logged Interval				4800 FT			
Top Log Interval				Surface			
Open Hole Size				8.750"			
Type Fluid				Water			
Density / Viscosity				8.34 lbm/gal			
Max. Recorded Temp.				188 F			
Estimated Cement Top				760 FT			
Time Well Ready				ROA			
Time Logger on Bottom				----			
Equipment Number				HD-0134			
Location				Fort Lupton, CO			
Recorded By				Ryan Harris			
Witnessed By				Bryan Olmstead			
Borehole Record				Tubing Record			
Run Number				Bit			
From				To			
Size				Weight			
From				To			
Casing Record				Size (in)			
Surface Casing				Wgt (lbs/Ft)			
Intermediate #1				36#			
Intermediate #2				29#			
Liner				4-1/2"			
				11.6#			
				L-80			
				4867 FT			
				12382 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

Radial Cement Bond Log is first recorded log in hole.  
Log correlated to 16.8' KB @ ground level.  
Run RCBL from just above RBP to surface.  
RCBL logged with 1500 PSI surface induced pressure.  
Estimated Top of Cement 760'

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



Main Pass: 1500 Psi

Database File: 05-123-37708\_whiting\_razor 27k-3406b\_rcbl\_09-24-13.db

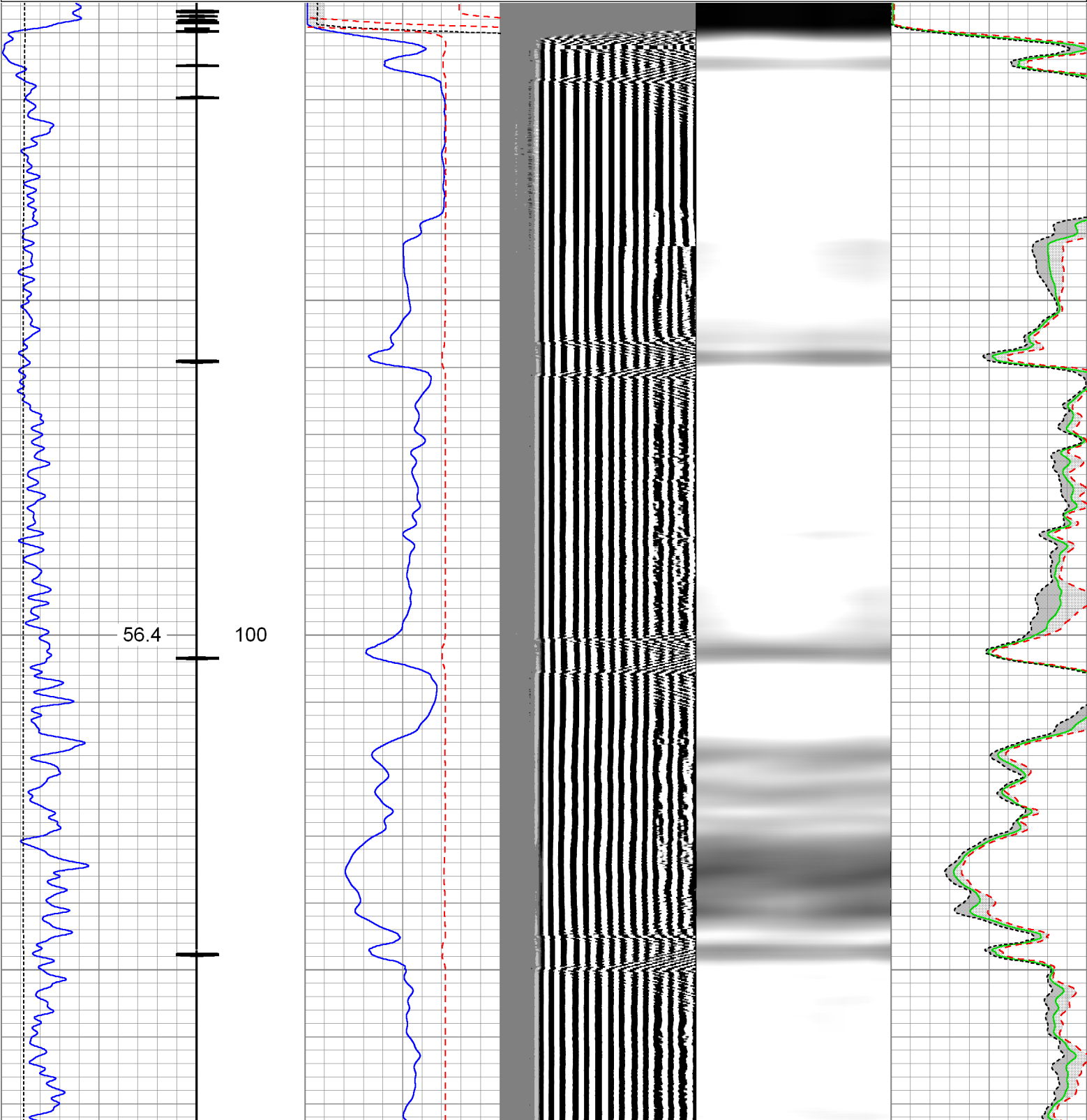
Dataset Pathname: main

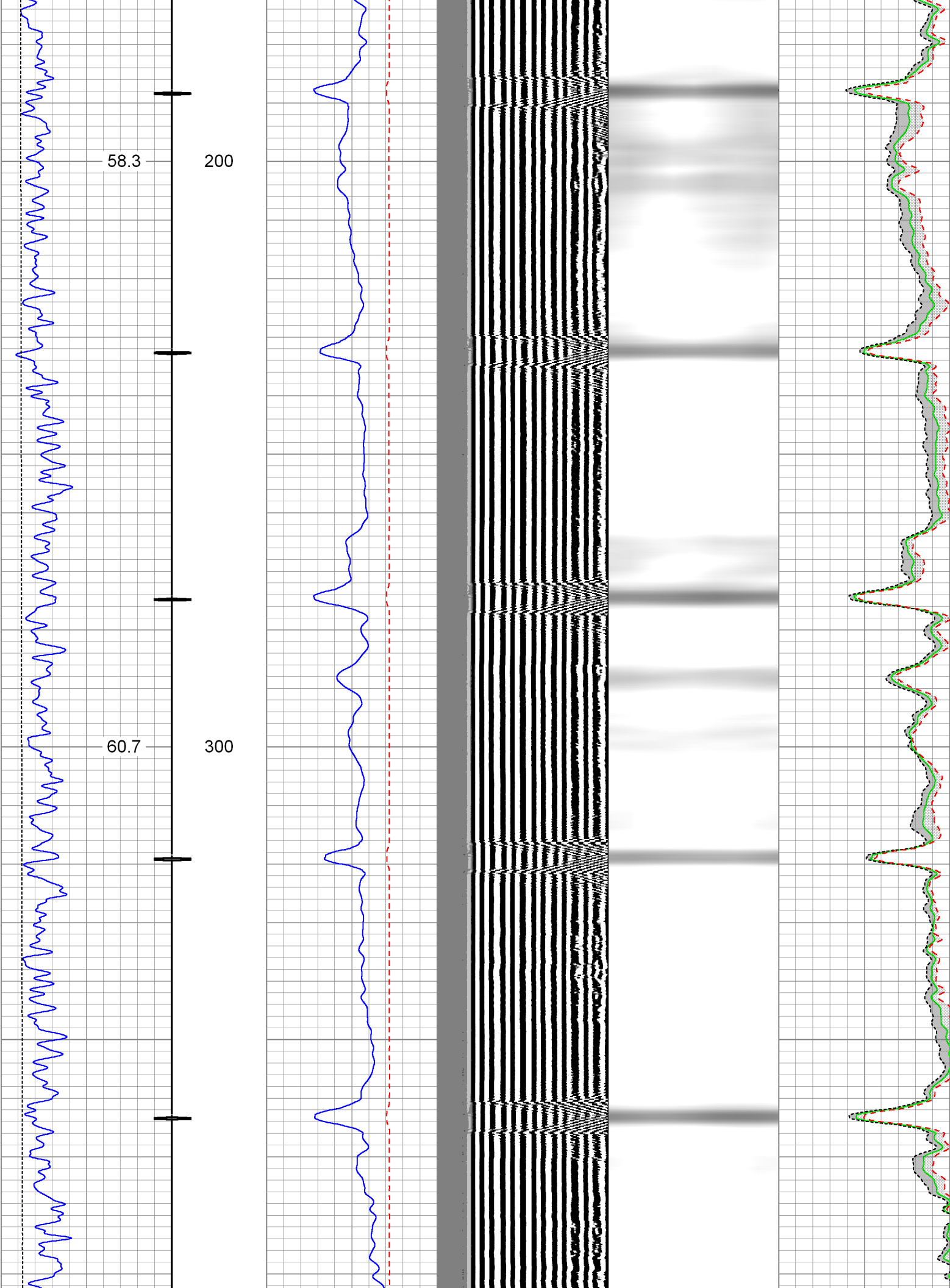
Presentation Format: rbt007

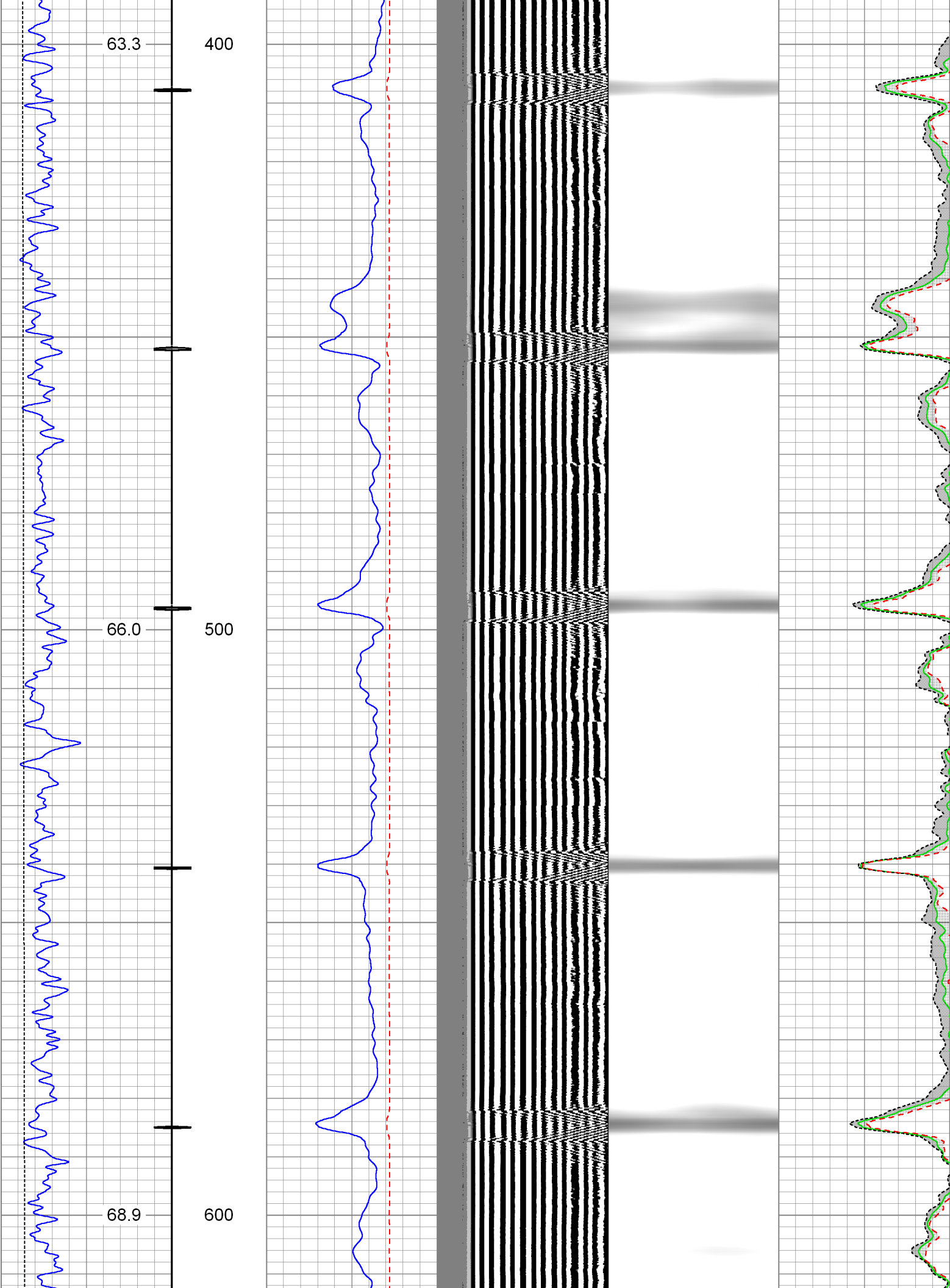
Dataset Creation: Tue Sep 24 10:57:22 2013 by Log SCH 111116

Charted by: Depth in Feet scaled 1:240

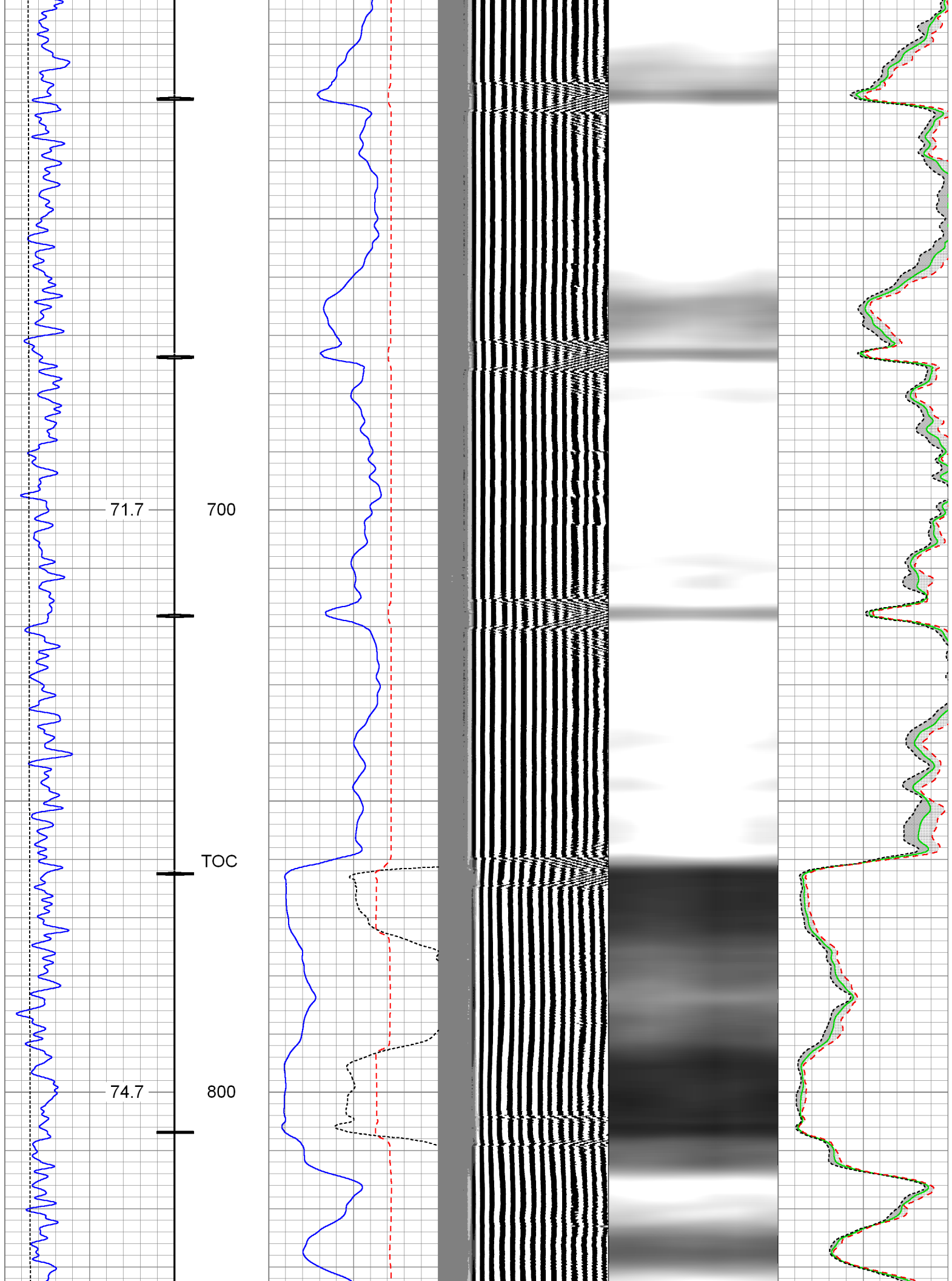
Gamma Ray	0 CCL 10	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200		0 (mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Mimimum Amplitude
0 TEMP (degF)500		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

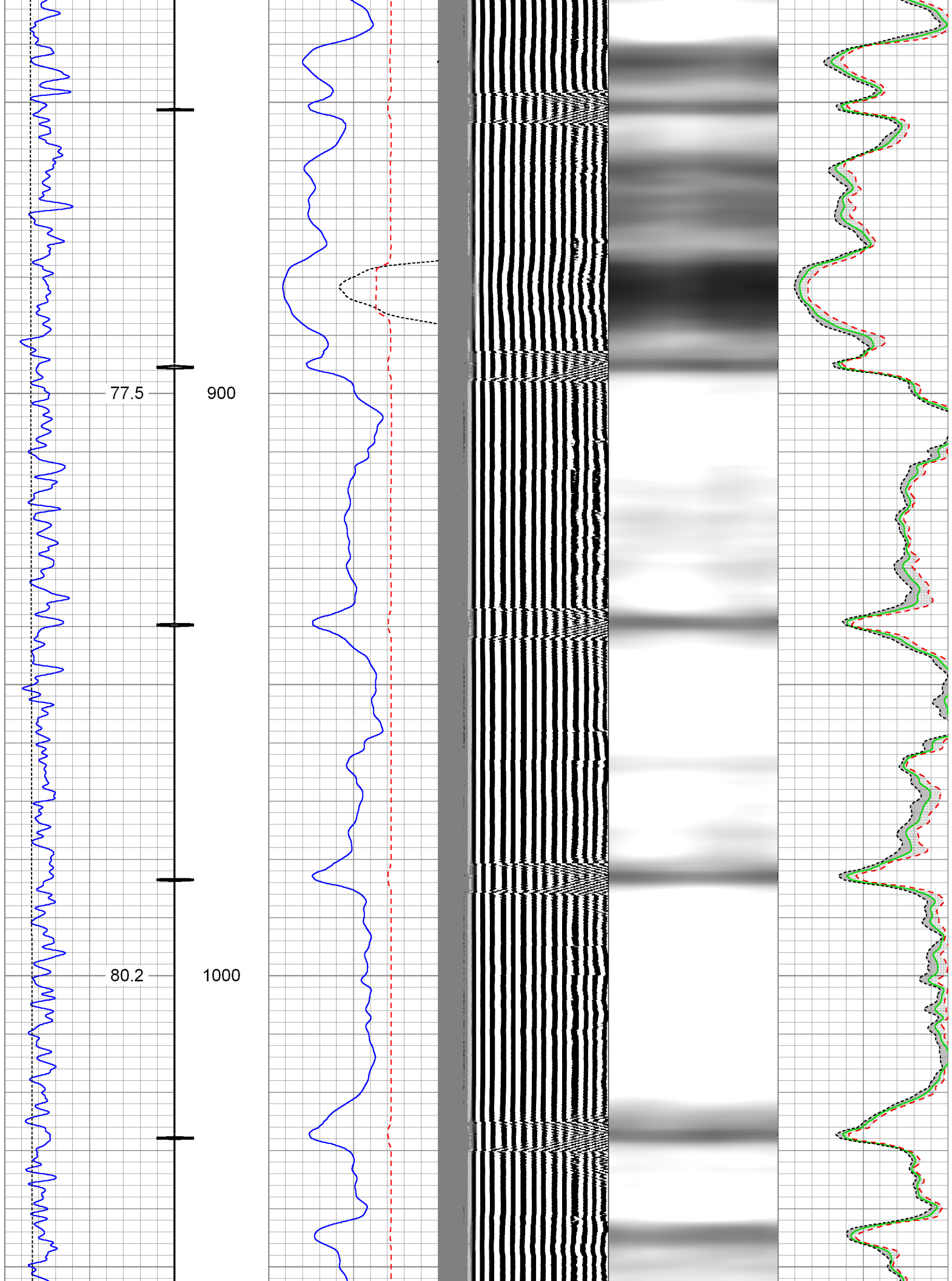


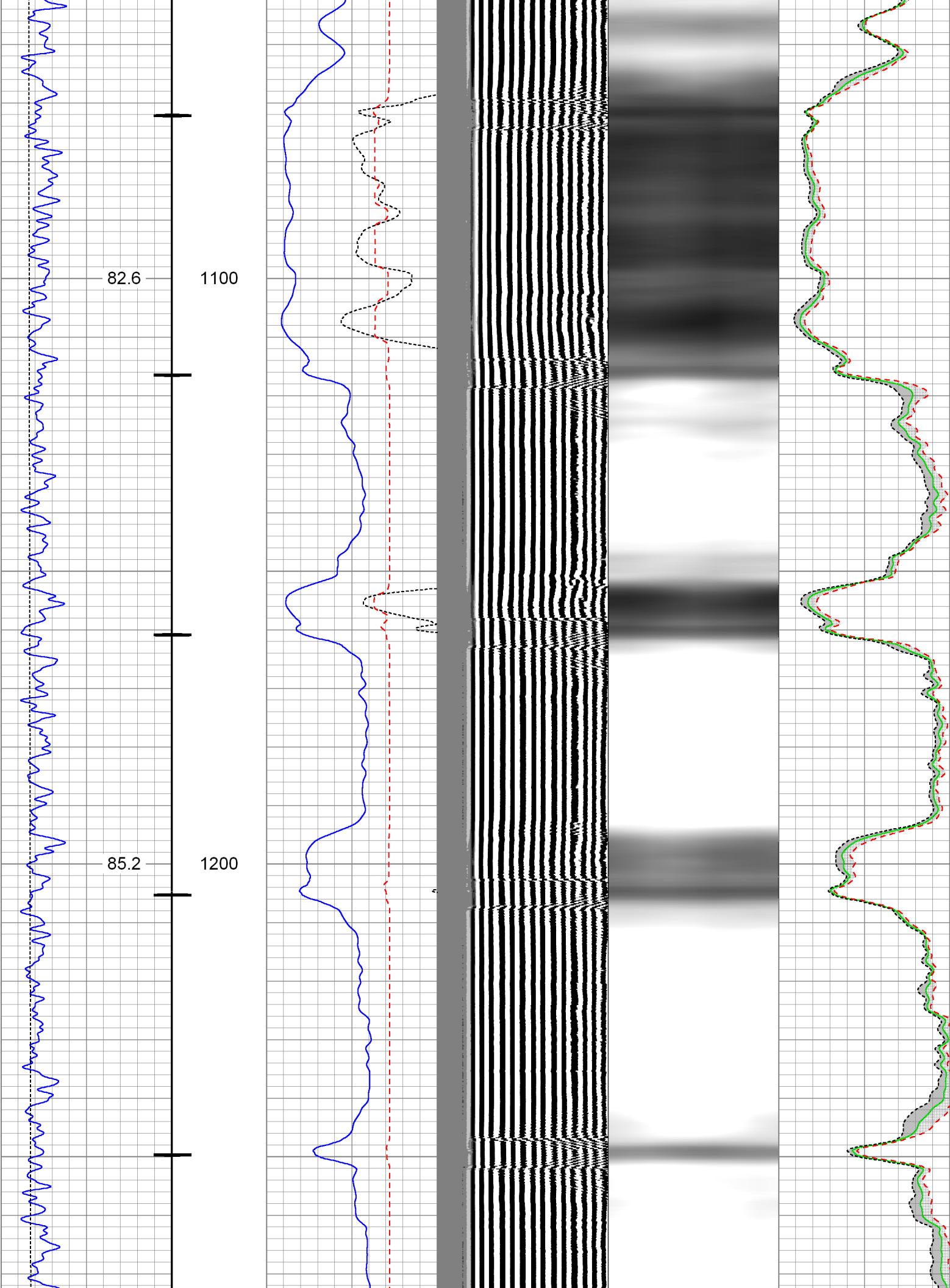


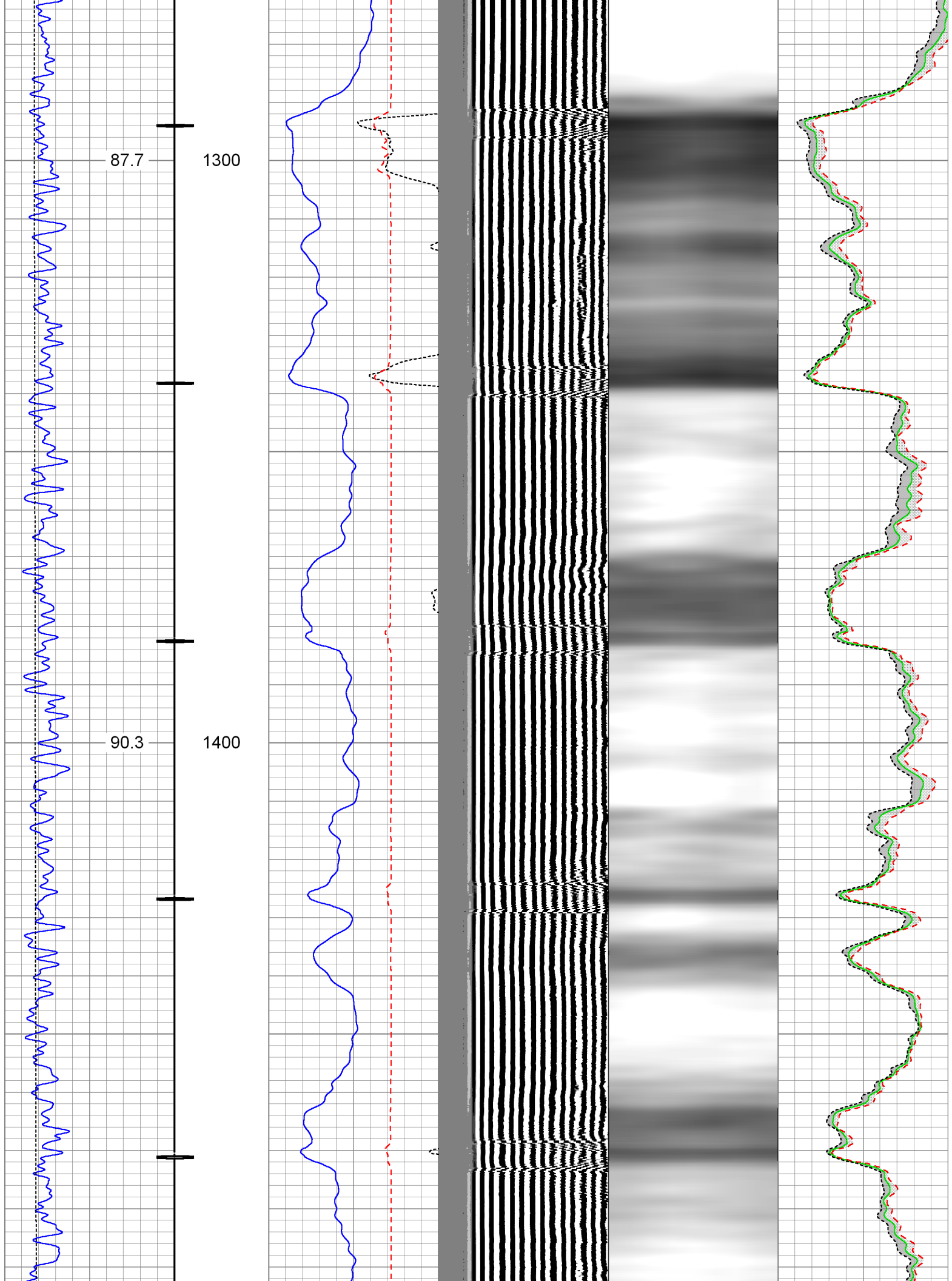


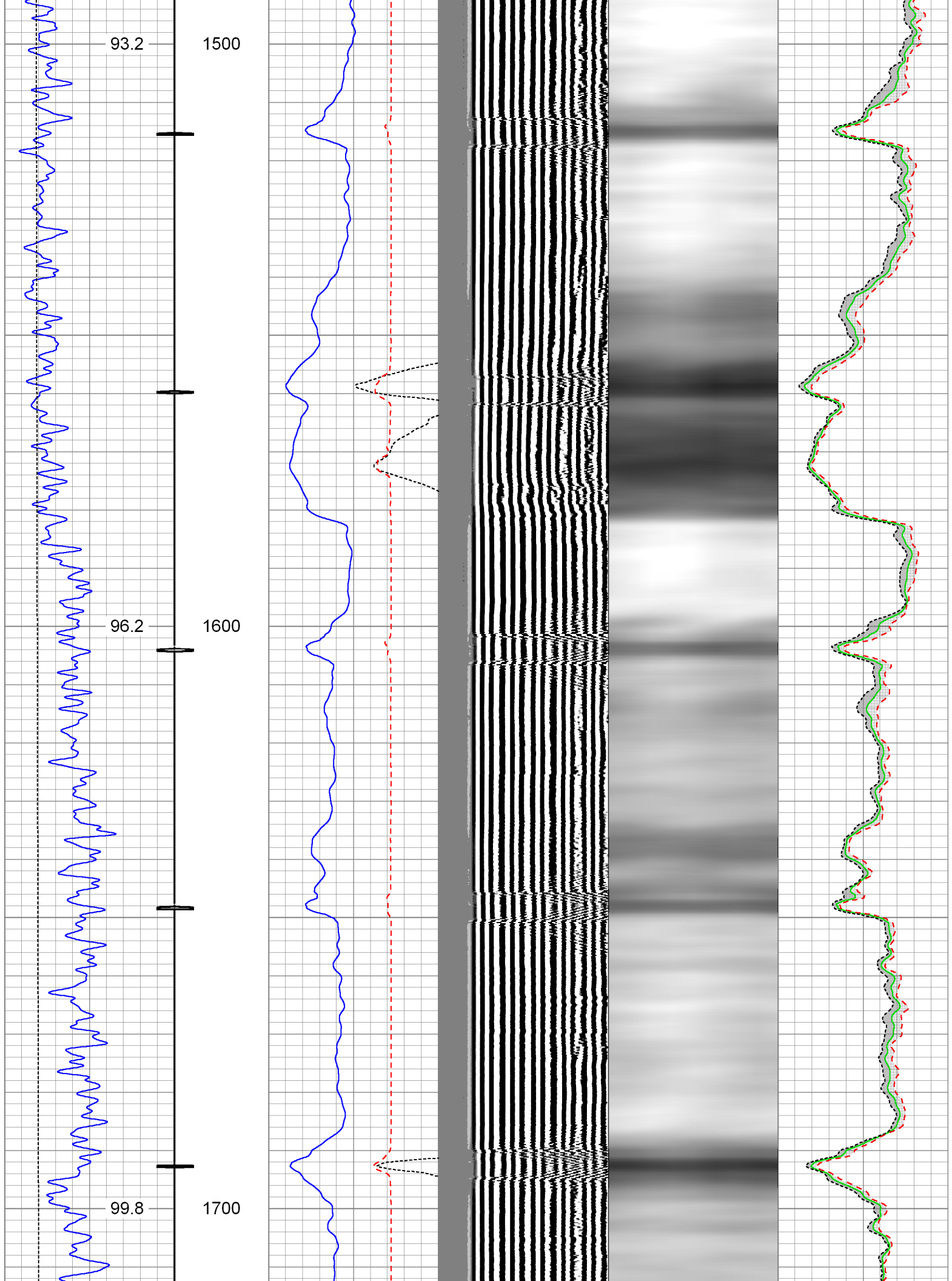




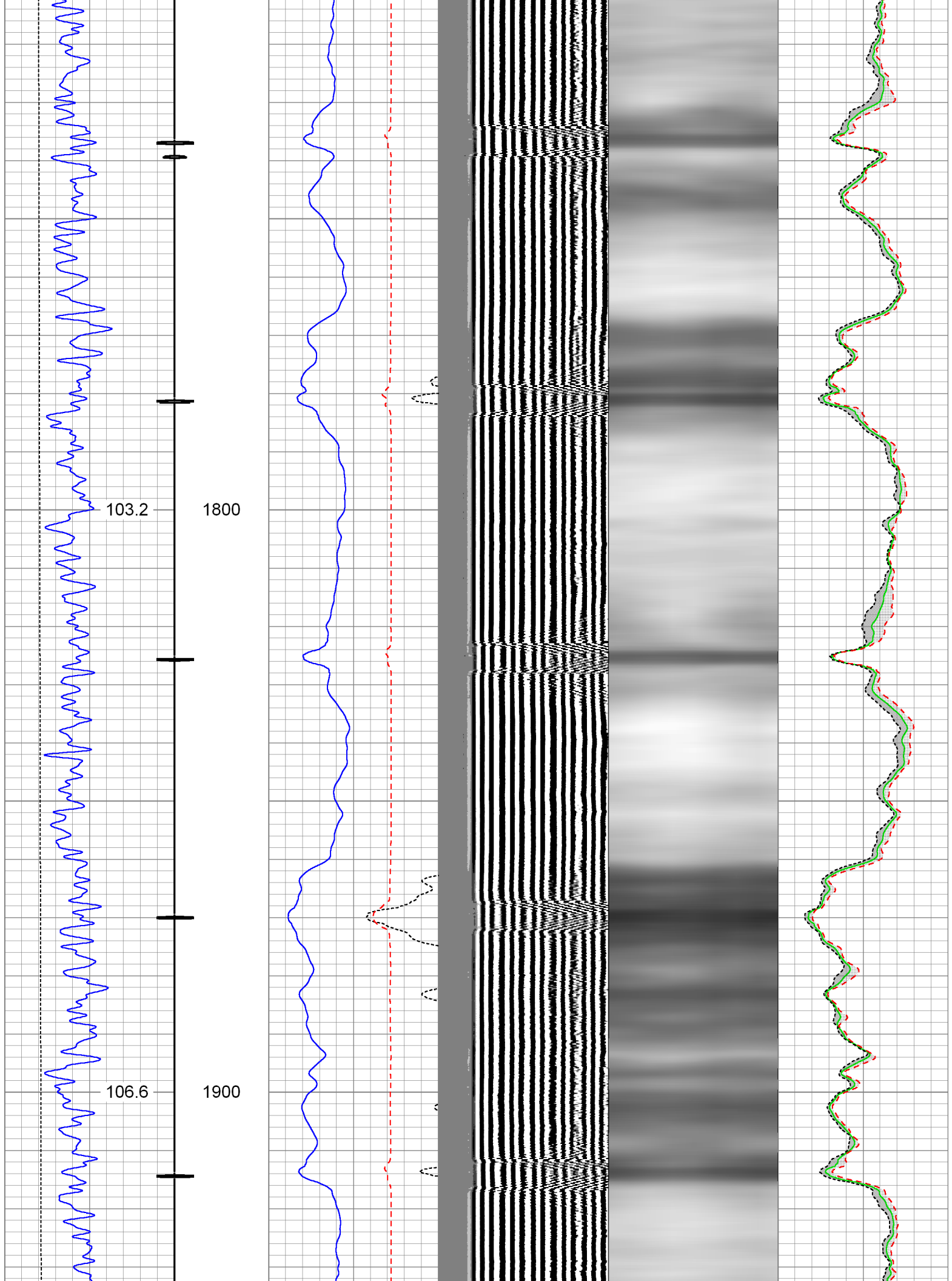




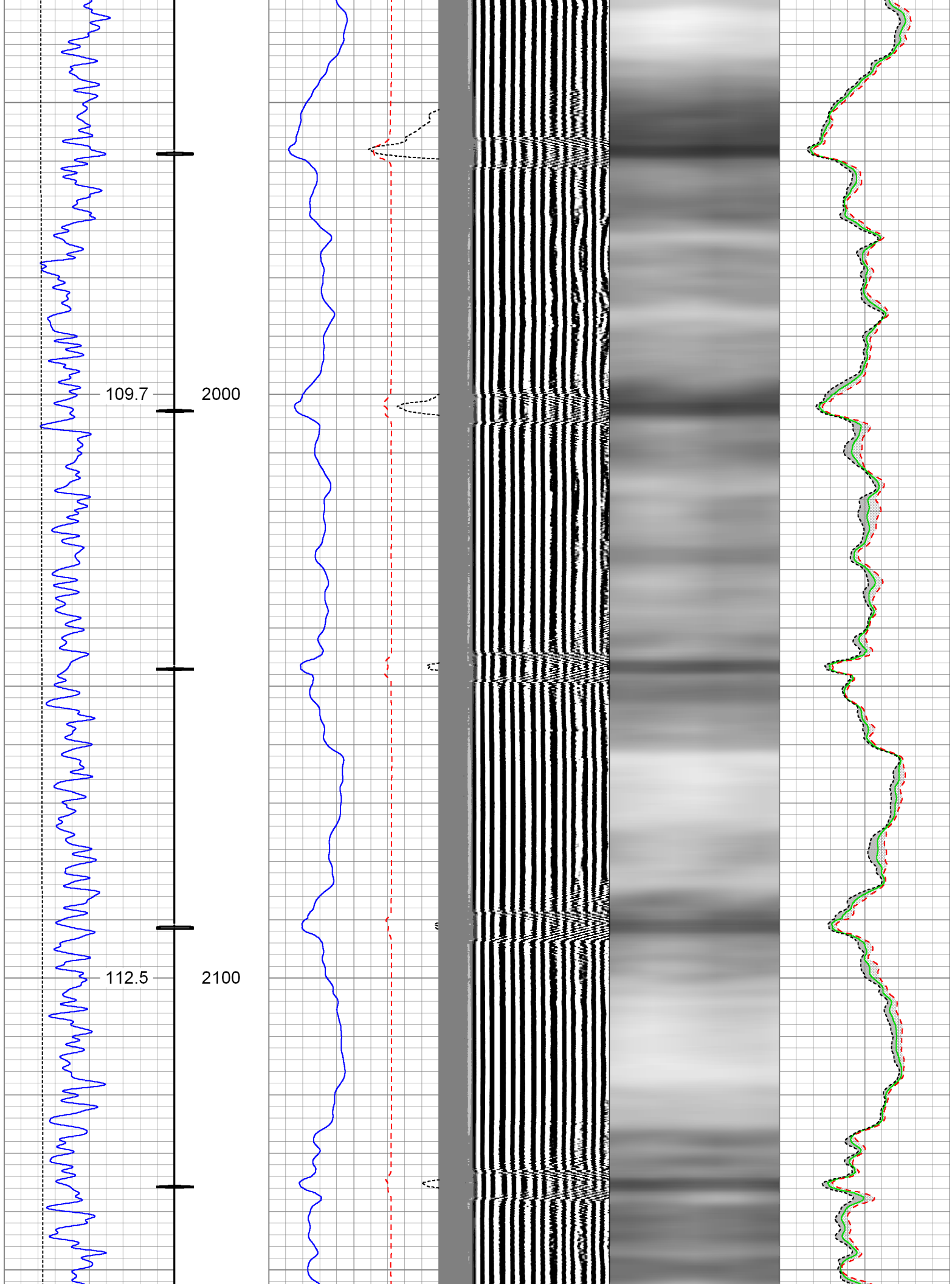


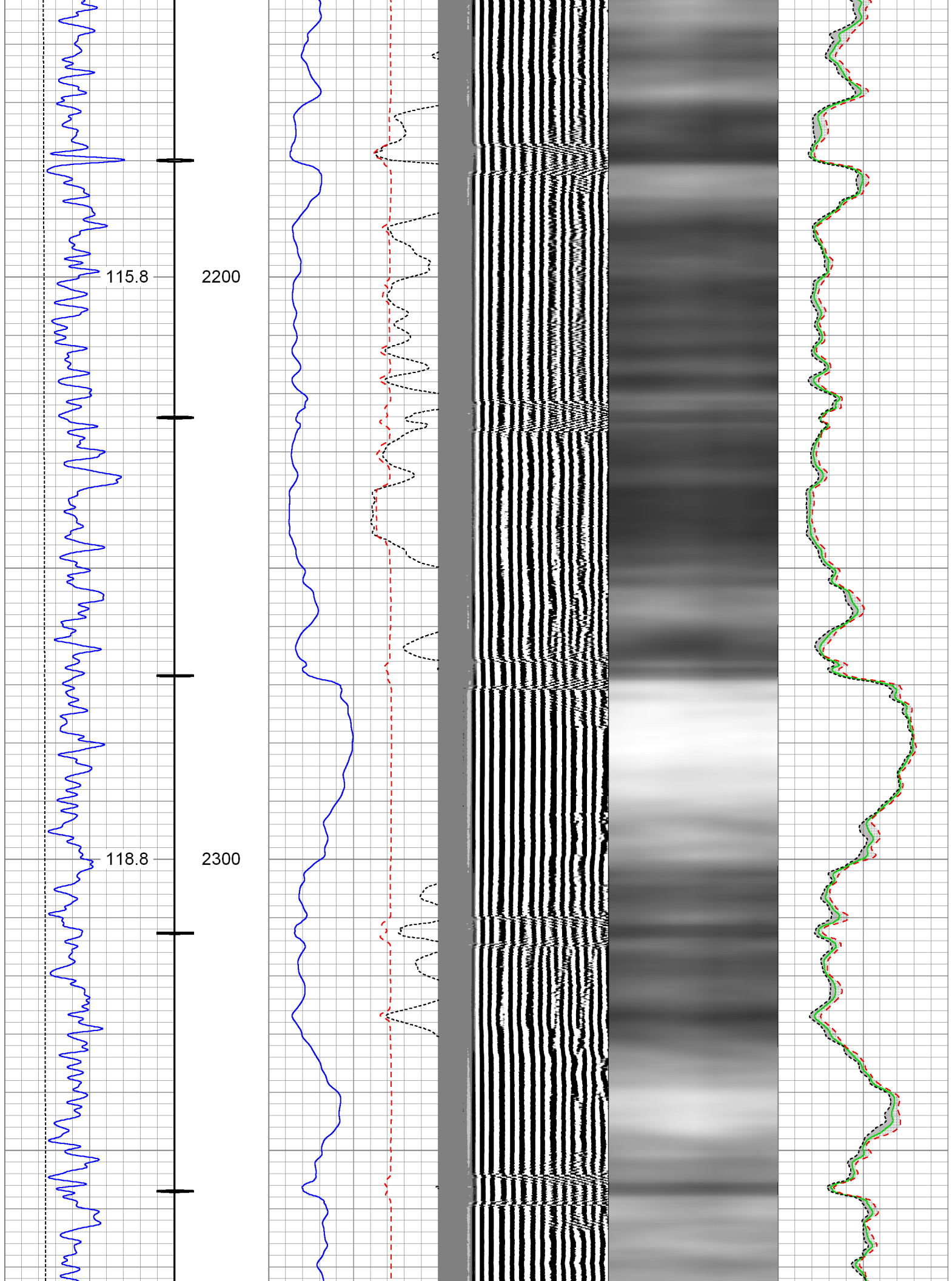


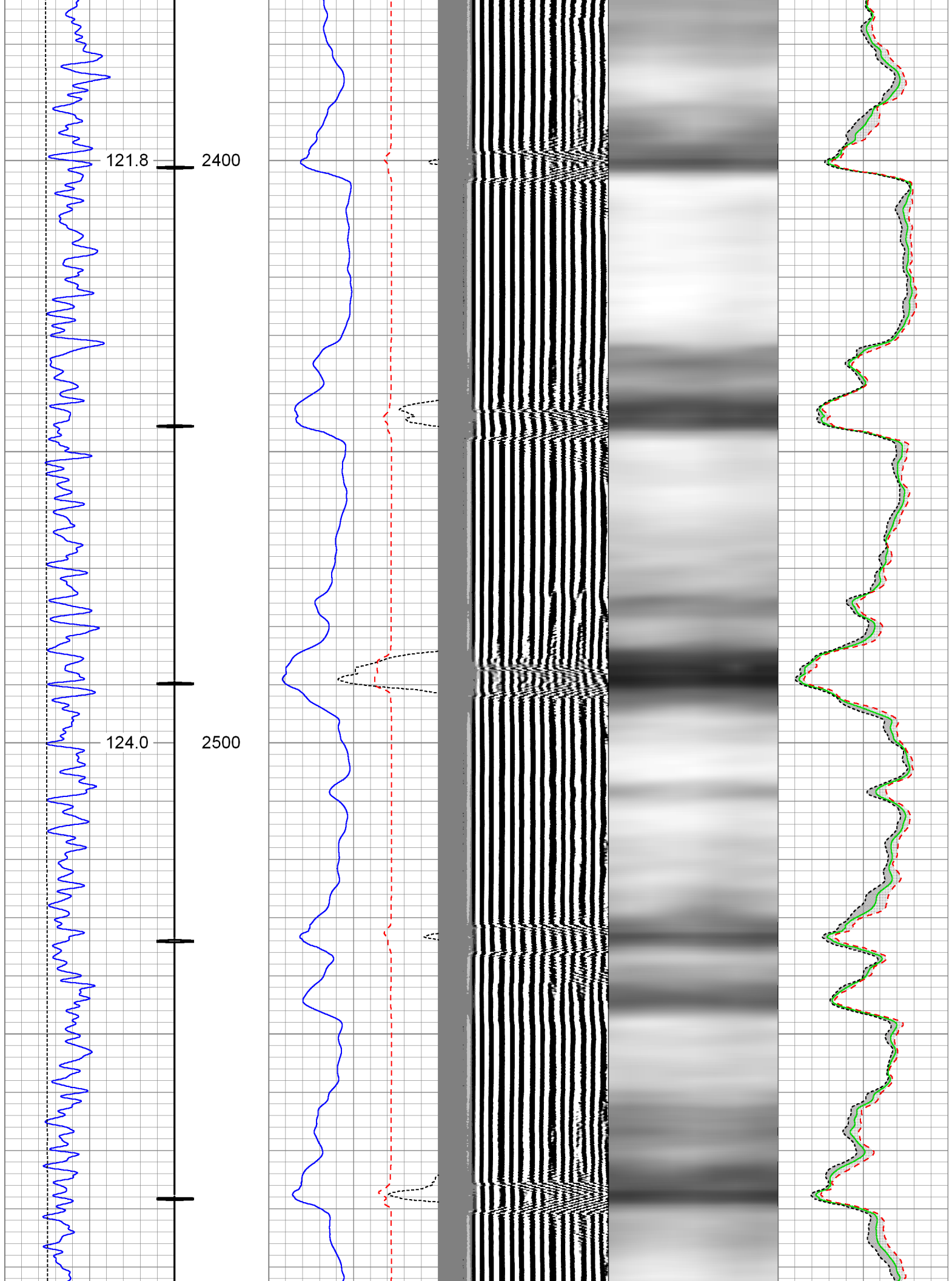


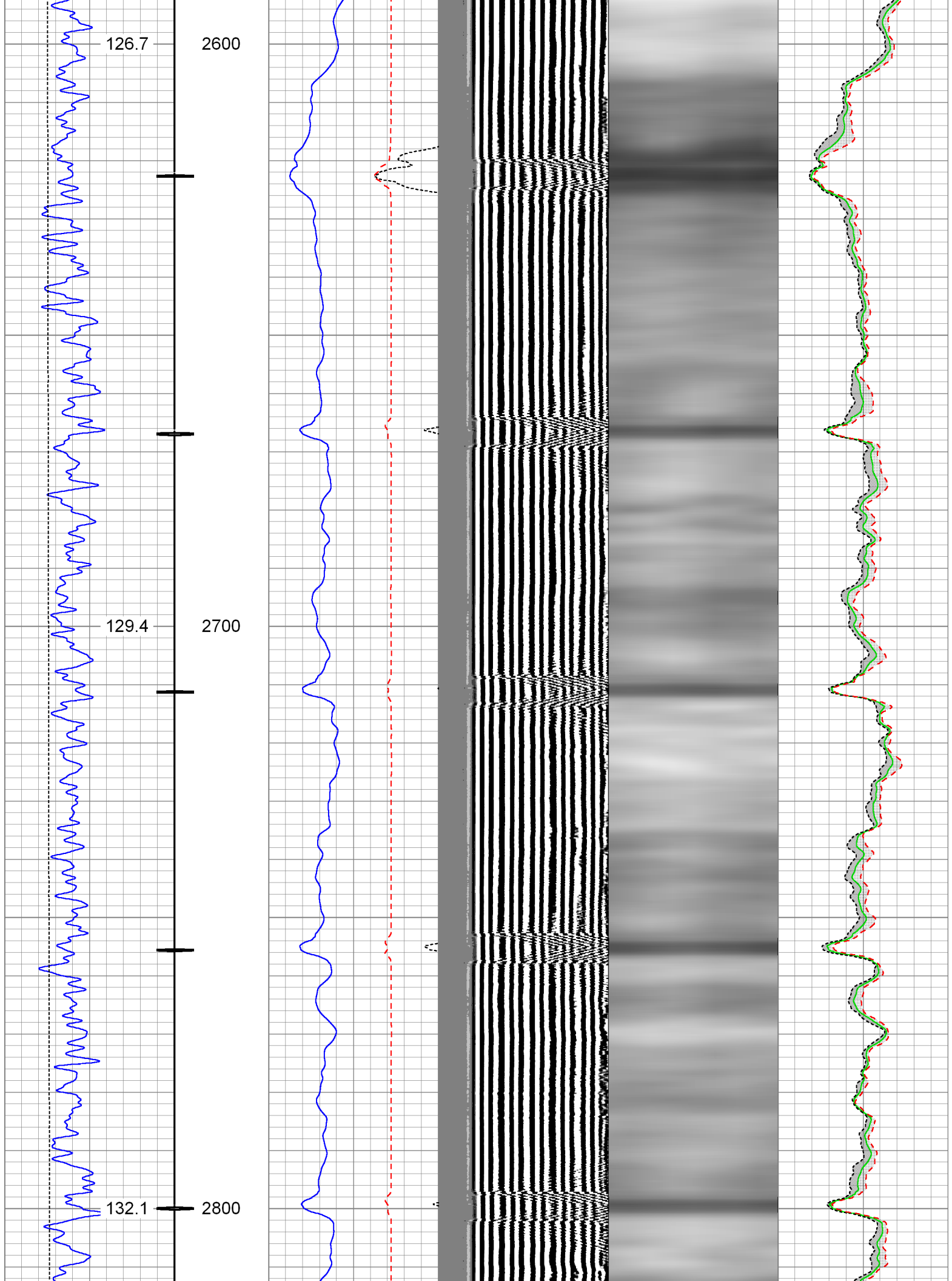


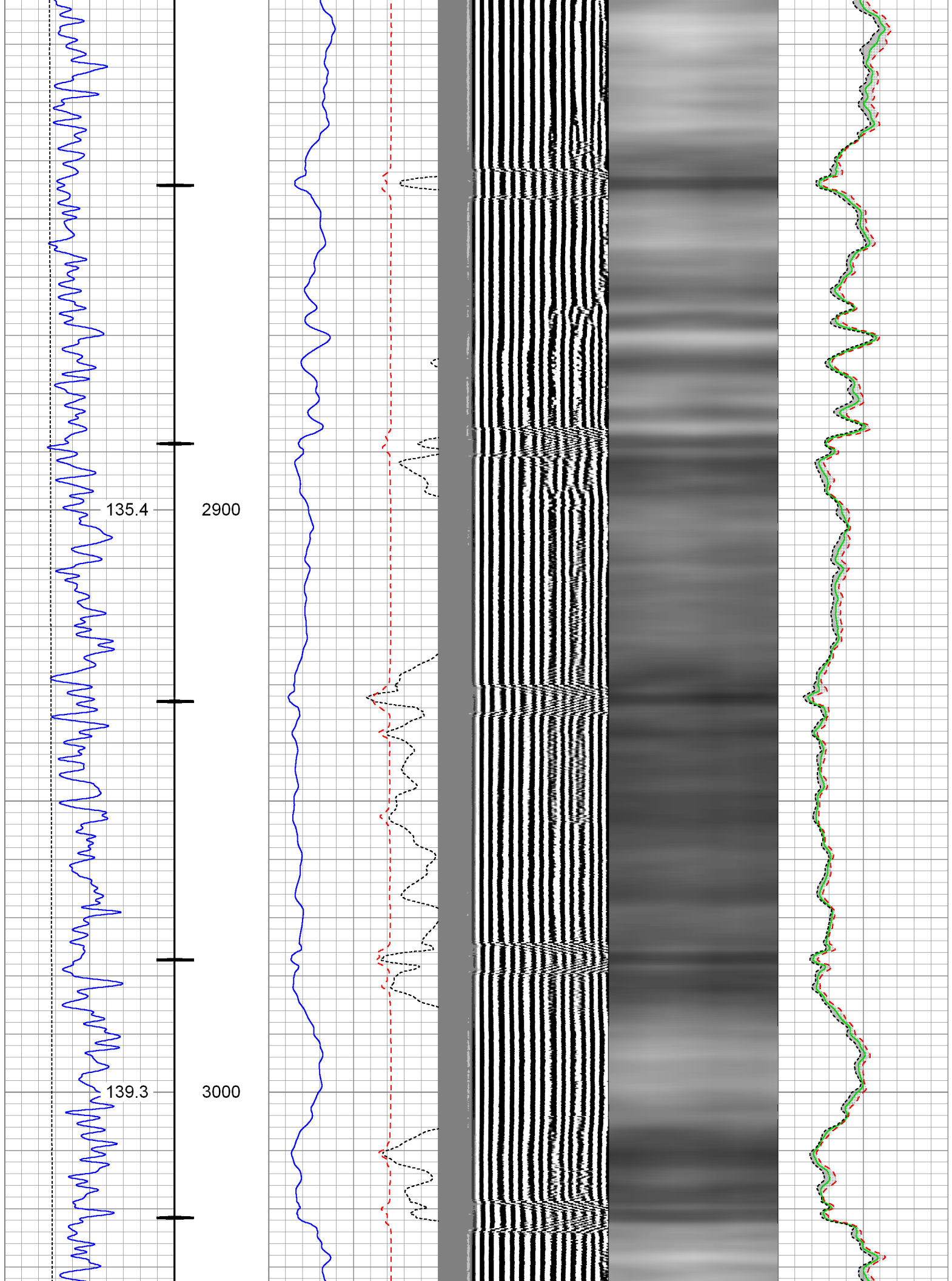




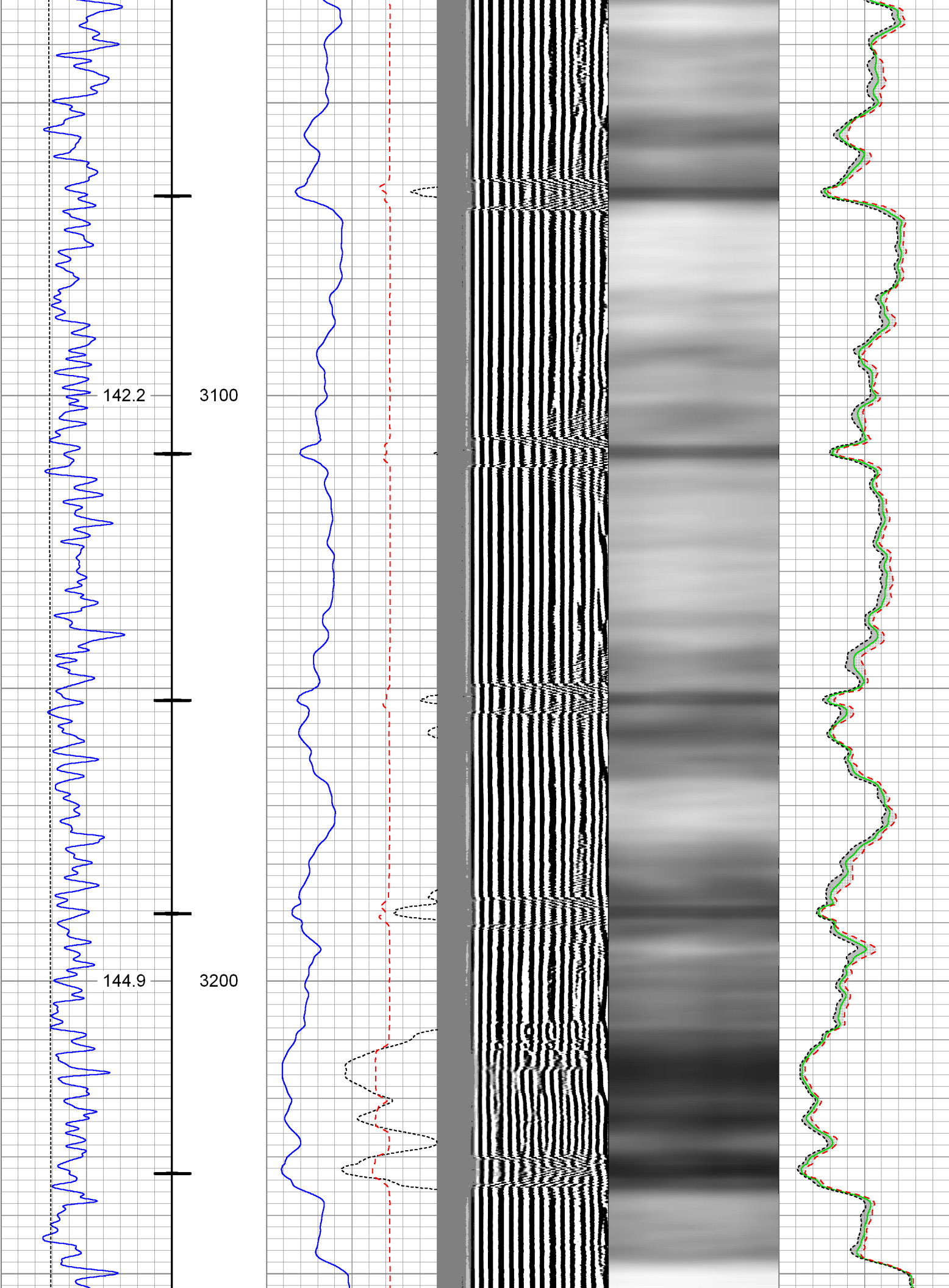




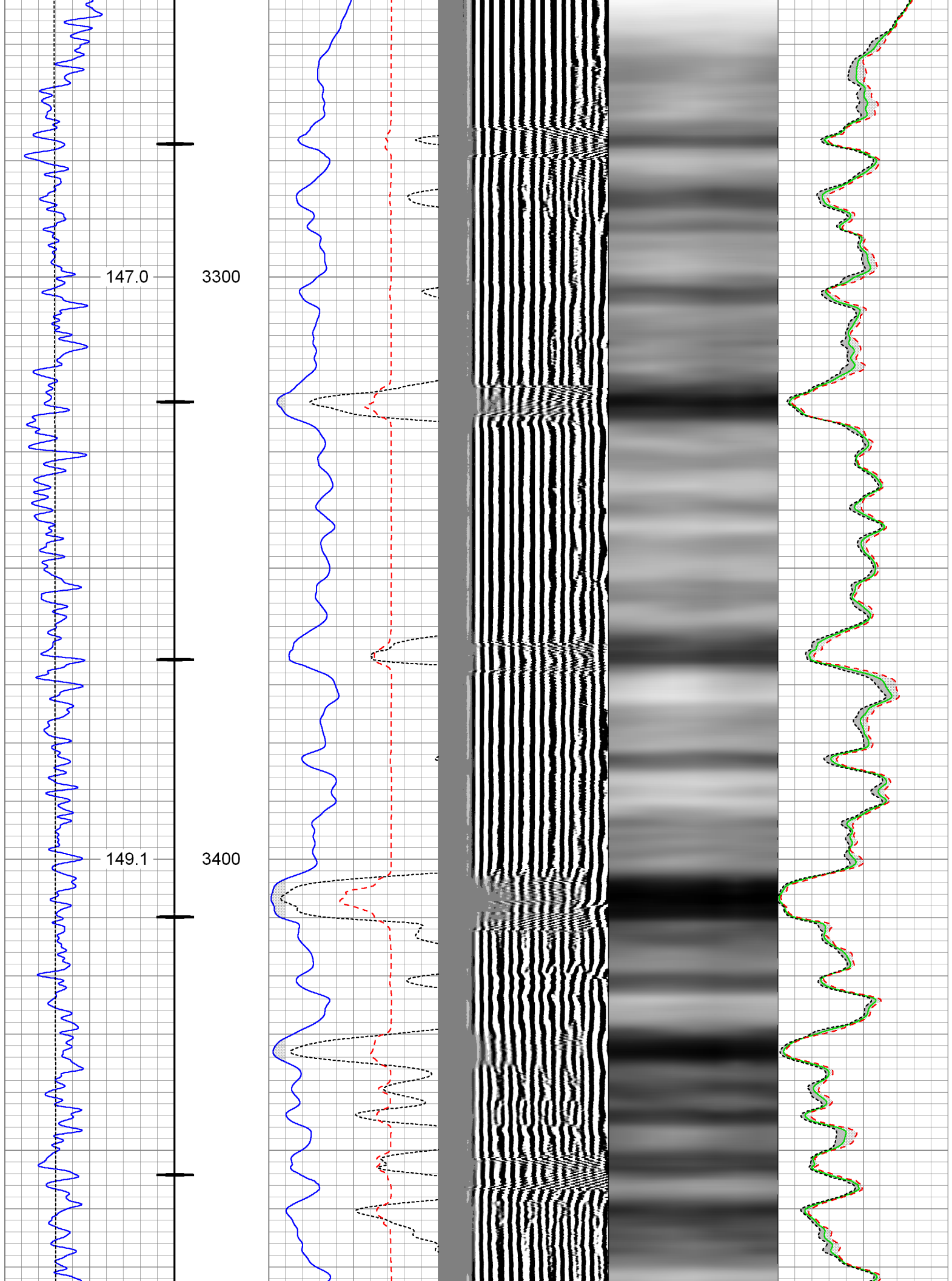


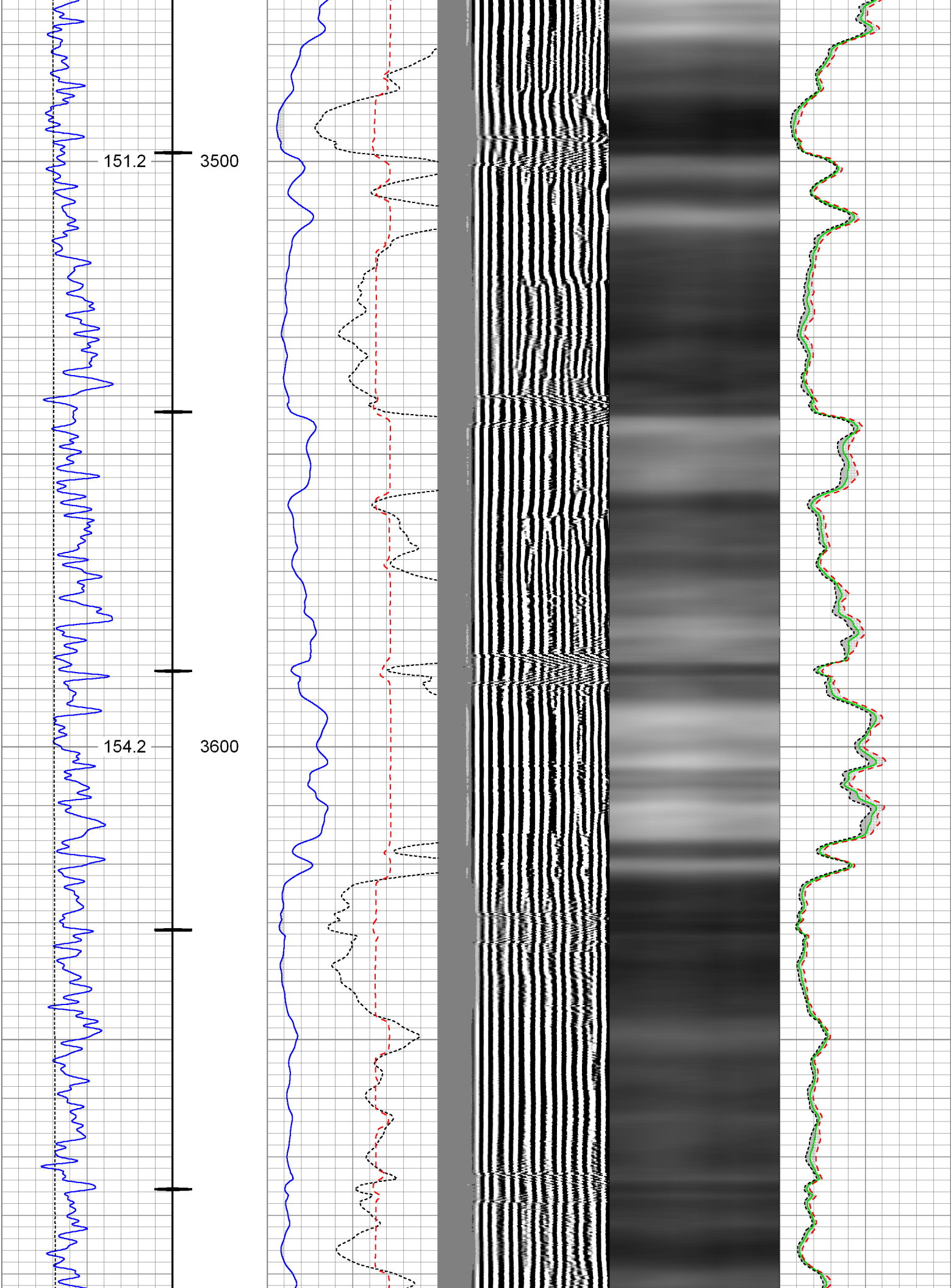


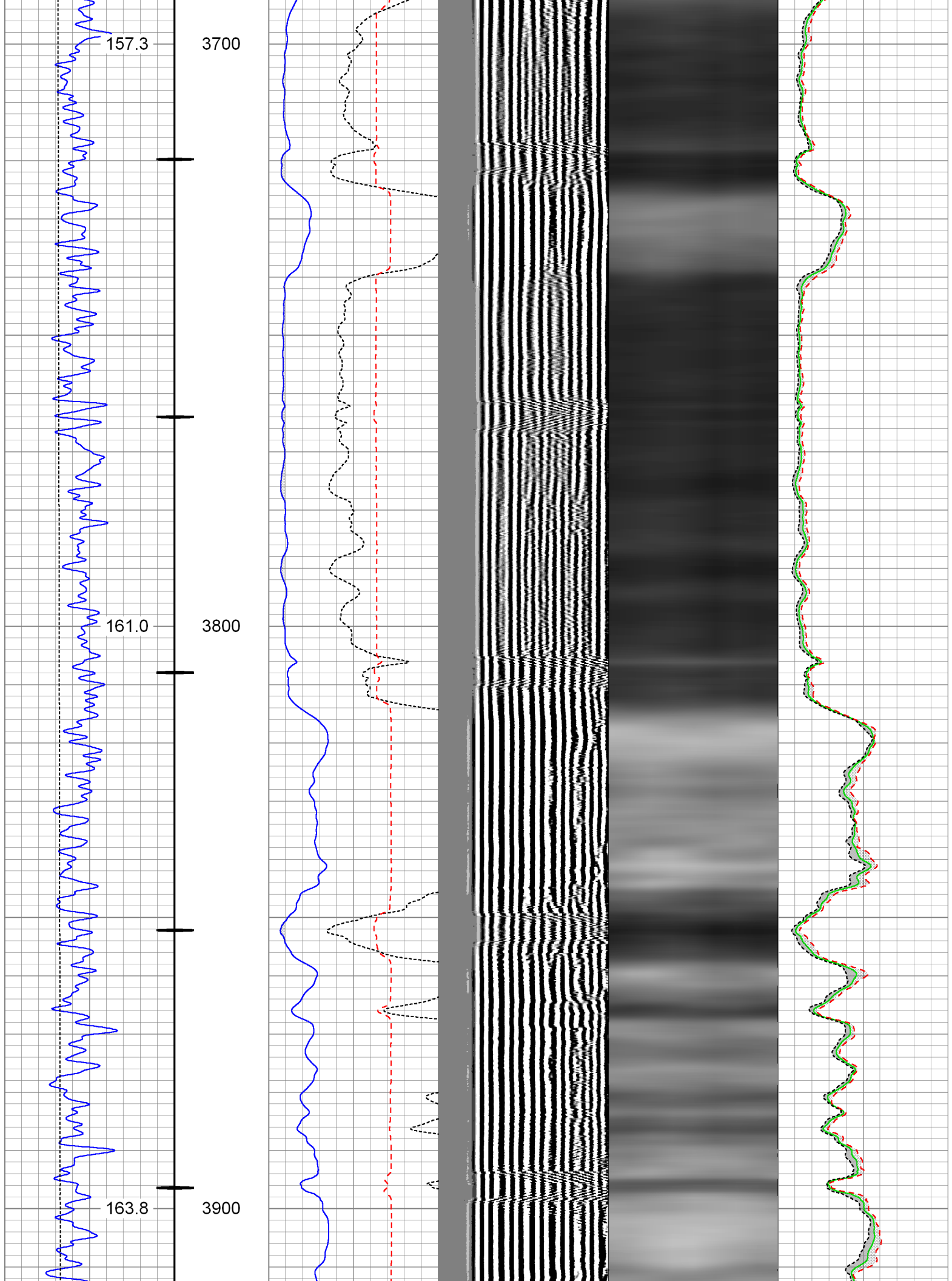


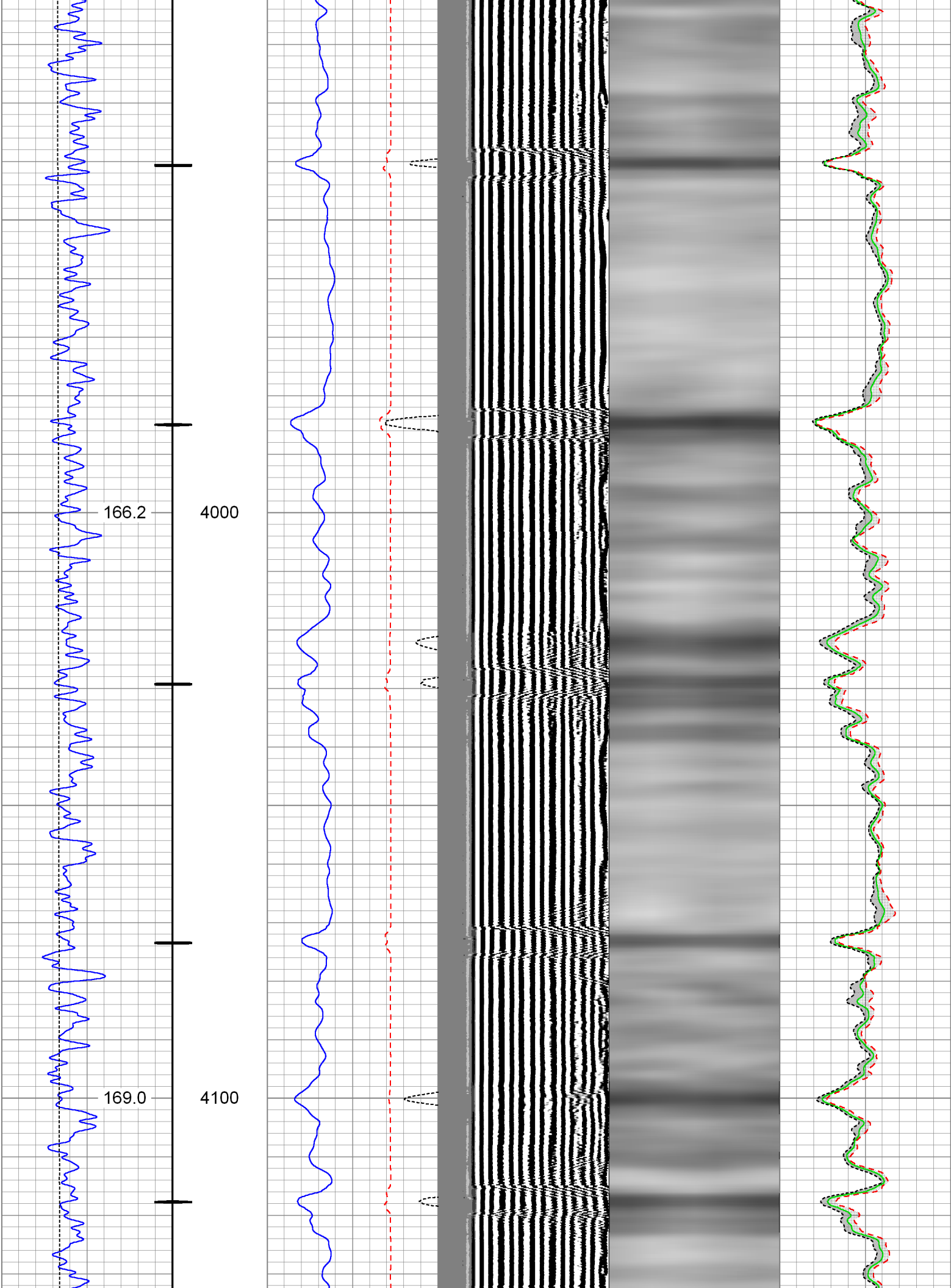




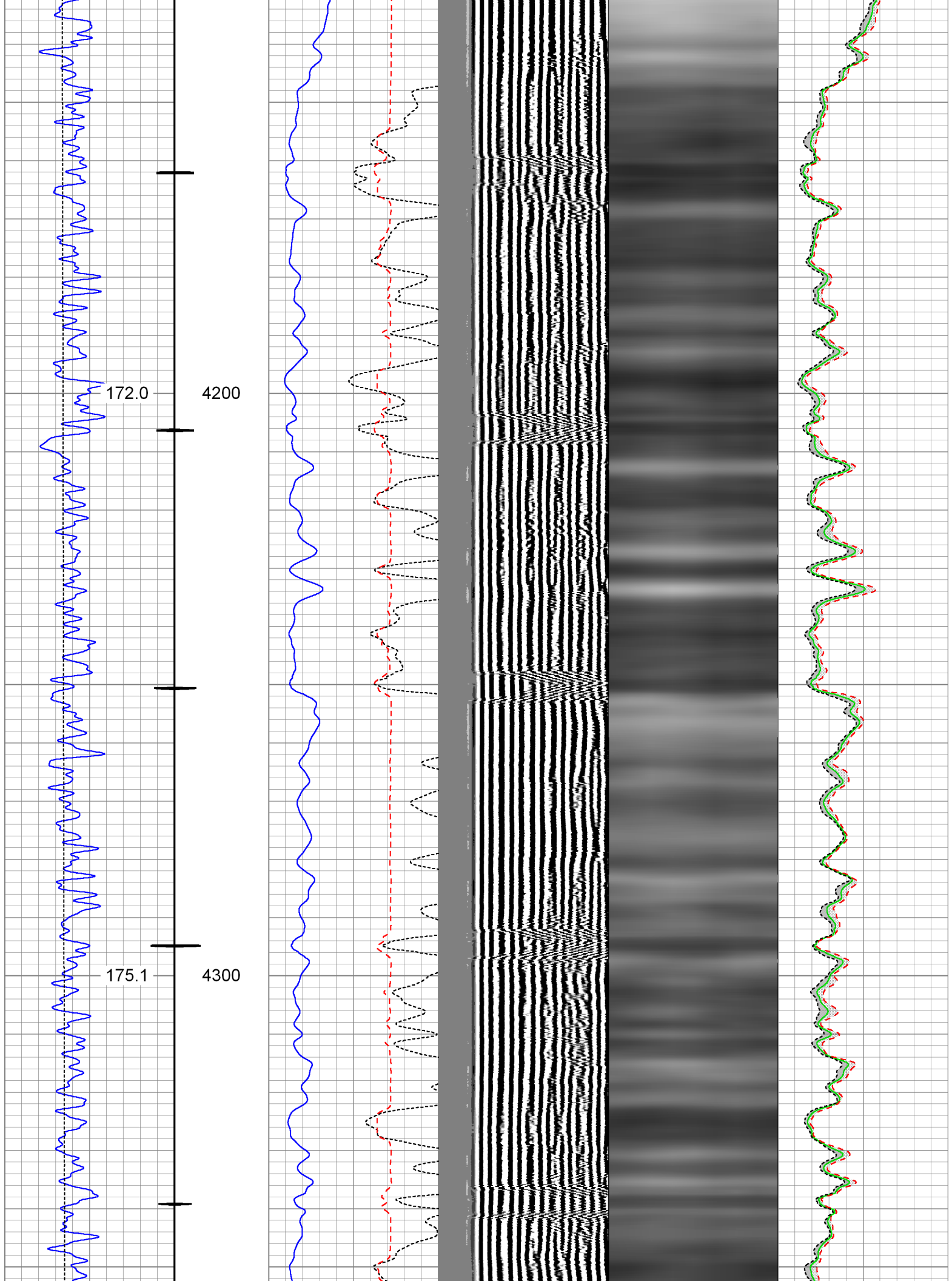


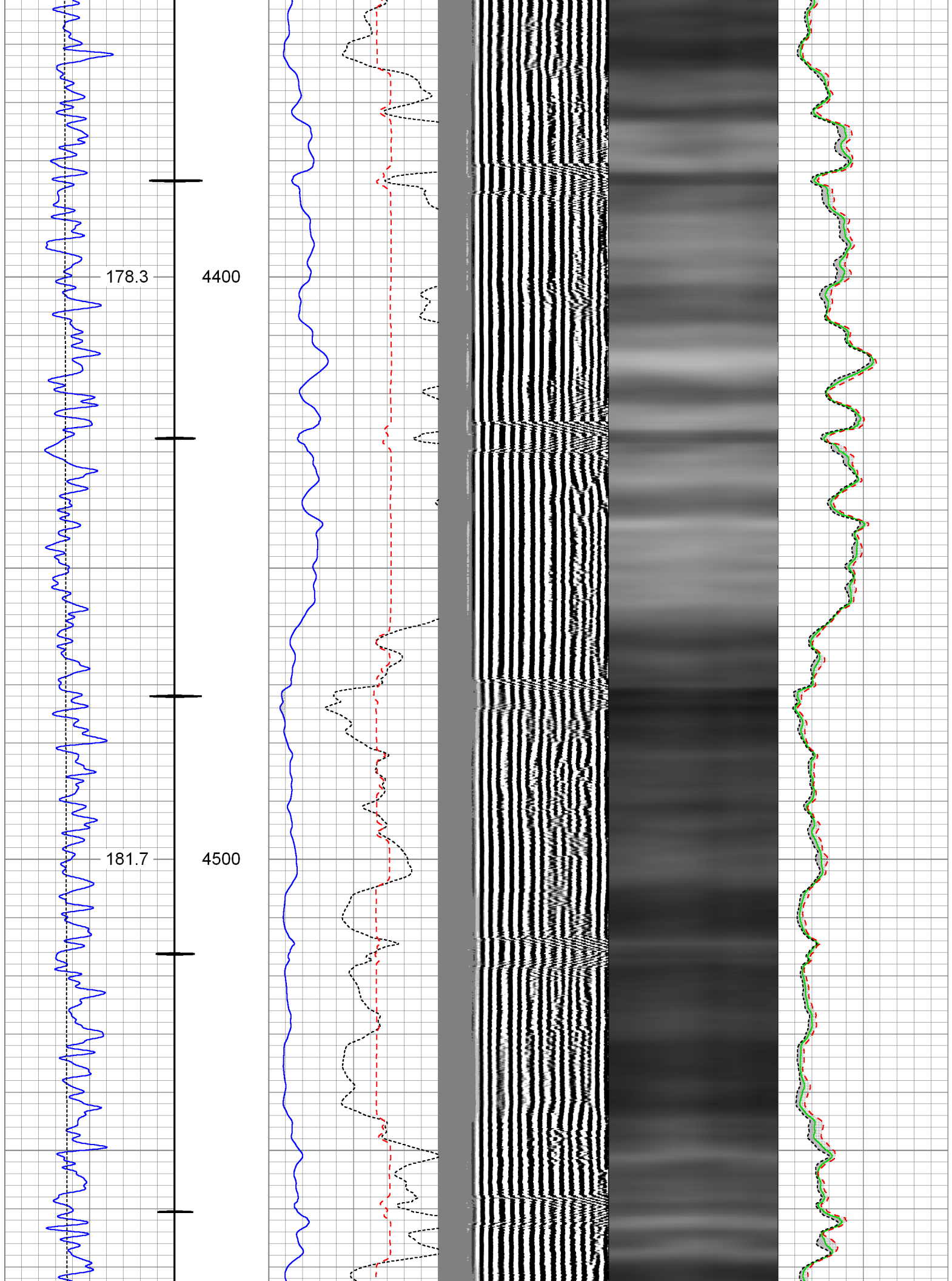




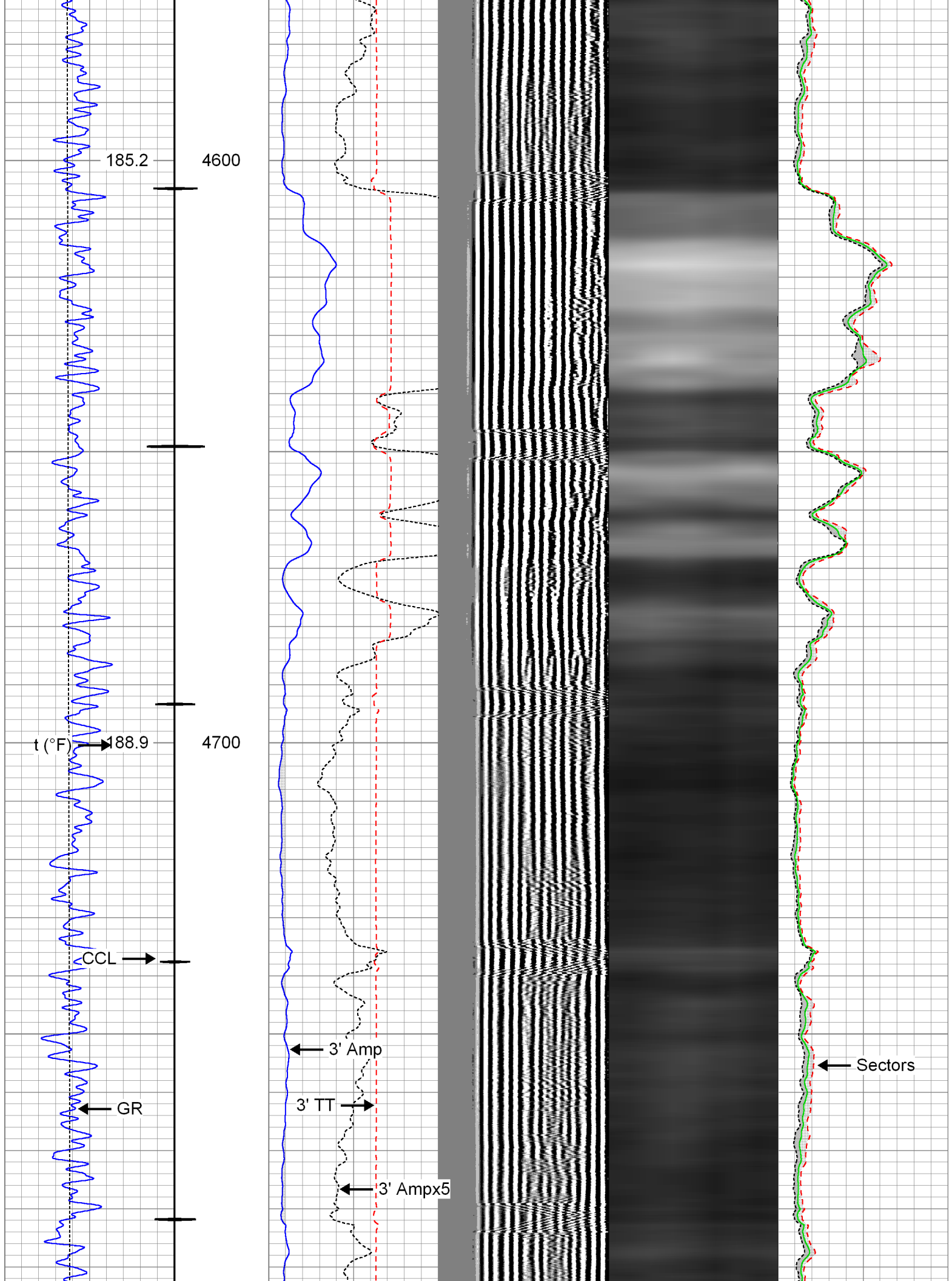


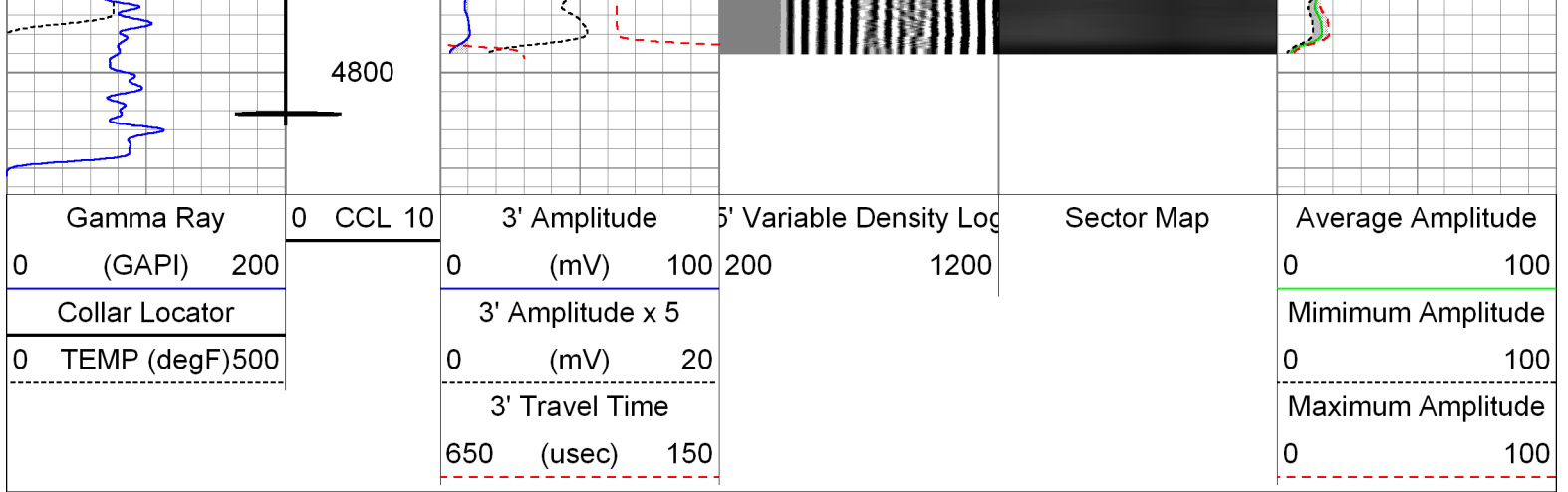






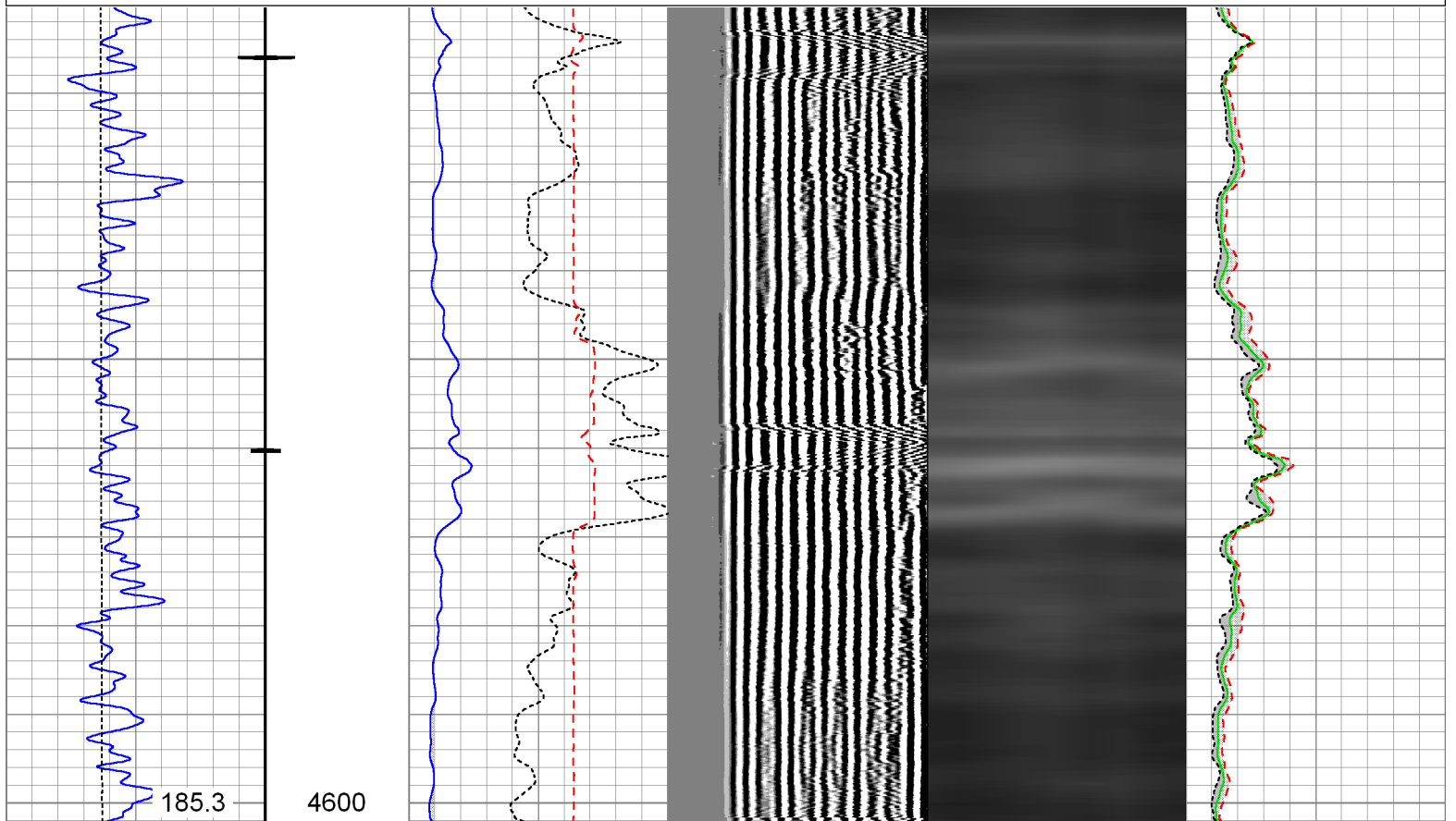
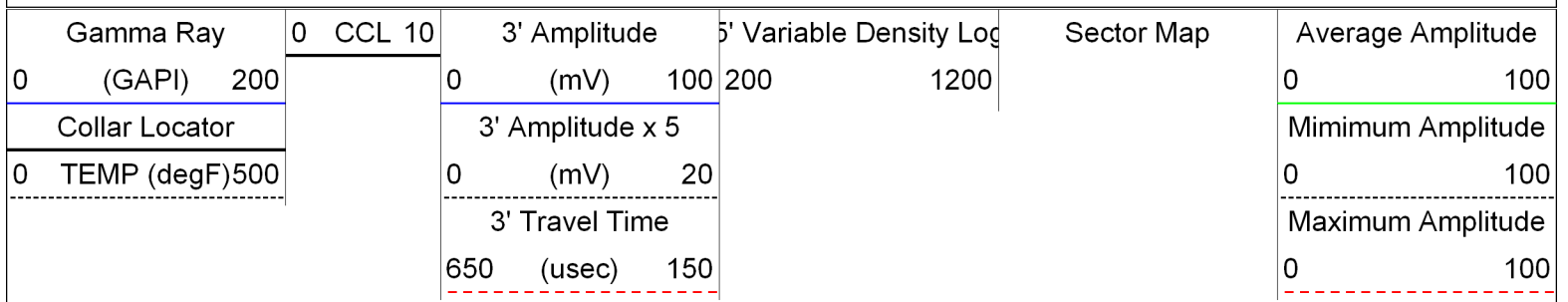


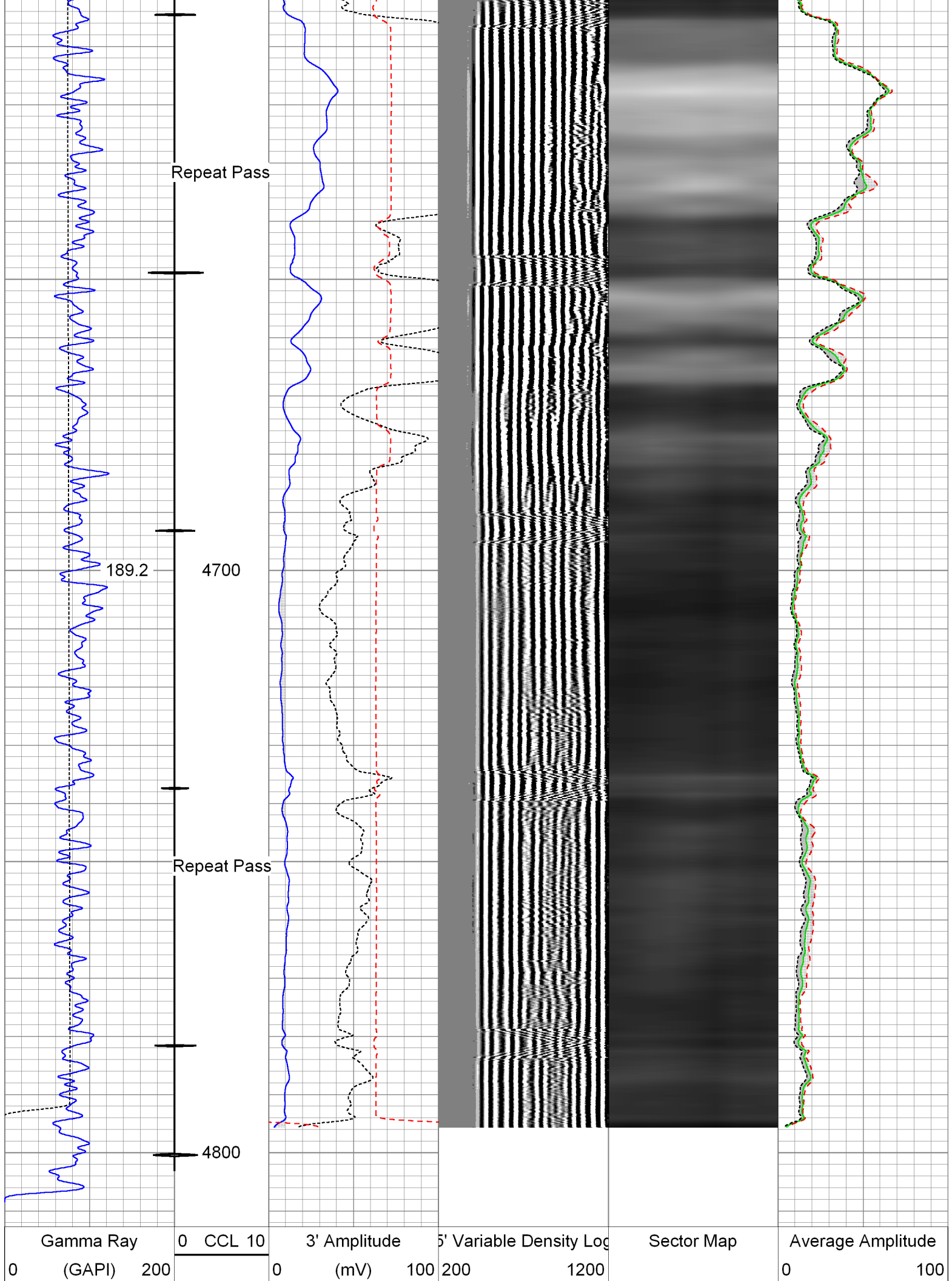




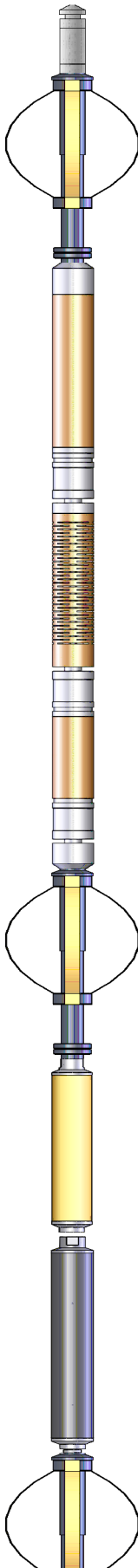

# Repeat Pass: 1500 Psi


Database File: 05-123-37708\_whiting\_razor 27k-3406b\_rcbl\_09-24-13.db  
Dataset Pathname: repeatpas  
Presentation Format: rbt007  
Dataset Creation: Tue Sep 24 10:39:02 2013 by Log SCH 111116  
Charted by: Depth in Feet scaled 1:240





Collar Locator		3' Amplitude x 5		Minimum Amplitude	
0	TEMP (degF) 500	0	(mV) 20	0	100
		3' Travel Time		Maximum Amplitude	
		650	(usec) 150	0	100

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)	
RHeadVolt	20.96		Titan_1_11_16	1.04	1.69	5.00	
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00	
Temp	18.09						
WVF3FT	15.98			Probe_RADII-C-2-3/4" (FW1305-96in7") Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.21	2.75	100.00
WVFCAL	15.98						
WVFS1	15.98						
WVFS2	15.98						
WVFS3	15.98						
WVFS4	15.98						
WVFS5	15.98						
WVFS6	15.98						
WVFS7	15.98						
WVFS8	15.98						
WVF5FT	14.98						
CCL	7.38	Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00		
		Probe_CCL-2.75"_SA_6MAG_CCL (FW1307-76)	2.66	2.75	50.00		
GR	3.67	Probe_CCL_GR-2.75"_SA_Corrosion_GR 3.331307-72.75 Probe 2.75 Inch Stand Alone Corrosion GR			50.00		
		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00		

			Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer			
Dataset: 05-123-37708_whiting_razor 27k-3406b_rcbl_09-24-13.db: field/well/run1/main Total Length: 24.88 ft Total Weight: 235.00 lb O.D. 2.75 in						

Calibration Report						
Database File:	05-123-37708_whiting_razor 27k-3406b_rcbl_09-24-13.db					
Dataset Pathname:	main					
Dataset Creation:	Tue Sep 24 10:57:22 2013 by Log SCH 111116					
Gamma Ray Calibration Report						
Serial Number:	FW1307-78					
Tool Model:	2.75" _SA_Corrosion_GR					
Performed:	Sun Sep 08 13:28:36 2013					
Calibrator Value:	1.0	GAPI				
Background Reading:	0.0	cps				
Calibrator Reading:	1.0	cps				
Sensitivity:	0.8000	GAPI/cps				
Segmented Cement Bond Log Calibration Report						
Serial Number:	FW1305-96in7"					
Tool Model:	2-3/4"					
Calibration Casing Diameter:	7.000	in				
Calibration Depth:	117.160	ft				
Master Calibration, performed Tue Sep 24 10:20:58 2013:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.032	0.744	0.800	62.165	79.099	3.354
CAL	1.053	1.052				
5'	-0.002	0.840	0.800	62.165	72.933	0.935
SUM						
S1	-0.046	0.704	0.000	100.000	133.392	6.082
S2	-0.035	0.717	0.000	100.000	133.011	4.613
S3	-0.042	0.735	0.000	100.000	128.684	5.427
S4	-0.044	0.767	0.000	100.000	123.387	5.392
S5	-0.040	0.781	0.000	100.000	121.818	4.918
S6	-0.030	0.773	0.000	100.000	124.625	3.683
S7	-0.041	0.737	0.000	100.000	128.635	5.243
S8	-0.037	0.726	0.000	100.000	131.129	4.816
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	1.053	1.052	1.000	0.000

	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 Whiting Oil & Gas Corporation  
 Well Razor 27K-3406B  
 Field Wildcat  
 County Weld  
 State Colorado