



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Whiting Oil & Gas Corporation			
Well				Razor 27K-3407A			
Field				Wildcat			
County				Weld			
State				Colorado			
Location:				API # : 05-123-36773			
Permanent Datum				SHL: 2321' FSL 1980' FWL			
Log Measured From				Lat/Long: 40.808594/-103.853597			
Drilling Measured From				SEC 27 TWP 10N RGE 58W			
Ground Level				Elevation 4749'			
Kelly Bushing				16.8 FT			
Kelly Bushing				G.L. 4749'			
K.B. 4765.8'				D.F. 4764'			
G.L. 4749'							
Date				September 25, 2013			
Run Number				One			
Depth Driller				12402 FT			
Depth Logger				4709 FT			
Bottom Logged Interval				4709 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				156 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				Grade			
Intermediate #2				Top			
Liner				Bottom			
4-1/2"				11.6#			
L-80				4777 FT			
12402 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 156'

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



Main Pass

Logged With 1500 PSI @ Surface

Database File:05-123-36773_whiting_razor 27k-3407a_rcbl_09-25-13.db

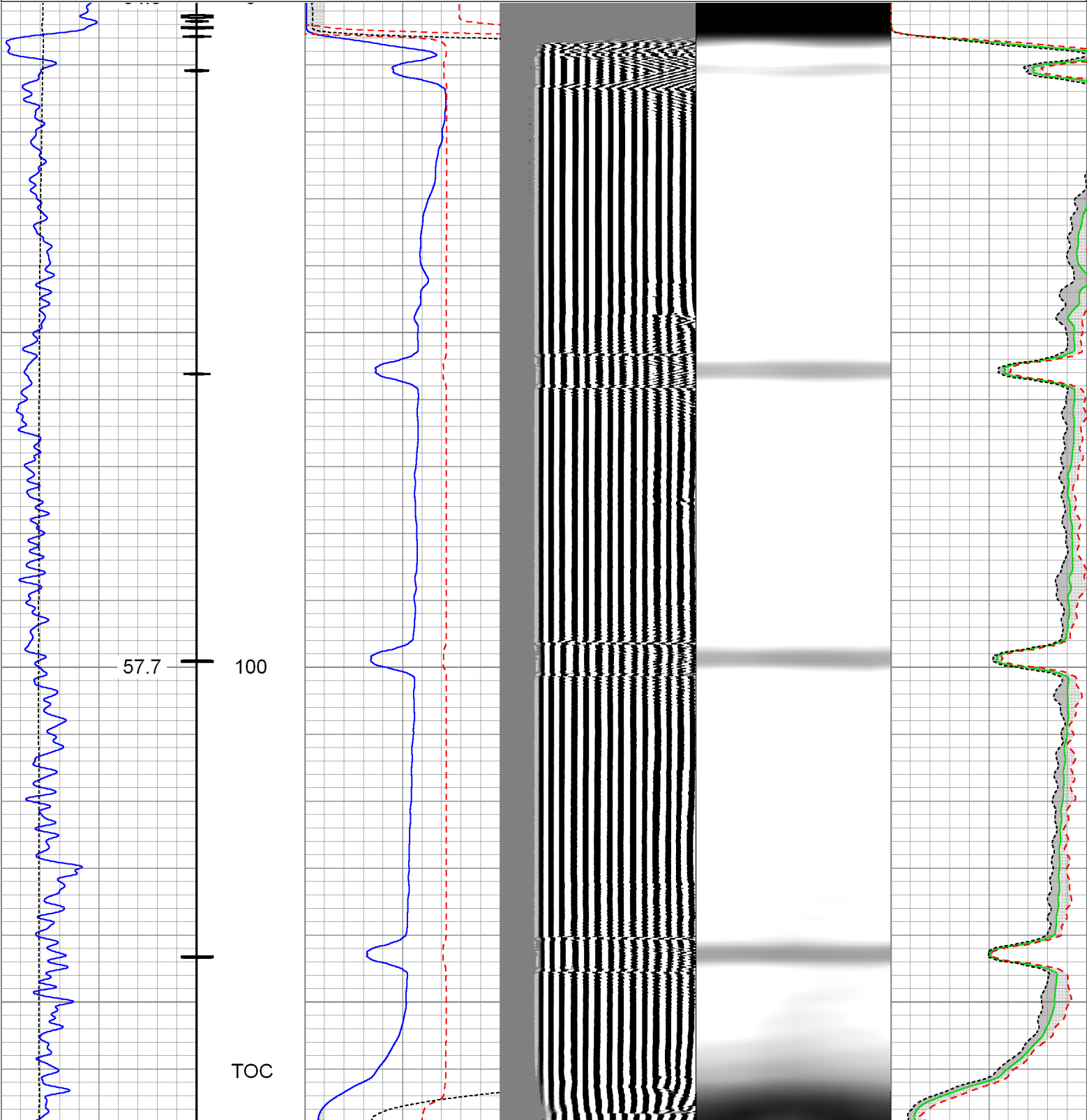
Dataset Pathname:main

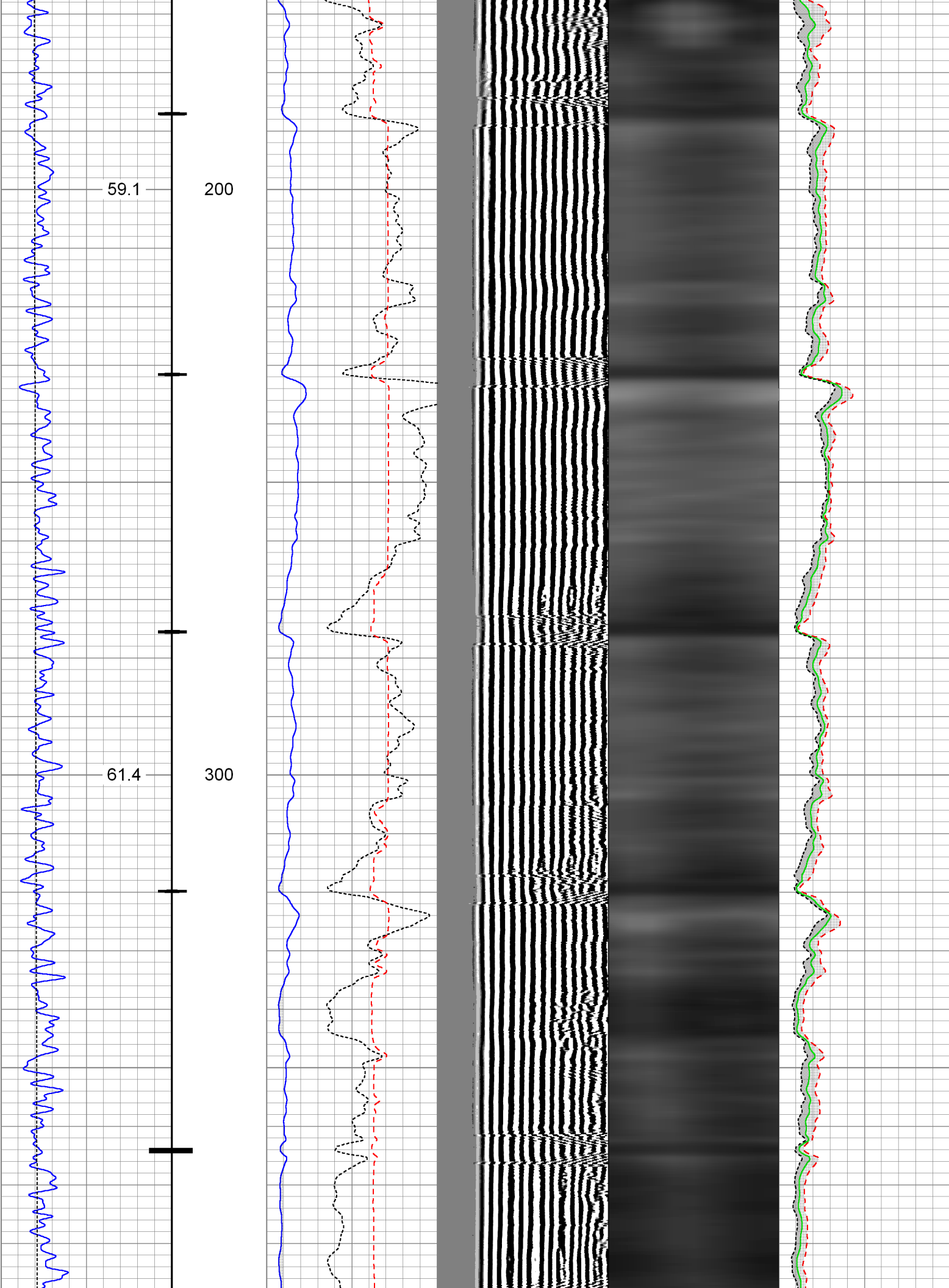
Presentation Format:rbt007

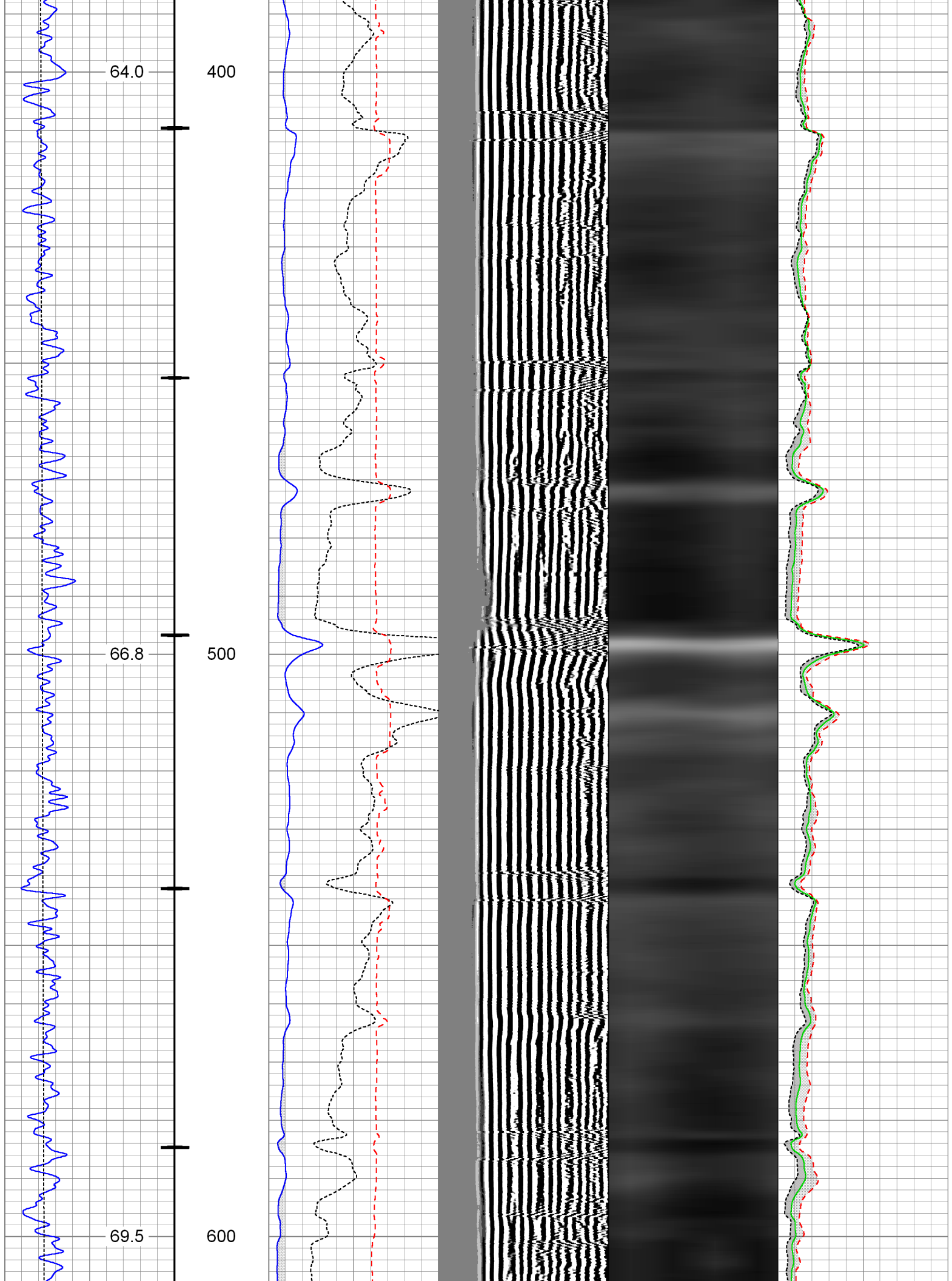
Dataset Creation:Wed Sep 25 11:47:52 2013 by Log SCH 111116

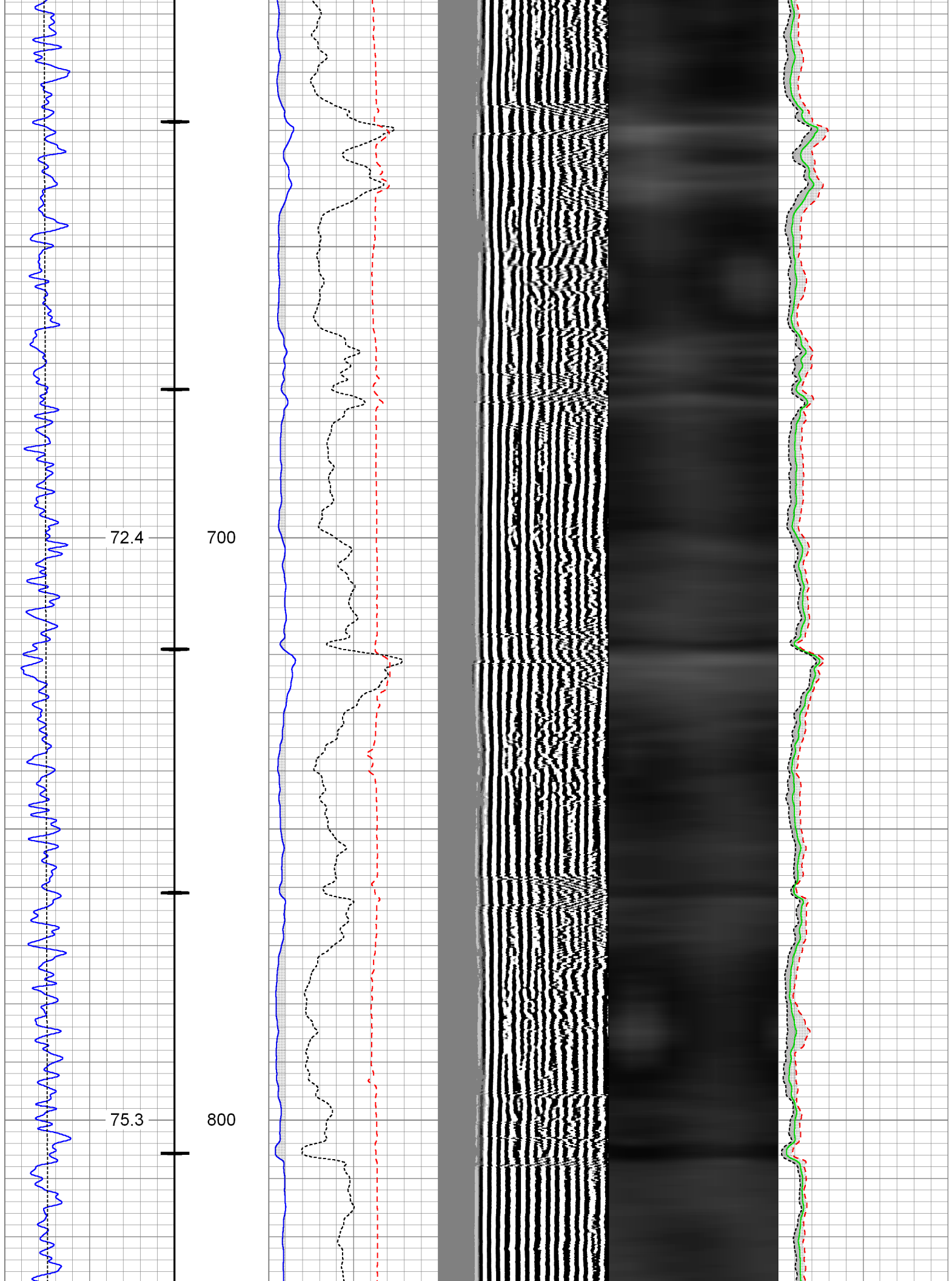
Charted by:Depth in Feet scaled 1:240

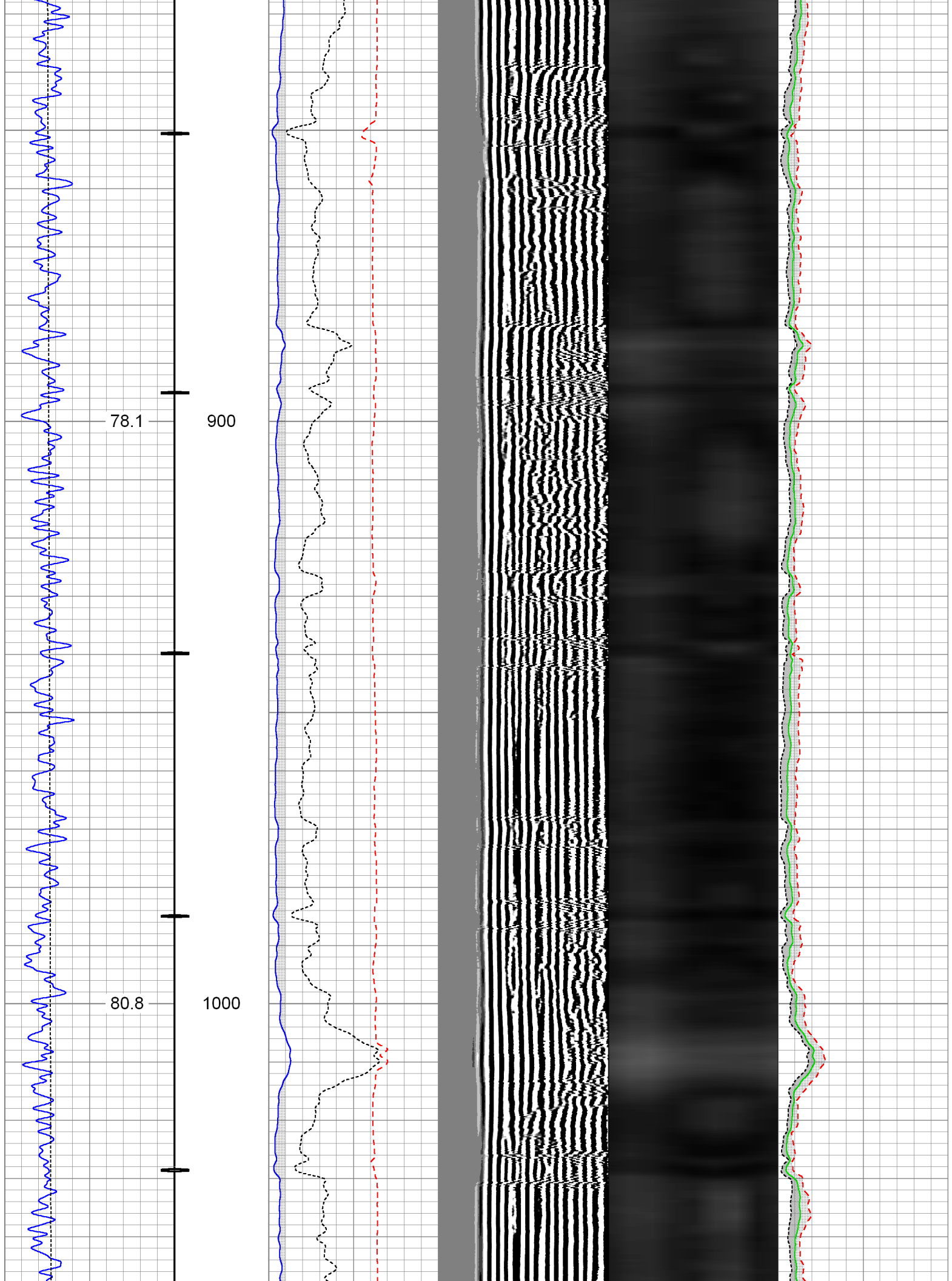
Gamma Ray	0 CCL 10	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200		0 (mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Mimimum Amplitude
0 TEMP (degF)300		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

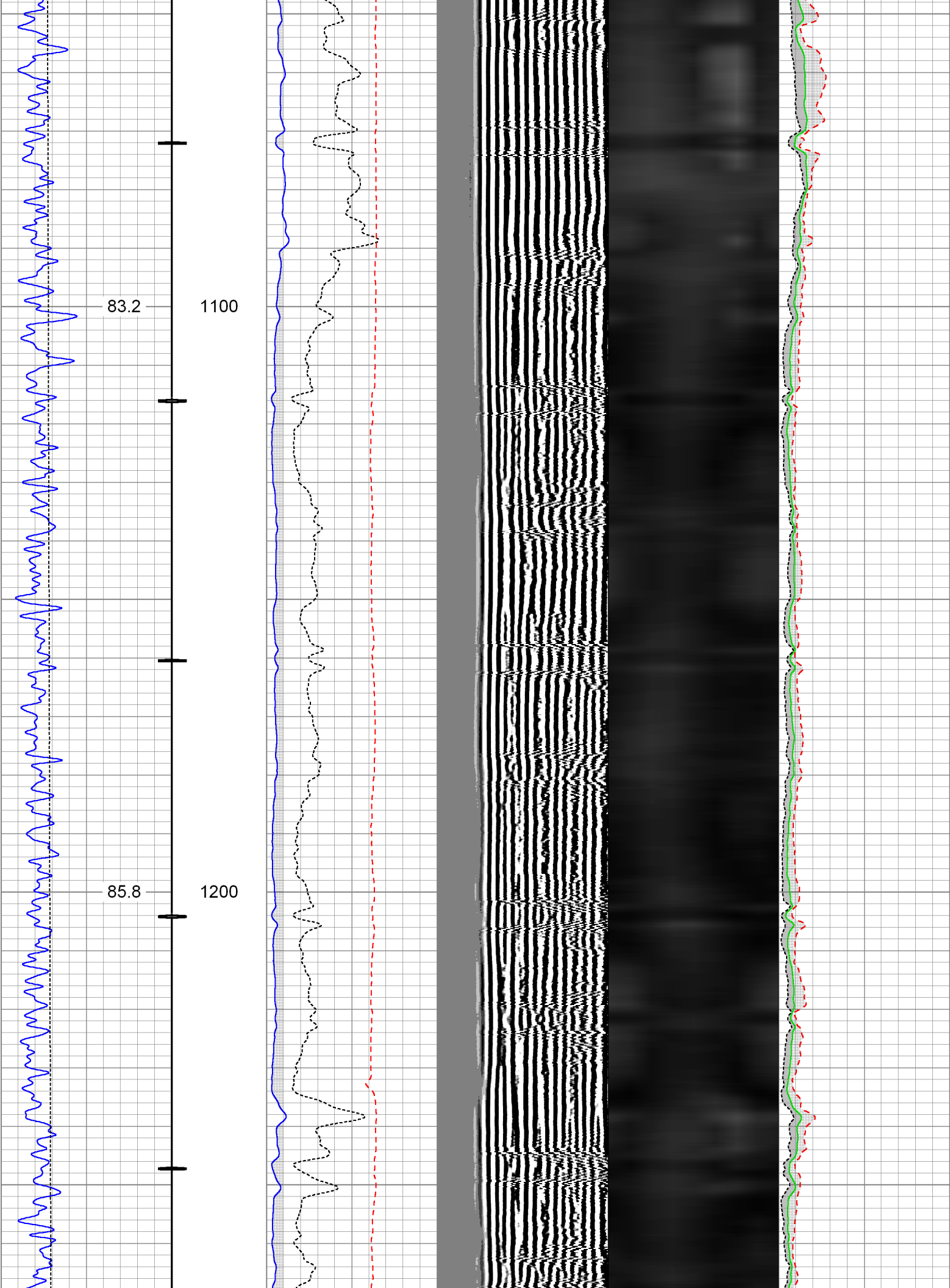


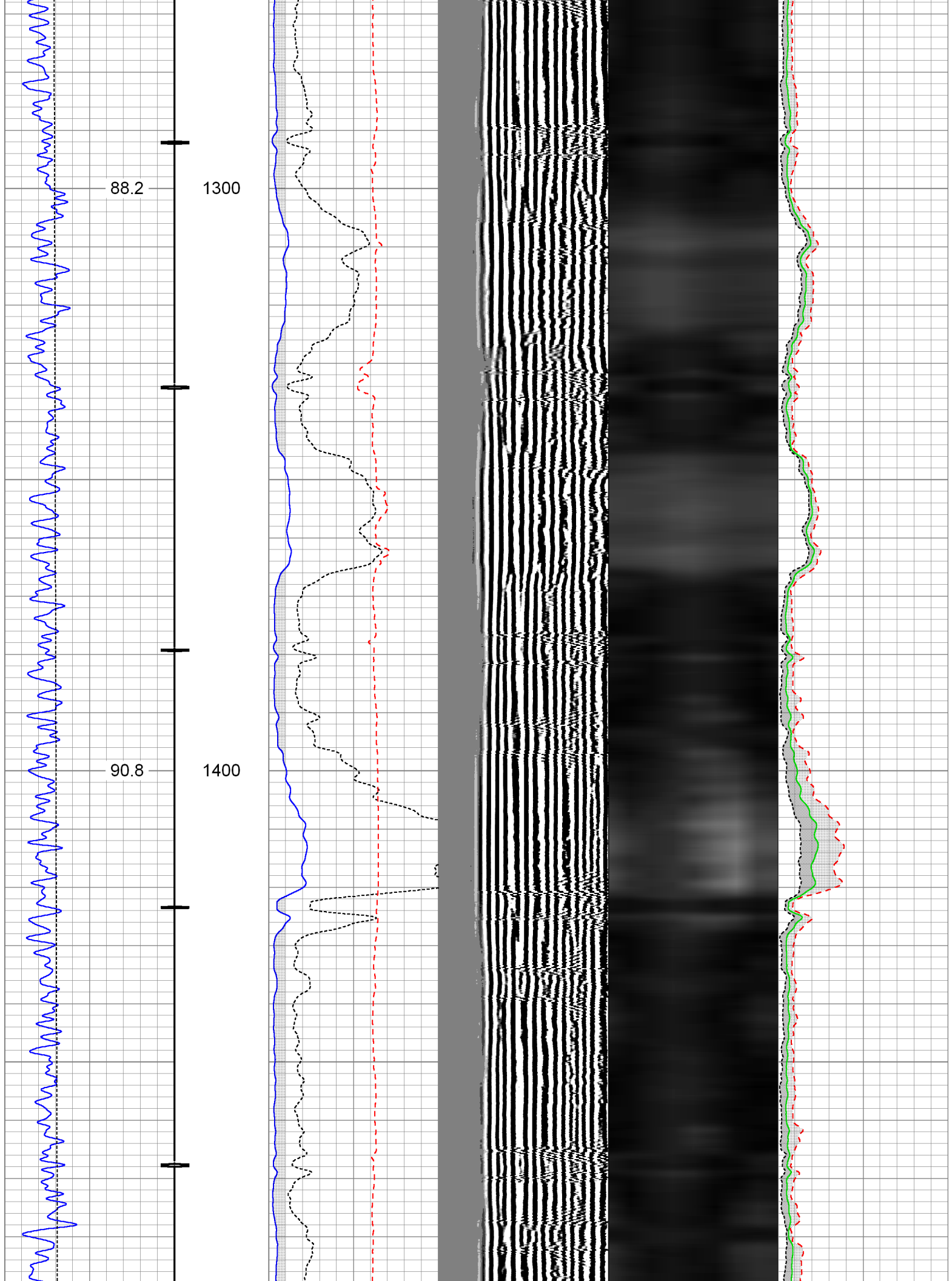


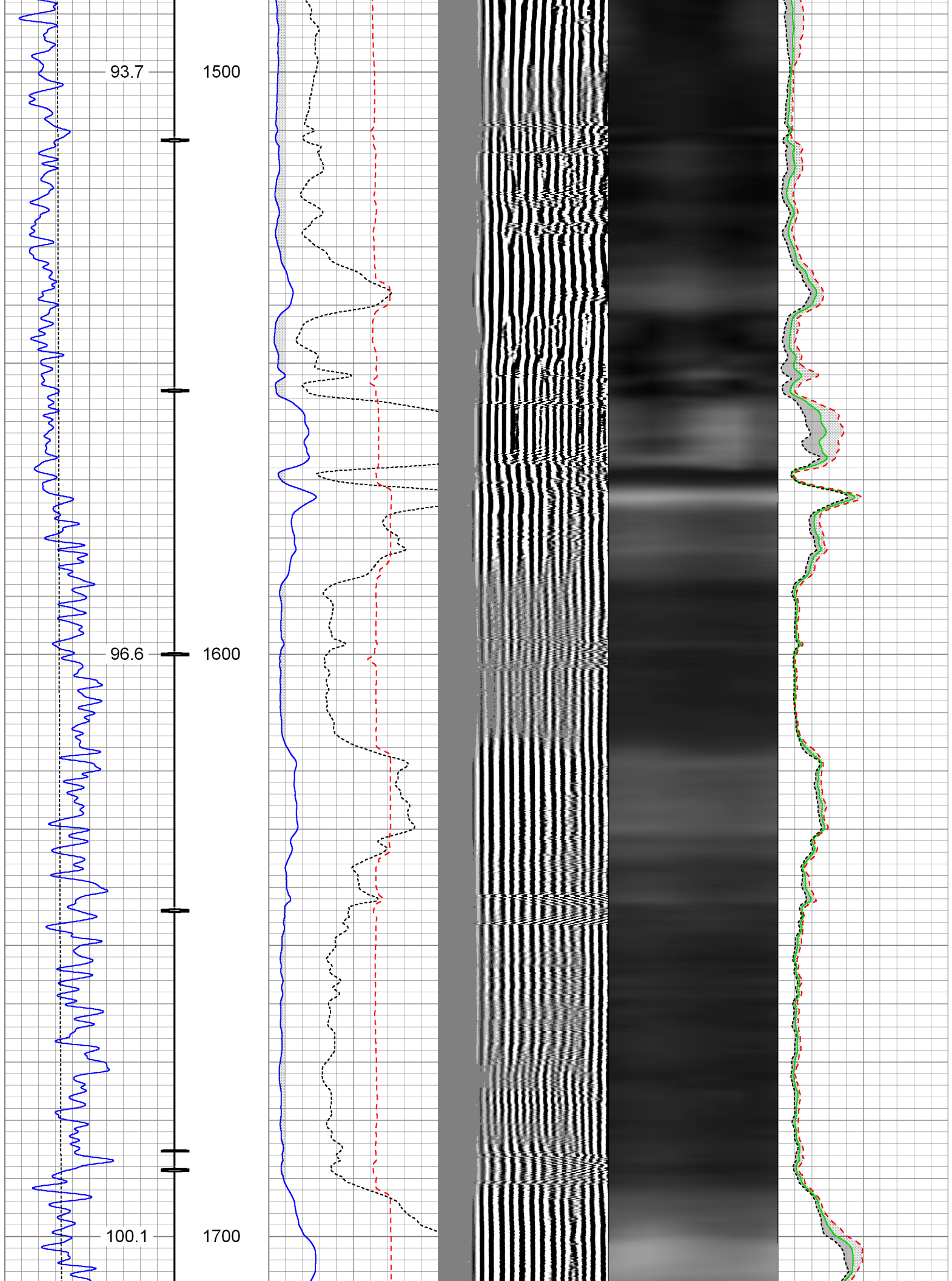


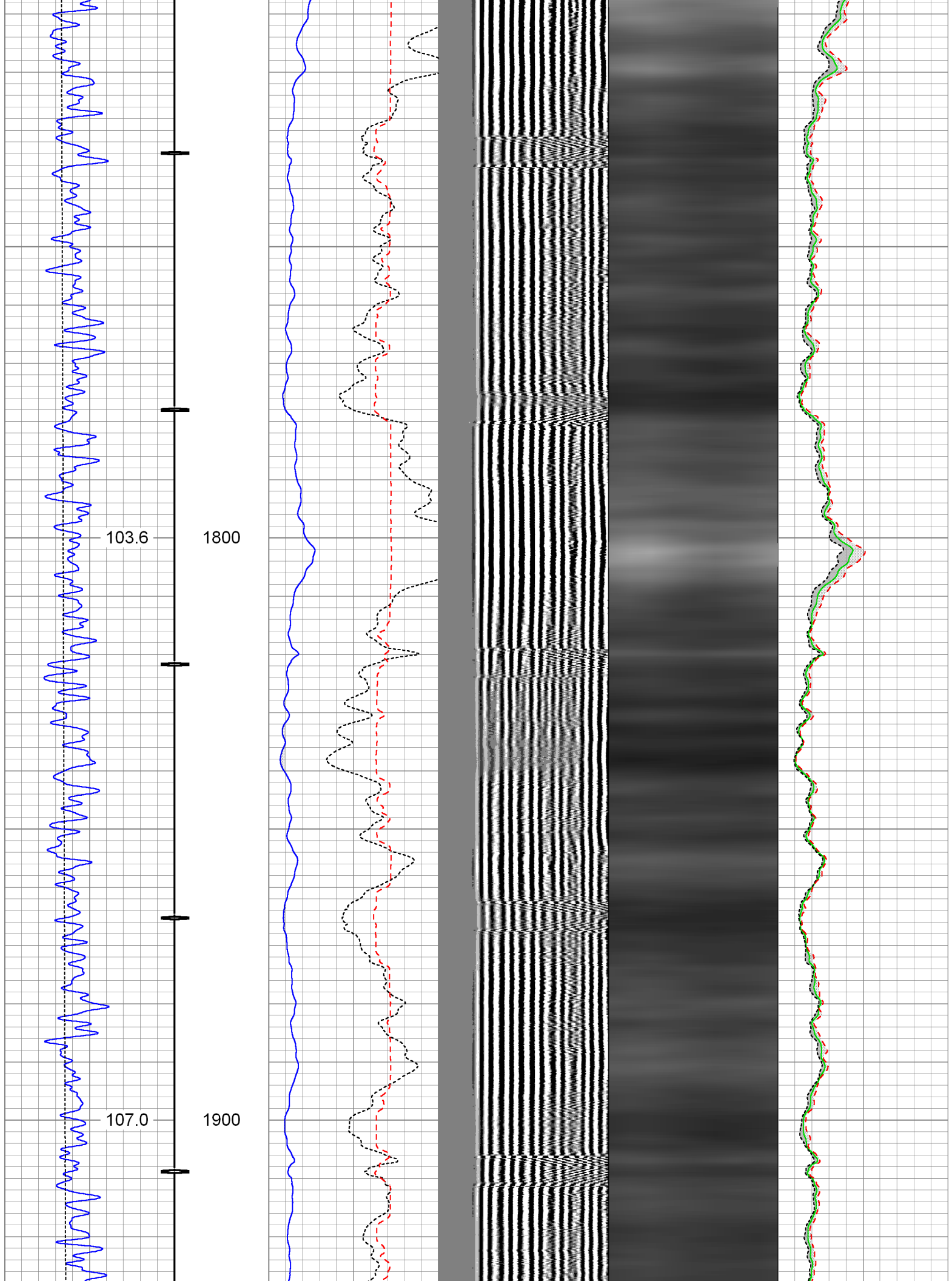


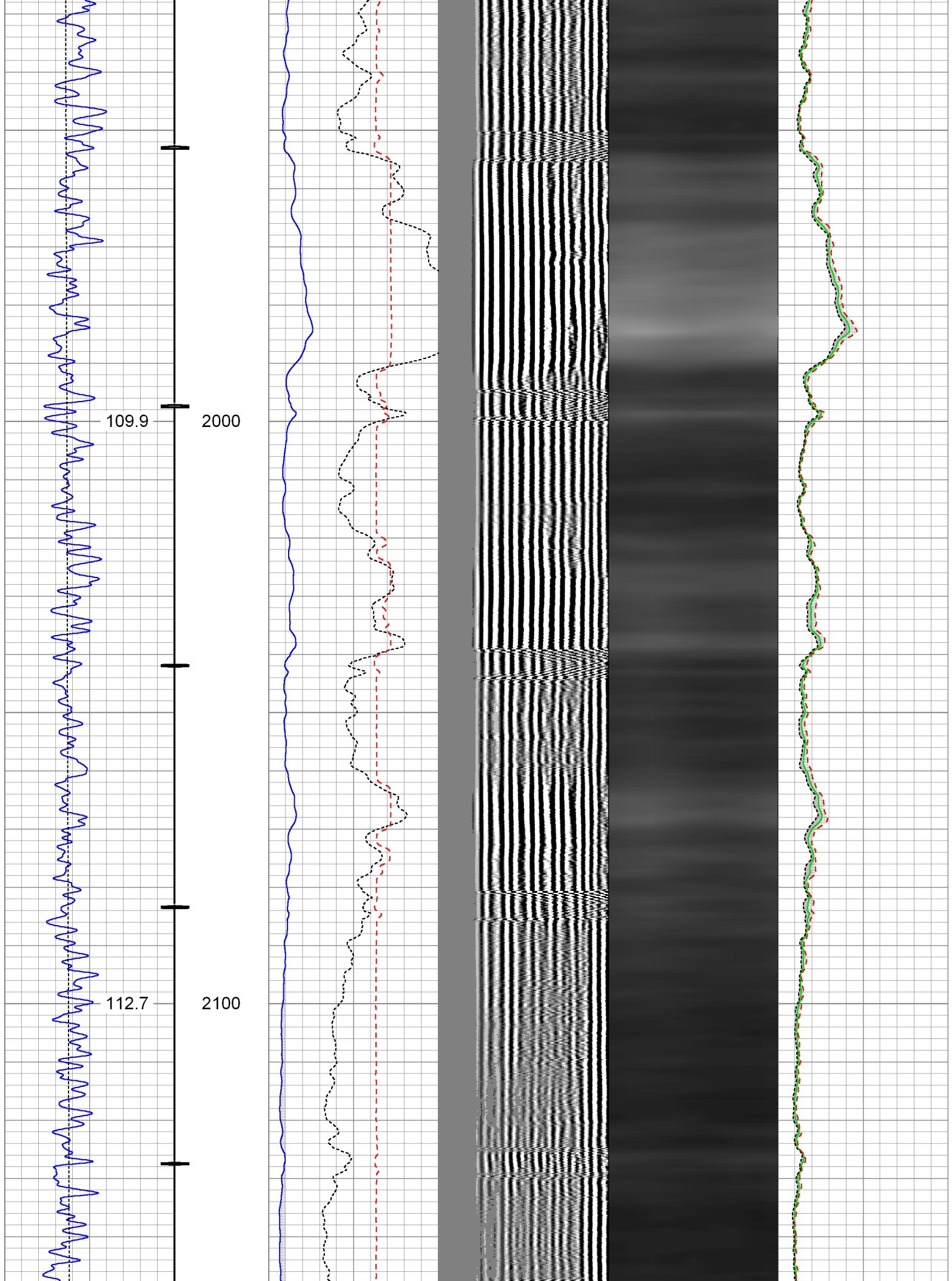


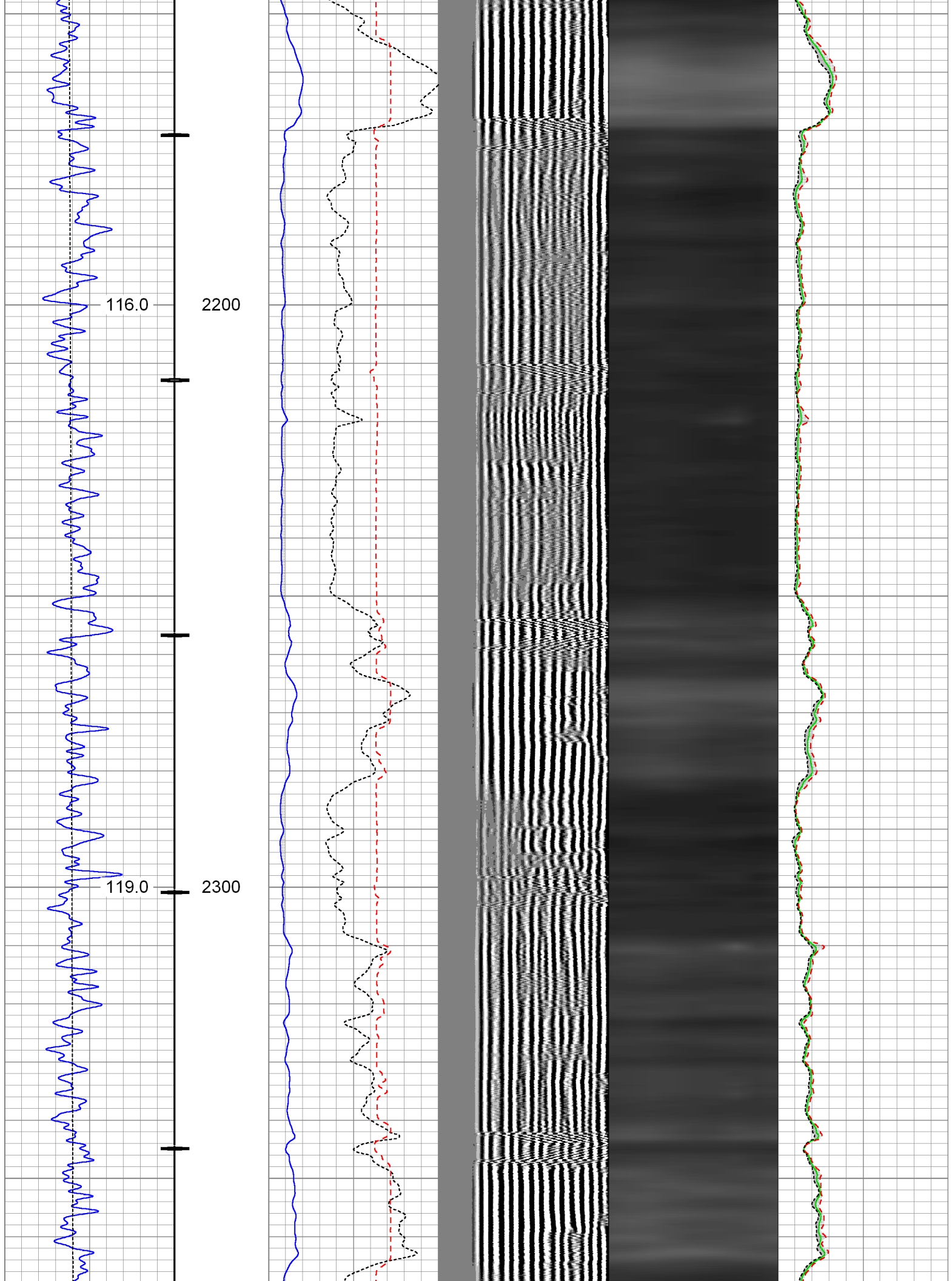


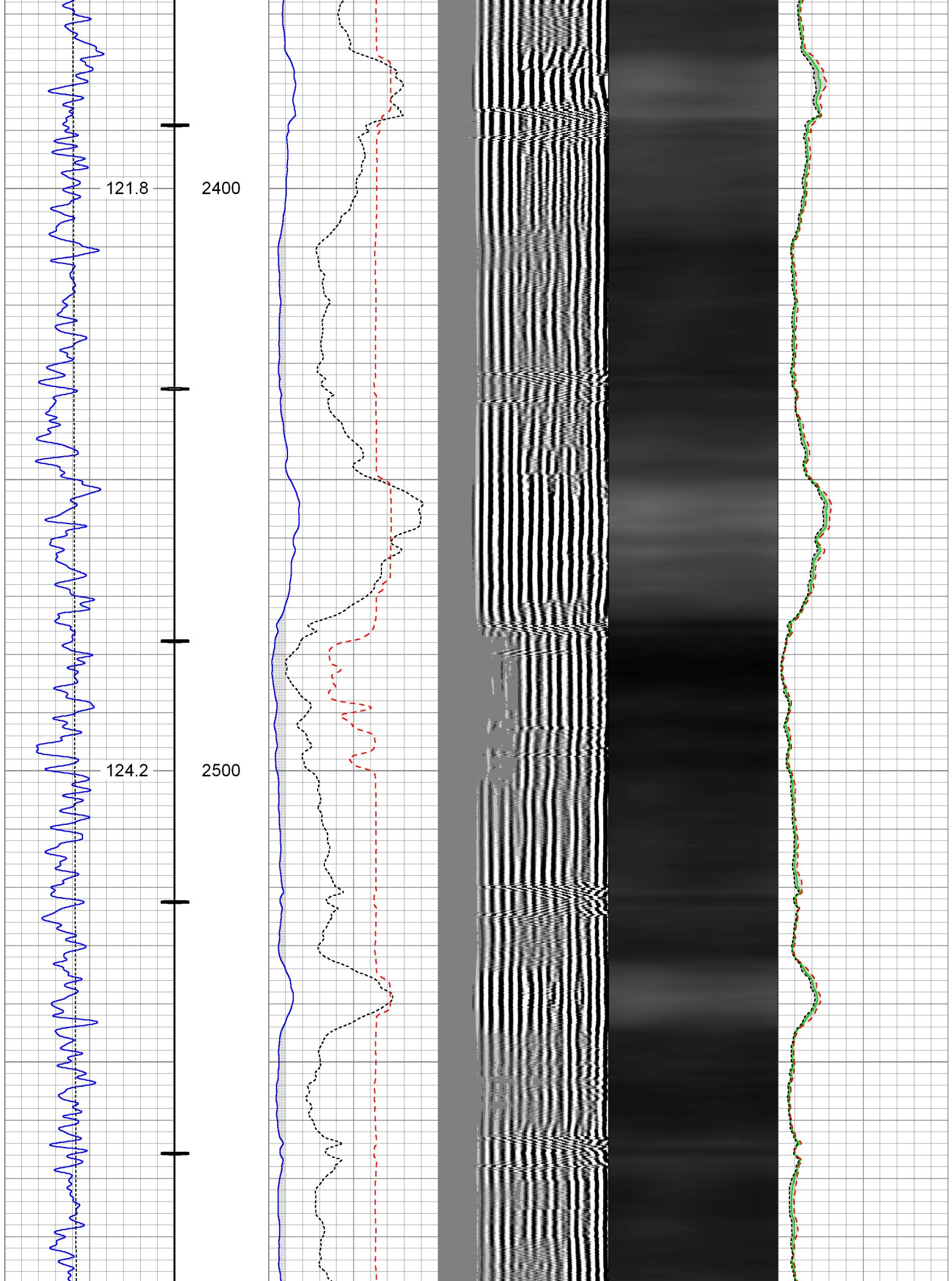


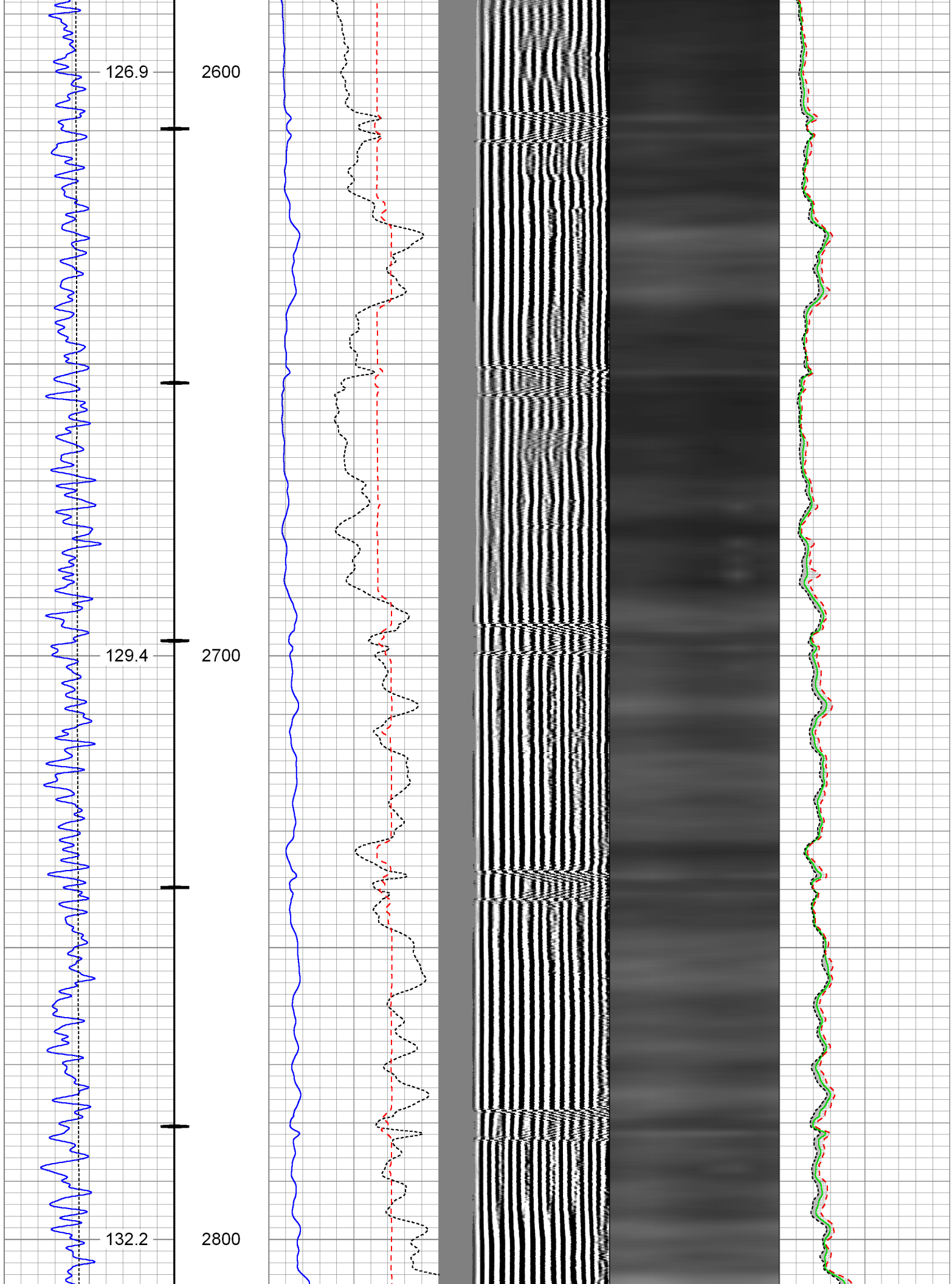


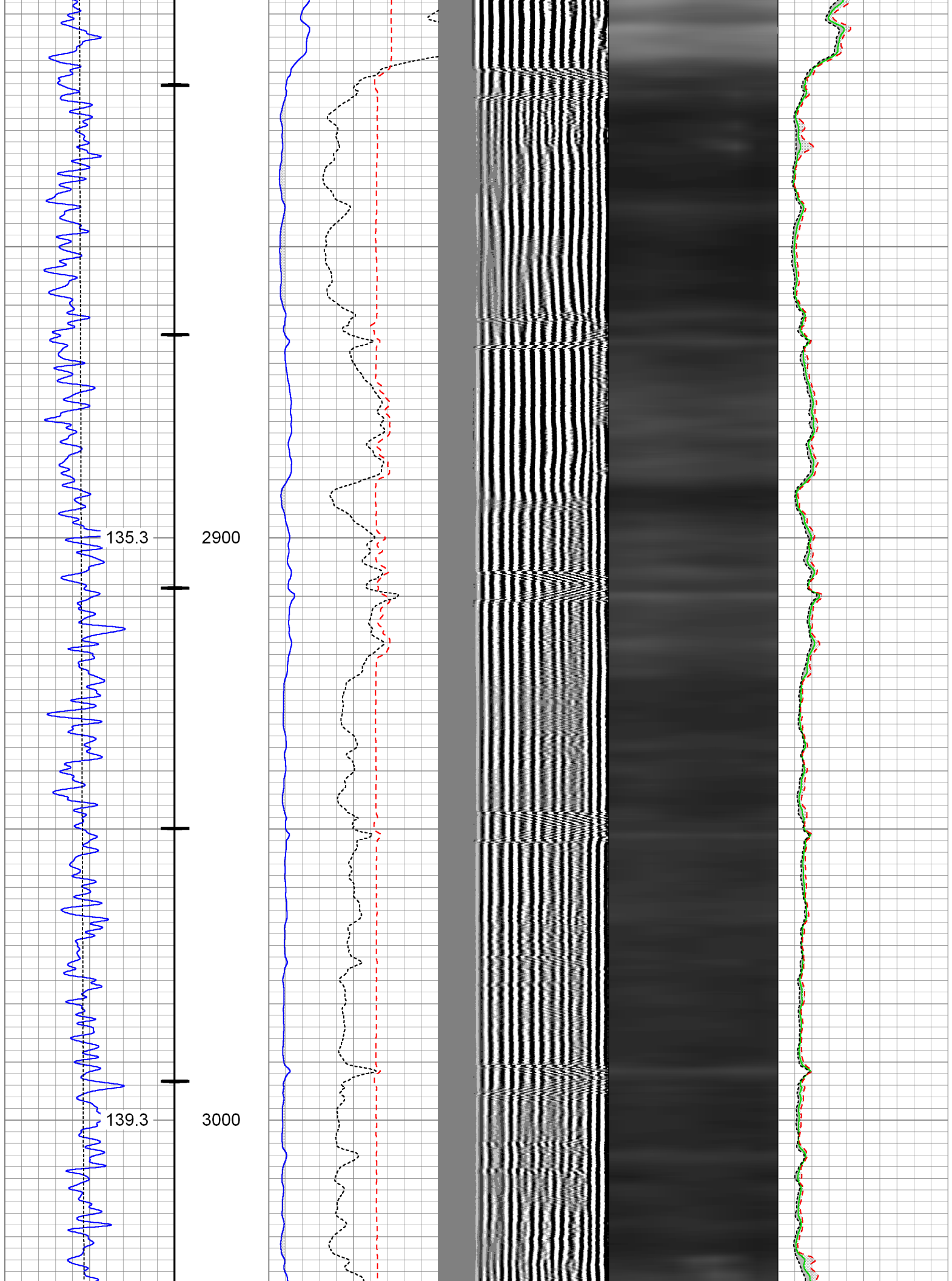


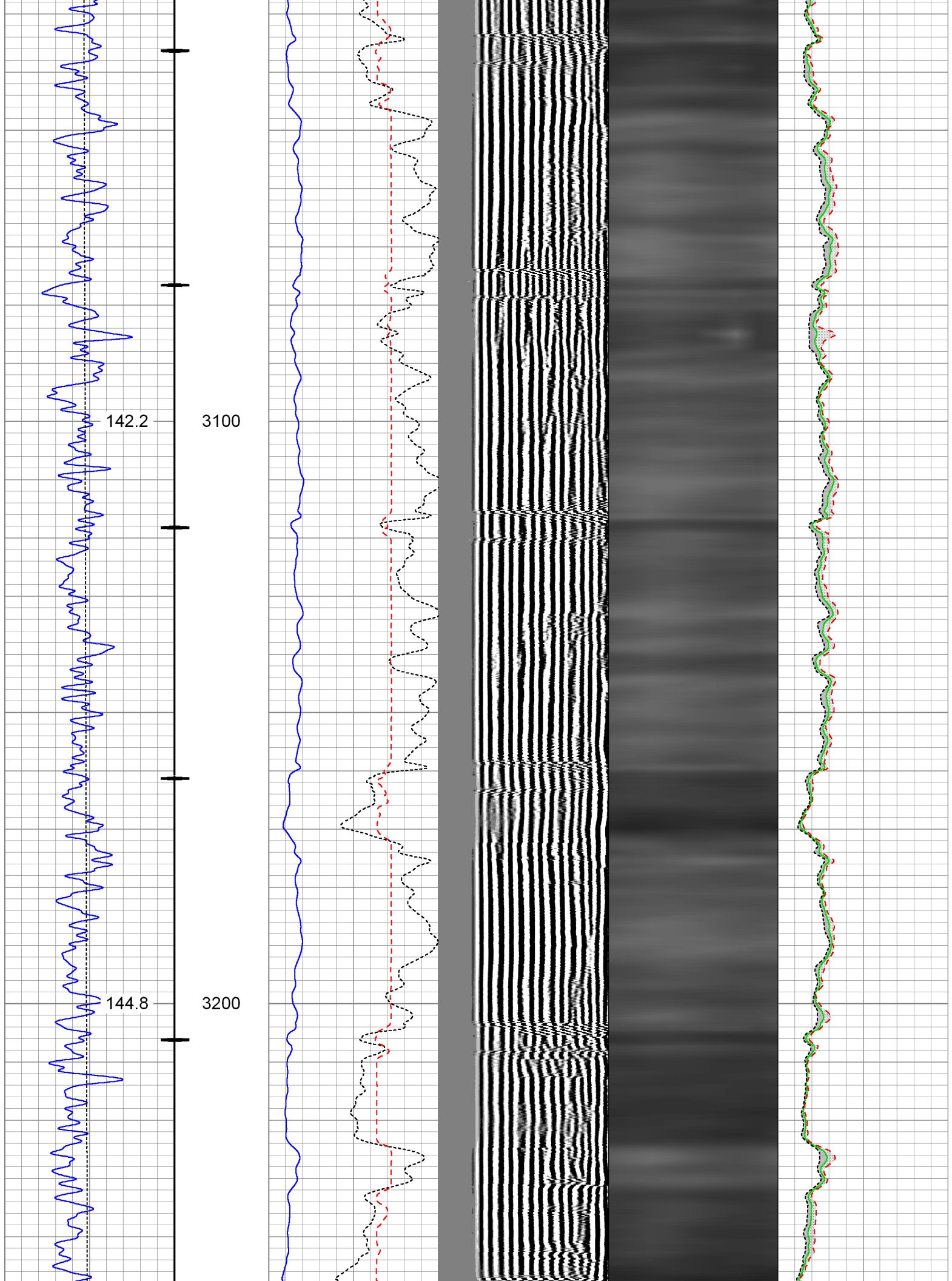


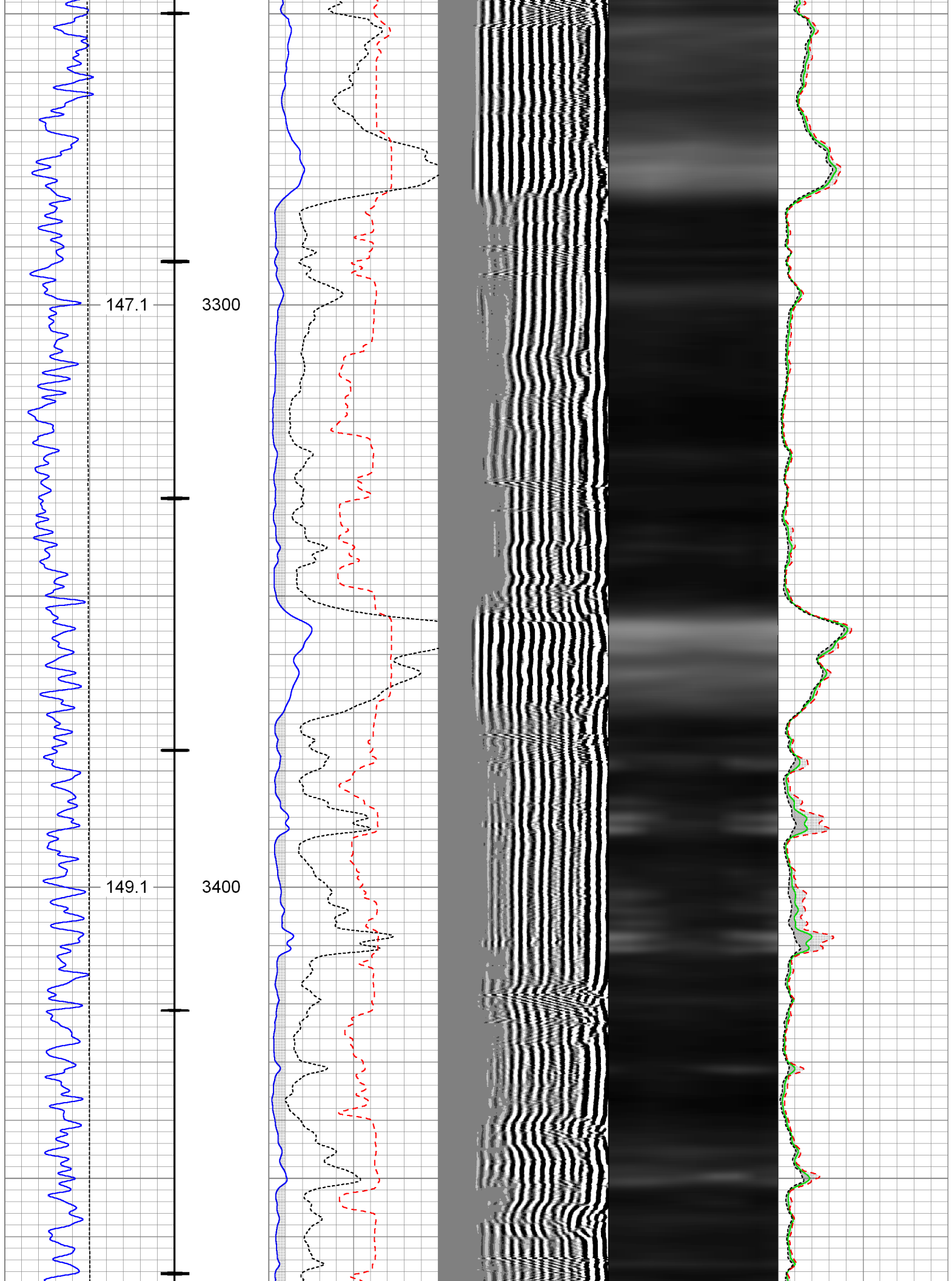


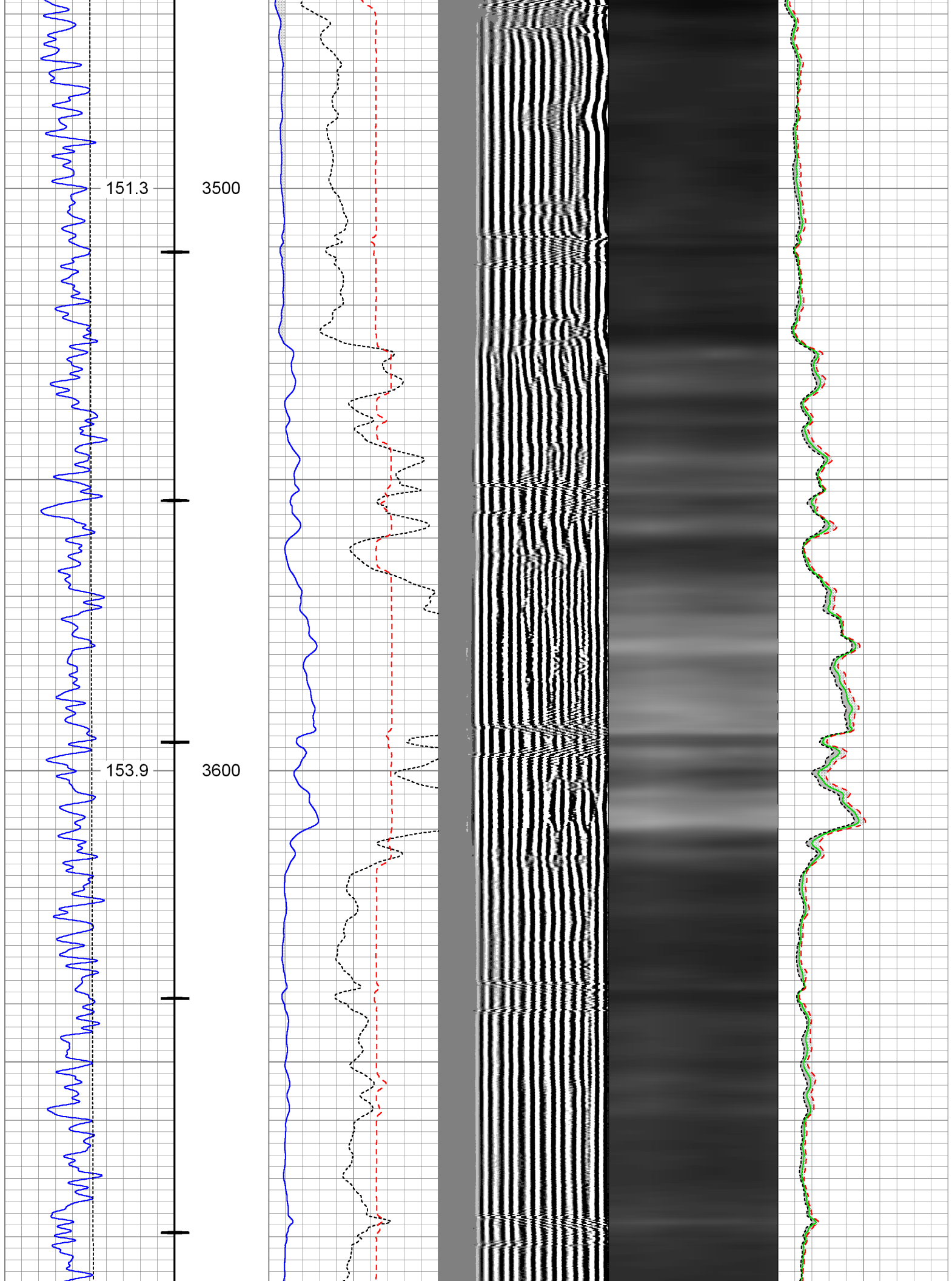


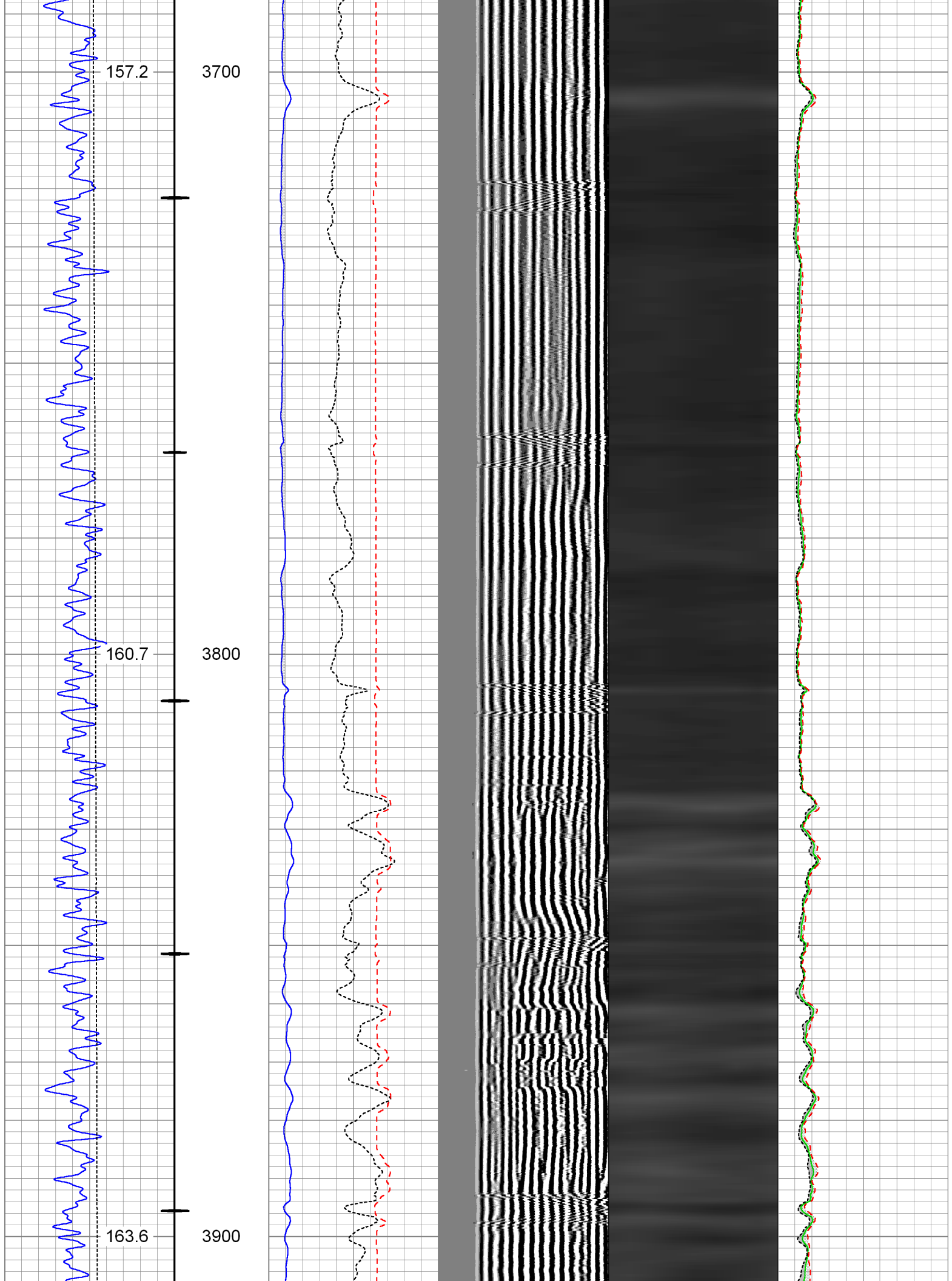


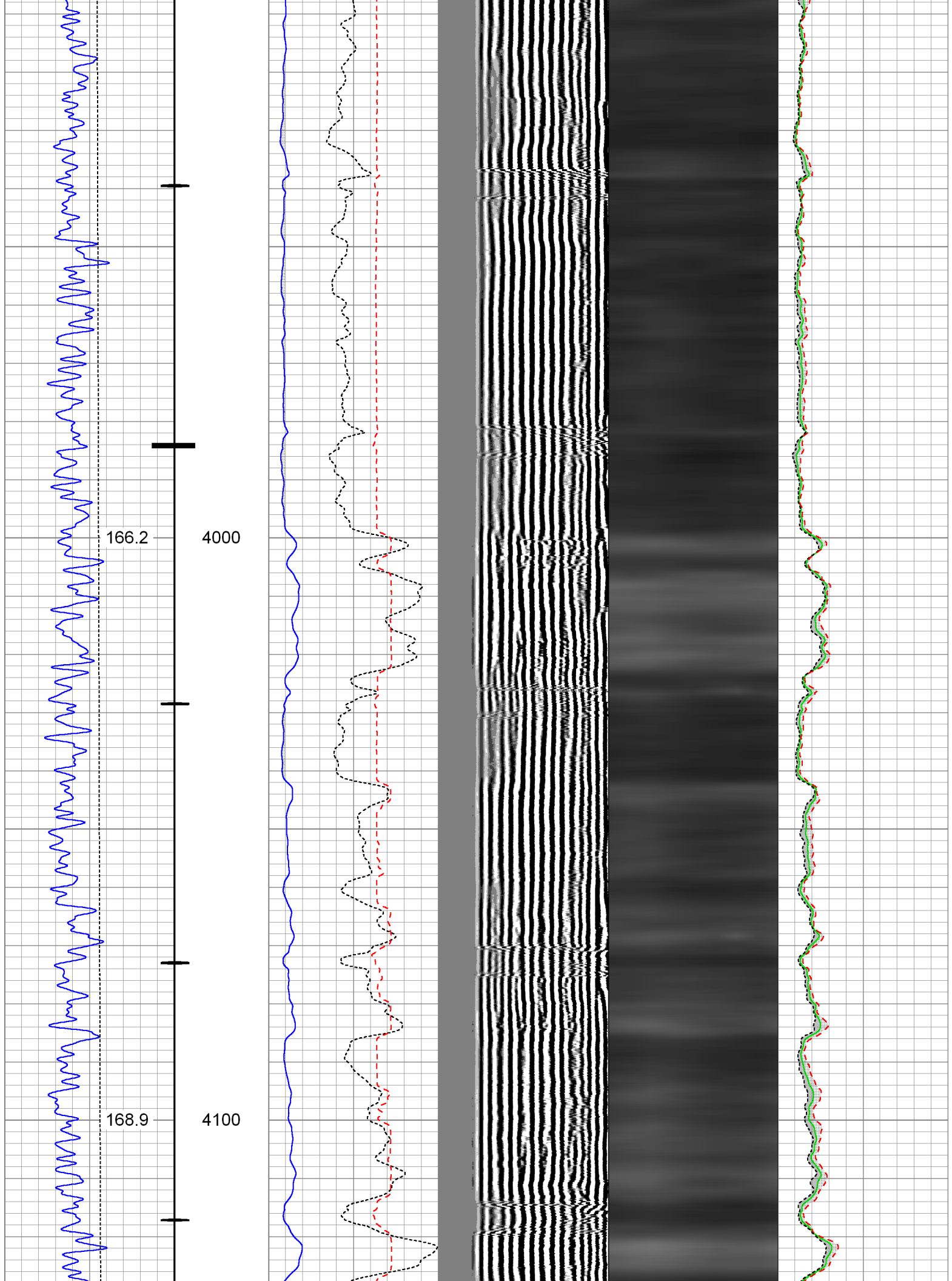


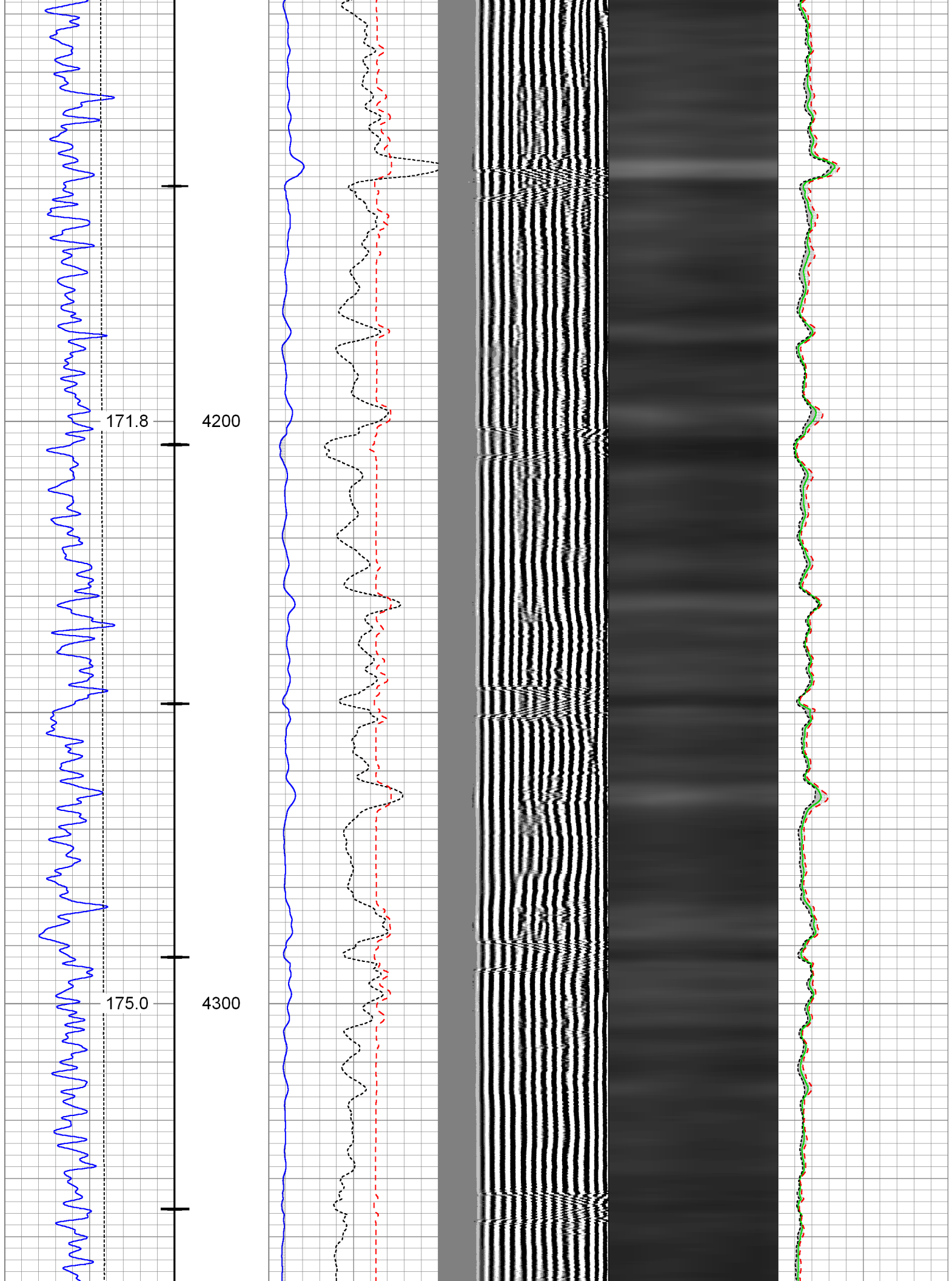


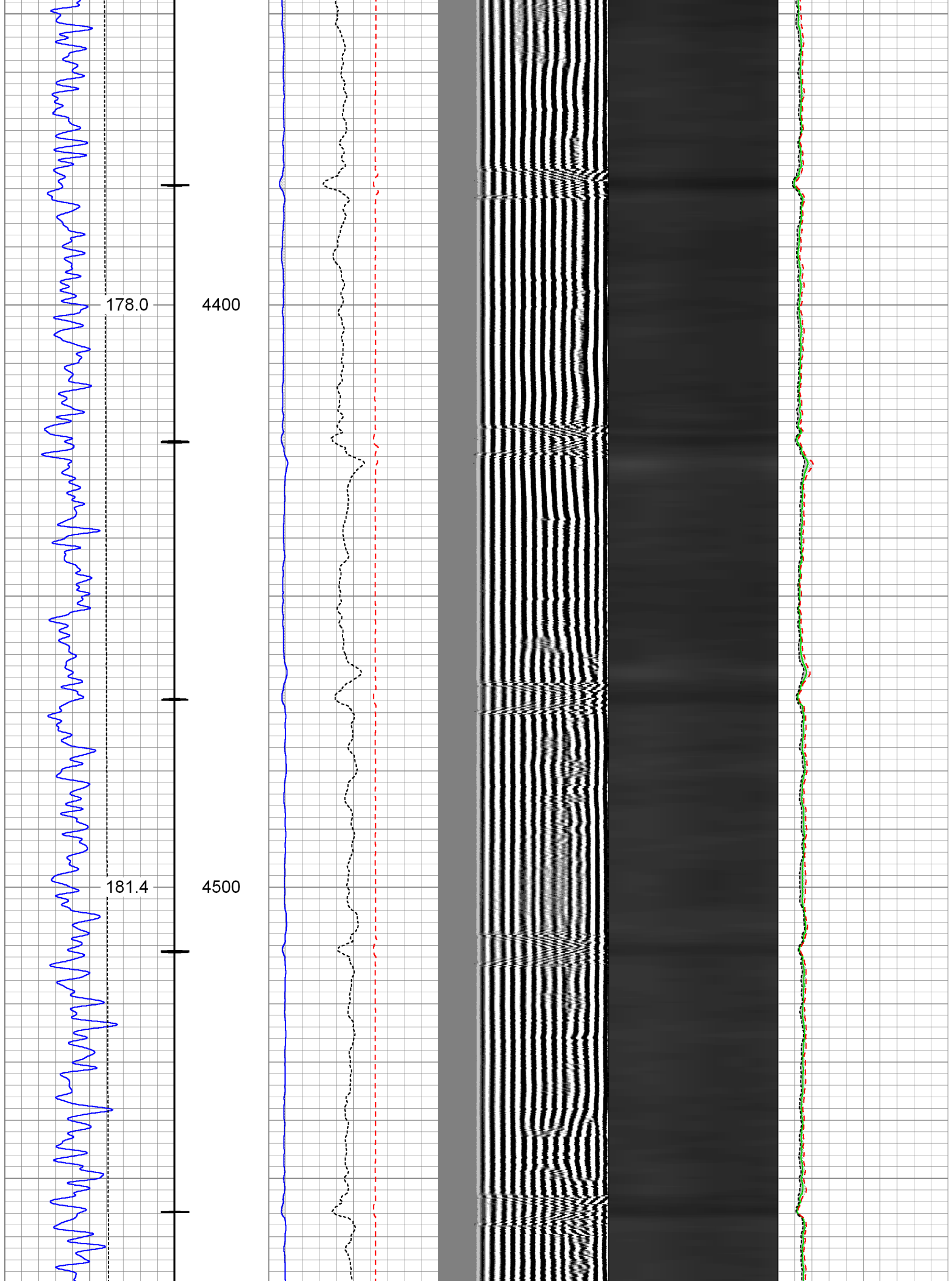


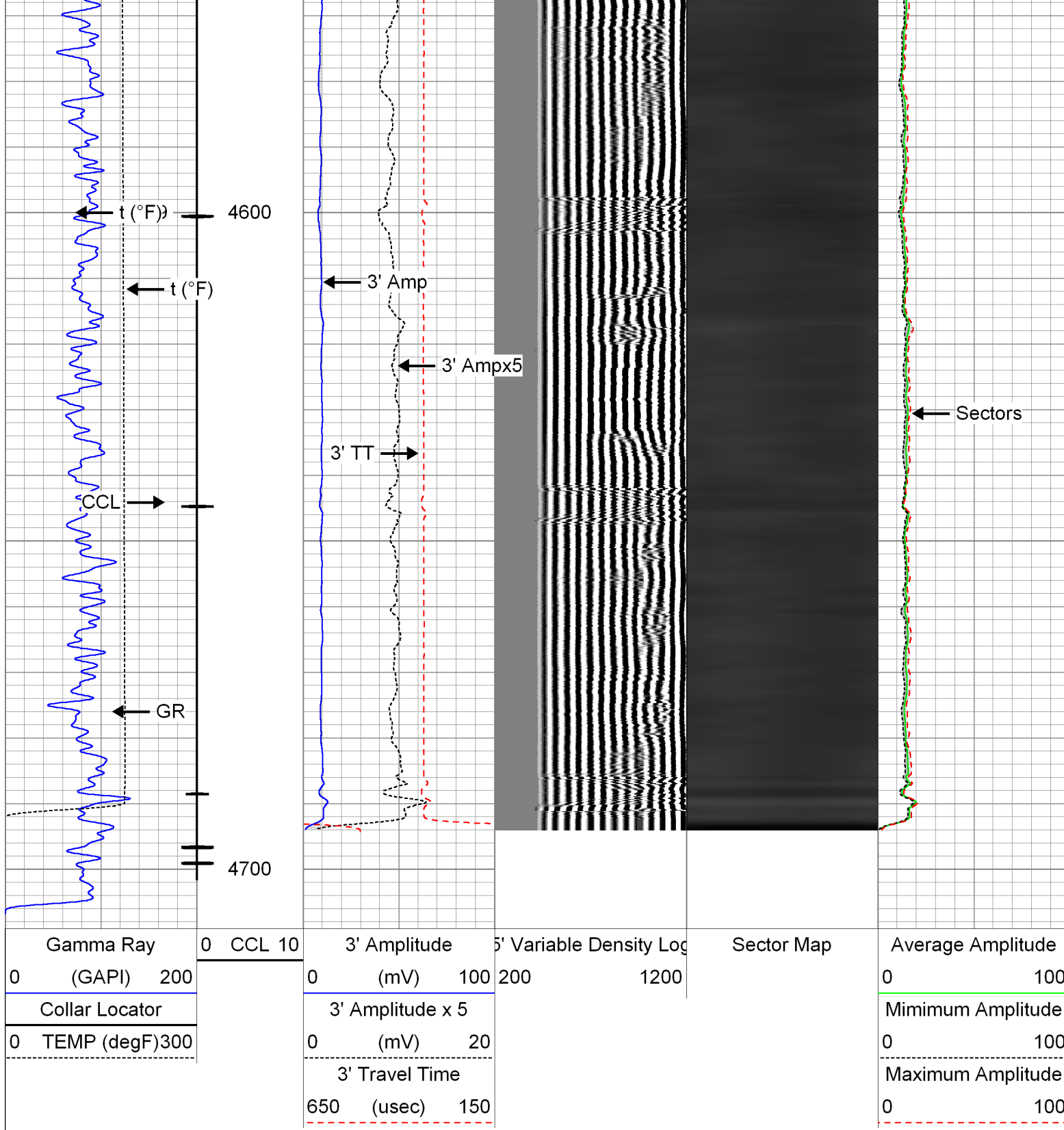










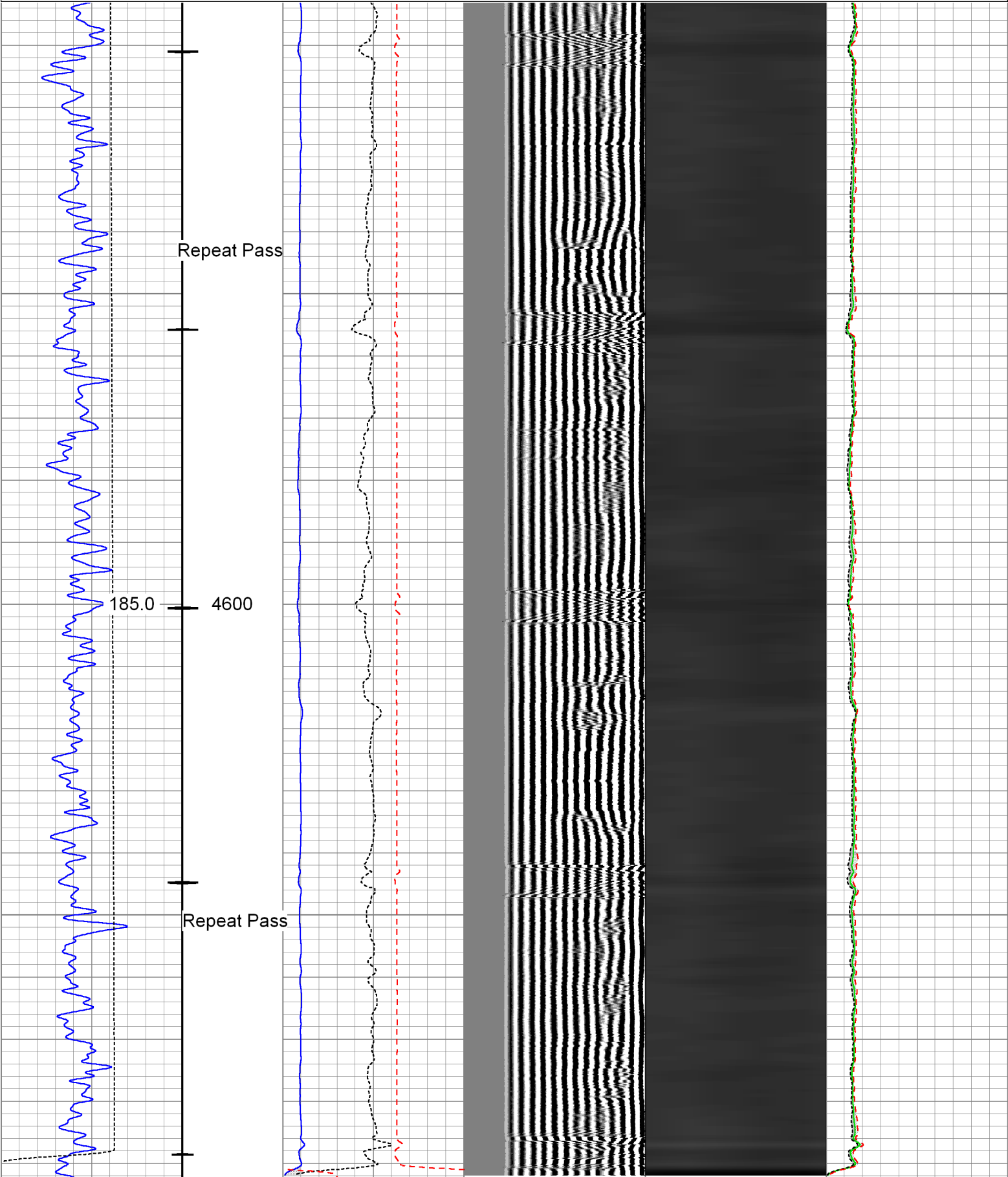


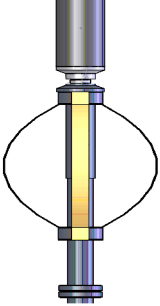
Repeat Pass

Logged With 1500 PSI @ Surface

Database File: 05-123-36773_whiting_razor 27k-3407a_rcbl_09-25-13.db
Dataset Pathname: repeatpas
Presentation Format: rbt007
Dataset Creation: Wed Sep 25 11:38:31 2013 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240

Gamma Ray			CCL			3' Amplitude			Variable Density Log			Sector Map			Average Amplitude		
0	(GAPI)	200	0		10	0	(mV)	100	200		1200				0		100
Collar Locator						3' Amplitude x 5						Minimum Amplitude					
0	TEMP (degF)	300				0	(mV)	20							0		100
						3' Travel Time						Maximum Amplitude					
						650	(usec)	150							0		100



GR	3.67		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Dataset: 05-123-36773_whiting_razor 27k-3407a_rcbl_09-25-13.db: field/well/run1/main Total Length: 24.88 ft Total Weight: 235.00 lb O.D. 2.75 in						

Calibration Report	
Database File:	05-123-36773_whiting_razor 27k-3407a_rcbl_09-25-13.db
Dataset Pathname:	repeatpas
Dataset Creation:	Wed Sep 25 11:38:31 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:	-0.313	ft

Master Calibration, performed Wed Sep 25 11:17:52 2013:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.005	0.744	0.800	62.165	81.956	1.229
CAL	1.090	1.052				
5'	-0.004	0.840	0.800	62.165	72.716	1.117
SUM						
S1	-0.014	0.704	0.000	100.000	139.258	1.952
S2	-0.006	0.717	0.000	100.000	138.374	0.767
S3	-0.006	0.735	0.000	100.000	134.914	0.848
S4	-0.006	0.767	0.000	100.000	129.356	0.815
S5	-0.005	0.781	0.000	100.000	127.248	0.679
S6	-0.005	0.773	0.000	100.000	128.585	0.623
S7	-0.008	0.737	0.000	100.000	134.273	1.090
S8	-0.004	0.726	0.000	100.000	136.972	0.575

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	1.090	1.052	1.000	0.000

Air Zero Calibration, performed Wed Sep 25 11:17:30 2013:

	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-3407A
	Field	Wildcat
	County	Weld
	State	Colorado