



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Whiting Oil & Gas Corporation			
Well				Razor 271-3415A			
Field				Wildcat			
County				Weld			
State				Colorado			
Location:				API # : 05-123-37898			
Permanent Datum				SHL: 2394' FSL 692' FEL			
Log Measured From				Lat/Long: 40.808911/-103.844178			
Drilling Measured From				SEC 27 TWP 10N RGE 58W			
Ground Level				Elevation 4758'			
Kelly Bushing				17 FT			
Kelly Bushing				K.B. 4775'			
				D.F. 4774'			
				G.L. 4758'			
Date				09-JAN-2014			
Run Number				One			
Depth Driller				12520 FT			
Depth Logger				4801 FT			
Bottom Logged Interval				4798 FT			
Top Log Interval				Surface			
Open Hole Size				9.625"			
Type Fluid				Water			
Density / Viscosity				8.34 LB/GAL			
Max. Recorded Temp.				186 F			
Estimated Cement Top				125 FT			
Time Well Ready				ROA			
Time Logger on Bottom				---			
Equipment Number				HD 0255			
Location				Fort Lupton, CO			
Recorded By				Greg Jackson			
Witnessed By				Mark Villereal			
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			
HCL-80				4833 FT			
				12515 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 is Primary Log
RCBL Logged with 1500 PSI Induced pressure @ surface
Estimated Top of Cement @ 125'

Thank you for choosing FMC Technologies Completion Services, Inc.

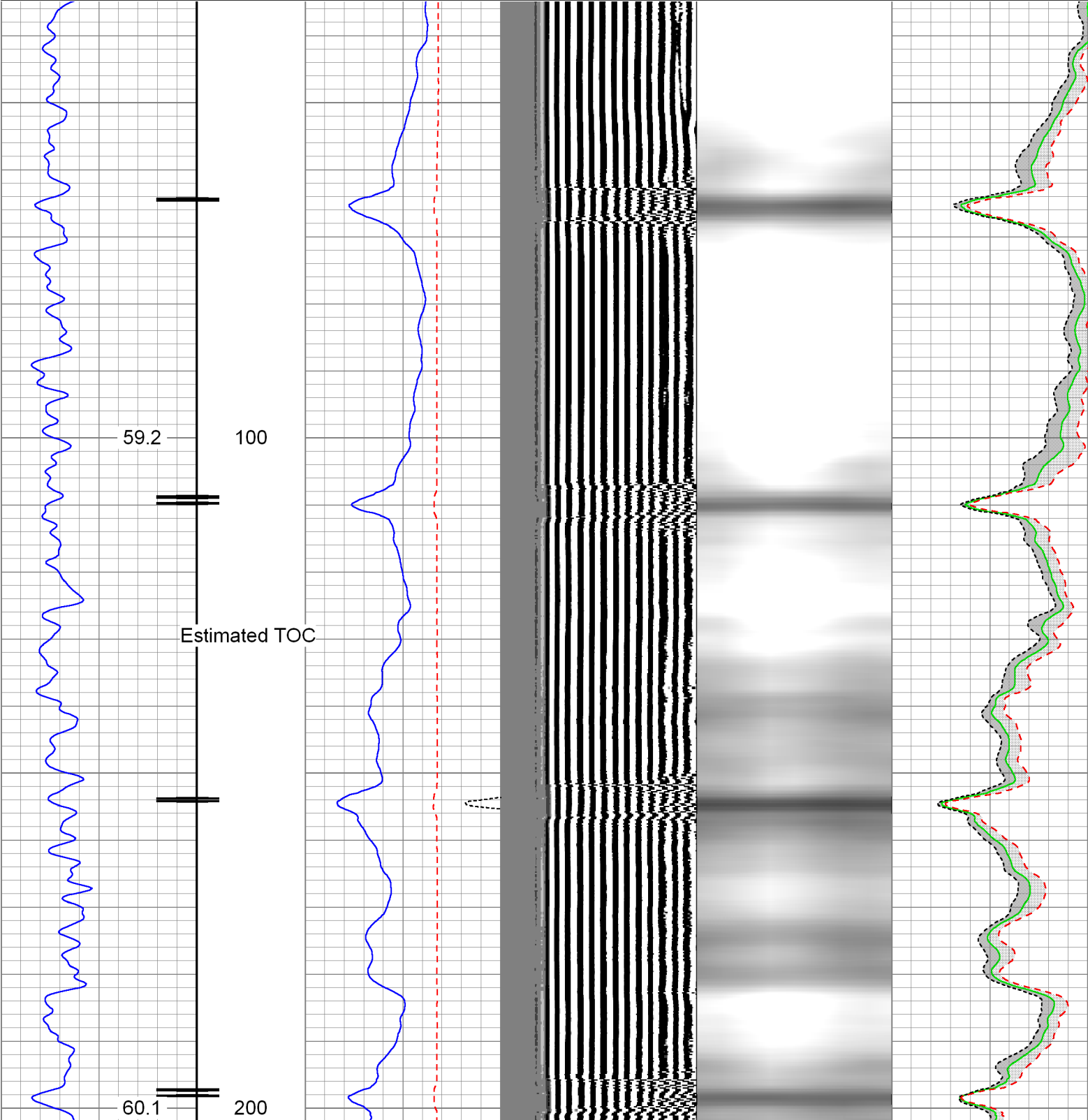


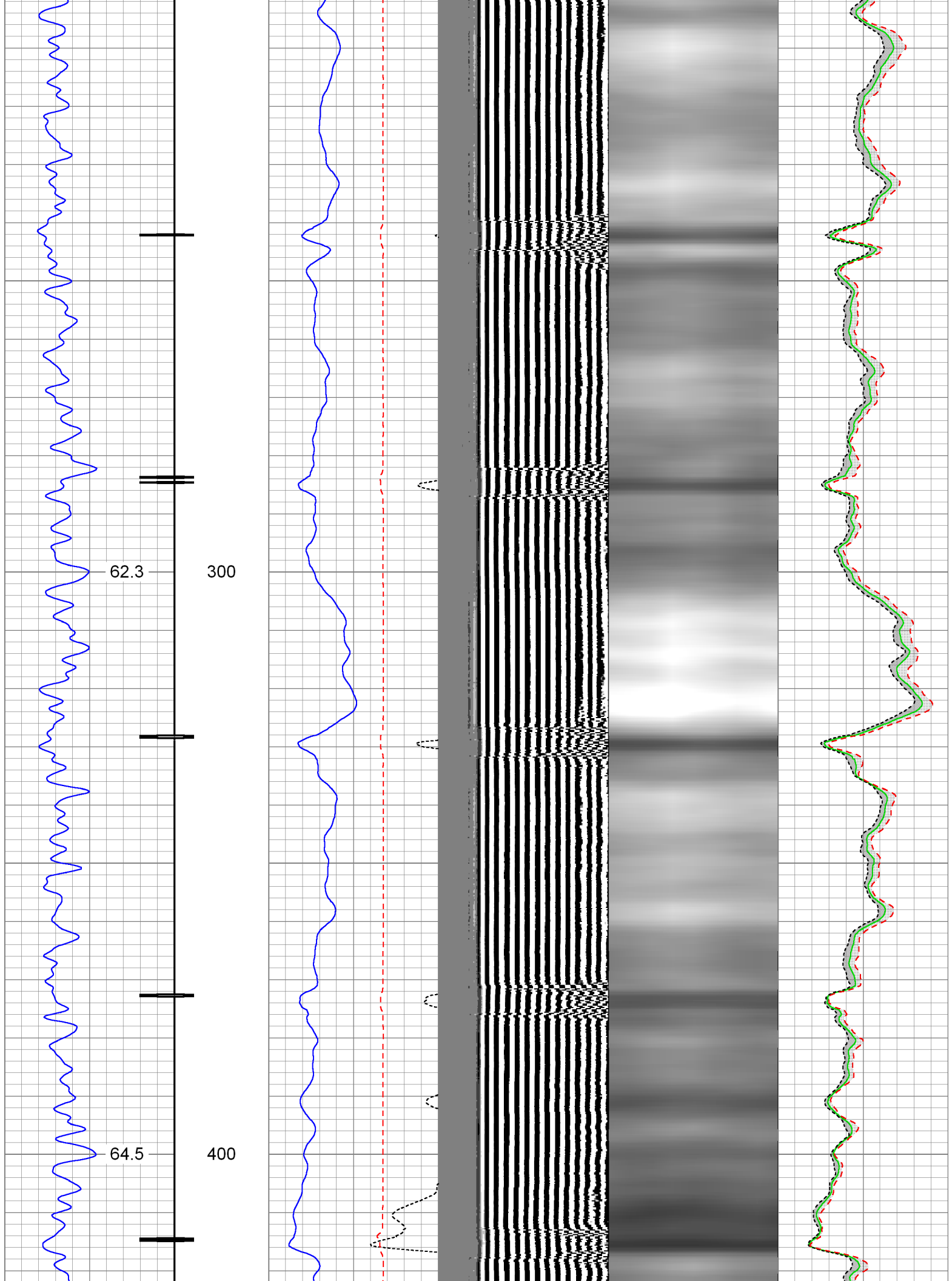
Main Pass

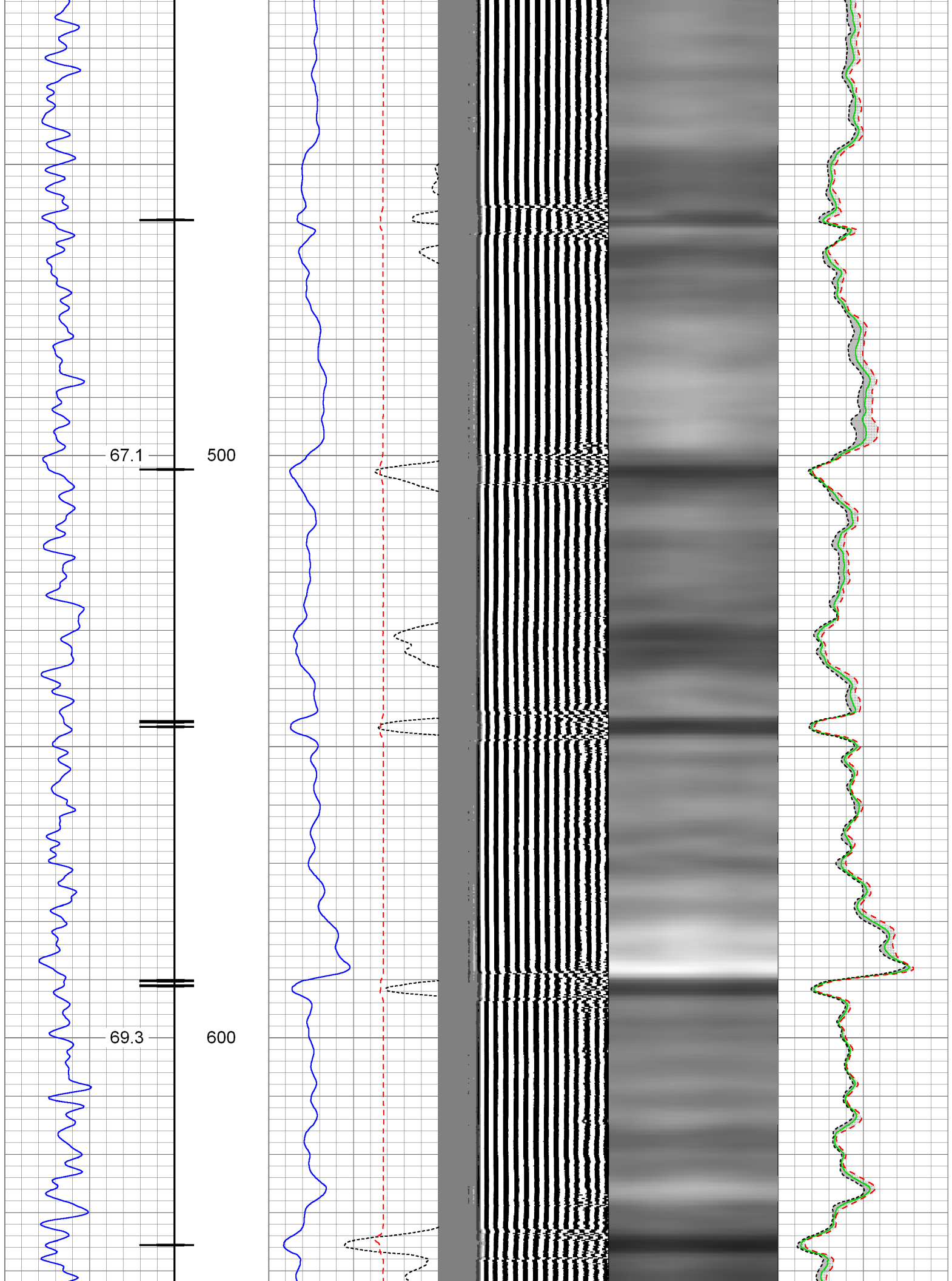
Logged with 1500 Induced Surface Pressure

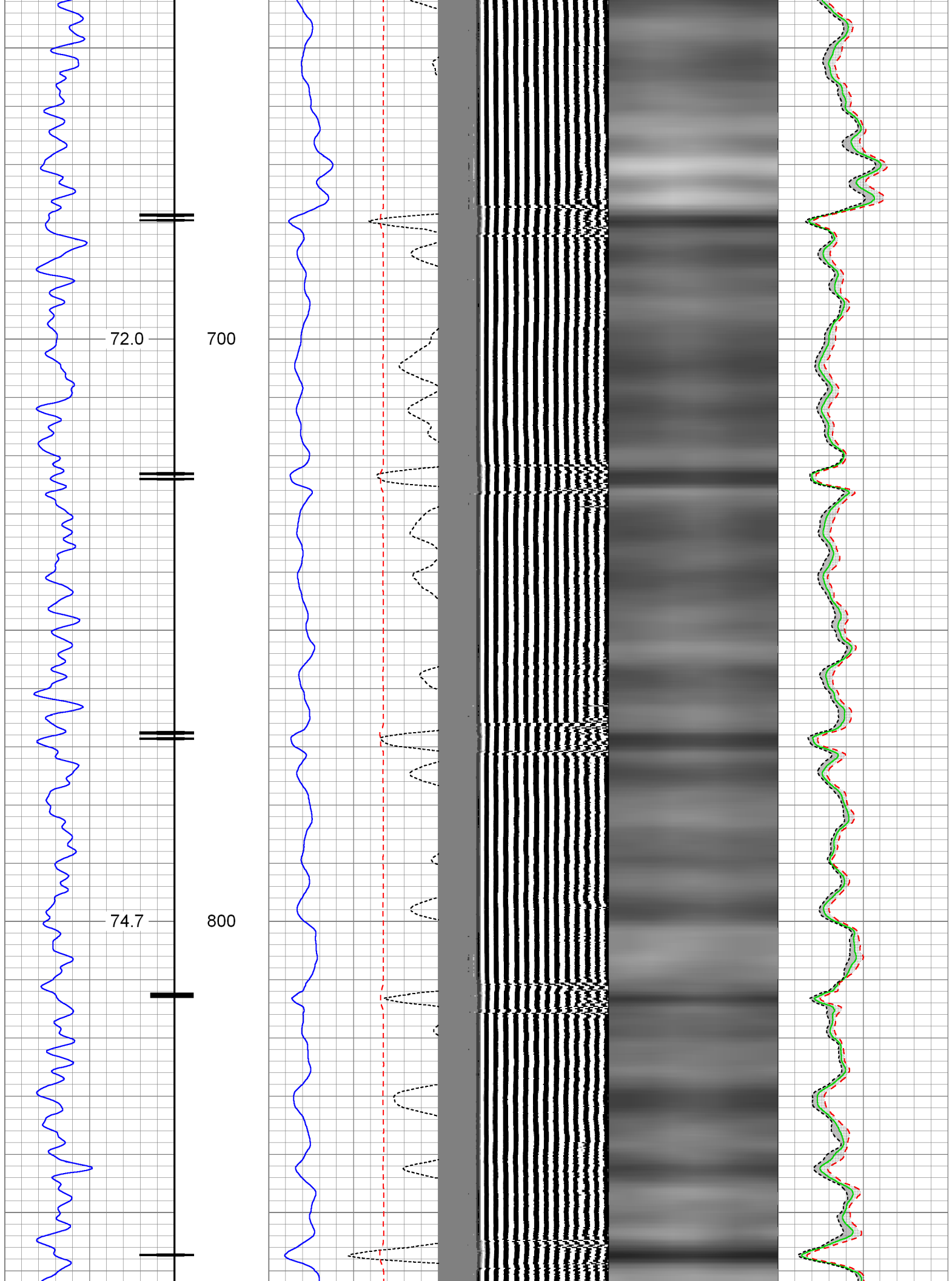
Database File: 01-09-14_whiting_razor 27i-3415a_rbl.db
Dataset Pathname: rcbl2
Presentation Format: rbt007
Dataset Creation: Thu Jan 09 17:55:37 2014 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240

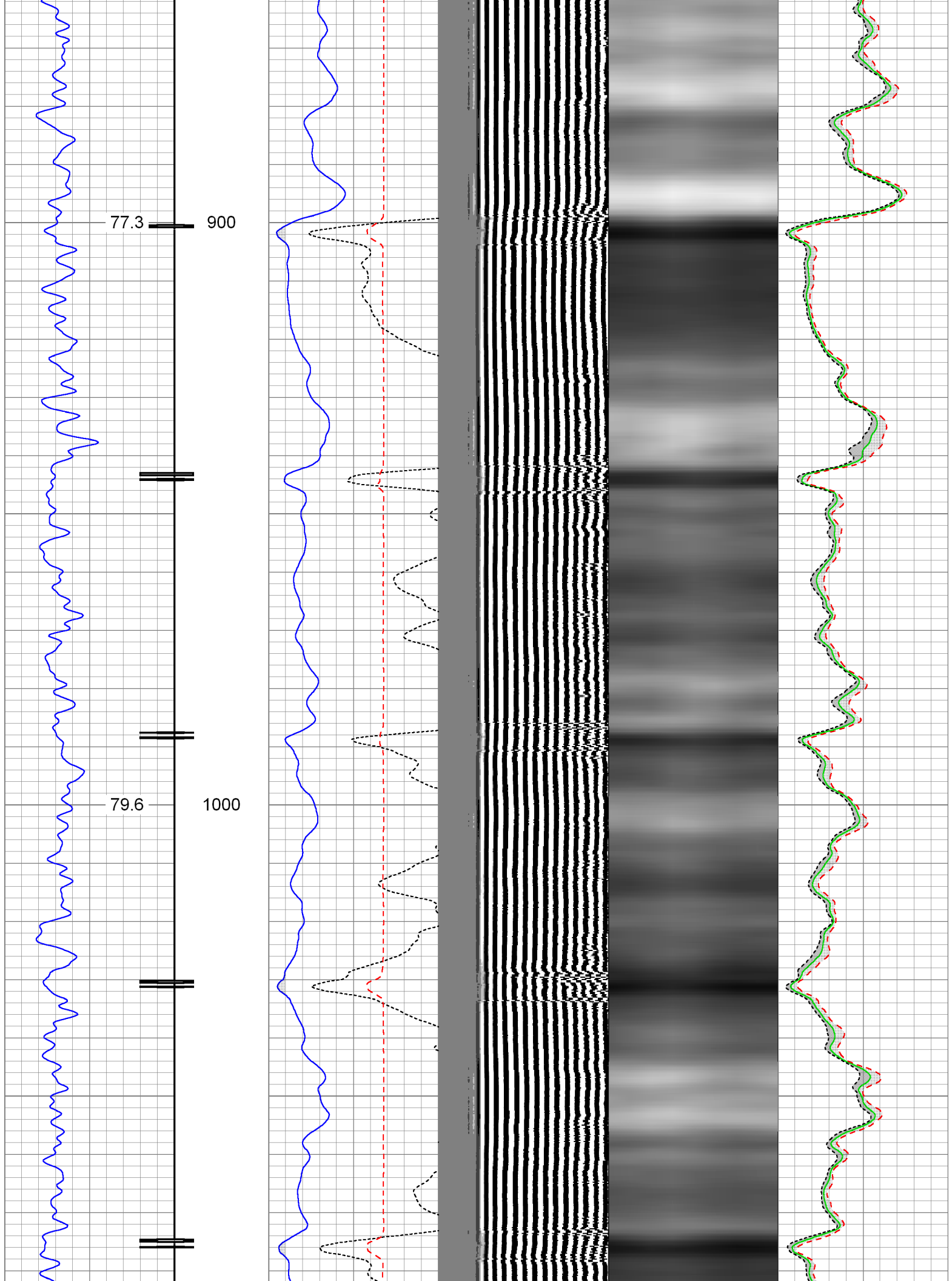
Gamma Ray	0 CCL 10	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120		0 (mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

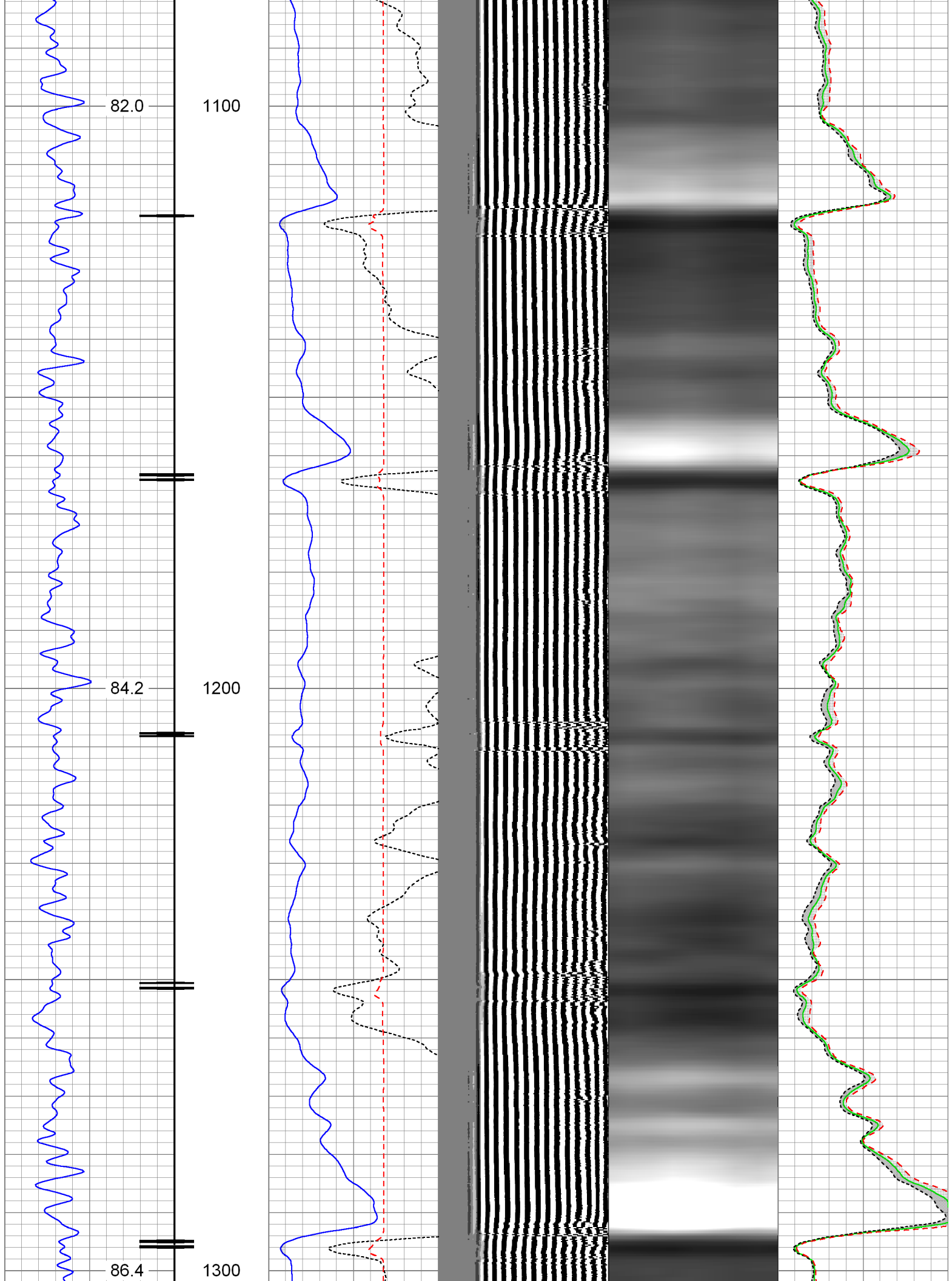


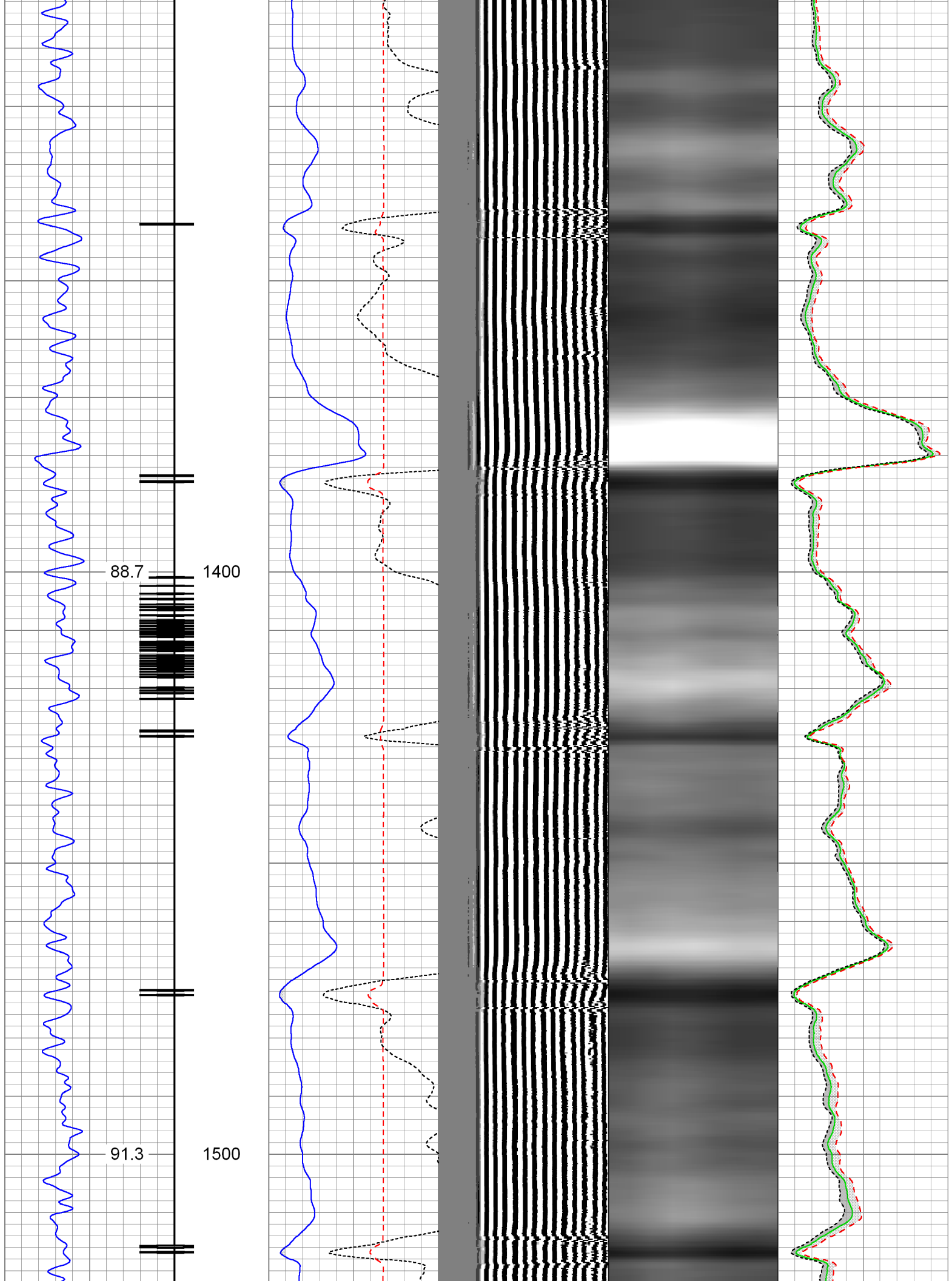


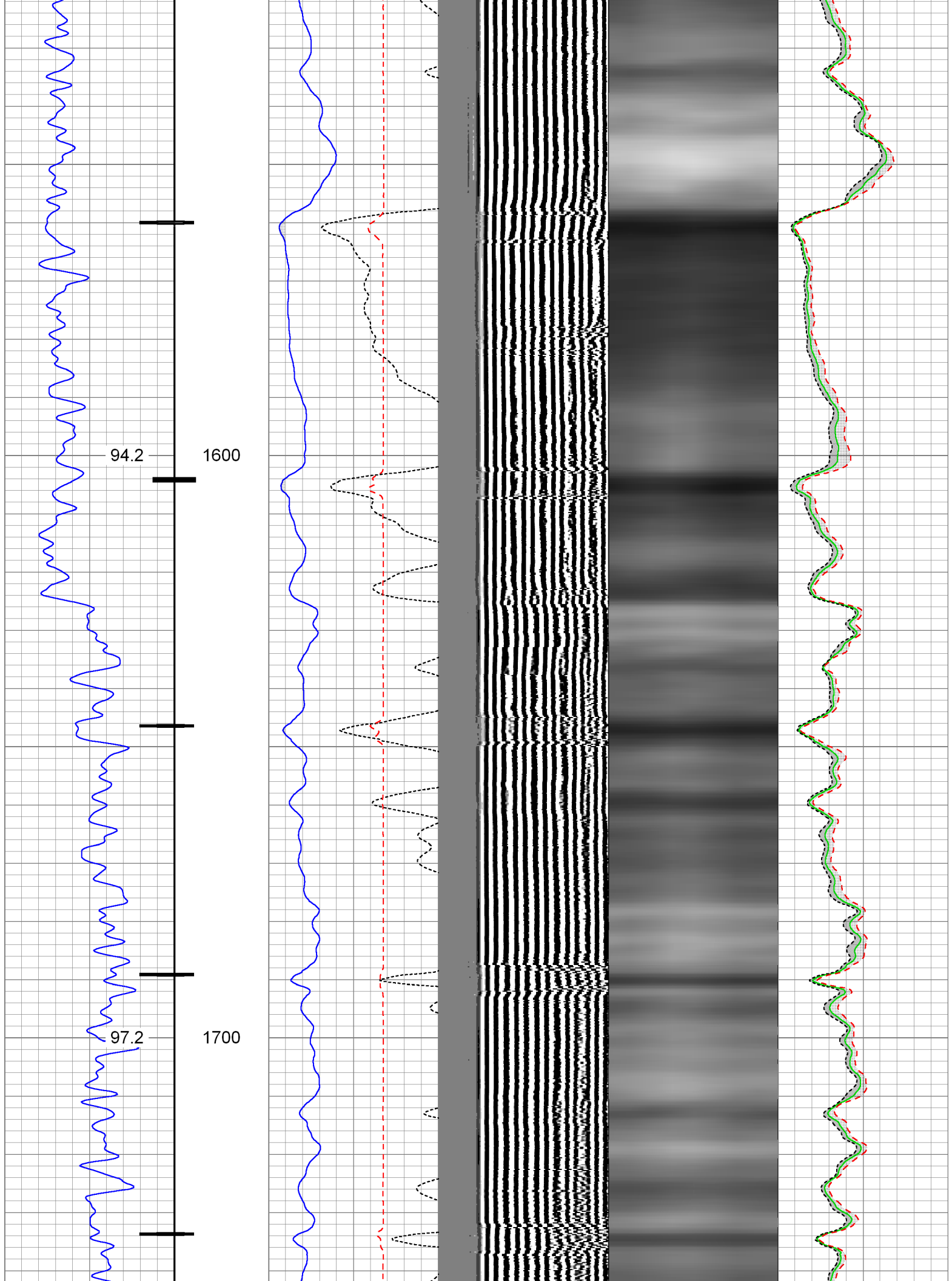


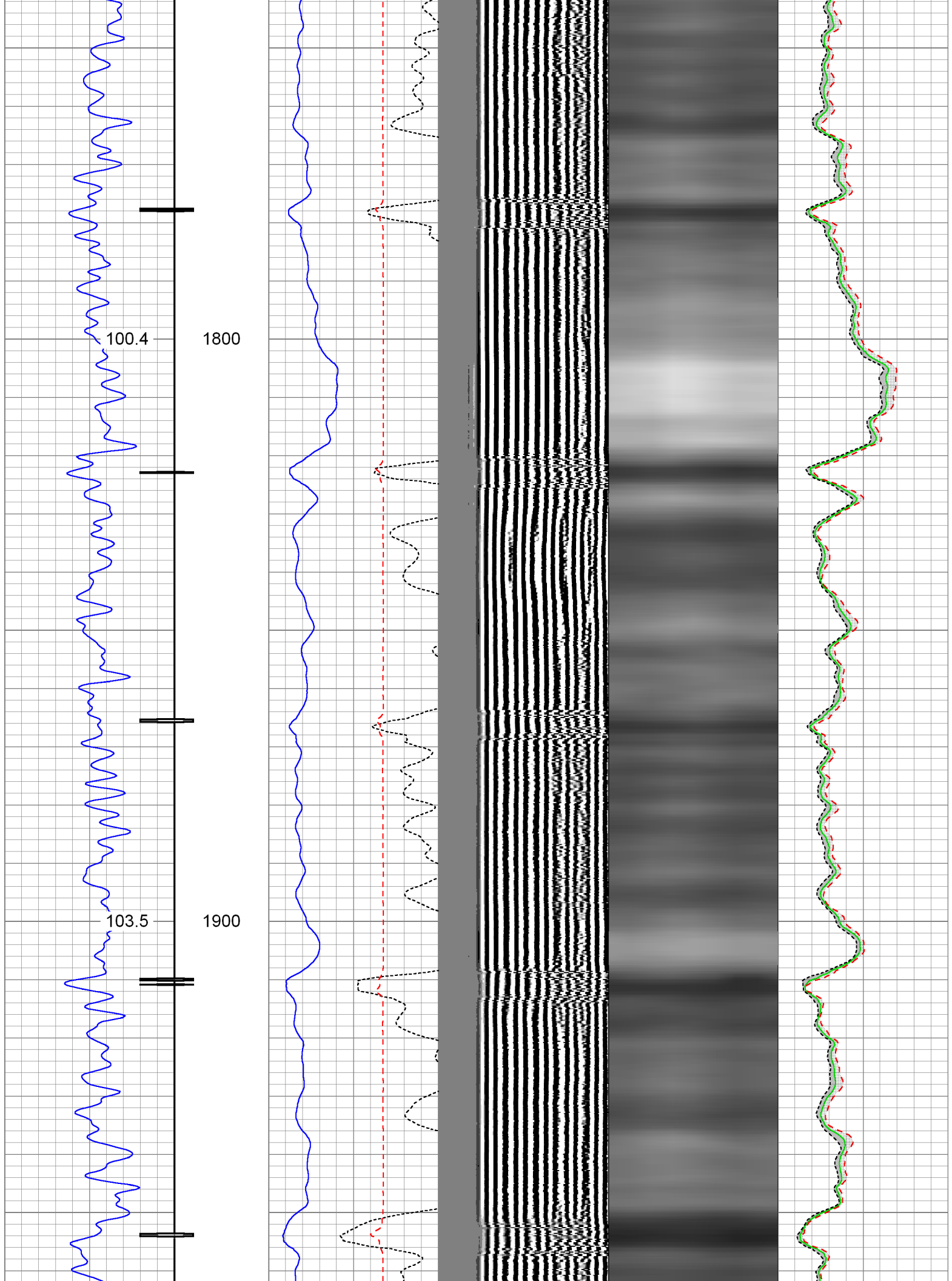


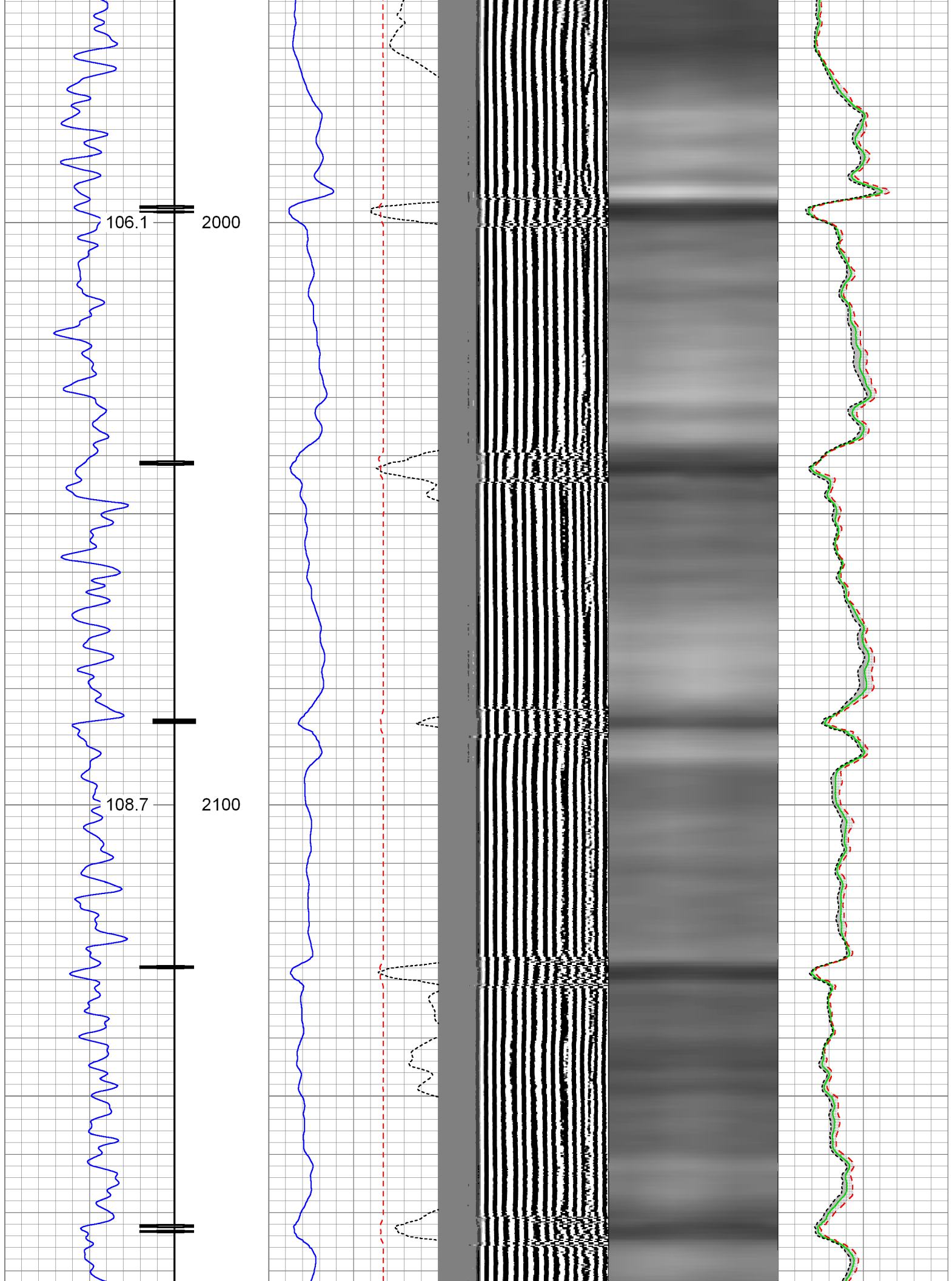


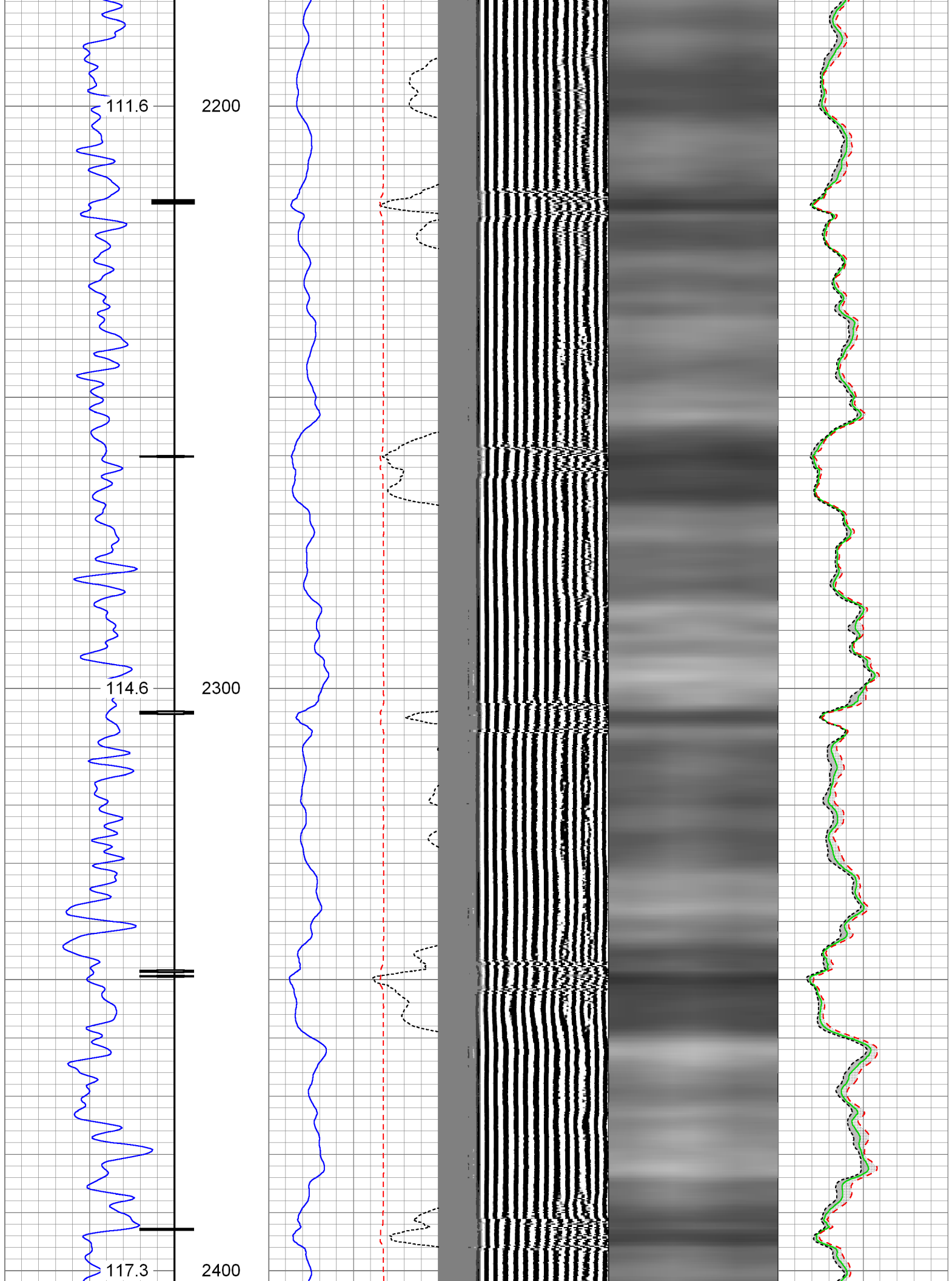


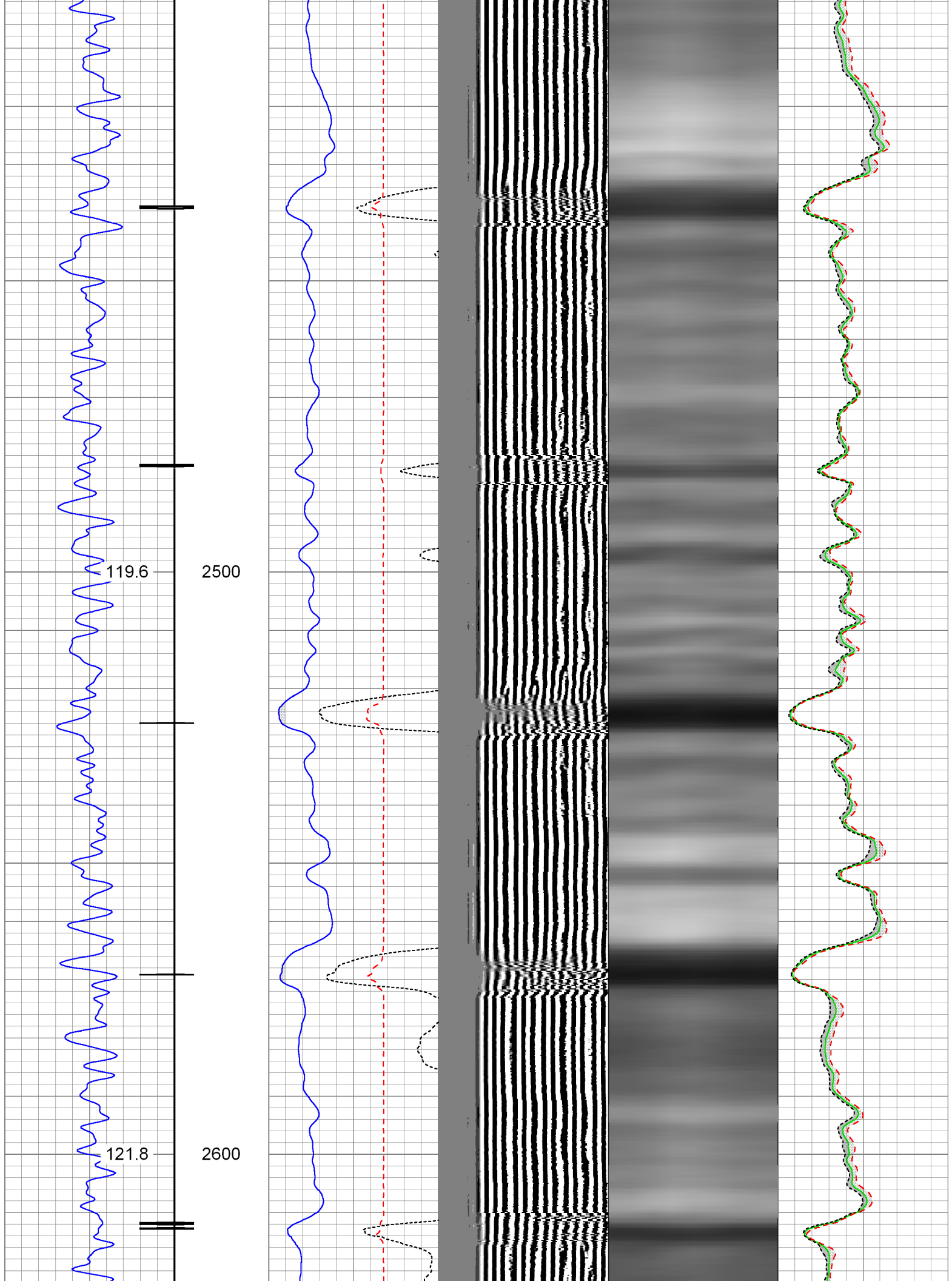


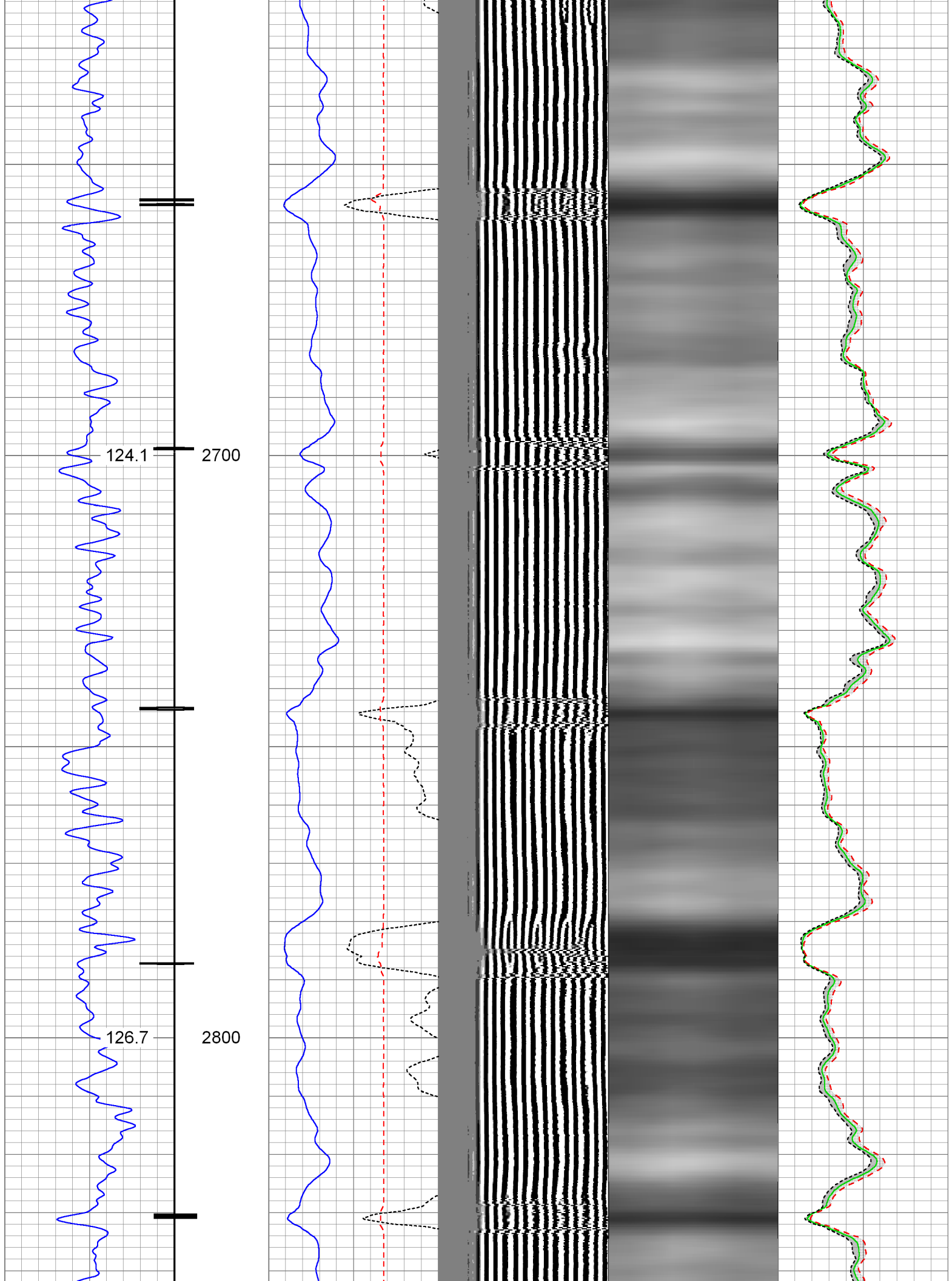


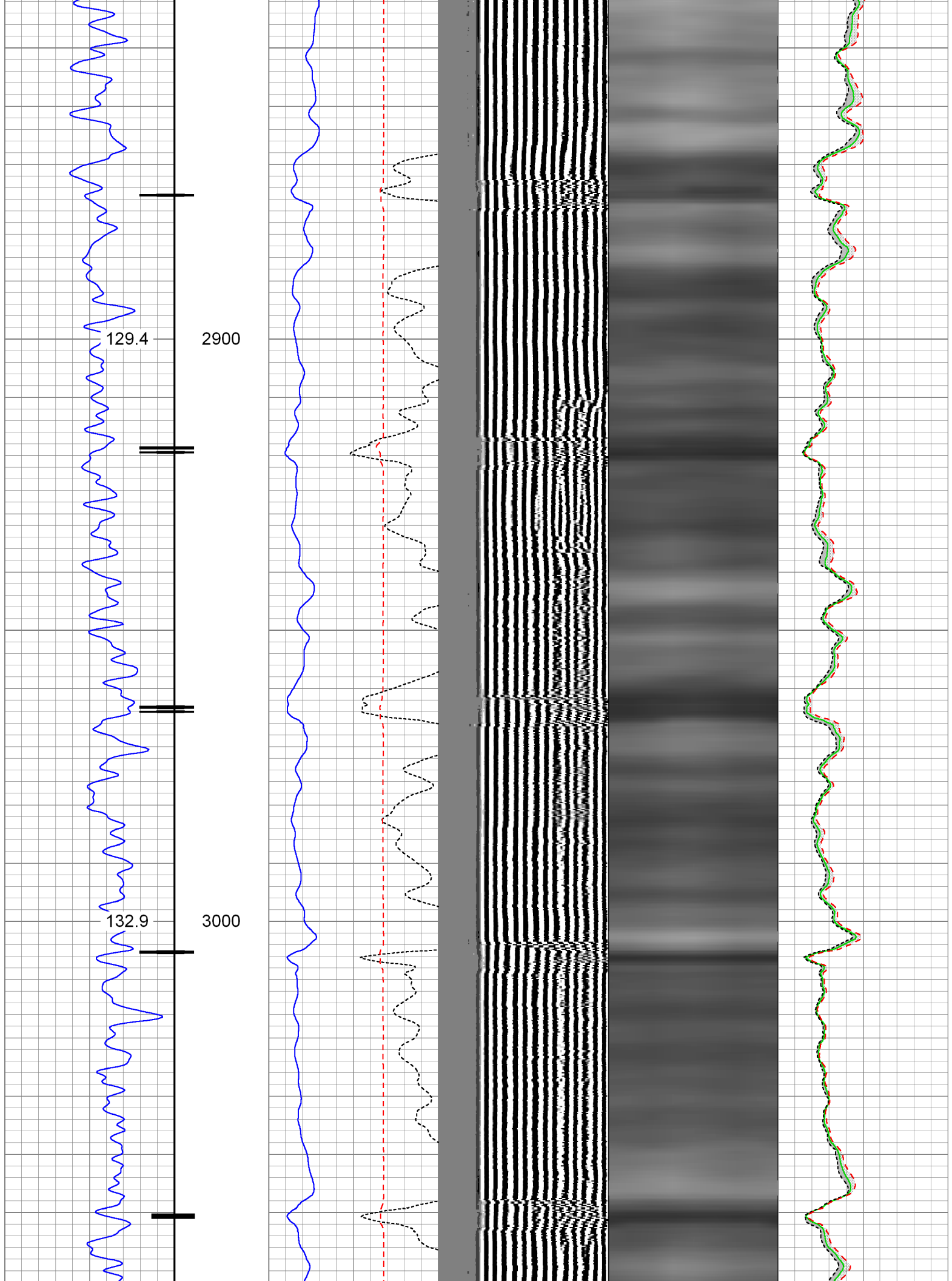


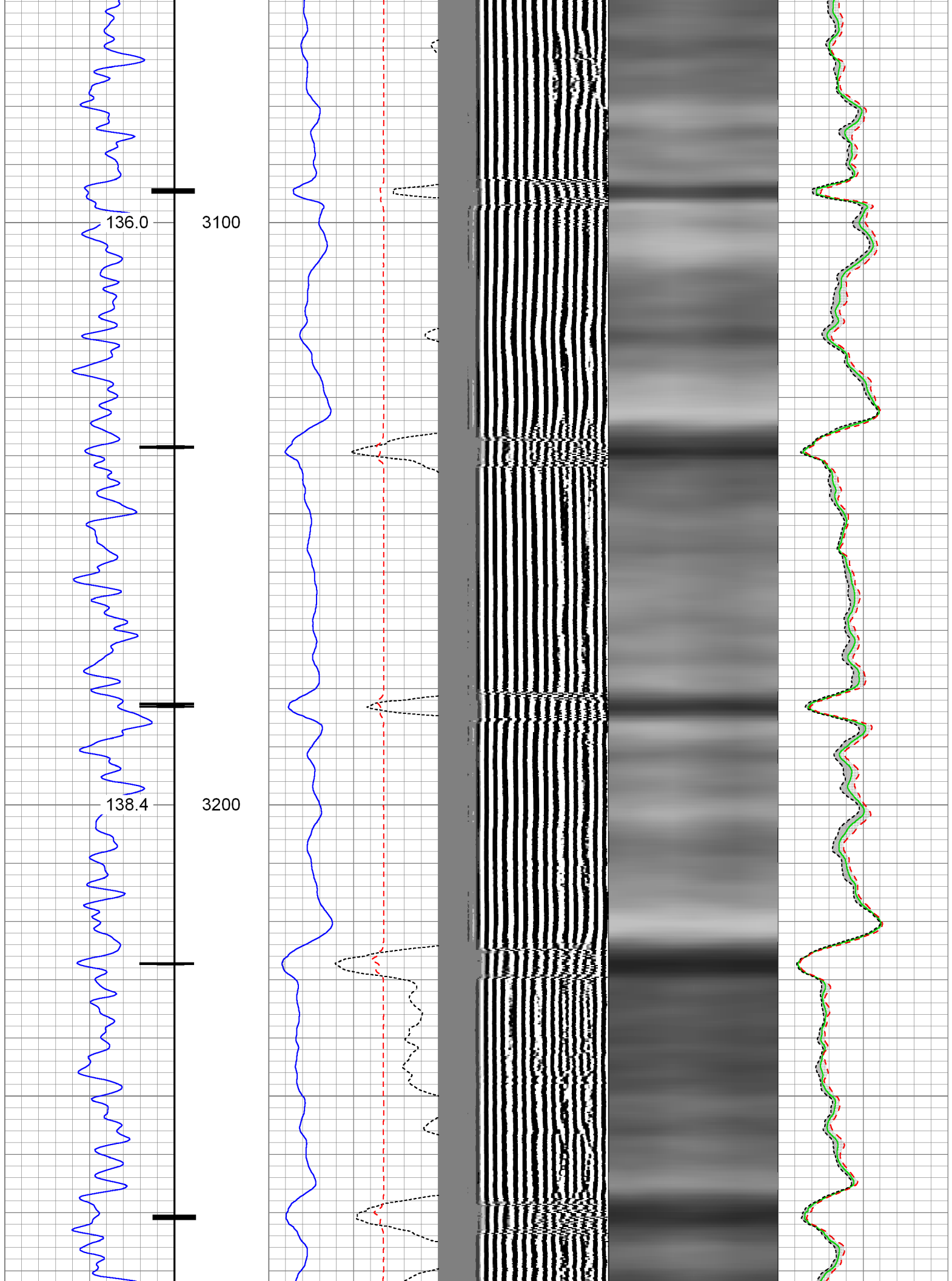


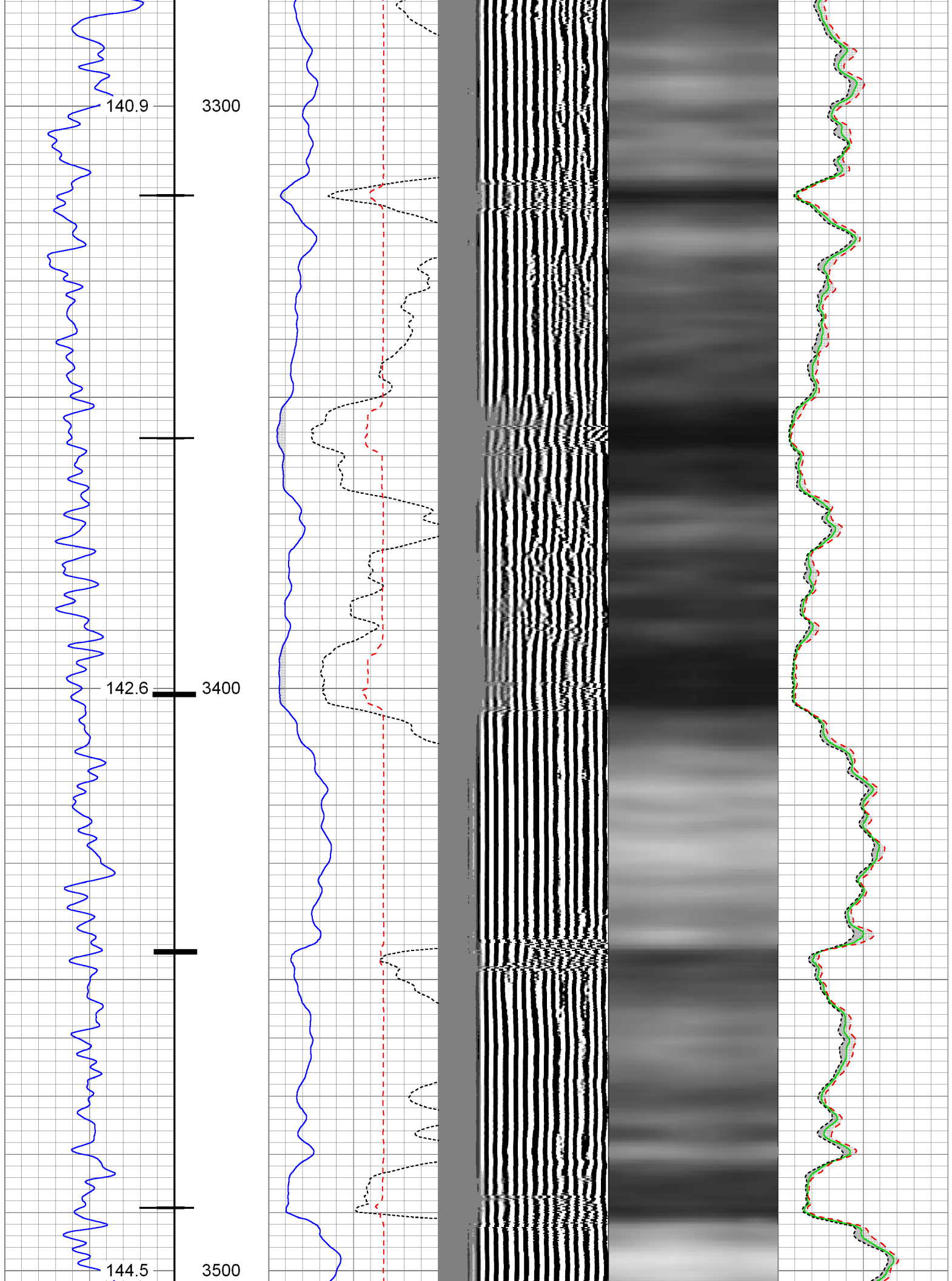


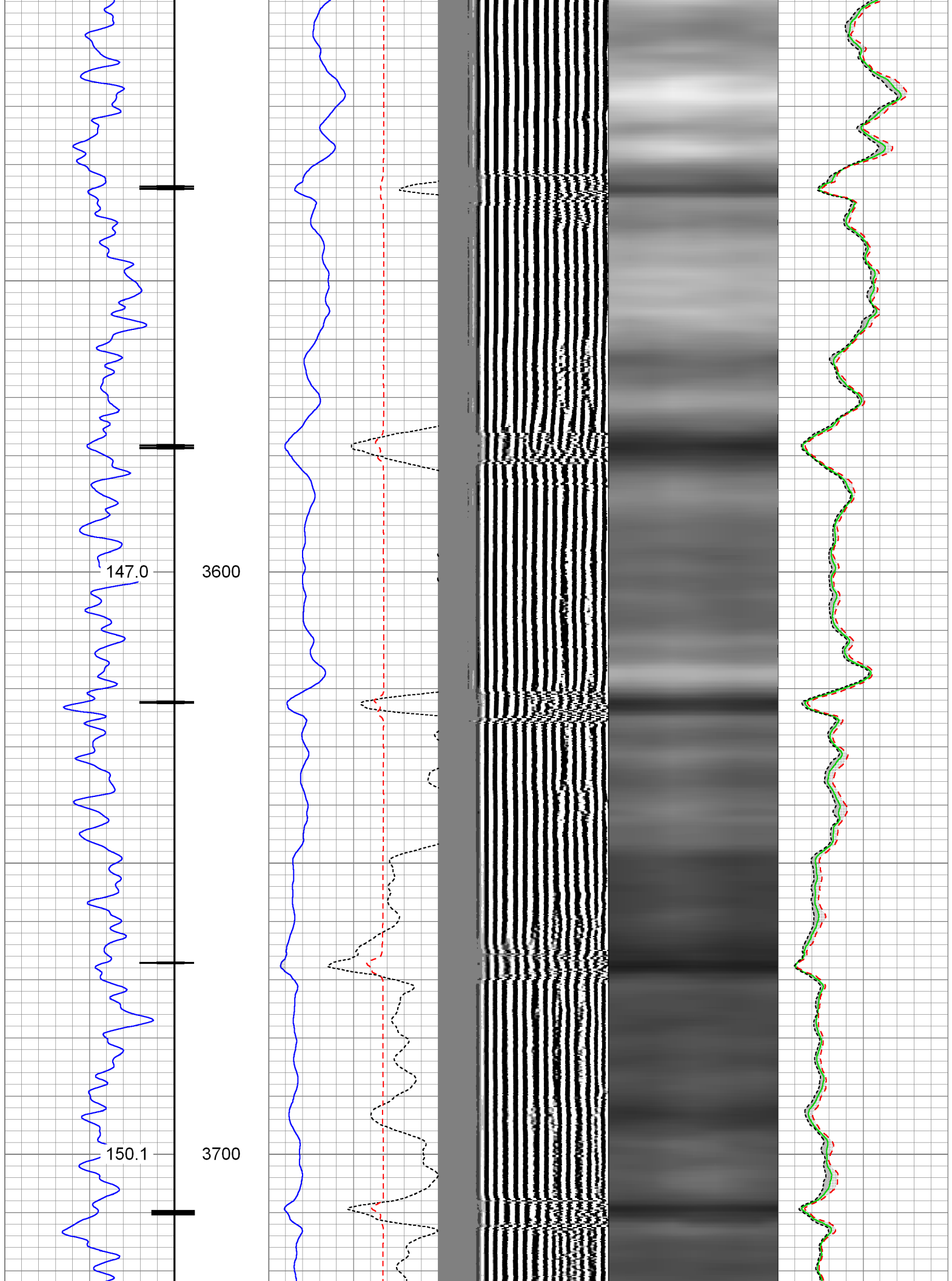


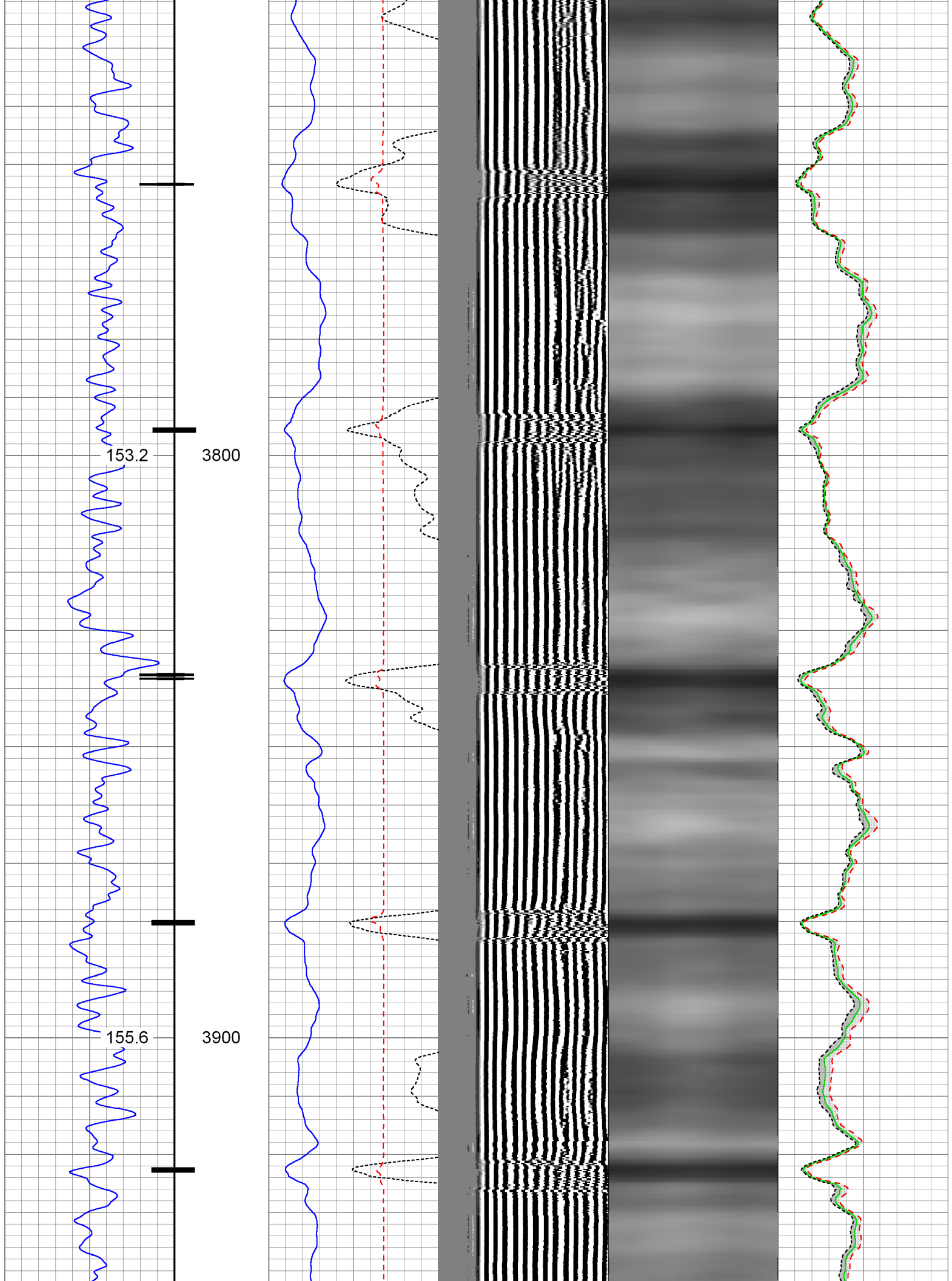


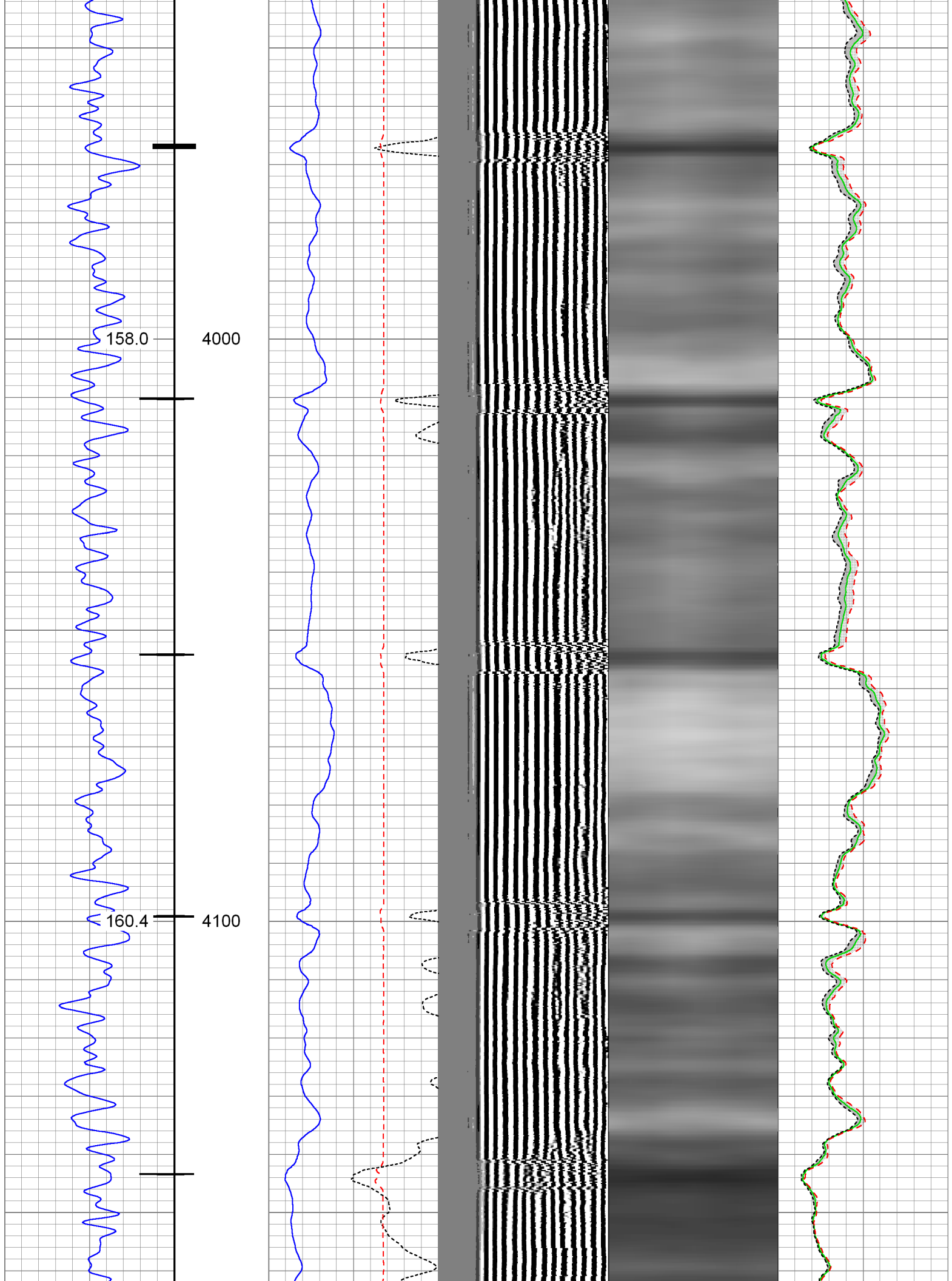


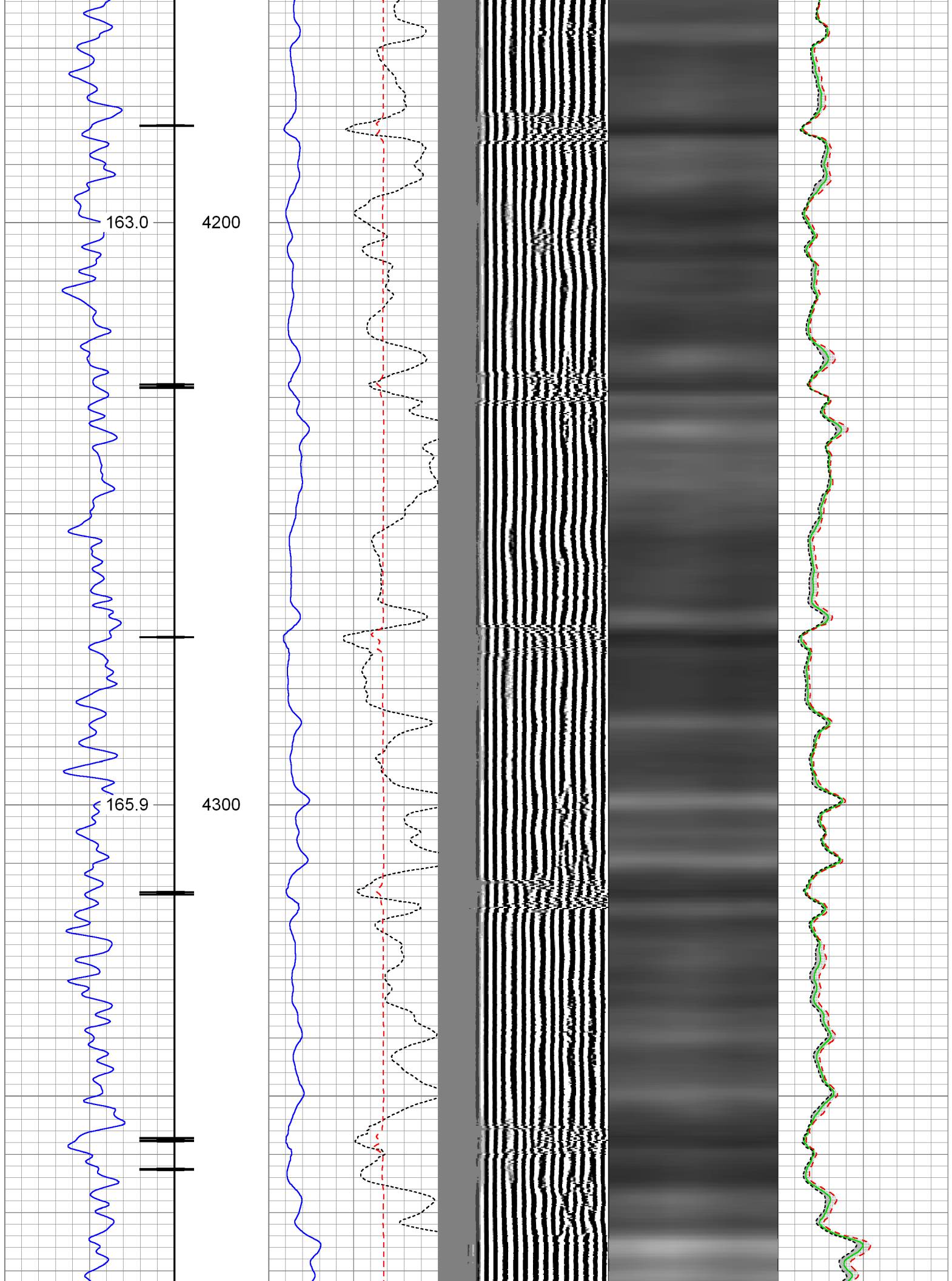


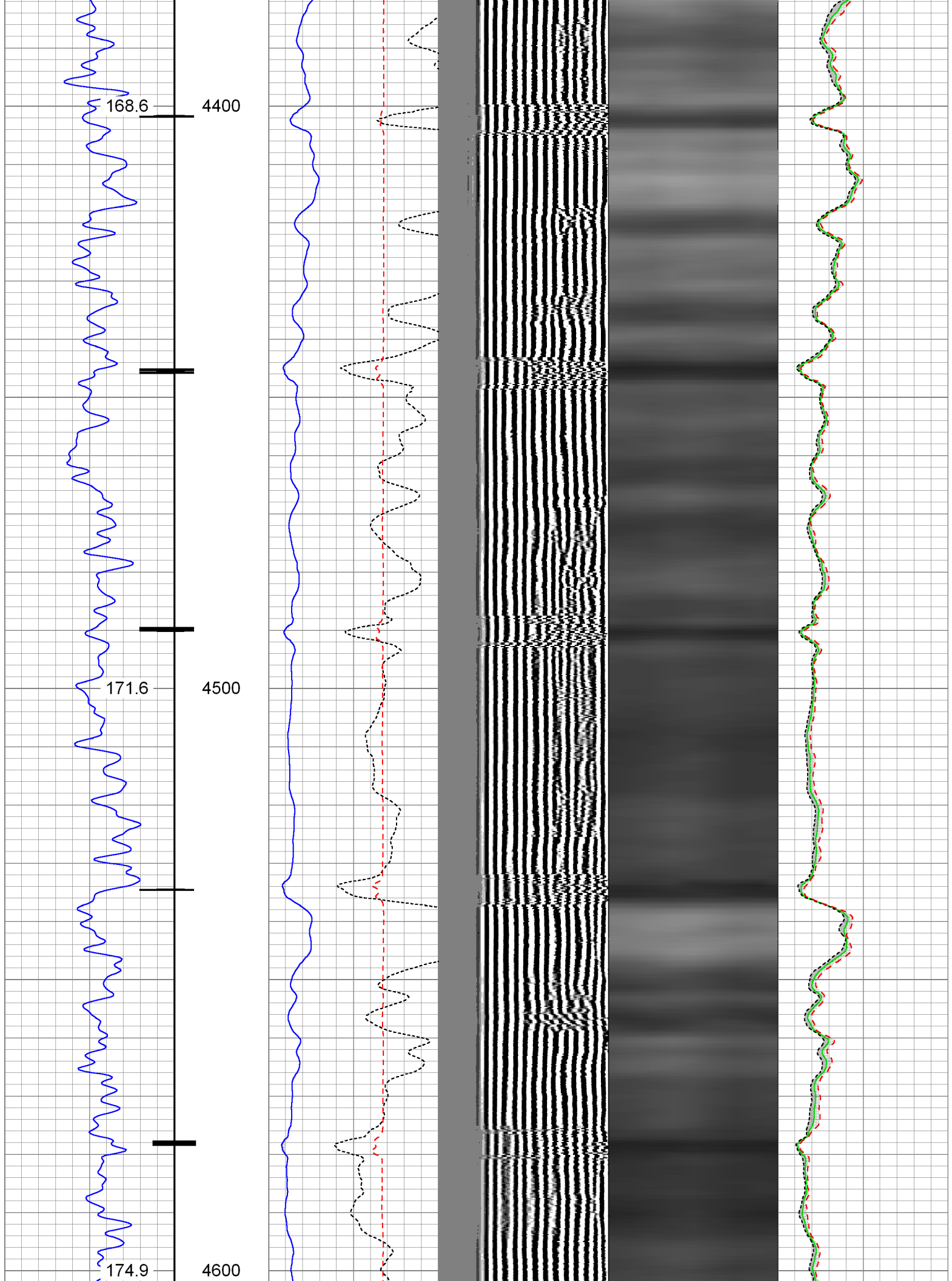


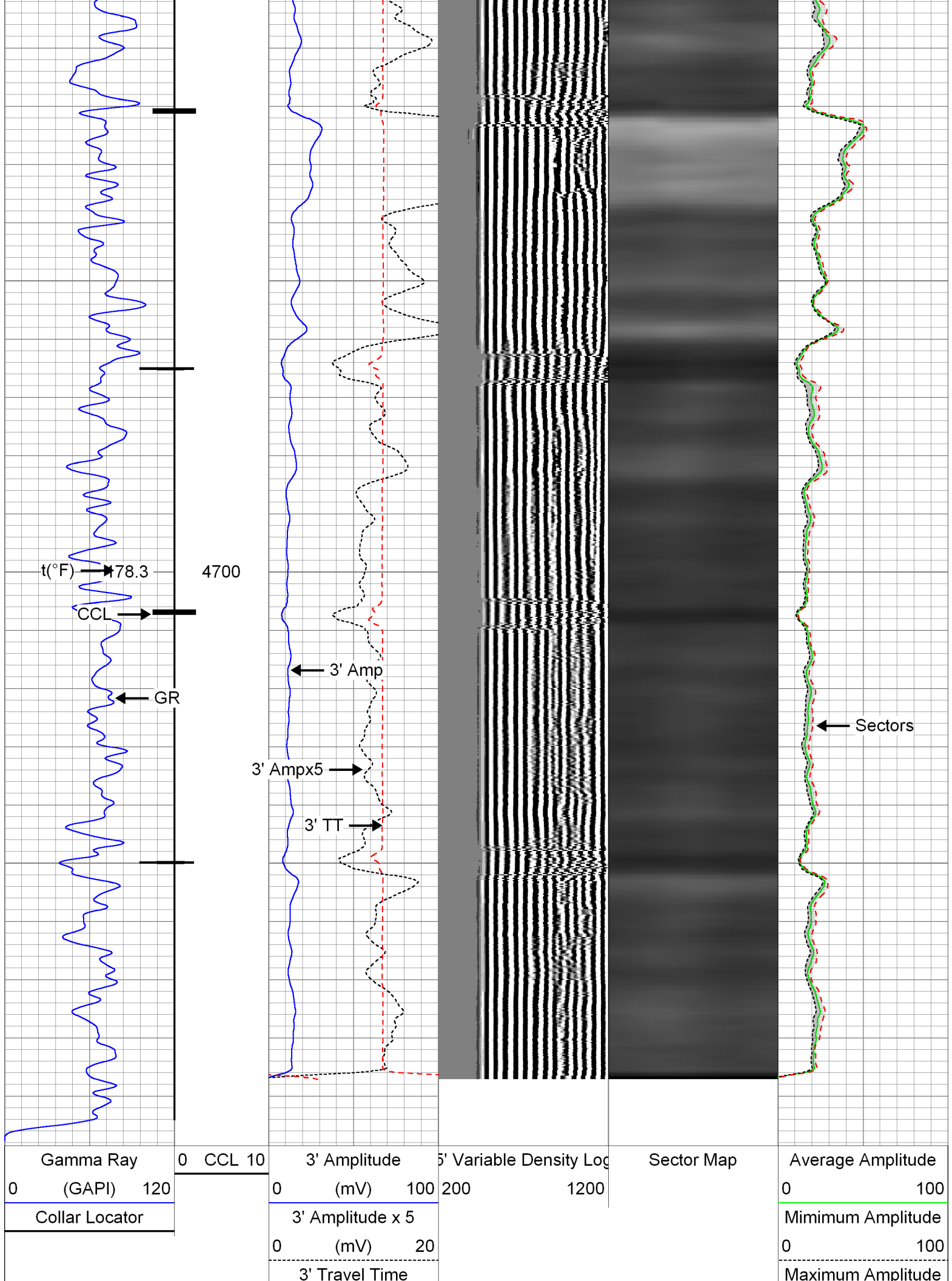


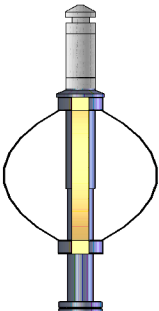
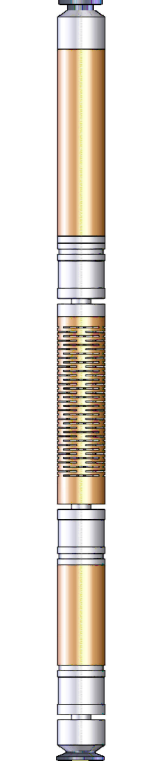
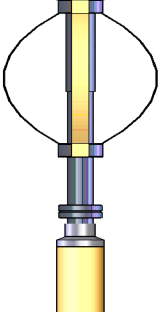
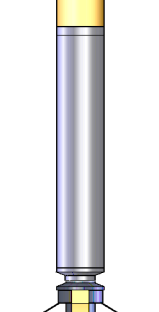
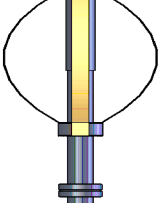










Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
RHeadVolt	19.55		Titan_1_11_16	1.04	1.69	5.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
Temp	16.68					
WVF3FT	14.57		Probe_RADII-C-2-3/4" (FW1302-002in7") Probe 2-3/4" Sector Cement Bond Tool with Temperature Probe	9.21	2.75	100.00
WVFCAL	14.57					
WVFS1	14.57					
WVFS2	14.57					
WVFS3	14.57					
WVFS4	14.57					
WVFS5	14.57					
WVFS6	14.57					
WVFS7	14.57					
WVFS8	14.57					
WVF5FT	13.57					
CCL DCCL	6.59		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
	6.59					
GR	5.25		Probe_CCL_GR-2.75"Digital (FW1302-1204.58) Probe 2-3/4" Digital CCL / Gamma Ray Combined	2.75	2.75	55.00
			Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00

Dataset: 01-09-14_whiting_razor 27i-3415a_rbl.db: field/well/run1/rcbl2
Total Length: 23.47 ft
Total Weight: 190.00 lb
O.D. 2.75 in

Calibration Report

Database File: 01-09-14_whiting_razor 27i-3415a_rbl.db
Dataset Pathname: rcbl2
Dataset Creation: Thu Jan 09 17:55:37 2014 by Log SCH 111116

Gamma Ray Calibration Report

Serial Number: FW1302-120
Tool Model: 2.75"Digital
Performed: Mon Apr 01 19:31:37 2013

Calibrator Value: 100.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 150.0 cps

Sensitivity: 0.6667 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1302-002in7"
Tool Model: 2-3/4"

Calibration Casing Diameter: 7.000 in
Calibration Depth: 329.279 ft

Master Calibration, performed Thu Jan 09 17:33:21 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.042	0.710	0.800	62.165	91.835	-3.082
CAL	1.008	1.008				
5'	0.018	0.719	0.800	62.165	87.519	-0.801
SUM						
S1	0.039	0.682	0.000	100.000	155.520	-6.010
S2	0.044	0.680	0.000	100.000	157.085	-6.838
S3	0.041	0.685	0.000	100.000	155.172	-6.319
S4	0.040	0.692	0.000	100.000	153.494	-6.213
S5	0.036	0.727	0.000	100.000	144.620	-5.164
S6	0.038	0.743	0.000	100.000	141.826	-5.358
S7	0.042	0.732	0.000	100.000	144.881	-6.110
S8	0.043	0.715	0.000	100.000	148.759	-6.379


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	1.008	1.008	1.000	0.000

Air Zero Calibration, performed Thu Jan 09 17:27:07 2014:

	Raw (v)	Calibrated (v)	Results
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	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 27I-3415A
	Field	Wildcat
	County	Weld
	State	Colorado