



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Whiting Oil & Gas Corporation					
Well Razor 27L-3401B					
Field Wildcat					
County Weld					
State Colorado					
Location: API #: 05-123-37730					
SHL: 2448' FSL 627' FWL Lat/Long: 40.808881/-103.858489 SEC 27 TWP 10N RGE 58W					
Other Services Gauge run Plug					
Permanent Datum Ground Level Elevation 4754'					
Log Measured From Kelly Bushing 17 FT					
Drilling Measured From Kelly Bushing					
Date	September 20, 2013				K.B. 4771' D.F. --- G.L. 4754'
Run Number	One				
Depth Driller	---				
Depth Logger	4974 FT				
Bottom Logged Interval	4972 FT				
Top Log Interval	Surface				
Open Hole Size	9.625				
Type Fluid	Water				
Density / Viscosity	8.34 lbm/gal				
Max. Recorded Temp.	197.5				
Estimated Cement Top	33 FT				
Time Well Ready	ROA				
Time Logger on Bottom	4:15 pm				
Equipment Number	HD-0134				
Location	Fort Lupton, CO				
Recorded By	Brent Kalkwarf				
Witnessed By	Bryan Olmstead				
Borehole Record					
Run Number	Bit	From	To	Size	Tubing Record Weight From To
Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing #1	9-5/8"	36#	J-55	Surface	1574 FT
Intermediate #1	7"	29#	L-80	Surface	6078 FT
Intermediate #2					
Liner	4.5	11.6#	SeAH 90	5020 FT	12435 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 correlated to Casing Tally Liner Top @ 5020
Run RCBL from 4974 to surface.
RCBL logged with 1500 PSI surface induced pressure.
Est top of Cement @ 33 FT

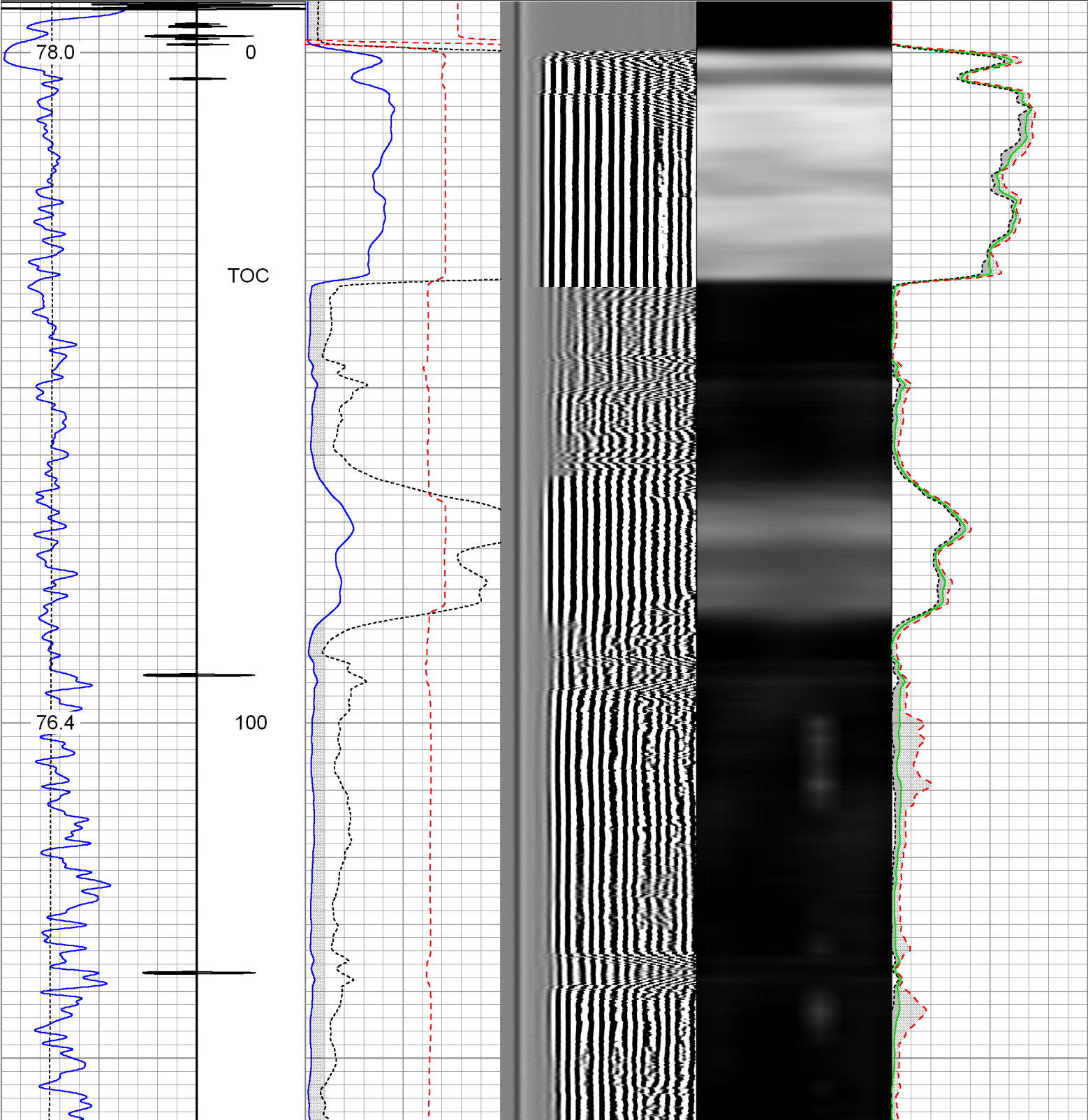
Thank you for choosing FMC Technologies Completion Services, Inc.!!

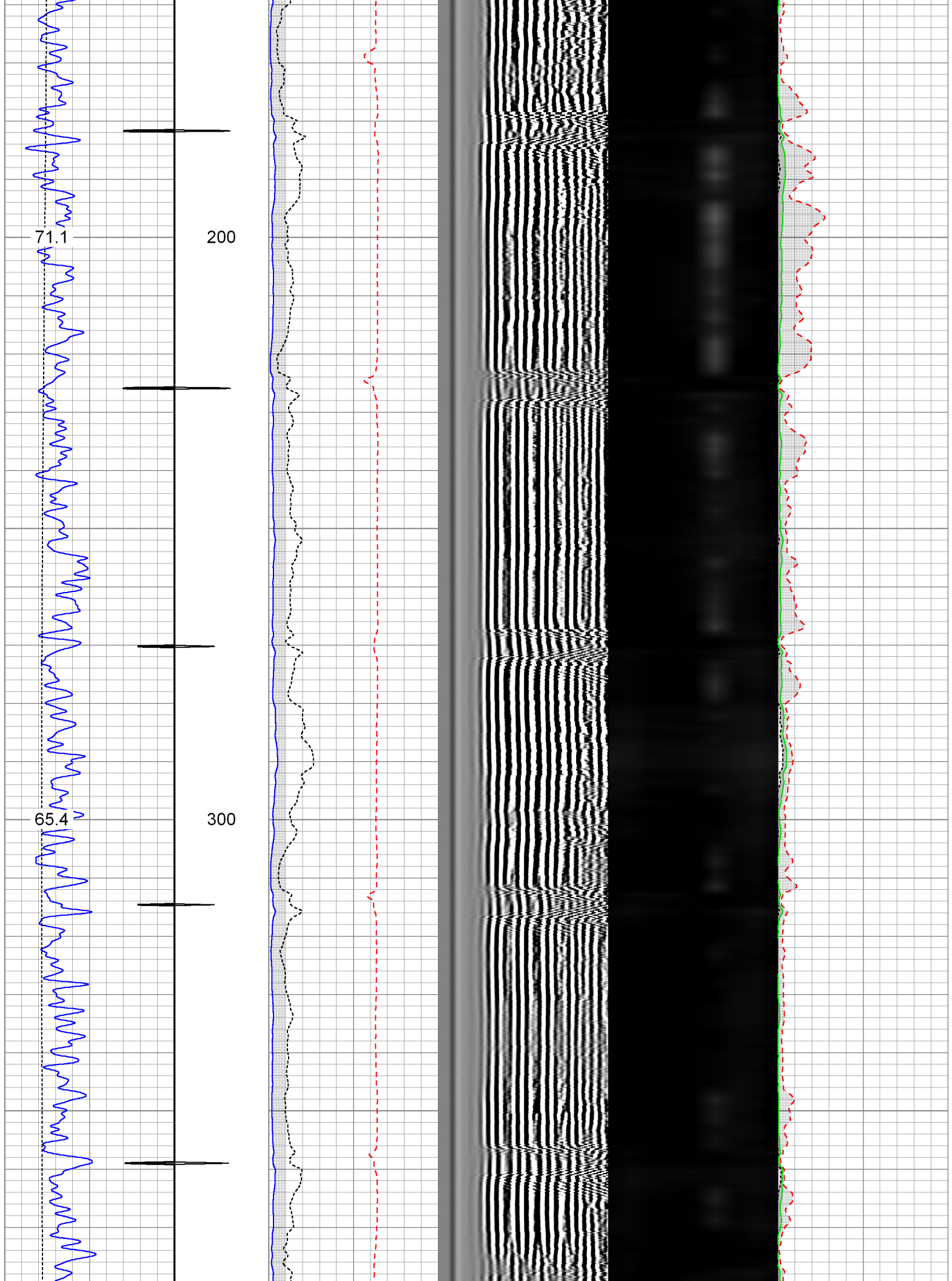


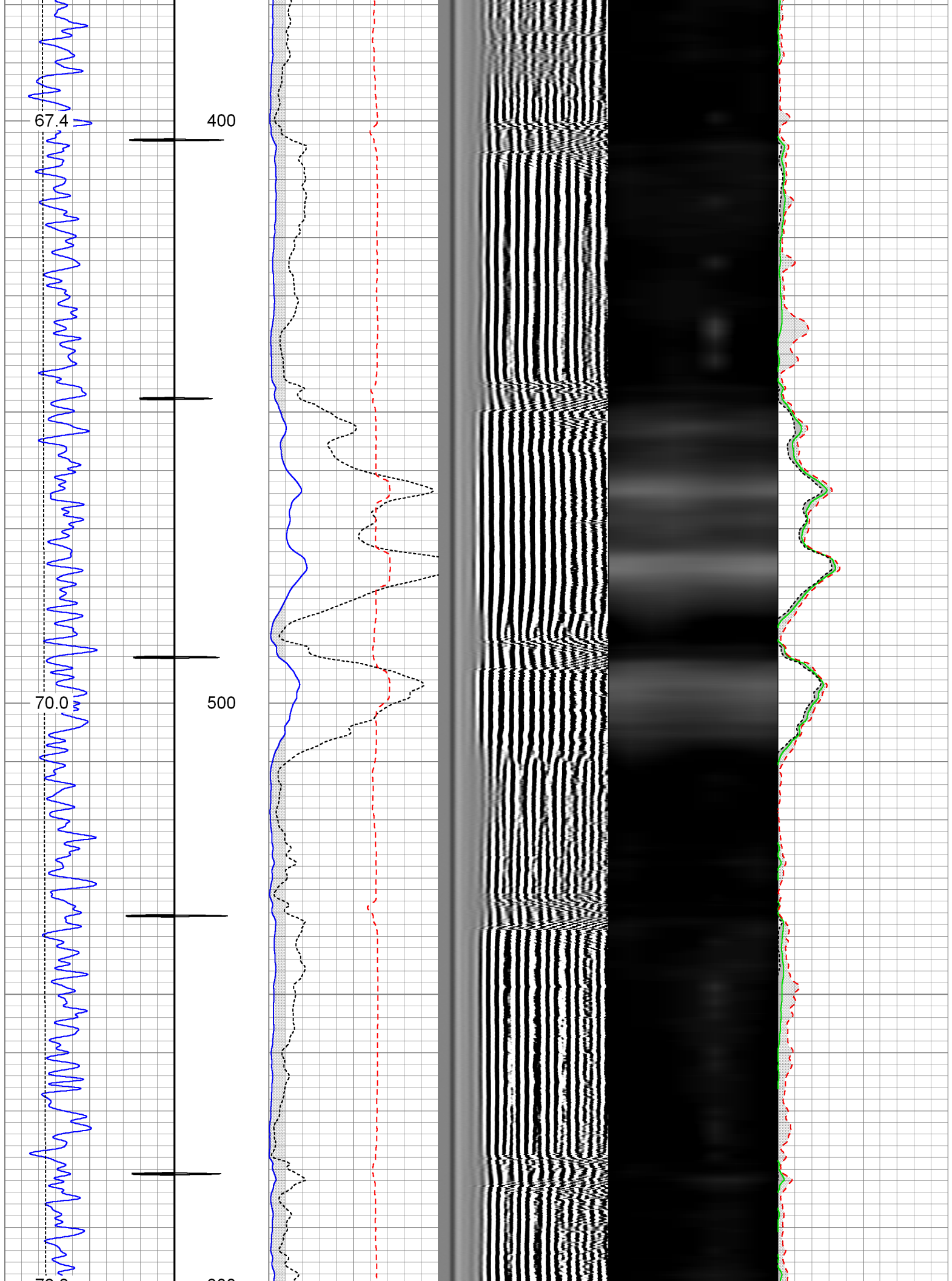
Main Pass: 1500 PSI

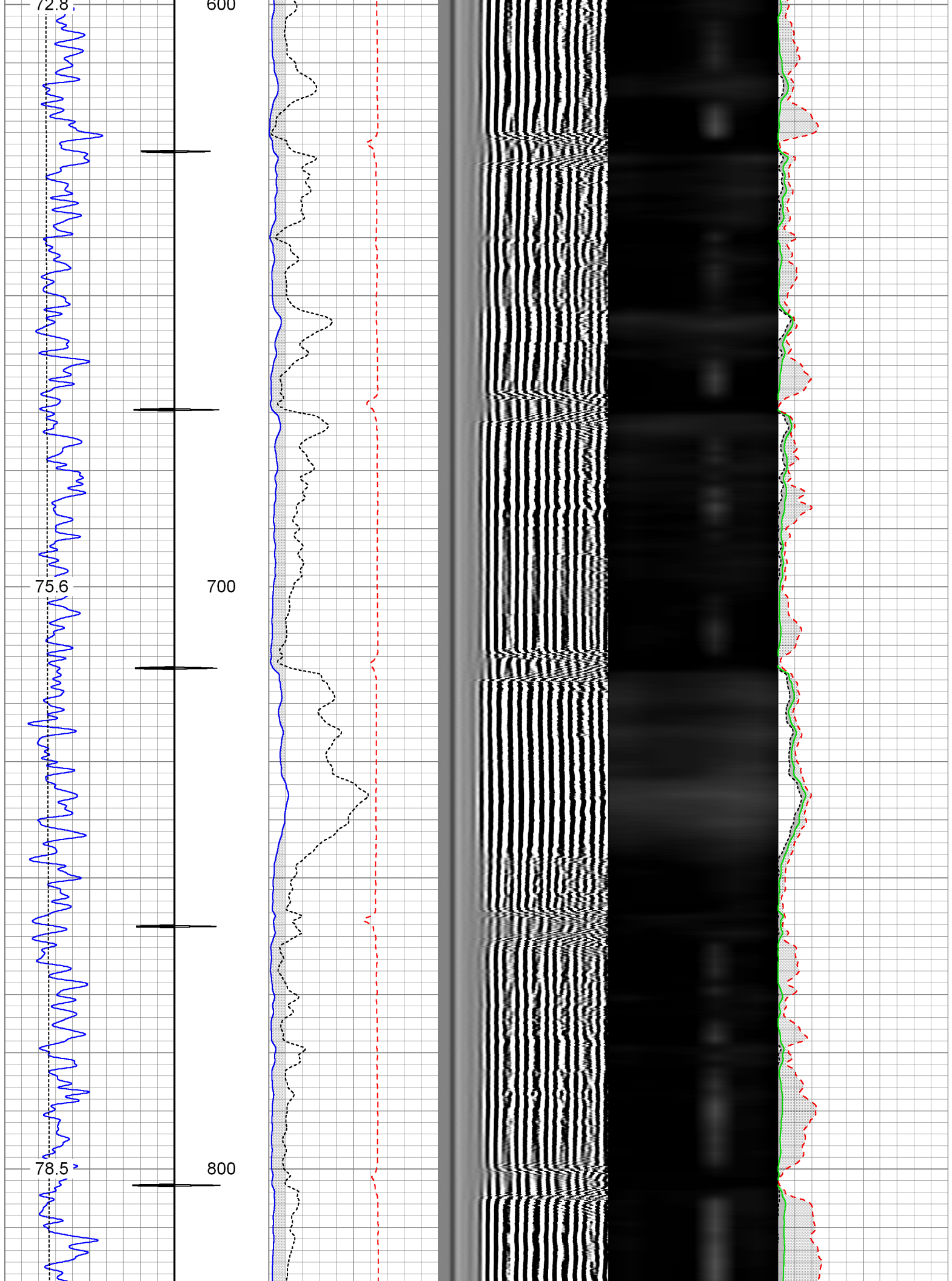
Database File: 05-123-37730_whiting_razor 27I-3401b.db
Dataset Pathname: pass13.7
Presentation Format: rbt007
Dataset Creation: Fri Sep 20 17:48:05 2013 by Calc SCH 111116
Charted by: Depth in Feet scaled 1:240

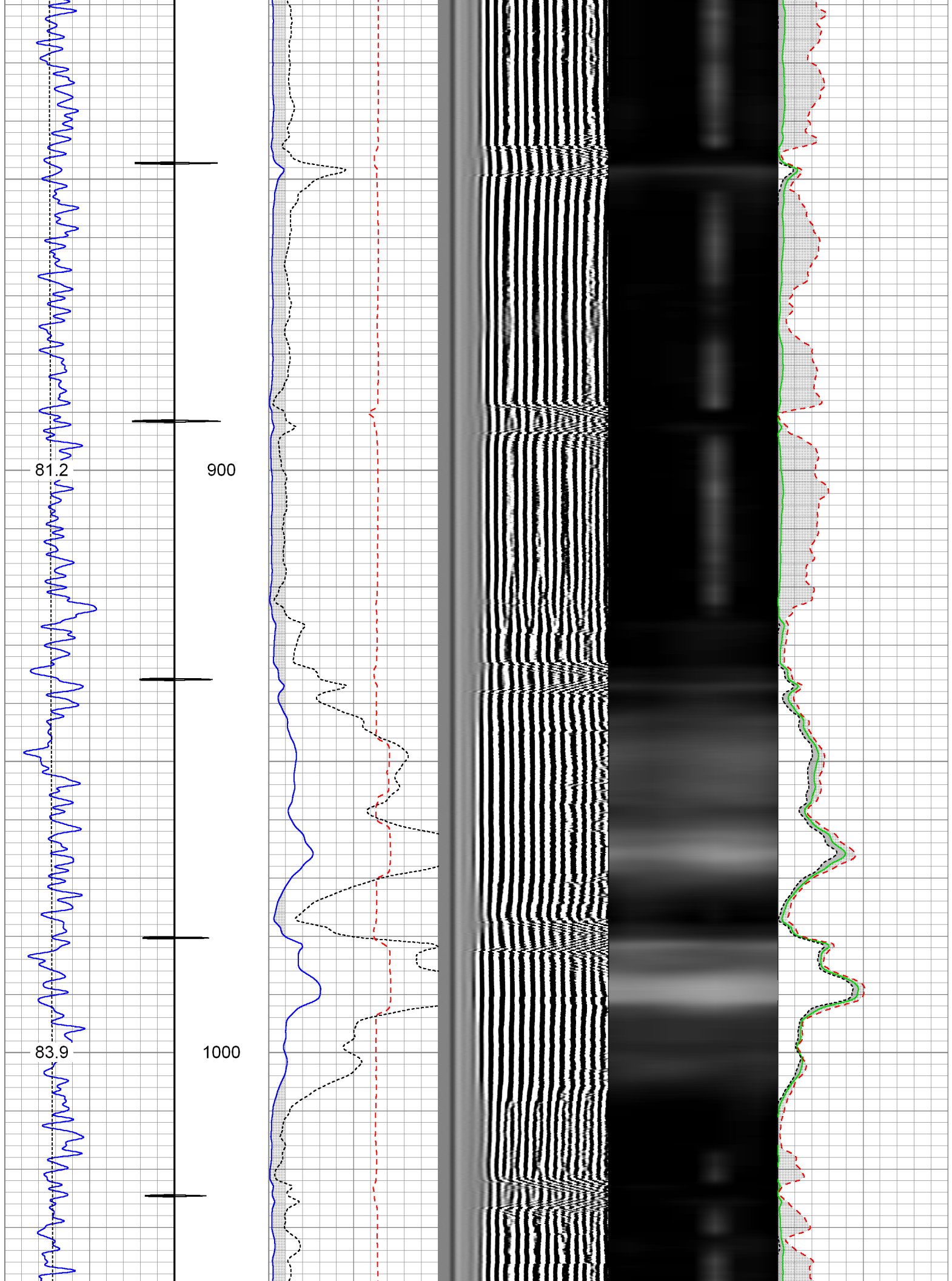
Gamma Ray	0 CCL 5	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 150		0 (mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Minimum Amplitude
0 TEMP (degF)300		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

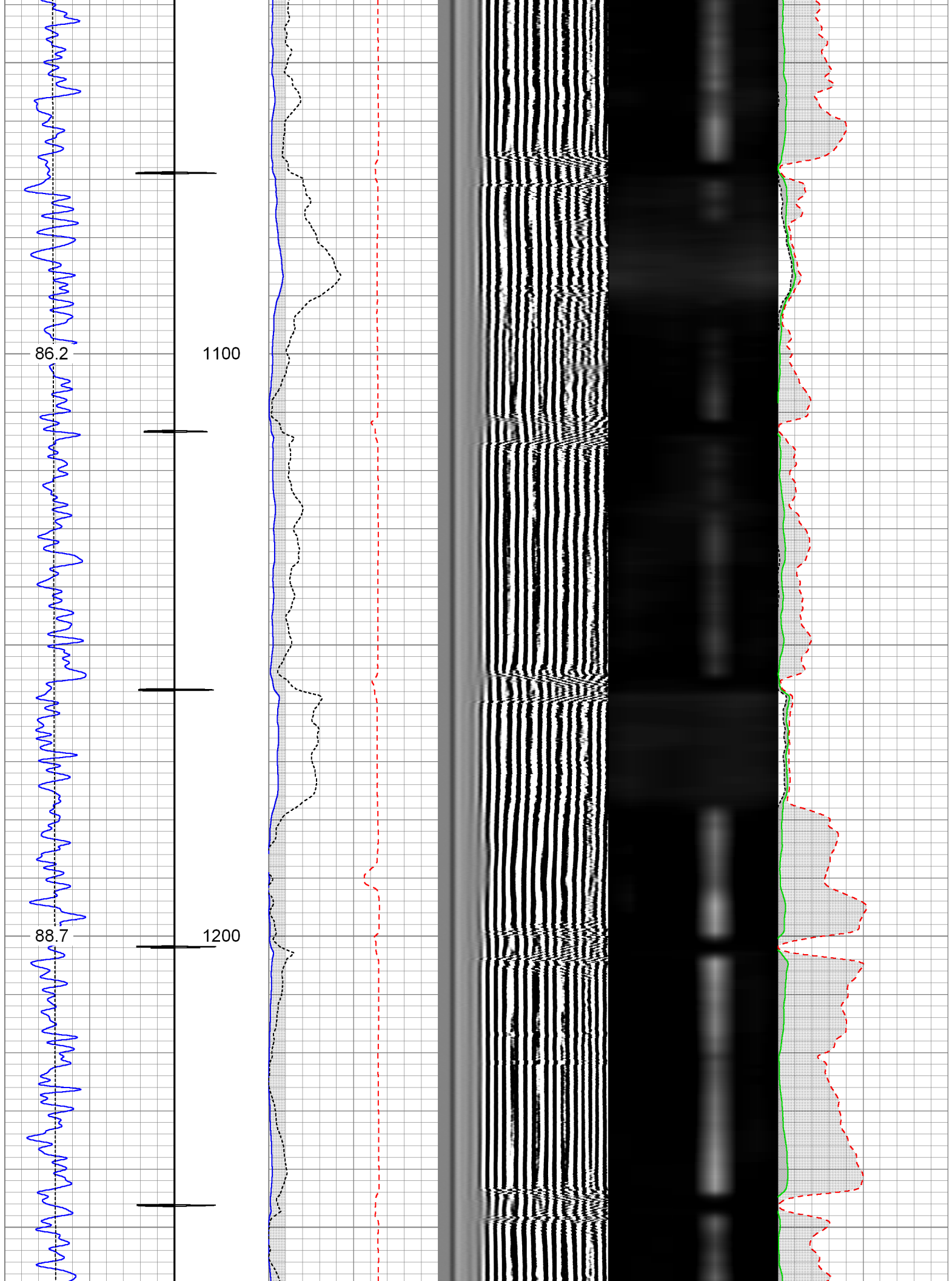


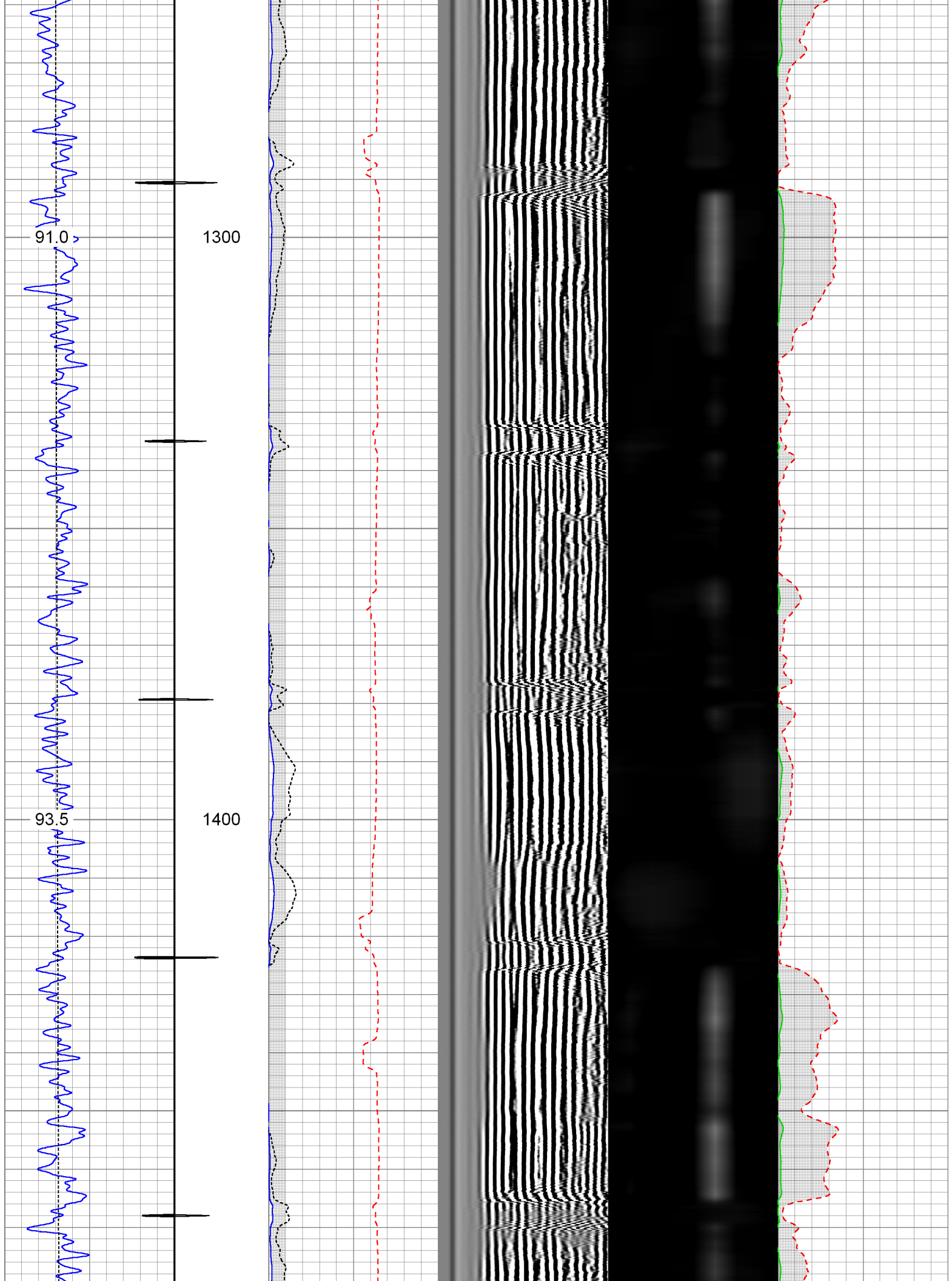


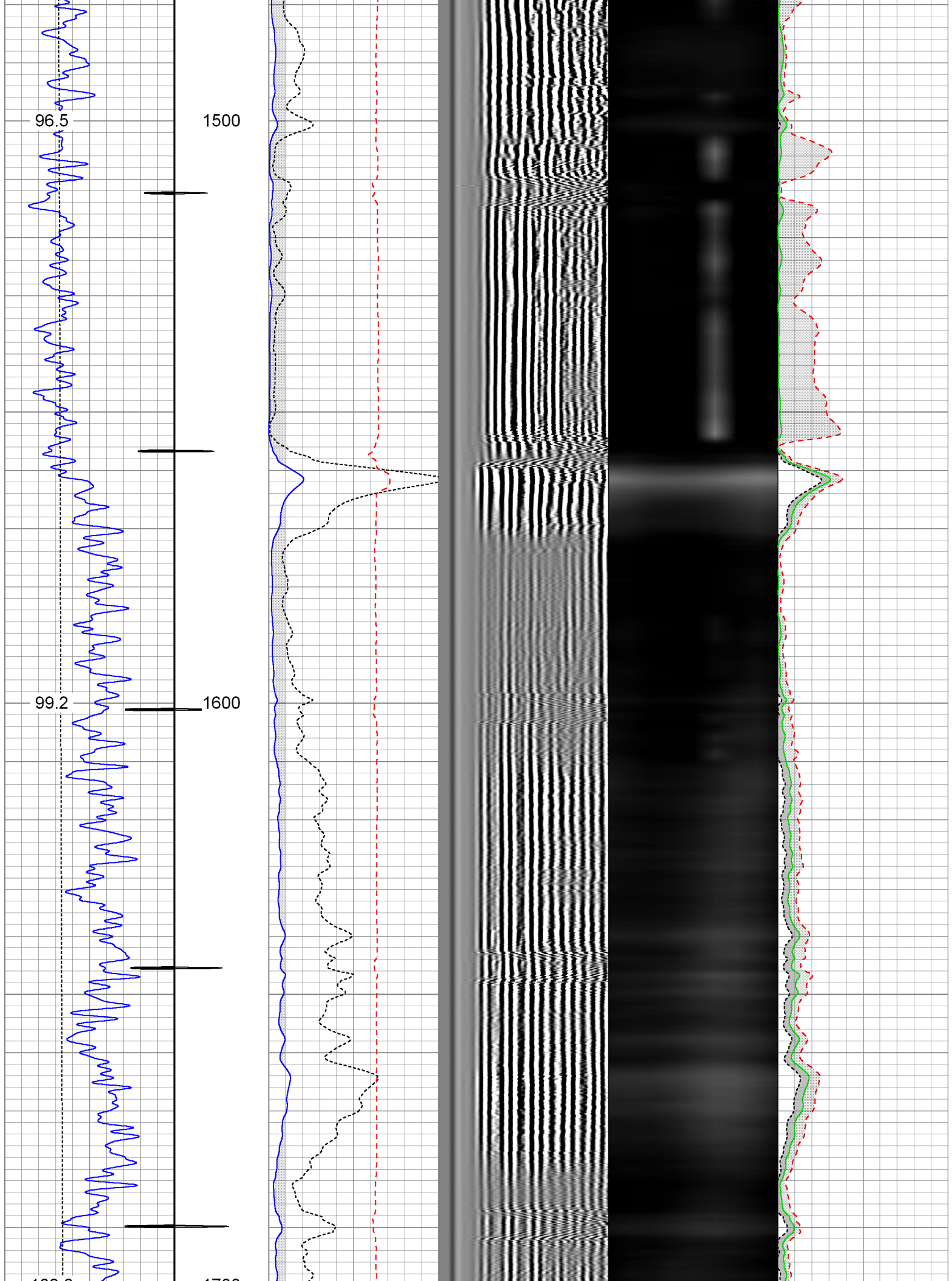


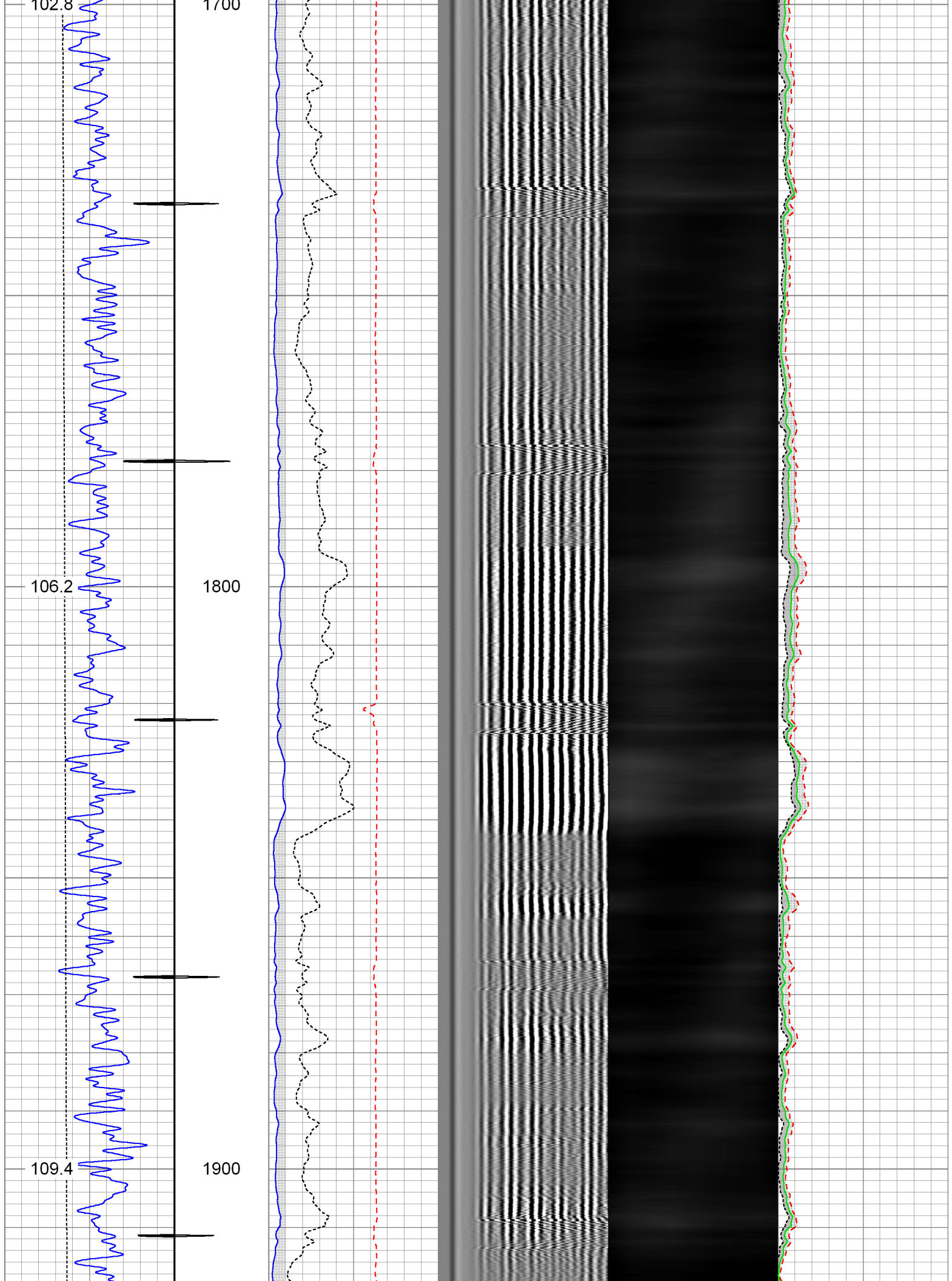


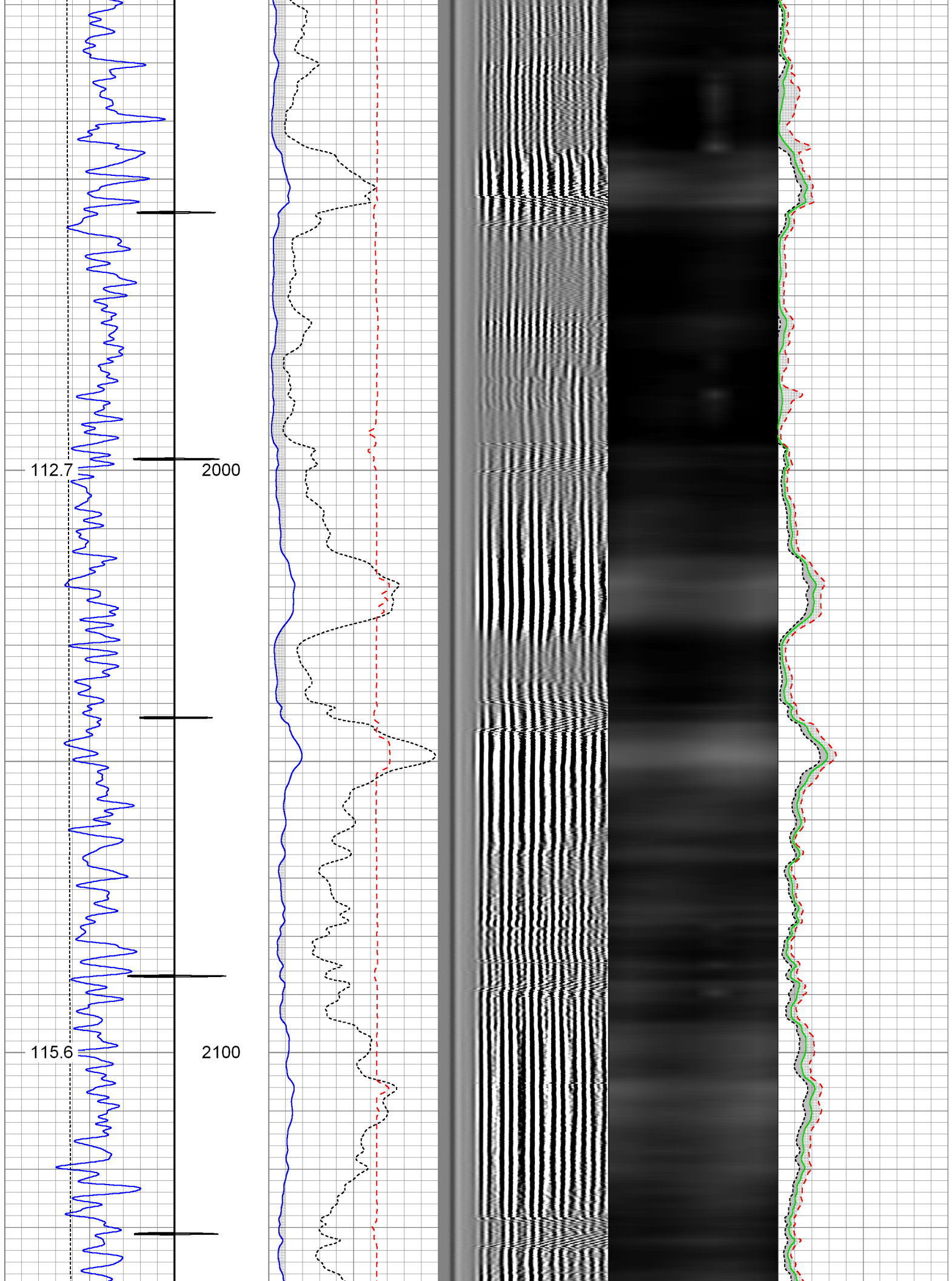


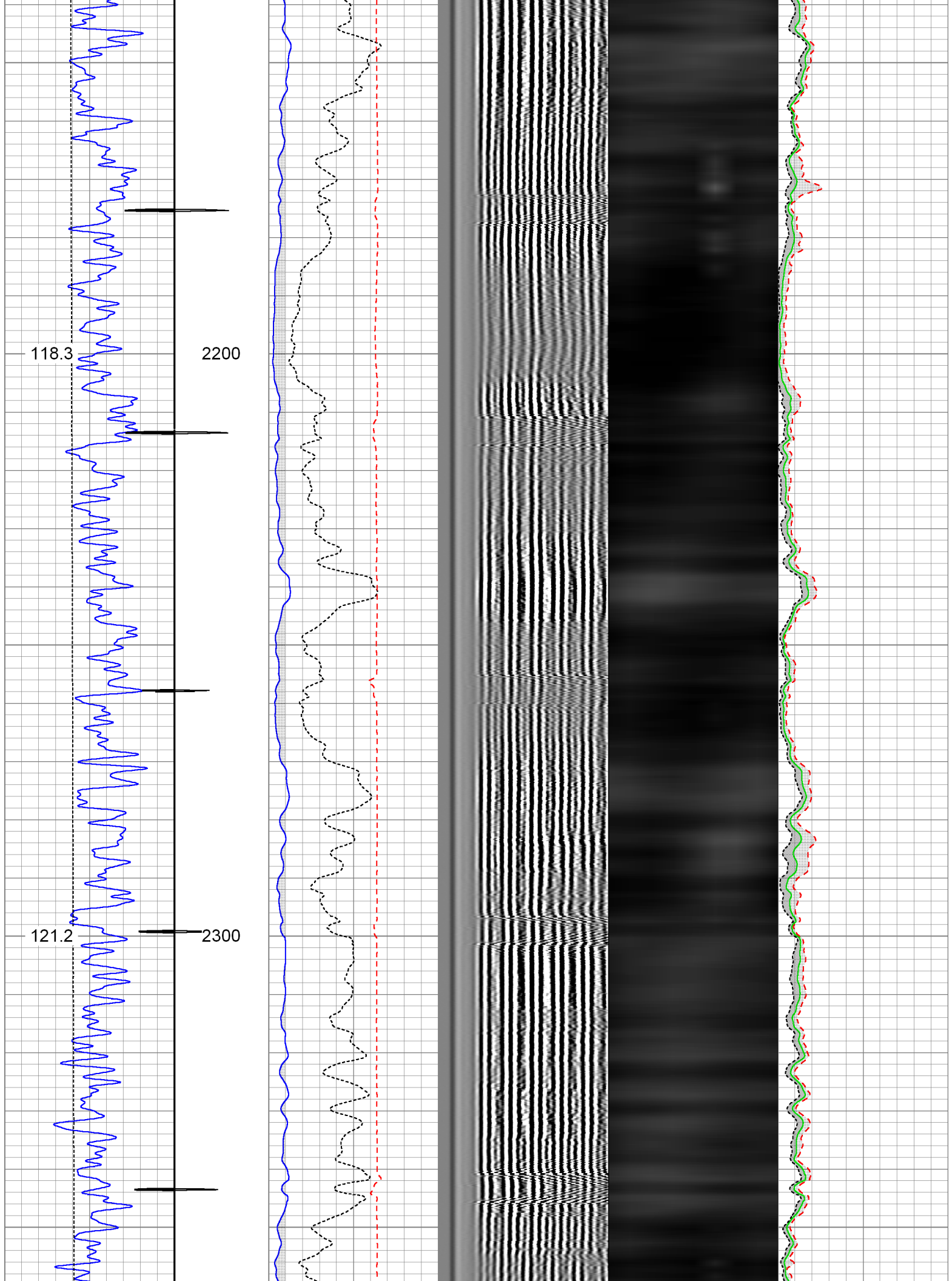


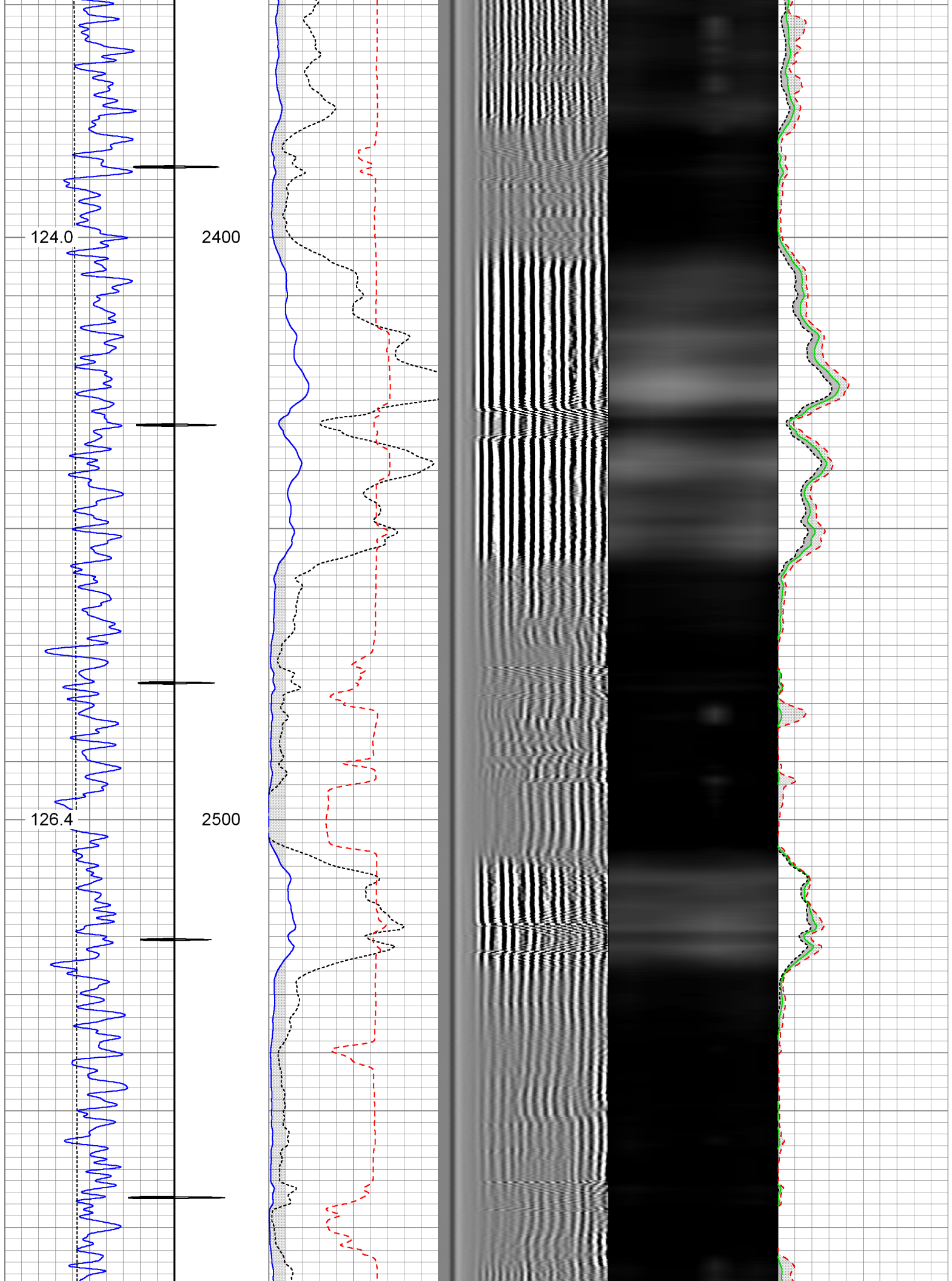


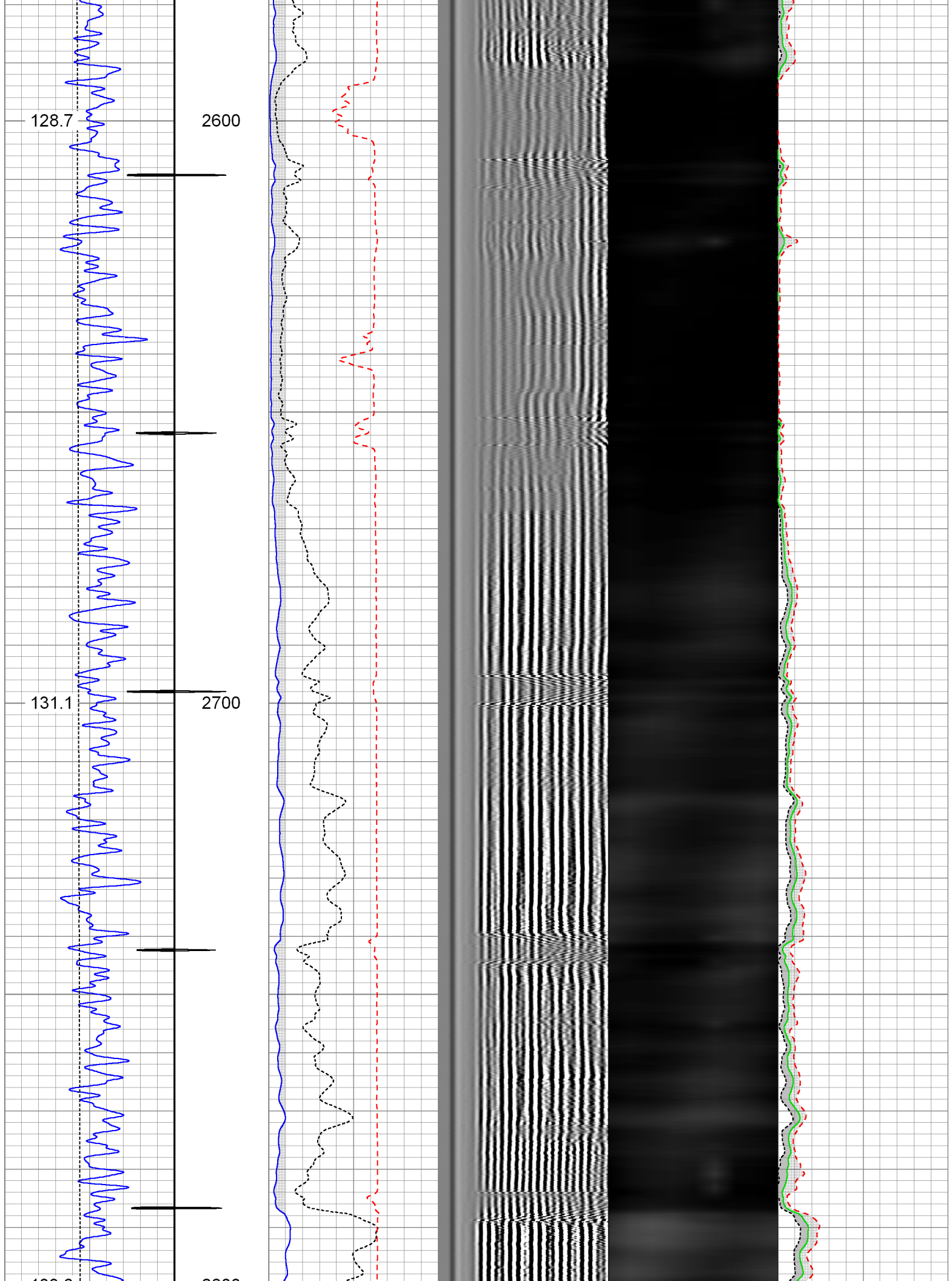


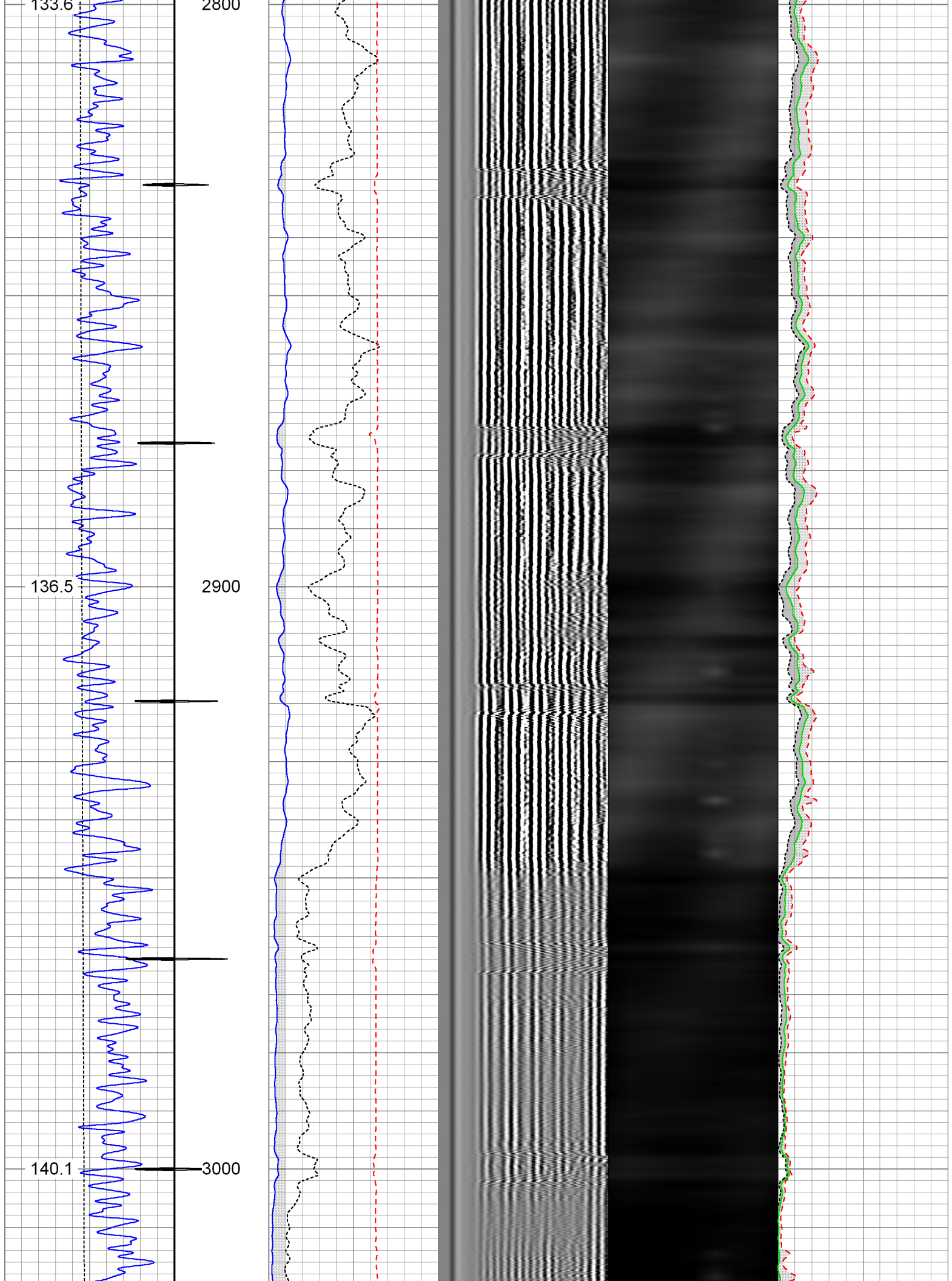


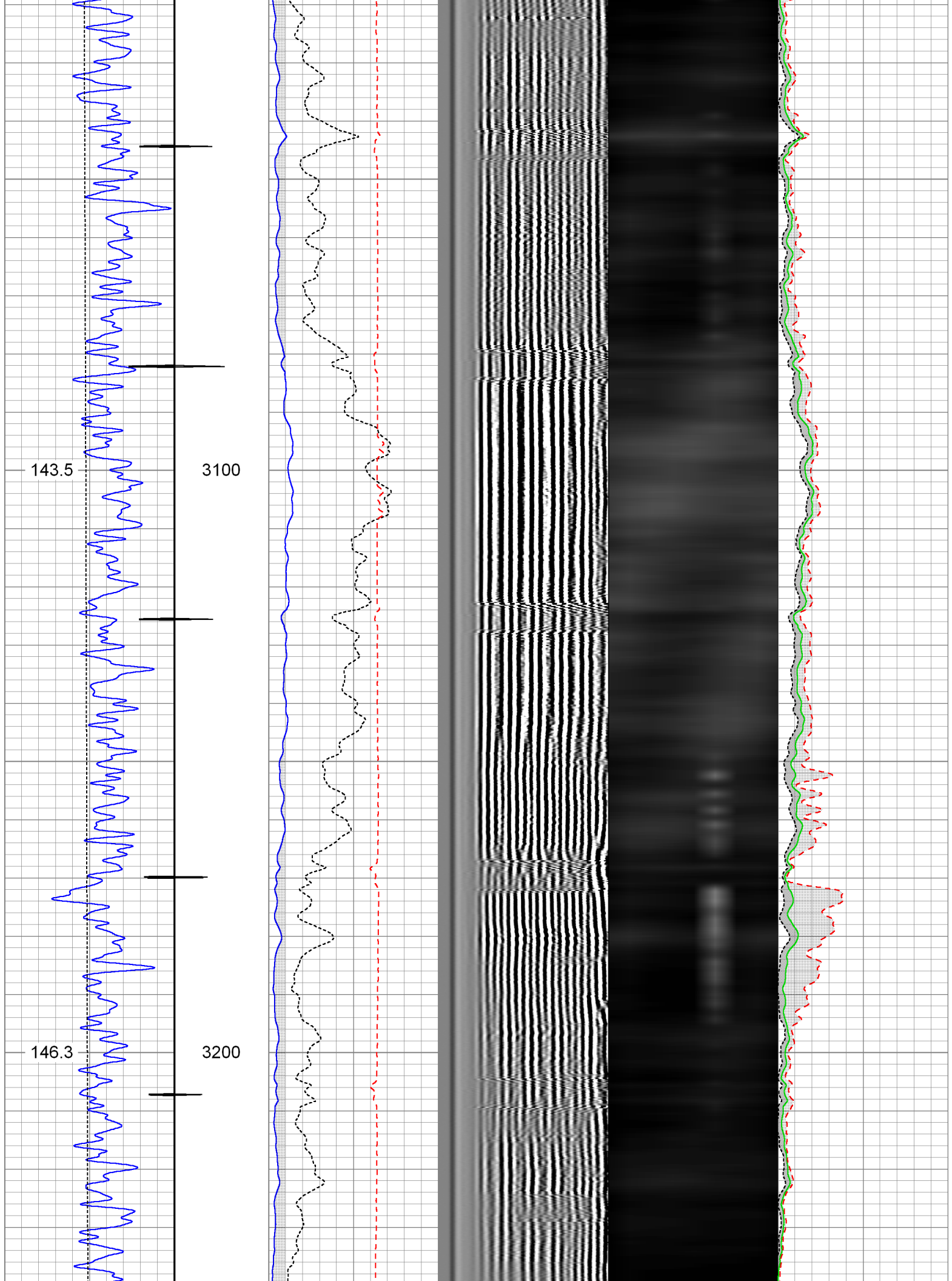


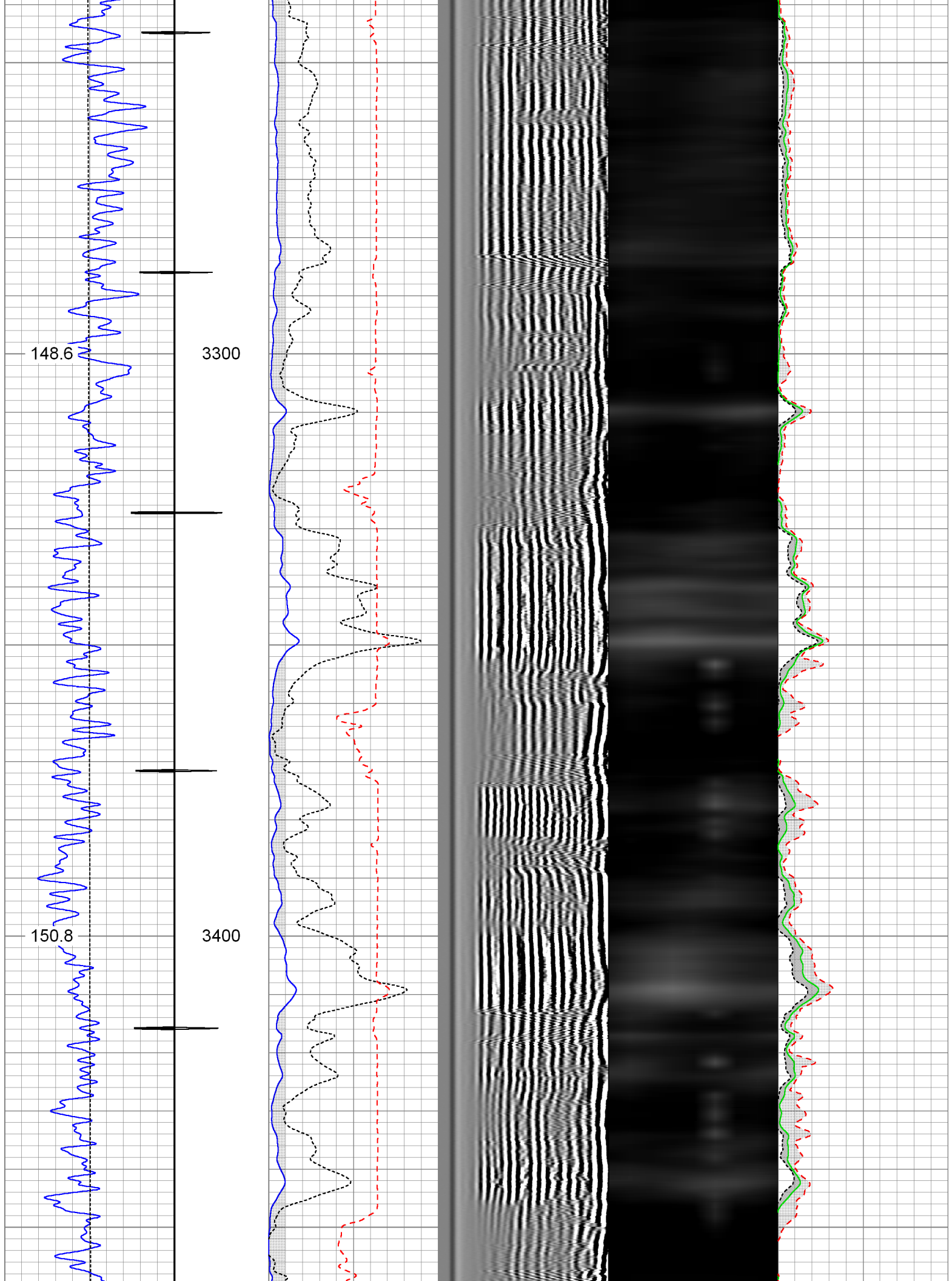


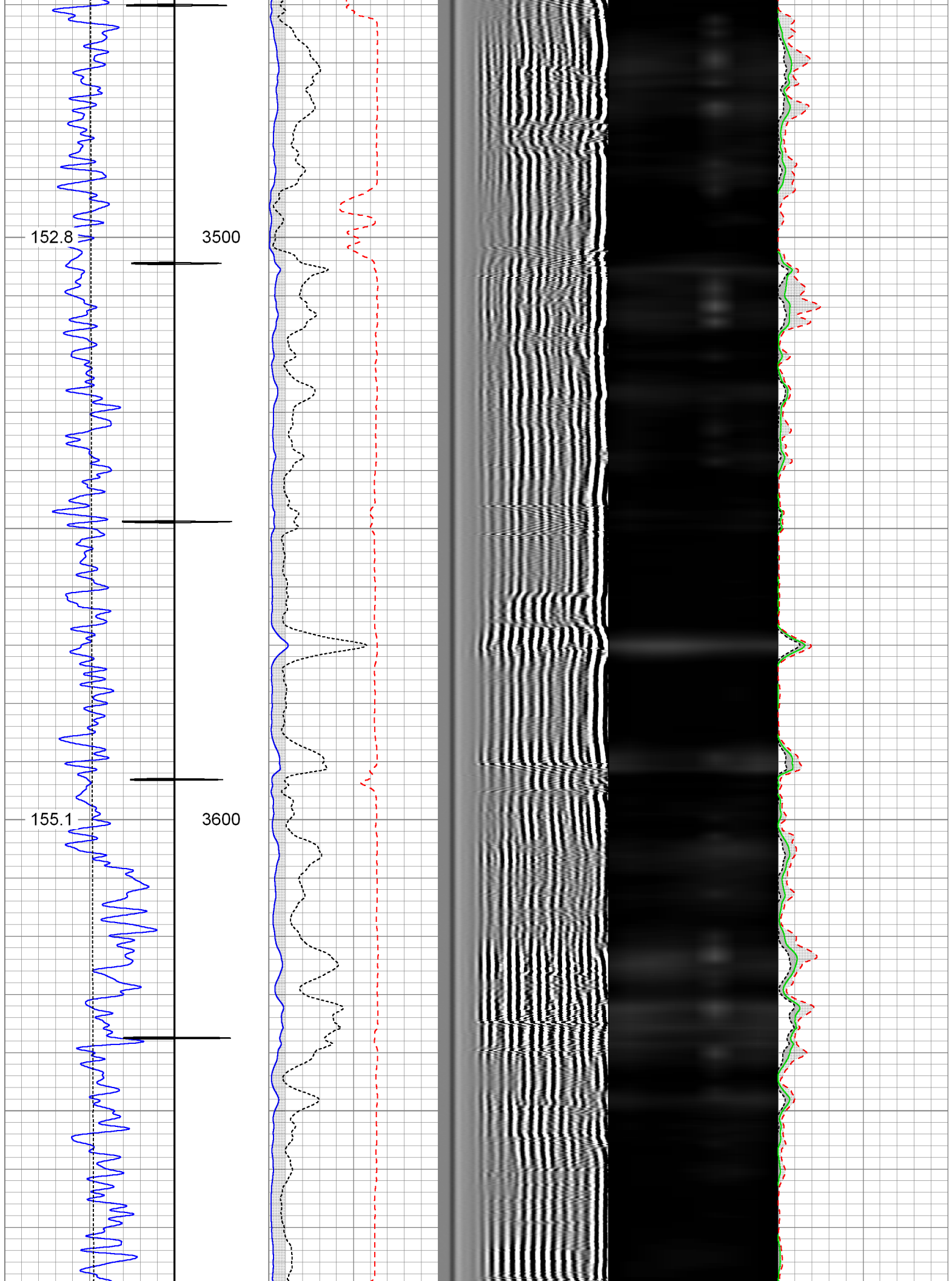


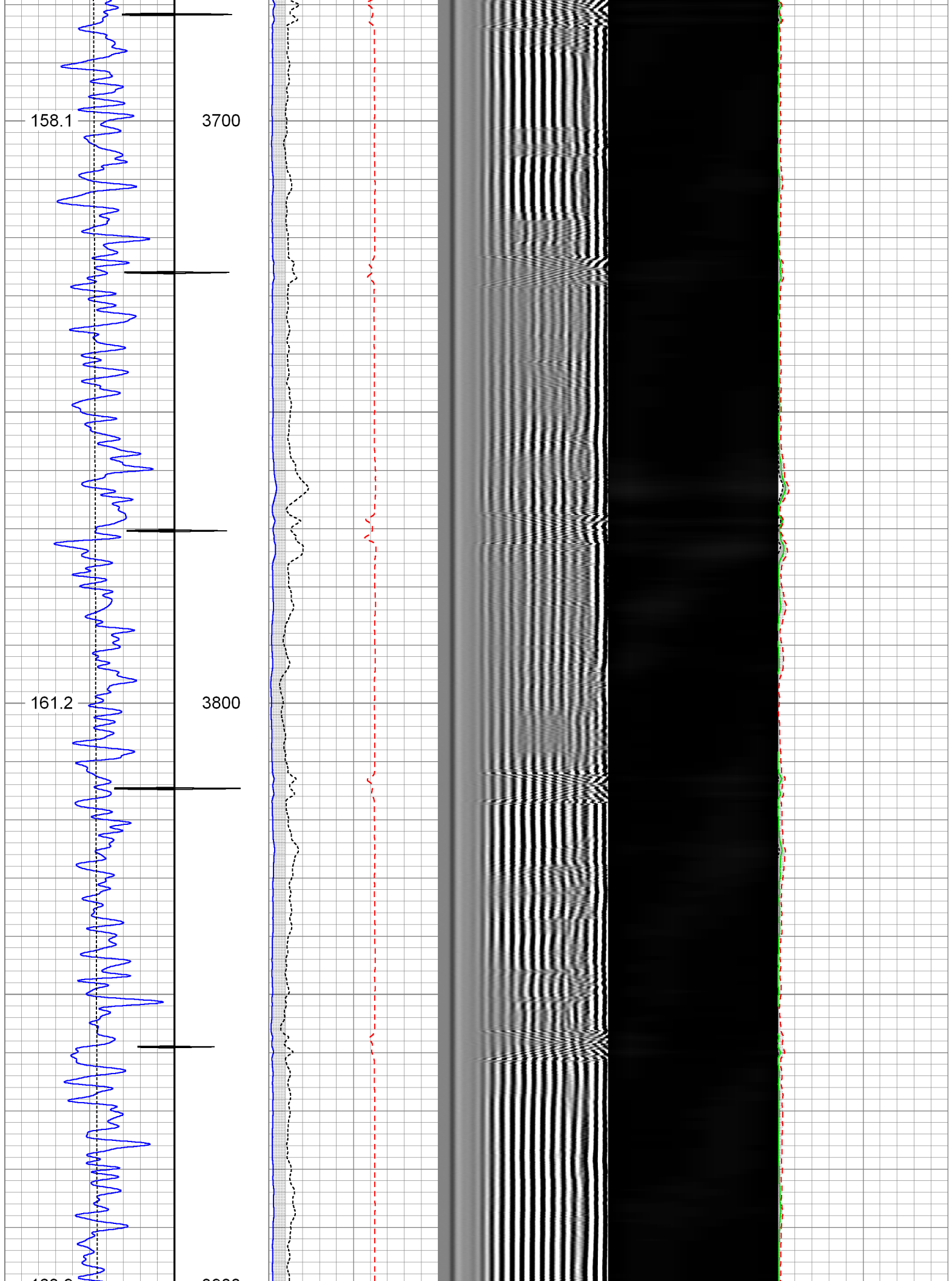


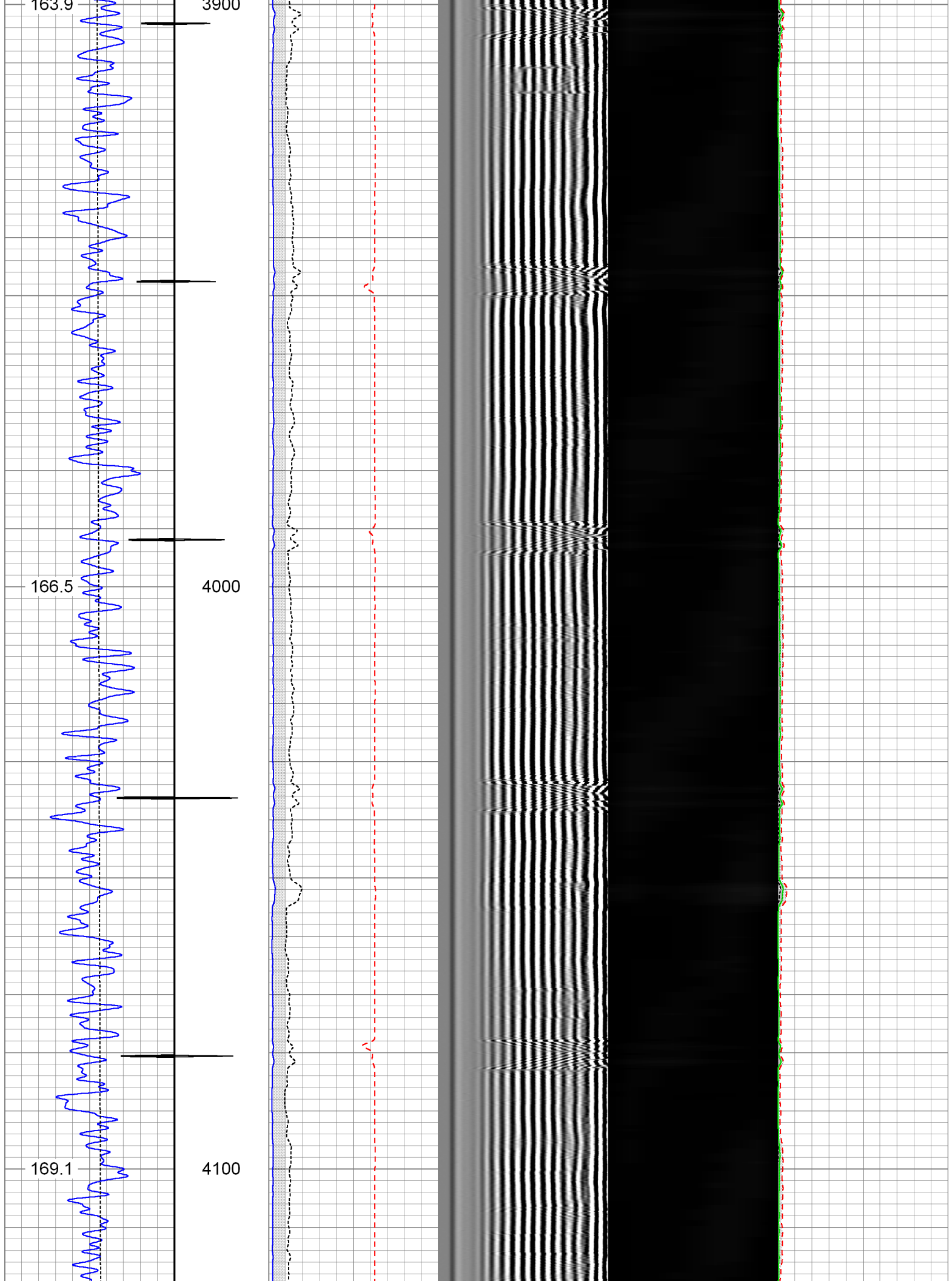


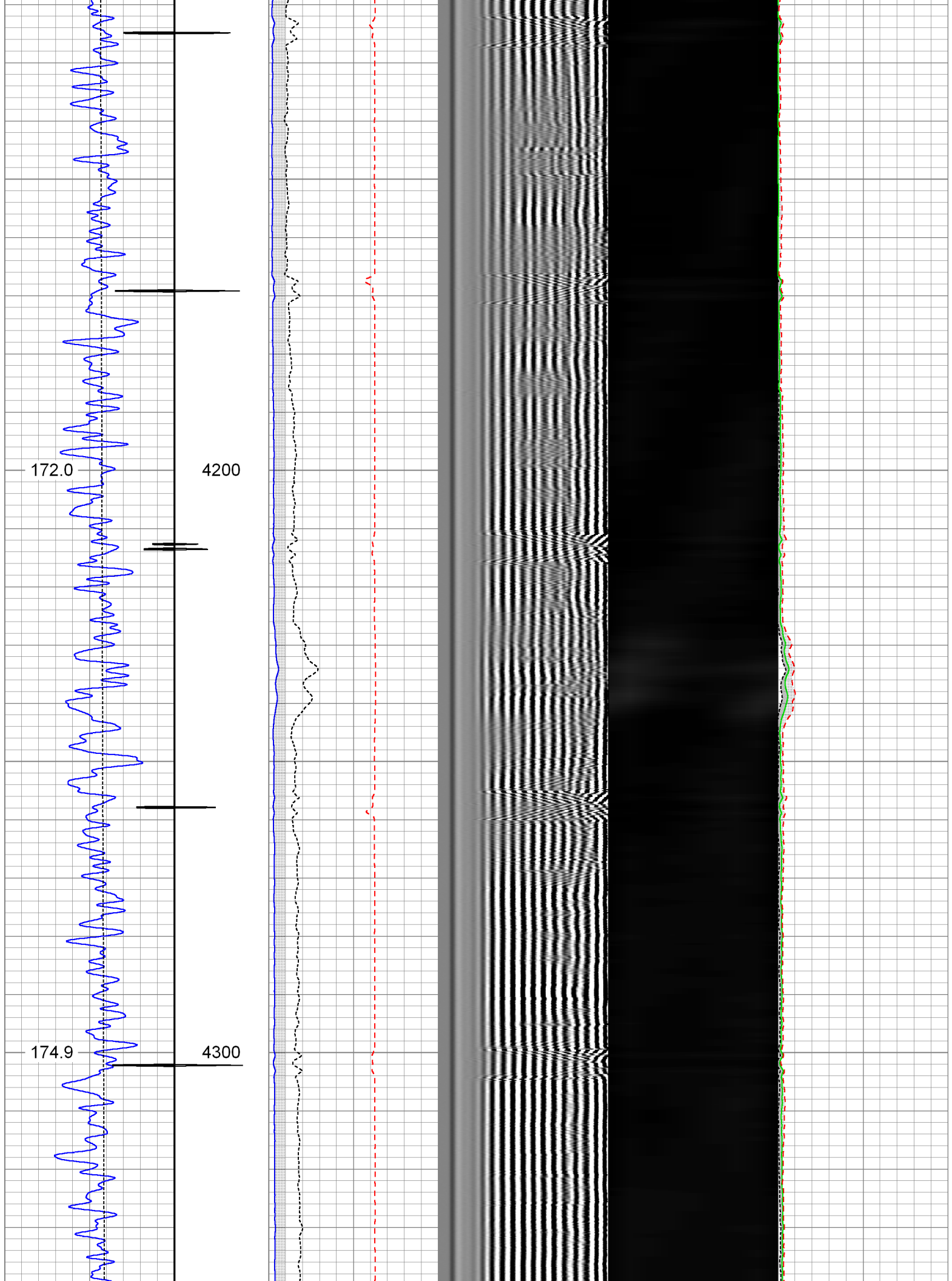


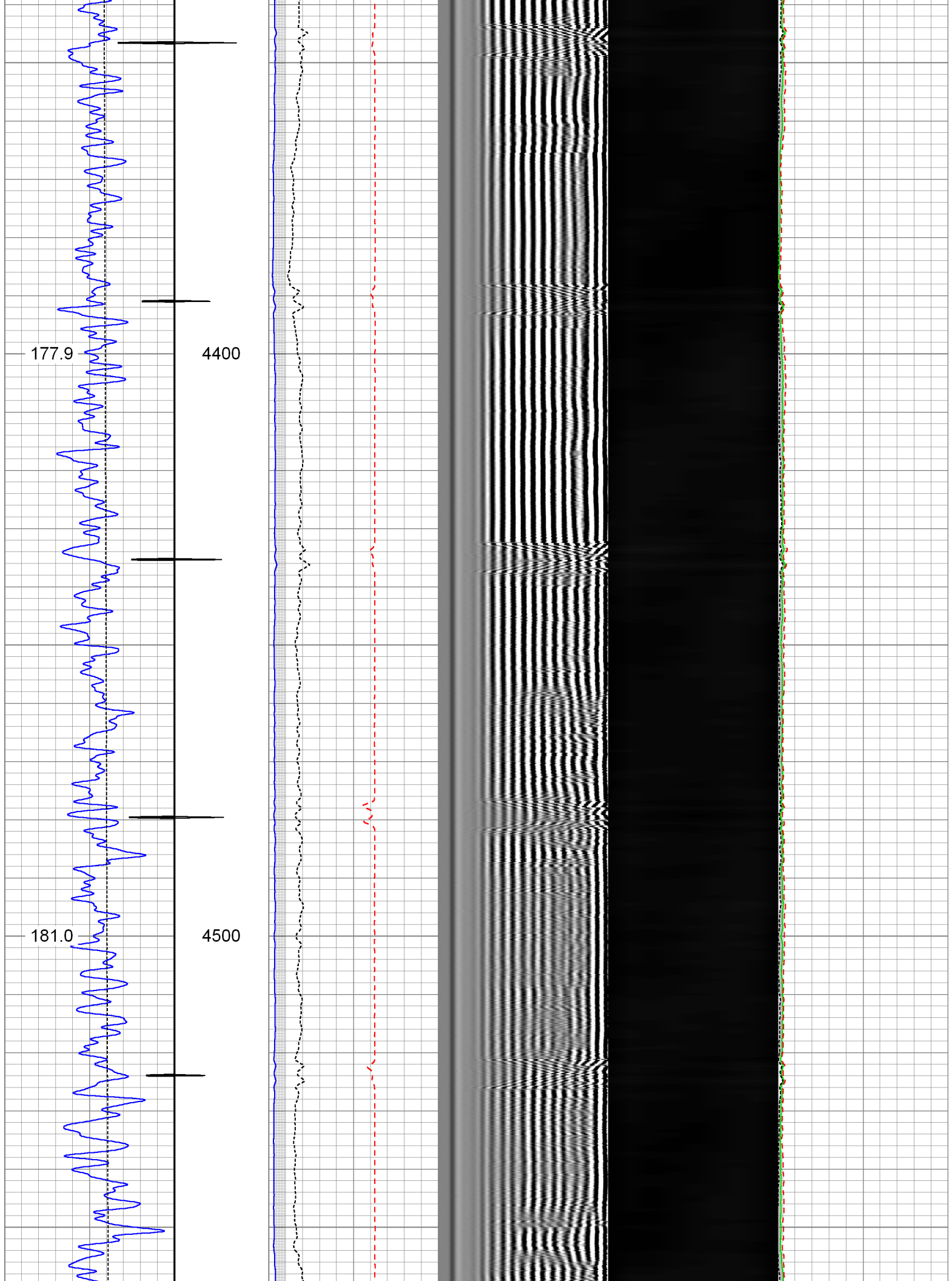


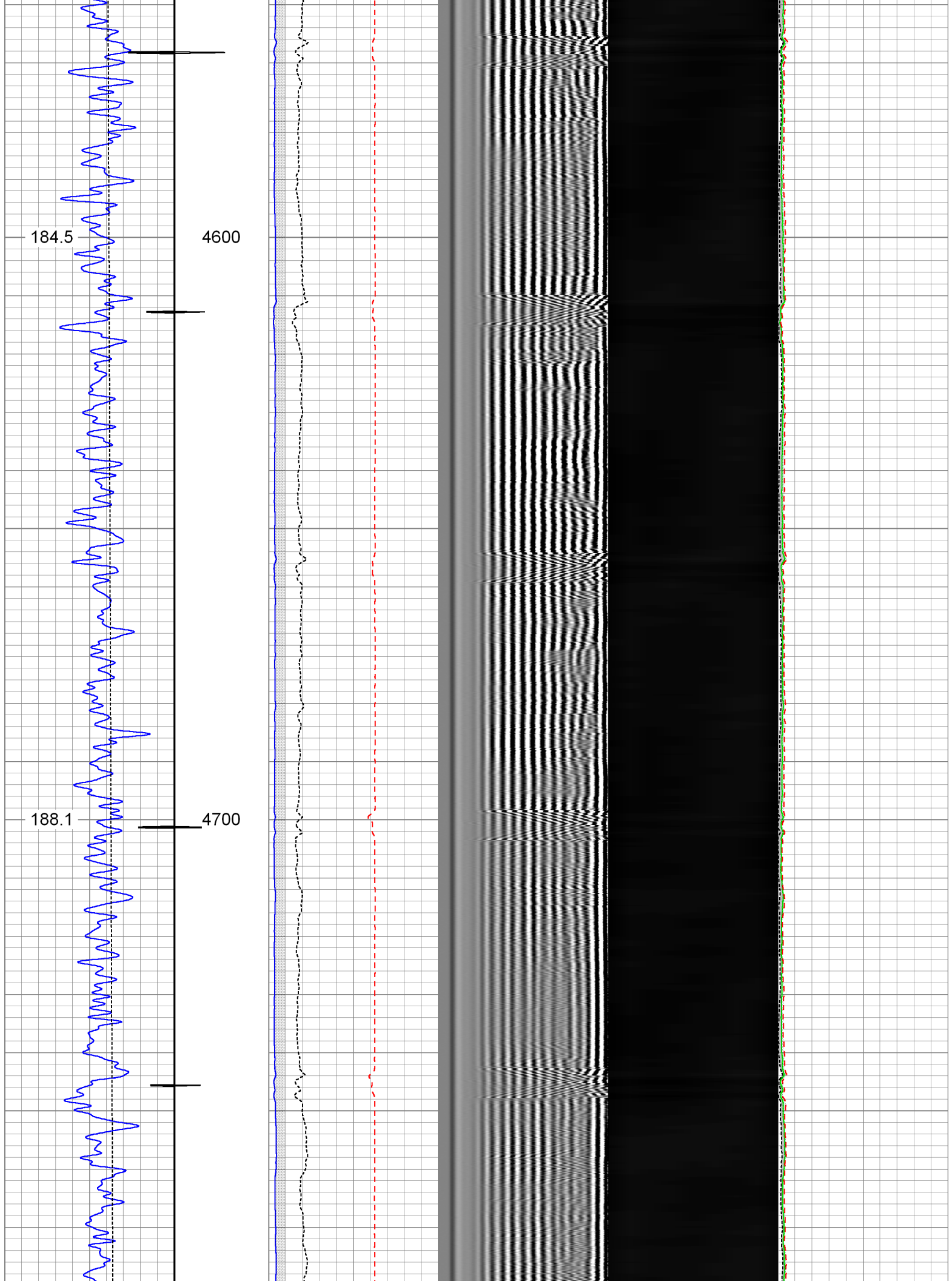


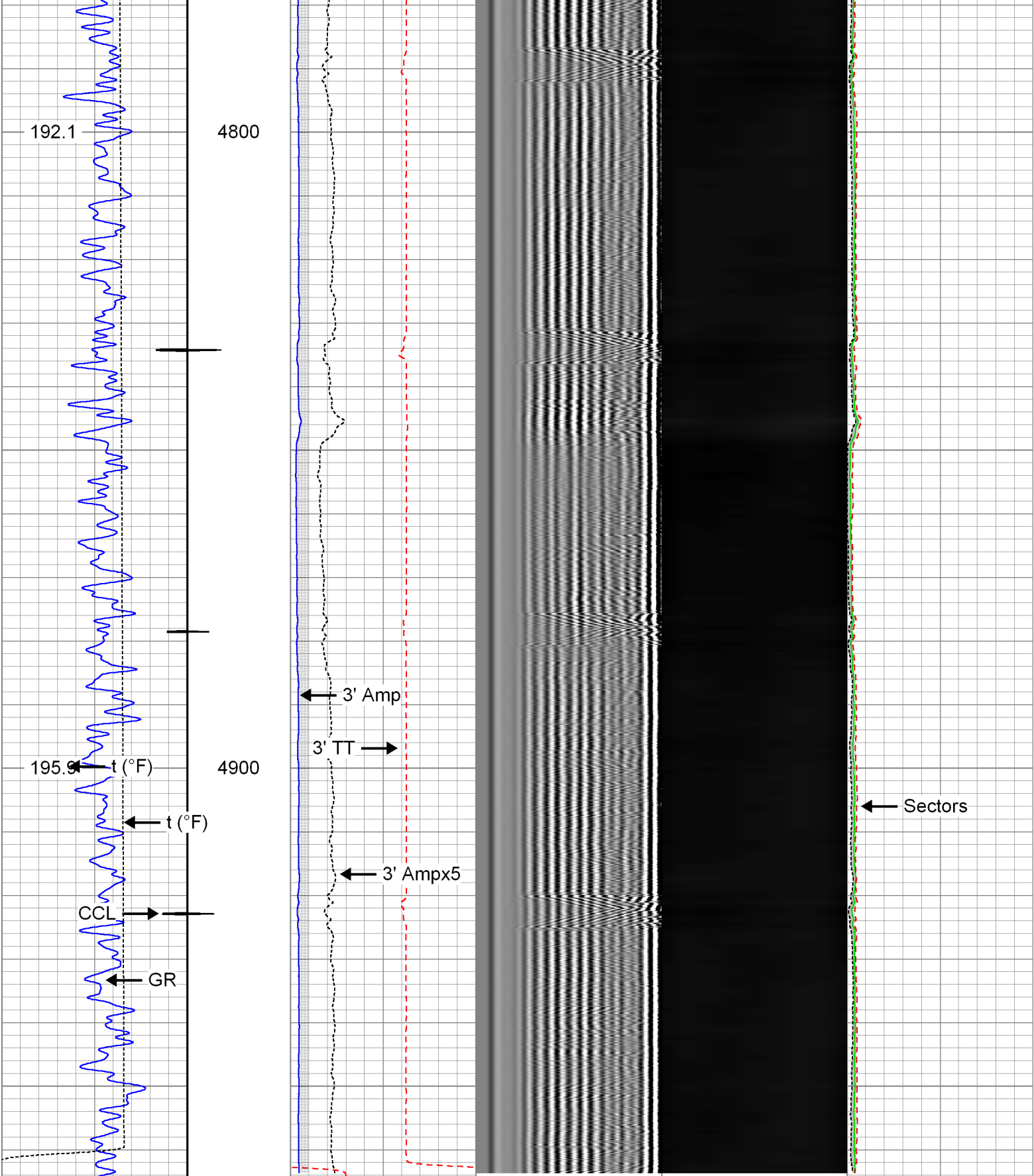












Gamma Ray	0 CCL 5	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
(GAPI) 150		(mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Minimum Amplitude
0 TEMP (degF) 300		(mV) 20			0 100



Repeat Pass

Database File:05-123-37730_whiting_razor 27I-3401b.db

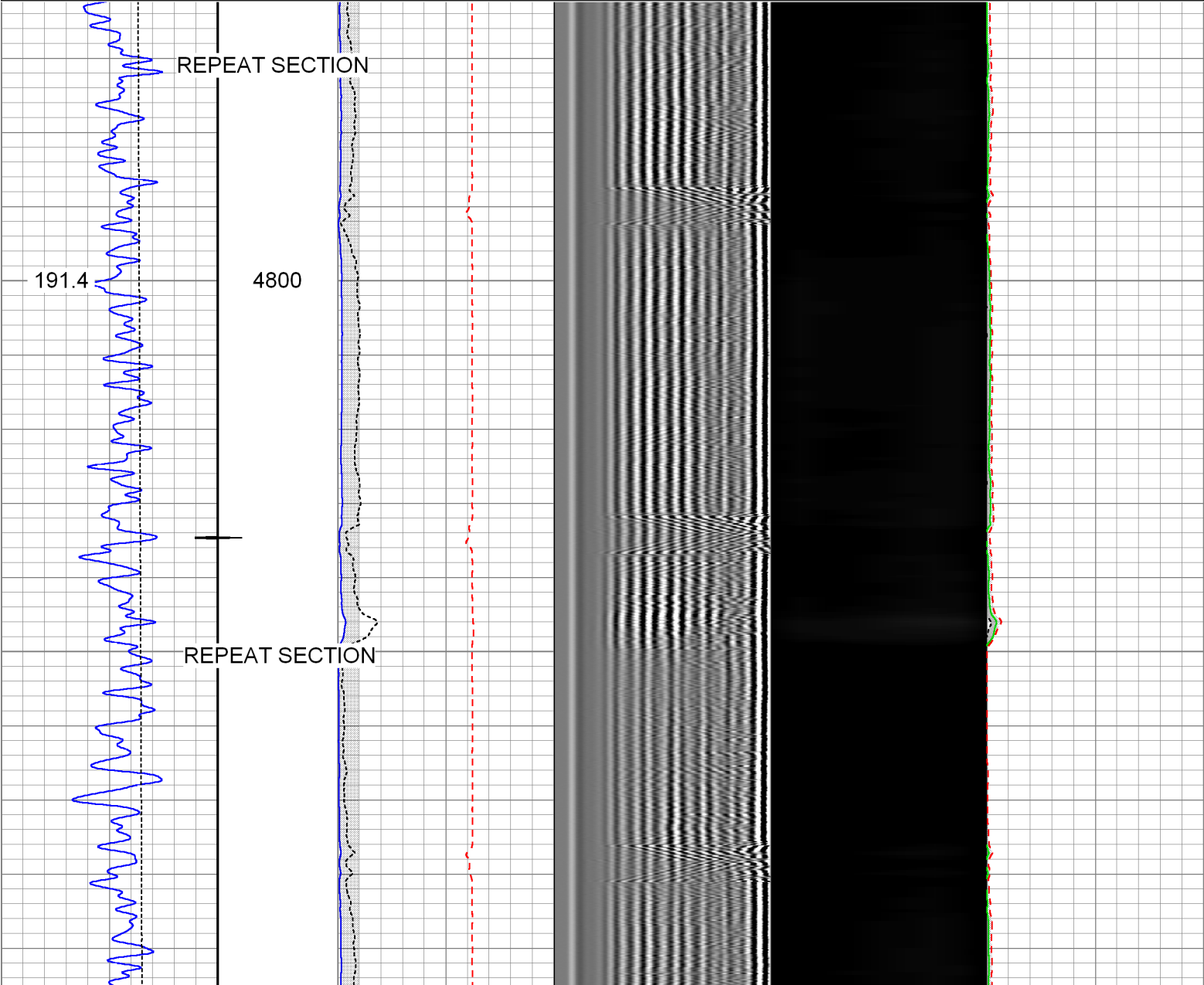
Dataset Pathname:pass12

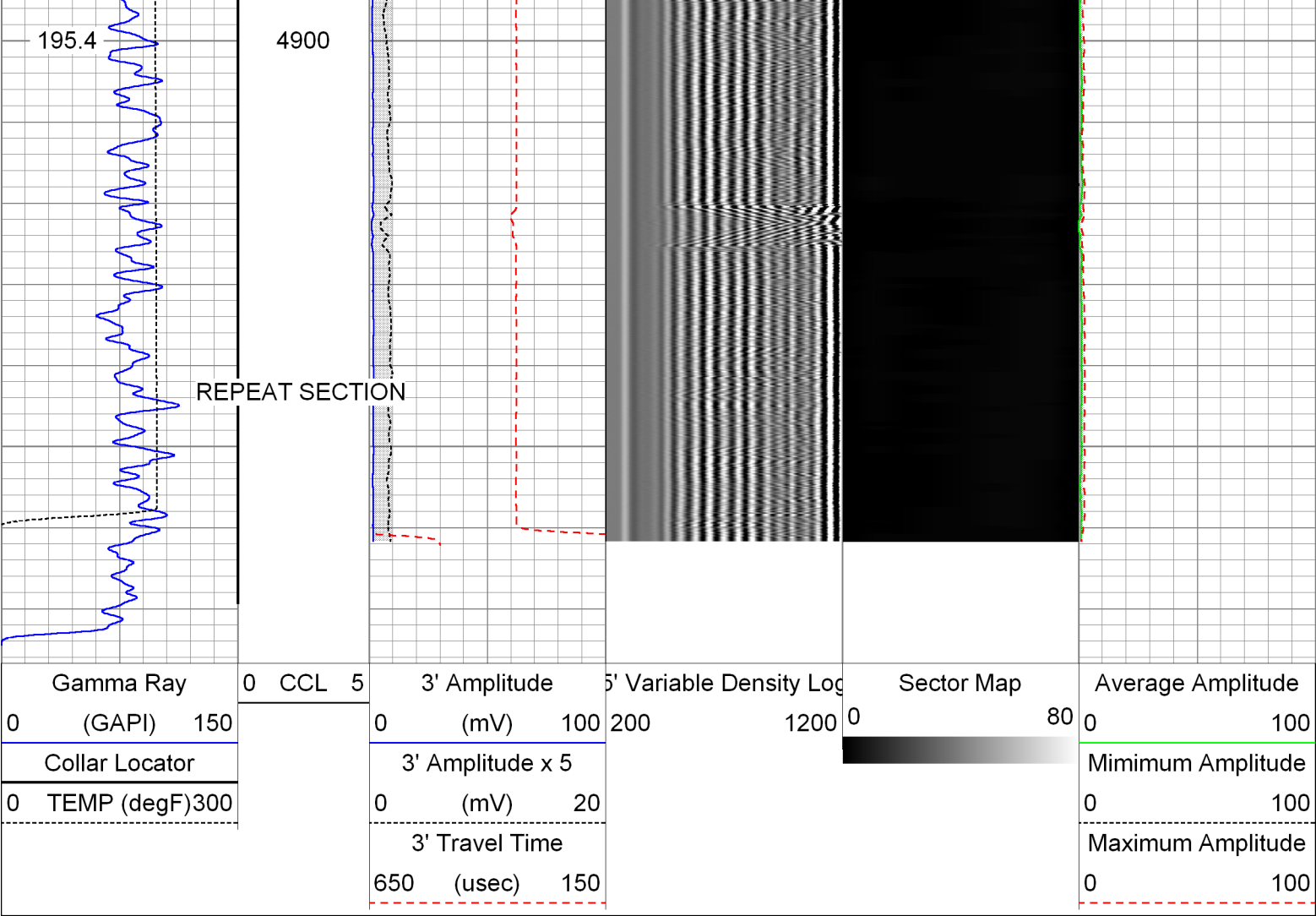
Presentation Format:rbt007

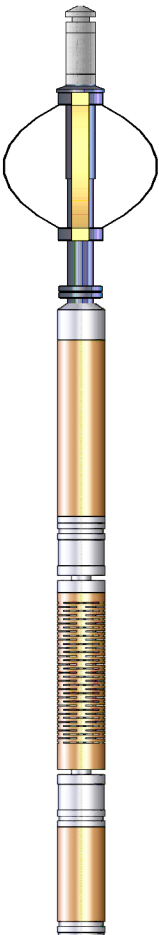
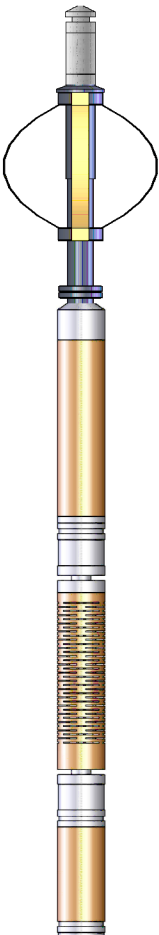
Dataset Creation:Fri Sep 20 16:04:59 2013 by Log SCH 111116

Charted by:Depth in Feet scaled 1:240

Gamma Ray	0 CCL 5	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 150		0 (mV) 100	2001200	080	0100
Collar Locator		3' Amplitude x 5			Mimimum Amplitude
0 TEMP (degF)300		0 (mV) 20			0100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0100





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
			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
Temp	18.09					
WVF3FT	15.98					
WVFCAL	15.98					
WVFS1	15.98					
WVFS2	15.98					
WVFS3	15.98					
WVFS4	15.98					
WVFS5	15.98					
WVFS6	15.98					

WVFS6	15.98		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00
WVFS7	15.98					
WVFS8	15.98					
WVF5FT	14.98					
CCL	7.38		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	3.33	2.75	50.00	
		Probe_IL_BS_Cent Probe 2-3/4" Inline Electrical Inline Bowspring Centralizer	2.88	2.75	10.00	
Dataset: 05-123-37730_whiting_razor 27I-3401b.db: field/well/run1/pass13.7						
Total Length: 24.88 ft						
Total Weight: 235.00 lb						
O.D. 2.75 in						

<p align="center">Calibration Report</p> <p>Database File: 05-123-37730_whiting_razor 27I-3401b.db Dataset Pathname: pass13.7 Dataset Creation: Fri Sep 20 17:48:05 2013 by Calc SCH 111116</p>		
<p align="center">Gamma Ray Calibration Report</p>		
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
<p align="center">Segmented Cement Bond Log Calibration Report</p>		
Serial Number:	FW1305-96in7"	
Tool Model:	2-3/4"	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	1656.871	ft
<p>Master Calibration, performed Fri Sep 20 15:51:07 2013:</p>		

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.010	0.731	1.000	62.165	82.549	4.801
CAL	0.712	0.712				
5'	-0.011	0.790	1.000	62.165	76.384	4.843
SUM						
S1	0.008	0.724	0.000	100.000	139.628	3.057
S2	-0.009	0.735	0.000	100.000	134.445	4.180
S3	-0.009	0.731	0.000	100.000	135.019	4.267
S4	-0.009	0.732	0.000	100.000	134.852	4.279
S5	-0.009	0.730	0.000	100.000	135.233	4.284
S6	-0.010	0.730	0.000	100.000	135.257	4.304
S7	-0.010	0.732	0.000	100.000	134.888	4.299
S8	-0.009	0.734	0.000	100.000	134.597	4.214

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	0.712	0.712	1.000	0.000

Air Zero Calibration, performed Sun Sep 08 12:34:09 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 27L-3401B
	Field	Wildcat
	County	Weld
	State	Colorado