

RADIAL CEMENT BOND GAMMA RAY CASING COLLAR LOG

Company		WHITING OIL & GAS	
Well		RAZOR 27-3414H	
Field		REDTAIL	
County		WELD	
State		COLORADO	
Location:		API # : 05-123-36130	
Permanent Datum		GROUND LEVEL Elevation	
Log Measured From		KELLY BUSHING	
Drilling Measured From		KELLY BUSHING	
SEC 11 TWP 10N RGE 58W		N/A	
Elevation		K.B. 4771' D.F. 4770' G.L. 4755'	
Date			
JAN 18 2013			
Run Number			
1			
Depth Driller			
12390'			
Depth Logger			
4876'			
Bottom Logged Interval			
4876'			
Top Log Interval			
SURFACE			
Open Hole Size			
9.625			
Type Fluid			
WATER			
Density / Viscosity			
8.4LB/GAL			
Max. Recorded Temp.			
N/A			
Estimated Cement Top			
100'			
Time Well Ready			
1:30 PM			
Time Logger on Bottom			
N/A			
Equipment Number			
HD0119			
Location			
FORT LUPTON, CO			
Recorded By			
RYAN HARRIS			
Witnessed By			
MIKE STAAB			
Borehole Record			
Run Number			
Bit			
From			
To			
Size			
Weight			
From			
To			
Tubing Record			
Casing Record			
Size			
Wgt/Ft			
Top			
Bottom			
Surface String			
9-5/8			
36			
SURFACE			
1505'			
Prot. String			
7"			
29			
SURFACE			
6056'			
Production String			
4.5			
11.6			
SURFACE			
5008'			
12390'			
Liner			

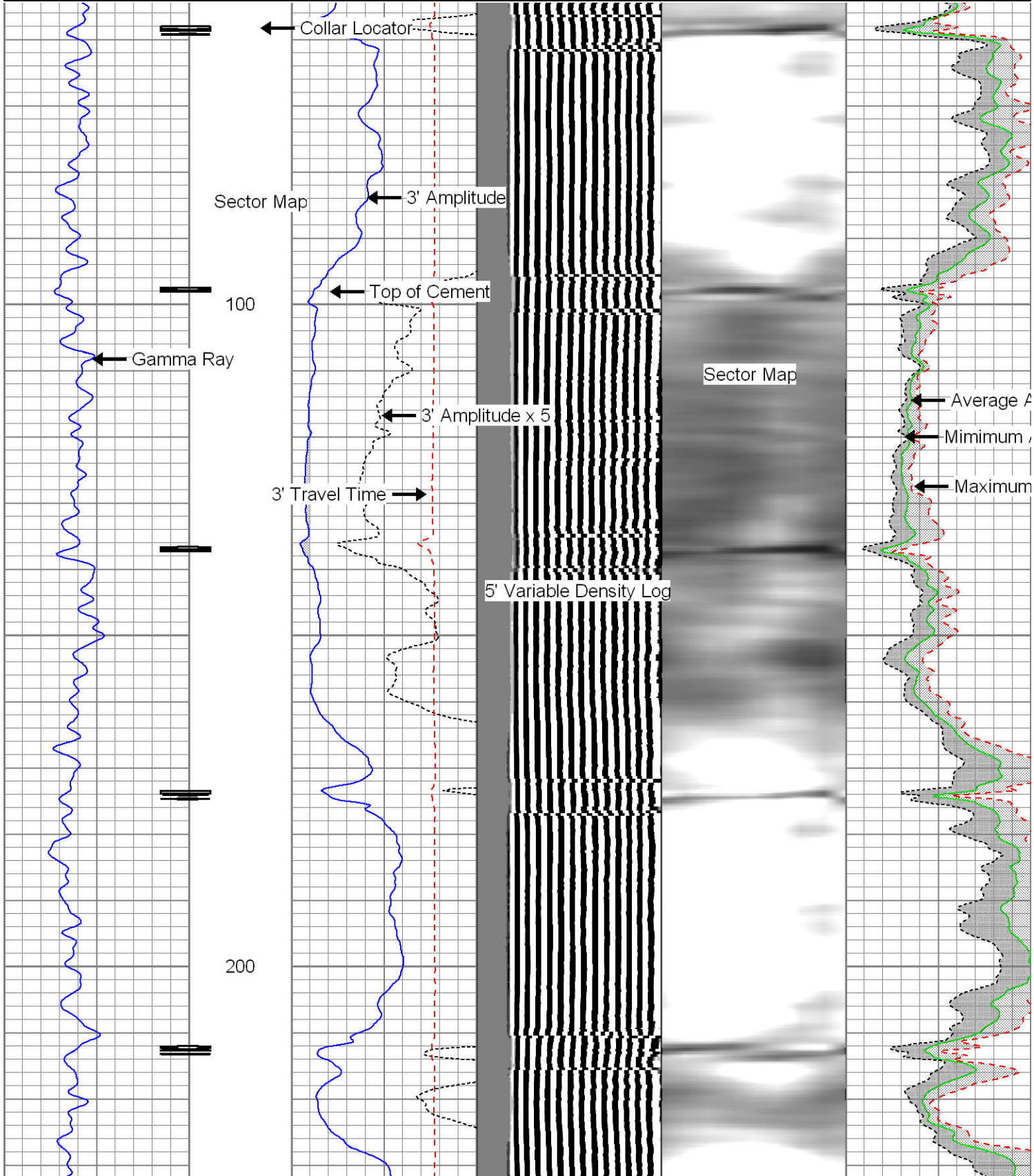
<<< Fold Here >>>

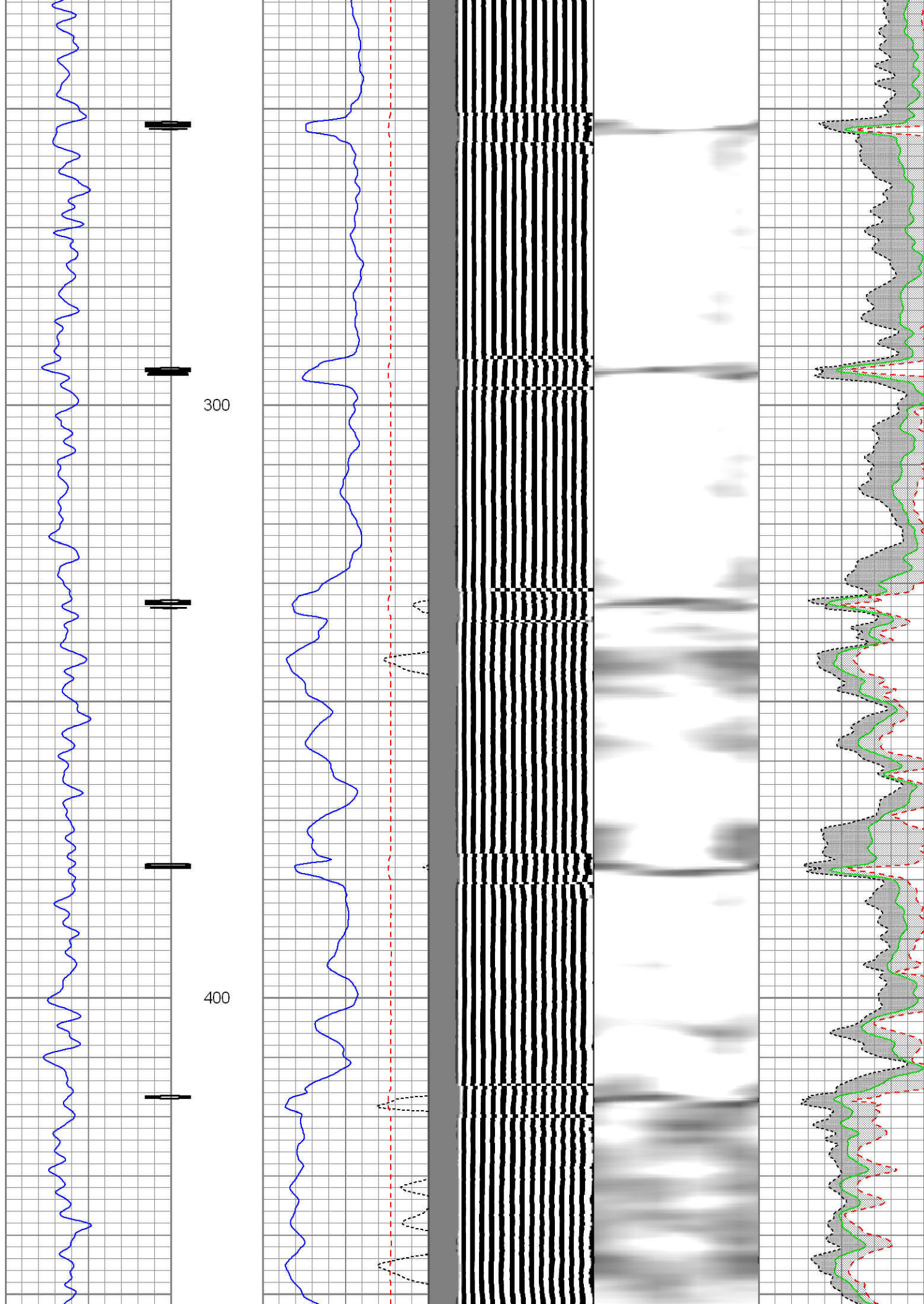
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

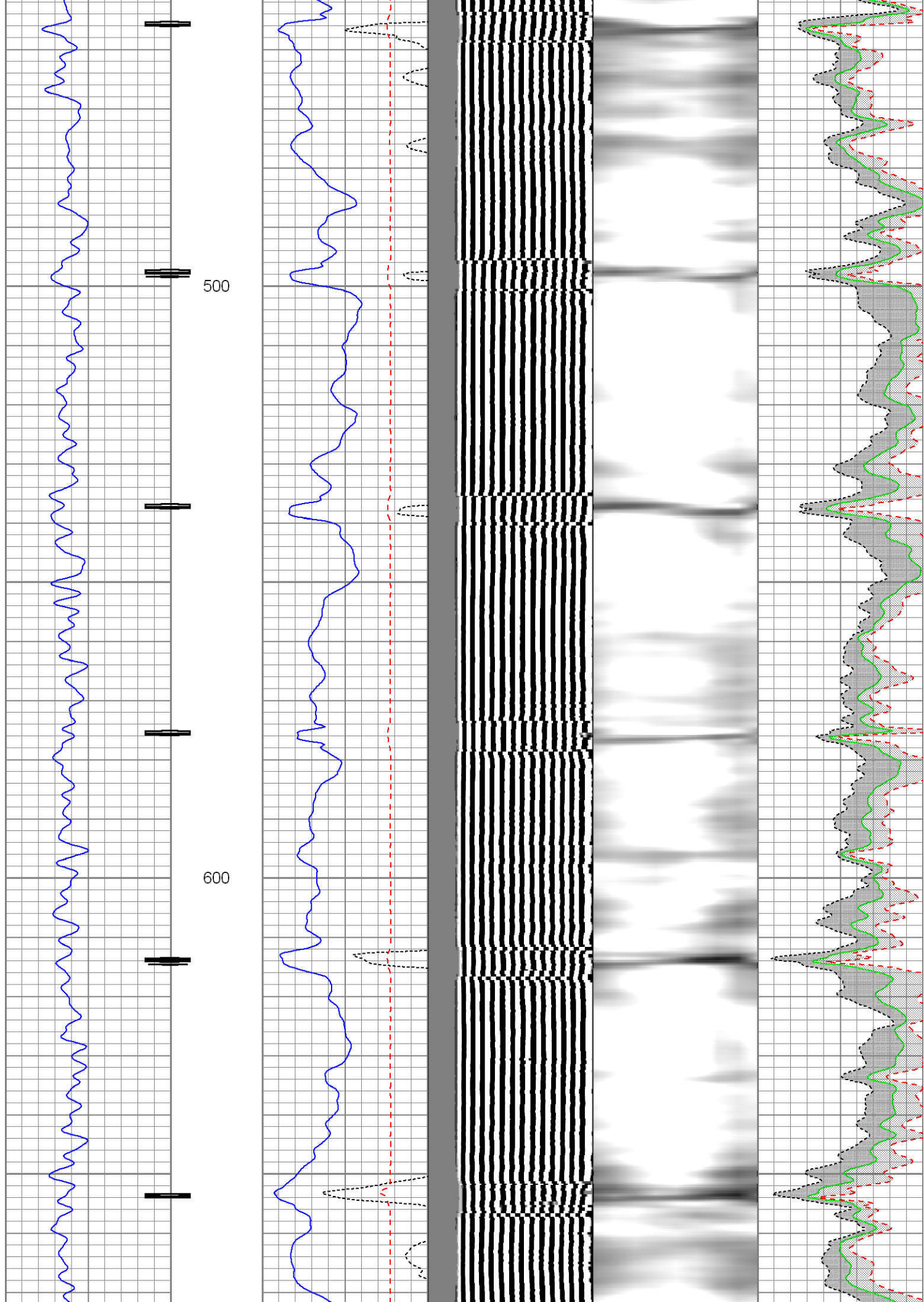
Comments

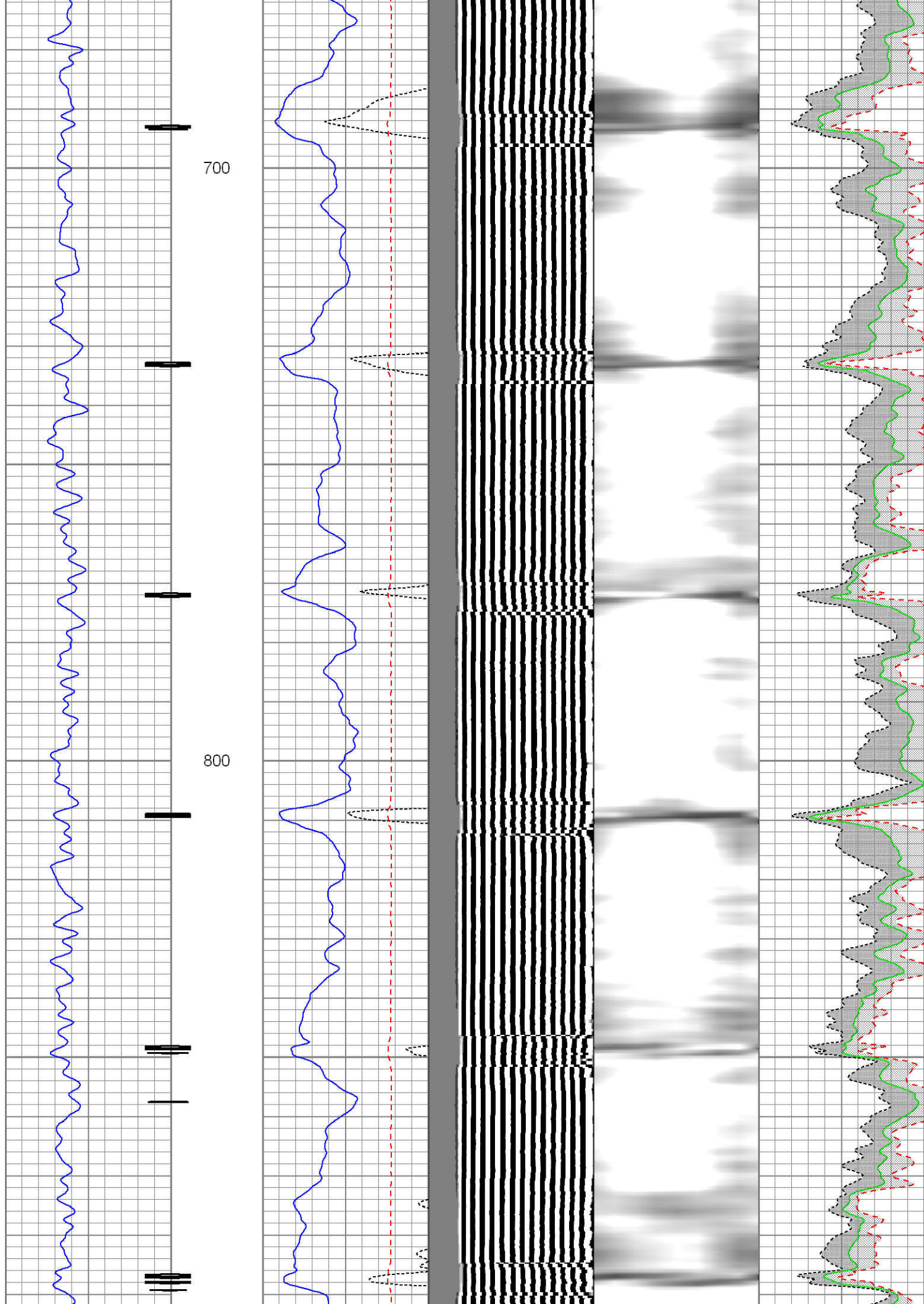
THANK YOU FOR USING FMC TECHNOLOGIES
LOG RAN AS MAIN WIRELINE DEPTH REFERENCE
LOG RAN AT 1500 PSI SURFACE
LOG CORRELATED TO KB

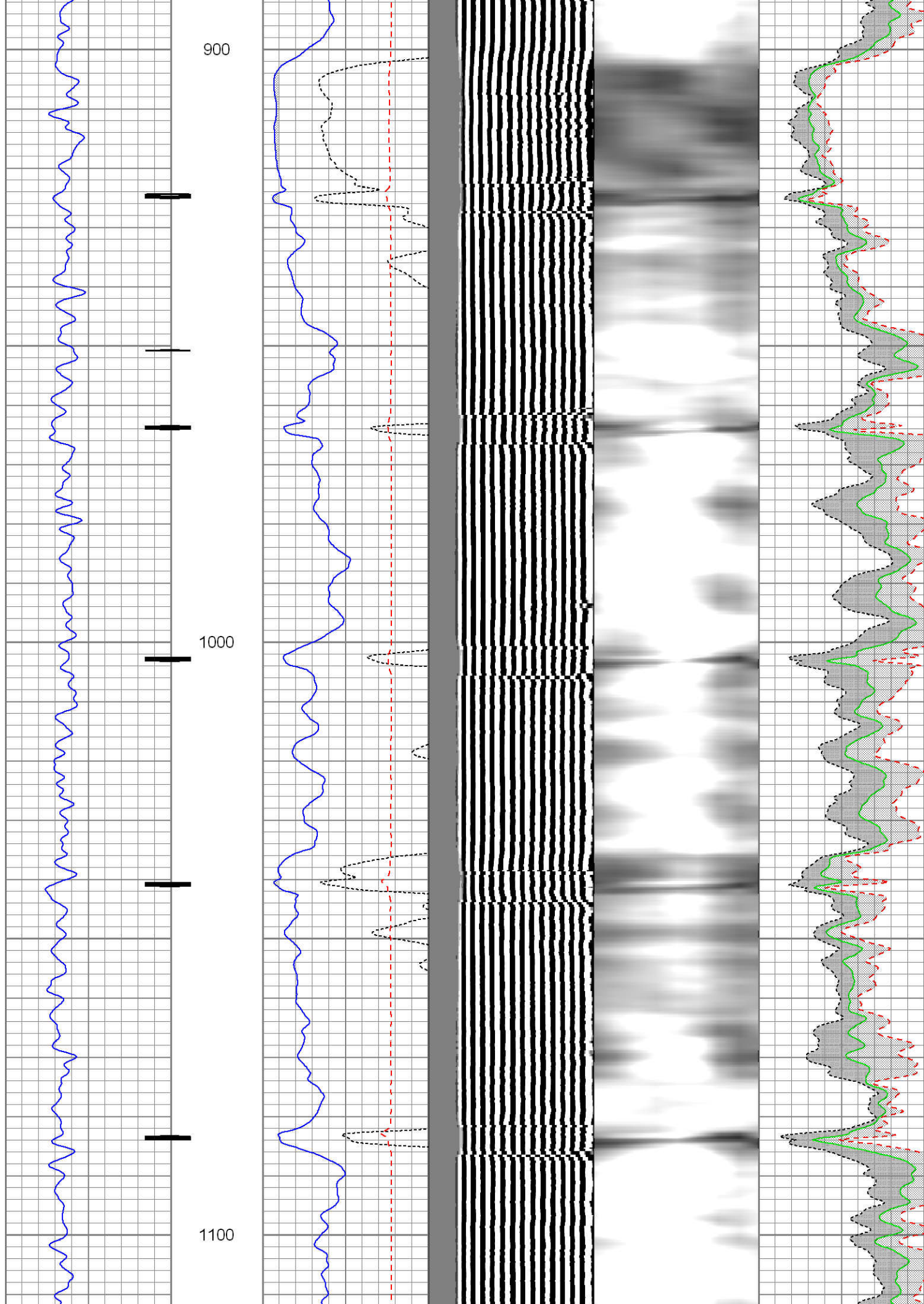
0	Gamma Ray 180	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
	Collar Locator	0 (mV) 100	200 1200		0 100
		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

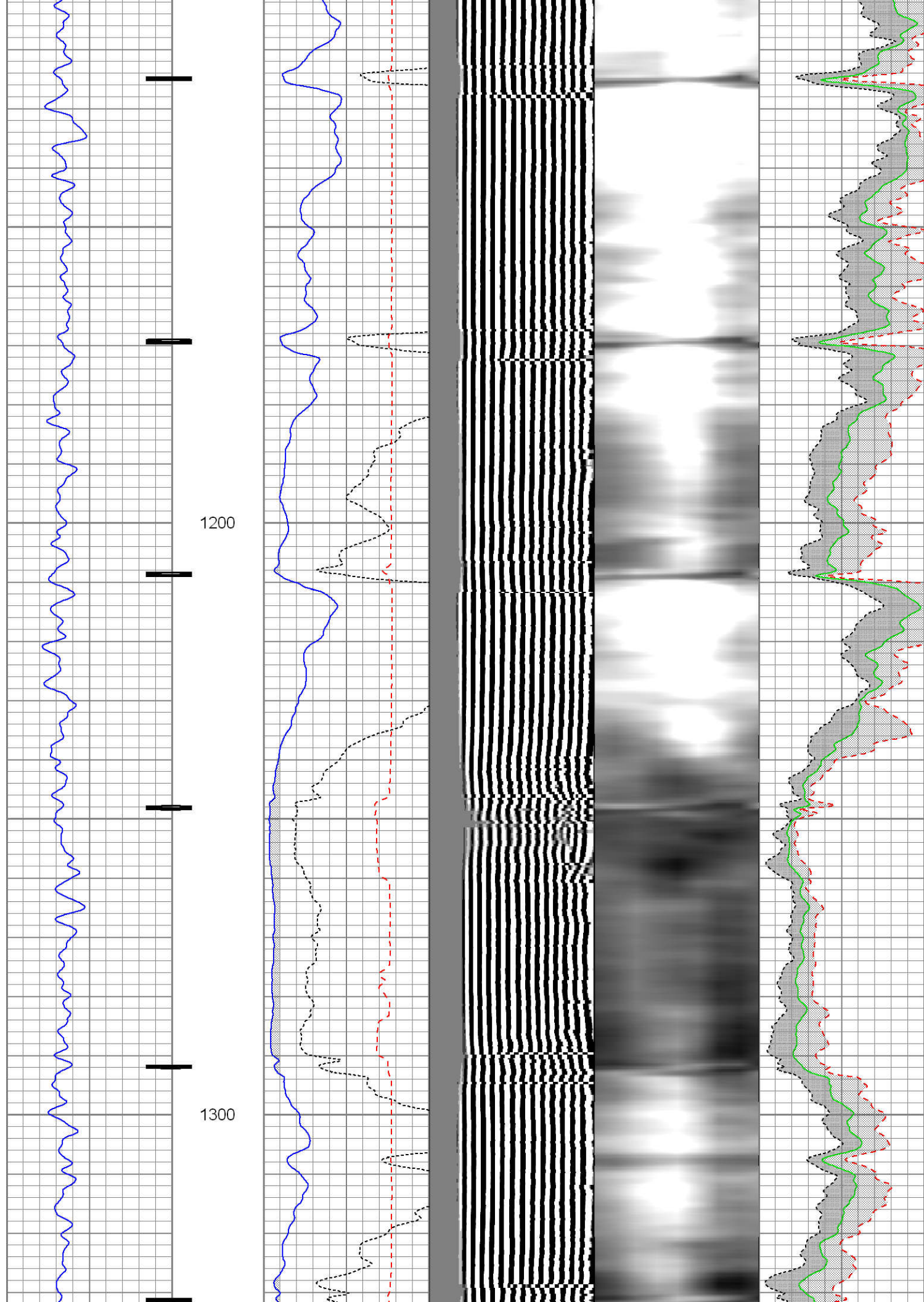


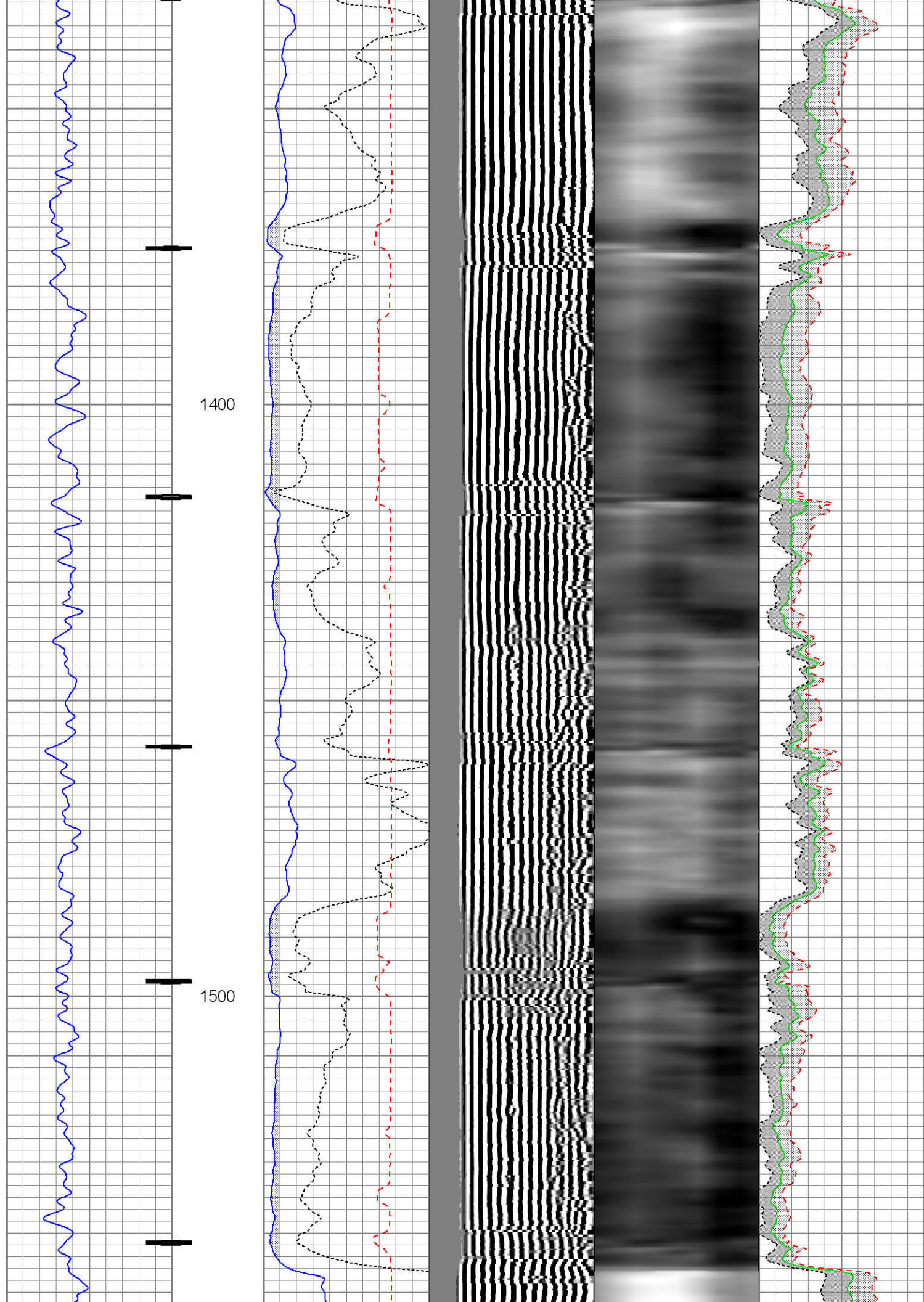


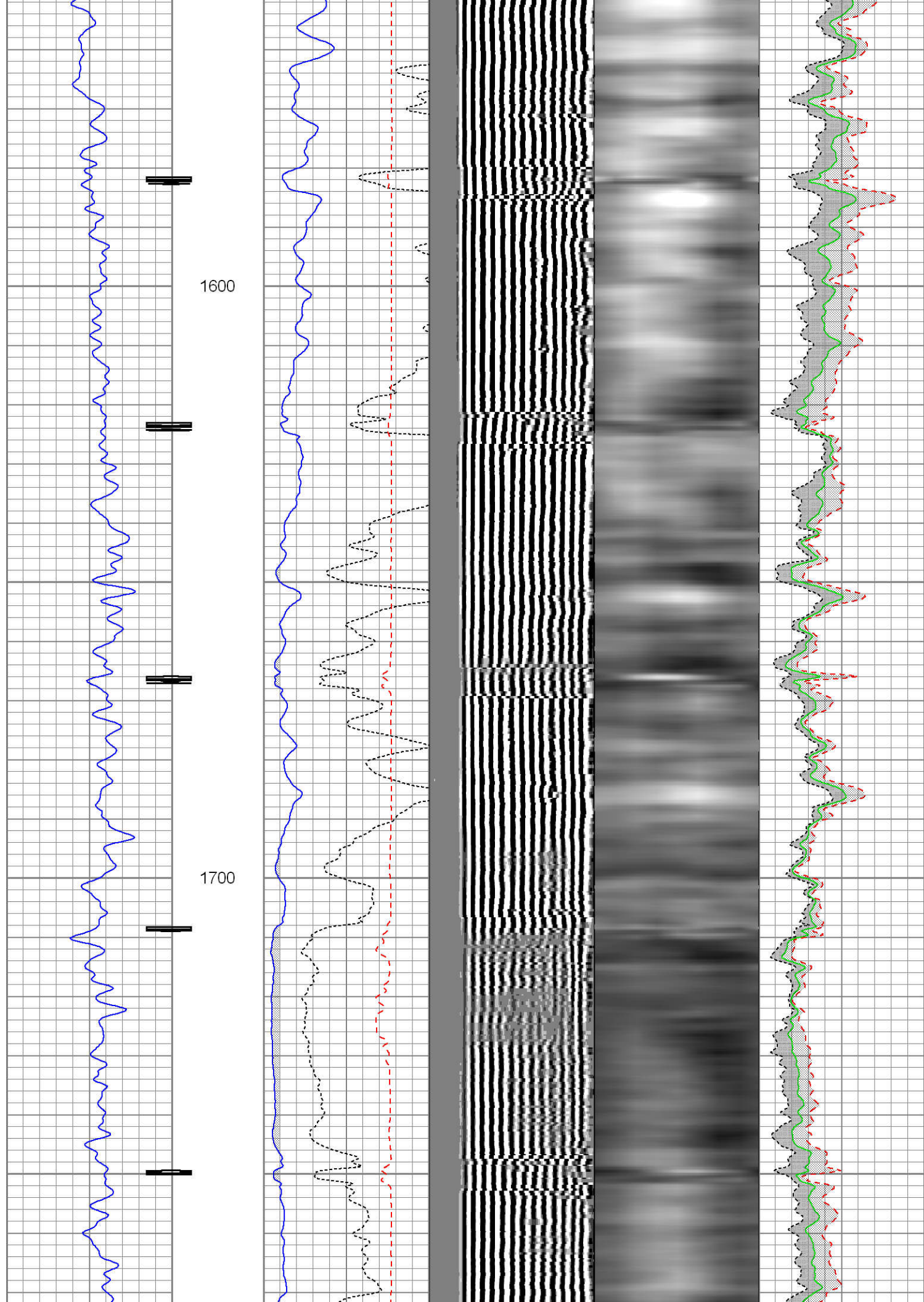


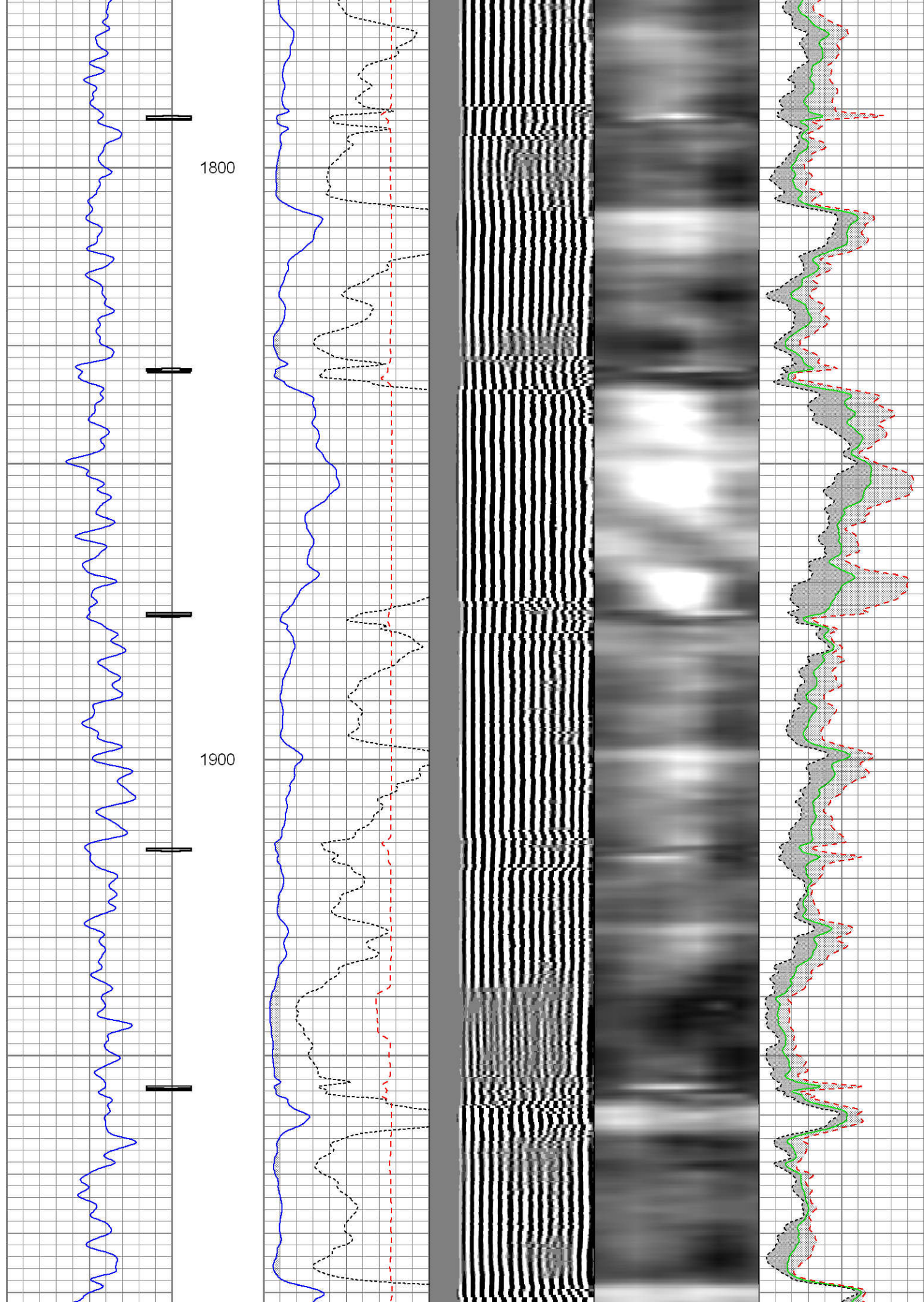


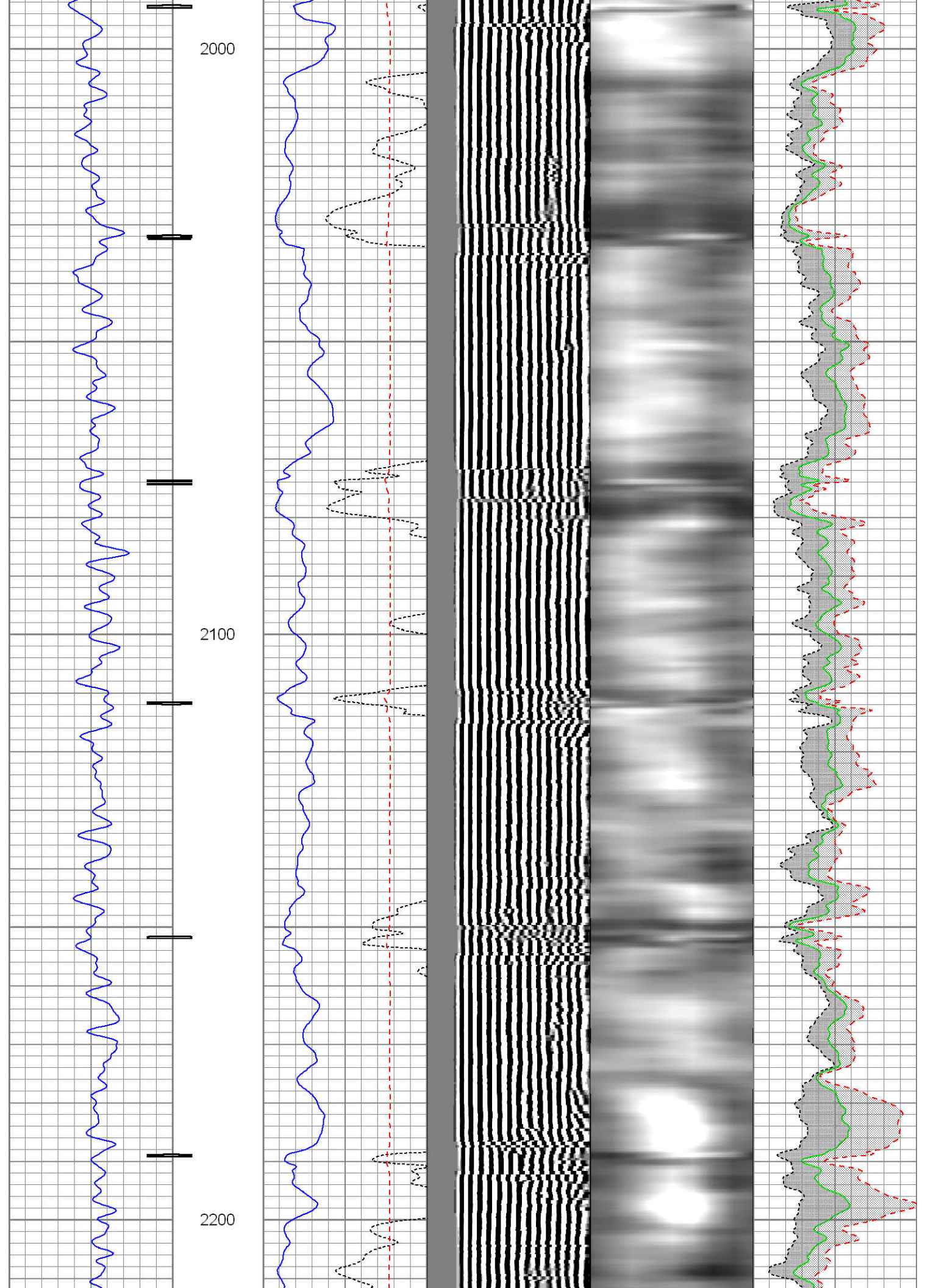


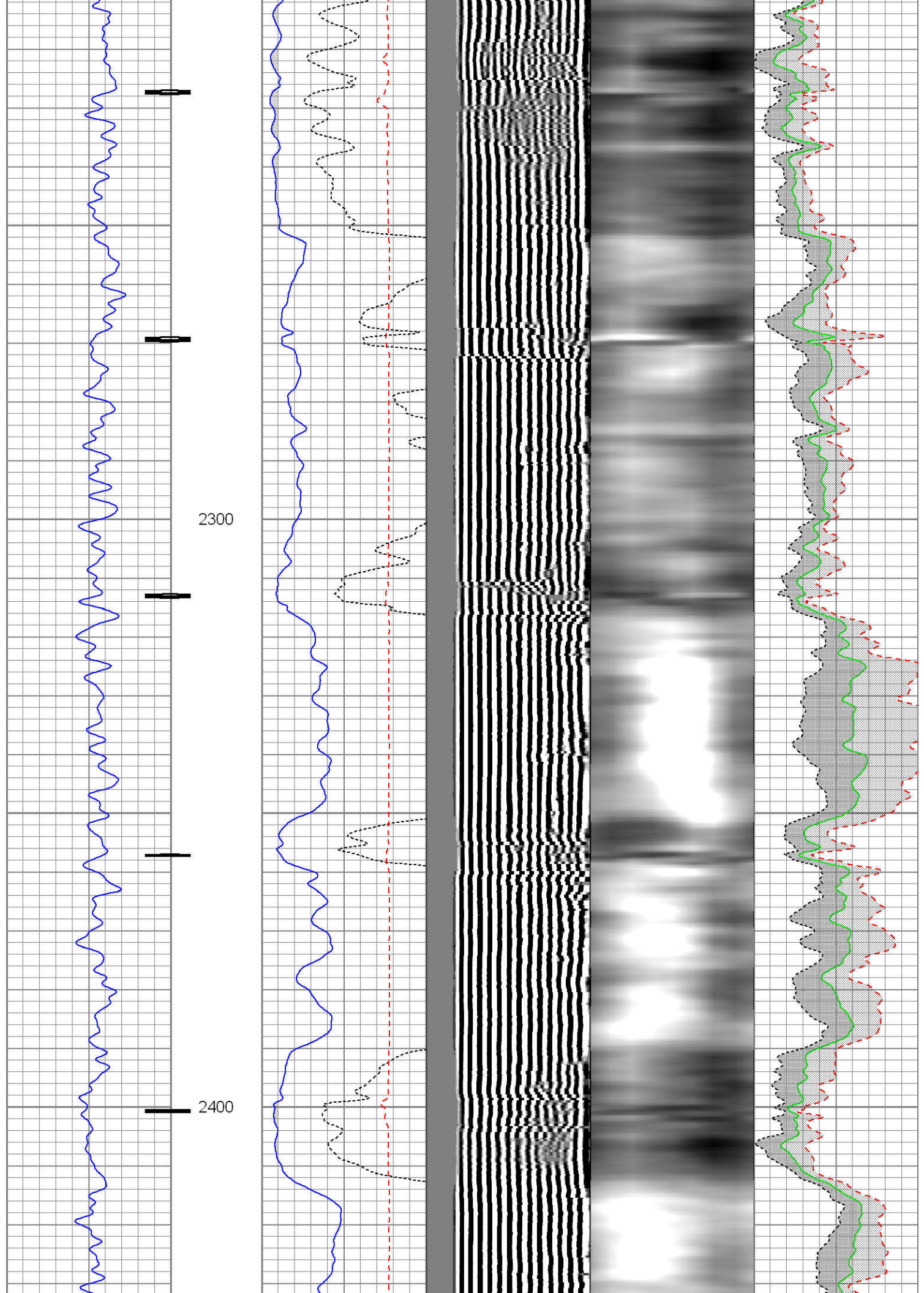


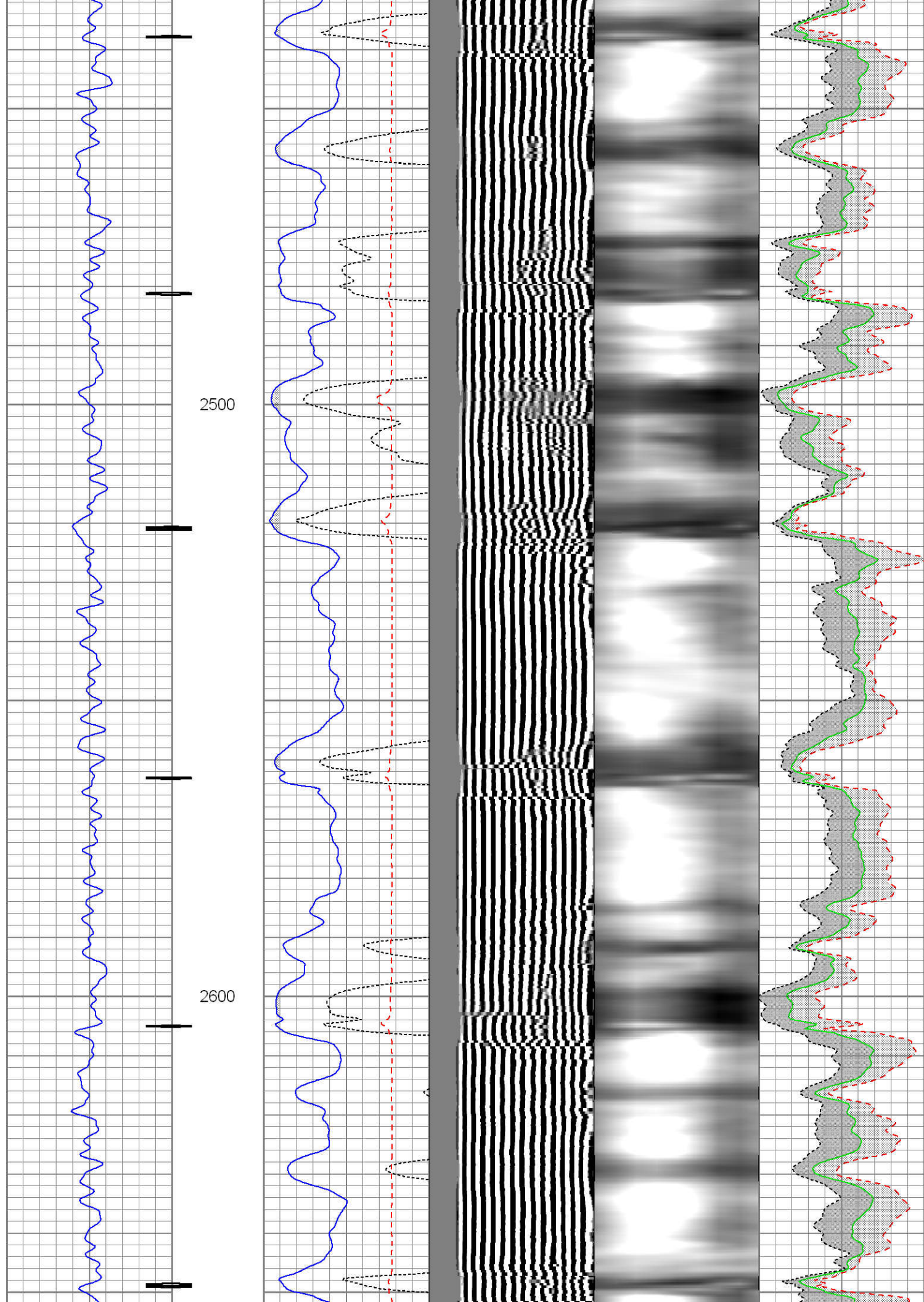


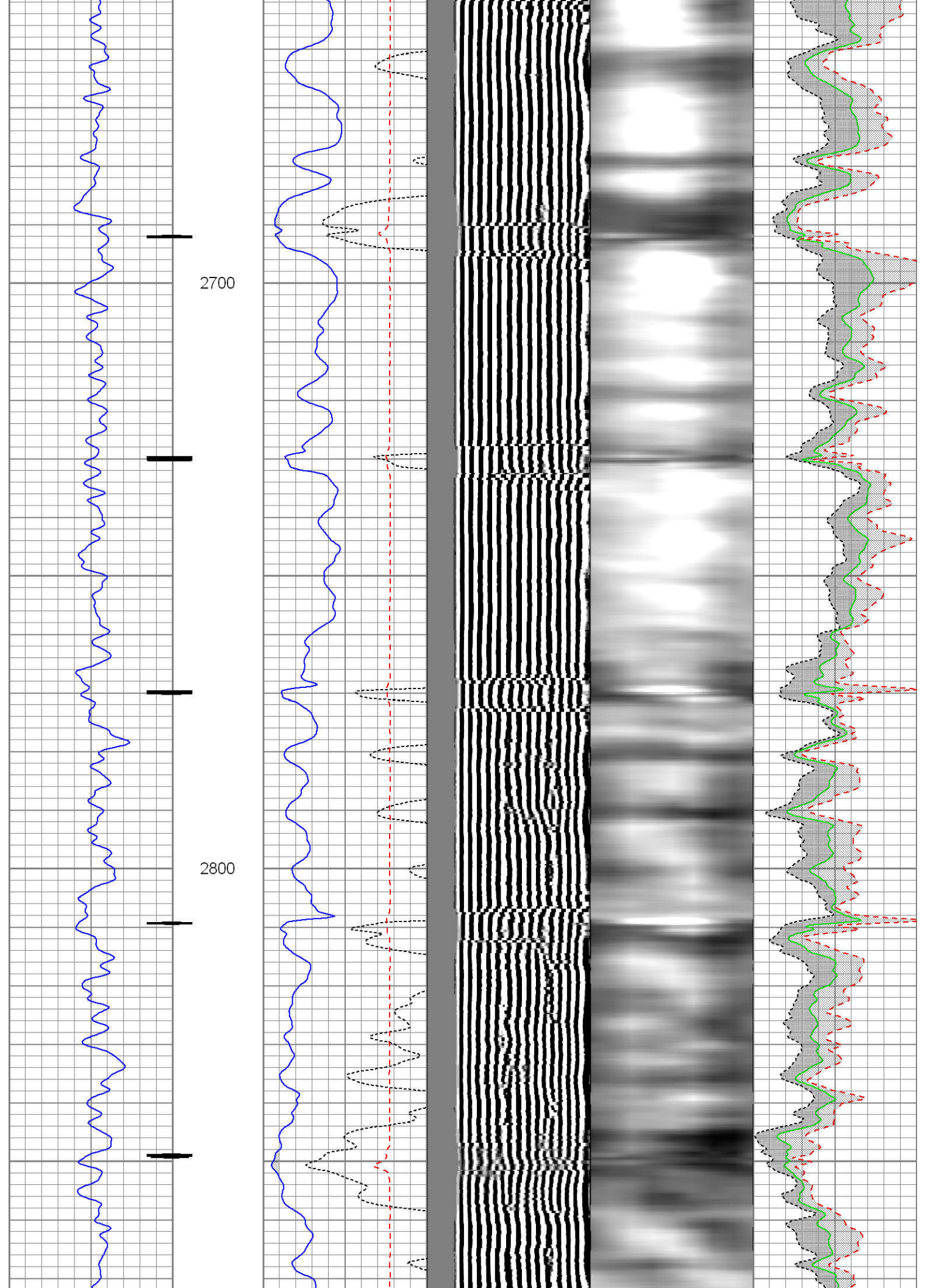


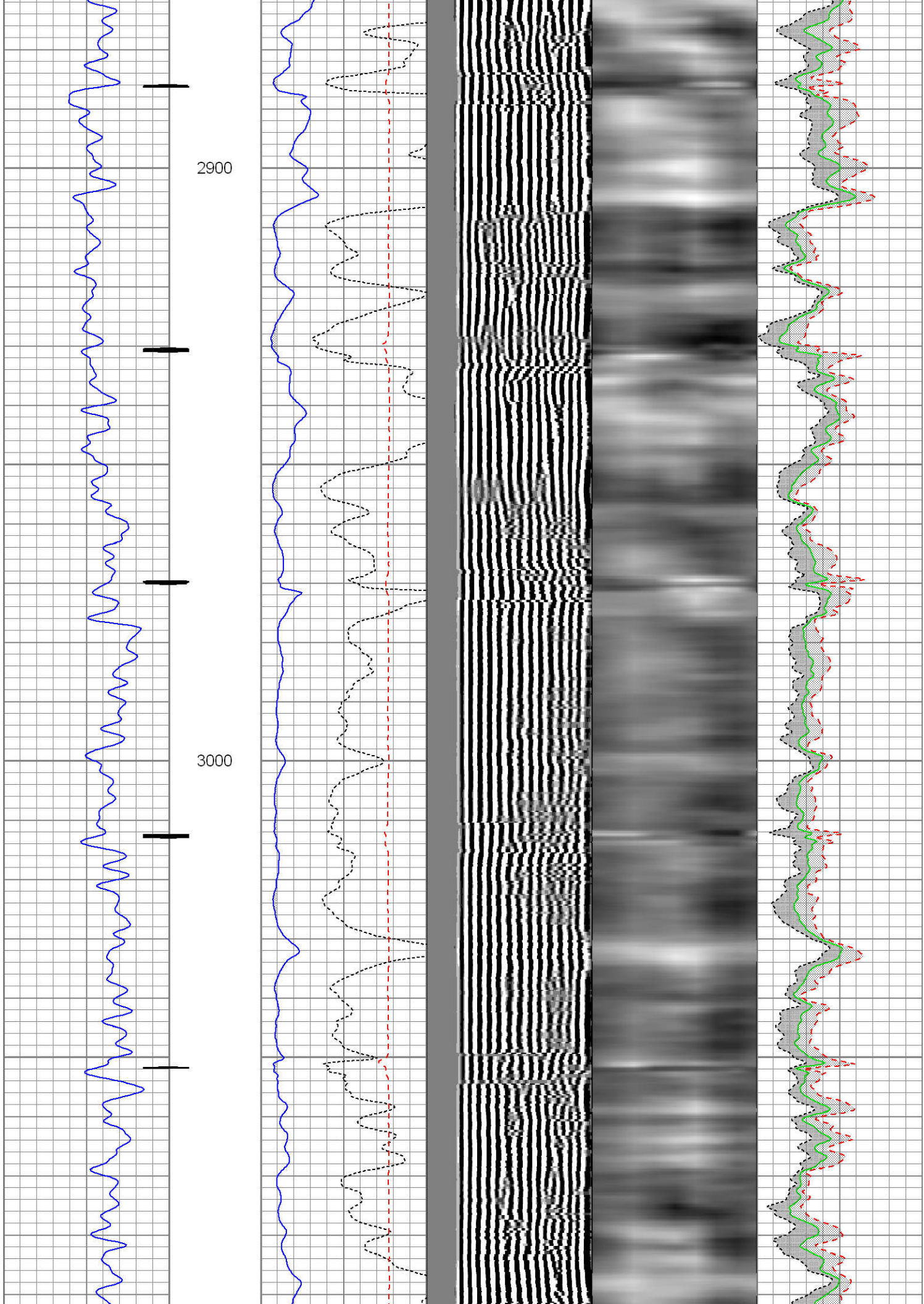


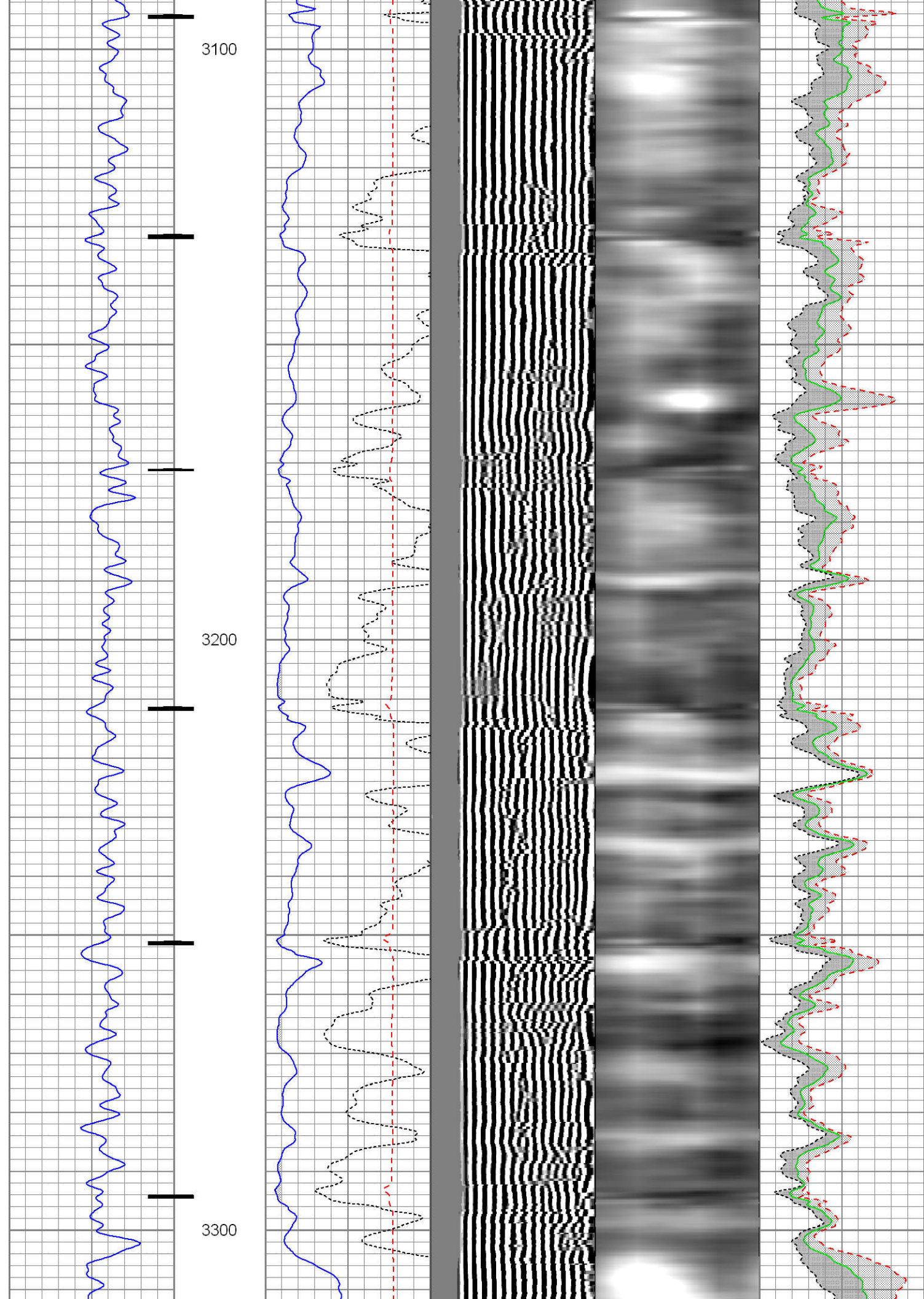


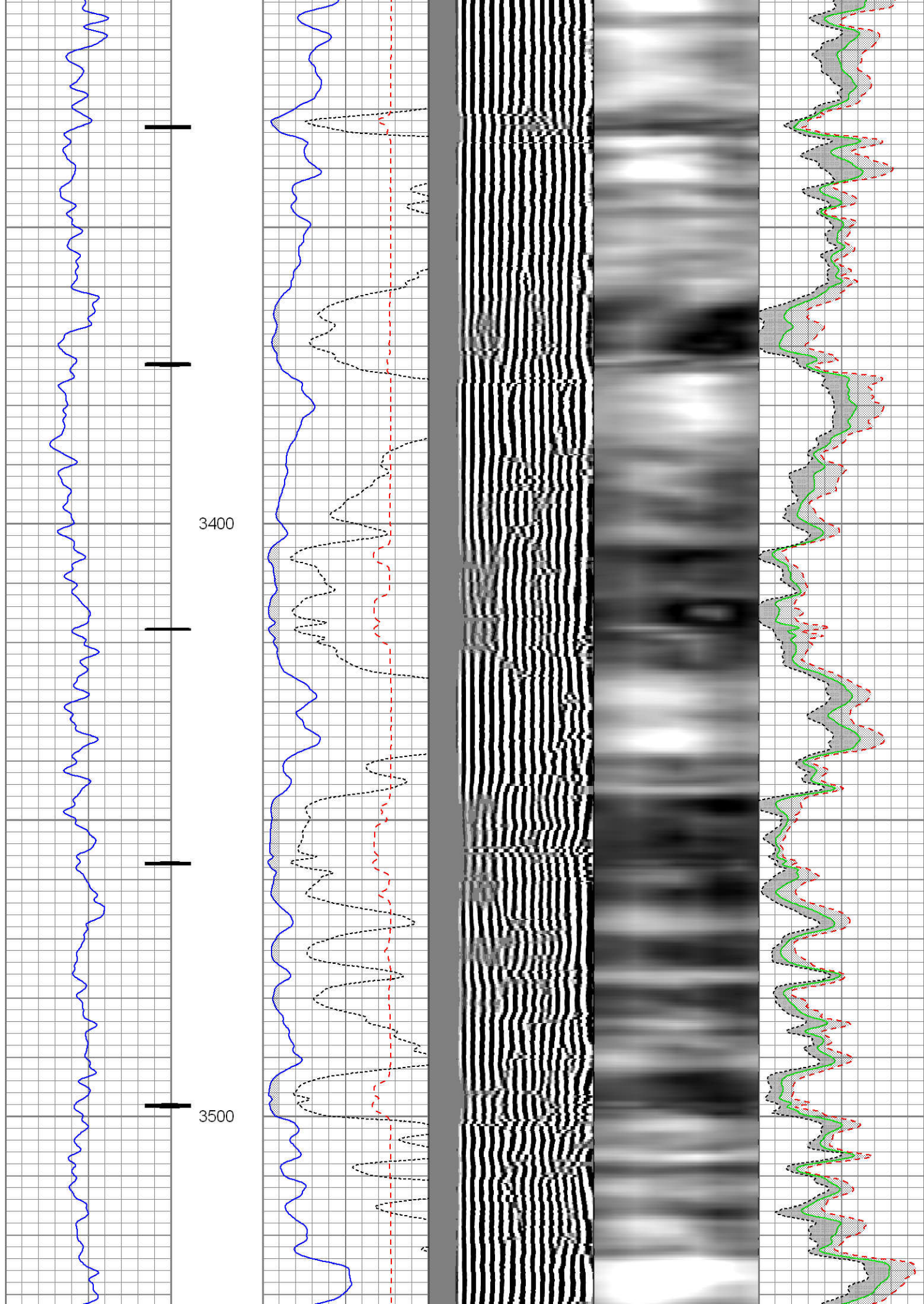


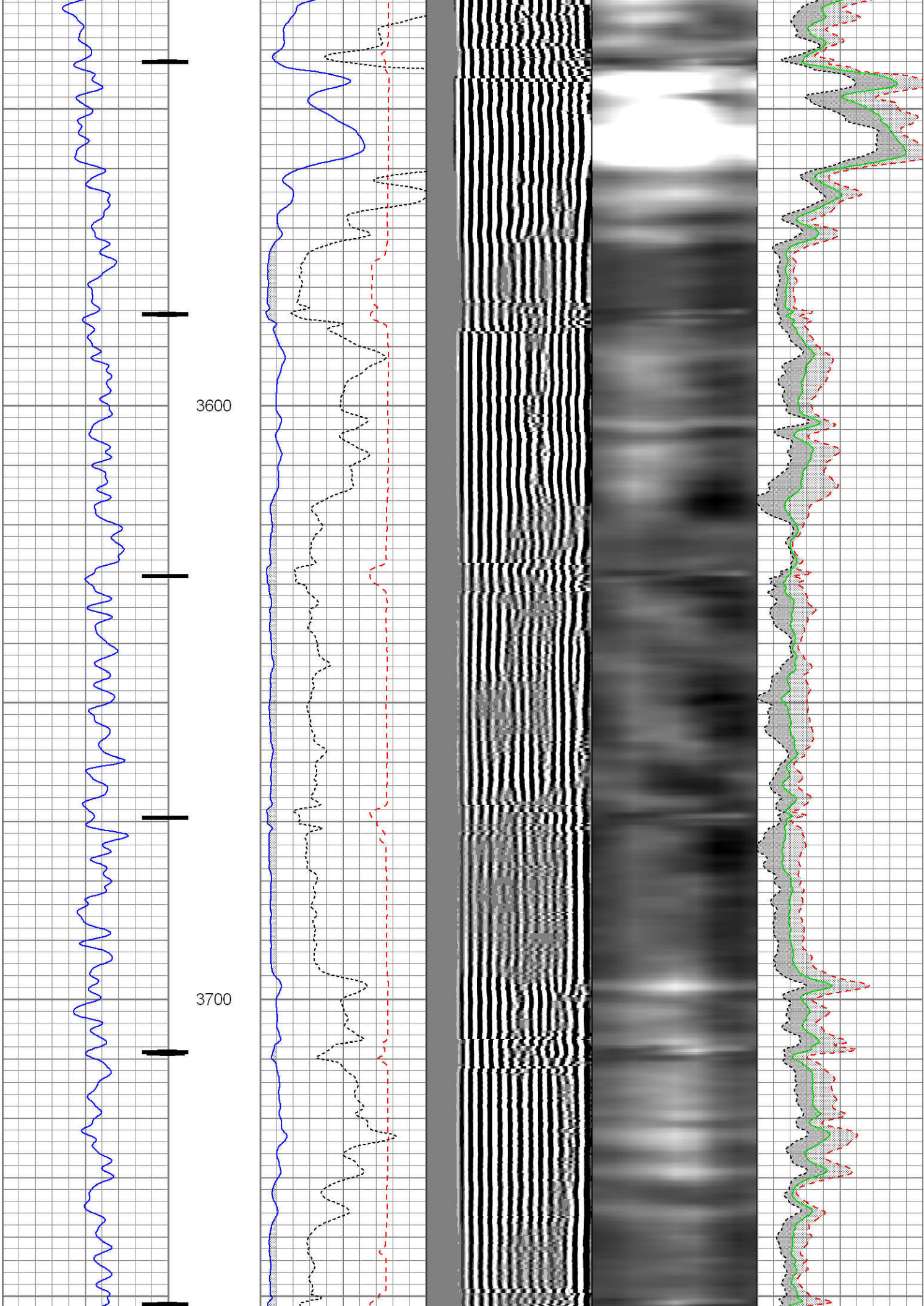


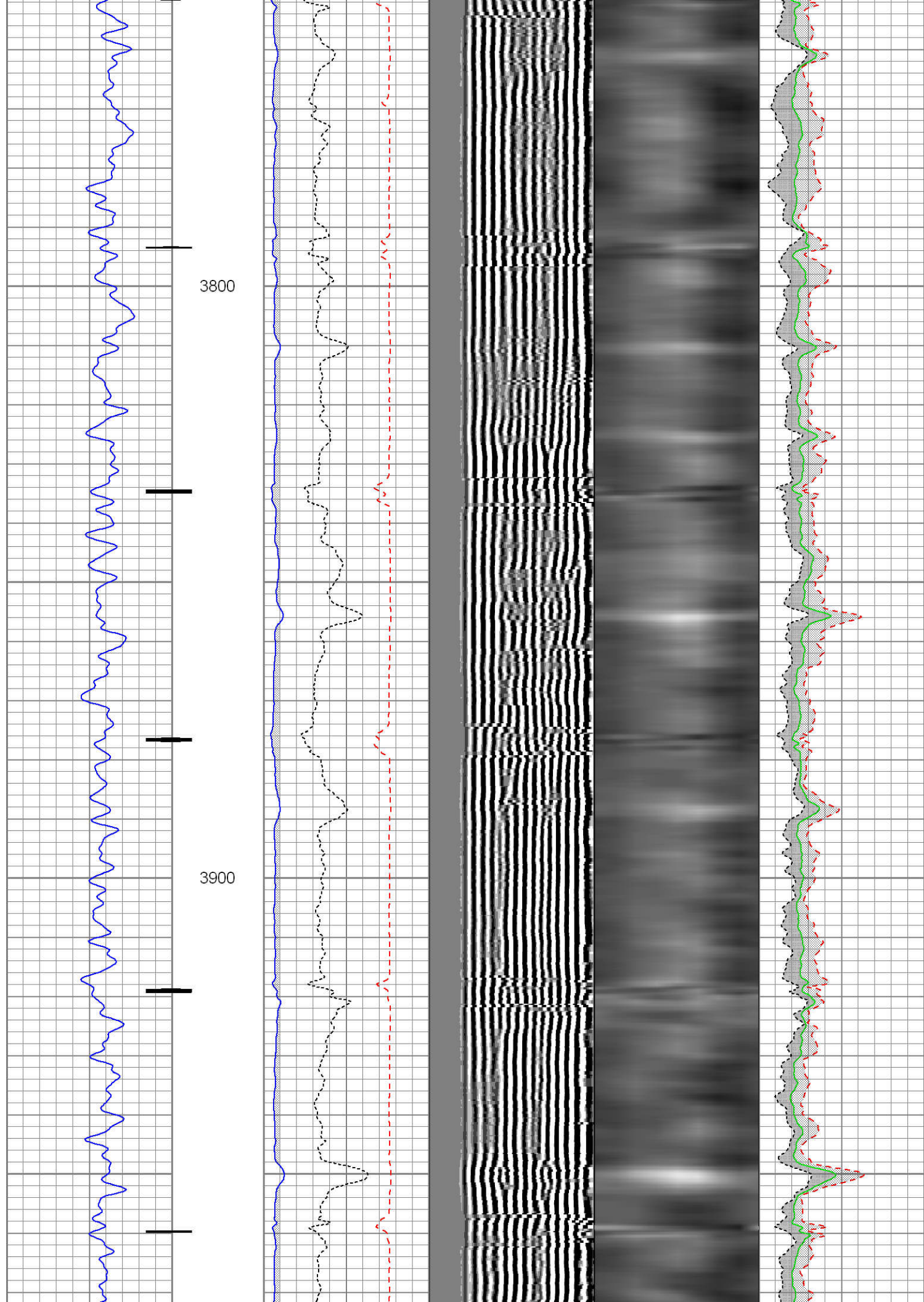


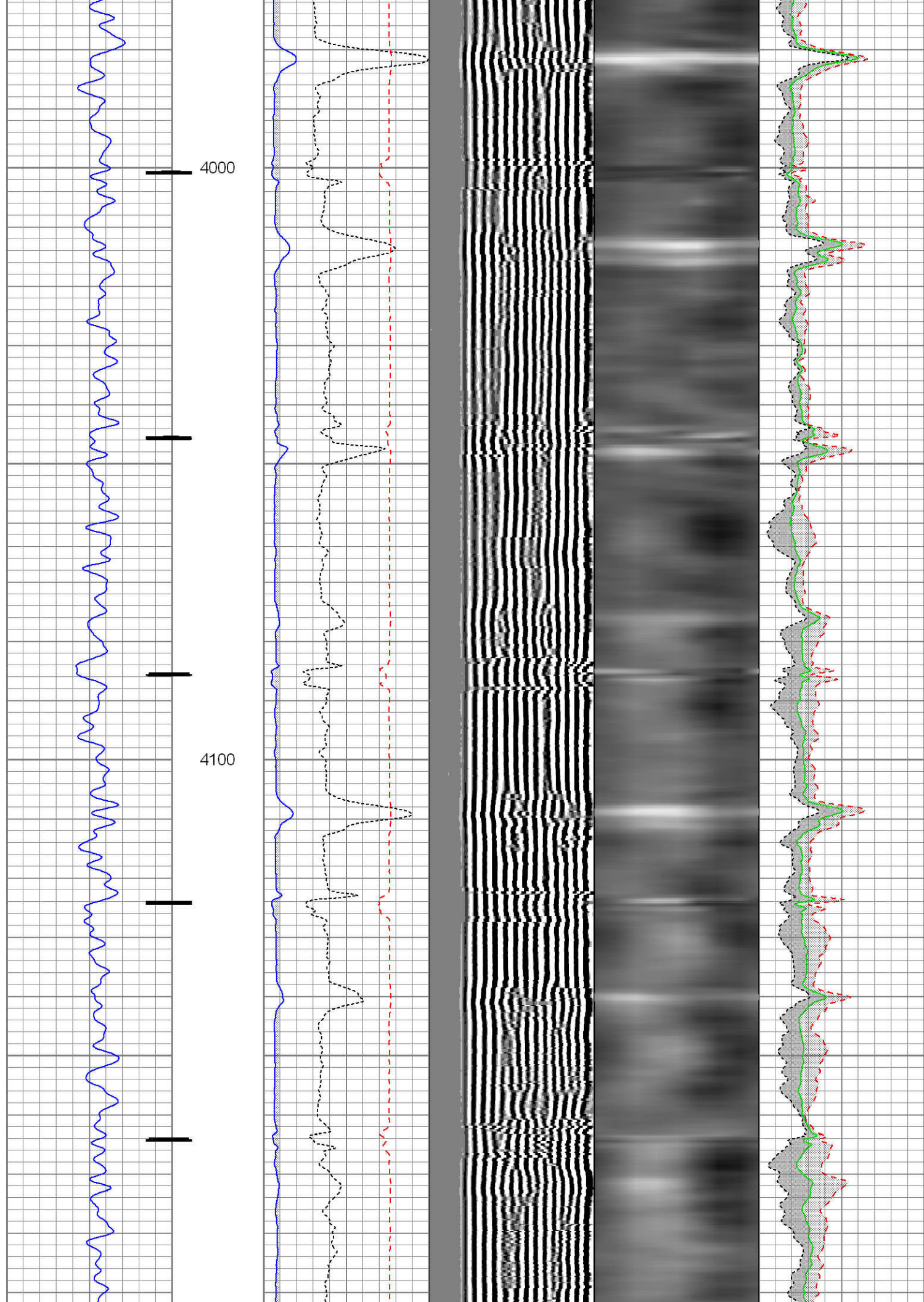


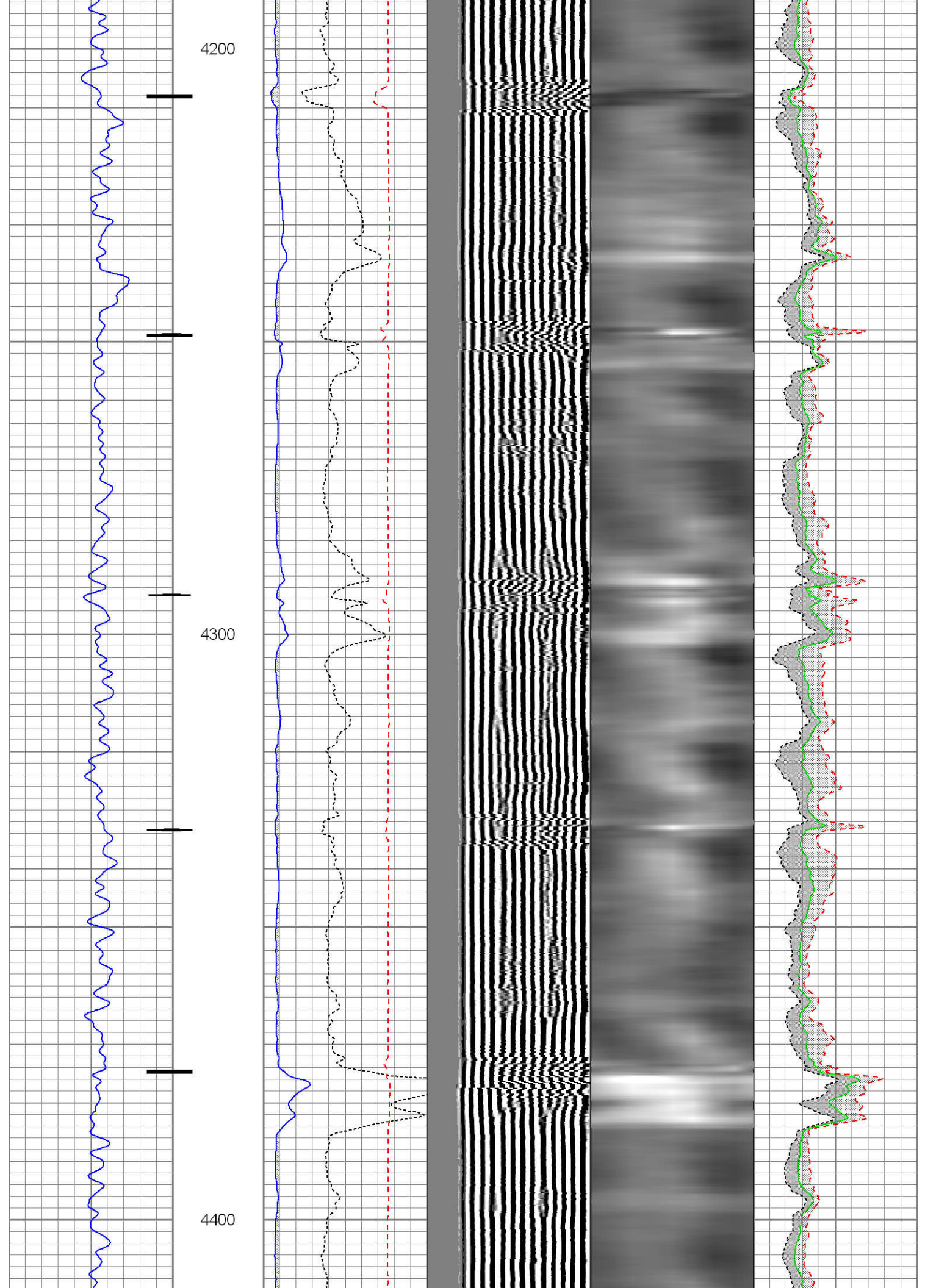


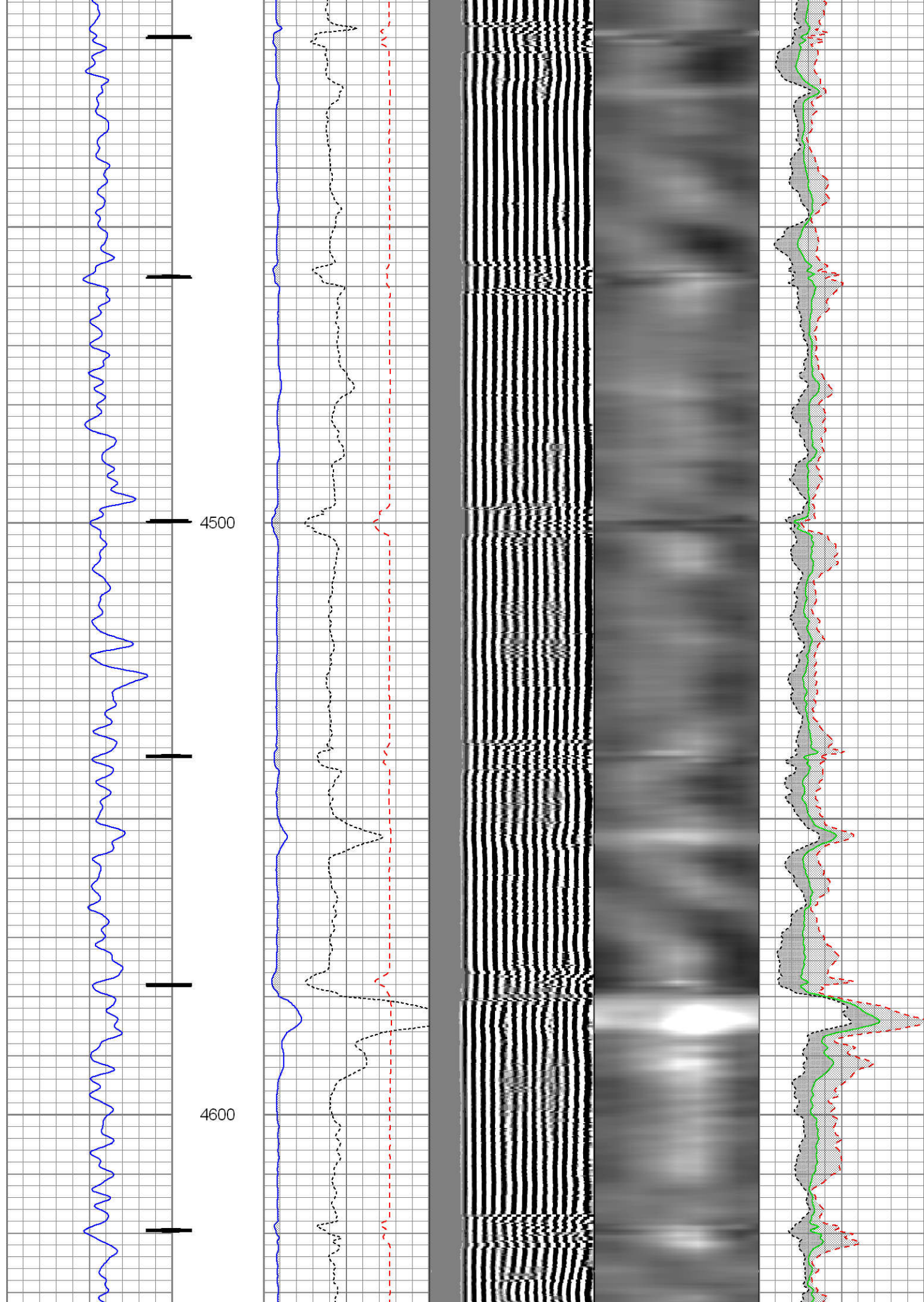


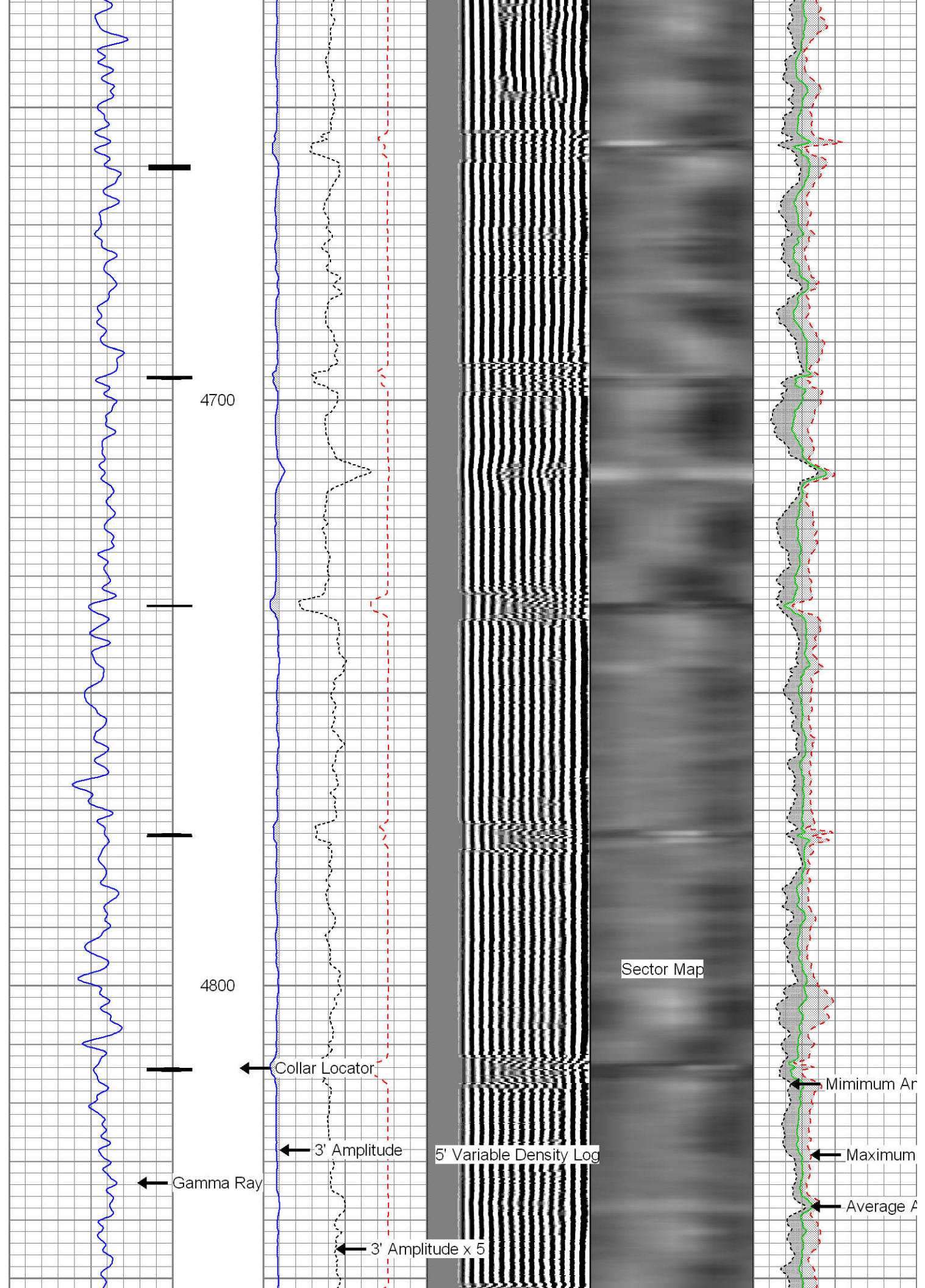


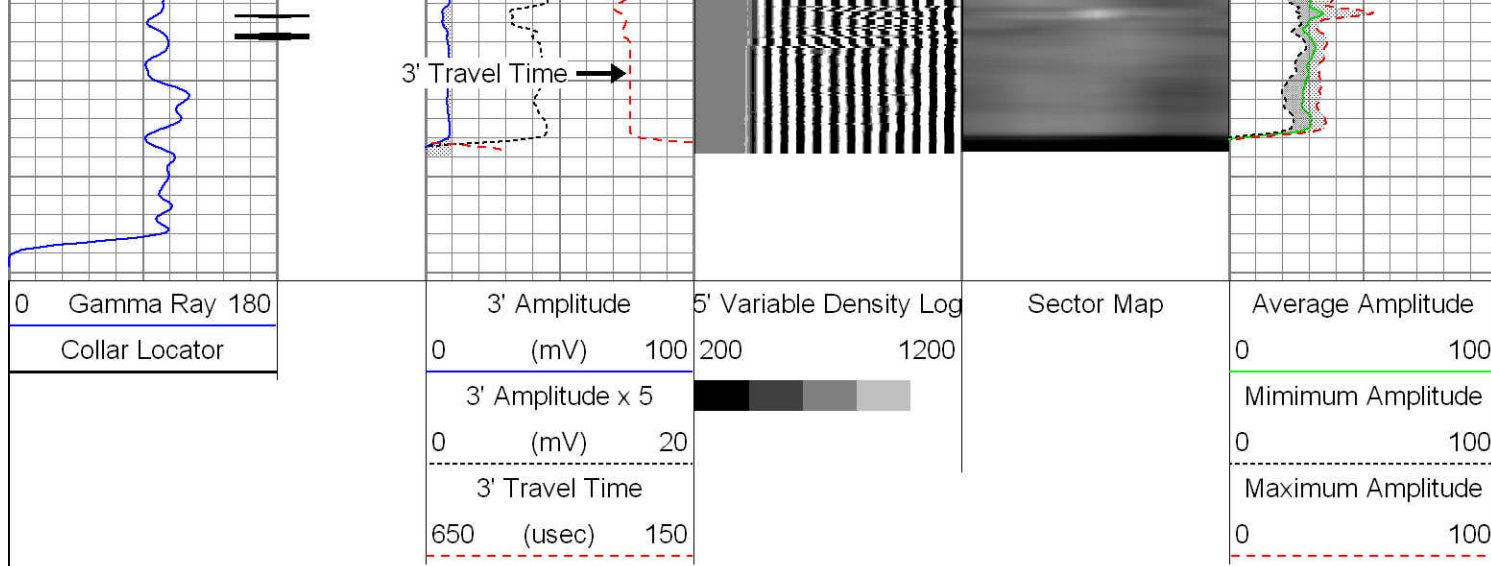








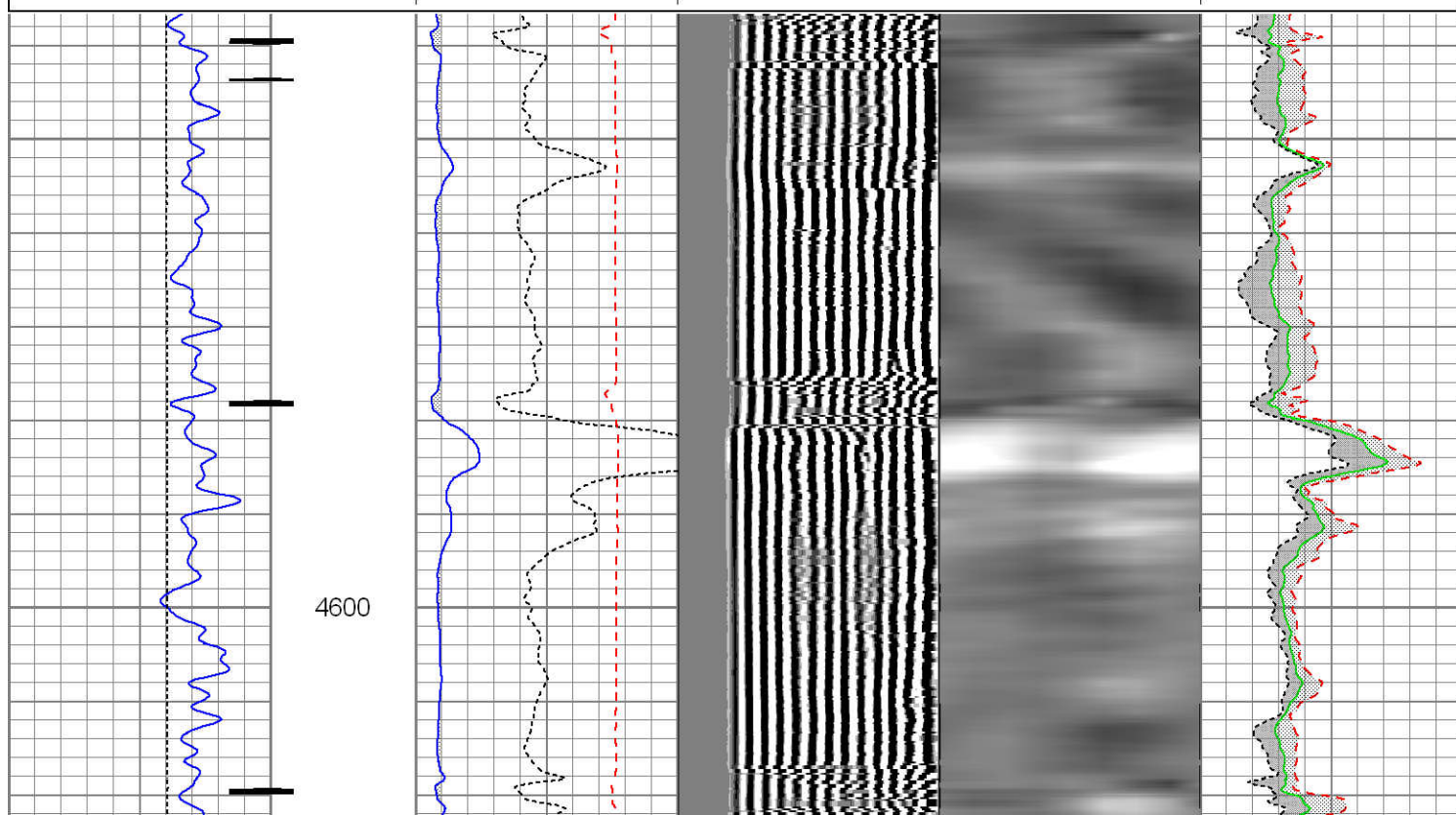
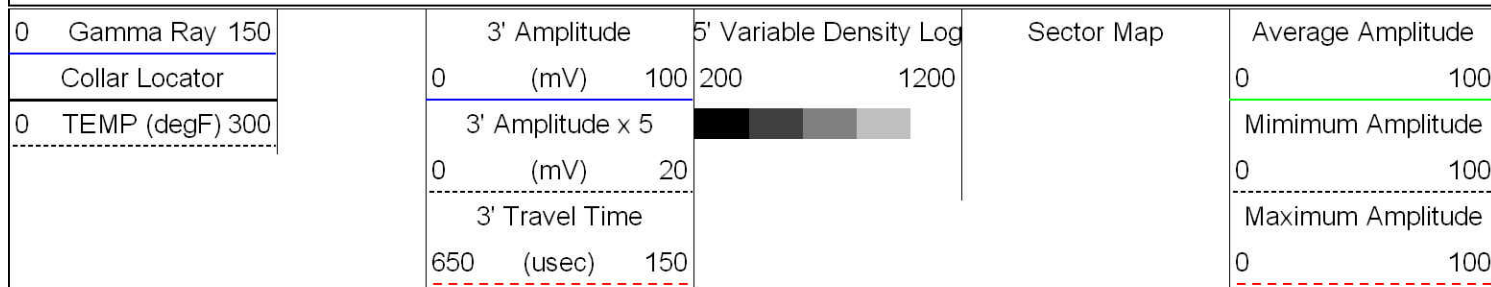


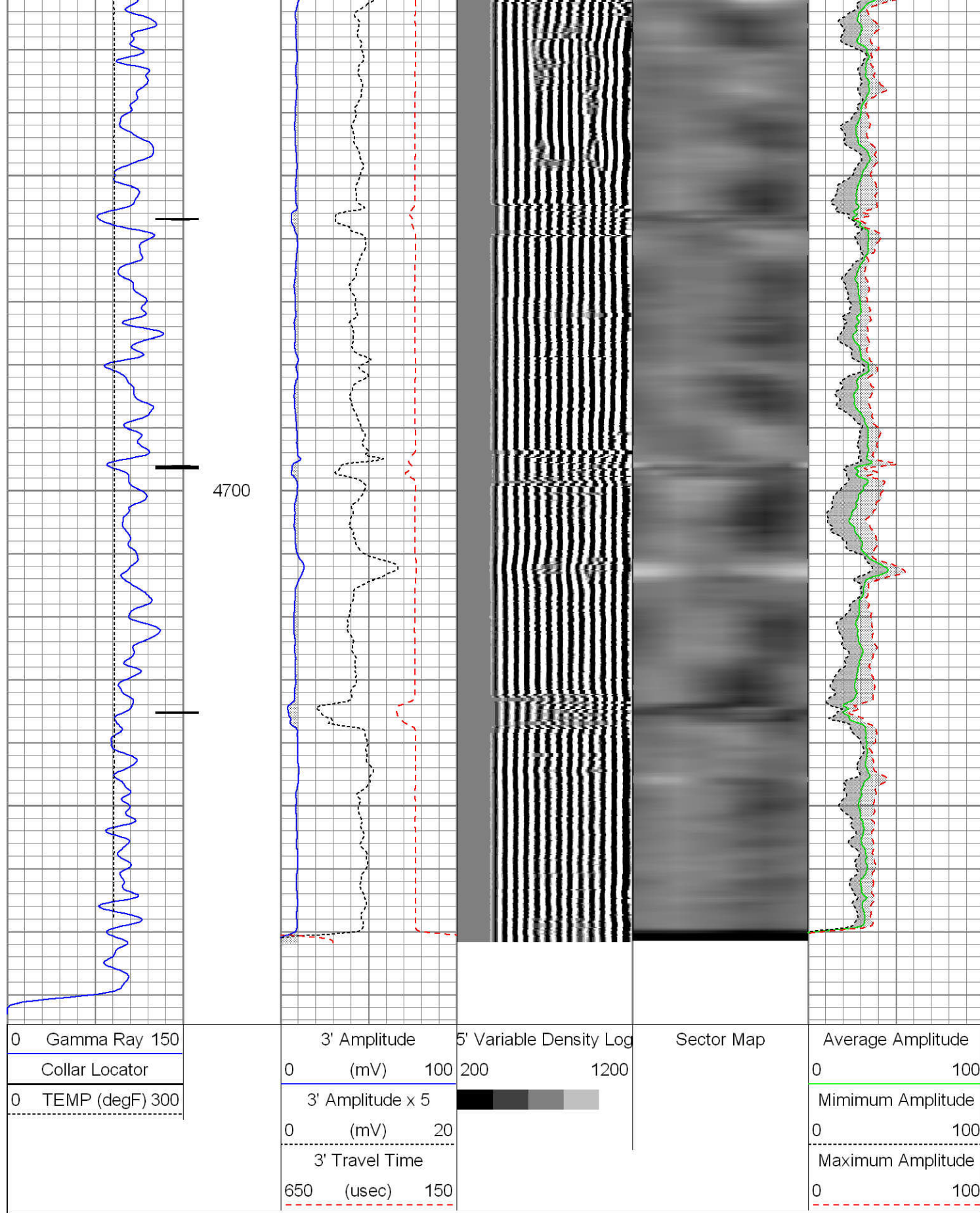


REPEAT PASS

LOGGED WITH 1500 PSI @ SURFACE

Database File: whiting_cbl_p110.db
Dataset Pathname: pass7
Presentation Format: rib usa
Dataset Creation: Fri Jan 18 15:02:02 2013 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			STNDRD Standard Cable Head	1.00	1.44	10.00
			CCL-275tekco (2.75TEKCO)	1.92	2.75	20.00

CCL	22.21		2 3/4 TEK CCL Earth Mag			
			SDSCENT Centralizer for testing	2.73	2.75	20.00
TEMP	16.38					
WVFS1	15.00					
WVFS2	15.00					
WVFS3	15.00		275CTEKSECWTWSLCANS-275RIB (129.31	2.75		102.00
WVFS4	15.00		2 3/4" (R.I.B.) TOOL 3FT, 5FT and 8EA RIB			
WVFS5	15.00		SIGNALS 400 DEG "F" @20K PSI With Sliding			
WVFS6	15.00		Cans For Pressure Ballance			
WVFS7	15.00					
WVFS8	15.00					
WVF3FT	14.25					
WVF5FT	13.25					
WVFCAL	9.46					
WVFTEMP	9.46					
WVF5FT	9.46		SDSCENT Centralizer for testing	2.73	2.75	20.00
			GR-Tek-Co (Tek-Co2) 2 3/4 400deg Scint gamma	4.00	2.75	40.00
GR	3.77					
			SDSCENT Centralizer for testing	2.73	2.75	20.00
Dataset: whiting_cbl_p110.db: field/well/run1/pass9 Total Length: 24.42 ft Total Weight: 232.00 lb O.D. 2.75 in						

Database File:		whiting_cbl_p110.db	Calibration Report
Dataset Pathname:		pass9	
Dataset Creation:		Fri Jan 18 15:10:37 2013 by Log SCH 111116	

Gamma Ray Calibration Report

Serial Number: Tek-Co2
 Tool Model: Tek-Co
 Performed: Sat Jan 12 12:44:06 2013

 Calibrator Value: 1.0

 Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

 Sensitivity: 1.2000 /cps

Segmented Cement Bond Log Calibration Report

Serial Number: 1234
 Tool Model: 275RIB

 Calibration Casing Diameter: 7.000 in
 Calibration Depth: 699.757 ft

Master Calibration, performed Fri Jan 18 14:21:42 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.055	1.920	0.000	62.165	33.331	-1.844
CAL	0.022	1.533				
5'	0.010	2.359	0.000	62.165	26.473	-0.276
SUM						
S1	0.075	1.882	0.000	100.000	55.363	-4.176
S2	0.103	2.271	0.000	100.000	46.142	-4.770
S3	0.086	2.240	0.000	100.000	46.431	-4.016
S4	0.103	2.001	0.000	100.000	52.672	-5.399
S5	0.127	1.462	0.000	100.000	74.888	-9.510
S6	0.135	1.143	0.000	100.000	99.230	-13.437
S7	0.118	1.134	0.000	100.000	98.409	-11.621
S8	0.119	1.415	0.000	100.000	77.180	-9.214

Internal Reference Calibration, performed Sat Jan 12 15:23:21 2013:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.022	1.533	1.000	0.000

Air Zero Calibration, performed Fri Jan 18 13:58:29 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

Temperature Calibration Report

Serial Number: 1234
 Tool Model: 275RIB
 Performed: Wed Sep 17 14:30:05 2008

	Reference	Reading
Low Reference:	75.00 degF	300.00 usec
High Reference:	400.00 degF	1282.00usec
Gain:	0.33	
Offset:	0.00	
Delta Spacing	1	



Company WHITING OIL & GAS
 Well RAZOR 27-3414H
 Field REDTAIL
 County WELD
 State COLORADO