

Radial Cement Bond Gamma Ray Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Reigle 28C-4HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-36140-00	
SEC 4		TWP 2N RGE 6SW	
Permanent Datum		Ground Level	
Log Measured From		Kelly Bushing 16'	
Drilling Measured From		Kelly Bushing	
Other Services		PLUG	
Elevation		K.B. 4890 D.F. NA G.L. 4874	
Date		23-Jan-2013	
Run Number		One	
Depth Driller		N/A	
Depth Logger		6653	
Bottom Logged Interval		6650	
Top Log Interval		21	
Open Hole Size		9.625"	
Type Fluid		Water	
Density / Viscosity		8.34 LB/GAL	
Max. Recorded Temp.		262 F	
Estimated Cement Top		265	
Time Well Ready		ROA	
Time Logger on Bottom		---	
Equipment Number		HD 0255	
Location		Ft. Lupton, CO	
Recorded By		Greg Jackson	
Witnessed By		T J Yates	
Borehole Record		Tubing Record	
Run Number		Bit	
From		To	
Size		Weight	
From		To	
Casing Record		Size	
Surface String		Wgt/Ft	
Prot. String		36	
Production String		Top	
Liner		Bottom	
4 1/2		26	
11.6		Surface	
6598		7182	
NA		NA	

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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.

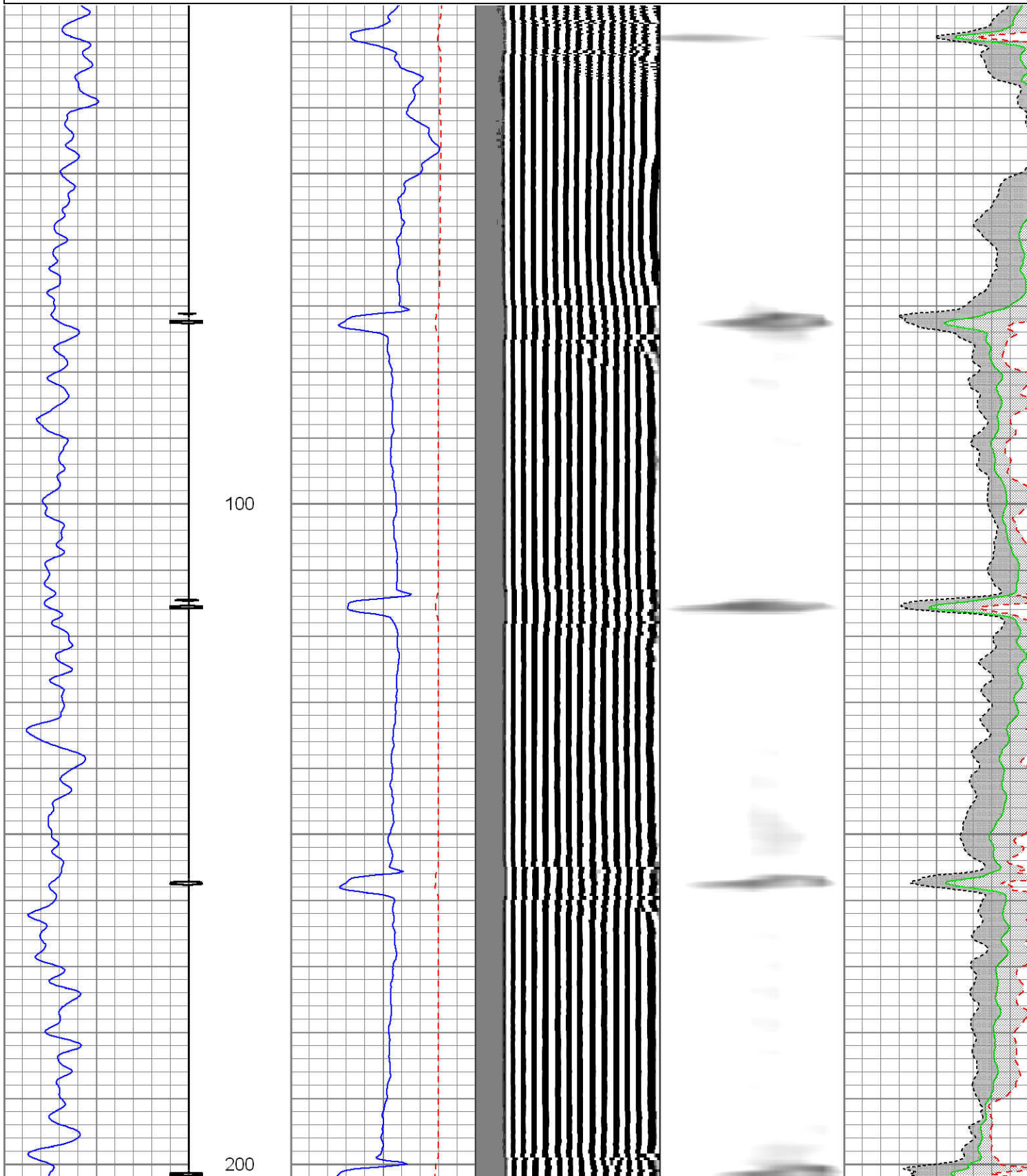
Comments

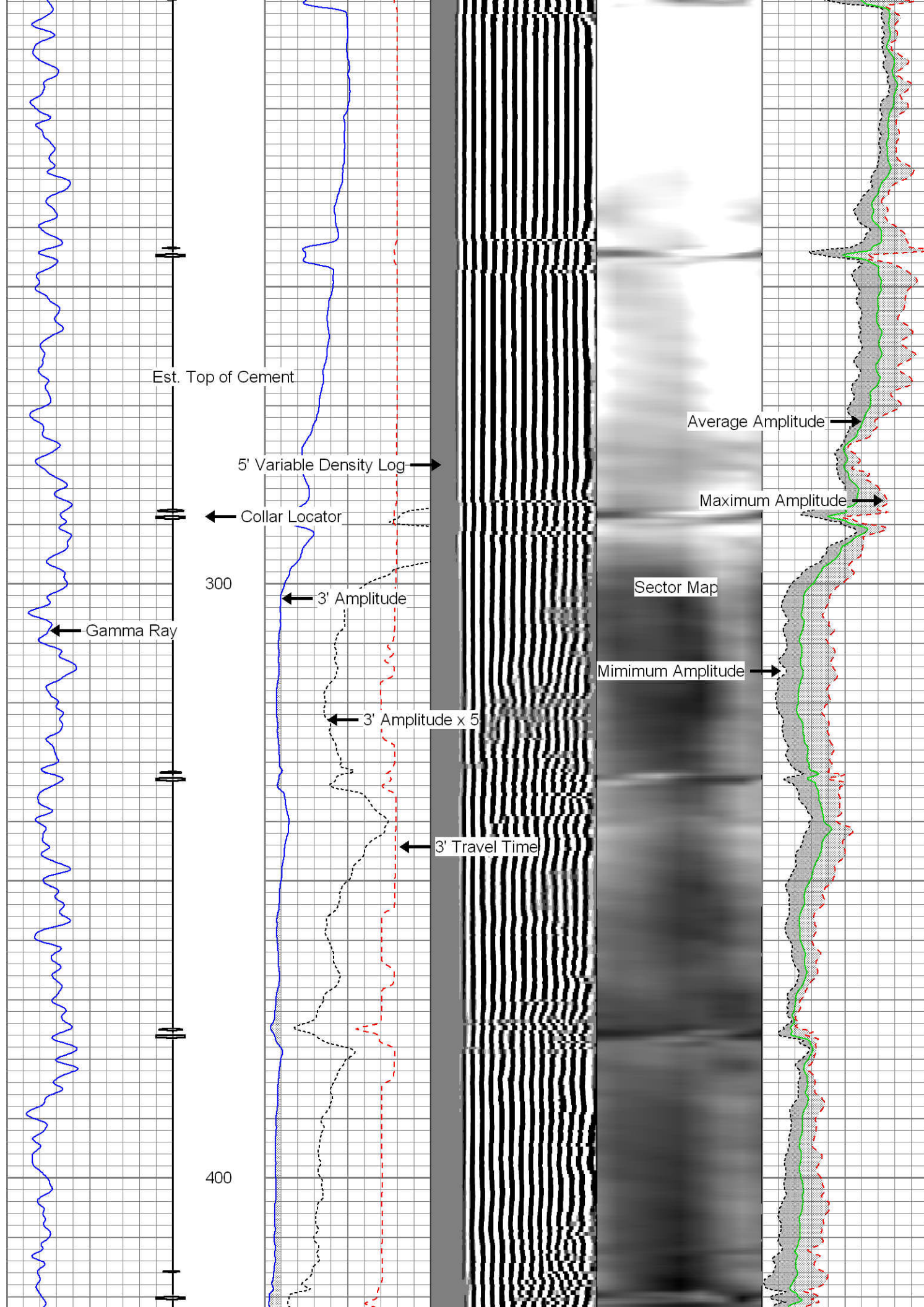
RADIAL CEMENT BOND IS PRIMARY LOG
CORRELATED TO CASING TALLY REPORTED LINER TOP @ 6598
RUN RBL FROM JUST BELOW LINER TOP TO SURFACE
RBL LOGGED WITH 2800 PSI INDUCED PRESSURE @ SURFACE
ESTIMATED TOP OF CEMENT @ 265'
CORRECTED -7' @ LINER TOP WITH ZERO @ KB

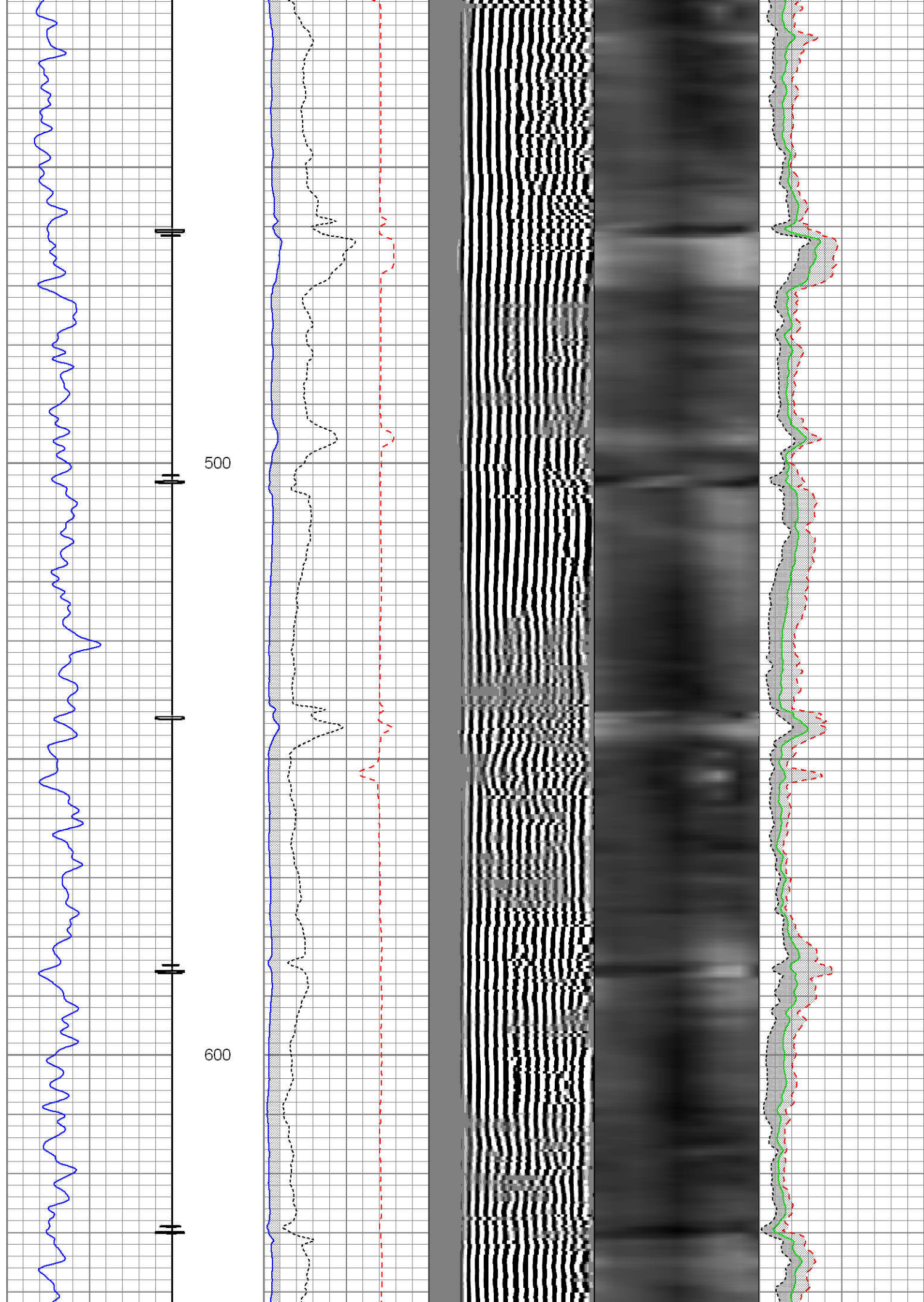
THANK YOU FOR USING FMC TECHNOLOGIES

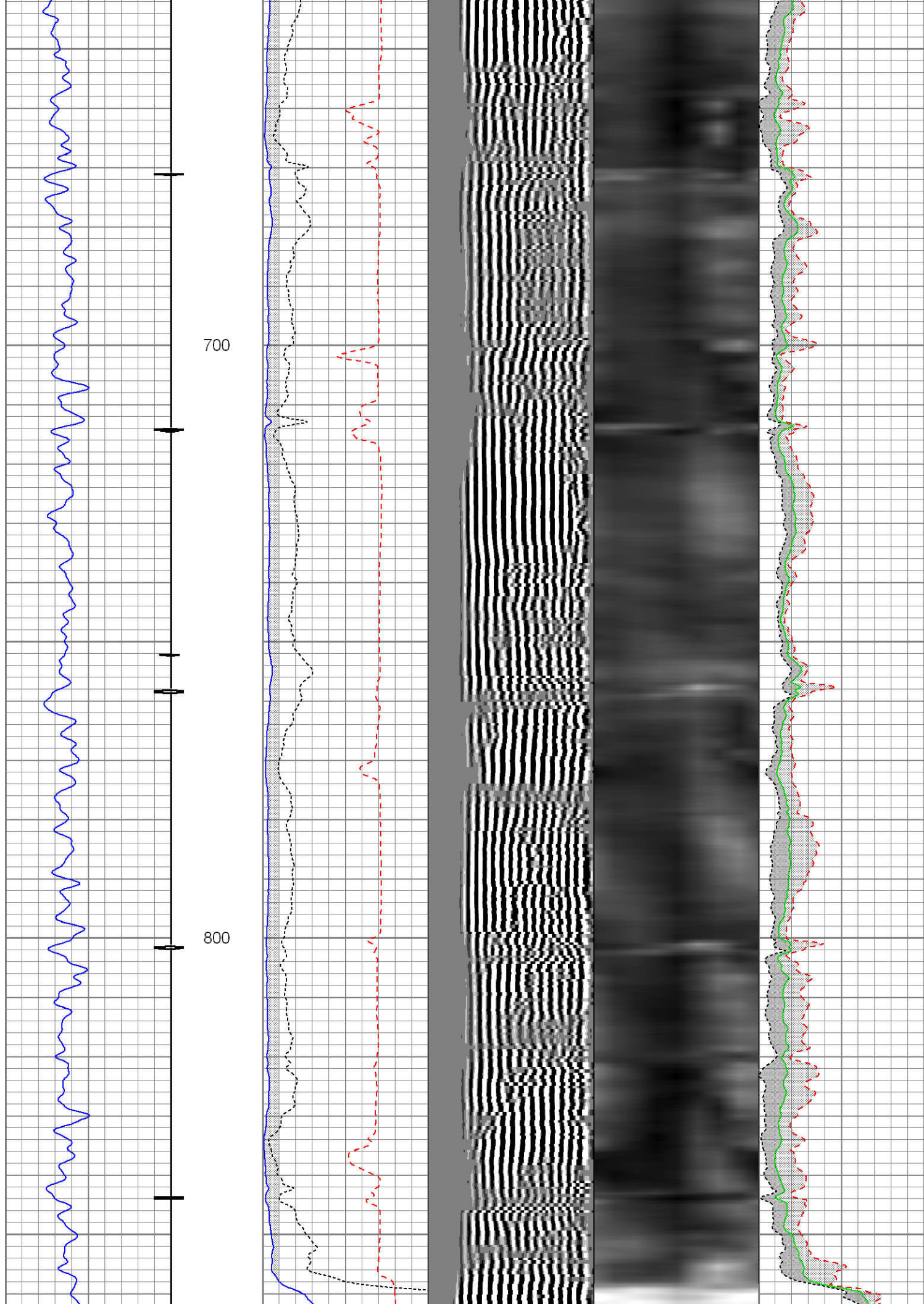
Main Pass @ 2800 psi

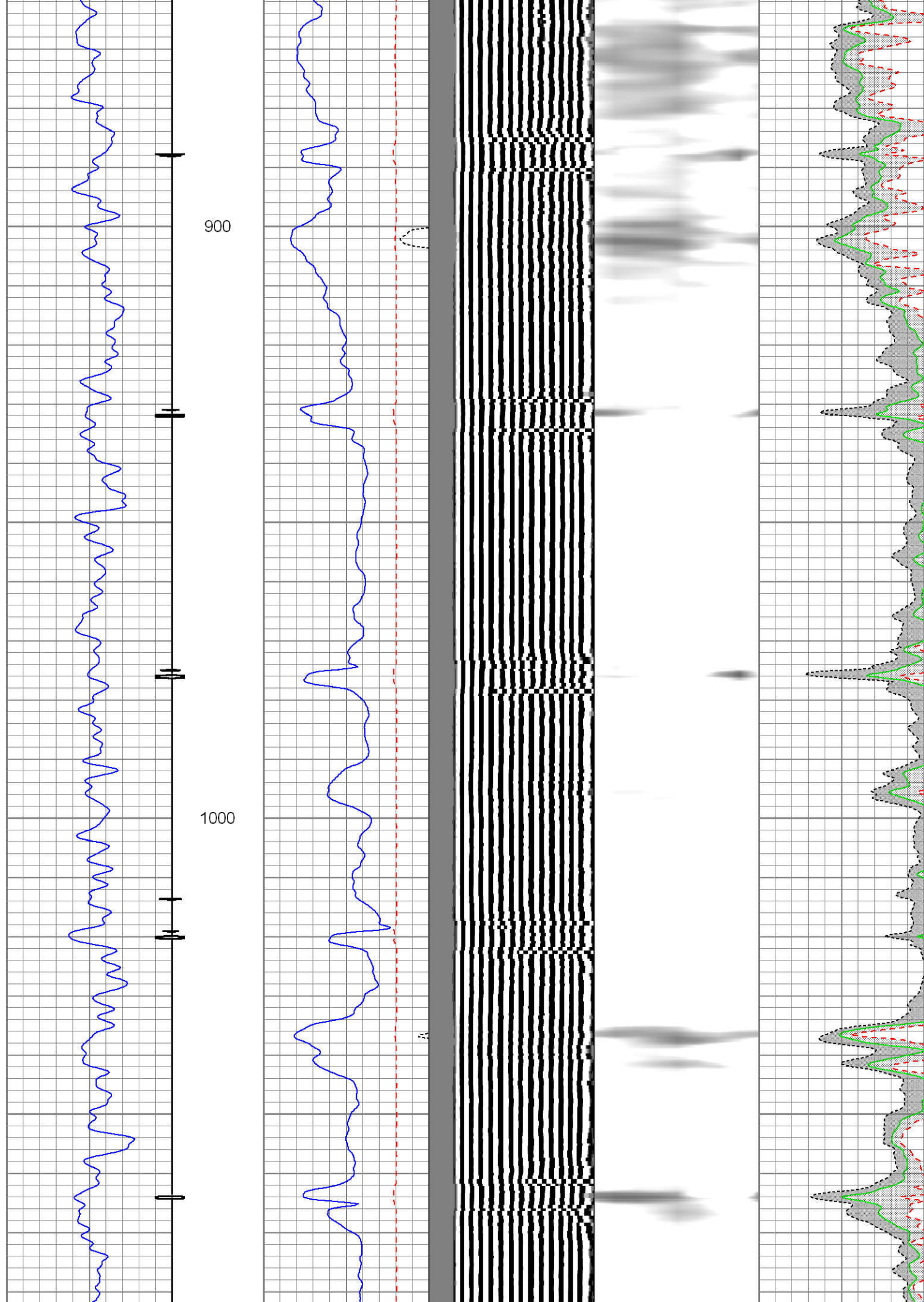
0	Gamma Ray 150	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
	Collar Locator	0 (mV) 100	200 1200		0 100
		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

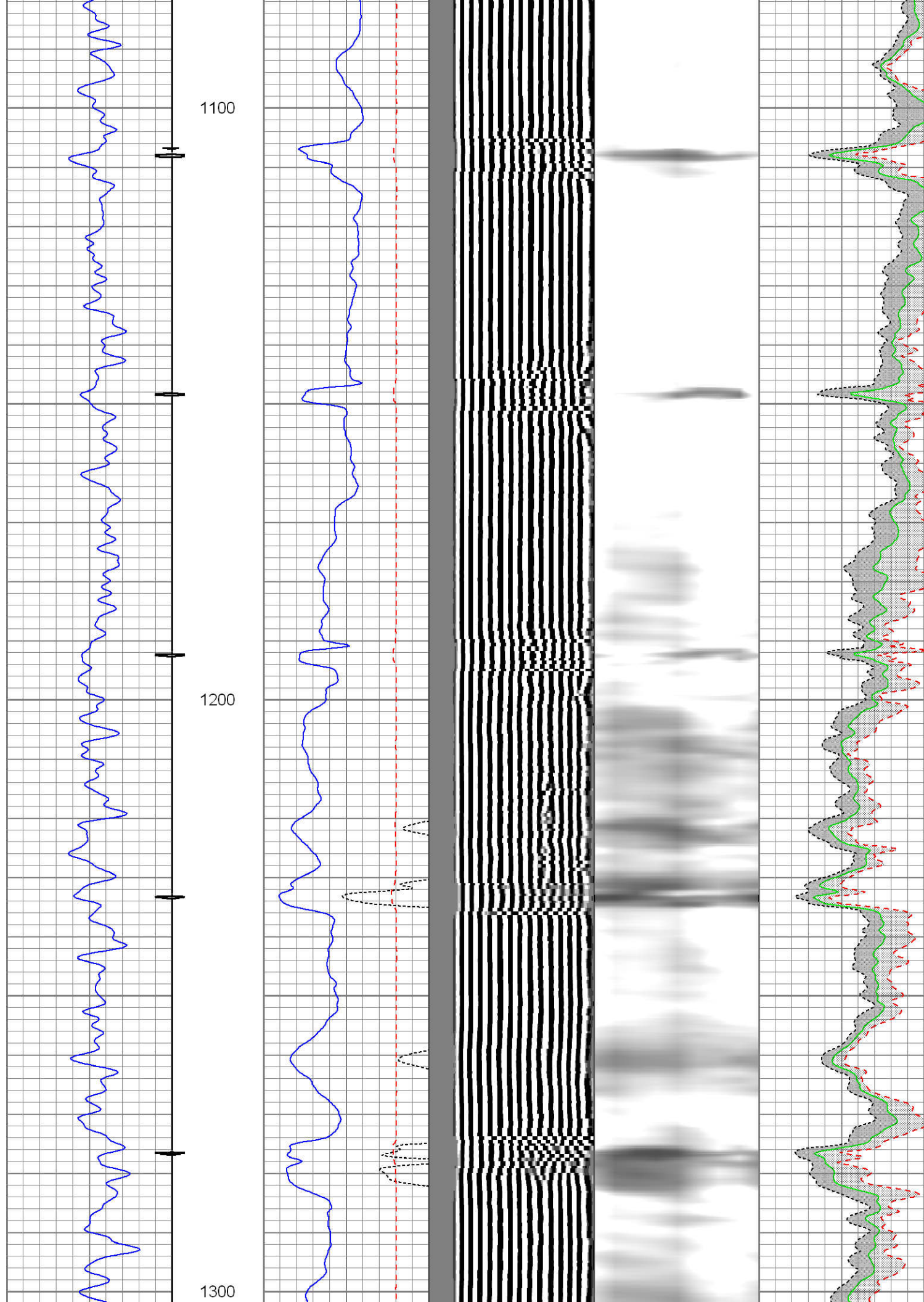


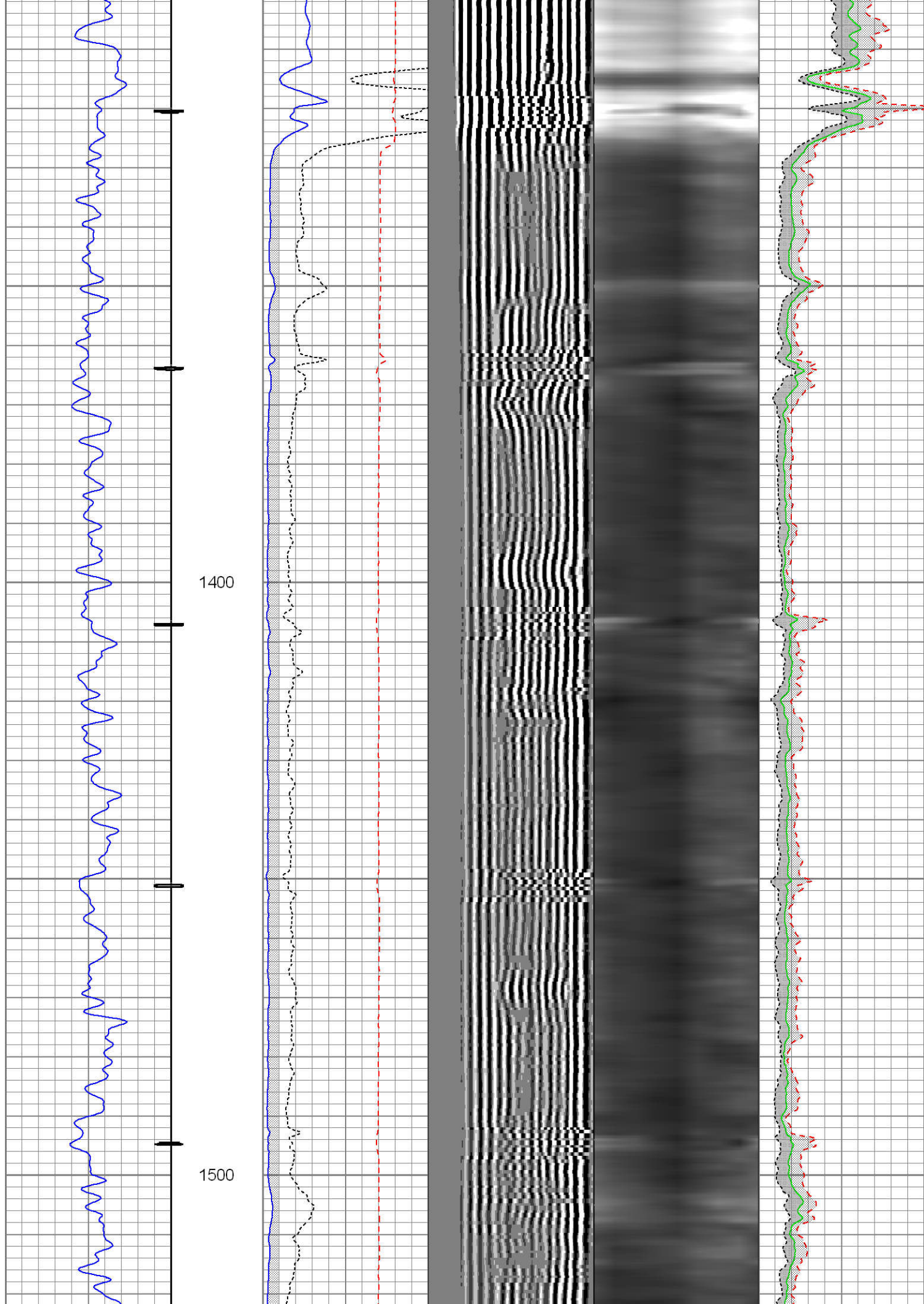


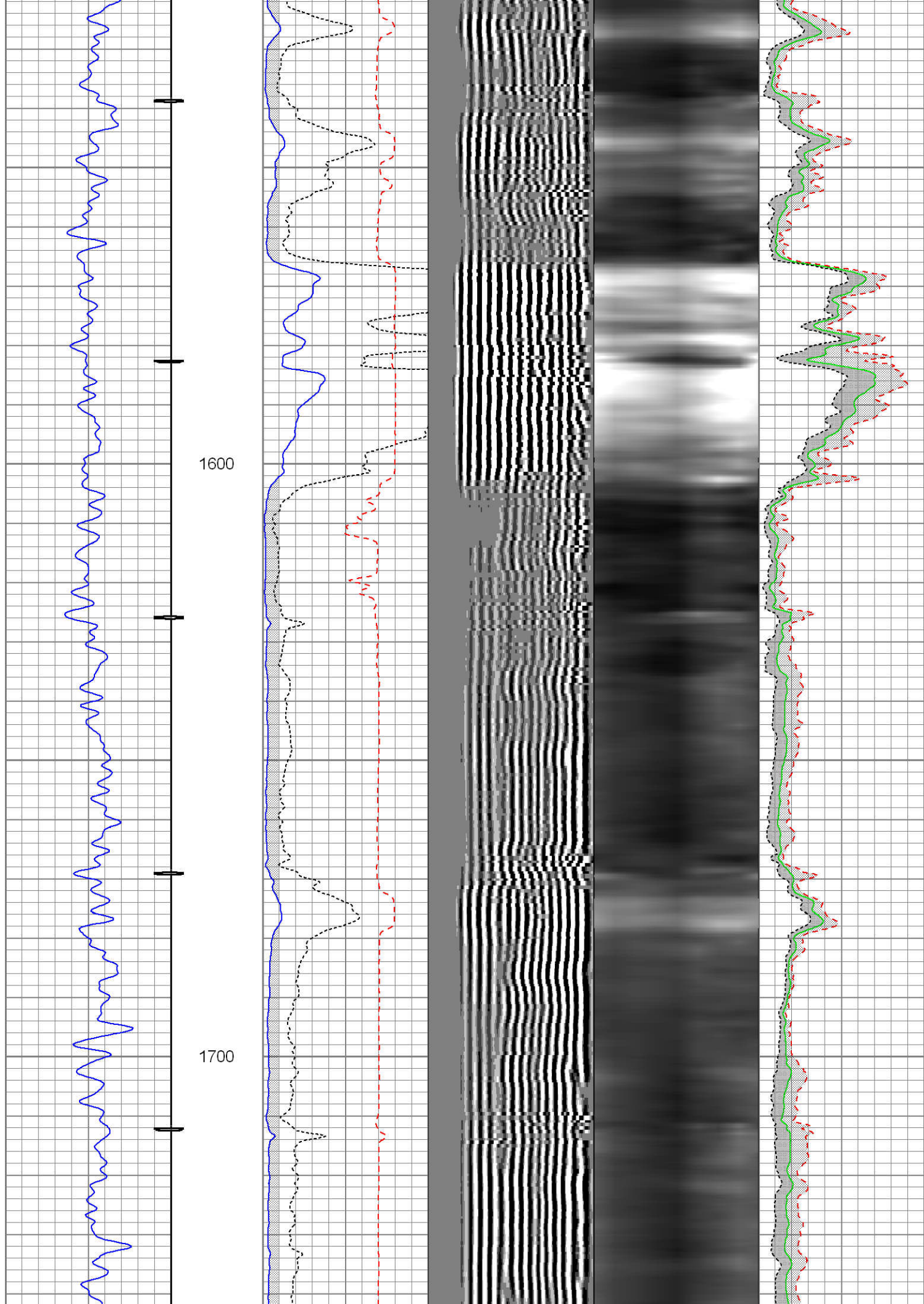


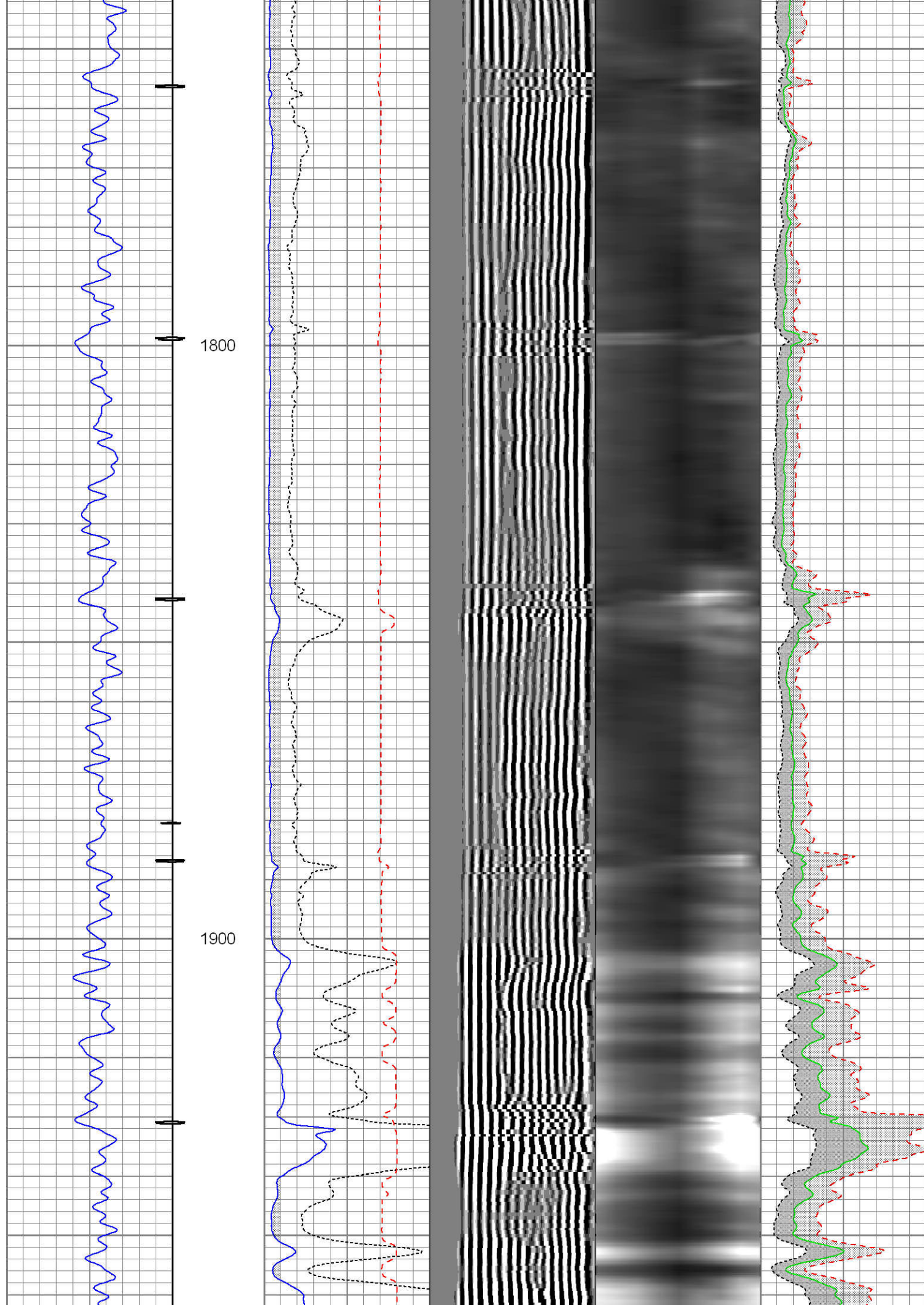


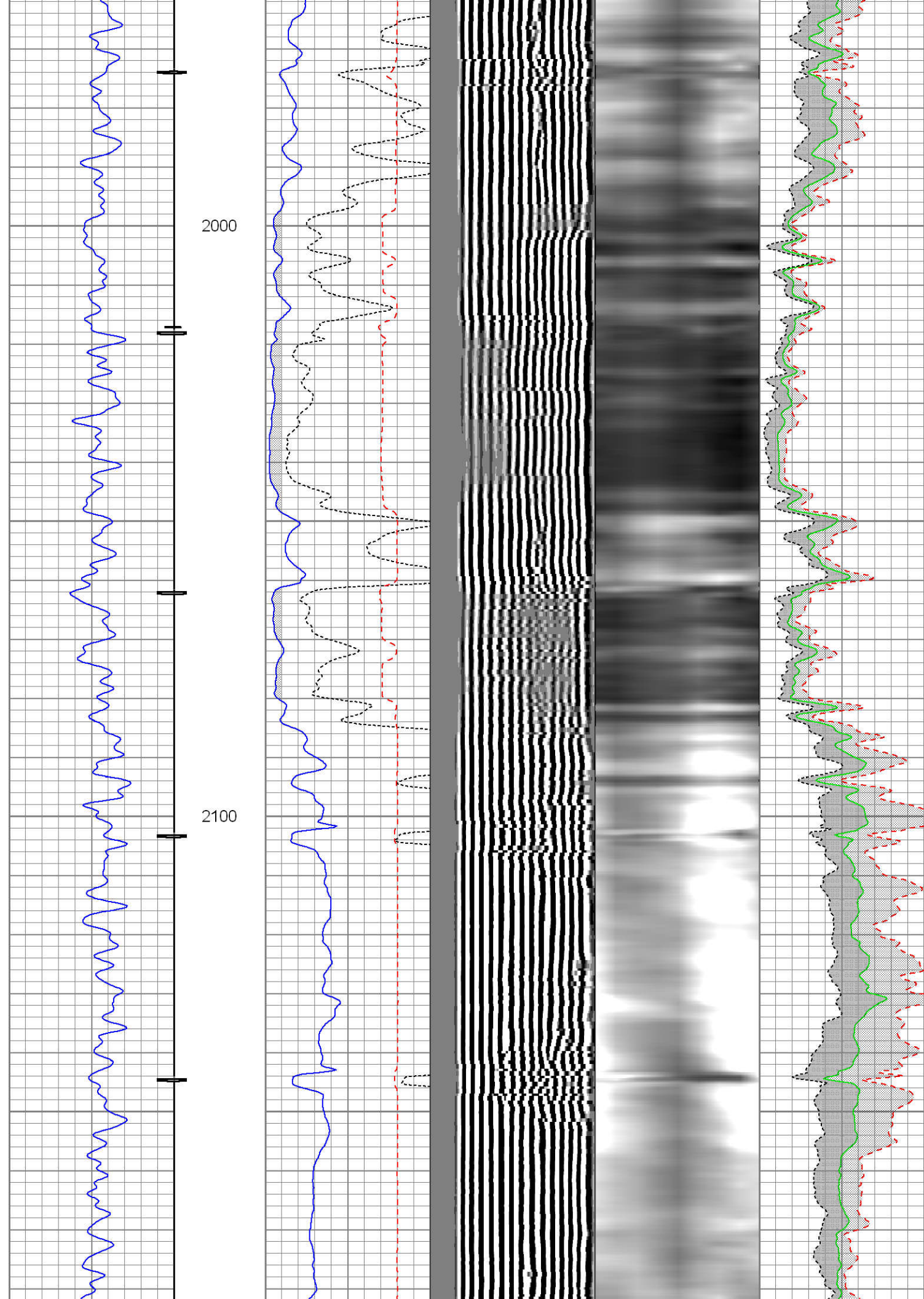


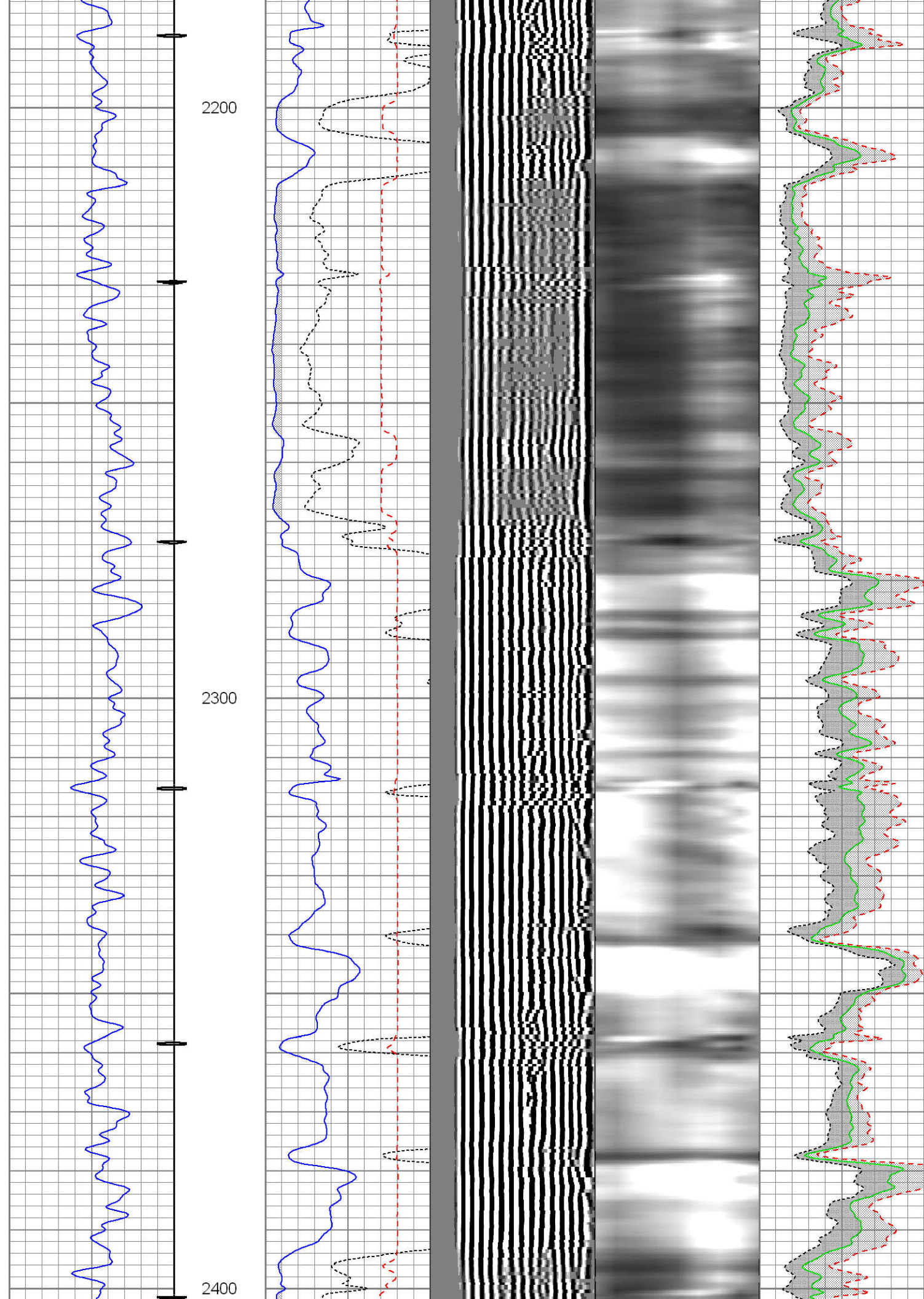


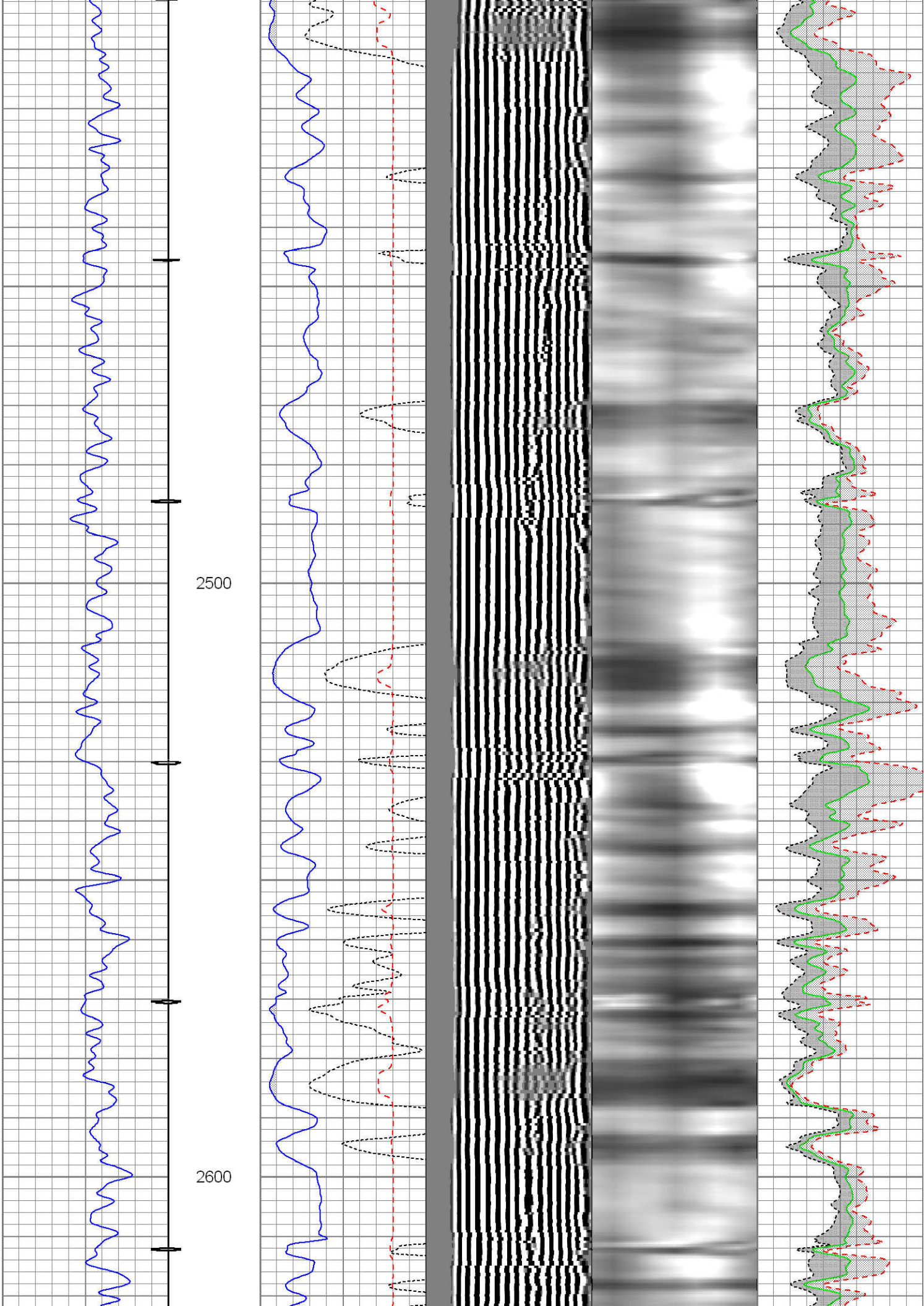


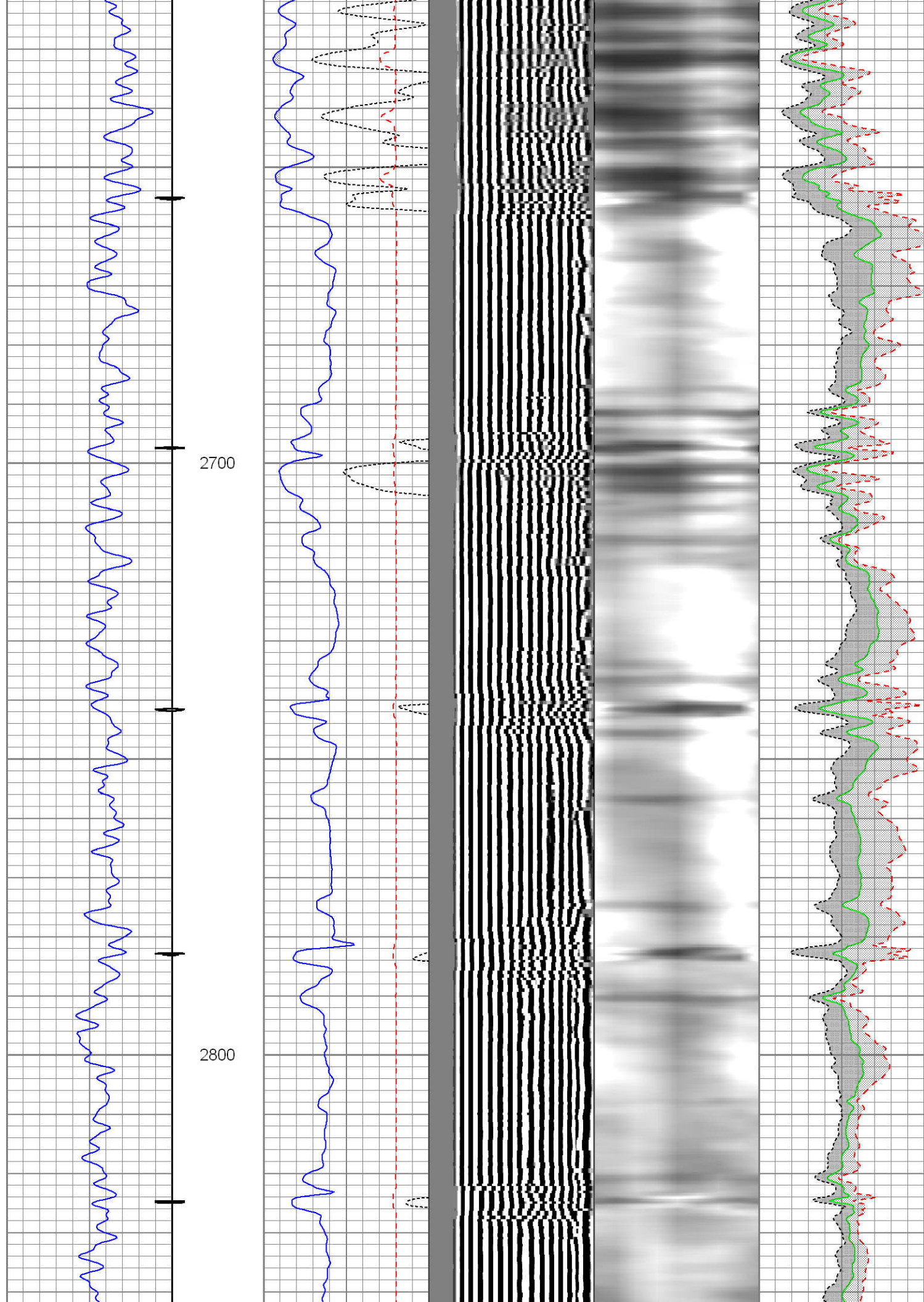


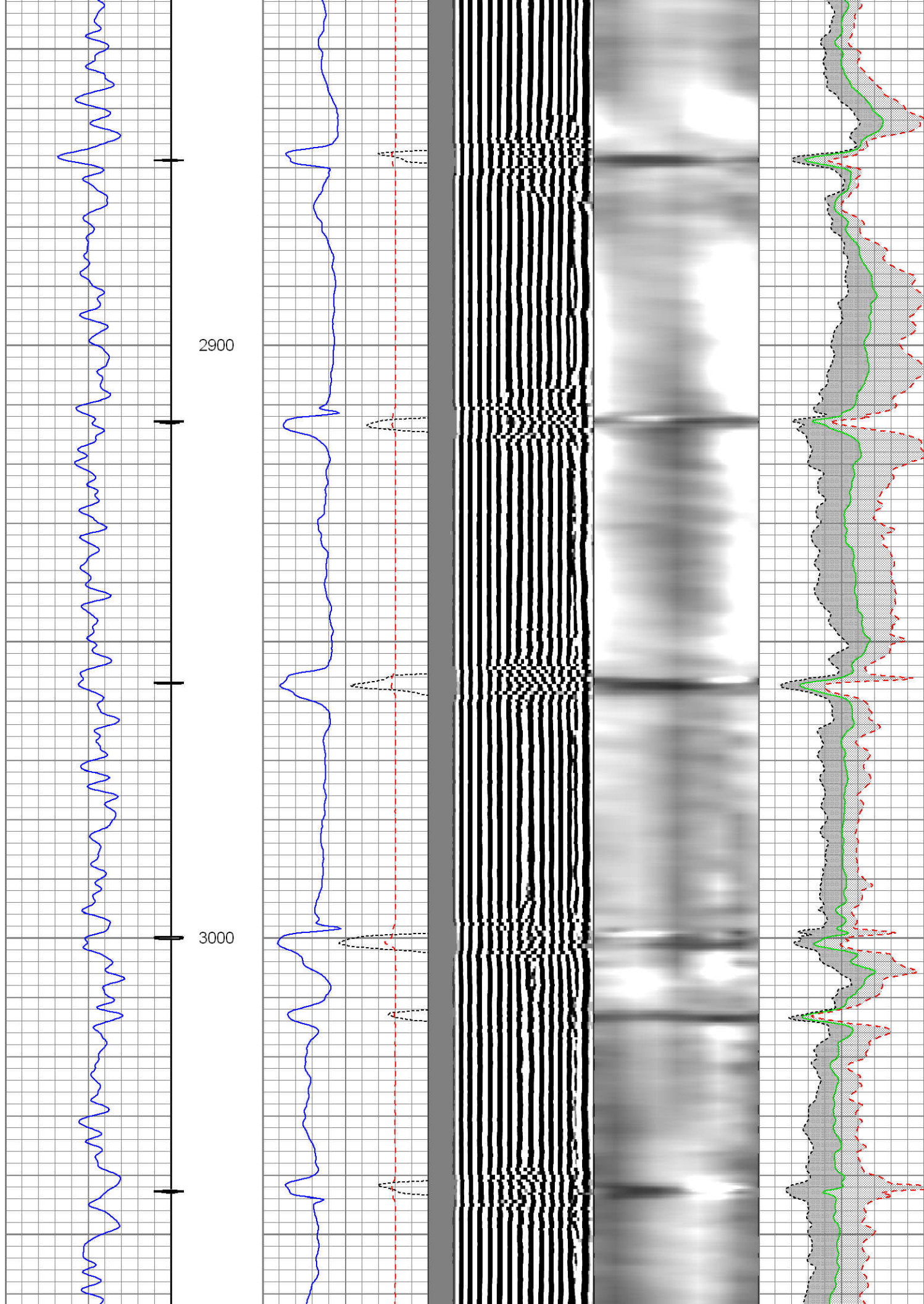


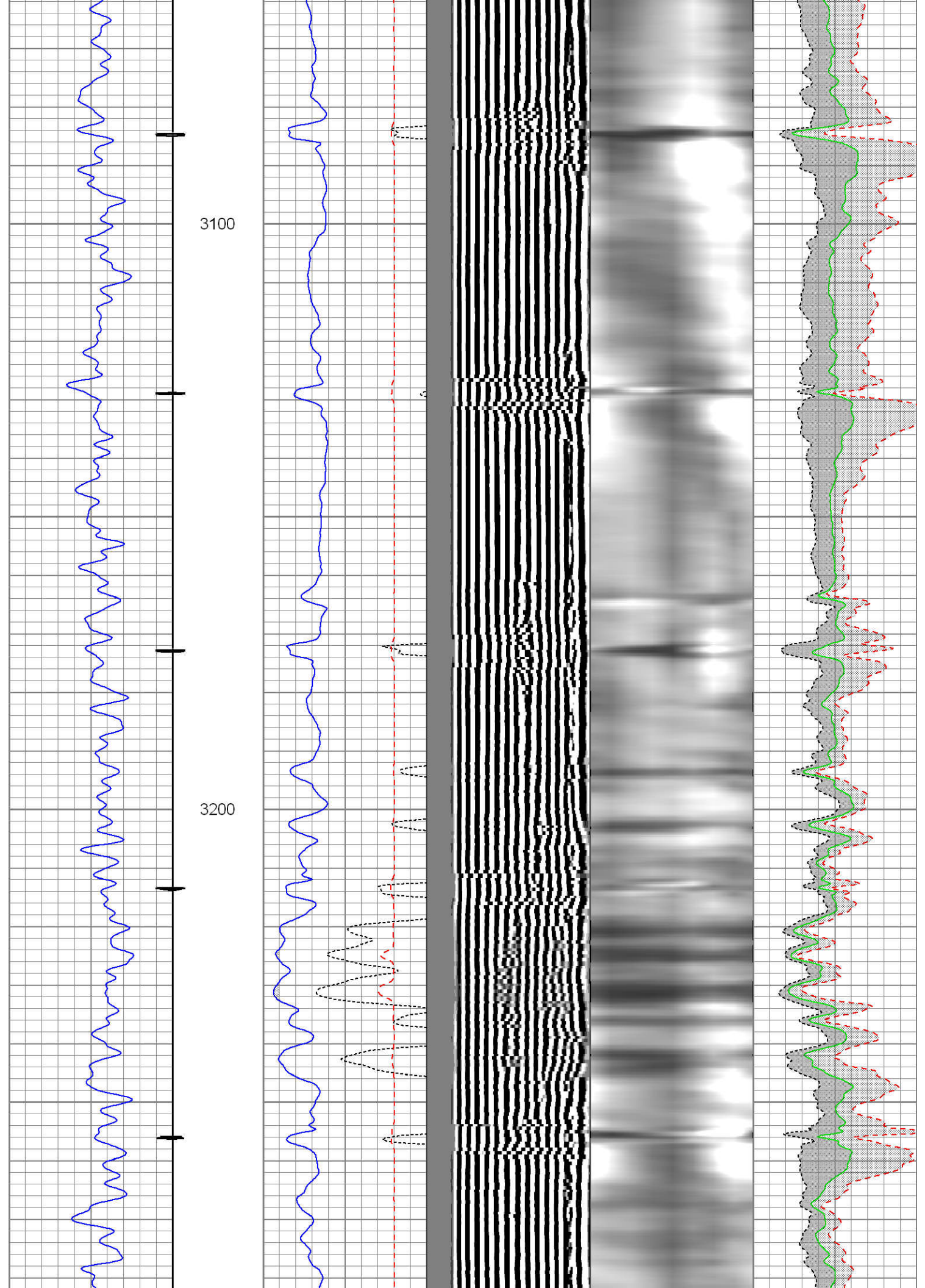


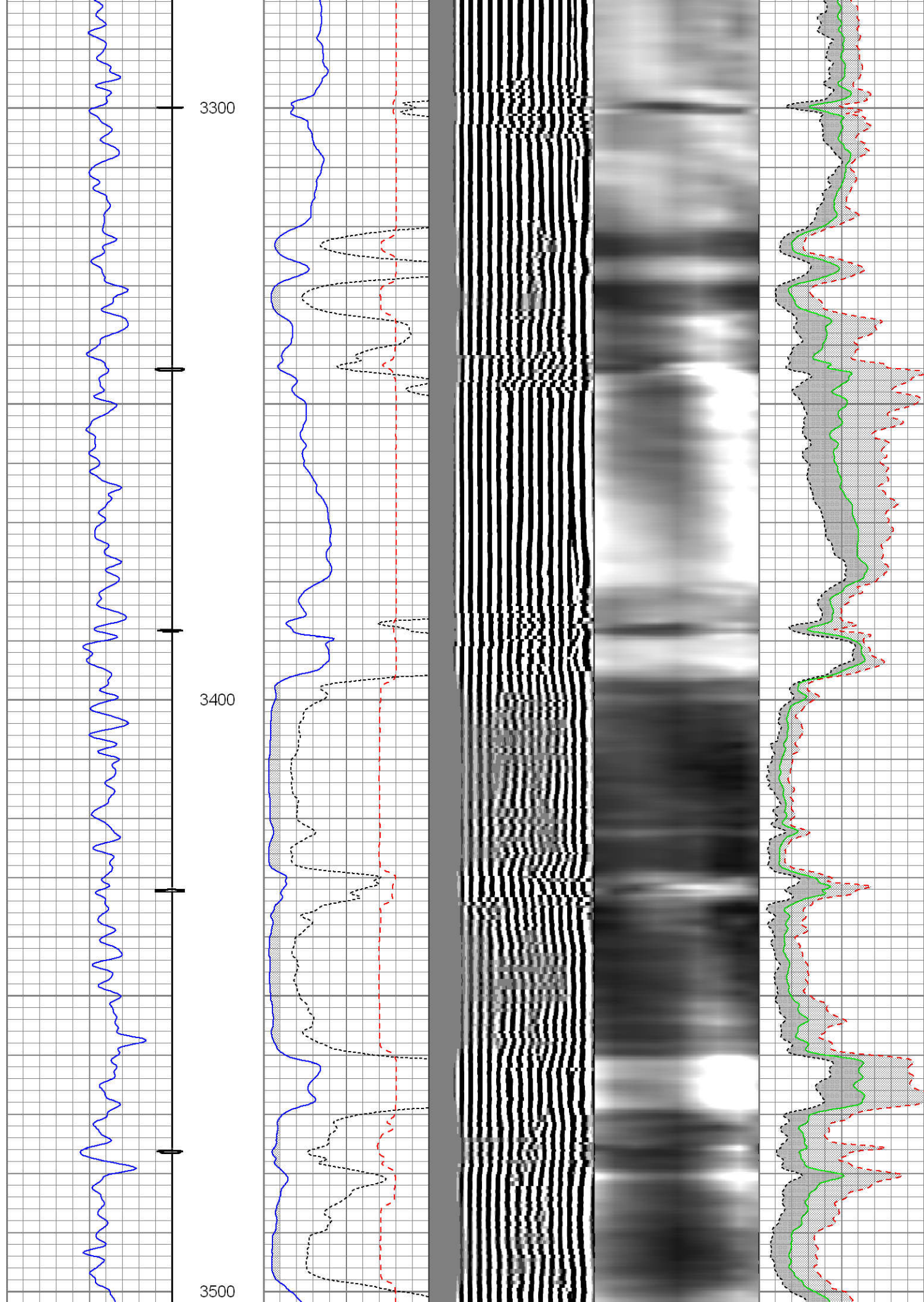


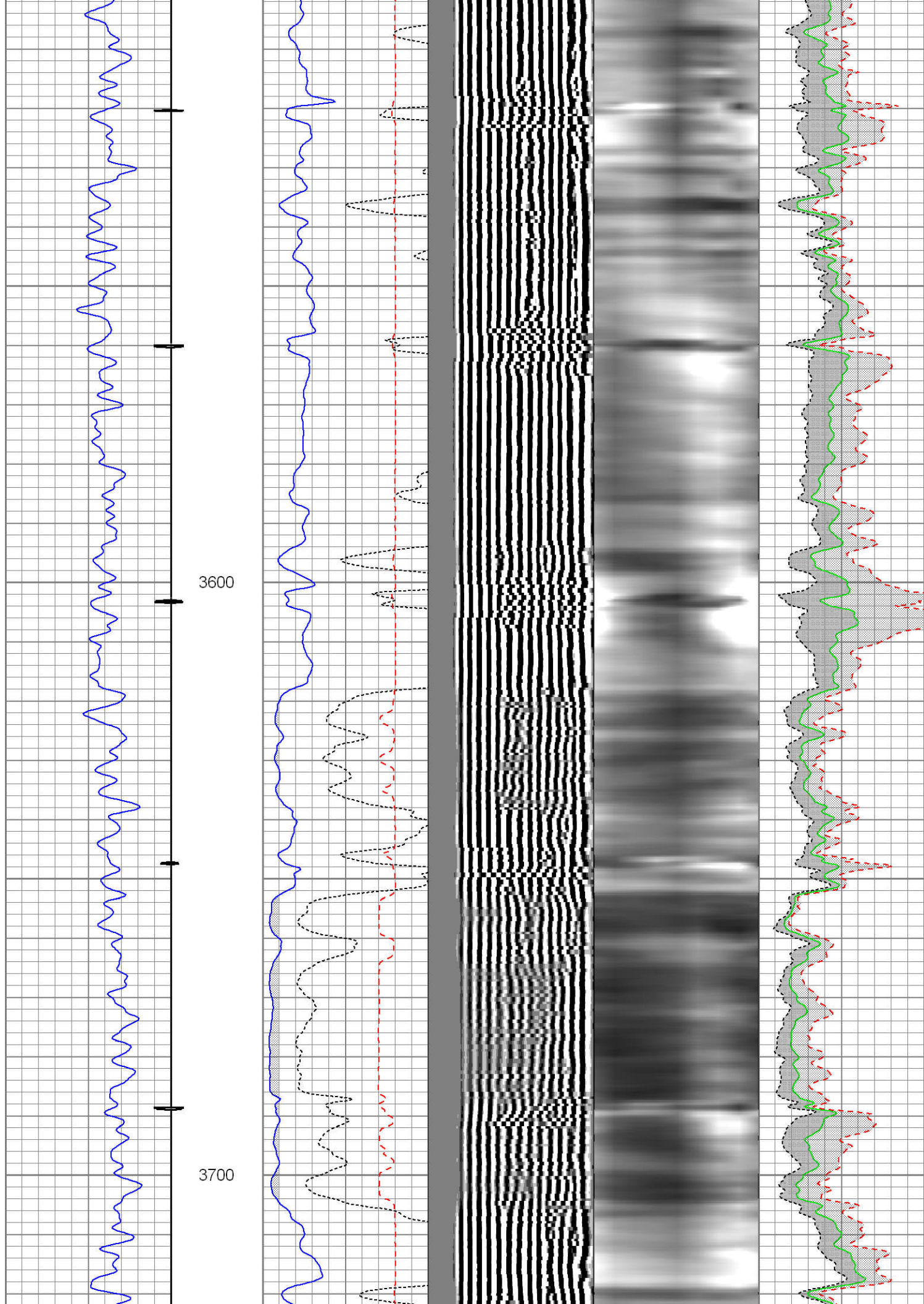


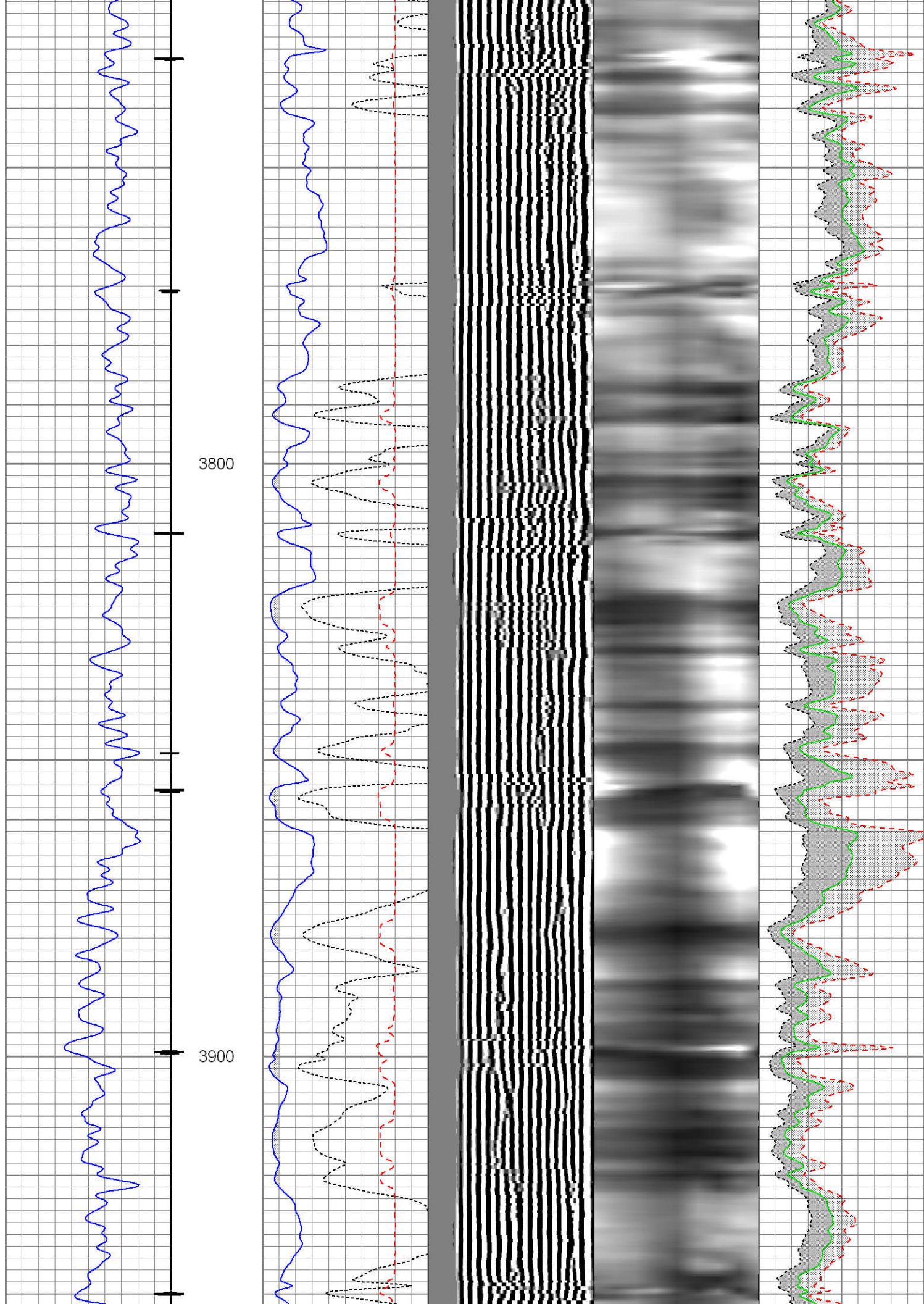


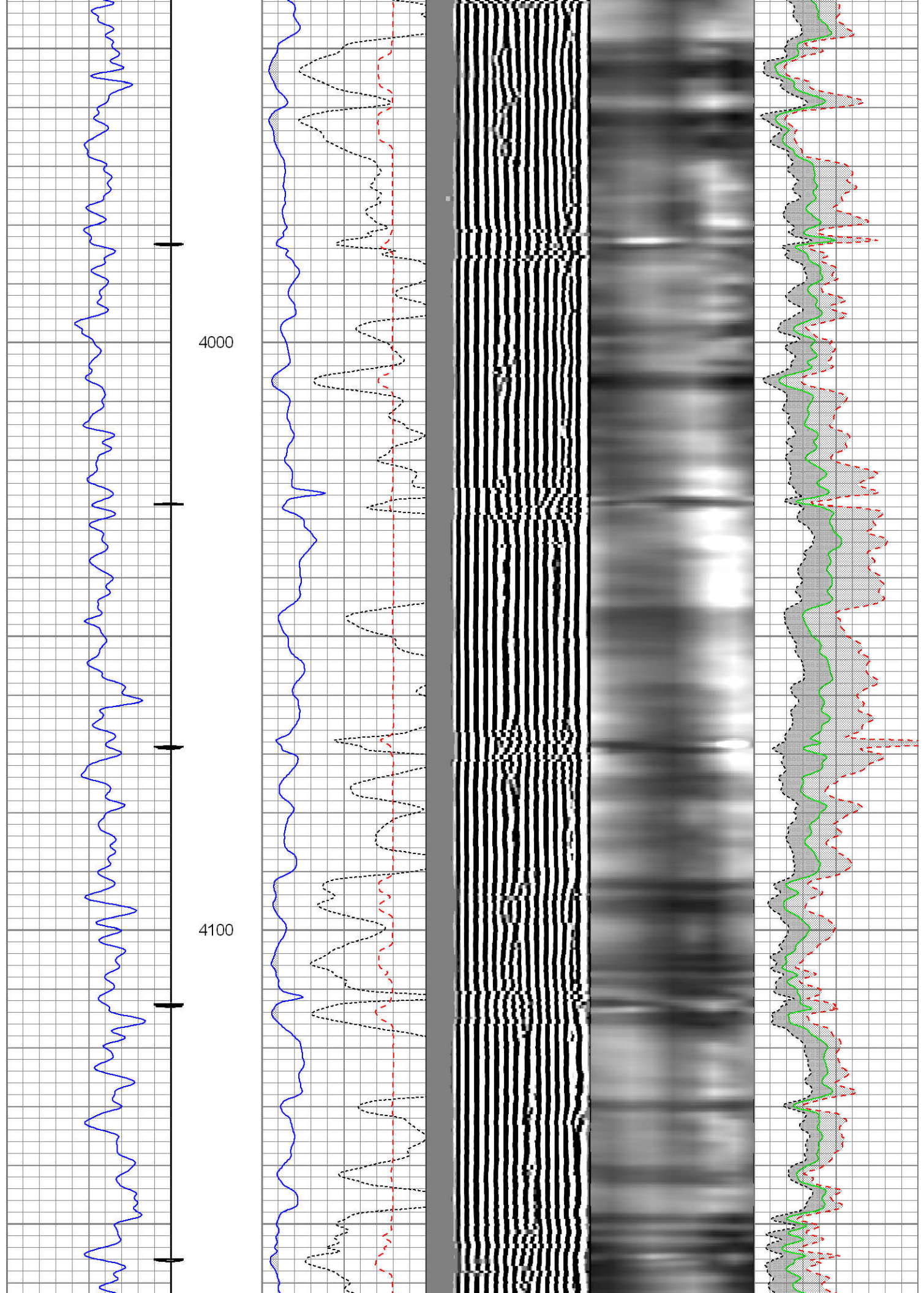


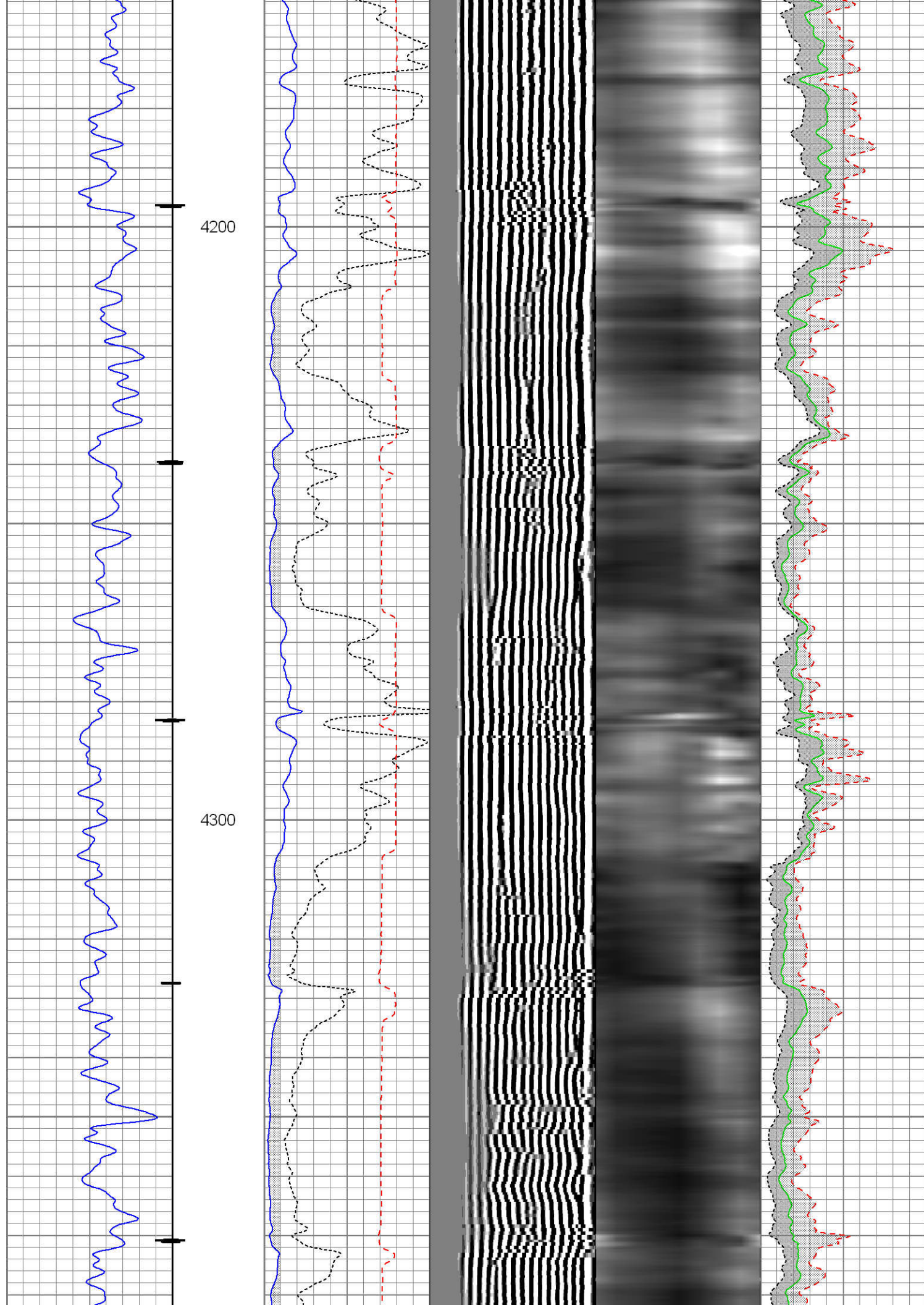


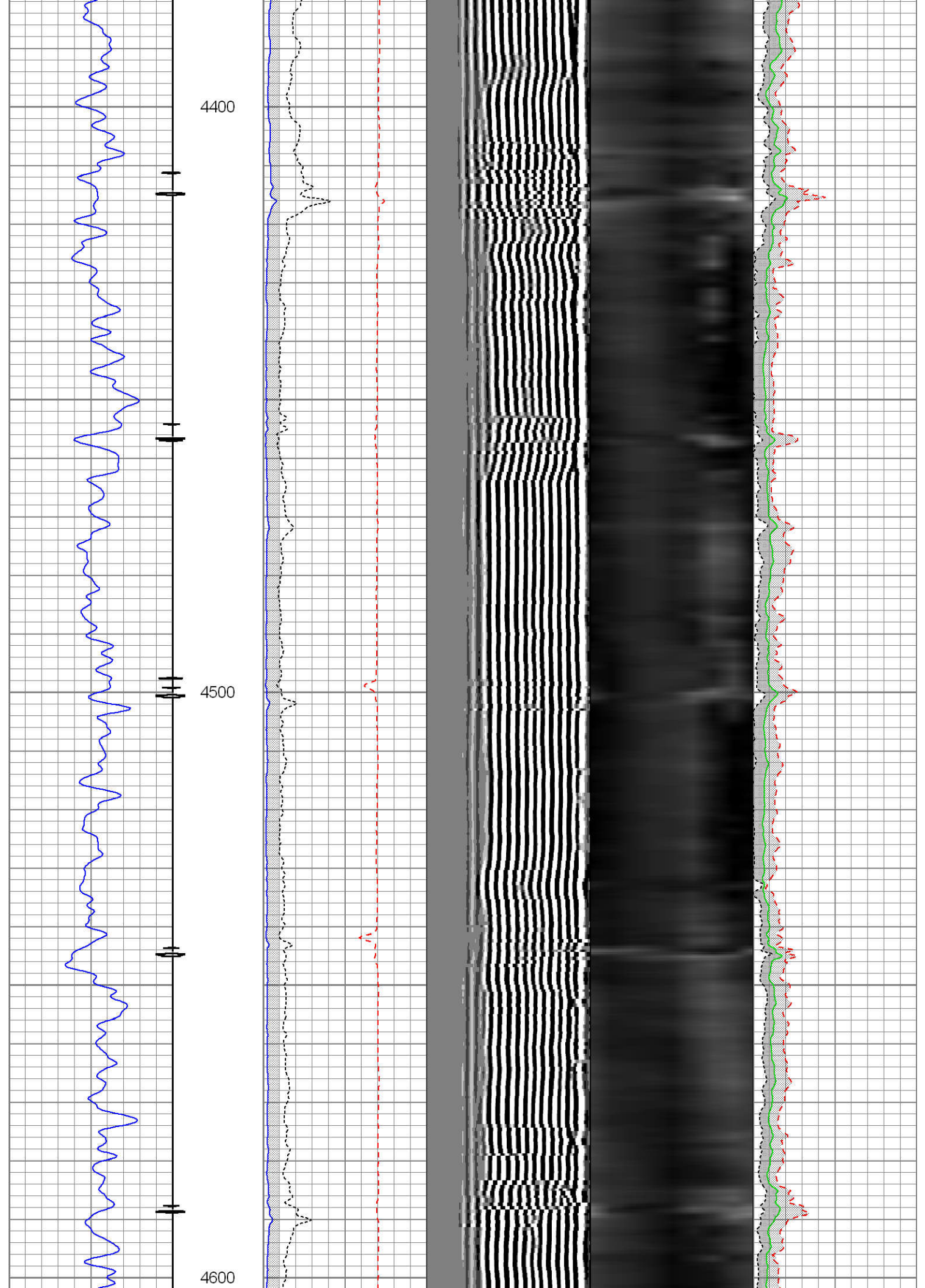


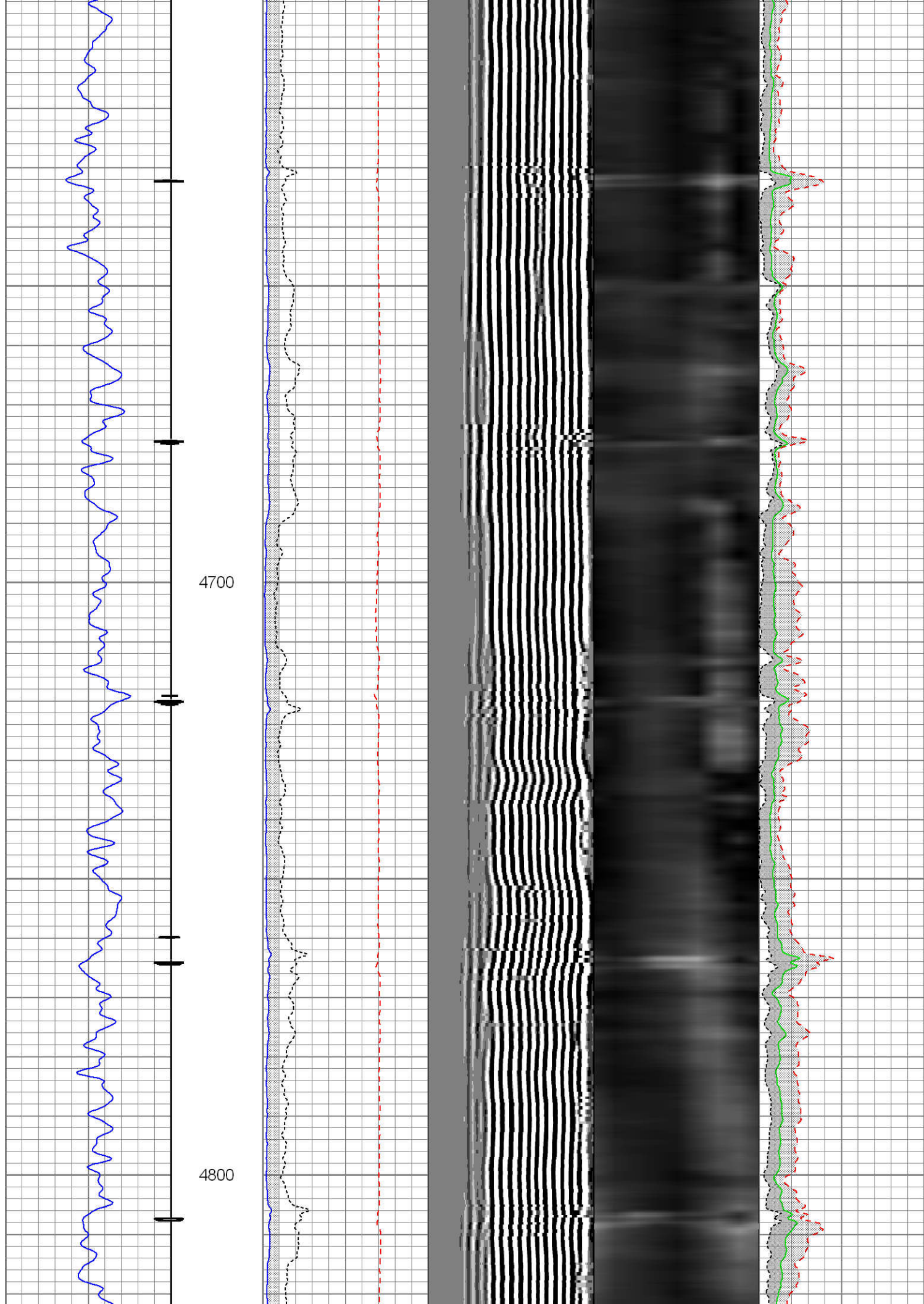


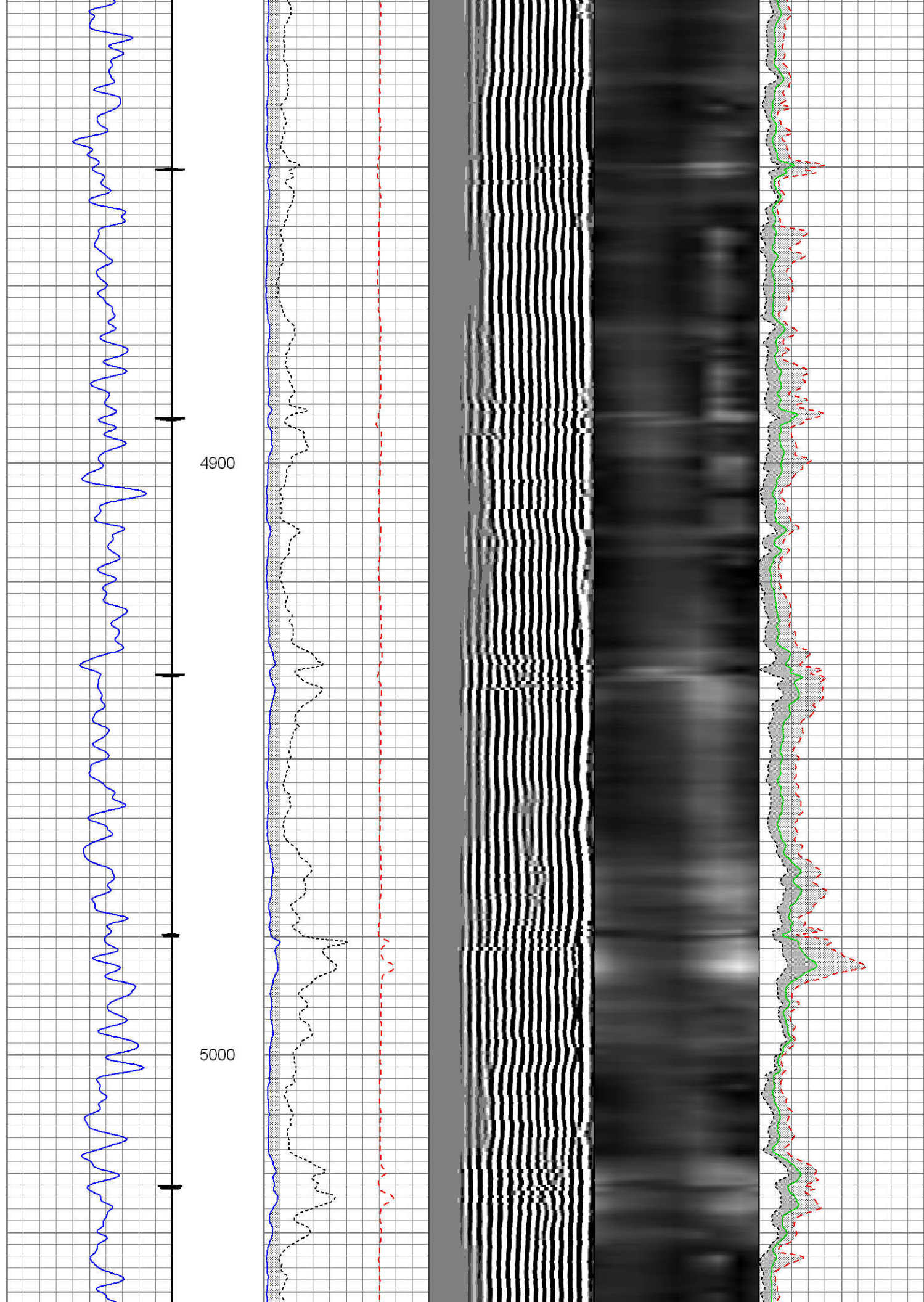


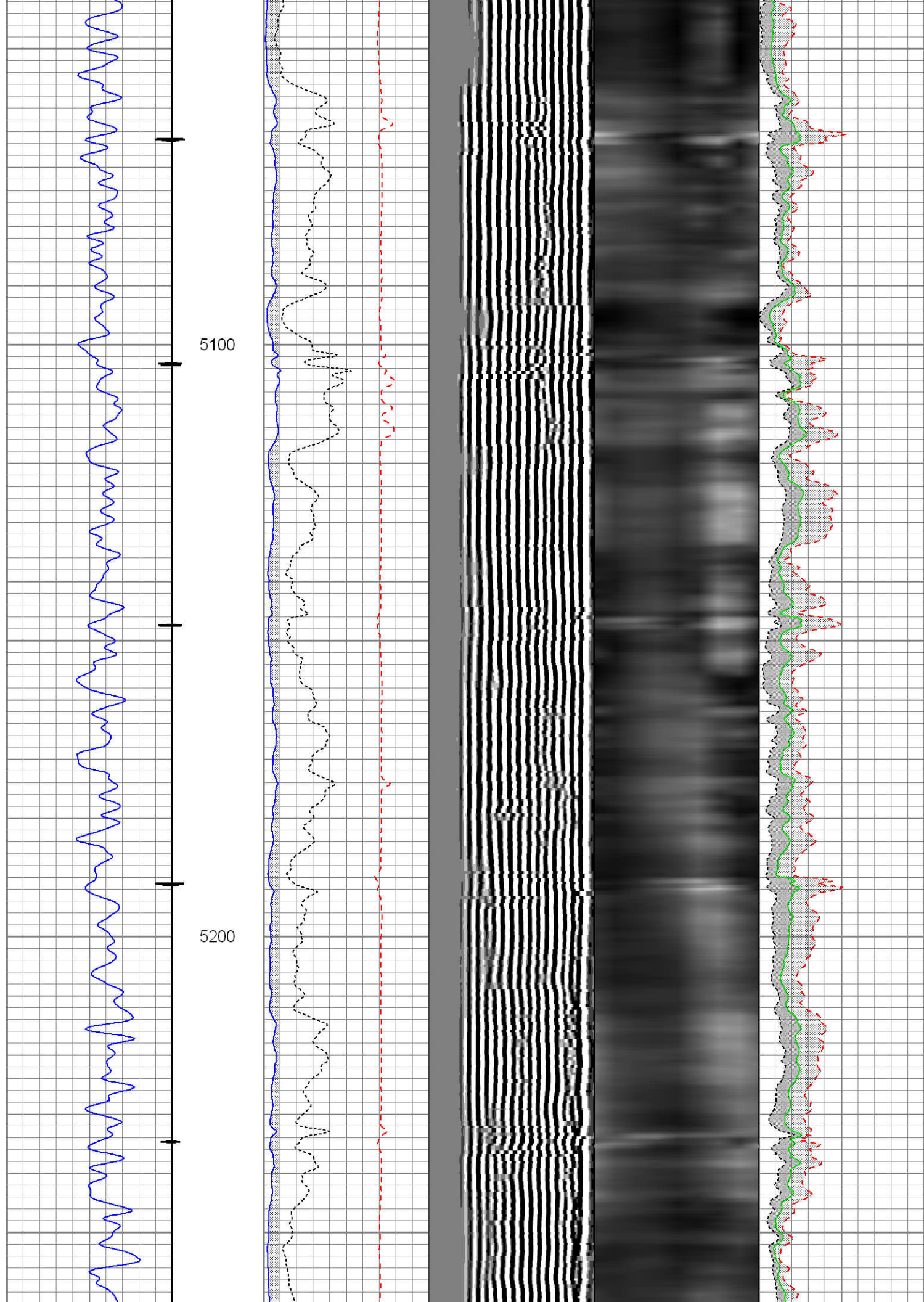


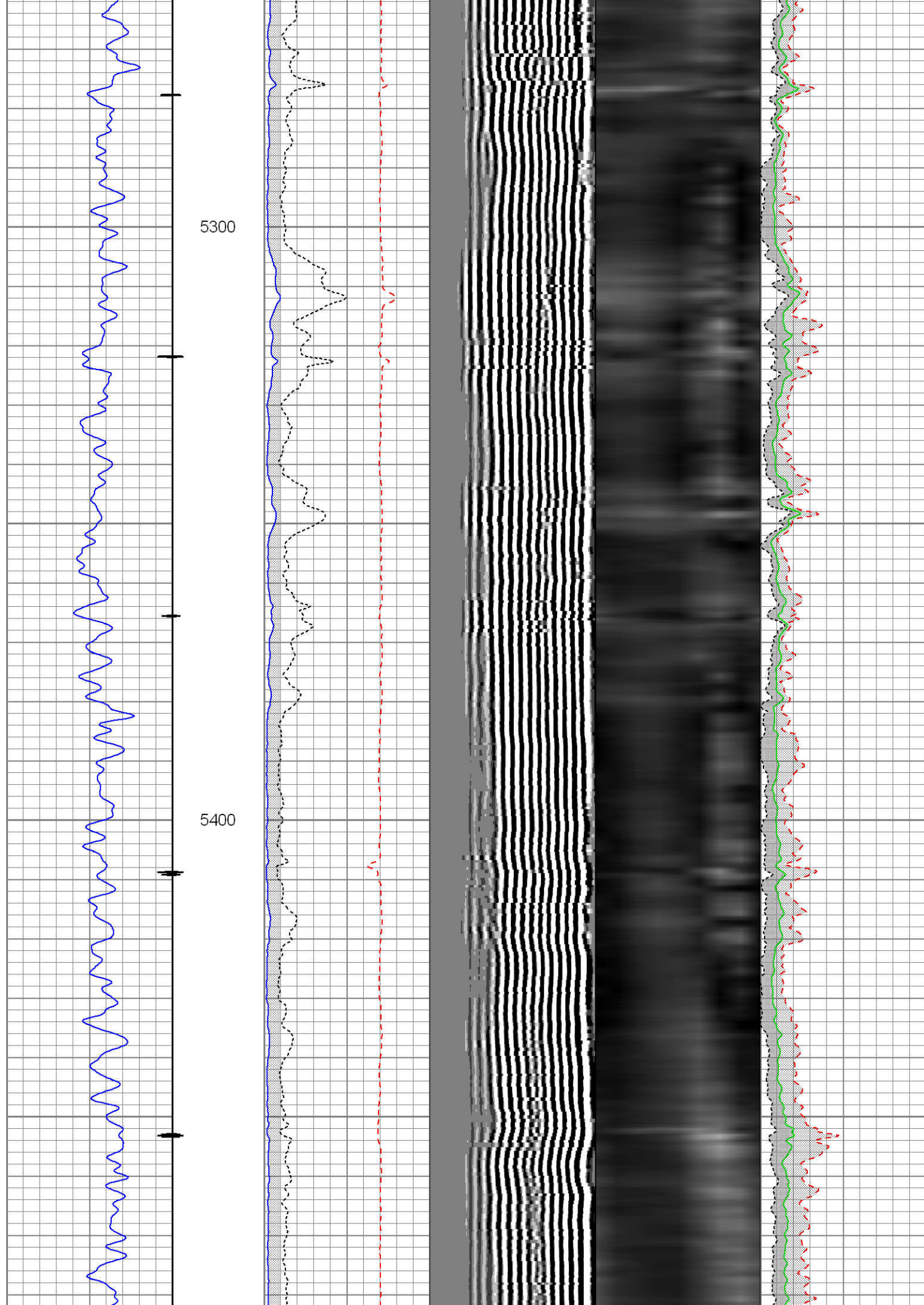


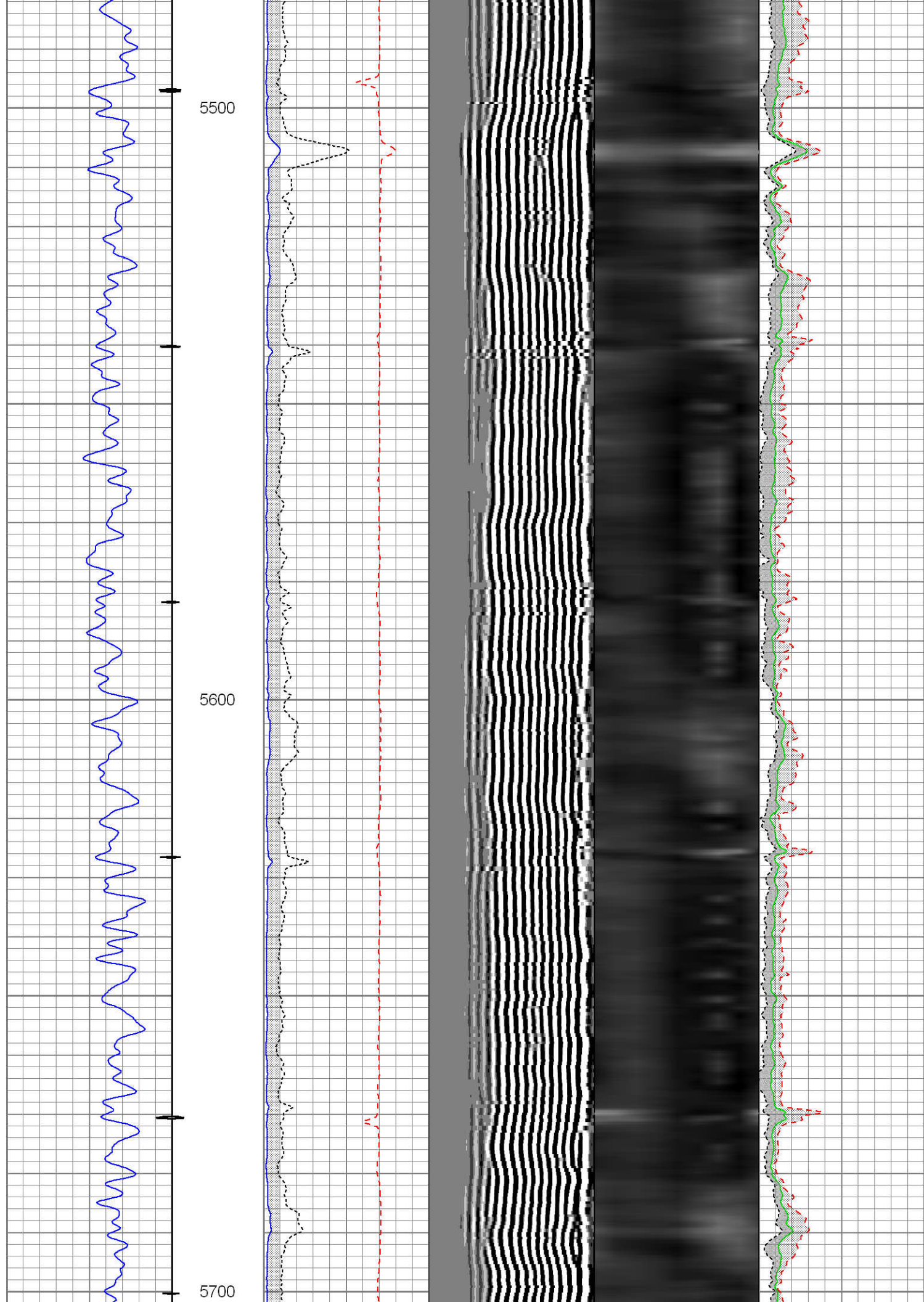


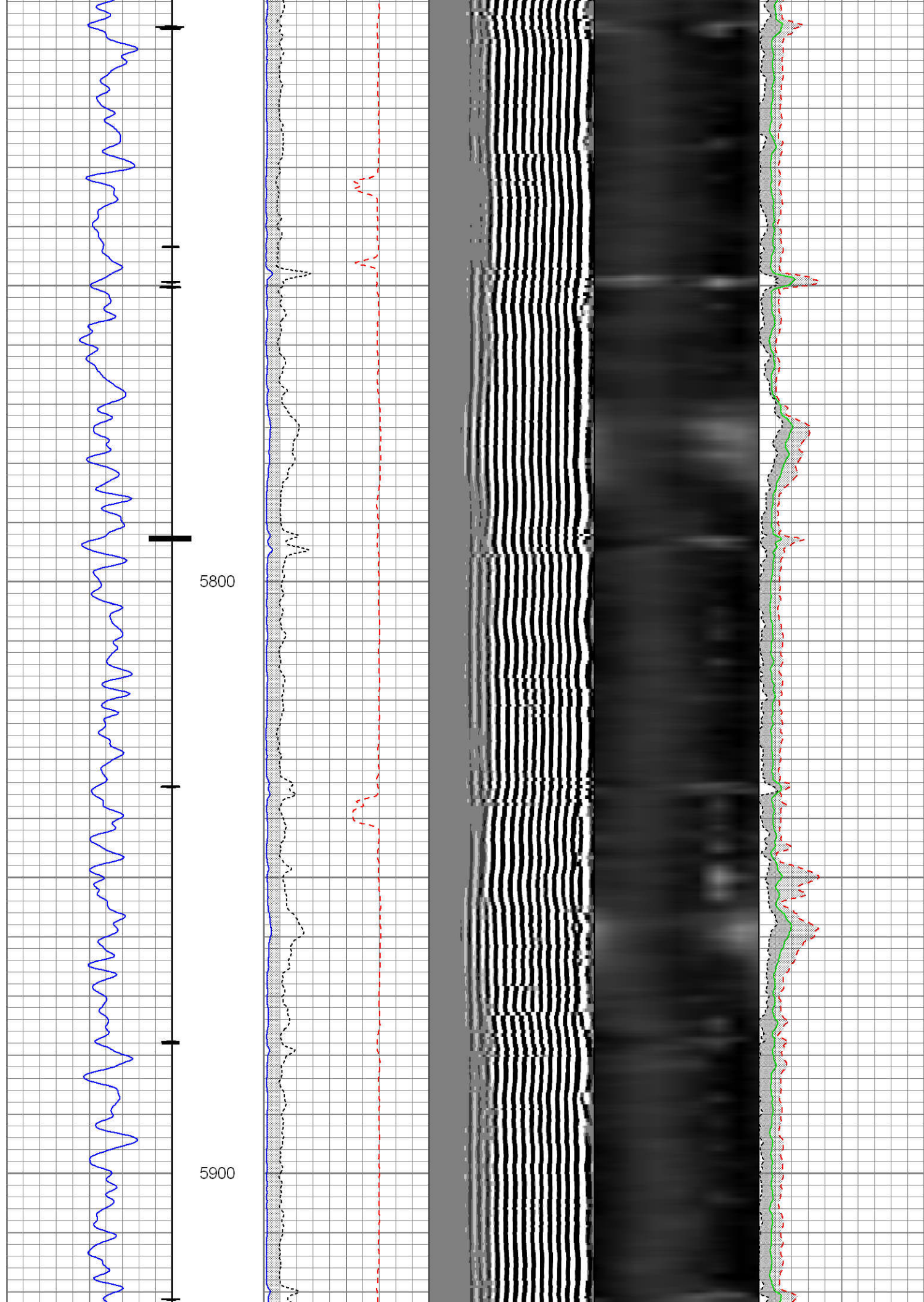


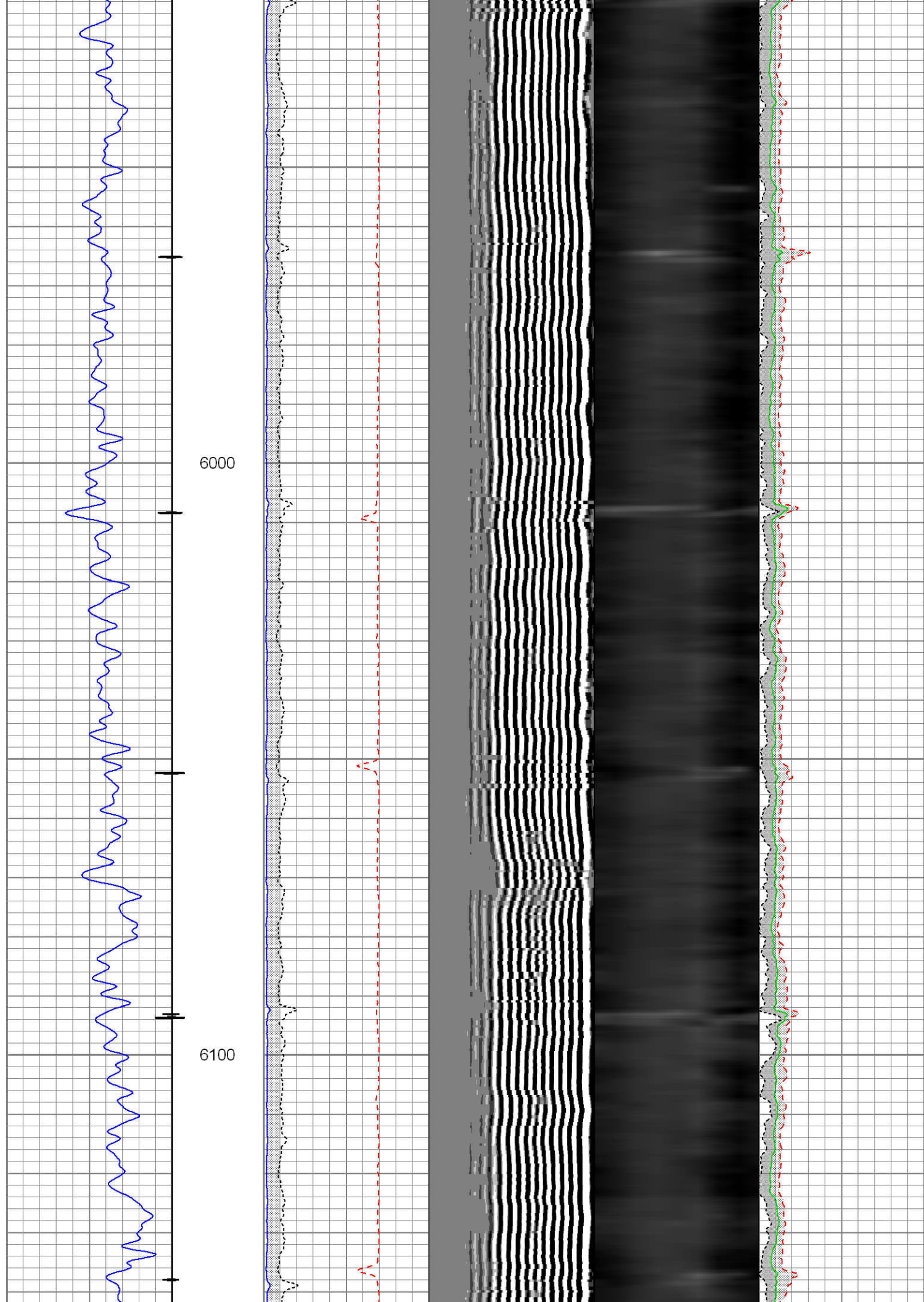


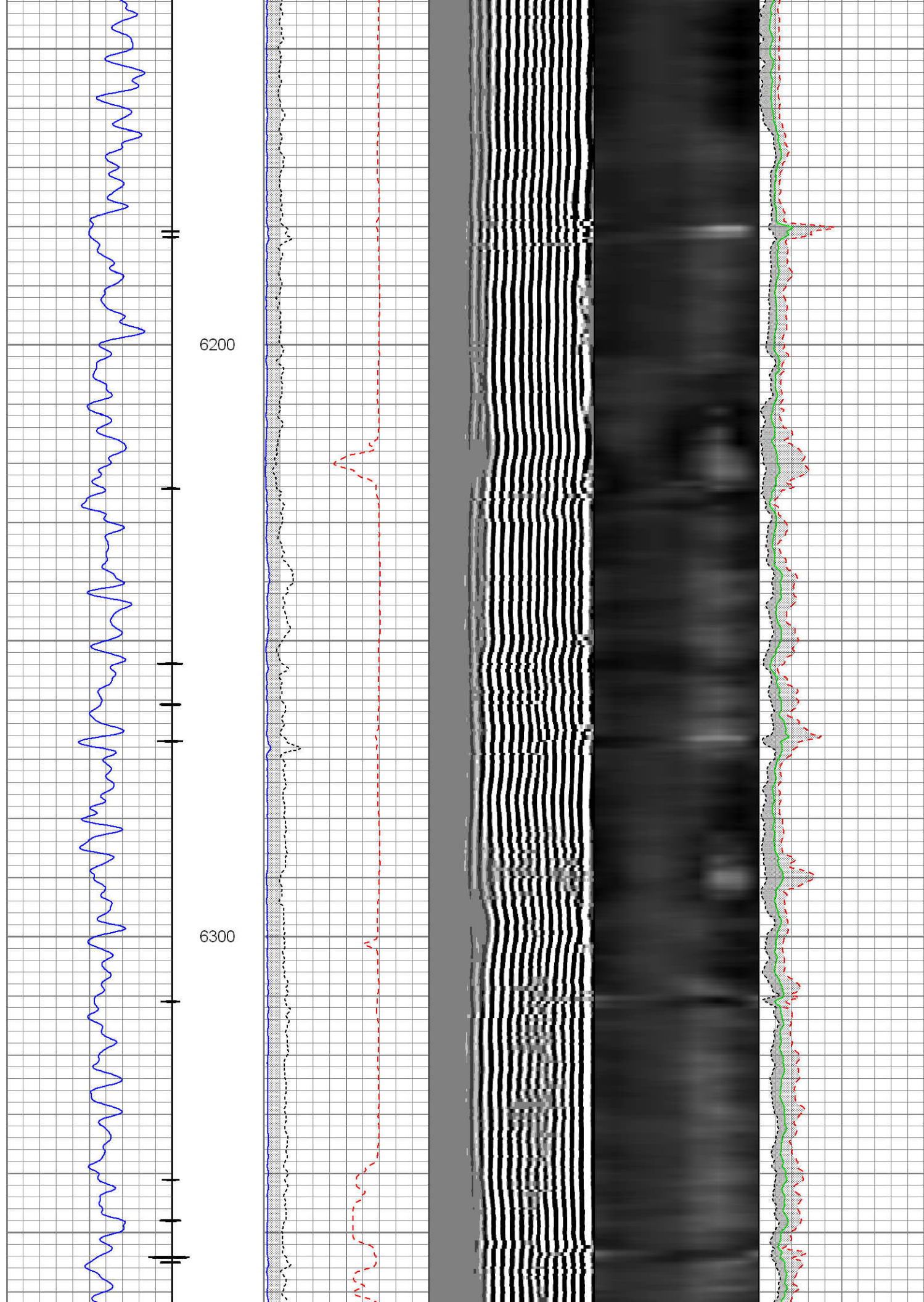


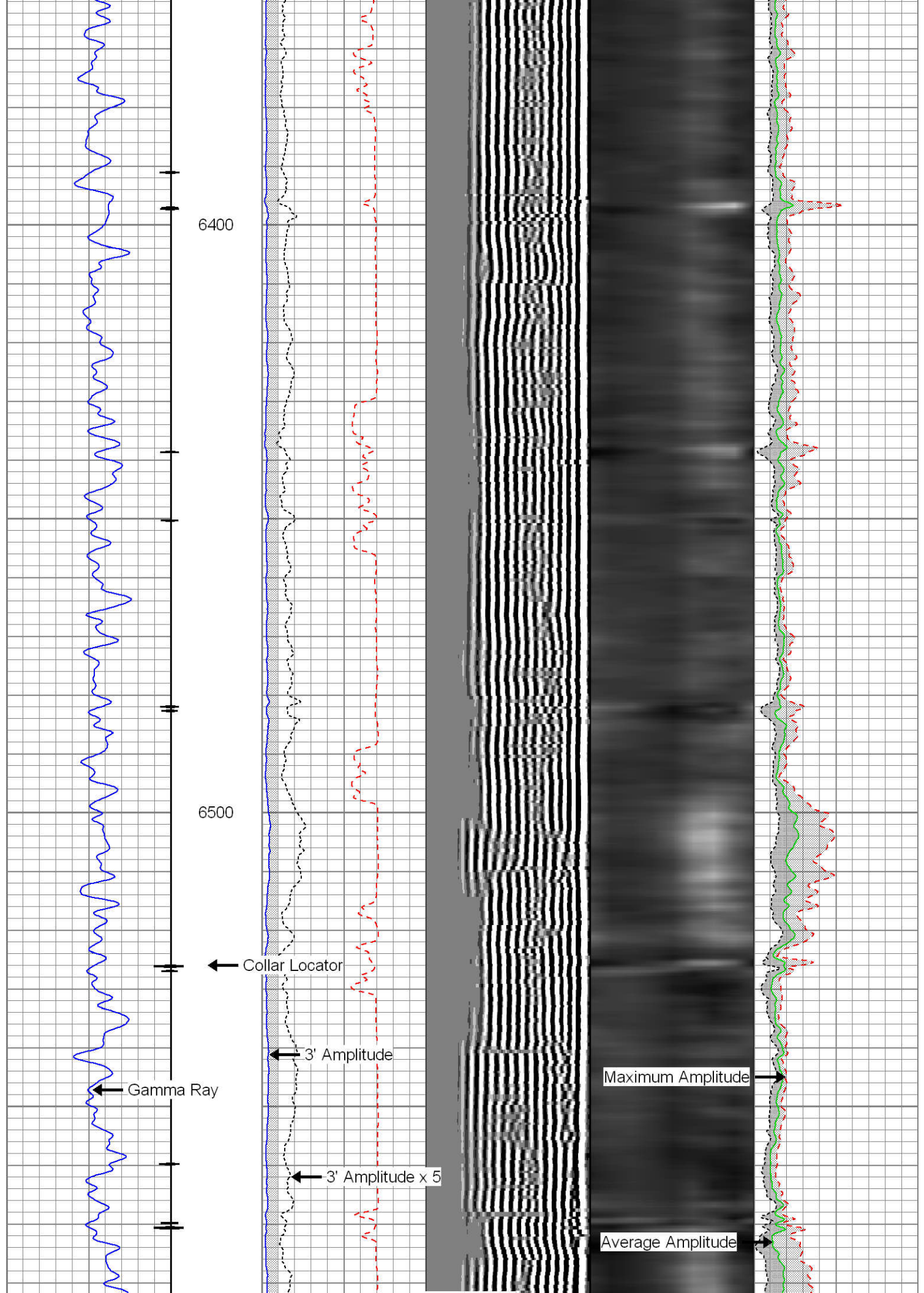


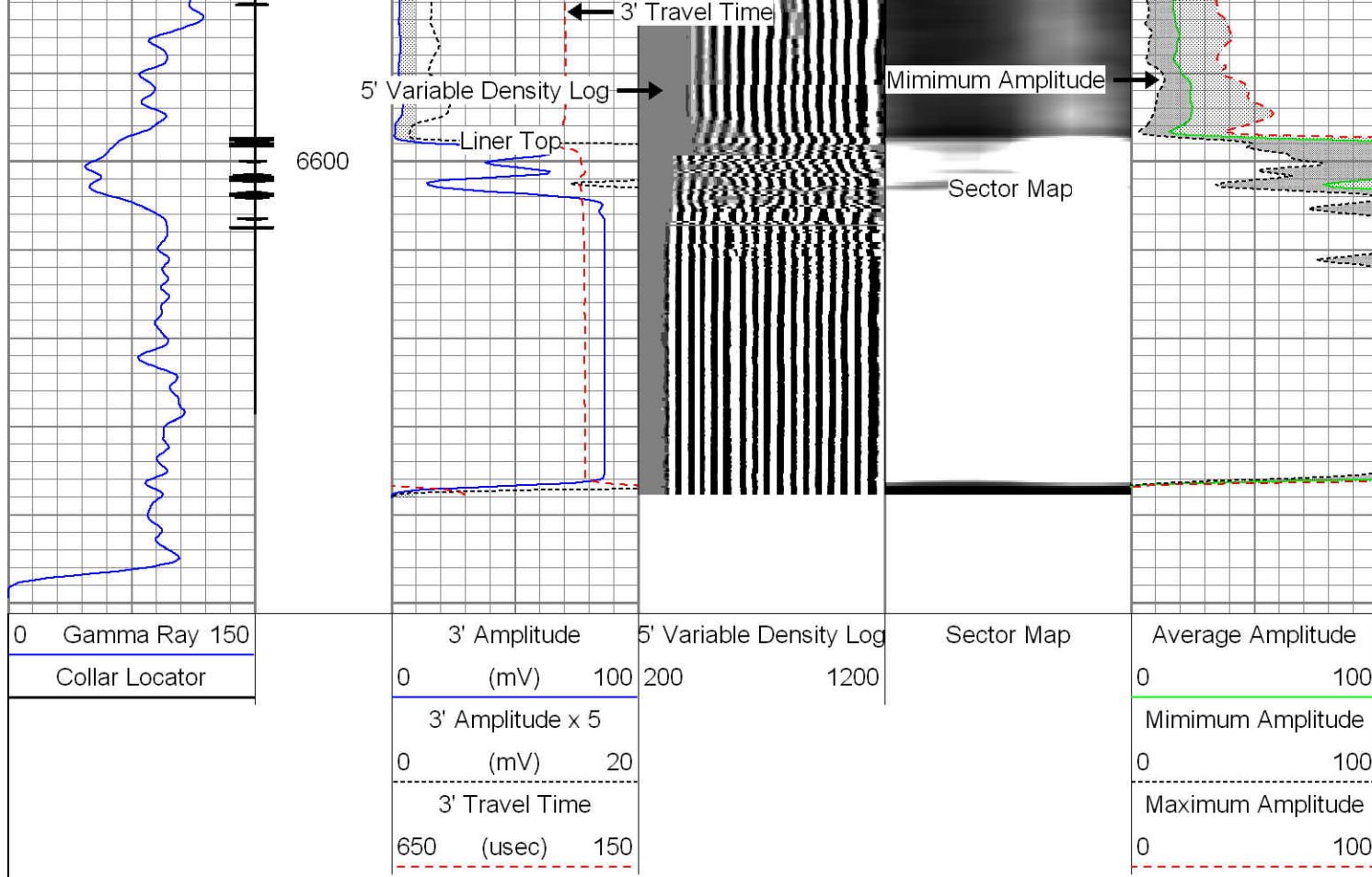






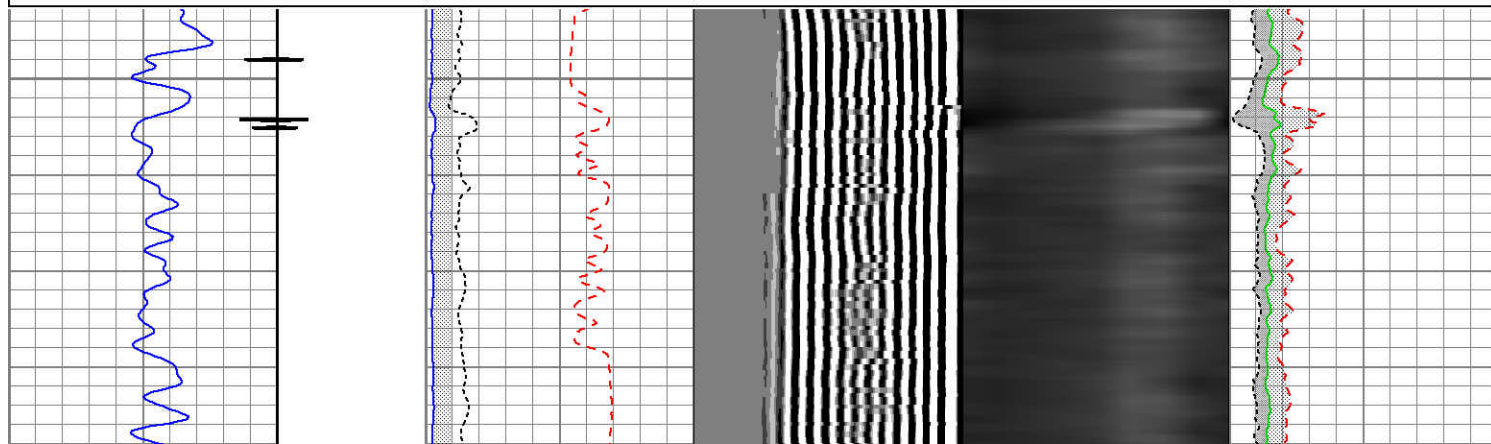
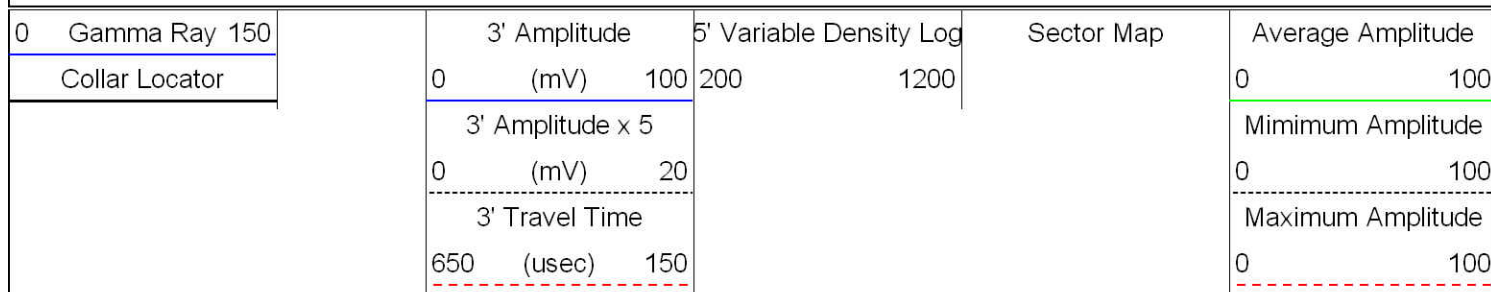


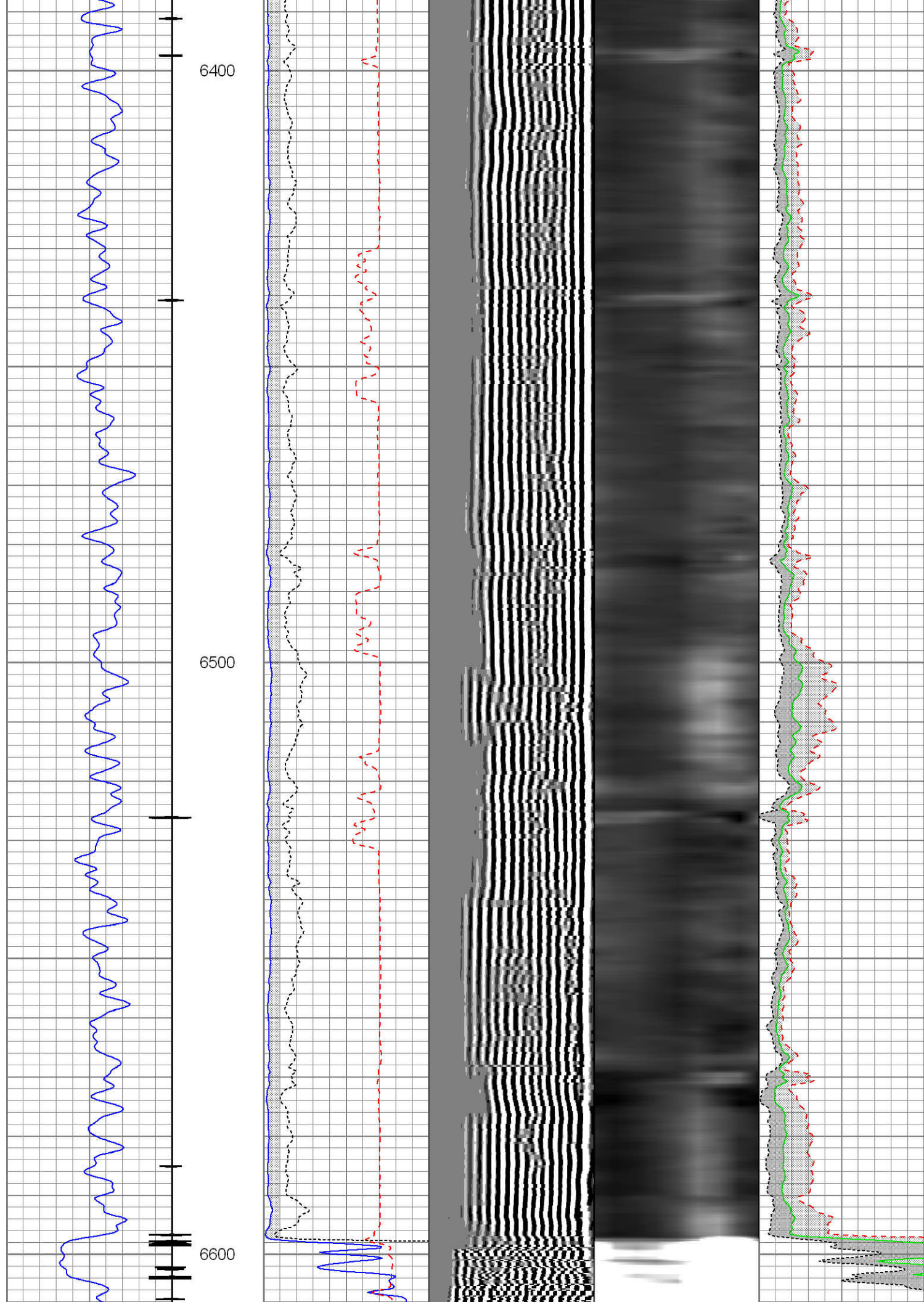


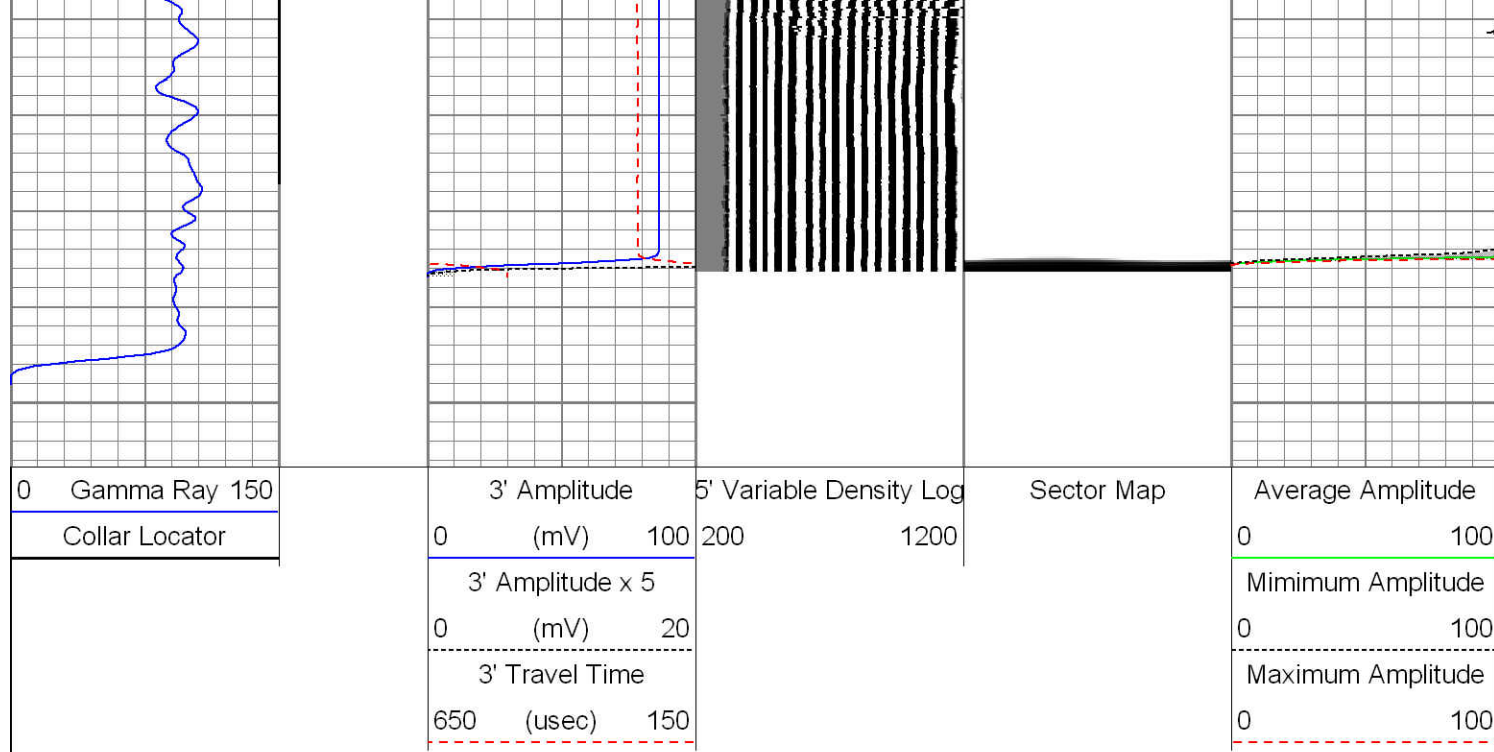


Repeat Section @ 2800 psi

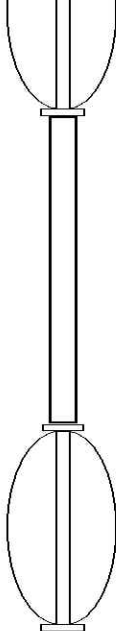
Database File: kmg_reigle 28c-4hz_cbl.db
 Dataset Pathname: pass7
 Presentation Format: rib
 Dataset Creation: Wed Jan 23 09:39:19 2013 by Log SCH 111116
 Charted by: Depth in Feet scaled 1:240







Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CCL	22.48		AES1563 Applied Science 1-7/16" cablehead with 1" fishing neck	1.04	1.56	2.00
			CCL_LOG-TypeC (CCCC) Titan 2-3/4" Logging CCL w/ short body	1.92	2.75	30.00
			AES_4arm_IL AES bowspring inline electrical centralizer - 32.75"	2.73	2.75	20.00
TEMP	16.40					
WVFS1	15.02					
WVFS2	15.02					
WVFS3	15.02					
WVFS4	15.02					
WVFS5	15.02					
WVFS6	15.02					
WVFS7	15.02					
WVFS8	15.02					
WVF3FT	14.27					
WVF5FT	13.27					
WVFCAL	9.48					
WVFTEMP	9.48					
WVFSYNC	9.48					

GR	4.01		AES_4arm_IL AES bowspring inline electrical centralizer - 32.75"	2.73	2.75	20.00
			GR-TypeC (CCCC) Titan 2-3/4" Scintillating Gamma Ray	4.02	2.75	46.00
			AES_4arm_IL AES bowspring inline electrical centralizer - 32.75"	2.73	2.75	20.00
Dataset: kmg_reigle 28c-4hz_cbl.db: field/well/run1/pass8 Total Length: 24.73 ft Total Weight: 261.00 lb O.D. 2.75 in						

		Calibration Report
Database File:	kmg_reigle 28c-4hz_cbl.db	
Dataset Pathname:	pass8	
Dataset Creation:	Wed Jan 23 09:46:46 2013 by Log SCH 111116	

Gamma Ray Calibration Report		
Serial Number:	CCCC	
Tool Model:	TypeC	
Performed:	Sun Jun 13 13:33:21 1993	
Calibrator Value:	1.0	
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	AAAA	
Tool Model:	Type_A	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	963.757	ft

Master Calibration, performed Wed Jan 23 09:04:08 2013:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.027	1.798	0.800	62.165	34.644	-0.135
CAL	1.498	1.519				
5'	-0.004	2.492	0.800	62.165	24.584	0.889
SUM						
S1	0.067	1.105	0.000	100.000	96.319	-6.435
S2	0.074	1.937	0.000	100.000	53.677	-3.977
S3	0.060	2.421	0.000	100.000	42.358	-2.542

S4	0.076	2.478	0.000	100.000	41.639	-3.168
S5	0.086	1.954	0.000	100.000	53.547	-4.616
S6	0.036	1.202	0.000	100.000	85.812	-3.111
S7	0.048	0.764	0.000	100.000	139.545	-6.667
S8	0.073	0.748	0.000	100.000	148.285	-10.899

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	1.498	1.519	1.000	0.000

Air Zero Calibration, performed Wed Jan 23 08:49:58 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: AAAA
Tool Model: Type_A
Performed: Sun Jan 06 10:24:57 2013

	Reference	Reading
Low Reference:	75.00 degF	300.00 usec
High Reference:	400.00 degF	1282.00usec

Gain: 0.47
Offset: -24.29
Delta Spacing 1



Company: Kerr-McGee Oil & Gas Onshore, L.P.
Well: Reigle 28C-4HZ
Field: Wattenberg
County: Weld
State: Colorado