



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Whiting Oil & Gas Corporation			
Well				Razor 21B-2811A			
Field				Wildcat			
County				Weld			
State				Colorado			
Location:				API # : 05-123-37765			
Permanent Datum				SHL: 330' FNL 1947' FEL			
Log Measured From				Lat/Long: 40.830203/-103.868092			
Drilling Measured From				SEC 21 TWP 10N RGE 58W			
Ground Level				Elevation 4837'			
Kelly Bushing				17 FT			
Kelly Bushing				K.B. 4854'			
				D.F. 4853'			
				G.L. 4837'			
Other Services							
Gauge run							
Plug							
Caliper							
Elevation							
January 14, 2014							
Three							

4587 FT							
4587 FT							
Surface							
9.625							
Water							
8.34 lbm/gal							
195							
120 FT							
ROA							
12:15							
HD-0134							
Fort Lupton, CO							
H. Raby							
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			
4.5				11.6#			
SeAH 90				4625 FT			
				12,145 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 @ 4625'
RCBL logged with 1500 PSI surface induced pressure.
Est top of Cement @ 120'

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



Main Pass

Recorded with 1500 PSI Surface Induced Pressure

Database File: 01-14-14_whiting_razor 21b-2811a_mit_rbl.db

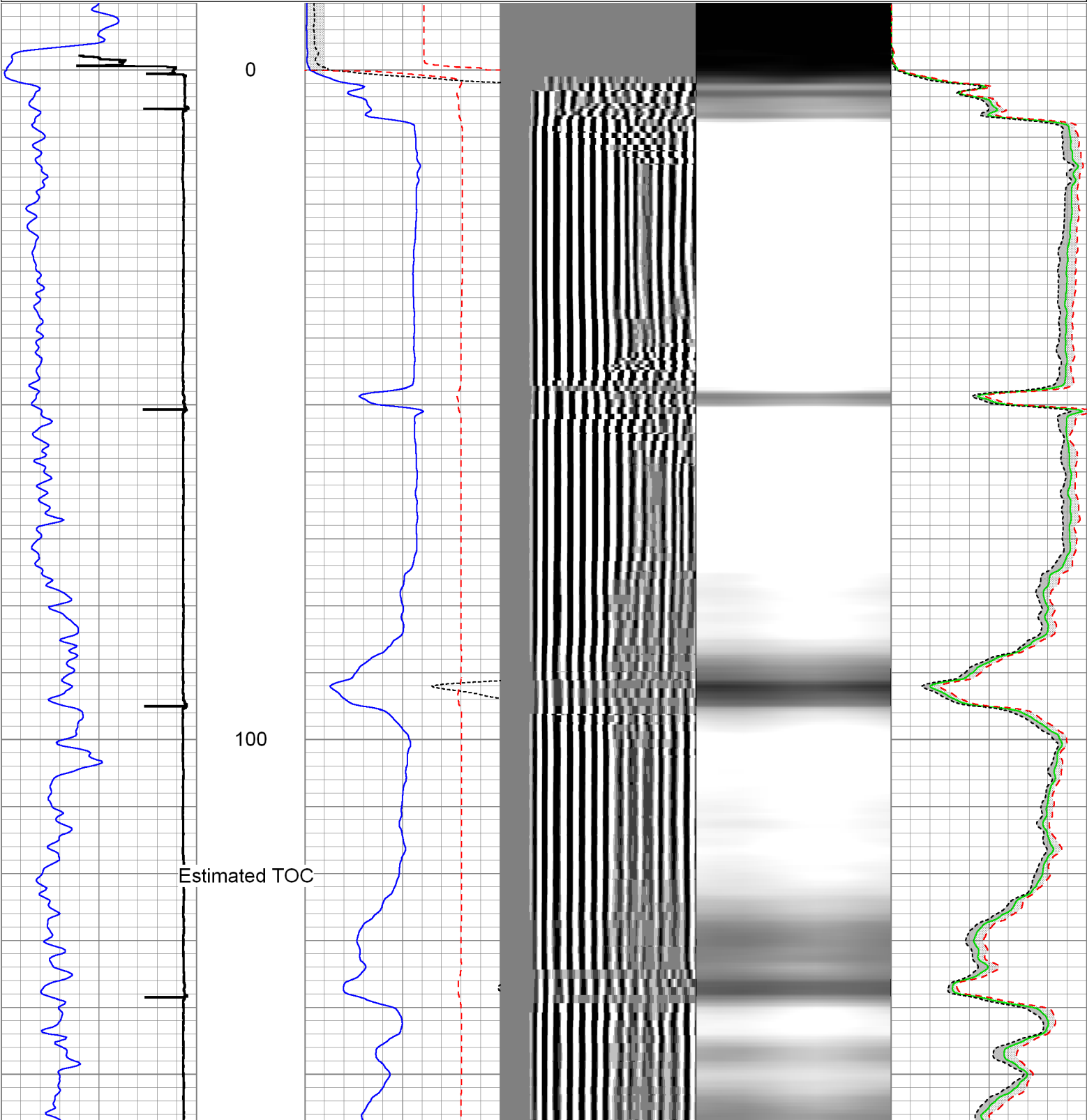
Dataset Pathname: pass6

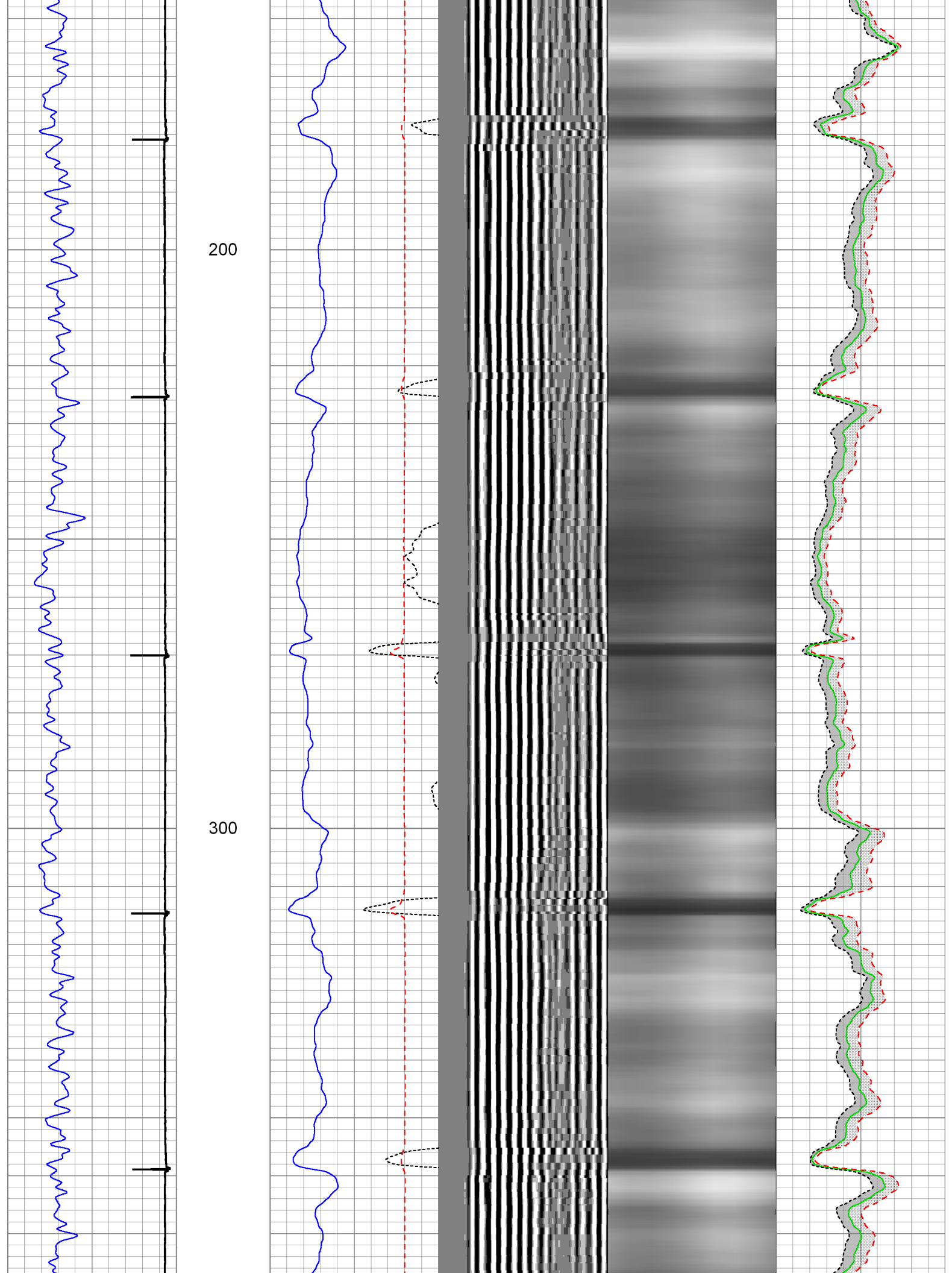
Presentation Format: rbt007

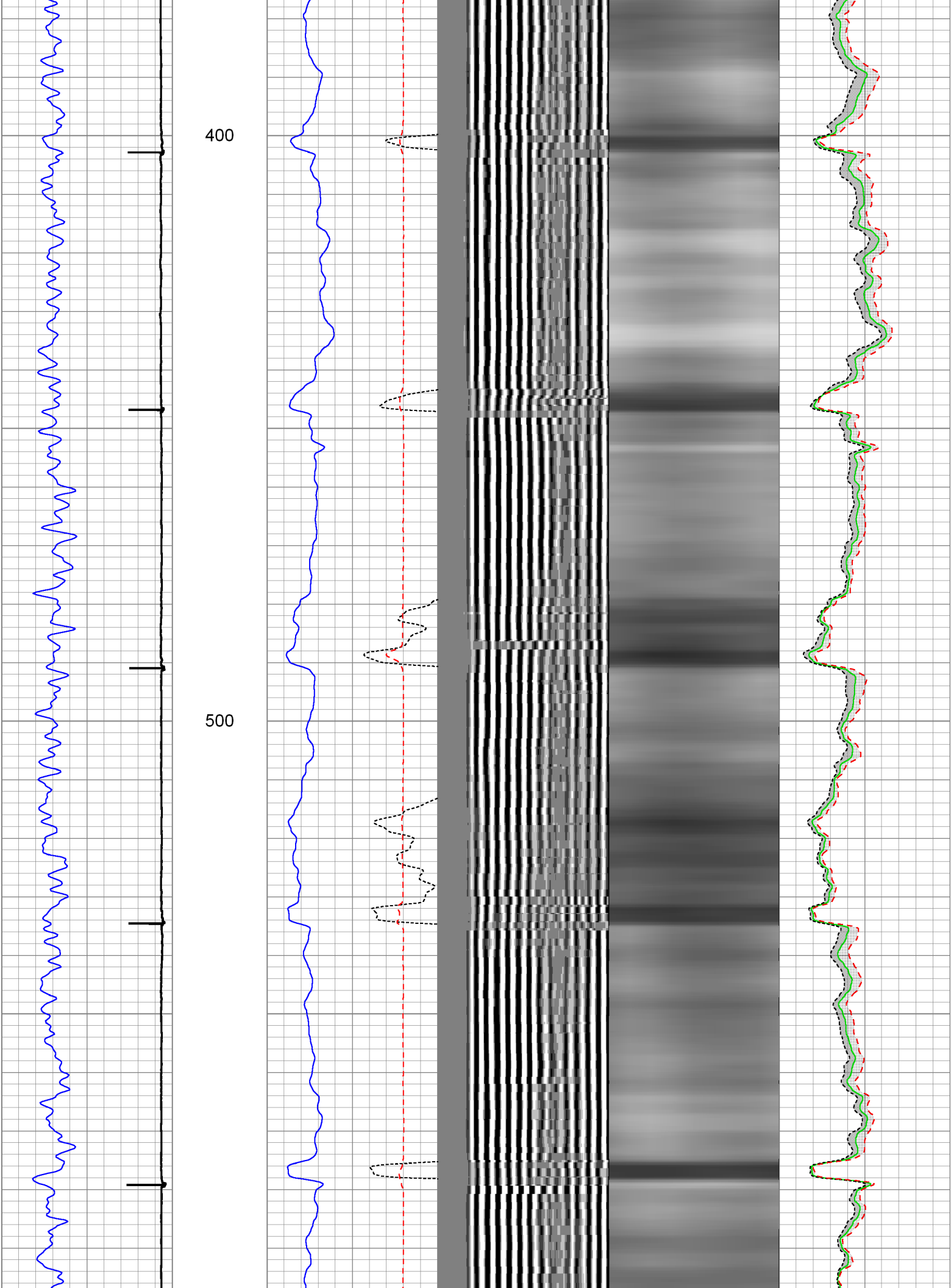
Dataset Creation: Tue Jan 14 12:26:49 2014 by Log Sondex V7.03

Charted by: Depth in Feet scaled 1:240

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



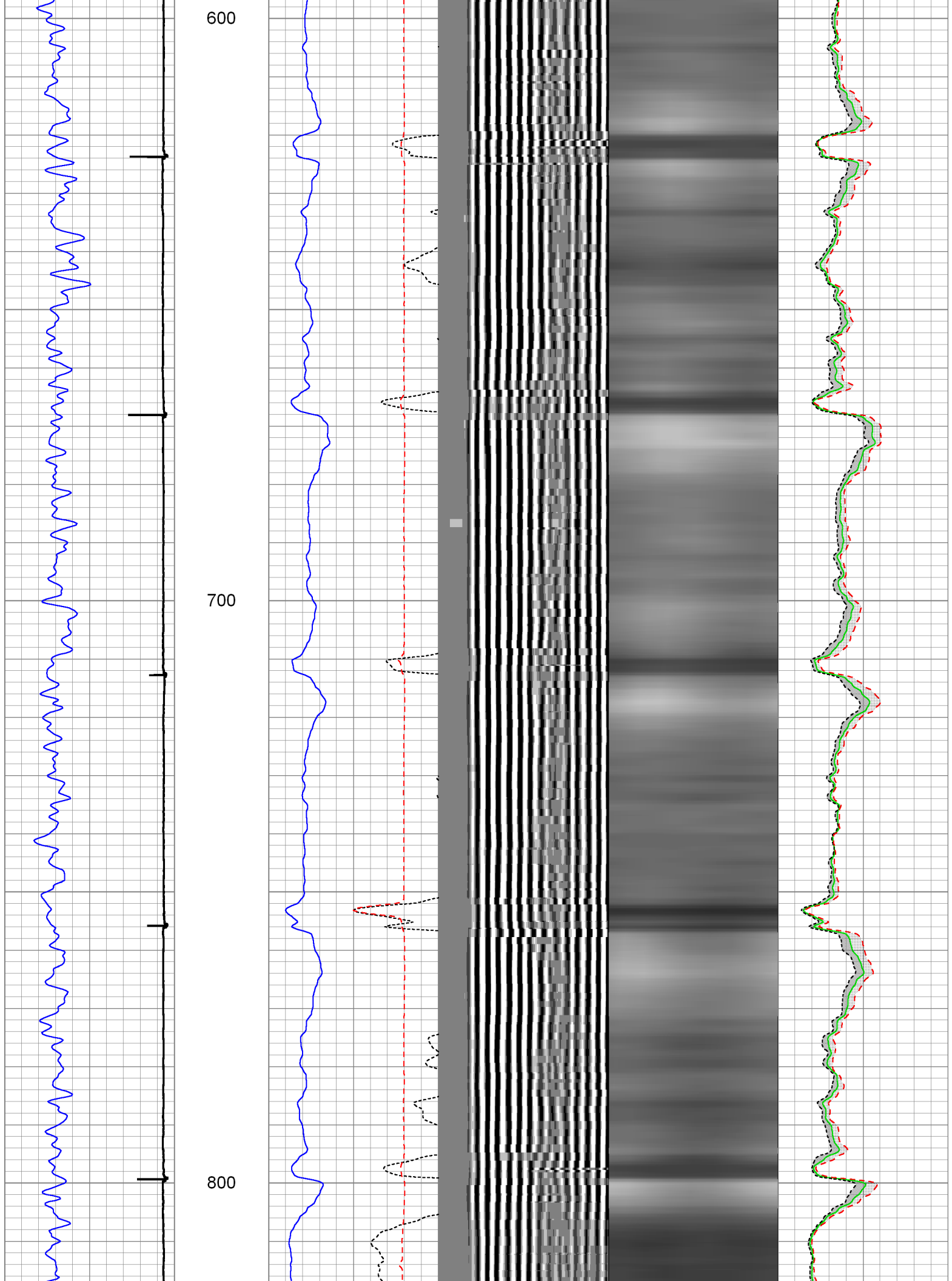


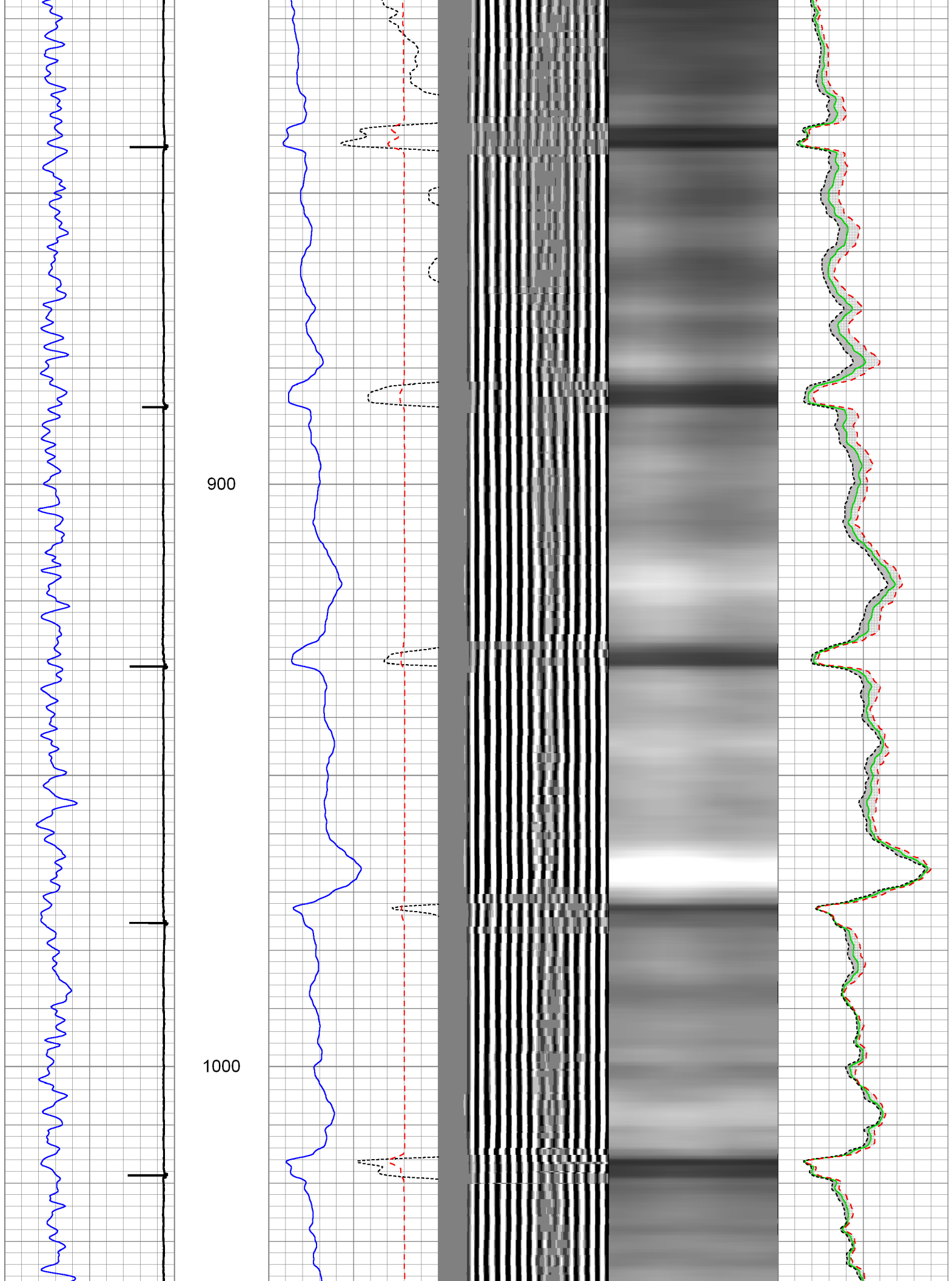


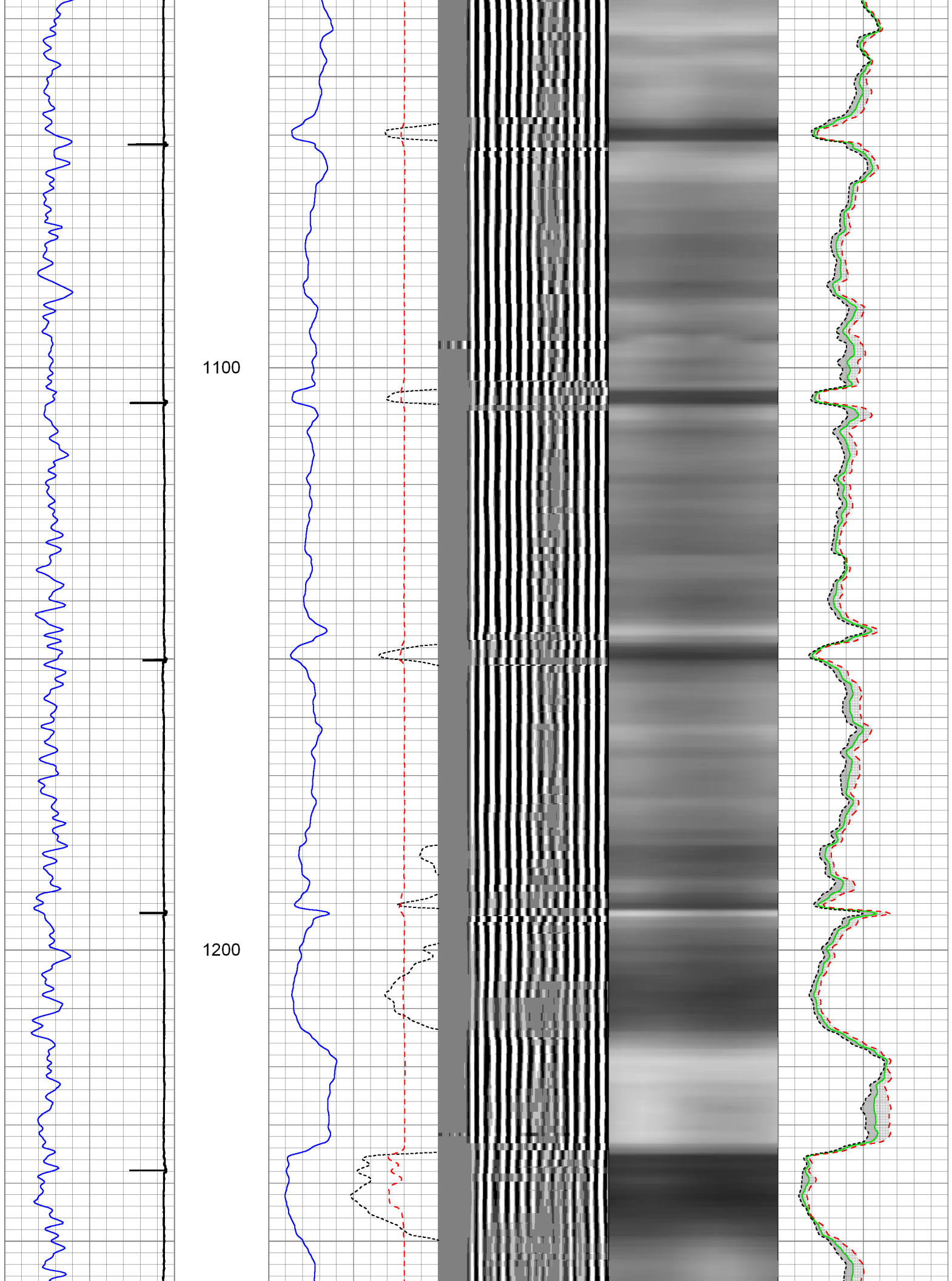
600

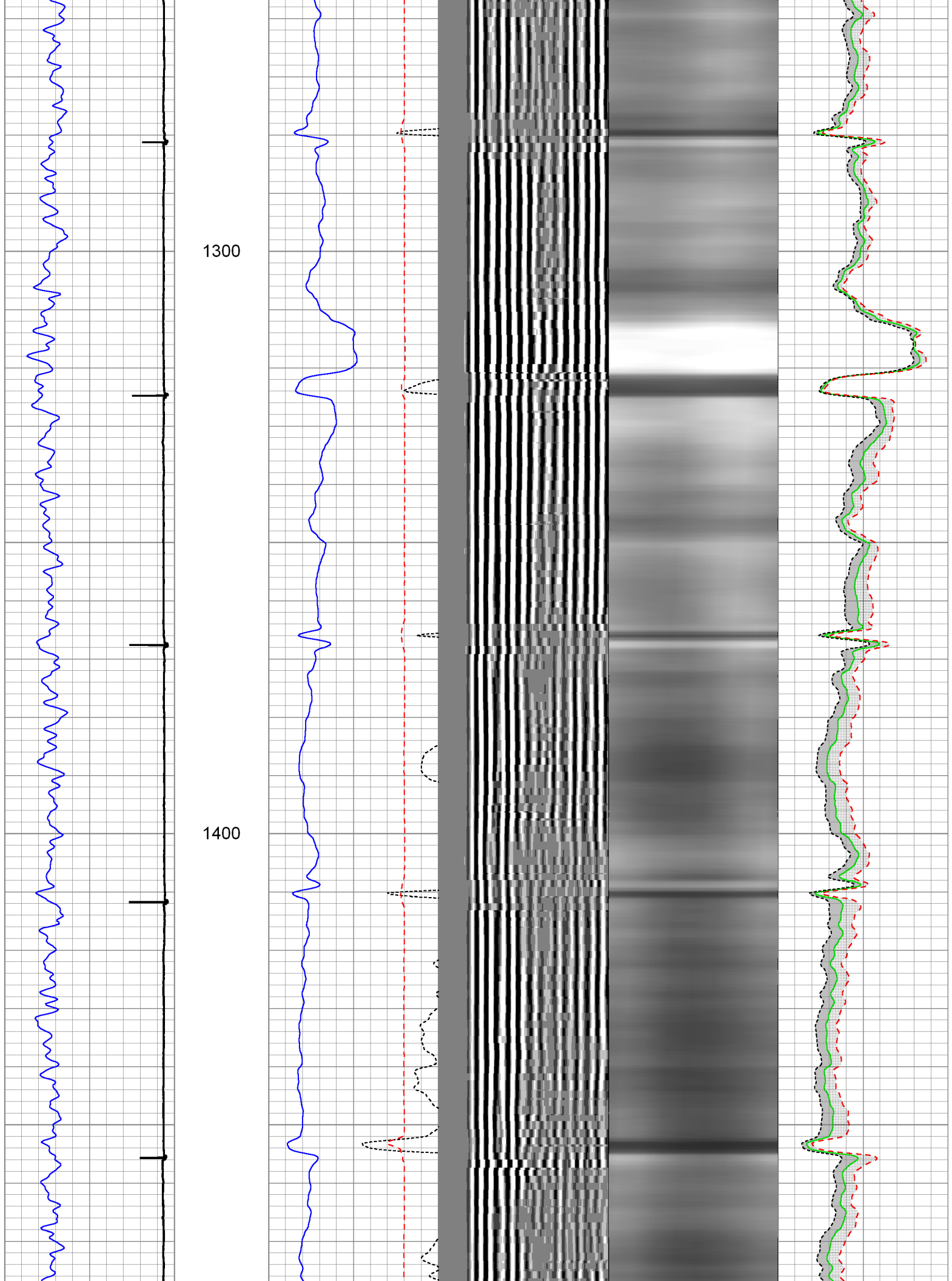
700

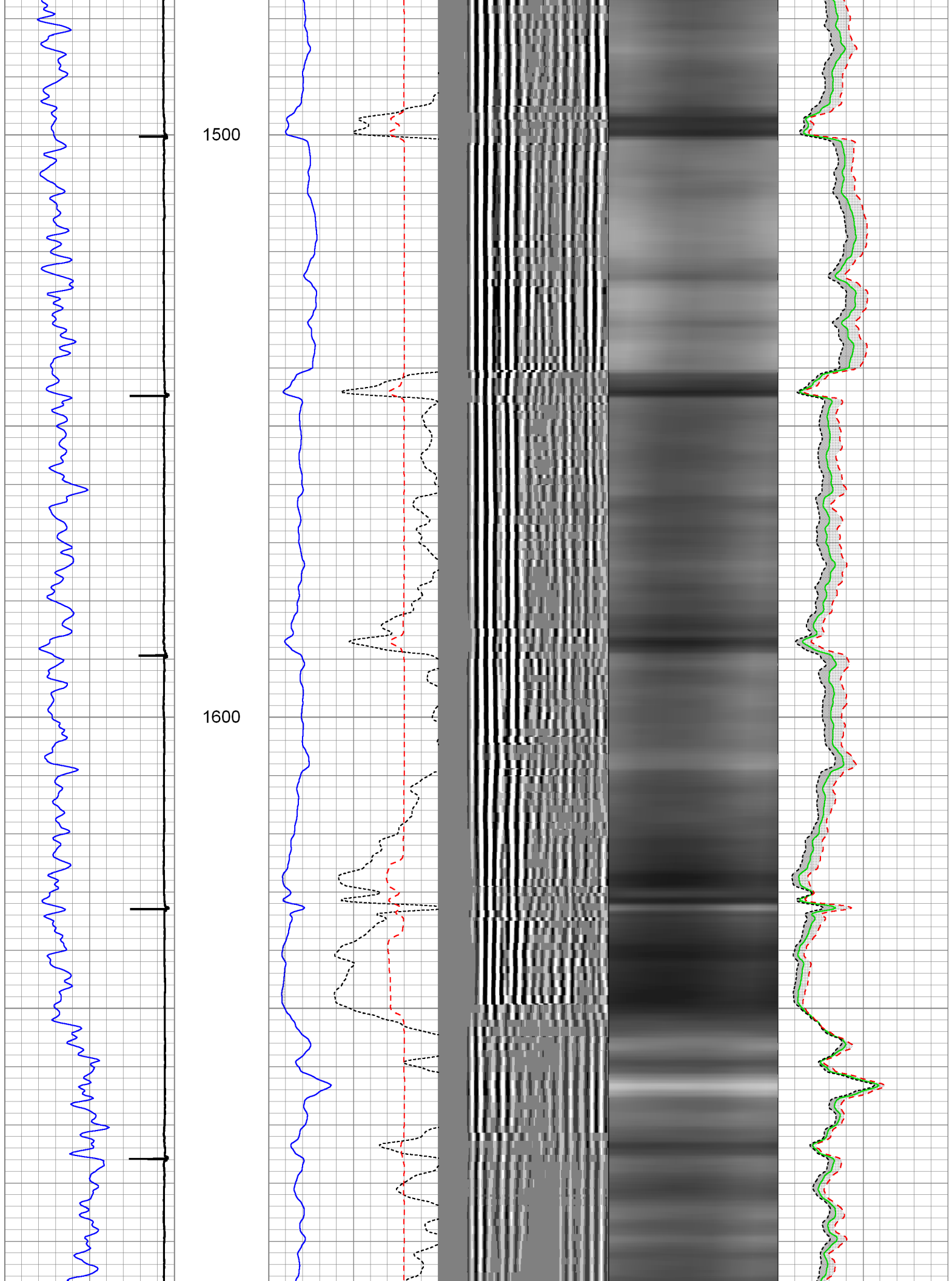
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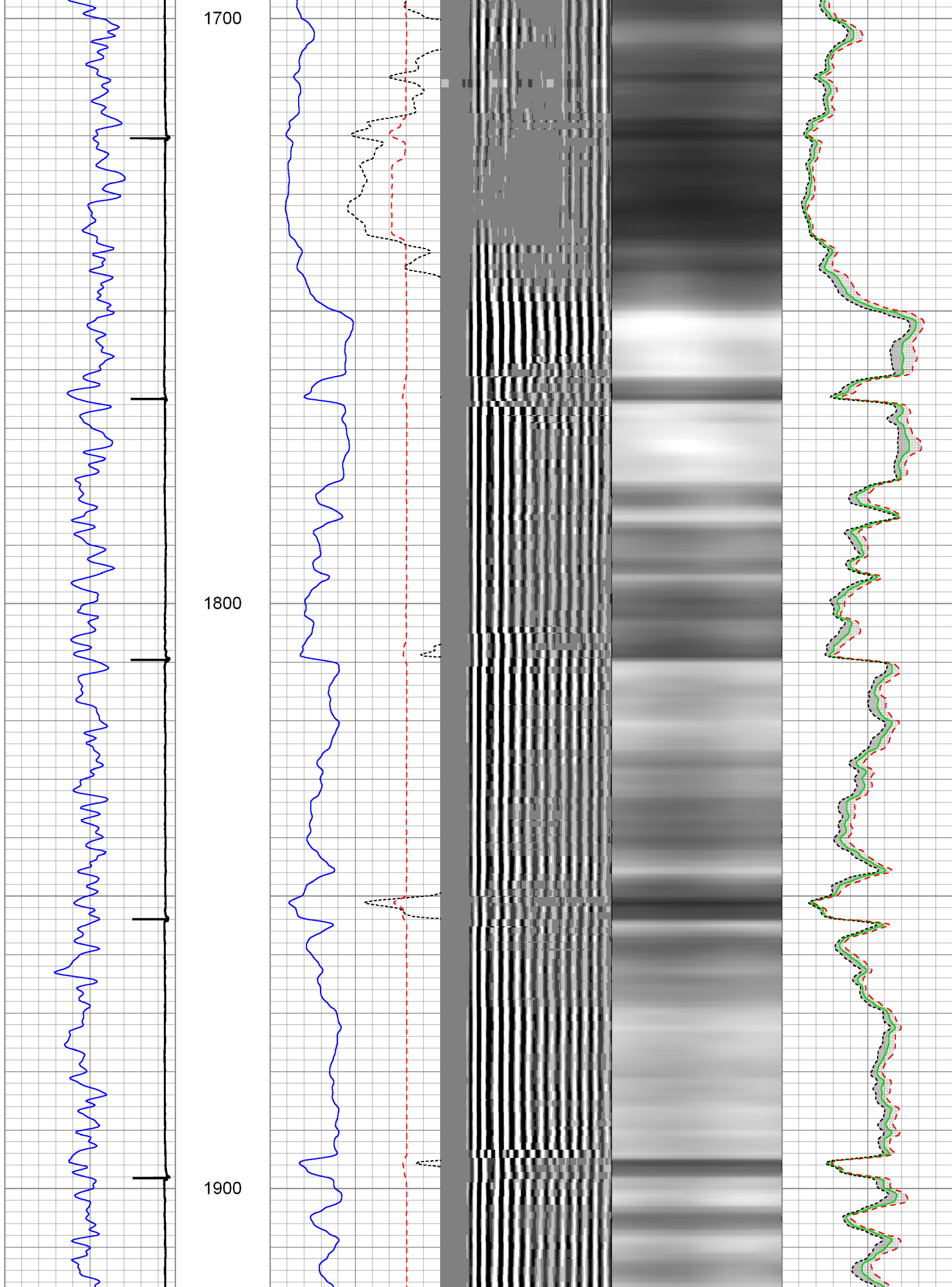


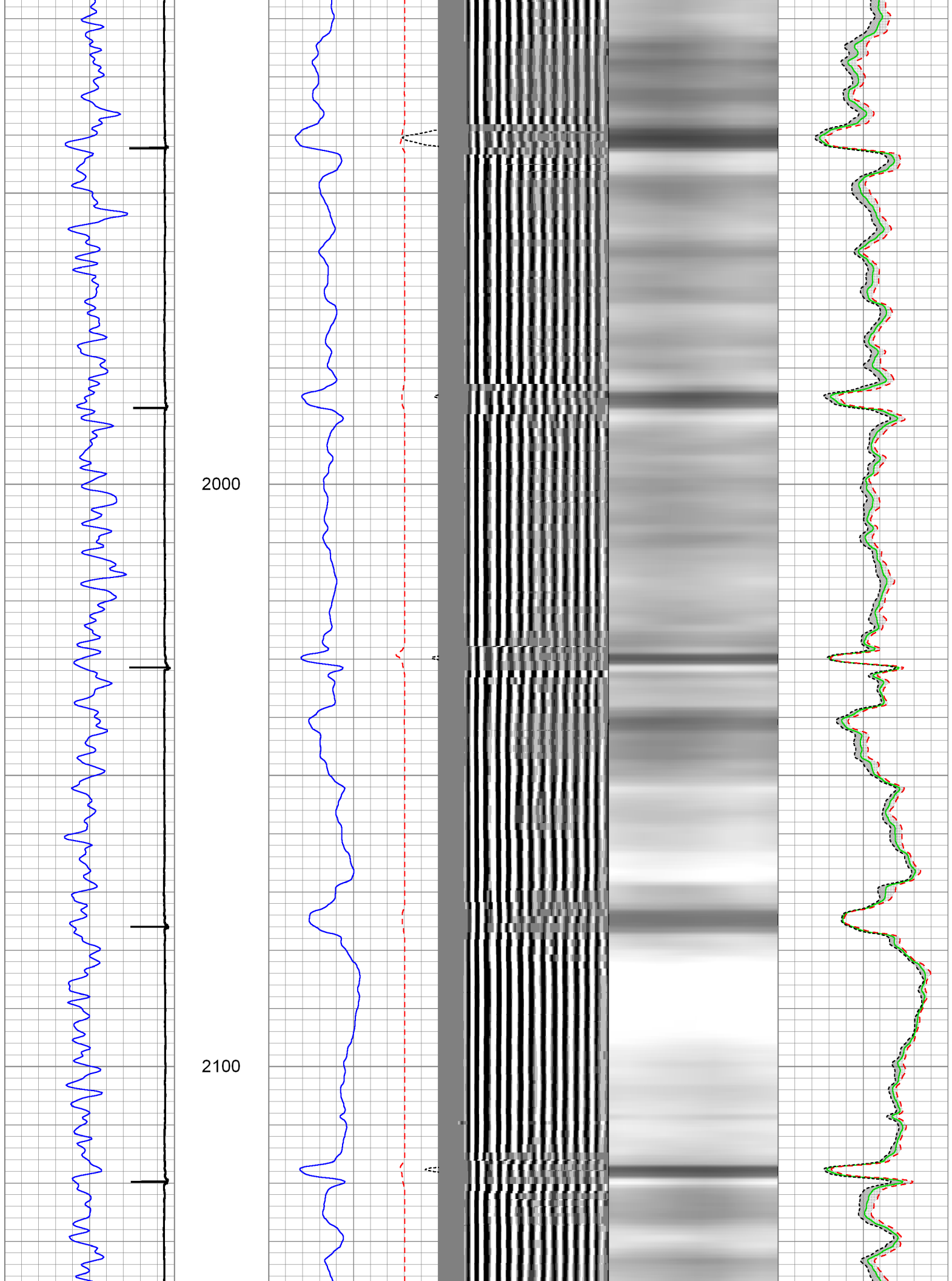


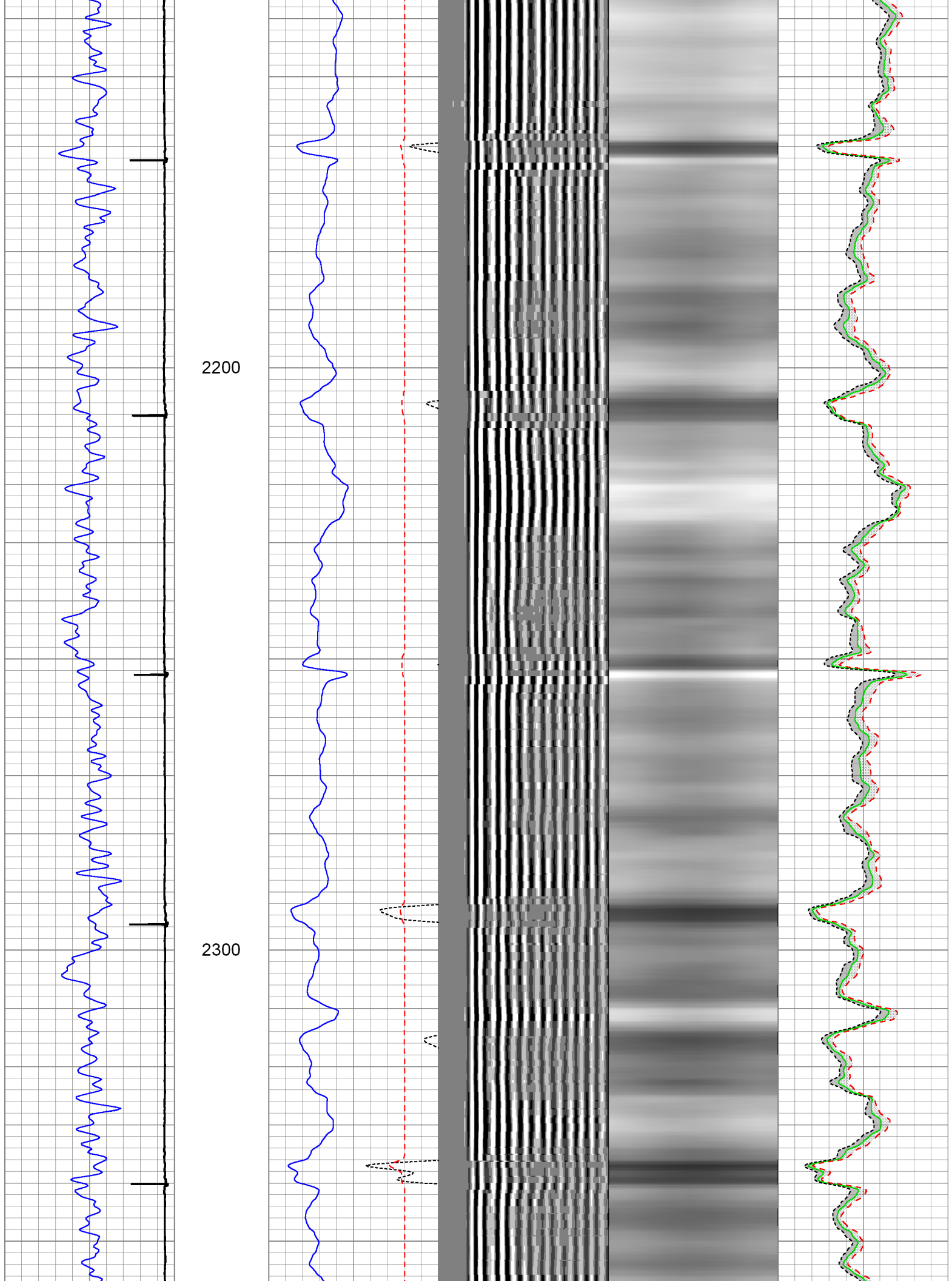
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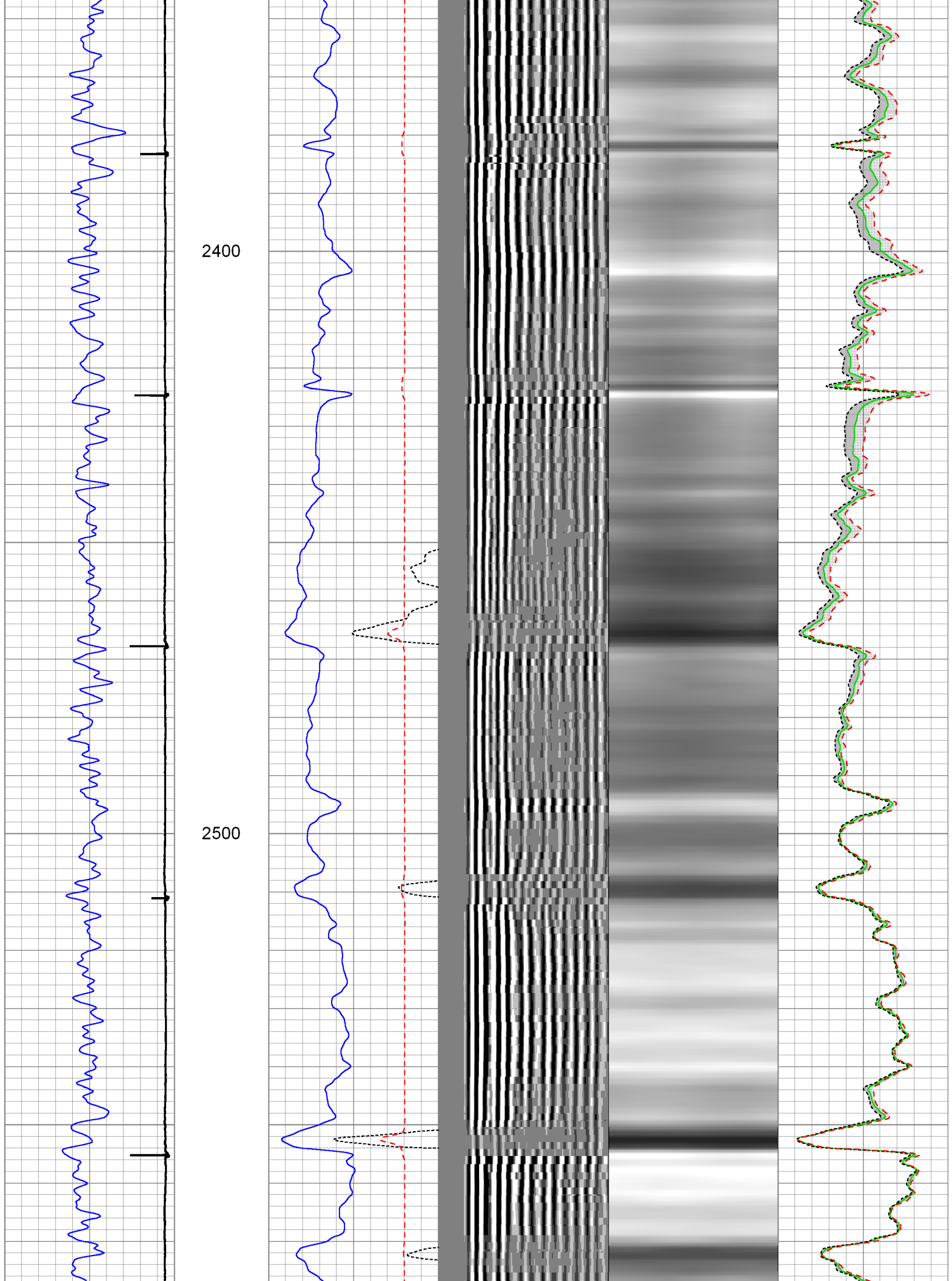
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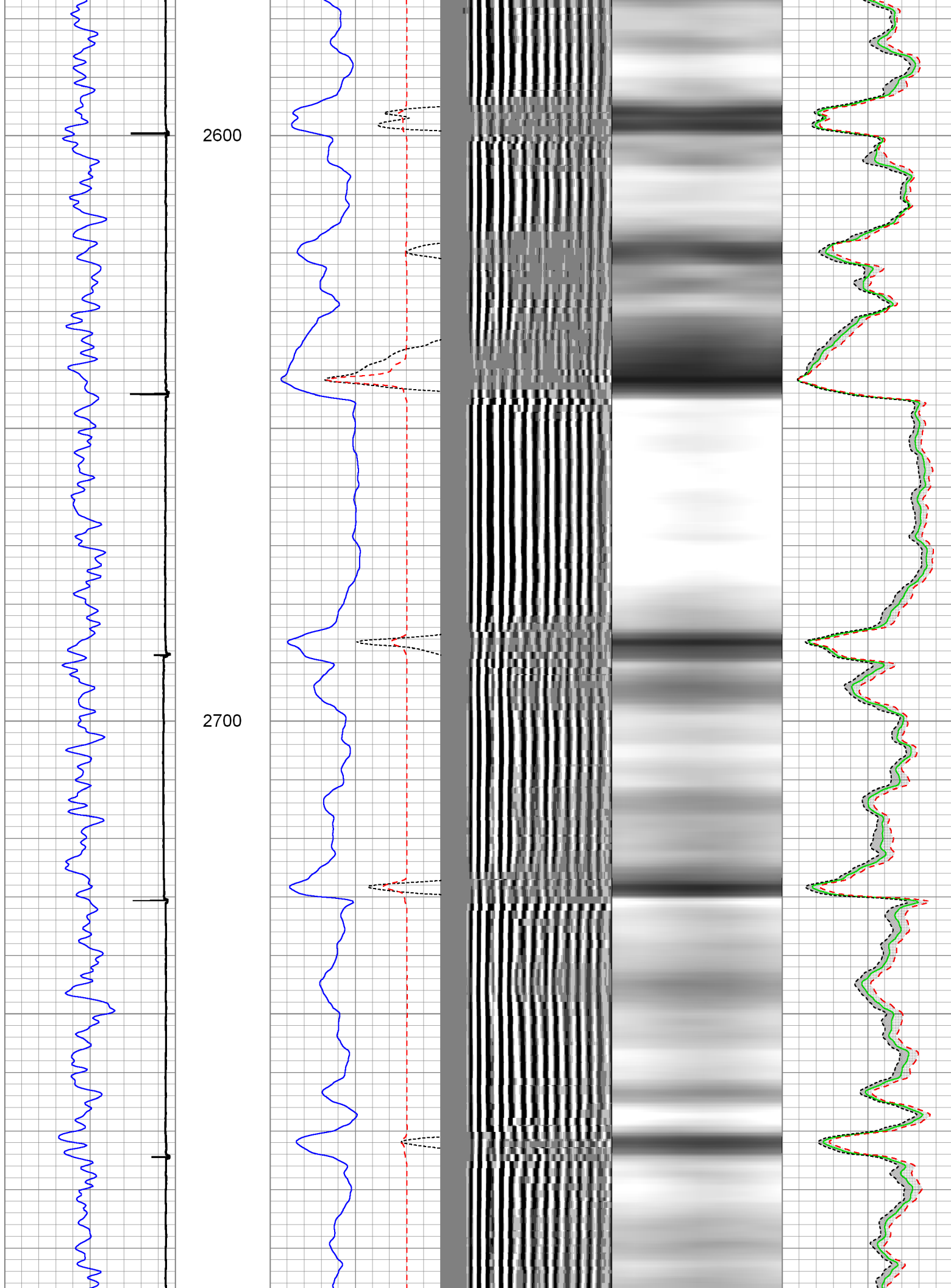
1900







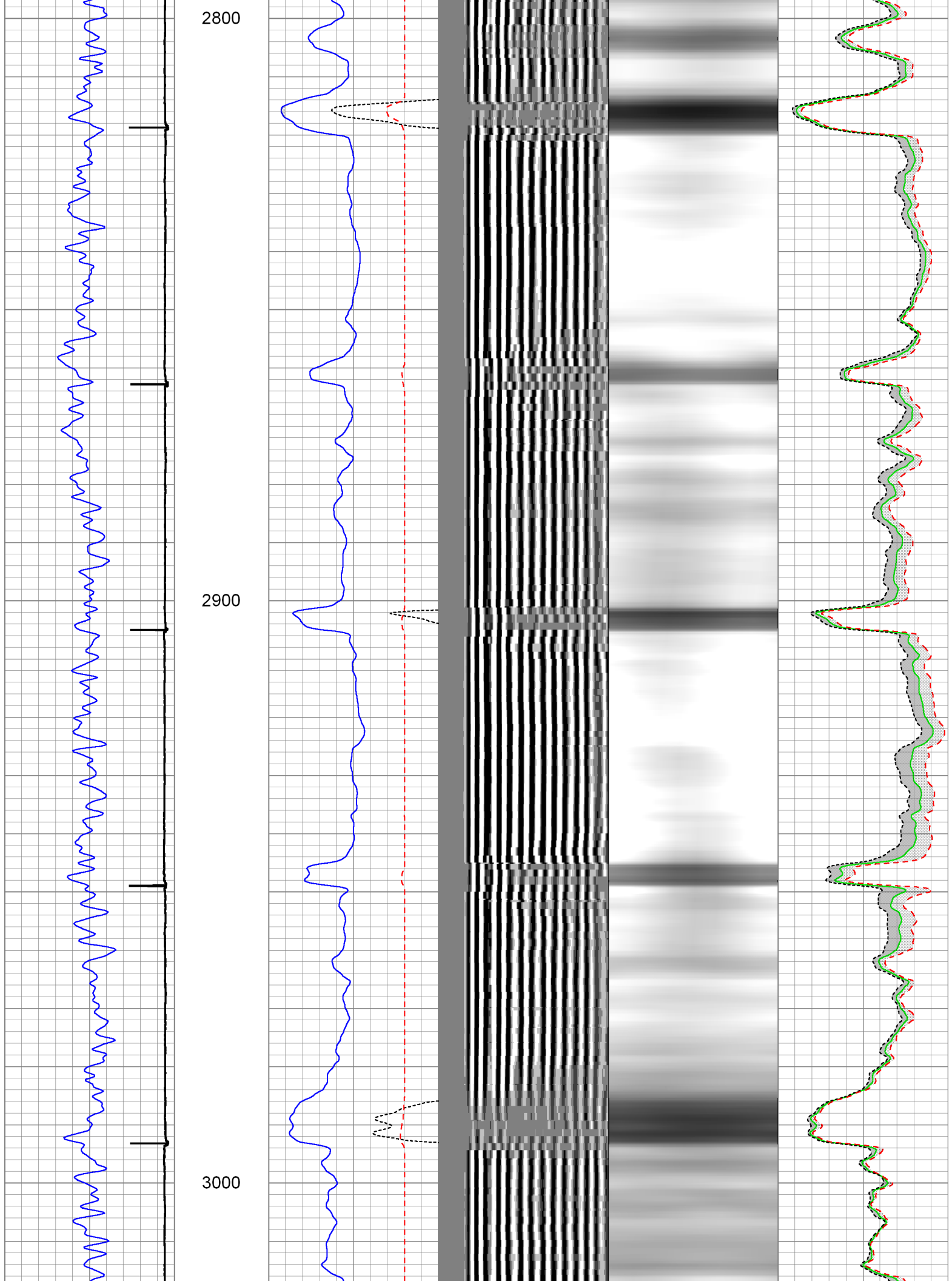




2800

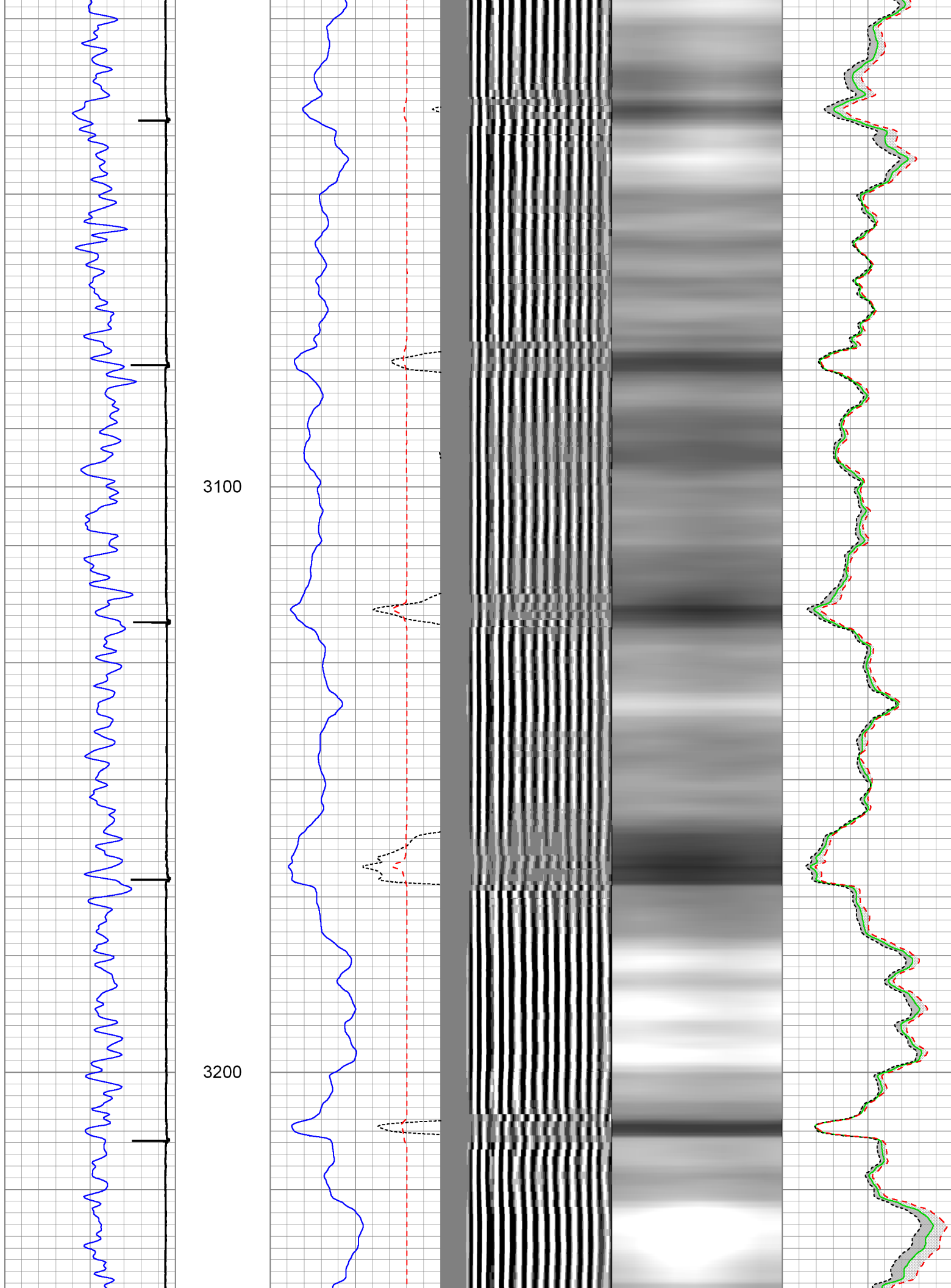
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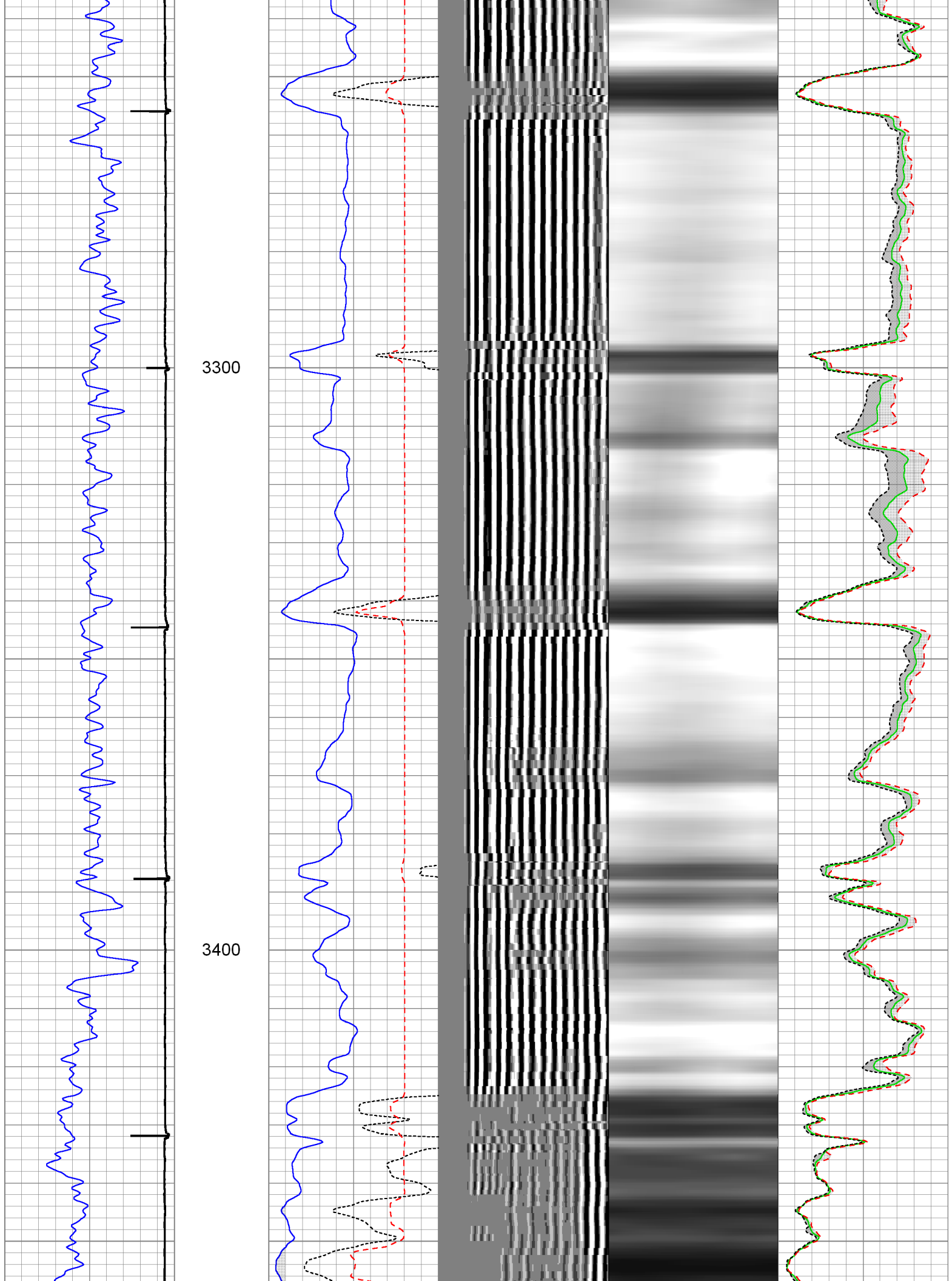
3000

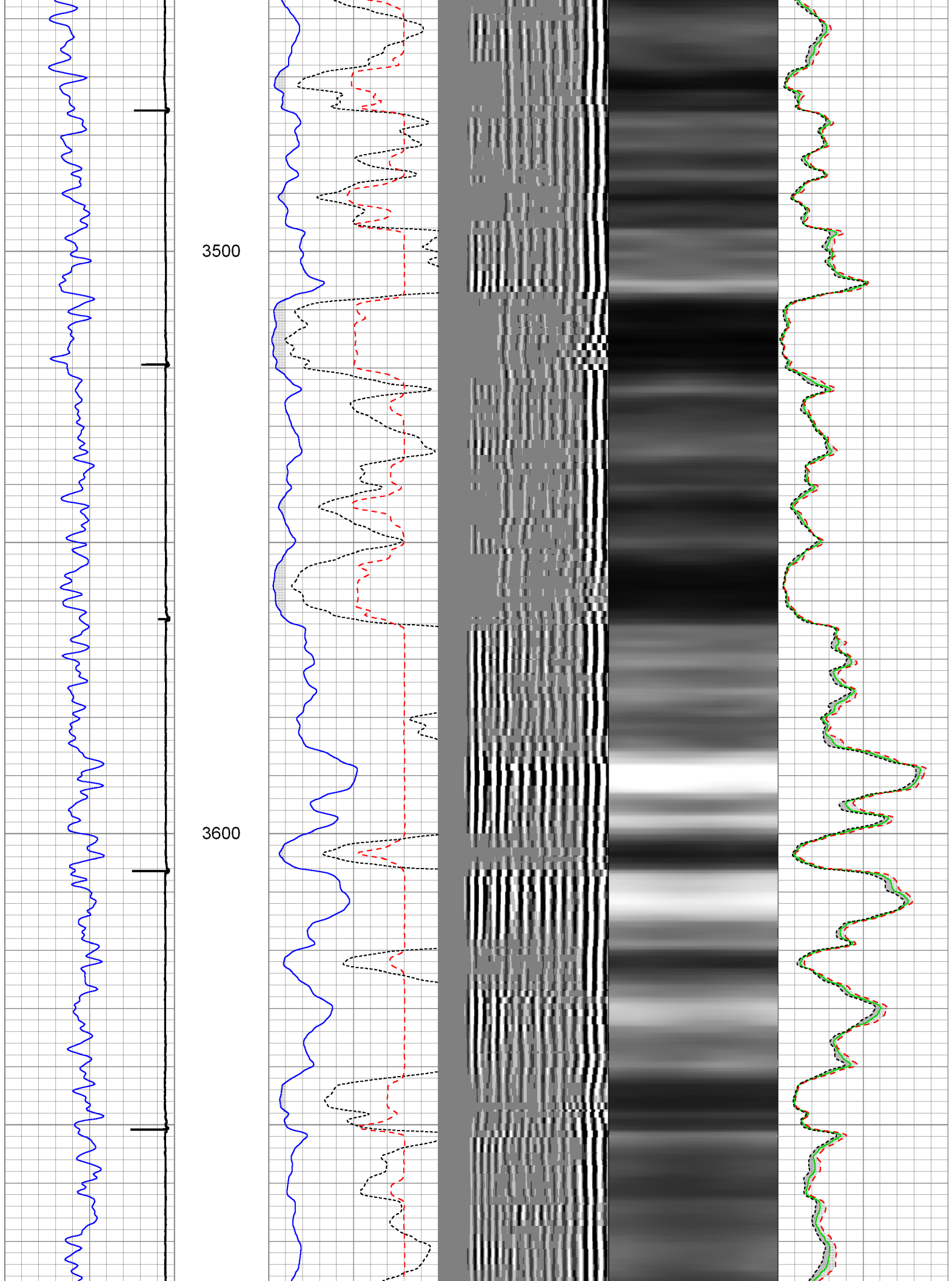


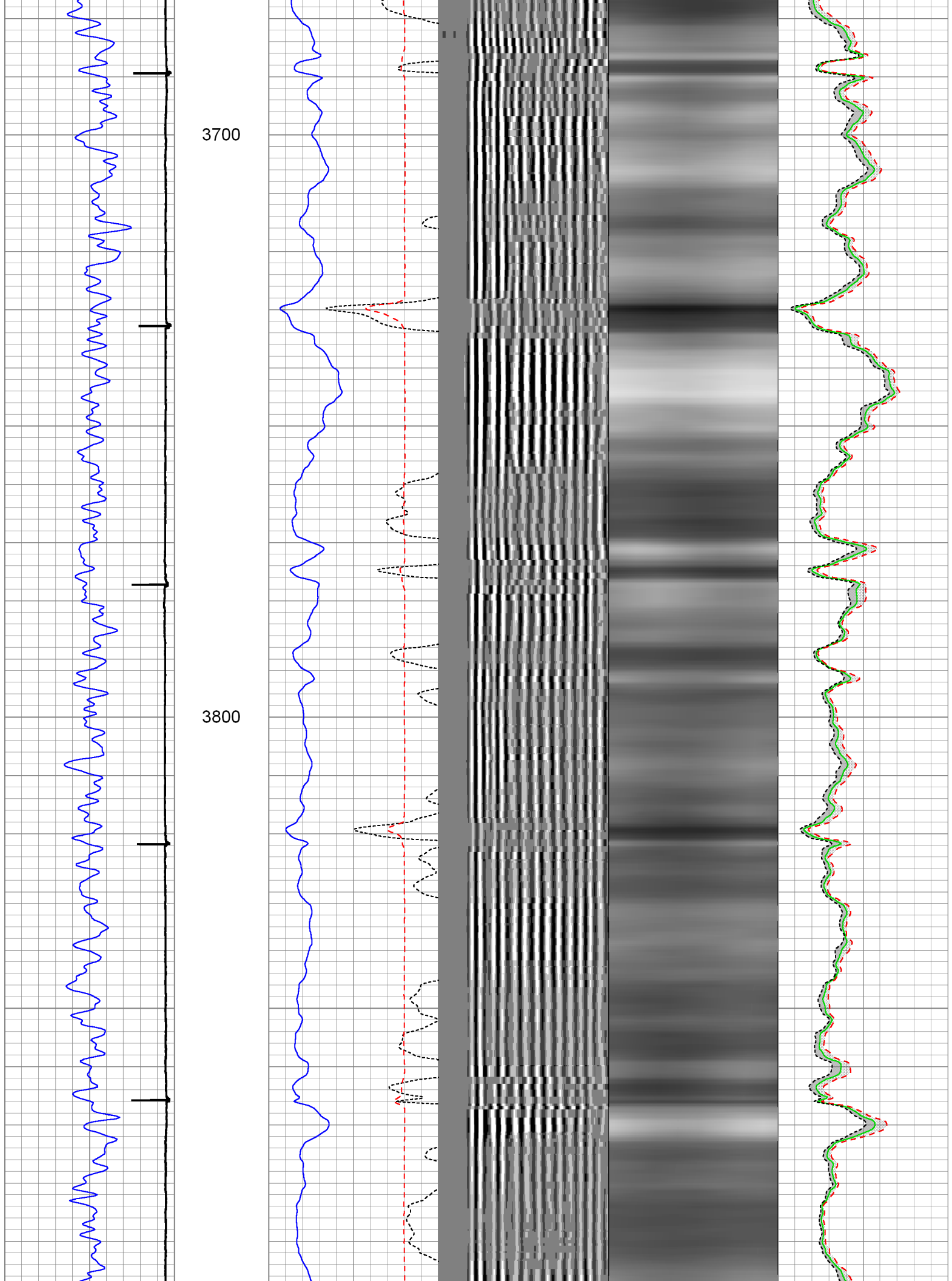
3100

3200





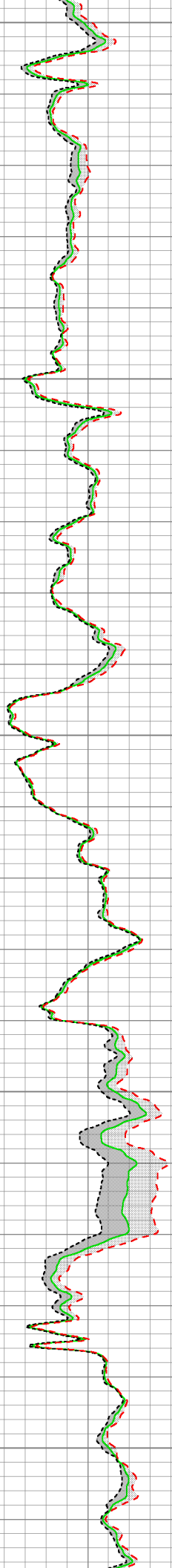
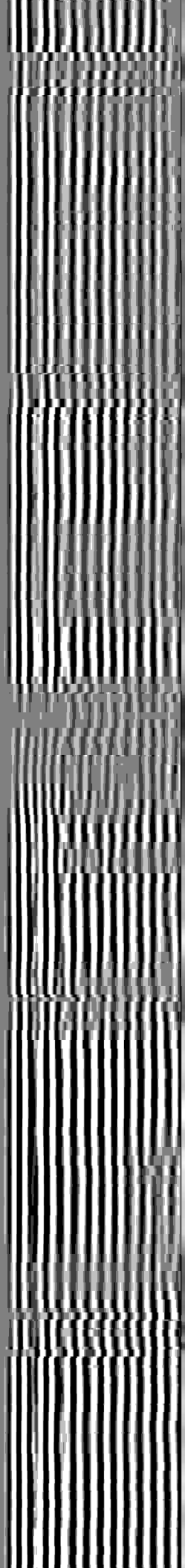
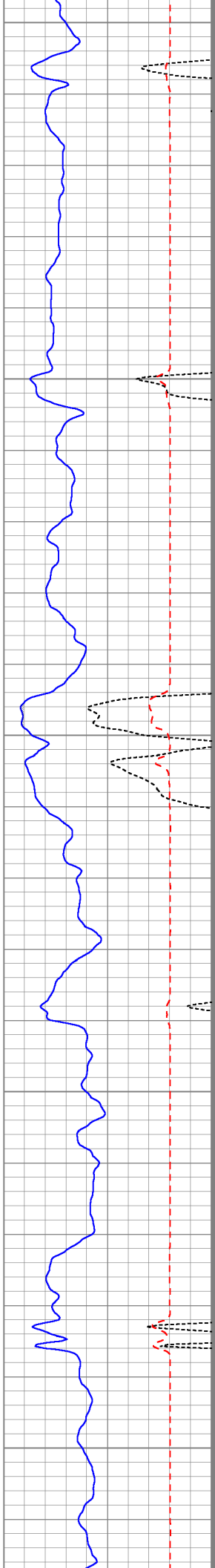
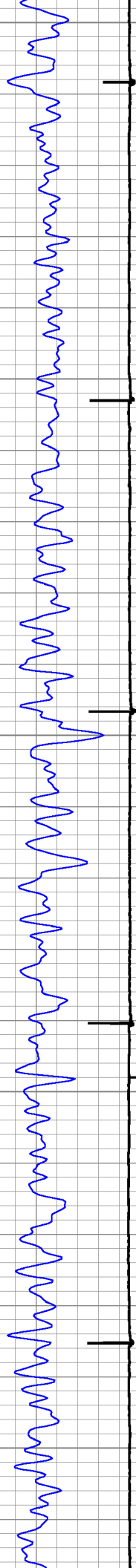


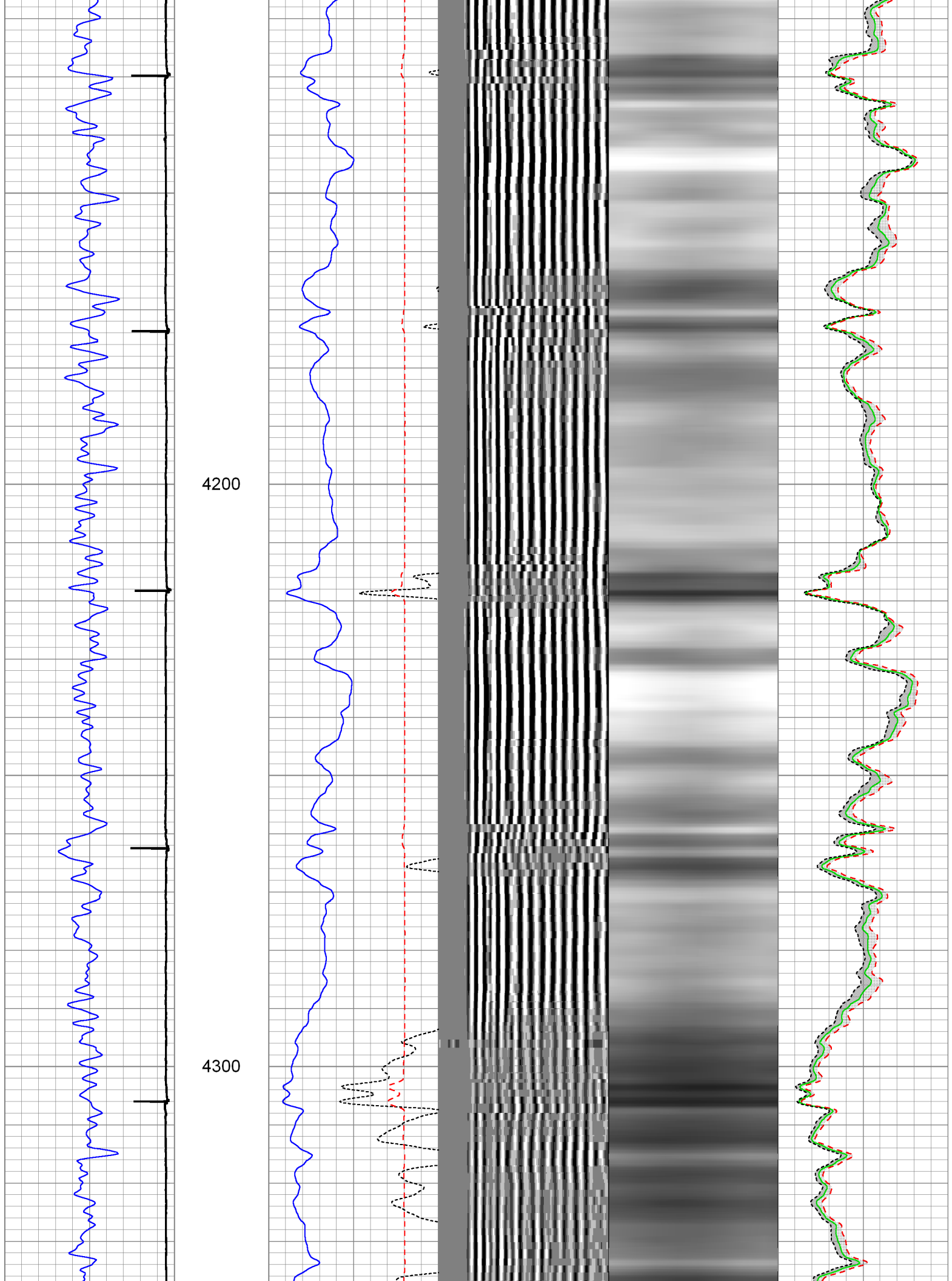


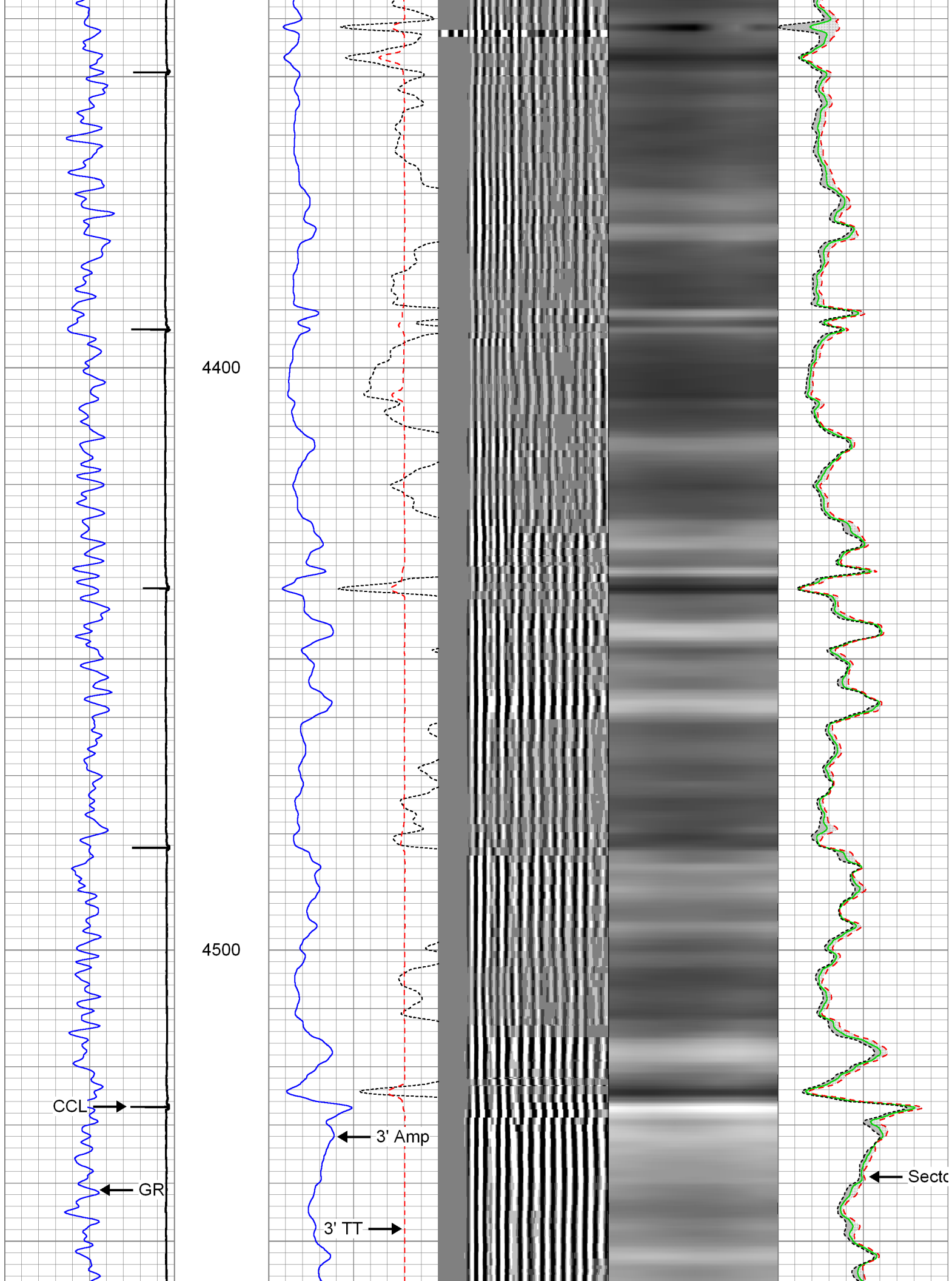
3900

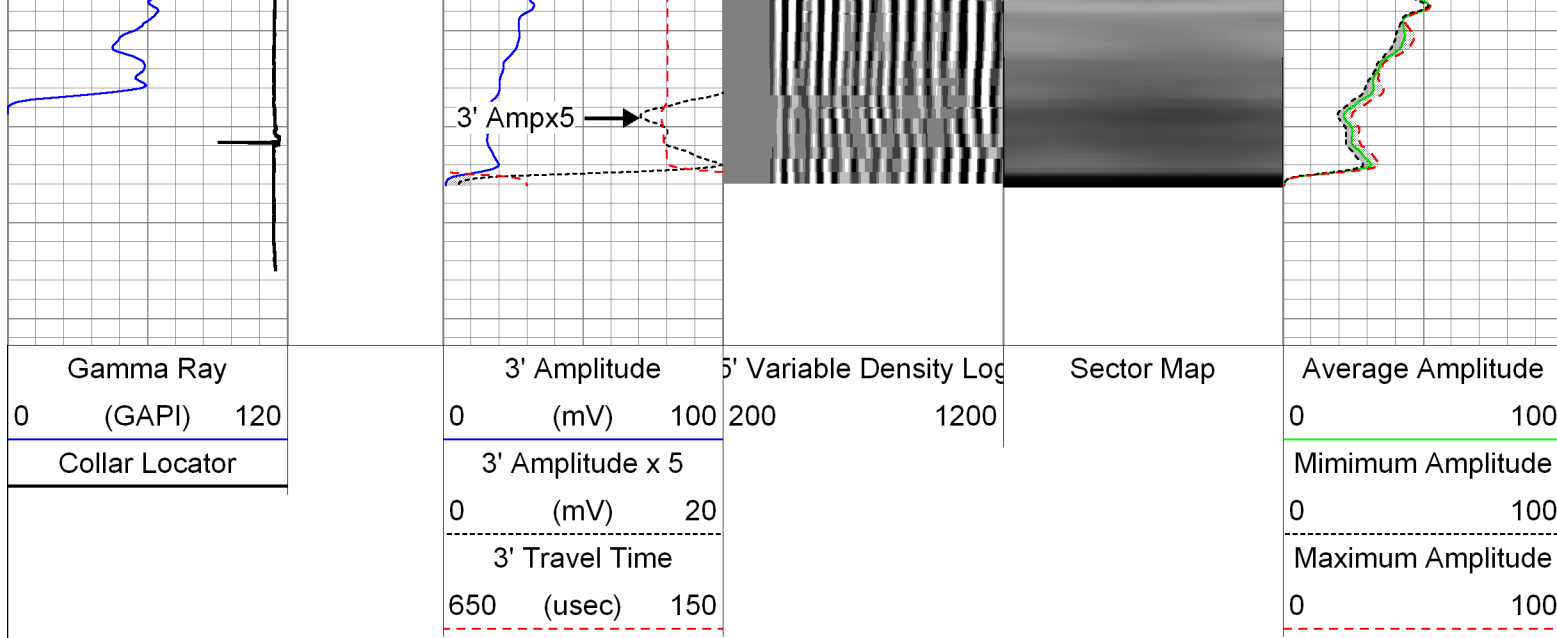
4000

4100



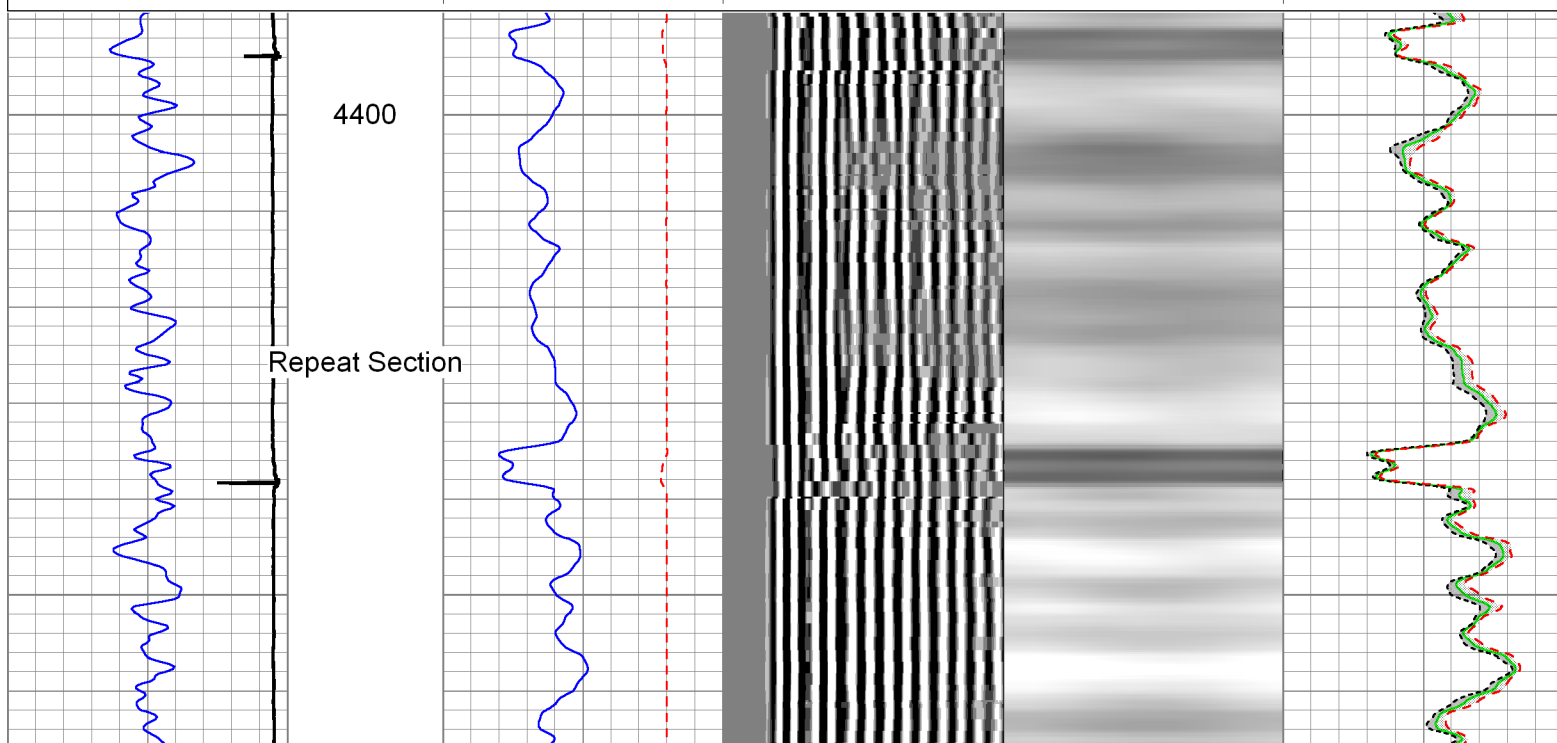
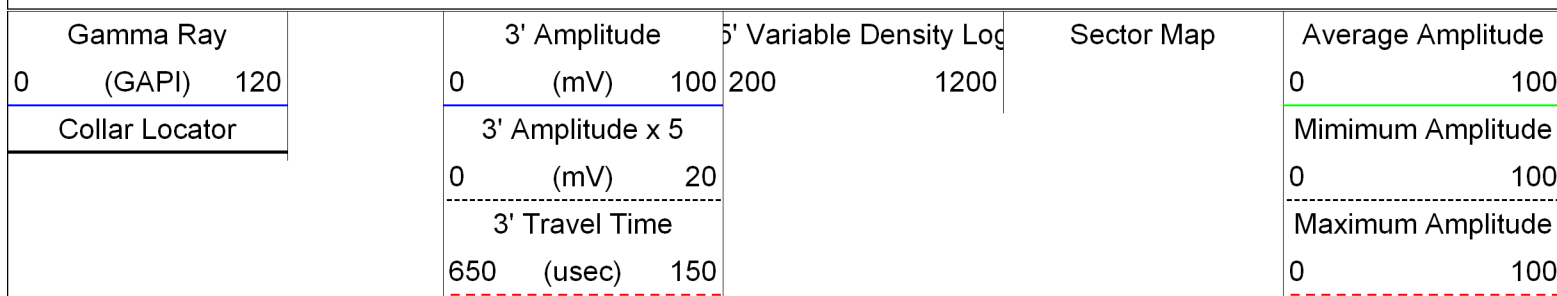


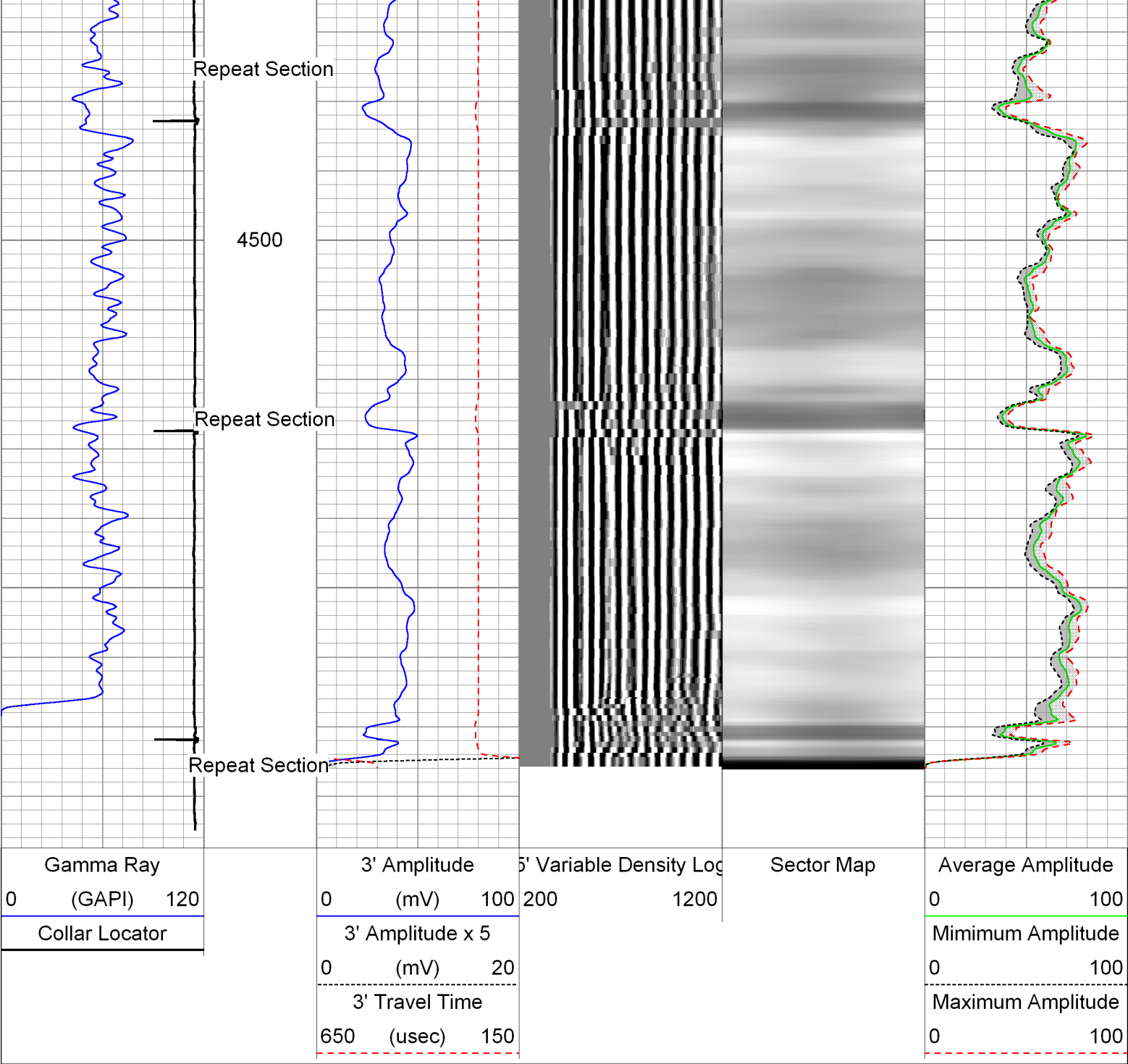




Repeat Section

Database File: 01-14-14_whiting_razor 21b-2811a_mit_rbl.db
 Dataset Pathname: pass4
 Presentation Format: rbt007
 Dataset Creation: Tue Jan 14 12:16:58 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	20.63		CHD-AES (000001) Cable Head	1.04	1.69	2.00
			XTU-001 (000001) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (000001) Production Gamma Ray	1.93	1.69	9.50
			PRC-034 (000005) Production Roller Centraliser (4 Arm)	2.91	1.69	13.00

WVF3FT	12.88		RBT-004 (1066) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS1	12.88					
WVFS2	12.88					
WVFS3	12.88					
WVFS4	12.88					
WVFS5	12.88					
WVFS6	12.88					
WVFS7	12.88					
WVFS8	12.88					
CBLTEMP	12.88					
CBLROT	12.88					
WVF5FT	11.88					
			PRC-034 (000006) Production Roller Centraliser (4 Arm)	2.91	1.69	13.00
MIT	2.64		MIT-027 (10012912) Multifinger Imaging Tool (UW 40F)	4.54	2.75	61.10
TSTAMP	0.00		BUL-001 (000001) Bullnose	0.30	1.69	1.50
Dataset: 01-14-14_whiting_razor 21b-2811a_mit_rbl.db: field/well/run1/pass6 Total Length: 24.67 ft Total Weight: 246.60 lb O.D. 3.13 in						

Calibration Report		
Database File:	01-14-14_whiting_razor 21b-2811a_mit_rbl.db	
Dataset Pathname:	pass6	
Dataset Creation:	Tue Jan 14 12:26:49 2014 by Log Sondex V7.03	
Multi-finger Imaging Tool Calibration Report		
Serial Number:	10012912	
Number of Fingers:	40	
Tool Model:	027	
Inclinometer Calibration Report		
Performed:	Mon, Oct, 06 14:03:04 2008	
Calibration Angle:	45	
Vertical:	Inc X 1006	Inc Y 1084

Vertical:		1996	1984
Finger 1 up:		1780	1738
Finger 31 up:		2235	1756
Finger 21 up:		2216	2228
Finger 11 up:		1736	2196
Sensitivity ratio:	1.0062		
X-axis angle:	131.534		
Deviation const.:	331.322		

Finger Calibration Report

Performed: Tue Jan 14 11:37:10 2014

Ring size: (in)	4		5		6		7
		Sens		Sens		Sens	
Finger 01:	1238	362.0	1600	385.0	1985	393.0	2378
Finger 02:	1219	363.0	1582	391.0	1973	401.0	2374
Finger 03:	1177	379.0	1556	409.0	1965	418.0	2383
Finger 04:	1189	360.0	1549	396.0	1945	414.0	2359
Finger 05:	1189	370.0	1559	398.0	1957	410.0	2367
Finger 06:	1218	369.0	1587	397.0	1984	408.0	2392
Finger 07:	1177	371.0	1548	405.0	1953	413.0	2366
Finger 08:	1206	359.0	1565	395.0	1960	411.0	2371
Finger 09:	1191	365.0	1556	394.0	1950	413.0	2363
Finger 10:	1195	359.0	1554	392.0	1946	408.0	2354
Finger 11:	1198	360.0	1558	387.0	1945	403.0	2348
Finger 12:	1188	356.0	1544	390.0	1934	413.0	2347
Finger 13:	1190	357.0	1547	385.0	1932	395.0	2327
Finger 14:	1185	359.0	1544	391.0	1935	409.0	2344
Finger 15:	1135	366.0	1501	408.0	1909	424.0	2333
Finger 16:	1133	365.0	1498	405.0	1903	426.0	2329
Finger 17:	1132	360.0	1492	402.0	1894	431.0	2325
Finger 18:	1190	349.0	1539	384.0	1923	405.0	2328
Finger 19:	1150	352.0	1502	389.0	1891	417.0	2308
Finger 20:	1144	357.0	1501	397.0	1898	423.0	2321
Finger 21:	1143	361.0	1504	396.0	1900	409.0	2309
Finger 22:	1123	357.0	1480	394.0	1874	421.0	2295
Finger 23:	1082	360.0	1442	406.0	1848	437.0	2285
Finger 24:	1156	352.0	1508	383.0	1891	395.0	2286
Finger 25:	1103	361.0	1464	401.0	1865	429.0	2294
Finger 26:	1219	344.0	1563	367.0	1930	387.0	2317
Finger 27:	1155	359.0	1514	389.0	1903	414.0	2317
Finger 28:	1188	350.0	1538	380.0	1918	400.0	2318
Finger 29:	1139	359.0	1498	400.0	1898	418.0	2316
Finger 30:	1176	360.0	1536	393.0	1929	413.0	2342
Finger 31:	1183	355.0	1538	386.0	1924	403.0	2327
Finger 32:	1170	364.0	1534	402.0	1936	418.0	2354
Finger 33:	1256	356.0	1612	373.0	1985	381.0	2366
Finger 34:	1235	337.0	1572	387.0	1959	400.0	2359
Finger 35:	1172	381.0	1553	412.0	1965	422.0	2387
Finger 36:	1187	368.0	1555	396.0	1951	415.0	2366
Finger 37:	1209	364.0	1573	390.0	1963	404.0	2367
Finger 38:	1245	360.0	1605	382.0	1987	386.0	2373
Finger 39:	1260	357.0	1617	381.0	1998	388.0	2386
Finger 40:	1206	369.0	1575	399.0	1974	399.0	2373

Segmented Cement Bond Log Calibration Report

Serial Number:	1066
Tool Model:	004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	1060.765 ft

Master Calibration, performed Tue Jan 14 11:56:34 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.004	0.750	0.800	62.165	81.399	1.095
5FT	-0.007	0.635	0.800	62.165	95.604	1.500
S1	-0.003	0.723	0.000	100.000	137.741	0.425
S2	-0.005	0.759	0.000	100.000	130.836	0.639
S3	-0.004	0.776	0.000	100.000	128.130	0.515
S4	-0.005	0.774	0.000	100.000	128.410	0.632
S5	-0.004	0.750	0.000	100.000	132.673	0.481
S6	-0.004	0.734	0.000	100.000	135.452	0.565
S7	-0.004	0.732	0.000	100.000	135.967	0.498
S8	-0.003	0.718	0.000	100.000	138.657	0.471

Gamma Ray Calibration Report			
Serial Number:	000001		
Tool Model:	020		
Performed:	Sun Jun 13 13:33:21 1993		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	1.0000	GAPI/cps	

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	Well	Razor 21B-2811A
	Field	Wildcat
	County	Weld
	State	Colorado