



Radial Cement Bond Log Gamma Ray Casing Collar Log

Company				Whiting Oil & Gas Corporation			
Well				Razor 26K-2306B			
Field				Wildcat			
County				Weld			
State				Colorado			
Location:				API # : 05-123-37878			
Permanent Datum				SHL: 2373' FSL 1948' FWL			
Log Measured From				Lat/Long: 40.808886/-103.834644			
Drilling Measured From				SEC 26 TWP 10N RGE 58W			
Ground Level				Elevation 4738'			
Kelly Bushing				21 FT			
Kelly Bushing				K.B. 4759'			
				D.F. 4758'			
				G.L. 4738'			
Date				26-APRIL-2014			
Run Number				Three			
Depth Driller				13220 FT			
Depth Logger				4900 FT			
Bottom Logged Interval				4900 FT			
Top Log Interval				Surface			
Open Hole Size				8.750"			
Type Fluid				Water			
Density / Viscosity				8.34 lbm/gal			
Max. Recorded Temp.				179°F			
Estimated Cement Top				108 FT			
Time Well Ready				ROA			
Time Logger on Bottom				---			
Equipment Number				HD-311			
Location				Fort Lupton, CO			
Recorded By				Wayne Wacker			
Witnessed By				Tom Flynn			
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				4985 FT			
				13200 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

Log ran as per Customer request.
All wireline depths measured from KB at 21 FT.
Depth reference to Casing Tally reported Liner Top 4985 FT.
Adjusted log + 11 FT from KB zero to correlate with Liner Top.
Gauge Ring / Basket run to 4985 FT.
Retrievable Bridge Plug set at 4928 FT.
Log ran from just above RBP to surface.
Log ran with 1500 PSI surface induced pressure.

Thank you for choosing FMC Technologies Completion Services, Inc.



Main Pass

Logged With 1500 PSI At Surface

Database File:04-26-14_whiting_razor 26k-2306b_mit_rbl.db

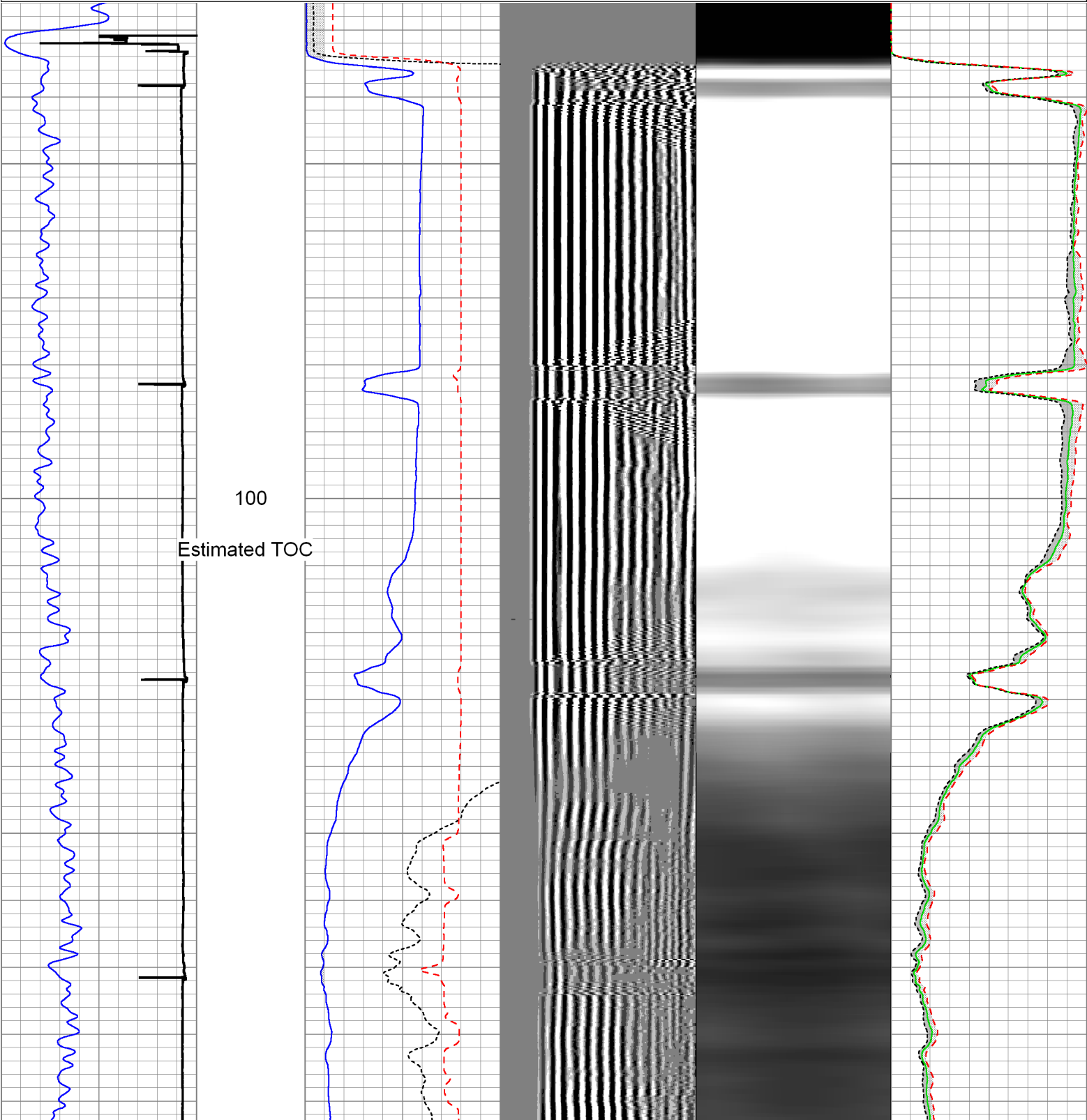
Dataset Pathname:main

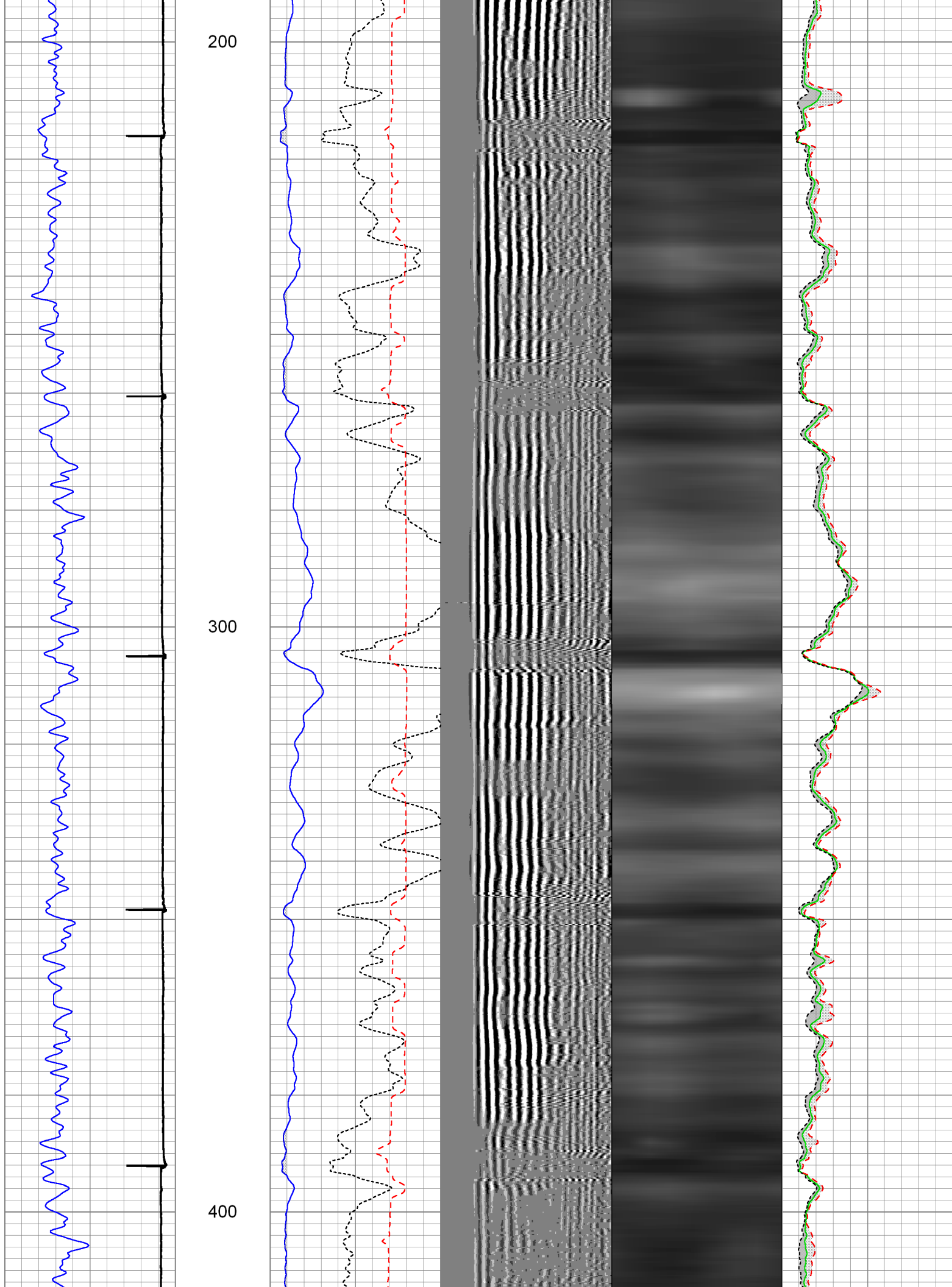
Presentation Format:rbt007

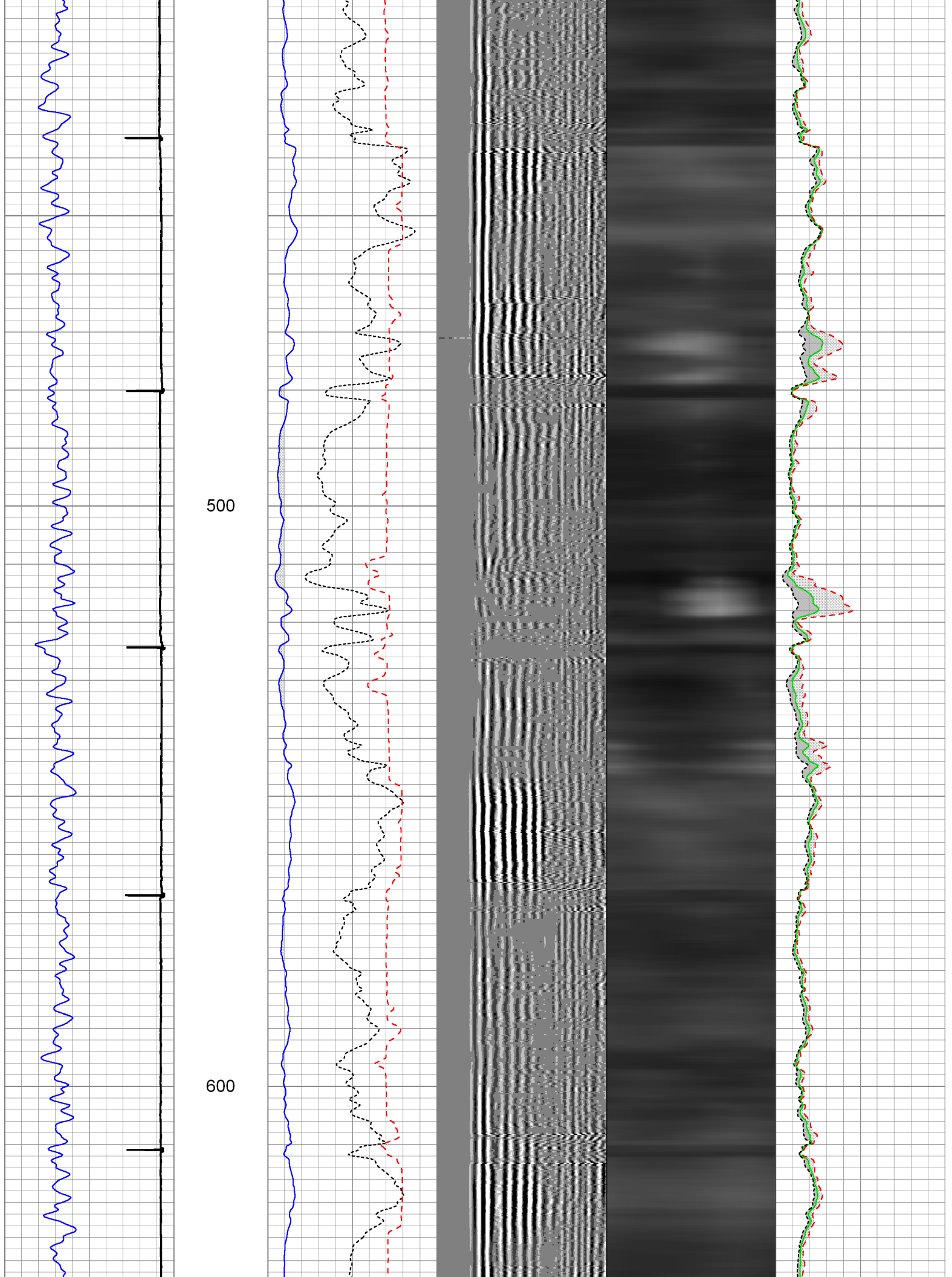
Dataset Creation:Sat Apr 26 09:31:21 2014 by Log Sondex V7.03

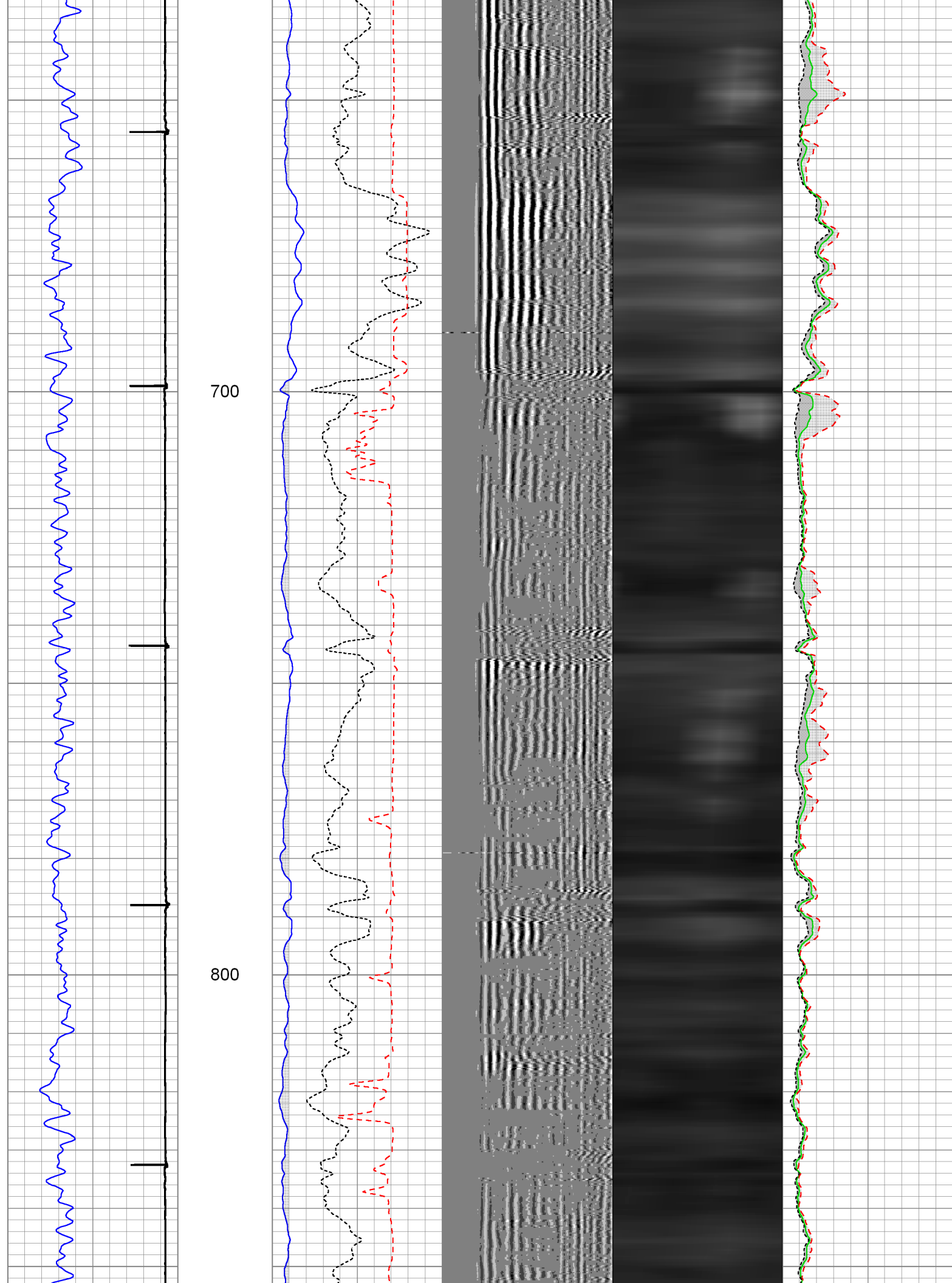
Charted by:Depth in Feet scaled 1:240

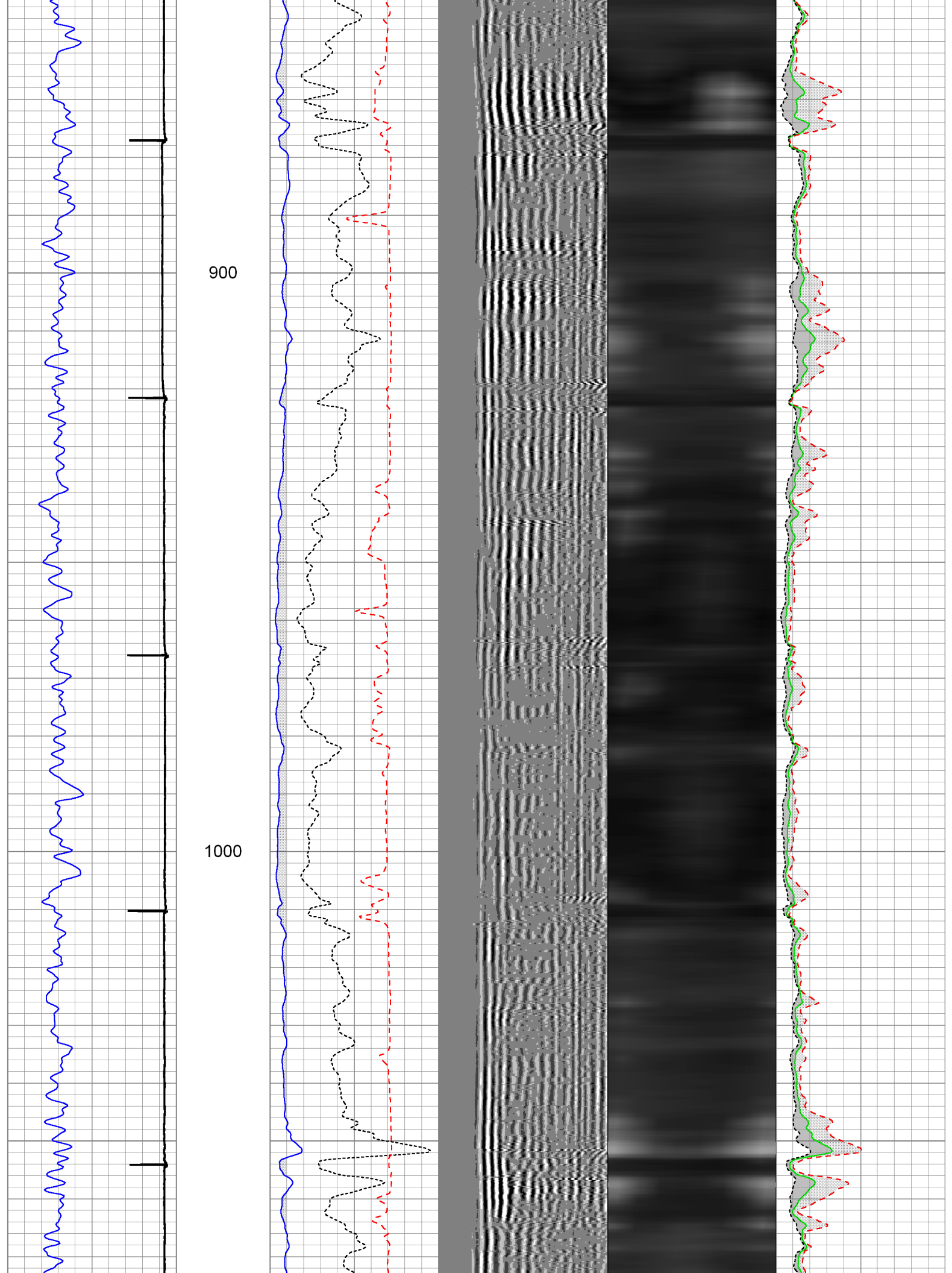
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Collar Locator	3' Amplitude x 5			Mimimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100

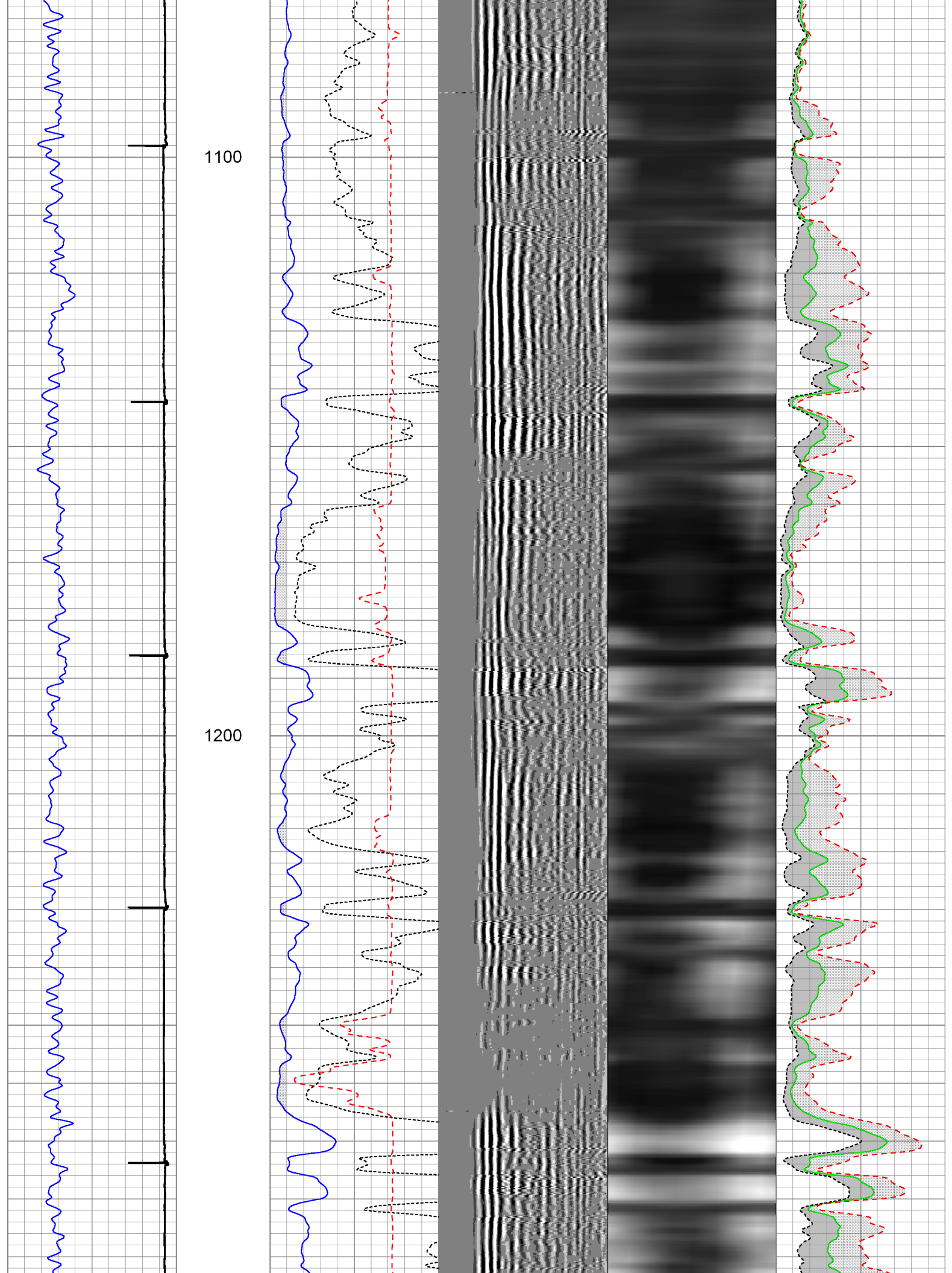


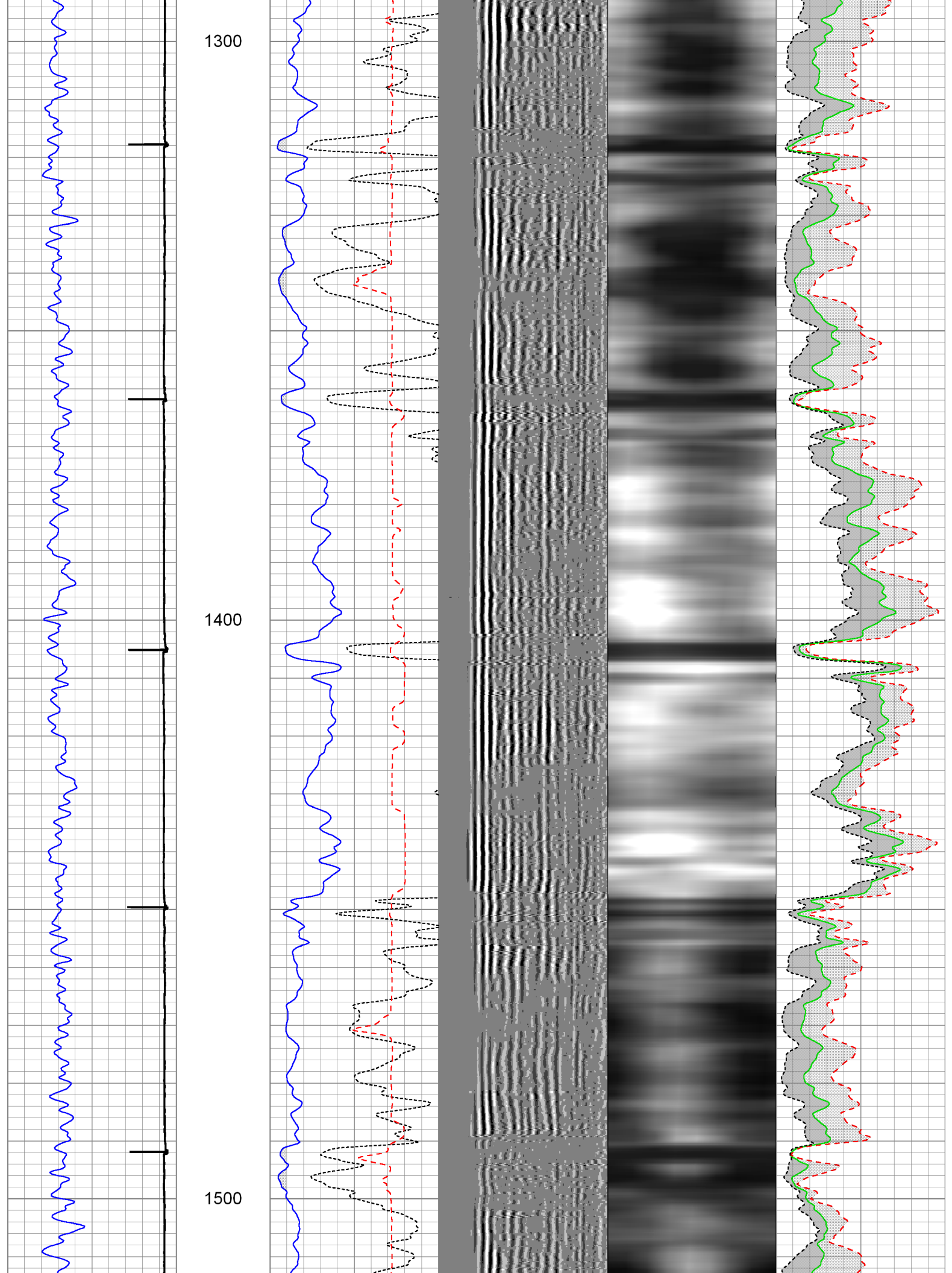


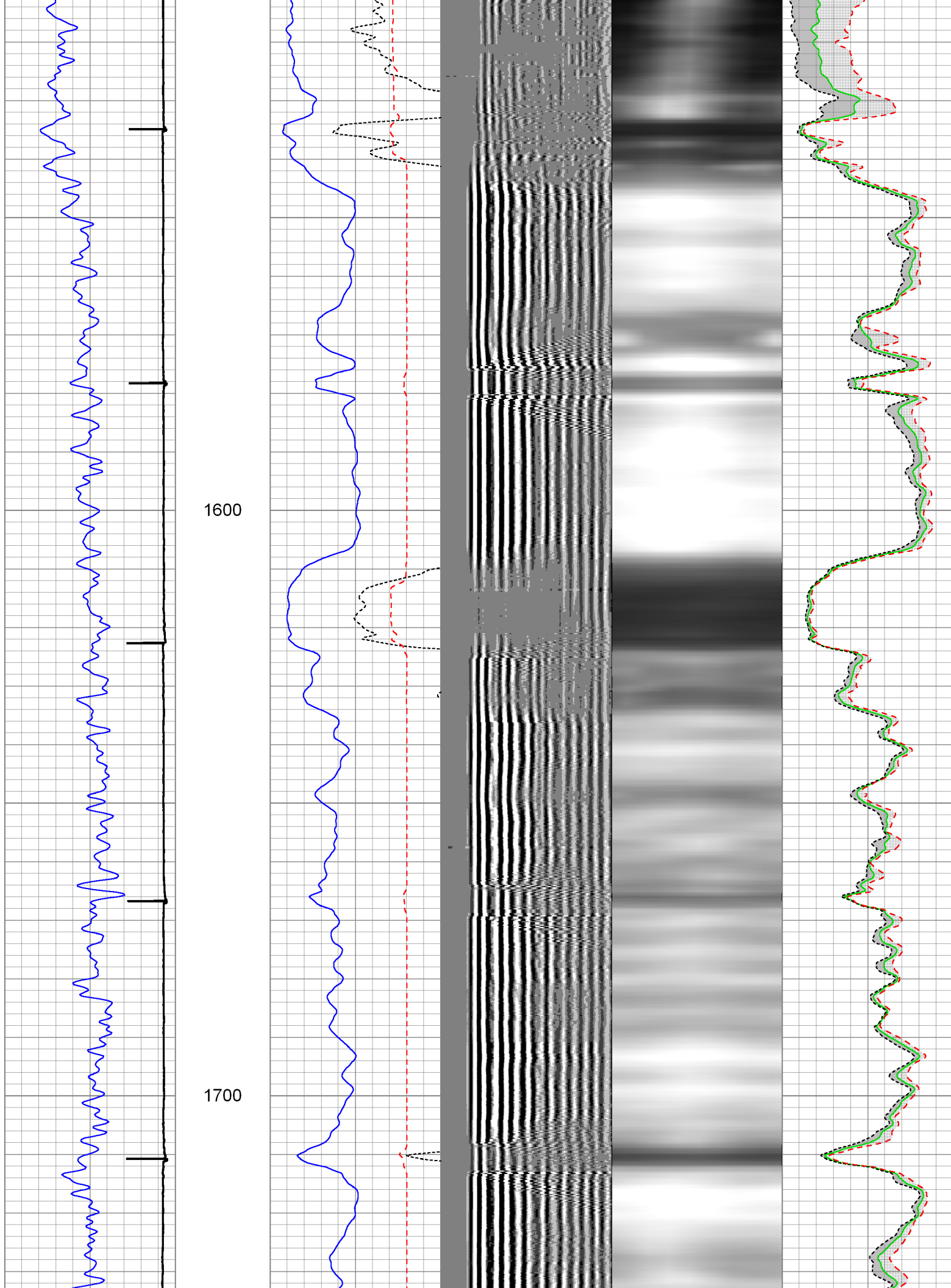


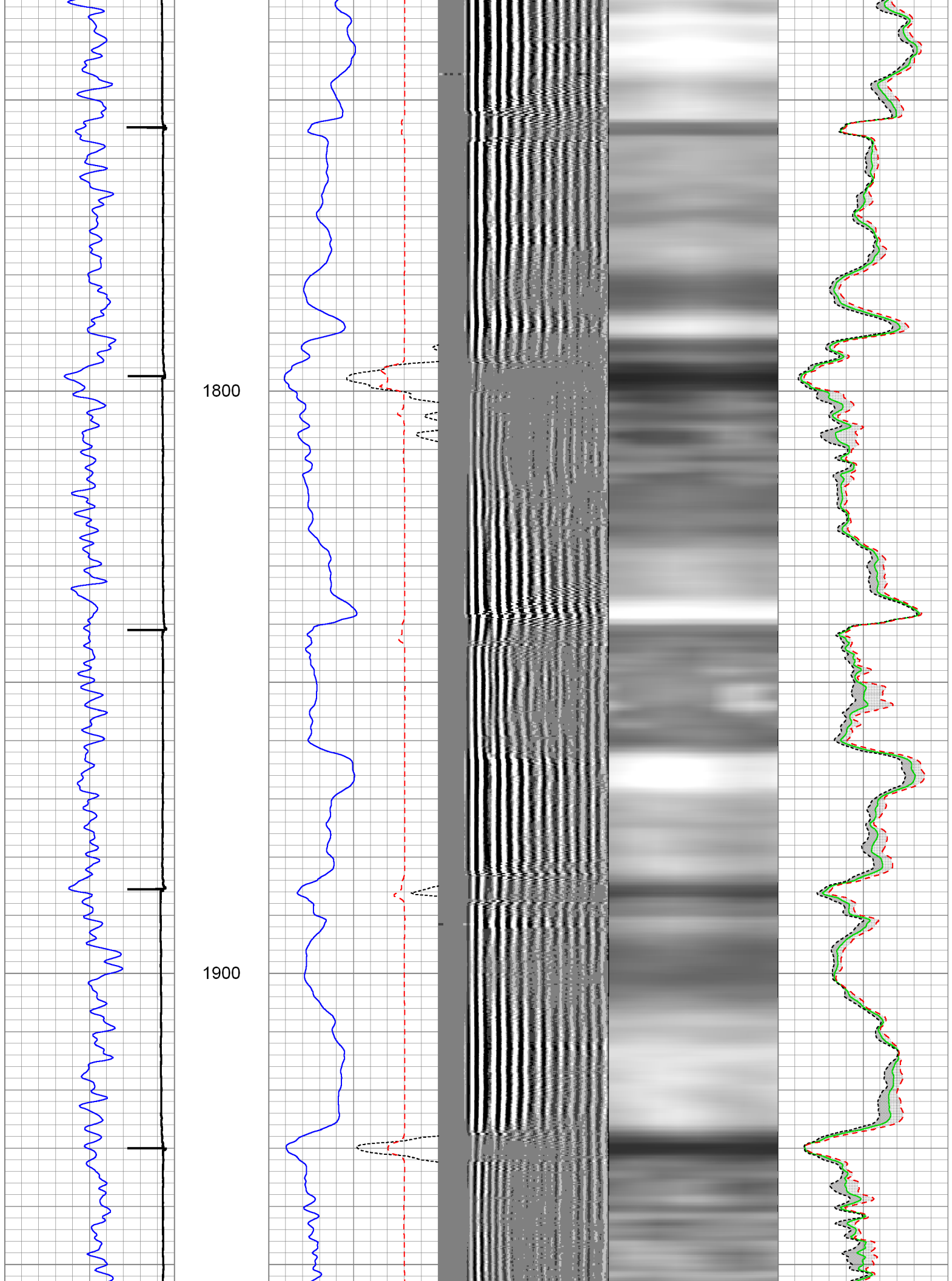


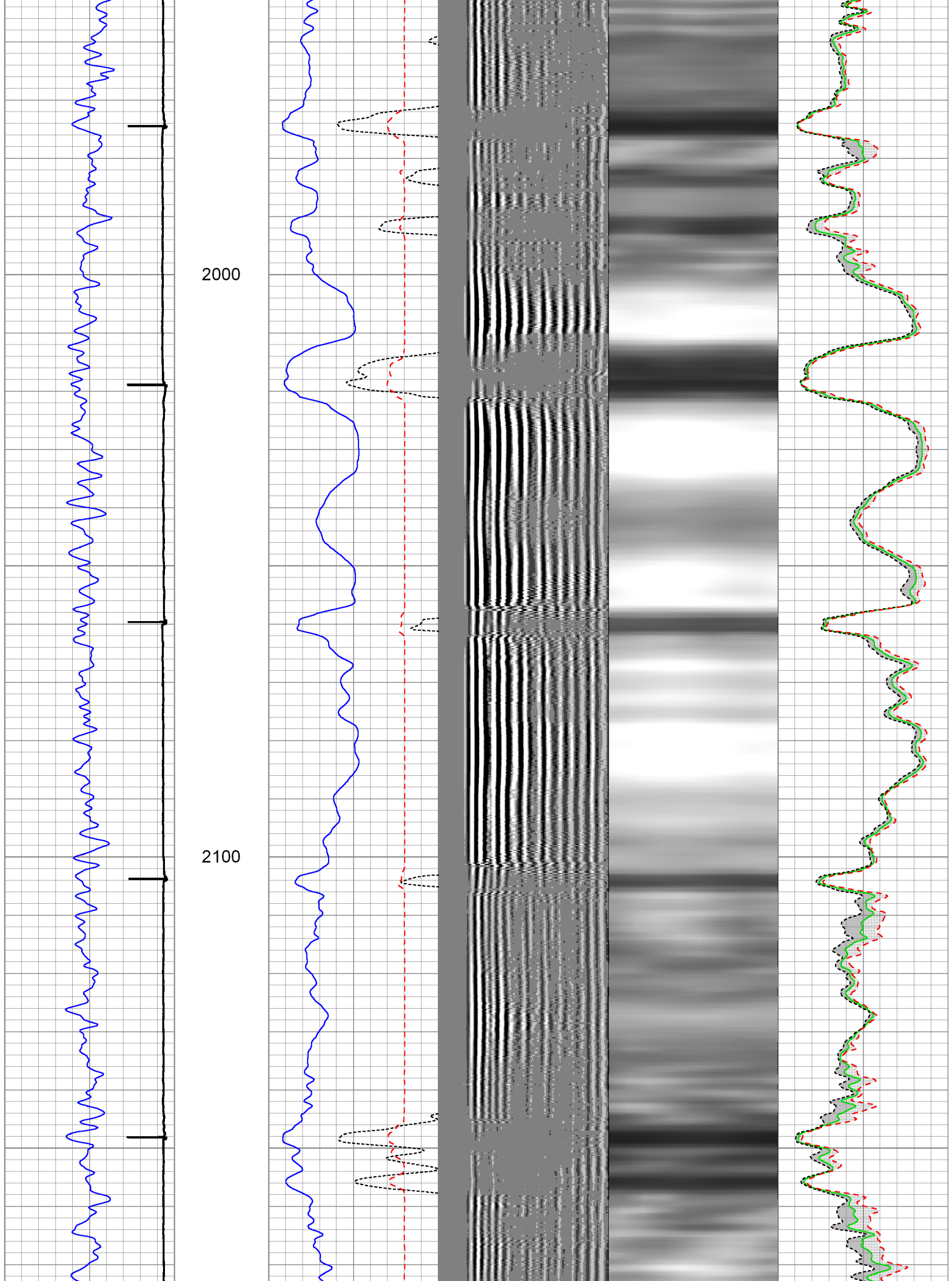






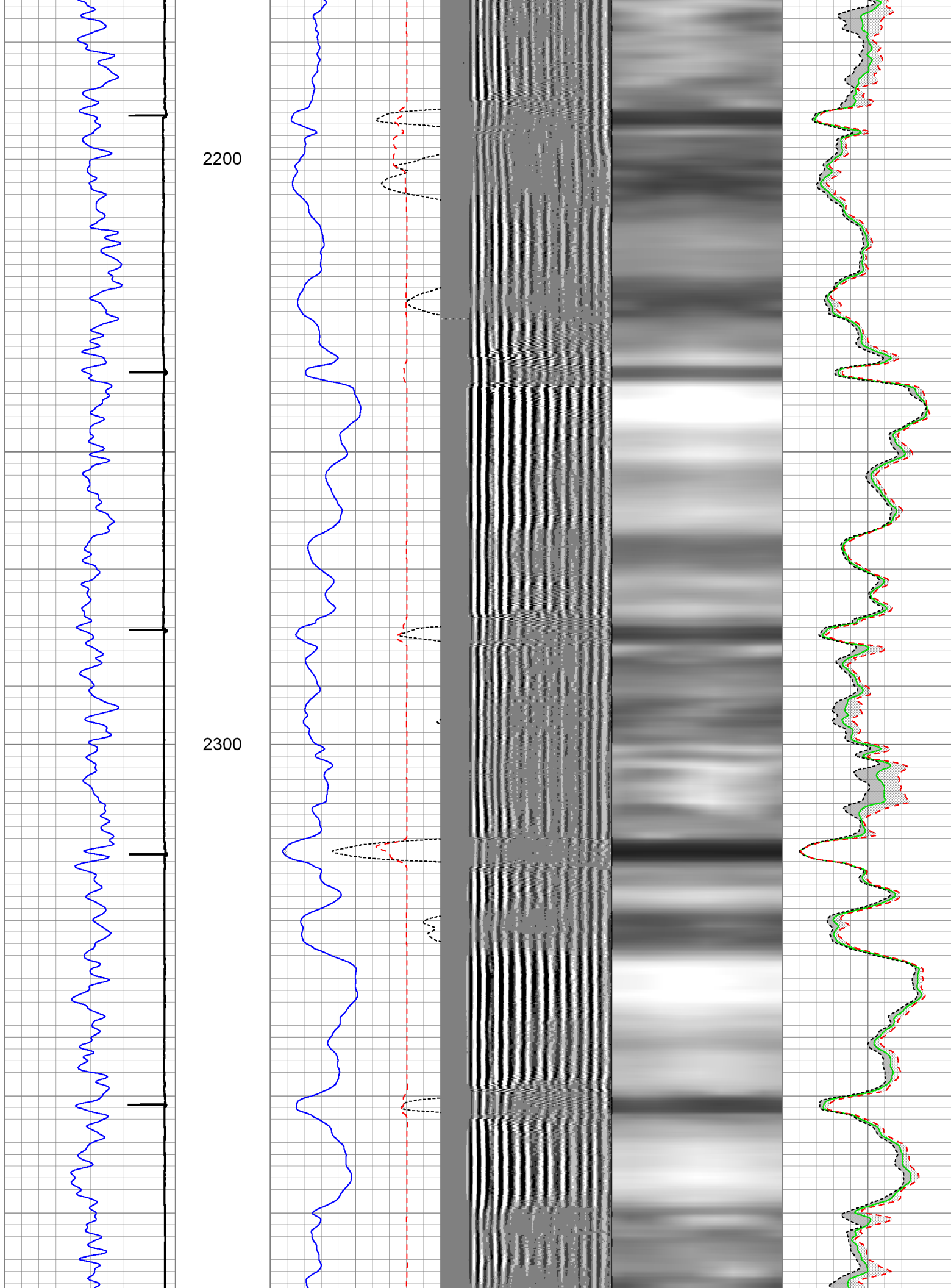






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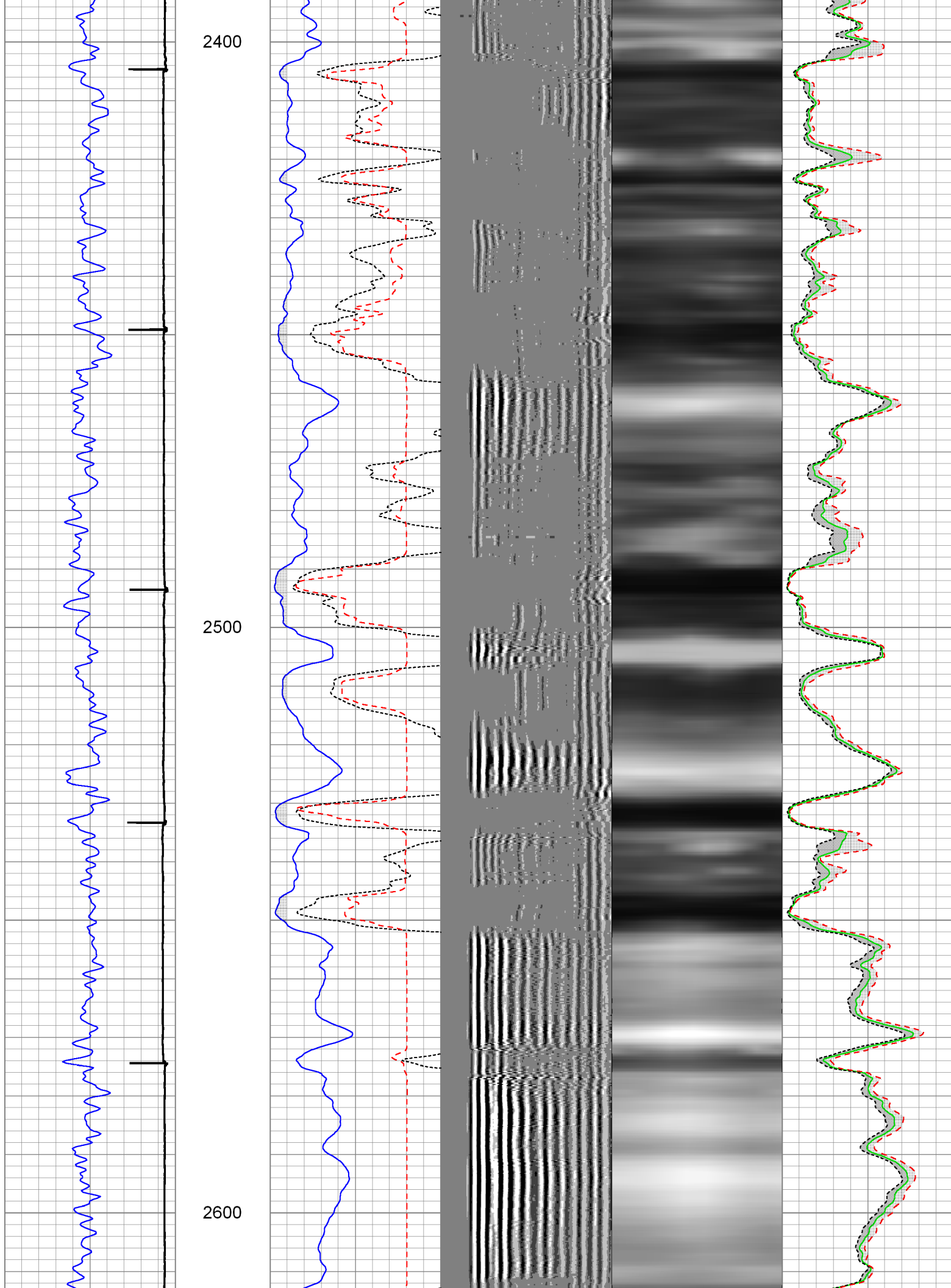
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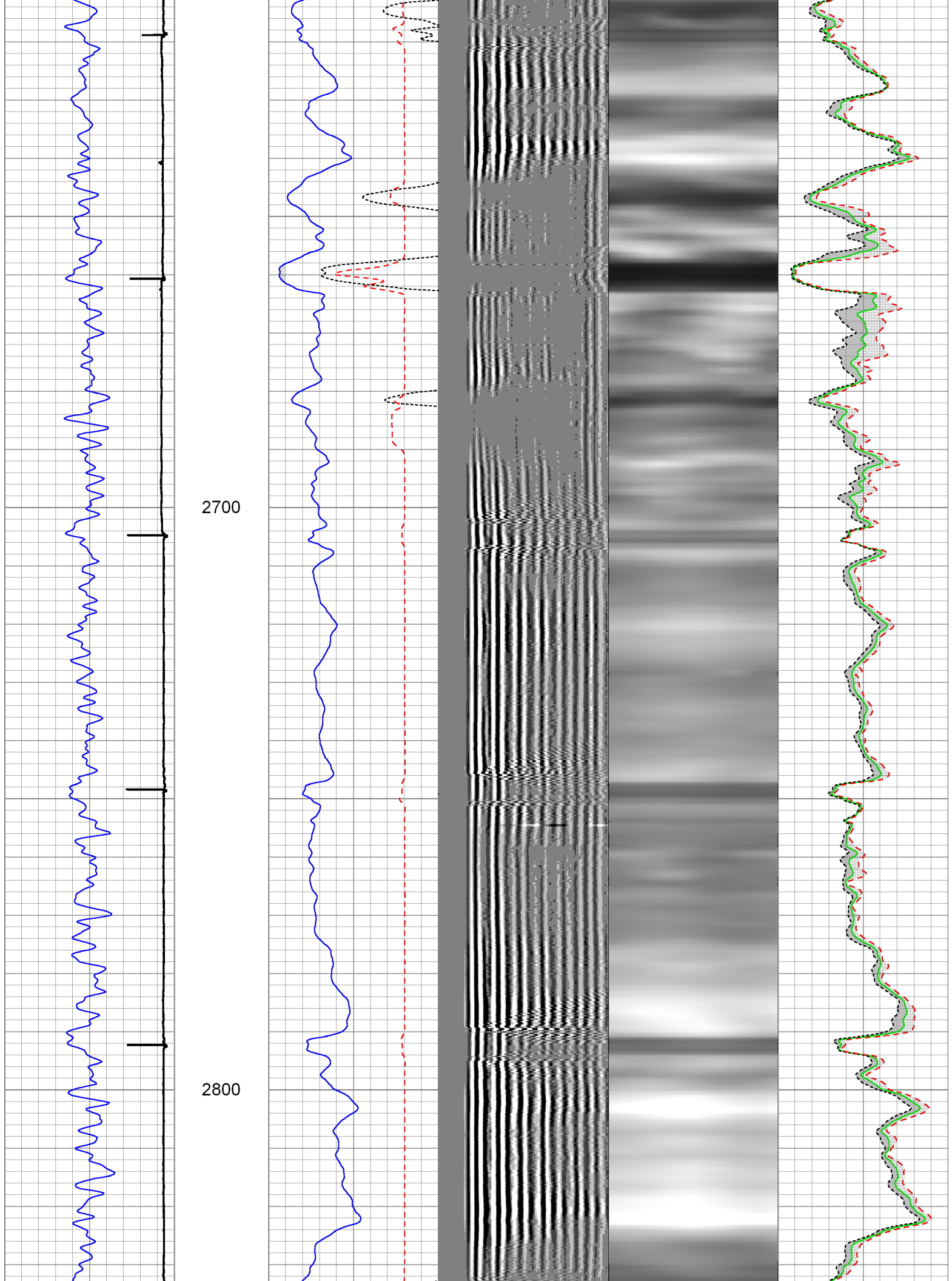


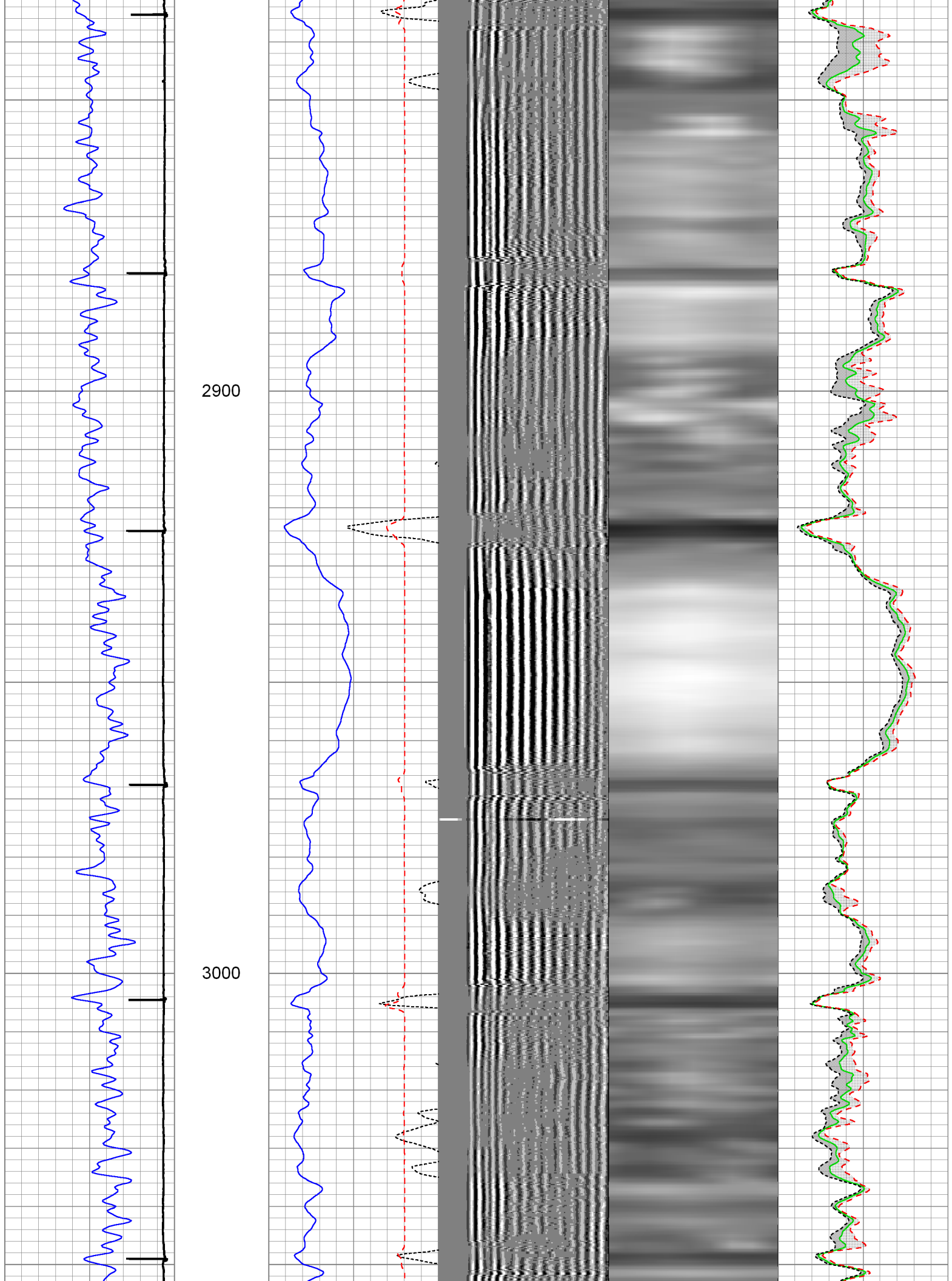
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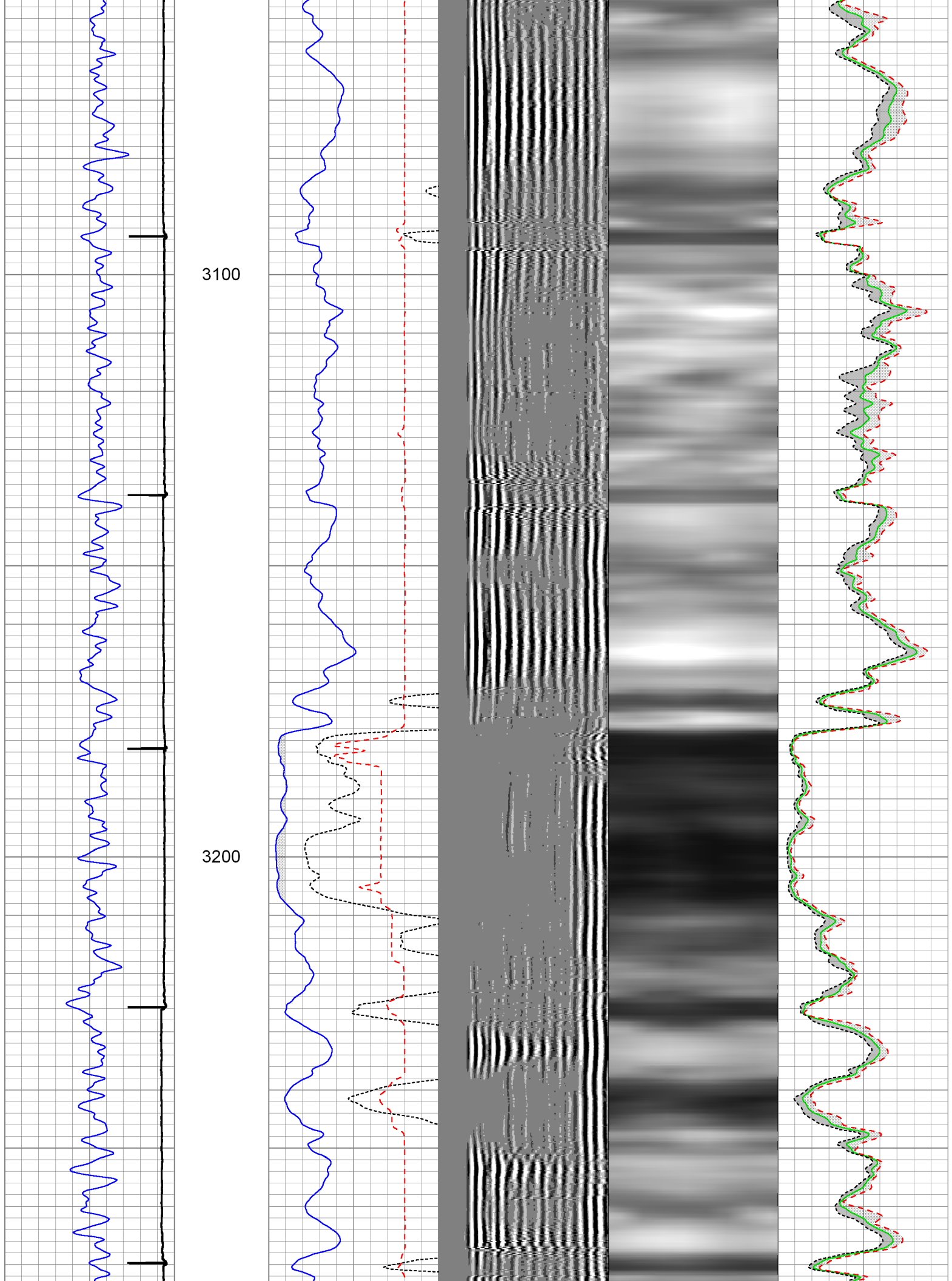
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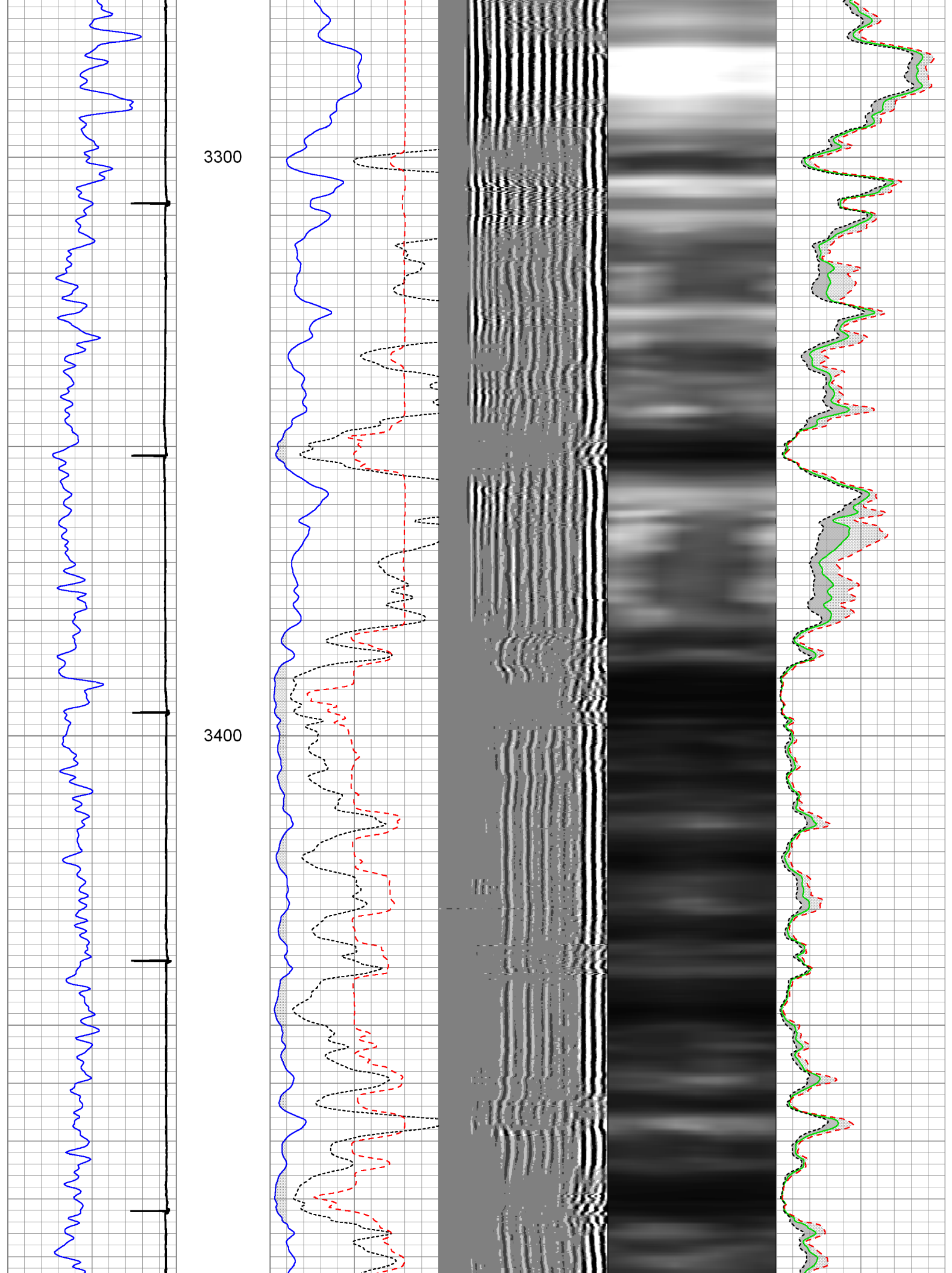
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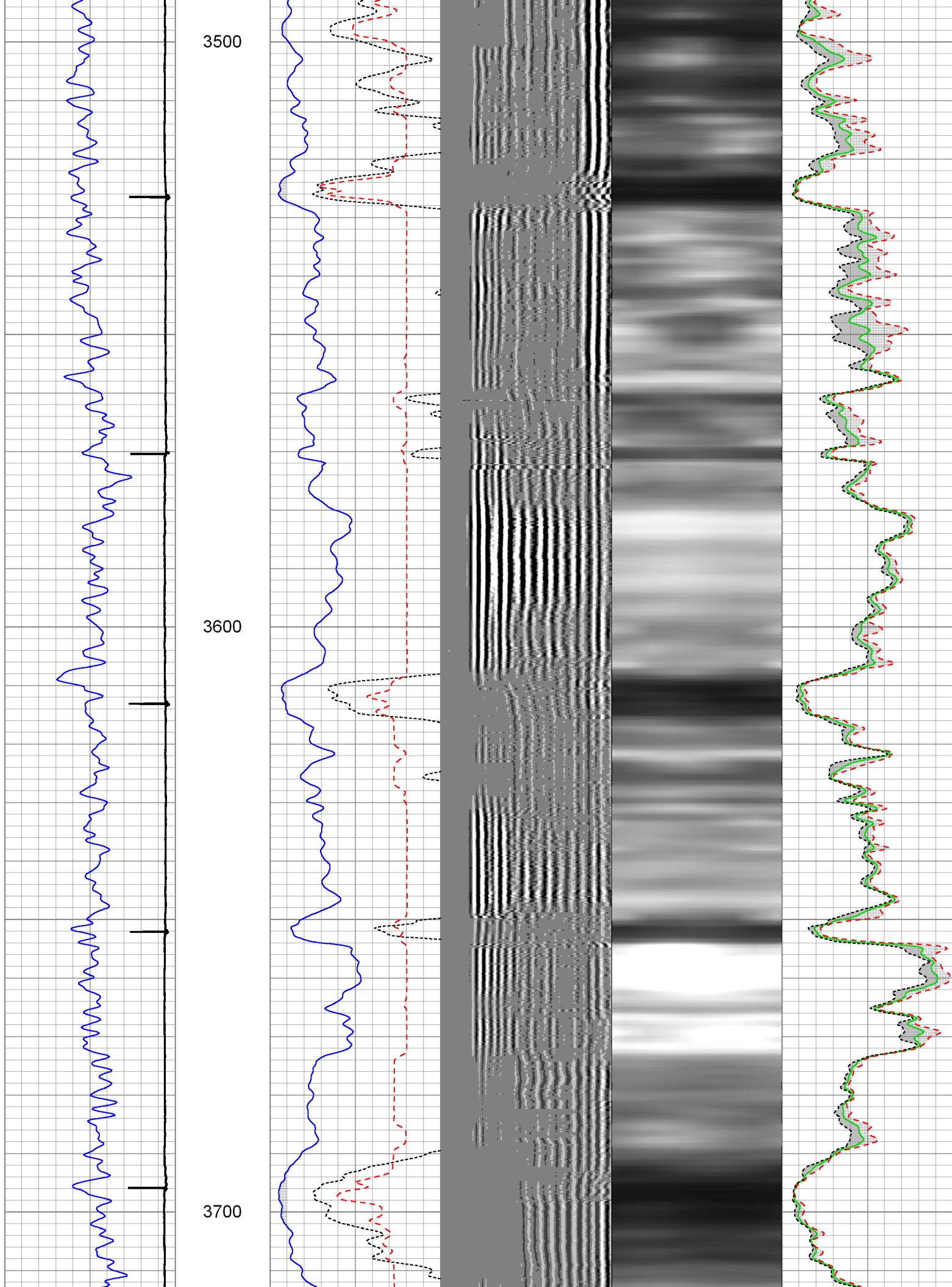


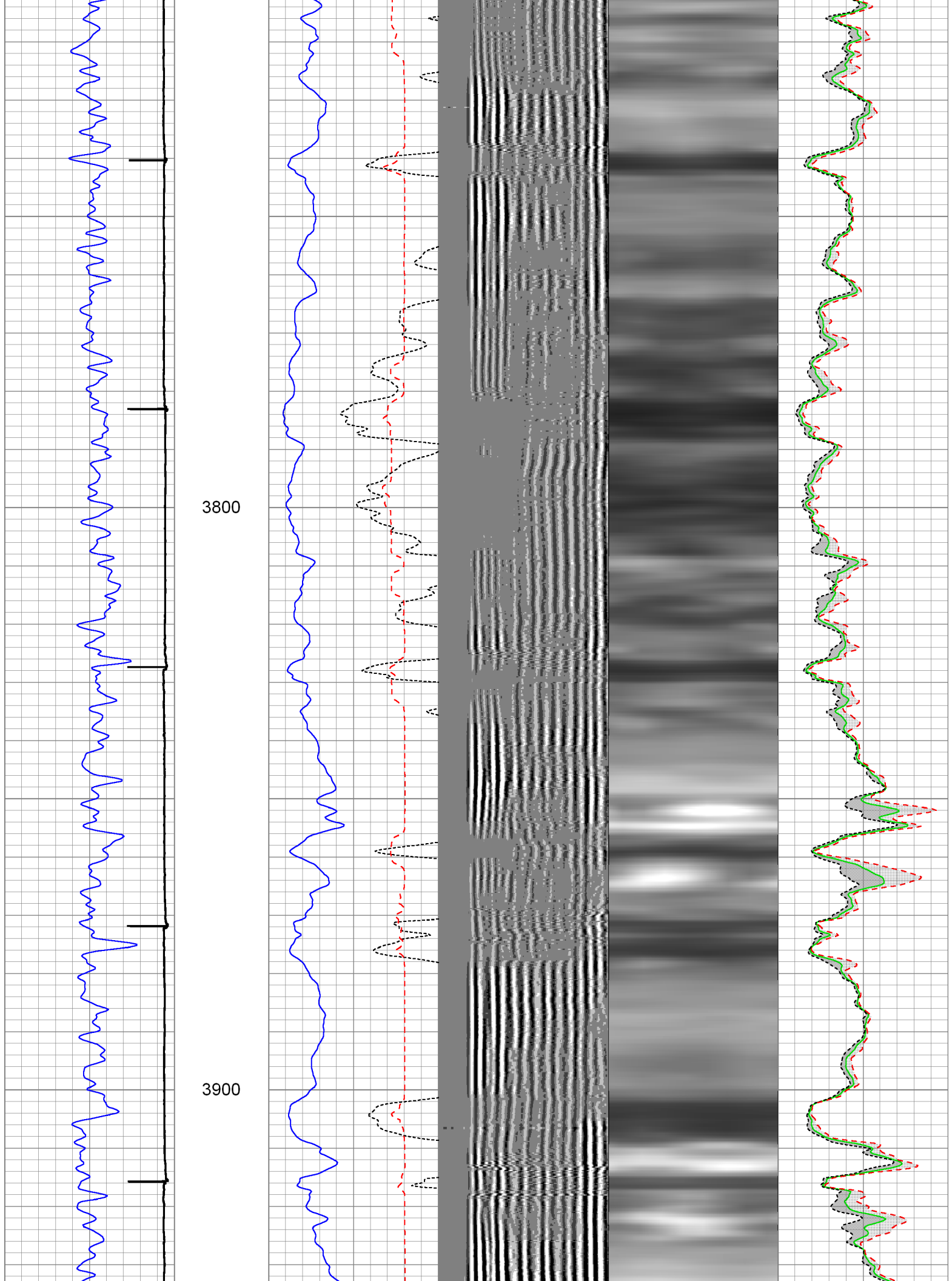


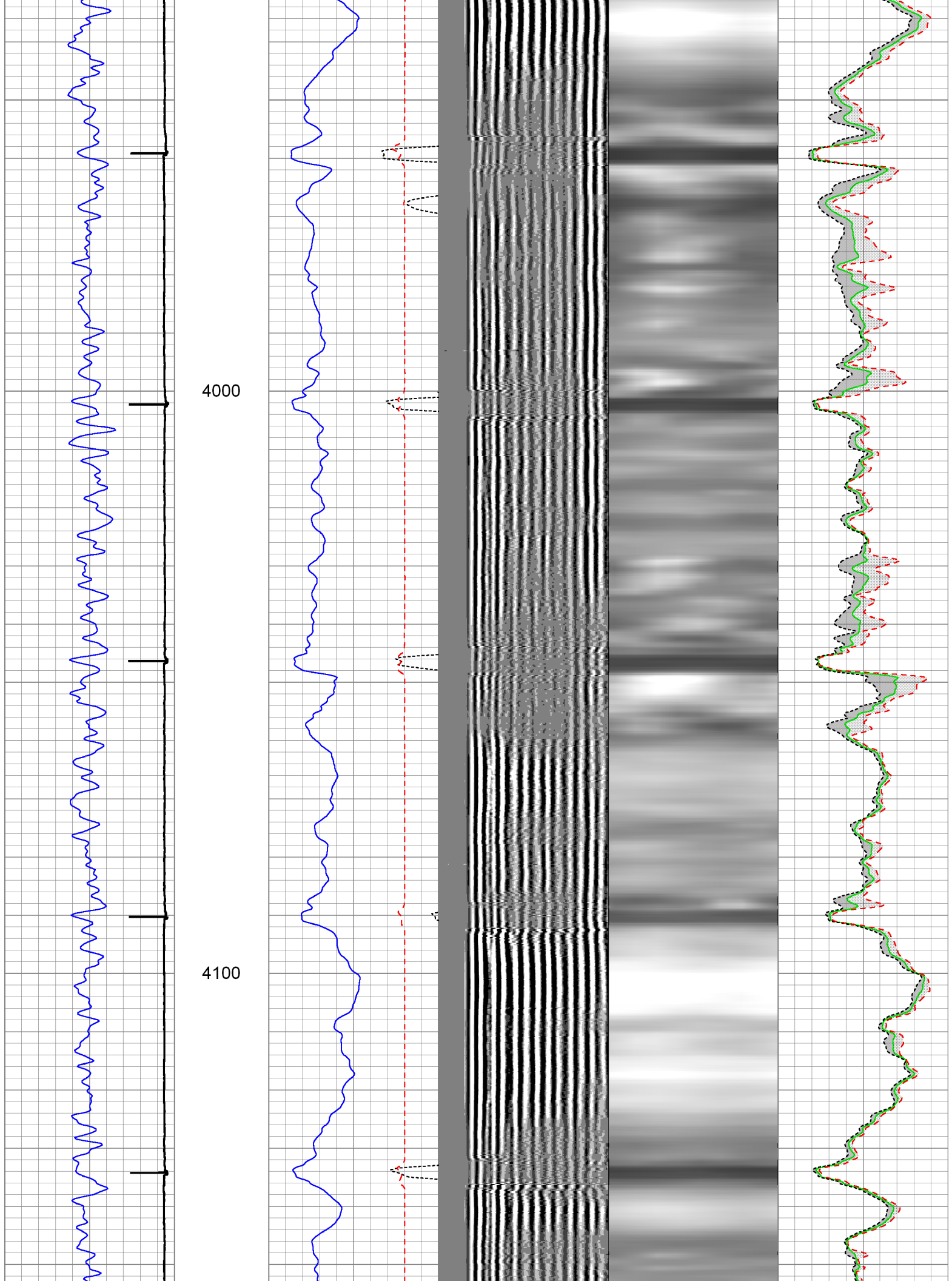
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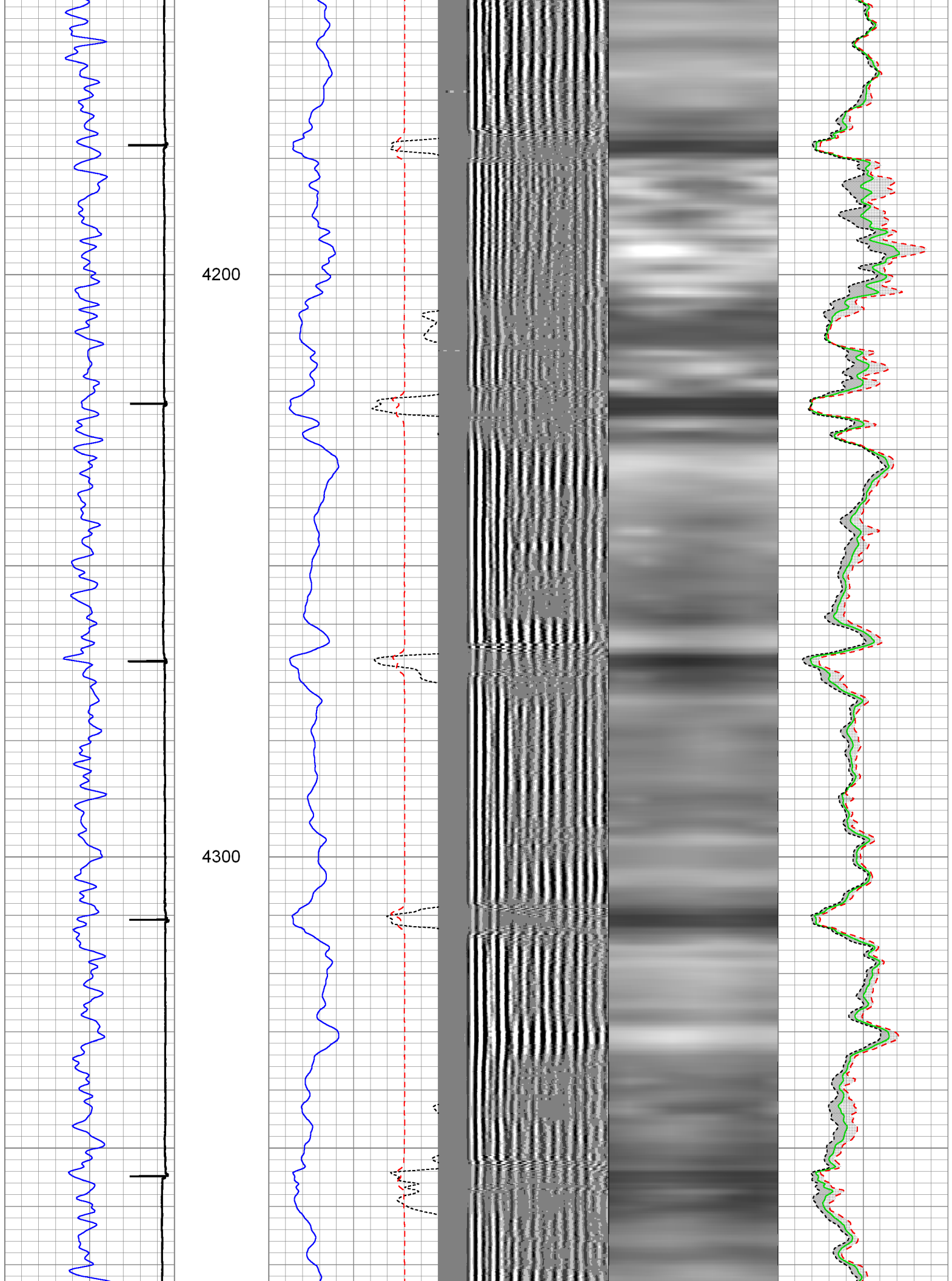
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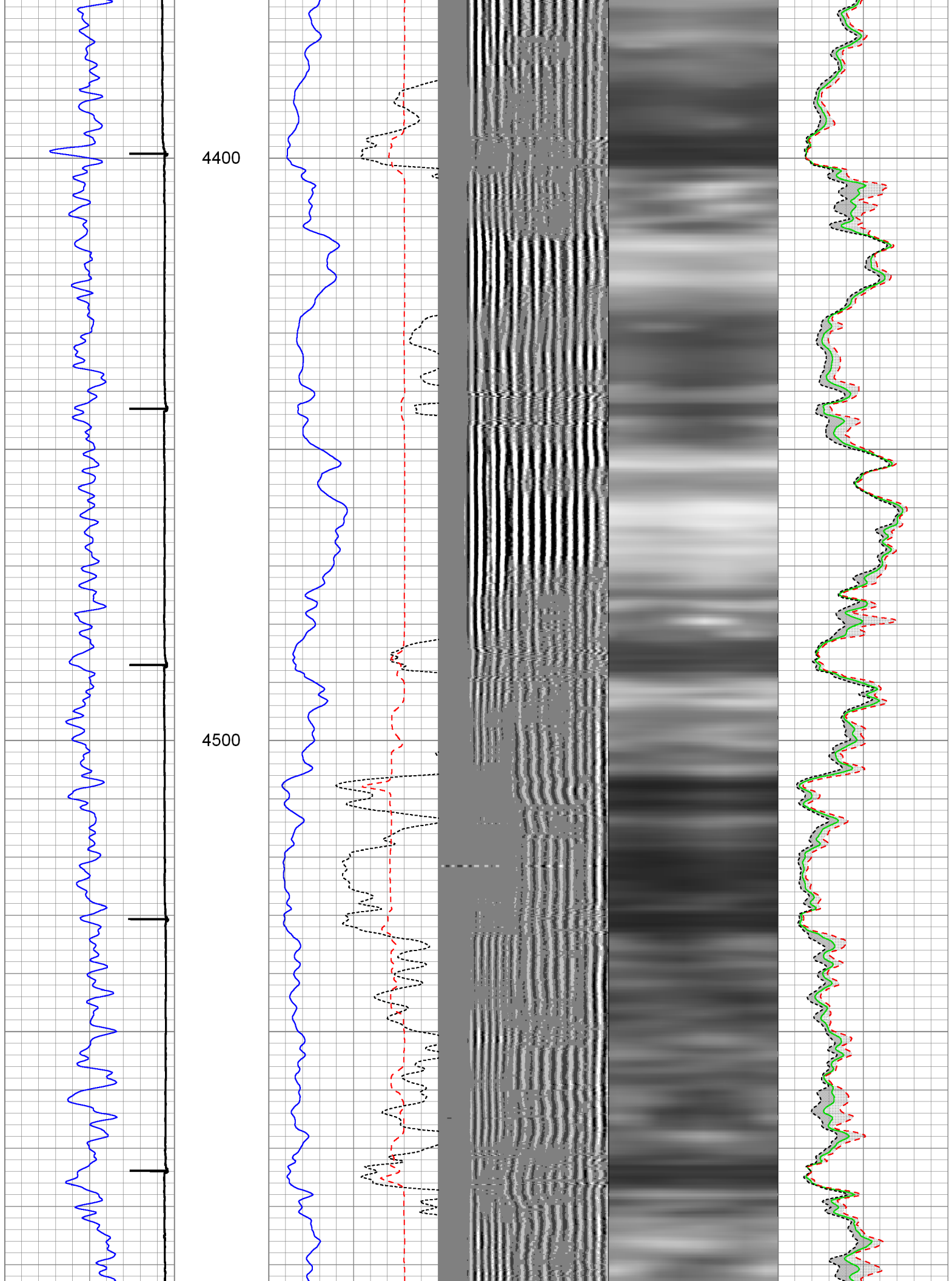
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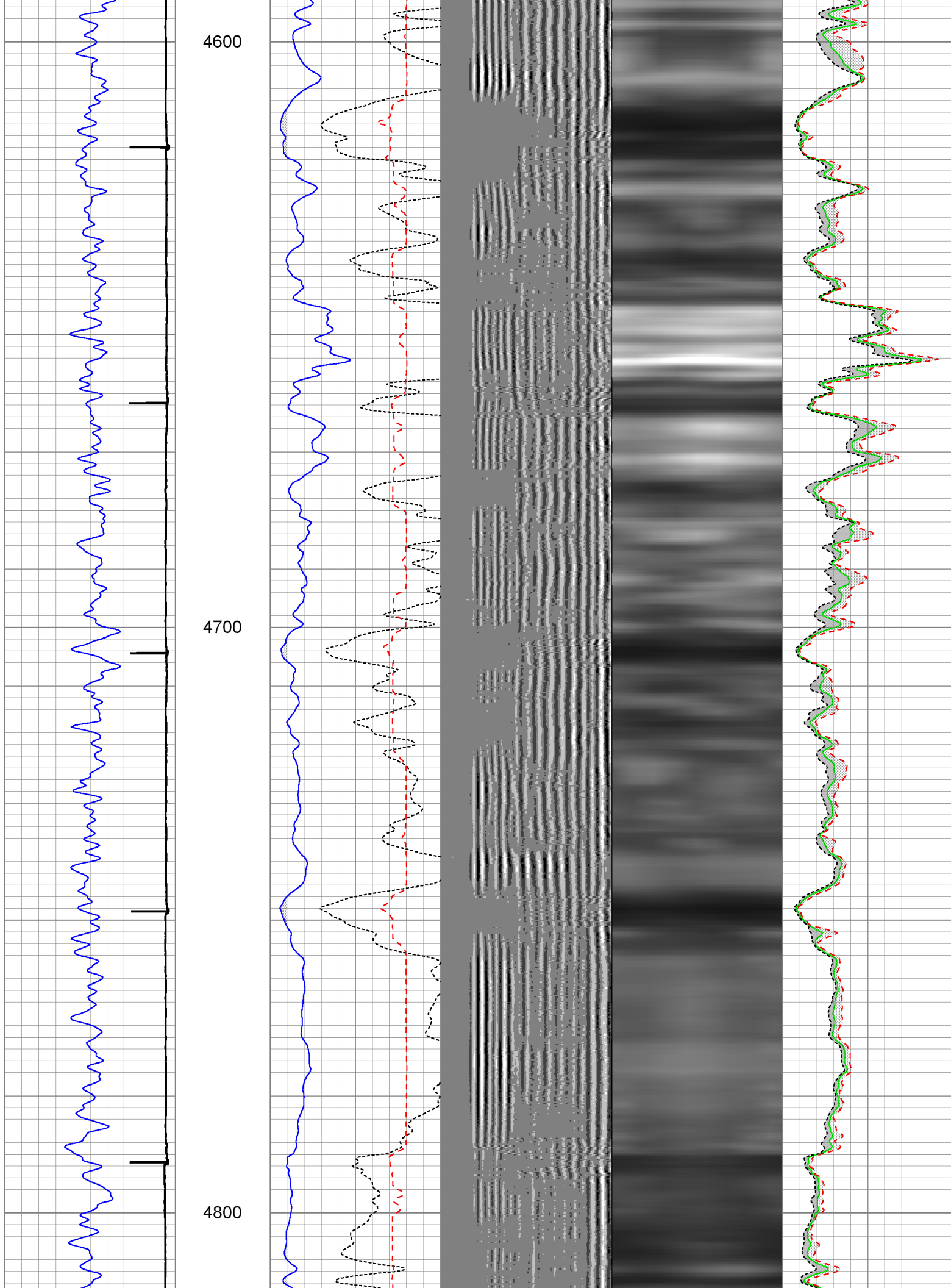


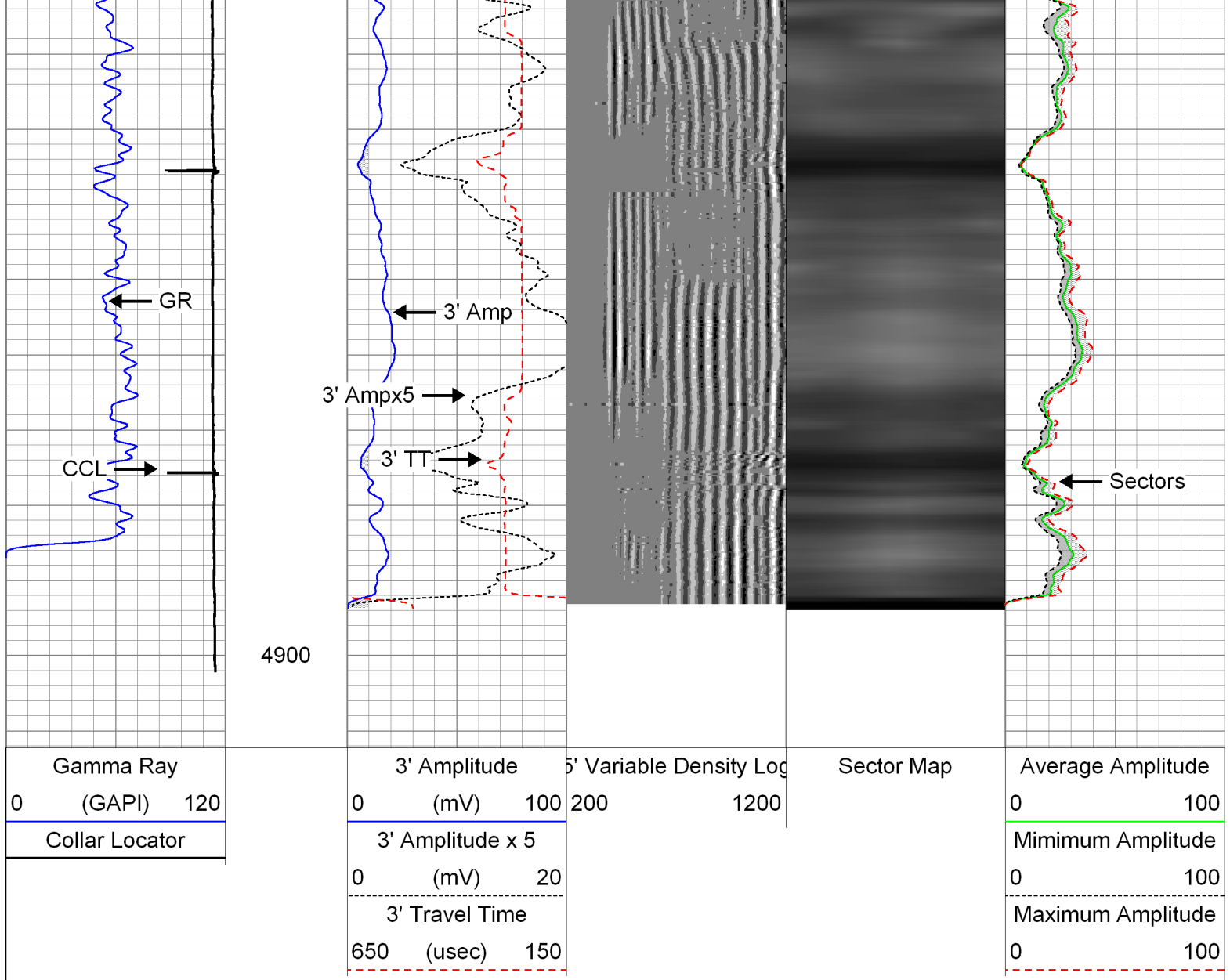


4600

4700

4800

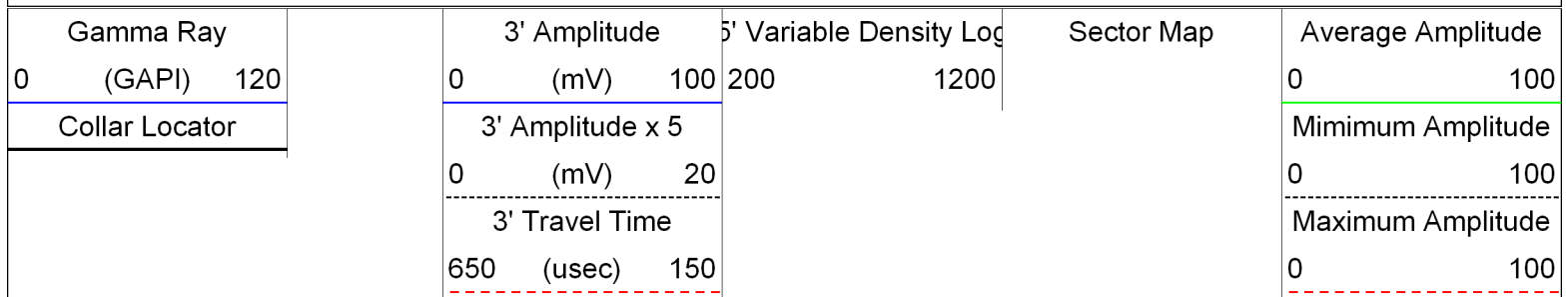


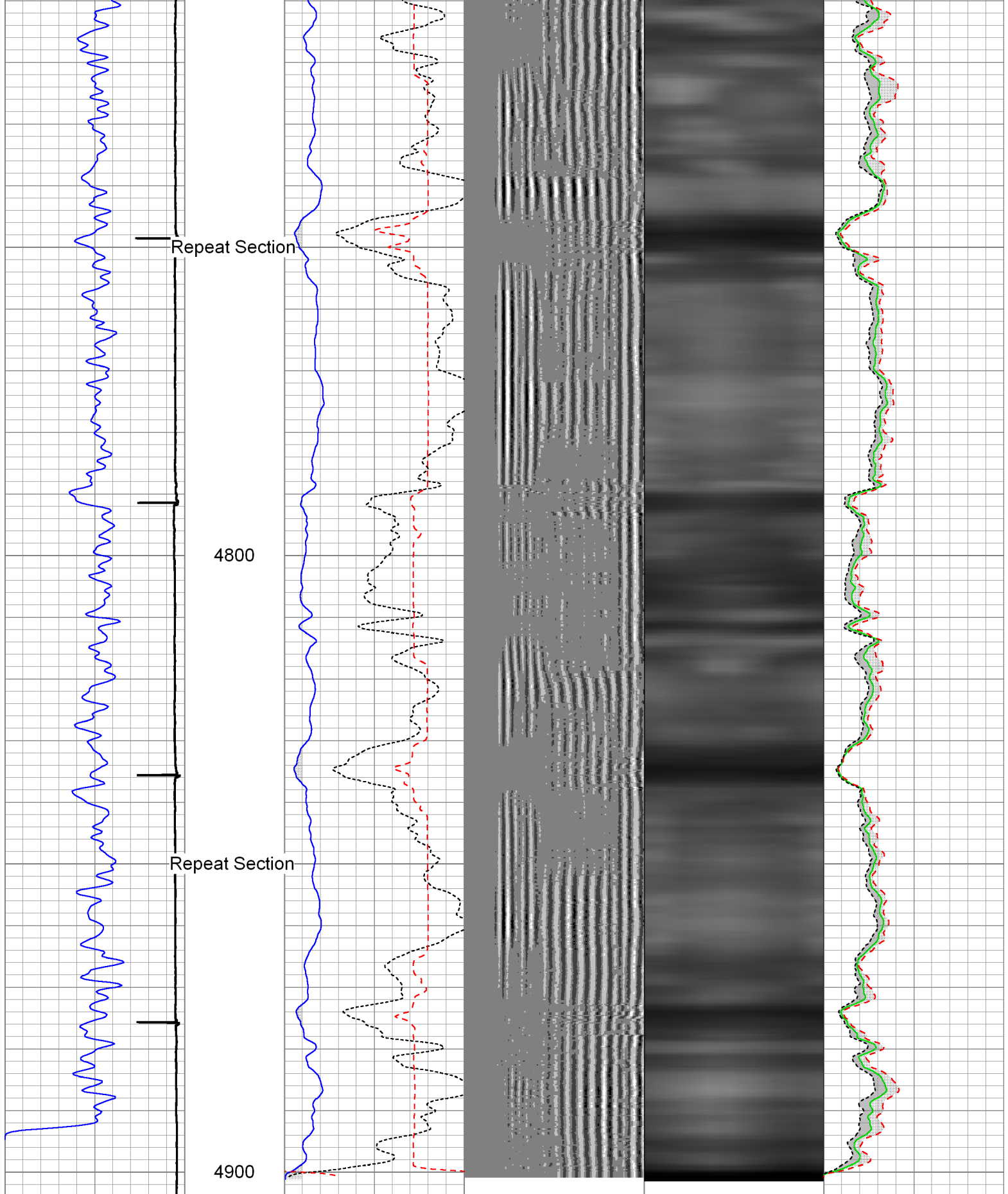


Repeat Pass

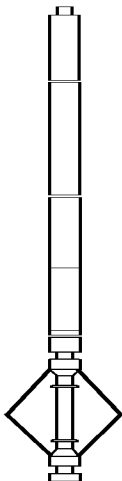
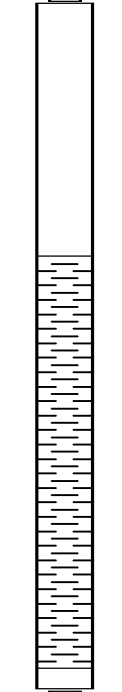
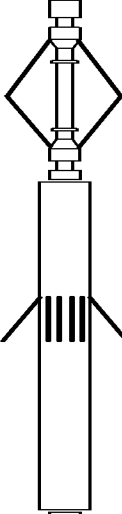
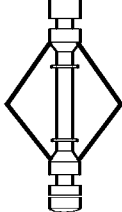
Logged With 1500 PSI At Surface

Database File: 04-26-14_whiting_razor 26k-2306b_mit_rbl.db
 Dataset Pathname: repeat
 Presentation Format: rbt007
 Dataset Creation: Sat Apr 26 09:18:33 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240





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

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	22.01		CHD-AES (000001) Cable Head	1.04	1.69	2.00
			XTU-002 (218874) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (211727) Production Gamma Ray	1.93	1.69	9.50
			PRC-017 (000002) Production Roller Centraliser (3 Arm)	2.01	1.69	7.00
WVF3FT	15.16		RBT-004 (1066in7) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS1	15.16					
WVFS2	15.16					
WVFS3	15.16					
WVFS4	15.16					
WVFS5	15.16					
WVFS6	15.16					
WVFS7	15.16					
WVFS8	15.16					
CBLTEMP	15.16					
CBLROT	15.16					
WVF5FT	14.16					
MIT	5.17		PRC-051 (390332) Production Roller Centraliser (4 Arm) (Large Cent)	2.52	4.13	32.00
			MIT-042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			PRC-057 (000007) Production Roller Centraliser (4 Arm)	2.74	2.75	32.00
TSTAMP	0.00		BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20

Total Length: 26.05 ft
Total Weight: 291.30 lb
O.D. 4.13 in

Calibration Report

Database File: 04-26-14_whiting_razor 26k-2306b_mit_rbl.db
Dataset Pathname: main
Dataset Creation: Sat Apr 26 09:31:21 2014 by Log Sondex V7.03

Multi-finger Imaging Tool Calibration Report

Serial Number: 10014703
Number of Fingers: 40
Tool Model: 042

Inclinometer Calibration Report

Performed: Fri Sep 20 11:47:48 2013
Calibration Angle: 45

	Inc X	Inc Y
Vertical:	1963	1960
Finger 1 up:	1748	1727
Finger 31 up:	2195	1742
Finger 21 up:	2178	2188
Finger 11 up:	1727	2173
Sensitivity ratio:	1.00706	
X-axis angle:	132.825	
Deviation const.:	317.775	

Finger Calibration Report

Performed: Sat Apr 26 08:46:18 2014

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1072	381.0	1453	387.0	1840	399.0	2239
Finger 02:	1024	389.0	1413	401.0	1814	420.0	2234
Finger 03:	1026	380.0	1406	390.0	1796	409.0	2205
Finger 04:	983	389.0	1372	411.0	1783	430.0	2213
Finger 05:	1021	373.0	1394	384.0	1778	398.0	2176
Finger 06:	1013	384.0	1397	400.0	1797	414.0	2211
Finger 07:	1024	381.0	1405	393.0	1798	406.0	2204
Finger 08:	986	383.0	1369	406.0	1775	423.0	2198
Finger 09:	1047	388.0	1435	393.0	1828	396.0	2224
Finger 10:	1020	384.0	1404	395.0	1799	403.0	2202
Finger 11:	993	381.0	1374	398.0	1772	410.0	2182
Finger 12:	1075	382.0	1457	377.0	1834	376.0	2210
Finger 13:	1010	374.0	1384	393.0	1777	409.0	2186
Finger 14:	995	390.0	1385	408.0	1793	421.0	2214
Finger 15:	970	388.0	1358	409.0	1767	426.0	2193
Finger 16:	1007	384.0	1391	396.0	1787	414.0	2201
Finger 17:	1044	375.0	1419	385.0	1804	397.0	2201
Finger 18:	1069	377.0	1446	382.0	1828	400.0	2228
Finger 19:	1038	382.0	1420	393.0	1813	410.0	2223
Finger 20:	957	377.0	1334	401.0	1735	425.0	2160
Finger 21:	1048	374.0	1422	385.0	1807	411.0	2218
Finger 22:	1027	381.0	1408	393.0	1801	417.0	2218
Finger 23:	1138	359.0	1497	364.0	1861	383.0	2244
Finger 24:	1044	384.0	1428	397.0	1825	418.0	2243
Finger 25:	1048	377.0	1425	394.0	1819	424.0	2243
Finger 26:	1078	377.0	1455	385.0	1840	407.0	2247
Finger 27:	1092	366.0	1458	377.0	1835	409.0	2244
Finger 28:	1051	379.0	1430	393.0	1823	422.0	2245
Finger 29:	1030	381.0	1411	400.0	1811	434.0	2245
Finger 30:	1023	377.0	1400	401.0	1801	432.0	2233
Finger 31:	1081	376.0	1457	385.0	1842	406.0	2248

Finger 32:	1025	378.0	1403	393.0	1796	426.0	2222
Finger 33:	1039	380.0	1419	395.0	1814	426.0	2240
Finger 34:	1031	382.0	1413	403.0	1816	430.0	2246
Finger 35:	1089	372.0	1461	378.0	1839	403.0	2242
Finger 36:	1022	380.0	1402	396.0	1798	425.0	2223
Finger 37:	1132	370.0	1502	370.0	1872	393.0	2265
Finger 38:	1081	374.0	1455	381.0	1836	404.0	2240
Finger 39:	1030	382.0	1412	394.0	1806	419.0	2225
Finger 40:	967	390.0	1357	414.0	1771	441.0	2212

Segmented Cement Bond Log Calibration Report

Serial Number:	1066in7
Tool Model:	004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	19.218 ft

Master Calibration, performed Sat Apr 26 08:48:21 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.004	0.684	0.800	62.165	90.226	0.466
5FT	-0.002	0.706	0.800	62.165	86.587	1.005
S1	0.005	0.663	0.000	100.000	151.921	-0.703
S2	0.003	0.674	0.000	100.000	148.922	-0.409
S3	0.003	0.681	0.000	100.000	147.567	-0.494
S4	0.002	0.687	0.000	100.000	145.973	-0.356
S5	0.004	0.690	0.000	100.000	145.804	-0.534
S6	0.003	0.697	0.000	100.000	144.198	-0.473
S7	0.004	0.702	0.000	100.000	143.240	-0.546
S8	0.004	0.680	0.000	100.000	147.999	-0.567

Gamma Ray Calibration Report

Serial Number:	211727
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



Company	Whiting Oil & Gas Corporation
Well	Razor 26K-2306B
Field	Wildcat
County	Weld
State	Colorado