



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company		Whiting Oil & Gas Corporation	
Well		Razor 33P-3316	
Field		Wildcat	
County		Weld	
State		Colorado	
Company		Whiting Oil & Gas Corporation	
Well		Razor 33P-3316	
Field		Wildcat	
County		Weld	
State		Colorado	
Location:		API #: 05-123-40220 Corrected Graded Elev 4730'KB, 4708'GR	
Permanent Datum		SEC 33 TWP 10N RGE 58W	
Log Measured From		Ground Level Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		4709'	
Other Services		Gauge Ring Set RBP MIT	
K.B. 4730'		D.F. ---	
G.L. 4709'			
Date		20 December 2014	
Run Number		Three	
Depth Driller		10510 FT	
Depth Logger		5048 FT	
Bottom Logged Interval		5043 FT	
Top Log Interval		Surface	
Open Hole Size		8.750"	
Type Fluid		Water	
Density / Viscosity		8.34 lbm/gal	
Max. Recorded Temp.		190°F	
Estimated Cement Top		78 FT	
Time Well Ready		ROA	
Time Logger on Bottom		13:00	
Equipment Number		HD 0255	
Location		Ft. Lupton, CO	
Recorded By		J. Raby	
Witnessed By		Gary Chandler	
Borehole Record		Tubing Record	
Run Number		Bit	
From		To	
Size		Weight	
From		To	
Casing Record		Size (in)	
Wot (lbs/ft)		Grade	
Top		Bottom	
Surface Casing		9 5/8	
J-55		1587 FT	
Intermediate #1		7	
P-110		5957 FT	
Intermediate #2		4 1/2	
P-110		5019 FT	
Liner		10498 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
Depth Referenced to Kelly Bushing of 21.0FT
Adjusted log -6.3 FT to correlate with KB
Gauge Ring/Junk Basket ran to 5186 FT prior to log run.
RBP set at 5110 FT prior to log run and was correlated off of Casing Tally Liner Top.
Log ran from 5043 FT to surface.
Log Ran with 1500 PSI Surface Induced Pressure

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



Main Pass

Recorded with 1500 PSI surface induced pressure.

Database File:proc_bond_12-20-14_whiting_razor 33p-3316_mit_rbl.db

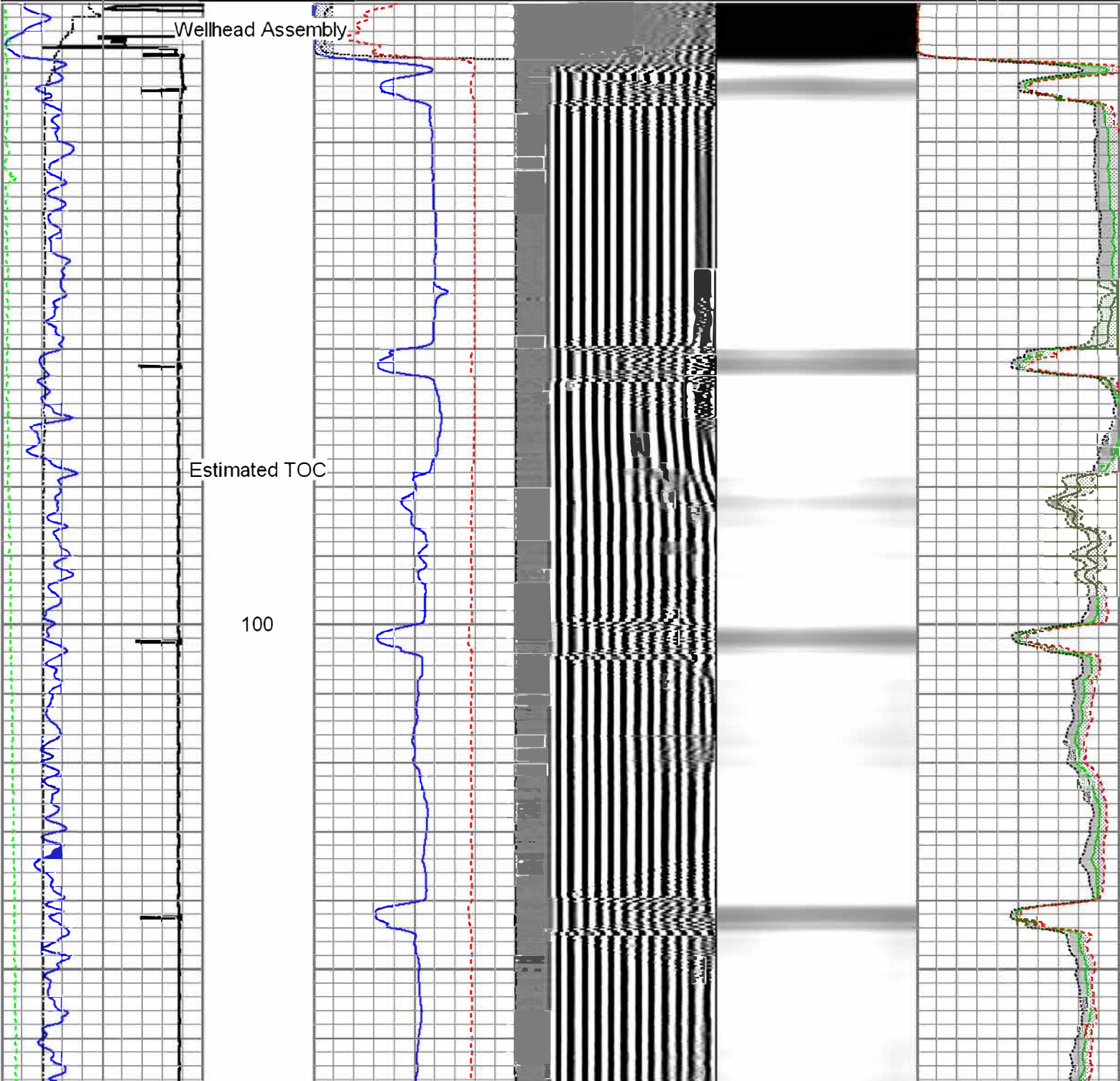
Dataset Pathname:pass2

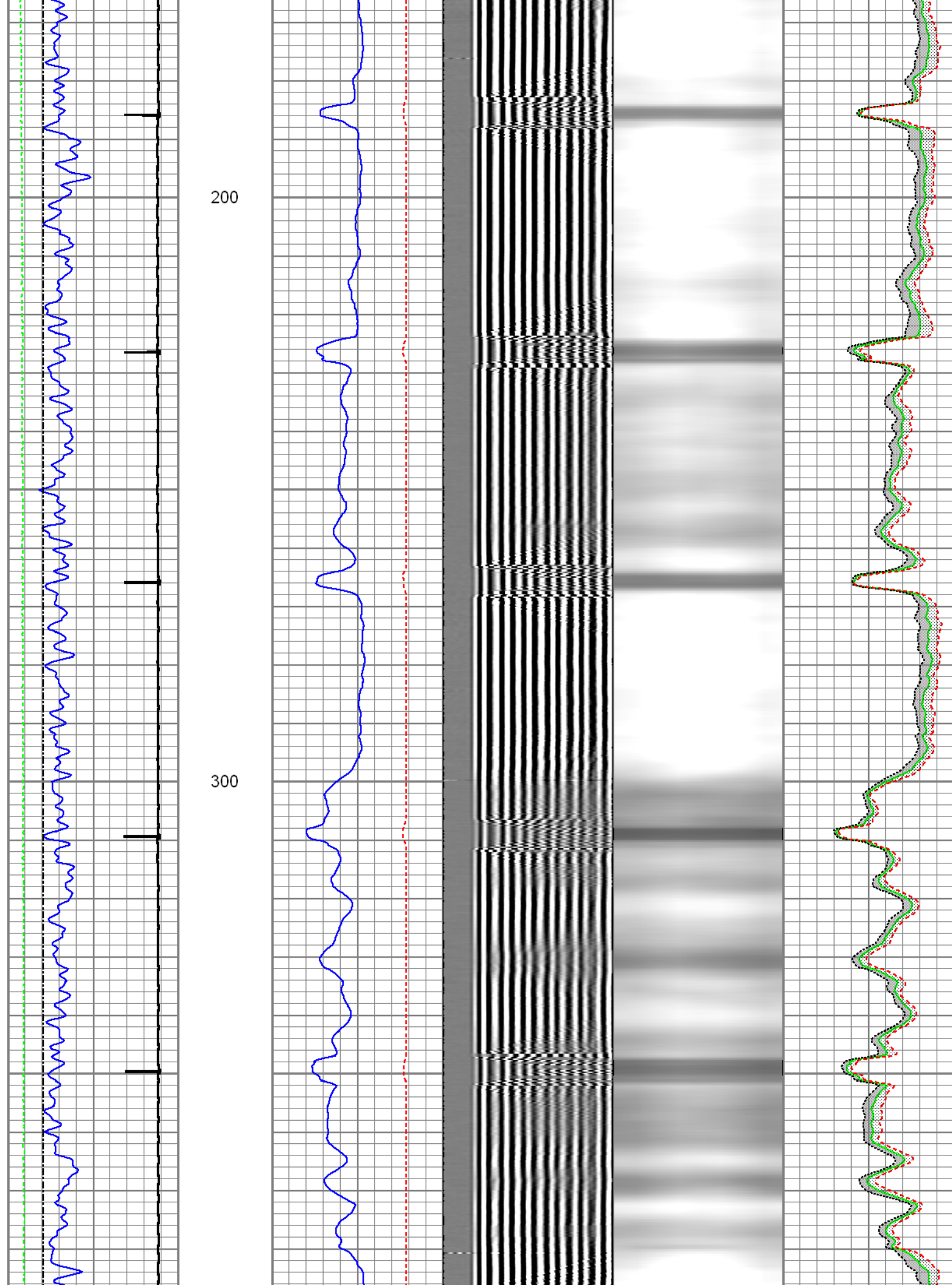
Presentation Format:rbt4_mit

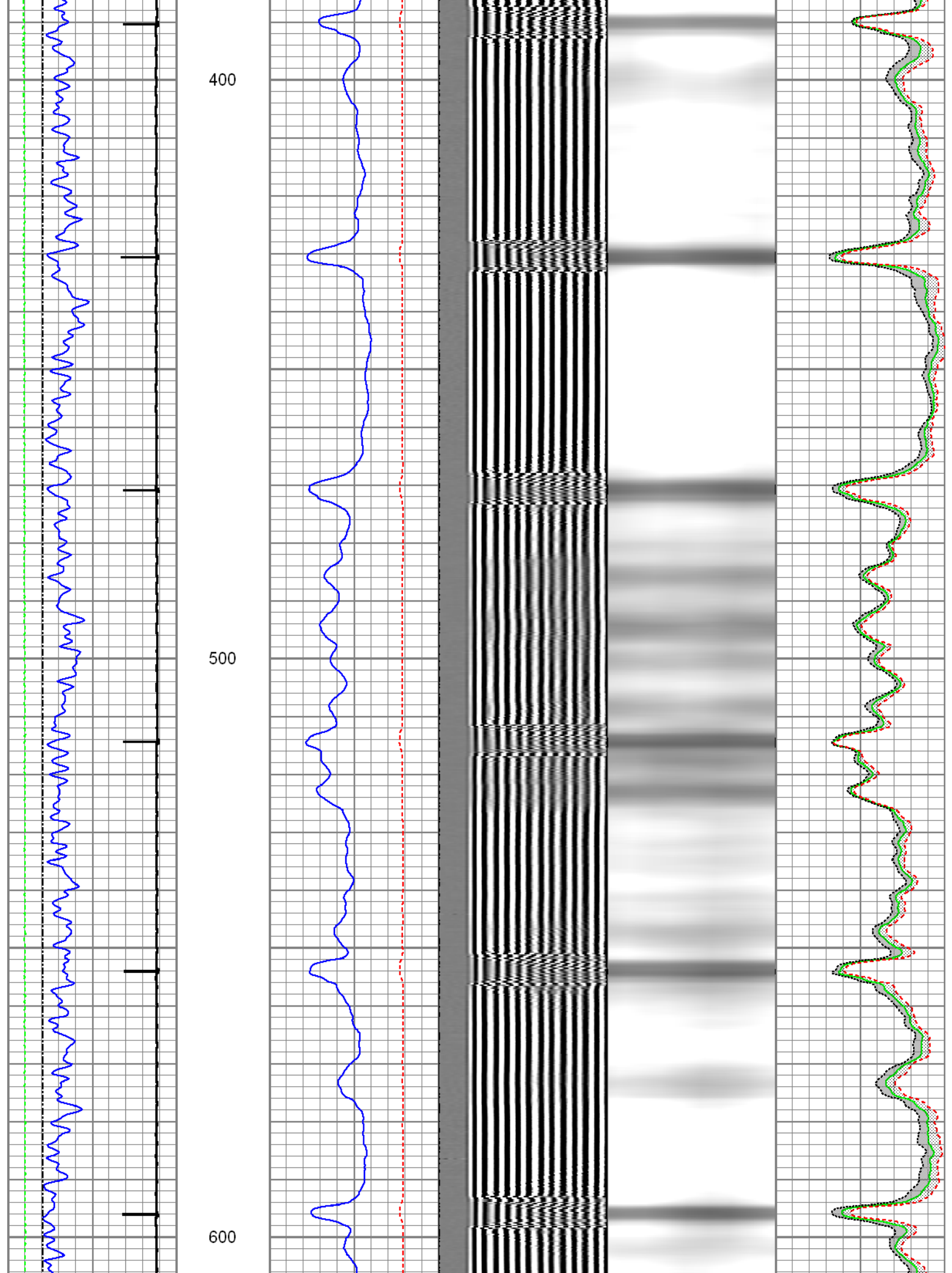
Dataset Creation:Sat Dec 20 13:56:28 2014 by Log 7.0 B1

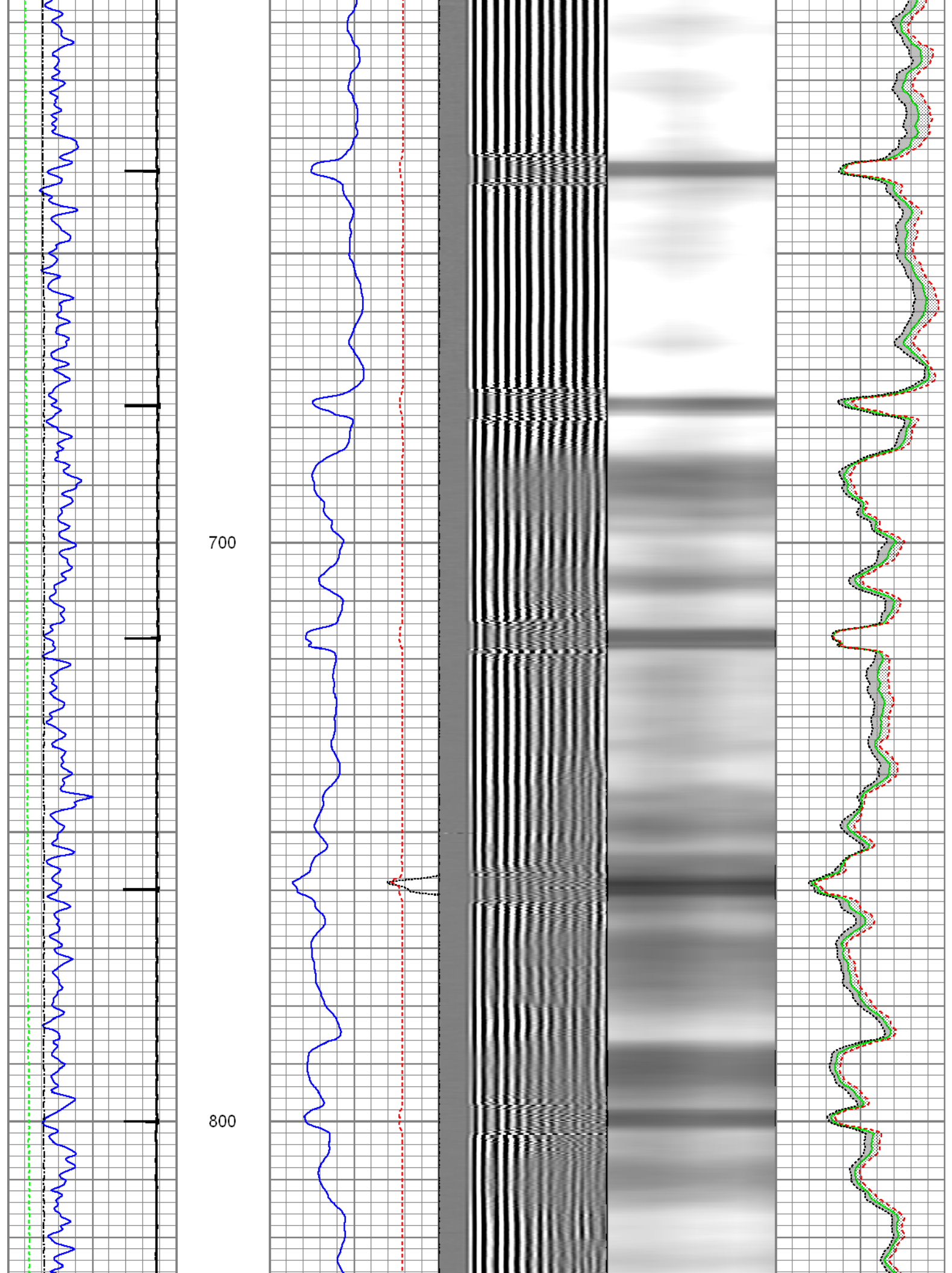
Charted by:Depth in Feet scaled 1:240

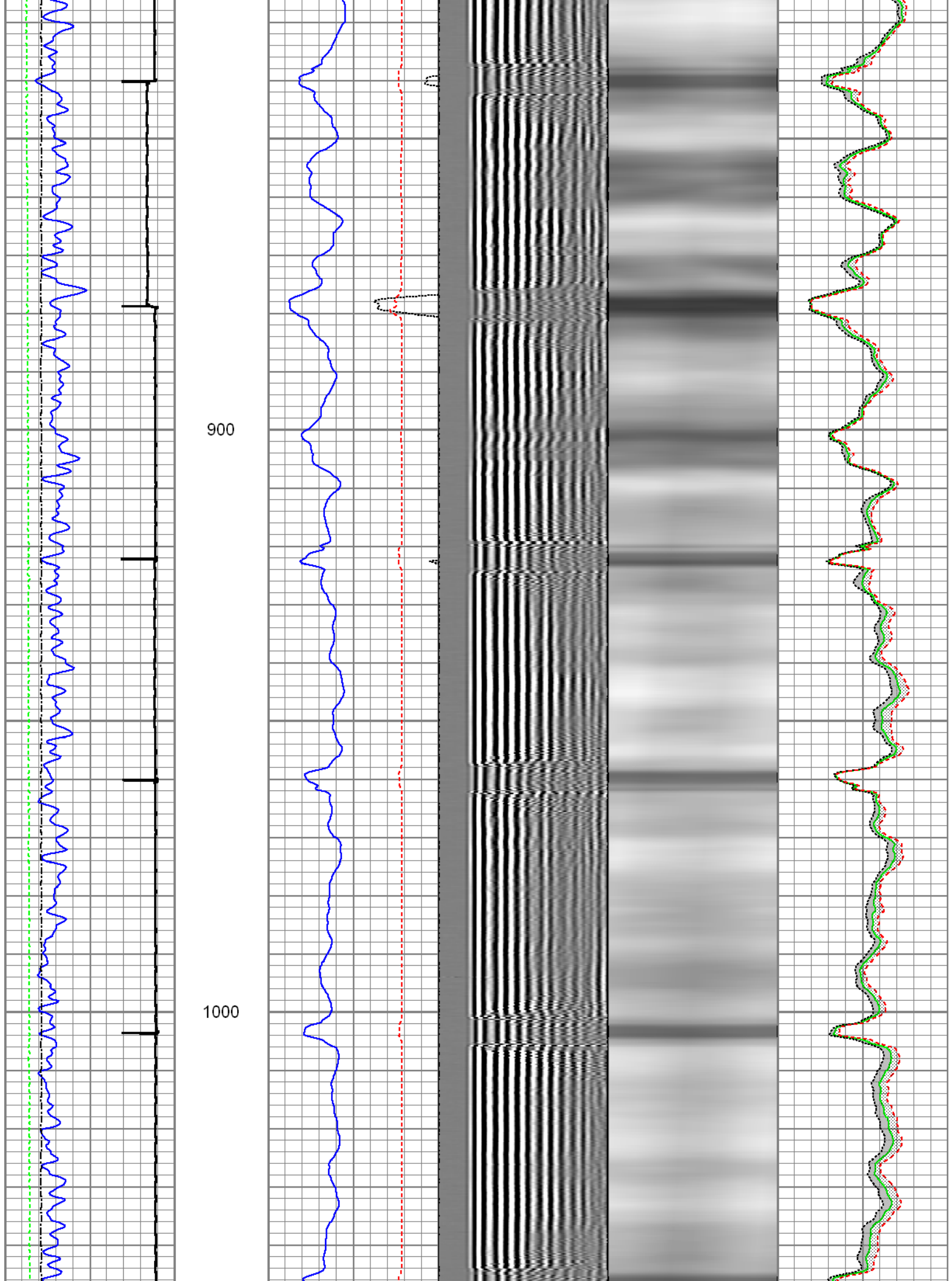
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Line Speed	3' Amplitude x 5			Minimum Amplitude
-100 (ft/min) 100	0 (mV) 20			0 100
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	650 (usec) 150			0 100
Casing Collar Locator				

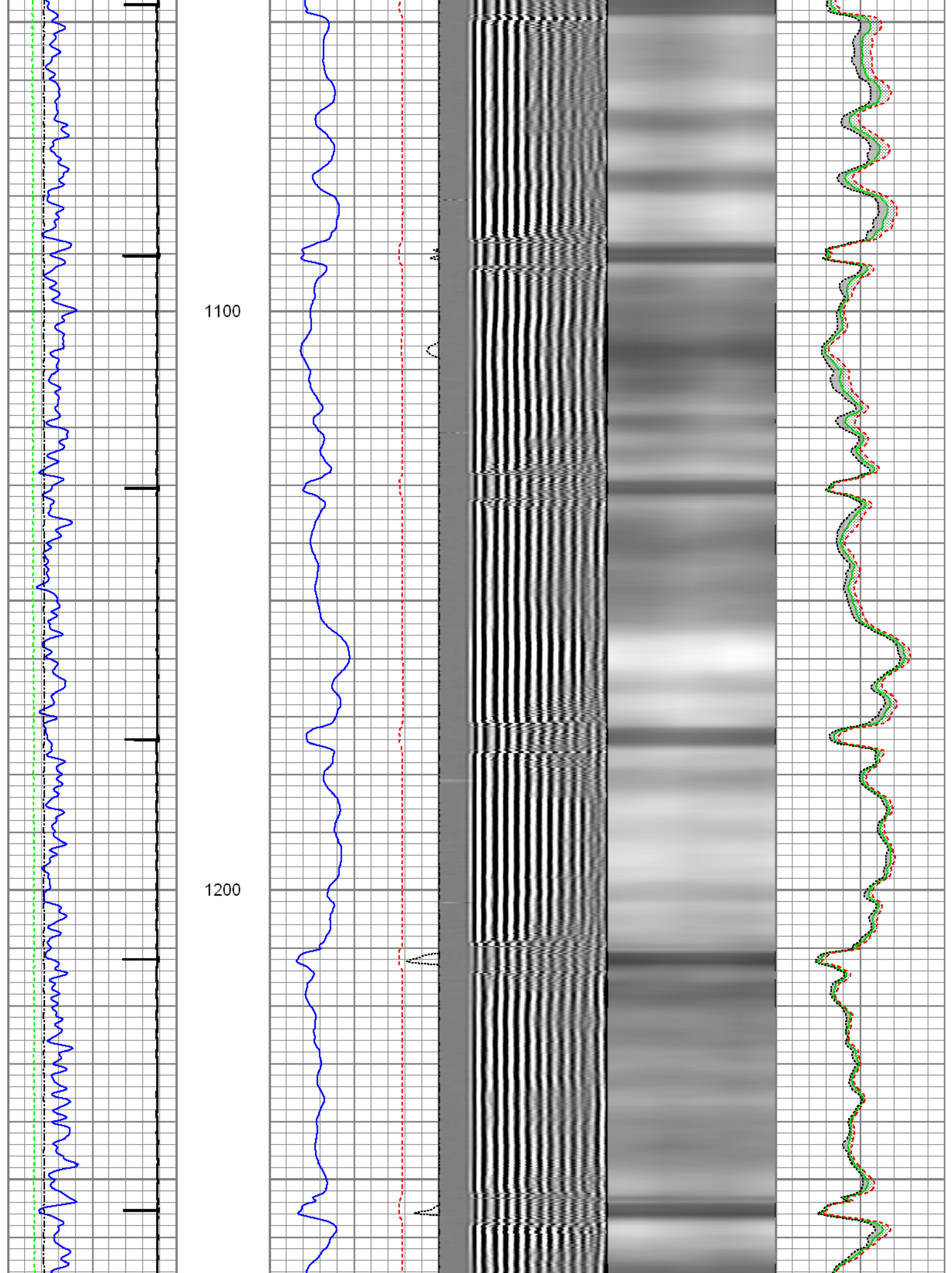






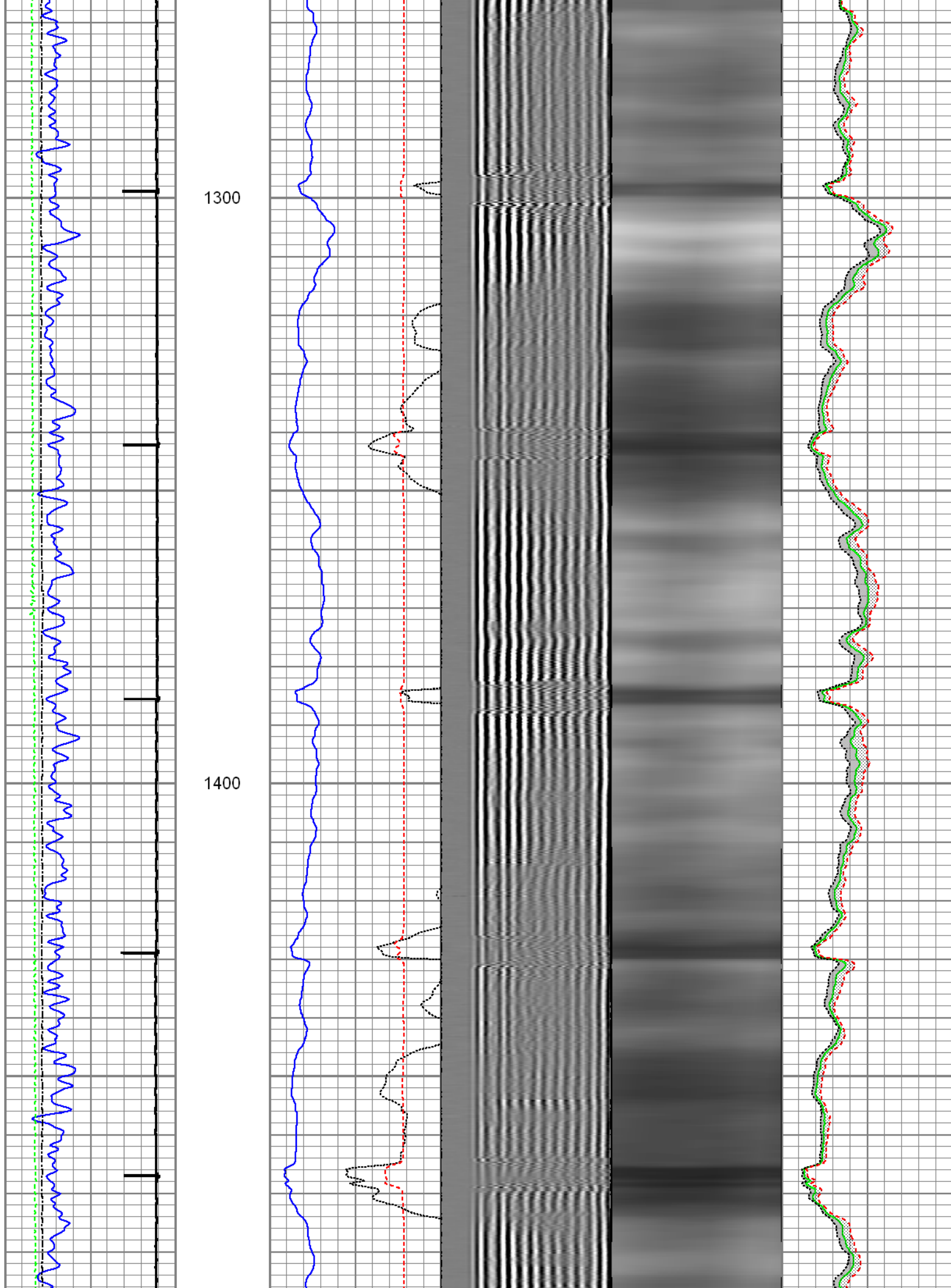


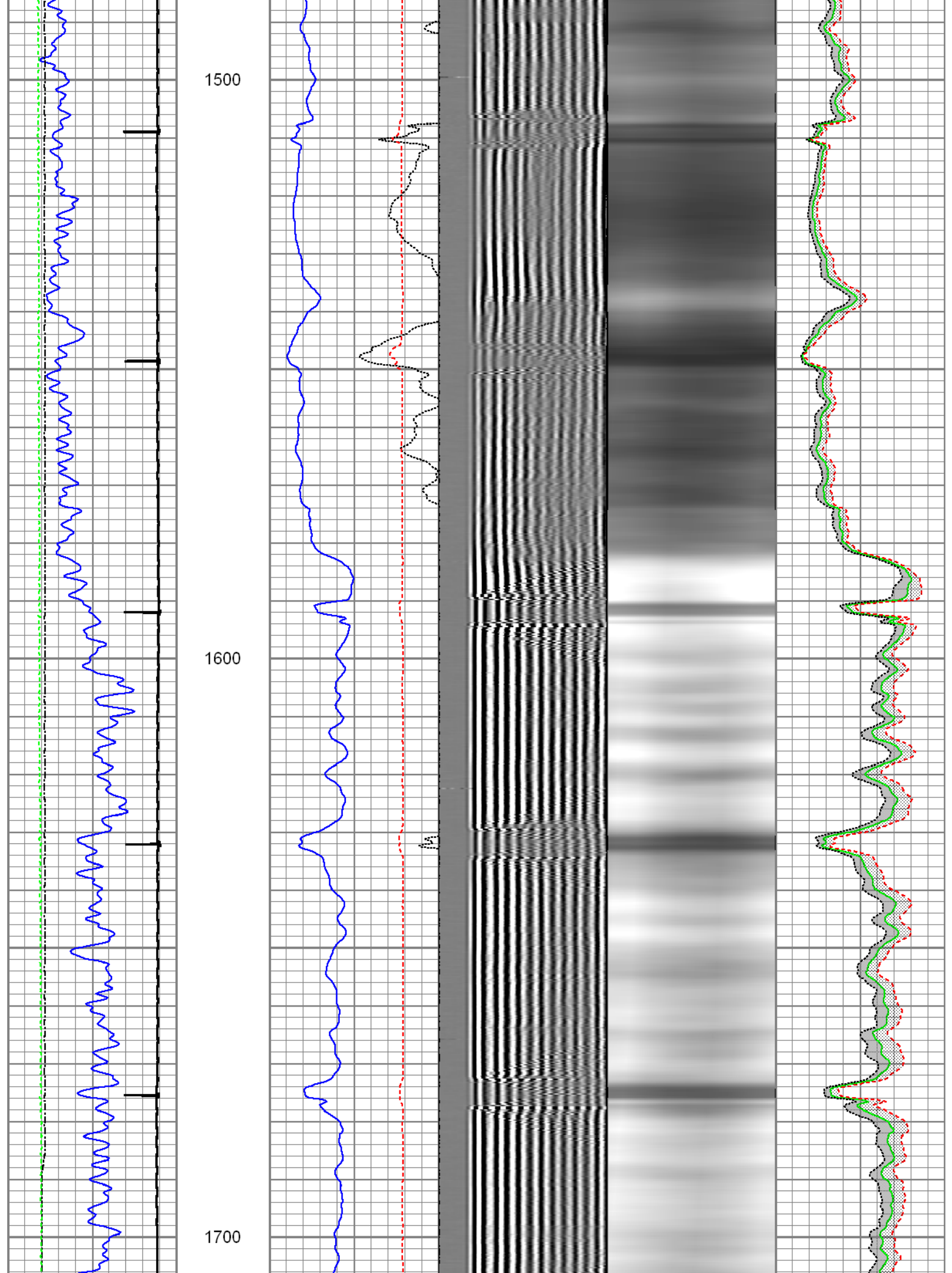


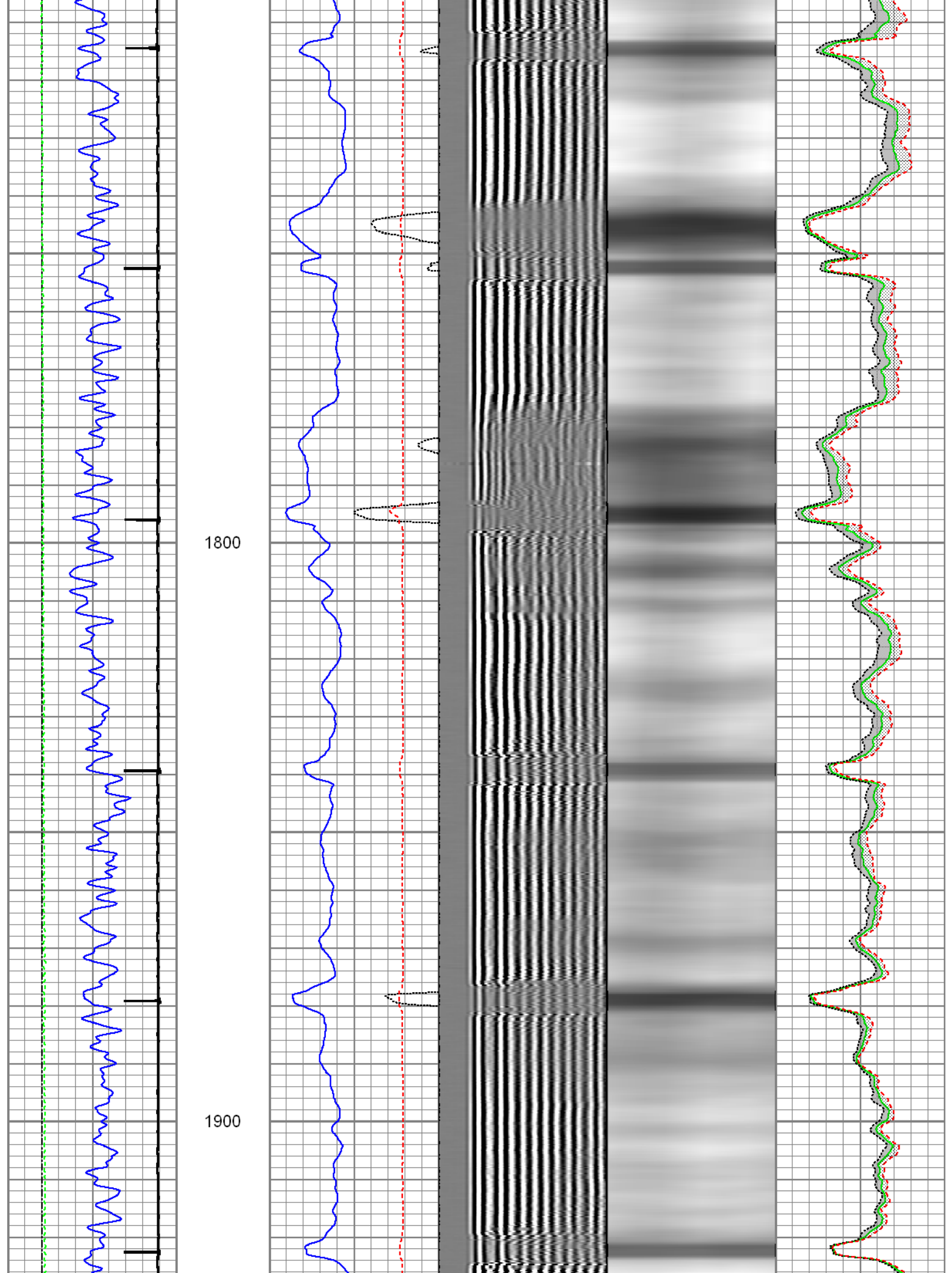


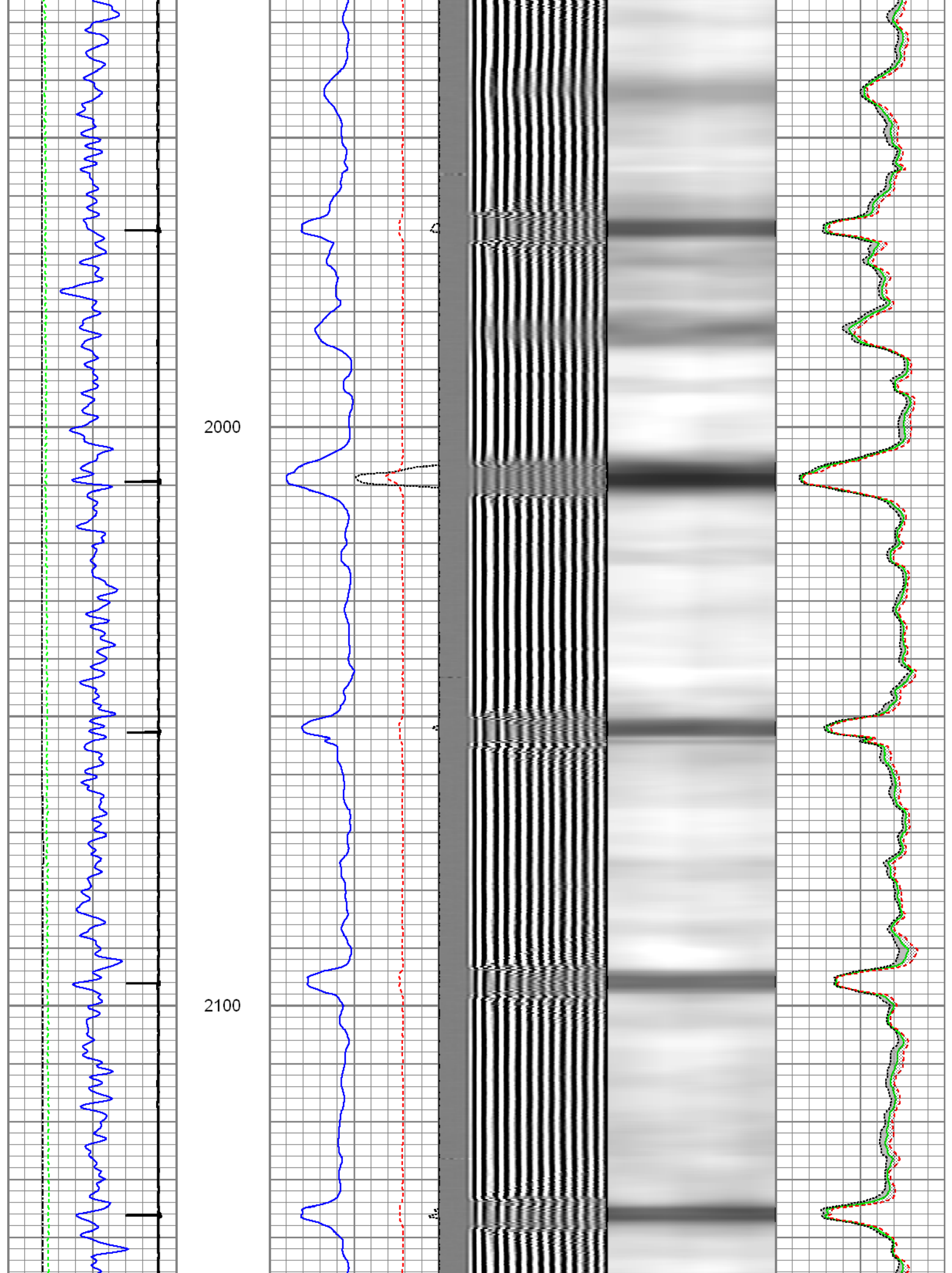
1300

1400



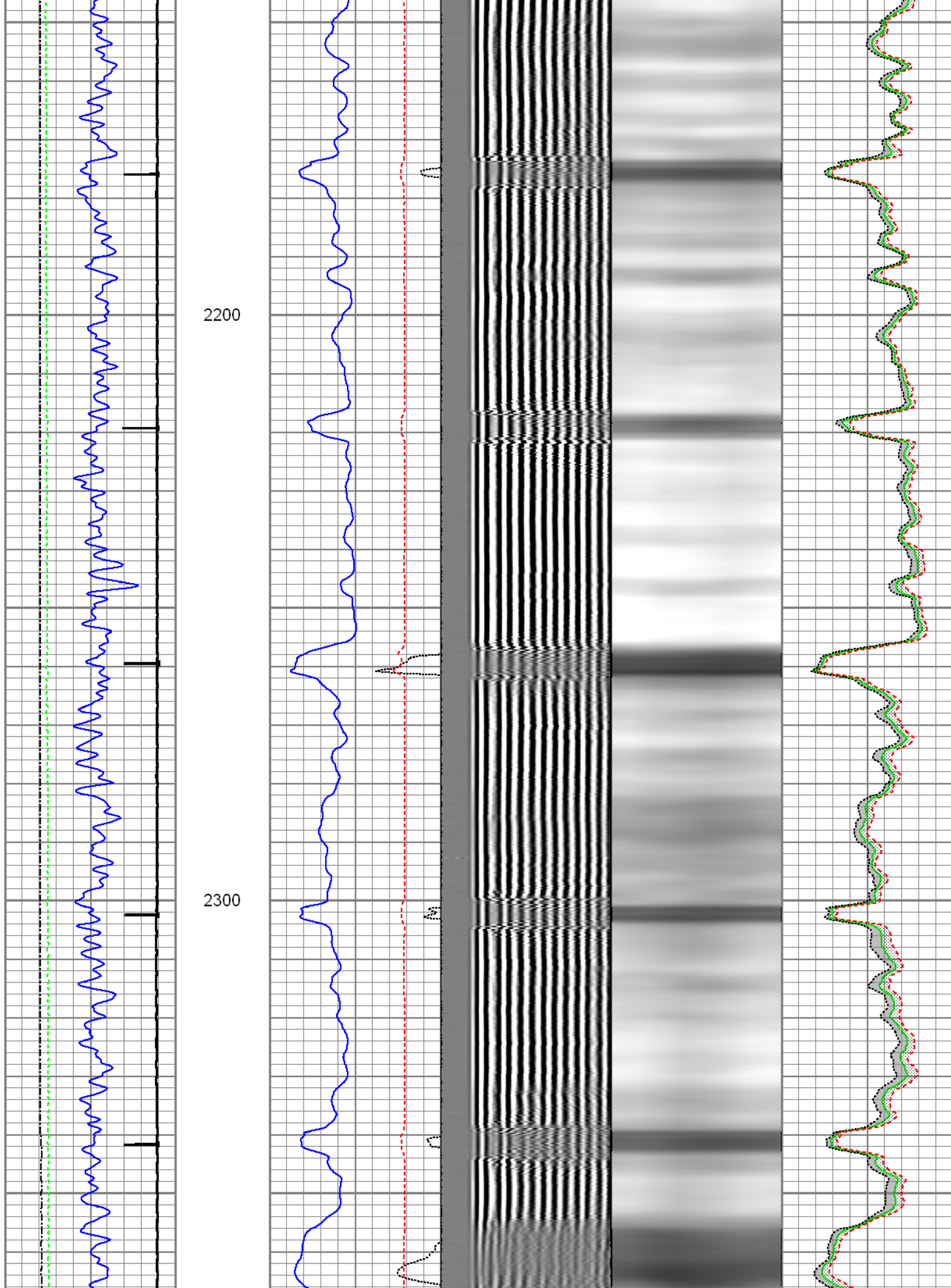


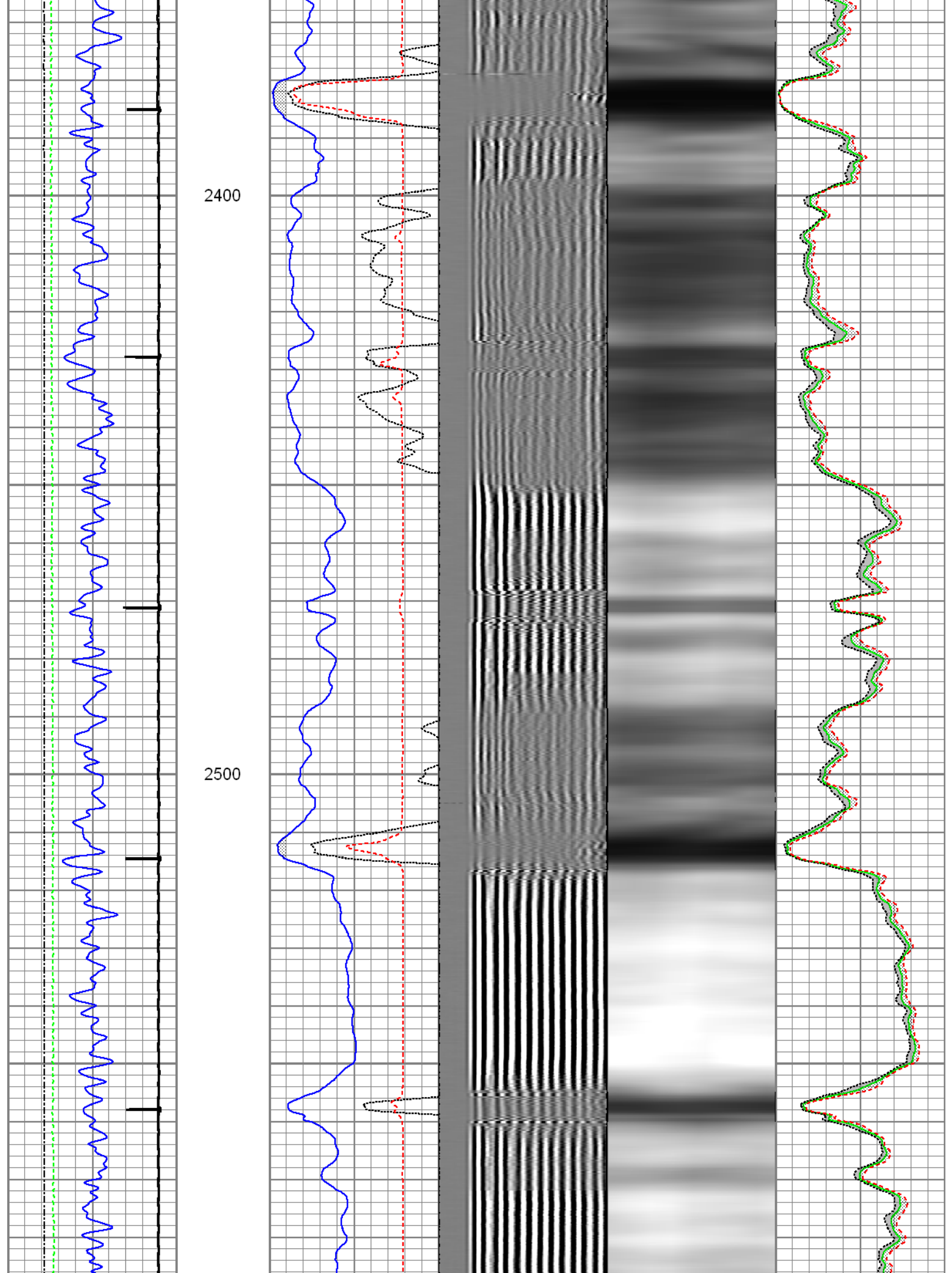




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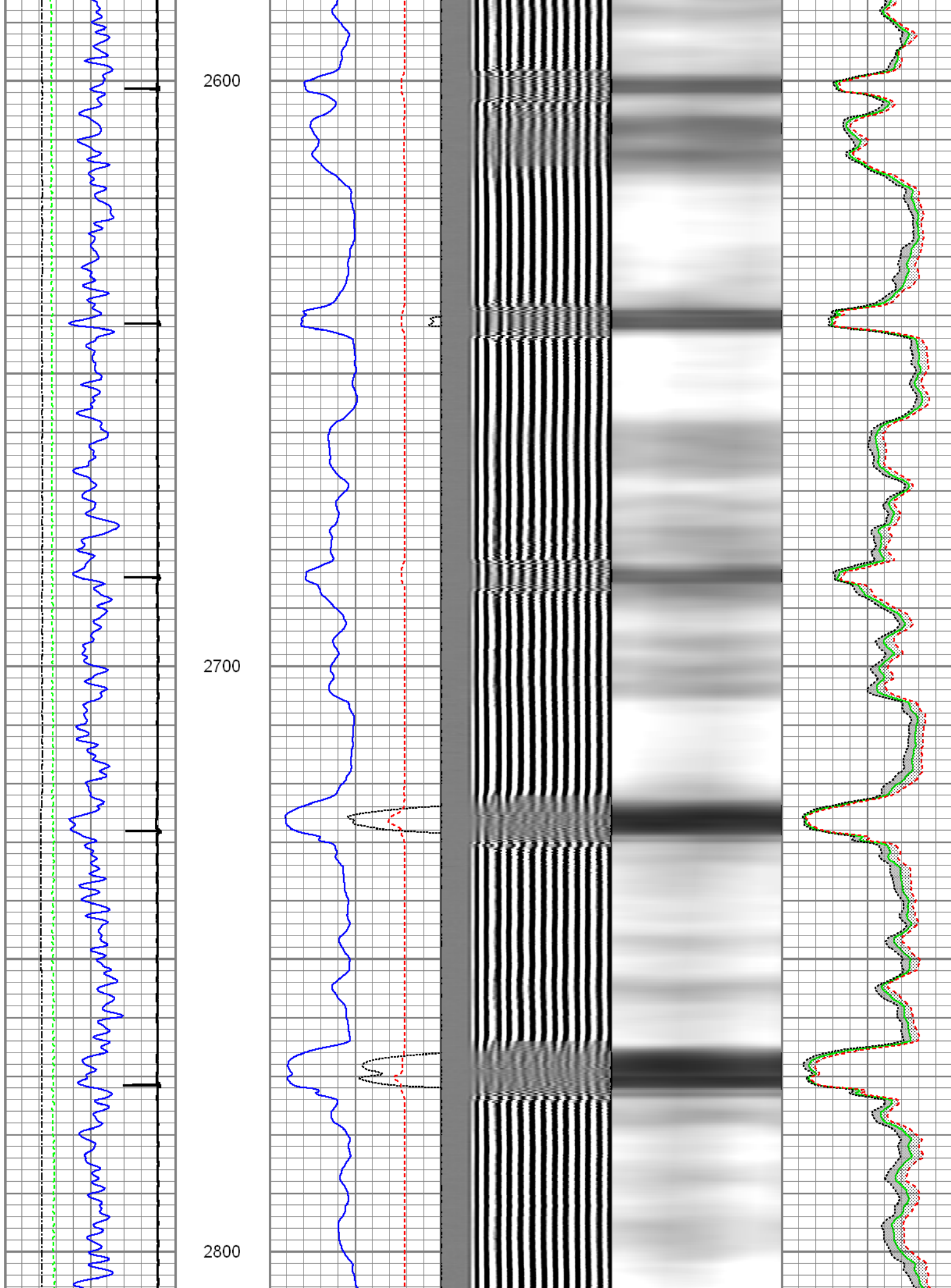


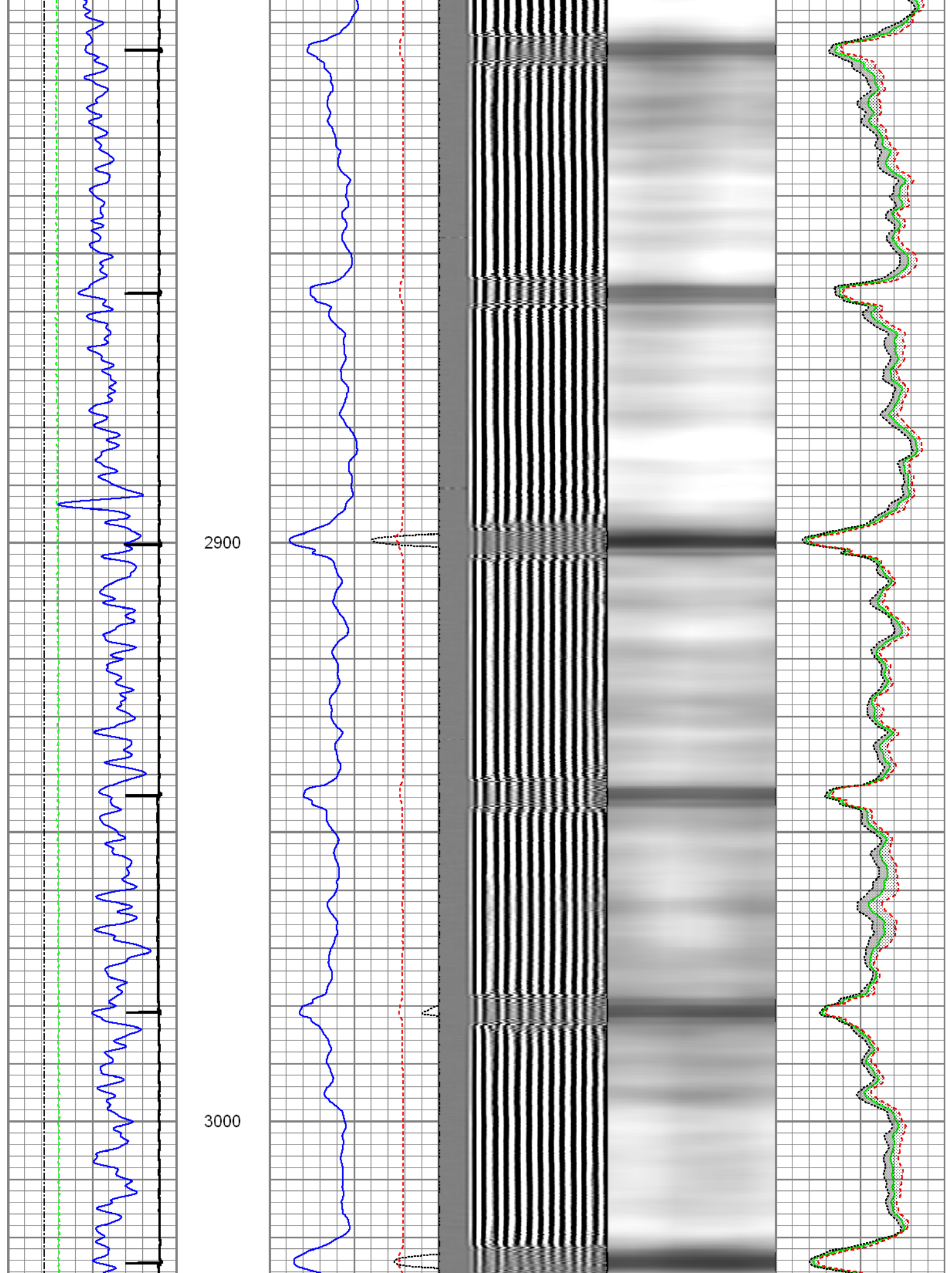


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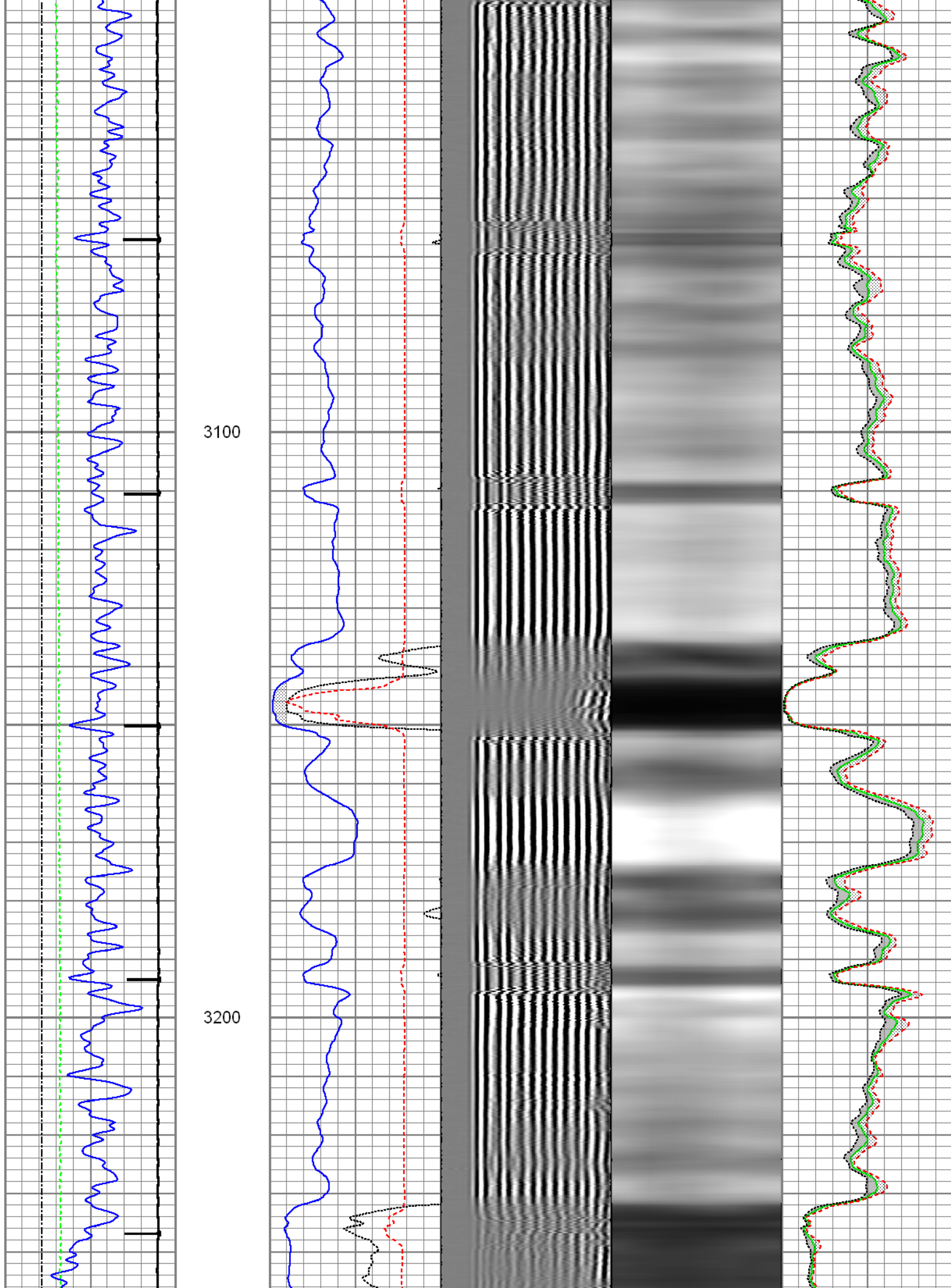
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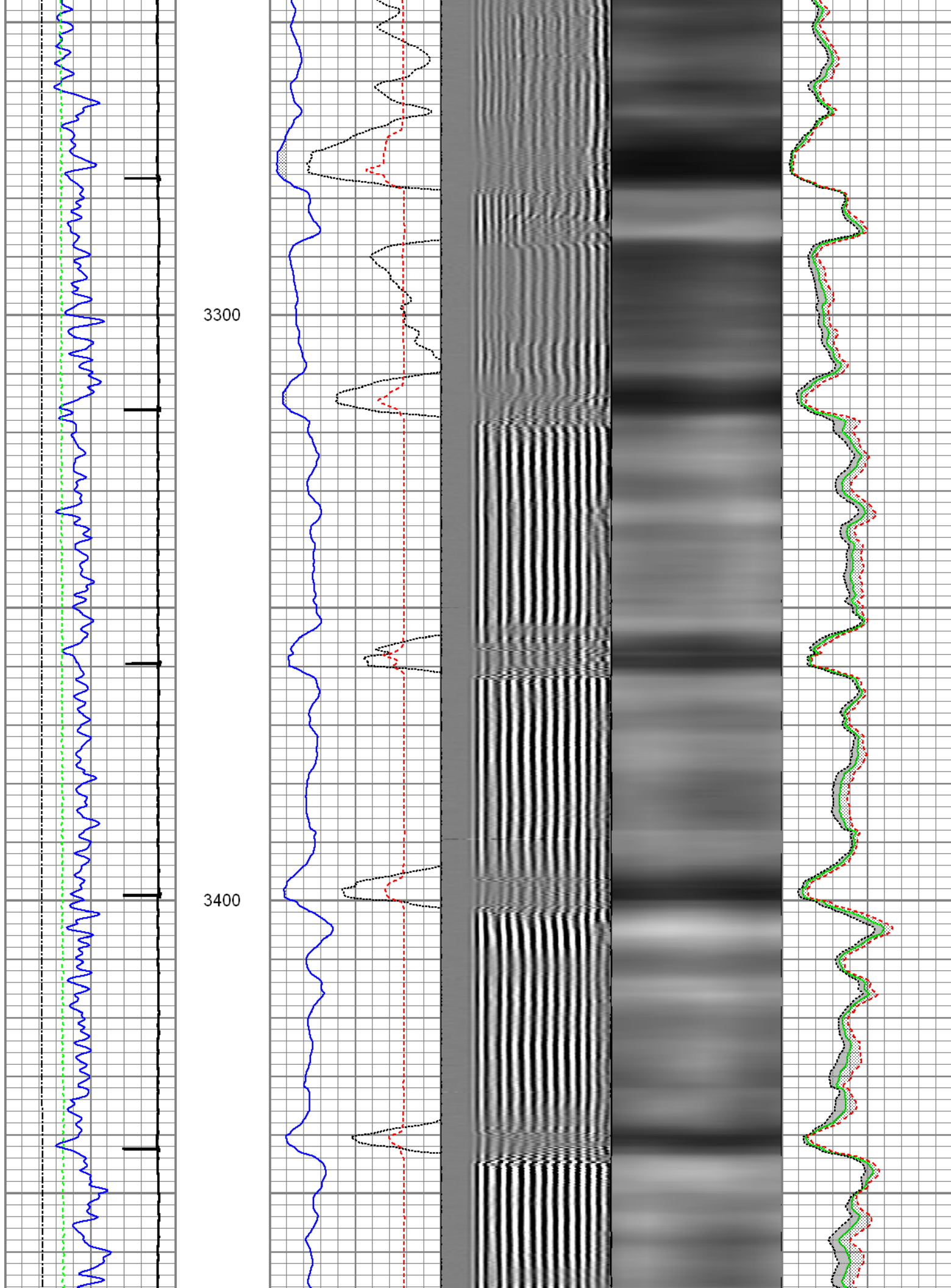
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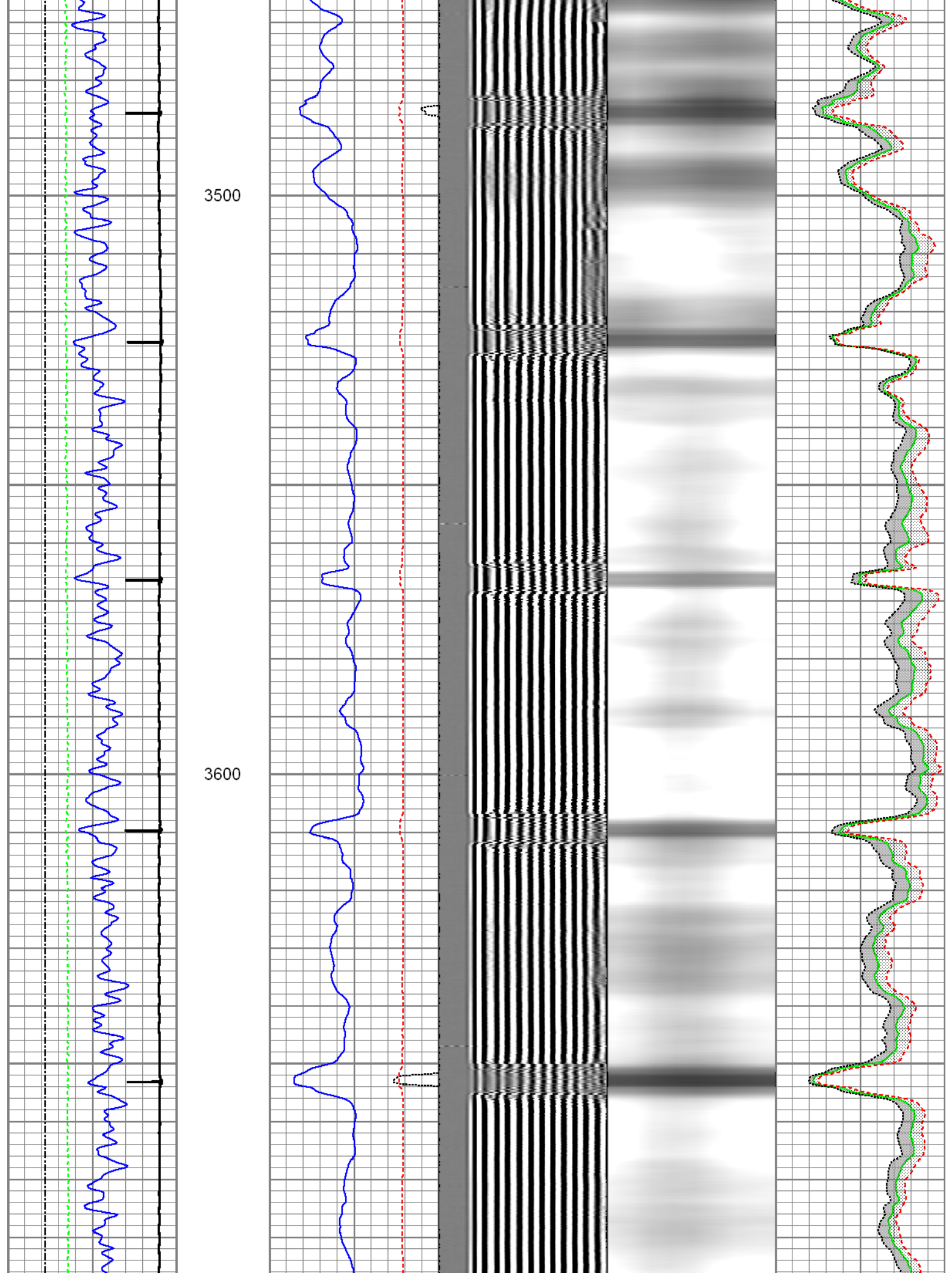
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3300

3400

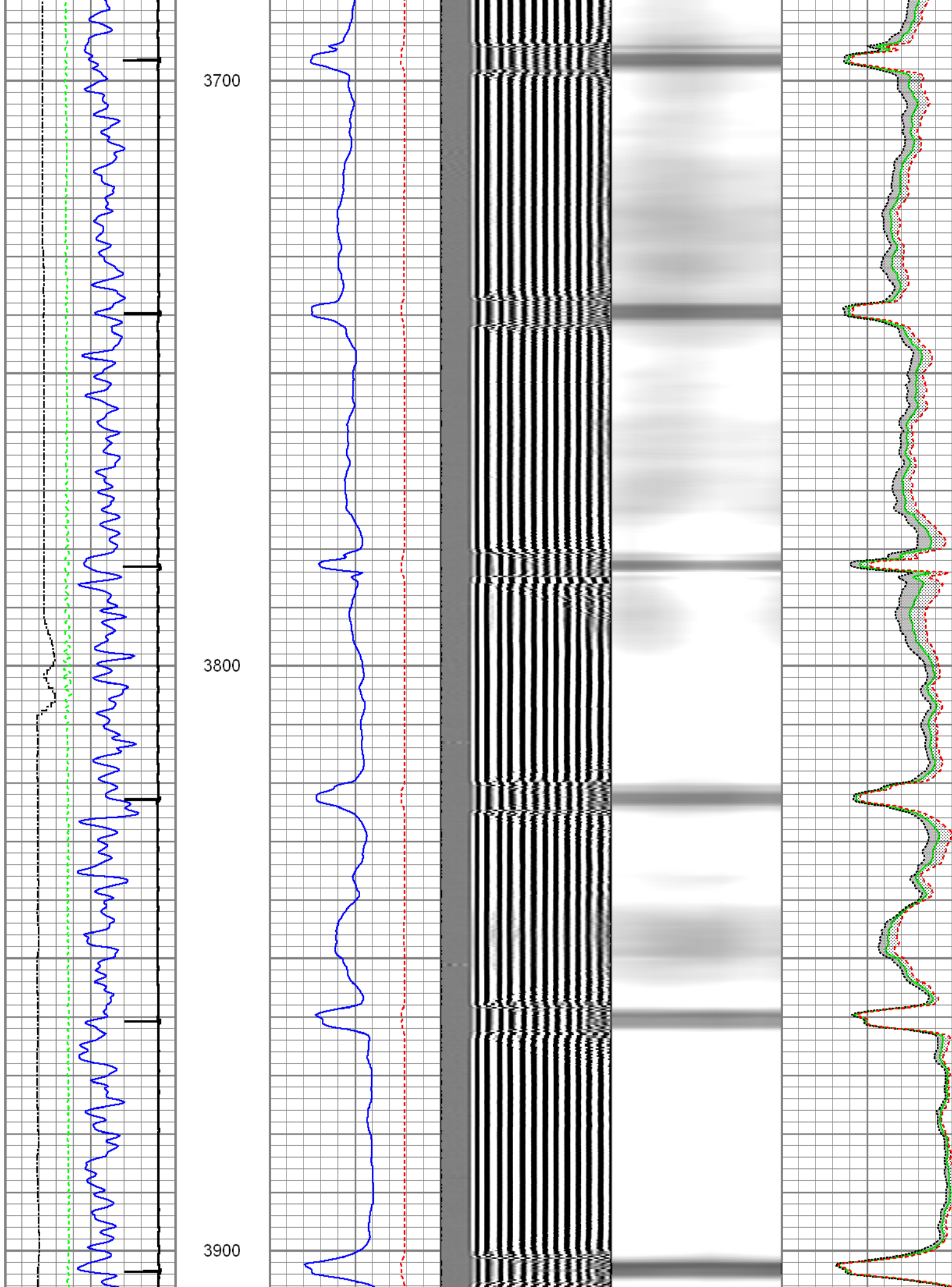


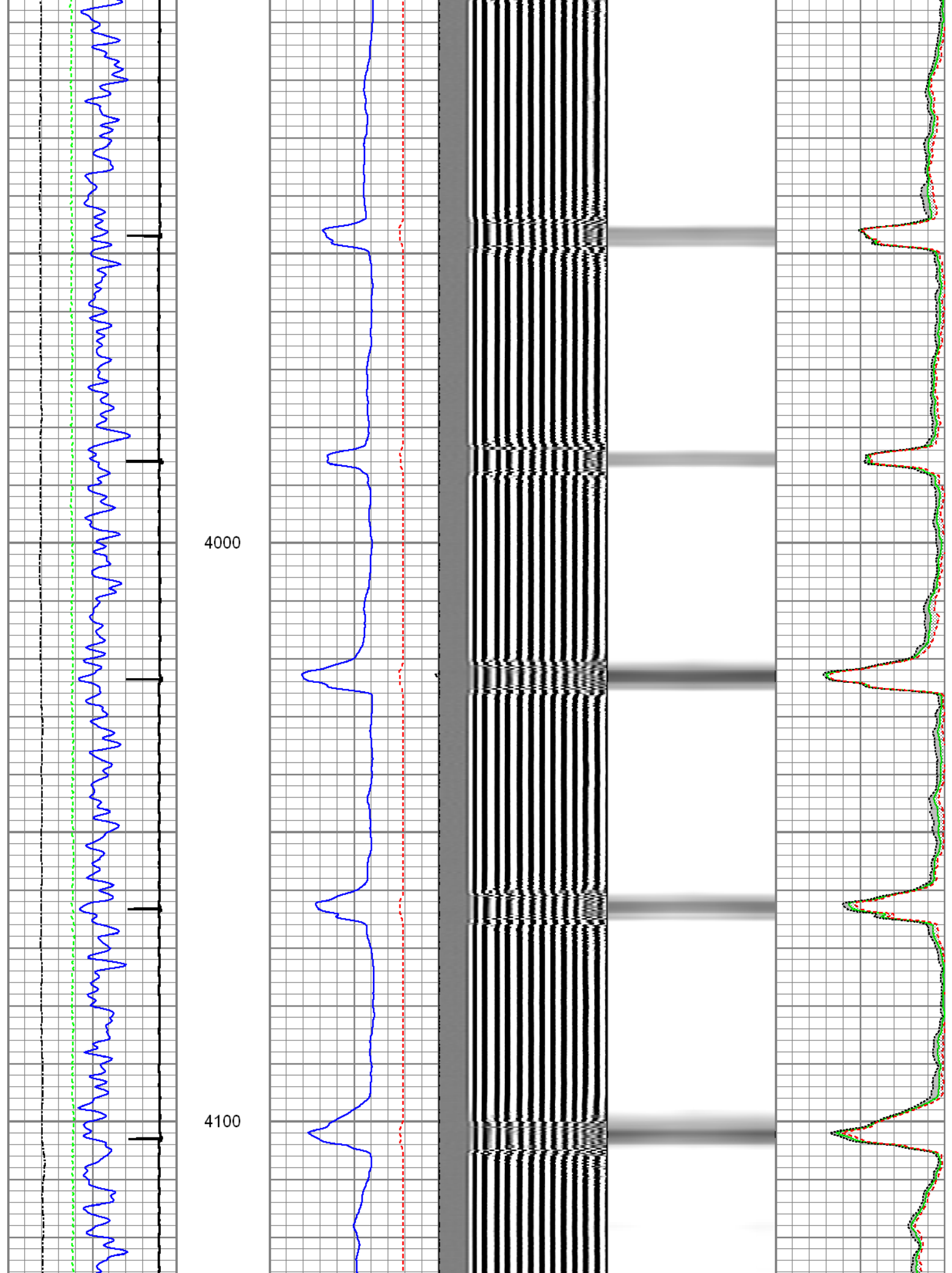


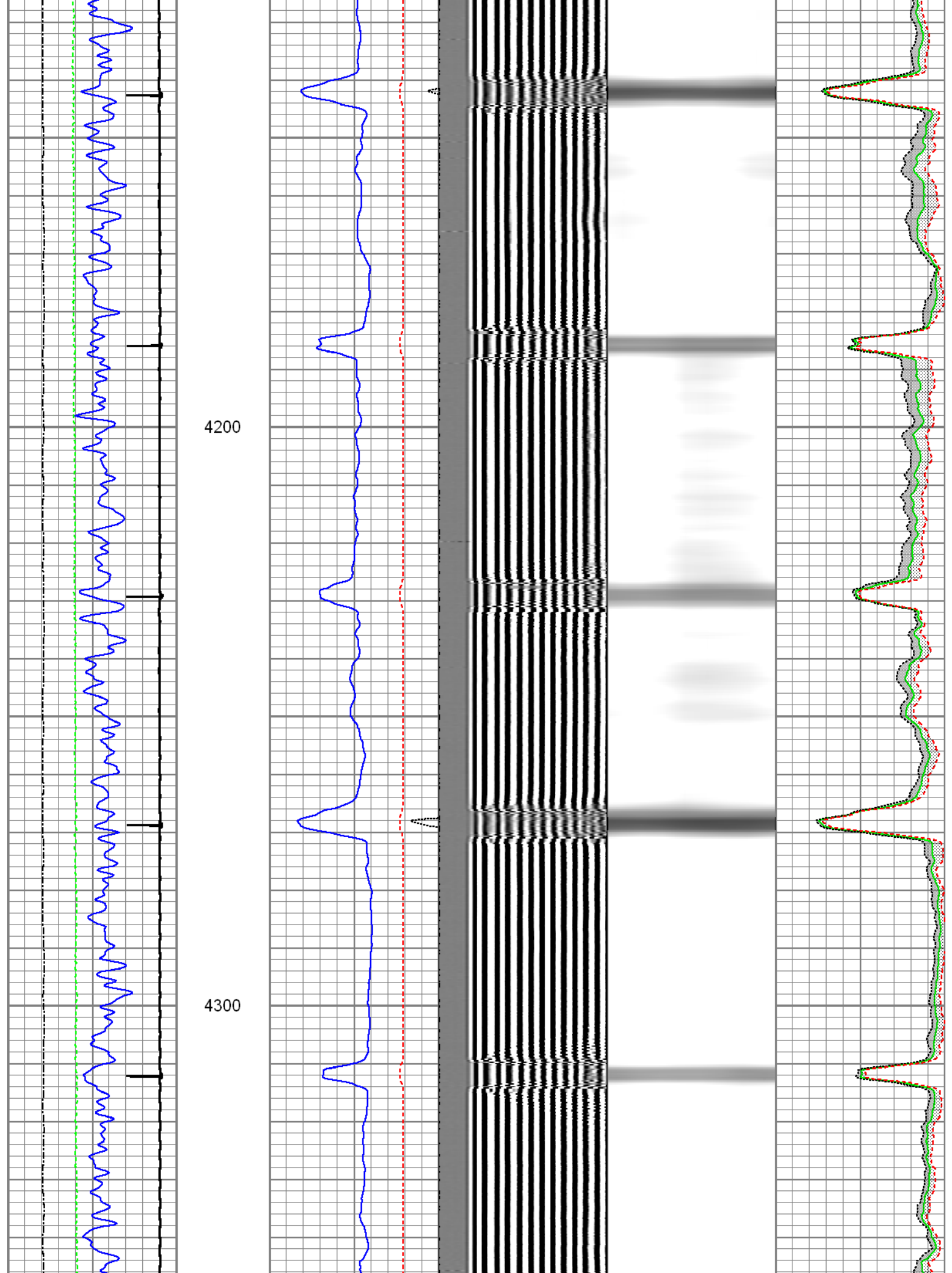
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3800

3900

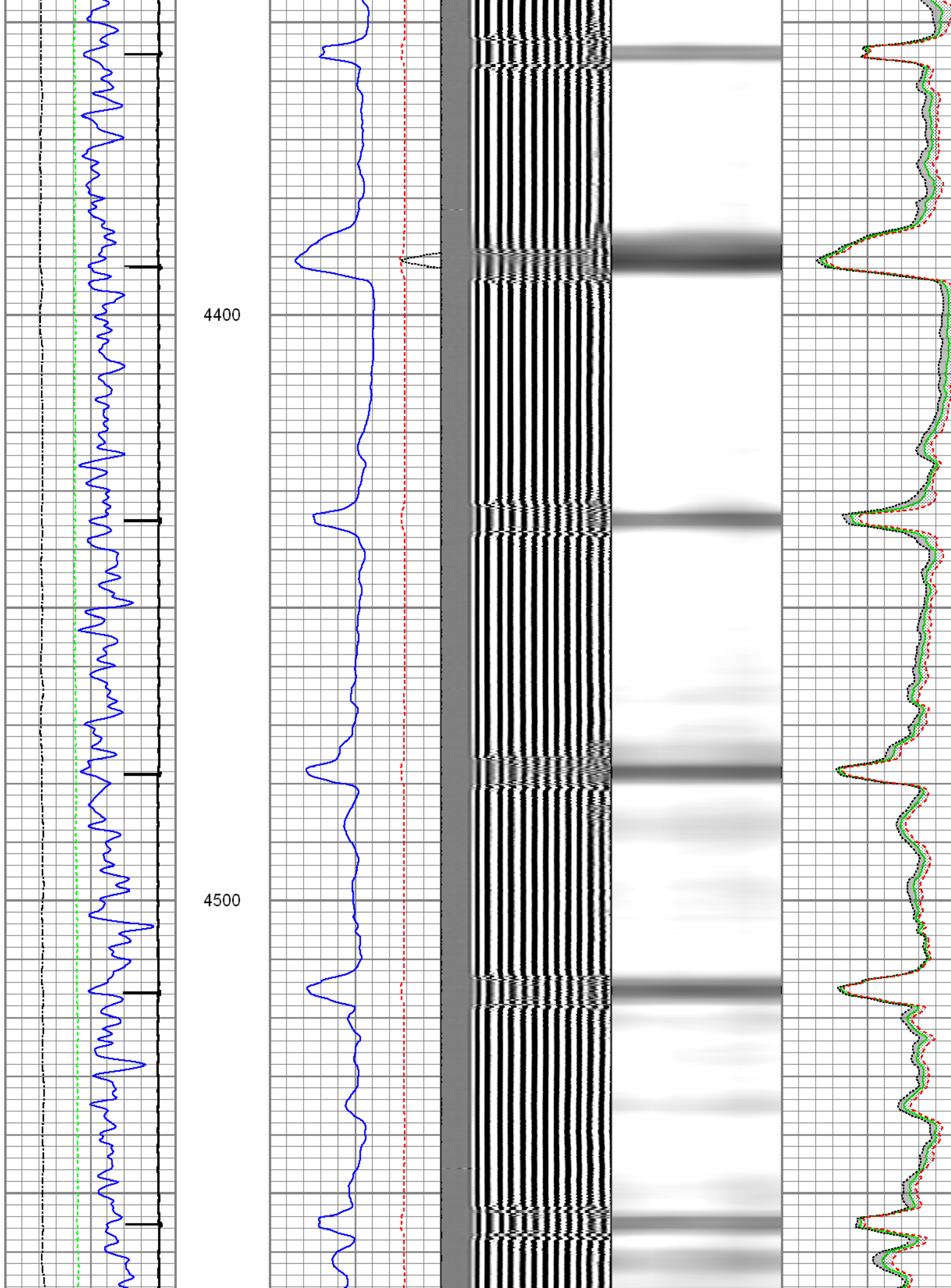


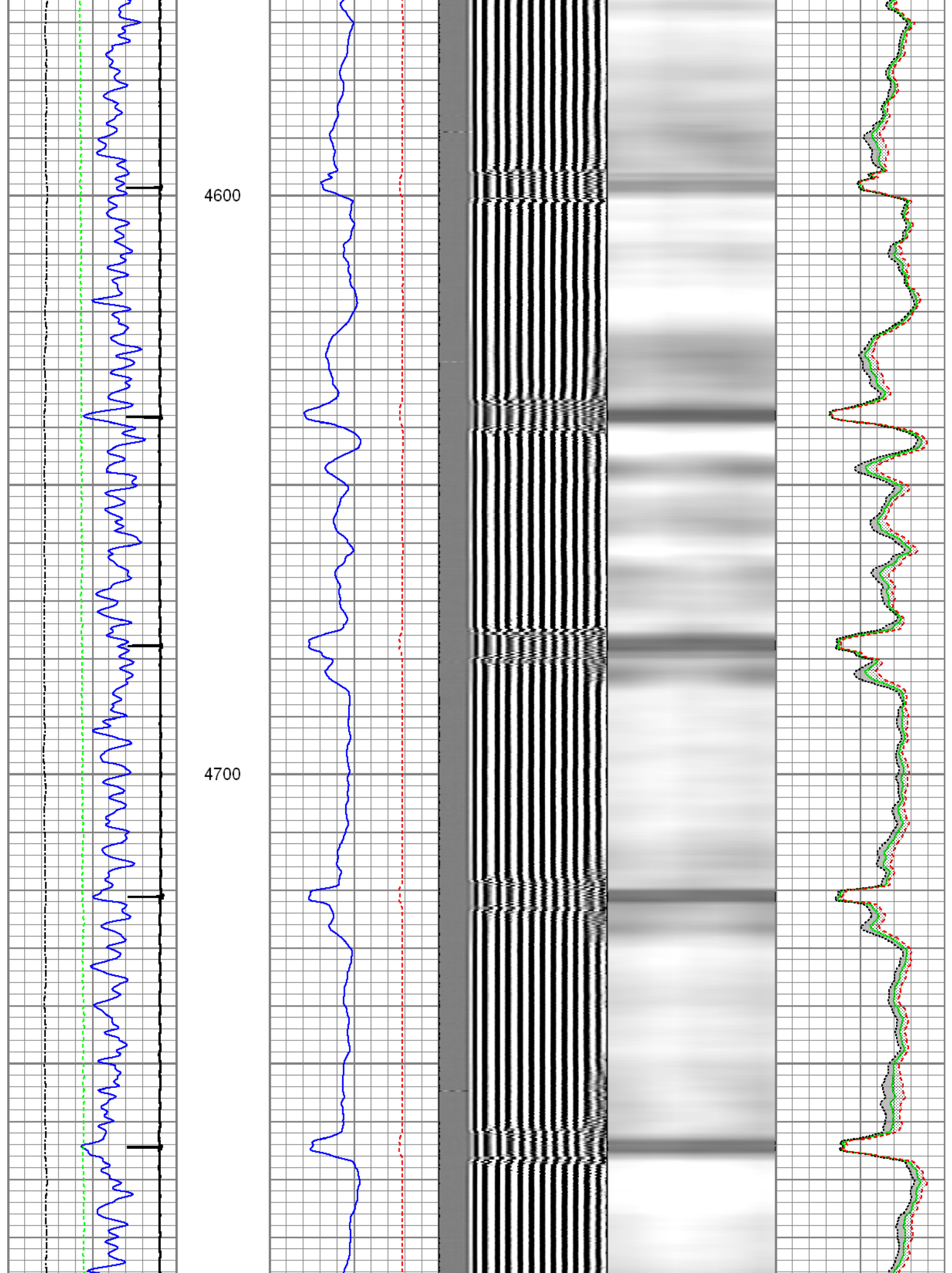


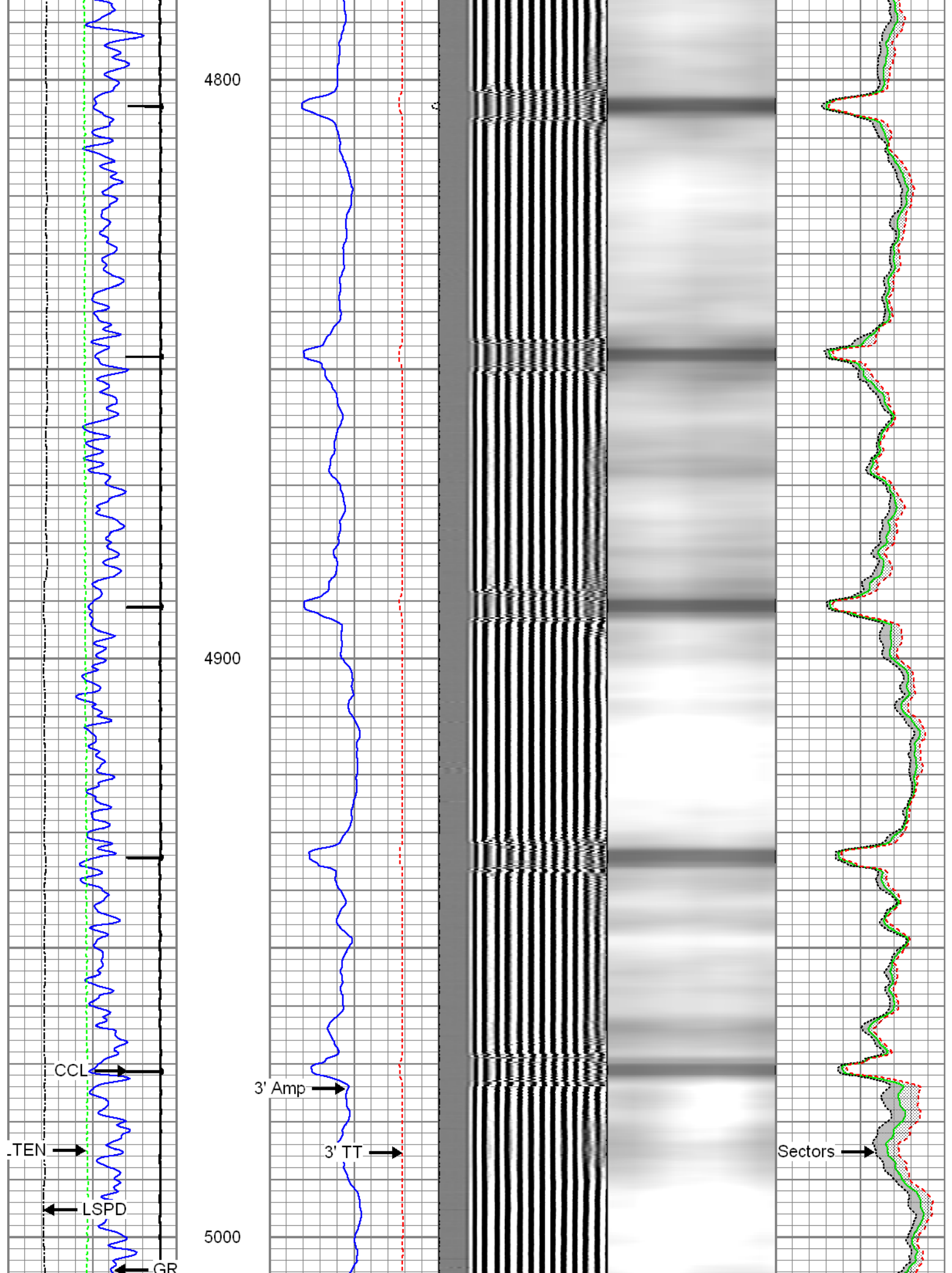


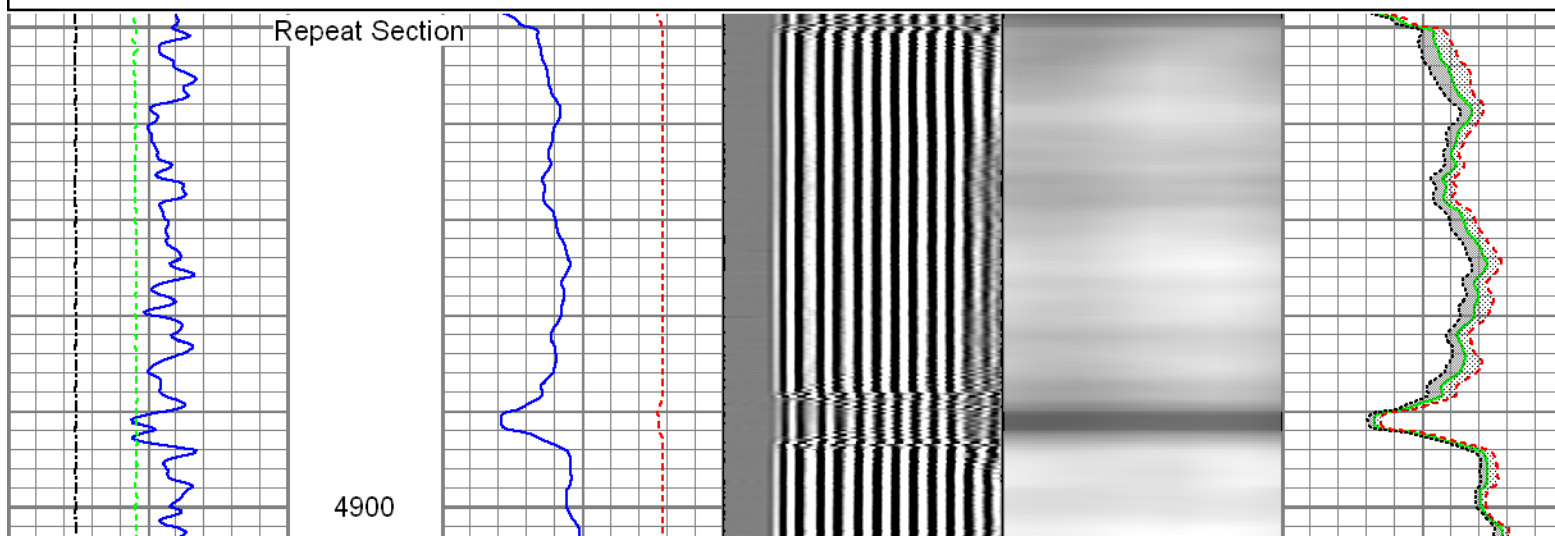
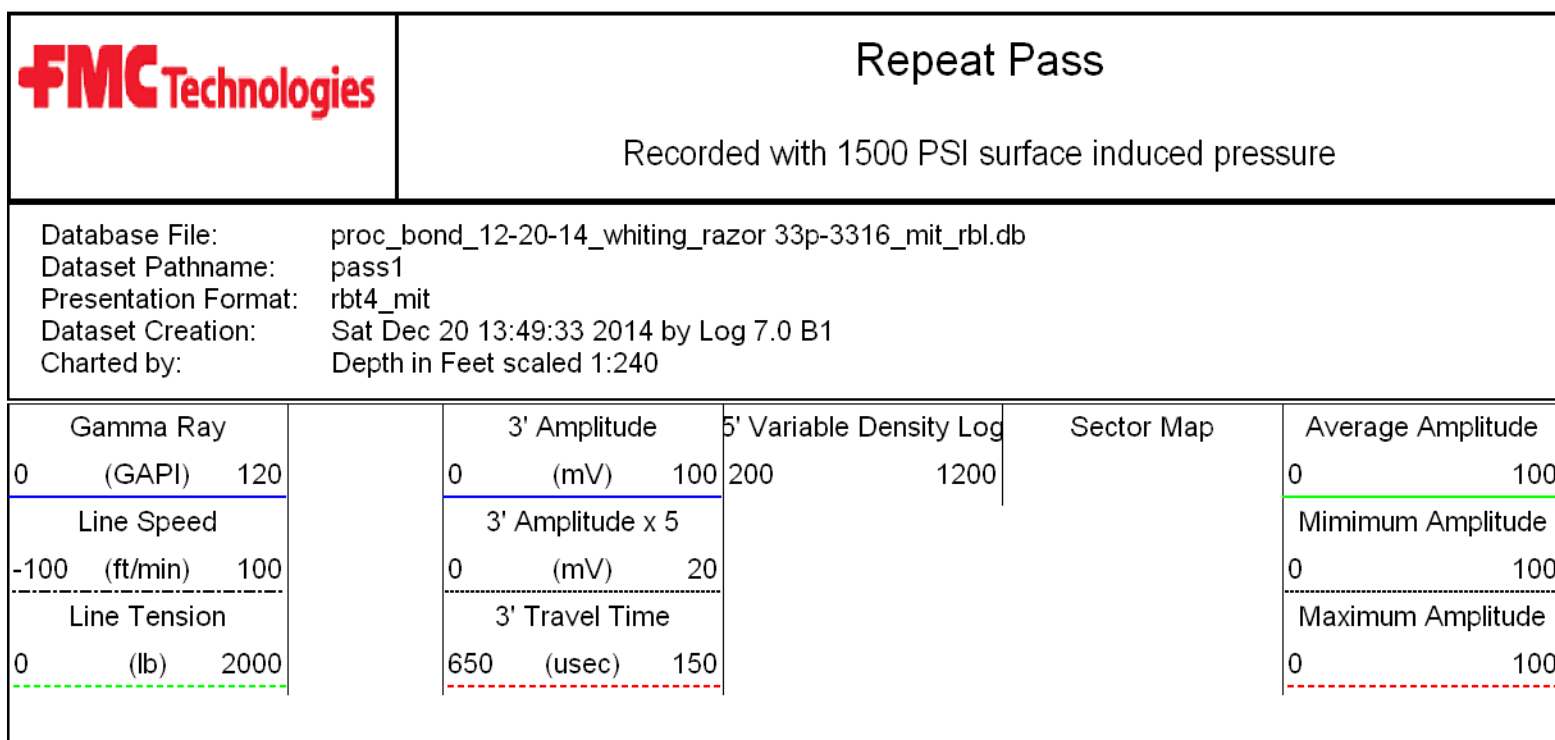
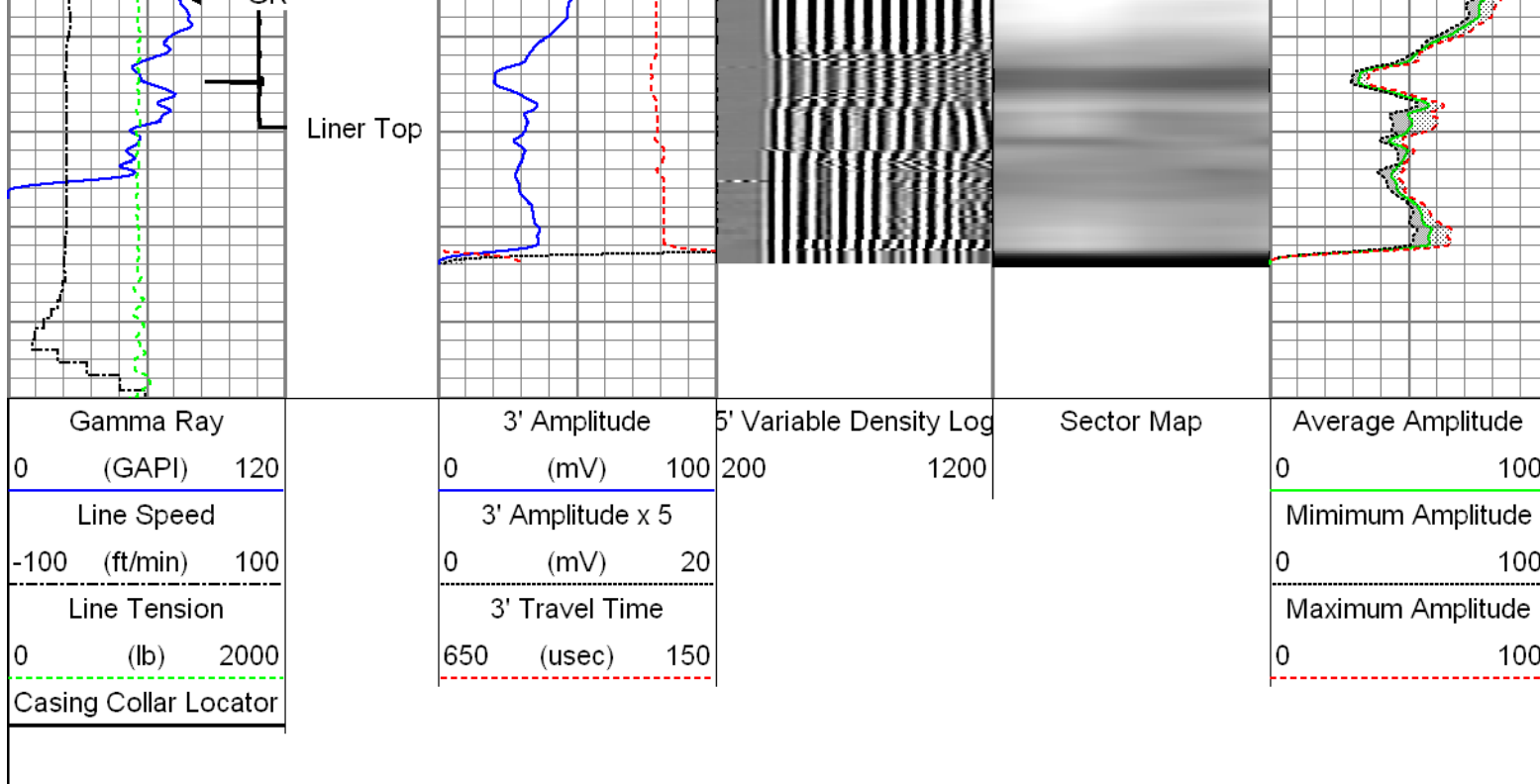
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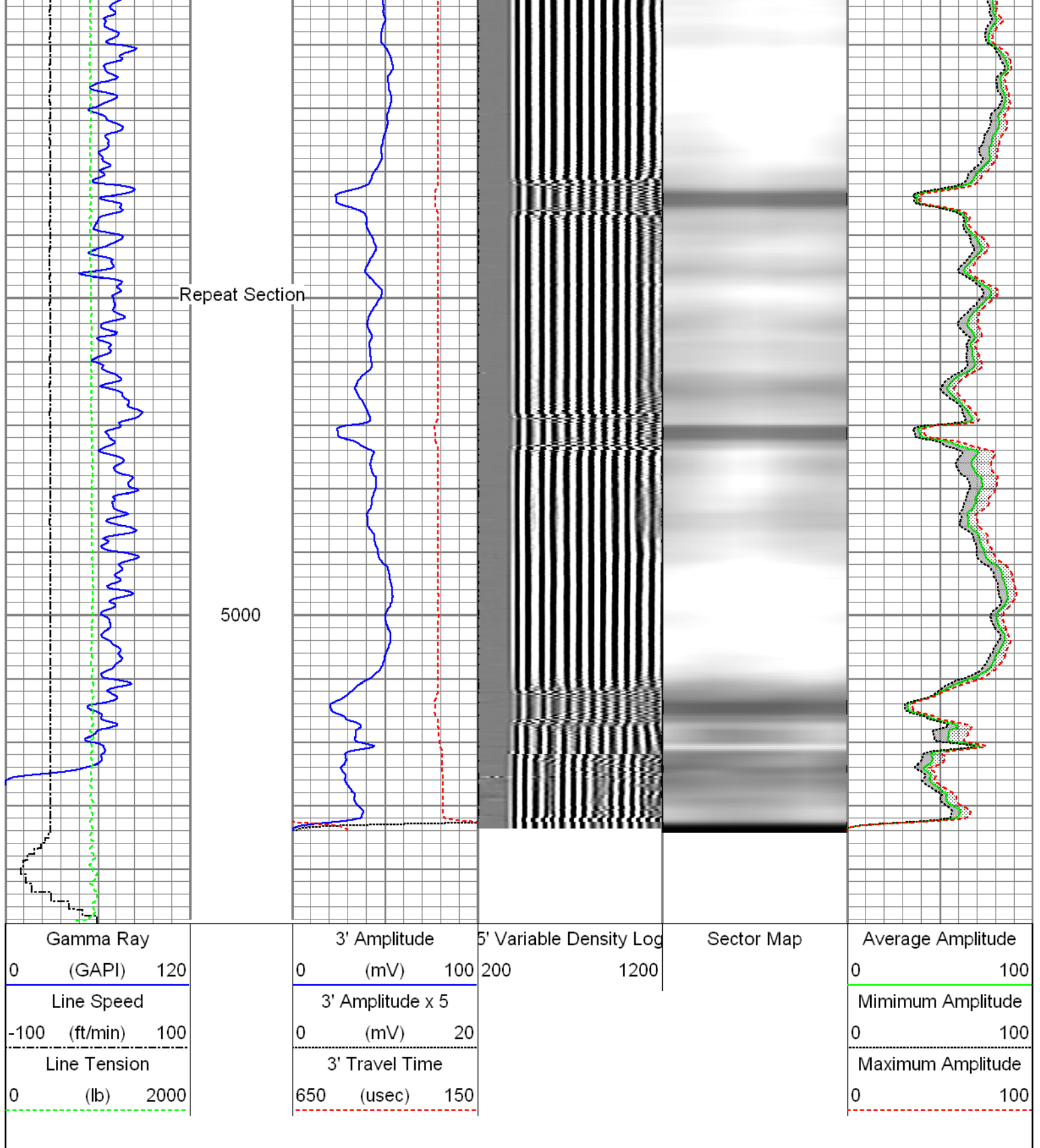
4500












Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (218874) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10013899)	1.93	1.69	9.50

GR	23.24		Production Gamma Ray			
			UW_PRC-DSSRAC (084) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WVF3FT	15.85					
WVFS1	15.85					
WVFS2	15.85					
WVFS3	15.85					
WVFS4	15.85					
WVFS5	15.85					
WVFS6	15.85					
WVFS7	15.85					
WVFS8	15.85					
CBLTEMP	15.85					
CBLROT	15.85					
WVF5FT	14.85					
			UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
			UW_PRC-UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
MIT	5.41		UW_MIT-UW_MIT40_042 (10012912) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #4 -UW_PRC_057 (1102) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
TSTAMP	0.00		UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: PROC_BOND_12-20-14_Whiting_Razor 33P-3316_MIT_RBL.db: field/well/run1/pass2 Total Length: 27.49 ft Total Weight: 319.30 lb O.D. 3.13 in						

Database File:		PROC_BOND_12-20-14_Whiting_Razor 33P-3316_MIT_RBL.db	
Dataset Pathname:		pass2	
Dataset Creation:		Sat Dec 20 13:56:28 2014 by Log 7.0 B1	

Multi-finger Imaging Tool Calibration Report

Serial Number:10012912

Number of Fingers: 40
Tool Model: UW_MIT40_042

Inclinometer Calibration Report
Performed: Mon Jul 15 09:39:36 2013
Calibration Angle: 45

		Inc X	Inc Y
Vertical:		1968	1974
Finger 1 up:		1740	1744
Finger 31 up:		2215	1741
Finger 21 up:		2205	2224
Finger 11 up:		1731	2217
Sensitivity ratio:	0.992868		
X-axis angle:	134.307		
Deviation const.:	335.589		

Finger Calibration Report
Performed: Sat Dec 20 12:43:33 2014

Ring size: (in)	4		5		6		7
		Sens		Sens		Sens	
Finger 01:	1060	340.0	1400	384.0	1784	405.0	2189
Finger 02:	1198	351.0	1549	385.0	1934	397.0	2331
Finger 03:	1087	360.0	1447	403.0	1850	423.0	2273
Finger 04:	1125	350.0	1475	389.0	1864	413.0	2277
Finger 05:	1127	363.0	1490	397.0	1887	415.0	2302
Finger 06:	1126	363.0	1489	396.0	1885	414.0	2299
Finger 07:	1123	370.0	1493	401.0	1894	415.0	2309
Finger 08:	1163	363.0	1526	395.0	1921	413.0	2334
Finger 09:	1144	367.0	1511	395.0	1906	409.0	2315
Finger 10:	1127	367.0	1494	392.0	1886	410.0	2296
Finger 11:	1128	367.0	1495	390.0	1885	404.0	2289
Finger 12:	1128	365.0	1493	389.0	1882	411.0	2293
Finger 13:	1088	360.0	1448	375.0	1823	395.0	2218
Finger 14:	1124	370.0	1494	391.0	1885	409.0	2294
Finger 15:	1064	374.0	1438	402.0	1840	422.0	2262
Finger 16:	1075	372.0	1447	398.0	1845	424.0	2269
Finger 17:	1054	372.0	1426	400.0	1826	429.0	2255
Finger 18:	1137	363.0	1500	385.0	1885	406.0	2291
Finger 19:	1103	365.0	1468	388.0	1856	411.0	2267
Finger 20:	1073	364.0	1437	398.0	1835	424.0	2259
Finger 21:	1040	365.0	1405	388.0	1793	399.0	2192
Finger 22:	1042	365.0	1407	399.0	1806	425.0	2231
Finger 23:	1011	365.0	1376	405.0	1781	437.0	2218
Finger 24:	1076	360.0	1436	385.0	1821	399.0	2220
Finger 25:	1018	360.0	1378	404.0	1782	430.0	2212
Finger 26:	1142	347.0	1489	374.0	1863	393.0	2256
Finger 27:	1079	355.0	1434	393.0	1827	415.0	2242
Finger 28:	1075	342.0	1417	375.0	1792	396.0	2188
Finger 29:	1035	352.0	1387	400.0	1787	423.0	2210
Finger 30:	1090	352.0	1442	392.0	1834	414.0	2248
Finger 31:	1113	346.0	1459	388.0	1847	407.0	2254
Finger 32:	1062	351.0	1413	402.0	1815	423.0	2238
Finger 33:	1174	344.0	1518	375.0	1893	385.0	2278
Finger 34:	1135	340.0	1475	386.0	1861	404.0	2265
Finger 35:	1058	355.0	1413	411.0	1824	434.0	2258
Finger 36:	1085	348.0	1433	397.0	1830	421.0	2251
Finger 37:	1116	348.0	1464	392.0	1856	405.0	2261
Finger 38:	1156	344.0	1500	383.0	1883	395.0	2278
Finger 39:	1171	340.0	1511	381.0	1892	396.0	2288
Finger 40:	1105	350.0	1455	394.0	1849	412.0	2261

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454

Serial Number: 10013899
Tool Model: UW_RBT_004
Calibration Casing Diameter: 7.000 in
Calibration Depth: 7.999 ft

Master Calibration, performed Sat Dec 20 12:45:32 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.004	0.746	0.800	62.165	82.661	0.497
5FT	-0.001	0.779	0.800	62.165	78.664	0.896
S1	0.004	0.704	0.000	100.000	142.800	-0.526
S2	0.002	0.725	0.000	100.000	138.227	-0.213
S3	0.003	0.748	0.000	100.000	134.199	-0.387
S4	0.002	0.770	0.000	100.000	130.179	-0.299
S5	0.004	0.777	0.000	100.000	129.248	-0.473
S6	0.002	0.770	0.000	100.000	130.251	-0.323
S7	0.003	0.754	0.000	100.000	133.305	-0.464
S8	0.003	0.718	0.000	100.000	140.030	-0.477

Gamma Ray Calibration Report

Serial Number: 10013899
Tool Model: UW_PGR_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 33P-3316
Field Wildcat
County Weld
State Colorado