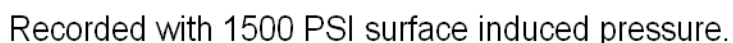


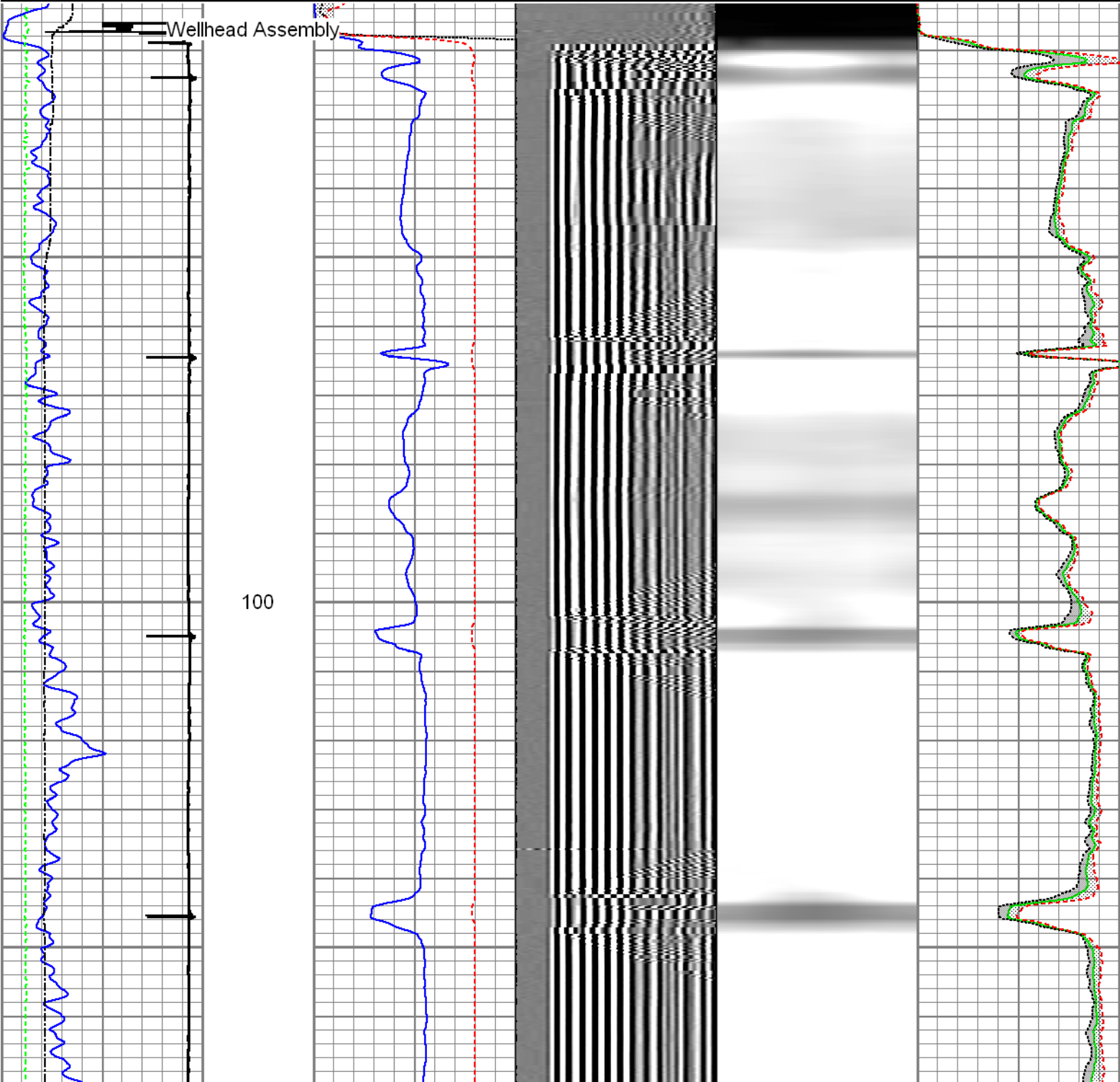


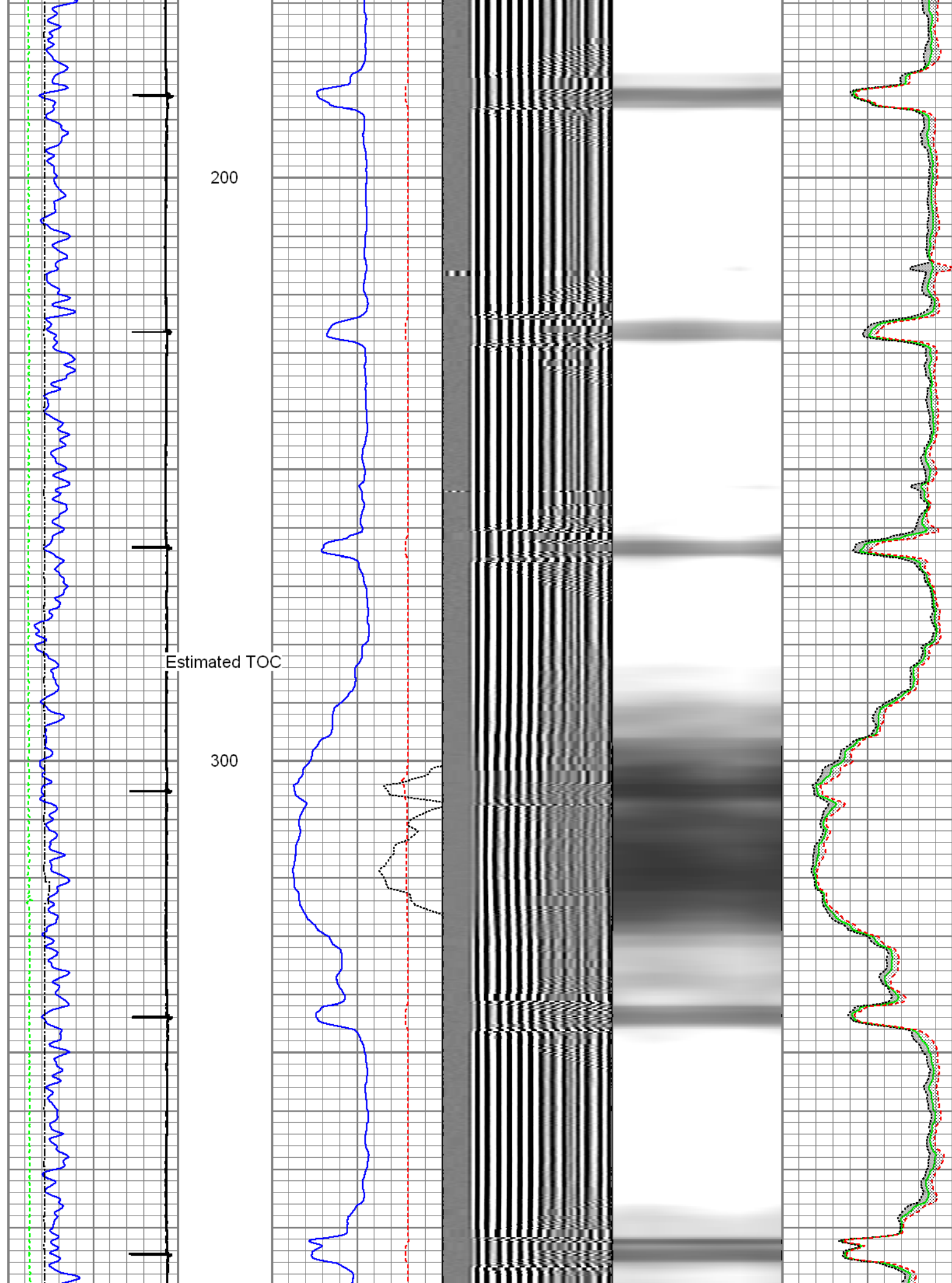
<<< Fold Here >>>
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible 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
Log ran as per Customer request. Log ran from 5162 FT to surface. Log ran with 1500 PSI surface induced pressure. Depth Corrected 0 FT. Depth reference to reported liner top at 5097 FT Thank you for choosing FMC Technologies Completion Services, Inc.!!

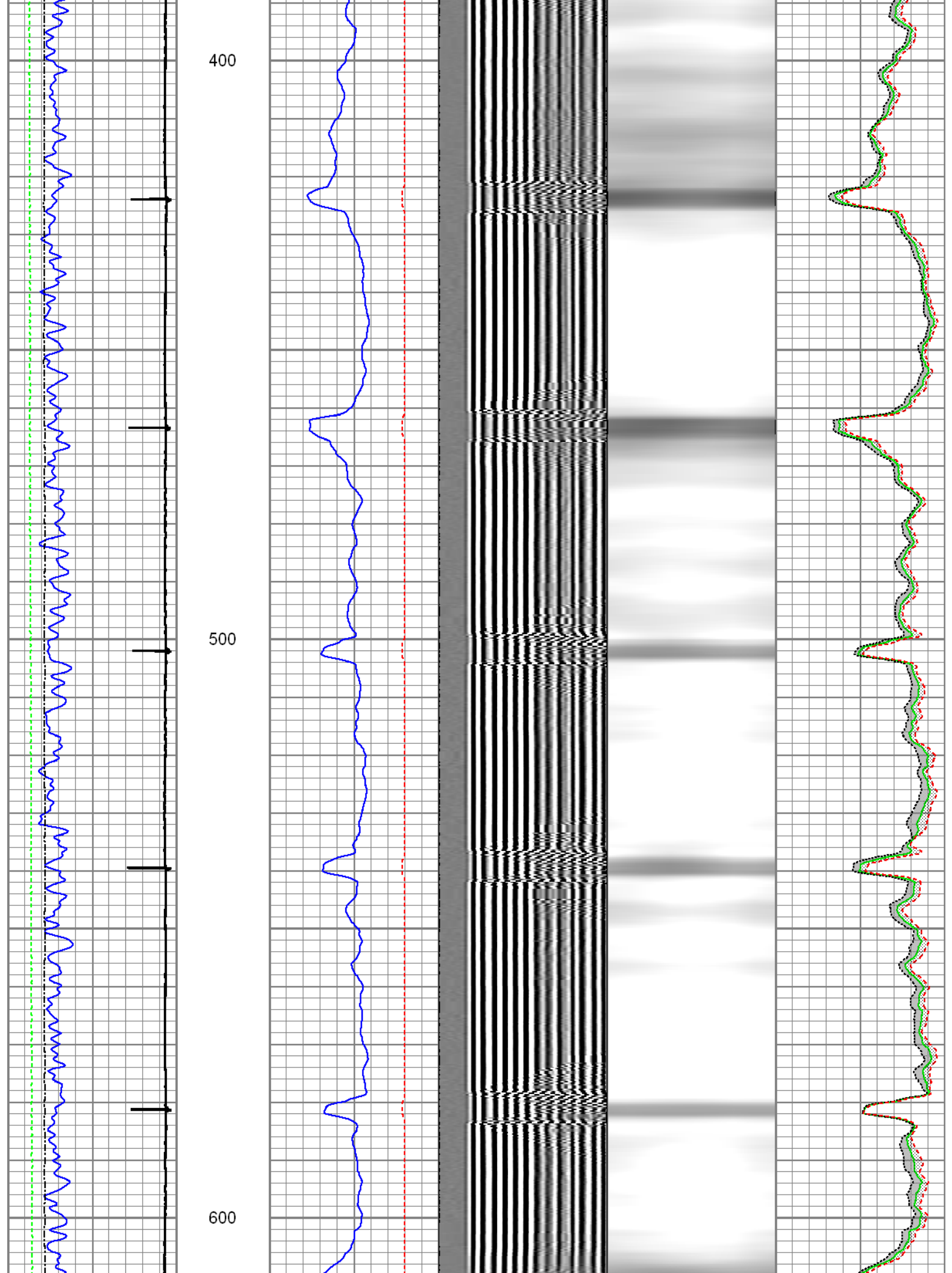


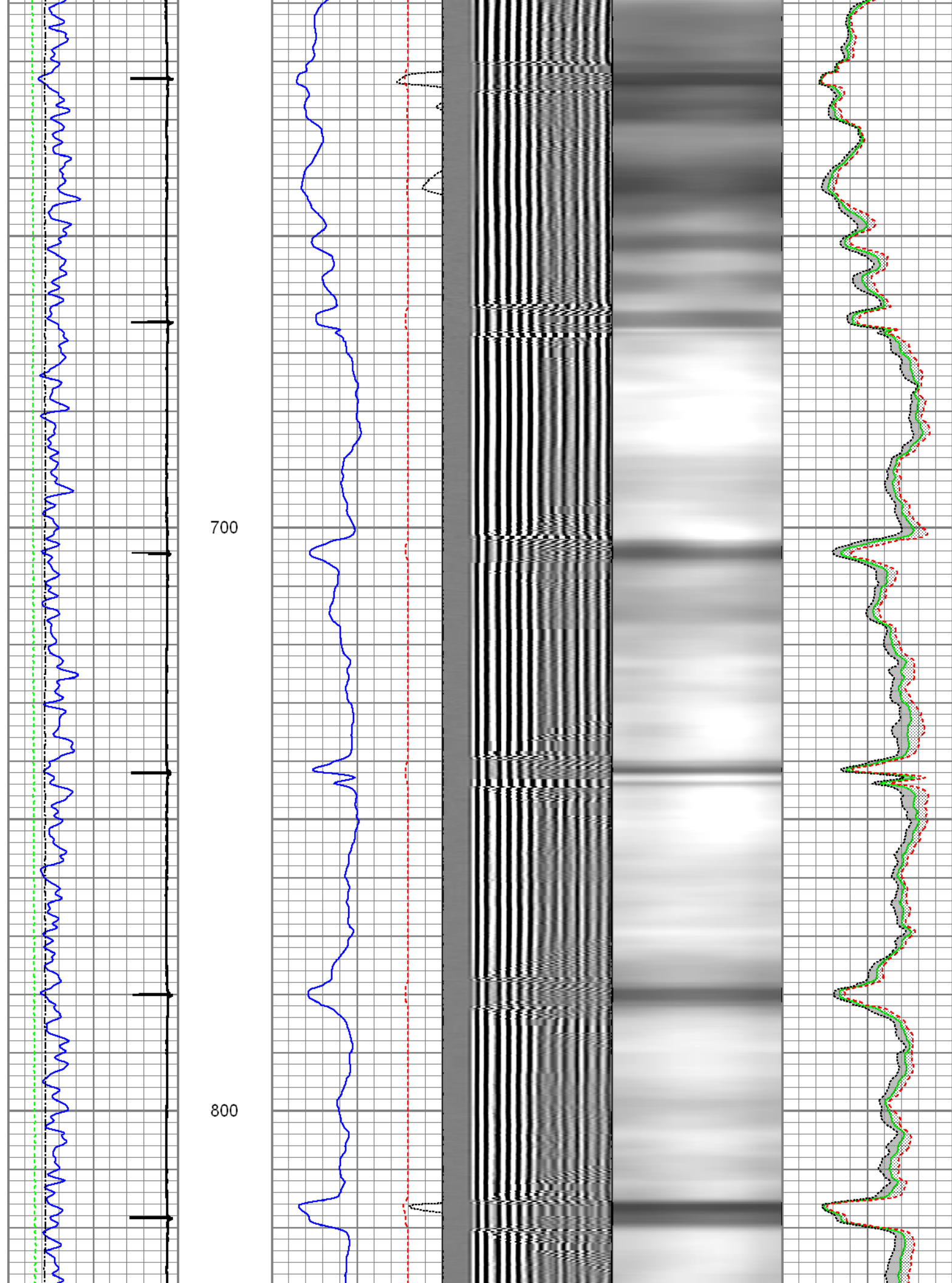
Database File: 09-24-14_whiting_razor 21c-0908_mit_rbl.db
Dataset Pathname: pass4
Presentation Format: rbt4_mit
Dataset Creation: Wed Sep 24 13:42:08 2014 by Log SCH 111116
Charted by: Depth in Feet scaled 1:240

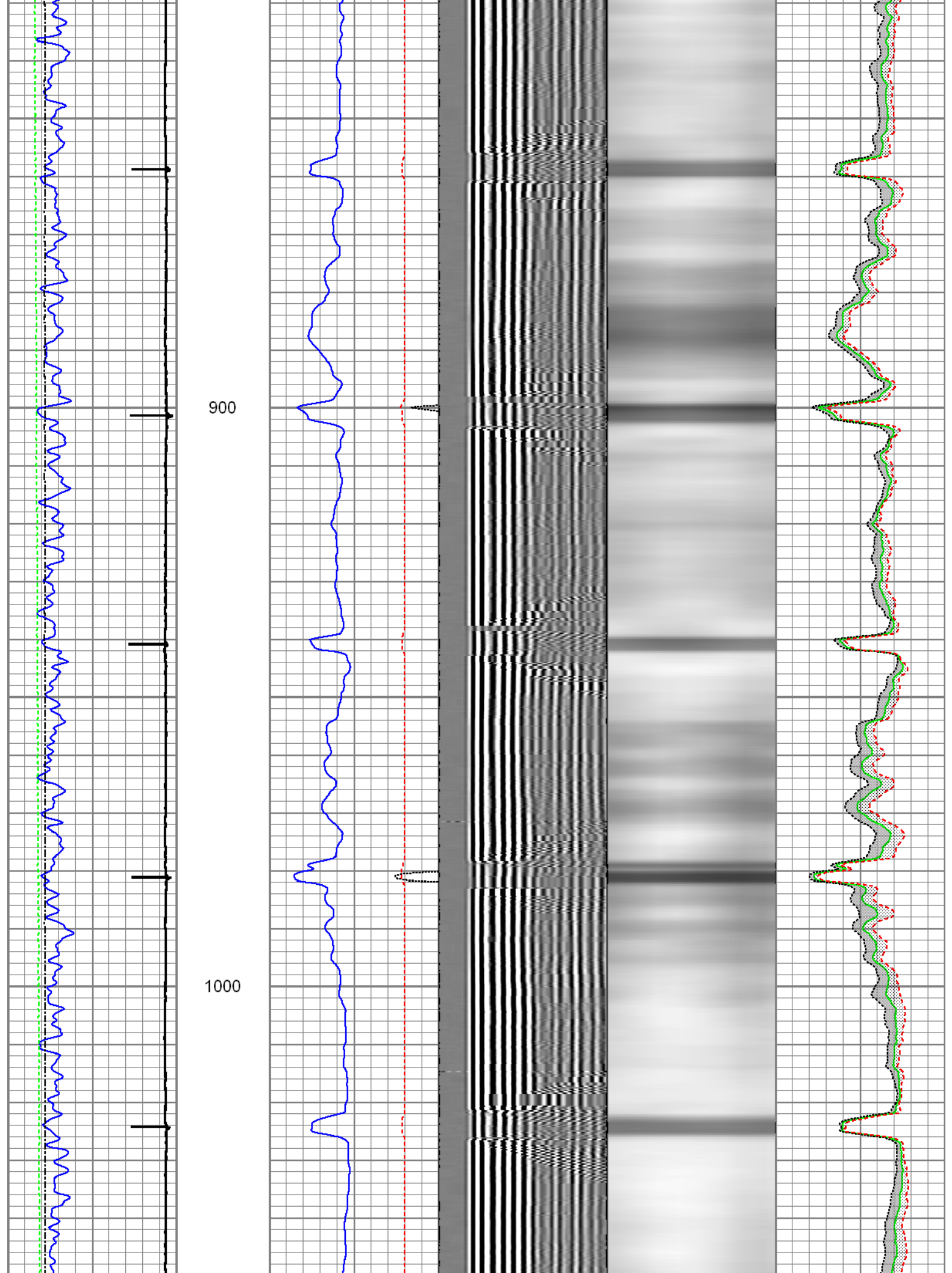
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				

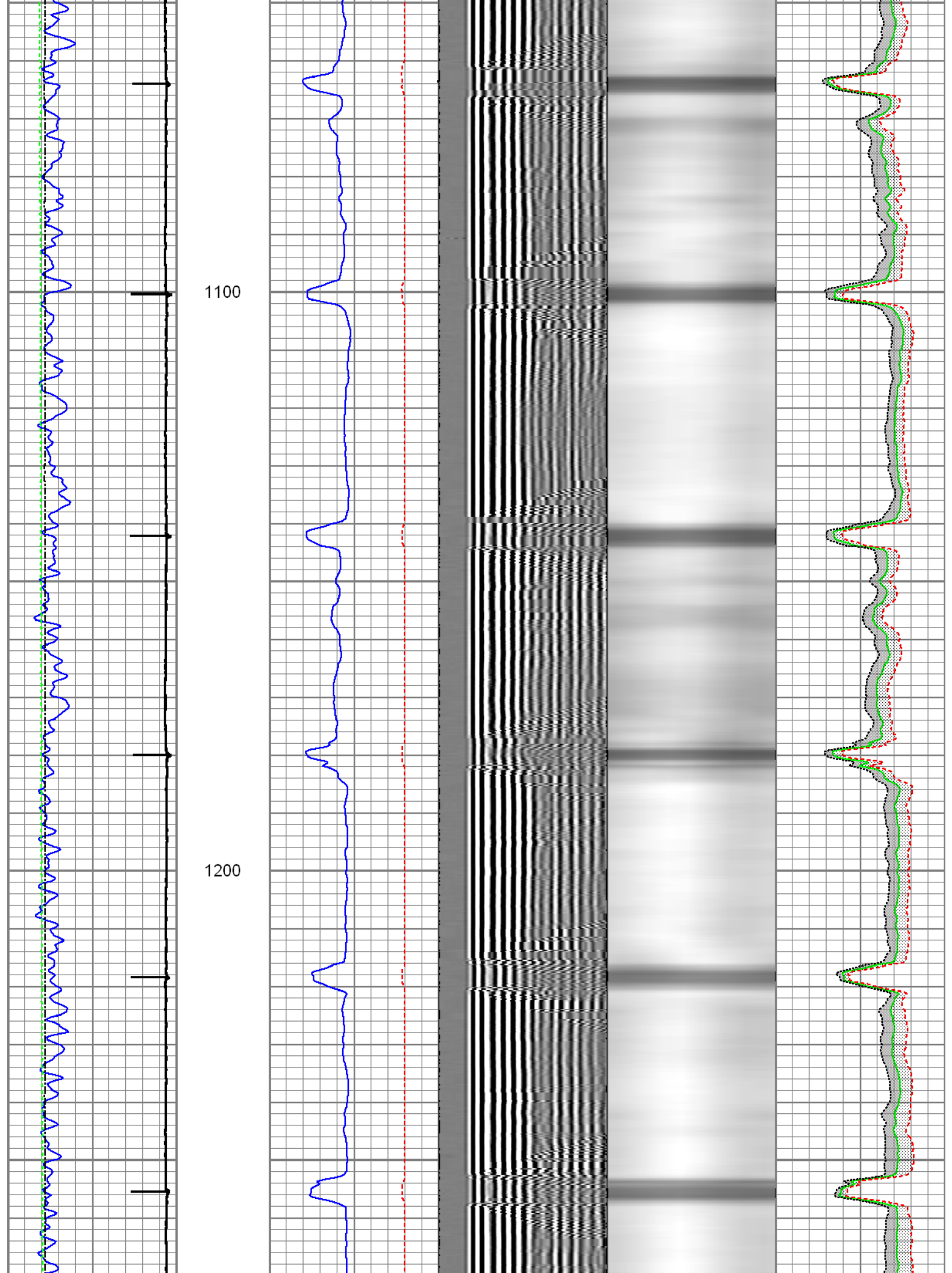


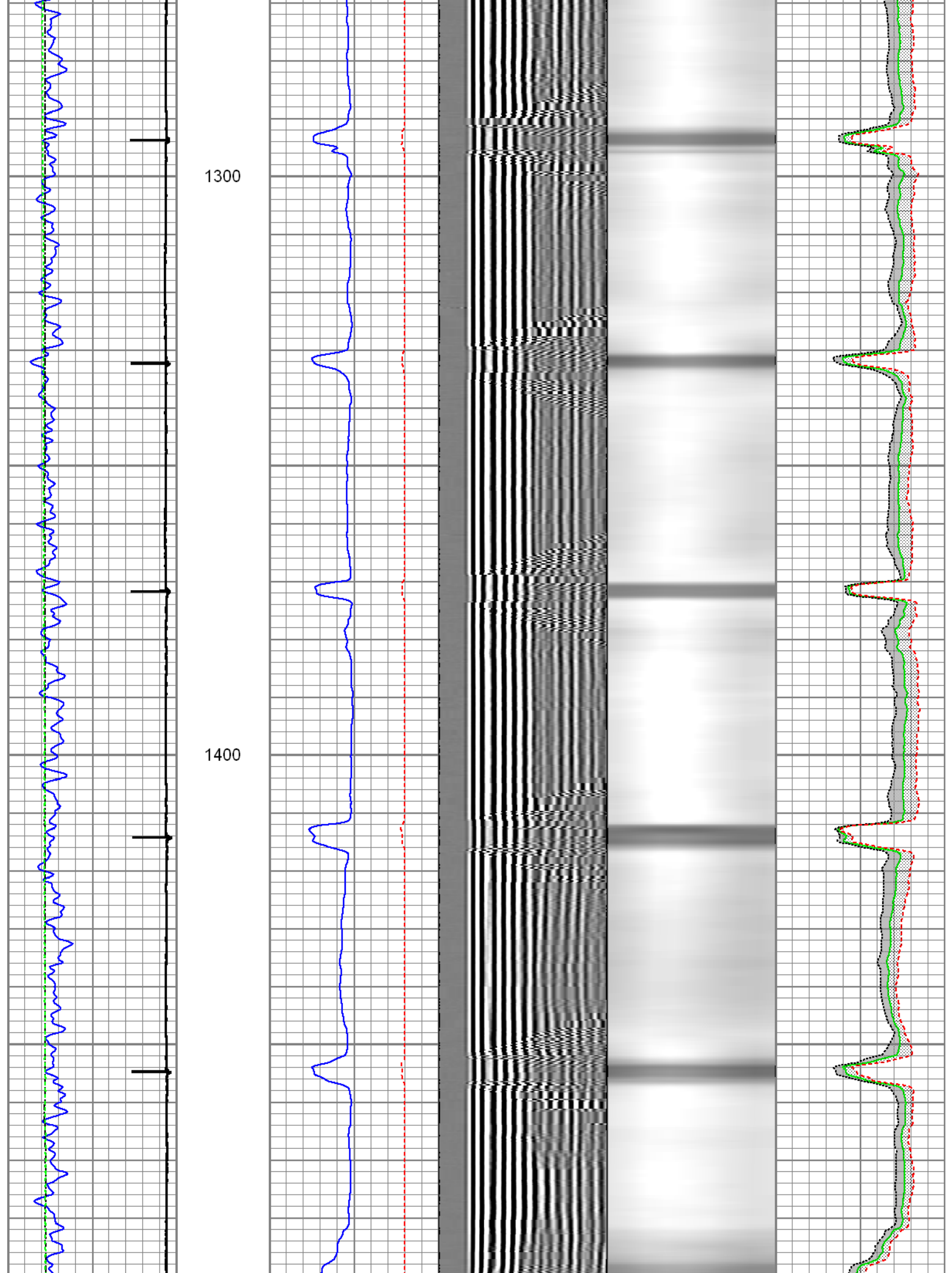


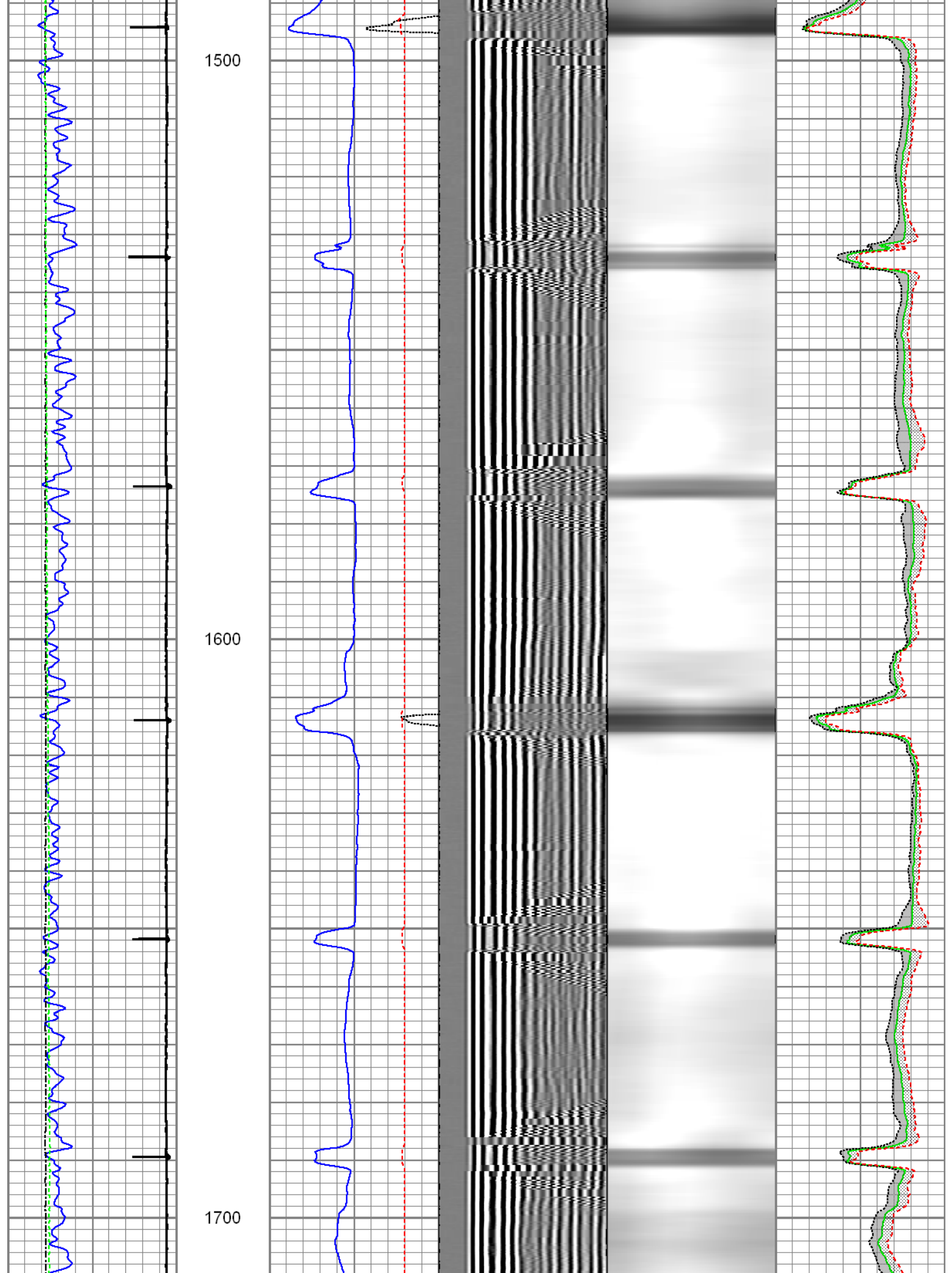


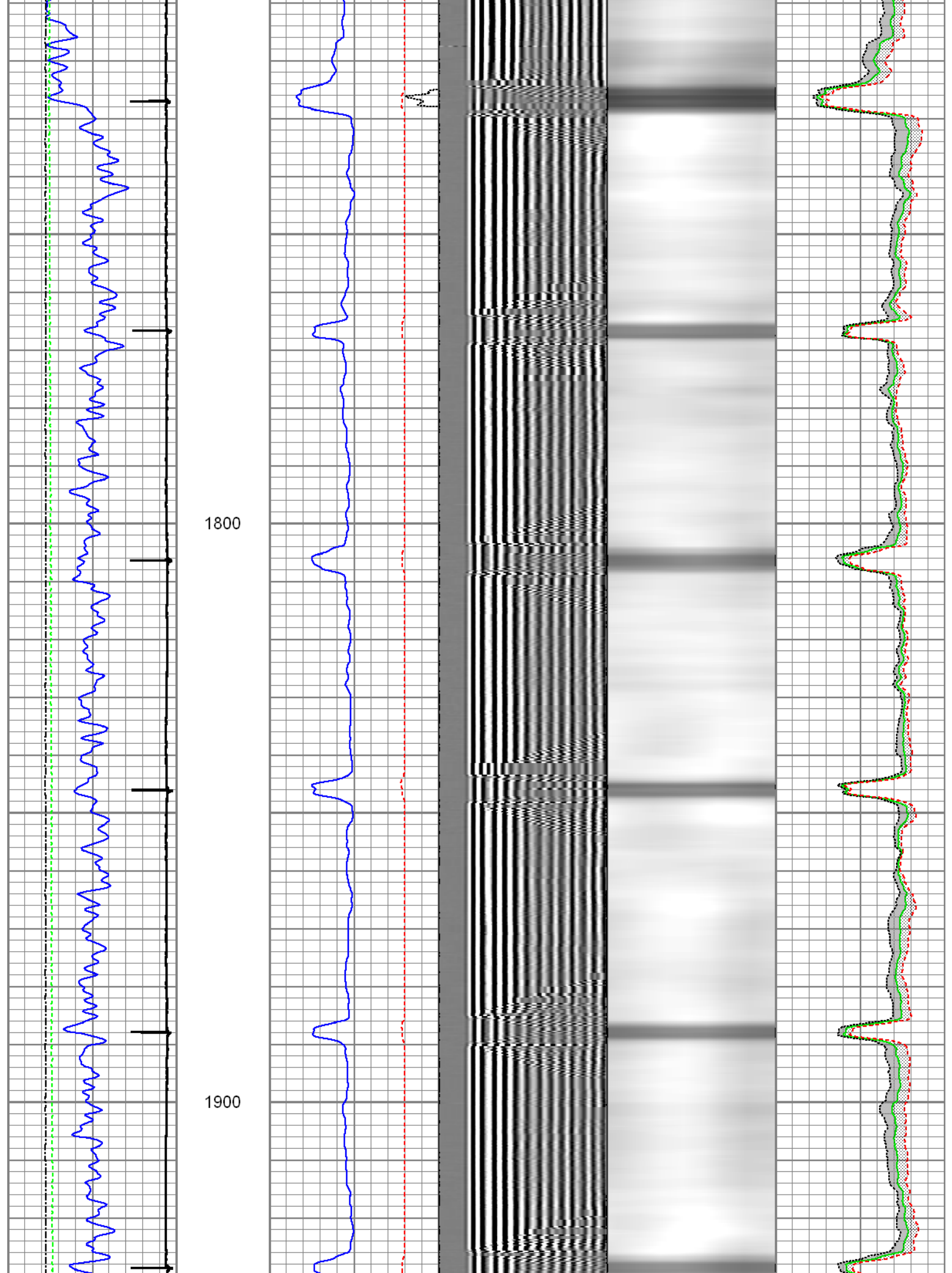


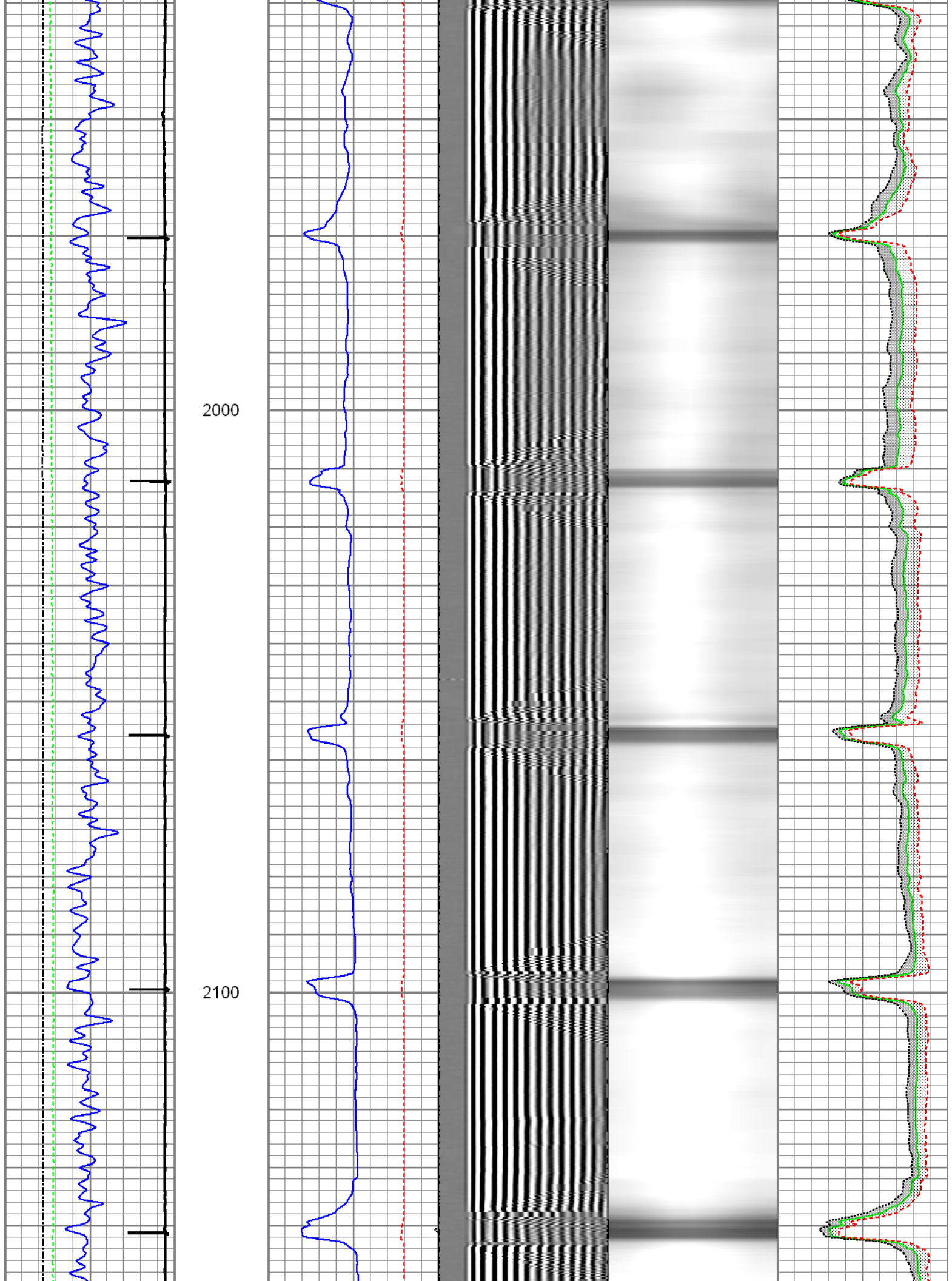


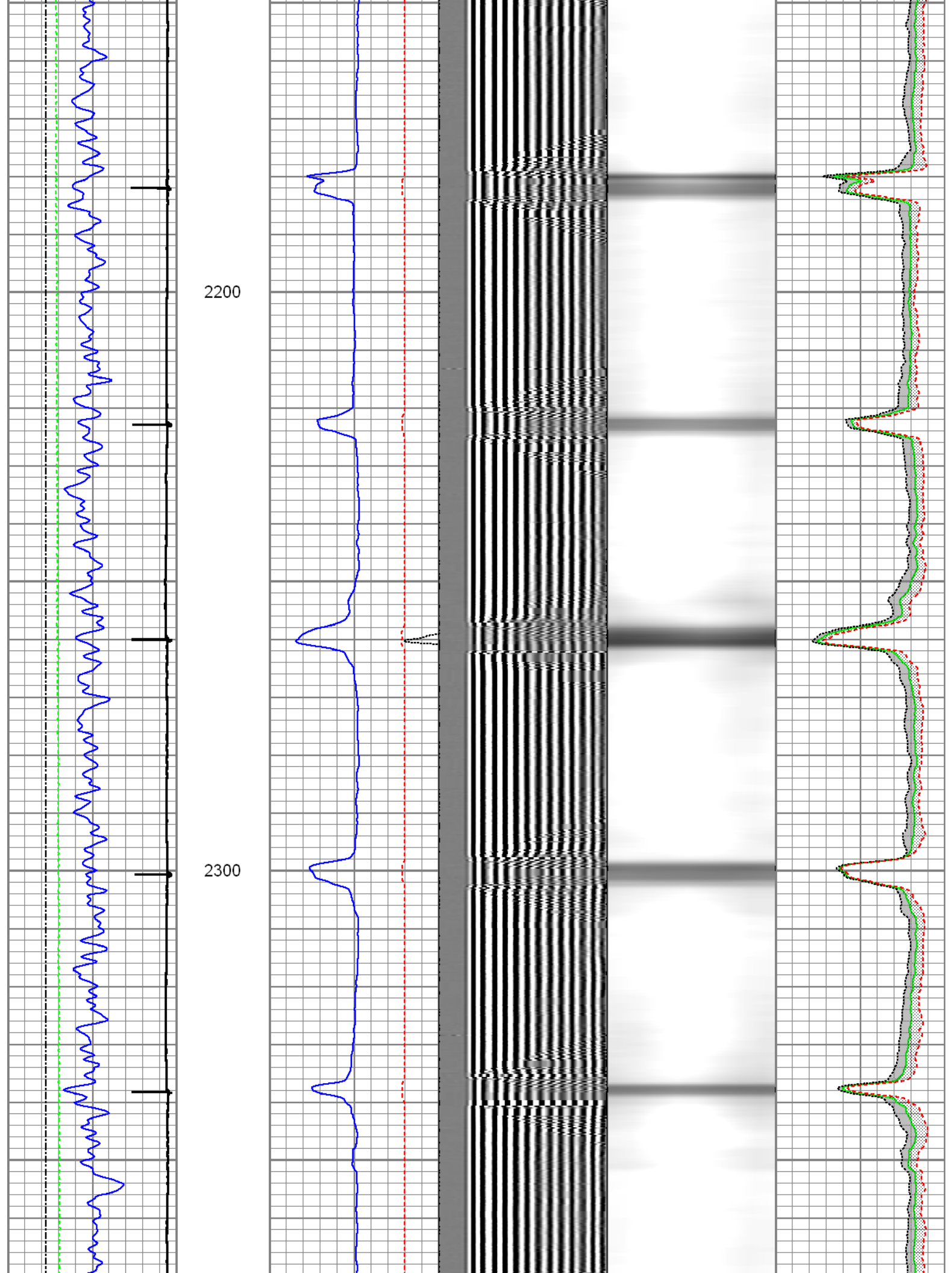


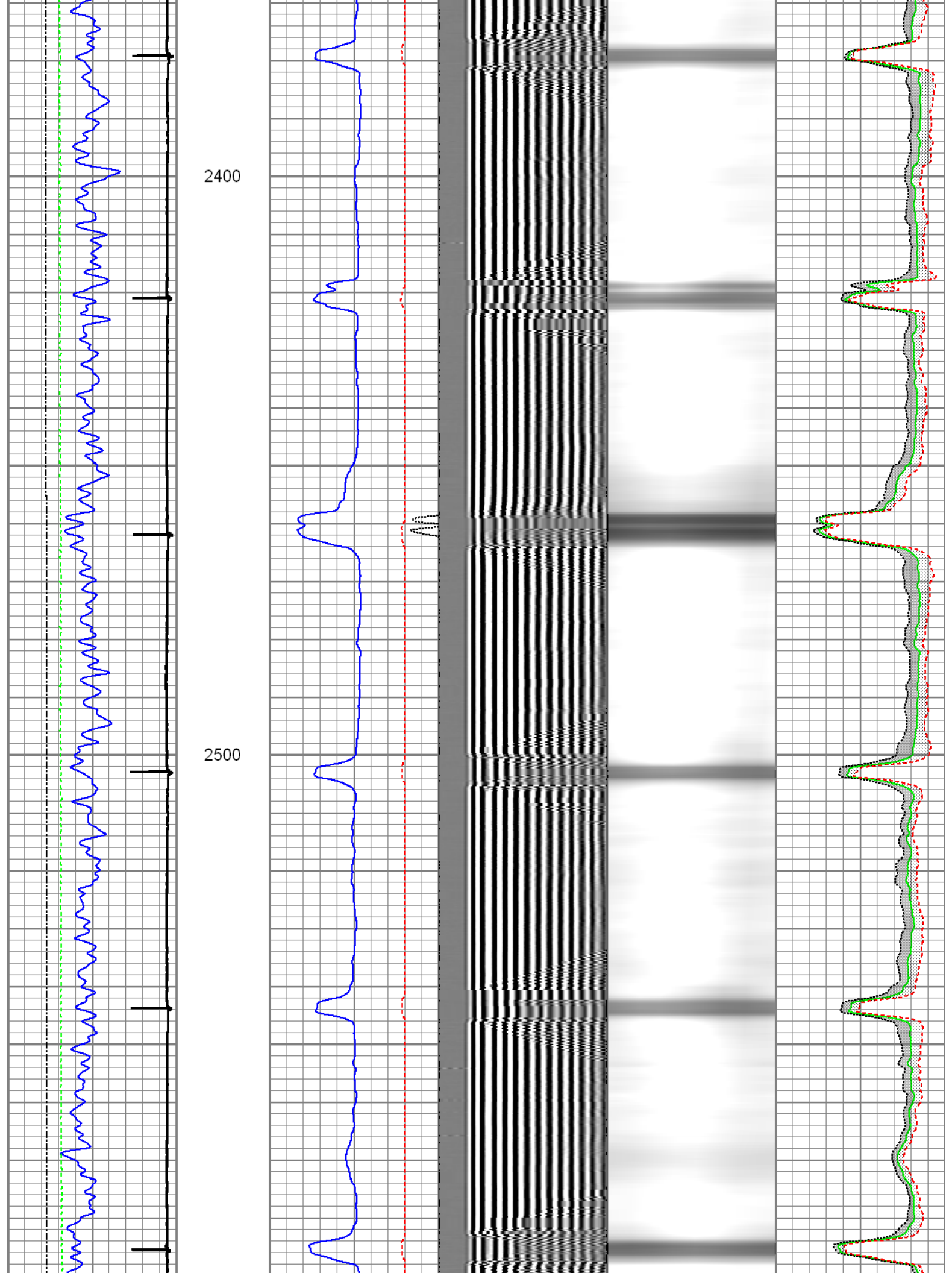


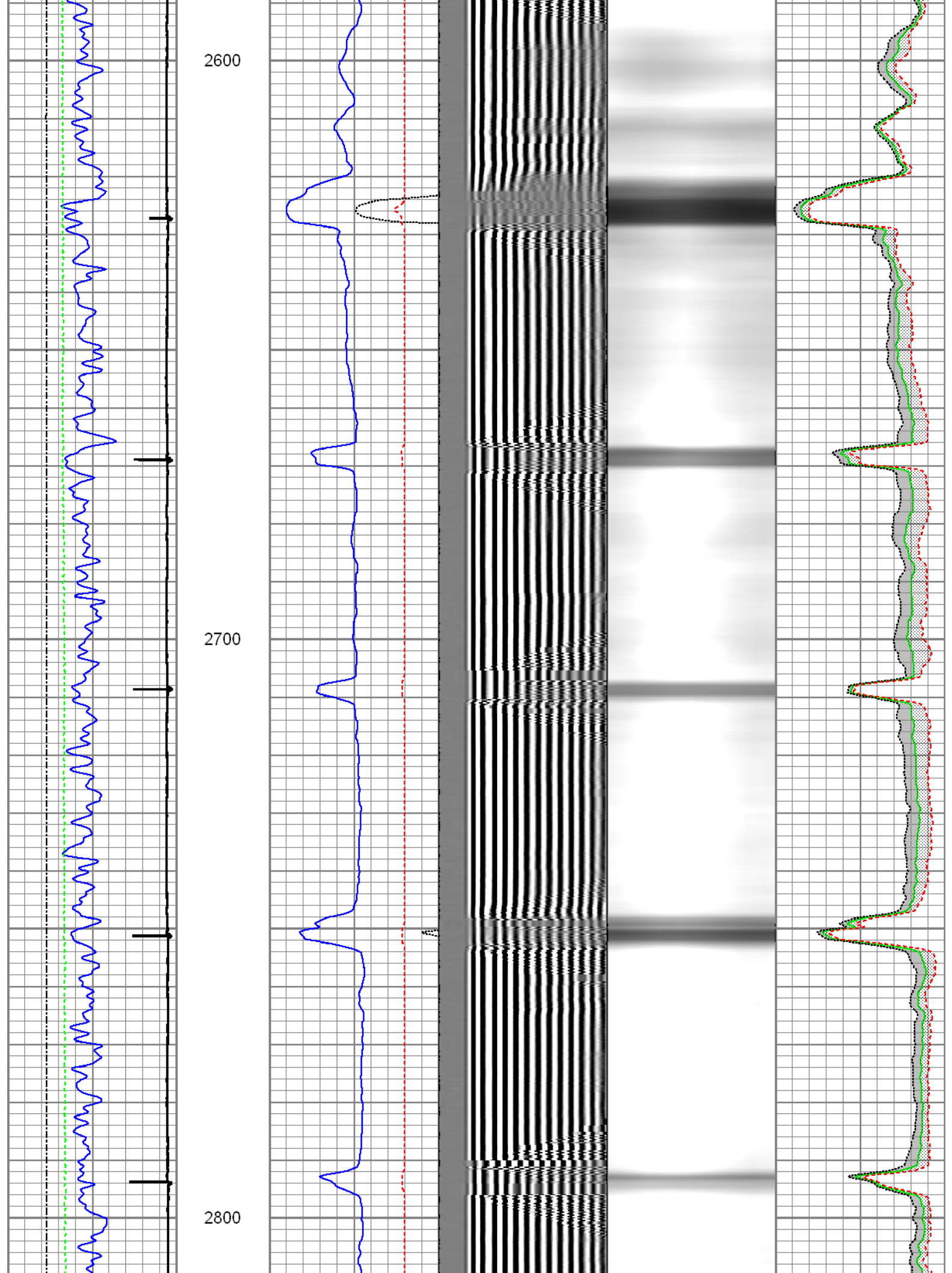


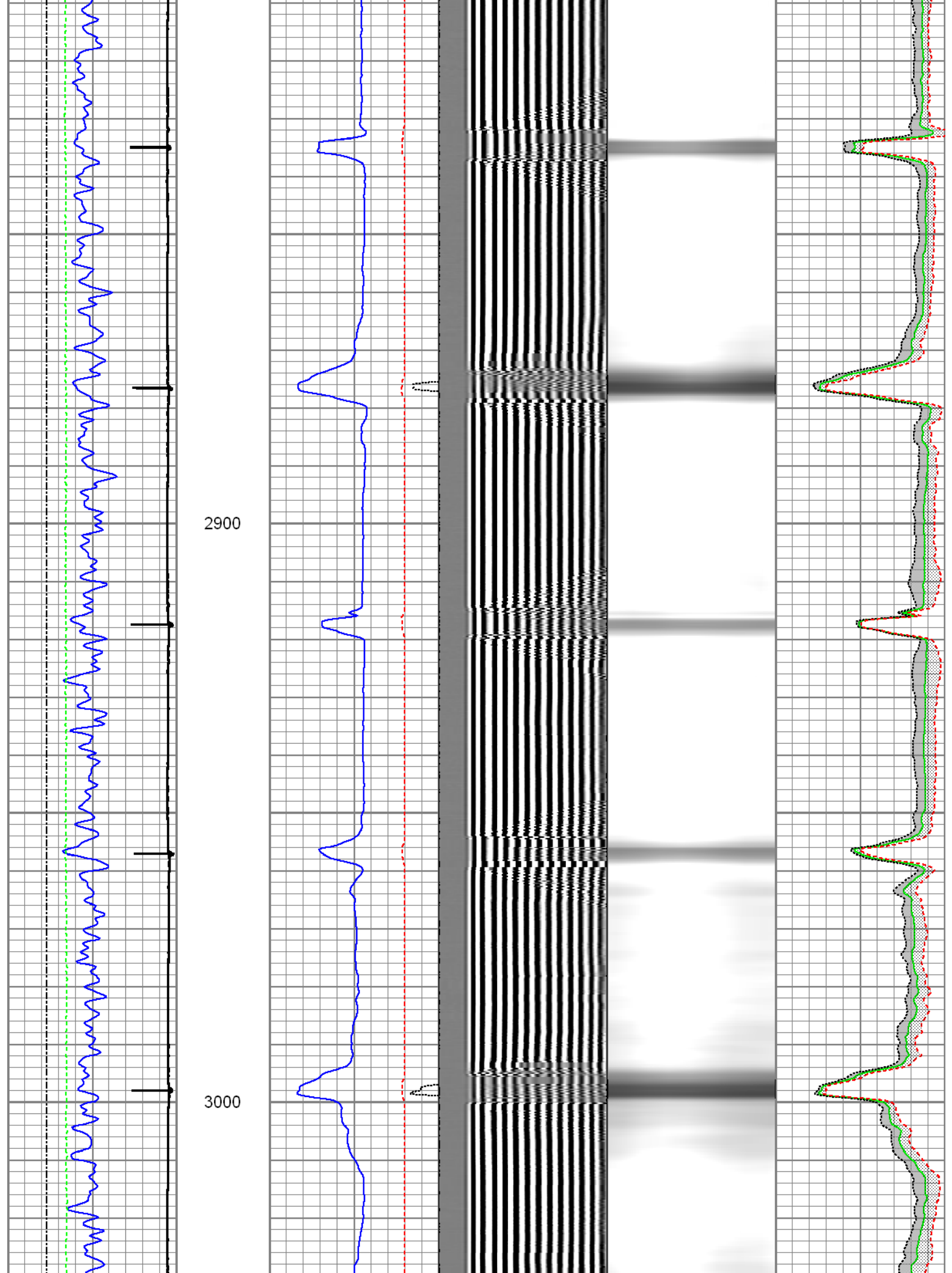


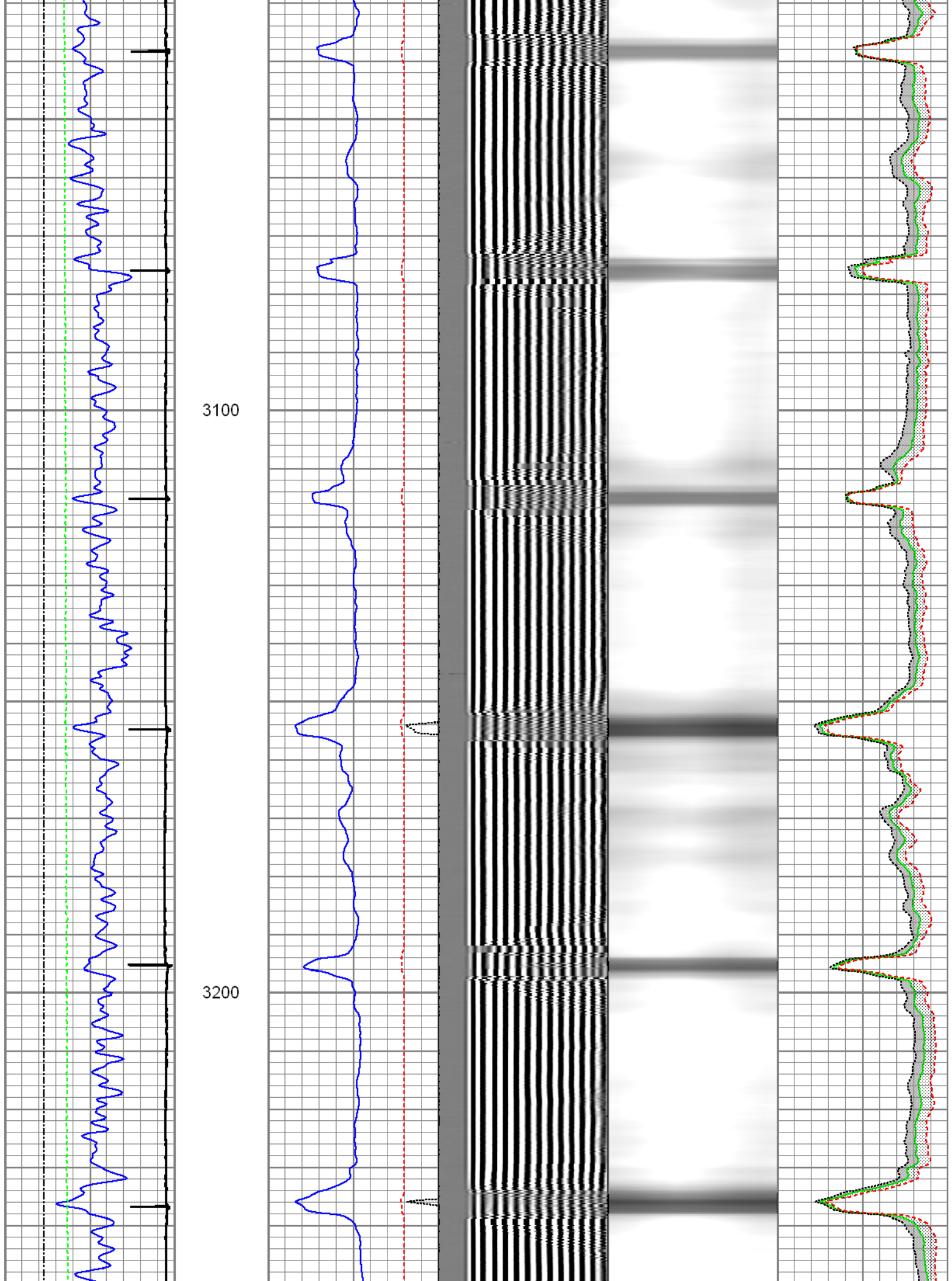


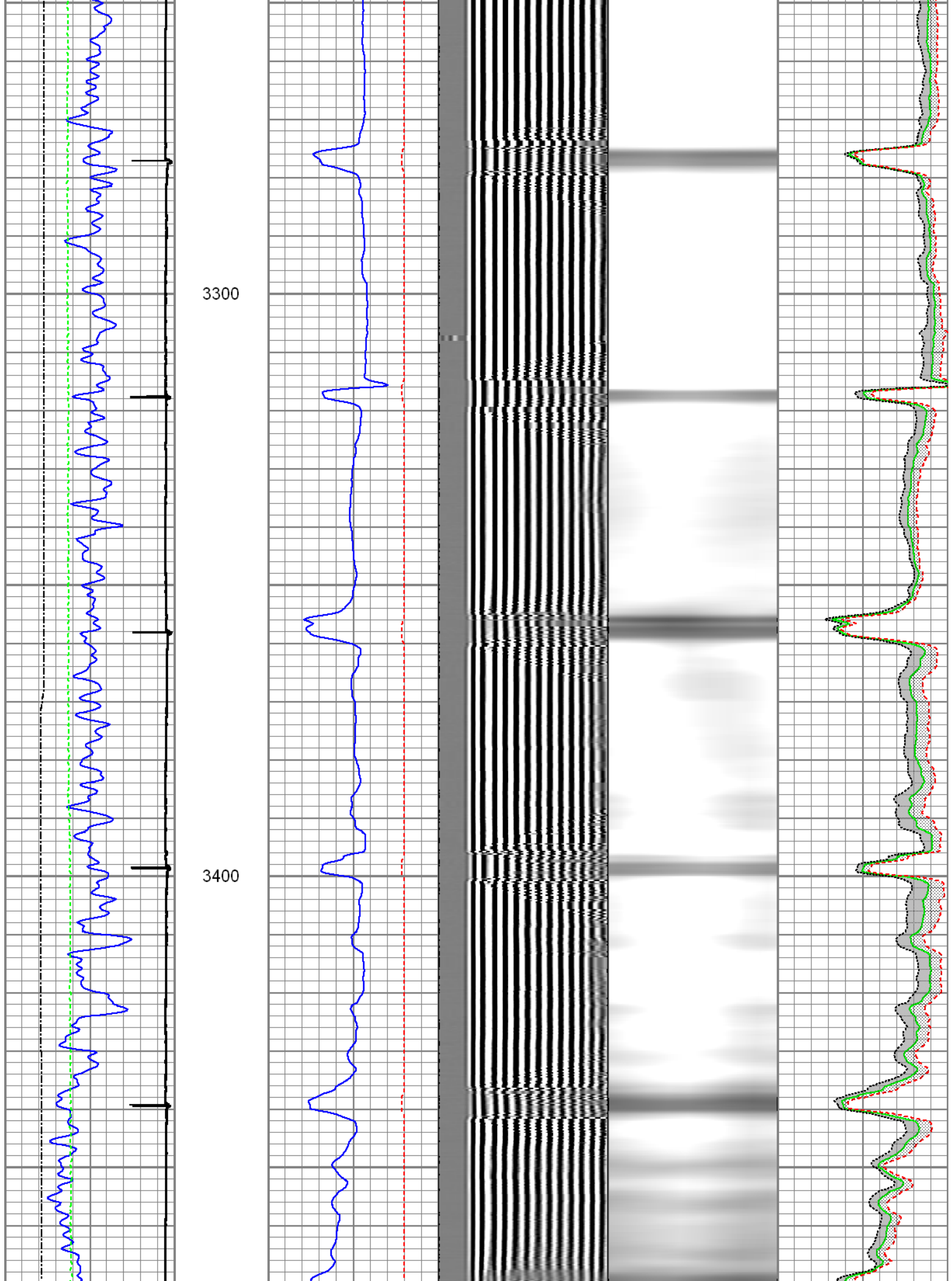


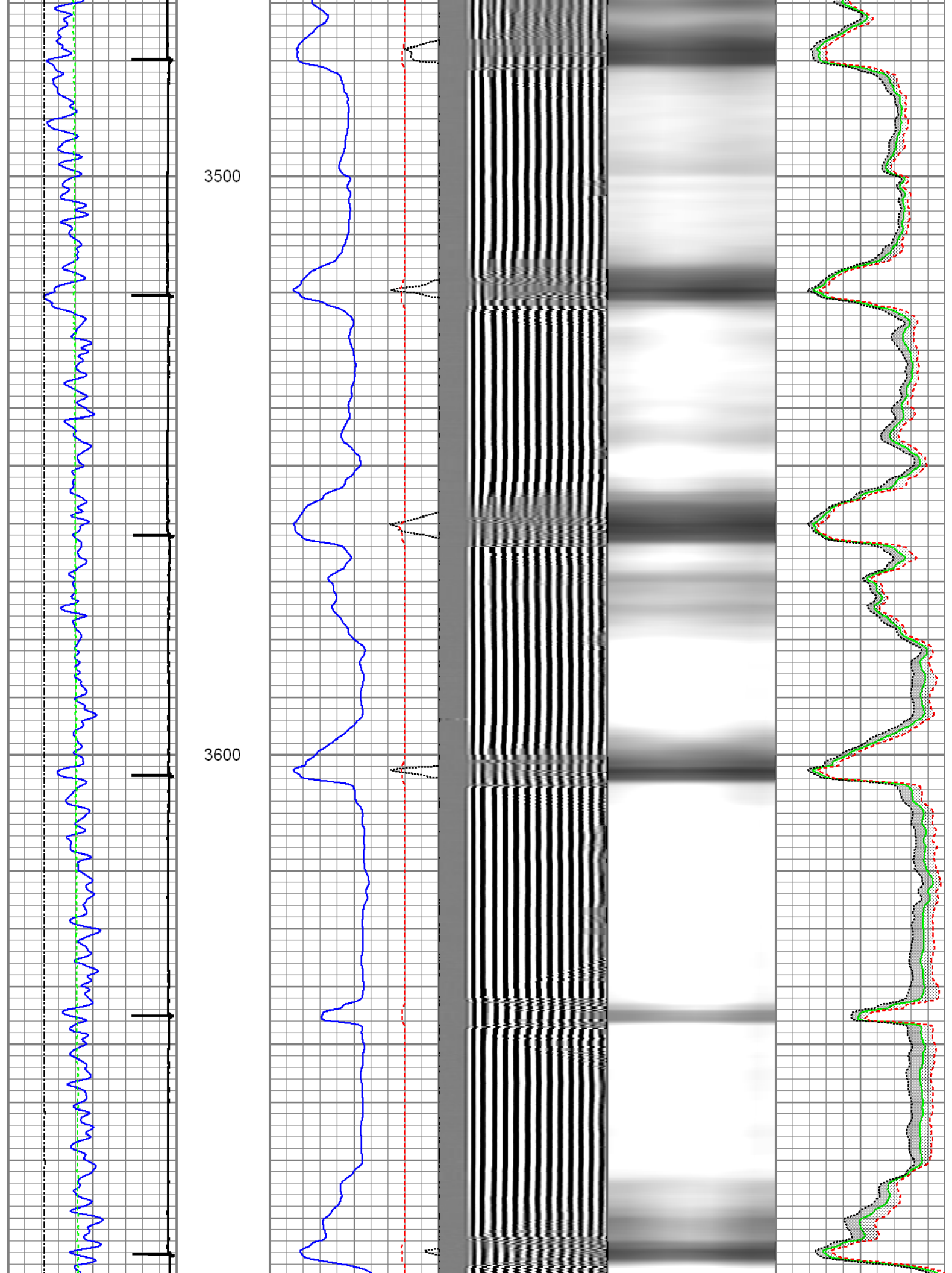


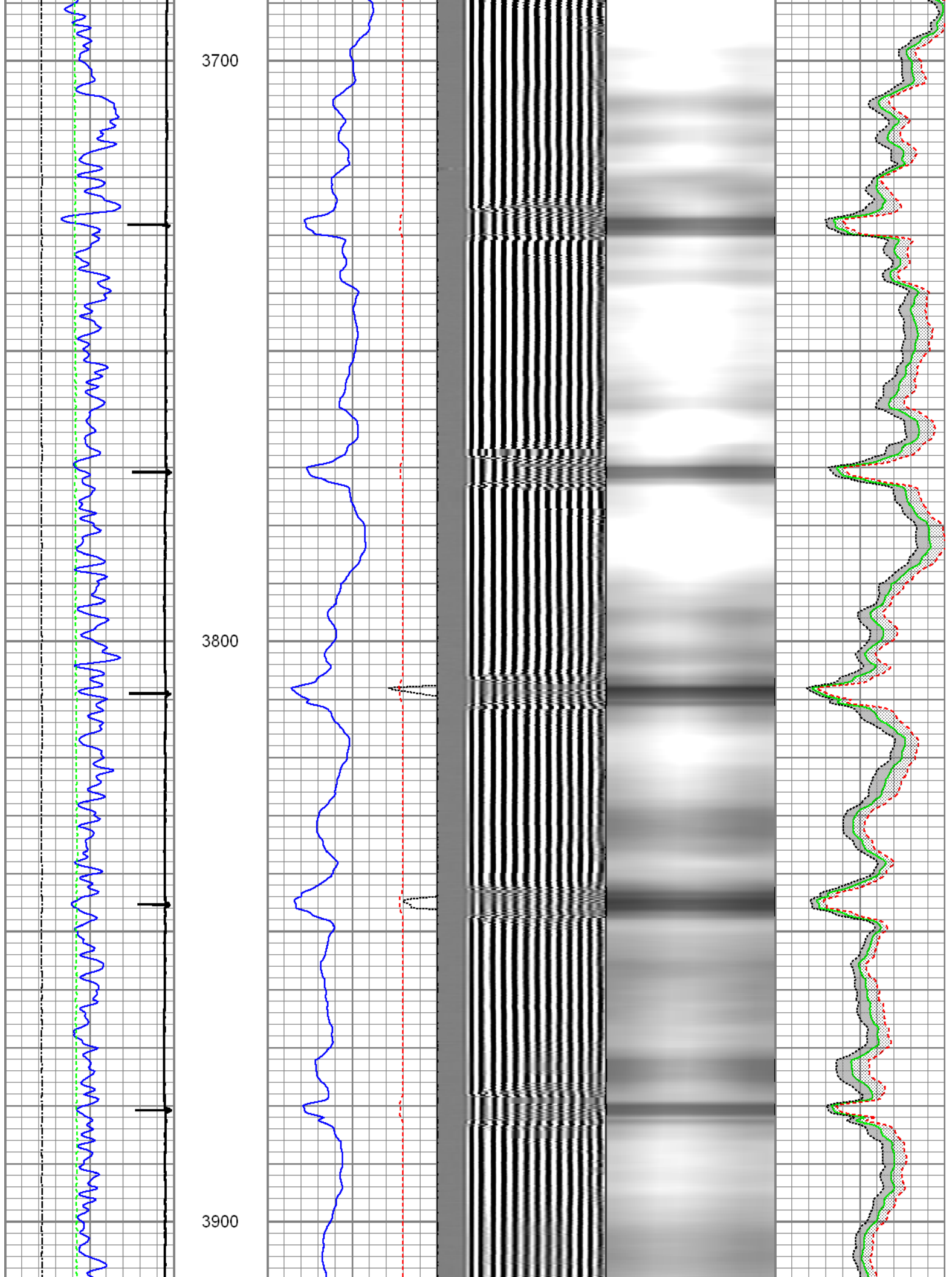


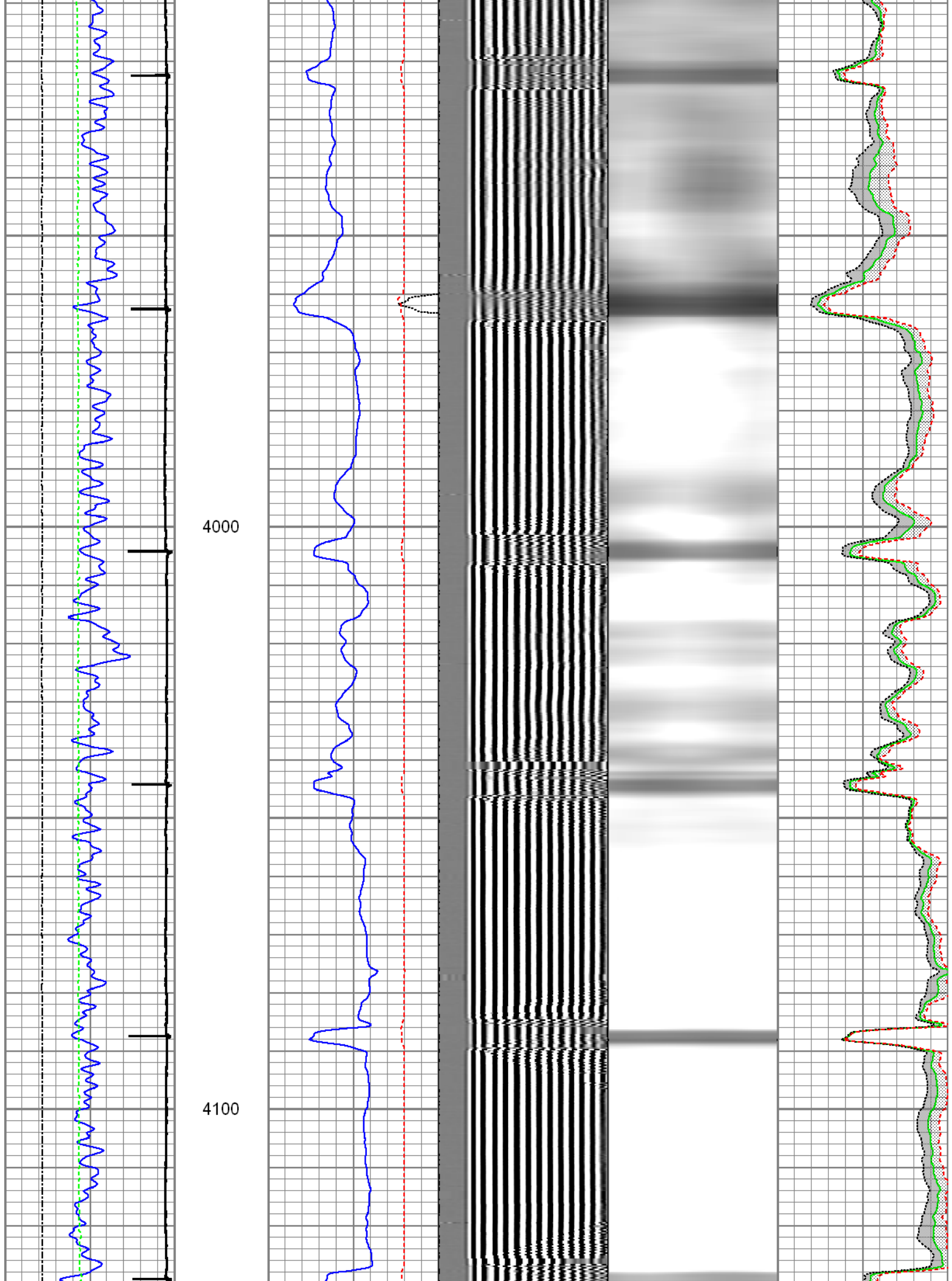


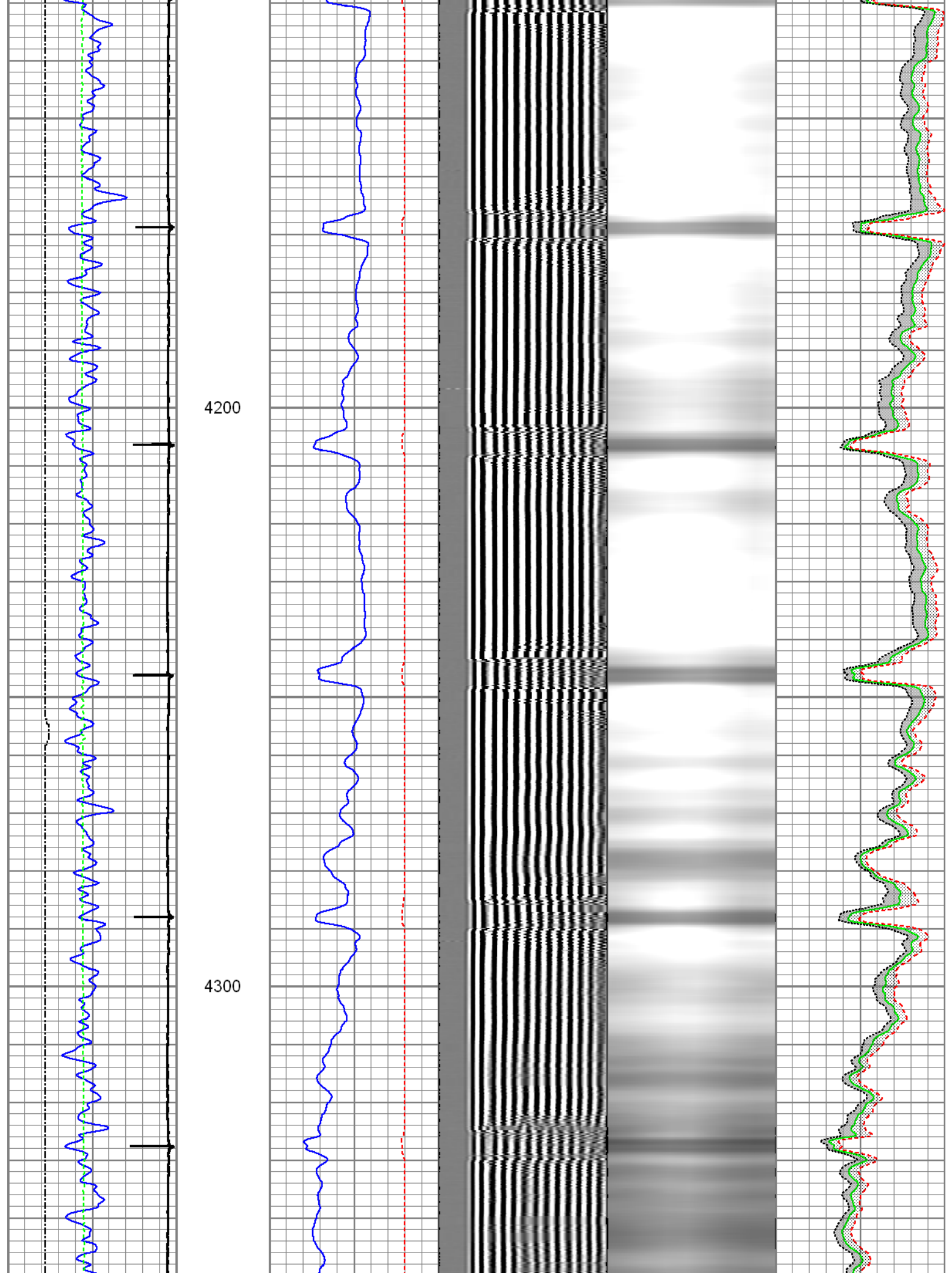


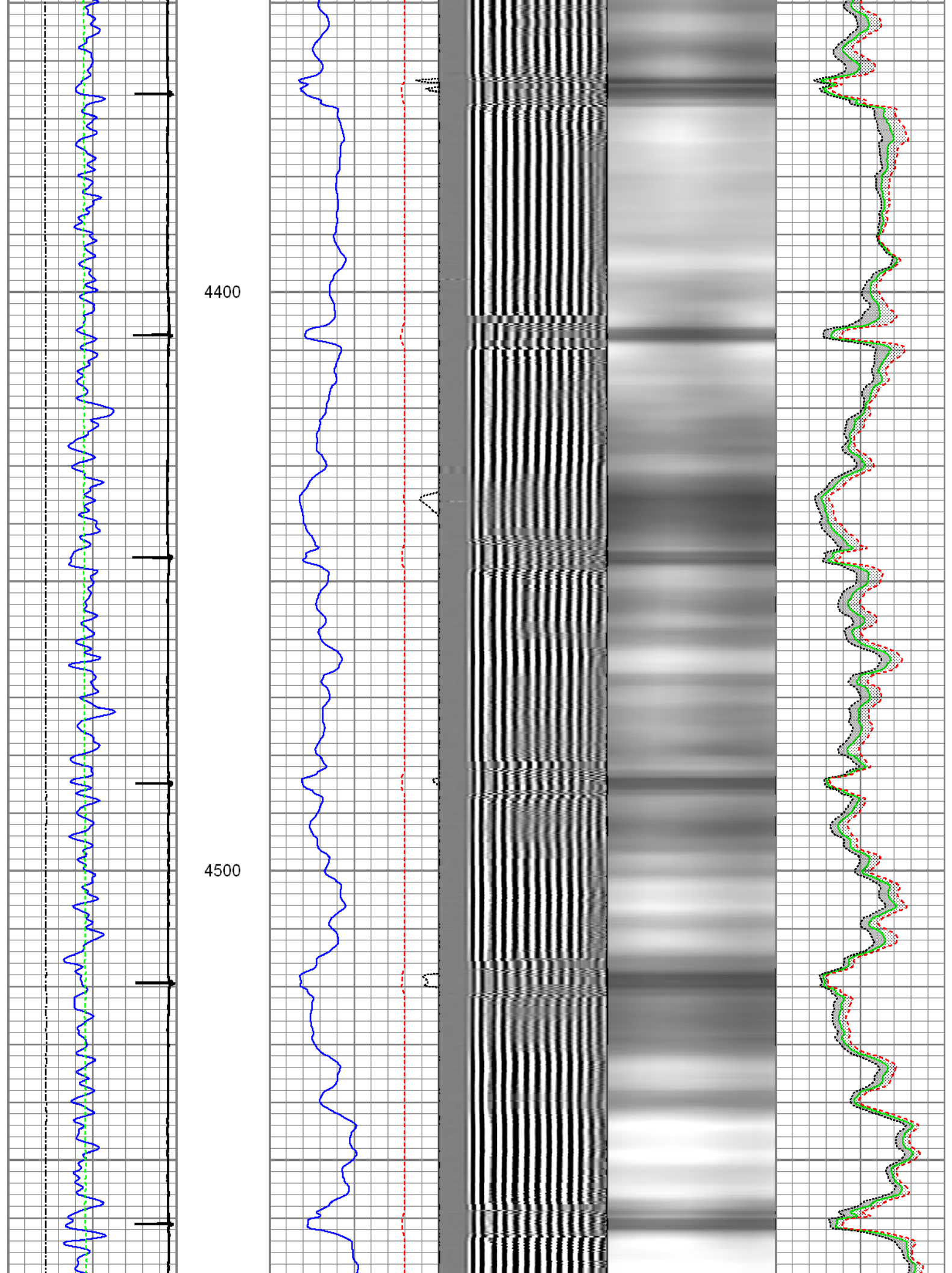


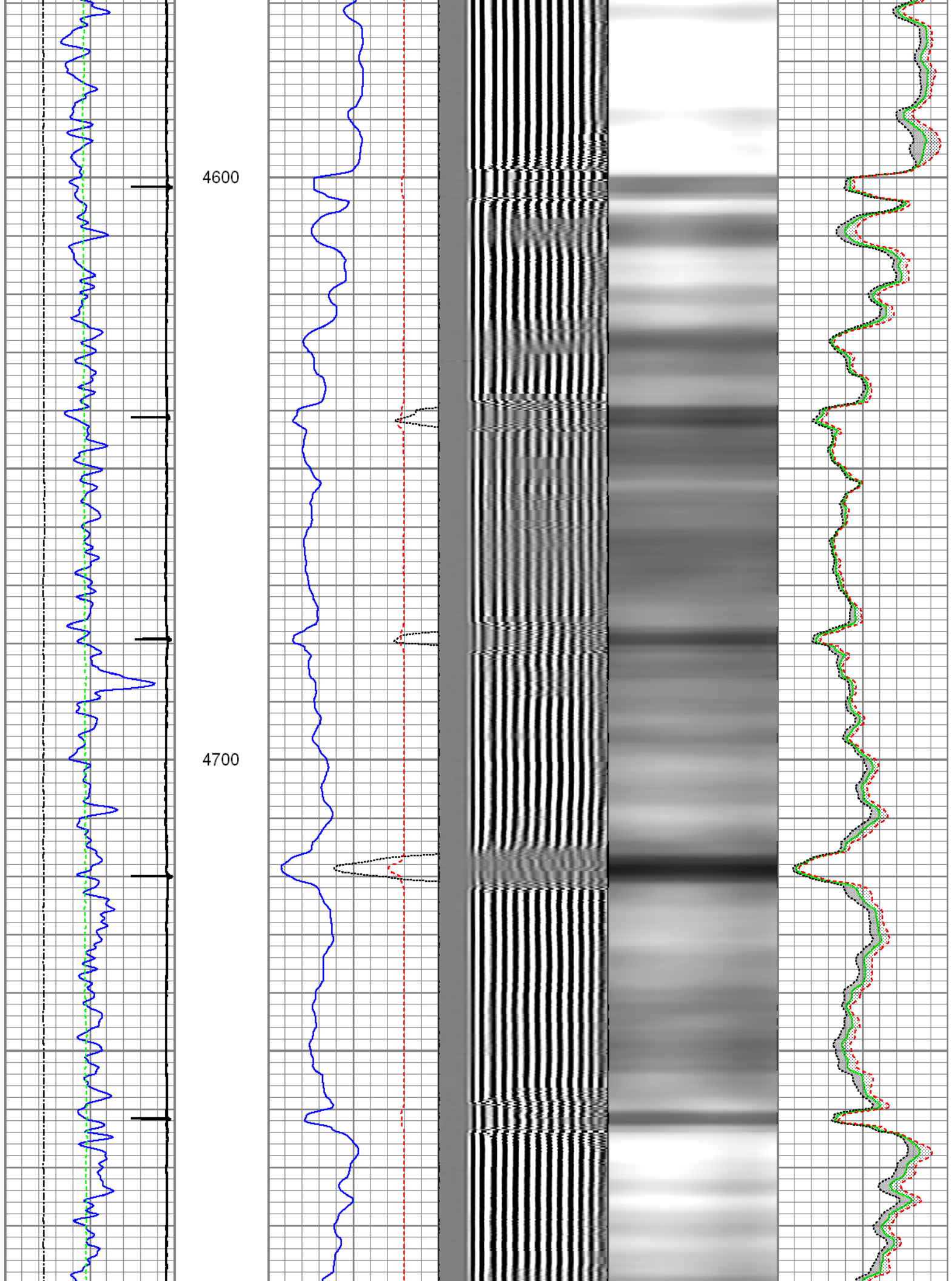


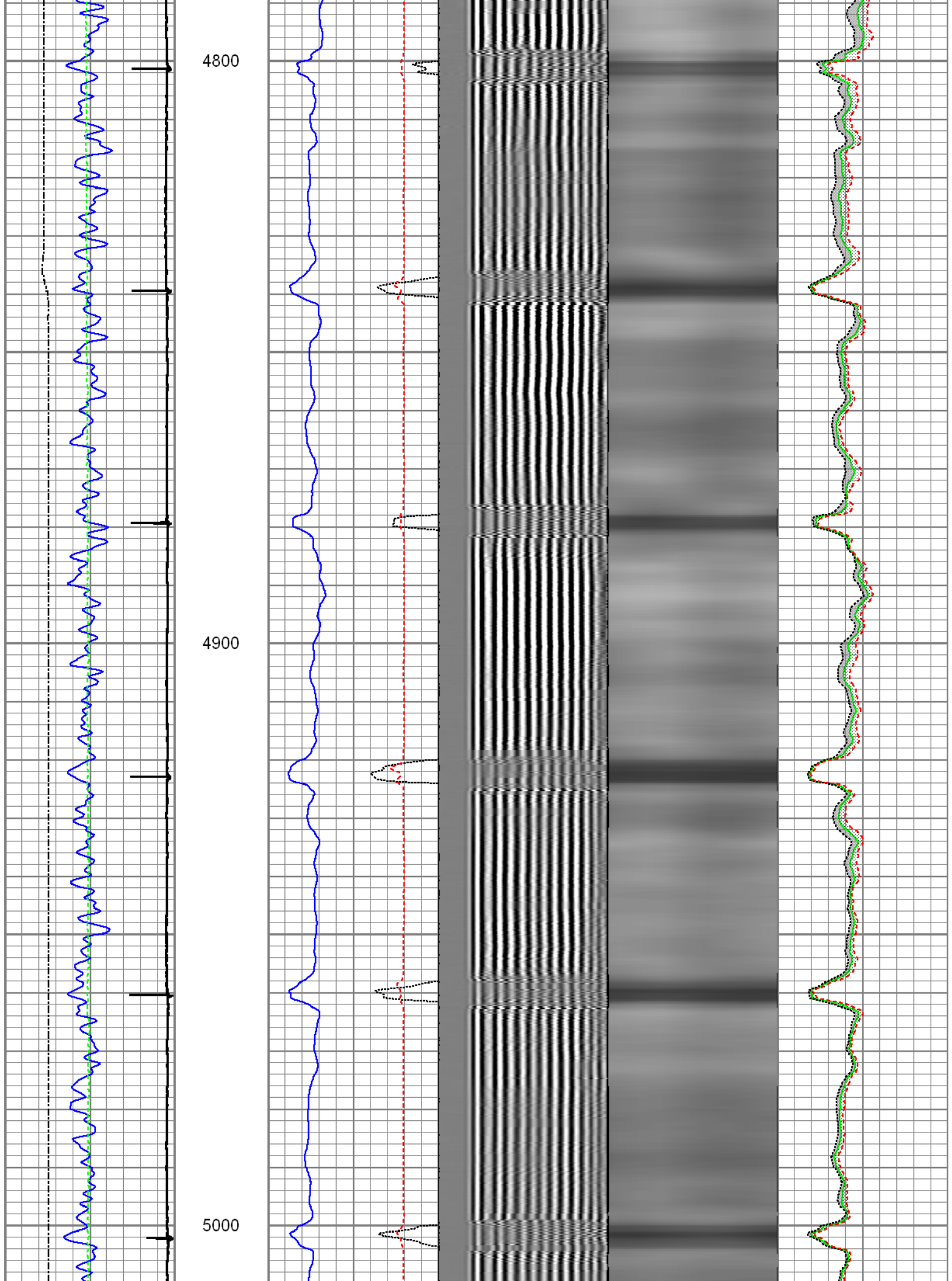


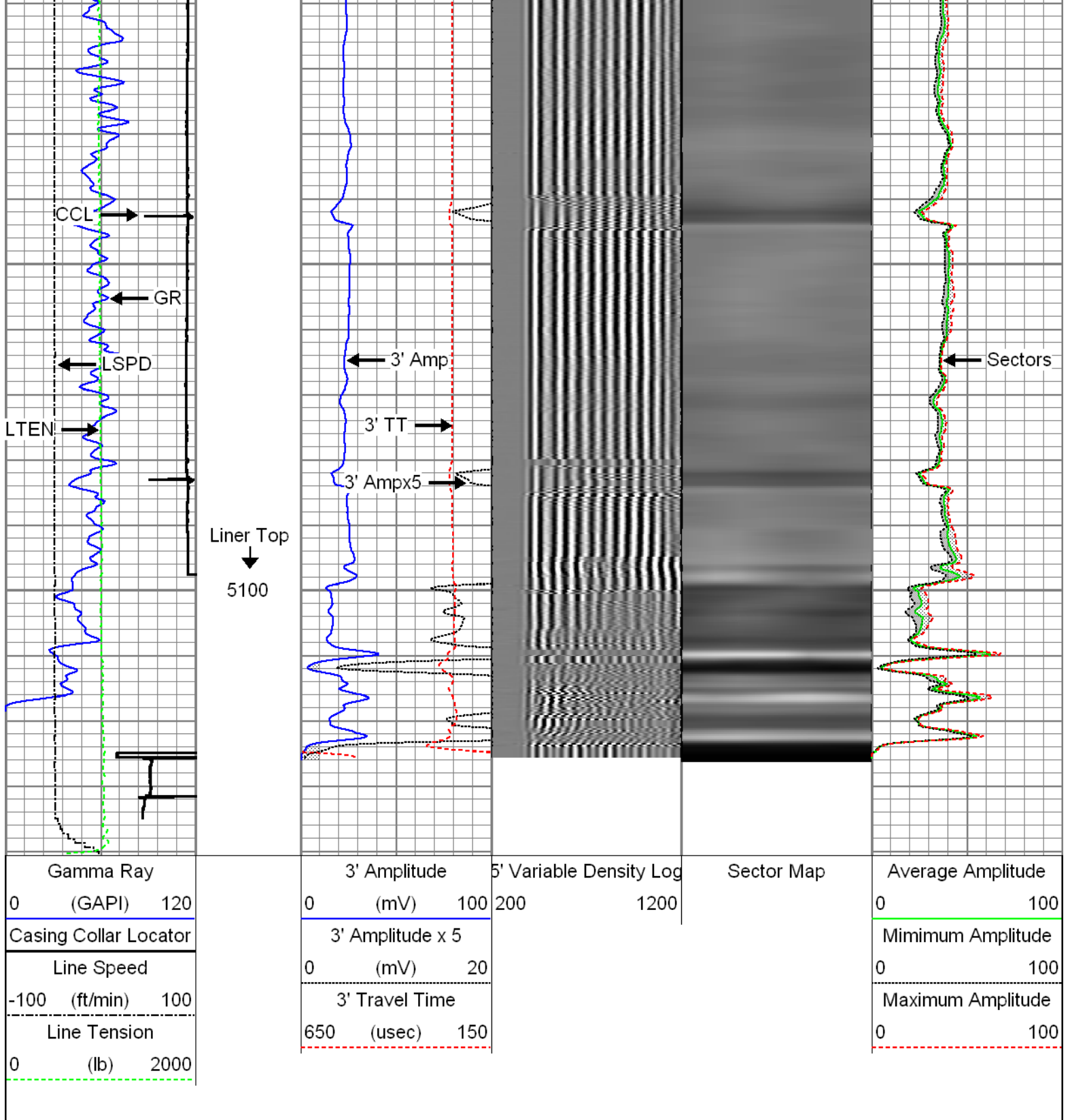










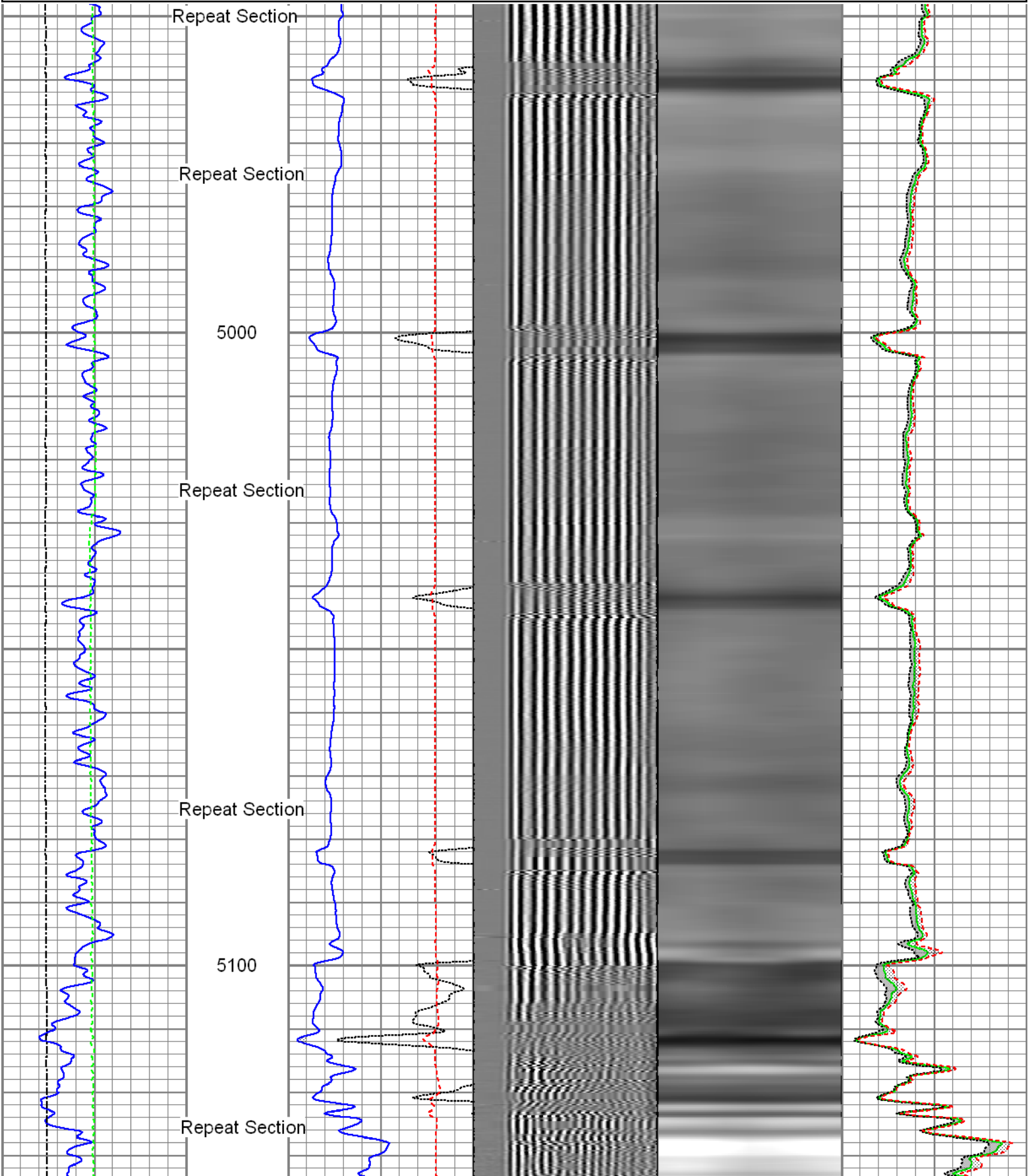


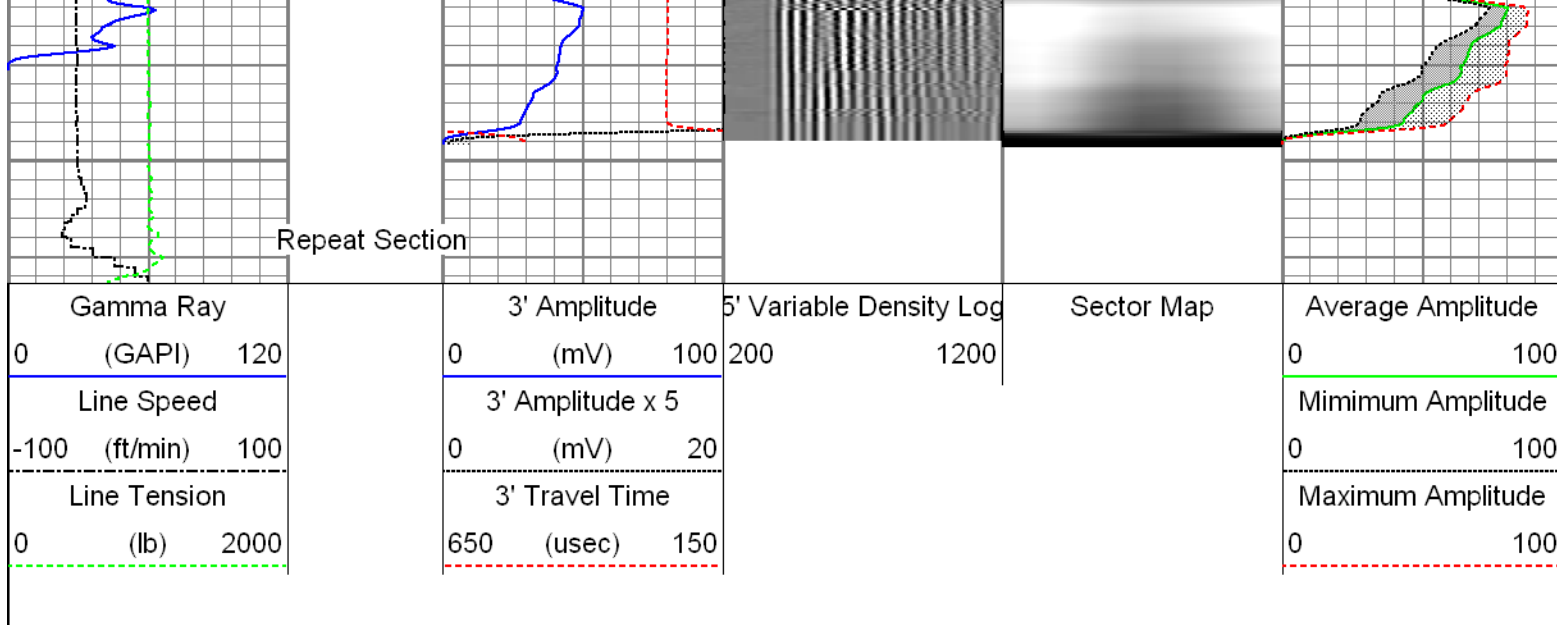
Repeat Pass

Recorded with 1500 Psi surface induced pressure

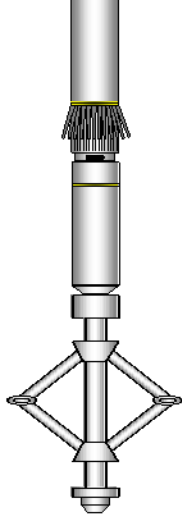
Database File: 09-24-14_whiting_razor 21c-0908_mit_rbl.db
 Dataset Pathname: pass3
 Presentation Format: rbt4_mit
 Dataset Creation: Wed Sep 24 13:32:47 2014 by Log SCH 111116
 Charted by: Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.67		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 (10017430) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10013902) Production Gamma Ray	1.93	1.69	9.50
			UW_PRC-UW_PRC_057 (1038) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WVFS1	15.85		UW_RBT-UW_RBT_004 (1066) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
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					
WVFS5FT	14.85		UW_PRC #4 -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_027 (211111) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC-UW_PRC_057 (1101) 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: 09-24-14_Whiting_Razor 21C-0908_MIT_RBL.db: field/well/run1/pass4 Total Length: 27.92 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	09-24-14_Whiting_Razor 21C-0908_MIT_RBL.db		
Dataset Pathname:	pass5		
Dataset Creation:	Wed Sep 24 15:41:41 2014 by Log SCH 111116		
Multi-finger Imaging Tool Calibration Report			
Serial Number:	211111		
Number of Fingers:	40		
Tool Model:	UW_MIT40_027		
Inclinometer Calibration Report			
Performed:	Mon Nov 18 15:31:59 2013		
Calibration Angle:	46		
	Inc X	Inc Y	
Vertical:	1931	1952	
Finger 1 up:	1959	2266	
Finger 31 up:	1608	1962	
Finger 21 up:	1927	1623	
Finger 11 up:	2253	1930	
Sensitivity ratio:	1.0031		
X-axis angle:	272.845		
Deviation const.:	311.818		

Finger Calibration Report						
Performed:			Wed Sep 24 11:19:53 2014			
Ring size:	4	5	6	7		
(in)						
	Sens	Sens	Sens			
Finger 01:	976 399.0	1375 401.0	1776 451.0	2227		
Finger 02:	1008 401.0	1409 396.0	1805 441.0	2246		
Finger 03:	1001 396.0	1397 399.0	1796 442.0	2238		
Finger 04:	959 398.0	1357 400.0	1757 443.0	2200		
Finger 05:	984 393.0	1377 396.0	1773 431.0	2204		
Finger 06:	986 405.0	1391 411.0	1802 433.0	2235		
Finger 07:	1094 363.0	1457 372.0	1829 398.0	2227		
Finger 08:	1001 382.0	1383 405.0	1788 423.0	2211		
Finger 09:	1007 393.0	1400 410.0	1810 420.0	2230		
Finger 10:	1039 338.0	1377 357.0	1734 361.0	2095		
Finger 11:	1085 396.0	1481 407.0	1888 404.0	2292		
Finger 12:	1159 405.0	1564 422.0	1986 413.0	2399		
Finger 13:	1093 365.0	1458 396.0	1854 396.0	2250		

Finger 13:	1033	383.0	1438	358.0	1834	358.0	2238
Finger 14:	1192	347.0	1539	368.0	1907	358.0	2265
Finger 15:	1016	383.0	1399	420.0	1819	413.0	2232
Finger 16:	1133	369.0	1502	403.0	1905	381.0	2286
Finger 17:	1046	369.0	1415	416.0	1831	406.0	2237
Finger 18:	1035	376.0	1411	422.0	1833	406.0	2239
Finger 19:	1028	368.0	1396	424.0	1820	417.0	2237
Finger 20:	1094	356.0	1450	402.0	1852	395.0	2247
Finger 21:	1082	363.0	1445	415.0	1860	409.0	2269
Finger 22:	1107	365.0	1472	413.0	1885	409.0	2294
Finger 23:	1064	359.0	1423	421.0	1844	426.0	2270
Finger 24:	1230	334.0	1564	369.0	1933	381.0	2314
Finger 25:	1203	352.0	1555	392.0	1947	392.0	2339
Finger 26:	1222	340.0	1562	367.0	1929	370.0	2299
Finger 27:	1185	341.0	1526	373.0	1899	390.0	2289
Finger 28:	1239	349.0	1588	367.0	1955	382.0	2337
Finger 29:	1213	343.0	1556	362.0	1918	385.0	2303
Finger 30:	1194	338.0	1532	361.0	1893	395.0	2288
Finger 31:	1213	354.0	1567	368.0	1935	396.0	2331
Finger 32:	1233	346.0	1579	350.0	1929	382.0	2311
Finger 33:	1051	375.0	1426	403.0	1829	457.0	2286
Finger 34:	1098	375.0	1473	387.0	1860	435.0	2295
Finger 35:	1183	354.0	1537	357.0	1894	406.0	2300
Finger 36:	1122	362.0	1484	363.0	1847	411.0	2258
Finger 37:	1056	388.0	1444	386.0	1830	440.0	2270
Finger 38:	1062	382.0	1444	377.0	1821	426.0	2247
Finger 39:	1071	402.0	1473	396.0	1869	488.0	2357
Finger 40:	974	394.0	1368	392.0	1760	447.0	2207

Post Survey Calibration Check

Performed:

Wed Sep 24 15:41:35 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.998	-0.001	4.984	-0.008	5.989	-0.006	7.001	0.000
Finger 02:	3.992	-0.004	4.976	-0.012	5.986	-0.007	6.998	-0.001
Finger 03:	3.991	-0.005	4.980	-0.010	5.986	-0.007	6.995	-0.002
Finger 04:	4.000	0.000	4.984	-0.008	5.993	-0.004	6.998	-0.001
Finger 05:	3.992	-0.004	4.979	-0.010	5.991	-0.004	7.000	-0.000
Finger 06:	4.000	-0.000	4.989	-0.006	5.993	-0.004	7.004	0.002
Finger 07:	3.991	-0.005	4.976	-0.012	5.985	-0.008	6.990	-0.005
Finger 08:	3.994	-0.003	4.979	-0.011	5.987	-0.006	6.997	-0.001
Finger 09:	3.998	-0.001	4.980	-0.010	5.987	-0.006	6.989	-0.005
Finger 10:	3.986	-0.007	4.980	-0.010	5.988	-0.006	6.989	-0.005
Finger 11:	3.996	-0.002	4.977	-0.012	5.986	-0.007	6.981	-0.009
Finger 12:	4.003	0.001	4.980	-0.010	5.985	-0.007	6.987	-0.007
Finger 13:	3.992	-0.004	4.975	-0.012	5.988	-0.006	6.986	-0.007
Finger 14:	3.997	-0.001	4.979	-0.011	5.989	-0.005	6.989	-0.005
Finger 15:	4.000	-0.000	4.978	-0.011	5.986	-0.007	6.995	-0.002
Finger 16:	3.983	-0.008	4.995	-0.003	6.016	0.008	7.048	0.024
Finger 17:	3.996	-0.002	4.978	-0.011	5.981	-0.009	6.981	-0.009
Finger 18:	4.004	0.002	4.979	-0.011	5.984	-0.008	6.986	-0.007
Finger 19:	3.992	-0.004	4.973	-0.013	5.982	-0.009	6.986	-0.007
Finger 20:	3.991	-0.005	4.976	-0.012	5.981	-0.010	6.997	-0.001
Finger 21:	3.996	-0.002	4.981	-0.010	5.986	-0.007	7.004	0.002
Finger 22:	4.002	0.001	4.982	-0.009	5.989	-0.006	6.991	-0.005
Finger 23:	3.995	-0.003	4.980	-0.010	5.987	-0.007	6.988	-0.006
Finger 24:	3.991	-0.004	4.974	-0.013	5.987	-0.007	6.976	-0.012
Finger 25:	3.990	-0.005	4.978	-0.011	5.985	-0.007	6.985	-0.007
Finger 26:	3.995	-0.003	4.984	-0.008	5.989	-0.005	6.993	-0.003
Finger 27:	4.003	0.001	4.995	-0.003	6.008	0.004	7.006	0.003
Finger 28:	3.991	-0.005	4.974	-0.013	5.985	-0.008	6.990	-0.005
Finger 29:	3.989	-0.005	4.976	-0.012	5.982	-0.009	6.985	-0.007
Finger 30:	3.999	-0.000	4.986	-0.007	5.997	-0.002	7.006	0.003
Finger 31:	3.995	-0.002	4.978	-0.011	5.987	-0.006	6.999	-0.001
Finger 32:	3.993	-0.004	4.977	-0.012	5.986	-0.007	6.994	-0.003
Finger 33:	3.995	-0.003	4.978	-0.011	5.987	-0.007	6.991	-0.005

Finger 33:	3.995	-0.003	4.978	-0.011	5.987	-0.007	6.991	-0.003
Finger 34:	3.995	-0.003	4.979	-0.010	5.988	-0.006	7.007	0.004
Finger 35:	3.992	-0.004	4.976	-0.012	5.985	-0.007	6.994	-0.003
Finger 36:	3.995	-0.002	4.979	-0.010	5.985	-0.008	6.995	-0.002
Finger 37:	3.998	-0.001	4.978	-0.011	5.988	-0.006	6.998	-0.001
Finger 38:	4.004	0.002	4.989	-0.006	5.994	-0.003	7.009	0.004
Finger 39:	3.989	-0.006	4.971	-0.014	5.983	-0.009	6.932	-0.034
Finger 40:	3.995	-0.003	4.978	-0.011	5.988	-0.006	6.999	-0.000
Average:	3.995	-0.003	4.980	-0.010	5.988	-0.006	6.994	-0.003

Segmented Cement Bond Log Calibration Report

Serial Number: 1066
Tool Model: UW_RBT_004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 83.457 ft

Master Calibration, performed Wed Sep 24 12:22:10 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.005	0.851	0.800	62.165	72.497	0.469
5FT	-0.001	0.937	0.800	62.165	65.404	0.880
S1	0.005	0.794	0.000	100.000	126.684	-0.642
S2	0.004	0.824	0.000	100.000	121.847	-0.446
S3	0.004	0.862	0.000	100.000	116.480	-0.459
S4	0.004	0.897	0.000	100.000	111.887	-0.402
S5	0.005	0.898	0.000	100.000	111.956	-0.522
S6	0.004	0.879	0.000	100.000	114.246	-0.418
S7	0.004	0.870	0.000	100.000	115.509	-0.515
S8	0.004	0.829	0.000	100.000	121.252	-0.509

Gamma Ray Calibration Report

Serial Number: 10013902
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 and Gas Corporation
Well Razor 21C-0908
Field Wildcat
County Weld
State Colorado