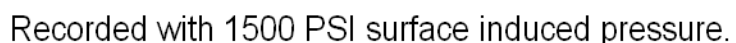


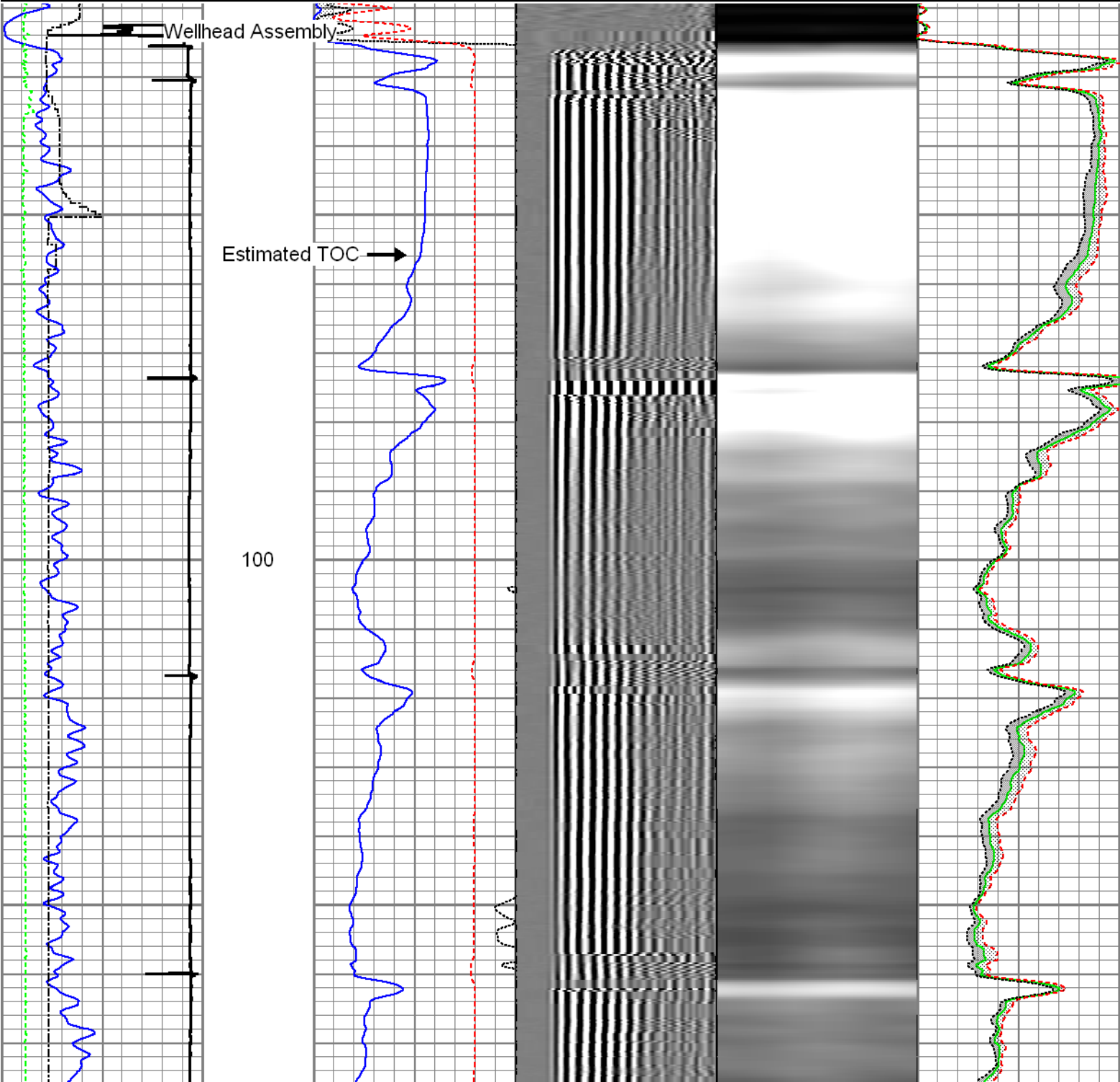


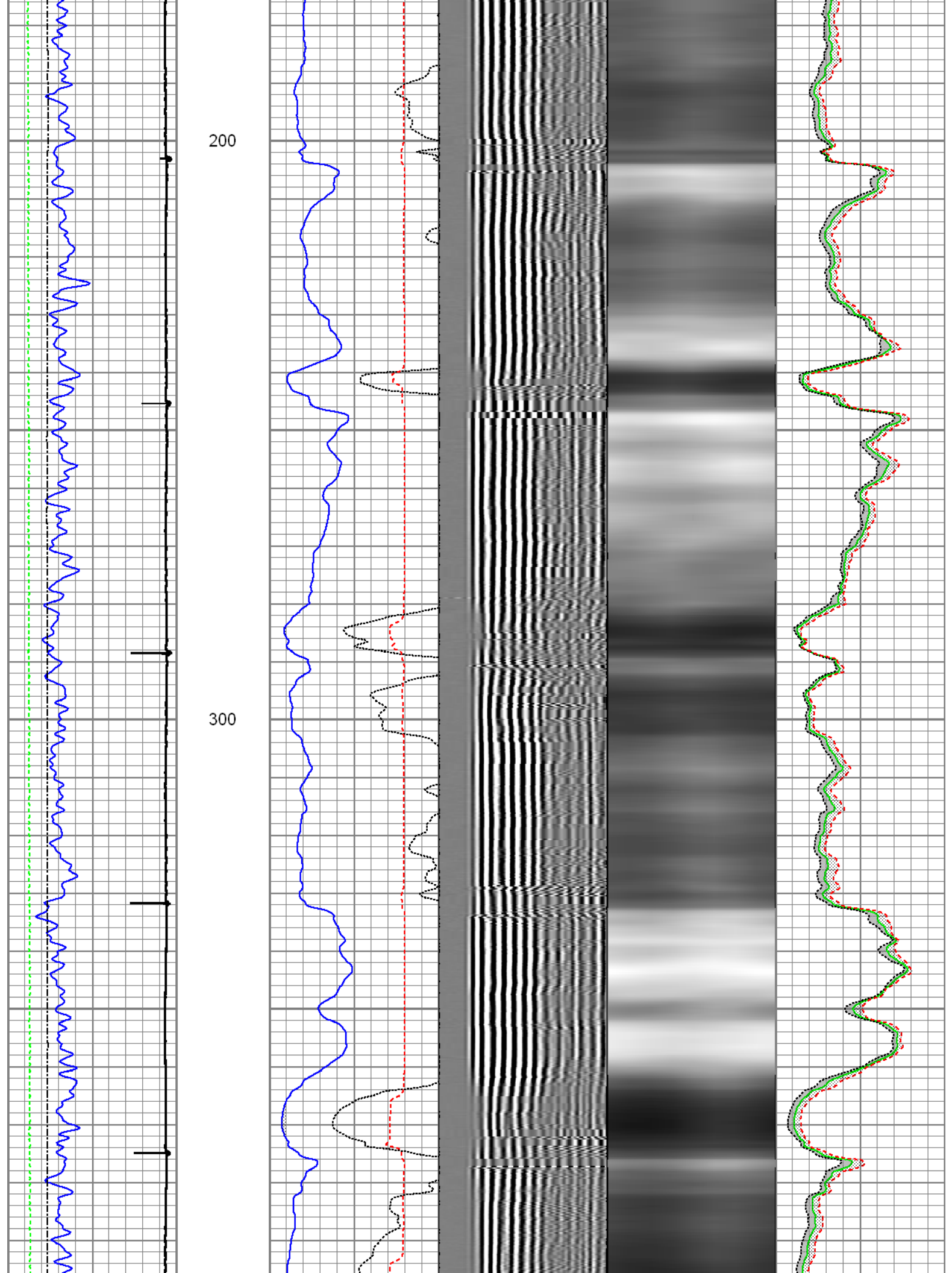
<<< Fold Here >>>
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible 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 5225 FT to surface. Log ran with 1500 PSI surface induced pressure. Depth Corrected -17 FT. Depth reference to reported liner top at 5197 FT.  Thank you for choosing FMC Technologies Completion Services, Inc.!!

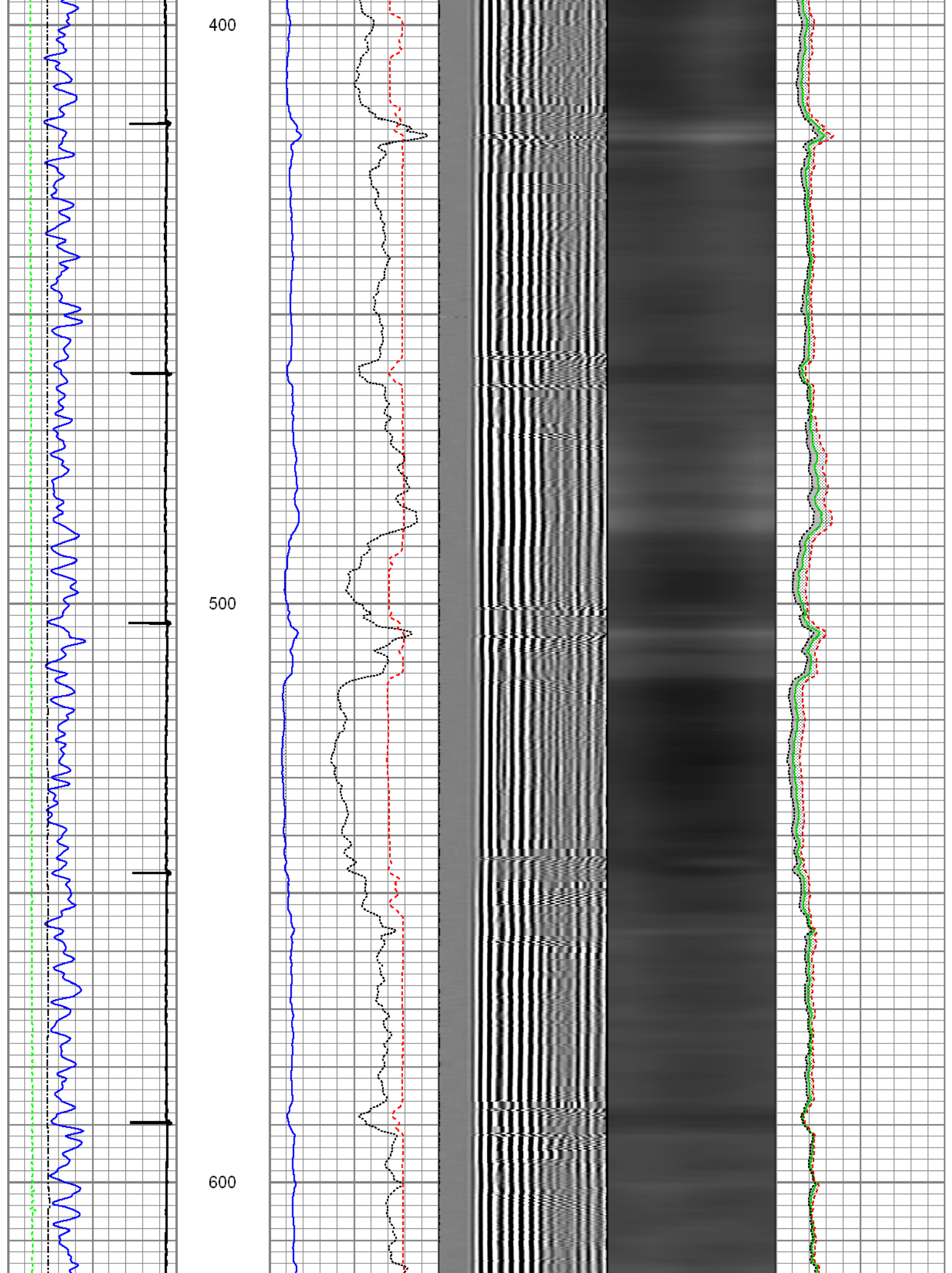


Database File: 09-23-14\_whiting\_razor 21c-0906\_mit\_rbl.db  
Dataset Pathname: pass6  
Presentation Format: rbt4\_mit  
Dataset Creation: Tue Sep 23 15:44:15 2014 by Log SCH 111116  
Charted by: Depth in Feet scaled 1:240

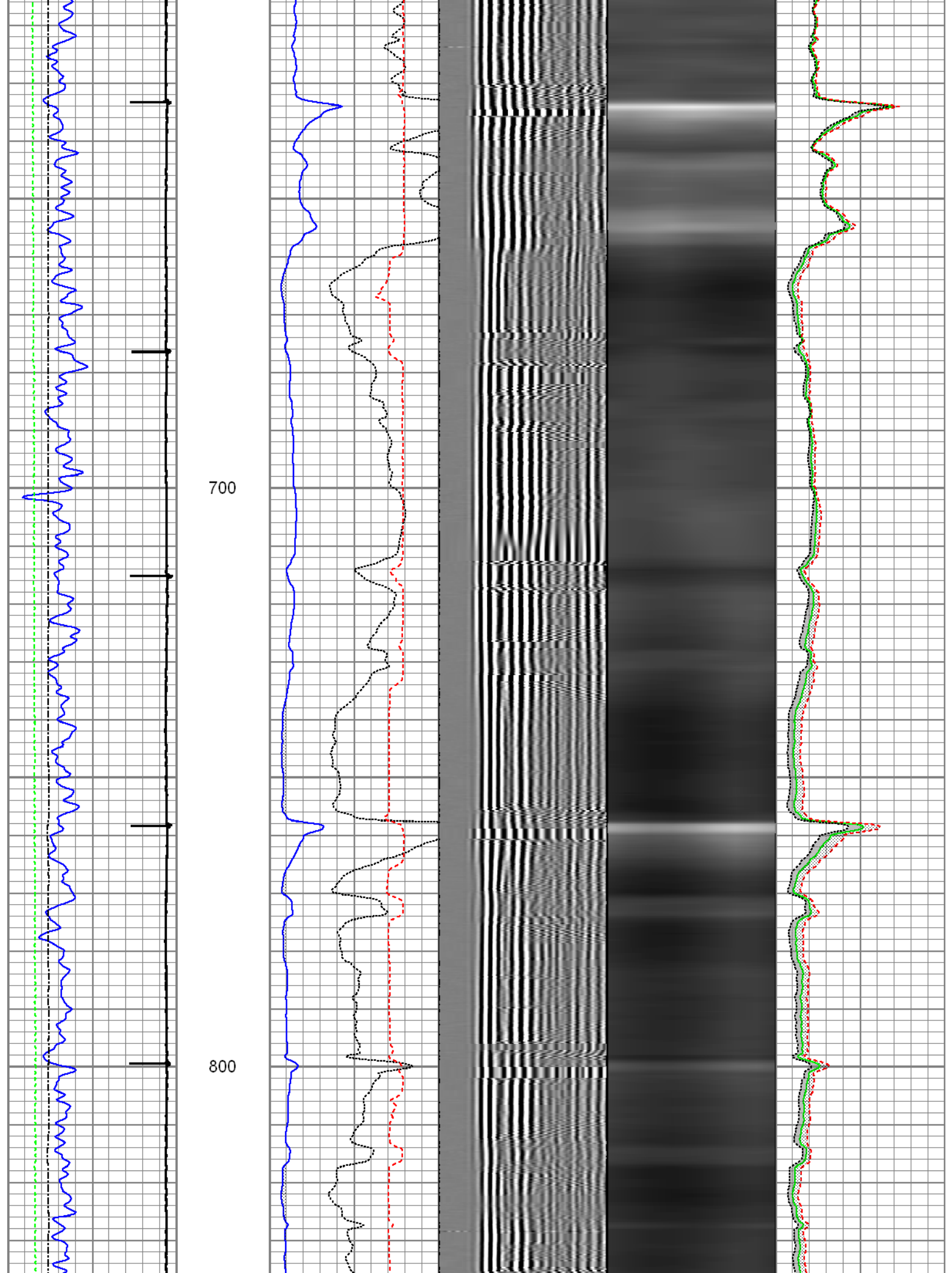
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				

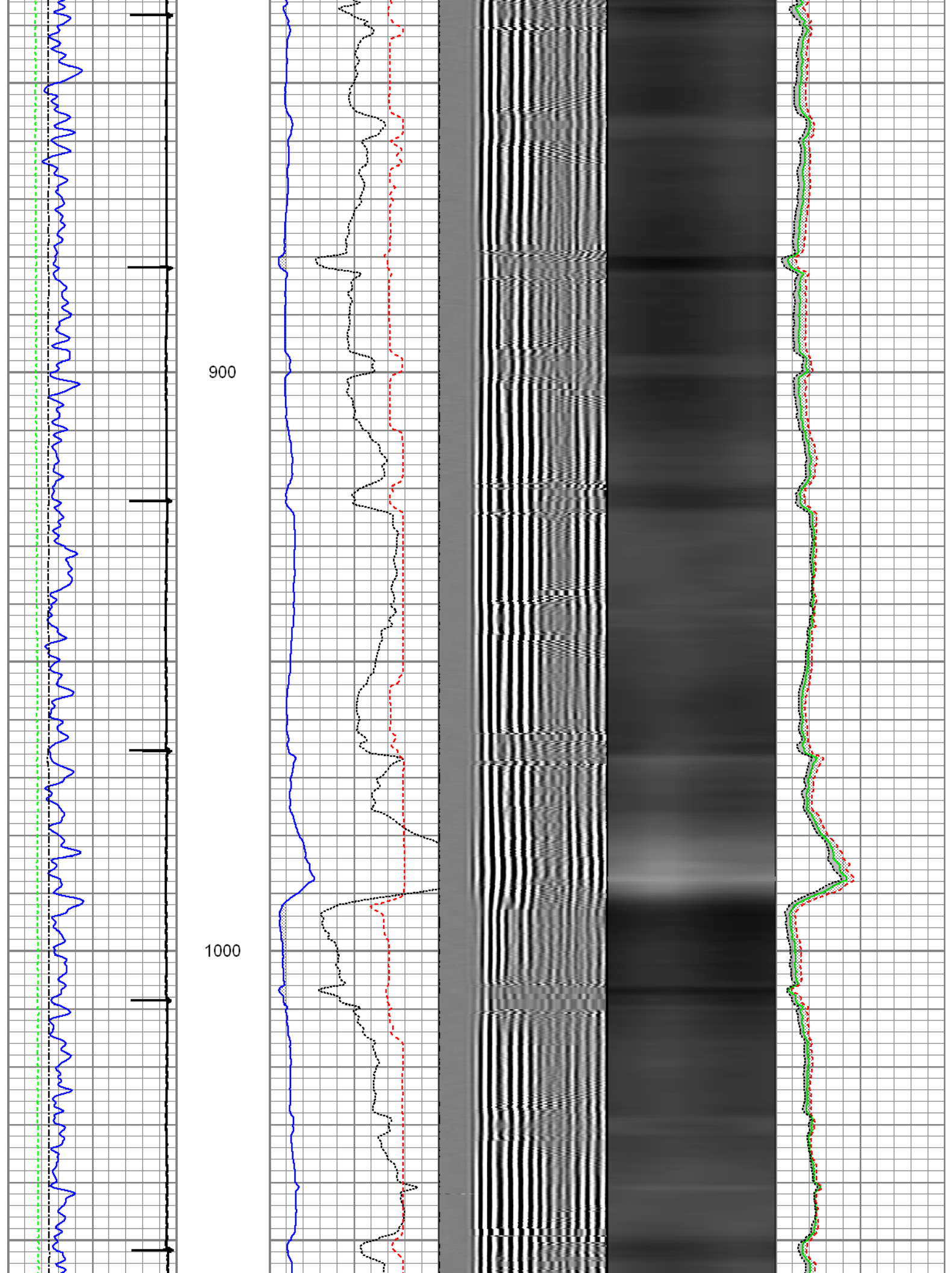


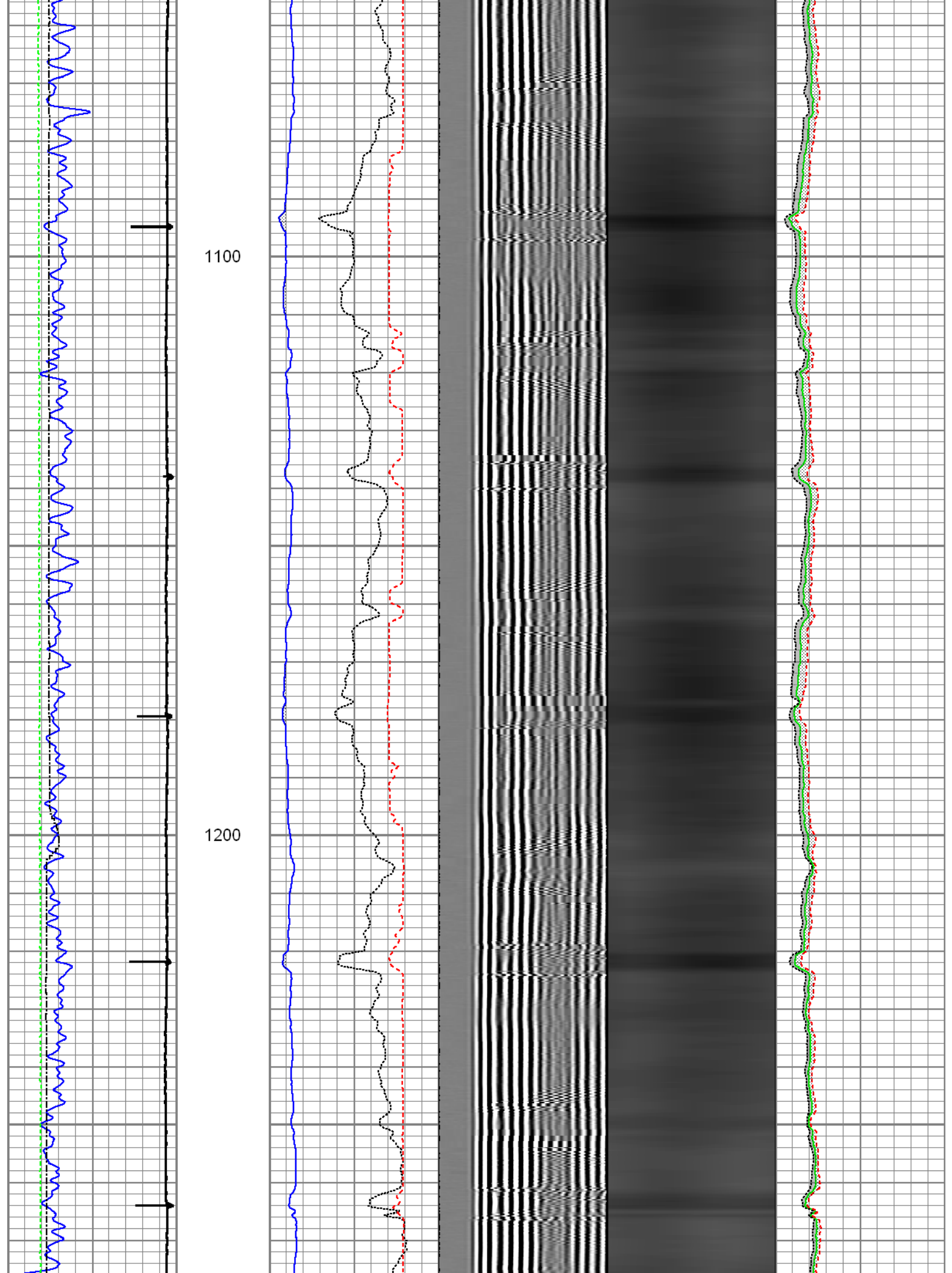


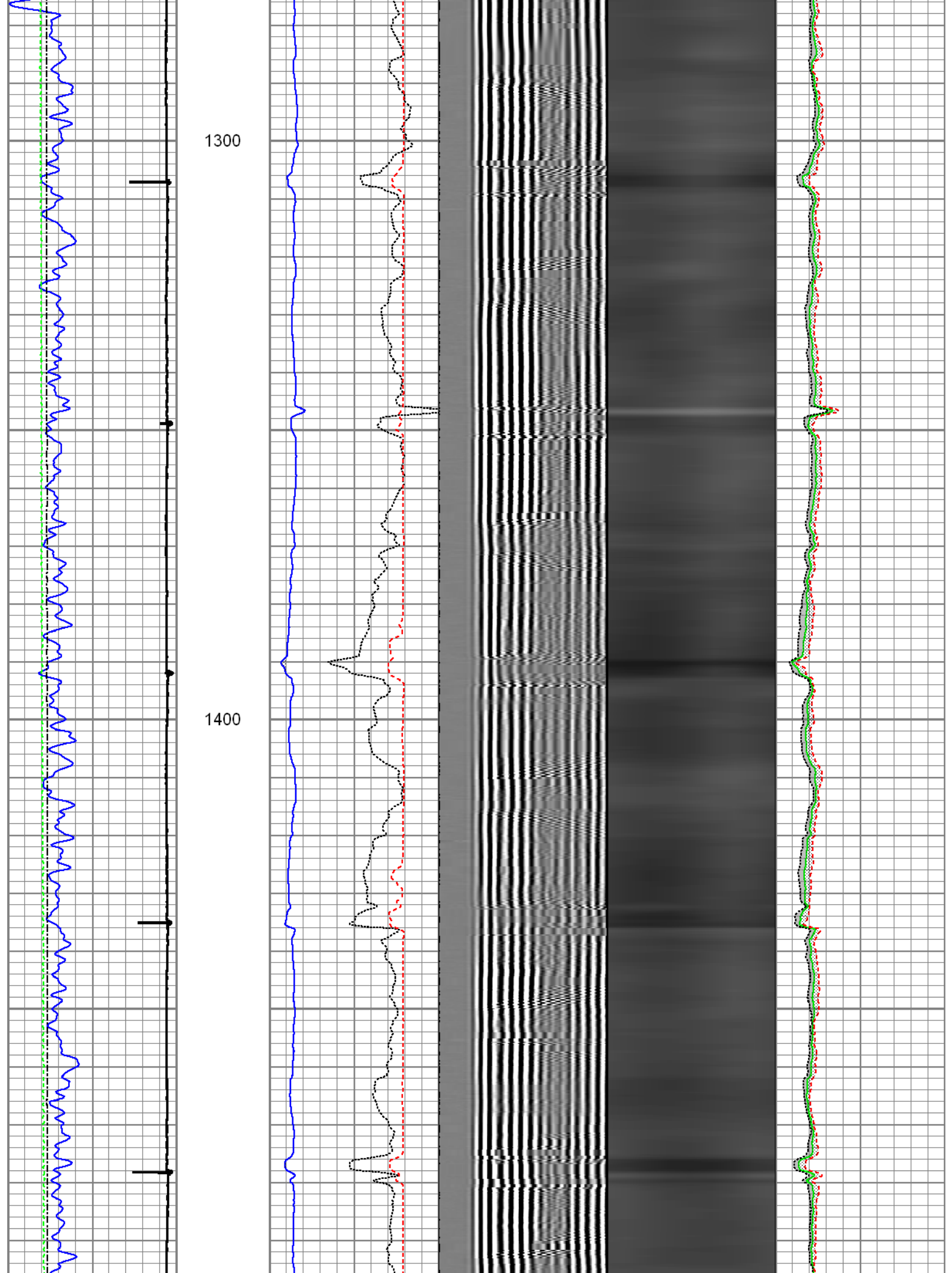










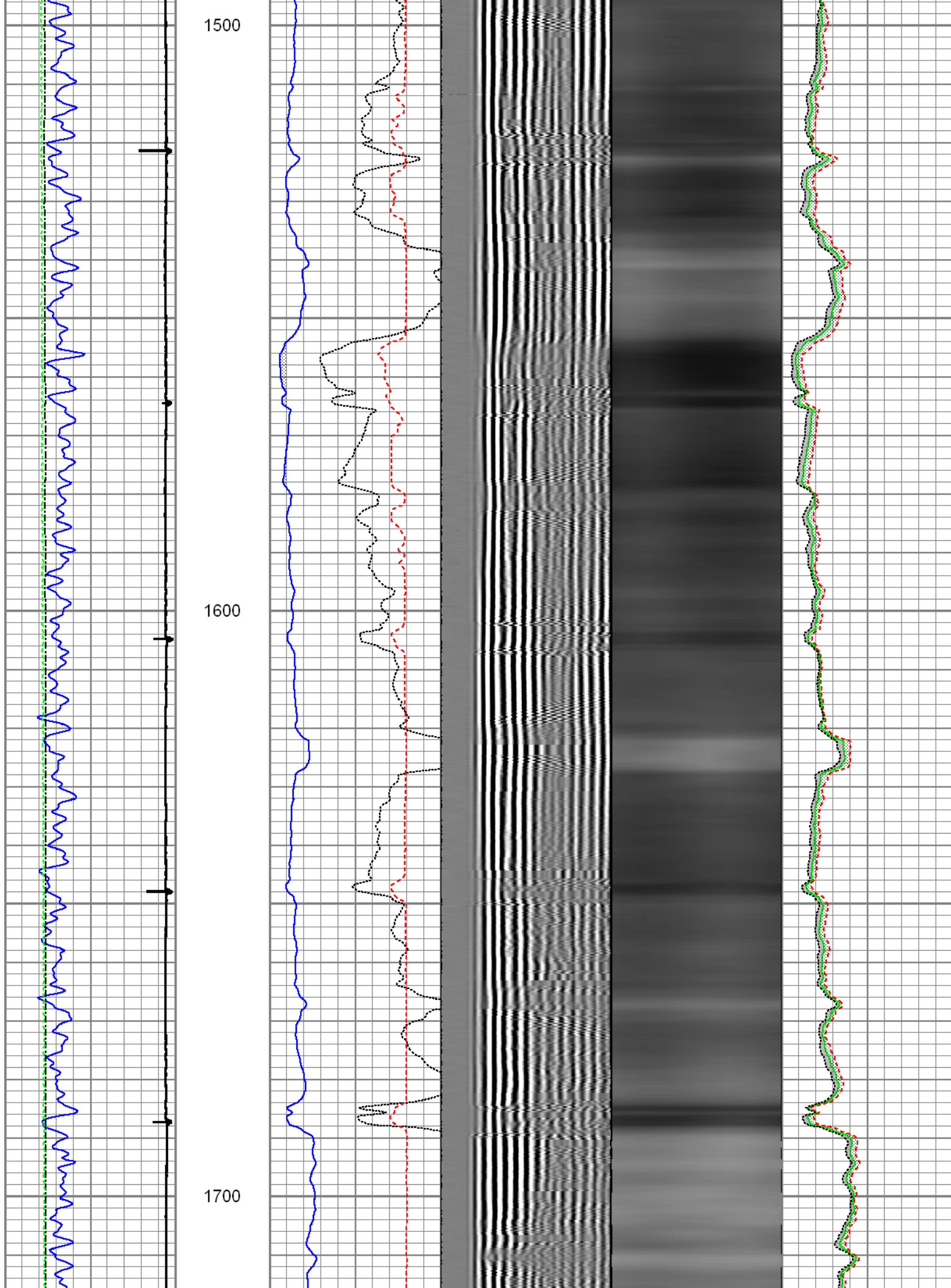


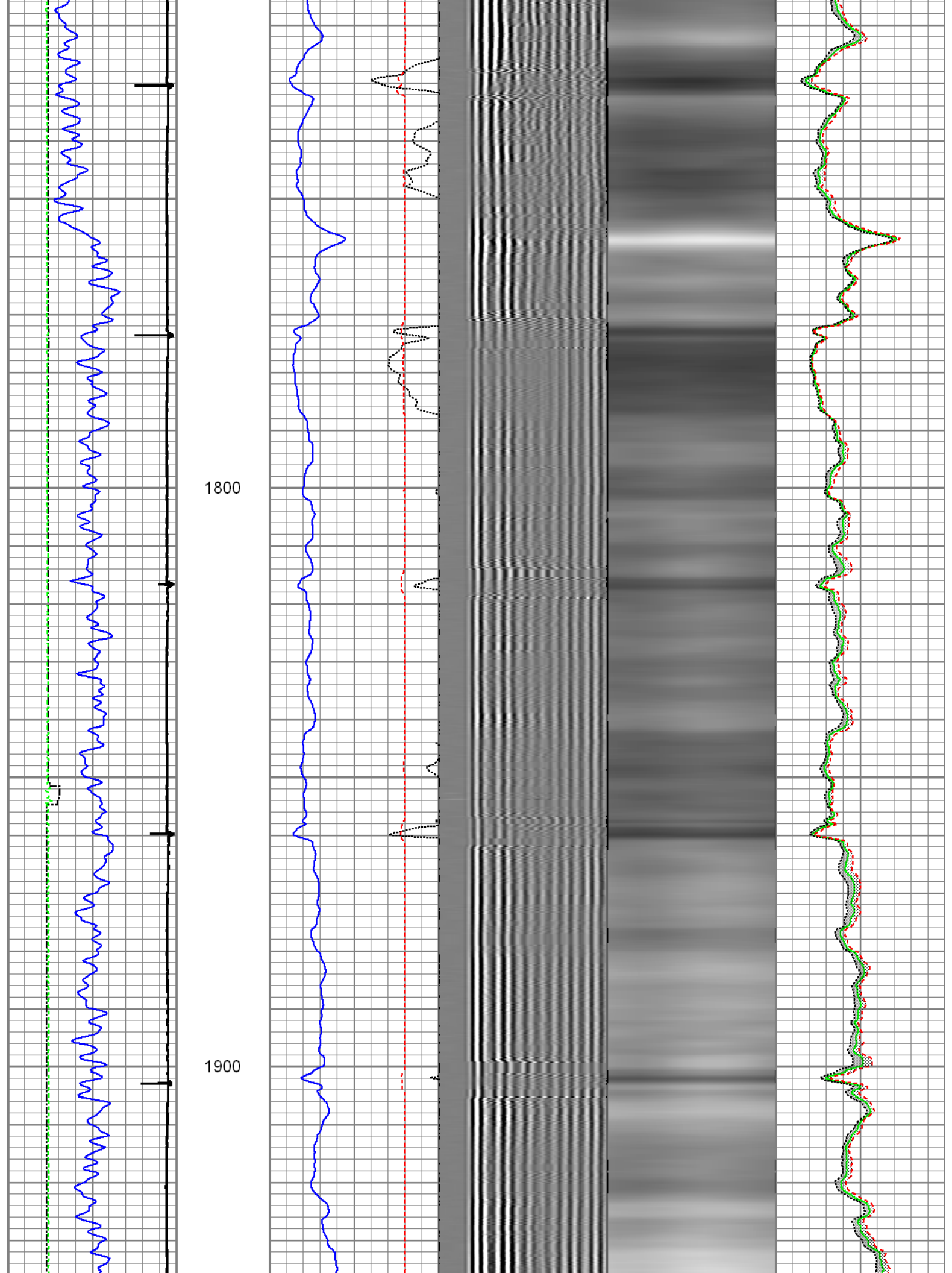


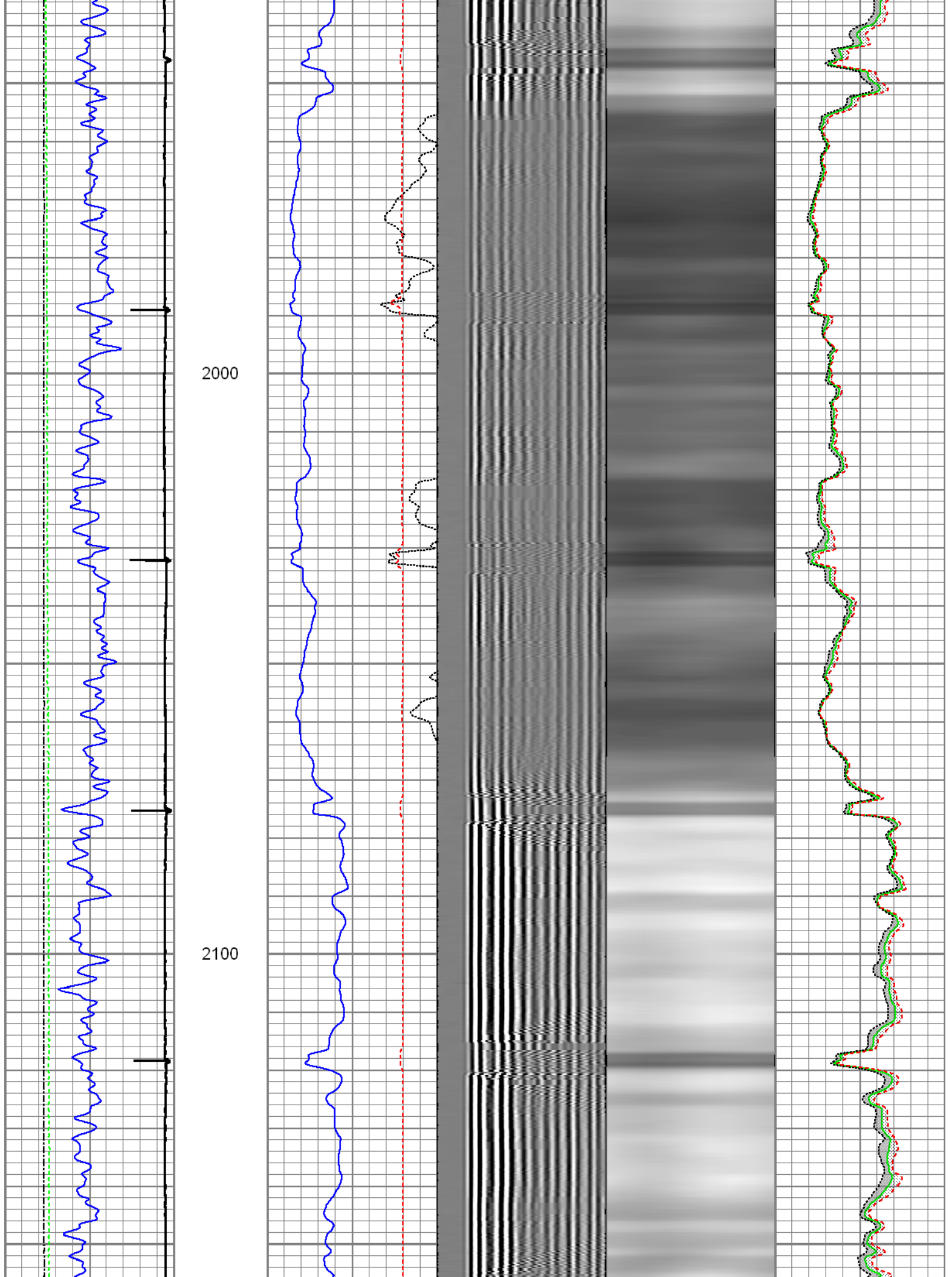
1500

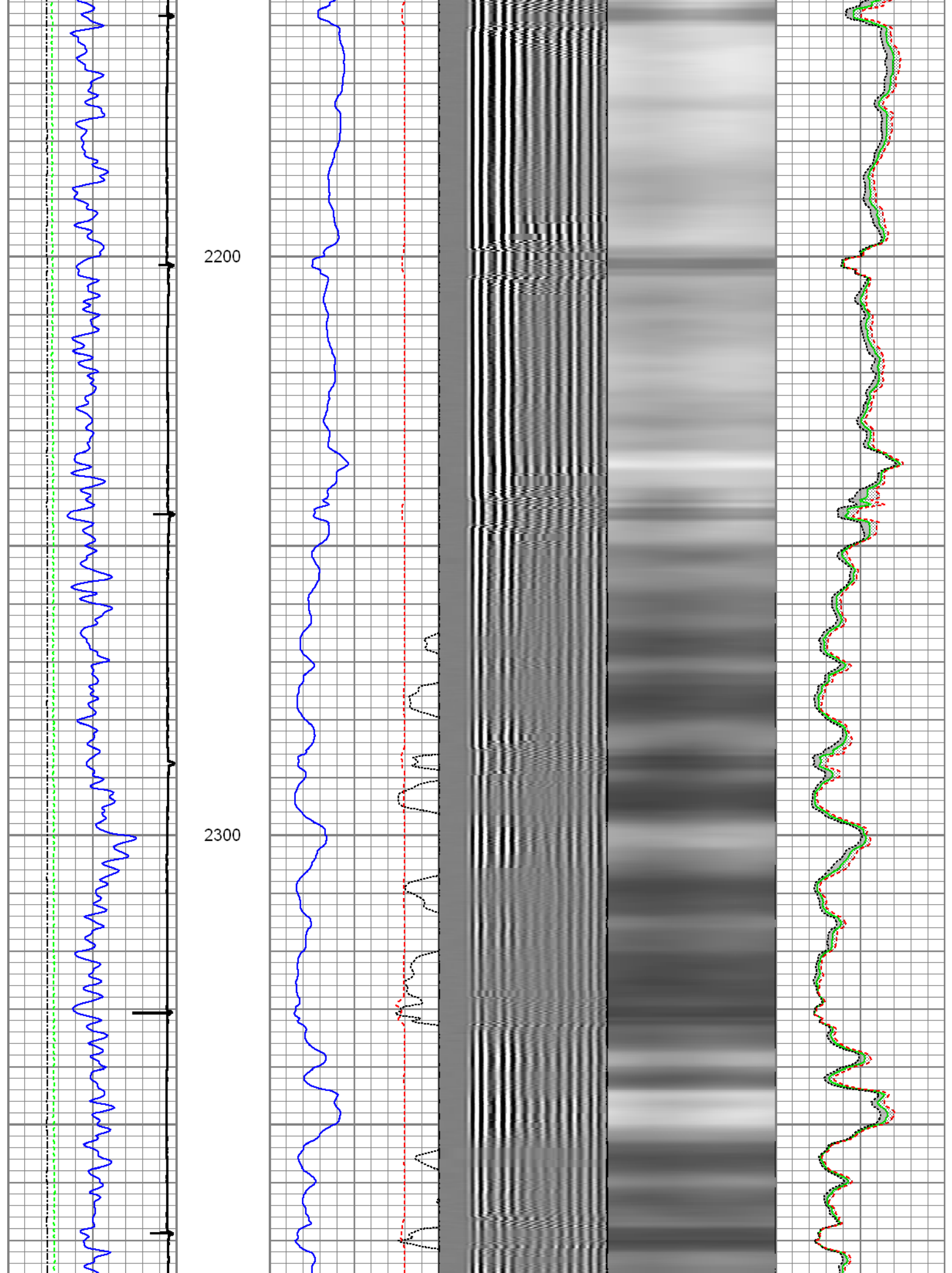
1600

1700

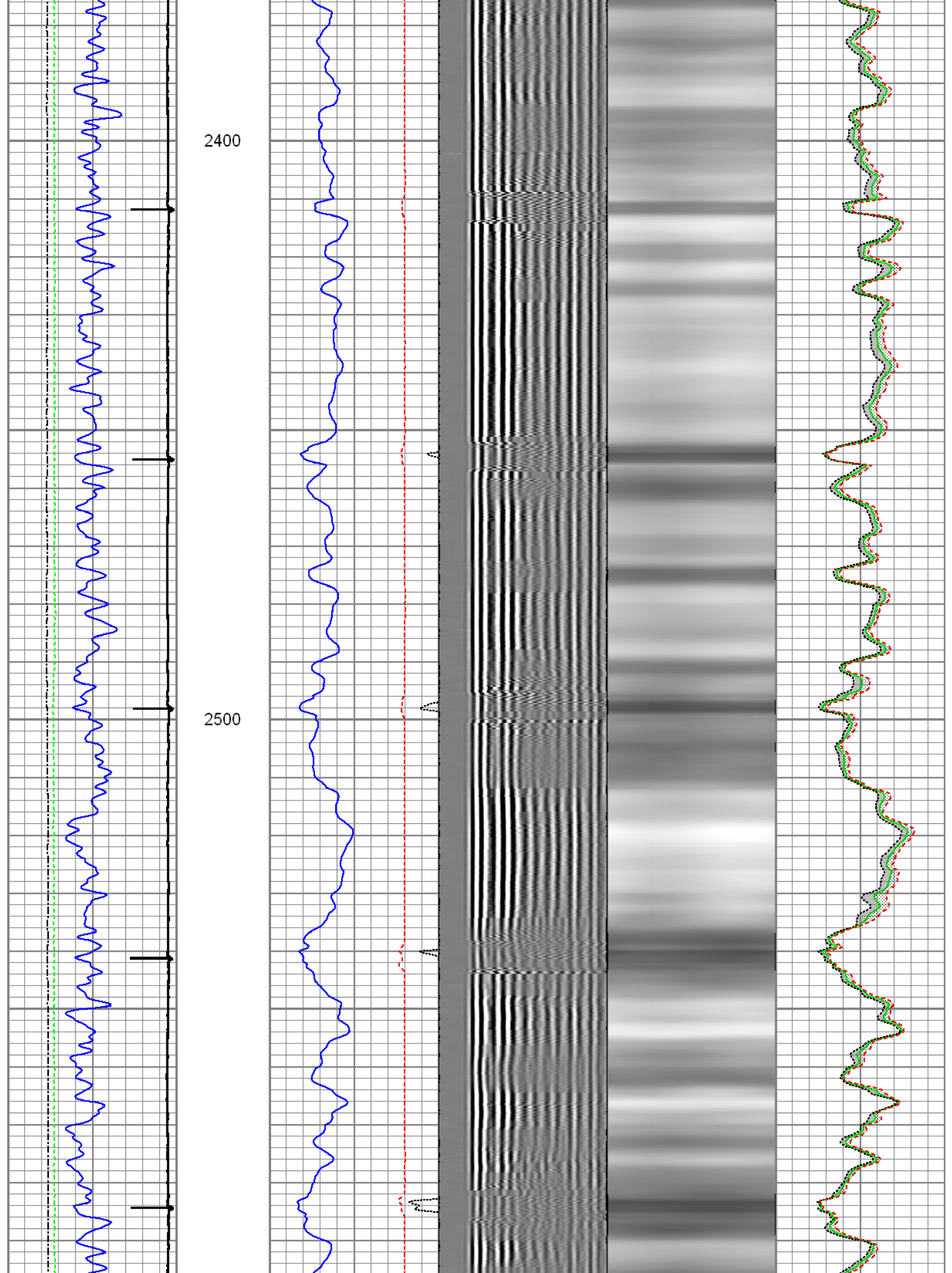








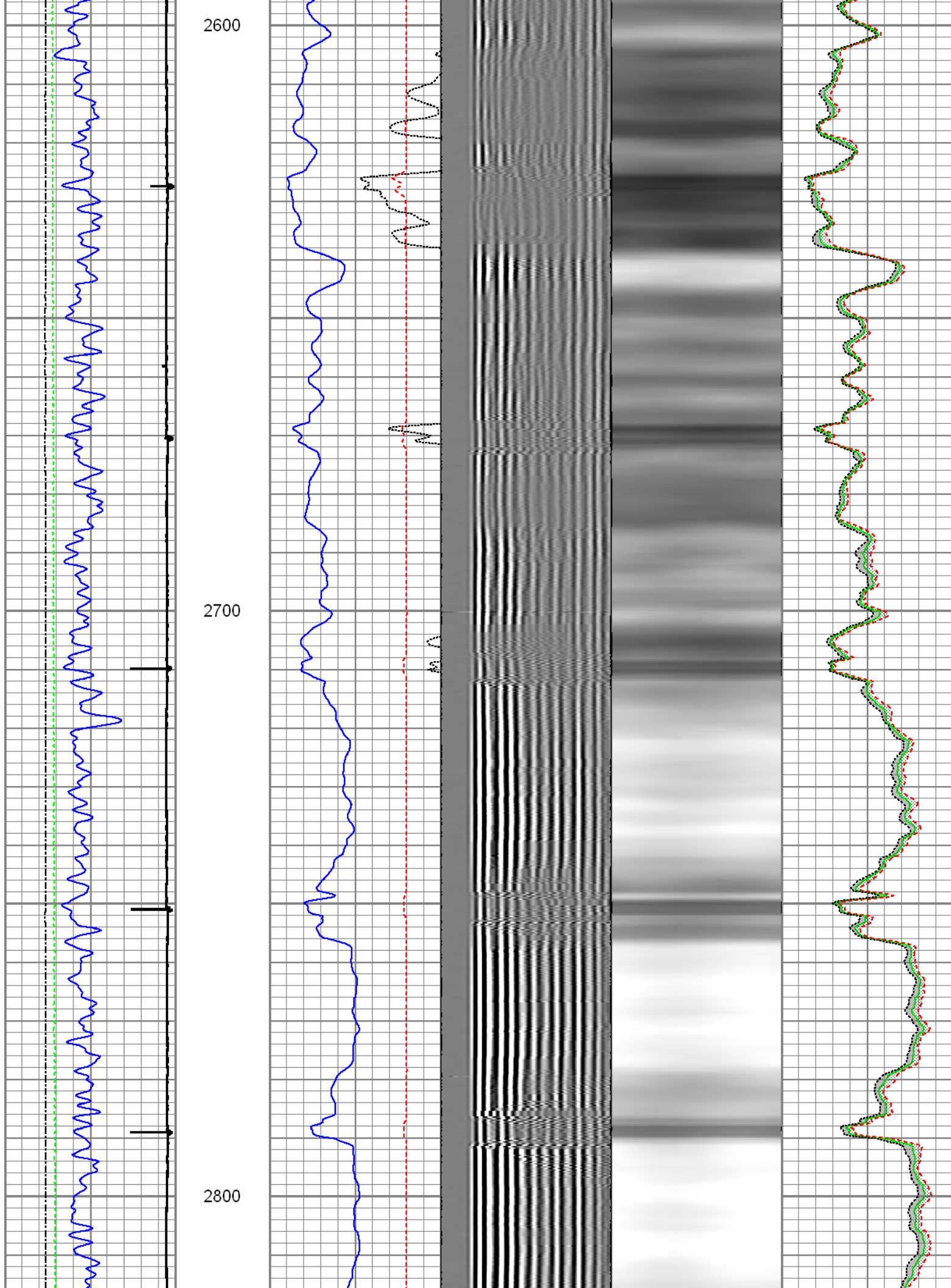


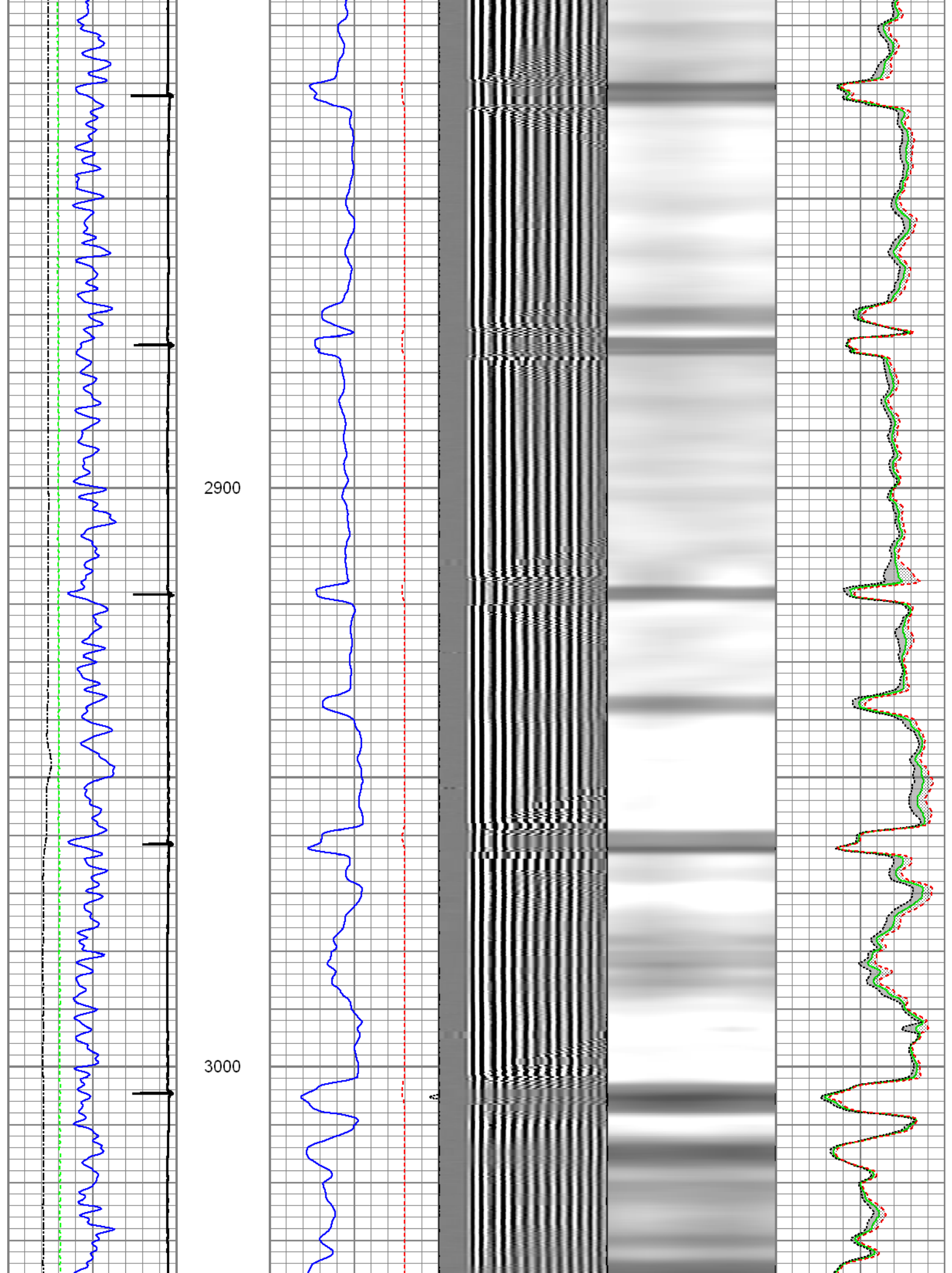


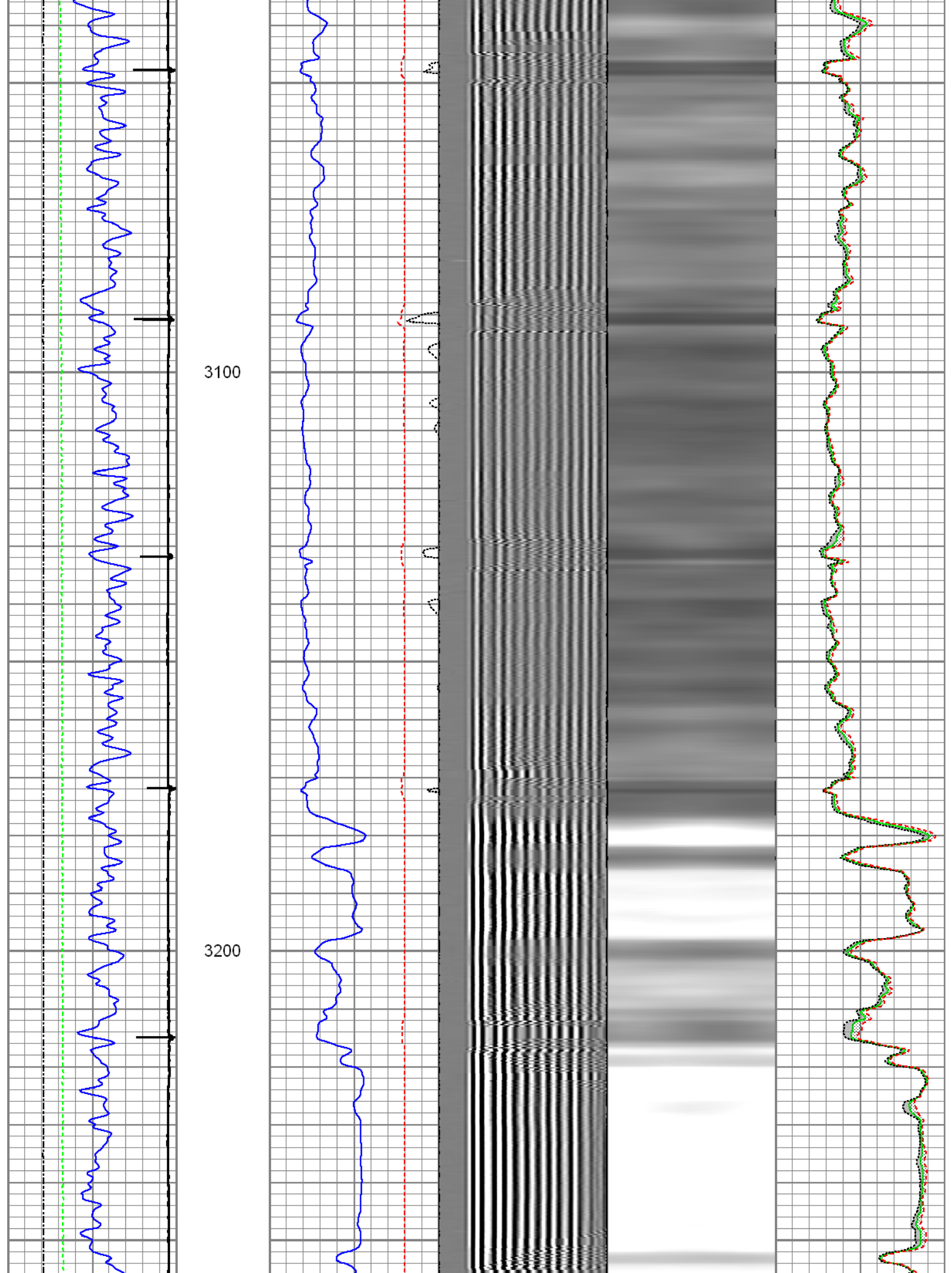
2600

2700

2800



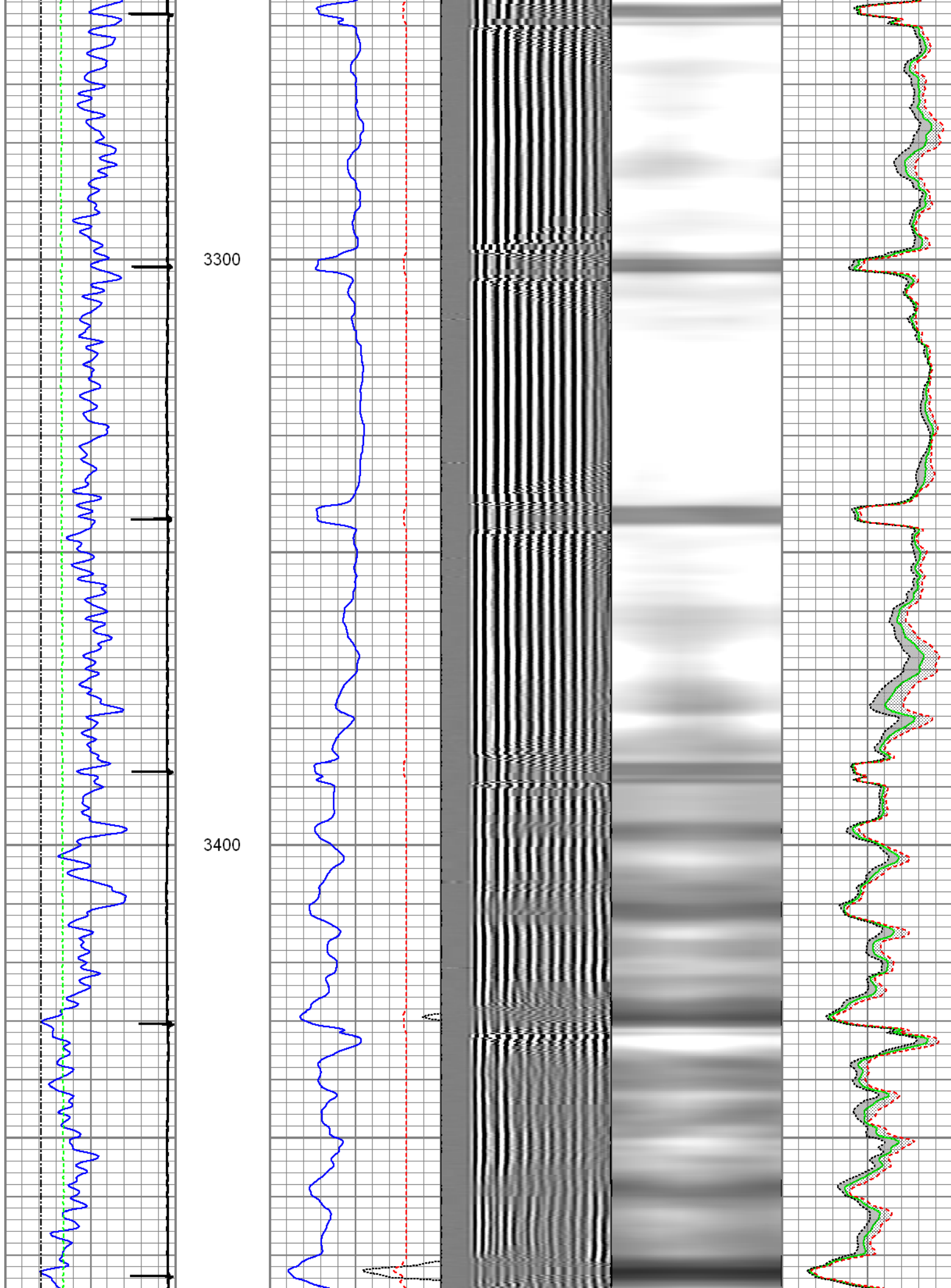


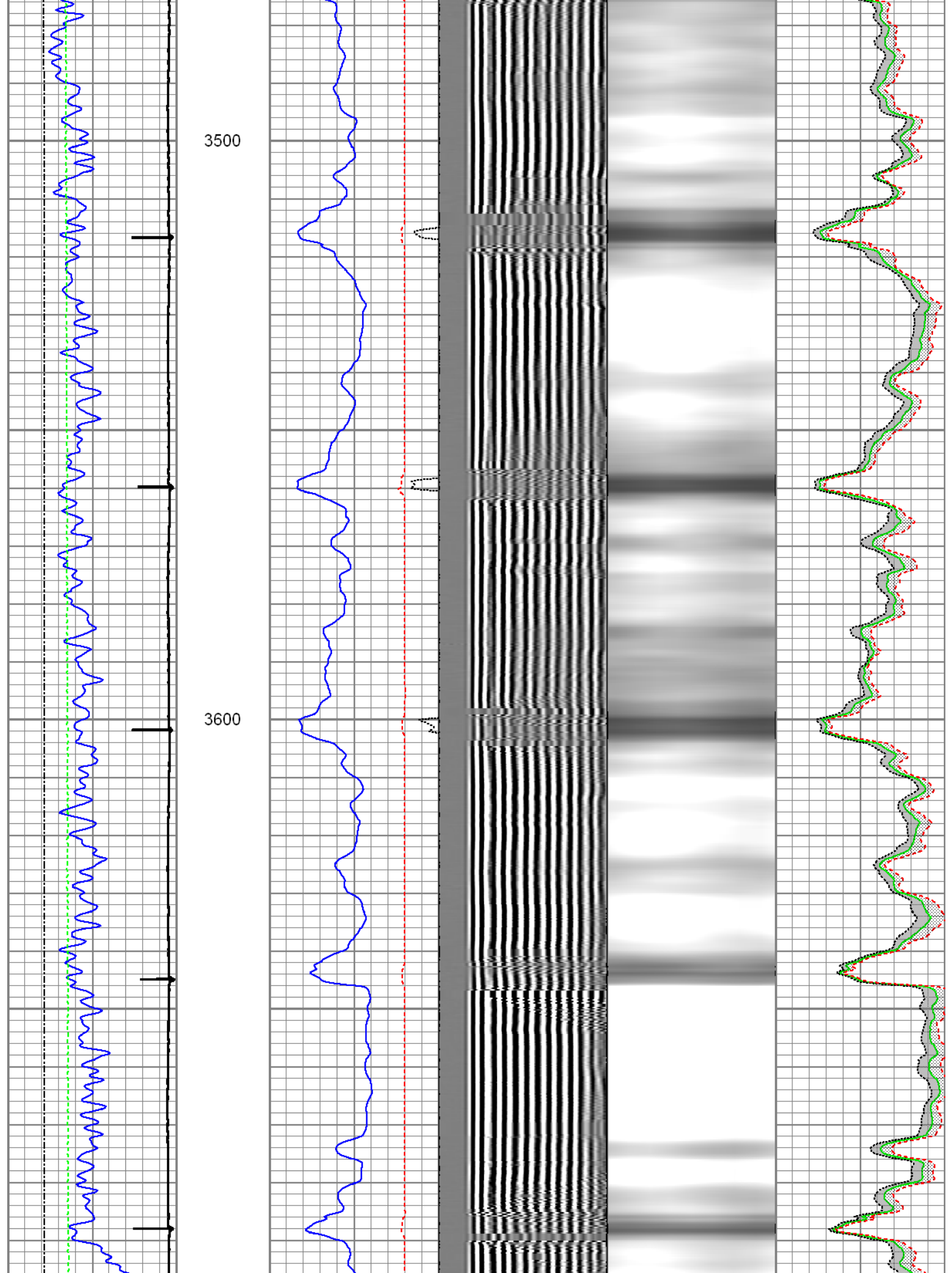




3300

3400

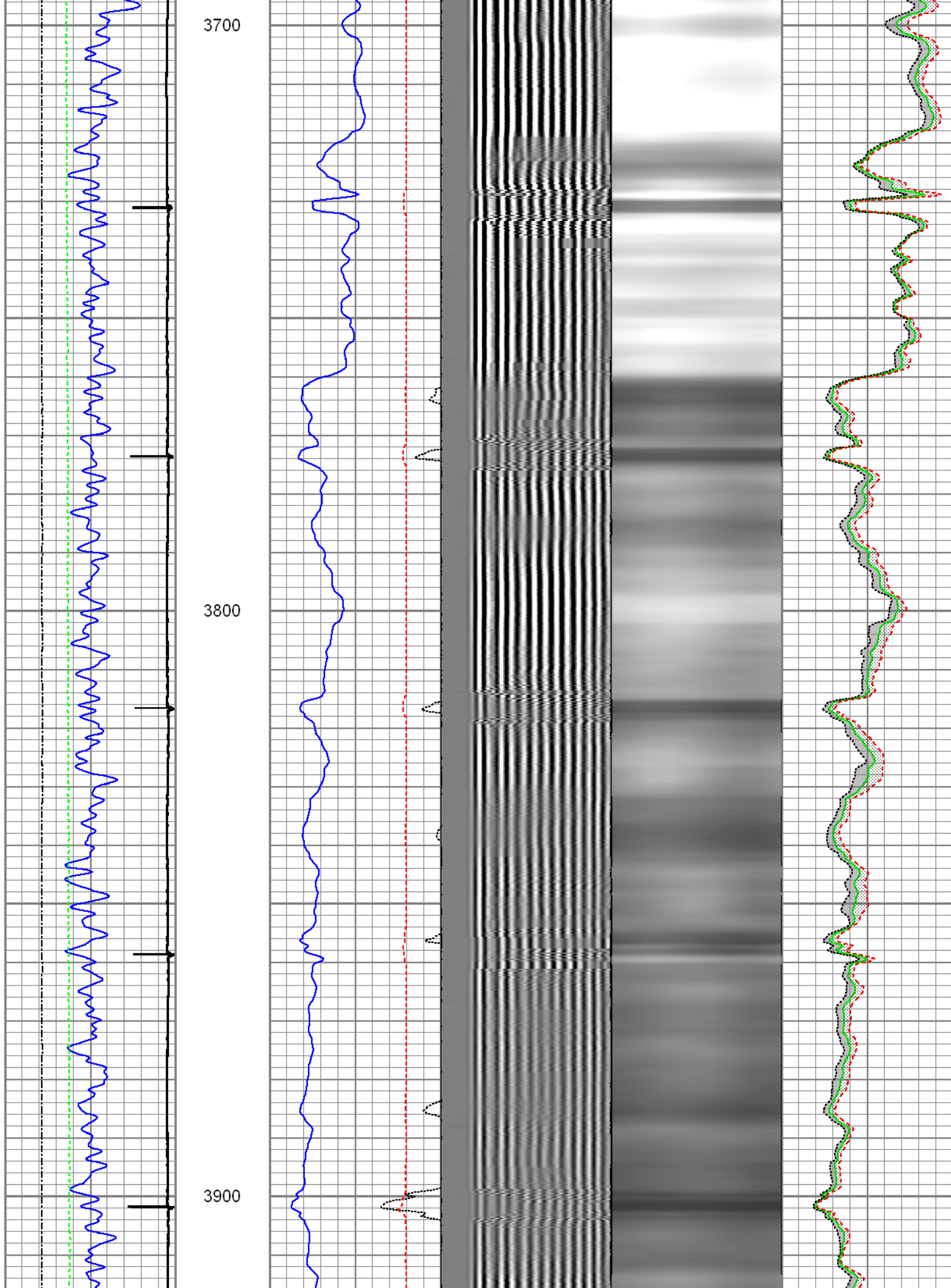


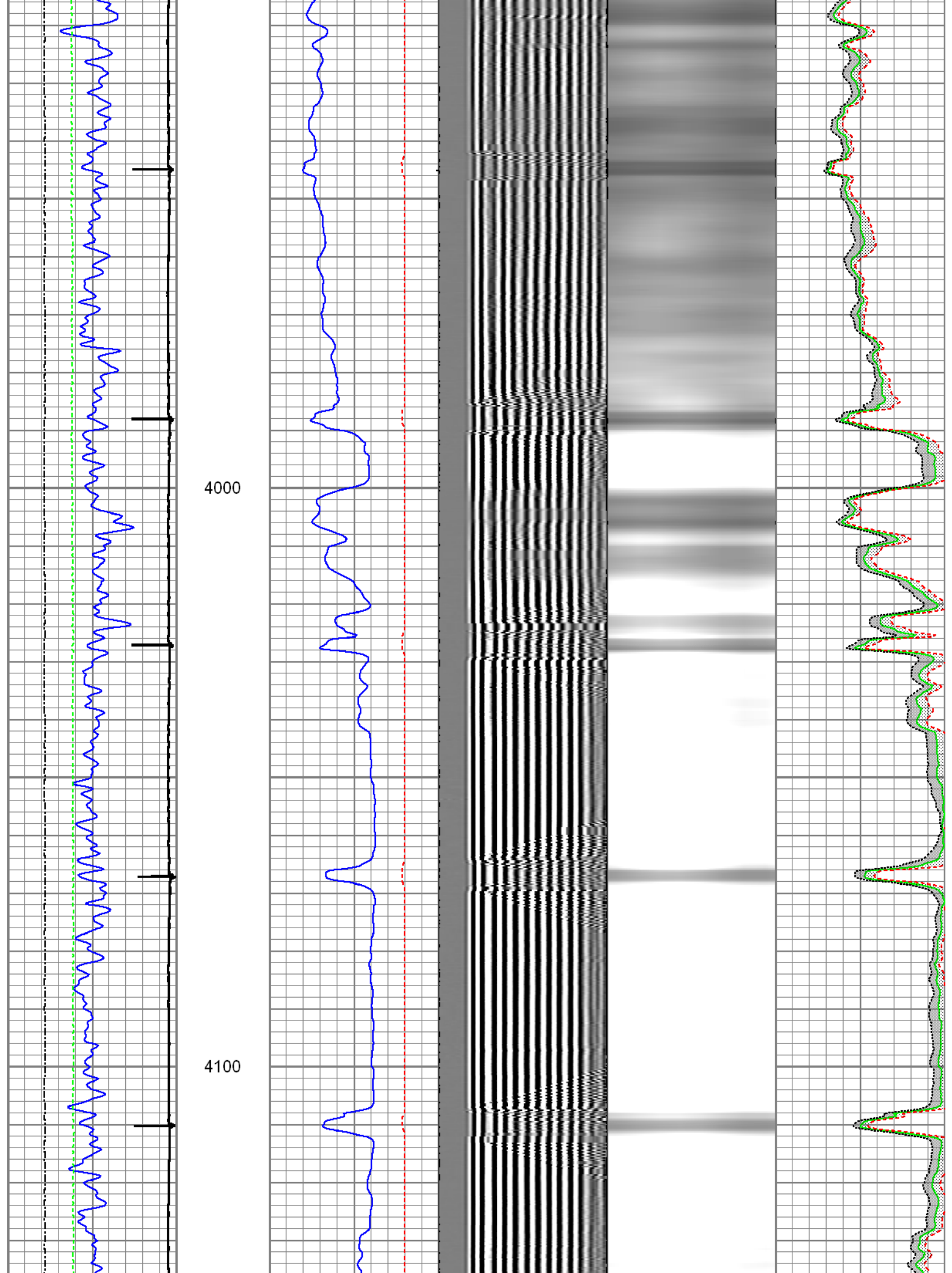


3700

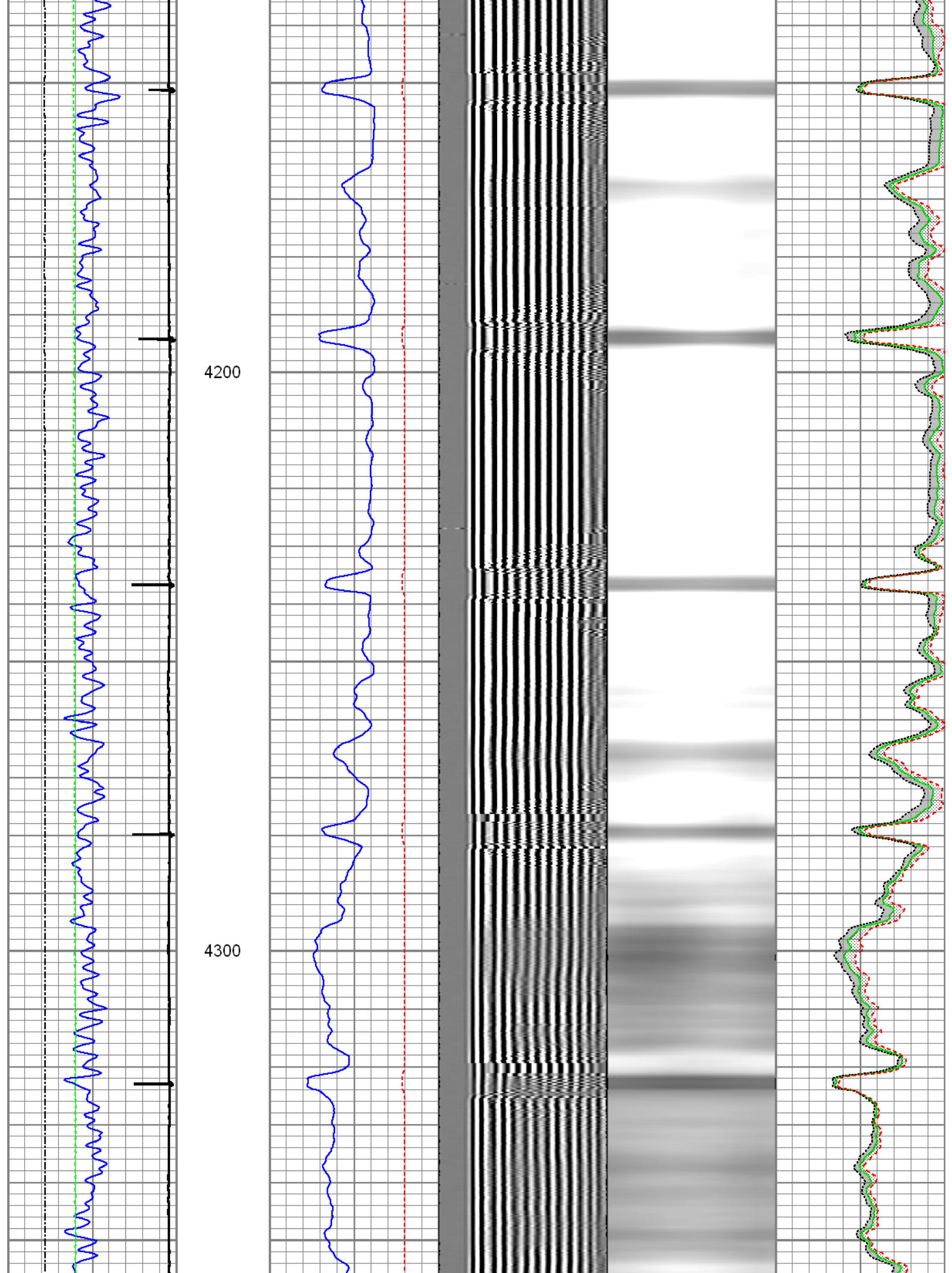
3800

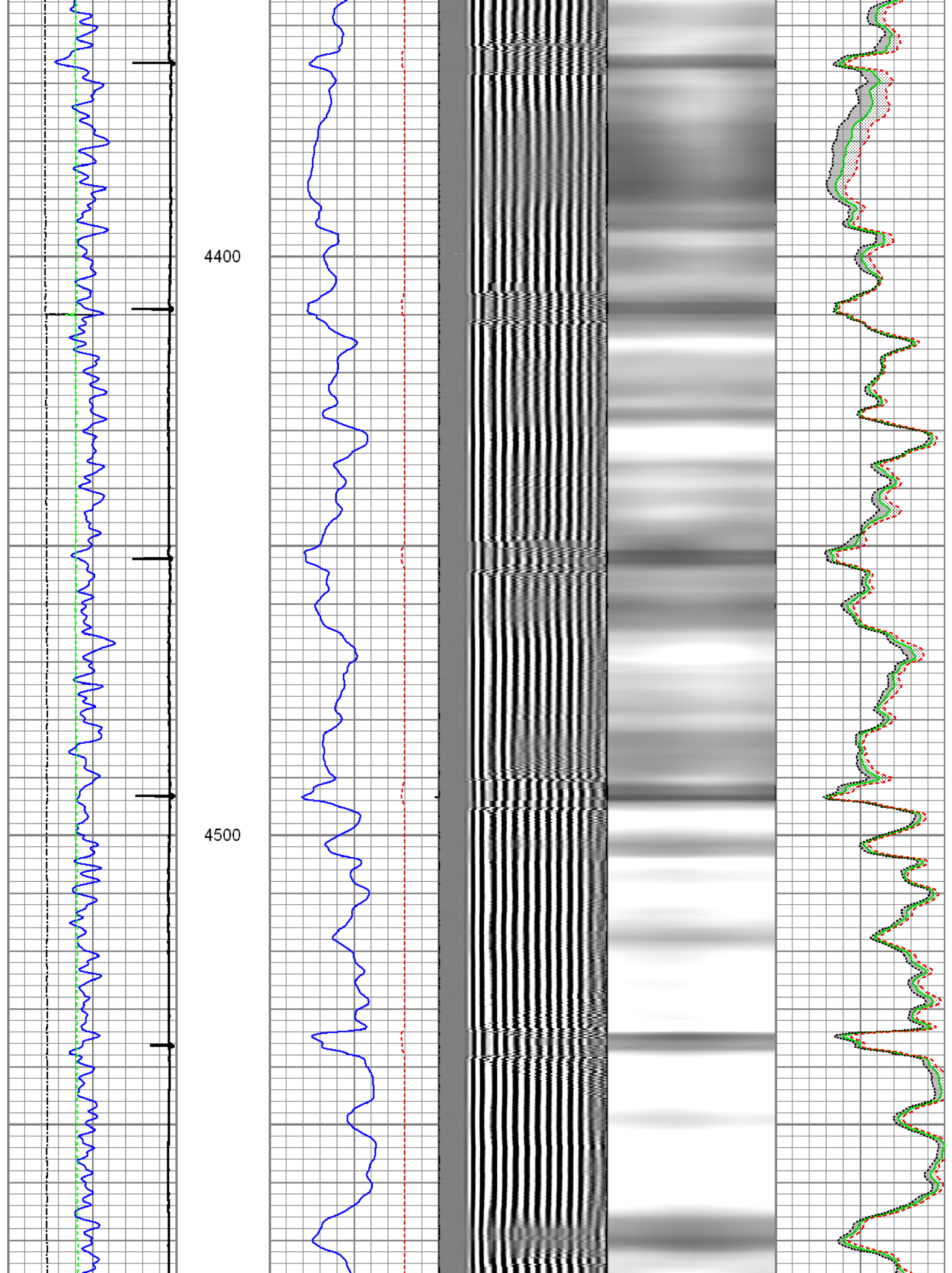
3900

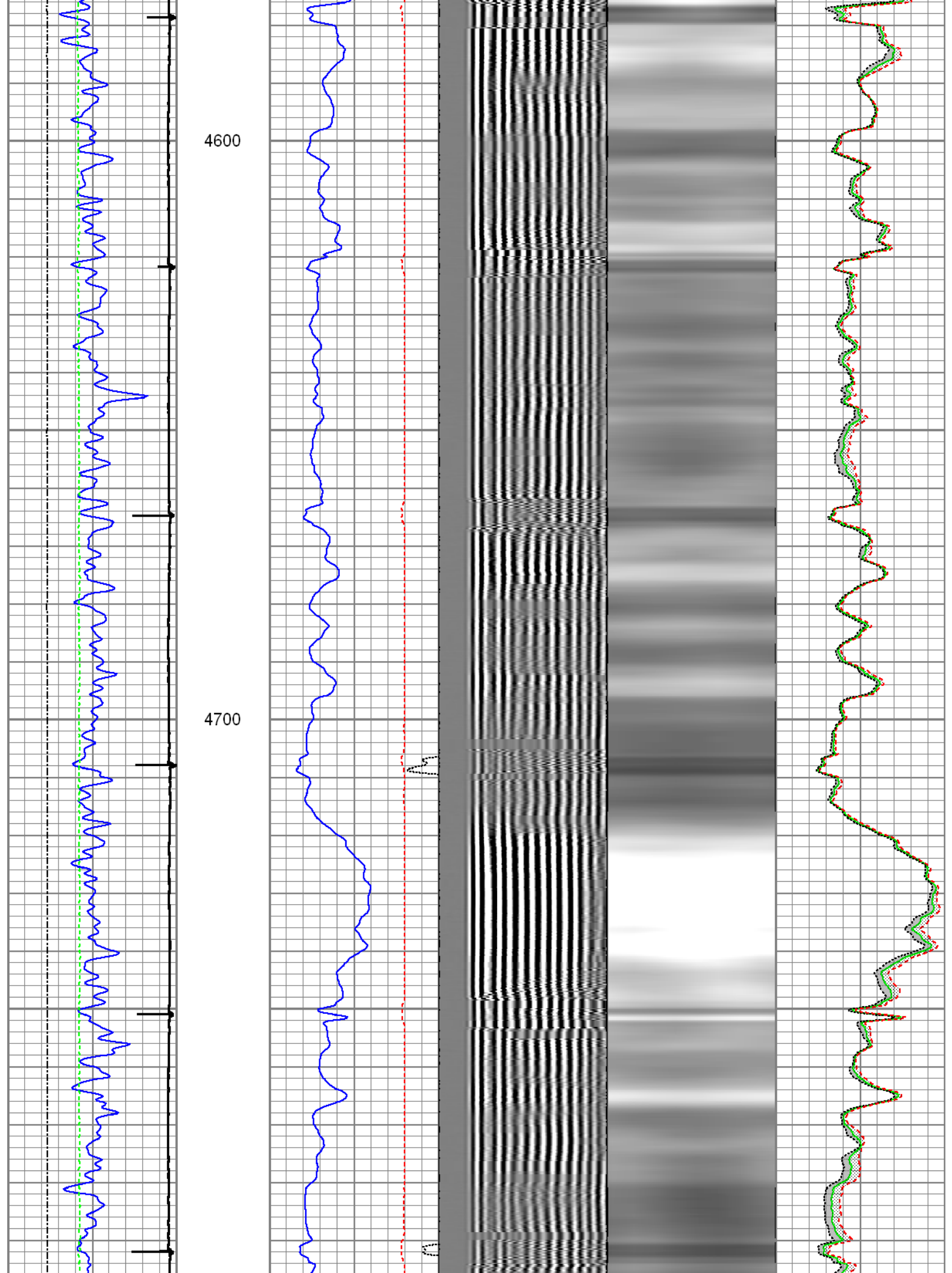








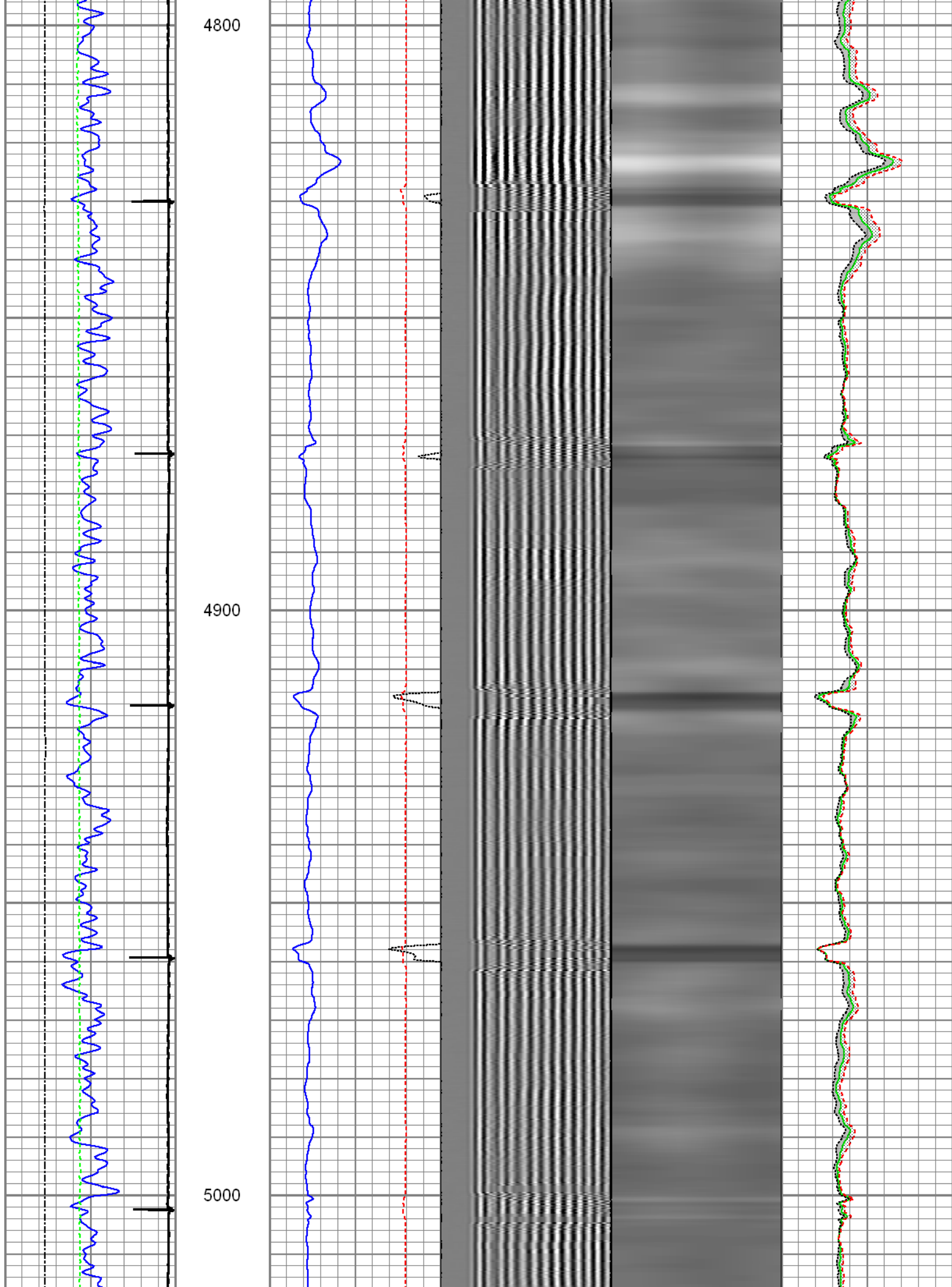




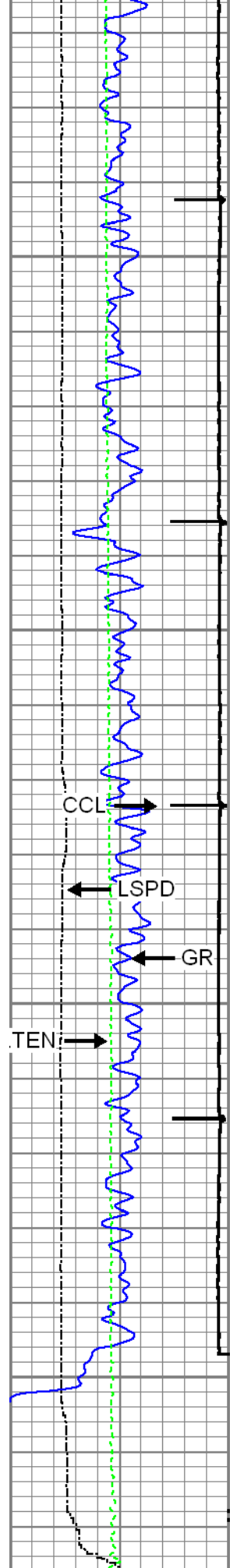
4800

4900

5000

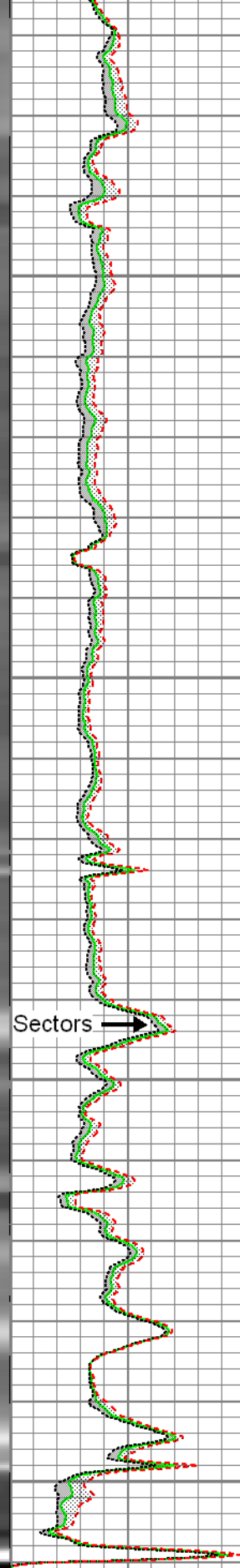
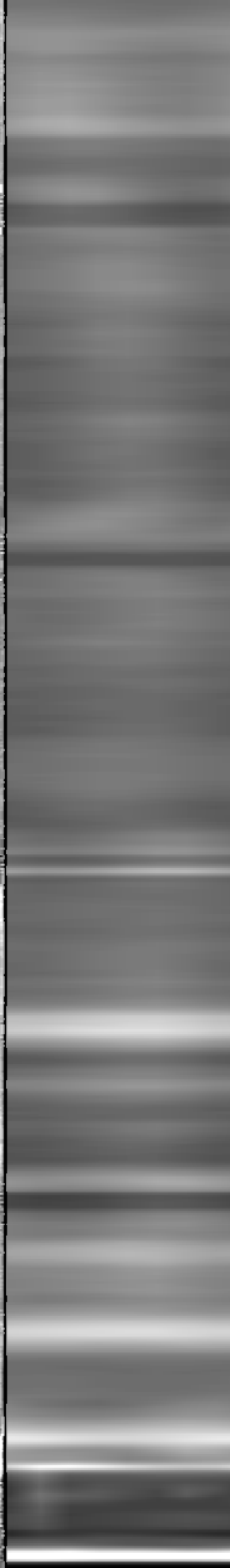
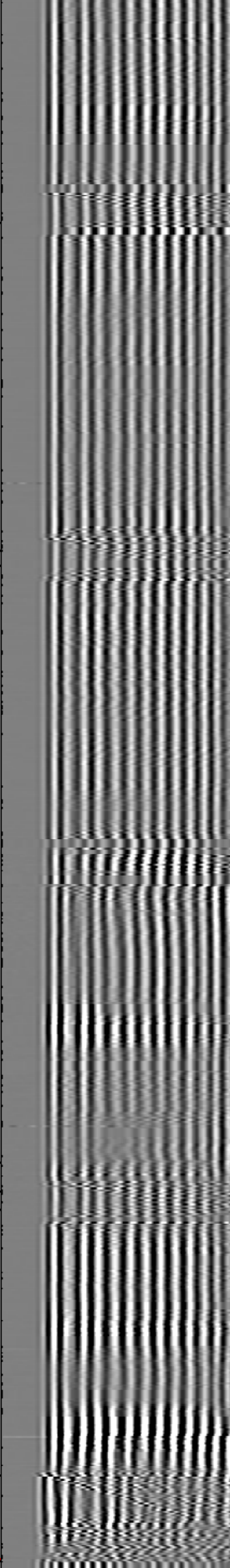
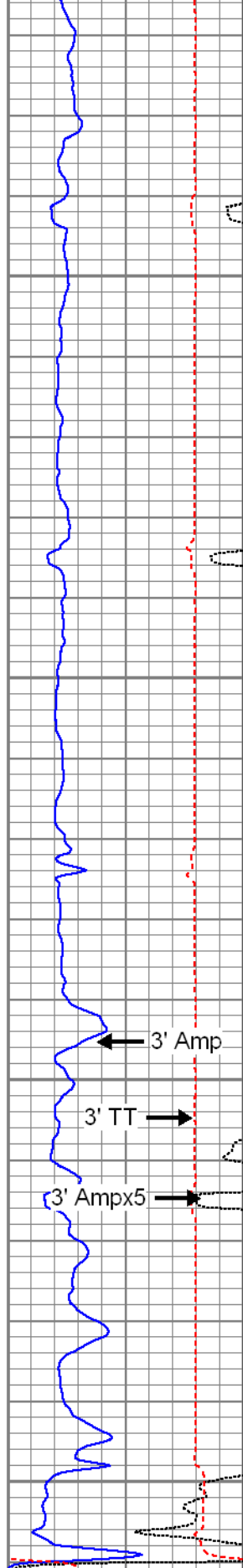






5100

Liner Top  
↓  
5200

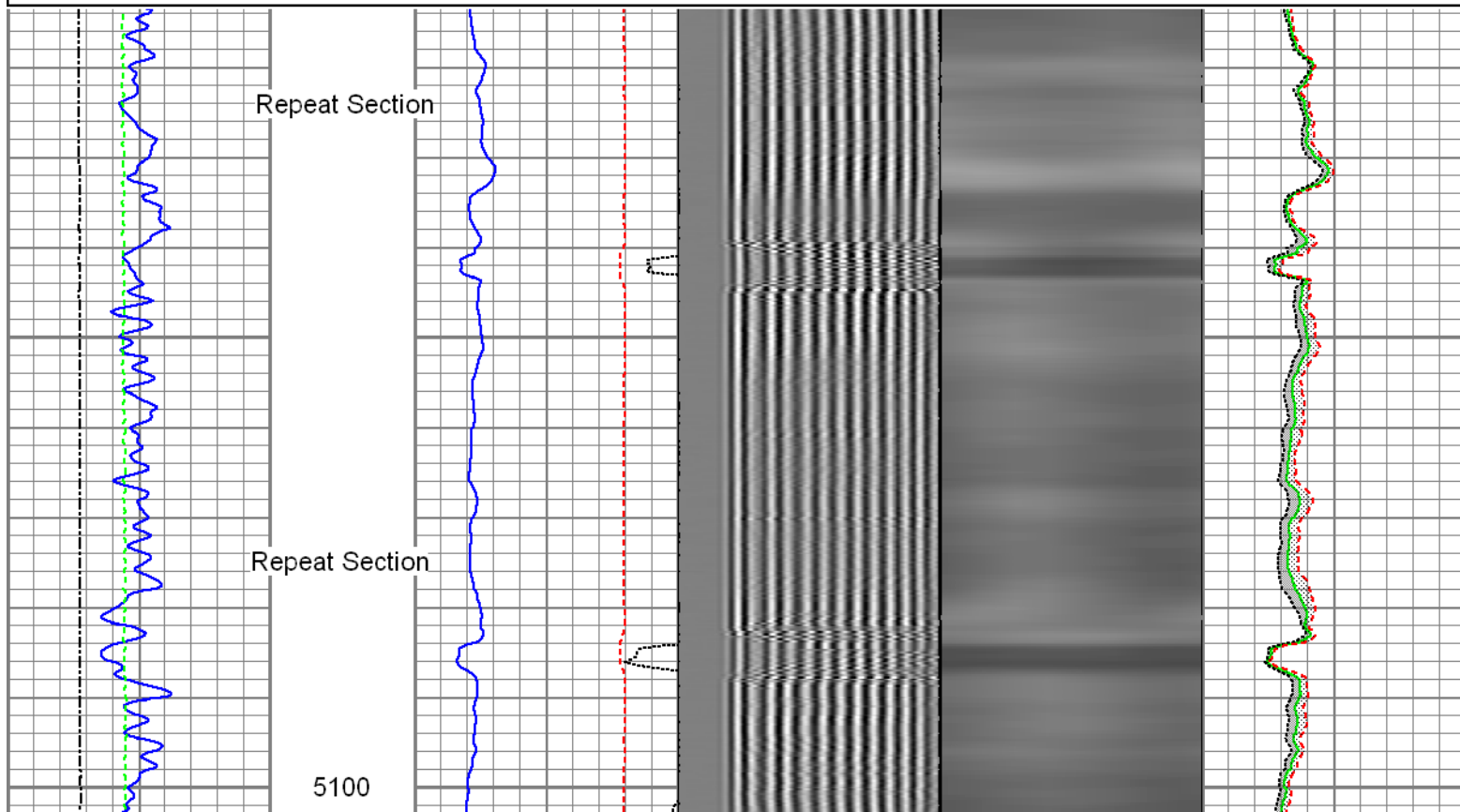


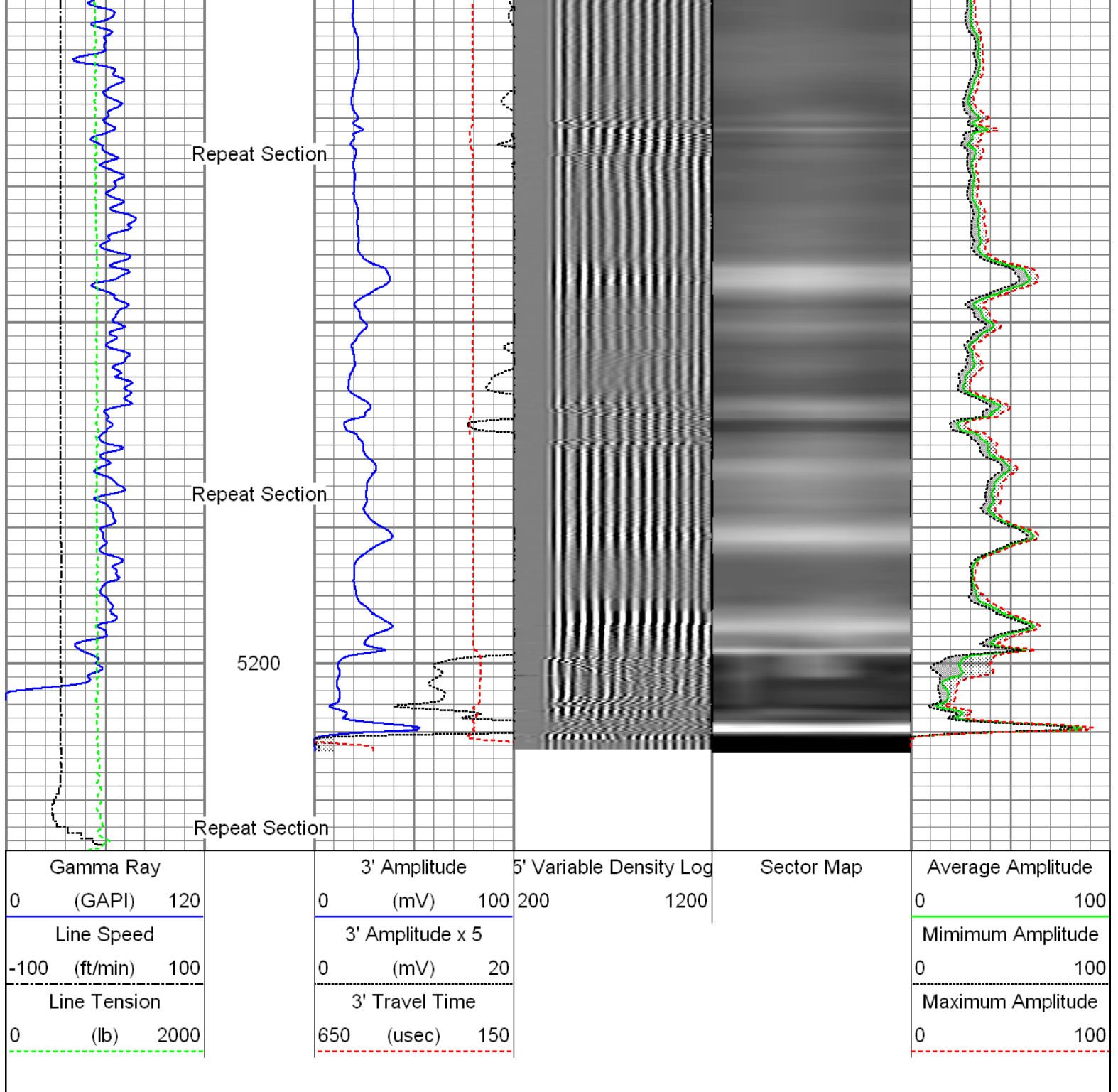
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				

<b>FMC Technologies</b>	<b>Repeat Pass</b>
Recorded with 1500 Psi surface induced pressure	

Database File: 09-23-14\_whiting\_razor 21c-0906\_mit\_rbl.db  
 Dataset Pathname: pass5  
 Presentation Format: rbt4\_mit  
 Dataset Creation: Tue Sep 23 15:33:25 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

Tool Name	Depth (ft)	Length (ft)	Weight (lb)	O.D. (in)
WVFS3FT	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			
WVFS5FT	14.85			
MIT	5.41			
TSTAMP	0.00			
UW_RBT-UW_RBT_004 (1066) Sondex Ultrawire 3-1/8" Radial Bond Tool		9.47	3.13	140.00
UW_PRC #4 -UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser		2.98	2.75	32.00
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
UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator		0.22	1.69	1.20
Dataset: 09-23-14_Whiting_Razor 21C-0906_MIT_RBL.db: field/well/run1/pass6 Total Length: 27.92 ft Total Weight: 319.30 lb O.D.: 3.13 in				



Vertical:		Inc X	Inc Y
Finger 1 up:		1931	1952
Finger 31 up:		1959	2266
Finger 21 up:		1608	1962
Finger 11 up:		1927	1623
		2253	1930
Sensitivity ratio:	1.0031		
X-axis angle:	272.845		
Deviation const.:	311.818		

### Finger Calibration Report

Performed: Tue Sep 23 15:01:19 2014

Ring size: (in)	4	Sens	5	Sens	6	Sens	7
Finger 01:	994	373.0	1367	413.0	1780	442.0	2222
Finger 02:	1024	375.0	1399	409.0	1808	435.0	2243
Finger 03:	1019	371.0	1390	408.0	1798	436.0	2234
Finger 04:	976	372.0	1348	408.0	1756	440.0	2196
Finger 05:	1000	368.0	1368	403.0	1771	431.0	2202
Finger 06:	998	380.0	1378	412.0	1790	439.0	2229
Finger 07:	1109	342.0	1451	373.0	1824	402.0	2226
Finger 08:	1019	361.0	1380	402.0	1782	430.0	2212
Finger 09:	1004	372.0	1376	407.0	1783	434.0	2217
Finger 10:	1046	325.0	1371	353.0	1724	371.0	2095
Finger 11:	1089	384.0	1473	404.0	1877	418.0	2295
Finger 12:	1163	393.0	1556	417.0	1973	432.0	2405
Finger 13:	1093	360.0	1453	388.0	1841	412.0	2253
Finger 14:	1192	342.0	1534	360.0	1894	374.0	2268
Finger 15:	1012	380.0	1392	413.0	1805	433.0	2238
Finger 16:	1132	366.0	1498	396.0	1894	394.0	2288
Finger 17:	1038	372.0	1410	407.0	1817	423.0	2240
Finger 18:	1021	382.0	1403	412.0	1815	425.0	2240
Finger 19:	1017	375.0	1392	417.0	1809	433.0	2242
Finger 20:	1085	362.0	1447	395.0	1842	409.0	2251
Finger 21:	1070	372.0	1442	410.0	1852	423.0	2275
Finger 22:	1090	375.0	1465	408.0	1873	421.0	2294
Finger 23:	1055	371.0	1426	416.0	1842	432.0	2274
Finger 24:	1225	343.0	1568	371.0	1939	378.0	2317
Finger 25:	1193	362.0	1555	393.0	1948	393.0	2341
Finger 26:	1213	349.0	1562	368.0	1930	370.0	2300
Finger 27:	1175	347.0	1522	376.0	1898	387.0	2285
Finger 28:	1227	353.0	1580	372.0	1952	376.0	2328
Finger 29:	1207	345.0	1552	372.0	1924	377.0	2301
Finger 30:	1189	339.0	1528	368.0	1896	386.0	2282
Finger 31:	1202	351.0	1553	377.0	1930	386.0	2316
Finger 32:	1231	341.0	1572	362.0	1934	367.0	2301
Finger 33:	1054	368.0	1422	418.0	1840	440.0	2280
Finger 34:	1103	363.0	1466	403.0	1869	419.0	2288
Finger 35:	1191	342.0	1533	371.0	1904	393.0	2297
Finger 36:	1132	348.0	1480	376.0	1856	396.0	2252
Finger 37:	1066	371.0	1437	403.0	1840	427.0	2267
Finger 38:	1071	363.0	1434	393.0	1827	412.0	2239
Finger 39:	1085	379.0	1464	413.0	1877	436.0	2313
Finger 40:	987	372.0	1359	407.0	1766	434.0	2200

### Post Survey Calibration Check

Performed: Tue Sep 23 17:52:36 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.985	-0.008	4.979	-0.010	5.967	-0.017	6.974	-0.013
Finger 02:	3.996	-0.002	4.982	-0.009	5.965	-0.018	6.975	-0.012
Finger 03:	3.998	-0.001	4.979	-0.011	5.967	-0.016	6.978	-0.011
Finger 04:	3.996	-0.002	4.983	-0.009	5.972	-0.014	6.979	-0.010

Finger 05:	3.994	-0.003	4.979	-0.010	5.966	-0.017	6.977	-0.011
Finger 06:	4.000	0.000	4.990	-0.005	5.984	-0.008	6.992	-0.004
Finger 07:	3.992	-0.004	4.979	-0.011	5.968	-0.016	6.973	-0.013
Finger 08:	3.993	-0.003	4.980	-0.010	5.972	-0.014	6.978	-0.011
Finger 09:	4.011	0.006	5.007	0.004	5.999	-0.001	7.001	0.001
Finger 10:	3.988	-0.006	4.979	-0.010	5.963	-0.018	6.973	-0.014
Finger 11:	3.999	-0.001	4.979	-0.010	5.967	-0.016	6.978	-0.011
Finger 12:	3.998	-0.001	4.984	-0.008	5.978	-0.011	6.981	-0.009
Finger 13:	4.002	0.001	4.982	-0.009	5.969	-0.016	6.972	-0.014
Finger 14:	3.993	-0.004	4.981	-0.010	5.965	-0.018	6.970	-0.015
Finger 15:	4.000	-0.000	4.981	-0.010	5.968	-0.016	6.975	-0.012
Finger 16:	3.992	-0.004	4.979	-0.011	5.962	-0.019	6.973	-0.013
Finger 17:	4.000	-0.000	4.984	-0.008	5.970	-0.015	6.981	-0.010
Finger 18:	4.008	0.004	4.990	-0.005	5.973	-0.014	6.985	-0.008
Finger 19:	3.997	-0.001	4.980	-0.010	5.964	-0.018	6.975	-0.013
Finger 20:	3.988	-0.006	4.981	-0.010	5.968	-0.016	6.971	-0.015
Finger 21:	3.994	-0.003	4.982	-0.009	5.971	-0.014	6.977	-0.012
Finger 22:	4.002	0.001	4.987	-0.007	5.977	-0.012	6.981	-0.009
Finger 23:	4.003	0.001	4.984	-0.008	5.973	-0.013	6.984	-0.008
Finger 24:	3.980	-0.010	4.970	-0.015	5.948	-0.026	6.972	-0.014
Finger 25:	3.996	-0.002	4.984	-0.008	5.971	-0.015	6.978	-0.011
Finger 26:	3.993	-0.003	4.980	-0.010	5.972	-0.014	6.977	-0.012
Finger 27:	3.996	-0.002	4.984	-0.008	5.976	-0.012	6.979	-0.011
Finger 28:	4.002	0.001	4.991	-0.004	5.986	-0.007	6.991	-0.004
Finger 29:	3.994	-0.003	4.985	-0.007	5.967	-0.016	6.977	-0.011
Finger 30:	4.000	0.000	4.982	-0.009	5.971	-0.015	6.980	-0.010
Finger 31:	3.998	-0.001	4.982	-0.009	5.979	-0.010	6.979	-0.010
Finger 32:	4.000	0.000	4.989	-0.006	5.976	-0.012	6.990	-0.005
Finger 33:	4.002	0.001	4.983	-0.009	5.969	-0.015	6.977	-0.011
Finger 34:	3.998	-0.001	4.988	-0.006	5.972	-0.014	6.979	-0.011
Finger 35:	3.997	-0.001	4.980	-0.010	5.969	-0.016	6.966	-0.017
Finger 36:	3.995	-0.002	4.981	-0.010	5.968	-0.016	6.974	-0.013
Finger 37:	4.000	0.000	4.984	-0.008	5.967	-0.017	6.972	-0.014
Finger 38:	3.998	-0.001	4.980	-0.010	5.964	-0.018	6.978	-0.011
Finger 39:	3.992	-0.004	4.983	-0.008	5.967	-0.016	6.979	-0.010
Finger 40:	4.002	0.001	4.981	-0.010	5.967	-0.017	6.978	-0.011
Average:	3.997	-0.002	4.983	-0.009	5.970	-0.015	6.978	-0.011

## 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-0906  
Field Wildcat  
County Weld  
State Colorado