

Radial Cement Bond Gamma Ray Casing Collar Log

Company	Kerr McGee Oil & Gas Onshore LP	Company	Kerr McGee Oil & Gas Onshore LP
Well	Benson Farms 33N-23HZ	Well	Benson Farms 33N-23HZ
Field	Wattenberg	Field	Wattenberg
County	Weld	County	Weld
State	Colorado	State	Colorado
Location:	APL # : 05-123-39338	Other Services	
Permanent Datum	SHL: 767' FSL 71' FEL Lat/Long: 40.206468/-104.960905	MIT	
Log Measured From	SEC 23 TWP 3N RGE 68W	Elevation	
Drilling Measured From	Ground Level Kelly Bushing 16 FT	K.B. 4978' D.F. 4977' G.L. 4962'	

Date	16-Sep-2014
Run Number	One
Depth Driller	12253 FT
Depth Logger	6622 FT
Bottom Logged Interval	6610 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	205°F
Estimated Cement Top	57 FT
Time Well Ready	ROA
Time Logger on Bottom	8:55
Equipment Number	HD-0134
Location	Ft. Lupton, CO
Recorded By	Randy Azevedo
Witnessed By	Trevor Daniels

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom		
Surface Casing	9-5/8"	36	J-55	Surface	1237 FT		
Intermediate #1	7"	26	P-110	Surface	7496 FT		
Intermediate #2							
Liner	4.5"	11.6	P-110	6544 FT	12238 FT		

<<< 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.

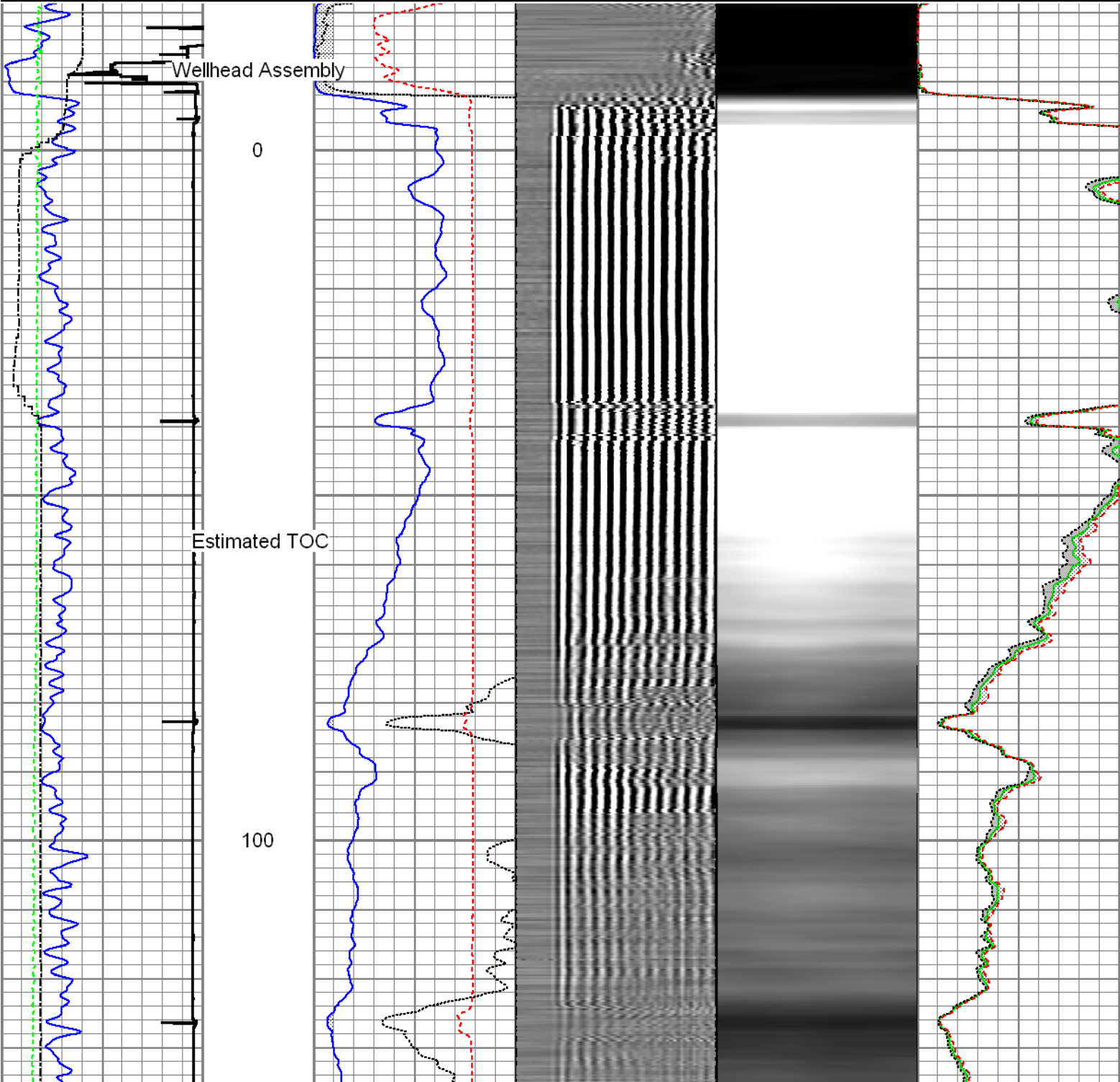
Comments

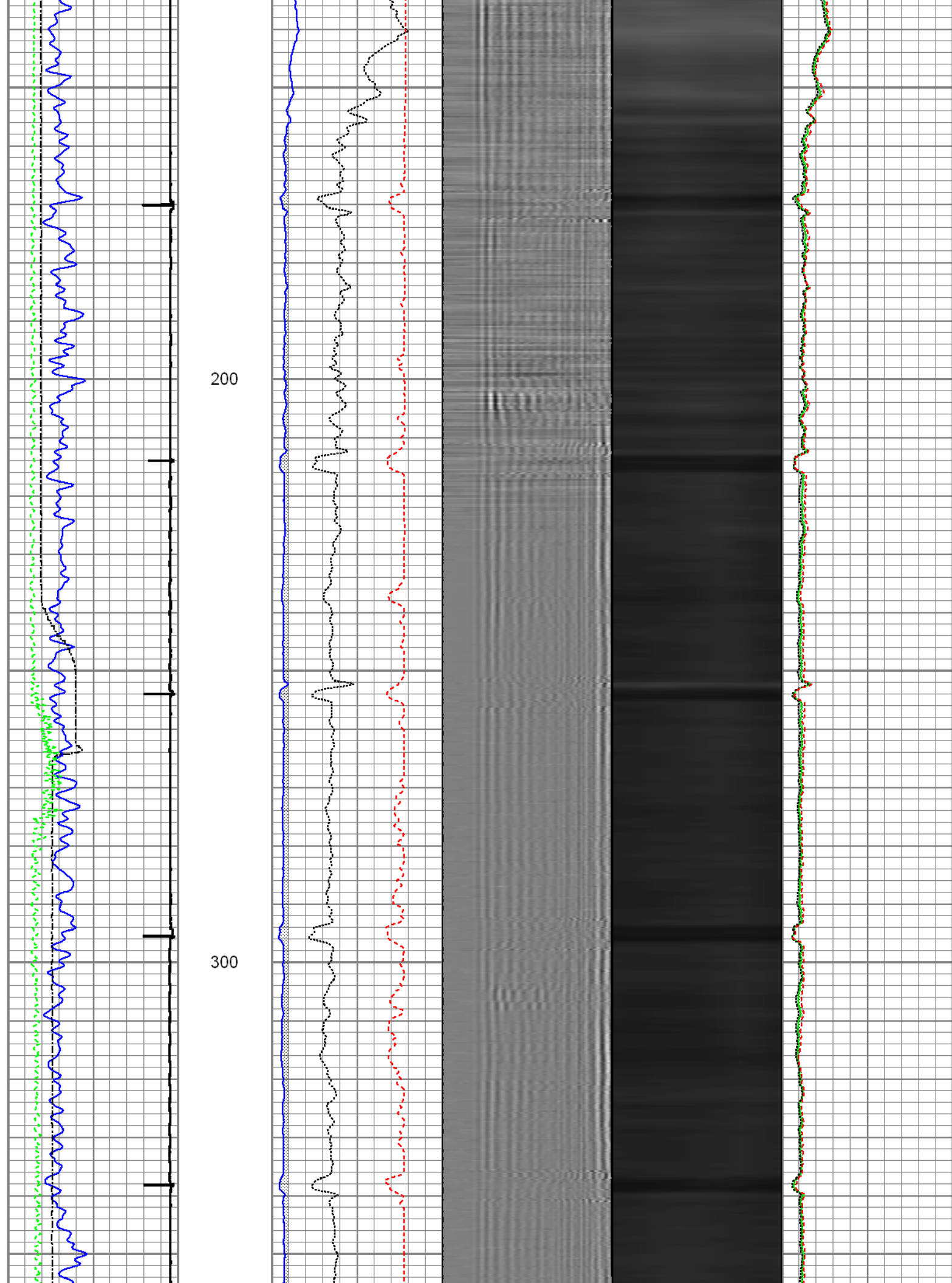
Log ran as per Customer Request.
 Depth reference to Casing Tally reported Liner Top at 6544 FT.
 Adjusted log -22 FT to correlate with Liner Top.
 Retrievable Bridge Plug set at 6630 FT prior to log run.
 Log ran from just above RBP to surface.
 Log ran with 2800 PSI surface Induced pressure at surface
 No debris found on logging tools after run.

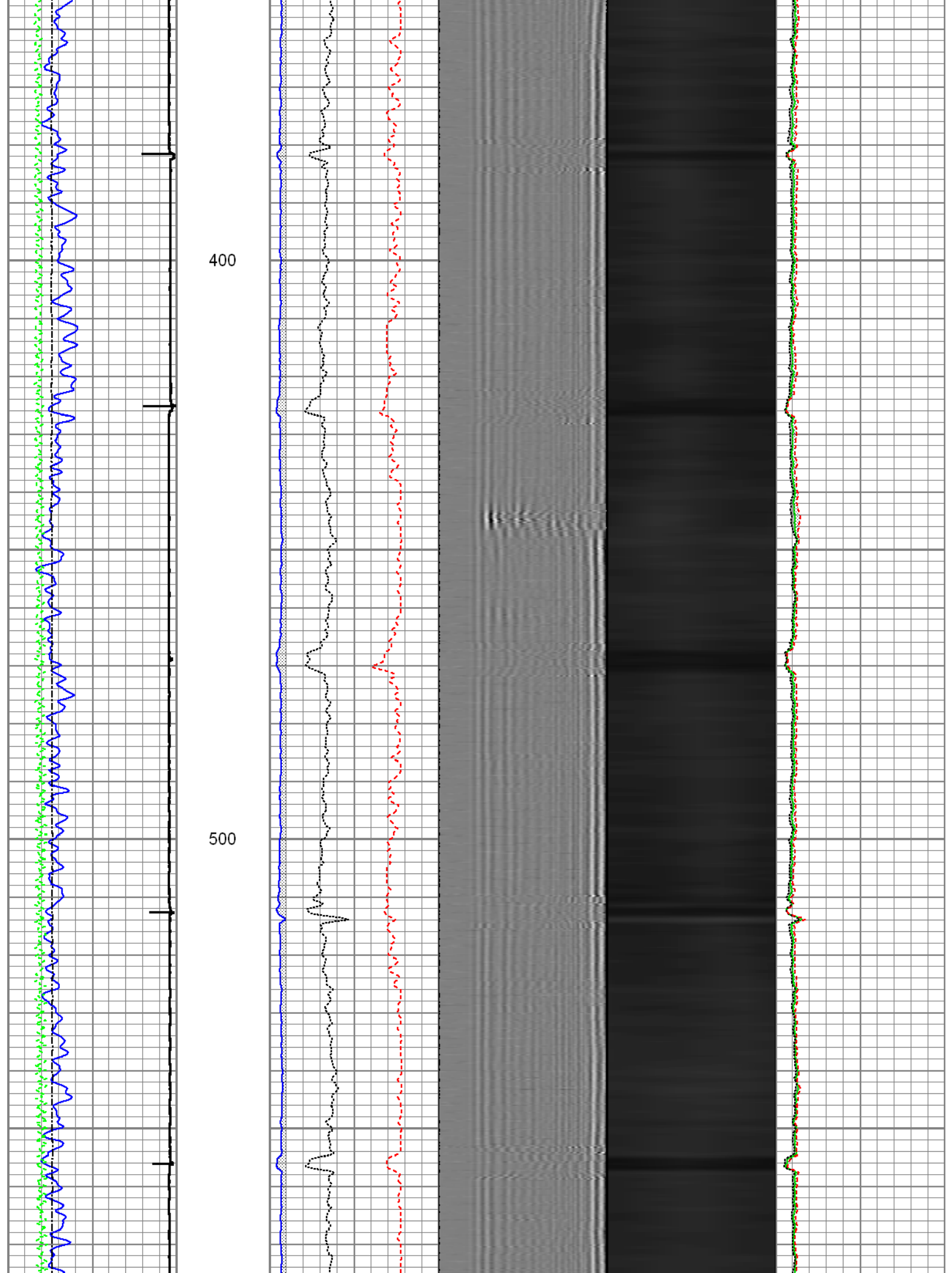
Thank you for Choosing FMC Technologies Completion Services, Inc.!!

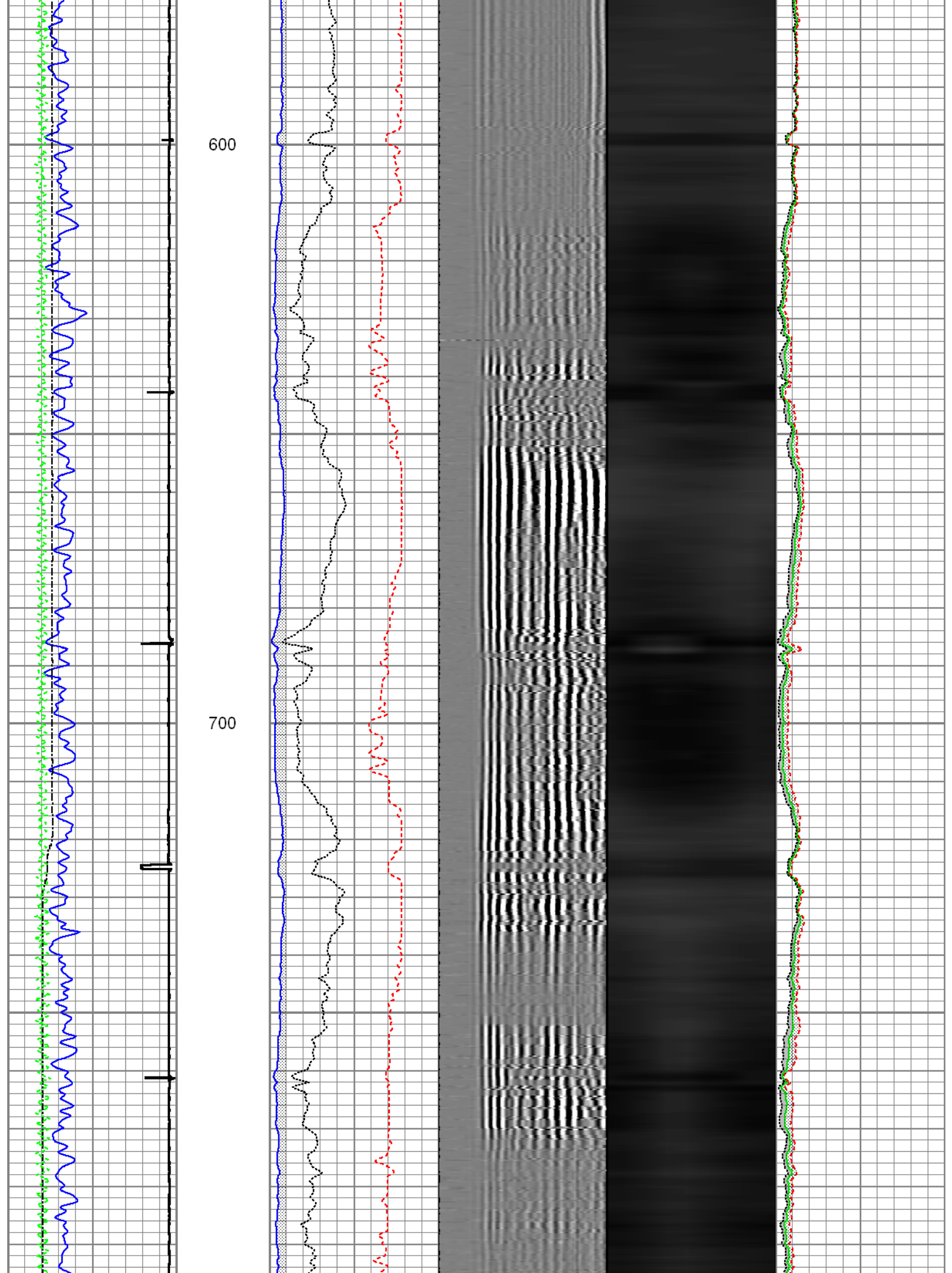
Database File: 0512339338_anadarko_benson farms 33n-23hz_09-16-14_mit_rbl.db
Dataset Pathname: pass3.4
Presentation Format: rbt4_mit
Dataset Creation: Fri Sep 19 09:46:16 2014 by Calc 7.0 B1
Charted by: Depth in Feet scaled 1:240

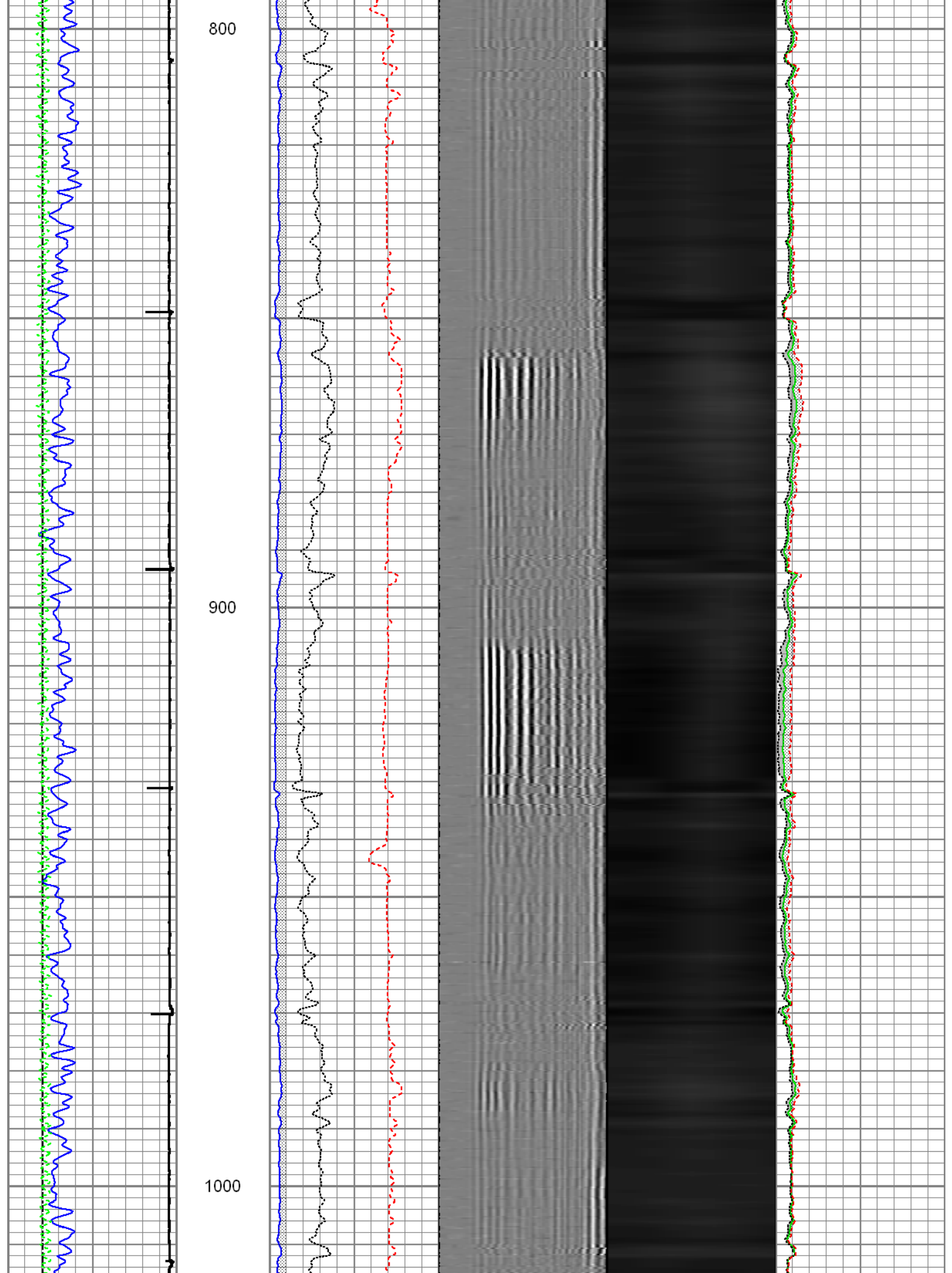
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				

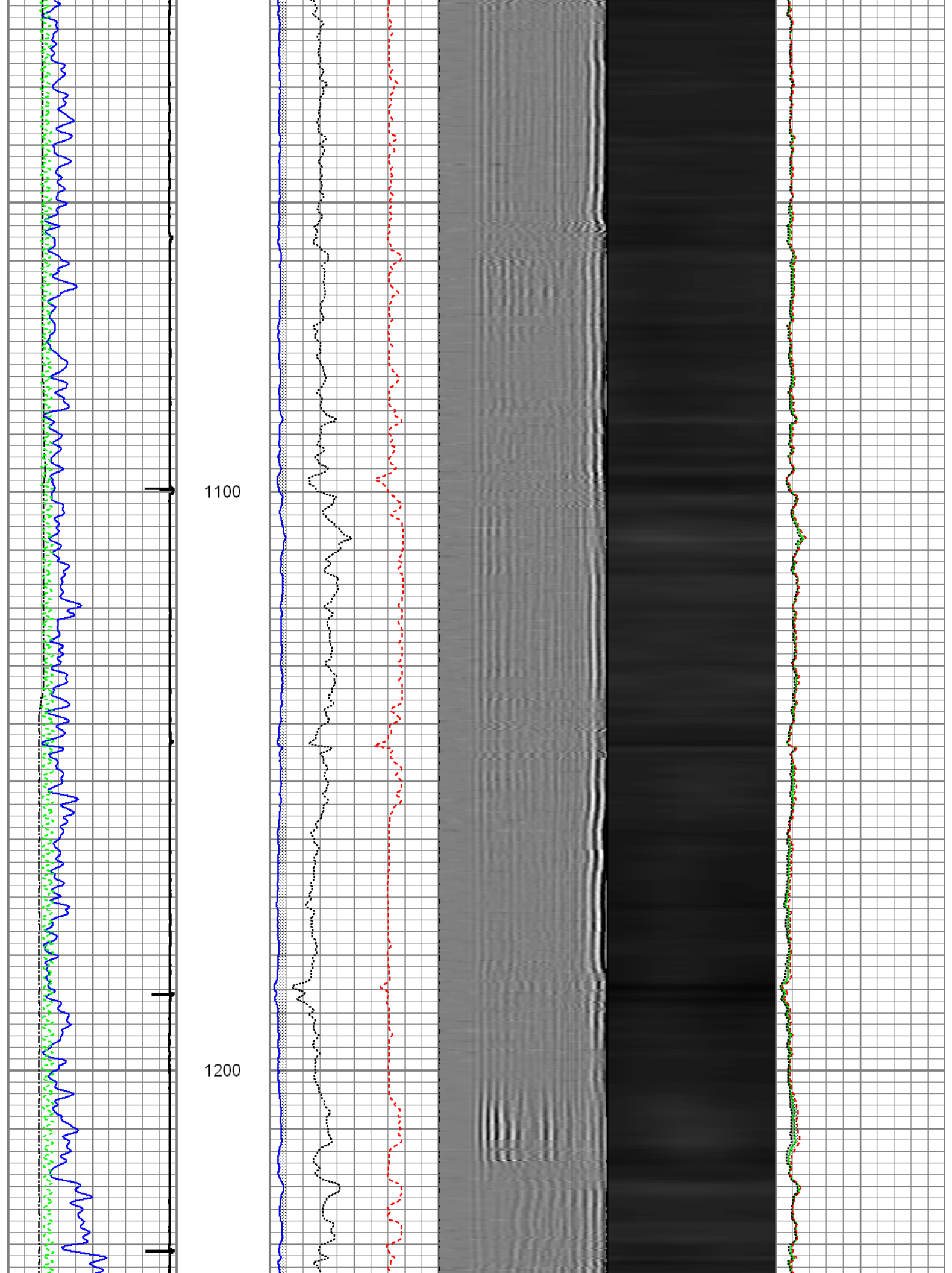


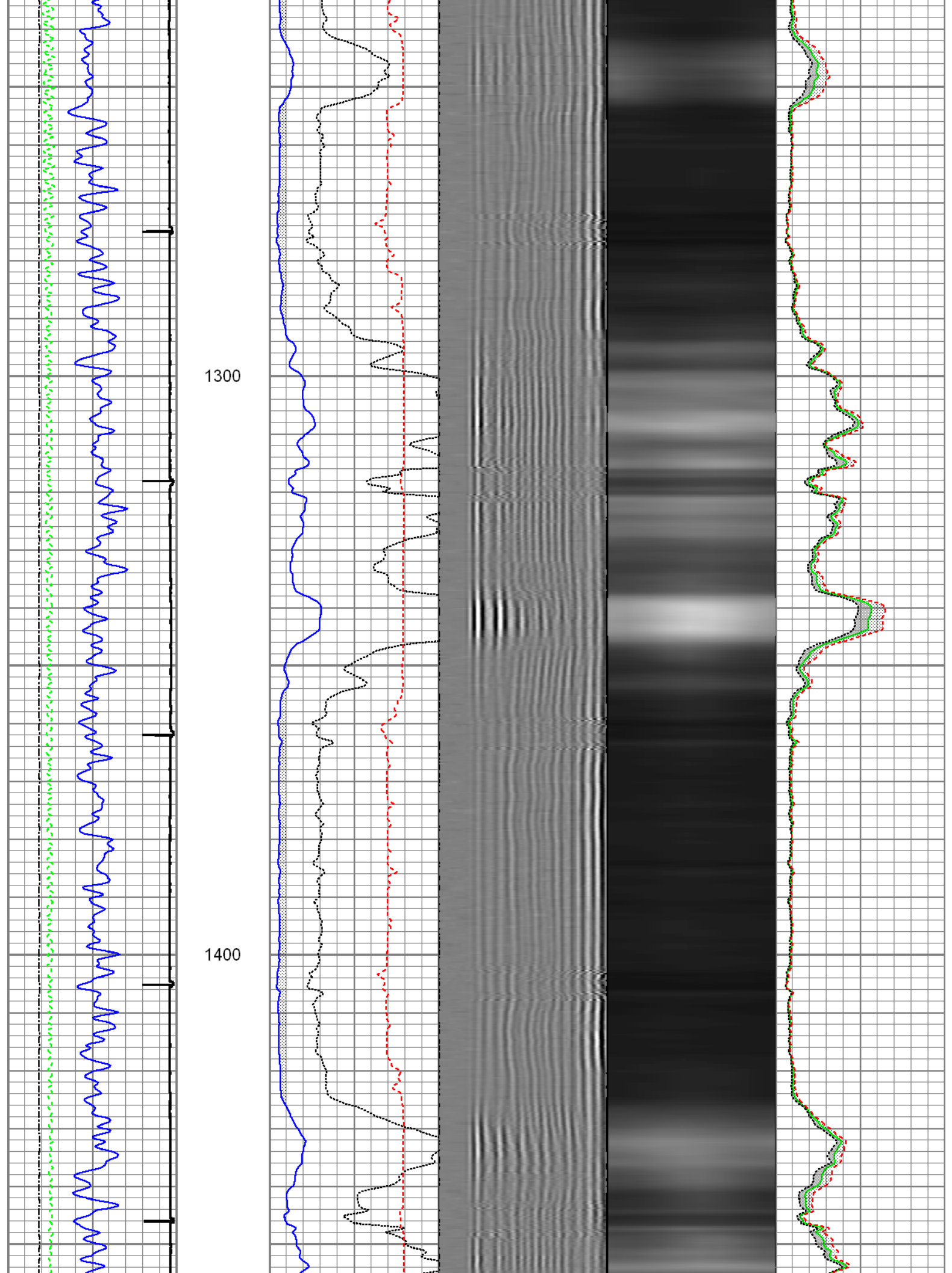


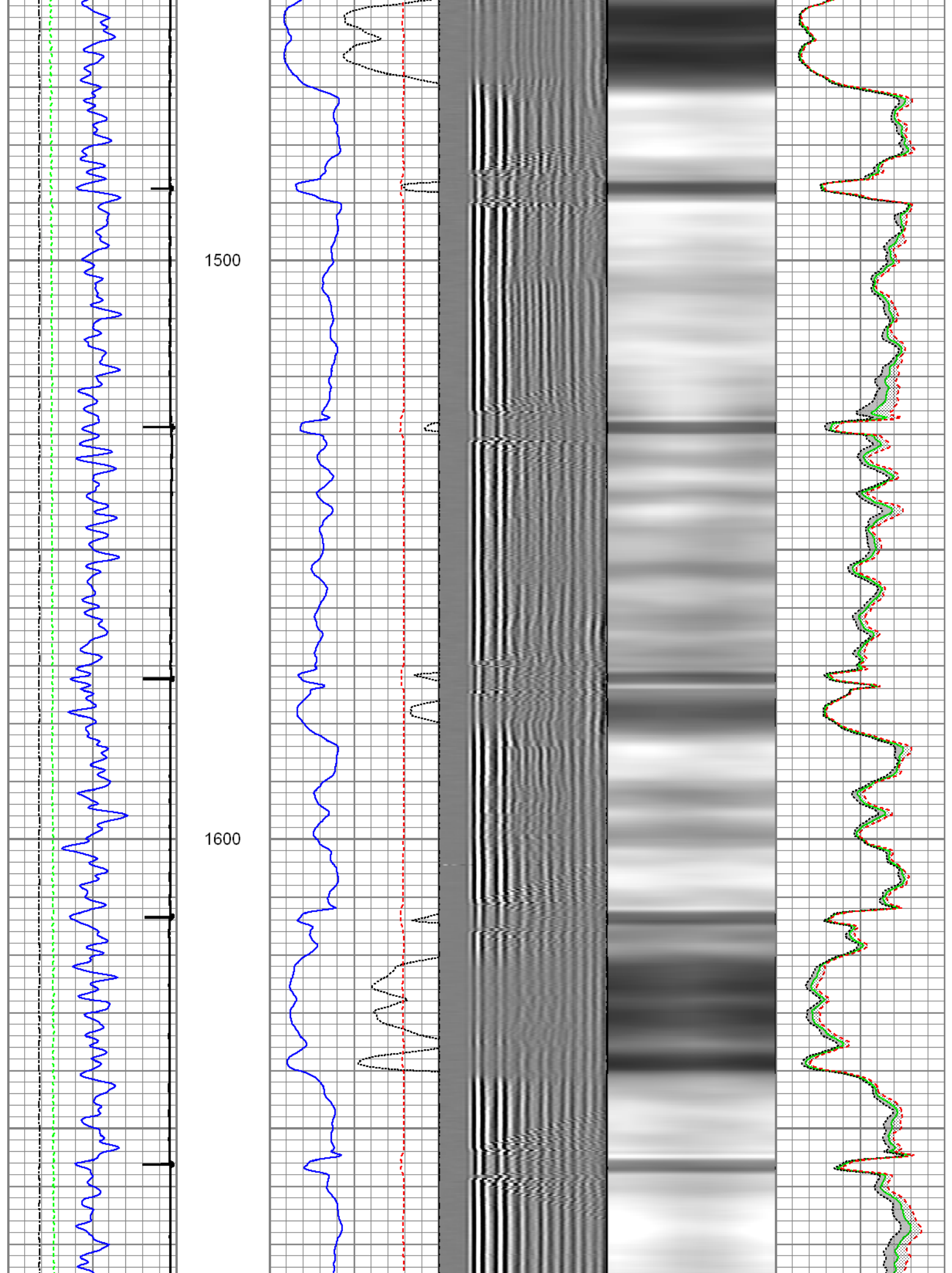


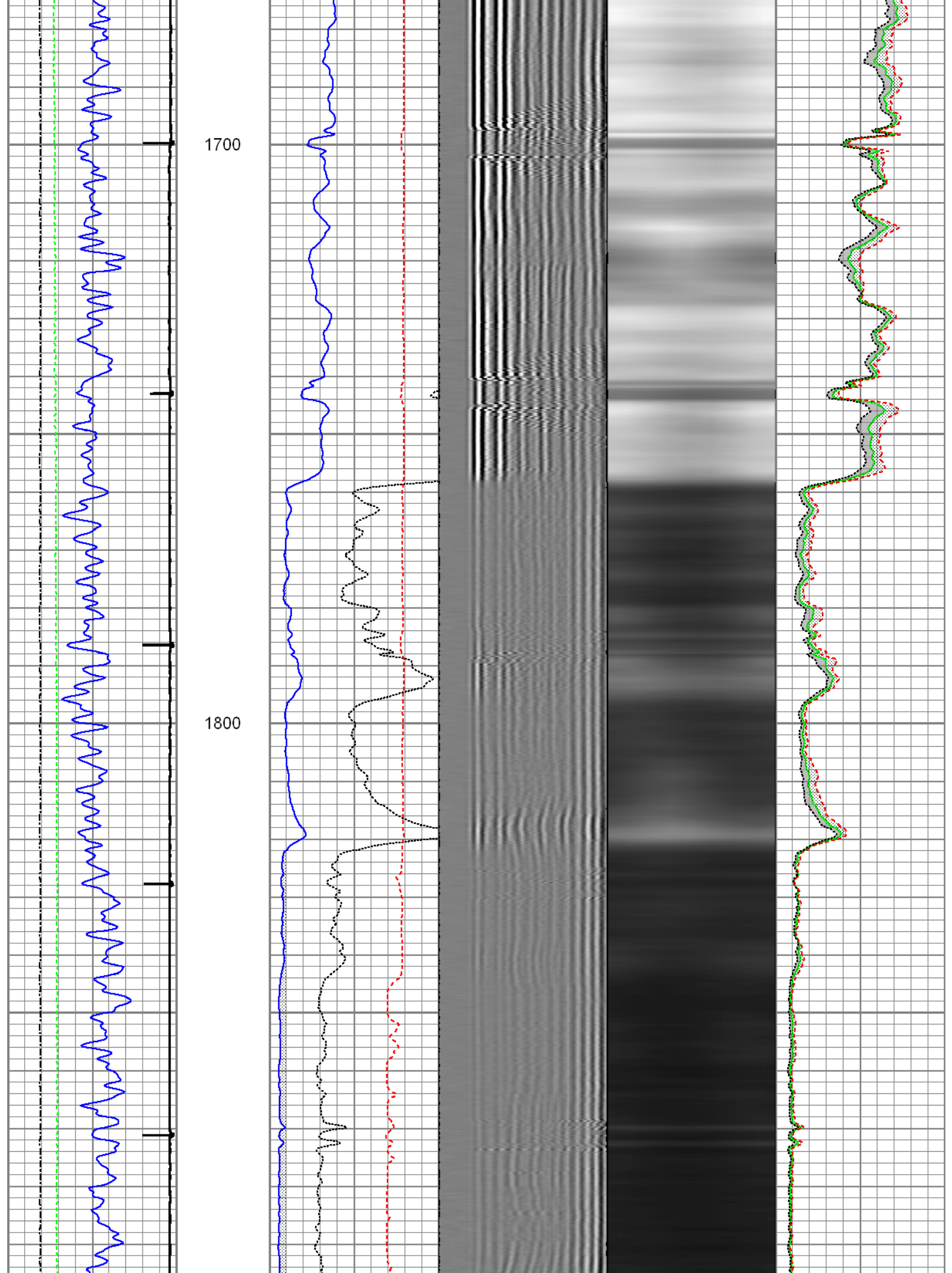


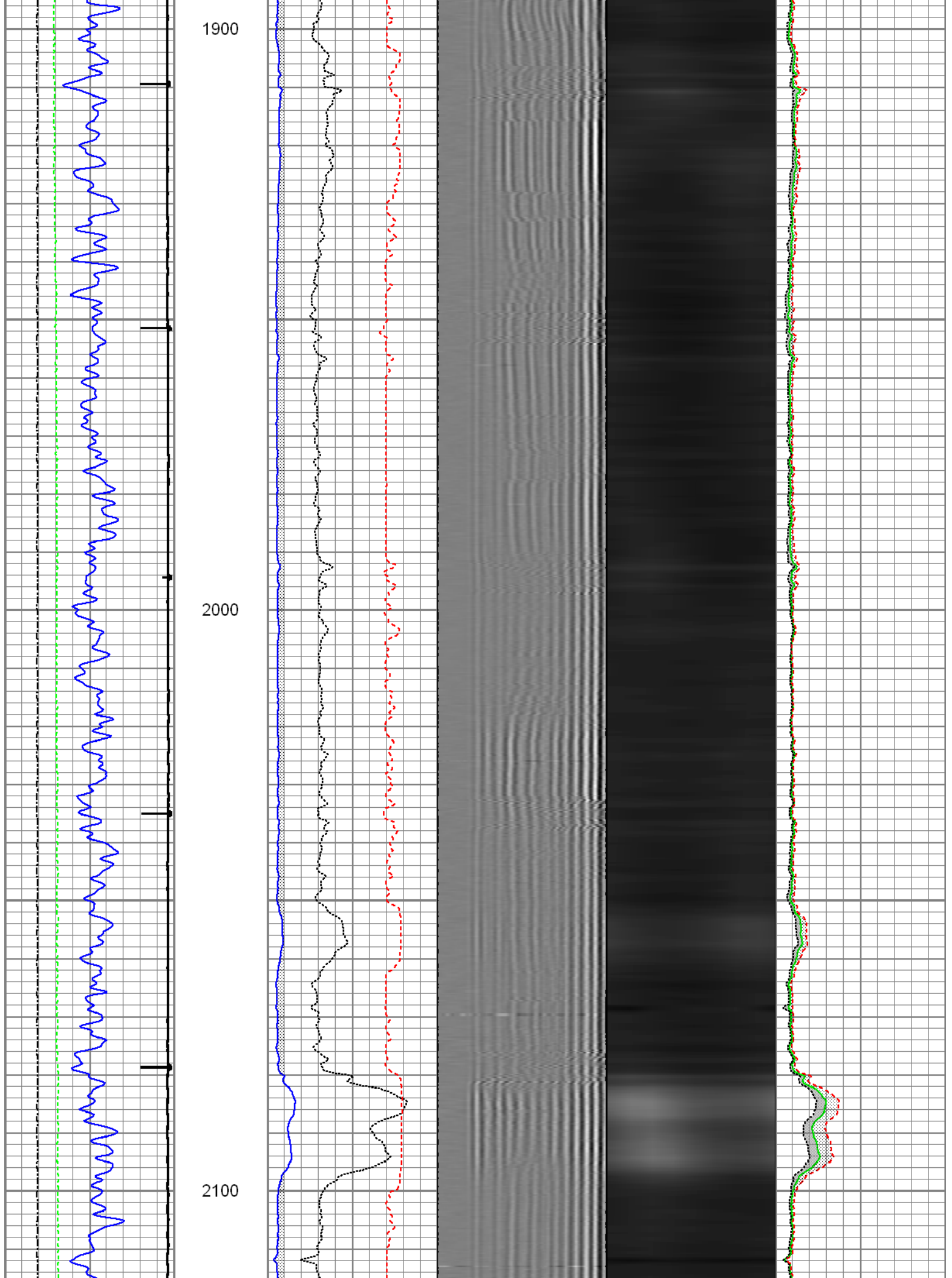


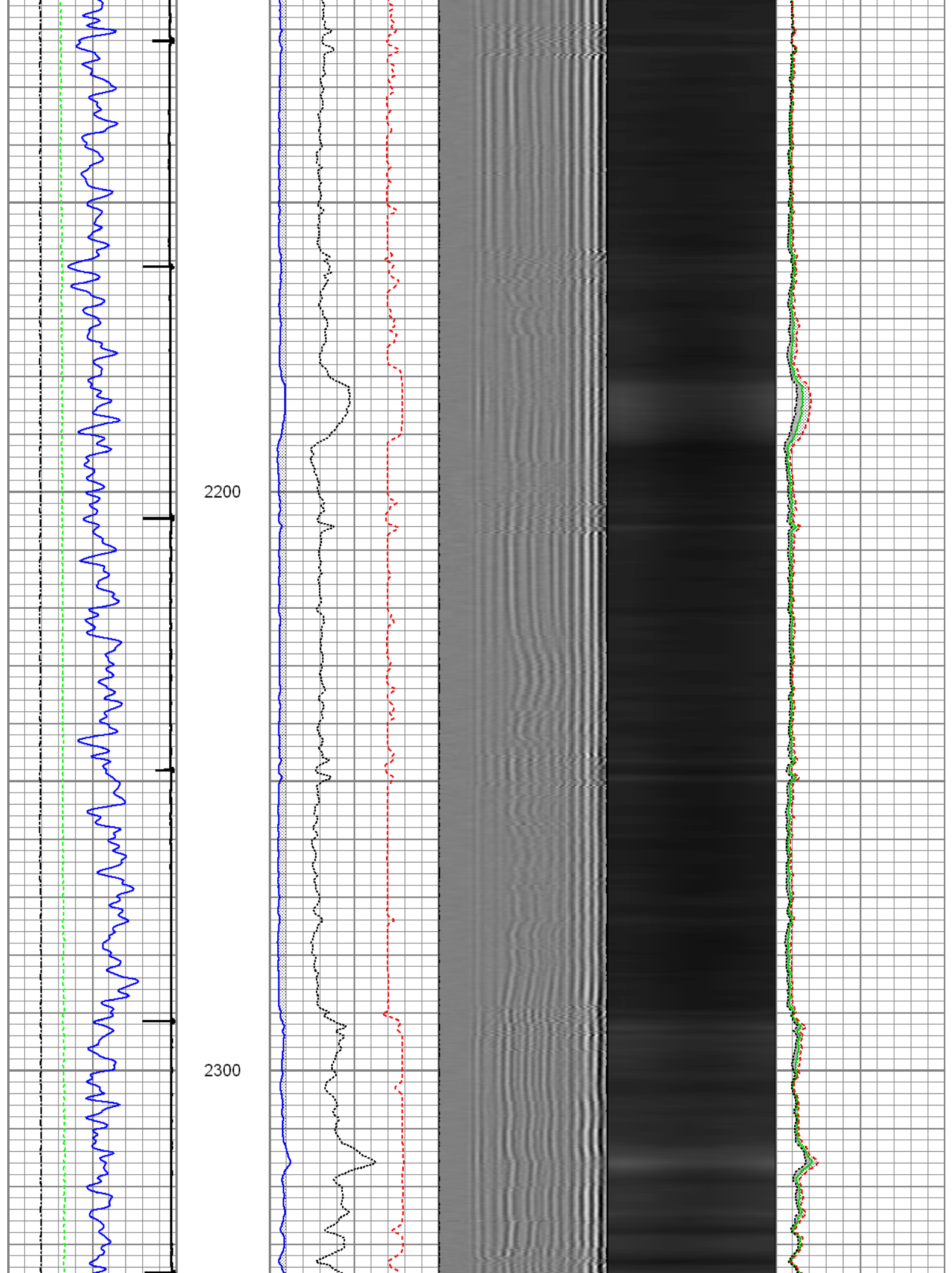


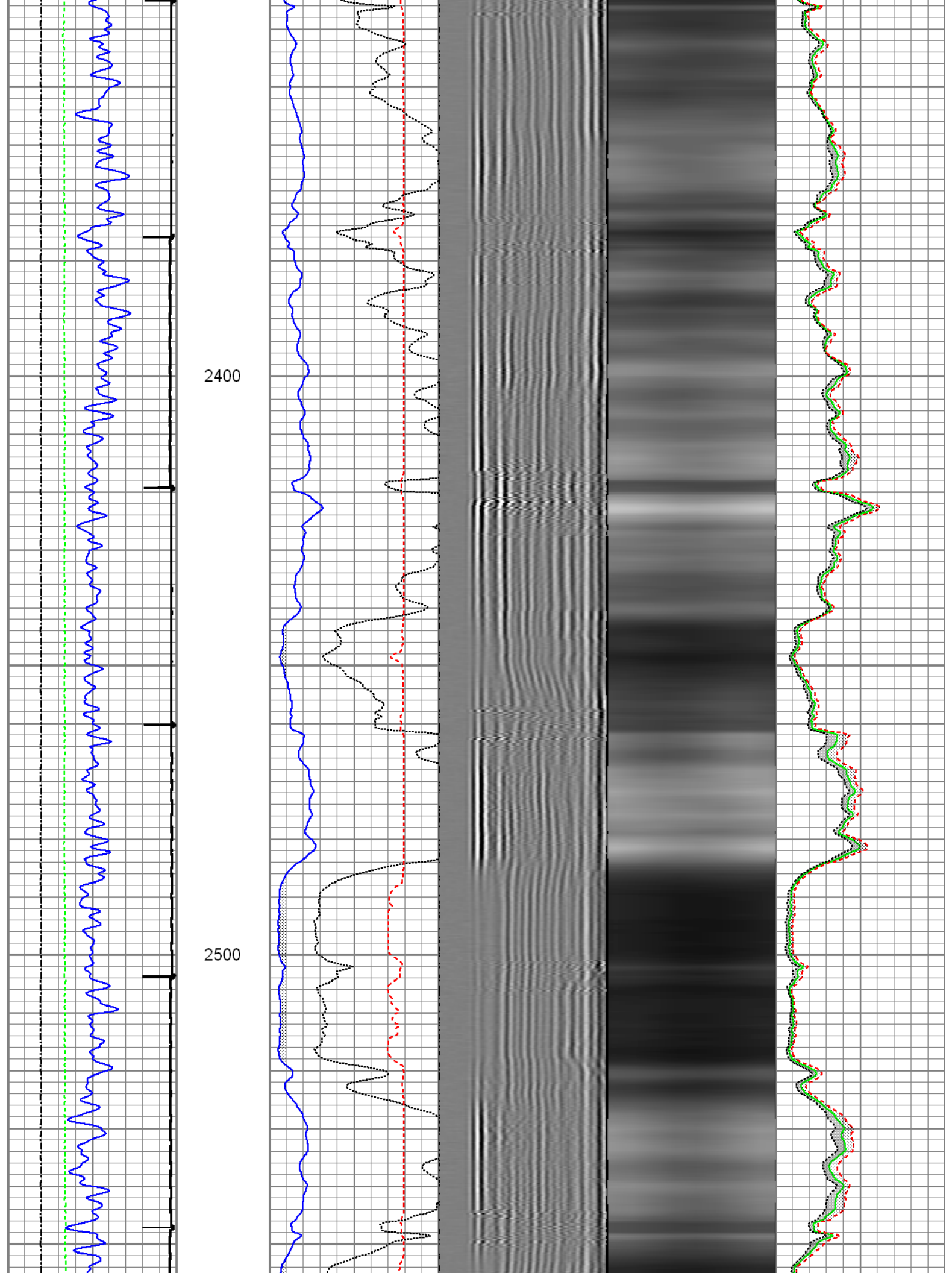






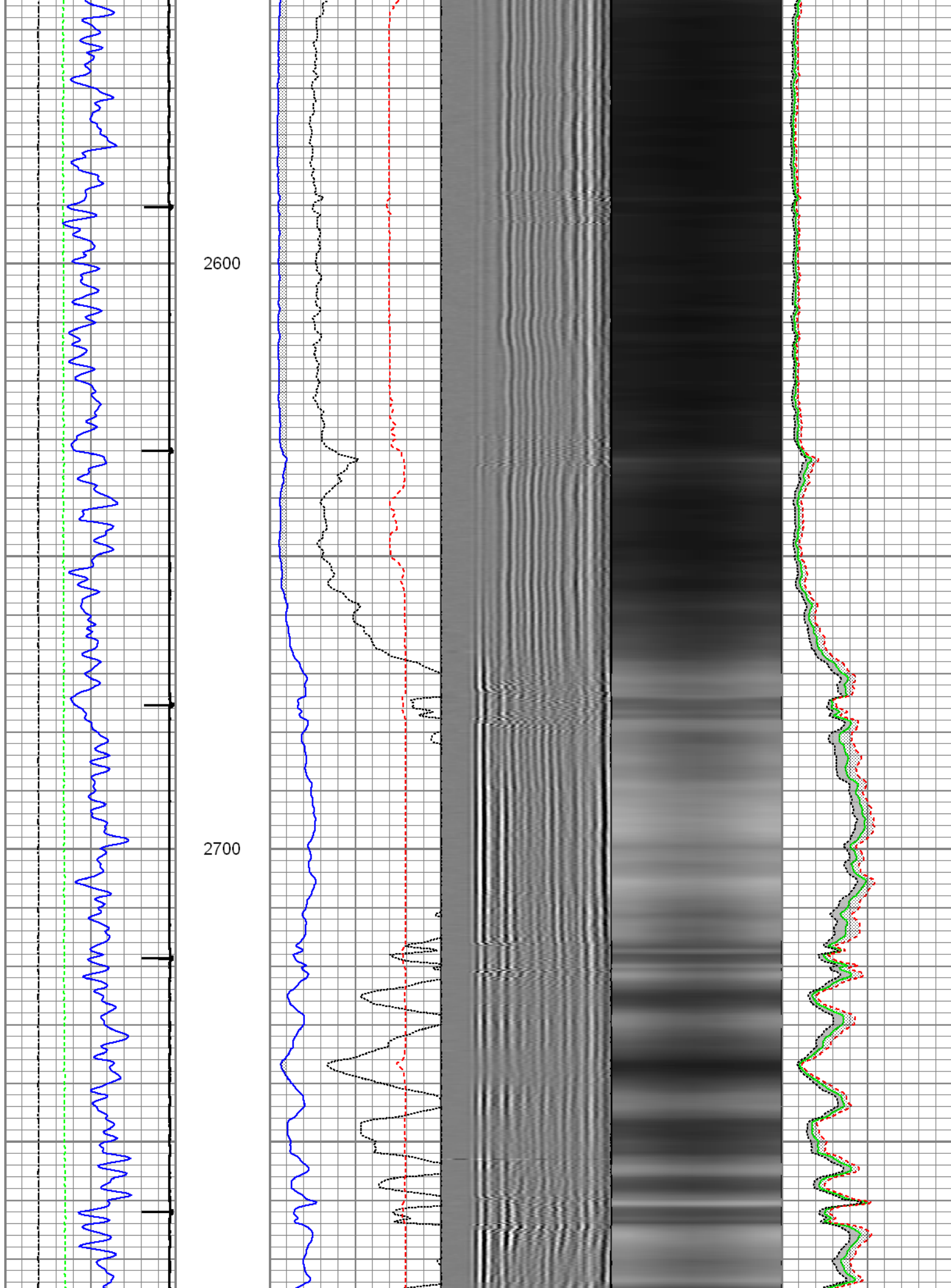


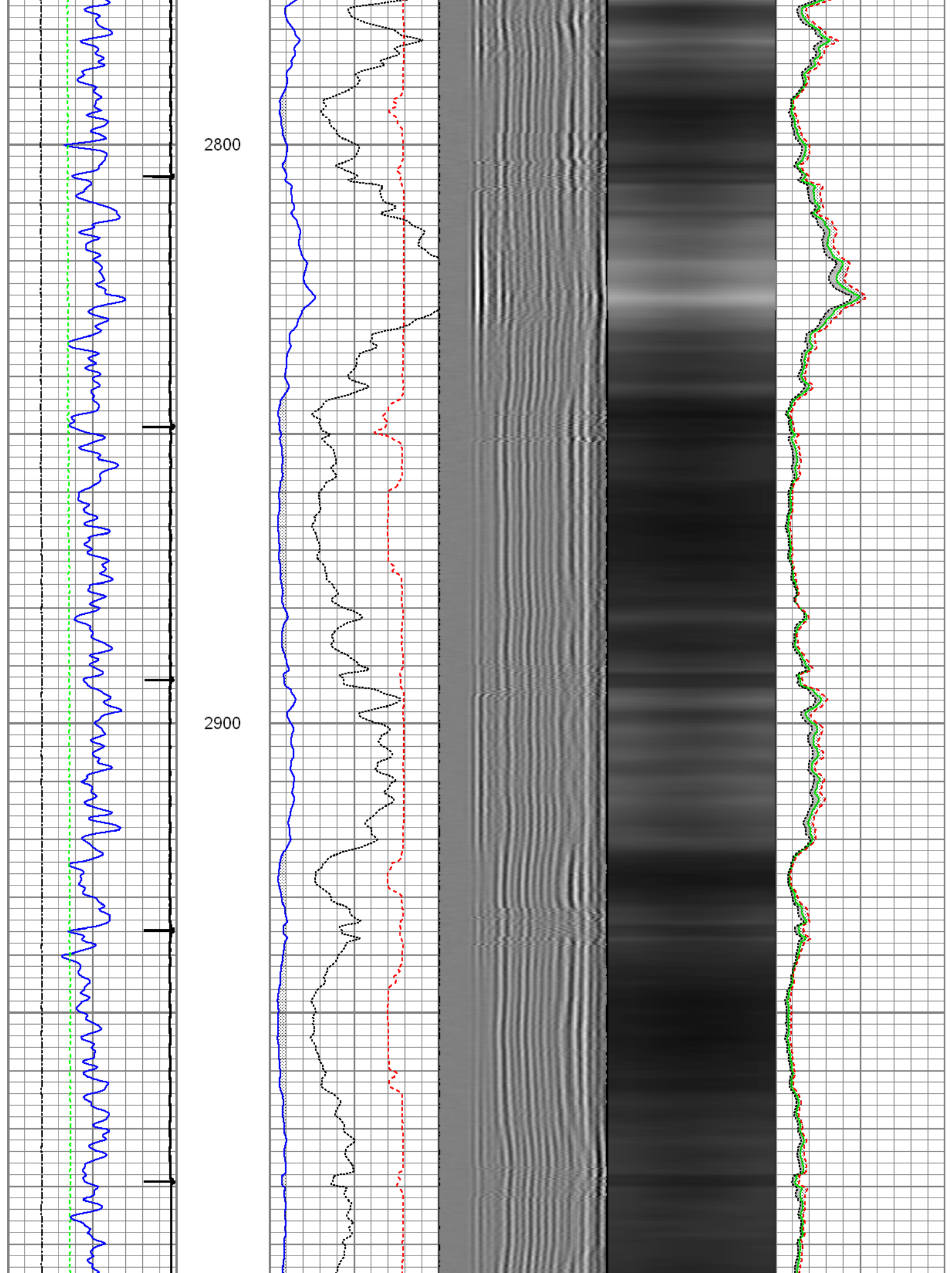




2600

2700

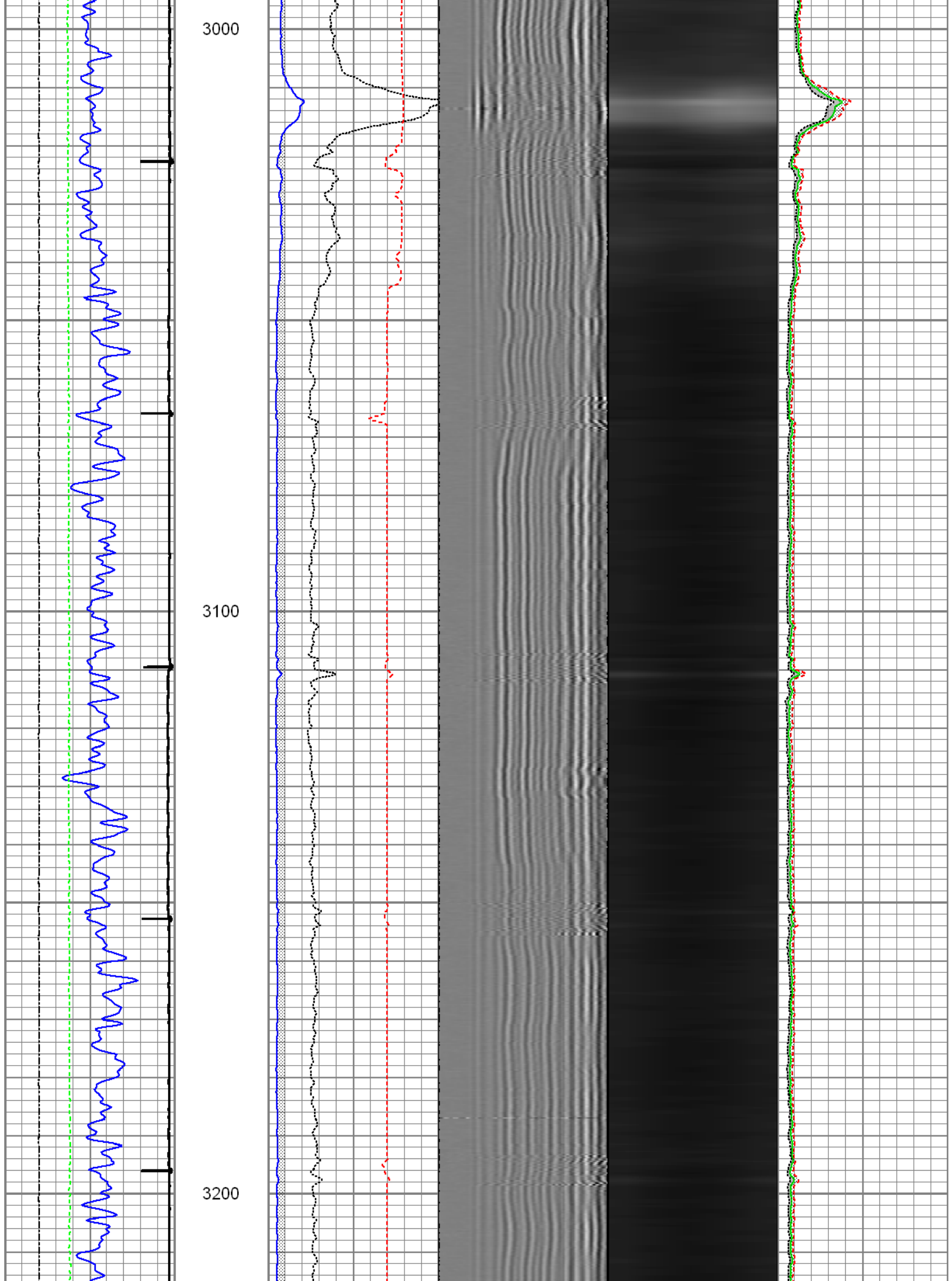


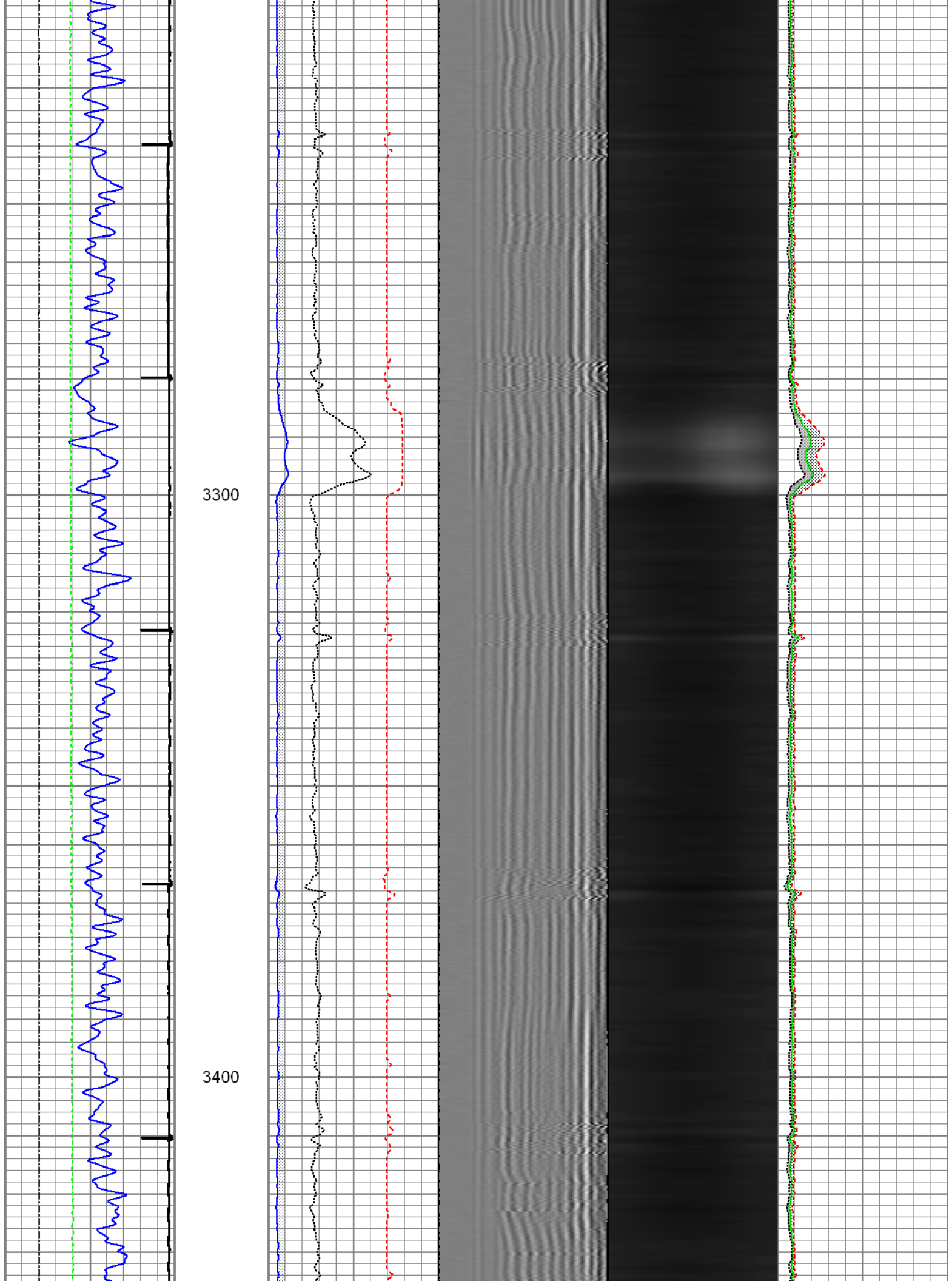


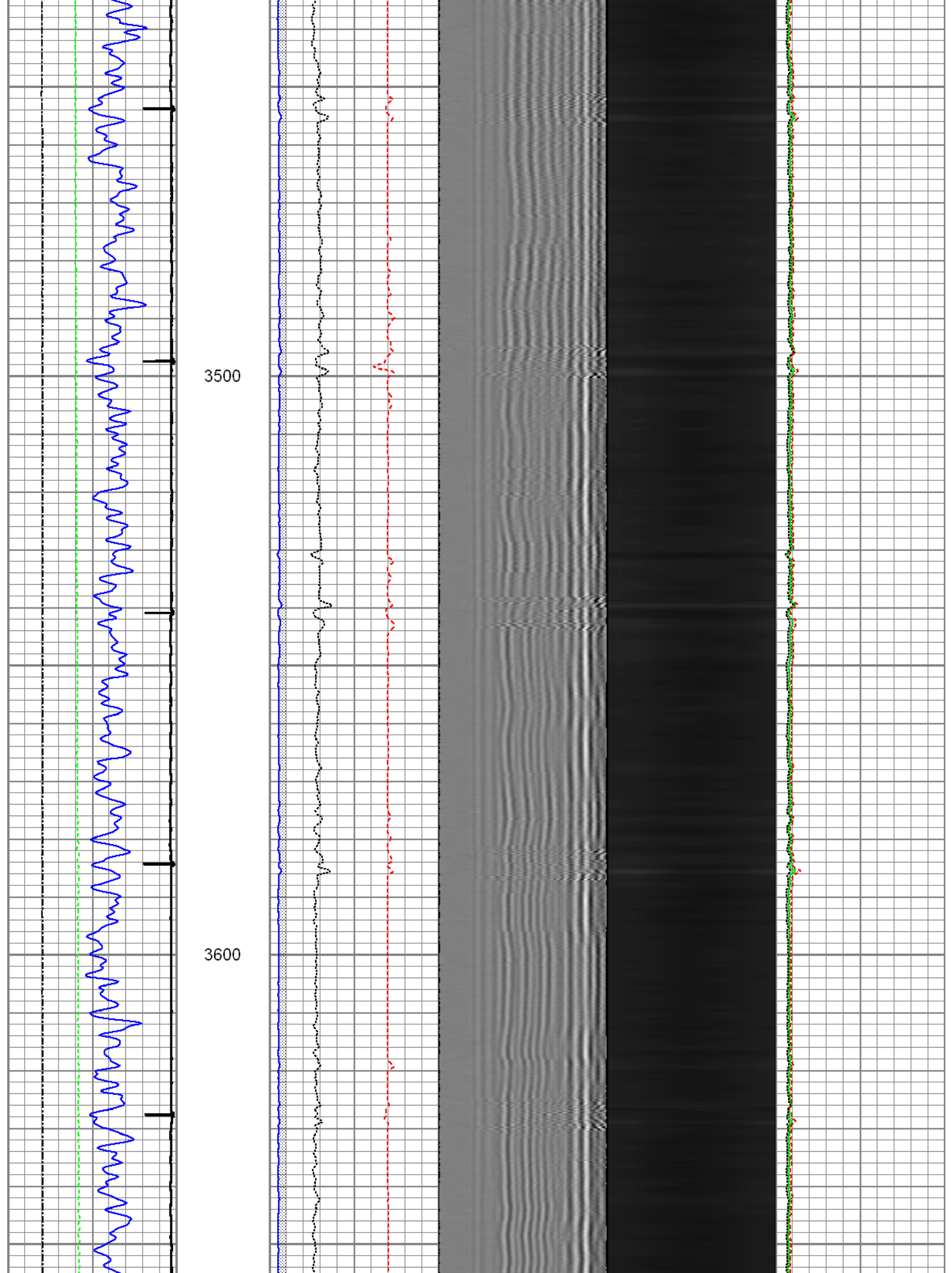
3000

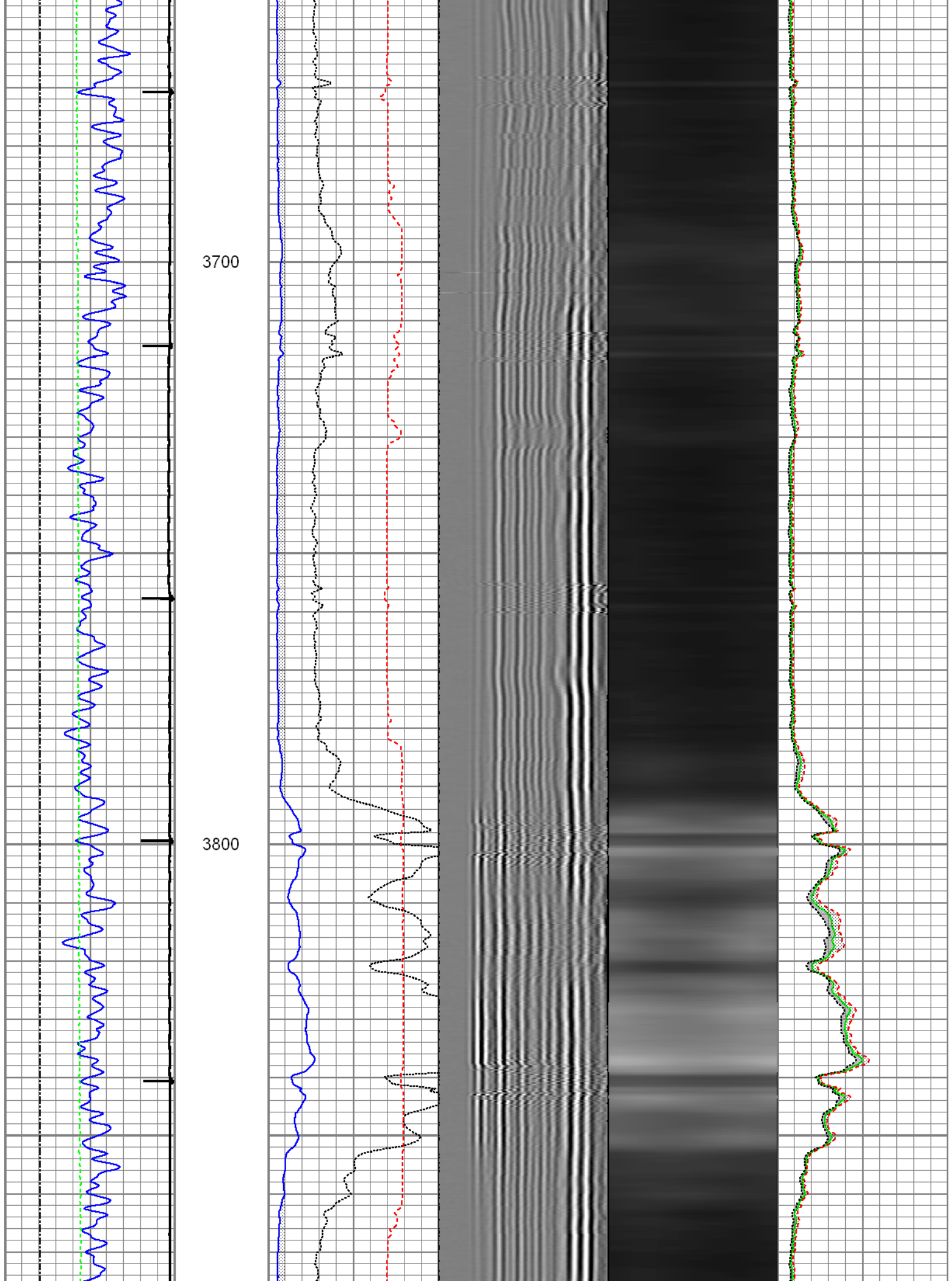
3100

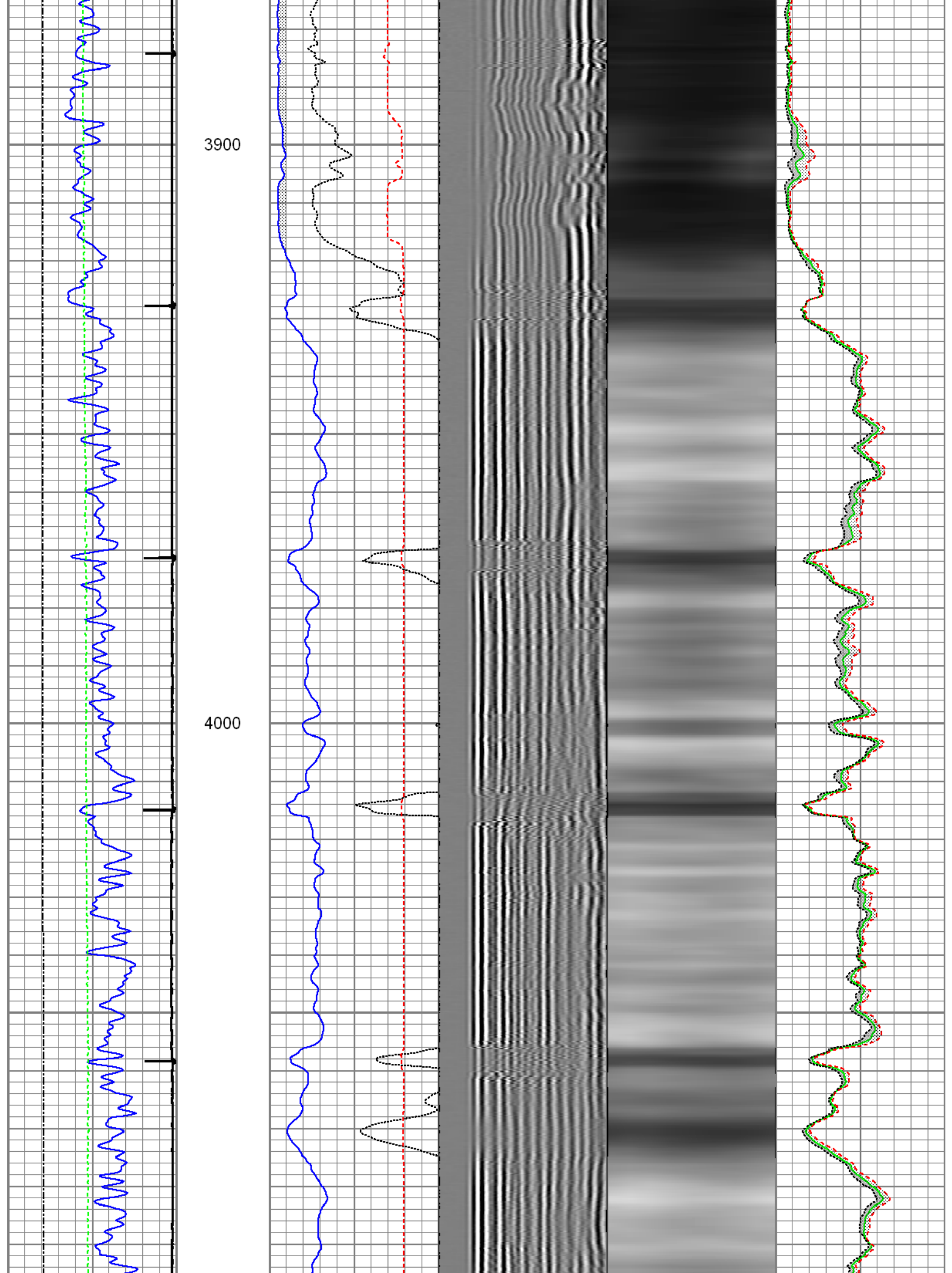
3200







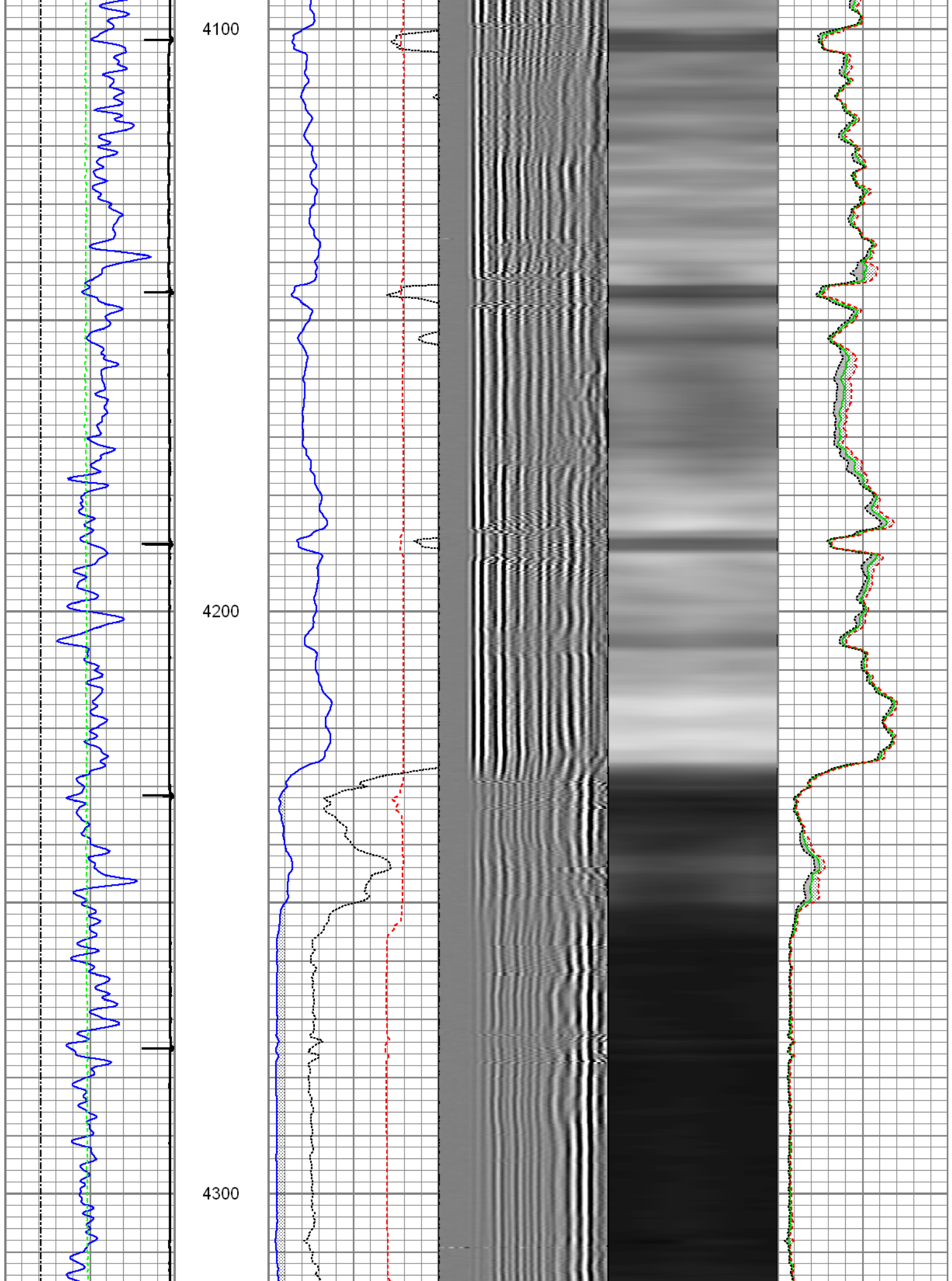


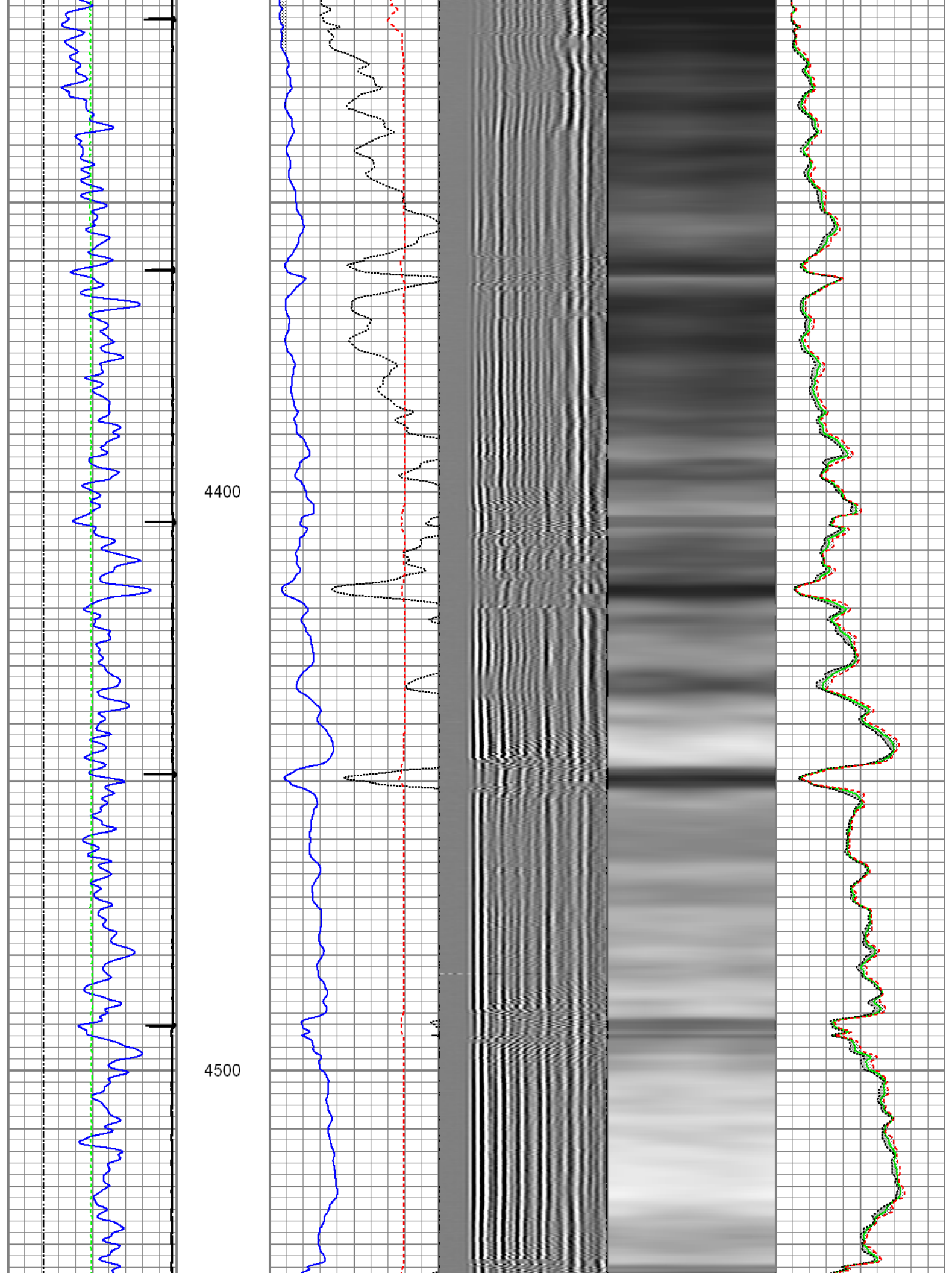


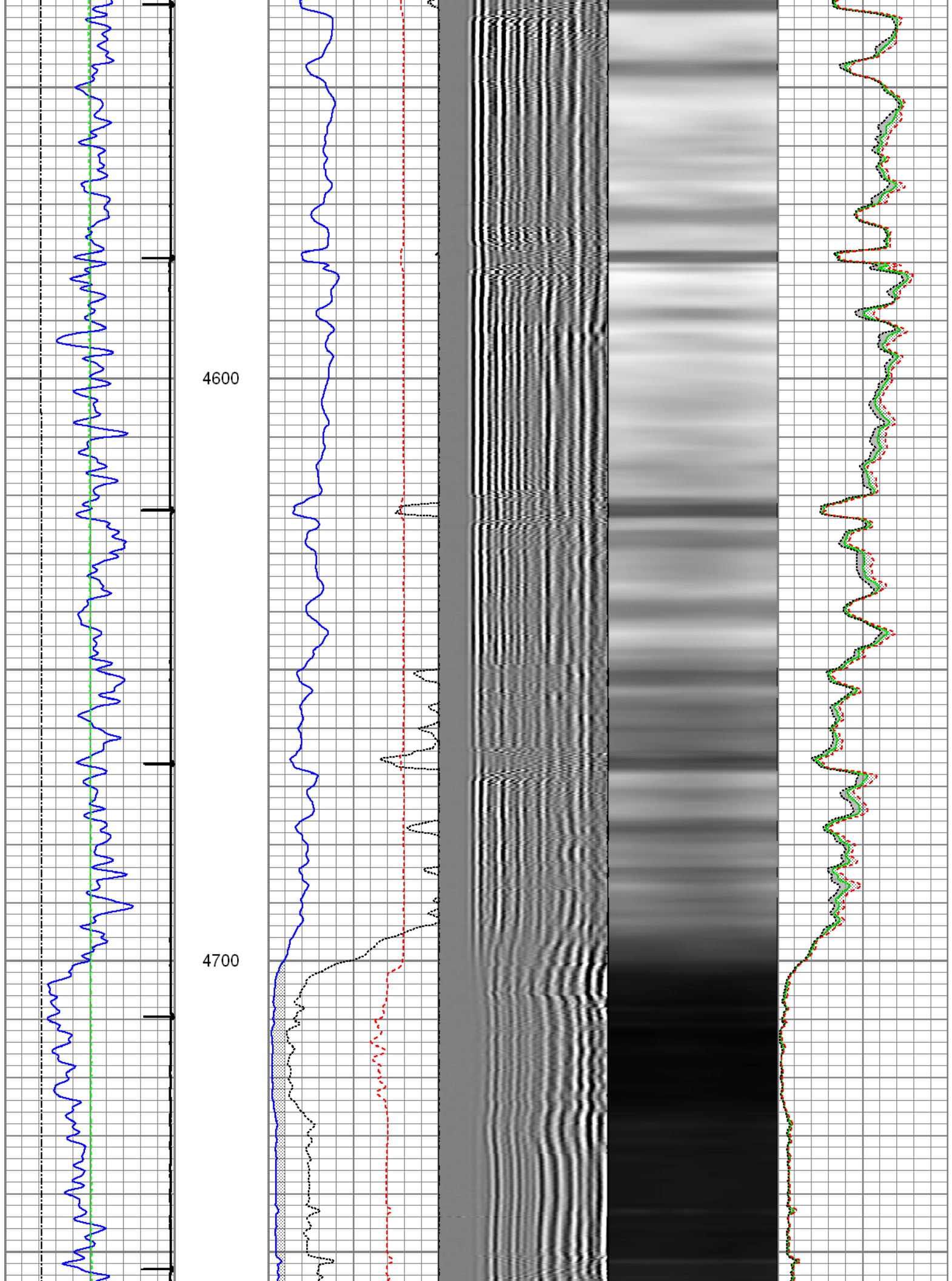
4100

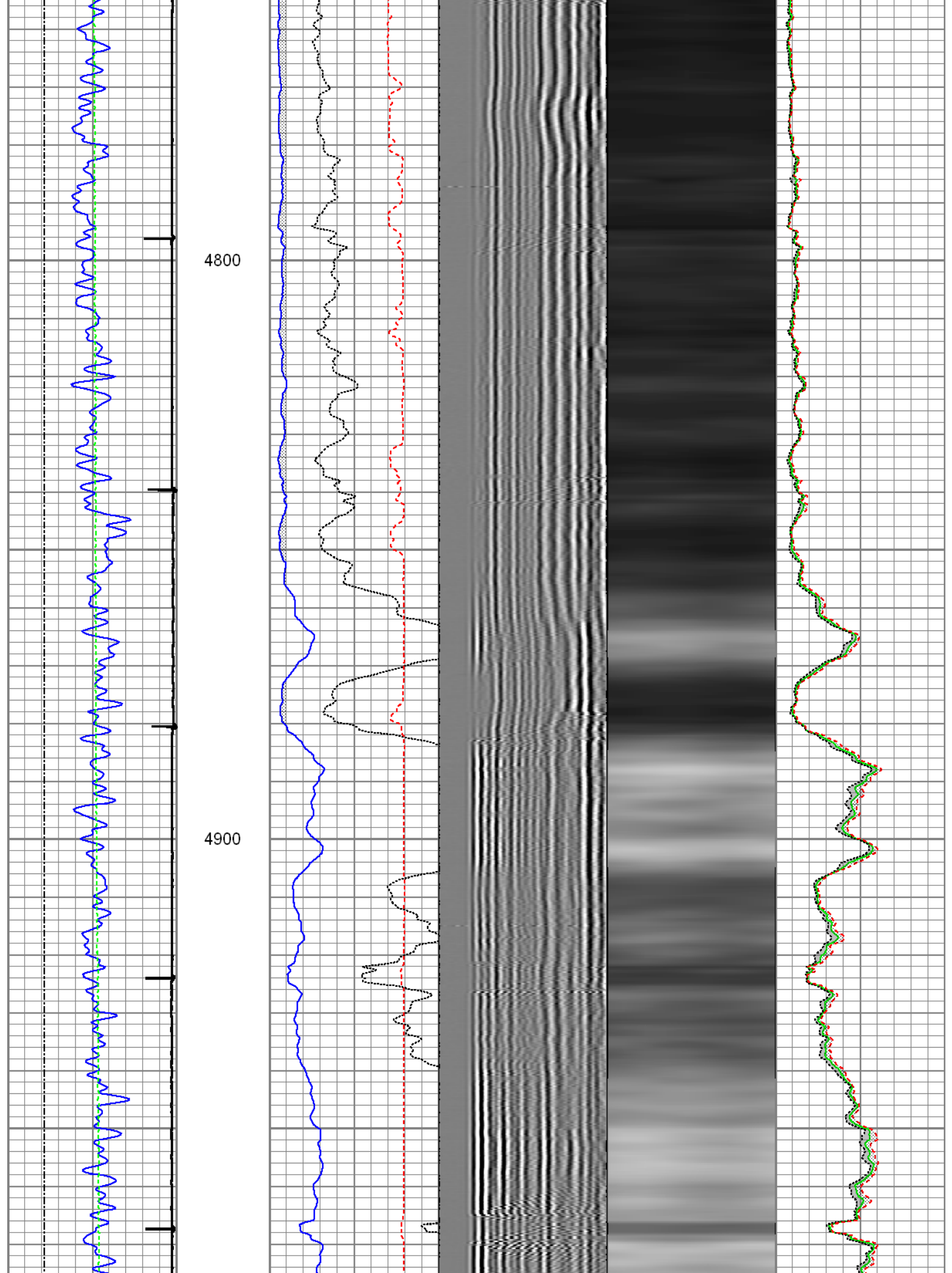
4200

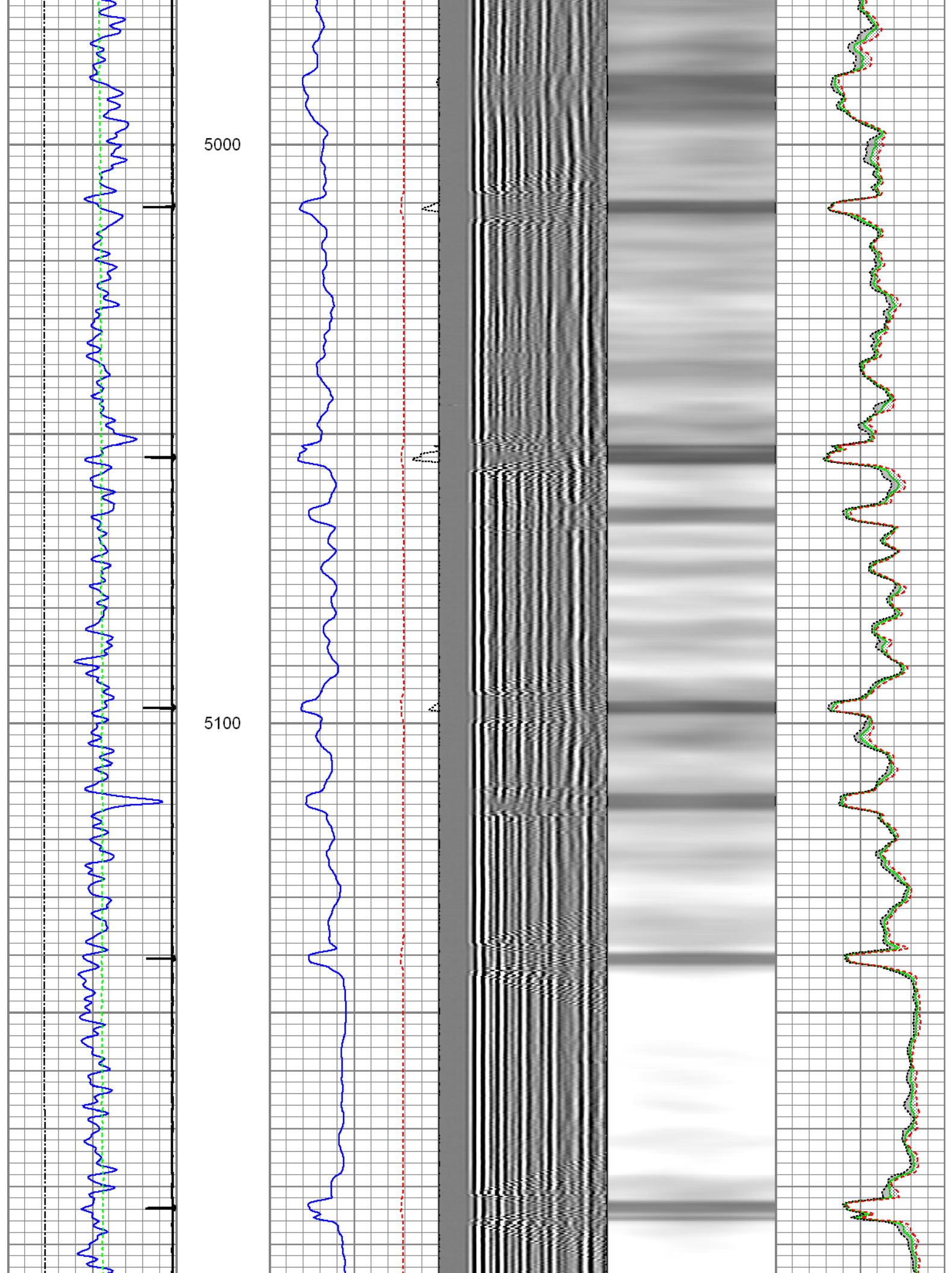
4300

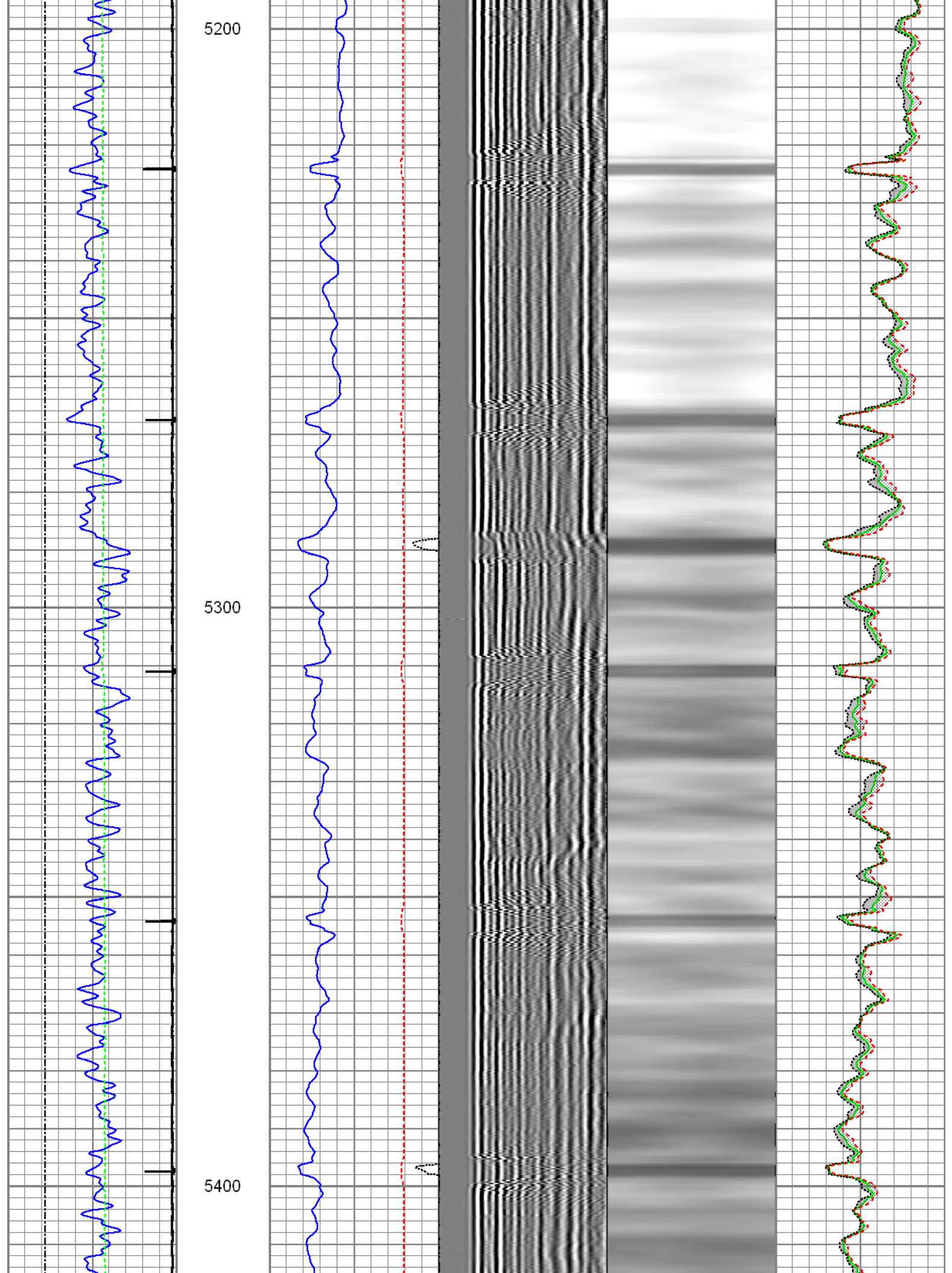


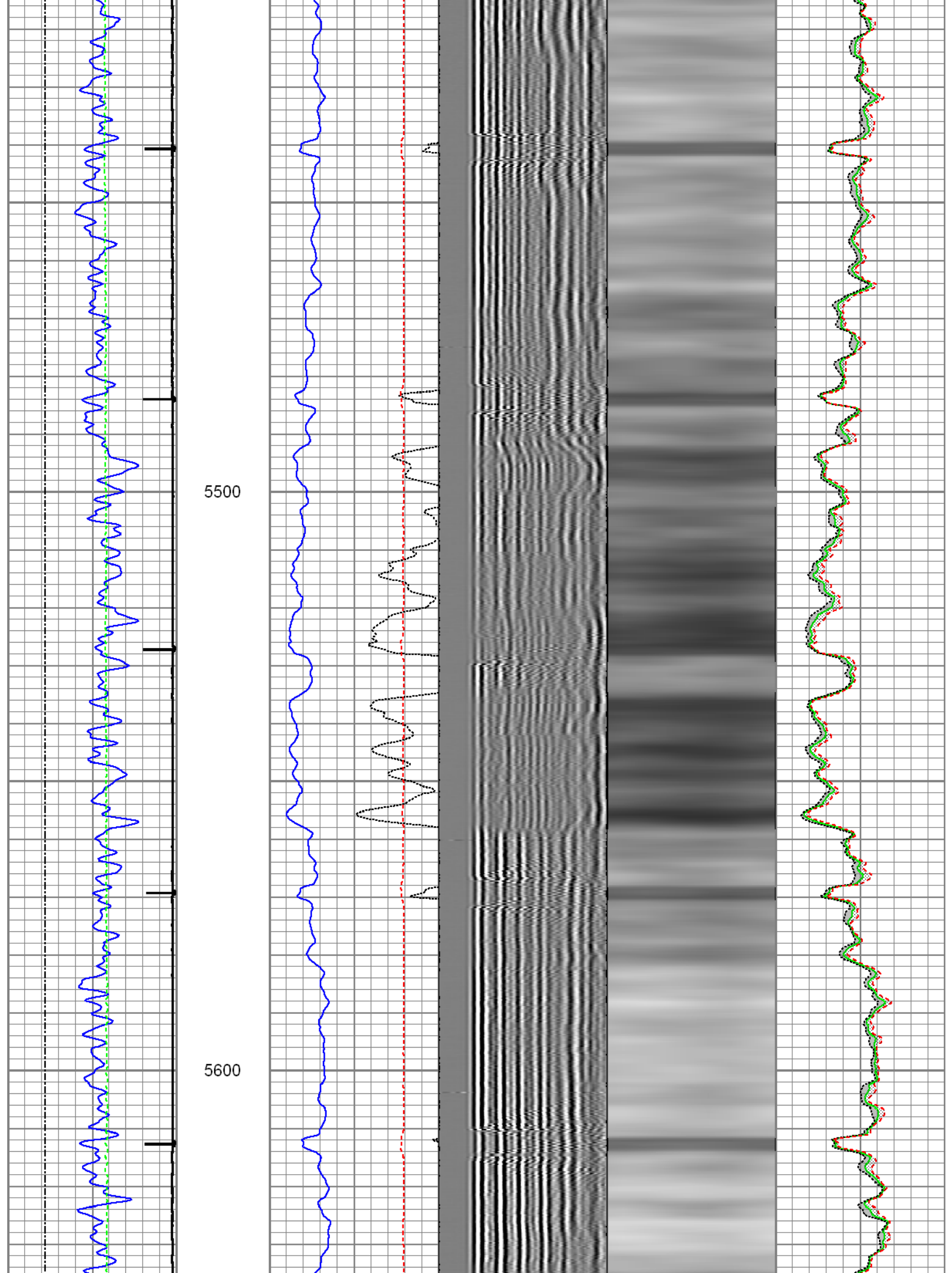


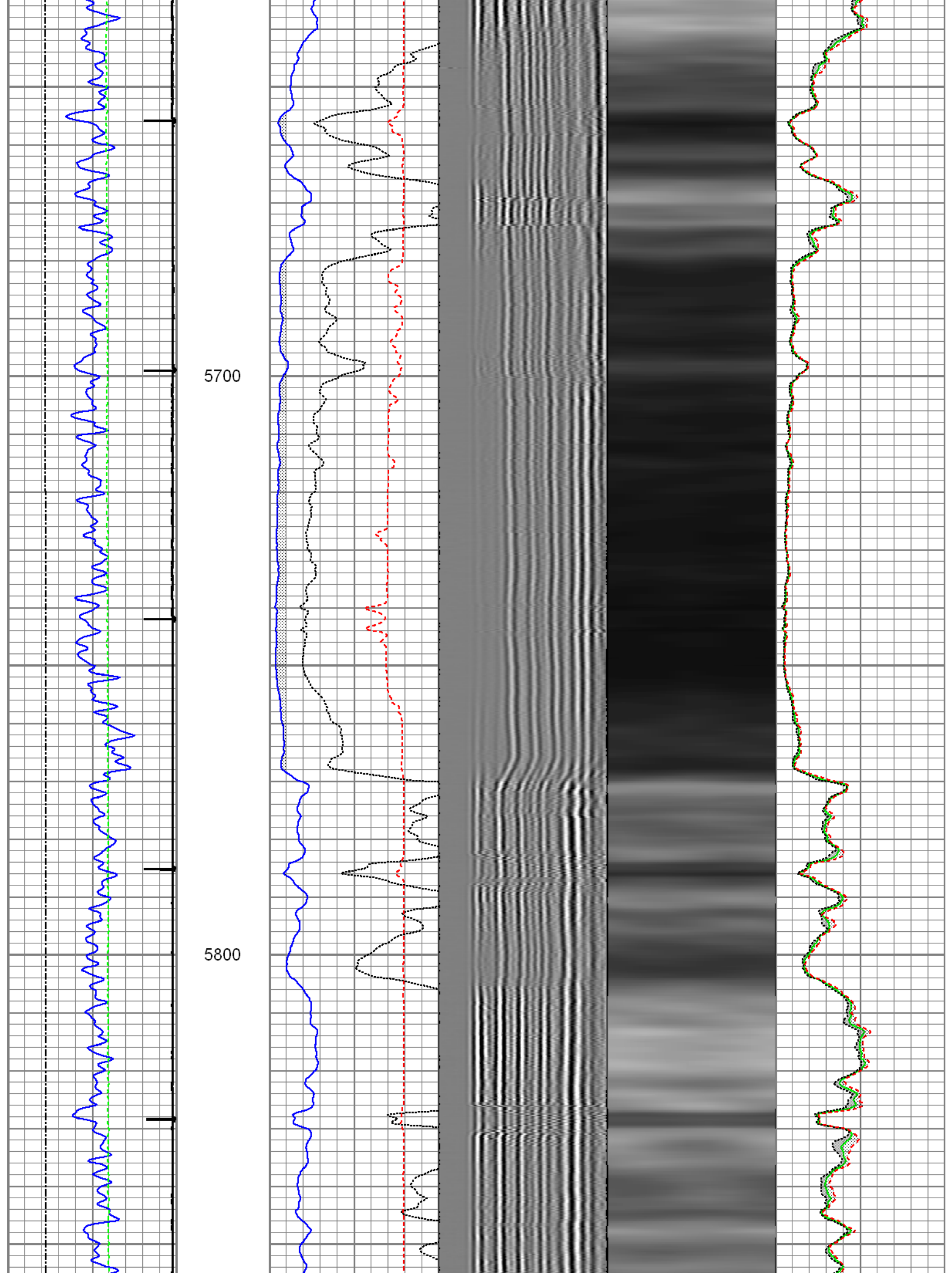


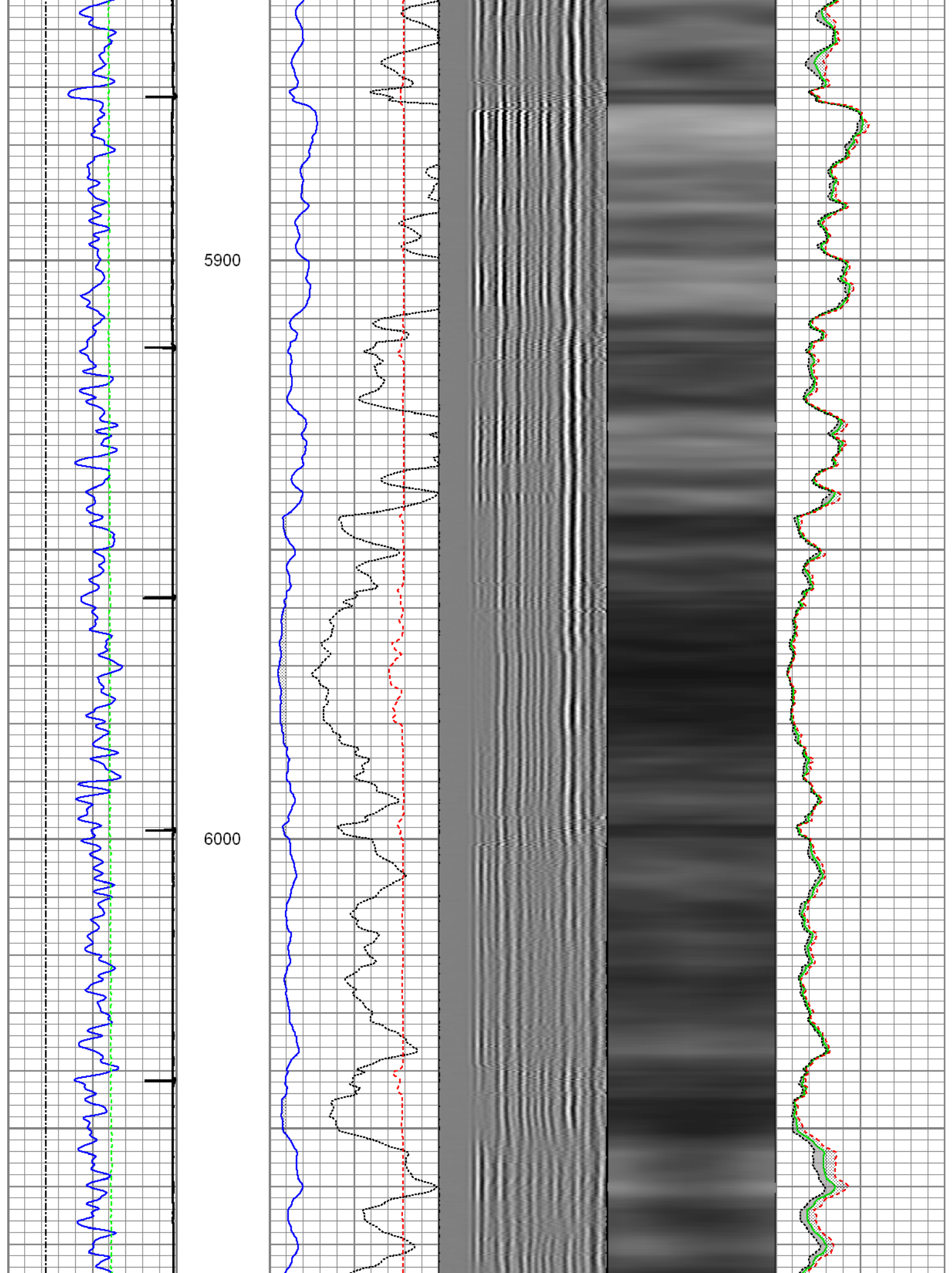


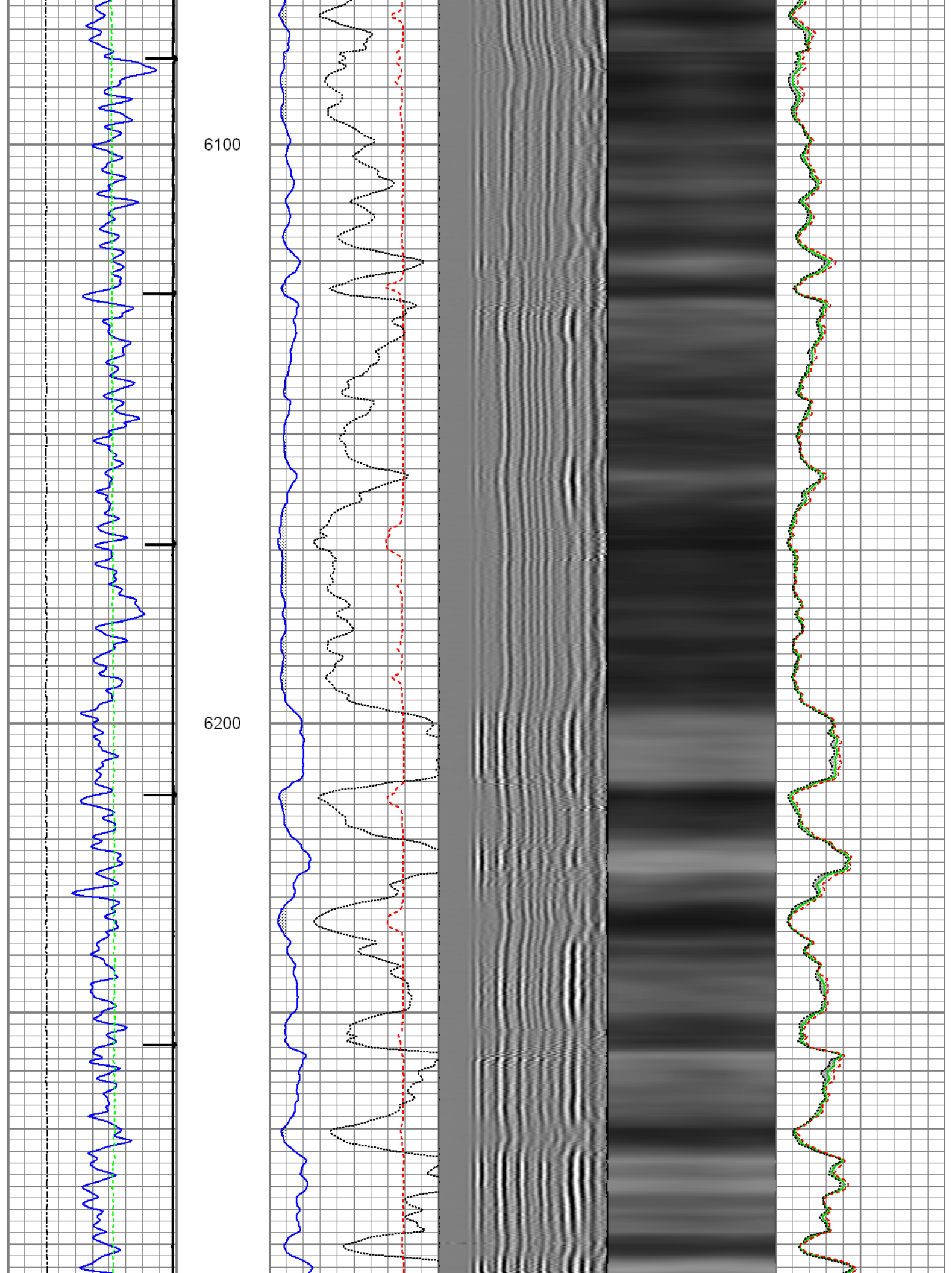












6300

6400

6500

CCL

GR

LSPD

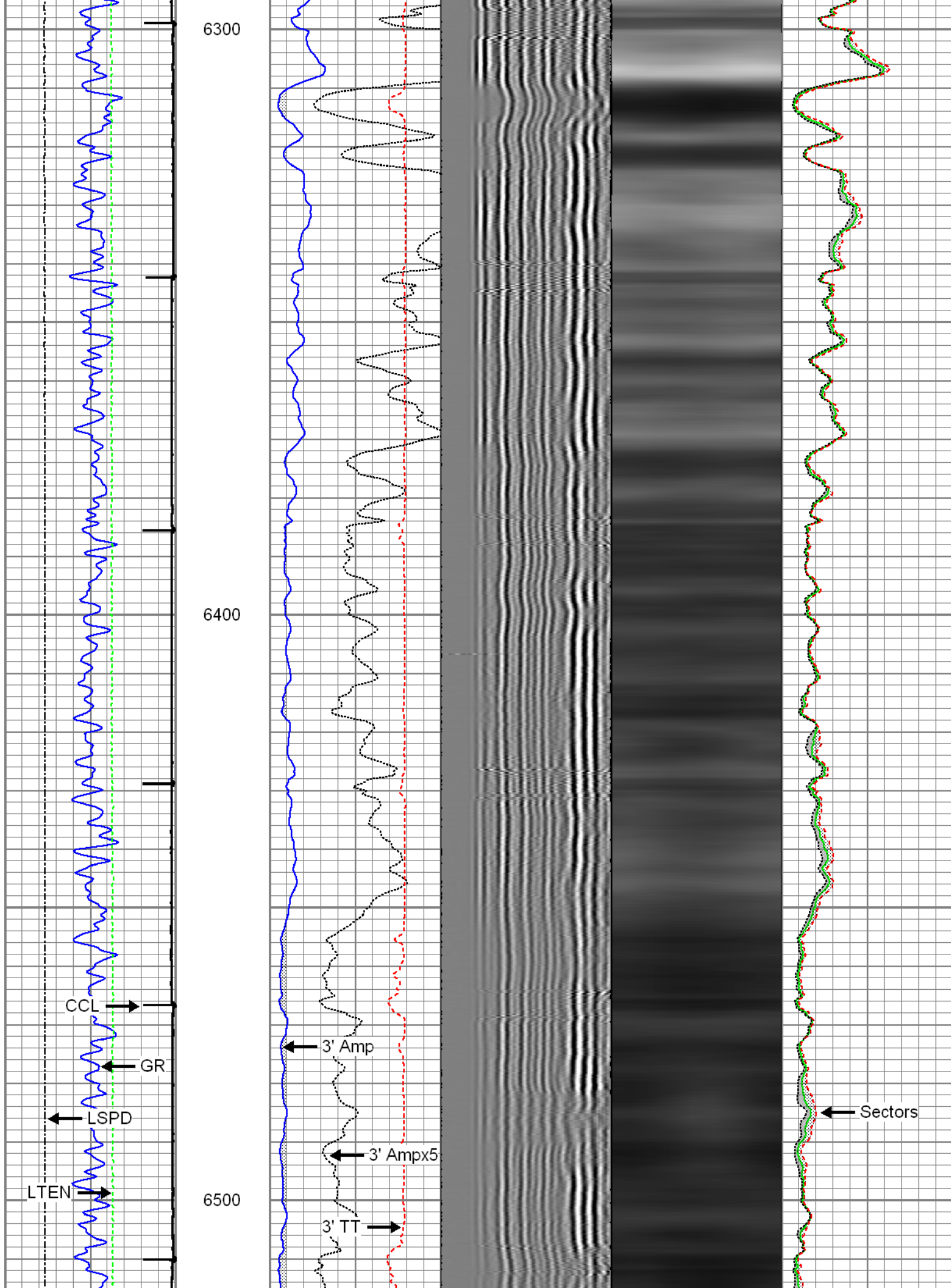
LTEN

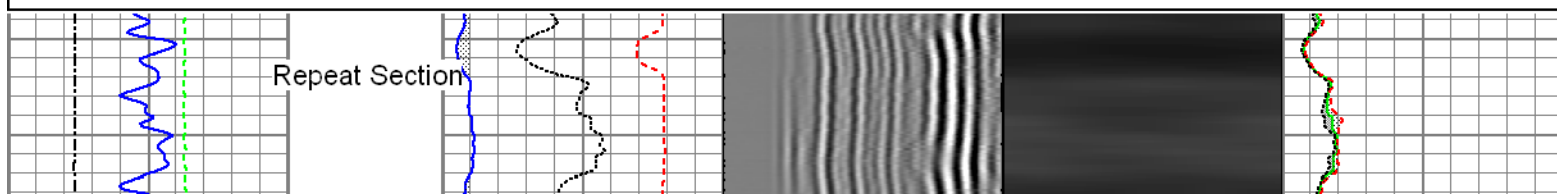
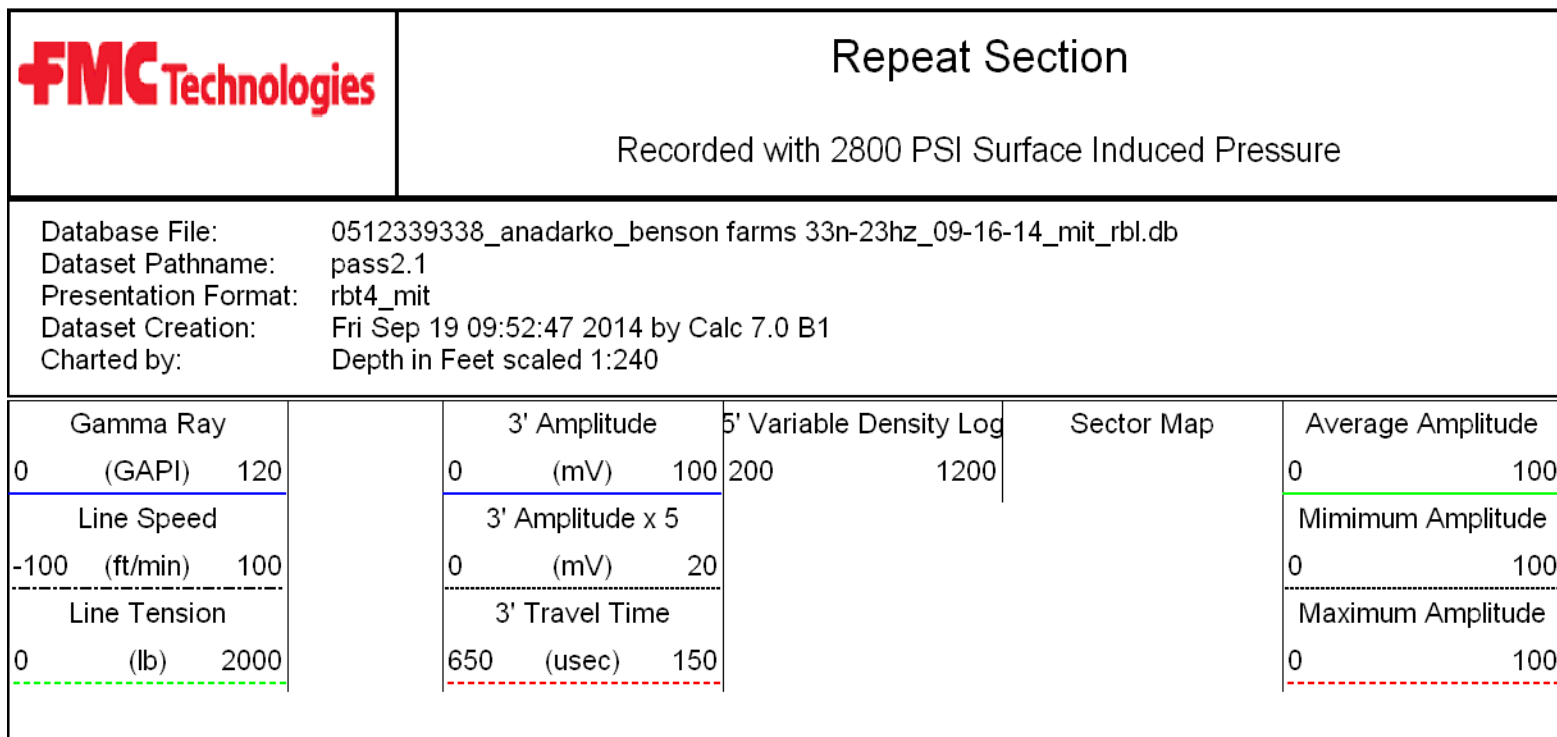
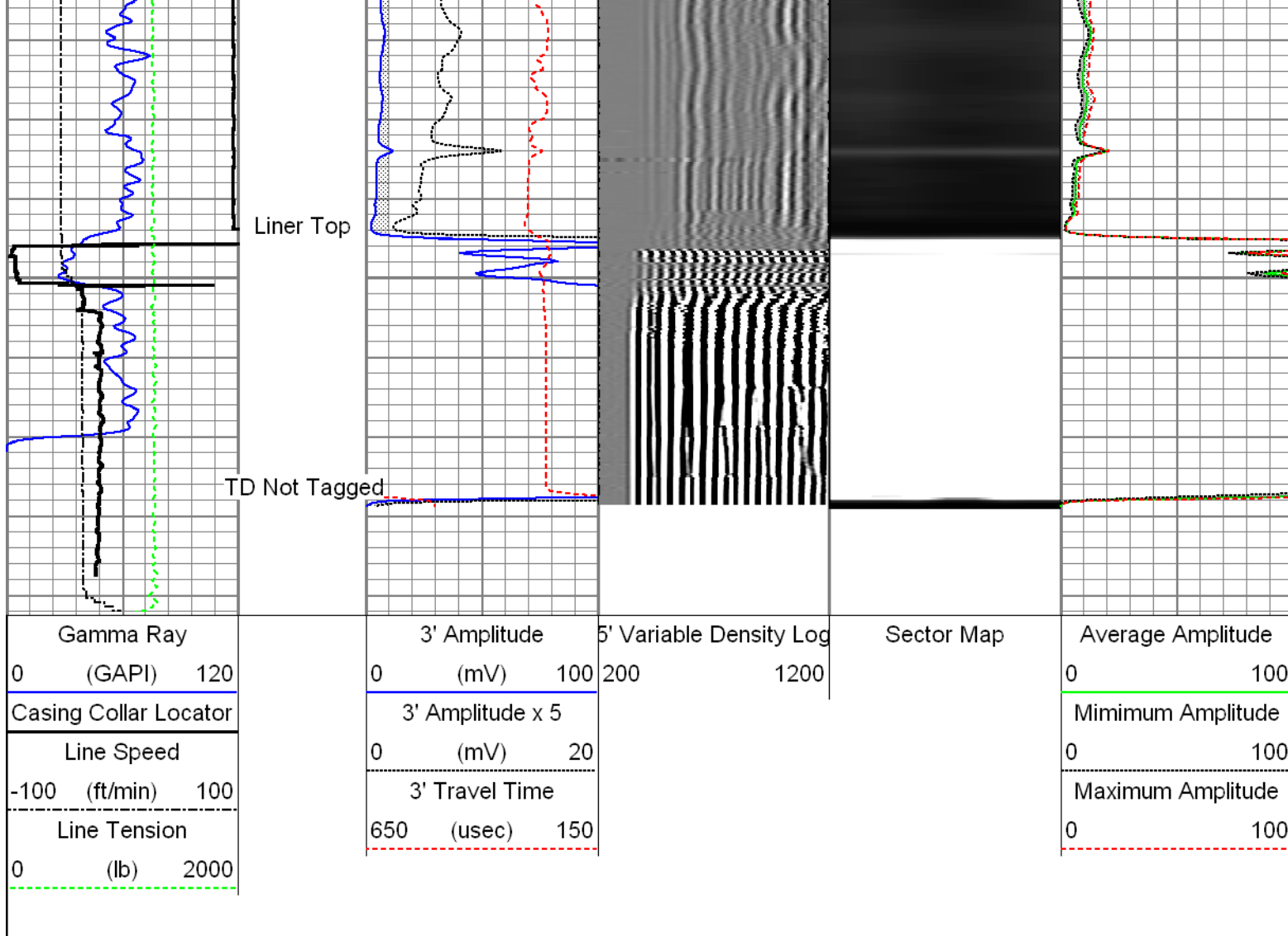
3' Amp

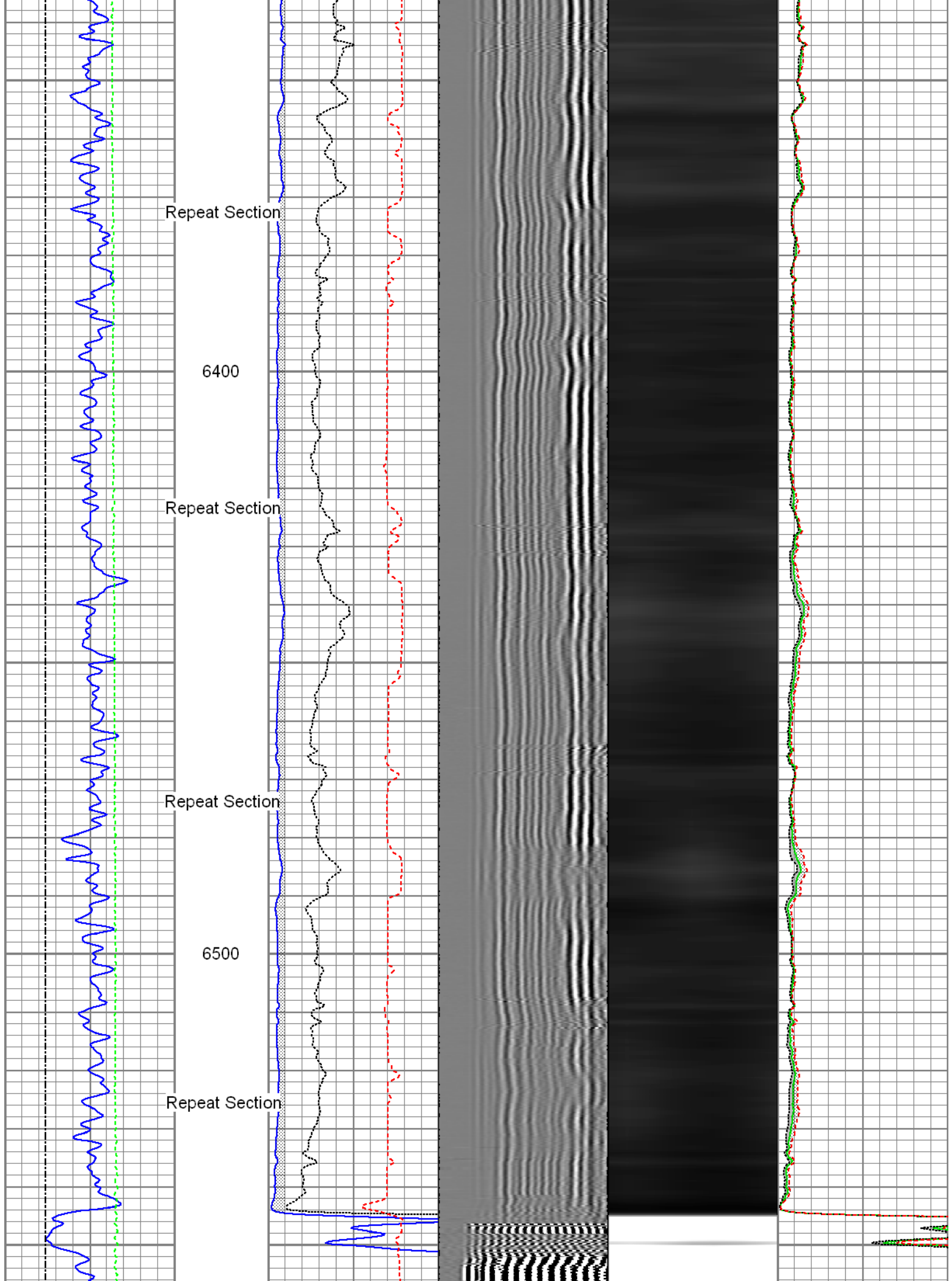
3' Ampx5

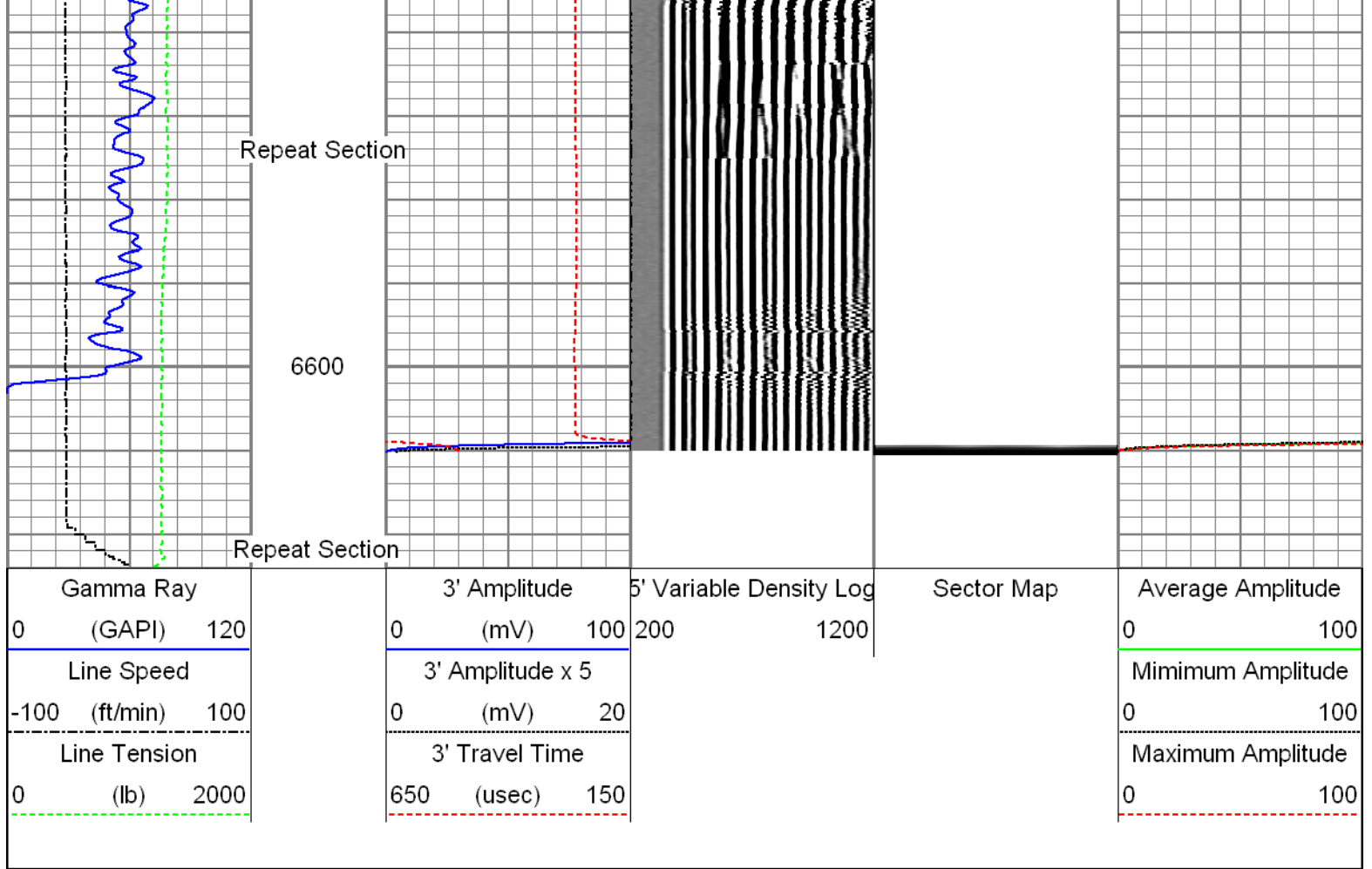
3' TT

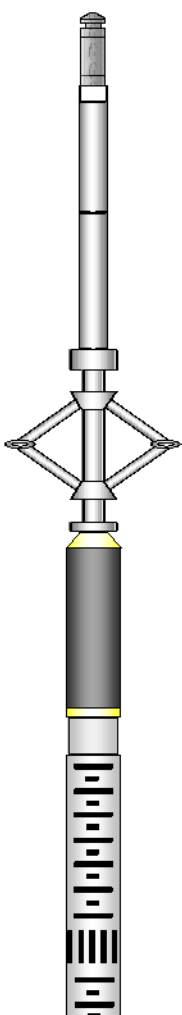

Sectors

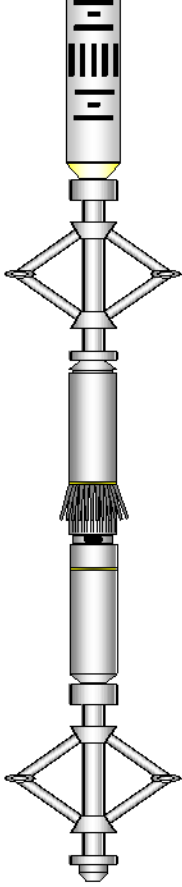








Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	22.37		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (211461) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (211727) Production Gamma Ray	1.93	1.69	9.50
			UW_PRC-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WV3FT	14.99		UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	14.99					
WVFS2	14.99					
WVFS3	14.99					
WVFS4	14.99					
WVFS5	14.99					

WVFS6	14.99								
WVFS7	14.99								
WVFS8	14.99								
CBLTEMP	14.99								
CBLROT	14.99								
WVF5FT	13.99								
			UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00			
MIT	4.97		UW_MIT-UW_MIT40_027 (211111) 40 Multifinger Imaging Tool	4.54	2.75	61.10			
			UW_PRC #3 -DSSRAC (083) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00			
TSTAMP	0.00		UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20			
Dataset: 0512339338_anadarko_benson farms 33n-23hz_09-16-14_mit_rbl.db: field/well/run1/pass3.4 Total Length: 26.62 ft Total Weight: 319.30 lb O.D. 3.13 in									

Calibration Report									
Database File:		0512339338_anadarko_benson farms 33n-23hz_09-16-14_mit_rbl.db							
Dataset Pathname:		cal							
Dataset Creation:		Tue Sep 16 11:36:32 2014 by Log 7.0 B1							
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:		Tue Sep 16 08:11:49 2014							
Ring size:	4	5	6	7					
(in)		Sens	Sens	Sens					
Finger 01:	1001	348.0	1349	425.0	1774	422.0	2196		

Finger 02:	1034	342.0	1376	417.0	1793	421.0	2214
Finger 03:	1033	336.0	1369	410.0	1779	418.0	2197
Finger 04:	992	342.0	1334	403.0	1737	430.0	2167
Finger 05:	1021	339.0	1360	402.0	1762	419.0	2181
Finger 06:	1002	348.0	1350	404.0	1754	431.0	2185
Finger 07:	1127	313.0	1440	373.0	1813	387.0	2200
Finger 08:	1044	333.0	1377	393.0	1770	421.0	2191
Finger 09:	1023	346.0	1369	399.0	1768	427.0	2195
Finger 10:	1065	303.0	1368	341.0	1709	368.0	2077
Finger 11:	1027	351.0	1378	390.0	1768	422.0	2190
Finger 12:	1179	367.0	1546	398.0	1944	425.0	2369
Finger 13:	1122	342.0	1464	374.0	1838	410.0	2248
Finger 14:	1214	330.0	1544	345.0	1889	372.0	2261
Finger 15:	1033	371.0	1404	396.0	1800	439.0	2239
Finger 16:	1068	345.0	1413	370.0	1783	401.0	2184
Finger 17:	1056	373.0	1429	392.0	1821	432.0	2253
Finger 18:	1028	382.0	1410	396.0	1806	432.0	2238
Finger 19:	1029	384.0	1413	401.0	1814	439.0	2253
Finger 20:	1094	376.0	1470	377.0	1847	412.0	2259
Finger 21:	1076	383.0	1459	395.0	1854	426.0	2280
Finger 22:	1084	383.0	1467	395.0	1862	421.0	2283
Finger 23:	1060	381.0	1441	406.0	1847	434.0	2281
Finger 24:	1228	352.0	1580	358.0	1938	374.0	2312
Finger 25:	1197	372.0	1569	384.0	1953	391.0	2344
Finger 26:	1213	360.0	1573	356.0	1929	363.0	2292
Finger 27:	1174	357.0	1531	376.0	1907	376.0	2283
Finger 28:	1218	360.0	1578	368.0	1946	367.0	2313
Finger 29:	1201	351.0	1552	369.0	1921	367.0	2288
Finger 30:	1181	341.0	1522	368.0	1890	383.0	2273
Finger 31:	1201	350.0	1551	378.0	1929	372.0	2301
Finger 32:	1217	337.0	1554	361.0	1915	356.0	2271
Finger 33:	1049	362.0	1411	420.0	1831	425.0	2256
Finger 34:	1092	352.0	1444	403.0	1847	406.0	2253
Finger 35:	1192	330.0	1522	373.0	1895	379.0	2274
Finger 36:	1134	333.0	1467	384.0	1851	388.0	2239
Finger 37:	1064	352.0	1416	411.0	1827	429.0	2256
Finger 38:	1067	343.0	1410	396.0	1806	400.0	2206
Finger 39:	1054	356.0	1410	419.0	1829	463.0	2292
Finger 40:	991	344.0	1335	410.0	1745	422.0	2167

Post Survey Calibration Check								
Performed:					Tue Sep 16 11:36:08 2014			
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.004	0.002	4.996	-0.002	5.979	-0.010		
Finger 02:	4.007	0.004	5.005	0.002	5.993	-0.004		
Finger 03:	4.001	0.001	5.007	0.003	5.997	-0.001		
Finger 04:	4.001	0.001	4.996	-0.002	6.004	0.002		
Finger 05:	4.001	0.000	4.995	-0.003	5.991	-0.004		
Finger 06:	4.006	0.003	5.004	0.002	6.003	0.002		
Finger 07:	3.998	-0.001	4.991	-0.005	5.975	-0.012		
Finger 08:	3.988	-0.006	4.988	-0.006	5.994	-0.003		
Finger 09:	4.008	0.004	5.004	0.002	5.999	-0.000		
Finger 10:	4.000	0.000	5.009	0.004	6.013	0.006		
Finger 11:	4.002	0.001	4.998	-0.001	5.993	-0.003		
Finger 12:	4.008	0.004	5.010	0.005	6.005	0.002		
Finger 13:	3.987	-0.007	4.997	-0.001	5.994	-0.003		
Finger 14:	3.991	-0.005	4.999	-0.001	5.996	-0.002		
Finger 15:	4.001	0.000	5.009	0.005	6.007	0.003		
Finger 16:	4.000	-0.000	4.998	-0.001	5.992	-0.004		
Finger 17:	4.004	0.002	5.005	0.002	6.001	0.001		
Finger 18:	4.007	0.004	5.006	0.003	6.000	0.000		
Finger 19:	4.012	0.006	5.007	0.004	6.002	0.001		
Finger 20:	4.001	0.000	4.993	-0.003	5.998	-0.001		
Finger 21:	4.008	0.004	5.010	0.005	6.007	0.003		

Finger 22:	4.011	0.005	5.009	0.004	6.005	0.002
Finger 23:	4.000	0.000	5.000	0.000	5.999	-0.001
Finger 24:	3.987	-0.006	4.994	-0.003	5.998	-0.001
Finger 25:	4.001	0.001	4.998	-0.001	5.998	-0.001
Finger 26:	3.994	-0.003	4.986	-0.007	5.997	-0.002
Finger 27:	3.995	-0.002	4.996	-0.002	5.988	-0.006
Finger 28:	4.008	0.004	4.999	-0.001	5.998	-0.001
Finger 29:	4.012	0.006	5.009	0.005	6.000	-0.000
Finger 30:	4.005	0.003	5.008	0.004	6.002	0.001
Finger 31:	3.990	-0.005	4.996	-0.002	5.986	-0.007
Finger 32:	4.009	0.004	5.009	0.004	5.996	-0.002
Finger 33:	4.004	0.002	5.005	0.002	5.999	-0.000
Finger 34:	3.992	-0.004	4.995	-0.002	6.000	0.000
Finger 35:	3.992	-0.004	4.998	-0.001	5.996	-0.002
Finger 36:	3.988	-0.006	4.994	-0.003	5.985	-0.008
Finger 37:	4.002	0.001	5.005	0.002	6.011	0.005
Finger 38:	4.011	0.006	5.009	0.005	6.007	0.004
Finger 39:	4.004	0.002	5.009	0.005	6.030	0.015
Finger 40:	4.010	0.005	5.007	0.003	6.009	0.004
Average:	4.001	0.001	5.001	0.001	5.999	-0.001

Segmented Cement Bond Log Calibration Report

Serial Number:	10013454
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	5.500 in
Calibration Depth:	847.698 ft

Master Calibration, performed Thu Aug 21 13:16:26 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.002	0.657	1.000	62.000	92.991	0.860
5FT	-0.001	0.737	1.000	62.000	82.626	1.104
S1	0.002	0.658	0.000	100.000	152.586	-0.373
S2	0.000	0.656	0.000	100.000	152.387	0.000
S3	0.001	0.653	0.000	100.000	153.417	-0.187
S4	0.000	0.658	0.000	100.000	151.960	0.000
S5	0.001	0.664	0.000	100.000	150.966	-0.184
S6	0.000	0.667	0.000	100.000	149.927	0.000
S7	0.000	0.659	0.000	100.000	151.833	-0.069
S8	0.001	0.658	0.000	100.000	152.319	-0.158

Gamma Ray Calibration Report

Serial Number:	211727
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	Kerr McGee Oil & Gas Onshore LP
Well	Benson Farms 33N-23HZ

