



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Kerr McGee Oil & Gas Onshore LP			
Well				NRC 27N-8HZ			
Field				Wattenberg			
County				Weld			
State				Colorado			
Location:				API # : 05-123-39096			
Permanent Datum				SHL: 350' FSL & 890' FEL			
Log Measured From				Lat: 40.059249 Lon: -104.908273			
Drilling Measured From				SEC 8 TWP 1N RGE 67W			
Ground Level				Elevation			
Kelly Bushing				5074'			
Kelly Bushing				25 FT			
Elevation				K.B. 5099'			
Elevation				D.F. 5098'			
Elevation				G.L. 5074'			
Date				21 May 2014			
Run Number				One			
Depth Driller				12710 FT			
Depth Logger				PBSD @ 6856 FT			
Bottom Logged Interval				PBSD			
Top Log Interval				Surface			
Open Hole Size				---			
Type Fluid				Water			
Density / Viscosity				8.4 Lbm/Gal			
Max. Recorded Temp.				216°F			
Estimated Cement Top				Surface			
Time Well Ready				ROA			
Time Logger on Bottom				10:00			
Equipment Number				HD311			
Location				Ft.Lupton, CO			
Recorded By				S.Anderson			
Witnessed By				J.McCarthy			
Borehole Record				Tubing Record			
Run Number				Bit			
From				To			
Size				Weight			
From				To			
Casing Record				Size (in)			
Surface Casing				9.625			
Intermediate #1				7			
Intermediate #2				4.5			
Liner				11.6			
HCP-110				HCP-110			
6813 FT				12710 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 reference to Casing Tally reported Liner Top at 6813 FT.
Log ran with 2800 PSI surface induced pressure.
No cement data available.

Thank you for choosing FMC Technologies Completion Services, Inc.



Main Pass

Logged with 2800 PSI Surface induced Pressure

Database File: 0512339096_anadarko_nrc 27n-8hz_05-21-14_mit_rbl.db

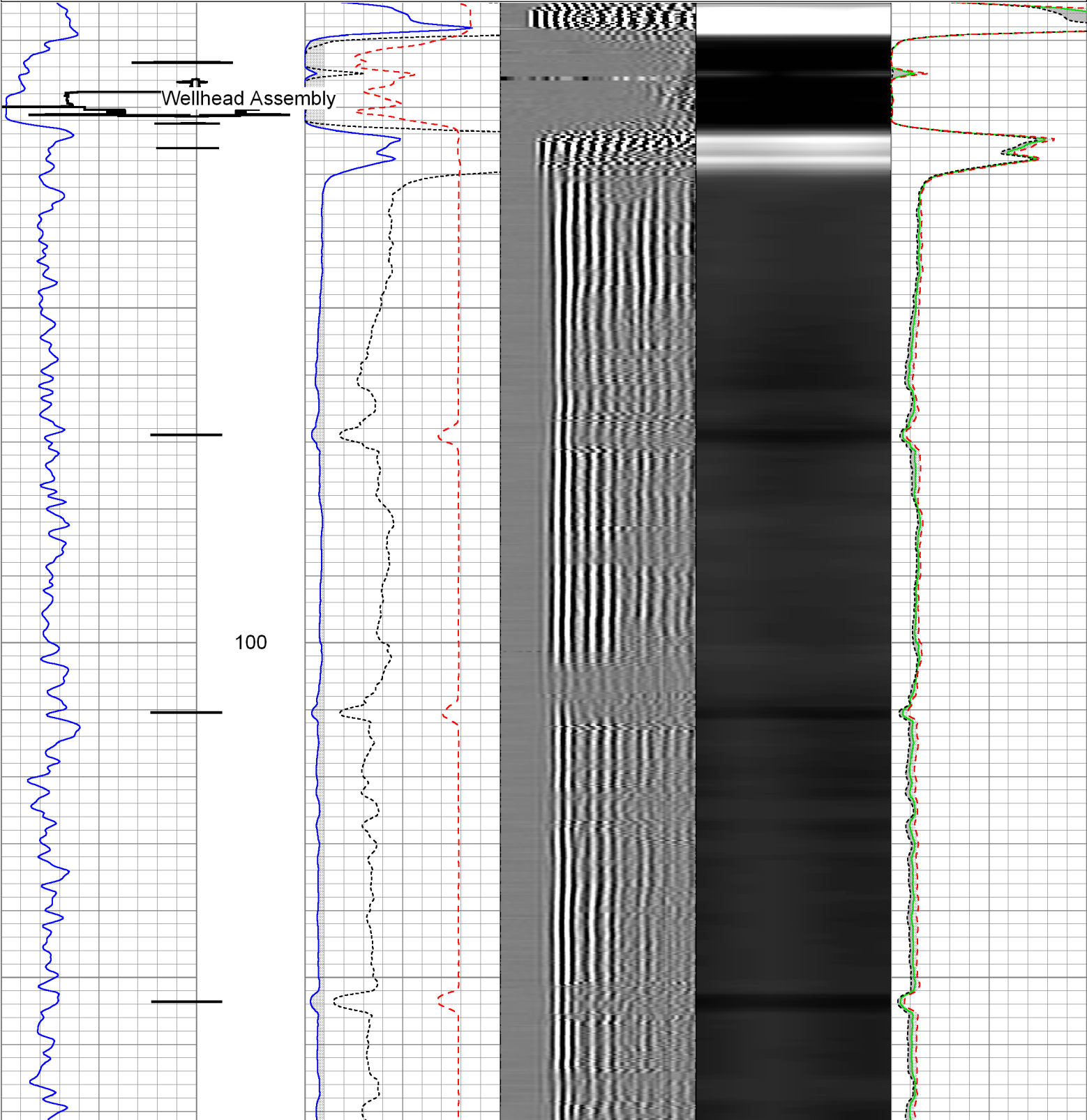
Dataset Pathname: Main

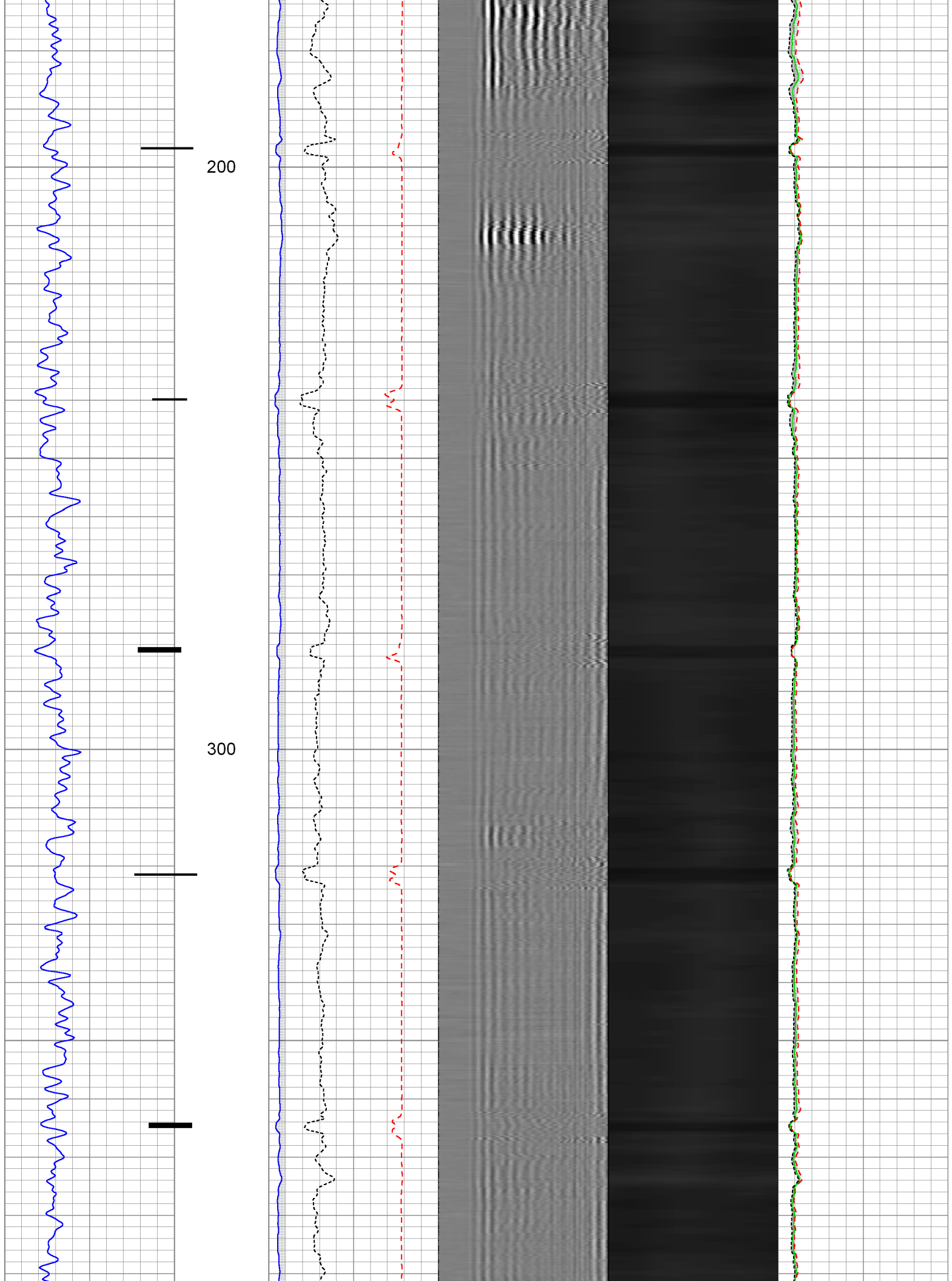
Presentation Format: rbt004

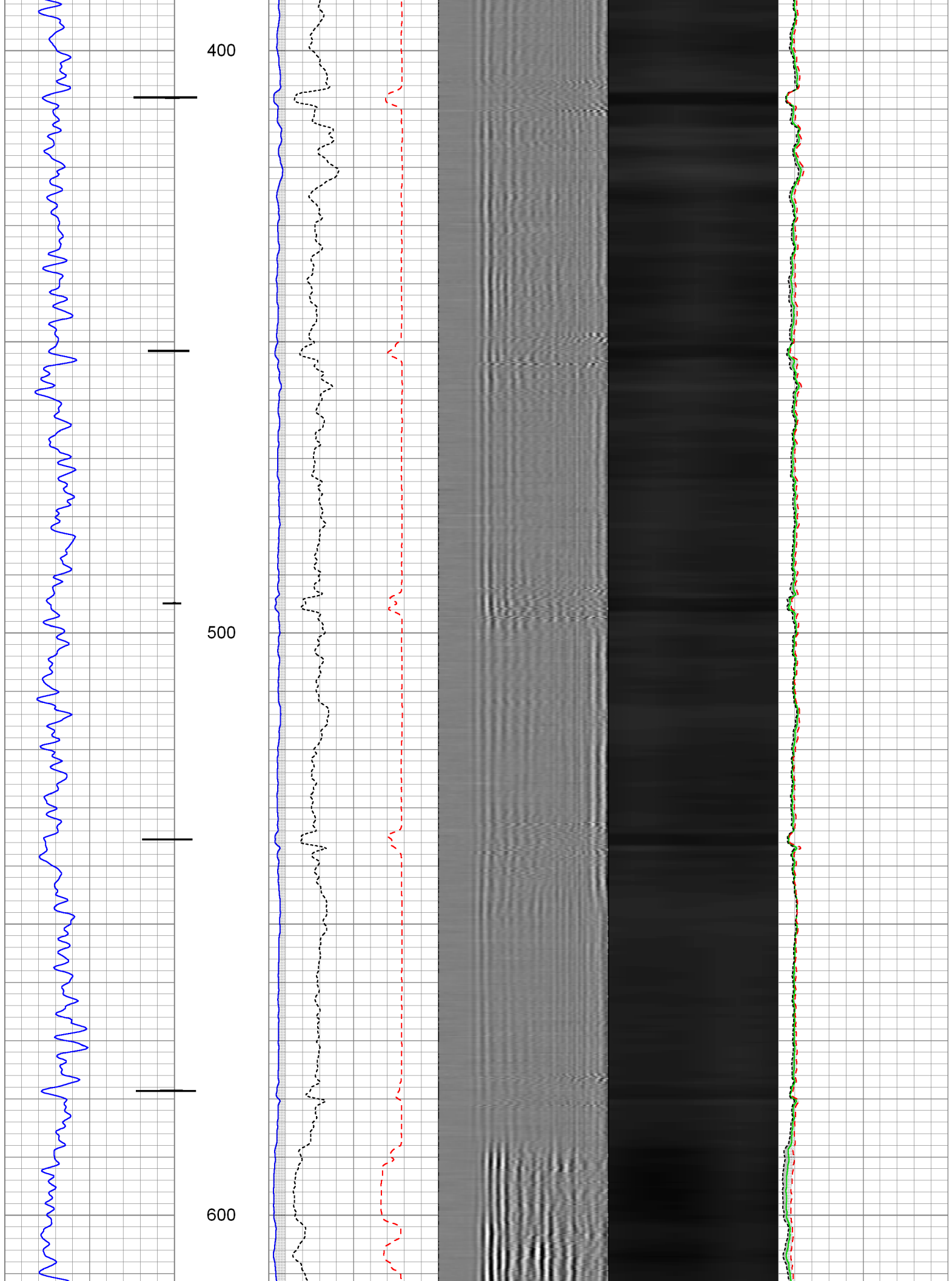
Dataset Creation: Wed May 21 10:13:20 2014 by Log SCH 111116

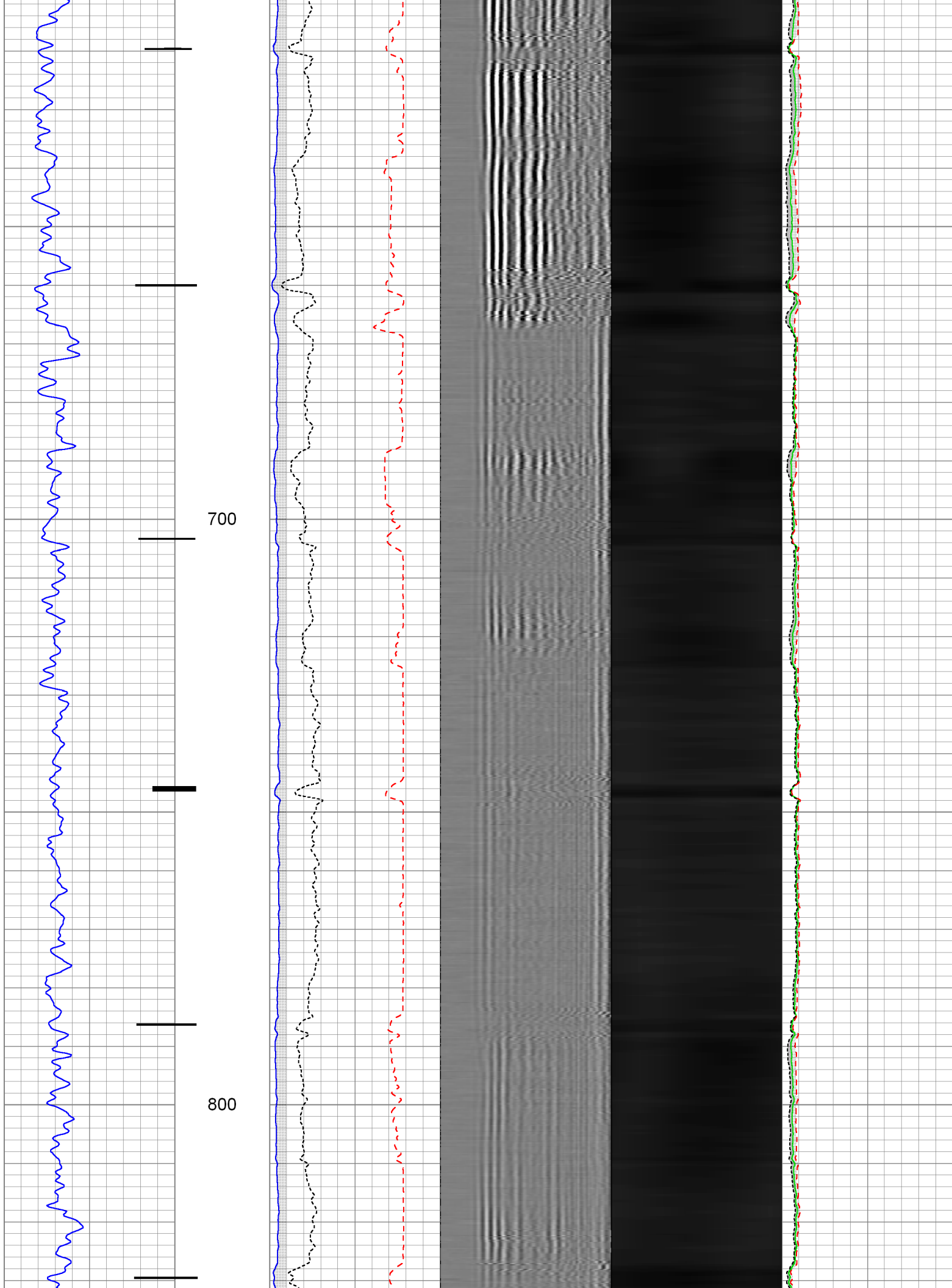
Charted by: Depth in Feet scaled 1:240

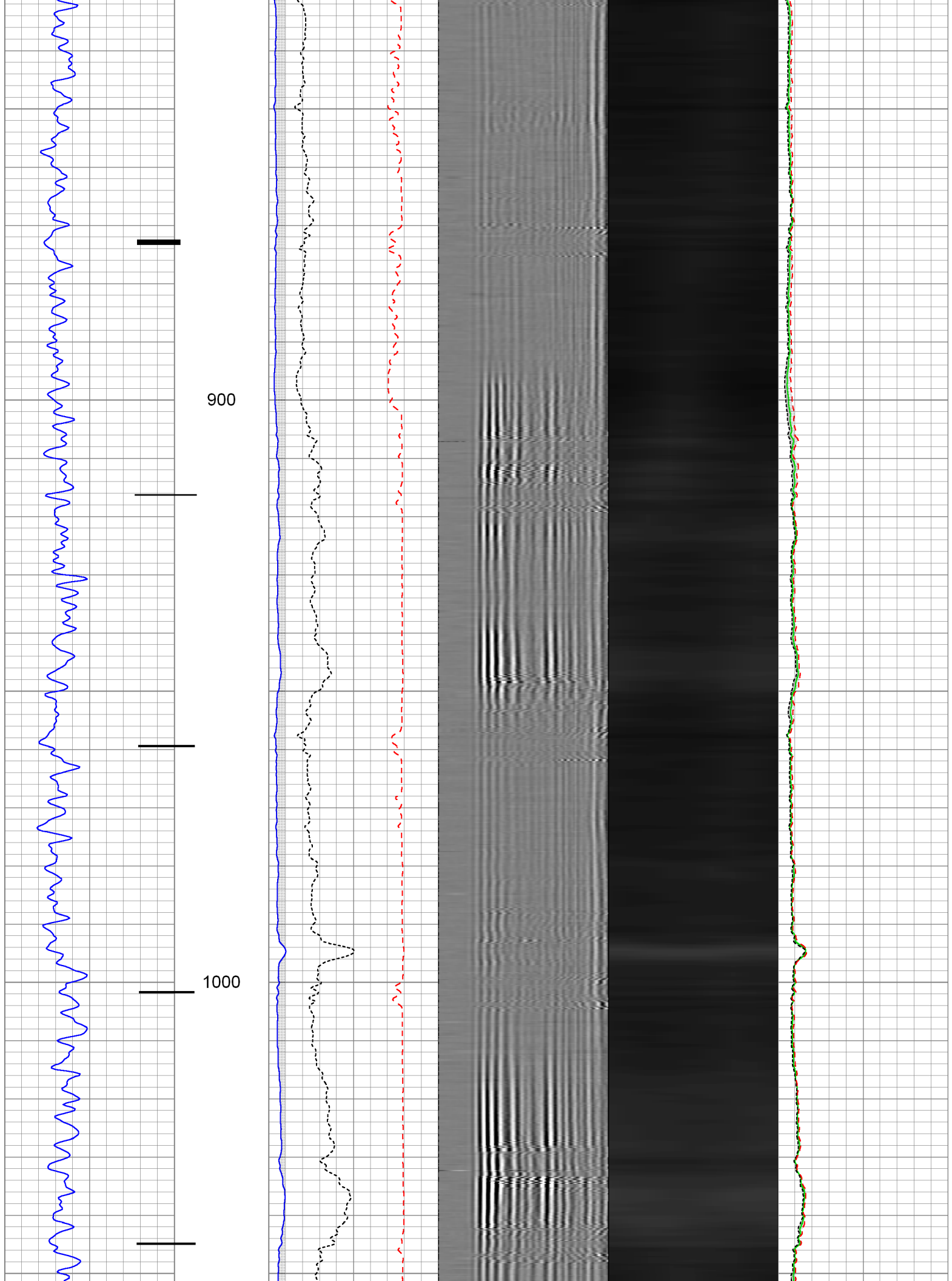
Gamma Ray			3' Amplitude		5' Variable Density Log	Sector Map	Average Amplitude		
0	(GAPI)	120	0	(mV)			100	0	100
CCL			3' Amplitude x 5				Minimum Amplitude		
			0	(mV)			20	0	100
			3' Travel Time				Maximum Amplitude		
			650	(usec)			150	0	100

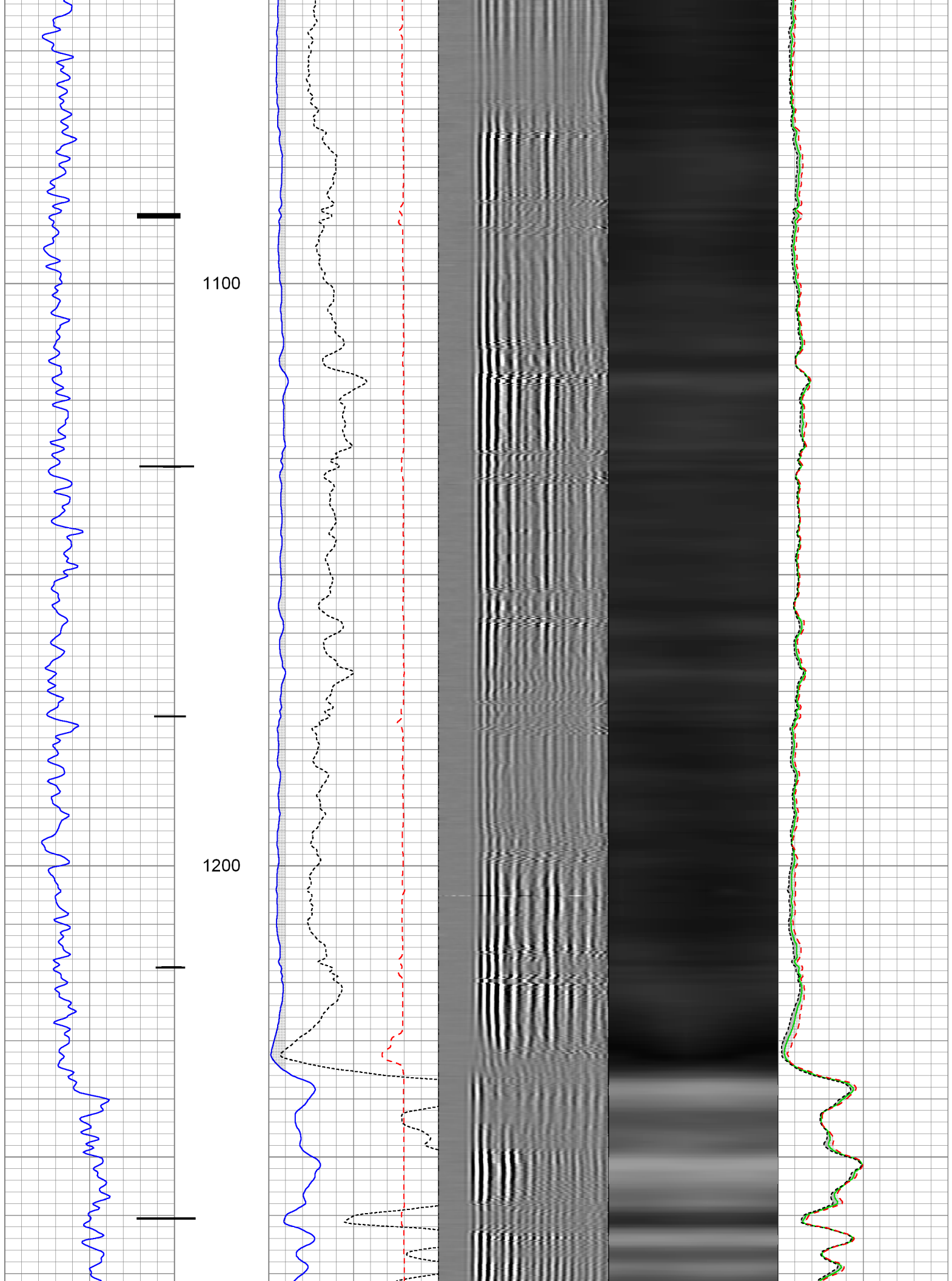


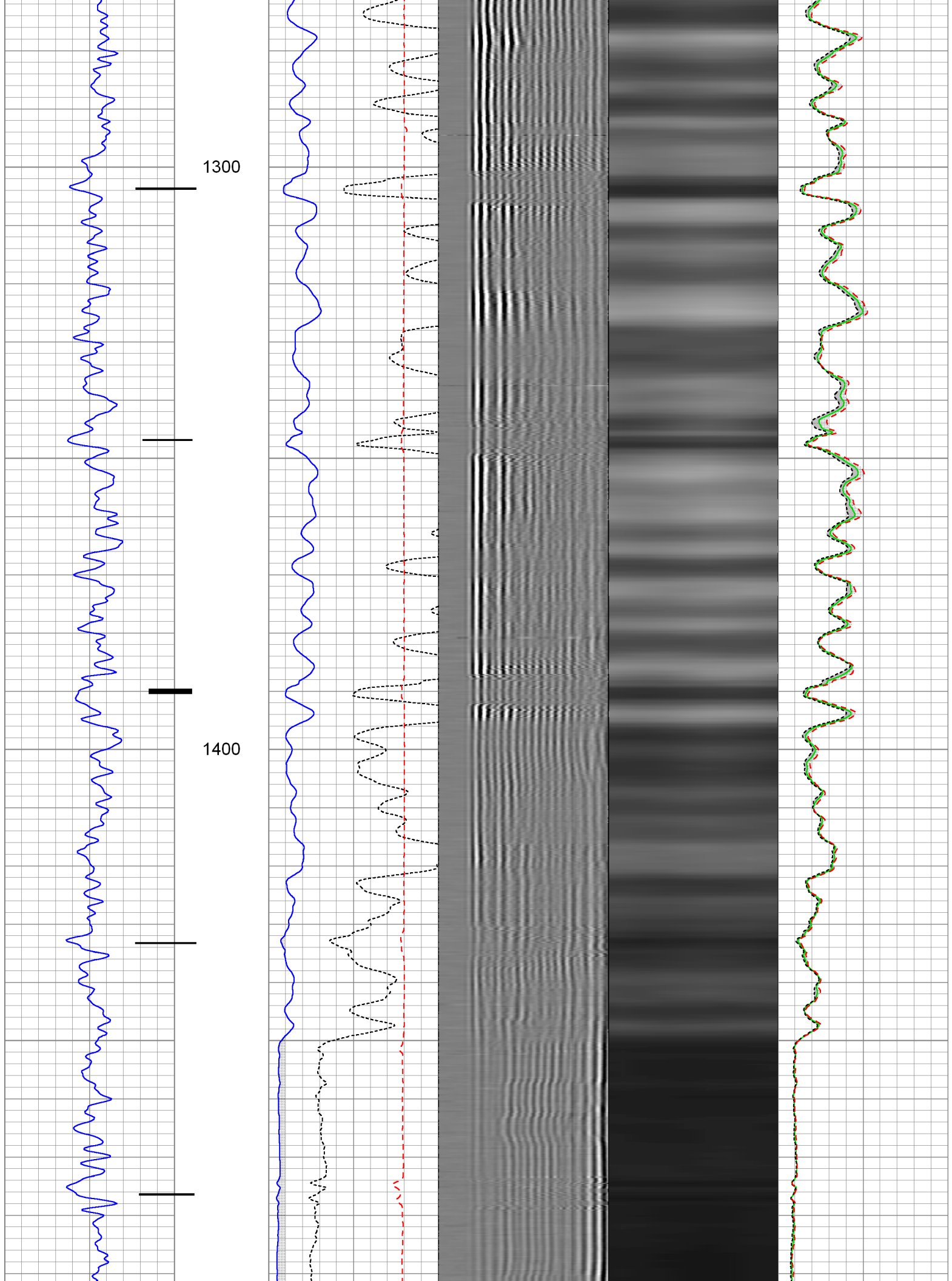


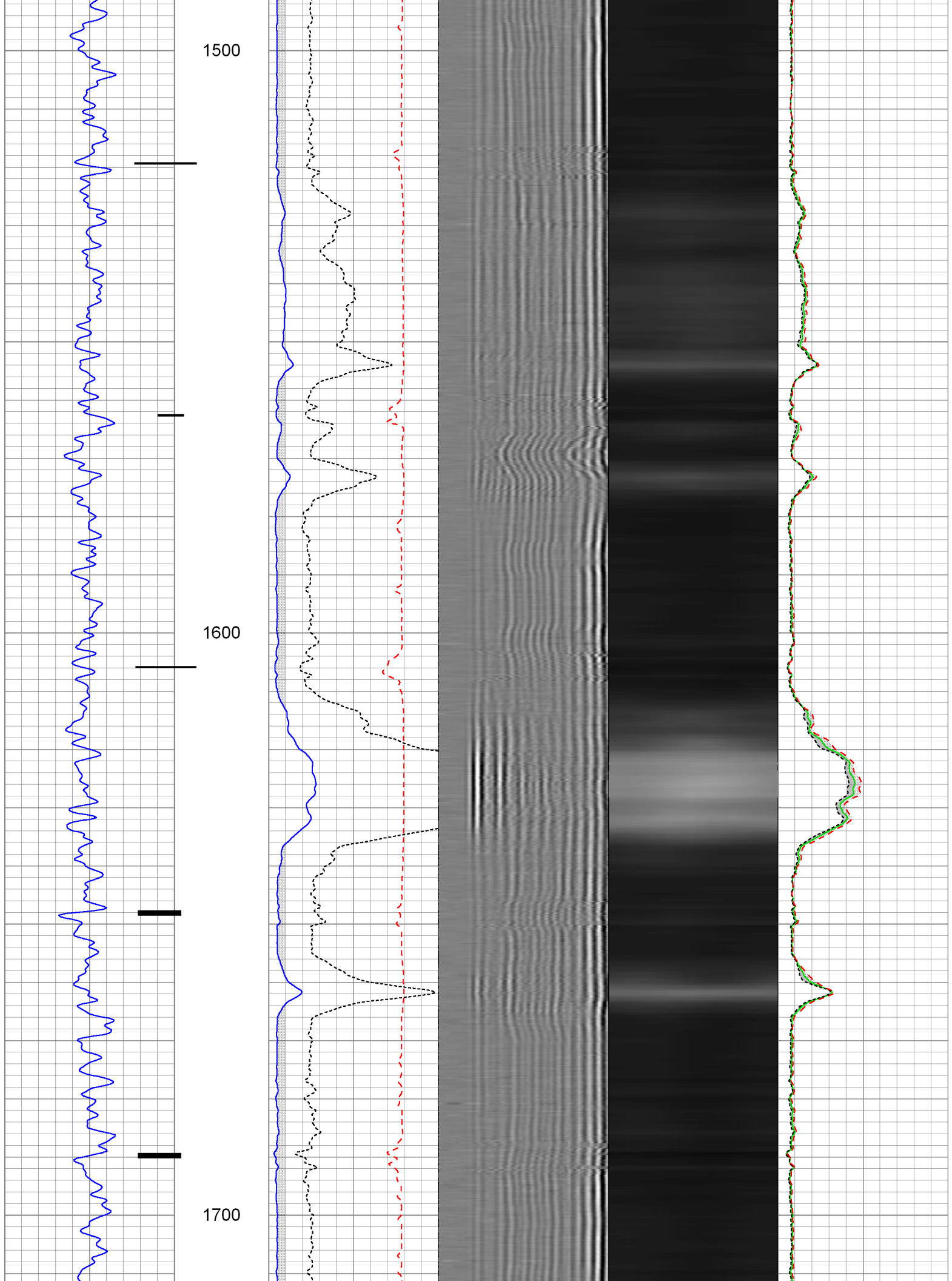


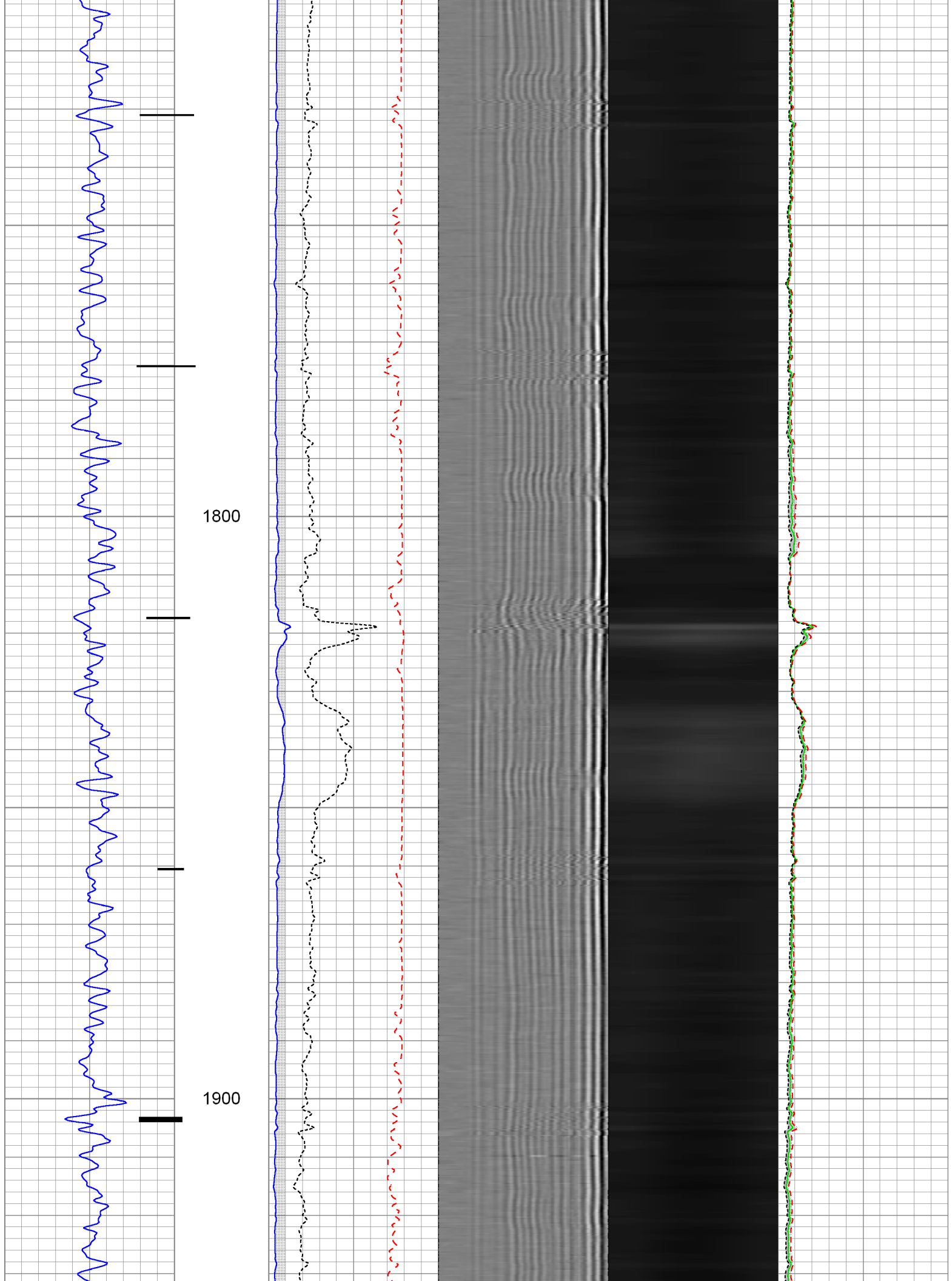


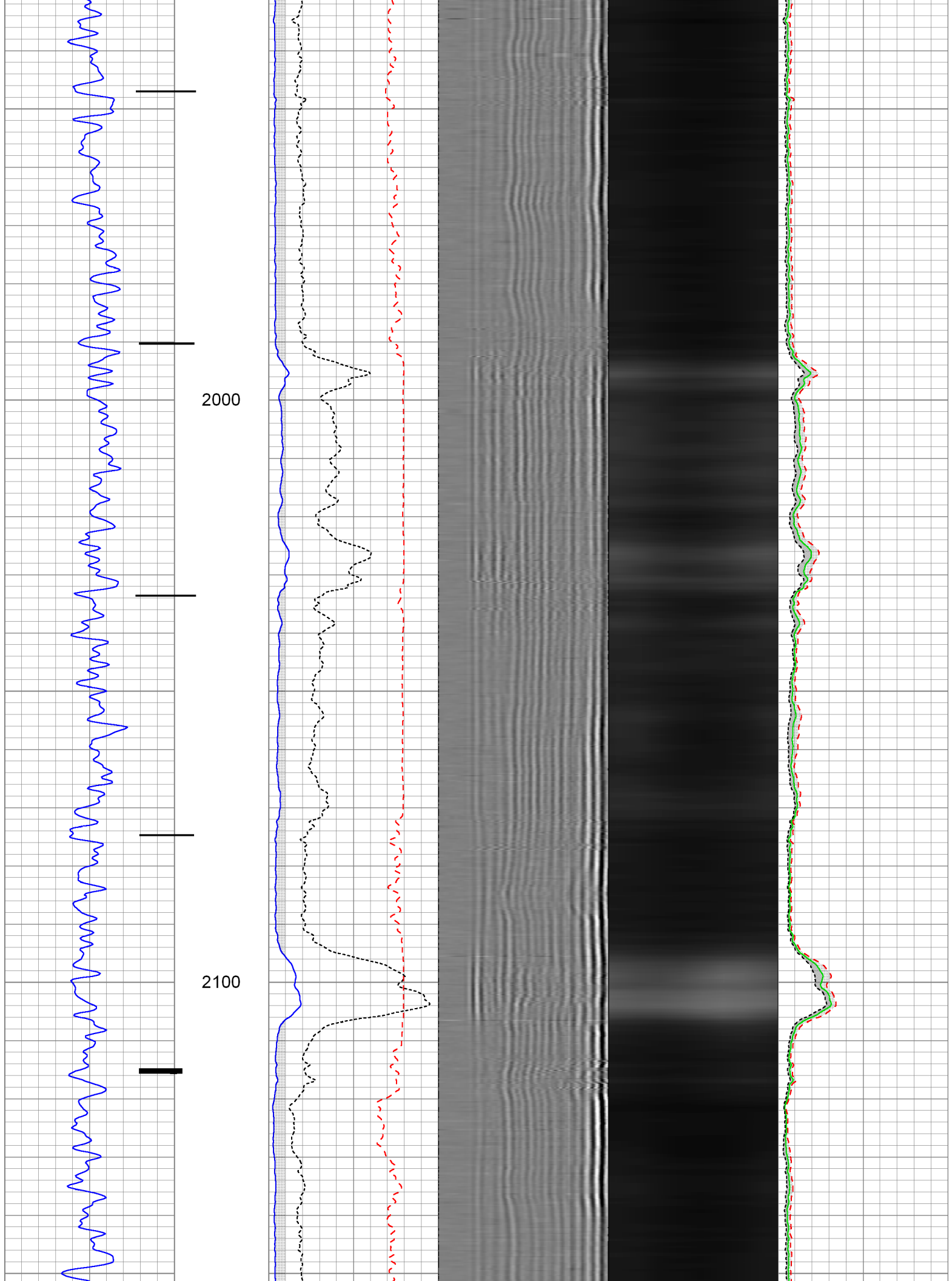


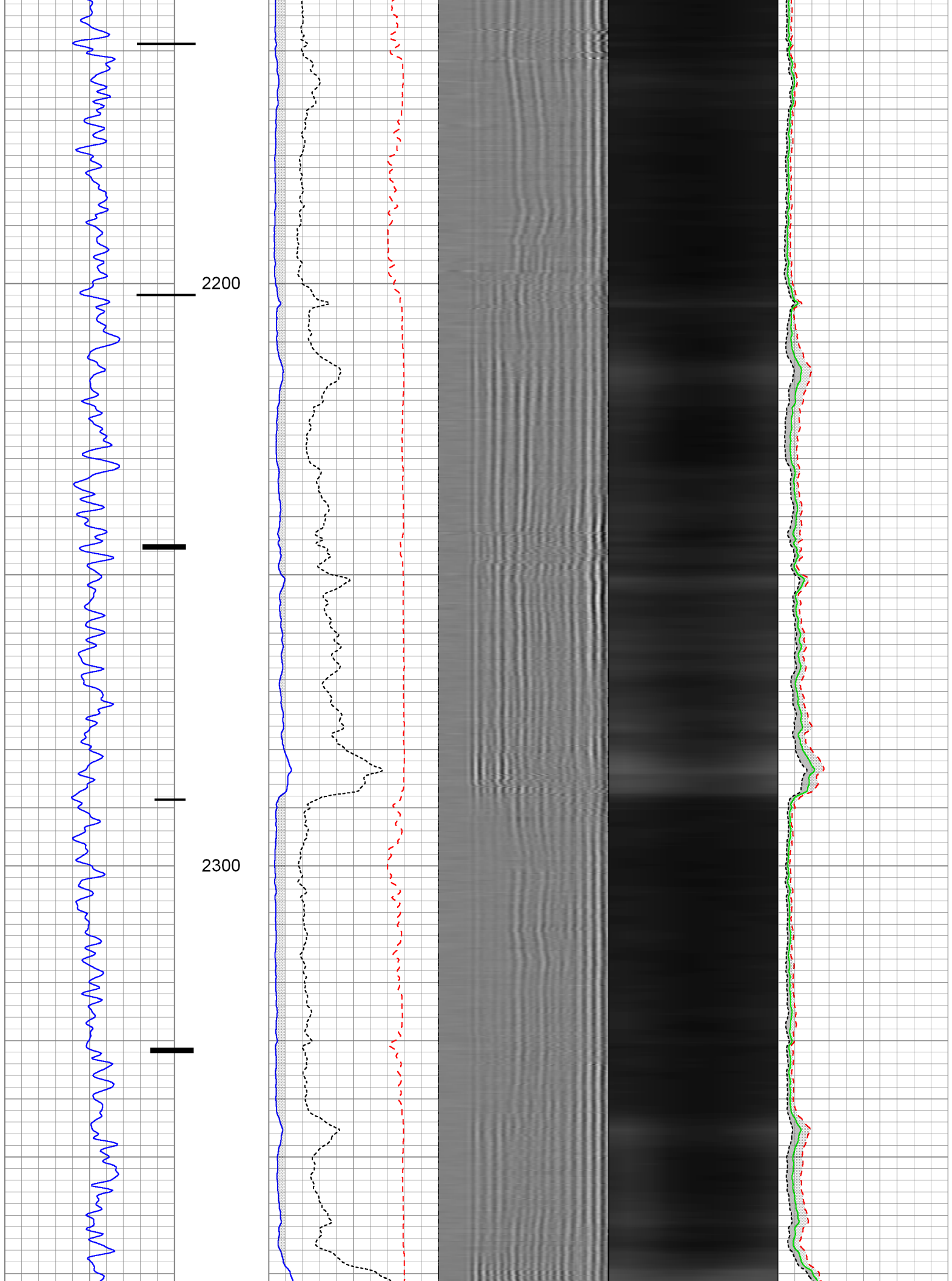


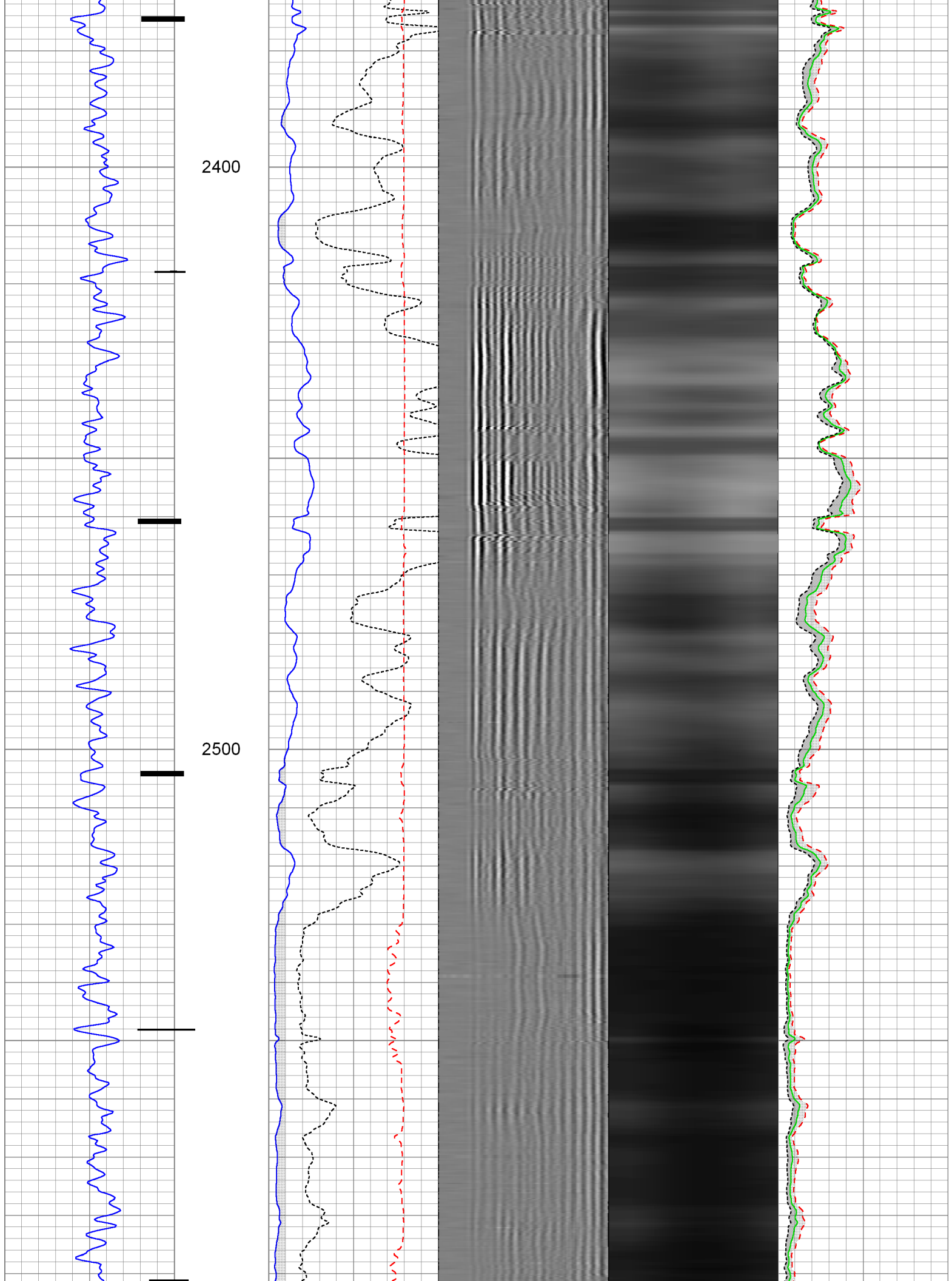


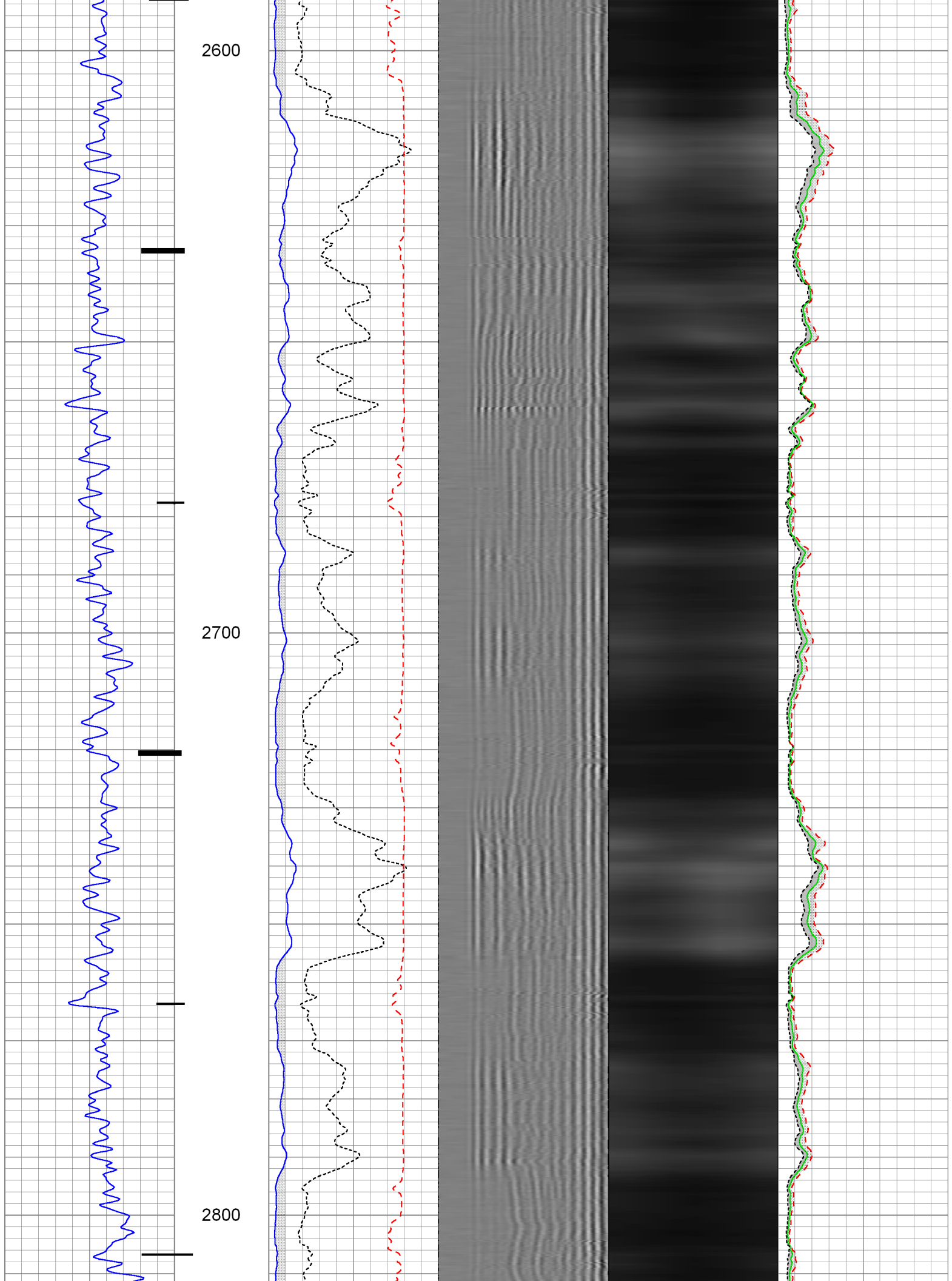


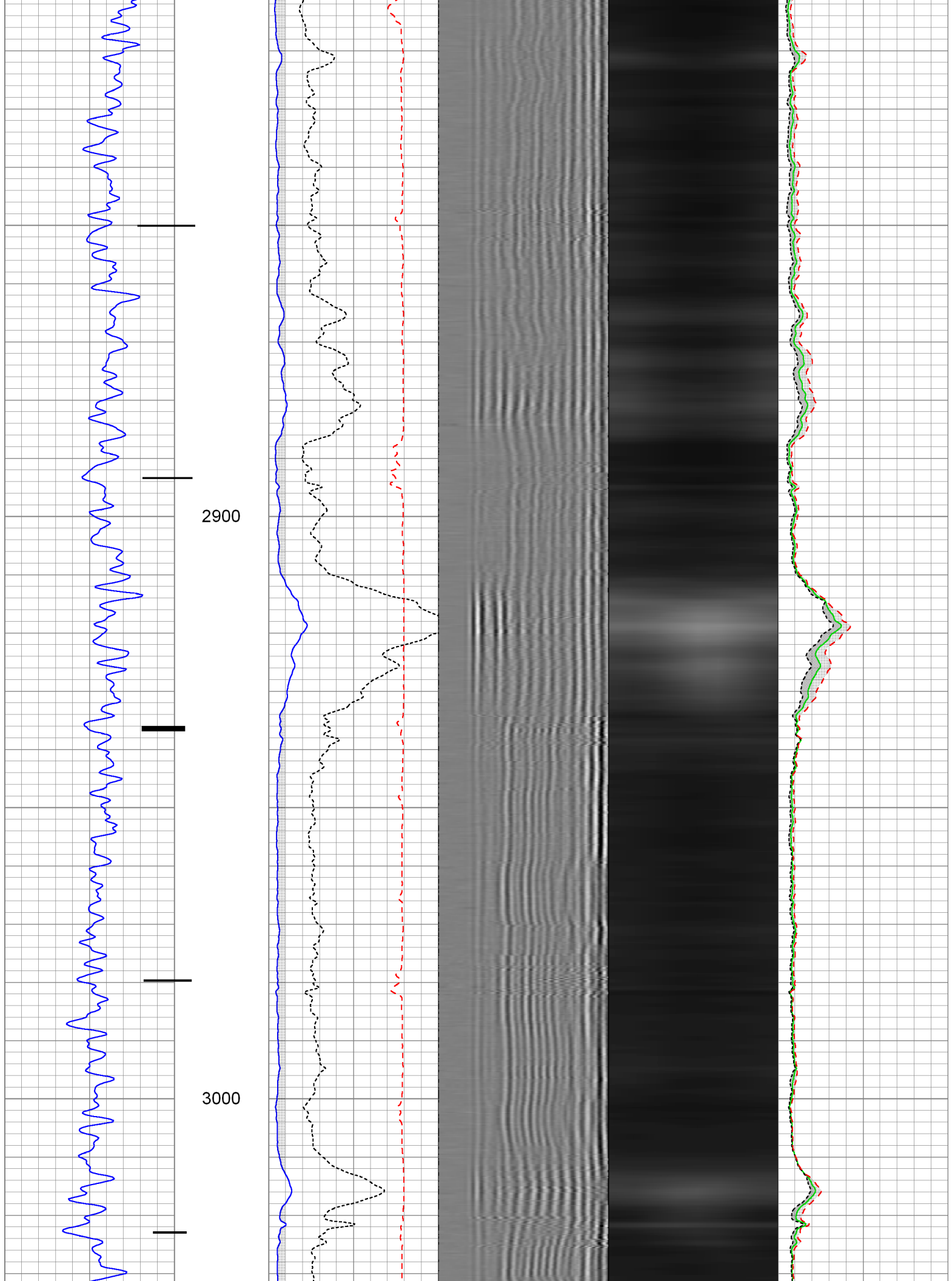


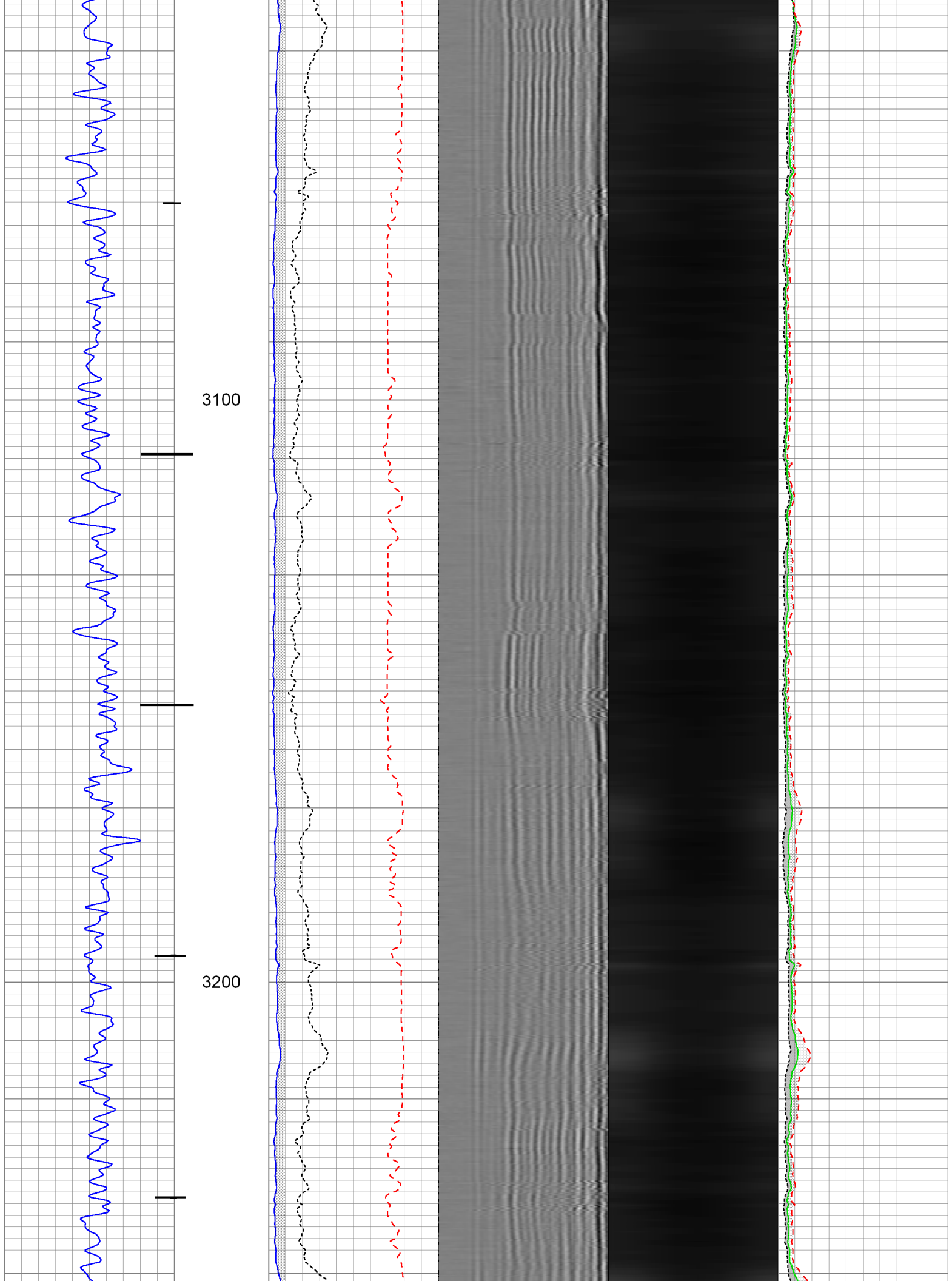


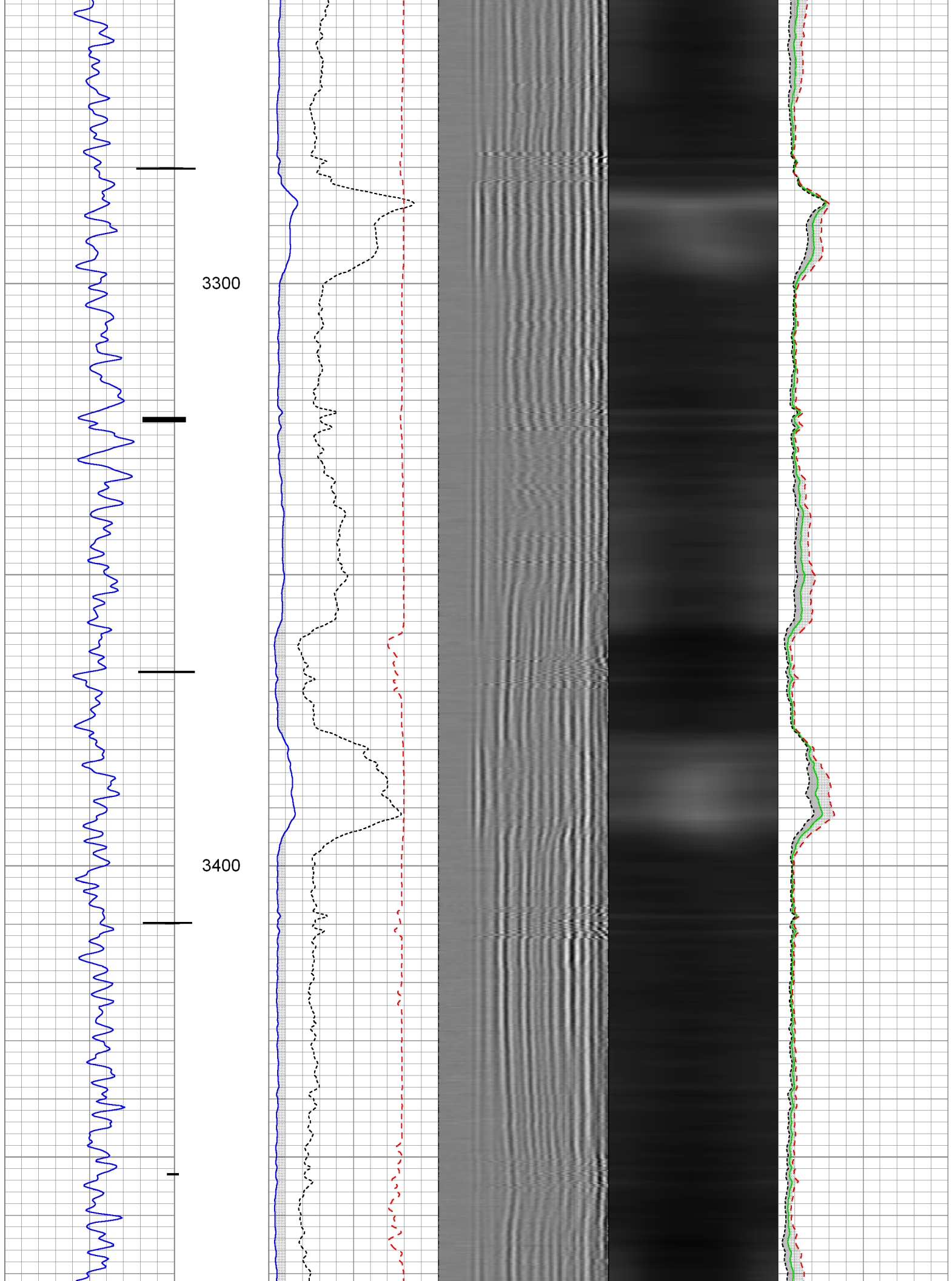


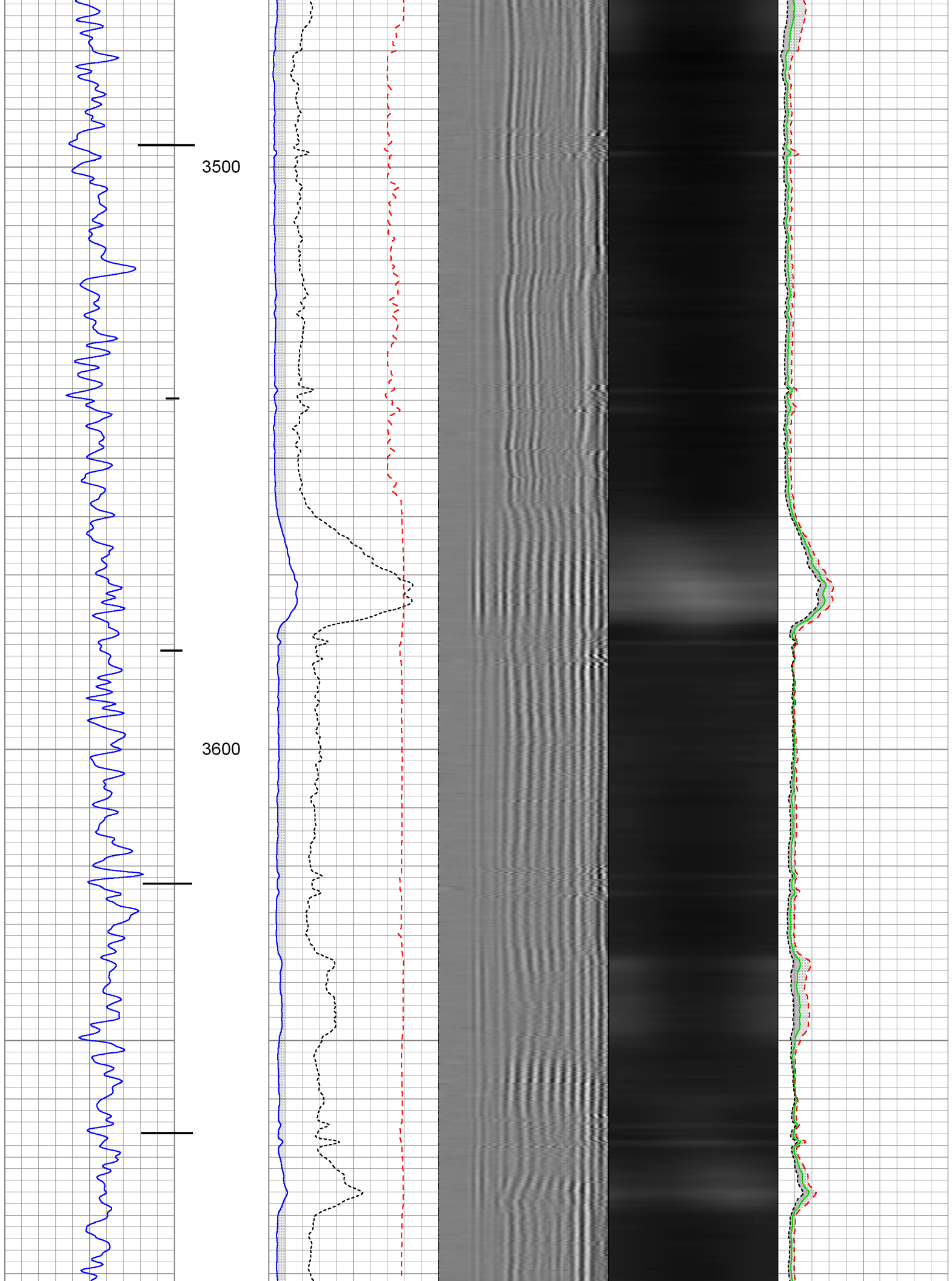


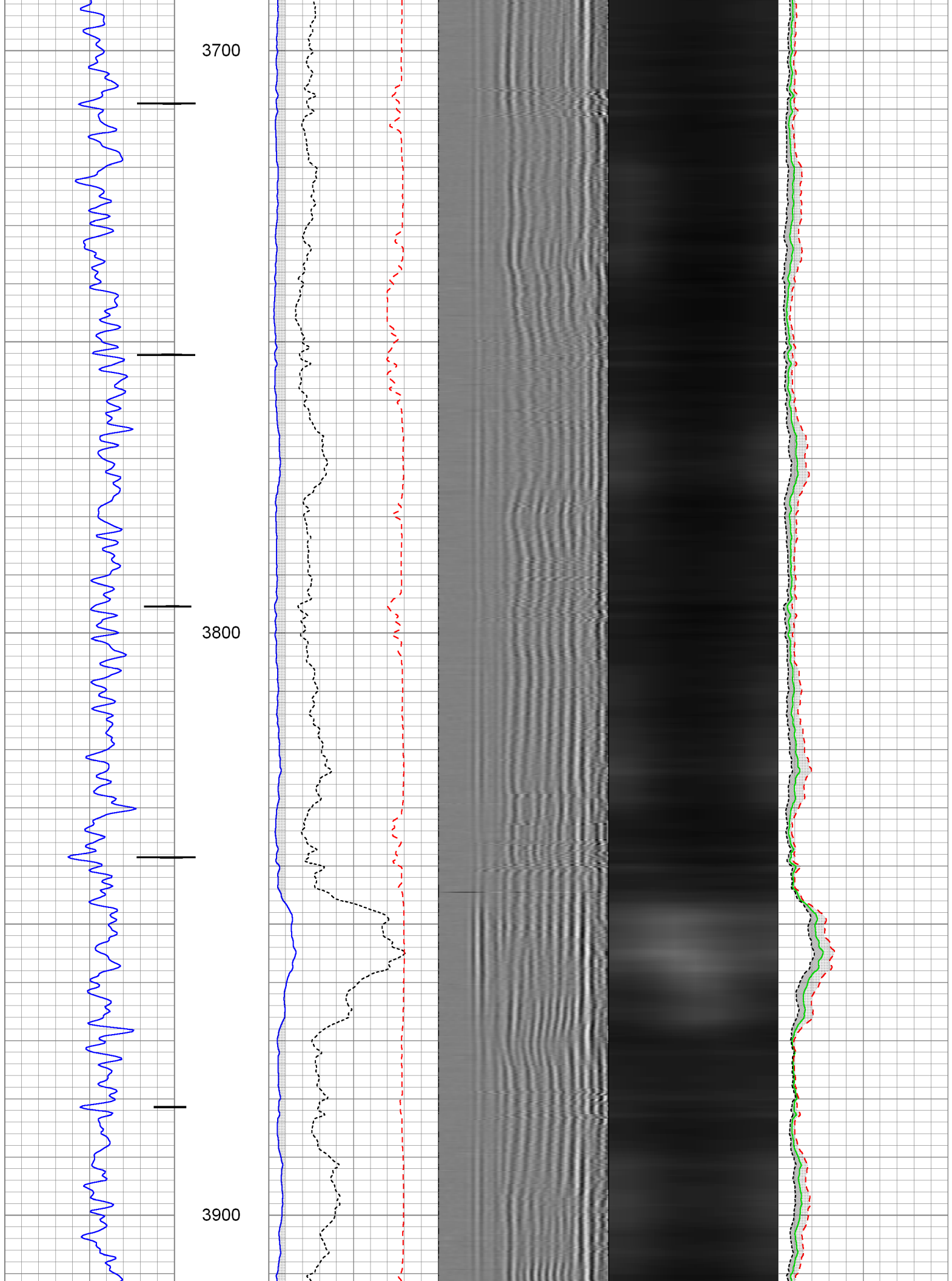


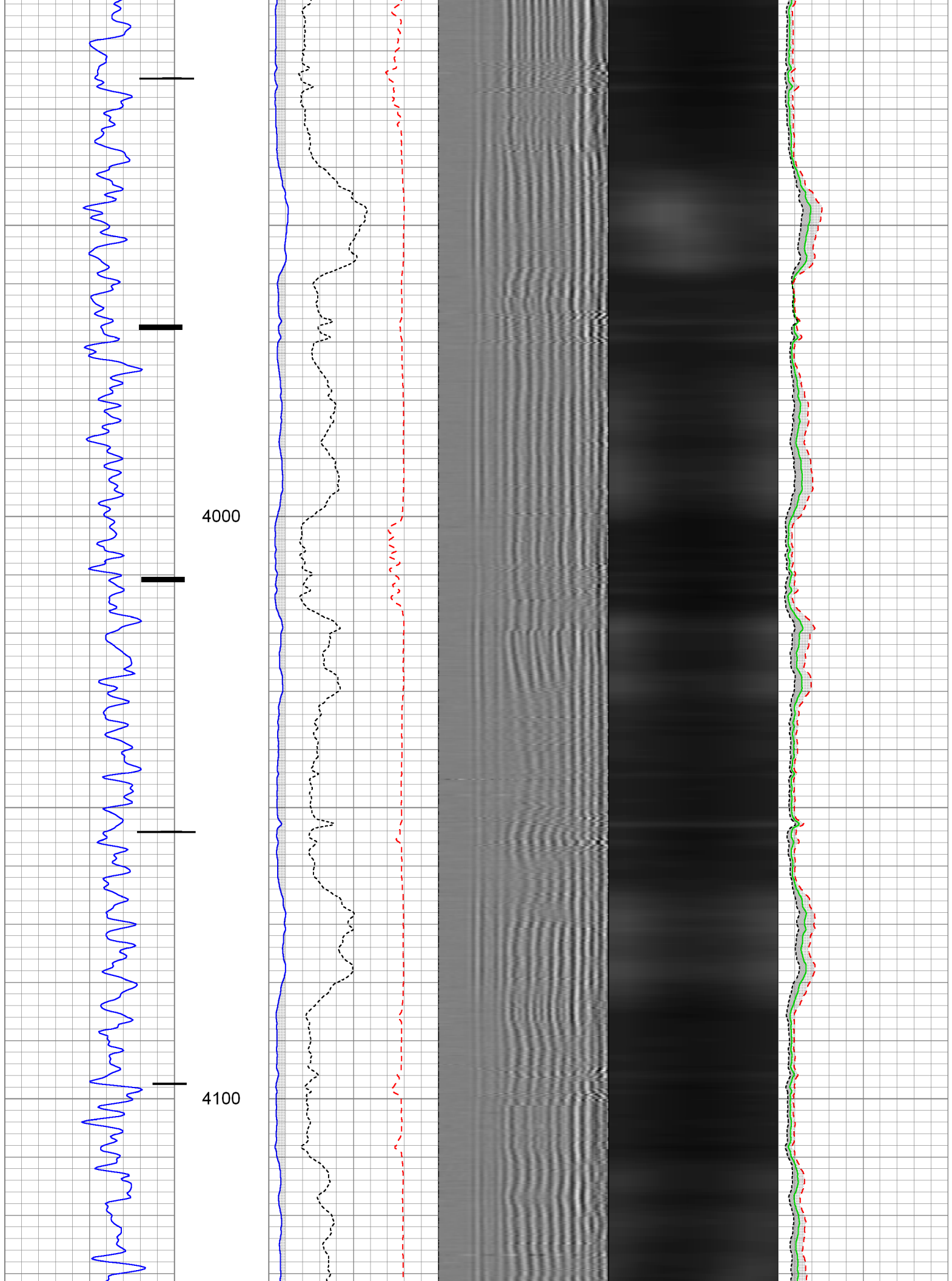


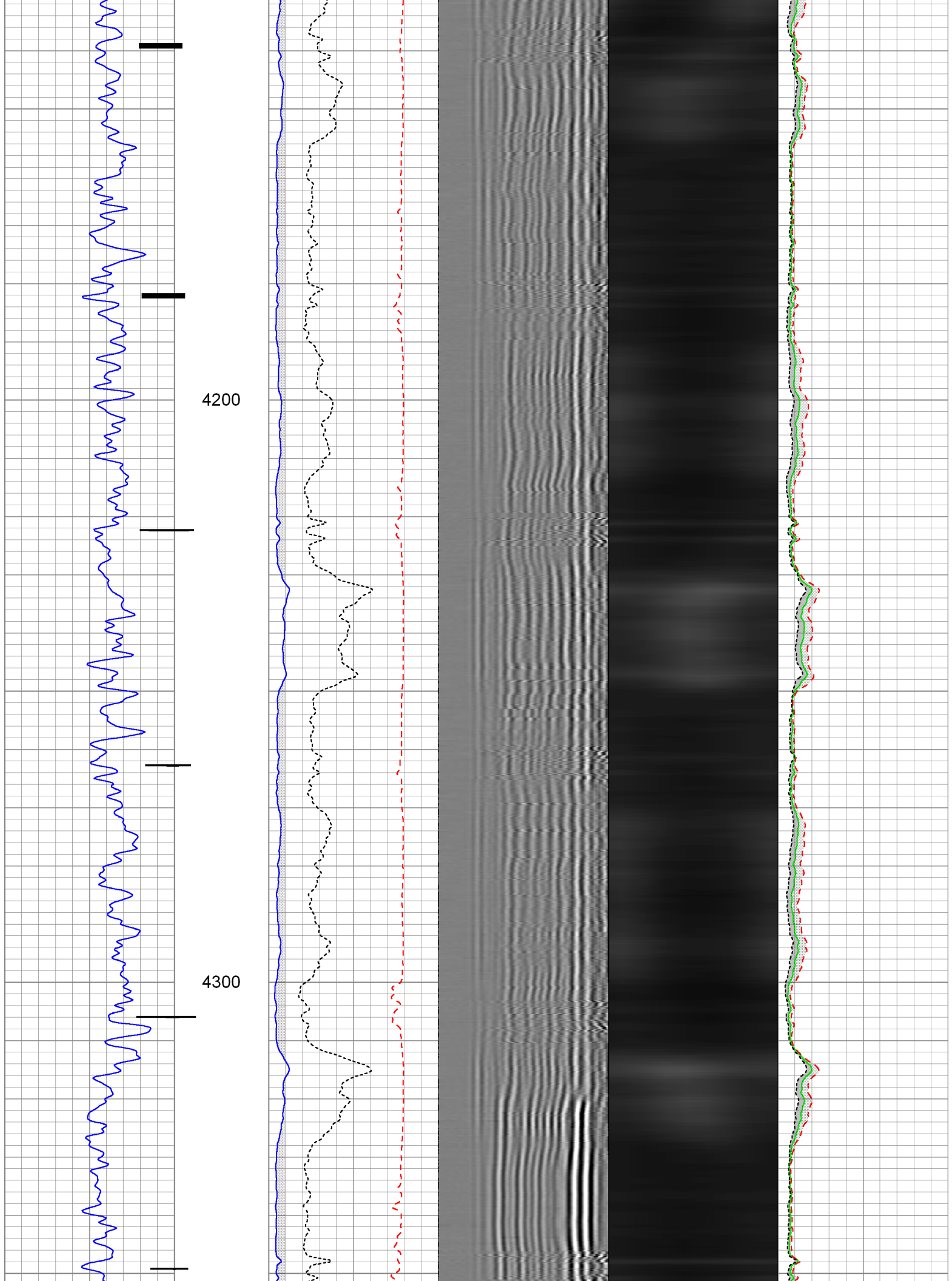


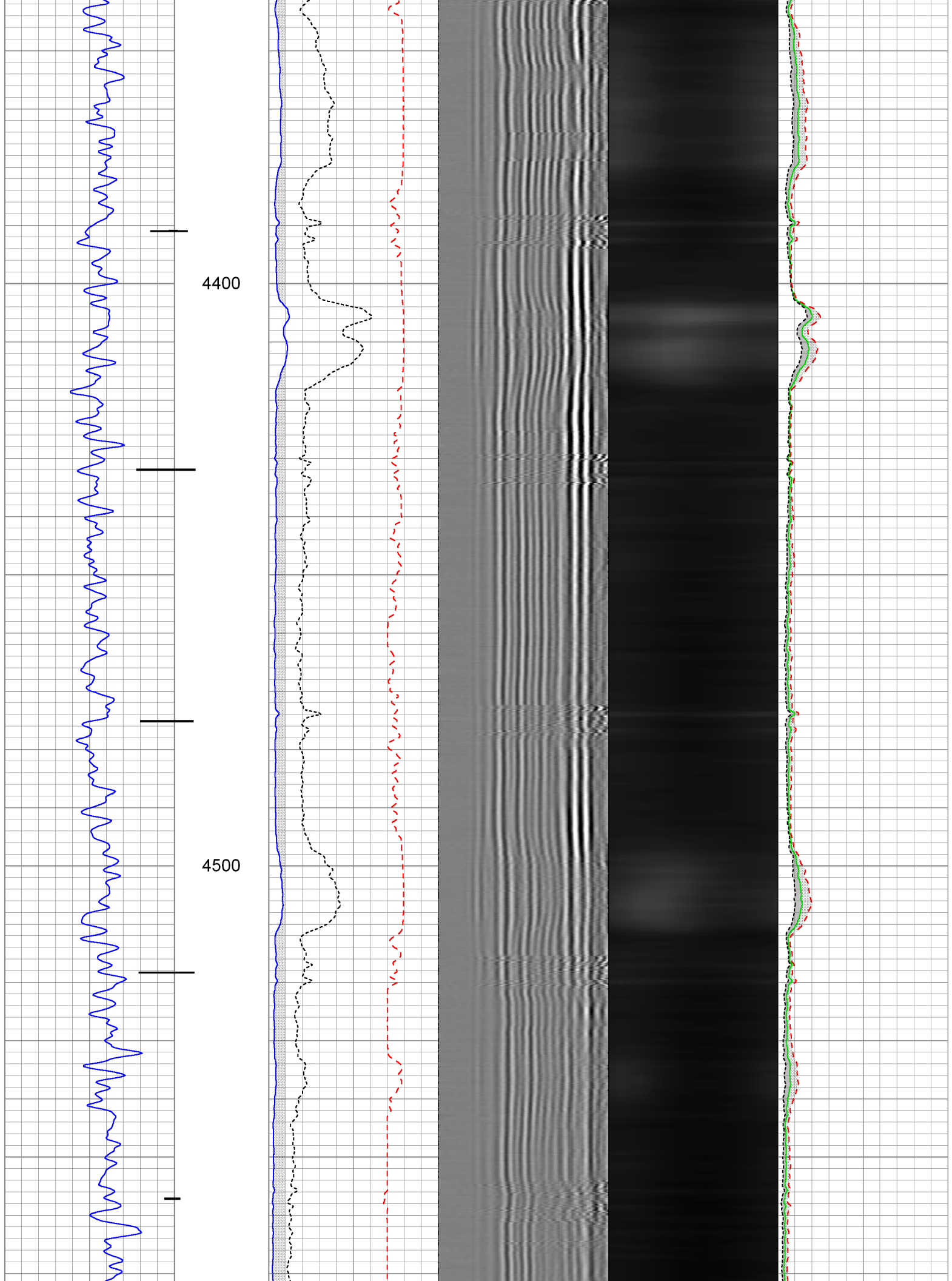


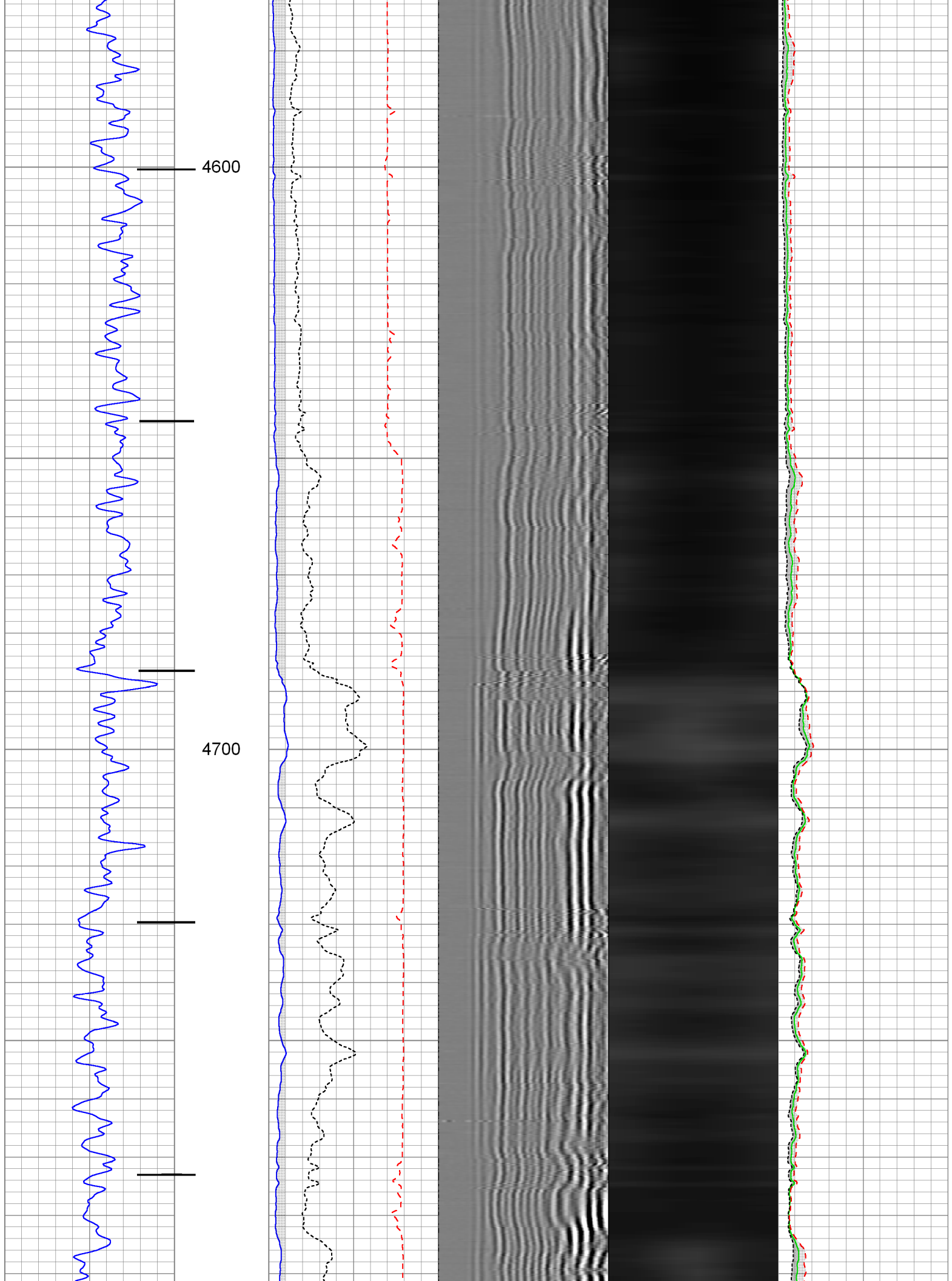


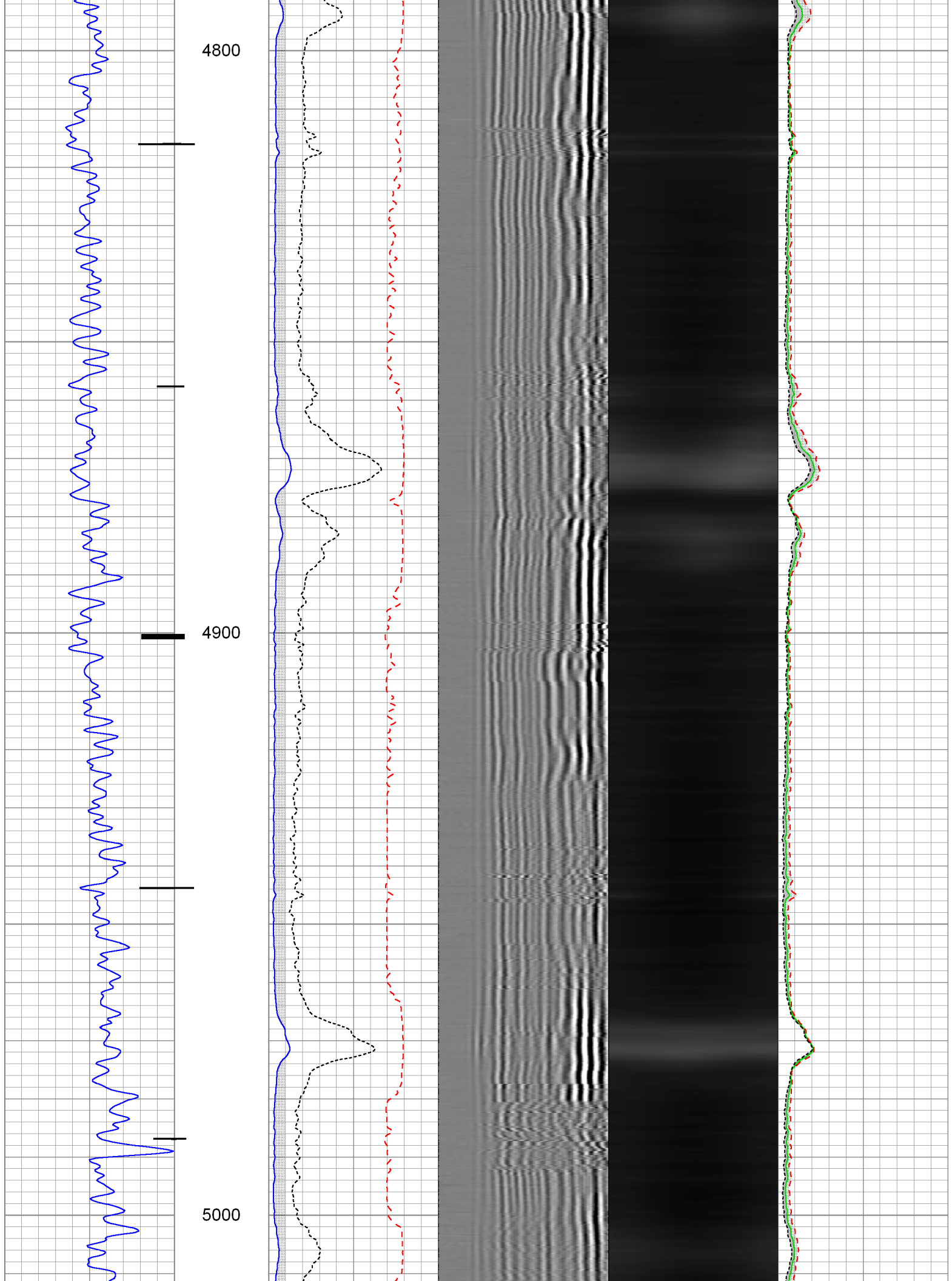


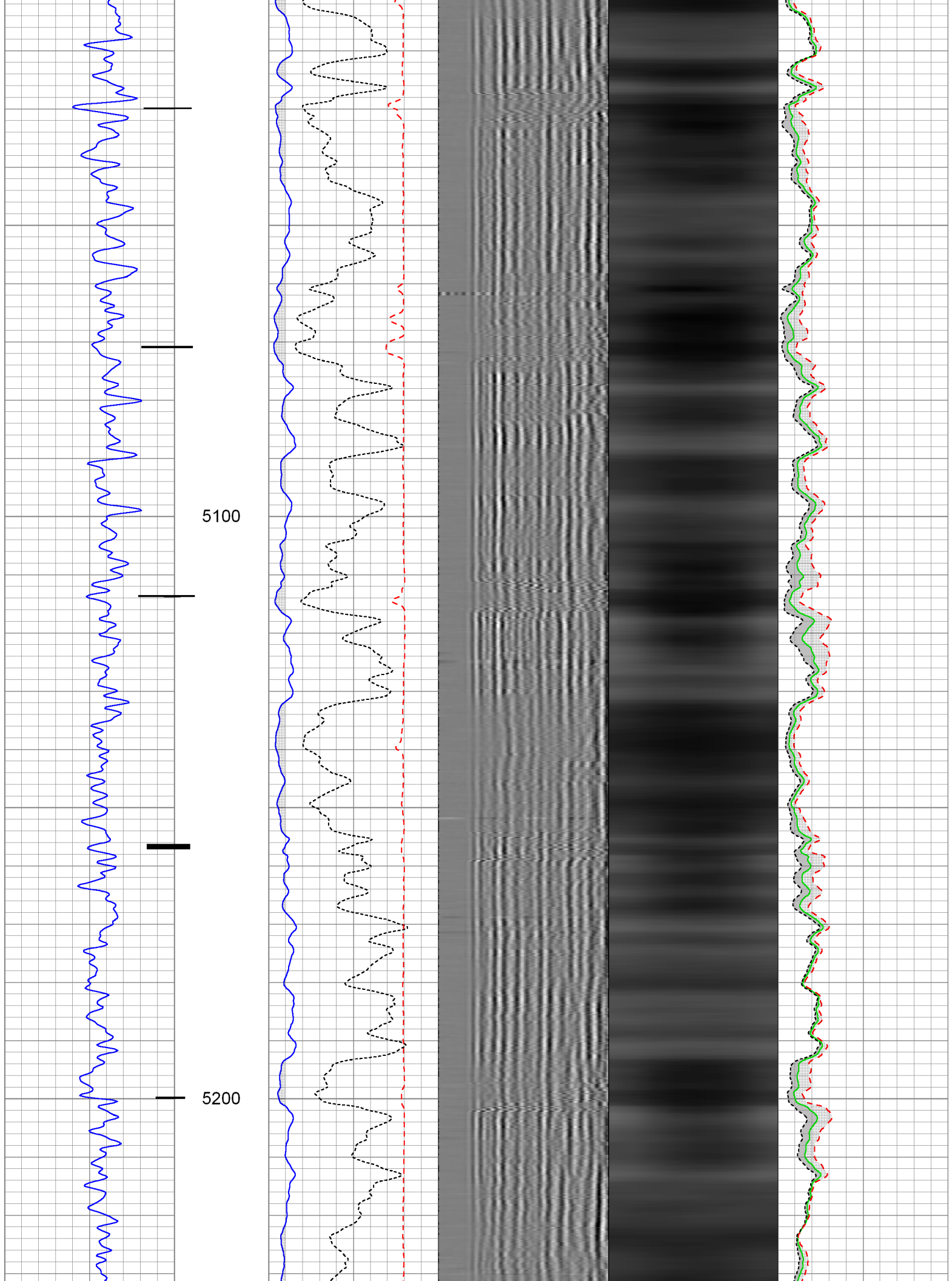


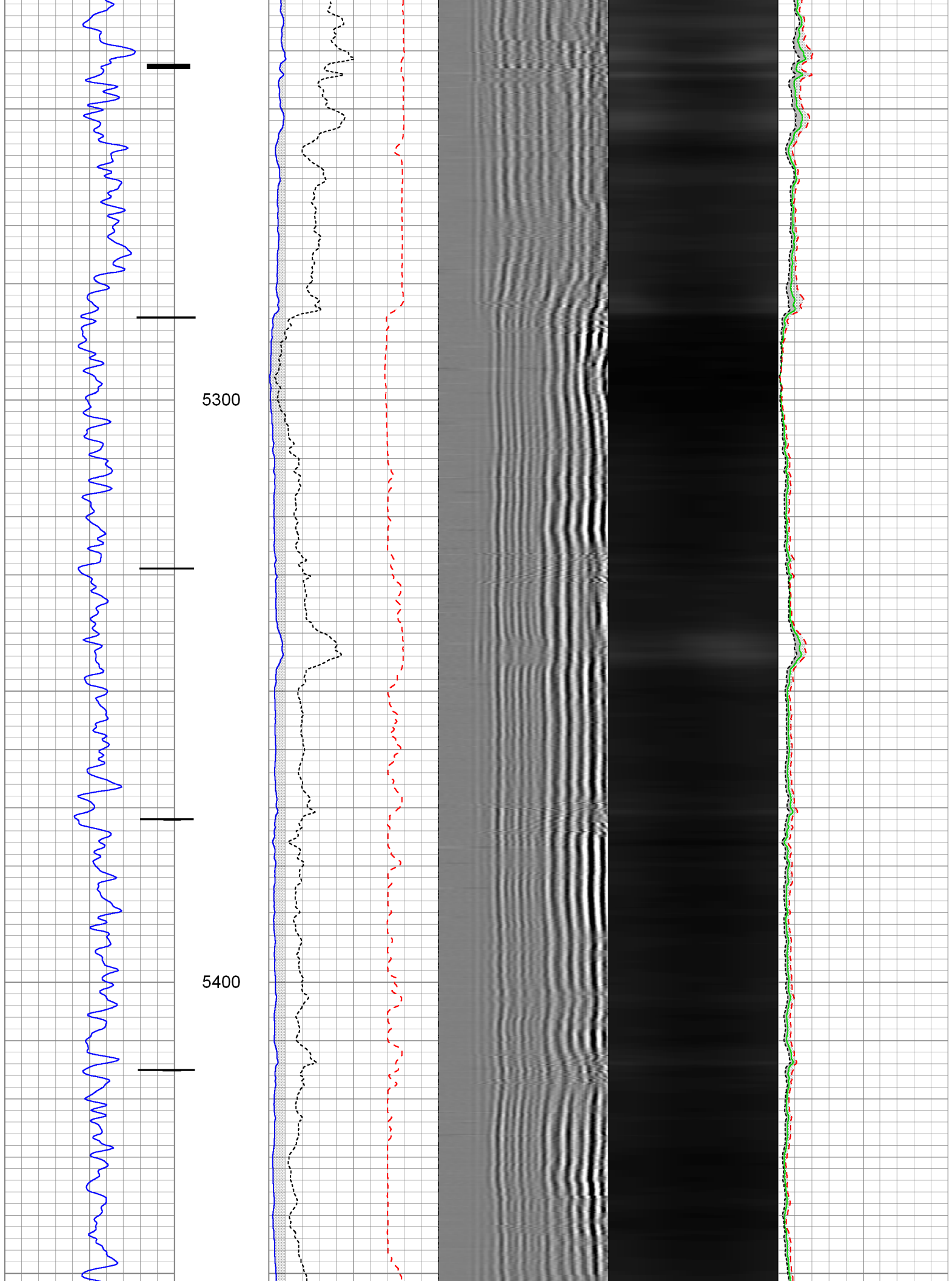


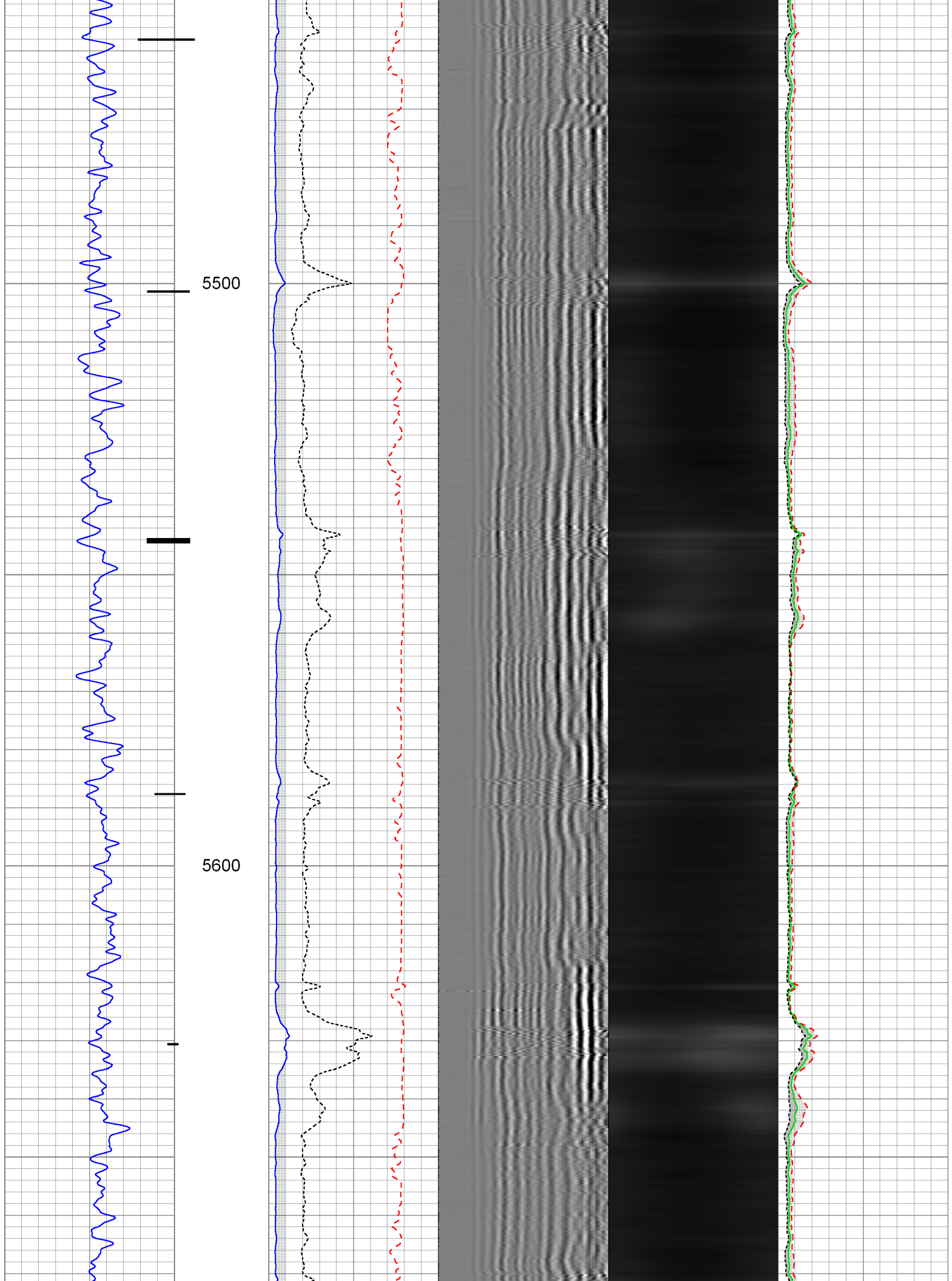


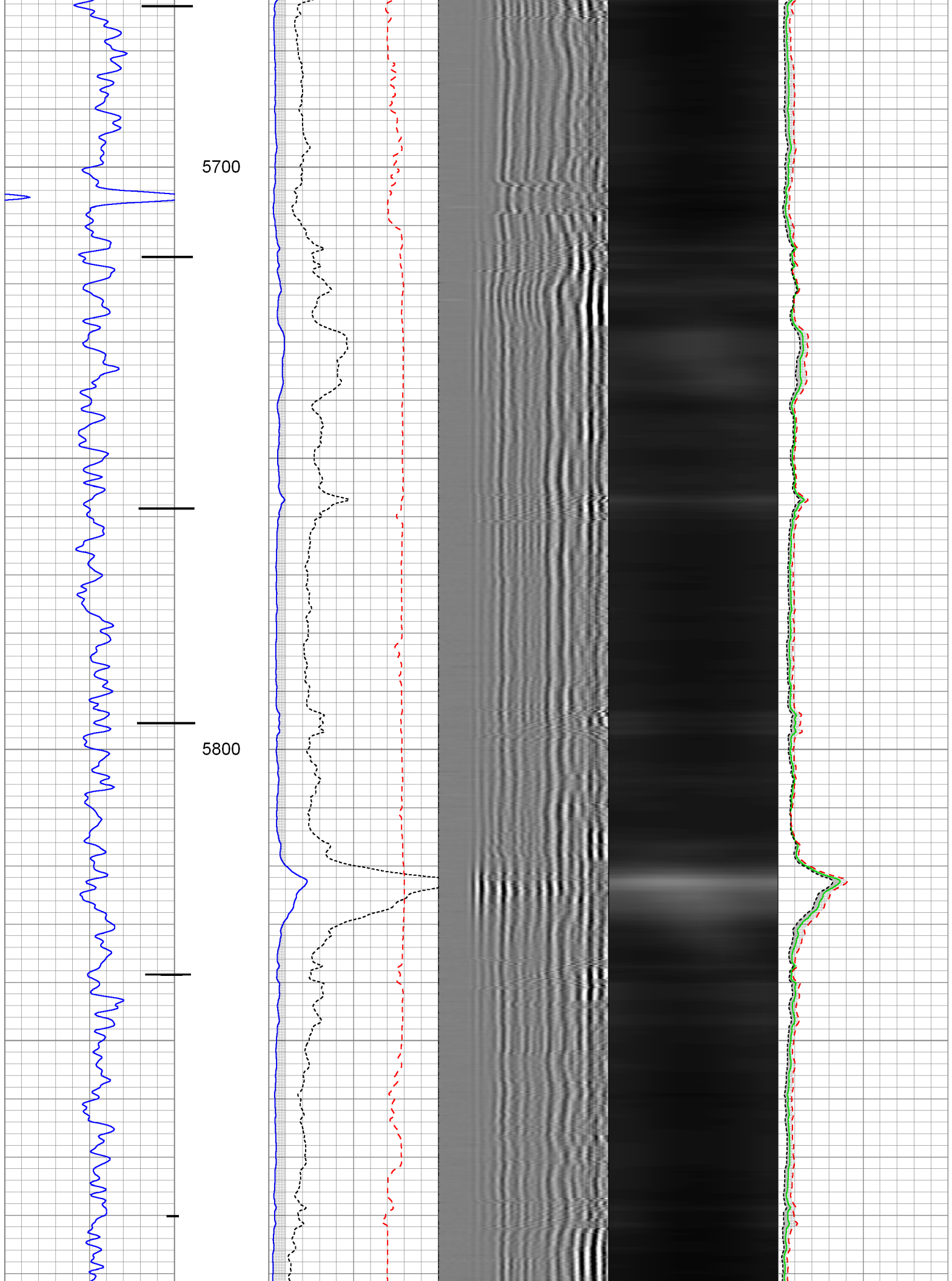


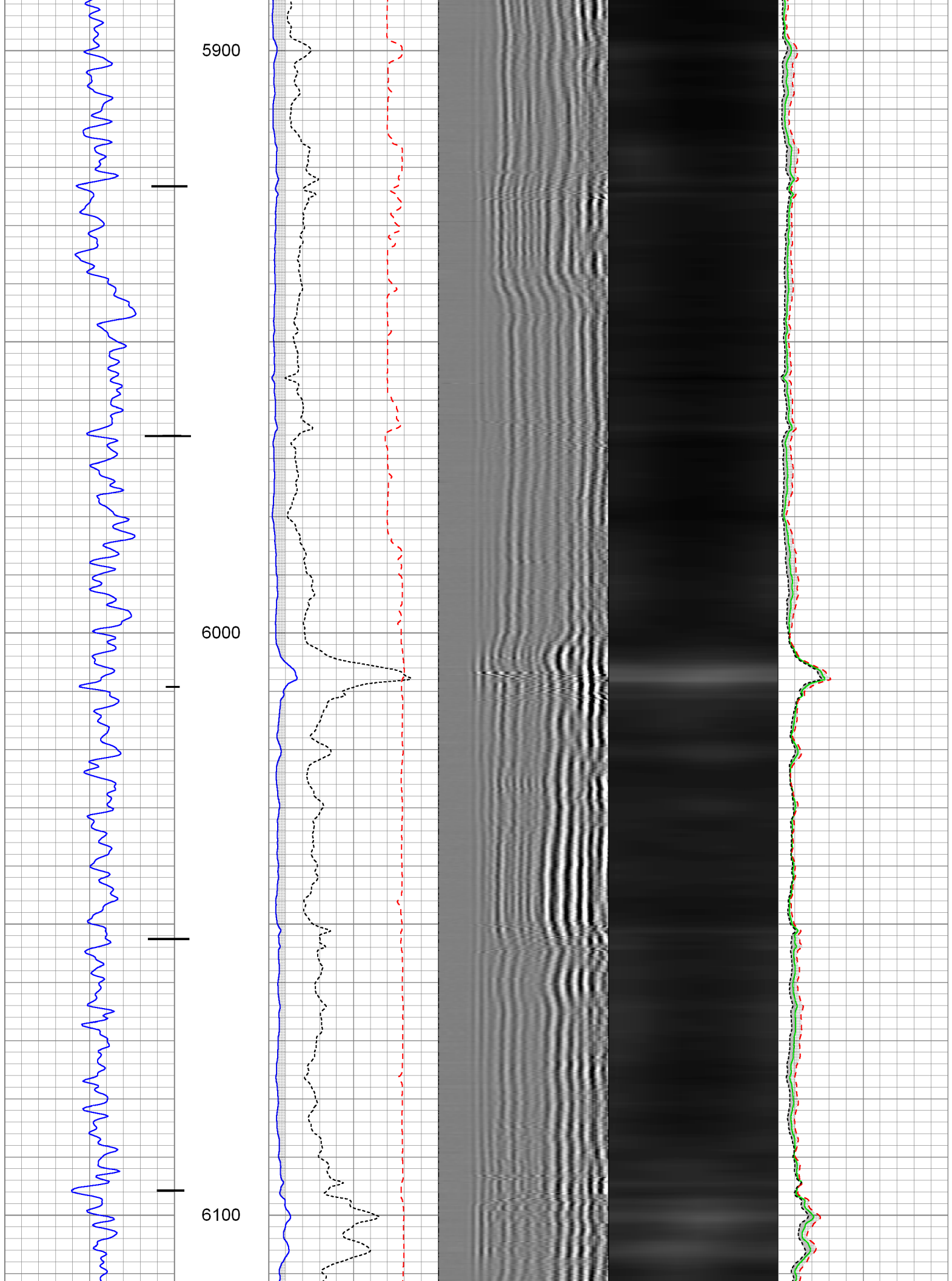


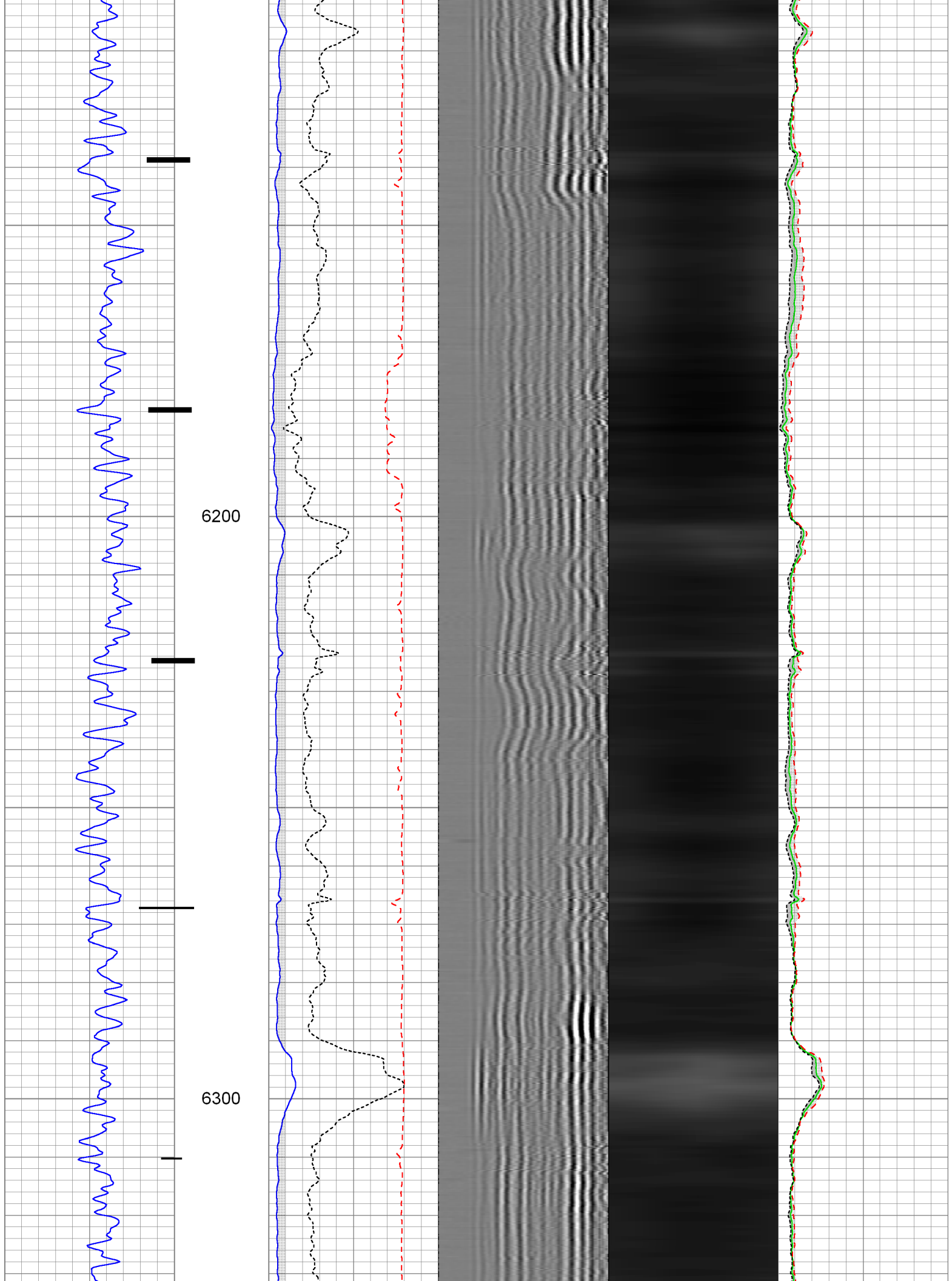


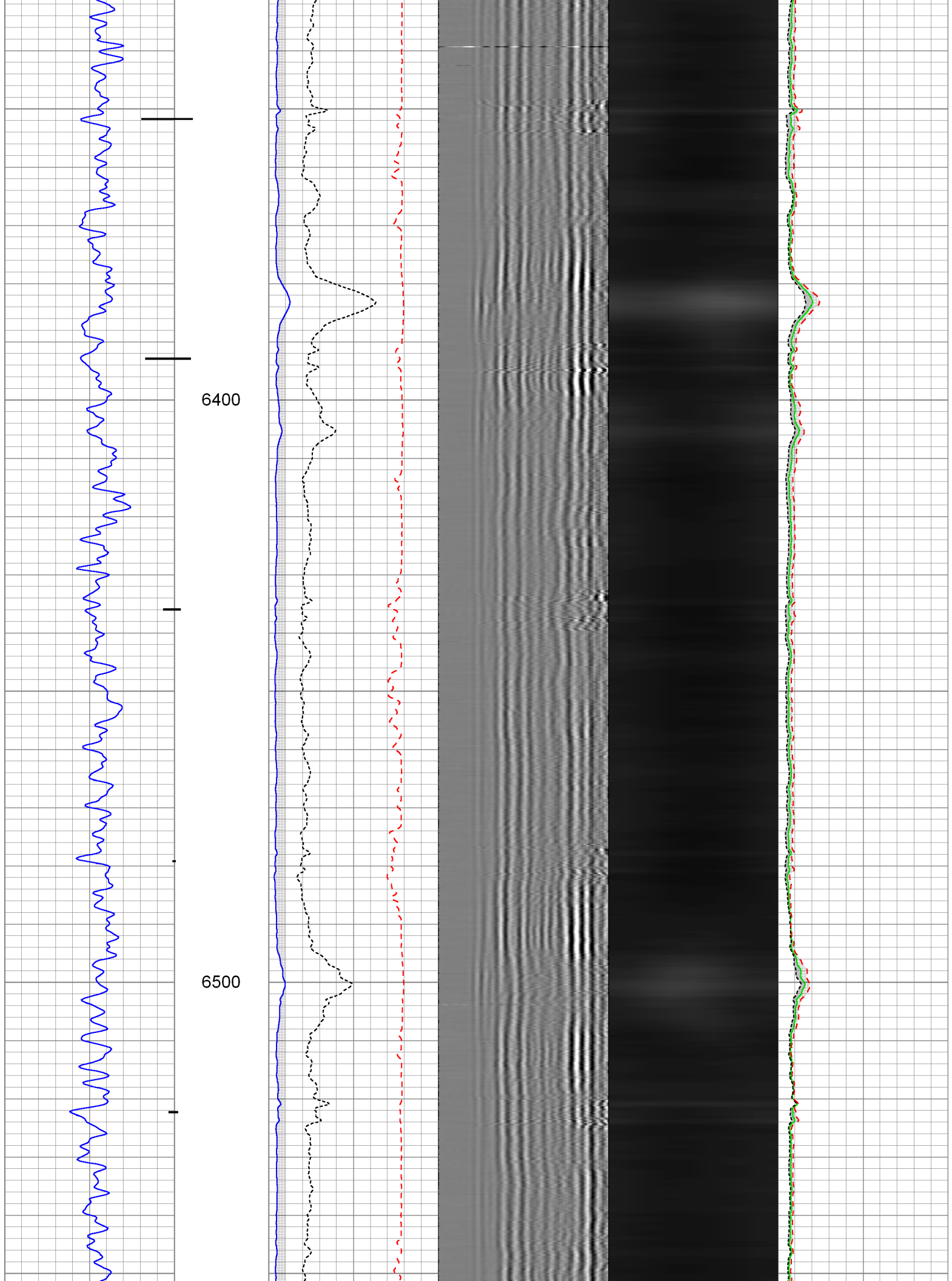


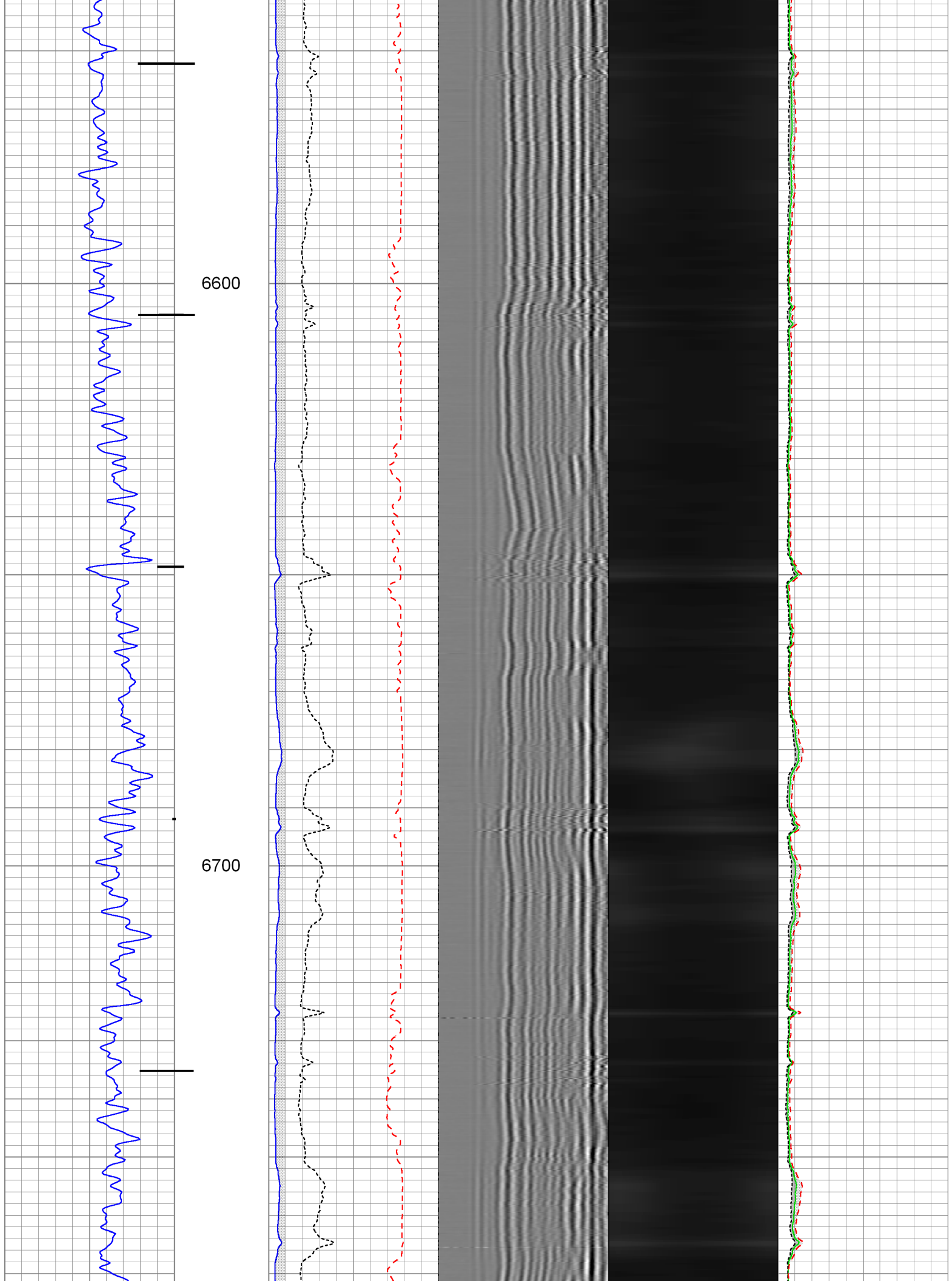


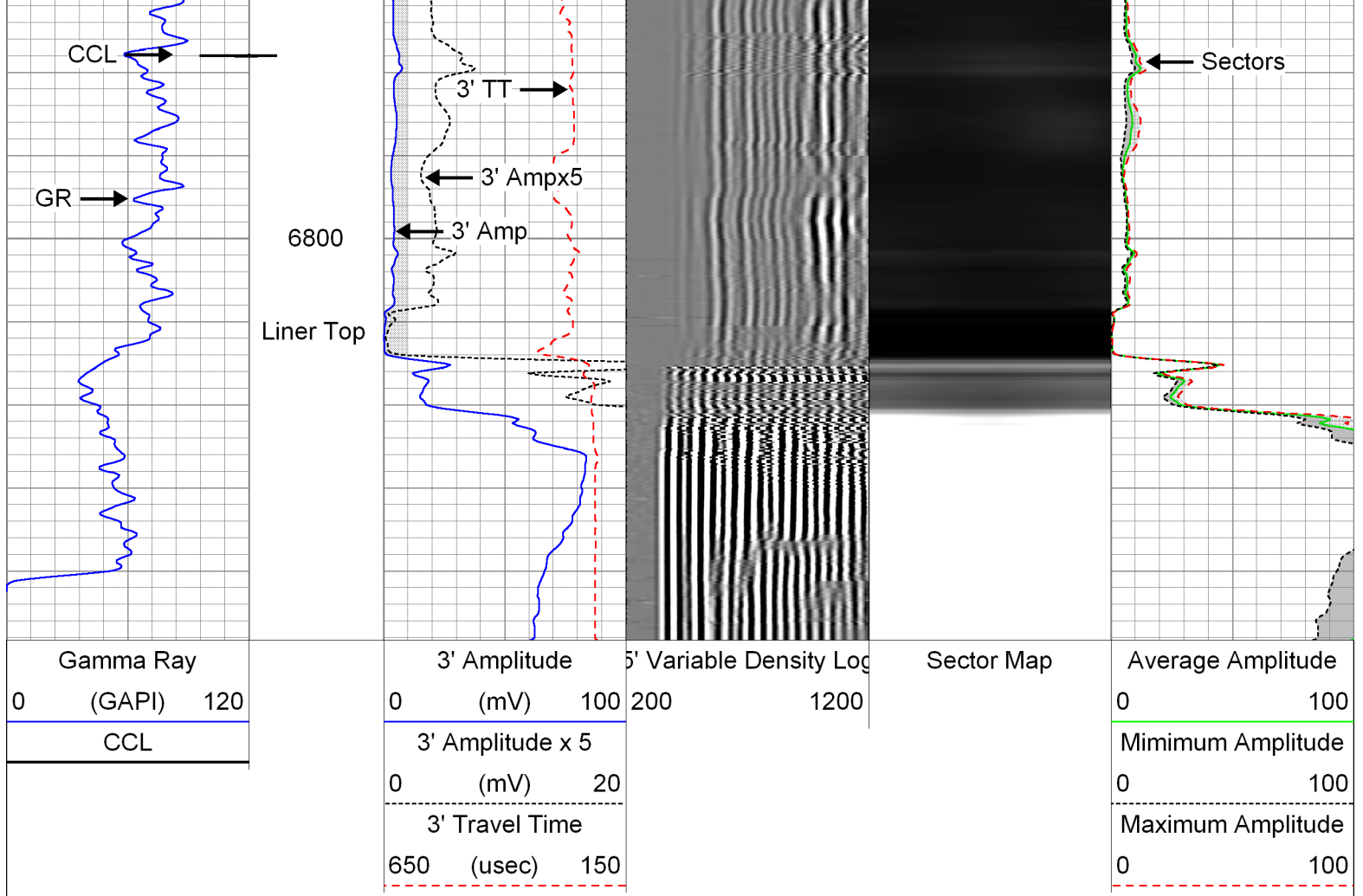










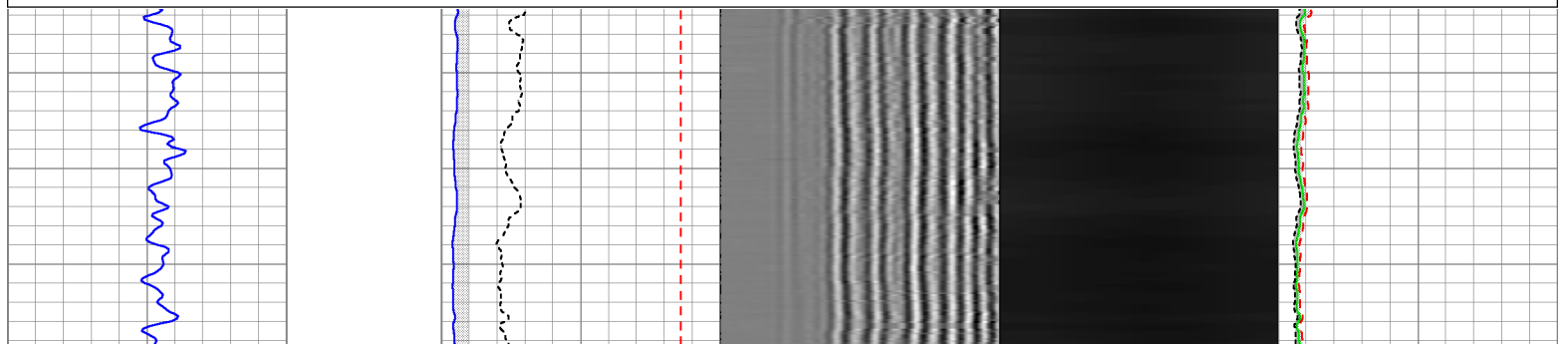


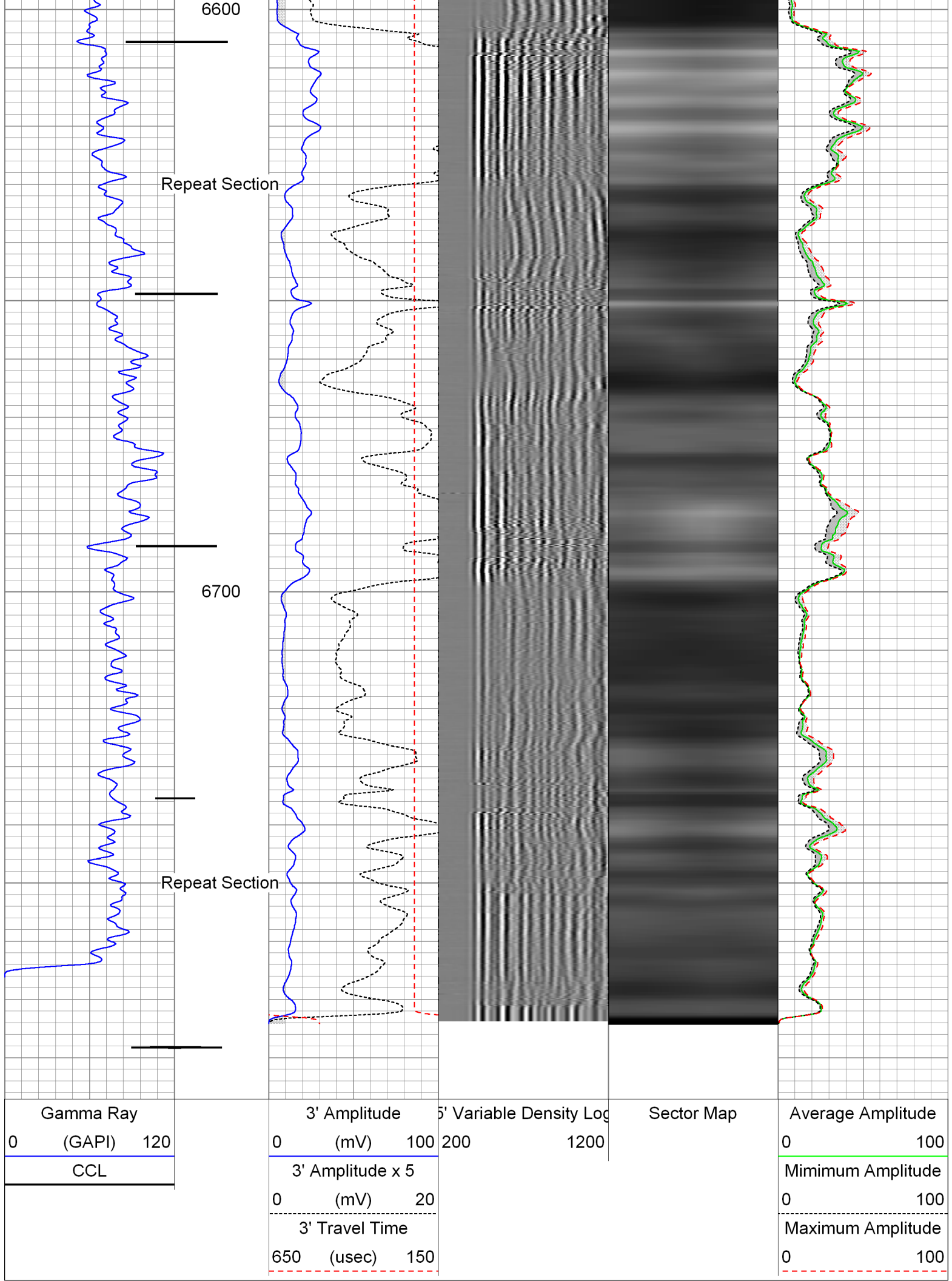
Repeat Pass

Logged with 0 PSI Surface Induced Pressure

Database File: 0512339096_anadarko_nrc 27n-8hz_05-21-14_mit_rbl.db
 Dataset Pathname: Repeat
 Presentation Format: rbt004
 Dataset Creation: Wed May 21 09:56:26 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
CCL	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100





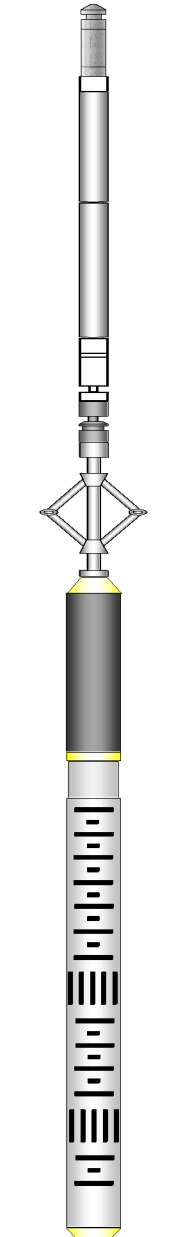
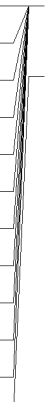
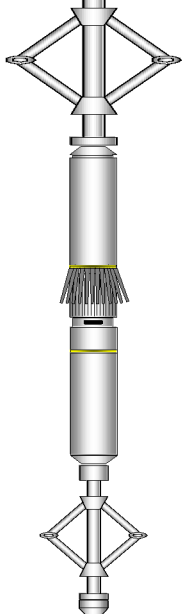
Gamma Ray
0 (GAPI) 120
CCL

3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
650 (usec) 150

5' Variable Density Log
200 1200

Sector Map

Average Amplitude
0 100
Minimum Amplitude
0 100
Maximum Amplitude
0 100

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	22.59		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 (219135) 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_PSJ-PSJ_008 (10018474) Sondex 1-11/16" Ultrawire Swivel Joint	0.91	1.69	9.00
			UW_PKJ-PKJ_013 (10018069) Sondex 1-11/16" Ultrawire Knuckle Joint	0.57	1.69	3.50
			UW_PRC #4 -UW_PRC_001 (219457) Sondex 1-11/16" 3-Arm Production Roller Centraliser	1.92	1.69	7.00
WV3FT	14.36		UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	14.36					
WVFS2	14.36					
WVFS3	14.36					
WVFS4	14.36					
WVFS5	14.36					
WVFS6	14.36					
WVFS7	14.36					
WVFS8	14.36					
CBLTEMP	14.36					
CBLROT	14.36					
WV5FT	13.36					
MIT	4.35		UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
			UW_MIT-UW_MIT40_042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #3 -UW_PRC_001 (219086) Sondex 1-11/16" 3-Arm Production Roller Centraliser	1.92	1.69	7.00
TSTAMP	0.00		UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20

Dataset: 0512339096_Anadarko_NRC 27N-8HZ_05-21-14_MIT_RBL.db: field/well/run1/Main
 Total Length: 26.84 ft
 Total Weight: 281.80 lb

Calibration Report

Database File: 0512339096_anadarko_nrc 27n-8hz_05-21-14_mit_rbl.db
 Dataset Pathname: Main
 Dataset Creation: Wed May 21 10:13:20 2014 by Log SCH 111116

Multi-finger Imaging Tool Calibration Report

Serial Number: 10014703
 Number of Fingers: 40
 Tool Model: UW_MIT40_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: Wed May 21 09:10:08 2014

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1103	349.0	1452	386.0	1838	390.0	2228
Finger 02:	1053	355.0	1408	402.0	1810	410.0	2220
Finger 03:	1051	350.0	1401	390.0	1791	401.0	2192
Finger 04:	1010	359.0	1369	411.0	1780	422.0	2202
Finger 05:	1046	347.0	1393	385.0	1778	392.0	2170
Finger 06:	1039	360.0	1399	400.0	1799	407.0	2206
Finger 07:	1050	360.0	1410	393.0	1803	401.0	2204
Finger 08:	1010	364.0	1374	407.0	1781	418.0	2199
Finger 09:	1070	370.0	1440	394.0	1834	393.0	2227
Finger 10:	1043	367.0	1410	397.0	1807	401.0	2208
Finger 11:	1016	366.0	1382	398.0	1780	410.0	2190
Finger 12:	1097	368.0	1465	377.0	1842	378.0	2220
Finger 13:	1032	363.0	1395	392.0	1787	413.0	2200
Finger 14:	1018	379.0	1397	408.0	1805	426.0	2231
Finger 15:	992	378.0	1370	408.0	1778	434.0	2212
Finger 16:	1032	372.0	1404	396.0	1800	422.0	2222
Finger 17:	1061	366.0	1427	386.0	1813	406.0	2219
Finger 18:	1089	365.0	1454	383.0	1837	407.0	2244
Finger 19:	1057	373.0	1430	394.0	1824	419.0	2243
Finger 20:	978	371.0	1349	402.0	1751	436.0	2187
Finger 21:	1065	362.0	1427	386.0	1813	419.0	2232
Finger 22:	1047	368.0	1415	393.0	1808	426.0	2234
Finger 23:	1159	346.0	1505	364.0	1869	393.0	2262
Finger 24:	1065	368.0	1433	396.0	1829	428.0	2257
Finger 25:	1068	361.0	1429	392.0	1821	430.0	2251
Finger 26:	1098	359.0	1457	384.0	1841	413.0	2254
Finger 27:	1114	347.0	1461	378.0	1839	414.0	2253
Finger 28:	1075	355.0	1430	391.0	1821	426.0	2247
Finger 29:	1054	358.0	1412	401.0	1813	438.0	2251
Finger 30:	1047	353.0	1400	399.0	1799	434.0	2233
Finger 31:	1108	348.0	1456	383.0	1839	408.0	2247
Finger 32:	1052	349.0	1401	393.0	1794	425.0	2219
Finger 33:	1065	351.0	1410	385.0	1811	422.0	2222

Finger 33:	1065	351.0	1416	395.0	1811	422.0	2233
Finger 34:	1057	352.0	1409	401.0	1810	427.0	2237
Finger 35:	1116	340.0	1456	379.0	1835	399.0	2234
Finger 36:	1046	347.0	1393	396.0	1789	418.0	2207
Finger 37:	1157	336.0	1493	370.0	1863	386.0	2249
Finger 38:	1110	341.0	1451	381.0	1832	397.0	2229
Finger 39:	1062	347.0	1409	394.0	1803	411.0	2214
Finger 40:	996	357.0	1353	414.0	1767	431.0	2198

Segmented Cement Bond Log Calibration Report

Serial Number:	10013454
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	474.019 ft

Master Calibration, performed Wed May 21 09:25:50 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.001	0.698	0.000	62.165	88.845	0.108
5FT	-0.002	0.786	0.000	62.165	78.857	0.193
S1	-0.002	0.713	0.000	100.000	139.812	0.341
S2	-0.005	0.714	0.000	100.000	139.152	0.654
S3	-0.004	0.701	0.000	100.000	141.976	0.520
S4	-0.005	0.690	0.000	100.000	143.992	0.698
S5	-0.003	0.684	0.000	100.000	145.600	0.382
S6	-0.004	0.688	0.000	100.000	144.595	0.558
S7	-0.004	0.689	0.000	100.000	144.383	0.518
S8	-0.003	0.703	0.000	100.000	141.637	0.450

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	Kerr McGee Oil & Gas Onshore LP
Well	NRC 27N-8HZ
Field	Wattenberg
County	Weld
State	Colorado