



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Kerr-McGee Oil & Gas Onshore, L.P.			
Well				USA Fed 02N-36HZ			
Field				Wattenberg			
County				Weld			
State				Colorado			
Location:				API # : 05-123-36886			
Permanent Datum				SHL: 611' FSL 1963' FEL			
Log Measured From				Lat/Long: 40.176359/-104.72286			
Drilling Measured From				SEC 36 TWP 3N RGE 66W			
Ground Level				Elevation			
Kelly Bushing (13 FT)				4,996'			
Kelly Bushing				K.B. 5,009'			
				D.F. 5,008'			
				G.L. 4,996'			
Date				08-Nov-2013			
Run Number				One			
Depth Driller				11,764 FT			
Depth Logger				6,770 FT			
Bottom Logged Interval				6,773 FT			
Top Log Interval				Surface			
Open Hole Size				8,750"			
Type Fluid				Water			
Density / Viscosity				8,34 lbm/gal			
Max. Recorded Temp.				246 F			
Estimated Cement Top				38 FT			
Time Well Ready				ROA			
Time Logger on Bottom				11:00			
Equipment Number				HD-0255			
Location				Fort Lupton, CO			
Recorded By				Brent Kalkwarf			
Witnessed By				Edgar Chavz			
Borehole Record				Tubing Record			
Run Number				Bit			
From				To			
Size				Weight			
From				To			
Casing Record				Size (in)			
Surface Casing				Wgt (lbs/Ft)			
Intermediate #1				Grade			
Intermediate #2				Top			
Liner				Bottom			

<<< 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

Radial Cement Bond Log - Casing Inspection Log is first recorded log in hole.
Log correlated to reported Liner Top @ 6,683'
RCBL-CIL ran at 2200 PSI surface induced pressure.
Estimated Cement Top recorded at 38'

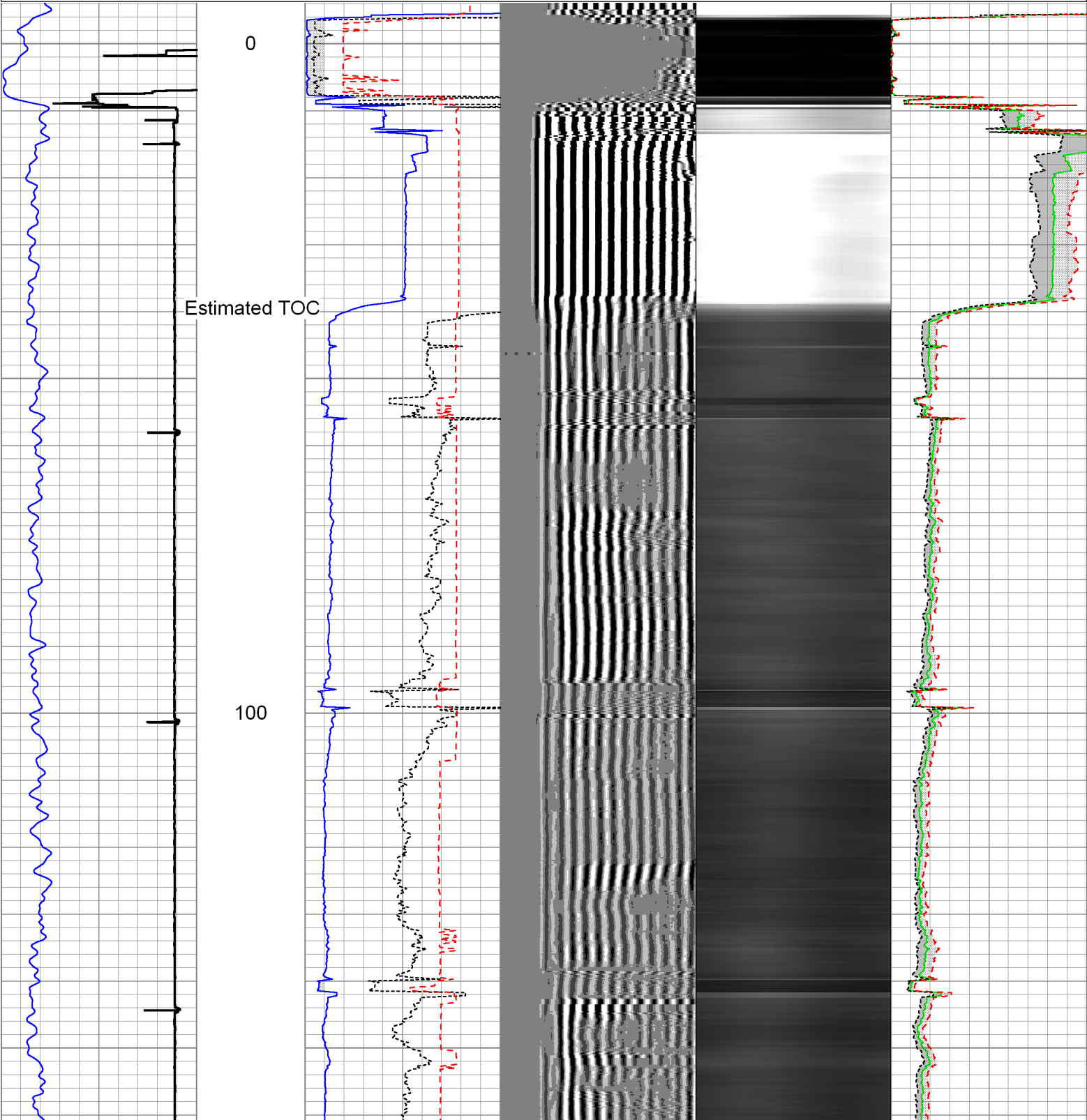
Thank you for choosing FMC Technologies Completion Services, Inc.

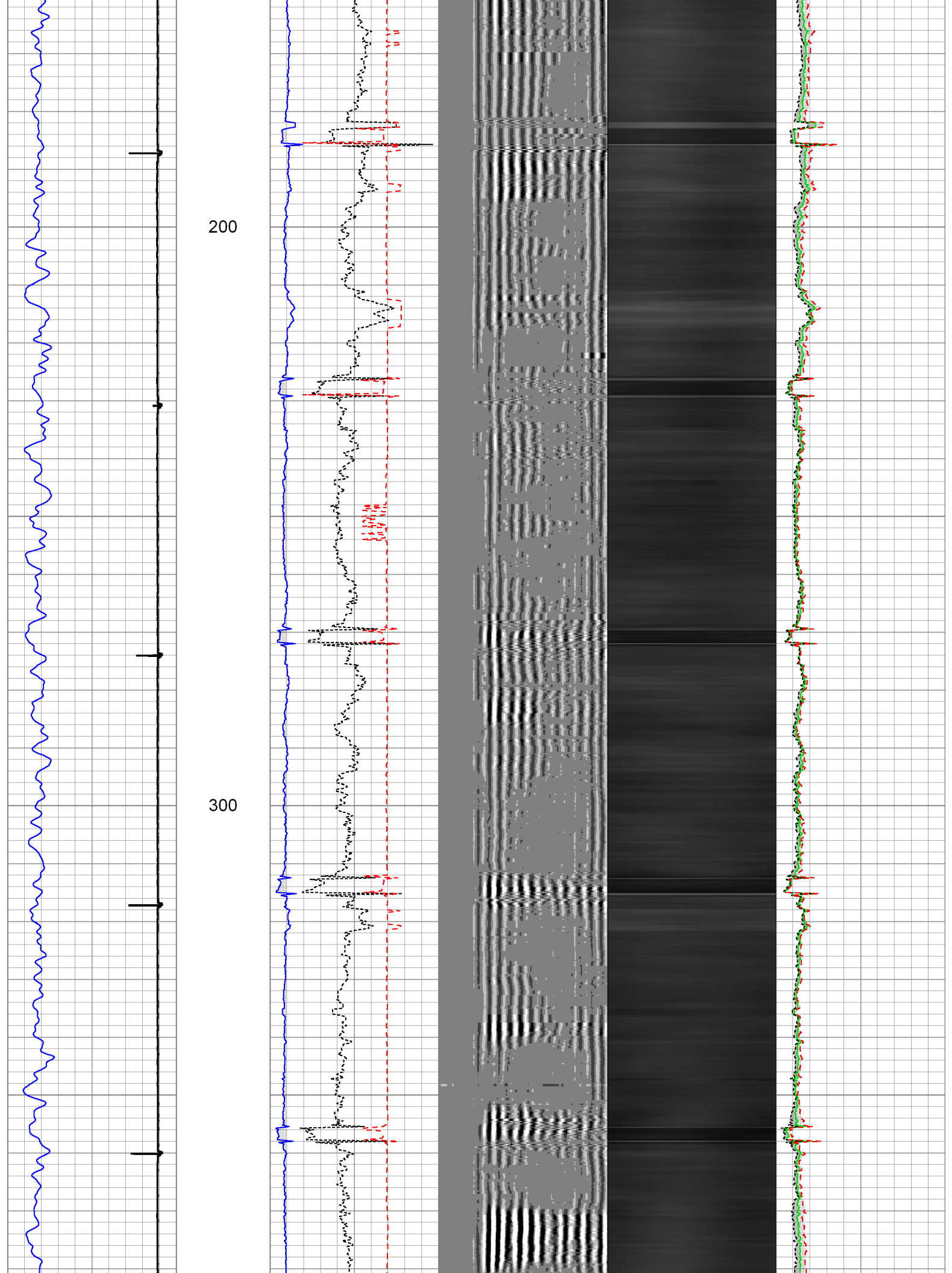
Main Pass

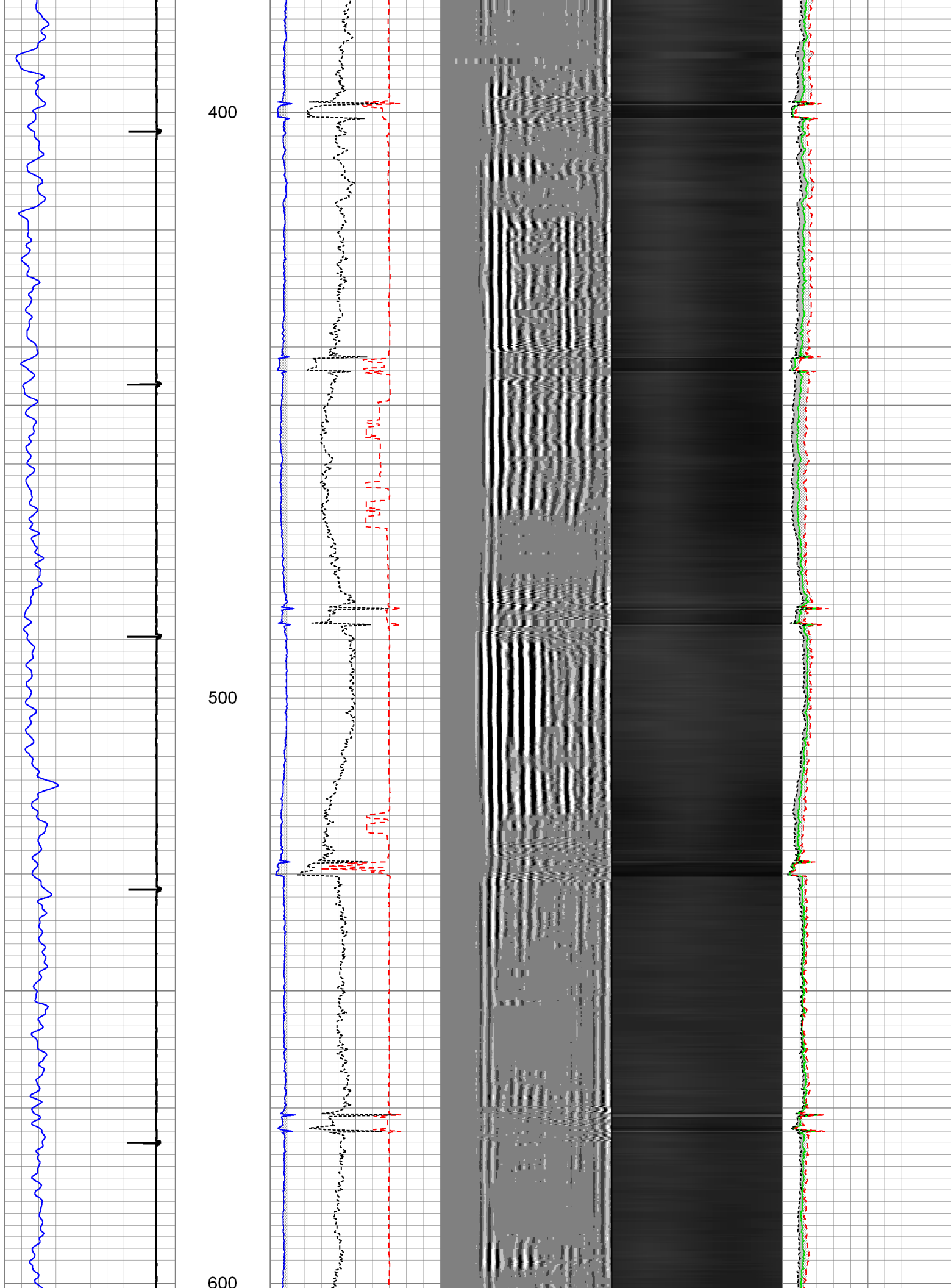


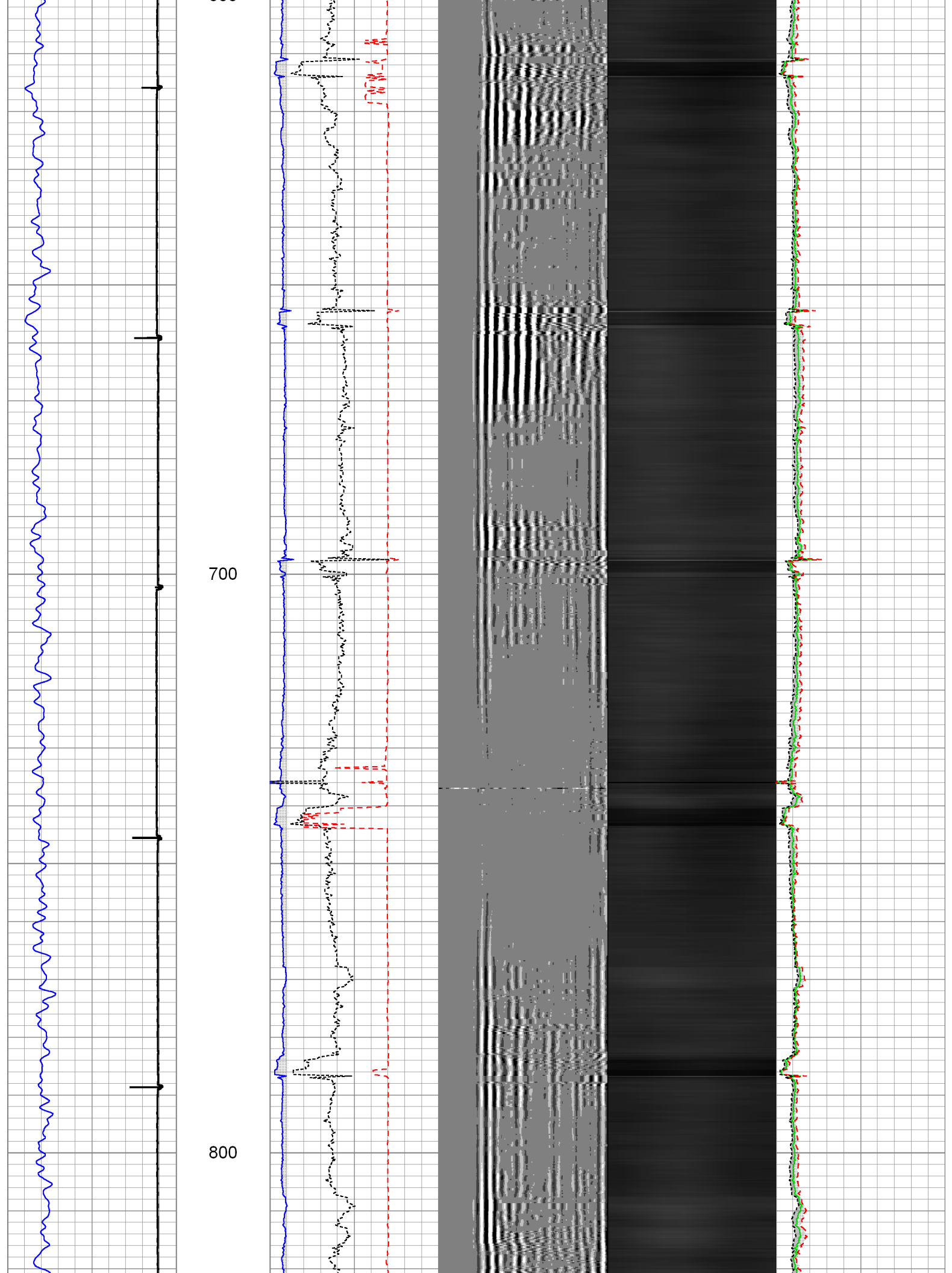
Logged With 2200 PSI Induced Surface Pressure

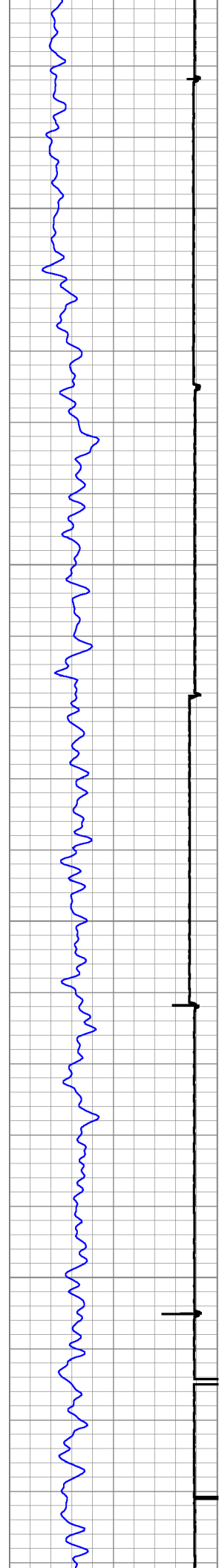
Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200		0 (mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100





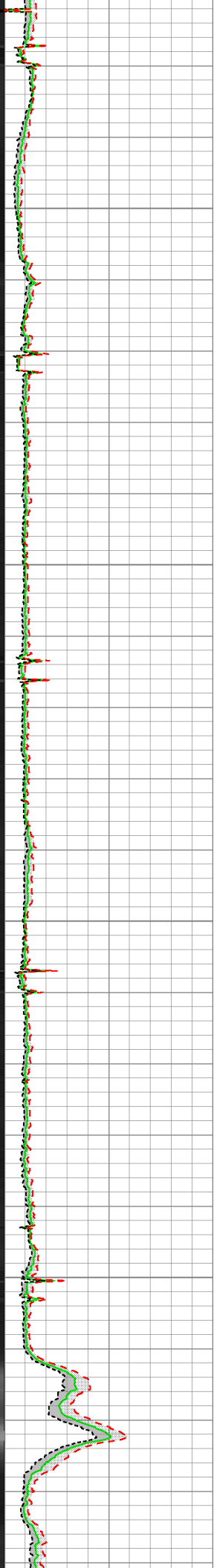
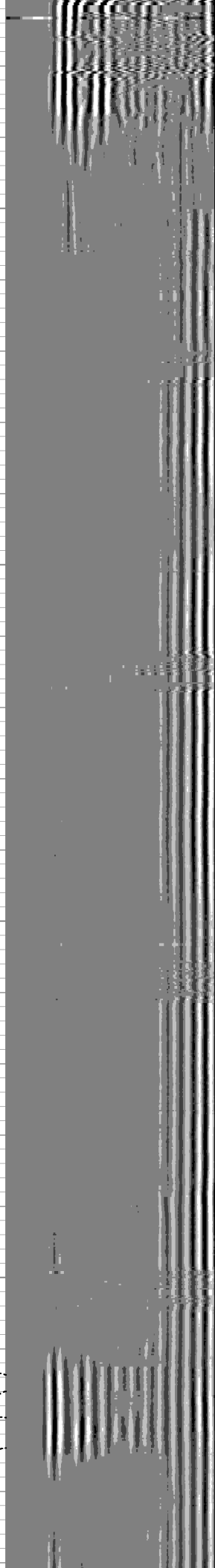
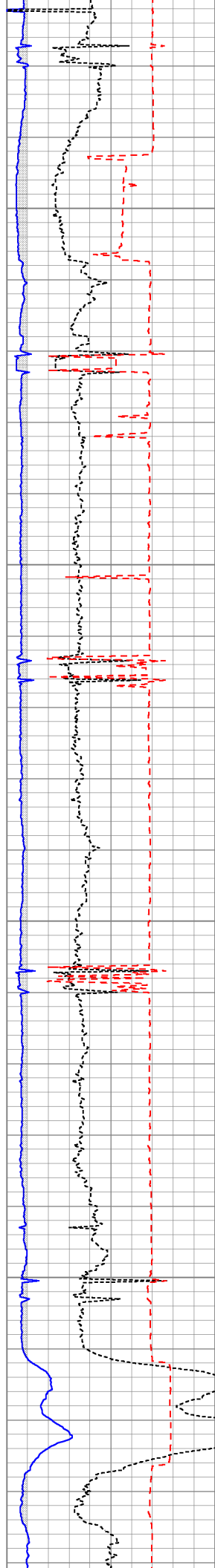






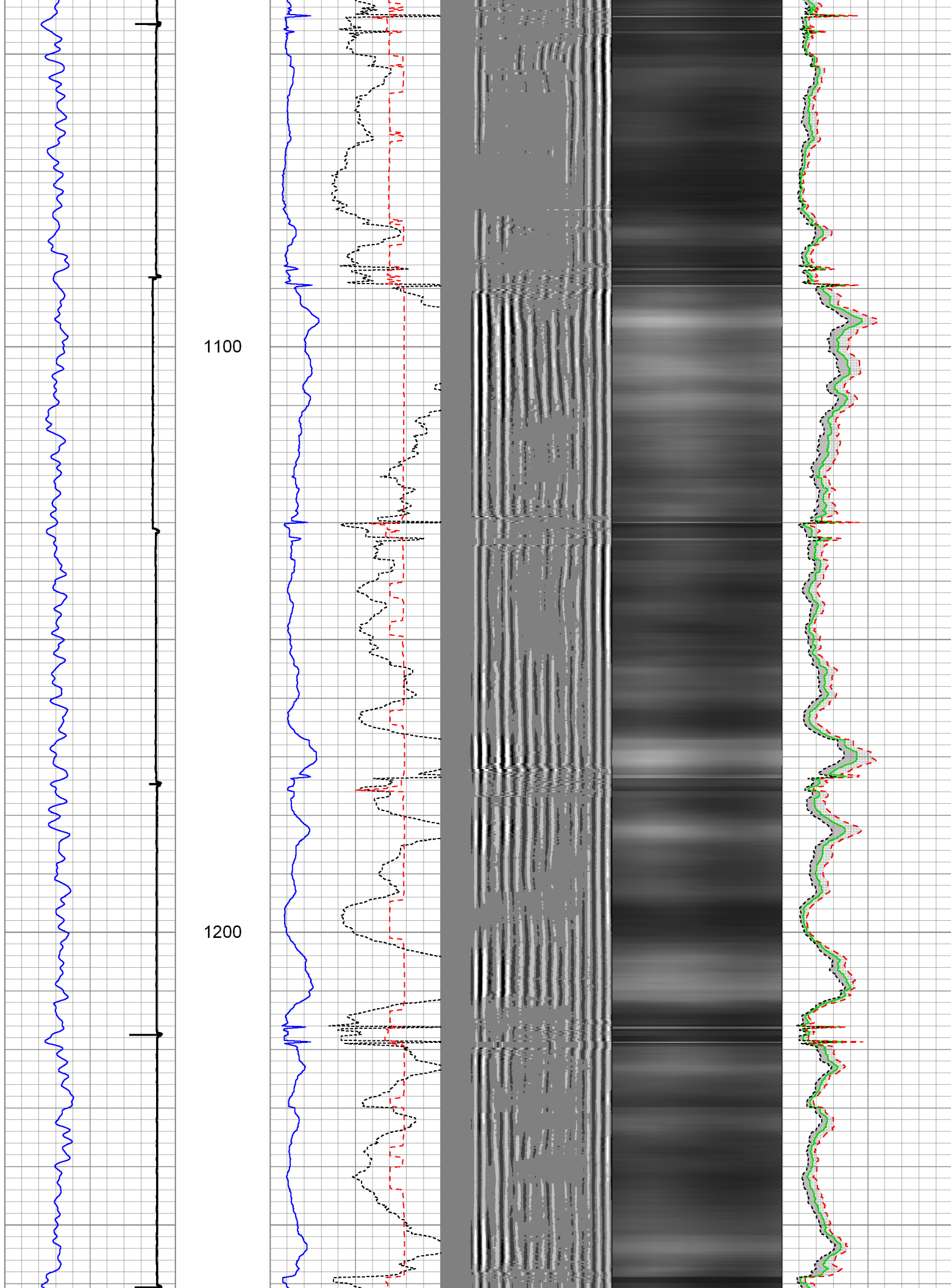
900

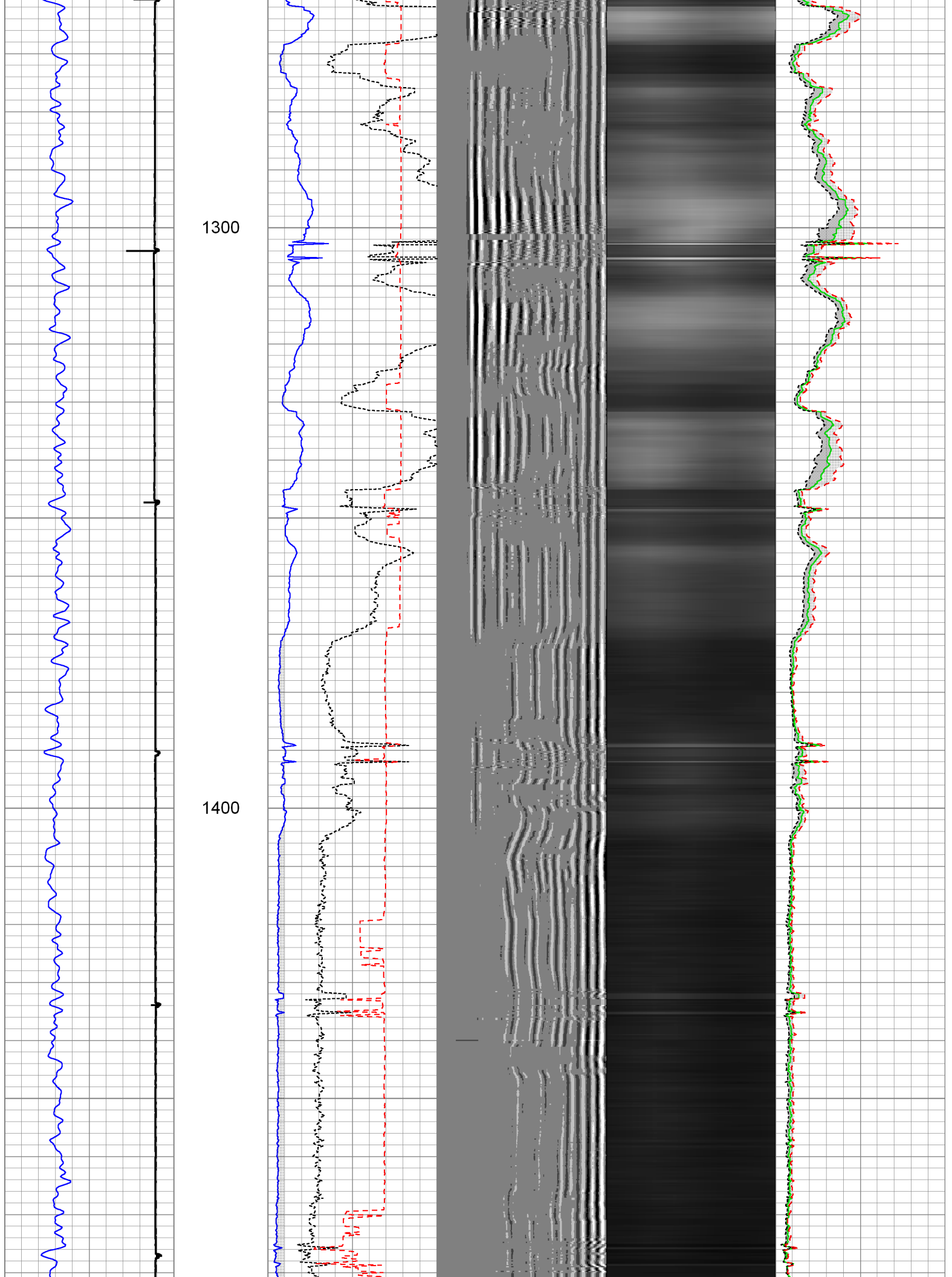
1000

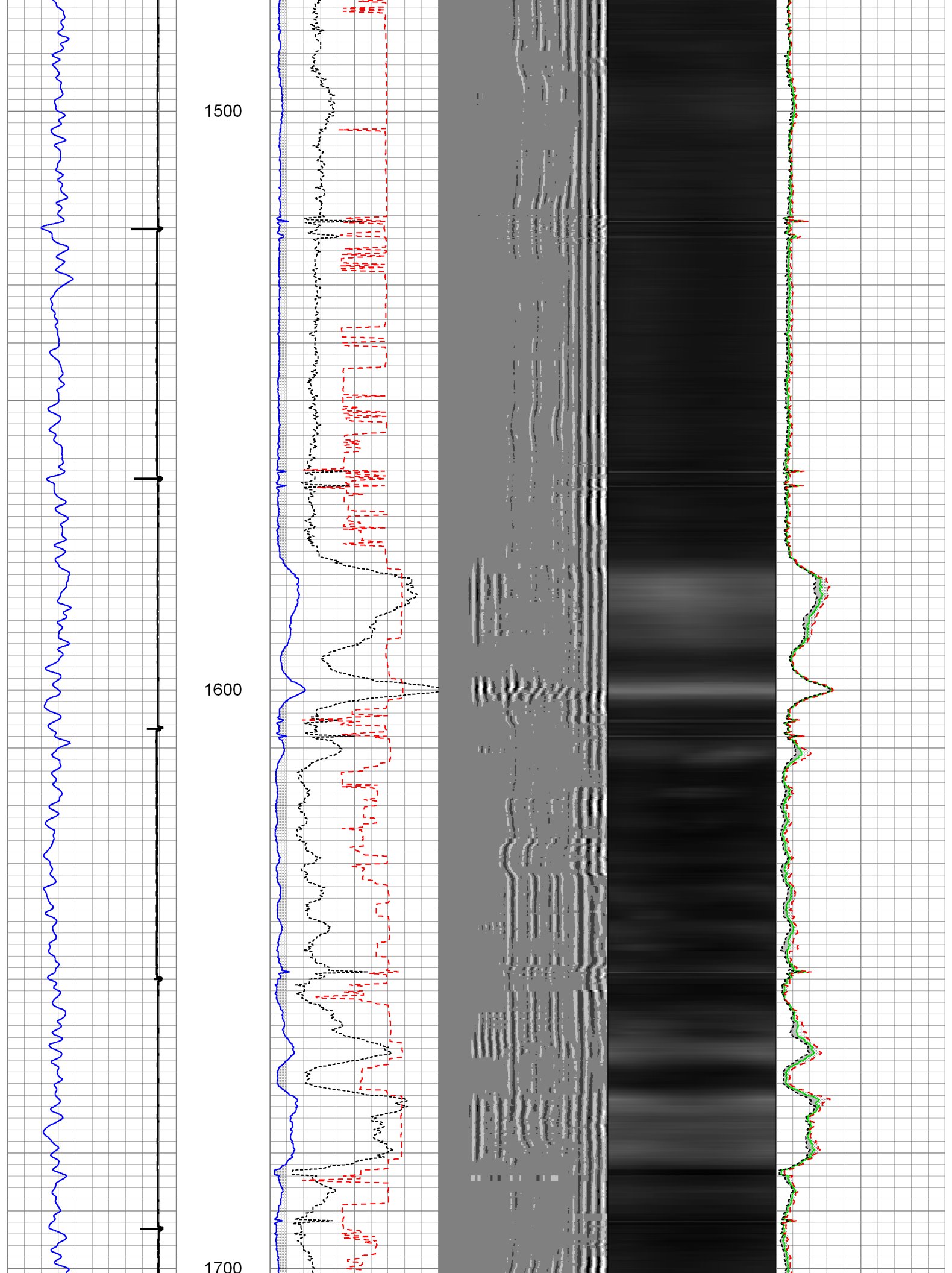


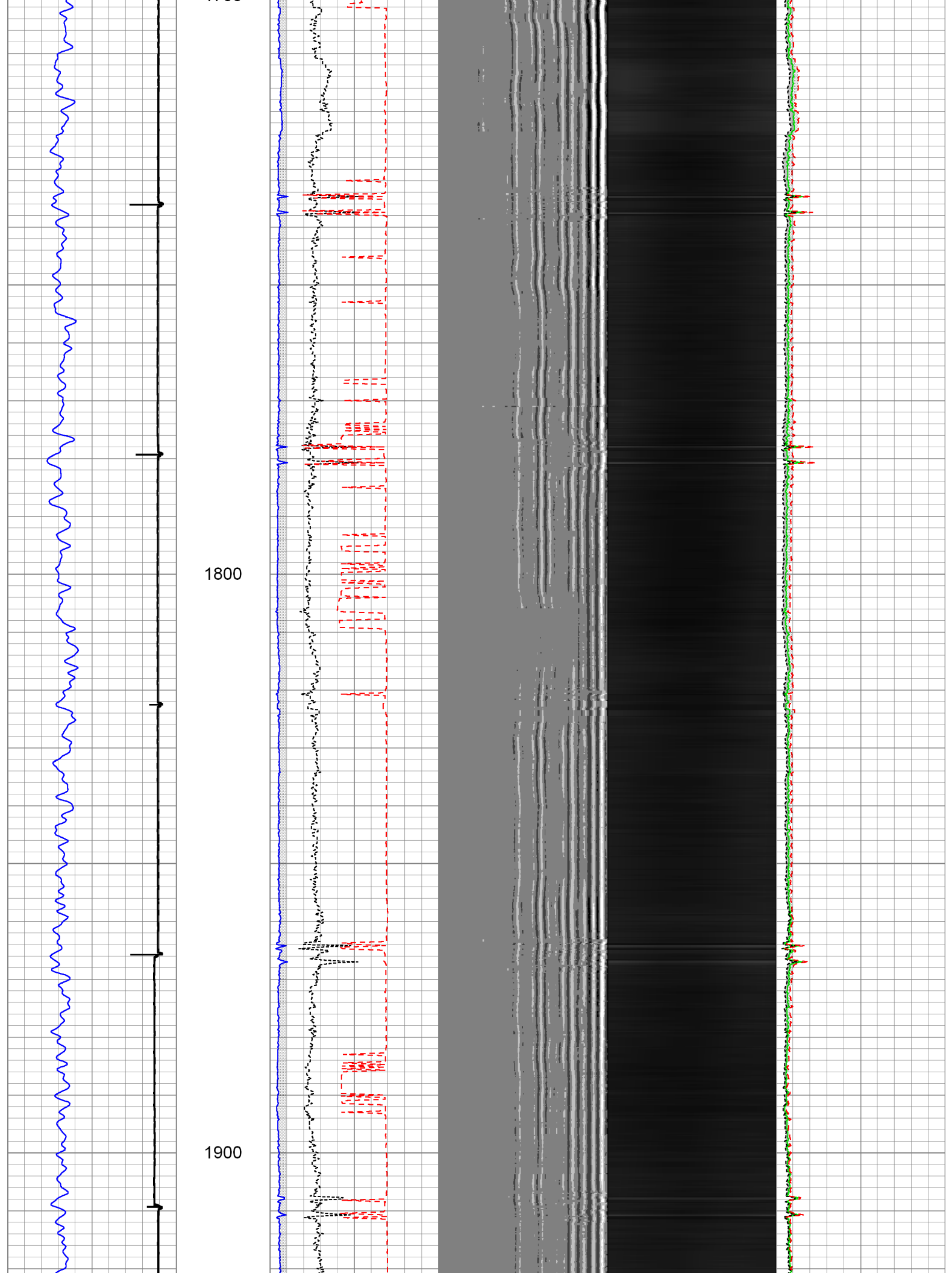
1100

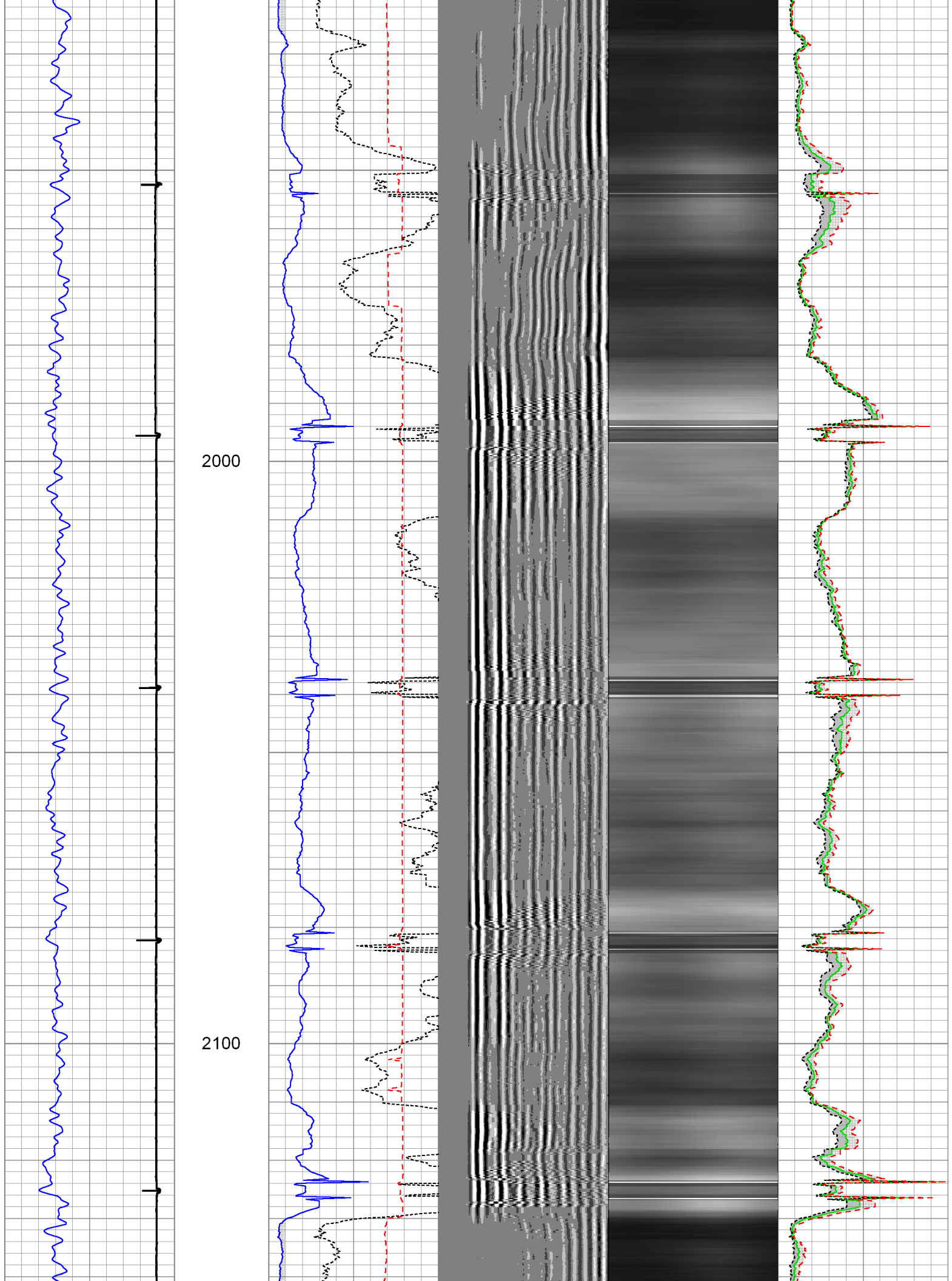
1200





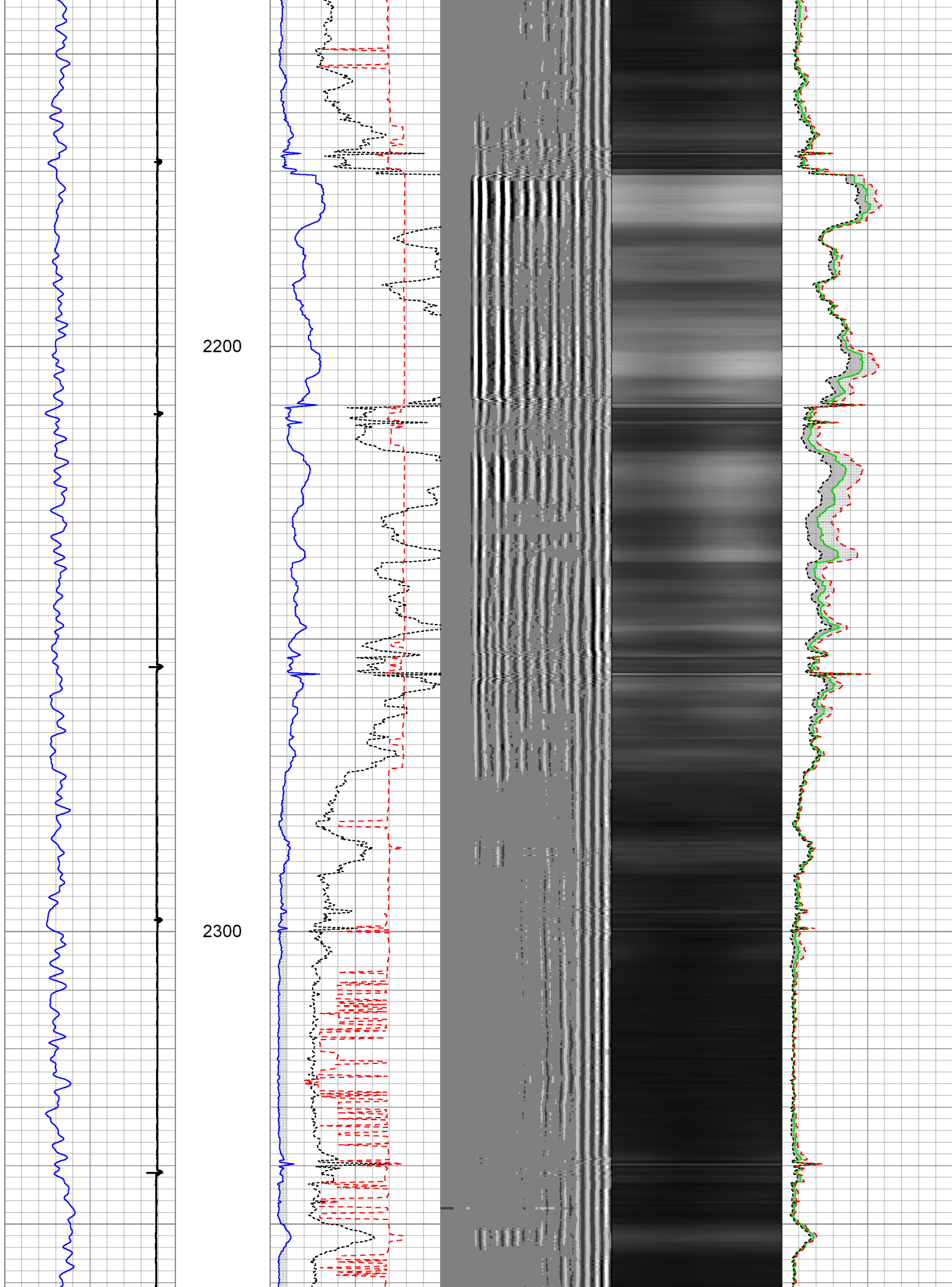






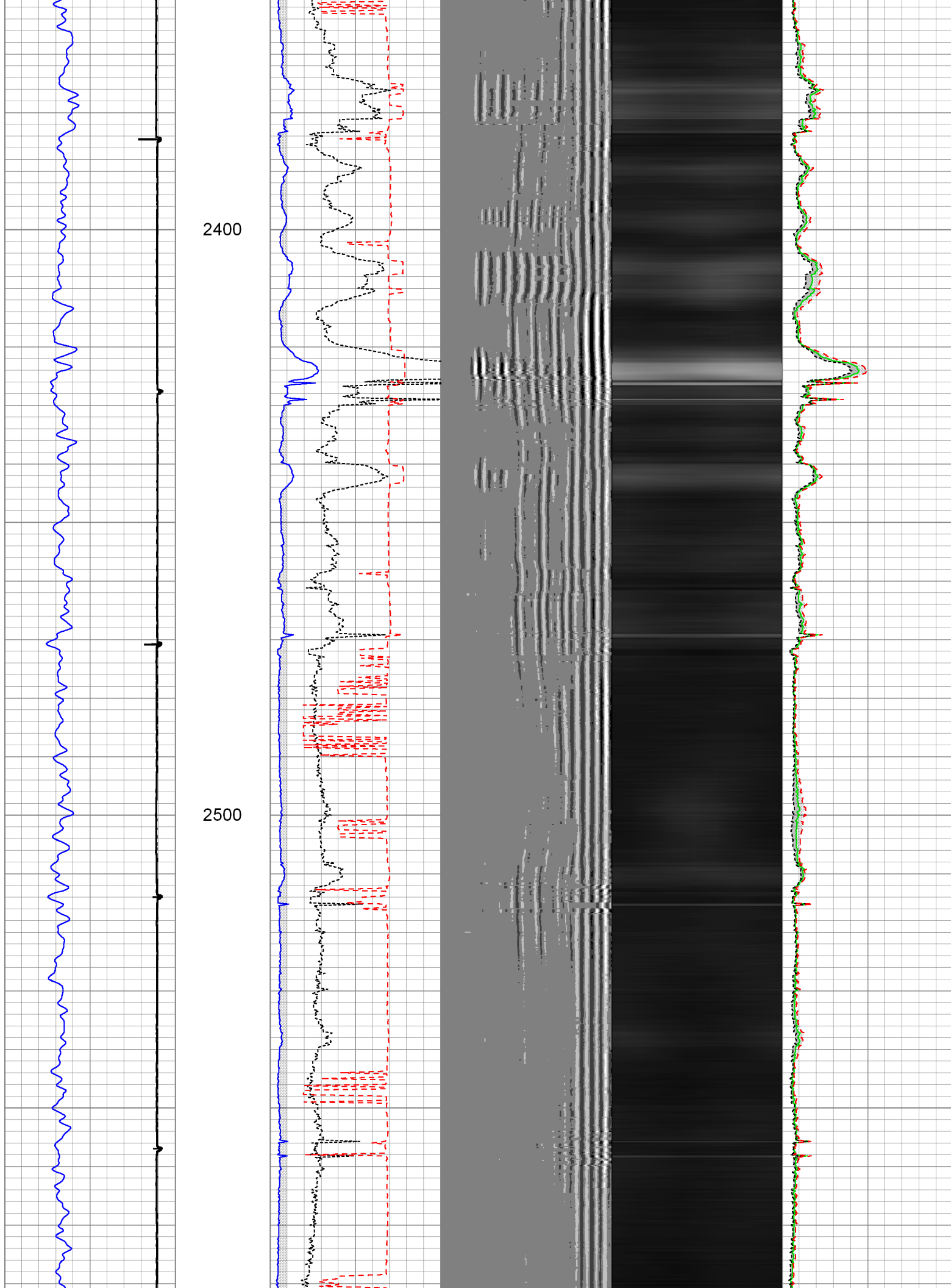
2200

2300



2400

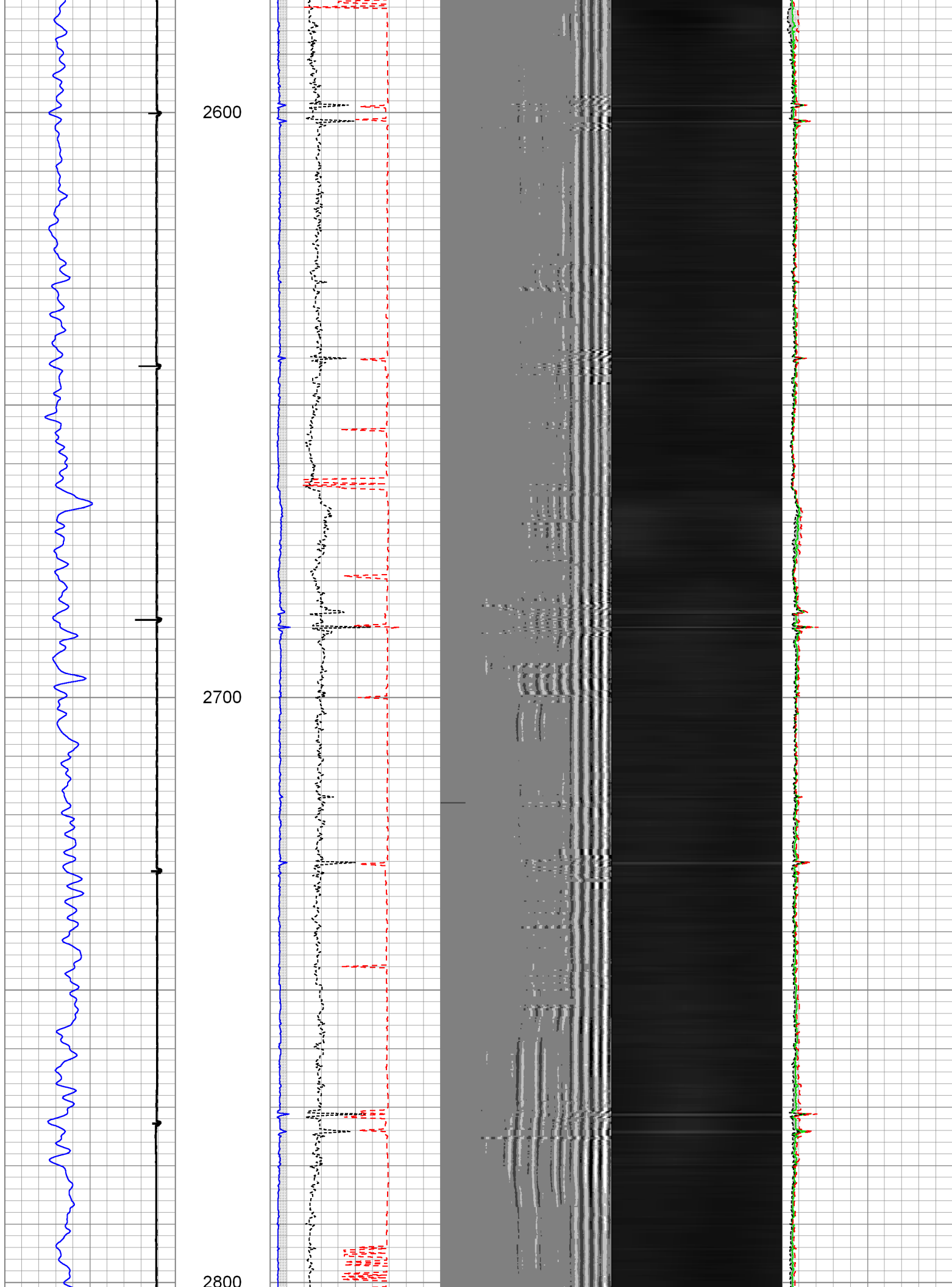
2500



2600

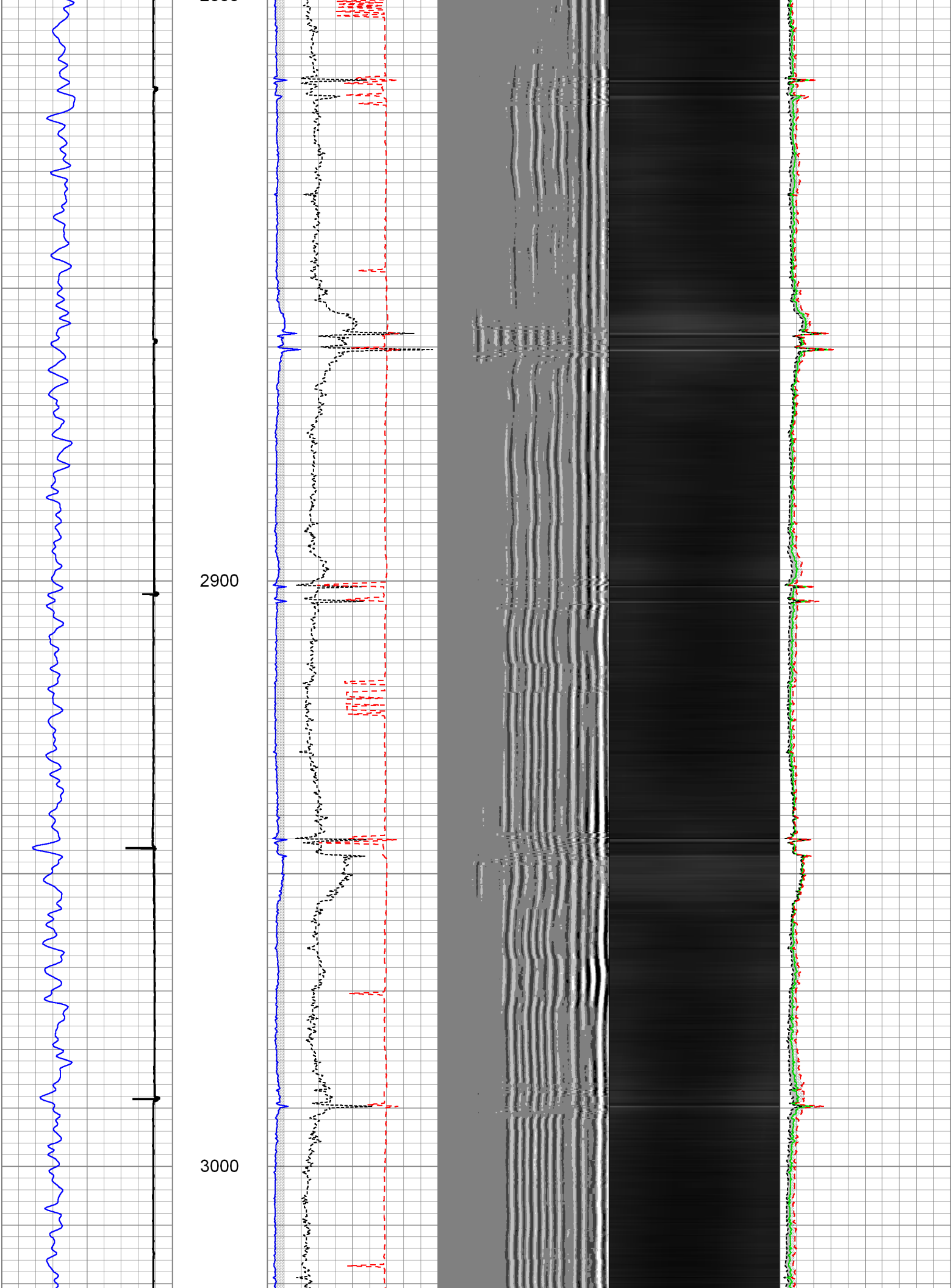
2700

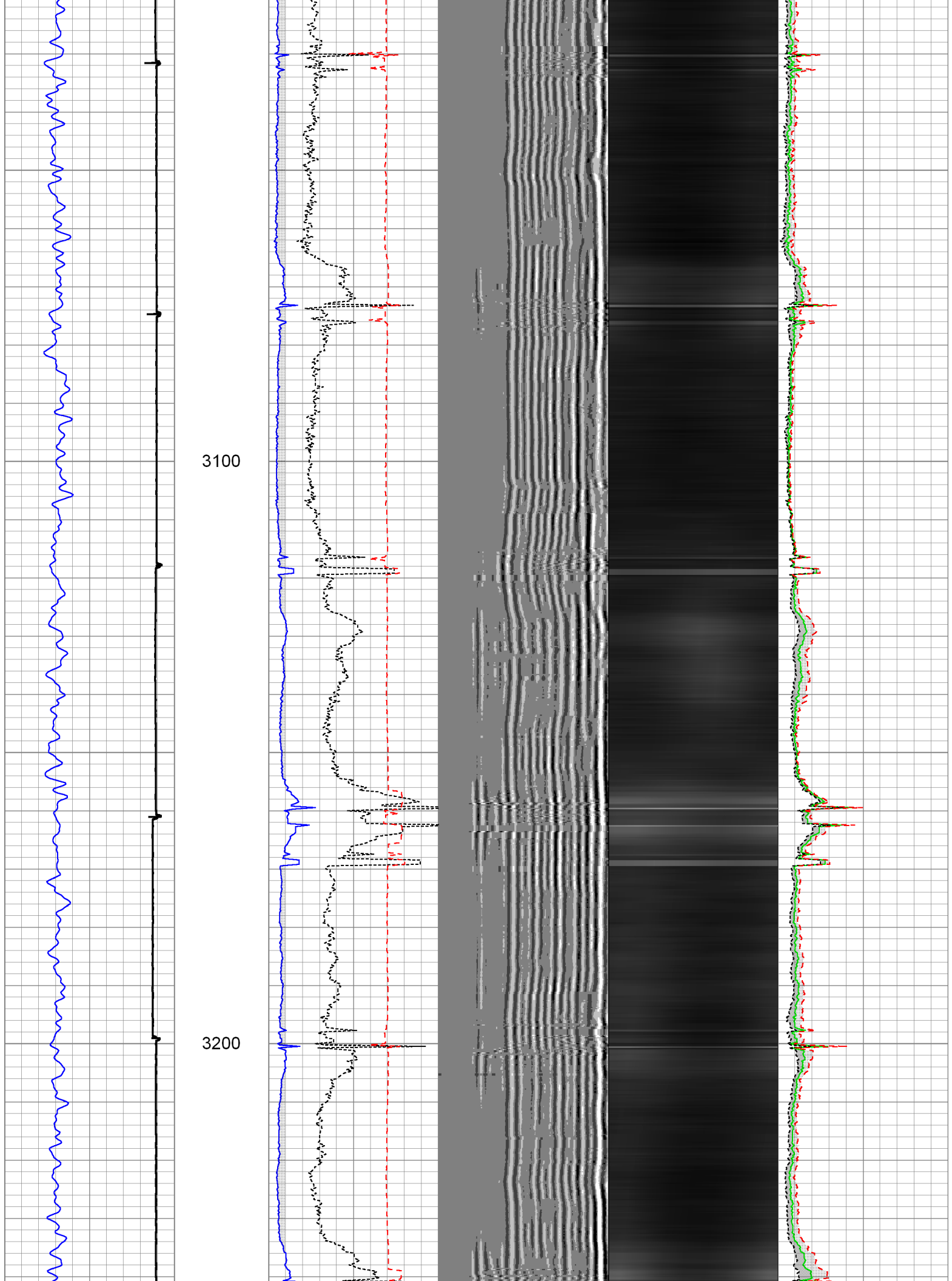
2800



2900

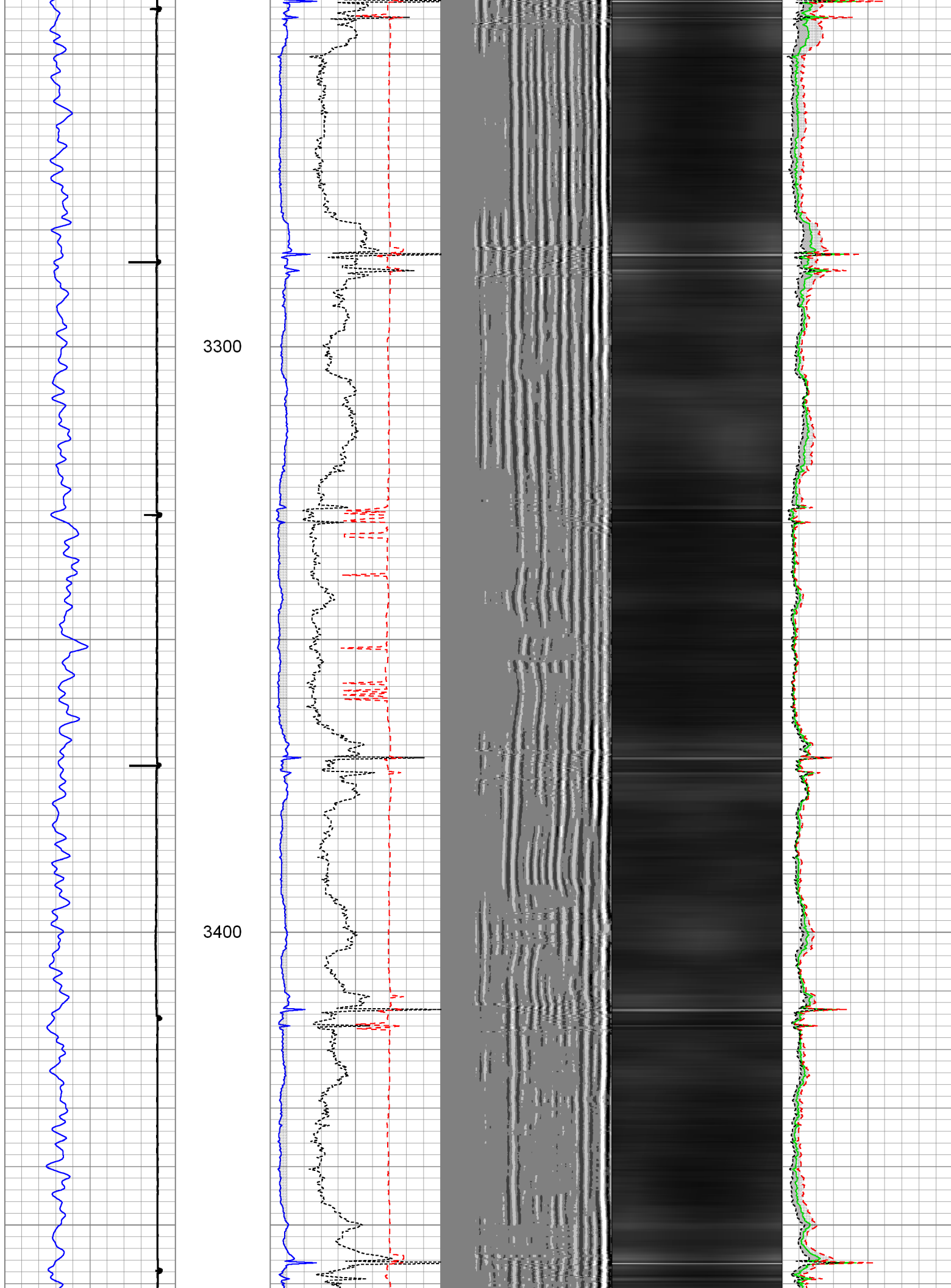
3000

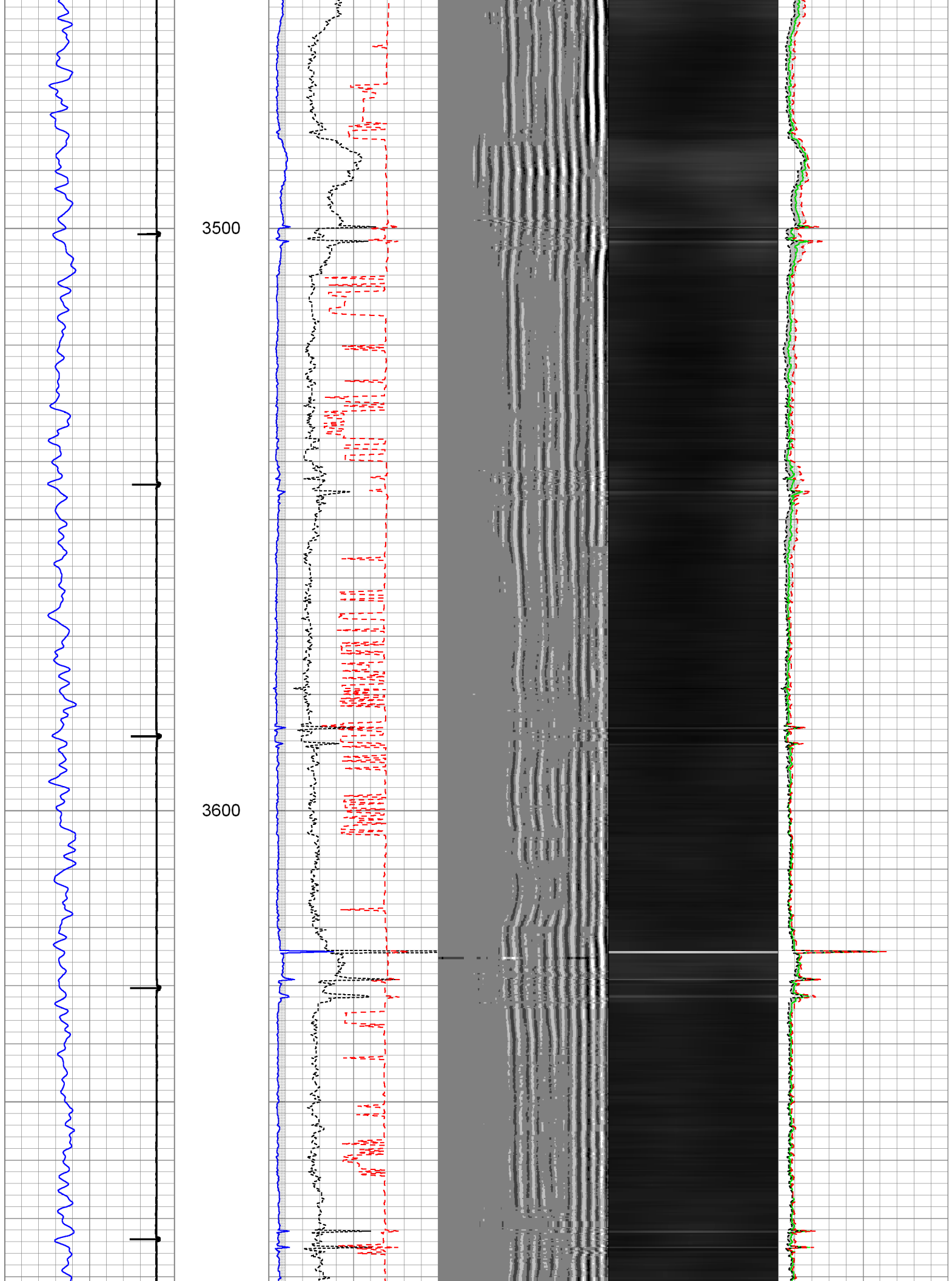




3300

3400

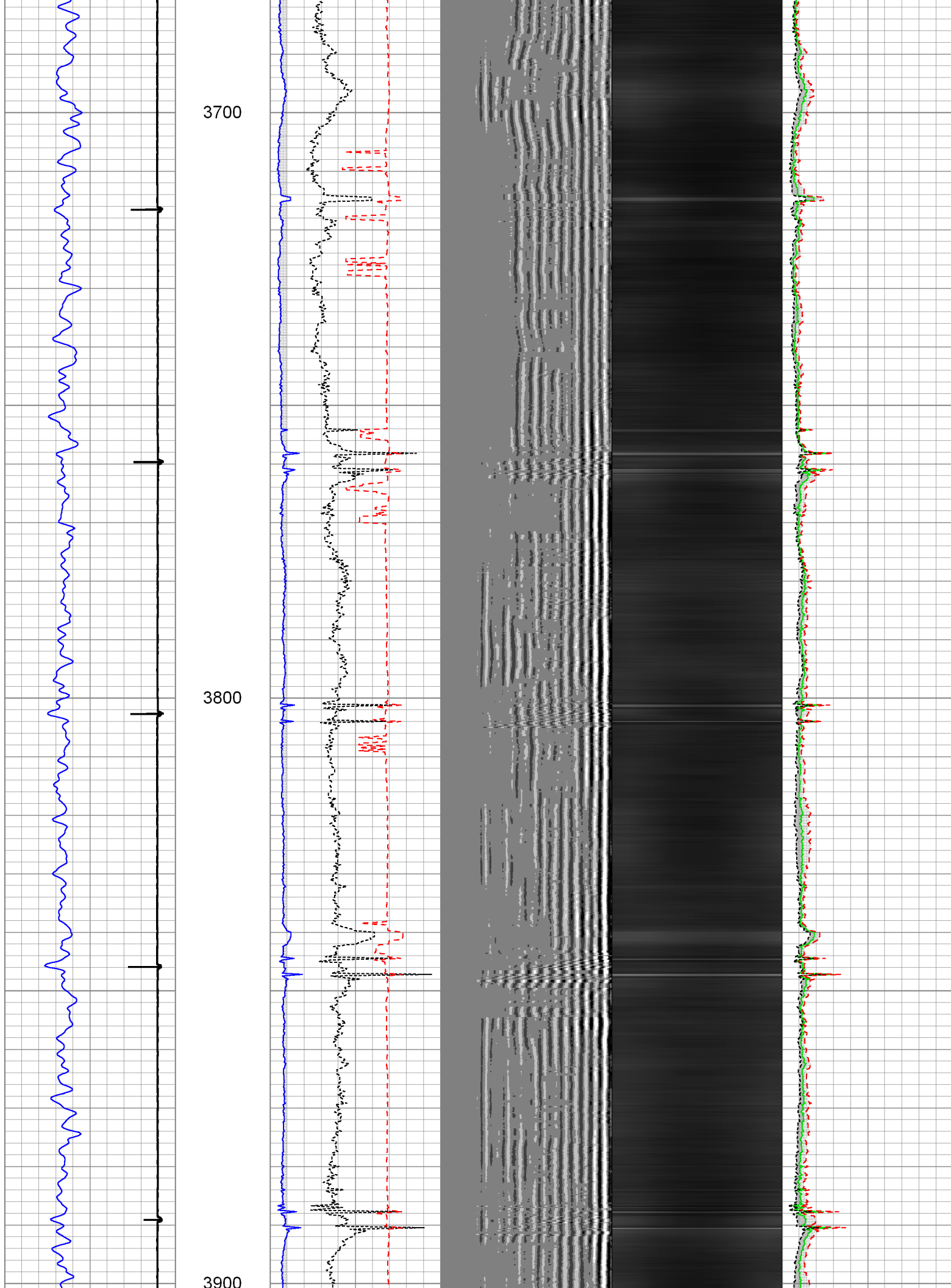


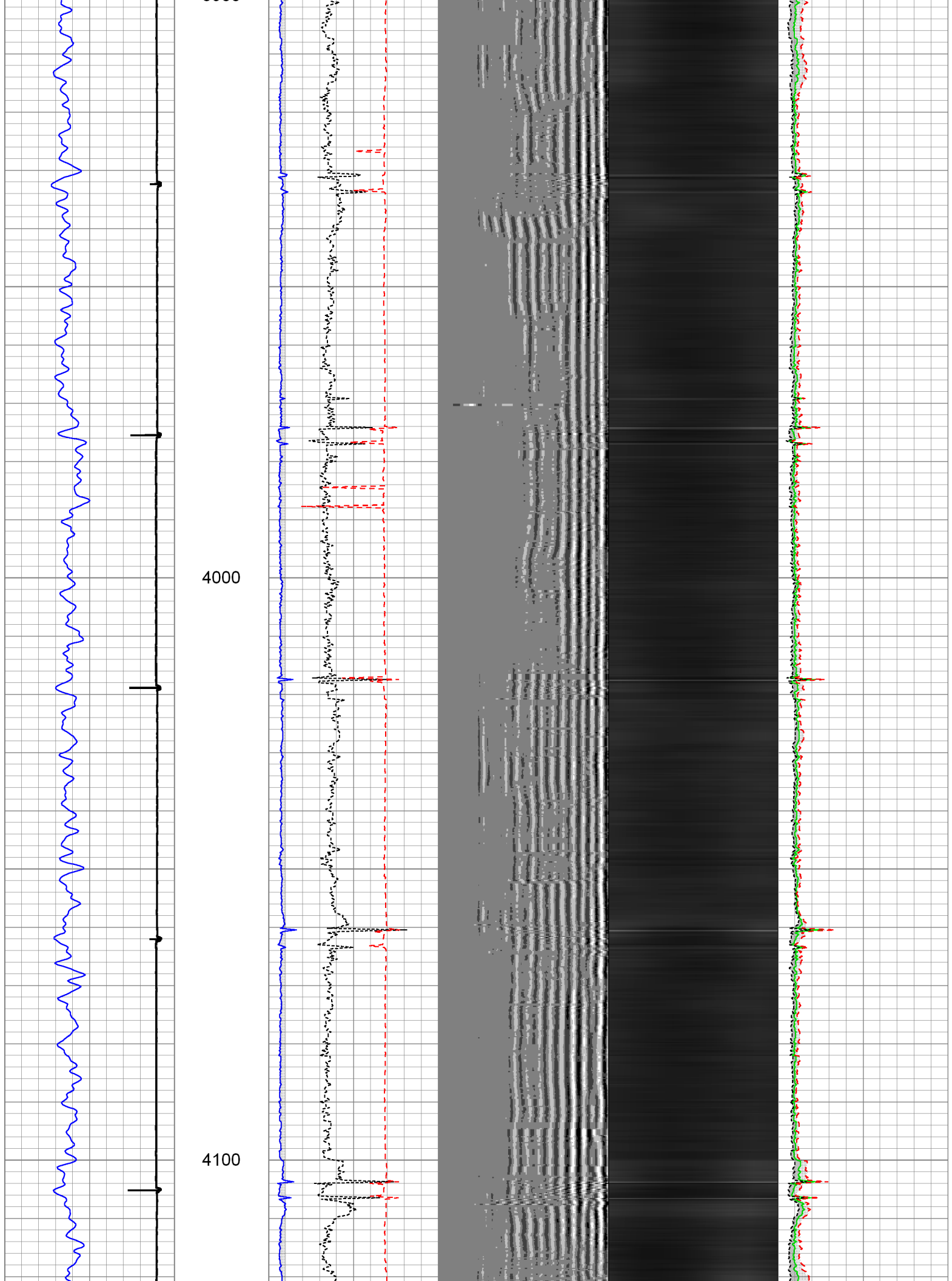


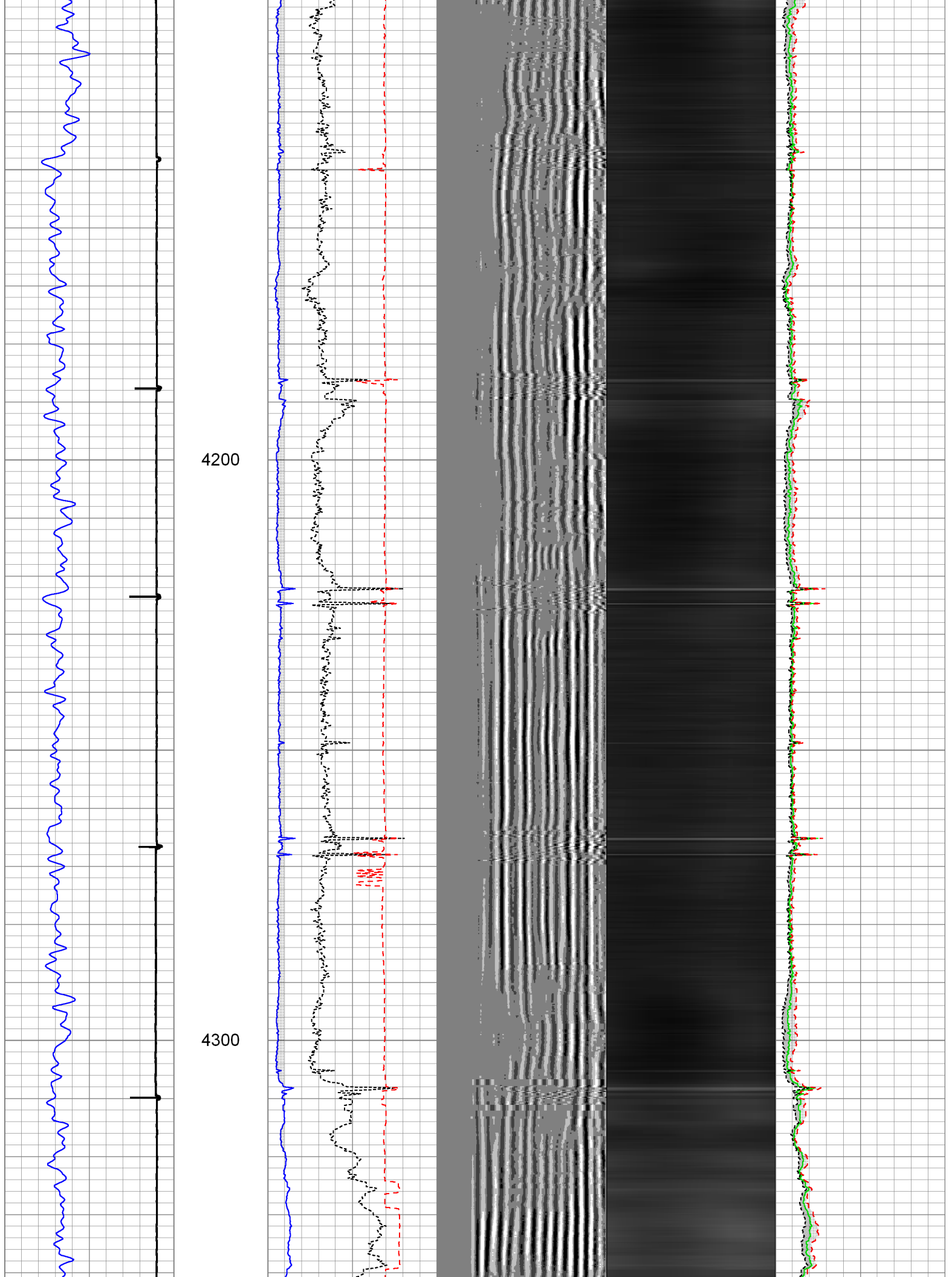
3700

3800

3900

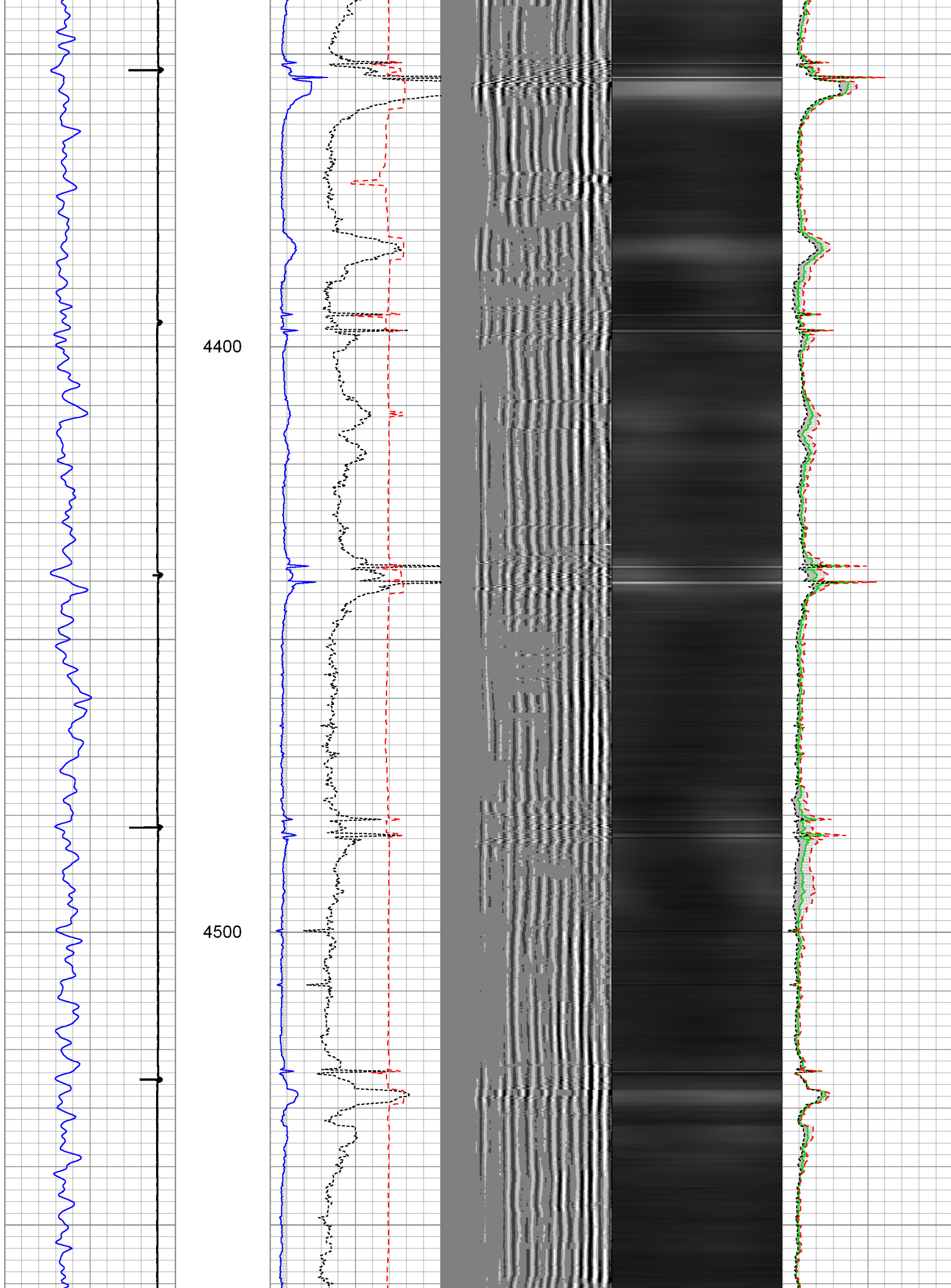






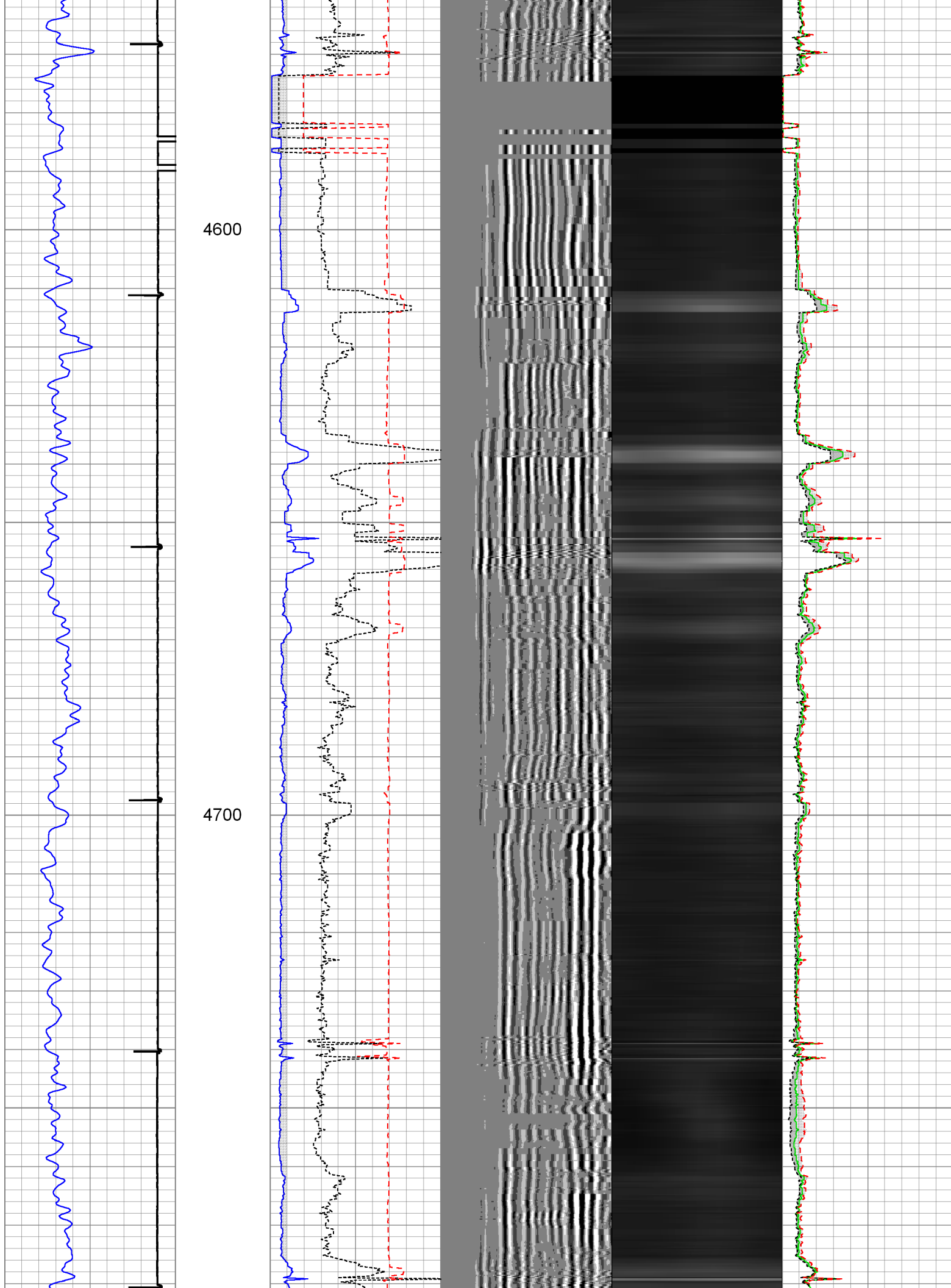
4400

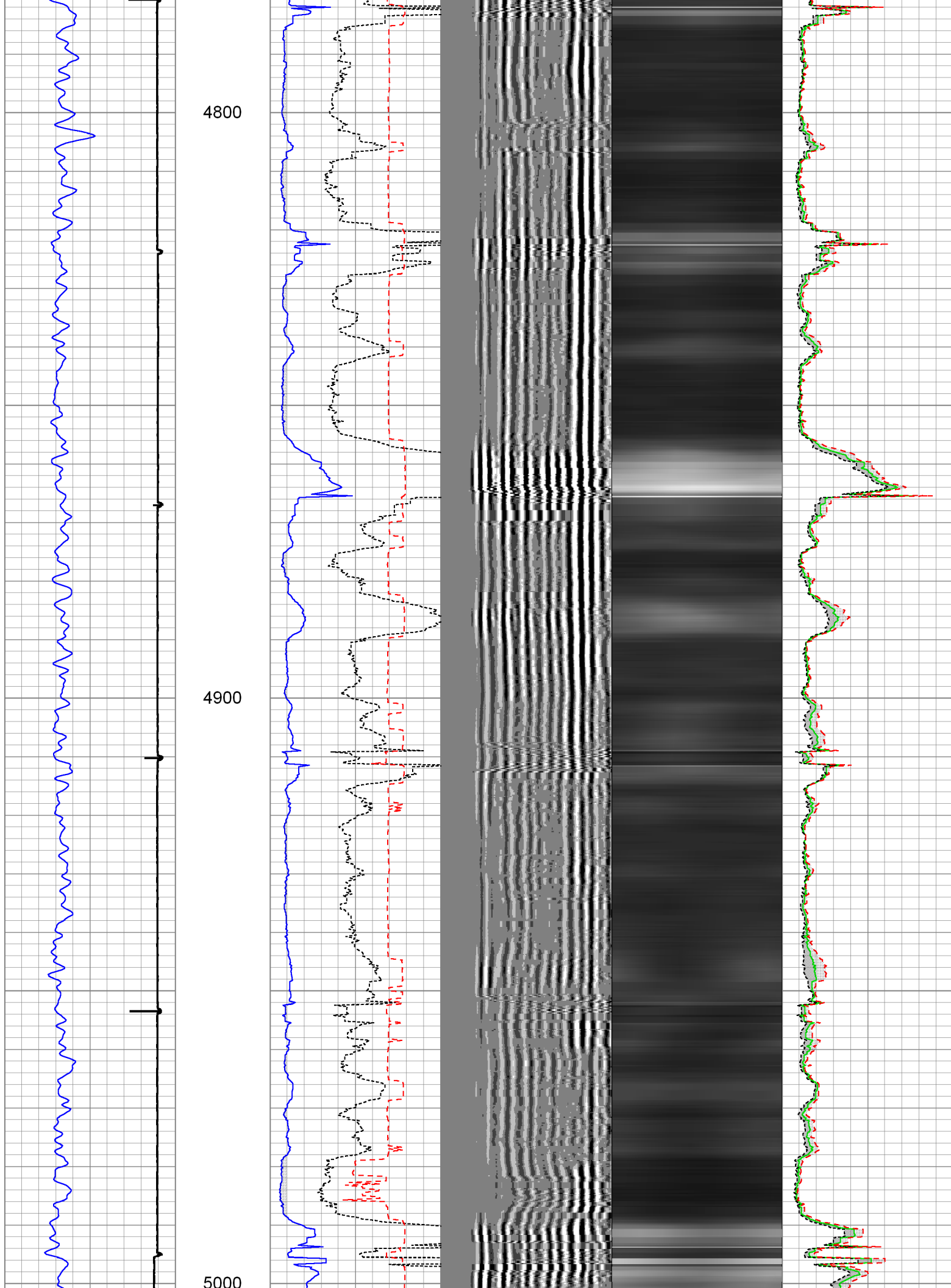
4500



4600

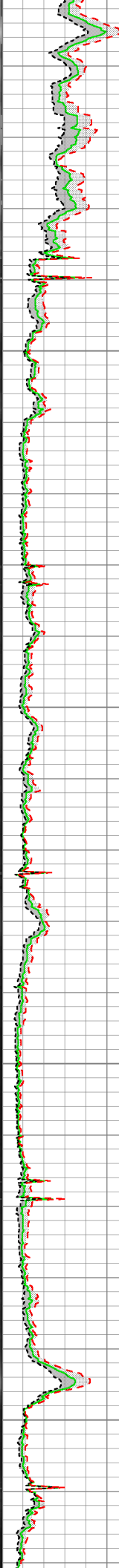
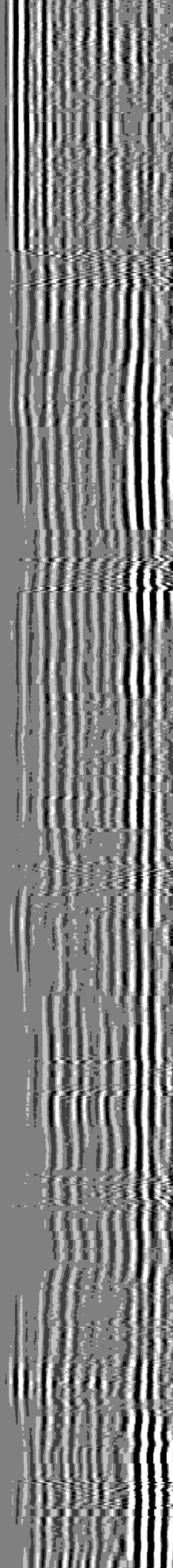
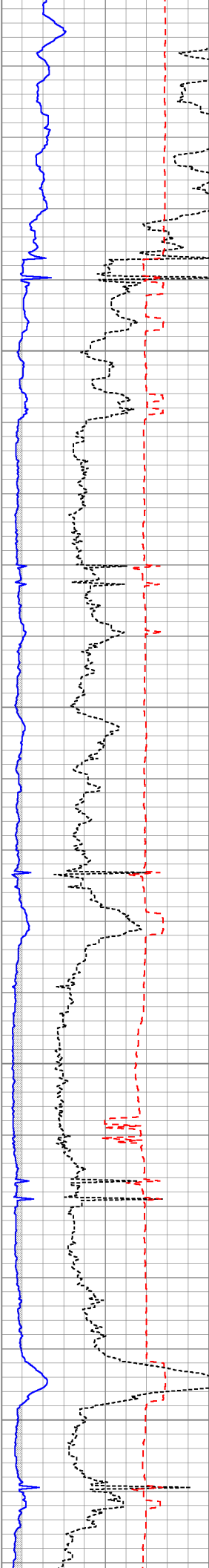
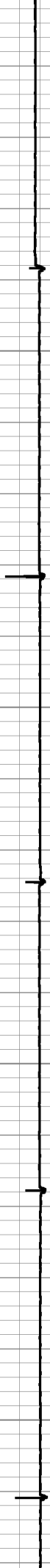
4700

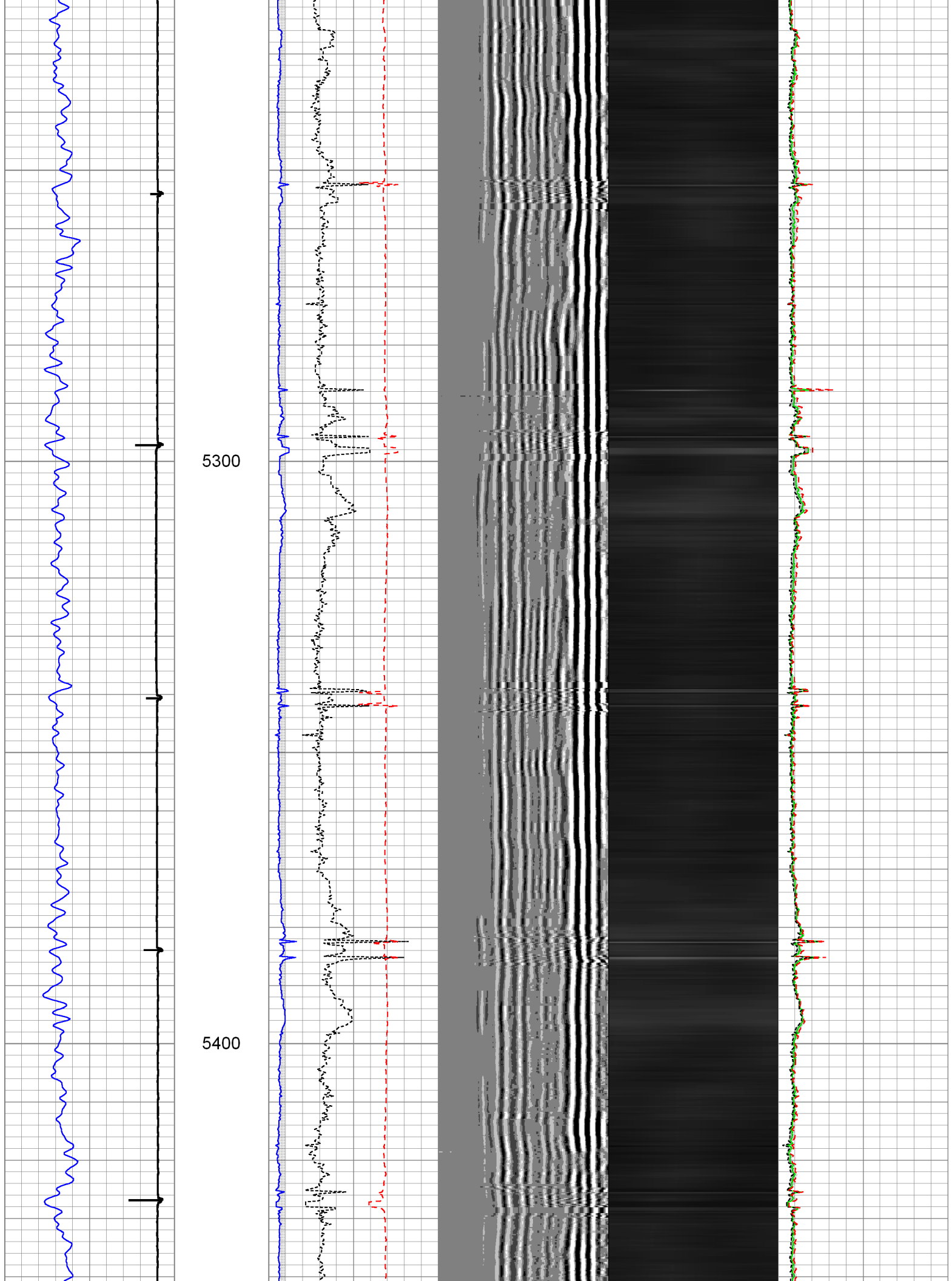




5100

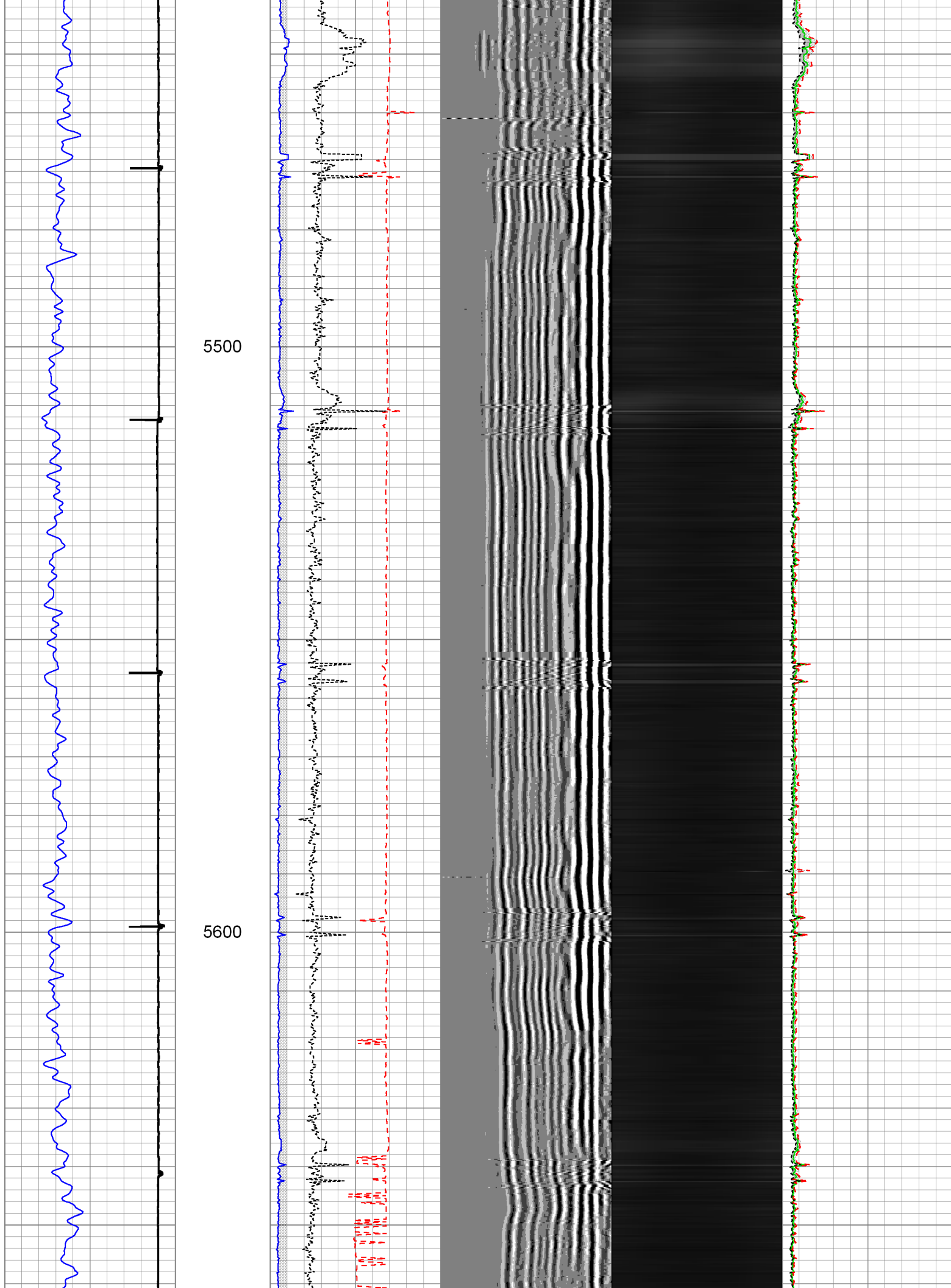
5200





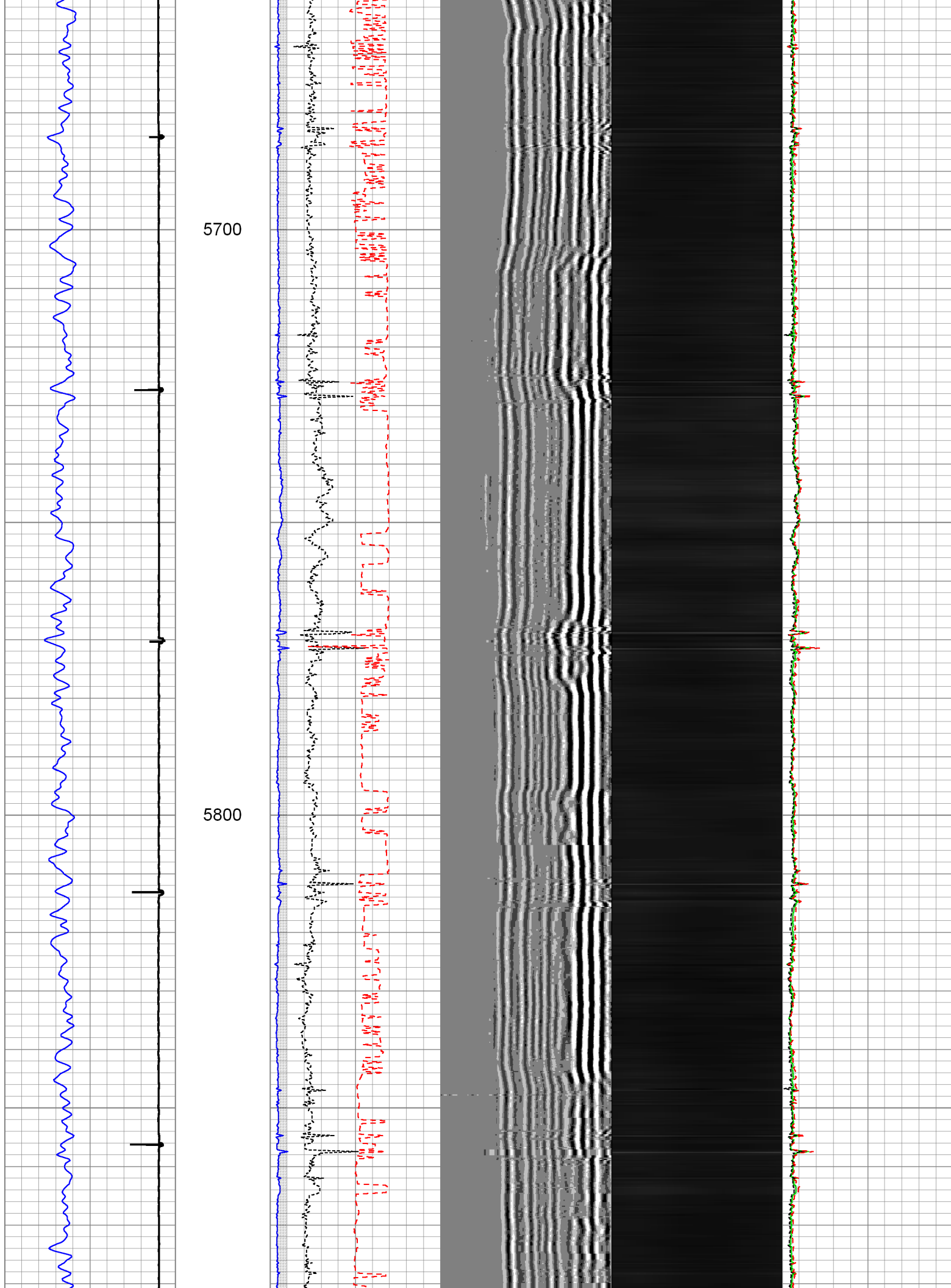
5500

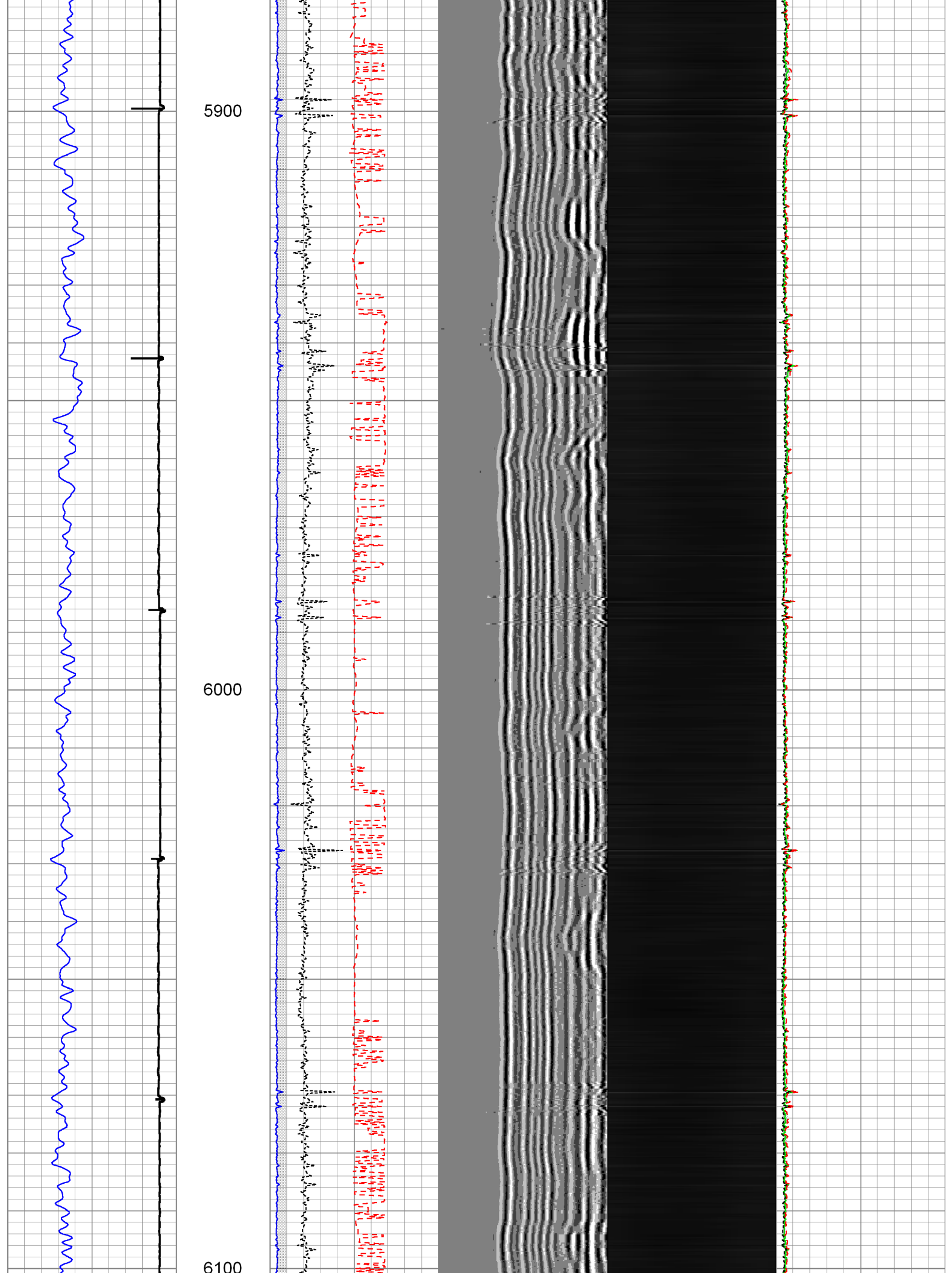
5600

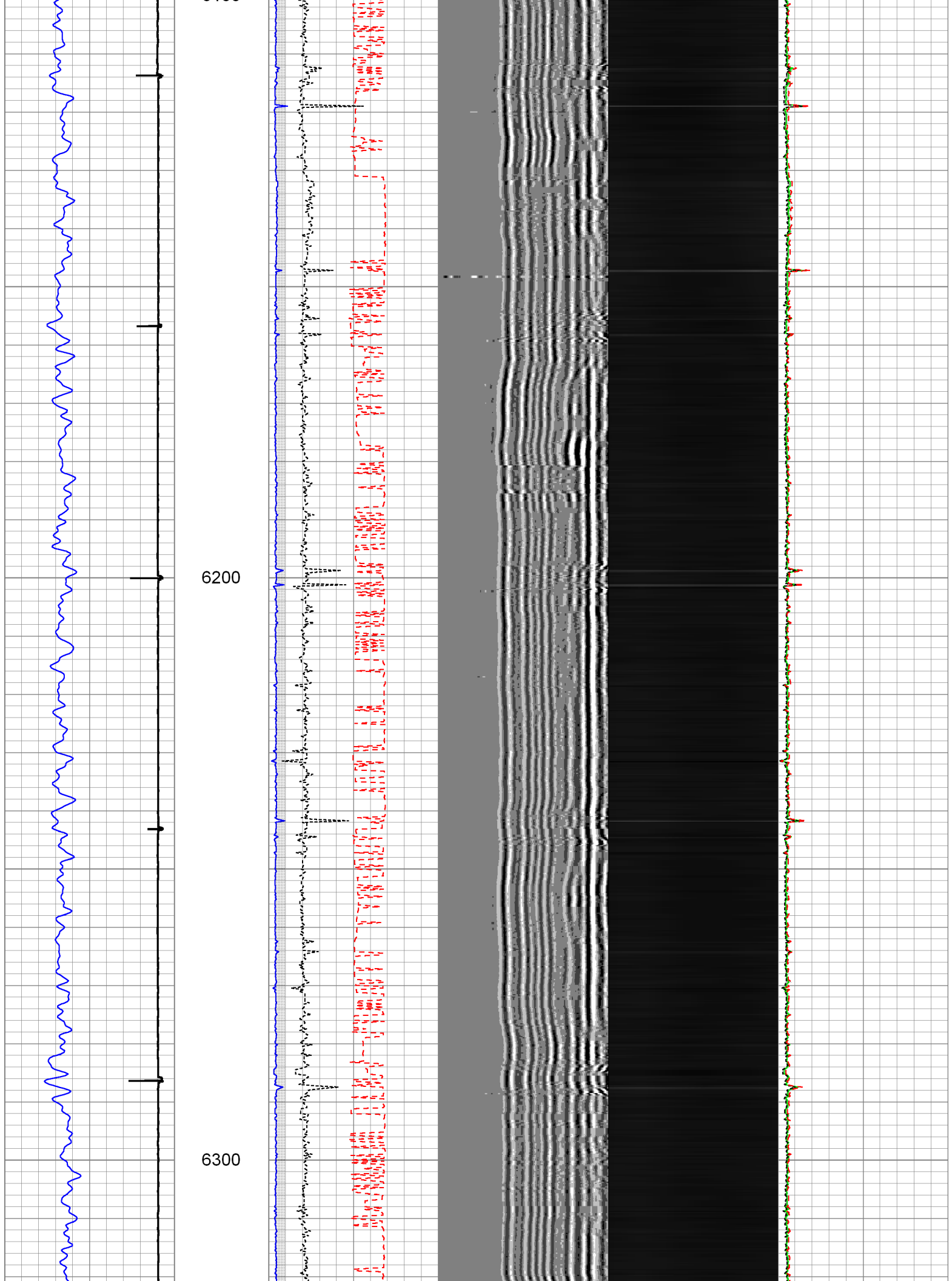


5700

5800

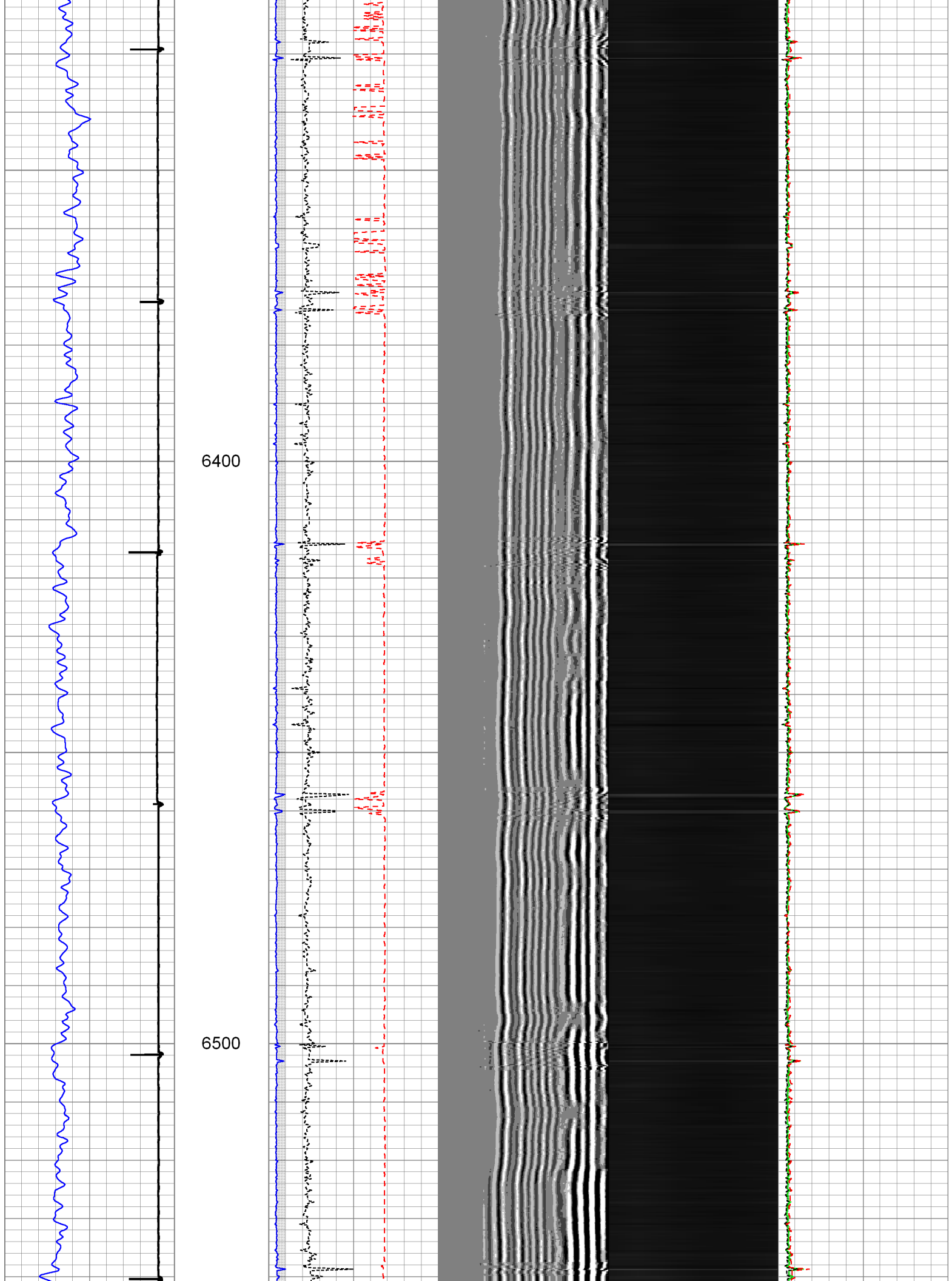


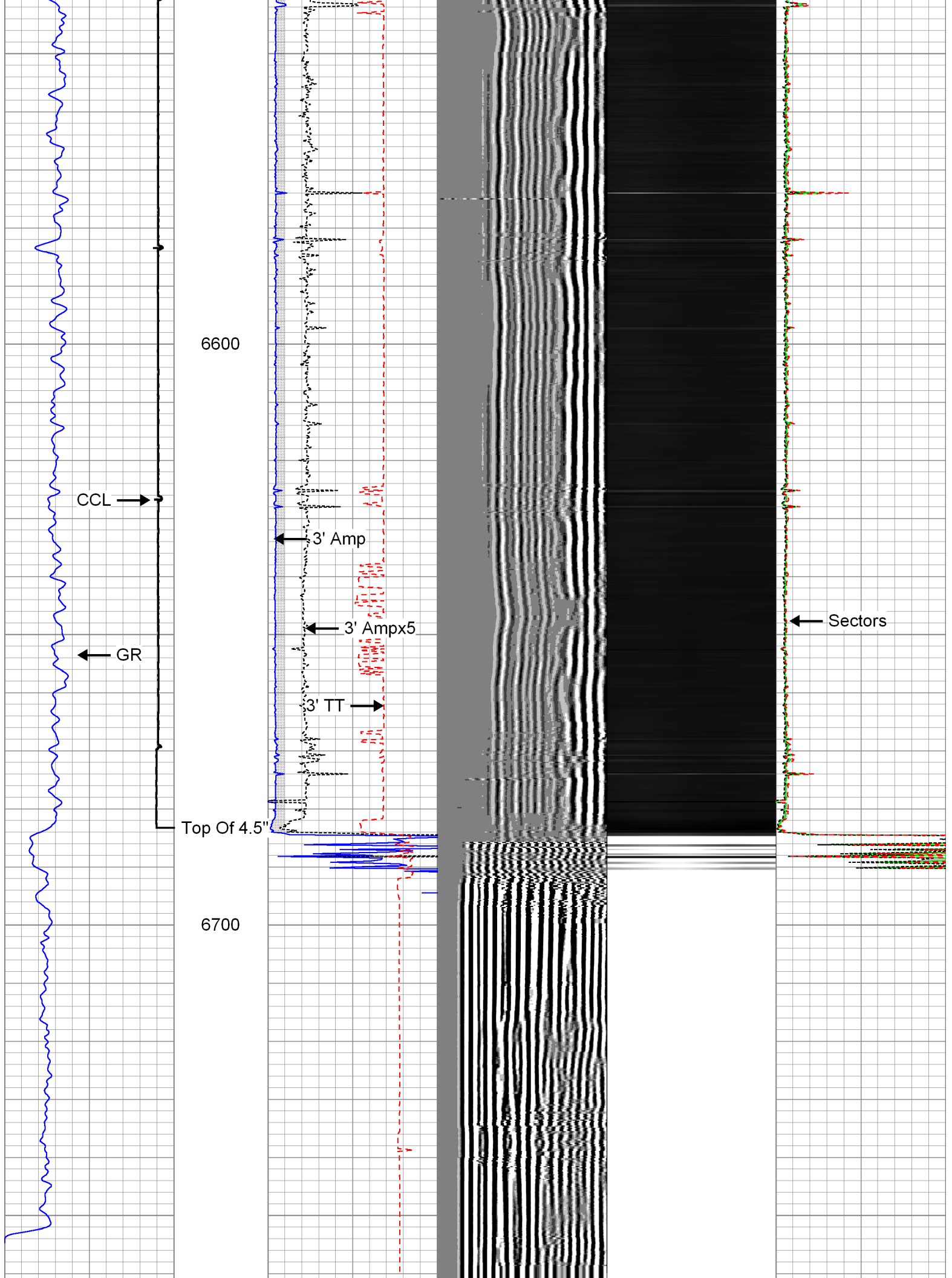




6400

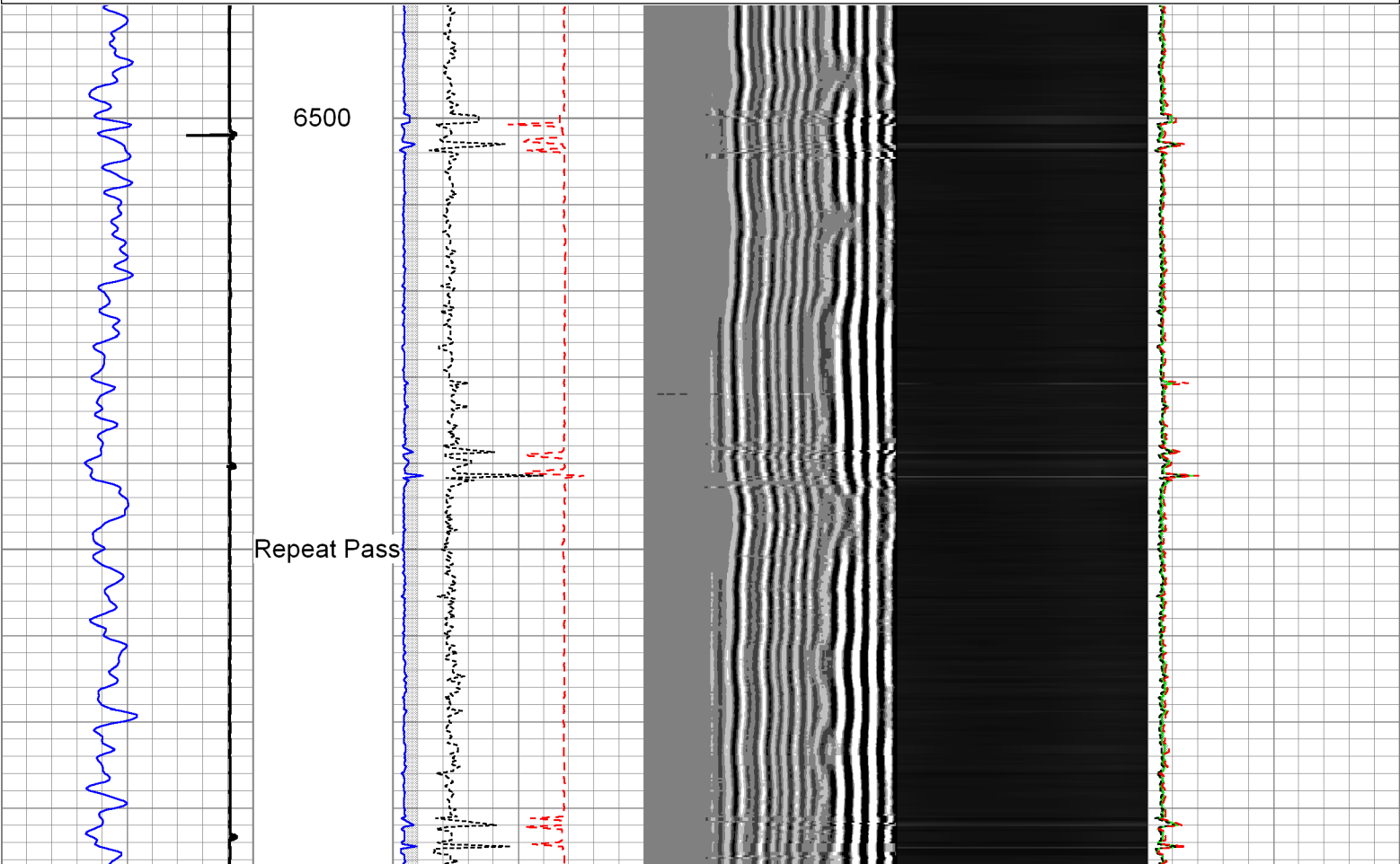
6500

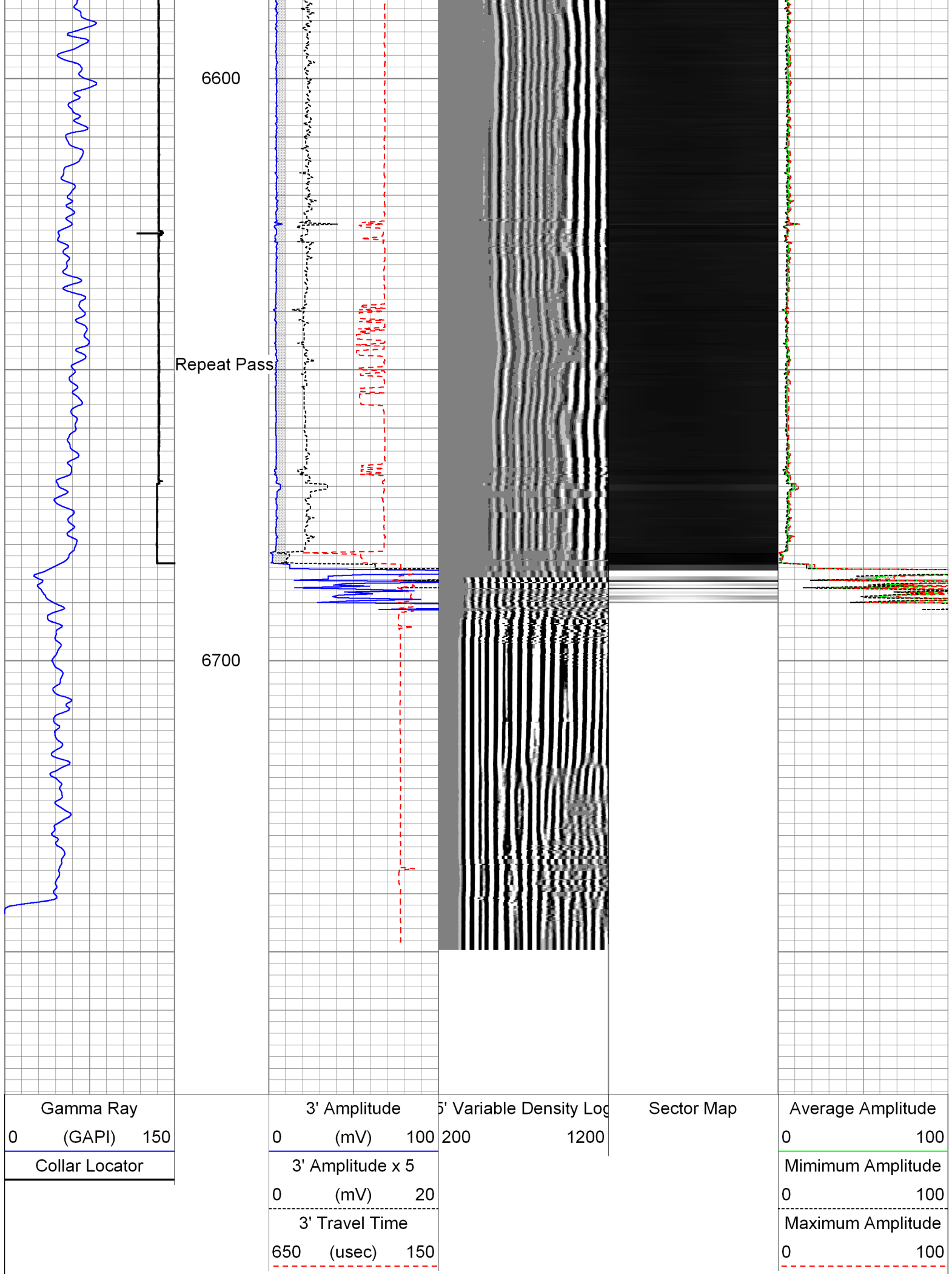




Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 200		0 (mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

<div> <div>FMC Technologies</div> <div>Repeat Pass</div> </div>					
<div> <div>Database File:</div> <div>re-processed_0512336886_anadarko_usa fed 02n-36hz_mit_rbl_11-08-13.db</div> <div>Dataset Pathname:</div> <div>pass2</div> <div>Presentation Format:</div> <div>rbt007</div> <div>Dataset Creation:</div> <div>Fri Nov 08 10:41:05 2013 by Log Sondex V7.03</div> <div>Charted by:</div> <div>Depth in Feet scaled 1:240</div> </div>					
Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 150		0 (mV) 100	200 1200		0 100
Collar Locator		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100





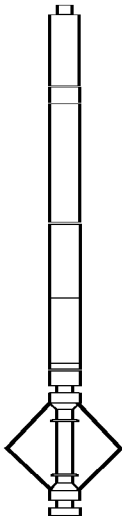

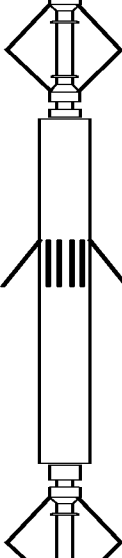
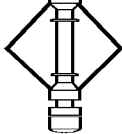
Gamma Ray
0 (GAPI) 150
Collar Locator

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	20.50		AES 1-7/16" Cablehead	1.08	1.44	1.00
			AGS-001 (219135) Adaptor GO to Sondex	0.21	1.69	1.00
			XTU-002 (051219) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (211727) Production Gamma Ray	1.93	1.69	9.50
			PRC-001 (219086) 1-11/16" 3-Arm Production Roller Centraliser	1.92	1.69	7.00
WV3FT	13.73		RBT-004 (10013454in7) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS1	13.73					
WVFS2	13.73					
WVFS3	13.73					
WVFS4	13.73					
WVFS5	13.73					
WVFS6	13.73					
WVFS7	13.73					
WVFS8	13.73					
CBLTEMP	13.73					
CBLROT	13.73					
WV5FT	12.73					
MIT	4.35		PRC-001 (050951) 1-11/16" 3-Arm Production Roller Centraliser	1.92	1.69	7.00
			MIT-042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			PRC-001 (219456) 1-11/16" 3-Arm Production Roller Centraliser	1.92	1.69	7.00
TSTAMP	0.00		BUL-006 (219228) Bullnose Terminator	0.22	1.69	1.20

Calibration Report

Database File: RE-PROCESSED_0512336886_Anadarko_USA Fed 02N-36HZ_MIT_RBL_11-08-13.db
 Dataset Pathname: pass4
 Dataset Creation: Fri Nov 08 11:11:56 2013 by Log Sondex V7.03

Multi-finger Imaging Tool Calibration Report

Serial Number: 10014703
 Number of Fingers: 40
 Tool Model: 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: Fri Nov 08 09:54:14 2013

Ring size: (in)	4	Sens	5	Sens	6	Sens	7
Finger 01:	1189	367.0	1556	382.0	1938	388.0	2326
Finger 02:	1120	377.0	1497	397.0	1894	414.0	2308
Finger 03:	1146	368.0	1514	387.0	1901	403.0	2304
Finger 04:	1088	392.0	1480	395.0	1875	426.0	2301
Finger 05:	1162	368.0	1530	384.0	1914	399.0	2313
Finger 06:	1111	374.0	1485	396.0	1881	414.0	2295
Finger 07:	1134	372.0	1506	388.0	1894	407.0	2301
Finger 08:	1084	376.0	1460	403.0	1863	425.0	2288
Finger 09:	1159	375.0	1534	387.0	1921	397.0	2318
Finger 10:	1126	374.0	1500	388.0	1888	405.0	2293
Finger 11:	1108	367.0	1475	393.0	1868	415.0	2283
Finger 12:	1191	368.0	1559	372.0	1931	380.0	2311
Finger 13:	1123	366.0	1489	390.0	1879	414.0	2293
Finger 14:	1089	379.0	1468	406.0	1874	423.0	2297
Finger 15:	1072	377.0	1449	408.0	1857	431.0	2288
Finger 16:	1124	371.0	1495	395.0	1890	416.0	2306
Finger 17:	1157	364.0	1521	384.0	1905	399.0	2304
Finger 18:	1174	360.0	1534	381.0	1915	397.0	2312
Finger 19:	1156	368.0	1524	391.0	1915	409.0	2324
Finger 20:	1097	377.0	1474	409.0	1883	426.0	2309
Finger 21:	1169	356.0	1525	383.0	1908	402.0	2310
Finger 22:	1163	365.0	1528	392.0	1920	406.0	2326
Finger 23:	1245	342.0	1587	366.0	1953	377.0	2330
Finger 24:	1154	370.0	1524	398.0	1922	409.0	2331
Finger 25:	1161	362.0	1523	395.0	1918	411.0	2329
Finger 26:	1189	360.0	1549	385.0	1934	394.0	2328
Finger 27:	1205	351.0	1556	380.0	1936	395.0	2331
Finger 28:	1162	369.0	1531	392.0	1923	406.0	2329
Finger 29:	1148	369.0	1517	399.0	1916	416.0	2332
Finger 30:	1151	370.0	1521	398.0	1919	414.0	2333
Finger 31:	1192	361.0	1553	383.0	1936	389.0	2325
Finger 32:	1154	368.0	1522	396.0	1918	411.0	2329
Finger 33:	1152	370.0	1522	393.0	1915	407.0	2322

Finger 33:	1132	370.0	1522	399.0	1919	407.0	2322
Finger 34:	1135	373.0	1508	401.0	1909	415.0	2324
Finger 35:	1191	359.0	1550	377.0	1927	388.0	2315
Finger 36:	1135	371.0	1506	396.0	1902	411.0	2313
Finger 37:	1225	351.0	1576	367.0	1943	383.0	2326
Finger 38:	1190	364.0	1554	380.0	1934	391.0	2325
Finger 39:	1149	370.0	1519	391.0	1910	405.0	2315
Finger 40:	1088	380.0	1468	423.0	1891	410.0	2301

Segmented Cement Bond Log Calibration Report

Serial Number:	10013454in7
Tool Model:	004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	3122.921 ft

Master Calibration, performed Sun Nov 03 08:37:59 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.003	0.732	0.800	62.165	83.579	1.024
5FT	-0.005	0.767	0.800	62.165	79.514	1.188
S1	-0.003	0.701	0.000	100.000	142.181	0.361
S2	-0.004	0.770	0.000	100.000	129.234	0.516
S3	-0.004	0.819	0.000	100.000	121.511	0.445
S4	-0.005	0.816	0.000	100.000	121.775	0.664
S5	-0.003	0.759	0.000	100.000	131.083	0.456
S6	-0.003	0.695	0.000	100.000	143.370	0.396
S7	-0.002	0.646	0.000	100.000	154.243	0.382
S8	-0.004	0.653	0.000	100.000	152.155	0.613

Gamma Ray Calibration Report

Serial Number:	211727
Tool Model:	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, L.P.
Well	USA Fed 02N-36HZ
Field	Wattenberg
County	Weld
State	Colorado