



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.				Company Kerr-McGee Oil & Gas Onshore, L.P.			
Well Grenemyer 35N-3HZ				Well Grenemyer 35N-3HZ			
Field Wattenberg				Field Wattenberg			
County Weld				County Weld			
State Colorado				State Colorado			
Location:				Location:			
SHL: 445' FNL 1615' FWL				SHL: 445' FNL 1615' FWL			
Lat/Long: 40.013615/-104.88027				Lat/Long: 40.013615/-104.88027			
SEC 34 TWP 1N RGE 67W				SEC 34 TWP 1N RGE 67W			
Permanent Datum				Permanent Datum			
Ground Level				Ground Level			
Elevation 5047'				Elevation 5047'			
Log Measured From				Log Measured From			
Kelly Bushing (16 FT)				Kelly Bushing (16 FT)			
Drilling Measured From				Drilling Measured From			
Kelly Bushing				Kelly Bushing			
Date				Date			
26-Feb-2014				26-Feb-2014			
Run Number				Run Number			
Two				Two			
Depth Driller				Depth Driller			
16886 FT				16886 FT			
Depth Logger				Depth Logger			
7040 FT				7040 FT			
Bottom Logged Interval				Bottom Logged Interval			
7035 FT				7035 FT			
Top Log Interval				Top Log Interval			
Surface				Surface			
Open Hole Size				Open Hole Size			
8.750"				8.750"			
Type Fluid				Type Fluid			
Water				Water			
Density / Viscosity				Density / Viscosity			
8.34 lbm/gal				8.34 lbm/gal			
Max. Recorded Temp.				Max. Recorded Temp.			
223°F				223°F			
Estimated Cement Top				Estimated Cement Top			
85 FT				85 FT			
Time Well Ready				Time Well Ready			
12:30				12:30			
Time Logger on Bottom				Time Logger on Bottom			
13:30				13:30			
Equipment Number				Equipment Number			
HD 0134				HD 0134			
Location				Location			
Fort Lupton, CO				Fort Lupton, CO			
Recorded By				Recorded By			
Erick Vaughn				Erick Vaughn			
Witnessed By				Witnessed By			
Van Frankie				Van Frankie			
Borehole Record				Borehole Record			
Run Number				Run Number			
Bit				Bit			
From				From			
To				To			
Size				Size			
Weight				Weight			
From				From			
To				To			
Casing Record				Casing Record			
Size (in)				Size (in)			
9-5/8"				9-5/8"			
Wgt (lbs/ft)				Wgt (lbs/ft)			
36#				36#			
Grade				Grade			
---				---			
Top				Top			
Surface				Surface			
Bottom				Bottom			
---				---			
Intermediate #1				Intermediate #1			
7"				7"			
26#				26#			
---				---			
Intermediate #2				Intermediate #2			
4.5"				4.5"			
11.6#				11.6#			
---				---			
6921 FT				6921 FT			
---				---			
Liner				Liner			

<<< 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 is first recorded log in hole.
Depth reference to casing tally reported Top of Liner at 6921 FT.
Run RCBL from as deep as possible in curve to surface ~ reached 7040 FT.
RCBL pulled high tension in curve from 7040 FT to 7030 FT.
RCBL recorded with 2800 PSI surface induced pressure.
Estimated Top of Cement recorded at 85 FT.

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



Main 7" RCBL Pass

Database File: 0512338340_anadarko_grenemyer 35n-3hz_02-26-14_rbl.db

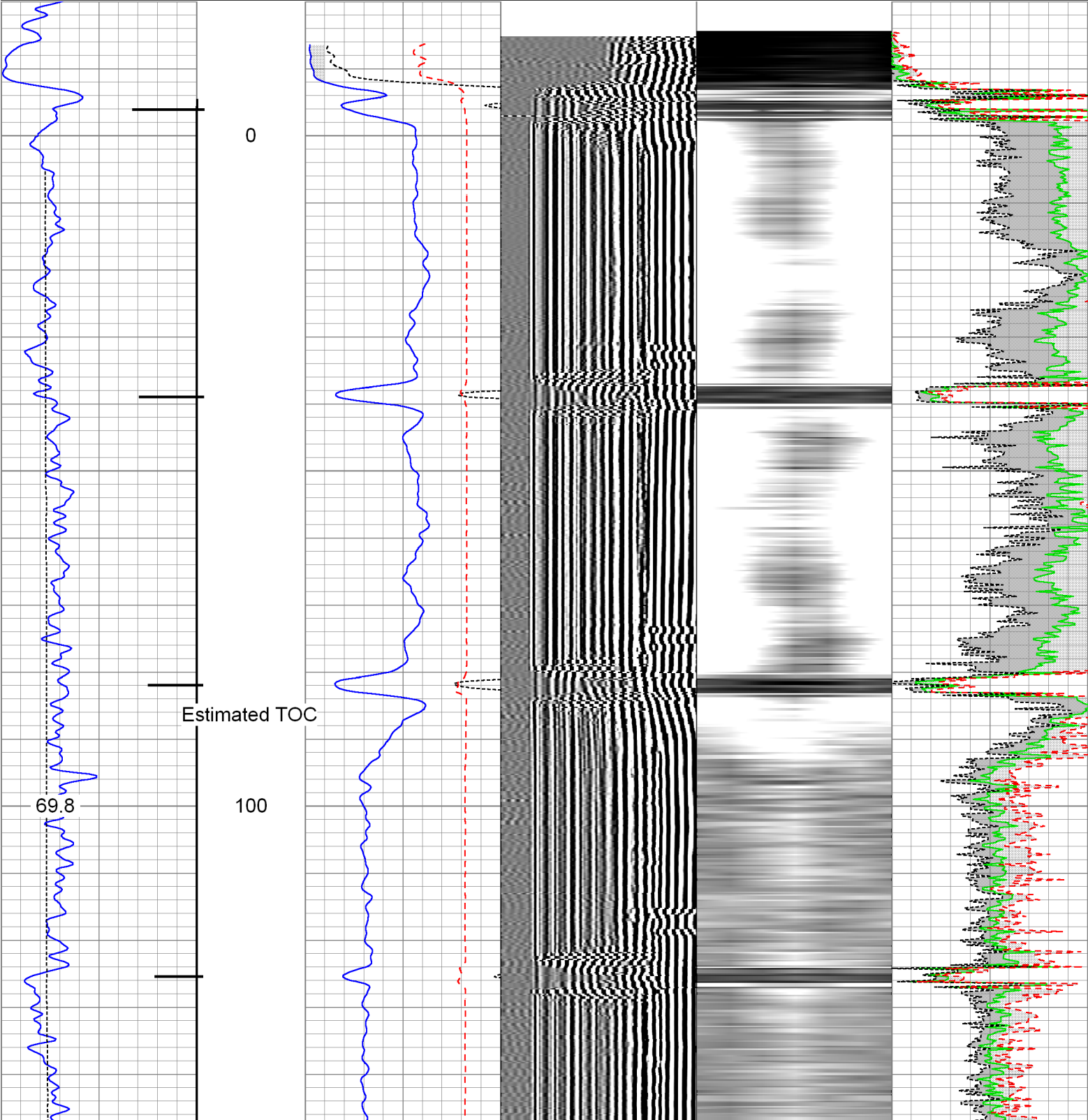
Dataset Pathname: uprmain

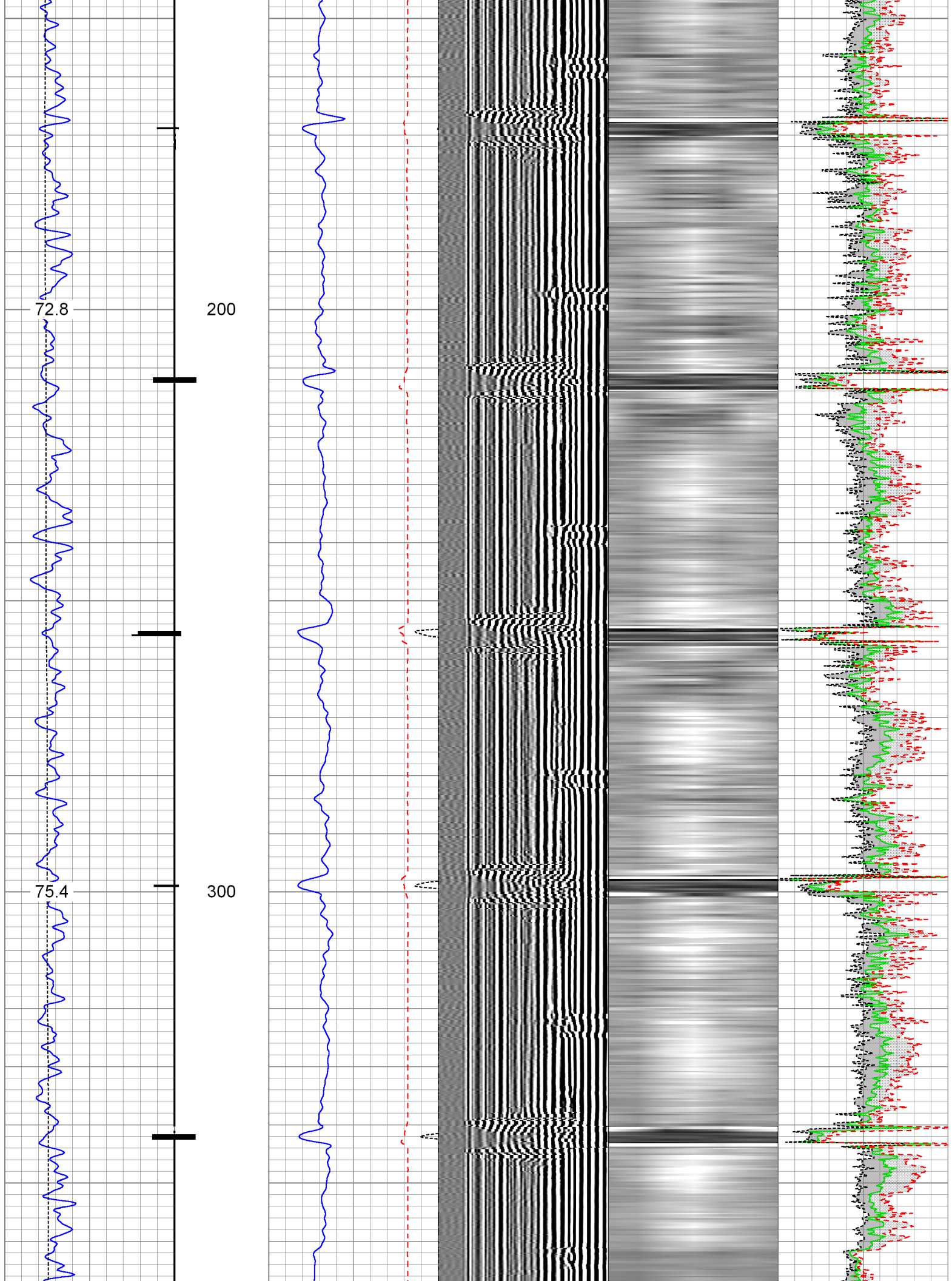
Presentation Format: 1_rib

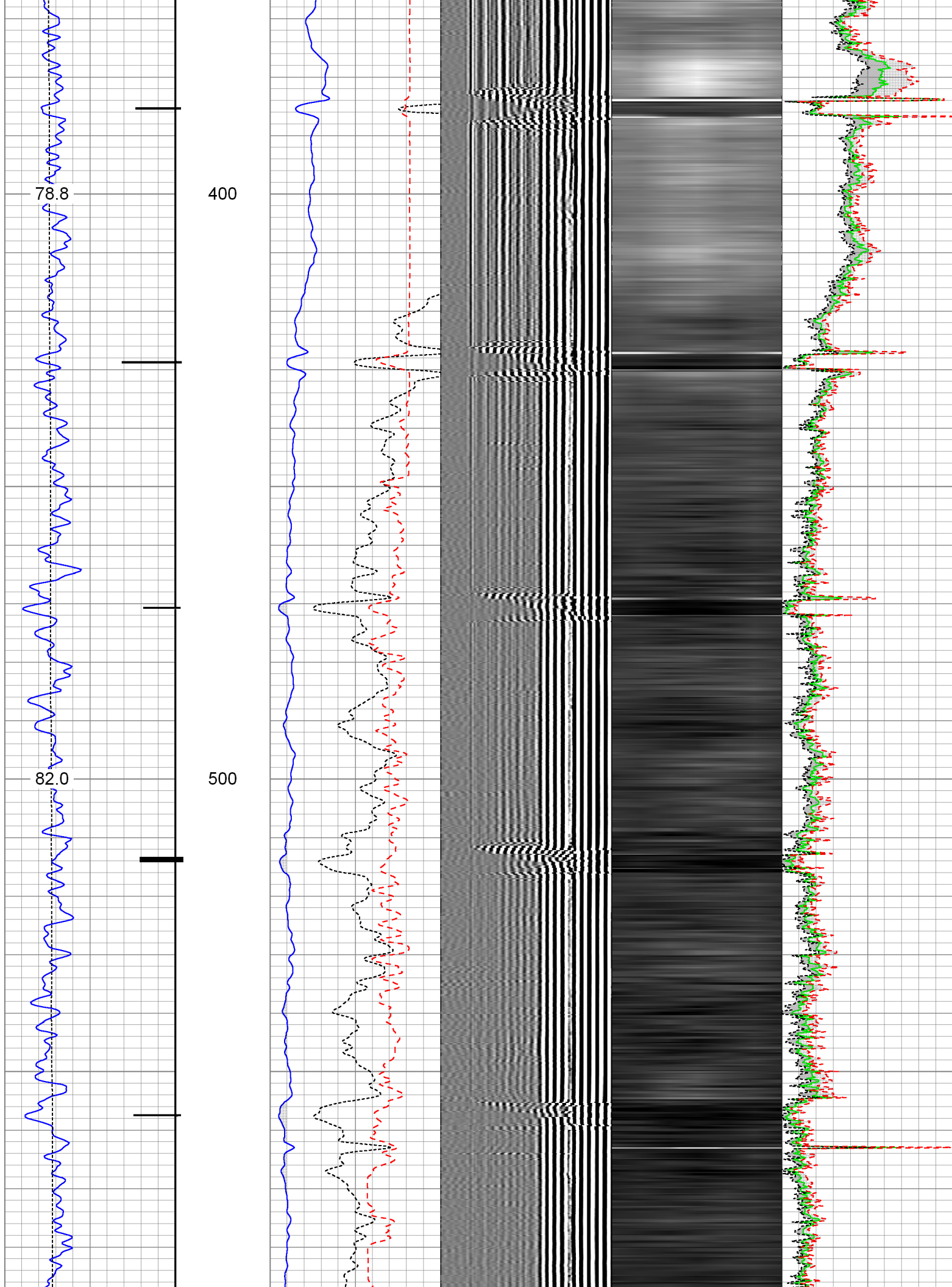
Dataset Creation: Wed Feb 26 16:00:35 2014 by Log Sondex V7.03

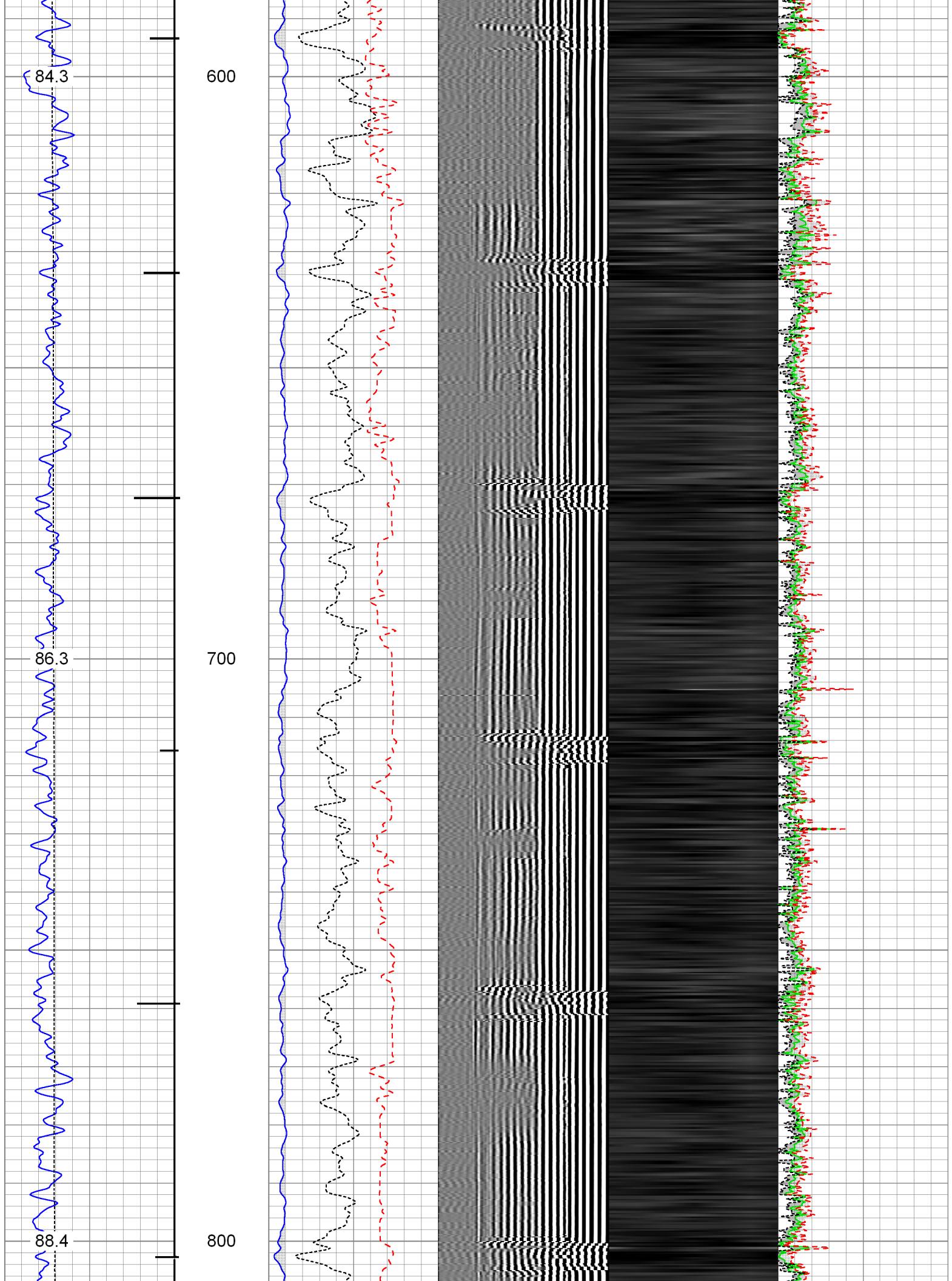
Charted by: Depth in Feet scaled 1:240

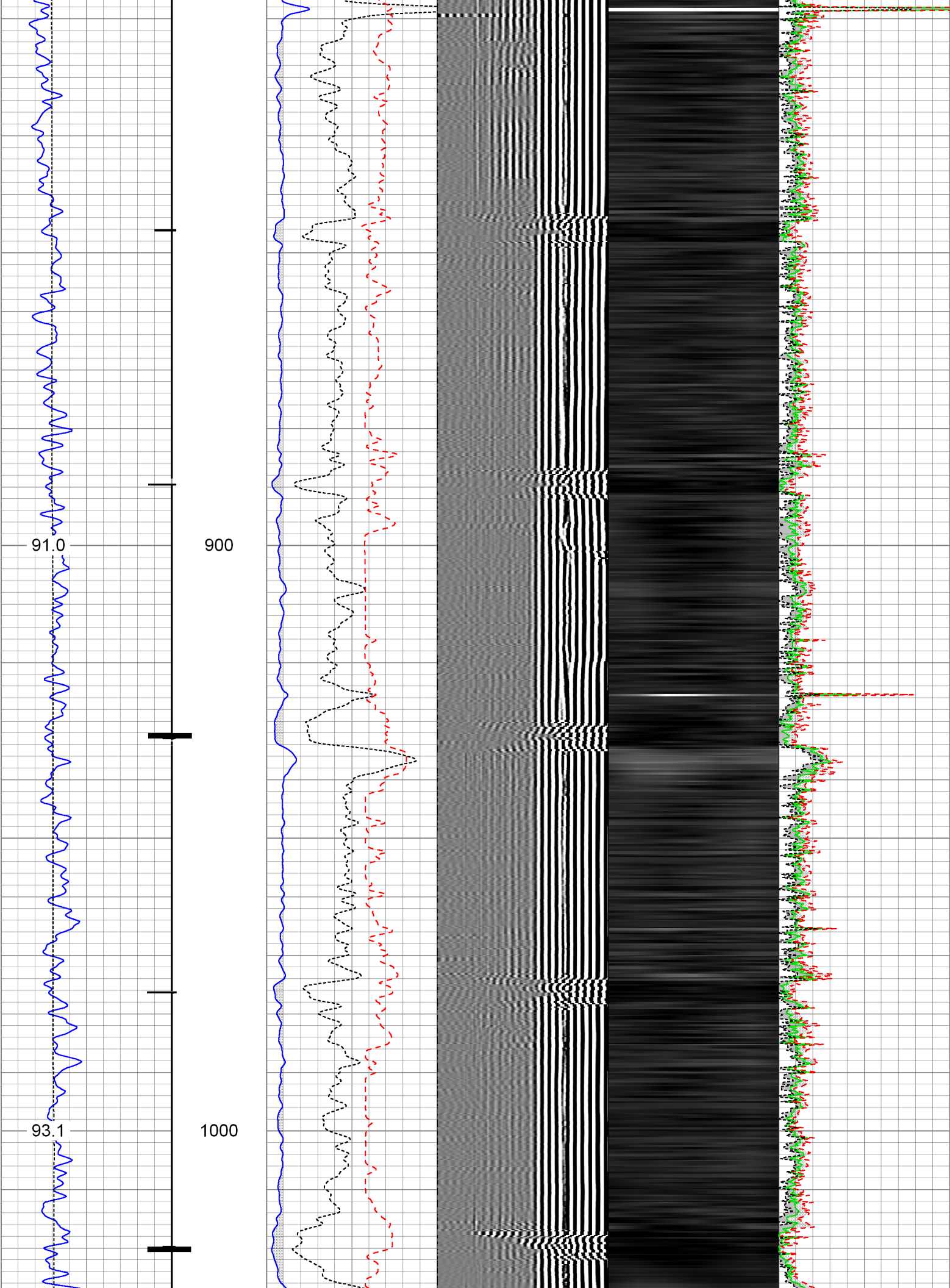
0	GR (GAPI) 120	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
	Casing Collars	0 (mV) 100	200 1200		0 100
0	TEMP (degF) 300	3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

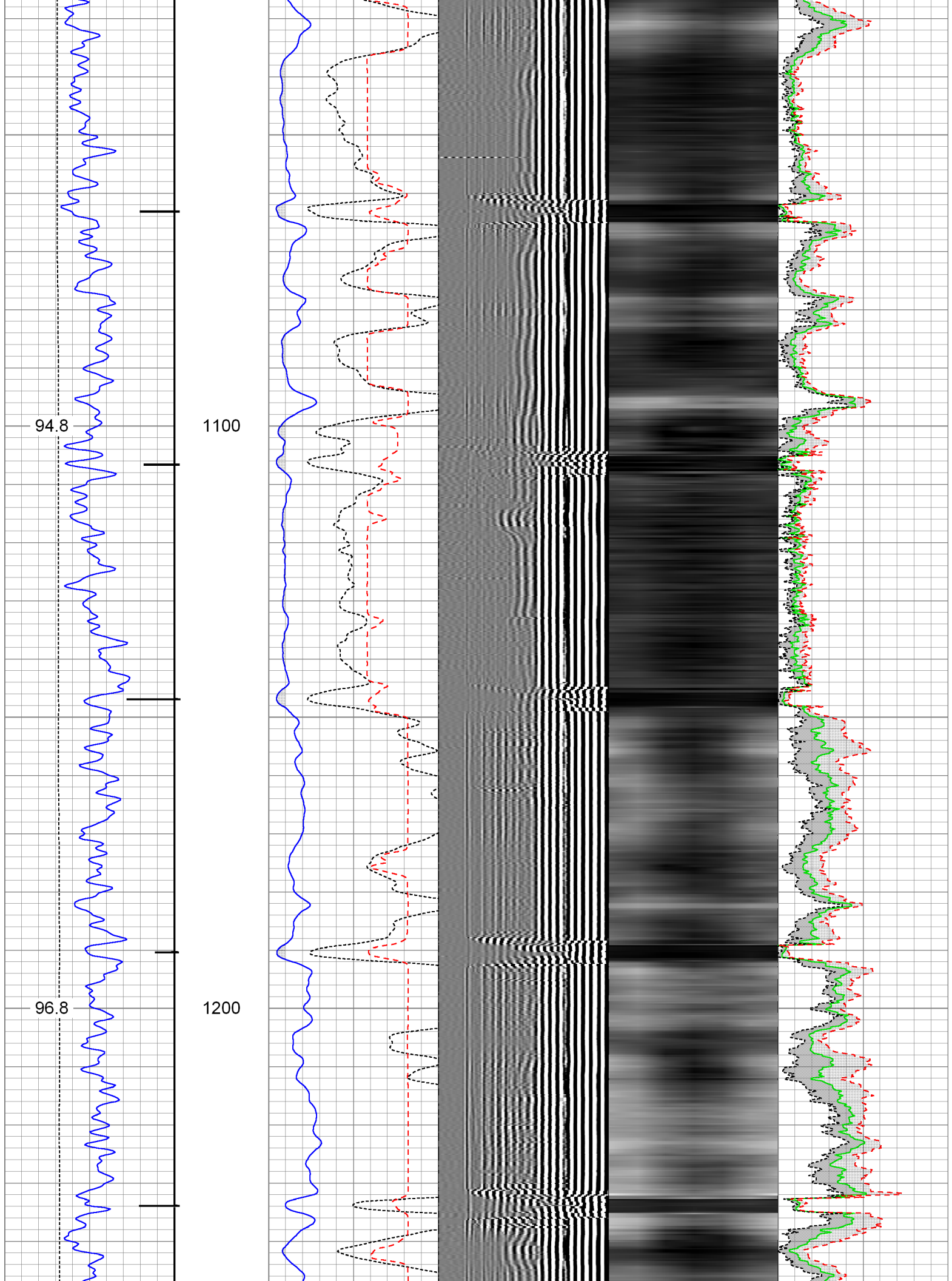


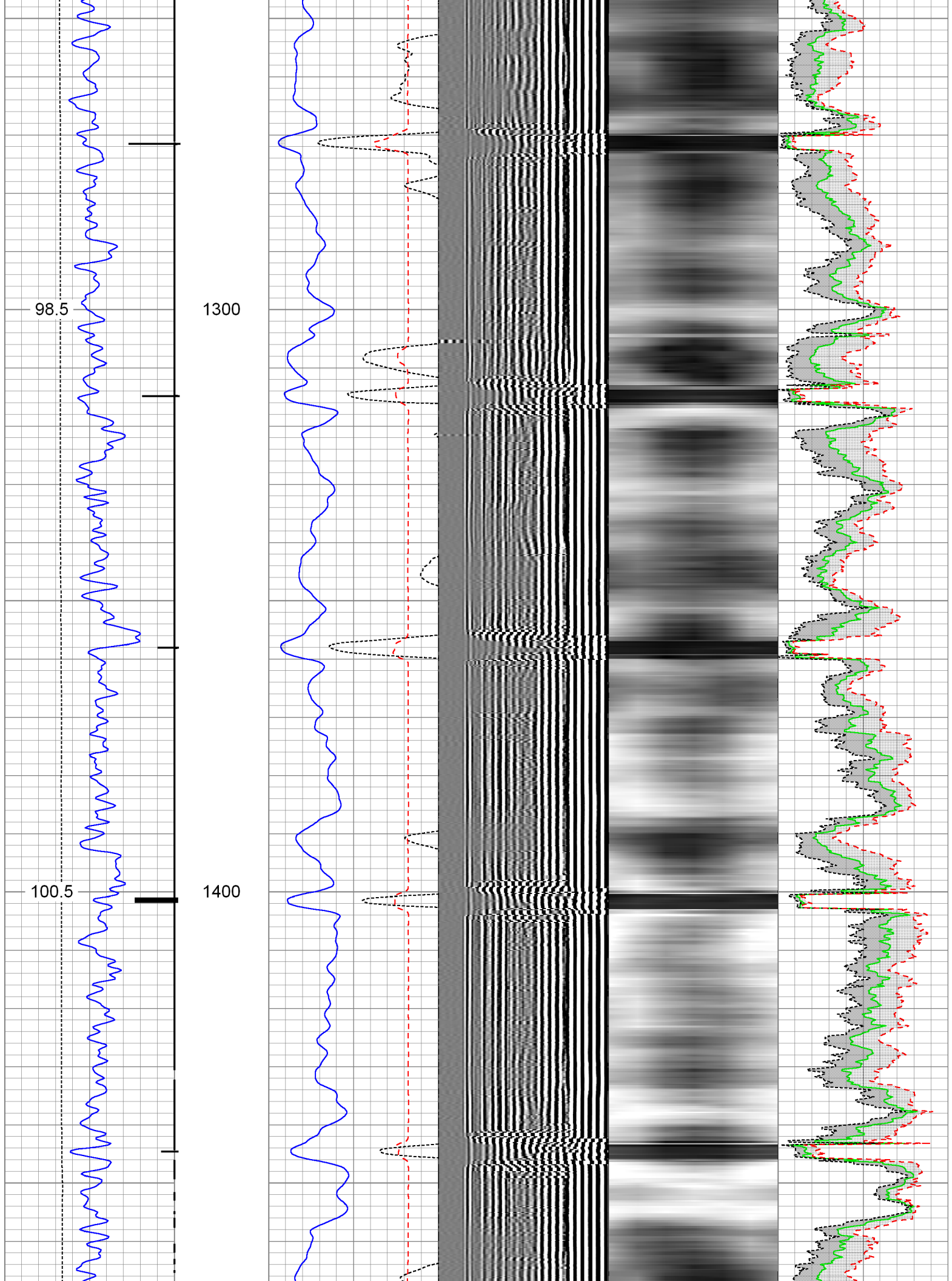


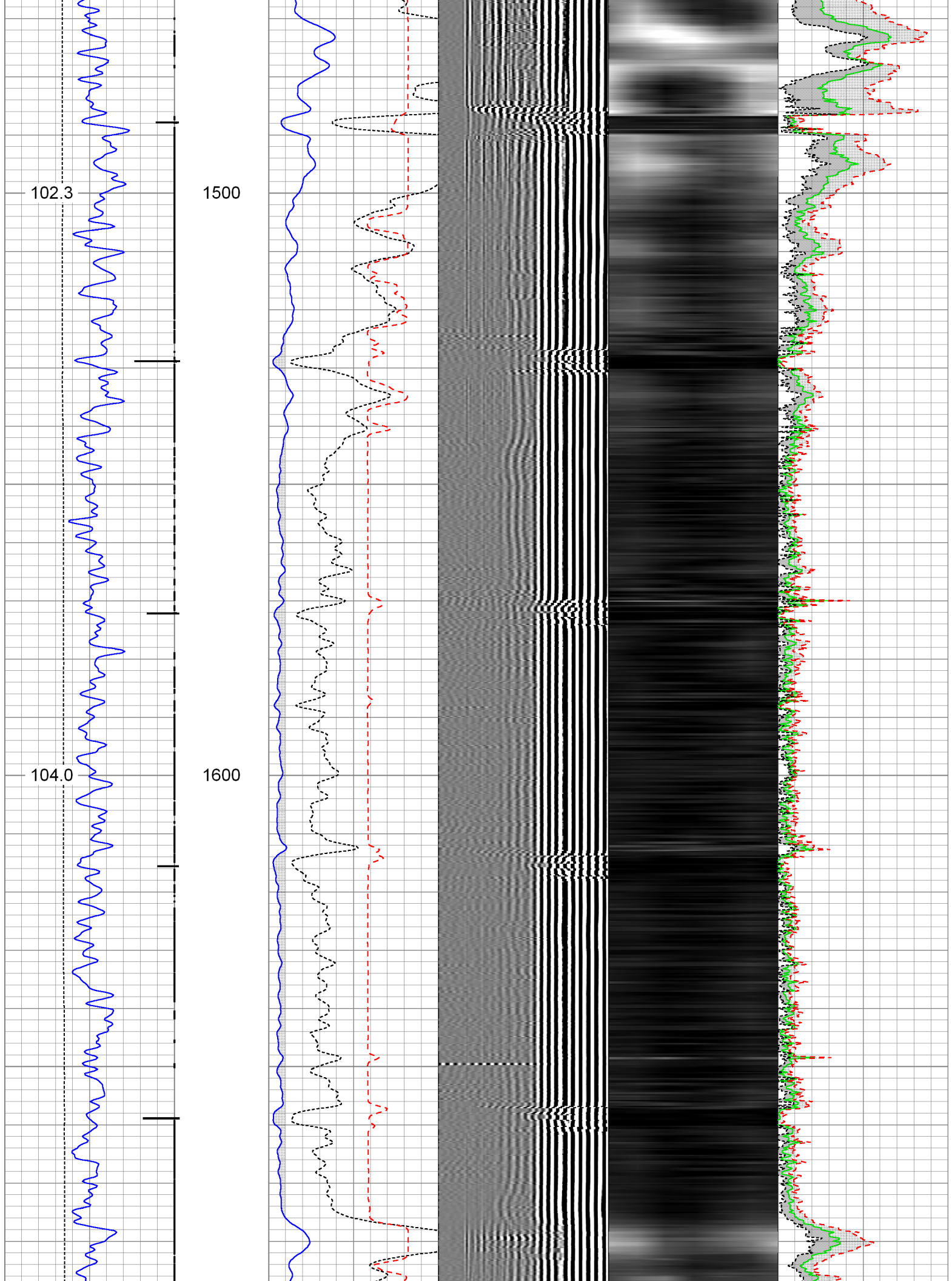


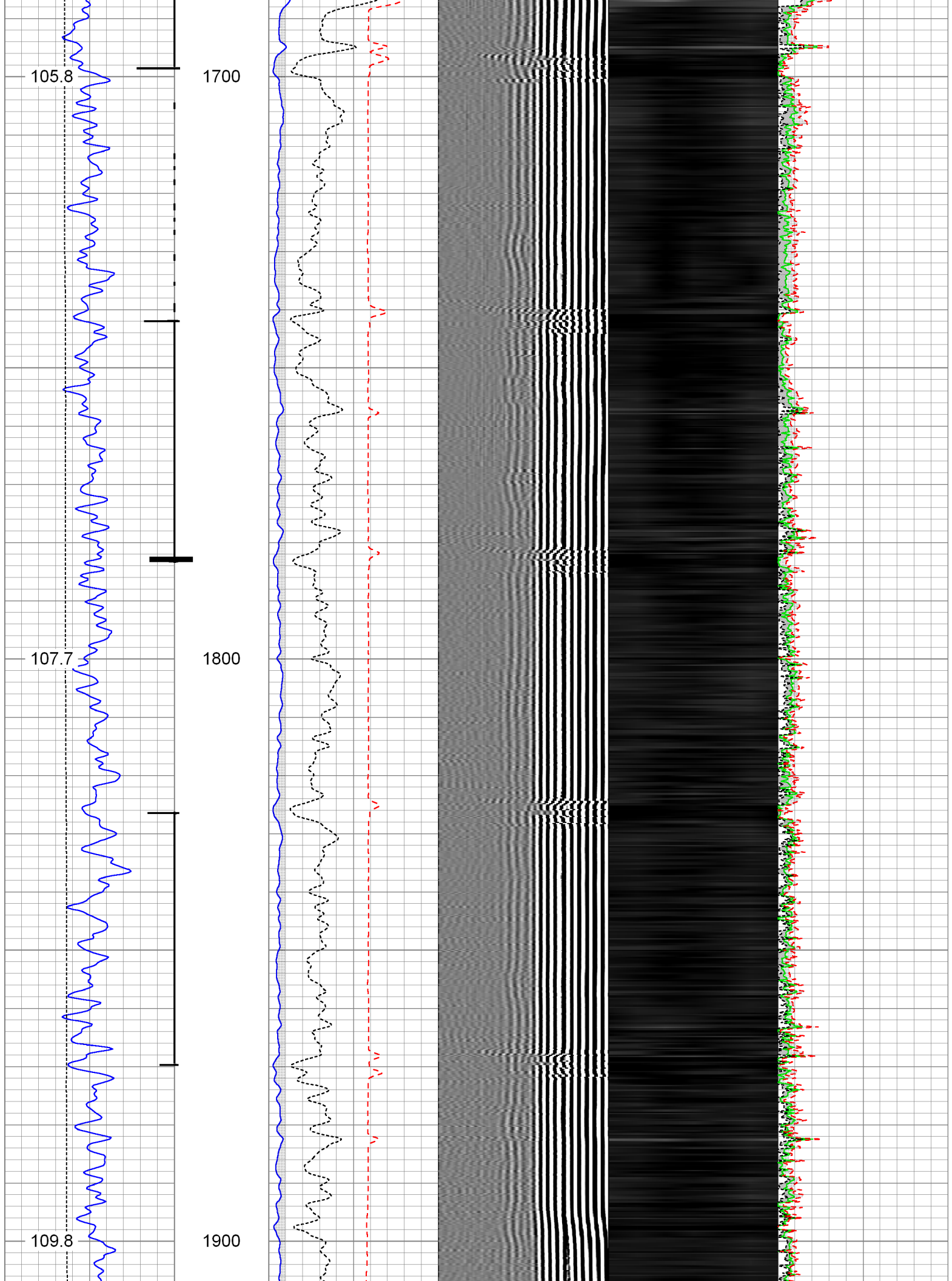


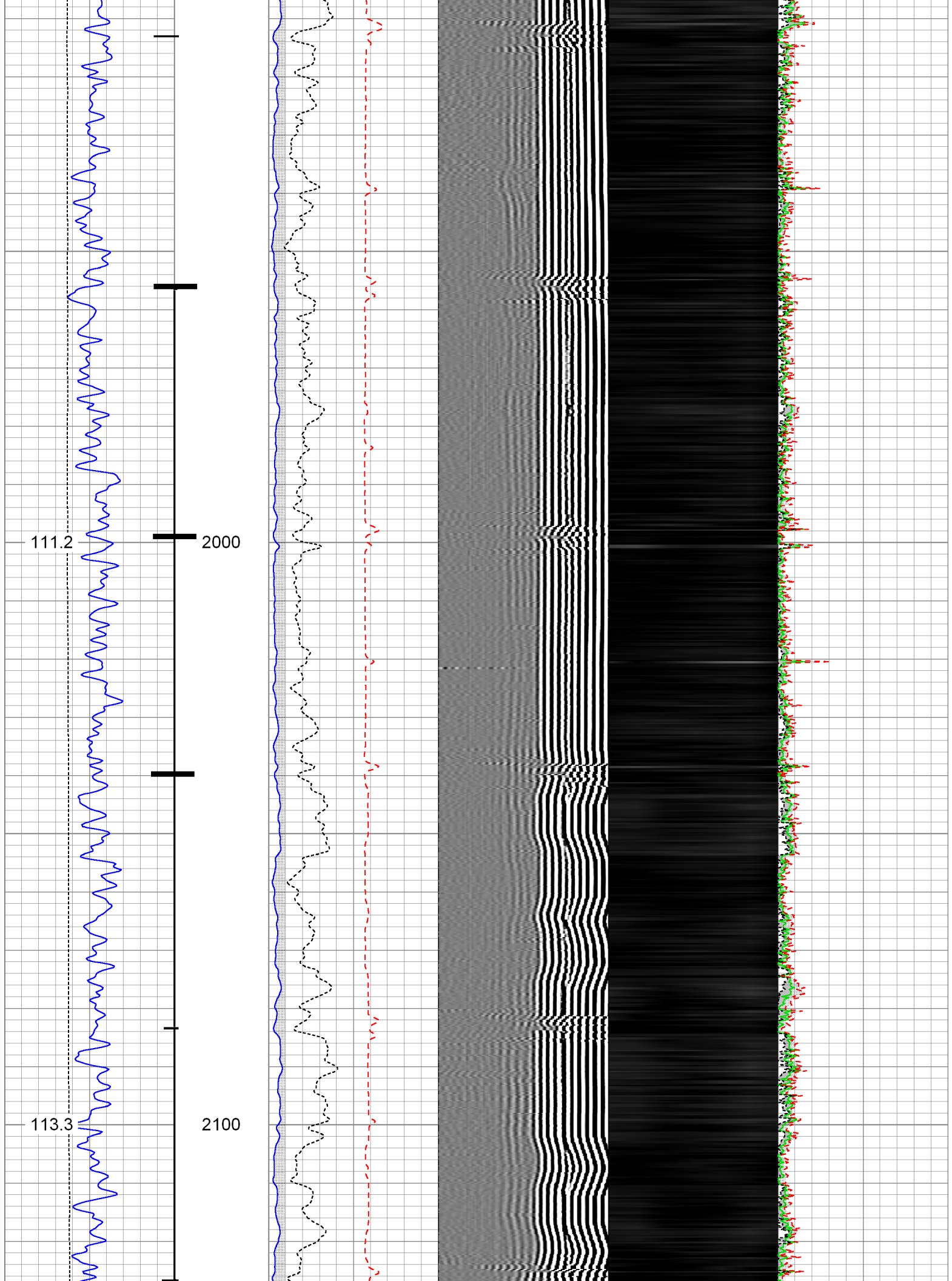


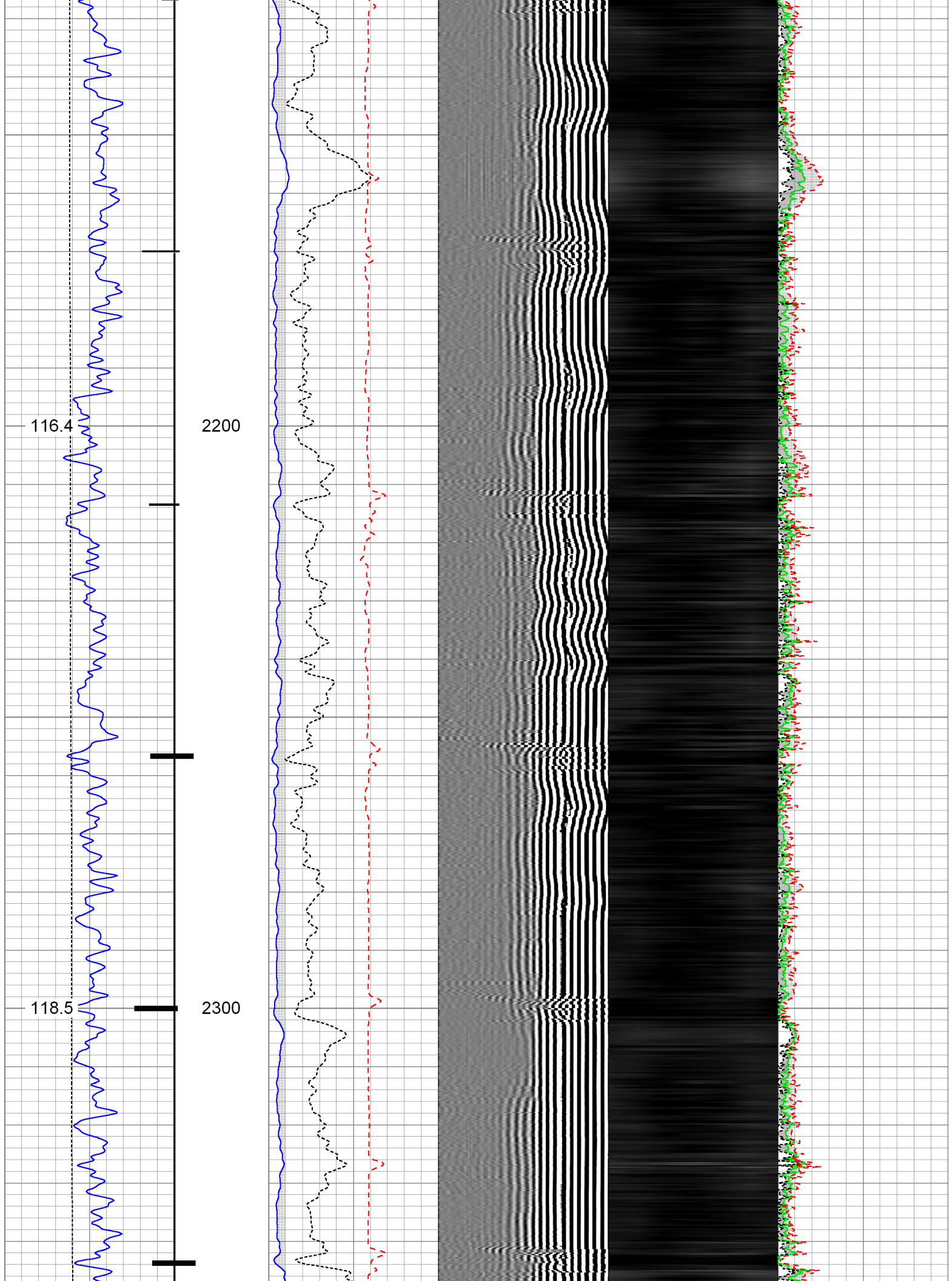


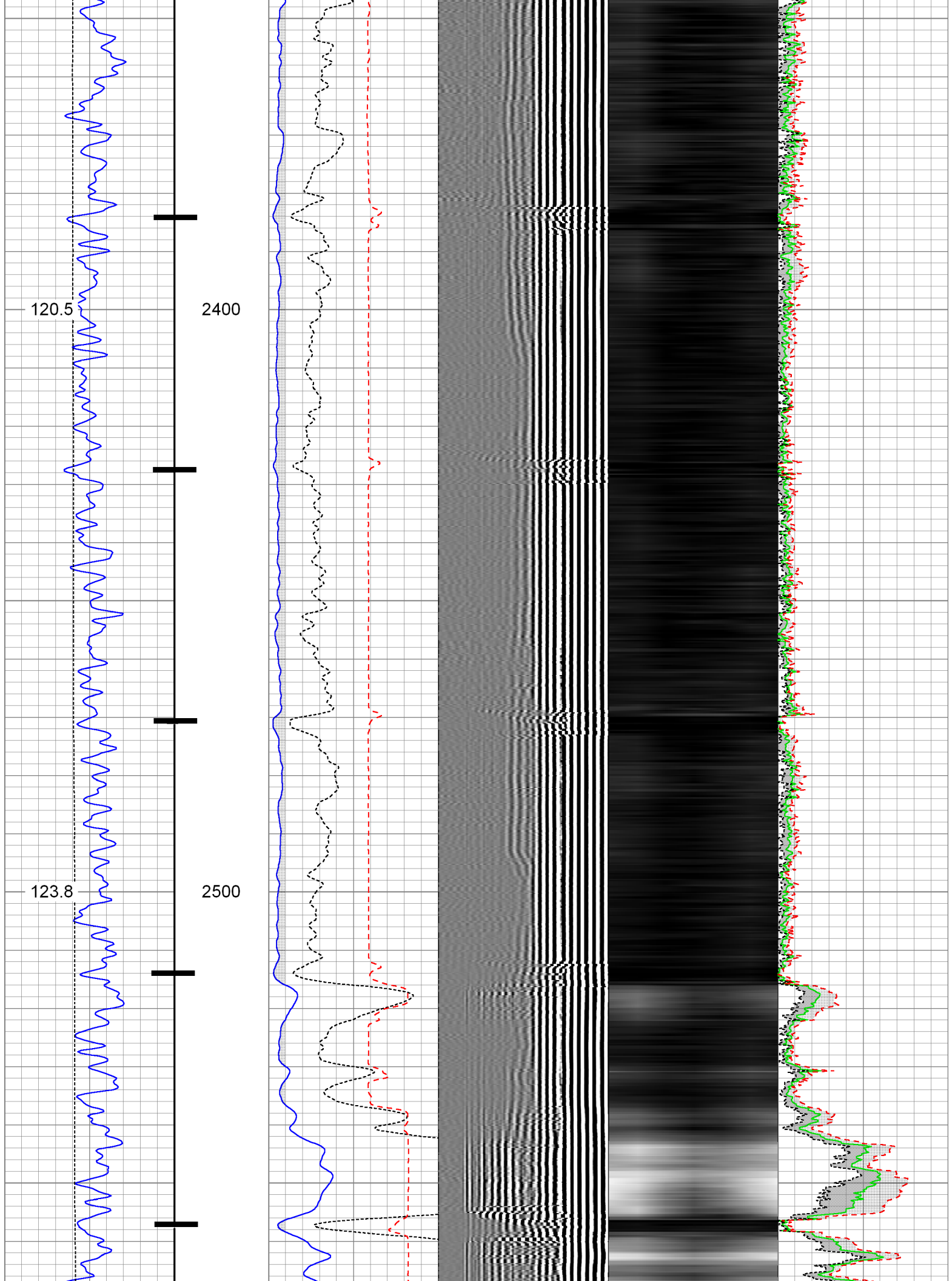


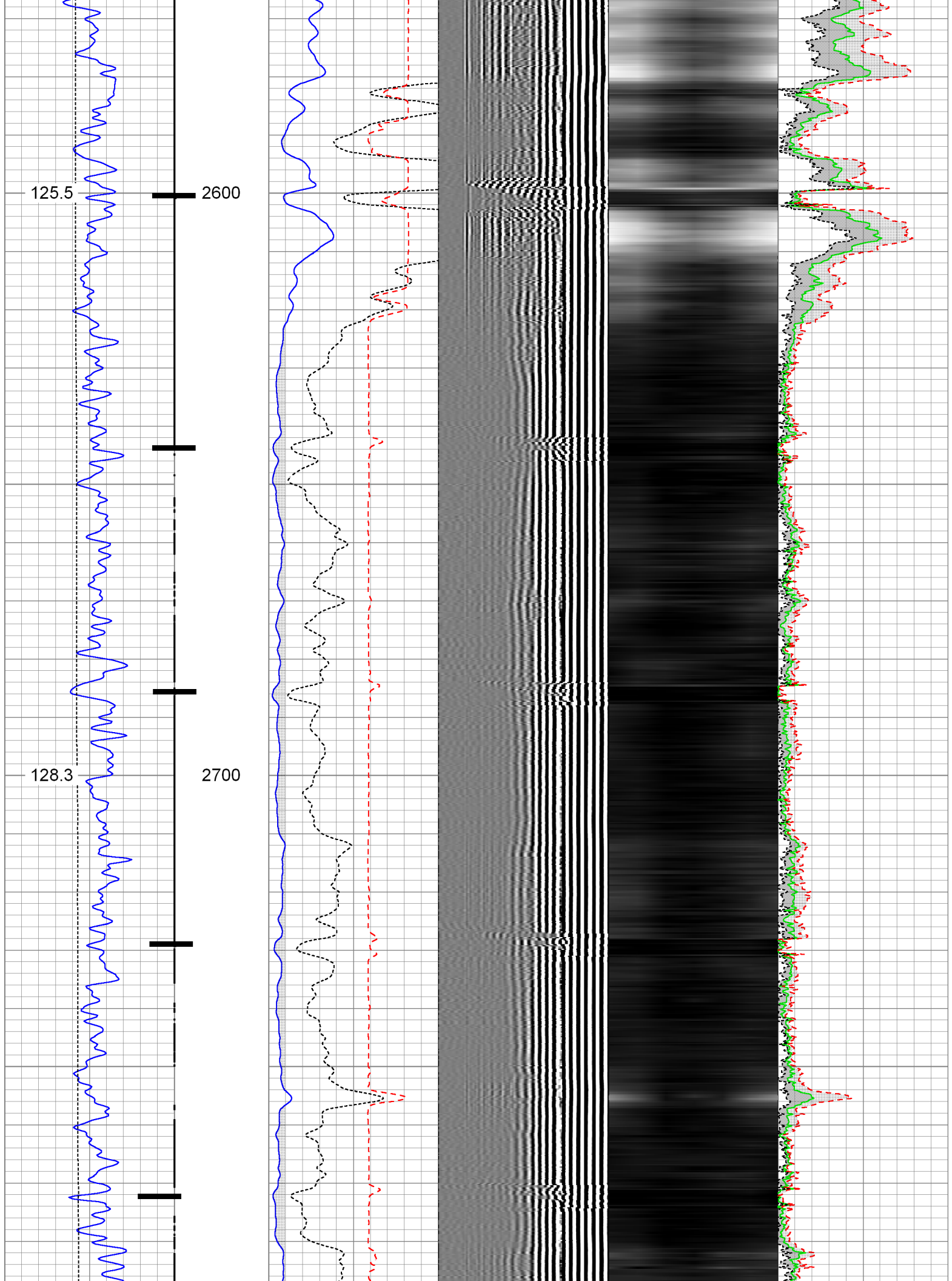


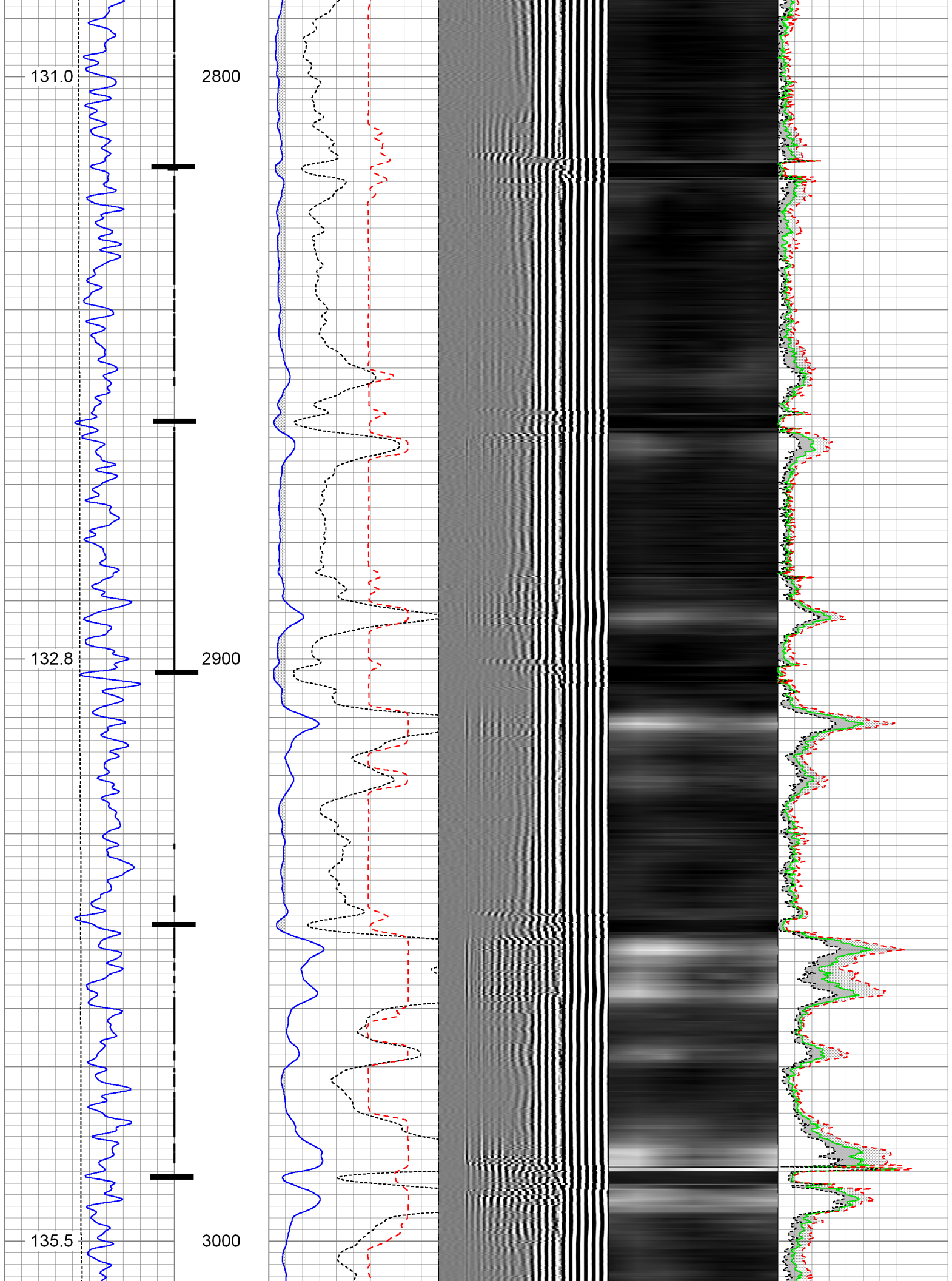


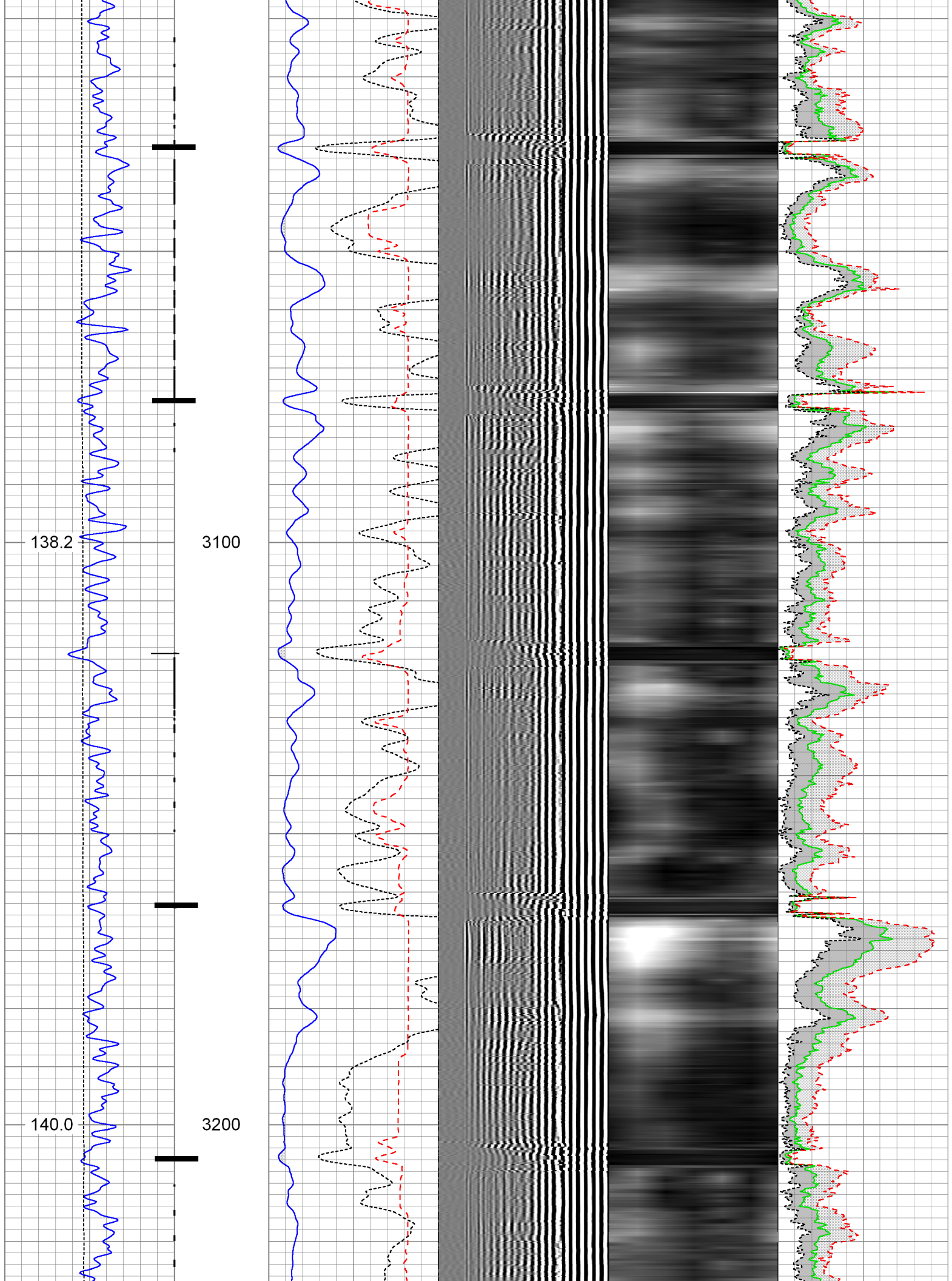


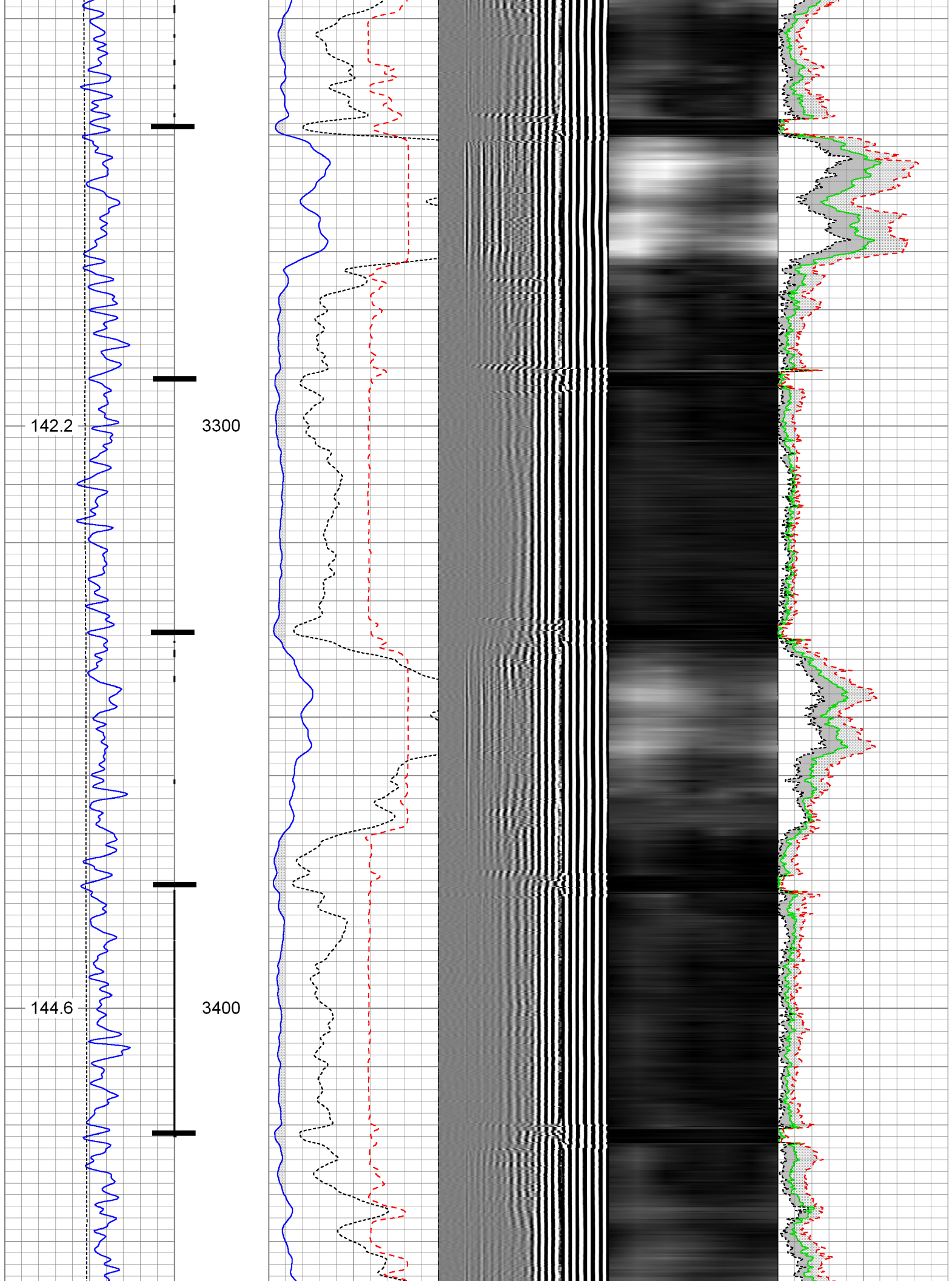


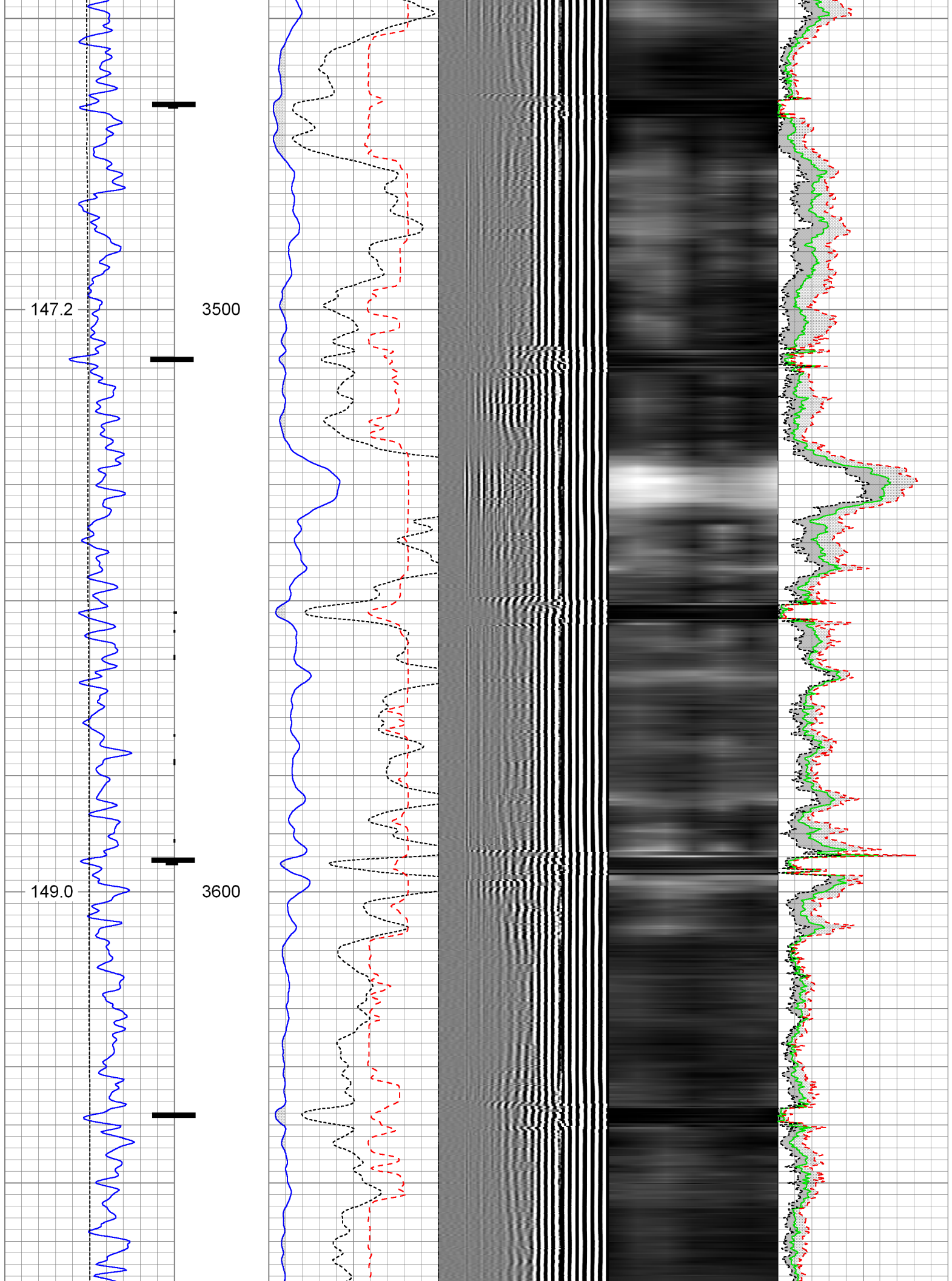


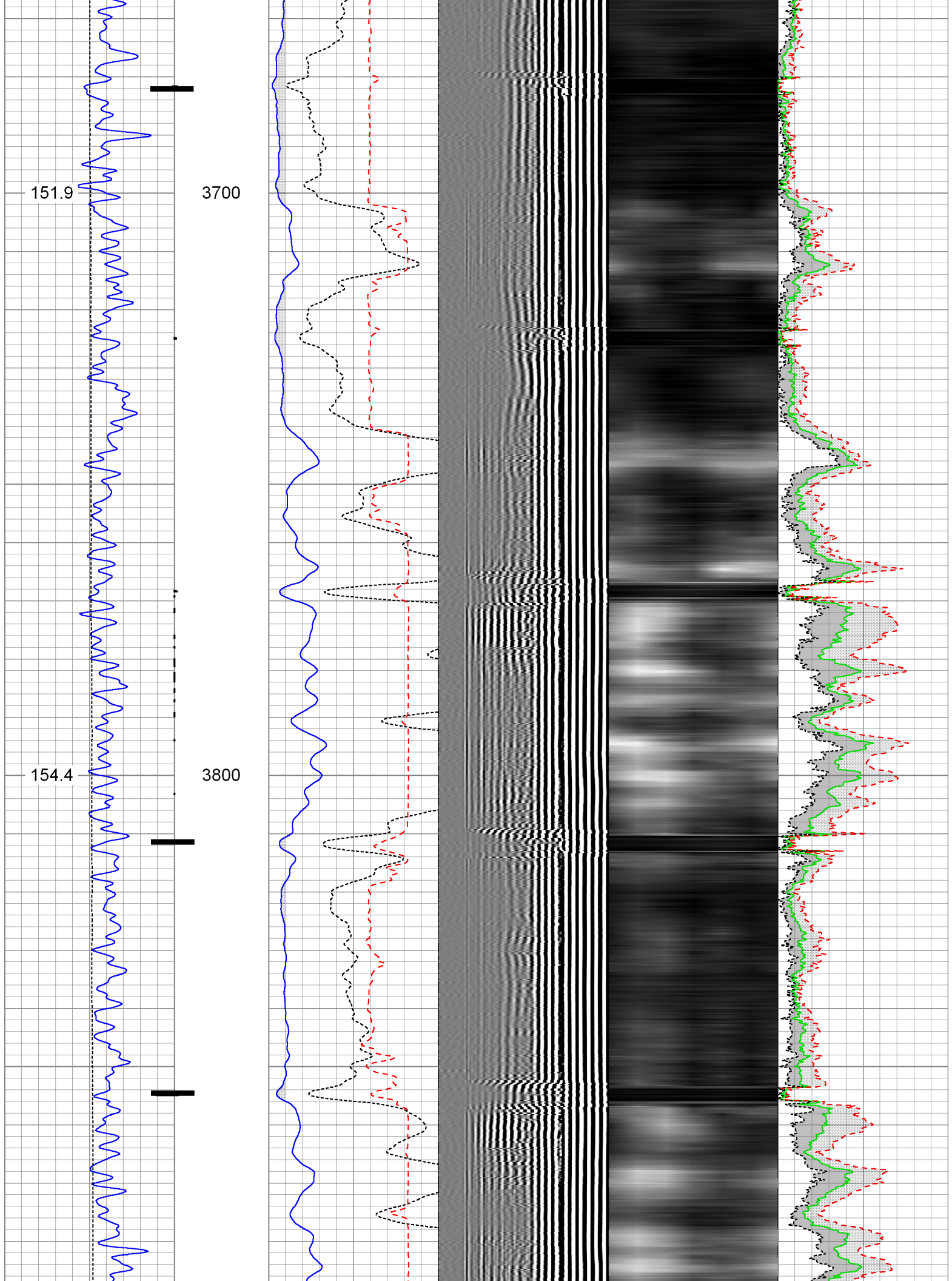


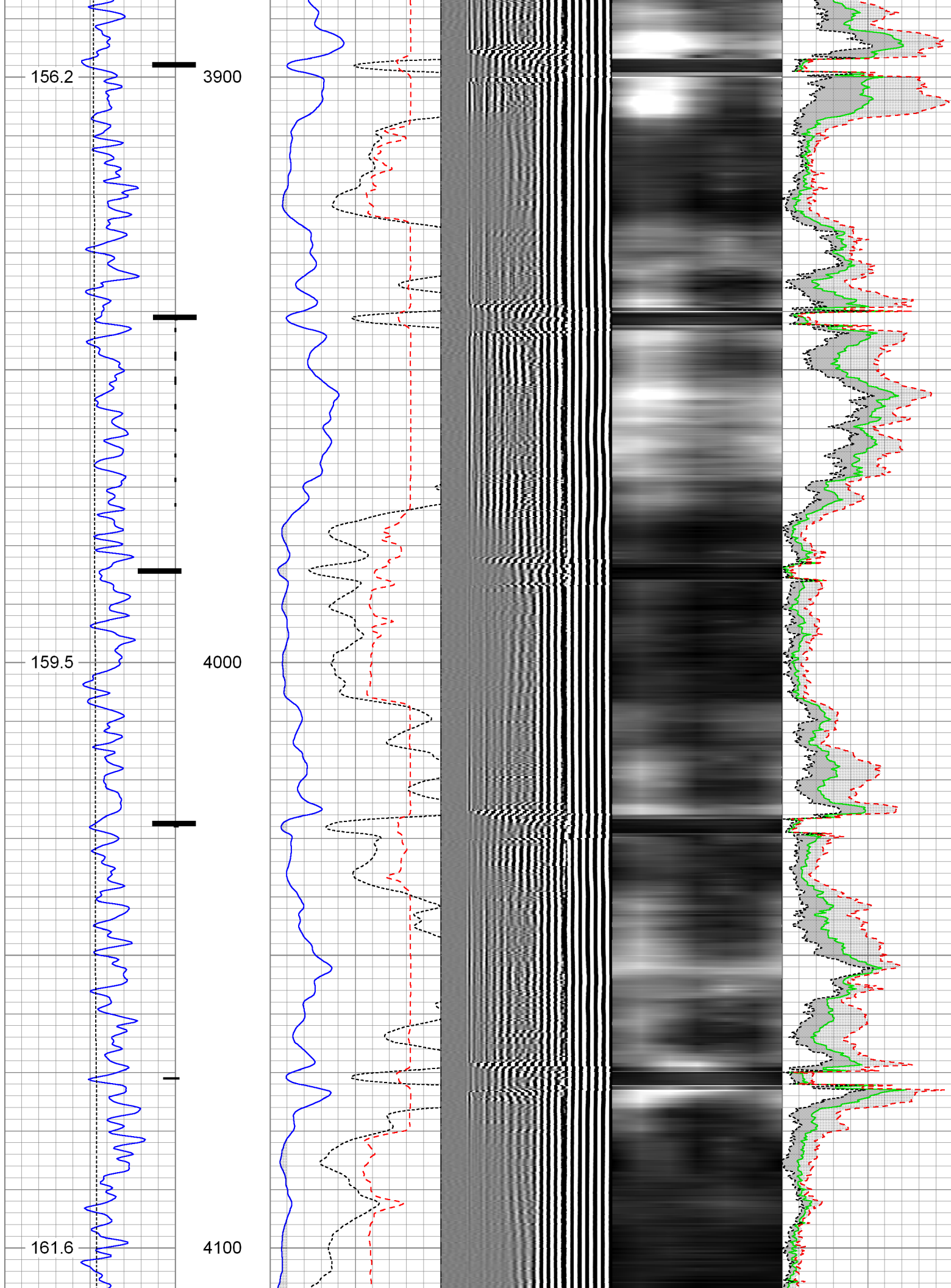


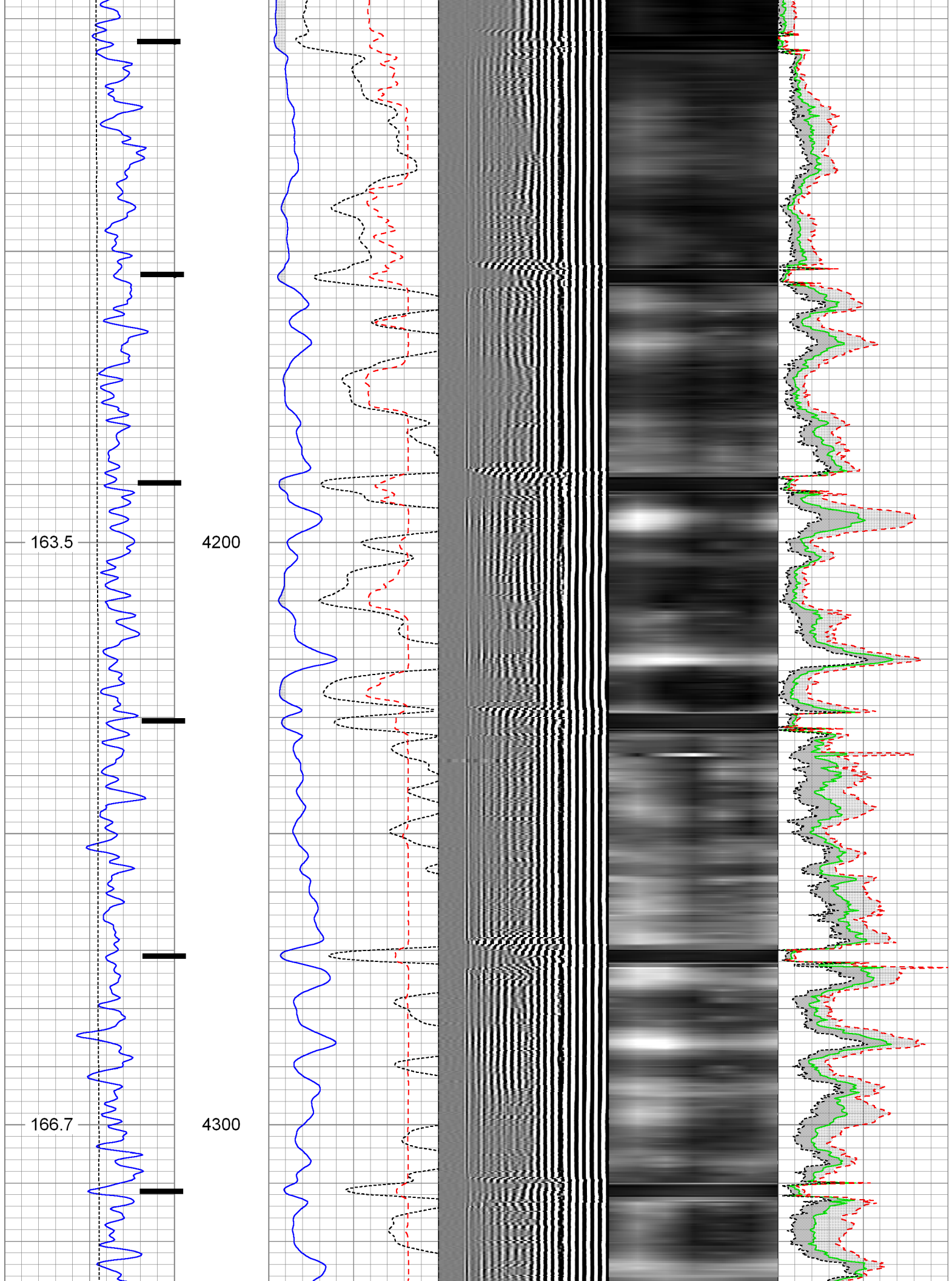


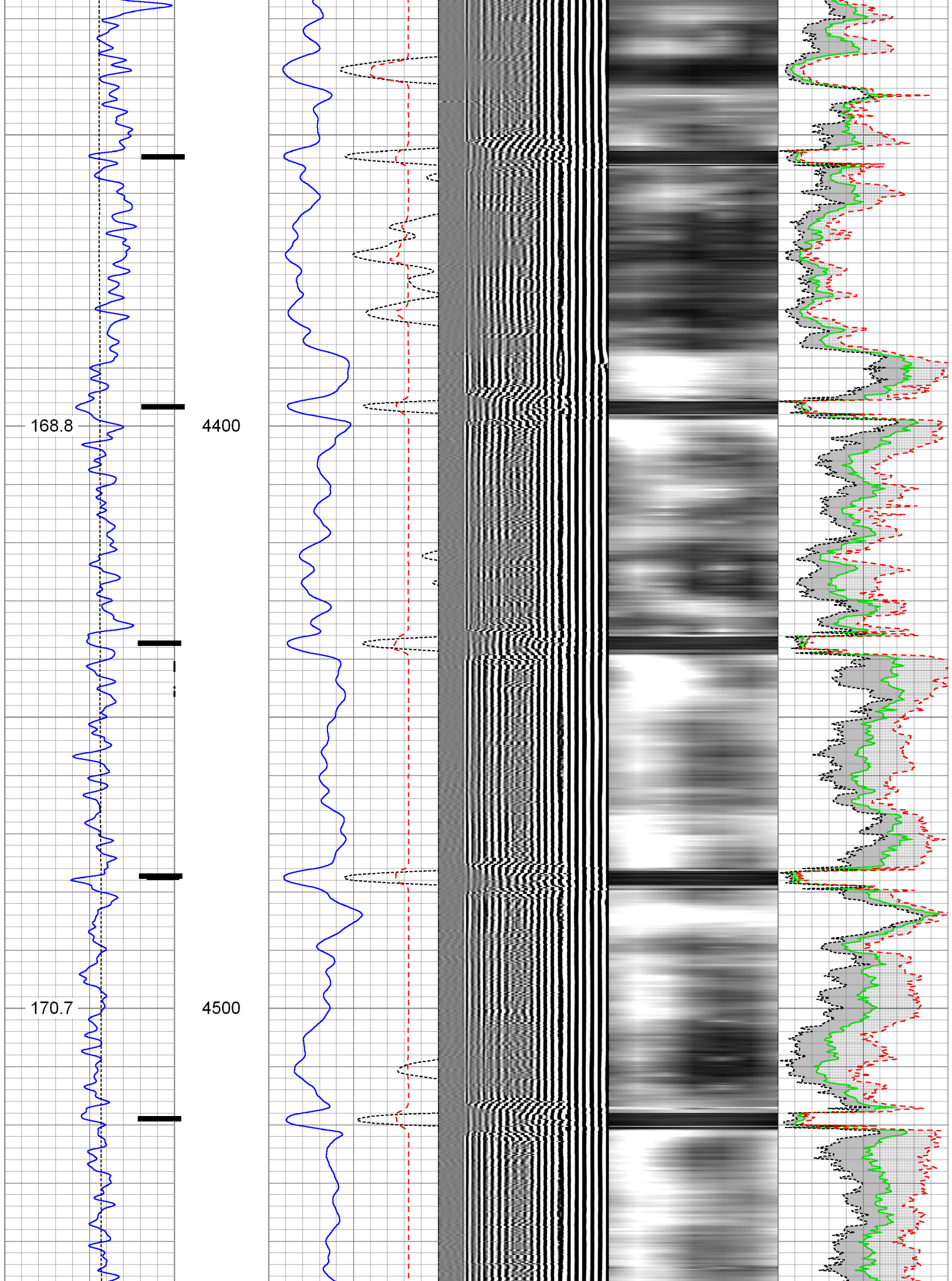


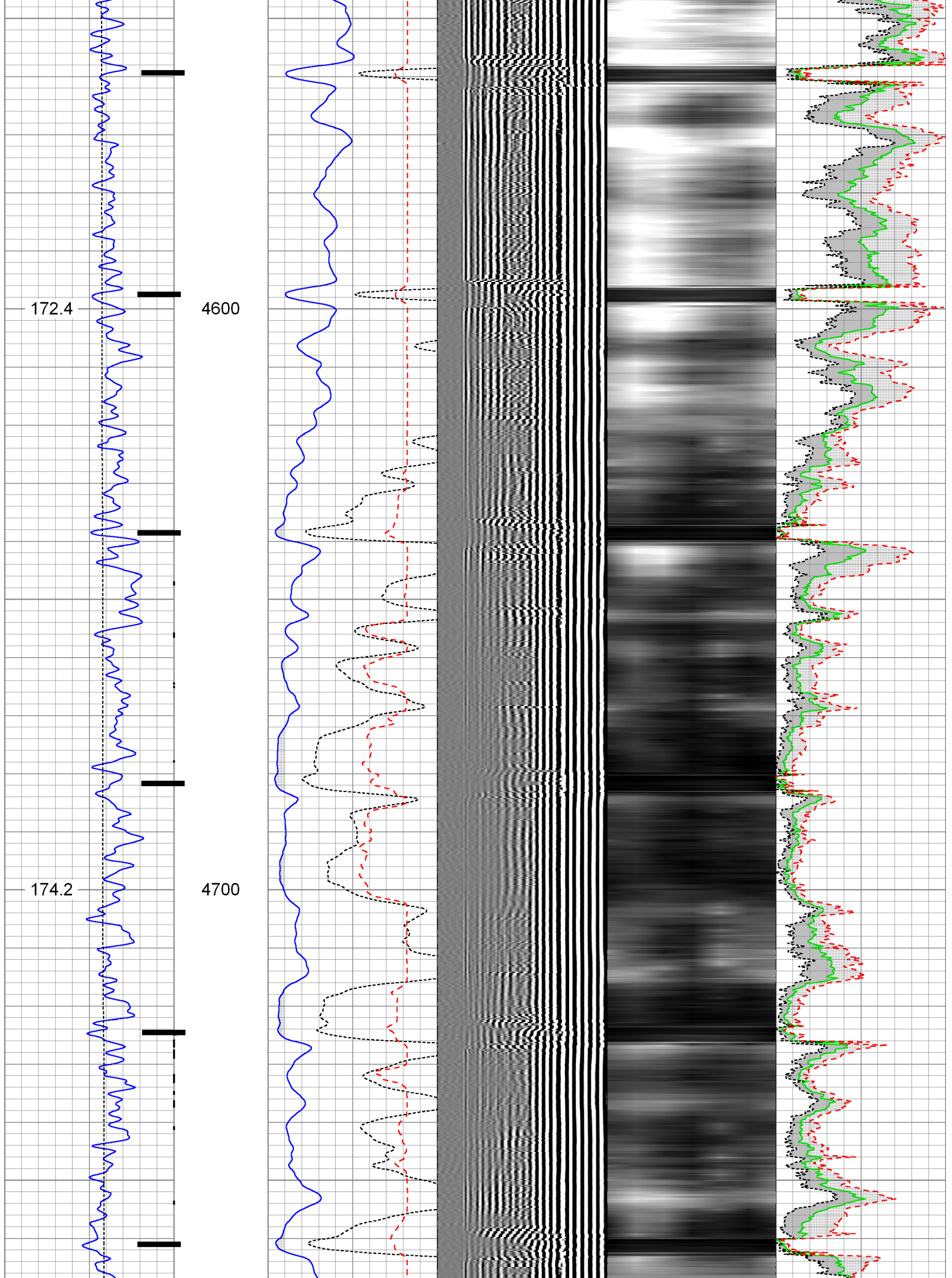


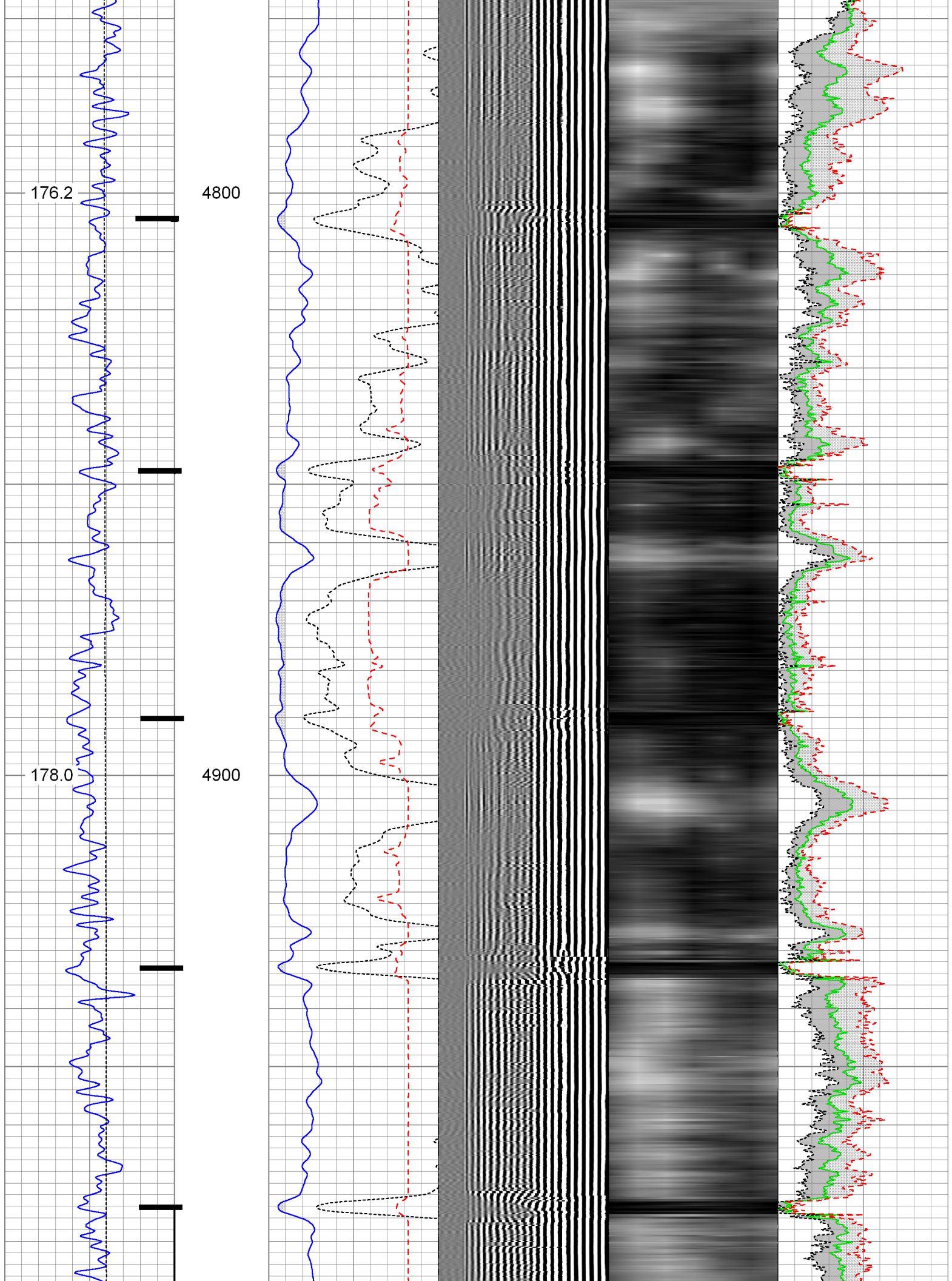


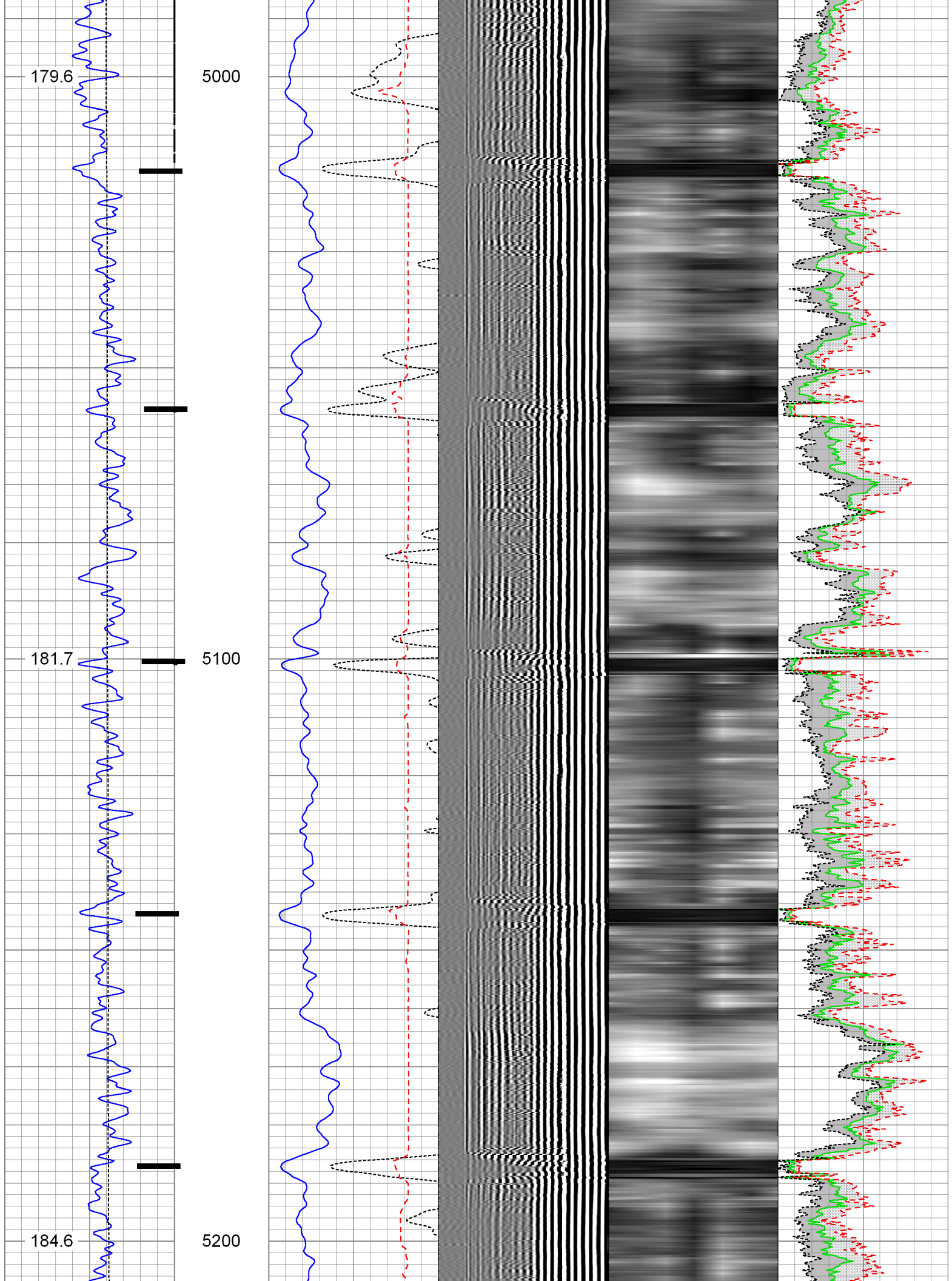


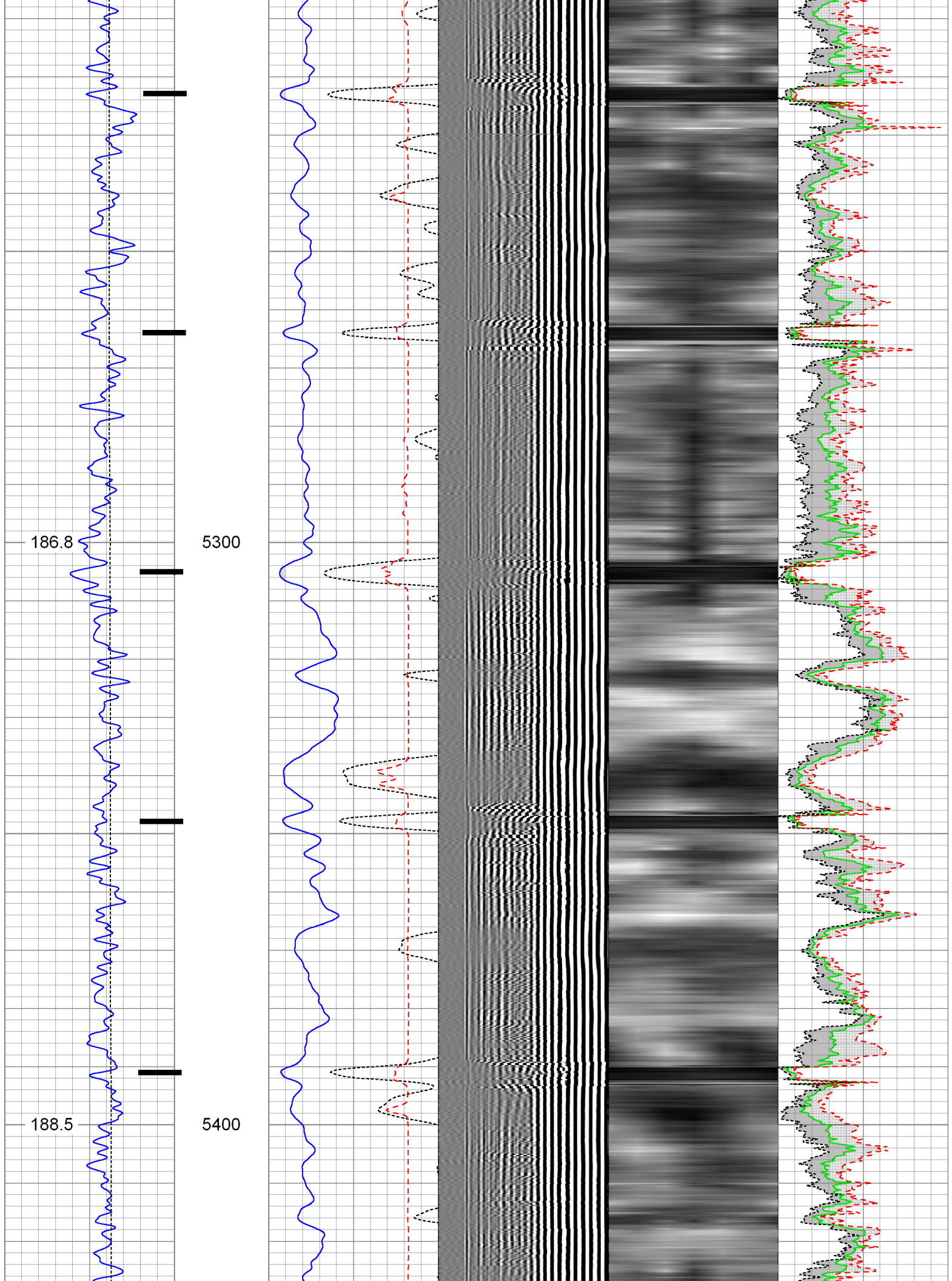


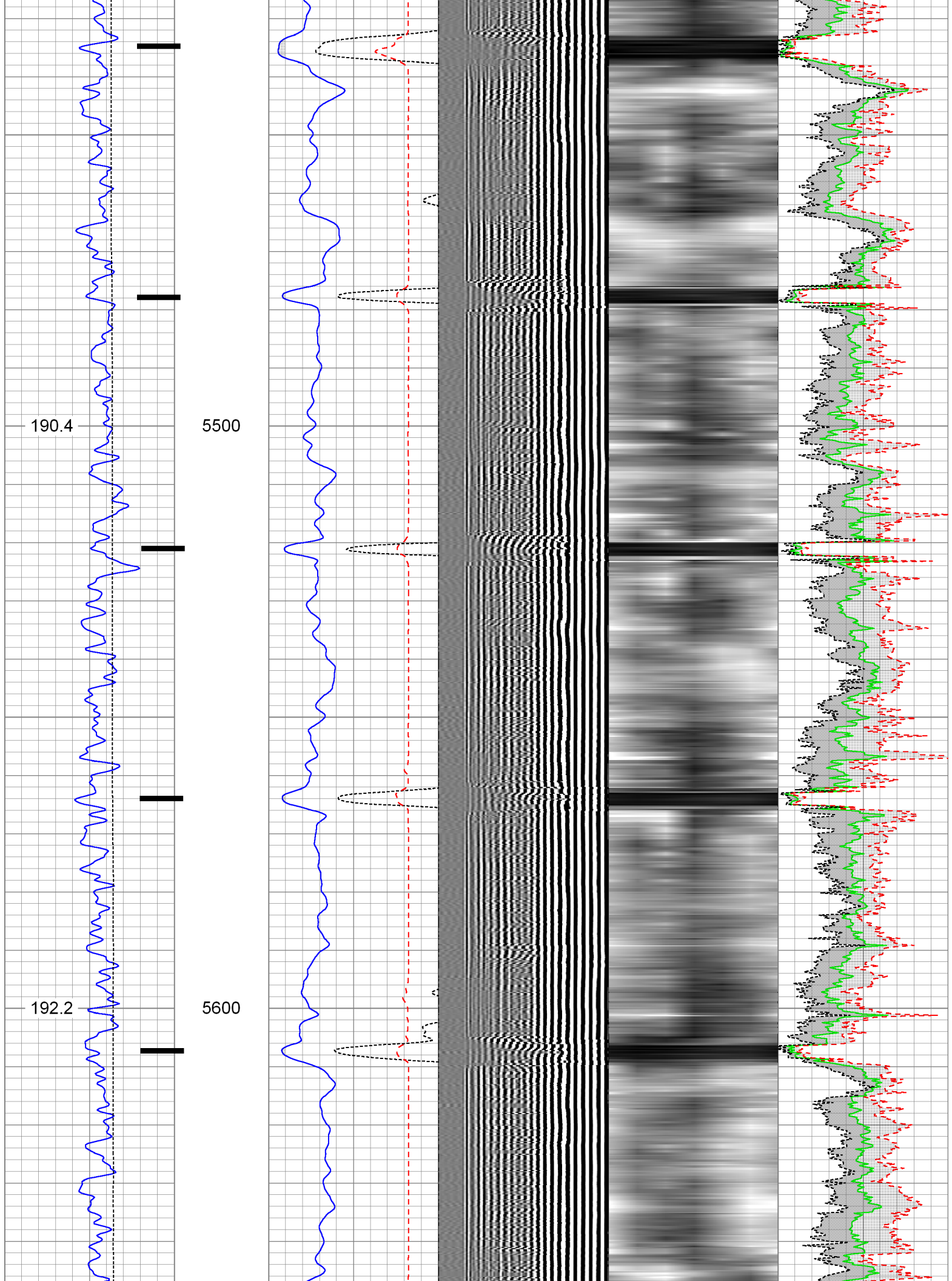


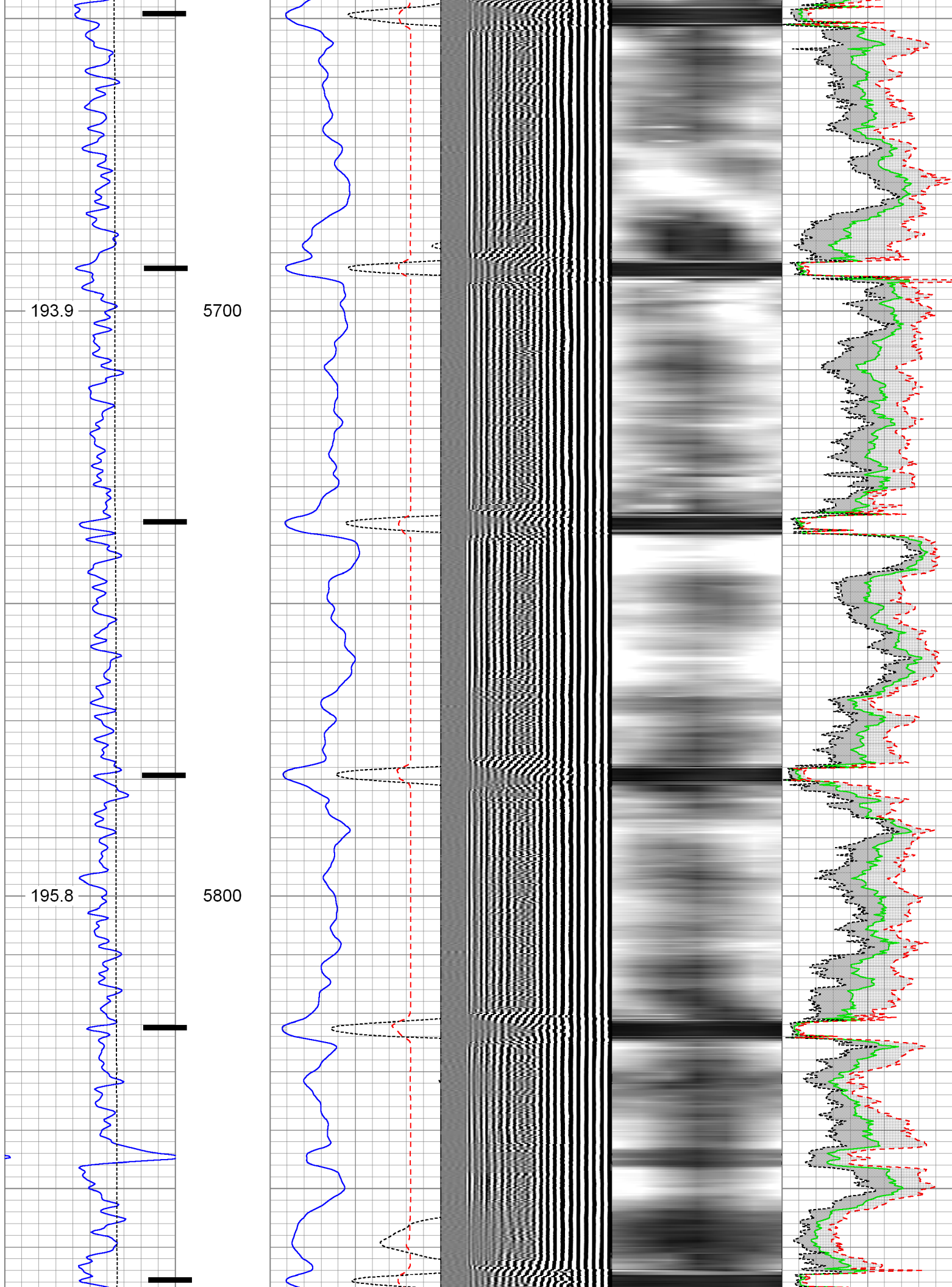


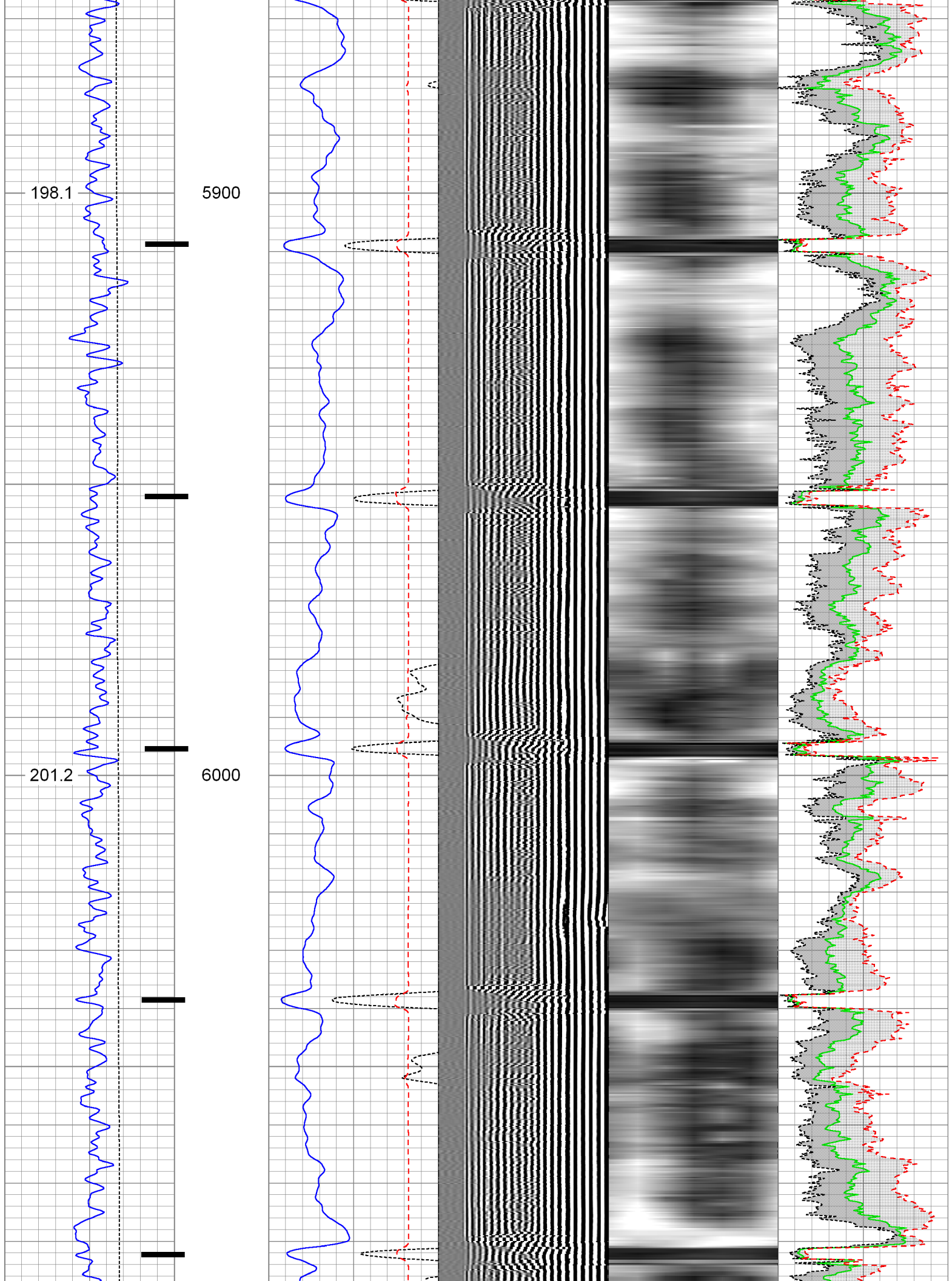


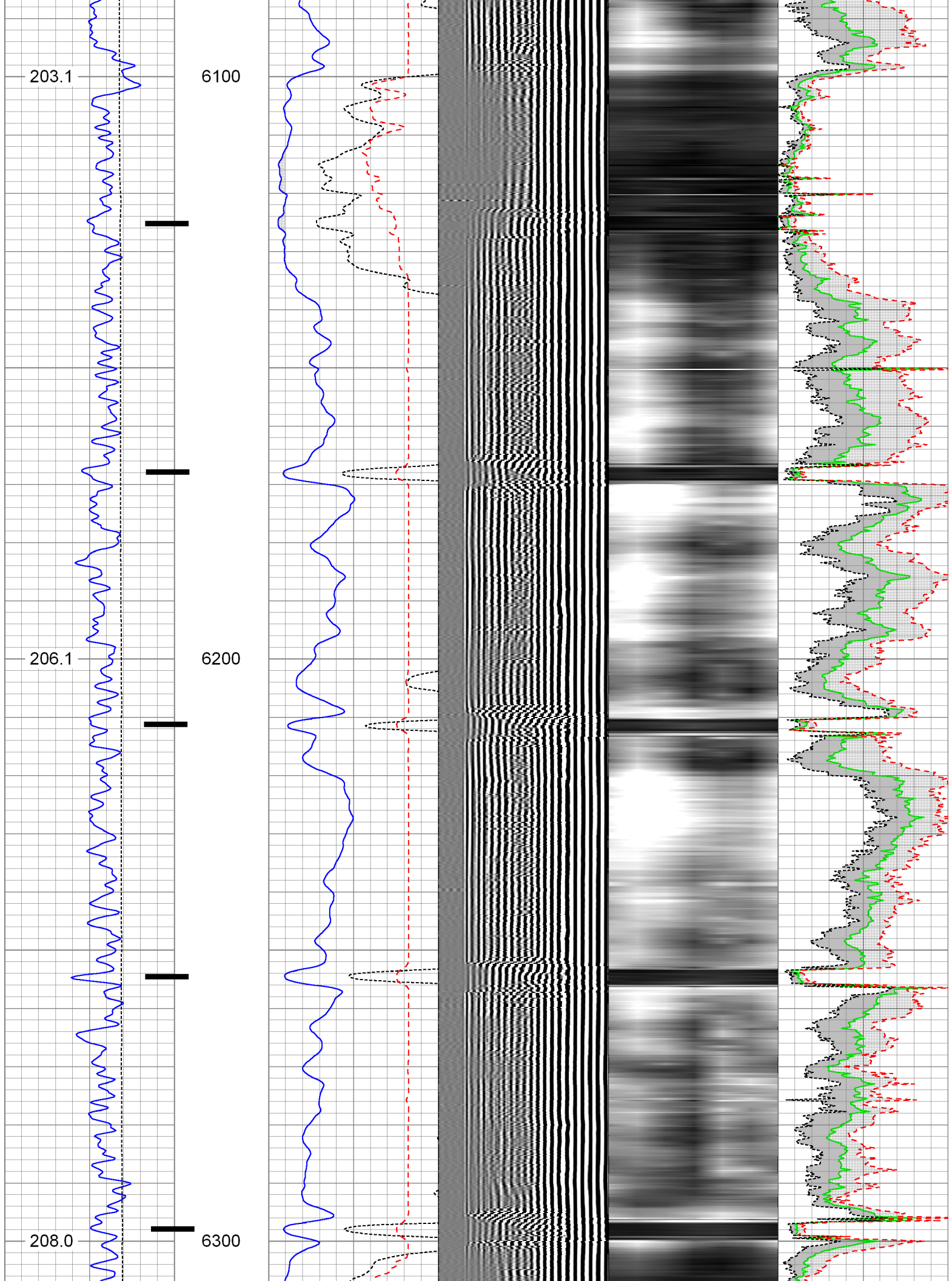


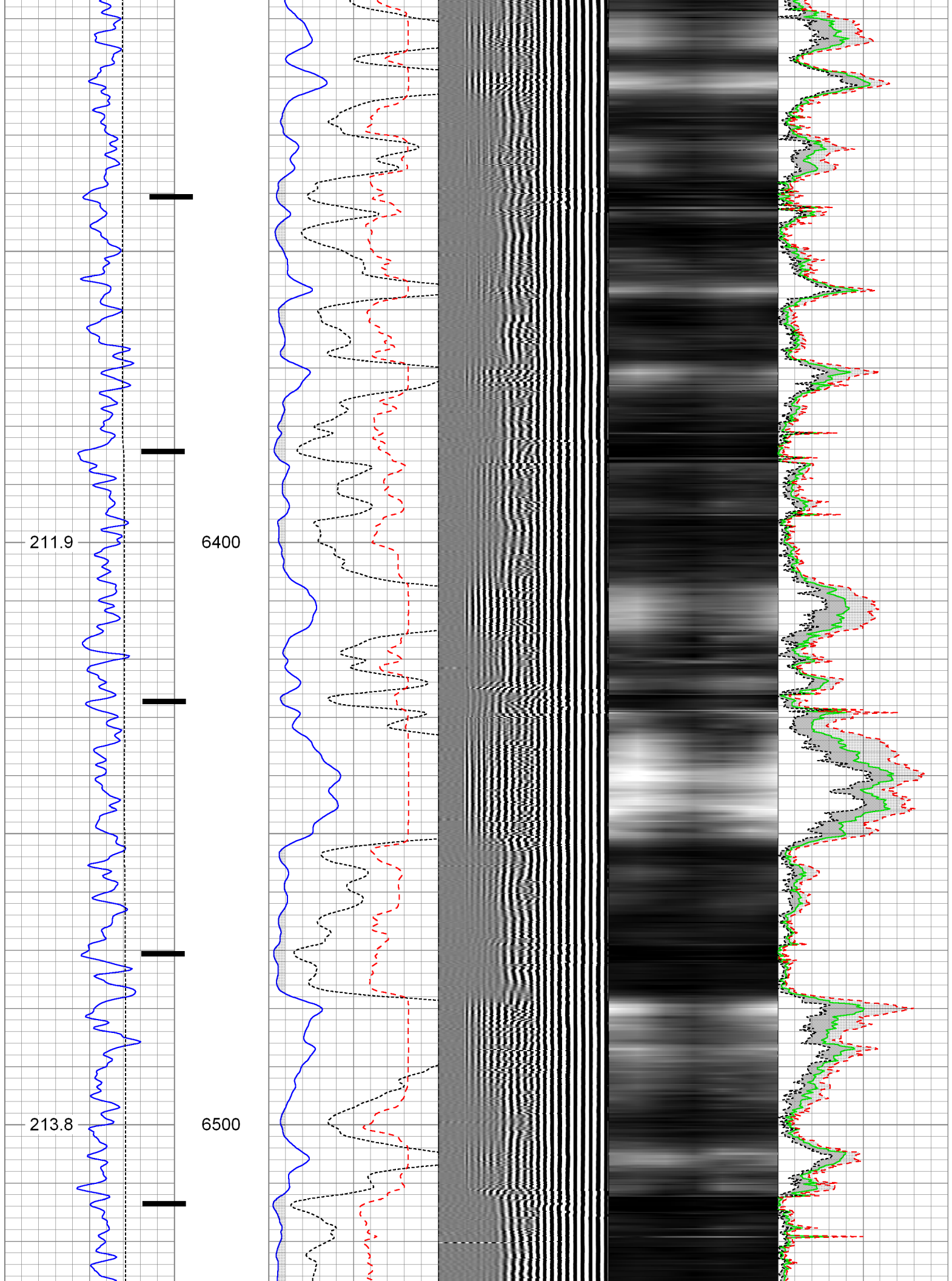


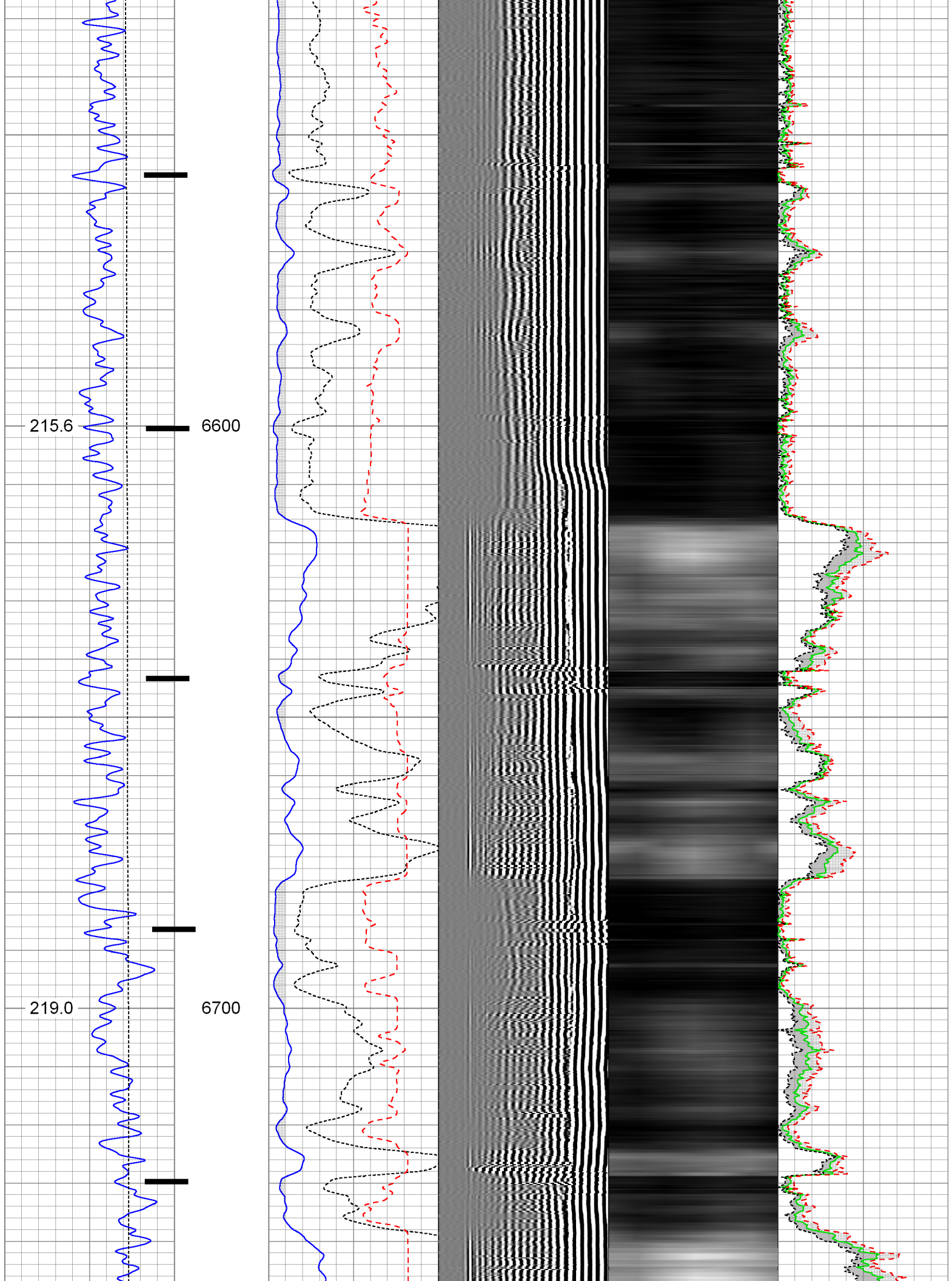


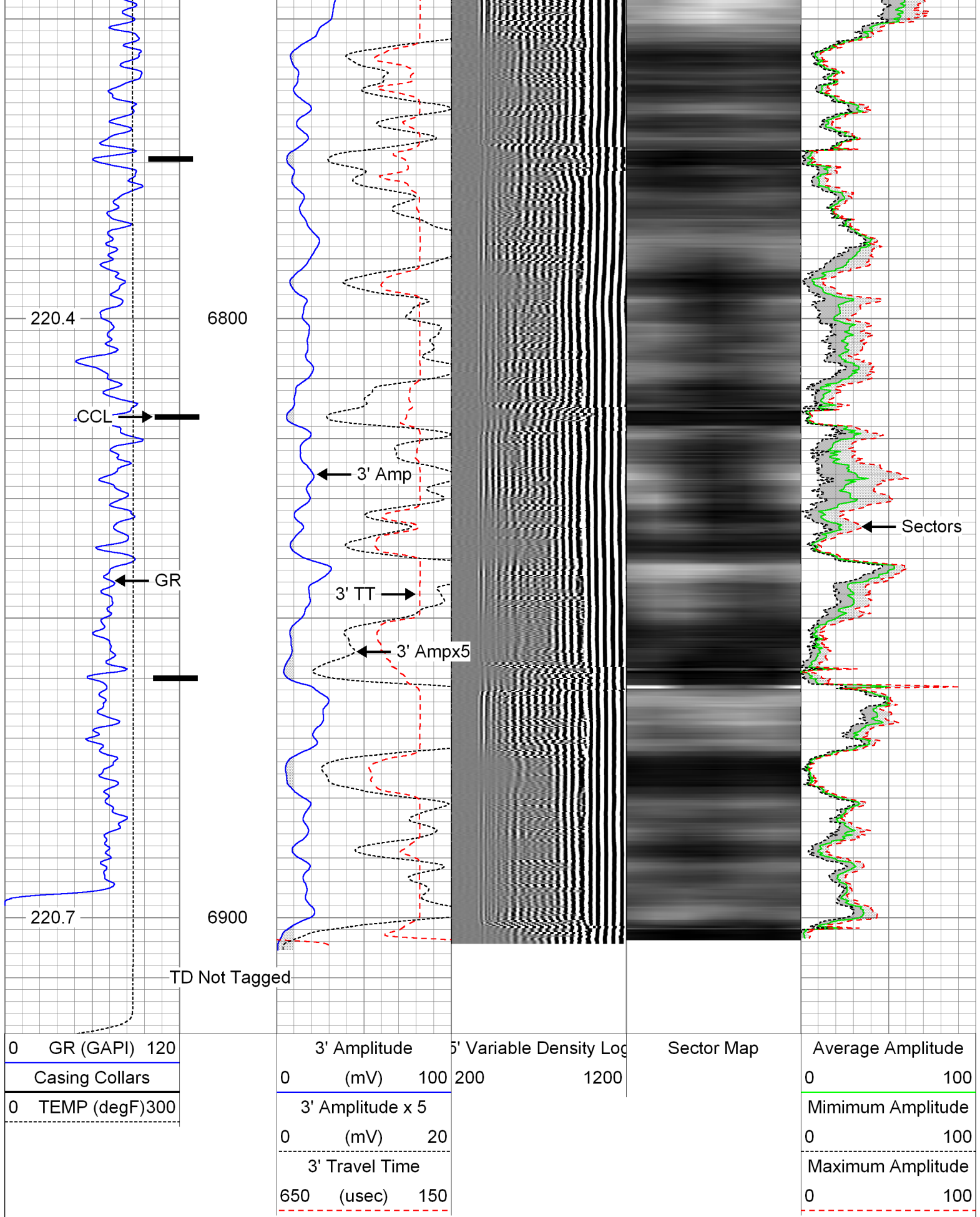






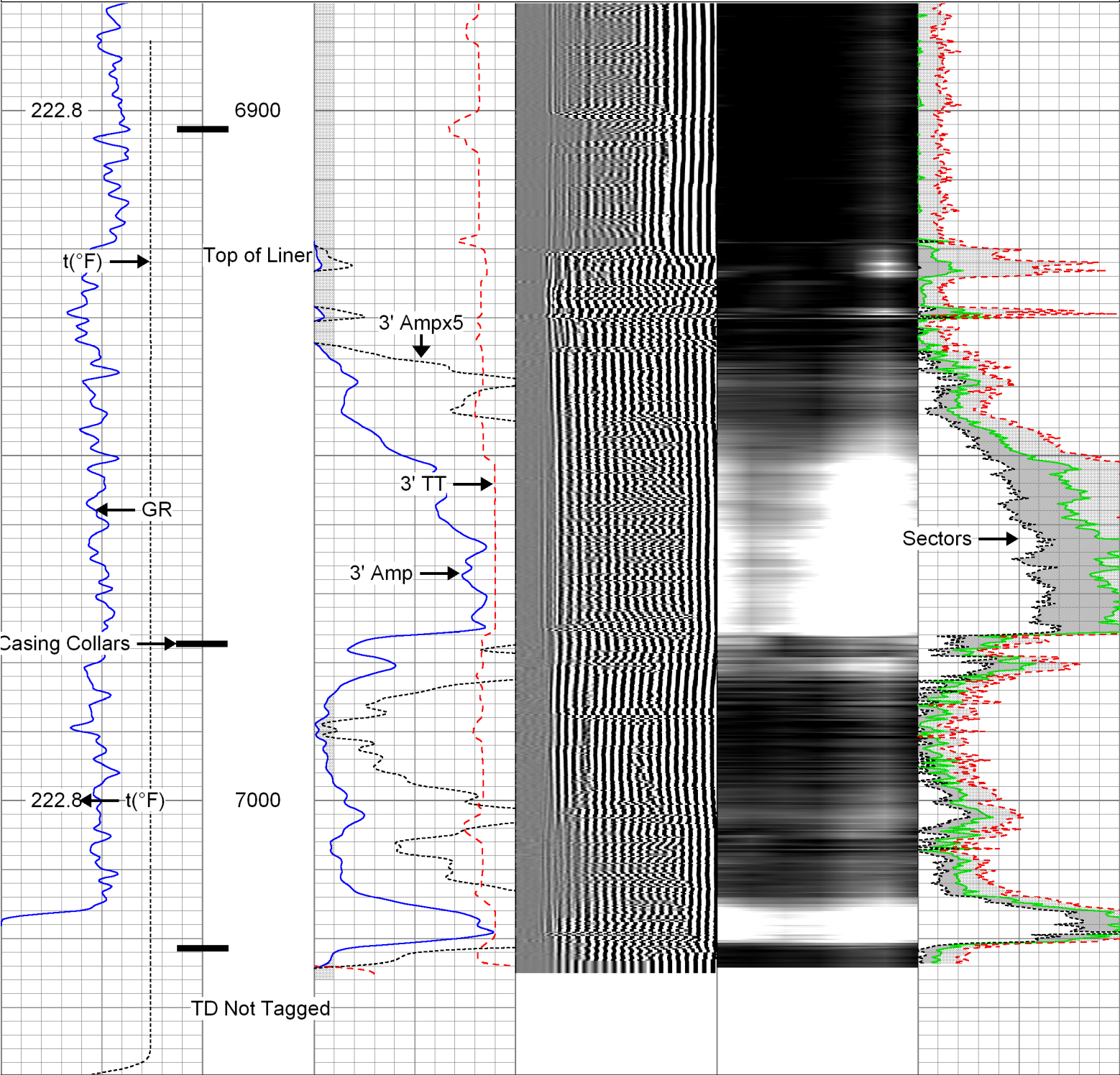






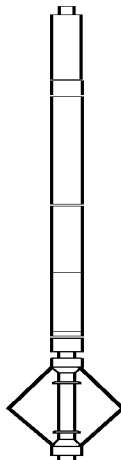
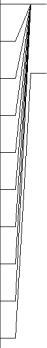

Database File: 0512338340_anadarko_grenemyer 35n-3hz_02-26-14_rbl.db
Dataset Pathname: lwrmain
Presentation Format: 1_rib
Dataset Creation: Wed Feb 26 15:48:54 2014 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240

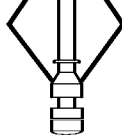
0 GR (GAPI) 120	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
Casing Collars	0 (mV) 100	200 1200		0 100
0 TEMP (degF) 300	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100



0 GR (GAPI) 120	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
-----------------	--------------	-------------------------	------------	-------------------

Casing Collars	0 (mV) 100	200	1200	0	100
0 TEMP (degF)300	3' Amplitude x 5			Mimimum Amplitude	
	0 (mV) 20			0	100
	3' Travel Time			Maximum Amplitude	
	650 (usec) 150			0	100

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.07		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 (219135) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (10013902) Production Gamma Ray	1.93	1.69	9.50
			PRC-001 (218411) 1-11/16" 3-Arm Production Roller Centraliser	1.92	1.69	7.00
WVF3FT	15.77		RBT-003 (1048) 1-11/16" Radial Bond Tool	9.93	1.69	42.00
WVFS1	15.77					
WVFS2	15.77					
WVFS3	15.77					
WVFS4	15.77					
WVFS5	15.77					
WVFS6	15.77					
CBLTEMP	15.77					
CBLROT	15.77					
WVF5FT	14.77					
MIT	5.41		PRC-057 (1102) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			MIT-042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10

TSTAMP	0.00		PRC-057 (1038) 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			BUL-006 (219228) Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512338340_anadarko_grenemyer 35n-3hz_02-26-14_rbl.db: field/well/run1/uprmain Total Length: 27.37 ft Total Weight: 193.30 lb O.D. 2.75 in						

Calibration Report	
Database File:	0512338340_anadarko_grenemyer 35n-3hz_02-26-14_rbl.db
Dataset Pathname:	uprmain
Dataset Creation:	Wed Feb 26 16:00:35 2014 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:				Wed Feb 26 13:09:52 2014			
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1184 356.0	1540 407.0	1947 379.0	2326			
Finger 02:	1120 356.0	1476 427.0	1903 403.0	2306			
Finger 03:	1143 345.0	1488 415.0	1903 388.0	2291			
Finger 04:	1074 347.0	1421 433.0	1854 419.0	2273			
Finger 05:	913 298.0	1211 383.0	1594 371.0	1965			
Finger 06:	1113 340.0	1453 422.0	1875 403.0	2278			
Finger 07:	1134 336.0	1470 411.0	1881 395.0	2276			
Finger 08:	1080 342.0	1422 425.0	1847 413.0	2260			
Finger 09:	1147 340.0	1487 403.0	1890 392.0	2282			
Finger 10:	1121 341.0	1462 402.0	1864 399.0	2263			
Finger 11:	1097 341.0	1438 402.0	1840 411.0	2251			
Finger 12:	1181 345.0	1526 377.0	1903 380.0	2283			
Finger 13:	1110 344.0	1454 393.0	1847 416.0	2263			
Finger 14:	1066 371.0	1437 405.0	1842 428.0	2270			
Finger 15:	1054 367.0	1421 402.0	1823 441.0	2264			
Finger 16:	1103 368.0	1471 387.0	1858 429.0	2287			
Finger 17:	1136 367.0	1503 372.0	1875 413.0	2288			
Finger 18:	1152 370.0	1522 367.0	1889 413.0	2302			
Finger 19:	1129 388.0	1517 375.0	1892 432.0	2324			
Finger 20:	1030 367.0	1397 362.0	1759 442.0	2201			
Finger 21:	1138 390.0	1528 365.0	1893 418.0	2311			
Finger 22:	1133 403.0	1536 371.0	1907 424.0	2331			
Finger 23:	1215 386.0	1601 344.0	1945 395.0	2340			
Finger 24:	1124 419.0	1543 376.0	1919 428.0	2347			

Finger 25:	1129	415.0	1544	375.0	1919	433.0	2352
Finger 26:	1160	417.0	1577	364.0	1941	412.0	2353
Finger 27:	1179	405.0	1584	360.0	1944	415.0	2359
Finger 28:	1134	426.0	1560	364.0	1924	422.0	2346
Finger 29:	1124	423.0	1547	388.0	1935	431.0	2366
Finger 30:	1130	424.0	1554	391.0	1945	429.0	2374
Finger 31:	1171	411.0	1582	377.0	1959	402.0	2361
Finger 32:	1137	415.0	1552	393.0	1945	422.0	2367
Finger 33:	1135	409.0	1544	397.0	1941	413.0	2354
Finger 34:	1117	407.0	1524	409.0	1933	420.0	2353
Finger 35:	1164	383.0	1547	383.0	1930	391.0	2321
Finger 36:	1125	393.0	1518	410.0	1928	410.0	2338
Finger 37:	1217	369.0	1586	384.0	1970	376.0	2346
Finger 38:	1184	371.0	1555	400.0	1955	383.0	2338
Finger 39:	1144	371.0	1515	412.0	1927	399.0	2326
Finger 40:	1079	372.0	1451	437.0	1888	415.0	2303

Segmented Cement Bond Log Calibration Report

Serial Number:	1048
Tool Model:	003
Calibration Casing Diameter:	7.000 in
Calibration Depth:	1964.889 ft

Master Calibration, performed Wed Feb 26 13:58:05 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.000	0.641	0.800	62.165	95.717	0.771
5FT	0.015	0.586	0.800	62.165	107.441	-0.780
S1	0.033	0.738	0.000	100.000	141.961	-4.753
S2	0.029	0.643	0.000	100.000	162.724	-4.706
S3	0.027	0.575	0.000	100.000	182.398	-4.867
S4	0.010	0.562	0.000	100.000	181.167	-1.880
S5	0.009	0.626	0.000	100.000	162.132	-1.500
S6	0.011	0.700	0.000	100.000	145.143	-1.573

Gamma Ray Calibration Report

Serial Number:	10013902
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	Grenemyer 35N-3HZ
Field	Wattenberg
County	Weld
State	Colorado