



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Kerr-McGee Oil & Gas Onshore, L.P.			
Well				USA Fed 29C-36HZ			
Field				Wattenberg			
County				Weld			
State				Colorado			
Location:				API # : 05-123-36848			
Permanent Datum				SHL: 642' FSL & 1875' FWL SESW			
Log Measured From				Lat / Long: 40.176423 / -104.728284			
Drilling Measured From				SEC 36 TWP 3N RGE 66W			
Ground Level				Elevation 5005'			
Kelly Bushing (13 FT)				Elevation			
Kelly Bushing				K.B. 5018'			
Kelly Bushing				D.F. 5017'			
Kelly Bushing				G.L. 5005'			
Date				30-Aug-2013			
Run Number				Two			
Depth Driller				11995 FT			
Depth Logger				6898 FT			
Bottom Logged Interval				6893 FT			
Top Log Interval				Surface			
Open Hole Size				8.750"			
Type Fluid				Water			
Density / Viscosity				8.34 lbm/gal			
Max. Recorded Temp.				229 degF			
Estimated Cement Top				20 FT			
Time Well Ready				10:00			
Time Logger on Bottom				11:15			
Equipment Number				HD-0119			
Location				Fort Lupton, CO.			
Recorded By				Sam Hopper			
Witnessed By				Rick Duntford			
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 936 FT			
Intermediate #1				7" 26# HCP-110 Surface 7765 FT			
Intermediate #2							
Liner				4-1/2" 11.6# P-110 6847 FT 11940 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

Radial Cement Bond Log - Casing Inspection Log is first recorded log in hole.
Depth reference to Casing Tally reported Top of Liner at 6847'.
Adjusted -5' to Top of Liner at 6847' from a 13' KB zero.
RCBL-CIL ran with 2500 PSI surface induced pressure.
Estimated Cement Top recorded at 20 FT.
Frequency Hz change at 916' from 11Hz to 5Hz for surface casing MTT readings.

Thank you for choosing FMC Technologies Completion Services!!

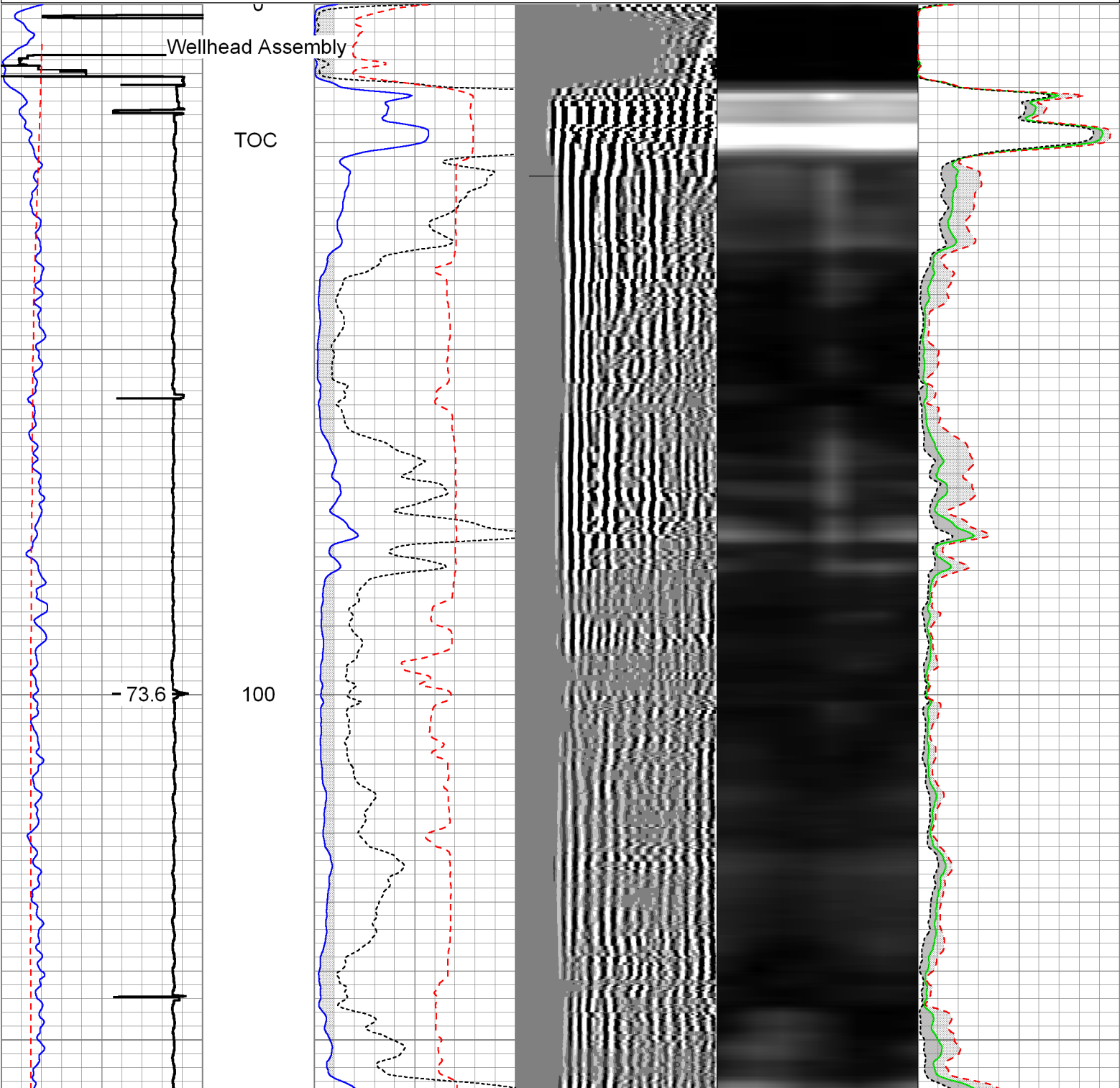


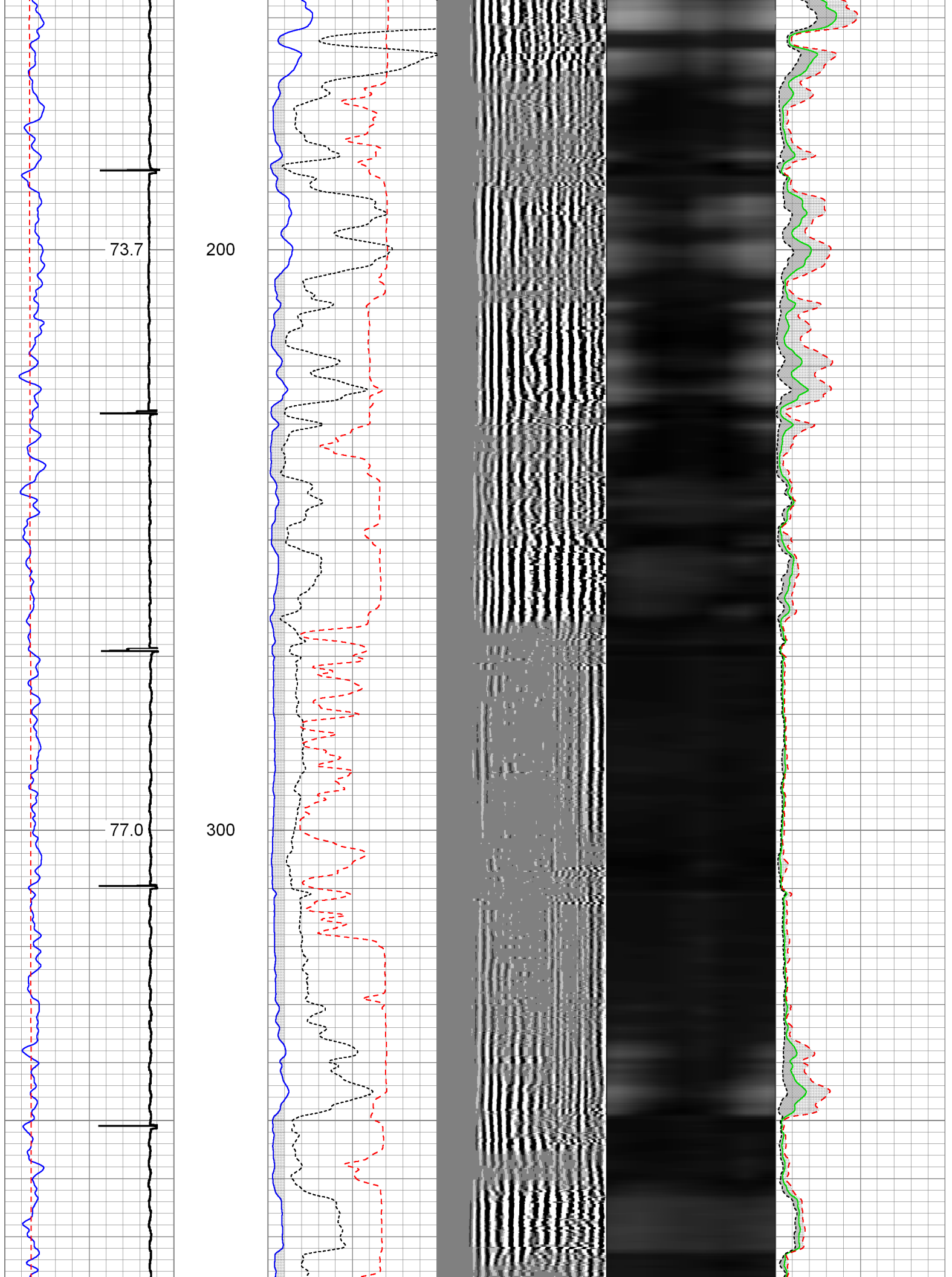
Main Pass

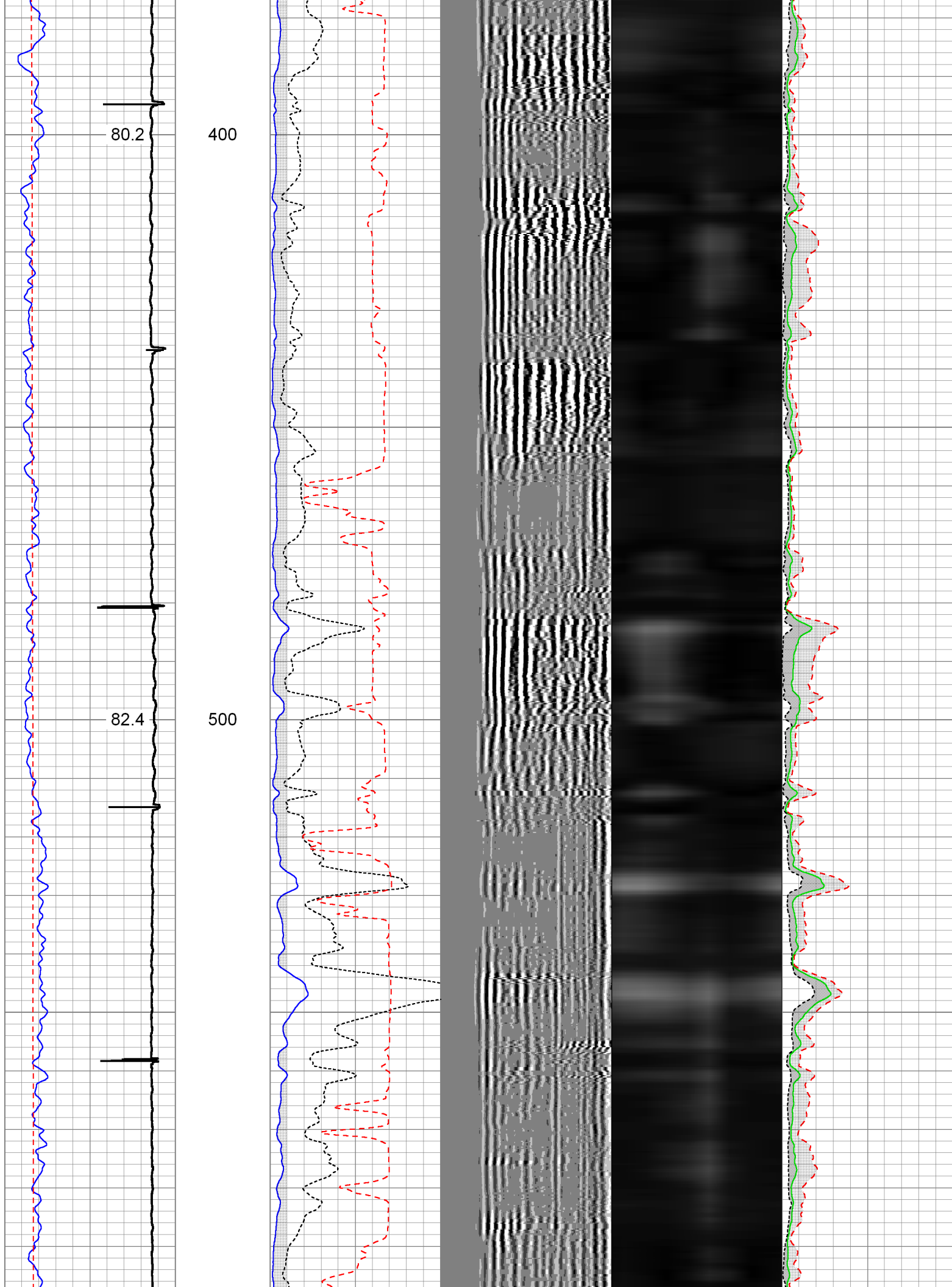
Recorded with 2500 PSI Surface Induced Pressure

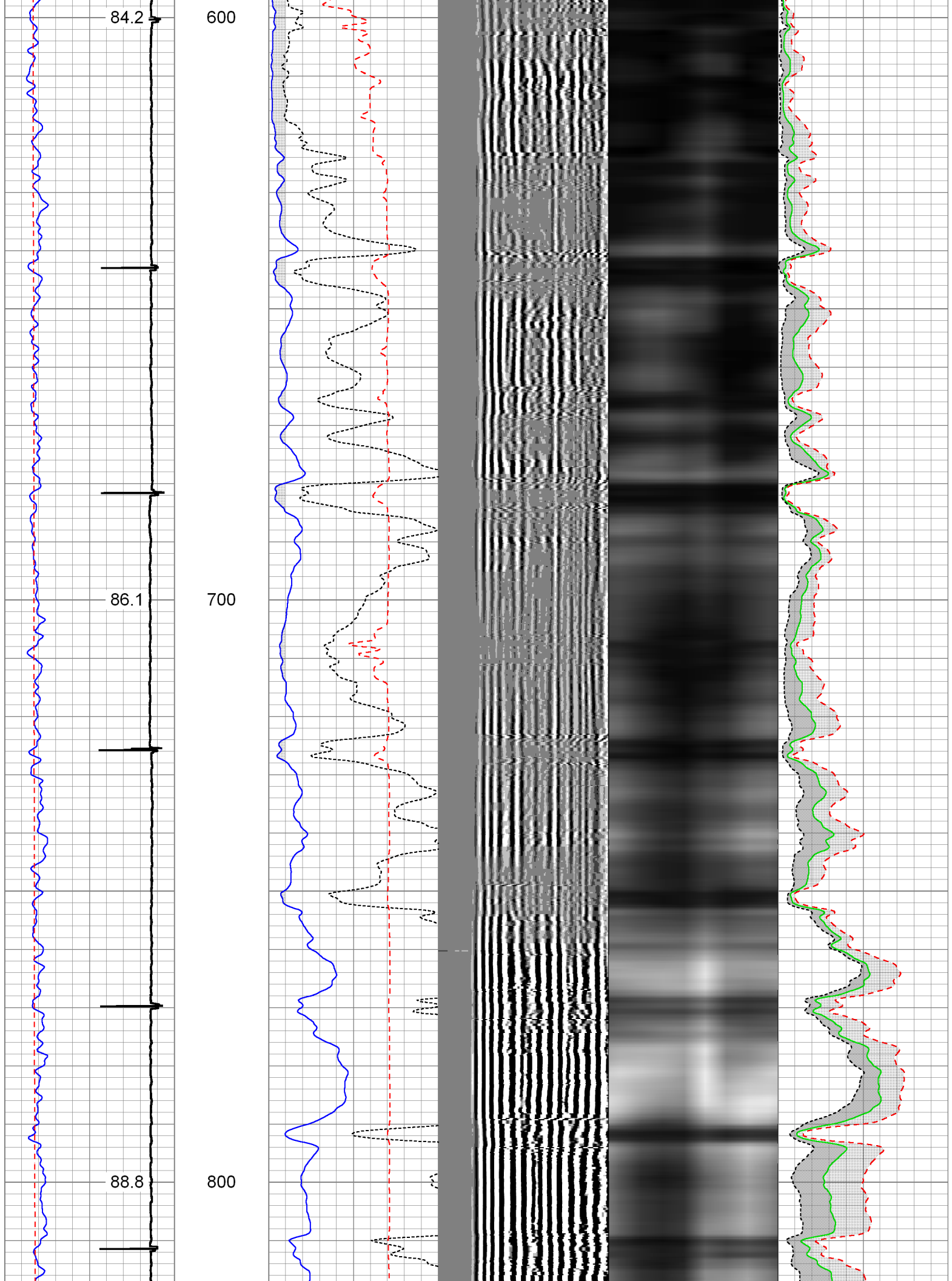
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Dataset Pathname: main
Presentation Format: rcblsdx
Dataset Creation: Fri Aug 30 11:24:17 2013 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240

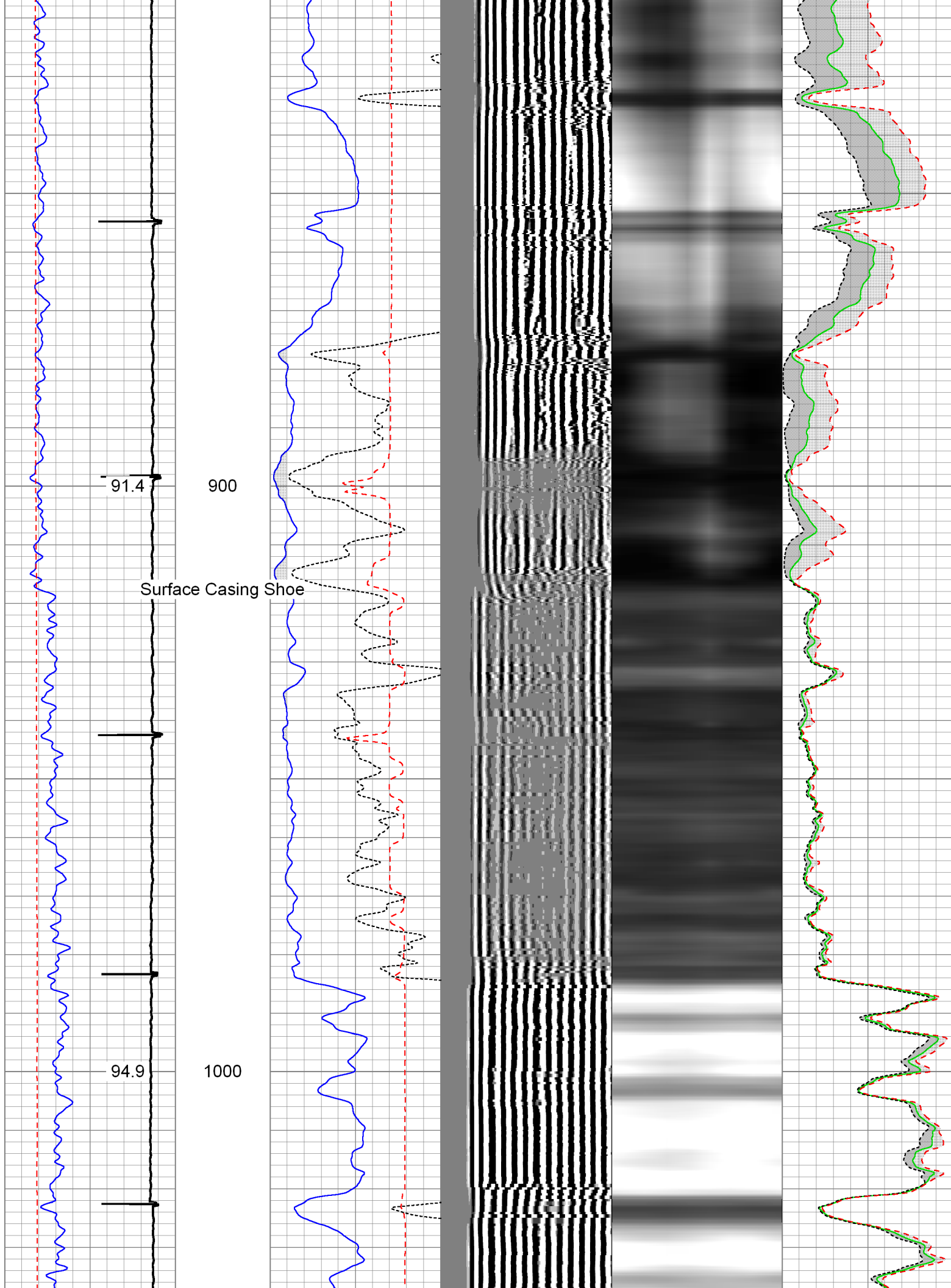
Gamma Ray	3' Amplitude	5' Variable Density Log	Cement Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
Temperature	3' Travel Time			Maximum Amplitude
0 (degF) 500	650 (usec) 150			0 100
Temperature (degF)				

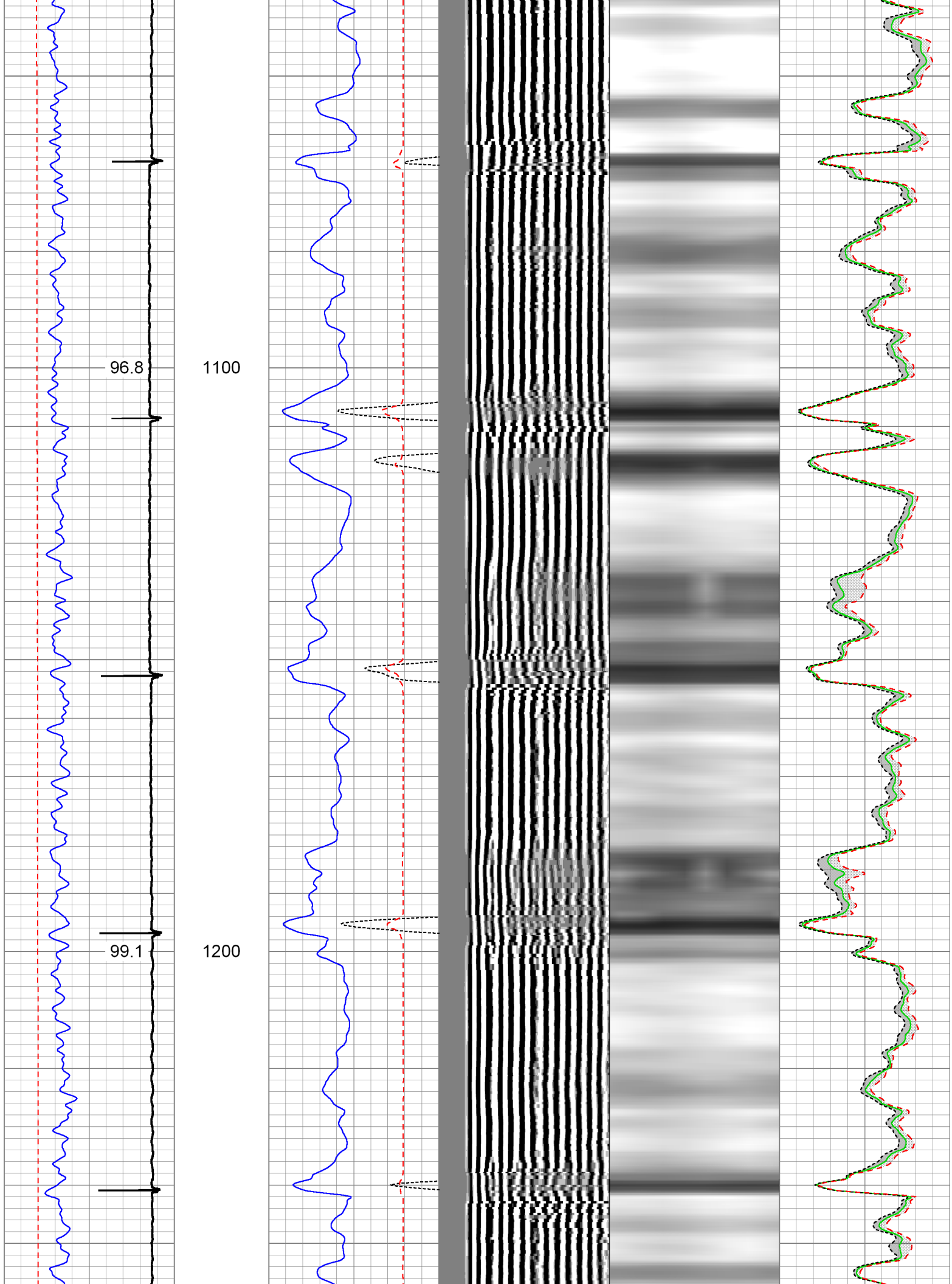


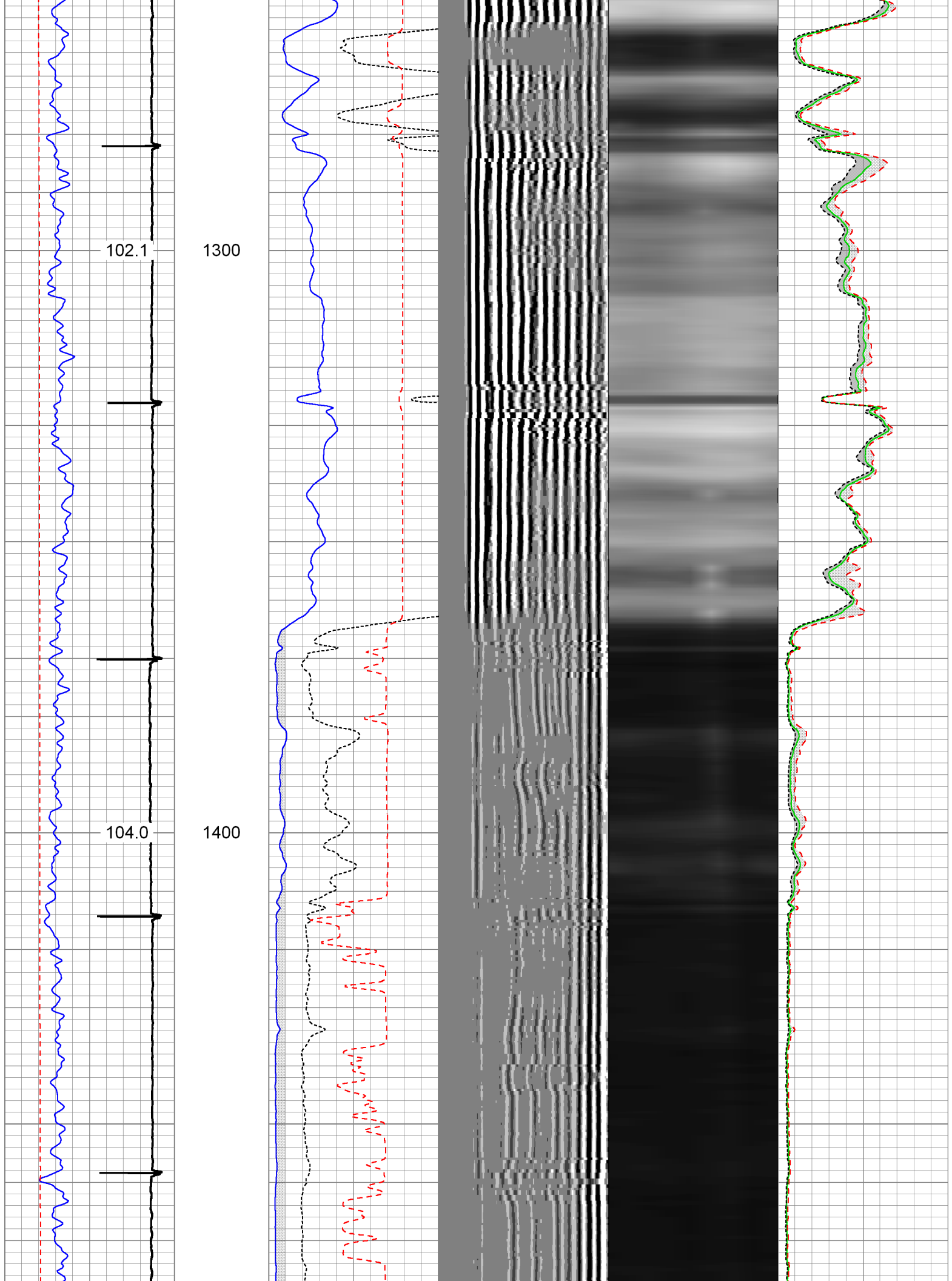


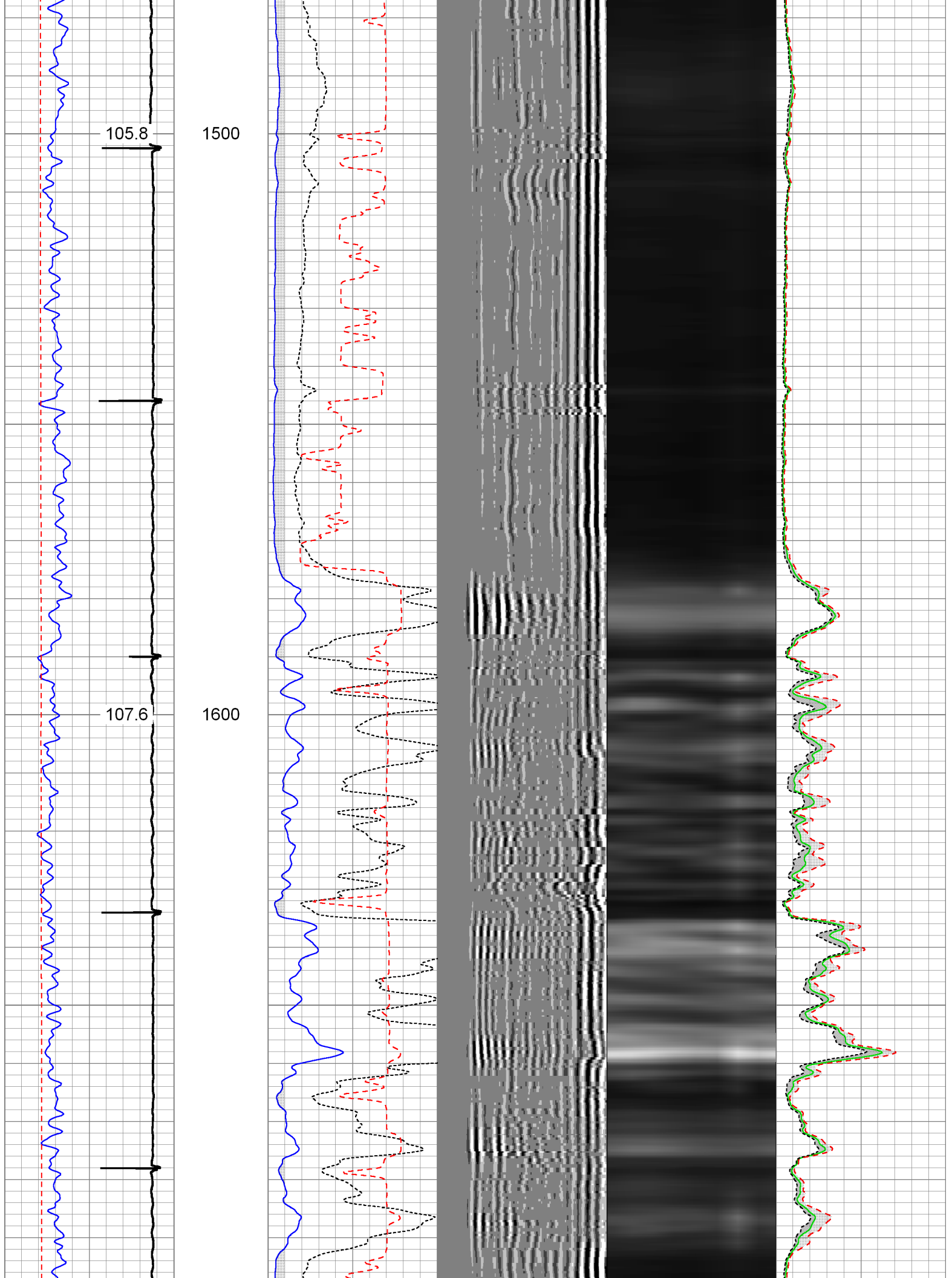


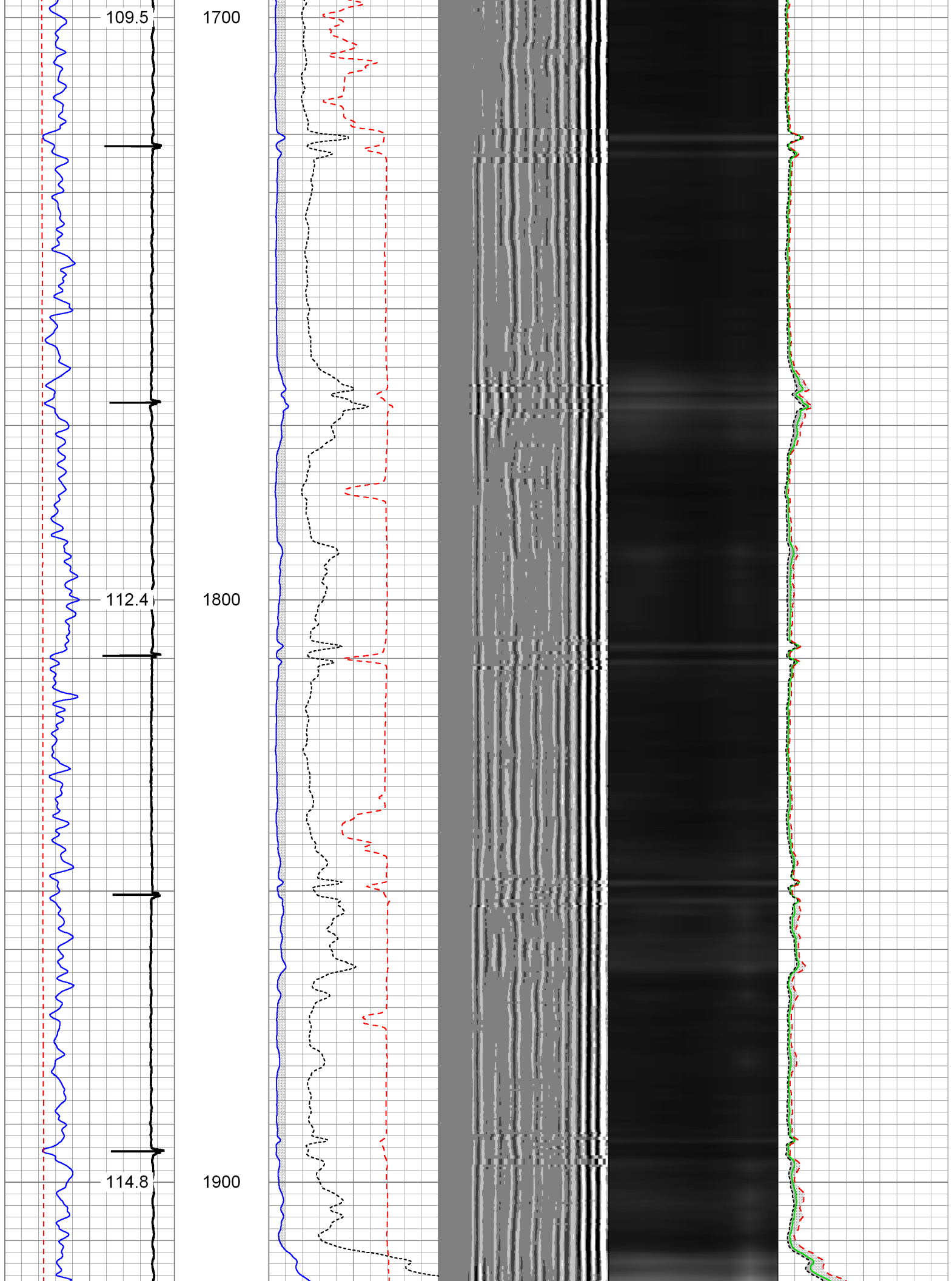


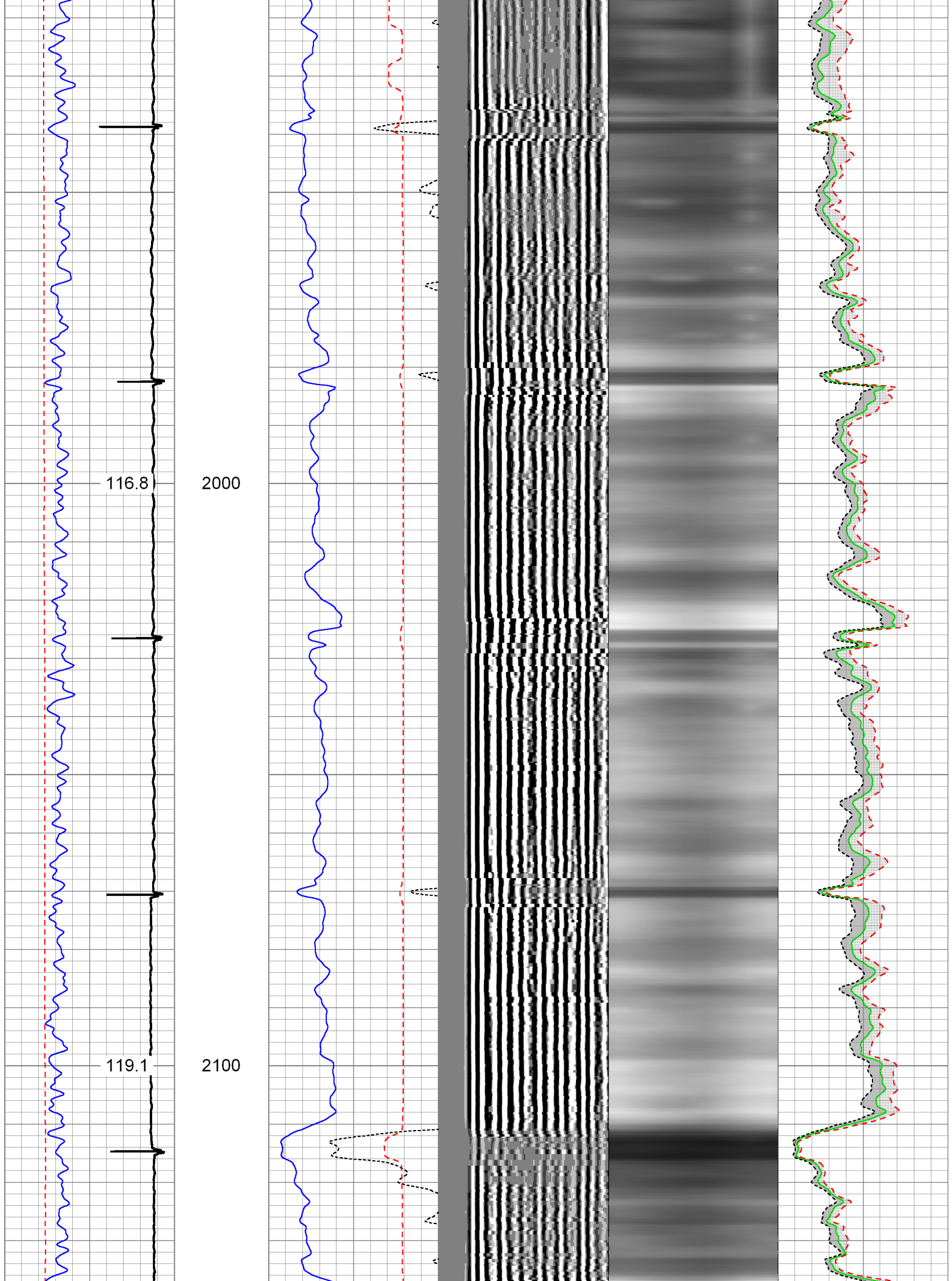


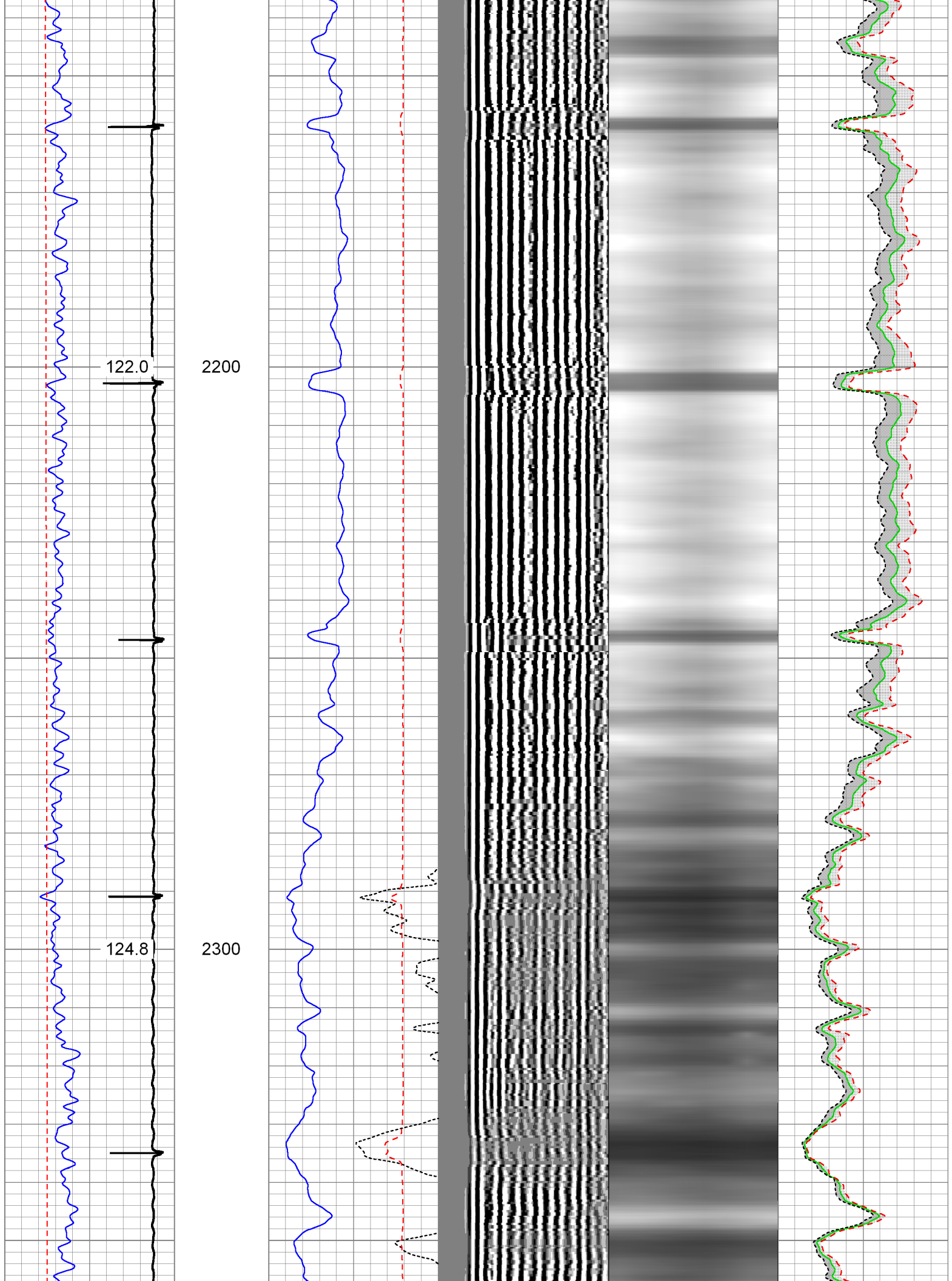


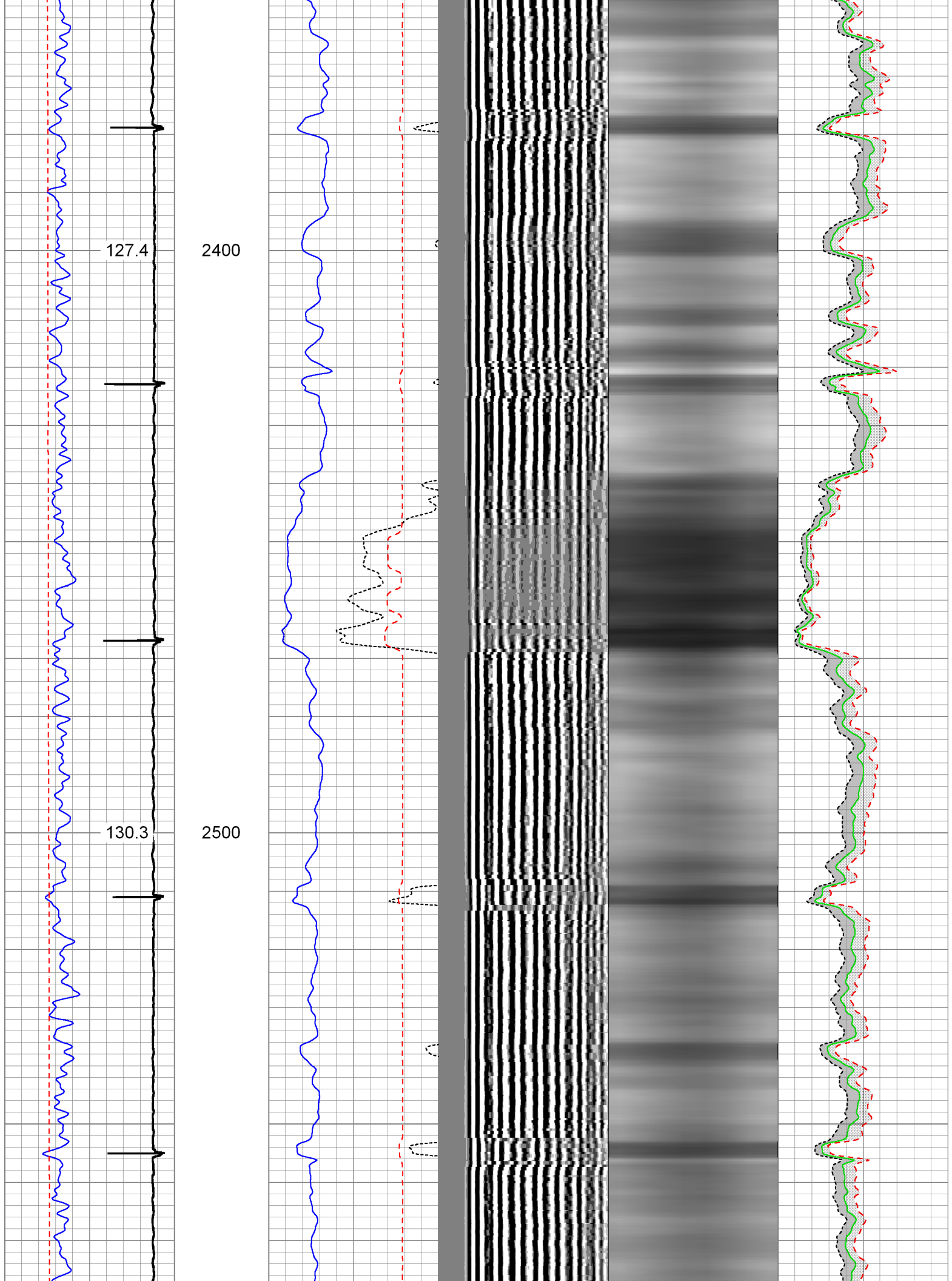


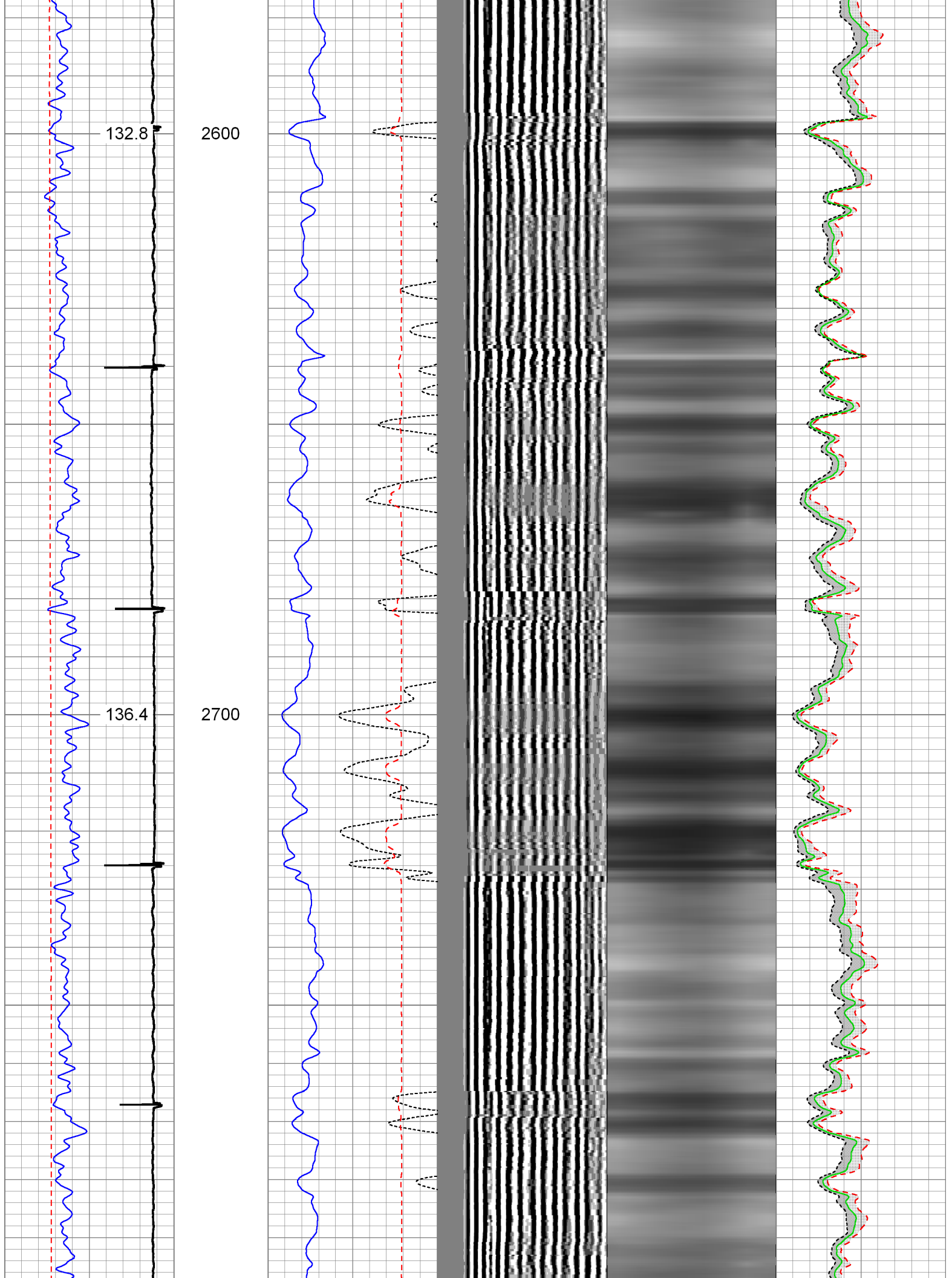


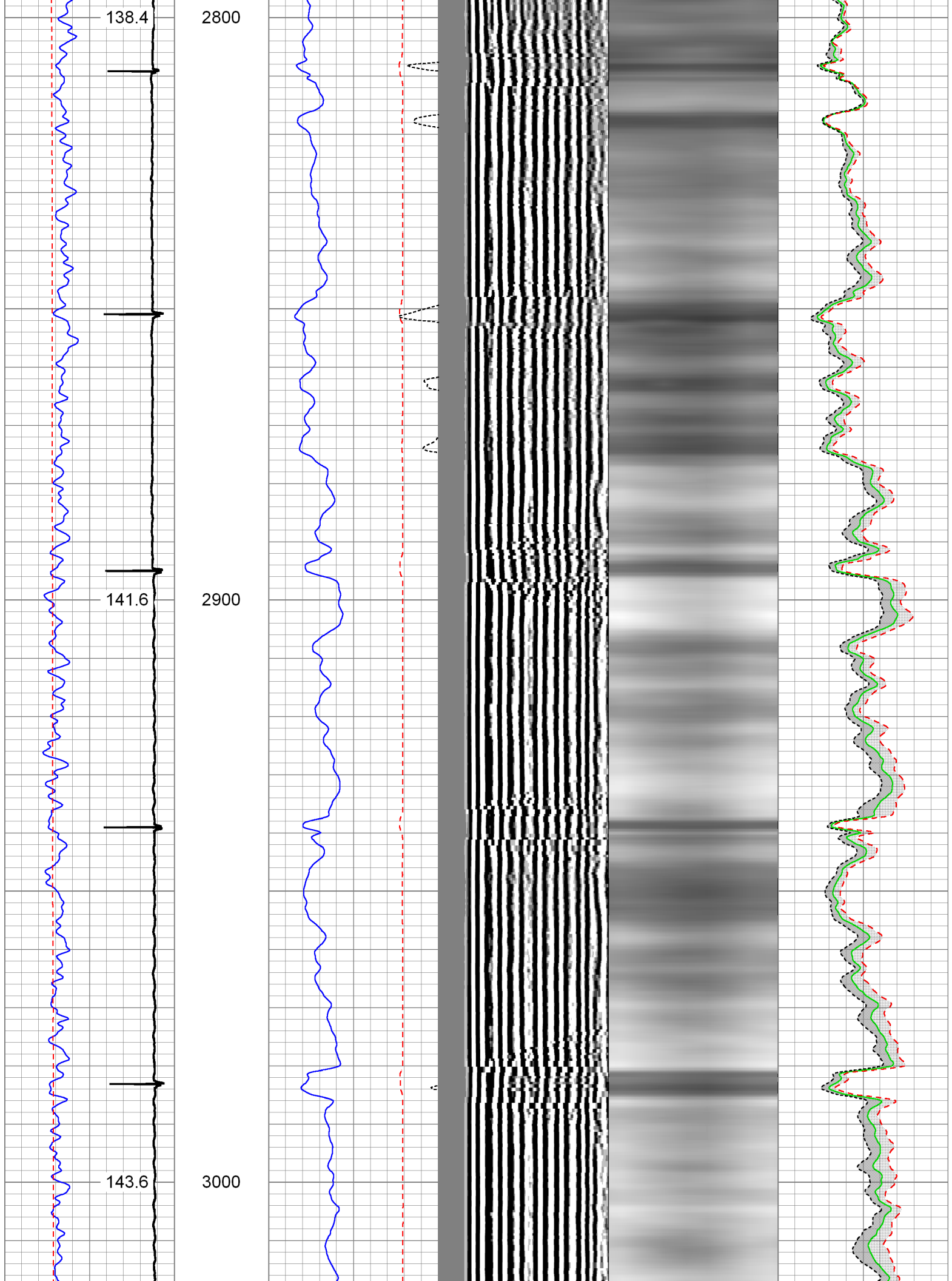


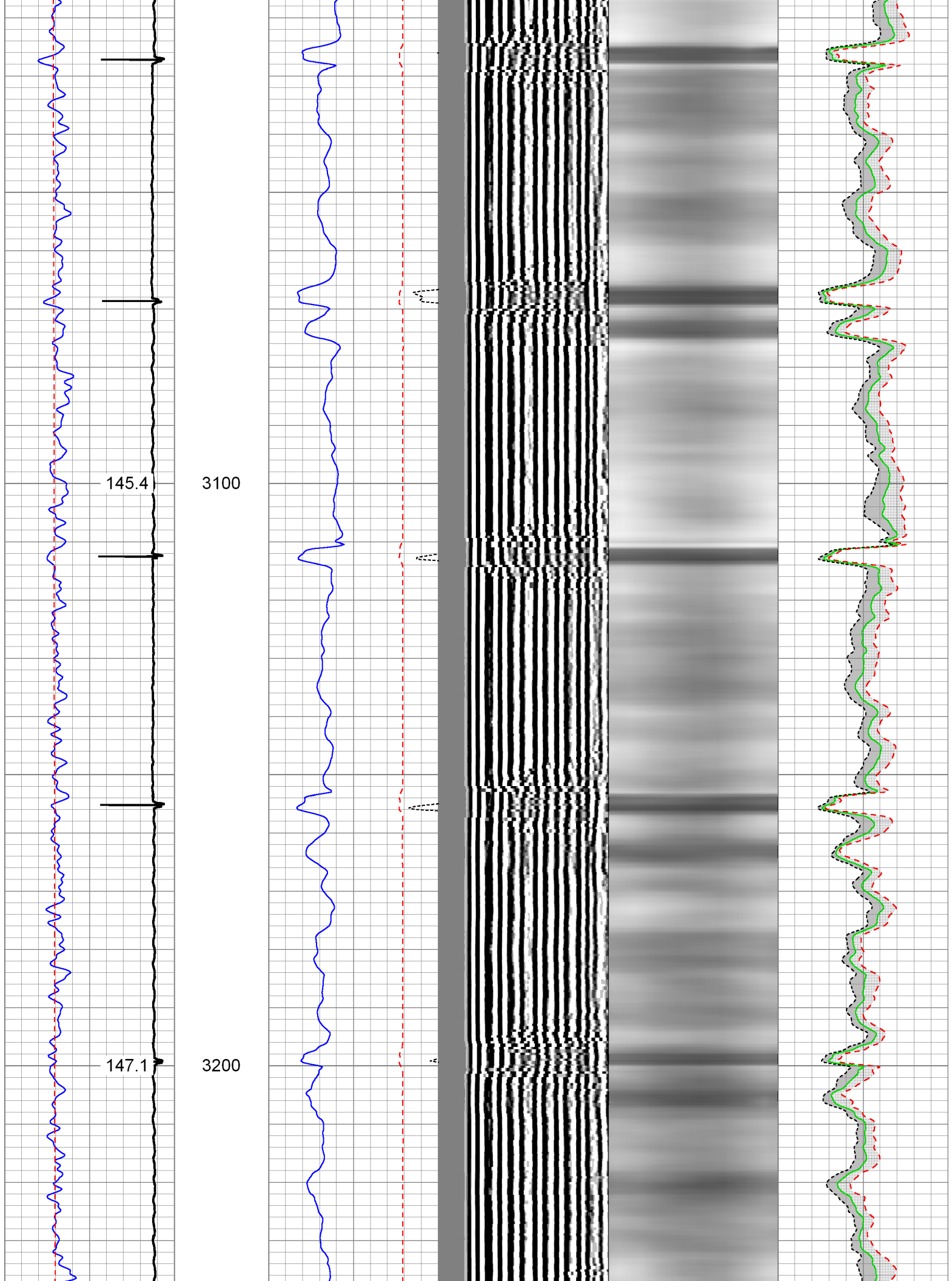


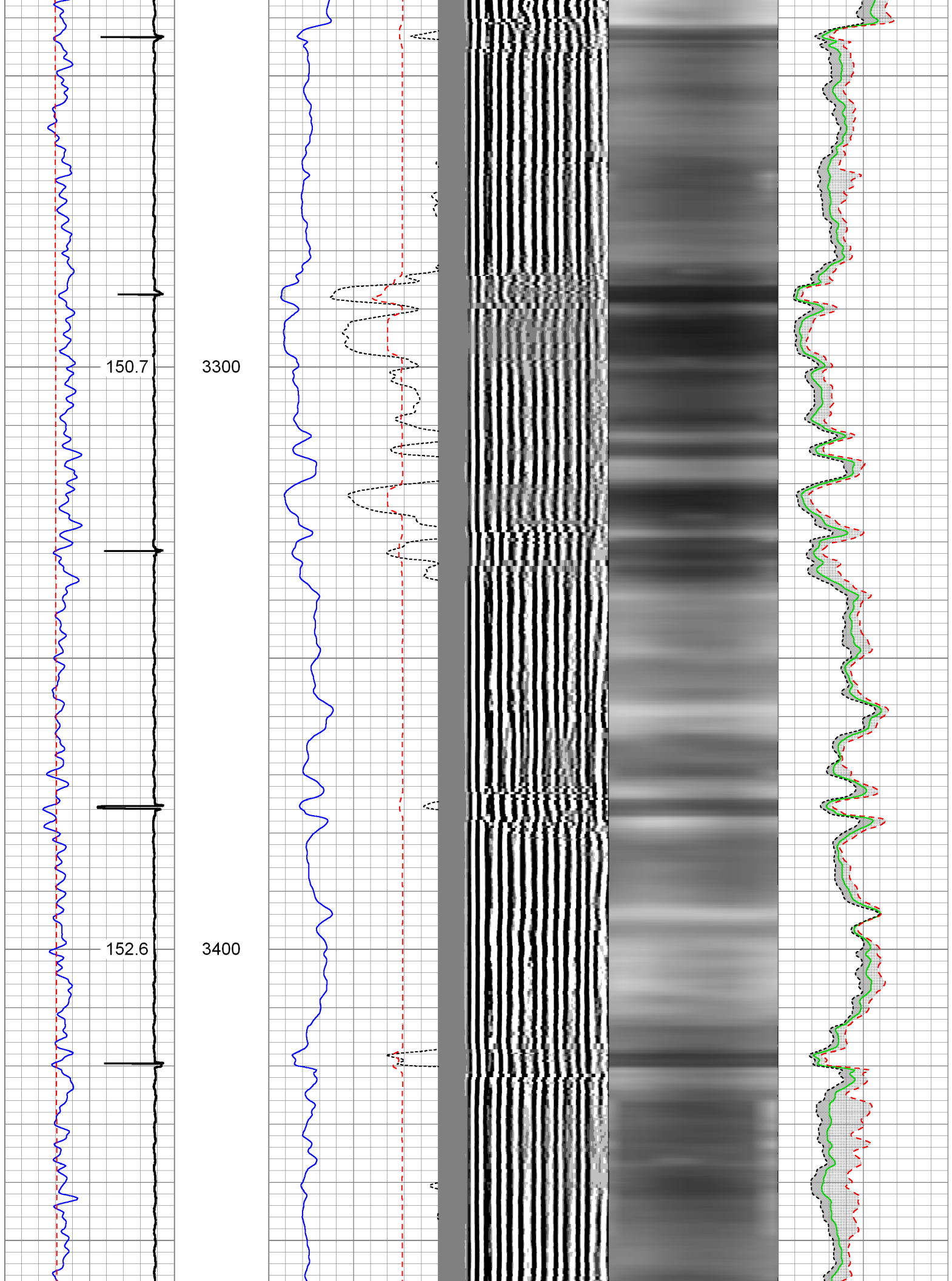


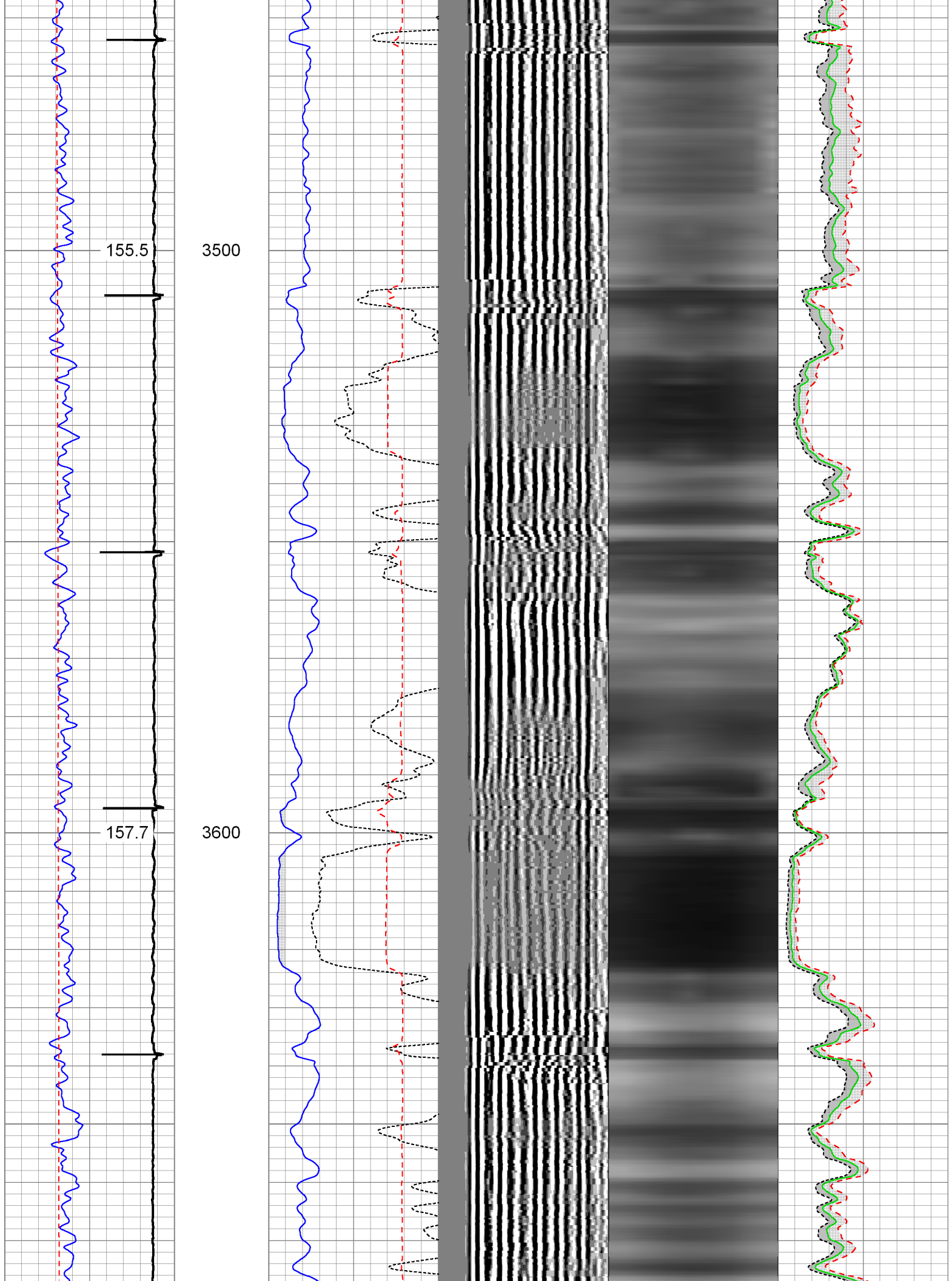


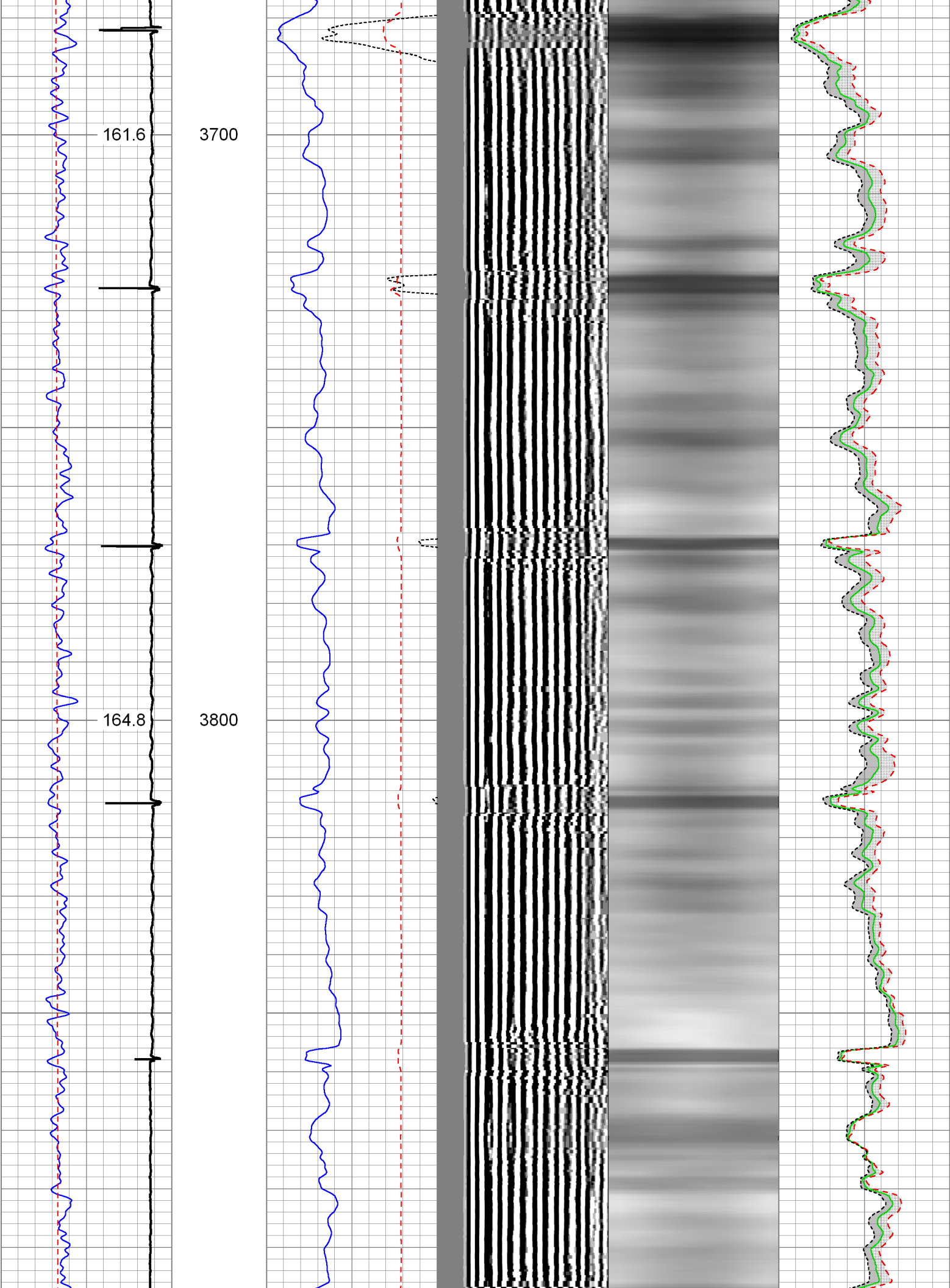


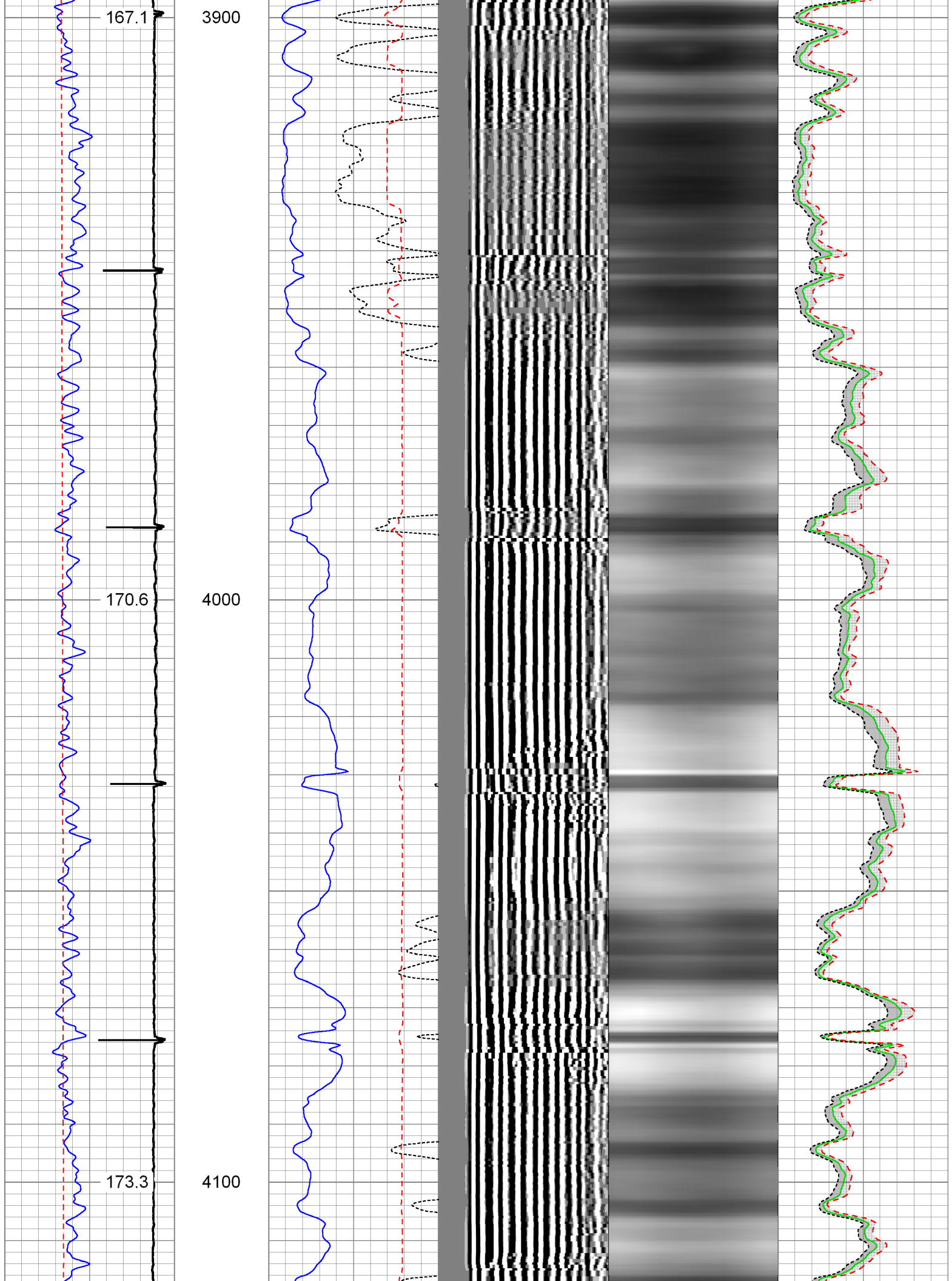


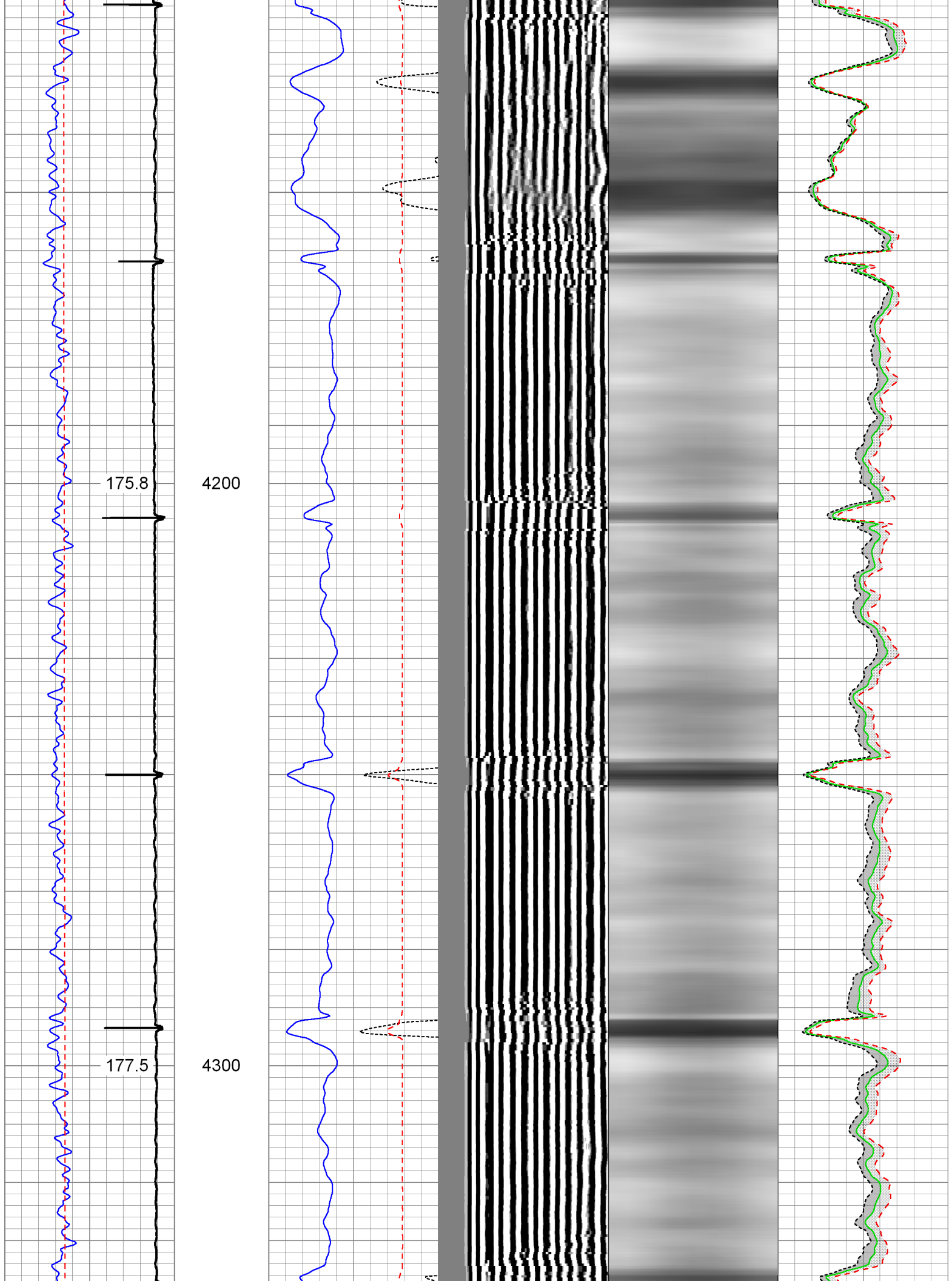


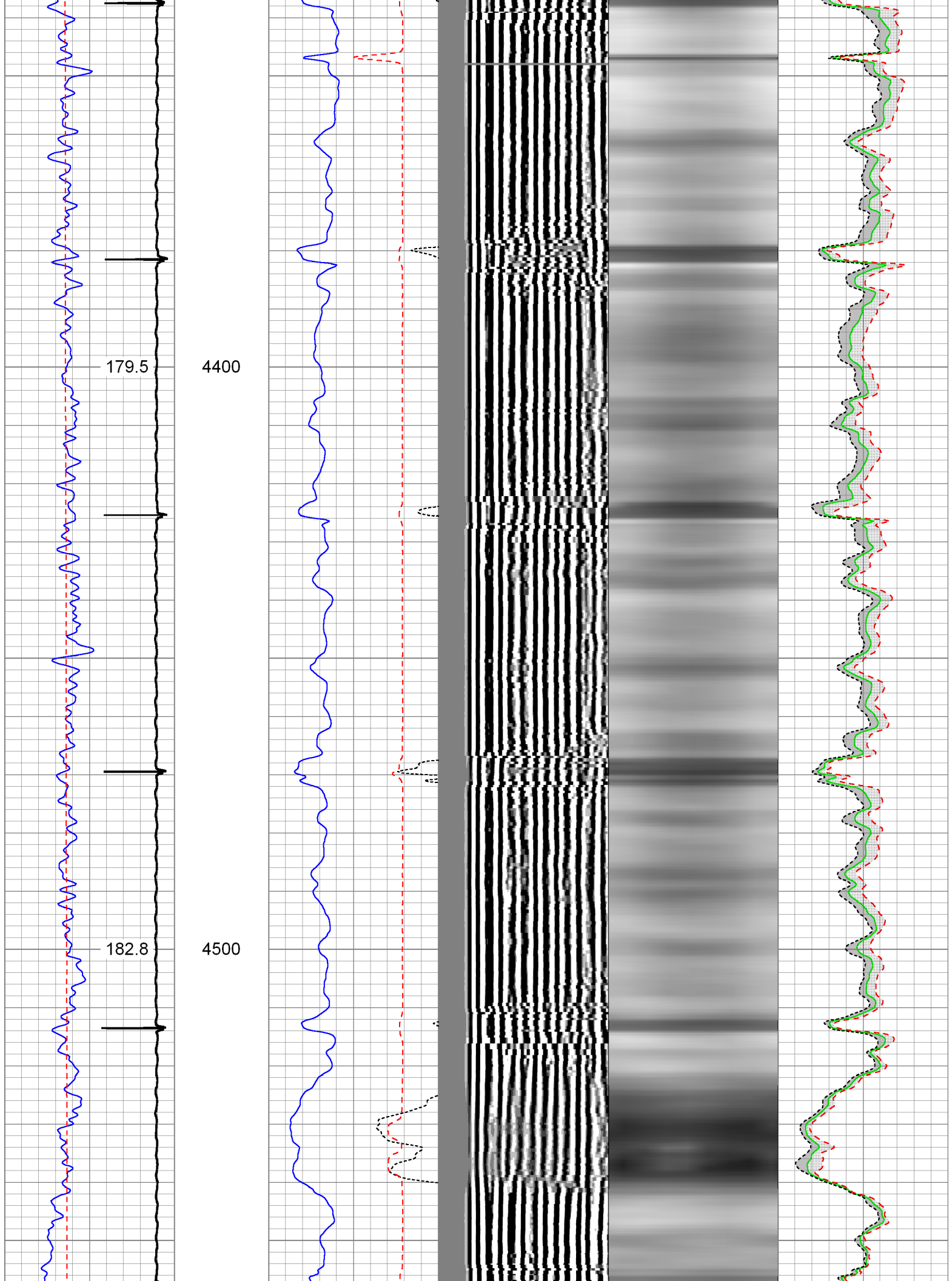


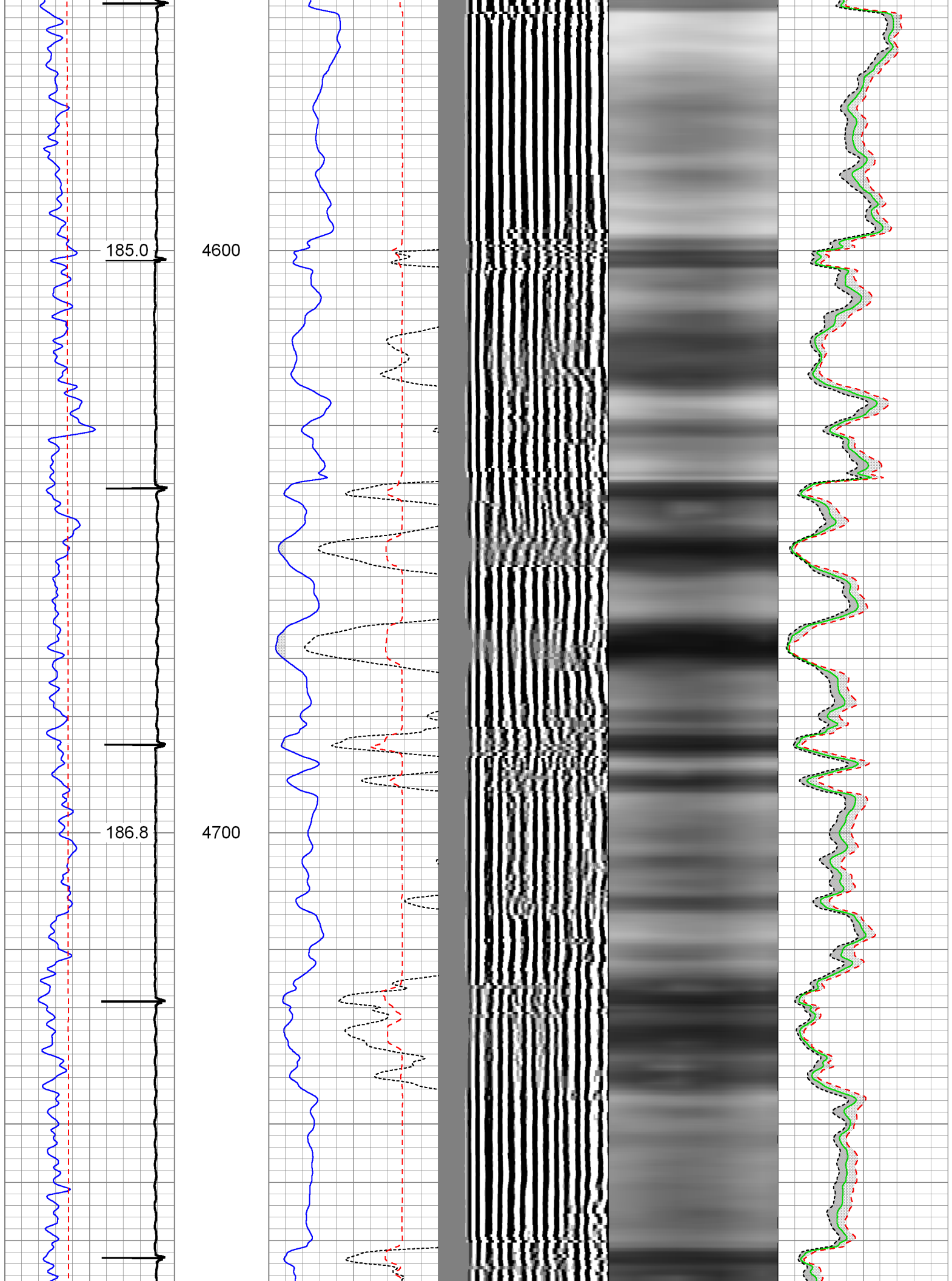


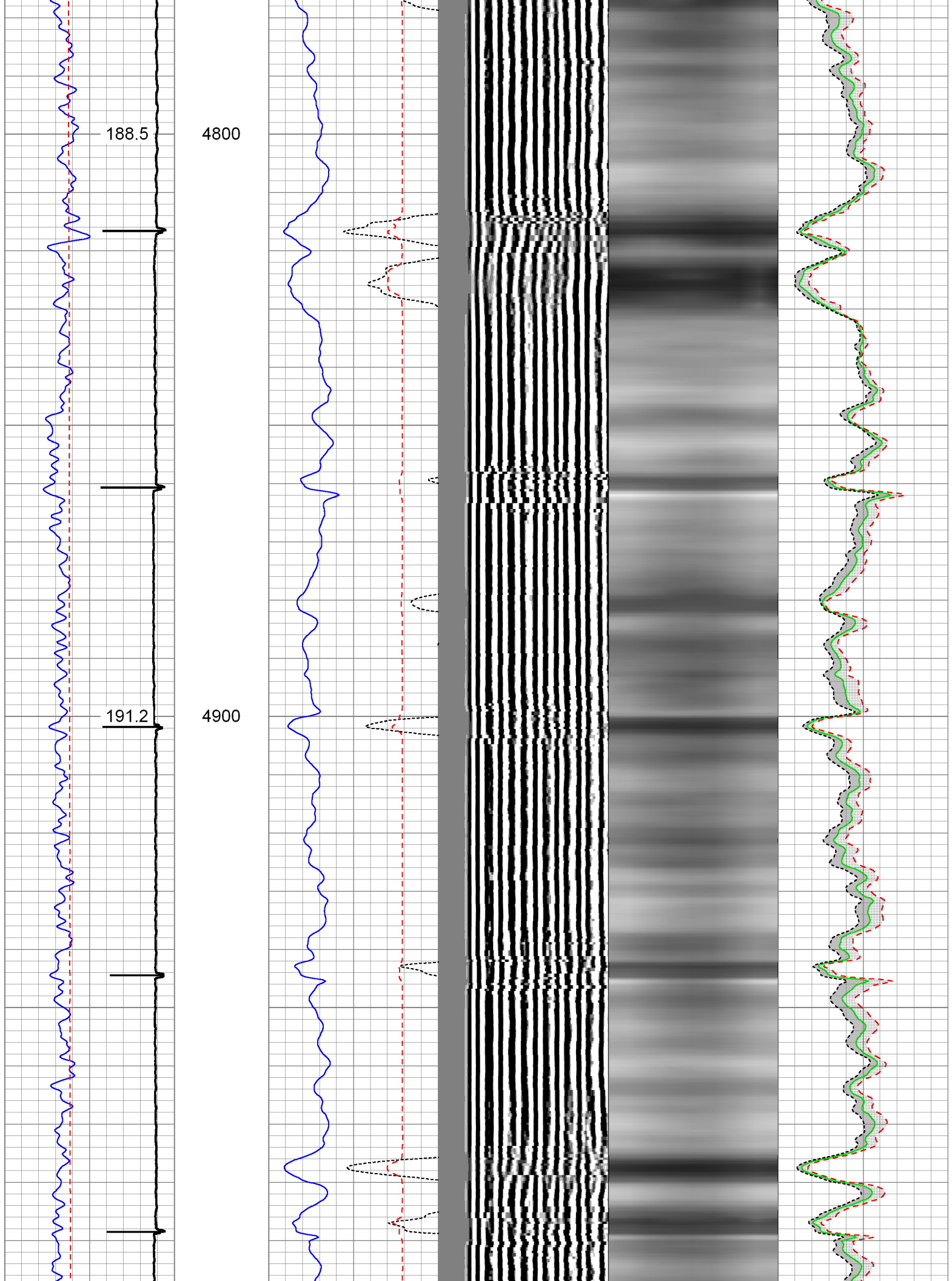


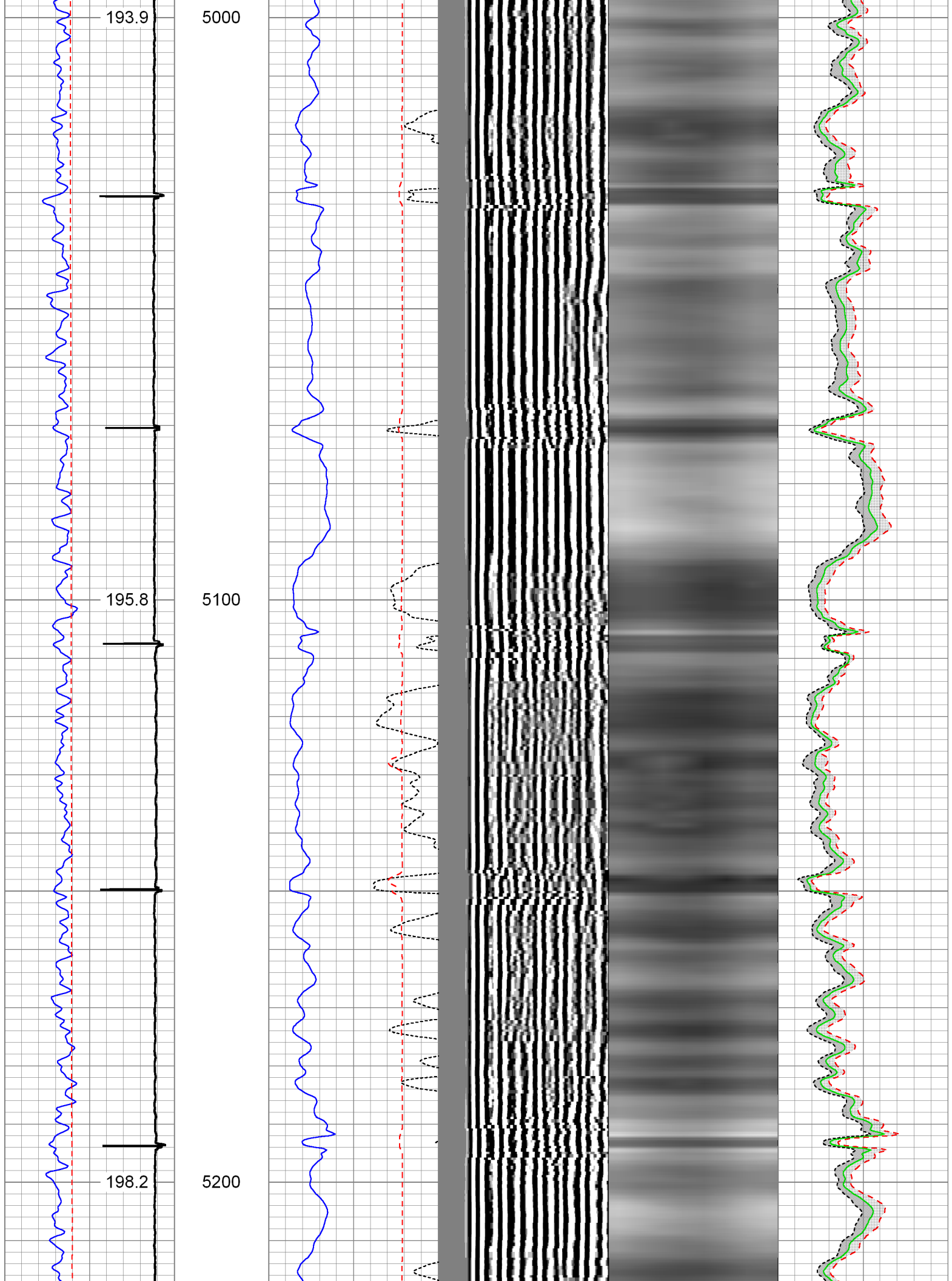


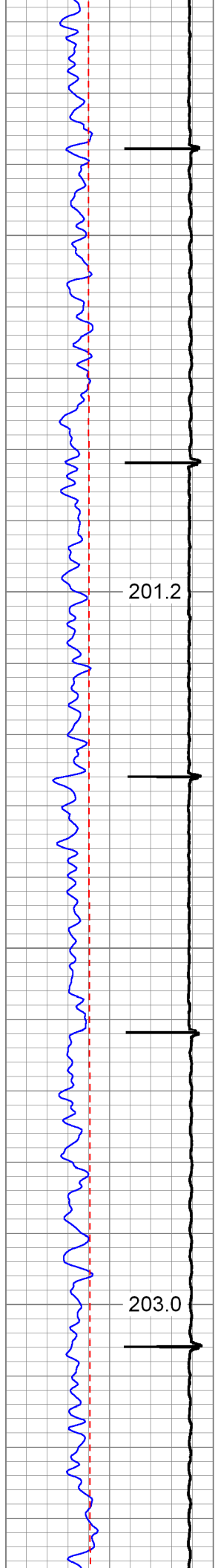






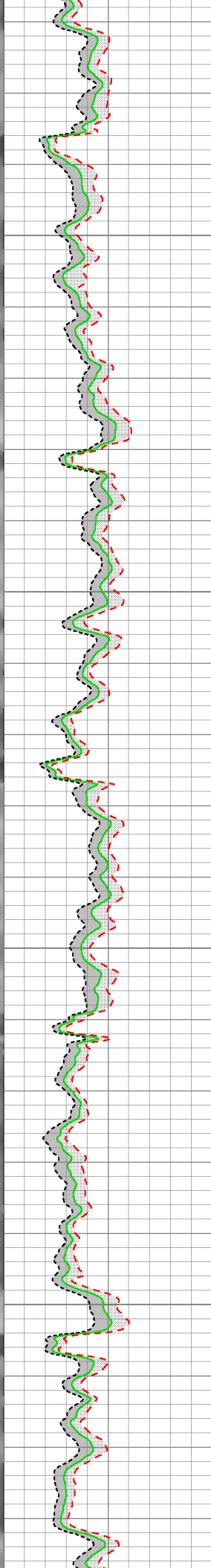
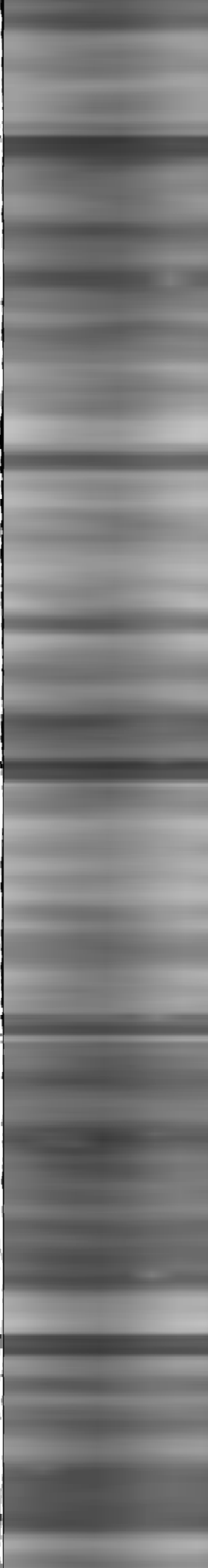
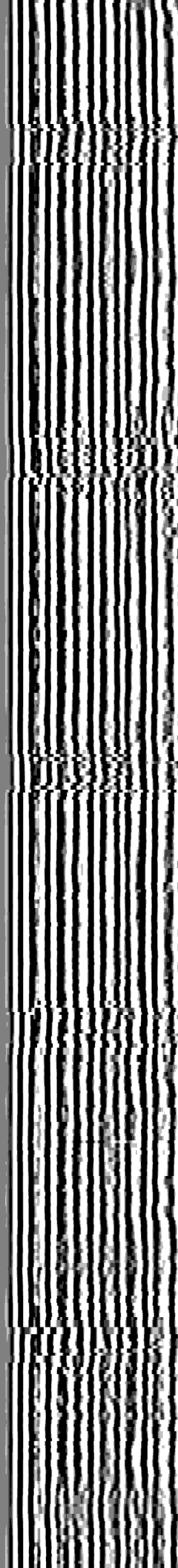
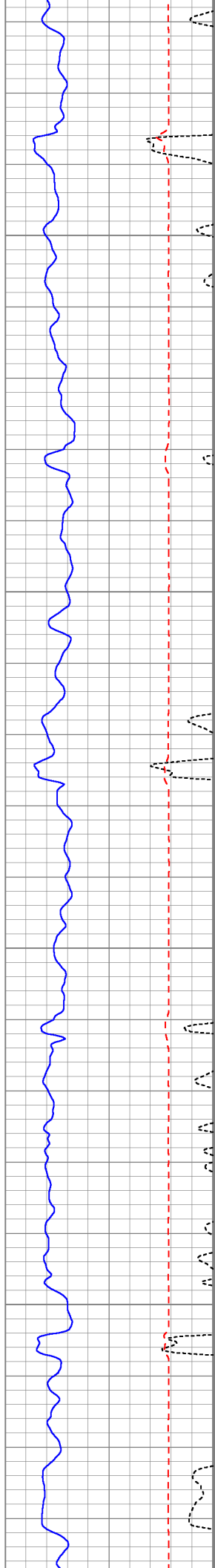


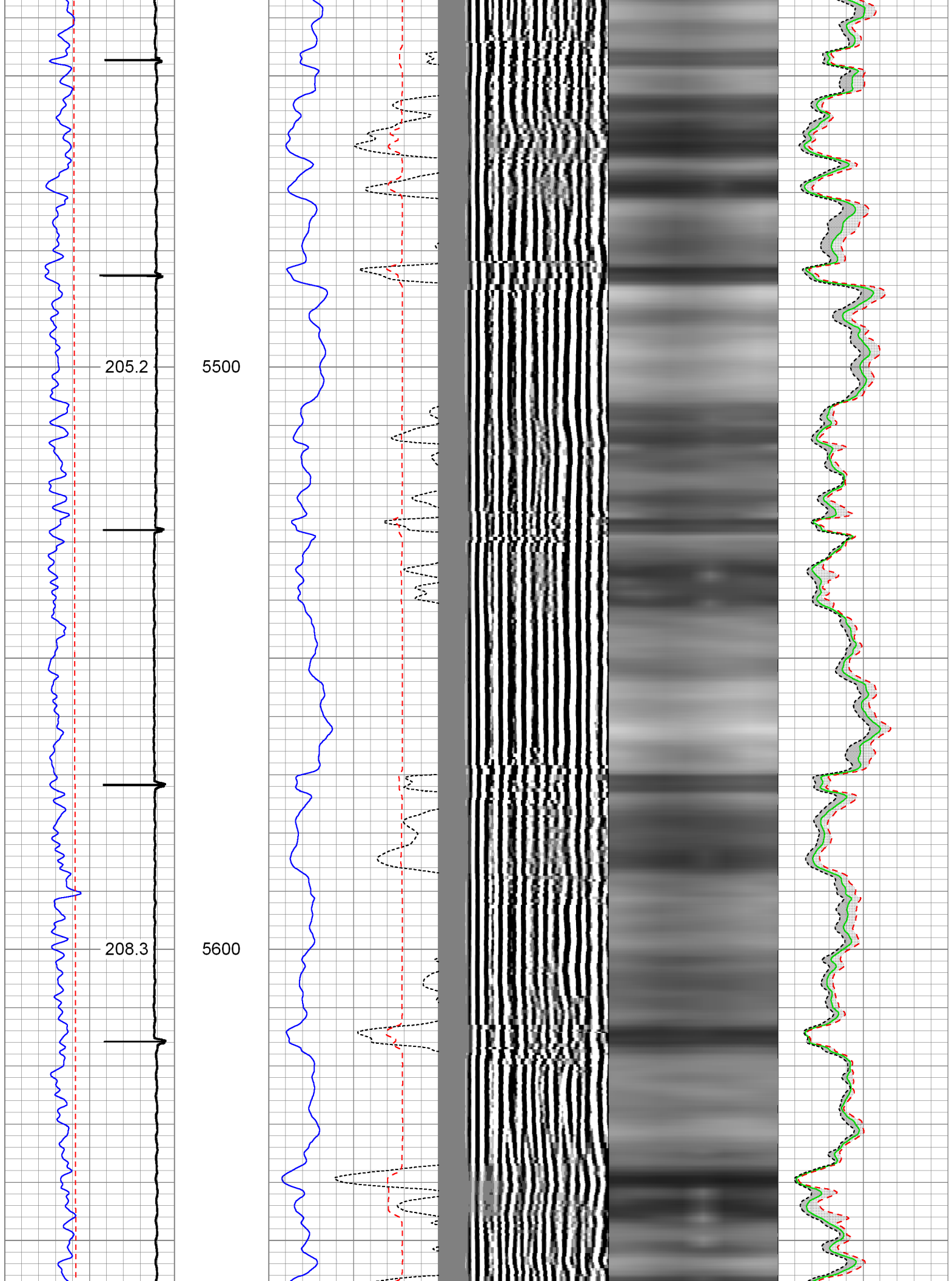


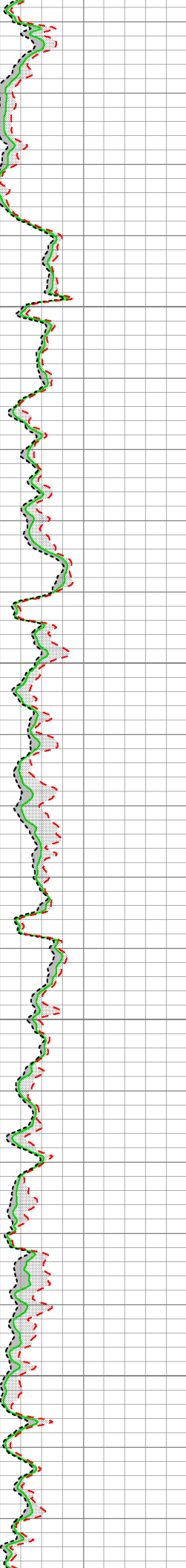
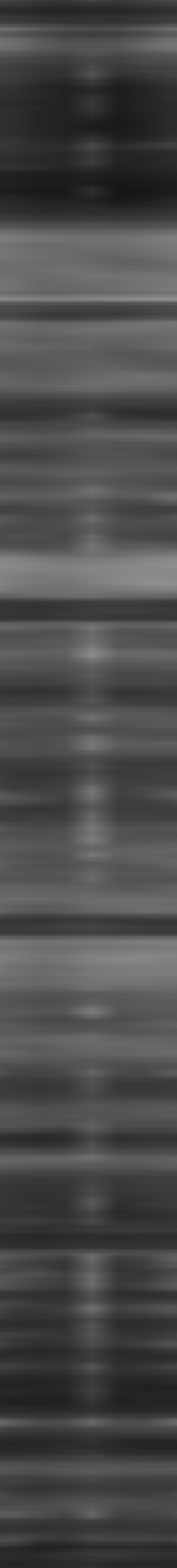
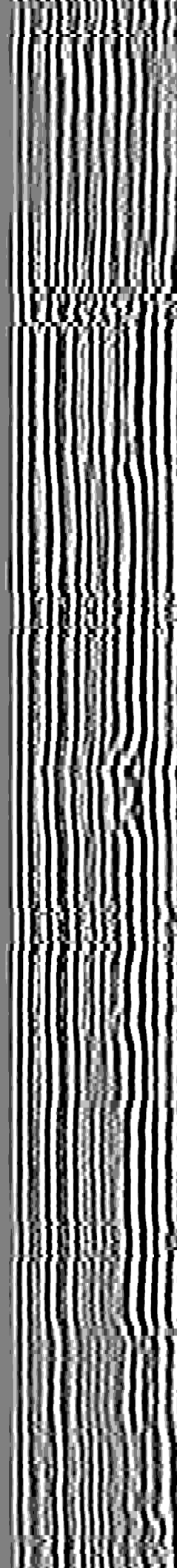
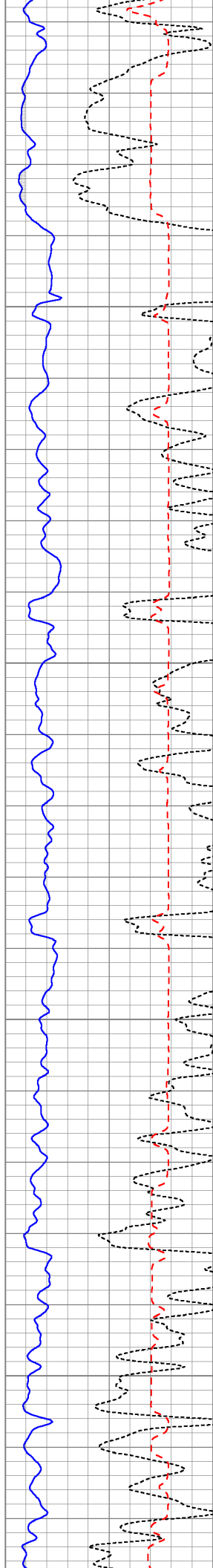
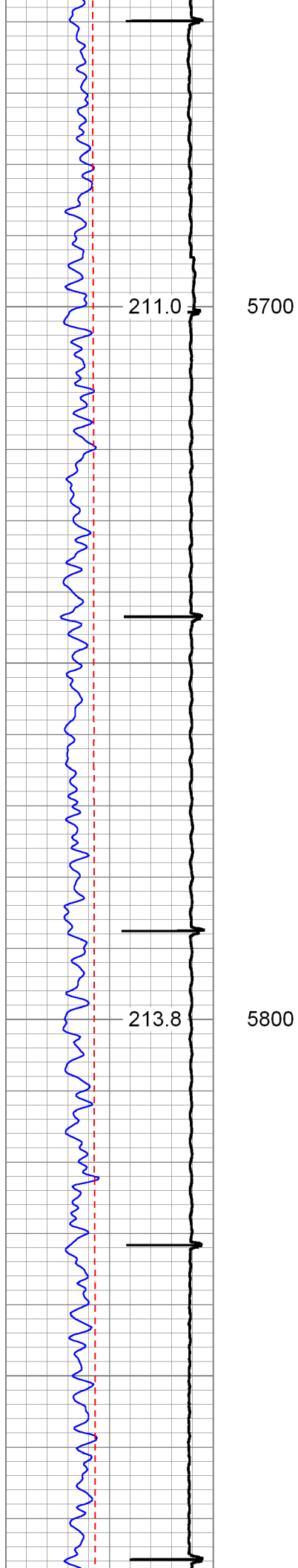


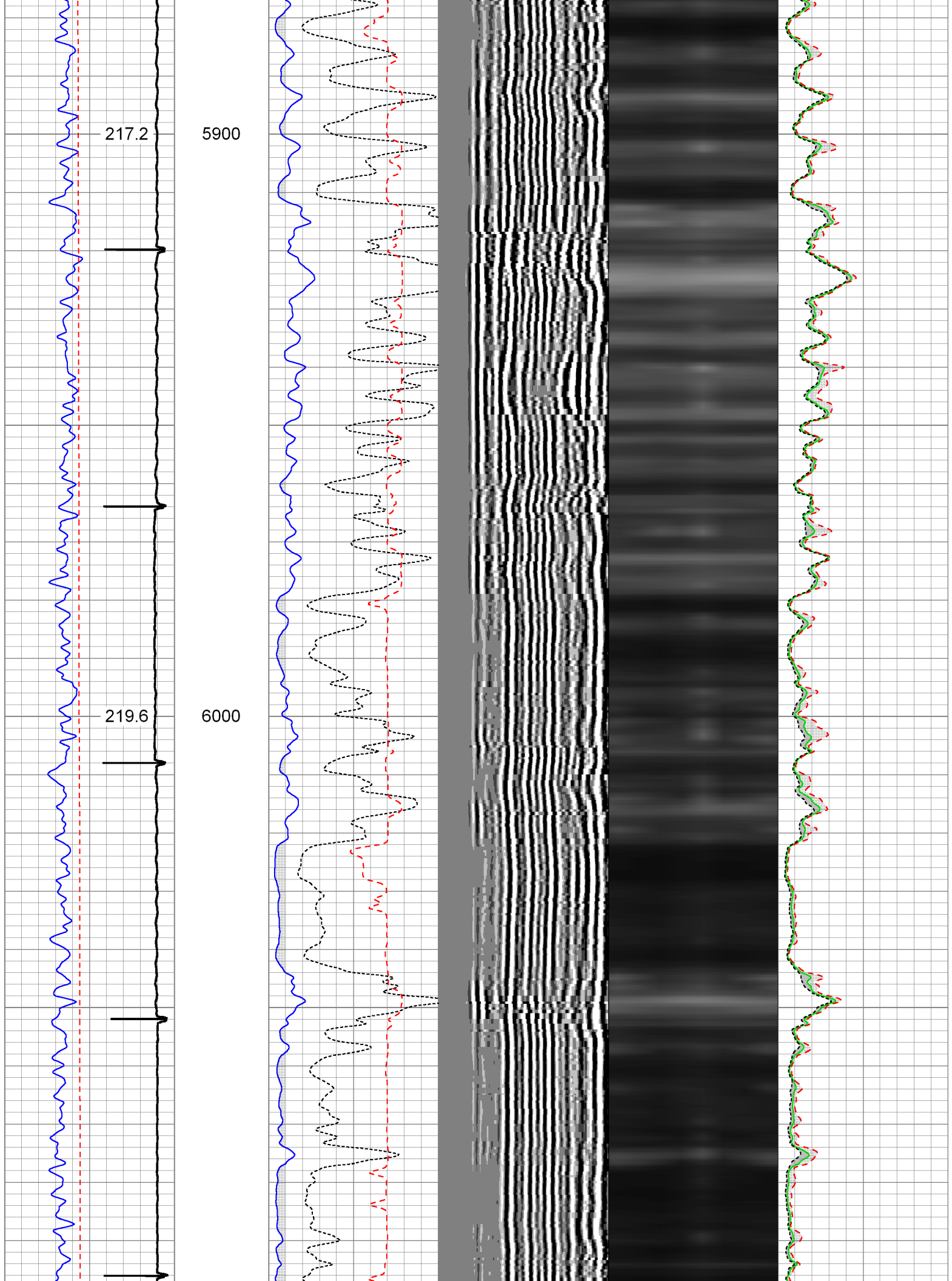
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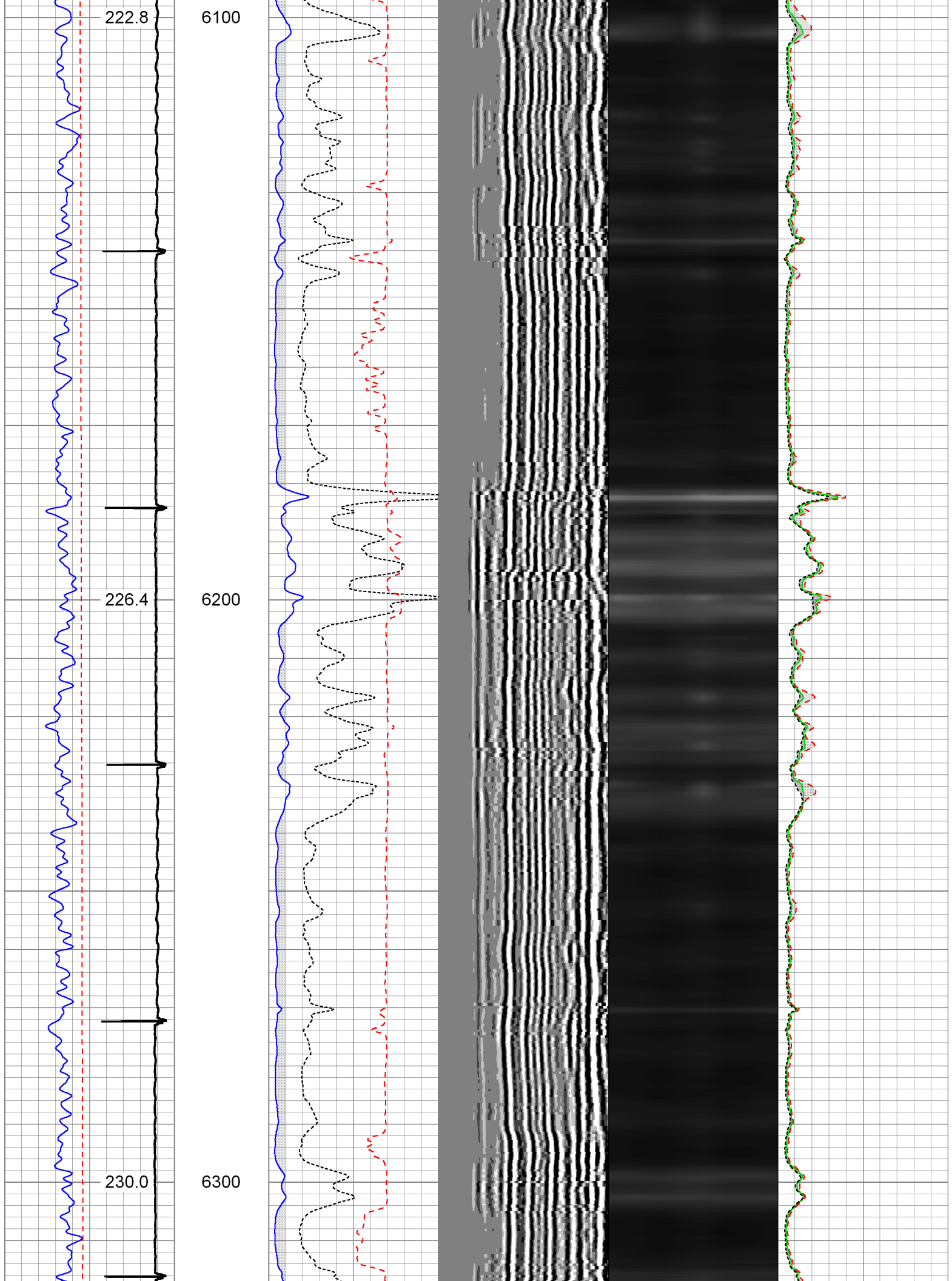
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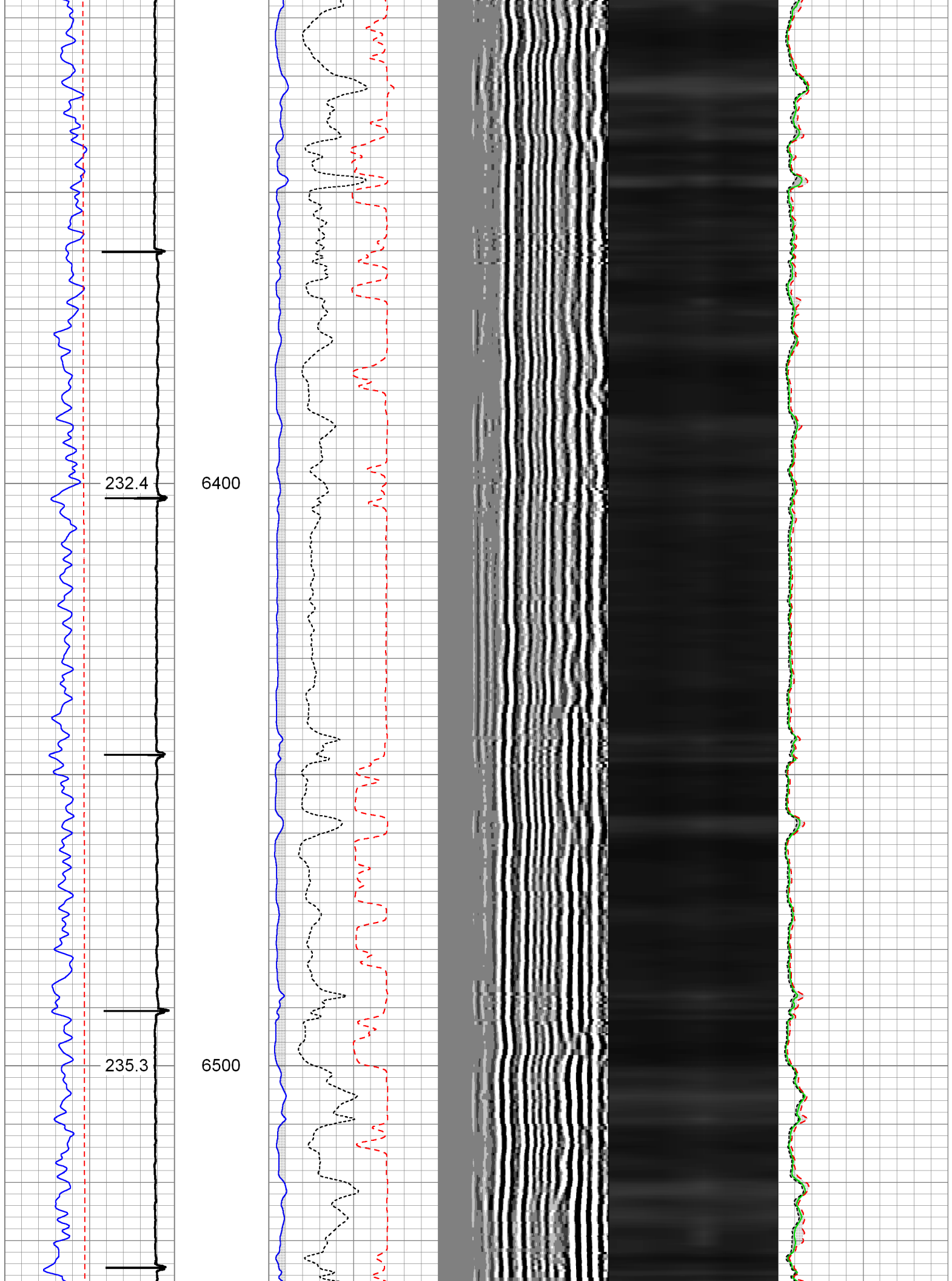


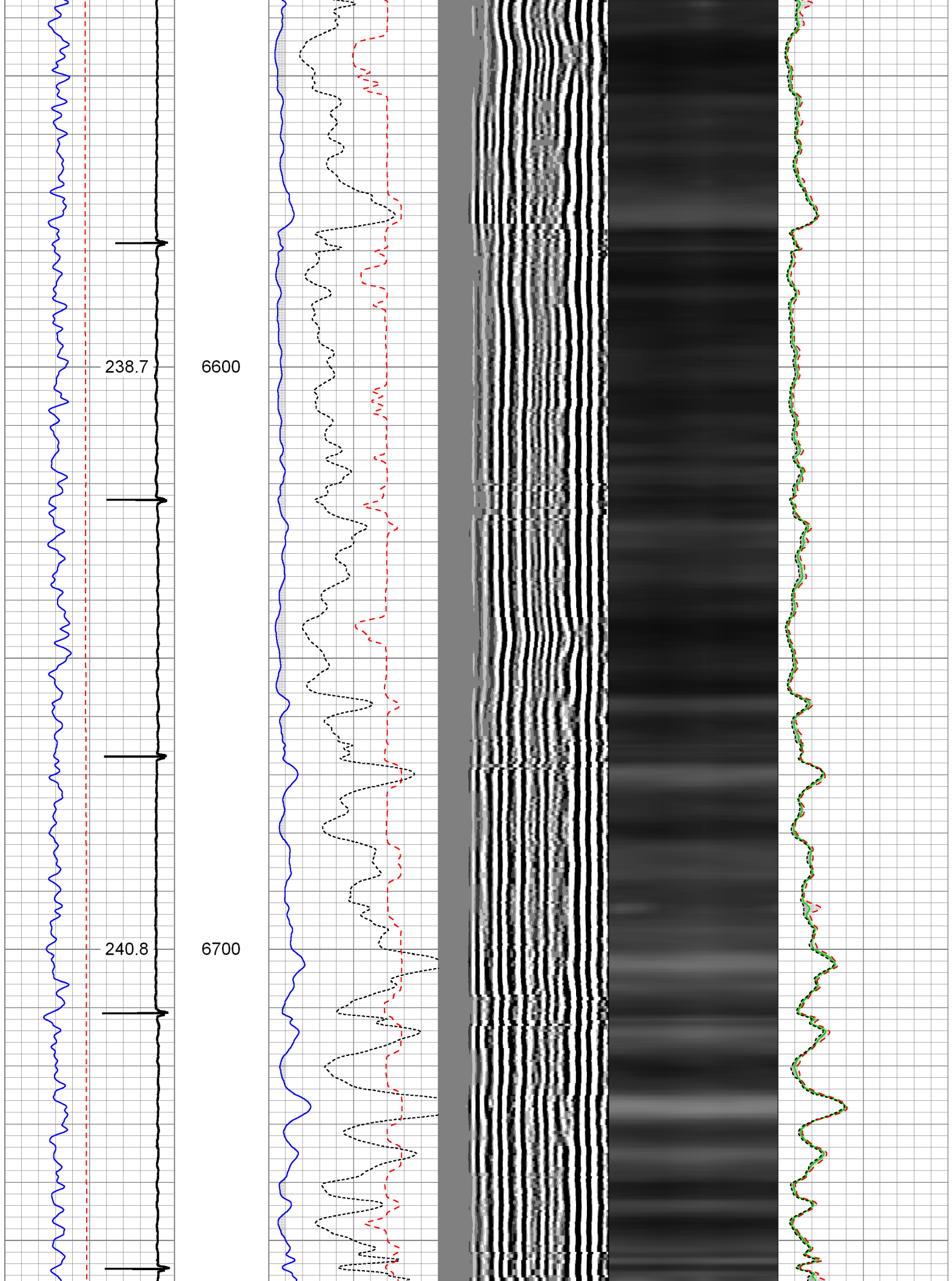


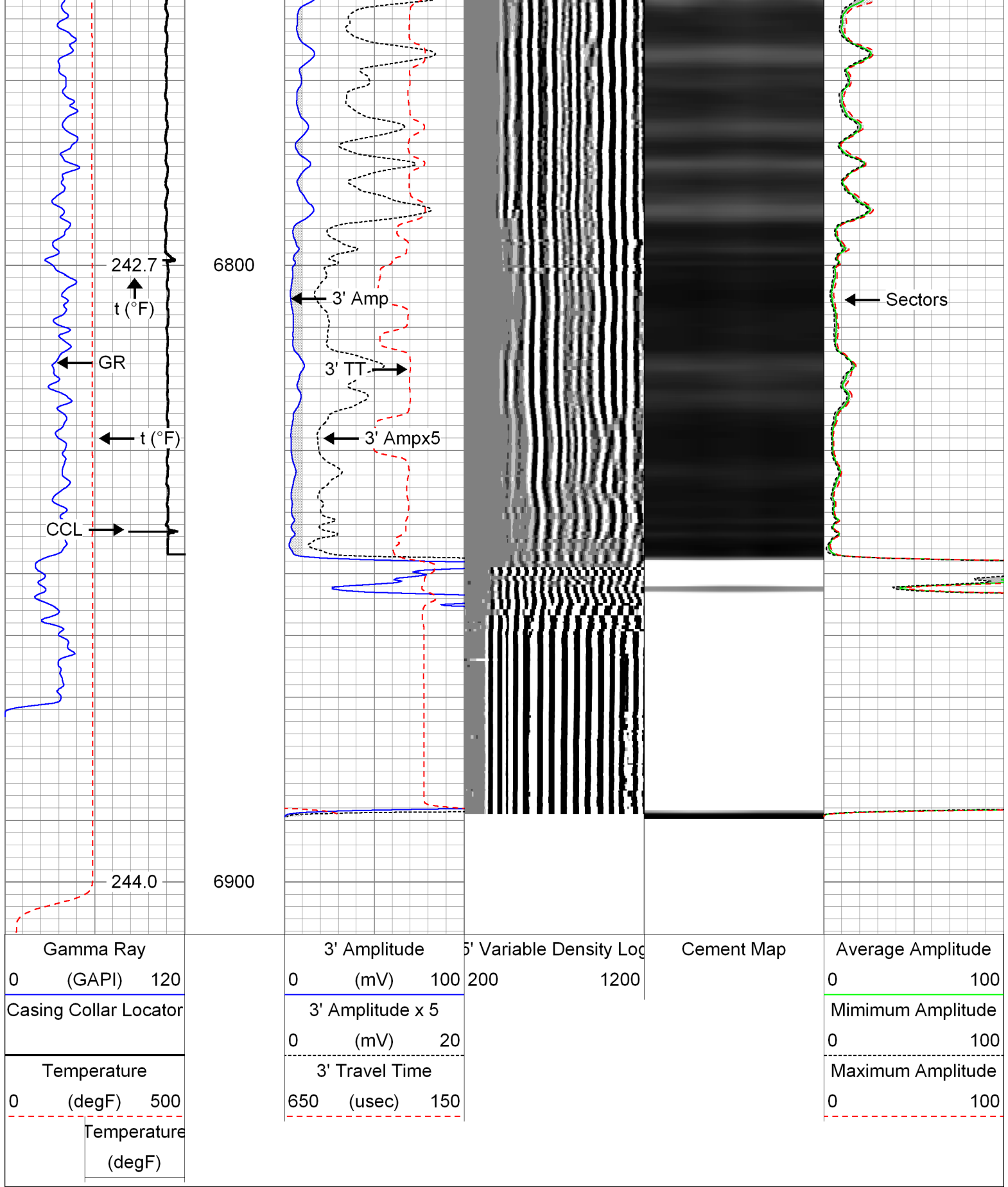






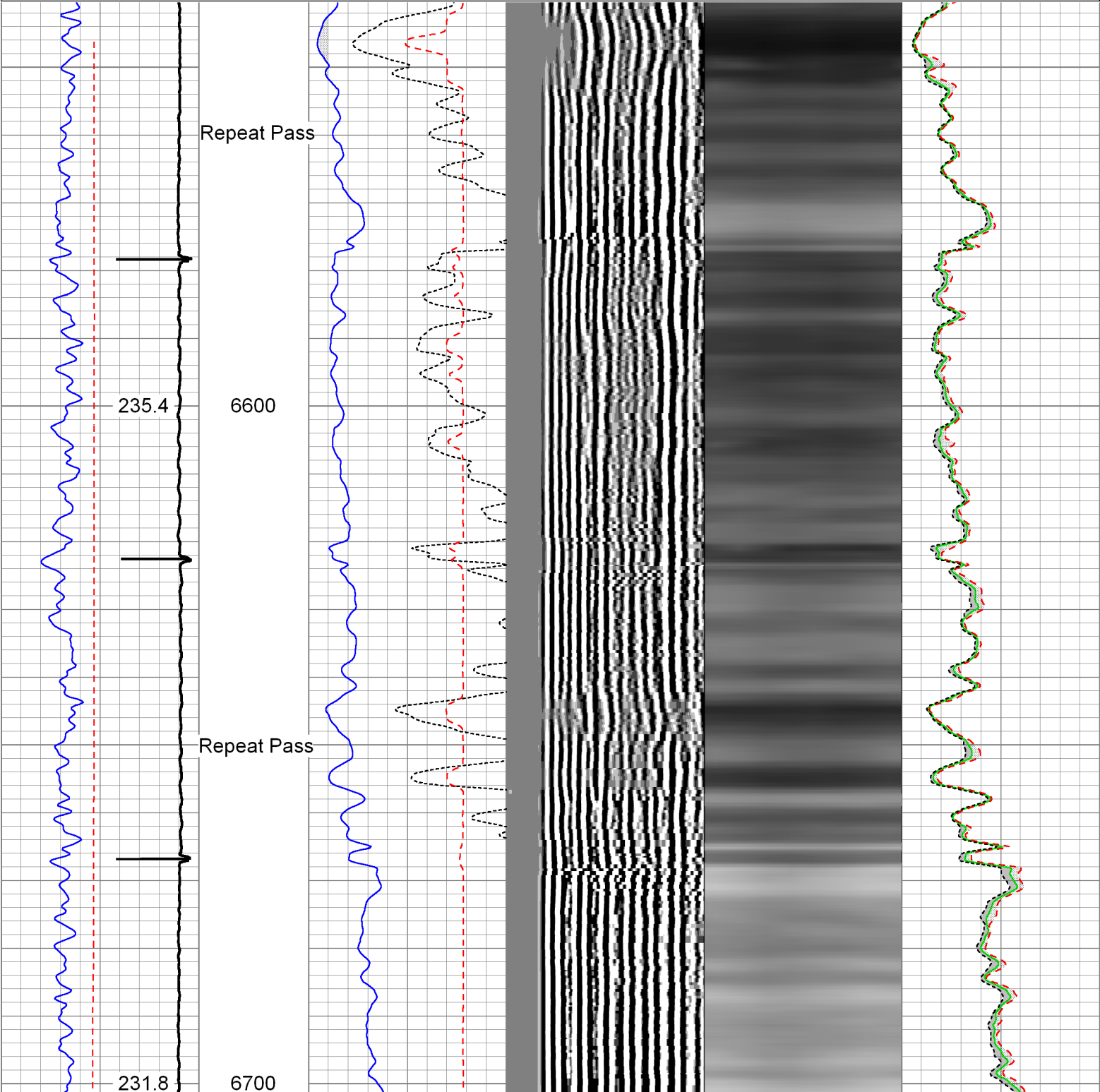


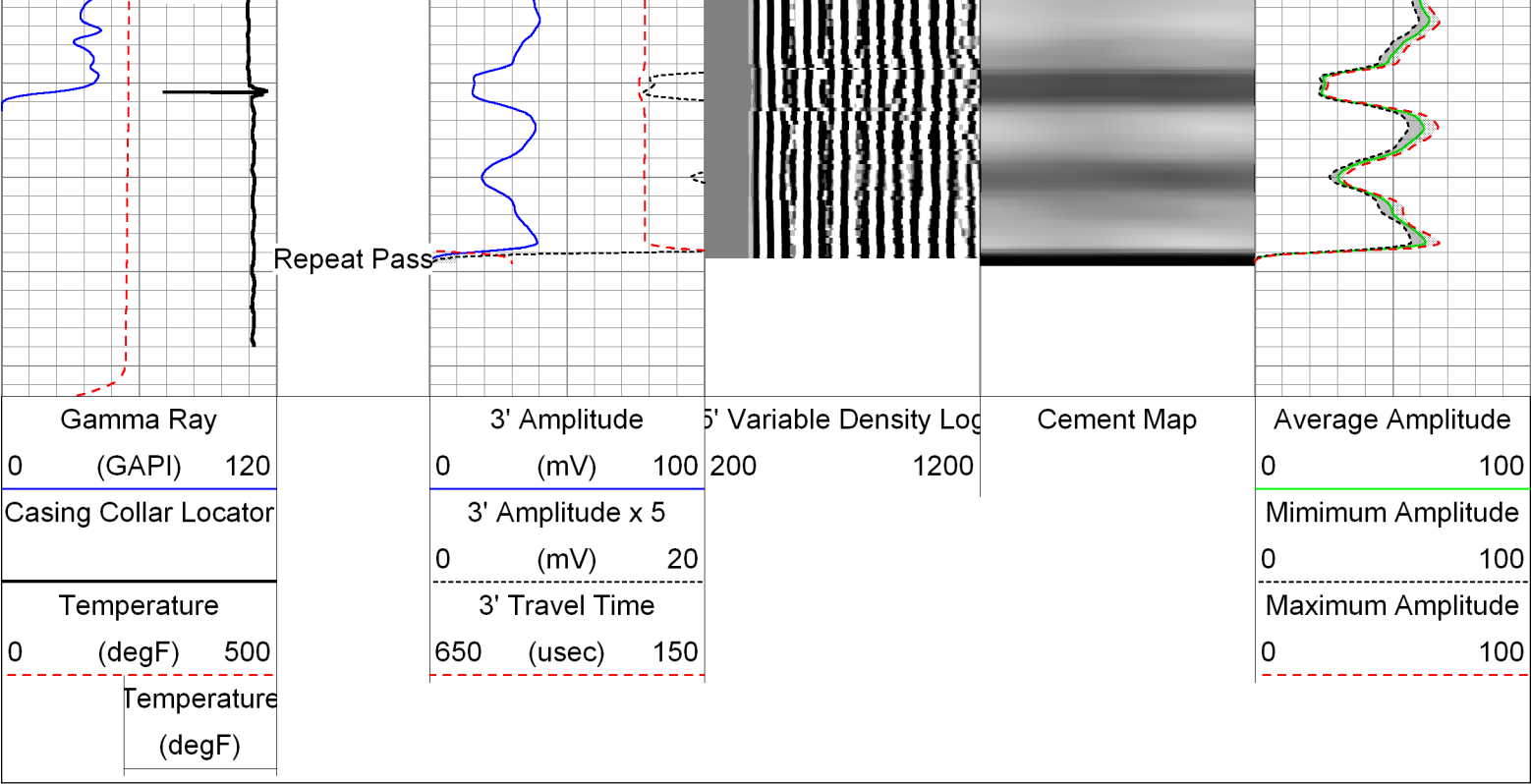




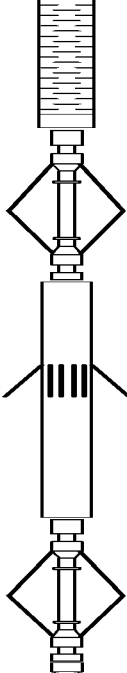
Database File: anadarko_usa fed 29c-36hz_rcbl_cil_30-aug-2013_w7.db
Dataset Pathname: repeat
Presentation Format: rcblsdx
Dataset Creation: Fri Aug 30 11:07:28 2013 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240

Gamma Ray		3' Amplitude	5' Variable Density Log	Cement Map	Average Amplitude
0 (GAPI) 120		0 (mV) 100	200 1200		0 100
Casing Collar Locator		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
Temperature		3' Travel Time			Maximum Amplitude
0 (degF) 500		650 (usec) 150			0 100
Temperature (degF)					





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	32.07		CHD-AES (000001) Cable Head	1.04	1.69	2.00
			XTU-001 (000001) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (000001) Production Gamma Ray	1.93	1.69	9.50
			PRC-001 (000001) Production Roller Centraliser (3 Arm)	1.92	1.69	7.00
MTT	25.81		MTT-002 (000001) Magnetic Thickness Tool	6.86	1.69	30.00
			PRC-034 (000005) Production Roller Centraliser (4 Arm)	2.91	1.69	13.00
WVF3FT	15.54		RBT-004 (2639) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS1	15.54					
WVFS2	15.54					
WVFS3	15.54					

WVFS4	15.54		PRC-034 (000006) Production Roller Centraliser (4 Arm)	2.91	1.69	13.00
WVFS5	15.54					
WVFS6	15.54					
WVFS7	15.54					
WVFS8	15.54					
CBLTEMP	15.54					
CBLROT	15.54					
WVFS5FT	14.54					
MIT	5.30		MIT-027 (218950) Multifinger Imaging Tool (UW 40F)	4.54	2.75	61.10
TSTAMP	0.00		PRC-057 (000007) Production Roller Centraliser (4 Arm)	2.74	2.75	32.00
			BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
Dataset: anadarko_usa fed 29c-36hz_rcbl_cil_30-aug-2013_w7.db: field/well/run1/main Total Length: 36.11 ft Total Weight: 315.30 lb O.D. 3.13 in						

Calibration Report	
Database File:	anadarko_usa fed 29c-36hz_rcbl_cil_30-aug-2013_w7.db
Dataset Pathname:	calreport
Dataset Creation:	Fri Aug 30 16:16:16 2013 by Log Sondex V7.03

Multi-finger Imaging Tool Calibration Report

Serial Number:	218950
Number of Fingers:	40
Tool Model:	027

Inclinometer Calibration Report			
Performed:	Fri, Oct, 10 10:41:51 2008		
Calibration Angle:	45		
	Inc X	Inc Y	
Vertical:	1996	1975	
Finger 1 up:	2238	2226	
Finger 31 up:	1760	2216	
Finger 21 up:	1769	1745	
Finger 11 up:	2250	1738	
Sensitivity ratio:	1.00023		
X-axis angle:	314.283		
Deviation const.:	339.139		

Finger Calibration Report							
Performed:				Fri Aug 30 10:00:37 2013			
Ring size:	4	5	6	7			
(in)	Sens	Sens	Sens	Sens			
Finger 01:	1465 232.0	1697 320.0	2017 303.0	2320			
Finger 02:	1502 225.0	1727 300.0	2027 288.0	2315			
Finger 03:	1457 247.0	1704 332.0	2036 327.0	2363			
Finger 04:	1457 236.0	1693 309.0	2002 310.0	2312			
Finger 05:	1516 232.0	1748 288.0	2036 290.0	2326			
Finger 06:	1494 243.0	1737 290.0	2027 304.0	2331			
Finger 07:	1495 260.0	1755 300.0	2055 313.0	2368			
Finger 08:	1551 238.0	1780 262.0	2052 282.0	2324			

Finger 08:	1551	238.0	1789	263.0	2052	282.0	2334
Finger 09:	1498	275.0	1773	291.0	2064	317.0	2381
Finger 10:	1526	268.0	1794	269.0	2063	292.0	2355
Finger 11:	1490	276.0	1766	271.0	2037	305.0	2342
Finger 12:	1479	294.0	1773	278.0	2051	316.0	2367
Finger 13:	1522	291.0	1813	261.0	2074	298.0	2372
Finger 14:	1513	295.0	1808	259.0	2067	301.0	2368
Finger 15:	1503	303.0	1806	258.0	2064	302.0	2366
Finger 16:	1486	303.0	1789	254.0	2043	300.0	2343
Finger 17:	1477	313.0	1790	257.0	2047	304.0	2351
Finger 18:	1517	303.0	1820	241.0	2061	281.0	2342
Finger 19:	1544	290.0	1834	230.0	2064	266.0	2330
Finger 20:	1475	313.0	1788	253.0	2041	292.0	2333
Finger 21:	1448	323.0	1771	263.0	2034	302.0	2336
Finger 22:	1468	315.0	1783	258.0	2041	291.0	2332
Finger 23:	1524	294.0	1818	246.0	2064	266.0	2330
Finger 24:	1524	294.0	1818	255.0	2073	277.0	2350
Finger 25:	1500	303.0	1803	272.0	2075	285.0	2360
Finger 26:	1441	304.0	1745	275.0	2020	288.0	2308
Finger 27:	1450	296.0	1746	284.0	2030	285.0	2315
Finger 28:	1475	300.0	1775	291.0	2066	289.0	2355
Finger 29:	1454	282.0	1736	290.0	2026	284.0	2310
Finger 30:	1463	280.0	1743	301.0	2044	288.0	2332
Finger 31:	1538	247.0	1785	273.0	2058	257.0	2315
Finger 32:	1464	263.0	1727	308.0	2035	289.0	2324
Finger 33:	1462	260.0	1722	311.0	2033	282.0	2315
Finger 34:	1433	257.0	1690	321.0	2011	297.0	2308
Finger 35:	1444	250.0	1694	321.0	2015	295.0	2310
Finger 36:	1442	241.0	1683	320.0	2003	293.0	2296
Finger 37:	1512	235.0	1747	309.0	2056	280.0	2336
Finger 38:	1444	242.0	1686	332.0	2018	301.0	2319
Finger 39:	1421	239.0	1660	329.0	1989	306.0	2295
Finger 40:	1426	239.0	1665	332.0	1997	314.0	2311

Post Survey Calibration Check								
Performed: Fri Aug 30 16:15:19 2013								
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.003	0.001	4.989	-0.006	6.012	0.006	7.009	0.005
Finger 02:	3.999	-0.000	4.986	-0.007	6.010	0.005	7.006	0.003
Finger 03:	3.980	-0.010	4.991	-0.005	6.012	0.006	7.009	0.004
Finger 04:	4.016	0.008	4.999	-0.001	6.014	0.007	7.010	0.005
Finger 05:	3.993	-0.003	4.994	-0.003	6.001	0.000	7.005	0.003
Finger 06:	4.022	0.011	5.000	-0.000	6.008	0.004	7.011	0.006
Finger 07:	4.019	0.009	5.003	0.002	6.001	0.000	7.003	0.002
Finger 08:	4.009	0.005	5.017	0.008	6.009	0.004	7.012	0.006
Finger 09:	4.019	0.009	5.006	0.003	6.003	0.002	7.006	0.003
Finger 10:	4.006	0.003	5.010	0.005	6.007	0.003	7.007	0.003
Finger 11:	4.013	0.007	5.005	0.002	6.003	0.002	7.007	0.004
Finger 12:	4.012	0.006	5.004	0.002	5.999	-0.000	7.004	0.002
Finger 13:	3.994	-0.003	4.996	-0.002	5.998	-0.001	6.996	-0.002
Finger 14:	3.997	-0.001	4.992	-0.004	6.001	0.000	6.999	-0.000
Finger 15:	4.004	0.002	4.993	-0.003	5.998	-0.001	7.001	0.001
Finger 16:	4.000	0.000	5.002	0.001	6.010	0.005	7.010	0.005
Finger 17:	3.996	-0.002	4.984	-0.008	6.003	0.002	6.998	-0.001
Finger 18:	4.002	0.001	4.980	-0.010	6.009	0.005	7.000	-0.000
Finger 19:	3.999	-0.000	4.985	-0.008	6.003	0.001	7.006	0.003
Finger 20:	4.001	0.000	4.985	-0.007	6.010	0.005	7.010	0.005
Finger 21:	3.997	-0.001	4.988	-0.006	6.010	0.005	7.008	0.004
Finger 22:	3.996	-0.002	4.989	-0.005	6.013	0.006	7.010	0.005
Finger 23:	4.003	0.002	4.987	-0.007	6.007	0.004	7.007	0.003
Finger 24:	4.012	0.006	4.998	-0.001	6.013	0.006	7.012	0.006
Finger 25:	4.003	0.002	5.000	-0.000	6.003	0.001	7.008	0.004
Finger 26:	4.013	0.007	5.003	0.001	6.015	0.007	7.014	0.007
Finger 27:	4.004	0.002	5.005	0.002	6.002	0.001	7.007	0.004
Finger 28:	4.004	0.002	5.010	0.005	6.000	0.000	7.000	0.000

Finger 28:	4.031	0.016	5.010	0.005	6.003	0.001	7.006	0.003
Finger 29:	4.012	0.006	5.010	0.005	6.003	0.002	7.004	0.002
Finger 30:	4.011	0.006	5.005	0.002	6.001	0.000	7.006	0.003
Finger 31:	3.998	-0.001	5.003	0.002	6.003	0.002	7.001	0.001
Finger 32:	4.005	0.003	5.001	0.001	6.003	0.002	7.001	0.000
Finger 33:	3.997	-0.001	5.000	0.000	6.002	0.001	7.003	0.001
Finger 34:	3.995	-0.002	4.993	-0.004	6.001	0.000	6.998	-0.001
Finger 35:	4.010	0.005	4.996	-0.002	6.006	0.003	7.001	0.001
Finger 36:	3.999	-0.000	4.991	-0.005	5.996	-0.002	7.002	0.001
Finger 37:	3.995	-0.002	4.987	-0.007	6.006	0.003	7.007	0.004
Finger 38:	4.010	0.005	4.990	-0.005	6.004	0.002	7.008	0.004
Finger 39:	4.003	0.002	4.984	-0.008	6.008	0.004	7.007	0.004
Finger 40:	4.000	0.000	4.983	-0.009	6.009	0.005	7.005	0.003
Average:	4.004	0.002	4.996	-0.002	6.005	0.003	7.006	0.003

Segmented Cement Bond Log Calibration Report

Serial Number: 2639
 Tool Model: 004

 Calibration Casing Diameter: 7.000 in
 Calibration Depth: 4599.603 ft

Master Calibration, performed Thu Aug 22 08:44:36 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.006	0.706	0.800	62.165	87.623	0.262
5FT	0.001	0.756	0.800	62.165	81.256	0.701
S1	0.010	0.726	0.000	100.000	139.527	-1.349
S2	0.005	0.649	0.000	100.000	155.140	-0.750
S3	0.003	0.616	0.000	100.000	163.110	-0.526
S4	0.002	0.628	0.000	100.000	159.985	-0.391
S5	0.006	0.685	0.000	100.000	147.320	-0.921
S6	0.008	0.767	0.000	100.000	131.662	-1.008
S7	0.004	0.822	0.000	100.000	122.209	-0.430
S8	0.001	0.802	0.000	100.000	124.721	-0.073

Gamma Ray Calibration Report

Serial Number: 000001
 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 29C-36HZ
 Field Wattenberg
 County Weld
 State Colorado