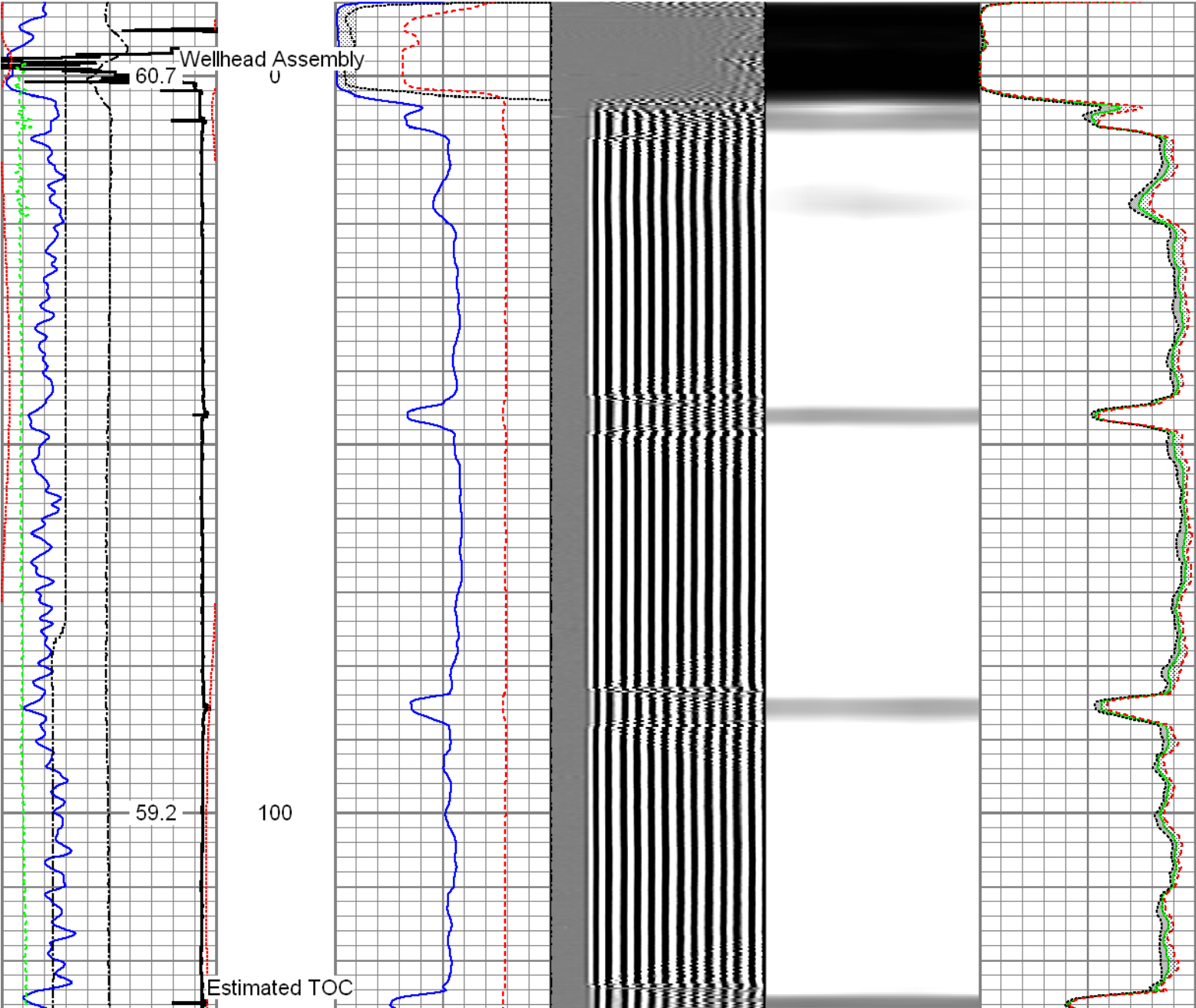


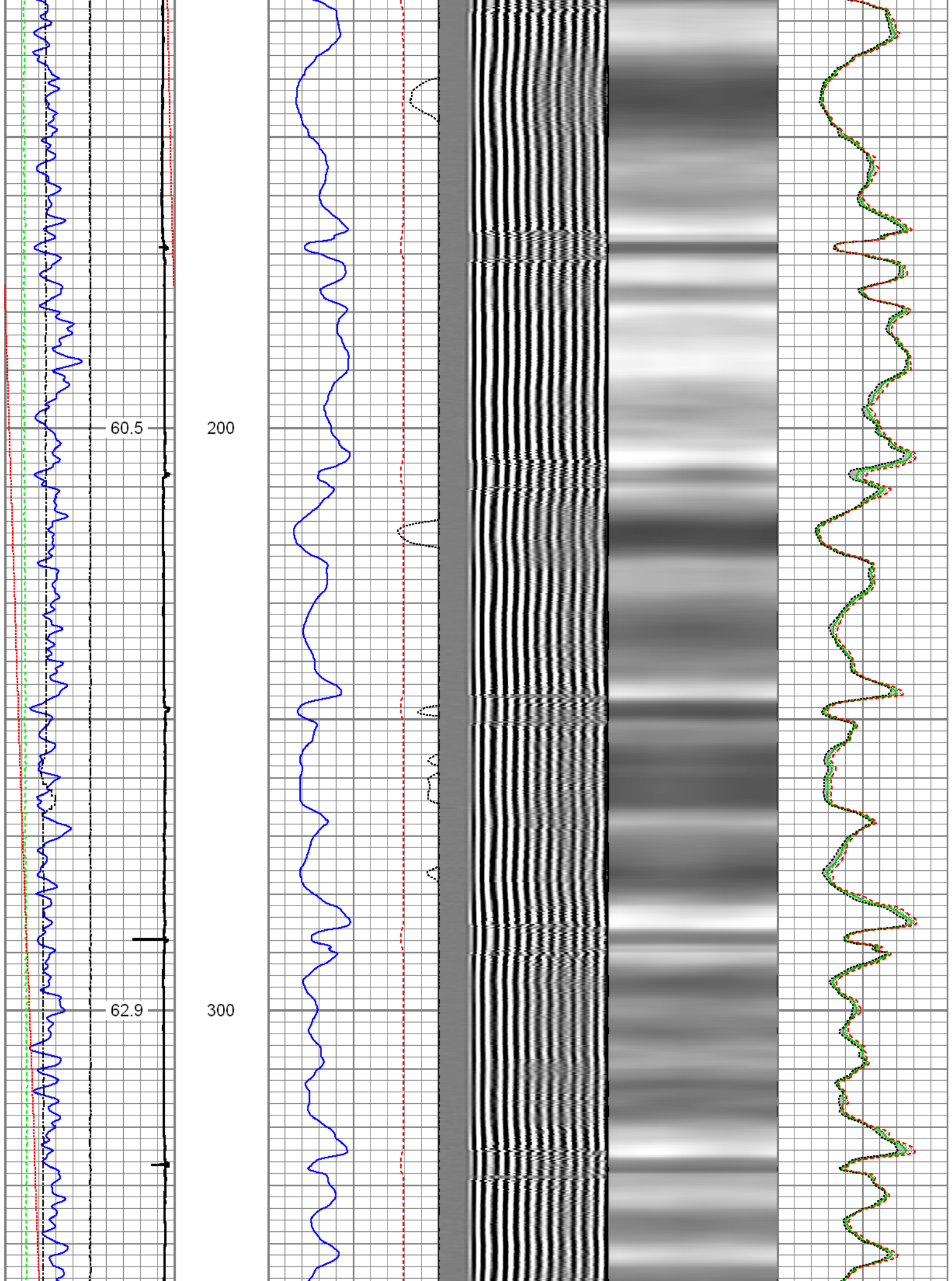


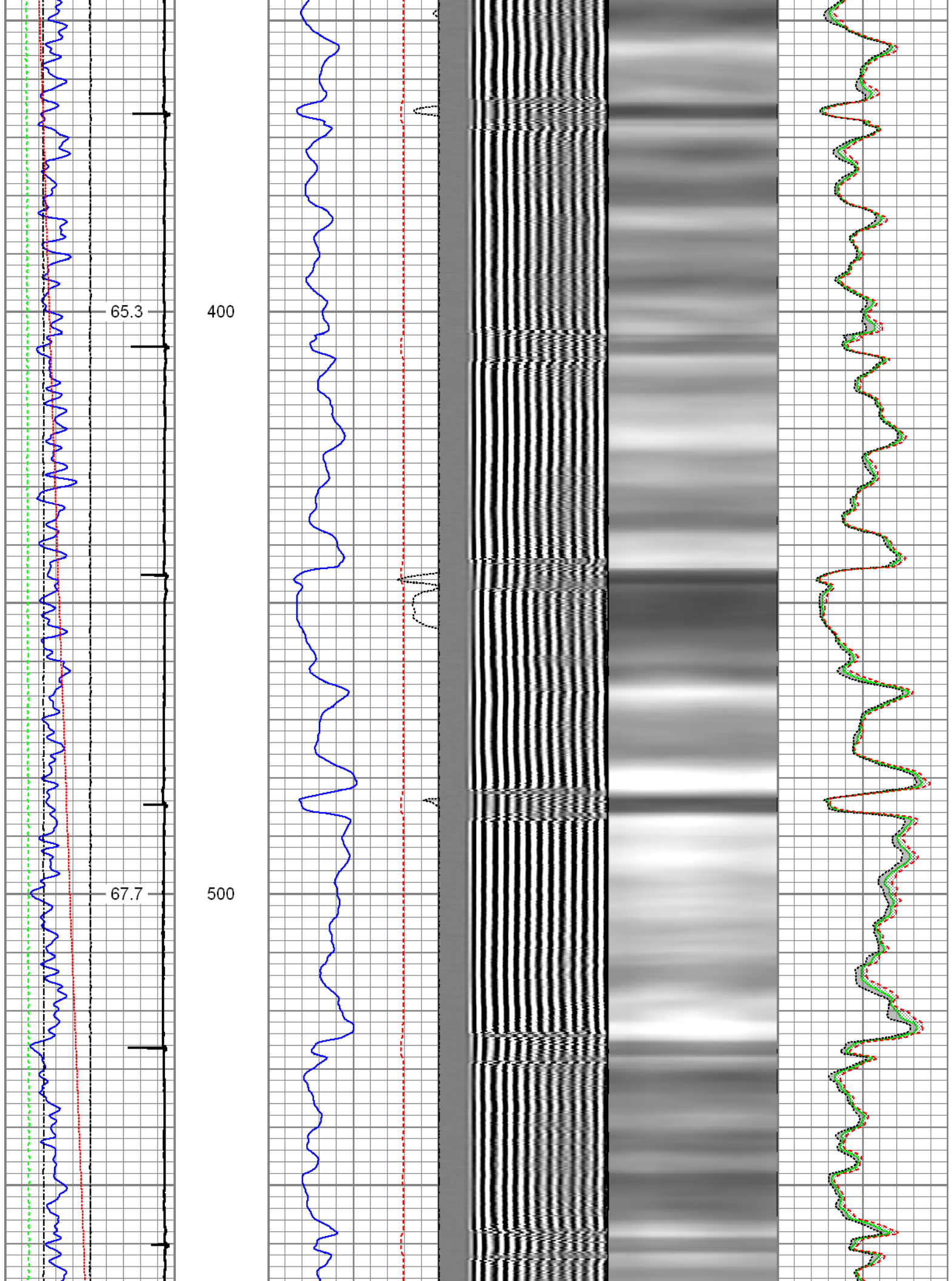
<<< Fold Here >>>
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible 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 All wireline depths measured from KB zero at 21 FT Depth referenced to casing tally reported liner top at 5075 FT Adjusted log -20 FT from KB zero to correlate with liner top Log ran from just below liner top to surface Thank you for choosing FMC Technologies Completion Services, Inc.!!

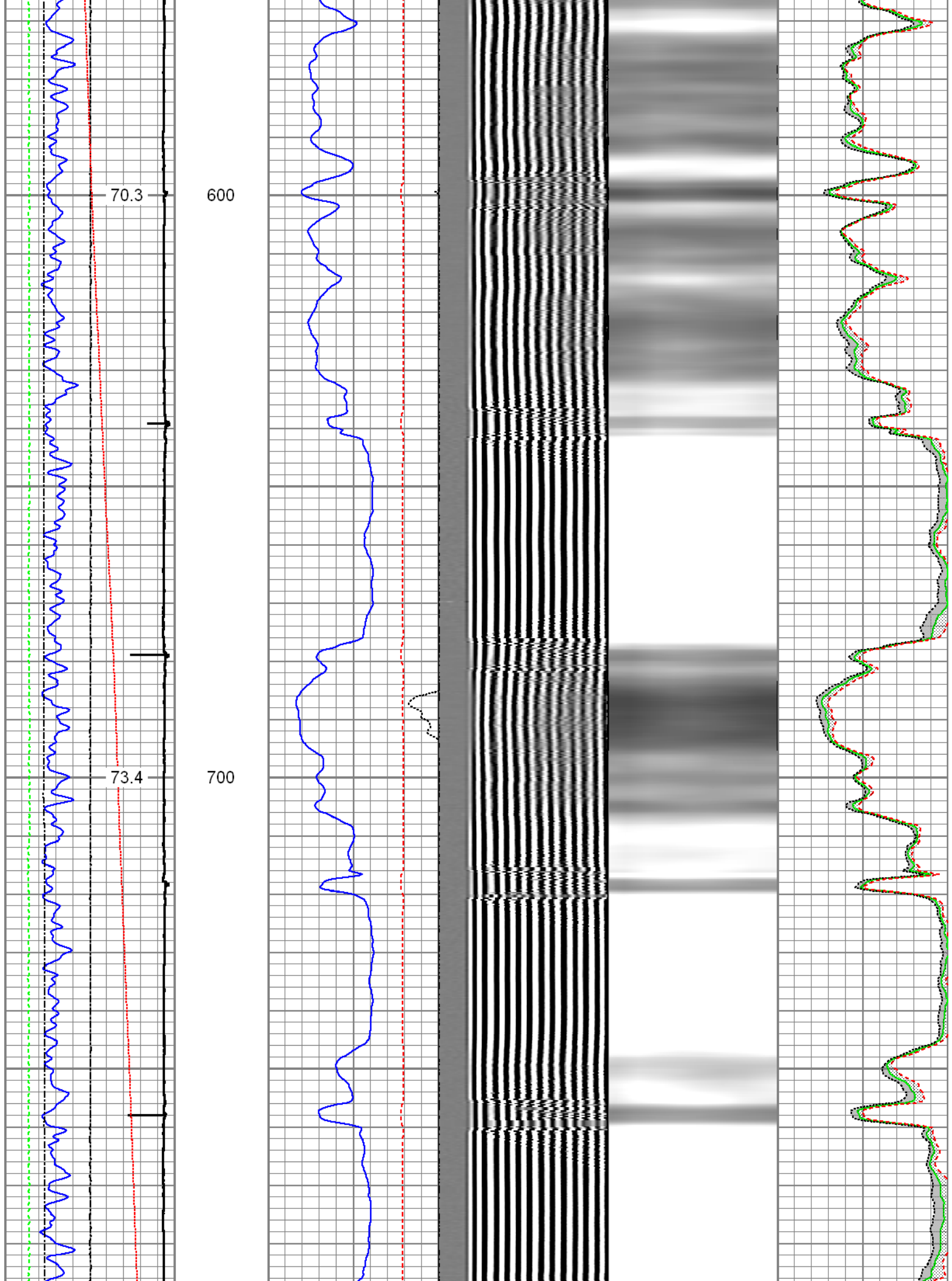


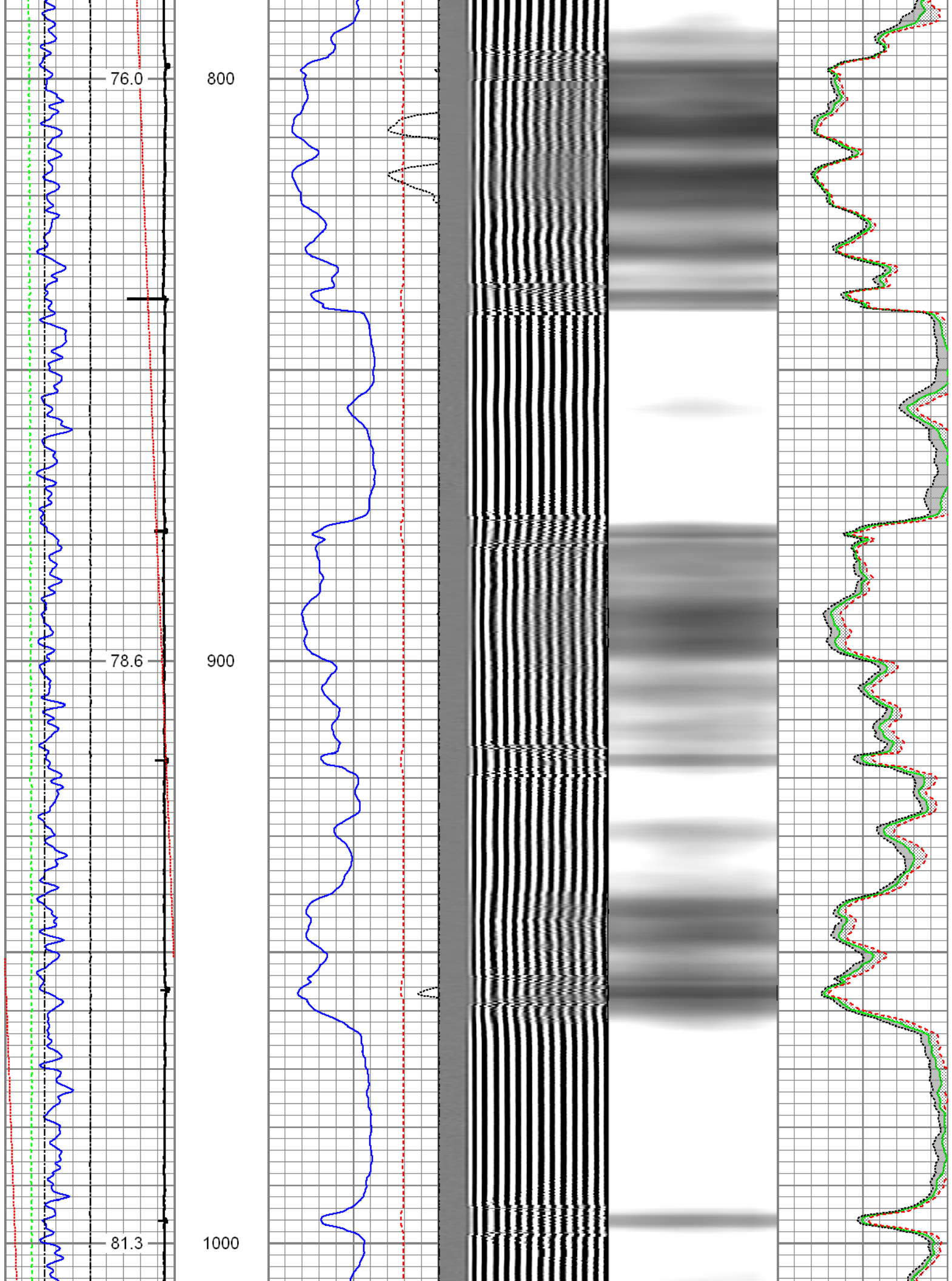
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				
Differential Temperature				
-2 (degF) 2				
Temperature				
0 (degF) 20				

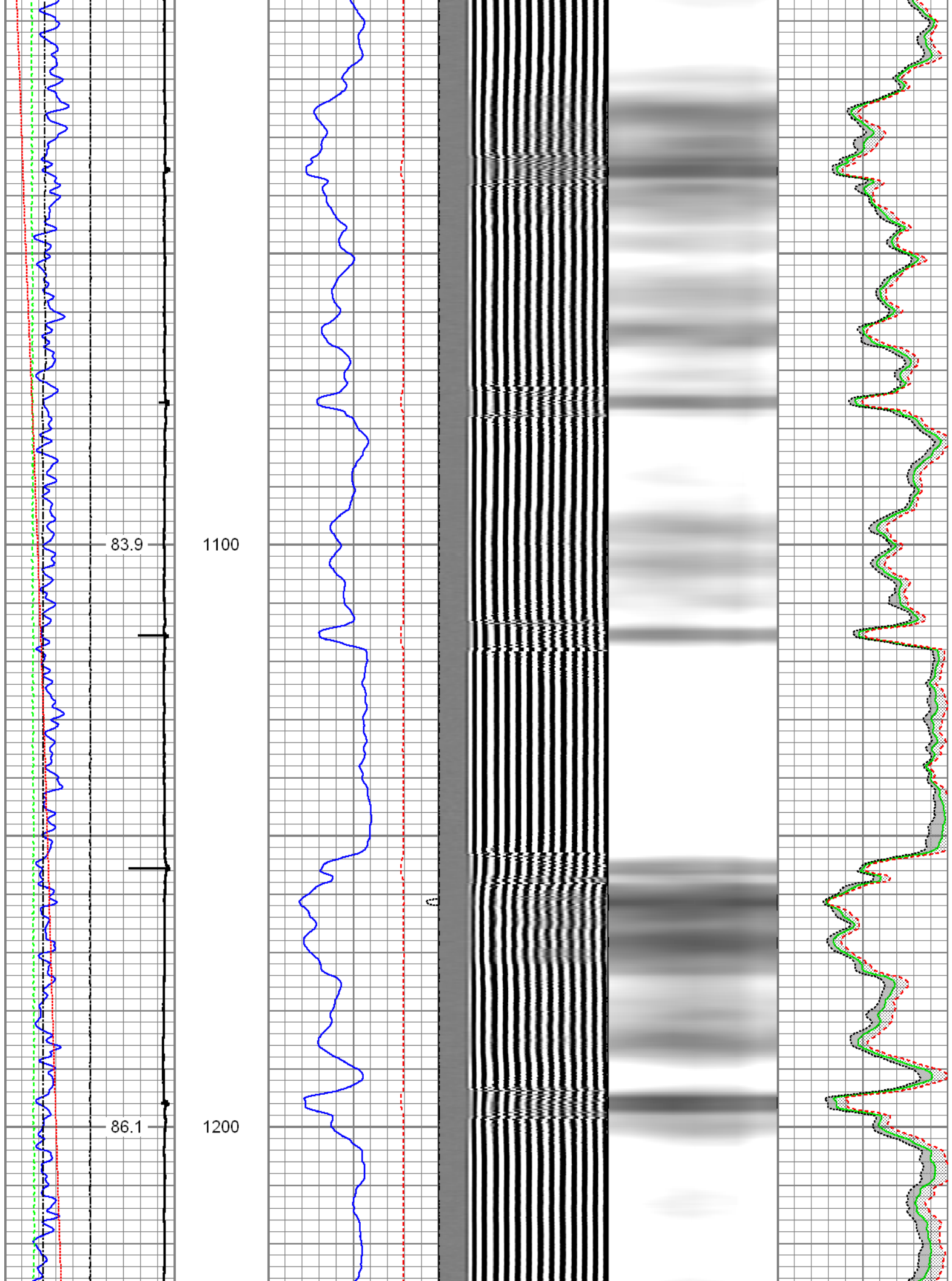


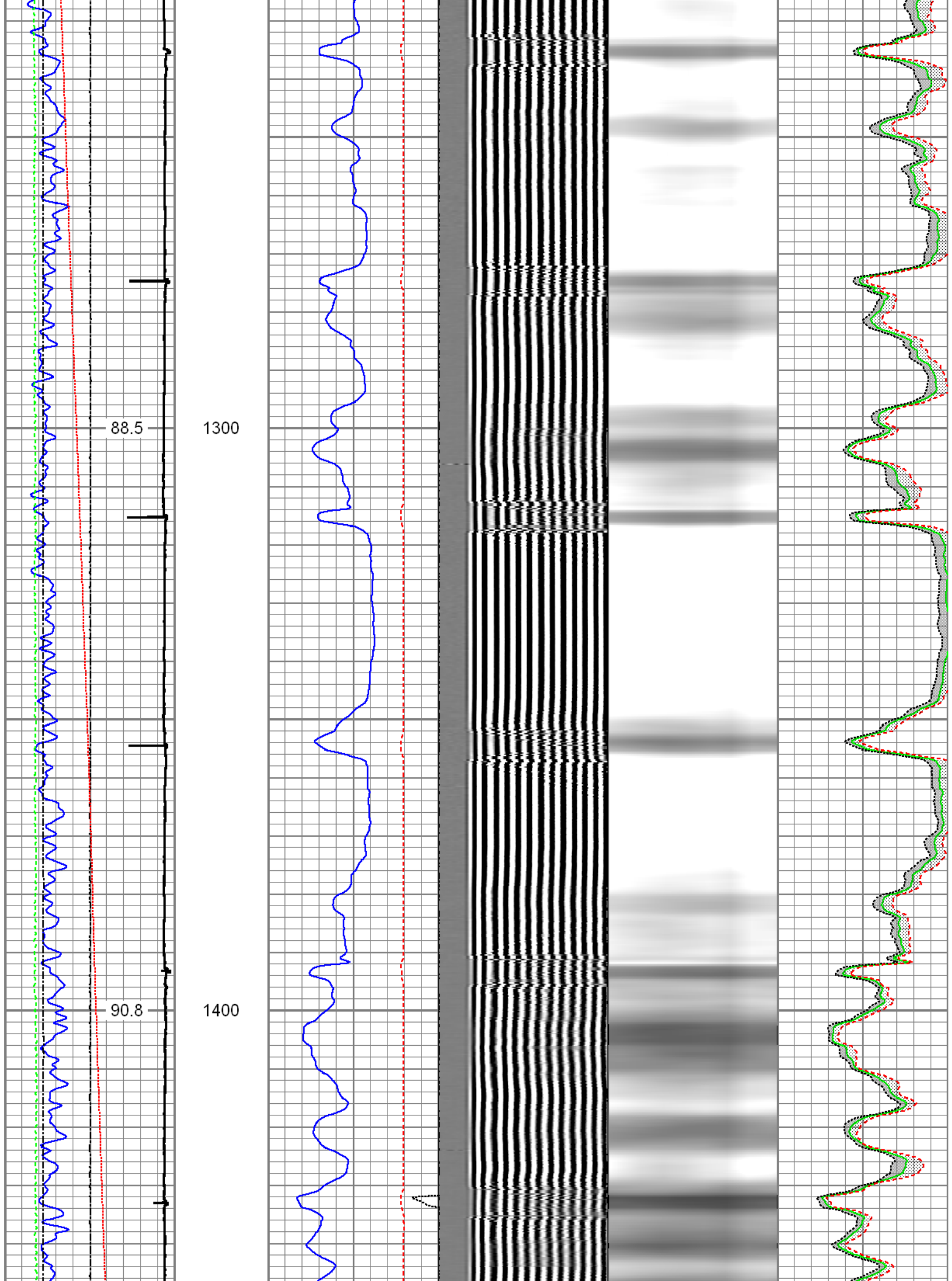


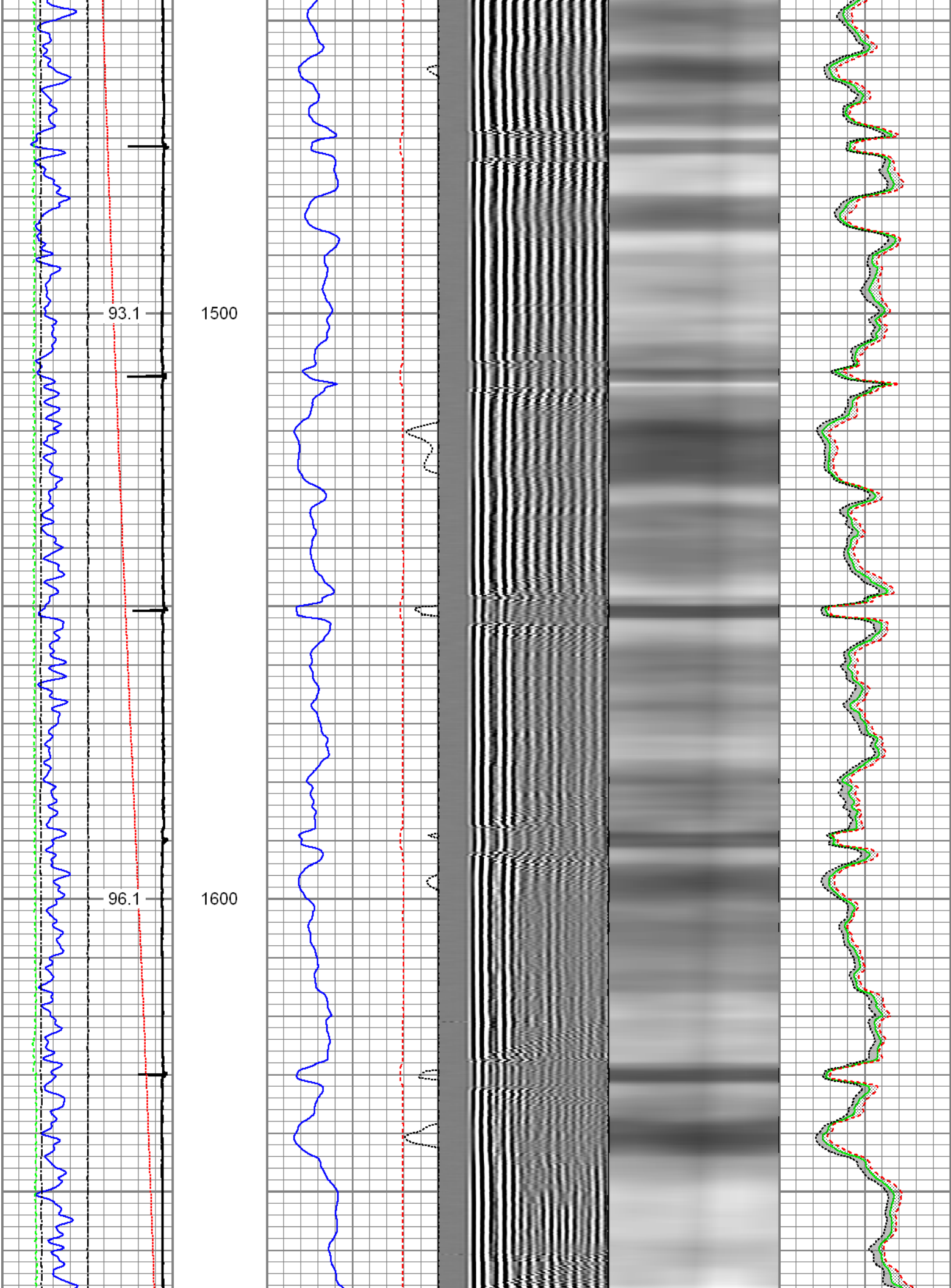


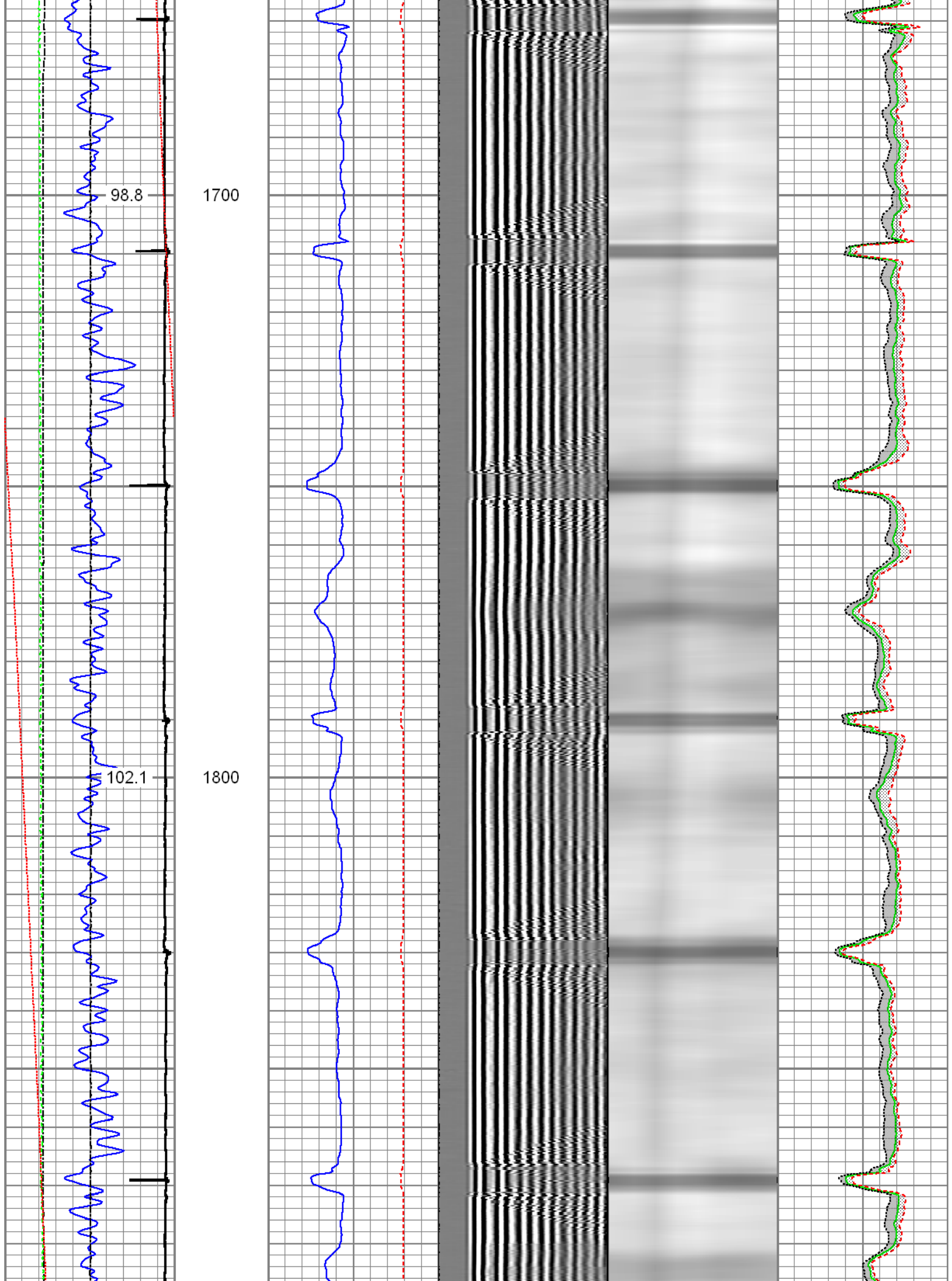


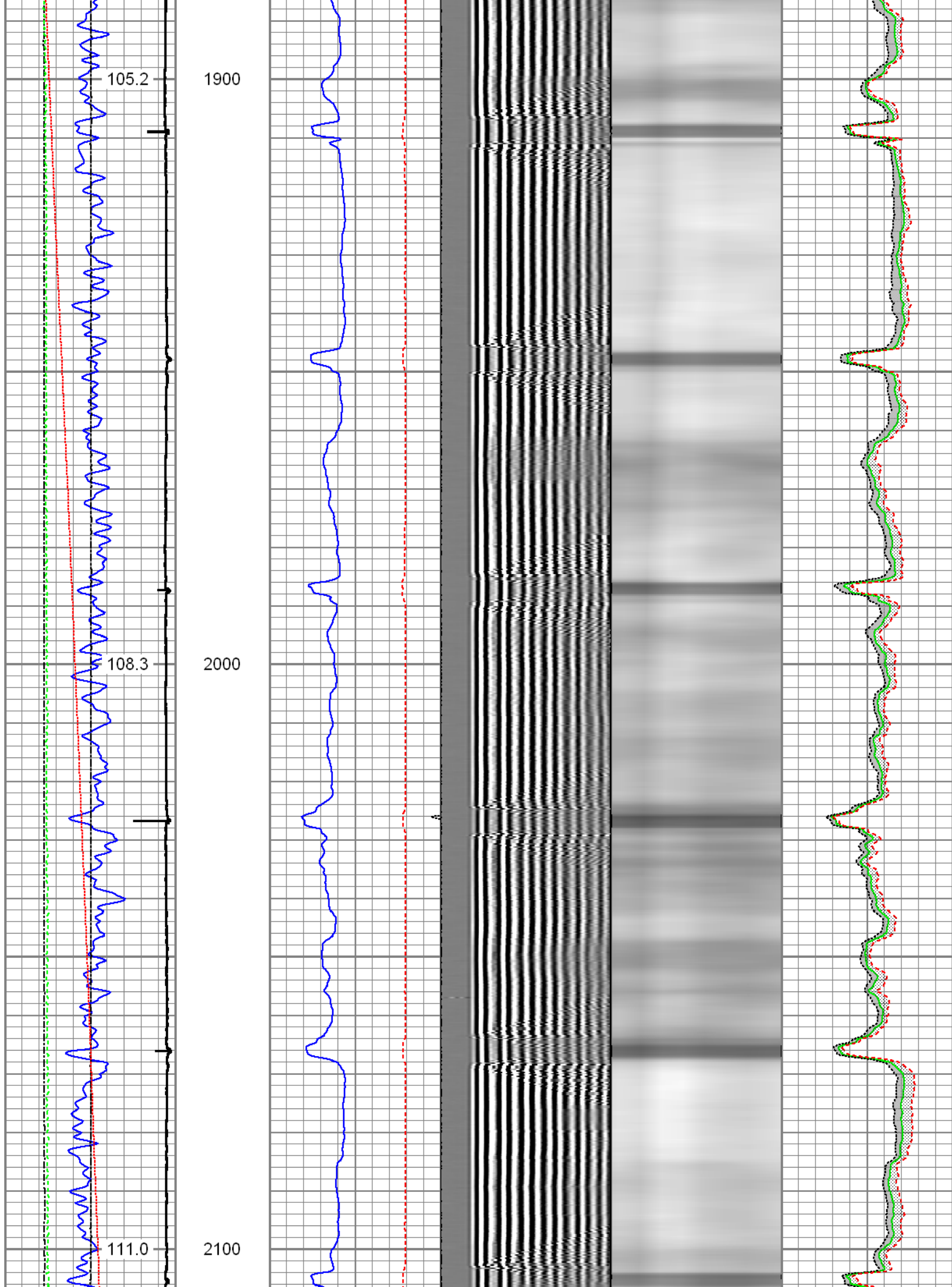


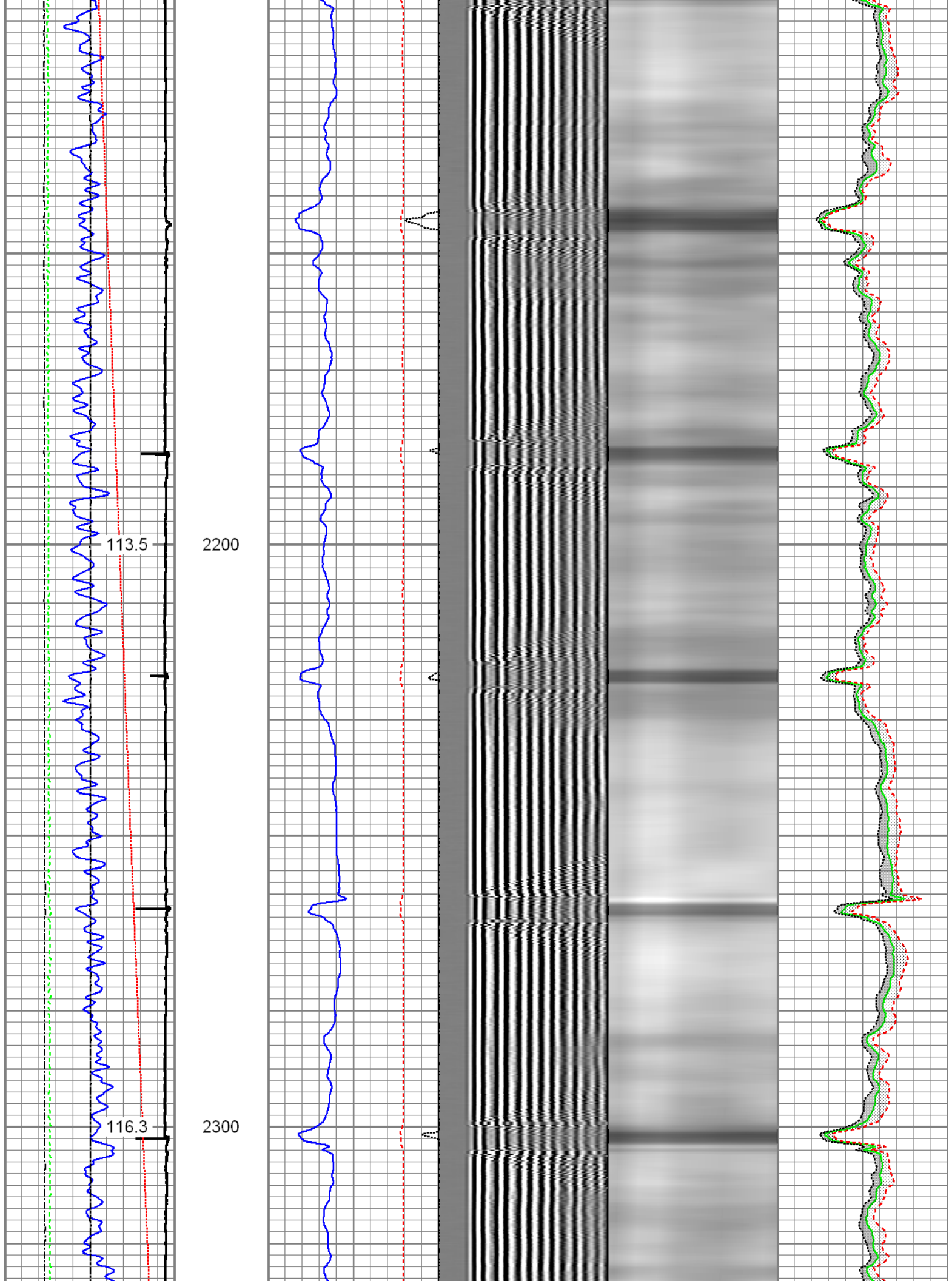


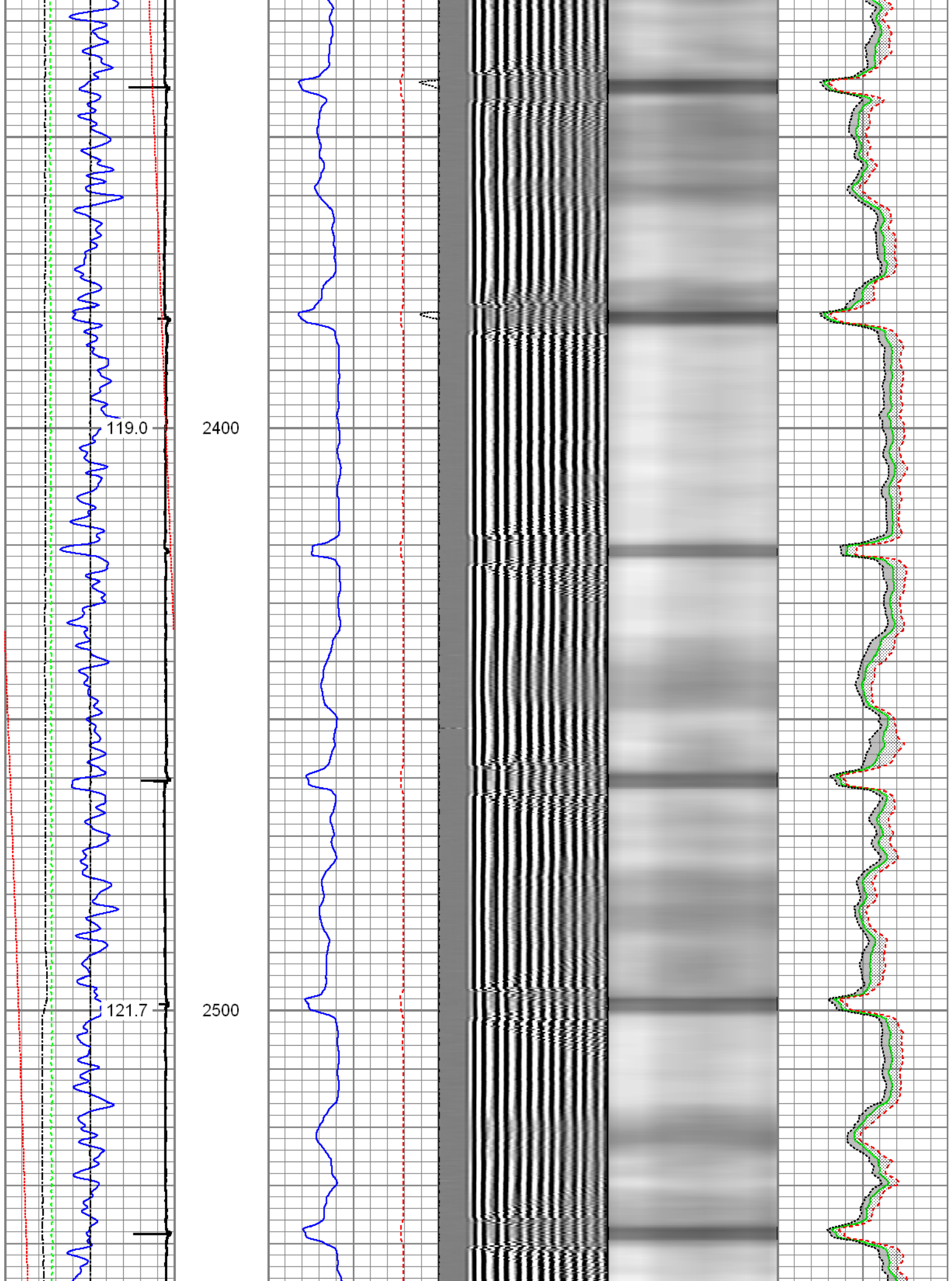


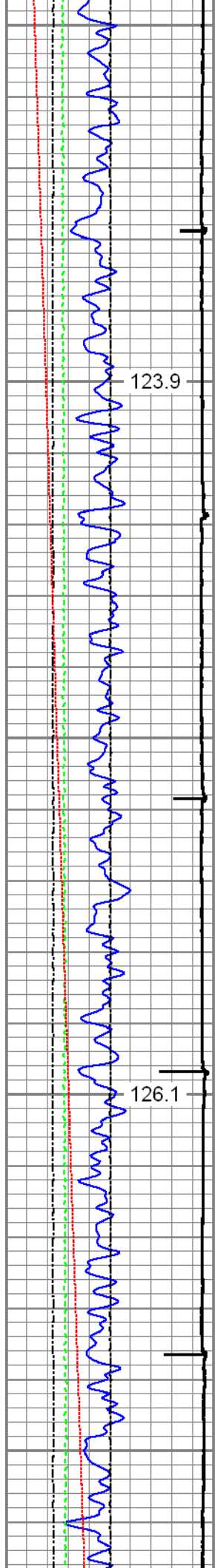






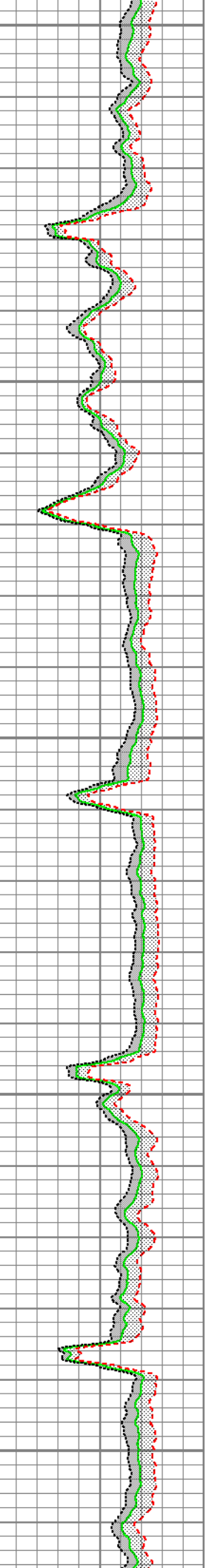
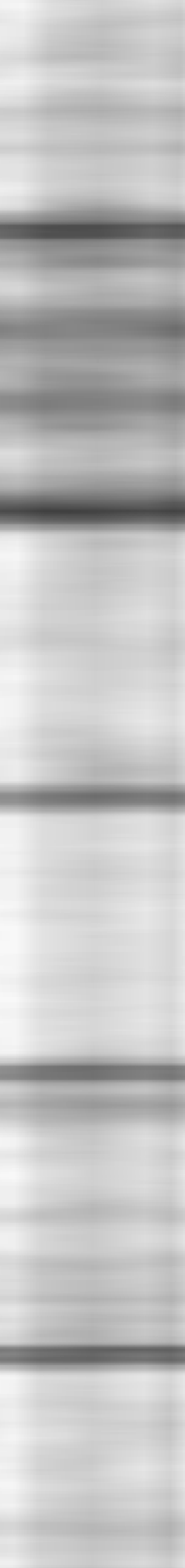
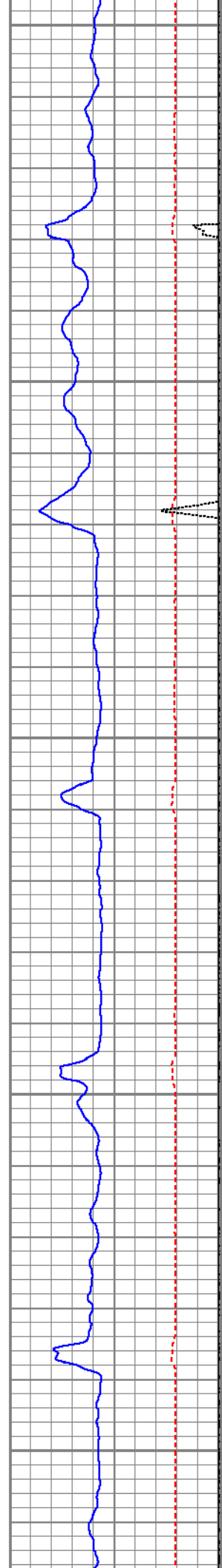


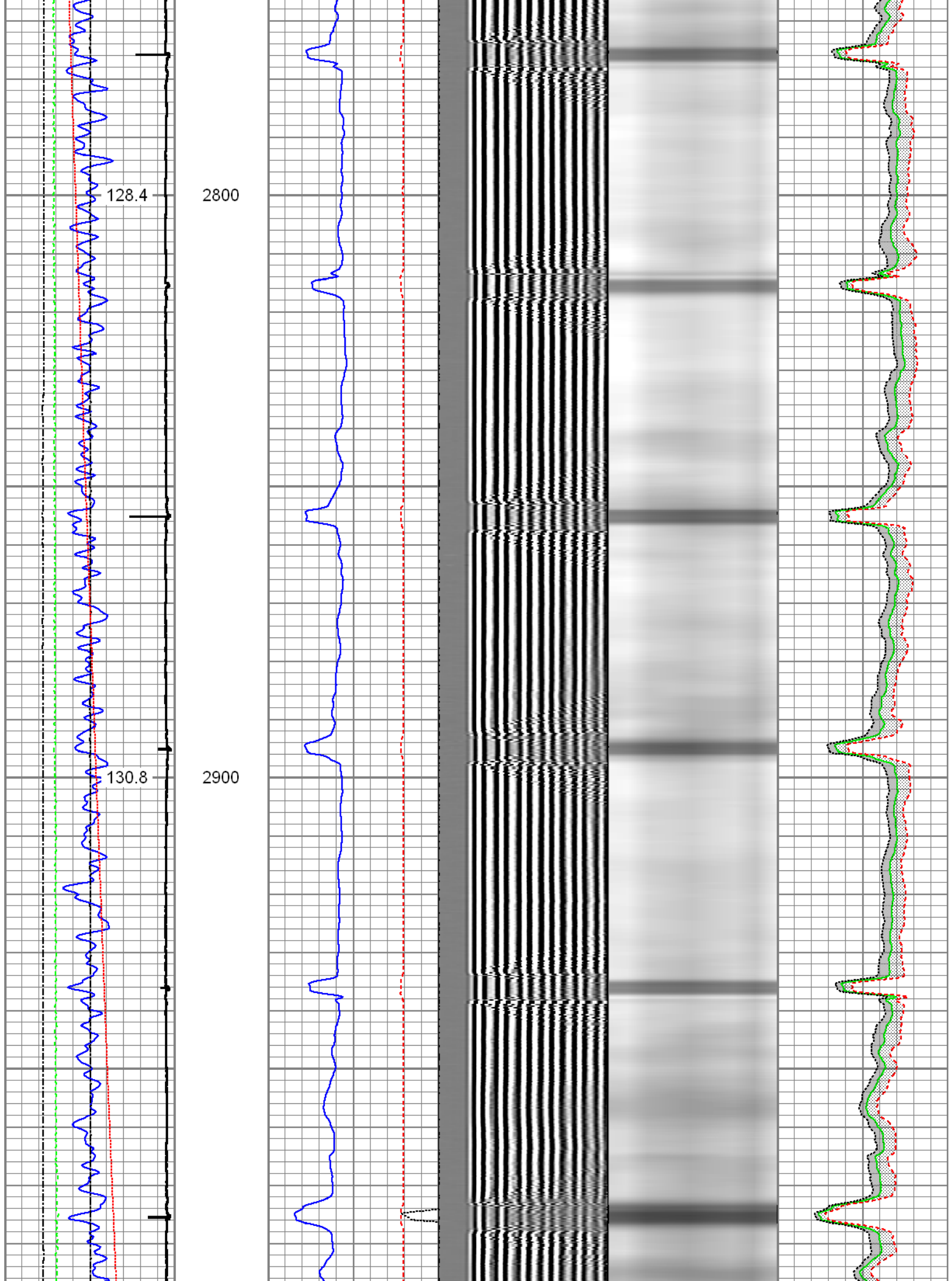


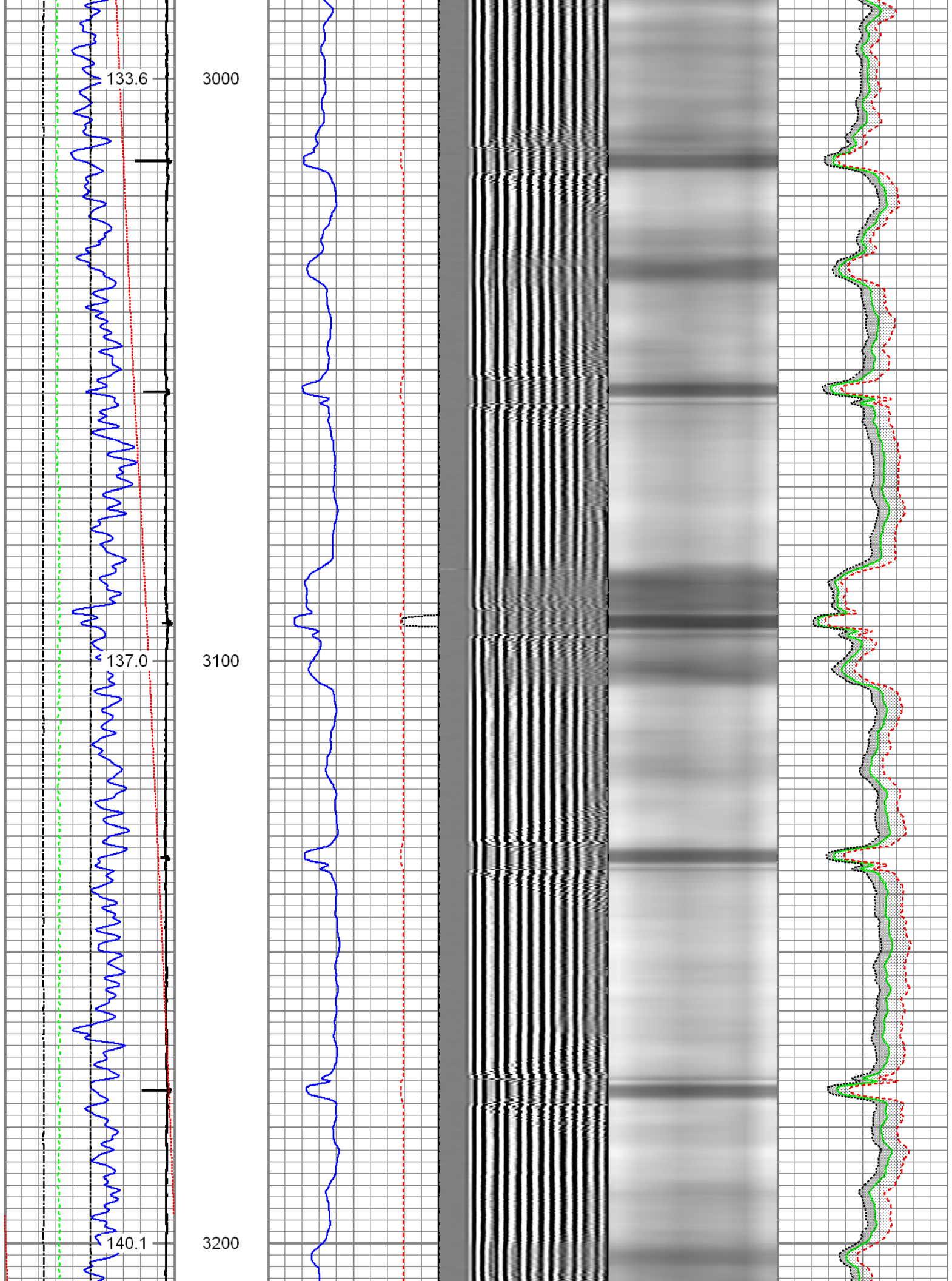


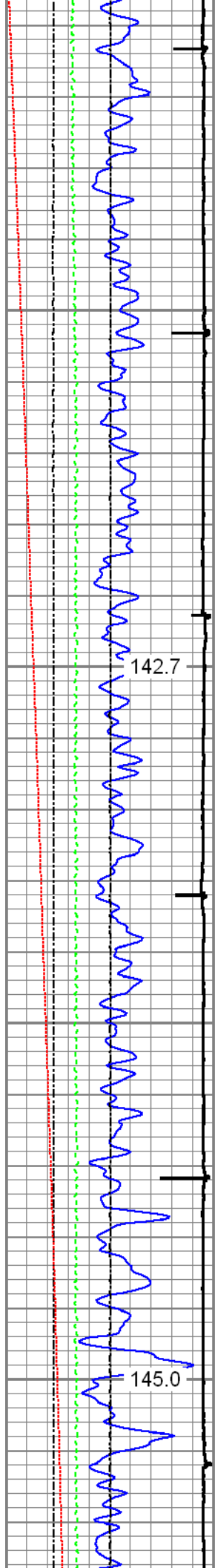
2600

2700



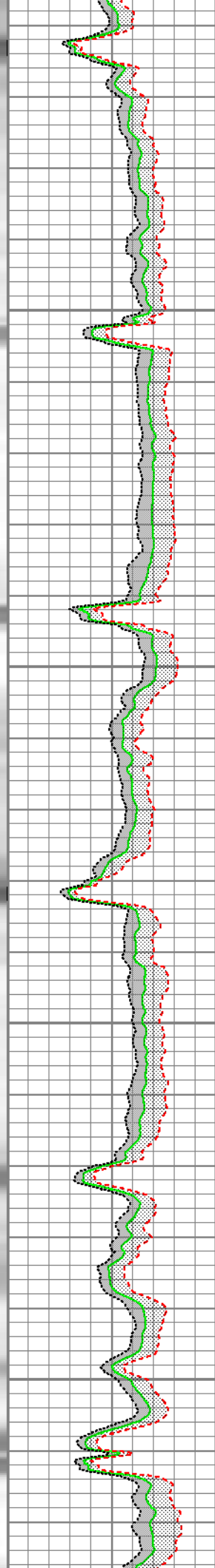
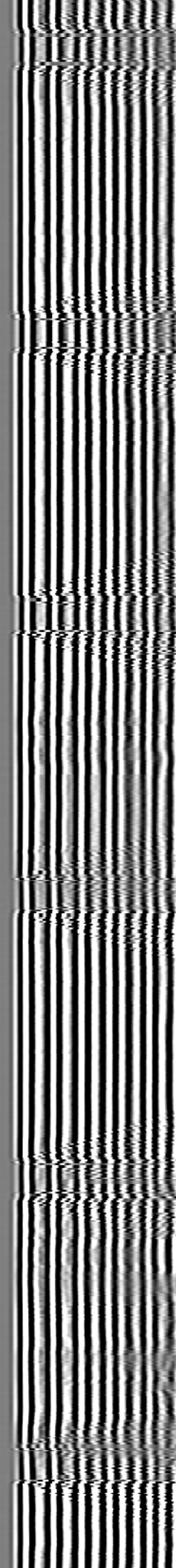
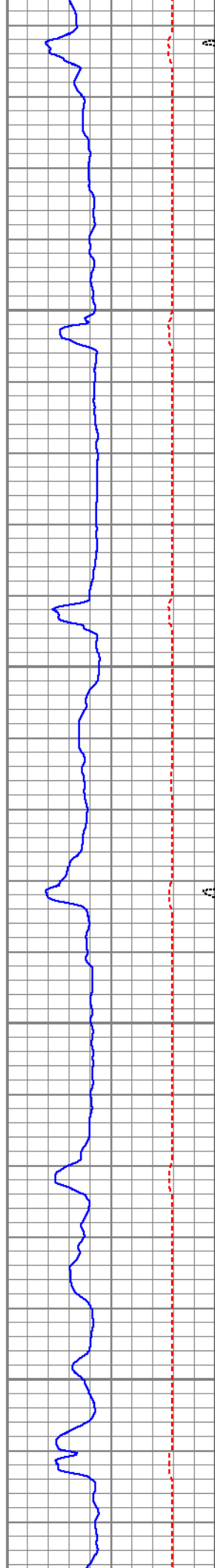


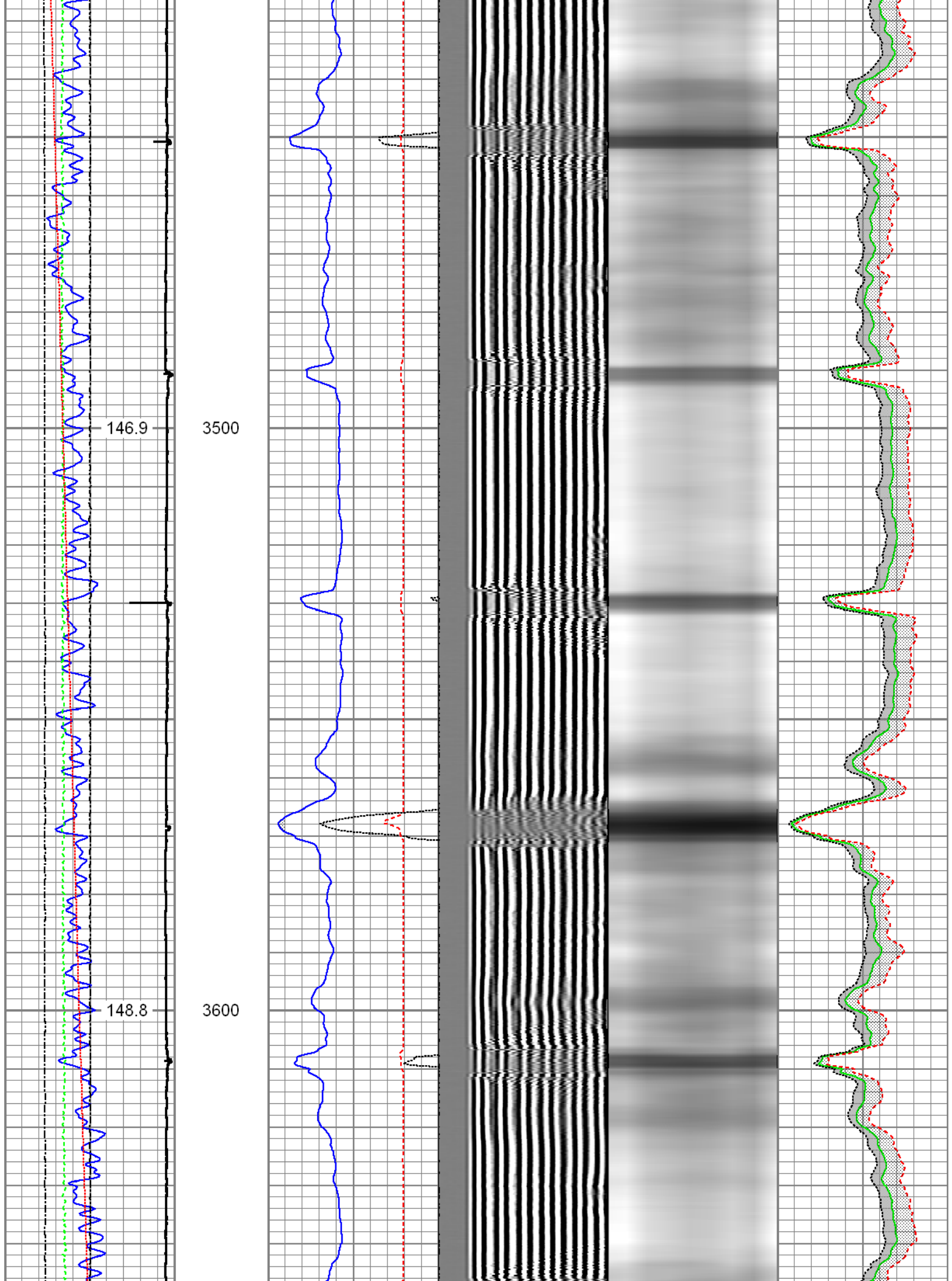


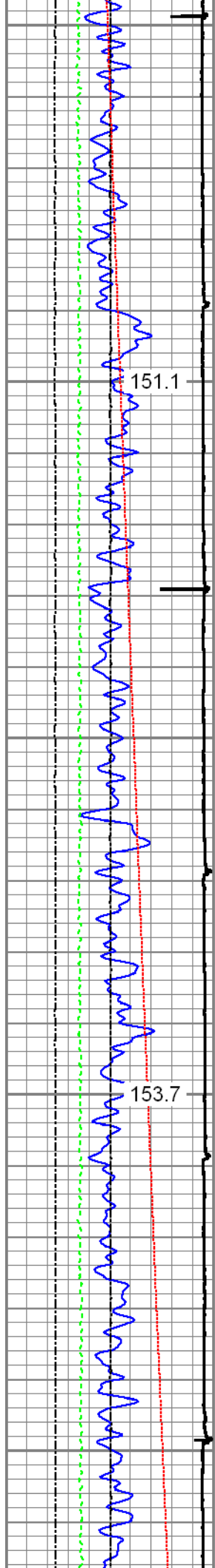


3300

3400

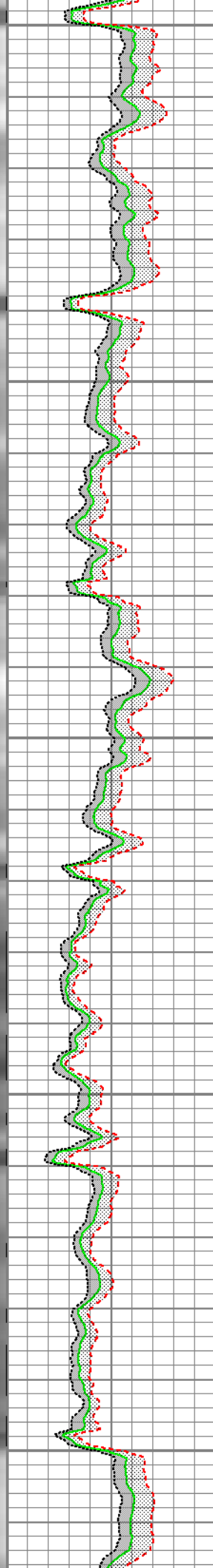
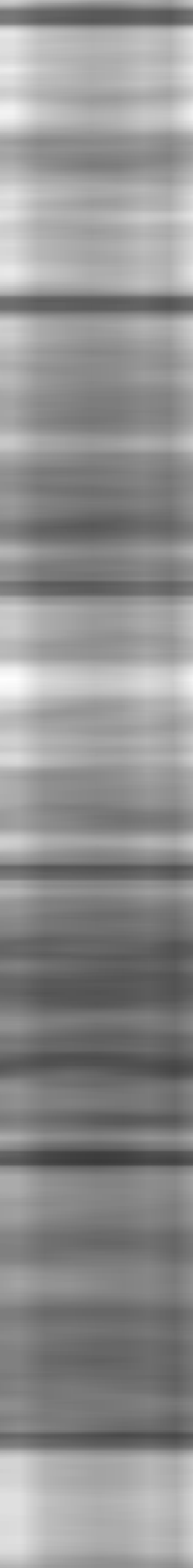
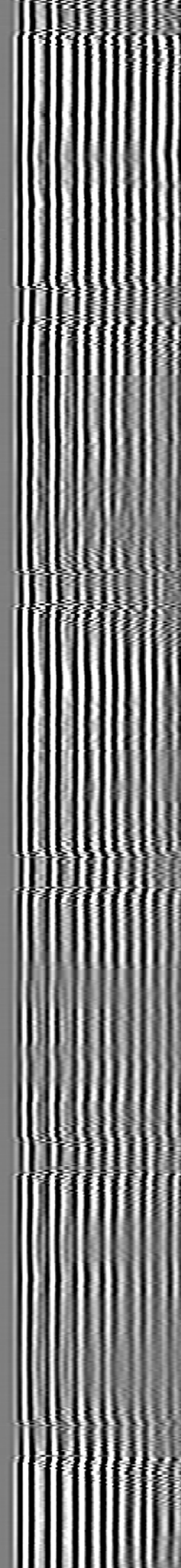
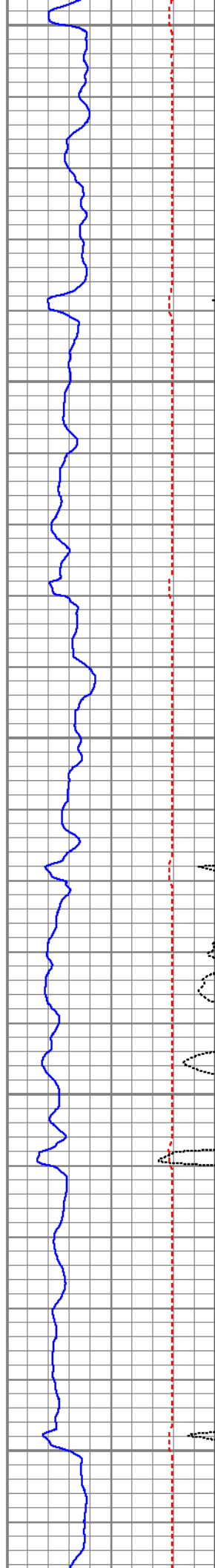


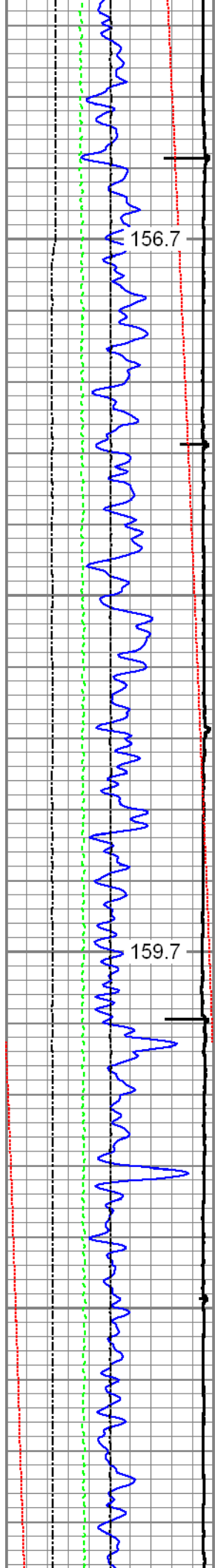




3700

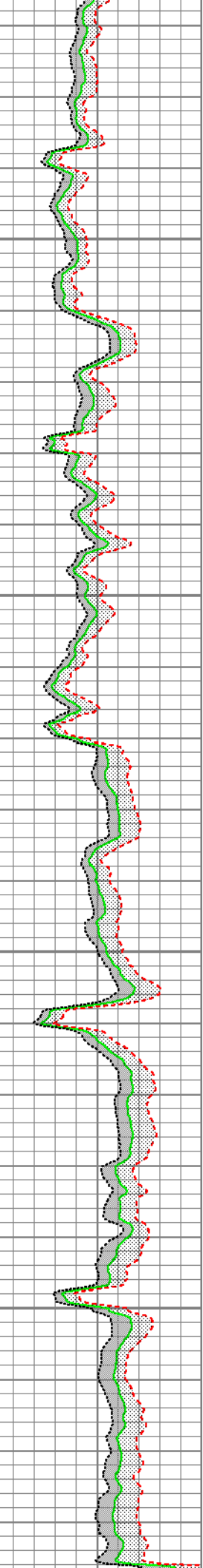
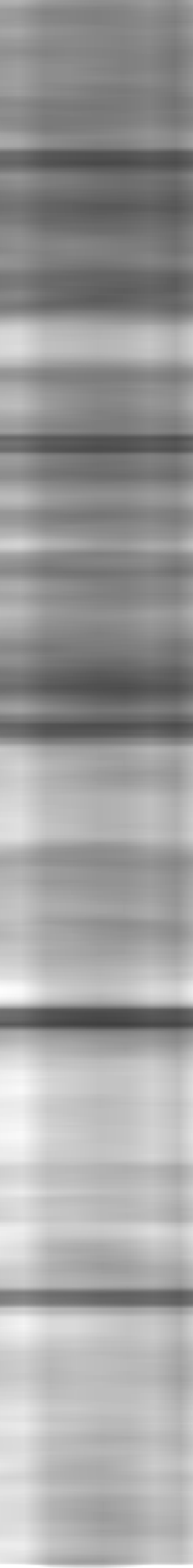
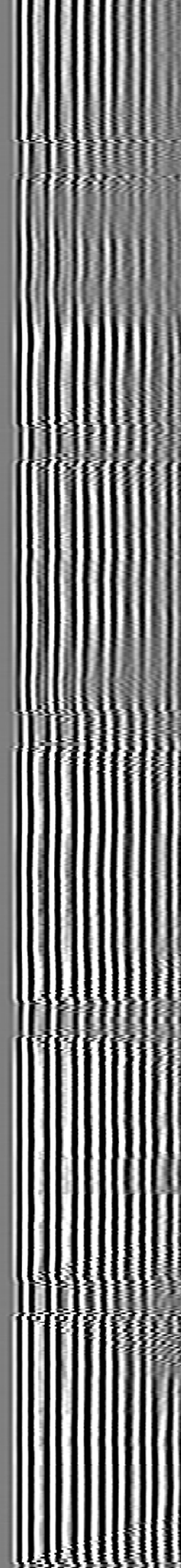
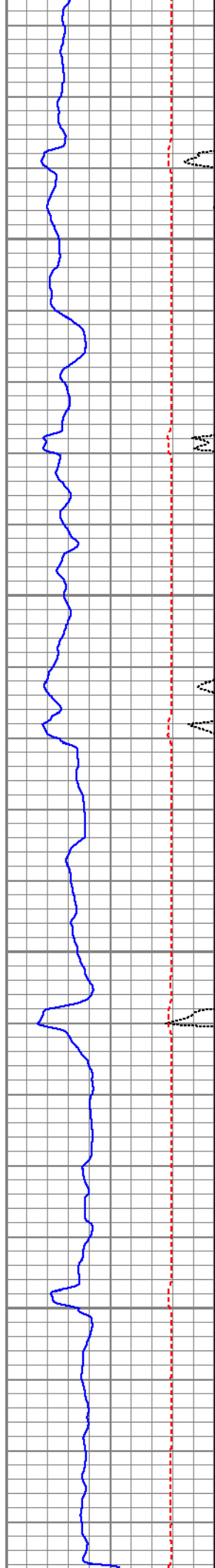
3800

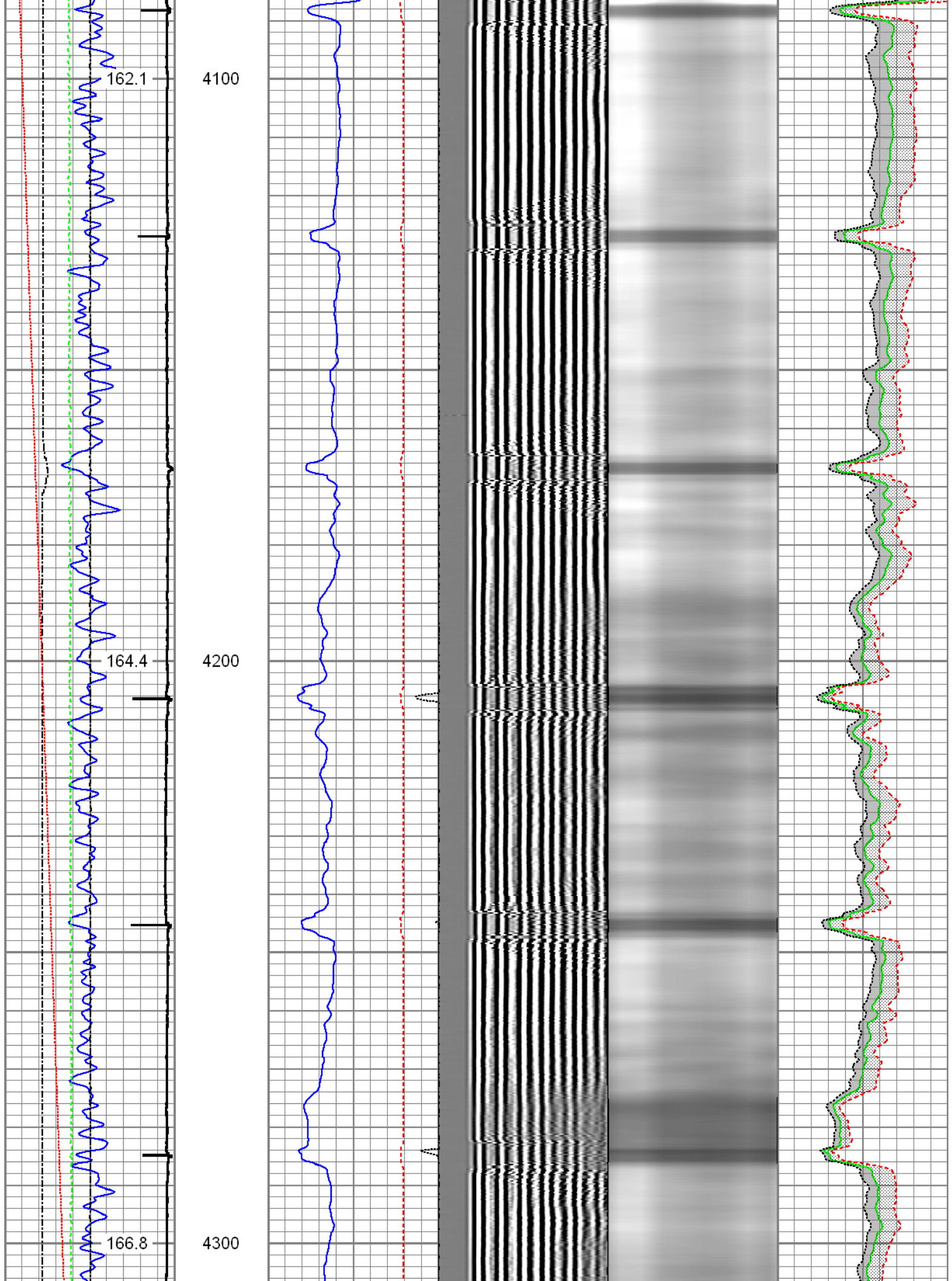


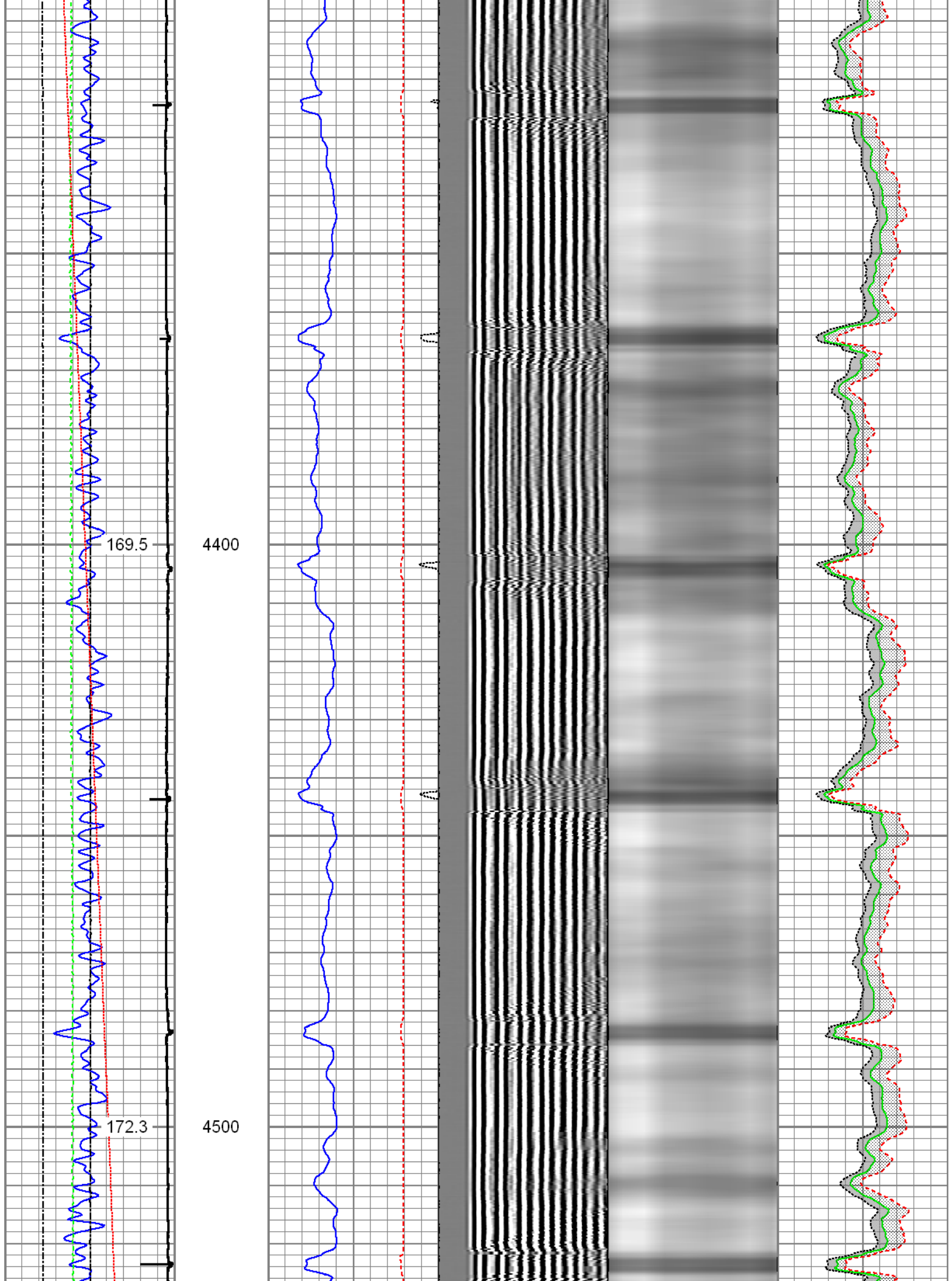


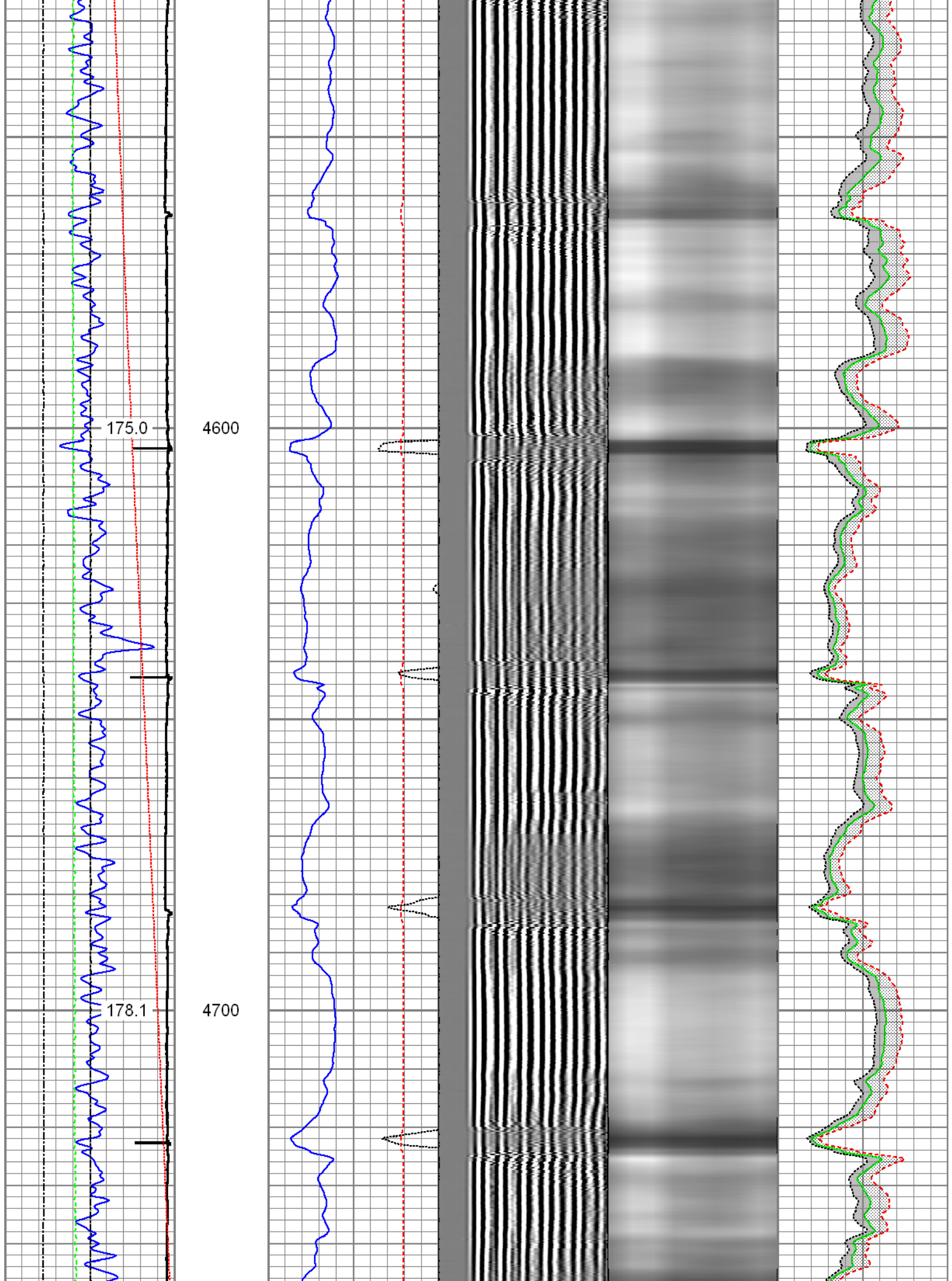
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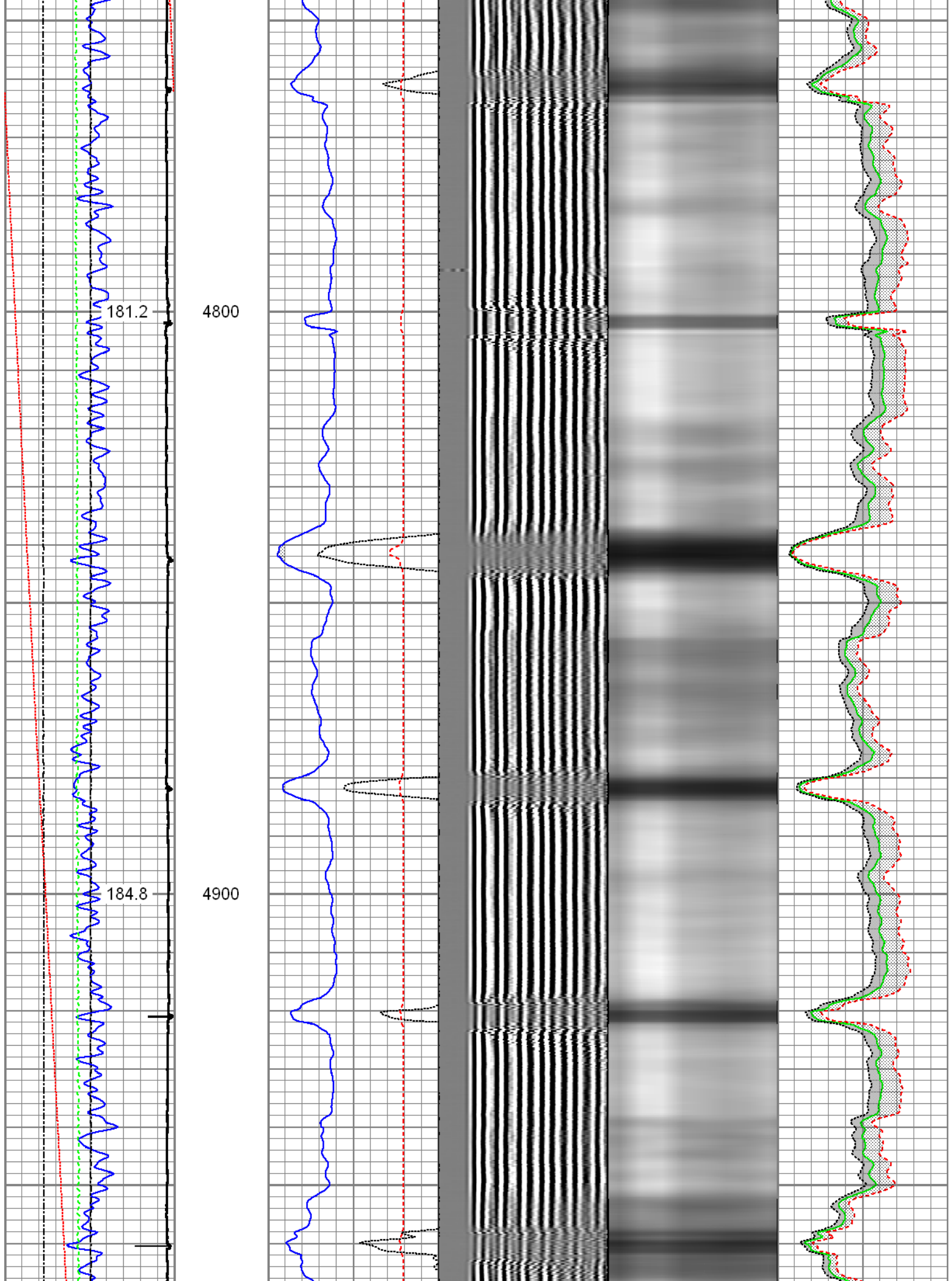
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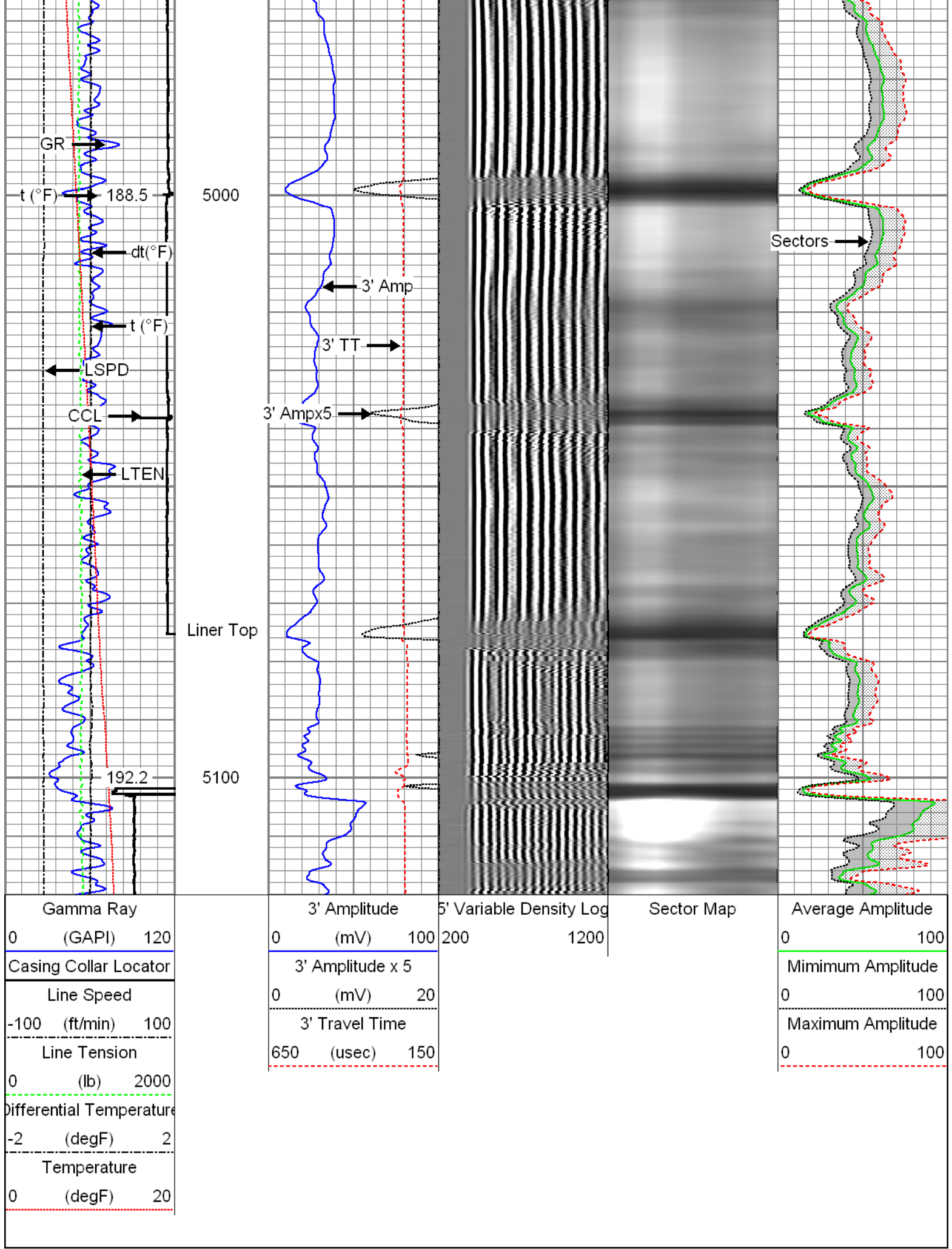






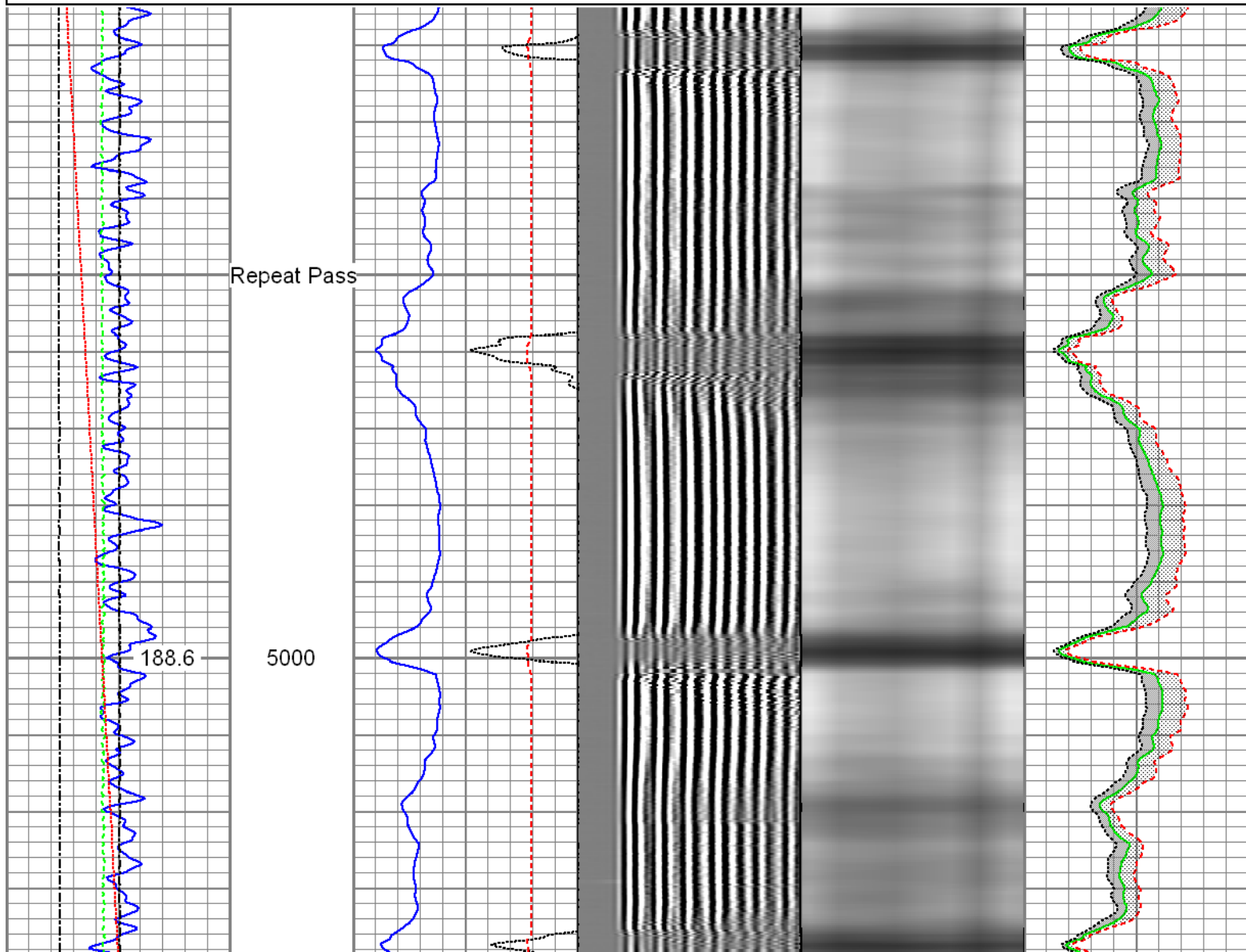


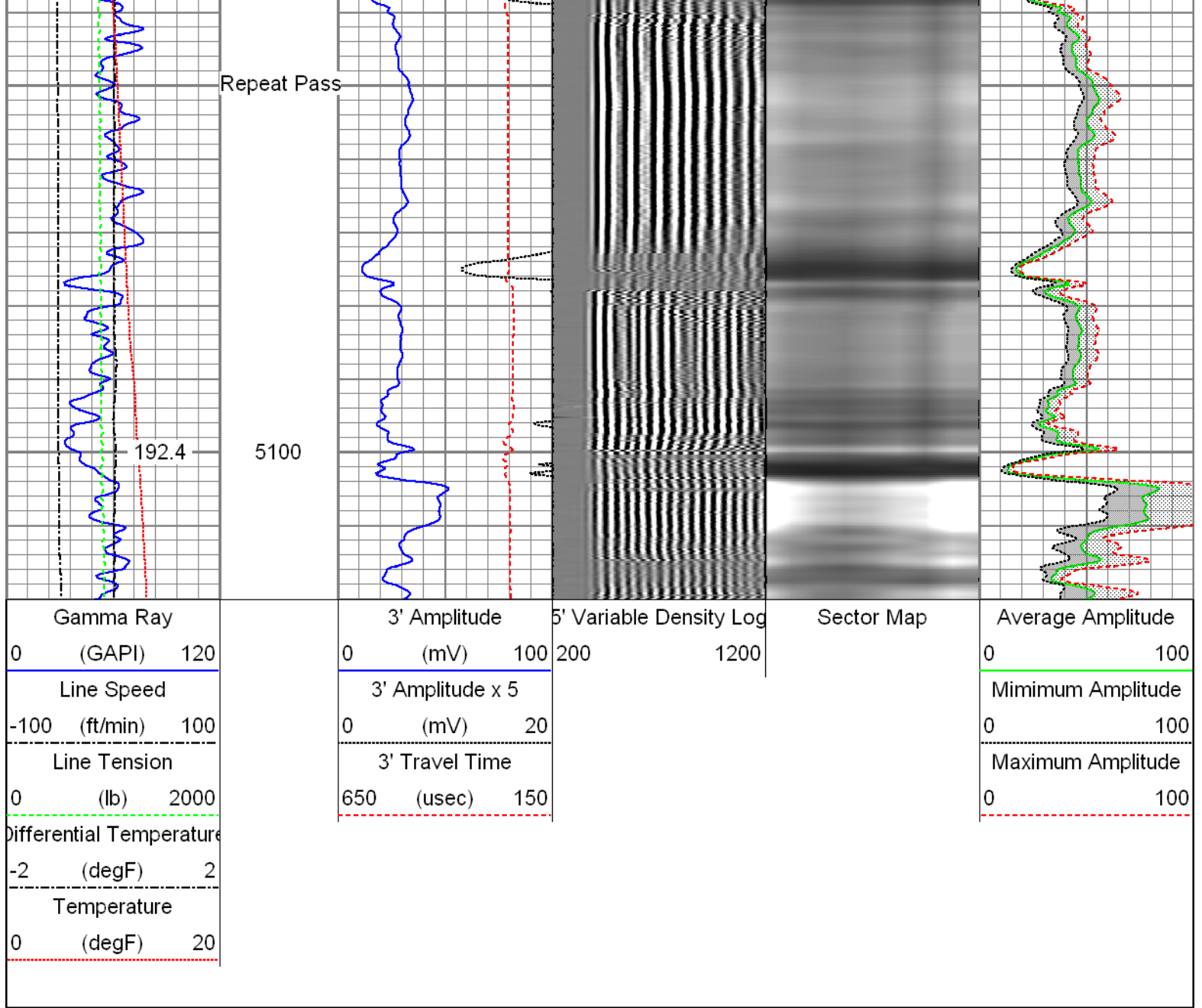


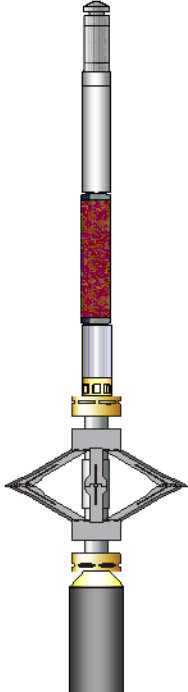


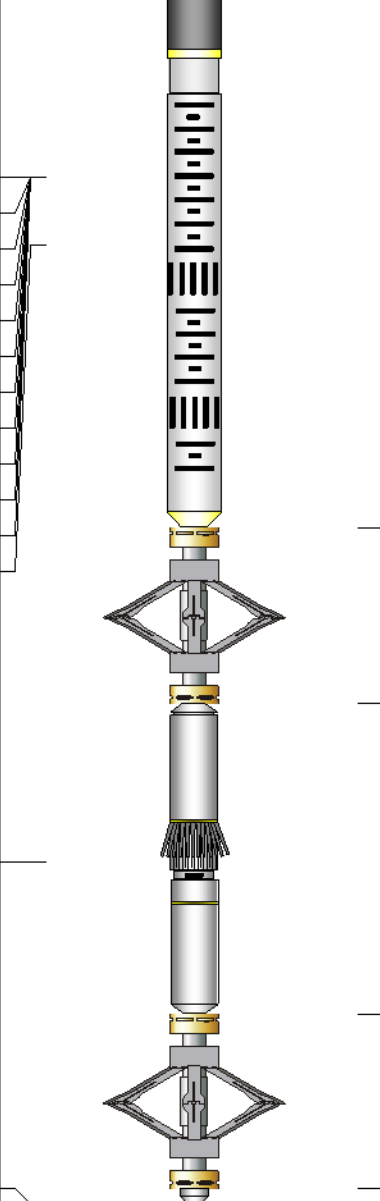
Database File: c:\warrior\data\whiting_razor 22d-2703a\06-15-15_whiting_razor 22d-2703a_mit_rbl.db
 Dataset Pathname: repeat
 Presentation Format: rbt4_mit
 Dataset Creation: Mon Jun 15 10:49:56 2015 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240

Gamma Ray 0 (GAPI) 120	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map	Average Amplitude 0 100
Line Speed -100 (ft/min) 100	3' Amplitude x 5 0 (mV) 20			Minimum Amplitude 0 100
Line Tension 0 (lb) 2000	3' Travel Time 650 (usec) 150			Maximum Amplitude 0 100
Differential Temperature -2 (degF) 2				
Temperature 0 (degF) 20				





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.41		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 (10019371) Production Gamma Ray	1.93	1.69	9.50
TEMP	22.02		UW_PRT-UW_PRT_016 (10025095) Platinum Resistance Thermometer	1.04	1.69	5.20
			UW_PRC #3 -DSSRAC (081) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00

WVF3FT	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		UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
CBLROT	14.99					
WVF5FT	13.99					
MIT	4.97		UW_MIT-UW_MIT40_027 (218949) 40 Multifinger Imaging Tool	4.54	2.75	61.10
TSTAMP	0.00		UW_PRC #4 -DSSRAC (083) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
			UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 06-15-15_whiting_razor 22d-2703a_mit_rbl.db: field/well/run1/Main1 Total Length: 27.66 ft Total Weight: 324.50 lb O.D. 3.13 in						

Calibration Report			
Database File:	c:\warrior\data\whiting_razor 22d-2703a\06-15-15_whiting_razor 22d-2703a_mit_rbl.db		
Dataset Pathname:	Main1		
Dataset Creation:	Mon Jun 15 11:02:52 2015 by Log 7.0 B1		
Multi-finger Imaging Tool Calibration Report			
Serial Number:	218949		
Number of Fingers:	40		
Tool Model:	UW_MIT40_027		
Inclinometer Calibration Report			
Performed:	Mon, Oct, 06 14:03:04 2008		
Calibration Angle:	45		
	Inc X	Inc Y	
Vertical:	1996	1984	
Finger 1 up:	1780	1738	
Finger 31 up:	2235	1756	
Finger 21 up:	2216	2228	
Finger 11 up:	1736	2196	

Sensitivity ratio: 1.0062
X-axis angle: 131.534
Deviation const.: 331.322

Finger Calibration Report
Performed: Mon Jun 15 09:12:01 2015

Ring size: (in)	4	Sens	5	Sens	6	Sens	7
Finger 01:	1367	287.0	1654	297.0	1951	316.0	2267
Finger 02:	1439	276.0	1715	298.0	2013	308.0	2321
Finger 03:	1654	277.0	1931	292.0	2223	292.0	2515
Finger 04:	1665	279.0	1944	287.0	2231	286.0	2517
Finger 05:	1530	263.0	1793	277.0	2070	284.0	2354
Finger 06:	1525	260.0	1785	272.0	2057	274.0	2331
Finger 07:	1344	273.0	1617	293.0	1910	302.0	2212
Finger 08:	1536	257.0	1793	270.0	2063	277.0	2340
Finger 09:	1424	264.0	1688	277.0	1965	307.0	2272
Finger 10:	1481	267.0	1748	279.0	2027	287.0	2314
Finger 11:	1482	258.0	1740	266.0	2006	286.0	2292
Finger 12:	1313	280.0	1593	296.0	1889	306.0	2195
Finger 13:	1576	278.0	1854	288.0	2142	290.0	2432
Finger 14:	1413	283.0	1696	292.0	1988	305.0	2293
Finger 15:	1534	264.0	1798	267.0	2065	285.0	2350
Finger 16:	1395	284.0	1679	289.0	1968	310.0	2278
Finger 17:	1630	276.0	1906	270.0	2176	289.0	2465
Finger 18:	1371	290.0	1661	295.0	1956	328.0	2284
Finger 19:	1629	266.0	1895	249.0	2144	267.0	2411
Finger 20:	1507	265.0	1772	251.0	2023	302.0	2325
Finger 21:	1585	254.0	1839	250.0	2089	265.0	2354
Finger 22:	1518	281.0	1799	272.0	2071	296.0	2367
Finger 23:	1339	277.0	1616	274.0	1890	306.0	2196
Finger 24:	1669	264.0	1933	260.0	2193	282.0	2475
Finger 25:	1349	295.0	1644	290.0	1934	337.0	2271
Finger 26:	1520	294.0	1814	274.0	2088	329.0	2417
Finger 27:	1454	268.0	1722	252.0	1974	293.0	2267
Finger 28:	1623	279.0	1902	270.0	2172	305.0	2477
Finger 29:	1461	270.0	1731	280.0	2011	303.0	2314
Finger 30:	1412	278.0	1690	275.0	1965	322.0	2287
Finger 31:	1517	266.0	1783	270.0	2053	296.0	2349
Finger 32:	1330	269.0	1599	275.0	1874	304.0	2178
Finger 33:	1591	305.0	1896	307.0	2203	332.0	2535
Finger 34:	1532	267.0	1799	277.0	2076	294.0	2370
Finger 35:	1421	270.0	1691	281.0	1972	302.0	2274
Finger 36:	1572	290.0	1862	282.0	2144	319.0	2463
Finger 37:	1591	275.0	1866	288.0	2154	300.0	2454
Finger 38:	1482	277.0	1759	286.0	2045	310.0	2355
Finger 39:	1457	276.0	1733	300.0	2033	316.0	2349
Finger 40:	1575	287.0	1862	296.0	2158	316.0	2474

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454
Tool Model: UW_RBT_004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 79.124 ft

Master Calibration, performed Mon Jun 15 10:22:43 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.001	0.615	0.800	62.165	99.506	0.921

5FT	-0.004	0.504	0.800	62.165	120.831	1.226
S1	-0.001	0.545	0.000	100.000	183.193	0.224
S2	-0.004	0.672	0.000	100.000	147.988	0.542
S3	-0.003	0.671	0.000	100.000	148.315	0.427
S4	-0.004	0.587	0.000	100.000	169.271	0.614
S5	-0.002	0.579	0.000	100.000	172.221	0.338
S6	-0.004	0.564	0.000	100.000	176.169	0.626
S7	-0.002	0.632	0.000	100.000	157.527	0.385
S8	-0.002	0.650	0.000	100.000	153.320	0.333

Temperature Calibration Report

Serial Number: 10025095
 Tool Model: UW_PRT_016
 Performed: Wed Feb 11 13:43:20 2015

Point #	Reading	Reference
1	12798.00 cps	68.00 degF
2	18136.00 cps	104.00 degF
3	29513.00 cps	176.00 degF
4	40905.00 cps	248.00 degF
5	52487.00 cps	320.00 degF
6	58362.00 cps	356.00 degF
7	cps	degF
8	cps	degF
9	cps	degF
10	cps	degF

Gamma Ray Calibration Report

Serial Number: 10019371
 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 Whiting Oil and Gas Corporation
 Well Razor 22D-2703A
 Field Wildcat
 County Weld
 State Colorado