



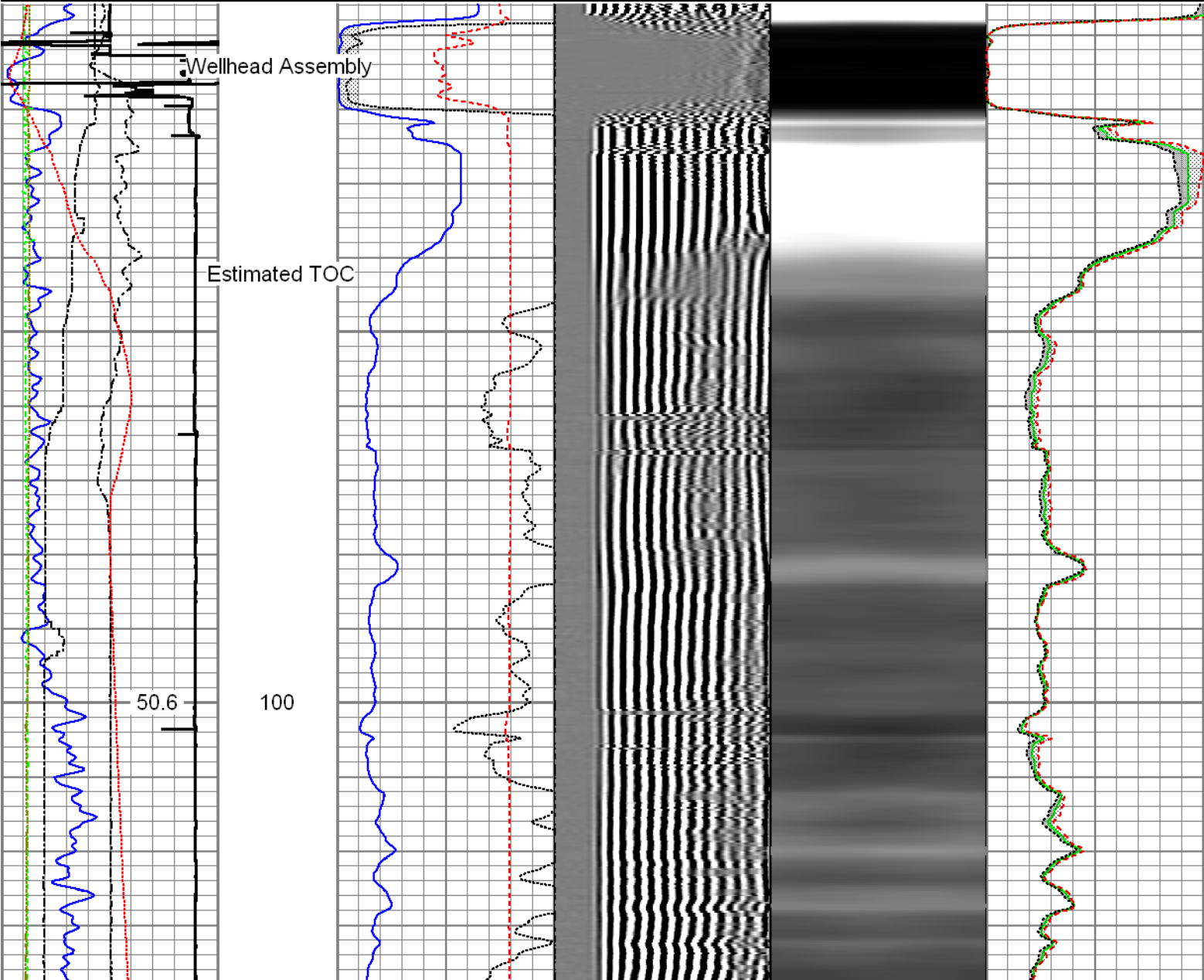
<<< Fold Here >>>
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible 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 per customer request Depth referenced to Casing Tally reported Tie Back Extension at 5545 FT Adjusted Log -3 FT to correlate to Liner Top Log ran from as deep as possible to Surface Recorded with 1500 PSI surface induced pressure Logging tools were clean and free of any debris upon completion of operations Thank you for choosing FMC Technologies Surface Integrated Services.

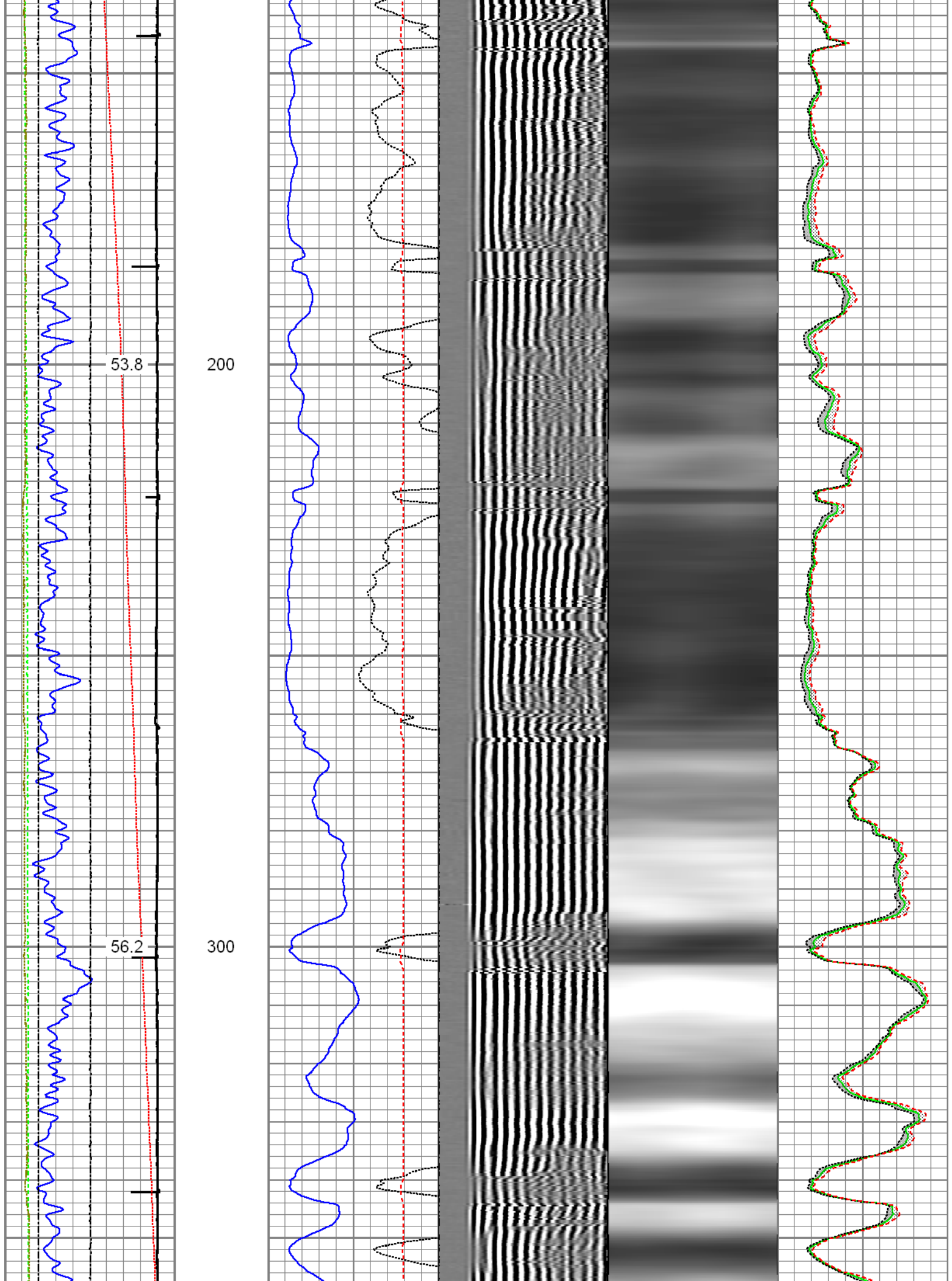


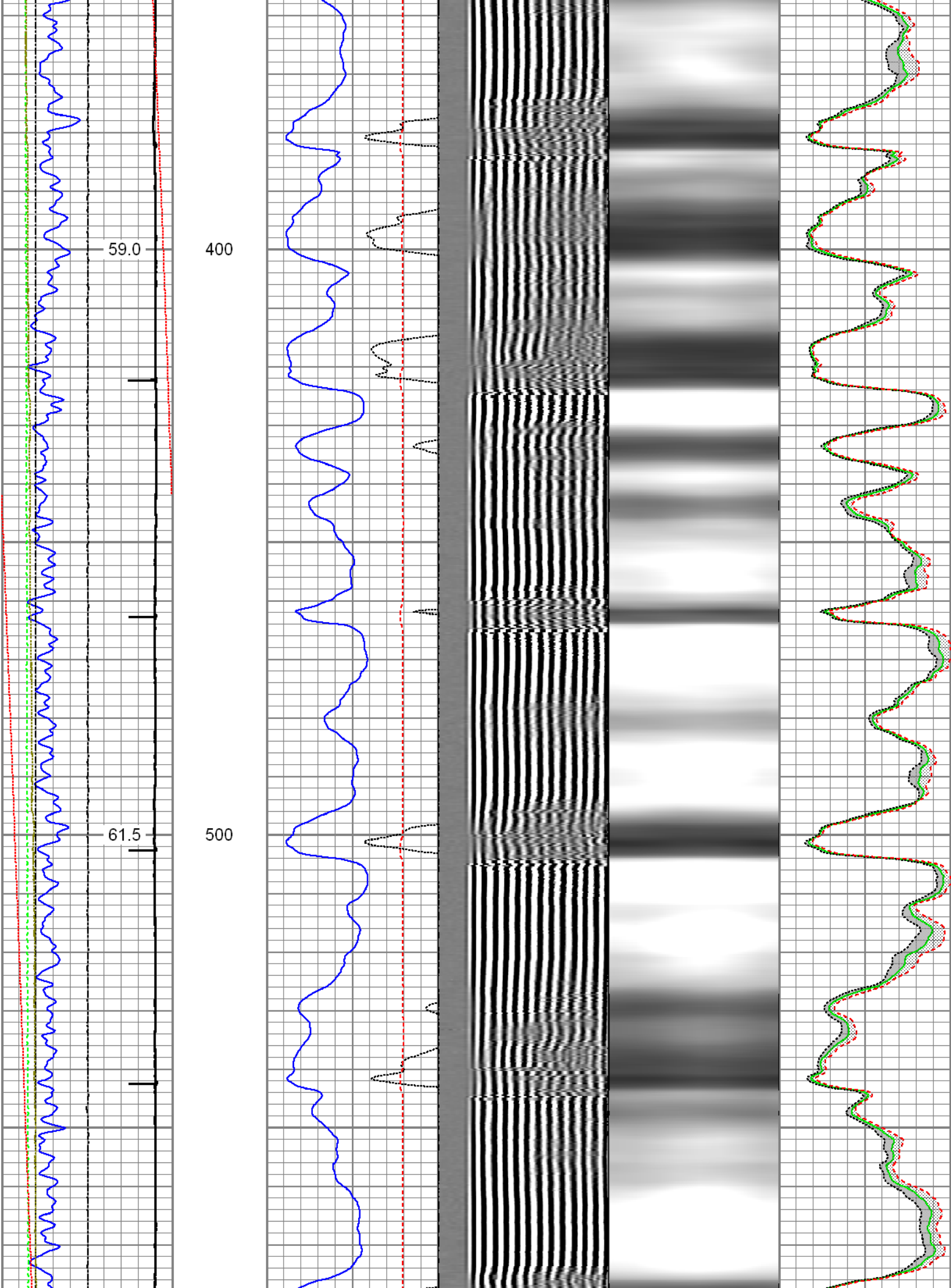
Recorded with 1500 PSI Surface Induced Pressure

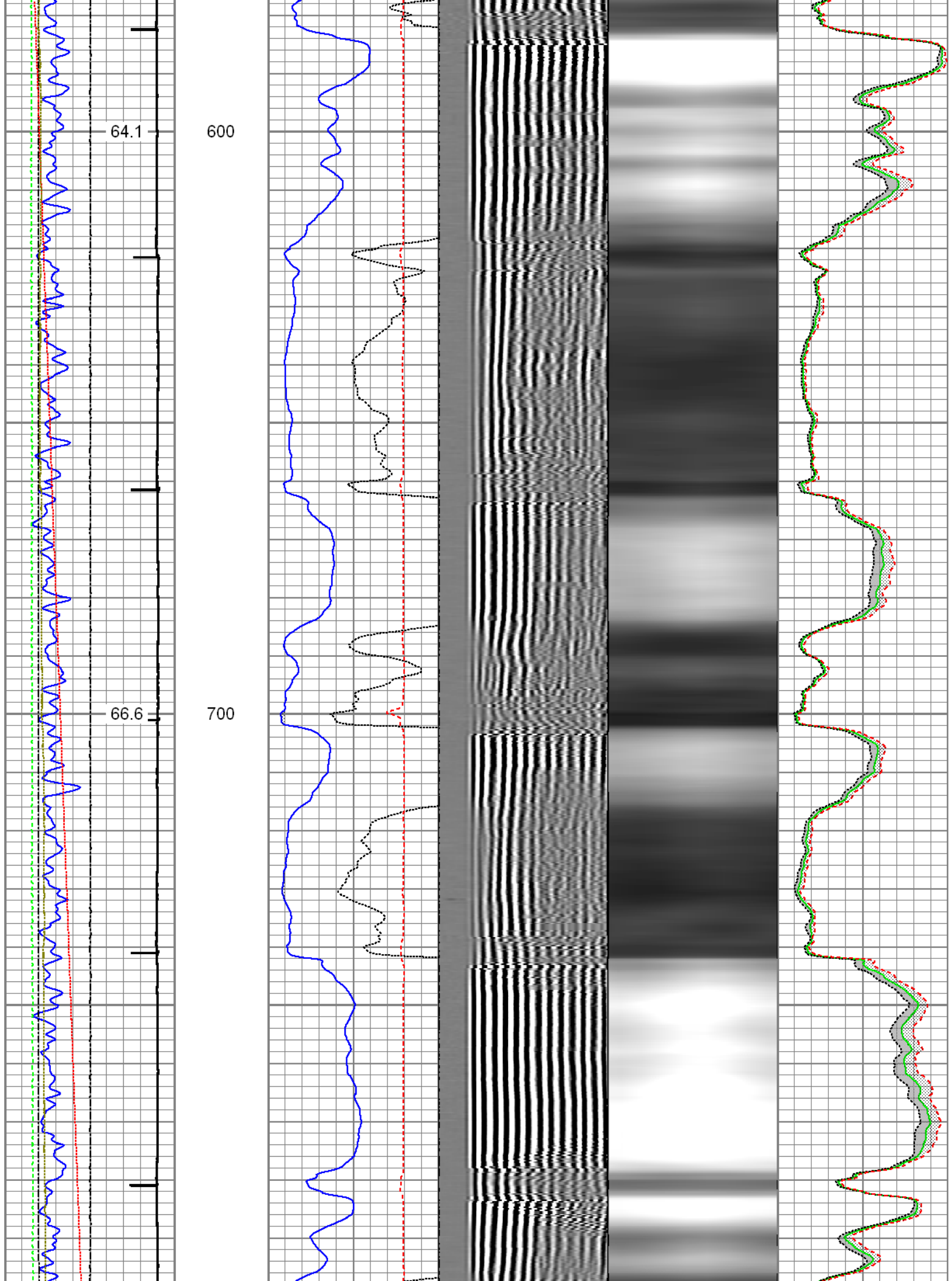
Database File: 12-18-15_whiting_razor 12f-0102b_mit_rbl.db
Dataset Pathname: main3
Presentation Format: rbt4_mit
Dataset Creation: Fri Dec 18 13:43:16 2015 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

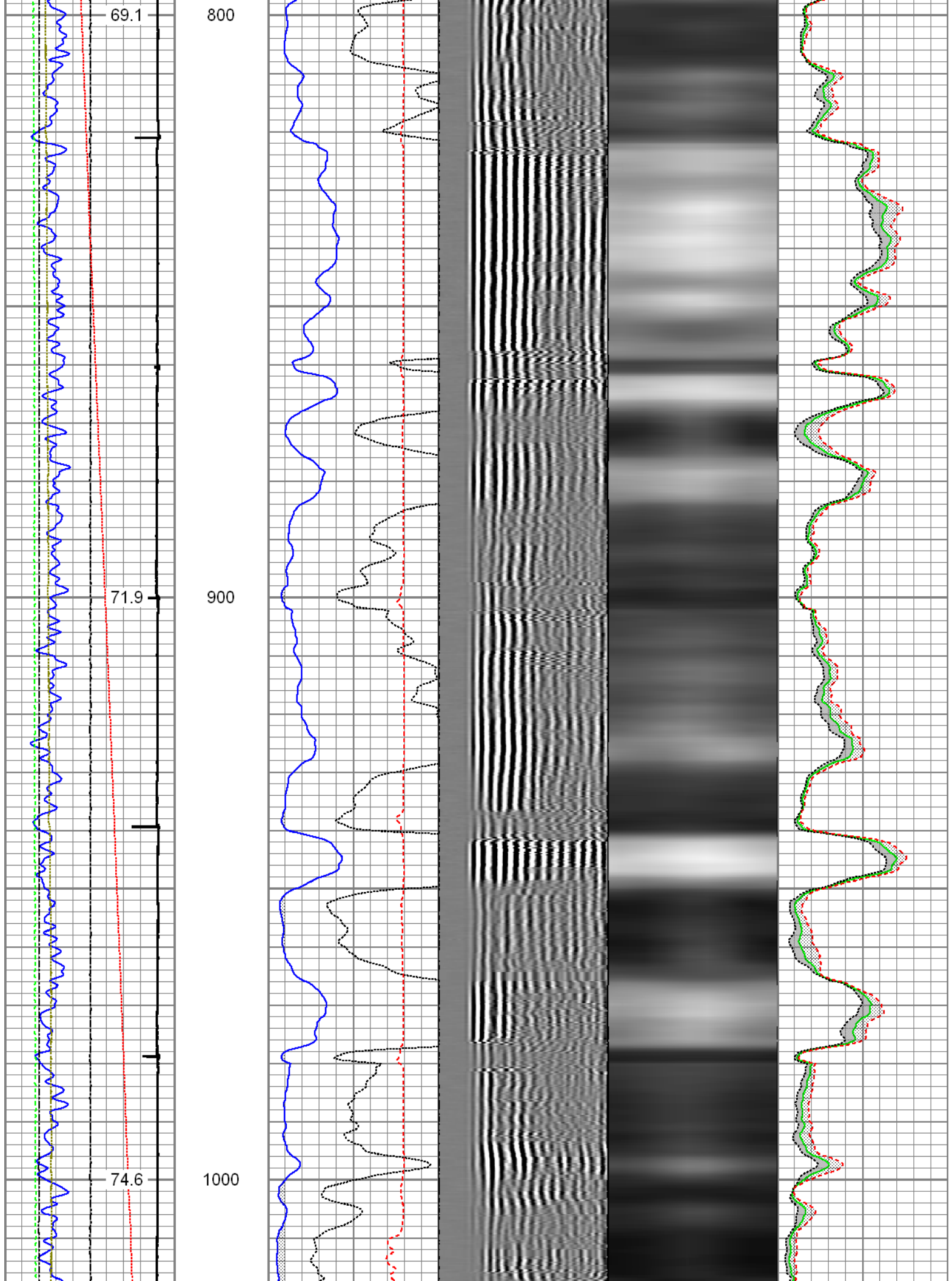
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				
Differential Temperature				
-2 (degF) 2				
Temperature				
0 (degF) 20				
-10 Deviation (°) 90				

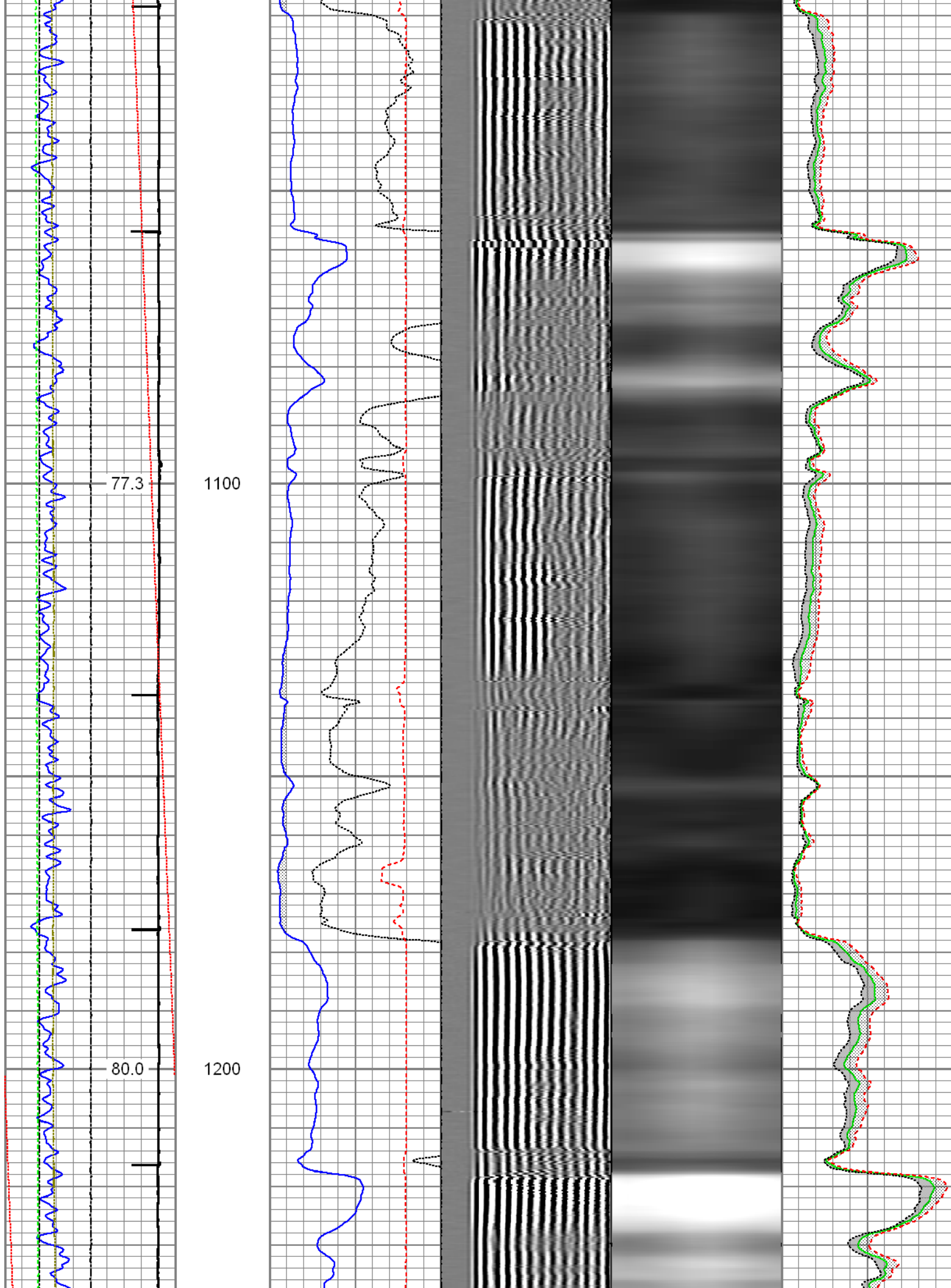


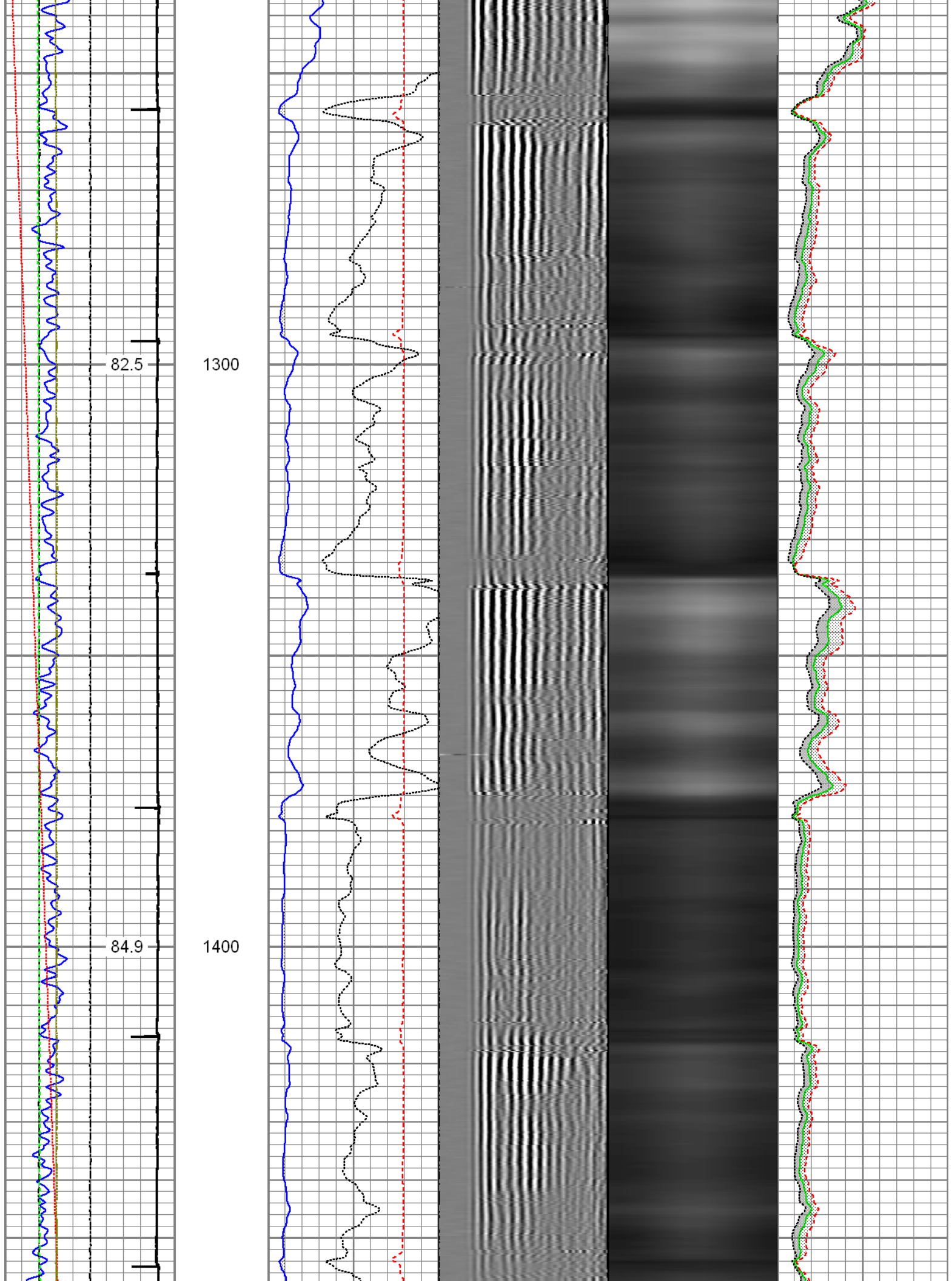


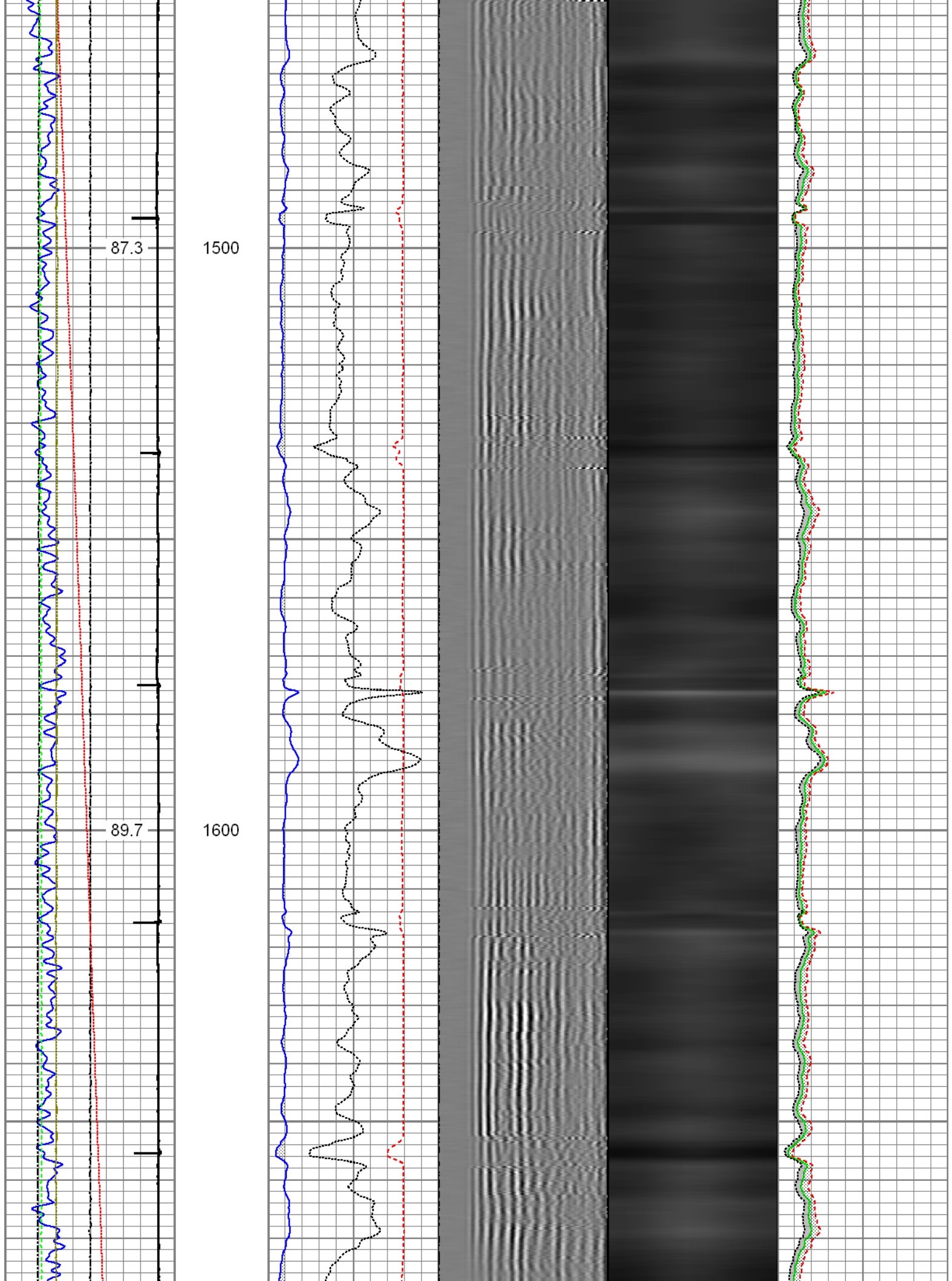


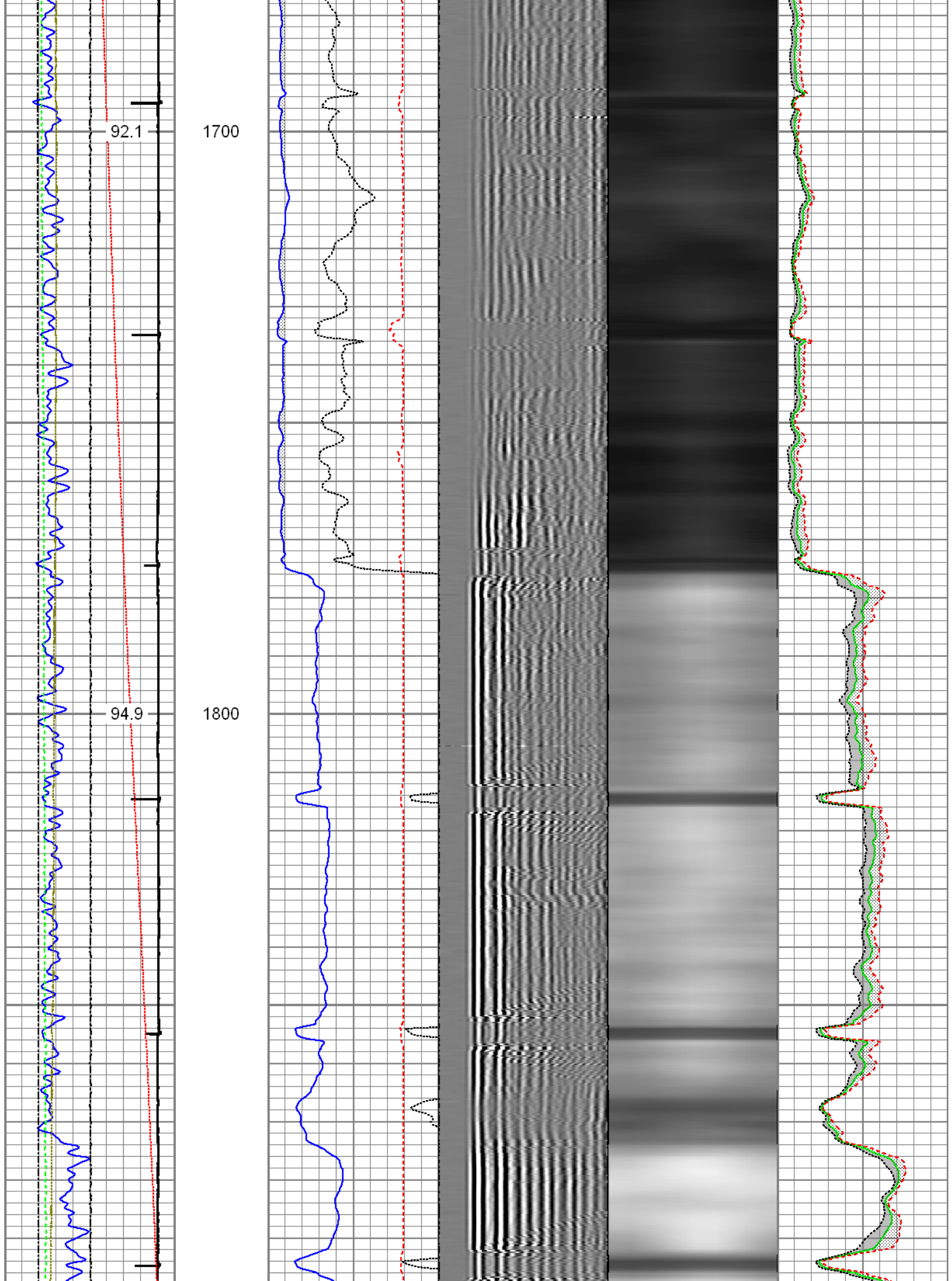


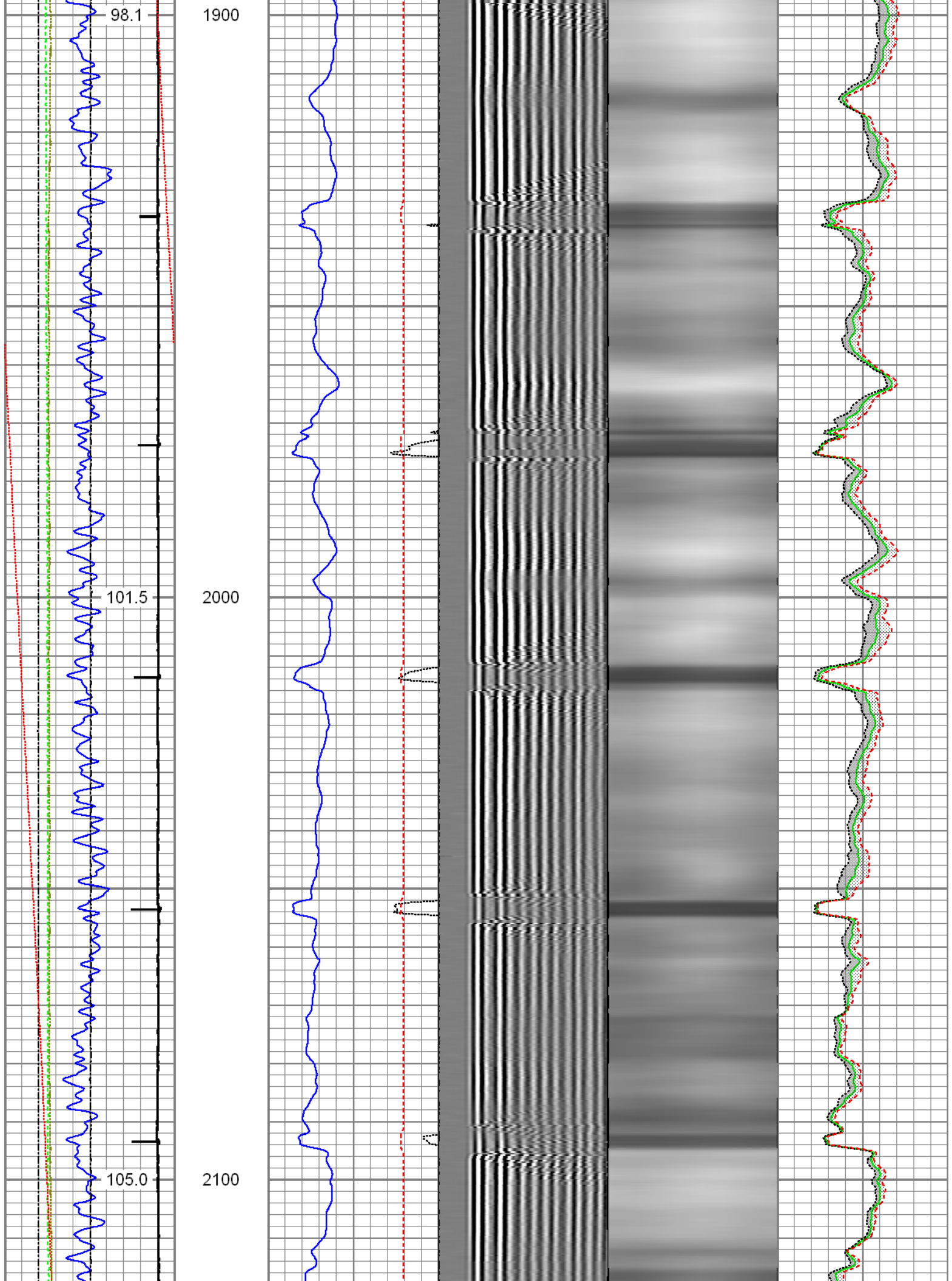


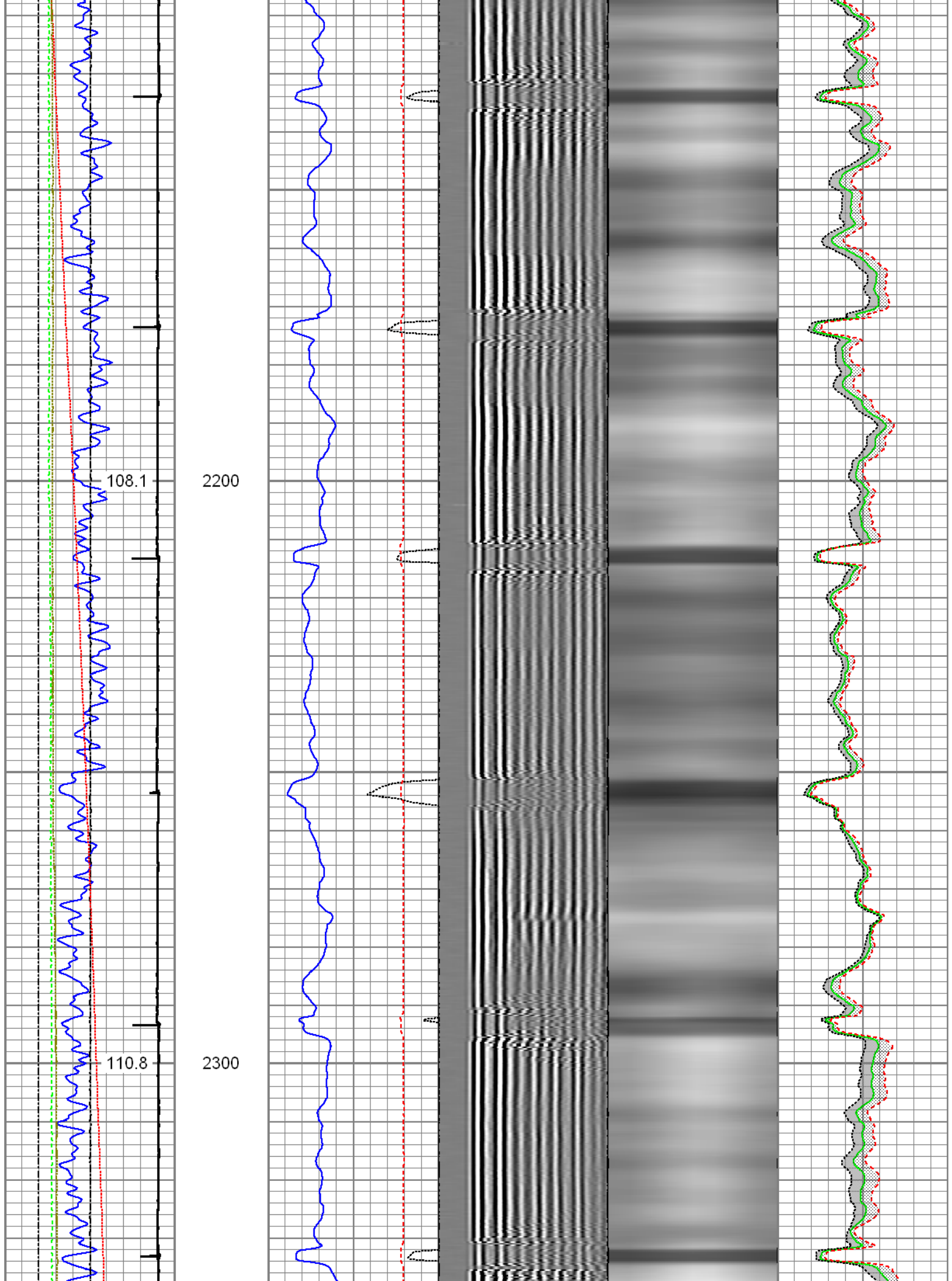


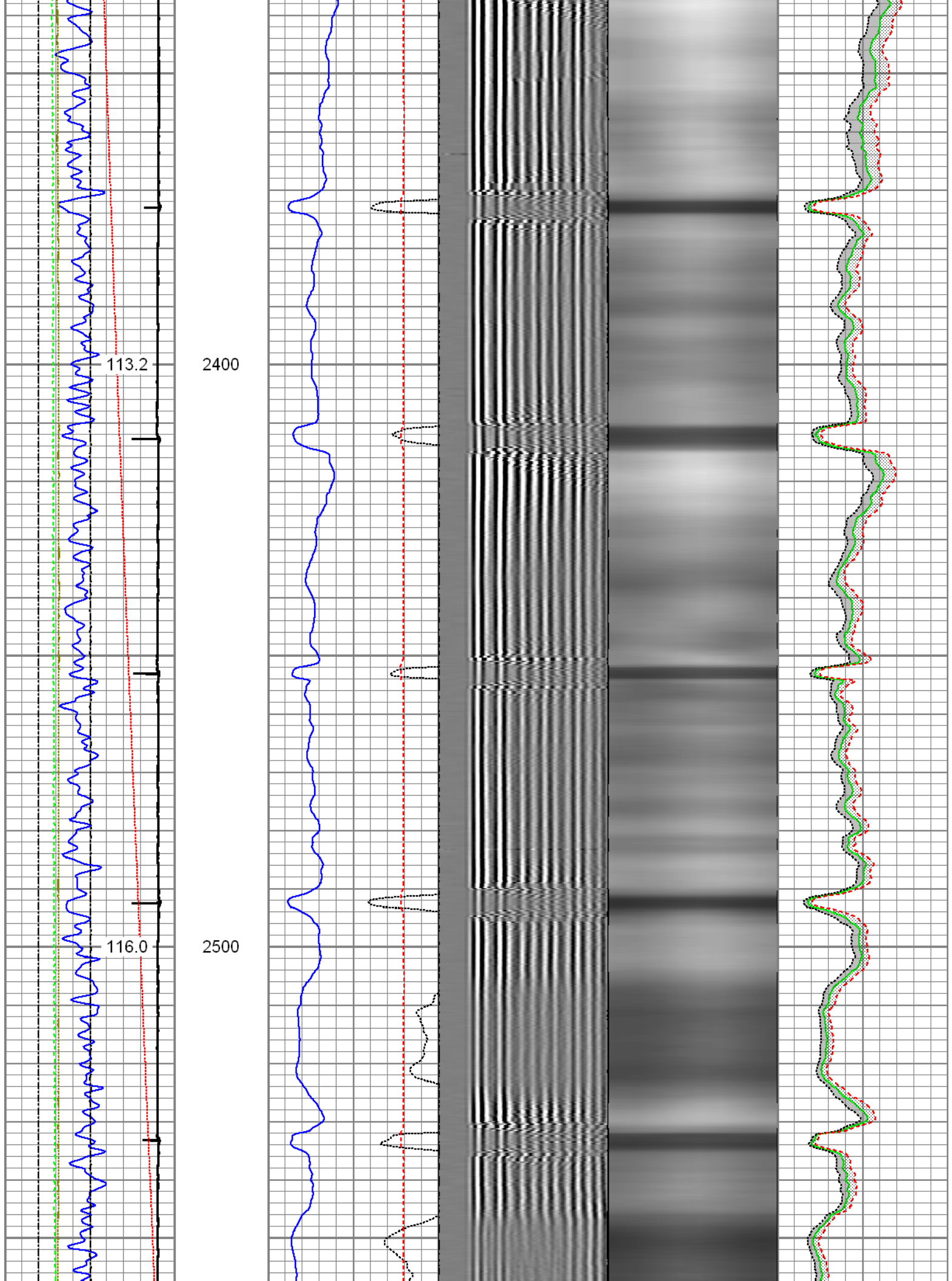


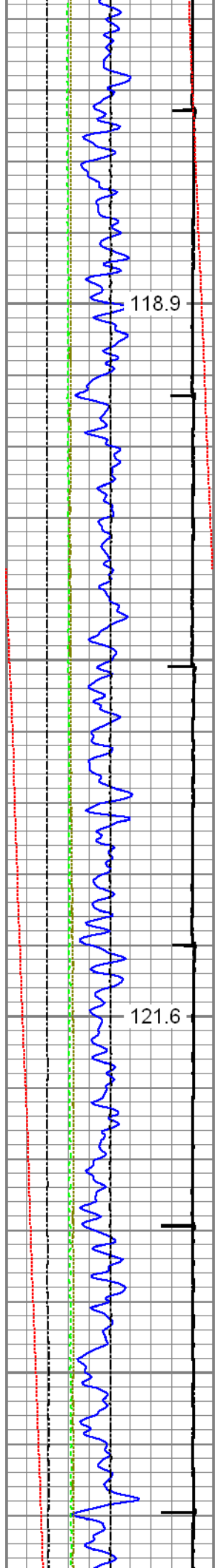










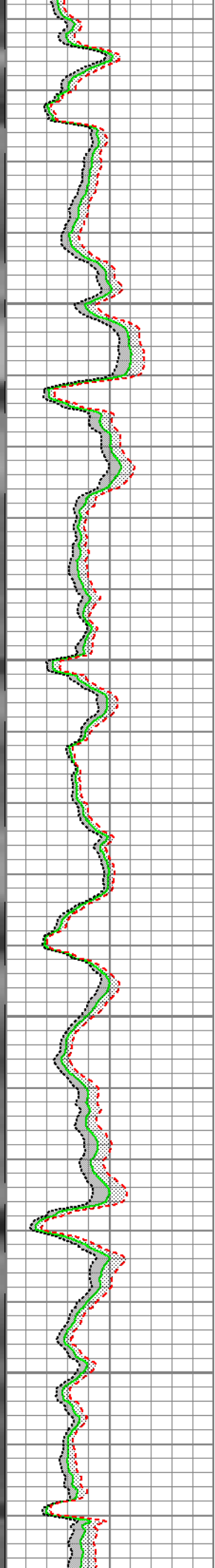
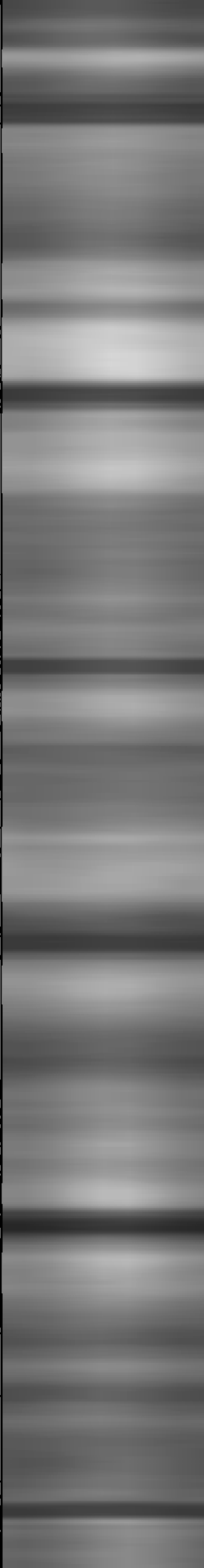
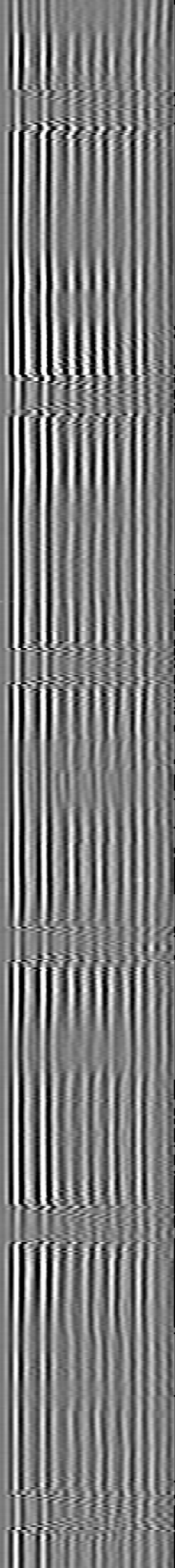
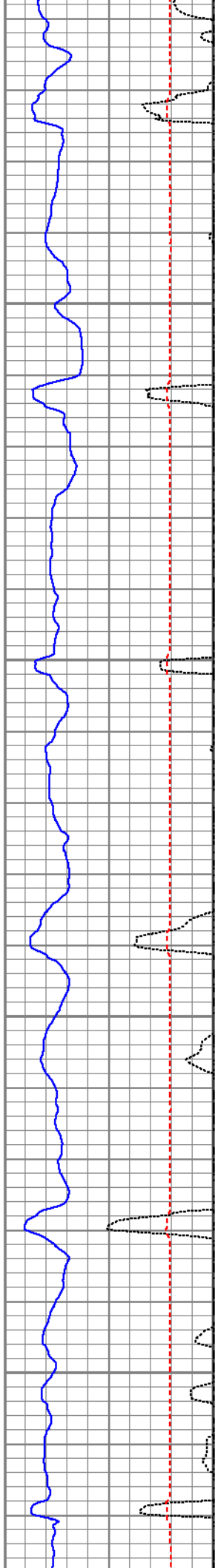


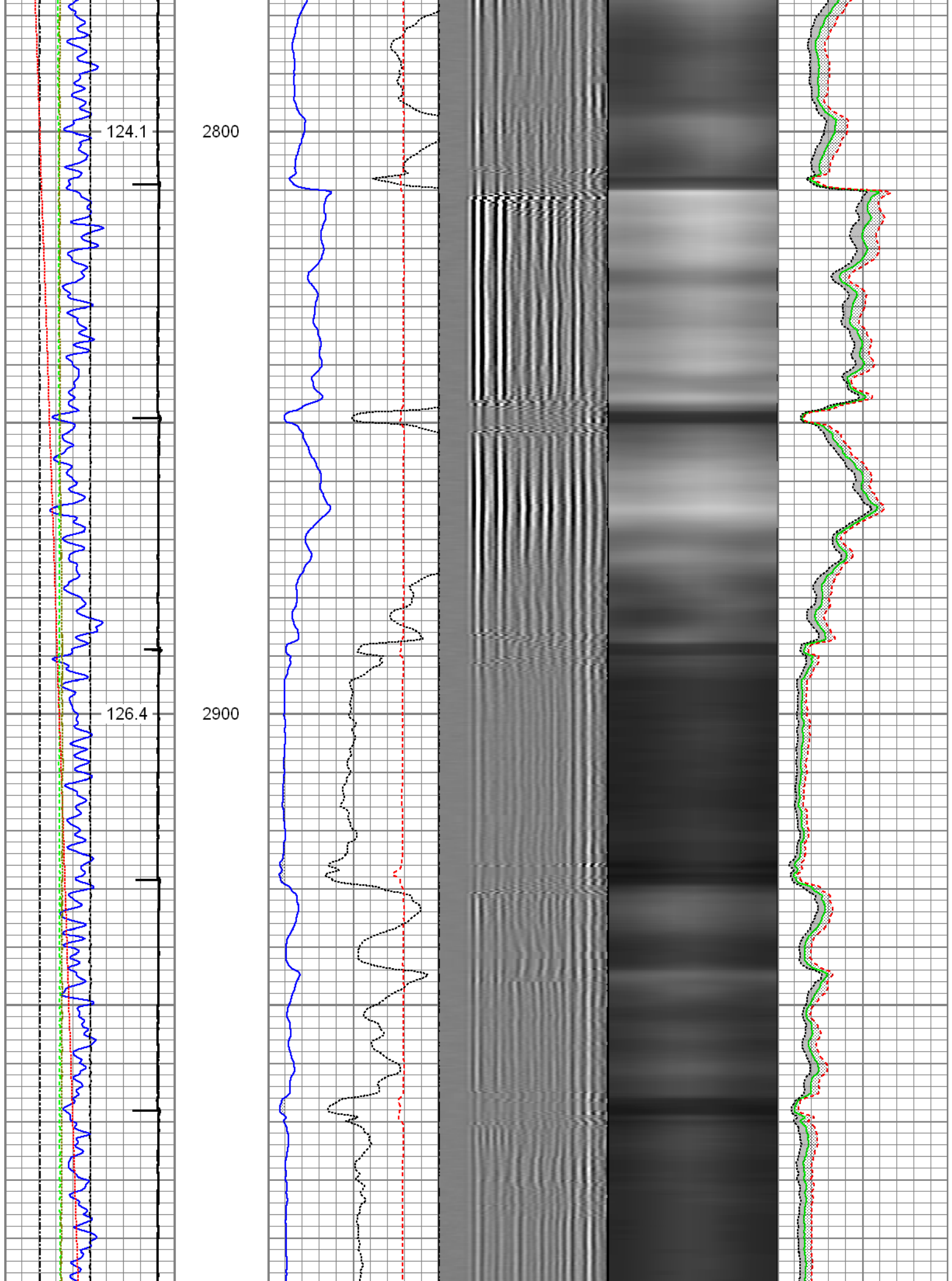
118.9

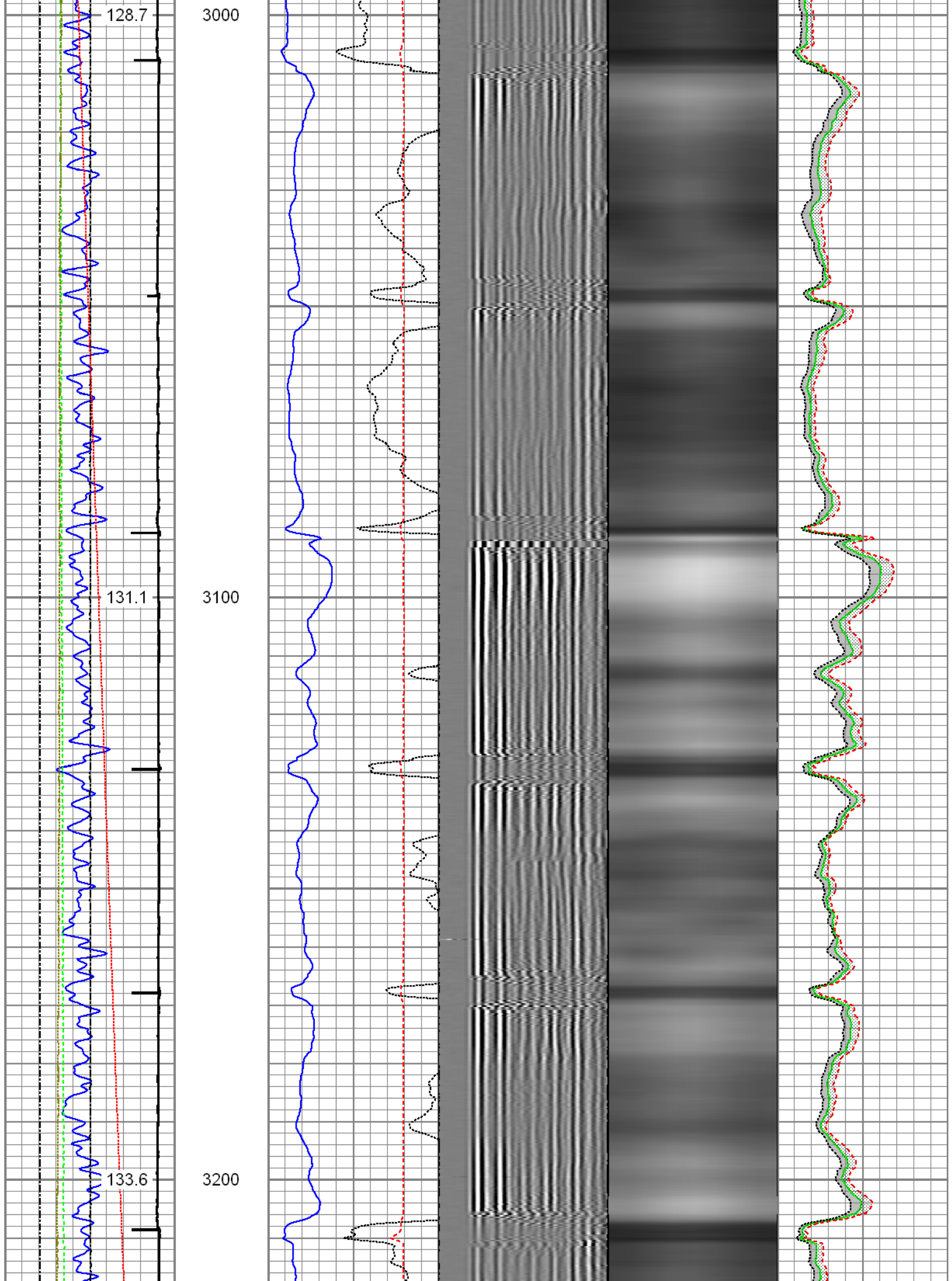
2600

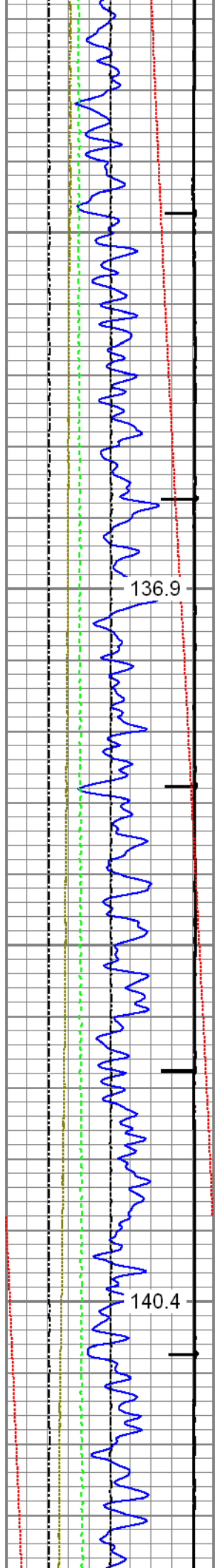
121.6

2700



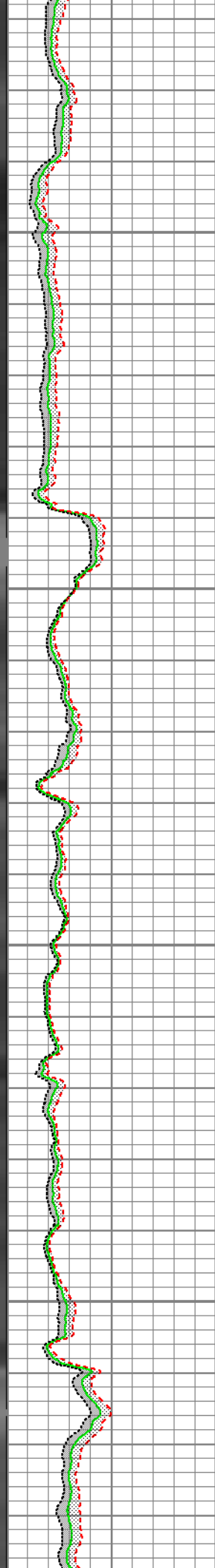
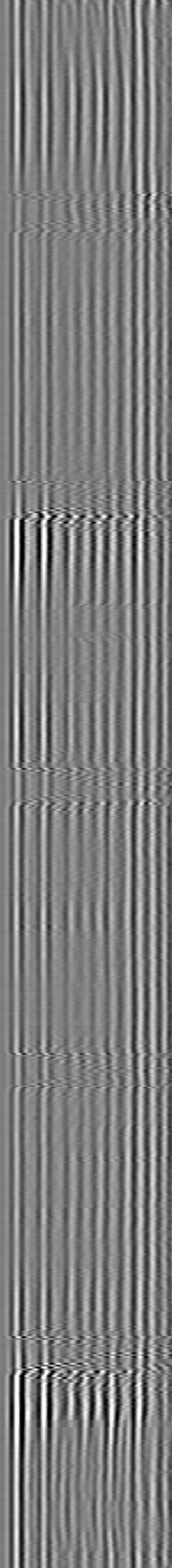
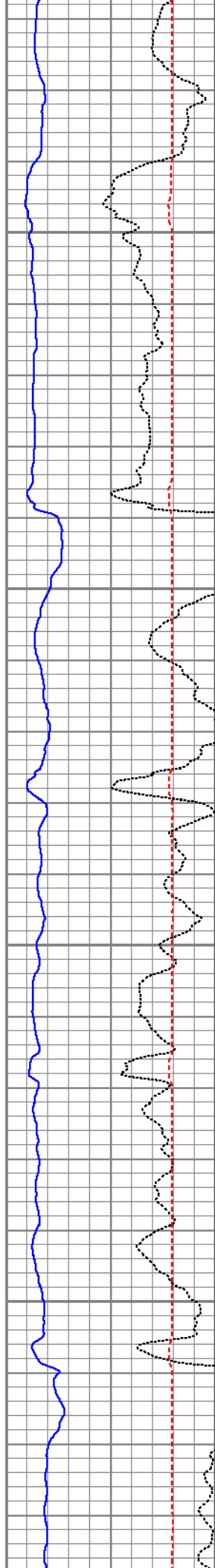


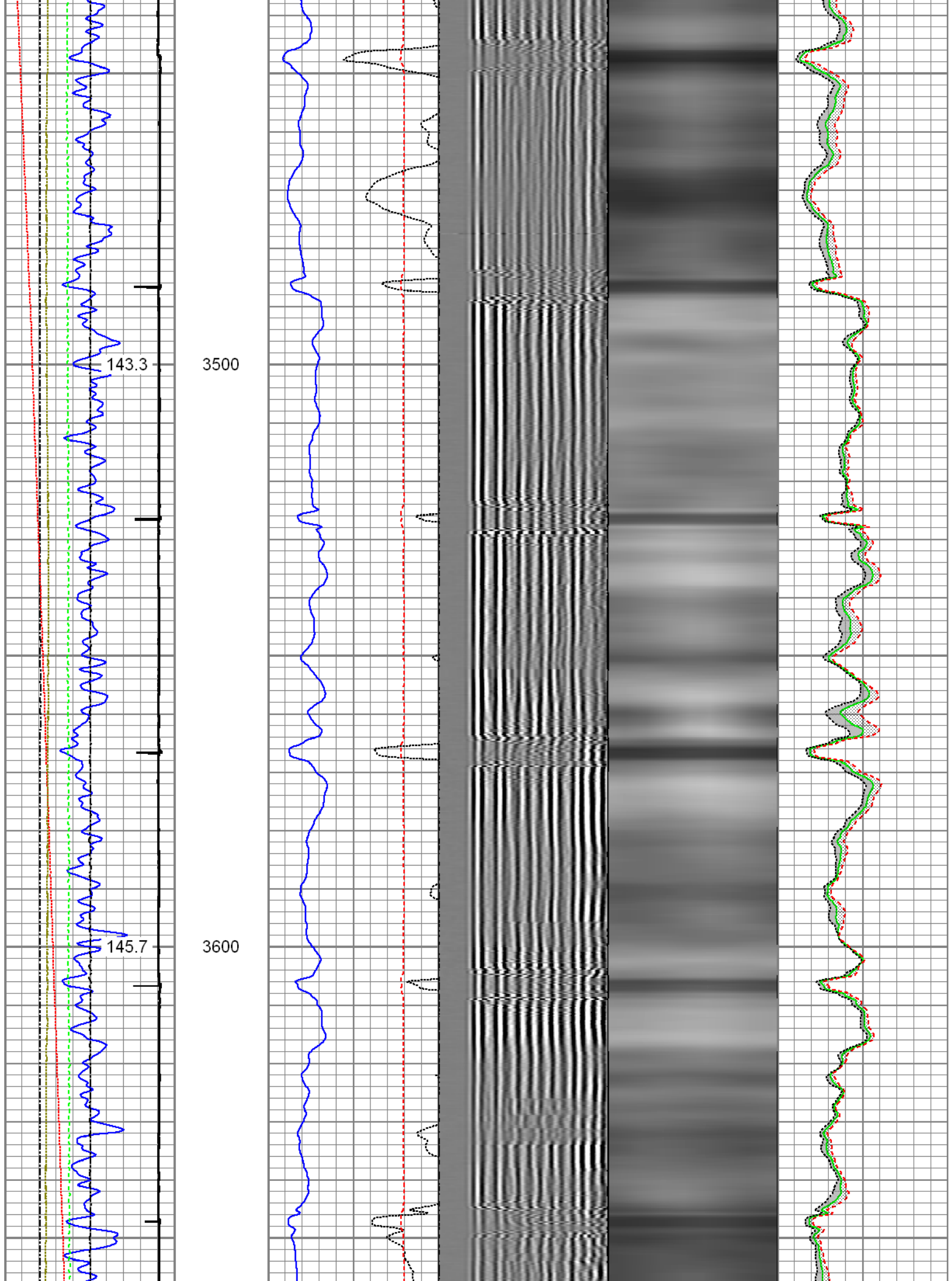


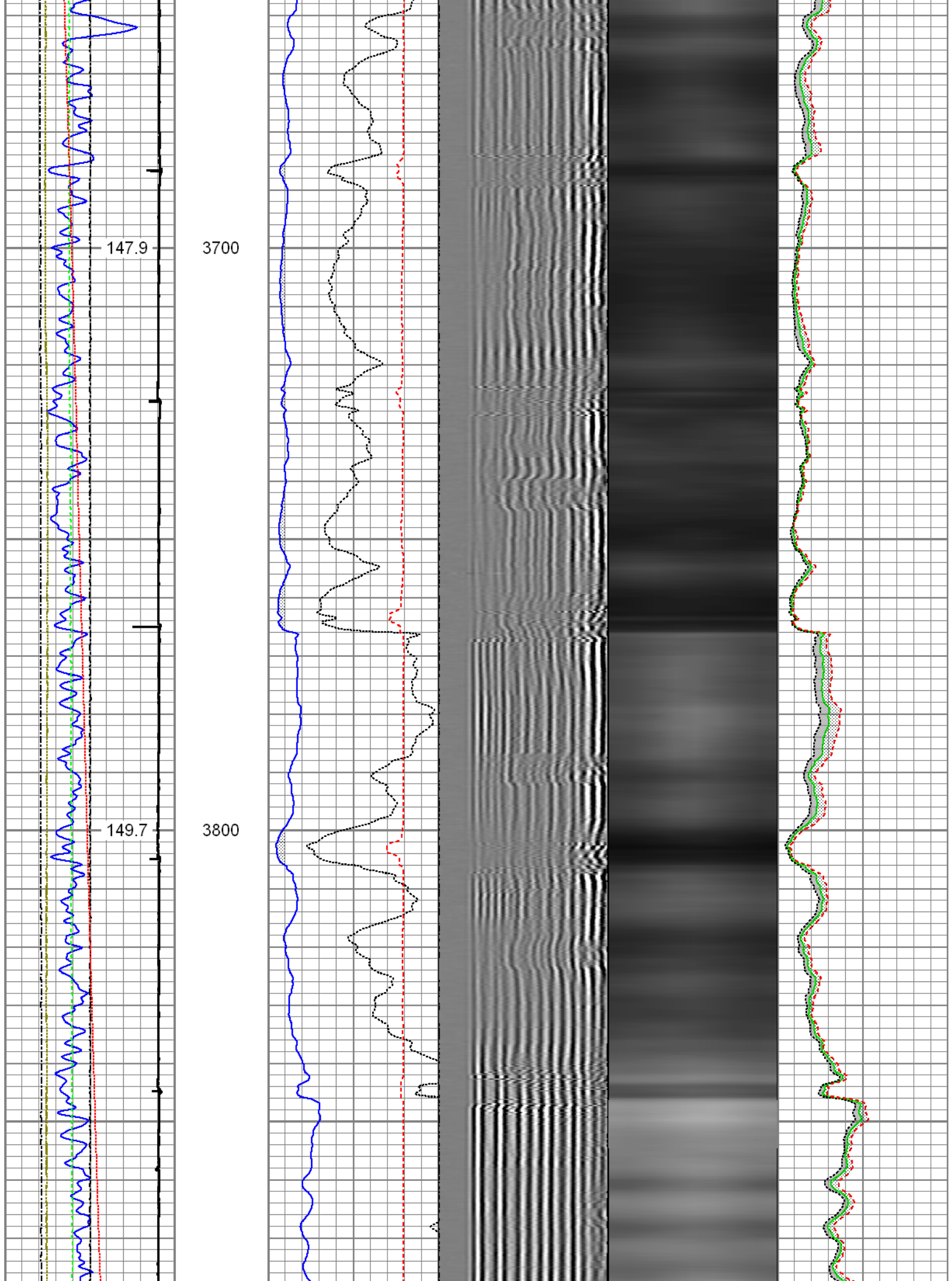


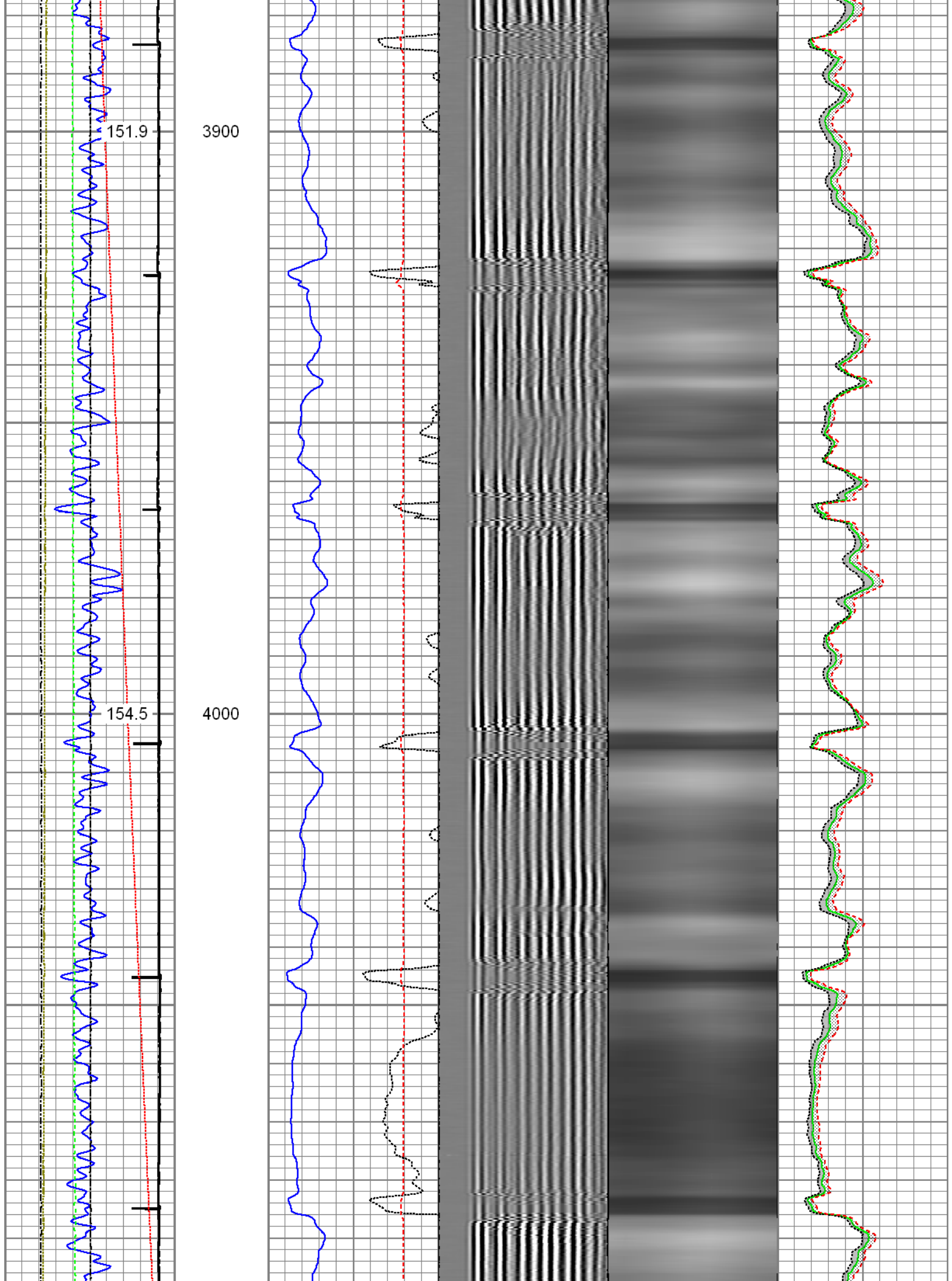
3300

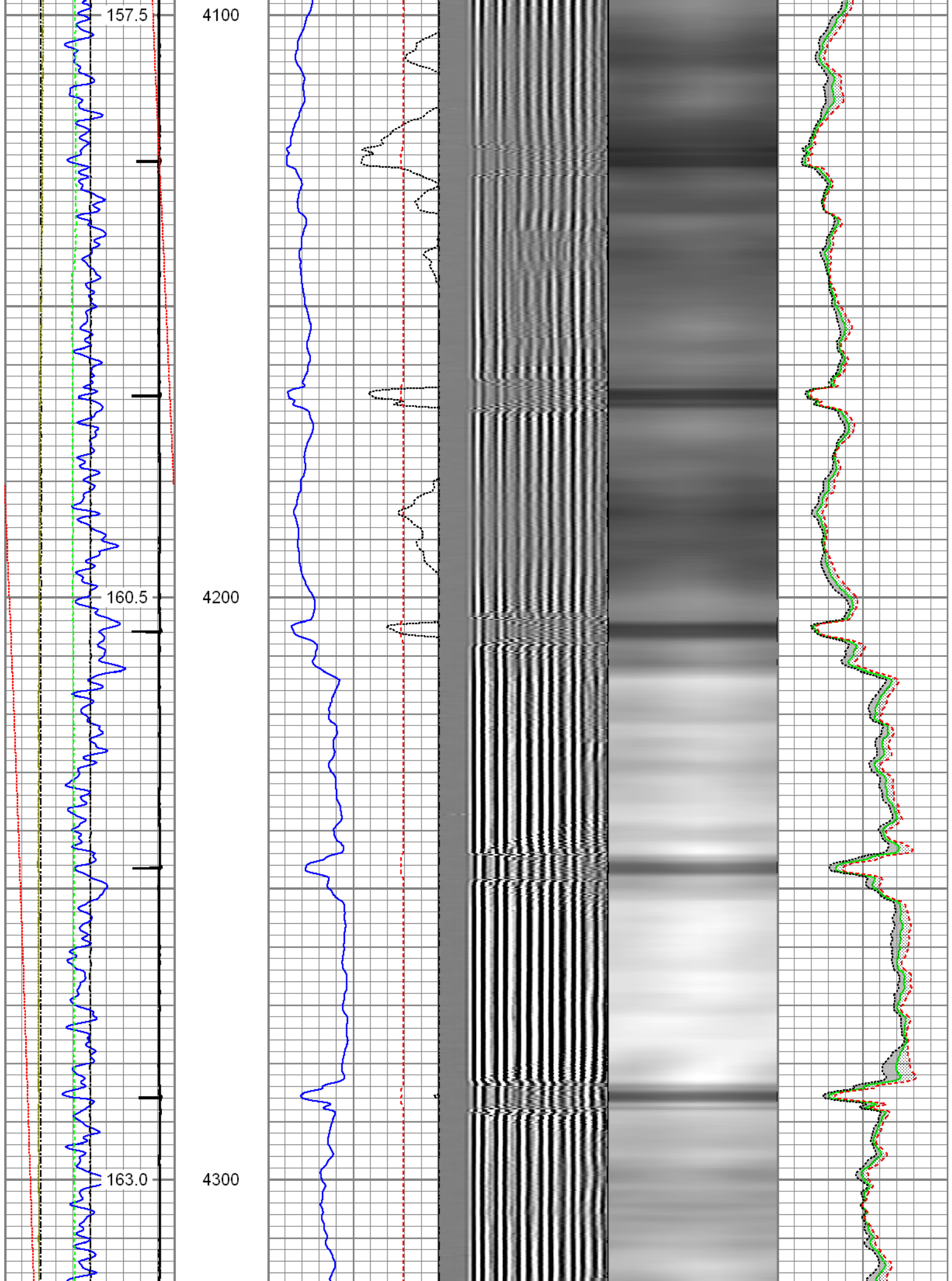
3400

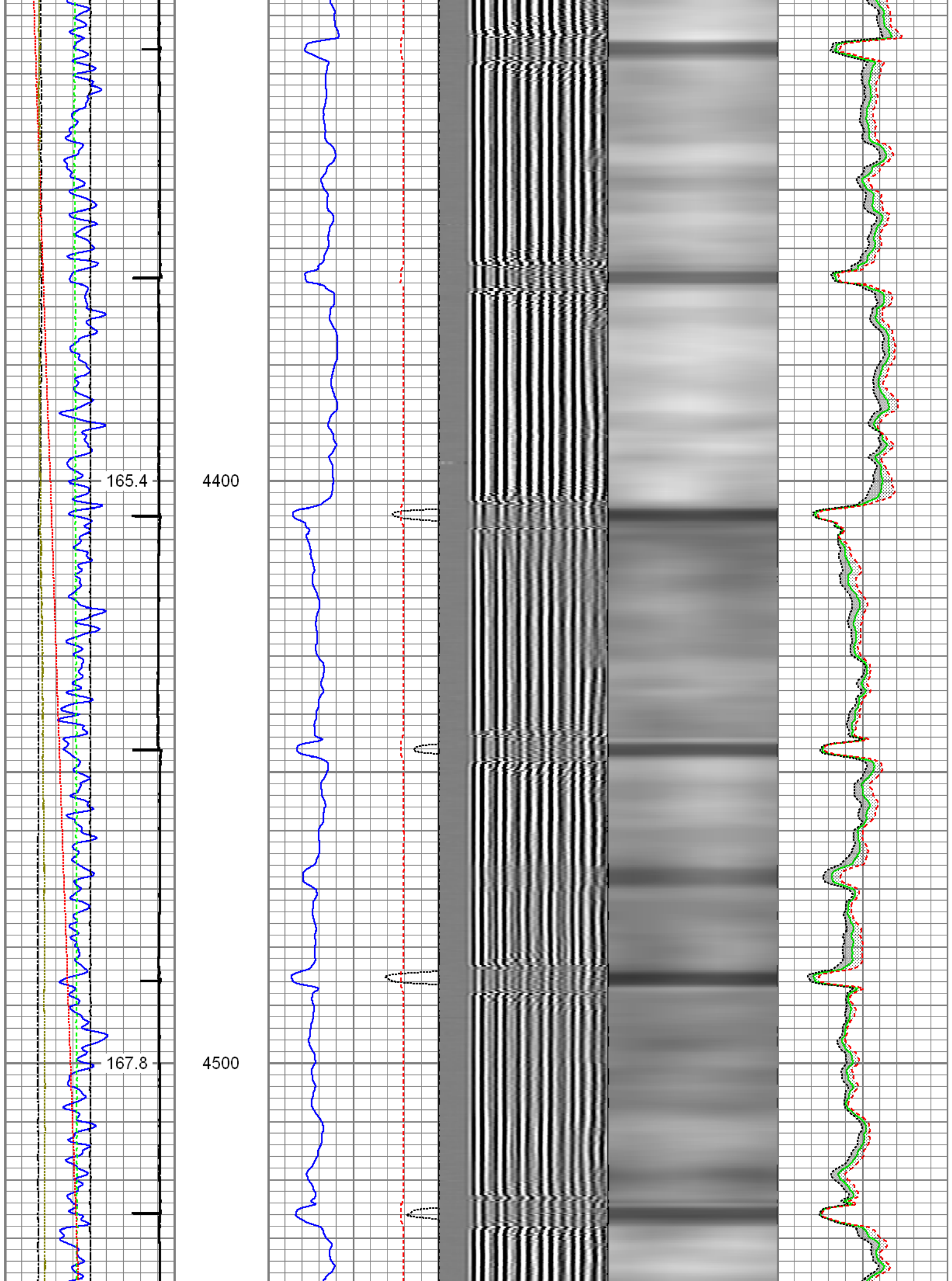


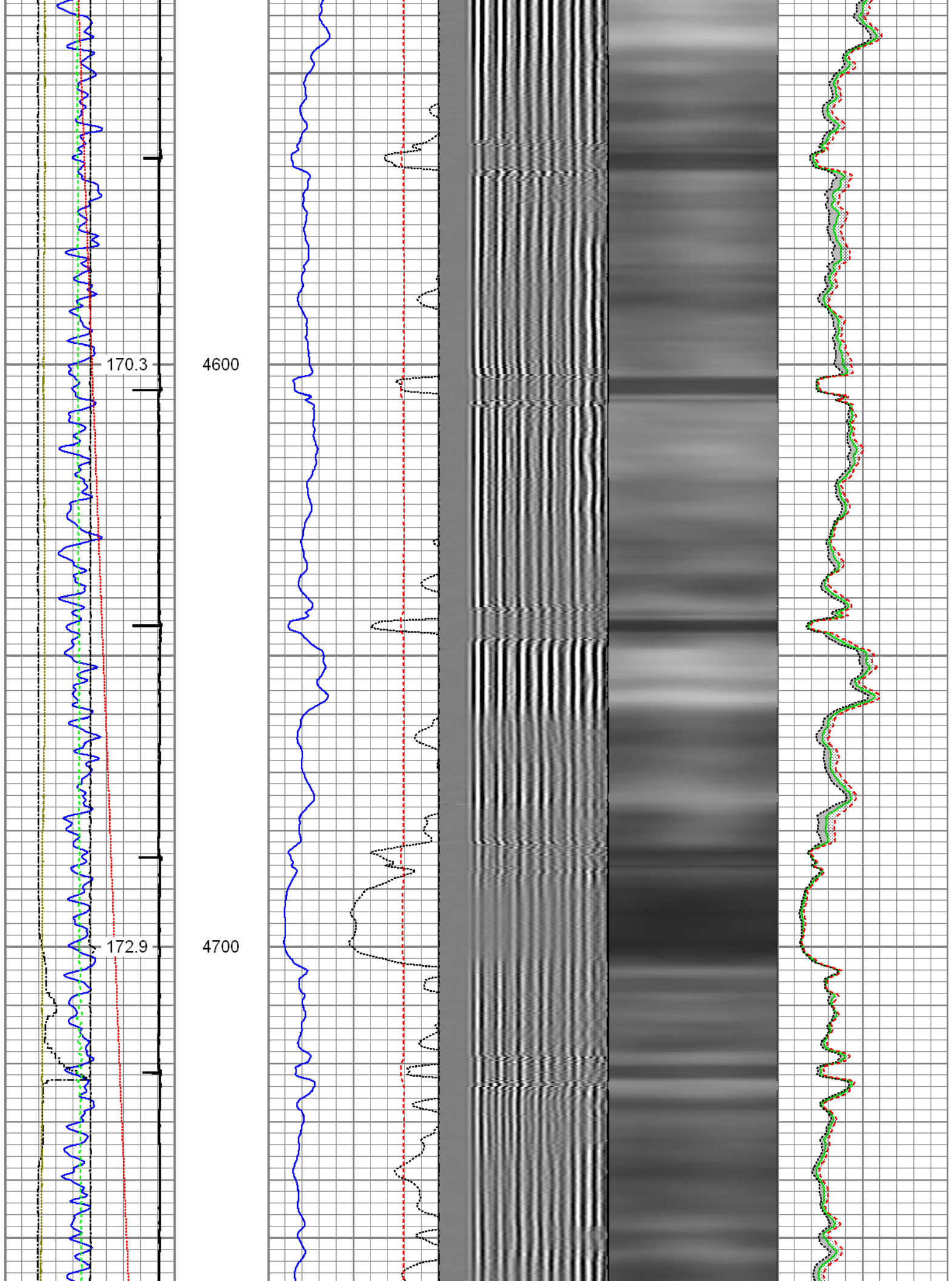


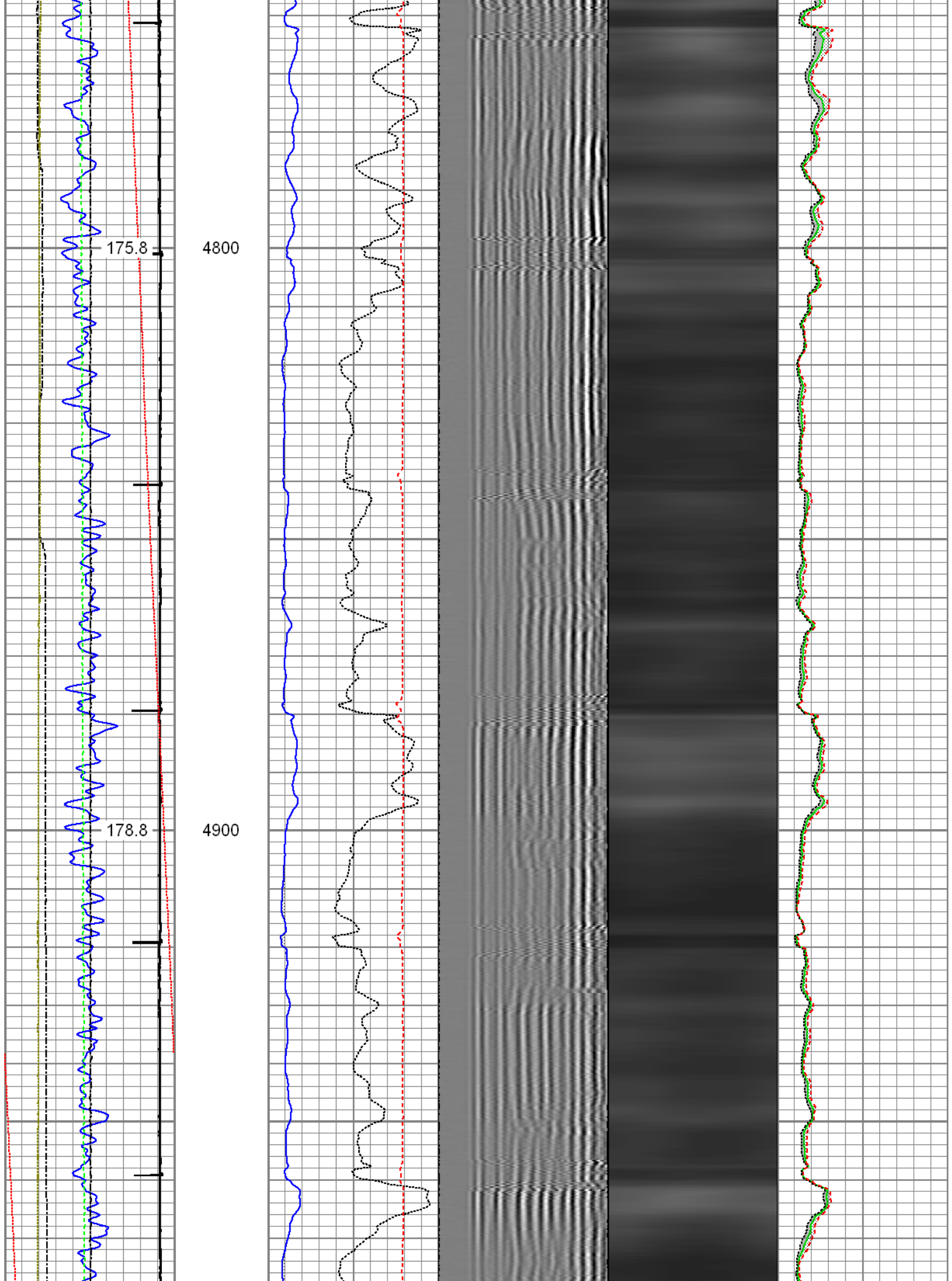


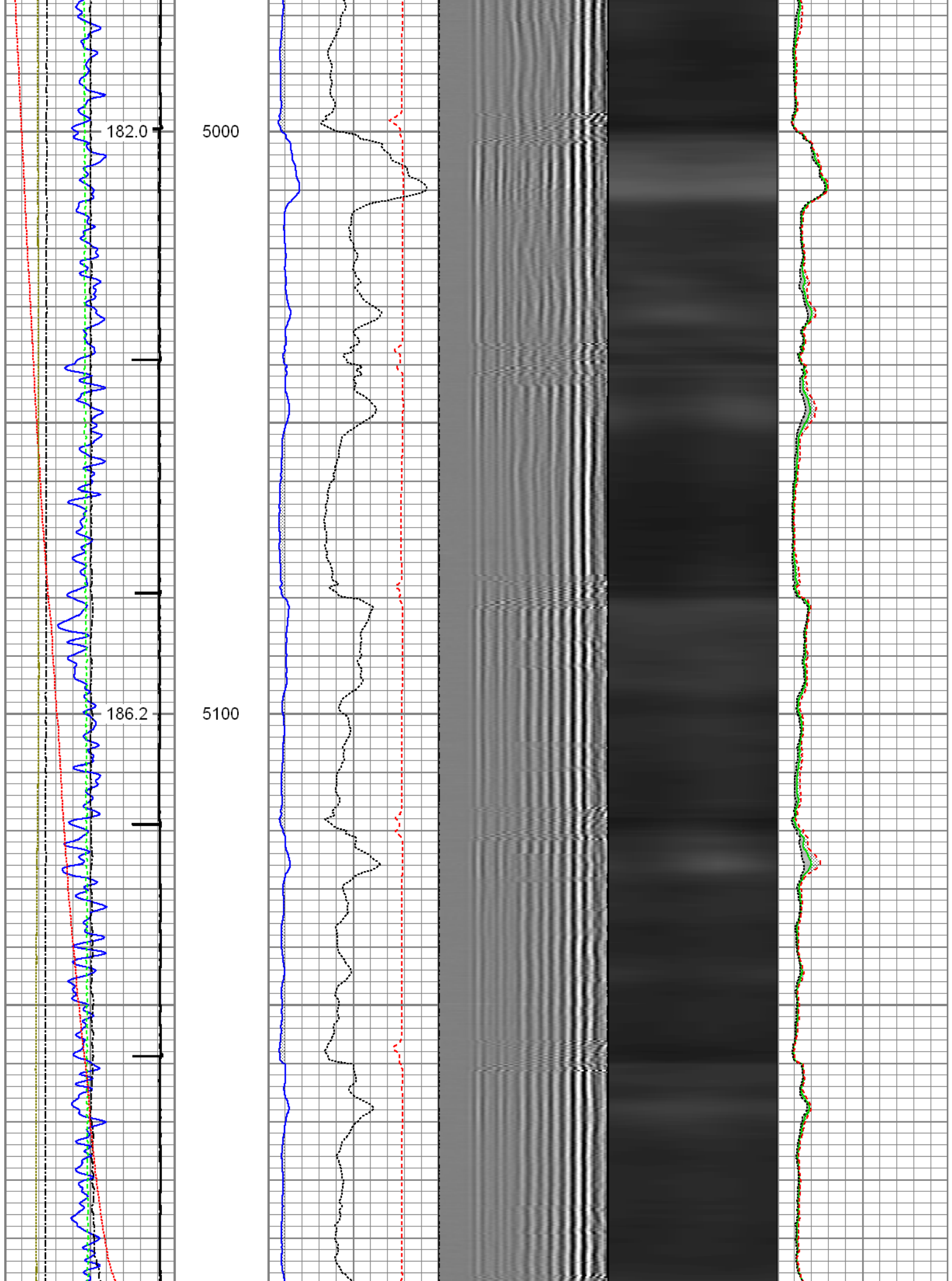


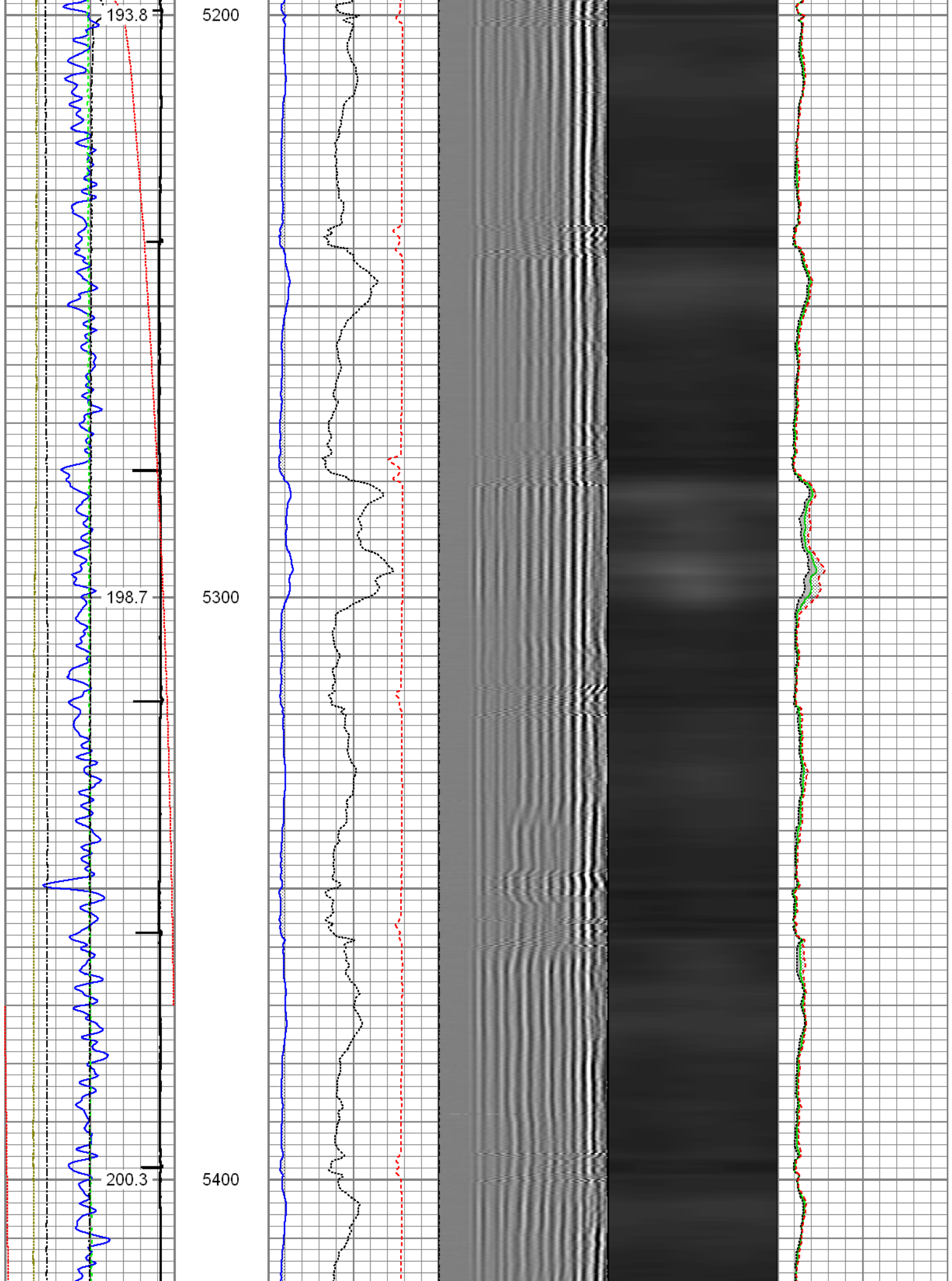


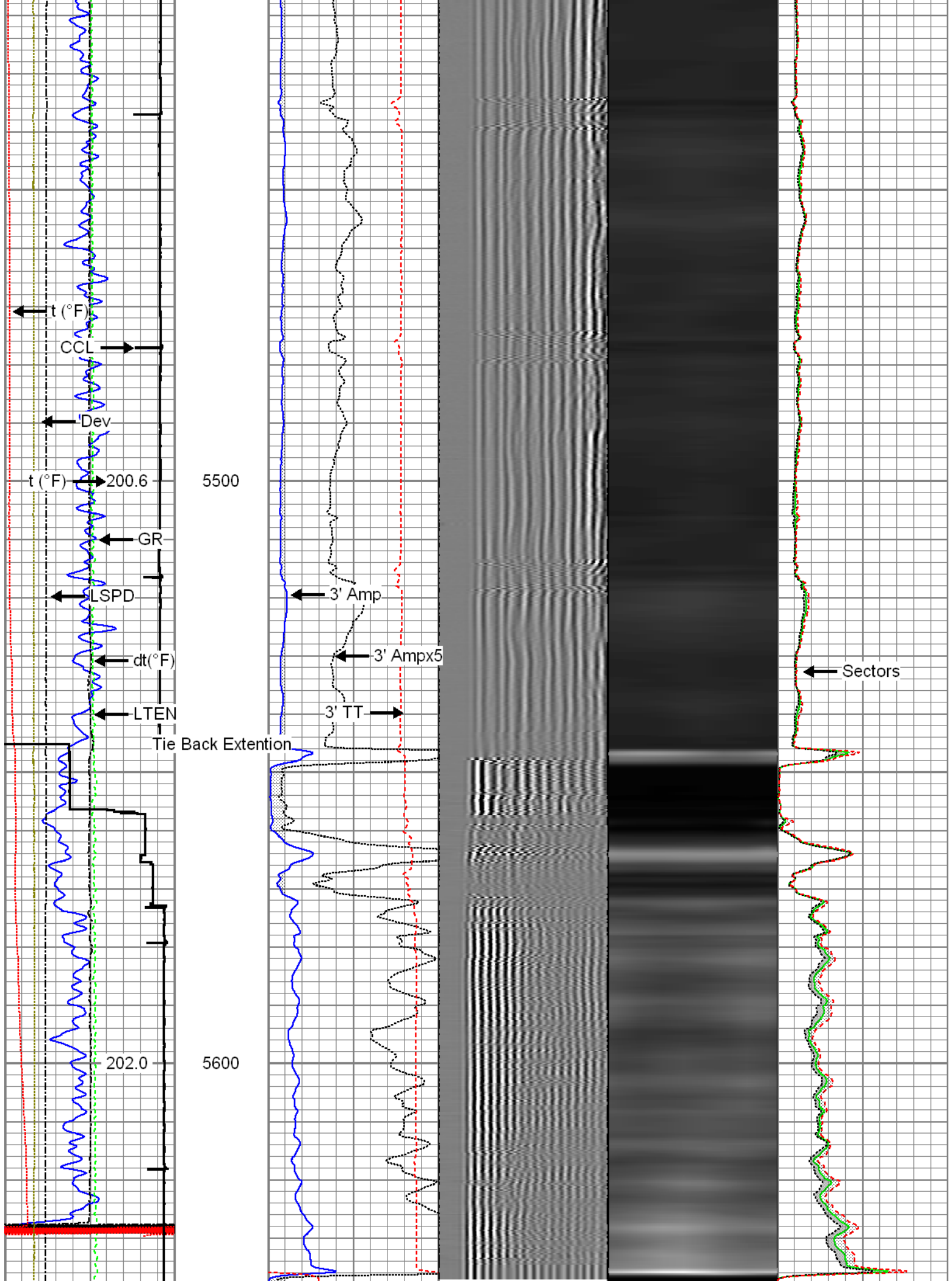


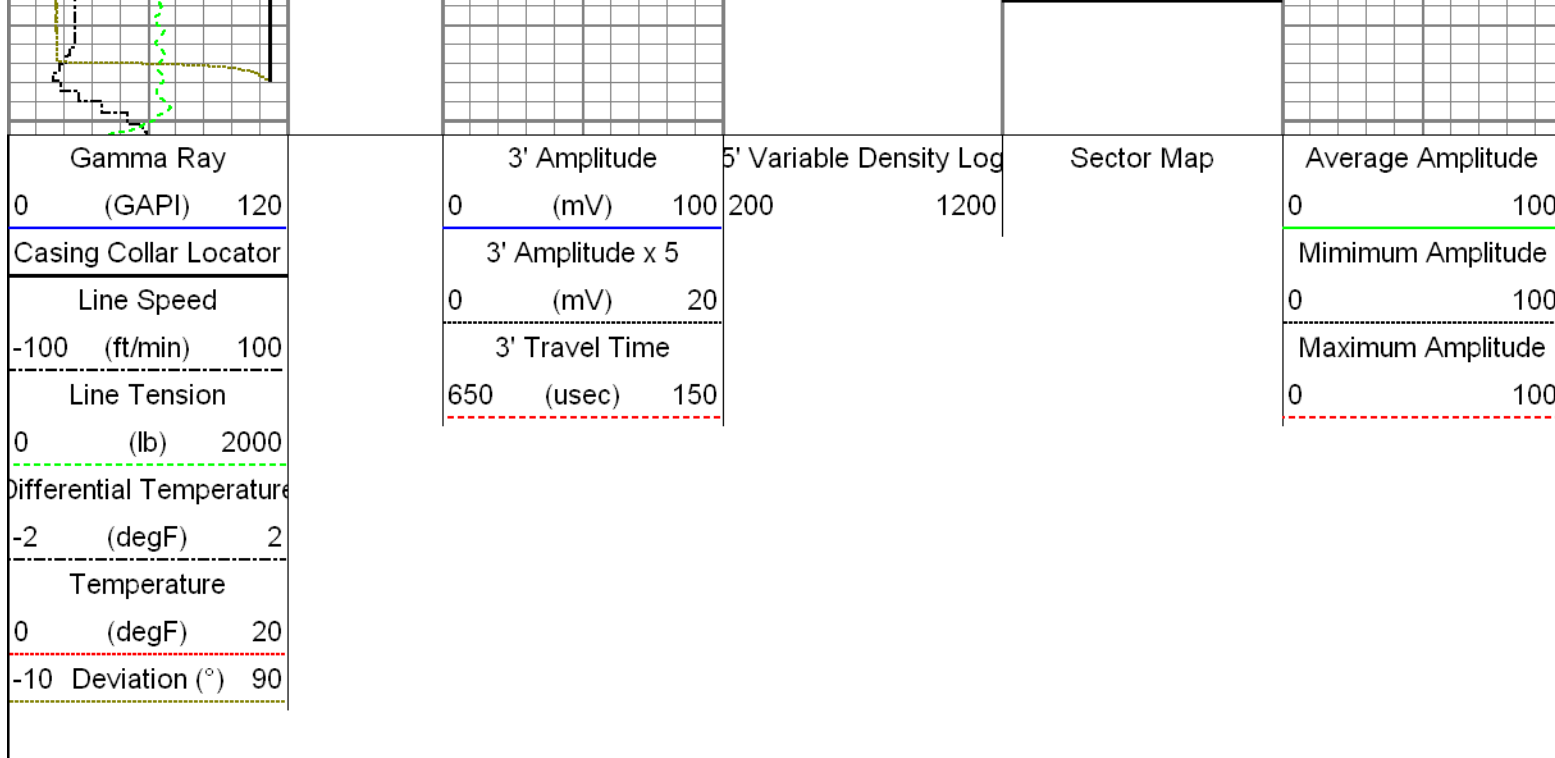















Repeat Section

Recorded with 1500 PSI Surface Induced Pressure

Database File: 12-18-15_whiting_razor 12f-0102b_mit_rbl.db

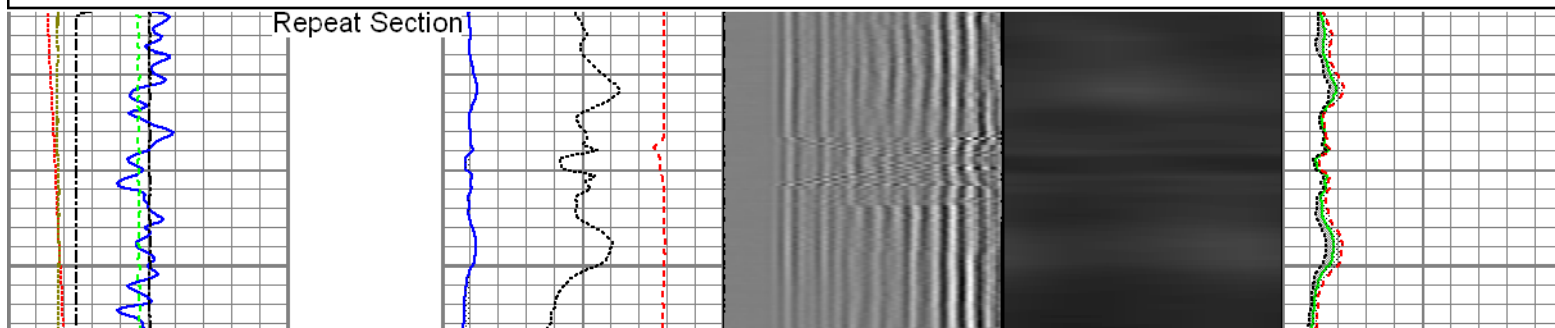
Dataset Pathname: repeat1

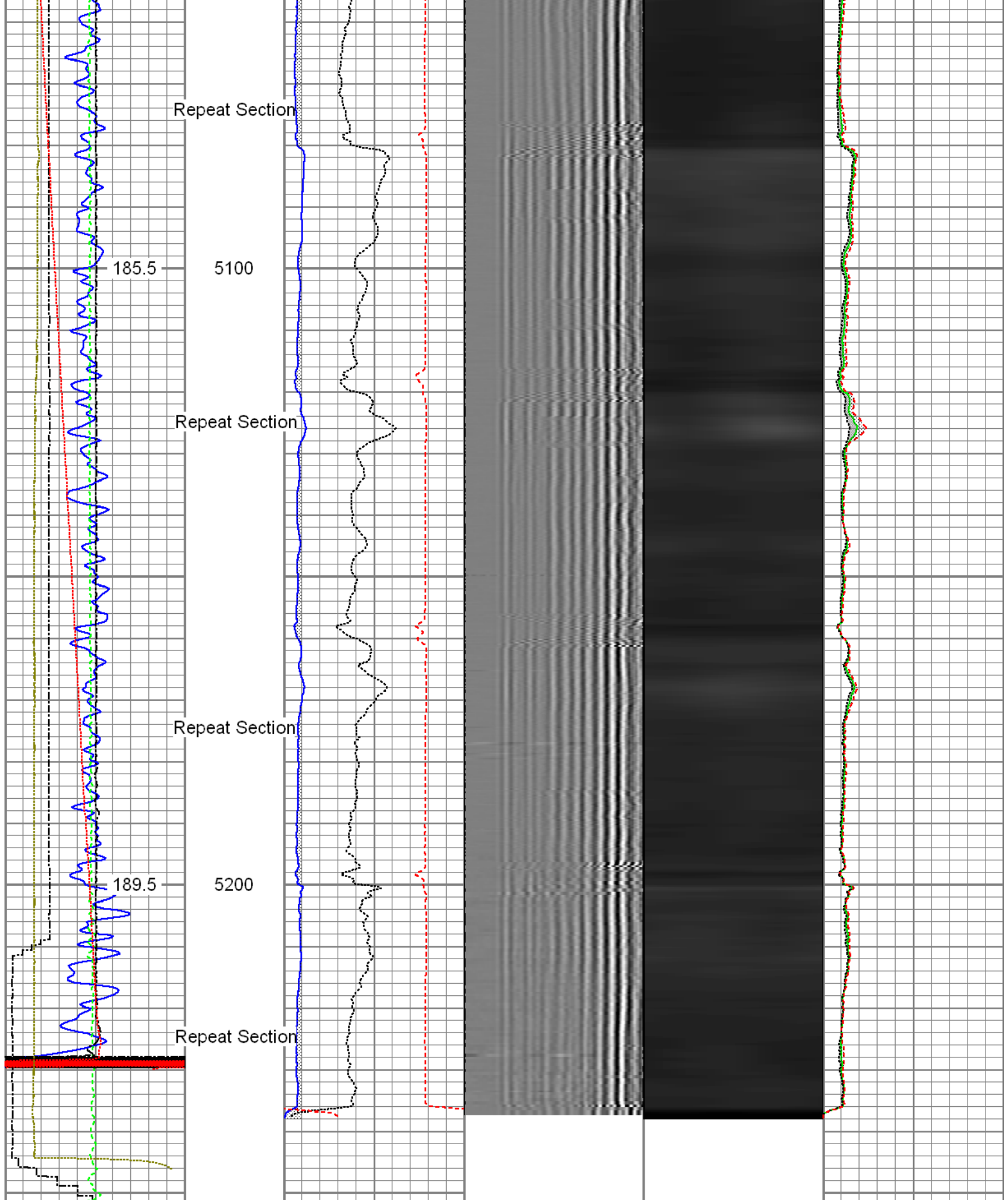
Presentation Format: rbt4_mit

Dataset Creation: Fri Dec 18 12:56:57 2015 by Log 7.0 B1

Charted by: Depth in Feet scaled 1:240


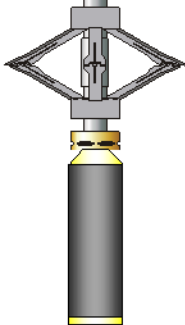
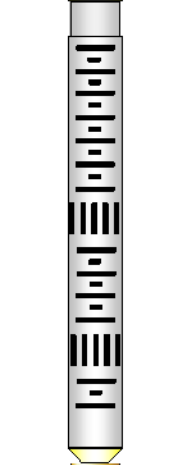
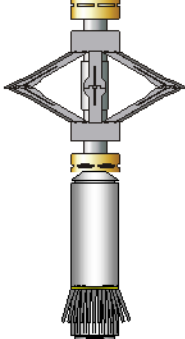
Gamma Ray 0 (GAPI) 120	3' Amplitude 0 (mV) 100	5' Variable Density Log 200 1200	Sector Map	Average Amplitude 0 100
Line Speed -100 (ft/min) 100	3' Amplitude x 5 0 (mV) 20			Minimum Amplitude 0 100
Line Tension 0 (lb) 2000	3' Travel Time 650 (usec) 150			Maximum Amplitude 0 100
Differential Temperature -2 (degF) 2				
Temperature 0 (degF) 20				
-10 Deviation (°) 90				

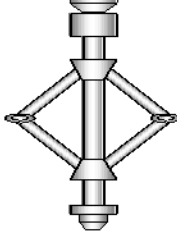




Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Line Speed (ft/min)	3' Amplitude x 5 (mV)			Minimum Amplitude
-100 100	0 20			0 100
Line Tension	3' Travel Time			Maximum Amplitude

0	(lb)	2000	650	(usec)	150	0	100
Differential Temperature							
-2	(degF)	2					
Temperature							
0	(degF)	20					
-10	Deviation (°)	90					

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.85		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 (10010522) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (211727) Production Gamma Ray	1.93	1.69	9.50
TEMP	22.45		UW_PRT-UW_PRT_016 (10025100) Platinum Resistance Thermometer	1.04	1.69	5.20
			UW_PRC #4 -DSSRAC (081) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WV3FT	15.42		UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	15.42					
WVFS2	15.42					
WVFS3	15.42					
WVFS4	15.42					
WVFS5	15.42					
WVFS6	15.42					
WVFS7	15.42					
WVFS8	15.42					
CBLTEMP	15.42					
CBLROT	15.42					
WV5FT	14.42		UW_PRC-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
MIT	5.41		UW_MIT-UW_MIT40_027 (218949) 40 Multifinger Imaging Tool	4.54	2.75	61.10

TSTAMP	0.00		UW_PRC-UW_PRC_057 (1102) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			UW_BUL-UW_BUL_006 (031422) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 12-18-15_Whiting_Razor 12F-0102B_MIT_RBL.db: field/well/run1/repeat1 Total Length: 28.09 ft Total Weight: 324.50 lb O.D. 3.13 in						

Calibration Report			
Database File:	12-18-15_Whiting_Razor 12F-0102B_MIT_RBL.db		
Dataset Pathname:	postcal		
Dataset Creation:	Fri Dec 18 15:36:05 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: Fri Dec 18 12:25:24 2015						
Ring size:	4	5	6	7		
(in)						
	Sens	Sens	Sens			
Finger 01:	1409 282.0	1691 296.0	1987 312.0	2299		
Finger 02:	1467 272.0	1739 291.0	2030 302.0	2332		
Finger 03:	1706 274.0	1980 285.0	2265 283.0	2548		
Finger 04:	1679 271.0	1950 280.0	2230 279.0	2509		
Finger 05:	1560 256.0	1816 271.0	2087 279.0	2366		
Finger 06:	1547 248.0	1795 261.0	2056 272.0	2328		
Finger 07:	1390 266.0	1656 288.0	1944 294.0	2238		
Finger 08:	1558 249.0	1807 264.0	2071 270.0	2341		
Finger 09:X	1437 260.0	1697 283.0	1980 290.0	2270		
Finger 10:	1498 260.0	1758 274.0	2032 280.0	2312		
Finger 11:	1491 254.0	1745 269.0	2014 276.0	2290		
Finger 12:	1342 275.0	1617 293.0	1910 307.0	2217		
Finger 13:	1626 276.0	1902 286.0	2188 285.0	2473		
Finger 14:	1473 280.0	1753 296.0	2049 301.0	2350		
Finger 15:	1562 258.0	1820 270.0	2090 282.0	2372		
Finger 16:	1422 278.0	1700 294.0	1994 304.0	2298		
Finger 17:	1632 265.0	1897 277.0	2174 282.0	2456		
Finger 18:	1419 283.0	1702 304.0	2006 320.0	2326		
Finger 19:	1645 254.0	1899 257.0	2156 262.0	2418		
Finger 20:	1536 264.0	1800 274.0	2074 290.0	2364		
Finger 21:	1595 248.0	1843 259.0	2102 271.0	2373		
Finger 22:	1562 272.0	1824 284.0	2118 296.0	2414		

Finger 22:	1362	272.0	1634	284.0	2118	296.0	2414
Finger 23:	1364	274.0	1638	288.0	1926	304.0	2230
Finger 24:	1685	262.0	1947	270.0	2217	281.0	2498
Finger 25:	1386	288.0	1674	309.0	1983	327.0	2310
Finger 26:	1525	288.0	1813	299.0	2112	313.0	2425
Finger 27:	1451	261.0	1712	272.0	1984	290.0	2274
Finger 28:	1635	275.0	1910	288.0	2198	295.0	2493
Finger 29:	1475	272.0	1747	290.0	2037	303.0	2340
Finger 30:	1441	272.0	1713	292.0	2005	307.0	2312
Finger 31:	1526	266.0	1792	280.0	2072	293.0	2365
Finger 32:	1341	263.0	1604	286.0	1890	299.0	2189
Finger 33:	1624	298.0	1922	316.0	2238	324.0	2562
Finger 34:	1542	269.0	1811	282.0	2093	291.0	2384
Finger 35:	1435	268.0	1703	286.0	1989	300.0	2289
Finger 36:	1592	280.0	1872	292.0	2164	300.0	2464
Finger 37:	1604	274.0	1878	286.0	2164	299.0	2463
Finger 38:	1504	275.0	1779	291.0	2070	299.0	2369
Finger 39:	1463	285.0	1748	302.0	2050	309.0	2359
Finger 40:	1609	283.0	1892	301.0	2193	307.0	2500

Post Survey Calibration Check
Performed: Fri Dec 18 15:35:57 2015

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.002	0.001	5.008	0.004	6.017	0.008	7.011	0.005
Finger 02:	4.001	0.000	5.016	0.008	6.012	0.006	7.004	0.002
Finger 03:	3.997	-0.001	5.009	0.004	6.004	0.002	7.005	0.002
Finger 04:	3.990	-0.005	5.007	0.003	6.004	0.002	7.003	0.002
Finger 05:	3.997	-0.002	5.014	0.007	6.010	0.005	7.001	0.001
Finger 06:	3.984	-0.008	5.000	0.000	6.003	0.002	6.998	-0.001
Finger 07:	4.005	0.002	5.018	0.009	6.000	-0.000	7.007	0.004
Finger 08:	3.994	-0.003	5.015	0.007	5.995	-0.002	6.997	-0.001
Finger 09:	-----	-----	-----	-----	-----	-----	-----	-----
Finger 10:	3.995	-0.002	5.014	0.007	6.014	0.007	7.010	0.005
Finger 11:	4.022	0.011	5.033	0.016	6.032	0.016	7.029	0.015
Finger 12:	3.998	-0.001	4.998	-0.001	6.004	0.002	7.012	0.006
Finger 13:	4.006	0.003	5.010	0.005	6.013	0.007	7.007	0.003
Finger 14:	4.018	0.009	5.019	0.009	6.018	0.009	7.020	0.010
Finger 15:	4.001	0.001	5.010	0.005	6.008	0.004	6.999	-0.000
Finger 16:	3.994	-0.003	5.001	0.000	6.006	0.003	7.009	0.005
Finger 17:	4.004	0.002	5.010	0.005	6.001	0.000	7.007	0.004
Finger 18:	3.992	-0.004	5.006	0.003	6.001	0.000	7.006	0.003
Finger 19:	3.993	-0.003	5.007	0.004	6.002	0.001	6.998	-0.001
Finger 20:	4.001	0.000	5.001	0.001	6.000	-0.000	7.000	-0.000
Finger 21:	3.998	-0.001	5.047	0.024	6.014	0.007	6.993	-0.003
Finger 22:	3.992	-0.004	5.009	0.005	6.002	0.001	7.004	0.002
Finger 23:	4.000	-0.000	5.001	0.001	6.006	0.003	7.009	0.005
Finger 24:	4.009	0.004	5.014	0.007	6.007	0.003	7.007	0.004
Finger 25:	3.995	-0.003	5.010	0.005	6.006	0.003	7.012	0.006
Finger 26:	4.007	0.003	5.006	0.003	6.007	0.004	7.004	0.002
Finger 27:	4.004	0.002	5.007	0.003	6.018	0.009	6.990	-0.005
Finger 28:	4.010	0.005	5.010	0.005	6.018	0.009	7.011	0.005
Finger 29:	3.985	-0.007	5.014	0.007	6.002	0.001	7.008	0.004
Finger 30:	4.006	0.003	5.022	0.011	6.014	0.007	7.023	0.011
Finger 31:	3.981	-0.010	5.007	0.003	5.996	-0.002	7.010	0.005
Finger 32:	4.001	0.001	5.010	0.005	6.003	0.002	7.008	0.004
Finger 33:	3.999	-0.001	5.018	0.009	6.006	0.003	7.004	0.002
Finger 34:	4.003	0.001	5.014	0.007	6.012	0.006	7.013	0.007
Finger 35:	4.011	0.005	5.015	0.008	6.010	0.005	7.005	0.003
Finger 36:	4.007	0.004	5.003	0.002	6.001	0.000	7.000	0.000
Finger 37:	3.998	-0.001	5.009	0.004	6.008	0.004	7.001	0.001
Finger 38:	4.006	0.003	5.014	0.007	6.011	0.005	7.012	0.006
Finger 39:	4.007	0.004	5.006	0.003	6.001	0.001	7.003	0.001
Finger 40:	4.000	-0.000	5.016	0.008	6.009	0.005	7.005	0.003

Average: 4.000 0.000 5.014 0.006 6.008 0.004 7.006 0.002

Average: 4.000 0.000 5.011 0.006 6.008 0.004 7.006 0.003

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454
Tool Model: UW_RBT_004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 15.807 ft

Master Calibration, performed Fri Dec 18 12:23:39 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.001	0.780	0.800	62.165	78.509	0.896
5FT	-0.004	0.746	0.800	62.165	81.856	1.100
S1	-0.001	0.759	0.000	100.000	131.597	0.161
S2	-0.002	0.784	0.000	100.000	127.217	0.292
S3	-0.002	0.795	0.000	100.000	125.418	0.302
S4	-0.002	0.804	0.000	100.000	123.932	0.303
S5	-0.001	0.792	0.000	100.000	126.025	0.154
S6	-0.002	0.773	0.000	100.000	128.982	0.315
S7	-0.002	0.748	0.000	100.000	133.223	0.304
S8	-0.002	0.745	0.000	100.000	133.813	0.284

Temperature Calibration Report

Serial Number: 10025100
Tool Model: UW_PRT_016
Performed: Wed Feb 11 13:47:59 2015

Point #	Reading	Reference
1	13249.00 cps	68.00 degF
2	18454.00 cps	104.00 degF
3	29735.00 cps	176.00 degF
4	41457.00 cps	248.00 degF
5	52851.00 cps	320.00 degF
6	59128.00 cps	356.00 degF
7	cps	degF
8	cps	degF
9	cps	degF
10	cps	degF

Gamma Ray Calibration Report

Serial Number: 211727
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 & Gas Corporation
Well Razor 12F-0102B
Field Wildcat

	<table><tr><td data-bbox="669 0 867 63">County</td><td data-bbox="867 0 1605 63">Weld</td></tr><tr><td data-bbox="669 63 867 119">State</td><td data-bbox="867 63 1605 119">Colorado</td></tr></table>	County	Weld	State	Colorado
County	Weld				
State	Colorado				