

Radial Cement Bond Gamma Ray Casing Collar Log

Company	Kerr-McGee Oil and Gas Onshore LP		
Well	Barclay 16C-26HZ		
Field	Wattenberg		
County	Weld		
State	Colorado		
Company	Kerr-McGee Oil and Gas Onshore LP	Location:	API #: 05-123-38886
Well	Barclay 16C-26HZ	SEC 14 TWP 2N RGE 67W	Other Services Gauge Ring MIT
Field	Wattenberg	Permanent Datum	Ground Level
County	Weld	Log Measured From	Elevation
State	Colorado	Drilling Measured From	4910'
			K.B. 4935' D.F. 4934' G.L. 4910'

Date	21-MAY-2015
Run Number	Two
Depth Driller	17431 FT
Depth Logger	7229 FT
Bottom Logged Interval	7244 FT
Top Log Interval	Surface
Open Hole Size	8.750"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	242° F
Estimated Cement Top	260 FT
Time Well Ready	ROA
Time Logger on Bottom	10:15
Equipment Number	HD-0255
Location	Fort Lupton, CO
Recorded By	A. Olmsted
Witnessed By	S. Vigil

Borehole Record		Tubing Record	
Run Number	Bit	From	To

Casing Record	Size (in)	Wgt (lbs/ft)	Grade	Top	Bottom
Surface Casing	9.625	36	J-55 LTC	Surface	1363 FT
Intermediate #1	7	26	HCP-110 LTC	Surface	7864 FT
Intermediate #2					
Liner	4.5	11.6	P-110 LTC	6892 FT	17421 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

Log ran as per customer request.
Depth referenced to casing tally reported liner top at 6892 FT.
Adjusted log -4 FT to correlate with liner top.
Log ran from as deep as possible to surface.
Log ran with 2800 PSI surface induced pressure.
Logging tools were clean and free of any debris upon completion of operations.

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

Database File:0512338886_anadarko_barclay 16c-26hz_05-21-15_mit_rbl.db

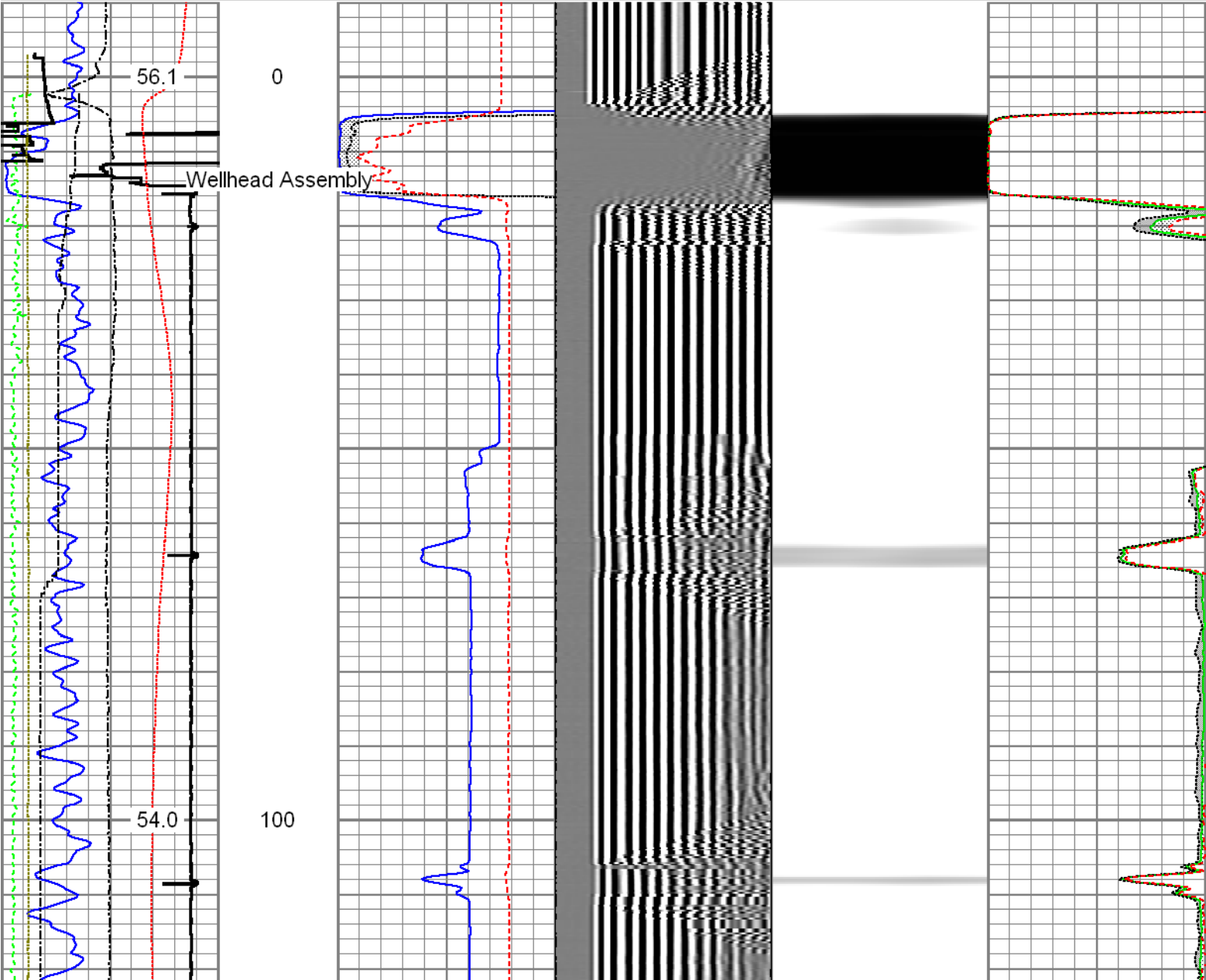
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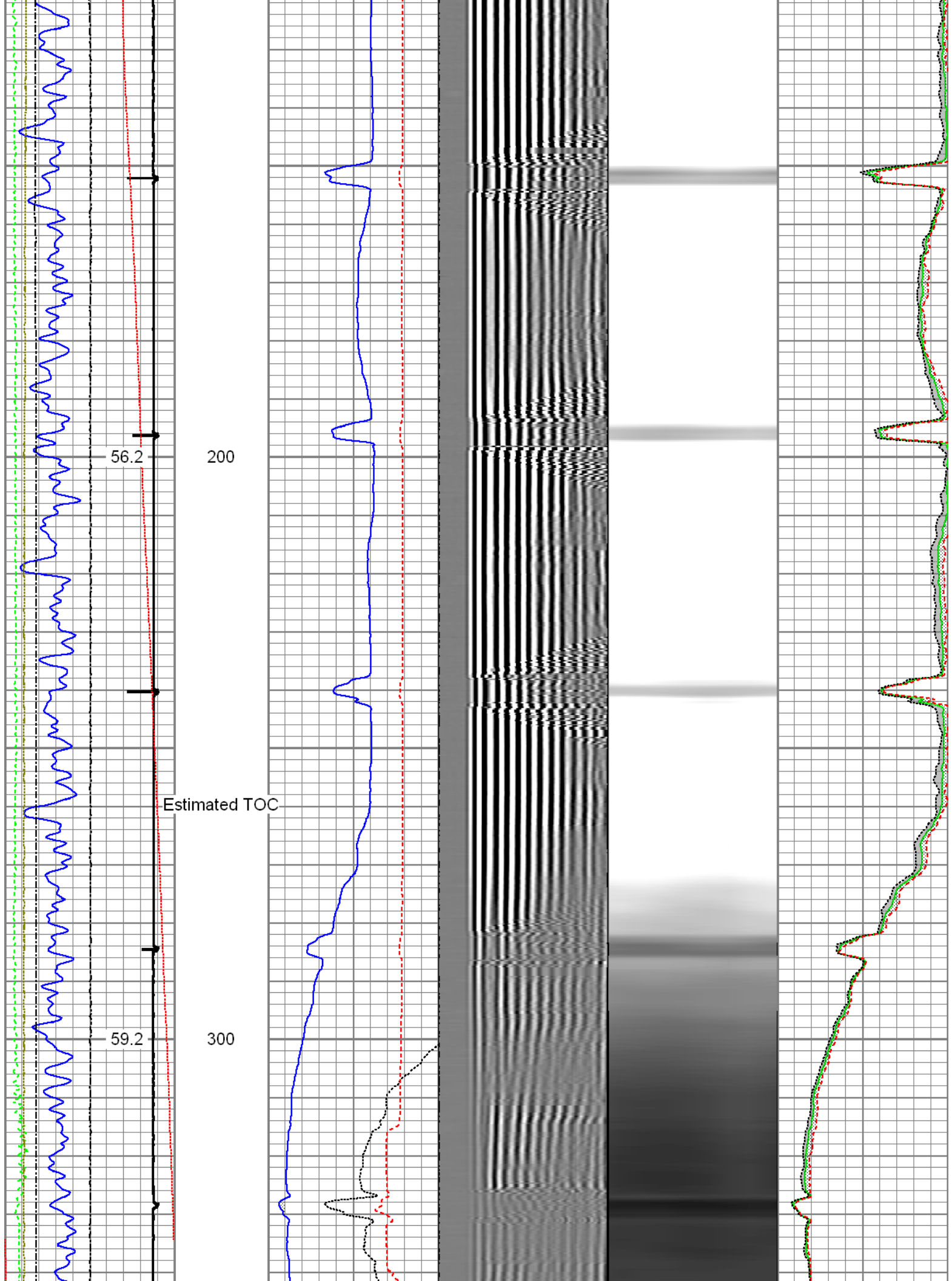
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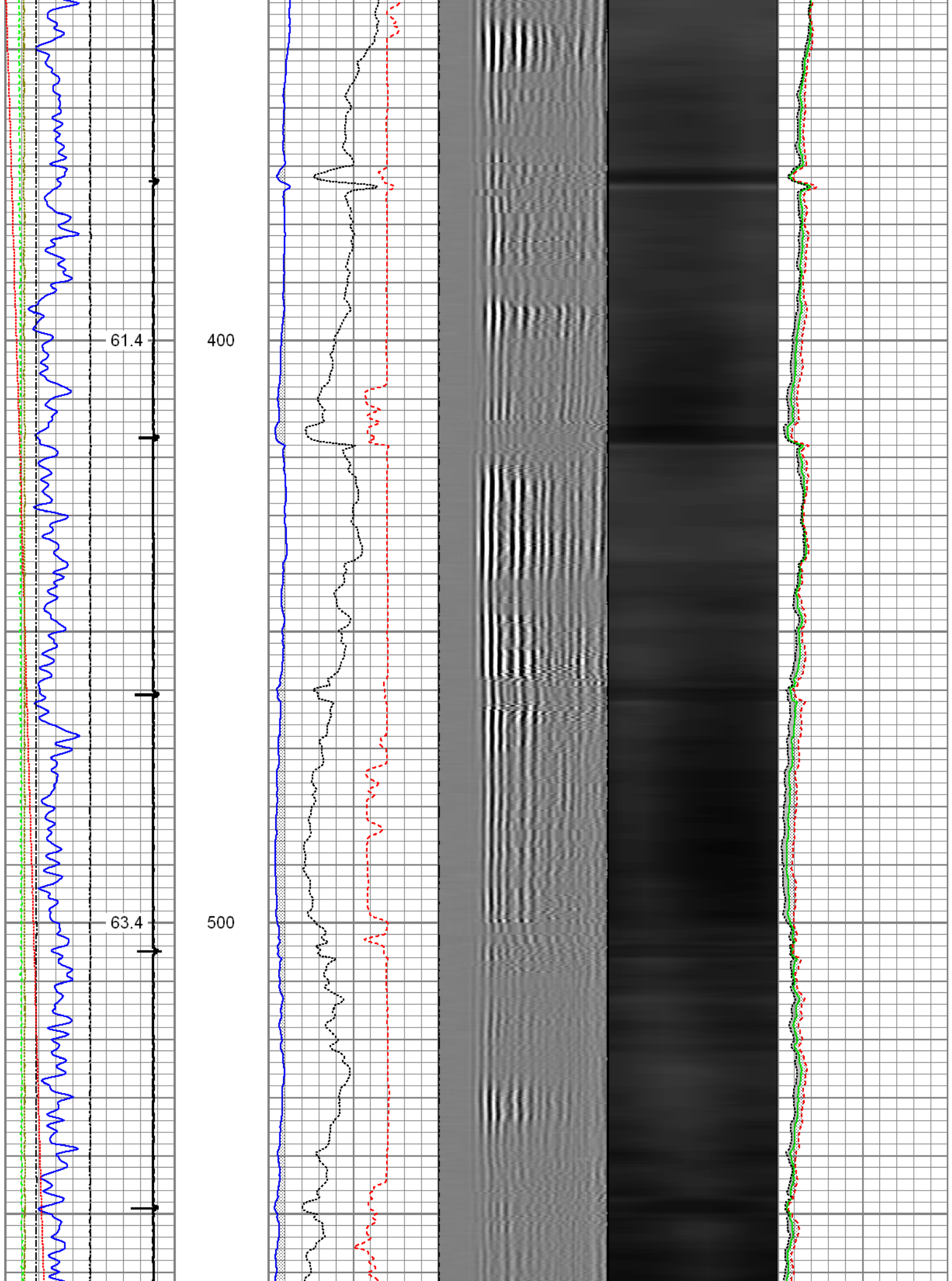
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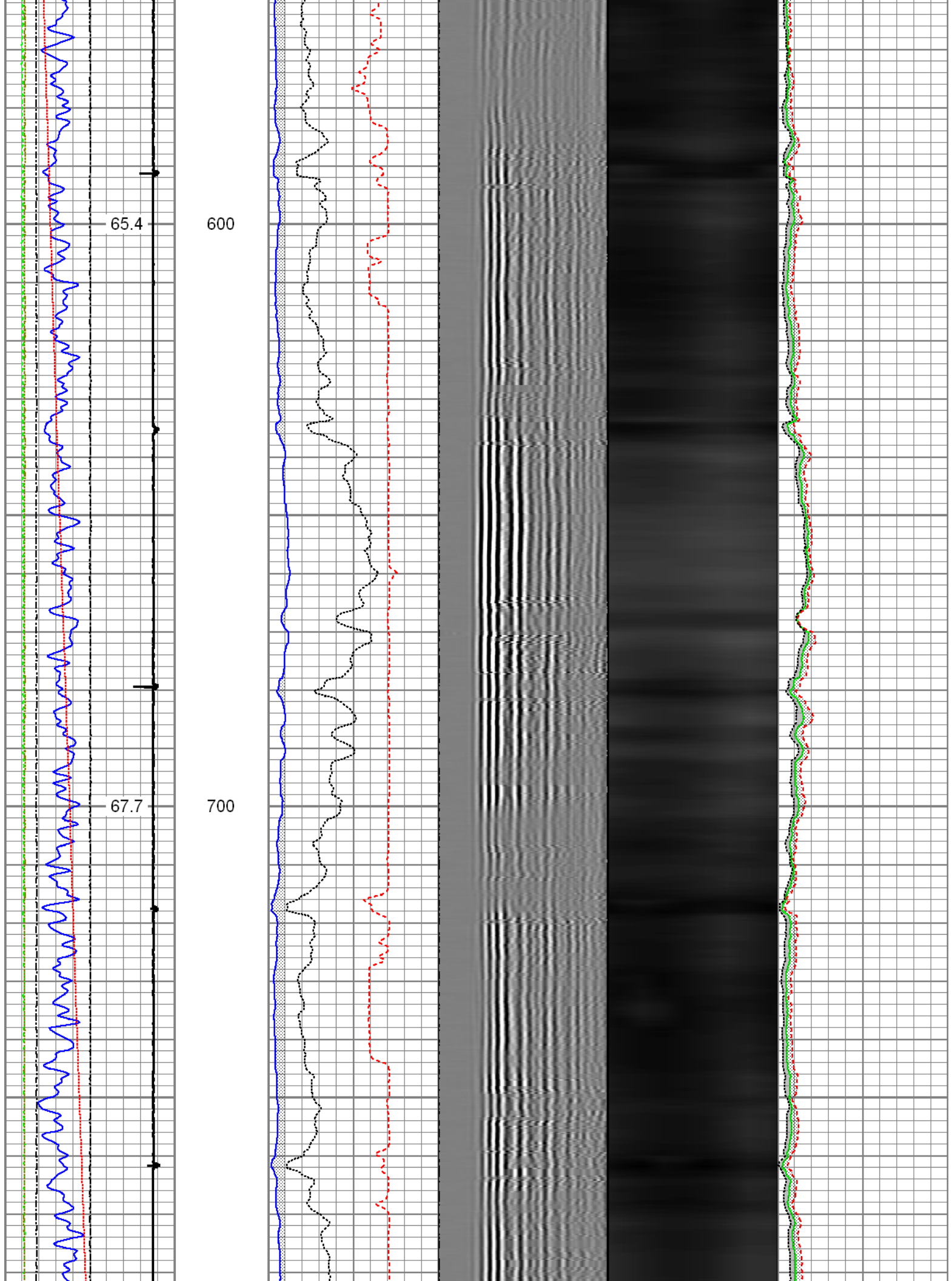
Charted by:Depth in Feet scaled 1:240

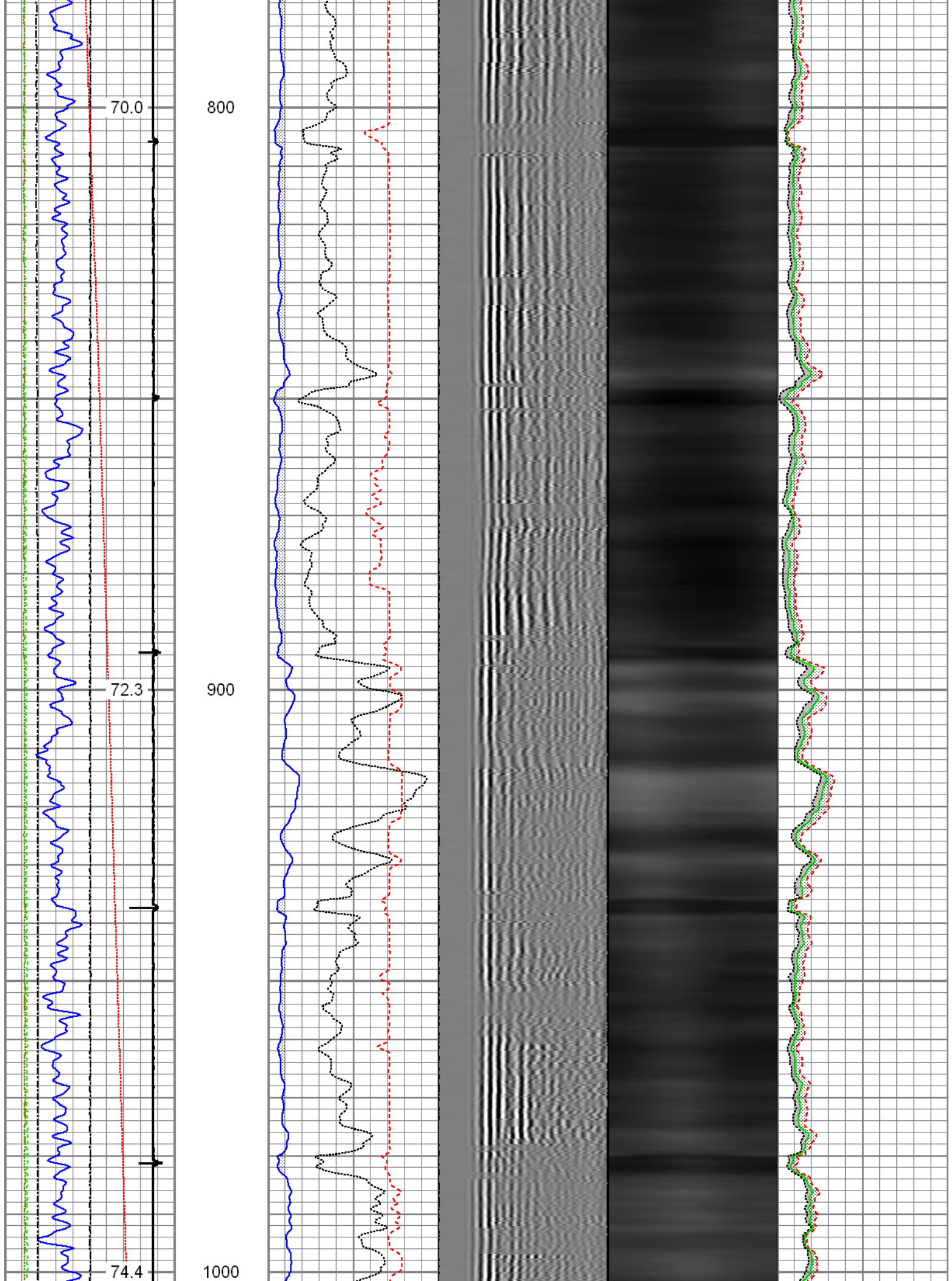
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 100
-100 (ft/min) 100	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000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

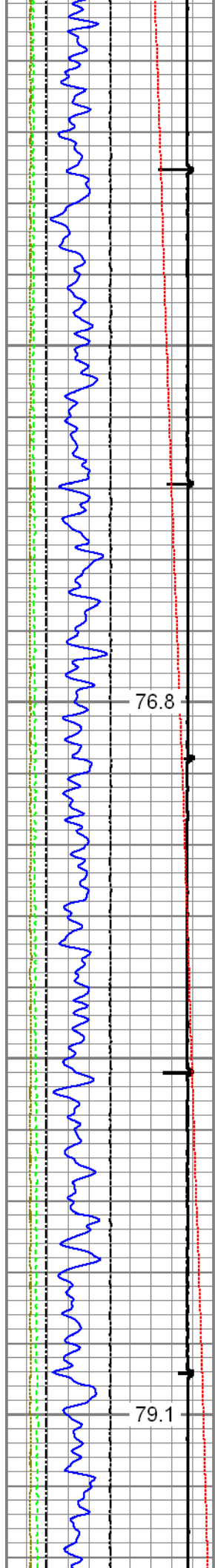






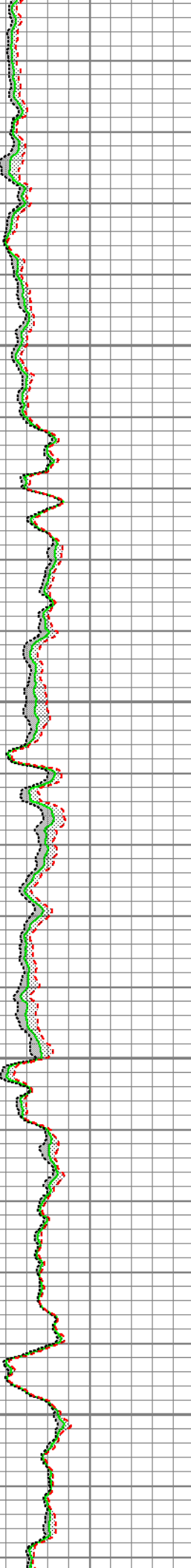
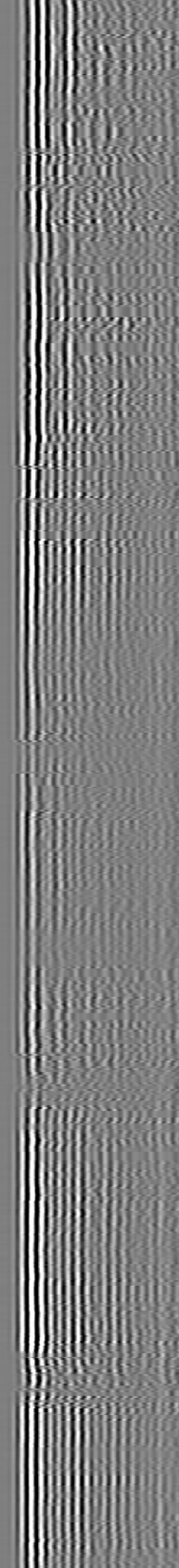
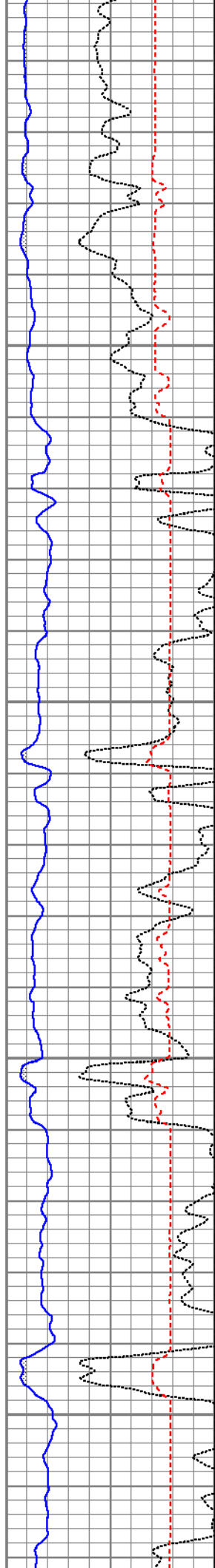


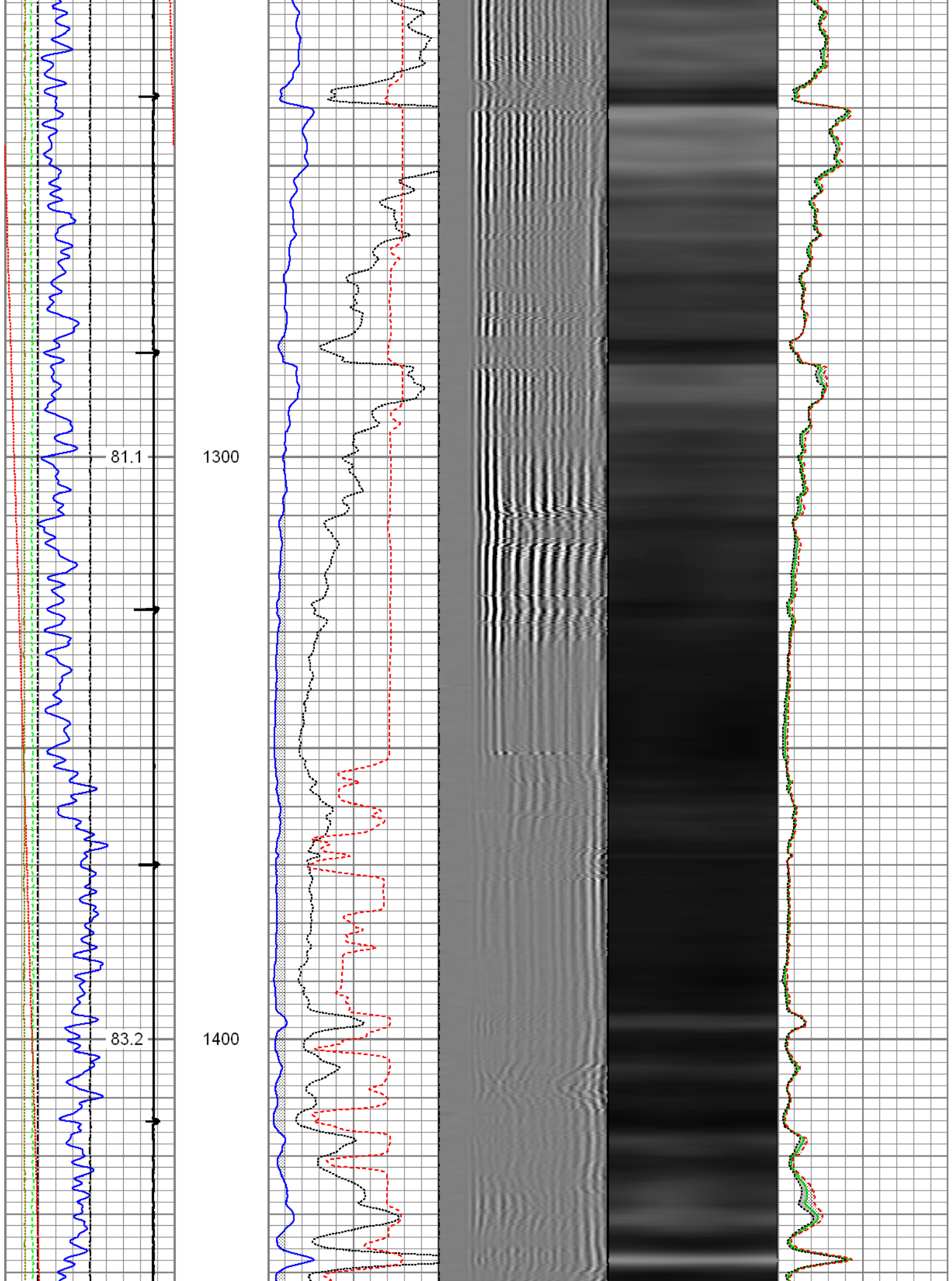


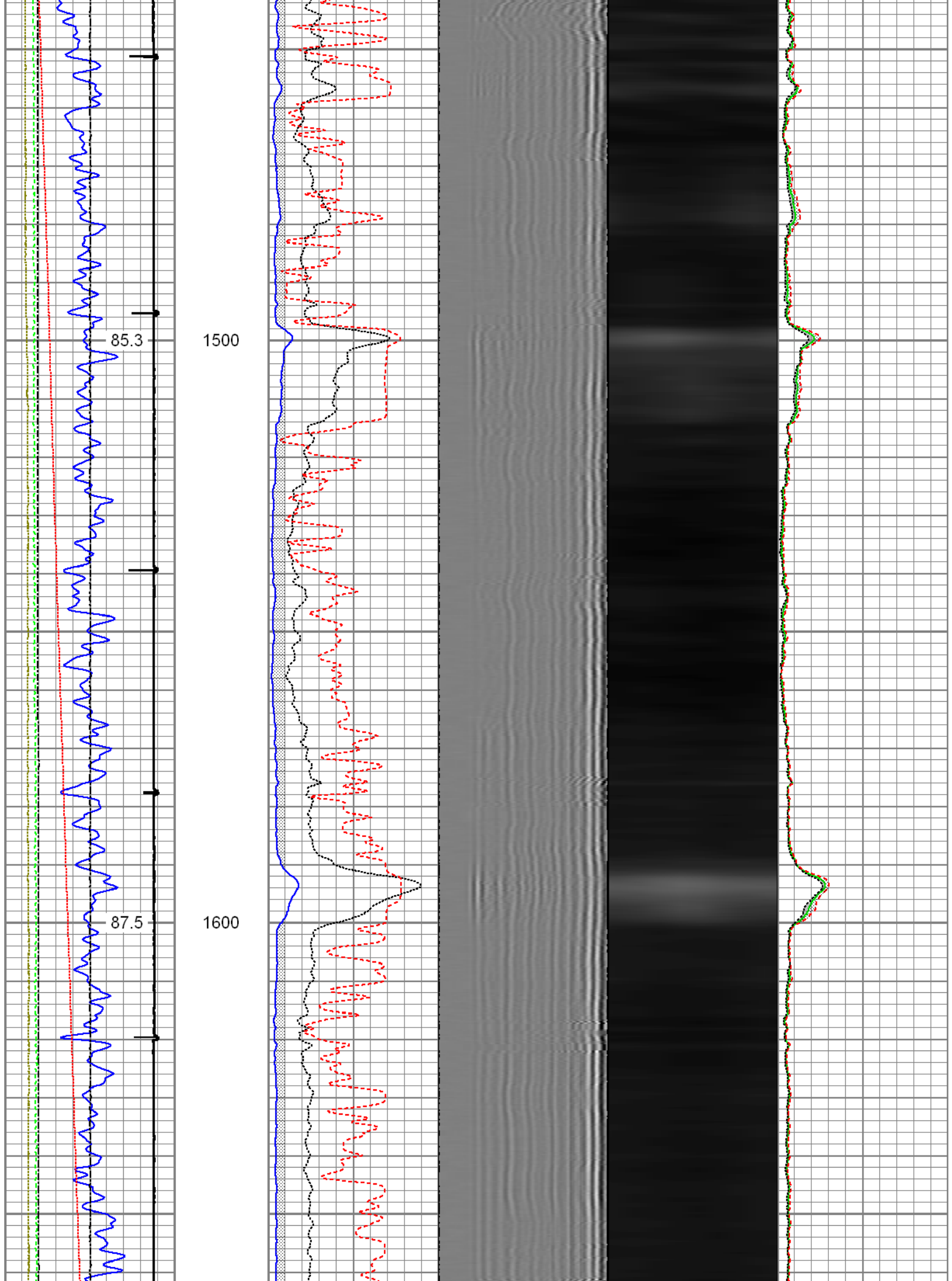


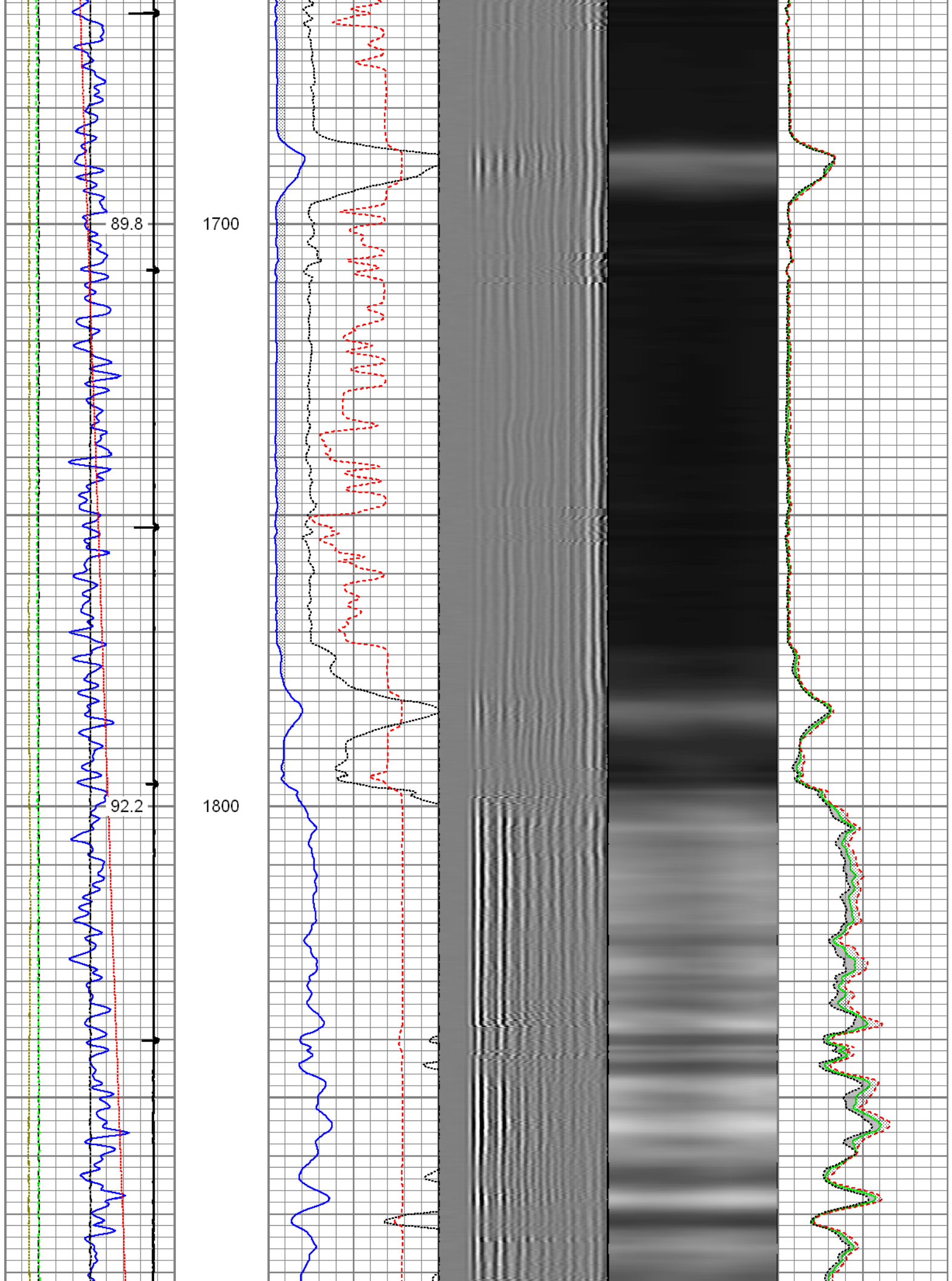
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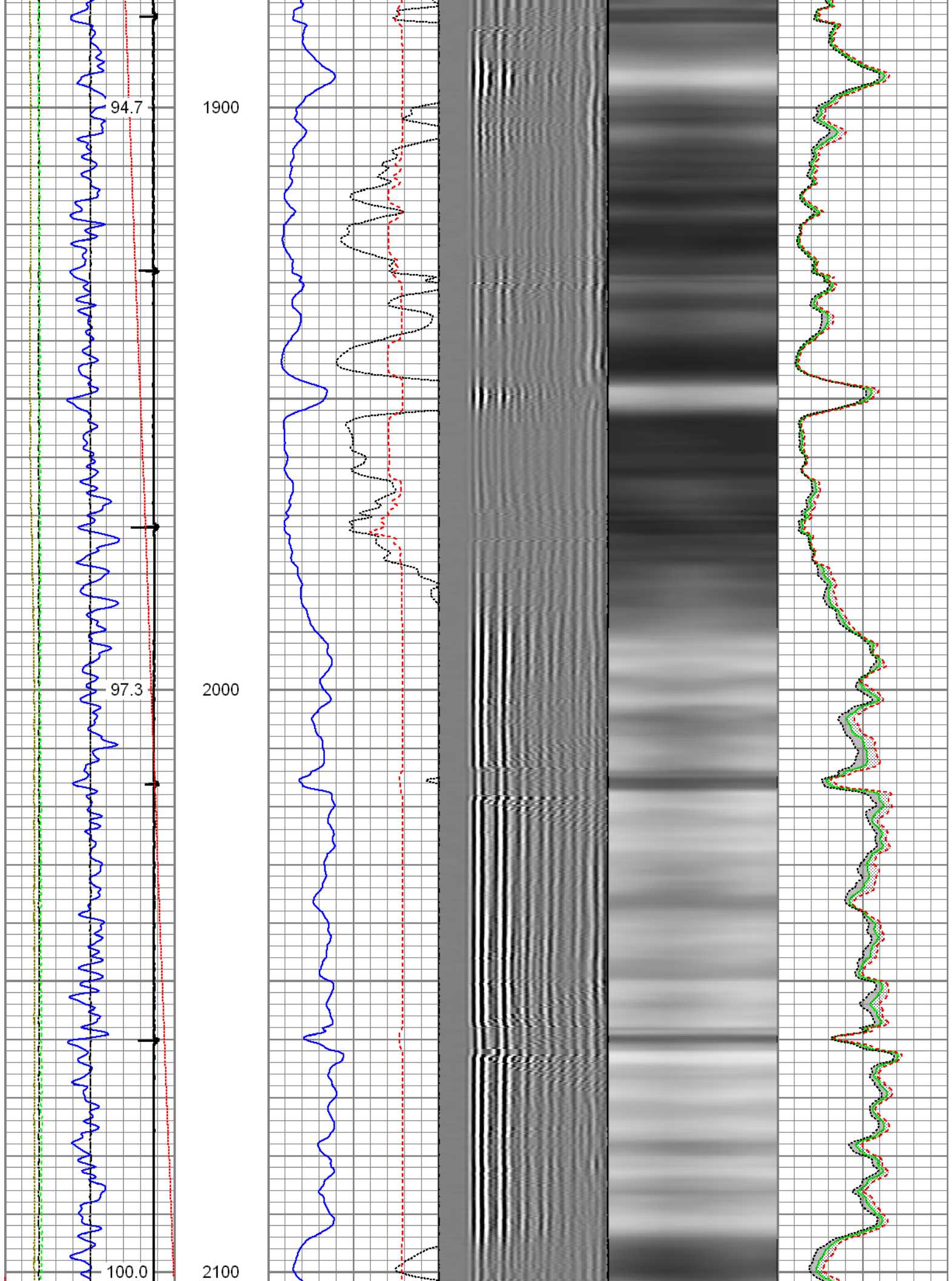
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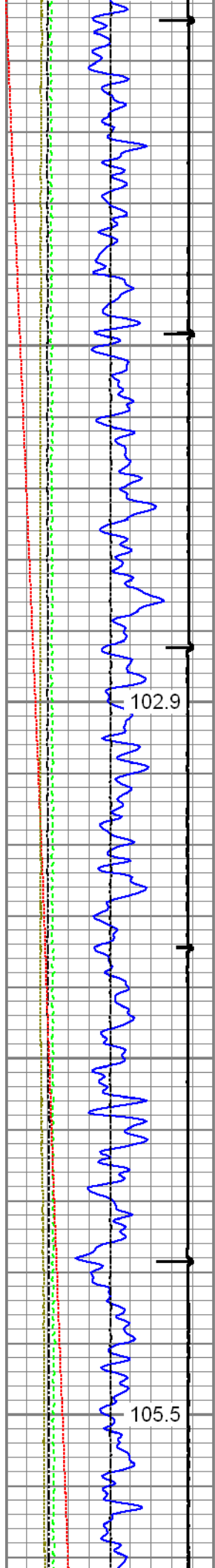






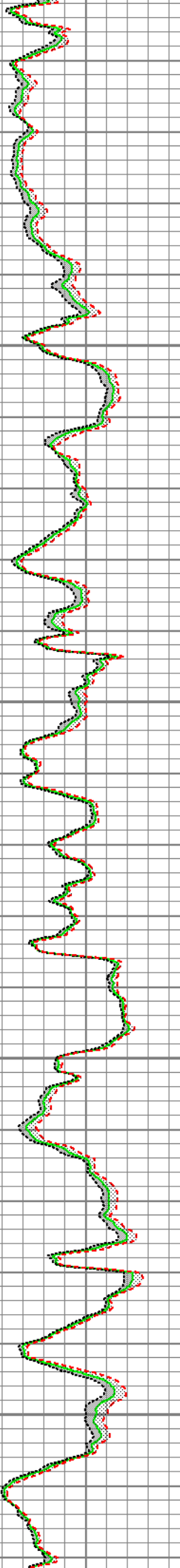
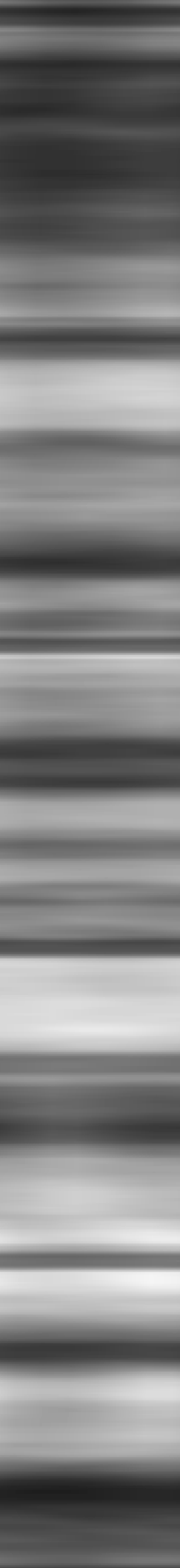
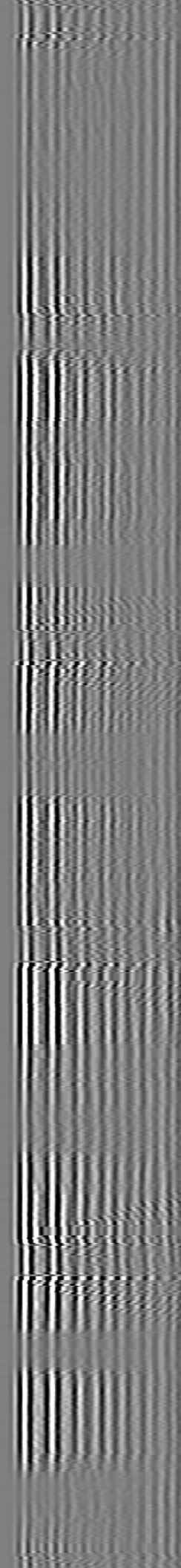
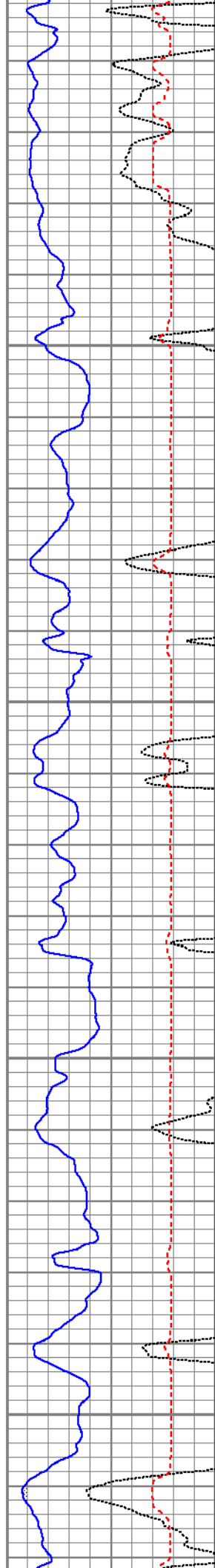


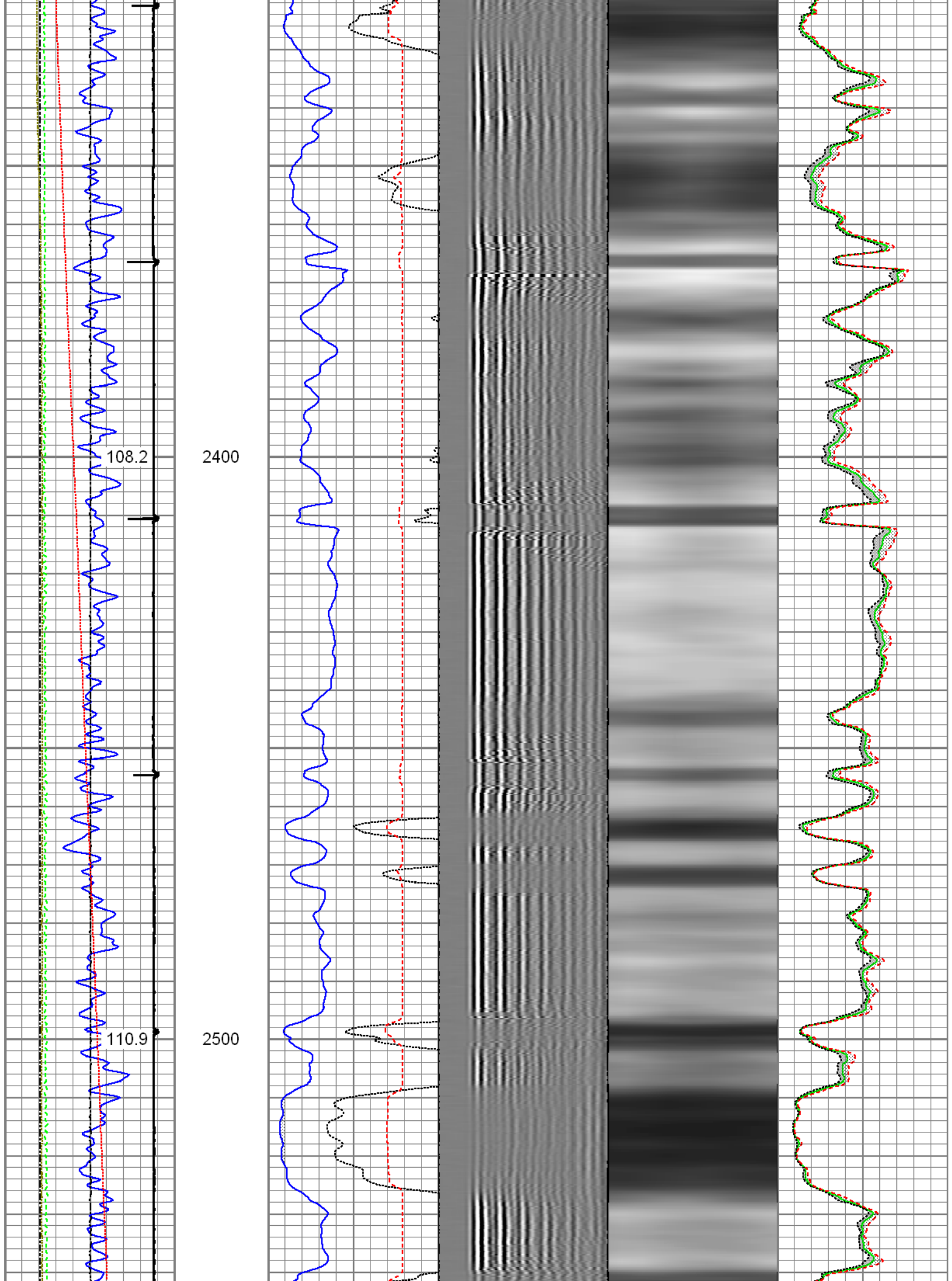


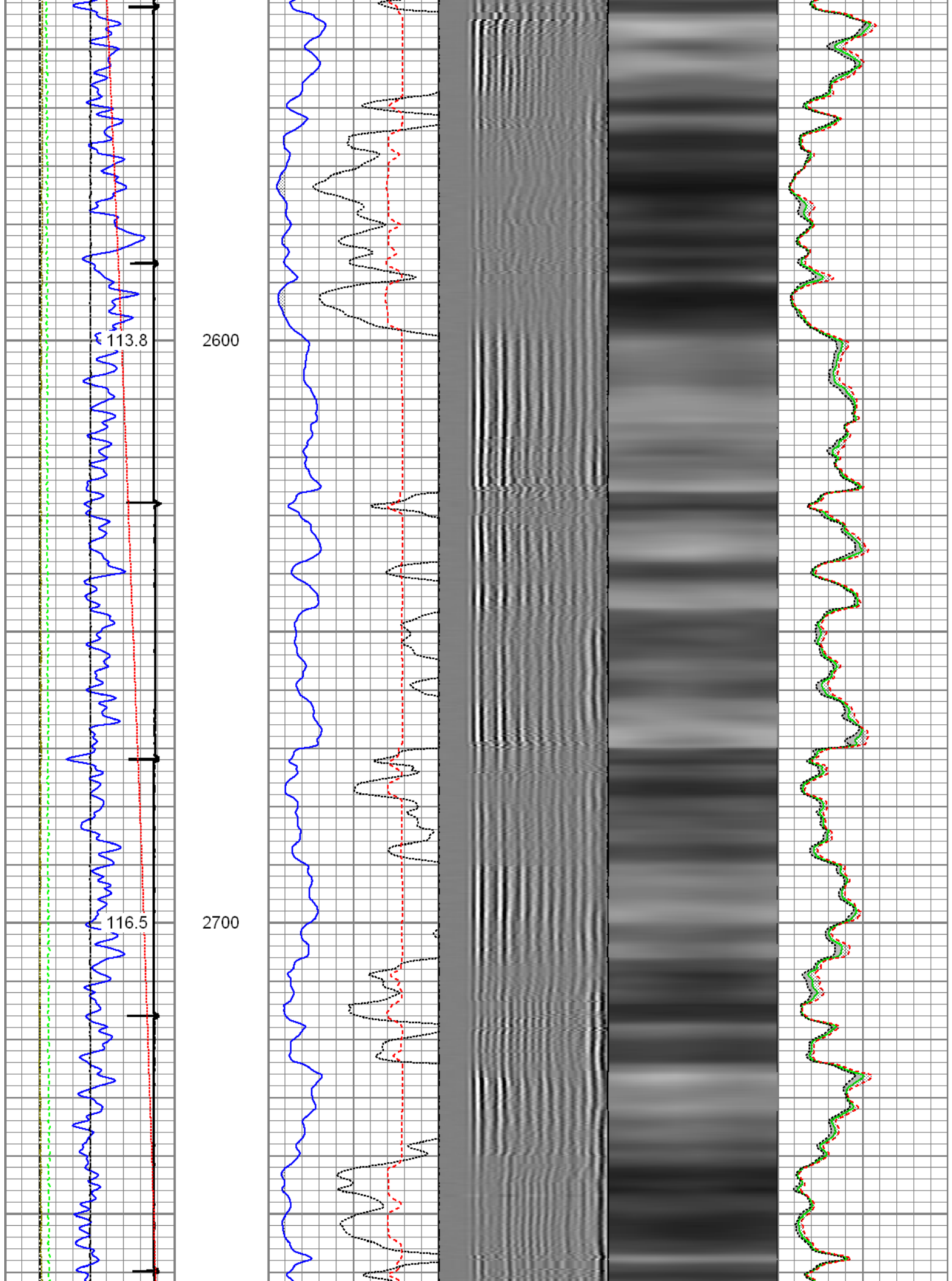


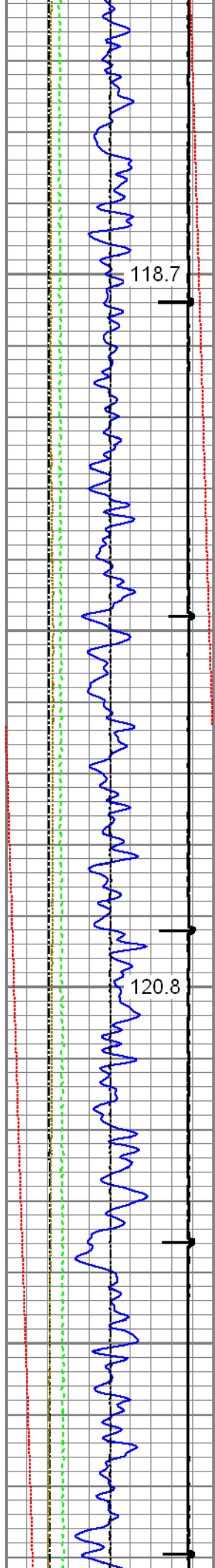
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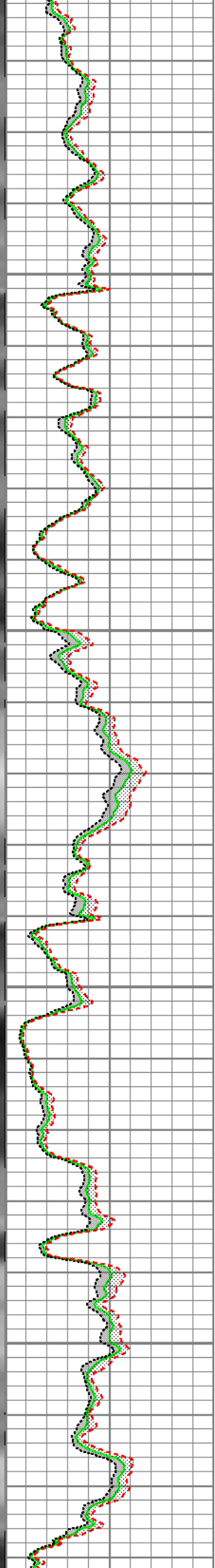
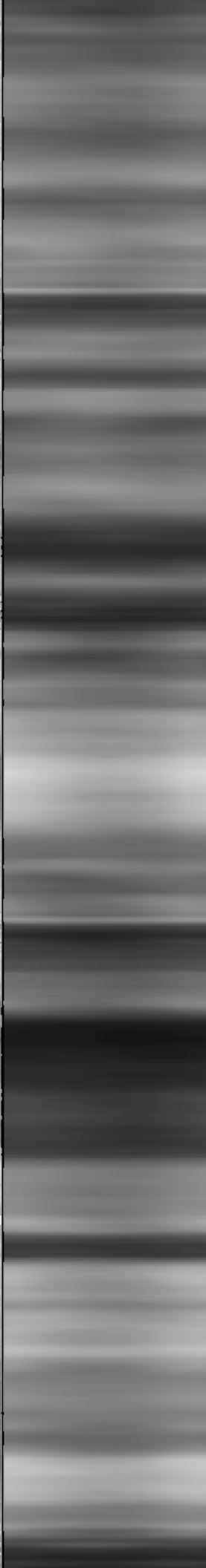
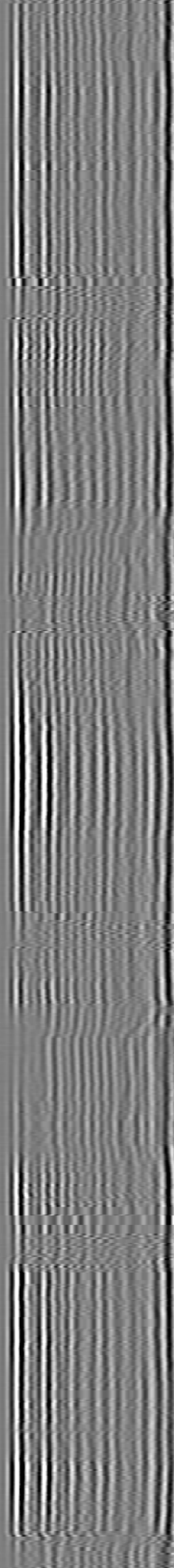
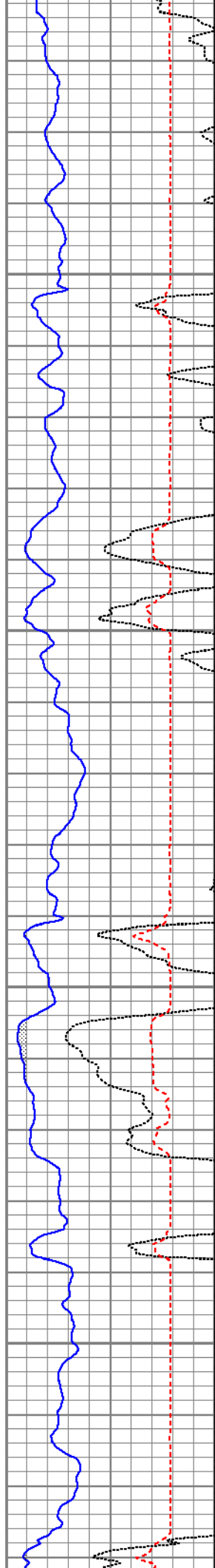


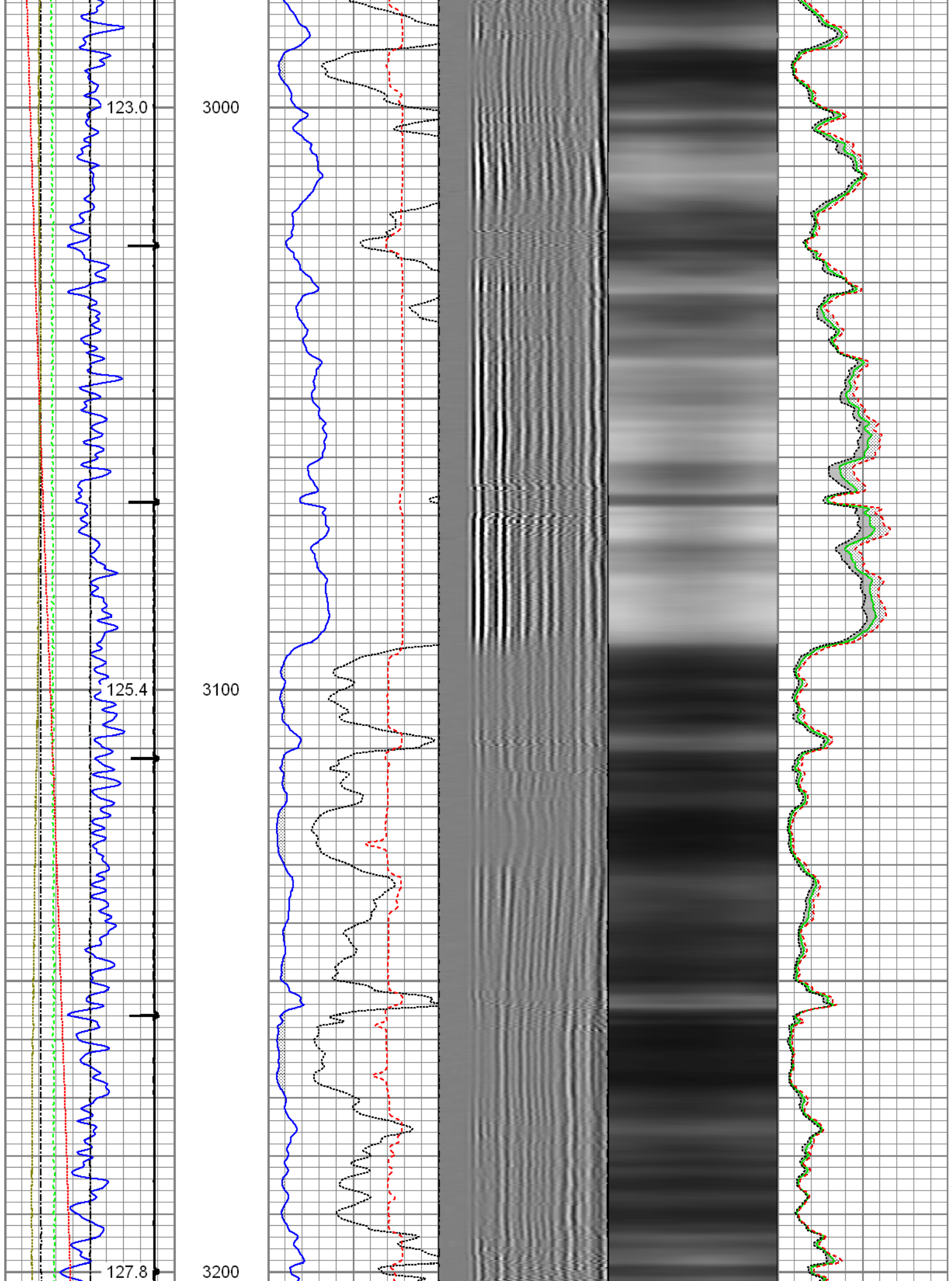


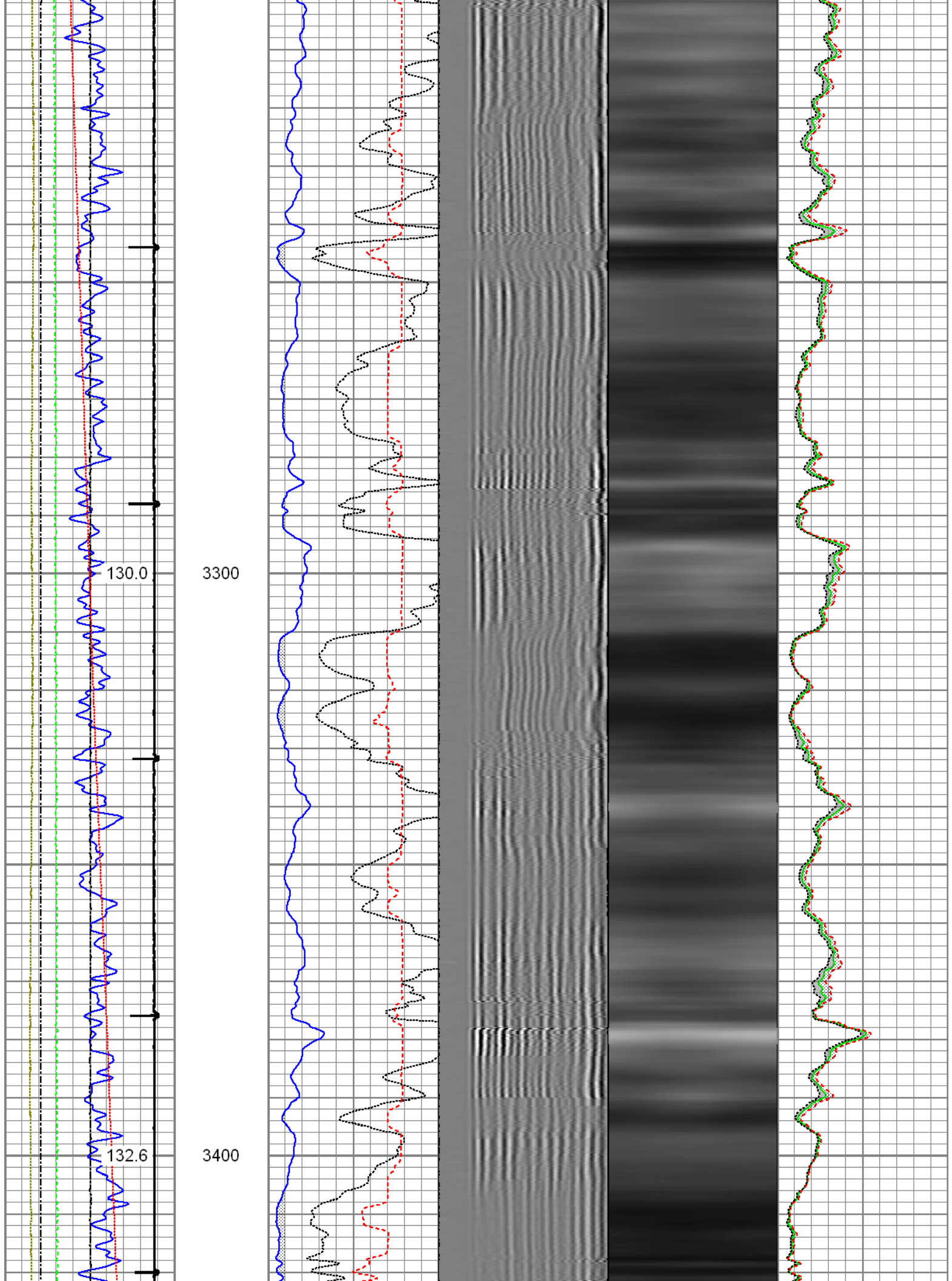


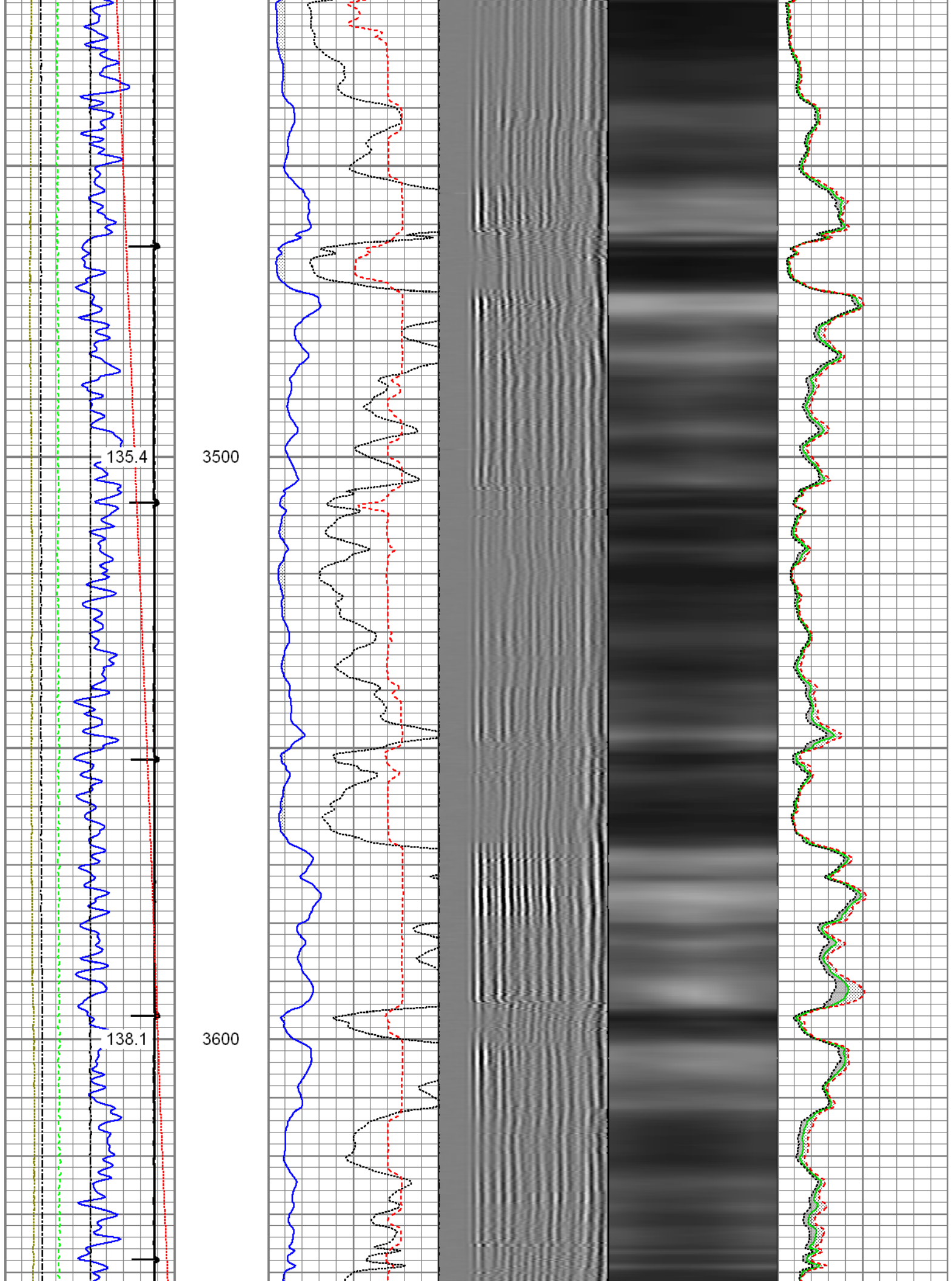
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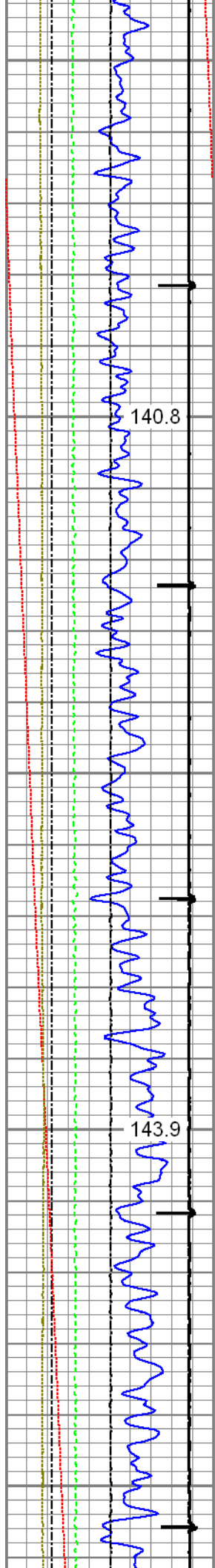
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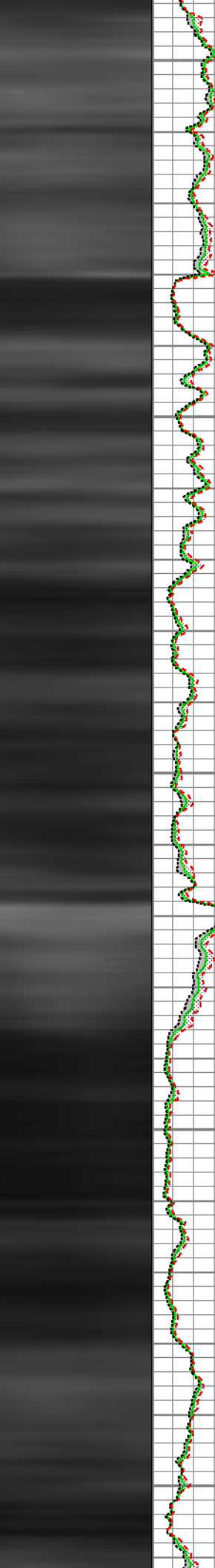
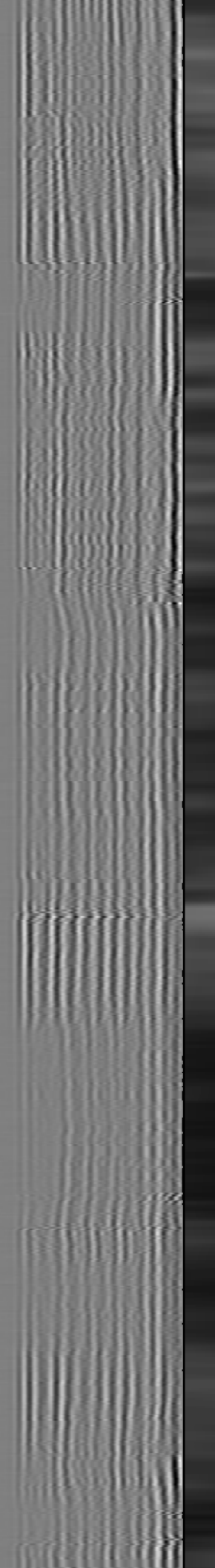
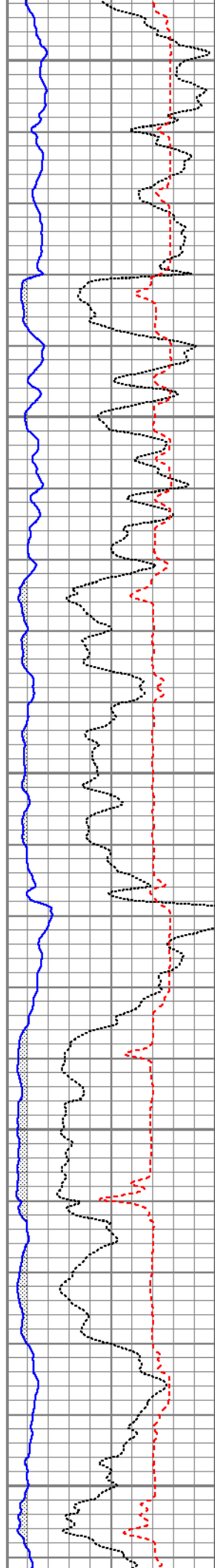


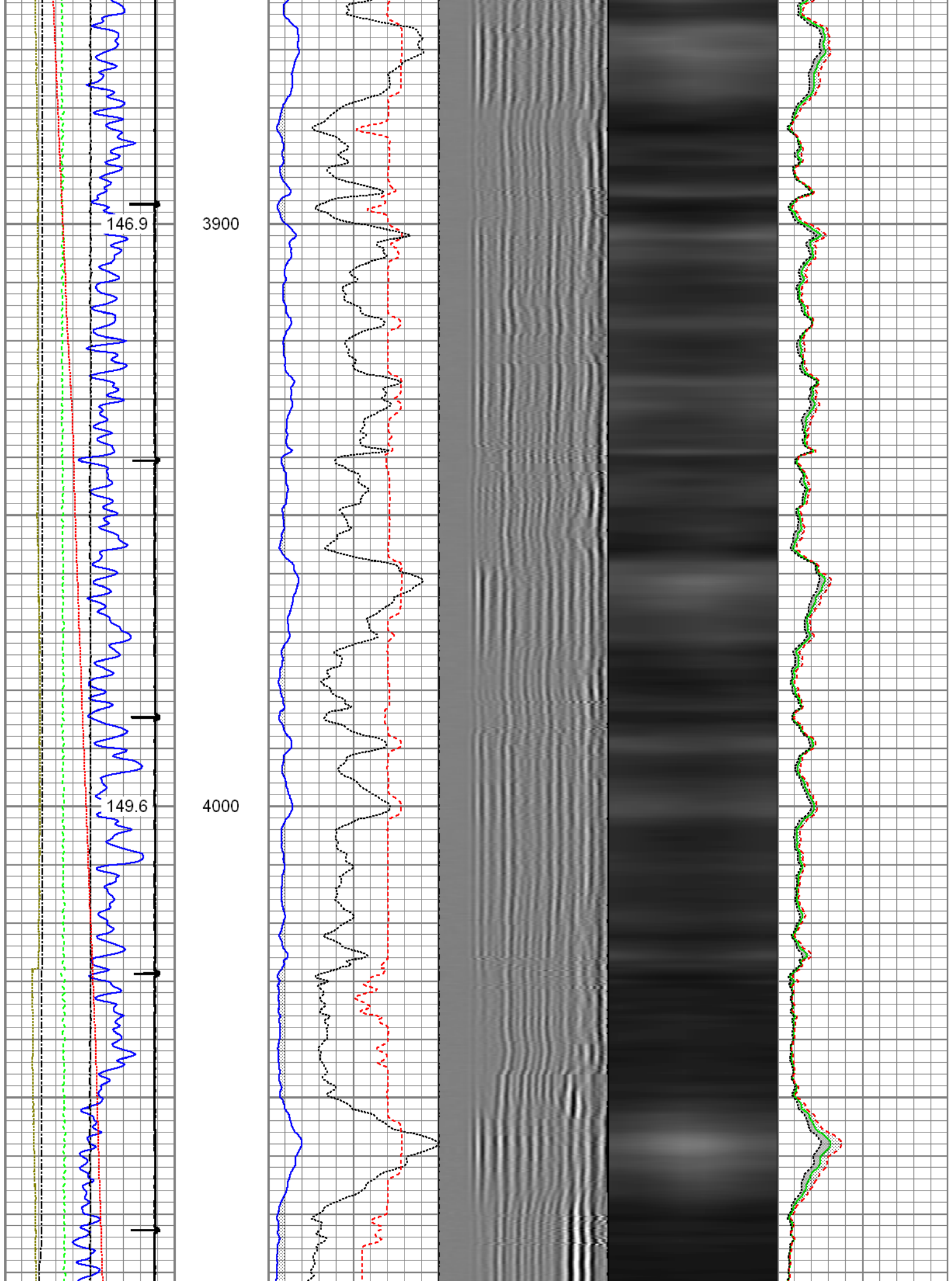


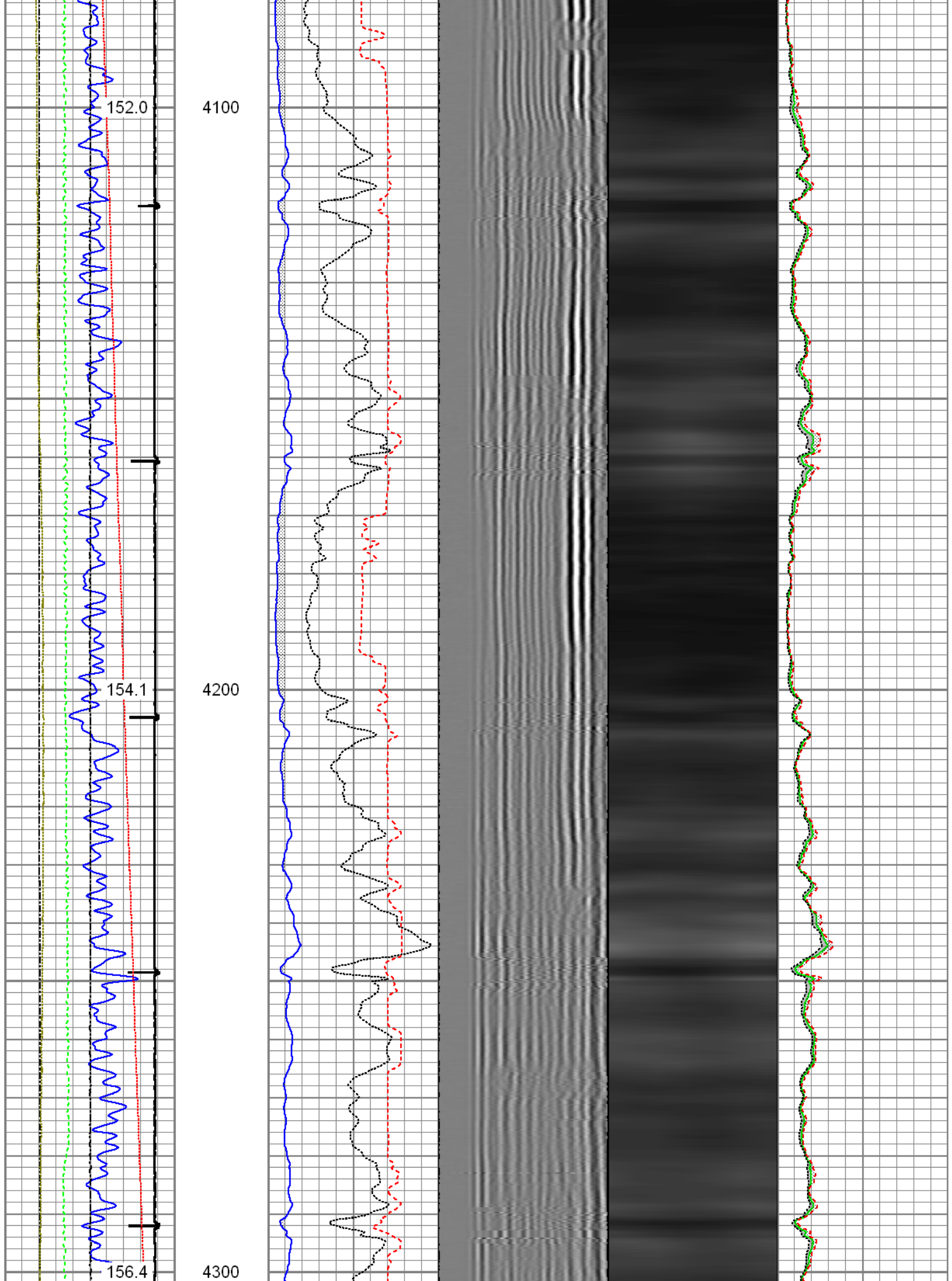


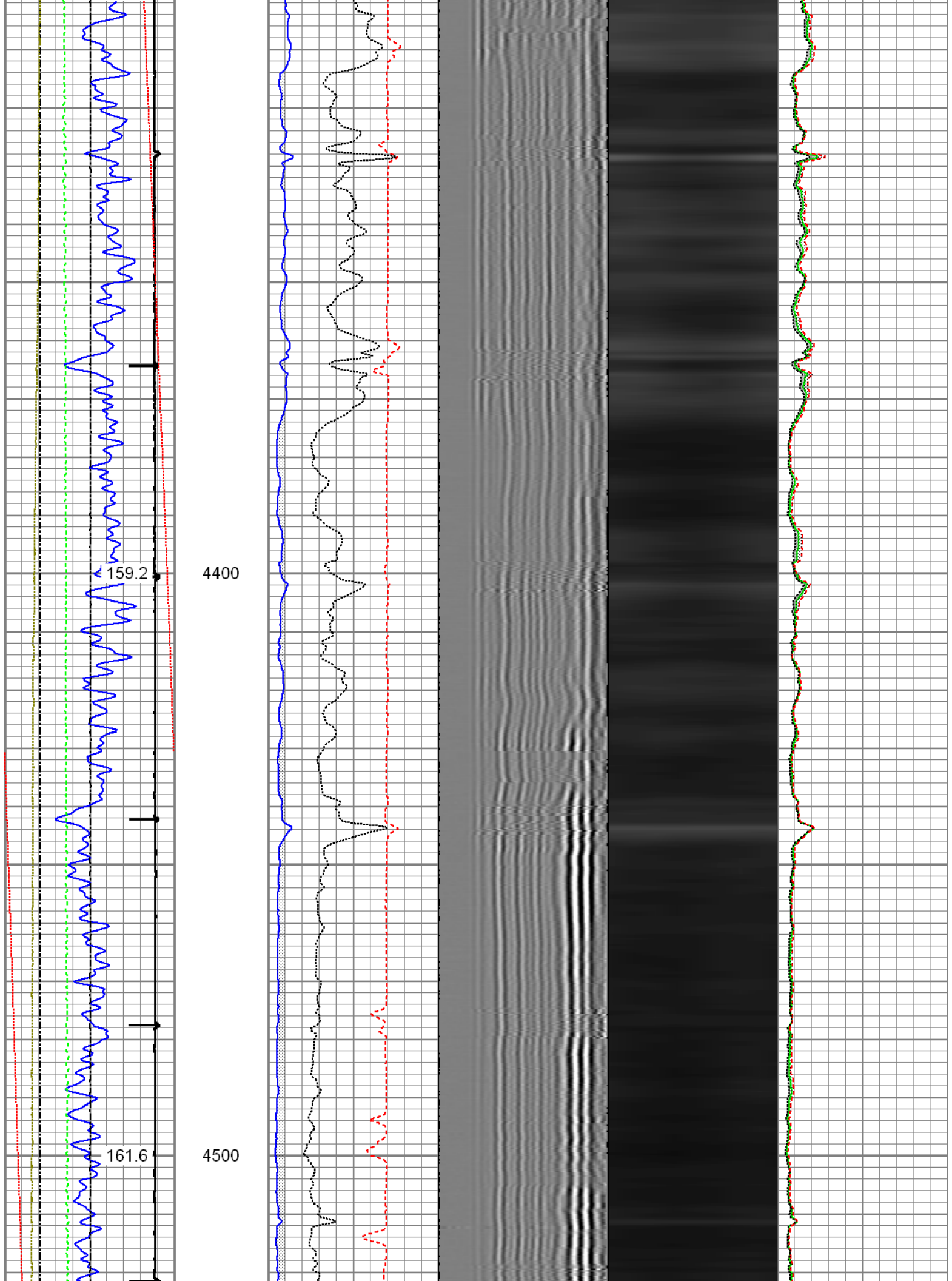
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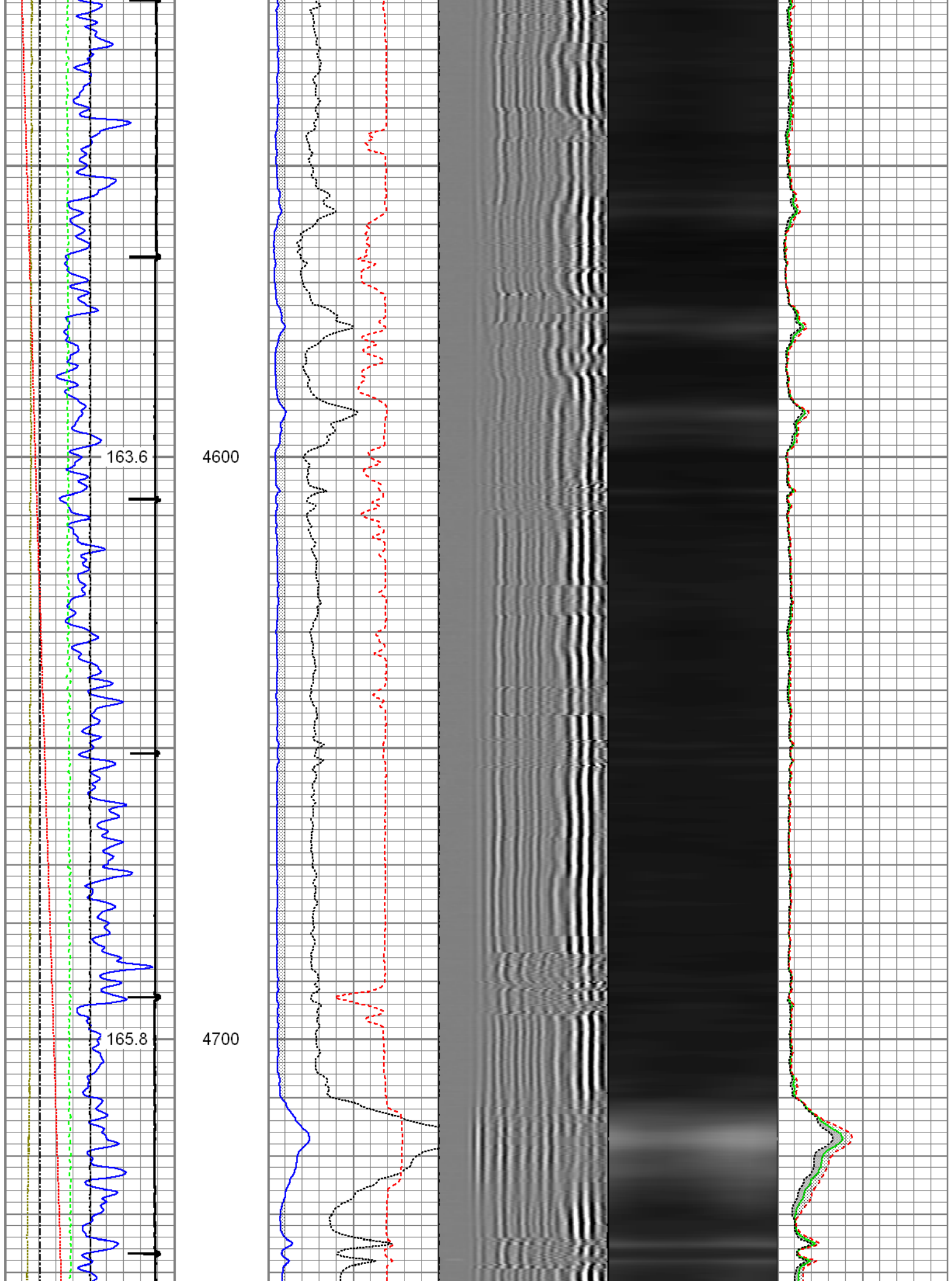
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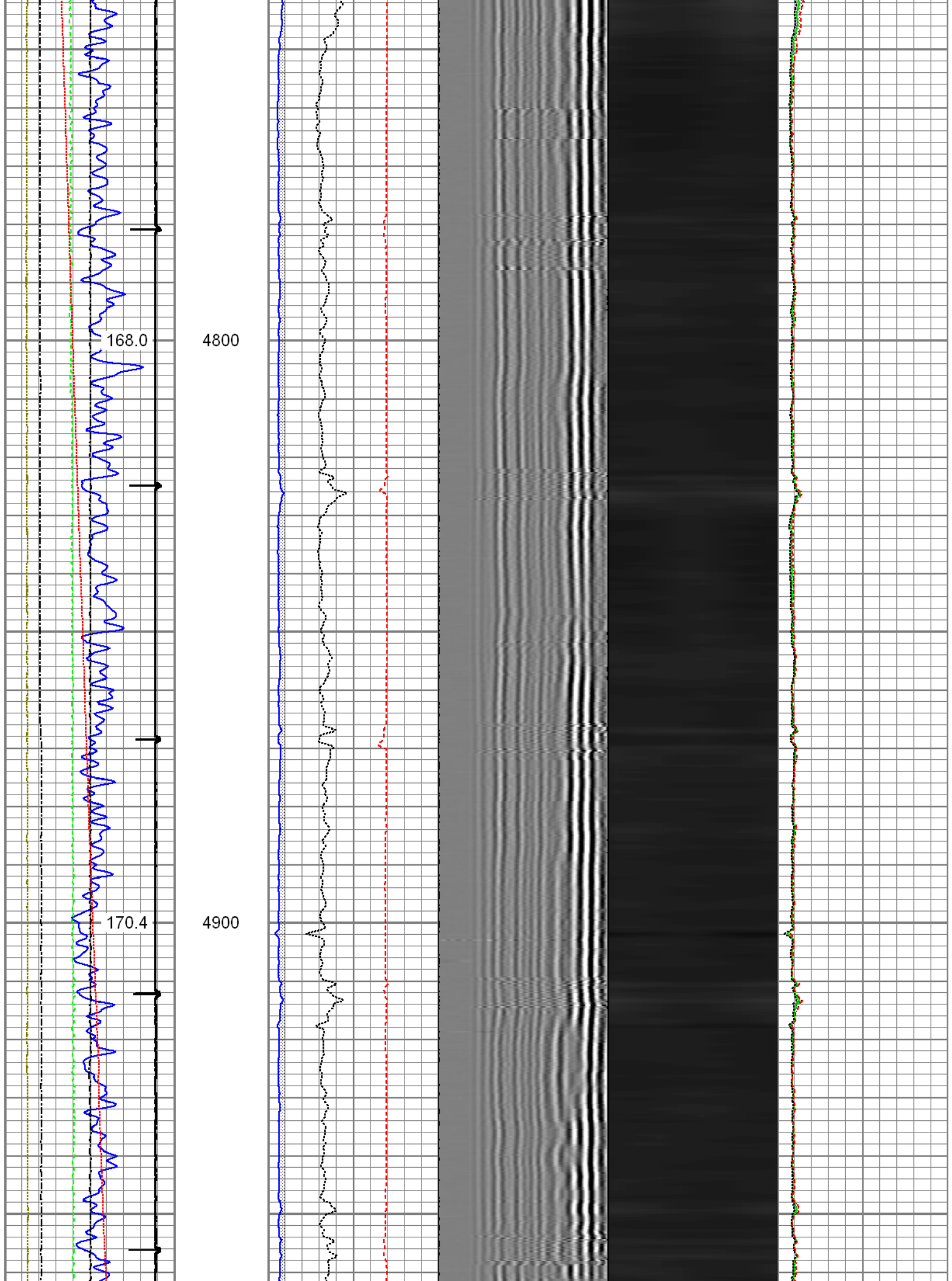


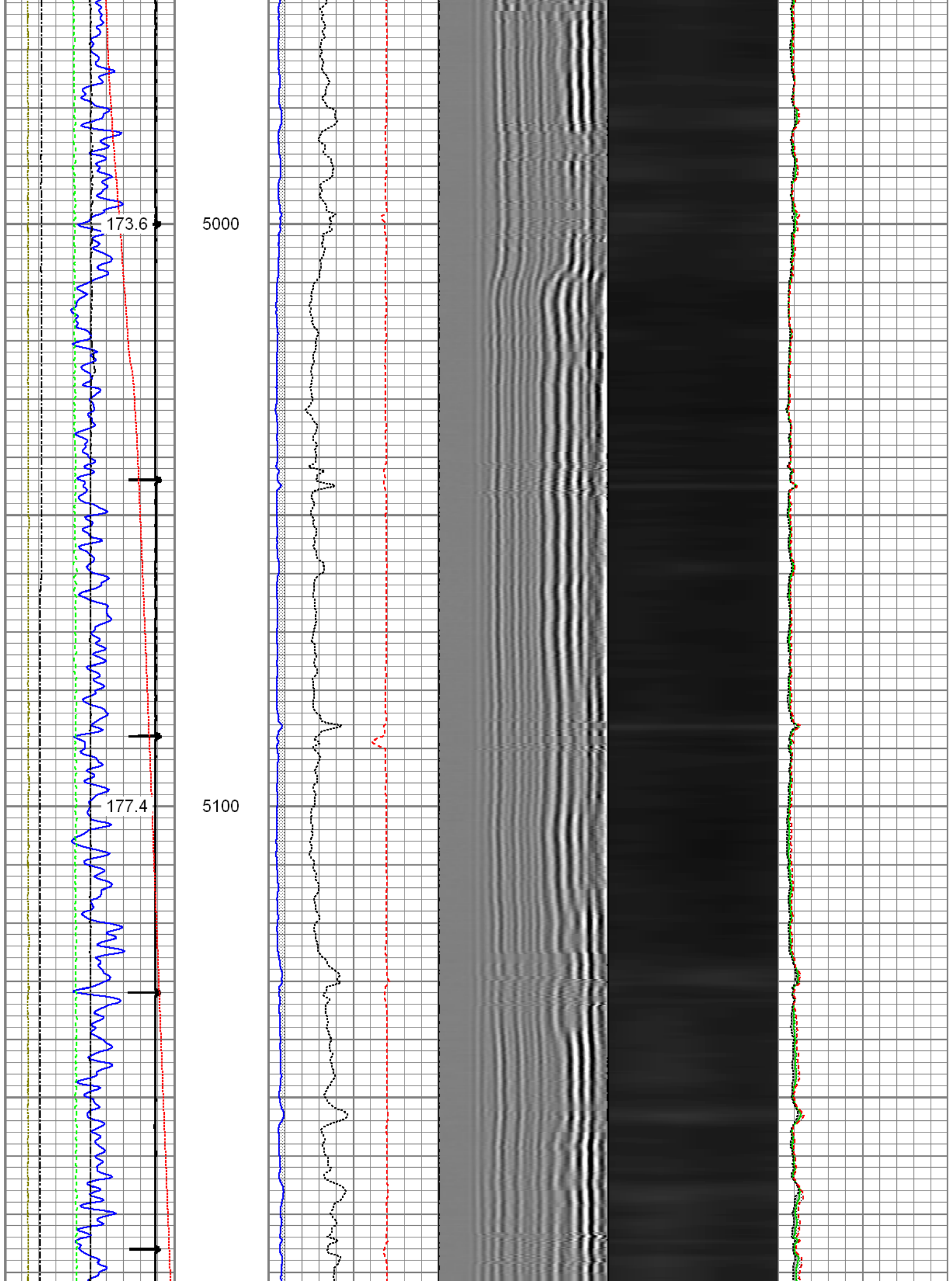


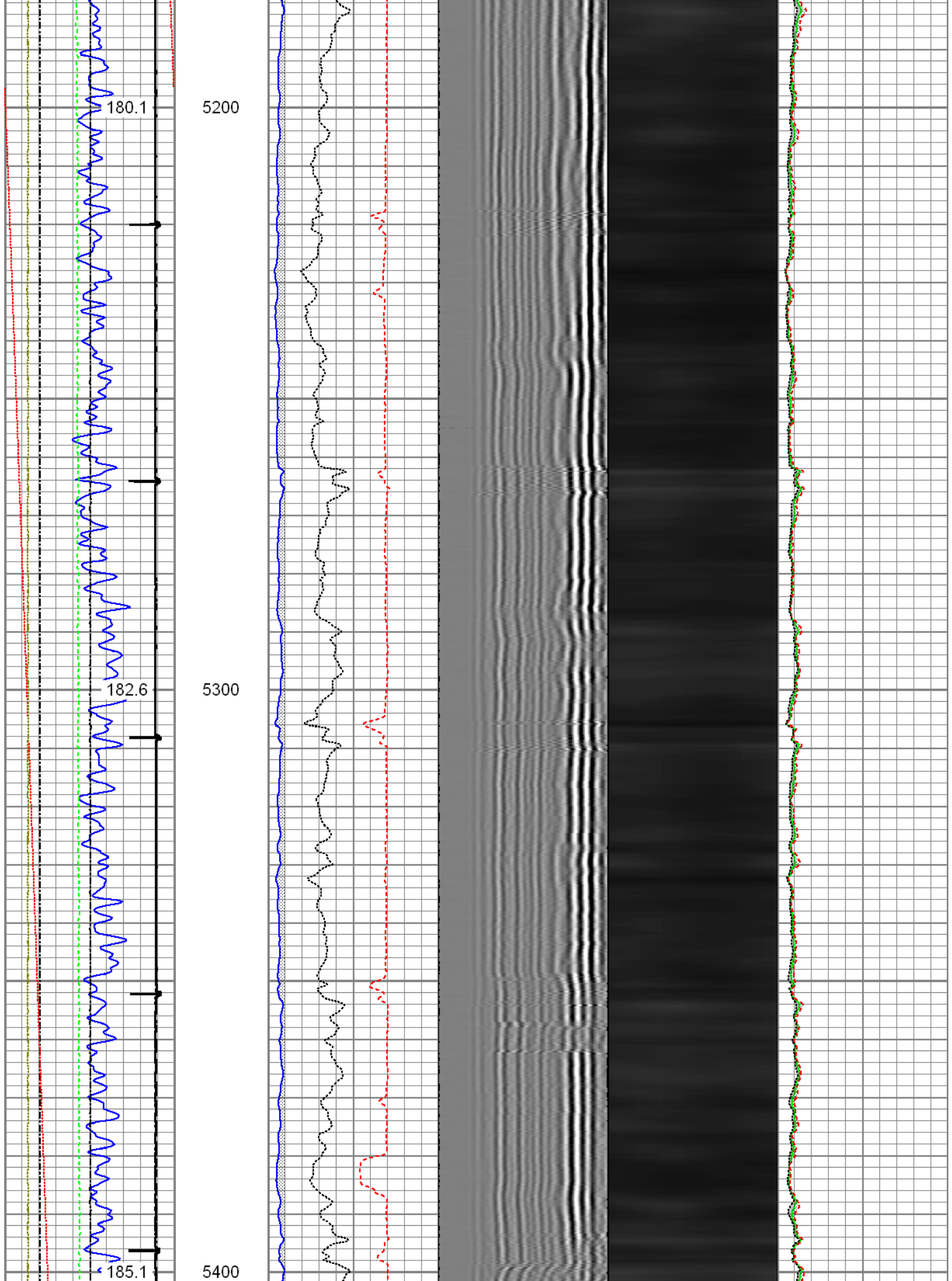


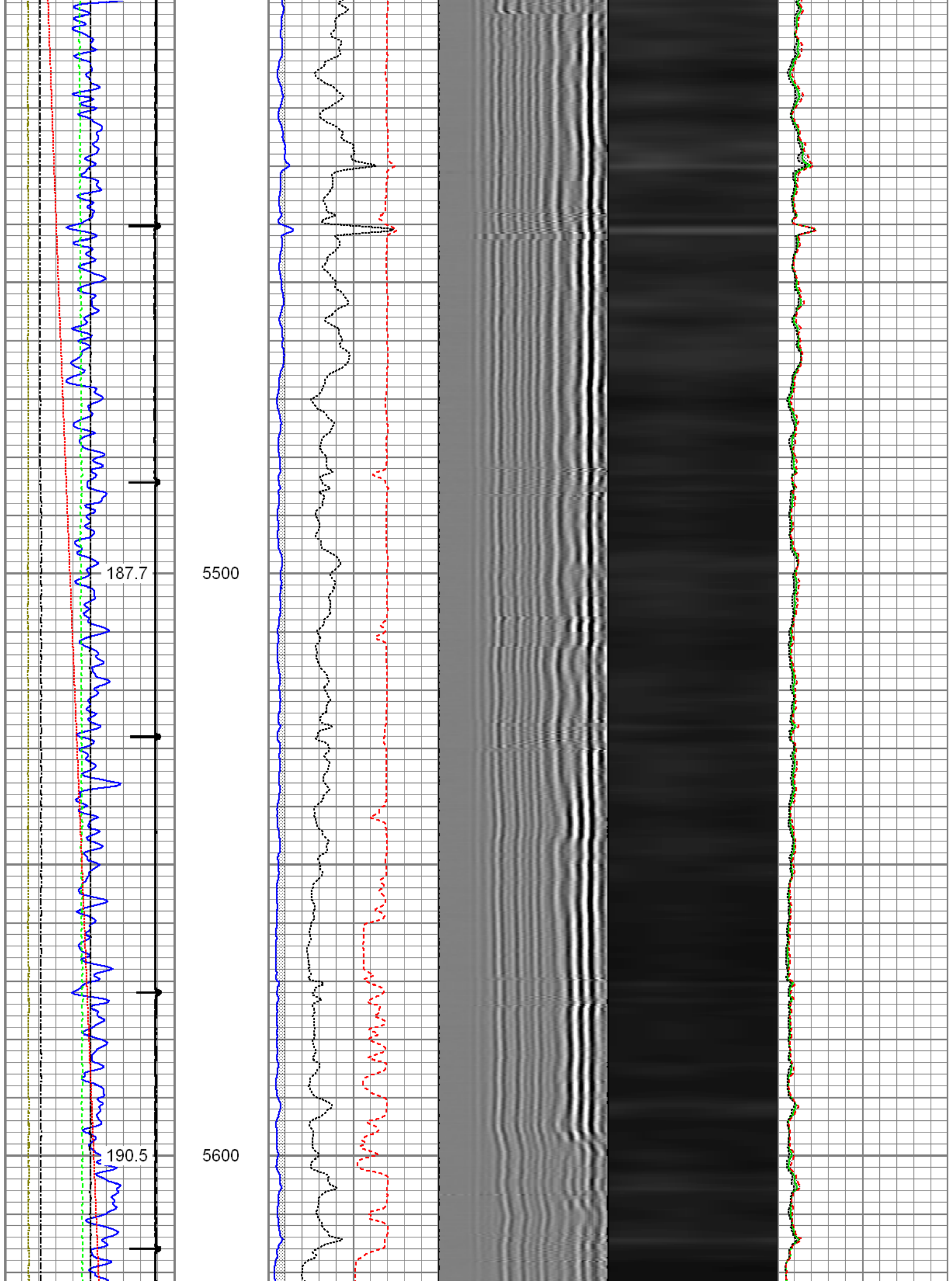


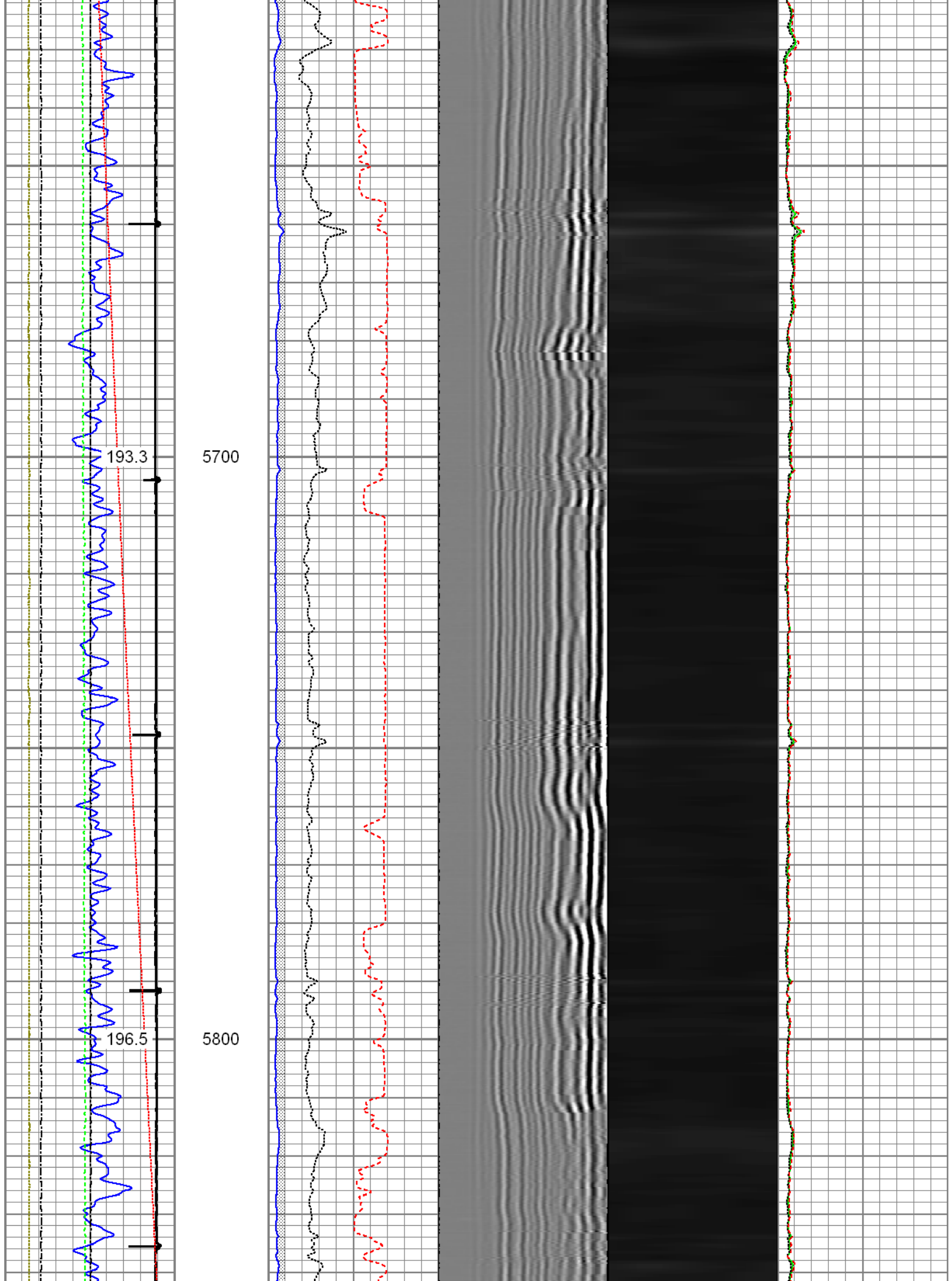


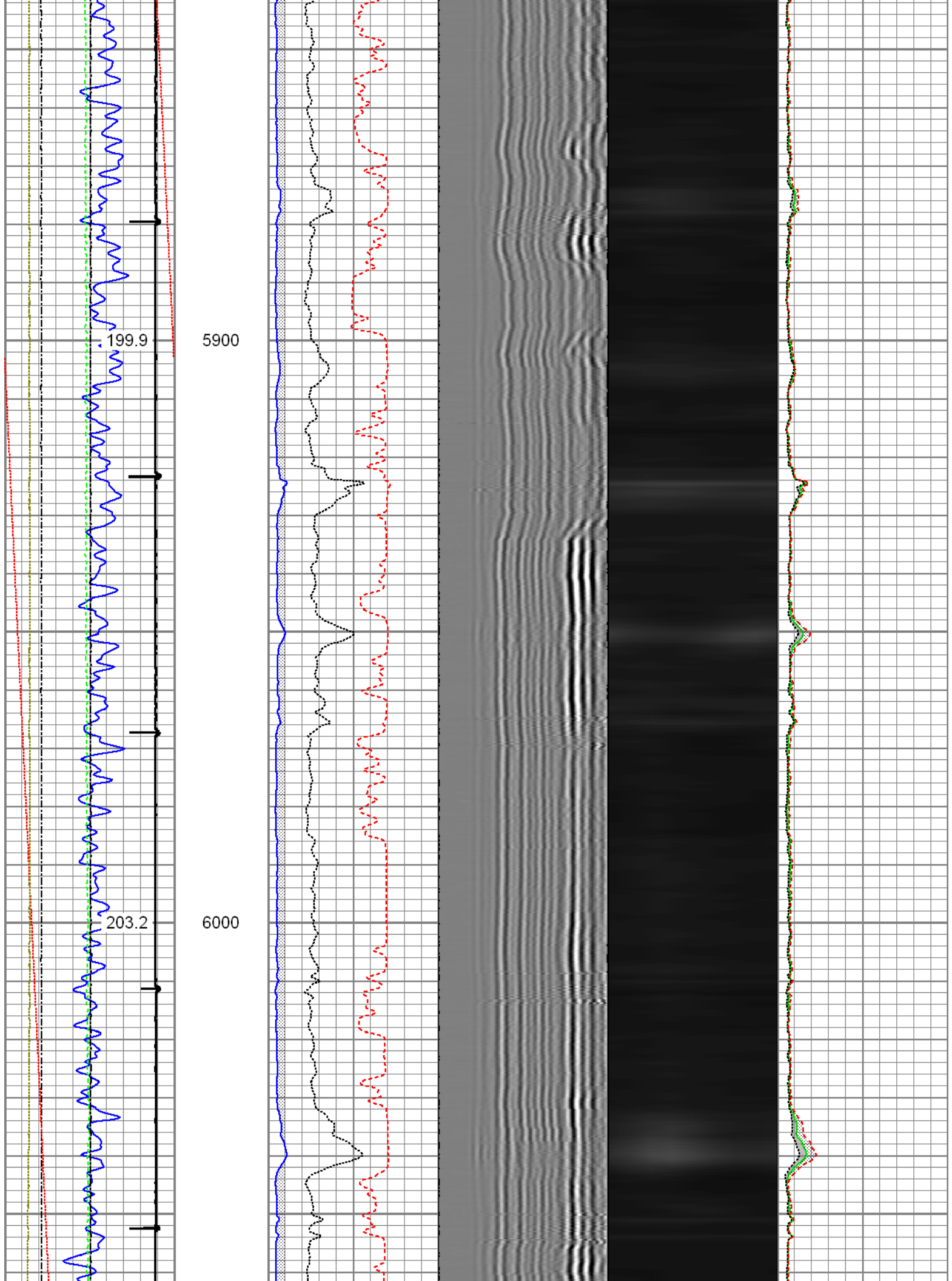


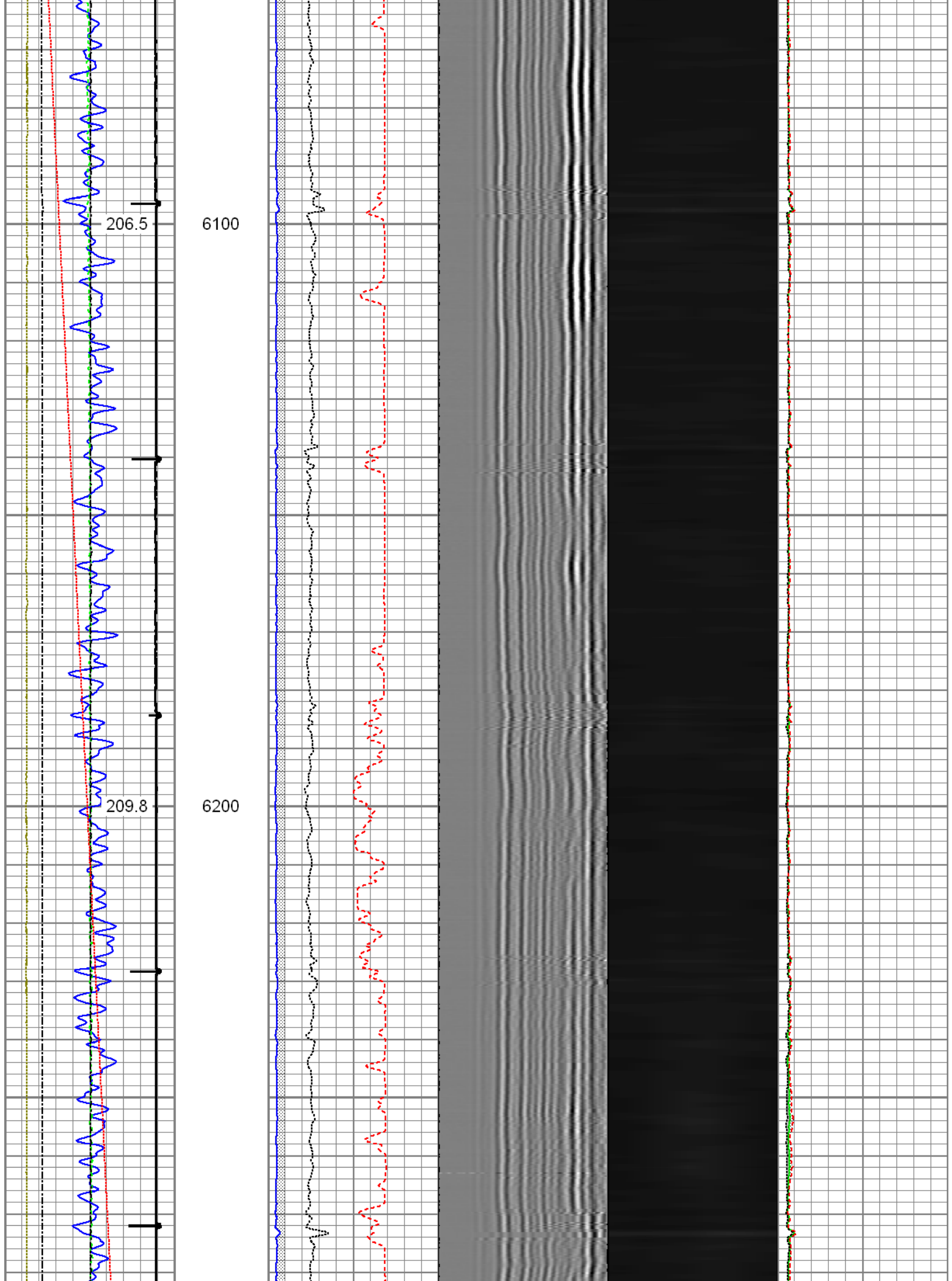


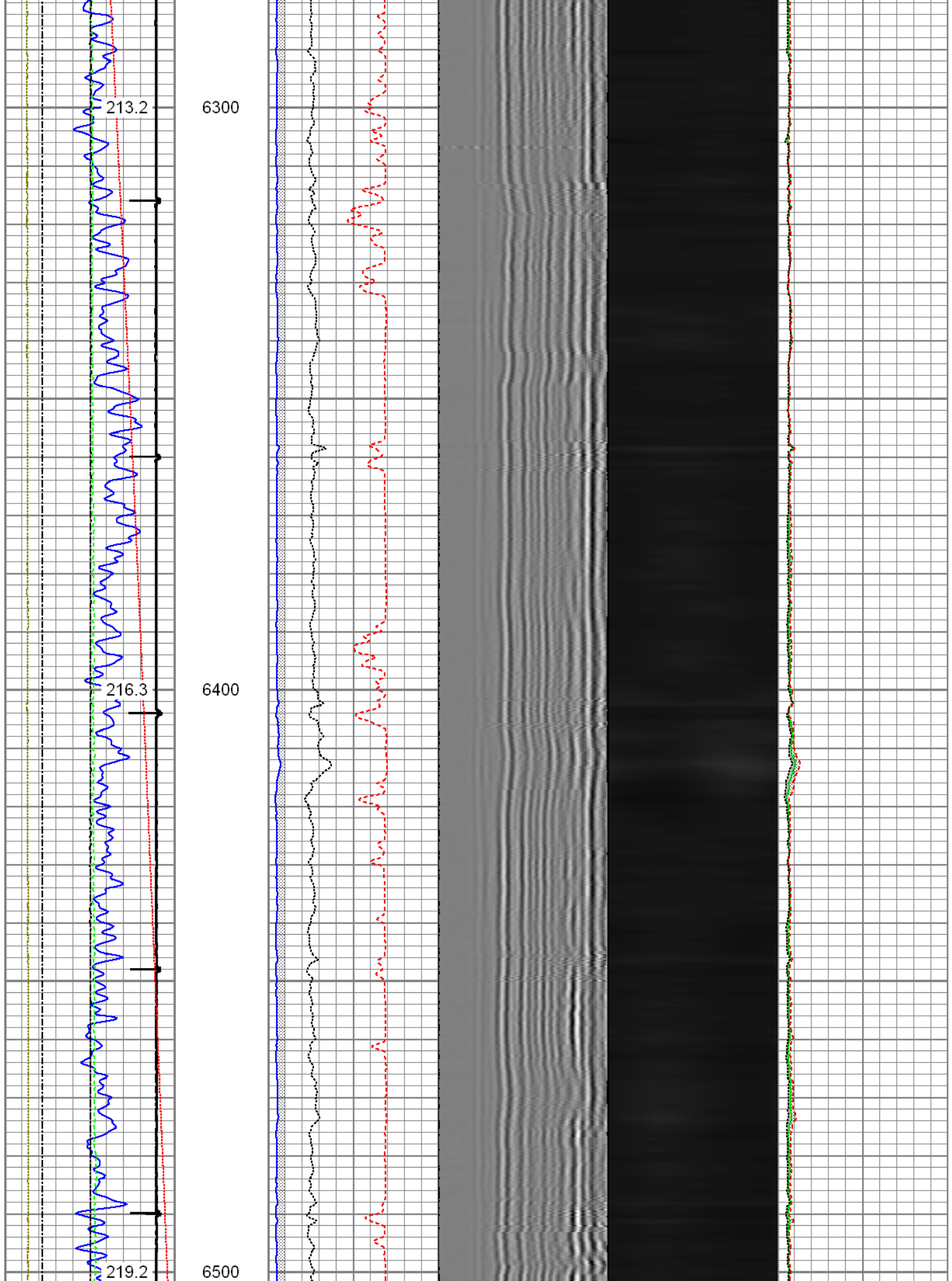


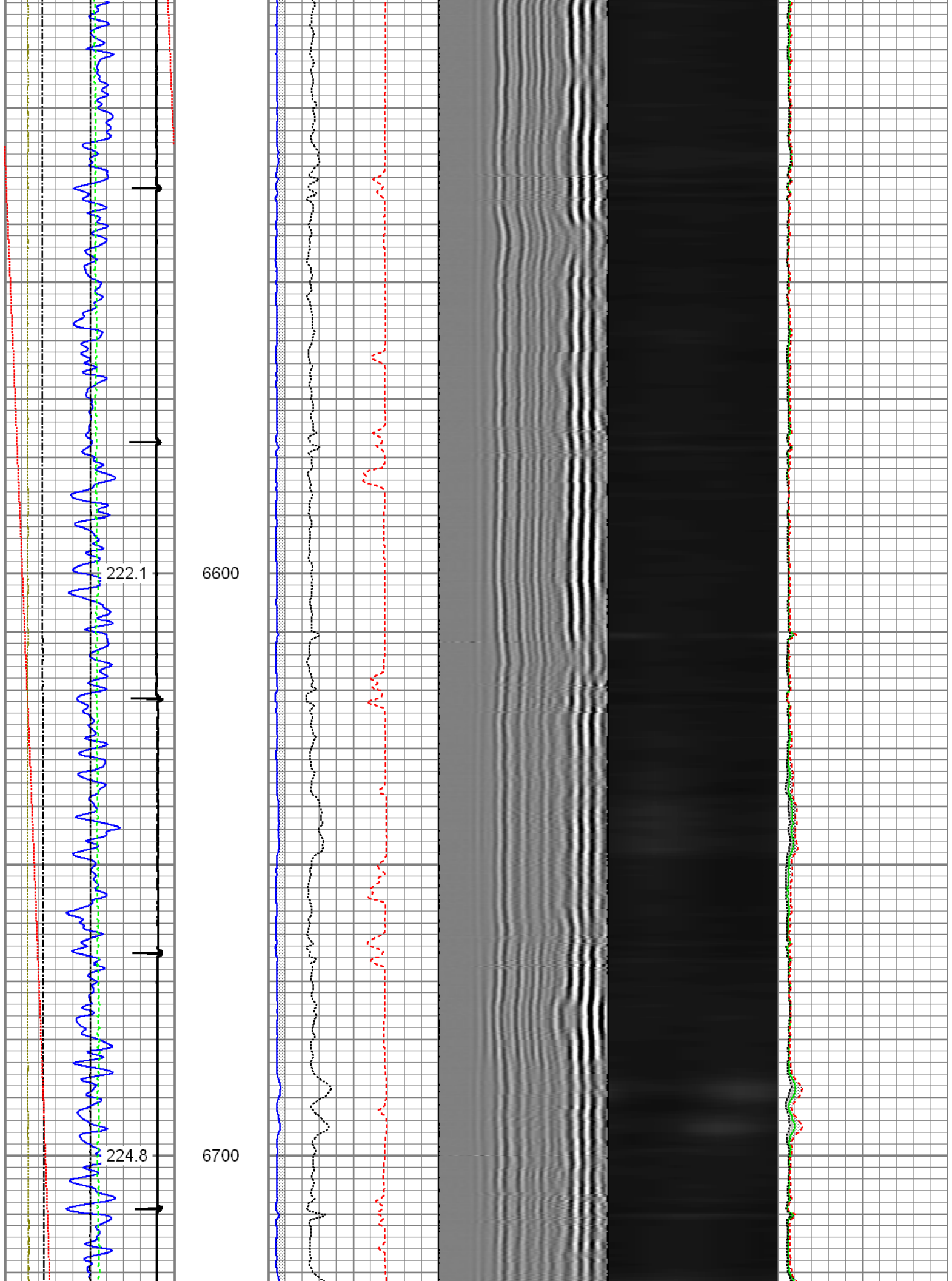


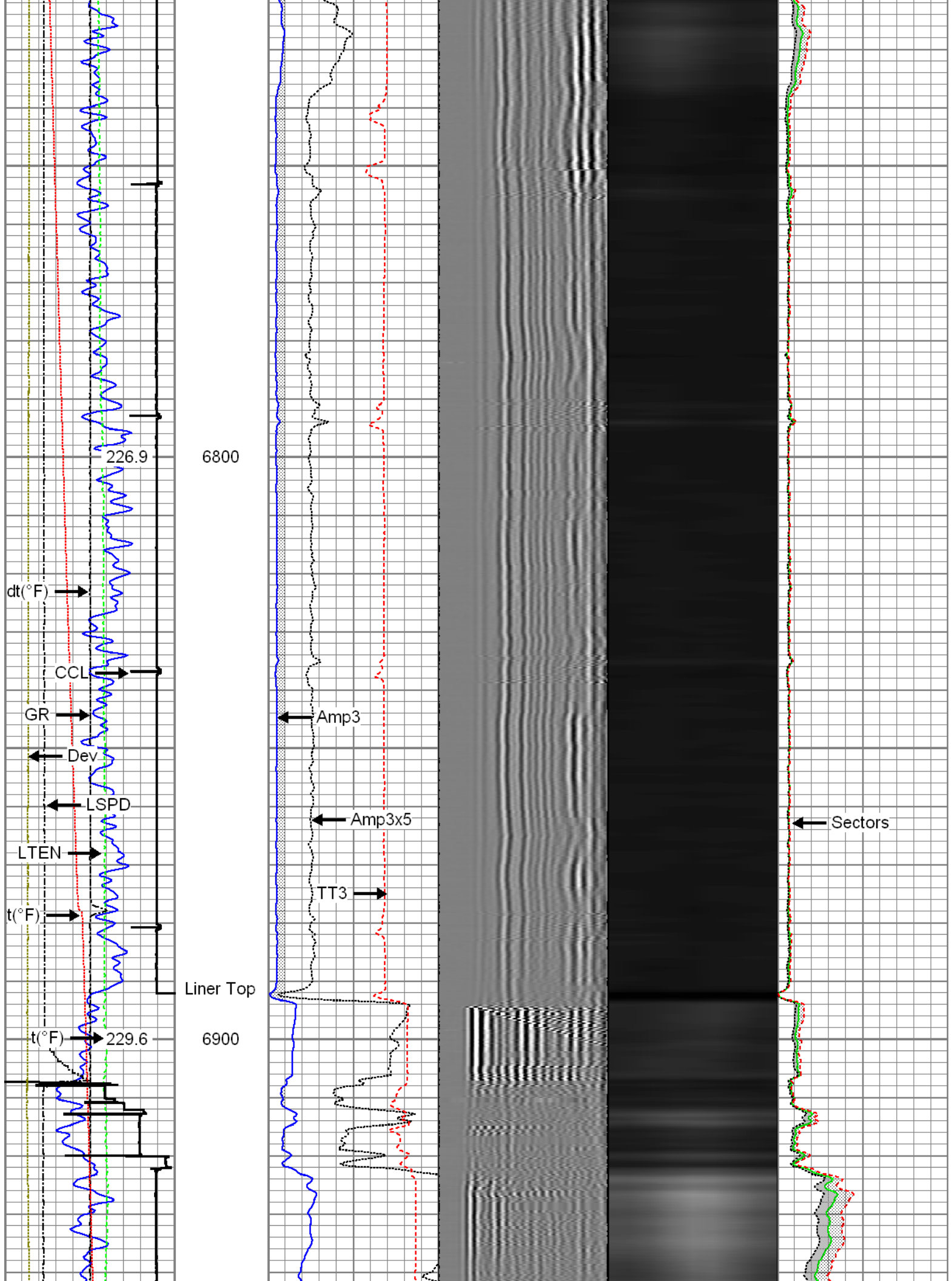


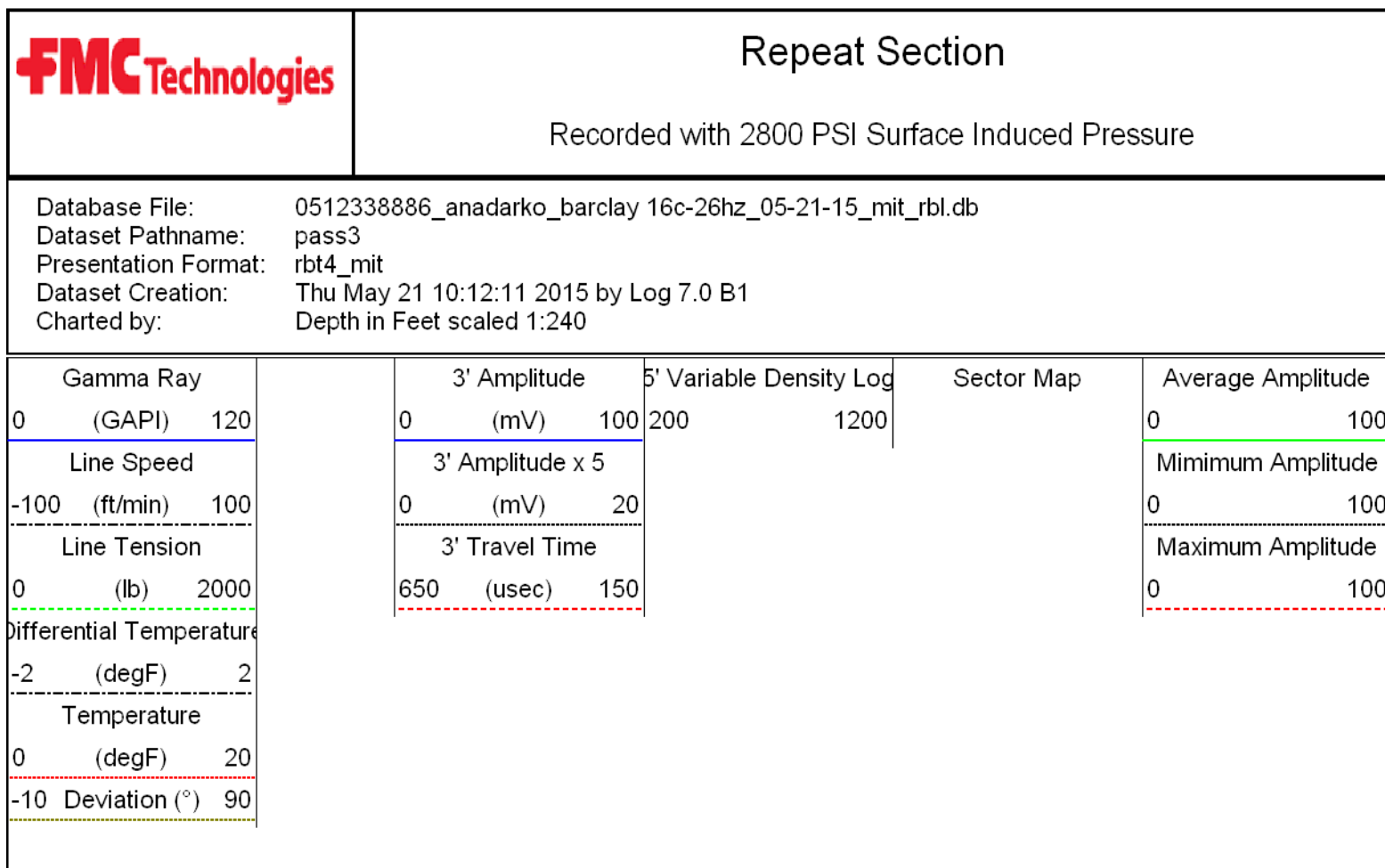
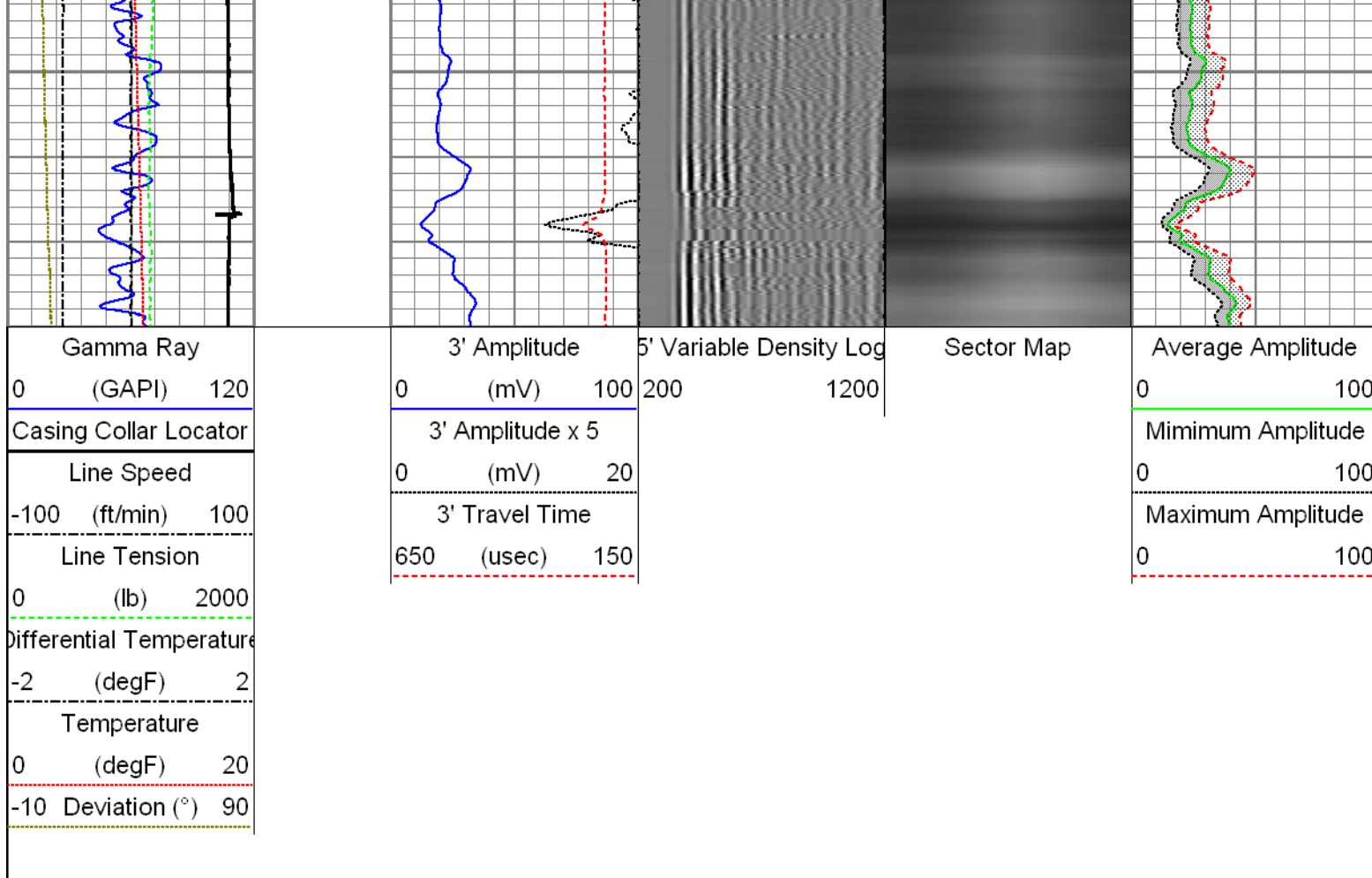


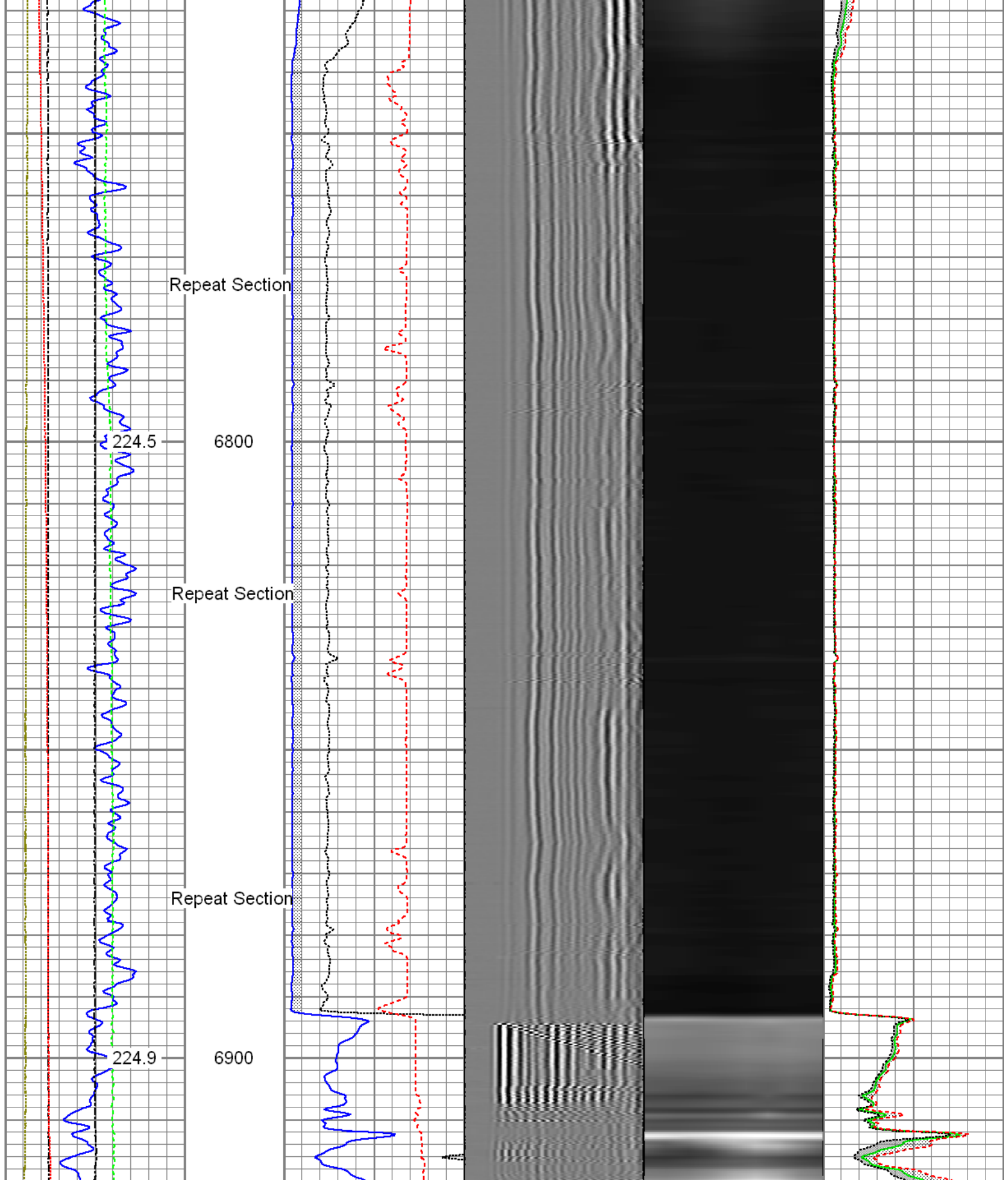












Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Line Speed (ft/min)	3' Amplitude x 5 (mV)			Minimum Amplitude
-100 100	0 20			0 100
Line Tension (lb)	3' Travel Time (usec)			Maximum Amplitude
0 2000	650 150			0 100

Differential Temperature		
-2	(degF)	2
Temperature		
0	(degF)	20
-10	Deviation (°)	90

Calibration Report			
Database File:	0512338886_Anadarko_Barclay 16C-26HZ_05-21-15_MIT_RBL.db		
Dataset Pathname:	pass9		
Dataset Creation:	Thu May 21 13:14:59 2015 by Log 7.0 B1		
Multi-finger Imaging Tool Calibration Report			
Serial Number:	10012912		
Number of Fingers:	40		
Tool Model:	UW_MIT40_042		
Inclinometer Calibration Report			
Performed:	Mon Jul 15 09:39:36 2013		
Calibration Angle:	45		
	Inc X	Inc Y	
Vertical:	1968	1974	
Finger 1 up:	1740	1744	
Finger 31 up:	2215	1741	
Finger 21 up:	2205	2224	
Finger 11 up:	1731	2217	
Sensitivity ratio:	0.992868		
X-axis angle:	134.307		
Deviation const.:	335.589		

Finger Calibration Report							
Performed:				Thu May 21 09:25:39 2015			
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1094	400.0	1494	376.0	1870	406.0	2276
Finger 02:	1045	403.0	1448	391.0	1839	429.0	2268
Finger 03:	1132	396.0	1528	375.0	1903	414.0	2317
Finger 04:	1012	404.0	1416	400.0	1816	444.0	2260
Finger 05:	1064	390.0	1454	372.0	1826	412.0	2238
Finger 06:	1006	389.0	1395	383.0	1778	429.0	2207
Finger 07:	1037	392.0	1429	385.0	1814	423.0	2237
Finger 08:	1020	393.0	1413	396.0	1809	444.0	2253
Finger 09:	1073	394.0	1467	385.0	1852	413.0	2265
Finger 10:	1077	397.0	1474	393.0	1867	428.0	2295
Finger 11:	1022	386.0	1408	391.0	1799	435.0	2234
Finger 12:	1119	384.0	1503	373.0	1876	390.0	2266
Finger 13:	1037	375.0	1412	389.0	1801	423.0	2224
Finger 14:	1015	389.0	1404	405.0	1809	435.0	2244
Finger 15:	993	388.0	1381	409.0	1790	439.0	2229
Finger 16:	989	378.0	1367	399.0	1766	420.0	2186
Finger 17:	1078	376.0	1454	388.0	1842	403.0	2245
Finger 18:	1083	372.0	1455	386.0	1841	401.0	2242
Finger 19:	1041	380.0	1421	397.0	1818	411.0	2229
Finger 20:	991	385.0	1376	414.0	1790	425.0	2215
Finger 21:	1059	376.0	1435	393.0	1828	406.0	2234
Finger 22:	1013	376.0	1389	400.0	1789	408.0	2197
Finger 23:	1081	384.0	1465	401.0	1866	404.0	2270
Finger 24:	1069	355.0	1424	372.0	1796	375.0	2171

Finger 25:	1061	389.0	1450	406.0	1856	401.0	2257
Finger 26:	1097	379.0	1476	396.0	1872	398.0	2270
Finger 27:	1184	402.0	1586	402.0	1988	394.0	2382
Finger 28:	1058	376.0	1434	385.0	1819	394.0	2213
Finger 29:	1025	386.0	1411	401.0	1812	406.0	2218
Finger 30:	998	381.0	1379	402.0	1781	409.0	2190
Finger 31:	1206	414.0	1620	409.0	2029	408.0	2437
Finger 32:	978	383.0	1361	384.0	1745	390.0	2135
Finger 33:	1076	410.0	1486	410.0	1896	417.0	2313
Finger 34:	976	387.0	1363	388.0	1751	407.0	2158
Finger 35:	1129	415.0	1544	406.0	1950	416.0	2366
Finger 36:	1040	378.0	1418	369.0	1787	388.0	2175
Finger 37:	1129	419.0	1548	400.0	1948	419.0	2367
Finger 38:	1074	390.0	1464	375.0	1839	400.0	2239
Finger 39:	1041	379.0	1420	361.0	1781	390.0	2171
Finger 40:	950	396.0	1346	398.0	1744	440.0	2184

Post Survey Calibration Check								
Performed:					Thu May 21 13:14:01 2015			
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.106	0.053	5.069	0.035	6.071	0.035	7.065	0.032
Finger 02:	4.071	0.036	5.024	0.012	6.027	0.014	7.026	0.013
Finger 03:	4.061	0.031	5.022	0.011	6.023	0.011	7.022	0.011
Finger 04:	4.055	0.028	5.008	0.004	6.001	0.000	7.002	0.001
Finger 05:	4.066	0.033	5.013	0.007	6.007	0.003	7.003	0.002
Finger 06:	4.058	0.029	5.010	0.005	6.006	0.003	7.010	0.005
Finger 07:	4.063	0.031	5.021	0.011	6.013	0.007	7.016	0.008
Finger 08:	4.055	0.027	5.011	0.006	6.005	0.003	7.002	0.001
Finger 09:	4.070	0.035	5.033	0.016	6.029	0.015	7.028	0.014
Finger 10:	4.076	0.038	5.033	0.016	6.031	0.015	7.030	0.015
Finger 11:	4.062	0.031	5.010	0.005	6.013	0.006	7.016	0.008
Finger 12:	4.066	0.033	5.023	0.012	6.022	0.011	7.023	0.012
Finger 13:	4.058	0.029	5.012	0.006	6.012	0.006	7.015	0.008
Finger 14:	4.059	0.030	5.013	0.006	6.014	0.007	7.020	0.010
Finger 15:	4.089	0.045	5.058	0.029	6.062	0.031	7.066	0.033
Finger 16:	4.066	0.033	5.010	0.005	6.005	0.002	7.028	0.014
Finger 17:	4.053	0.026	5.008	0.004	6.007	0.004	7.007	0.003
Finger 18:	4.059	0.029	5.015	0.008	6.017	0.009	7.018	0.009
Finger 19:	4.061	0.031	5.012	0.006	6.010	0.005	7.019	0.010
Finger 20:	4.067	0.033	5.023	0.011	6.024	0.012	7.024	0.012
Finger 21:	4.059	0.030	5.010	0.005	6.013	0.007	7.017	0.008
Finger 22:	4.056	0.028	5.010	0.005	6.003	0.001	7.047	0.023
Finger 23:	4.062	0.031	5.012	0.006	6.008	0.004	7.015	0.007
Finger 24:	4.055	0.027	5.011	0.005	6.006	0.003	7.011	0.005
Finger 25:	4.062	0.031	5.010	0.005	6.002	0.001	7.015	0.007
Finger 26:	4.063	0.032	5.006	0.003	6.004	0.002	7.006	0.003
Finger 27:	4.060	0.030	5.000	0.000	6.000	-0.000	7.007	0.004
Finger 28:	4.091	0.046	5.038	0.019	6.046	0.023	7.055	0.027
Finger 29:	4.094	0.047	5.046	0.023	6.045	0.022	7.044	0.022
Finger 30:	4.058	0.029	5.080	0.040	6.069	0.034	7.034	0.017
Finger 31:	4.061	0.030	5.005	0.002	6.005	0.003	7.004	0.002
Finger 32:	4.060	0.030	5.042	0.021	6.037	0.019	7.010	0.005
Finger 33:	4.059	0.029	5.002	0.001	5.996	-0.002	7.010	0.005
Finger 34:	4.063	0.031	5.005	0.002	6.005	0.003	7.000	0.000
Finger 35:	4.059	0.029	5.013	0.007	6.026	0.013	7.023	0.012
Finger 36:	4.056	0.028	5.004	0.002	5.997	-0.001	7.002	0.001
Finger 37:	4.059	0.029	5.006	0.003	5.998	-0.001	7.024	0.012
Finger 38:	4.056	0.028	5.002	0.001	6.000	0.000	7.037	0.018
Finger 39:	4.055	0.028	5.003	0.002	6.013	0.007	7.078	0.039
Finger 40:	4.052	0.026	5.003	0.002	6.002	0.001	6.998	-0.001
Average:	4.064	0.032	5.018	0.009	6.017	0.008	7.022	0.011

Serial Number: 1066
Tool Model: UW_RBT_004
Calibration Casing Diameter: 7.000 in
Calibration Depth: 73.083 ft

Master Calibration, performed Thu May 21 09:36:52 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.002	0.635	0.800	62.165	96.806	0.651
5FT	-0.001	0.604	0.800	62.165	101.407	0.924
S1	0.001	0.602	0.000	100.000	166.362	-0.215
S2	0.001	0.617	0.000	100.000	162.421	-0.198
S3	0.001	0.612	0.000	100.000	163.772	-0.218
S4	0.001	0.611	0.000	100.000	163.965	-0.216
S5	0.002	0.634	0.000	100.000	158.120	-0.255
S6	0.001	0.635	0.000	100.000	157.861	-0.193
S7	0.001	0.632	0.000	100.000	158.514	-0.217
S8	0.001	0.615	0.000	100.000	162.831	-0.205

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: 10024770
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: Kerr-McGee Oil & Gas Onshore LP
Well: Barclay 16C-26HZ
Field: Wattenberg
County: Weld
State: Colorado

	State	Colorado
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