

County Weld State Colorado

Other Services	Elevation
Gauge ring	K.B. 5003'
MIT	D.F. 5002'
	G.L. 4987'

Date	04-Sept-2014
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1999	0.4	0.1
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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.

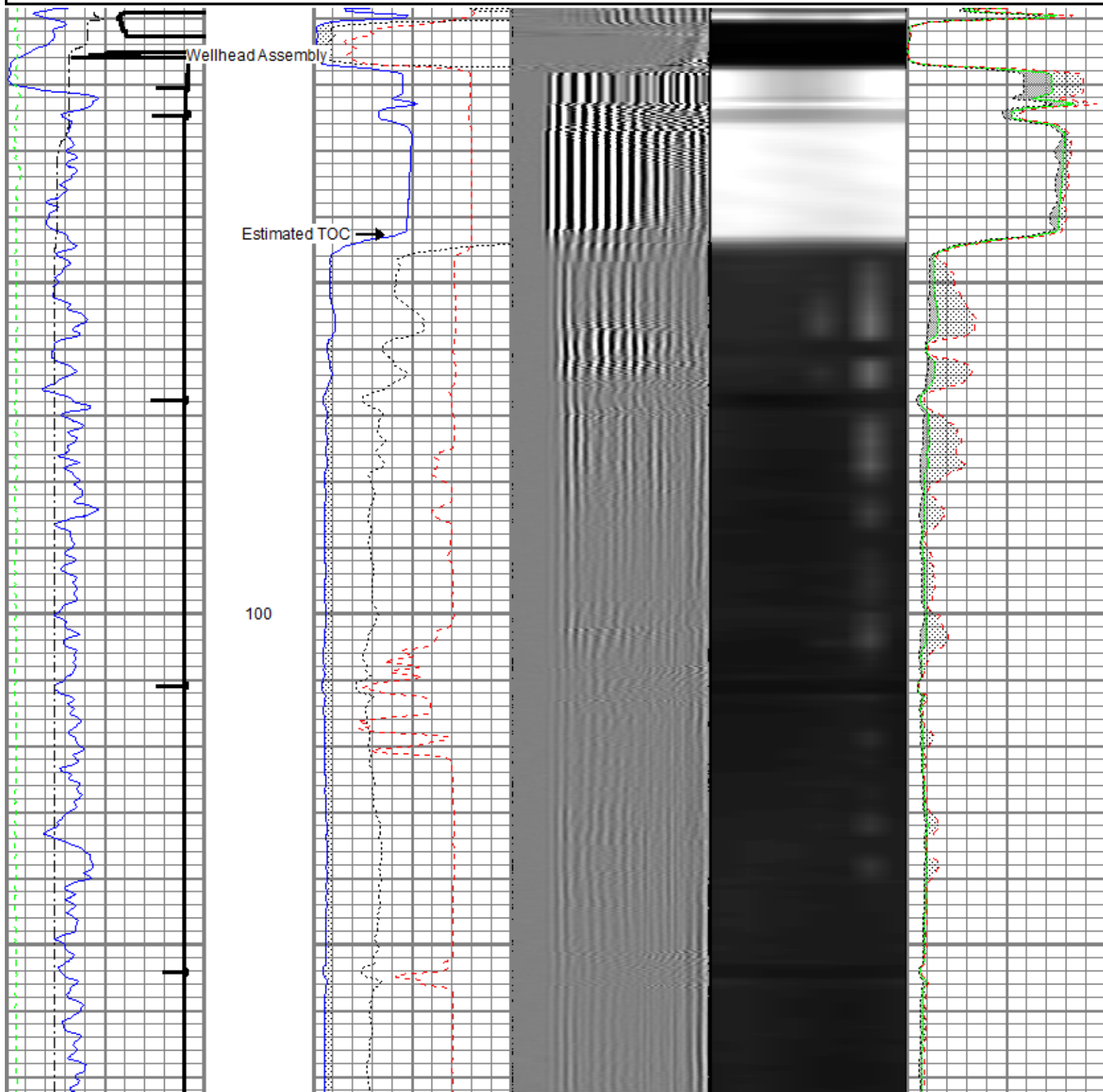
**Thank you for choosing FMC Technologies Completion Services, Inc.!!**

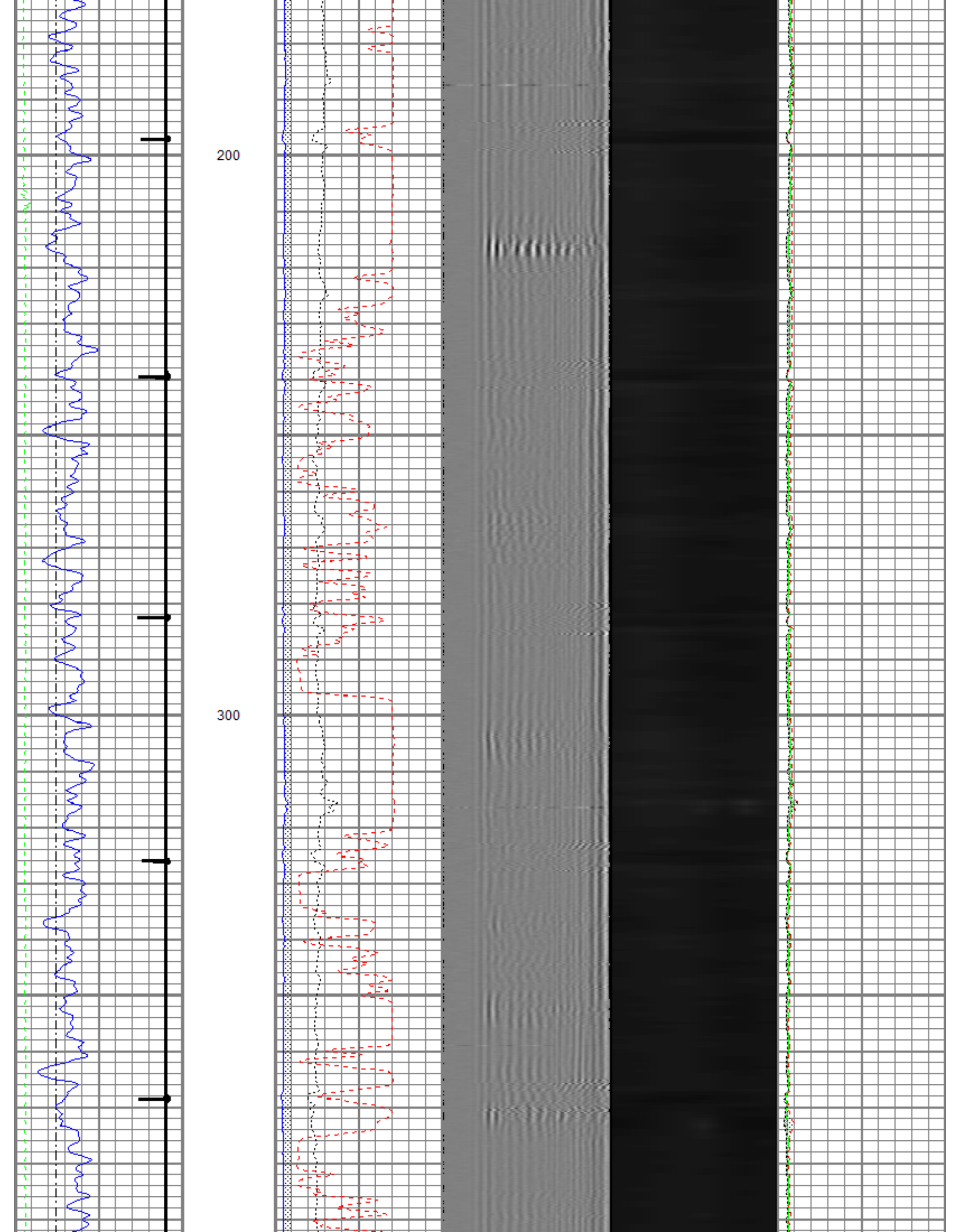


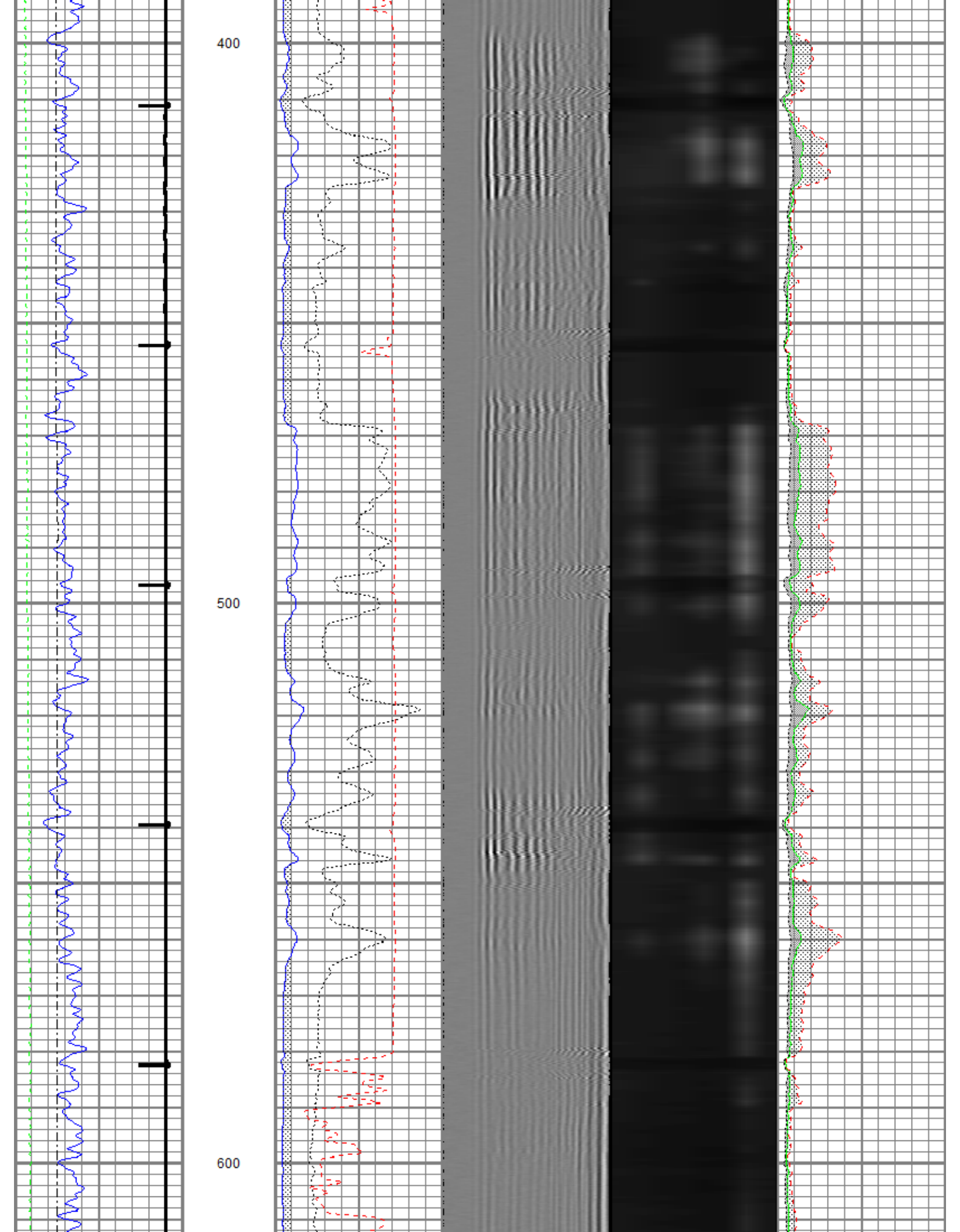
Recorded with 2800 DSL surface induced measure

Database File: anadarko\_whip snake 2c-22hz\_rcbl mit\_04-sept-2014.db  
 Dataset Pathname: pass7  
 Presentation Format: rbt4\_mit  
 Dataset Creation: Thu Sep 04 10:46:53 2014 by Log SCH 111116  
 Charted by: Depth in Feet scaled 1:240

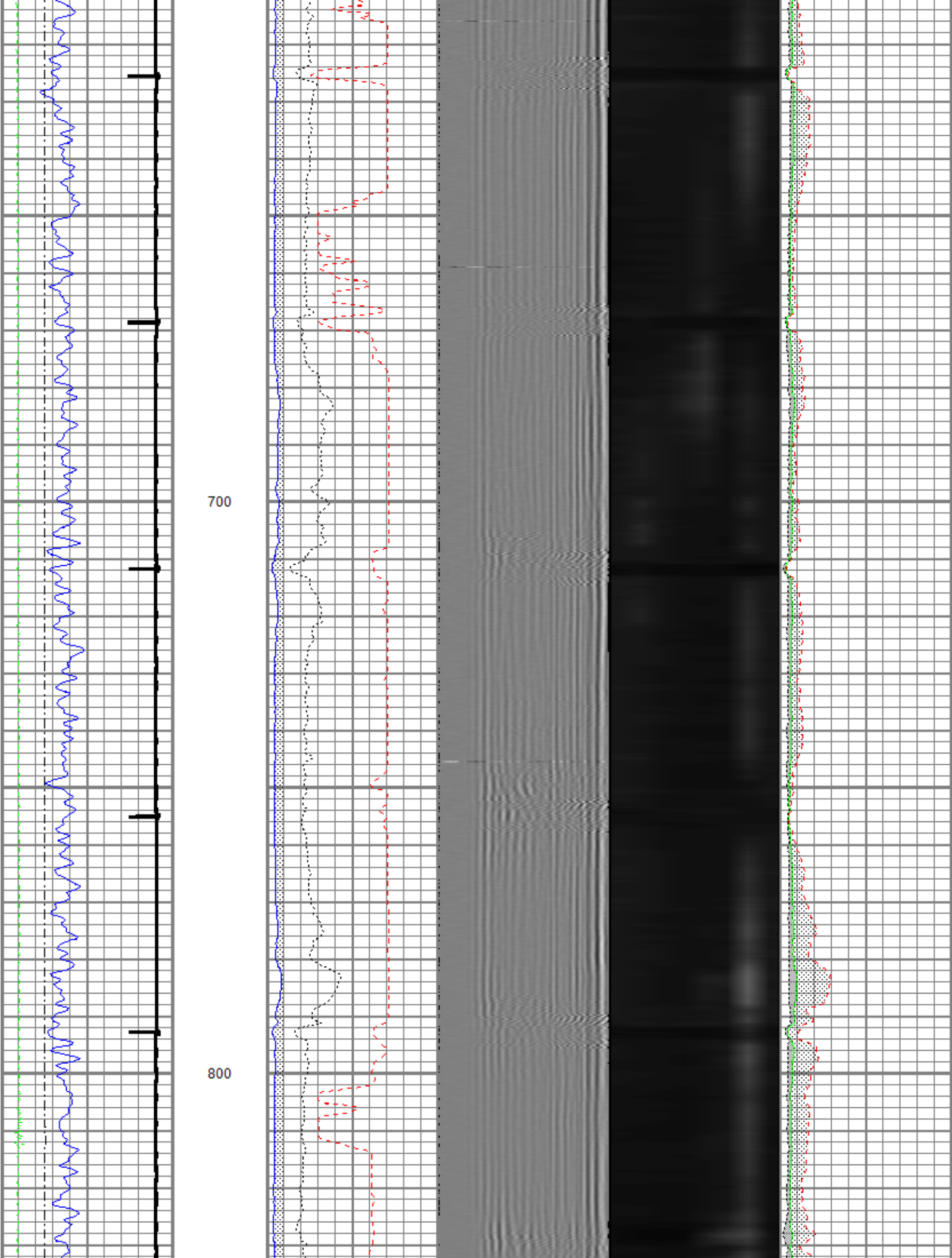
Gamma Ray (GAPI)	0 120	3' Amplitude (mV) 100 3' Amplitude x 5 (mV) 20	5' Variable Density Log 200 1200	Sector Map	Average Amplitude 100 Minimum Amplitude Maximum Amplitude
Casing Collar Locator		0 20			0 100
Line Speed (ft/min)	-100 100	3' Travel Time (usec) 150			0 100
Line Tension (lb)	0 2000				

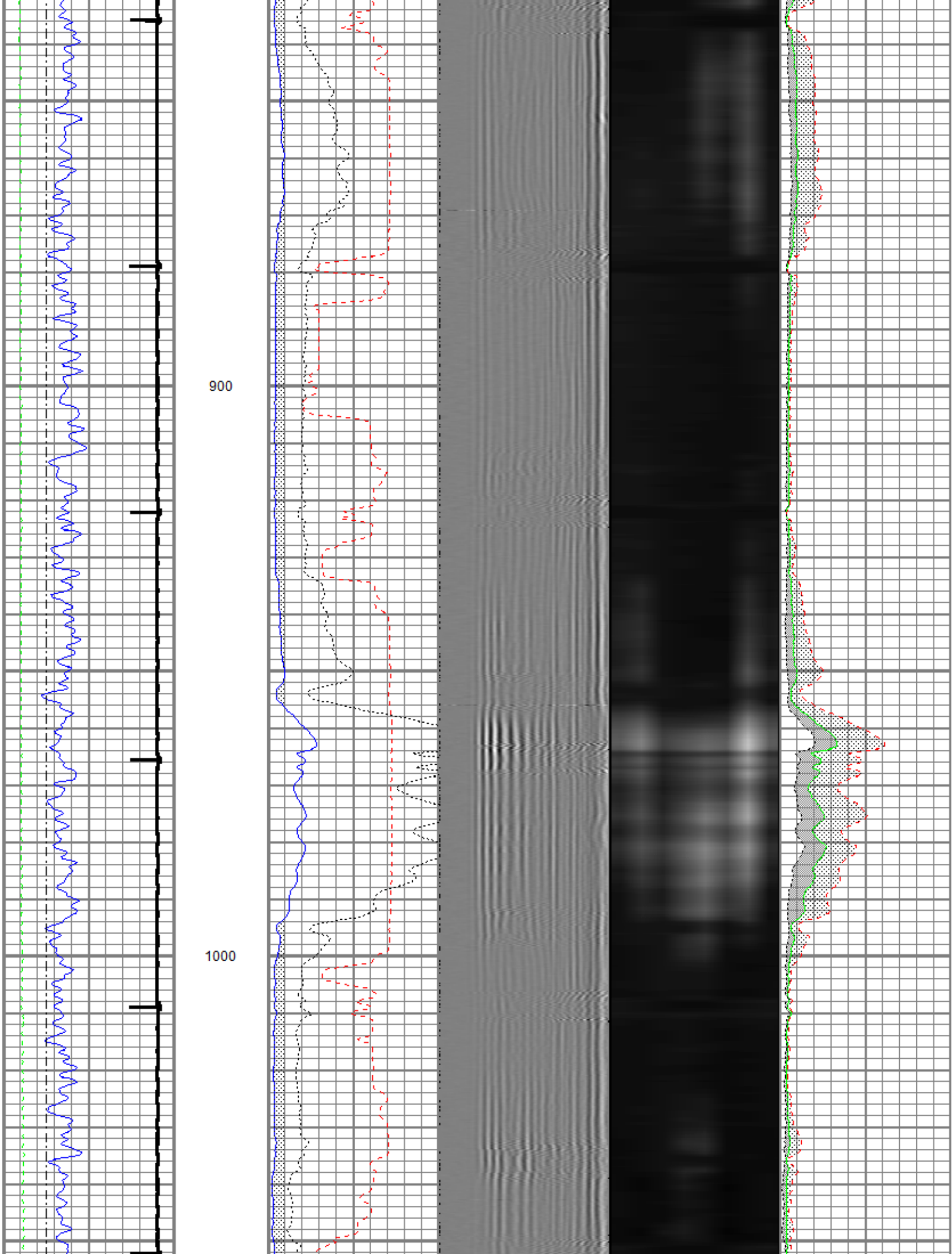


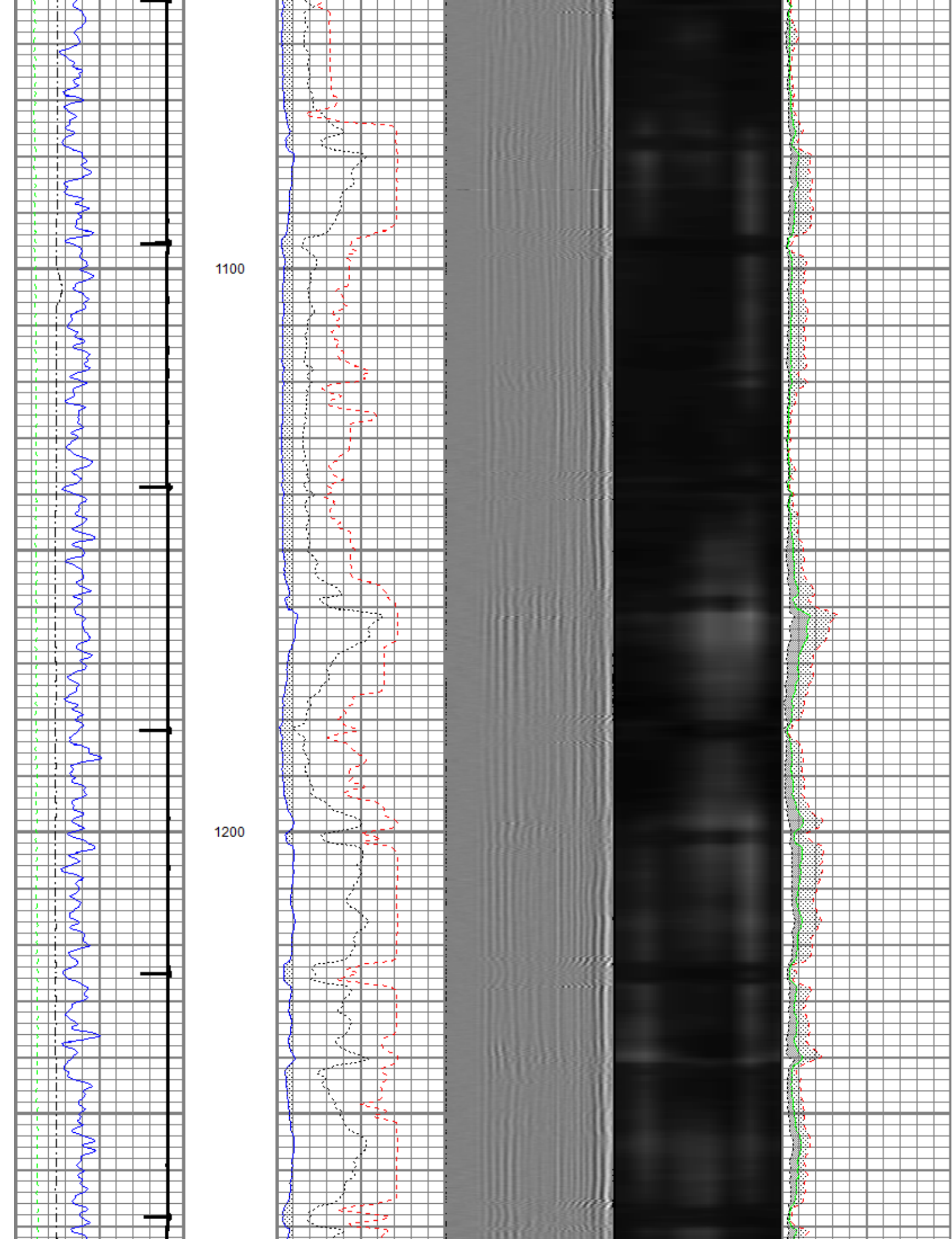


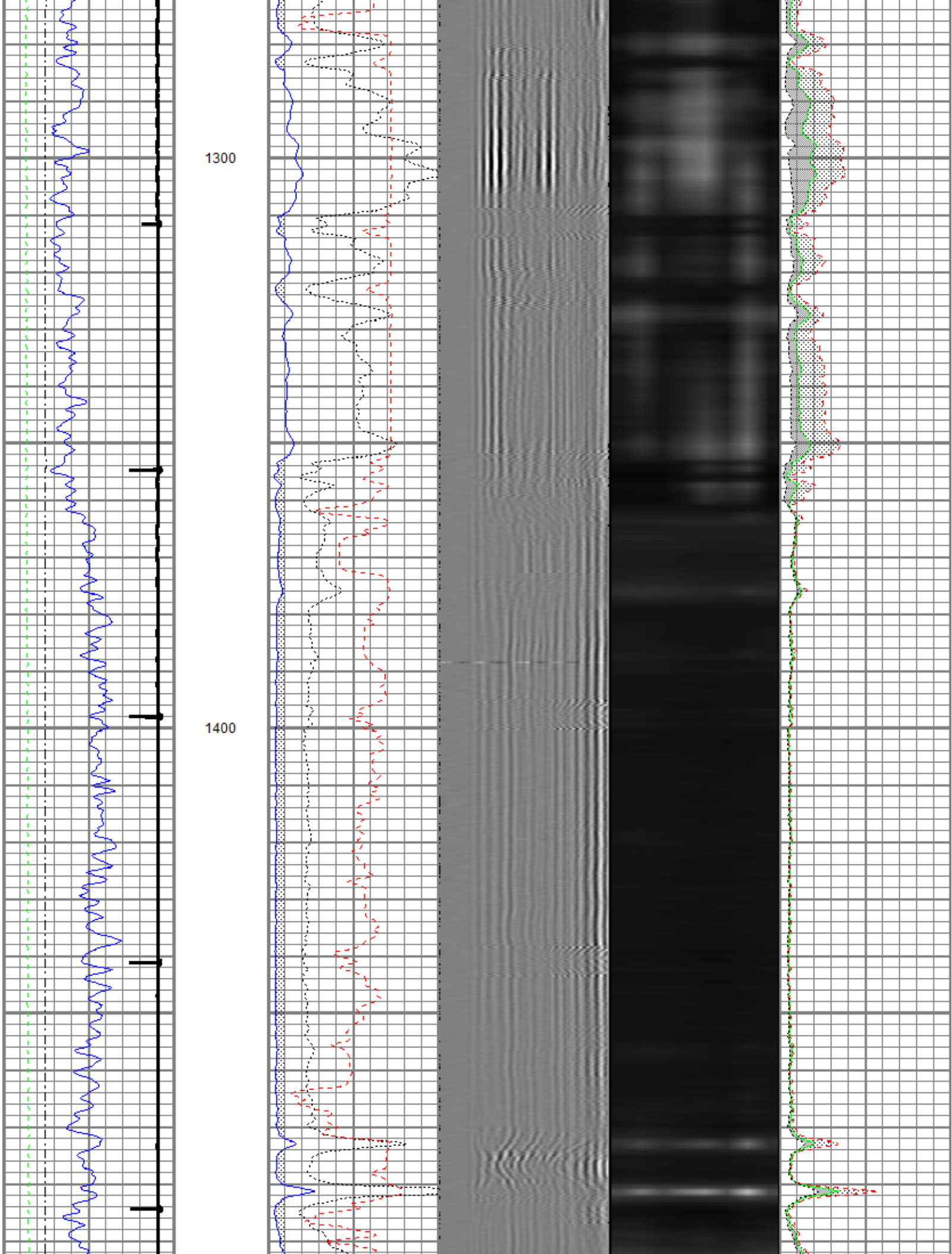




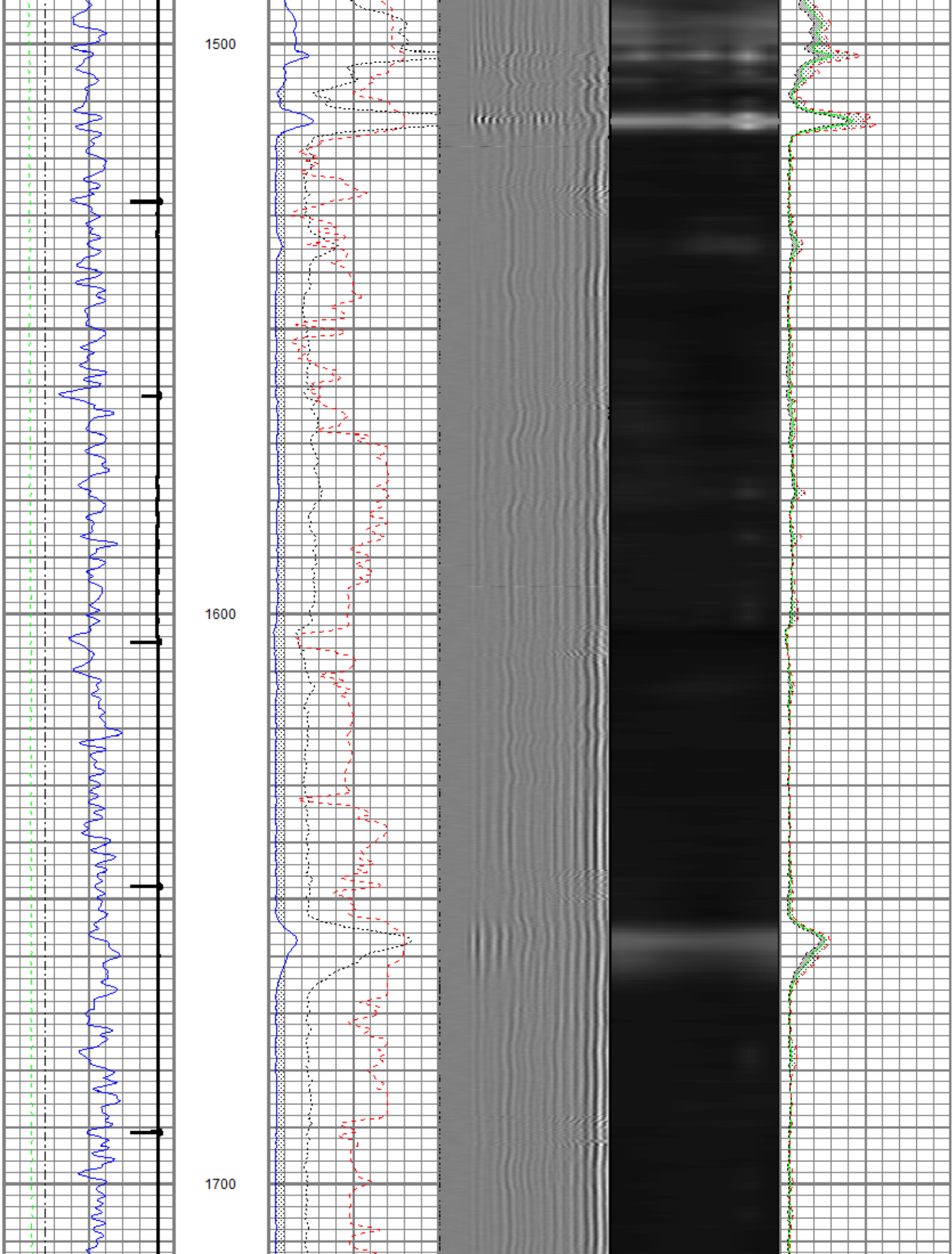


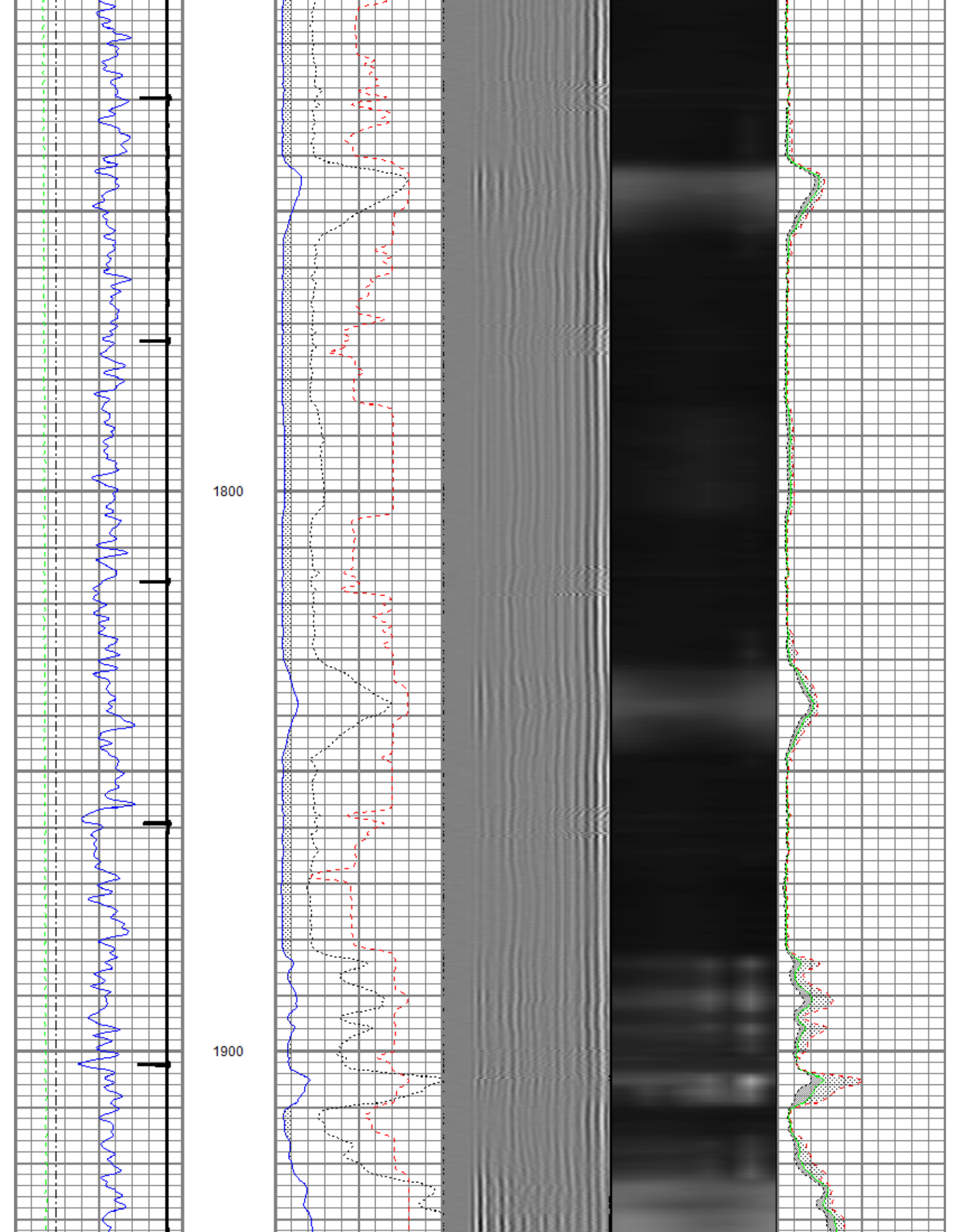


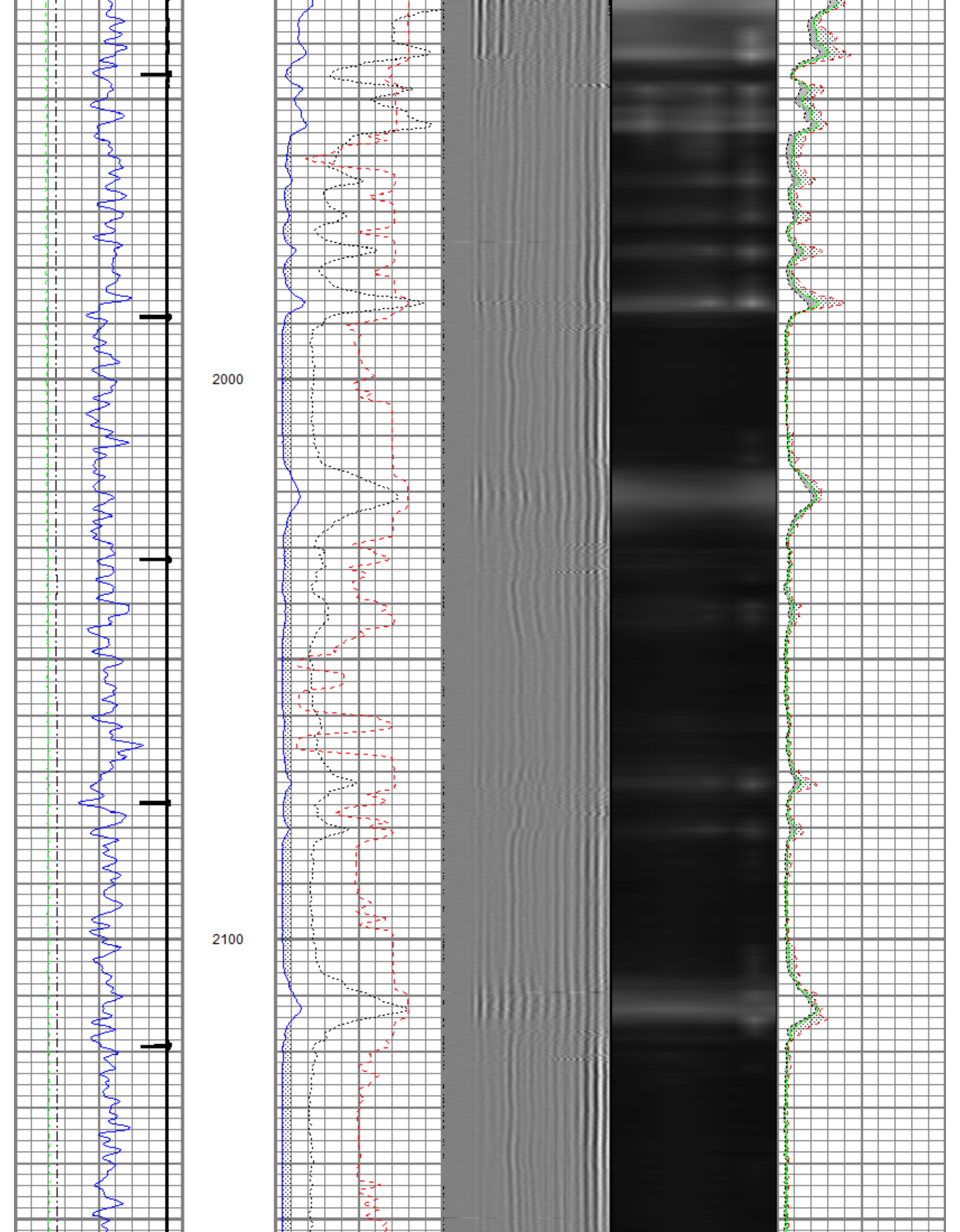


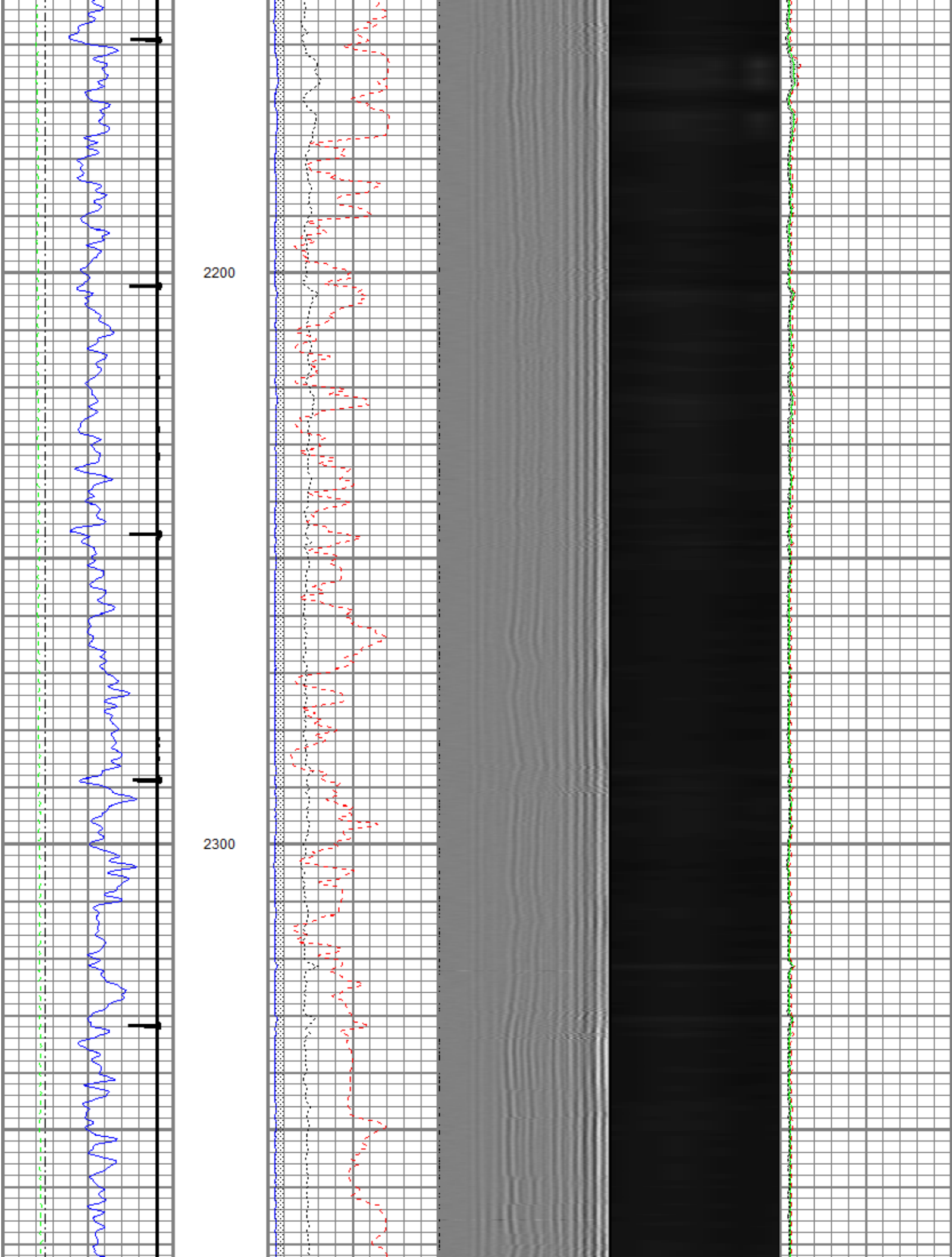




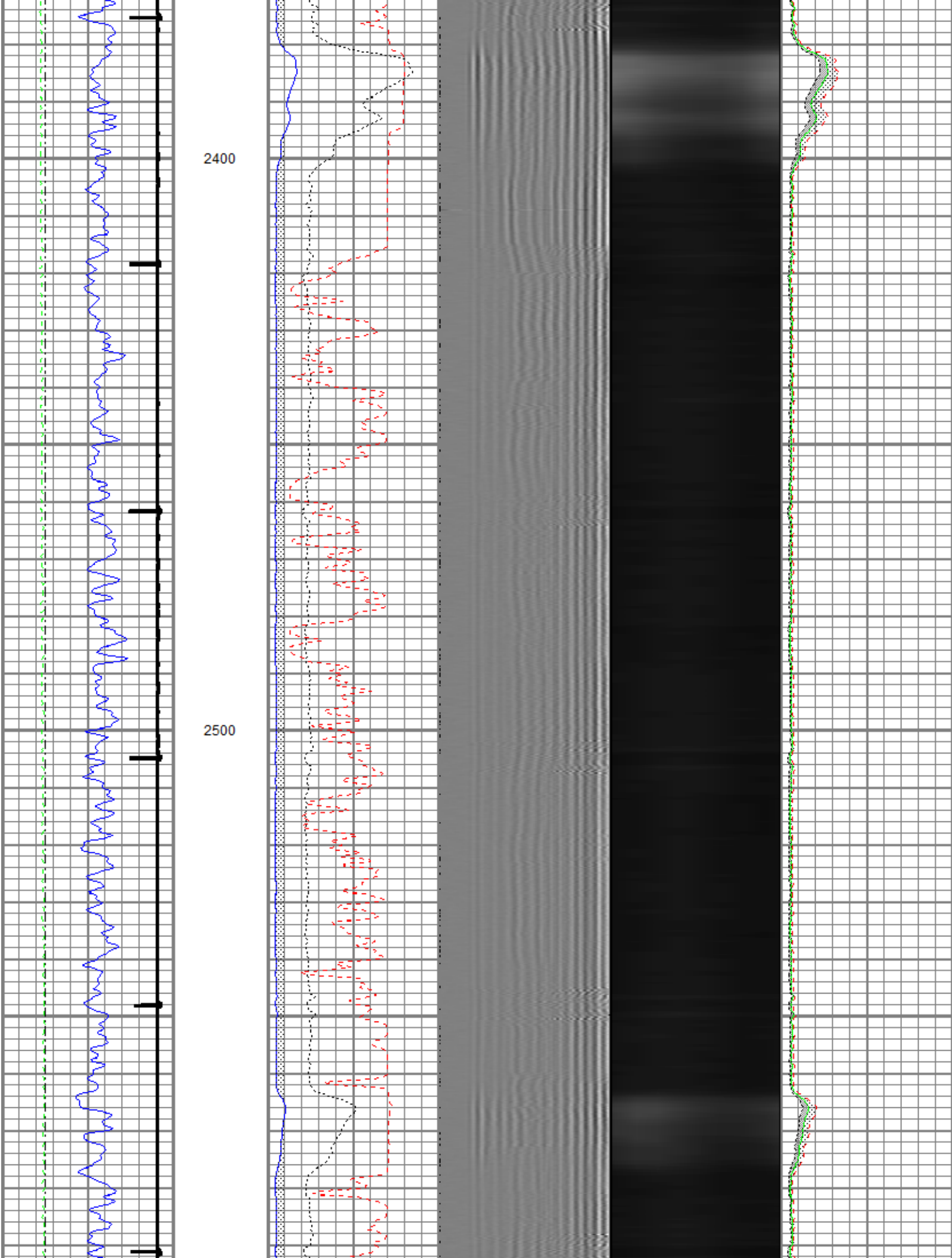


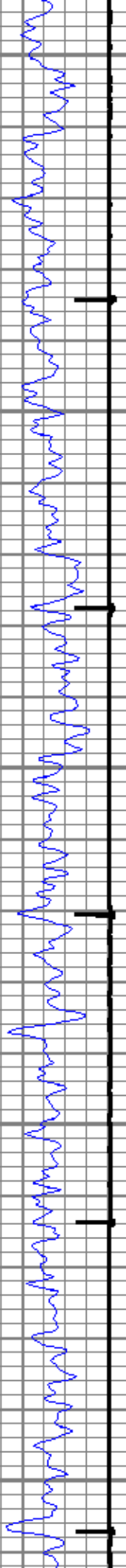








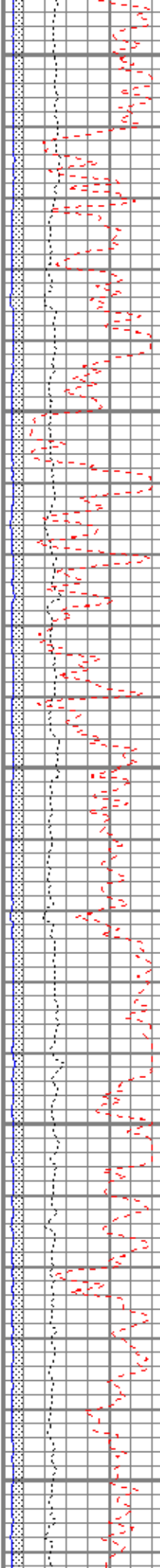


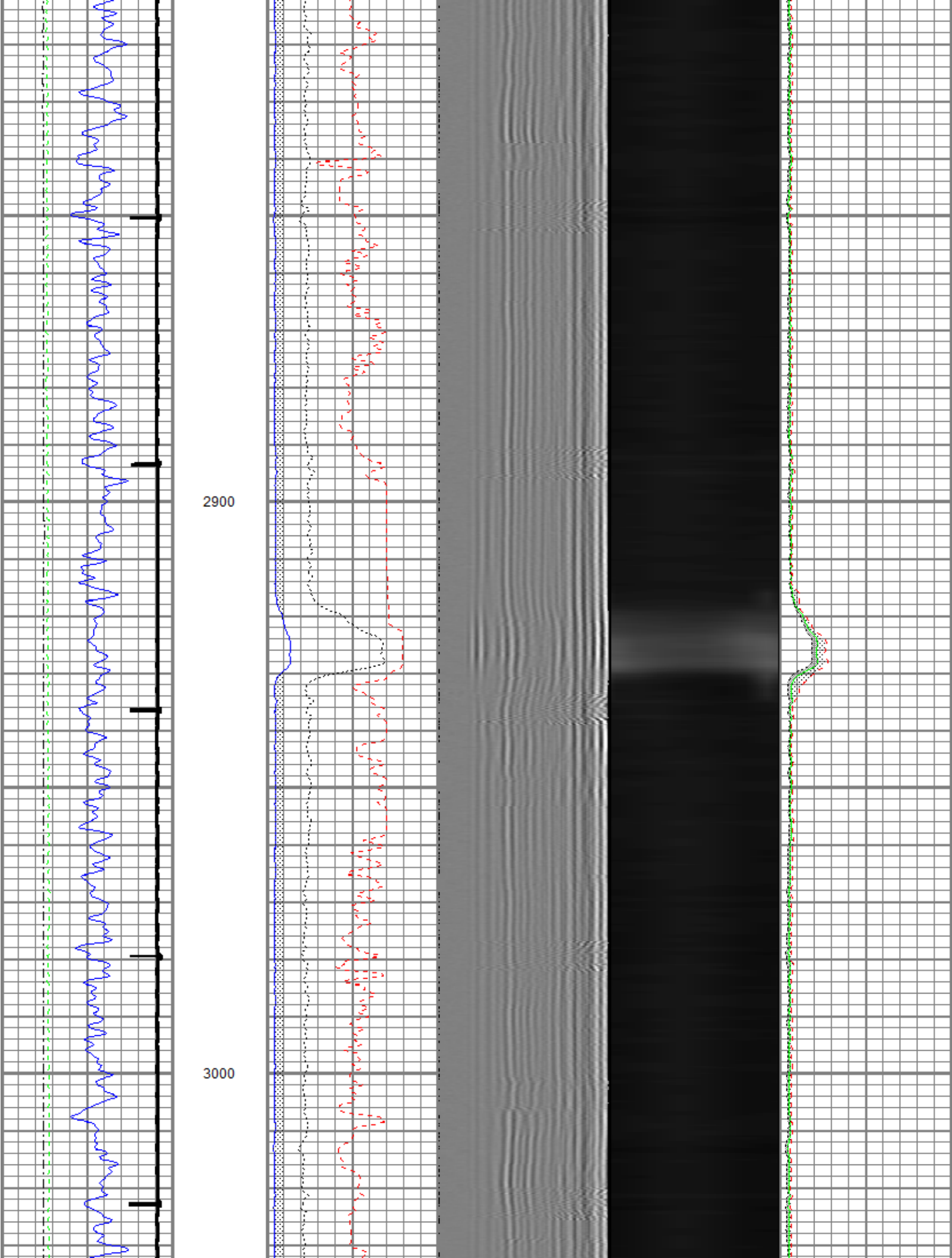


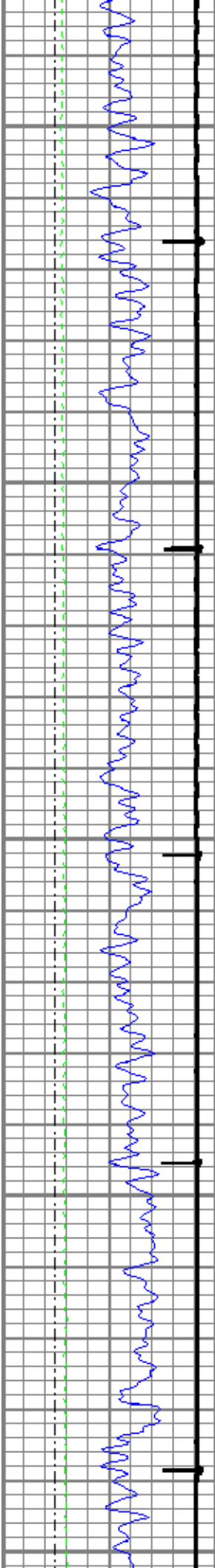
2600

2700

2800

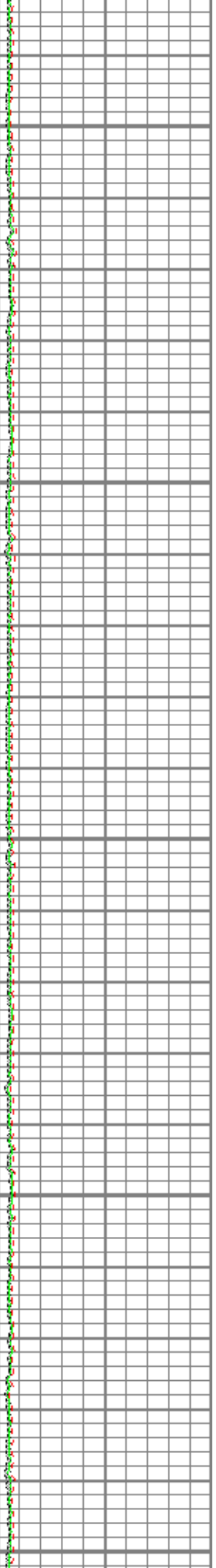
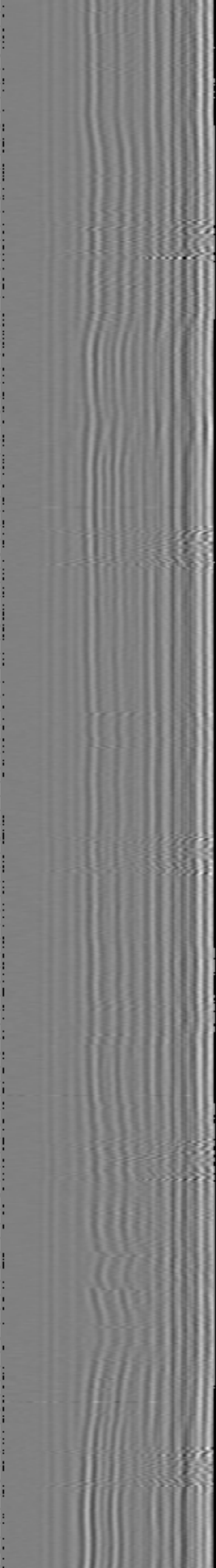
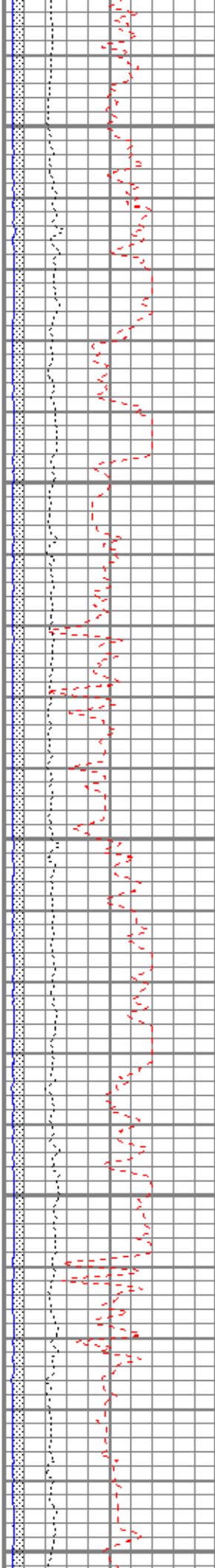




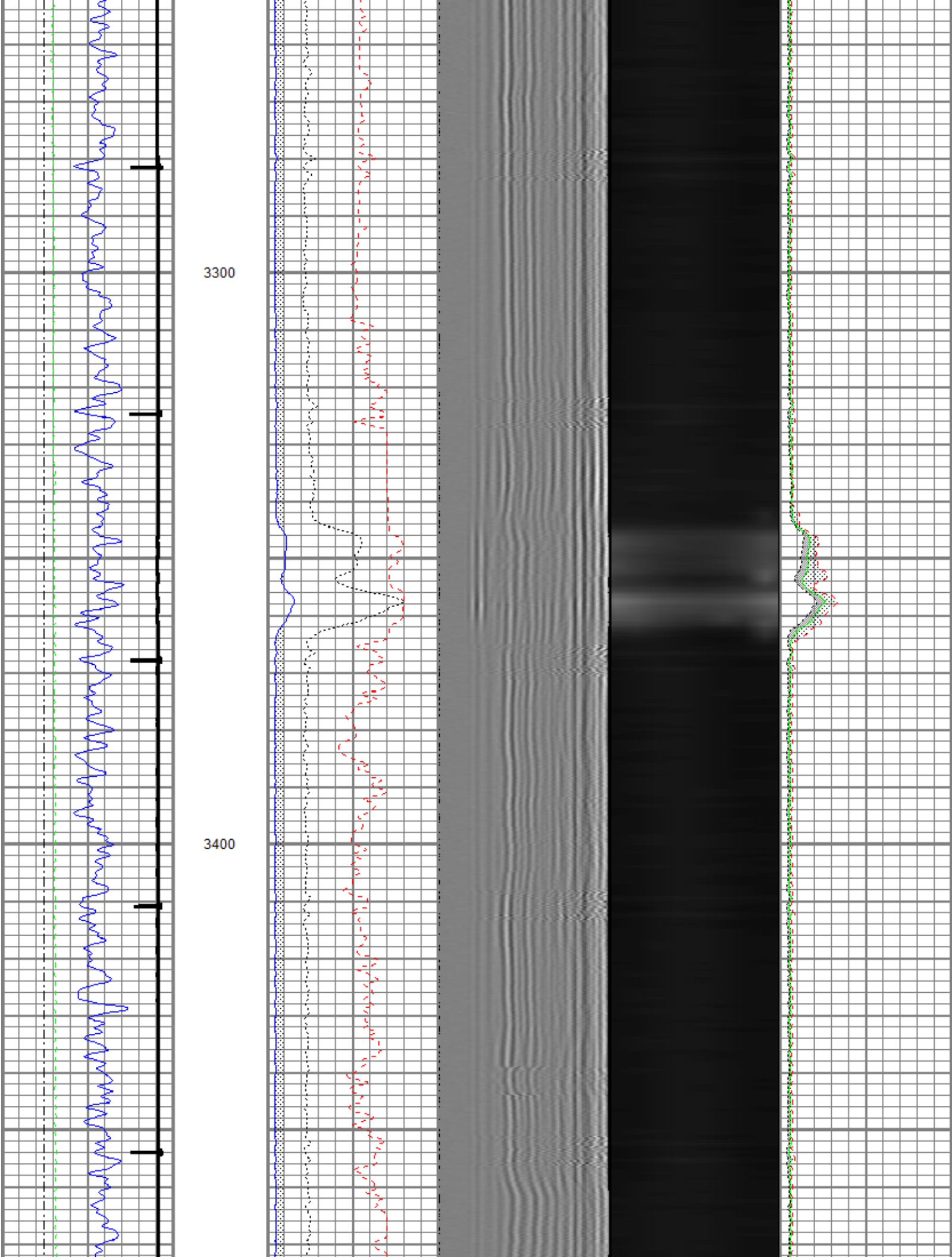


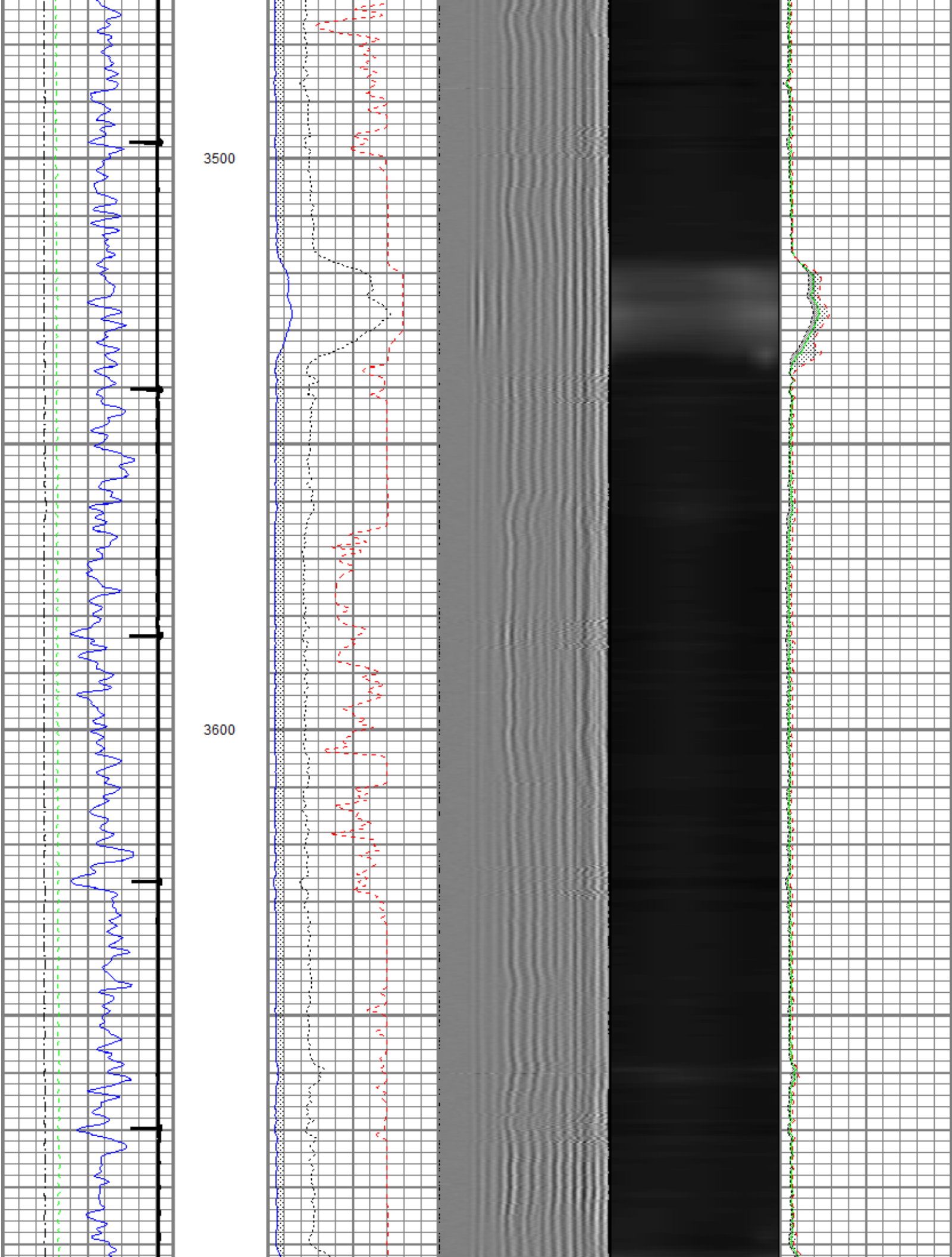
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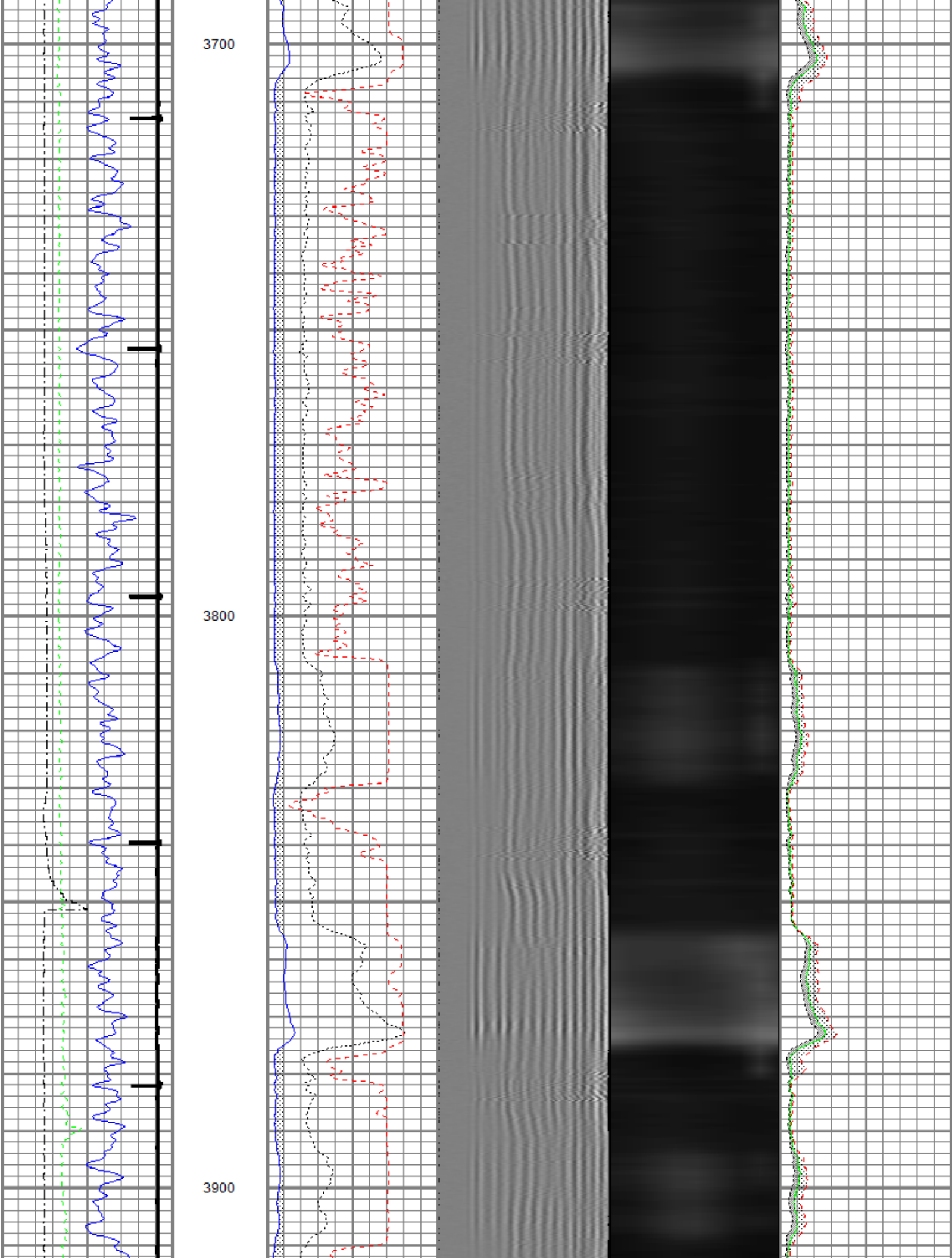
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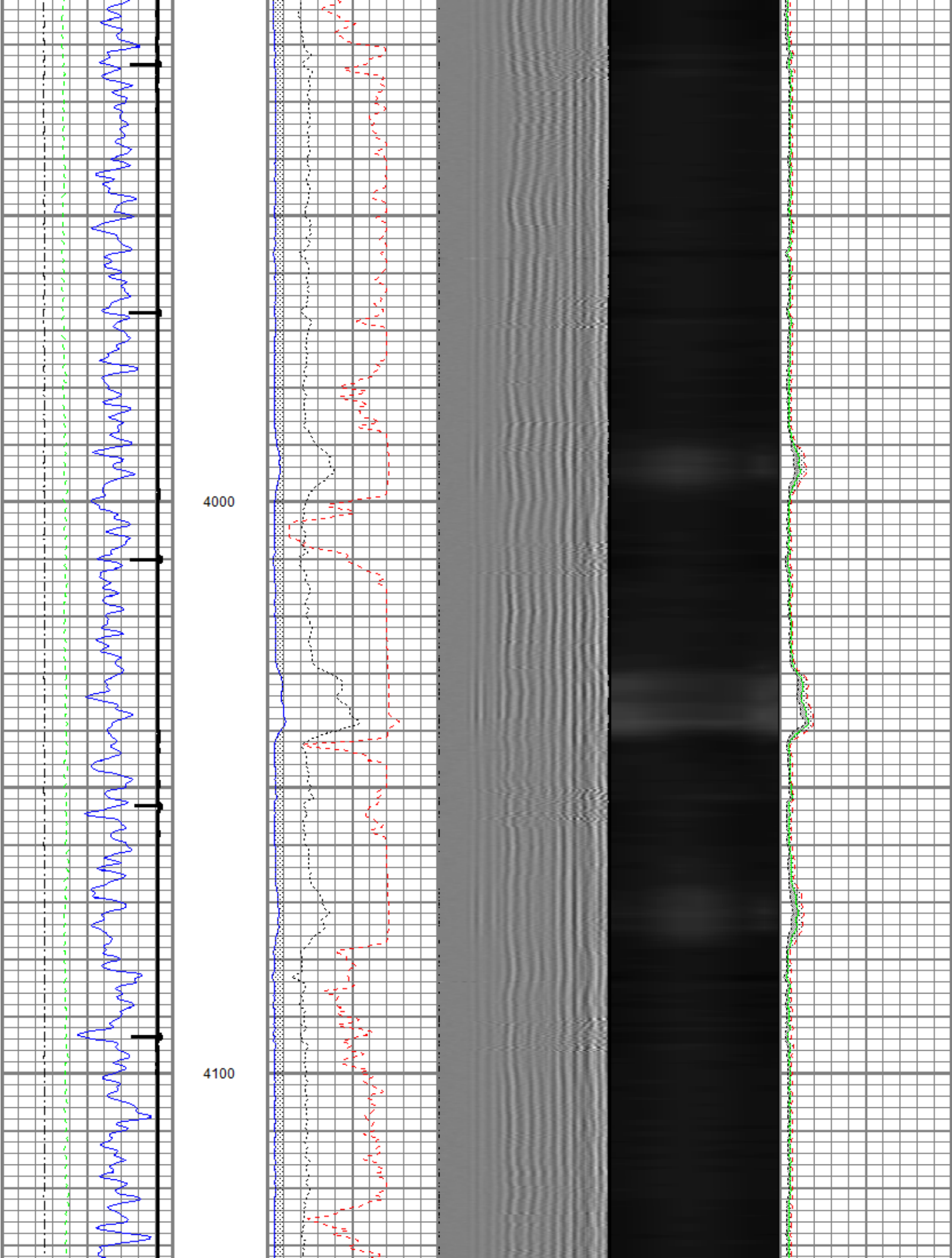




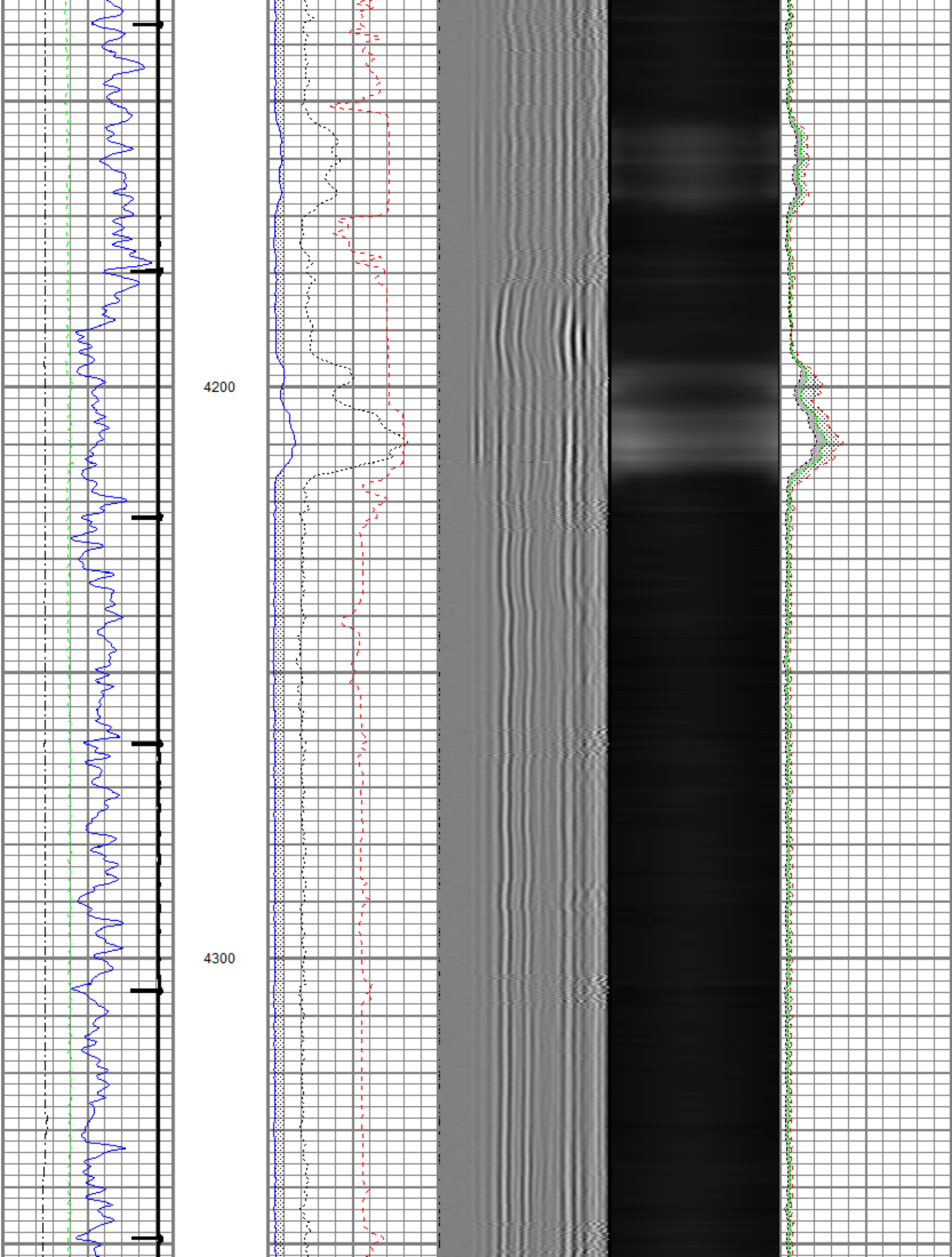


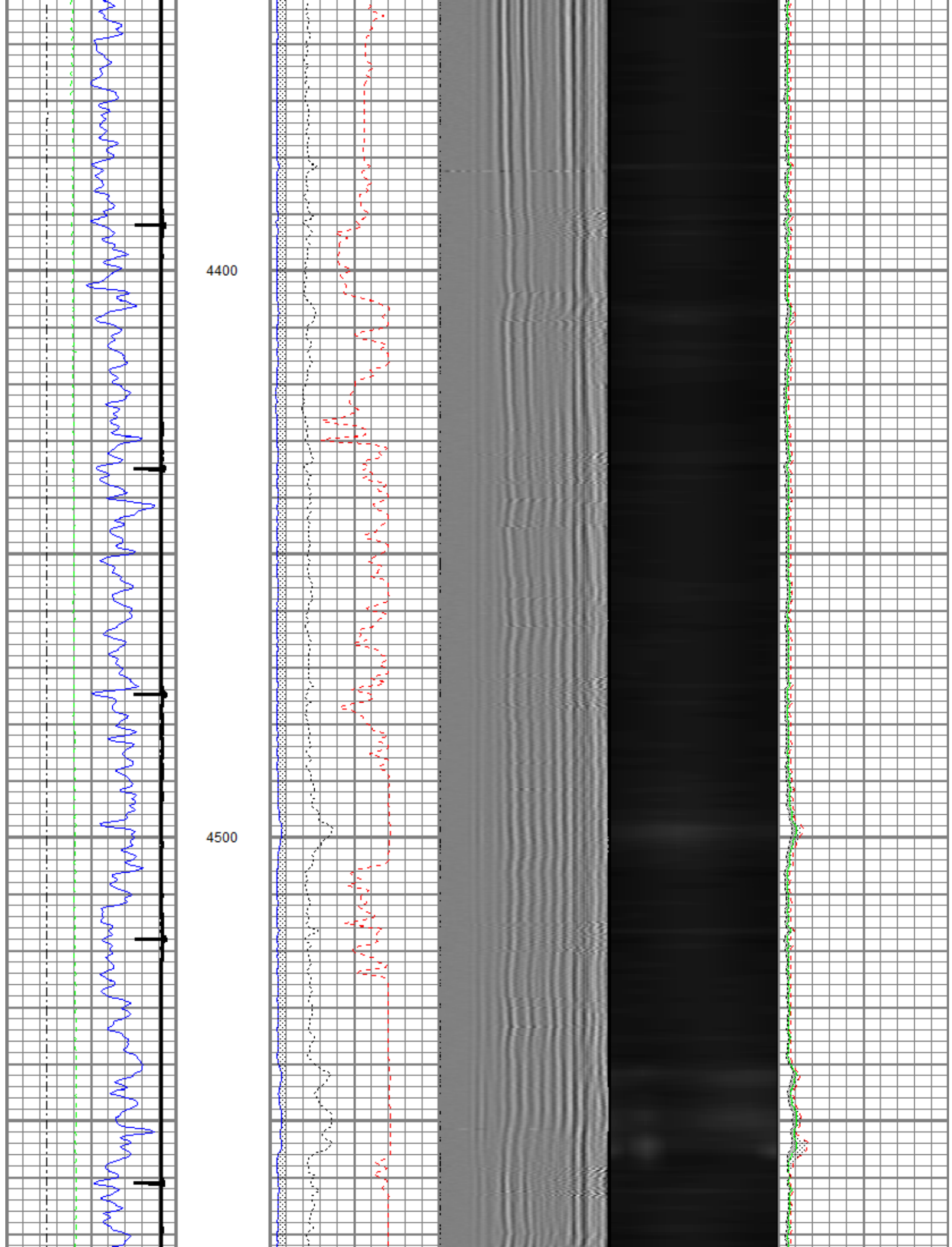


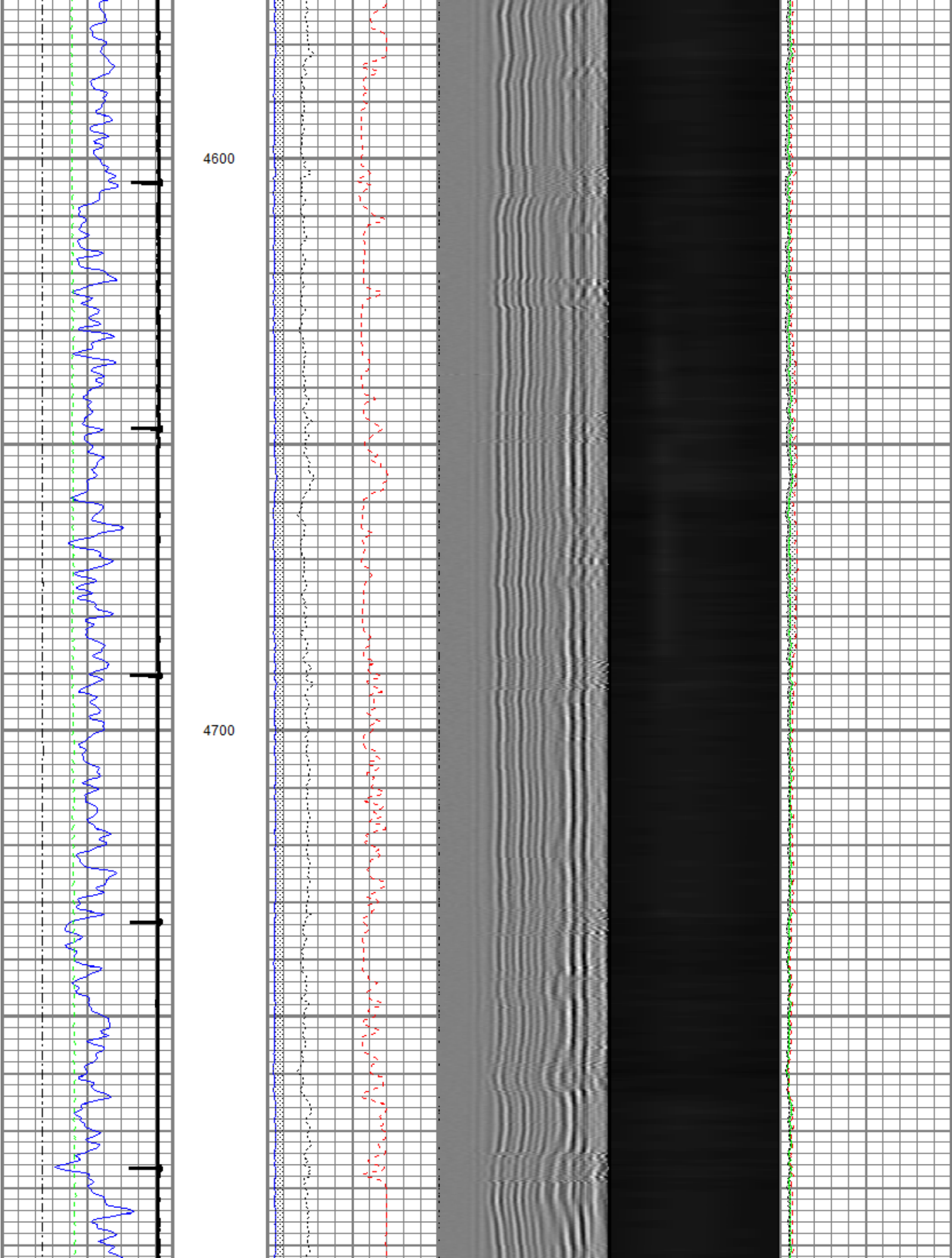


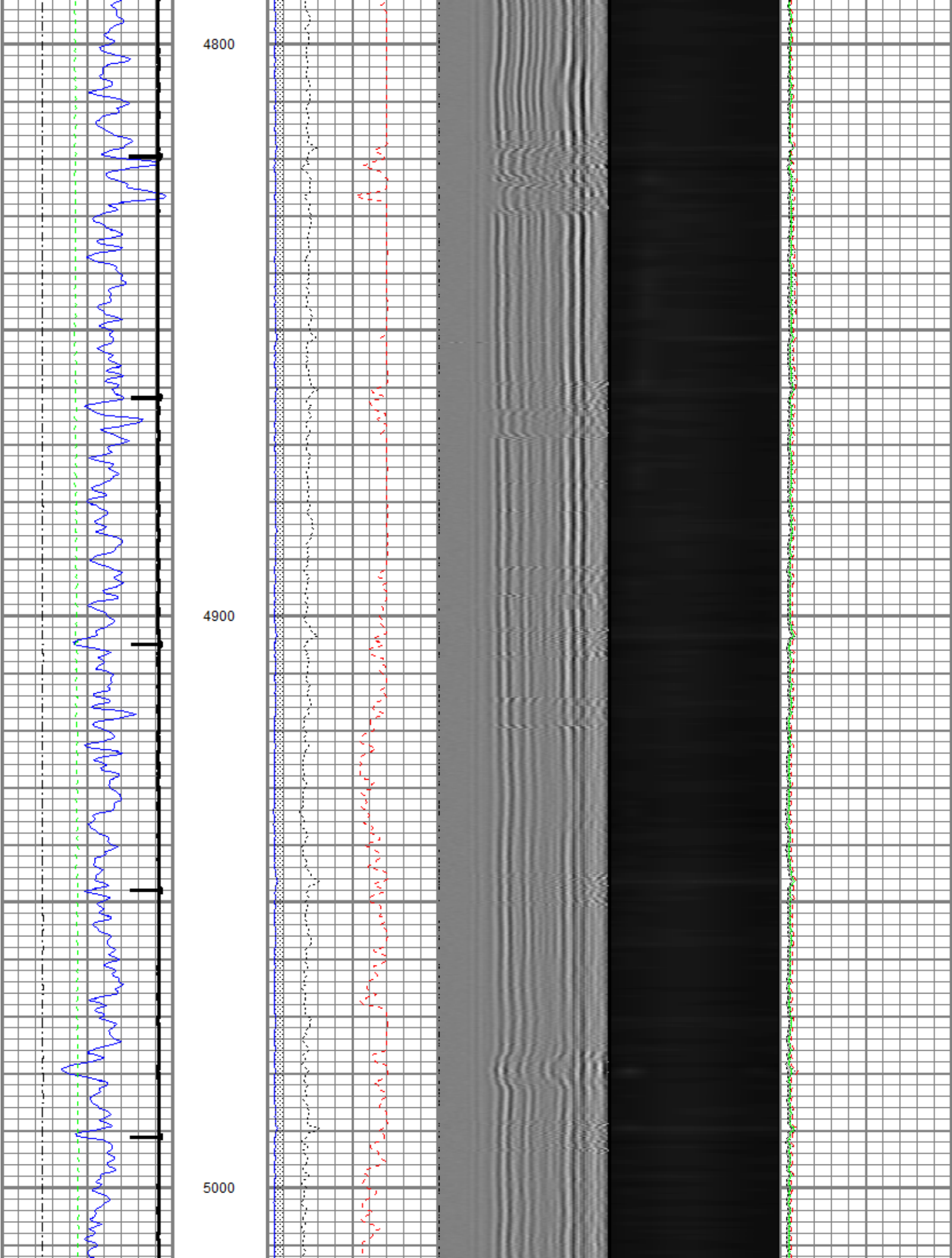




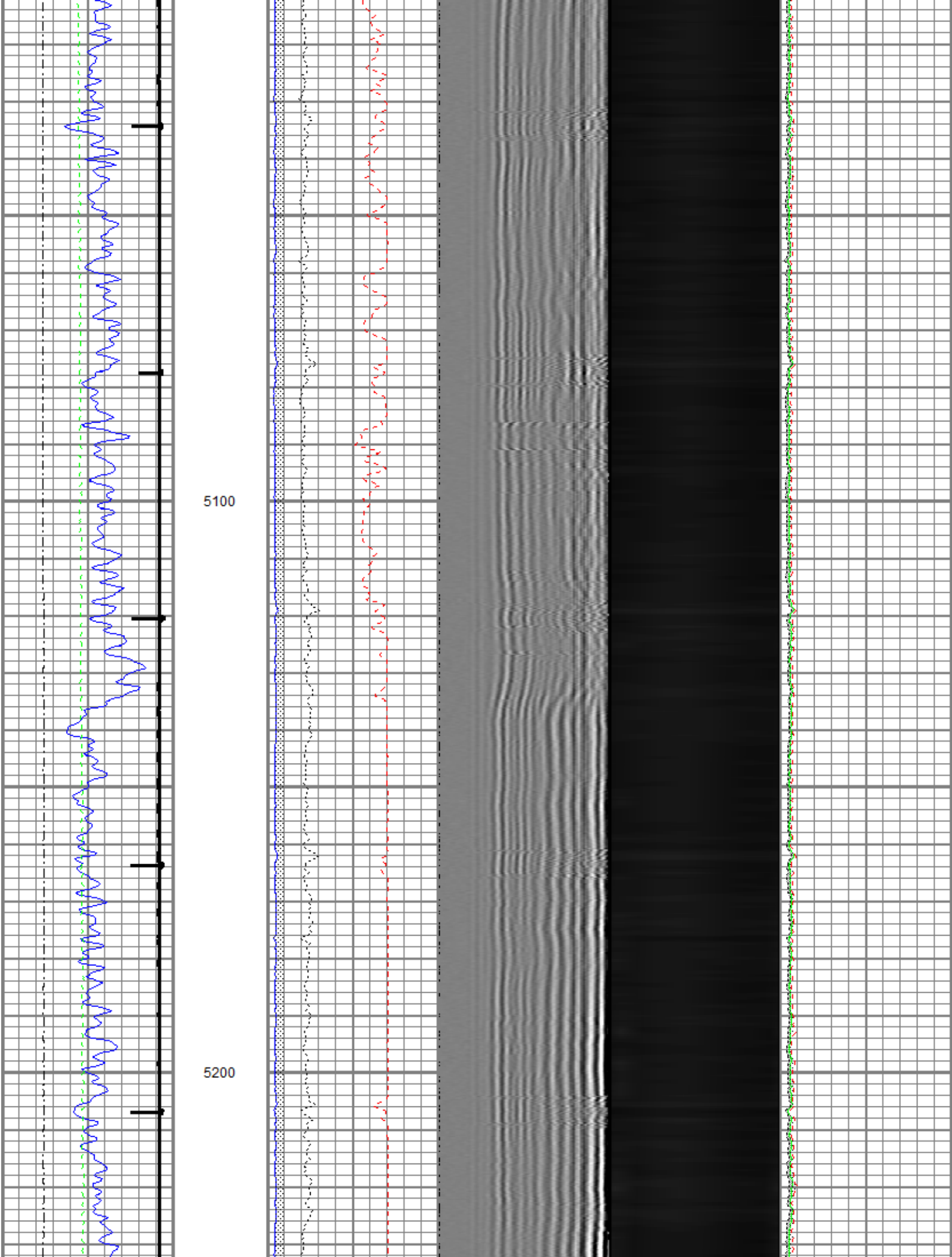


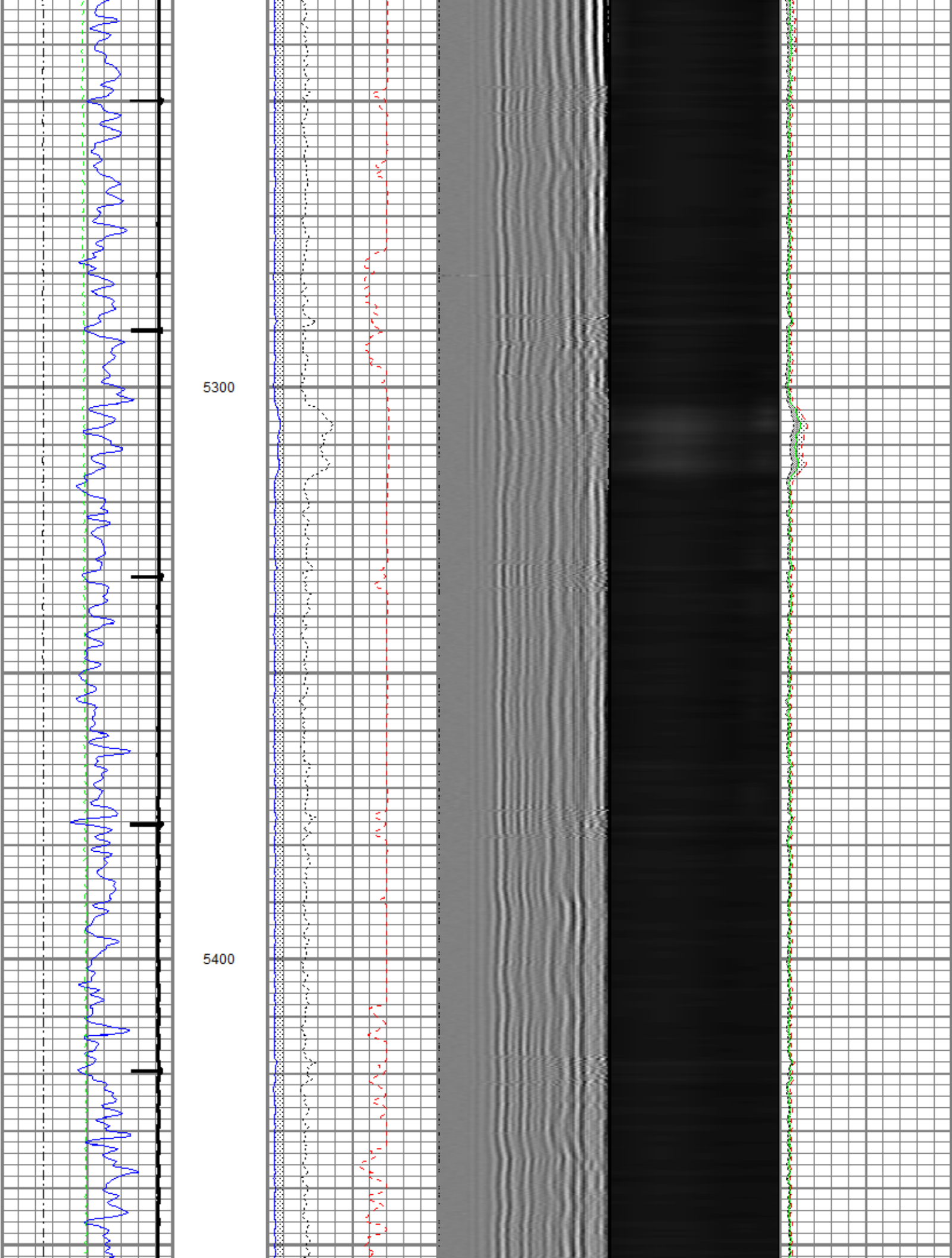


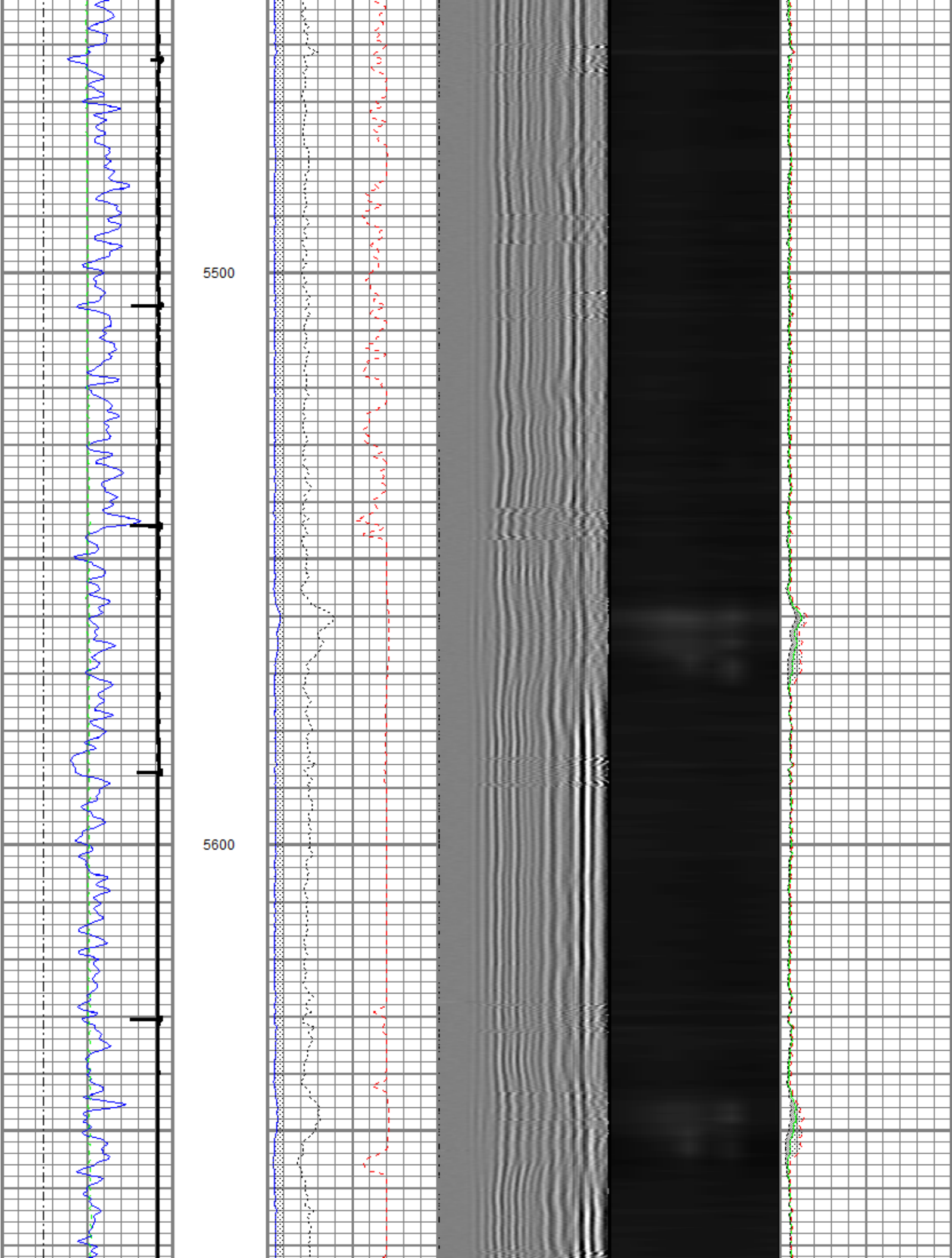


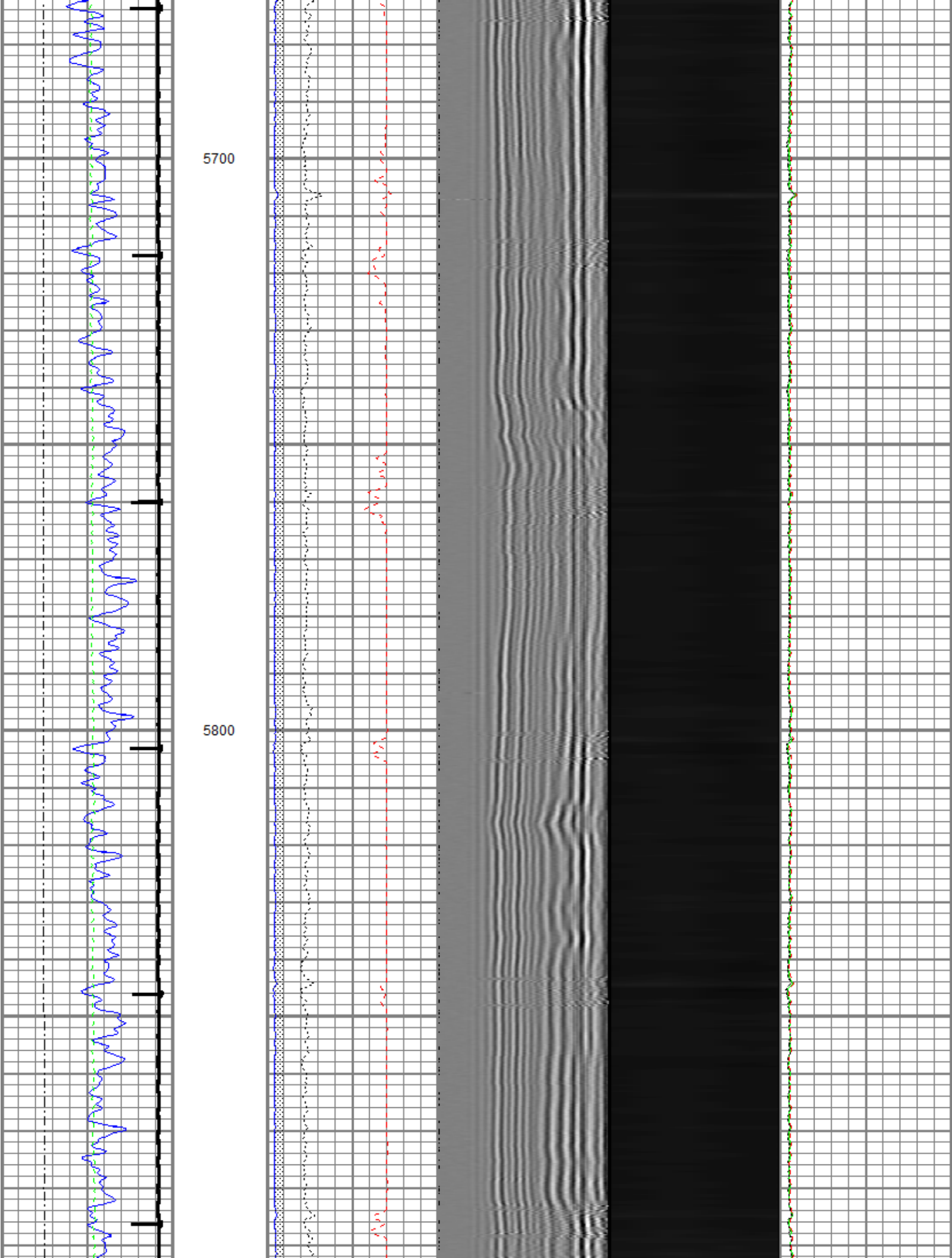




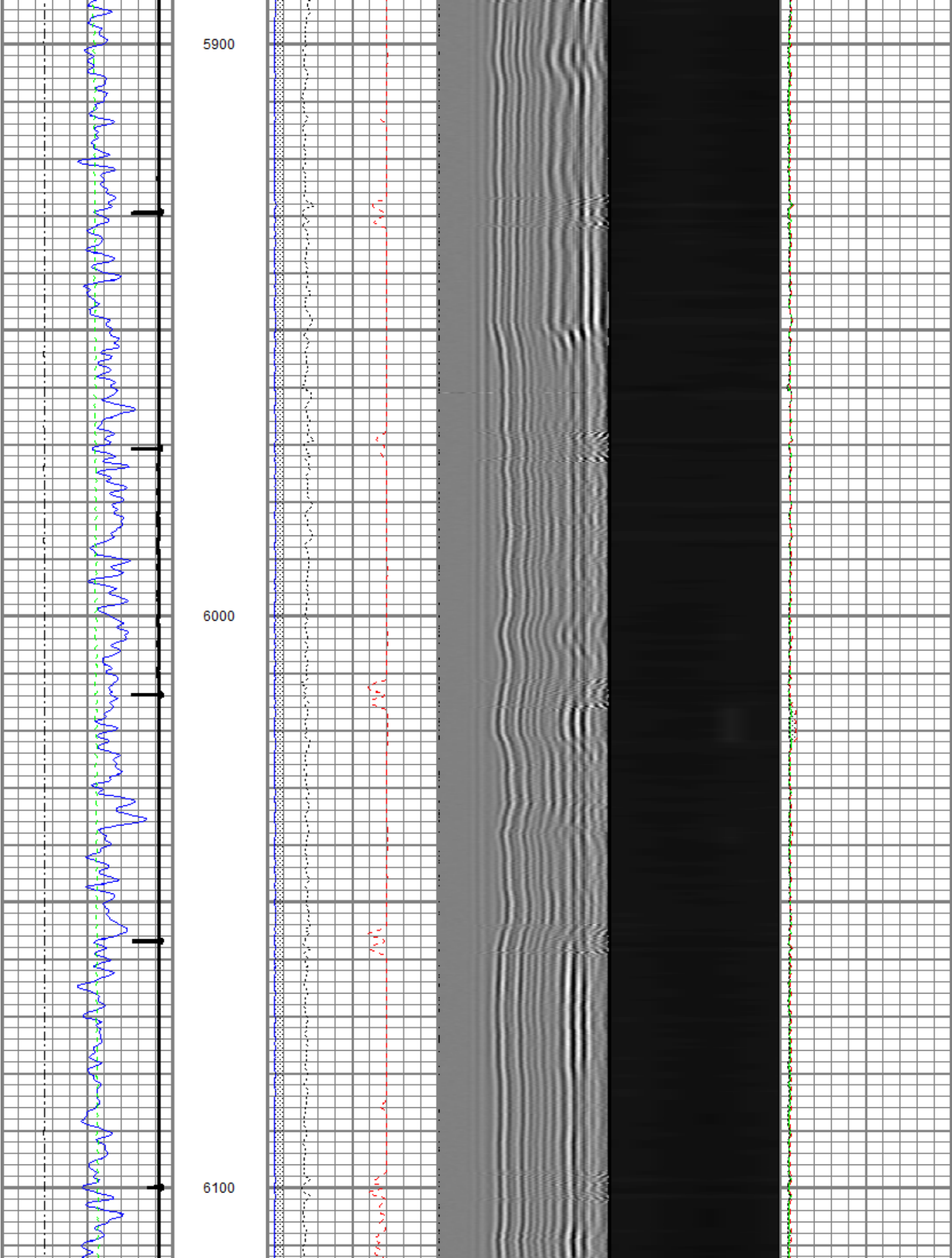


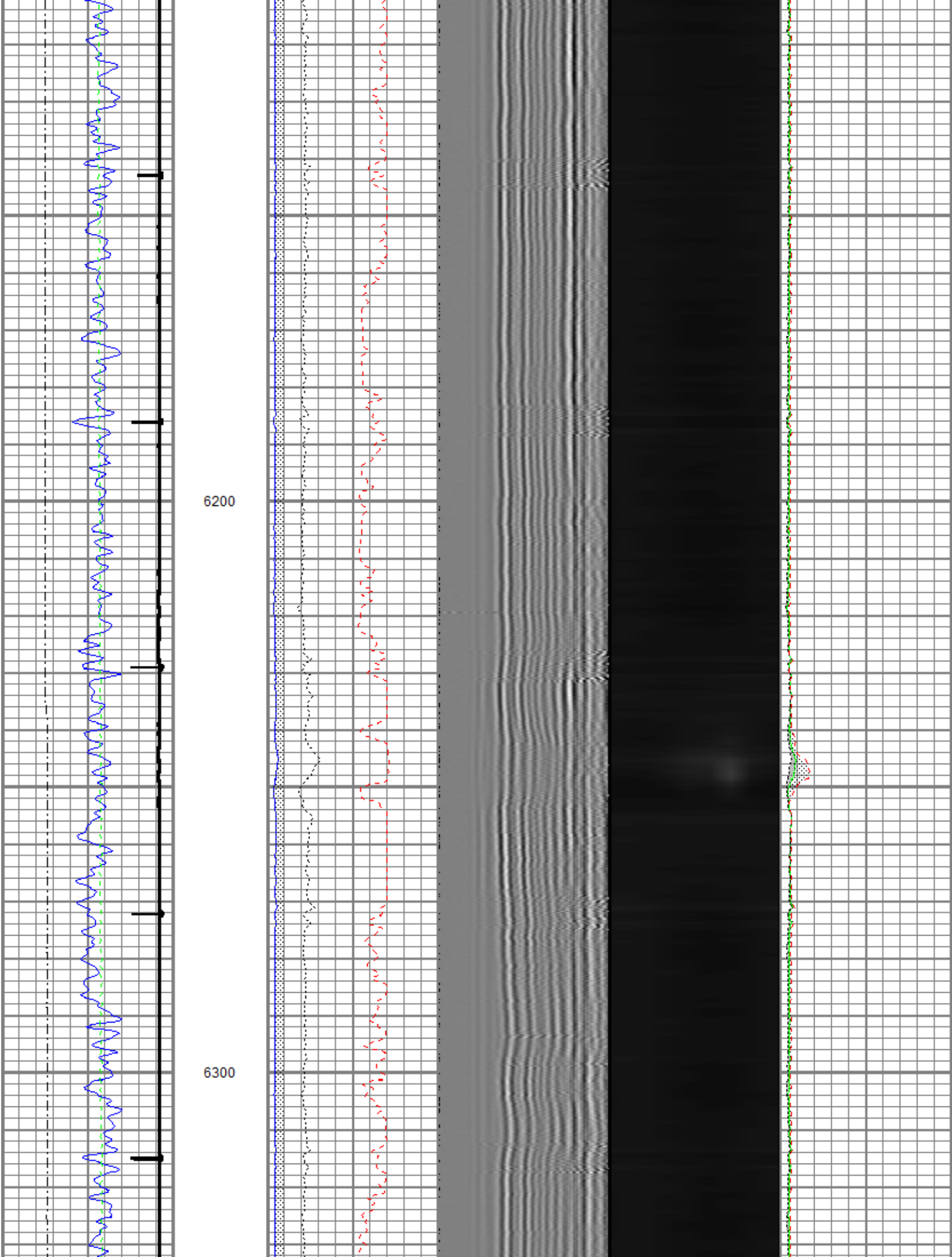


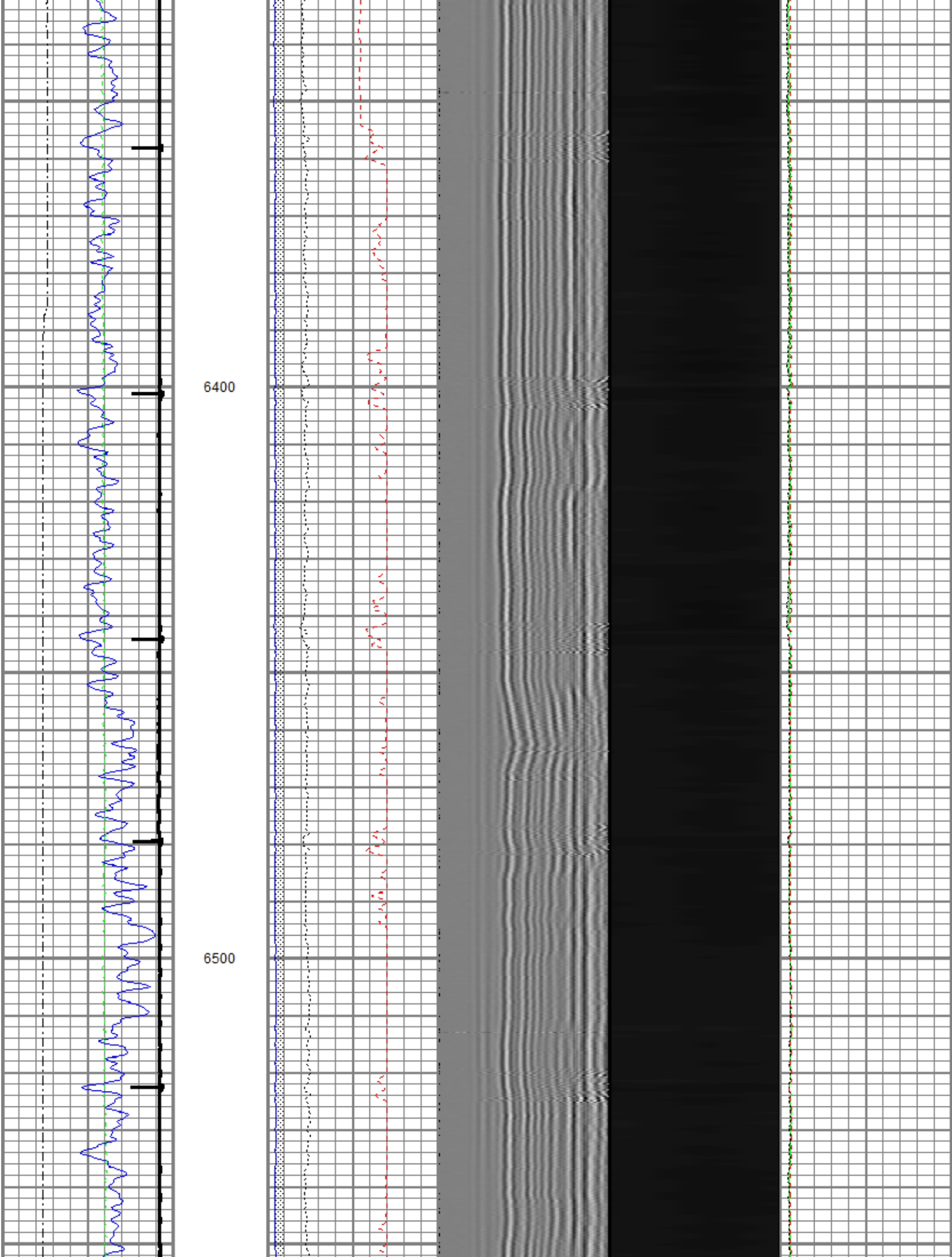


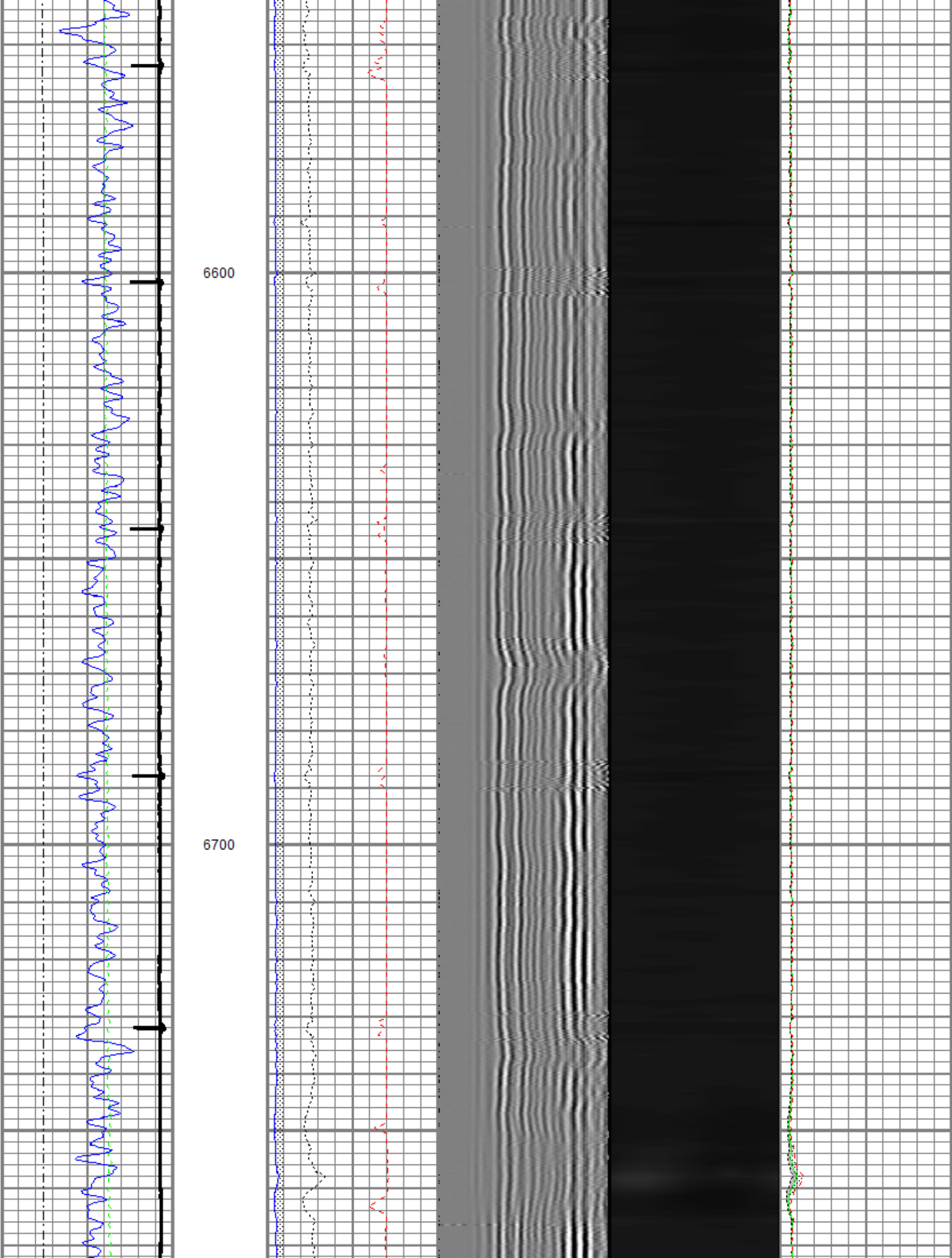




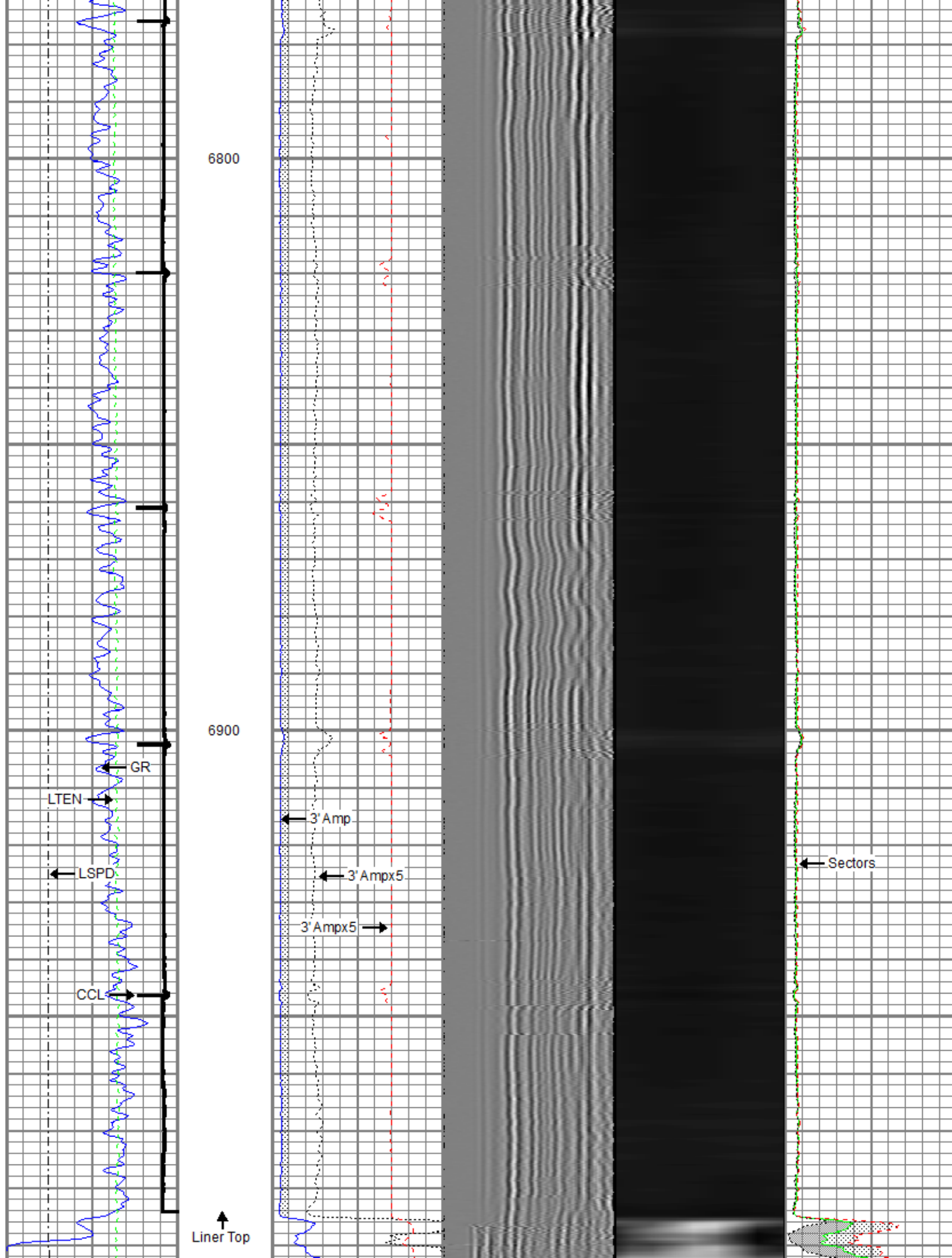


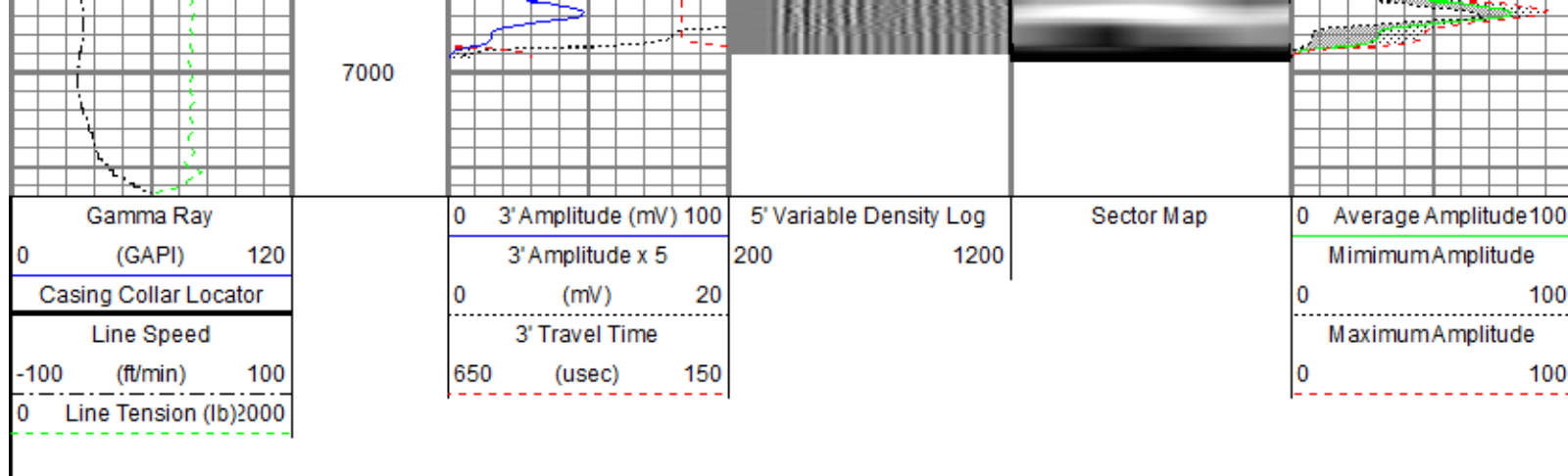










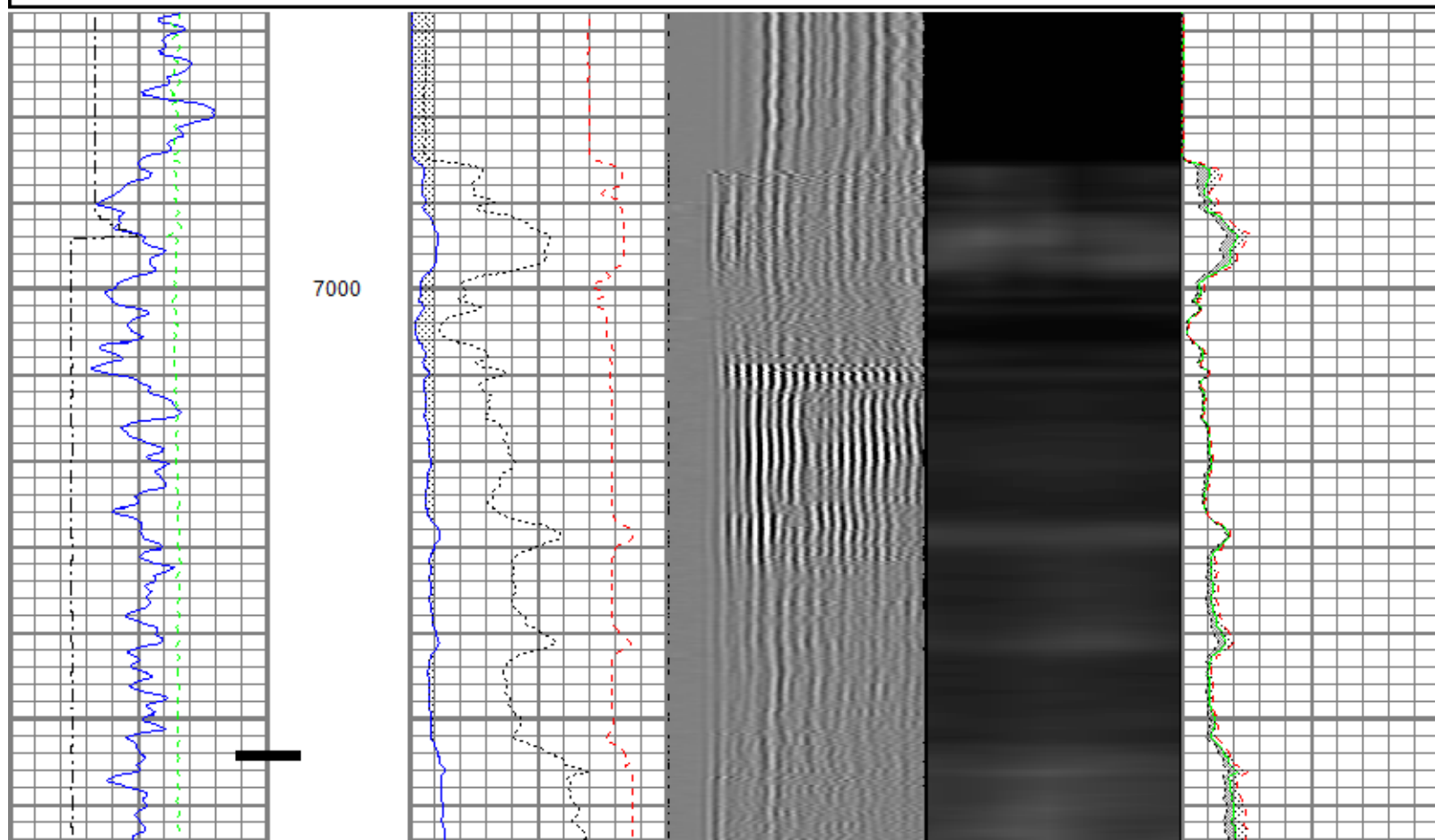
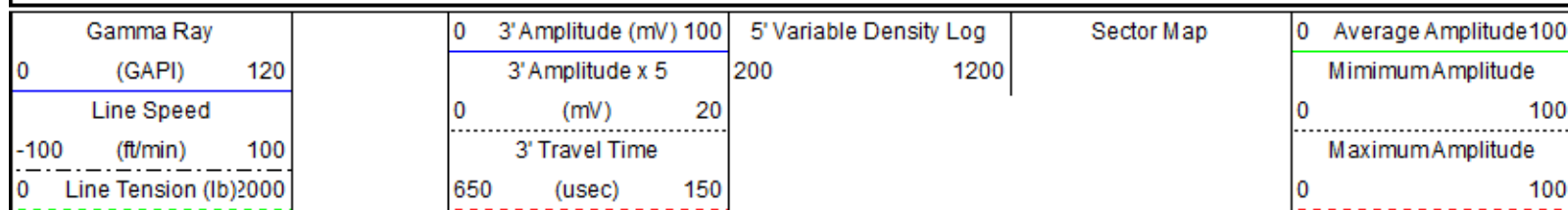


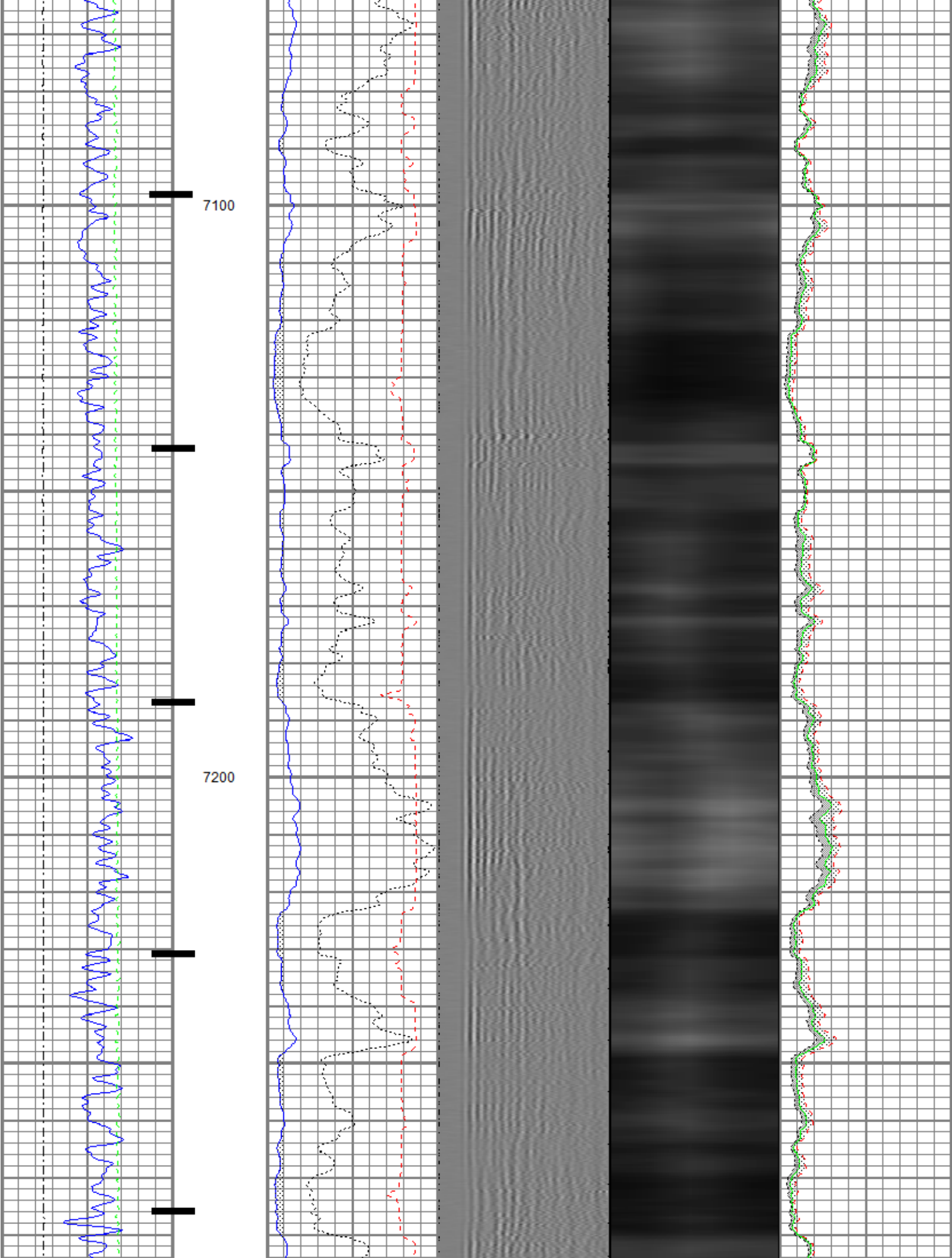
**FMC Technologies**

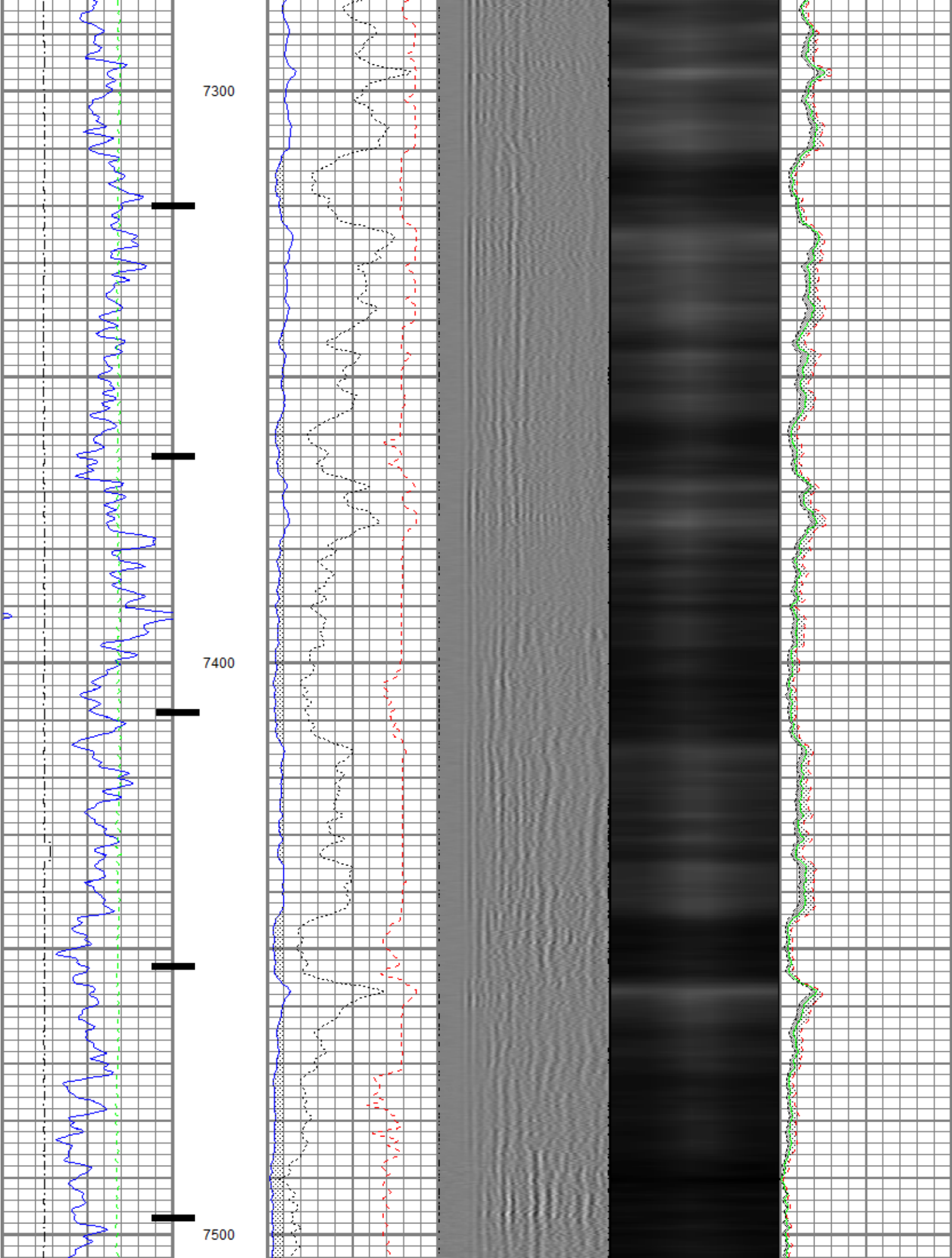
## 4.5" Main Pass

Recorded with 2800 PSI surface induced pressure.

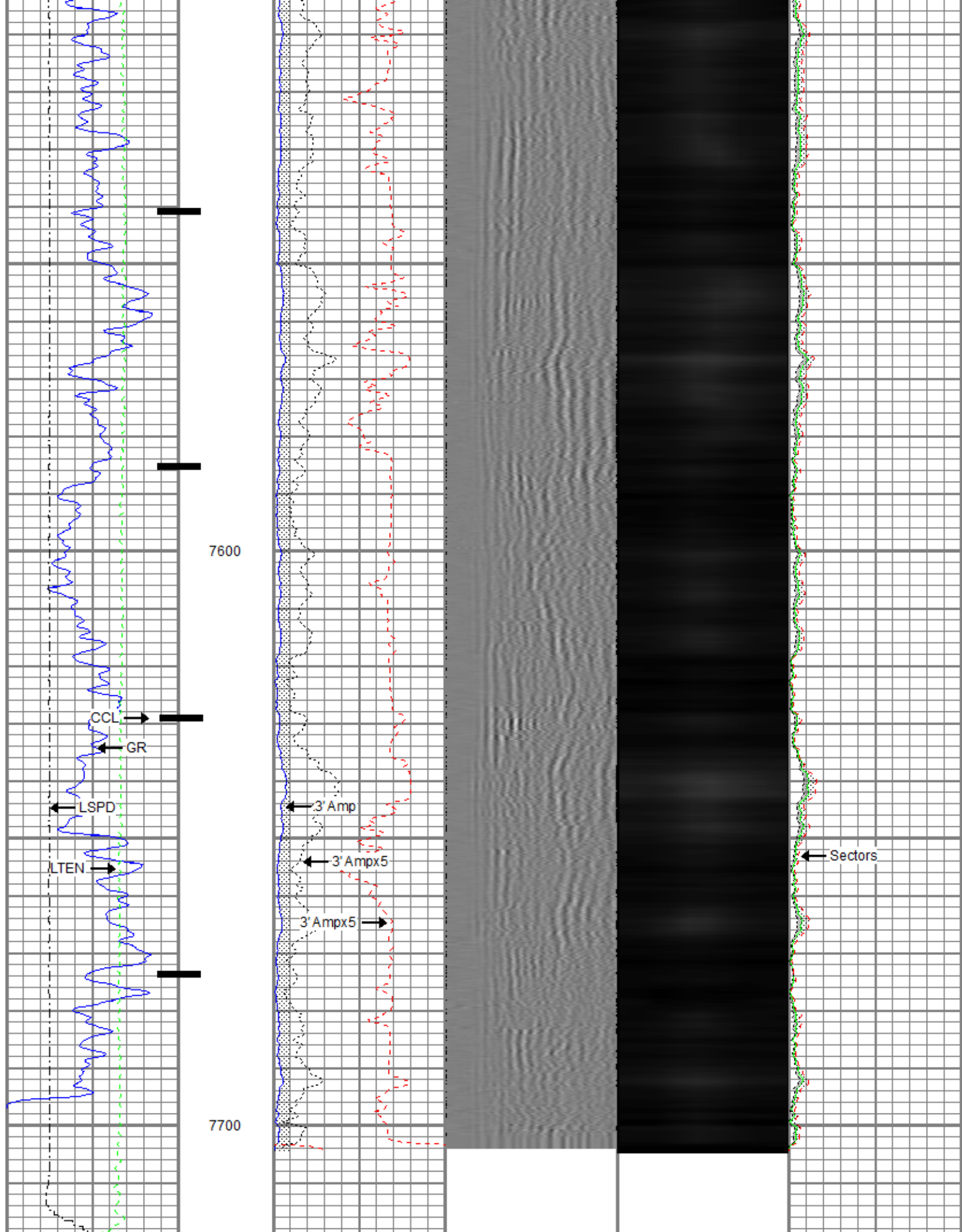
Database File: anadarko\_whip snake 2c-22hz\_rcbl mit\_04-sept-2014.db  
 Dataset Pathname: pass6  
 Presentation Format: rbt4\_mit  
 Dataset Creation: Thu Sep 04 10:26:50 2014 by Log SCH 111116  
 Charted by: Depth in Feet scaled 1:240











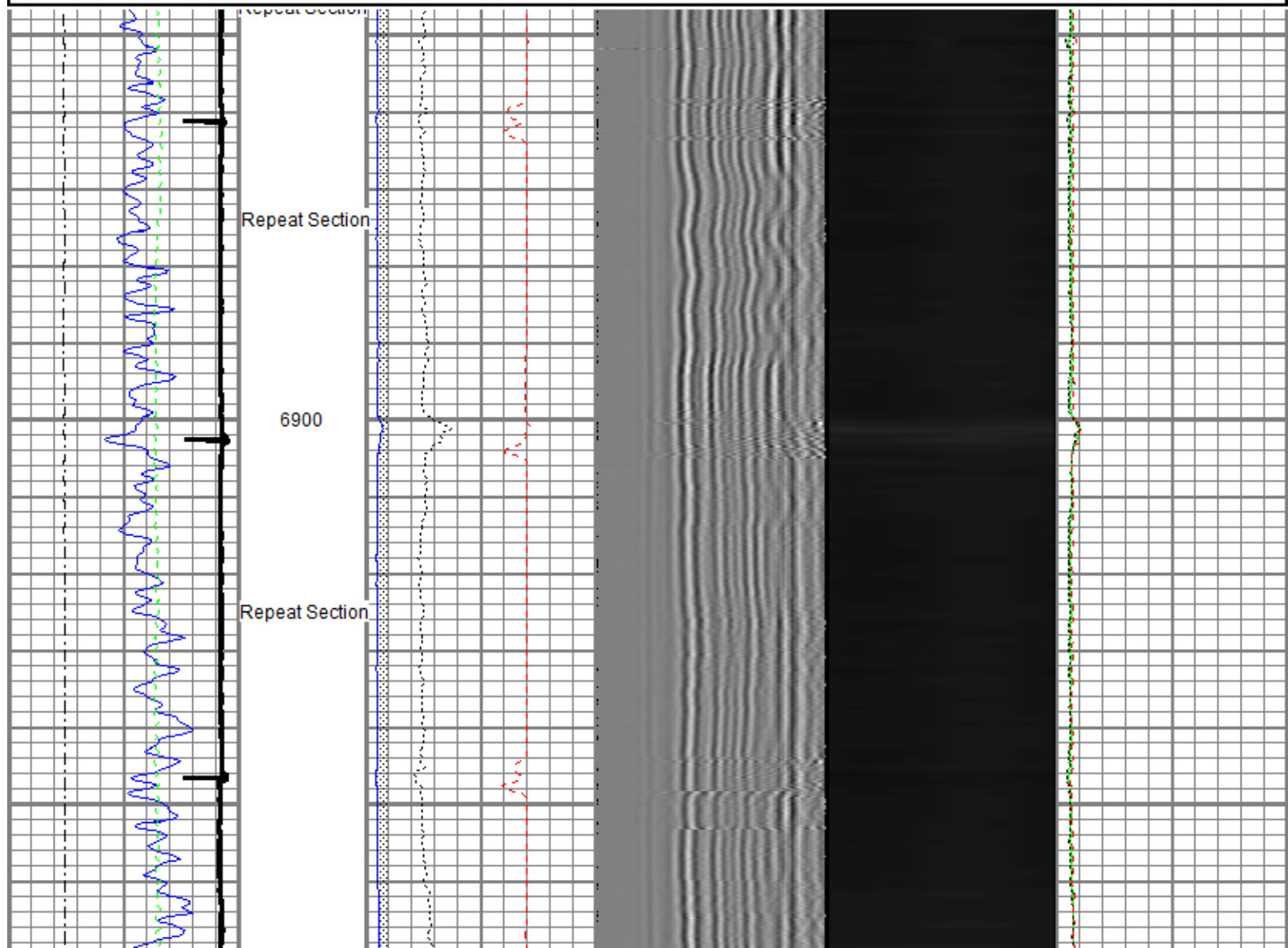
0	(GAPI)	120	3' Amplitude x 5	0	(mV)	20	200	1200	Minimum Amplitude	0	100
Line Speed			3' Travel Time						Maximum Amplitude		
-100	(ft/min)	100									
0	Line Tension (lb)	2000	650	(usec)	150						

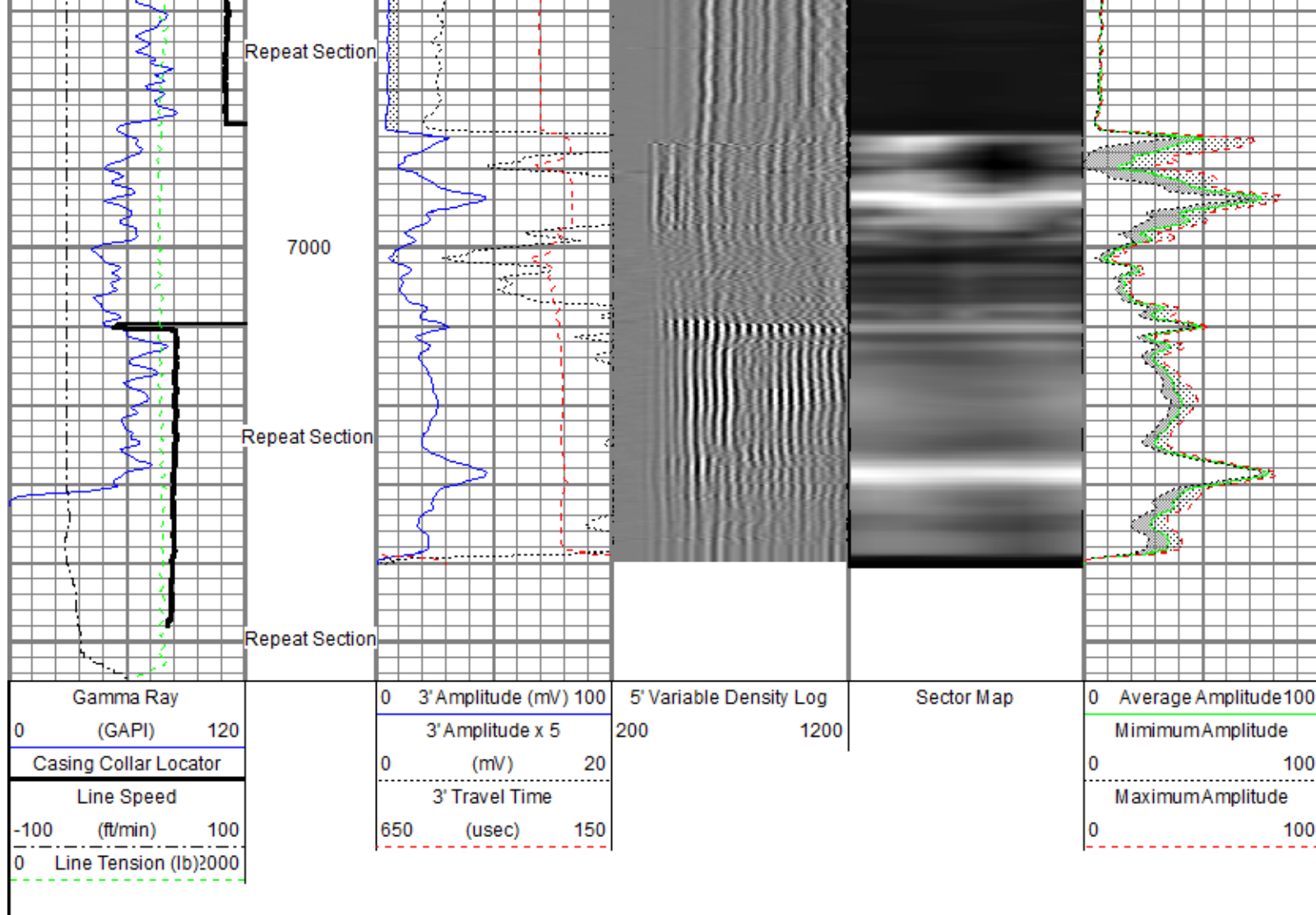


# Repeat Pass

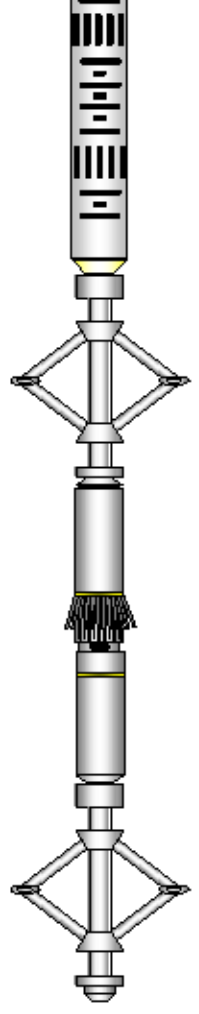
Database File: anadarko\_whip snake 2c-22hz\_rcbl mit\_04-sept-2014.db  
 Dataset Pathname: pass4  
 Presentation Format: rbt4\_mit  
 Dataset Creation: Thu Sep 04 10:07:59 2014 by Log SCH 111116  
 Charted by: Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.67		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 (051219) 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
			UW_PRC-UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WVF3FT	15.85		UW_RBT-UW_RBT_004 (1066) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	15.85					
WVF02	15.85					

WVFS2	15.85		UW_PRC #3 -UW_PRC_057 (1038) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WVFS3	15.85					
WVFS4	15.85					
WVFS5	15.85					
WVFS6	15.85					
WVFS7	15.85					
WVFS8	15.85					
CBLTEMP	15.85					
CBLROT	15.85					
WVF5FT	14.85					
MIT	5.41		UW_MIT-UW_MIT40_027 (211111) 40 Multifinger Imaging Tool	4.54	2.75	61.10
TSTAMP	0.00		UW_PRC-UW_PRC_057 (1101) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
ITEMPX	0.00		UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
HVOLT	0.00					
Dataset: anadarko_whip snake 2c-22hz_rcbl mit_04-sept-2014.db: field/well/run1/pass7 Total Length: 27.92 ft Total Weight: 319.30 lb O.D.: 3.13 in						

Calibration Report						
Database File:	anadarko_whip snake 2c-22hz_rcbl mit_04-sept-2014.db					
Dataset Pathname:	pass8					
Dataset Creation:	Thu Sep 04 13:35:53 2014 by Log SCH 111116					
Multi-finger Imaging Tool Calibration Report						
Serial Number:		211111				
Number of Fingers:		40				
Tool Model:		UW_MIT40_027				
Inclinometer Calibration Report						
Performed:		Mon Nov 18 15:31:59 2013				
Calibration Angle:		46				
Vertical:		Inc X		Inc Y		
Finger 1 up:		1931		1952		
Finger 31 up:		1959		2266		
Finger 21 up:		1608		1962		
Finger 11 up:		1927		1623		
Sensitivity ratio:		2253		1930		
X-axis angle:		1.0031				
Deviation const.:		272.845				
		311.818				
Finger Calibration Report						
Performed:		Thu Sep 04 09:15:29 2014				
Ring size:	4	5	6	7		
(in)	Sens	Sens	Sens			



Finger 01:	994	368.0	1362	406.0	1768	453.0	2221
Finger 02:	1025	370.0	1395	401.0	1796	432.0	2228
Finger 03:	1027	363.0	1390	400.0	1790	443.0	2233
Finger 04:	982	362.0	1344	406.0	1750	445.0	2195
Finger 05:	1013	352.0	1365	399.0	1764	434.0	2198
Finger 06:	995	364.0	1359	408.0	1767	448.0	2215
Finger 07:	1131	329.0	1460	370.0	1830	409.0	2239
Finger 08:	1033	345.0	1378	401.0	1779	445.0	2224
Finger 09:	1021	357.0	1378	410.0	1788	445.0	2233
Finger 10:	1059	316.0	1375	350.0	1725	375.0	2100
Finger 11:	1025	356.0	1381	404.0	1785	437.0	2222
Finger 12:	1182	376.0	1558	411.0	1969	438.0	2407
Finger 13:	1117	346.0	1463	397.0	1860	421.0	2281
Finger 14:	1216	327.0	1543	371.0	1914	373.0	2287
Finger 15:	1033	368.0	1401	419.0	1820	442.0	2262
Finger 16:	1070	359.0	1429	403.0	1832	387.0	2219
Finger 17:	1054	367.0	1421	410.0	1831	432.0	2263
Finger 18:	1030	368.0	1398	417.0	1815	449.0	2264
Finger 19:	1028	374.0	1402	417.0	1819	455.0	2274
Finger 20:	1102	362.0	1464	397.0	1861	437.0	2298
Finger 21:	1081	373.0	1454	410.0	1864	445.0	2309
Finger 22:	1093	370.0	1463	407.0	1870	436.0	2306
Finger 23:	1069	373.0	1442	415.0	1857	454.0	2311
Finger 24:	1244	338.0	1582	376.0	1958	396.0	2354
Finger 25:	1204	362.0	1566	389.0	1955	401.0	2356
Finger 26:	1222	345.0	1567	359.0	1926	387.0	2313
Finger 27:	1182	348.0	1530	371.0	1901	408.0	2309
Finger 28:	1228	354.0	1582	364.0	1946	390.0	2336
Finger 29:	1218	347.0	1565	358.0	1923	384.0	2307
Finger 30:	1207	339.0	1546	362.0	1908	398.0	2306
Finger 31:	1206	352.0	1558	369.0	1927	395.0	2322
Finger 32:	1228	342.0	1570	352.0	1922	377.0	2299
Finger 33:	1058	368.0	1426	410.0	1836	459.0	2295
Finger 34:	1097	369.0	1466	382.0	1848	425.0	2273
Finger 35:	1197	345.0	1542	359.0	1901	400.0	2301
Finger 36:	1133	350.0	1483	366.0	1849	403.0	2252
Finger 37:	1064	381.0	1445	393.0	1838	443.0	2281
Finger 38:	1067	363.0	1430	379.0	1809	418.0	2227
Finger 39:	1052	390.0	1442	404.0	1846	467.0	2313
Finger 40:	985	367.0	1352	402.0	1754	445.0	2199

Post Survey Calibration Check								
Performed: Thu Sep 04 13:35:47 2014								
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.998	-0.001	4.995	-0.002	5.987	-0.007	6.977	-0.011
Finger 02:	4.009	0.004	5.000	-0.000	5.993	-0.004	6.996	-0.002
Finger 03:	3.978	-0.011	4.974	-0.013	5.974	-0.013	6.952	-0.024
Finger 04:	4.000	-0.000	4.994	-0.003	5.984	-0.008	6.962	-0.019
Finger 05:	3.973	-0.013	4.981	-0.009	5.986	-0.007	7.000	0.000
Finger 06:	3.998	-0.001	4.996	-0.002	5.995	-0.003	6.968	-0.016
Finger 07:	3.944	-0.028	4.960	-0.020	5.965	-0.018	6.956	-0.022
Finger 08:	3.984	-0.008	4.985	-0.008	5.987	-0.006	6.963	-0.018
Finger 09:	3.980	-0.010	4.983	-0.008	5.985	-0.008	6.973	-0.014
Finger 10:	3.981	-0.009	4.979	-0.010	5.994	-0.003	6.976	-0.012
Finger 11:	3.976	-0.012	4.986	-0.007	5.993	-0.004	6.986	-0.007
Finger 12:	3.973	-0.013	4.972	-0.014	5.981	-0.010	6.968	-0.016
Finger 13:	3.978	-0.011	4.982	-0.009	5.983	-0.008	6.953	-0.024
Finger 14:	3.966	-0.017	4.980	-0.010	5.968	-0.016	6.967	-0.017
Finger 15:	3.989	-0.005	4.986	-0.007	5.991	-0.004	6.982	-0.009
Finger 16:	3.993	-0.003	4.925	-0.037	5.899	-0.051	6.959	-0.021
Finger 17:	4.005	0.003	4.994	-0.003	5.996	-0.002	6.987	-0.007
Finger 18:	3.991	-0.005	4.999	-0.001	5.995	-0.003	6.960	-0.020
Finger 19:	4.006	0.003	4.992	-0.004	5.995	-0.003	6.970	-0.015
Finger 20:	3.992	-0.004	4.979	-0.010	5.982	-0.009	6.957	-0.022
Finger 21:	3.999	-0.000	4.985	-0.007	5.991	-0.005	6.967	-0.017
Finger 22:	3.996	-0.002	4.990	-0.005	5.987	-0.007	6.983	-0.008
Finger 23:	3.989	-0.006	4.969	-0.015	5.978	-0.011	6.975	-0.013
Finger 24:	3.956	-0.022	4.977	-0.012	5.951	-0.024	6.953	-0.024
Finger 25:	3.992	-0.004	4.991	-0.005	5.985	-0.007	6.982	-0.009
Finger 26:	3.982	-0.009	4.980	-0.010	6.003	0.002	6.948	-0.026
Finger 27:	3.995	-0.003	4.992	-0.004	5.996	-0.002	6.961	-0.020
Finger 28:	3.993	-0.003	4.995	-0.003	5.997	-0.003	6.963	-0.025

Finger 28:	3.982	-0.009	4.985	-0.008	5.997	-0.002	6.990	-0.005
Finger 29:	3.963	-0.018	4.980	-0.010	5.992	-0.004	6.990	-0.005
Finger 30:	3.970	-0.015	4.963	-0.019	5.958	-0.021	6.965	-0.018
Finger 31:	3.987	-0.007	4.997	-0.002	5.986	-0.007	6.977	-0.011
Finger 32:	3.980	-0.010	4.993	-0.003	5.979	-0.011	6.982	-0.009
Finger 33:	3.983	-0.009	4.989	-0.005	5.980	-0.010	6.953	-0.023
Finger 34:	3.969	-0.016	4.958	-0.021	5.970	-0.015	6.969	-0.015
Finger 35:	3.982	-0.009	4.964	-0.018	5.973	-0.013	6.979	-0.011
Finger 36:	3.987	-0.007	4.982	-0.009	5.975	-0.012	6.967	-0.016
Finger 37:	3.993	-0.004	4.965	-0.018	5.967	-0.016	6.949	-0.025
Finger 38:	3.996	-0.002	4.985	-0.008	5.990	-0.005	6.987	-0.007
Finger 39:	3.990	-0.005	4.959	-0.021	5.977	-0.012	6.939	-0.030
Finger 40:	4.003	0.001	4.996	-0.002	5.981	-0.009	6.964	-0.018
Average:	3.985	-0.007	4.981	-0.009	5.981	-0.009	6.970	-0.015

#### Segmented Cement Bond Log Calibration Report

Serial Number: 1066  
Tool Model: UW\_RBT\_004  
  
Calibration Casing Diameter: 5.500 in  
Calibration Depth: 189.492 ft

Master Calibration, performed Thu Sep 04 09:29:15 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.001	0.791	0.800	62.200	77.563	0.873
5FT	-0.005	0.704	0.800	62.200	86.521	1.251
S1	0.001	0.725	0.000	100.000	138.176	-0.133
S2	-0.001	0.740	0.000	100.000	134.939	0.166
S3	-0.001	0.772	0.000	100.000	129.314	0.142
S4	-0.002	0.812	0.000	100.000	122.786	0.282
S5	-0.001	0.836	0.000	100.000	119.510	0.076
S6	-0.001	0.841	0.000	100.000	118.777	0.145
S7	-0.000	0.818	0.000	100.000	122.209	0.004
S8	-0.000	0.764	0.000	100.000	130.815	0.010

#### 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: Kerr McGee Oil & Gas Onshore LP  
Well: Whip Snake 2C-22HZ  
Field: Wattenberg  
County: Weld  
State: Colorado  
Country: