

Radial Cement Bond Gamma Ray Casing Collar Log

Company	Kerr McGee Oil & Gas Onshore LP				
Well	Kerr 35N-25HZ				
Field	Wattenberg				
County	Weld				
State	Colorado				
Company	Kerr McGee Oil & Gas Onshore LP				
Well	Kerr 35N-25HZ				
Field	Wattenberg				
County	Weld	State	Colorado		
Location:	API # : 05-123-38983		Other Services Gauge ring rcbl		
SEC 13		TWP 2N	RGE 67W		
Permanent Datum	Ground Level	Elevation	4886'	Elevation	
Log Measured From	Kelly Bushing	16 FT	K.B. 4902' D.F. 4901' G.L. 4886'		
Drilling Measured From	Kelly Bushing				

Date	04-Feb-2015
Run Number	Two
Depth Driller	17,709 FT
Depth Logger	7080 FT
Bottom Logged Interval	7076 FT
Top Log Interval	Surface
Open Hole Size	9.625"
Type Fluid	Water
Density / Viscosity	8.34 lbm/gal
Max. Recorded Temp.	205° F
Estimated Cement Top	Surface
Time Well Ready	R.O.A.
Time Logger on Bottom	11:00
Equipment Number	HD-0119
Location	Ft. Lupton, CO
Recorded By	E. Vaughn
Witnessed By	Randy Anderson

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	1095 FT		
Intermediate #1	7	26	HCP-110	Surface	7722 FT		
Intermediate #2							
Liner	4.5	11.6	HCP-110	6457 FT	17,705 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.

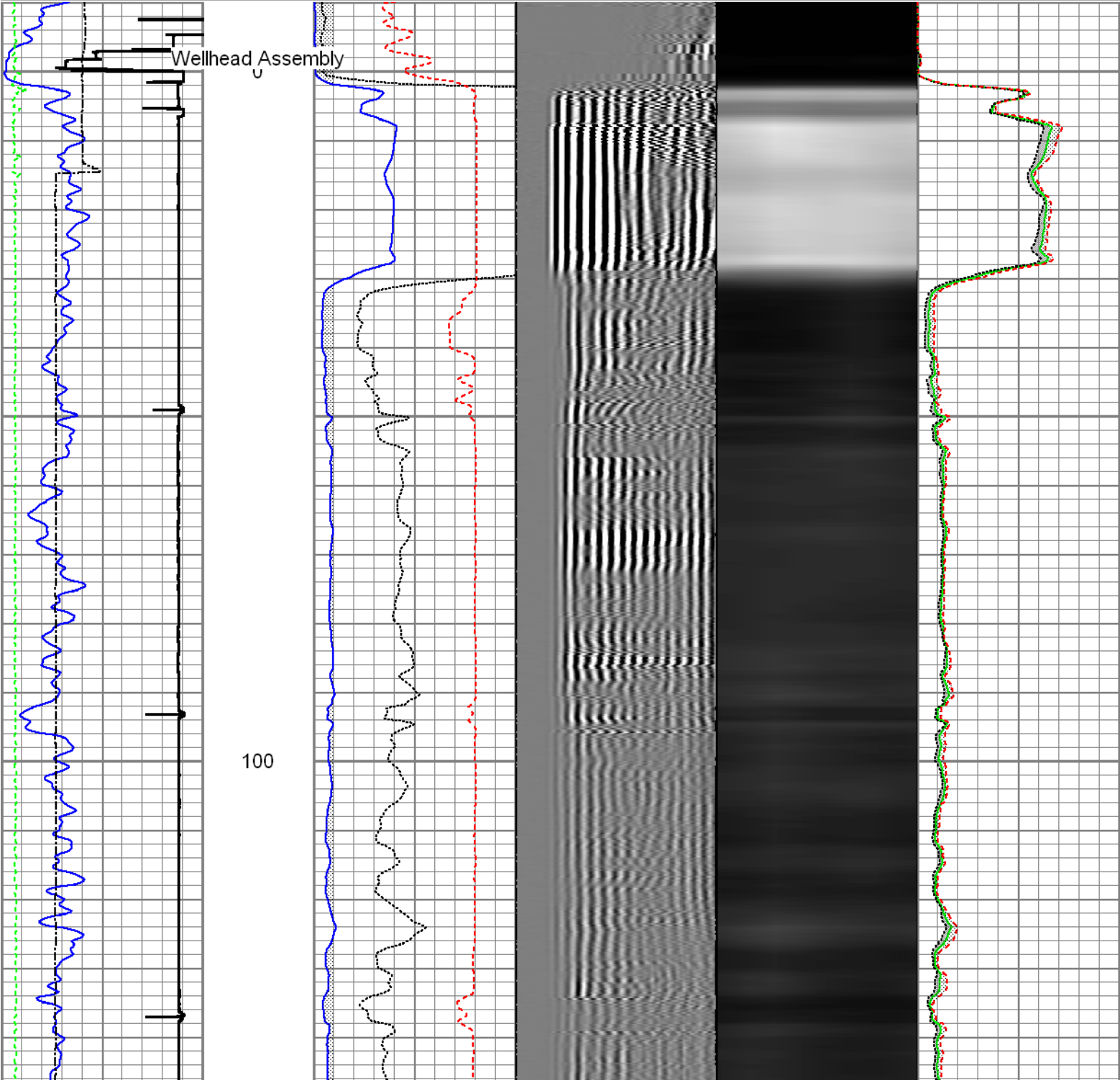
Comments

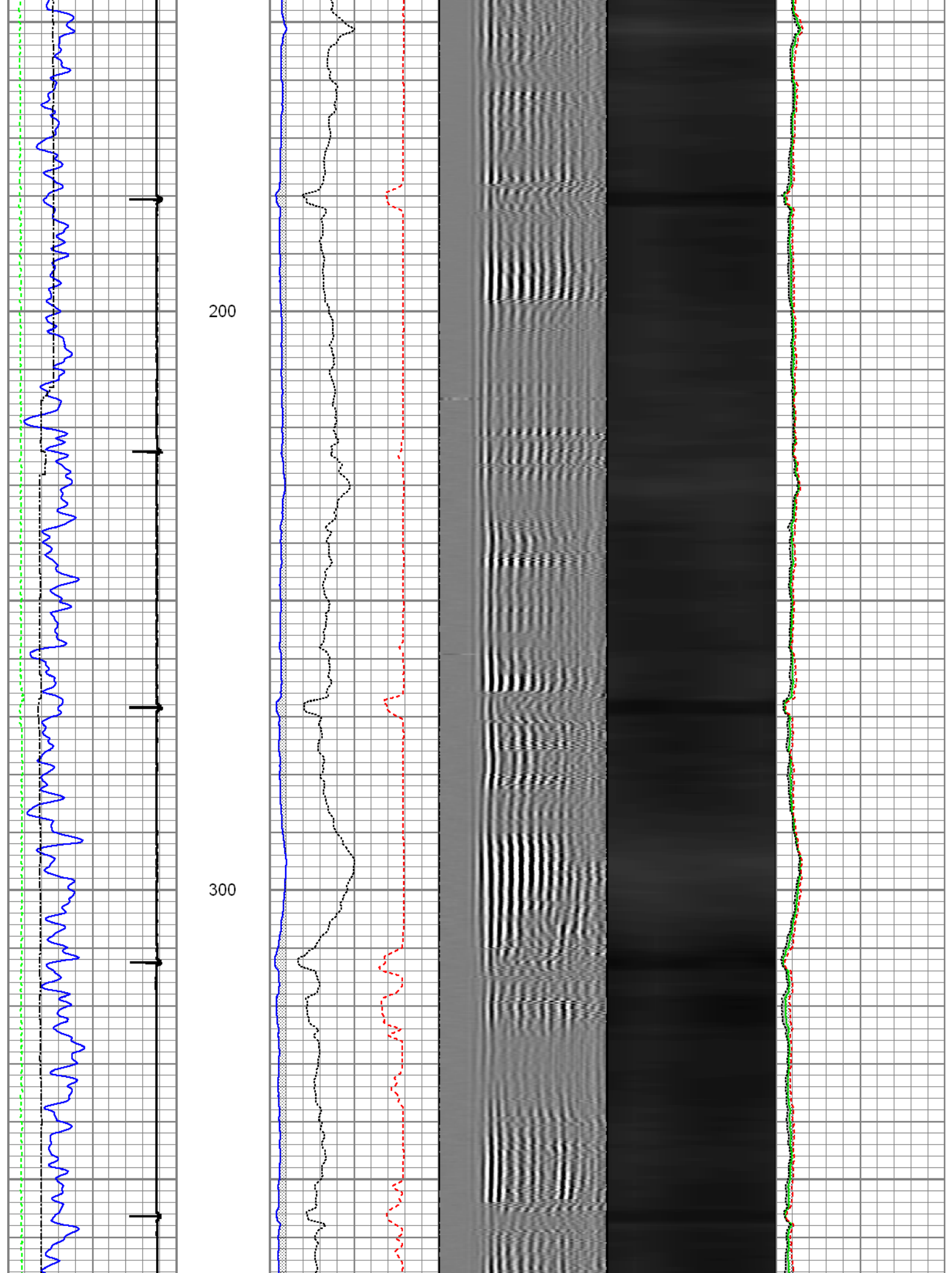
Log ran as per customer request.
Depth reference to Casing Tally reported liner top at 6457 FT.
Adjusted -4.3 FT to correlate to liner top.
Log ran as deep as possible to surface.
Log ran with 2800 PSI surface induced pressure.

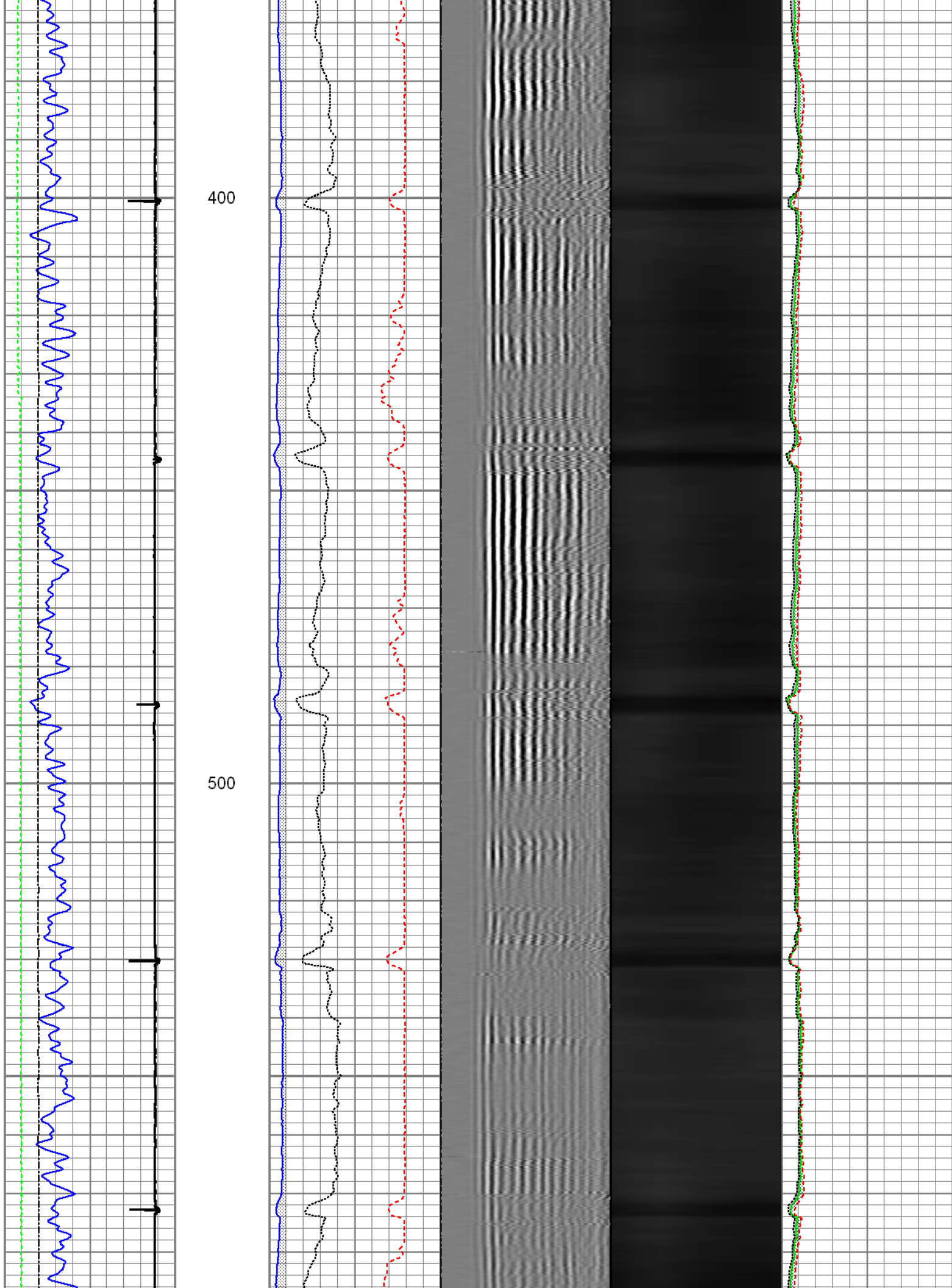
Thank you for choosing FMC Technologies Completion Services, Inc.!!

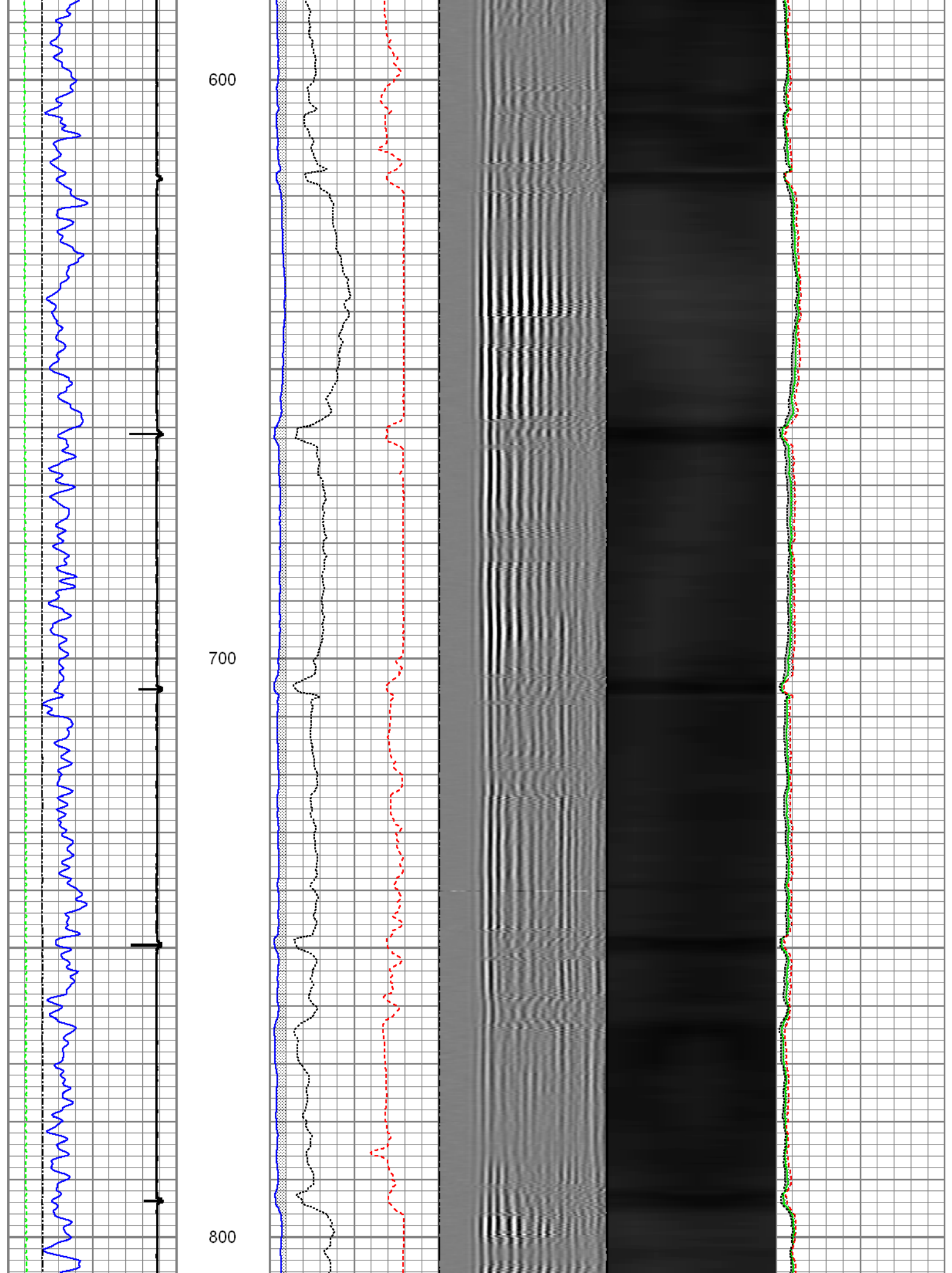
Database File: 0512338983_anadarko_kerr 35n-25hz_02-04-15_mit_rbl.db
Dataset Pathname: 7_main
Presentation Format: rbt4_mit
Dataset Creation: Thu Feb 05 11:40:54 2015 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

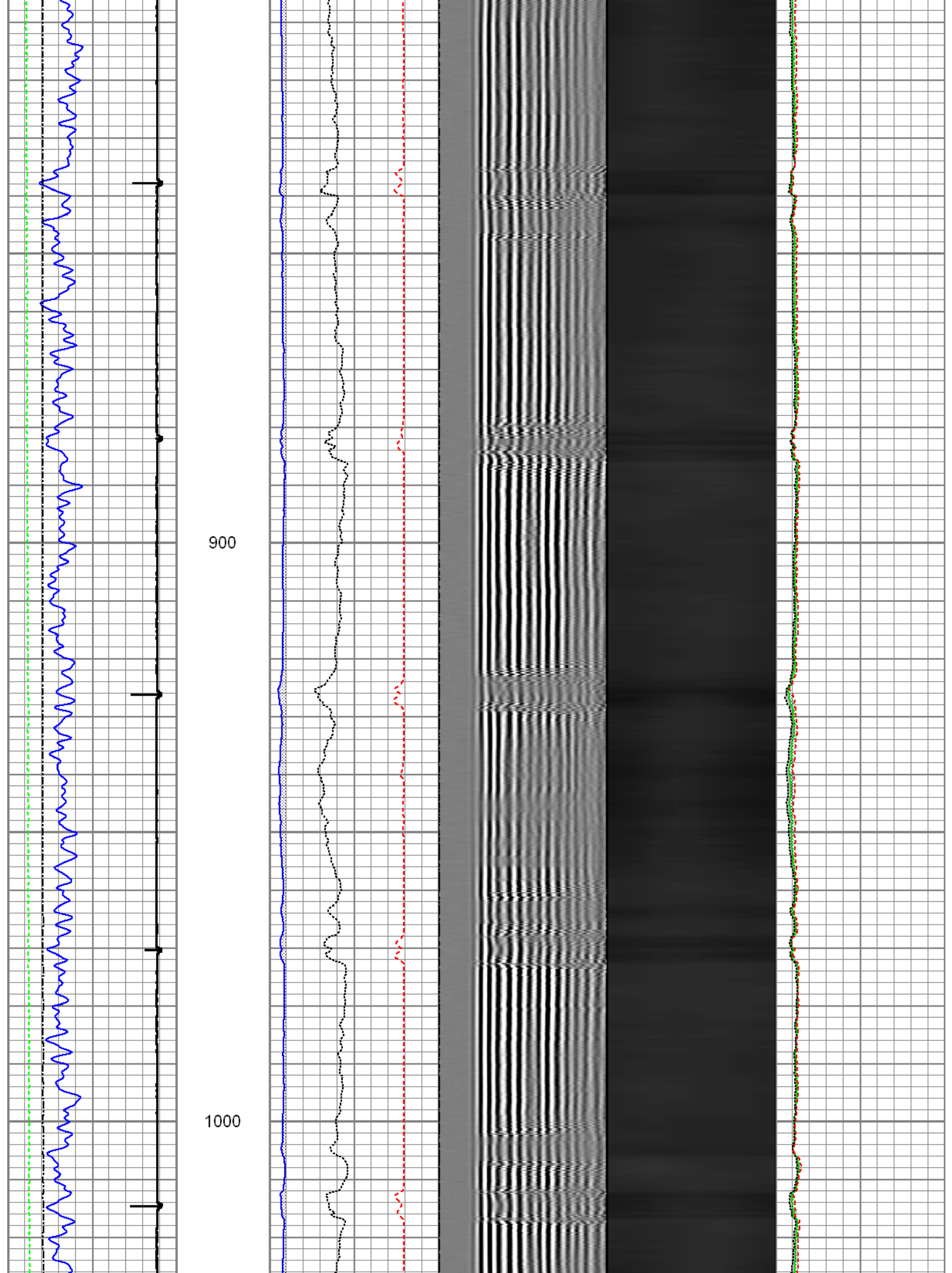
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Line Speed	3' Amplitude x 5			Minimum Amplitude
-100 (ft/min) 100	0 (mV) 20			0 100
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	650 (usec) 150			0 100
Casing Collar Locator				

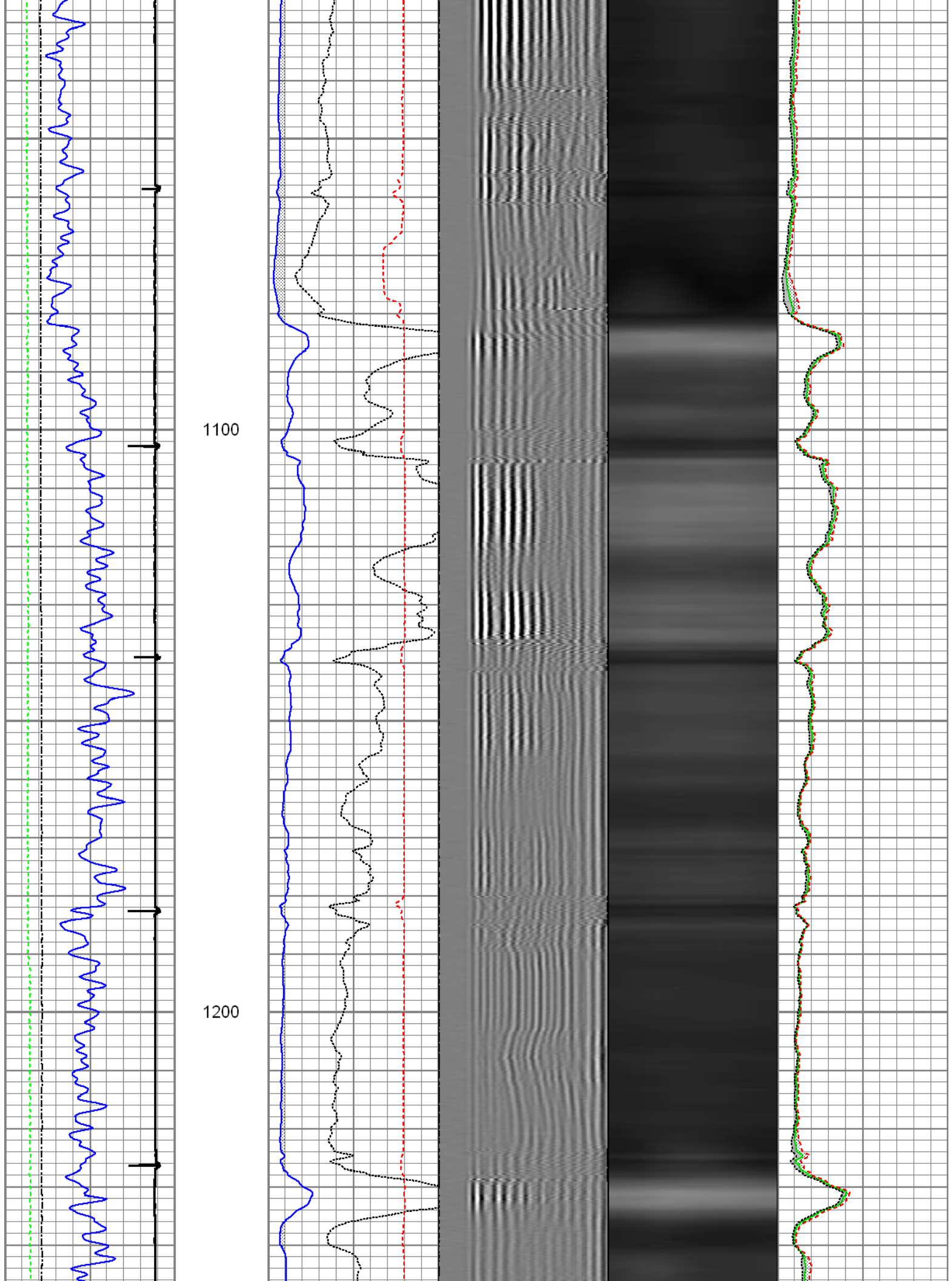


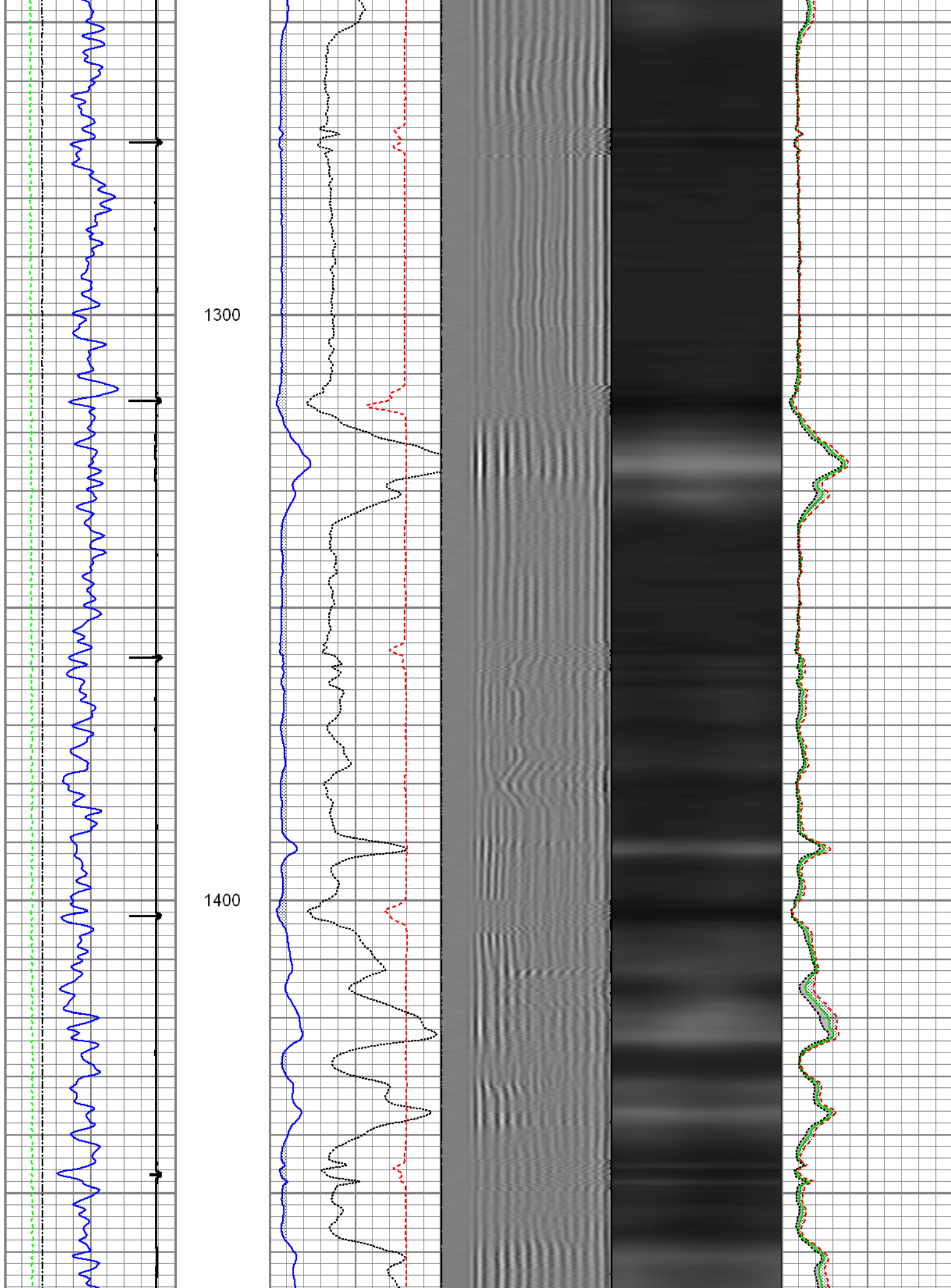


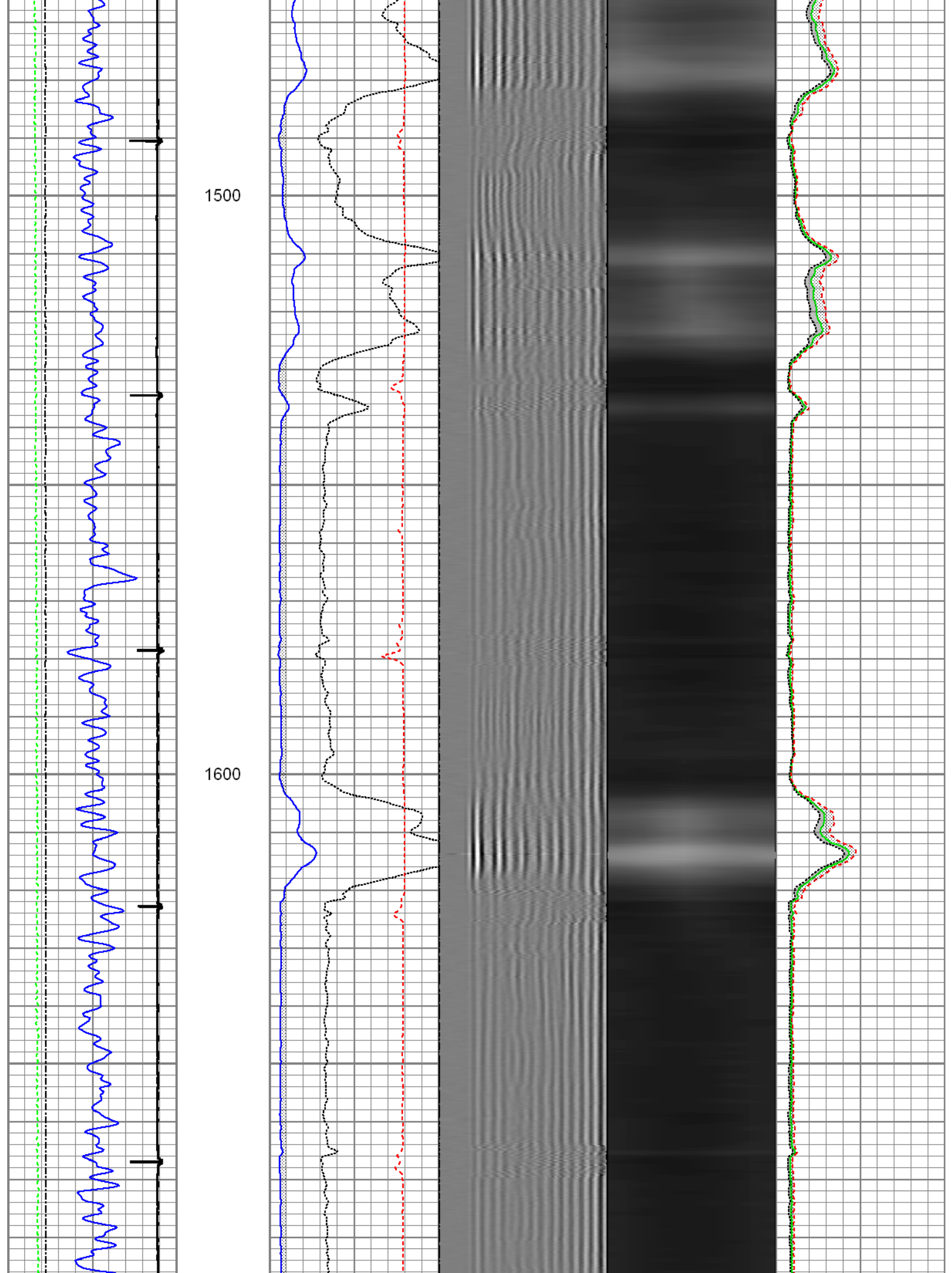


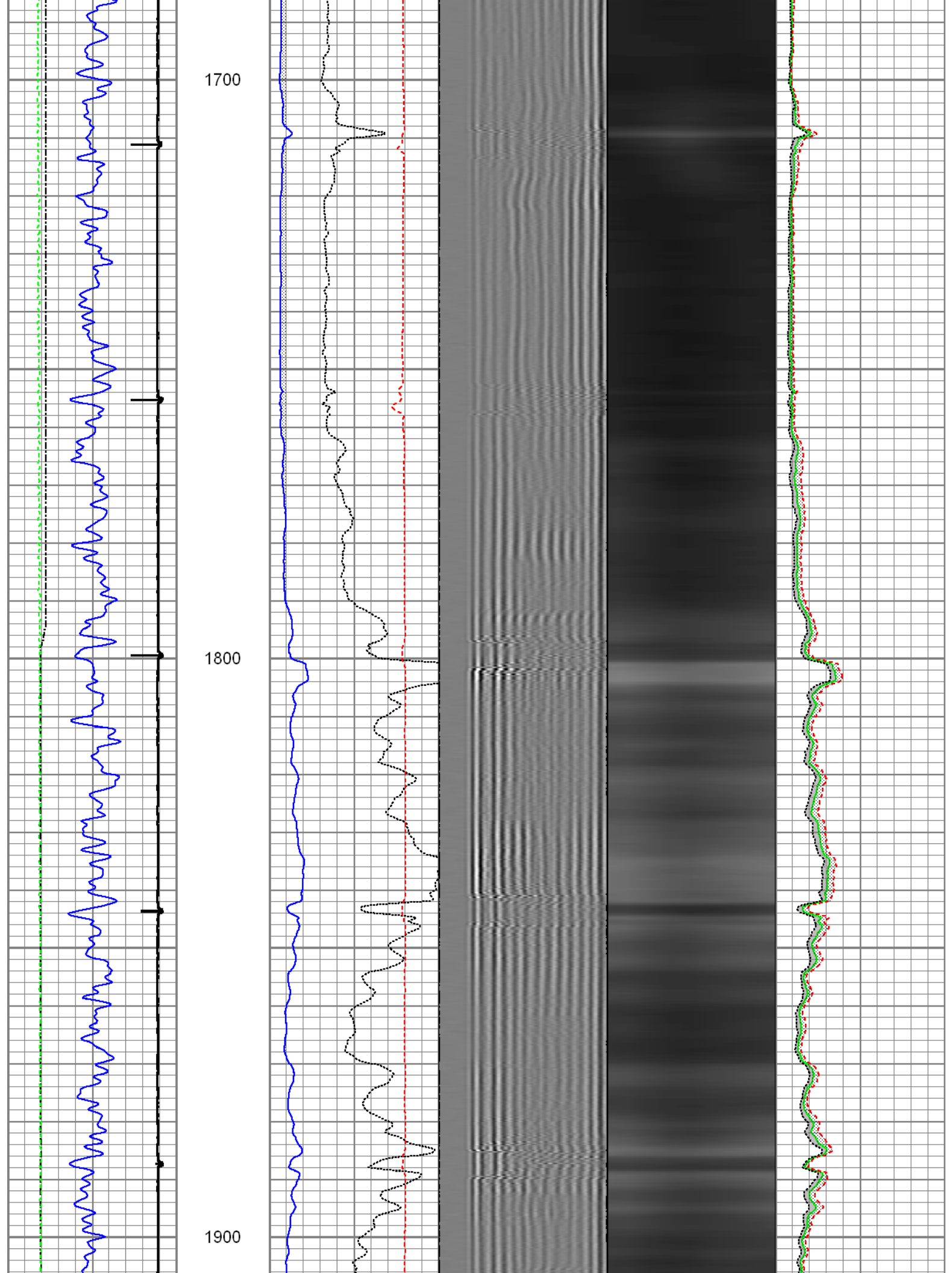






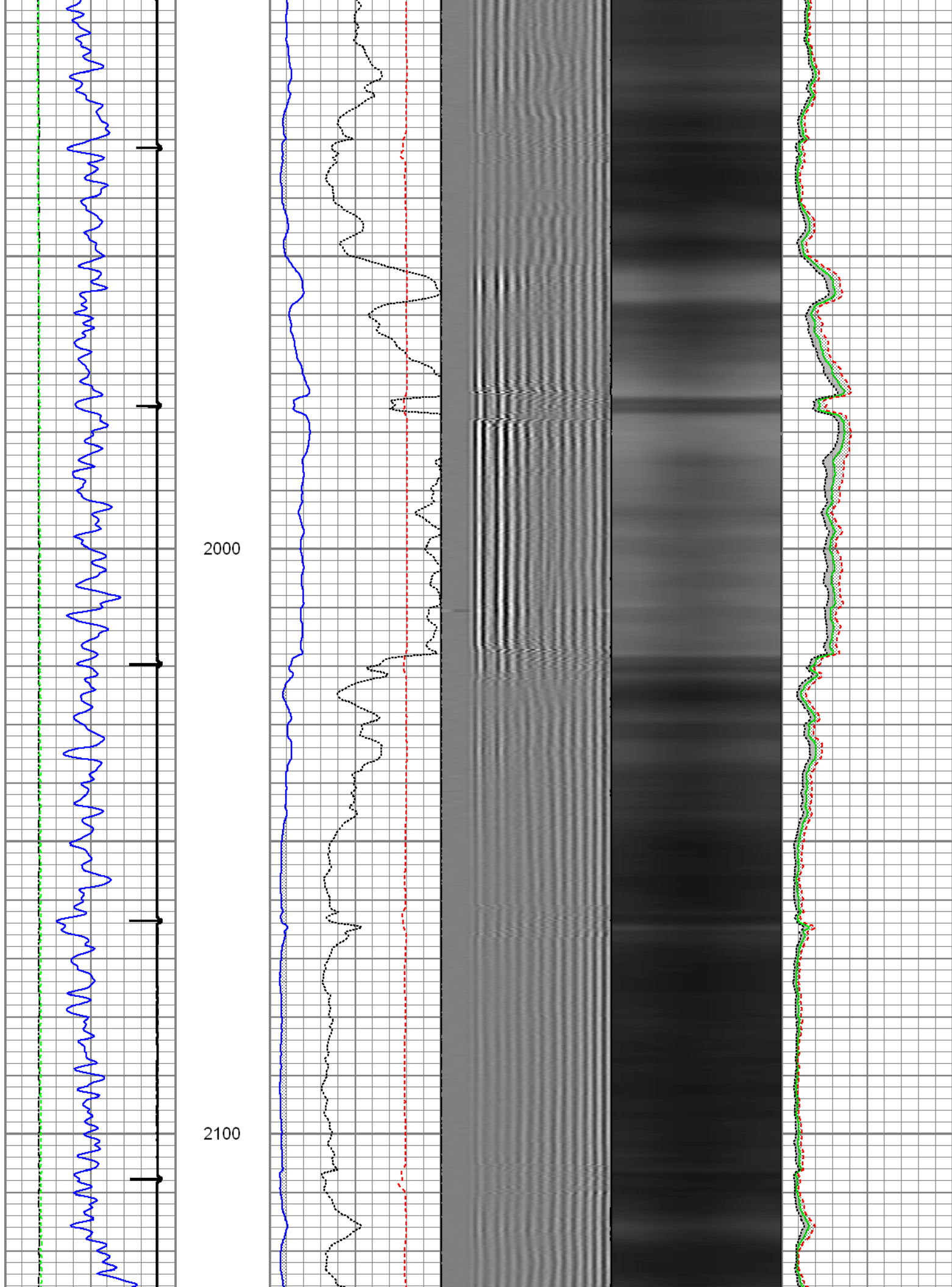






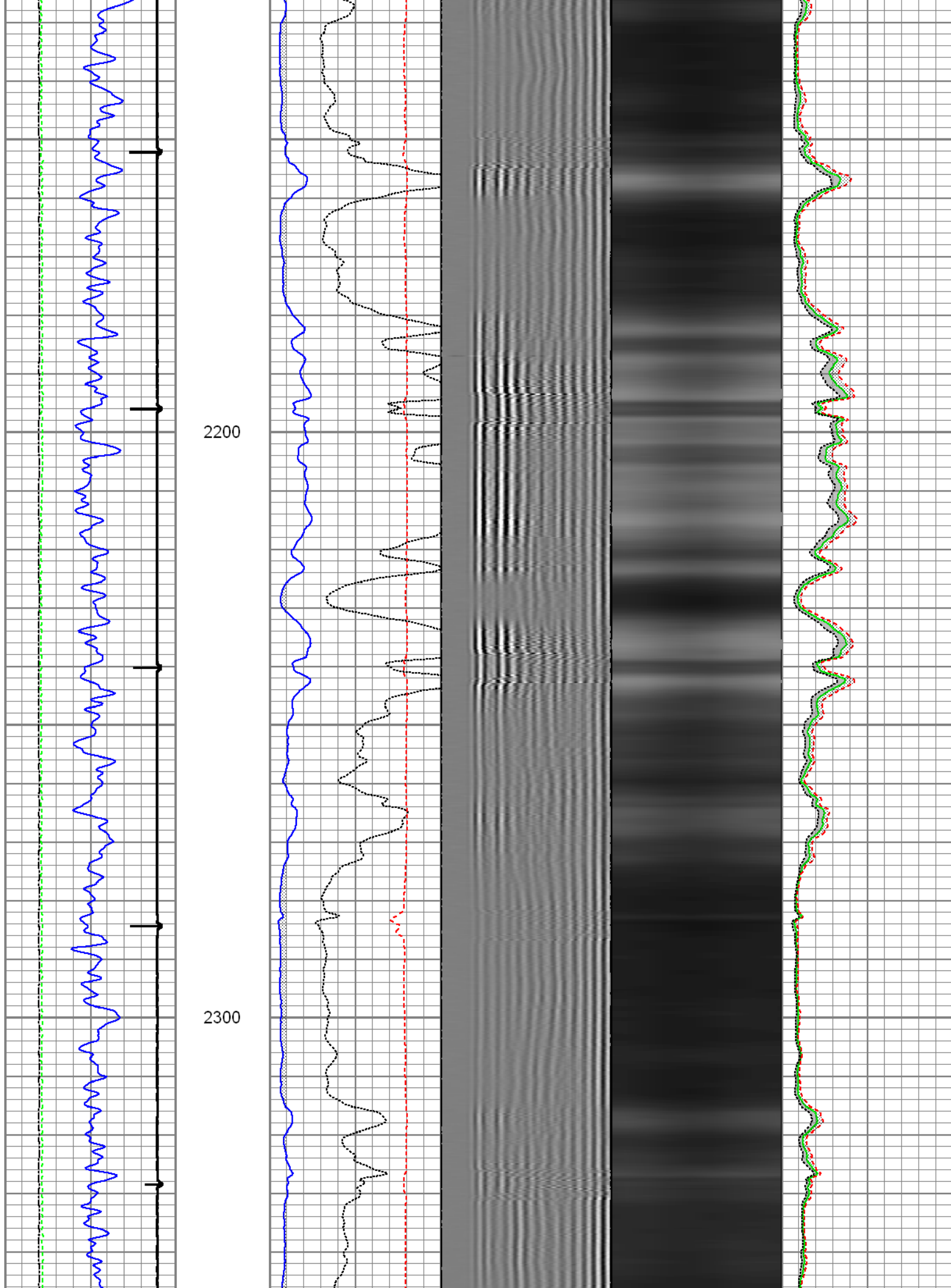
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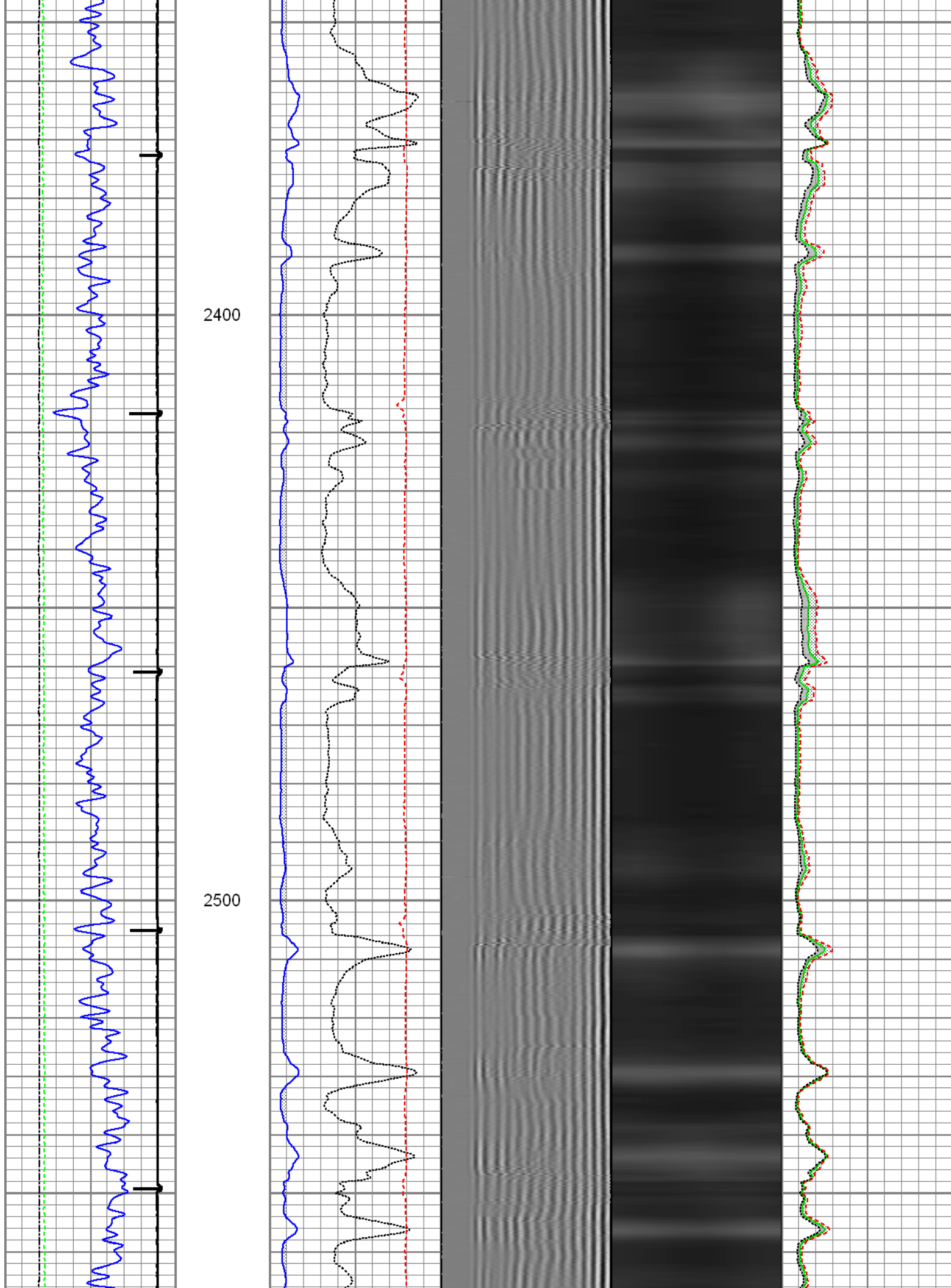
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2300



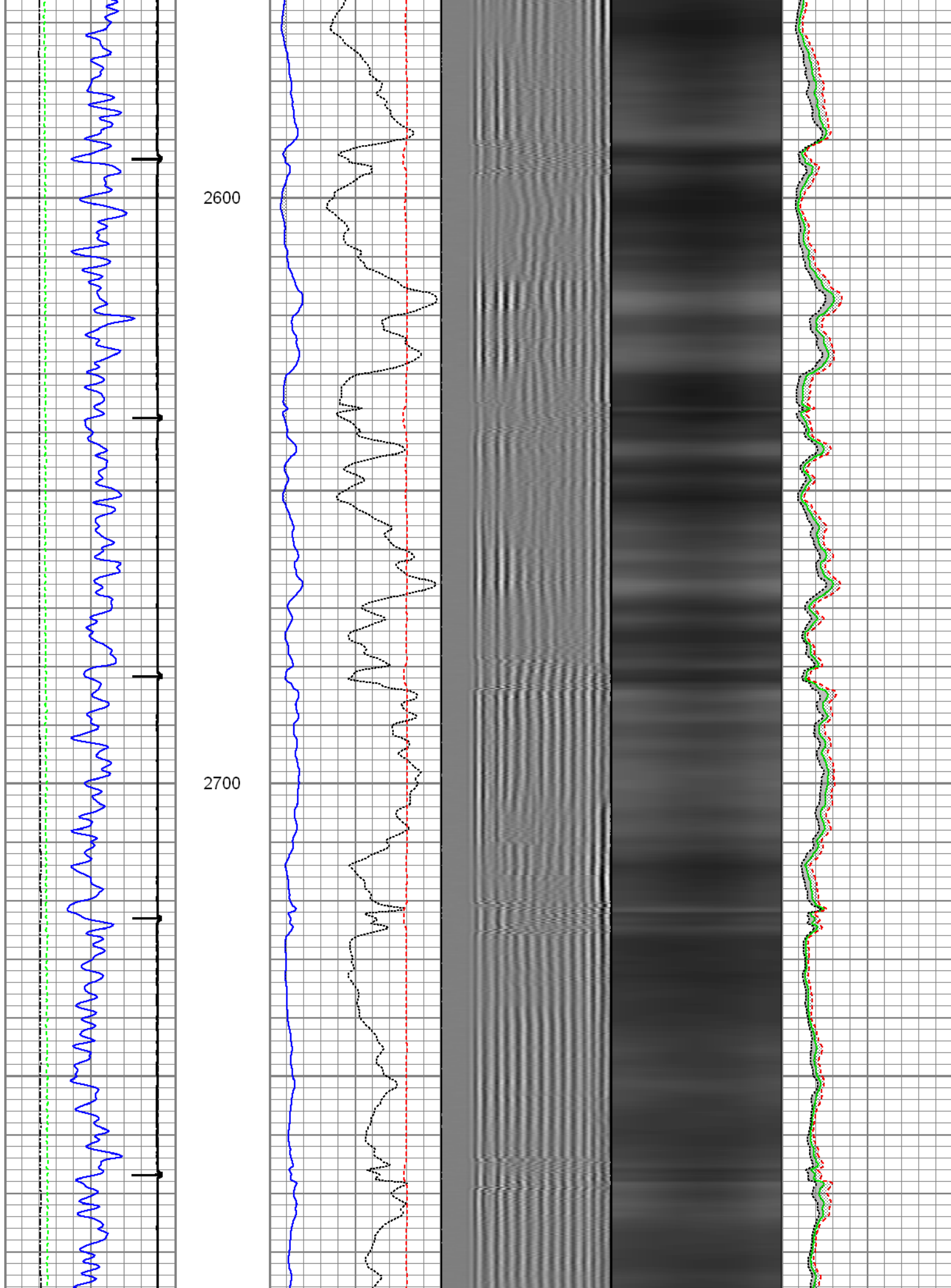
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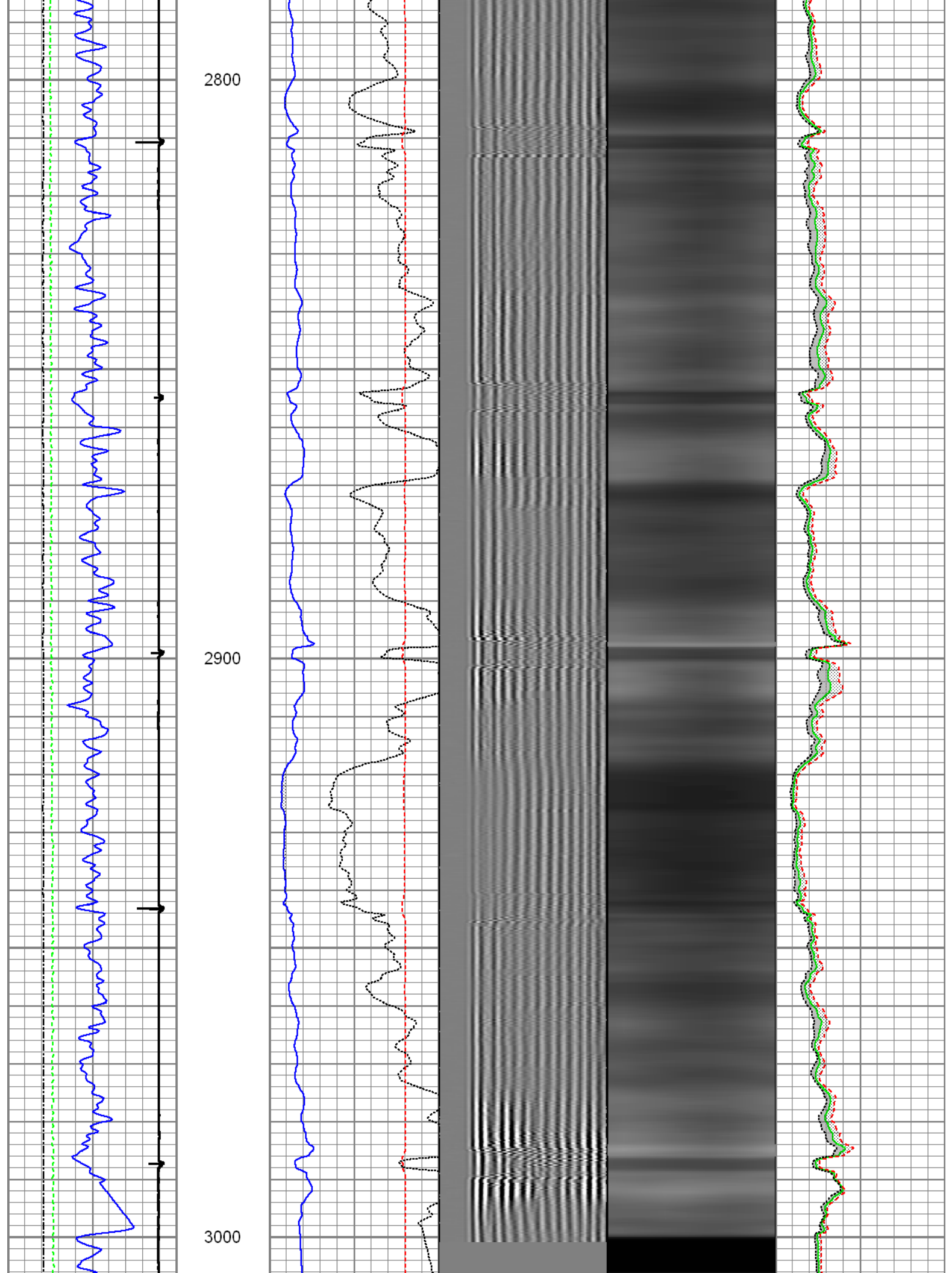
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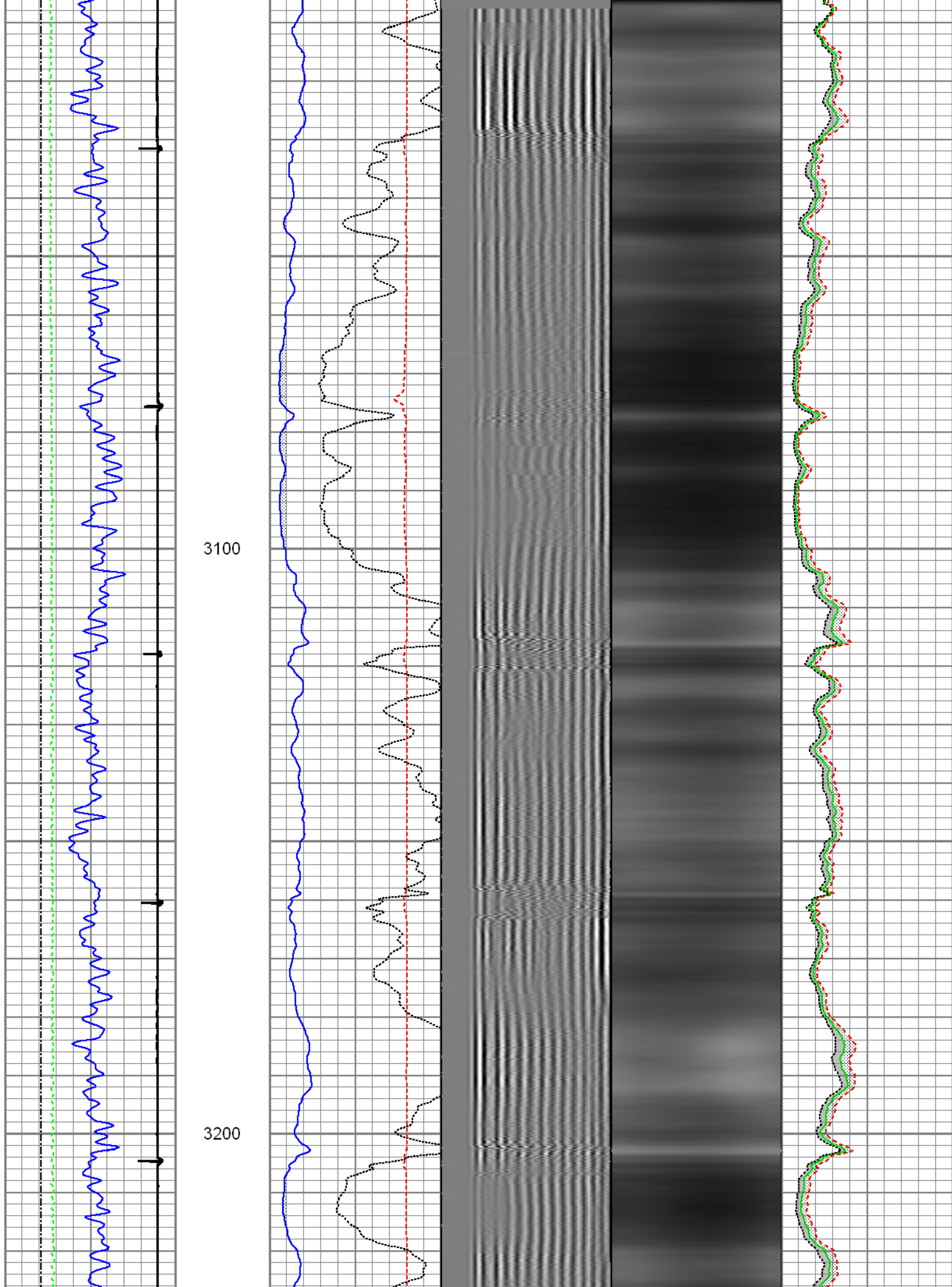


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2700

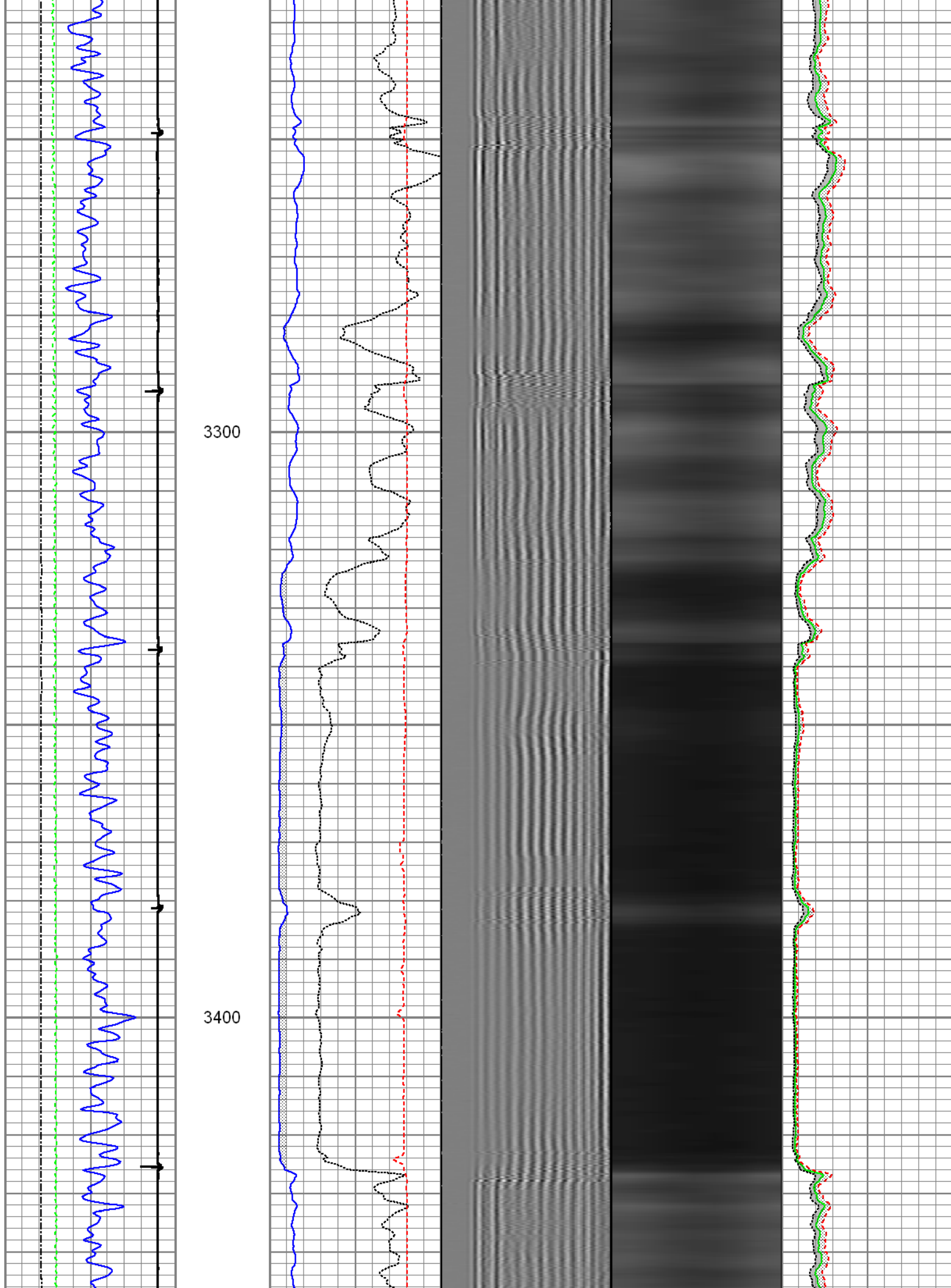






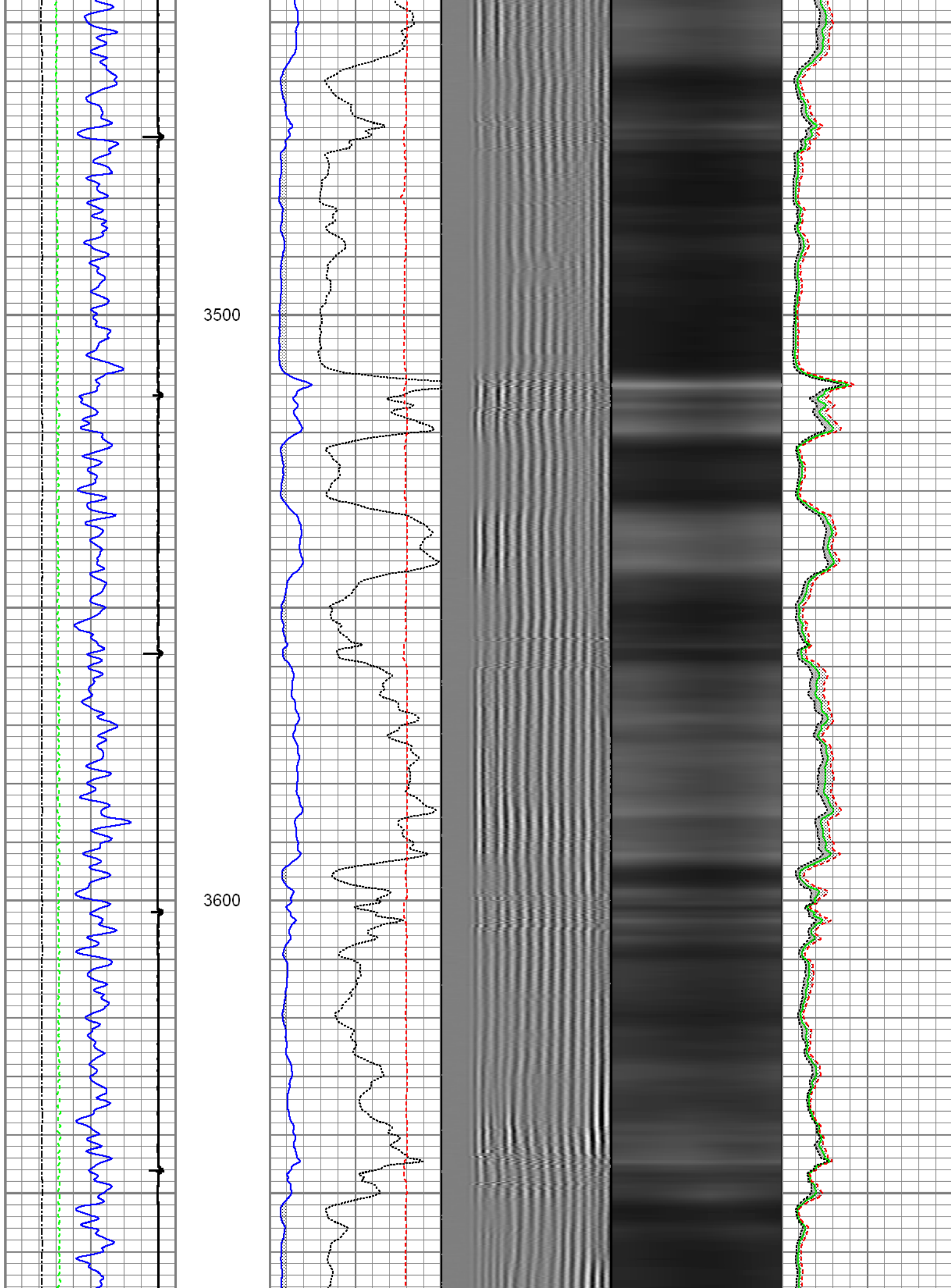
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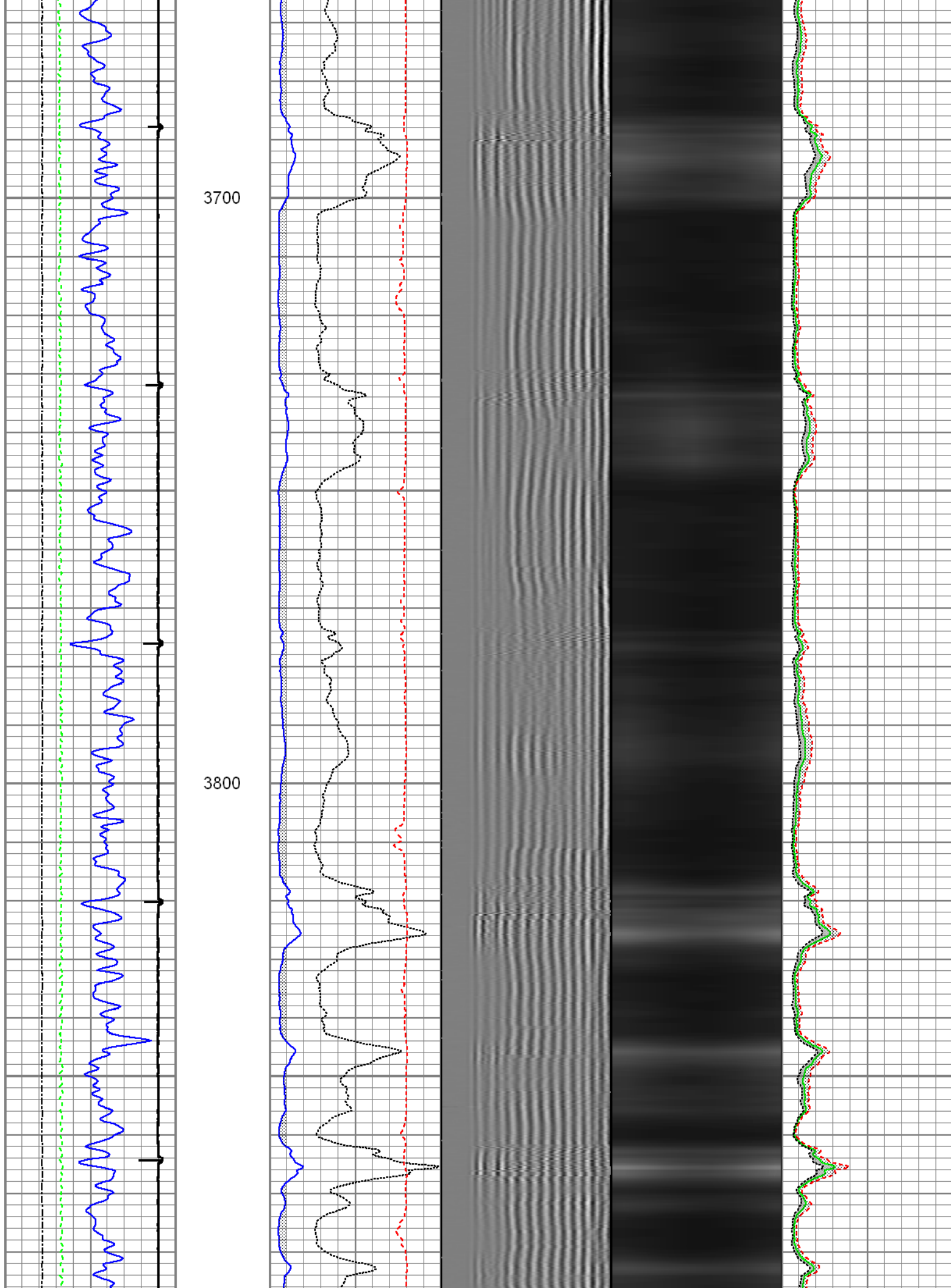
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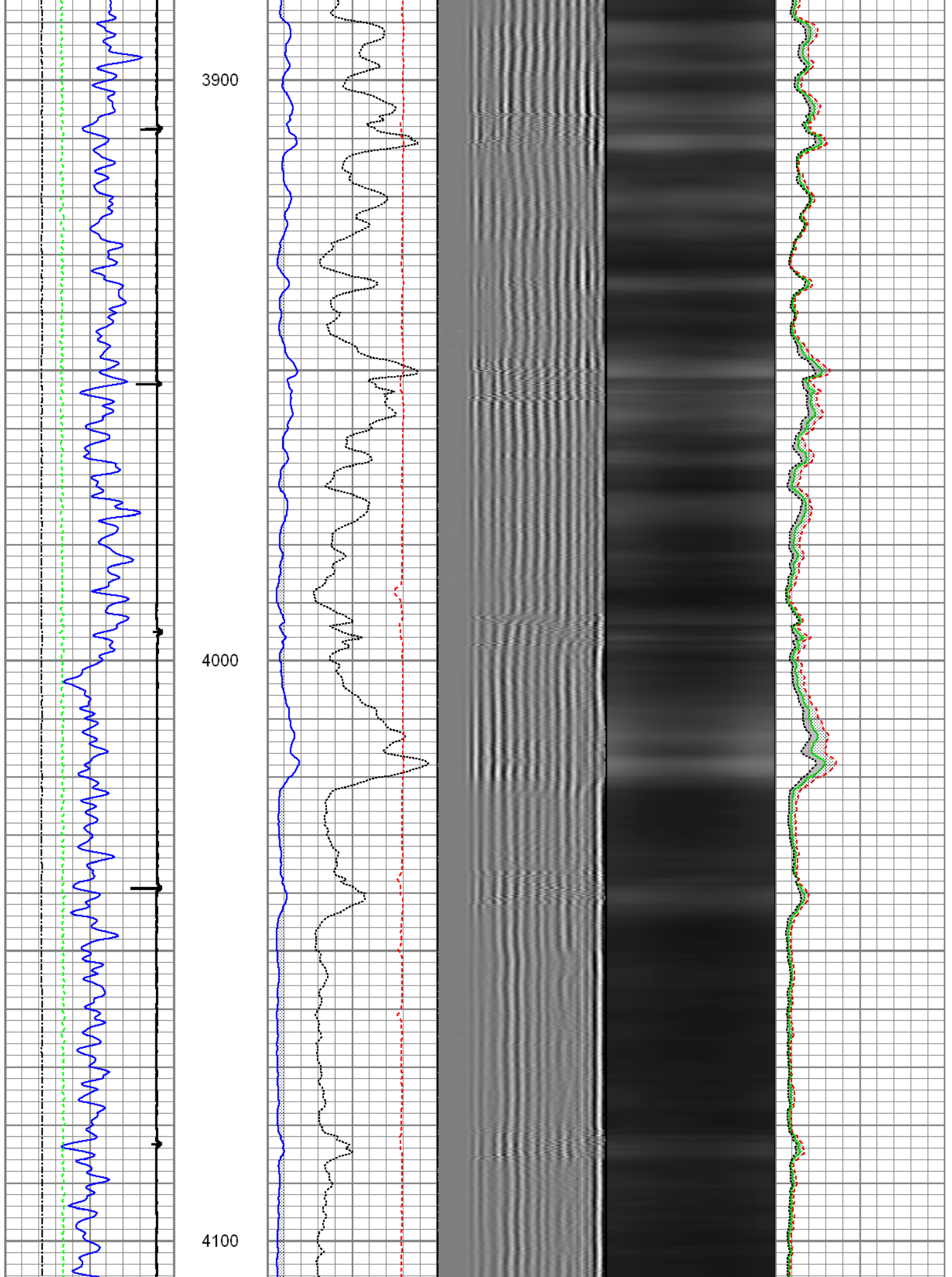
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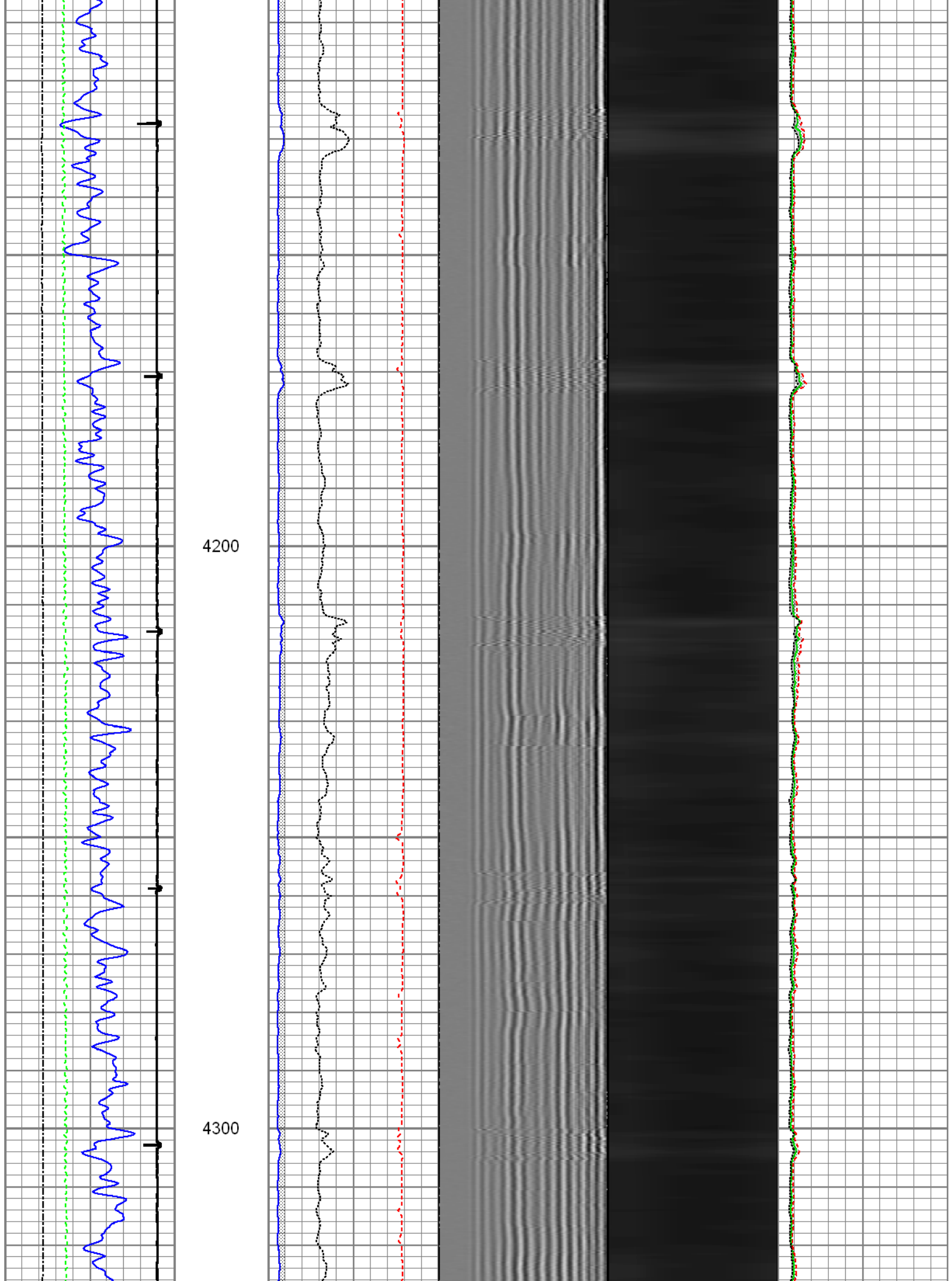


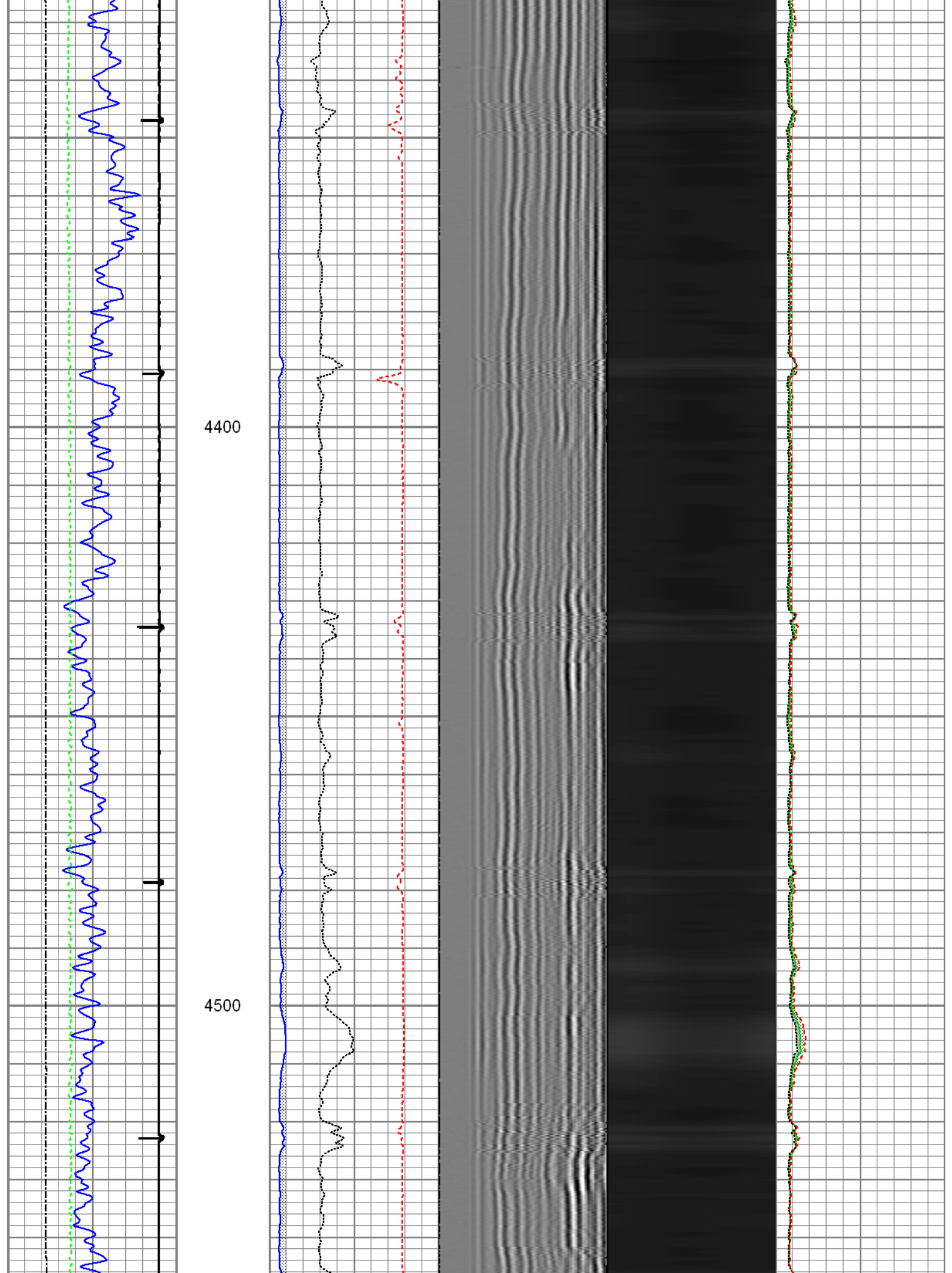
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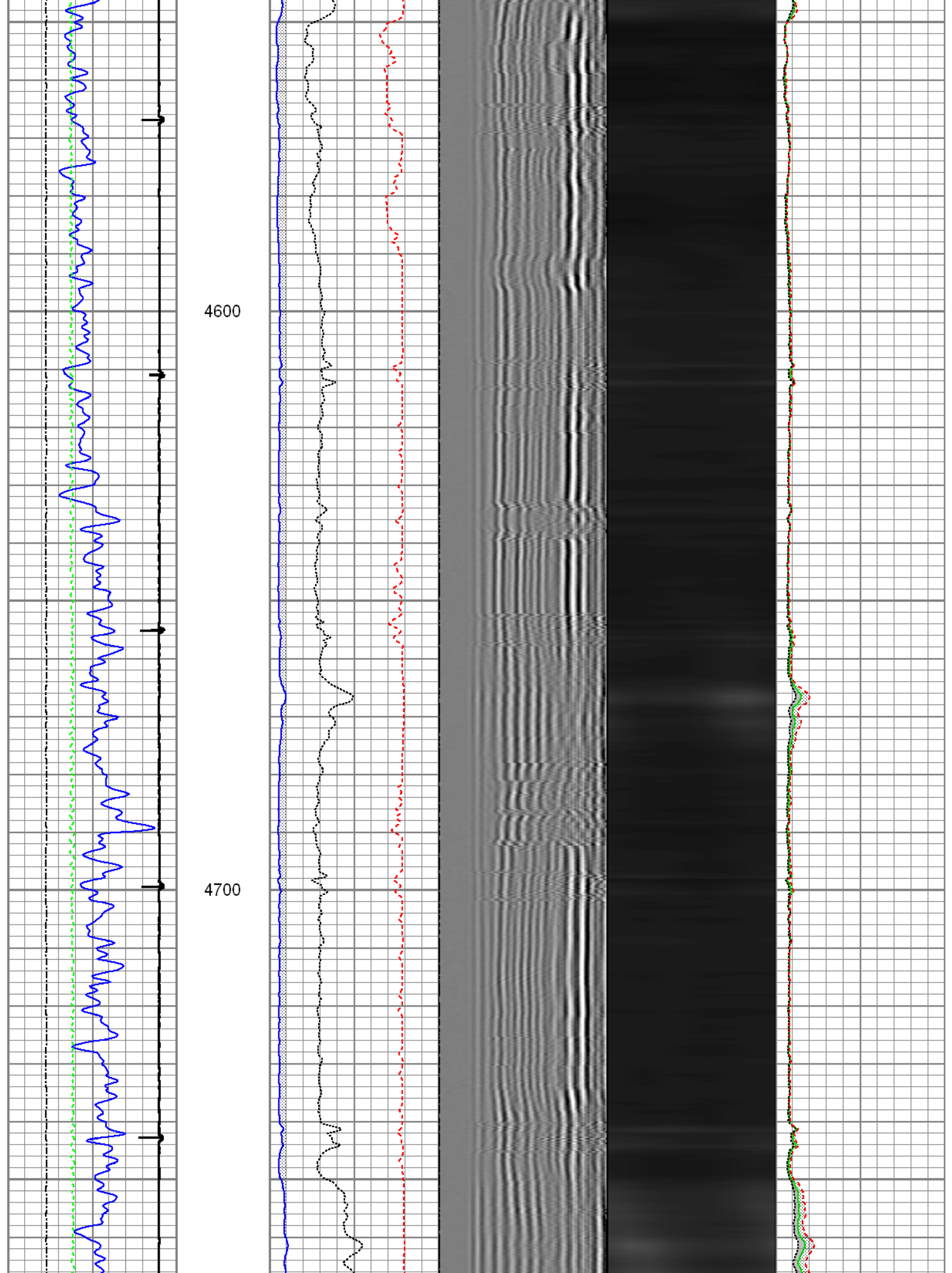
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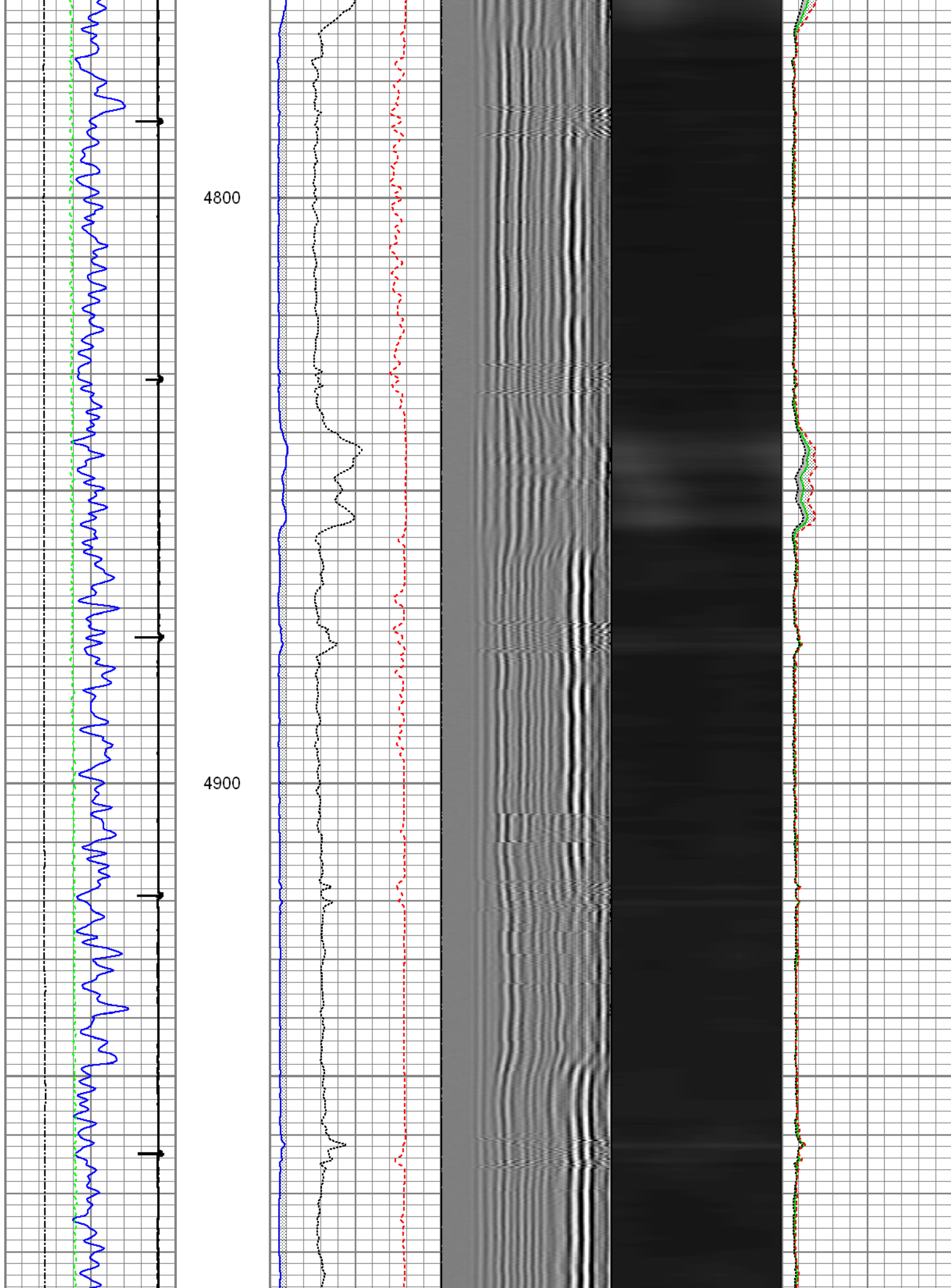


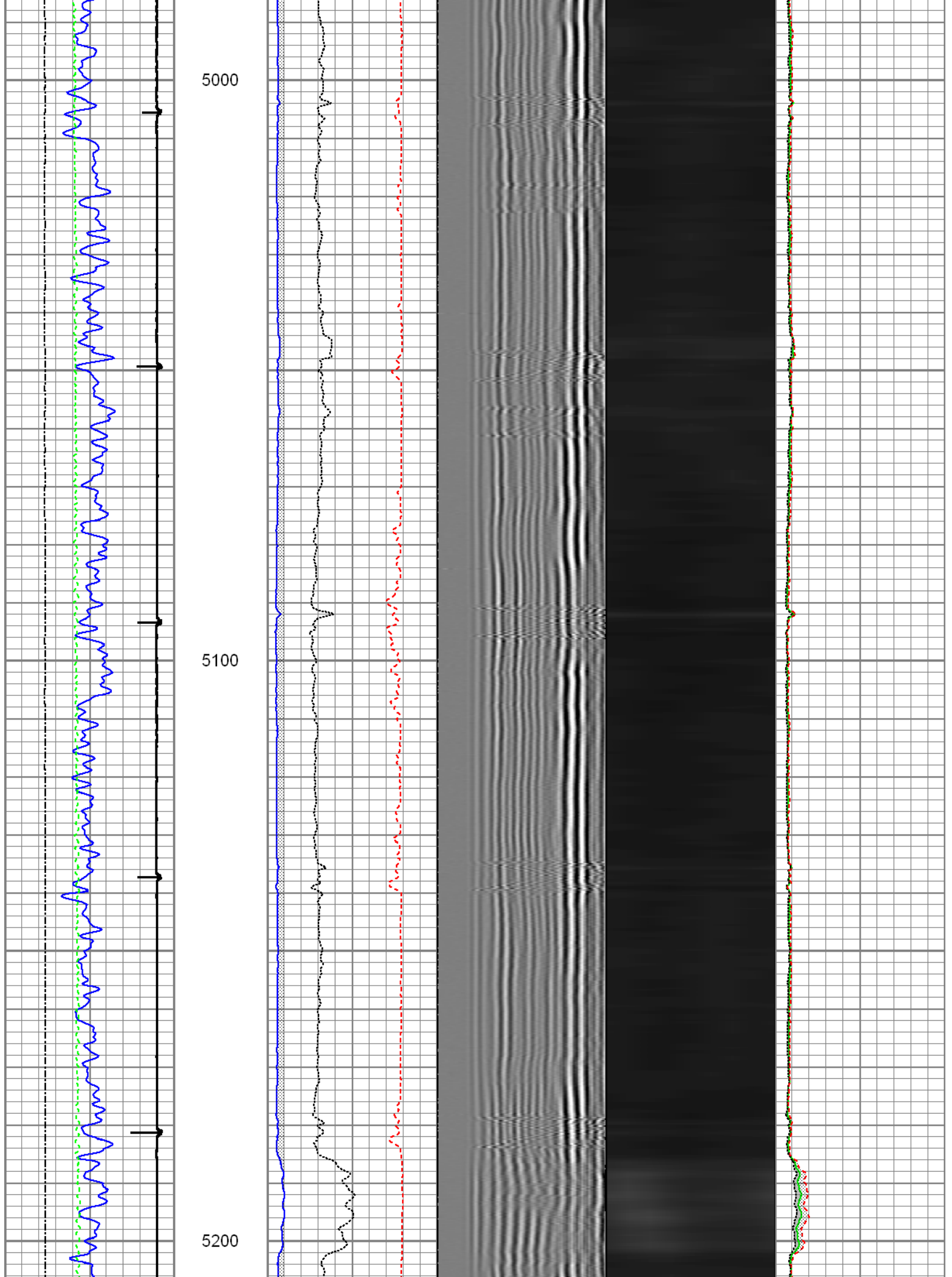


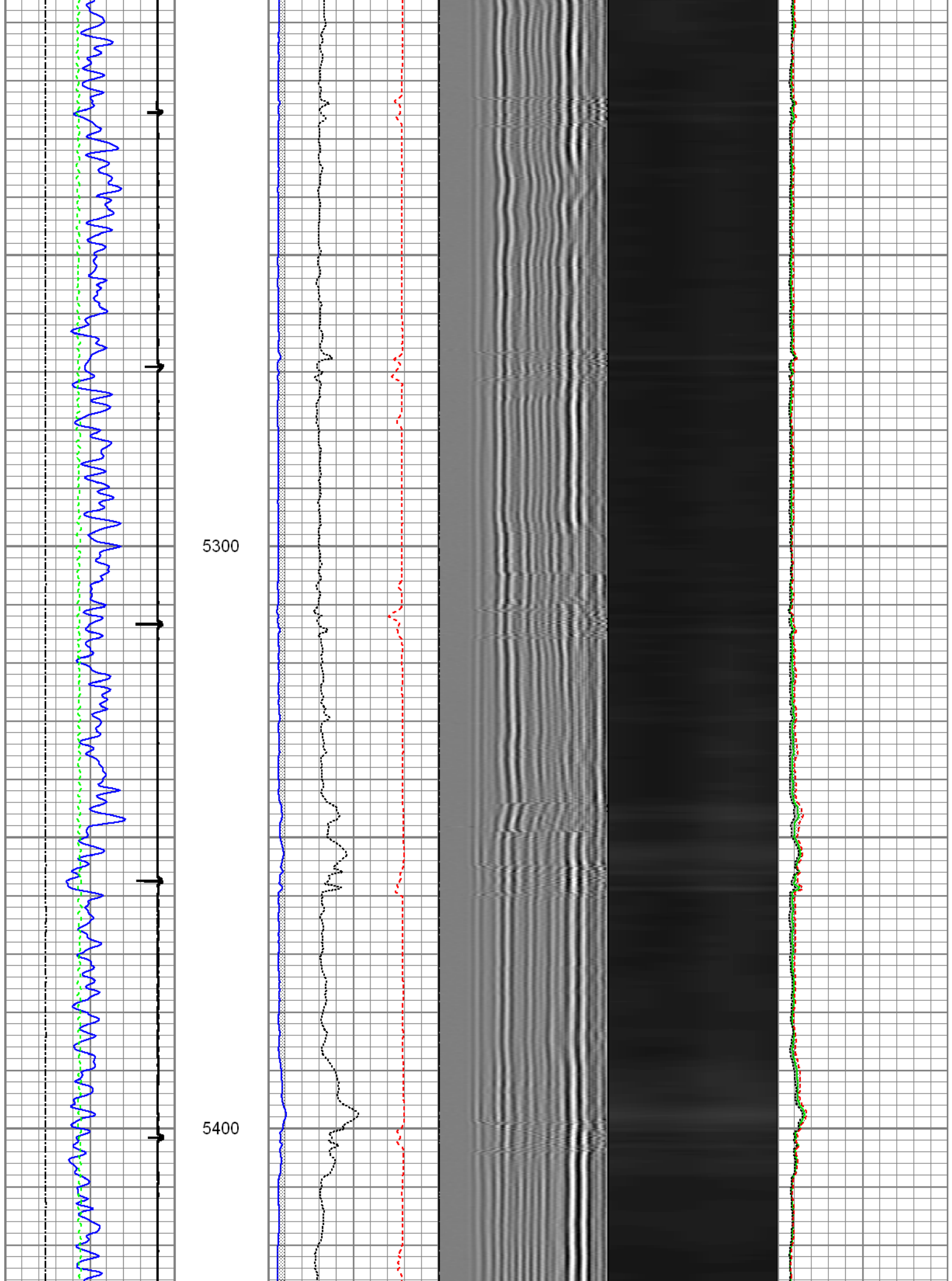


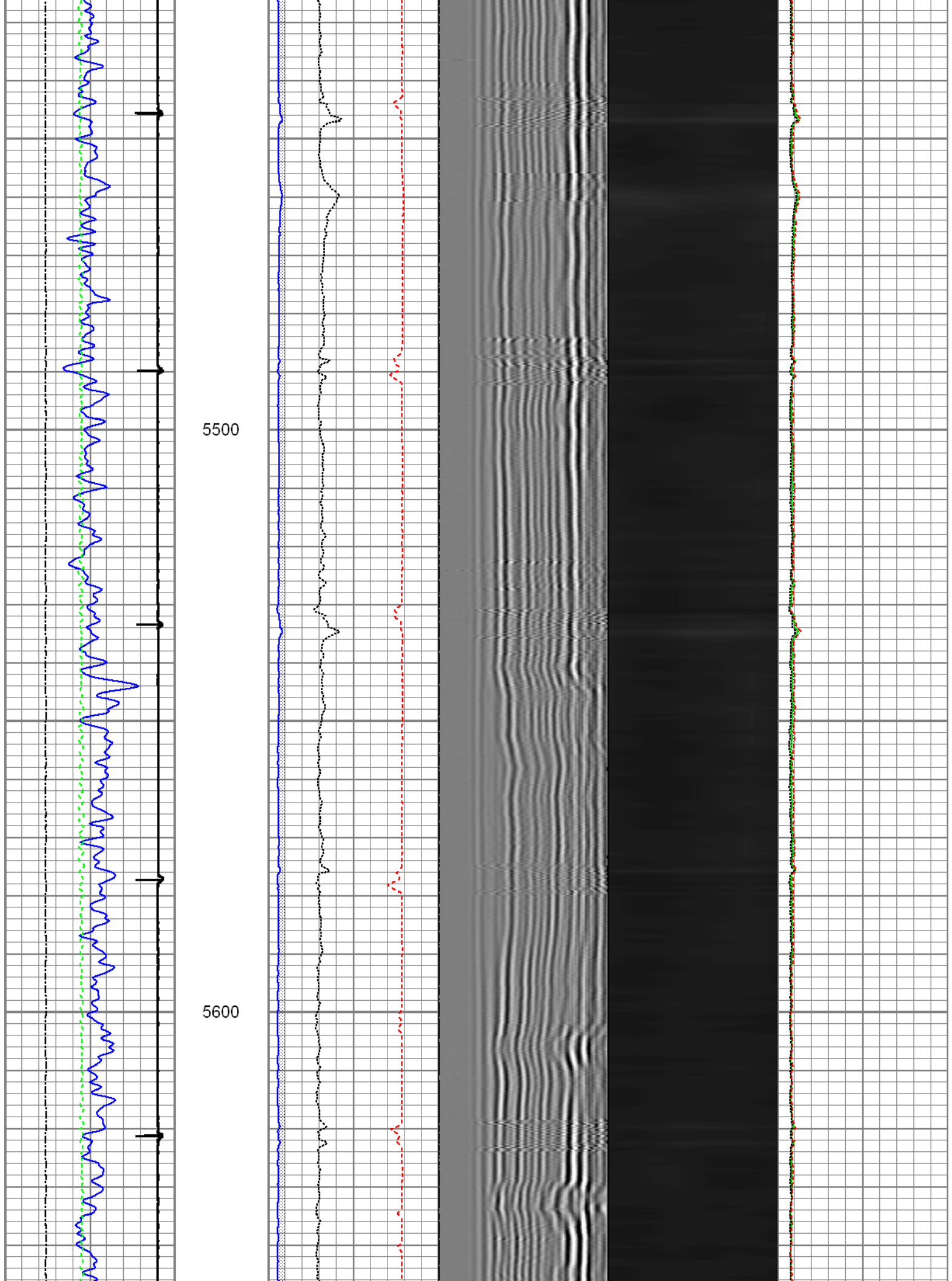
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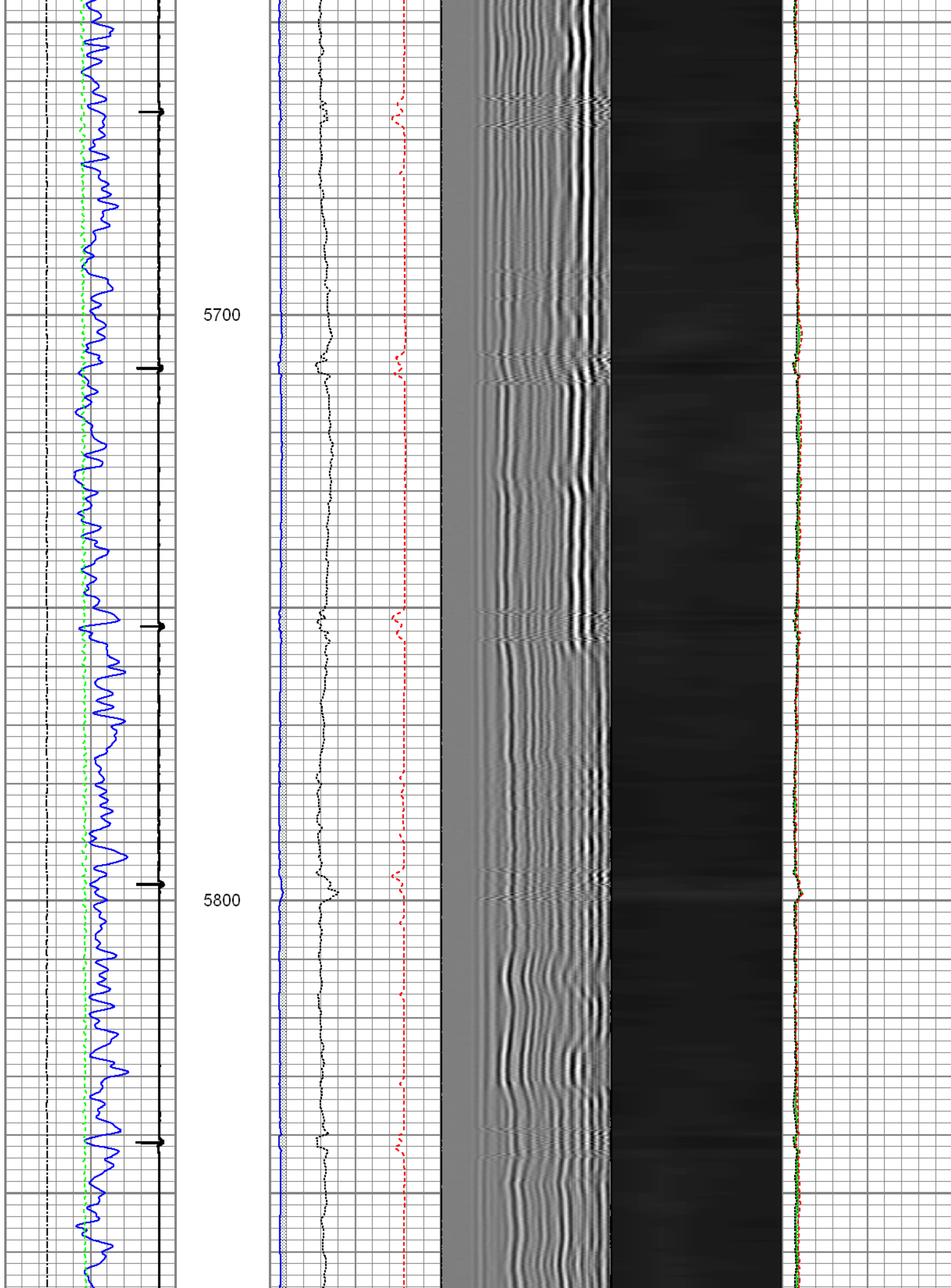






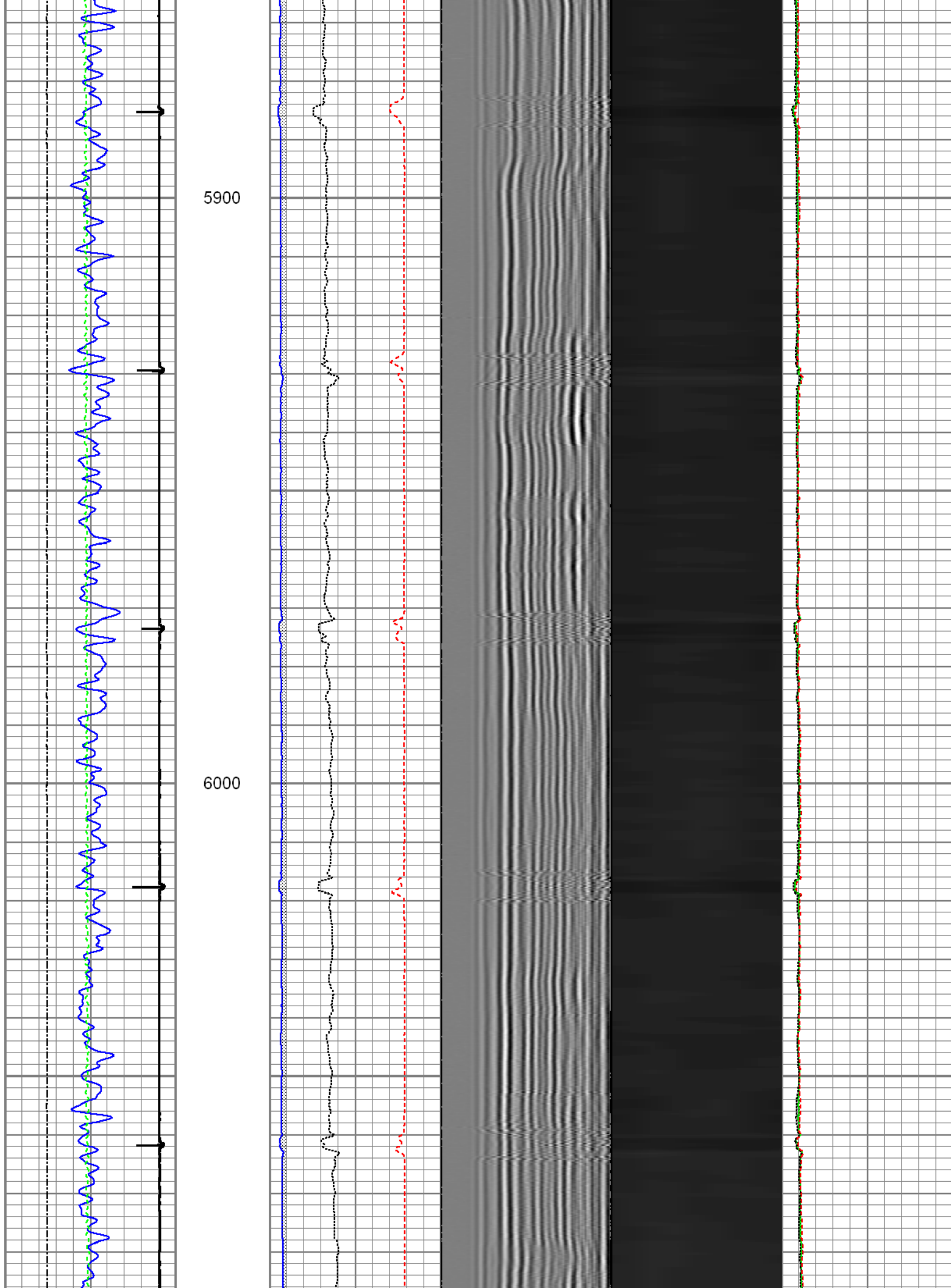
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5800



5900

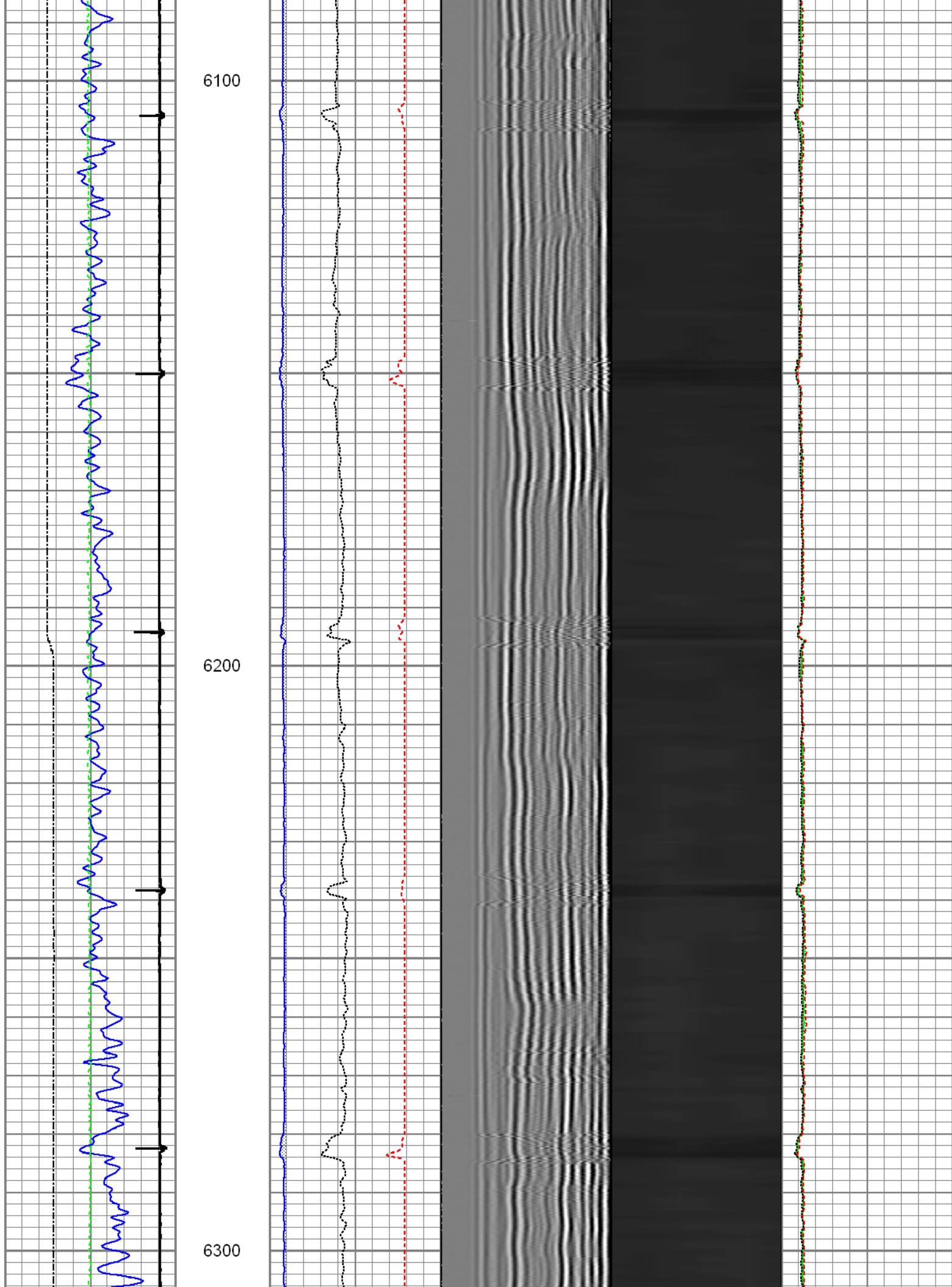
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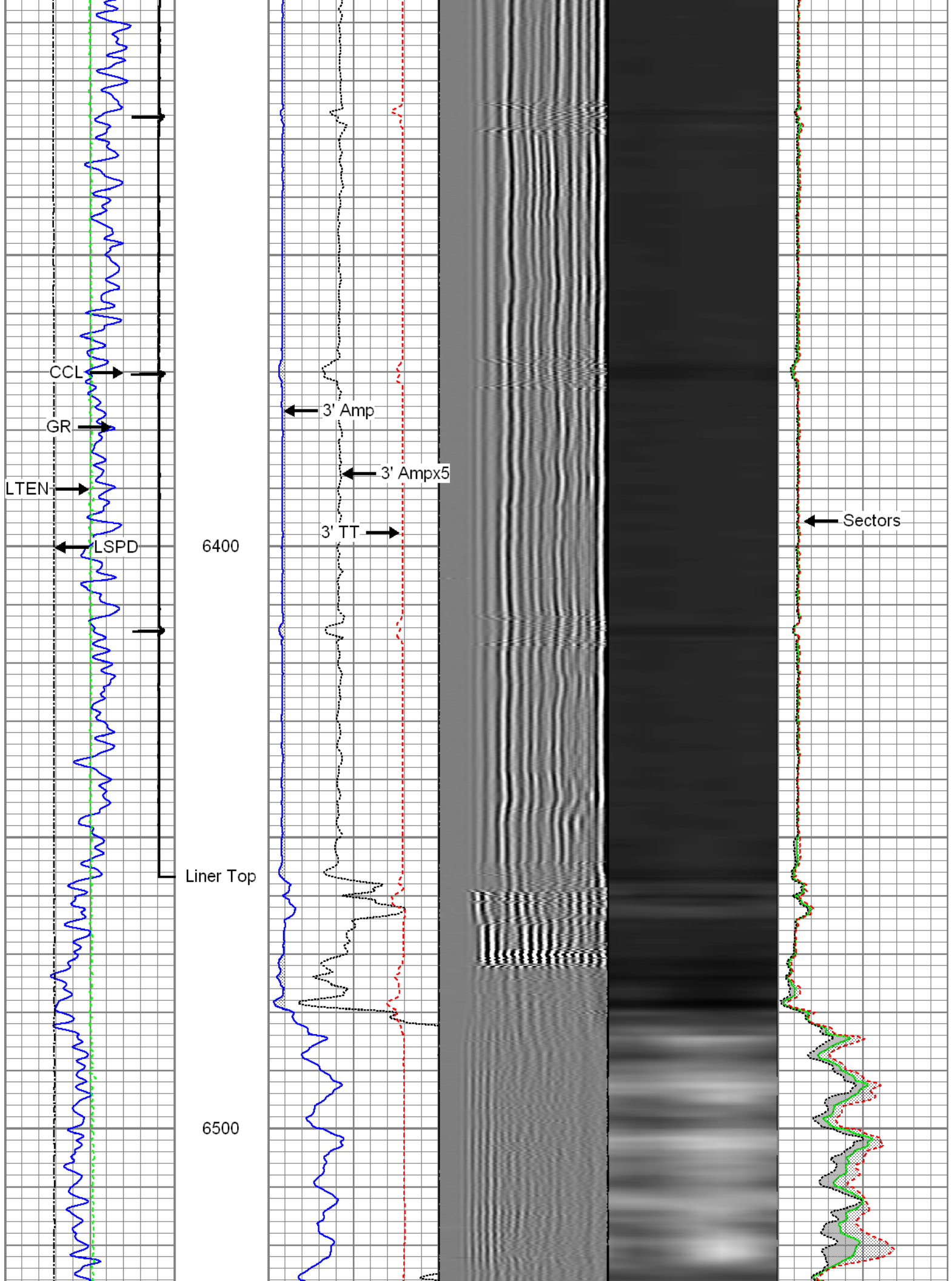


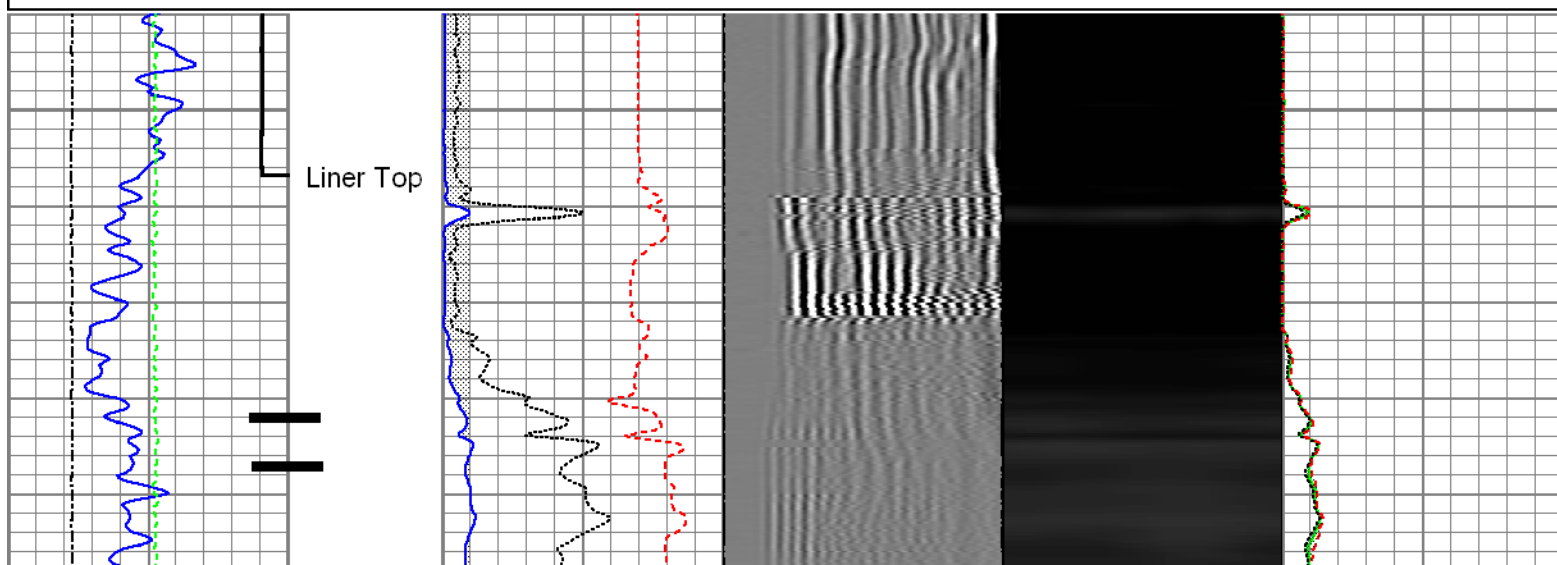
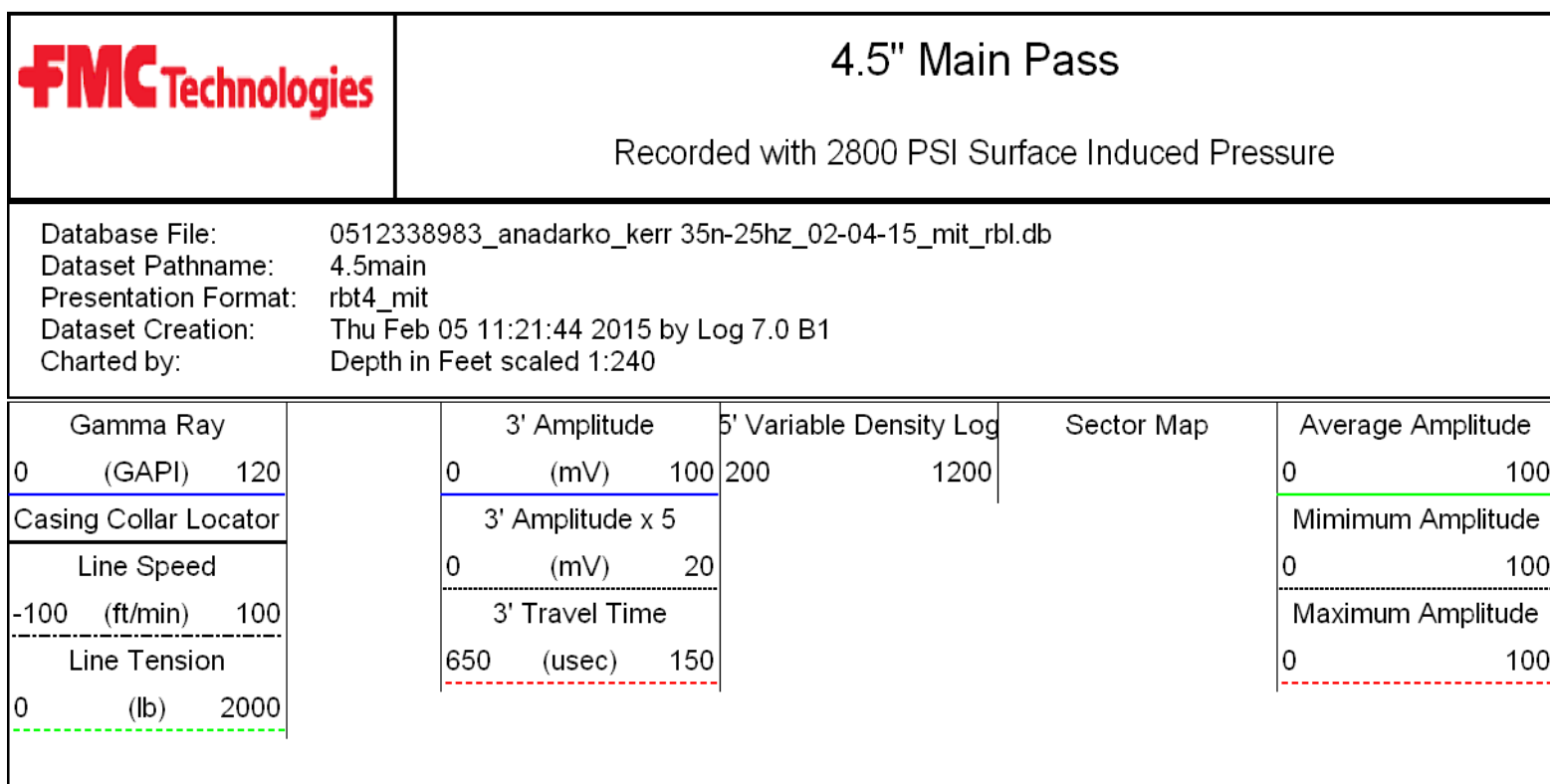
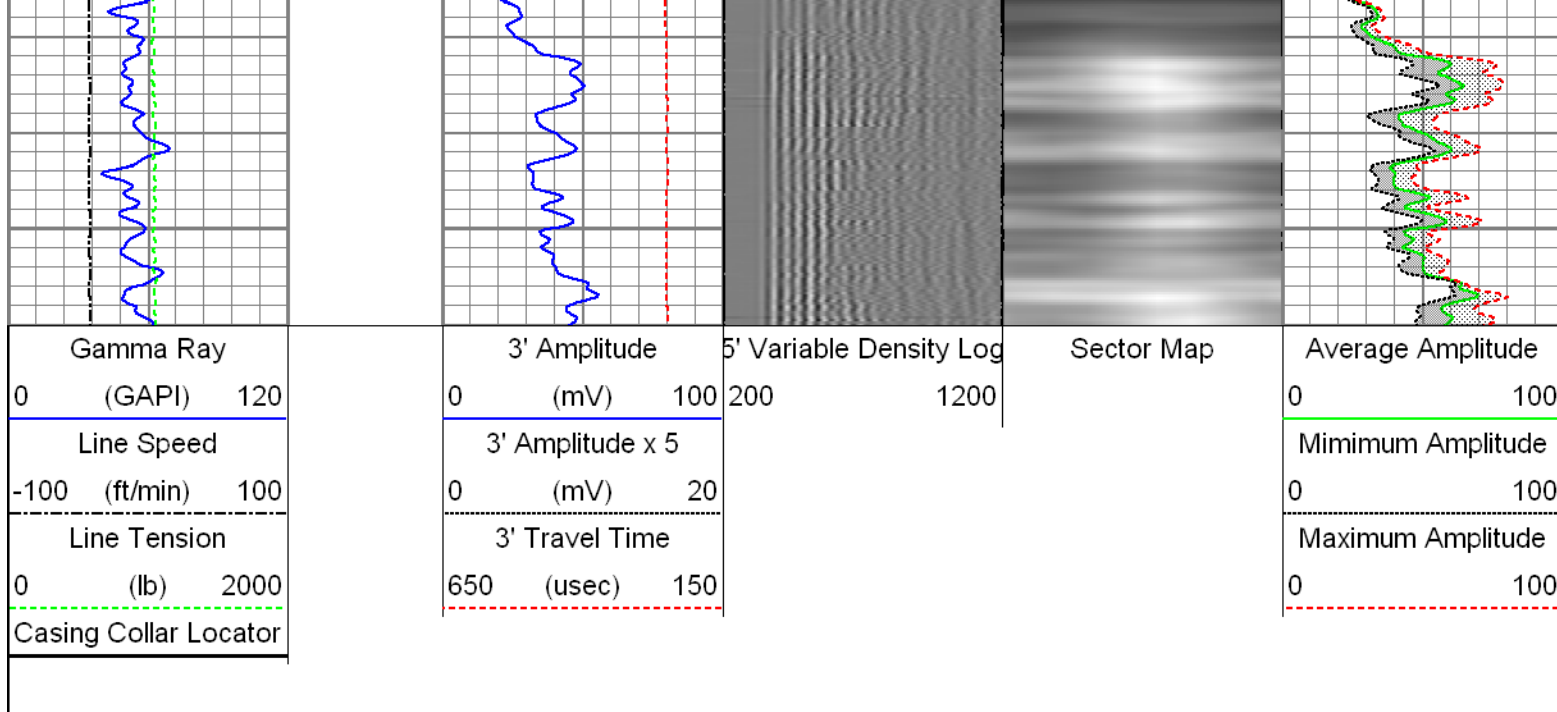
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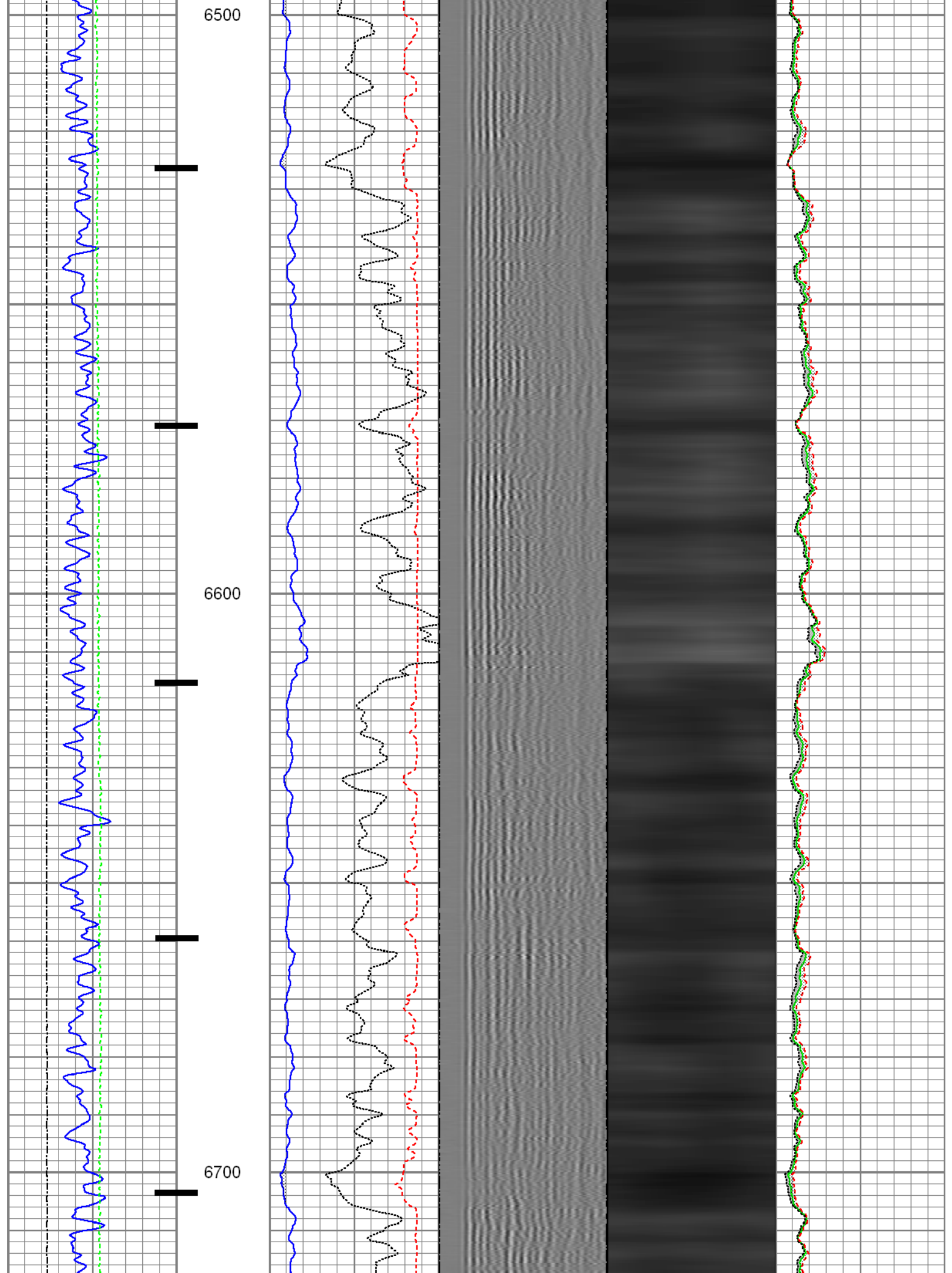
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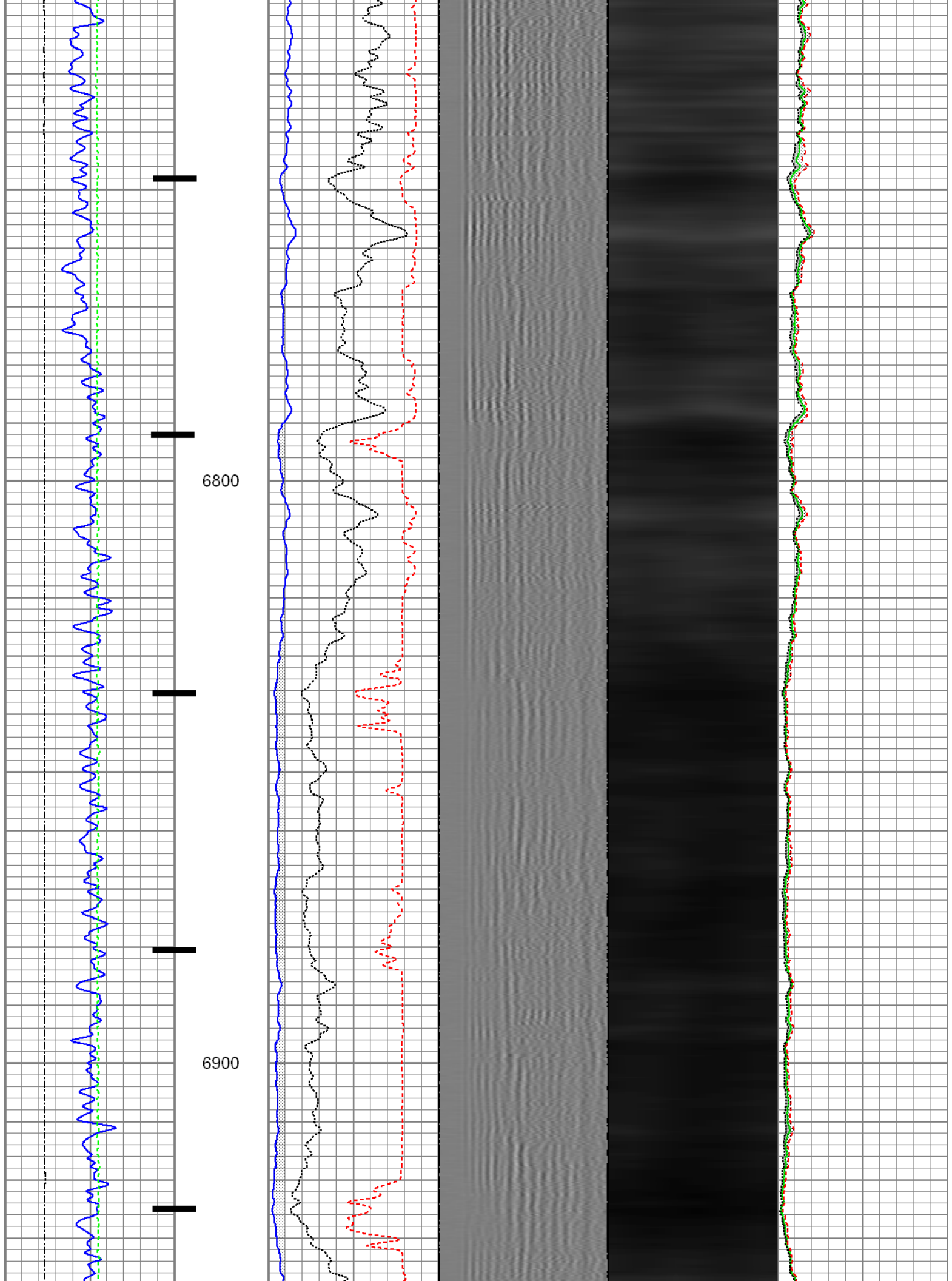
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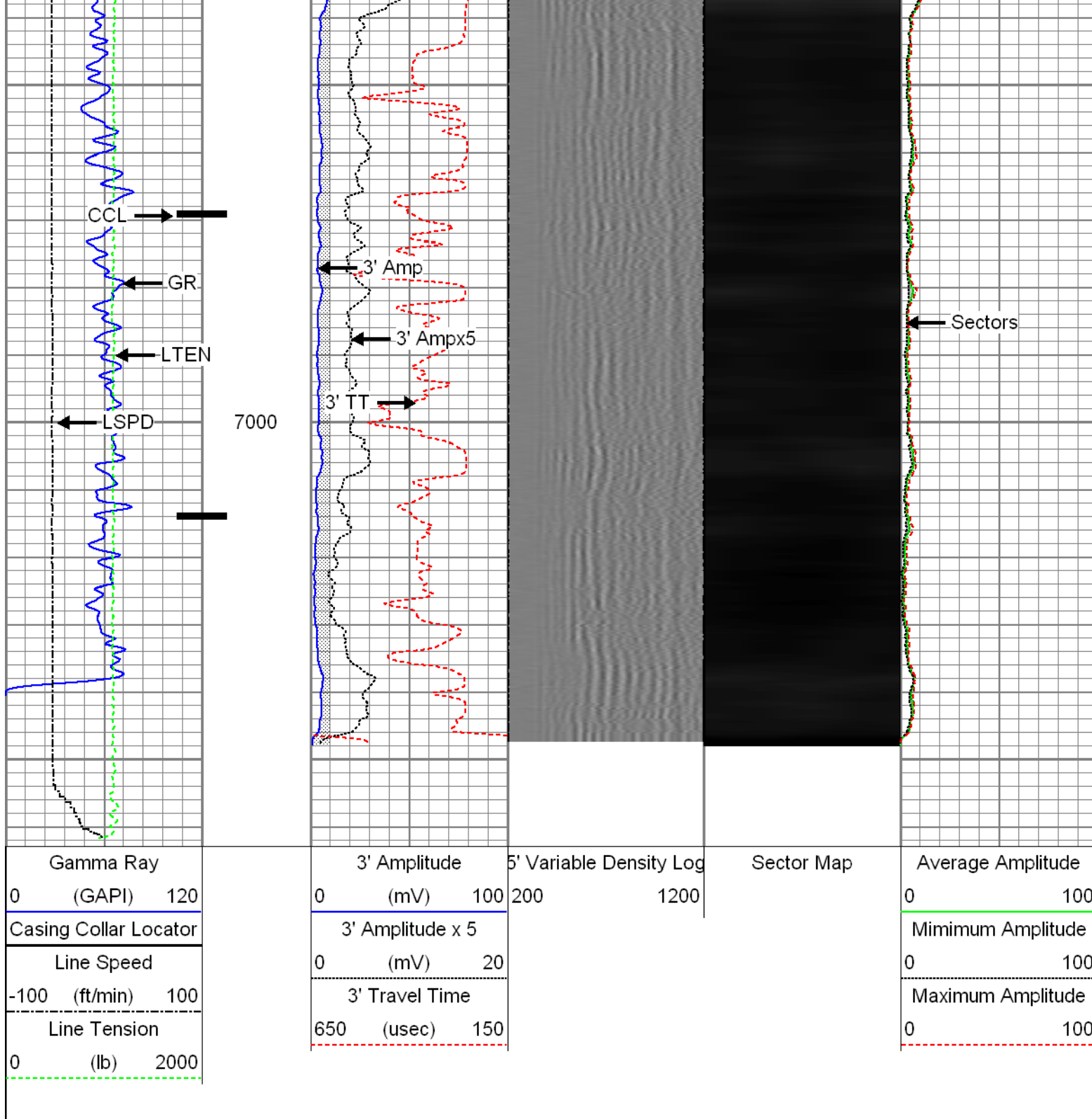





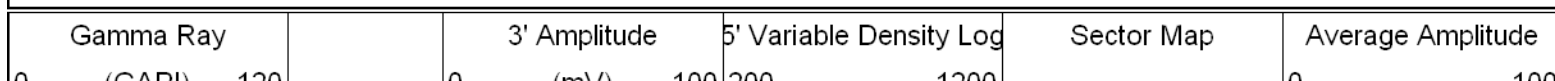




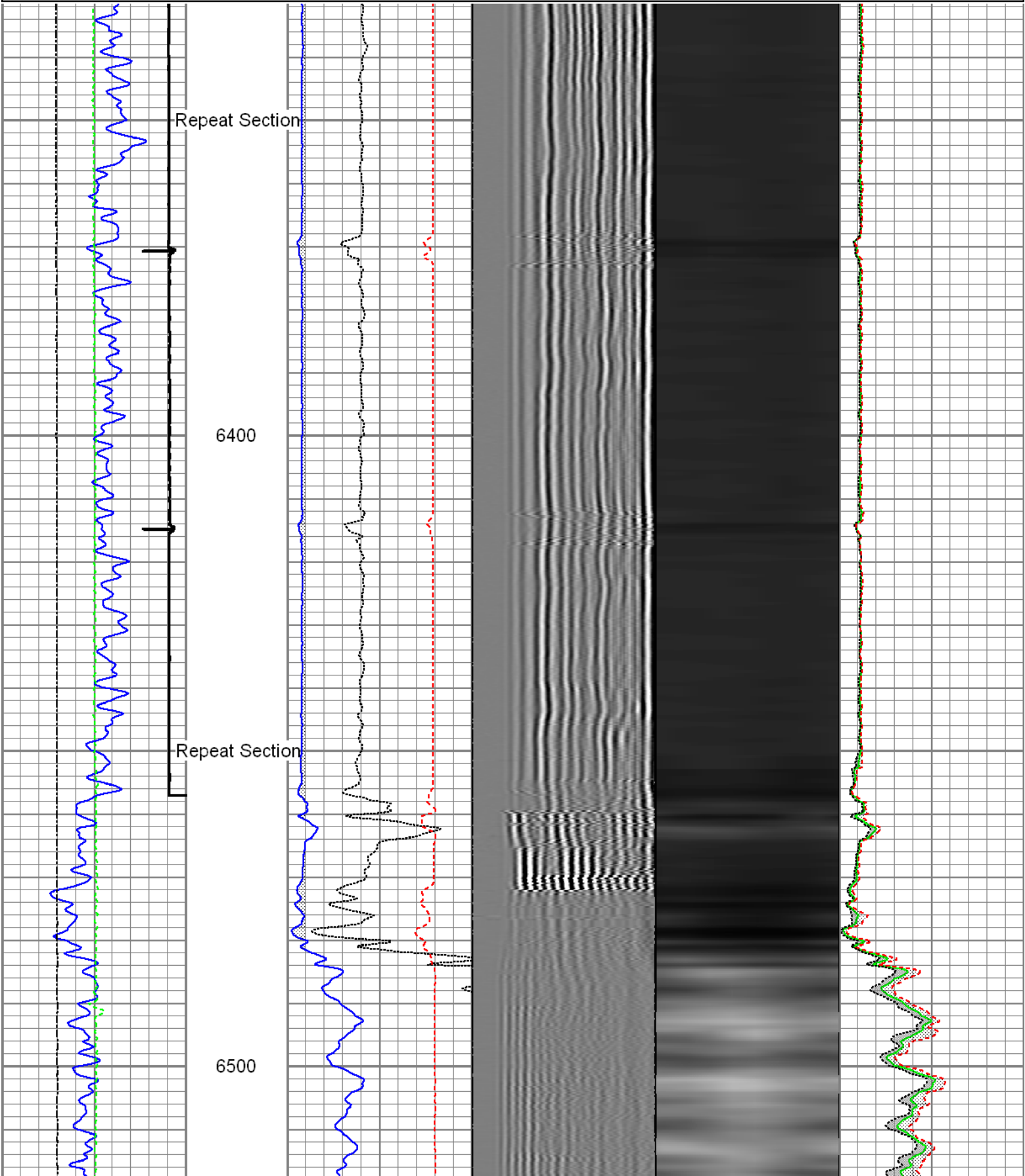


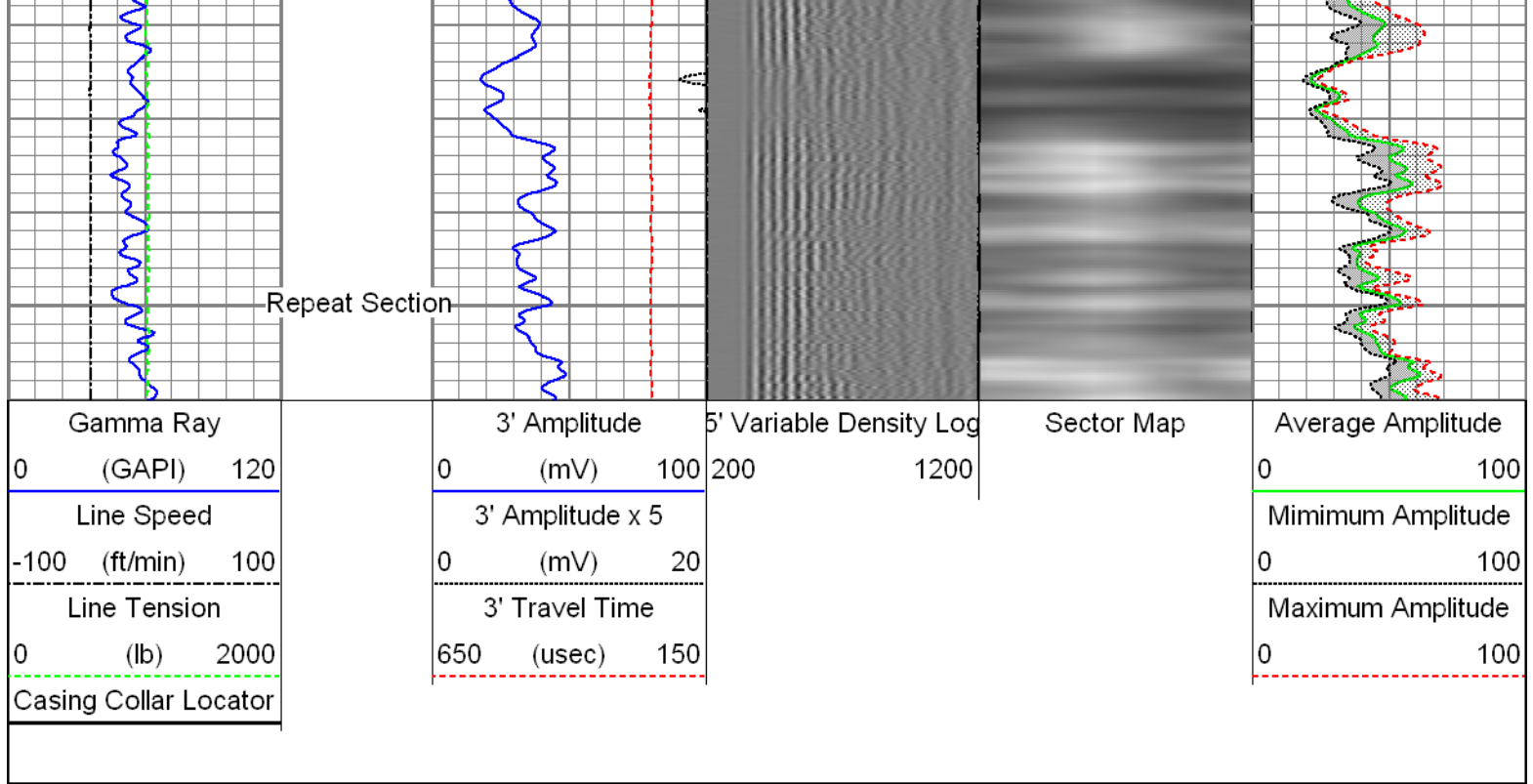


	<h2>Repeat Pass</h2> <p>Recorded with 2800 PSI Surface Induced Pressure</p>	
<p>Database File:</p> <p>Dataset Pathname:</p> <p>Presentation Format:</p> <p>Dataset Creation:</p> <p>Charted by:</p>	<p>0512338983_anadarko_kerr 35n-25hz_02-04-15_mit_rbl.db</p> <p>repeat1</p> <p>rbt4_mit</p> <p>Thu Feb 05 11:05:26 2015 by Log 7.0 B1</p> <p>Depth in Feet scaled 1:240</p>	

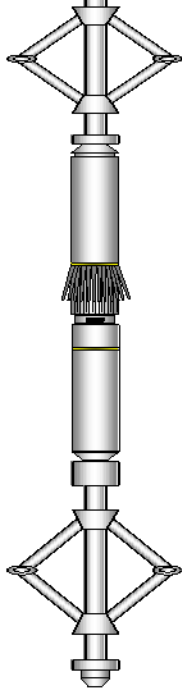


0	(GAPI)	120	0	(mV)	100	200	0		100
Line Speed			3' Amplitude x 5			Mimimum Amplitude			
-100	(ft/min)	100	0	(mV)	20	0			
Line Tension			3' Travel Time			Maximum Amplitude			
0	(lb)	2000	650	(usec)	150	0			
Casing Collar Locator									





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	22.81		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 (10024281) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (218874) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10019072) Production Gamma Ray	1.93	1.69	9.50
			UW_PRC #4 -DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WV3FT	15.42		UW_RBT-UW_RBT_004 (1063) 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					
WV55FT	14.42					

WVF5PT	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_042 (10012912) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #3 -UW_PRC_057 (1102) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
TSTAMP	0.00		UW_BUL-UW_BUL_006 (10022928) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512338983_anadarko_kerr 35n-25hz_02-04-15_mit_rbl.db: field/well/run1/7_main Total Length: 27.05 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report		
Database File:	0512338983_anadarko_kerr 35n-25hz_02-04-15_mit_rbl.db	
Dataset Pathname:	cal	
Dataset Creation:	Thu Feb 05 14:29:48 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 Feb 05 10:18:49 2015						
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1093 344.0	1437 412.0	1849 422.0	2271			
Finger 02:	1279 359.0	1638 406.0	2044 419.0	2463			
Finger 03:	1109 371.0	1480 415.0	1895 449.0	2344			
Finger 04:	1122 366.0	1488 394.0	1882 441.0	2323			
Finger 05:	1124 378.0	1502 390.0	1892 439.0	2331			
Finger 06:	1142 388.0	1530 381.0	1911 445.0	2356			
Finger 07:	1106 391.0	1497 372.0	1869 442.0	2311			

Finger 08:	1185	398.0	1583	364.0	1947	440.0	2387
Finger 09:	1139	398.0	1537	355.0	1892	435.0	2327
Finger 10:	1124	403.0	1527	352.0	1879	434.0	2313
Finger 11:	1166	404.0	1570	342.0	1912	419.0	2331
Finger 12:	1113	396.0	1509	336.0	1845	427.0	2272
Finger 13:	1149	403.0	1552	332.0	1884	410.0	2294
Finger 14:	1092	404.0	1496	339.0	1835	422.0	2257
Finger 15:	1083	414.0	1497	351.0	1848	430.0	2278
Finger 16:	1127	414.0	1541	351.0	1892	427.0	2319
Finger 17:	1036	395.0	1431	350.0	1781	430.0	2211
Finger 18:	1187	399.0	1586	350.0	1936	403.0	2339
Finger 19:	1163	395.0	1558	362.0	1920	405.0	2325
Finger 20:	1079	387.0	1466	367.0	1833	411.0	2244
Finger 21:	1078	385.0	1463	374.0	1837	394.0	2231
Finger 22:	1081	381.0	1462	387.0	1849	403.0	2252
Finger 23:	1105	385.0	1490	402.0	1892	410.0	2302
Finger 24:	1144	372.0	1516	393.0	1909	380.0	2289
Finger 25:	1055	362.0	1417	415.0	1832	407.0	2239
Finger 26:	1205	347.0	1552	398.0	1950	374.0	2324
Finger 27:	1131	348.0	1479	419.0	1898	393.0	2291
Finger 28:	1139	336.0	1475	416.0	1891	385.0	2276
Finger 29:	1047	337.0	1384	439.0	1823	408.0	2231
Finger 30:	1088	332.0	1420	436.0	1856	397.0	2253
Finger 31:	1139	326.0	1465	435.0	1900	399.0	2299
Finger 32:	1098	331.0	1429	457.0	1886	413.0	2299
Finger 33:	1182	323.0	1505	427.0	1932	377.0	2309
Finger 34:	1134	317.0	1451	431.0	1882	403.0	2285
Finger 35:	1085	339.0	1424	470.0	1894	433.0	2327
Finger 36:	1118	334.0	1452	451.0	1903	423.0	2326
Finger 37:	1213	335.0	1548	436.0	1984	409.0	2393
Finger 38:	1172	331.0	1503	425.0	1928	410.0	2338
Finger 39:	1163	331.0	1494	418.0	1912	410.0	2322
Finger 40:	1205	353.0	1558	427.0	1985	425.0	2410

Post Survey Calibration Check								
Performed: Thu Feb 05 14:28:26 2015								
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.955	-0.022	5.011	0.005	6.007	0.004	7.010	0.005
Finger 02:	3.919	-0.040	5.006	0.003	6.007	0.004	7.013	0.006
Finger 03:	3.948	-0.026	5.004	0.002	6.001	0.000	7.011	0.005
Finger 04:	3.947	-0.026	5.010	0.005	6.010	0.005	7.011	0.006
Finger 05:	3.949	-0.025	5.004	0.002	6.004	0.002	7.009	0.005
Finger 06:	3.957	-0.021	5.001	0.001	6.006	0.003	7.002	0.001
Finger 07:	3.955	-0.023	5.005	0.003	6.011	0.006	7.015	0.008
Finger 08:	3.952	-0.024	4.998	-0.001	6.002	0.001	7.006	0.003
Finger 09:	3.953	-0.024	5.003	0.002	6.000	-0.000	7.003	0.001
Finger 10:	3.951	-0.025	5.000	0.000	6.003	0.001	7.000	-0.000
Finger 11:	3.950	-0.025	4.999	-0.000	6.001	0.000	7.004	0.002
Finger 12:	3.950	-0.025	5.004	0.002	6.003	0.002	7.011	0.005
Finger 13:	3.944	-0.028	4.996	-0.002	6.002	0.001	6.998	-0.001
Finger 14:	3.952	-0.024	5.007	0.003	6.004	0.002	7.004	0.002
Finger 15:	3.947	-0.027	4.999	-0.000	6.002	0.001	7.000	0.000
Finger 16:	3.948	-0.026	5.009	0.004	6.006	0.003	7.008	0.004
Finger 17:	3.940	-0.030	5.010	0.005	6.007	0.003	7.009	0.004
Finger 18:	3.950	-0.025	5.010	0.005	6.004	0.002	6.991	-0.004
Finger 19:	3.940	-0.030	5.019	0.010	6.015	0.008	7.005	0.003
Finger 20:	3.943	-0.029	5.011	0.005	6.008	0.004	7.021	0.011
Finger 21:	3.945	-0.028	5.009	0.004	6.009	0.005	7.013	0.007
Finger 22:	3.943	-0.029	5.004	0.002	6.001	0.001	7.013	0.007
Finger 23:	3.952	-0.024	5.008	0.004	6.013	0.007	7.020	0.010
Finger 24:	3.939	-0.031	5.003	0.002	6.004	0.002	7.002	0.001
Finger 25:	3.947	-0.026	4.996	-0.002	5.999	-0.000	7.003	0.001
Finger 26:	3.946	-0.027	5.000	-0.000	6.003	0.001	7.016	0.008
Finger 27:	3.961	-0.020	5.007	0.004	6.013	0.007	7.016	0.008

Finger 28:	3.953	-0.024	5.004	0.002	6.002	0.001	7.002	0.001
Finger 29:	3.960	-0.020	5.005	0.002	6.011	0.005	7.003	0.001
Finger 30:	3.954	-0.023	4.999	-0.000	6.003	0.001	7.007	0.004
Finger 31:	3.959	-0.020	5.010	0.005	6.009	0.005	7.004	0.002
Finger 32:	3.927	-0.037	4.991	-0.004	5.985	-0.008	6.990	-0.005
Finger 33:	3.944	-0.028	5.001	0.001	5.994	-0.003	7.000	0.000
Finger 34:	3.953	-0.023	5.009	0.004	6.021	0.010	7.012	0.006
Finger 35:	3.951	-0.024	5.003	0.001	5.999	-0.001	7.001	0.001
Finger 36:	3.948	-0.026	5.005	0.003	6.002	0.001	7.004	0.002
Finger 37:	3.945	-0.028	5.010	0.005	6.009	0.005	7.007	0.004
Finger 38:	3.934	-0.033	4.999	-0.000	5.998	-0.001	6.992	-0.004
Finger 39:	3.954	-0.023	5.019	0.010	6.026	0.013	7.029	0.014
Finger 40:	3.946	-0.027	5.010	0.005	6.005	0.003	7.010	0.005
Average:	3.948	-0.026	5.005	0.002	6.005	0.003	7.007	0.003

Segmented Cement Bond Log Calibration Report

Serial Number:	1063
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	-20.160 ft

Master Calibration, performed Thu Feb 05 10:21:49 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.003	0.801	0.800	62.165	76.288	1.052
5FT	-0.006	0.804	0.800	62.165	75.729	1.262
S1	-0.004	0.756	0.000	100.000	131.561	0.482
S2	-0.004	0.781	0.000	100.000	127.397	0.523
S3	-0.004	0.805	0.000	100.000	123.664	0.453
S4	-0.004	0.833	0.000	100.000	119.510	0.502
S5	-0.003	0.836	0.000	100.000	119.228	0.349
S6	-0.004	0.832	0.000	100.000	119.719	0.430
S7	-0.004	0.818	0.000	100.000	121.693	0.438
S8	-0.003	0.779	0.000	100.000	127.821	0.389

Gamma Ray Calibration Report

Serial Number:	10019072
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	Kerr 35N-25HZ
Field	Wattenberg
County	Weld
State	Colorado