



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company		Kerr-McGee Oil and Gas Onshore LP	
Well		Dugite 13C-35HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Company		Kerr-McGee Oil and Gas Onshore LP	
Well		Dugite 13C-35HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API #: 05-123-39330	
SEC 23		TWP 2N	
RGE 67W		Other Services	
Permanent Datum		Ground Level	
Log Measured From		Kelly Bushing	
Drilling Measured From		Kelly Bushing	
Elevation		4969'	
K.B. 4994'		D.F. 4993'	
G.L. 4969'			
Date		09-August-2014	
Run Number		One	
Depth Driller		17839 FT	
Depth Logger		7582 FT	
Bottom Logged Interval		7568 FT	
Top Log Interval		Surface	
Open Hole Size		8.625"	
Type Fluid		Water	
Density / Viscosity		8.34 lbm/gal	
Max. Recorded Temp.		229°F	
Estimated Cement Top		Surface	
Time Well Ready		ROA	
Time Logger on Bottom		14:15	
Equipment Number		HD-0255	
Location		Fort Lupton, CO	
Recorded By		Randy Azevedo	
Witnessed By		Trevor Daniels	
Borehole Record		Tubing Record	
Run Number		Bit	
From		To	
Size		Weight	
From		To	
Casing Record		Size (in)	
Surface Casing		9-875"	
Intermediate #1		7"	
Intermediate #2		4.5"	
Liner		11.6	
P-110		6879 FT	
17839 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 6879 FT.  
Adjusted log -8 FT to correlate with Liner Top.  
Log ran from as deep as possible in heel to surface.  
No debris found upon completion of logging.  
Log ran with 2800 PSI surface induced pressure.

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



Main Pass 7"

Log ran under 2800 PSI surface induced pressure.

Database File:processed\_0512339330\_anadarko\_dugite 13c-35hz\_08-09-14\_mit\_rbl.db

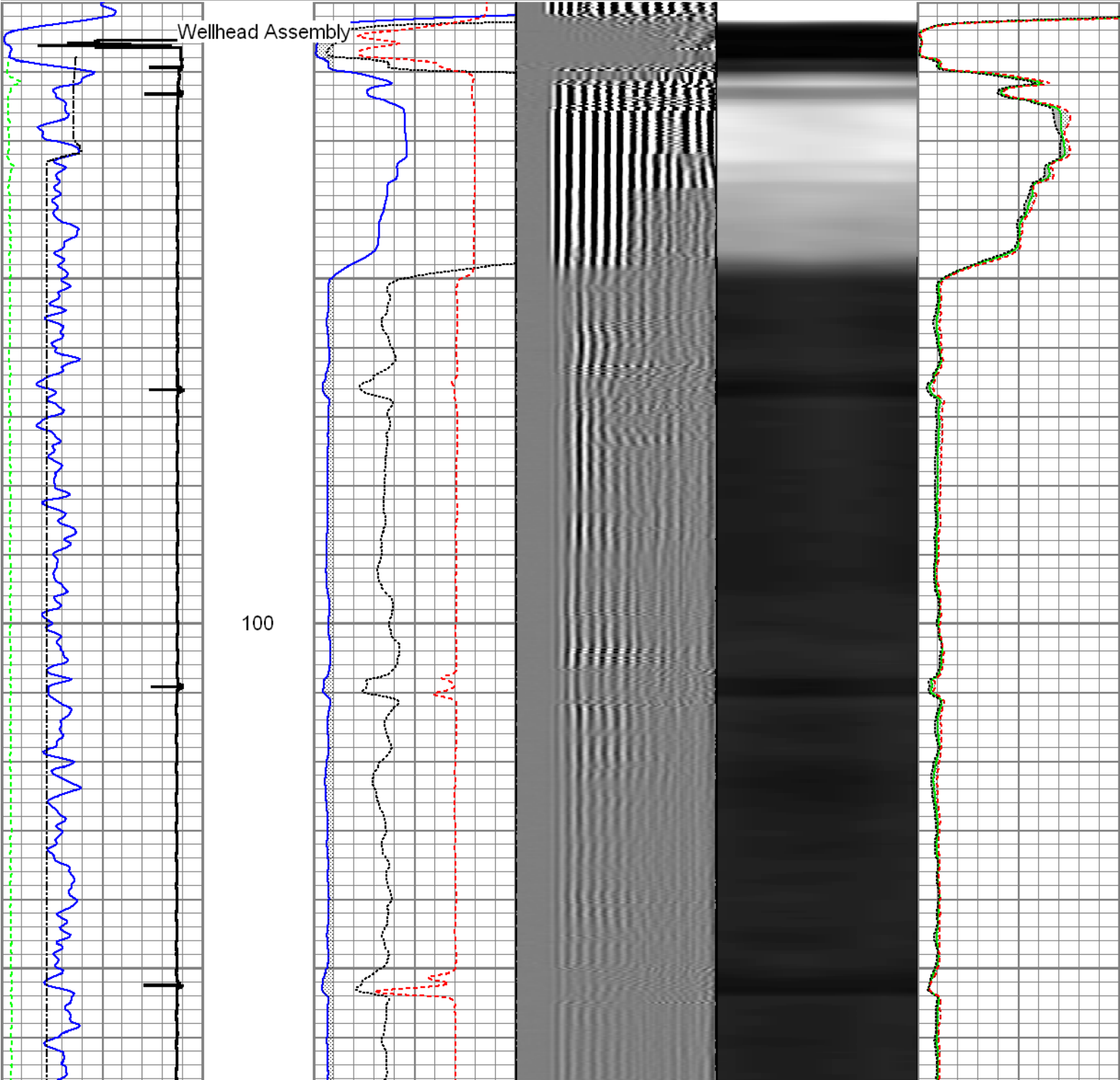
Dataset Pathname:main4.6

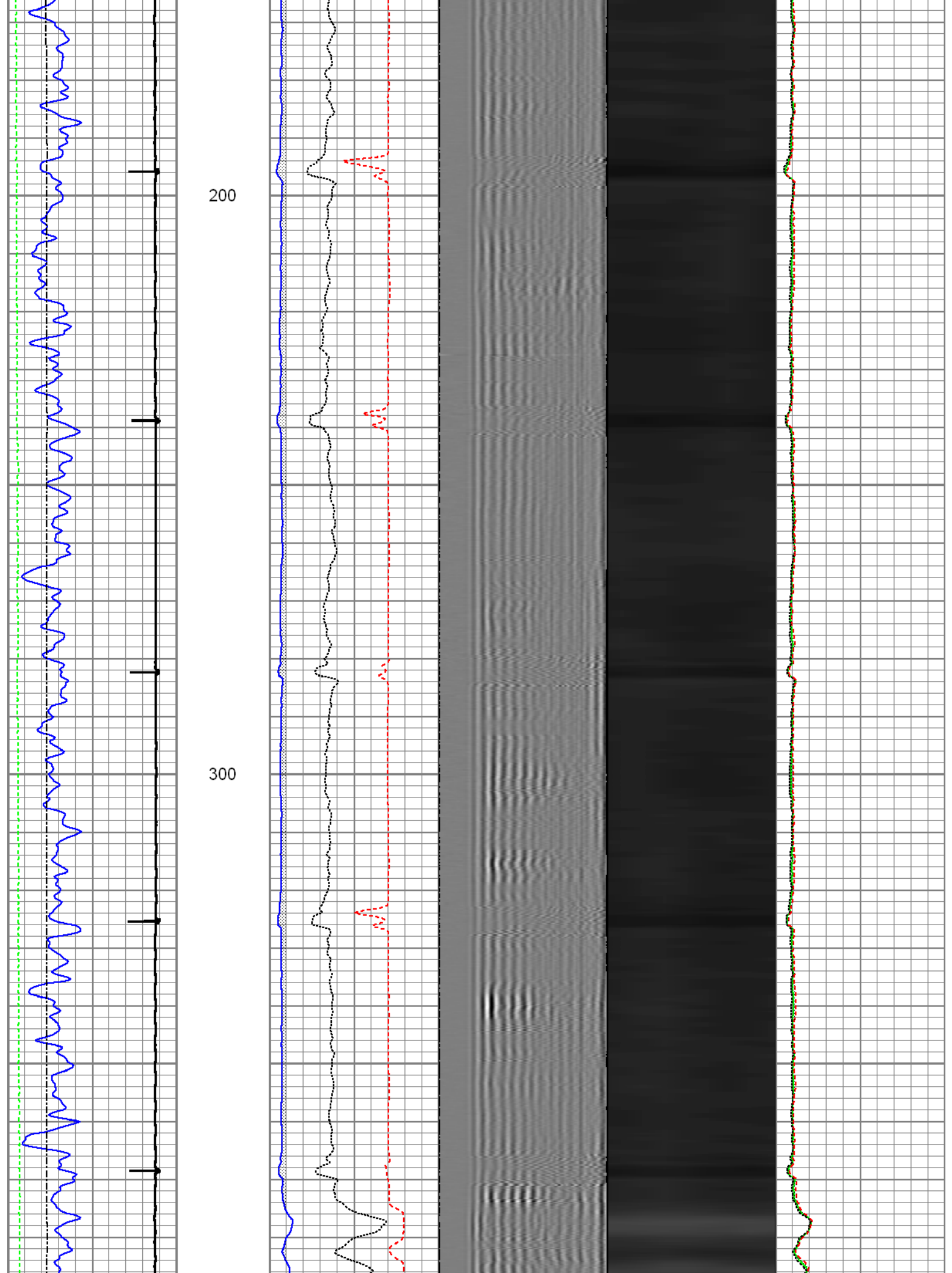
Presentation Format:rbt4\_mit

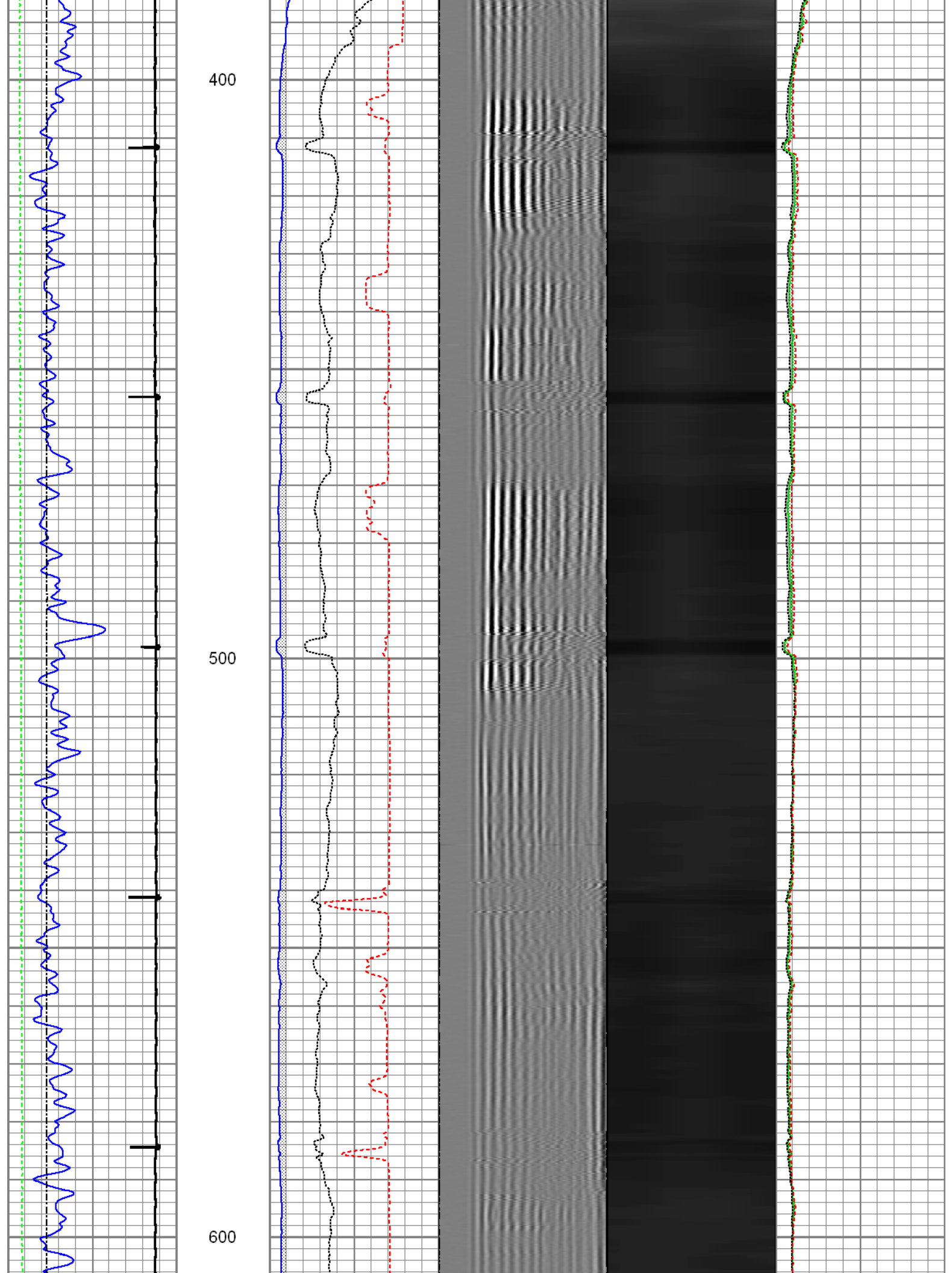
Dataset Creation:Sat Aug 09 15:11:27 2014 by Log SCH 111116

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				

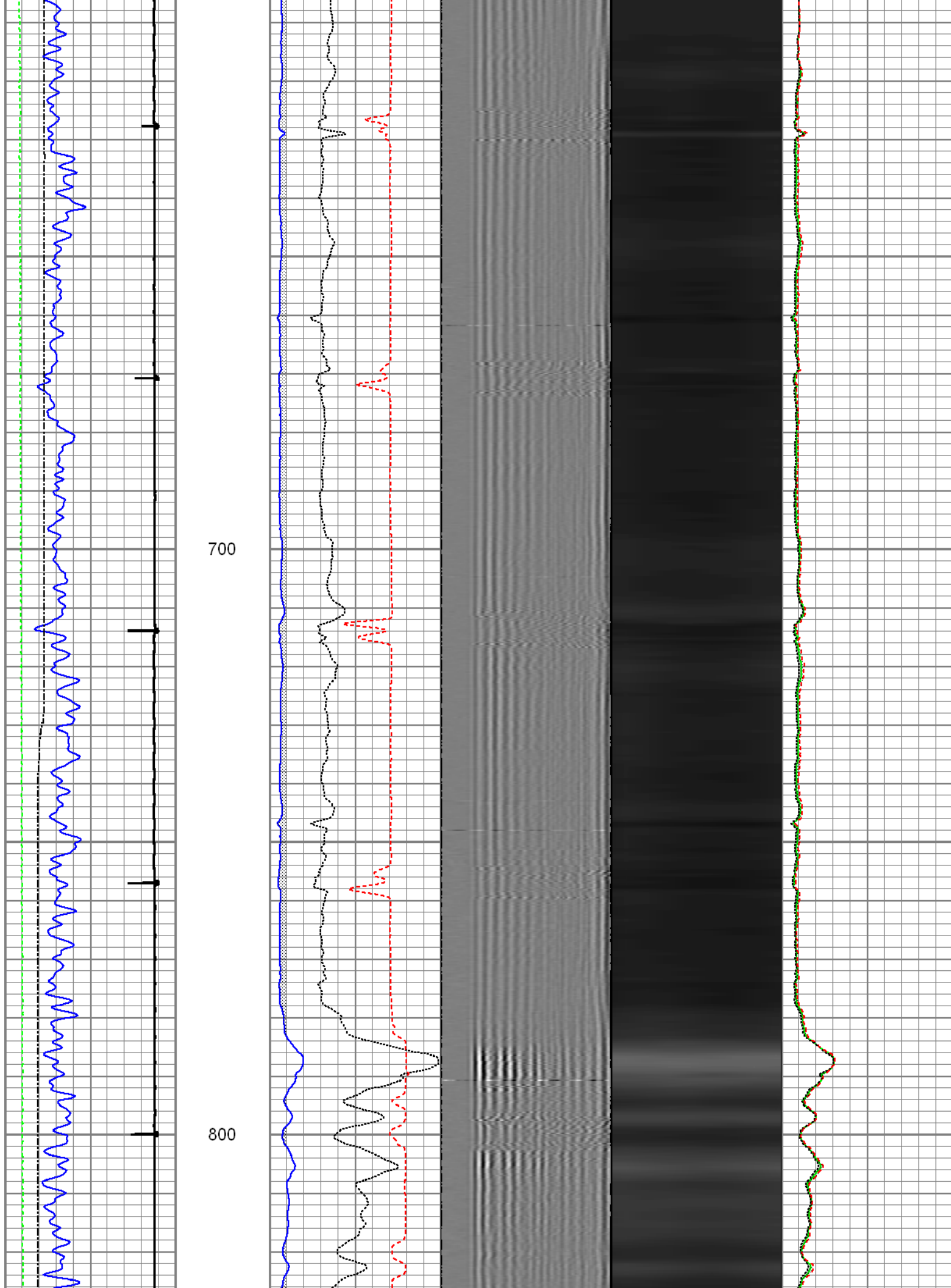


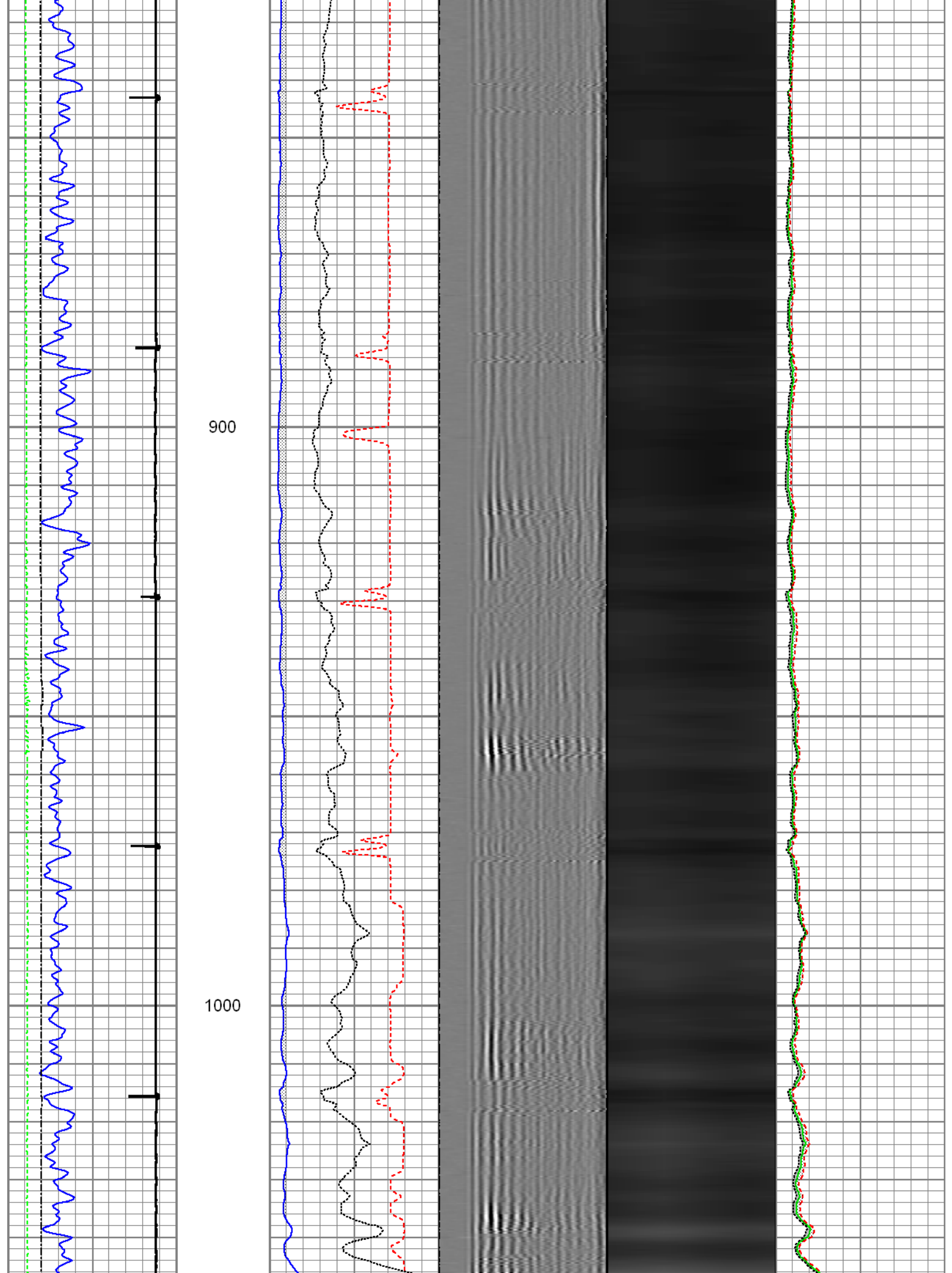


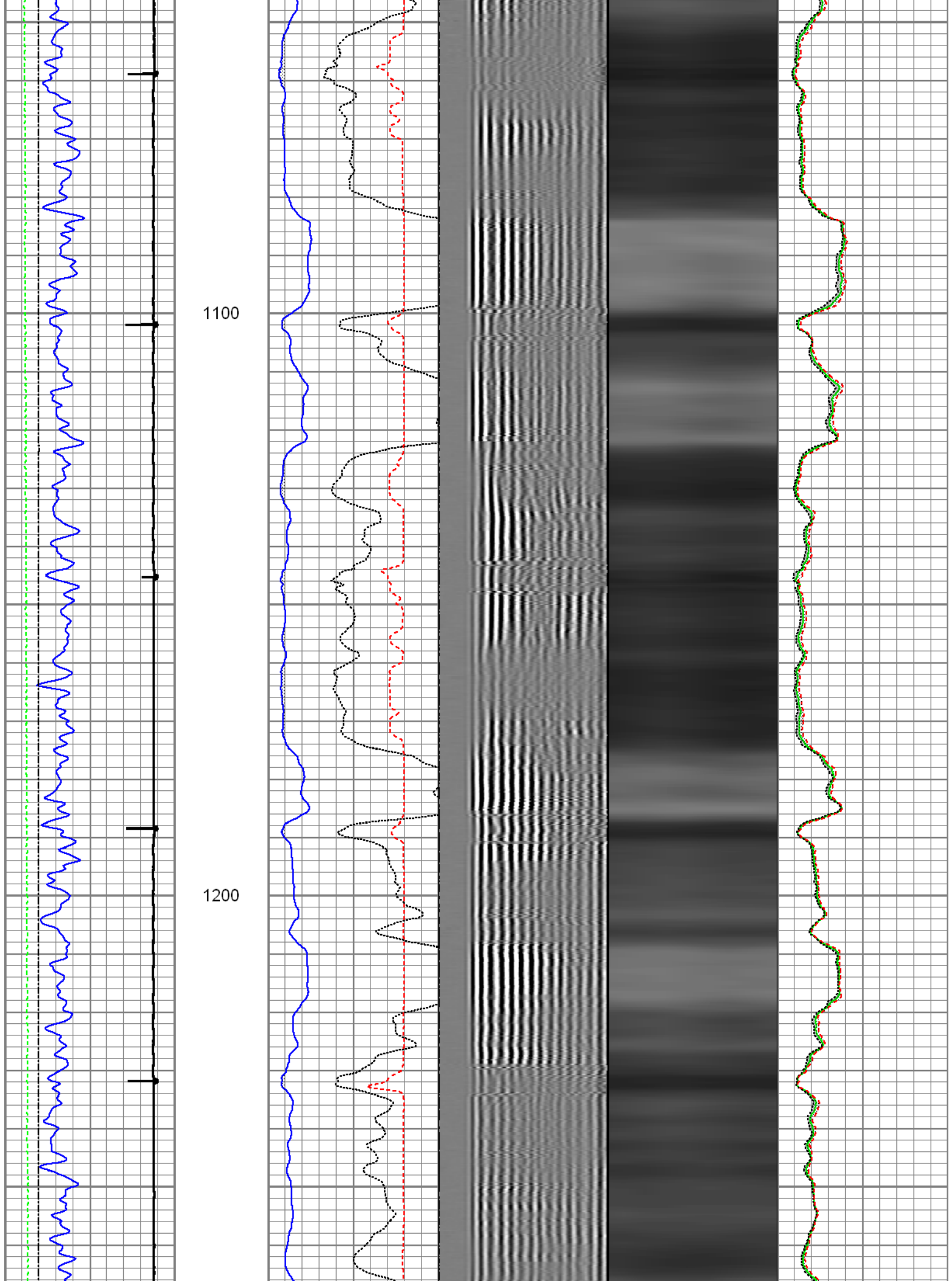


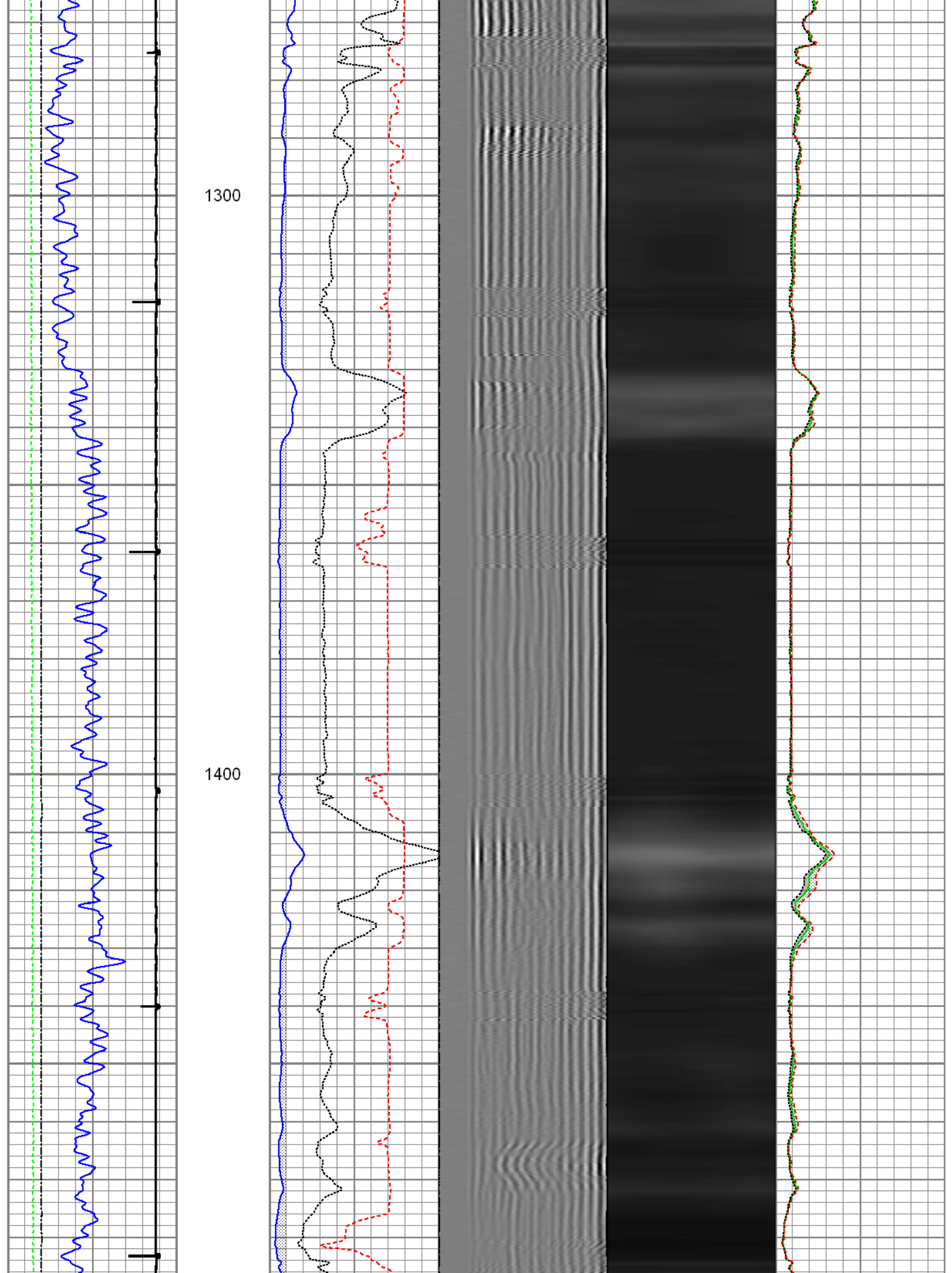
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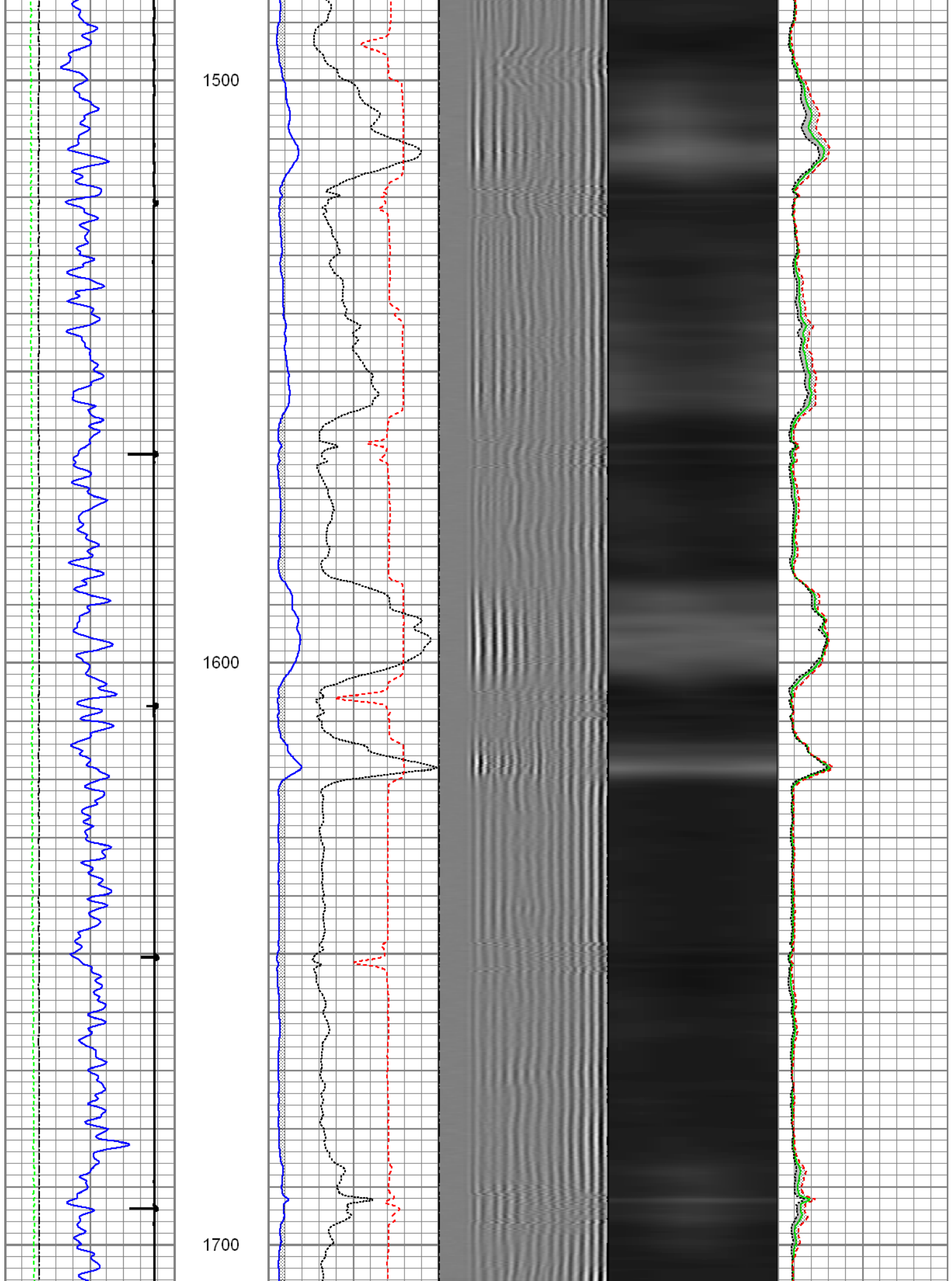
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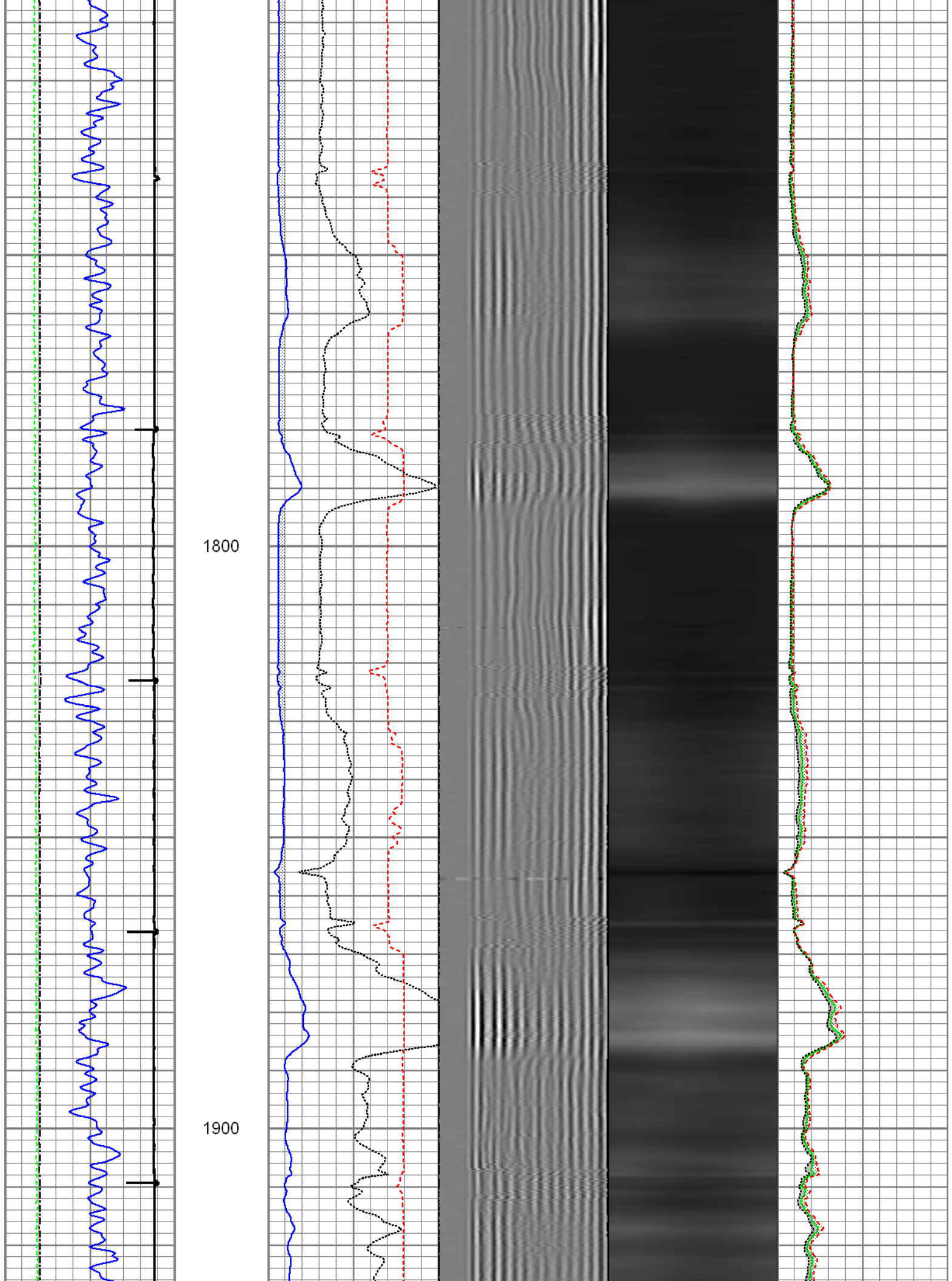






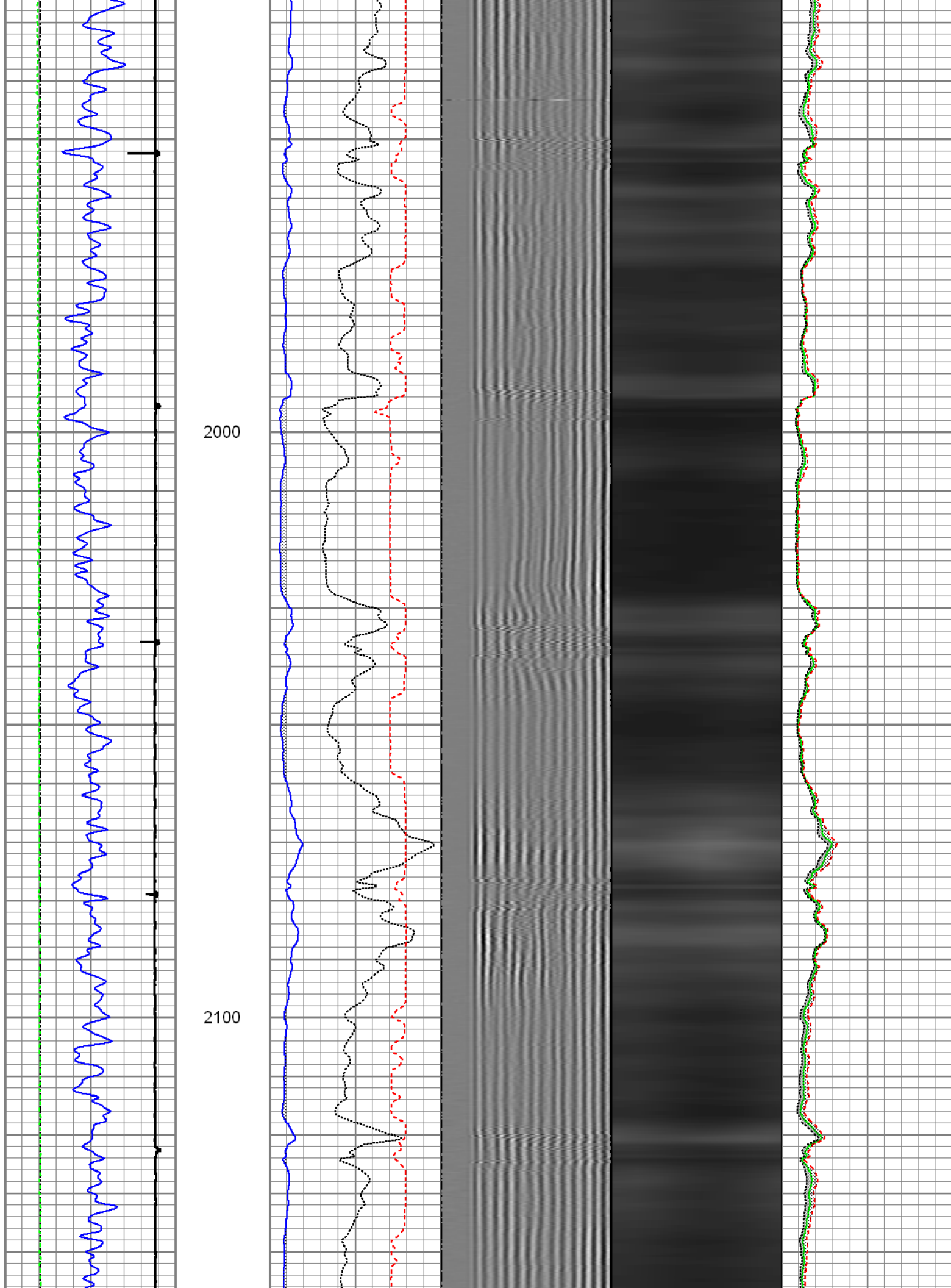






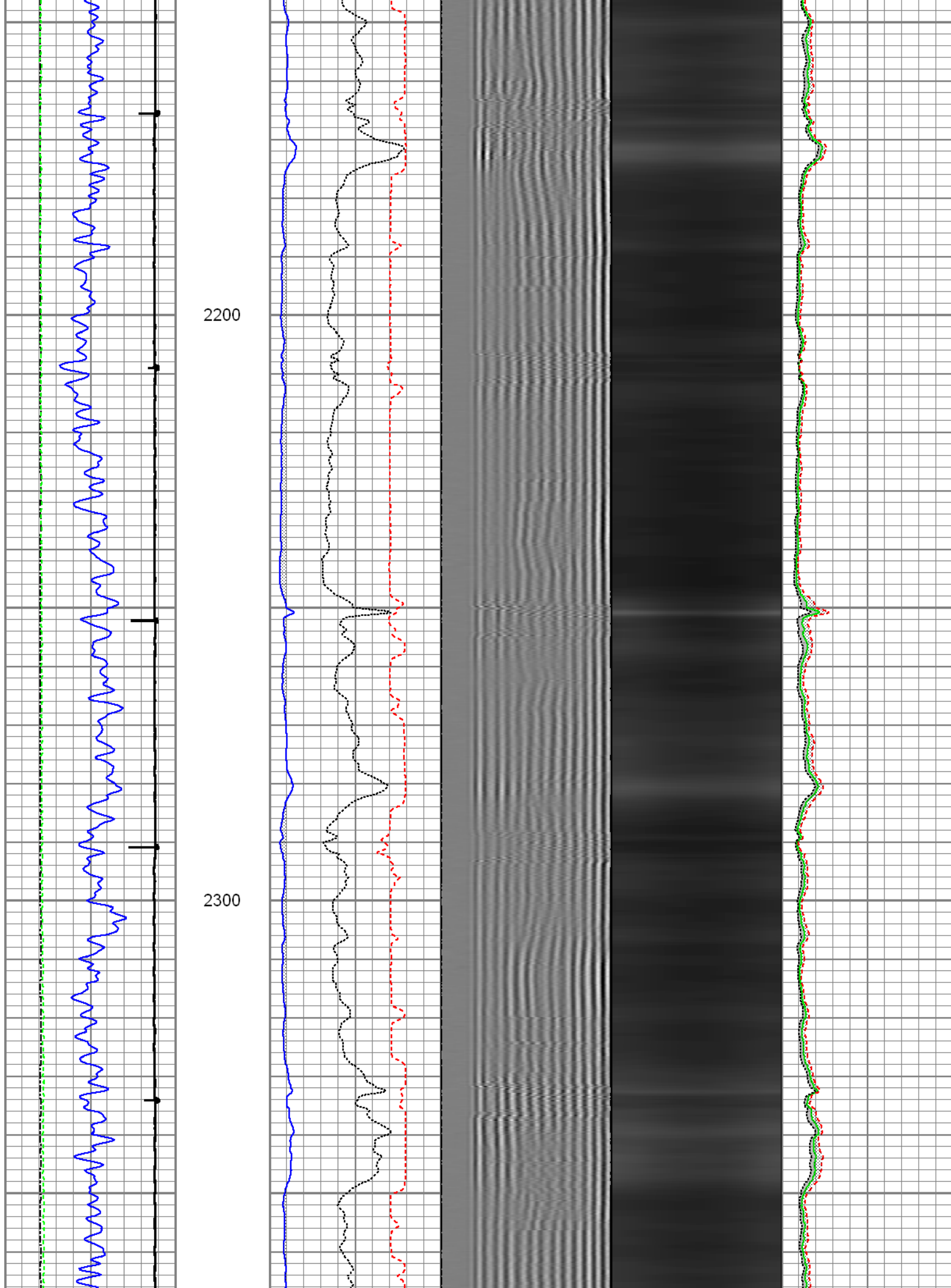
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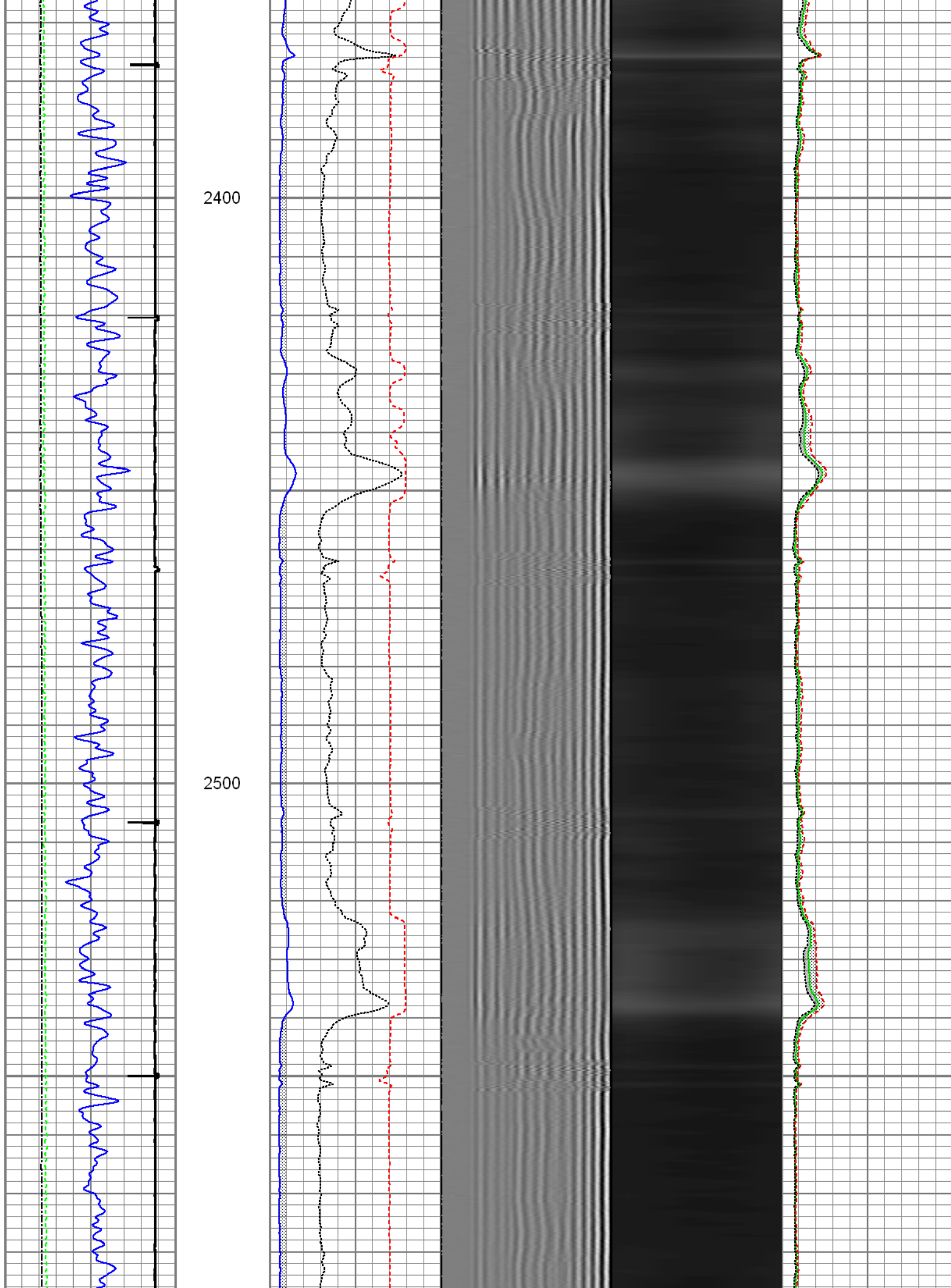
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2300



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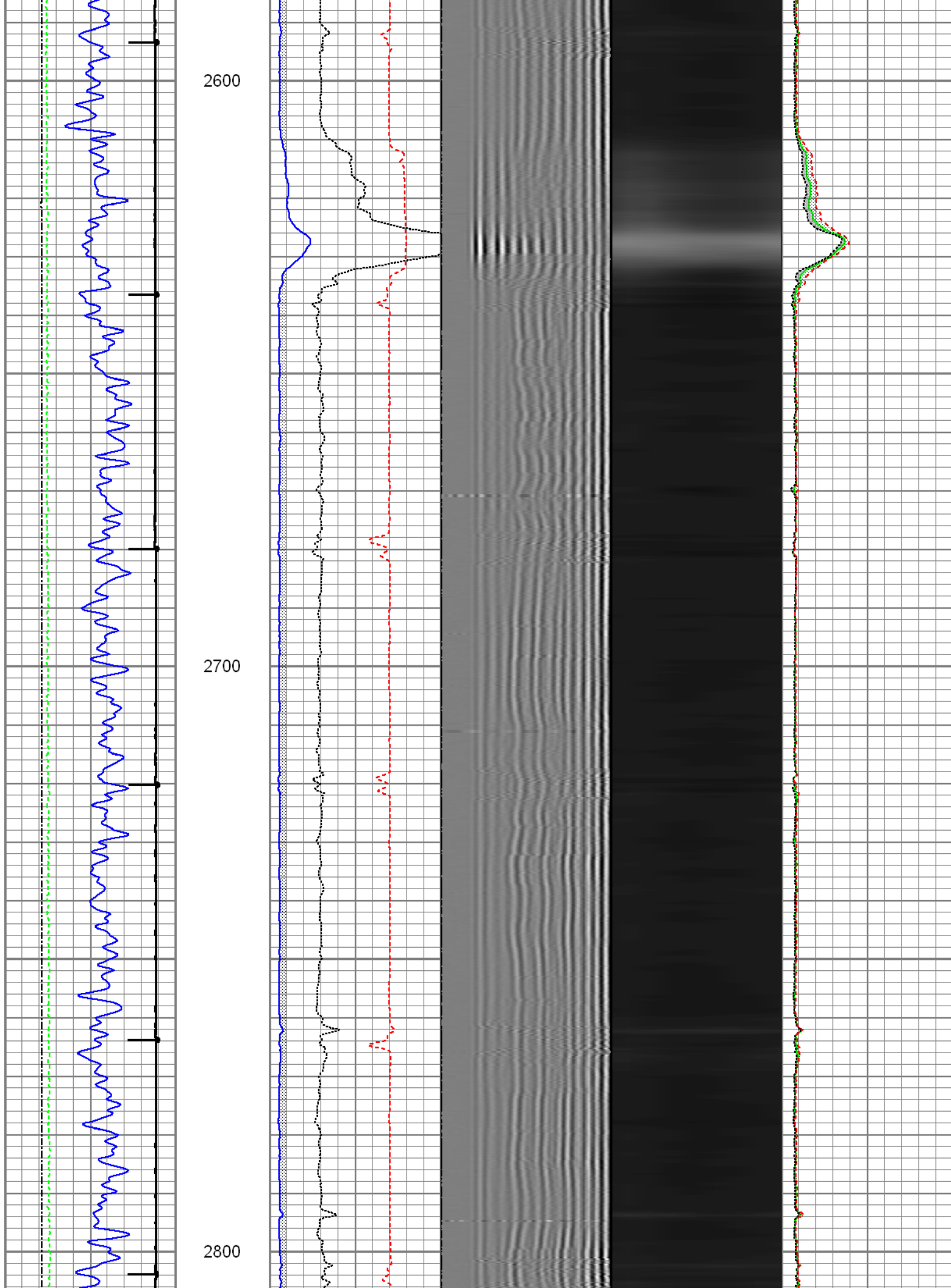
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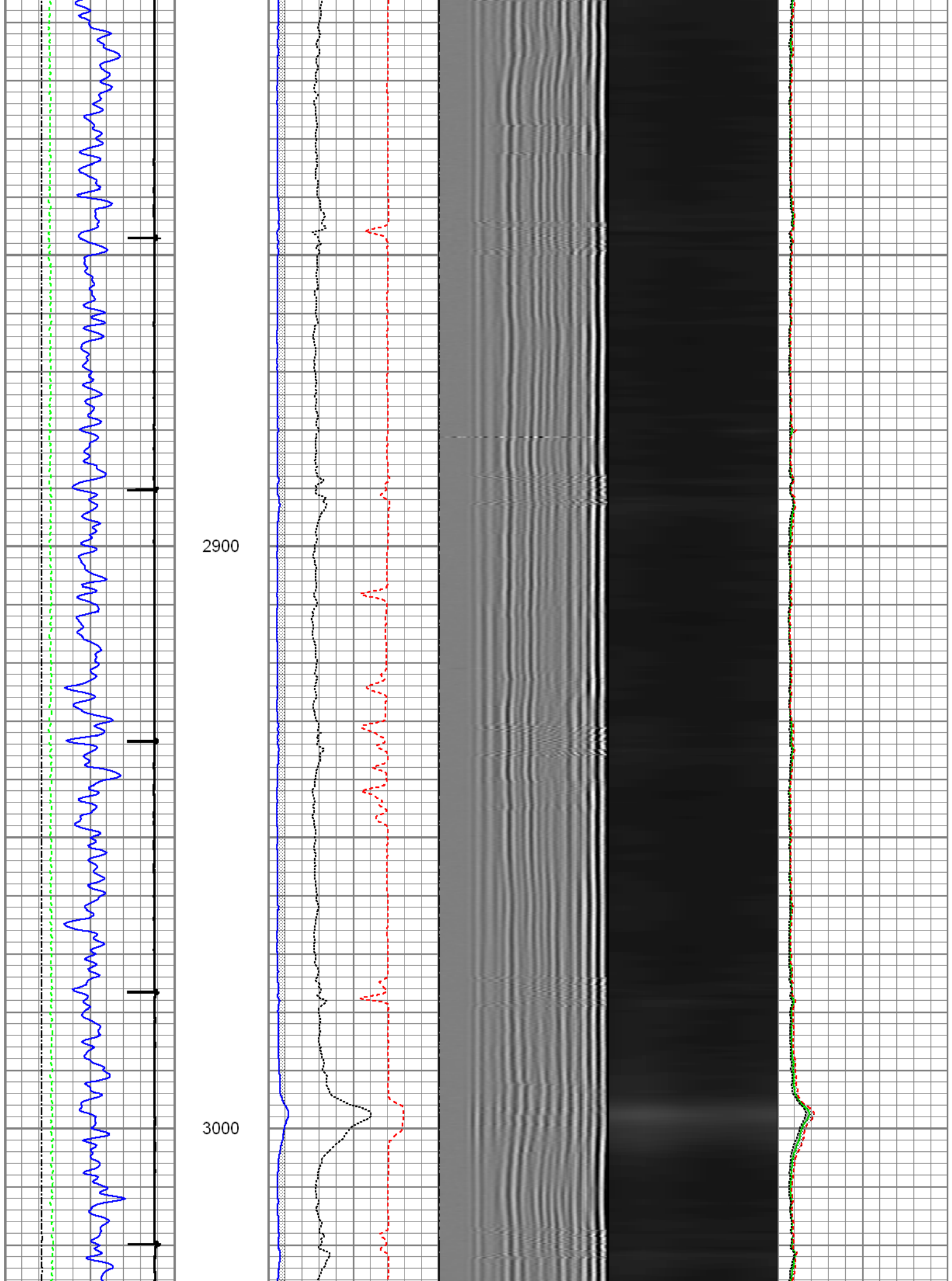


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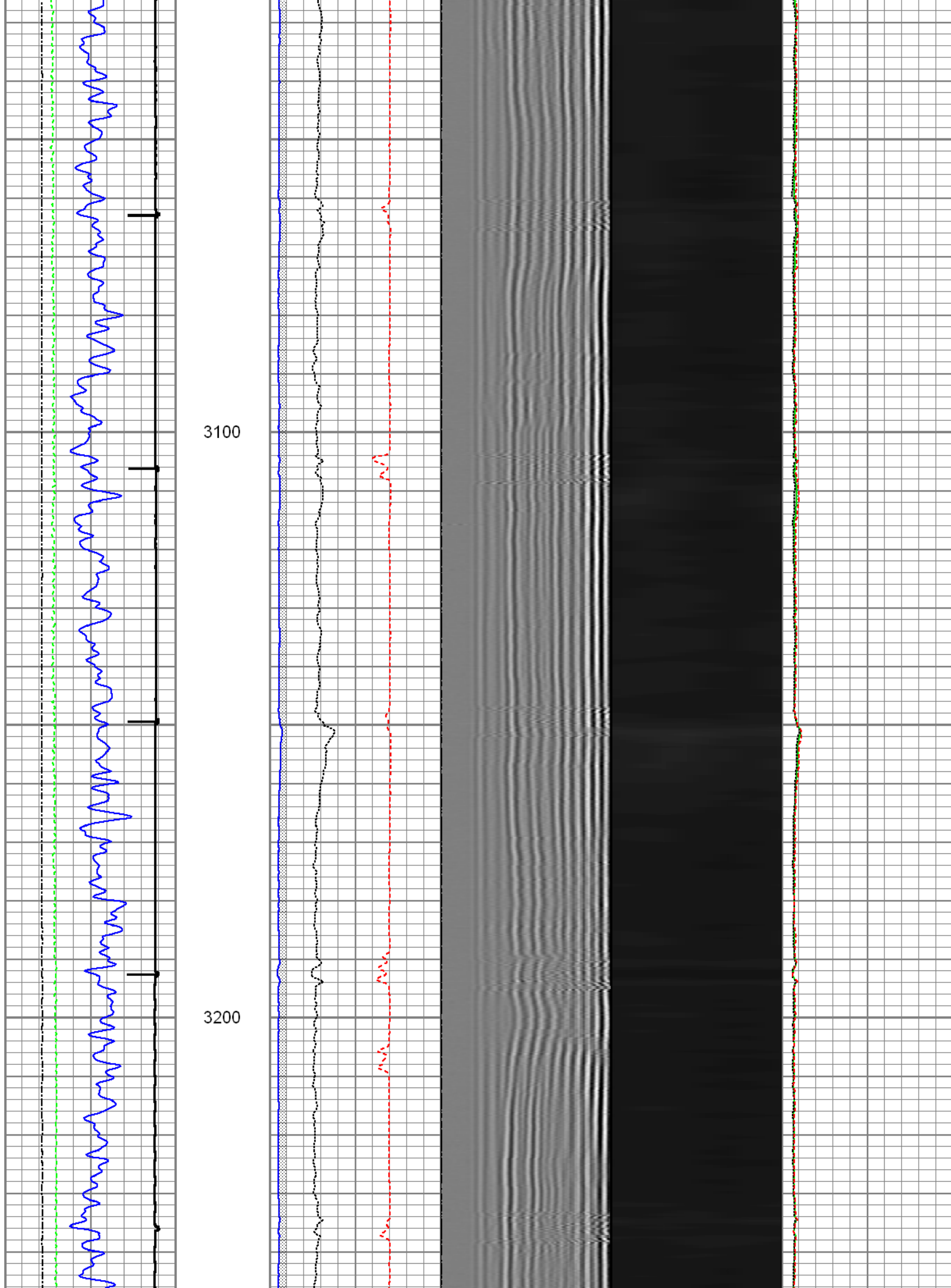
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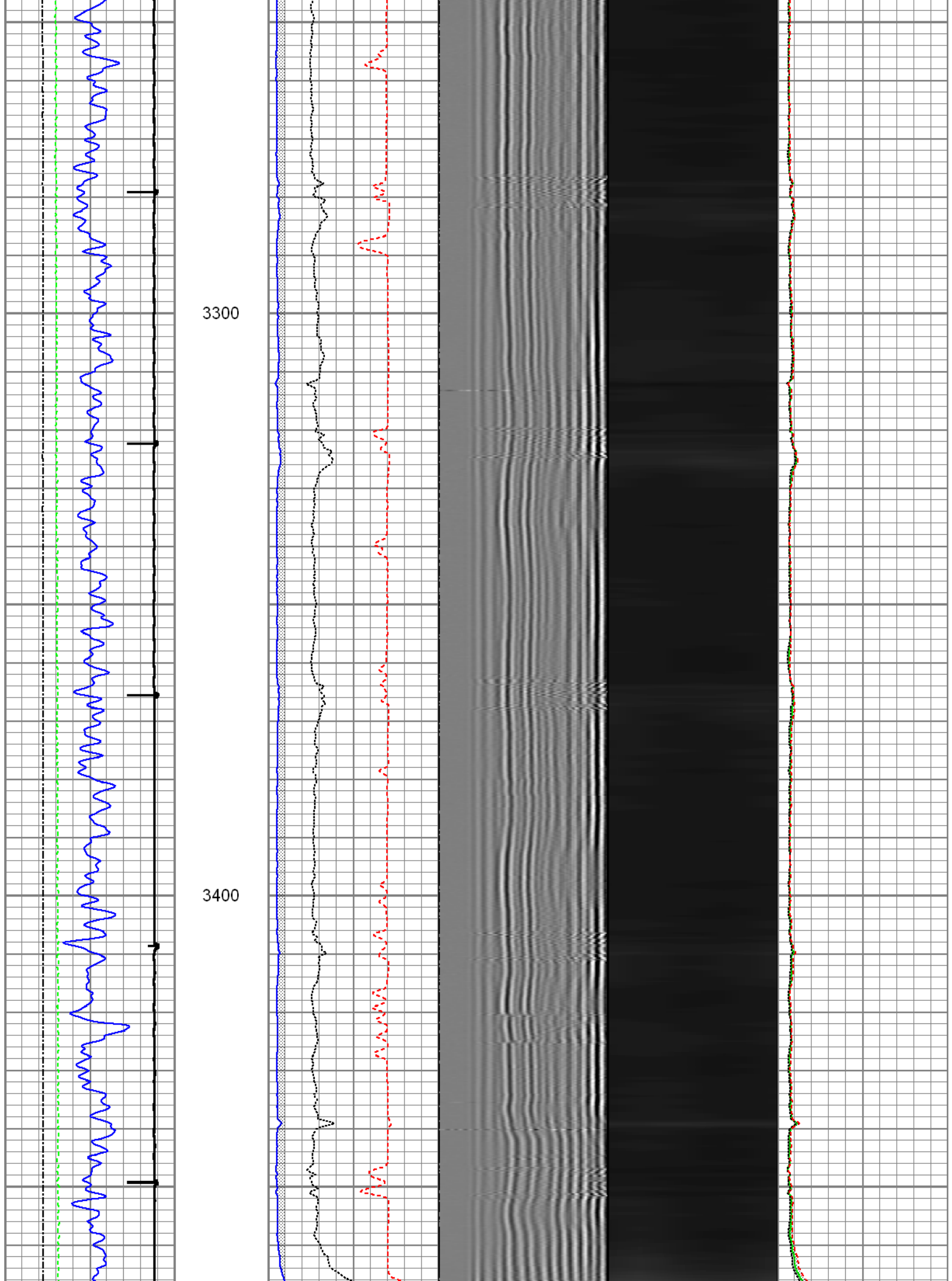




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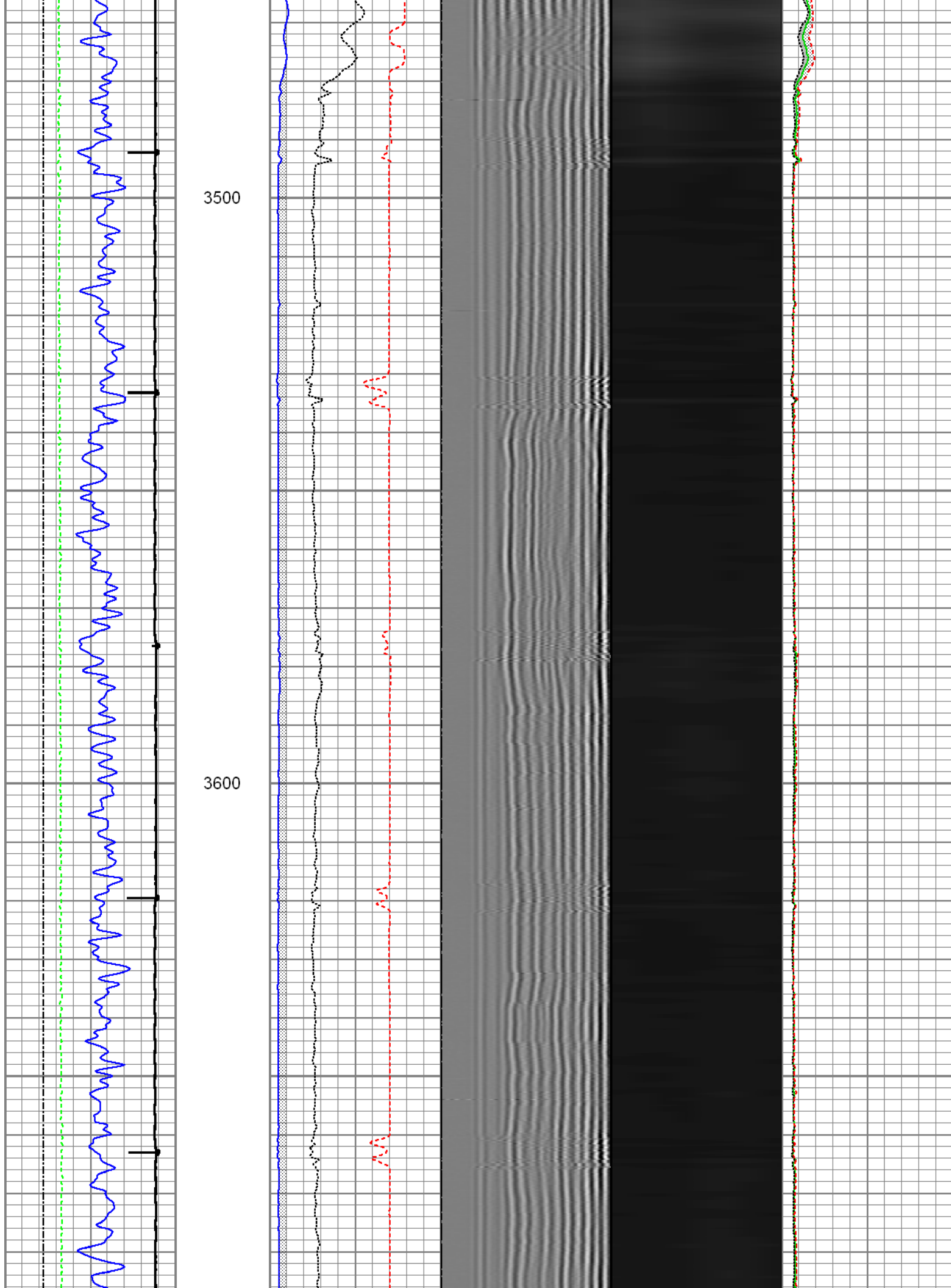
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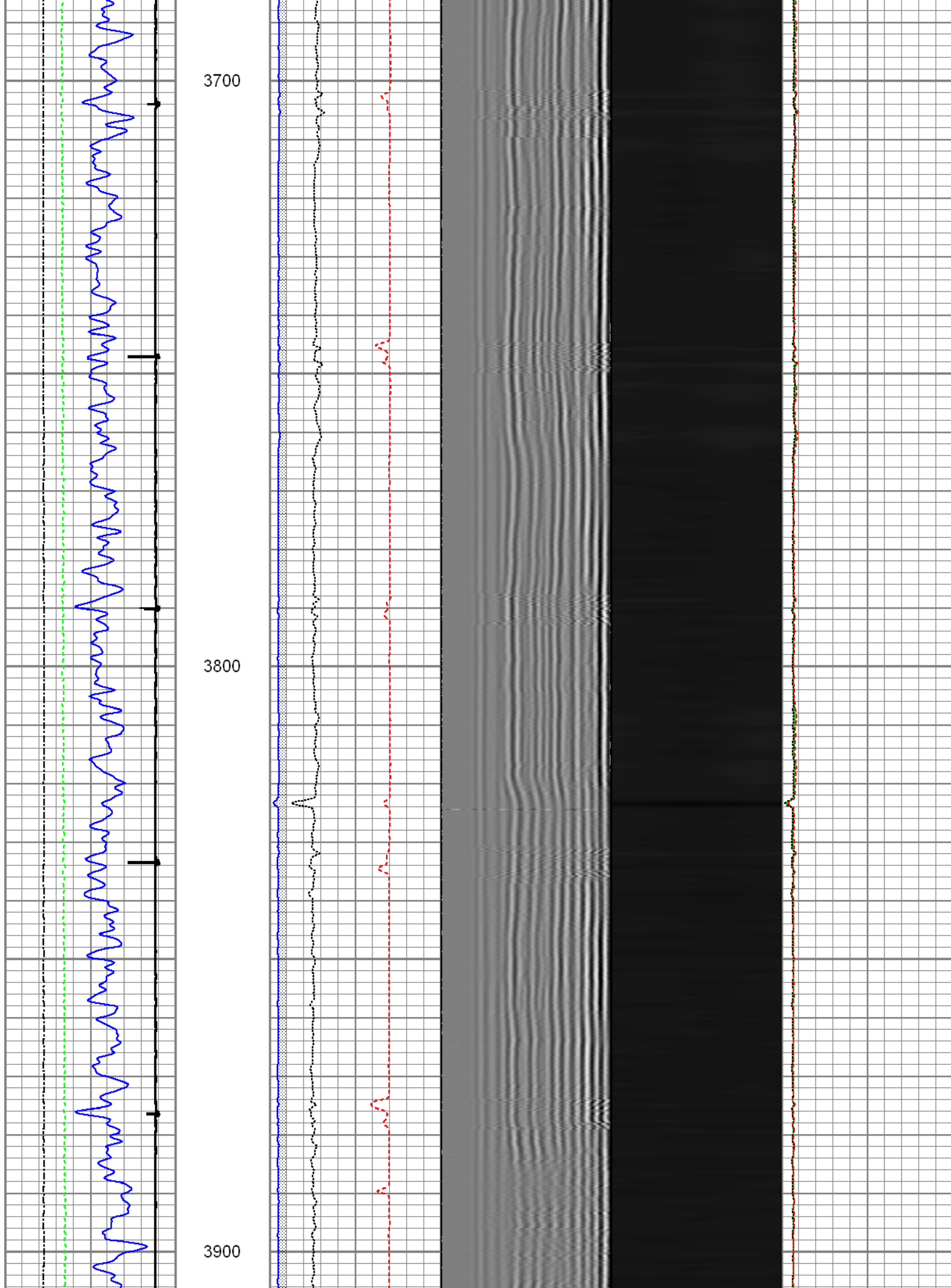
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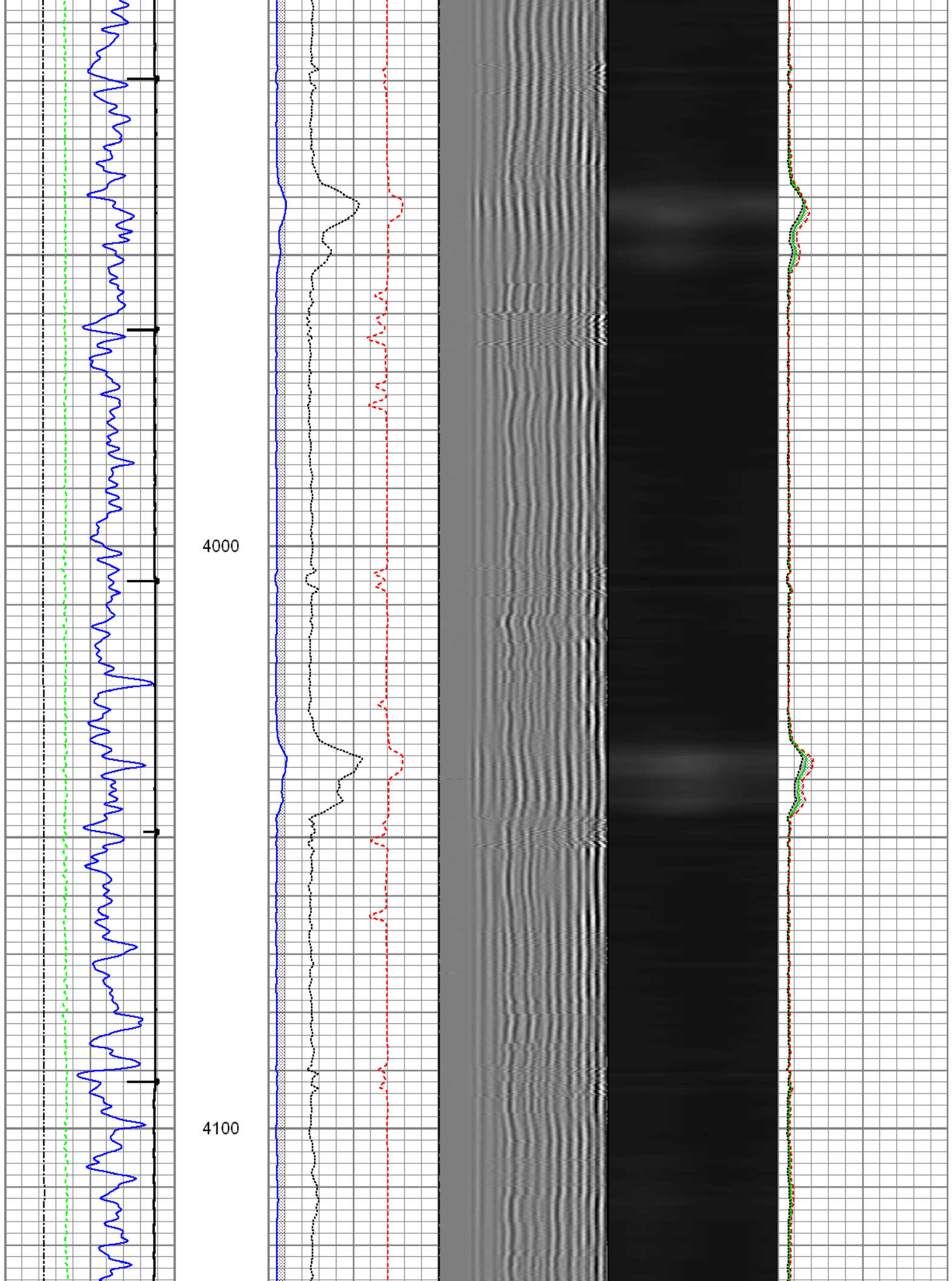


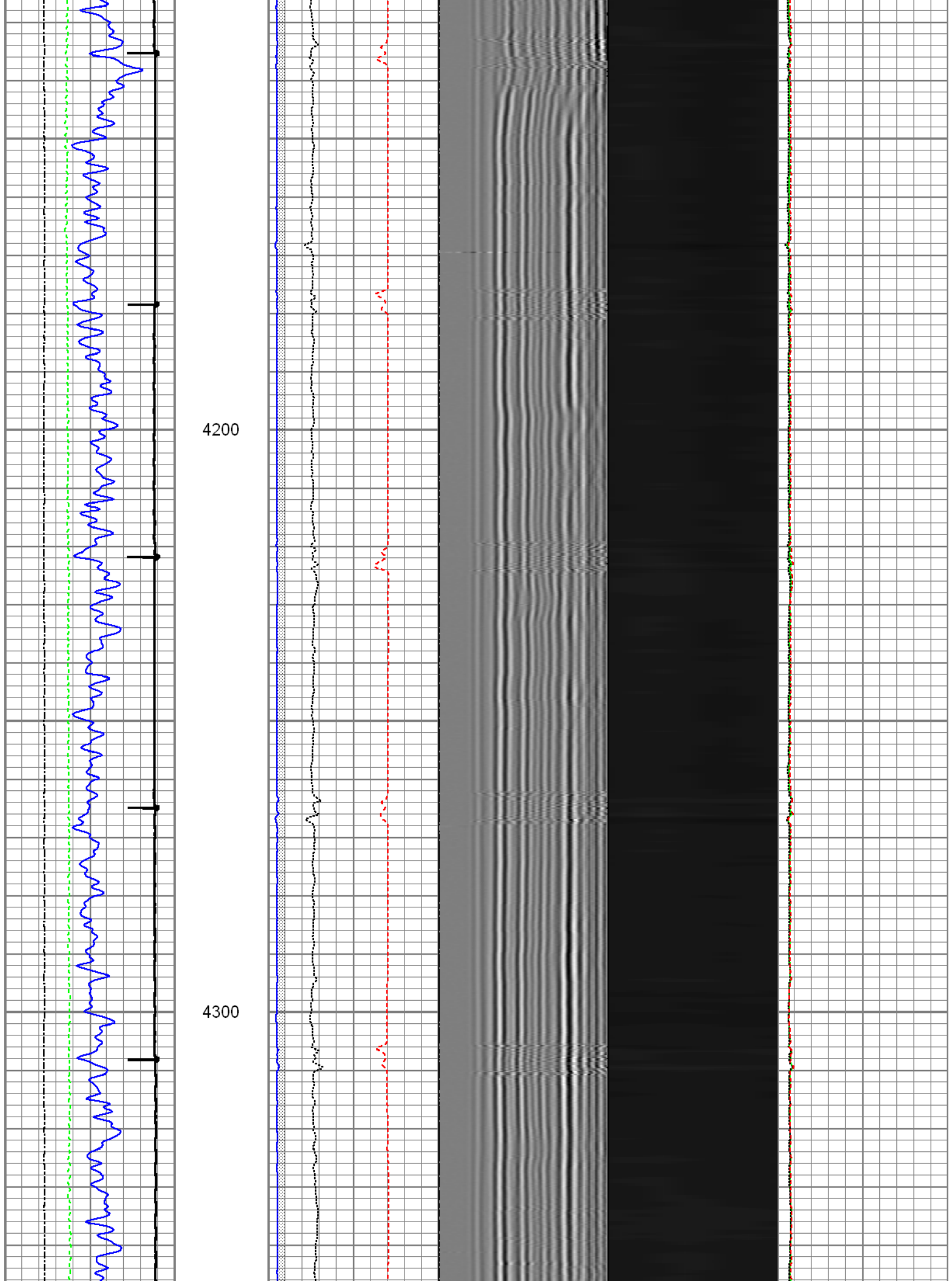
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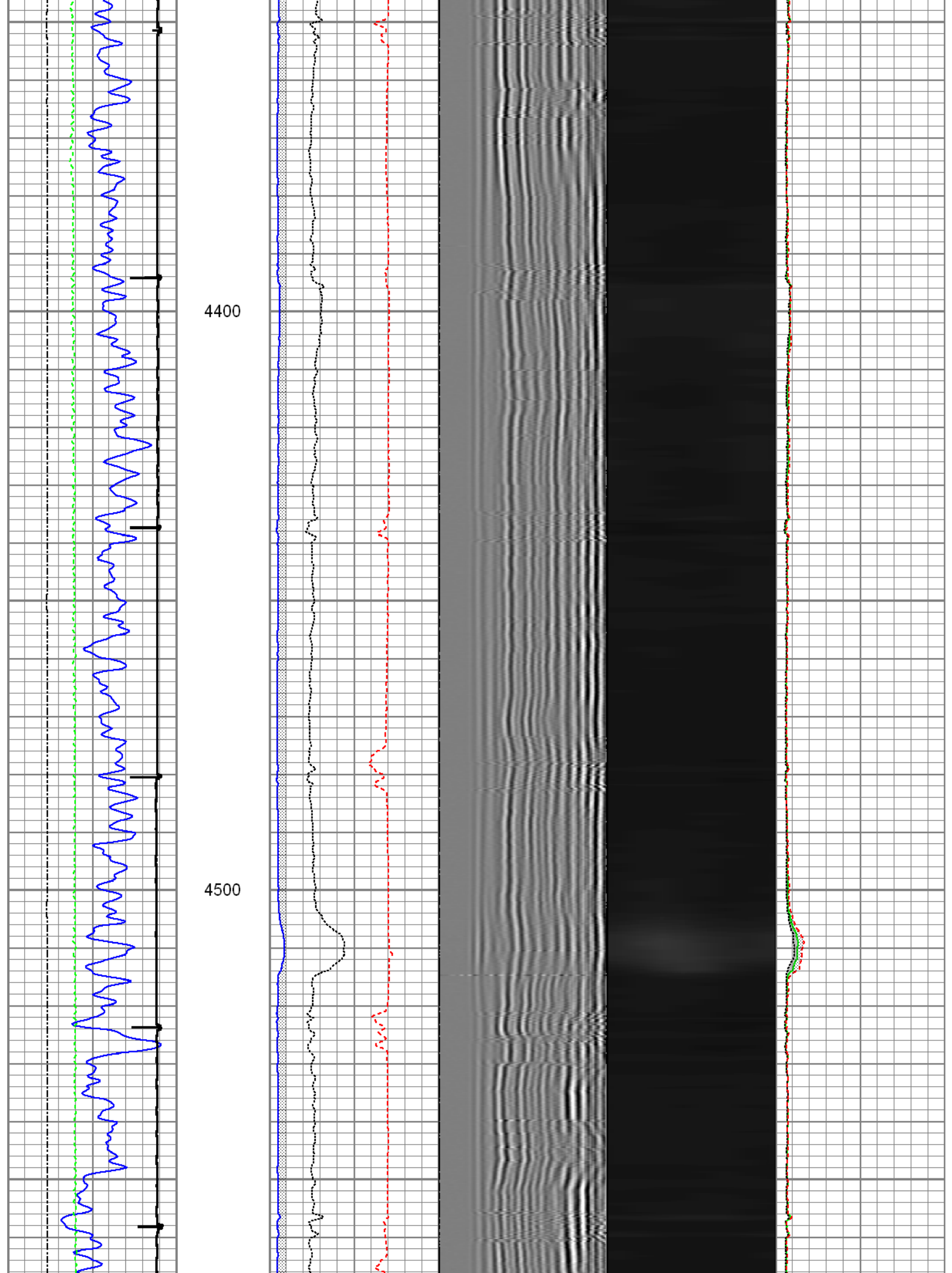
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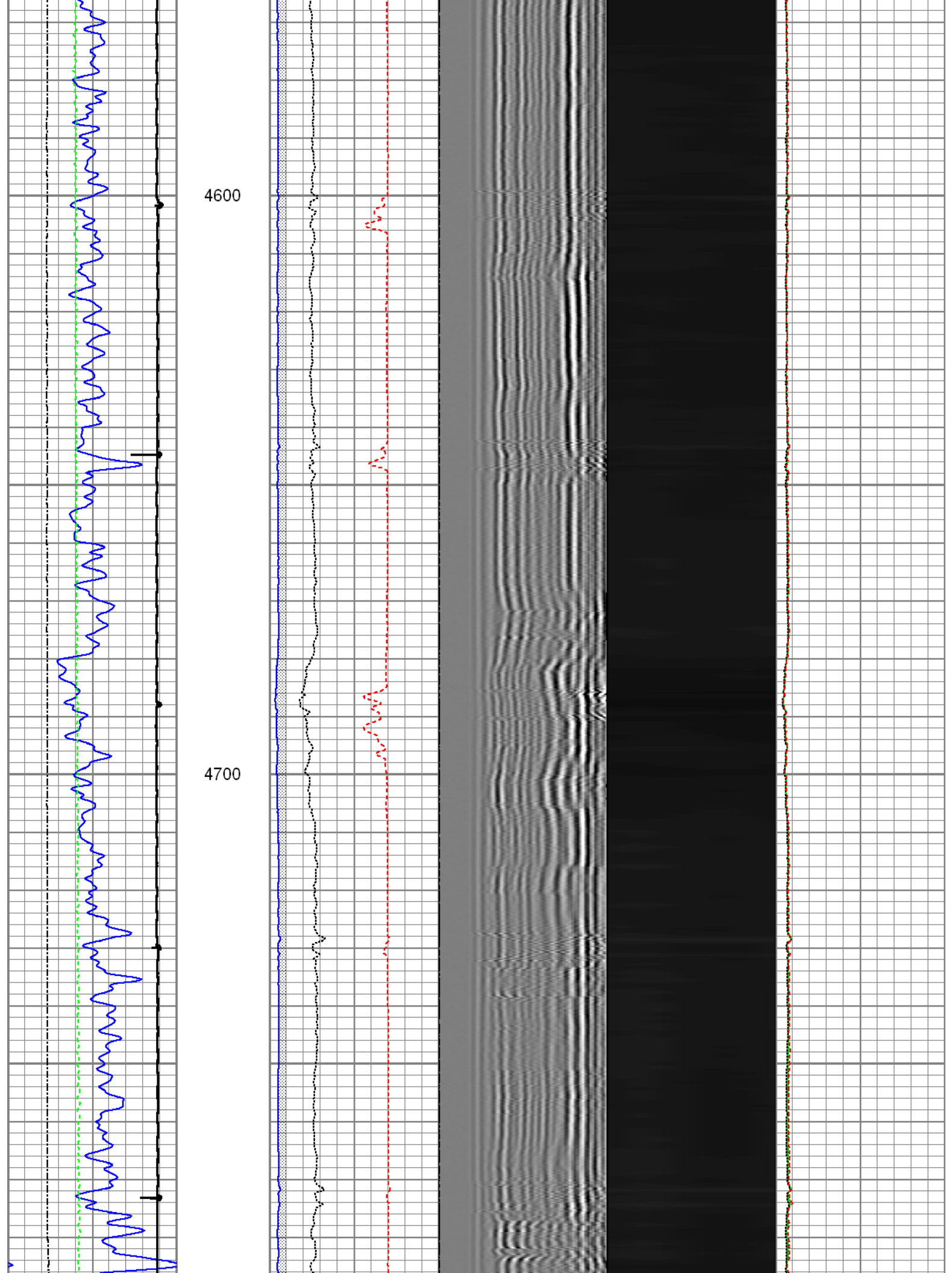
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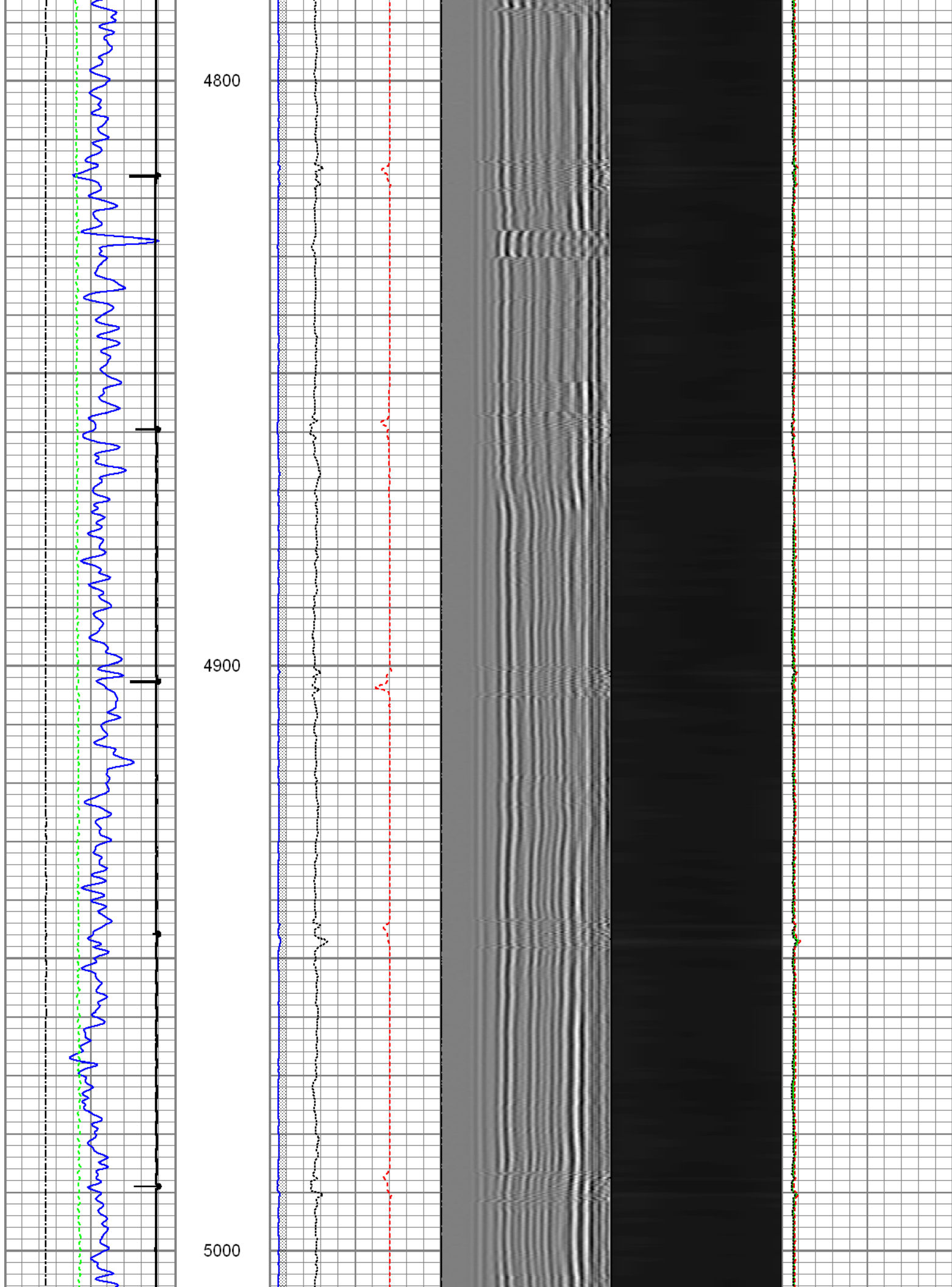




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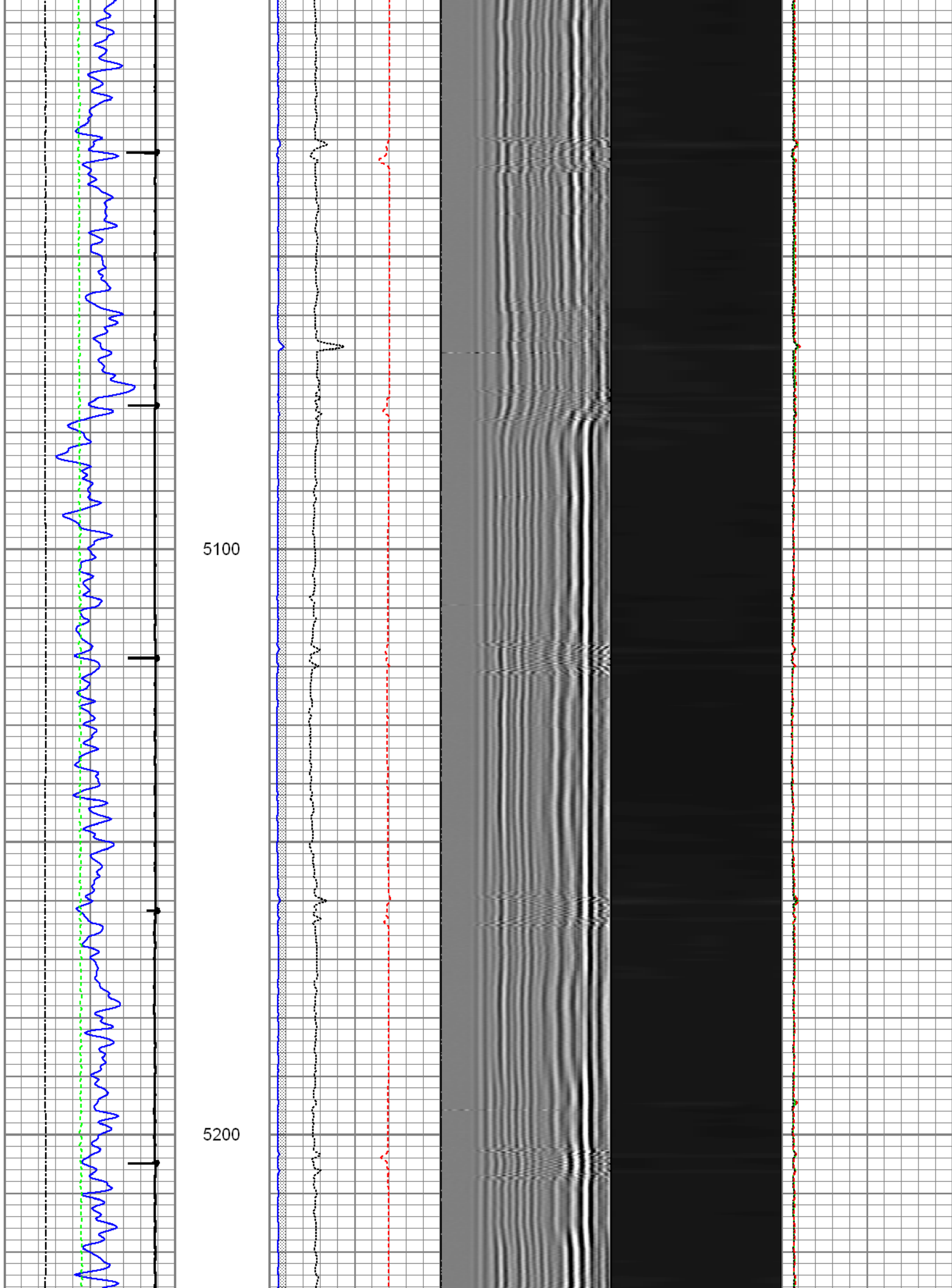
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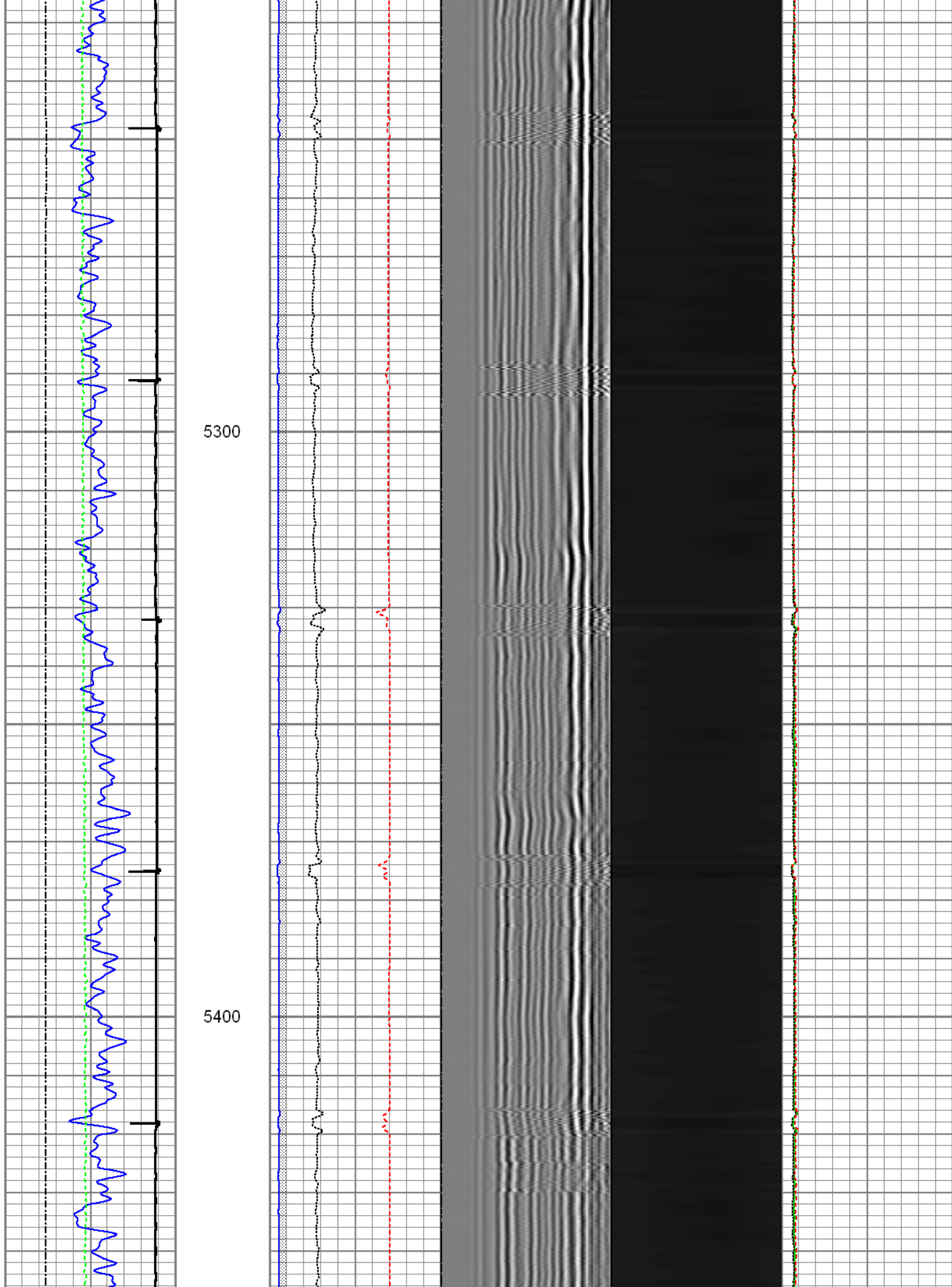
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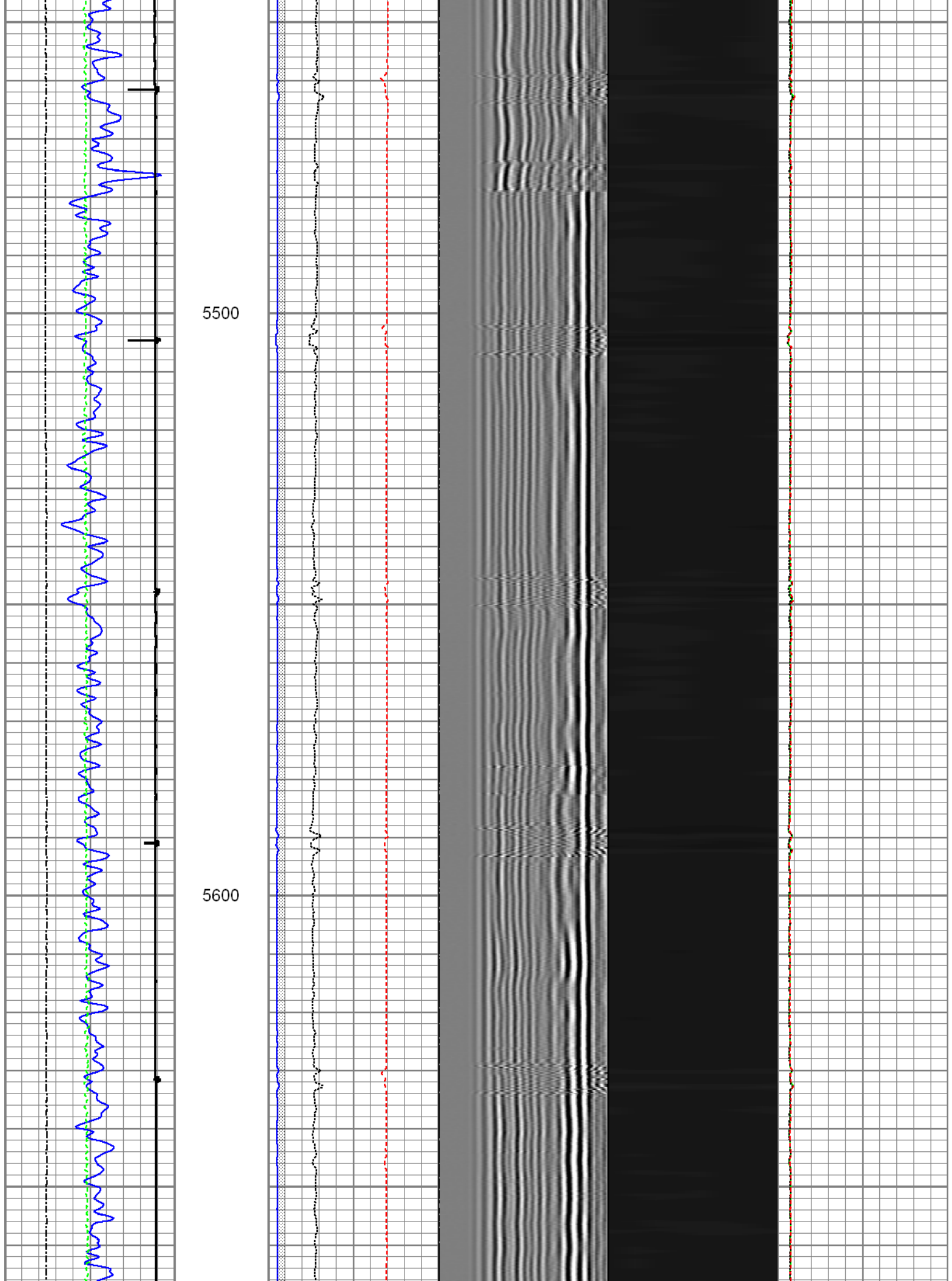
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5300

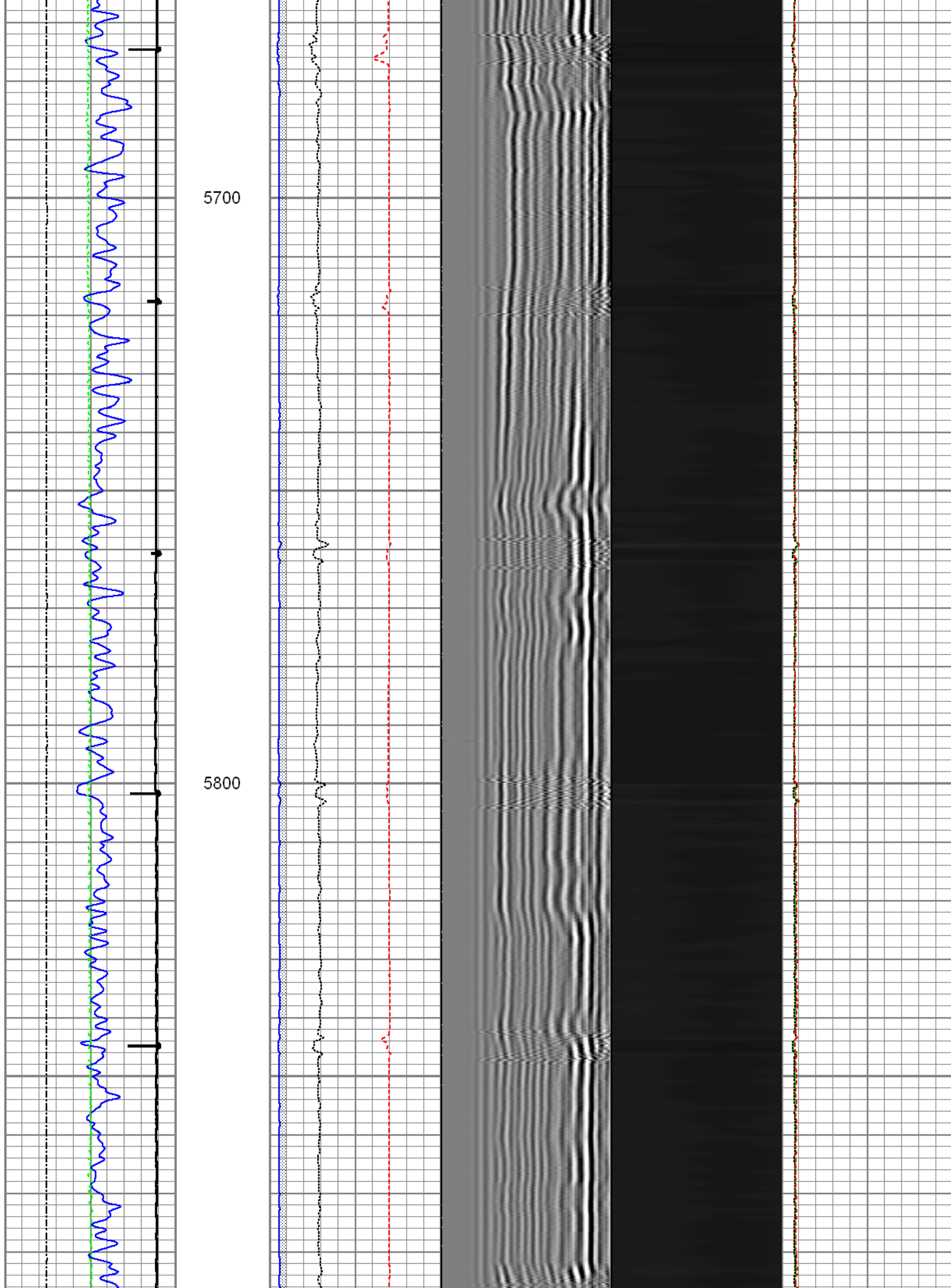
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5700

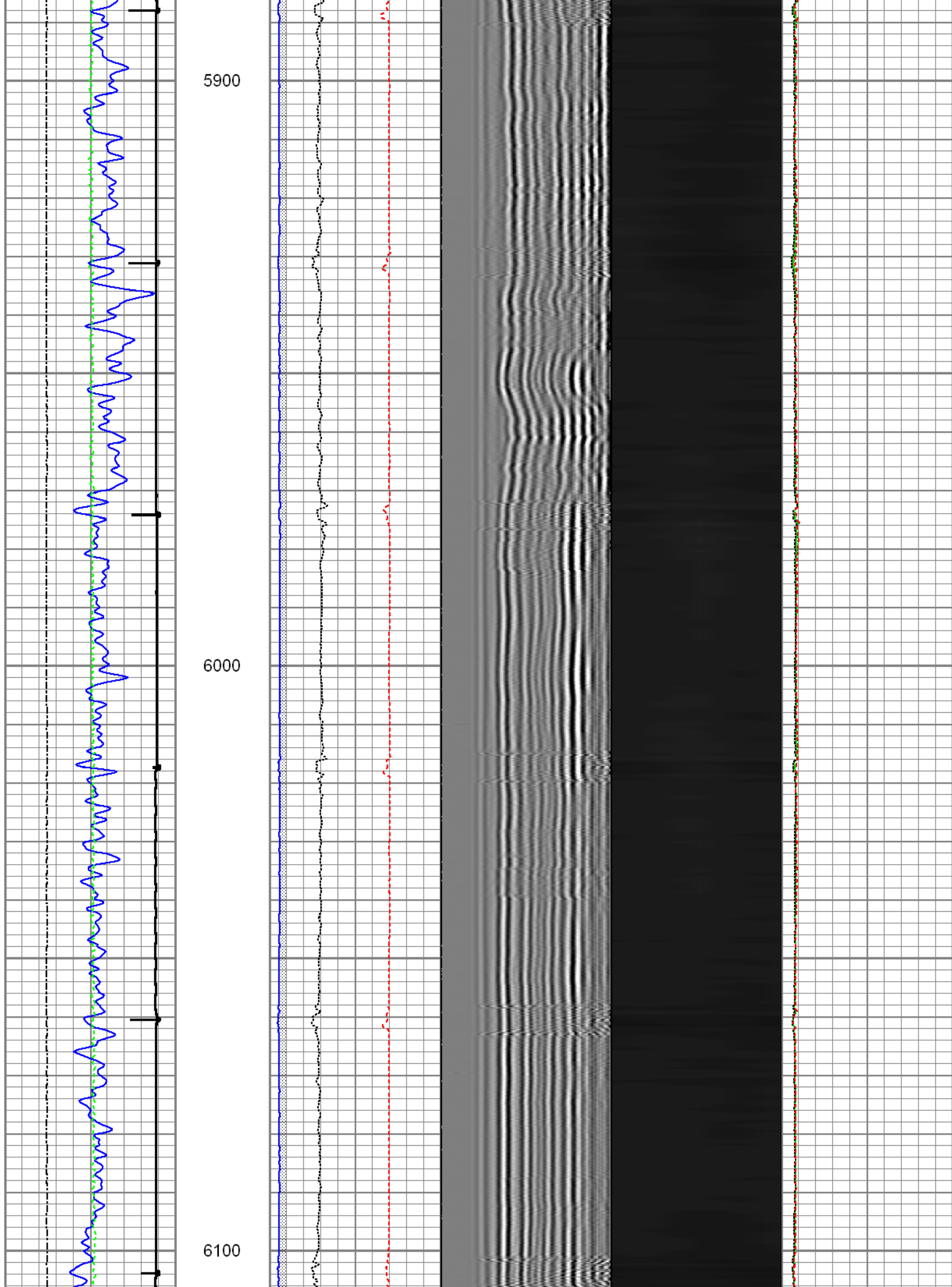
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5900

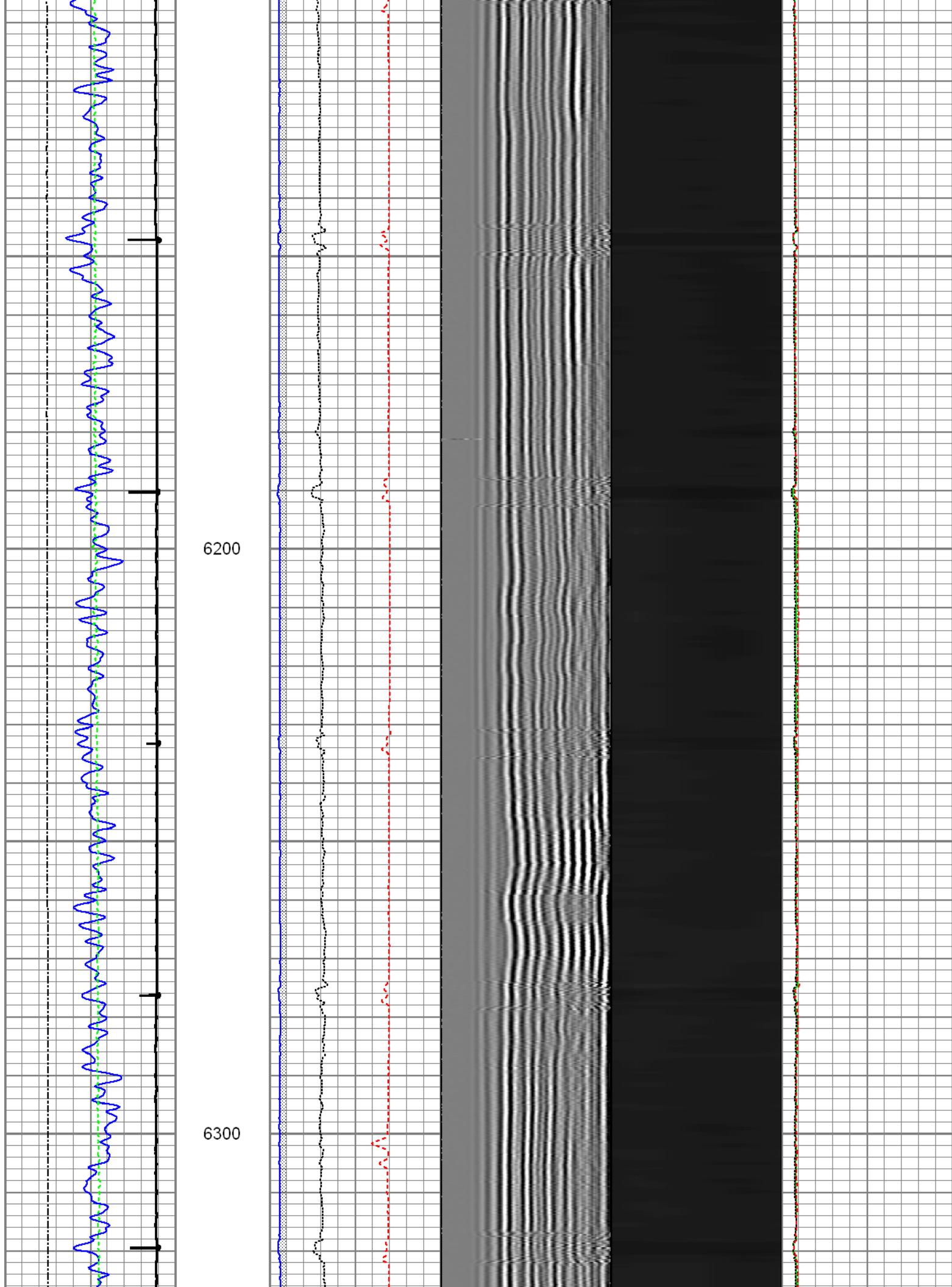
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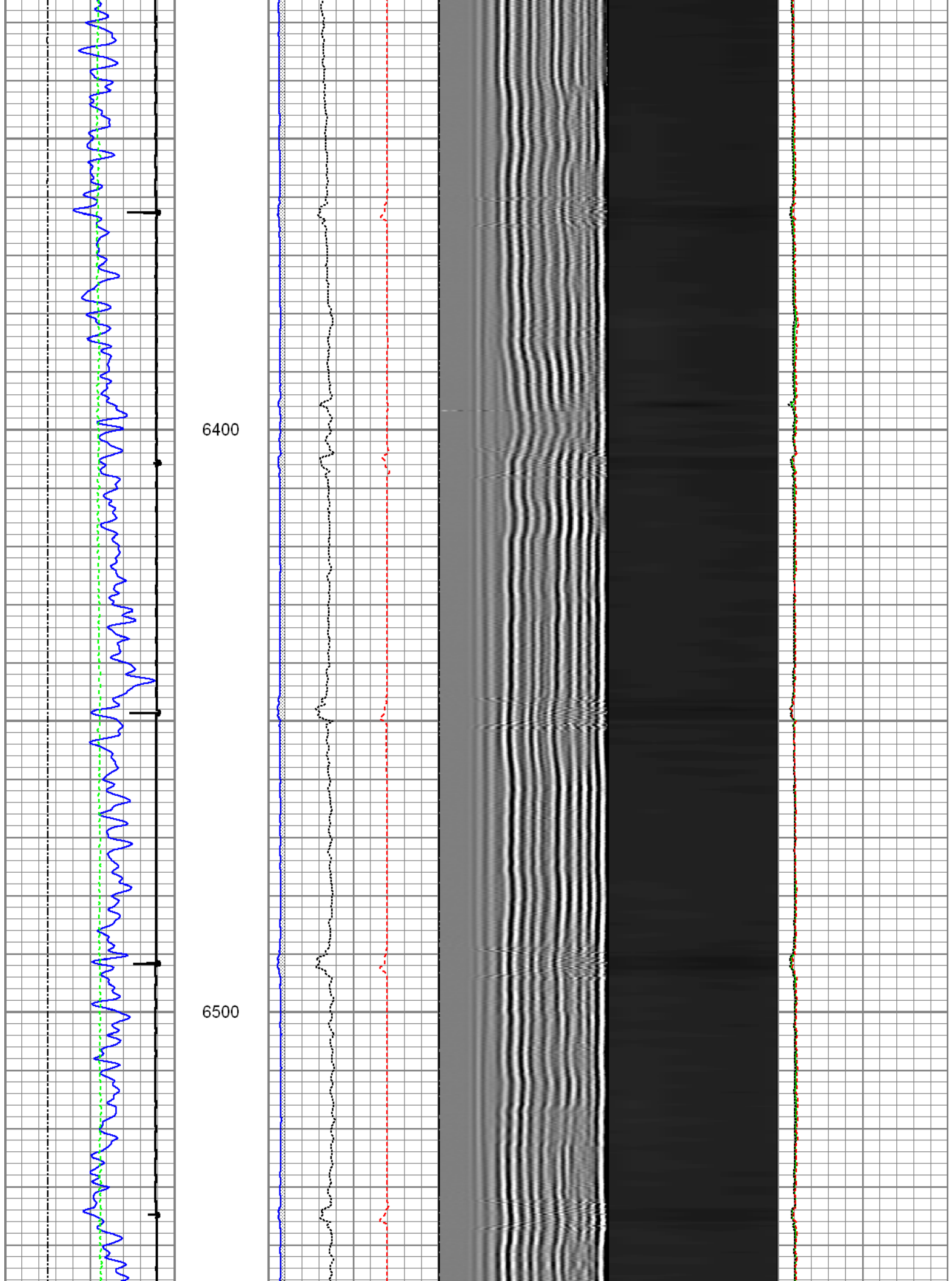
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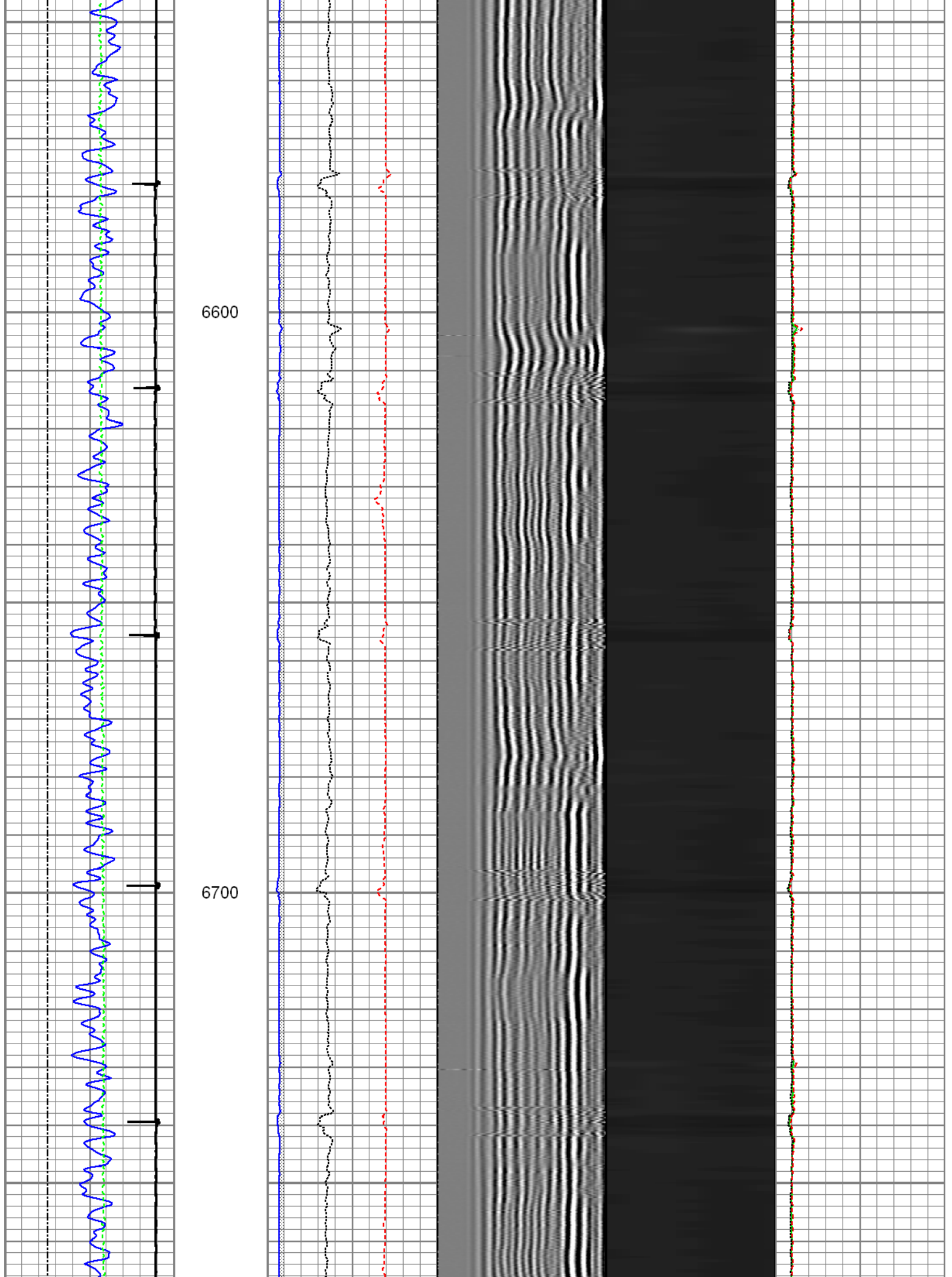


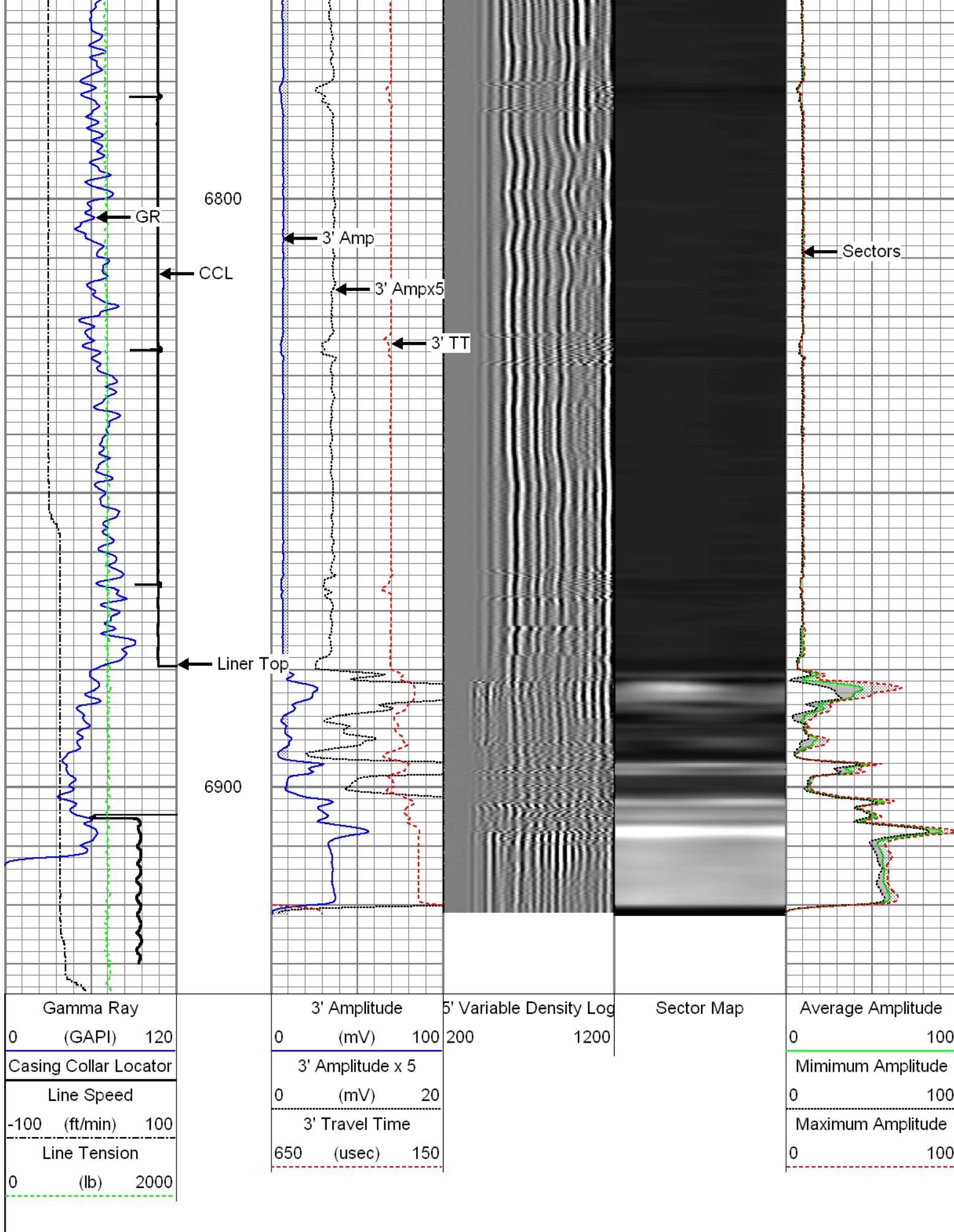
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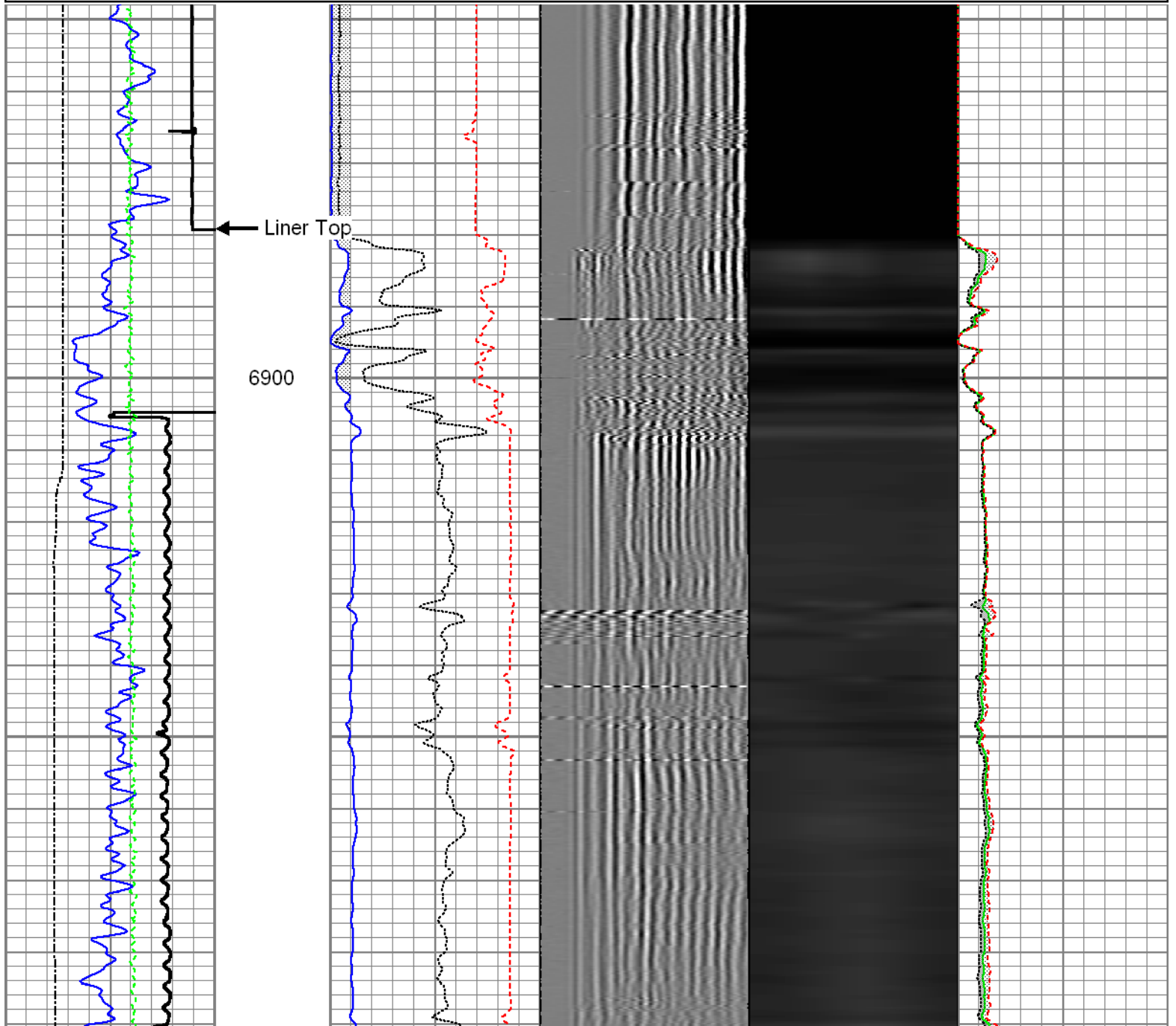


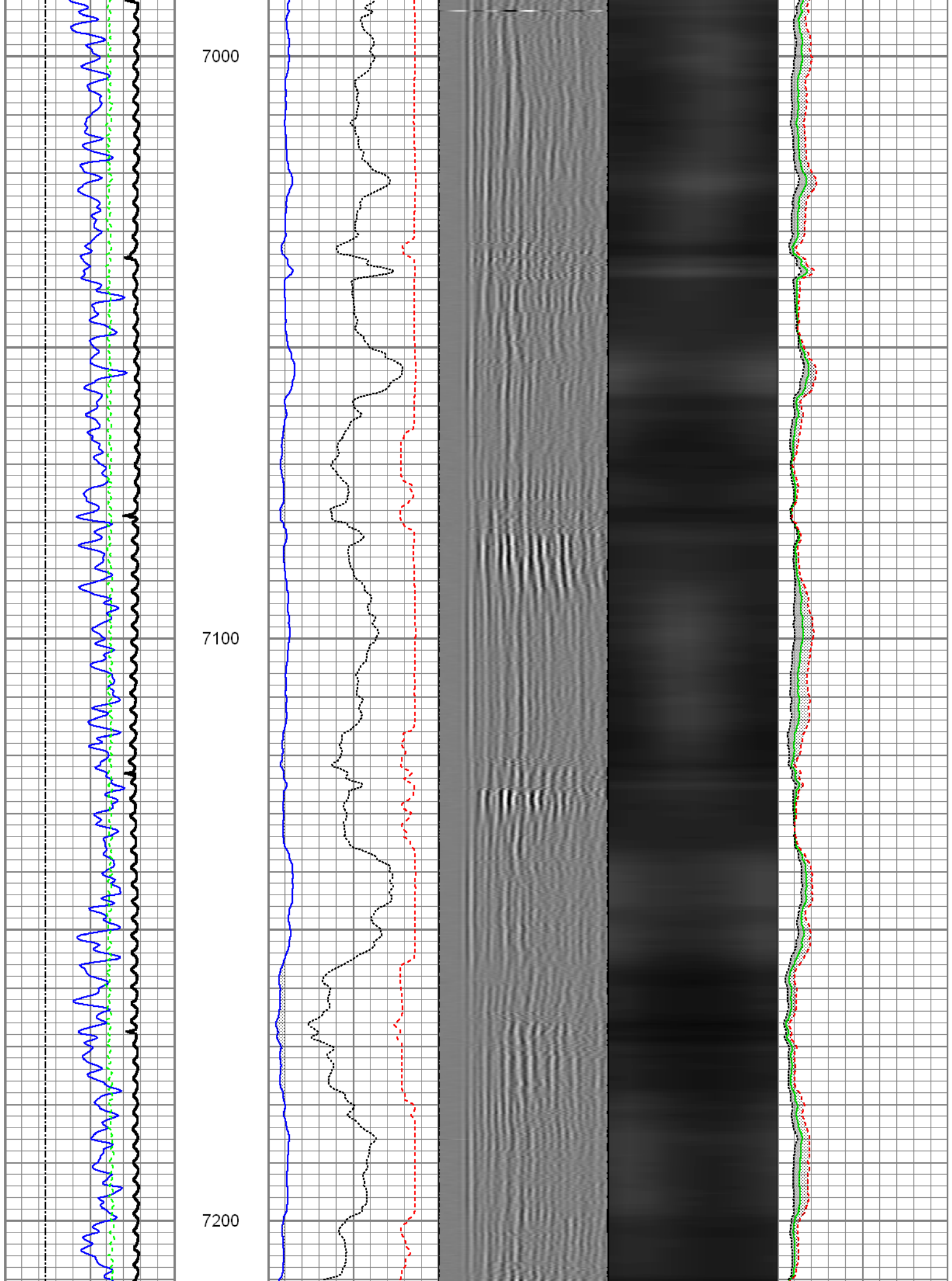


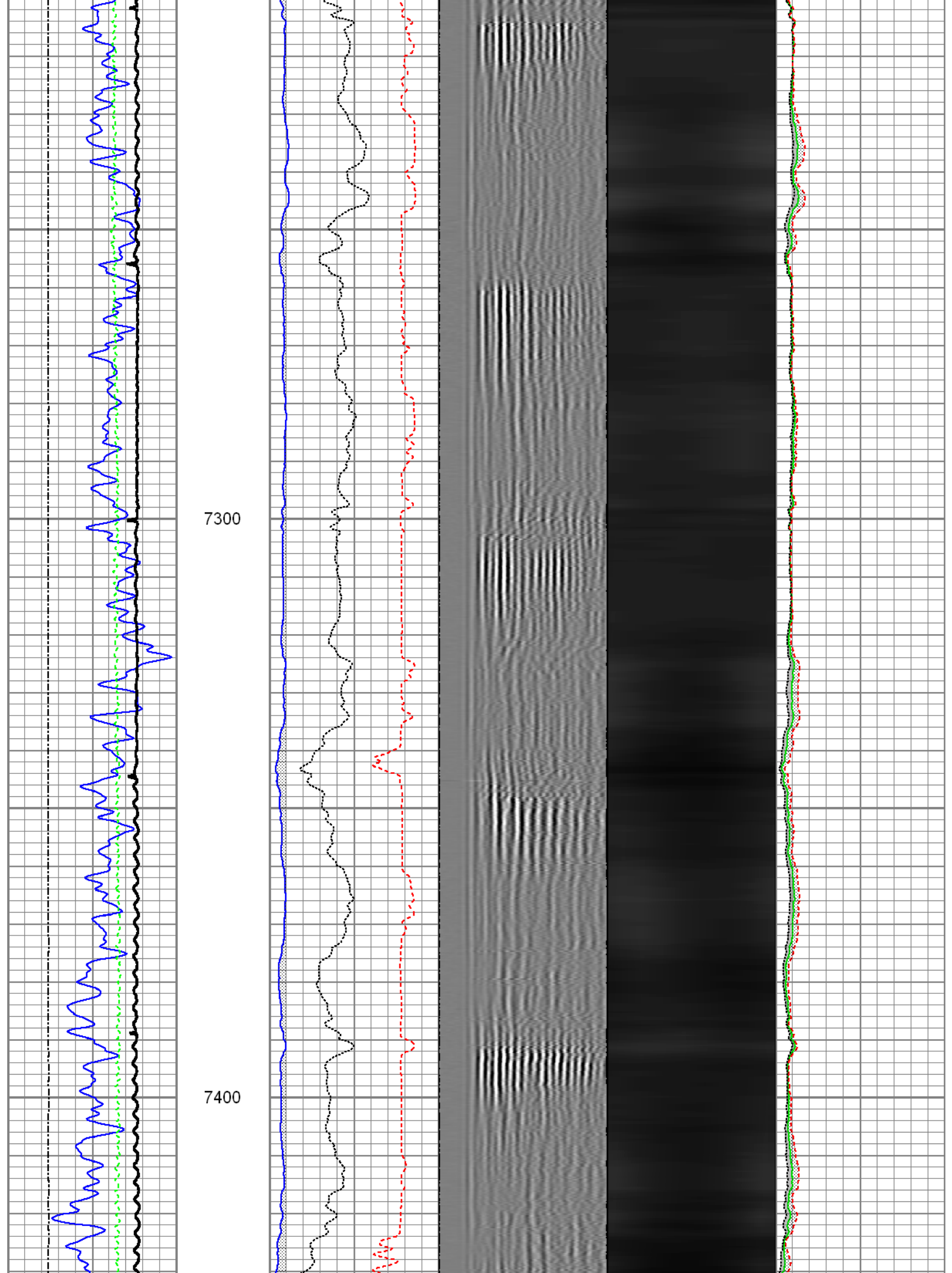
Log ran with 2800 PSI surface induced pressure.

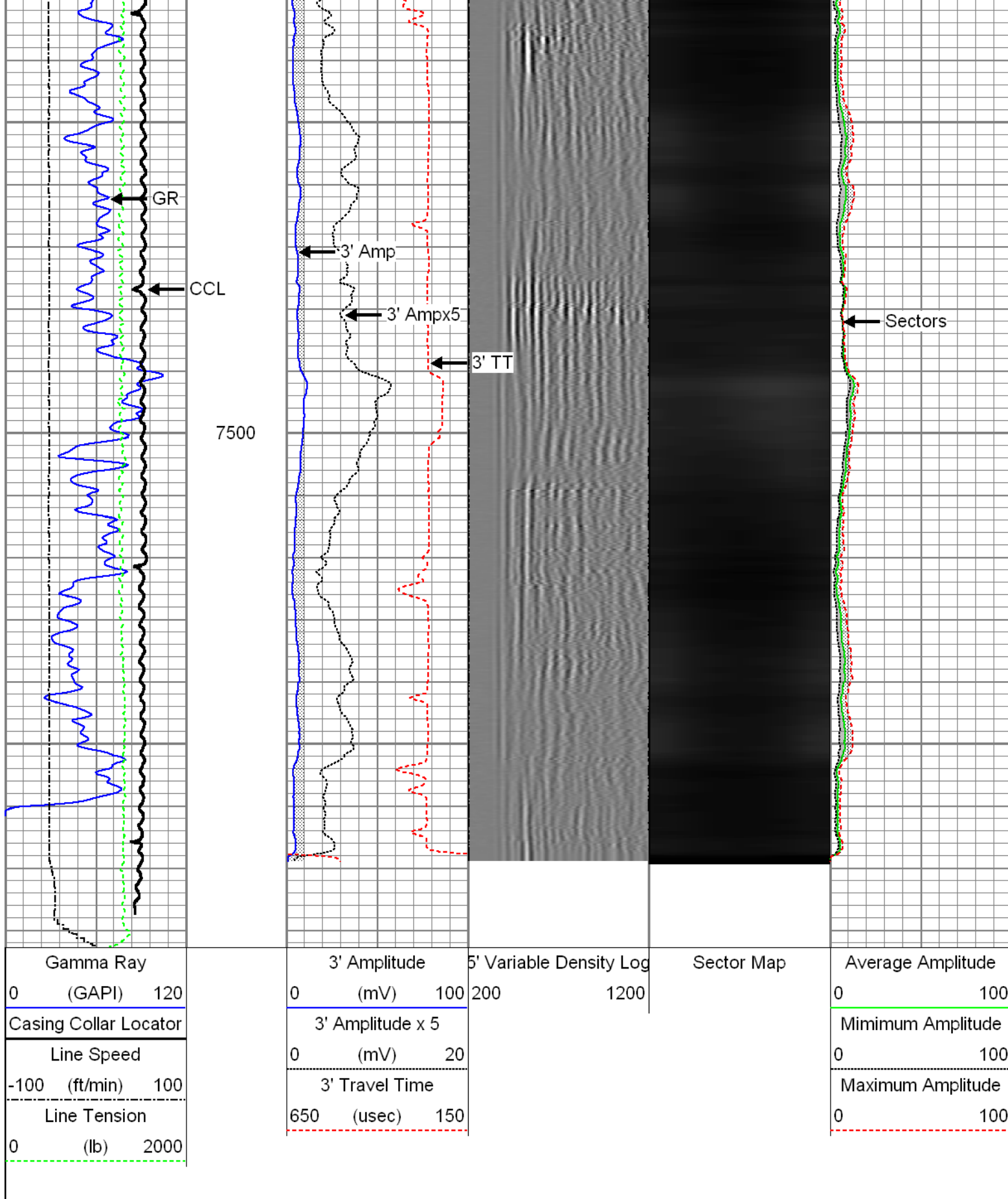
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 Dataset Pathname: main4.5  
 Presentation Format: rbt4\_mit  
 Dataset Creation: Sat Aug 09 14:52:38 2014 by Log SCH 111116  
 Charted by: Depth in Feet scaled 1:240

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



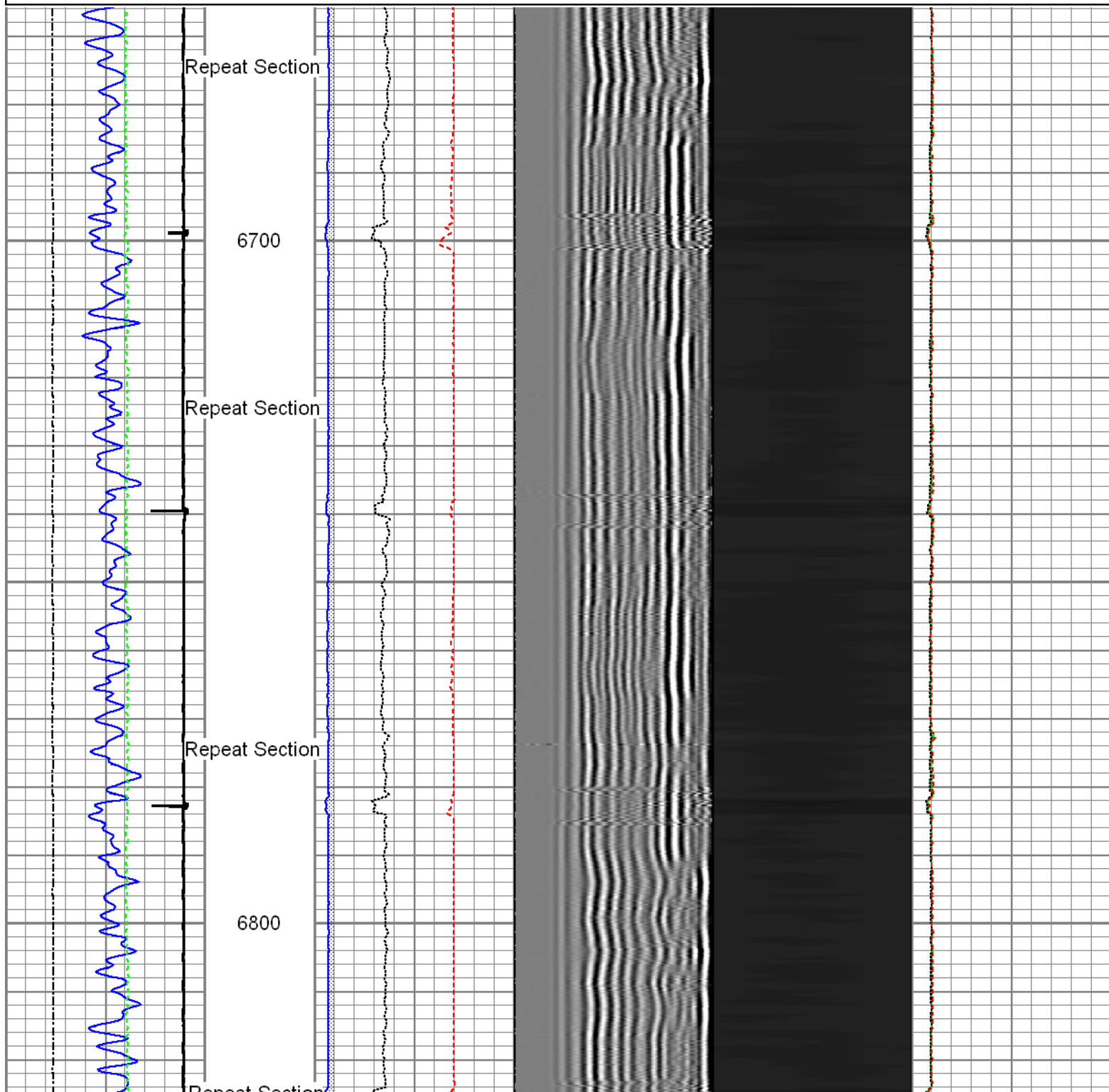


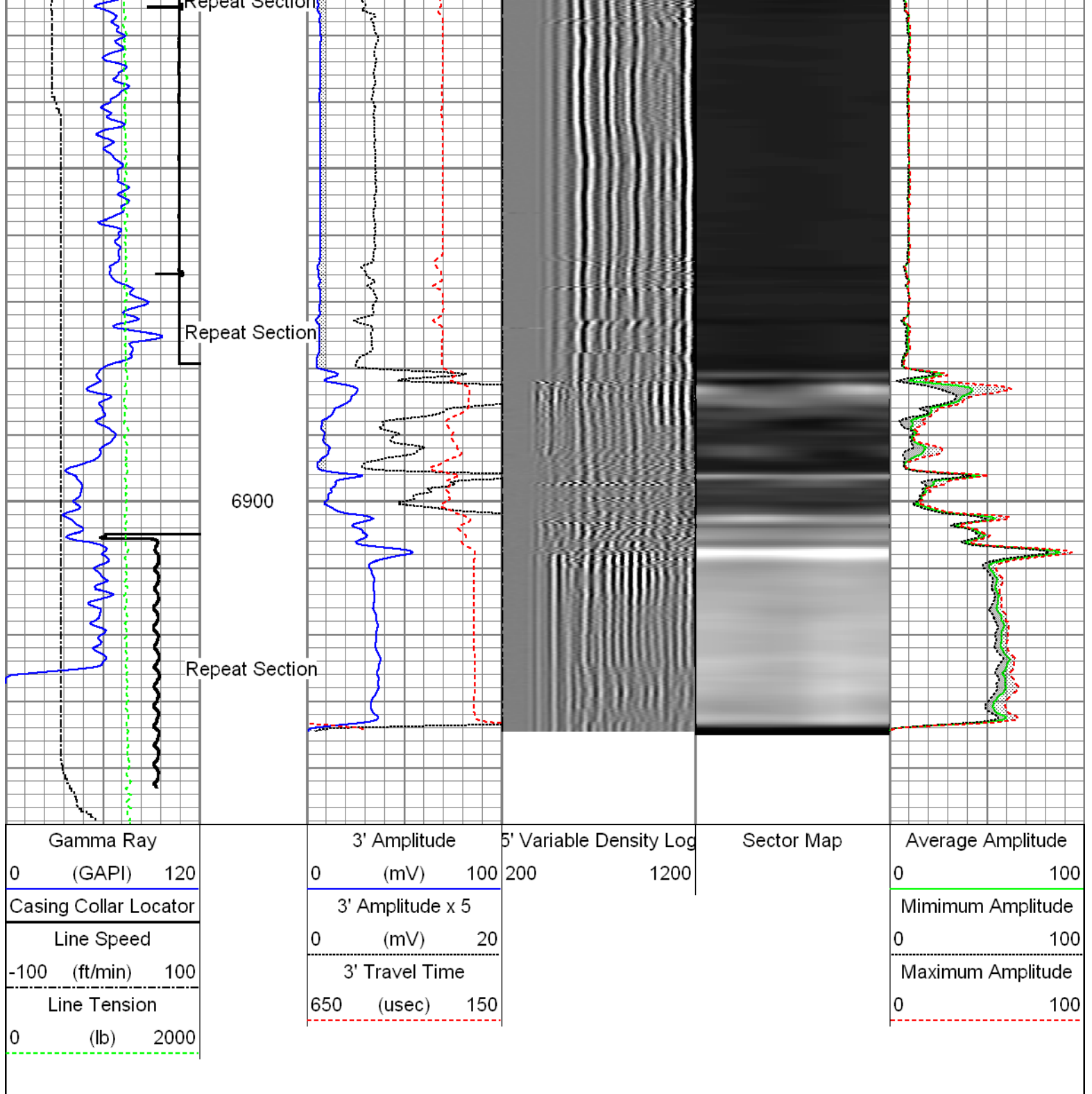





Database File: processed\_0512339330\_anadarko\_dugite 13c-35hz\_08-09-14\_mit\_rbl.db  
 Dataset Pathname: repeat1  
 Presentation Format: rbt4\_mit  
 Dataset Creation: Sat Aug 09 14:37:37 2014 by Log SCH 111116  
 Charted by: Depth in Feet scaled 1:240

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				





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 (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 (050836) Production Gamma Ray	1.93	1.69	9.50
			UW_PPG-UW_PPG_057 (10027)	0.00	0.75	00.00

			UW_PRC-UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WV3FT	14.99		UW_RBT-UW_RBT_004 (1063) 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					
CBLROT	14.99					
WV5FT	13.99					
			UW_PRC-DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
MIT	4.97		UW_MIT-UW_MIT40_042 (10014703) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #3 -DSSRAC (084) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
TSTAMP	0.00		UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: processed_0512339330_anadarko_dugite 13c-35hz_08-09-14_mit_rbl.db: field/well/run1/main4.6 Total Length: 27.05 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report	
Database File:	processed_0512339330_anadarko_dugite 13c-35hz_08-09-14_mit_rbl.db
Dataset Pathname:	main4.6
Dataset Creation:	Sat Aug 09 15:11:27 2014 by Log SCH 111116
Multi-finger Imaging Tool Calibration Report	
Serial Number:	10014703
Number of Fingers:	40
Tool Model:	UW_MIT40_042

Inclinometer Calibration Report	
Performed:	Fri Sep 20 11:47:48 2013

Calibration Angle:

45

Vertical:		Inc X	Inc Y
Finger 1 up:		1963	1960
Finger 31 up:		1748	1727
Finger 21 up:		2195	1742
Finger 11 up:		2178	2188
		1727	2173
Sensitivity ratio:	1.00706		
X-axis angle:	132.825		
Deviation const.:	317.775		

## Finger Calibration Report

Performed:

Sat Aug 09 13:40:34 2014

Ring size: (in)	4		5		6		7
		Sens		Sens		Sens	
Finger 01:	1141	350.0	1491	372.0	1863	389.0	2252
Finger 02:	1165	366.0	1531	393.0	1924	410.0	2334
Finger 03:	1087	350.0	1437	377.0	1814	404.0	2218
Finger 04:	1043	357.0	1400	400.0	1800	427.0	2227
Finger 05:	1084	341.0	1425	375.0	1800	392.0	2192
Finger 06:	1074	352.0	1426	393.0	1819	410.0	2229
Finger 07:	1084	346.0	1430	384.0	1814	401.0	2215
Finger 08:	1039	354.0	1393	400.0	1793	424.0	2217
Finger 09:	1106	355.0	1461	388.0	1849	401.0	2250
Finger 10:	1142	354.0	1496	389.0	1885	399.0	2284
Finger 11:	1113	354.0	1467	402.0	1869	413.0	2282
Finger 12:	1217	351.0	1568	373.0	1941	374.0	2315
Finger 13:	1127	351.0	1478	397.0	1875	412.0	2287
Finger 14:	1049	355.0	1404	412.0	1816	427.0	2243
Finger 15:	1038	356.0	1394	414.0	1808	434.0	2242
Finger 16:	1120	356.0	1476	404.0	1880	420.0	2300
Finger 17:	1090	343.0	1433	392.0	1825	405.0	2230
Finger 18:	1124	342.0	1466	392.0	1858	402.0	2260
Finger 19:	1080	351.0	1431	402.0	1833	415.0	2248
Finger 20:	1008	350.0	1358	409.0	1767	427.0	2194
Finger 21:	1084	340.0	1424	389.0	1813	410.0	2223
Finger 22:	1099	351.0	1450	400.0	1850	414.0	2264
Finger 23:	1154	326.0	1480	368.0	1848	383.0	2231
Finger 24:	1092	358.0	1450	404.0	1854	415.0	2269
Finger 25:	1083	344.0	1427	395.0	1822	414.0	2236
Finger 26:	1113	347.0	1460	386.0	1846	400.0	2246
Finger 27:	1157	344.0	1501	380.0	1881	400.0	2281
Finger 28:	1122	358.0	1480	393.0	1873	409.0	2282
Finger 29:	1156	363.0	1519	401.0	1920	416.0	2336
Finger 30:	1091	356.0	1447	395.0	1842	416.0	2258
Finger 31:	1148	354.0	1502	380.0	1882	395.0	2277
Finger 32:	1142	363.0	1505	394.0	1899	413.0	2312
Finger 33:	1084	358.0	1442	386.0	1828	410.0	2238
Finger 34:	1078	359.0	1437	391.0	1828	415.0	2243
Finger 35:	1134	348.0	1482	369.0	1851	389.0	2240
Finger 36:	1102	360.0	1462	388.0	1850	411.0	2261
Finger 37:	1169	349.0	1518	369.0	1887	389.0	2276
Finger 38:	1188	349.0	1537	364.0	1901	385.0	2286
Finger 39:	1152	359.0	1511	382.0	1893	403.0	2296
Finger 40:	1044	366.0	1410	402.0	1812	428.0	2240

## Segmented Cement Bond Log Calibration Report

Serial Number:	1063
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	9.300 ft

Master Calibration, performed Sat Aug 09 13:49:51 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.002	0.933	0.800	62.165	65.628	0.963
5FT	-0.006	0.674	0.800	62.165	90.280	1.346
S1	-0.004	0.964	0.000	100.000	103.291	0.378
S2	-0.005	0.974	0.000	100.000	102.160	0.488
S3	-0.003	0.944	0.000	100.000	105.526	0.365
S4	-0.004	0.942	0.000	100.000	105.762	0.408
S5	-0.002	0.927	0.000	100.000	107.594	0.259
S6	-0.003	0.916	0.000	100.000	108.725	0.357
S7	-0.002	0.924	0.000	100.000	107.886	0.267
S8	-0.003	0.939	0.000	100.000	106.260	0.271

Gamma Ray Calibration Report

Serial Number: 050836  
 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 and Gas Onshore LP  
 Well Dugite 13C-35HZ  
 Field Wattenberg  
 County Weld  
 State Colorado