



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company	Kerr McGee Oil & Gas Onshore LP	Company	Kerr McGee Oil & Gas Onshore LP
Well	Benson Farms 13N-23HZ	Well	Benson Farms 13N-23HZ
Field	Wattenberg	Field	Wattenberg
County	Weld	County	Weld
State	Colorado	State	Colorado
Location:		API # : 05-123-39341	Other Services Gauge ring MIT
SHL: 647' FSL 72' FEL SESE LAT: 40.206138 LONG: -104.9609 SEC 23 TWP 3N RGE 68W		Permanent Datum	Ground Level
Log Measured From		Kelly Bushing	Elevation 4961'
Drilling Measured From		Kelly Bushing	16 FT
			Elevation K.B. 4977' D.F. 4976' G.L. 4961'

Date	16-Sept-2014
Run Number	Two
Depth Driller	12599 FT
Depth Logger	6605 FT
Bottom Logged Interval	6600 FT
Top Log Interval	Surface
Open Hole Size	9.625
Type Fluid	Water
Density / Viscosity	8.34 lb/gal
Max. Recorded Temp.	210° F
Estimated Cement Top	35 FT
Time Well Ready	ROA
Time Logger on Bottom	7:30
Equipment Number	HD 0255
Location	Ft. Lupton, CO
Recorded By	J. Raby
Witnessed By	Trevor Daniel

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	9.625	36	---	Surface	1235 FT		
Intermediate #1	7	26	---	Surface	7601 FT		
Intermediate #2							
Liner	4.5	11.6	---	6577 FT	12584 FT		

>>> 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 as per customer request  
Log ran from Below liner top to surface.  
Log ran with 2800 PSI surface induced pressure.  
Adjusted +3 FT to correlate to liner top.

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



Main Pass

Recorded with 2800 PSI surface induced pressure

Database File:0512339341\_anadarko\_benson farms 13n-23hz\_09-16-14\_mit\_rbl.db

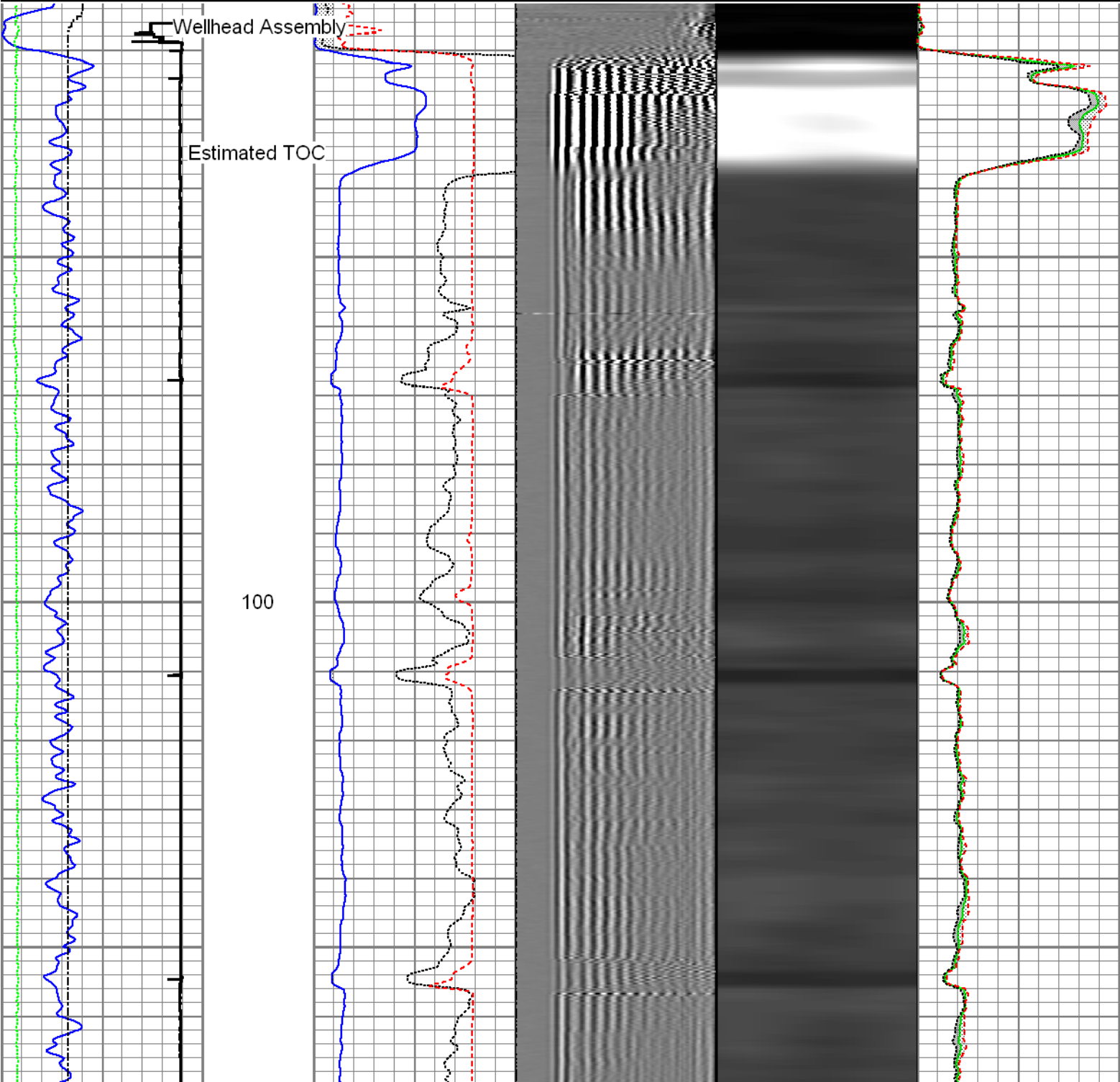
Dataset Pathname:pass6

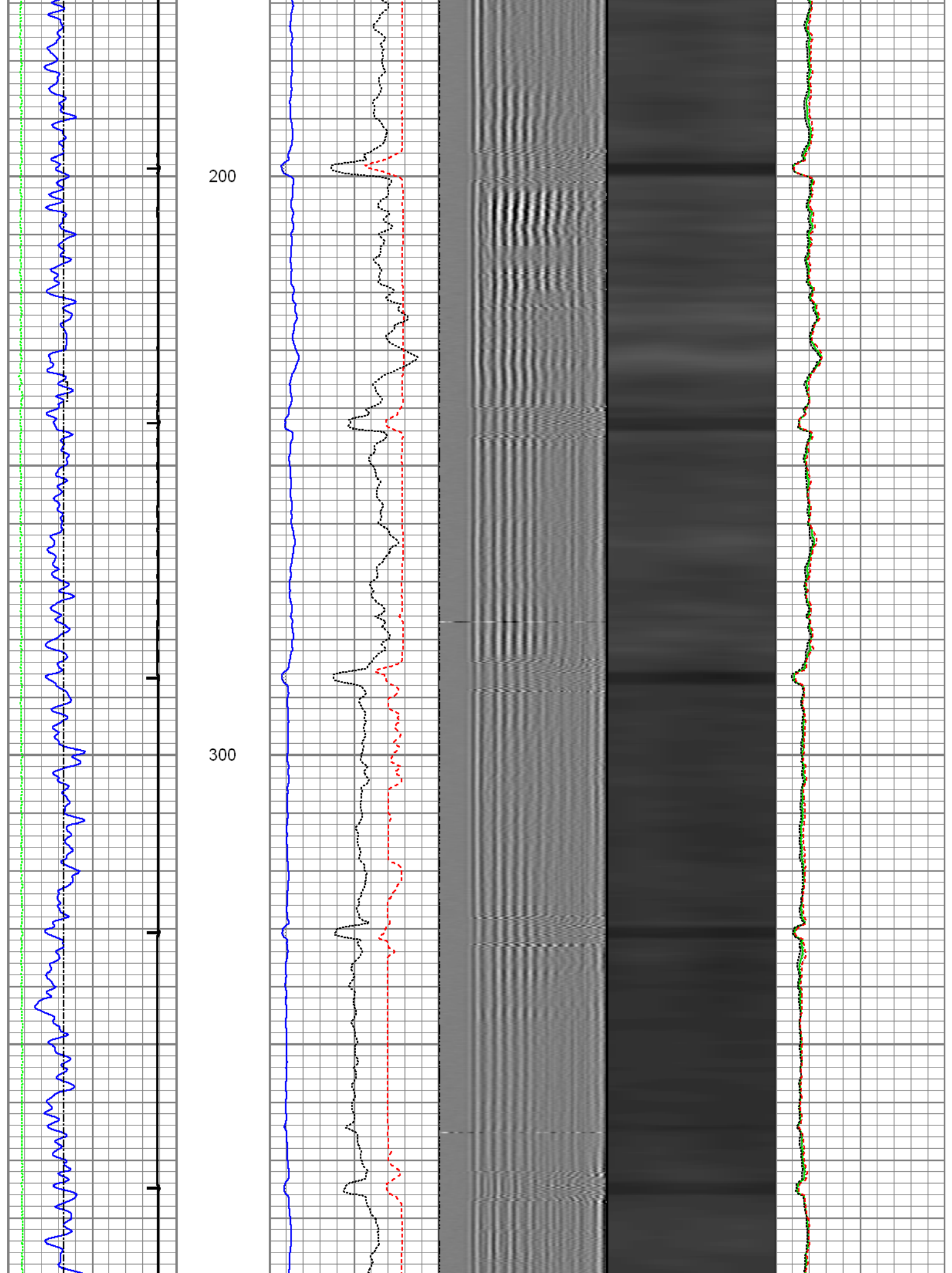
Presentation Format:rbt007

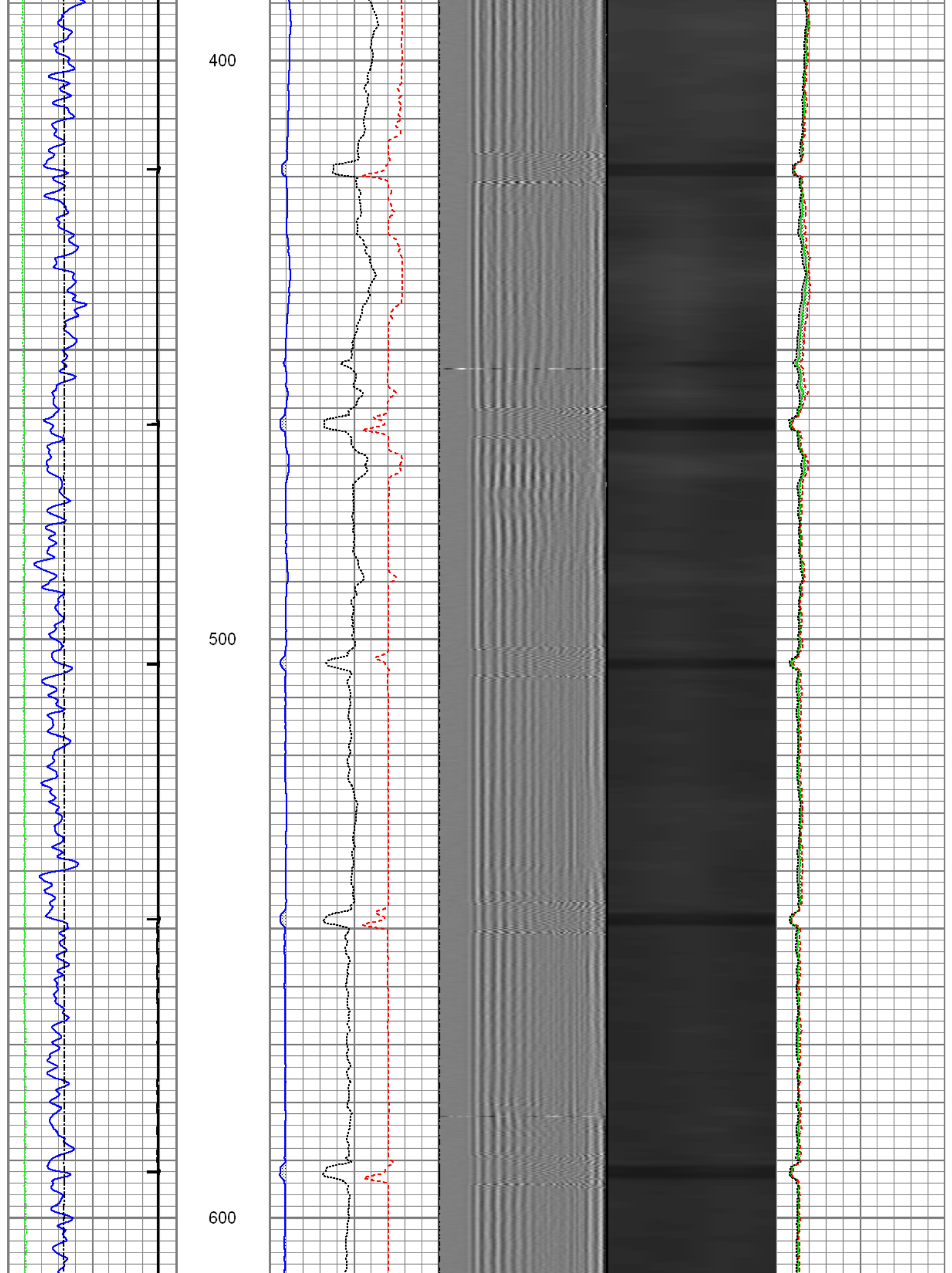
Dataset Creation:Tue Sep 16 08:02:22 2014 by Log SCH 111116

Charted by:Depth in Feet scaled 1:240

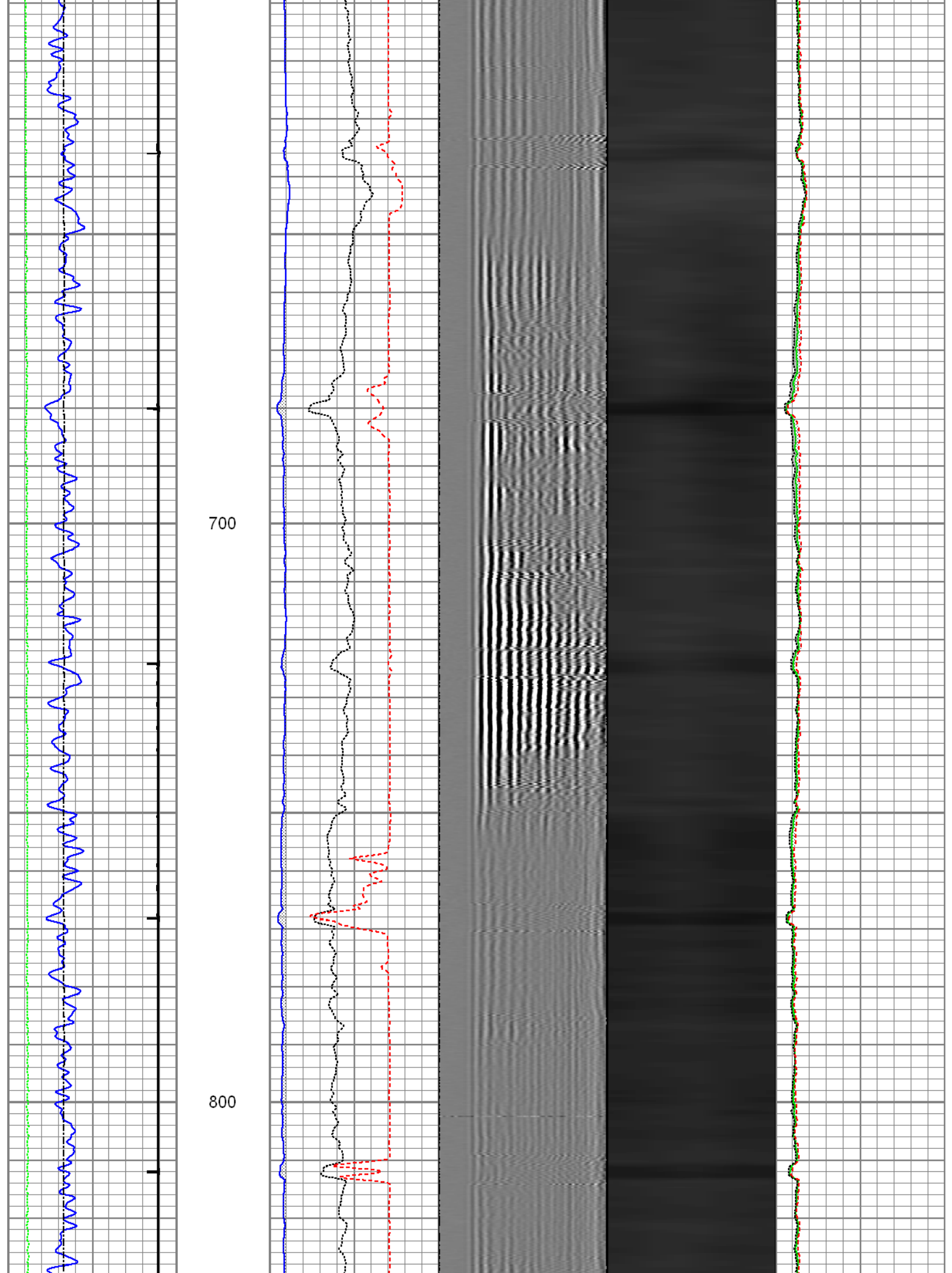
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Mimimum Amplitude
Line Speed	0 (mV) 20			0 100
-150 (ft/min) 150	3' Travel Time			Maximum Amplitude
Line Tension	650 (usec) 150			0 100
0 (lb) 2000				

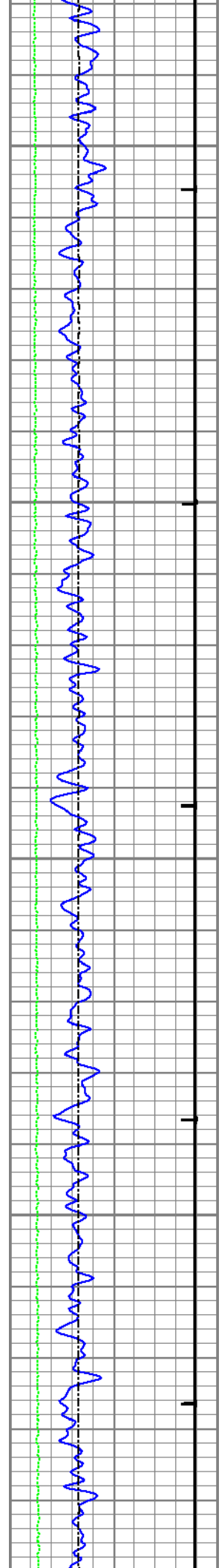






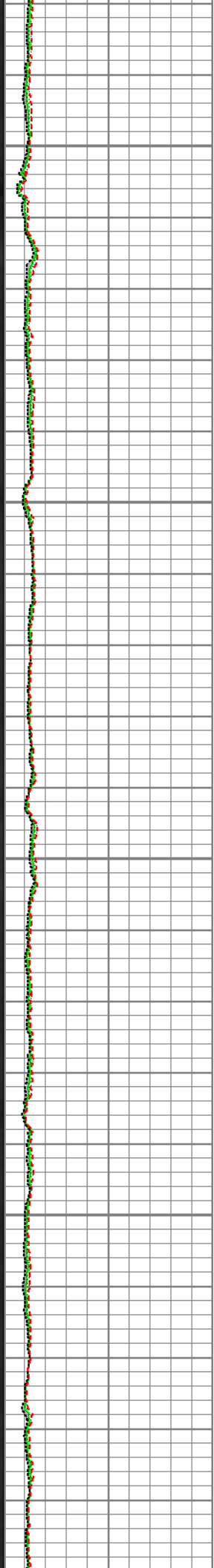
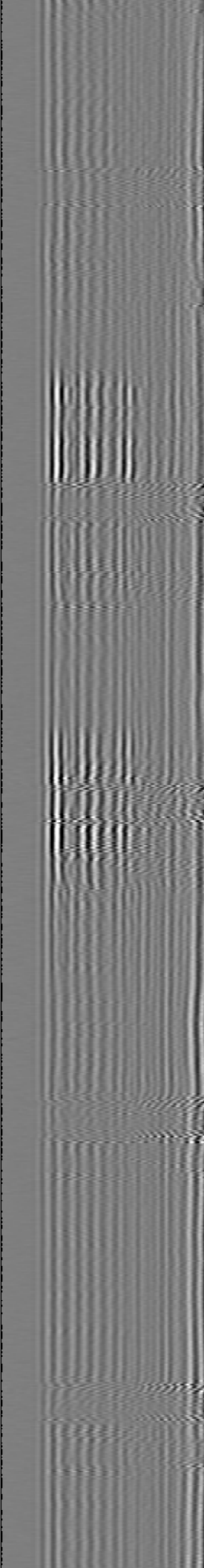
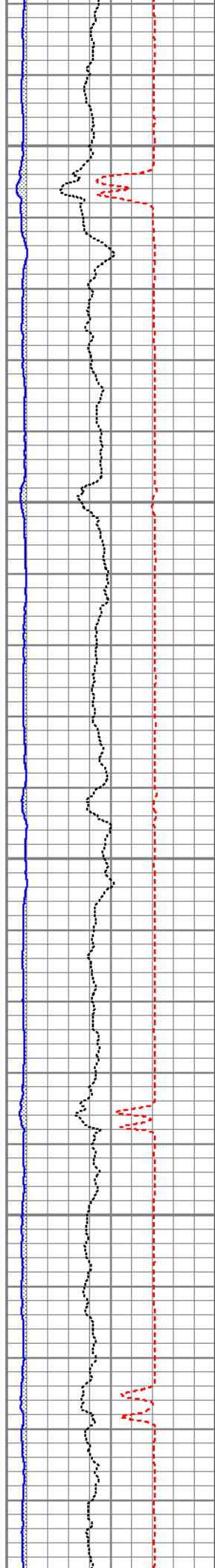


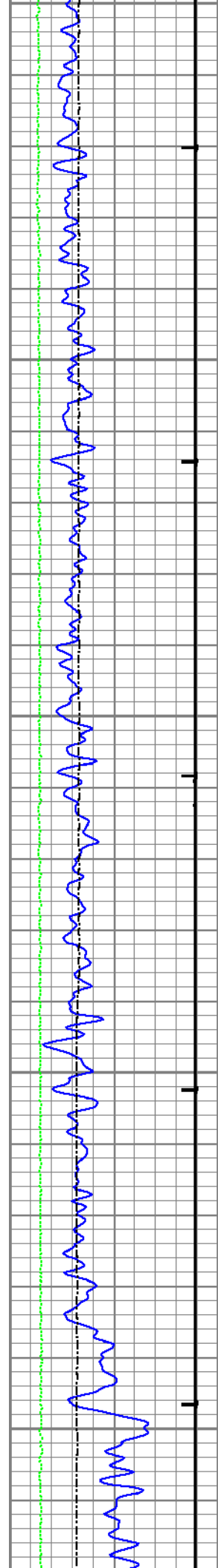




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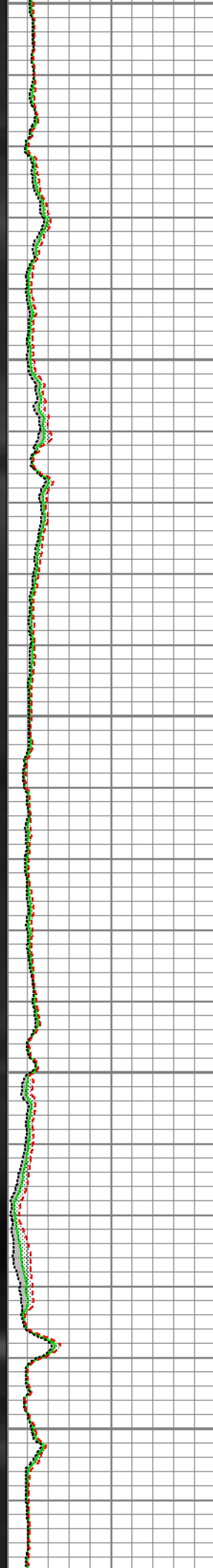
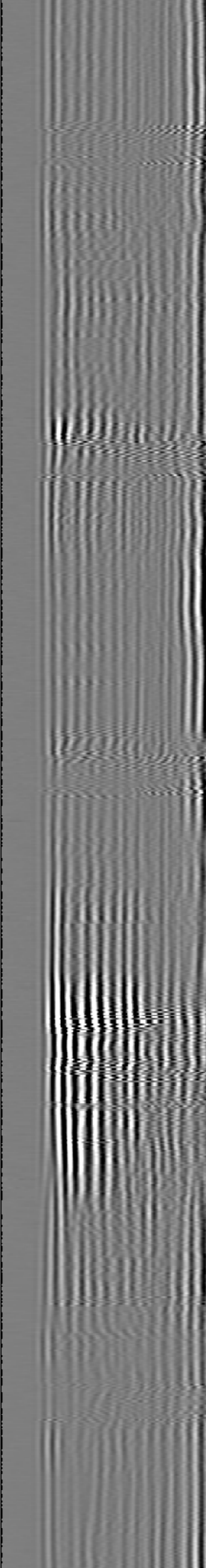
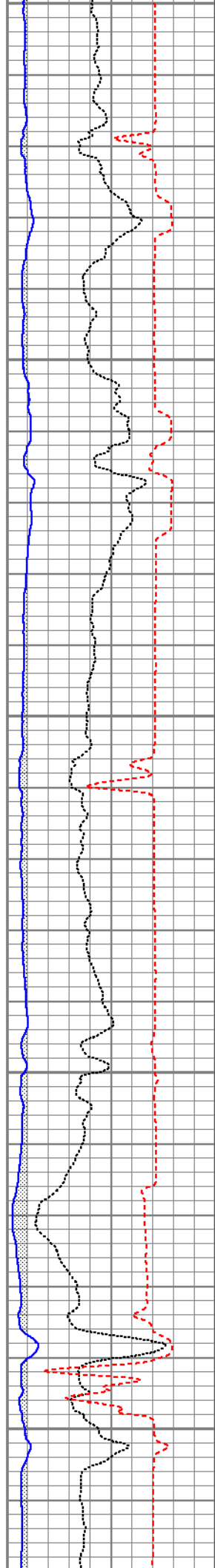
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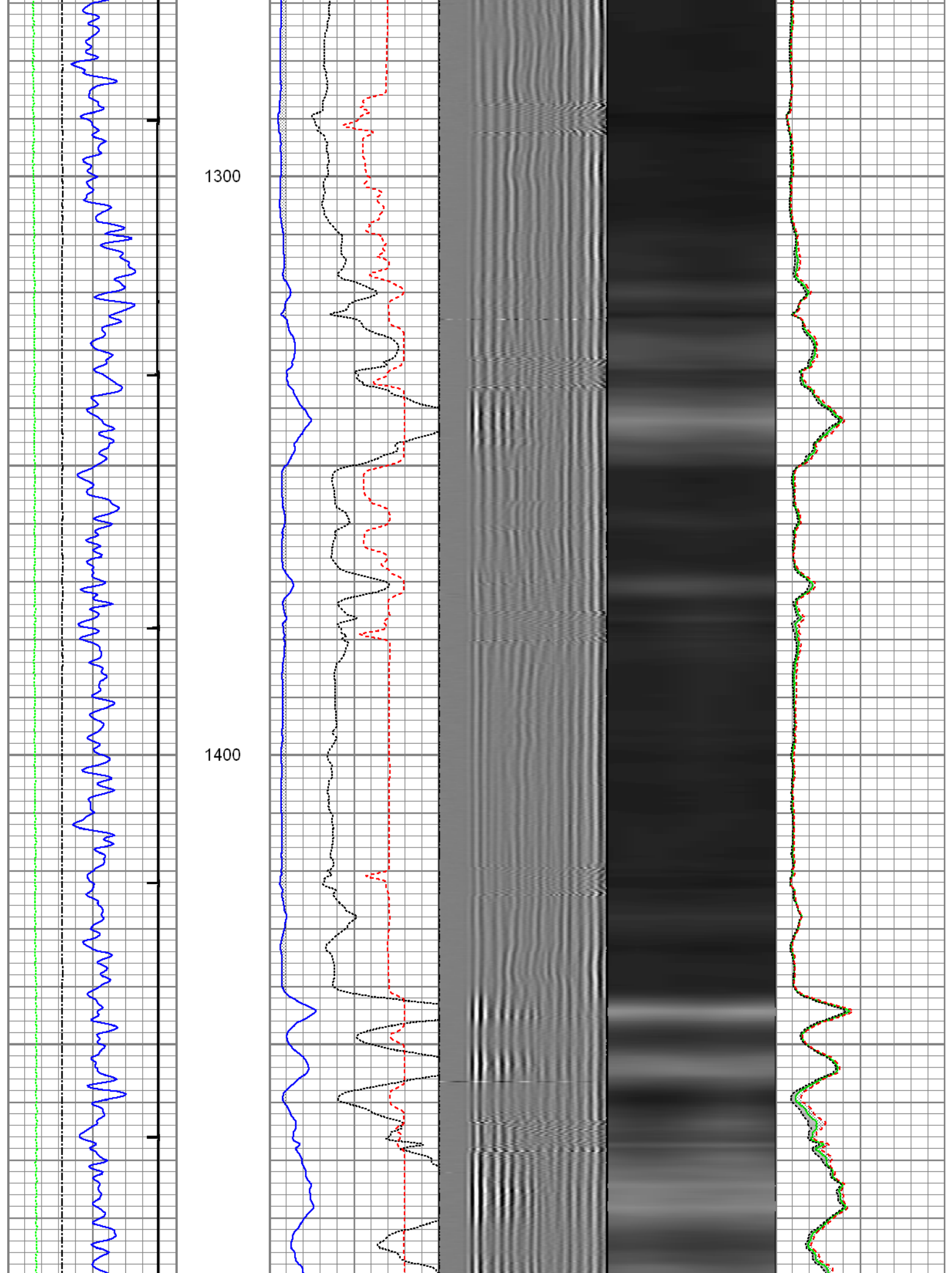




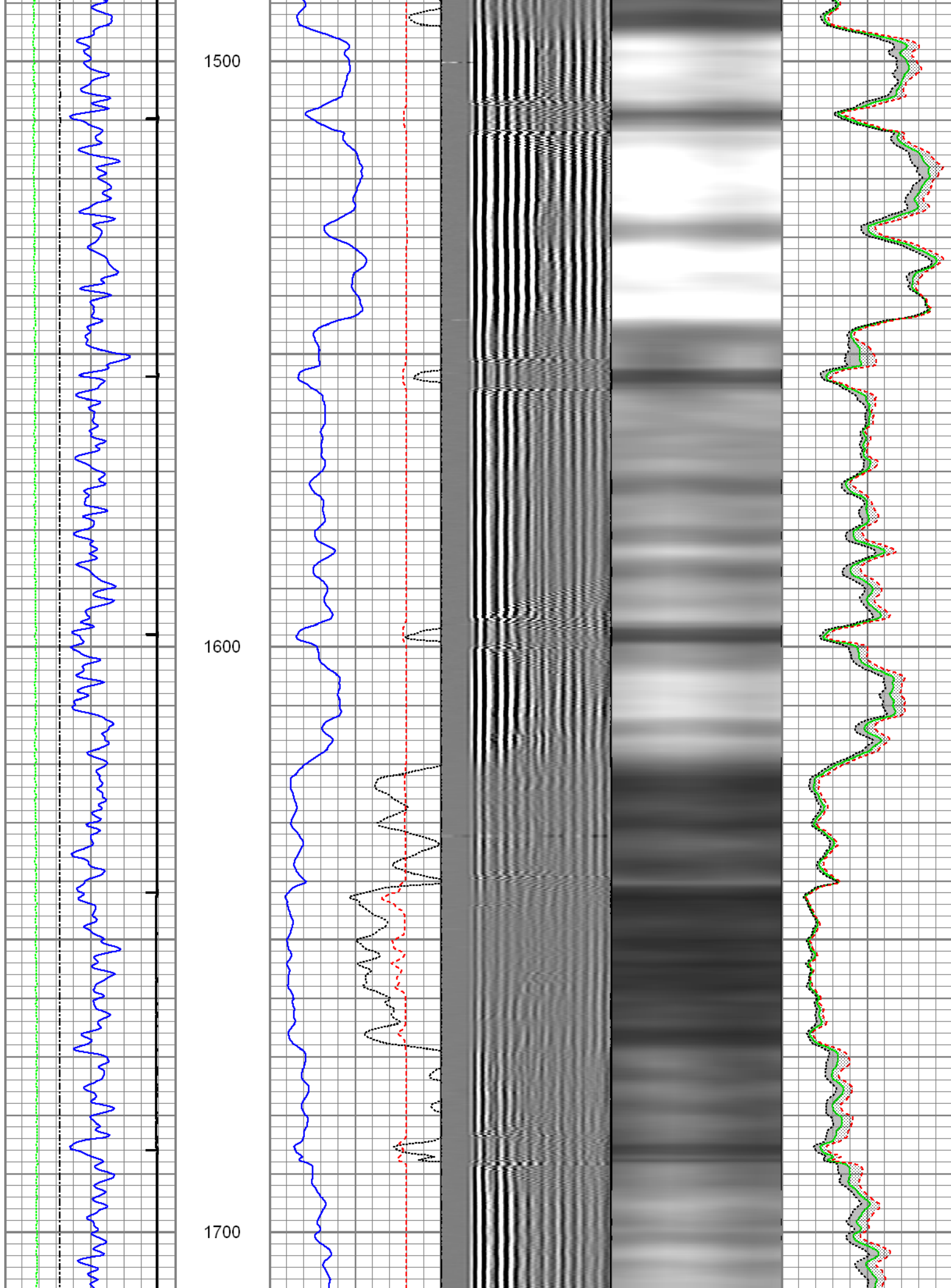
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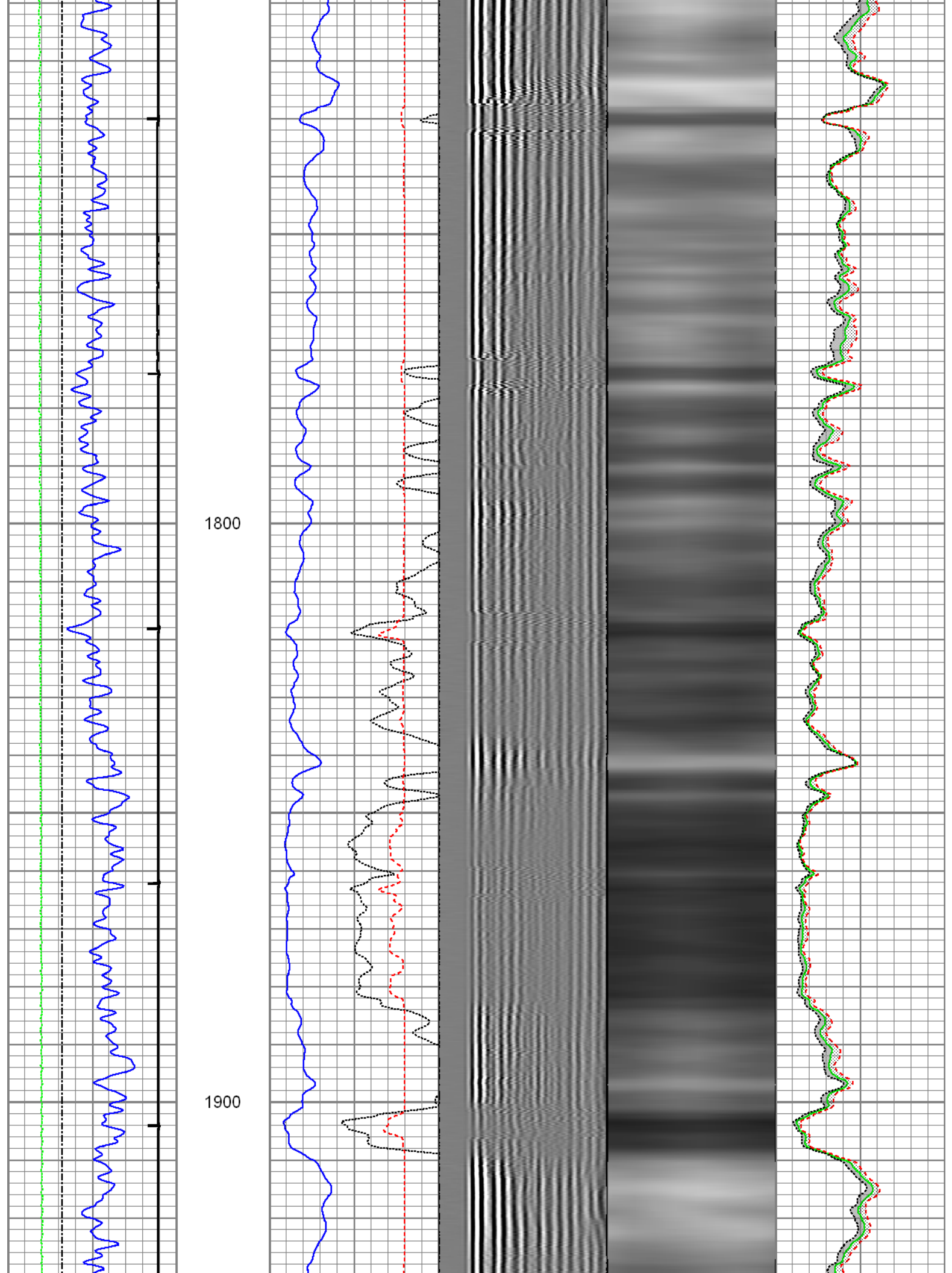


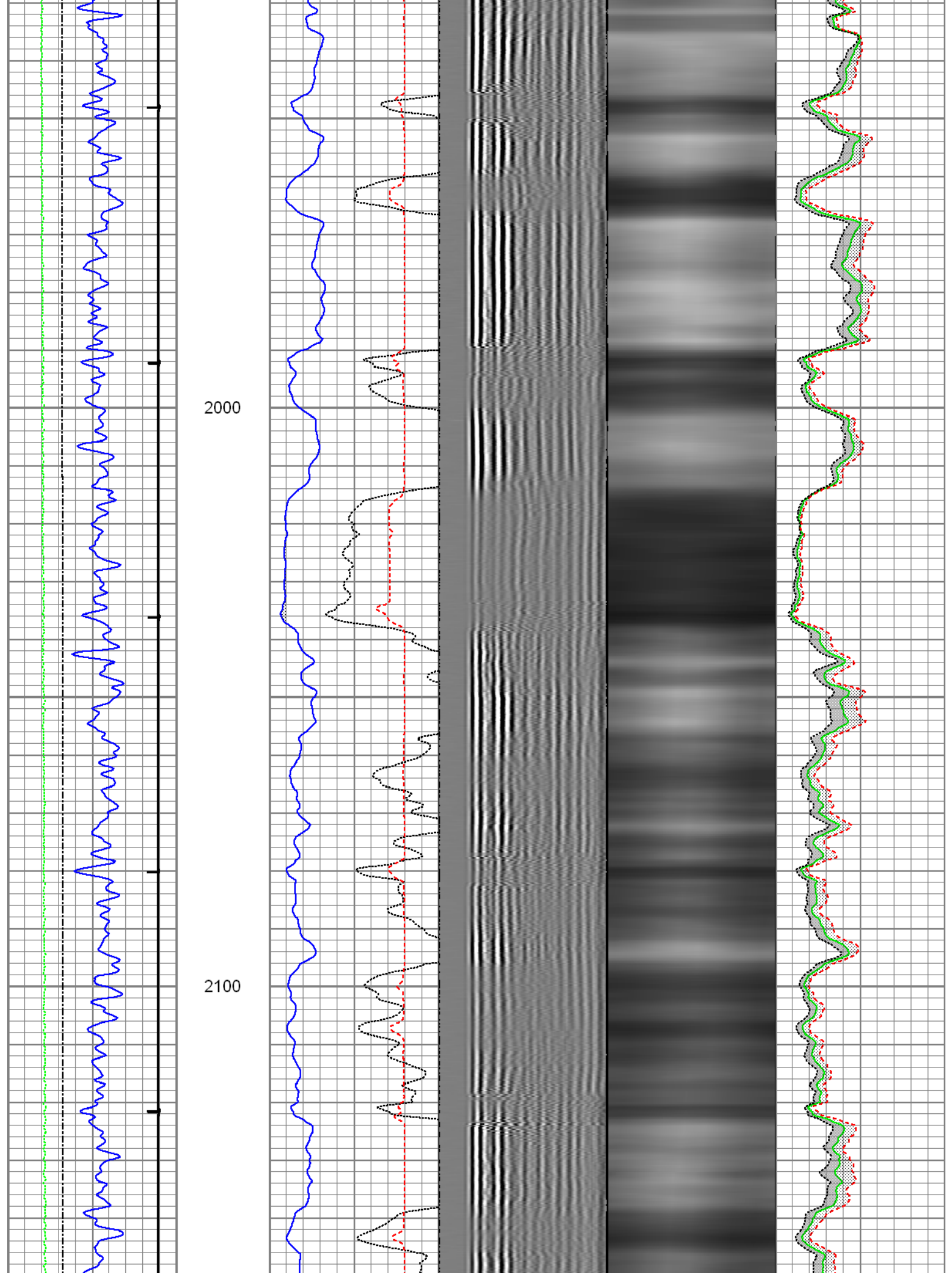


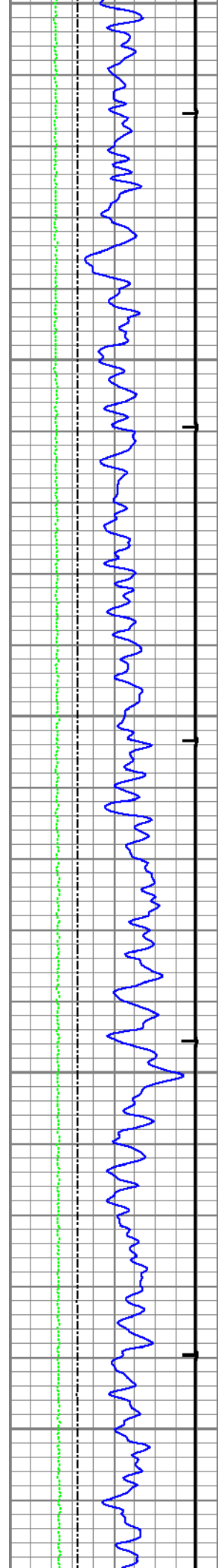






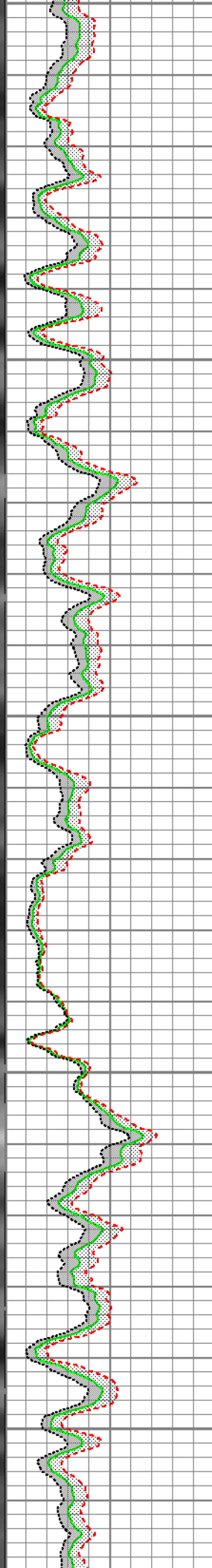
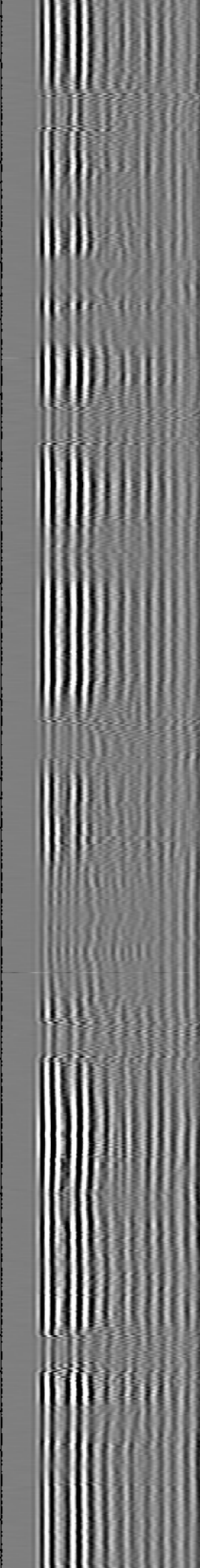
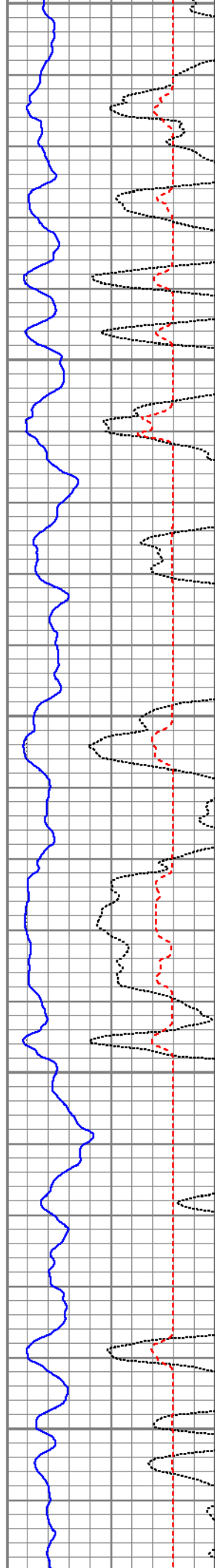




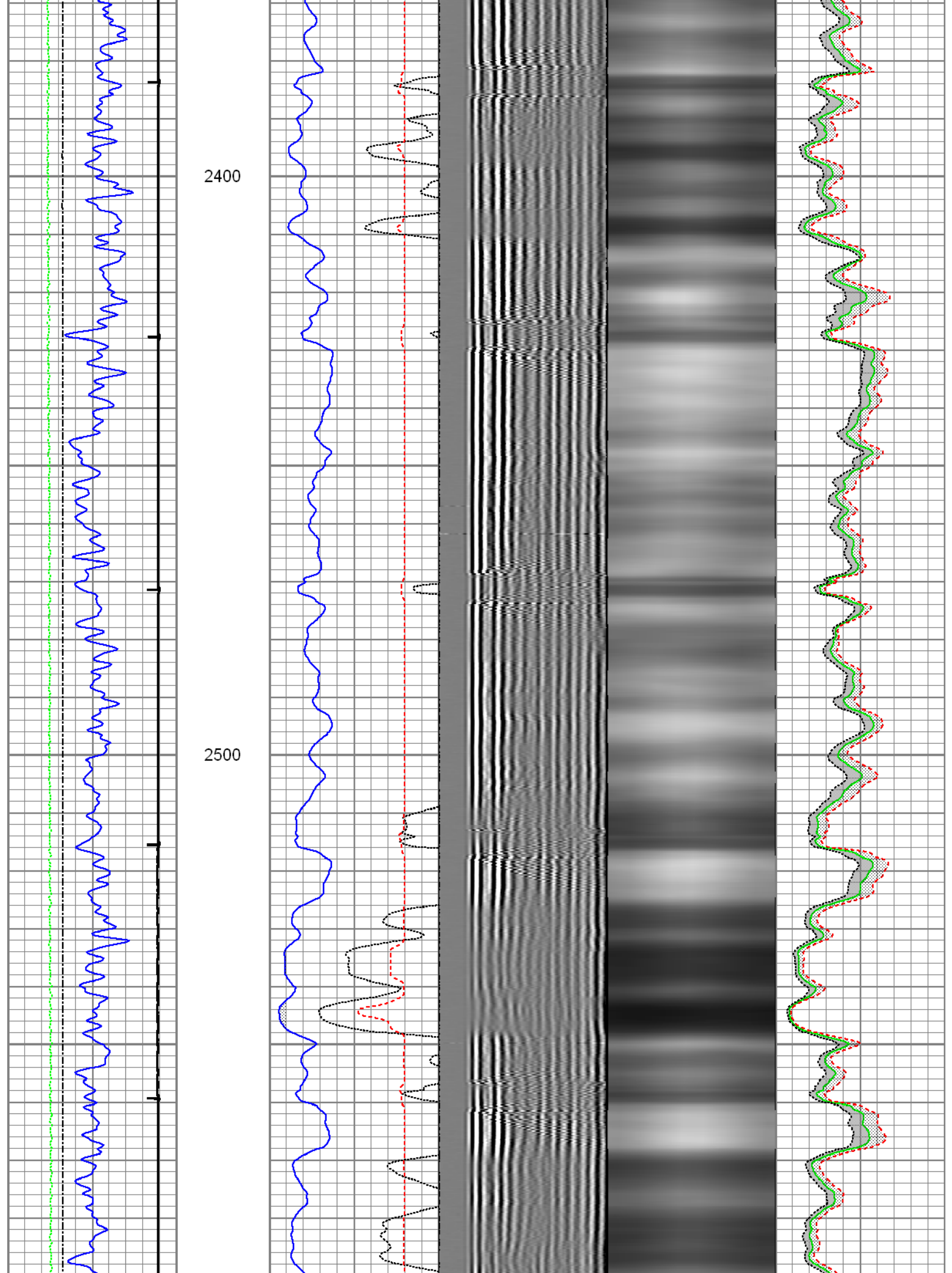


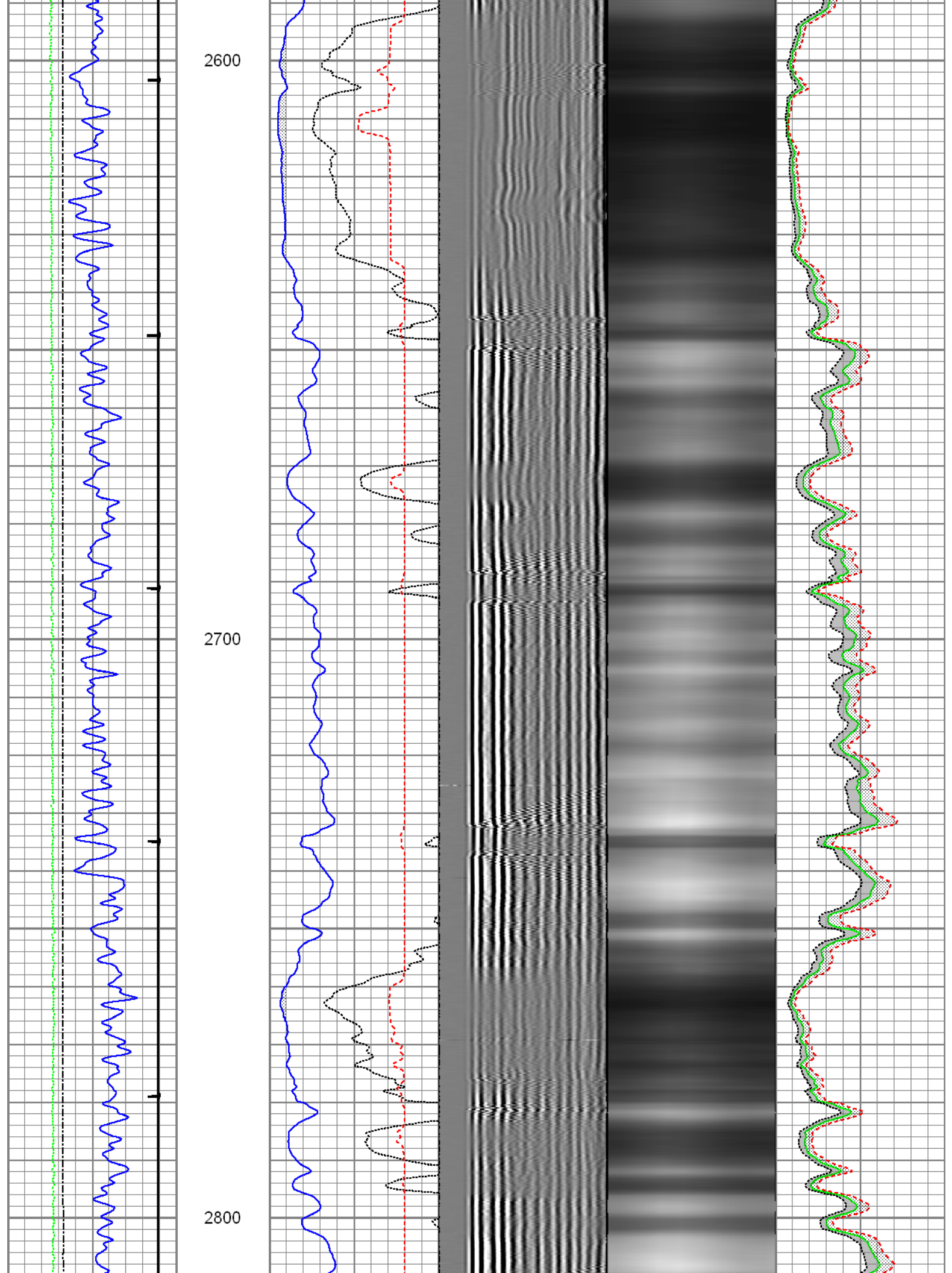
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2300

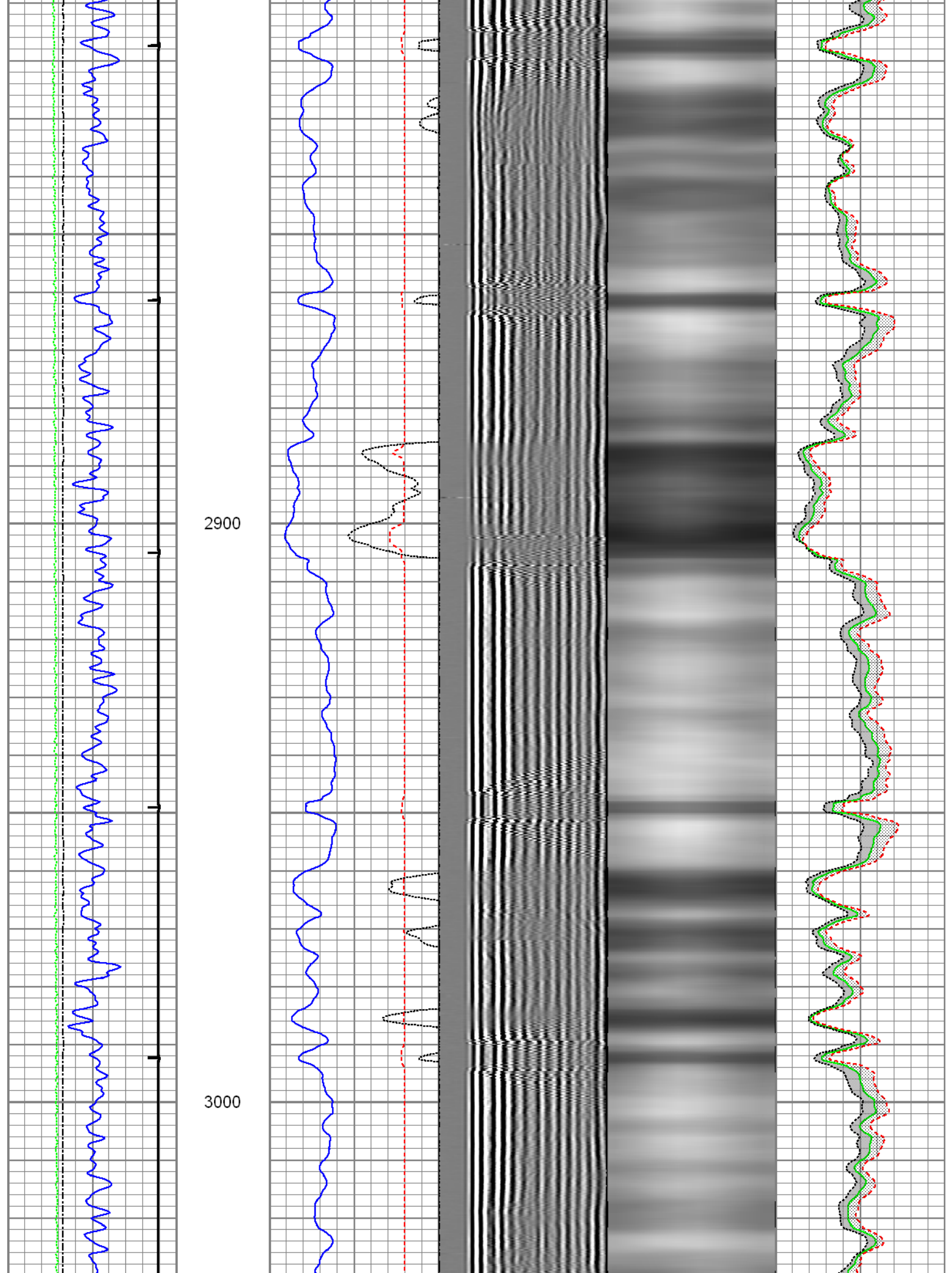






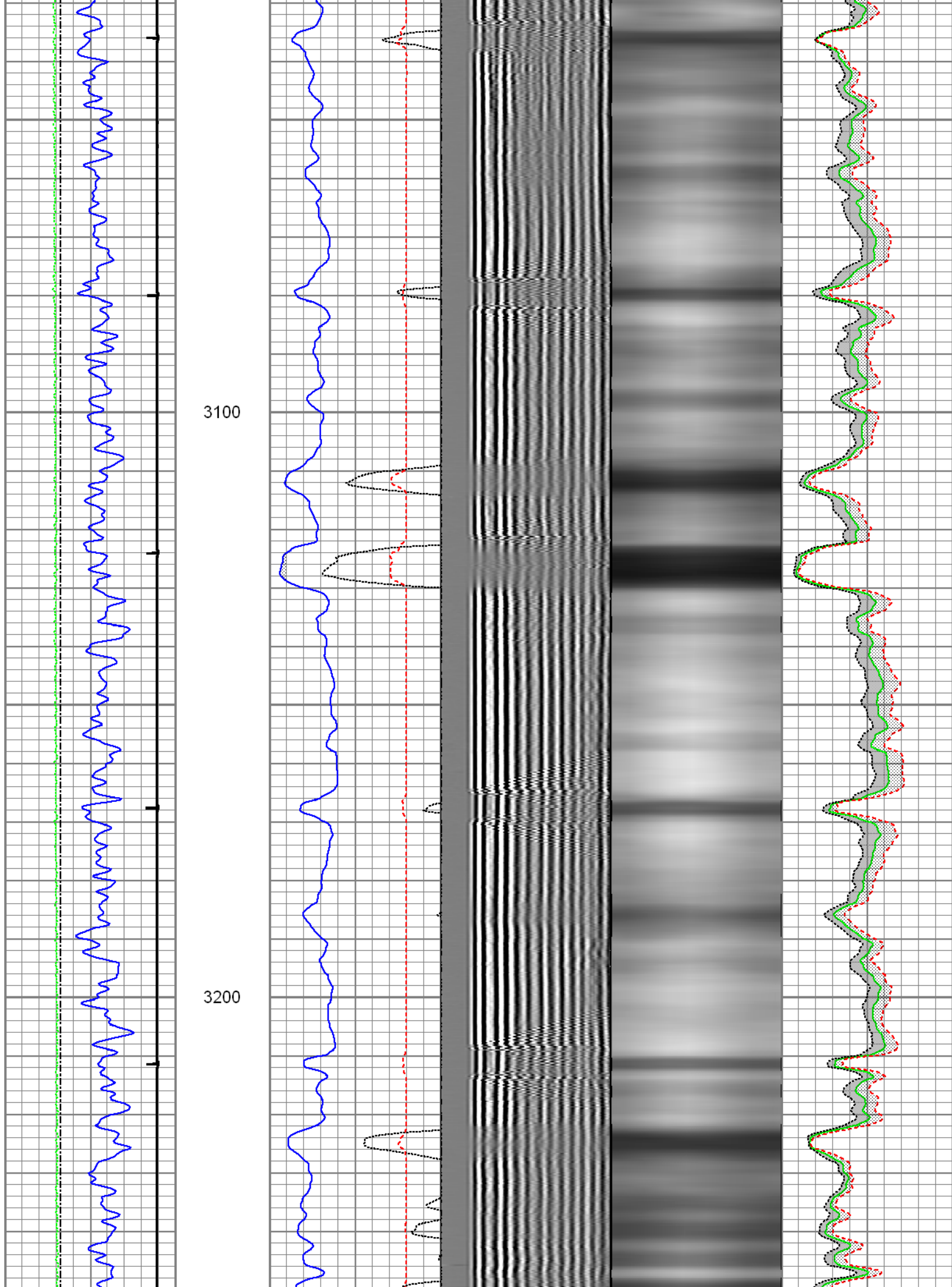






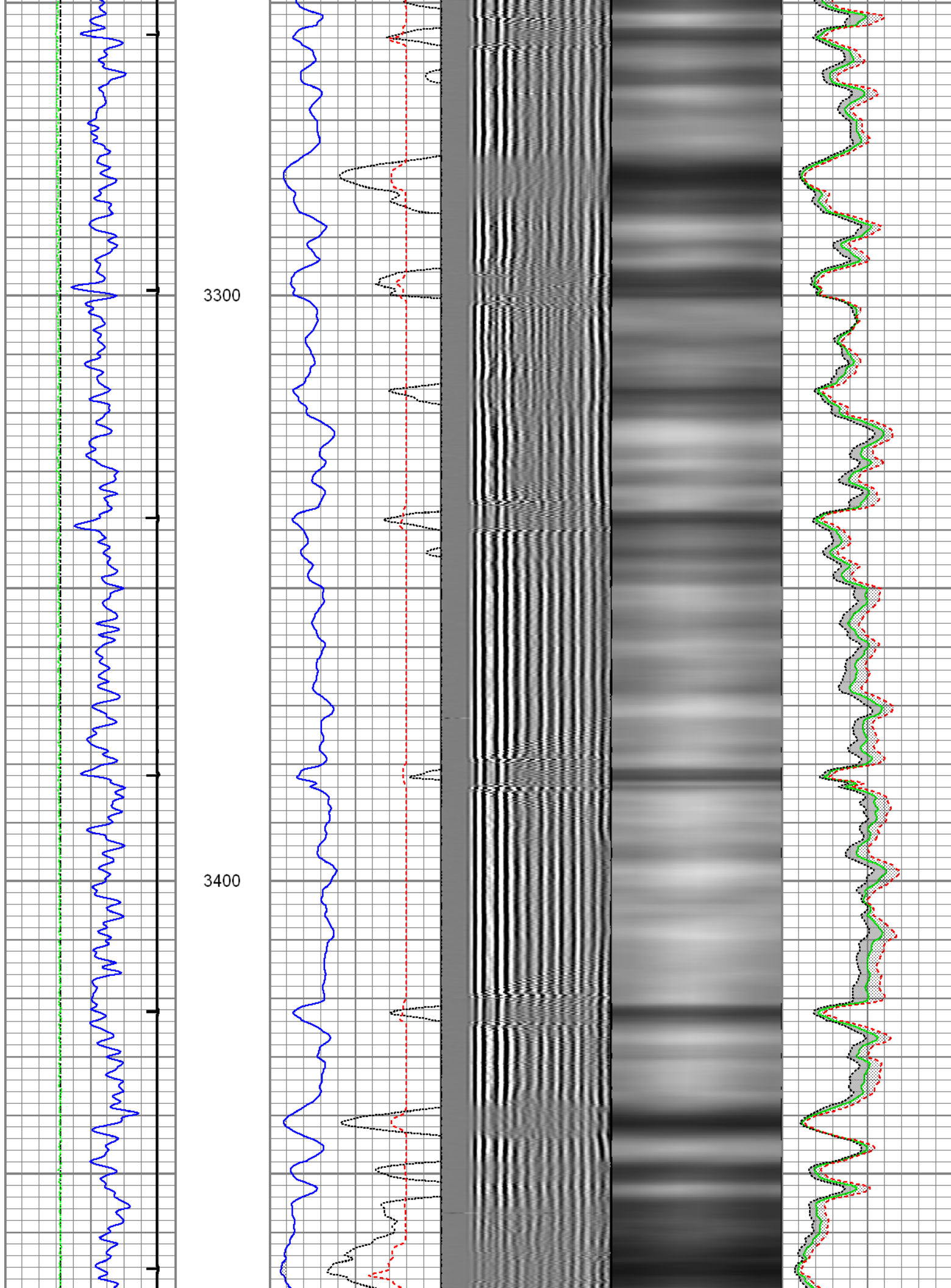
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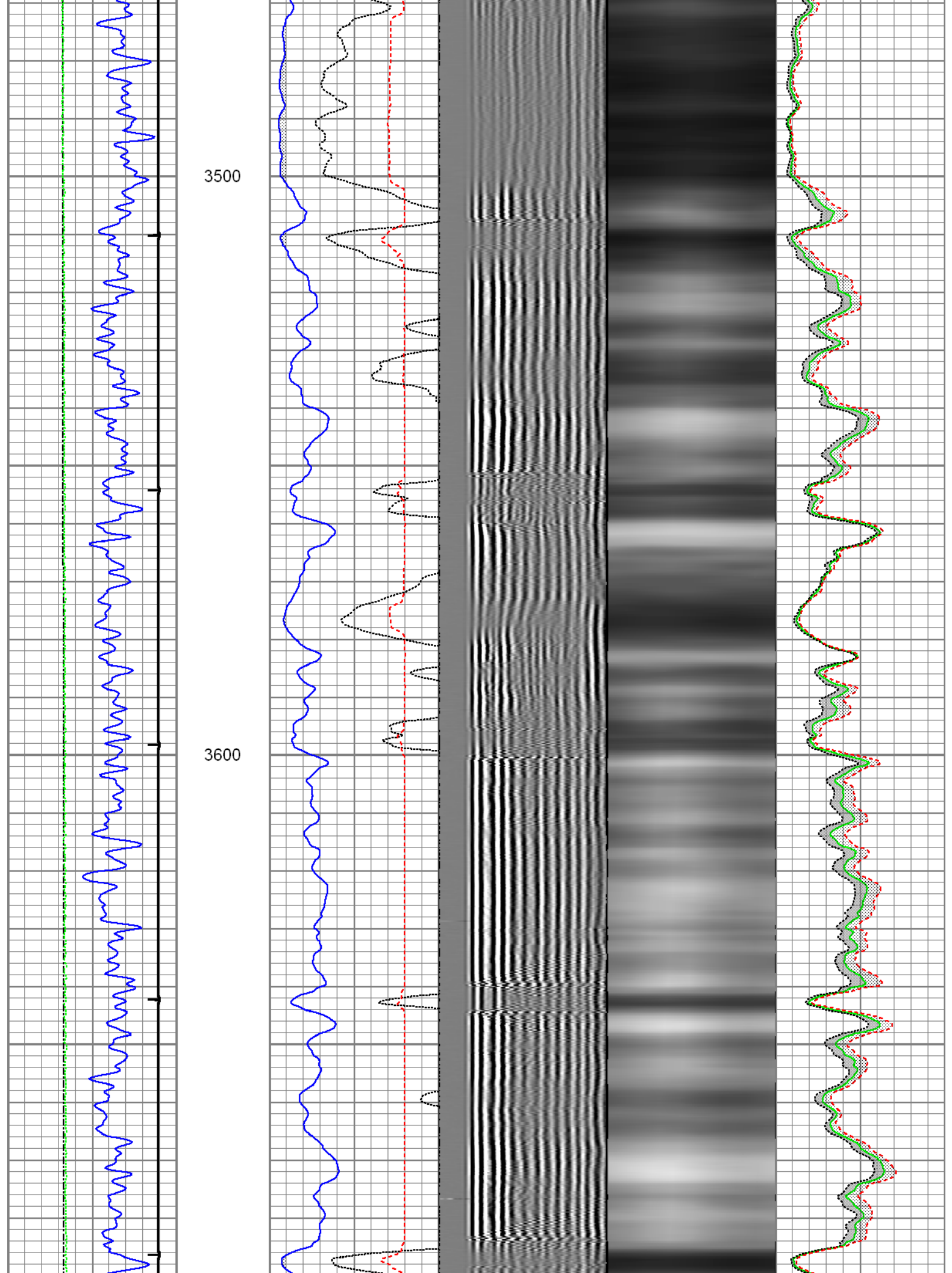


3300

3400



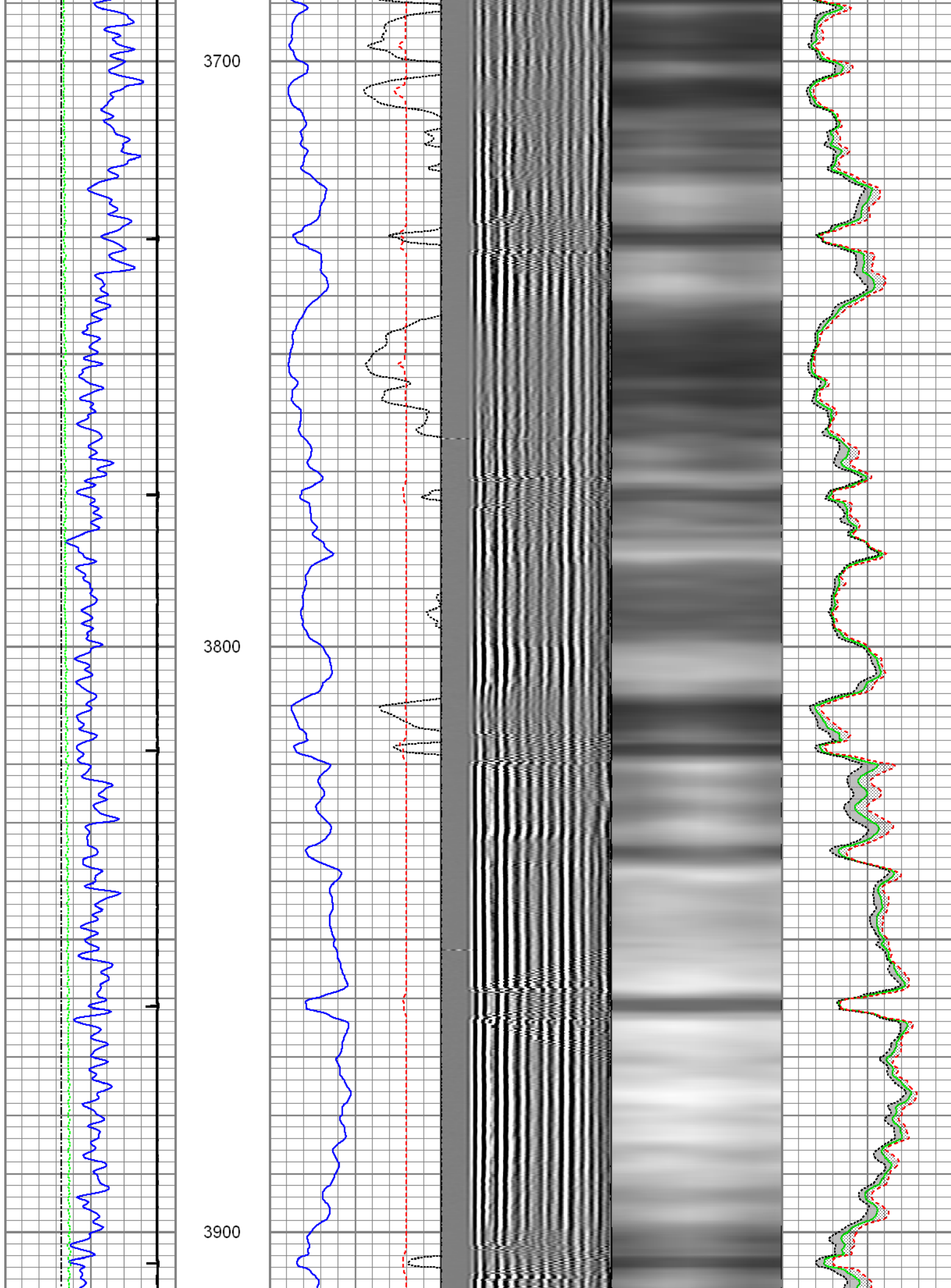




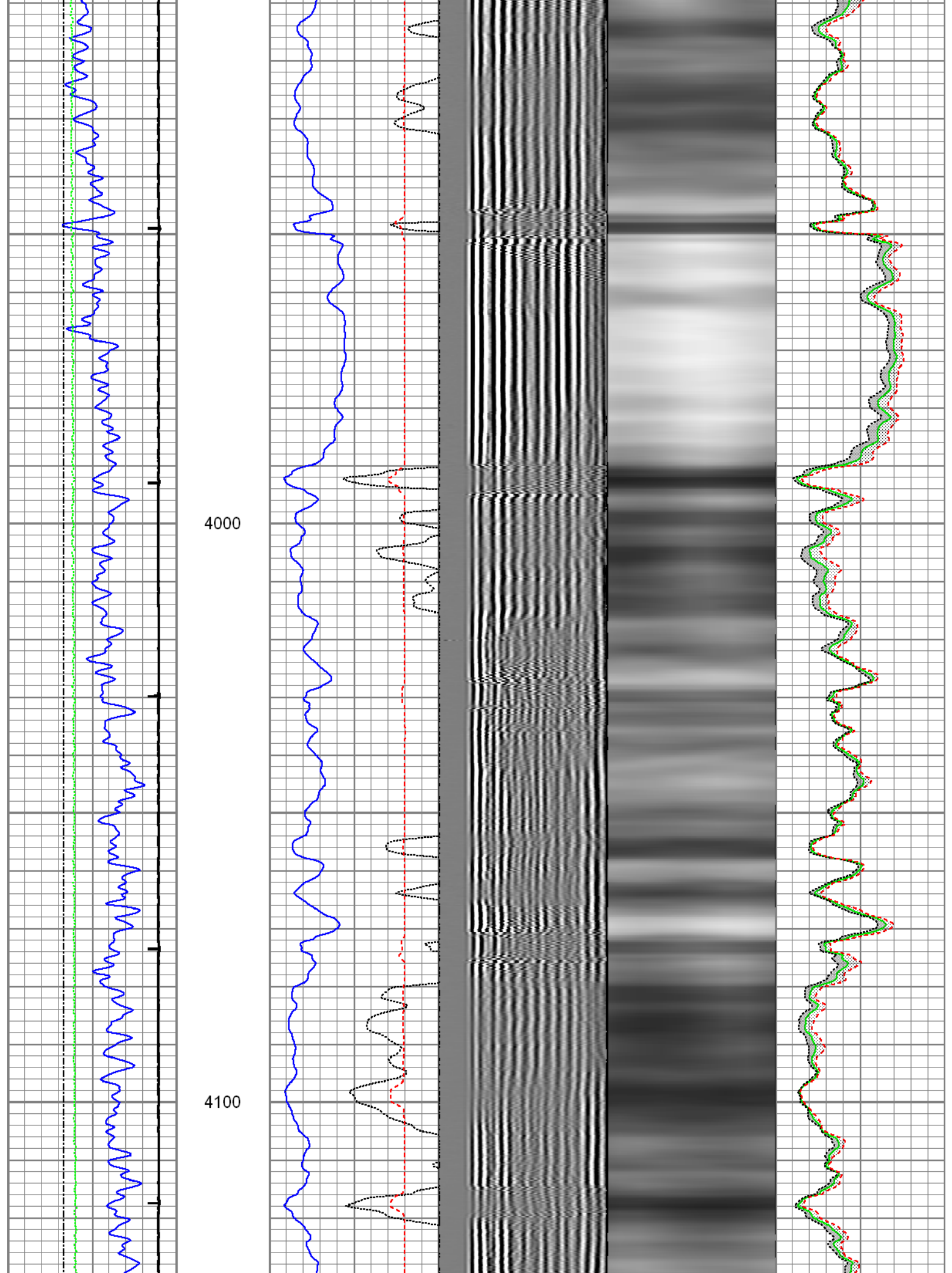
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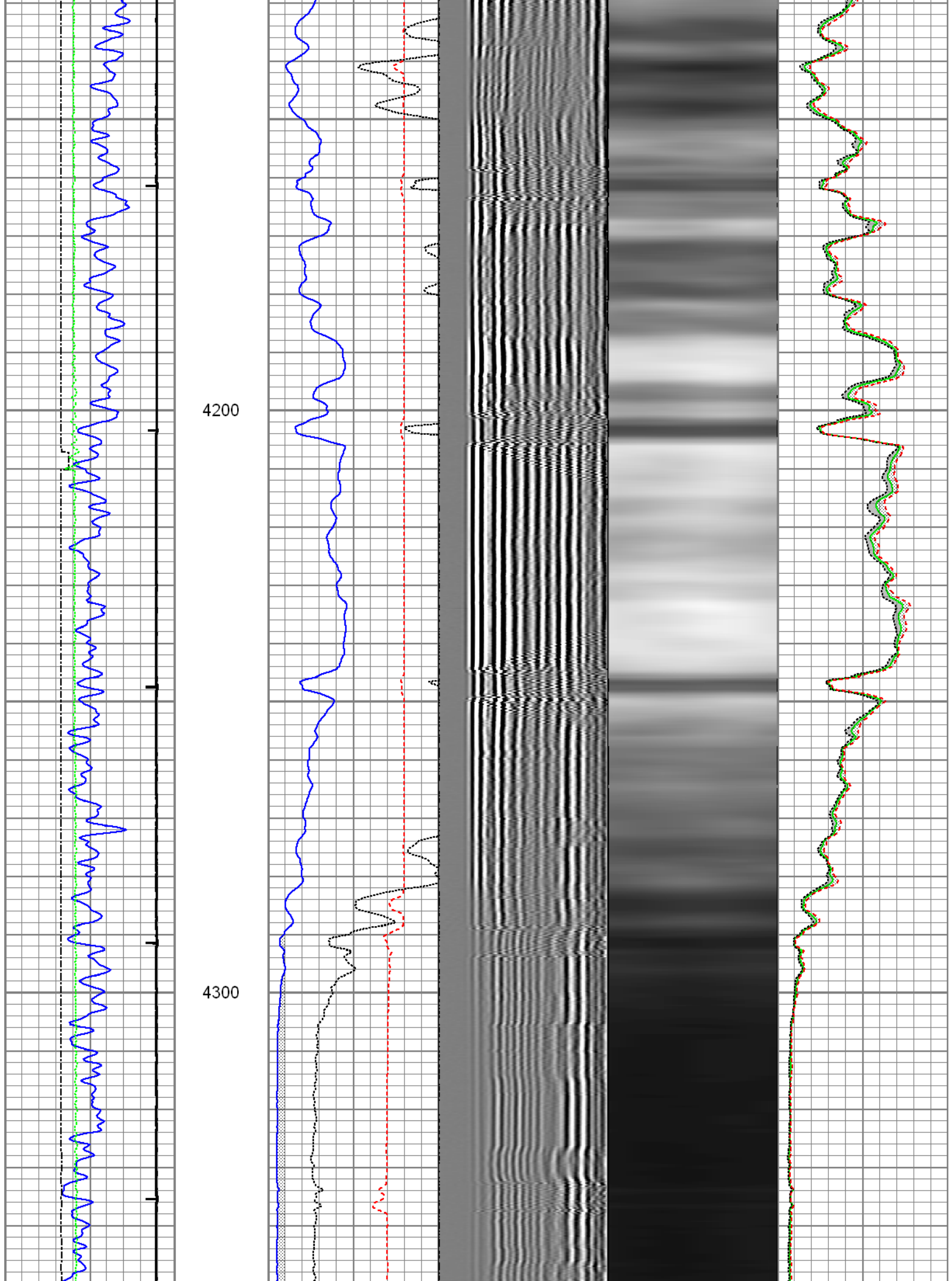
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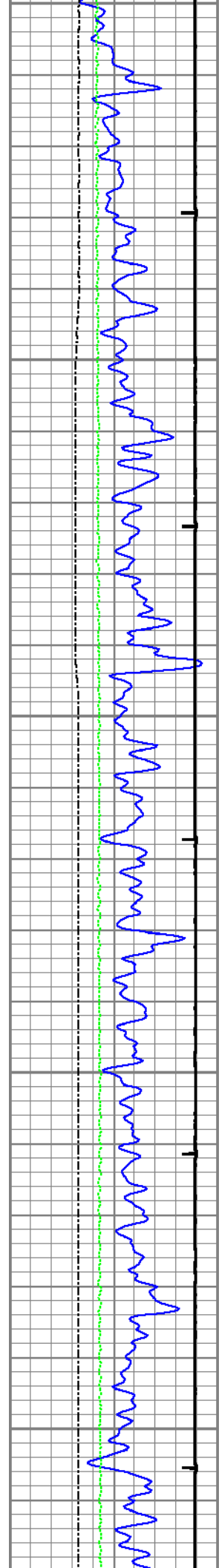
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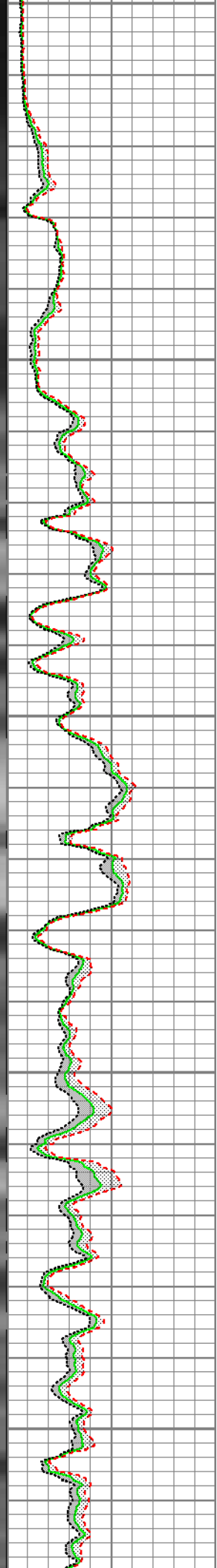
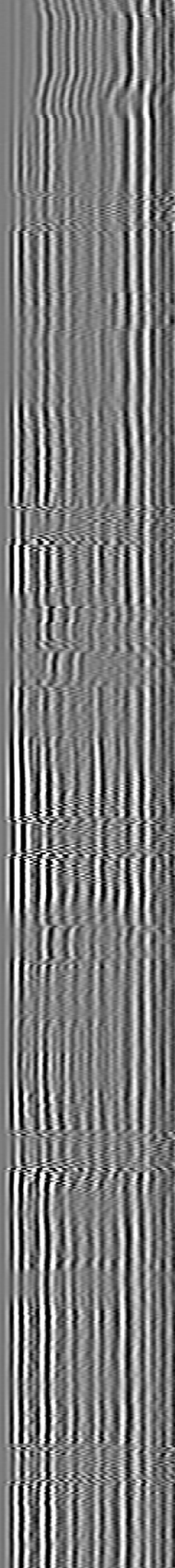
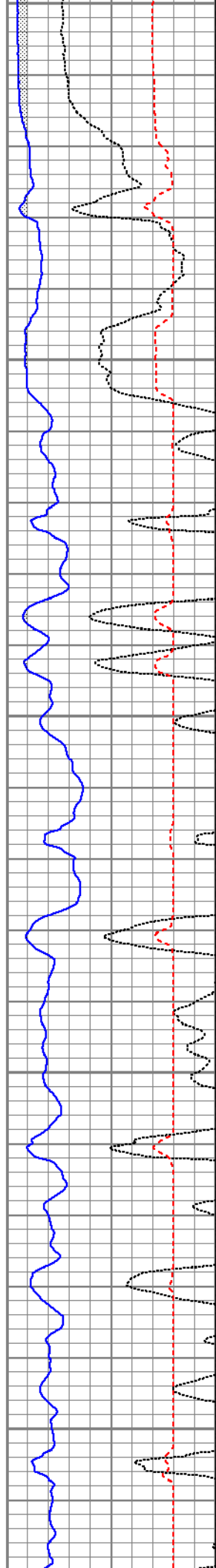




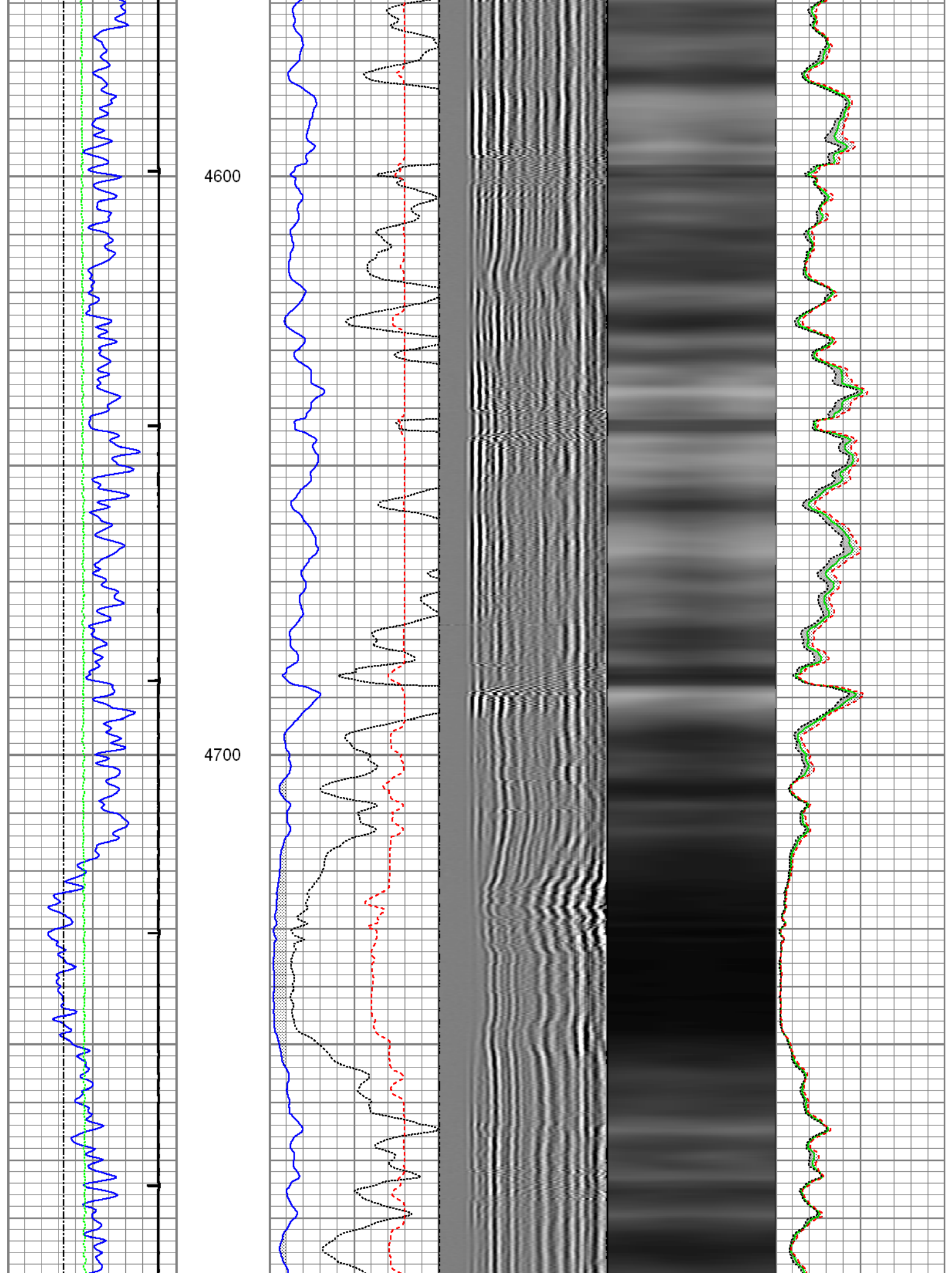


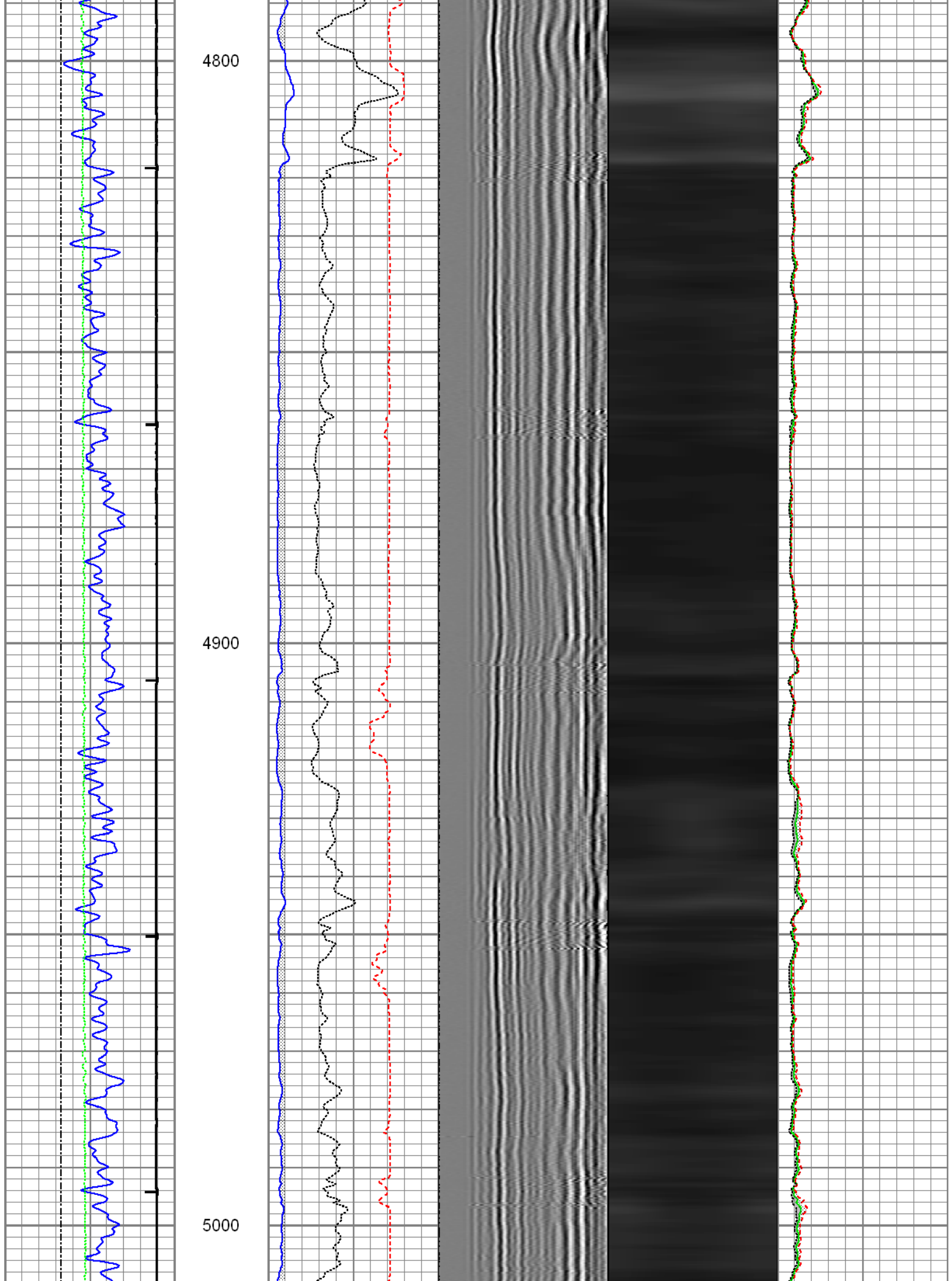
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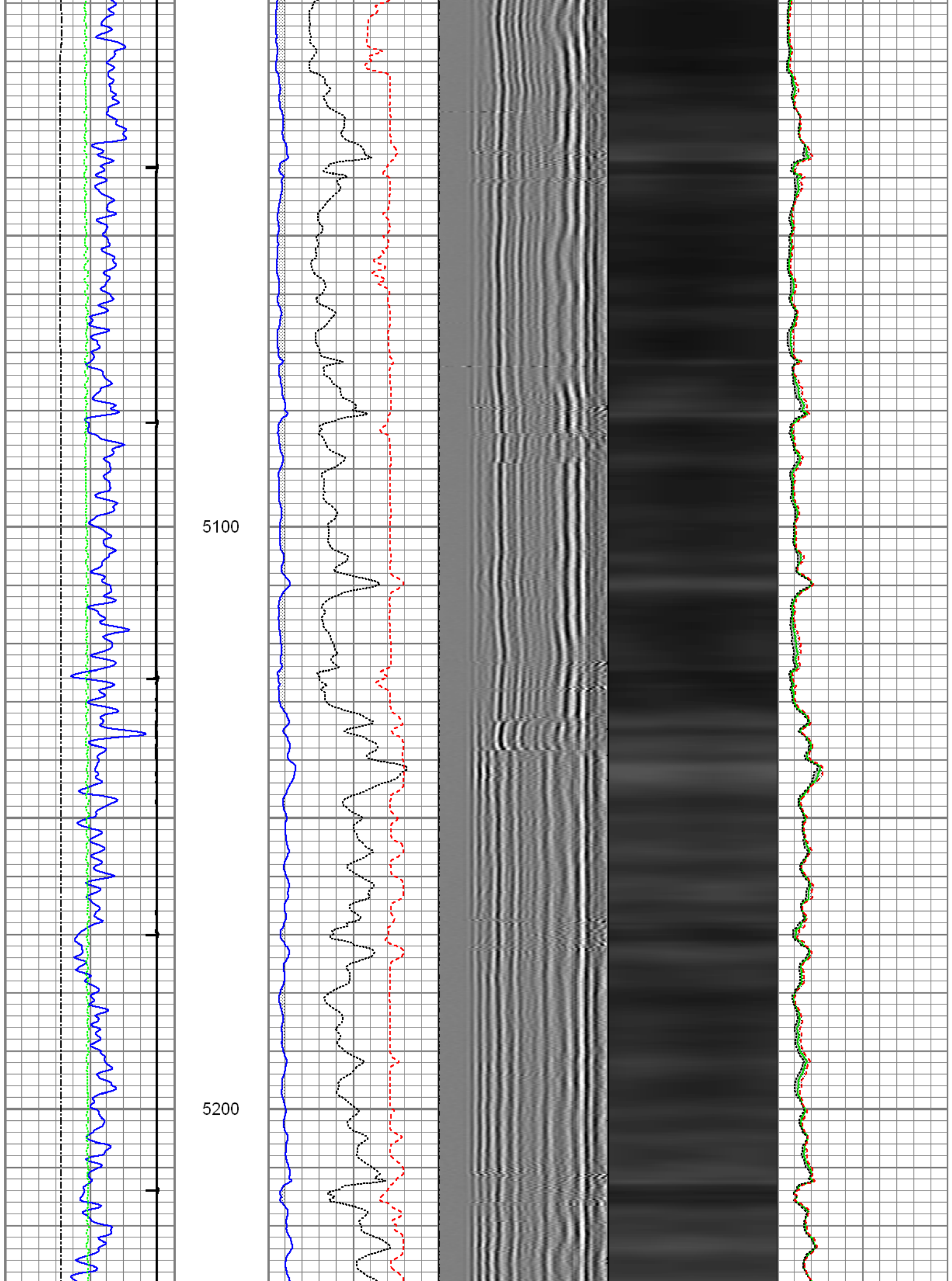


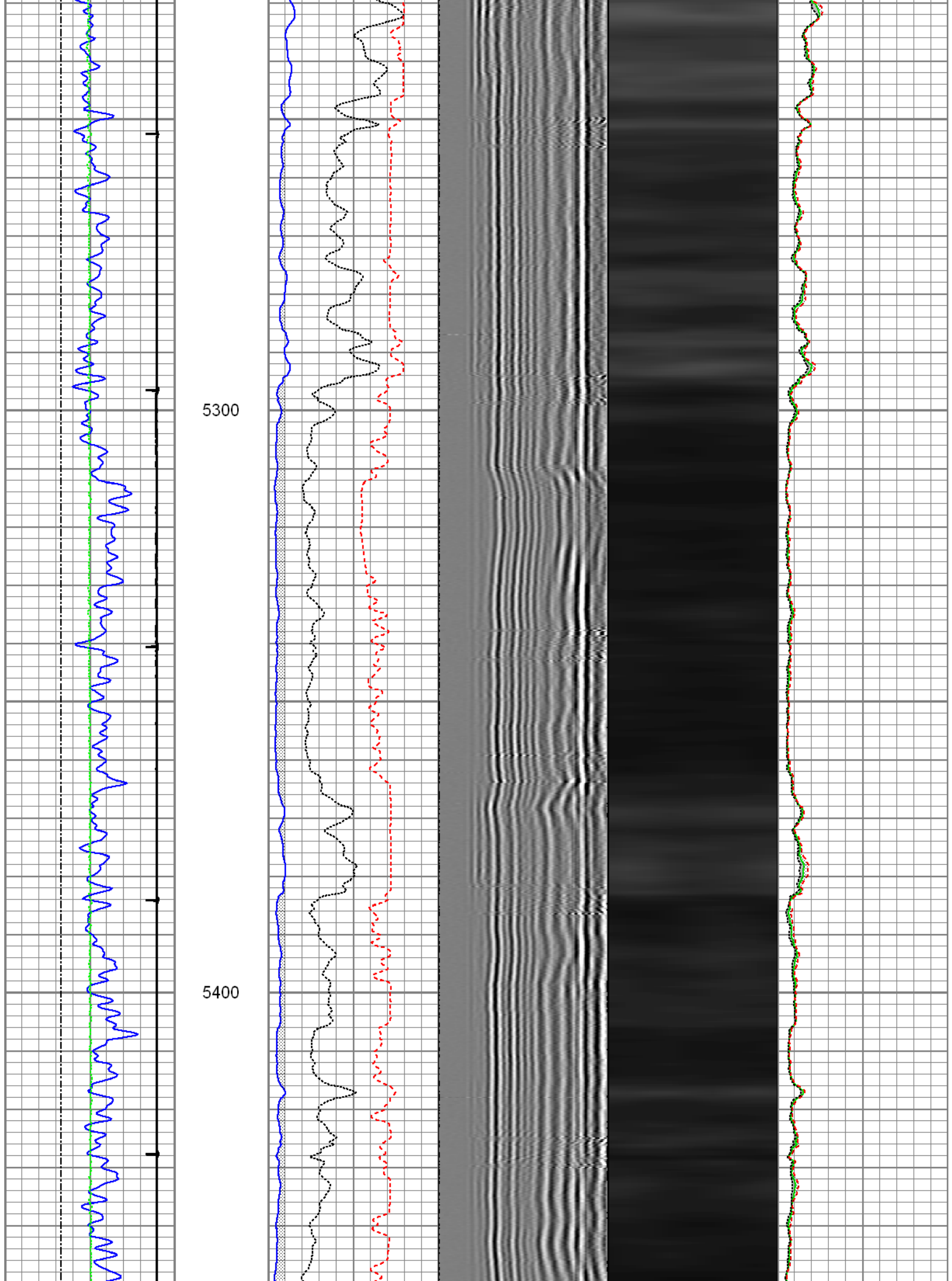


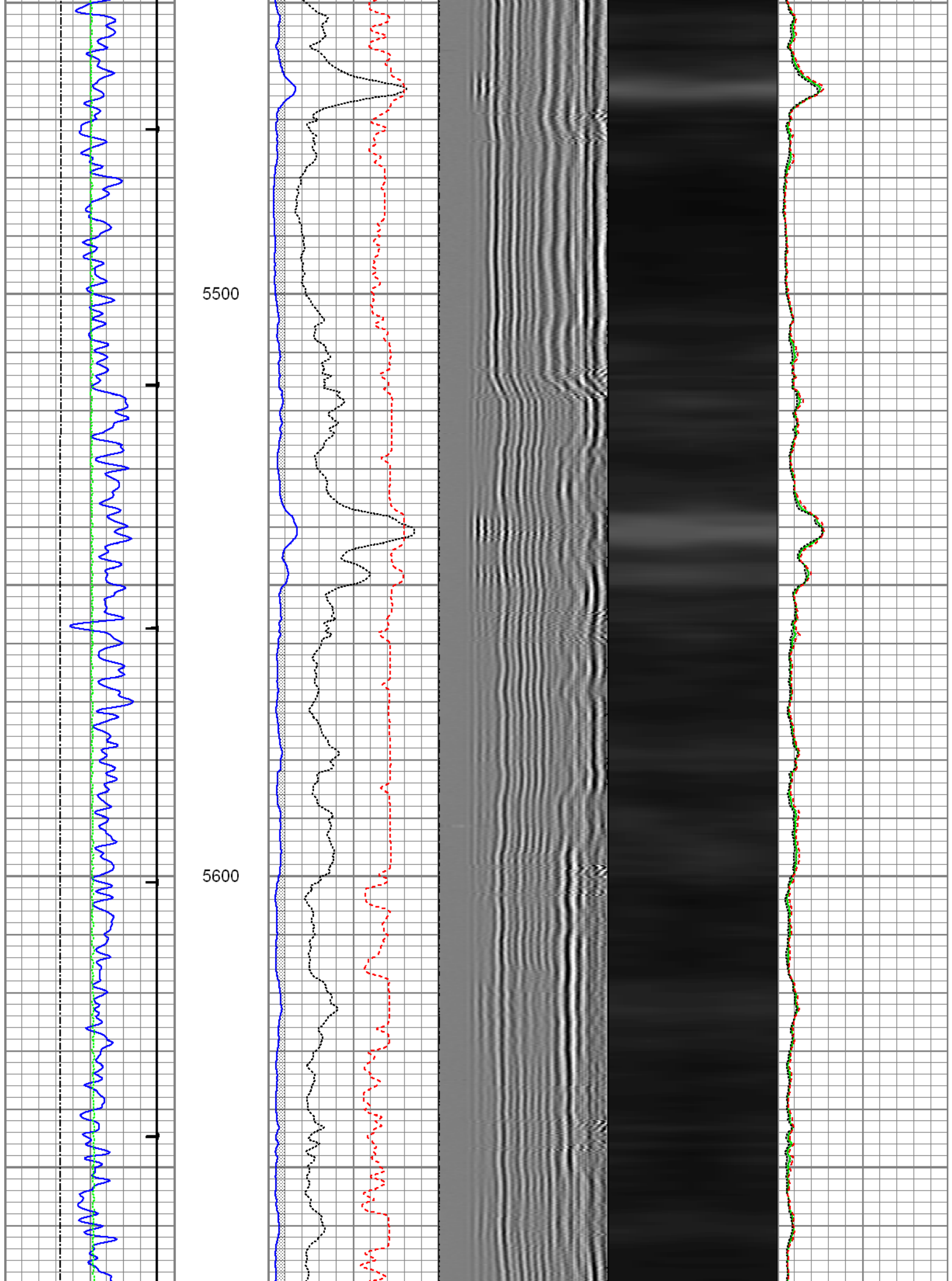






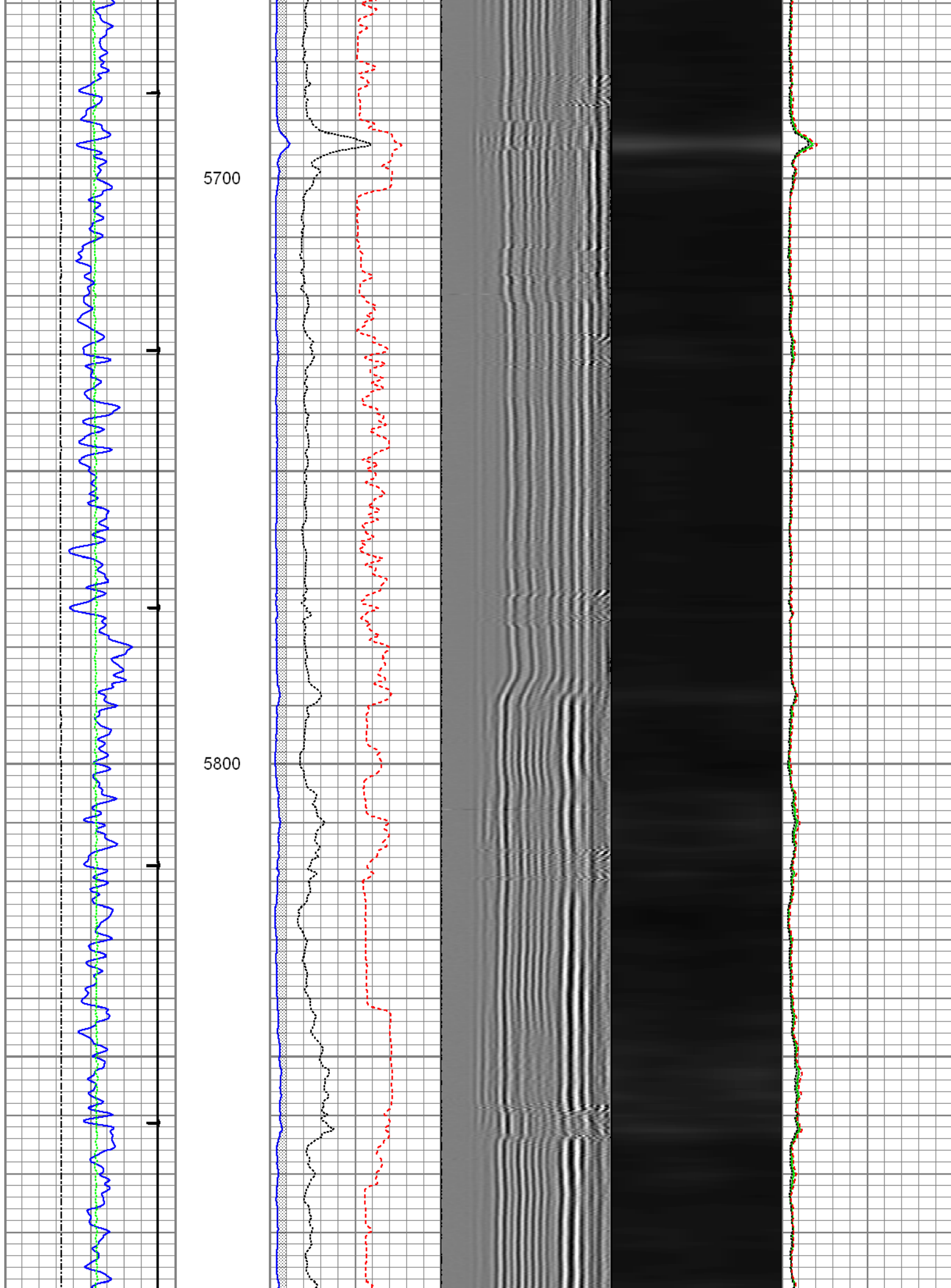






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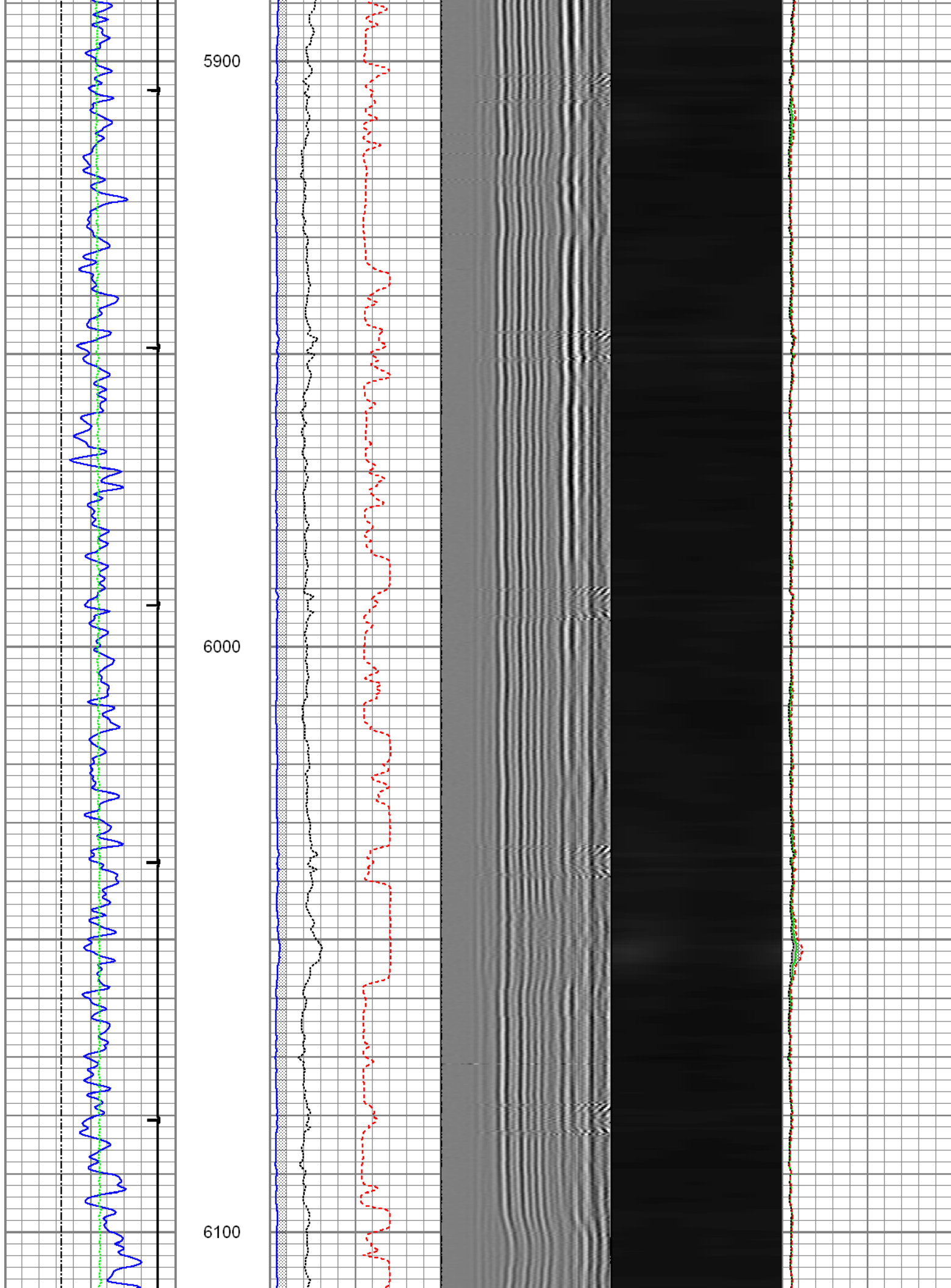


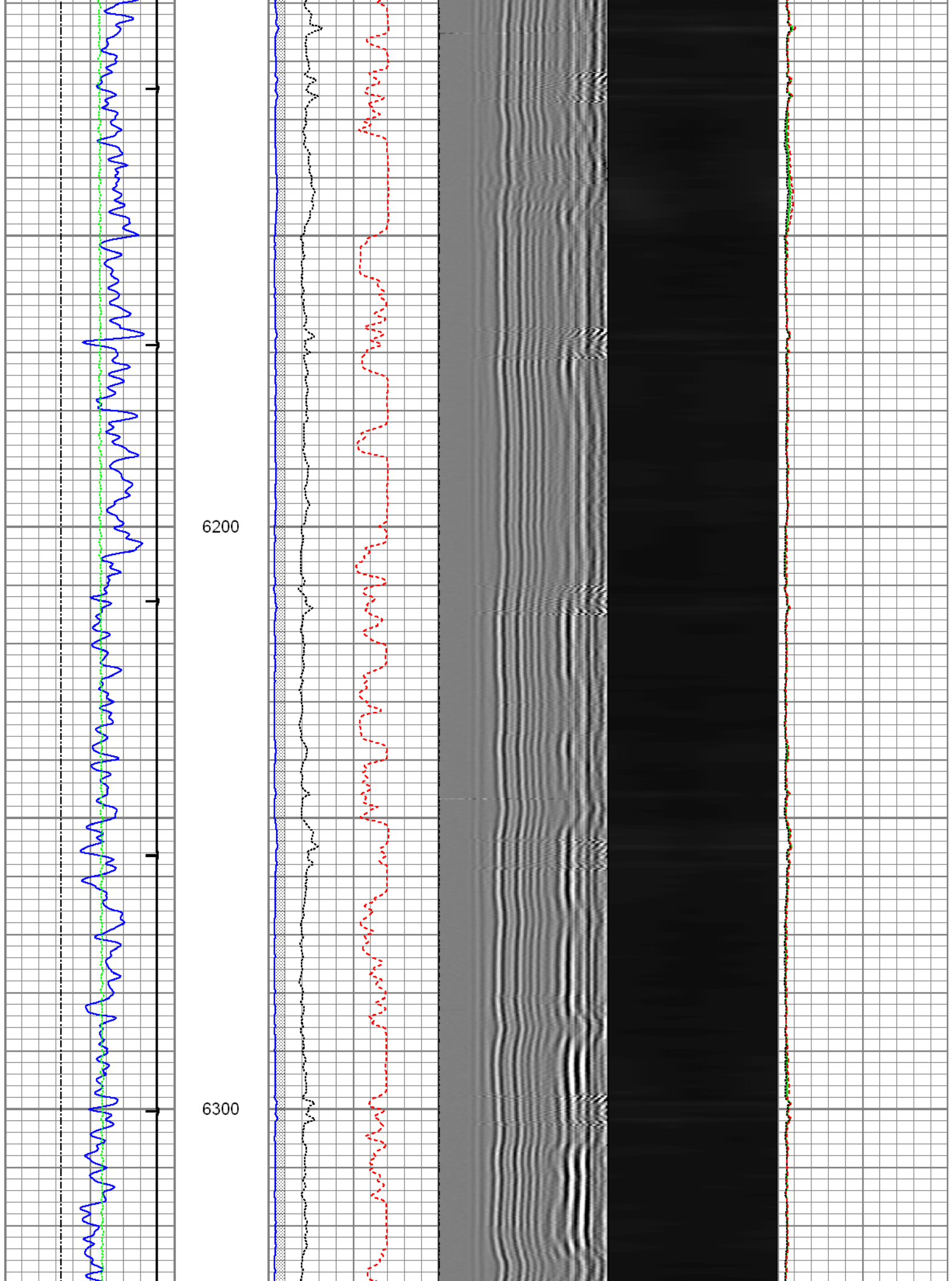


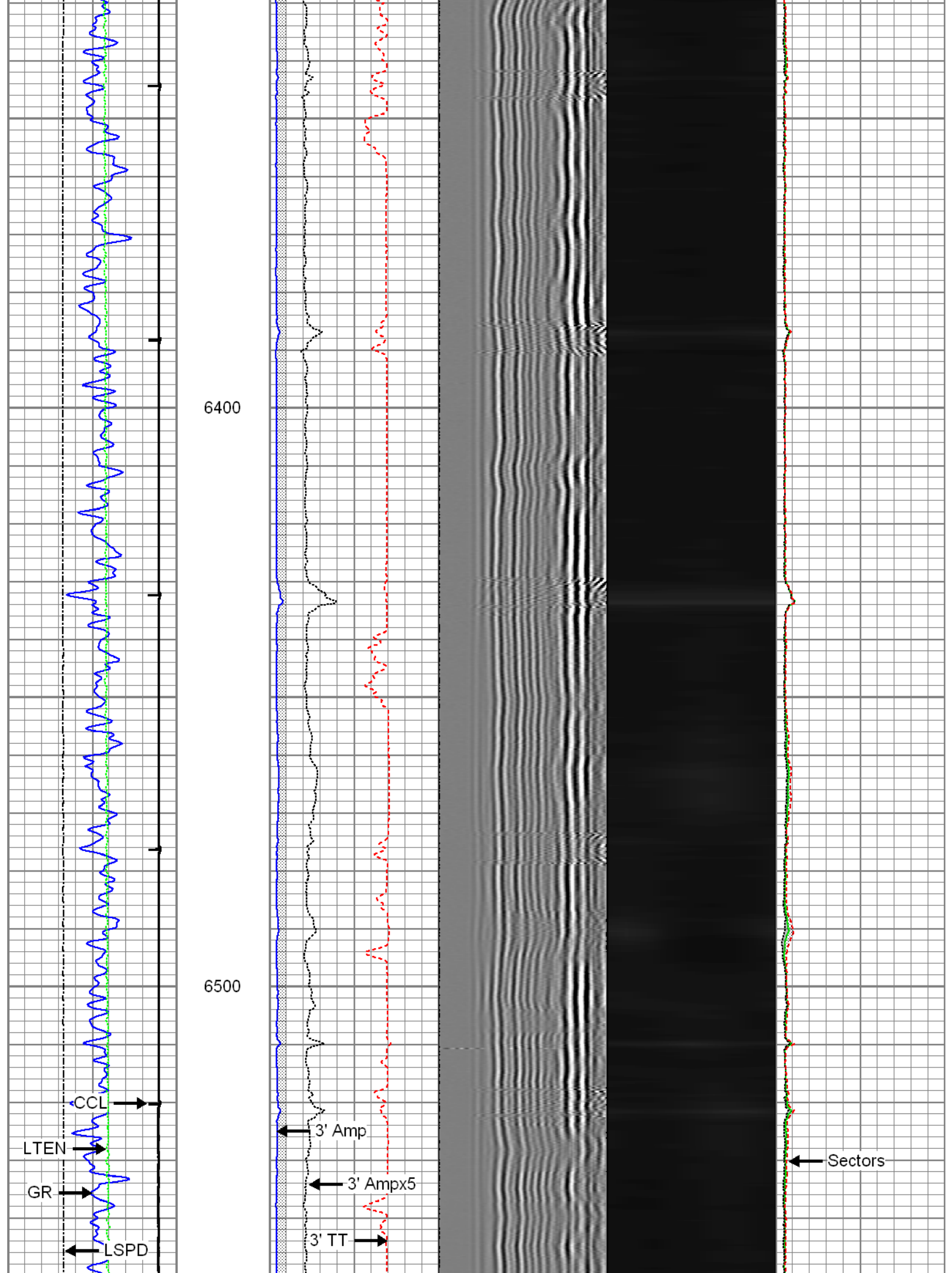
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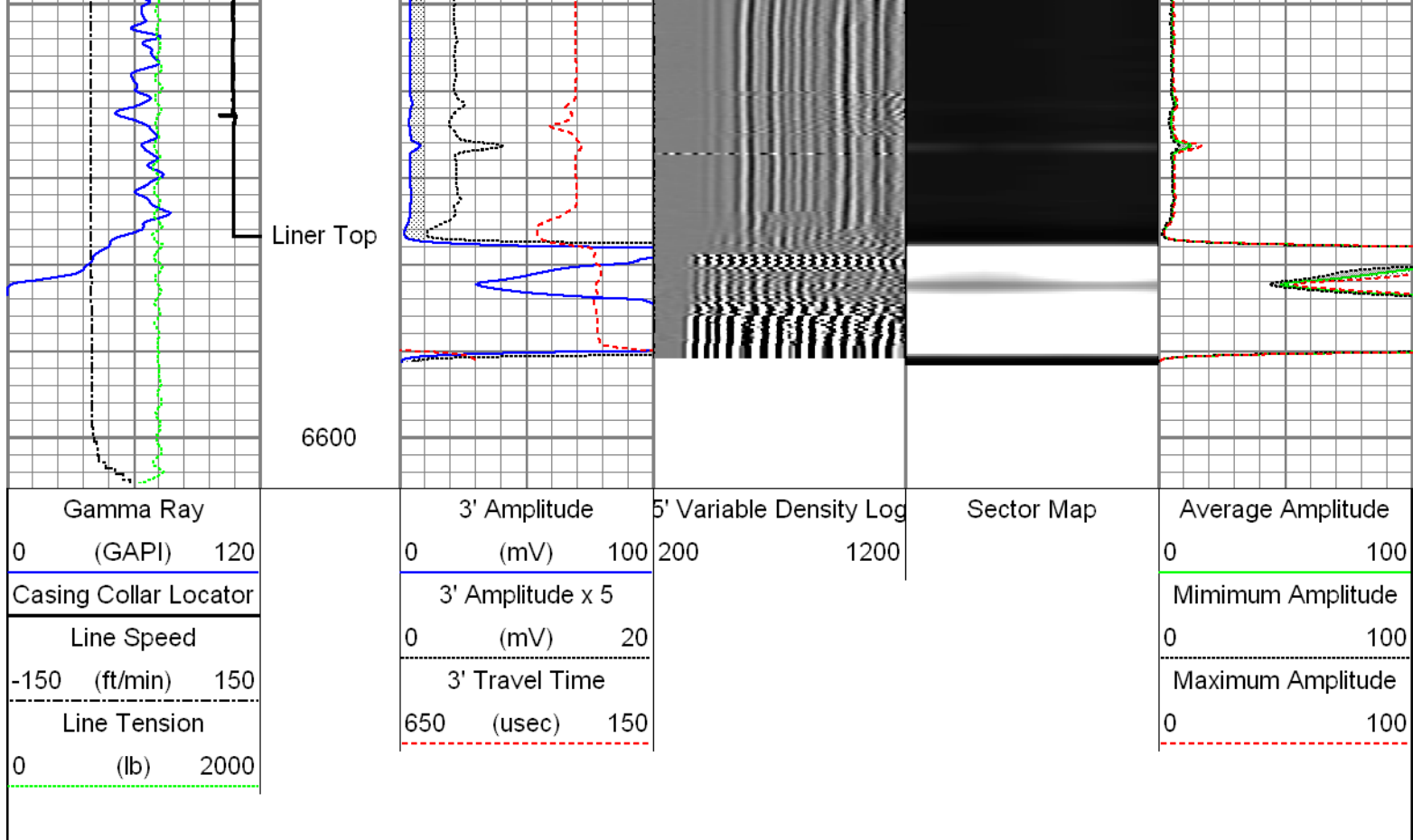
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6100





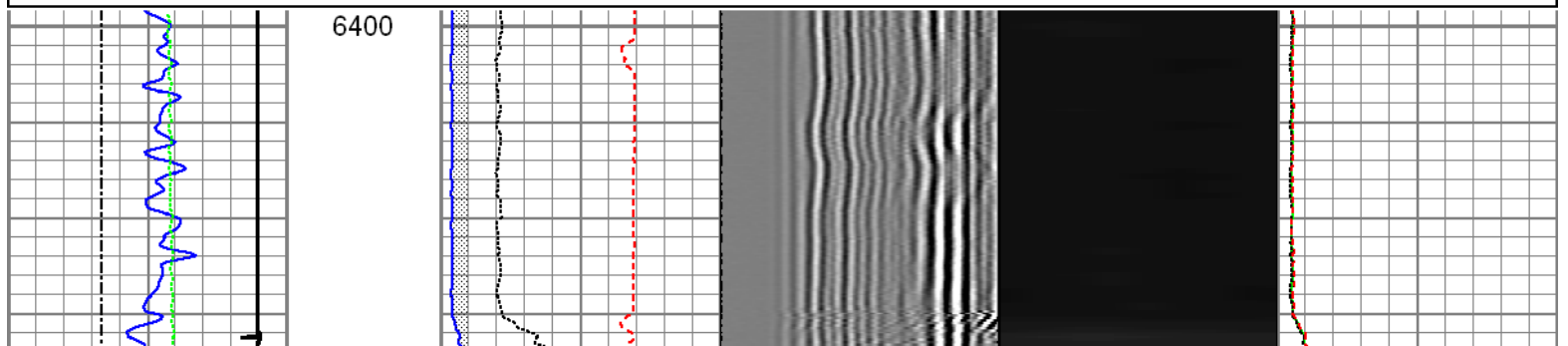
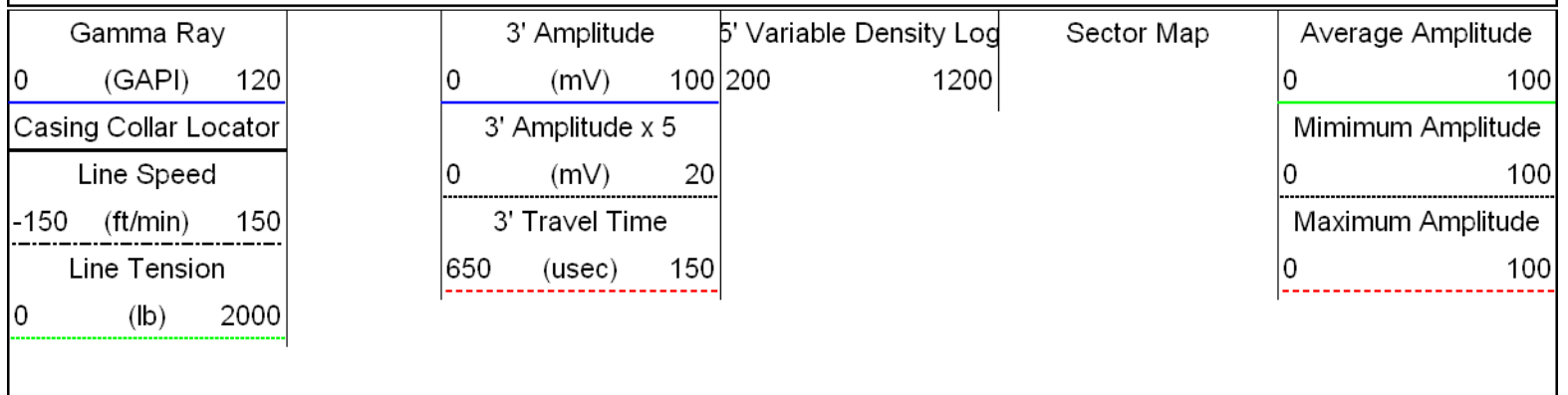




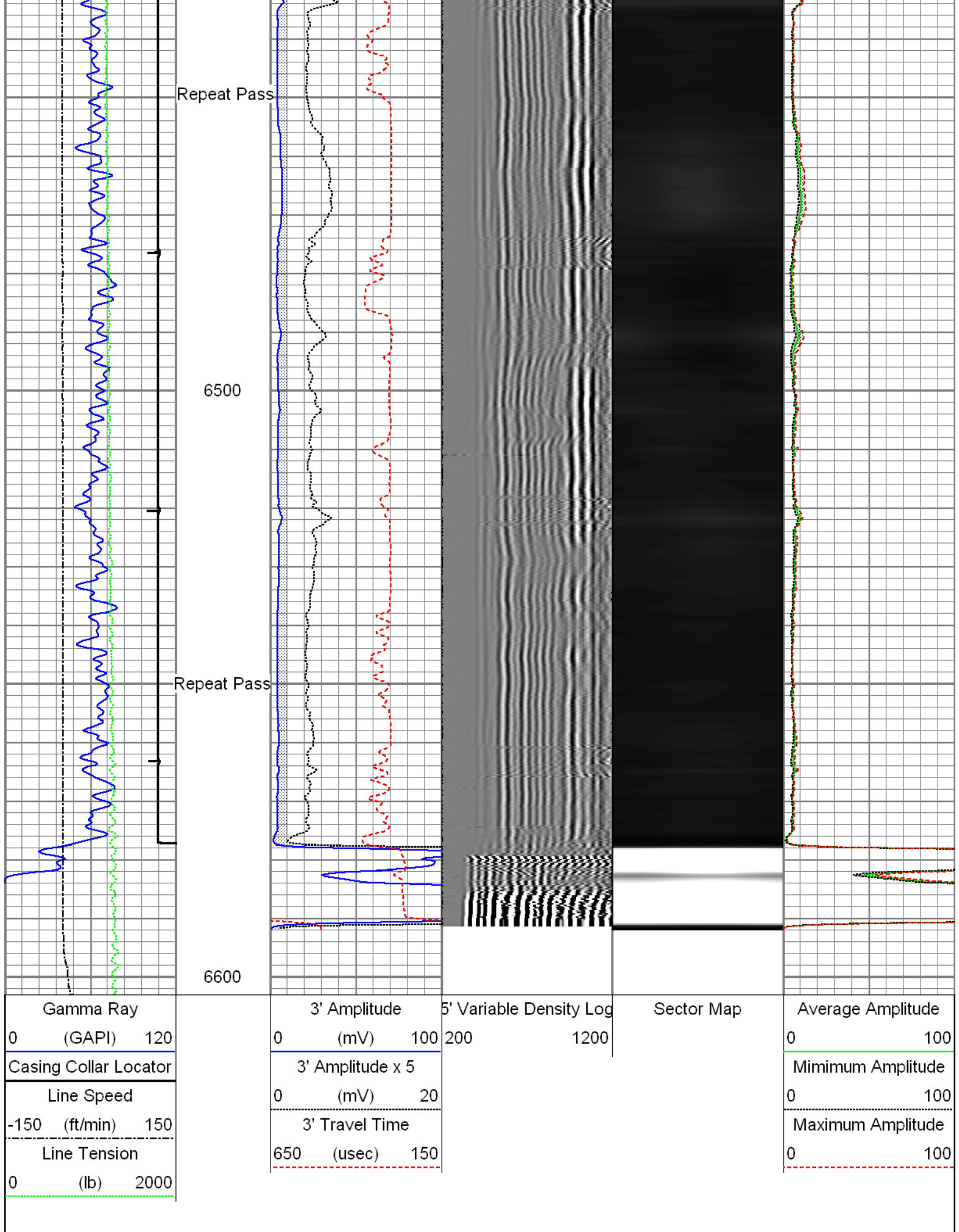
## Repeat Pass

Recorded with 2800 PSI surface induced pressure

Database File: 0512339341\_anadarko\_benson farms 13n-23hz\_09-16-14\_mit\_rbl.db  
 Dataset Pathname: pass5  
 Presentation Format: rbt007  
 Dataset Creation: Tue Sep 16 07:53:22 2014 by Log SCH 111116  
 Charted by: Depth in Feet scaled 1:240







Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
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# Calibration Report

Database File: 0512339341\_anadarko\_benson farms 13n-23hz\_09-16-14\_mit\_rbl.db  
 Dataset Pathname: pass6  
 Dataset Creation: Tue Sep 16 08:02:22 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

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

## Finger Calibration Report

Performed: Tue Sep 16 06:59:05 2014

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1118	347.0	1465	387.0	1852	395.0	2247
Finger 02:	1139	364.0	1503	404.0	1907	418.0	2325
Finger 03:	1063	345.0	1408	390.0	1798	409.0	2207
Finger 04:	1022	353.0	1375	411.0	1786	430.0	2216
Finger 05:	1058	339.0	1397	385.0	1782	395.0	2177
Finger 06:	1048	356.0	1404	400.0	1804	410.0	2214
Finger 07:	1058	346.0	1404	390.0	1794	400.0	2194
Finger 08:	1017	354.0	1371	405.0	1776	420.0	2196
Finger 09:	1089	356.0	1445	392.0	1837	392.0	2229
Finger 10:	1125	355.0	1480	388.0	1868	393.0	2261
Finger 11:	1098	357.0	1455	398.0	1853	407.0	2260
Finger 12:	1207	353.0	1560	370.0	1930	365.0	2295
Finger 13:	1121	354.0	1475	394.0	1869	400.0	2269
Finger 14:	1043	362.0	1405	405.0	1810	415.0	2225
Finger 15:	1037	362.0	1399	407.0	1806	420.0	2226
Finger 16:	1123	362.0	1485	396.0	1881	407.0	2288
Finger 17:	1101	351.0	1452	382.0	1834	391.0	2225
Finger 18:	1137	351.0	1488	380.0	1868	392.0	2260
Finger 19:	1095	362.0	1457	394.0	1851	404.0	2255
Finger 20:	1024	360.0	1384	399.0	1783	416.0	2199
Finger 21:	1104	350.0	1454	382.0	1836	403.0	2239
Finger 22:	1121	363.0	1484	389.0	1873	410.0	2283
Finger 23:	1179	332.0	1511	358.0	1869	379.0	2248
Finger 24:	1120	369.0	1489	396.0	1885	411.0	2296
Finger 25:	1105	354.0	1459	390.0	1849	424.0	2273
Finger 26:	1141	355.0	1496	382.0	1878	399.0	2277
Finger 27:	1181	348.0	1529	376.0	1905	402.0	2307
Finger 28:	1146	368.0	1514	391.0	1905	414.0	2319
Finger 29:	1178	366.0	1544	400.0	1944	425.0	2369
Finger 30:	1111	358.0	1469	397.0	1866	428.0	2294
Finger 31:	1164	355.0	1519	384.0	1903	406.0	2309
Finger 32:	1152	363.0	1515	401.0	1916	423.0	2339
Finger 33:	1078	358.0	1436	392.0	1828	427.0	2255
Finger 34:	1079	357.0	1436	406.0	1842	431.0	2273
Finger 35:	1133	346.0	1479	382.0	1861	403.0	2264

Finger 36:	1096	358.0	1454	400.0	1854	425.0	2279
Finger 37:	1159	347.0	1506	381.0	1887	401.0	2288
Finger 38:	1175	345.0	1520	379.0	1899	396.0	2295
Finger 39:	1134	355.0	1489	394.0	1883	413.0	2296
Finger 40:	1028	362.0	1390	416.0	1806	438.0	2244

Segmented Cement Bond Log Calibration Report

Serial Number:	1066
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	275.945 ft

Master Calibration, performed Tue Sep 16 07:15:44 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.002	0.753	0.800	62.165	81.221	0.969
5FT	-0.007	0.761	0.800	62.165	79.878	1.385
S1	-0.001	0.719	0.000	100.000	138.930	0.170
S2	-0.002	0.742	0.000	100.000	134.333	0.328
S3	-0.002	0.758	0.000	100.000	131.588	0.316
S4	-0.003	0.776	0.000	100.000	128.434	0.332
S5	-0.001	0.777	0.000	100.000	128.448	0.157
S6	-0.002	0.777	0.000	100.000	128.339	0.304
S7	-0.002	0.769	0.000	100.000	129.662	0.274
S8	-0.002	0.734	0.000	100.000	135.890	0.270

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	Benson Farms 13N-23HZ
Field	Wattenberg
County	Weld
State	Colorado