



Radial Cement Bond Gamma Ray/Casing Collar Log

Company		Kerr-McGee Oil & Gas Onshore, L.P.	
Well		Jeltz 15C-19HZ	
Field		Wattenberg	
County		Weld	
State		Colorado	
Location:		API # : 05-123-36567	
Permanent Datum		SHL: 275' FNL & 1858' FEL	
Log Measured From		Lat / Long: 40.043130 / -104.930749	
Drilling Measured From		SEC 19 TWP 1N RGE 67W	
Ground Level		Elevation 5147'	
Kelly Bushing (13 FT)		Other Services Gauge Ring CIL	
Kelly Bushing		Elevation	
K.B. 5160'		D.F. 5159'	
G.L. 5147'			
Date		22-Aug-2013	
Run Number		Two	
Depth Driller		12390 FT	
Depth Logger		7305 FT	
Bottom Logged Interval		7300 FT	
Top Log Interval		Surface	
Open Hole Size		8.750"	
Type Fluid		Water	
Density / Viscosity		8.34 lbm/gal	
Max. Recorded Temp.		223 degF	
Estimated Cement Top		1184	
Time Well Ready		07.25	
Time Logger on Bottom		09:00	
Equipment Number		HD-0119	
Location		Fort Lupton, CO.	
Recorded By		Sam Hopper	
Witnessed By		Fernando Ortega	
Borehole Record		Tubing Record	
Run Number		Bit	
From		To	
Size		Weight	
From		To	
Casing Record		Size (in)	
Surface Casing		Wgt (lbs/Ft)	
Intermediate #1		Grade	
Intermediate #2		Top	
Liner		Bottom	
4-1/2"		11.6#	
P-110		7248.5 FT	
12375 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

Radial Cement Bond Log is first recorded log in hole.
Depth reference to Casing Tally reported Liner Hanger Depth at 7272'.
Adjusted 0' to Liner Hanger at 7272' from a 13' KB zero.
Top of Liner recorded at 7248.5' from a 13' KB aero.
RCBL ran at 2500 PSI surface induced pressure.
Estimated Cement Top recorded at 1184'.

Thank you for choosing FMC Technologies Completion Services, Inc.



Main Pass

Recorded with 2500 PSI Surface Induced Pressure

Database File:anadarko_jelts 15c-19hz_rcbl_cil_22-aug-2013_w7.db

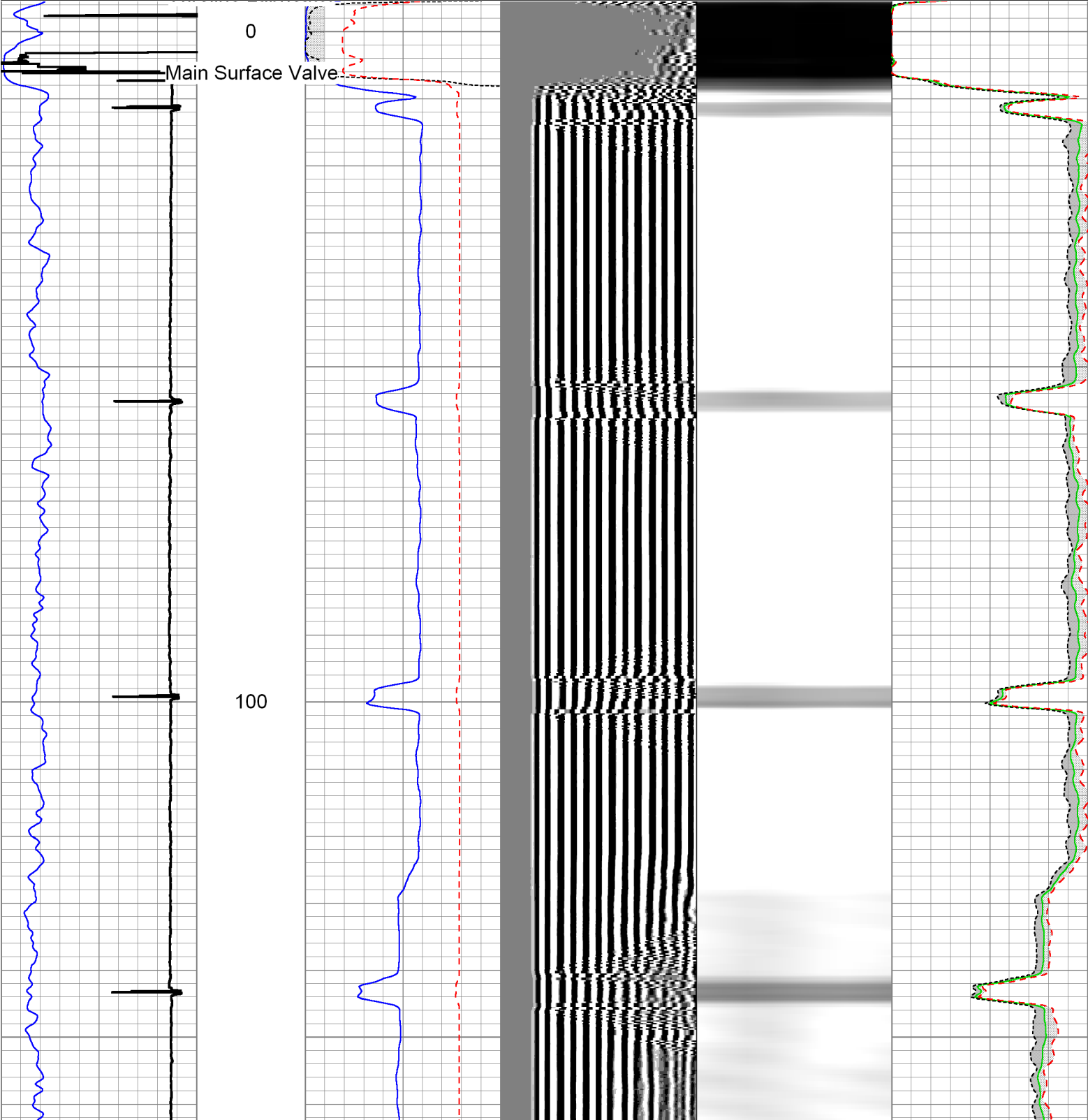
Dataset Pathname:mainpass

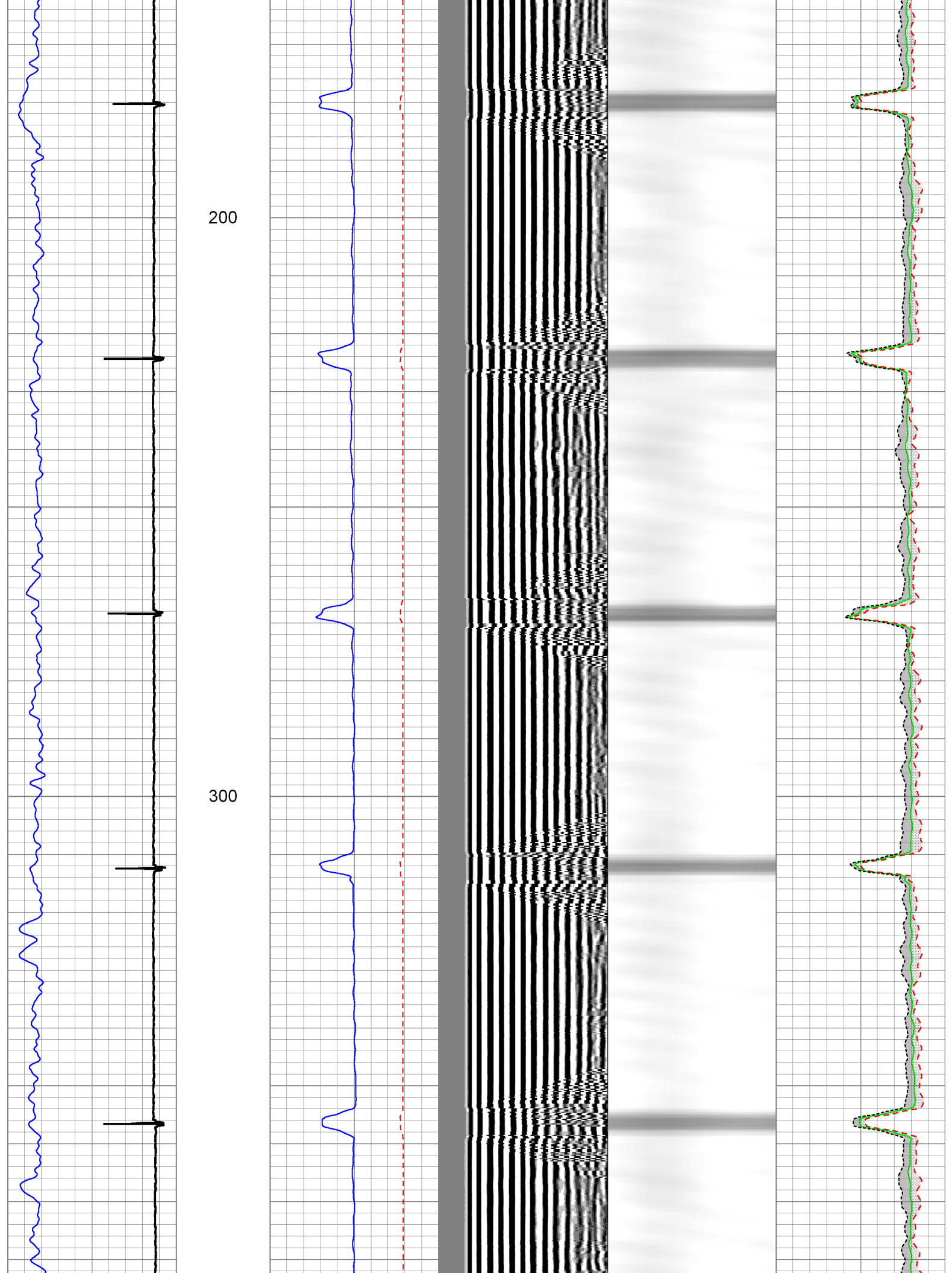
Presentation Format:rib

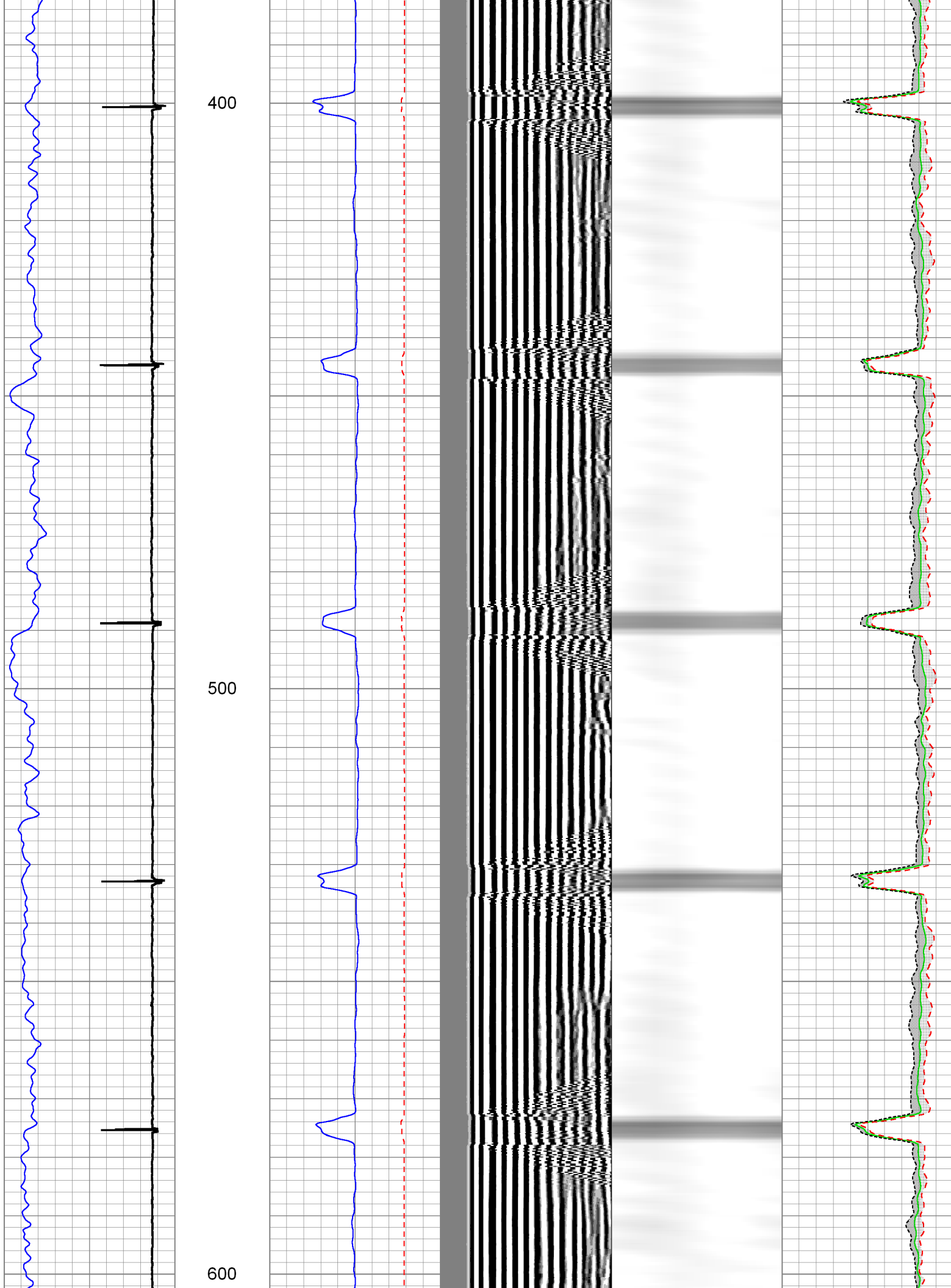
Dataset Creation:Thu Aug 22 09:26:00 2013 by Log Sondex V7.03

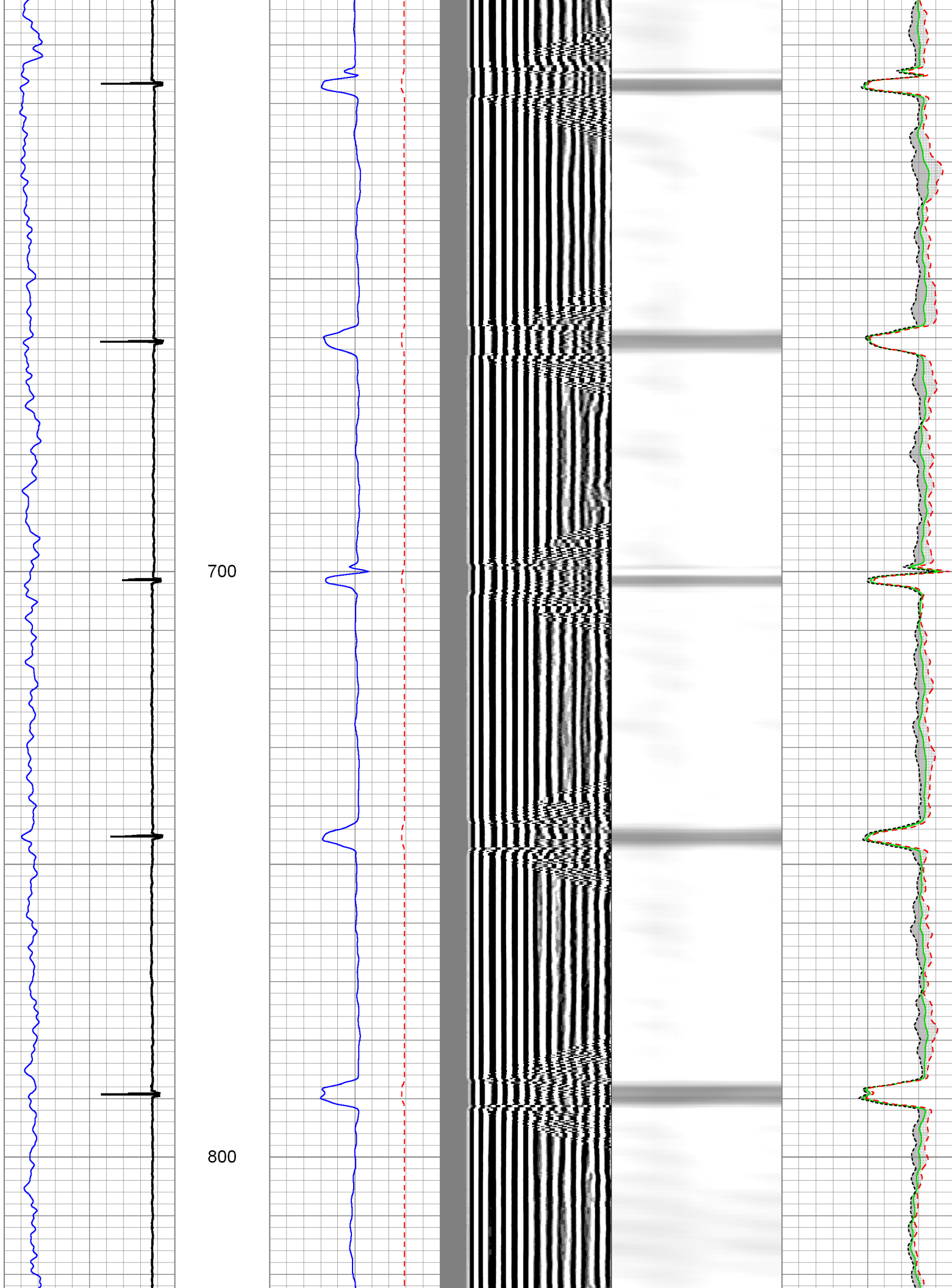
Charted by:Depth in Feet scaled 1:240

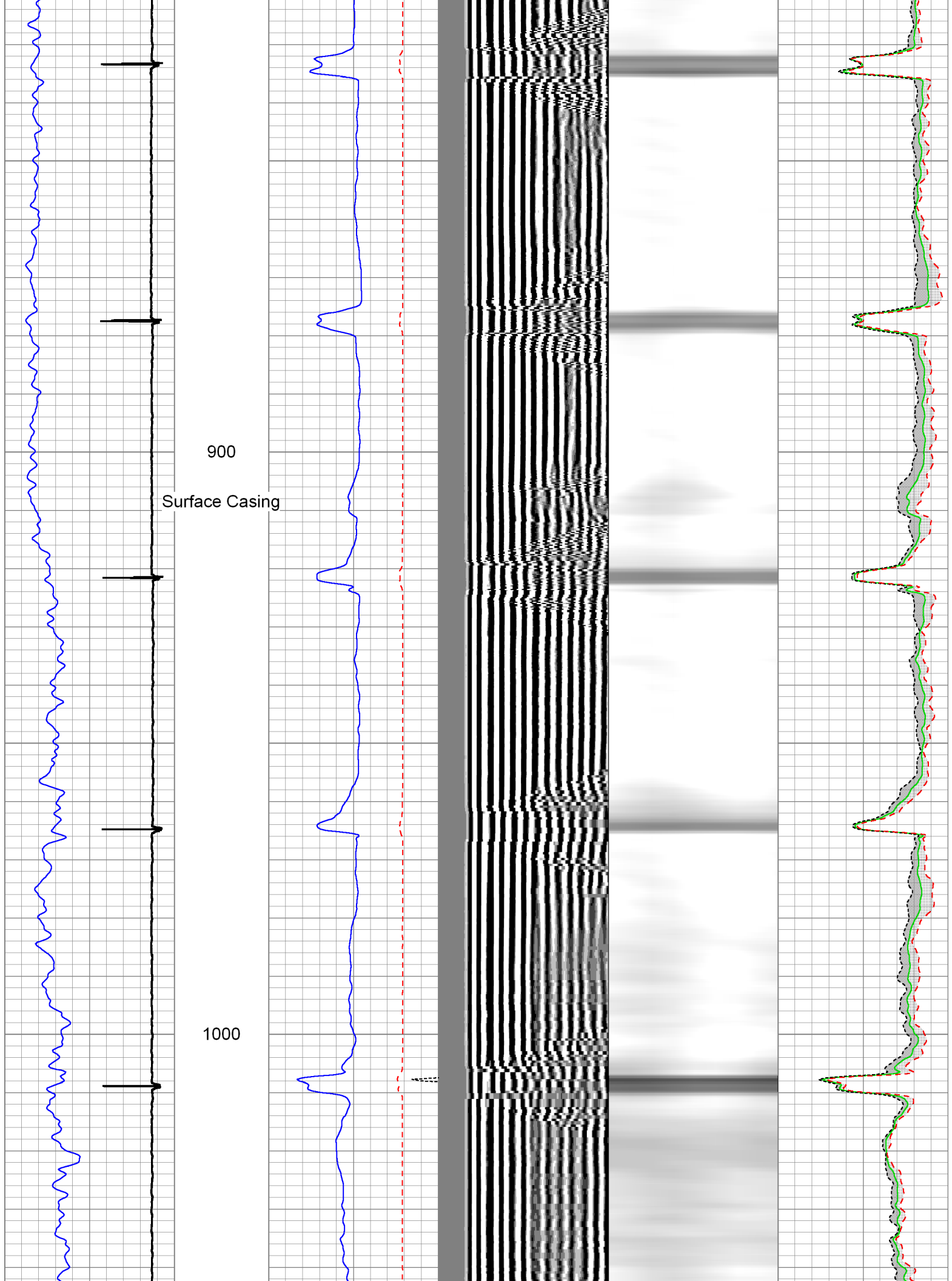
Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0	(GAPI) 120	0 (mV) 100	200 1200		0 100
CCL		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100







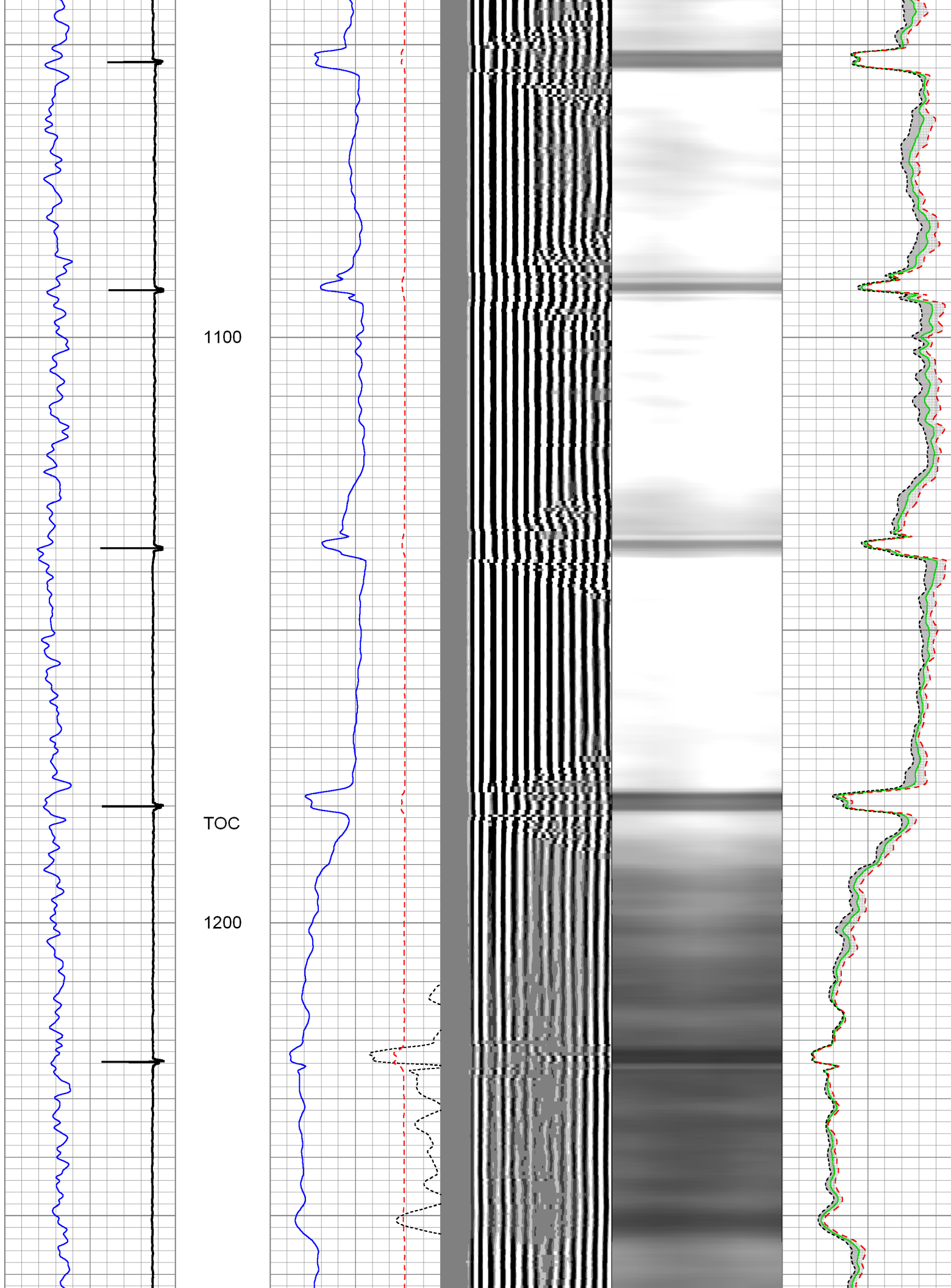




1100

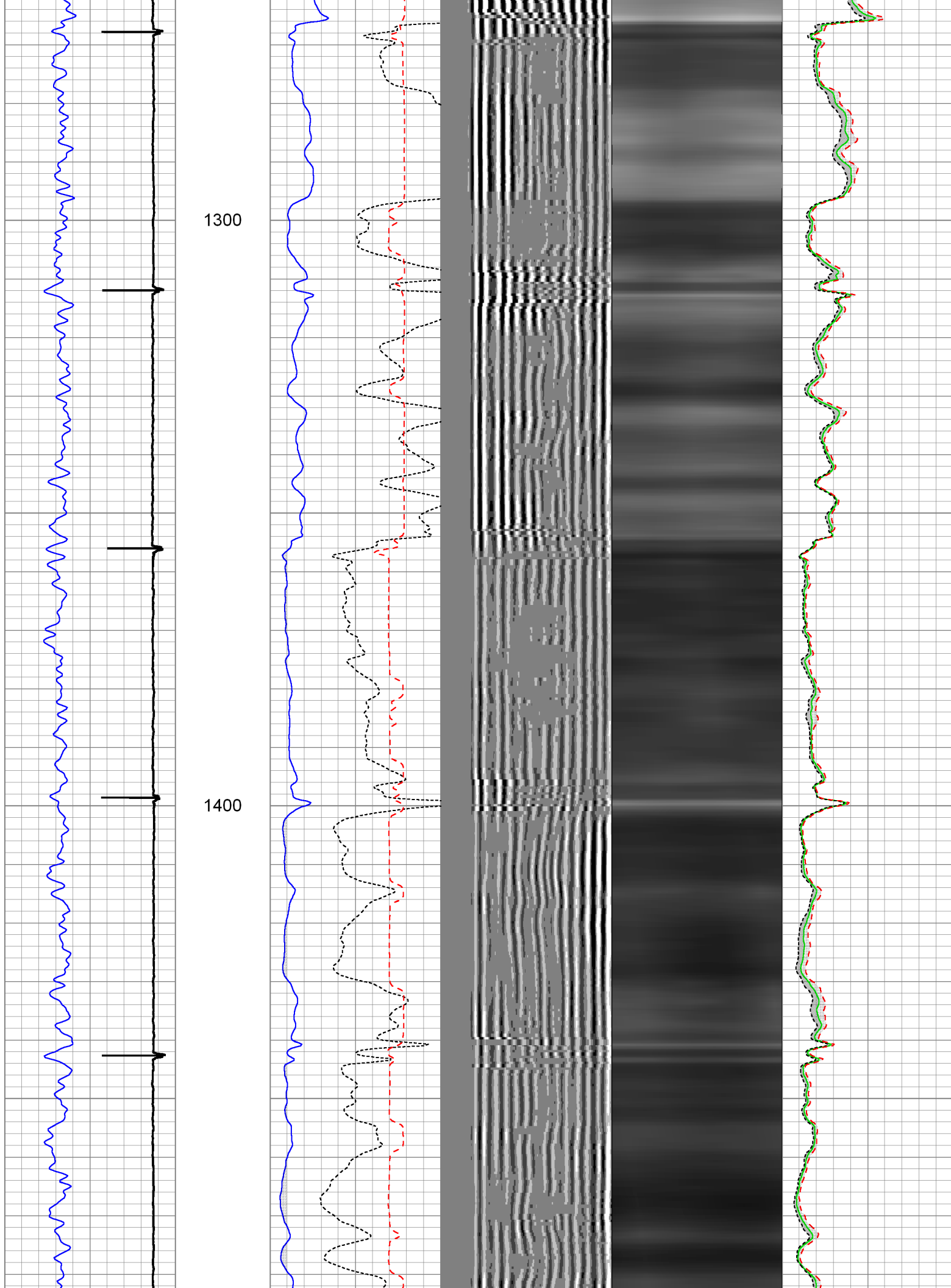
TOC

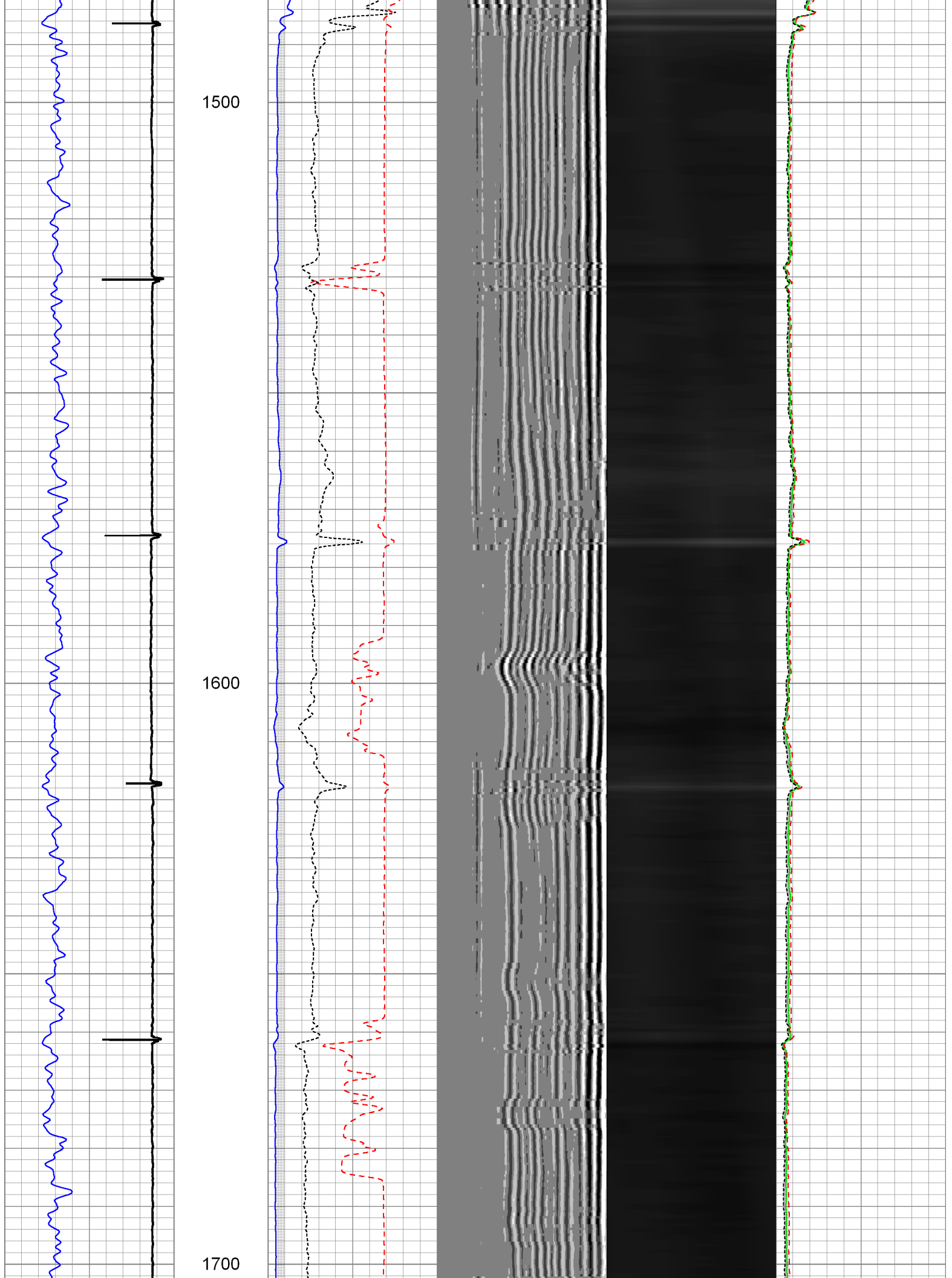
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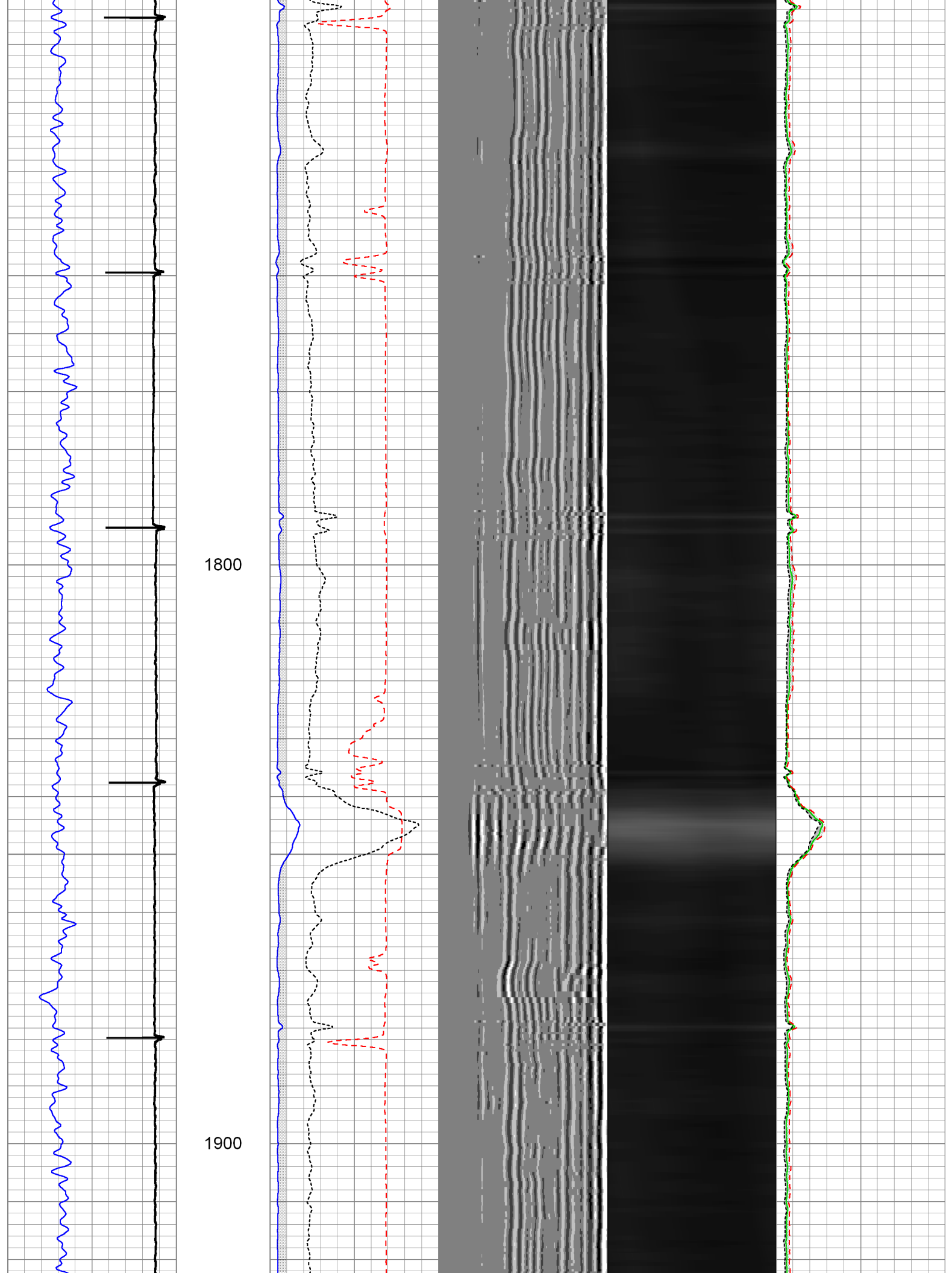


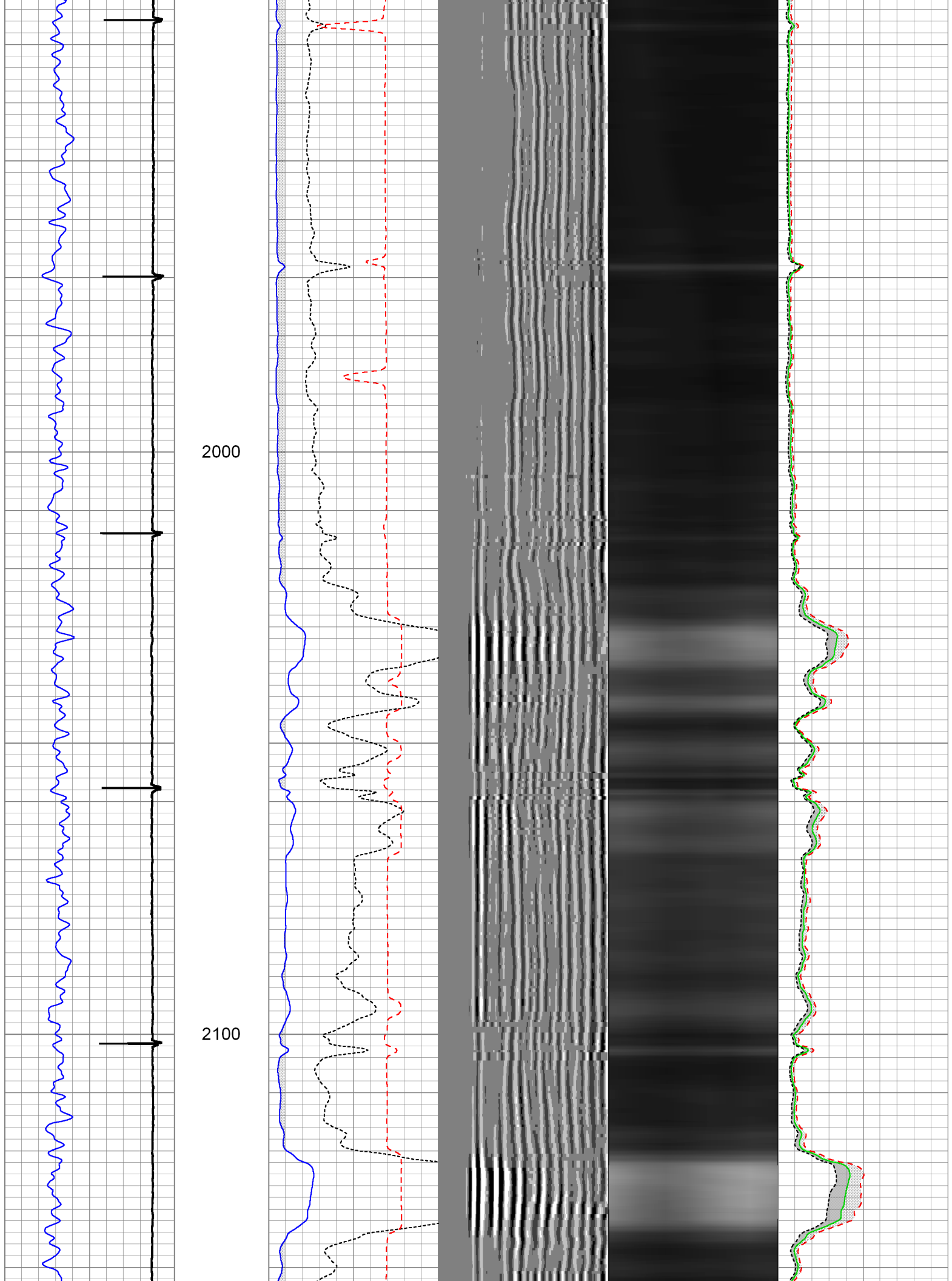
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1400



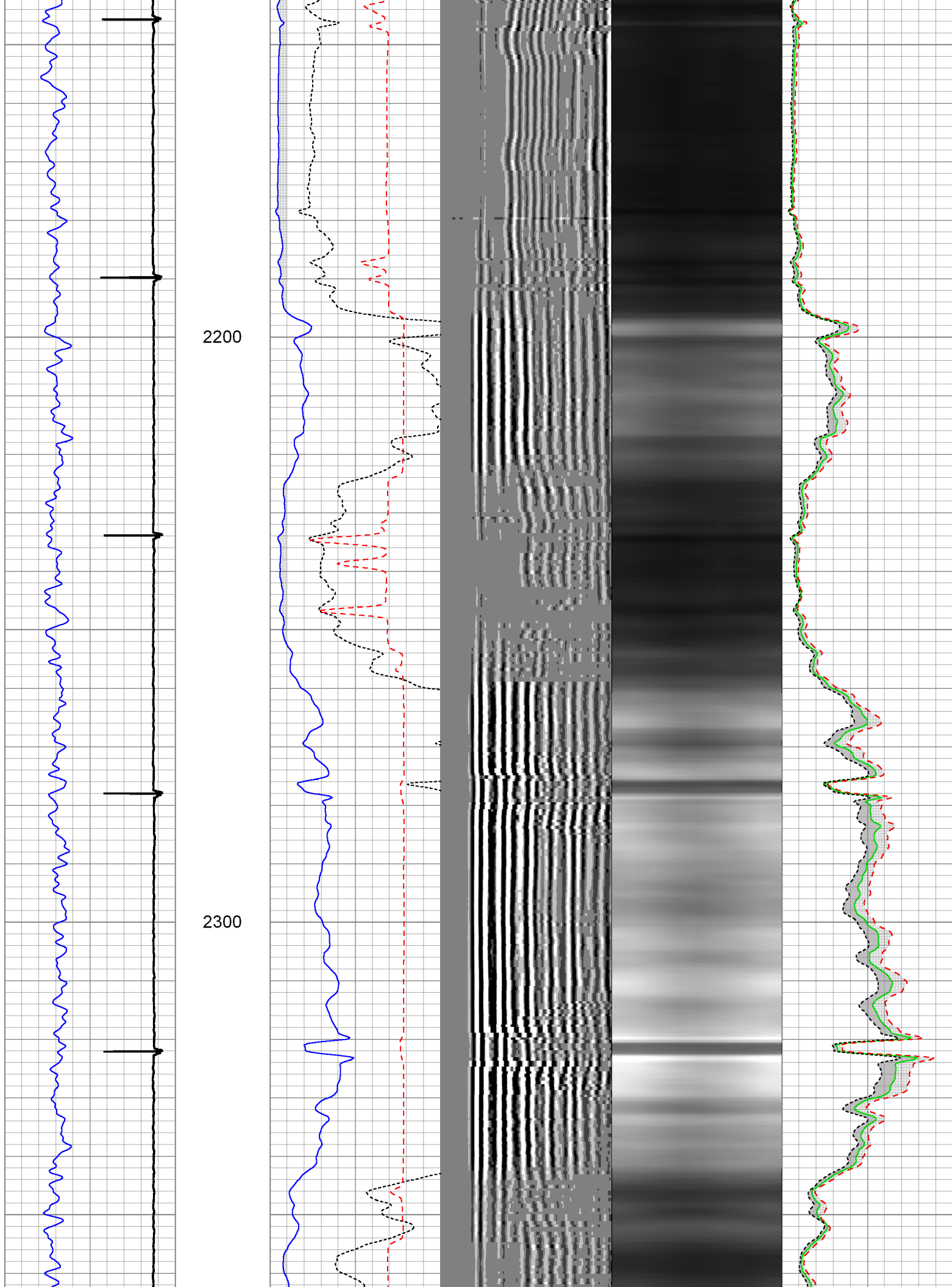






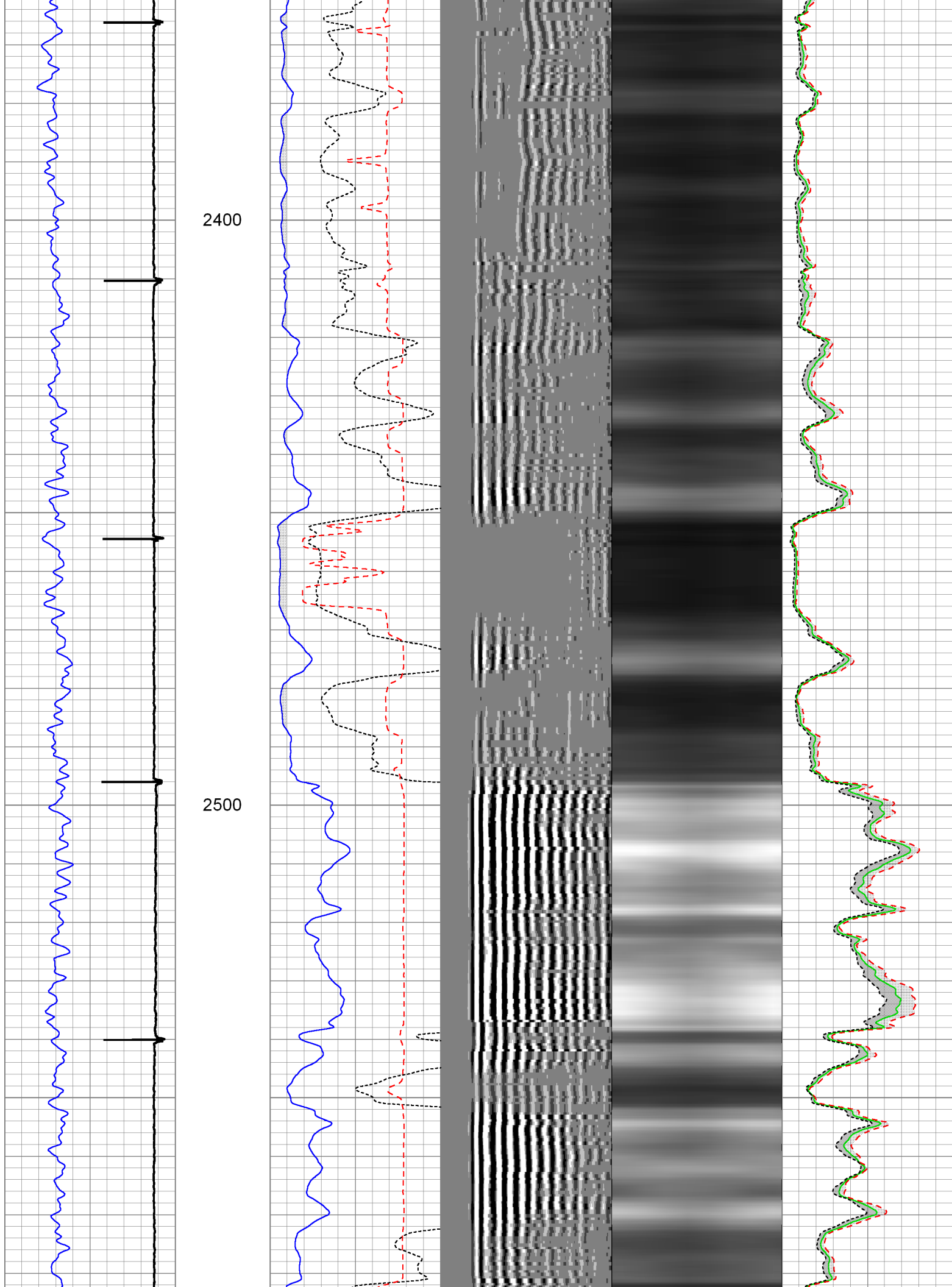
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2300



2400

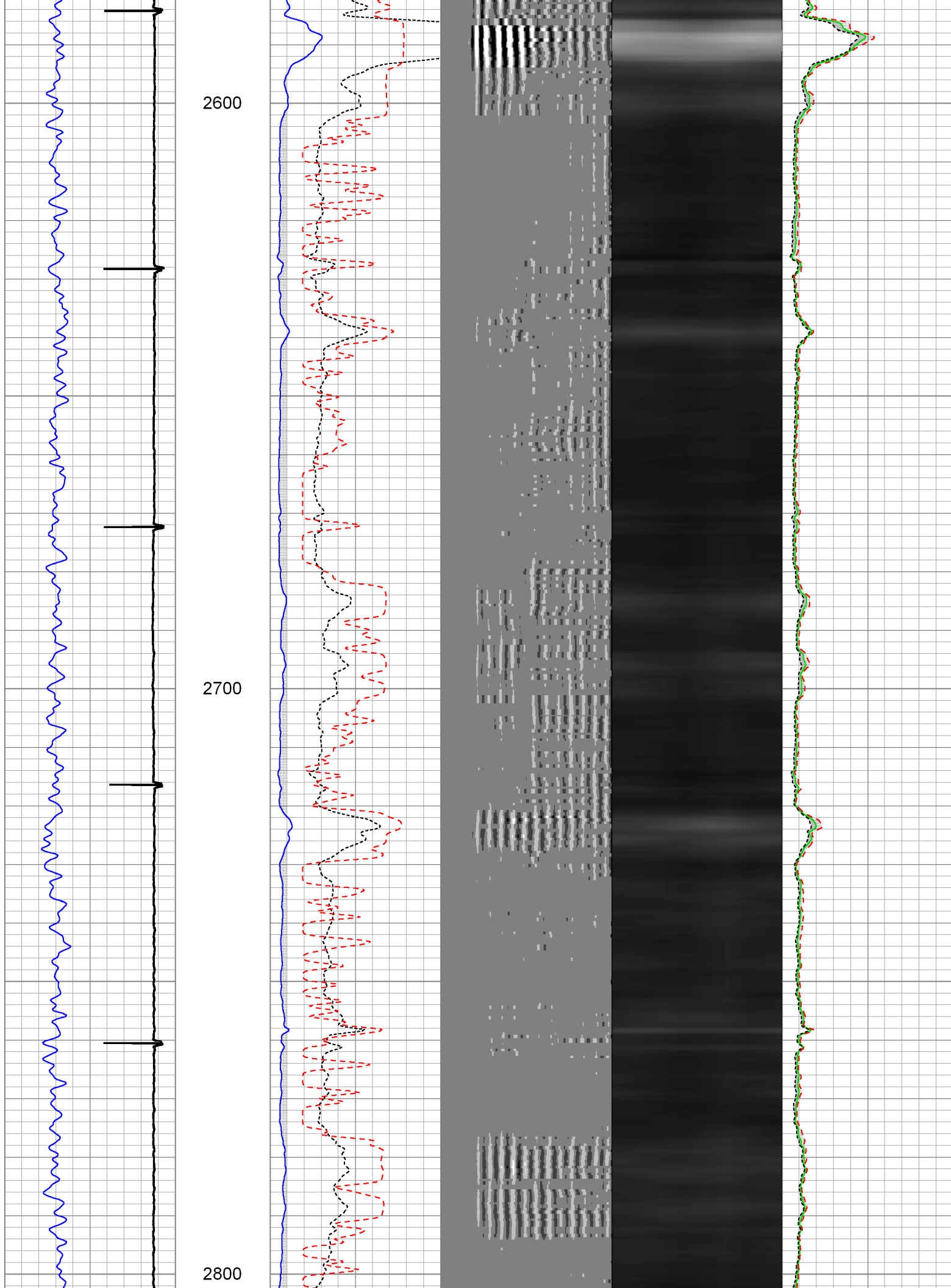
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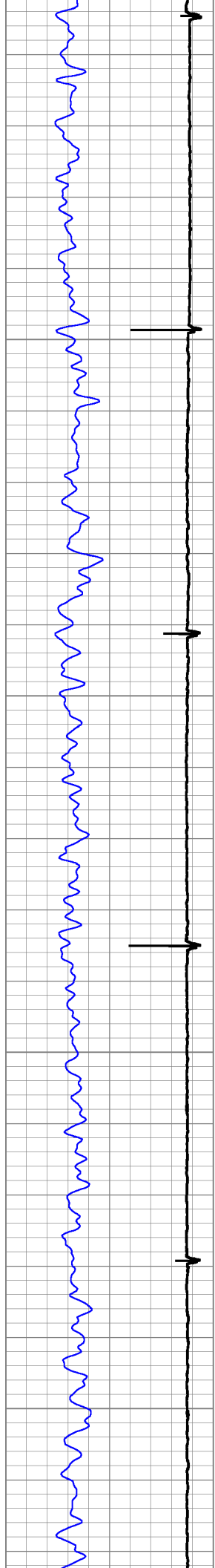


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2700

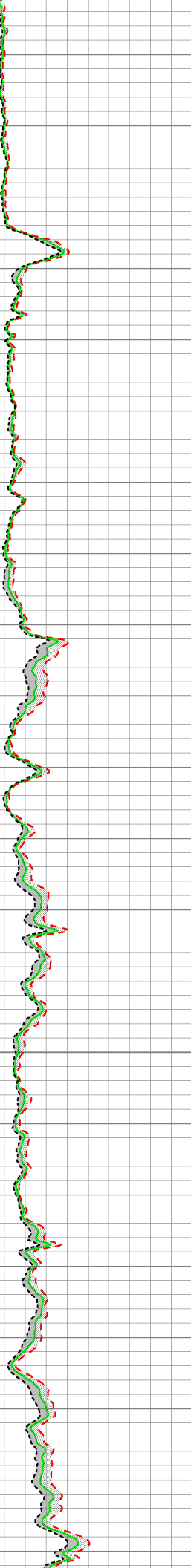
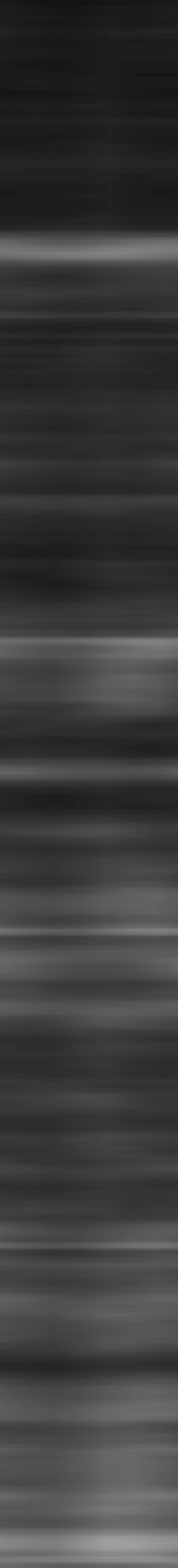
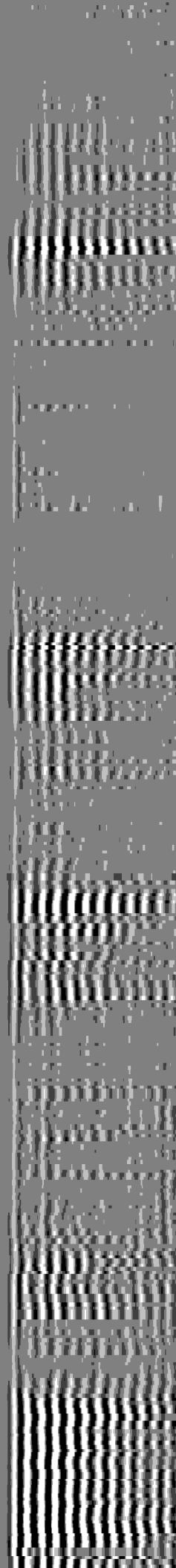
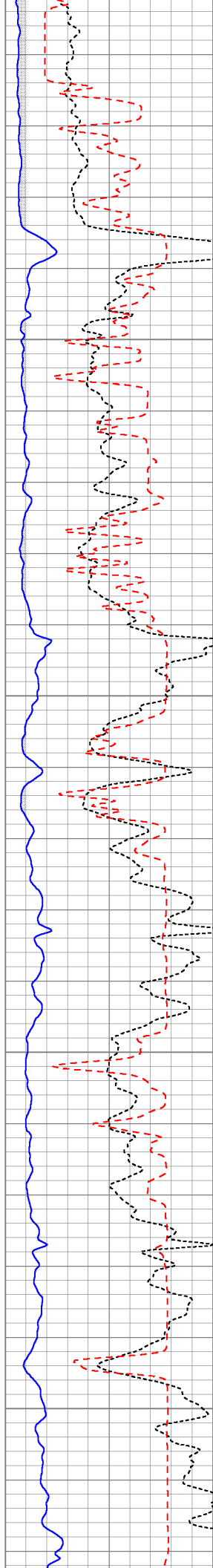
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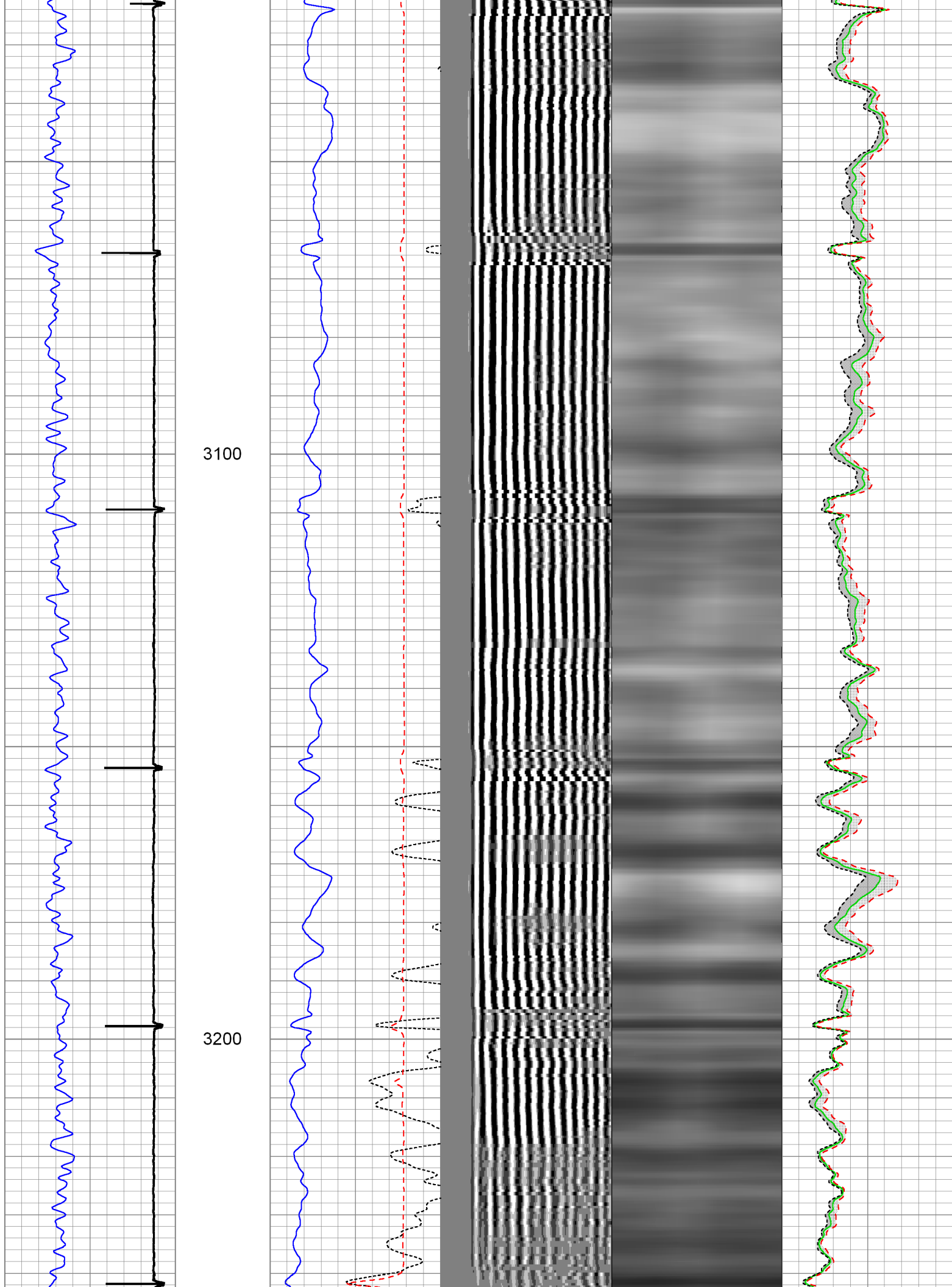
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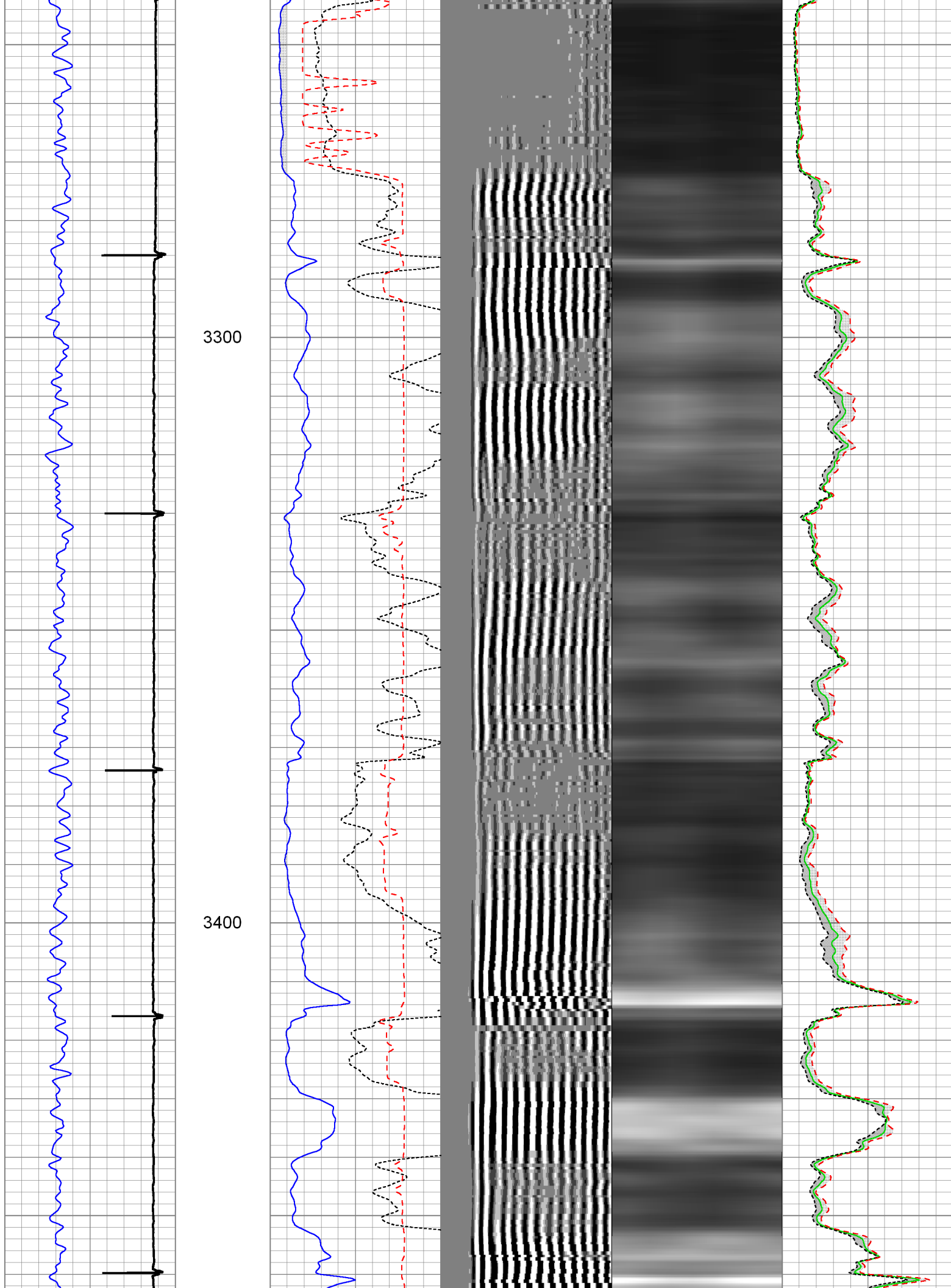
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3200



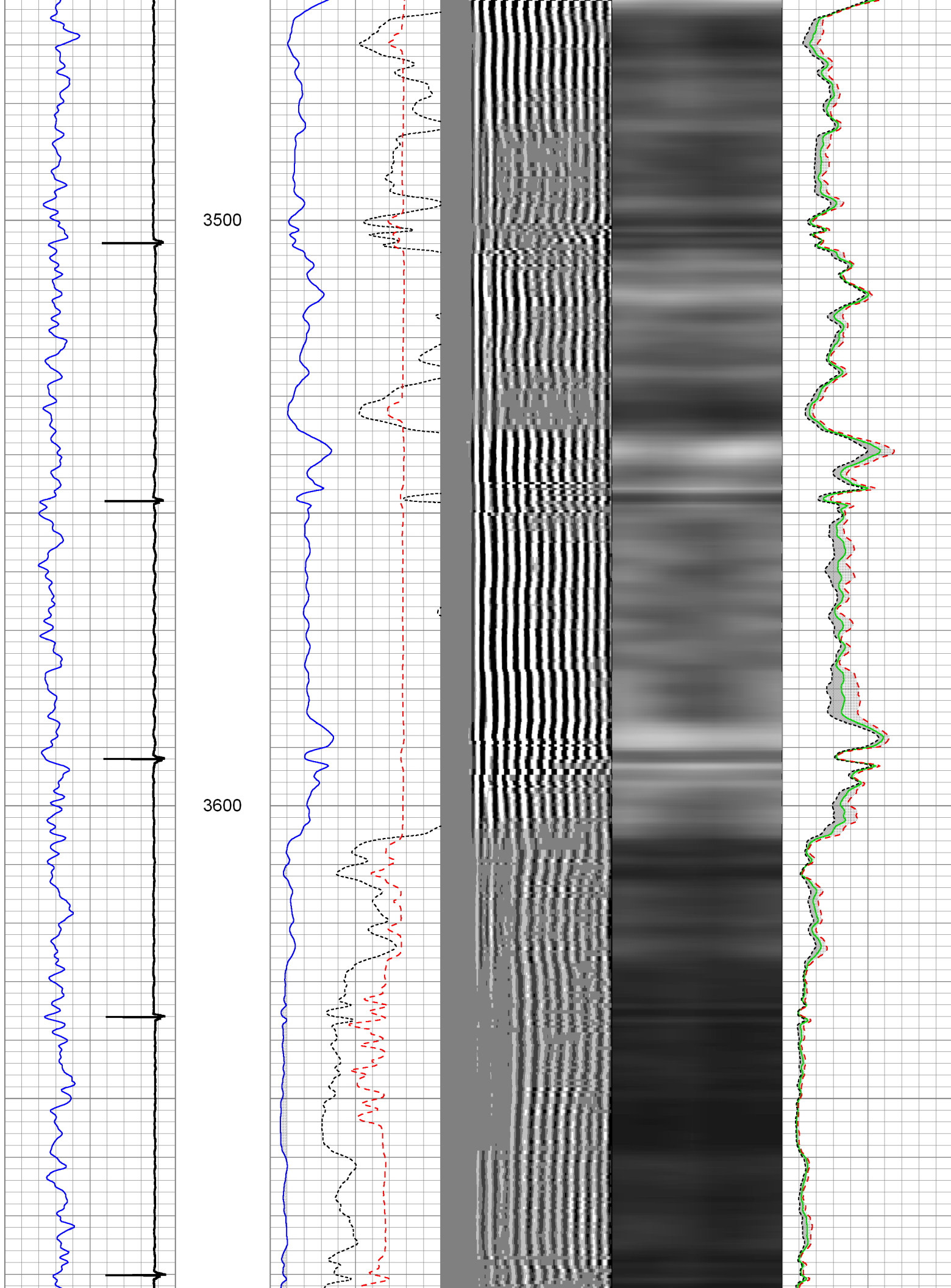
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3400



3500

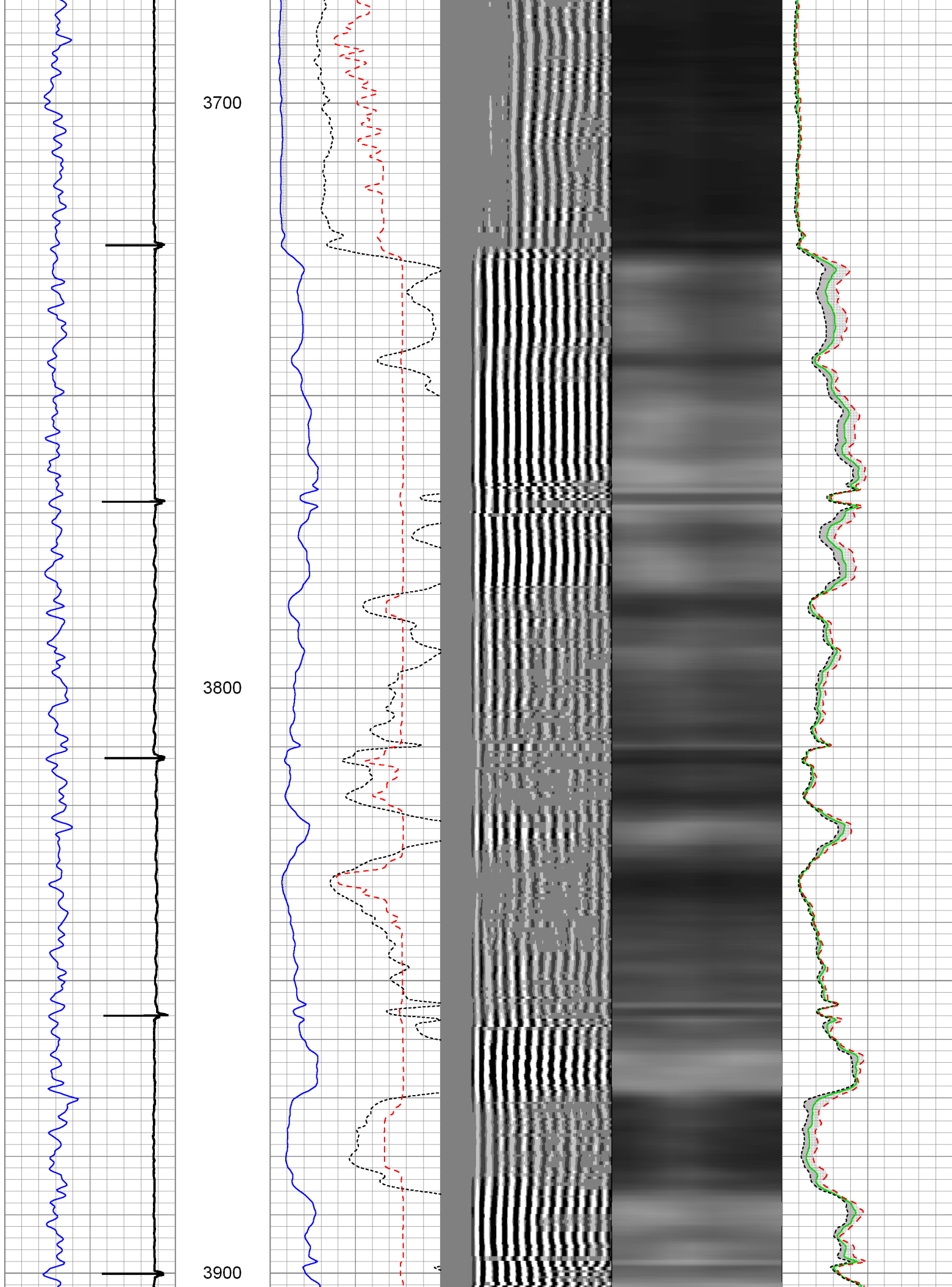
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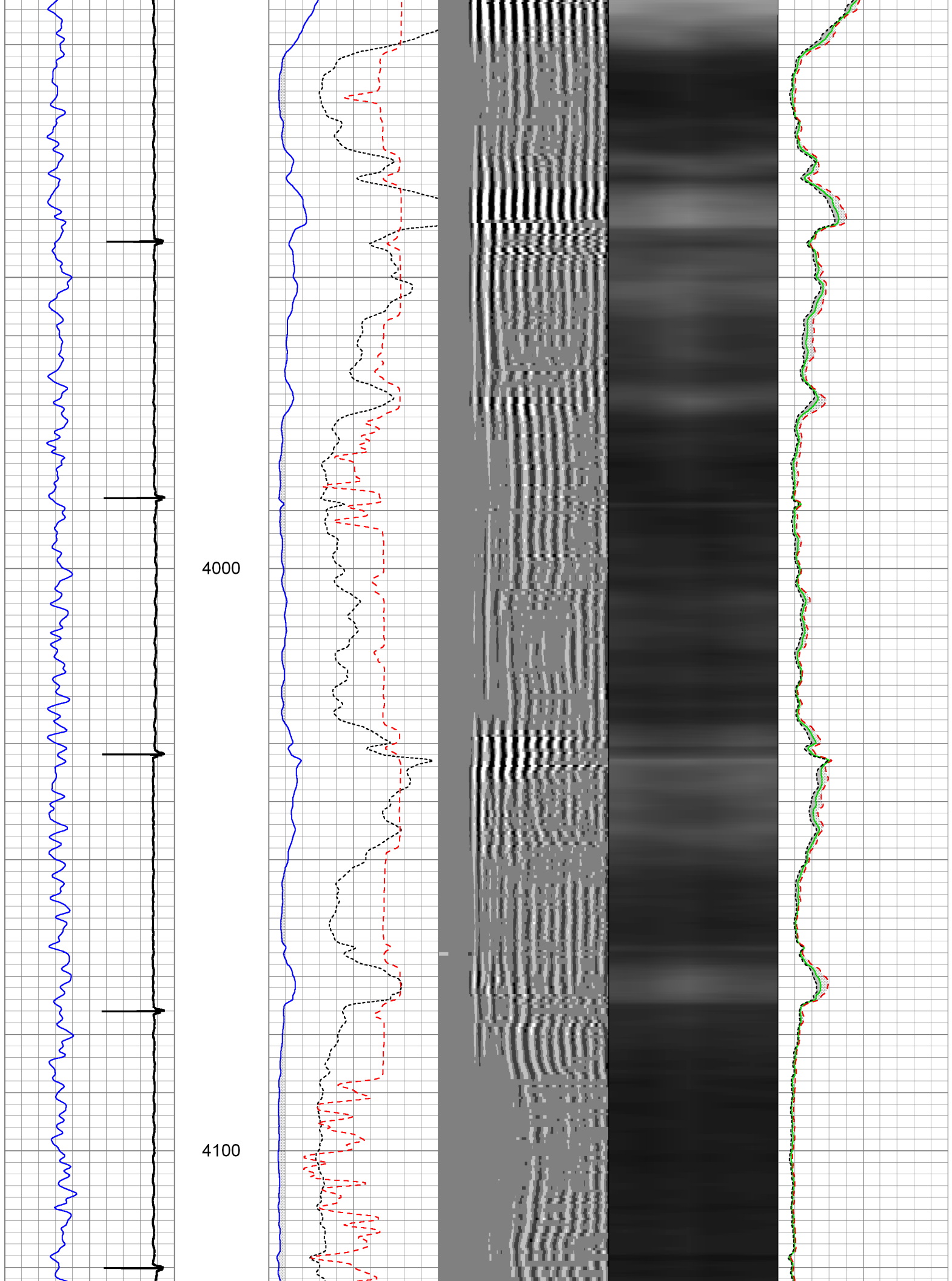


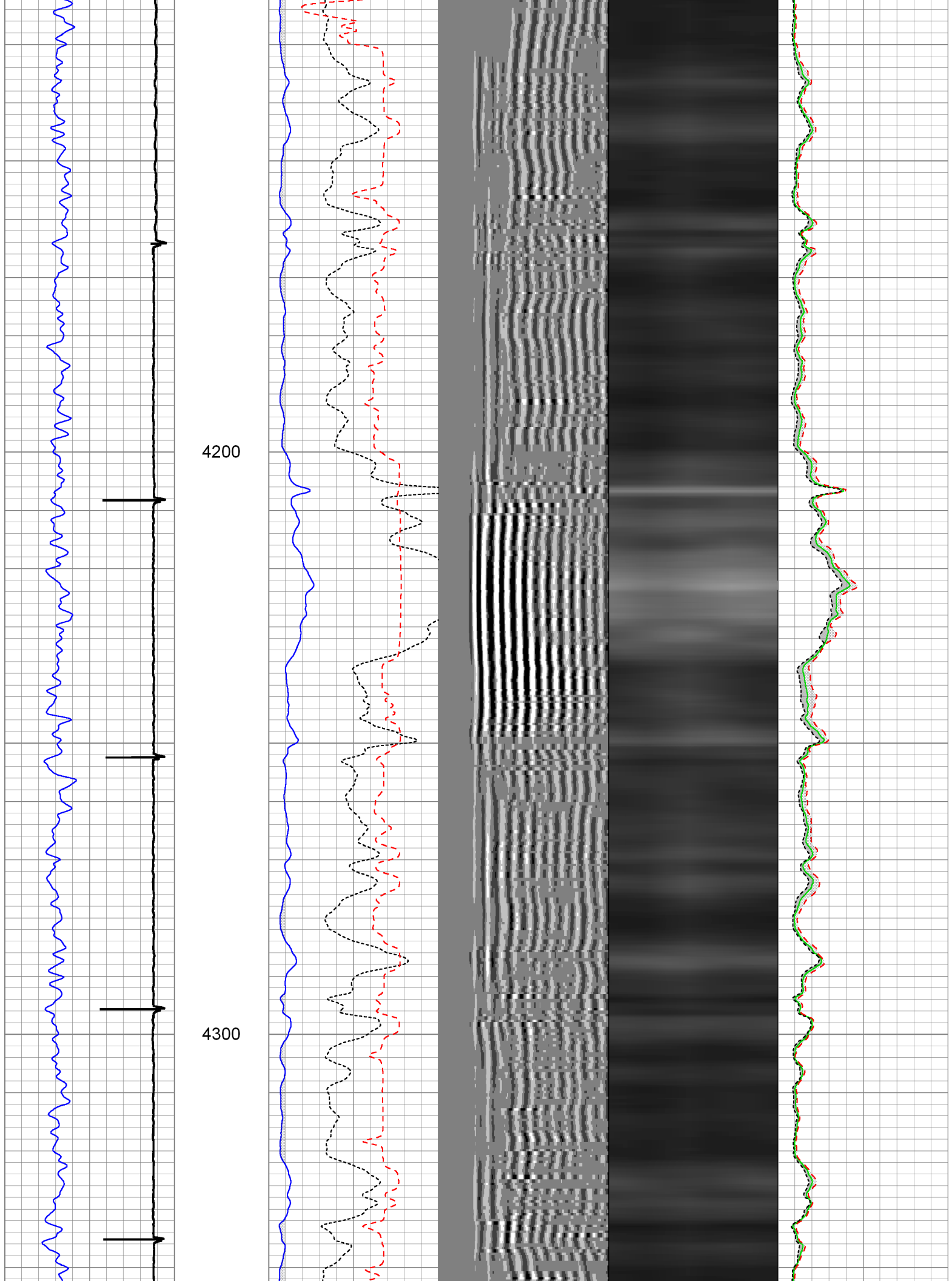
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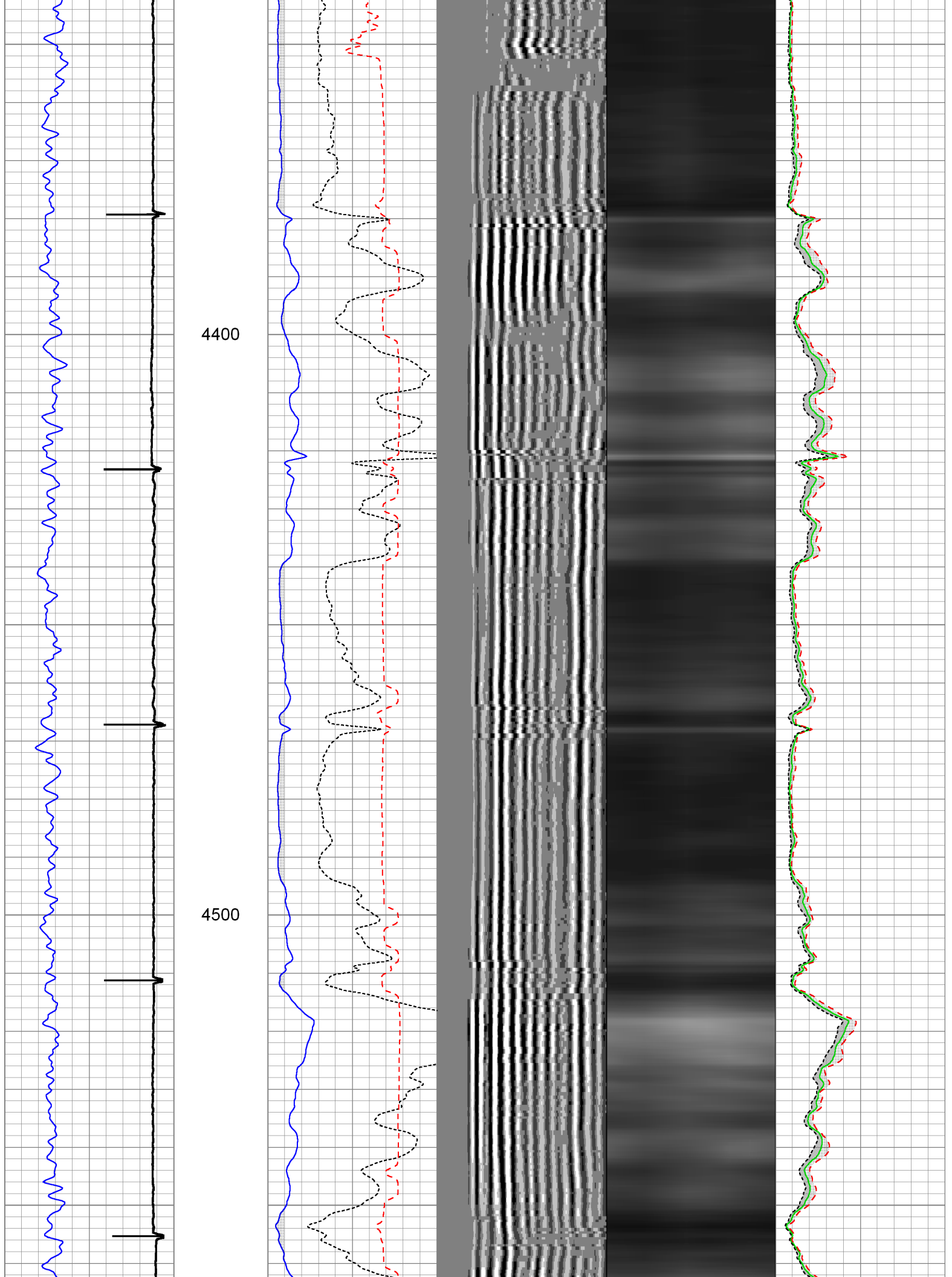
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3900



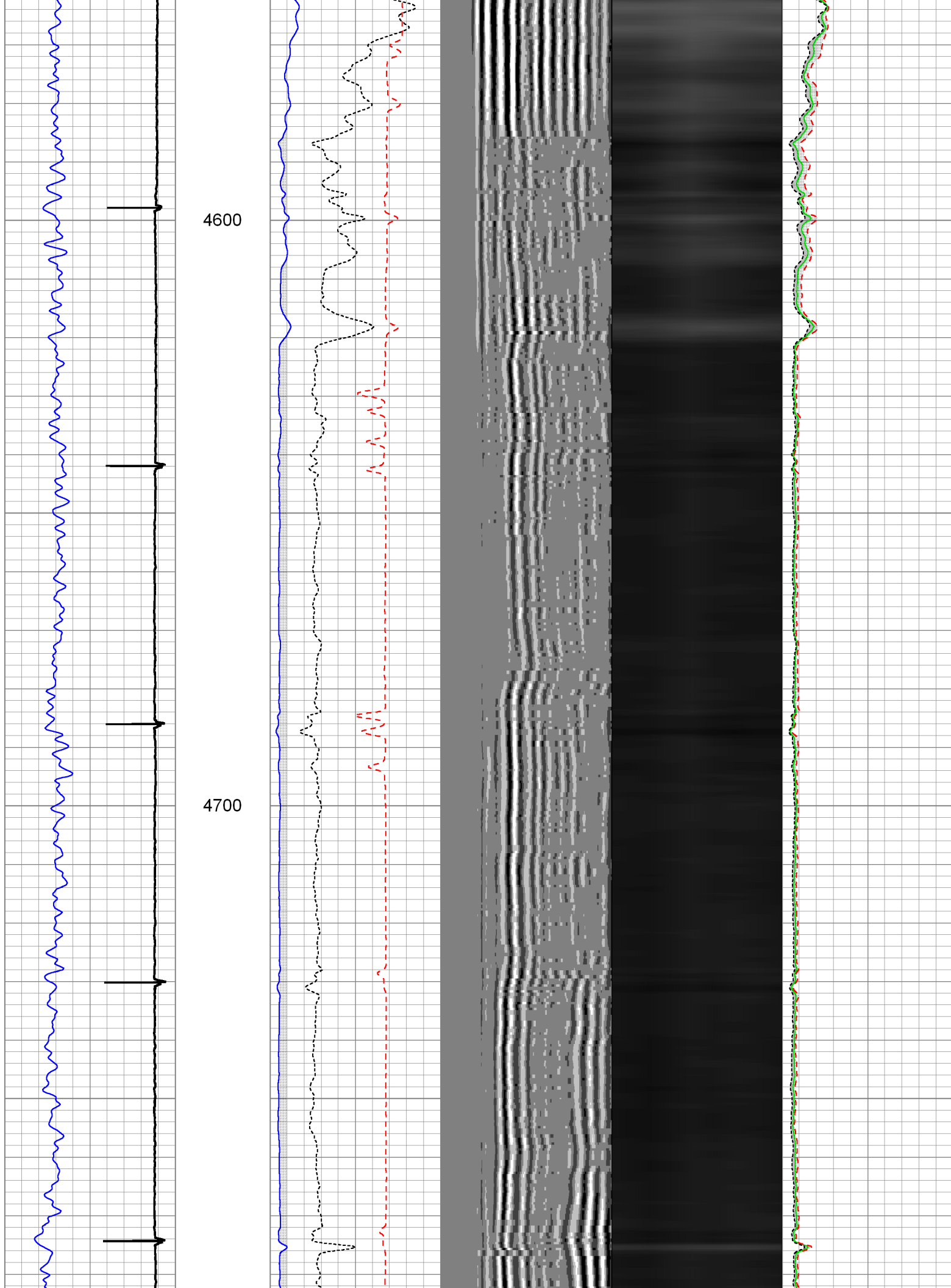






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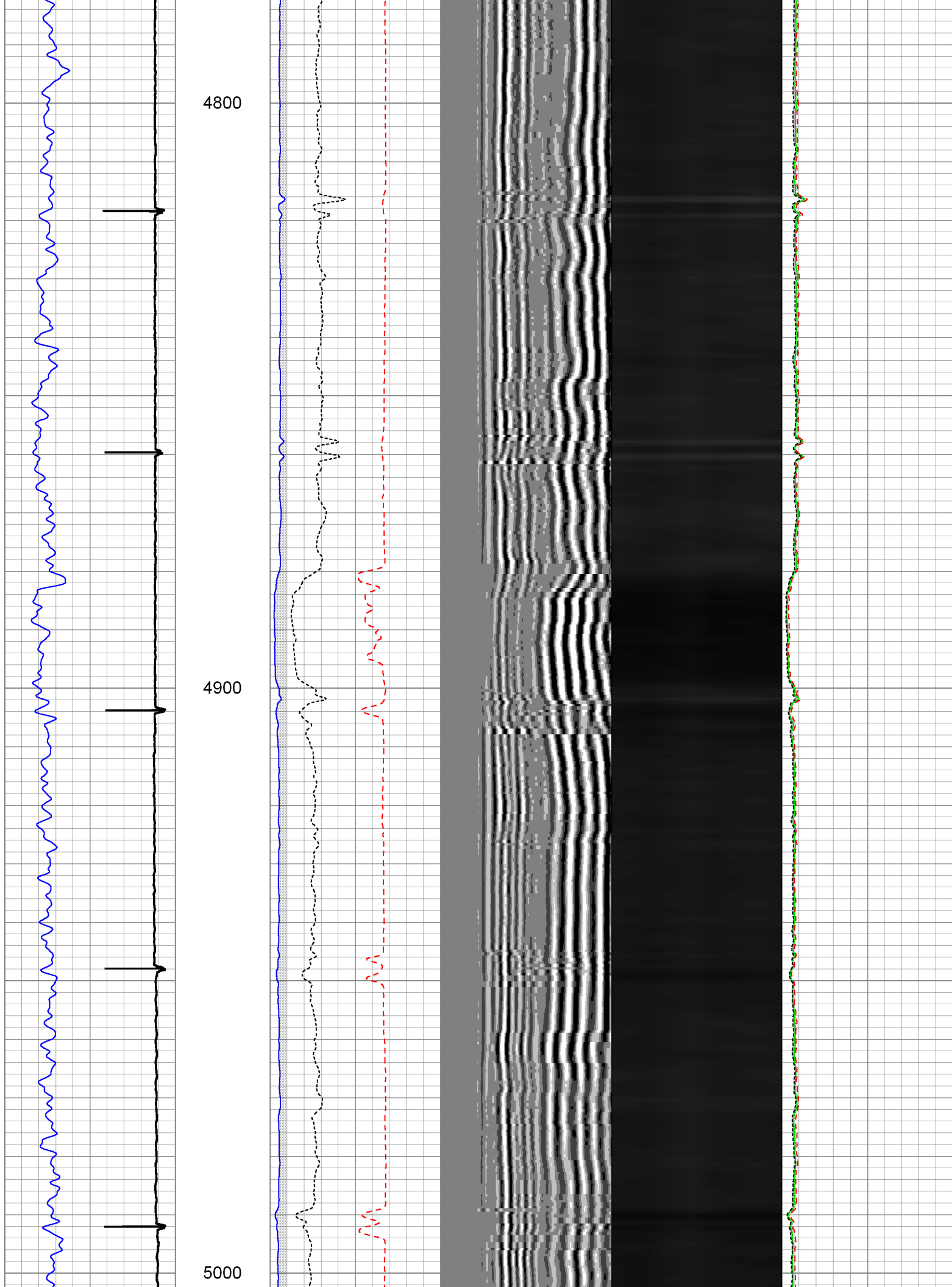
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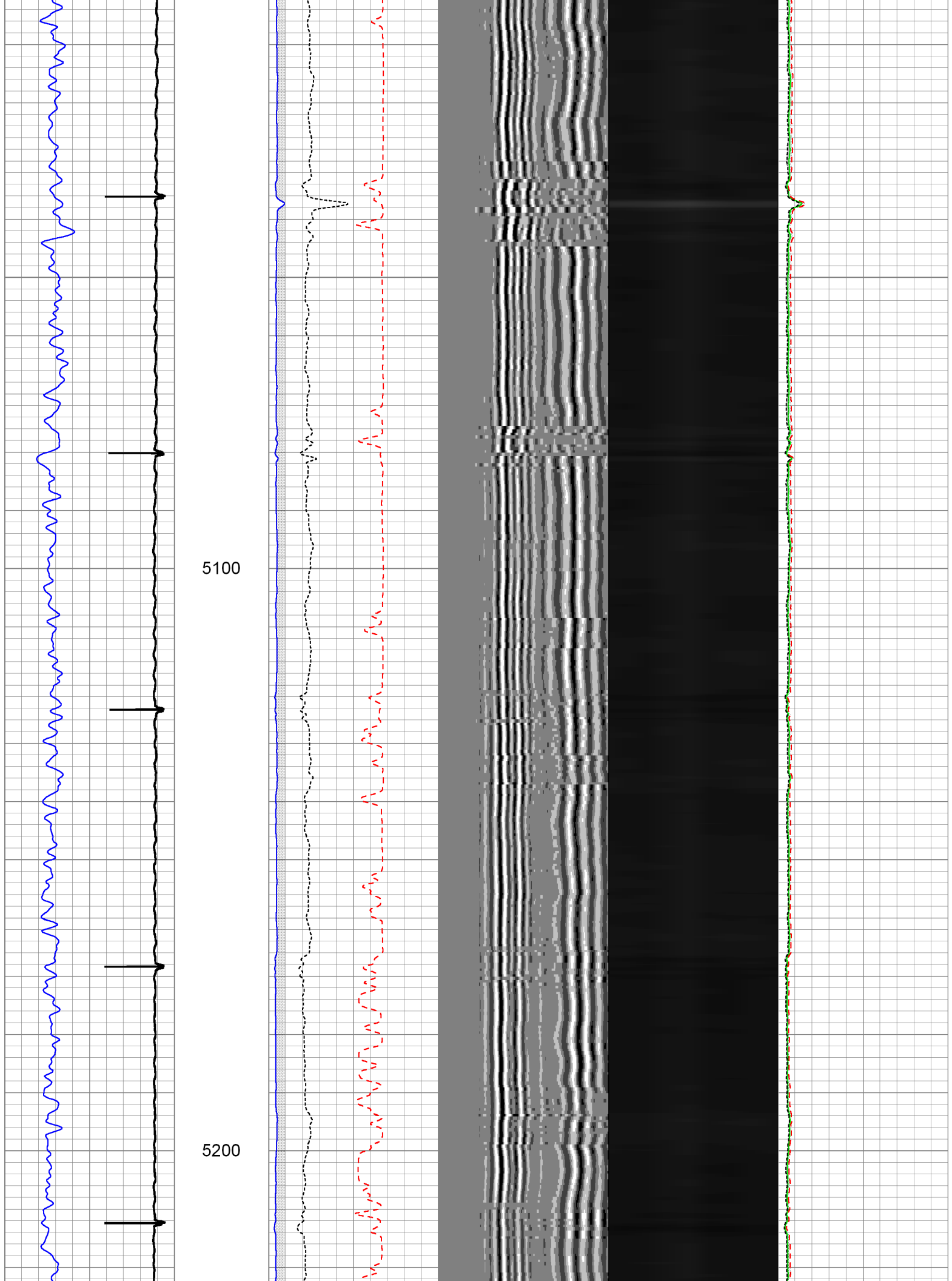


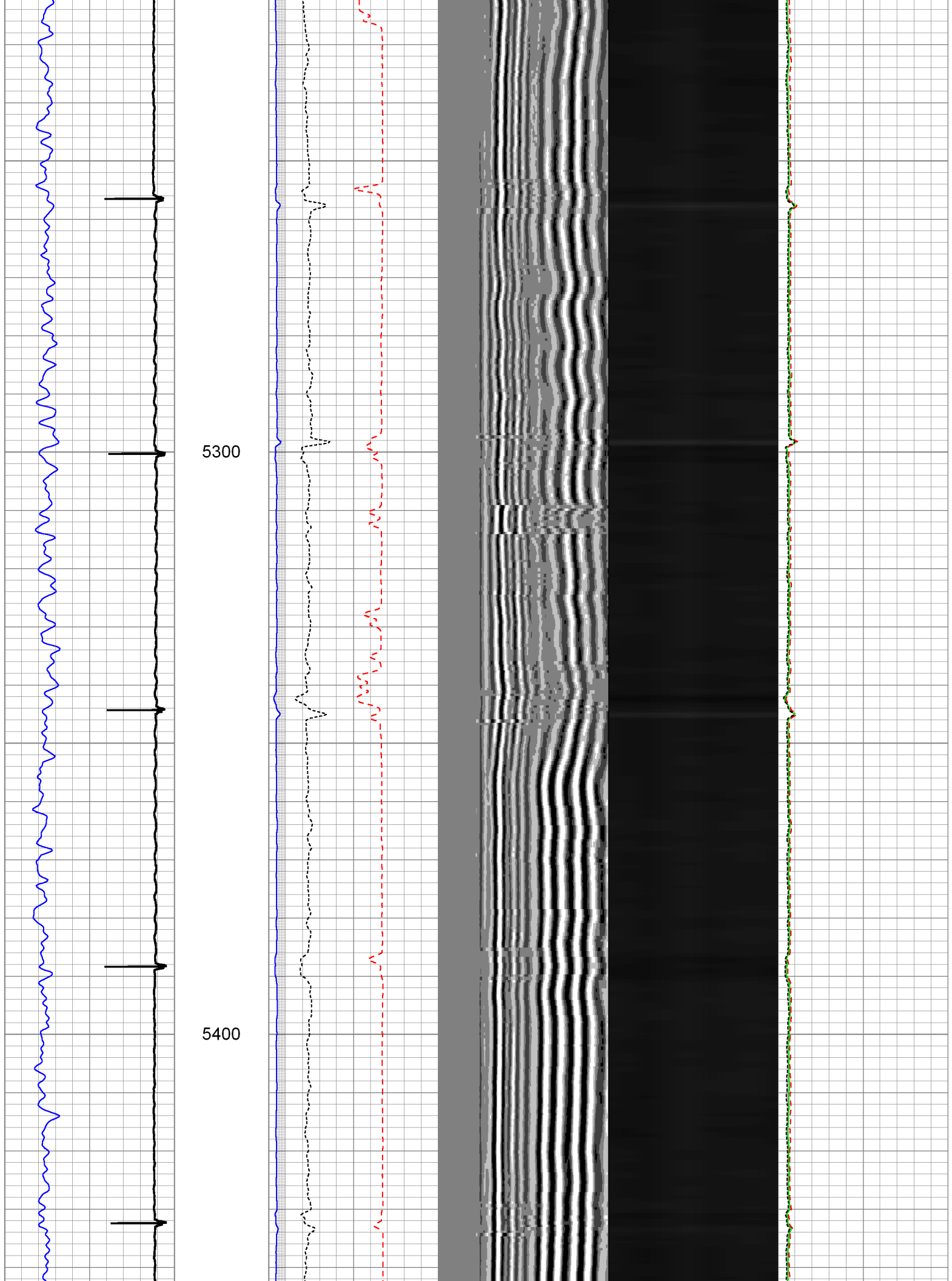
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4900

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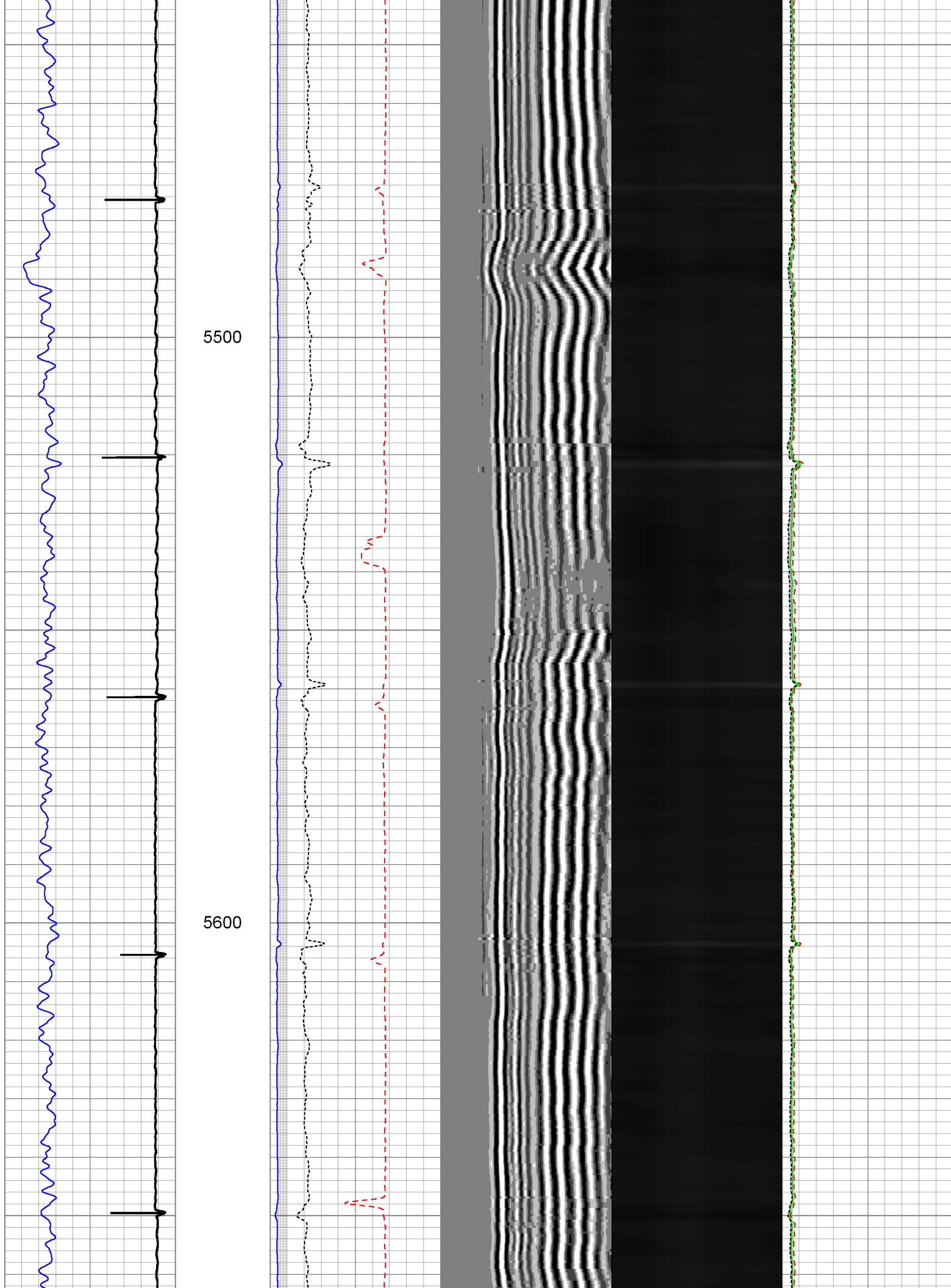






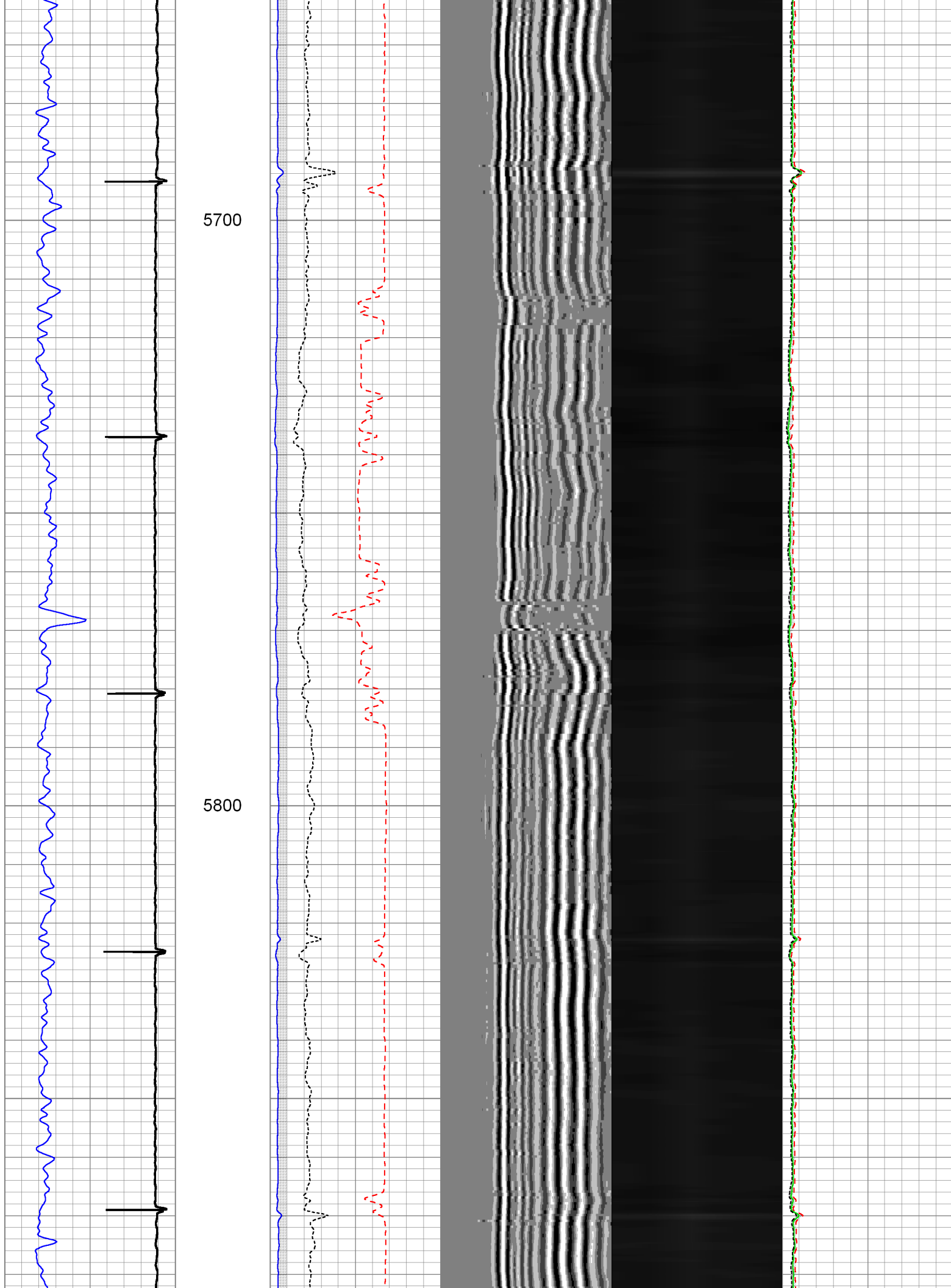
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5600



5700

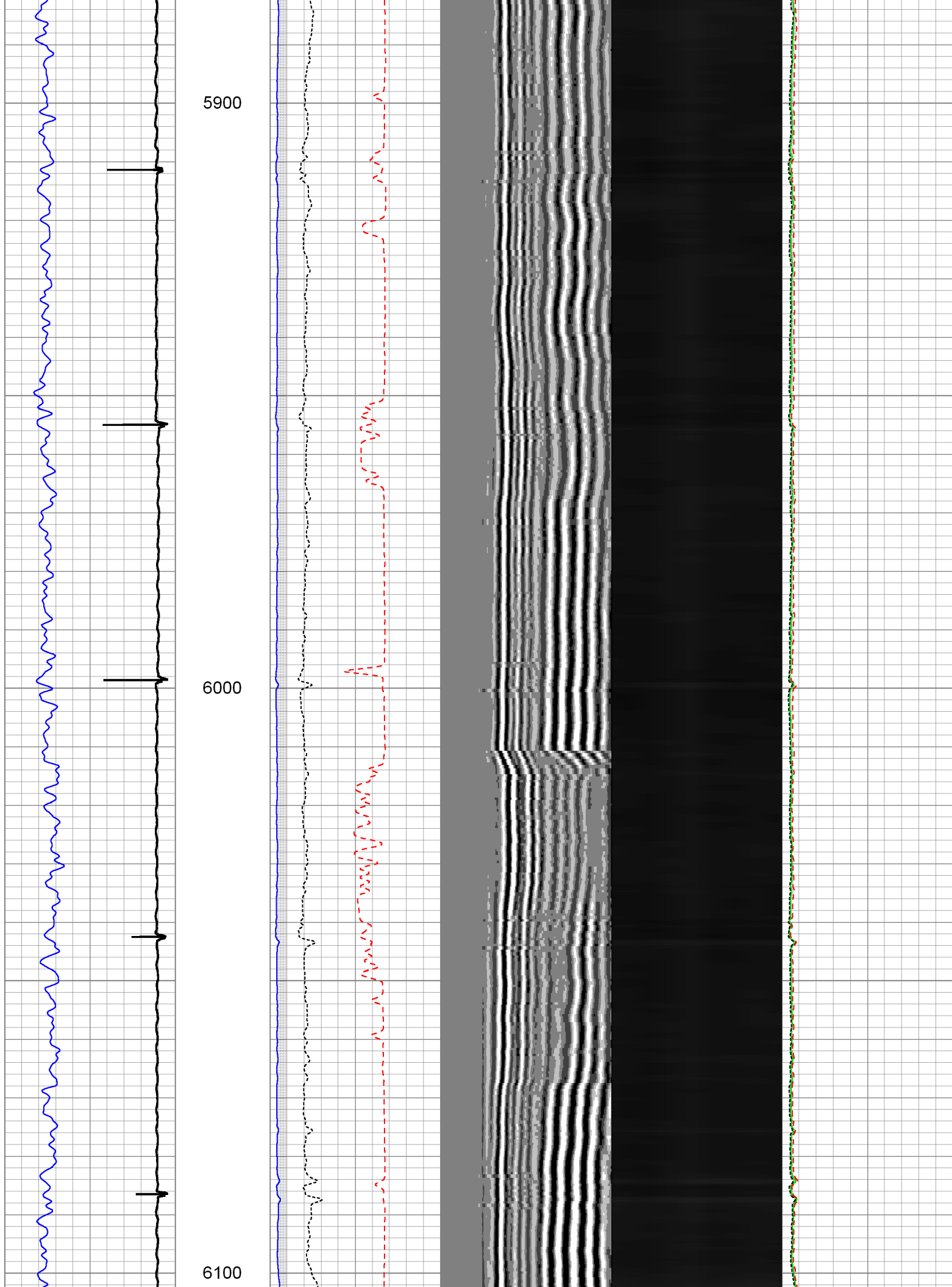
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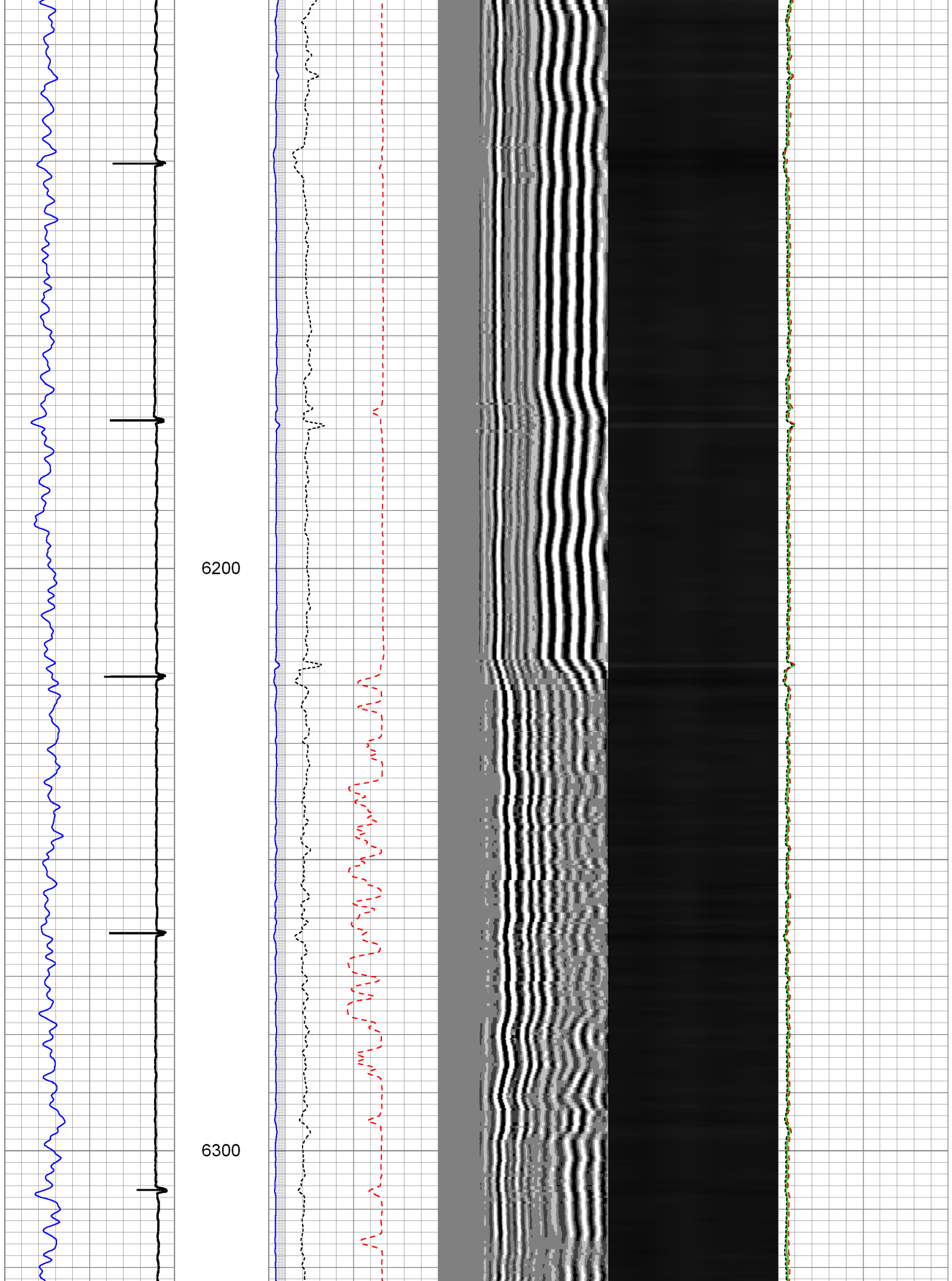


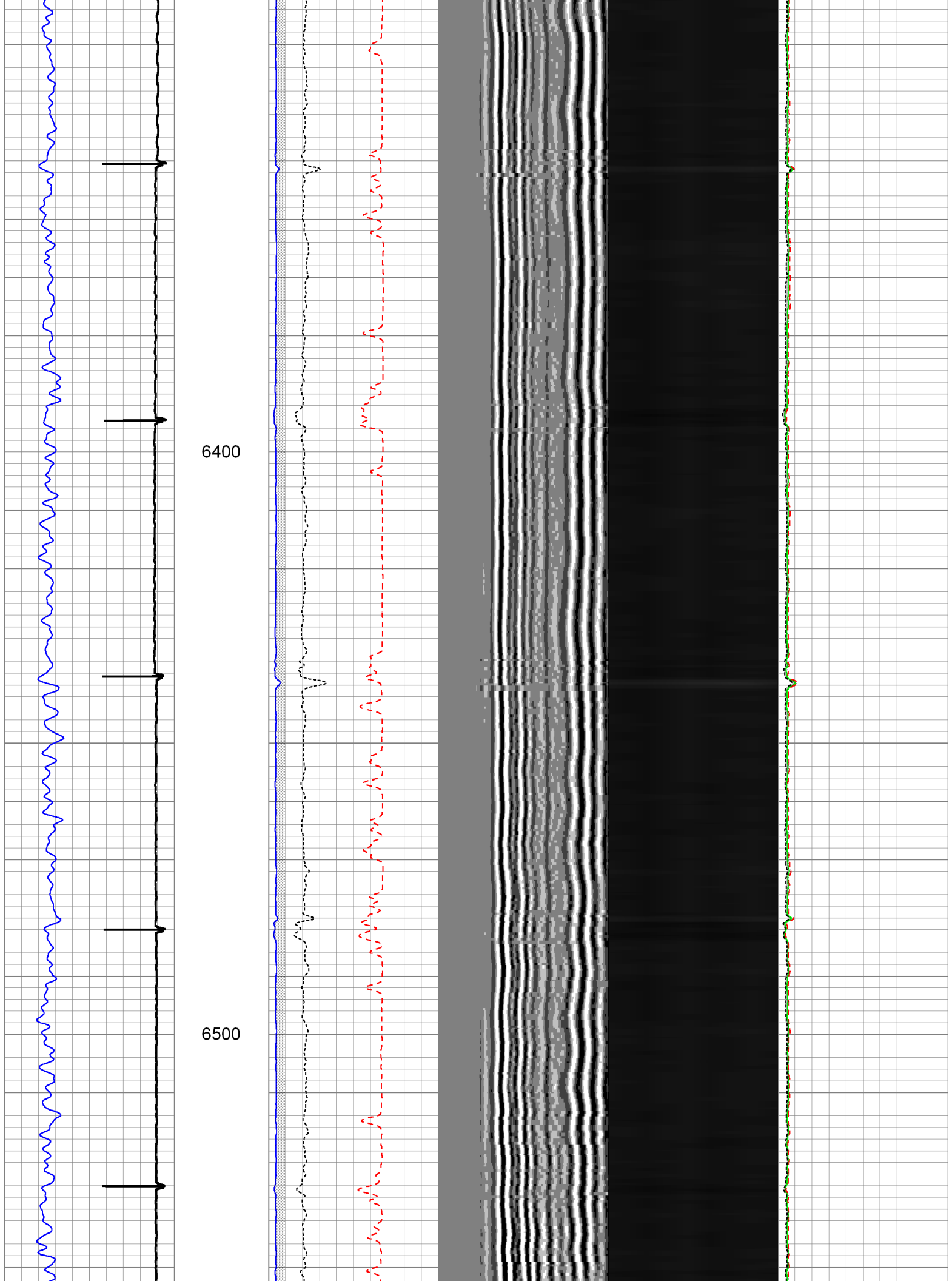
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6100

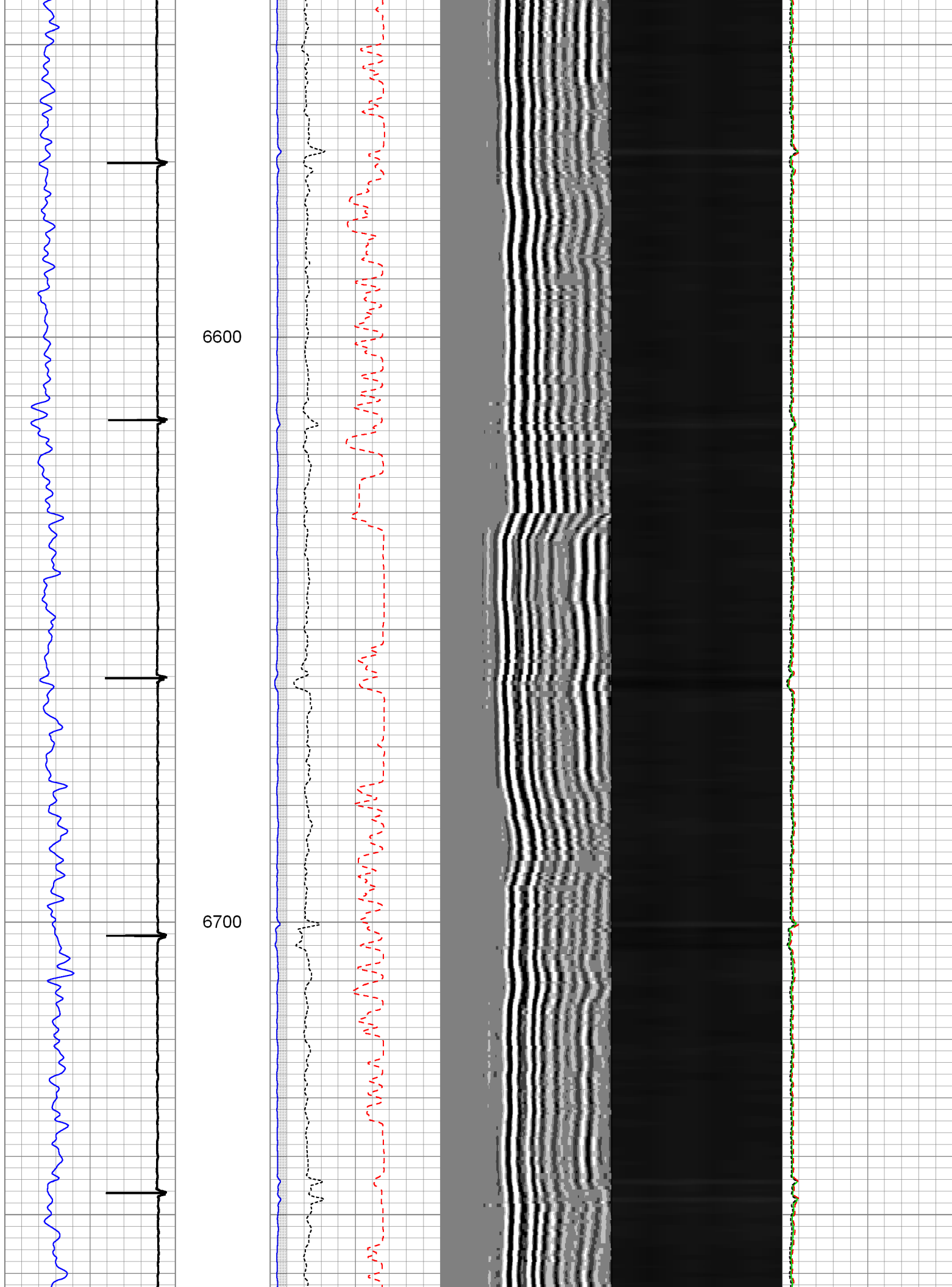






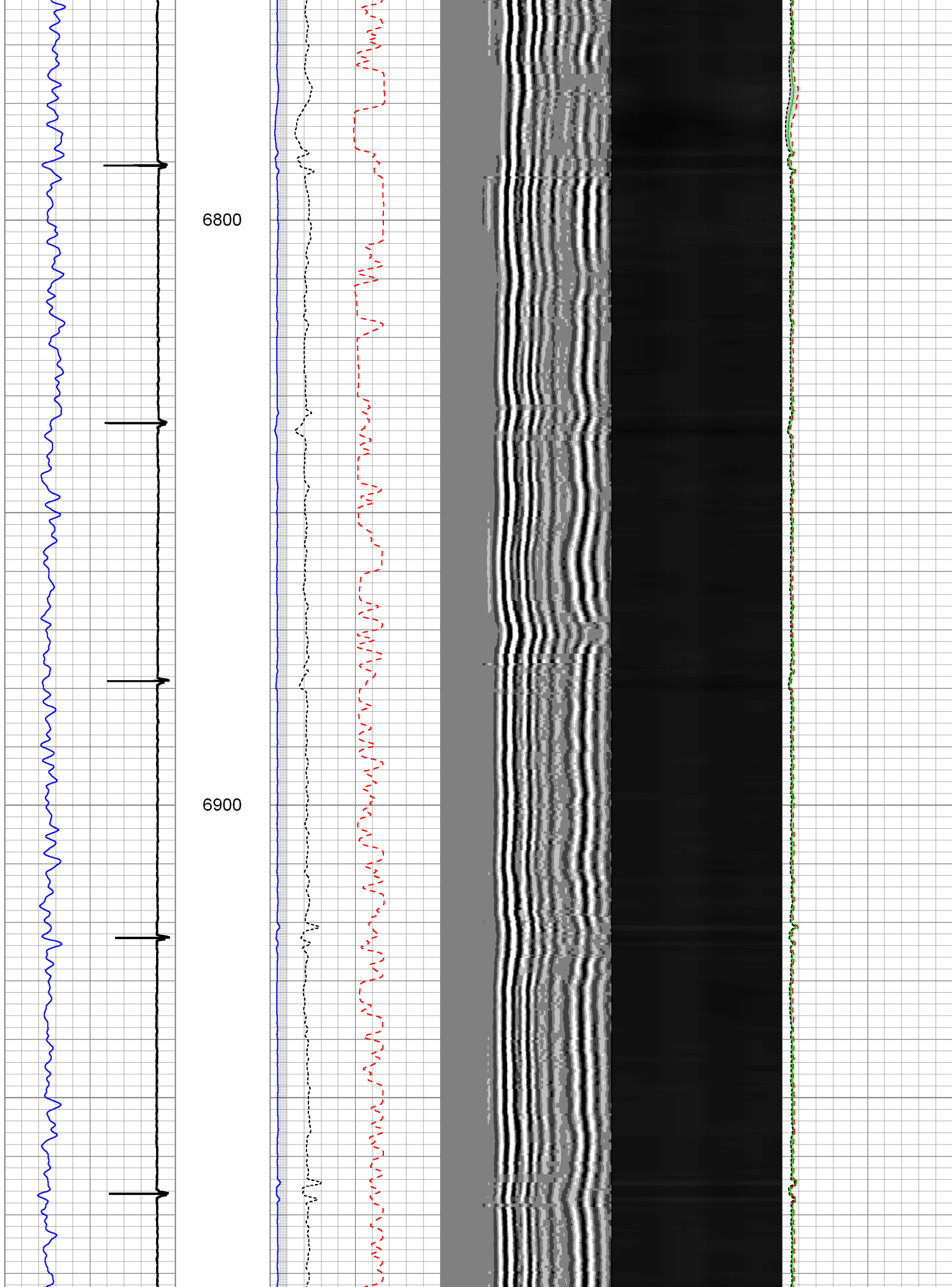
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6700



6800

6900



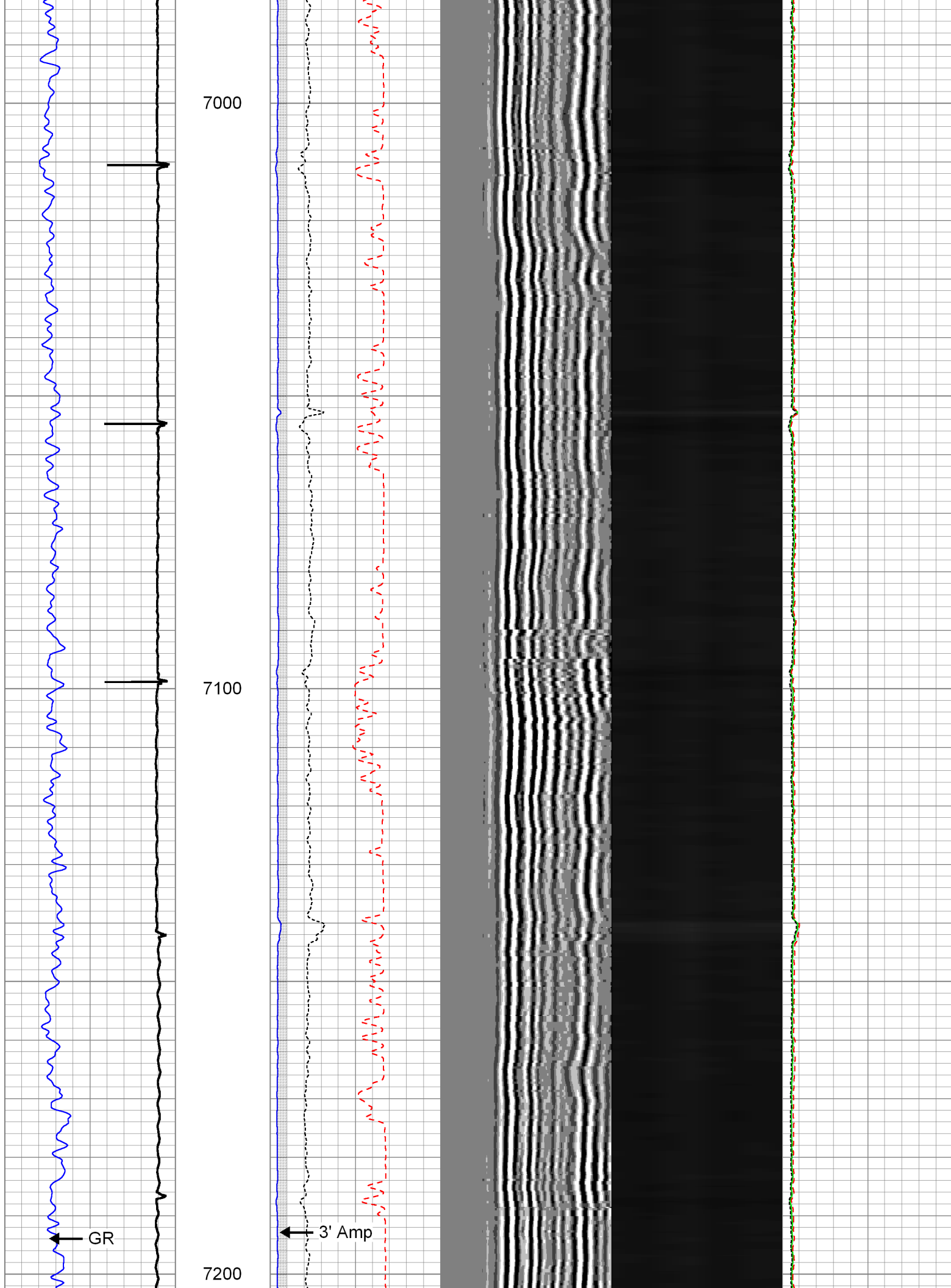
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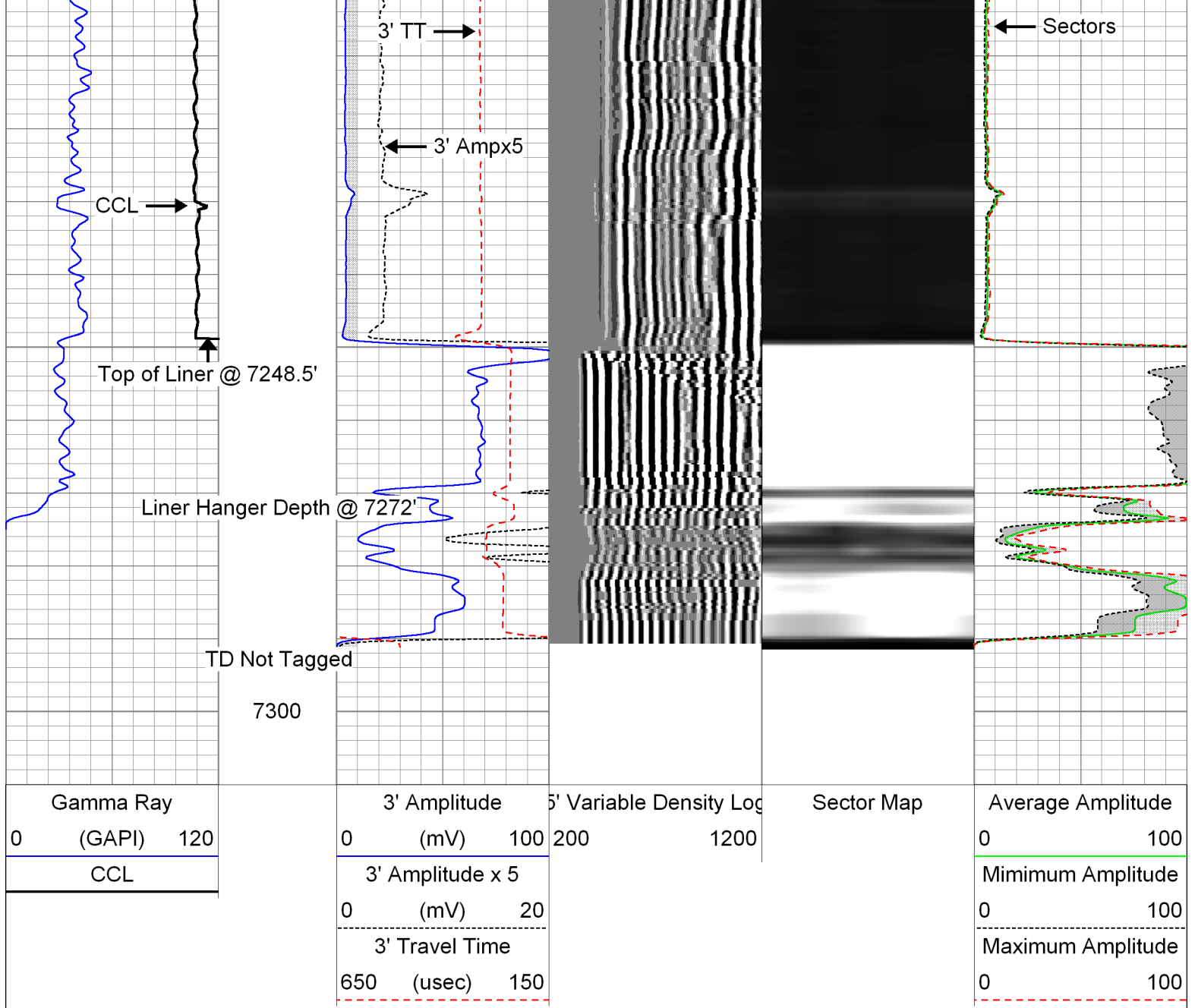
7100

7200

GR

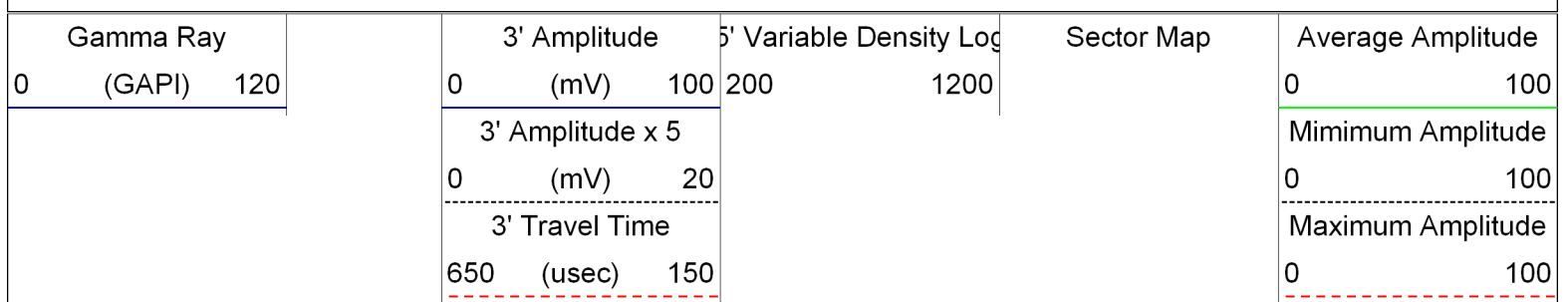
3' Amp

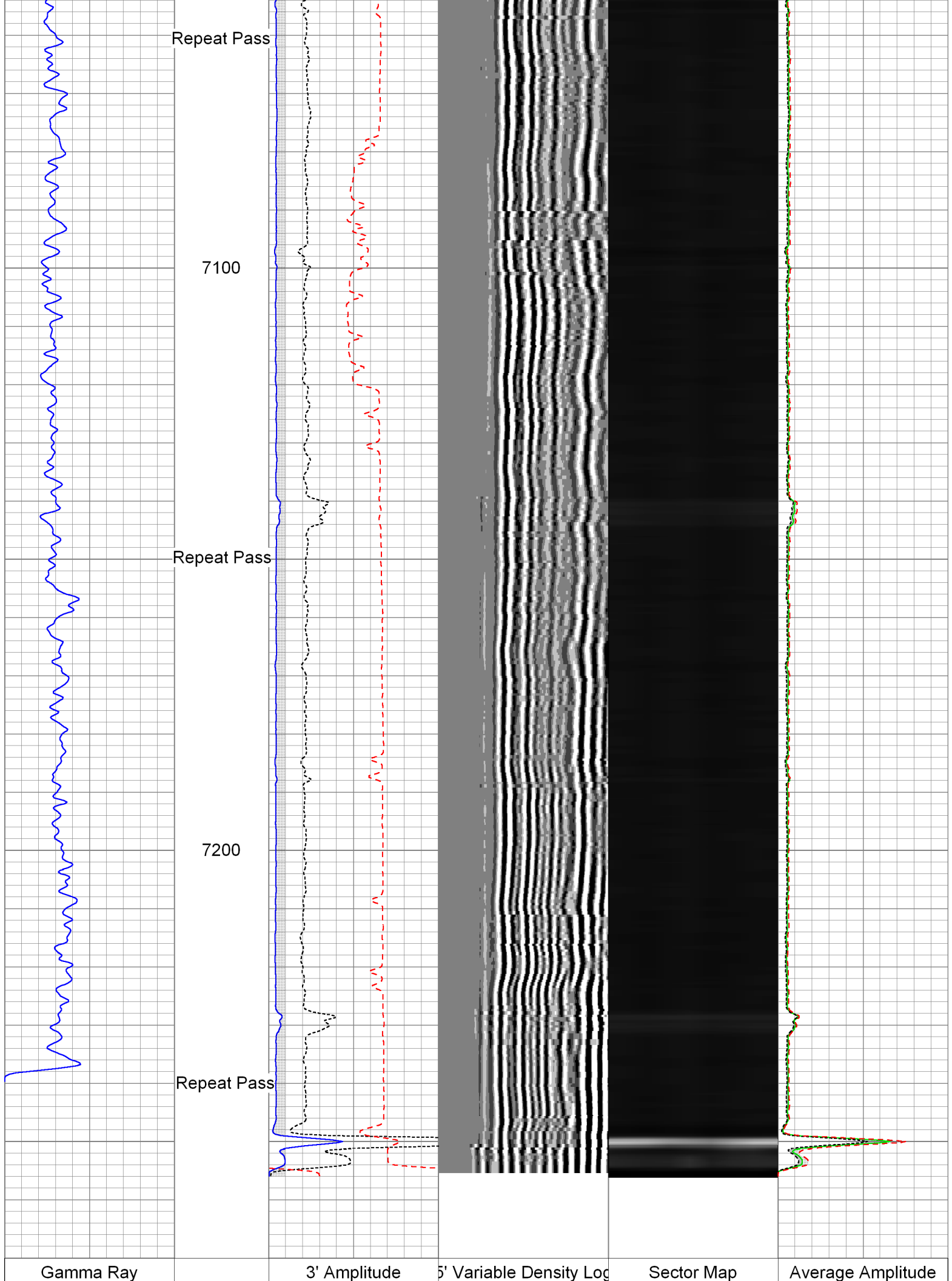




Repeat Pass

Database File: anadarko_jelts 15c-19hz_rcbl_cil_22-aug-2013_w7.db
 Dataset Pathname: repeat
 Presentation Format: rib
 Dataset Creation: Thu Aug 22 08:55:18 2013 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240





Repeat Pass

7100

Repeat Pass

7200

Repeat Pass

Gamma Ray

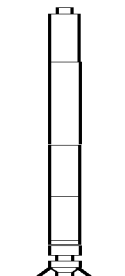
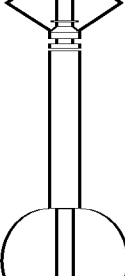
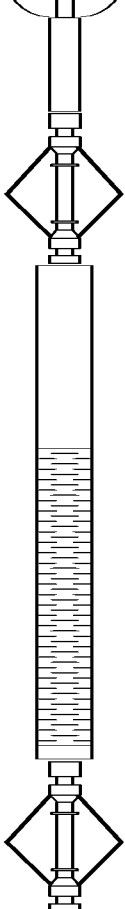
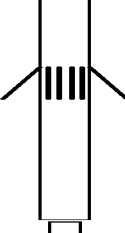
3' Amplitude

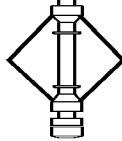
5' Variable Density Log

Sector Map

Average Amplitude

0	(GAPI)	120	0	(mV)	100	200	1200	0	100
			3' Amplitude x 5			Minimum Amplitude			
0	(mV)	20	0	(mV)	20	0	100	0	100
			3' Travel Time			Maximum Amplitude			
650	(usec)	150	650	(usec)	150	0	100	0	100

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	32.07		CHD-AES (000001) Cable Head	1.04	1.69	2.00
			XTU-001 (000001) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			PGR-020 (000001) Production Gamma Ray	1.93	1.69	9.50
			PRC-001 (000001) Production Roller Centraliser (3 Arm)	1.92	1.69	7.00
MTT	25.81		MTT-002 (000001) Magnetic Thickness Tool	6.86	1.69	30.00
			PRC-034 (000005) Production Roller Centraliser (4 Arm)	2.91	1.69	13.00
			RBT-004 (2639) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVF3FT	15.54		PRC-034 (000006) Production Roller Centraliser (4 Arm)	2.91	1.69	13.00
WVFS1	15.54					
WVFS2	15.54					
WVFS3	15.54					
WVFS4	15.54					
WVFS5	15.54					
WVFS6	15.54					
WVFS7	15.54					
WVFS8	15.54					
CBLTEMP	15.54					
CBLROT	15.54					
WVF5FT	14.54					
MIT	5.30		MIT-027 (218949) Multifinger Imaging Tool (UW 40F)	4.54	2.75	61.10

TSTAMP	0.00		PRC-057 (000007) Production Roller Centraliser (4 Arm)	2.74	2.75	32.00
			BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
Dataset: anadarko_jelts 15c-19hz_rcbl_cil_22-aug-2013_w7.db: field/well/run1/mainpass Total Length: 36.11 ft Total Weight: 315.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	anadarko_jelts 15c-19hz_rcbl_cil_22-aug-2013_w7.db		
Dataset Pathname:	aftercal		
Dataset Creation:	Thu Aug 22 14:36:50 2013 by Log Sondex V7.03		
Multi-finger Imaging Tool Calibration Report			
Serial Number:		218949	
Number of Fingers:		40	
Tool Model:		027	
Inclinometer Calibration Report			
Performed:		Mon, Oct, 06 14:03:04 2008	
Calibration Angle:		45	
		Inc X	Inc Y
Vertical:		1996	1984
Finger 1 up:		1780	1738
Finger 31 up:		2235	1756
Finger 21 up:		2216	2228
Finger 11 up:		1736	2196
Sensitivity ratio:	1.0062		
X-axis angle:	131.534		
Deviation const.:	331.322		

Finger Calibration Report							
		Performed:		Thu Aug 22 06:54:19 2013			
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1431 279.0	1710 277.0	1987 268.0	2255			
Finger 02:	1417 290.0	1707 280.0	1987 272.0	2259			
Finger 03:	1401 292.0	1693 282.0	1975 280.0	2255			
Finger 04:	1379 303.0	1682 286.0	1968 286.0	2254			
Finger 05:	1398 304.0	1702 284.0	1986 286.0	2272			
Finger 06:	1386 301.0	1687 282.0	1969 283.0	2252			
Finger 07:	1438 292.0	1730 268.0	1998 273.0	2271			
Finger 08:	1412 307.0	1719 281.0	2000 291.0	2291			
Finger 09:	1468 292.0	1760 264.0	2024 275.0	2299			
Finger 10:	1455 301.0	1756 272.0	2028 279.0	2307			
Finger 11:	1457 302.0	1759 272.0	2031 285.0	2316			
Finger 12:	1454 299.0	1753 268.0	2021 283.0	2304			
Finger 13:	1510 282.0	1792 256.0	2048 273.0	2321			
Finger 14:	1449 300.0	1749 278.0	2027 297.0	2324			
Finger 15:	1492 300.0	1792 275.0	2067 295.0	2362			
Finger 16:	1477 299.0	1776 282.0	2058 304.0	2362			
Finger 17:	1529 276.0	1805 263.0	2068 279.0	2347			
Finger 18:	1535 279.0	1814 273.0	2087 293.0	2380			
Finger 19:	1522 286.0	1808 278.0	2086 297.0	2383			
Finger 20:	1565 271.0	1836 267.0	2103 282.0	2385			
Finger 21:	1536 281.0	1817 285.0	2102 305.0	2407			
Finger 22:	1536 264.0	1800 277.0	2077 294.0	2371			
Finger 23:	1599 244.0	1843 257.0	2100 269.0	2369			
Finger 24:	1540 270.0	1810 290.0	2100 304.0	2404			

Finger 25:	1555	254.0	1809	278.0	2087	292.0	2379
Finger 26:	1499	268.0	1767	299.0	2066	306.0	2372
Finger 27:	1570	253.0	1823	281.0	2104	285.0	2389
Finger 28:	1551	241.0	1792	272.0	2064	277.0	2341
Finger 29:	1532	261.0	1793	288.0	2081	287.0	2368
Finger 30:	1266	266.0	1532	313.0	1845	317.0	2162
Finger 31:	1470	240.0	1710	271.0	1981	267.0	2248
Finger 32:	1480	271.0	1751	305.0	2056	298.0	2354
Finger 33:	1390	284.0	1674	324.0	1998	321.0	2319
Finger 34:	1524	249.0	1773	269.0	2042	256.0	2298
Finger 35:	1481	262.0	1743	285.0	2028	276.0	2304
Finger 36:	1472	268.0	1740	293.0	2033	280.0	2313
Finger 37:	1575	281.0	1856	299.0	2155	288.0	2443
Finger 38:	1321	260.0	1581	274.0	1855	269.0	2124
Finger 39:	1402	285.0	1687	291.0	1978	286.0	2264
Finger 40:	1441	275.0	1716	279.0	1995	270.0	2265

Post Survey Calibration Check								
Performed: Thu Aug 22 14:35:07 2013								
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.981	-0.009	4.946	-0.027	5.969	-0.016	6.985	-0.008
Finger 02:	3.971	-0.015	4.950	-0.025	5.967	-0.017	6.962	-0.019
Finger 03:	3.963	-0.019	4.944	-0.028	5.965	-0.017	6.976	-0.012
Finger 04:	3.961	-0.019	4.948	-0.026	5.966	-0.017	6.970	-0.015
Finger 05:	3.952	-0.024	4.950	-0.025	5.963	-0.018	6.979	-0.010
Finger 06:	3.957	-0.021	4.955	-0.023	5.967	-0.016	6.985	-0.008
Finger 07:	3.971	-0.014	4.963	-0.019	5.969	-0.015	6.987	-0.007
Finger 08:	3.977	-0.012	4.969	-0.015	5.978	-0.011	6.990	-0.005
Finger 09:	3.973	-0.013	4.964	-0.018	5.976	-0.012	6.989	-0.006
Finger 10:	3.977	-0.011	4.965	-0.018	5.973	-0.014	6.985	-0.008
Finger 11:	3.983	-0.009	4.957	-0.022	5.960	-0.020	6.979	-0.010
Finger 12:	3.989	-0.005	4.957	-0.022	5.962	-0.019	6.980	-0.010
Finger 13:	3.994	-0.003	4.958	-0.021	5.967	-0.016	6.986	-0.007
Finger 14:	3.987	-0.007	4.953	-0.023	5.961	-0.019	6.979	-0.011
Finger 15:	4.000	-0.000	4.951	-0.025	5.963	-0.018	6.980	-0.010
Finger 16:	3.996	-0.002	4.948	-0.026	5.966	-0.017	6.980	-0.010
Finger 17:	3.999	-0.001	4.953	-0.023	5.969	-0.015	6.984	-0.008
Finger 18:	3.991	-0.005	4.949	-0.026	5.964	-0.018	6.977	-0.011
Finger 19:	4.011	0.005	4.947	-0.026	5.965	-0.018	6.976	-0.012
Finger 20:	3.988	-0.006	4.939	-0.030	5.967	-0.016	6.988	-0.006
Finger 21:	3.970	-0.015	4.942	-0.029	5.966	-0.017	6.979	-0.010
Finger 22:	3.960	-0.020	4.947	-0.027	5.969	-0.016	6.981	-0.010
Finger 23:	3.957	-0.021	4.948	-0.026	5.968	-0.016	6.983	-0.008
Finger 24:	3.956	-0.022	4.946	-0.027	5.971	-0.014	6.979	-0.010
Finger 25:	3.961	-0.019	4.954	-0.023	5.972	-0.014	6.981	-0.010
Finger 26:	3.960	-0.020	4.964	-0.018	5.966	-0.017	6.979	-0.010
Finger 27:	3.960	-0.020	4.964	-0.018	5.972	-0.014	6.994	-0.003
Finger 28:	3.951	-0.024	4.958	-0.021	5.970	-0.015	6.981	-0.010
Finger 29:	3.986	-0.007	4.957	-0.022	5.968	-0.016	6.978	-0.011
Finger 30:	3.988	-0.006	4.972	-0.014	5.968	-0.016	6.980	-0.010
Finger 31:	3.983	-0.009	4.956	-0.022	5.961	-0.019	6.984	-0.008
Finger 32:	3.994	-0.003	4.958	-0.021	5.970	-0.015	6.982	-0.009
Finger 33:	3.997	-0.001	4.955	-0.023	5.966	-0.017	6.982	-0.009
Finger 34:	4.009	0.004	4.962	-0.019	5.964	-0.018	6.975	-0.012
Finger 35:	3.997	-0.002	4.949	-0.025	5.959	-0.020	6.980	-0.010
Finger 36:	3.992	-0.004	4.951	-0.025	5.970	-0.015	6.986	-0.007
Finger 37:	3.997	-0.001	4.948	-0.026	5.969	-0.015	6.986	-0.007
Finger 38:	3.982	-0.009	4.940	-0.030	5.959	-0.020	6.987	-0.006
Finger 39:	3.983	-0.009	4.941	-0.029	5.968	-0.016	6.981	-0.010
Finger 40:	3.981	-0.009	4.952	-0.024	5.976	-0.012	6.991	-0.005
Average:	3.980	-0.010	4.953	-0.023	5.967	-0.016	6.982	-0.009

Serial Number:	2639	
Tool Model:	004	
Calibration Casing Diameter:	7.000	in
Calibration Depth:	4599.603	ft

Master Calibration, performed Thu Aug 22 08:44:36 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.006	0.706	0.800	62.165	87.623	0.262
5FT	0.001	0.756	0.800	62.165	81.256	0.701
S1	0.010	0.726	0.000	100.000	139.527	-1.349
S2	0.005	0.649	0.000	100.000	155.140	-0.750
S3	0.003	0.616	0.000	100.000	163.110	-0.526
S4	0.002	0.628	0.000	100.000	159.985	-0.391
S5	0.006	0.685	0.000	100.000	147.320	-0.921
S6	0.008	0.767	0.000	100.000	131.662	-1.008
S7	0.004	0.822	0.000	100.000	122.209	-0.430
S8	0.001	0.802	0.000	100.000	124.721	-0.073

Gamma Ray Calibration Report

Serial Number:	000001	
Tool Model:	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, L.P.
Well	Jeltz 15C-19HZ
Field	Wattenberg
County	Weld
State	Colorado