



Radial Cement Bond
Gamma Ray
Casing Collar Log

Company				Kerr-McGee Oil & Gas Onshore, L.P.				
Well				Elliott State 8N-17HZ				
Field				Wattenberg				
County				Weld				
State				Colorado				
Location:				API # : 05-123-39079				
SHL: 1546' FNL & 809' FWL SWNW Lat / Long: 40.228907 / -104.920358 SEC 17 TWP 3N RGE 67W				MIT				
Permanent Datum				Ground Level		Elevation		
Log Measured From				Kelly Bushing		14 FT		
Drilling Measured From				Kelly Bushing		4813'		
Date				15-June-2014		Other Services		
Run Number				One		Elevation		
Depth Driller				12352 FT		K.B. 4827'		
Depth Logger				6539 FT		D.F. 4826'		
Bottom Logged Interval				6535 FT		G.L. 4813'		
Top Log Interval				Surface				
Open Hole Size				8.765"				
Type Fluid				Water				
Density / Viscosity				8.34 lbm/gal				
Max. Recorded Temp.				207°F				
Estimated Cement Top				170 FT				
Time Well Ready				ROA				
Time Logger on Bottom				12:00				
Equipment Number				HD-0324				
Location				Fort Lupton, CO				
Recorded By				J. Raby				
Witnessed By				Donnie Fredrick				
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 LTC	Surface	1238 FT		
Intermediate #1		7"	26	HCP-110 LTC	Surface	7442 FT		
Intermediate #2								
Liner		4 1/2"	11.6	P-110 DQXLTC	6507 FT	12337 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.
All wireline depths measured from KB zero at 14 FT.
Depth reference to Casing Tally reported Liner Top at 6507 FT.
Adjusted log +1 FT from KB zero to correlate with Liner Top.
Retrievable Bridge Plug set at 6610 FT.
Log ran from below Liner Top to surface.
Log ran with 2200 PSI surface induced pressure.

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



Main Pass

Recorded with 2200 PSI surface induced pressure.

Database File: 0512339079_anadarko_elliott state 8n-17hz_06-15-2014_mit_rbl.db

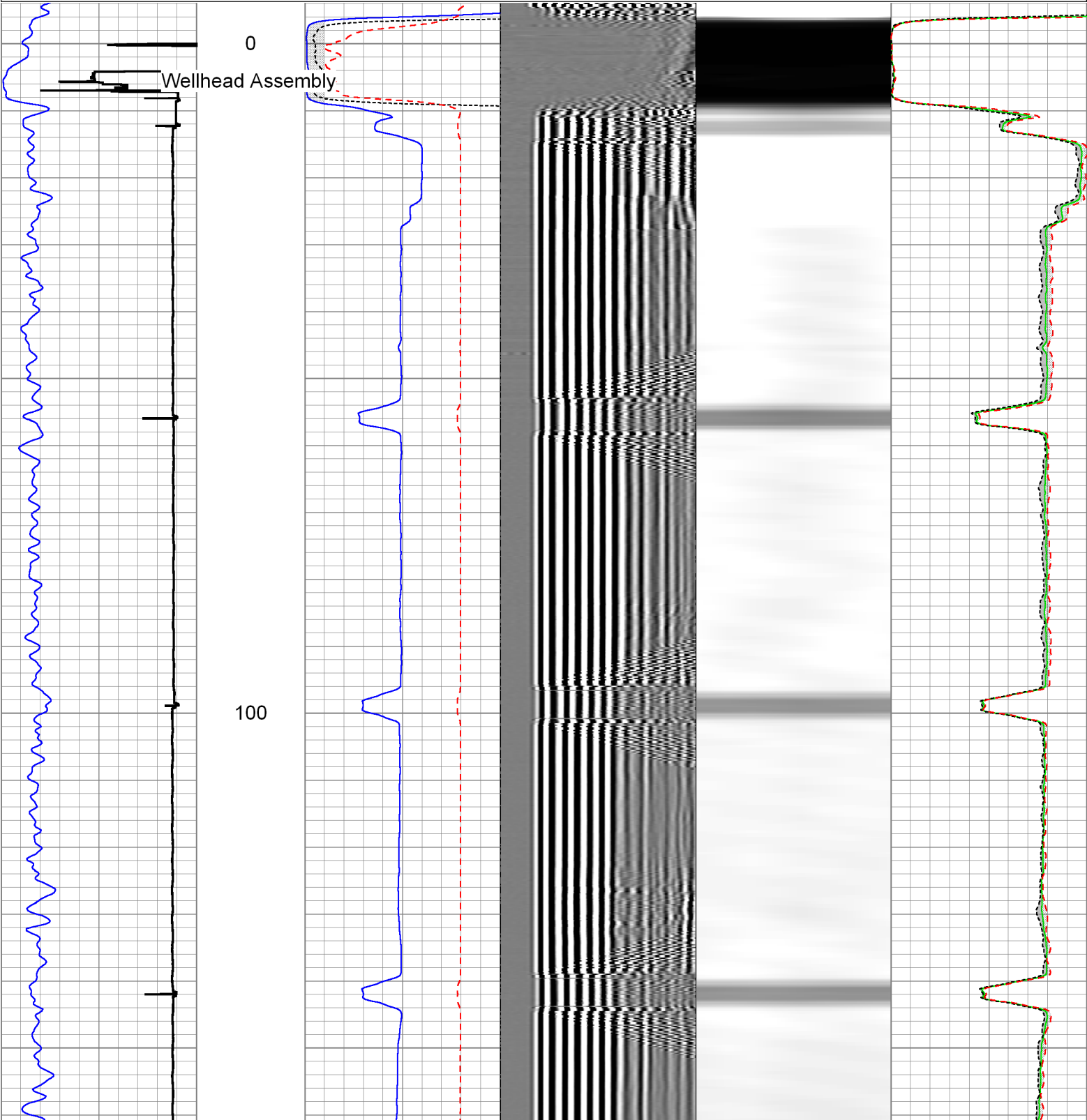
Dataset Pathname: pass3

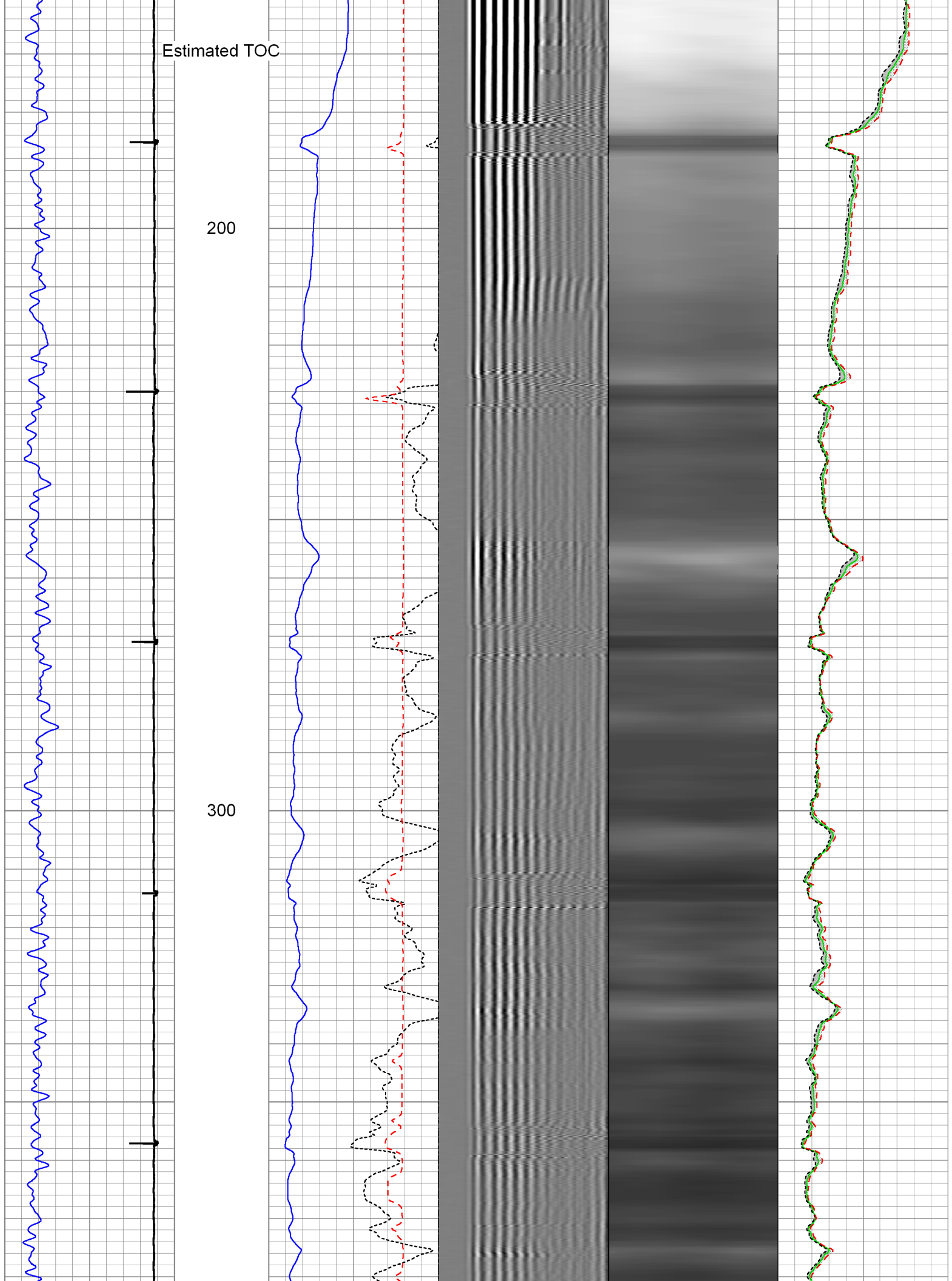
Presentation Format: rbt4_mit

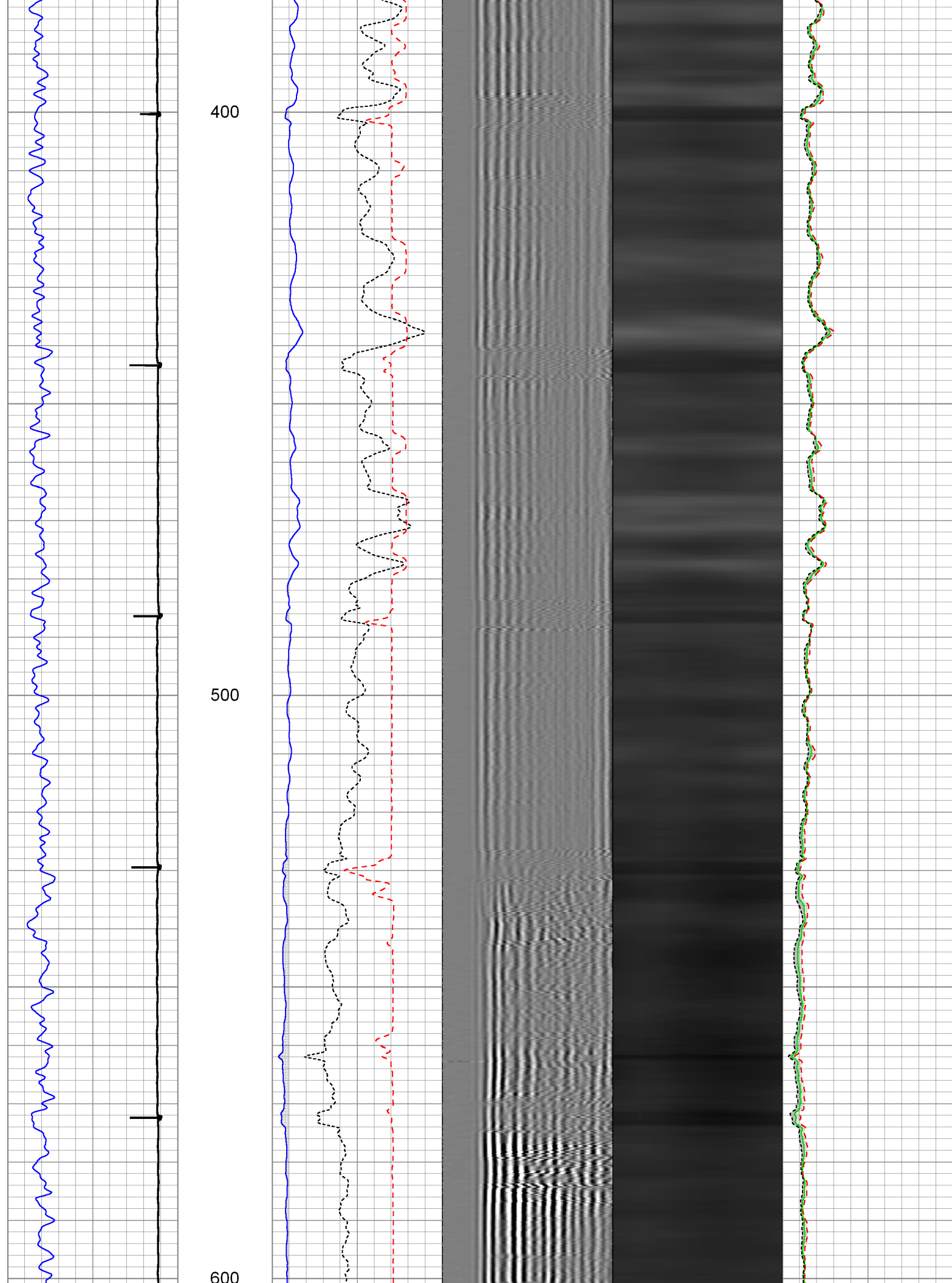
Dataset Creation: Sun Jun 15 12:01:52 2014 by Log 7.0 B1

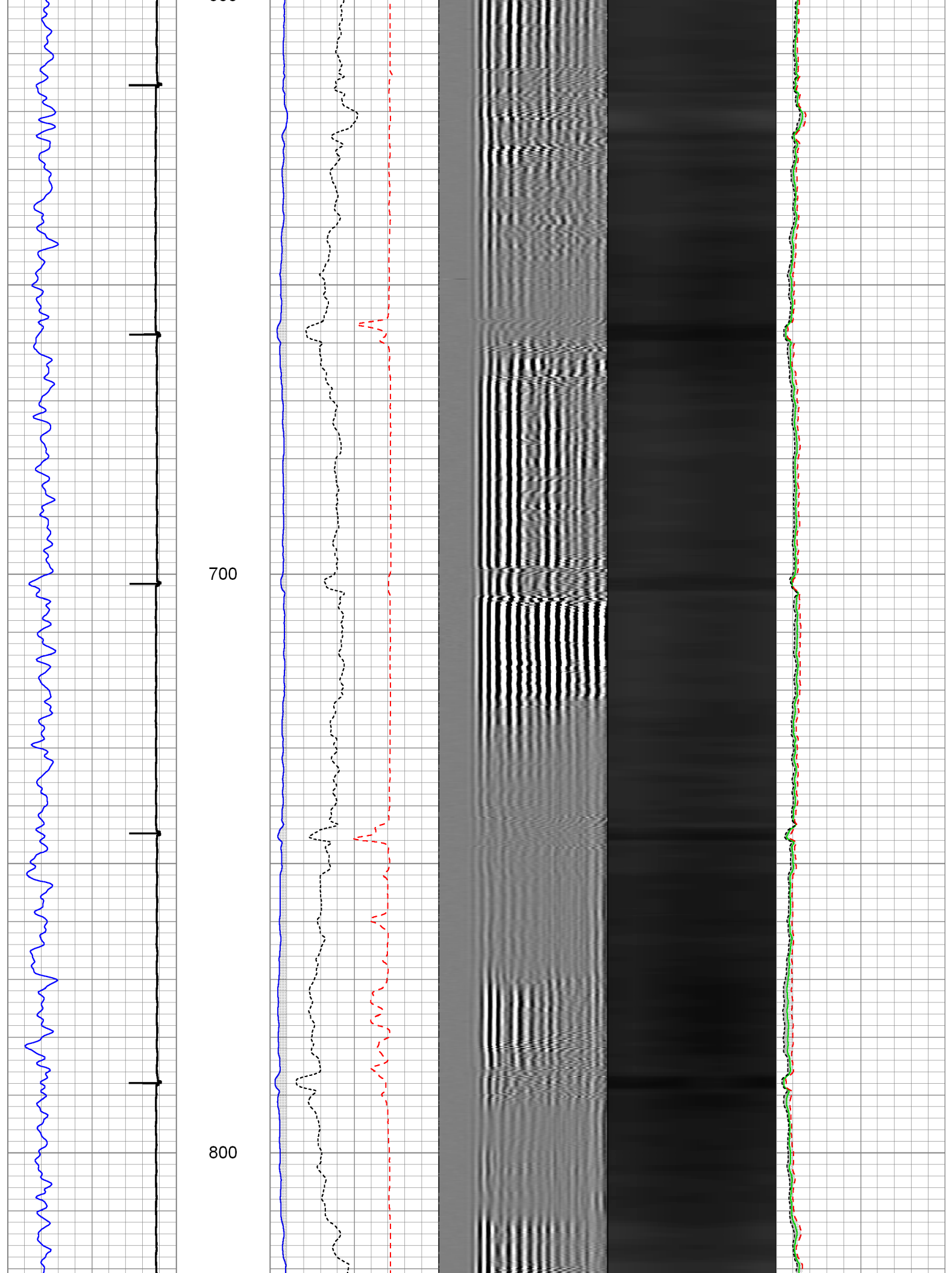
Charted by: Depth in Feet scaled 1:240

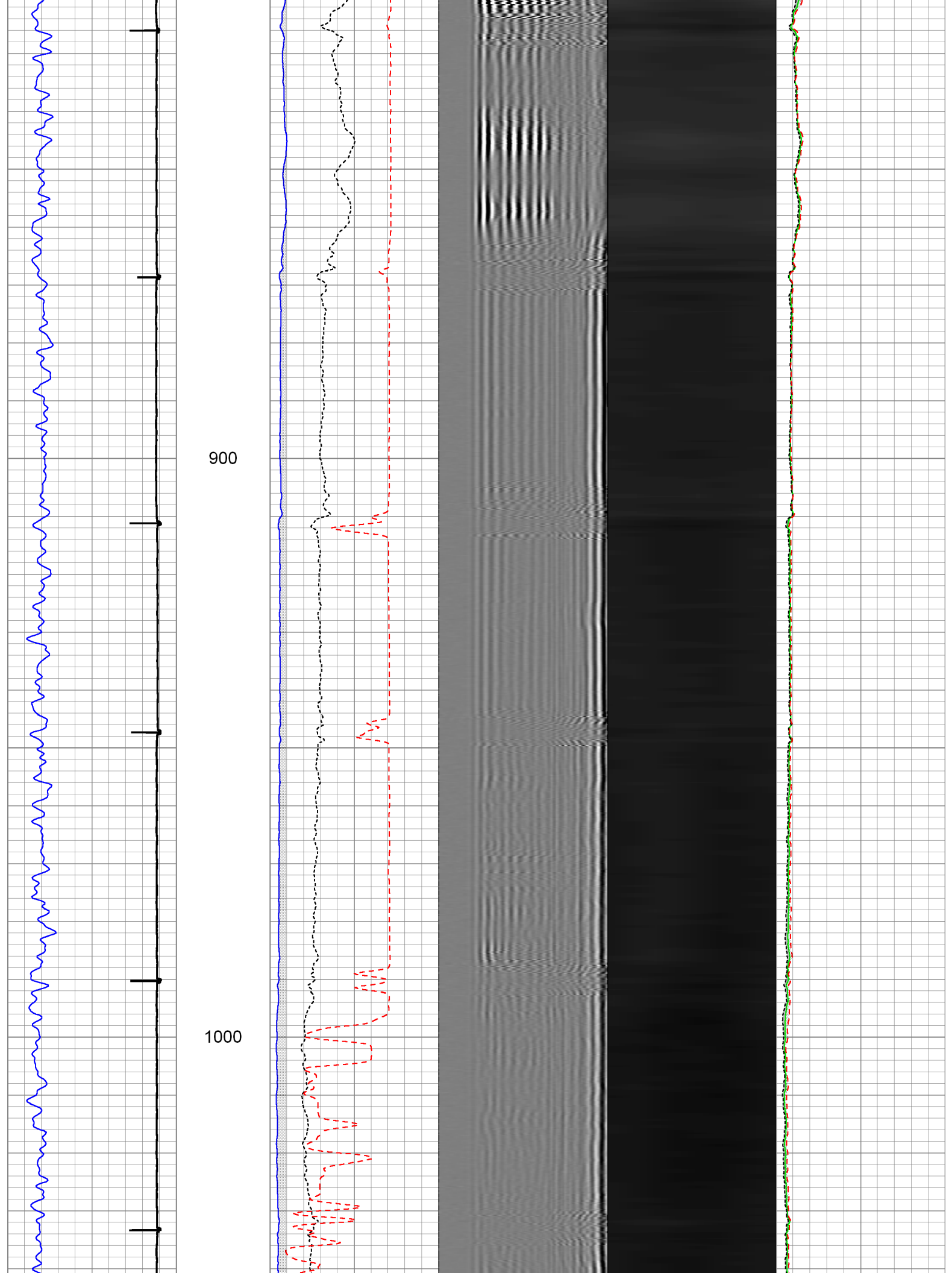
Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120		0 (mV) 100	200 1200		0 100
Casing Collar Locator		3' Amplitude x 5			Minimum Amplitude
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100

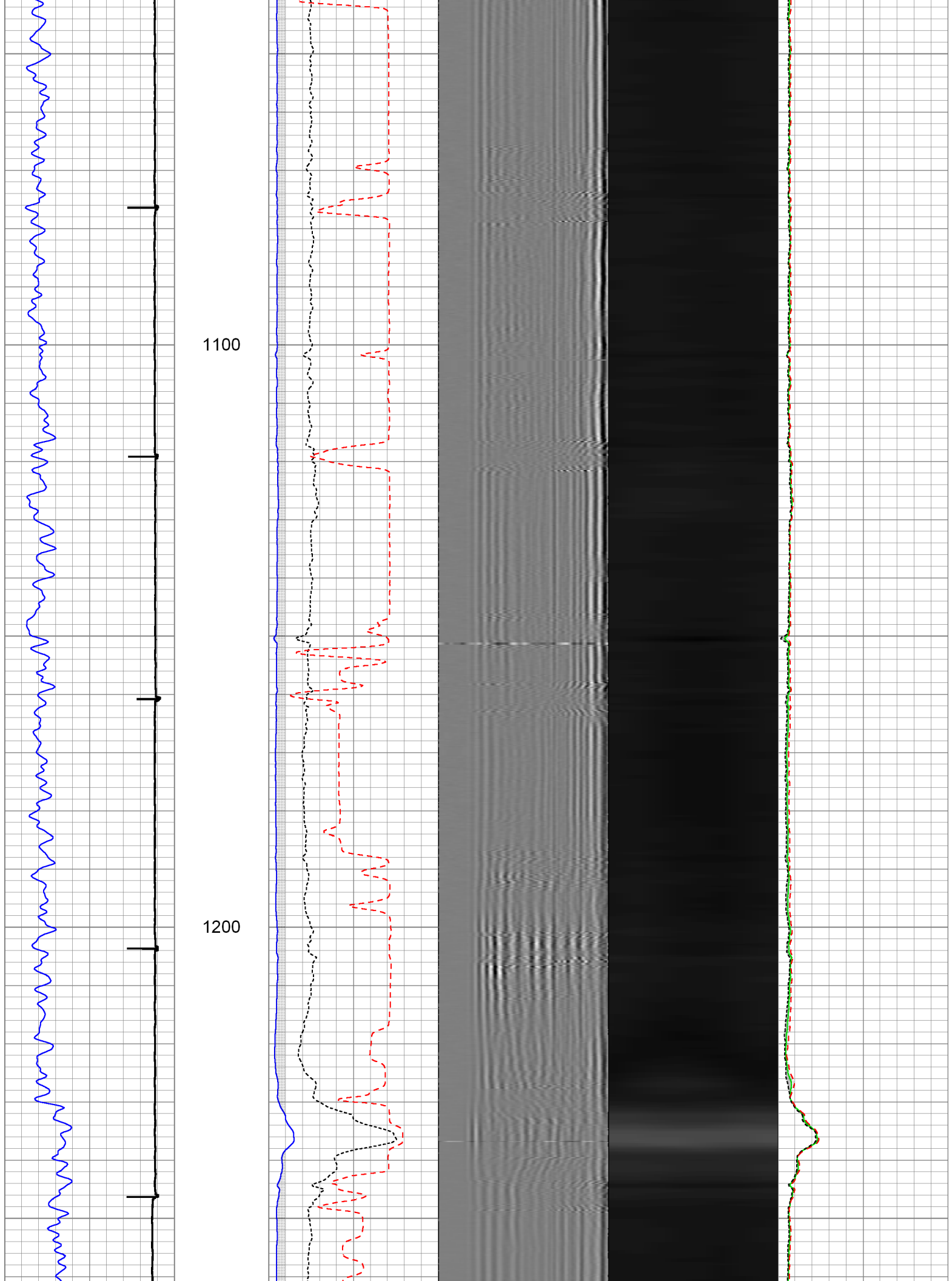






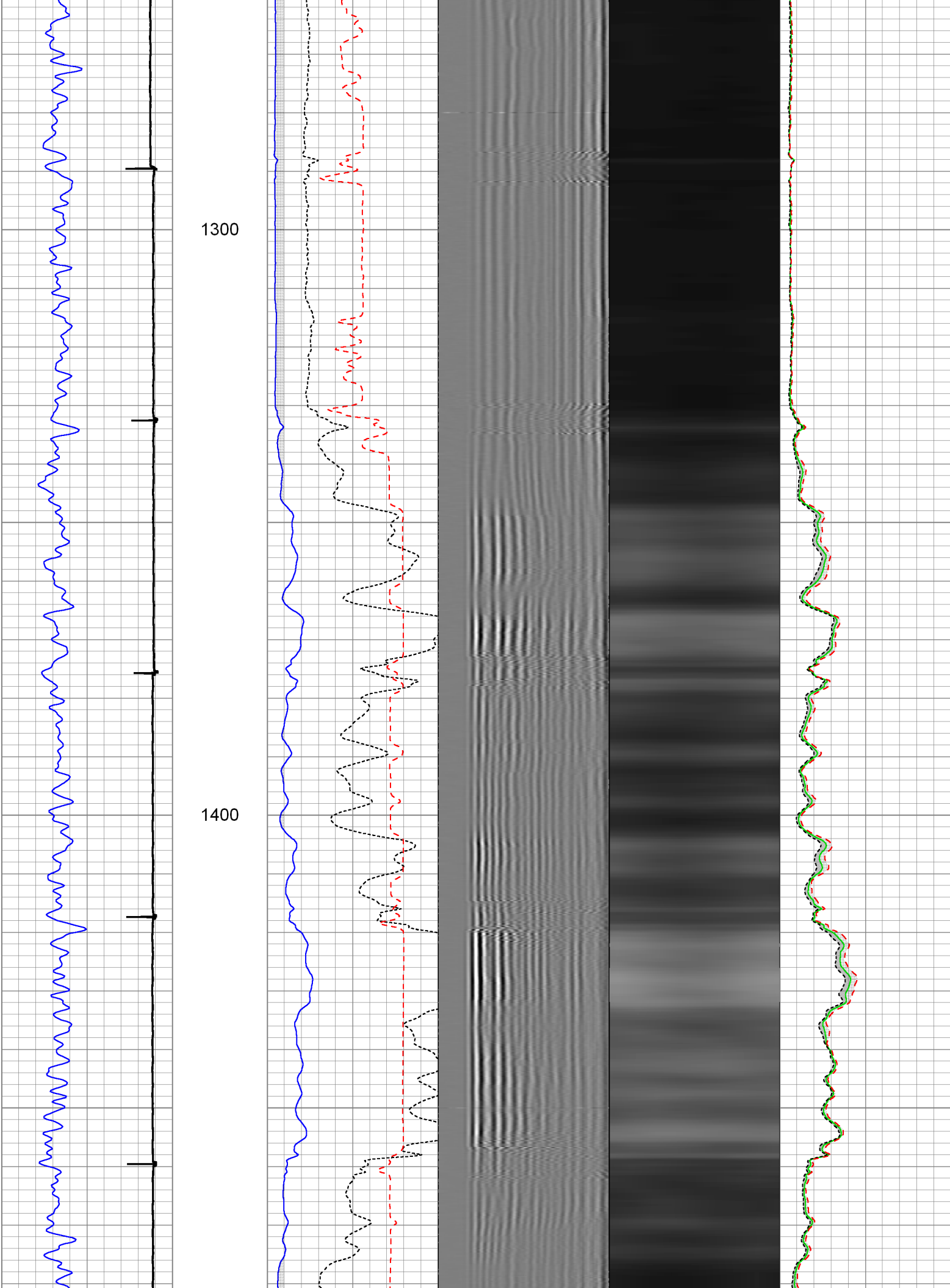


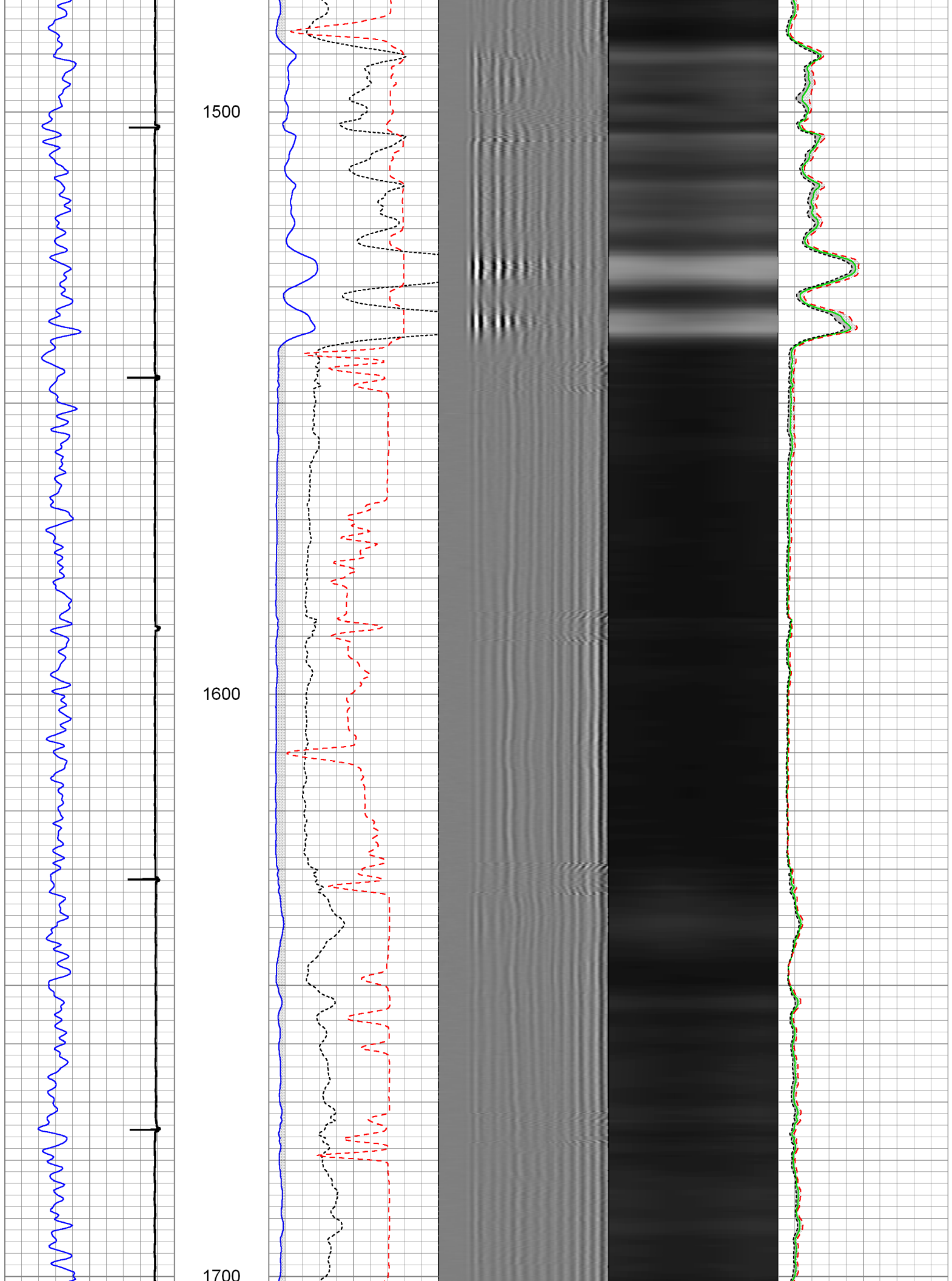


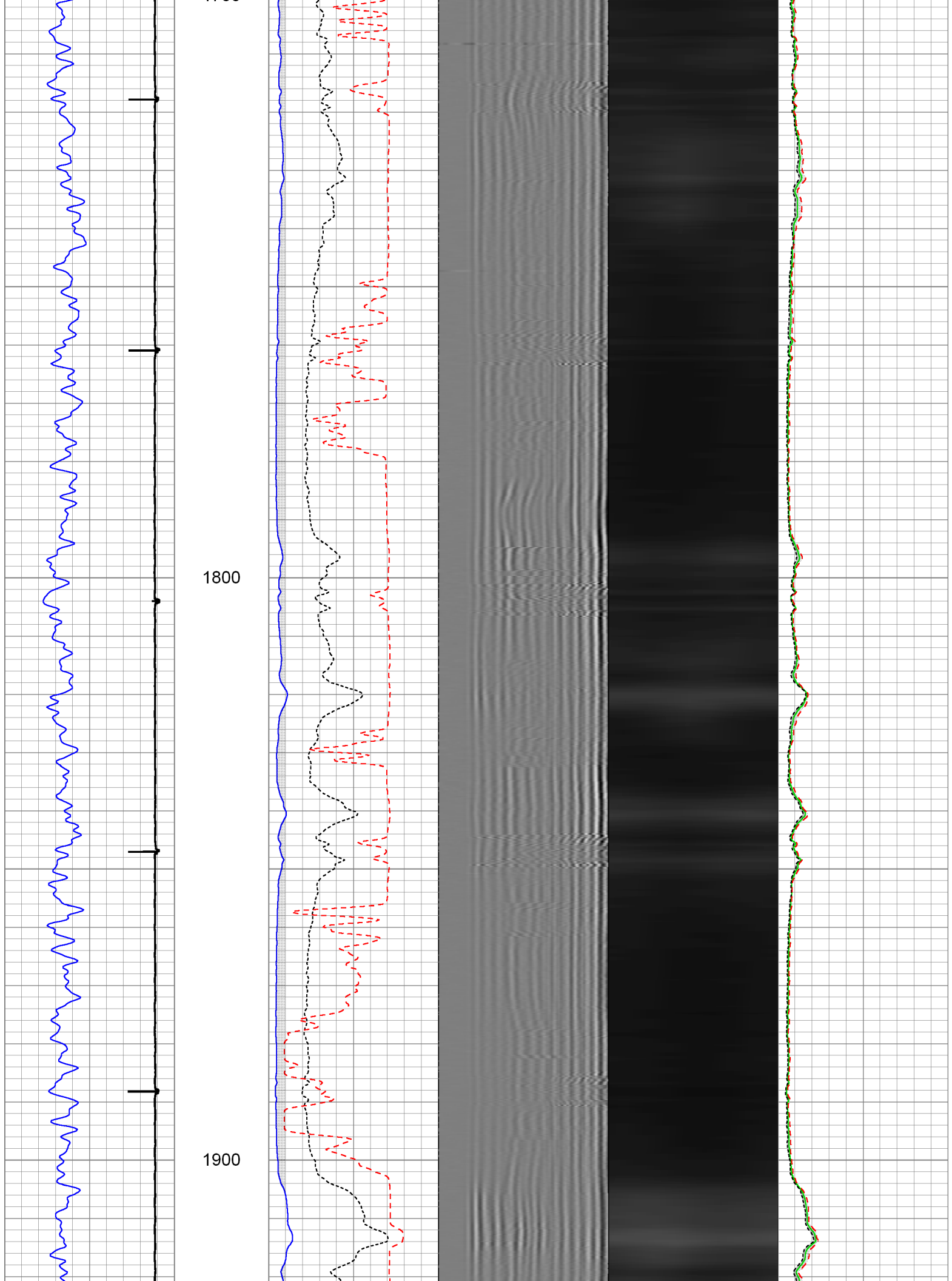


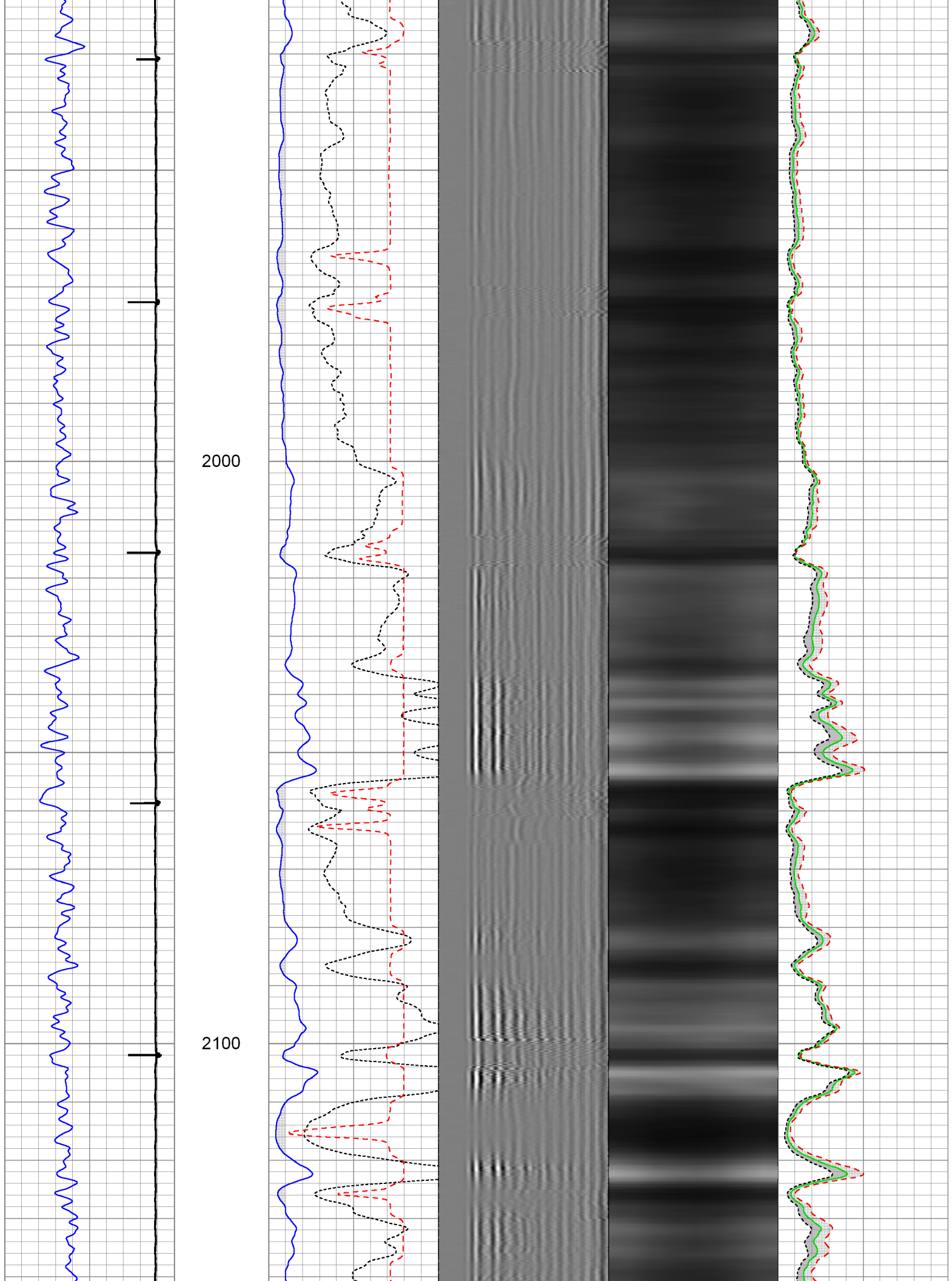
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1400



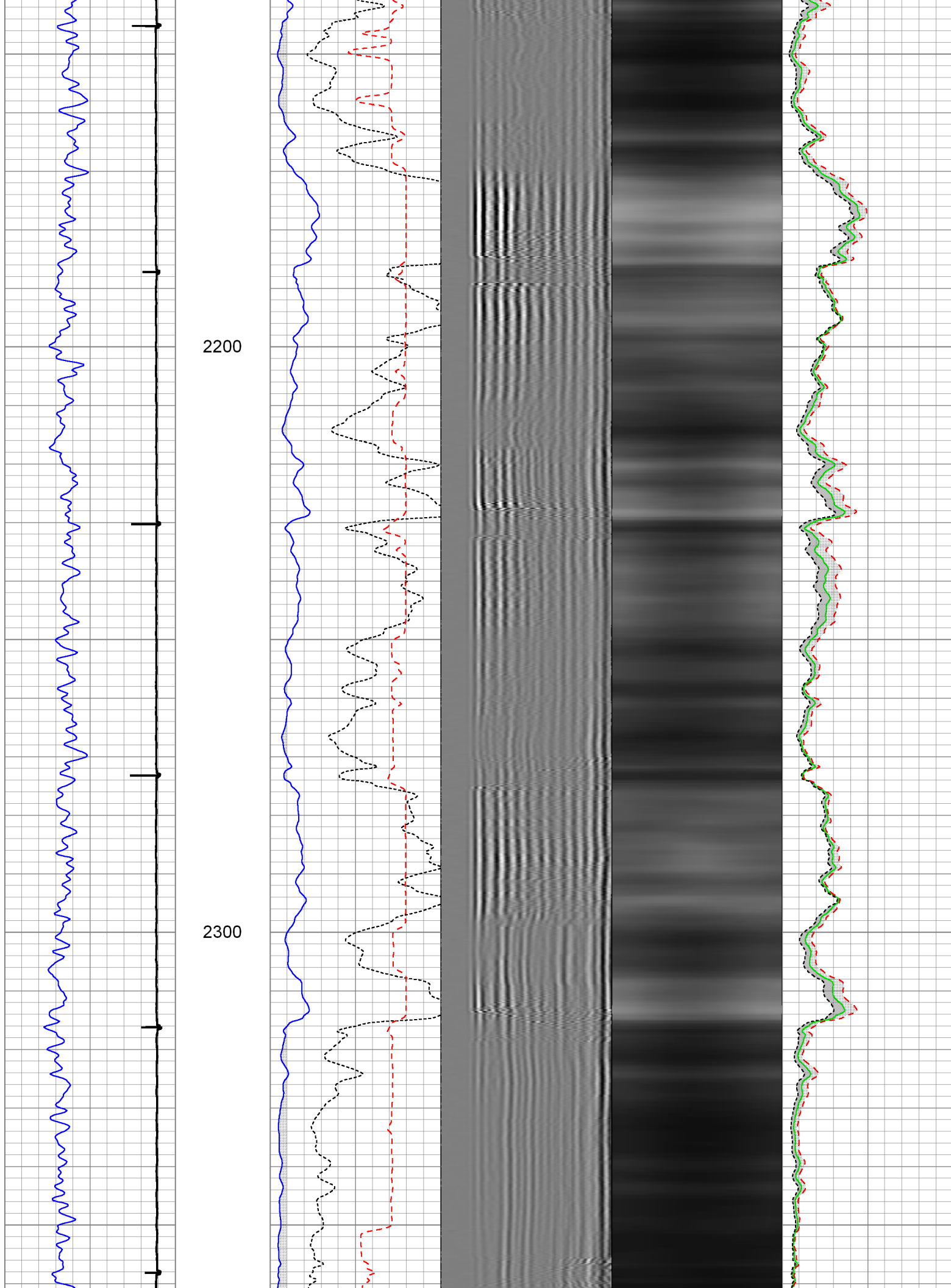


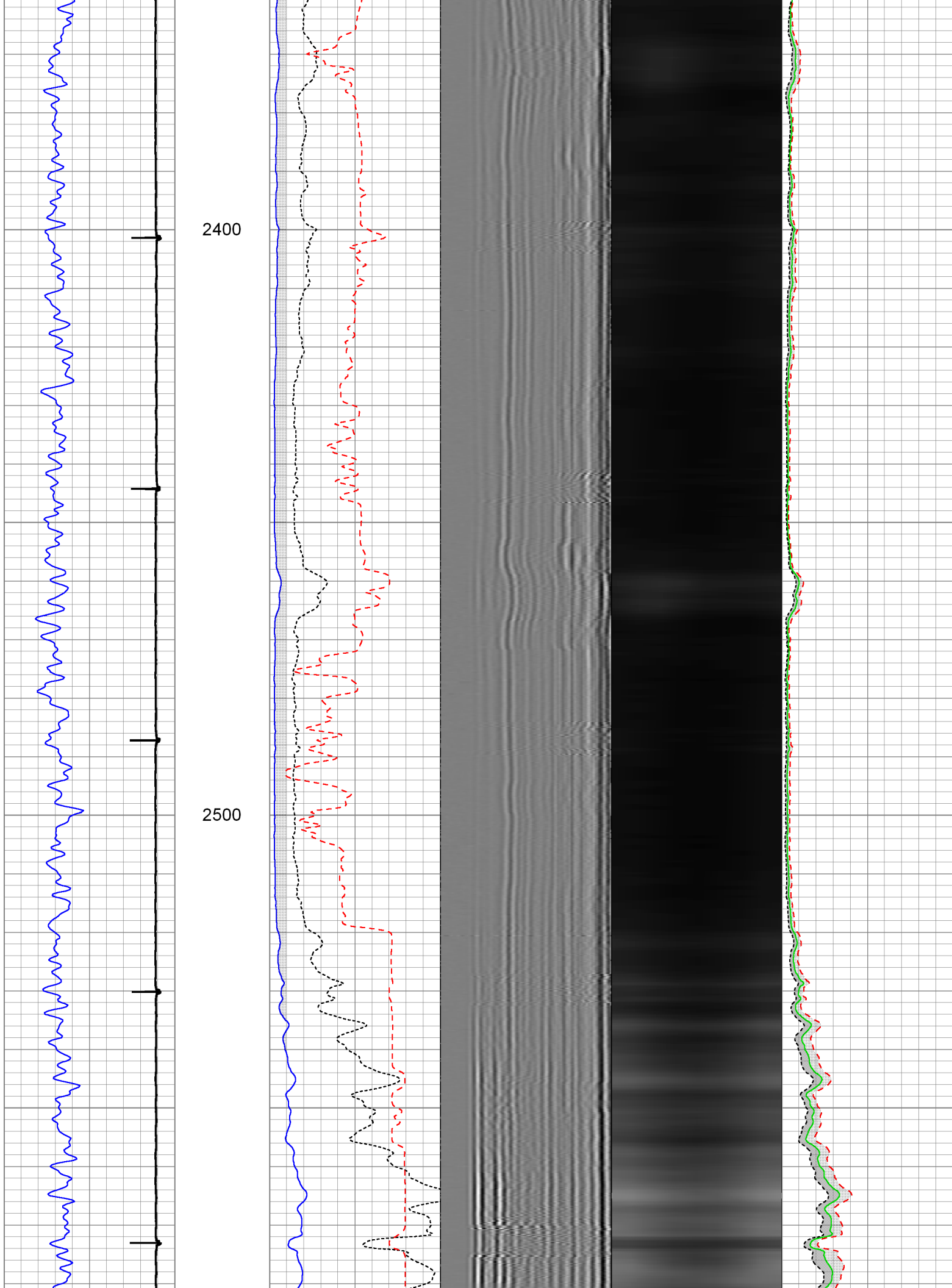




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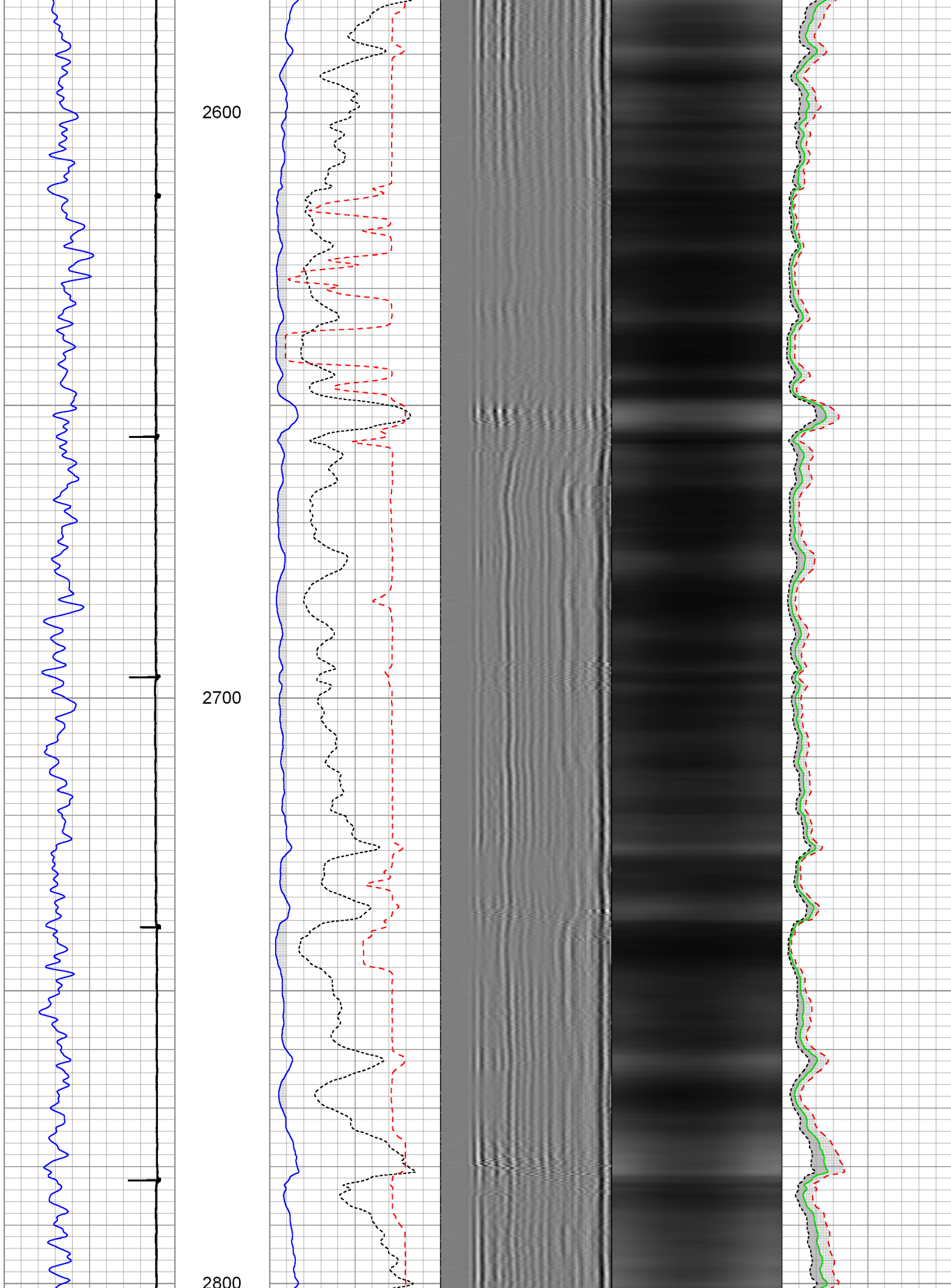




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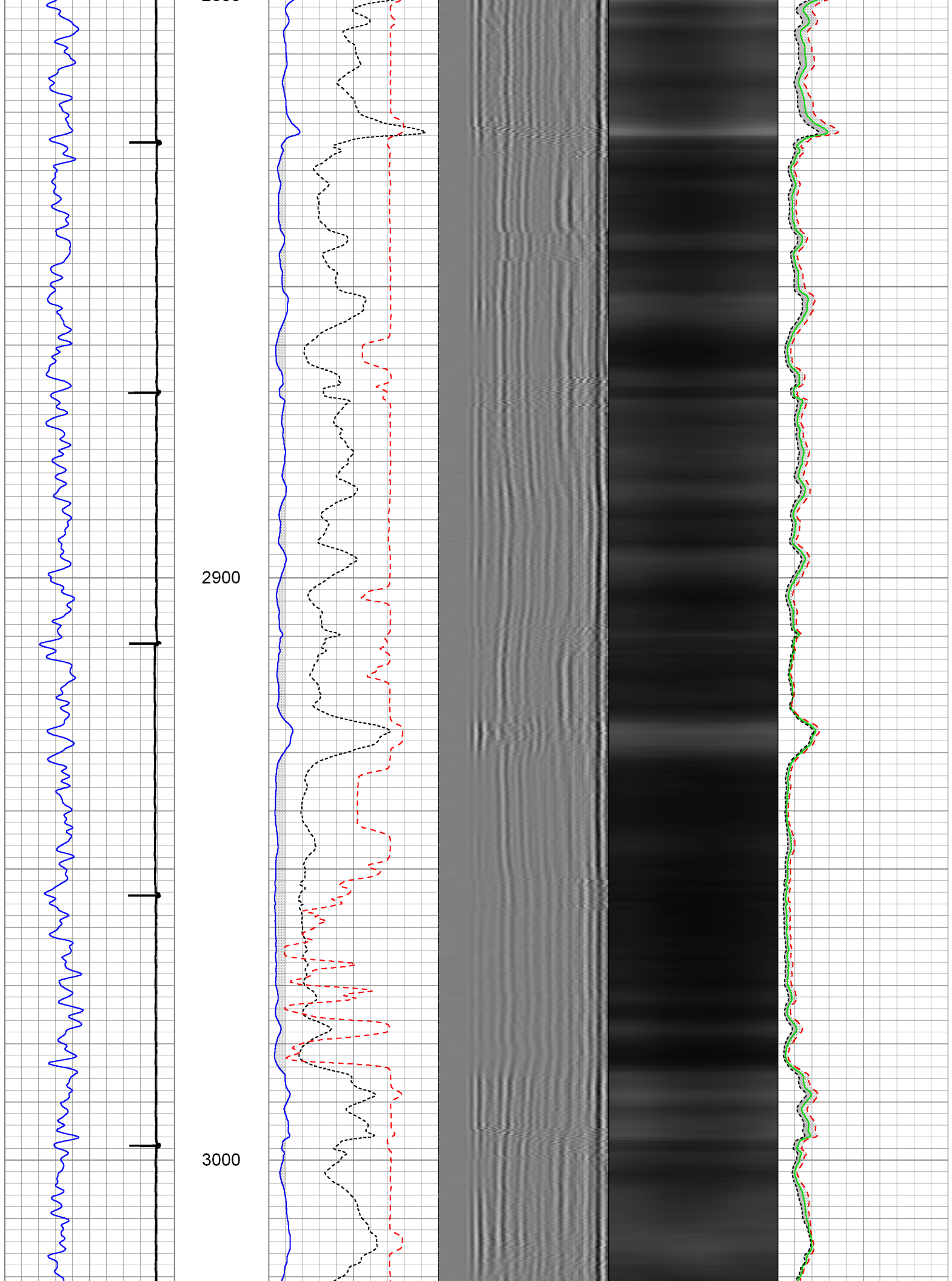
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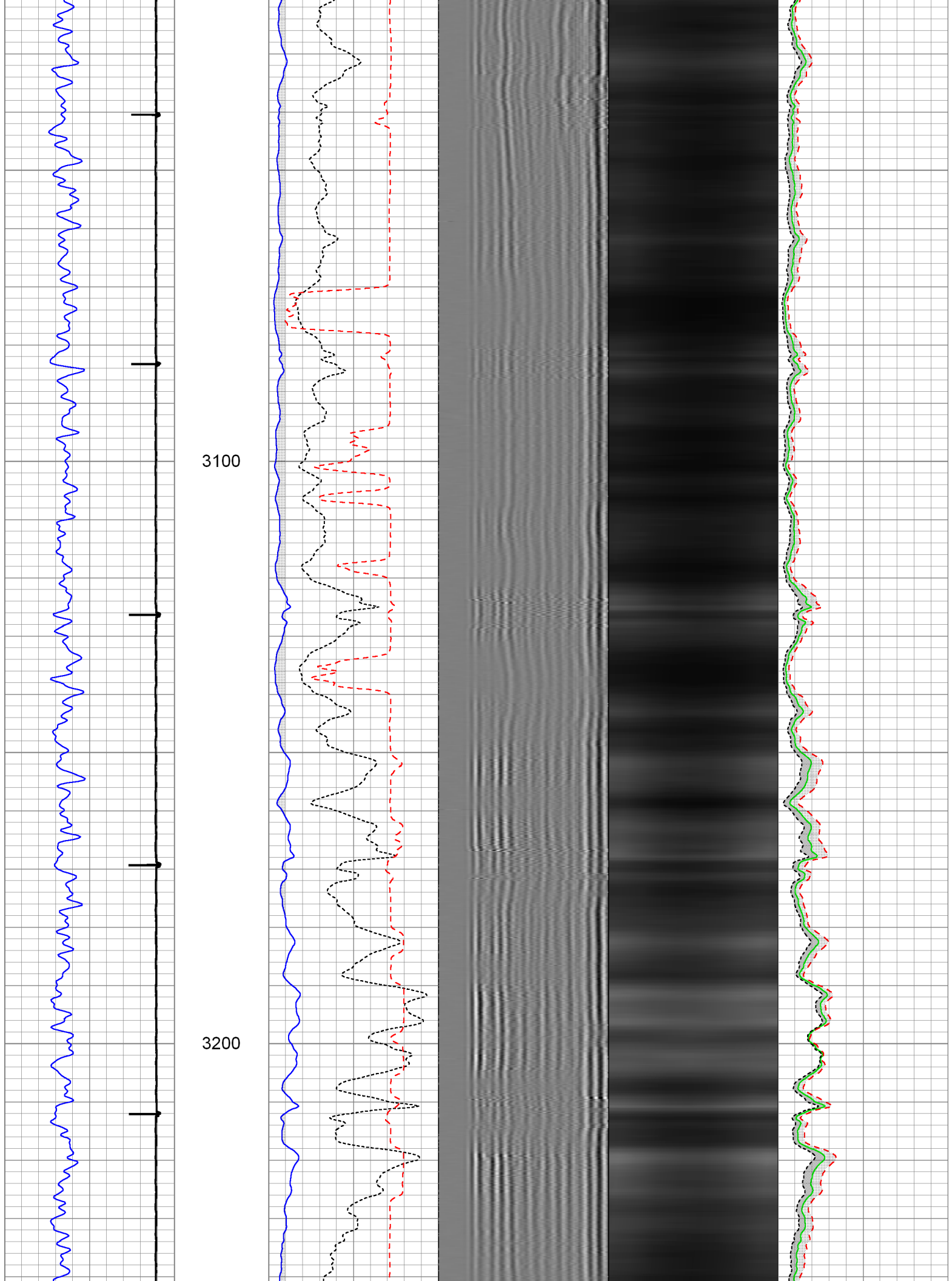


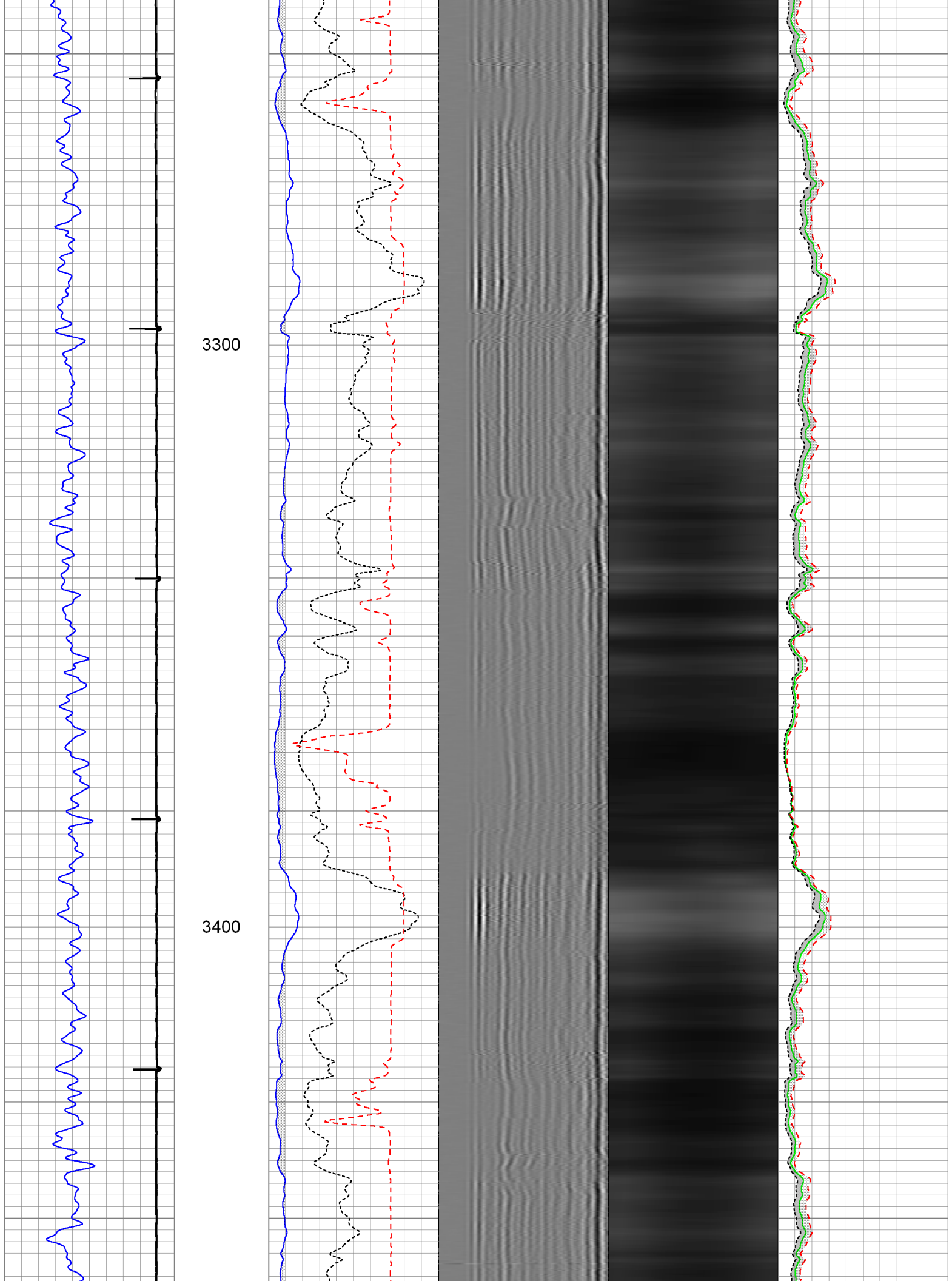
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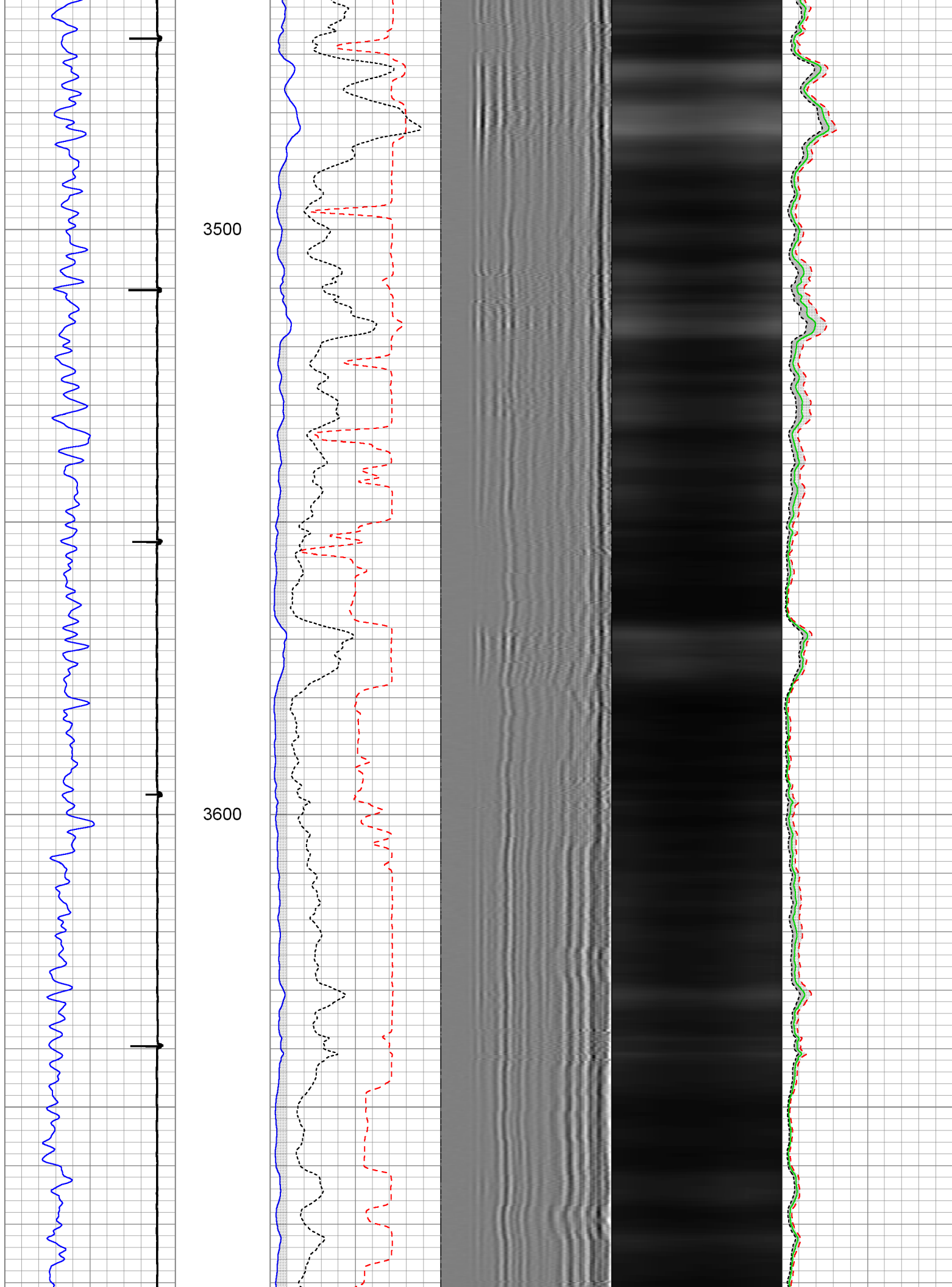






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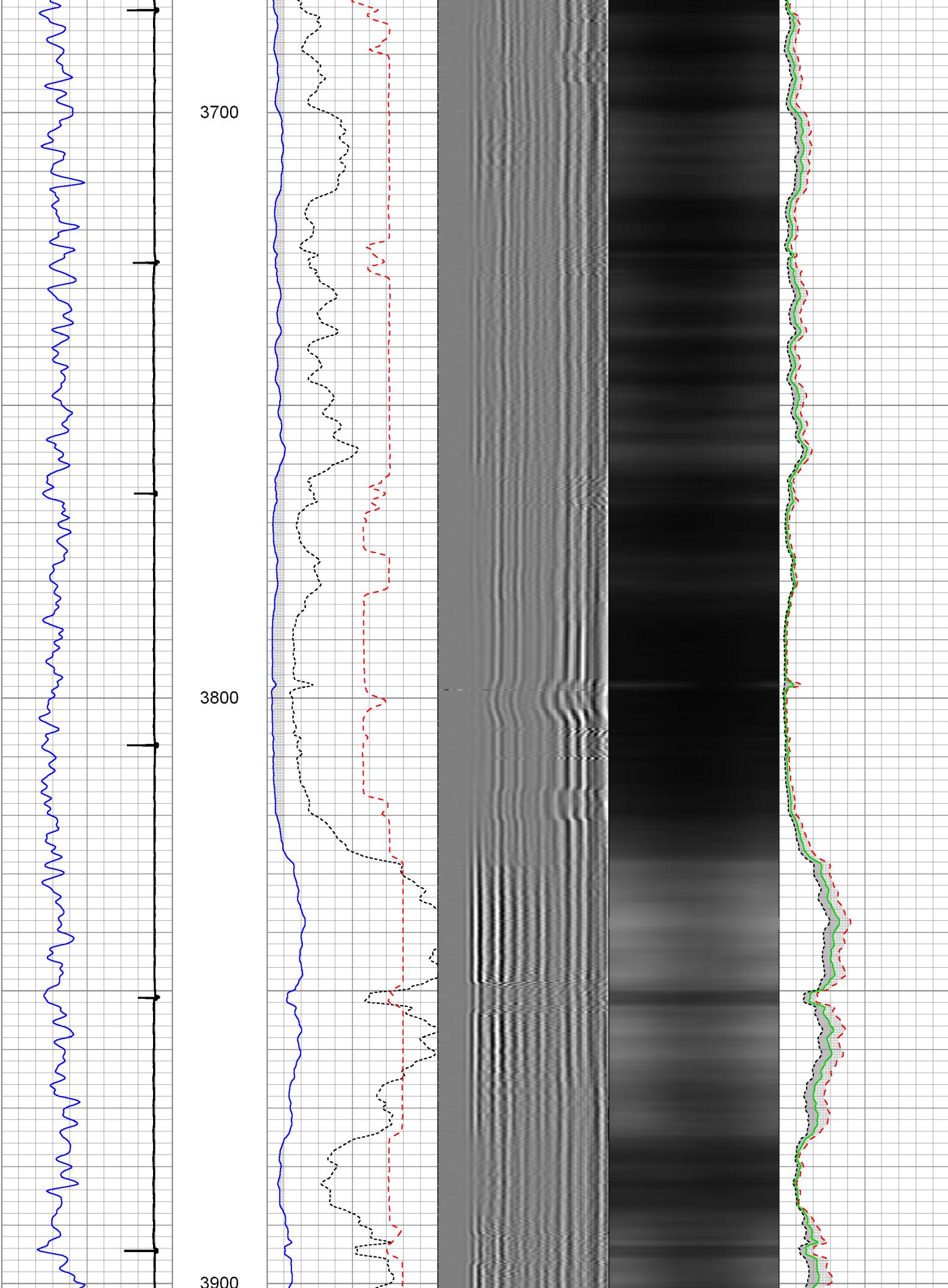
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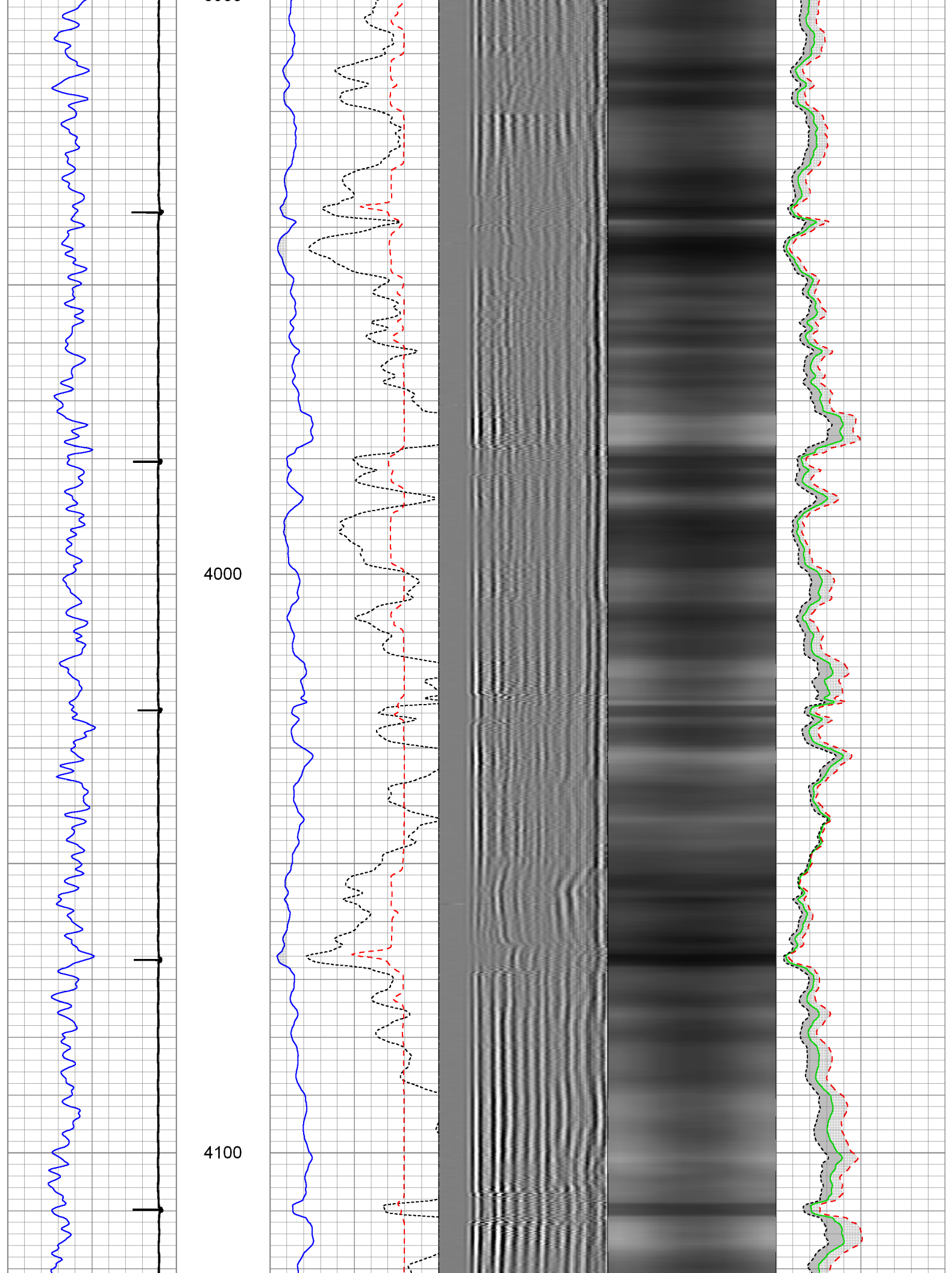


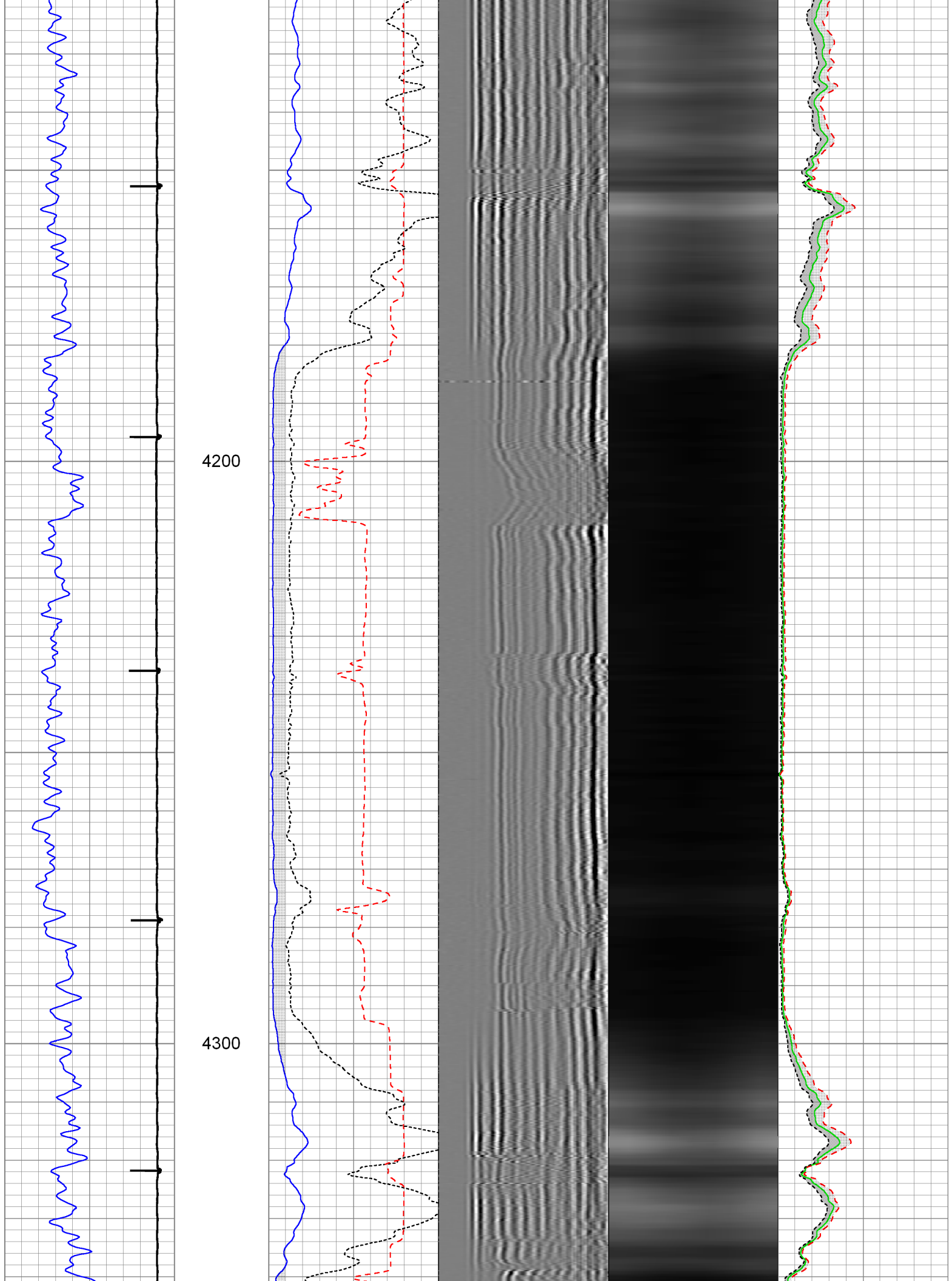
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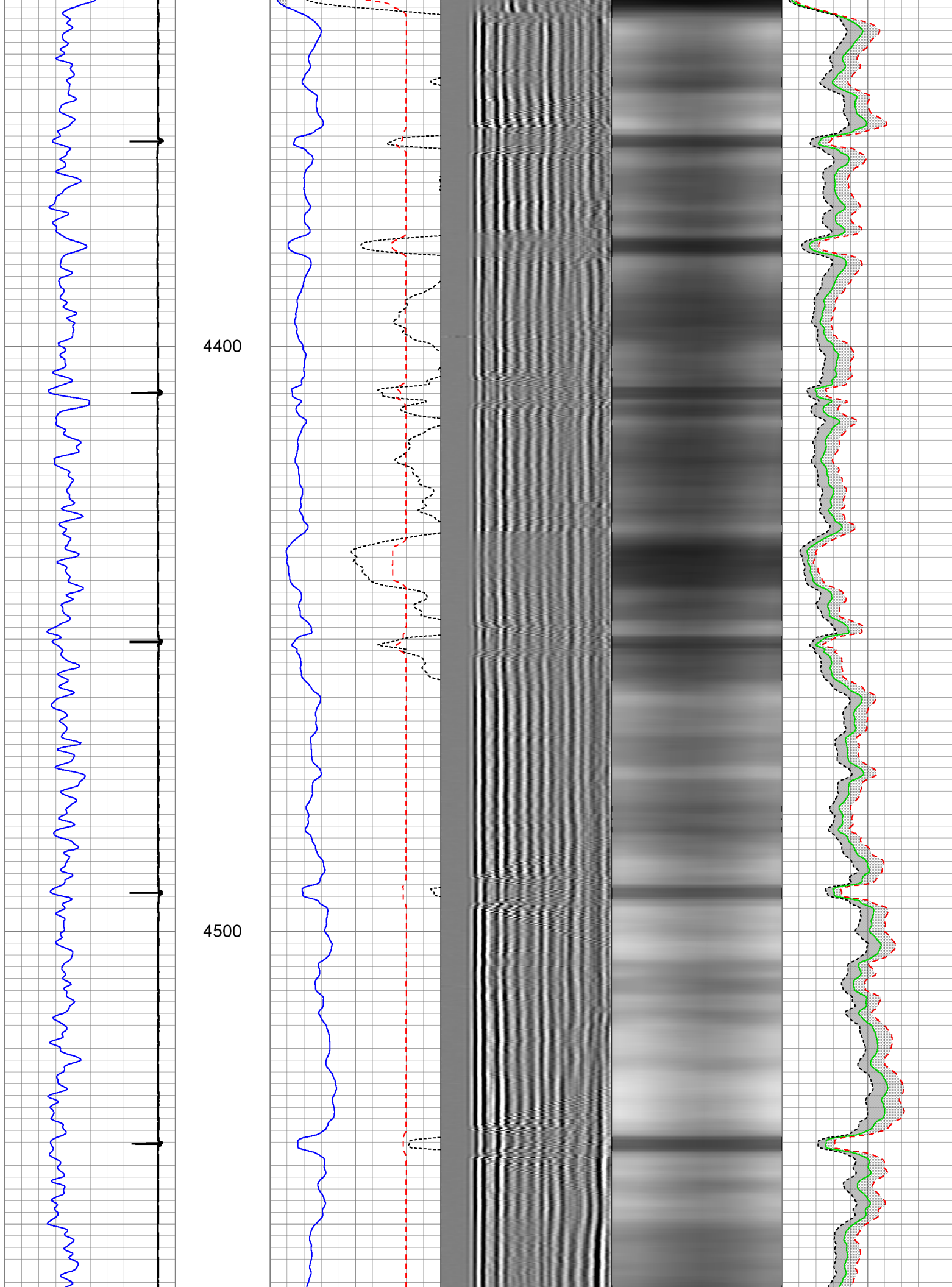


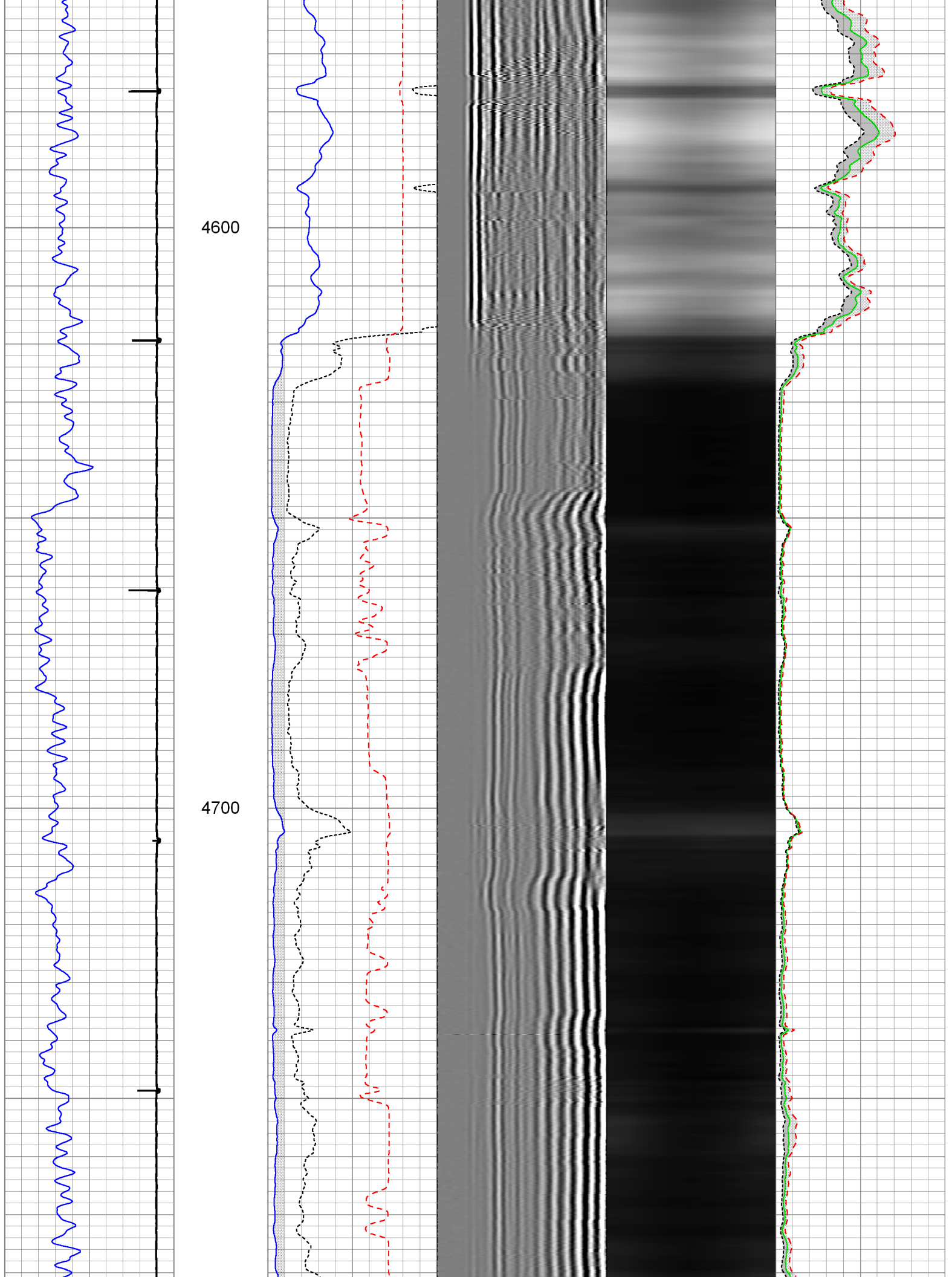




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4500

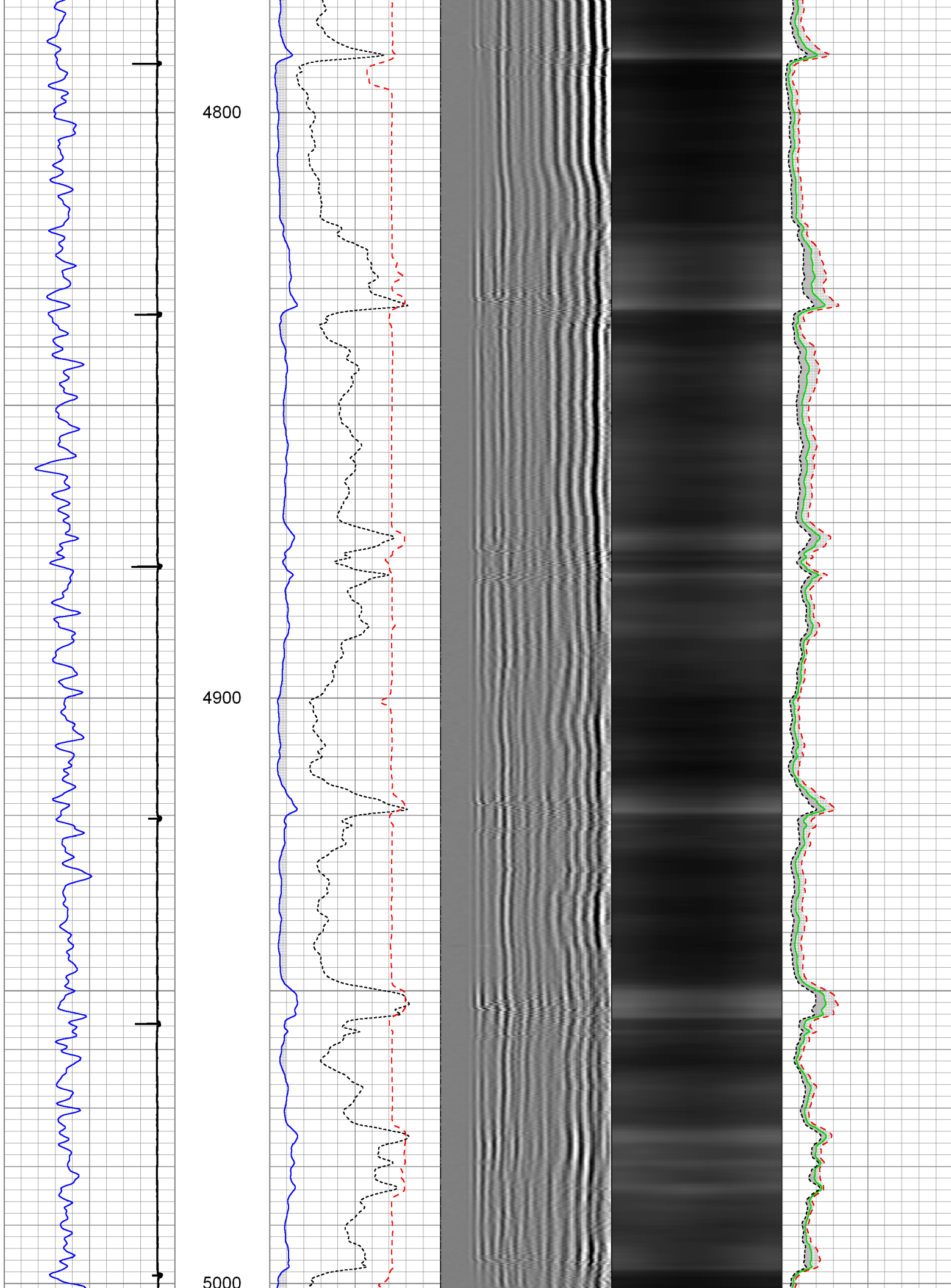




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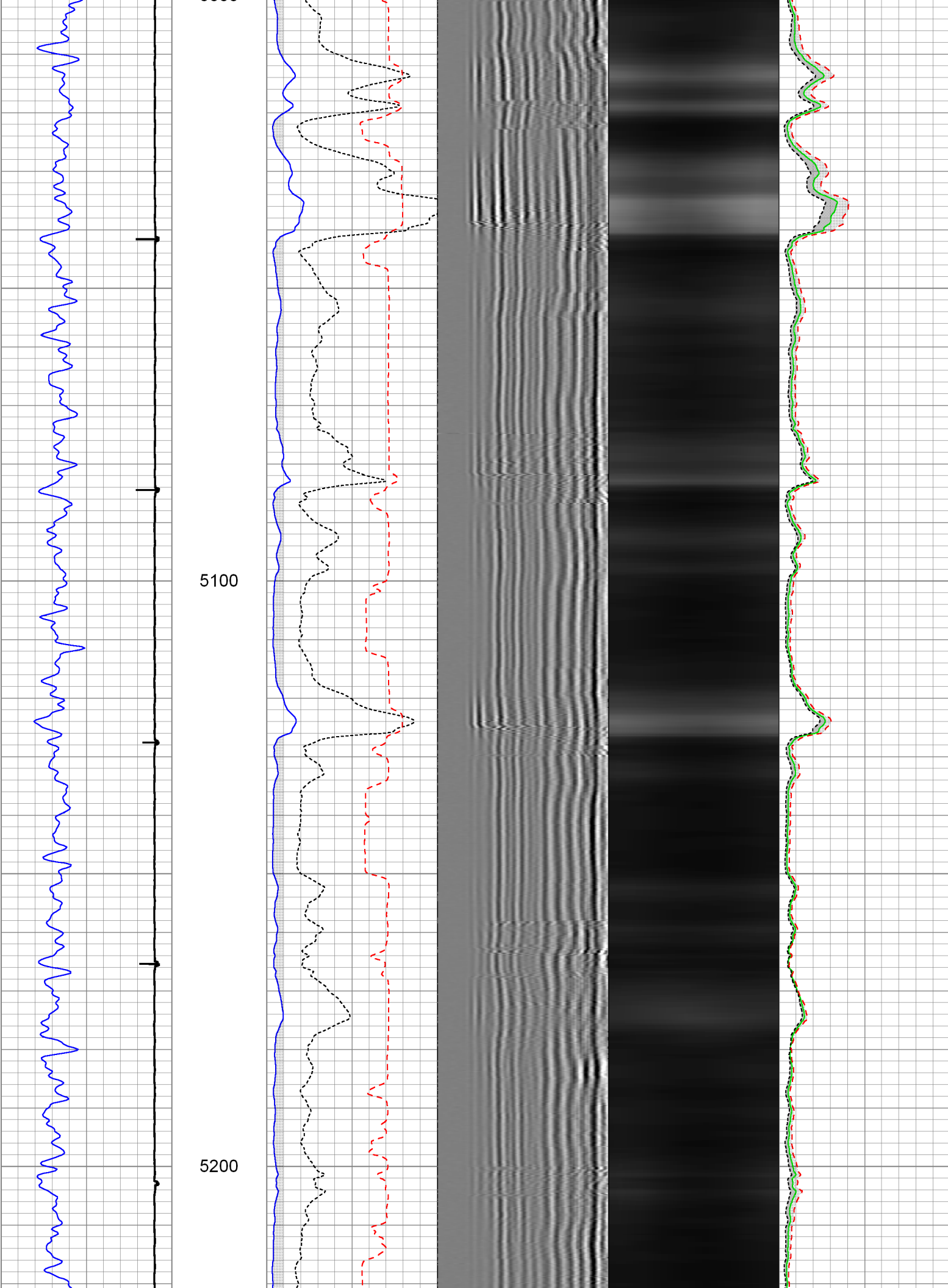
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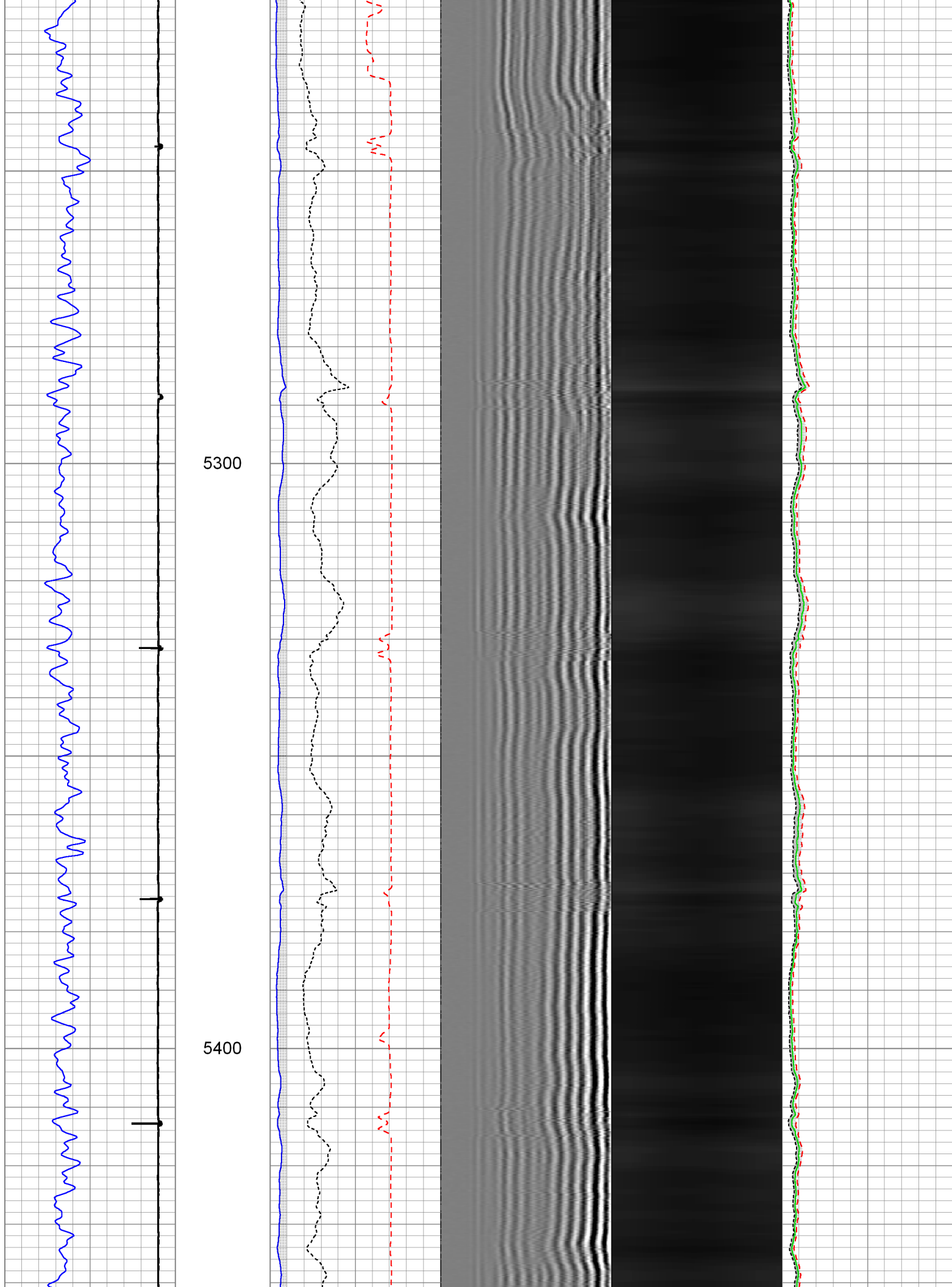
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5200



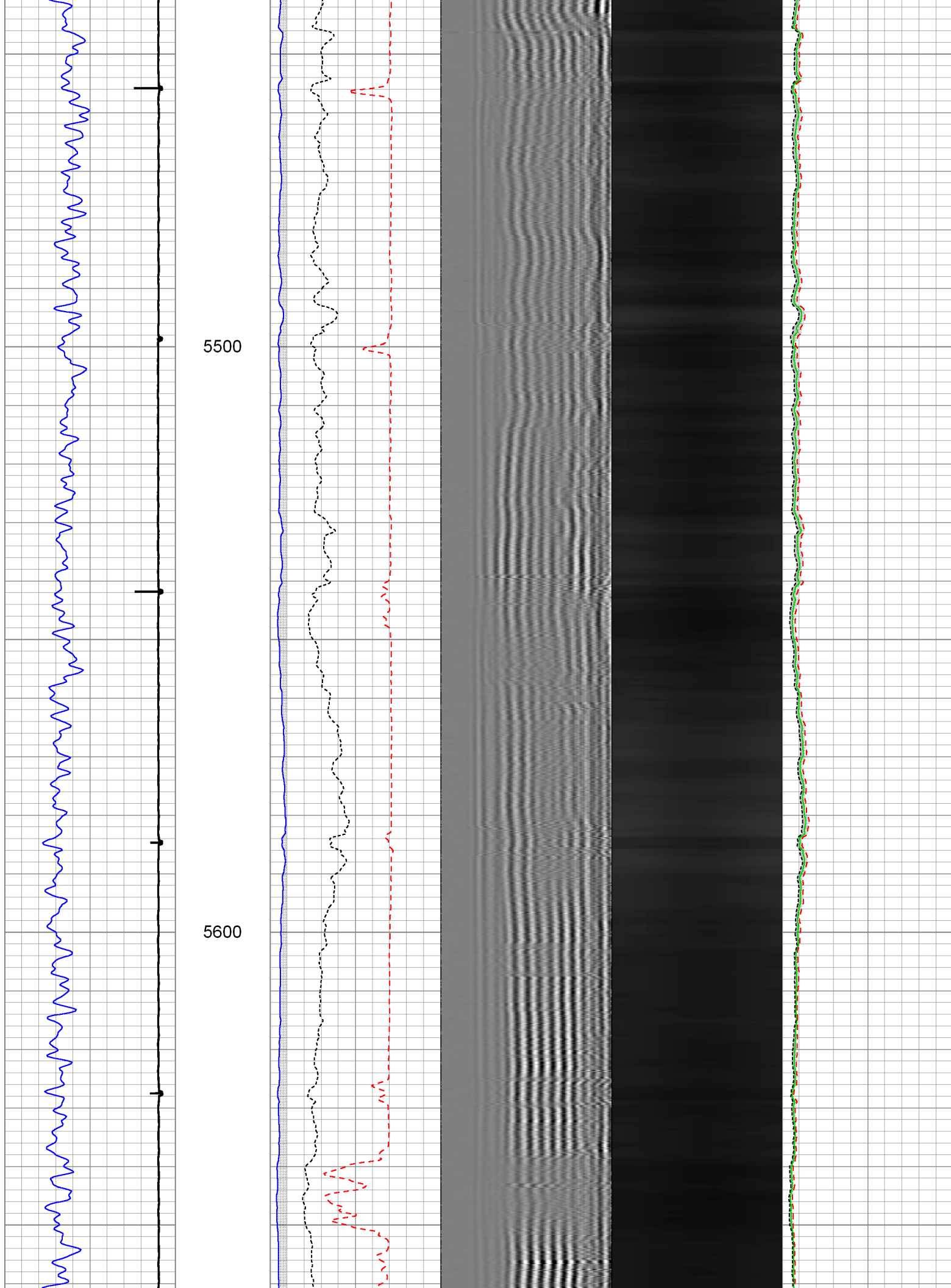
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5400



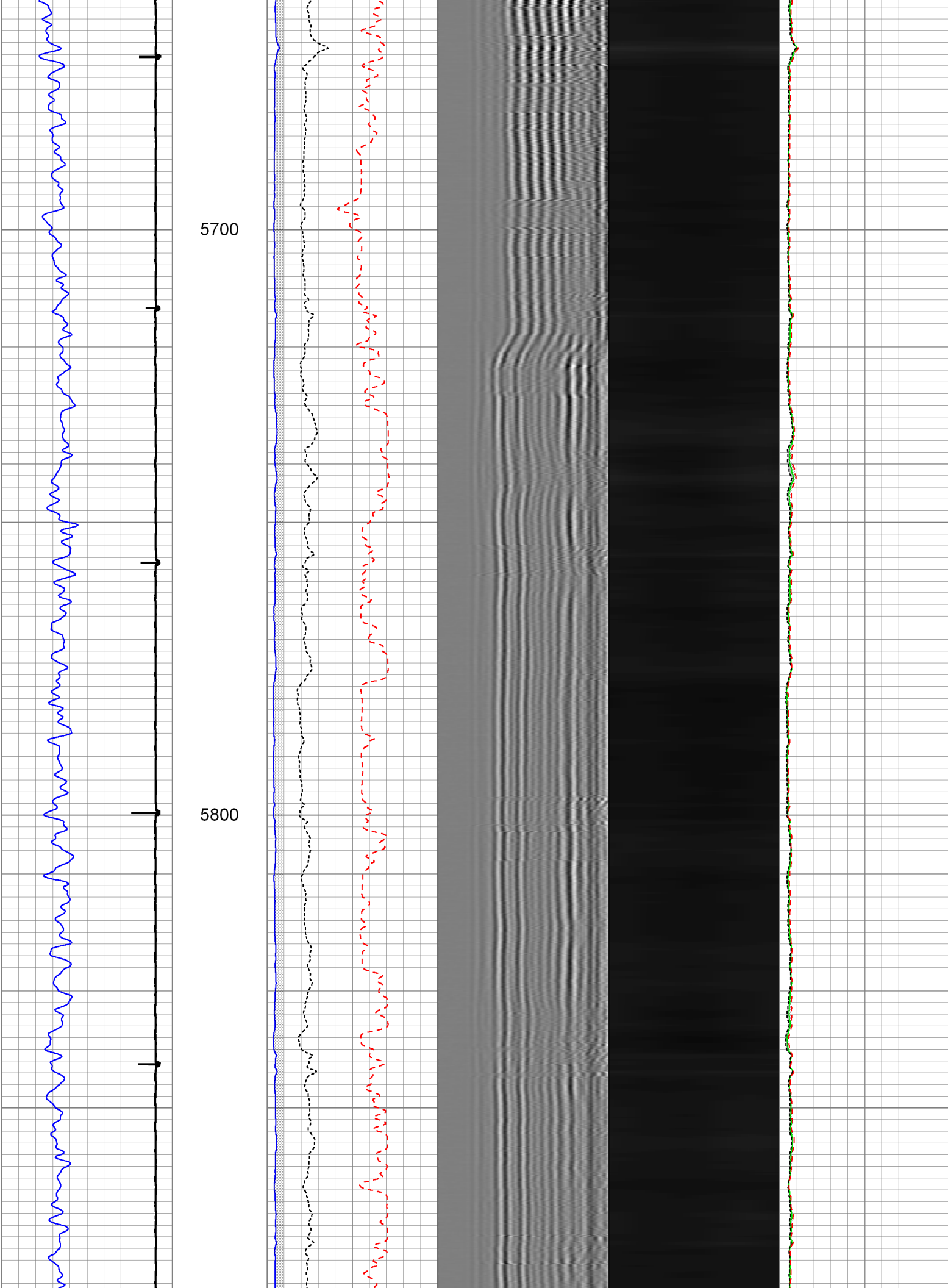
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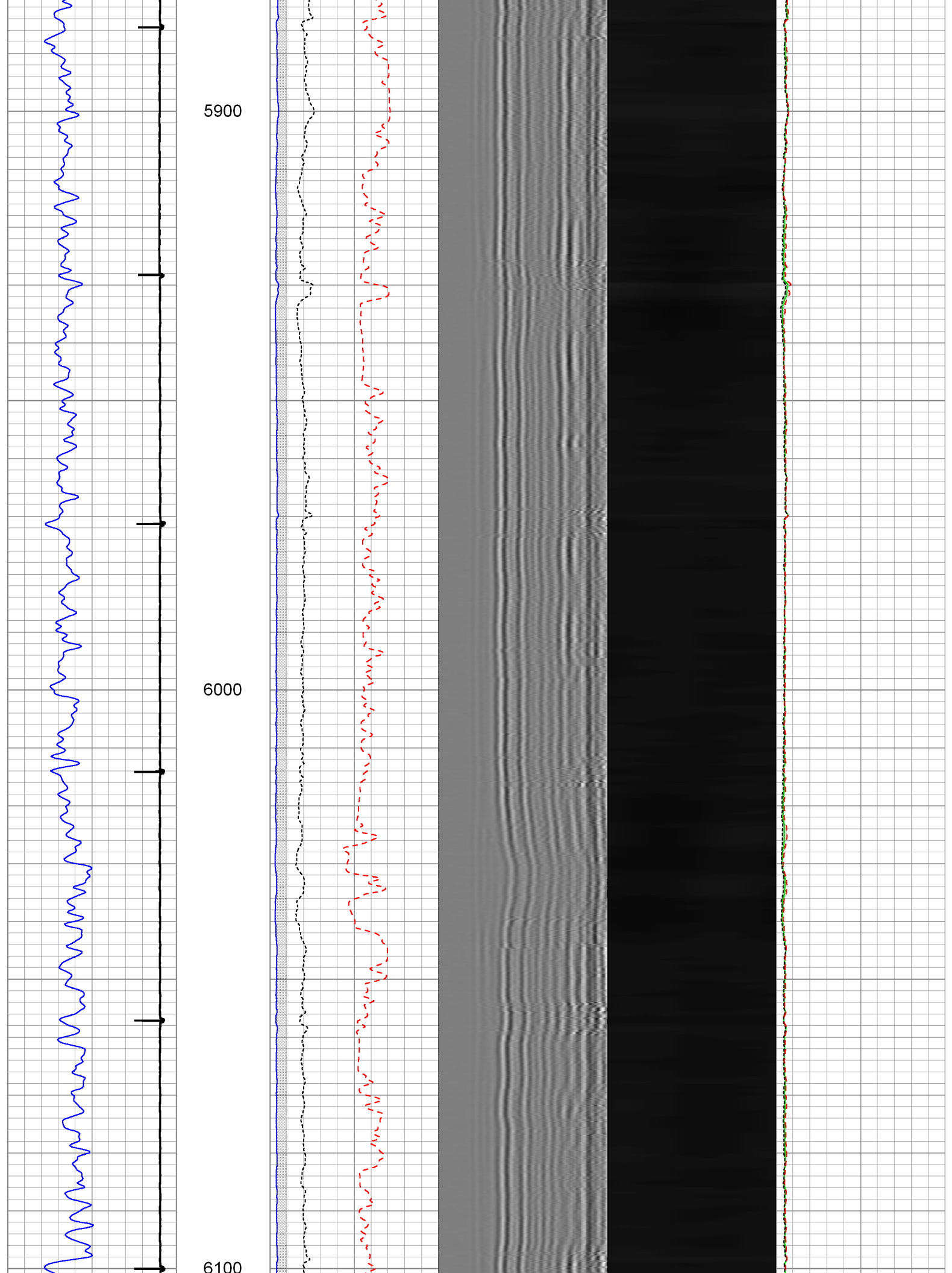
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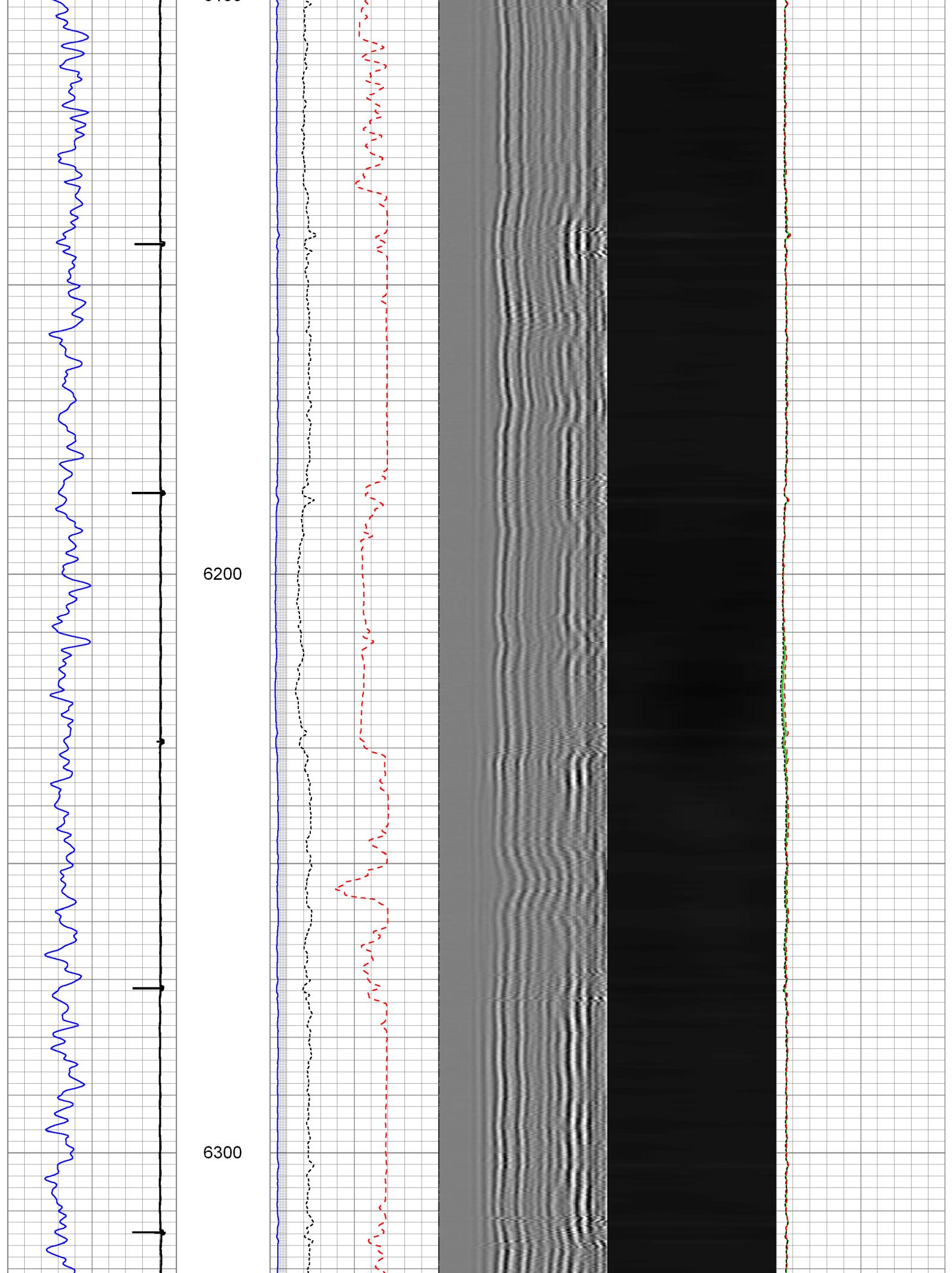


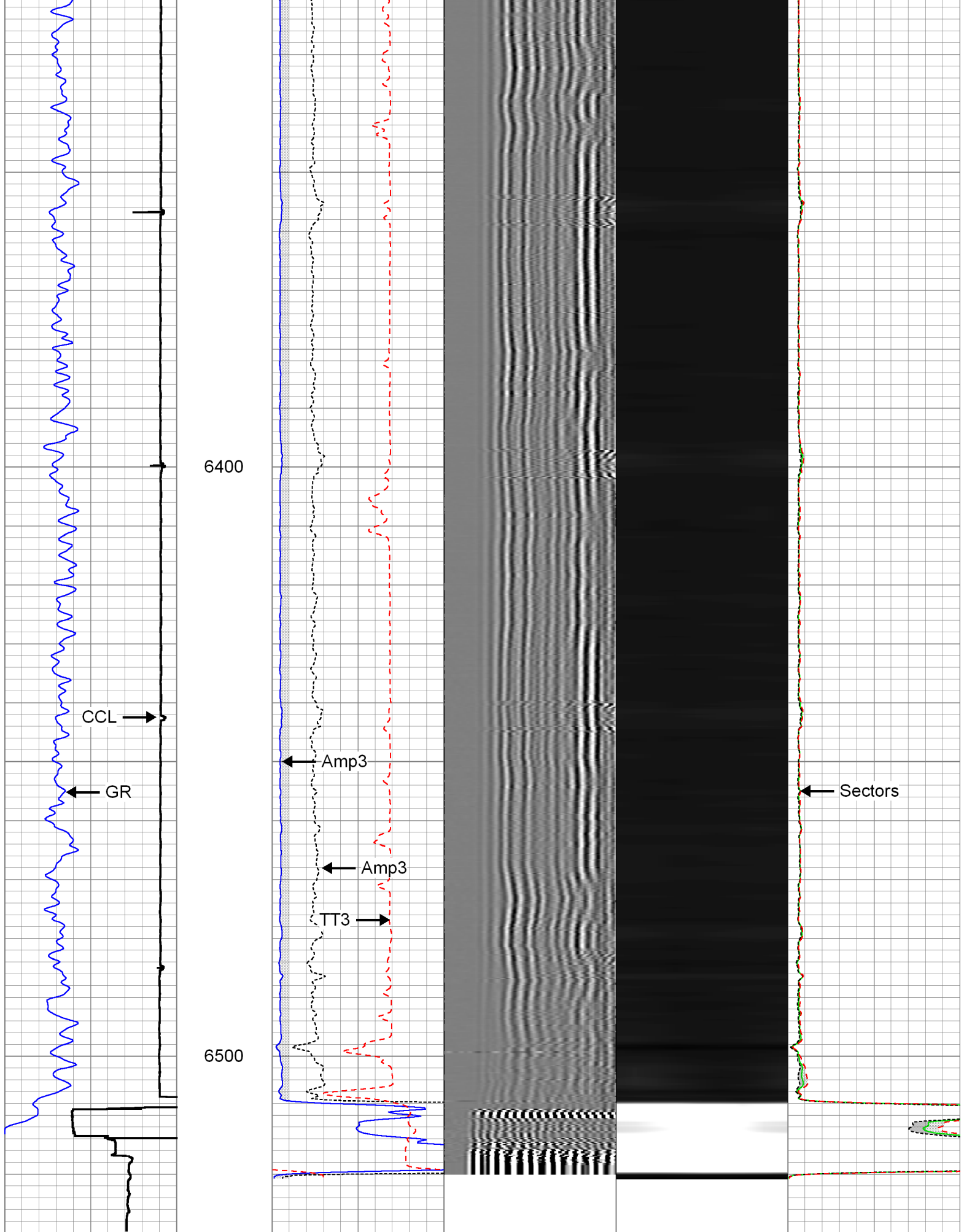
5700

5800









Gamma Ray


3' Amplitude

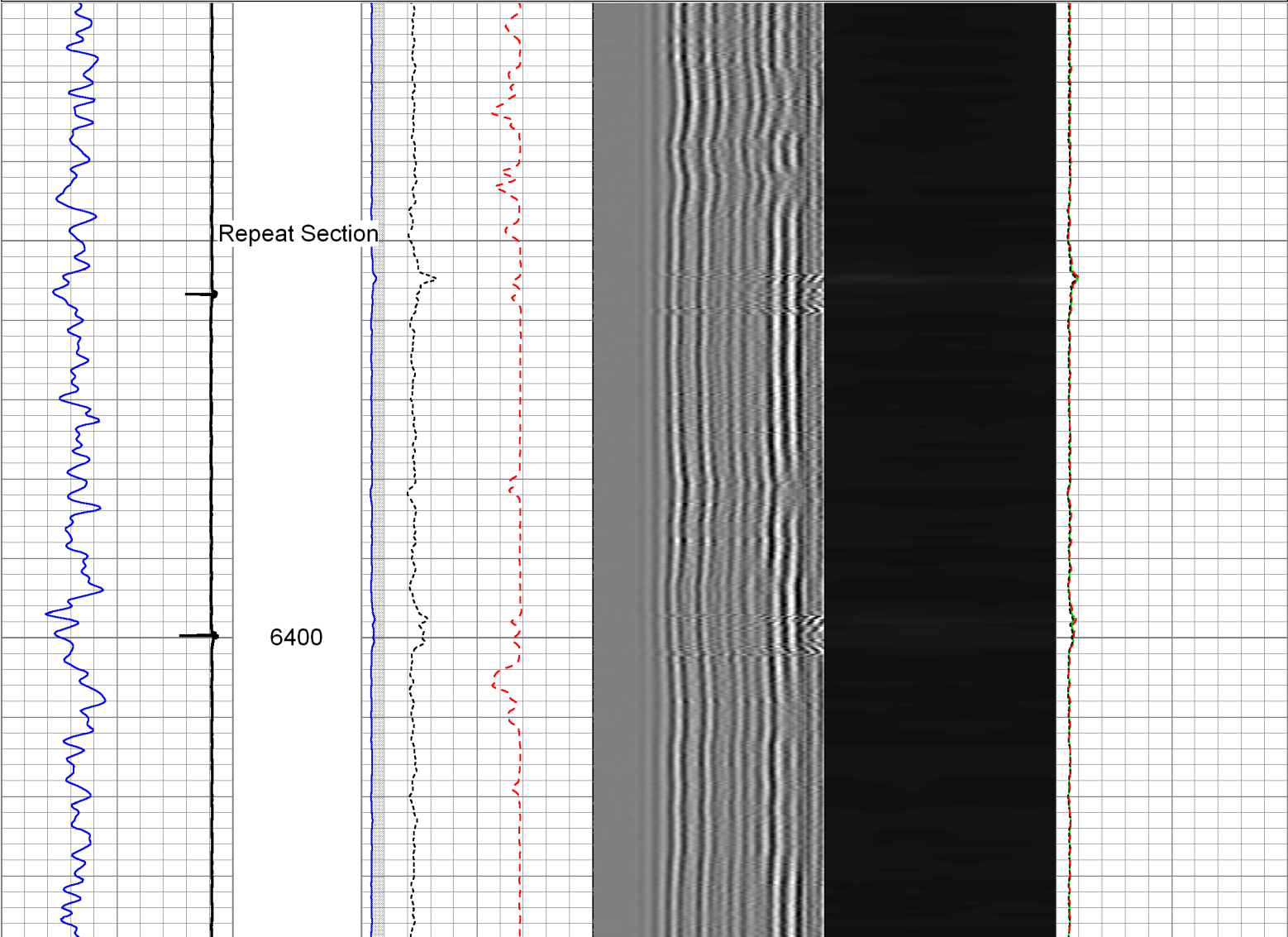
5' Variable Density Log

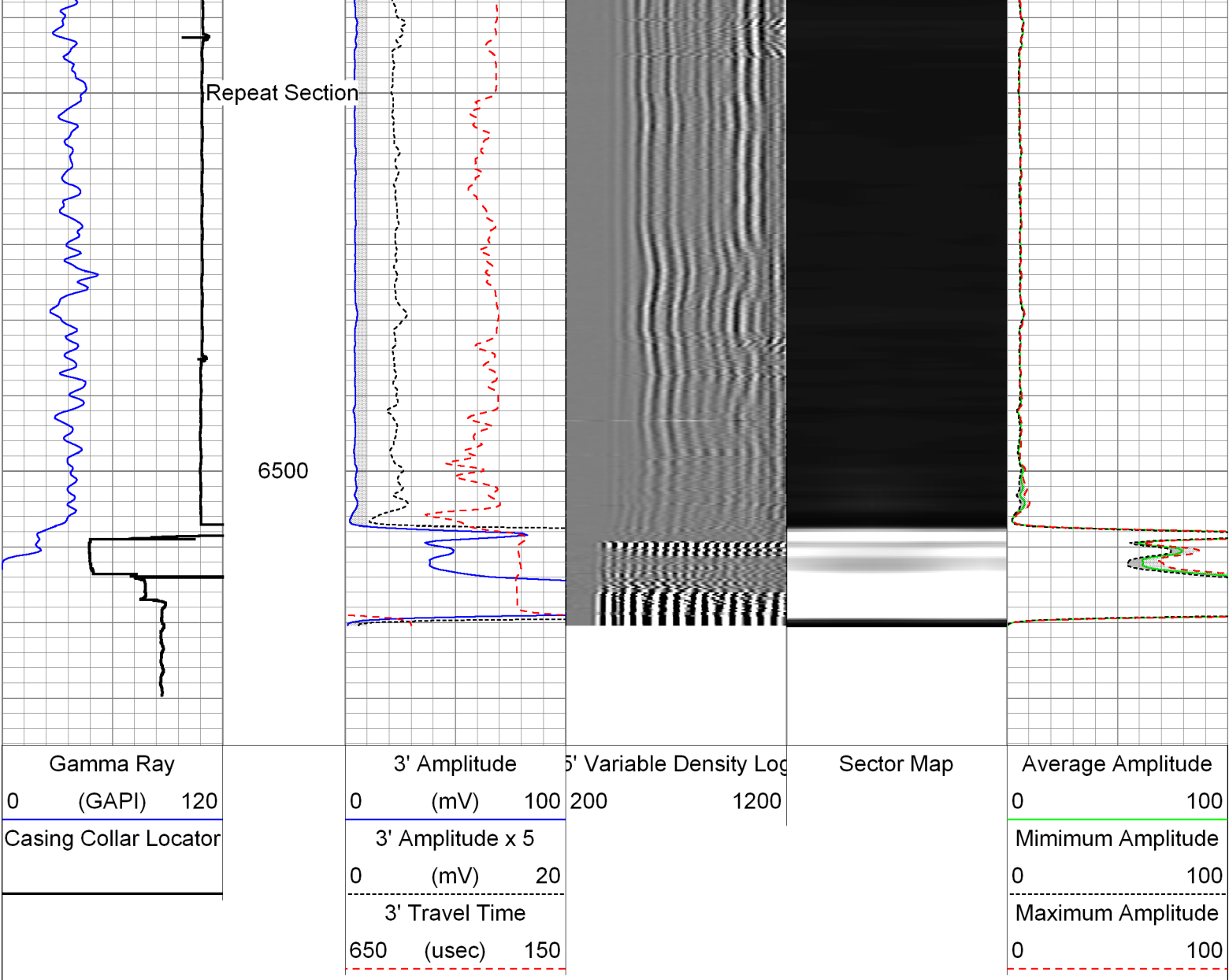
Sector Map

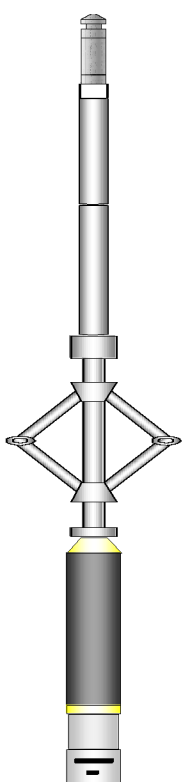
Average Amplitude

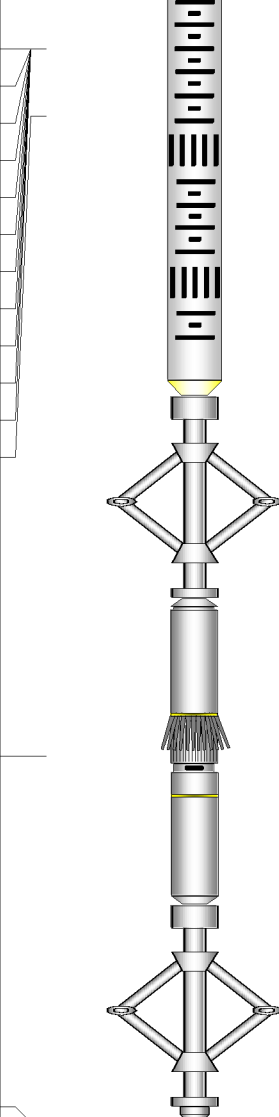
0 (GAPI) 120	0 (mV) 100 200 1200	0 100
Casing Collar Locator	3' Amplitude x 5	Mimimum Amplitude
	0 (mV) 20	0 100
	3' Travel Time	Maximum Amplitude
	650 (usec) 150	0 100

<div>  </div>		Repeat Pass			
<div> <div>Database File:</div> <div>Dataset Pathname:</div> <div>Presentation Format:</div> <div>Dataset Creation:</div> <div>Charted by:</div> </div>		<div> 0512339079_anadarko_elliott state 8n-17hz_06-15-2014_mit_rbl.db pass2 rbt4_mit Sun Jun 15 11:53:22 2014 by Log 7.0 B1 Depth in Feet scaled 1:240 </div>			
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
		0 (mV) 20			0 100
		3' Travel Time			Maximum Amplitude
		650 (usec) 150			0 100





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 (10010522) 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_PRC #3 -UW_PRC_057 (1038) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00

WVF3FT	15.85		UW_RBT-UW_RBT_004 (1063) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	15.85					
WVFS2	15.85					
WVFS3	15.85					
WVFS4	15.85					
WVFS5	15.85					
WVFS6	15.85					
WVFS7	15.85					
WVFS8	15.85					
CBLTEMP	15.85					
CBLROT	15.85		UW_PRC #4 -UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WVF5FT	14.85					
MIT	5.41		UW_MIT-UW_MIT40_042 (10012912) 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
			UW_BUL-UW_BUL_006 (218707) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512339079_Anadarko_Elliott State 8N-17HZ_06-15-2014_MIT_RBL.db: field/well/run1/pass3 Total Length: 27.92 ft Total Weight: 319.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	0512339079_Anadarko_Elliott State 8N-17HZ_06-15-2014_MIT_RBL.db		
Dataset Pathname:	pass4		
Dataset Creation:	Sun Jun 15 14:27:20 2014 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 :	225.580		

Finger Calibration Report Performed: Sun Jun 15 11:25:09 2014

Ring size: (in)	4	Sens	5	Sens	6	Sens	7
Finger 01:	1470	272.0	1742	292.0	2034	306.0	2340
Finger 02:	1568	246.0	1814	257.0	2071	266.0	2337
Finger 03:	1440	275.0	1715	294.0	2009	313.0	2322
Finger 04:	1460	279.0	1739	293.0	2032	301.0	2333
Finger 05:	1490	268.0	1758	280.0	2038	289.0	2327
Finger 06:	1428	279.0	1707	295.0	2002	311.0	2313
Finger 07:	1432	277.0	1709	290.0	1999	308.0	2307
Finger 08:	1457	276.0	1733	285.0	2018	297.0	2315
Finger 09:	1443	280.0	1723	293.0	2016	303.0	2319
Finger 10:	1470	272.0	1742	282.0	2024	295.0	2319
Finger 11:	1438	277.0	1715	288.0	2003	302.0	2305
Finger 12:	1419	285.0	1704	293.0	1997	307.0	2304
Finger 13:	1520	265.0	1785	265.0	2050	276.0	2326
Finger 14:	1462	270.0	1732	282.0	2014	293.0	2307
Finger 15:	1449	283.0	1732	291.0	2023	302.0	2325
Finger 16:	1473	278.0	1751	284.0	2035	292.0	2327
Finger 17:	1446	281.0	1727	290.0	2017	299.0	2316
Finger 18:	1483	268.0	1751	277.0	2028	285.0	2313
Finger 19:	1476	273.0	1749	286.0	2035	293.0	2328
Finger 20:	1467	272.0	1739	285.0	2024	294.0	2318
Finger 21:	1441	284.0	1725	298.0	2023	306.0	2329
Finger 22:	1484	267.0	1751	280.0	2031	284.0	2315
Finger 23:	1474	273.0	1747	284.0	2031	289.0	2320
Finger 24:	1478	271.0	1749	284.0	2033	284.0	2317
Finger 25:	1465	276.0	1741	288.0	2029	293.0	2322
Finger 26:	1456	277.0	1733	294.0	2027	295.0	2322
Finger 27:	1494	267.0	1761	283.0	2044	284.0	2328
Finger 28:	1480	275.0	1755	290.0	2045	291.0	2336
Finger 29:	1537	262.0	1799	277.0	2076	277.0	2353
Finger 30:	1440	272.0	1712	293.0	2005	301.0	2306
Finger 31:	1454	277.0	1731	300.0	2031	304.0	2335
Finger 32:	1519	262.0	1781	279.0	2060	281.0	2341
Finger 33:	1457	276.0	1733	303.0	2036	306.0	2342
Finger 34:	1442	272.0	1714	300.0	2014	309.0	2323
Finger 35:	1505	254.0	1759	276.0	2035	279.0	2314
Finger 36:	1492	262.0	1754	288.0	2042	295.0	2337
Finger 37:	1462	274.0	1736	301.0	2037	305.0	2342
Finger 38:	1546	251.0	1797	264.0	2061	276.0	2337
Finger 39:	1489	269.0	1758	285.0	2043	290.0	2333
Finger 40:	1429	281.0	1710	305.0	2015	315.0	2330

Post Survey Calibration Check Performed: Sun Jun 15 14:27:13 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.993	-0.003	4.990	-0.005	5.996	-0.002	7.003	0.002
Finger 02:	3.994	-0.003	4.999	-0.001	5.996	-0.002	7.002	0.001
Finger 03:	4.004	0.002	5.002	0.001	6.001	0.001	6.997	-0.002
Finger 04:	4.006	0.003	4.999	-0.000	6.001	0.000	6.999	-0.001
Finger 05:	3.998	-0.001	4.999	-0.001	5.998	-0.001	6.998	-0.001
Finger 06:	4.001	0.000	5.002	0.001	5.998	-0.001	6.999	-0.000
Finger 07:	4.001	0.000	4.996	-0.002	5.994	-0.003	6.999	-0.001
Finger 08:	4.002	0.001	4.998	-0.001	5.995	-0.003	6.999	-0.000
Finger 09:	4.025	0.013	4.998	-0.001	5.991	-0.004	6.999	-0.000
Finger 10:	3.998	-0.001	4.999	-0.001	5.998	-0.001	7.005	0.002
Finger 11:	4.006	0.003	5.002	0.001	5.993	-0.003	6.999	-0.000
Finger 12:	4.003	0.002	4.998	-0.001	6.000	-0.000	6.998	-0.001
Finger 13:	4.007	0.003	5.002	0.001	6.006	0.003	7.005	0.003
Finger 14:	3.994	-0.002	4.995	-0.002	5.999	-0.002	6.994	-0.002

Finger 14:	3.994	-0.003	4.995	-0.002	5.993	-0.003	6.994	-0.003
Finger 15:	4.004	0.002	4.997	-0.001	6.000	-0.000	6.998	-0.001
Finger 16:	3.999	-0.000	4.993	-0.004	5.994	-0.003	7.001	0.001
Finger 17:	4.005	0.003	5.002	0.001	6.002	0.001	7.000	0.000
Finger 18:	3.998	-0.001	4.997	-0.001	5.990	-0.005	6.994	-0.003
Finger 19:	3.999	-0.001	5.000	0.000	5.995	-0.003	6.995	-0.003
Finger 20:	3.994	-0.003	4.995	-0.003	5.993	-0.004	6.999	-0.000
Finger 21:	4.005	0.003	4.998	-0.001	6.001	0.001	7.007	0.003
Finger 22:	3.995	-0.002	4.997	-0.002	5.996	-0.002	6.995	-0.003
Finger 23:	4.006	0.003	5.001	0.000	5.996	-0.002	6.996	-0.002
Finger 24:	3.996	-0.002	4.996	-0.002	5.997	-0.002	7.005	0.002
Finger 25:	4.011	0.006	4.999	-0.001	5.999	-0.000	7.002	0.001
Finger 26:	4.006	0.003	5.004	0.002	5.999	-0.000	7.003	0.002
Finger 27:	4.001	0.000	4.999	-0.000	5.999	-0.000	7.003	0.002
Finger 28:	4.001	0.001	4.996	-0.002	5.997	-0.001	7.000	0.000
Finger 29:	4.004	0.002	4.996	-0.002	5.994	-0.003	7.002	0.001
Finger 30:	3.999	-0.001	4.999	-0.000	6.000	0.000	6.996	-0.002
Finger 31:	4.002	0.001	5.000	-0.000	5.997	-0.001	6.994	-0.003
Finger 32:	4.003	0.002	4.997	-0.001	5.996	-0.002	6.999	-0.000
Finger 33:	4.006	0.003	4.998	-0.001	5.998	-0.001	6.998	-0.001
Finger 34:	4.003	0.002	4.996	-0.002	5.995	-0.002	6.995	-0.003
Finger 35:	4.009	0.005	4.999	-0.000	5.992	-0.004	7.000	-0.000
Finger 36:	4.003	0.001	5.004	0.002	6.000	-0.000	6.999	-0.000
Finger 37:	4.007	0.004	5.001	0.001	5.992	-0.004	7.000	0.000
Finger 38:	3.998	-0.001	4.996	-0.002	5.993	-0.003	6.998	-0.001
Finger 39:	3.991	-0.004	4.993	-0.003	5.999	-0.001	7.005	0.003
Finger 40:	4.005	0.002	5.000	0.000	6.000	-0.000	6.999	-0.001
Average:	4.002	0.001	4.998	-0.001	5.997	-0.002	7.000	-0.000

Segmented Cement Bond Log Calibration Report

Serial Number:	1063
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	5.000 ft

Master Calibration, performed Sun Jun 15 11:32:13 2014:							
	Raw (v)		Calibrated (mv)		Results		
	Zero	Cal	Zero	Cal	Gain	Offset	
3FT	-0.004	0.680	0.800	62.165	89.657	1.156	
5FT	-0.006	0.690	0.800	62.165	88.117	1.335	
S1	-0.005	0.694	0.000	100.000	143.042	0.698	
S2	-0.006	0.649	0.000	100.000	152.620	0.909	
S3	-0.004	0.617	0.000	100.000	161.070	0.631	
S4	-0.006	0.635	0.000	100.000	156.003	0.895	
S5	-0.003	0.666	0.000	100.000	149.421	0.487	
S6	-0.005	0.705	0.000	100.000	140.950	0.637	
S7	-0.004	0.739	0.000	100.000	134.638	0.488	
S8	-0.004	0.728	0.000	100.000	136.650	0.499	

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
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	Company	Kerr-McGee Oil & Gas Onshore, L.P.
	Well	Elliott State 8N-17HZ
	Field	Wattenberg
	County	Weld
	State	Colorado