



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company Kerr-McGee Oil & Gas Onshore, L.P.				Company Kerr-McGee Oil & Gas Onshore, L.P.			
Well NRC State 26N-8HZ				Well NRC State 26N-8HZ			
Field Wattenberg				Field Wattenberg			
County Weld				County Weld			
State Colorado				State Colorado			
Location:				Location:			
SHL: 350' FSL & 830' FEL				SHL: 350' FSL & 830' FEL			
Lat / Long: 40.059248 / -104.908059				Lat / Long: 40.059248 / -104.908059			
SEC 8 TWP 1N RGE 67W				SEC 8 TWP 1N RGE 67W			
Permanent Datum				Permanent Datum			
Ground Level				Ground Level			
Elevation				Elevation			
5074'				5074'			
Log Measured From				Log Measured From			
Kelly Bushing				Kelly Bushing			
25 FT				25 FT			
Drilling Measured From				Drilling Measured From			
Kelly Bushing				Kelly Bushing			
Date				Date			
21-May-2014				21-May-2014			
Run Number				Run Number			
Three				Three			
Depth Driller				Depth Driller			
12717 FT				12717 FT			
Depth Logger				Depth Logger			
6991 FT				6991 FT			
Bottom Logged Interval				Bottom Logged Interval			
6987 FT				6987 FT			
Top Log Interval				Top Log Interval			
Surface				Surface			
Open Hole Size				Open Hole Size			
8.765"				8.765"			
Type Fluid				Type Fluid			
Water				Water			
Density / Viscosity				Density / Viscosity			
8.34 lbm/gal				8.34 lbm/gal			
Max. Recorded Temp.				Max. Recorded Temp.			
206°F				206°F			
Estimated Cement Top				Estimated Cement Top			
57 FT				57 FT			
Time Well Ready				Time Well Ready			
ROA				ROA			
Time Logger on Bottom				Time Logger on Bottom			
13:00				13:00			
Equipment Number				Equipment Number			
HD-0324				HD-0324			
Location				Location			
Fort Lupton, CO				Fort Lupton, CO			
Recorded By				Recorded By			
J. Raby				J. Raby			
Witnessed By				Witnessed By			
John McCarthy				John McCarthy			
Borehole Record				Borehole Record			
Run Number				Run Number			
Bit				Bit			
From				From			
To				To			
Size				Size			
Weight				Weight			
From				From			
To				To			
Casing Record				Casing Record			
Size (in)				Size (in)			
Wgt (lbs/ft)				Wgt (lbs/ft)			
Grade				Grade			
Top				Top			
Bottom				Bottom			
9 5/8"				9 5/8"			
36				36			
J-55 LTC				J-55 LTC			
Surface				Surface			
Intermediate #1				Intermediate #1			
7"				7"			
26				26			
HCP-110 LTC				HCP-110 LTC			
Surface				Surface			
Intermediate #2				Intermediate #2			
4 1/2"				4 1/2"			
11.6				11.6			
P-110 DQXLTC				P-110 DQXLTC			
6942 FT				6942 FT			
12702 FT				12702 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 5099 FT.  
Depth reference to Casing Tally reported Liner Top at 6942 FT.  
Adjusted log +12 FT from KB zero to correlate with Liner Top.  
Retrievable Bridge Plug set at 7020 FT.  
Log ran from below Liner Top to surface.  
Log ran with 2800 PSI surface induced pressure.  
Lost data packs on lower half were approved by Anadarko Engineer.  
  
Thank you for choosing FMC Technologies Completion Services, Inc.!!



Main Pass

Recorded with 2800 PSI Surface Induced Pressure

Database File: 0512339093\_anadarko\_nrc state 26n-8hz\_05-21-14\_mit\_rbl.db

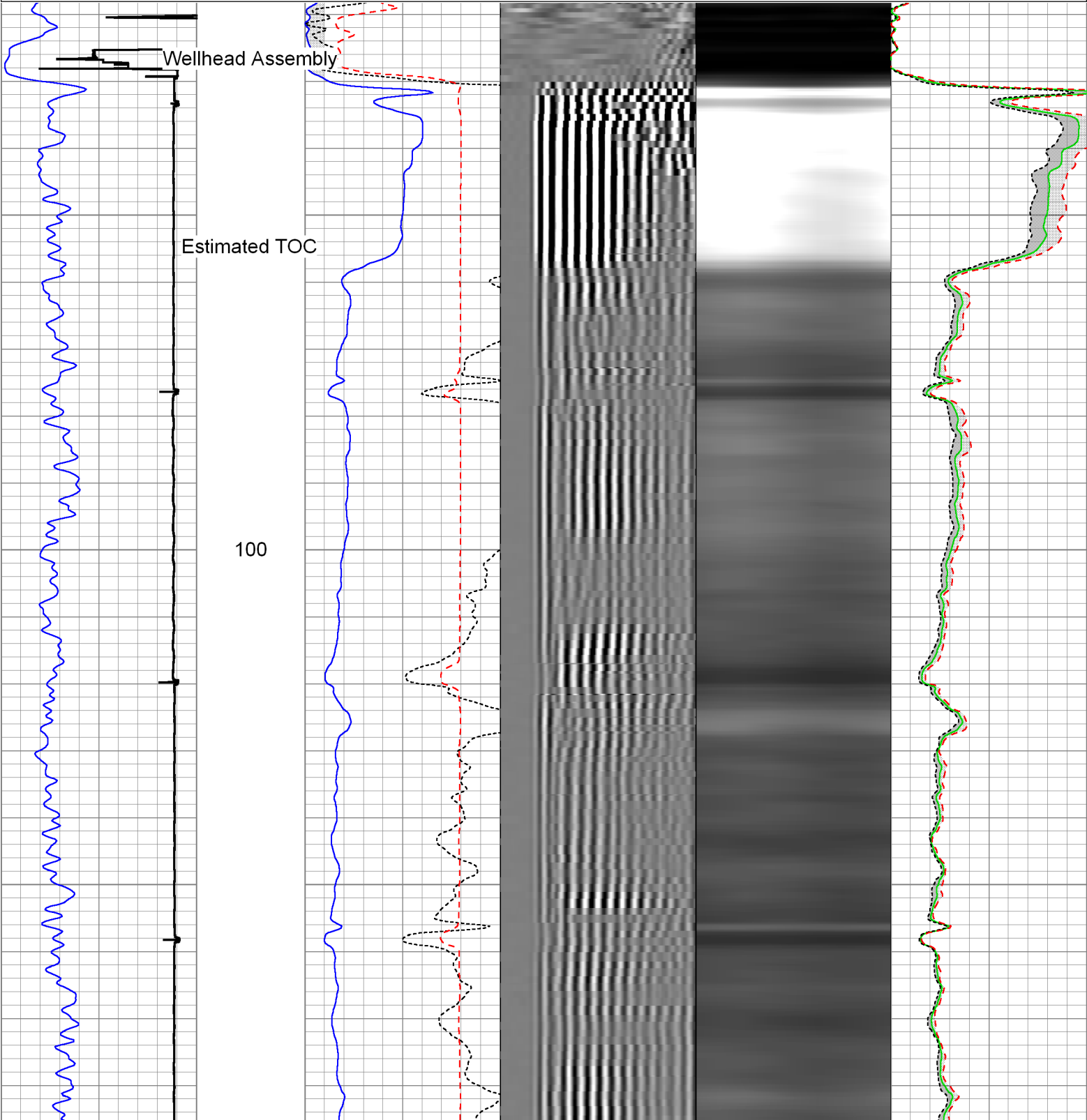
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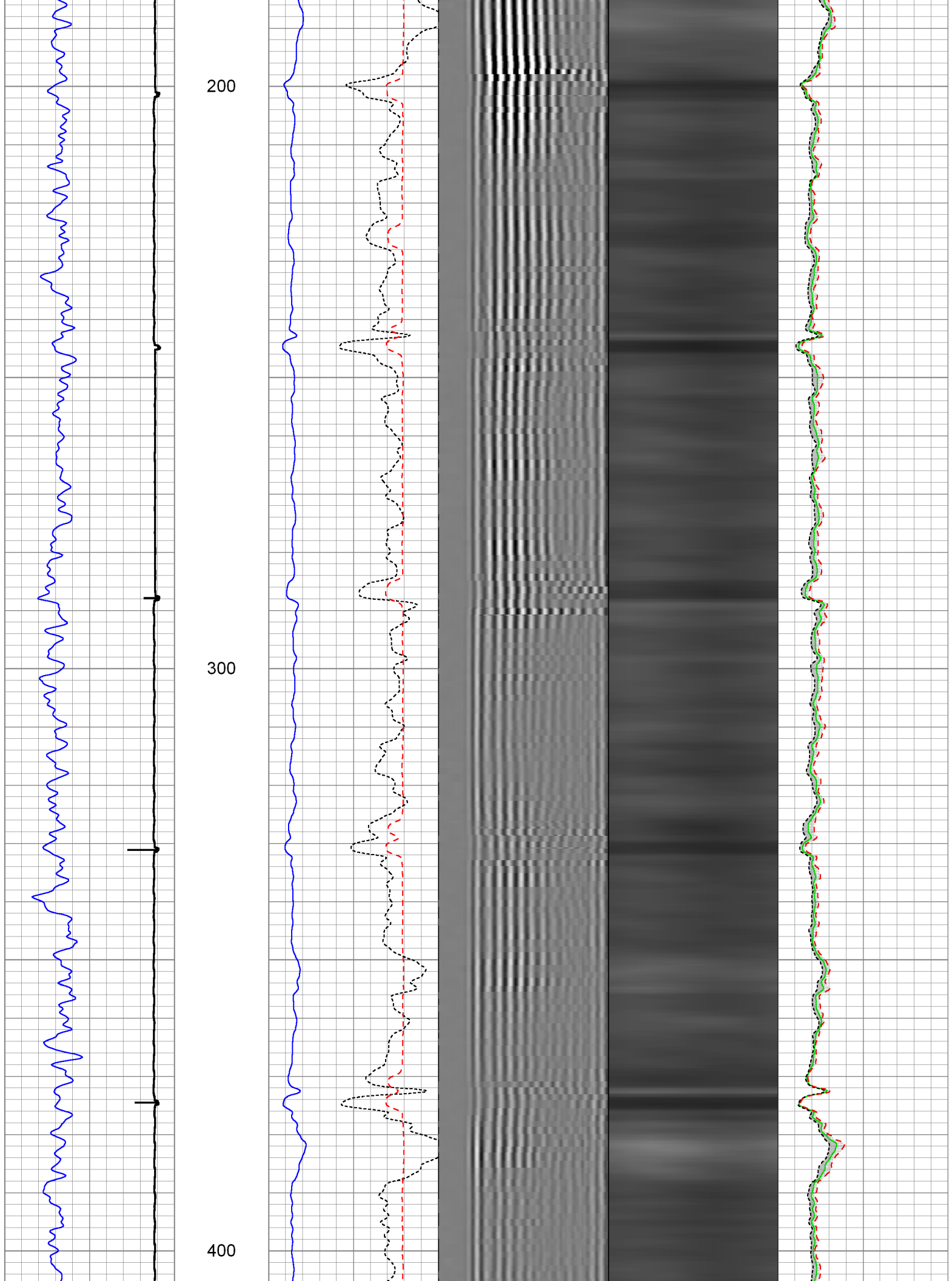
Presentation Format: rbt4\_mit

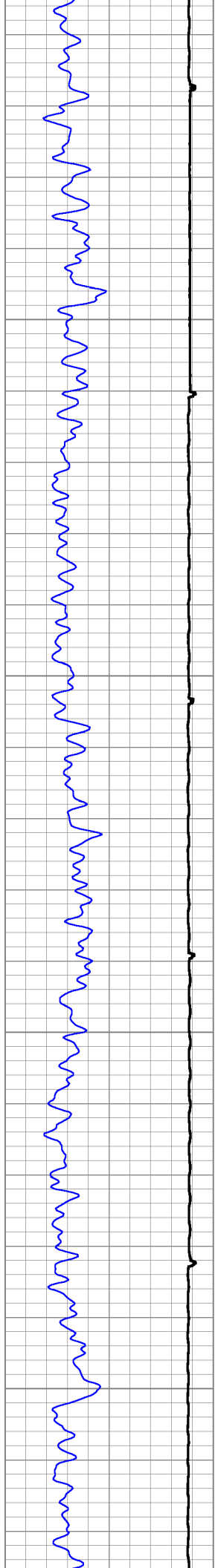
Dataset Creation: Wed May 21 13:10:00 2014 by Log 7.0 B1

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

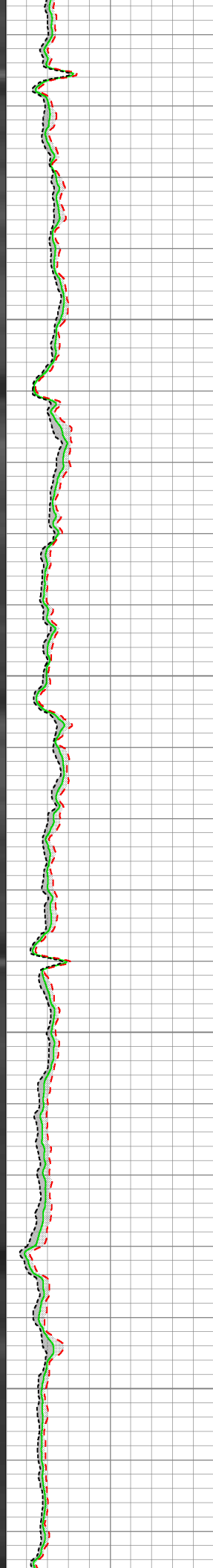
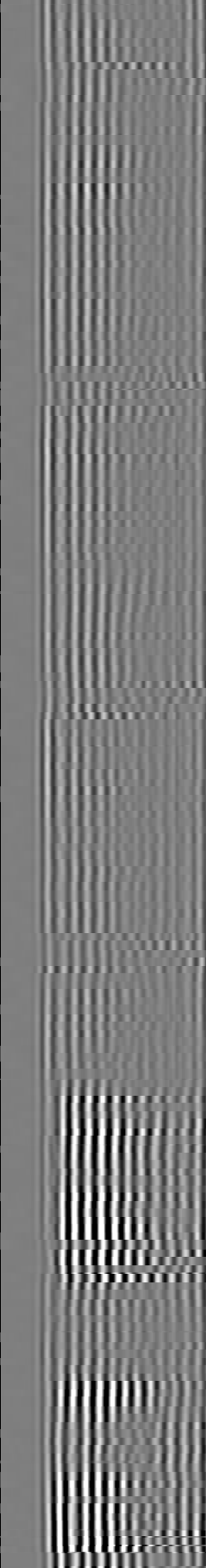
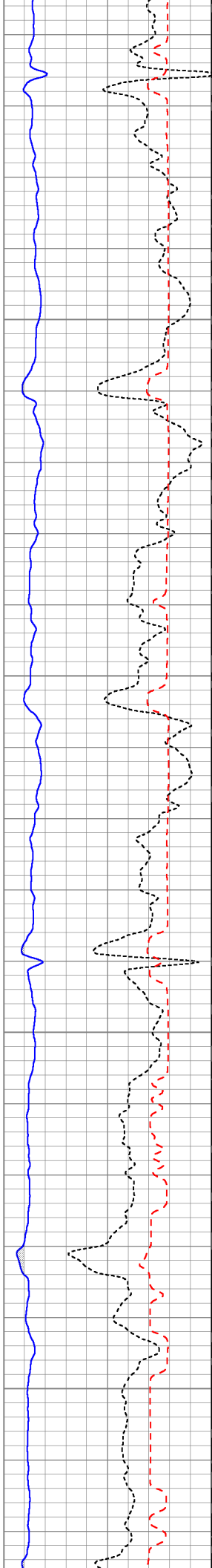




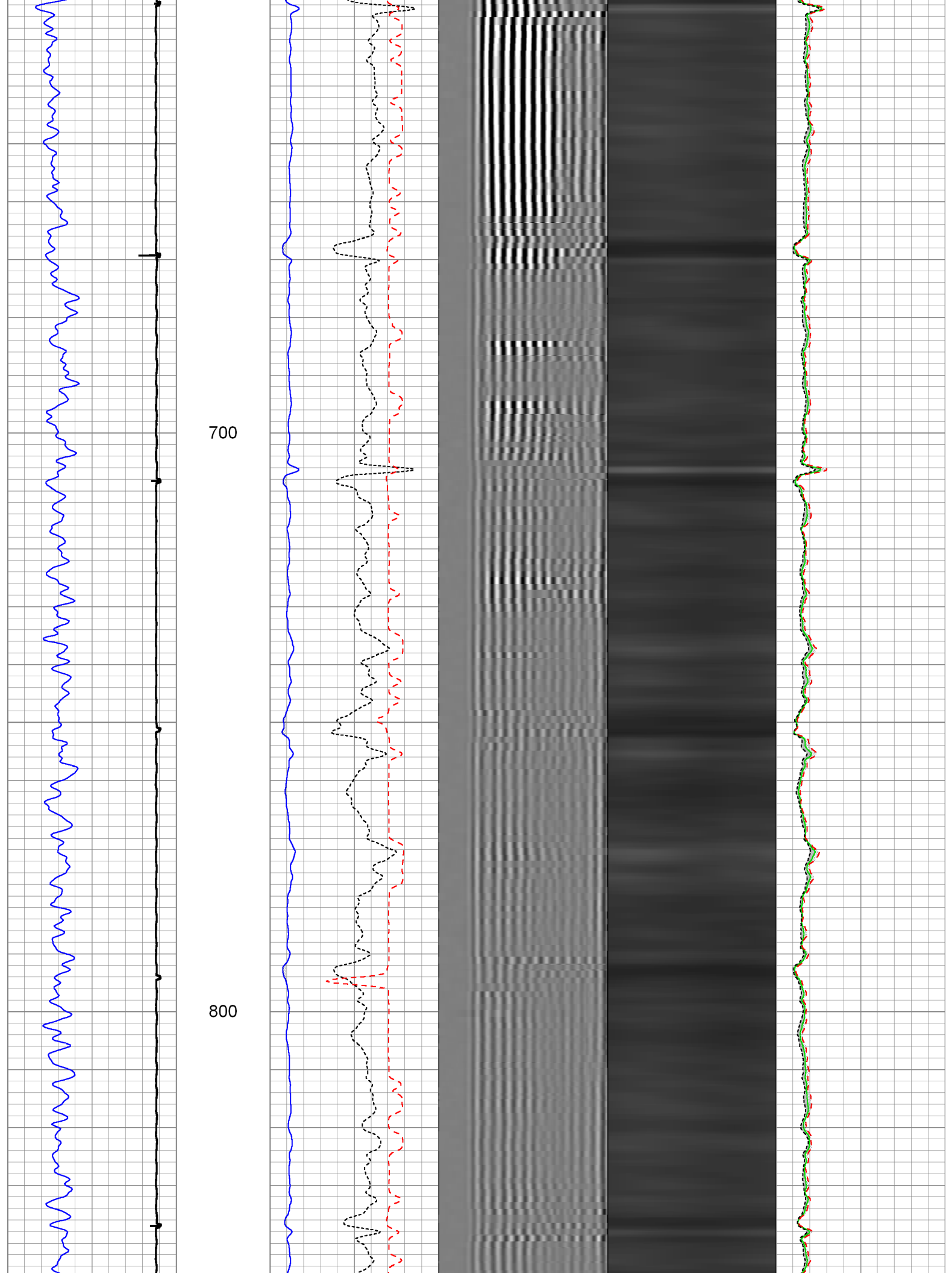


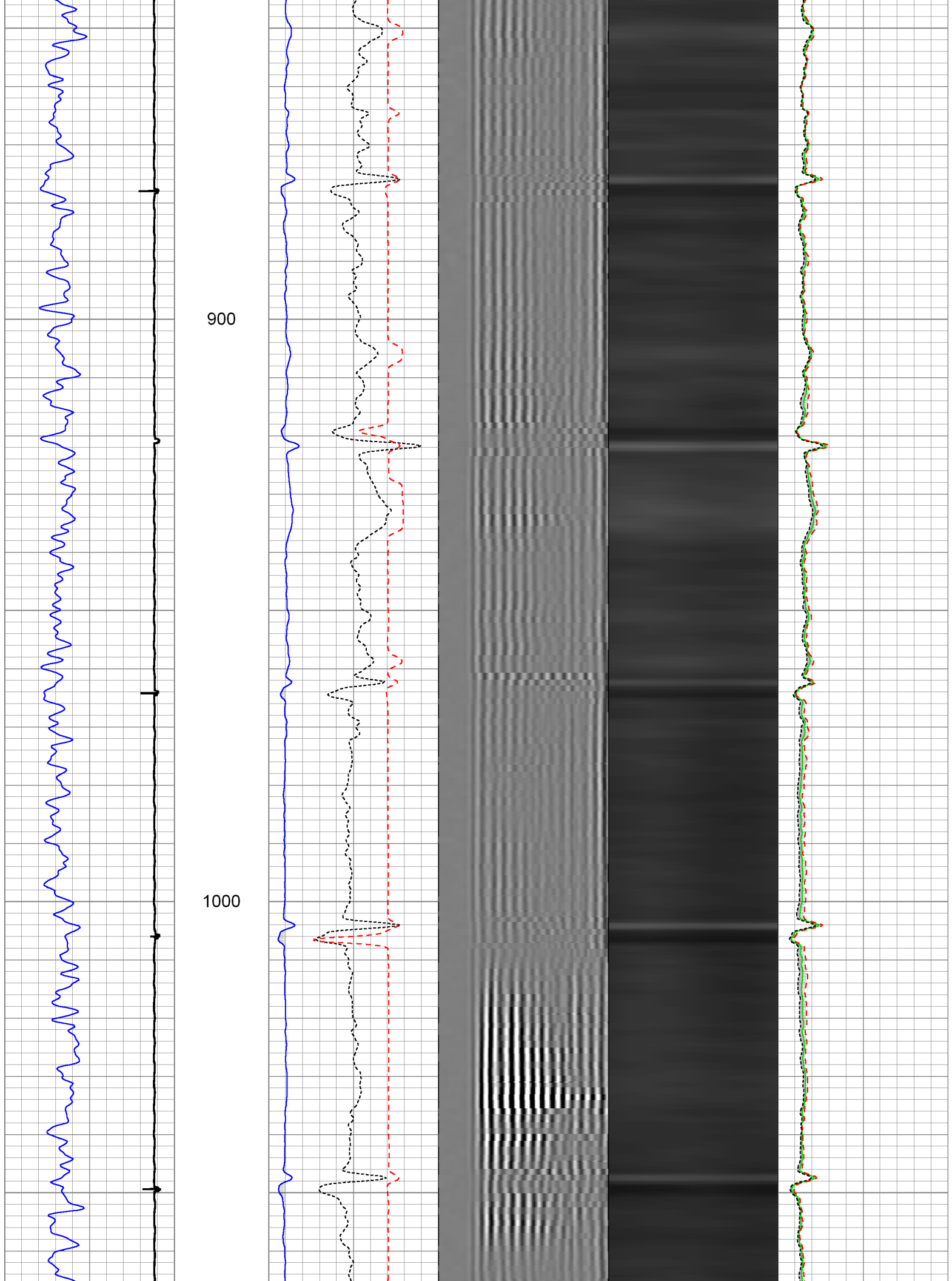
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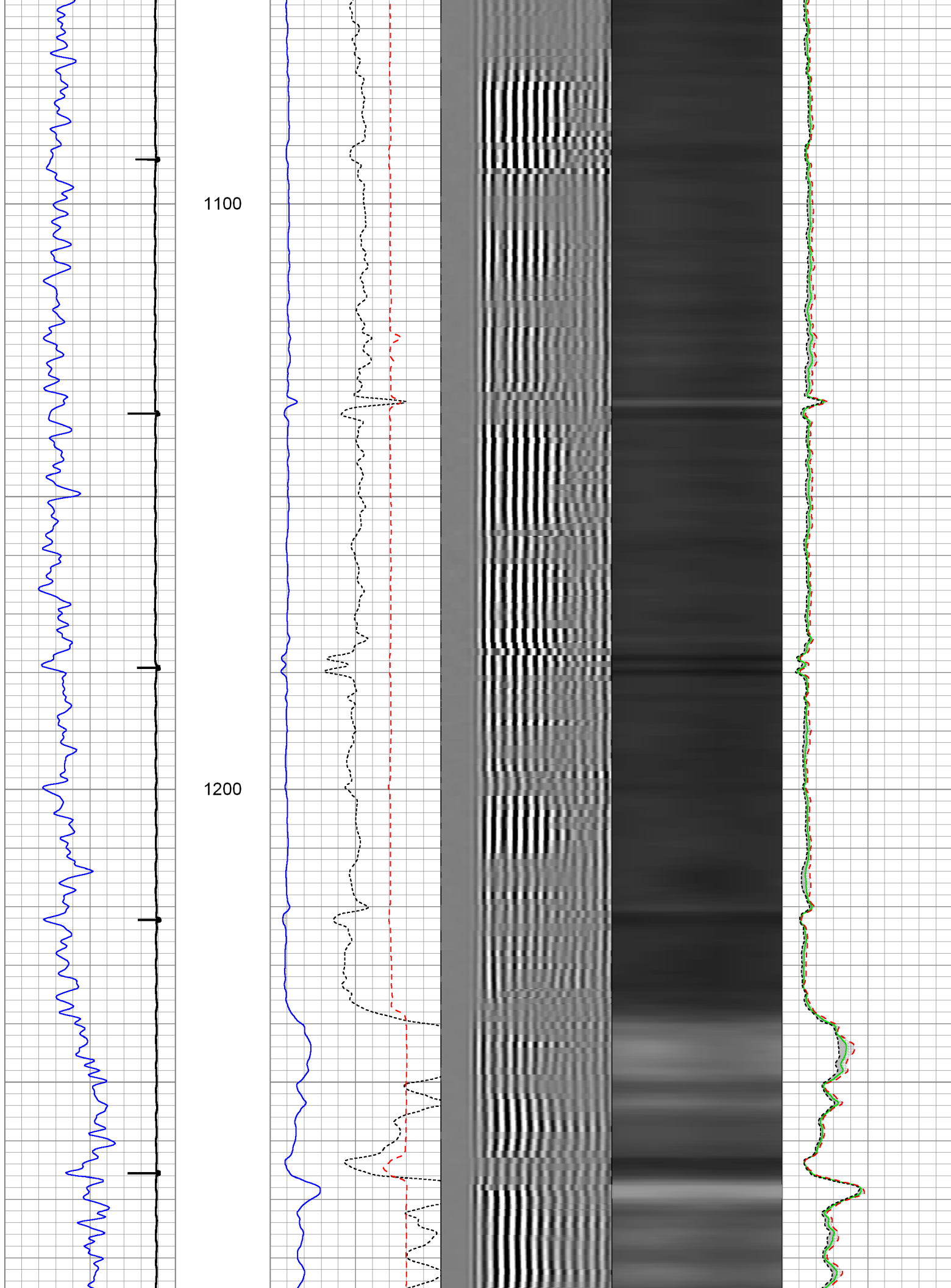






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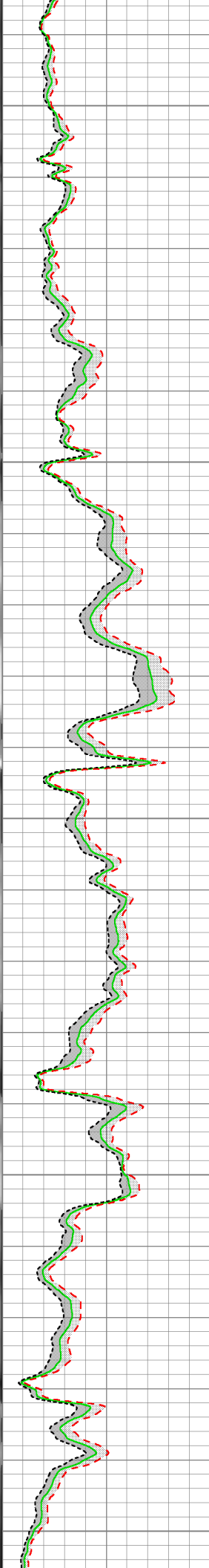
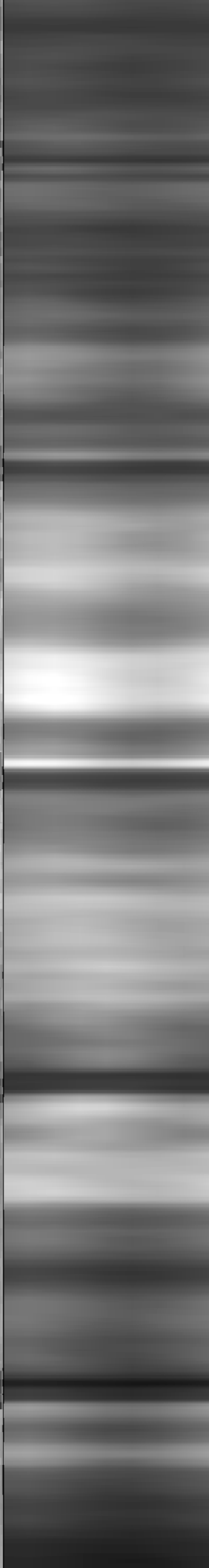
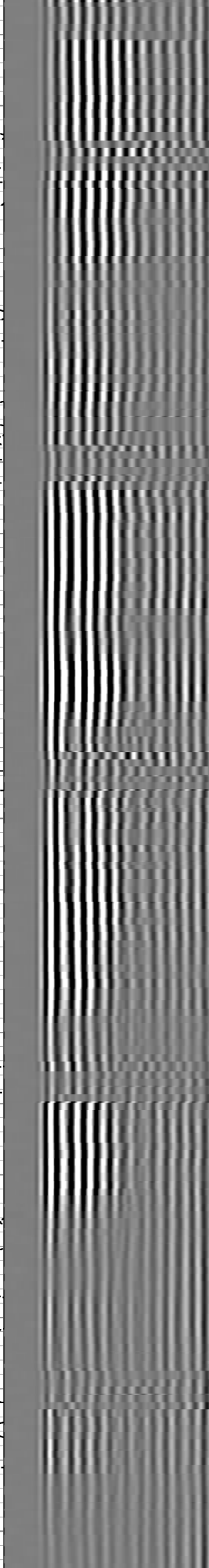
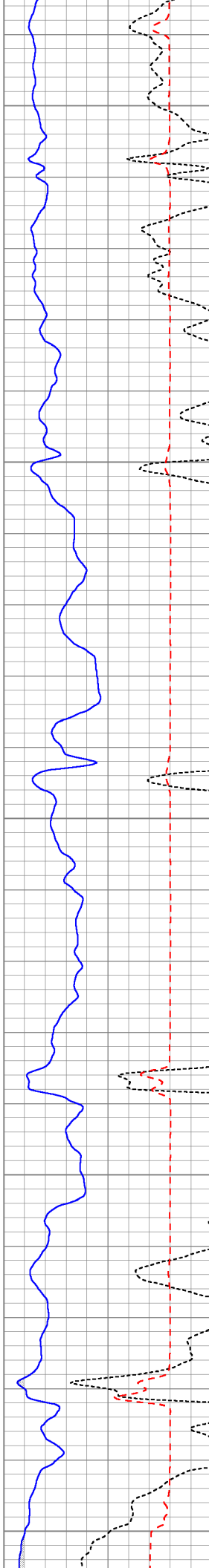
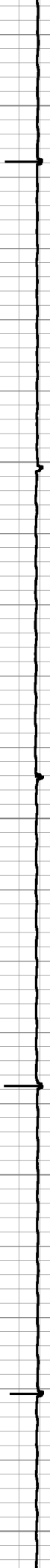
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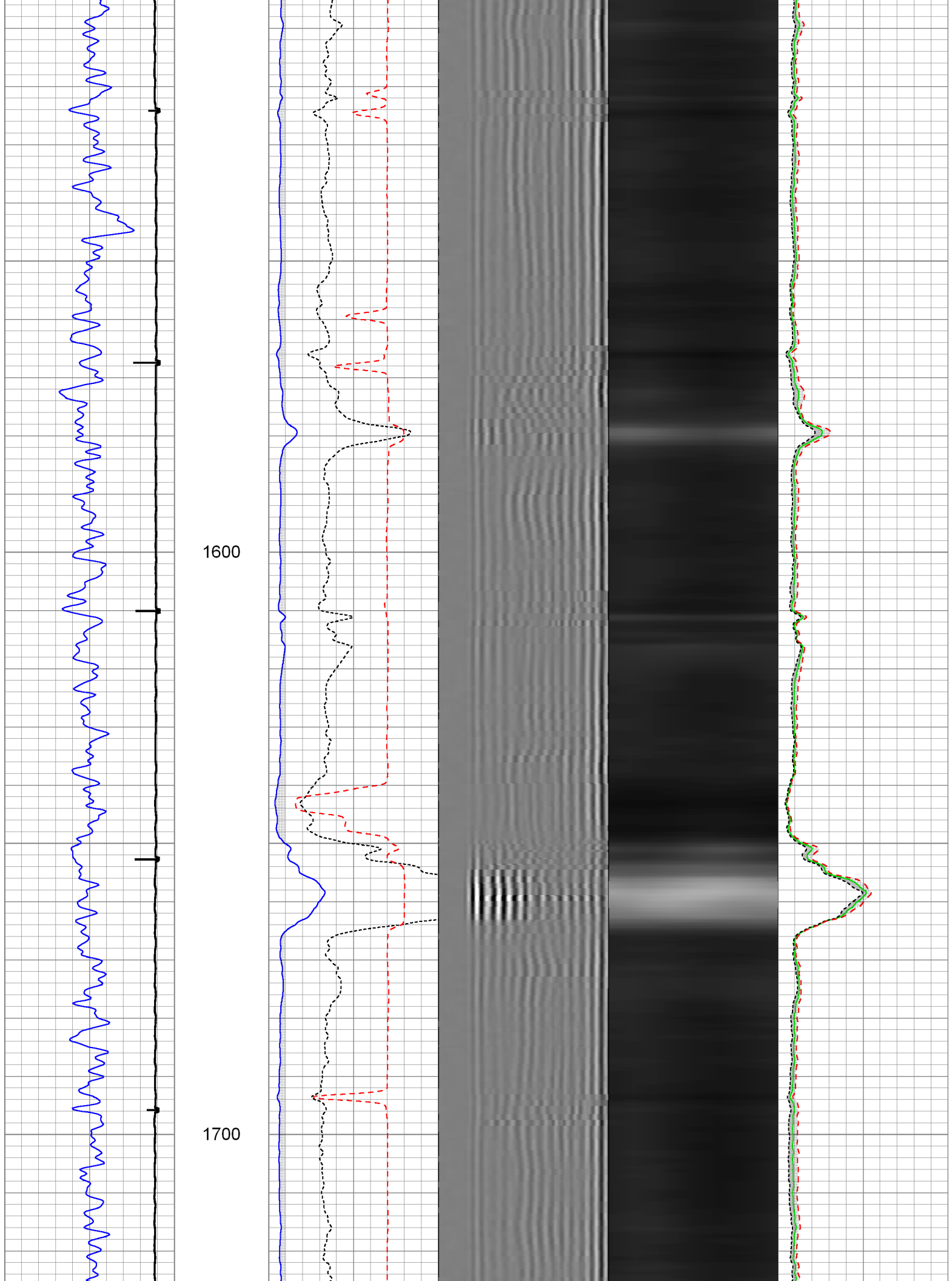


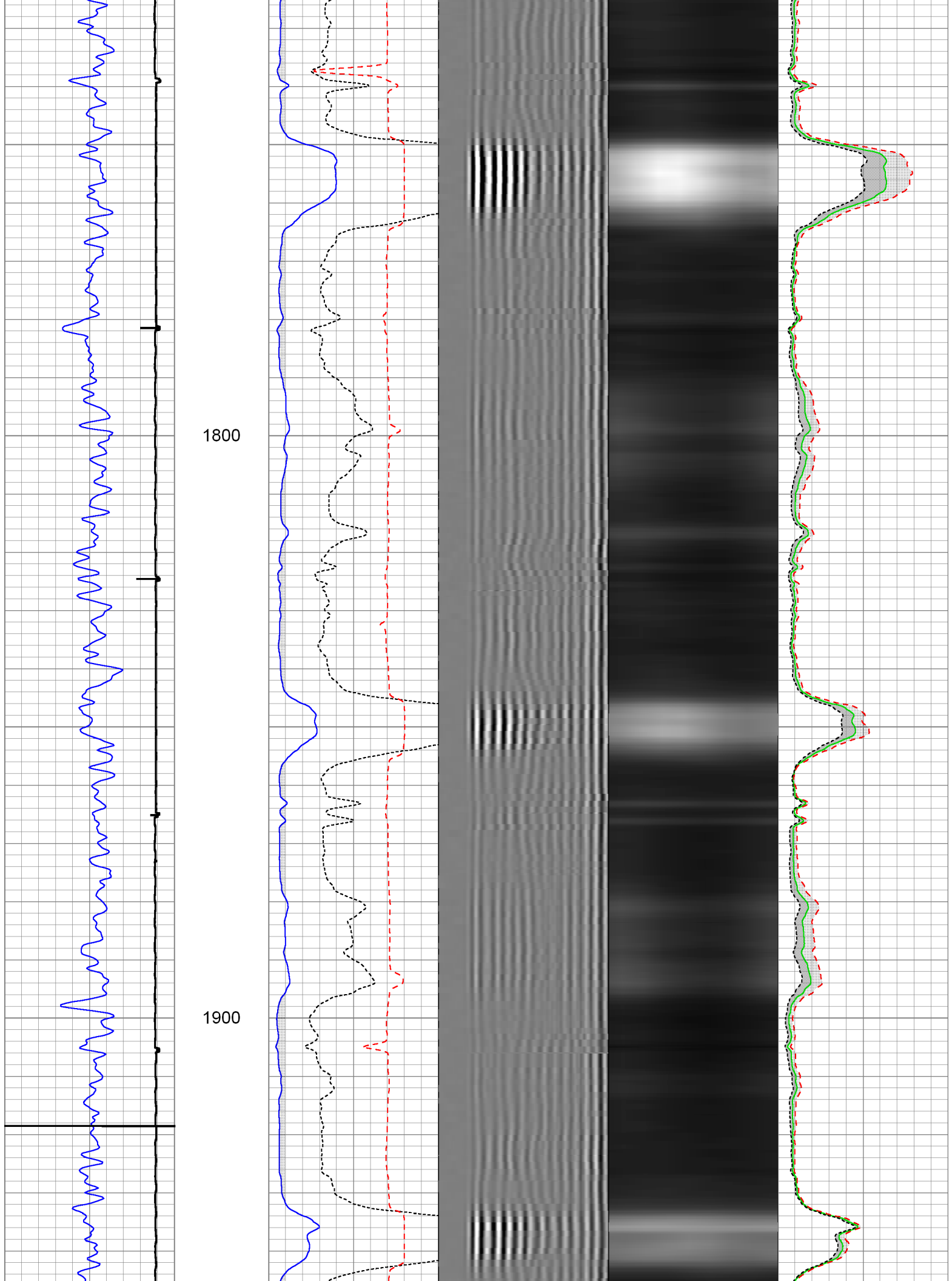
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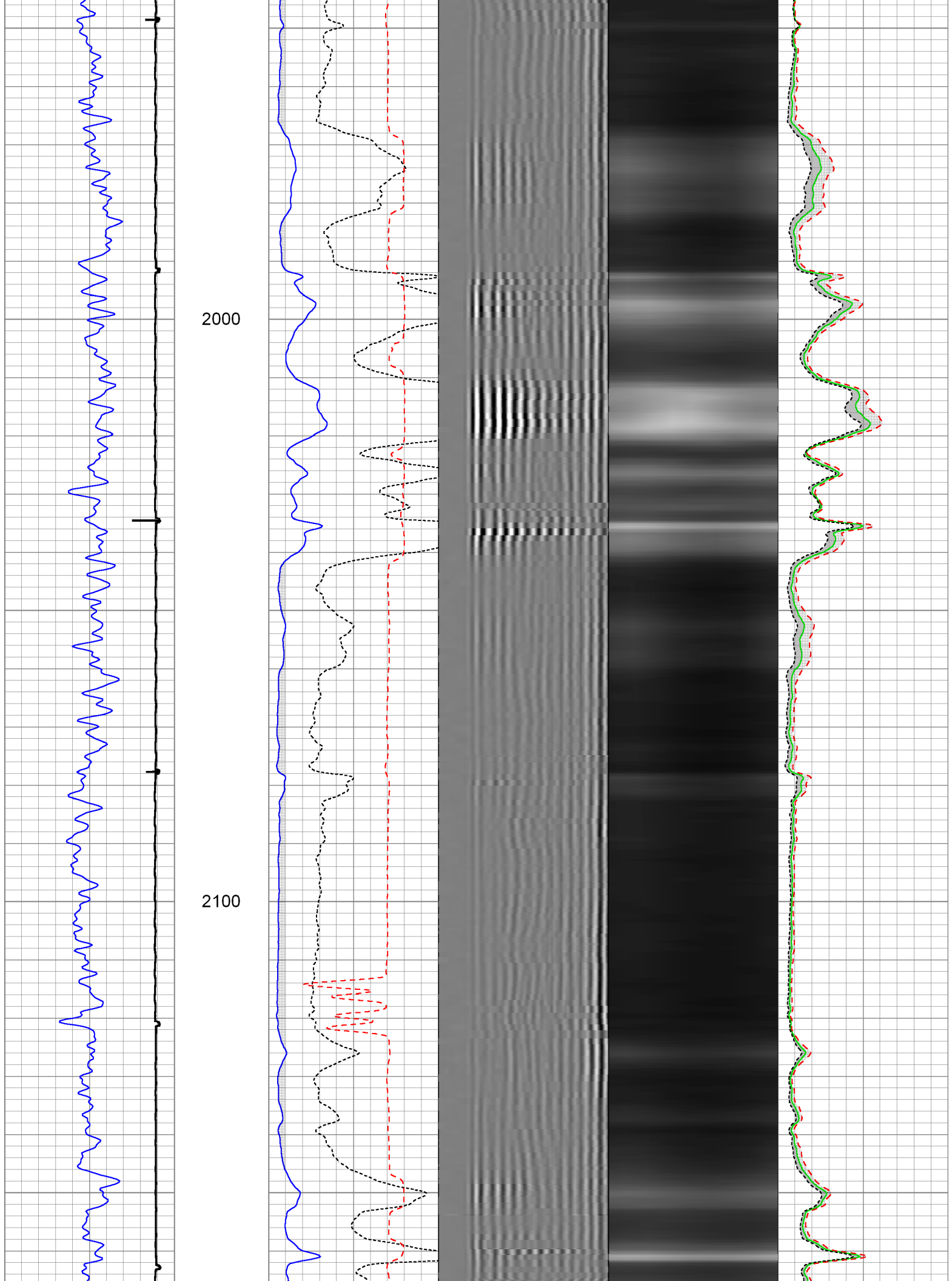
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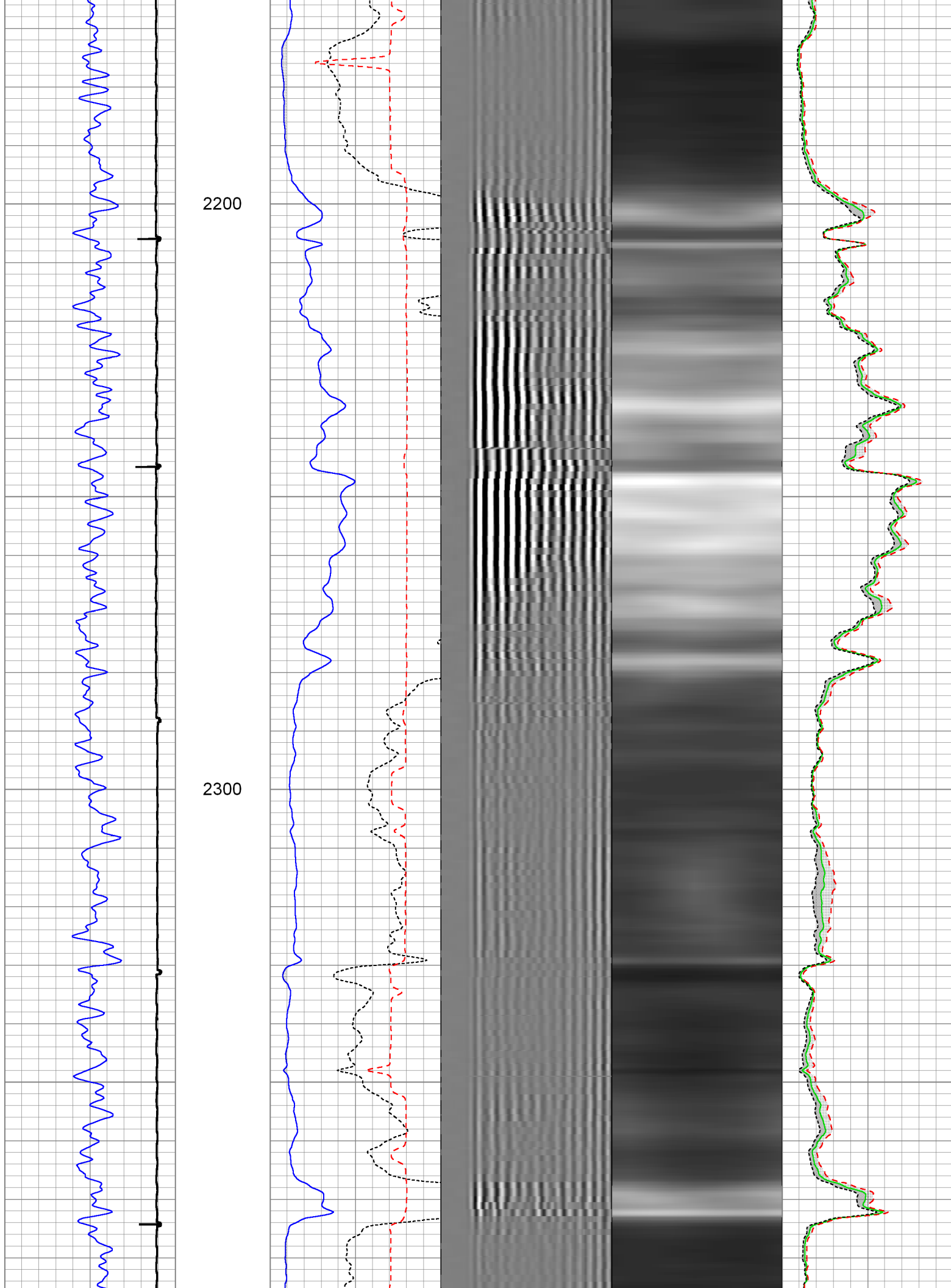






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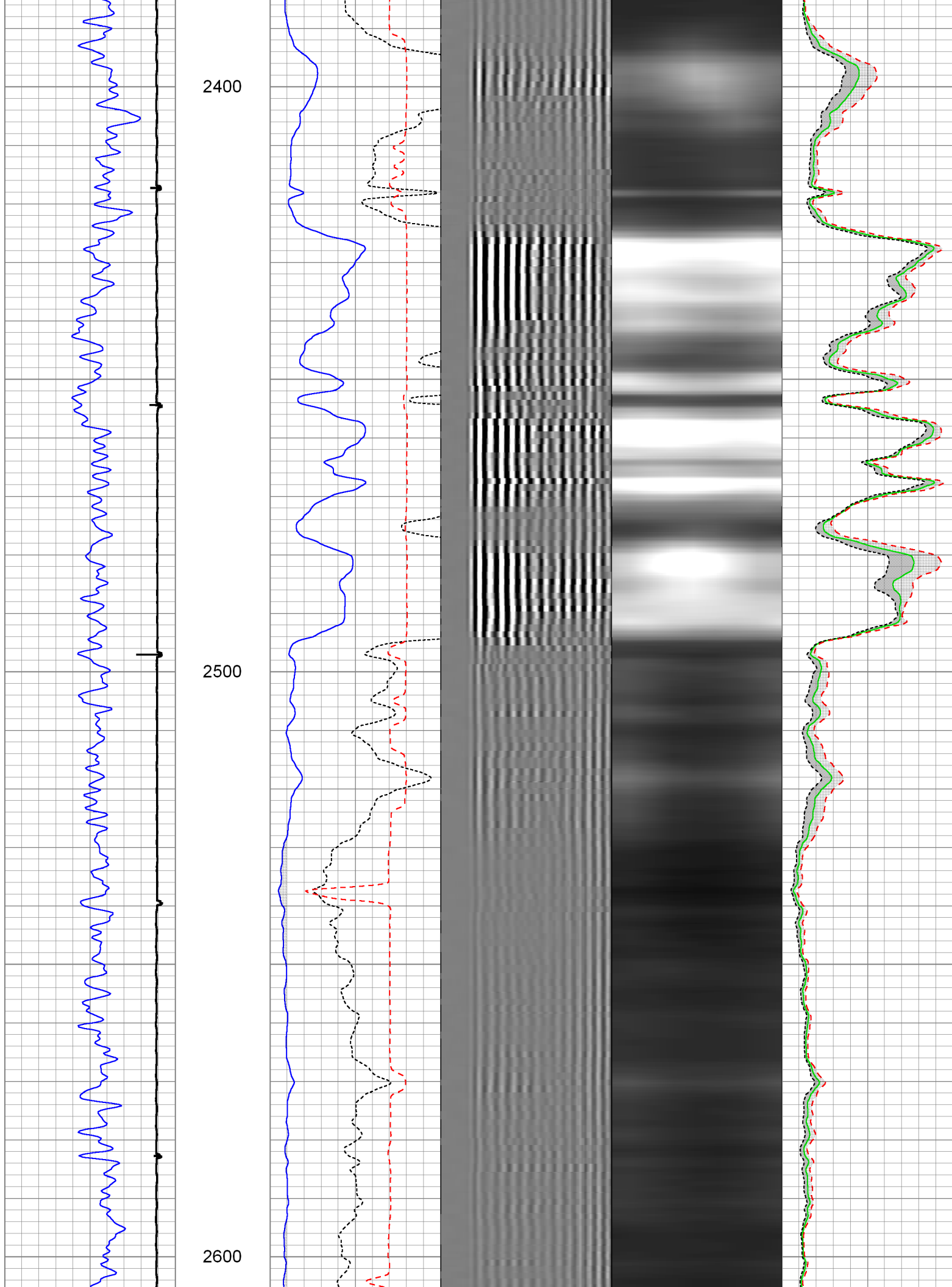
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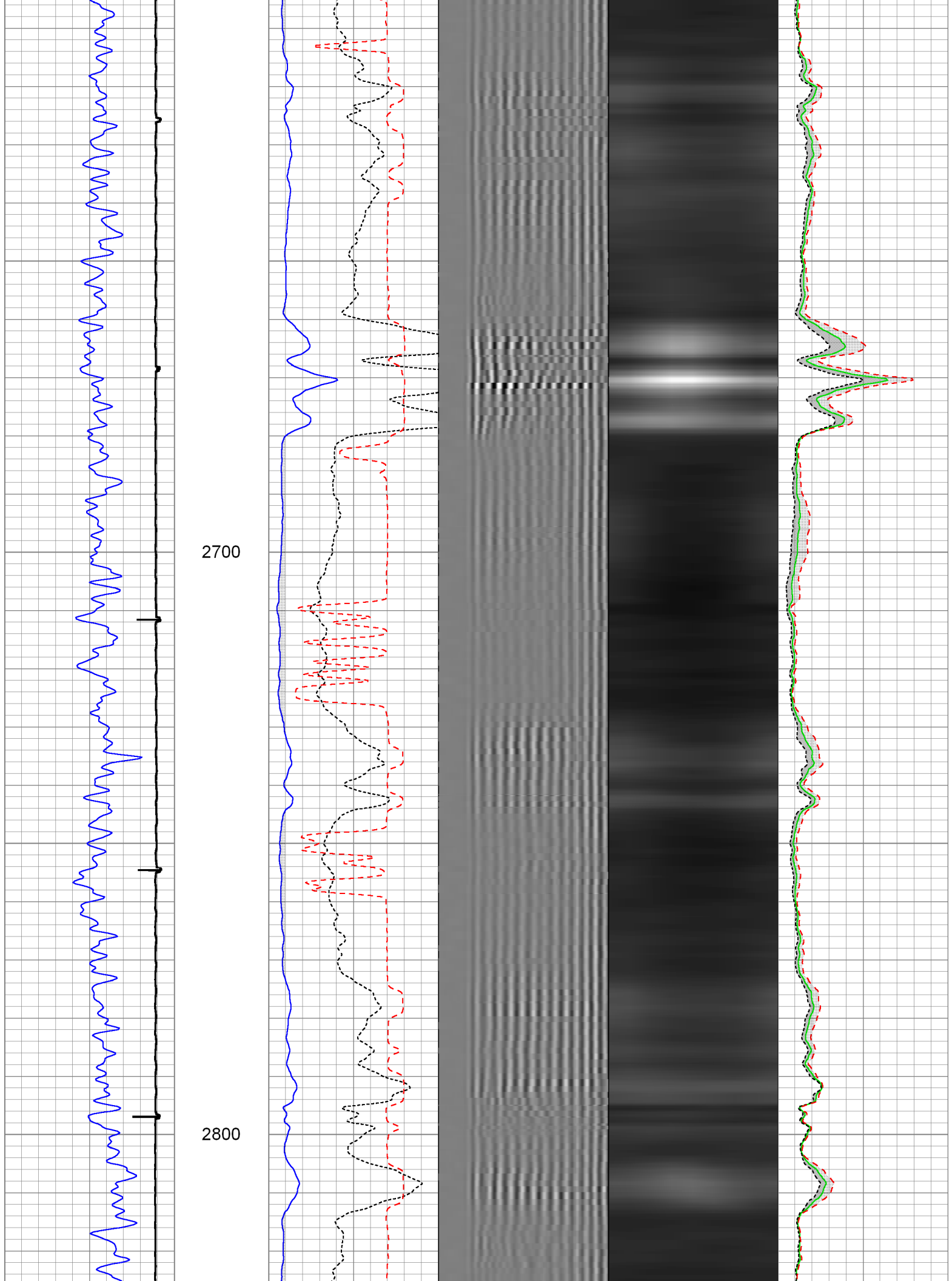


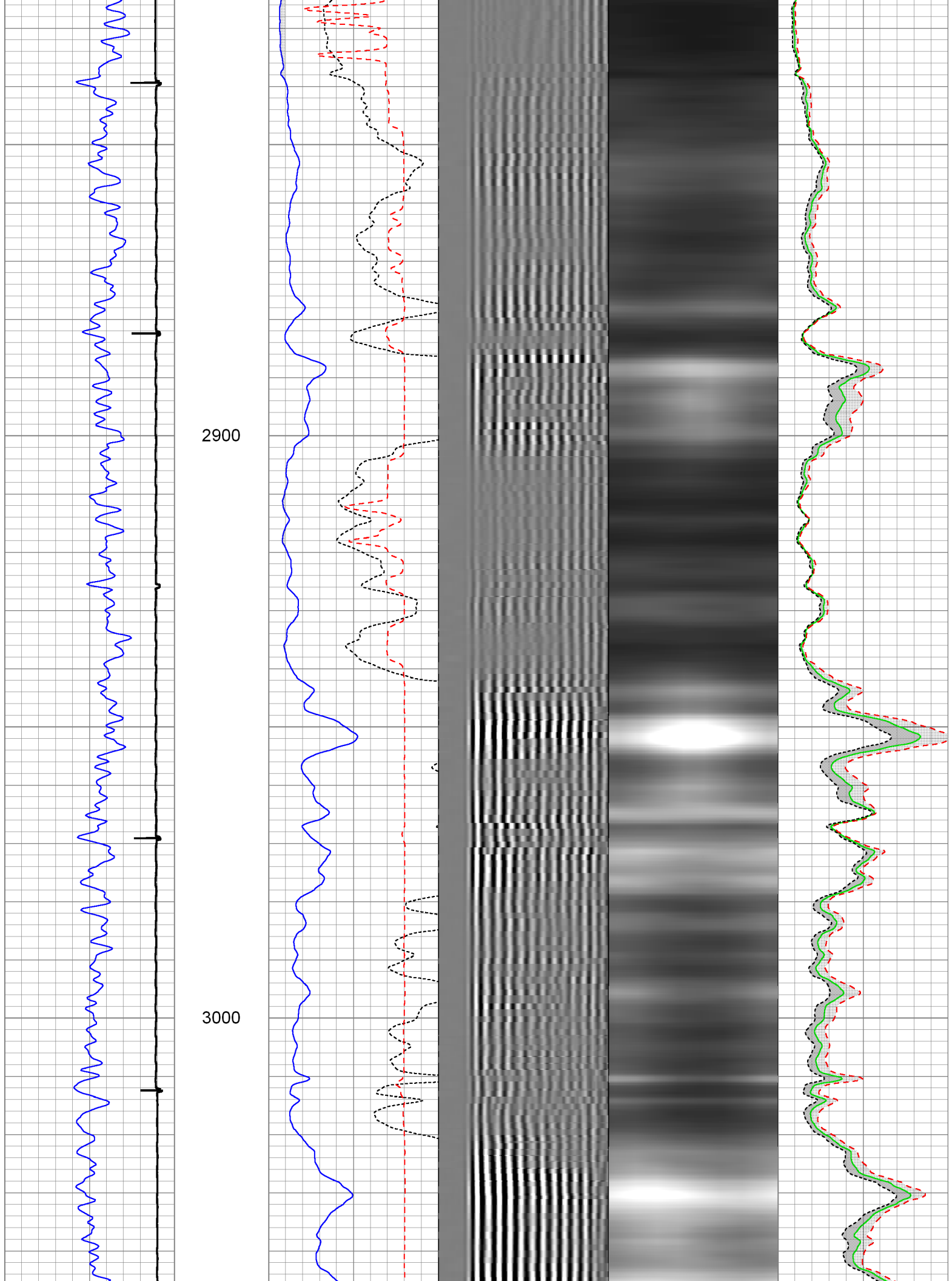
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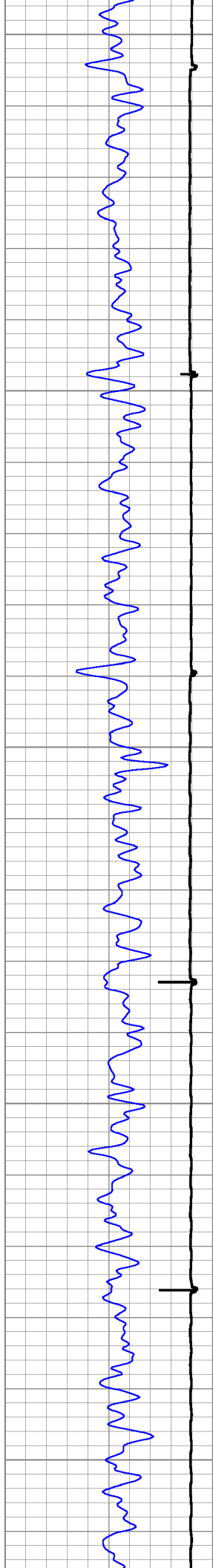
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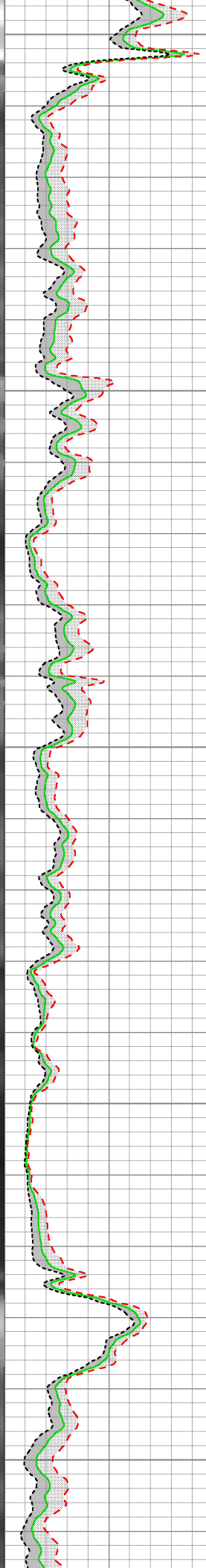
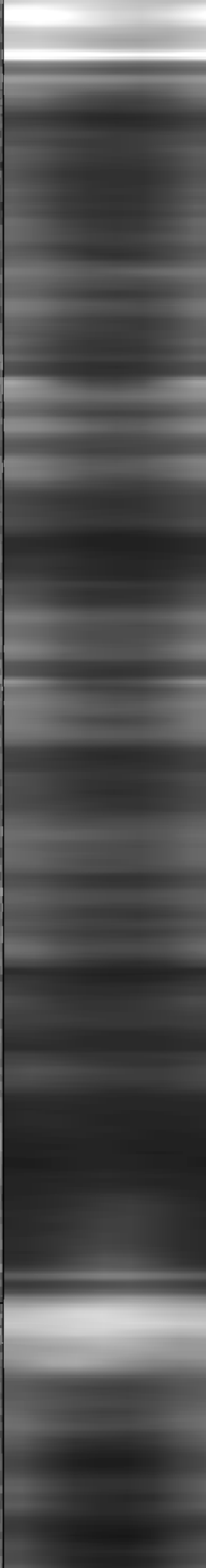
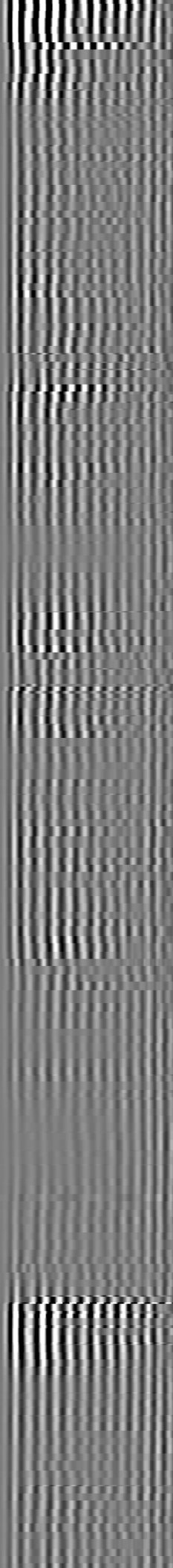
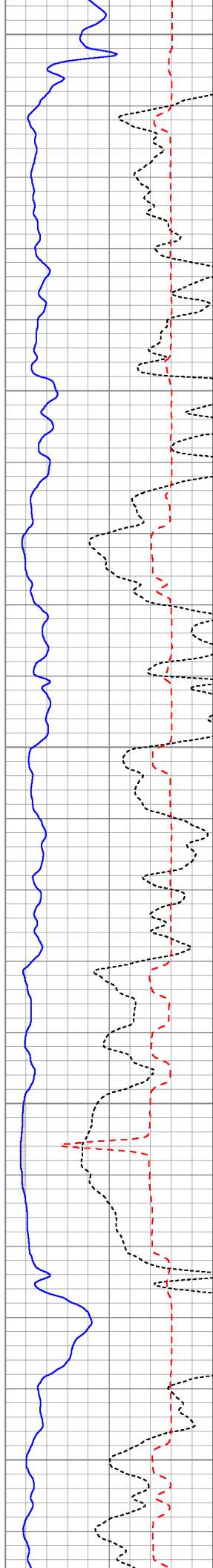






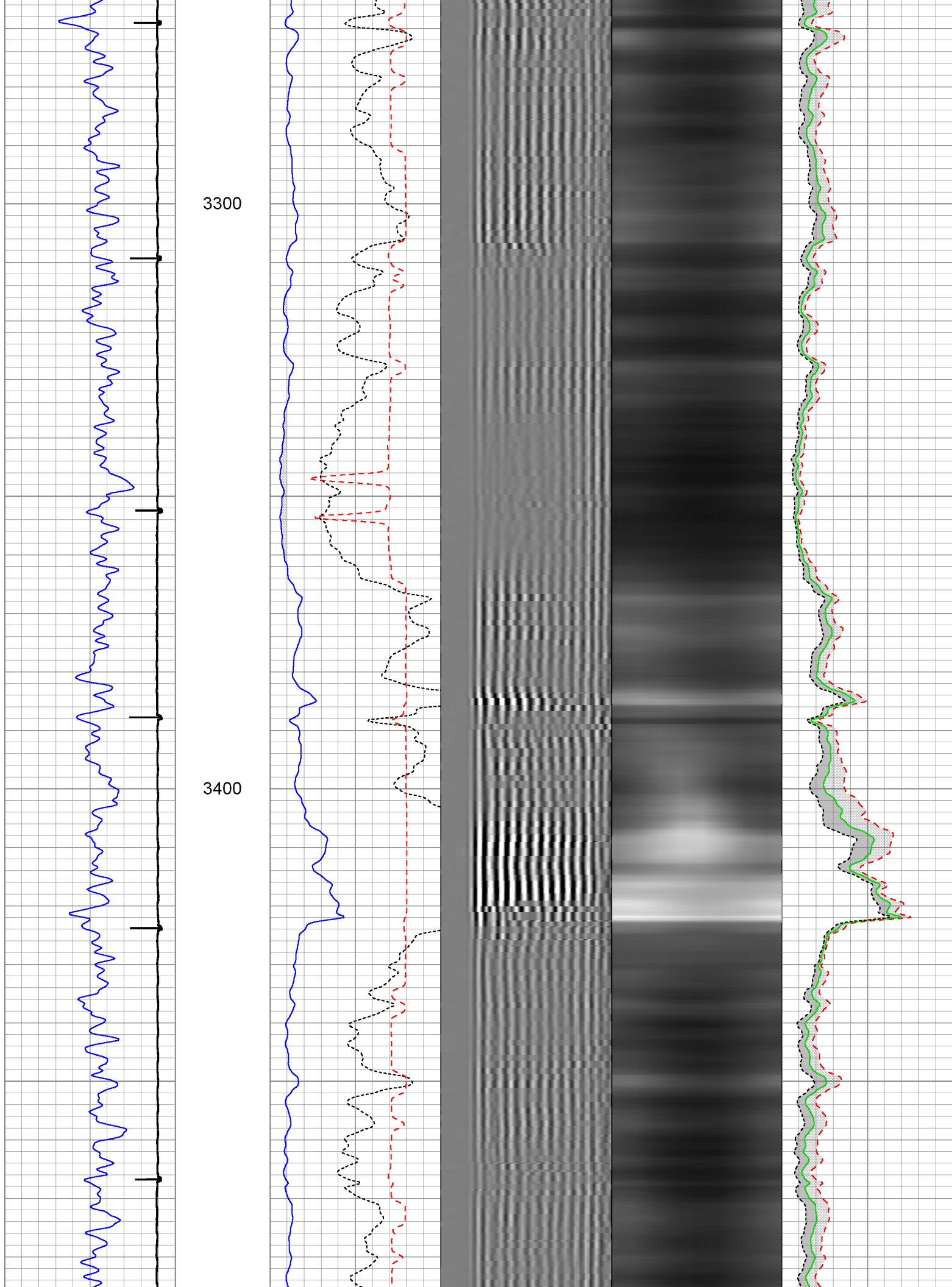
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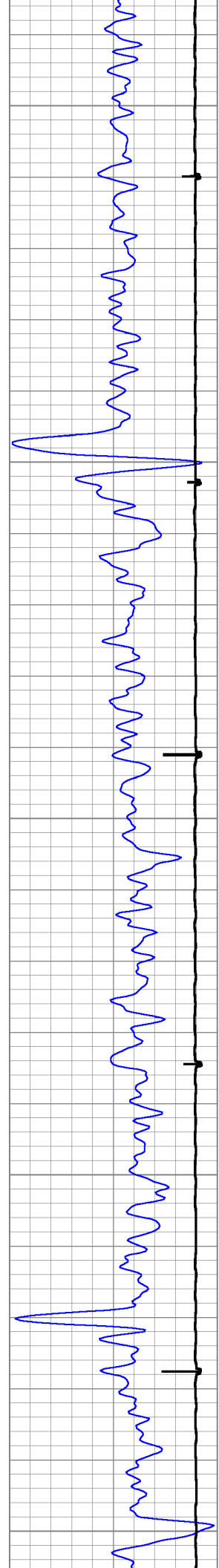
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3300

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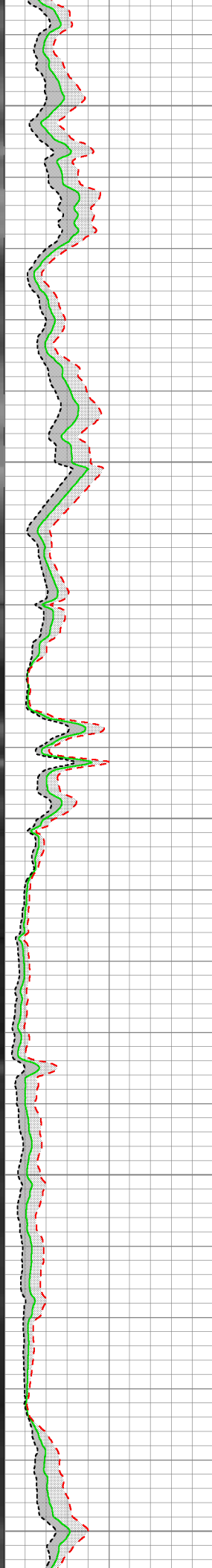
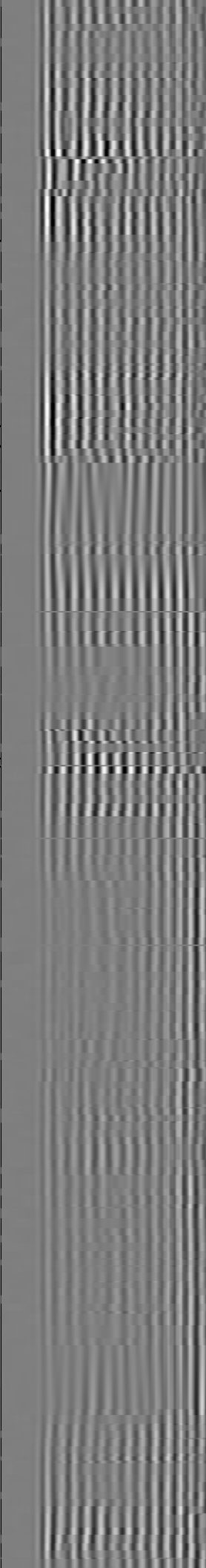
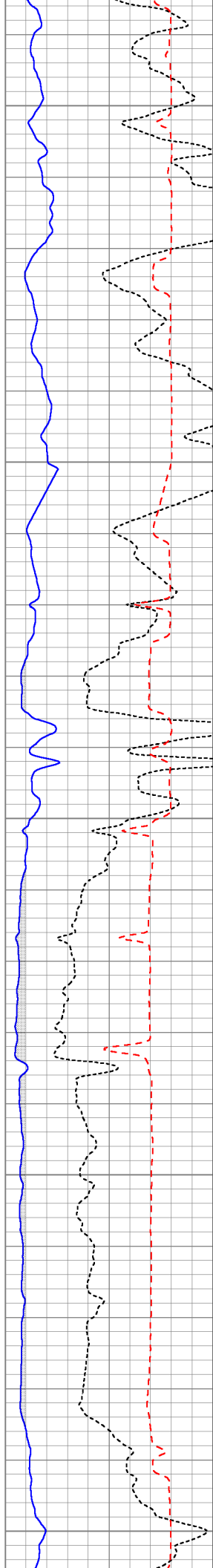




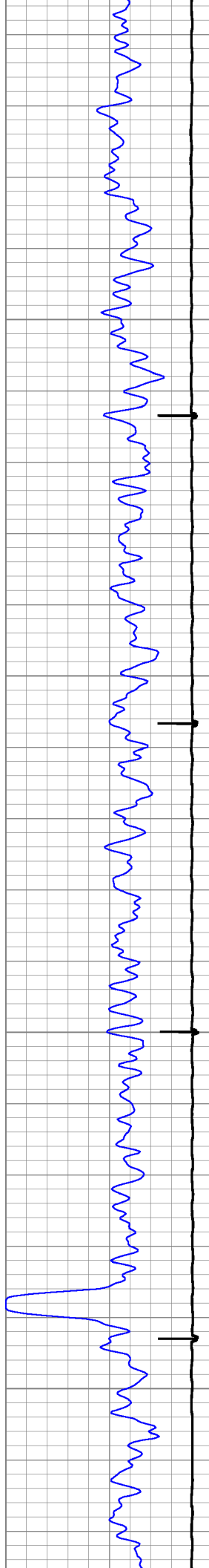
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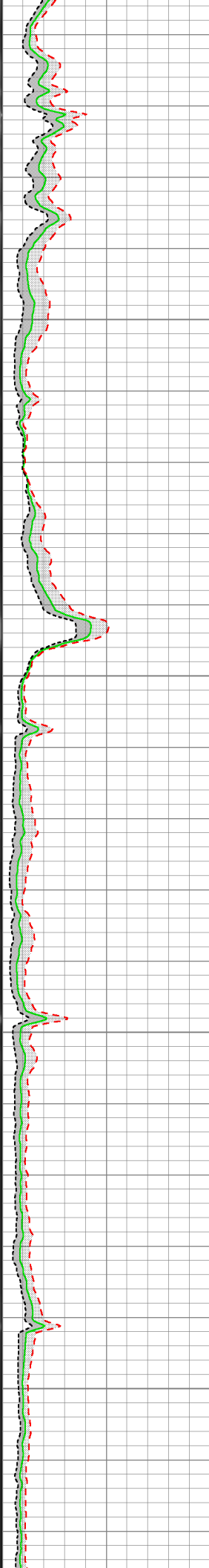
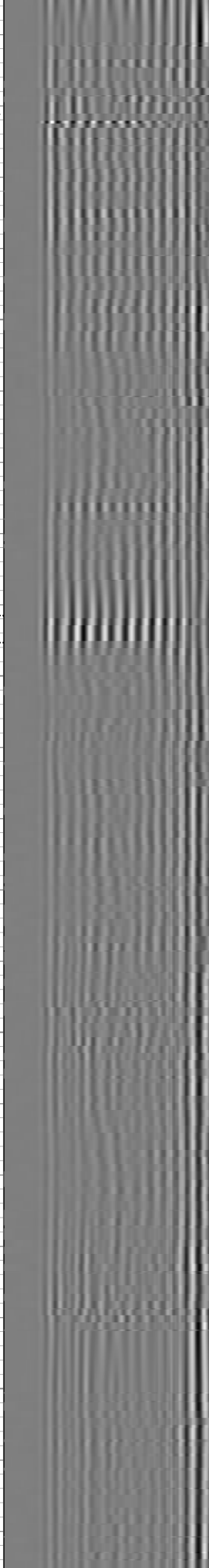
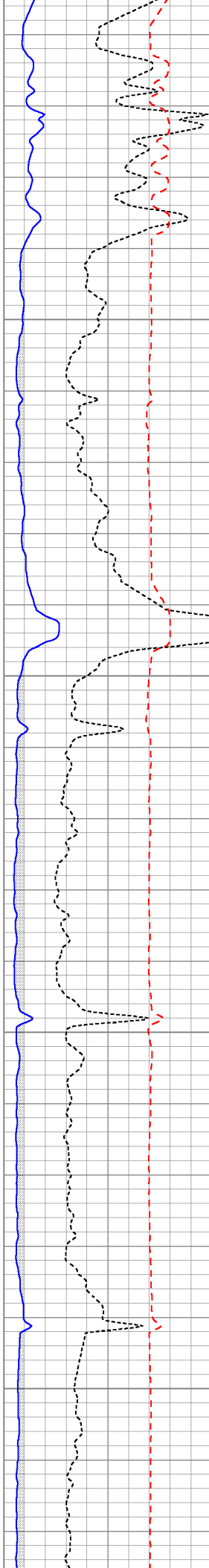


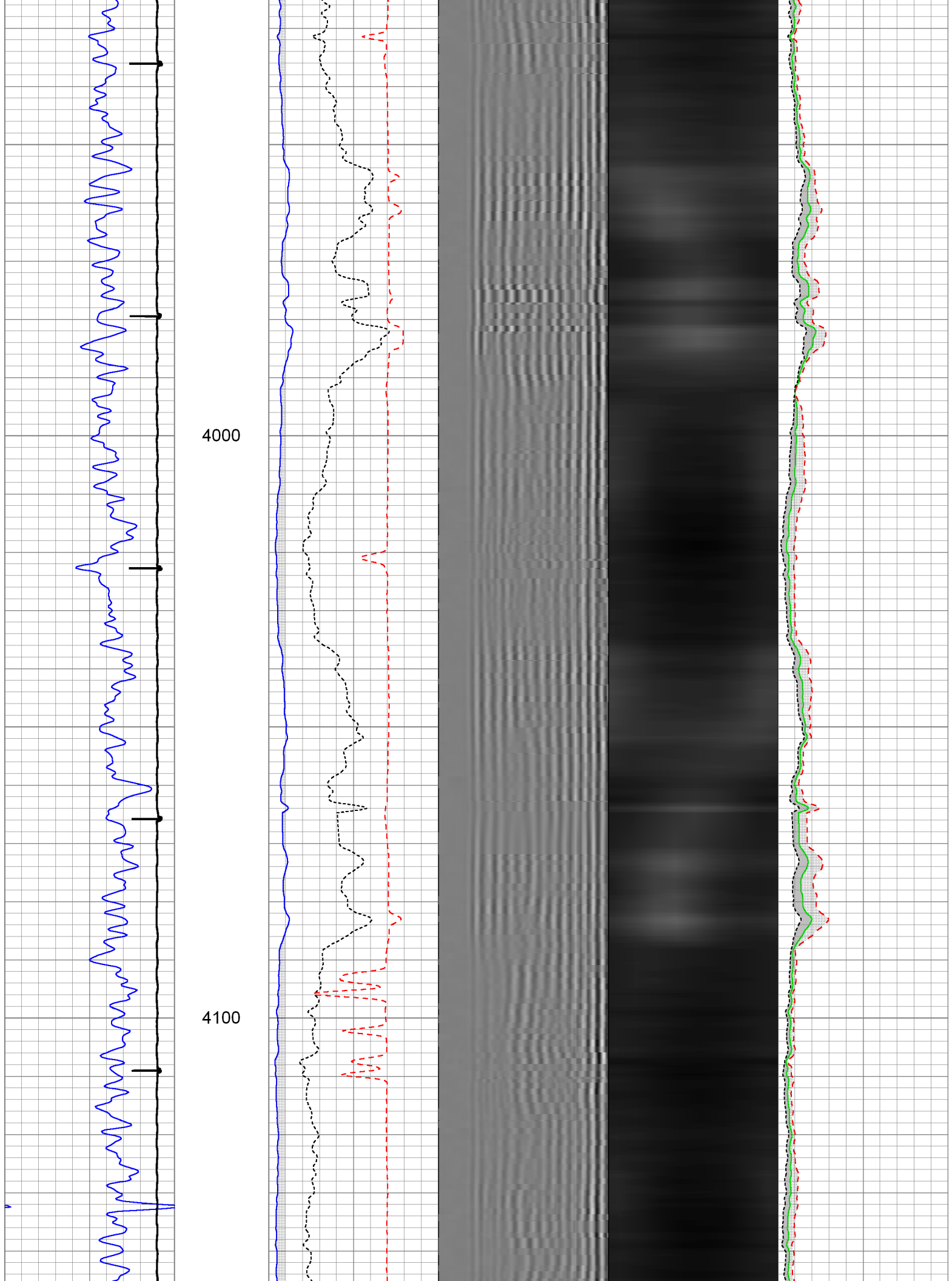


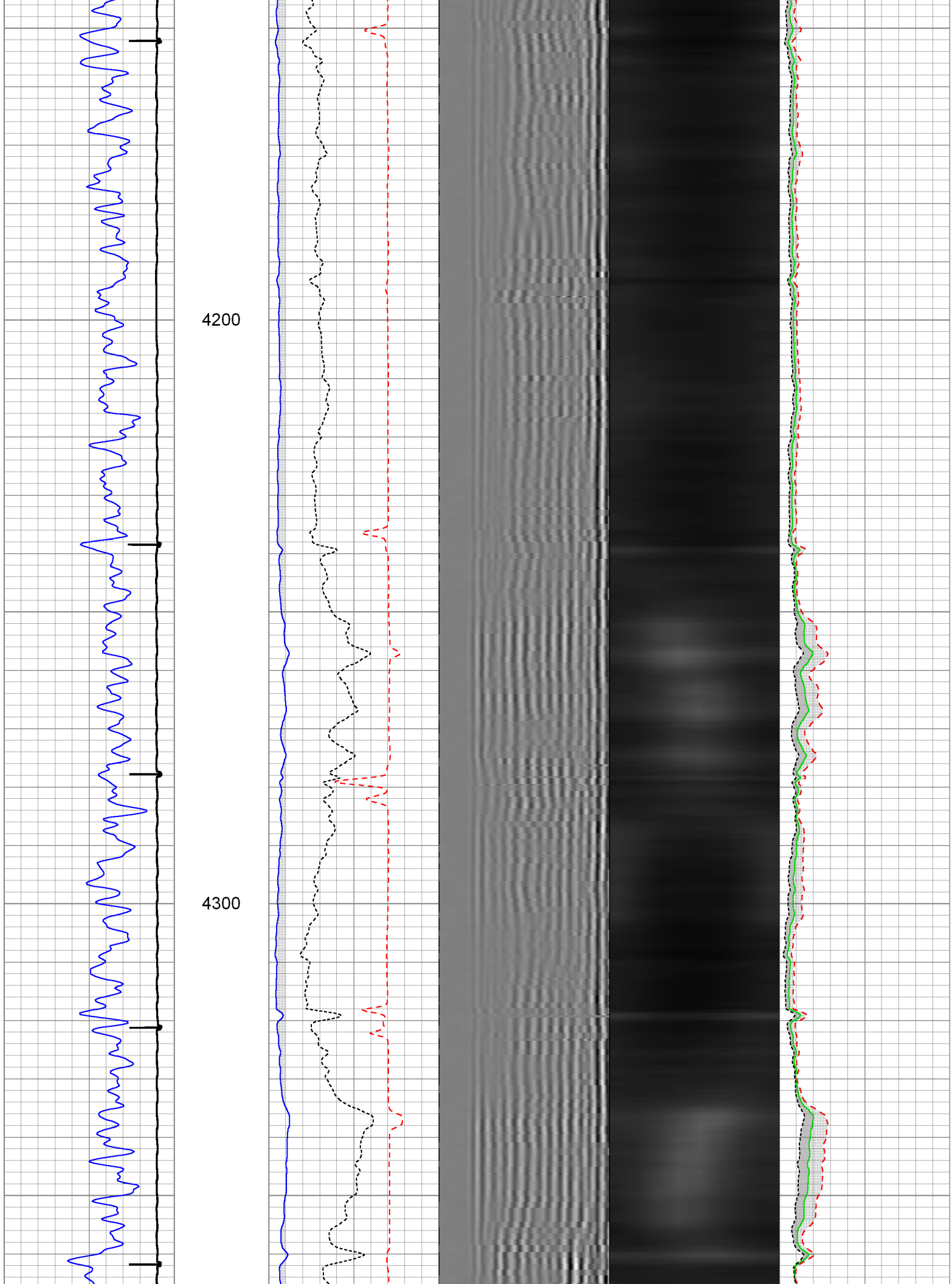


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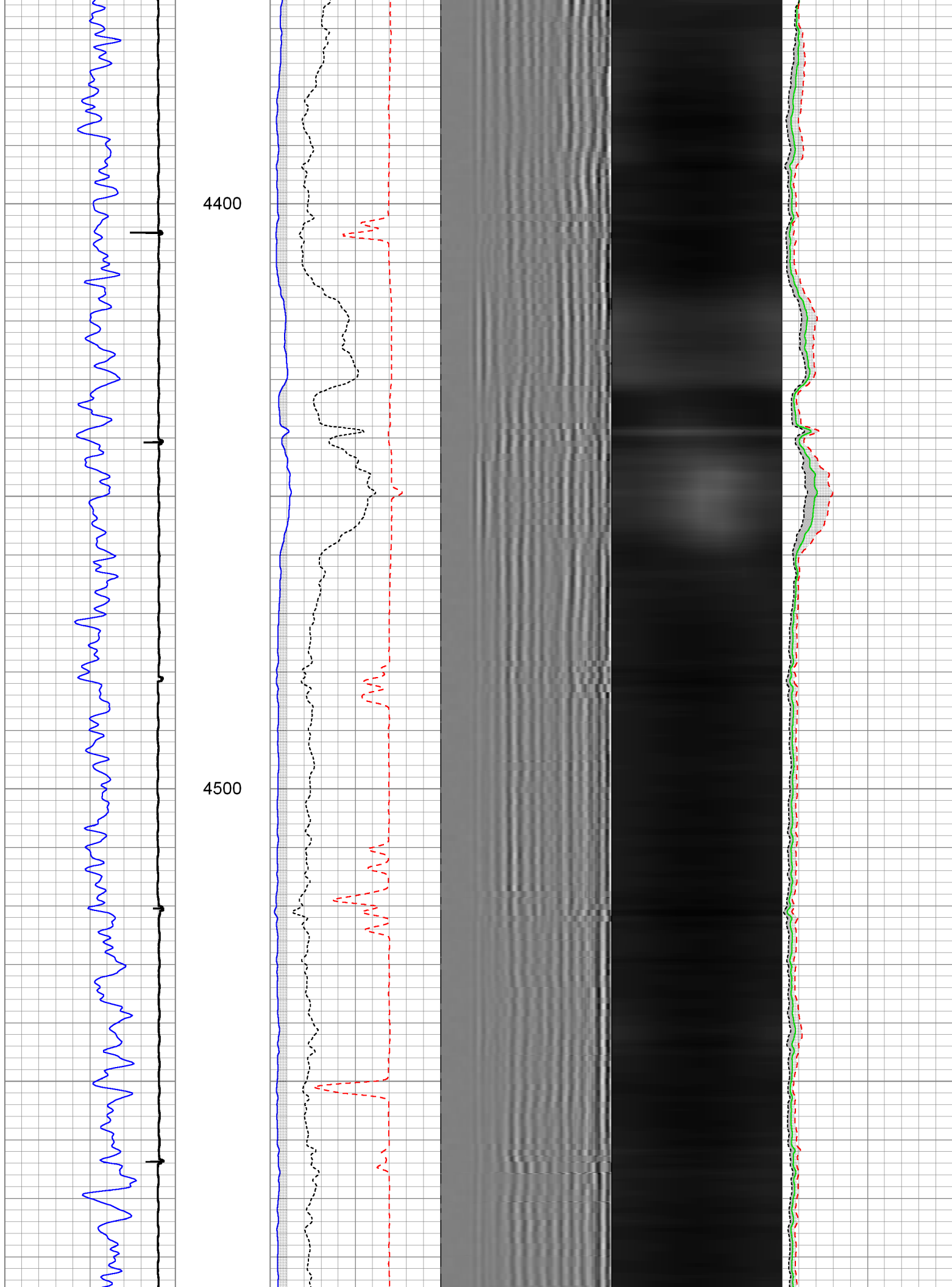


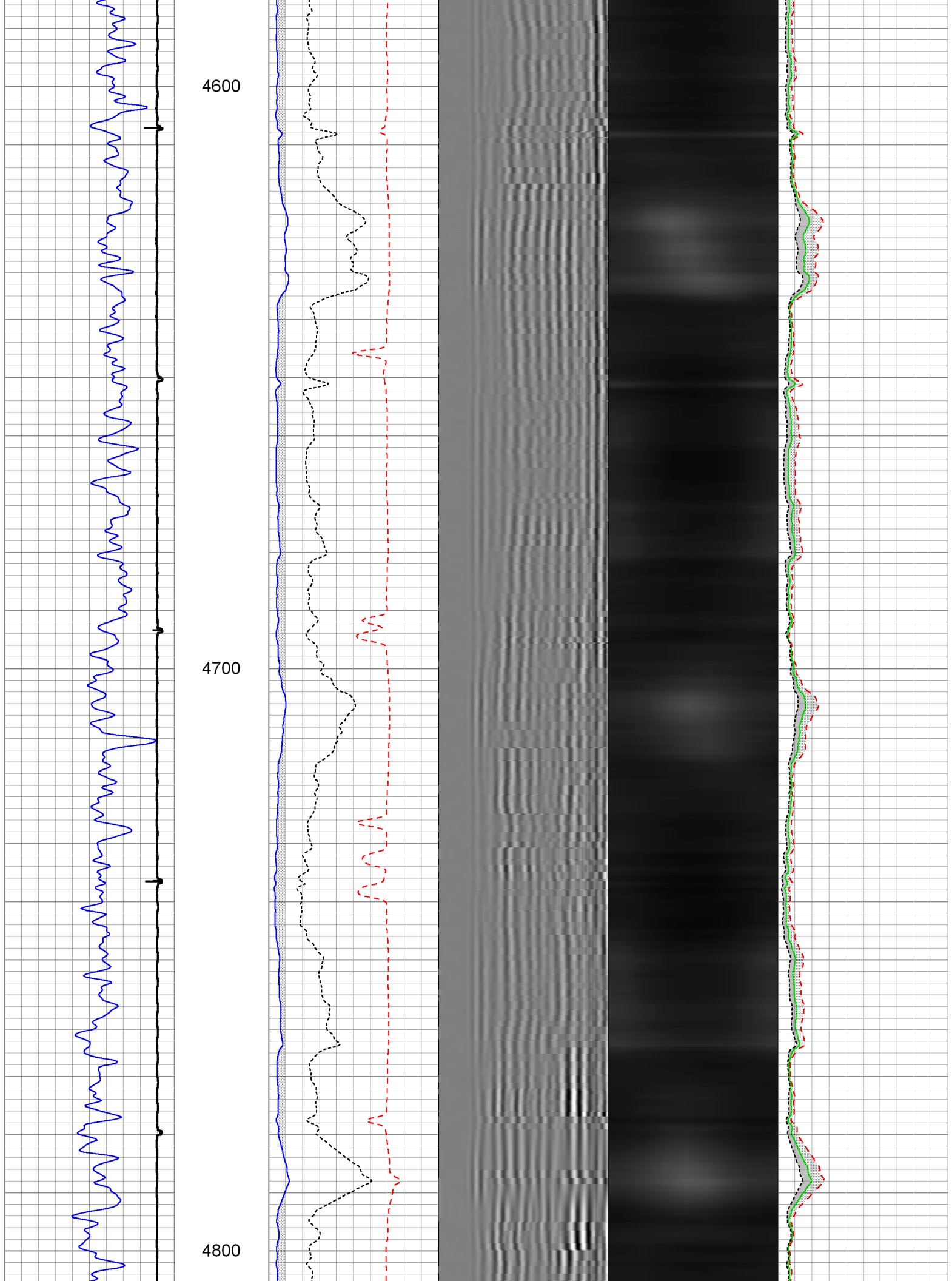


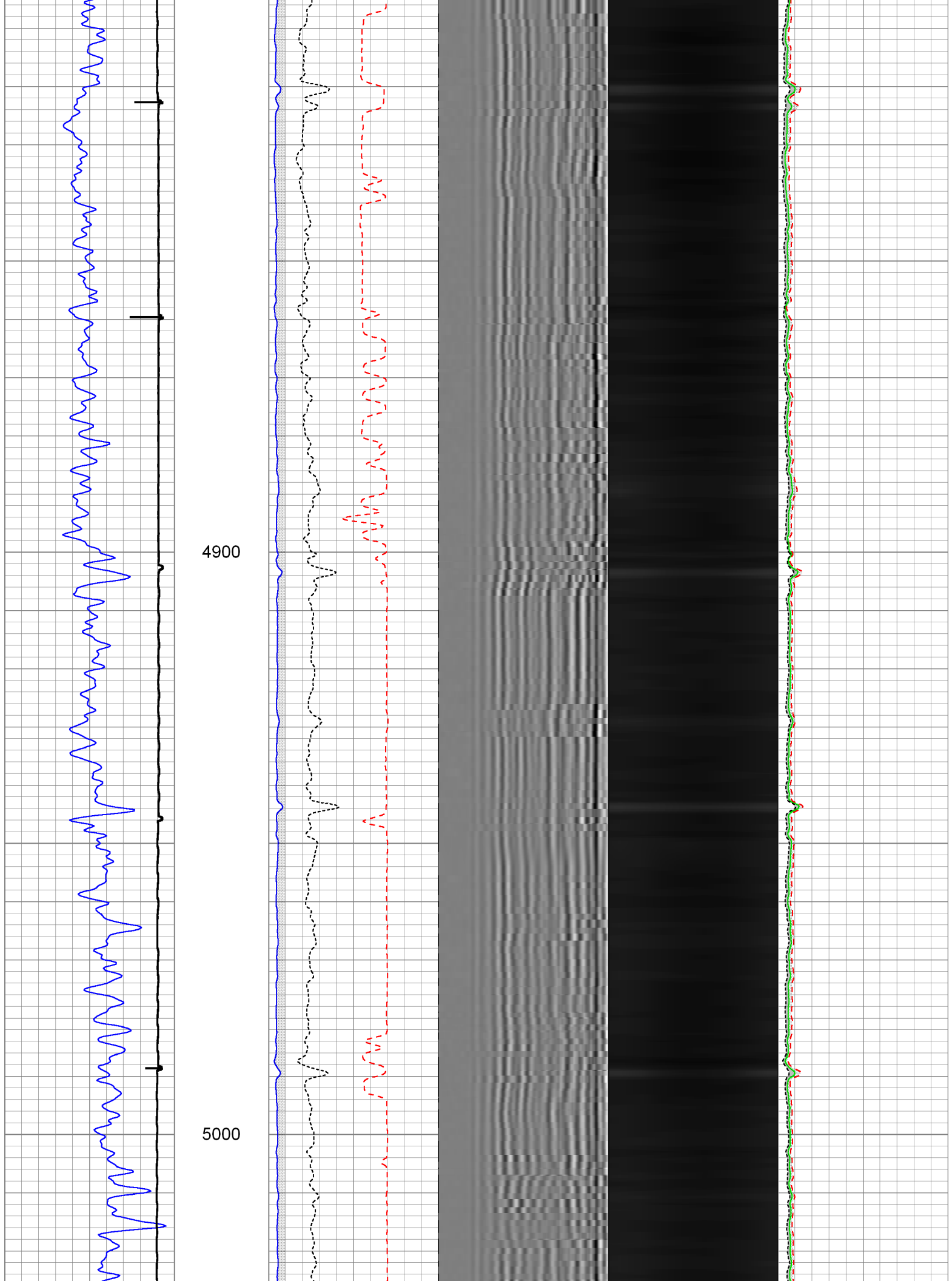


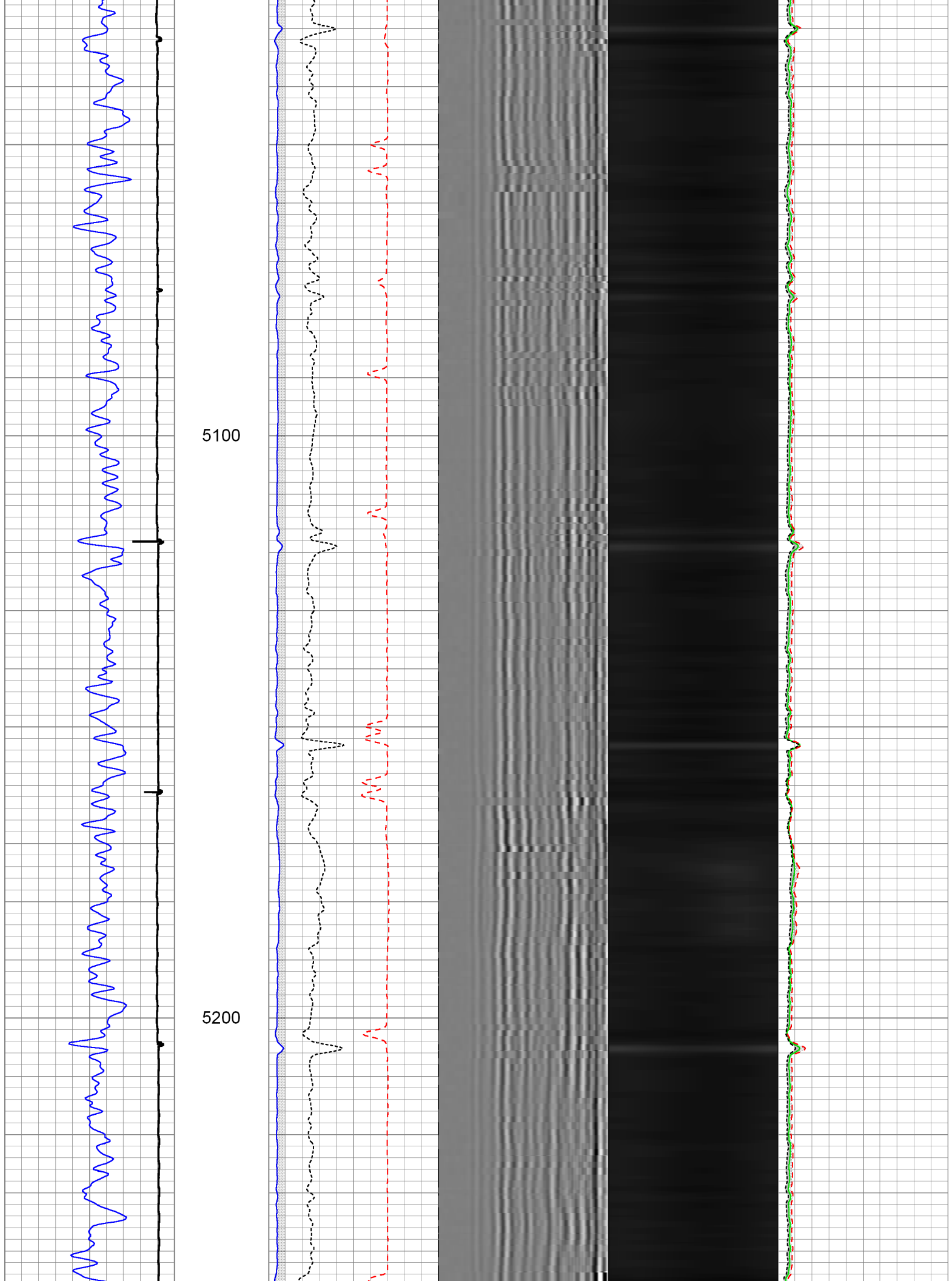
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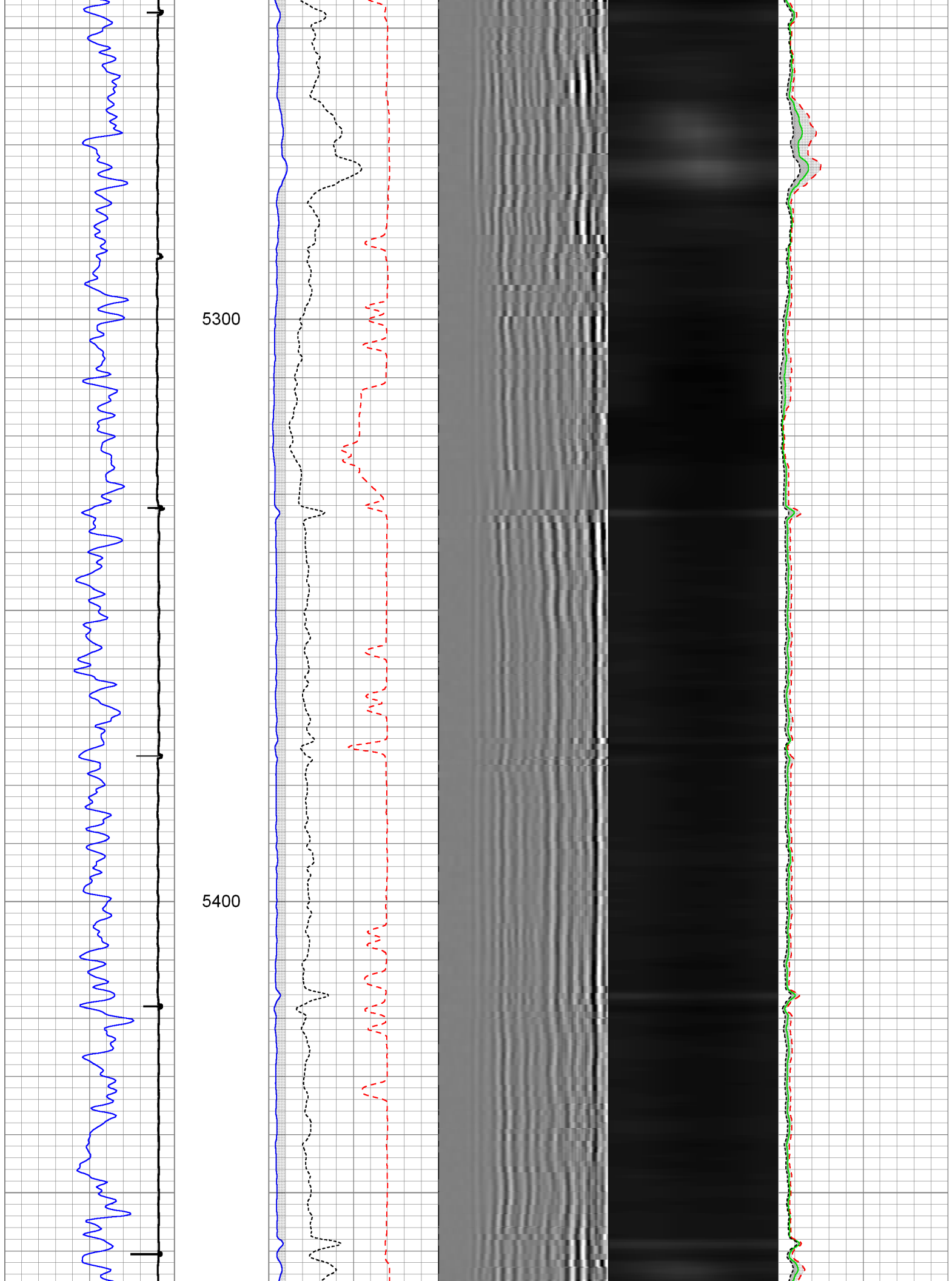






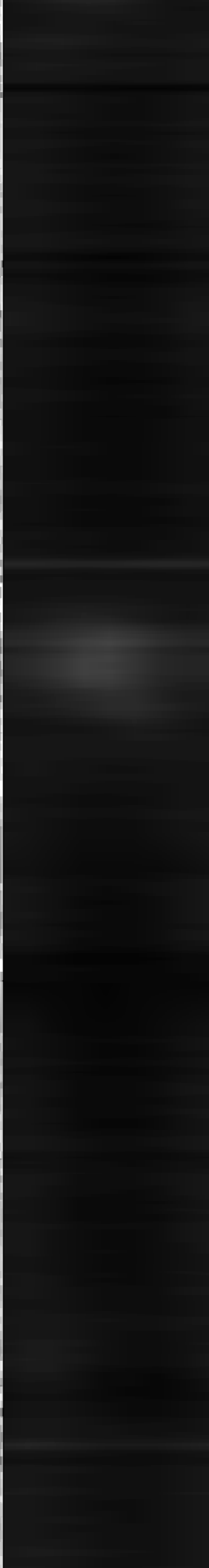
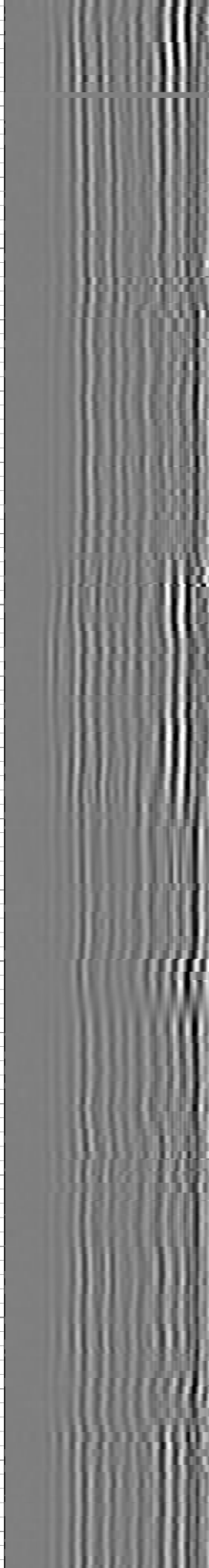
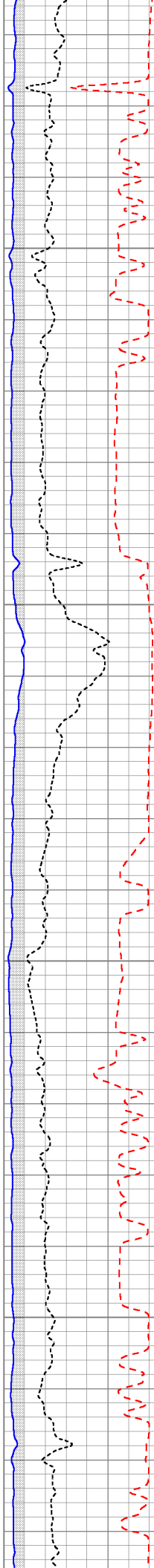
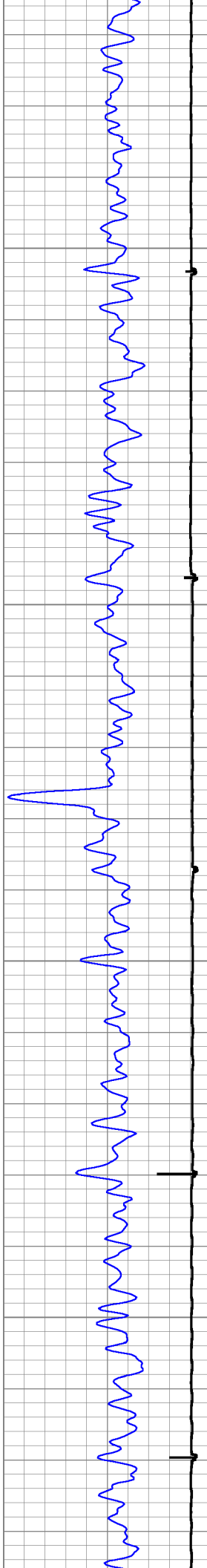






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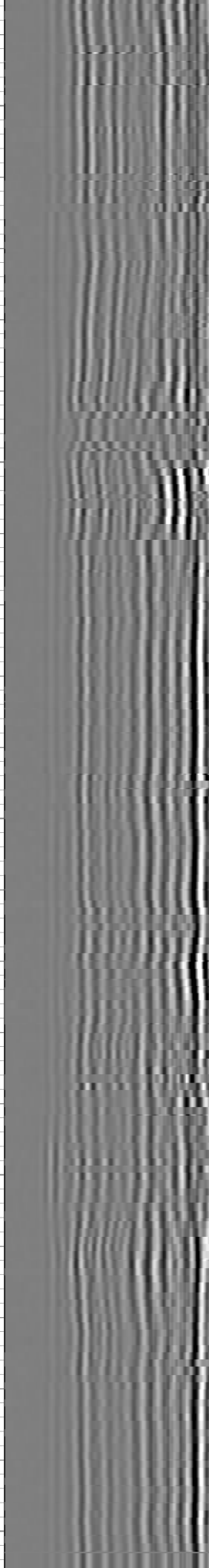
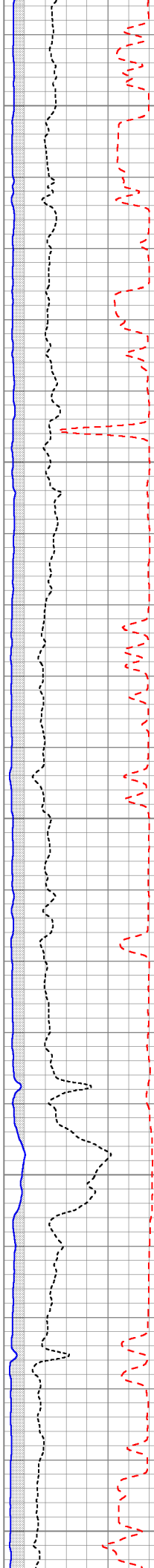
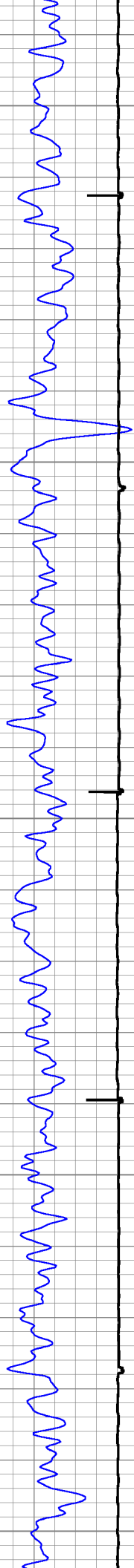
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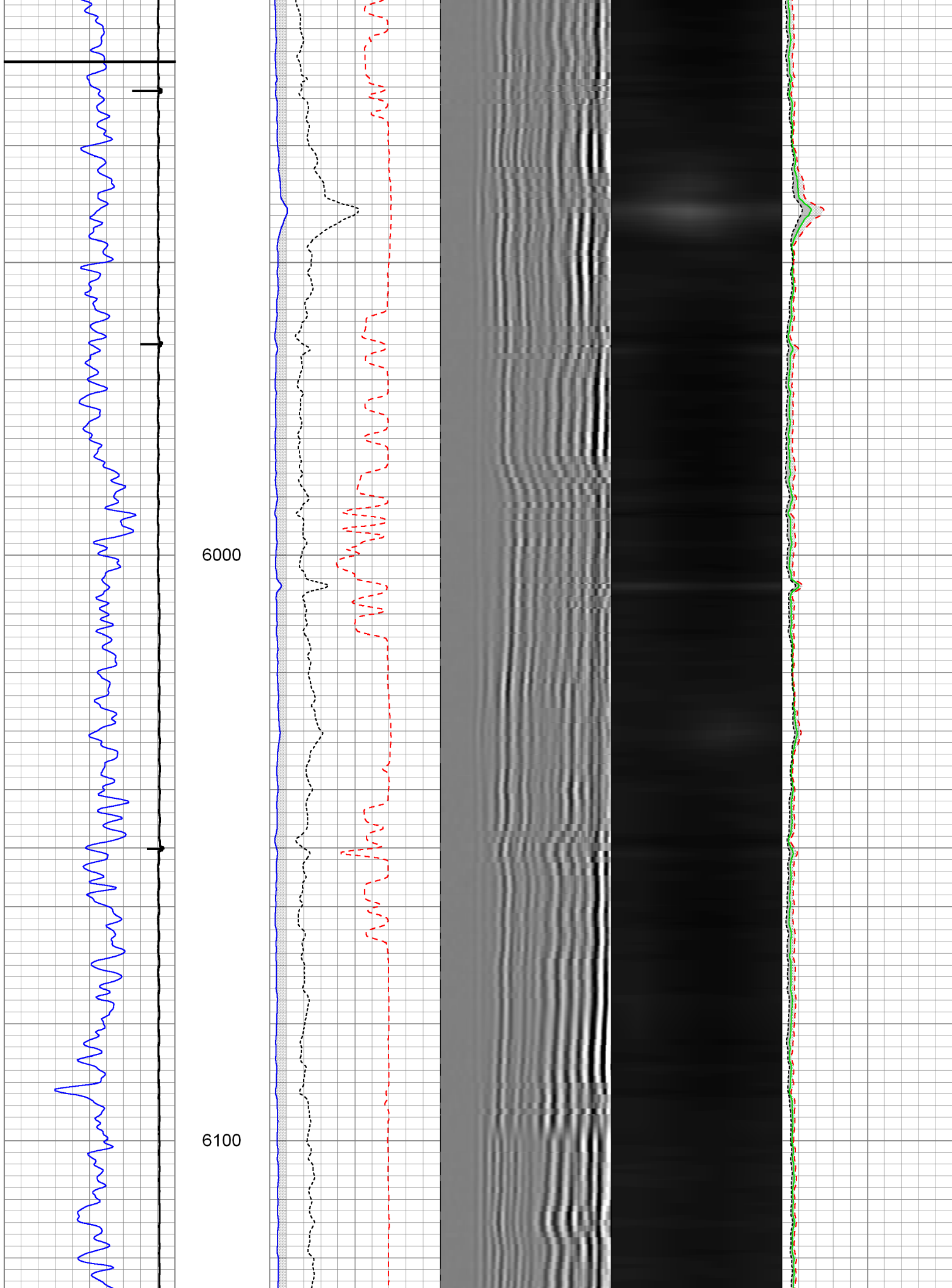


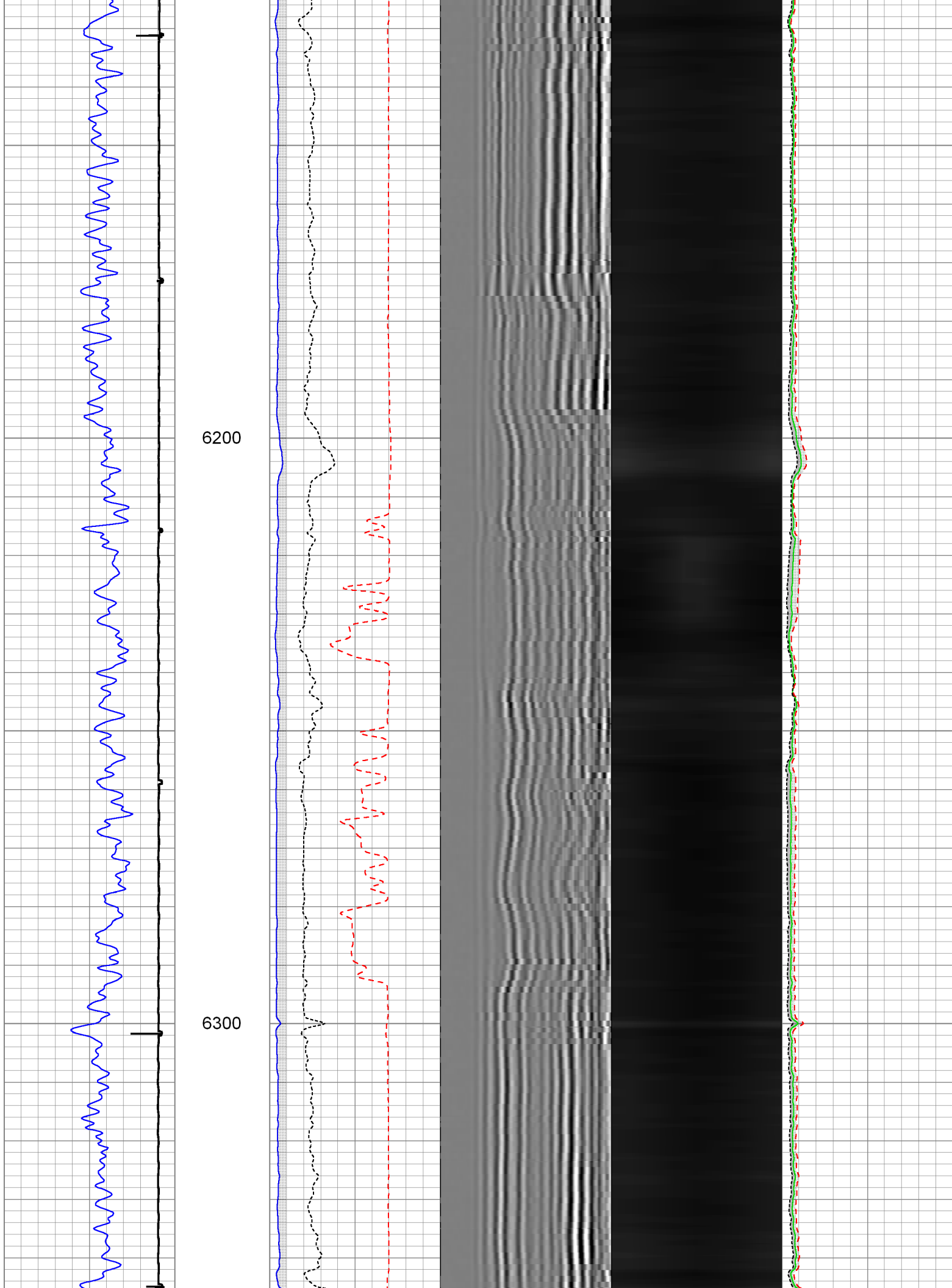
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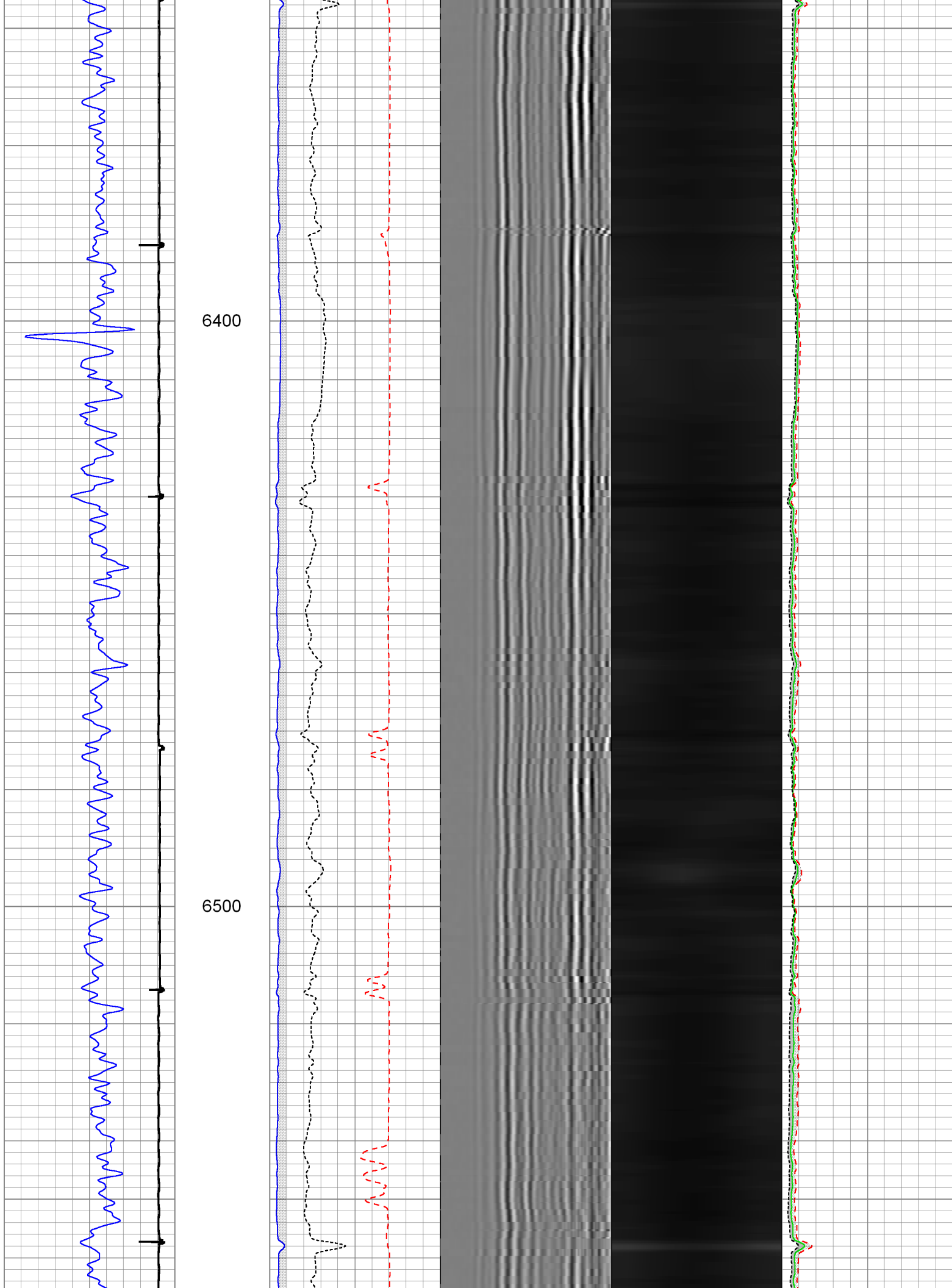
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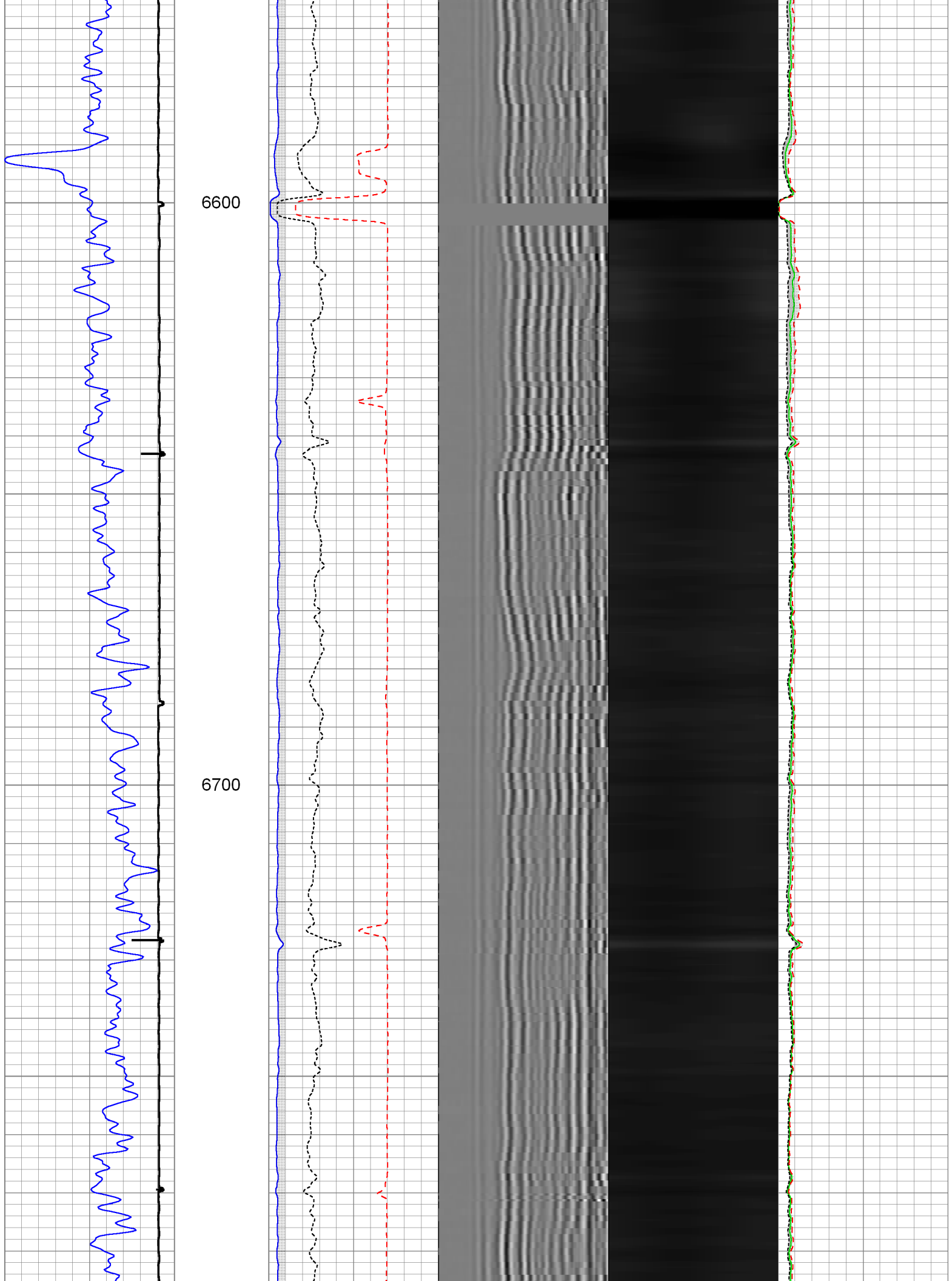
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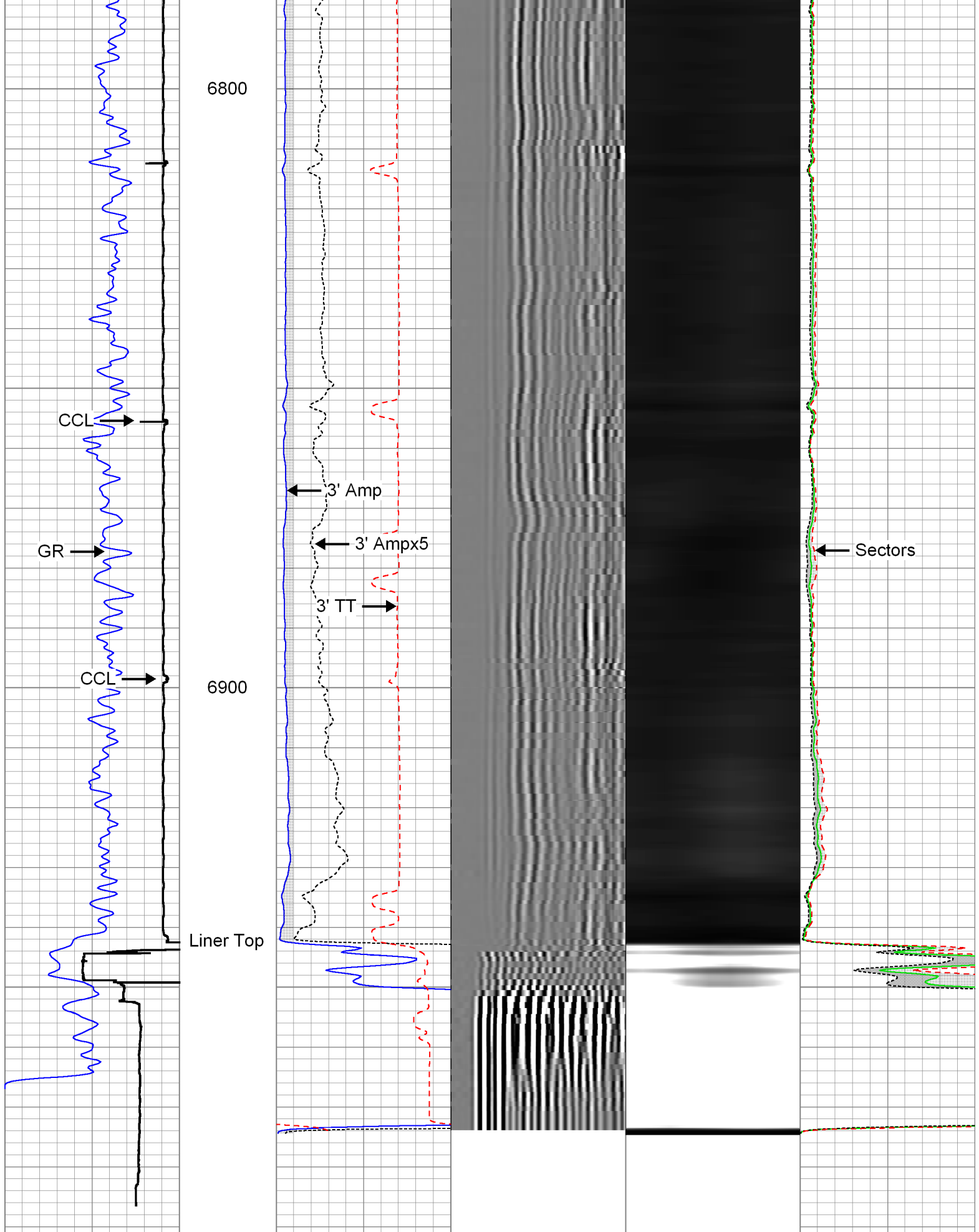












Gamma Ray (GAPI)	3' Amplitude (mV)	5' Variable Density Log	Sector Map	Average Amplitude
0 120	0 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude

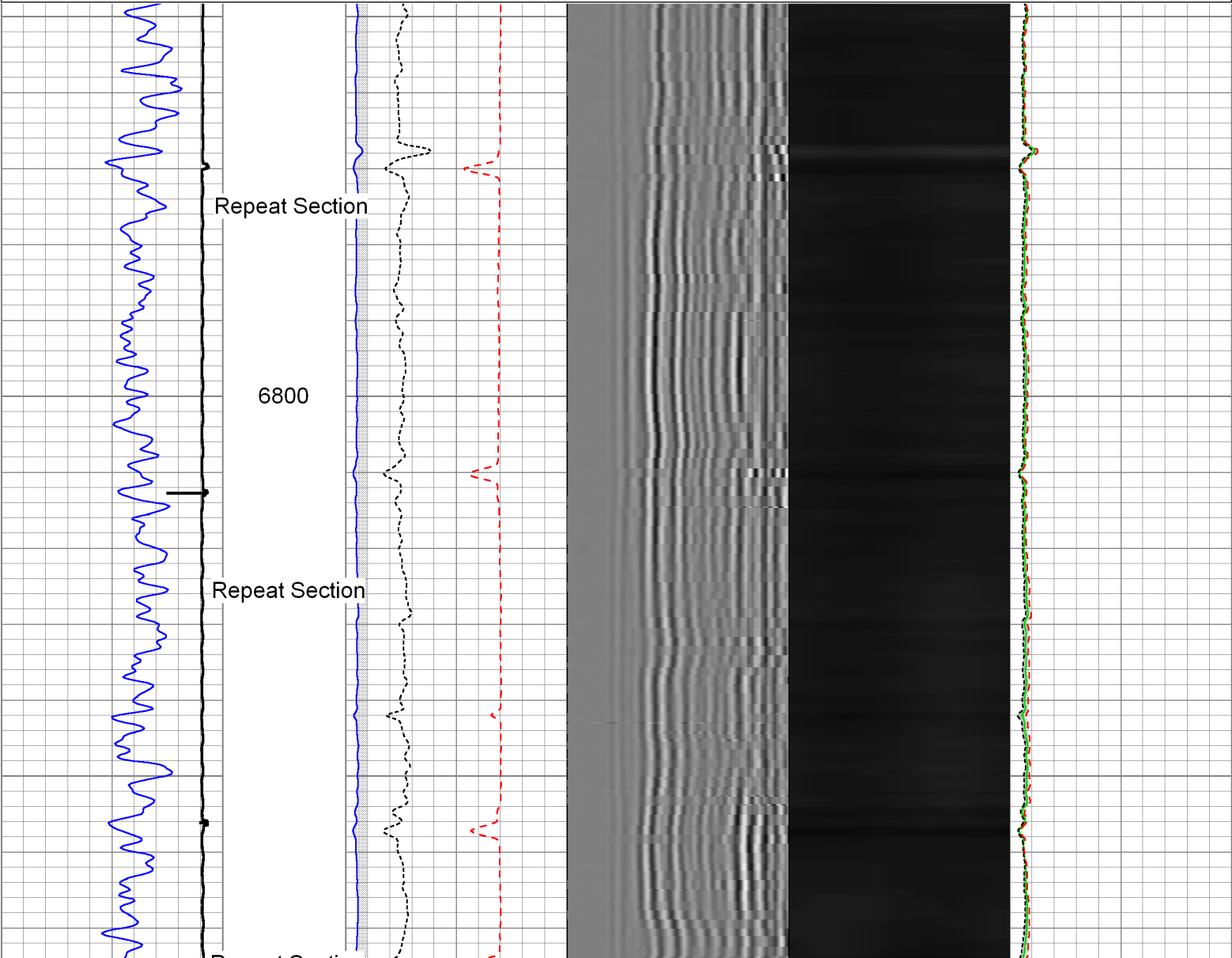
	0	(mV)	20	0	100
	3' Travel Time			Maximum Amplitude	
	650	(usec)	150	0	100

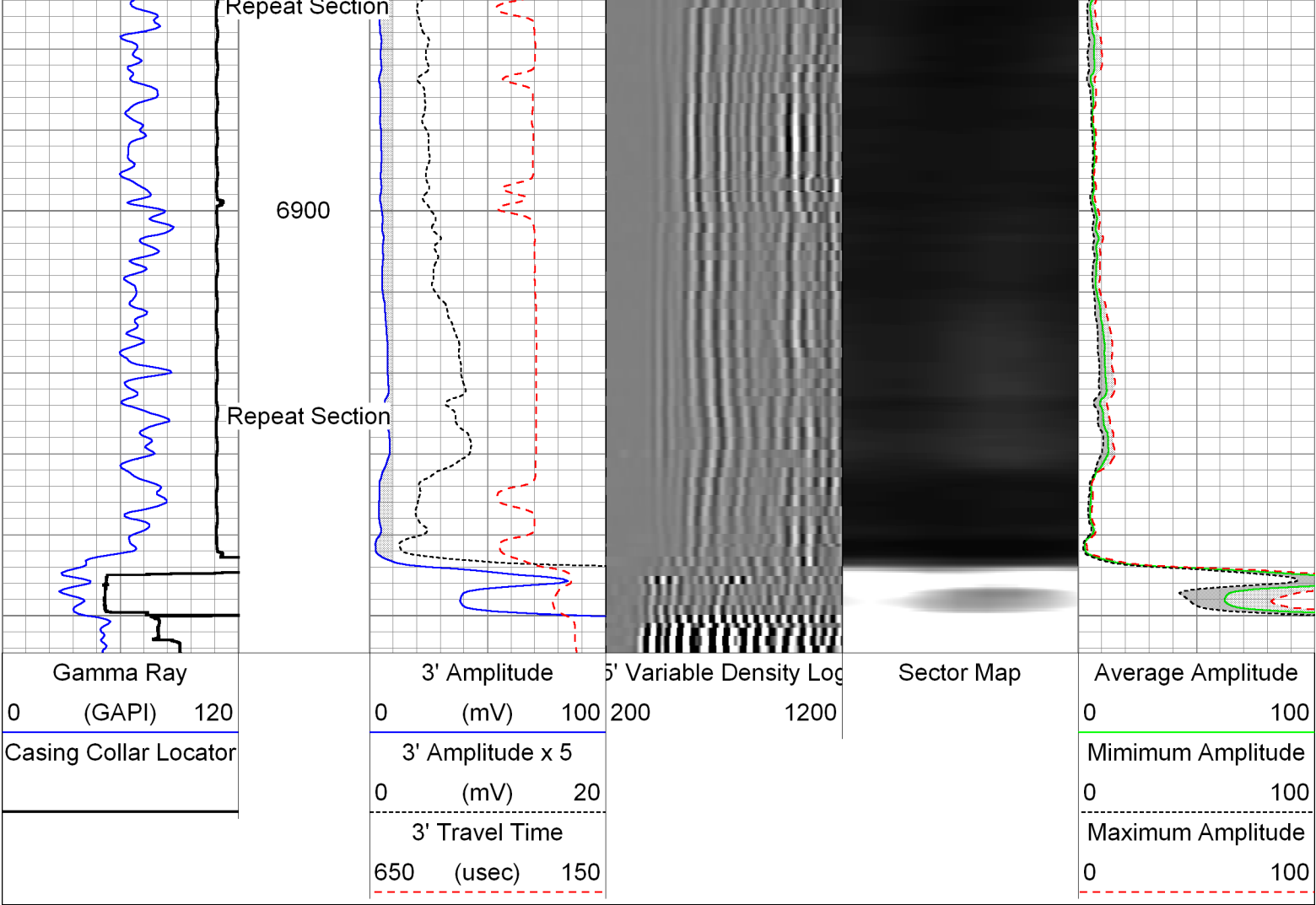


# Repeat Pass

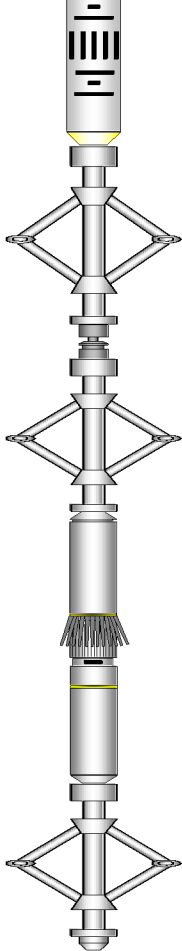
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Dataset Pathname:	pass2
Presentation Format:	rbt4_mit
Dataset Creation:	Wed May 21 12:59:27 2014 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

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





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	26.35		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_PSJ-PSJ_008 (10018474) Sondex 1-11/16" Ultrawire Swivel Joint	0.91	1.69	9.00
			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_PRC #4 -UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
WVF3FT	18.53		UW_RBT-UW_RBT_004 (1063) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	18.53					
WVFS2	18.53					
WVFS3	18.53					
WVFS4	18.53					

WVFS5	18.53					
WVFS6	18.53					
WVFS7	18.53					
WVFS8	18.53					
CBLTEMP	18.53					
CBLROT	18.53					
WVF5FT	17.53		UW_PRC #3 -UW_PRC_057 (1038) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			UW_PKJ-PKJ_013 (10018069) Sondex 1-11/16" Ultrawire Knuckle Joint	0.57	1.69	3.50
			UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
MIT	4.97		UW_MIT-UW_MIT40_042 (10012912) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC-DSSRAC (082) 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: 0512339093_anadarko_nrc state 26n-8hz_05-21-14_mit_rbl.db: field/well/run1/pass3 Total Length: 31.51 ft Total Weight: 363.80 lb O.D. 3.13 in						

Calibration Report	
Database File:	0512339093_anadarko_nrc state 26n-8hz_05-21-14_mit_rbl.db
Dataset Pathname:	pass3
Dataset Creation:	Wed May 21 13:10:00 2014 by Log 7.0 B1

Multi-finger Imaging Tool Calibration Report
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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:	Wed May 21 12:13:31 2014

Ring size:      4                      5                      6                      7

(in)		Sens		Sens		Sens	
Finger 01:	1060	355.0	1415	380.0	1795	415.0	2210
Finger 02:	1192	361.0	1553	388.0	1941	408.0	2349
Finger 03:	1081	366.0	1447	402.0	1849	432.0	2281
Finger 04:	1097	352.0	1449	388.0	1837	422.0	2259
Finger 05:	1105	361.0	1466	396.0	1862	424.0	2286
Finger 06:	1099	360.0	1459	395.0	1854	419.0	2273
Finger 07:	1095	360.0	1455	400.0	1855	421.0	2276
Finger 08:	1119	351.0	1470	394.0	1864	420.0	2284
Finger 09:	1107	356.0	1463	394.0	1857	412.0	2269
Finger 10:	1105	352.0	1457	394.0	1851	412.0	2263
Finger 11:	1121	352.0	1473	395.0	1868	404.0	2272
Finger 12:	1114	349.0	1463	395.0	1858	406.0	2264
Finger 13:	1123	349.0	1472	390.0	1862	398.0	2260
Finger 14:	1099	352.0	1451	402.0	1853	408.0	2261
Finger 15:	1063	356.0	1419	413.0	1832	418.0	2250
Finger 16:	1078	355.0	1433	411.0	1844	416.0	2260
Finger 17:	1044	354.0	1398	409.0	1807	424.0	2231
Finger 18:	1129	347.0	1476	392.0	1868	398.0	2266
Finger 19:	1088	348.0	1436	399.0	1835	405.0	2240
Finger 20:	1056	353.0	1409	409.0	1818	419.0	2237
Finger 21:	1075	363.0	1438	403.0	1841	404.0	2245
Finger 22:	1036	360.0	1396	409.0	1805	418.0	2223
Finger 23:	1008	363.0	1371	419.0	1790	428.0	2218
Finger 24:	1063	359.0	1422	394.0	1816	395.0	2211
Finger 25:	1020	365.0	1385	410.0	1795	424.0	2219
Finger 26:	1146	357.0	1503	380.0	1883	391.0	2274
Finger 27:	1087	368.0	1455	398.0	1853	411.0	2264
Finger 28:	1115	359.0	1474	384.0	1858	402.0	2260
Finger 29:	1066	374.0	1440	403.0	1843	424.0	2267
Finger 30:	1080	367.0	1447	395.0	1842	416.0	2258
Finger 31:	1108	363.0	1471	388.0	1859	412.0	2271
Finger 32:	1089	386.0	1475	390.0	1865	428.0	2293
Finger 33:	1148	365.0	1513	374.0	1887	394.0	2281
Finger 34:	1123	369.0	1492	376.0	1868	412.0	2280
Finger 35:	1058	379.0	1437	408.0	1845	444.0	2289
Finger 36:	1082	380.0	1462	385.0	1847	431.0	2278
Finger 37:	1116	370.0	1486	386.0	1872	420.0	2292
Finger 38:	1144	376.0	1520	379.0	1899	398.0	2297
Finger 39:	1141	358.0	1499	377.0	1876	410.0	2286
Finger 40:	1100	368.0	1468	391.0	1859	422.0	2281

Segmented Cement Bond Log Calibration Report

Serial Number:	1063
Tool Model:	UW_RBT_004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	0.000 ft

Master Calibration, performed Wed May 21 12:21:07 2014:							
	Raw (v)		Calibrated (mv)		Results		
	Zero	Cal	Zero	Cal	Gain	Offset	
3FT	-0.003	0.676	0.800	62.165	90.388	1.027	
5FT	-0.005	0.613	0.800	62.165	99.213	1.298	
S1	-0.004	0.738	0.000	100.000	134.793	0.487	
S2	-0.005	0.735	0.000	100.000	135.164	0.634	
S3	-0.004	0.691	0.000	100.000	143.937	0.510	
S4	-0.005	0.660	0.000	100.000	150.539	0.695	
S5	-0.002	0.631	0.000	100.000	157.964	0.289	
S6	-0.003	0.630	0.000	100.000	158.107	0.427	
S7	-0.002	0.666	0.000	100.000	149.615	0.365	

S8	-0.002	0.706	0.000	100.000	141.147	0.343
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 & Gas Onshore, L.P.
	Well	NRC State 26N-8HZ
	Field	Wattenberg
	County	Weld
	State	Colorado