



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 29C-4HZ				Well NRC 29C-4HZ				
Field Wattenberg				Field Wattenberg				
County Weld				County Weld				
State Colorado				State Colorado				
Location:				API # : 05-123-38610				
SHL: 350' FSL & 1,920' FWL Lat/Long: 40.059228/-104.898234				Other Services Gauge Run CIL				
SEC 9 TWP 1N RGE 67W				Elevation				
Permanent Datum		Ground Level		Elevation		5053'		
Log Measured From		Kelly Bushing		16 FT		K.B. 5,069' D.F. 5,068' G.L. 5,053'		
Drilling Measured From		Kelly Bushing						
Date 09-April-2014								
Run Number		One						
Depth Driller		17,344 FT						
Depth Logger		7,933 FT						
Bottom Logged Interval		7,930 FT						
Top Log Interval		Surface						
Open Hole Size		9.625"						
Type Fluid		Water						
Density / Viscosity		8.34 LB/GAL						
Max. Recorded Temp.		247°F						
Estimated Cement Top		30 FT						
Time Well Ready		ROA						
Time Logger on Bottom		*****						
Equipment Number		HD 255						
Location		Fort Lupton, CO						
Recorded By		Jackson						
Witnessed By		Edgar Chavez						
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	Surface	1,071 FT		
Intermediate #1		7	26	P-110	Surface	8,238 FT		
Intermediate #2								
Liner		4 1/2	11.6	P-110	7,024 FT	17,328 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 - Caliper Log is the first recorded log in hole.
Depth reference to Casing Talley reported Liner Top at 7,024 FT.
RCBL-CIL ran with 2200 PSI surface induced pressure.
Estimated Top of Cement @ 30'

Thank you for choosing FMC Technologies Completion Services, Inc.



Main Pass: 7" Casing

Logged with 2200 PSI Induced Surface Pressure

Database File:z:\logs_for_processing\shared\shelly\0512338610_anadarko_nrc 29c-4hz_04-09-14_mit_rbl.db

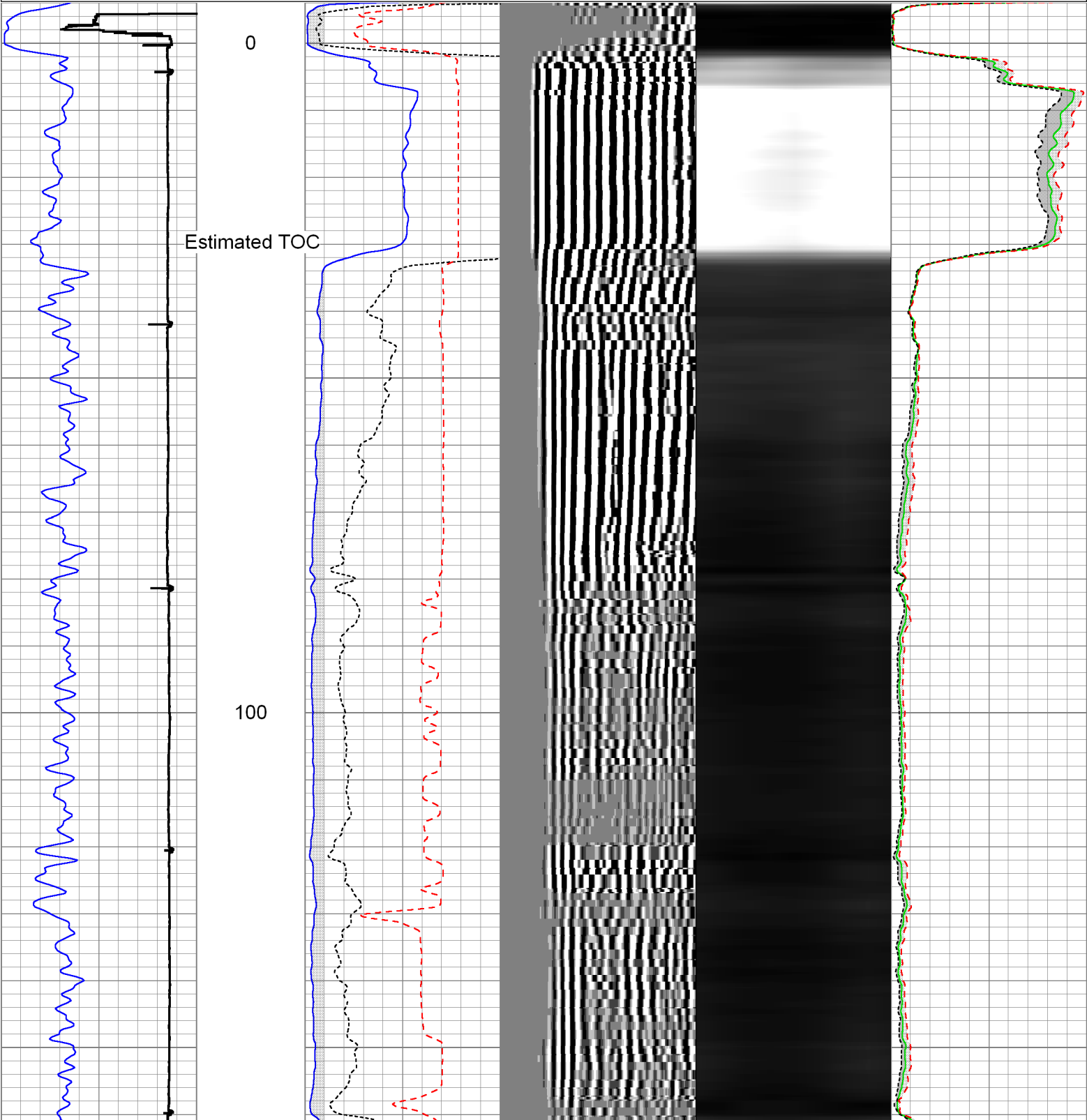
Dataset Pathname:pass5

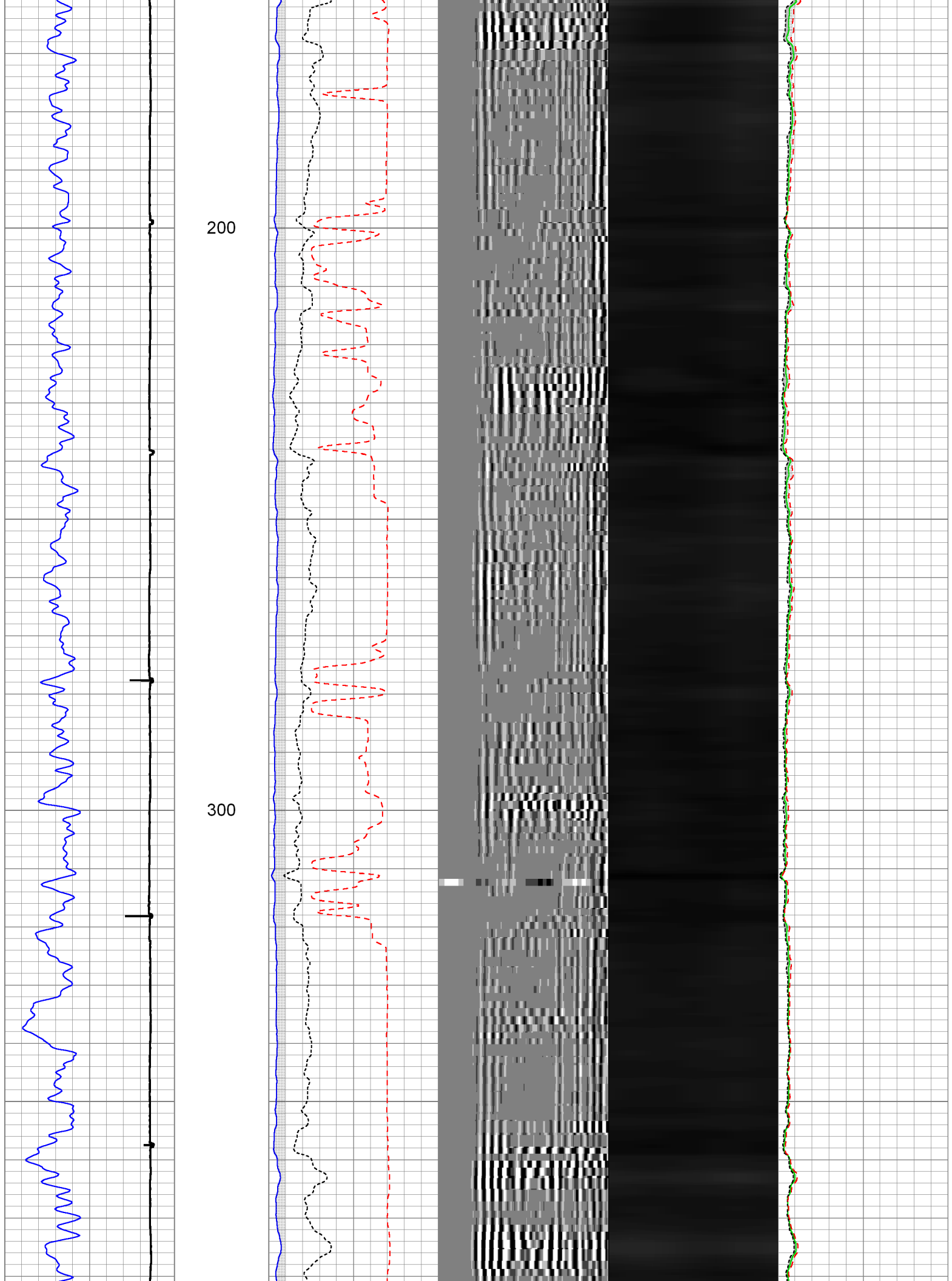
Presentation Format:rbt007

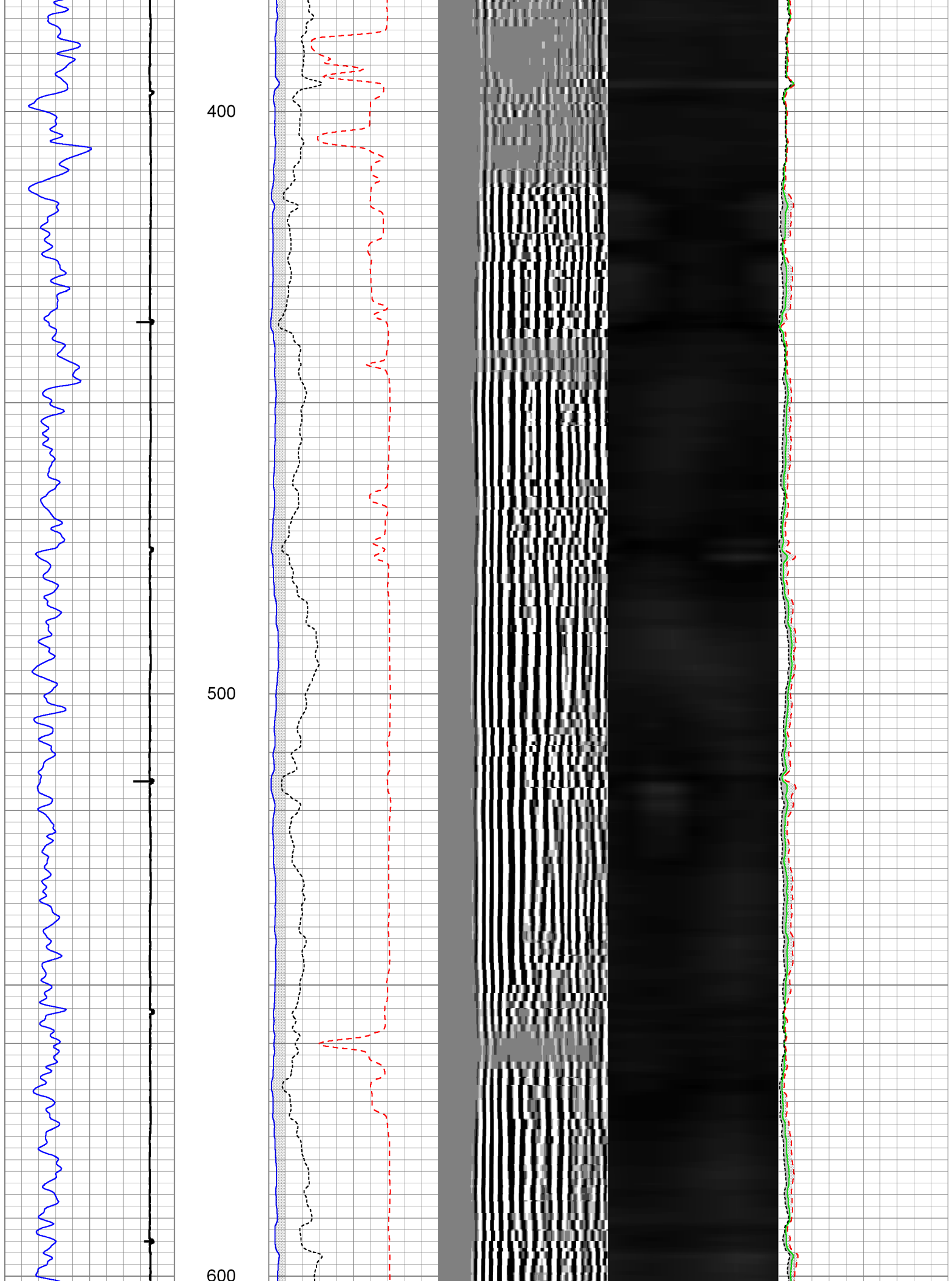
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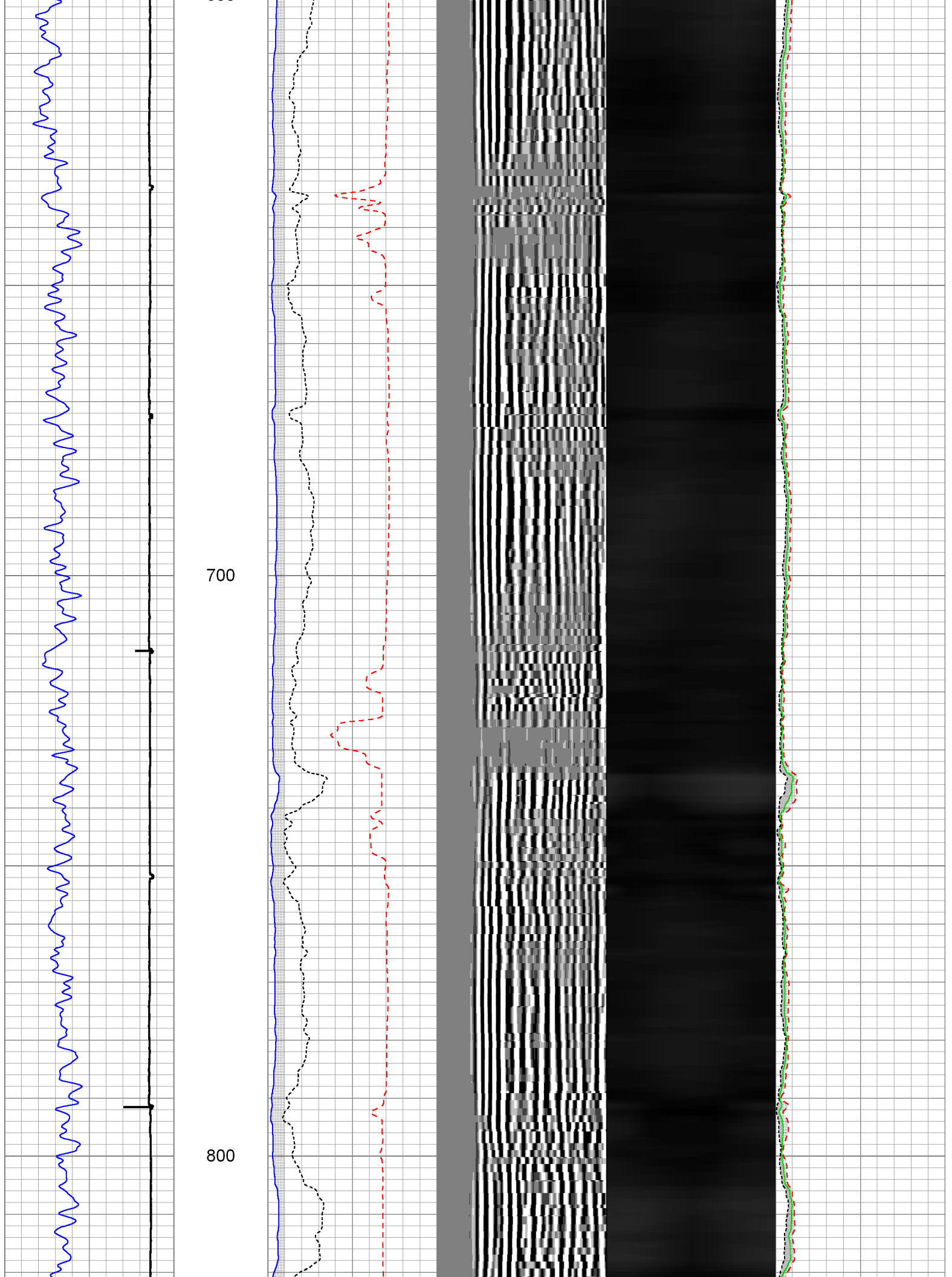
Charted by:Depth in Feet scaled 1:240

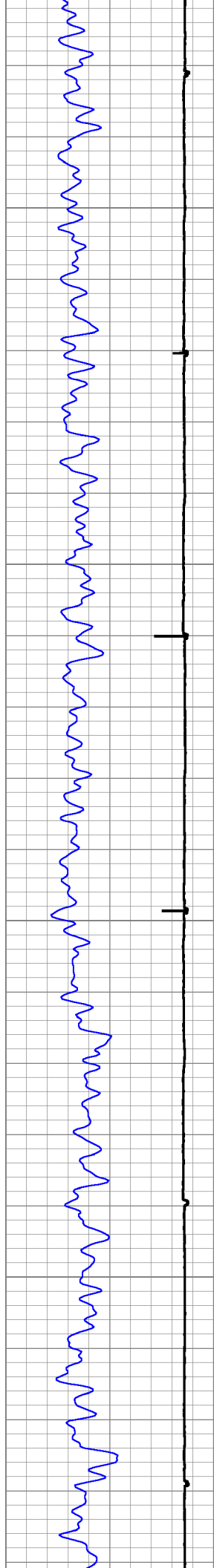
Gamma Ray			3' Amplitude		5' Variable Density Log	Sector Map	Average Amplitude	
0	(GAPI)	120	0	(mV)			100	0
CCL			3' Amplitude x 5				Mimimum Amplitude	
			0	(mV)	20		0	100
			3' Travel Time				Maximum Amplitude	
			650	(usec)	150		0	100





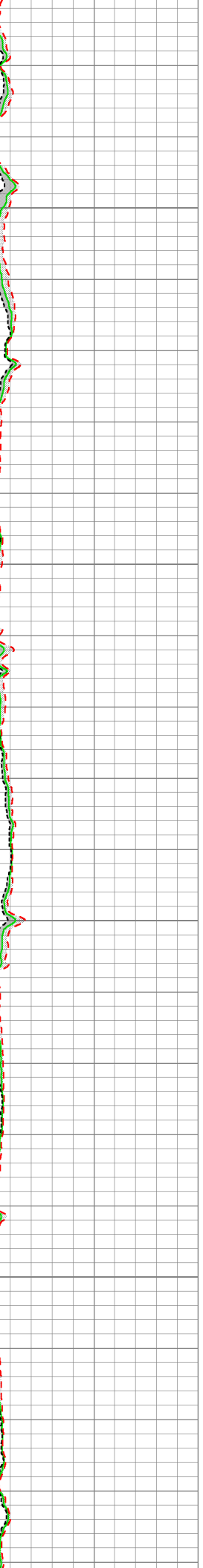
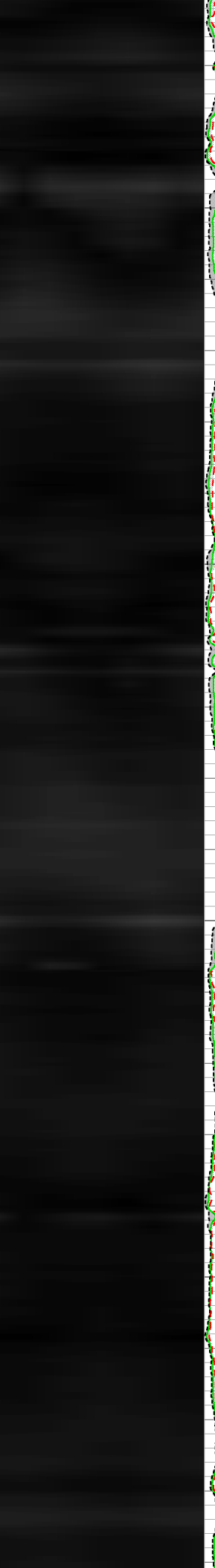
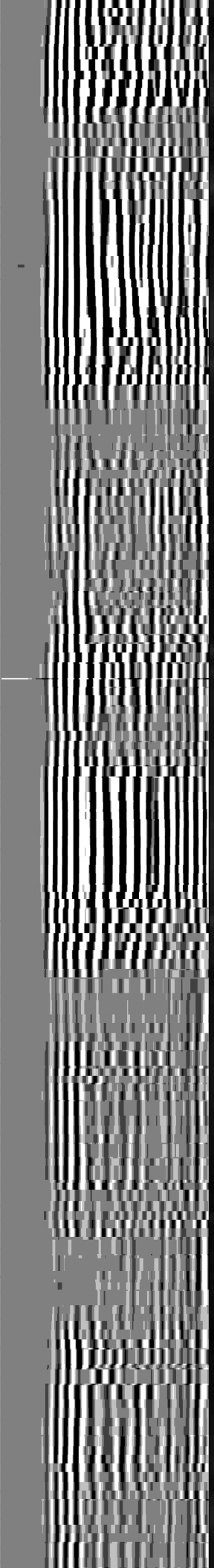
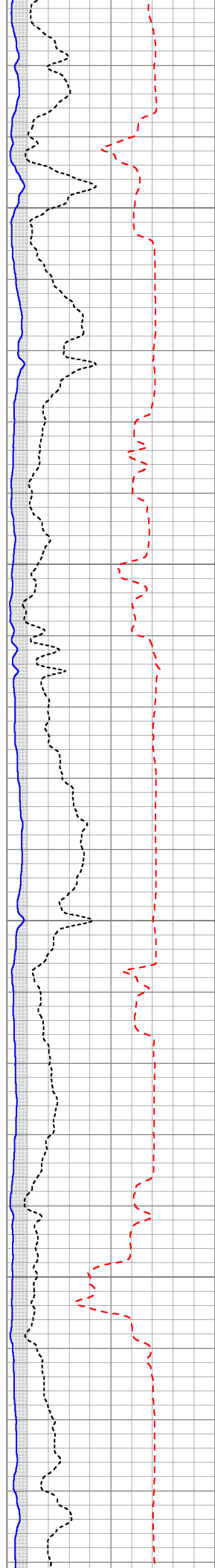


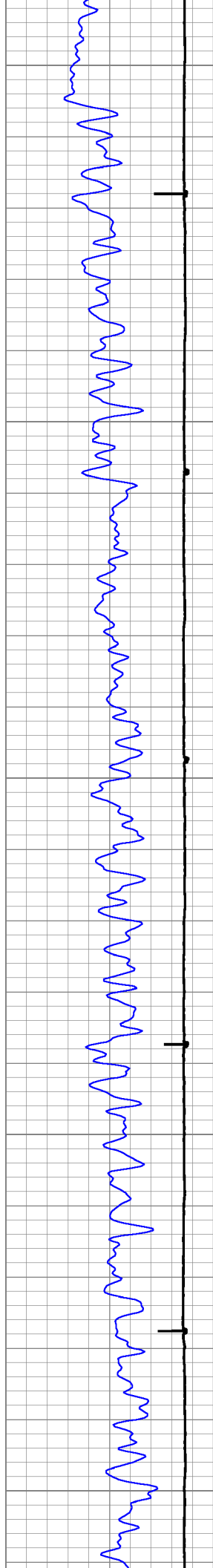




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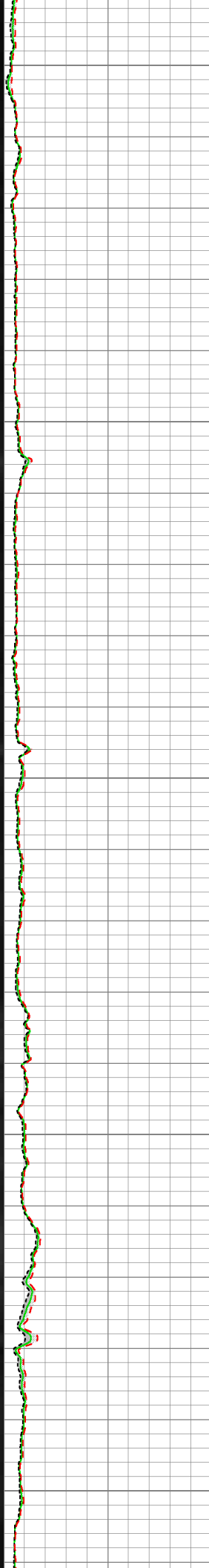
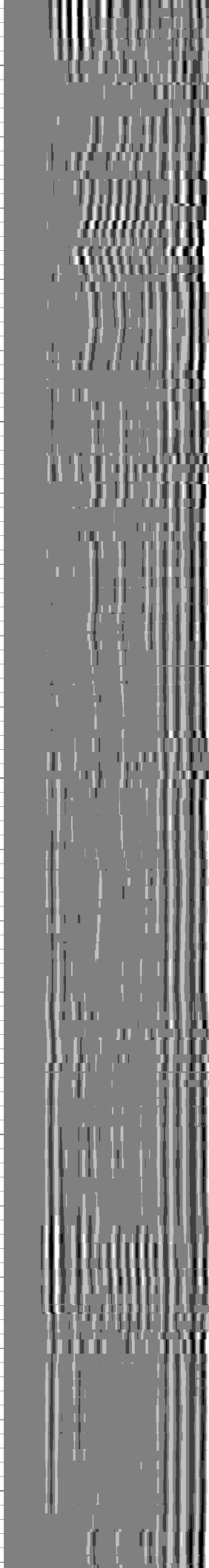
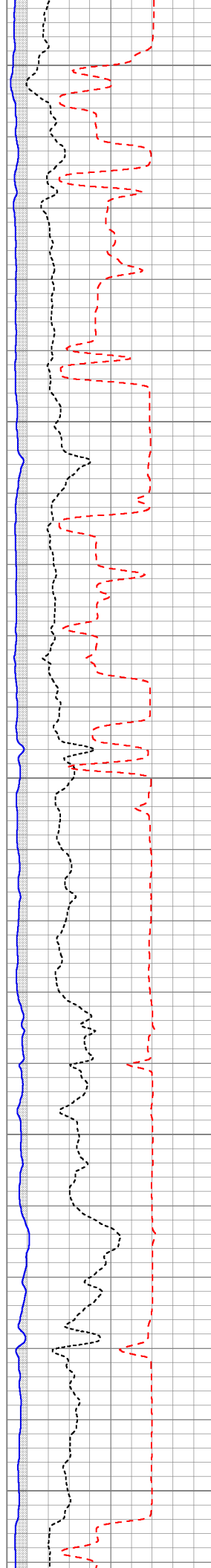
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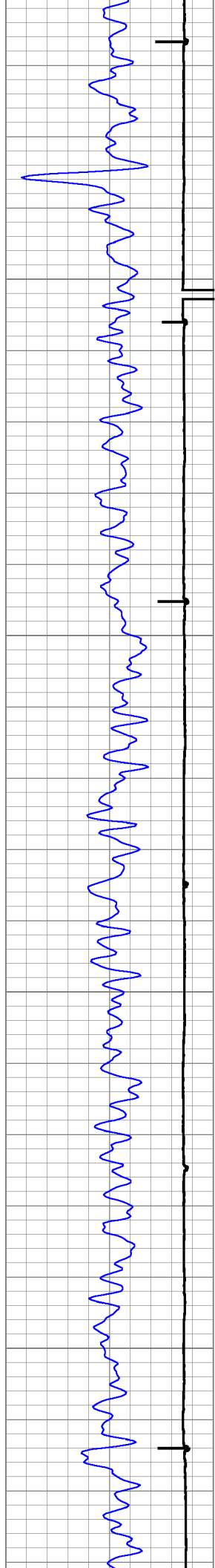




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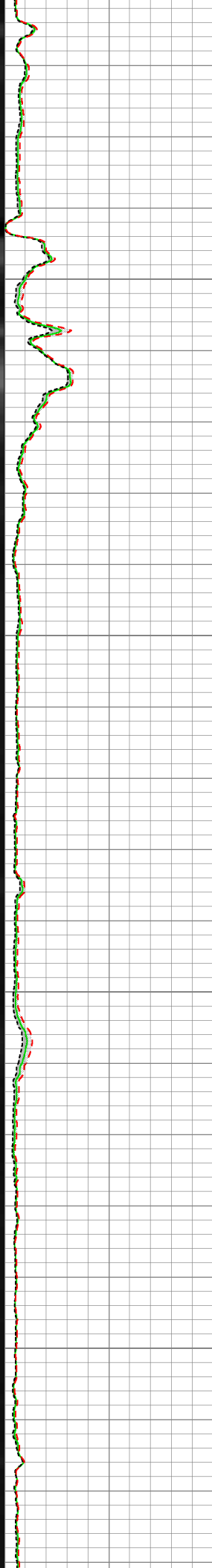
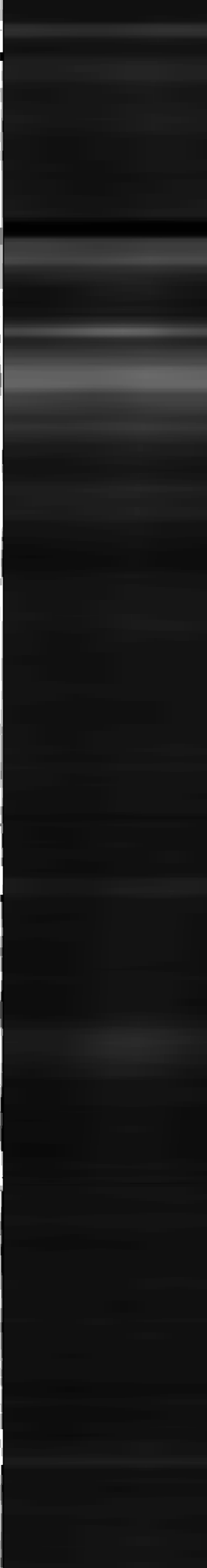
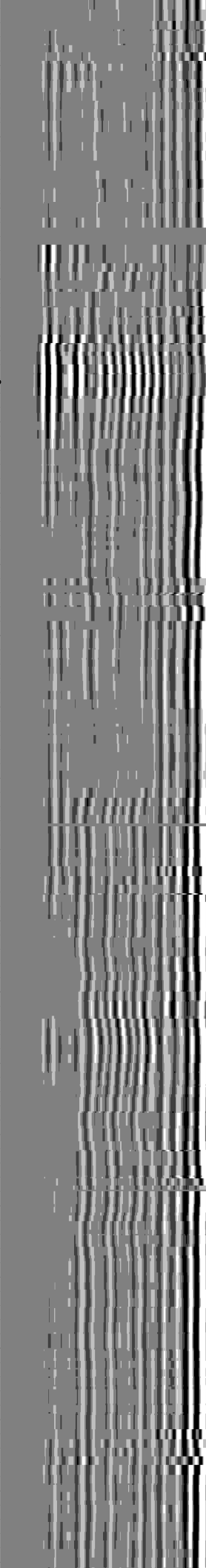
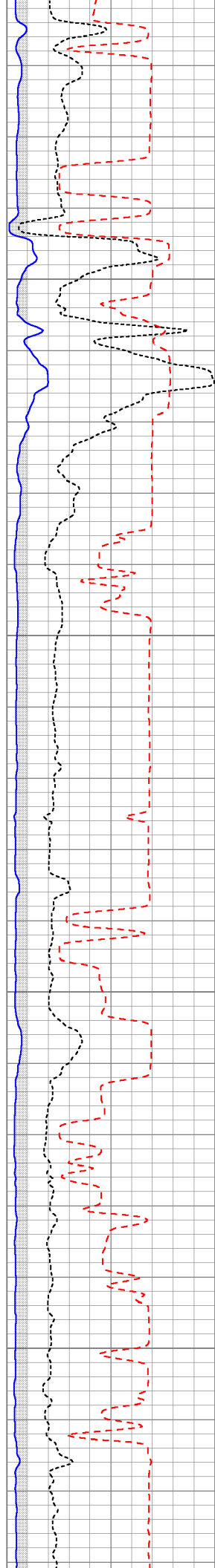
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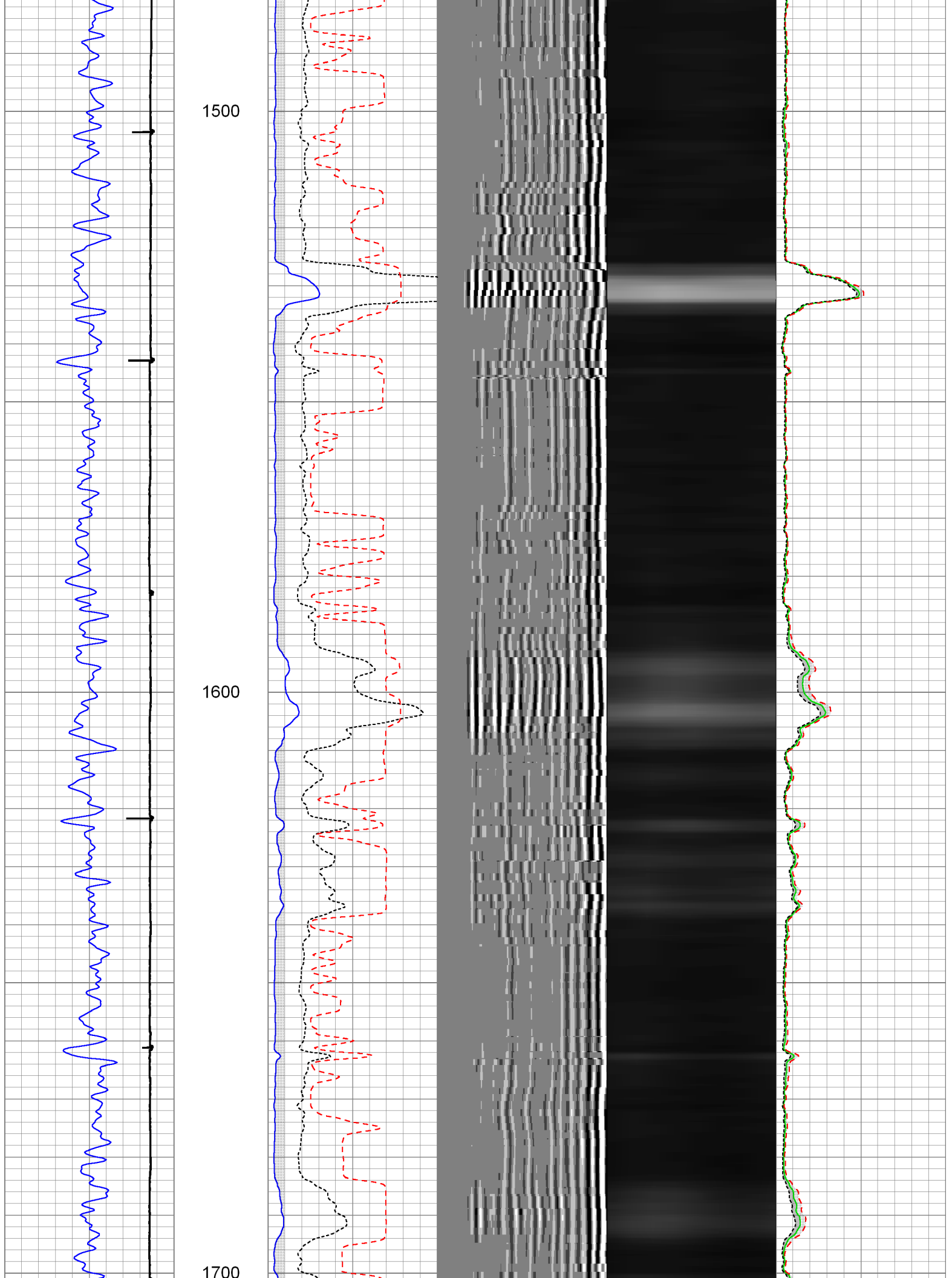


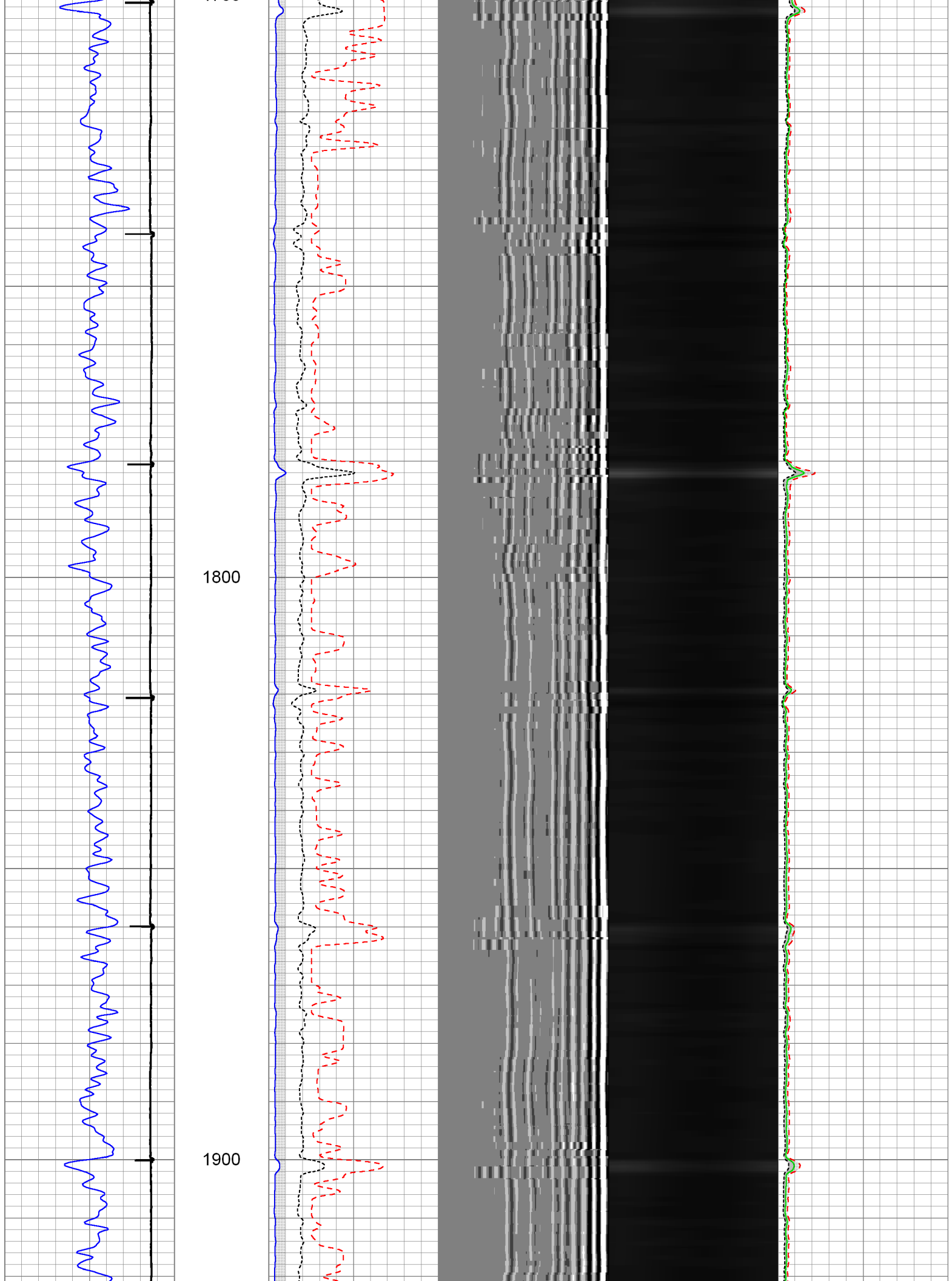


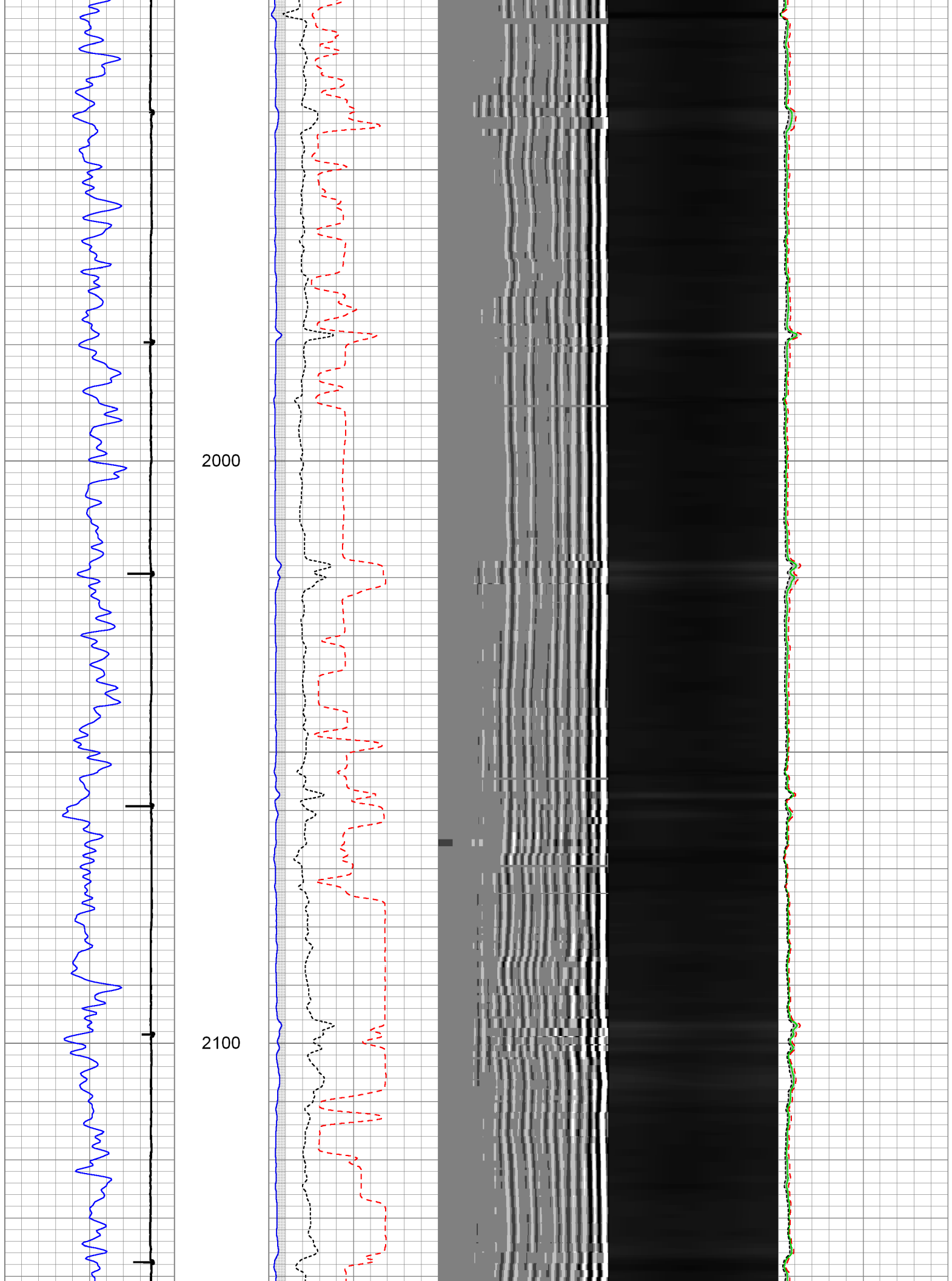
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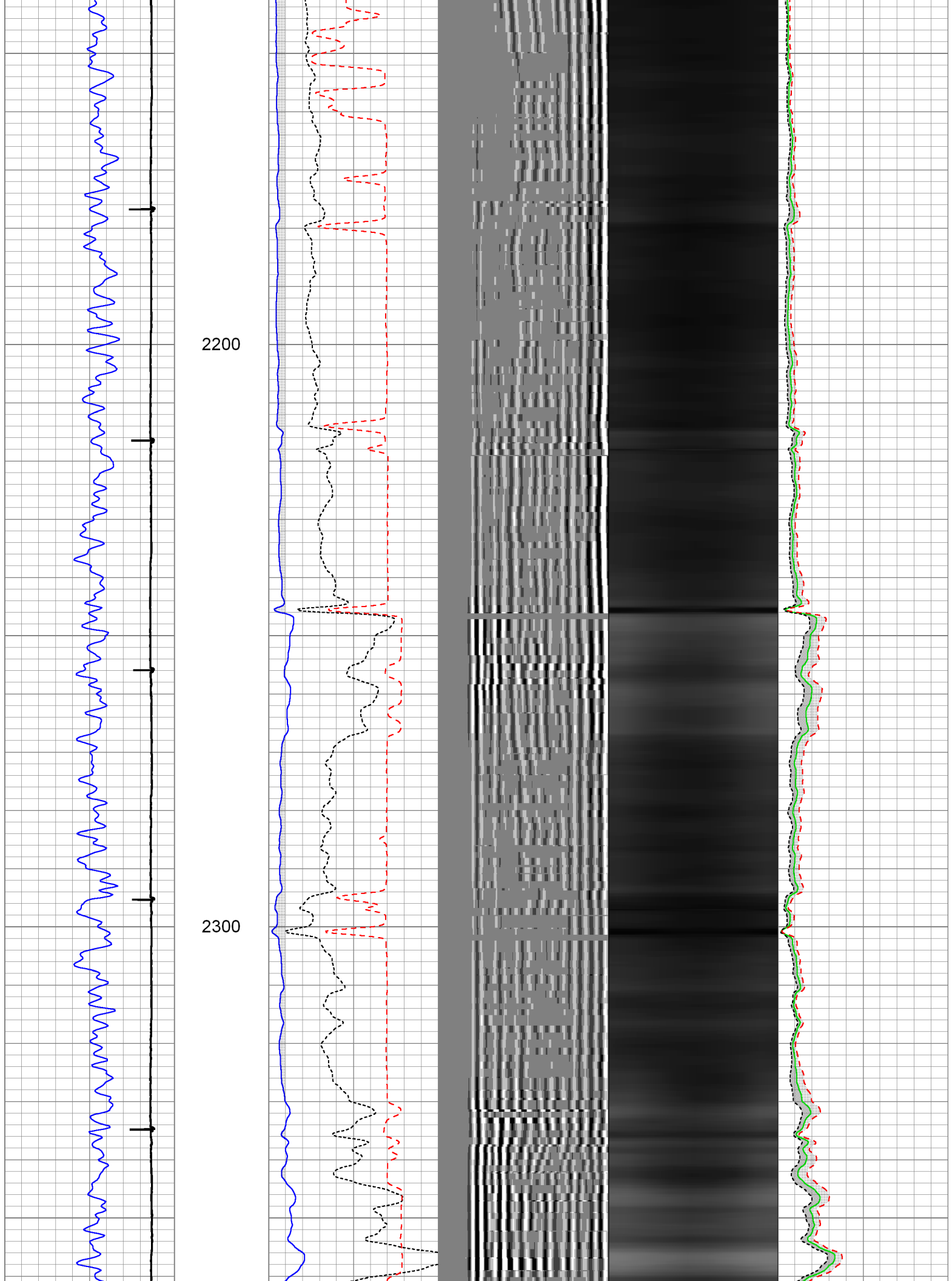
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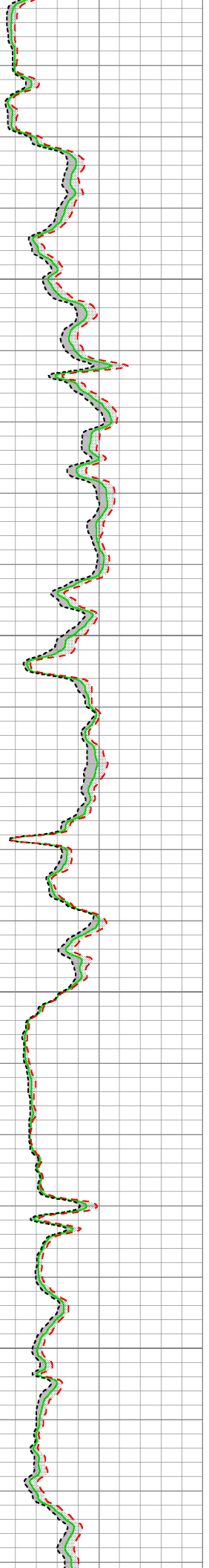
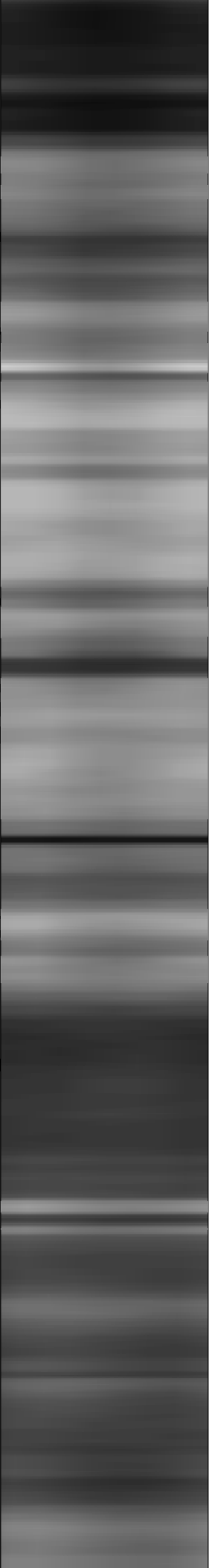
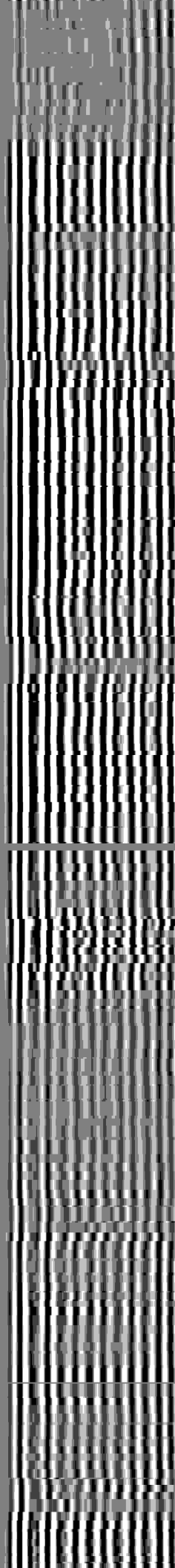
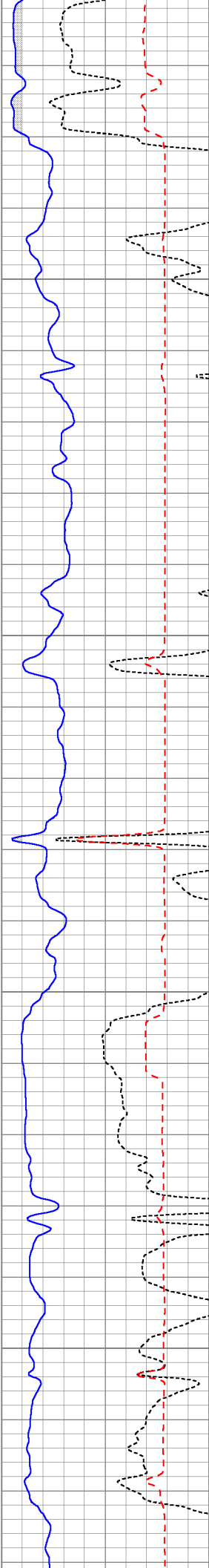


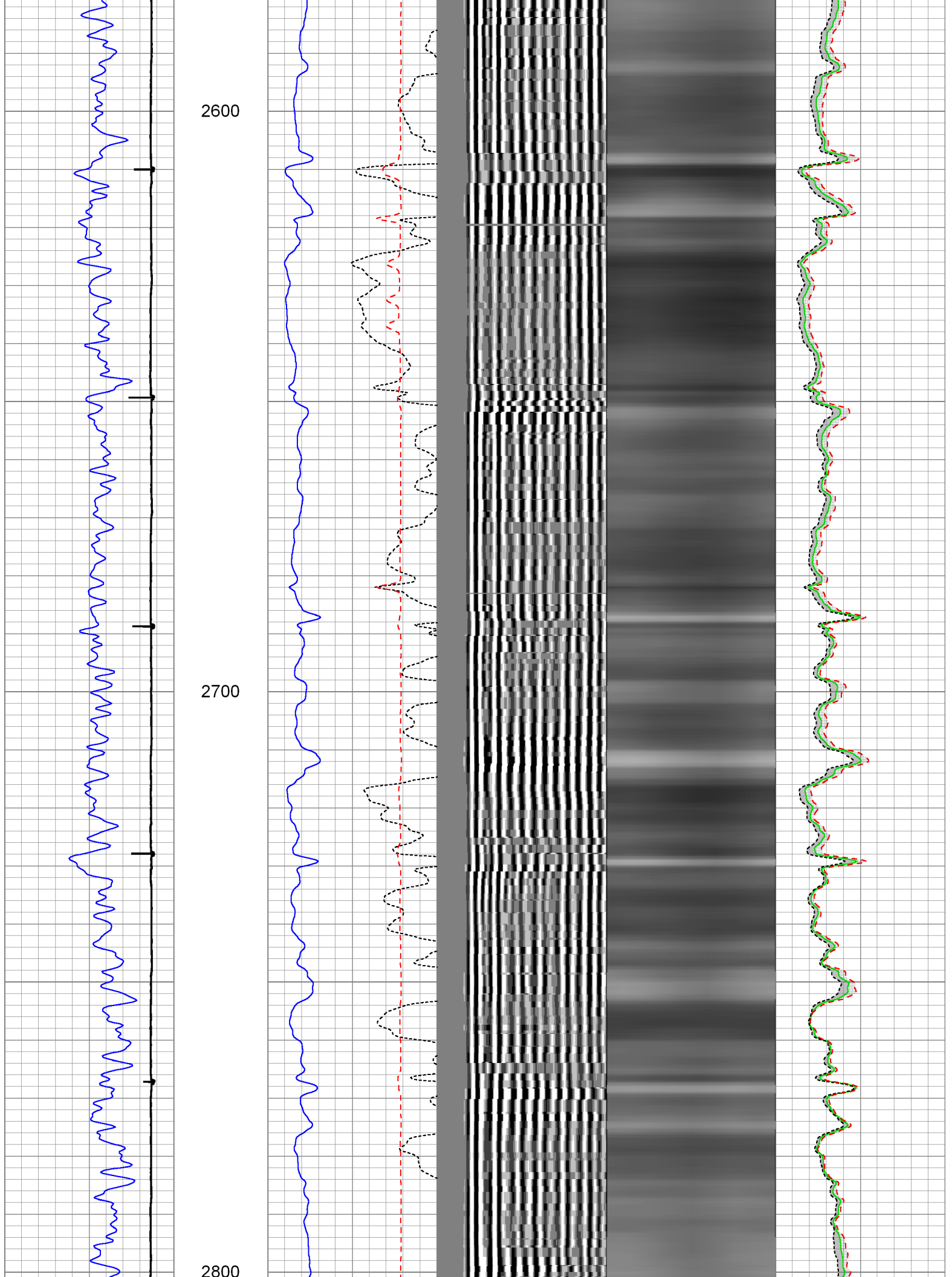




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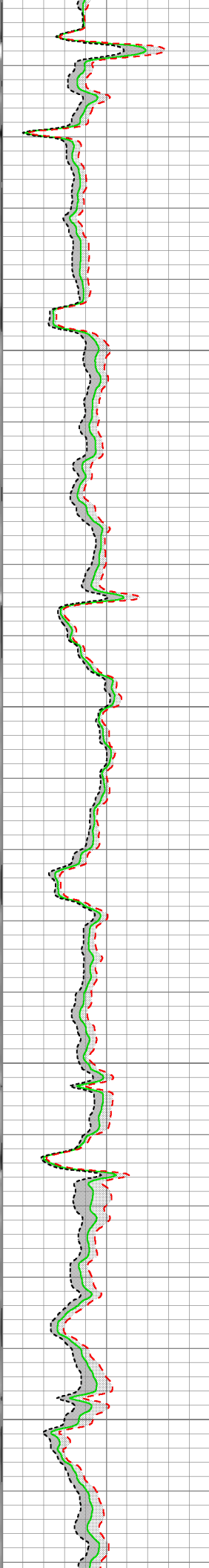
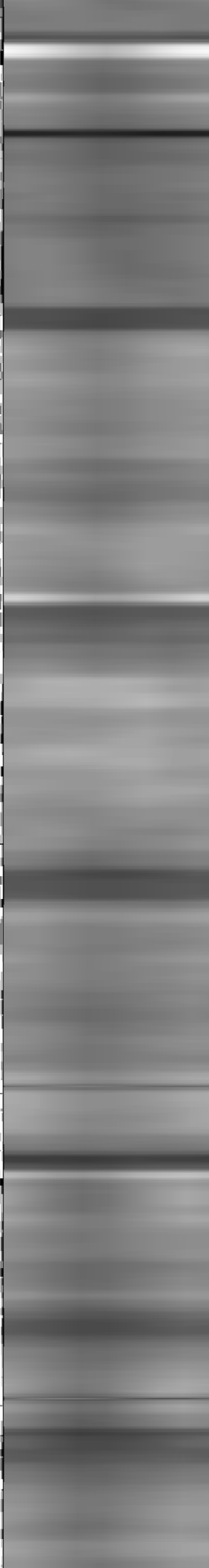
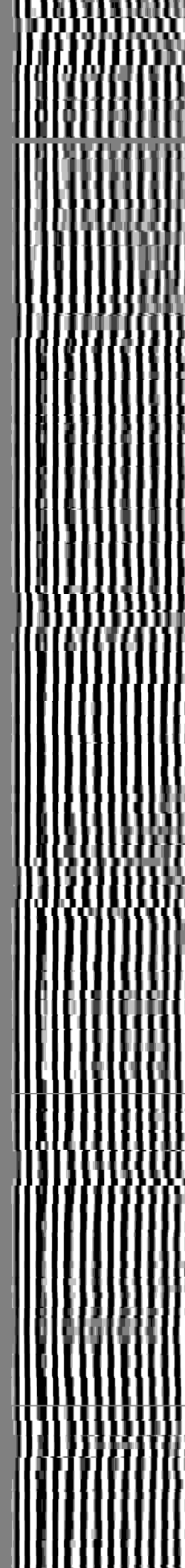
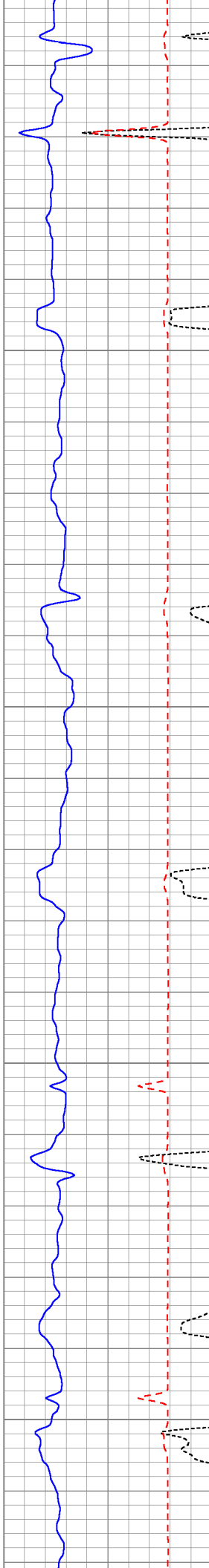
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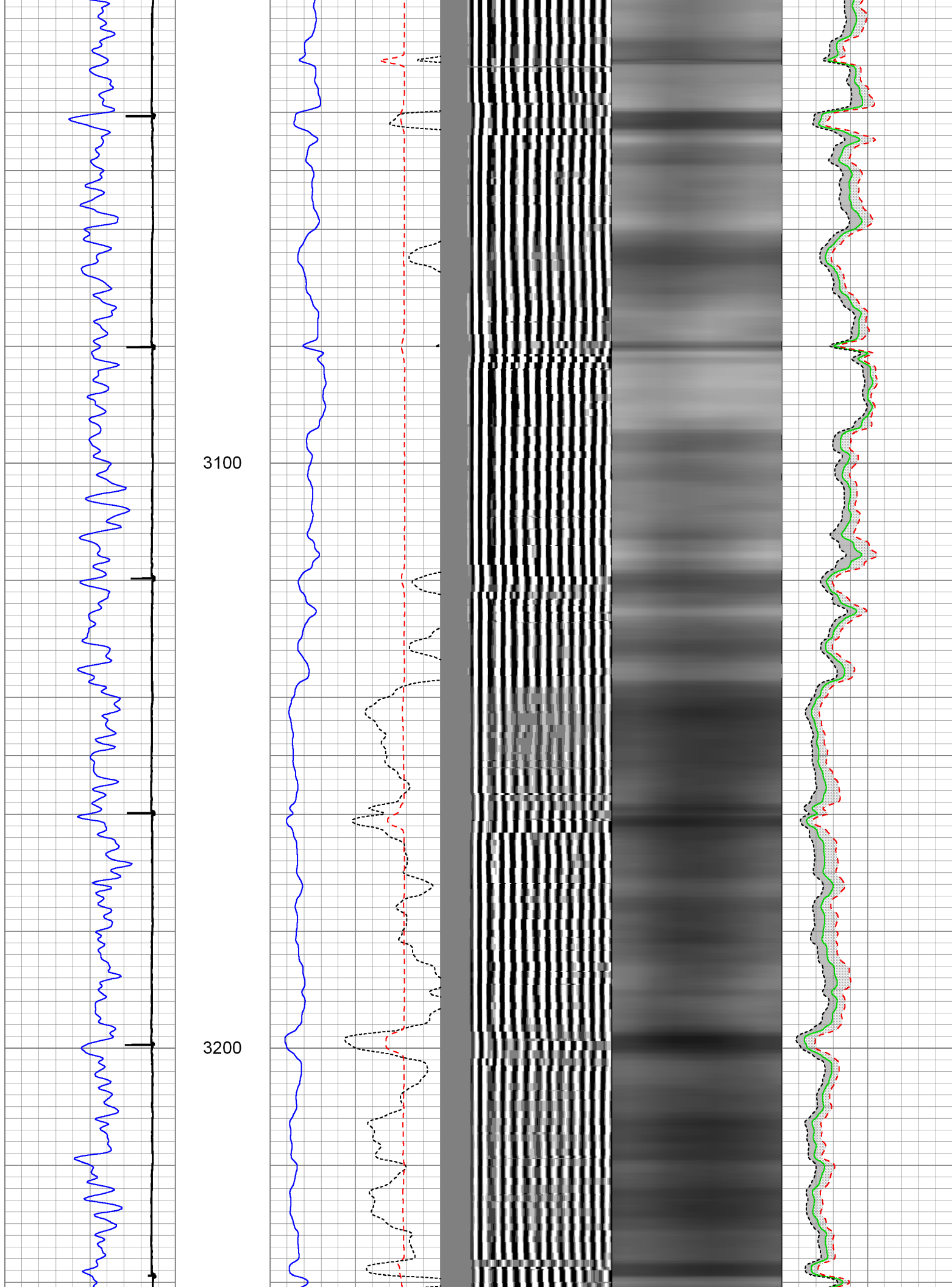
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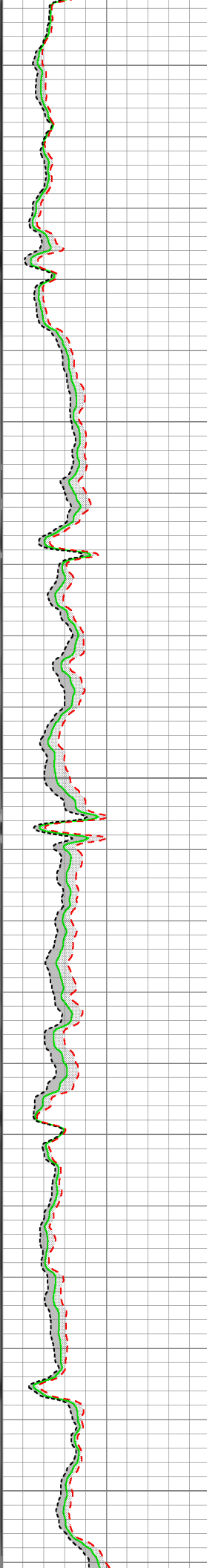
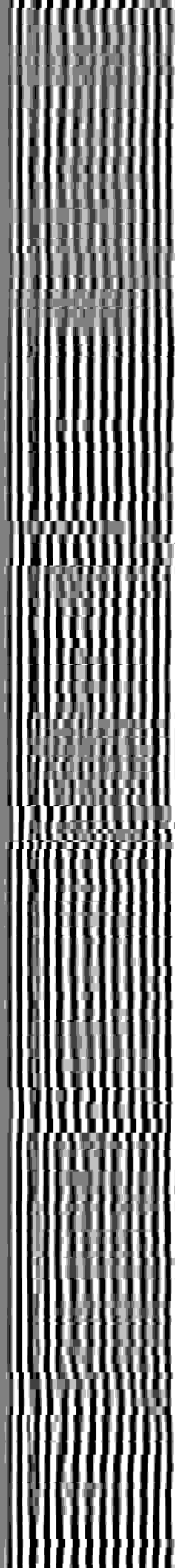
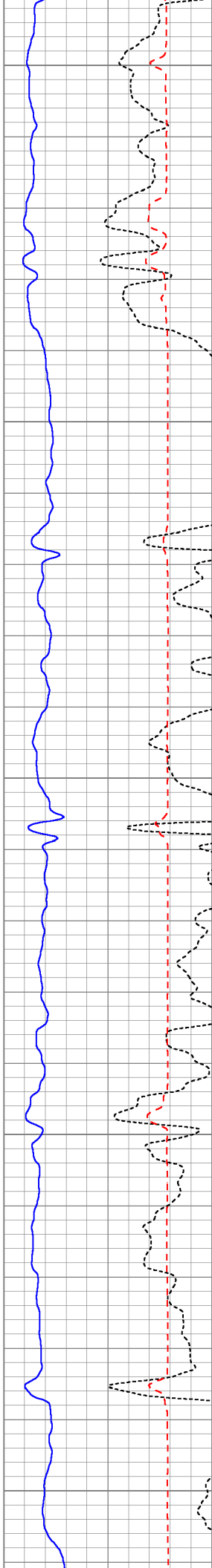
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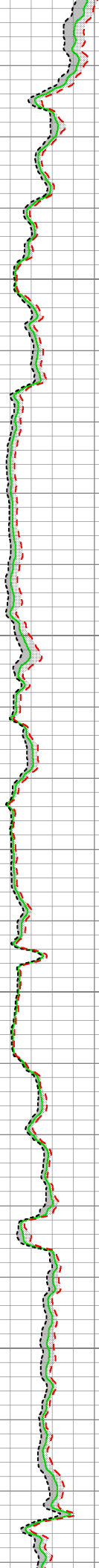
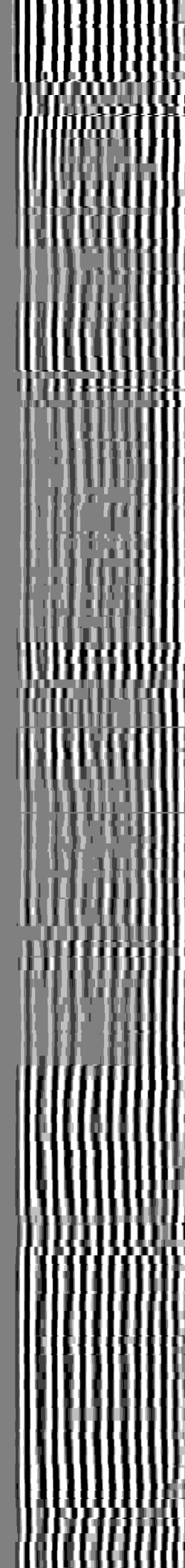
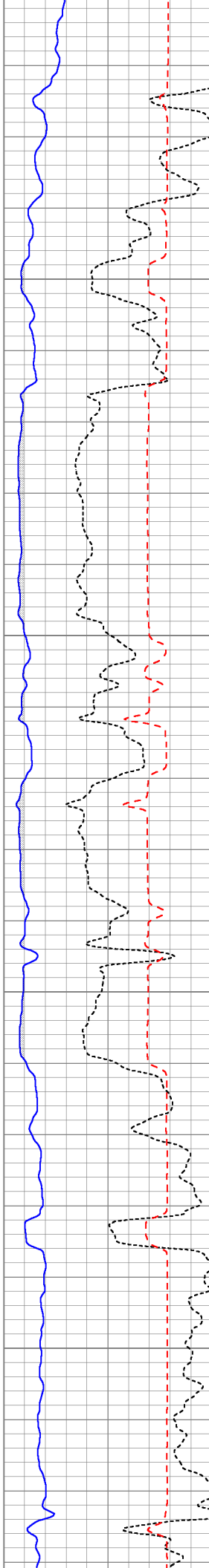
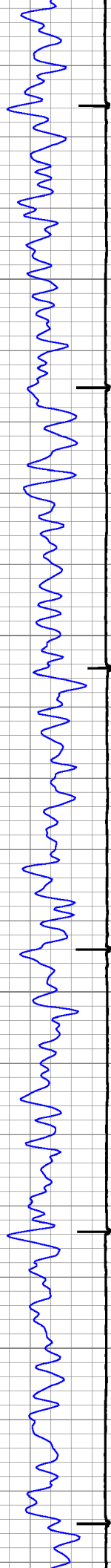
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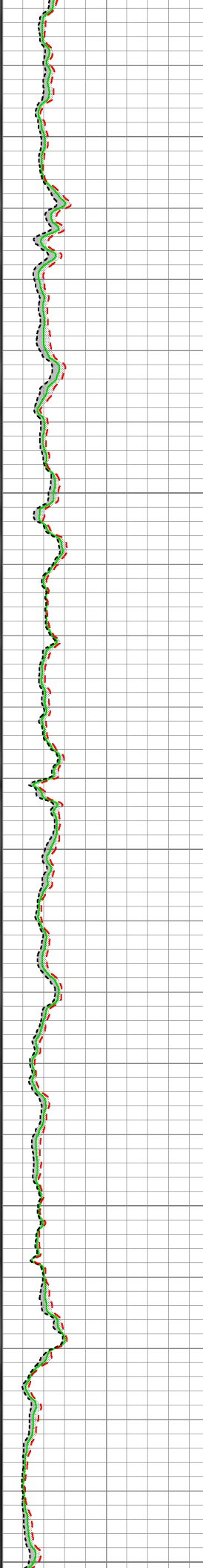
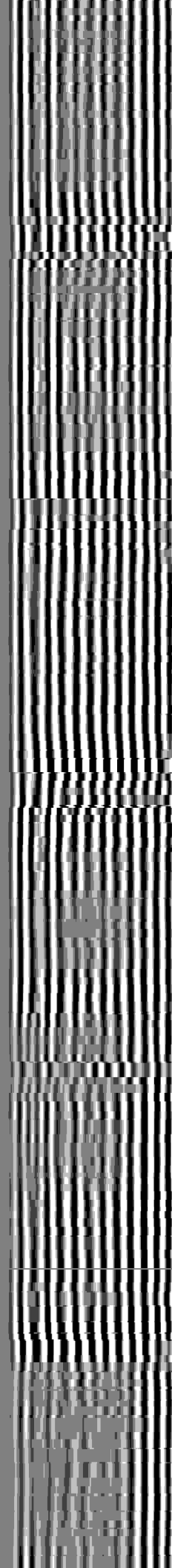
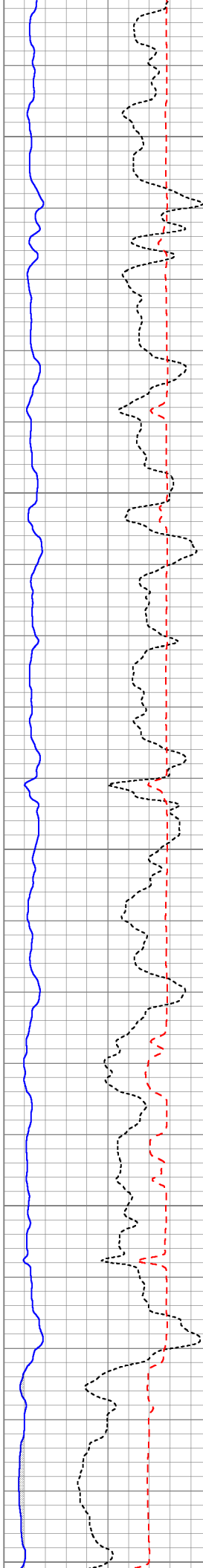
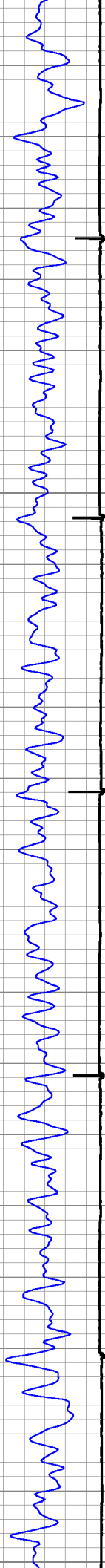
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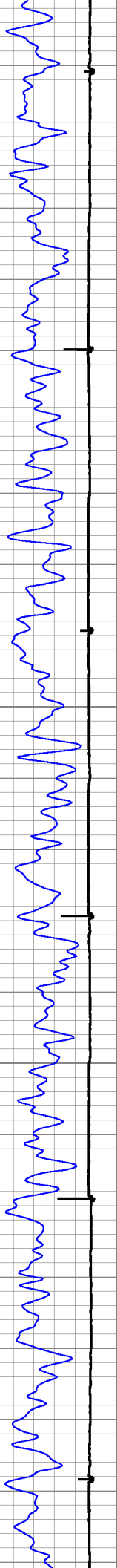


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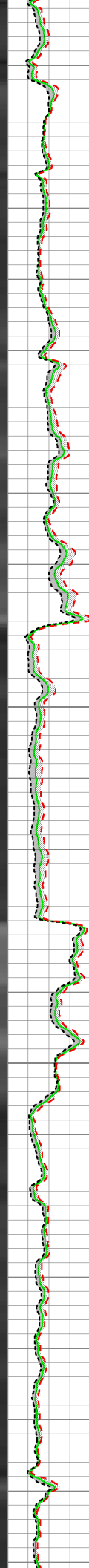
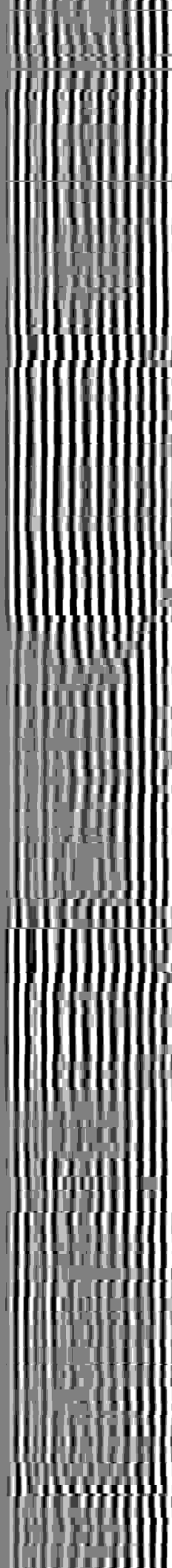
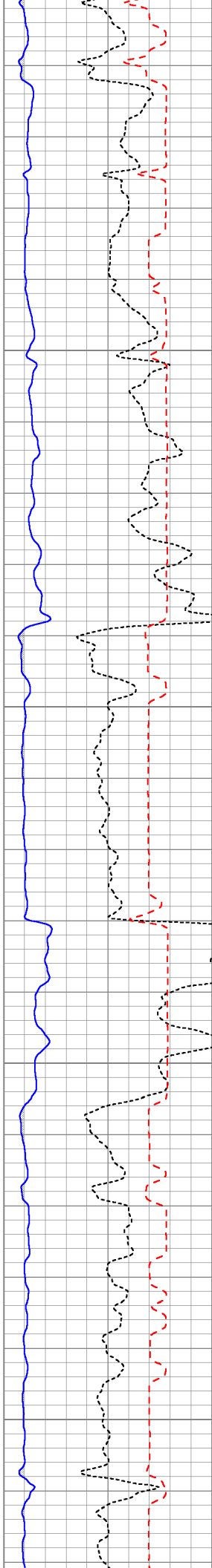
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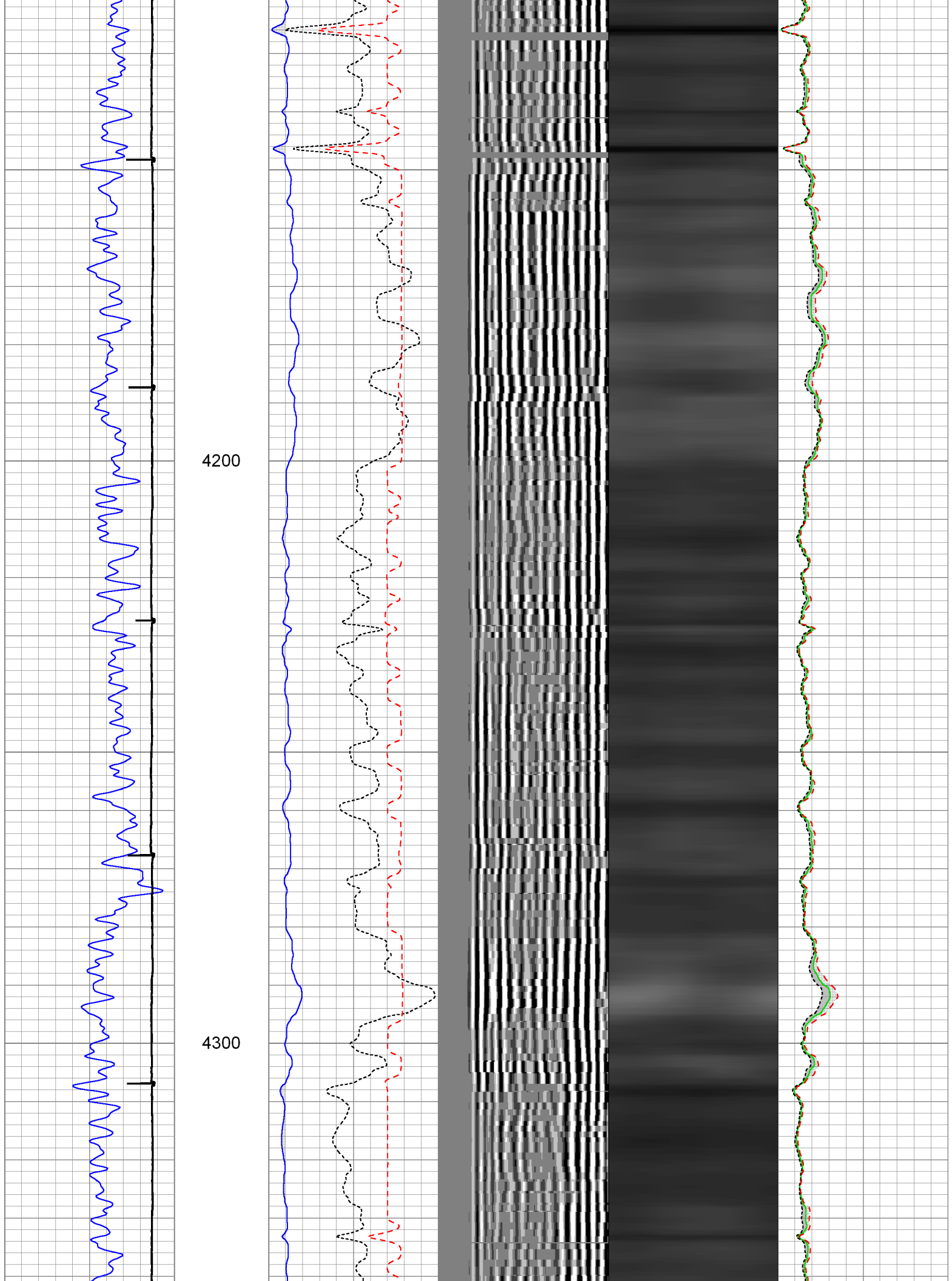


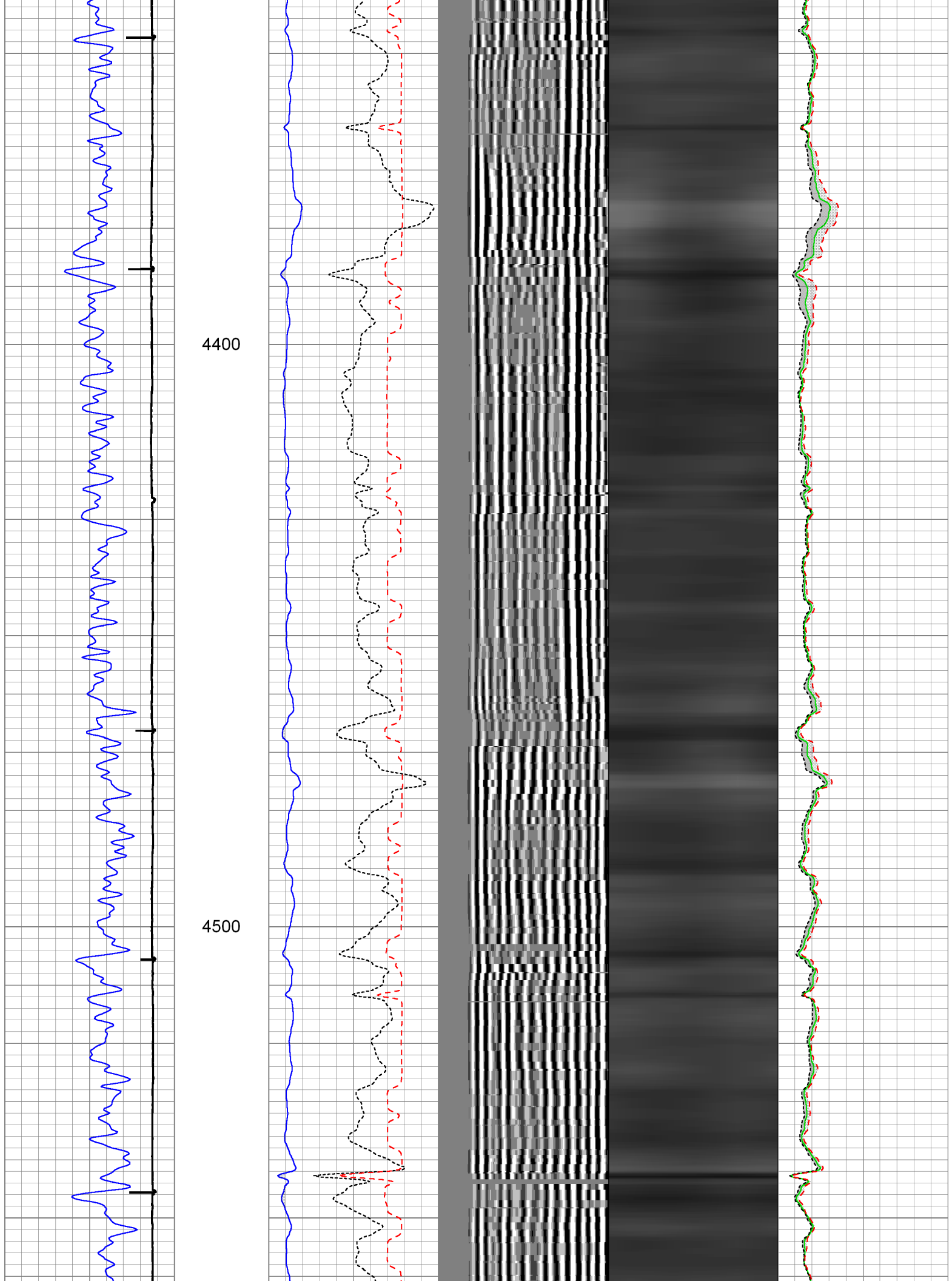


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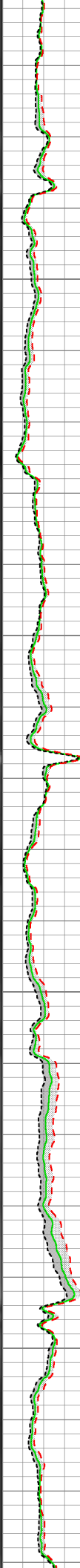
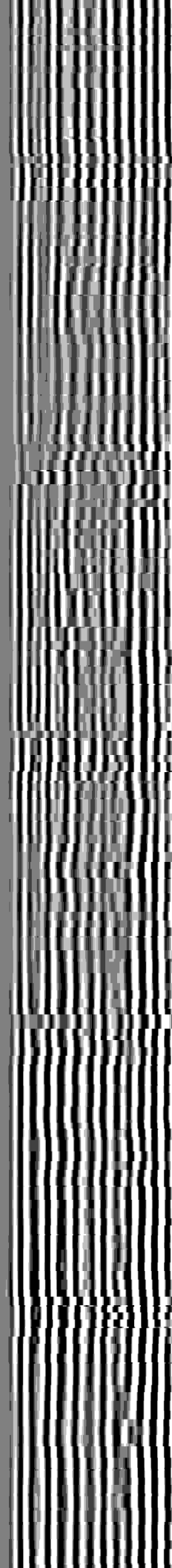
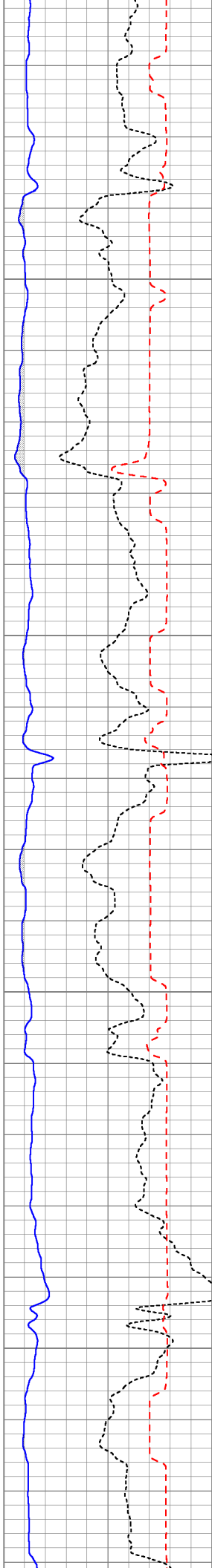
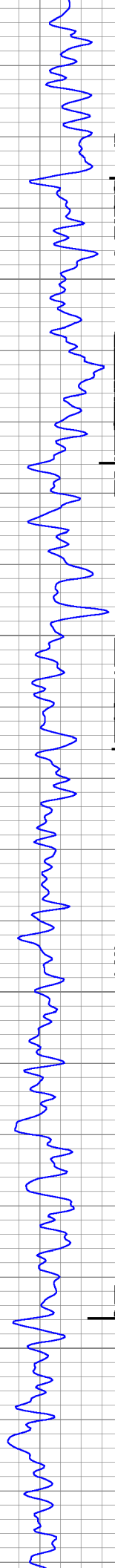






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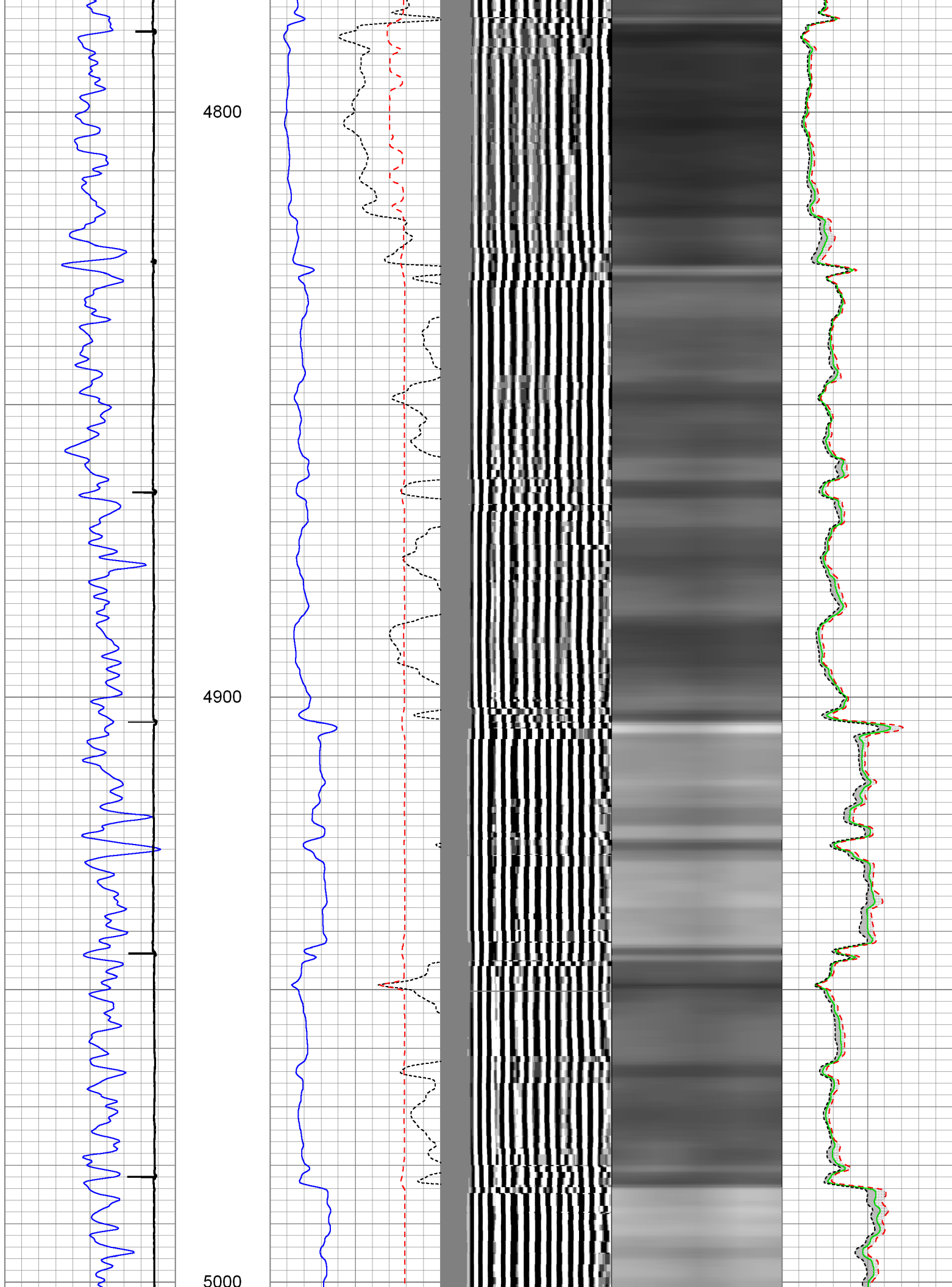
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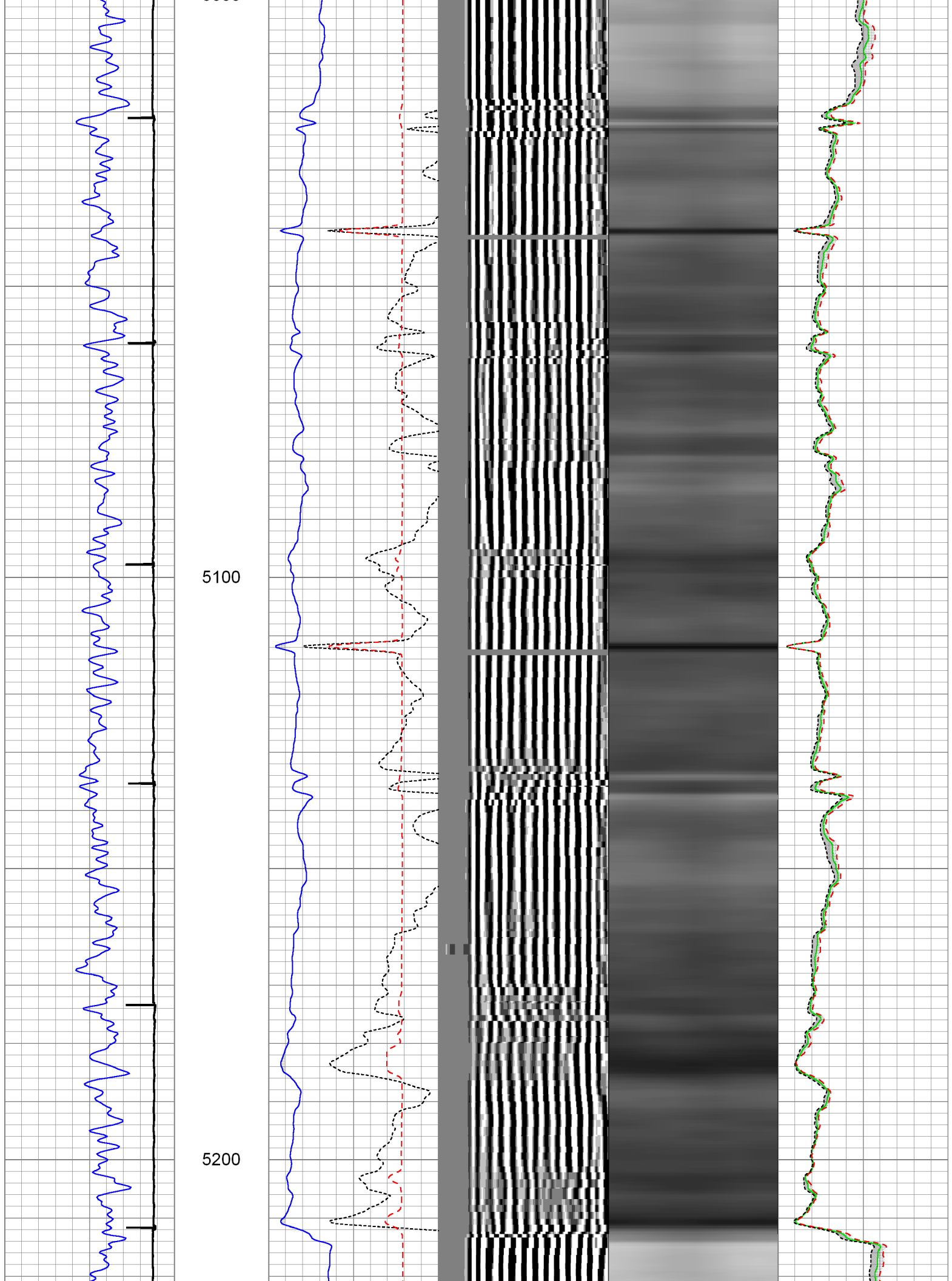


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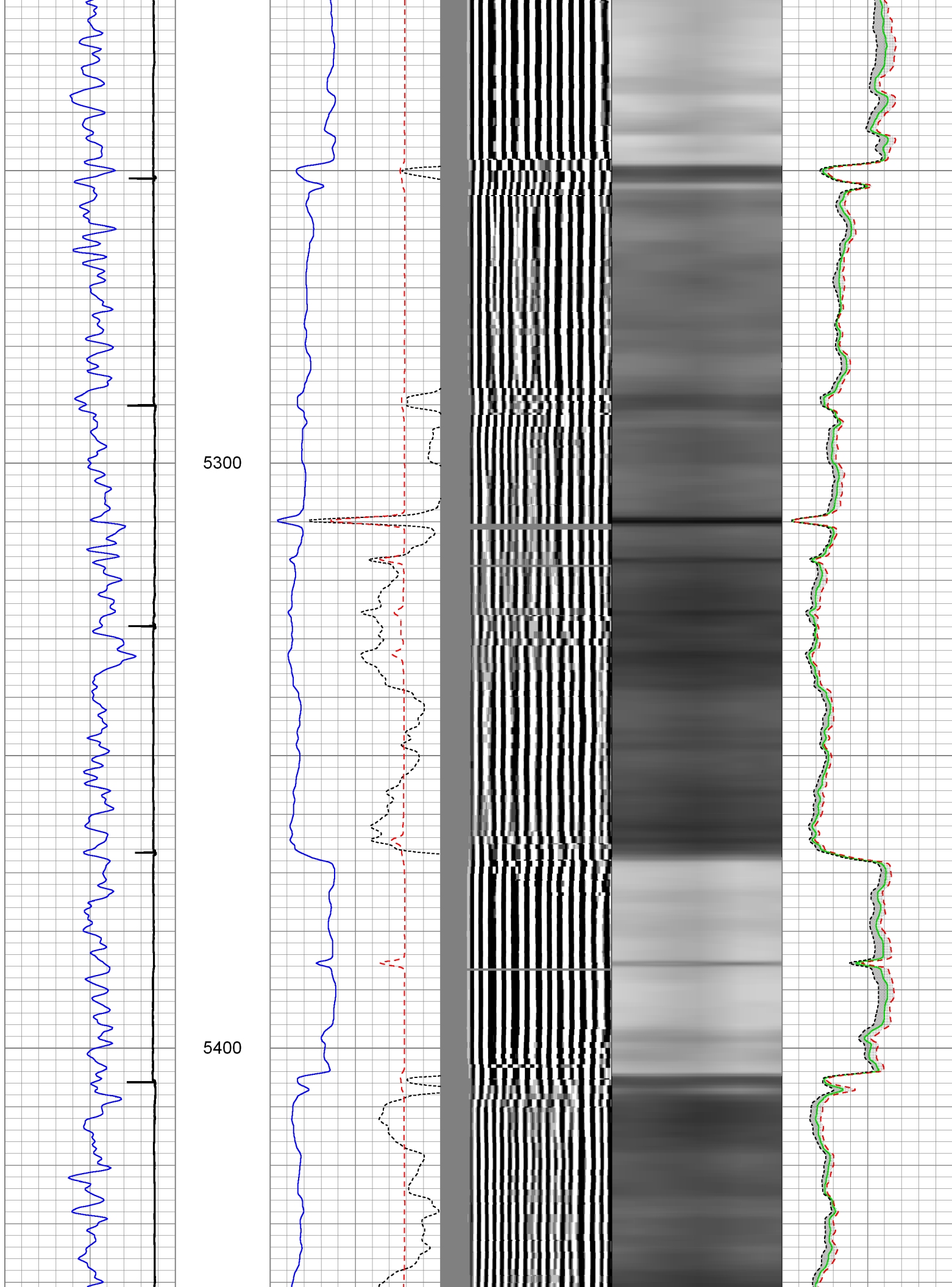
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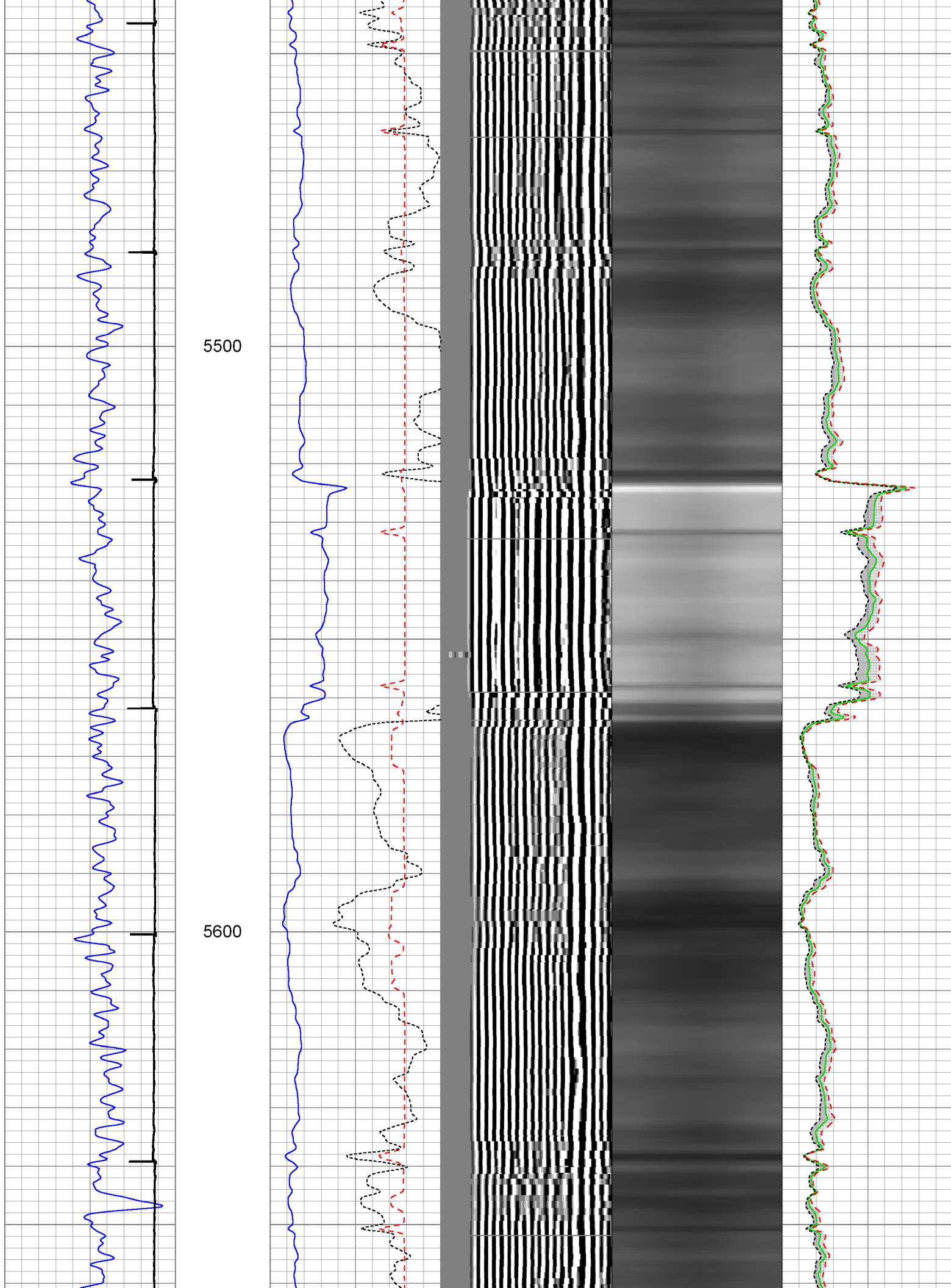




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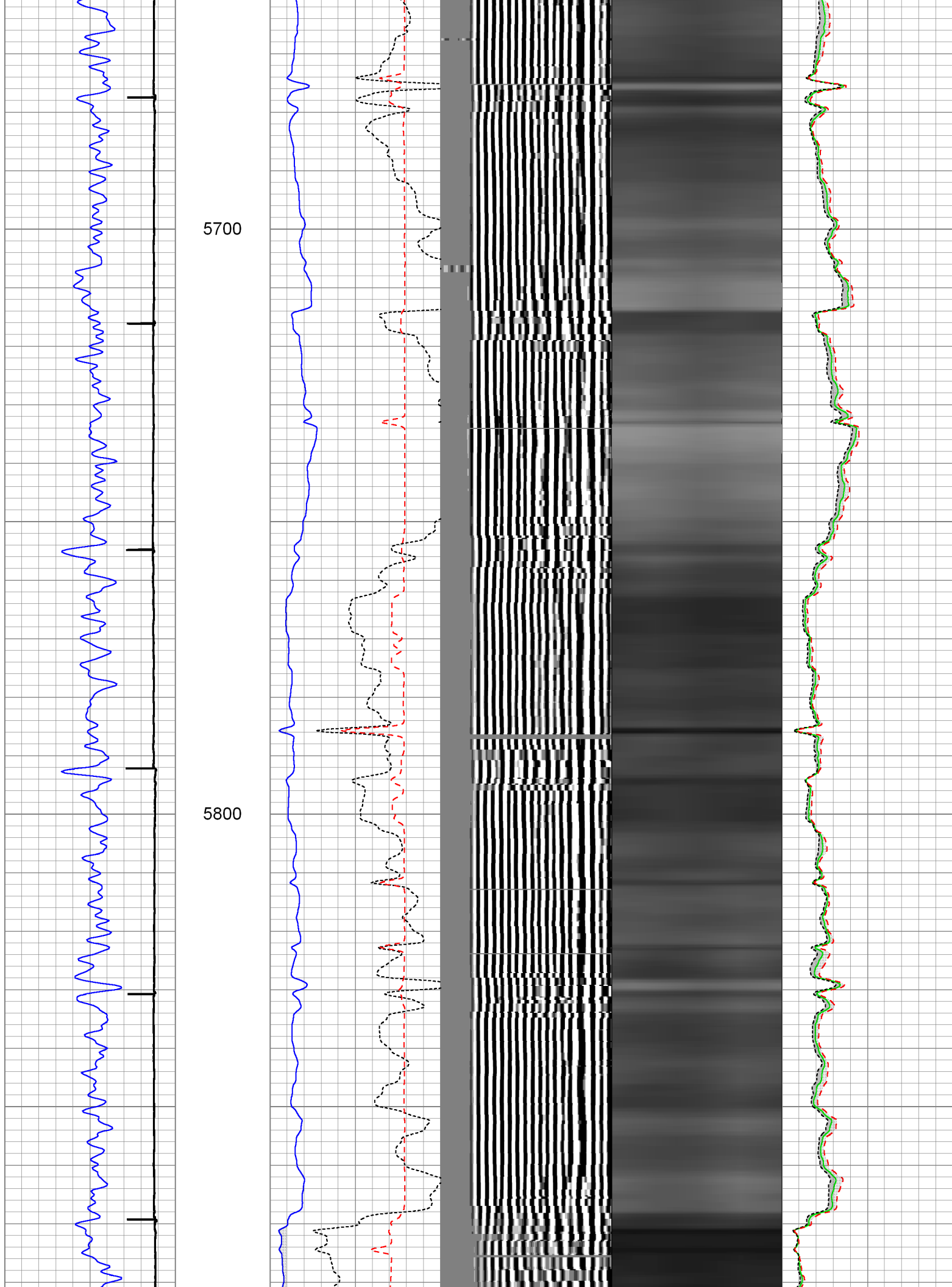
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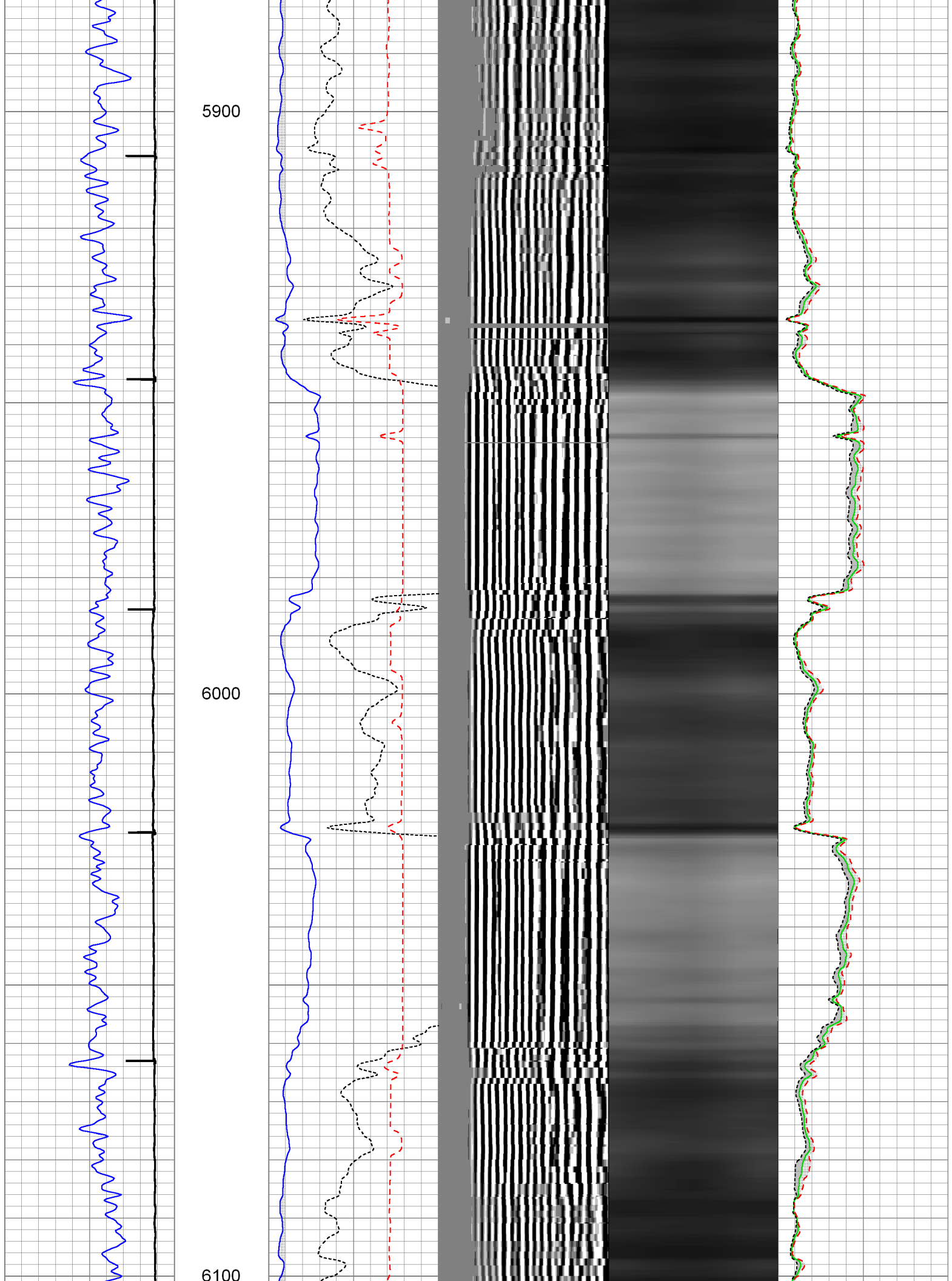
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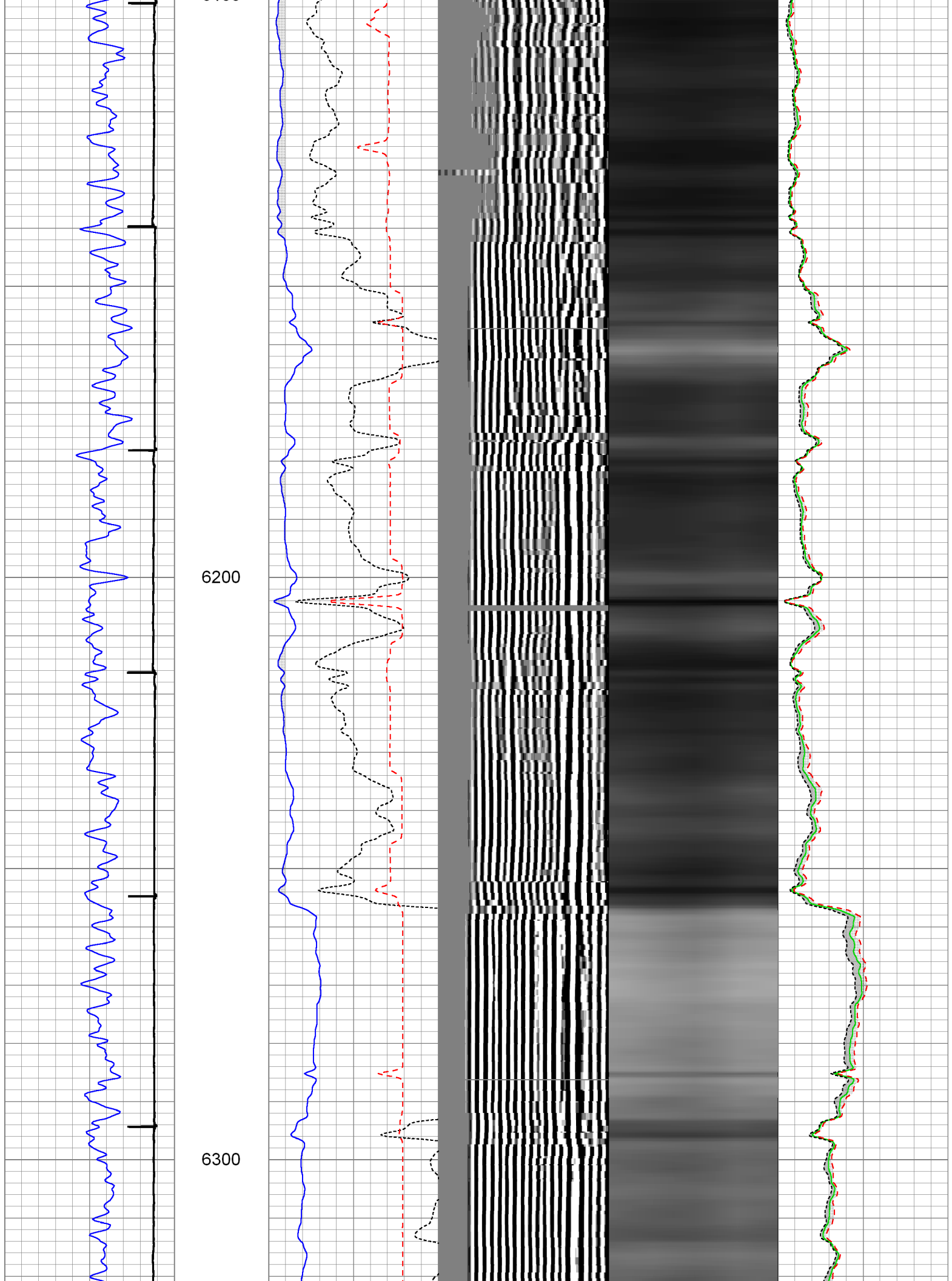


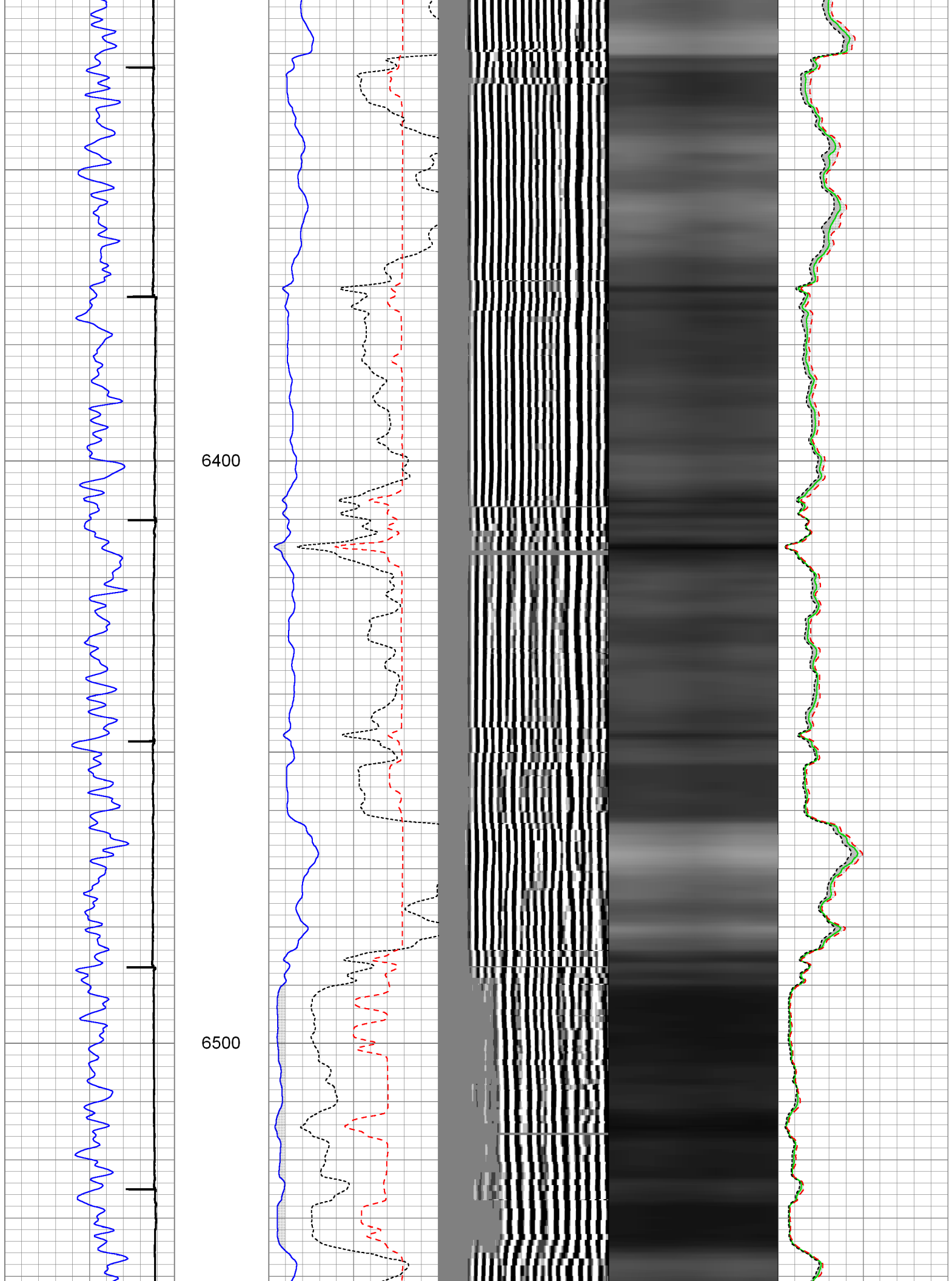
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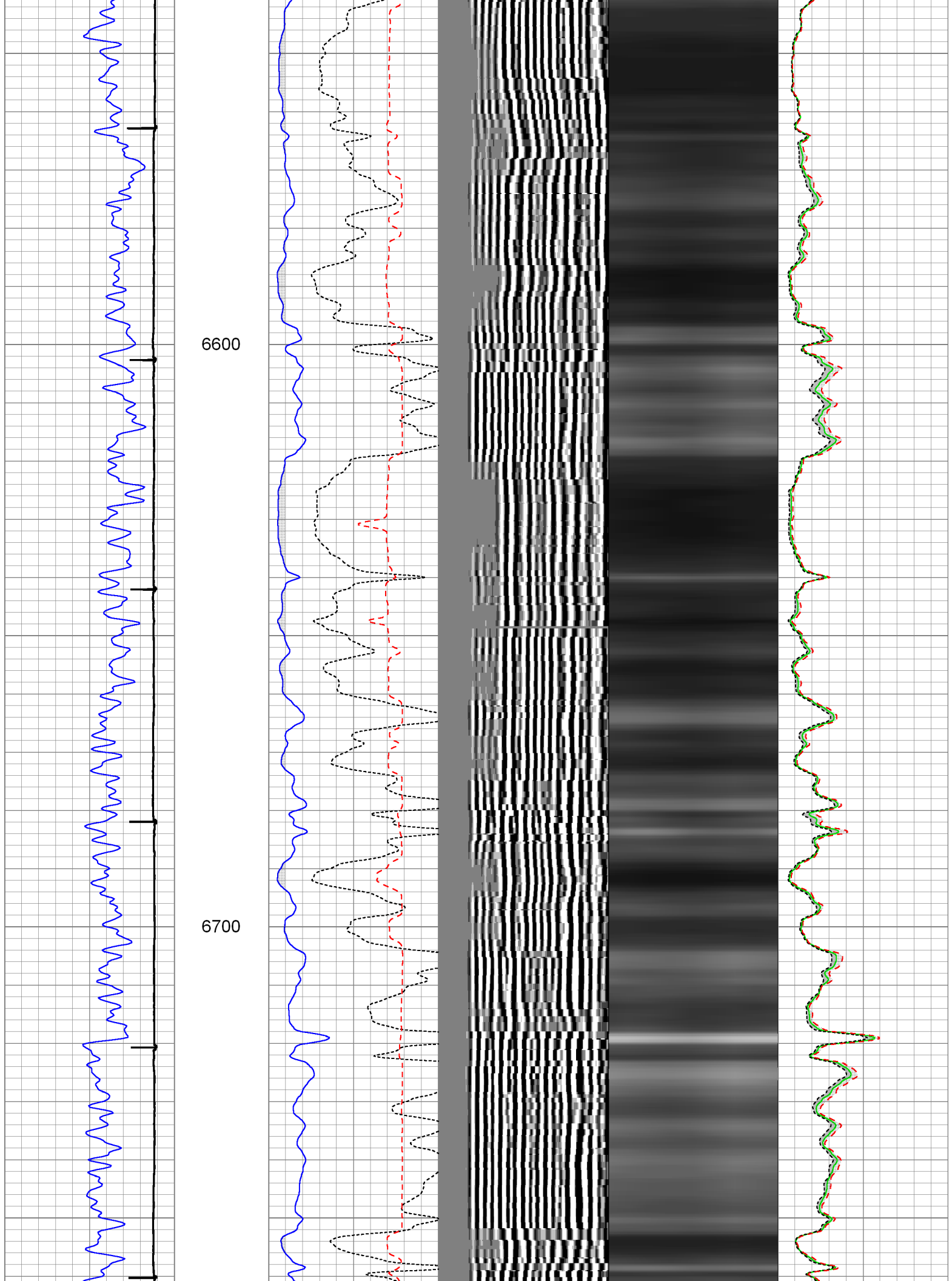
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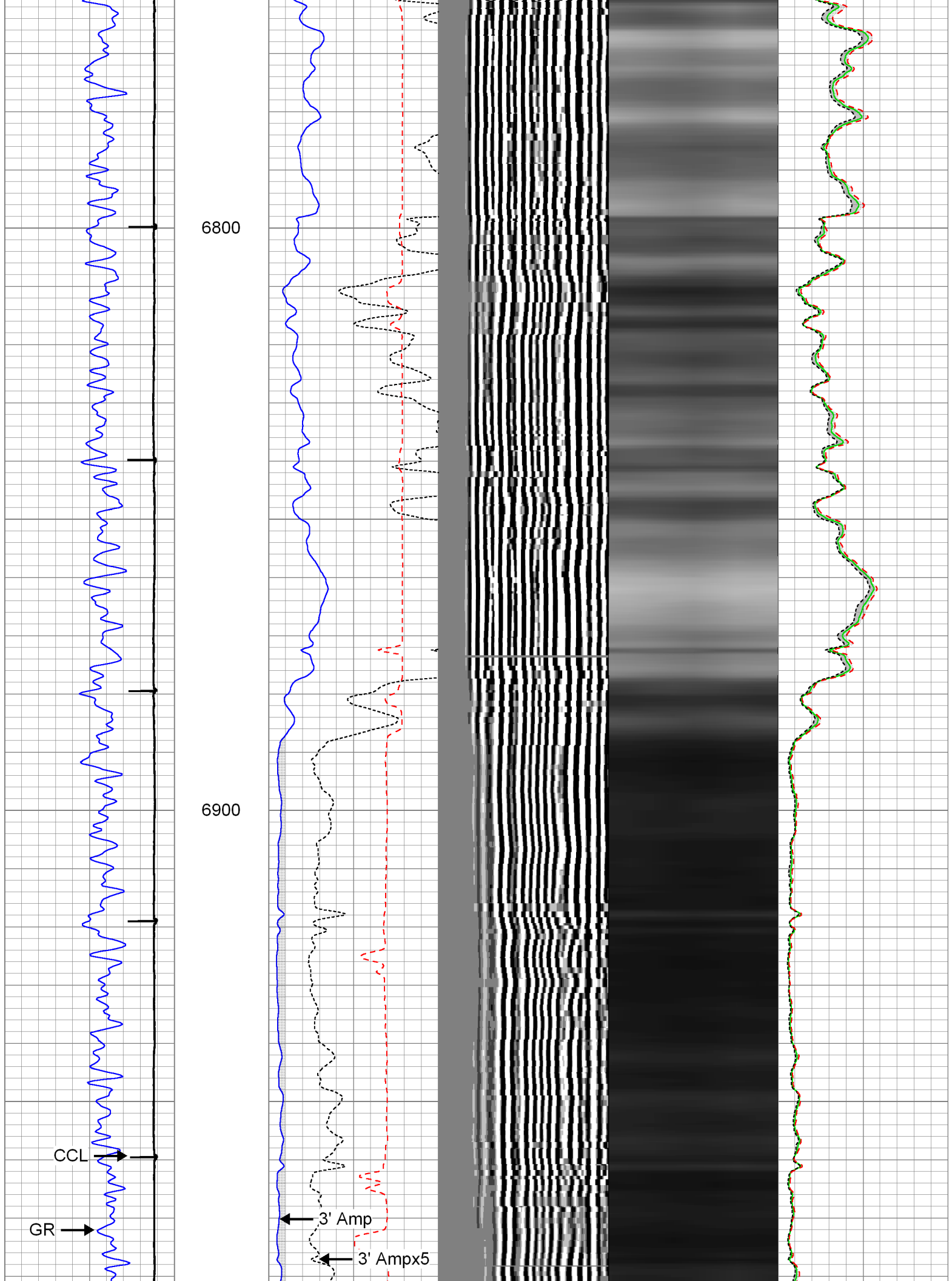
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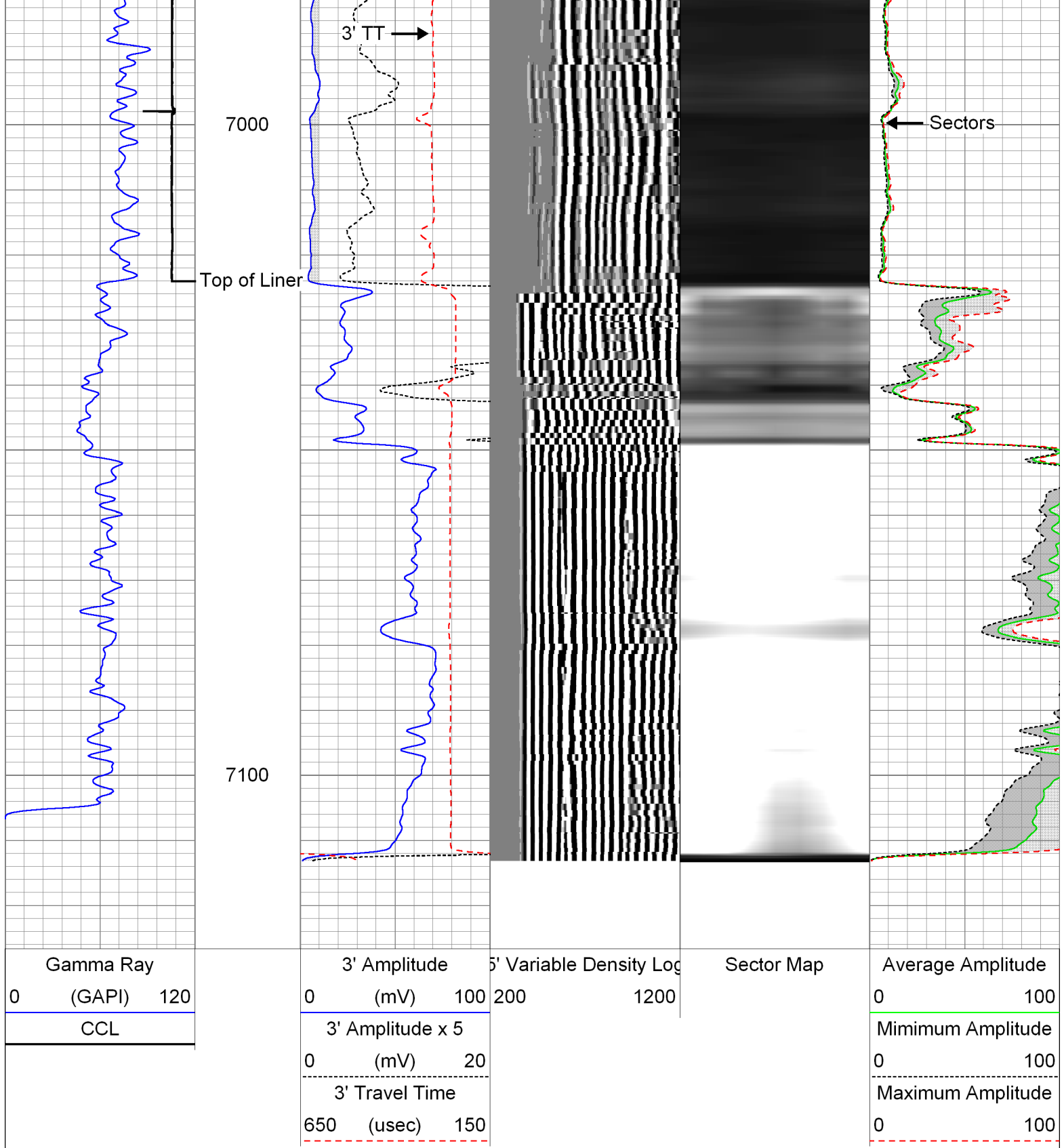










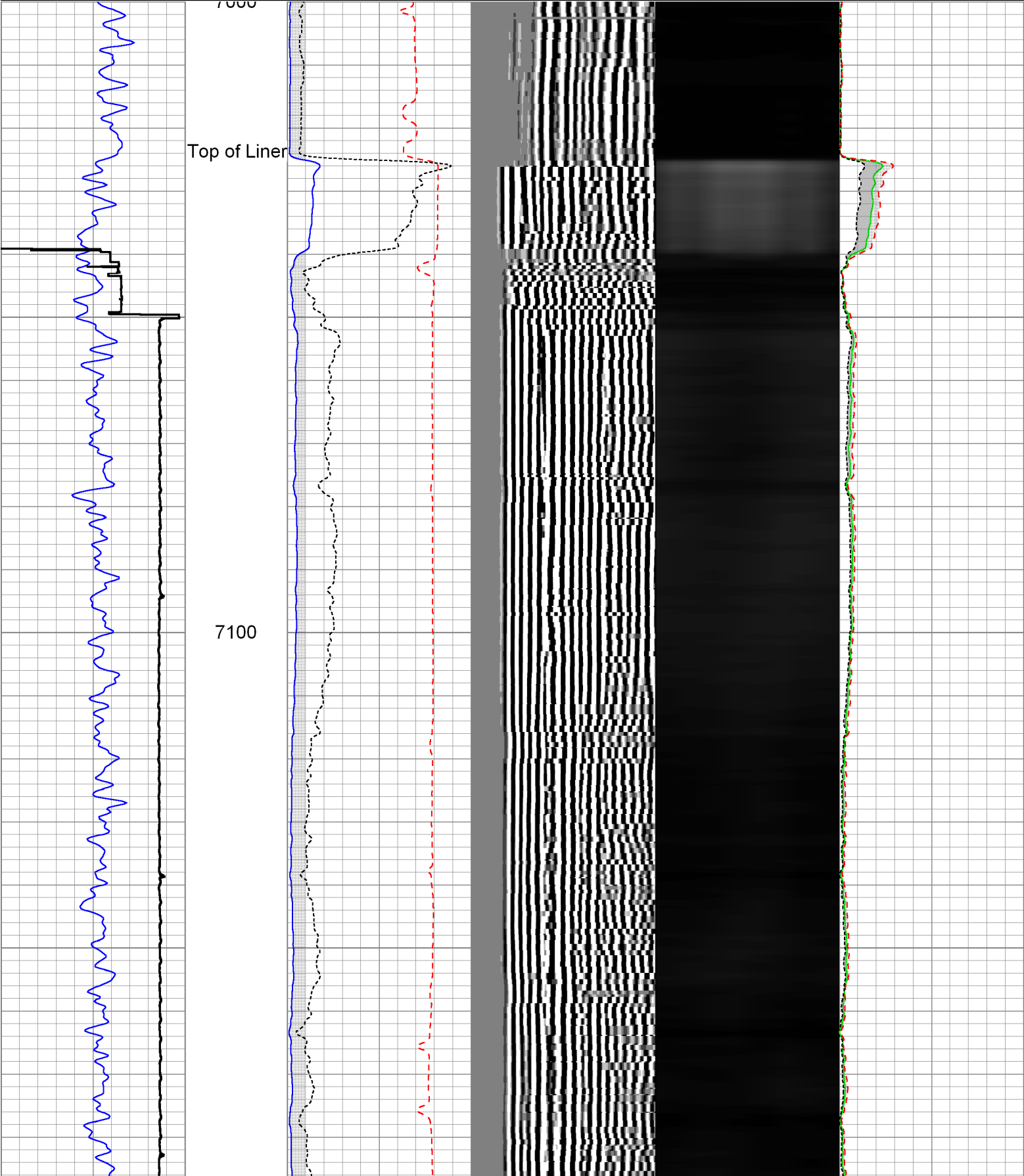


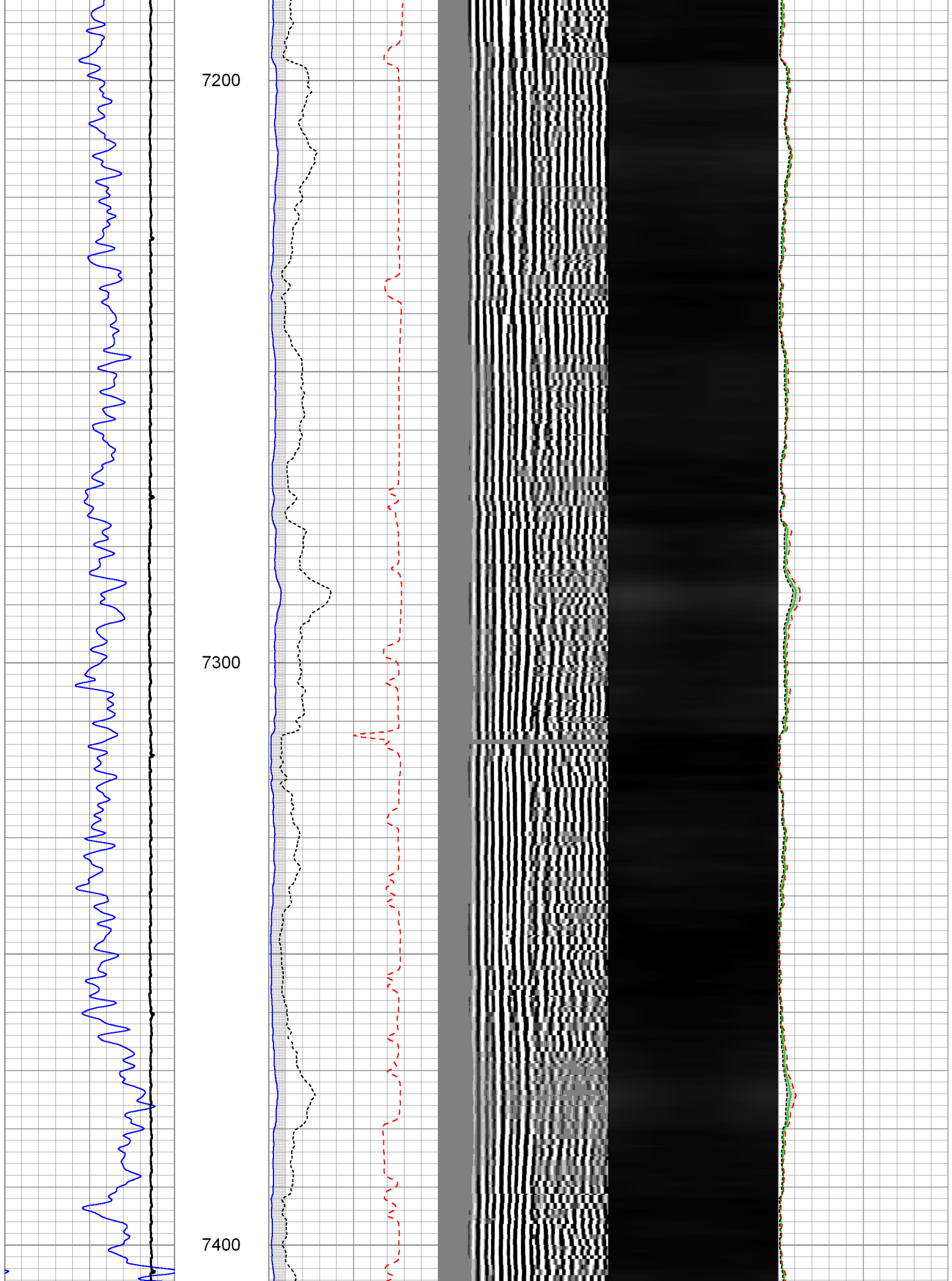
Main Pass: 4.5" Casing

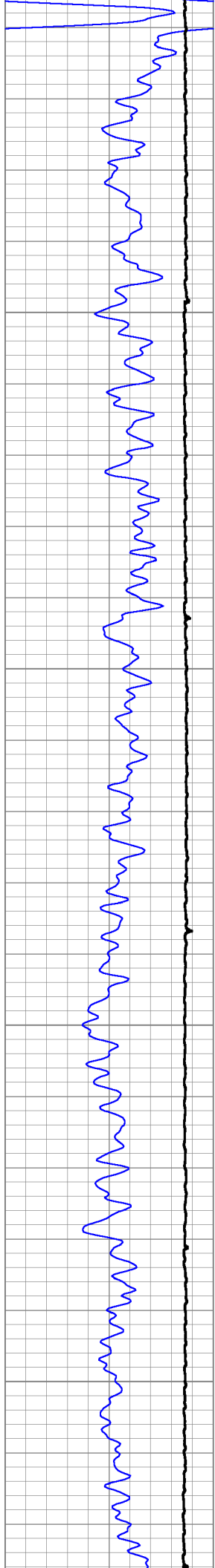
Logged with 2200 PSI Induced Surface Pressure

Database File: z:\logs_for_processing\shared\shelly\0512338610_anadarko_nrc 29c-4hz_04-09-14_mit_rbl.db
Dataset Pathname: pass4
Presentation Format: rbt007
Dataset Creation: Wed Apr 09 13:10:08 2014 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						Mimimum Amplitude	
		0	(mV) 20					0	100
		3' Travel Time						Maximum Amplitude	
		650	(usec) 150					0	100

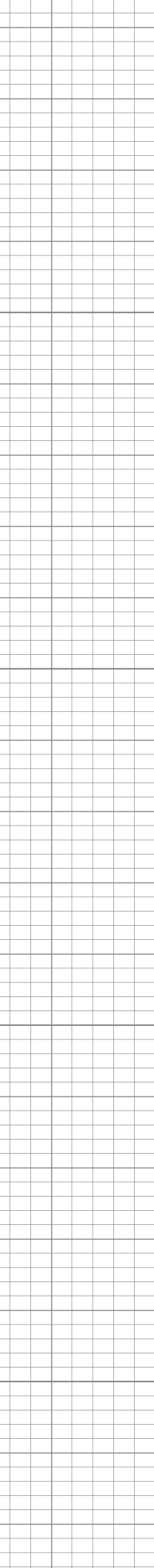
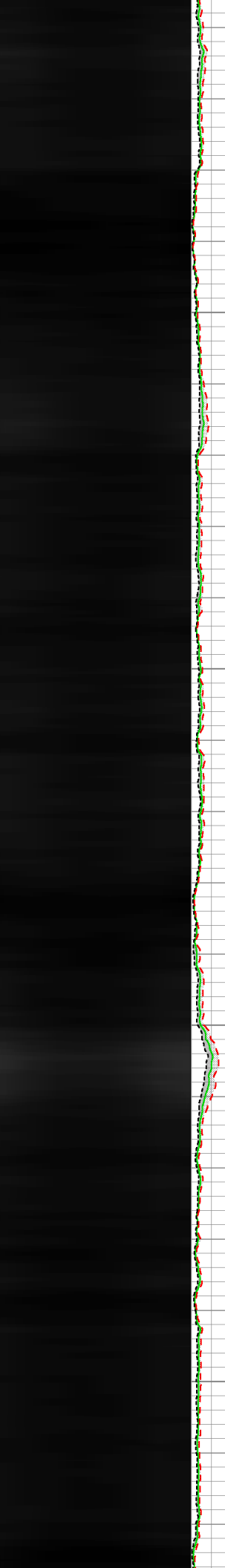
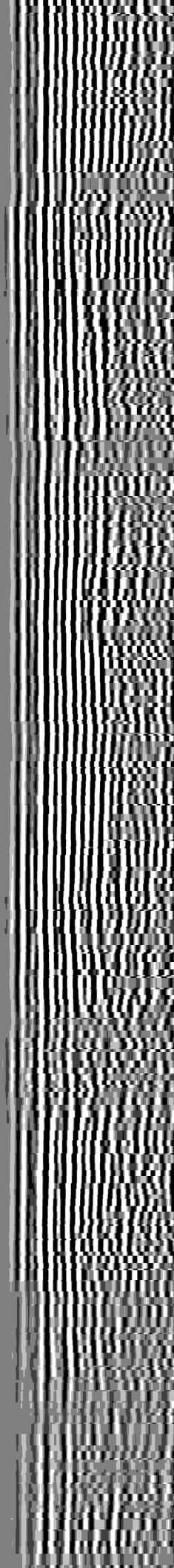
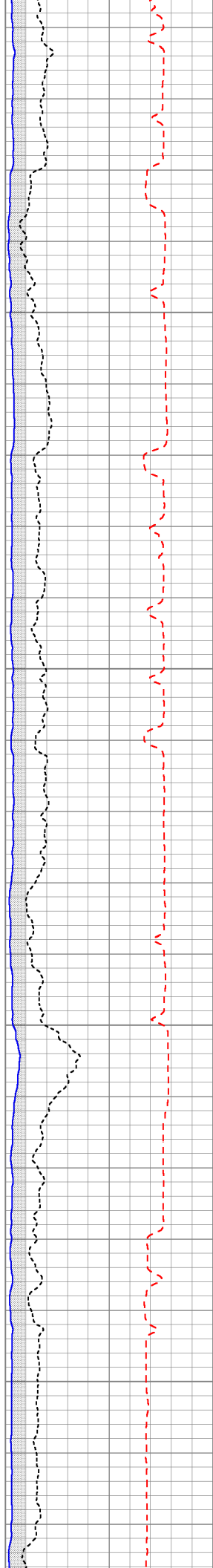


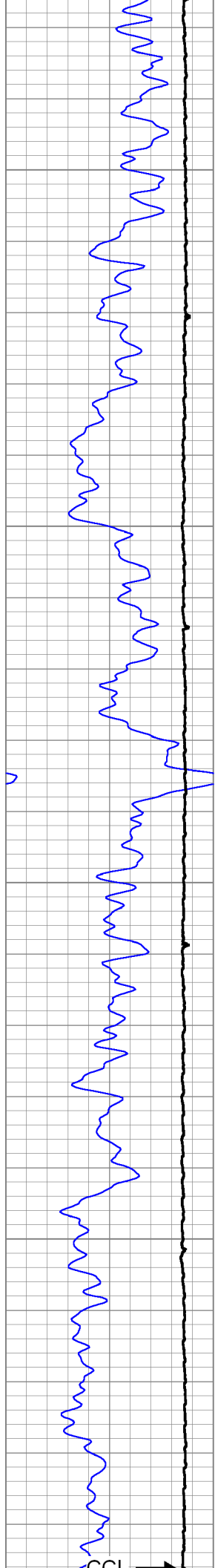




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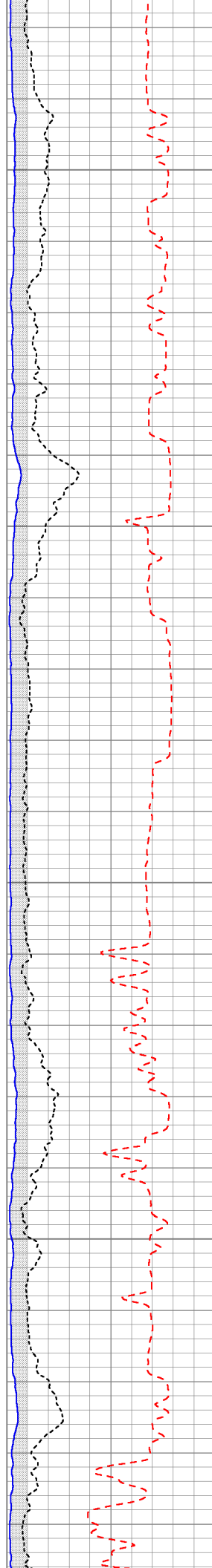
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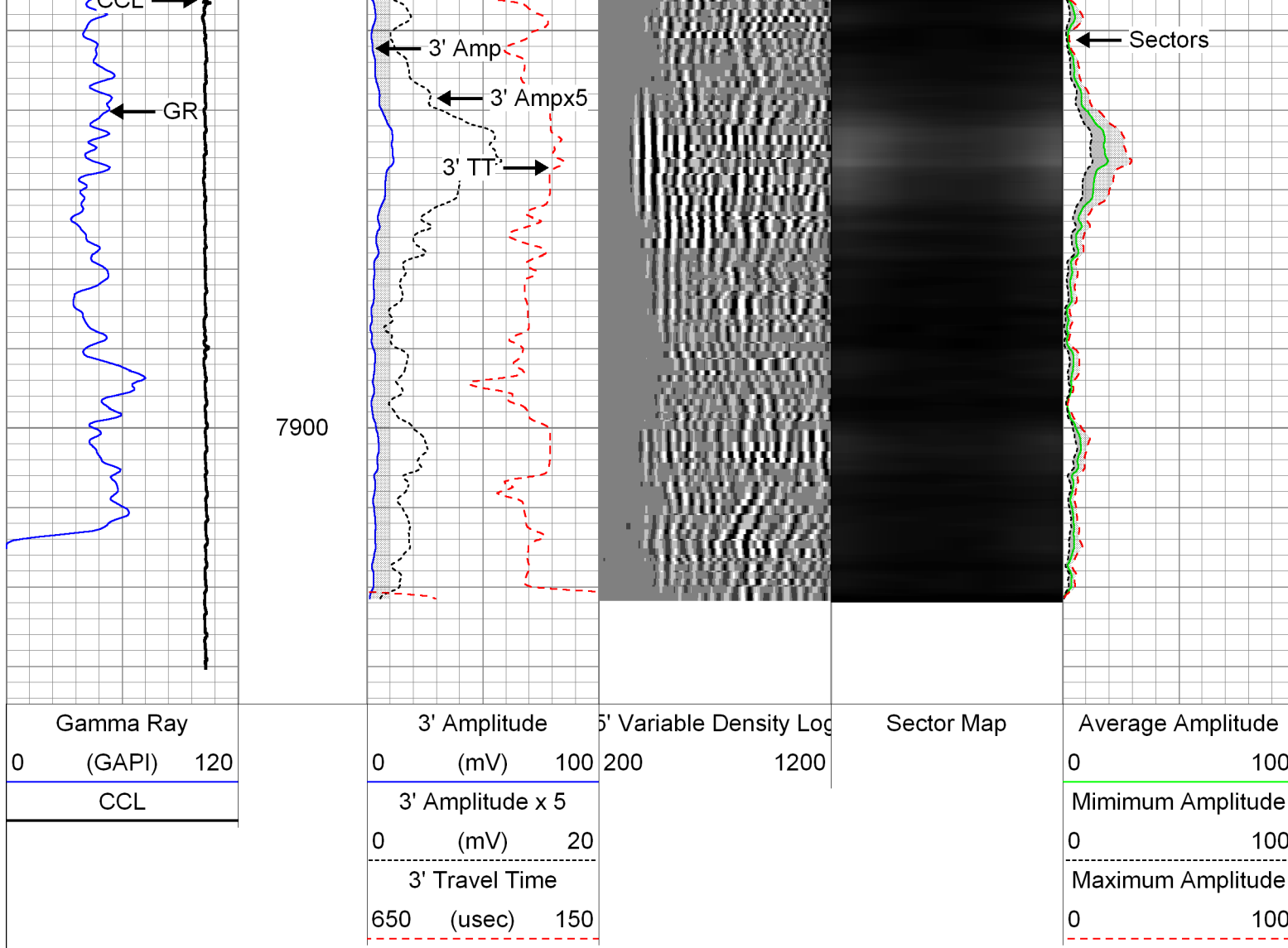




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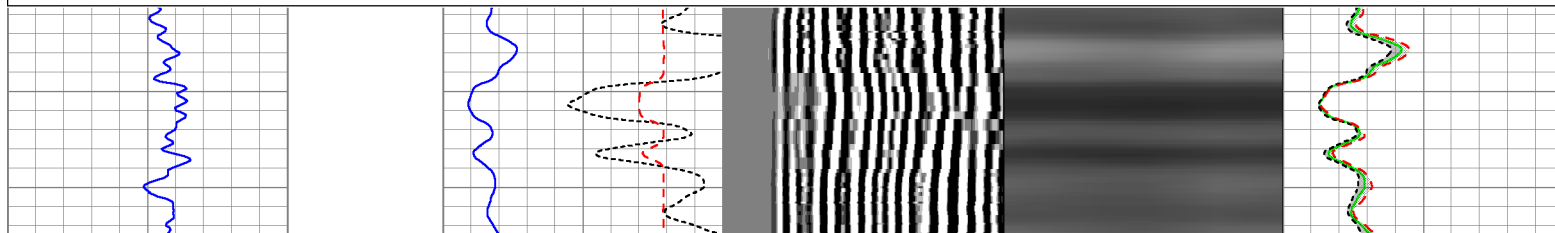
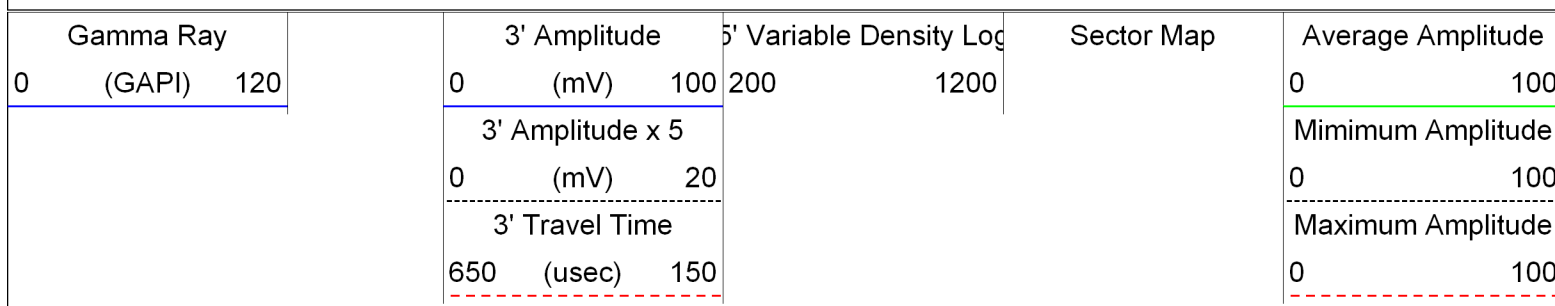
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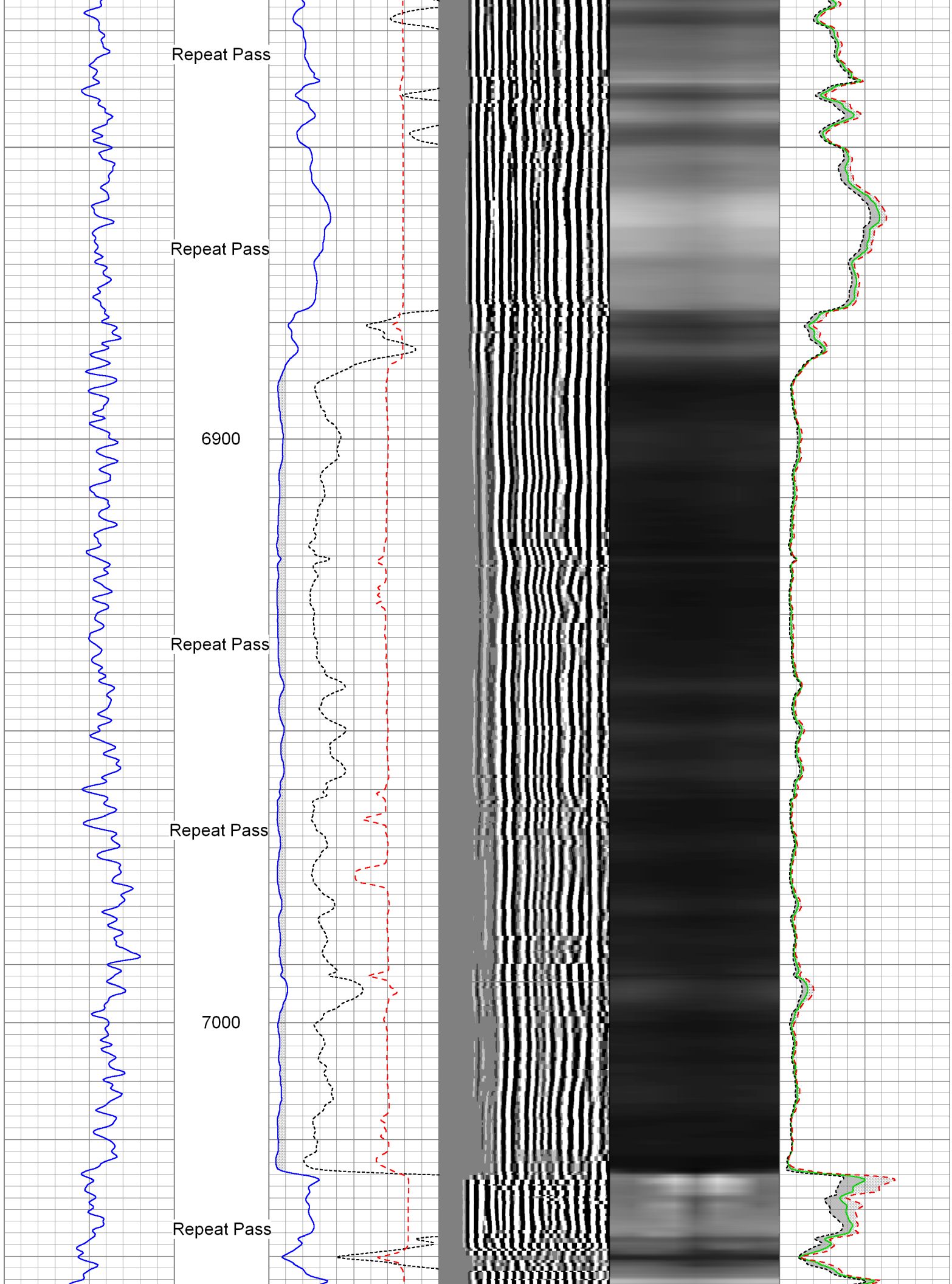


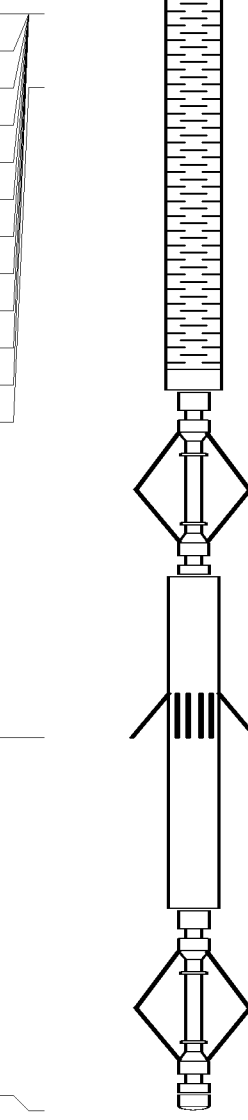


Repeat Pass

Database File: z:\logs_for_processing\shared\shelly\0512338610_anadarko_nrc 29c-4hz_04-09-14_mit_rbl.db
Dataset Pathname: pass3
Presentation Format: rbt007
Dataset Creation: Wed Apr 09 12:43:42 2014 by Log Sondex V7.03
Charted by: Depth in Feet scaled 1:240





WVF3FT	14.94		RBT-004 (10013454 7in) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS1	14.94					
WVFS2	14.94					
WVFS3	14.94					
WVFS4	14.94					
WVFS5	14.94					
WVFS6	14.94					
WVFS7	14.94					
WVFS8	14.94					
CBLTEMP	14.94					
CBLROT	14.94					
WVF5FT	13.94					
			PRC-034 (000005) Production Roller Centraliser (4 Arm)	2.52	3.00	13.00
MIT	5.08		MIT-027 (10012912) Multifinger Imaging Tool (UW 40F)	4.54	2.75	61.10
			PRC-034 (000006) Production Roller Centraliser (4 Arm)	2.52	3.00	13.00
TSTAMP	0.00		BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
Dataset: 0512338610_Anadarko_NRC 29C-4HZ_04-09-14_MIT_RBL.db: field/well/run1/pass5 Total Length: 25.74 ft Total Weight: 253.30 lb O.D. 3.13 in						

Calibration Report			
Database File:	Z:\Logs_For_Processing\Shared\Shelly\0512338610_Anadarko_NRC 29C-4HZ_04-09-14_MIT_RE		
Dataset Pathname:	pass5		
Dataset Creation:	Wed Apr 09 13:46:50 2014 by Log Sondex V7.03		
Multi-finger Imaging Tool Calibration Report			
Serial Number:		10012912	
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		

Finger Calibration Report

Performed:

Wed Apr 09 10:19:29 2014

Ring size: (in)	4	Sens	5	Sens	6	Sens	7
Finger 01:	1055	385.0	1440	362.0	1802	441.0	2243
Finger 02:	1186	389.0	1575	386.0	1961	419.0	2380
Finger 03:	1079	390.0	1469	400.0	1869	449.0	2318
Finger 04:	1094	370.0	1464	397.0	1861	436.0	2297
Finger 05:	1098	378.0	1476	414.0	1890	434.0	2324
Finger 06:	1095	368.0	1463	423.0	1886	426.0	2312
Finger 07:	1093	361.0	1454	435.0	1889	421.0	2310
Finger 08:	1115	354.0	1469	436.0	1905	413.0	2318
Finger 09:	1101	346.0	1447	447.0	1894	400.0	2294
Finger 10:	1101	339.0	1440	452.0	1892	399.0	2291
Finger 11:	1120	331.0	1451	455.0	1906	387.0	2293
Finger 12:	1111	322.0	1433	458.0	1891	383.0	2274
Finger 13:	1121	323.0	1444	453.0	1897	370.0	2267
Finger 14:	1099	320.0	1419	467.0	1886	379.0	2265
Finger 15:	1065	317.0	1382	473.0	1855	390.0	2245
Finger 16:	1077	319.0	1396	469.0	1865	389.0	2254
Finger 17:	1048	317.0	1365	464.0	1829	393.0	2222
Finger 18:	1139	308.0	1447	437.0	1884	369.0	2253
Finger 19:	1094	312.0	1406	438.0	1844	378.0	2222
Finger 20:	1062	317.0	1379	439.0	1818	393.0	2211
Finger 21:	1080	334.0	1414	430.0	1844	377.0	2221
Finger 22:	1035	330.0	1365	420.0	1785	404.0	2189
Finger 23:	1014	334.0	1348	416.0	1764	413.0	2177
Finger 24:	1068	338.0	1406	389.0	1795	384.0	2179
Finger 25:	1027	345.0	1372	394.0	1766	419.0	2185
Finger 26:	1149	344.0	1493	354.0	1847	388.0	2235
Finger 27:	1088	361.0	1449	366.0	1815	415.0	2230
Finger 28:	1116	359.0	1475	344.0	1819	413.0	2232
Finger 29:	1066	378.0	1444	357.0	1801	438.0	2239
Finger 30:	1080	379.0	1459	338.0	1797	438.0	2235
Finger 31:	1103	380.0	1483	331.0	1814	438.0	2252
Finger 32:	1094	398.0	1492	340.0	1832	454.0	2286
Finger 33:	1147	392.0	1539	315.0	1854	424.0	2278
Finger 34:	1124	388.0	1512	321.0	1833	446.0	2279
Finger 35:	1054	413.0	1467	347.0	1814	481.0	2295
Finger 36:	1078	406.0	1484	336.0	1820	467.0	2287
Finger 37:	1112	404.0	1516	337.0	1853	457.0	2310
Finger 38:	1145	401.0	1546	328.0	1874	438.0	2312
Finger 39:	1140	392.0	1532	340.0	1872	440.0	2312
Finger 40:	1097	400.0	1497	361.0	1858	451.0	2309

Segmented Cement Bond Log Calibration Report

Serial Number: 10013454 7in
Tool Model: 004

Calibration Casing Diameter: 7.000 in
Calibration Depth: 3563.924 ft

Master Calibration, performed Fri Apr 04 08:00:27 2014:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.005	0.805	0.800	62.165	75.819	1.164
5FT	-0.008	0.736	0.800	62.165	82.512	1.436
S1	-0.005	0.772	0.000	100.000	128.779	0.593

S2	-0.006	0.760	0.000	100.000	130.457	0.796
S3	-0.005	0.754	0.000	100.000	131.590	0.718
S4	-0.006	0.773	0.000	100.000	128.466	0.742
S5	-0.004	0.805	0.000	100.000	123.655	0.466
S6	-0.005	0.847	0.000	100.000	117.450	0.573
S7	-0.005	0.864	0.000	100.000	115.095	0.566
S8	-0.005	0.823	0.000	100.000	120.769	0.585

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	NRC 29C-4HZ
Field	Wattenberg
County	Weld
State	Colorado