



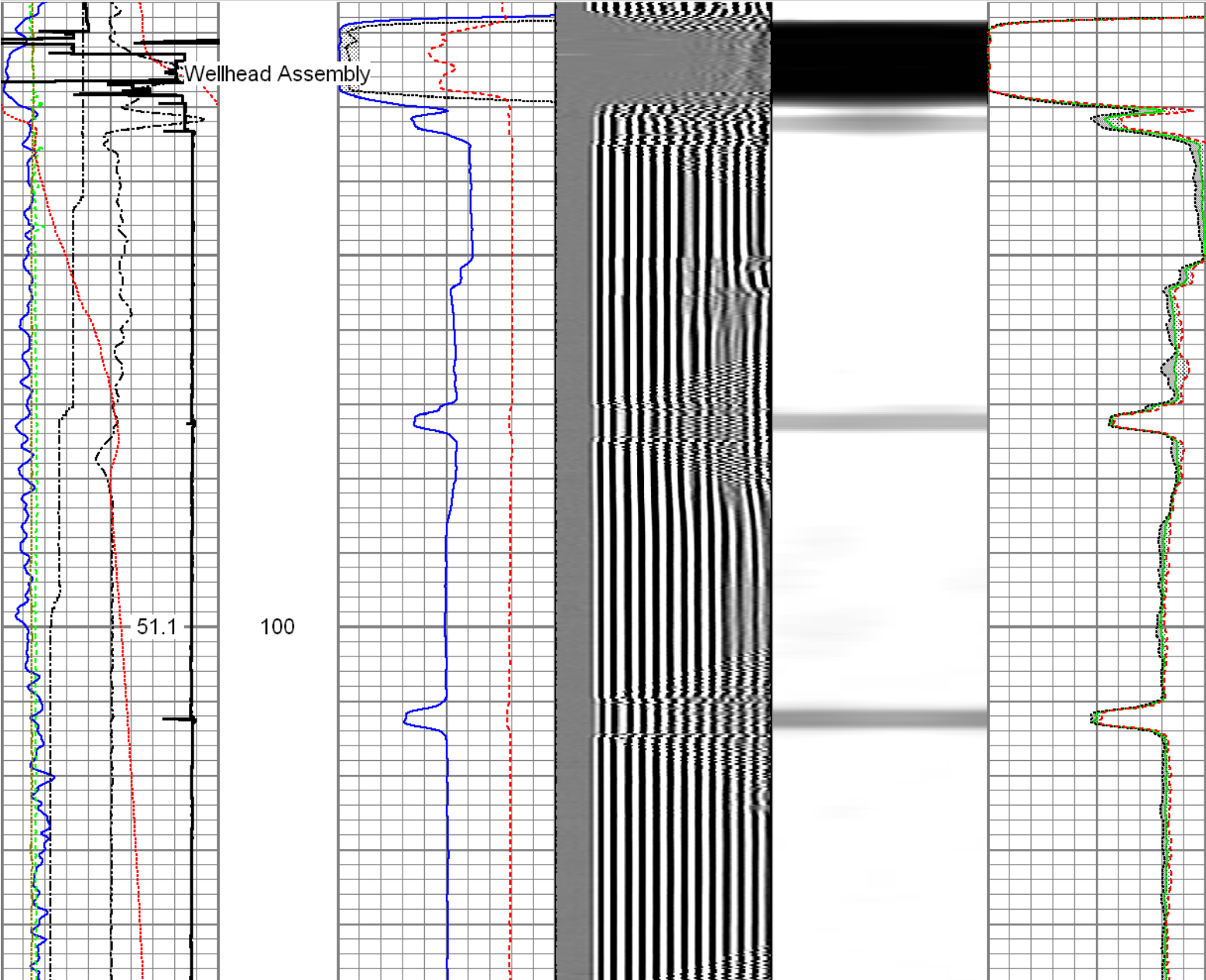
<<< Fold Here >>>
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.
Comments
Log ran as per customer request Depth referenced to Liner Top reported at 5304 FT Adjusted log +7 FT to correlate with Liner Top Log ran from 5648 FT to surface Recorded with 1500 PSI surface induced pressure Thank you for choosing FMC Technologies Surface Integrated Services.

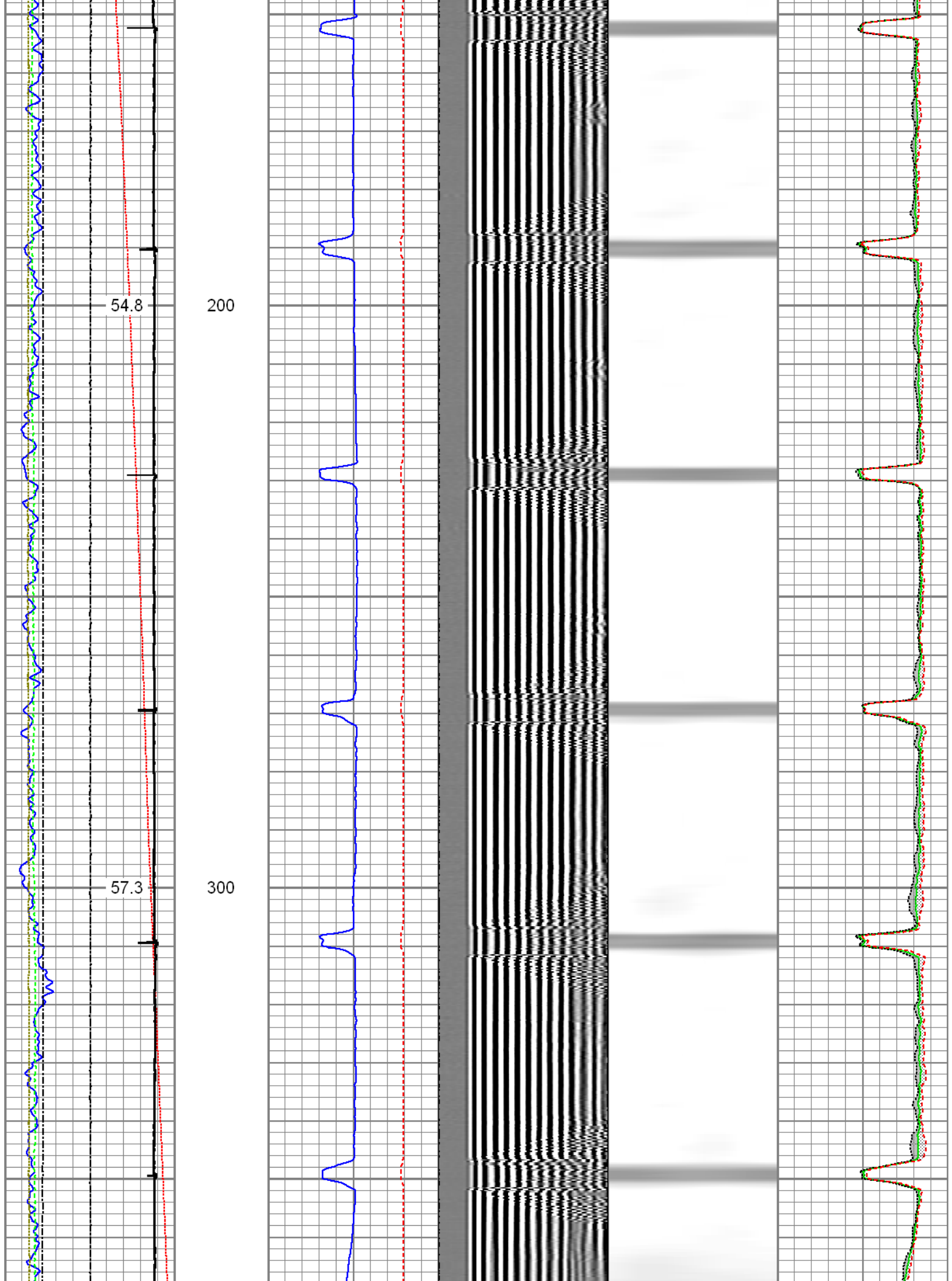


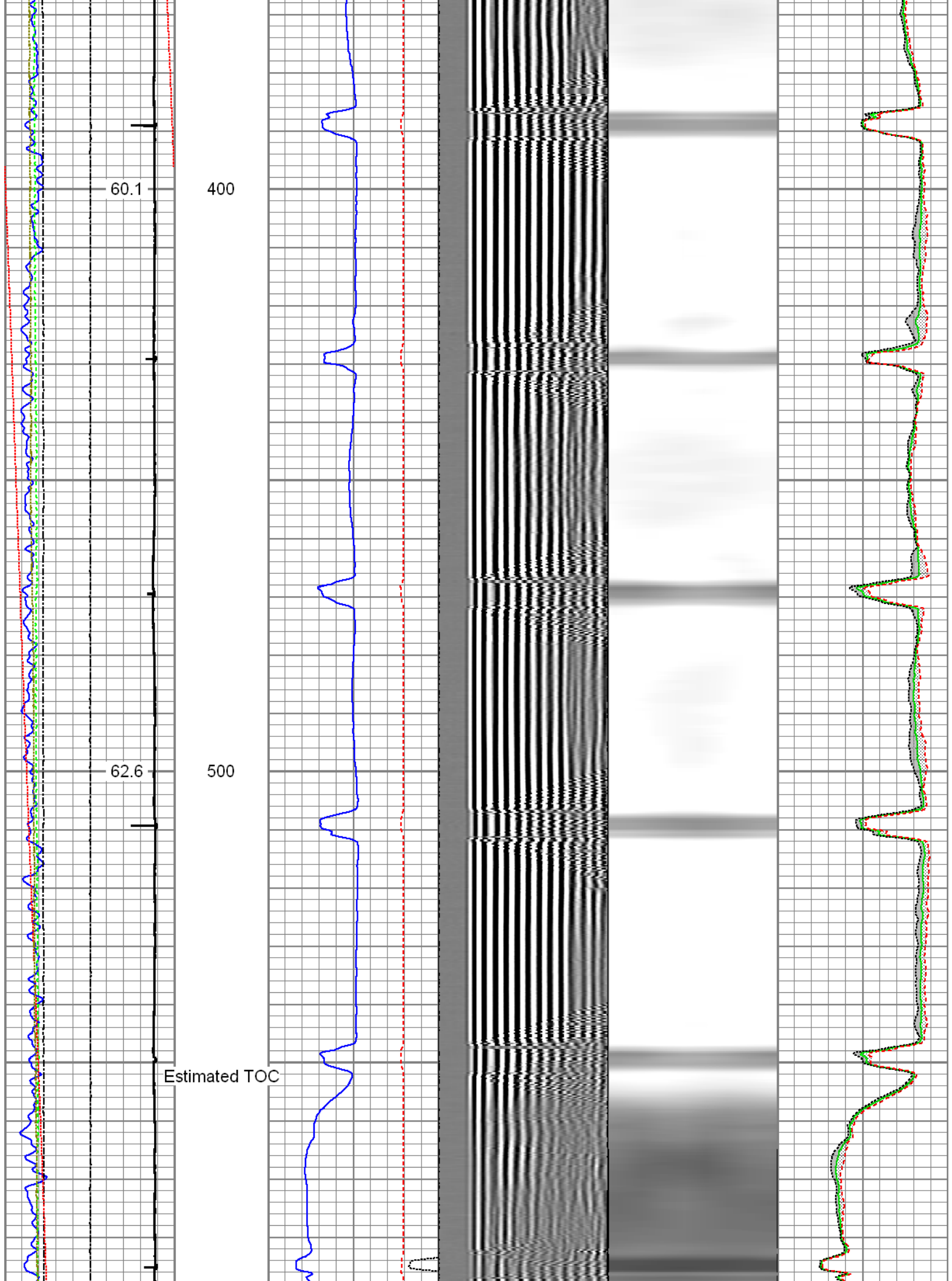
Recorded With 1500 PSI Surface Induced Pressure

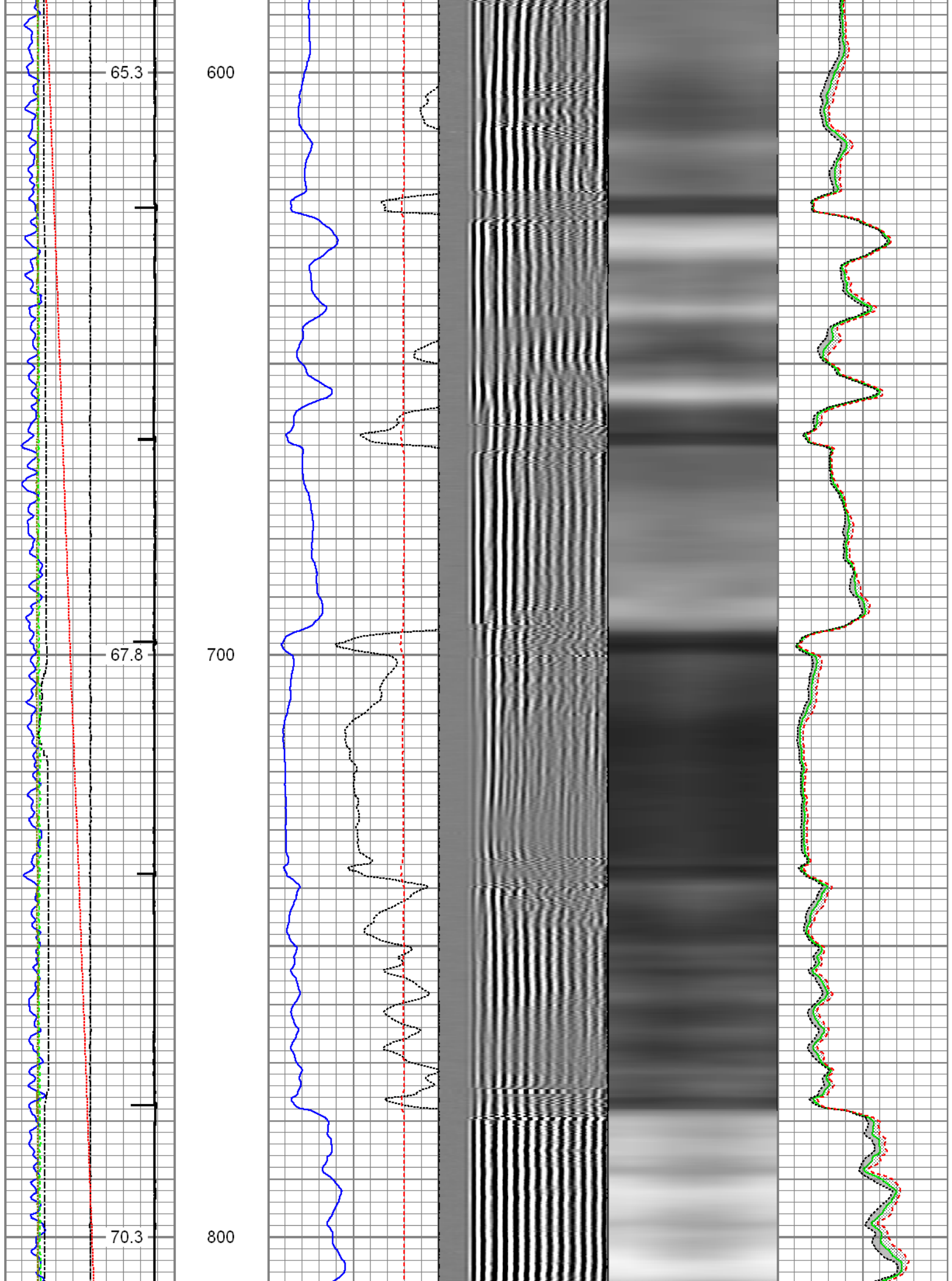
Database File: c:\warrior\data\12-16-15_whiting_razor 12f-0108b_mit_rbl\12-16-15_whiting_razor 12f-0108b_mit_rbl.
Dataset Pathname: pass11.2
Presentation Format: rbt4_mit
Dataset Creation: Fri Dec 18 13:46:42 2015 by Calc SCH 120430
Charted by: Depth in Feet scaled 1:240

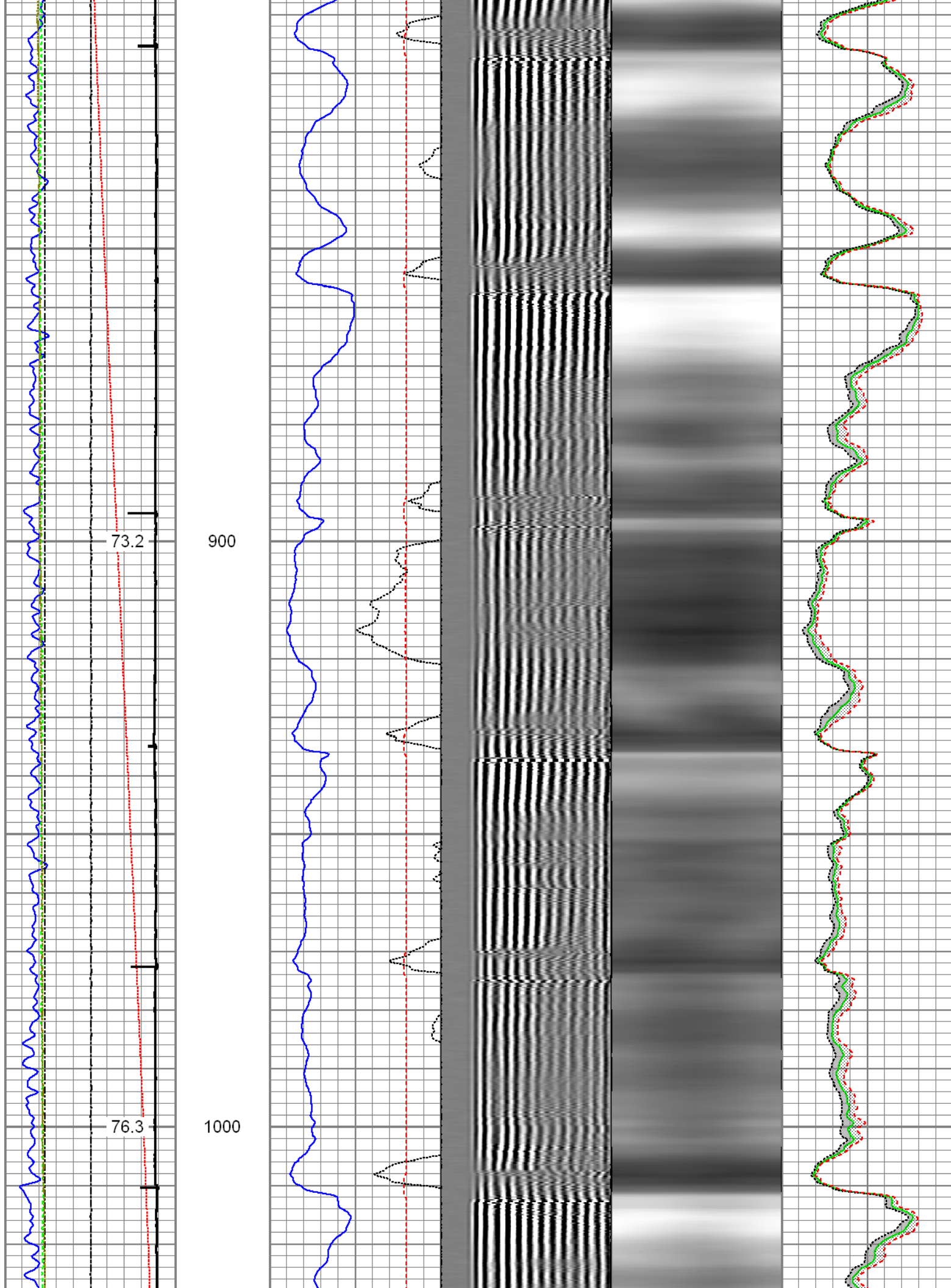
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Line Speed	3' Amplitude x 5			Mimimum Amplitude
-100 (ft/min) 100	0 (mV) 20			0 100
Line Tension	3' Travel Time			Maximum Amplitude
0 (lb) 2000	650 (usec) 150			0 100
Differential Temperature				
-2 (degF) 2				
Temperature				
0 (degF) 20				
Casing Collar Locator				
-10 Deviation (°) 90				

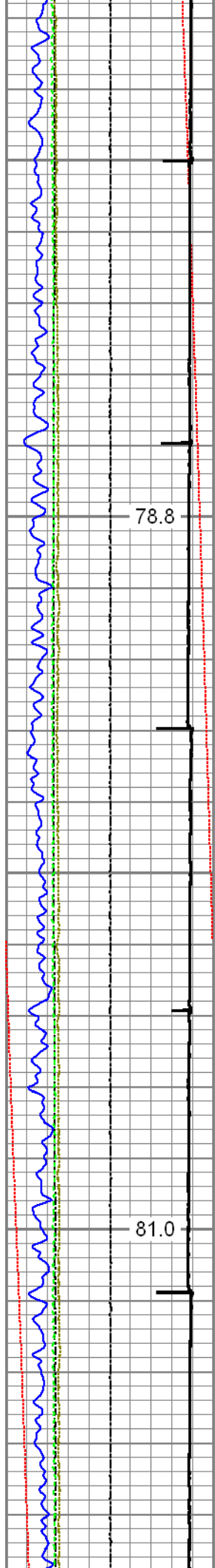






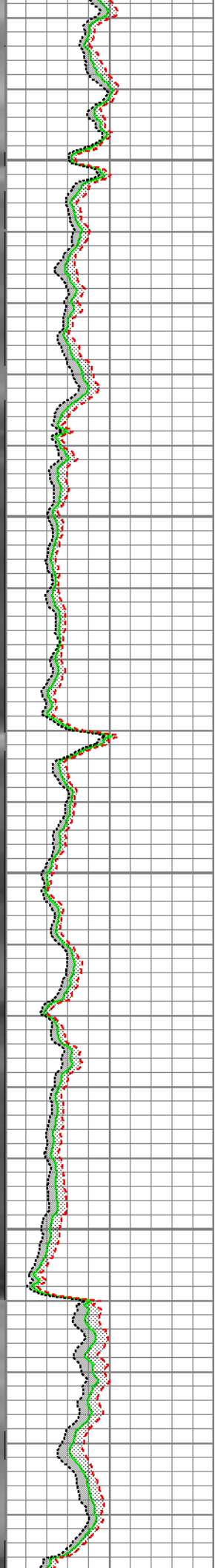
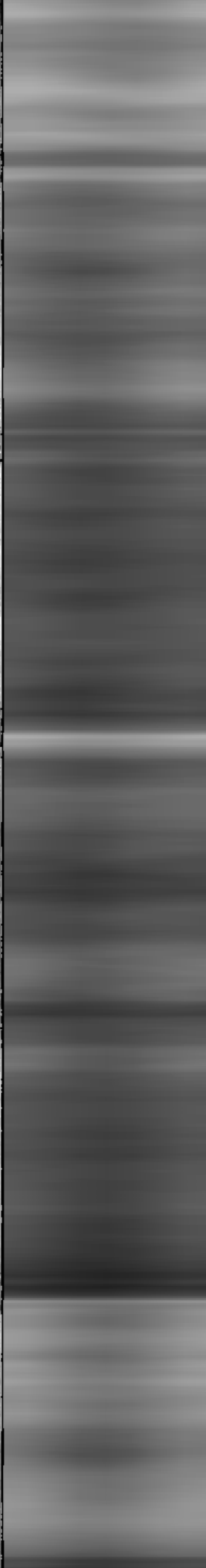
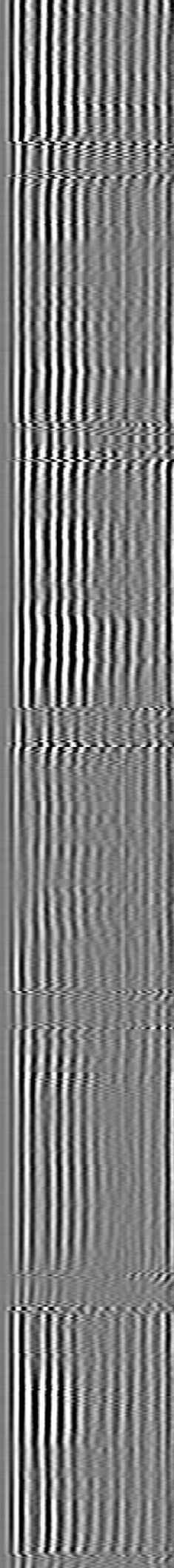
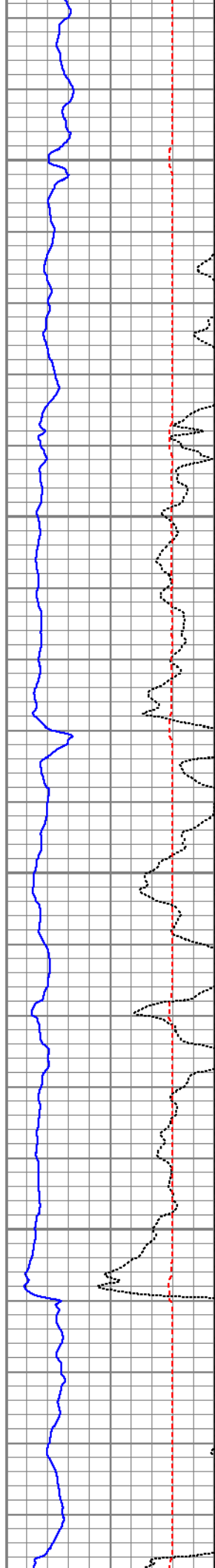


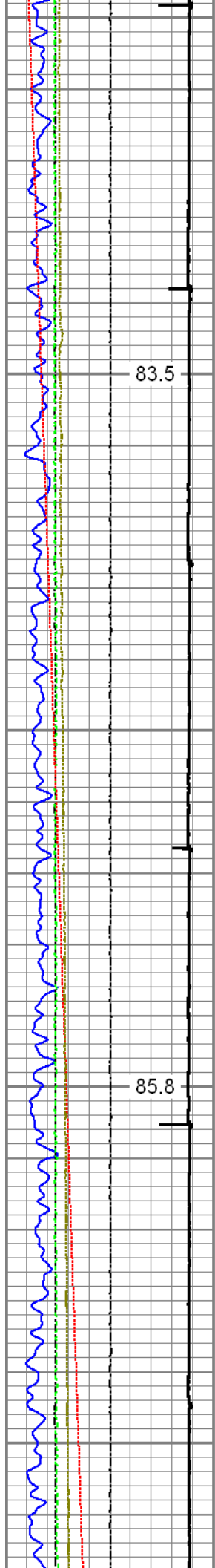




1100

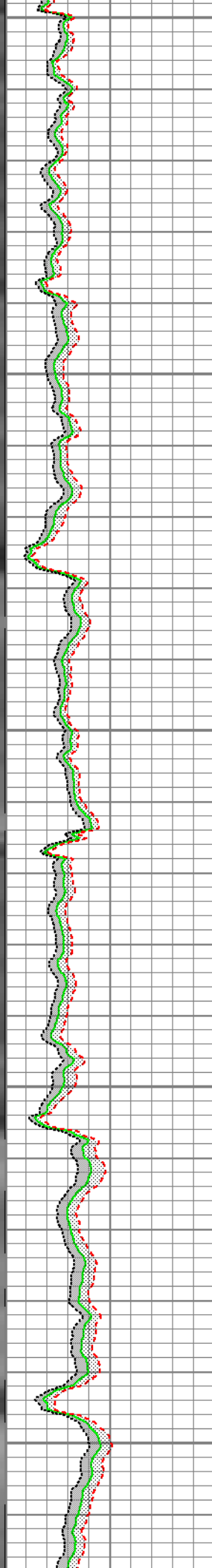
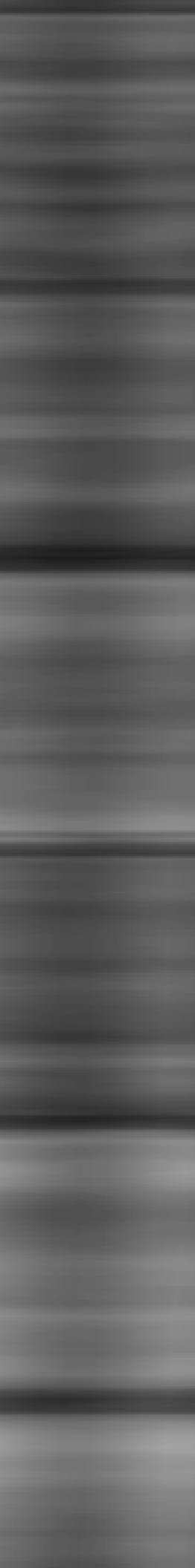
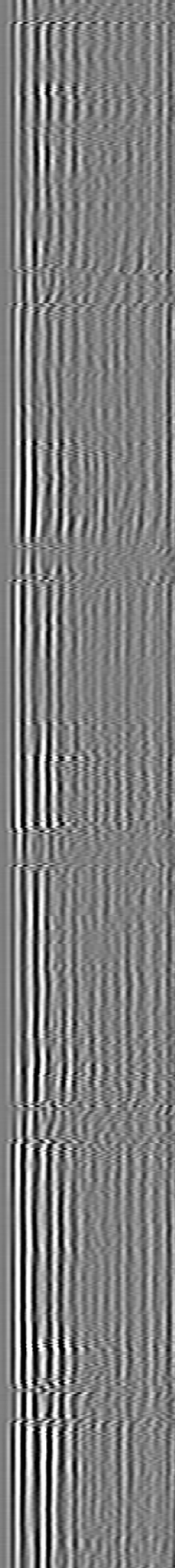
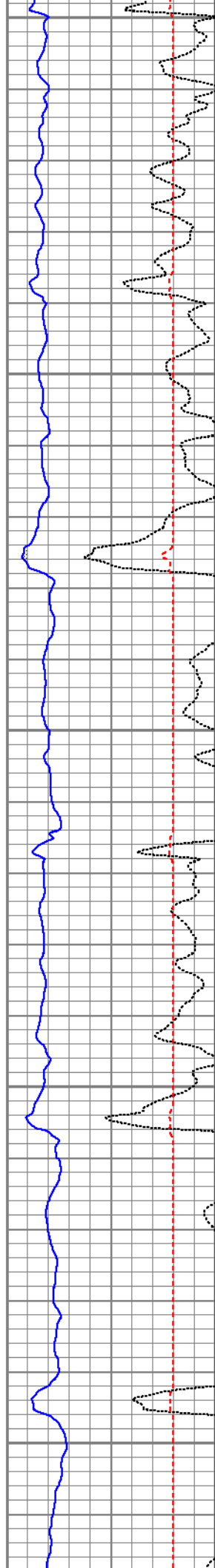
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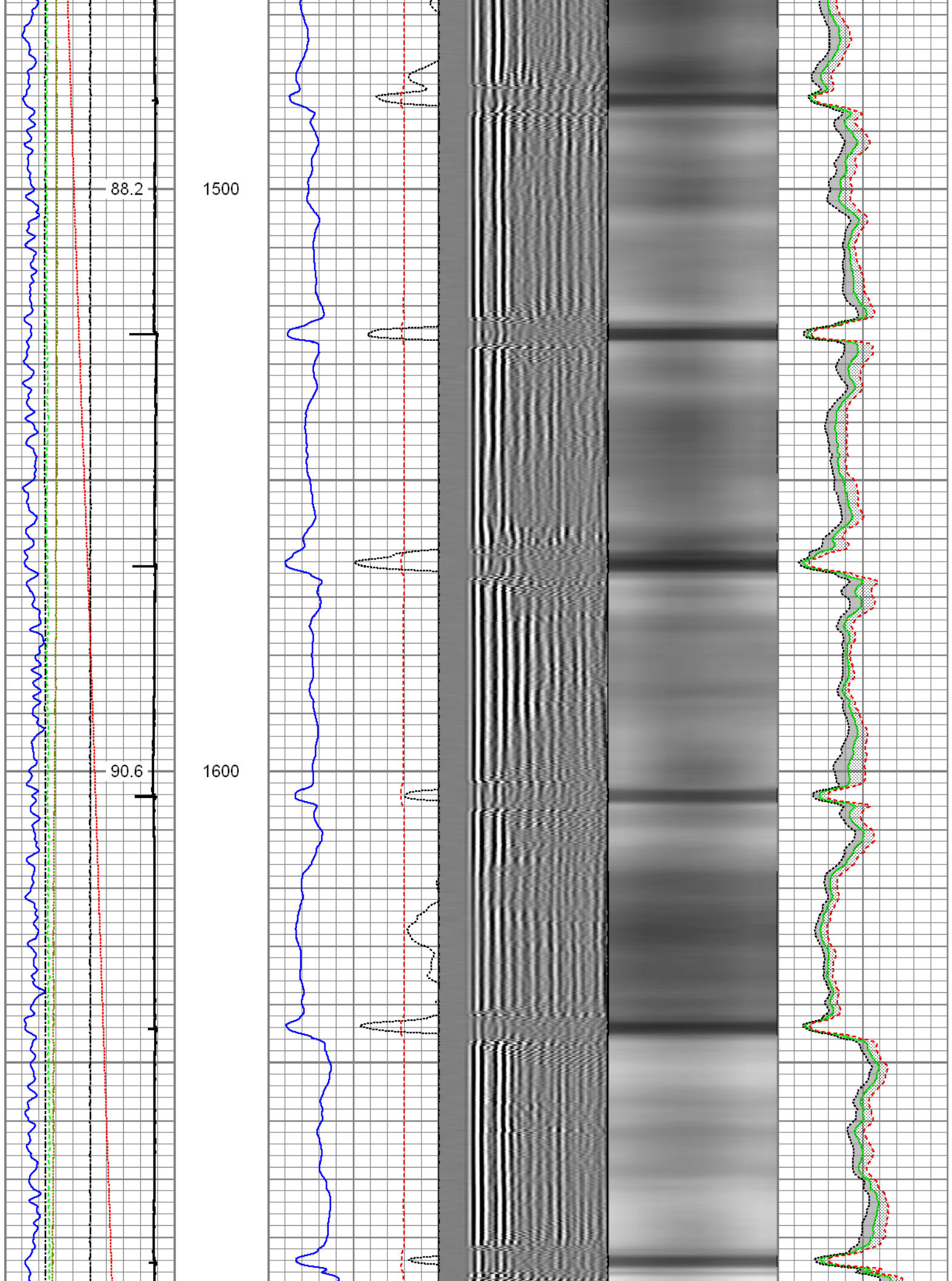


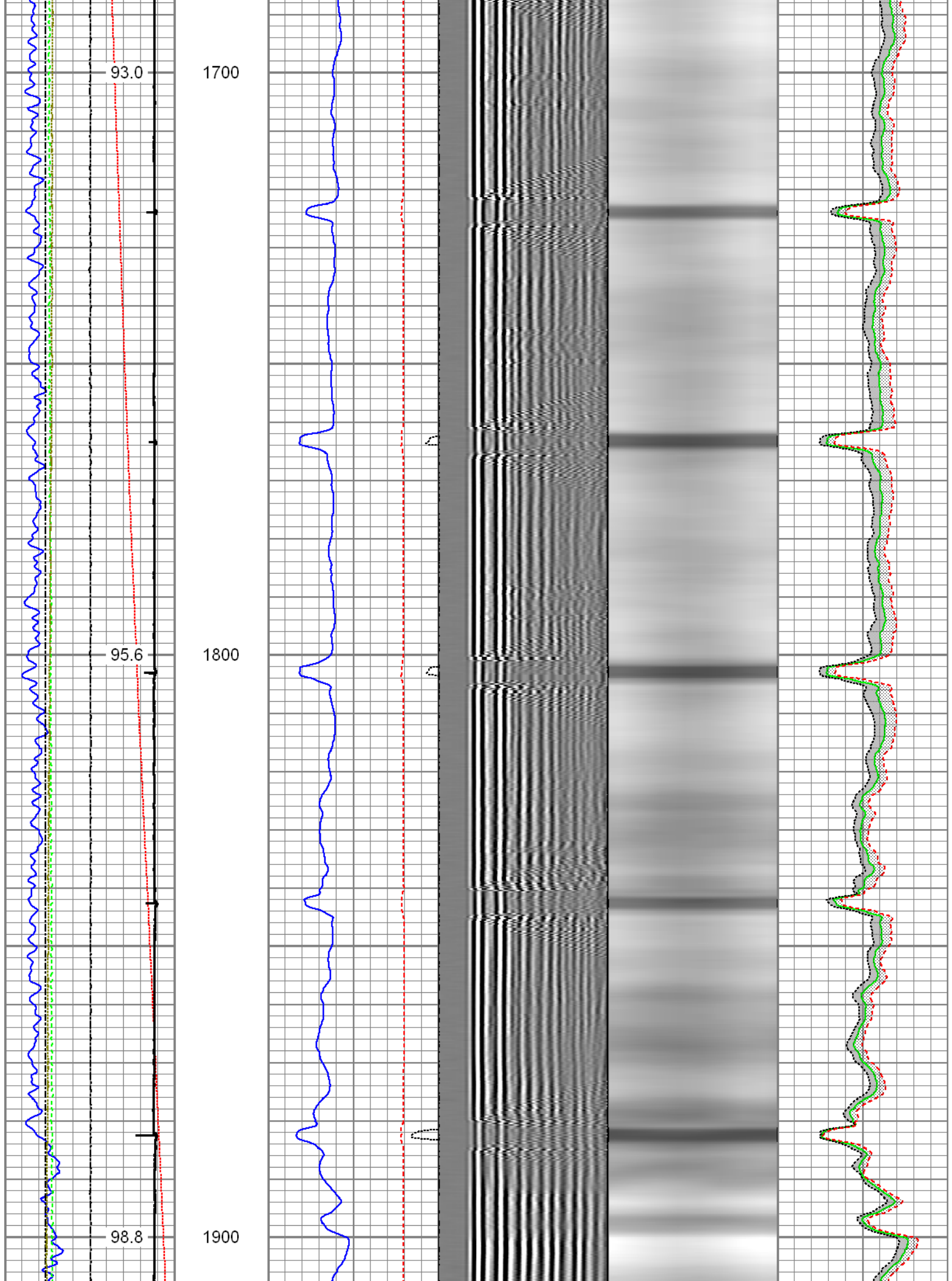


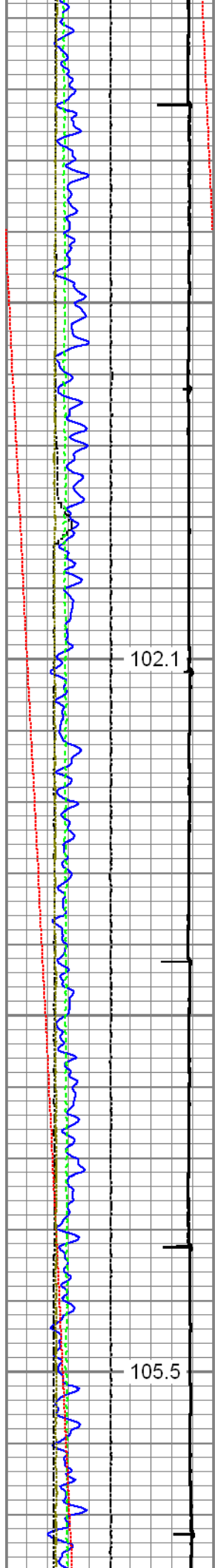
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1400



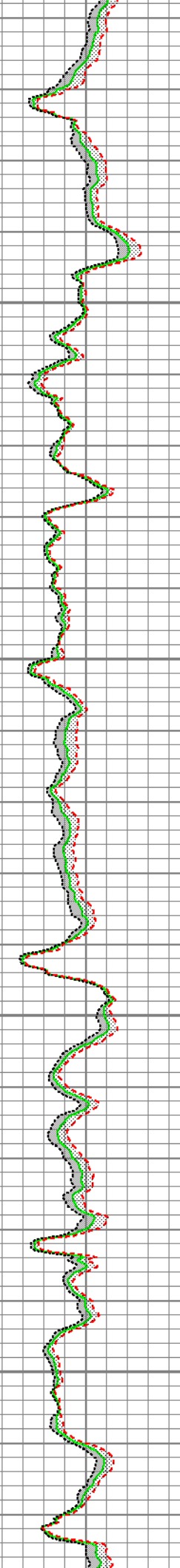
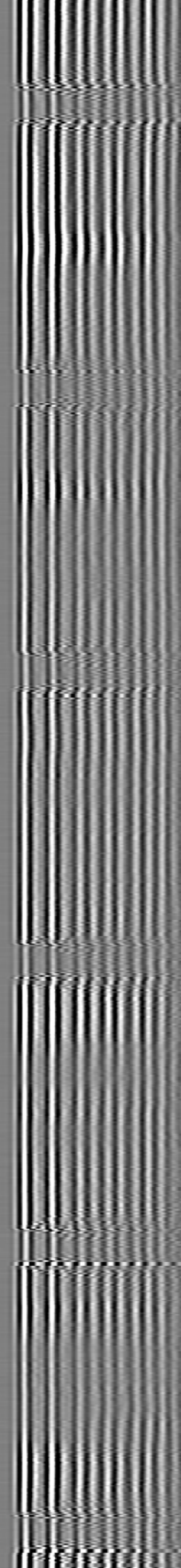
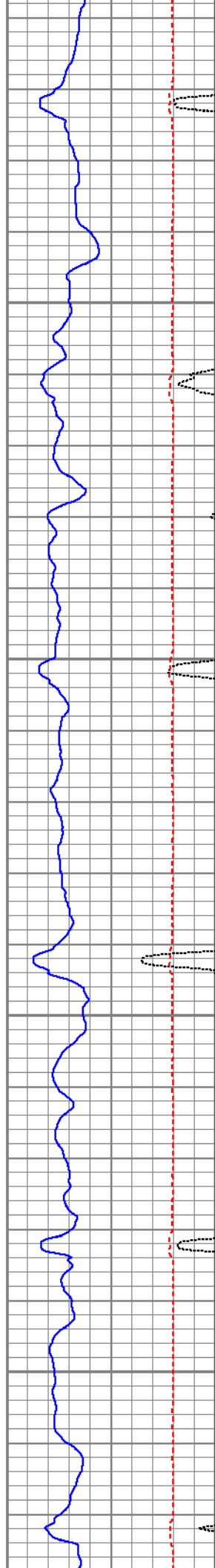


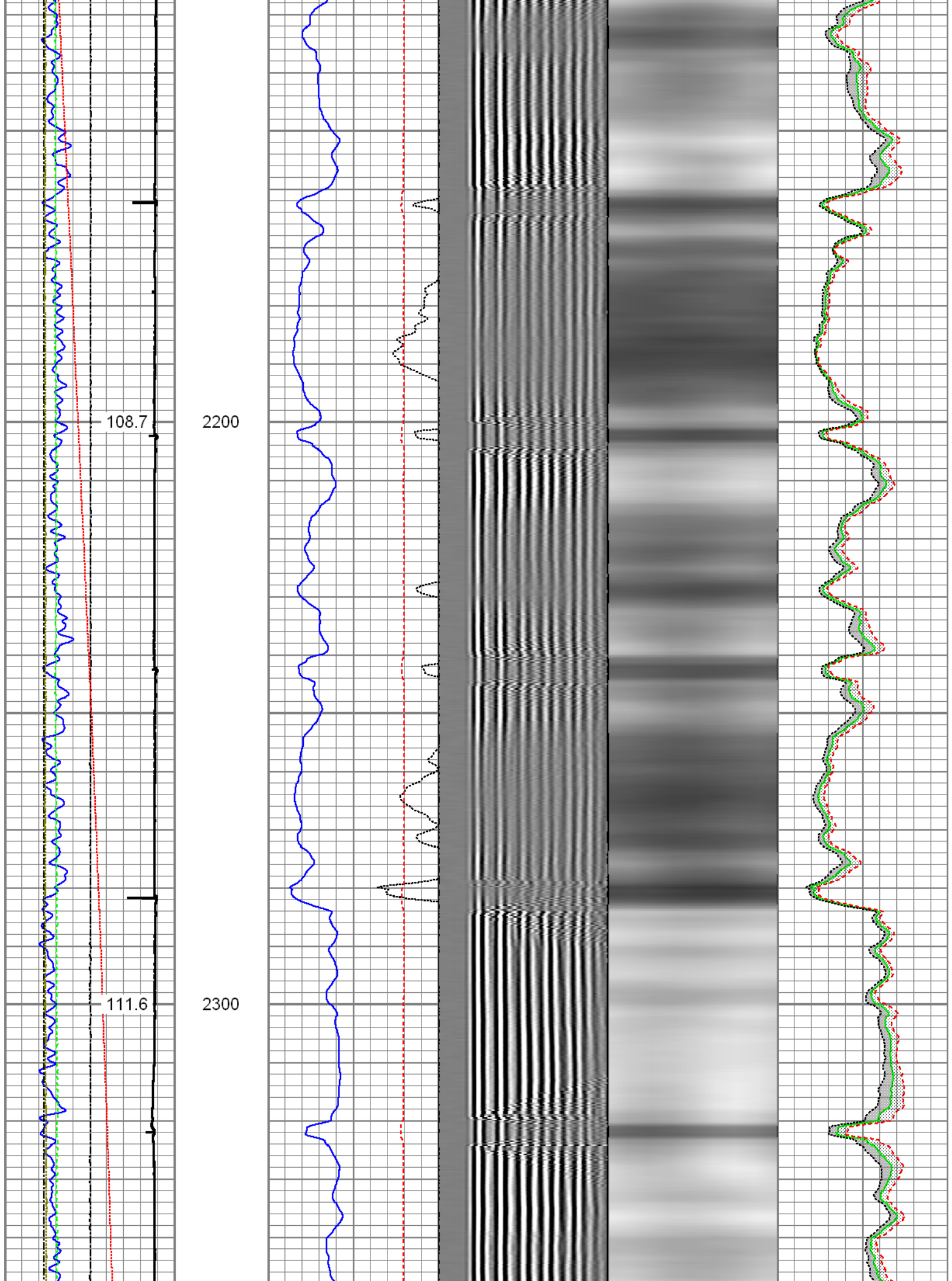


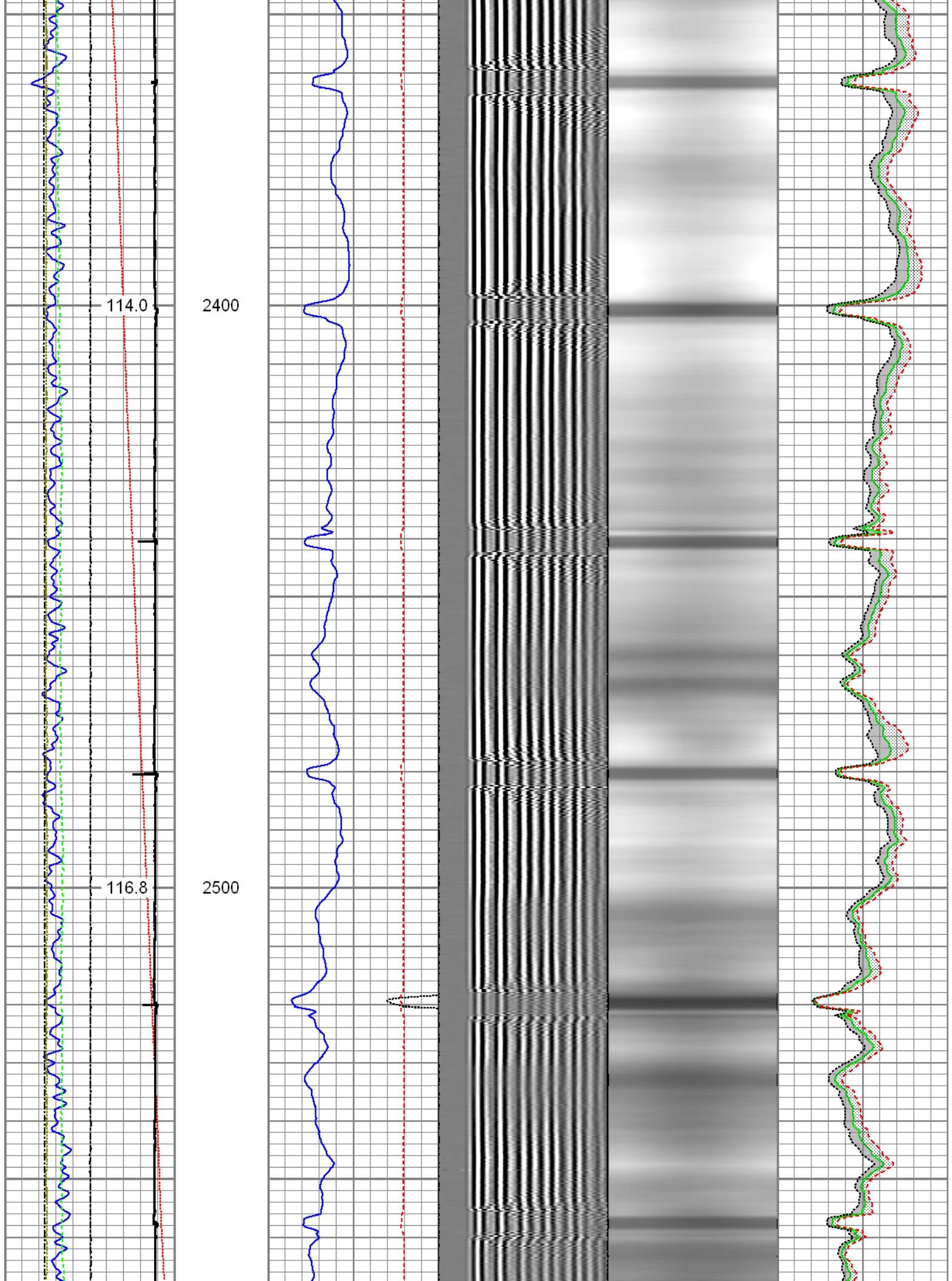


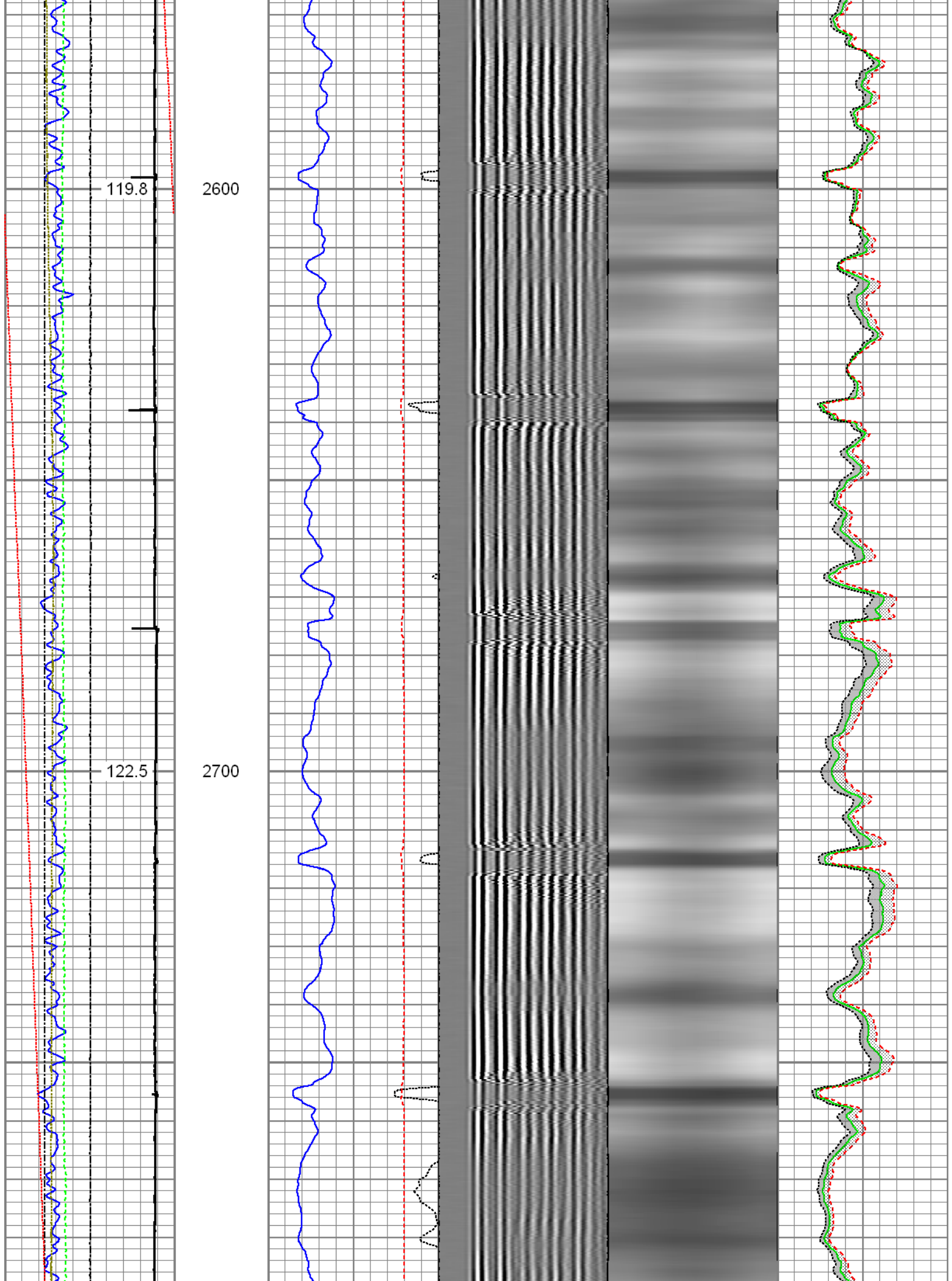
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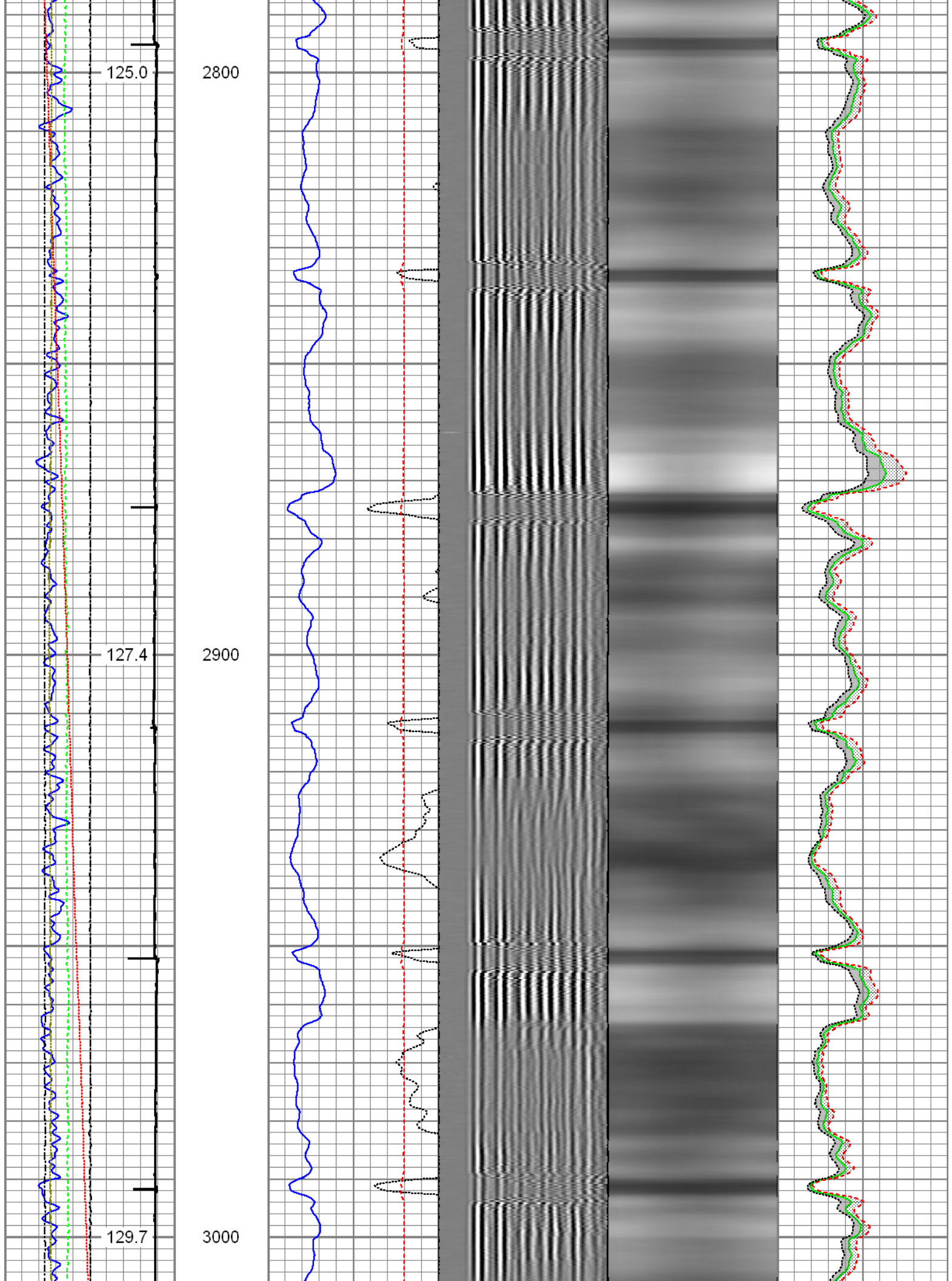
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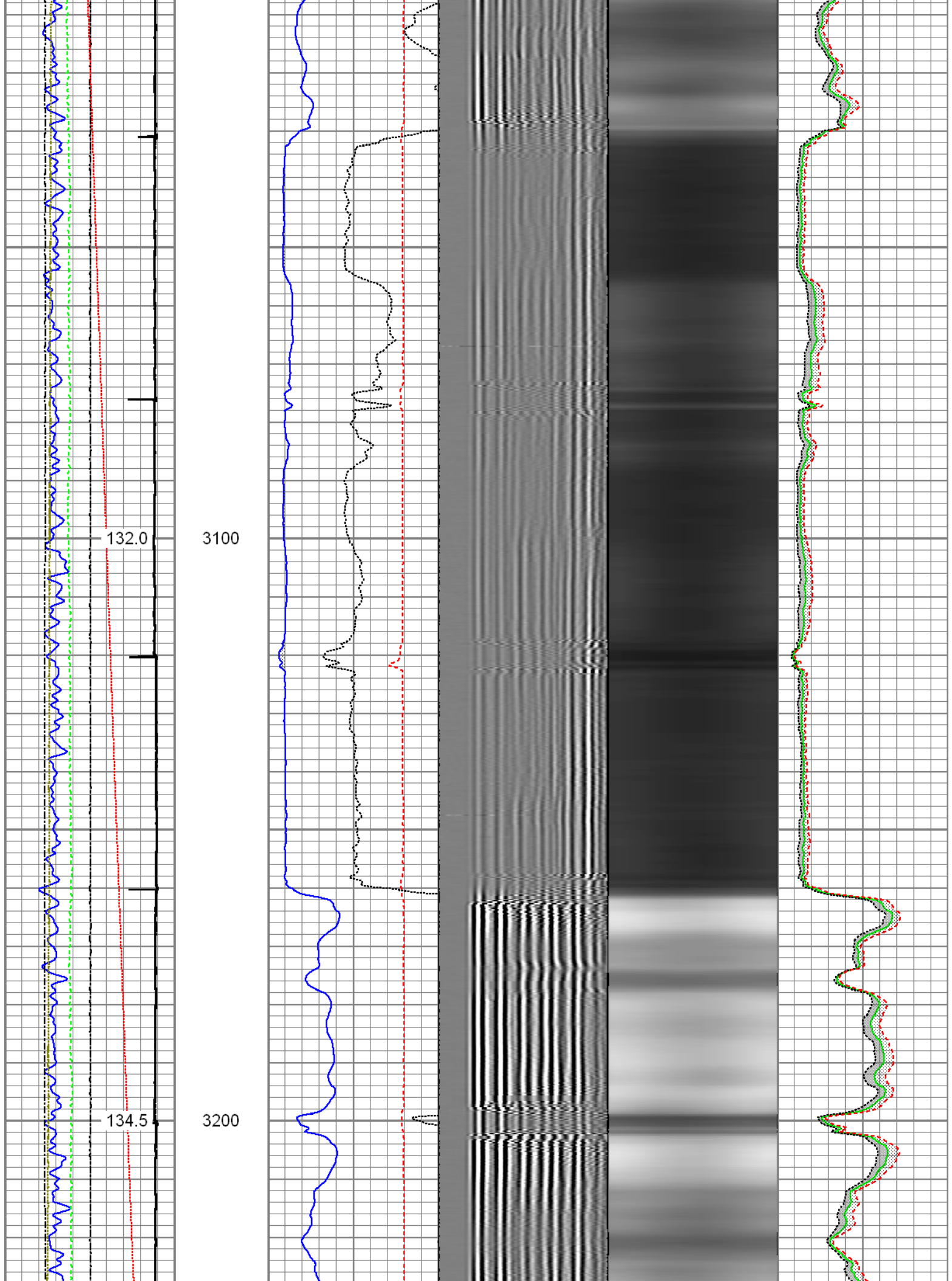


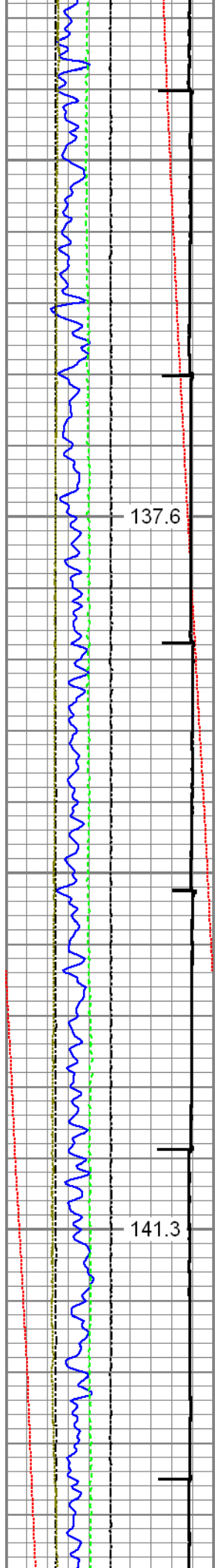






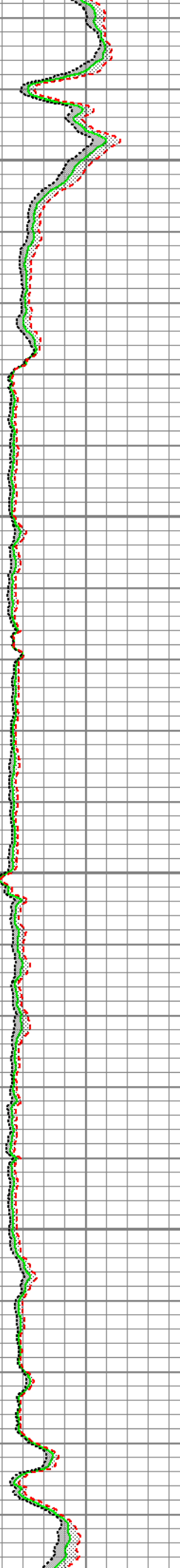
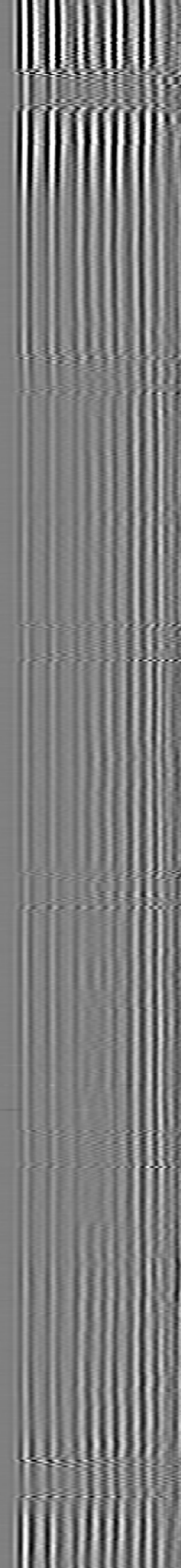
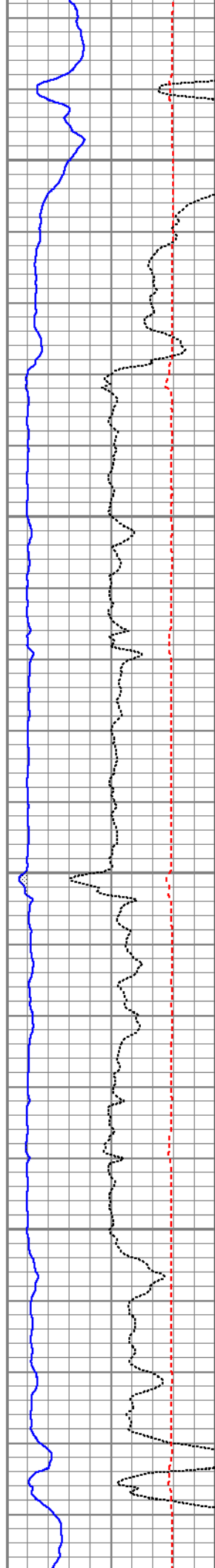


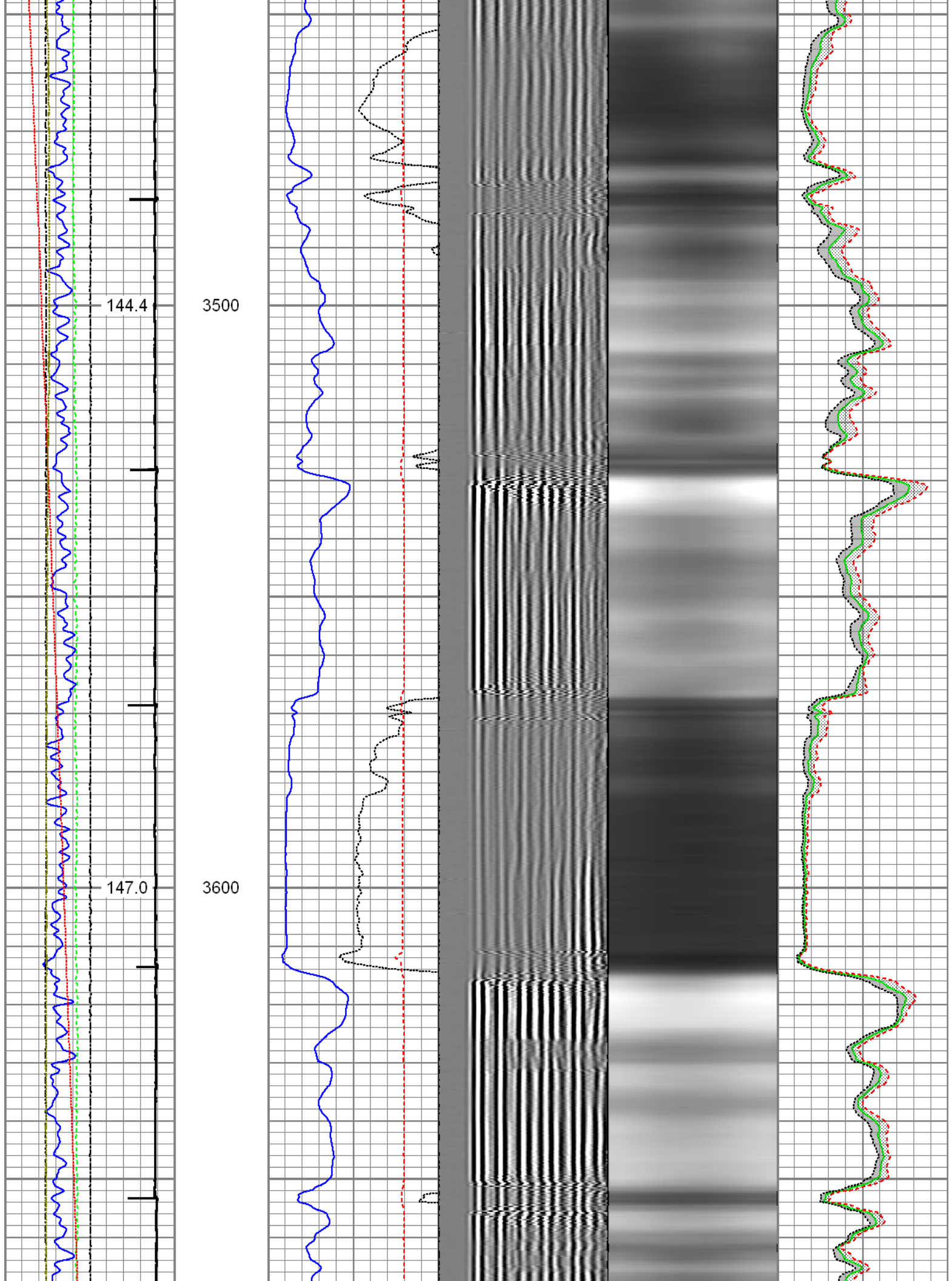


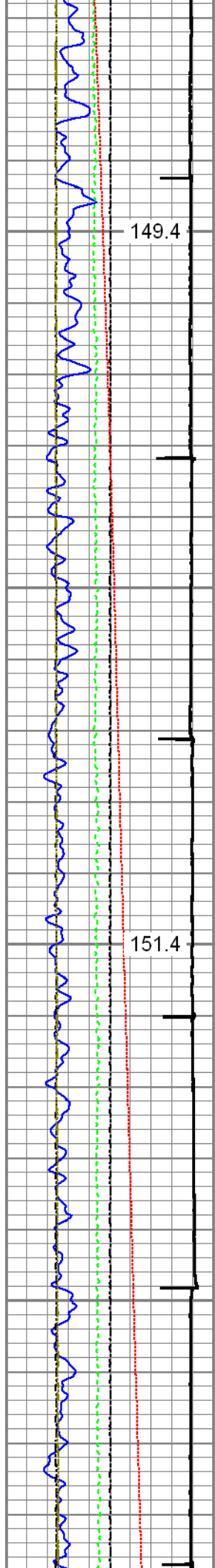


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3400

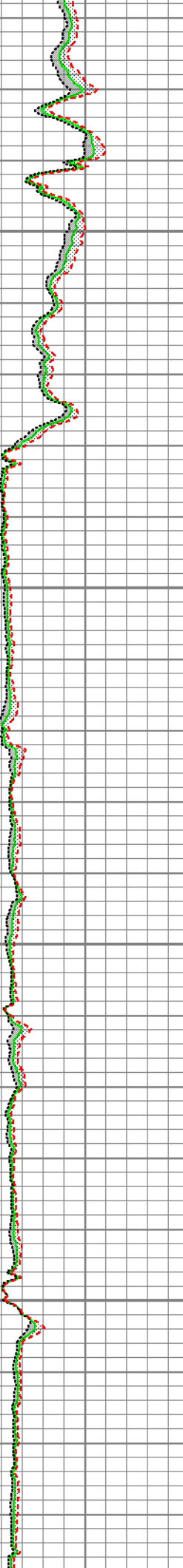
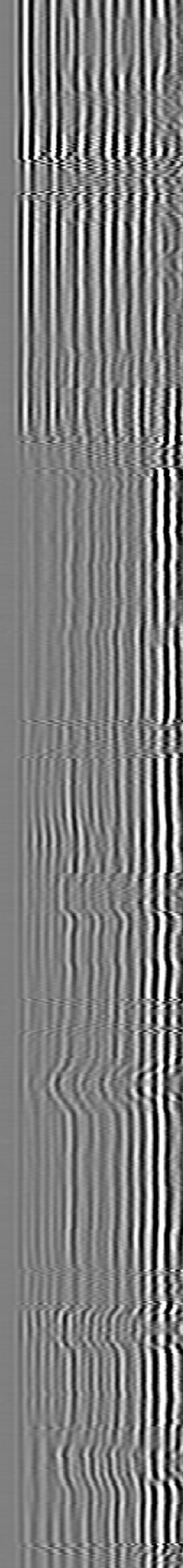
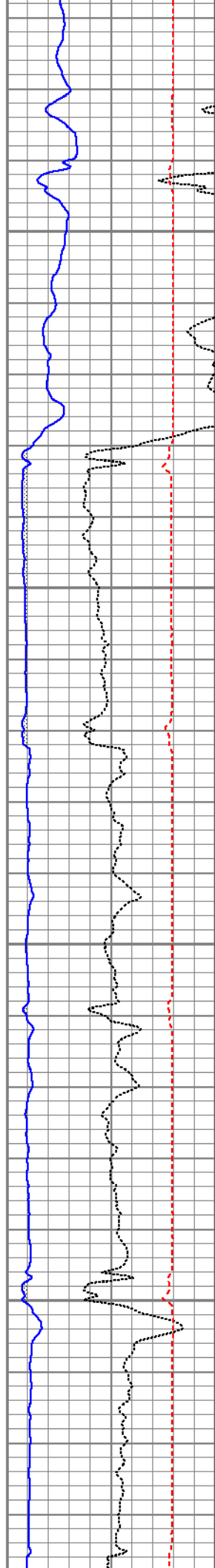


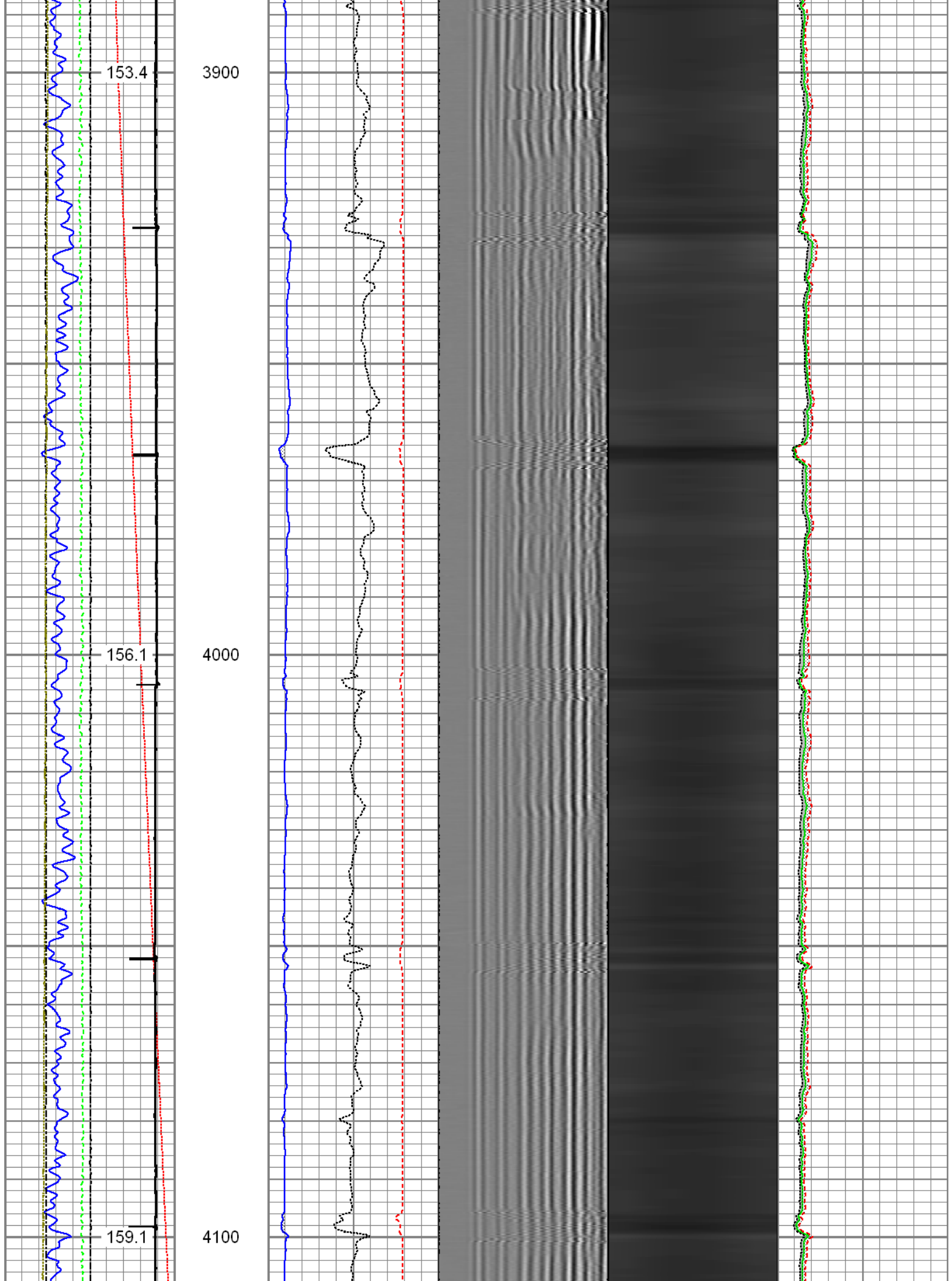


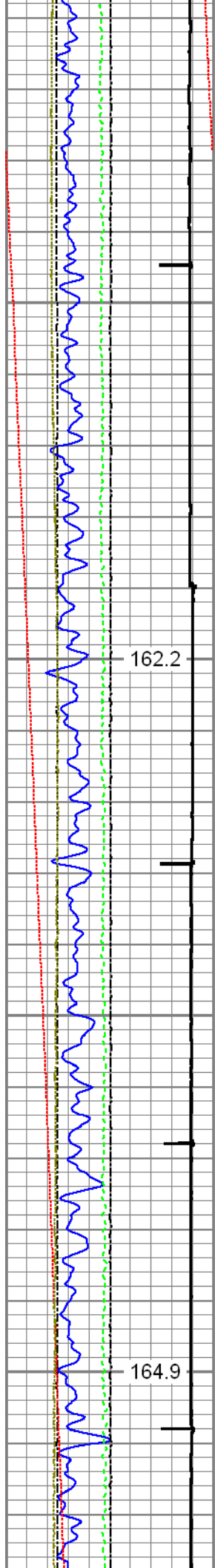


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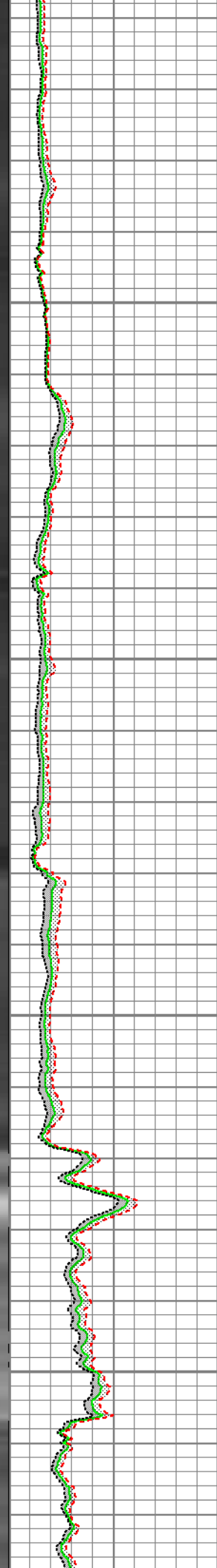
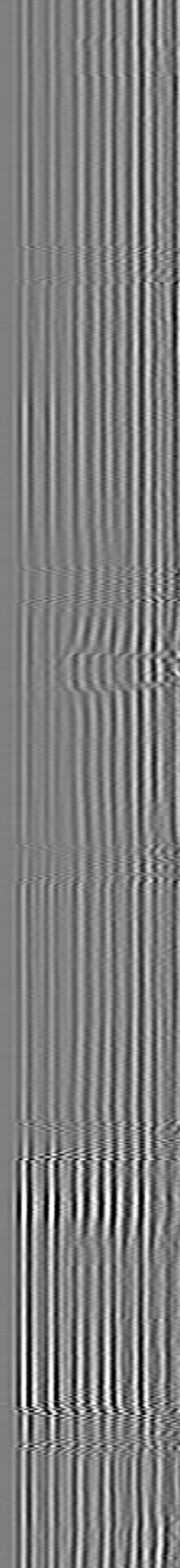
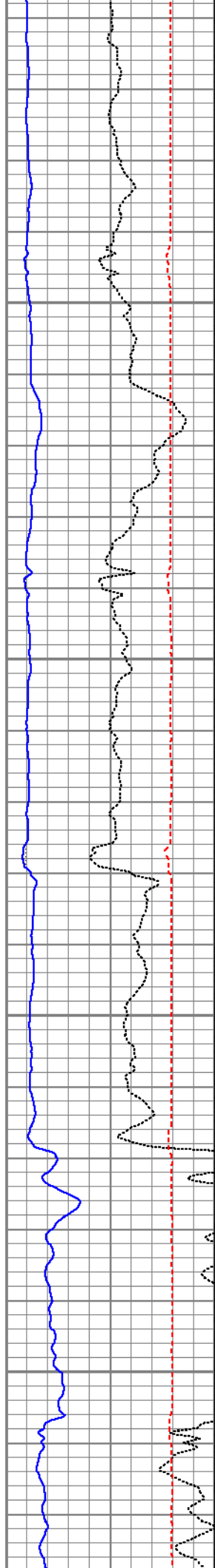


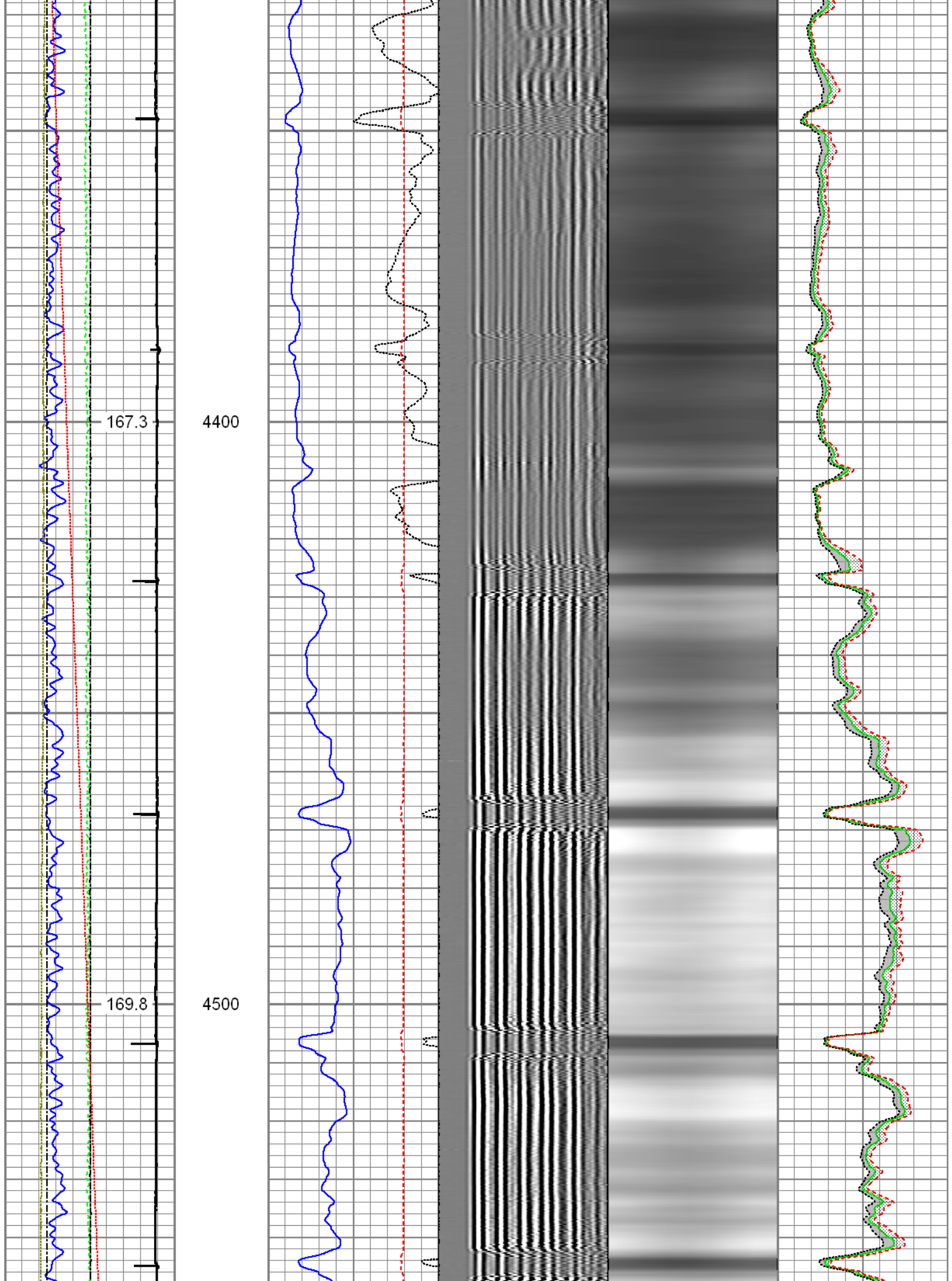


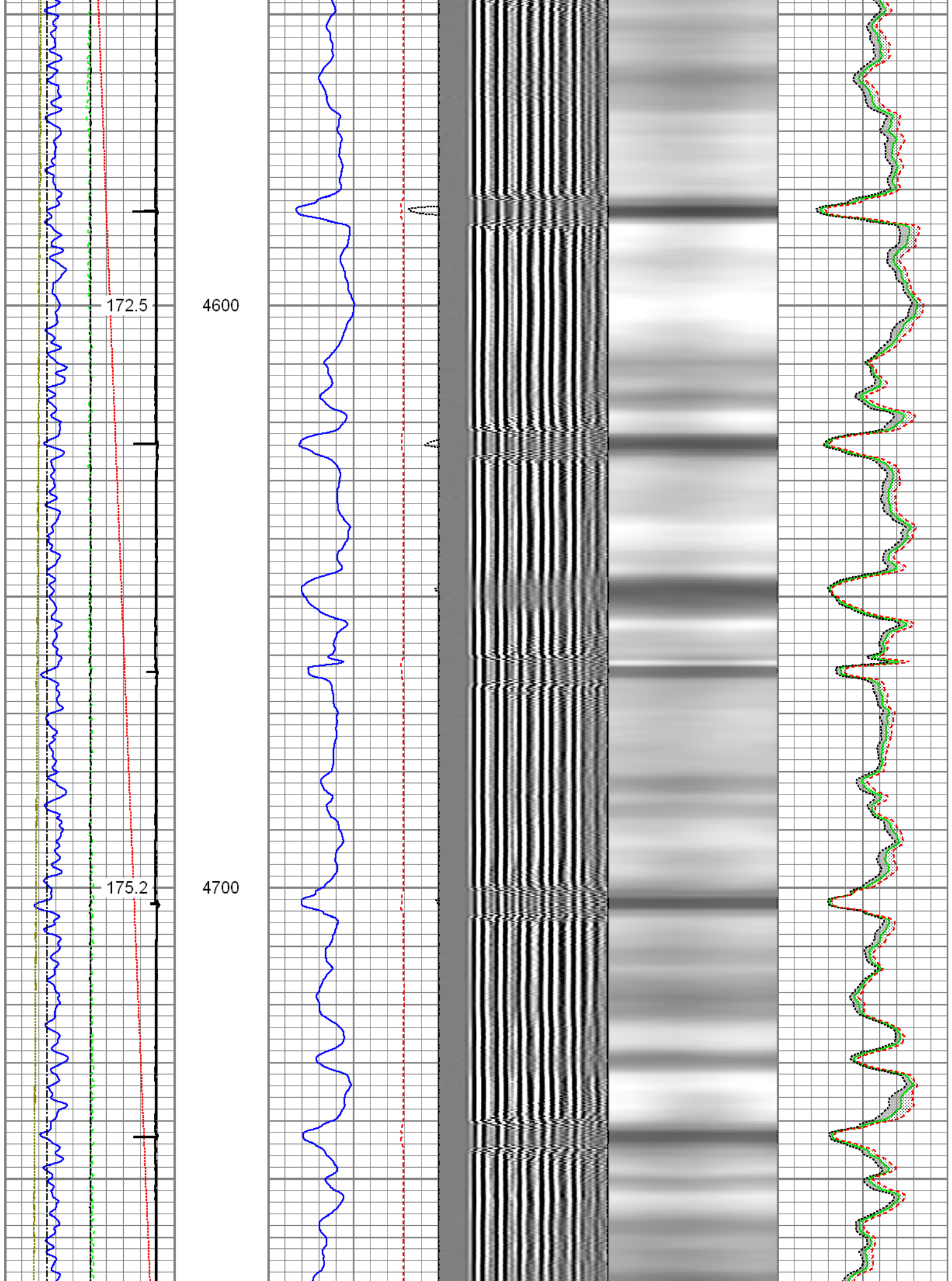


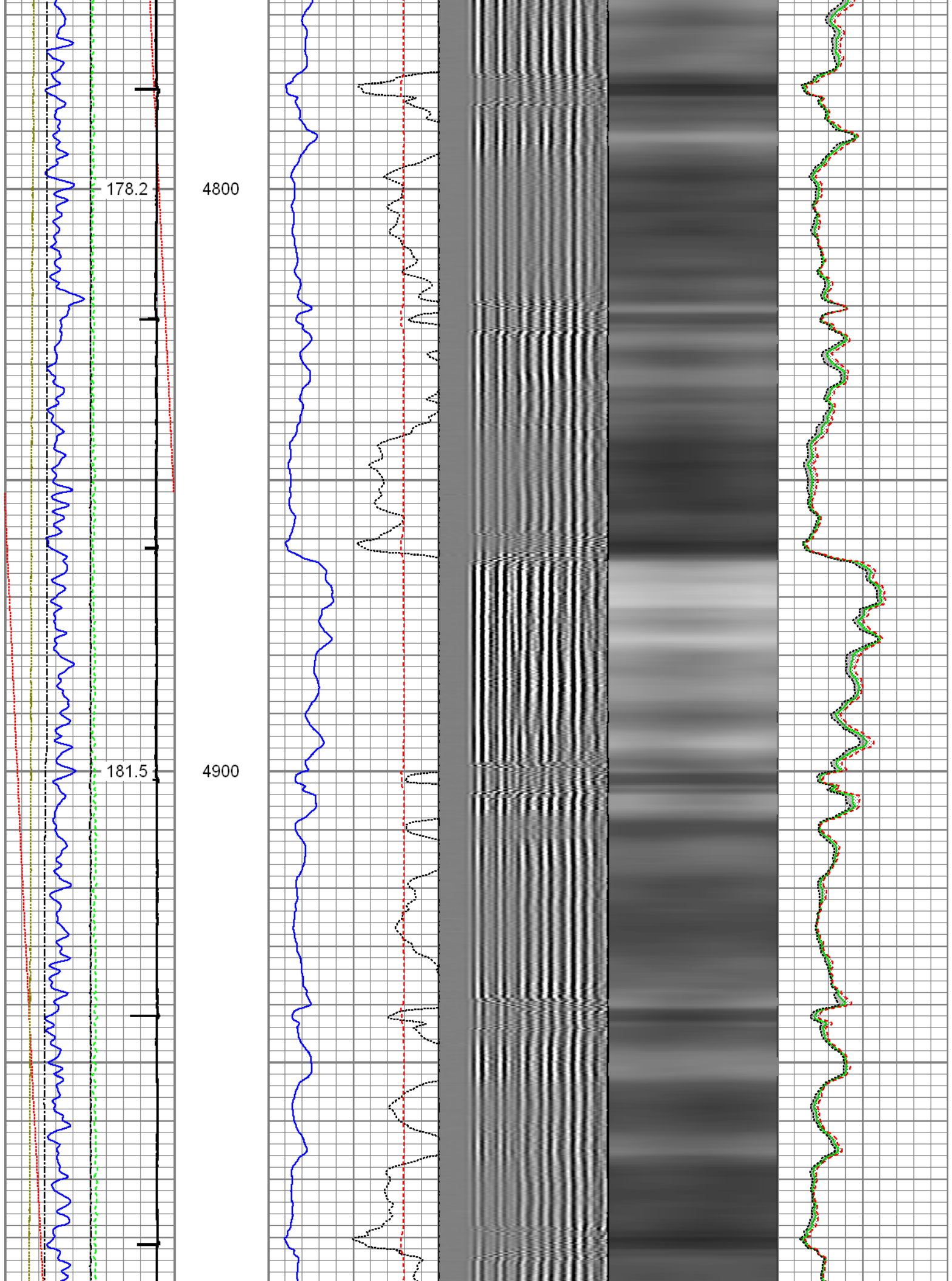
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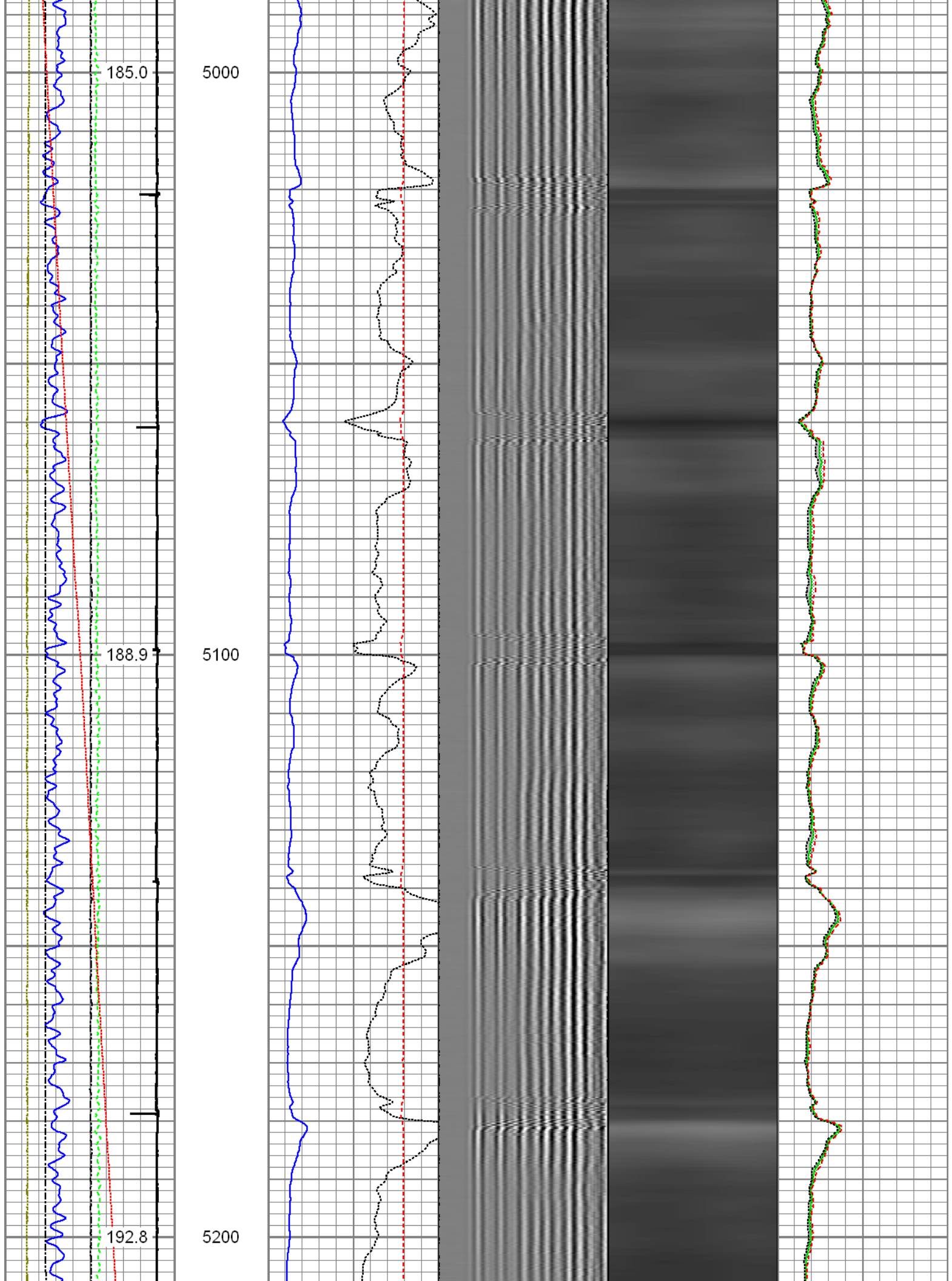
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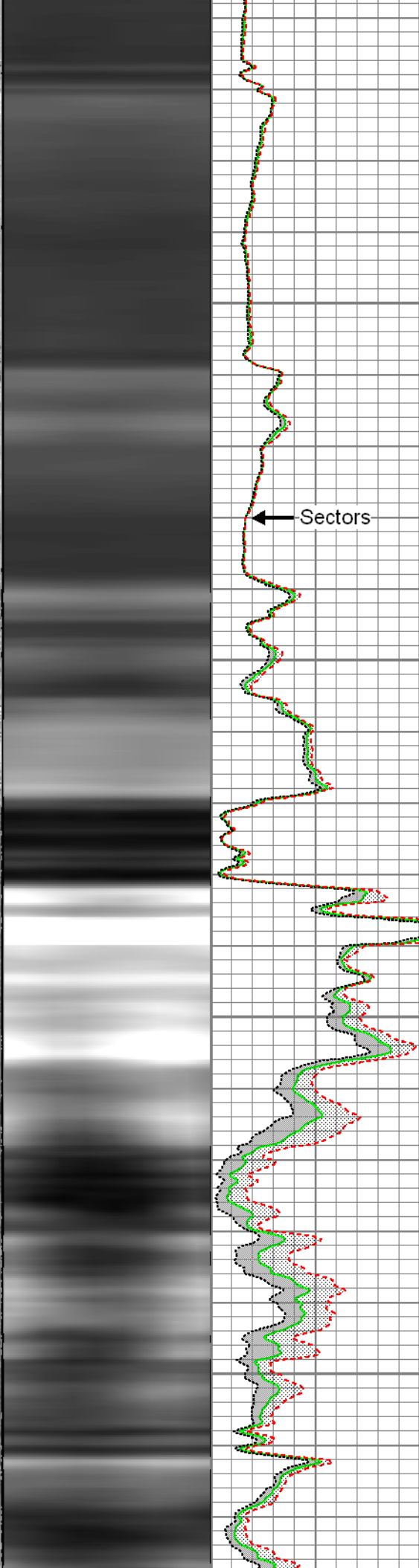
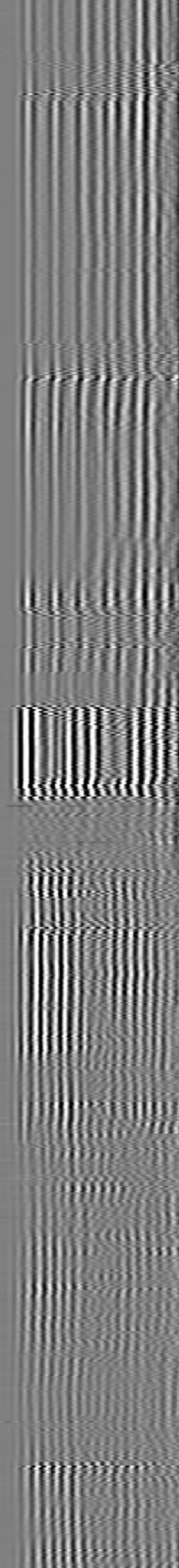
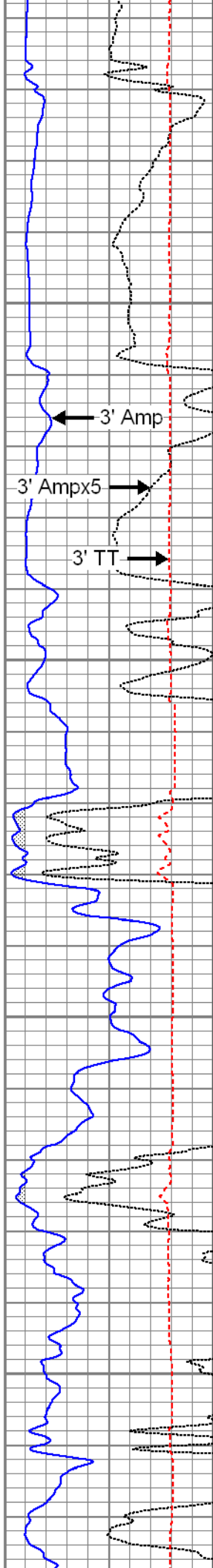
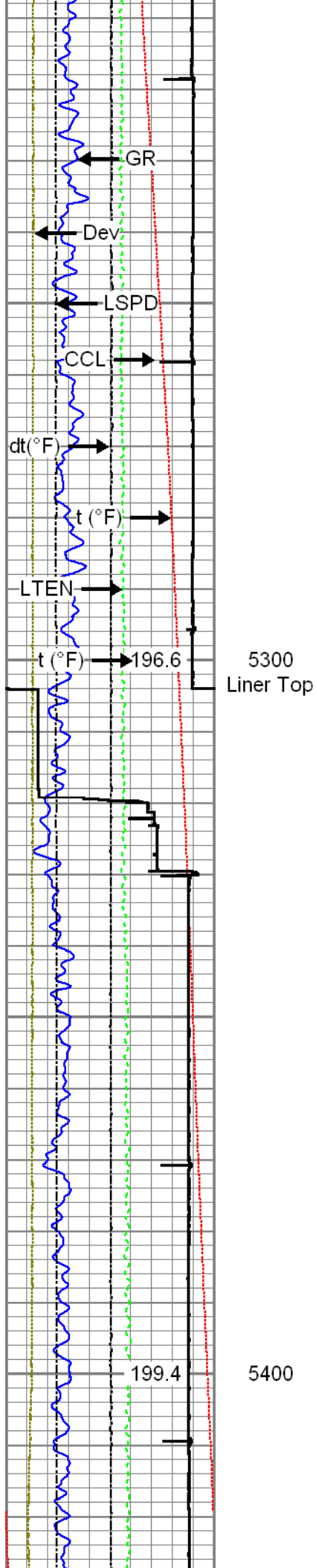


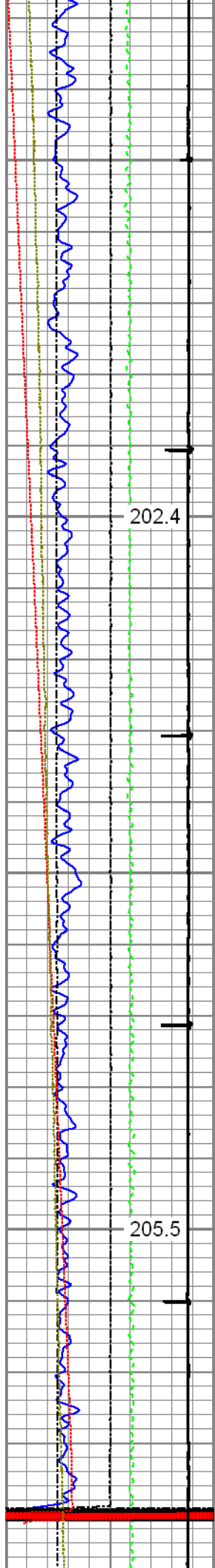










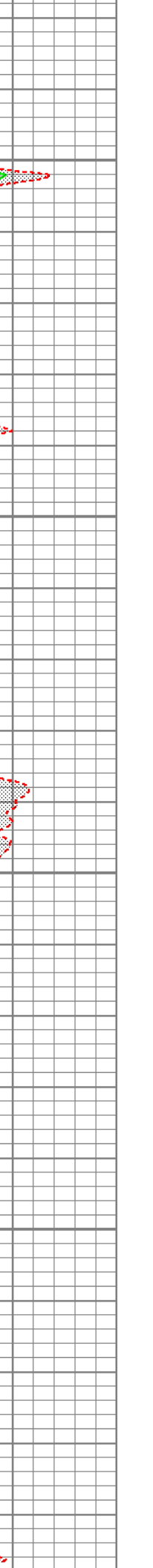
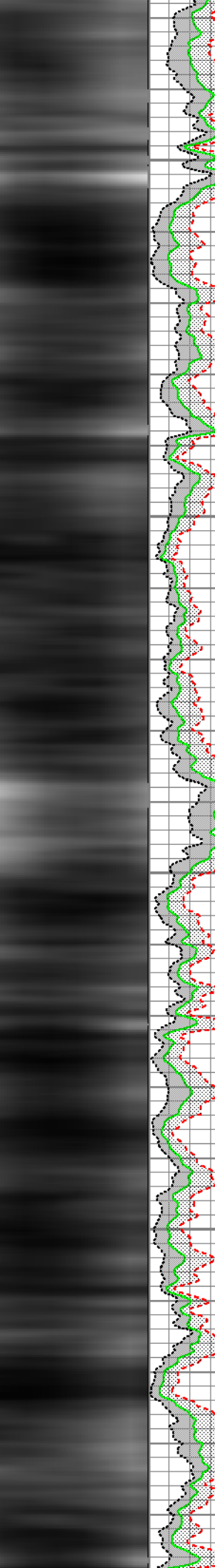
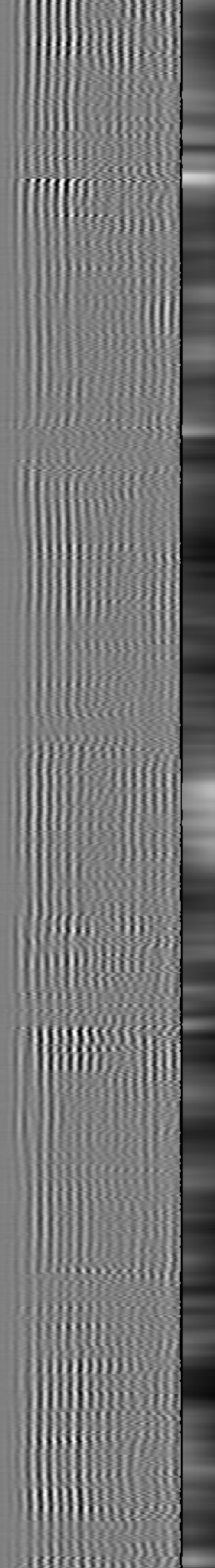
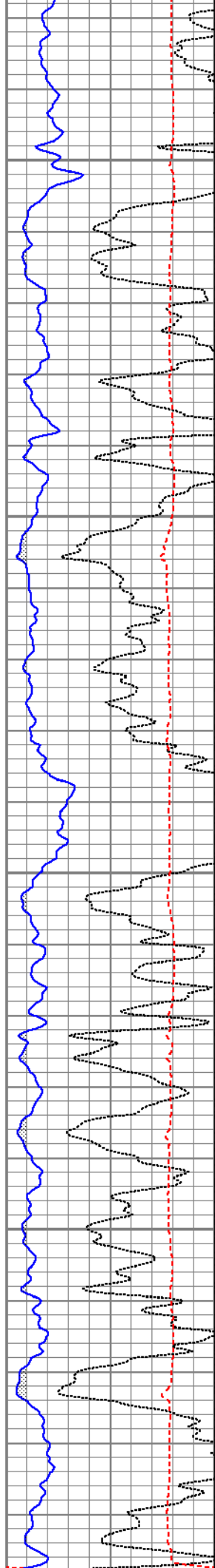


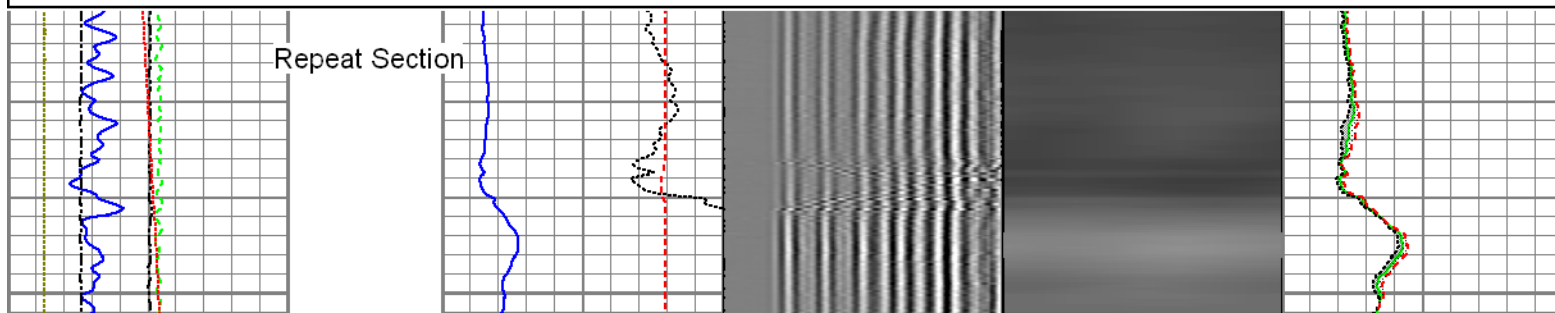
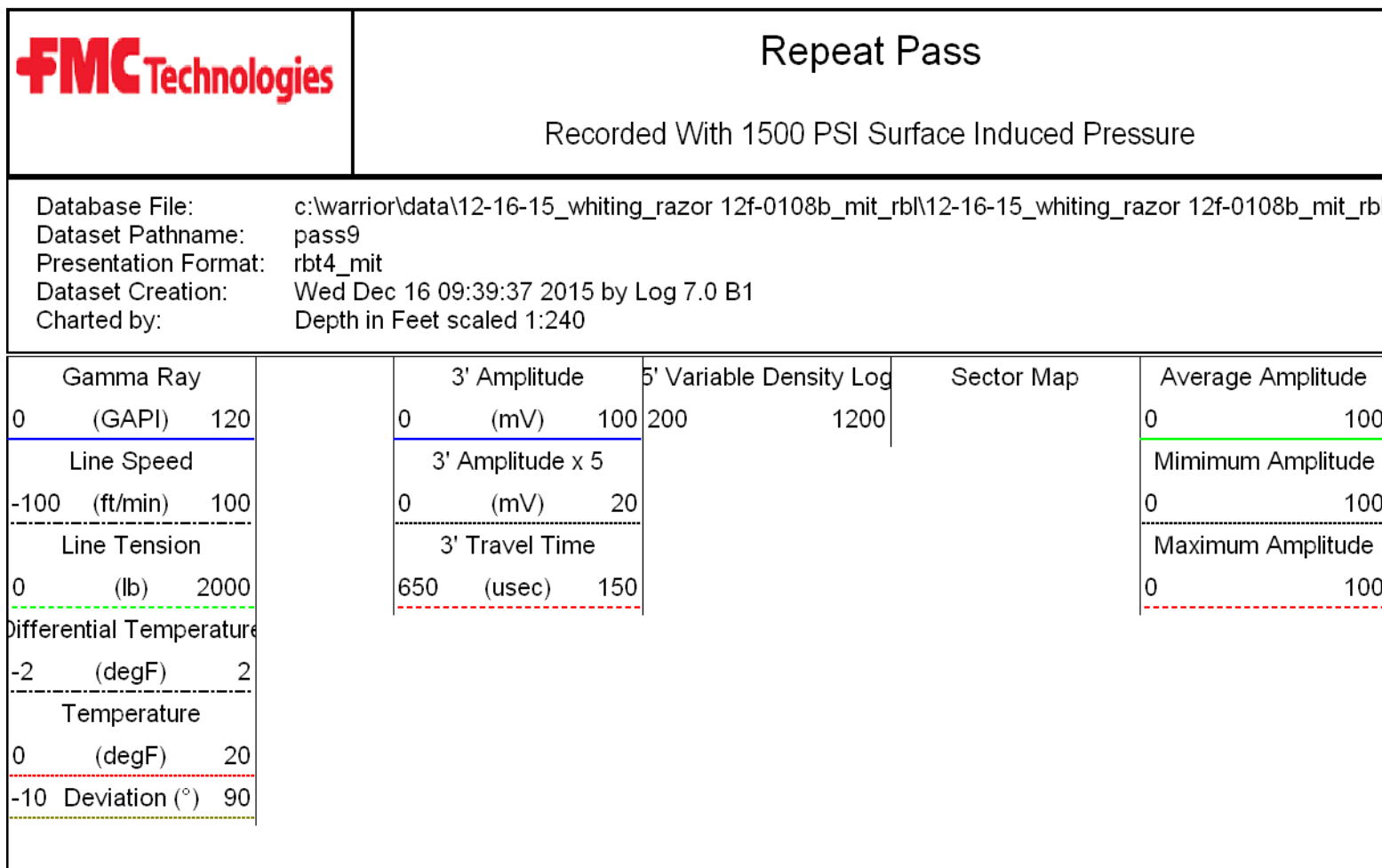
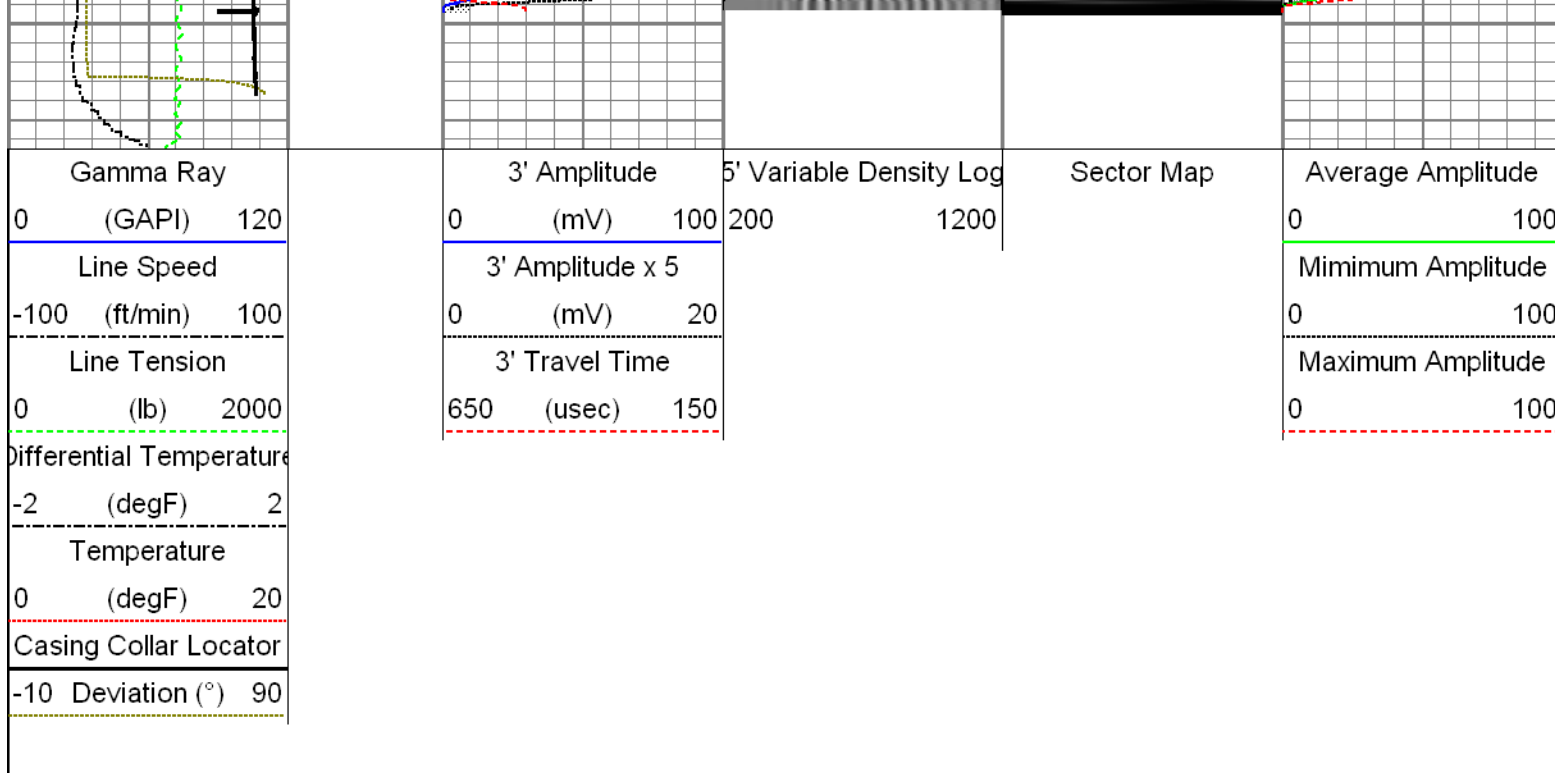
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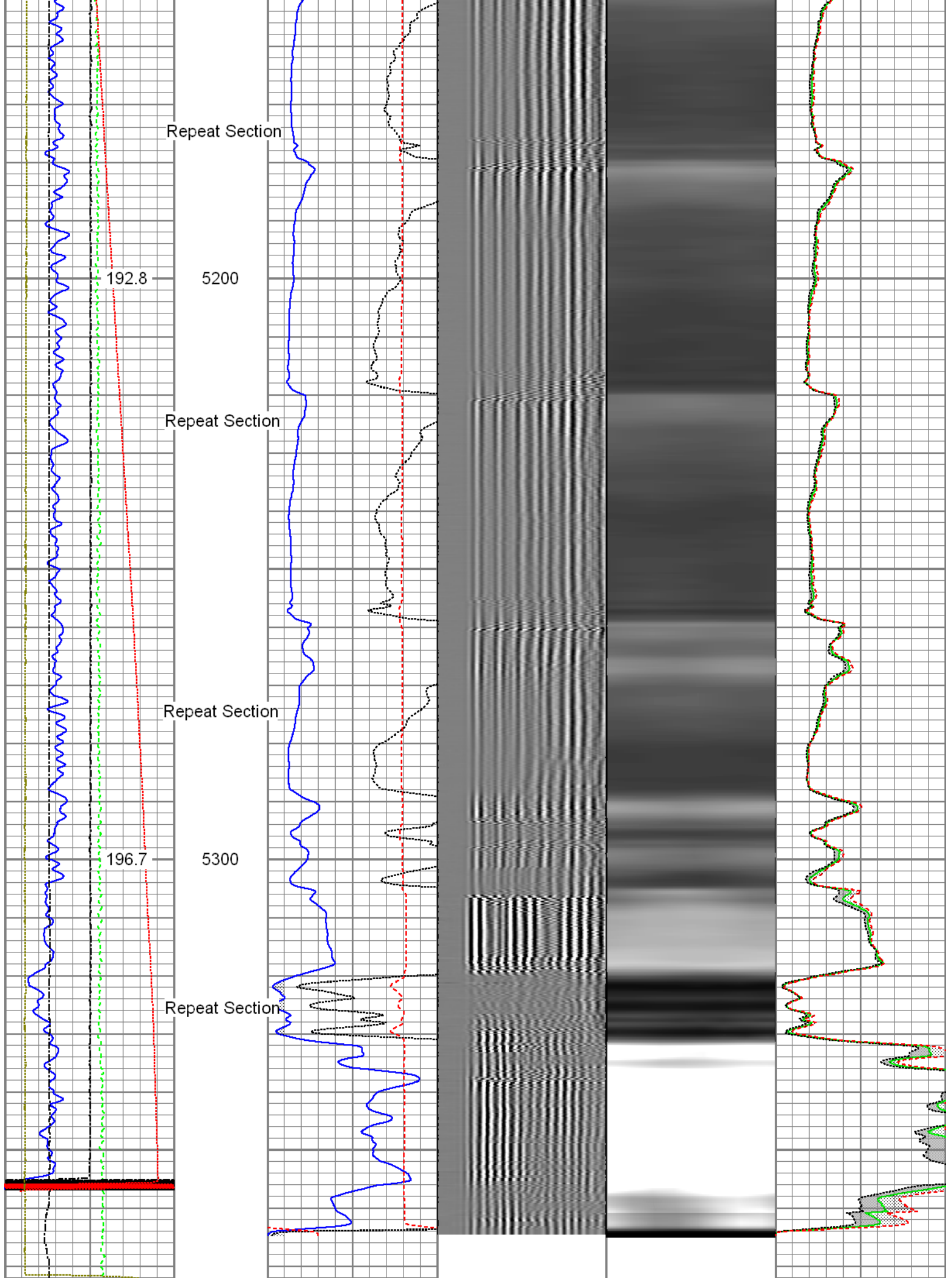
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5500


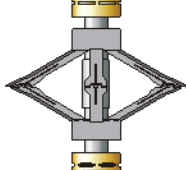
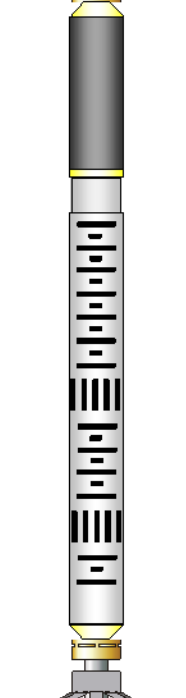
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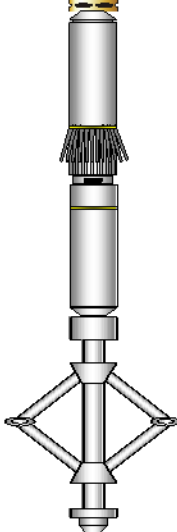






Repeat Section						
Gamma Ray		3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude	
0	(GAPI) 120	0 (mV) 100	200 1200		0	100
Line Speed		3' Amplitude x 5			Minimum Amplitude	
-100	(ft/min) 100	0 (mV) 20			0	100
Line Tension		3' Travel Time			Maximum Amplitude	
0	(lb) 2000	650 (usec) 150			0	100
Differential Temperature						
-2	(degF) 2					
Temperature						
0	(degF) 20					
-10 Deviation (°) 90						

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	23.85		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 (211727) Production Gamma Ray	1.93	1.69	9.50
TEMP	22.45		UW_PRT-UW_PRT_016 (10025095) Platinum Resistance Thermometer	1.04	1.69	5.20
			UW_PRC-DSSRAC (081) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
WV3FT	15.42					
WVFS1	15.42					
WVFS2	15.42					
WVFS3	15.42					
WVFS4	15.42					
WVFS5	15.42					
WVFS6	15.42					
WVFS7	15.42					
WVFS8	15.42					
CBLTEMP	15.42					
CBLROT	15.42					
WV5FT	14.42					
			UW_RBT-UW_RBT_004 (10022773) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
			UW_PRC #3 -DSSRAC (082) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00

MIT	5.41		UW_MIT-UW_MIT40_042 (10012912) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #4 -UW_PRC_057 (1037) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
TSTAMP	0.00		UW_BUL-UW_BUL_006 (10019616) Sondex Ultrawire Bullnose Terminator	0.22	1.69	1.20
Dataset: 12-16-15_Whiting_Razor 12F-0108B_MIT_RBL.db: field/well/run1/pass11 Total Length: 28.09 ft Total Weight: 324.50 lb O.D. 3.13 in						

Calibration Report			
Database File:	c:\warrior\data\12-16-15_whiting_razor 12f-0108b_mit_rbl\12-16-15_whiting_razor 12f-0108b_mit_rbl.db		
Dataset Pathname:	pass11.2		
Dataset Creation:	Fri Dec 18 13:46:42 2015 by Calc SCH 120430		
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.:	335.589		

Finger Calibration Report							
Performed:				Sun Mar 16 14:17:33 2014			
Ring size:	4	5	6	7			
(in)	Sens	Sens	Sens				
Finger 01:	1034	381.0	1415	389.0	1804	396.0	2200
Finger 02:	1047	370.0	1417	400.0	1817	402.0	2219
Finger 03:	968	398.0	1366	407.0	1773	432.0	2205
Finger 04:	998	388.0	1386	392.0	1778	424.0	2202
Finger 05:	1008	396.0	1404	399.0	1803	436.0	2239
Finger 06:	1027	393.0	1420	403.0	1823	438.0	2261
Finger 07:	988	398.0	1386	396.0	1782	442.0	2224
Finger 08:	1027	385.0	1412	390.0	1802	444.0	2246
Finger 09:	1040	389.0	1429	390.0	1819	442.0	2261
Finger 10:	1041	385.0	1426	390.0	1816	446.0	2262
Finger 11:	1076	382.0	1458	390.0	1848	440.0	2288
Finger 12:	1078	370.0	1448	387.0	1835	446.0	2281

Finger 13:	1117	367.0	1484	392.0	1876	427.0	2303
Finger 14:	1131	366.0	1497	393.0	1890	444.0	2334
Finger 15:	1065	360.0	1425	403.0	1828	458.0	2286
Finger 16:	1095	354.0	1449	401.0	1850	454.0	2304
Finger 17:	1110	346.0	1456	399.0	1855	456.0	2311
Finger 18:	1200	331.0	1531	386.0	1917	424.0	2341
Finger 19:	1157	323.0	1480	385.0	1865	429.0	2294
Finger 20:	1150	324.0	1474	399.0	1873	434.0	2307
Finger 21:	1189	325.0	1514	393.0	1907	415.0	2322
Finger 22:	1160	317.0	1477	398.0	1875	427.0	2302
Finger 23:	1124	319.0	1443	407.0	1850	432.0	2282
Finger 24:	1208	310.0	1518	384.0	1902	384.0	2286
Finger 25:	1153	329.0	1482	397.0	1879	411.0	2290
Finger 26:	1251	309.0	1560	369.0	1929	372.0	2301
Finger 27:	1170	314.0	1484	397.0	1881	388.0	2269
Finger 28:	1202	314.0	1516	380.0	1896	377.0	2273
Finger 29:	1108	323.0	1431	402.0	1833	393.0	2226
Finger 30:	1141	330.0	1471	395.0	1866	382.0	2248
Finger 31:	1143	331.0	1474	392.0	1866	374.0	2240
Finger 32:	1092	343.0	1435	407.0	1842	383.0	2225
Finger 33:	1164	344.0	1508	381.0	1889	354.0	2243
Finger 34:	1131	348.0	1479	402.0	1881	365.0	2246
Finger 35:	1034	368.0	1402	416.0	1818	403.0	2221
Finger 36:	1031	365.0	1396	404.0	1800	392.0	2192
Finger 37:	1083	378.0	1461	410.0	1871	377.0	2248
Finger 38:	1056	370.0	1426	395.0	1821	382.0	2203
Finger 39:	1065	377.0	1442	387.0	1829	384.0	2213
Finger 40:	996	383.0	1379	400.0	1779	409.0	2188

Segmented Cement Bond Log Calibration Report						
Serial Number:		10022773				
Tool Model:		UW_RBT_004				
Calibration Casing Diameter:		7.000	in			
Calibration Depth:		51.628	ft			
Master Calibration, performed Fri Dec 18 13:46:40 2015:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.002	0.777	0.800	62.165	79.174	0.610
5FT	0.001	0.718	0.800	62.165	85.607	0.720
S1	0.003	0.741	0.000	100.000	135.392	-0.377
S2	0.001	0.759	0.000	100.000	131.938	-0.140
S3	0.002	0.750	0.000	100.000	133.622	-0.239
S4	0.001	0.747	0.000	100.000	133.979	-0.073
S5	0.002	0.769	0.000	100.000	130.541	-0.321
S6	0.002	0.763	0.000	100.000	131.368	-0.200
S7	0.002	0.760	0.000	100.000	131.905	-0.244
S8	0.002	0.753	0.000	100.000	133.107	-0.245

Temperature Calibration Report						
Serial Number:				10025095		
Tool Model:				UW_PRT_016		
Performed:				Wed Feb 11 13:43:20 2015		
Point #		Reading		Reference		
1		12798.00	cps	68.00	degF	
2		18136.00	cps	104.00	degF	
3		29513.00	cps	176.00	degF	

4	40905.00	cps	248.00	degF
5	52487.00	cps	320.00	degF
6	58362.00	cps	356.00	degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

Gamma Ray Calibration Report				
Serial Number:	211727			
Tool Model:	UW_PGR_020			
Performed:	Mon Nov 23 09:56:50 2015			
Calibrator Value:	1.0	GAPI		
Background Reading:	0.0	cps		
Calibrator Reading:	1.0	cps		
Sensitivity:	0.6000	GAPI/cps		

	Company	Whiting Oil and Gas Corporation
	Well	Razor 12F-0108B
	Field	Wildcat
	County	Weld
	State	Colorado