

County Weld State Colorado

K.B.	5080"
D.F.	---
G.L.	5063"

ner	58412	---	
	412	116	

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 Casing Tally reported Liner Top at 5682 FT  
Adjusted -14 FT to correlate with Liner Top  
Gauge Ring/Junk Basket ran to 8212 FT with no debris  
Log ran from as deep as possible in heel to Surface  
Recorded with 2800 PSI Surface Induced Pressure  
Logging tools were clean and free of any debris upon completion of operations

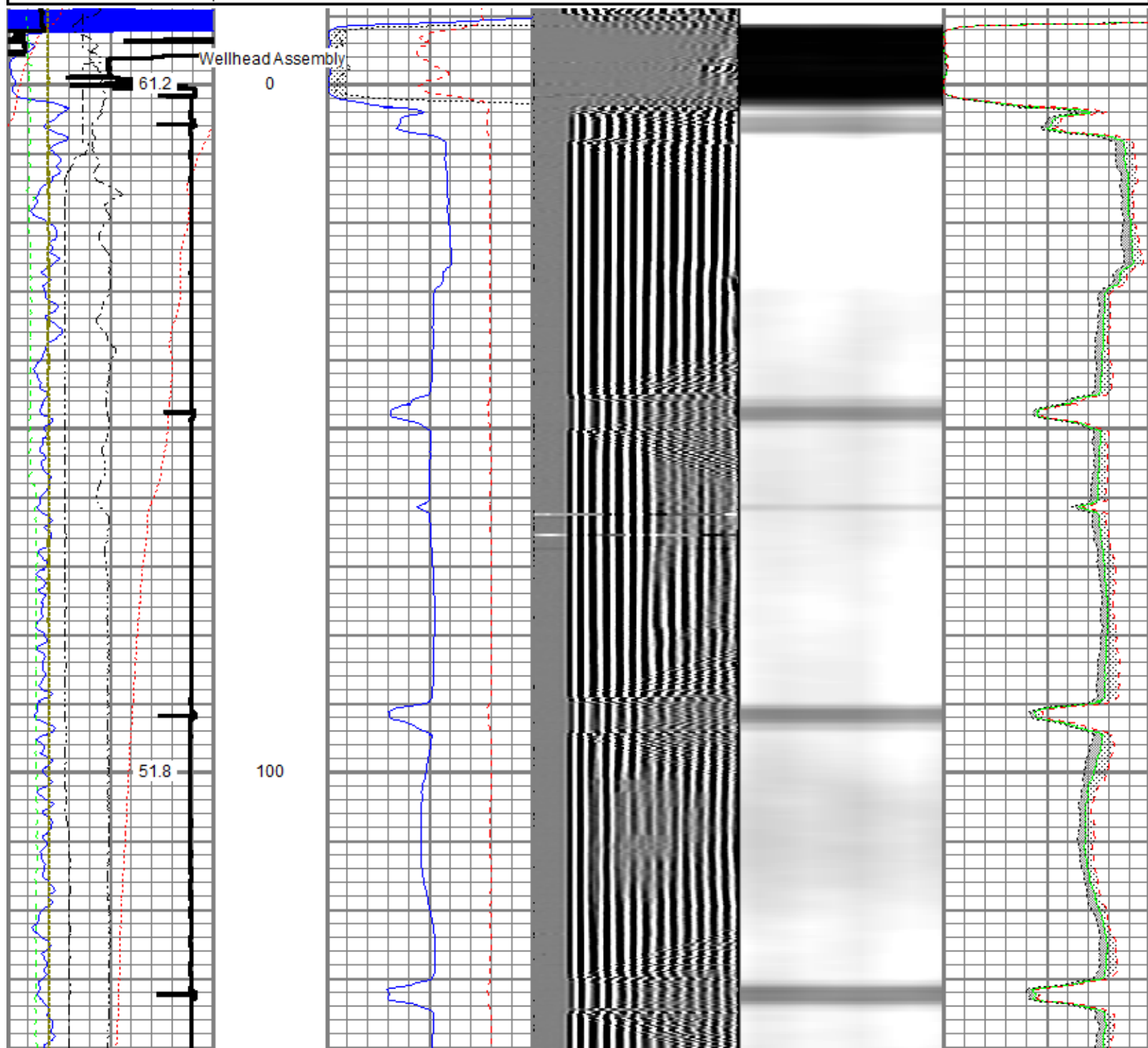
Thank you for choosing Reliance Oilfield Services, LLC!!

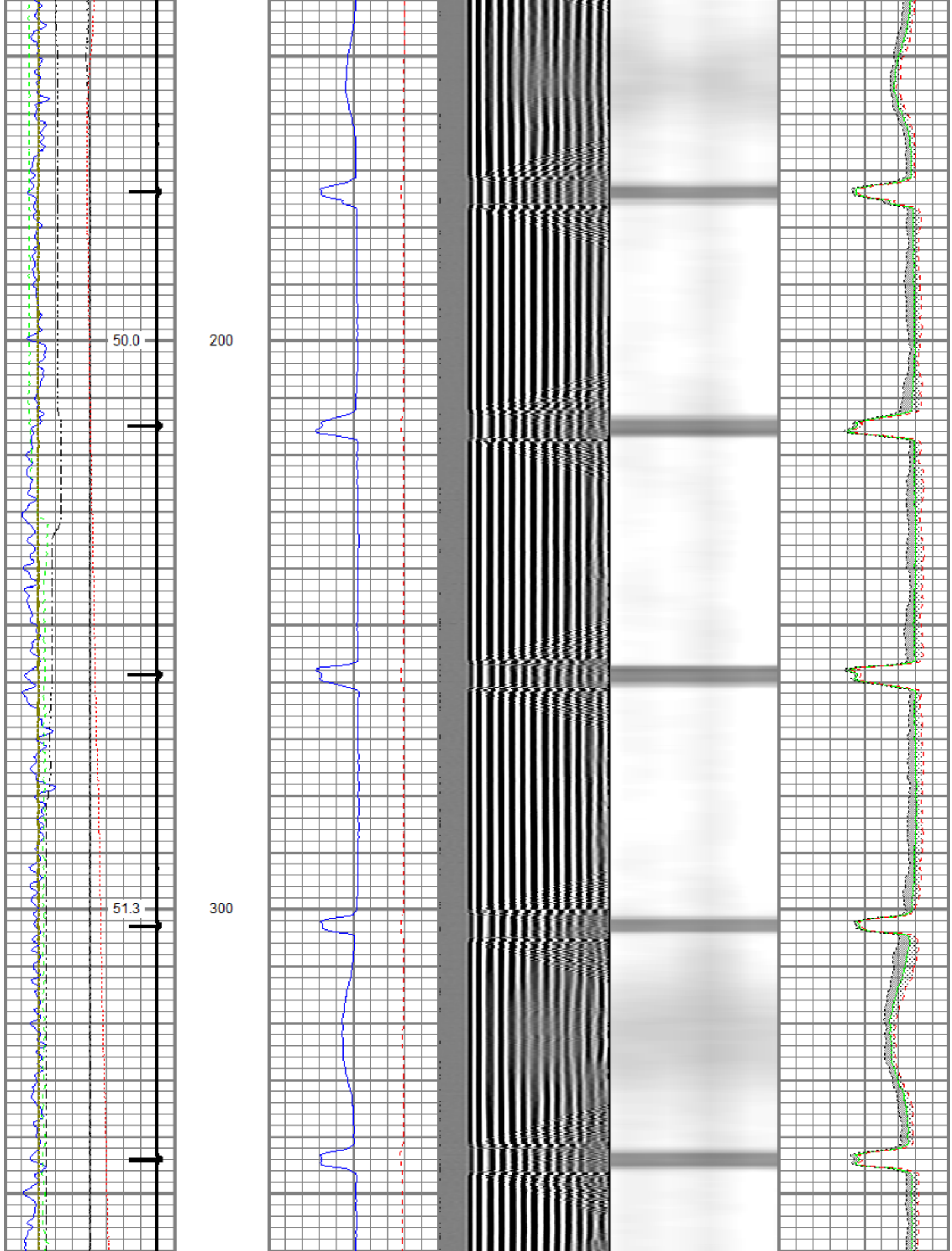
## Main Pass

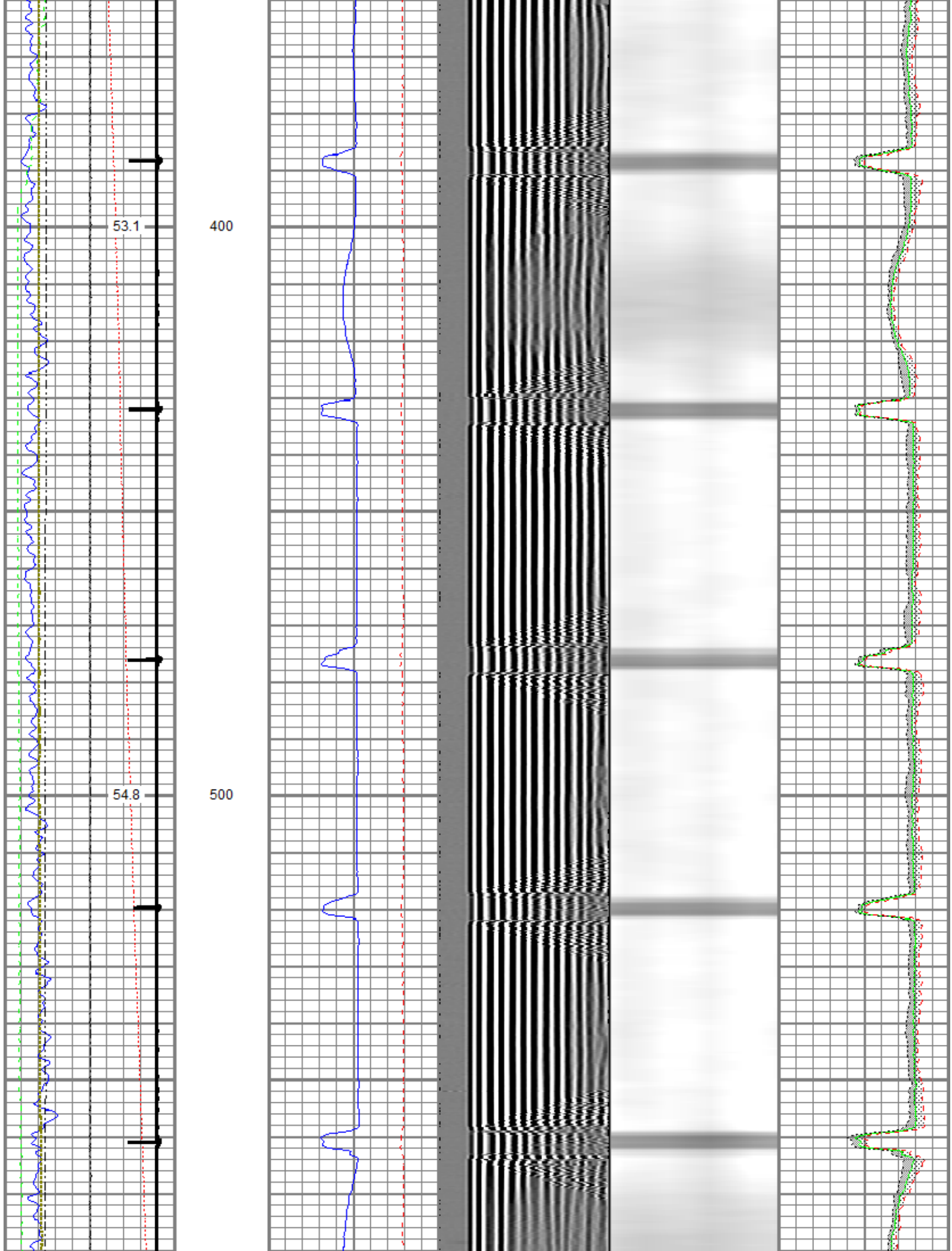


Database File anadarko\_yellowhammer 34c-17hz\0512345498\_anadarko\_yellowhammer 34c-17hz\_rbl\_02-18-18.db  
 Dataset Pathname pass8.3  
 Presentation Format ros\_rbt\_mit\_sx  
 Dataset Creation Sun Feb 18 16:50:39 2018  
 Charted by Depth in Feet scaled 1:240

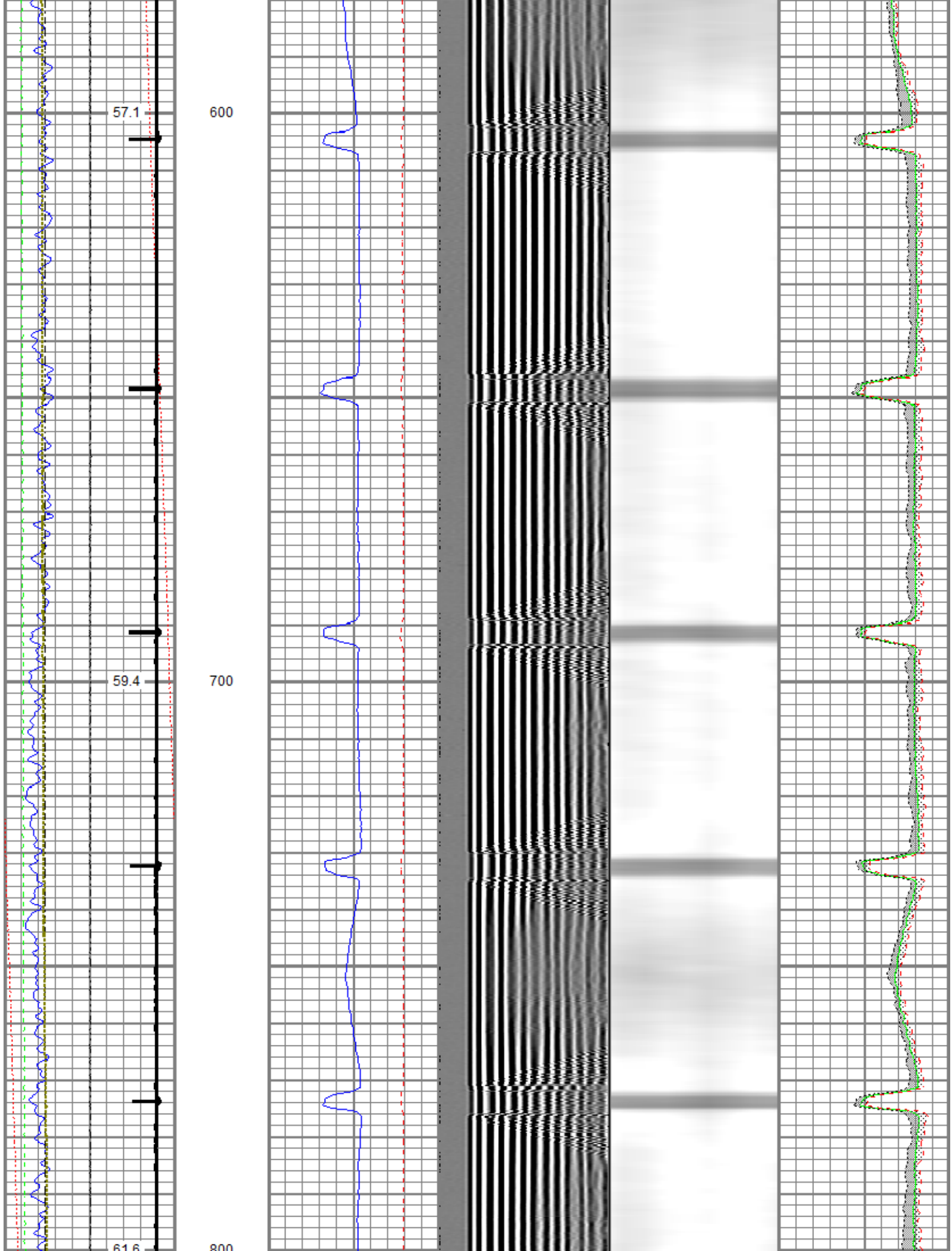
Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Line Speed	0	(mV) 20			0	100
(ft/min) 100		3' Travel Time				Maximum Amplitude
Line Tension (lb) 2000	0	650 (usec) 150			0	100
Differential Temperature			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

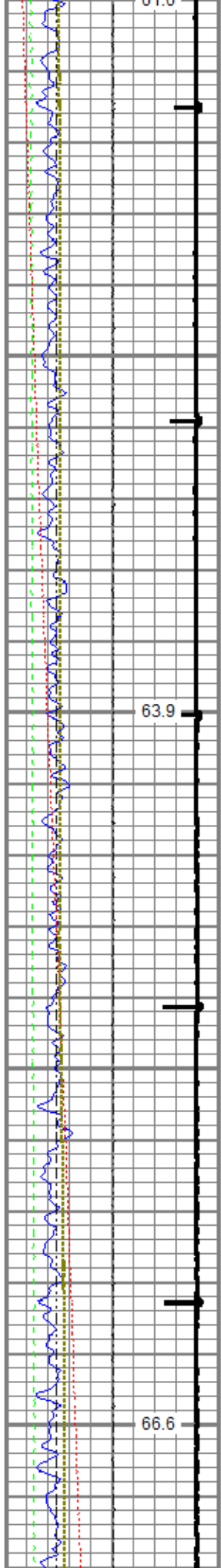




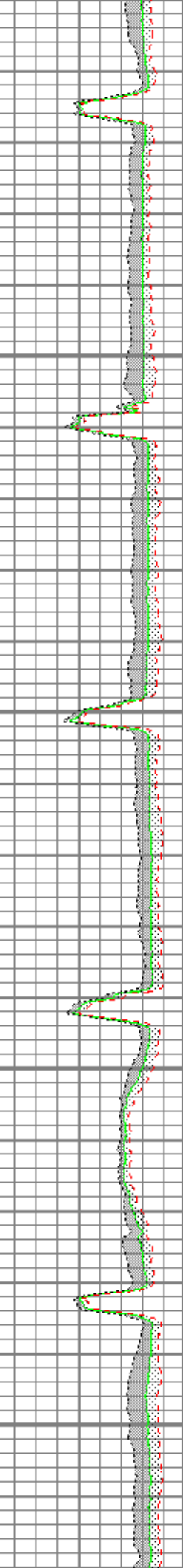
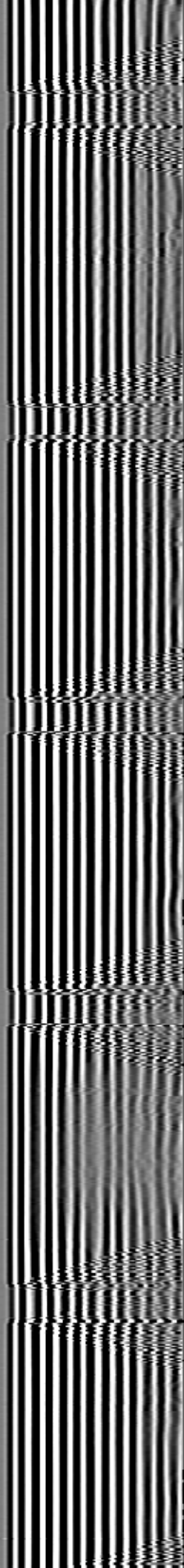
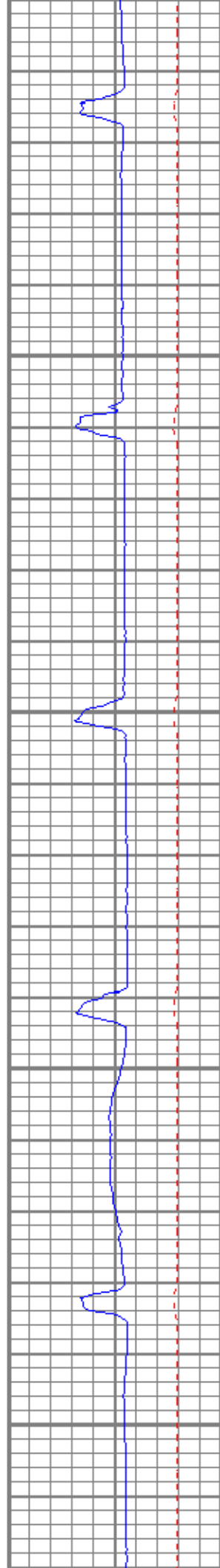


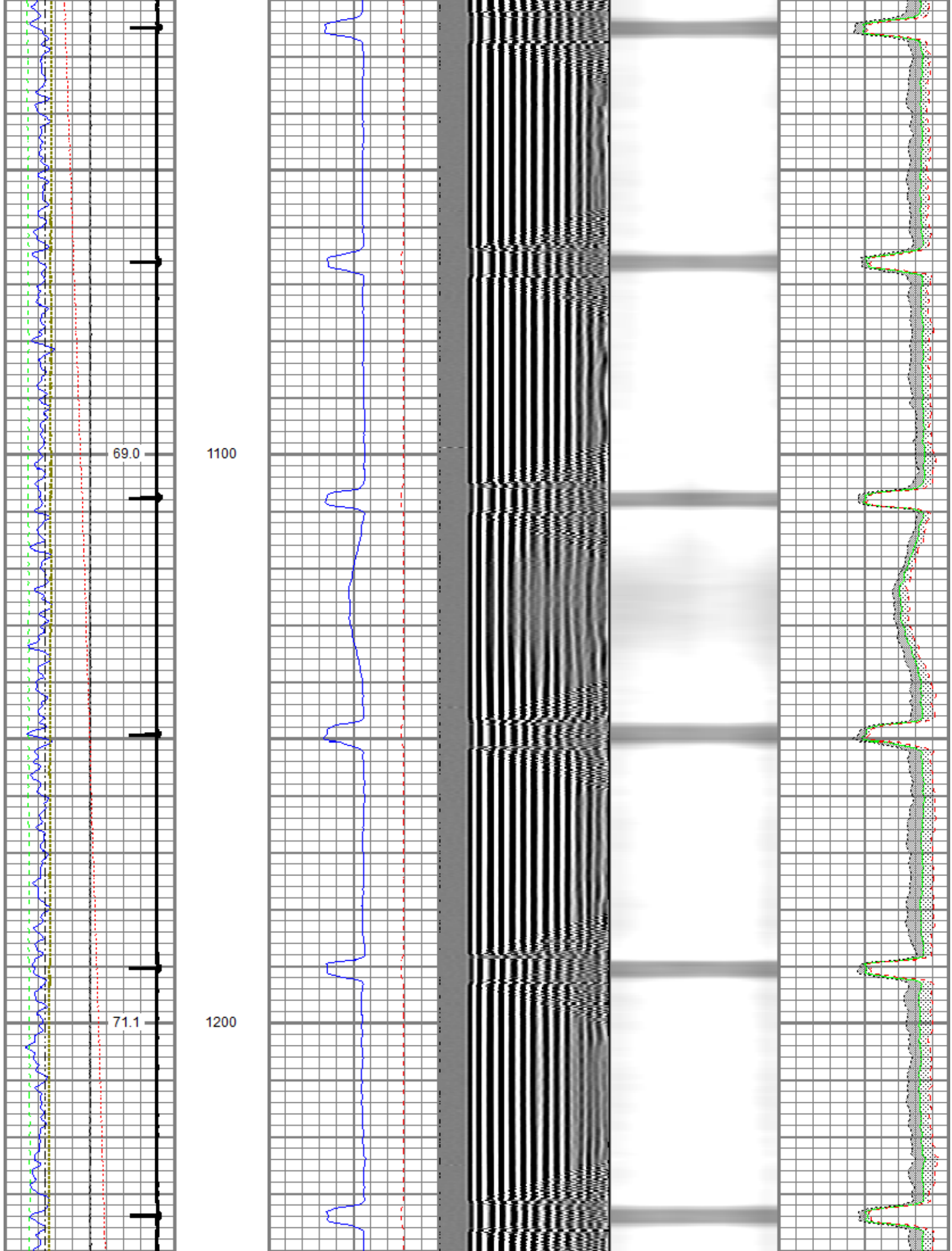


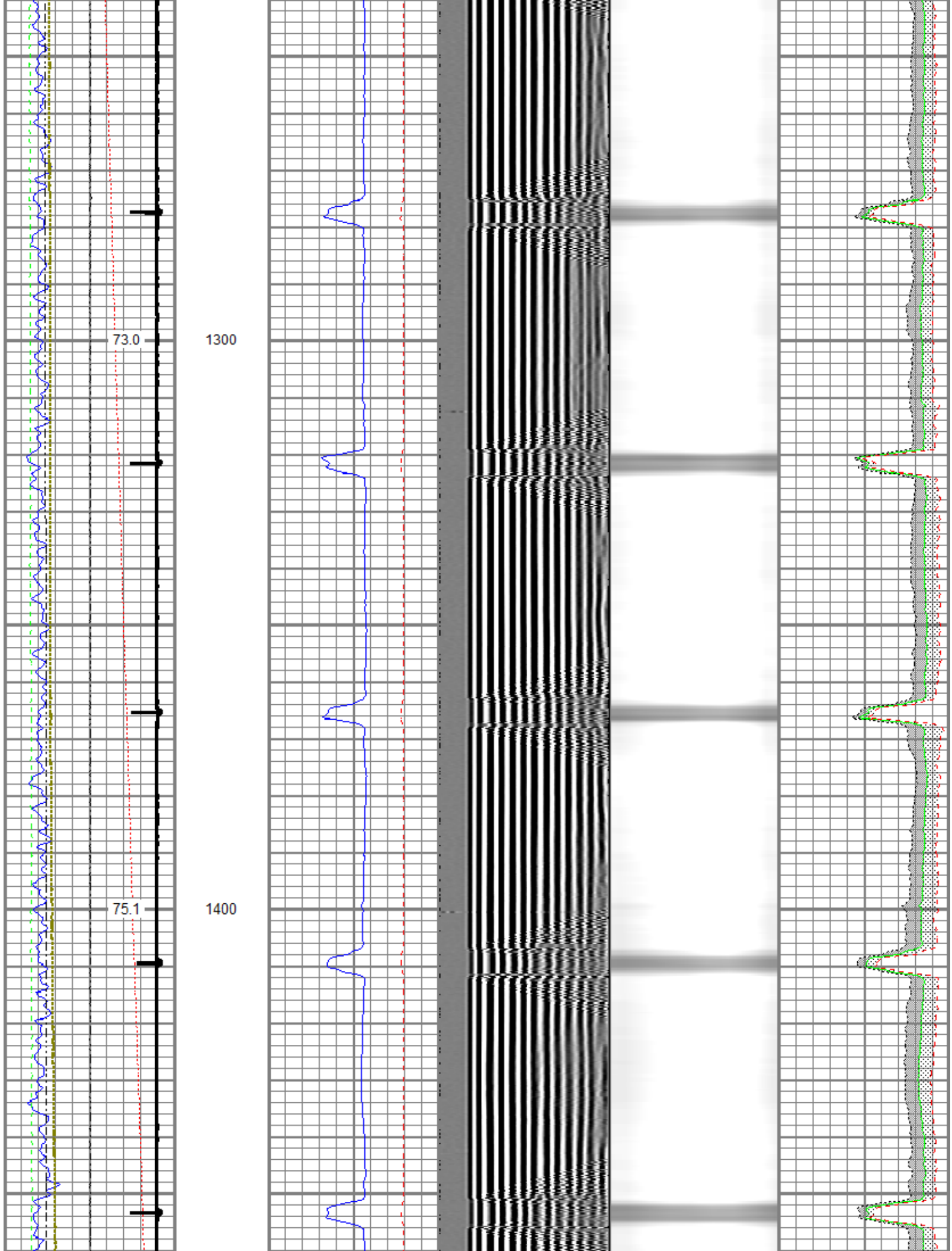




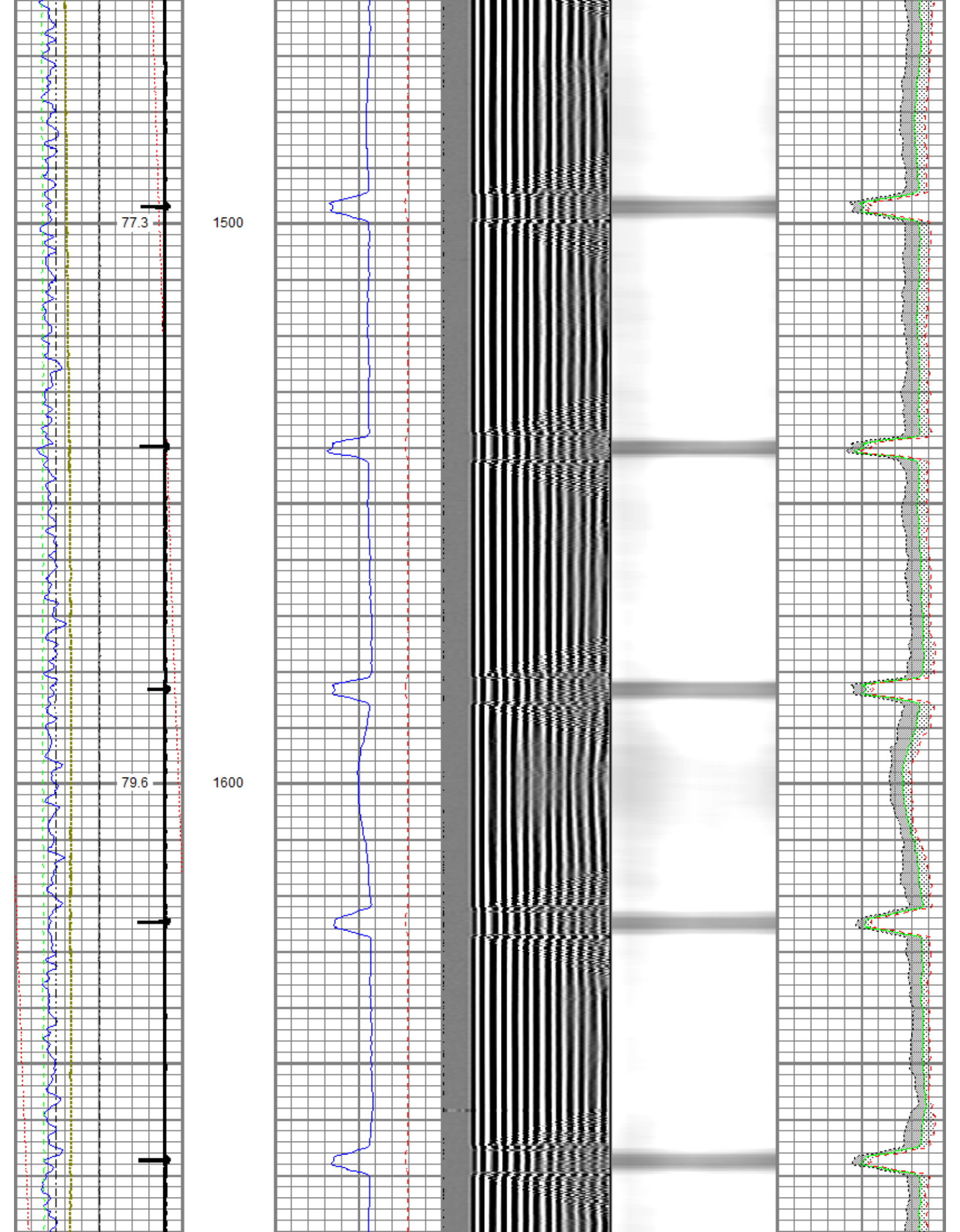
600  
900  
1000

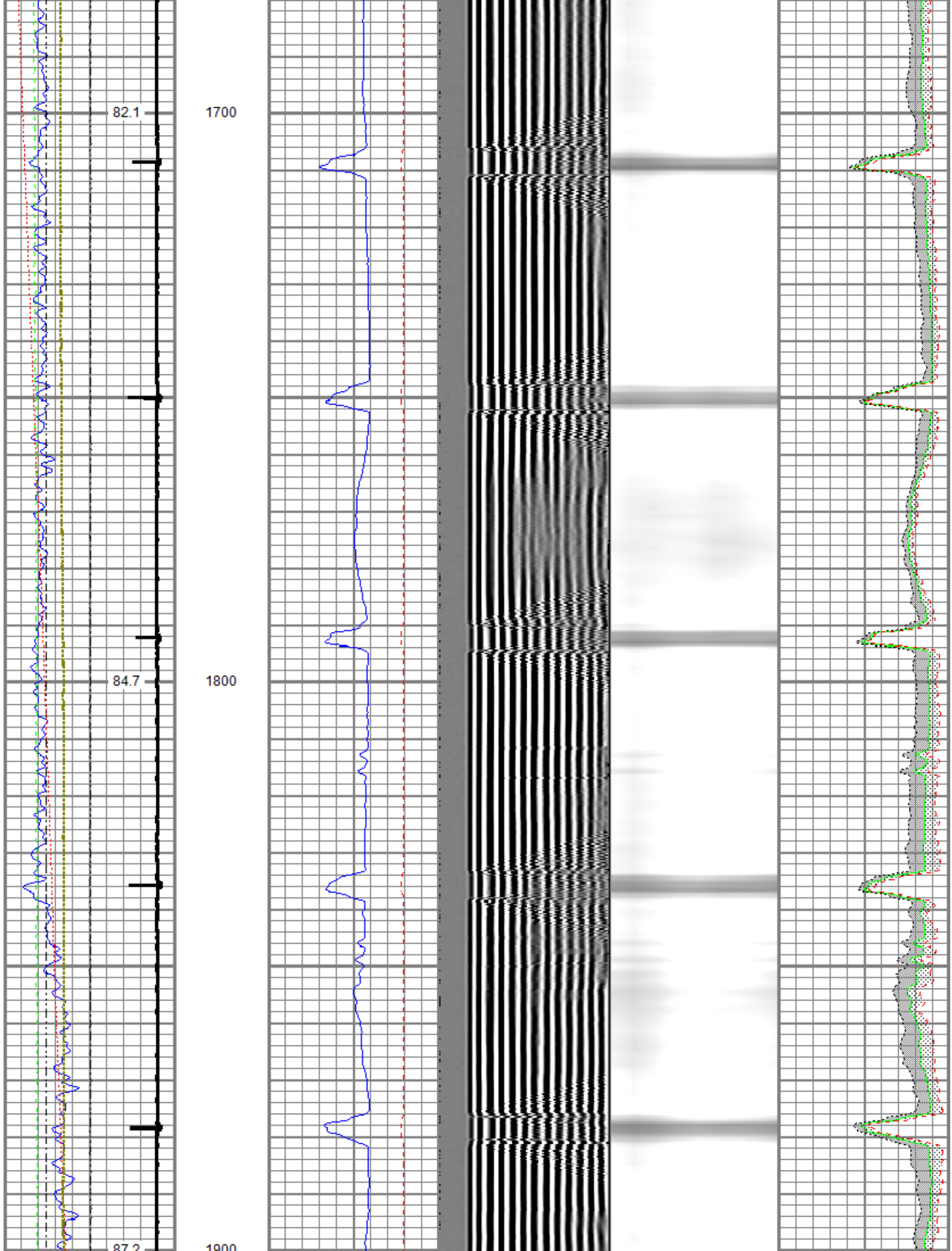


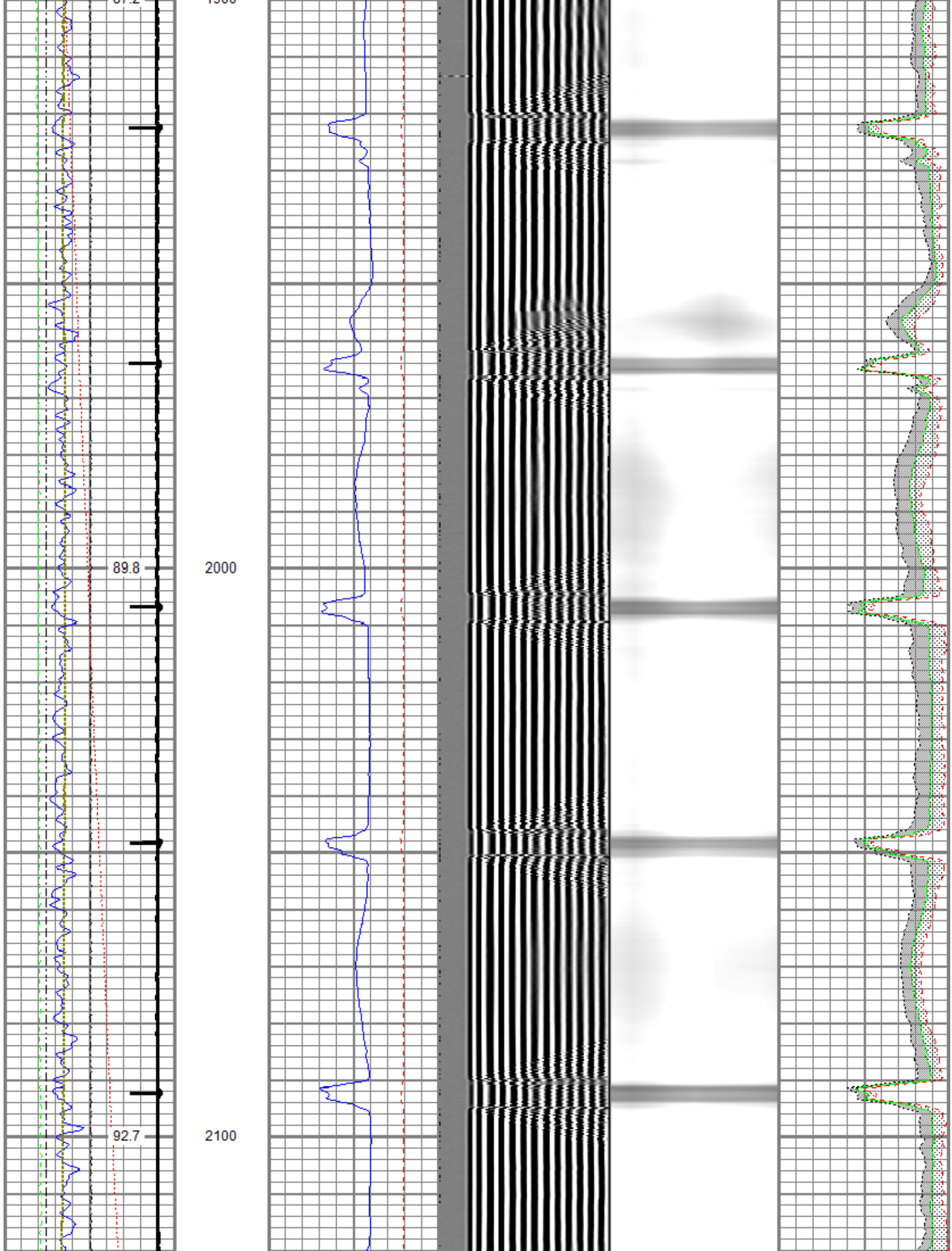




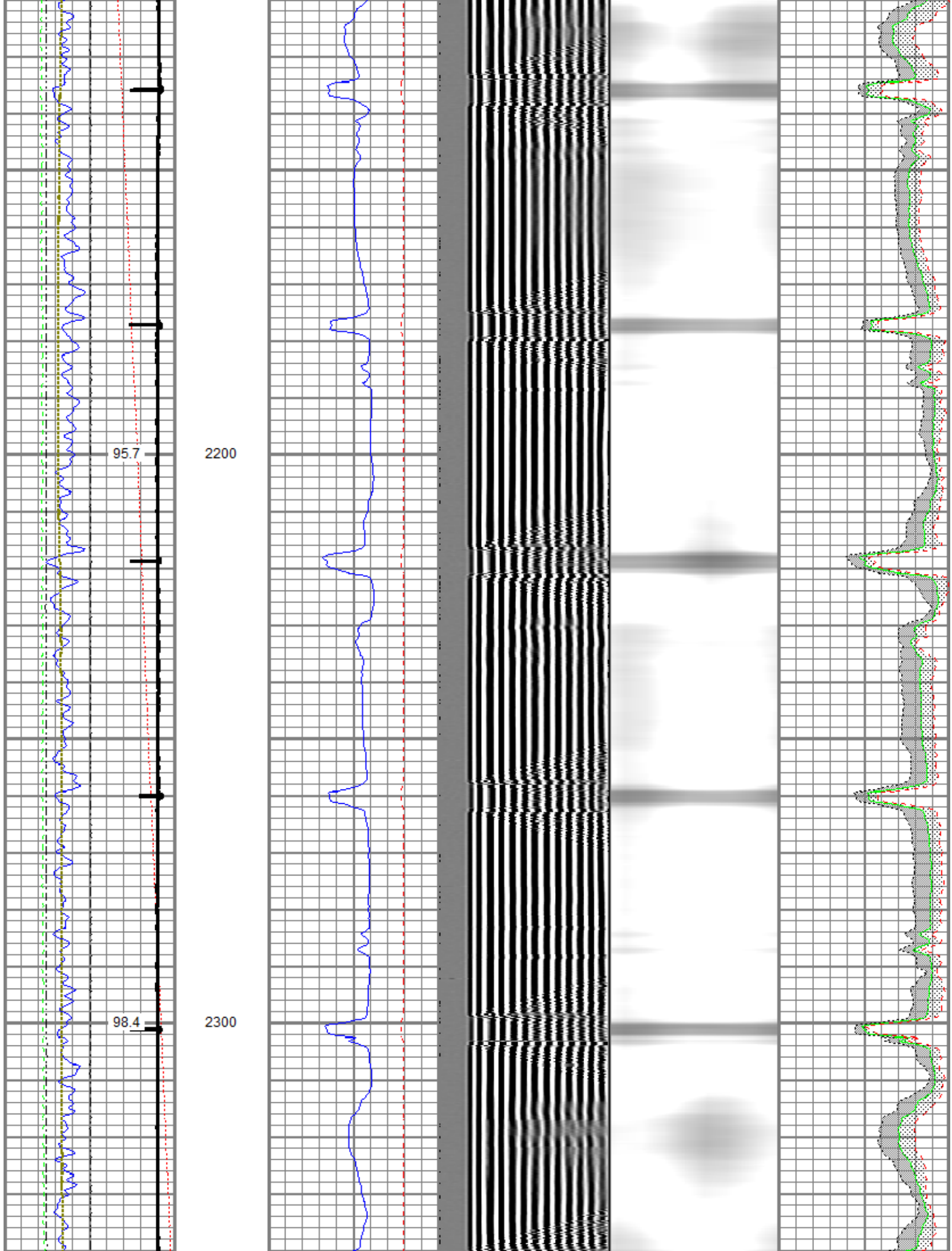




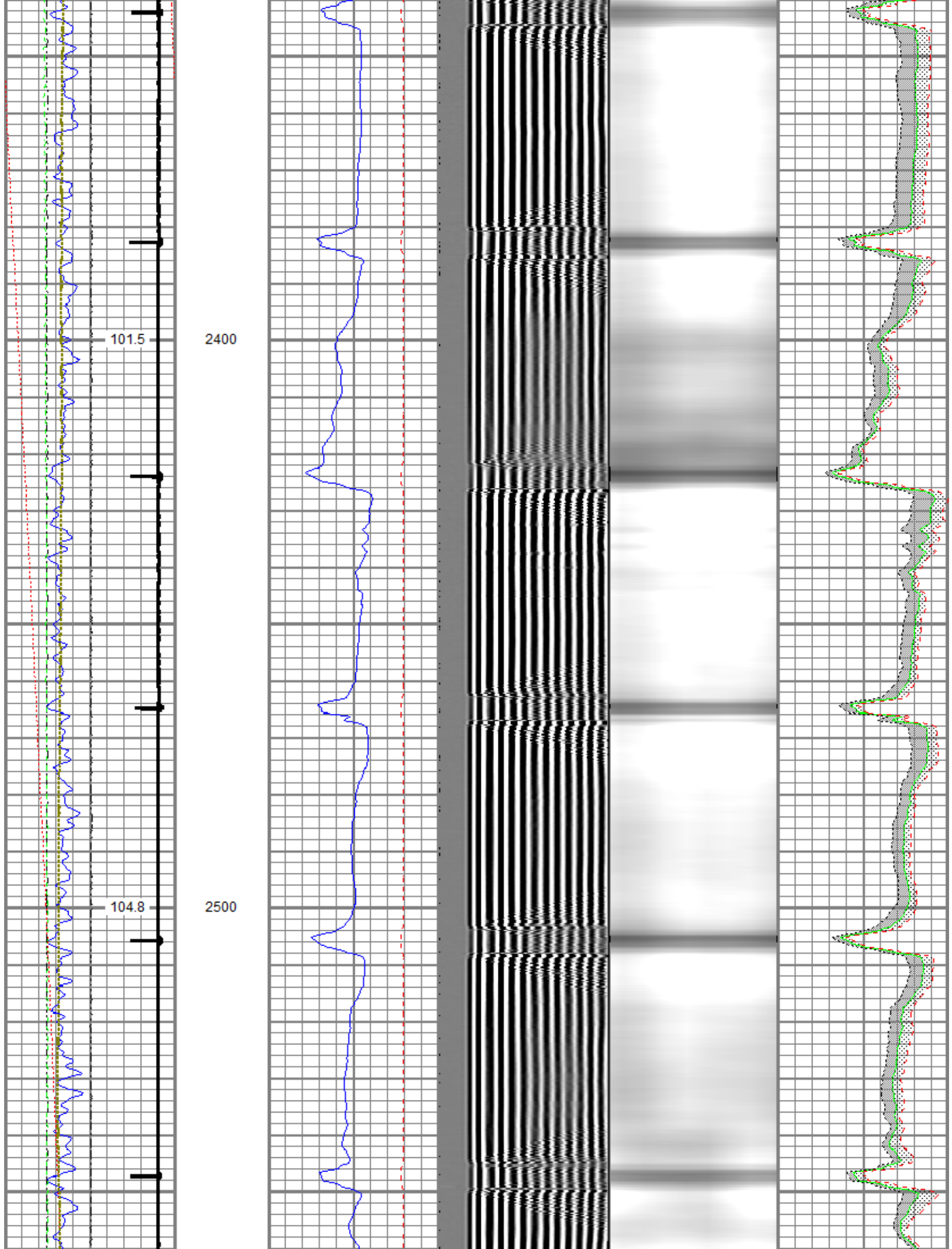


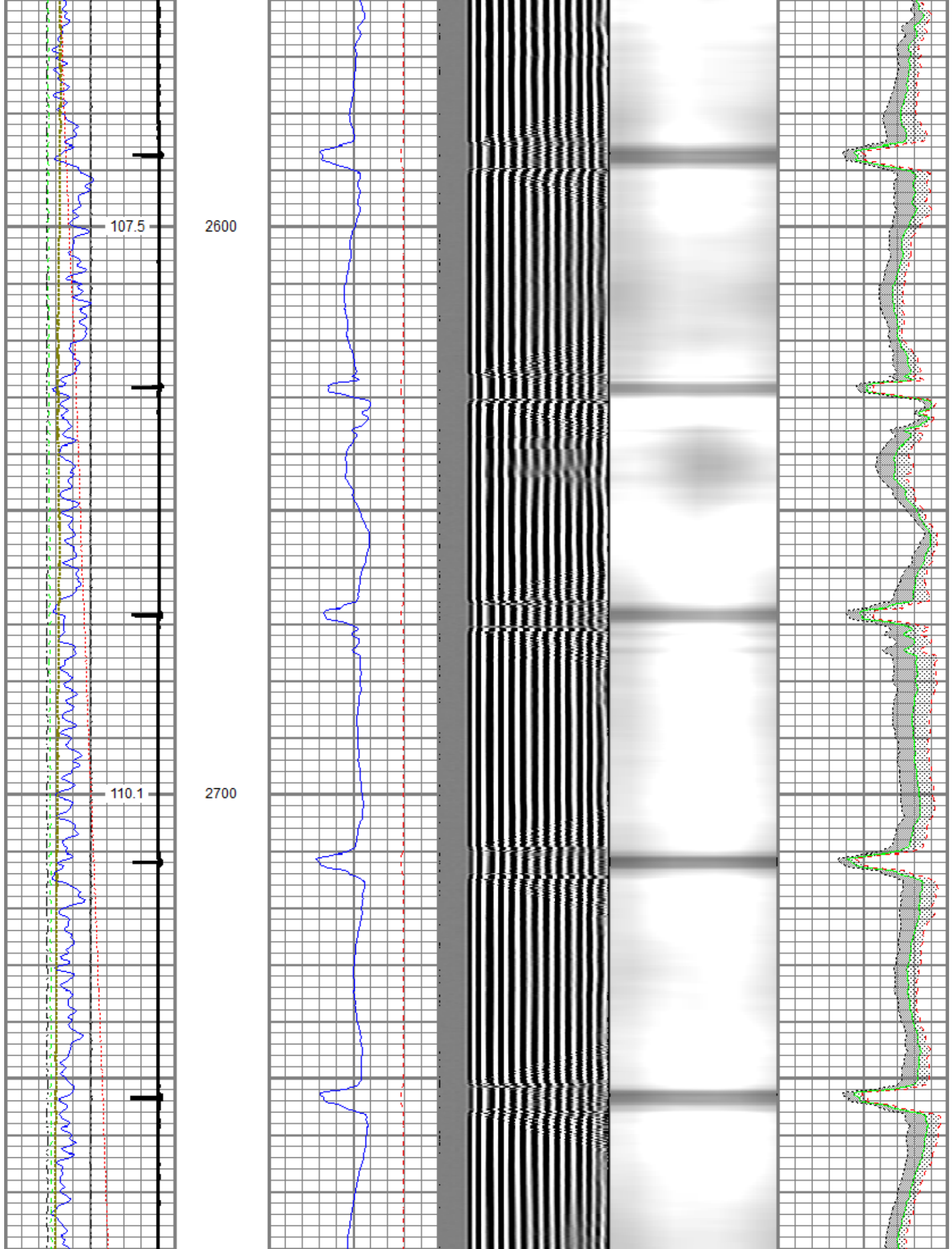


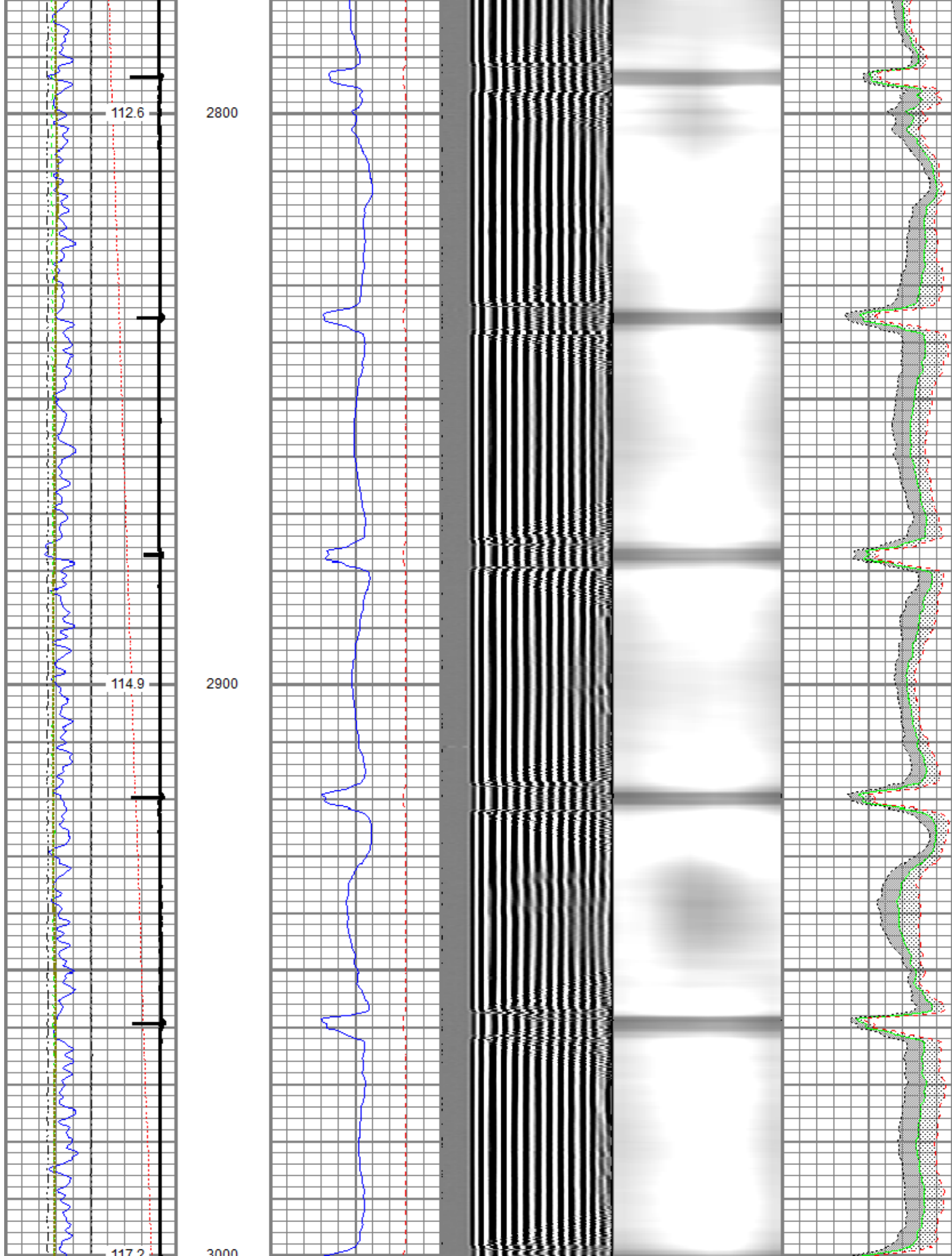




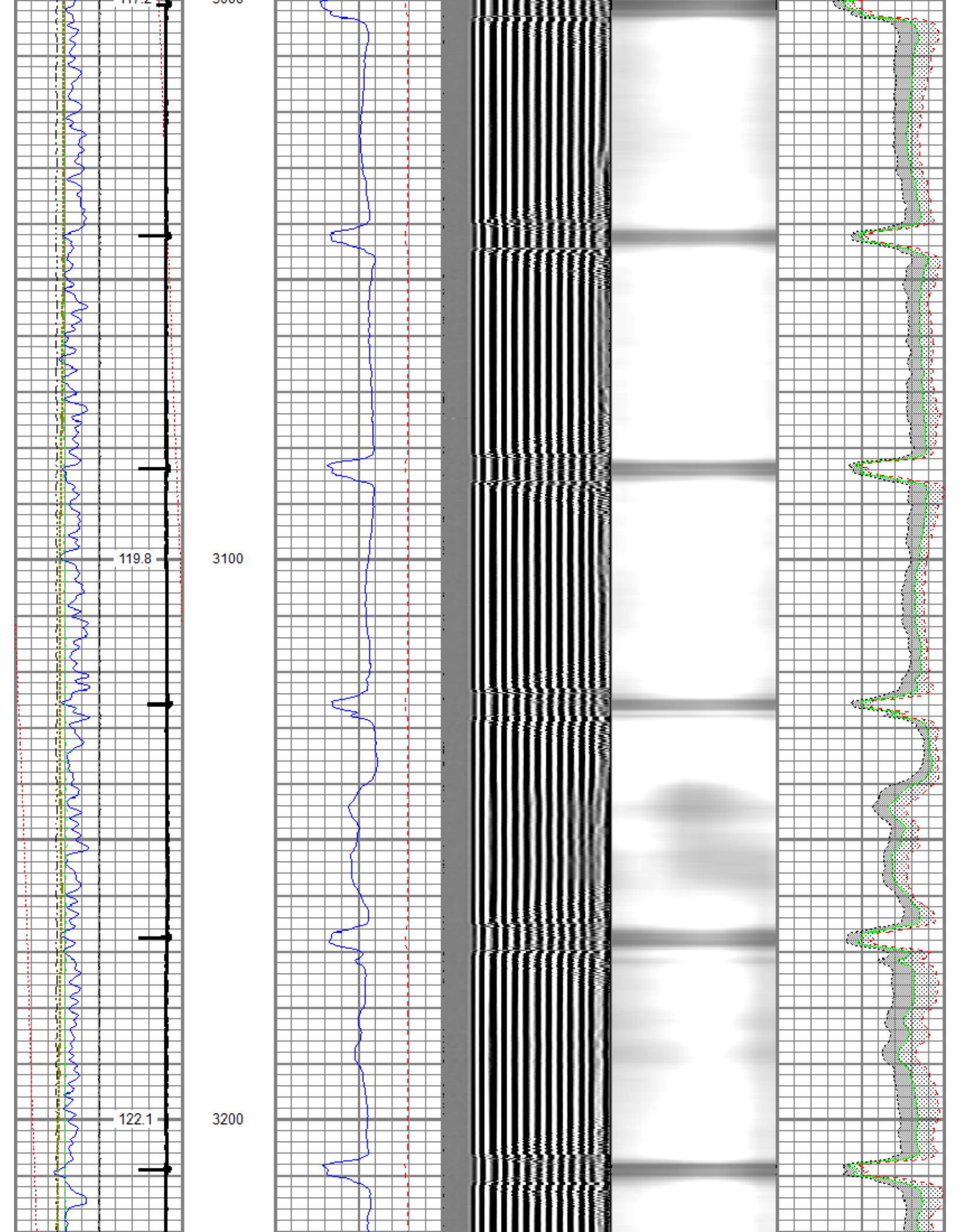




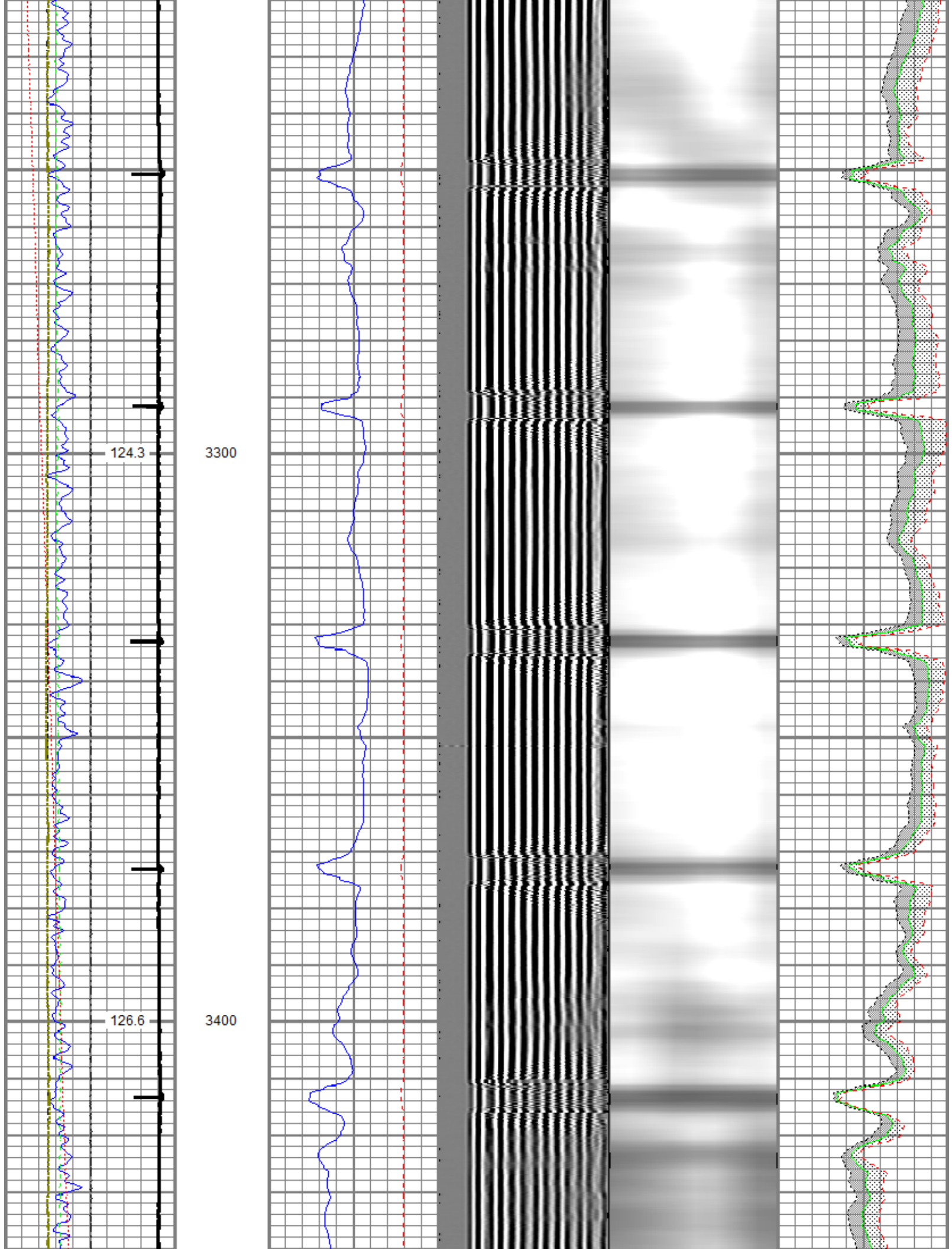


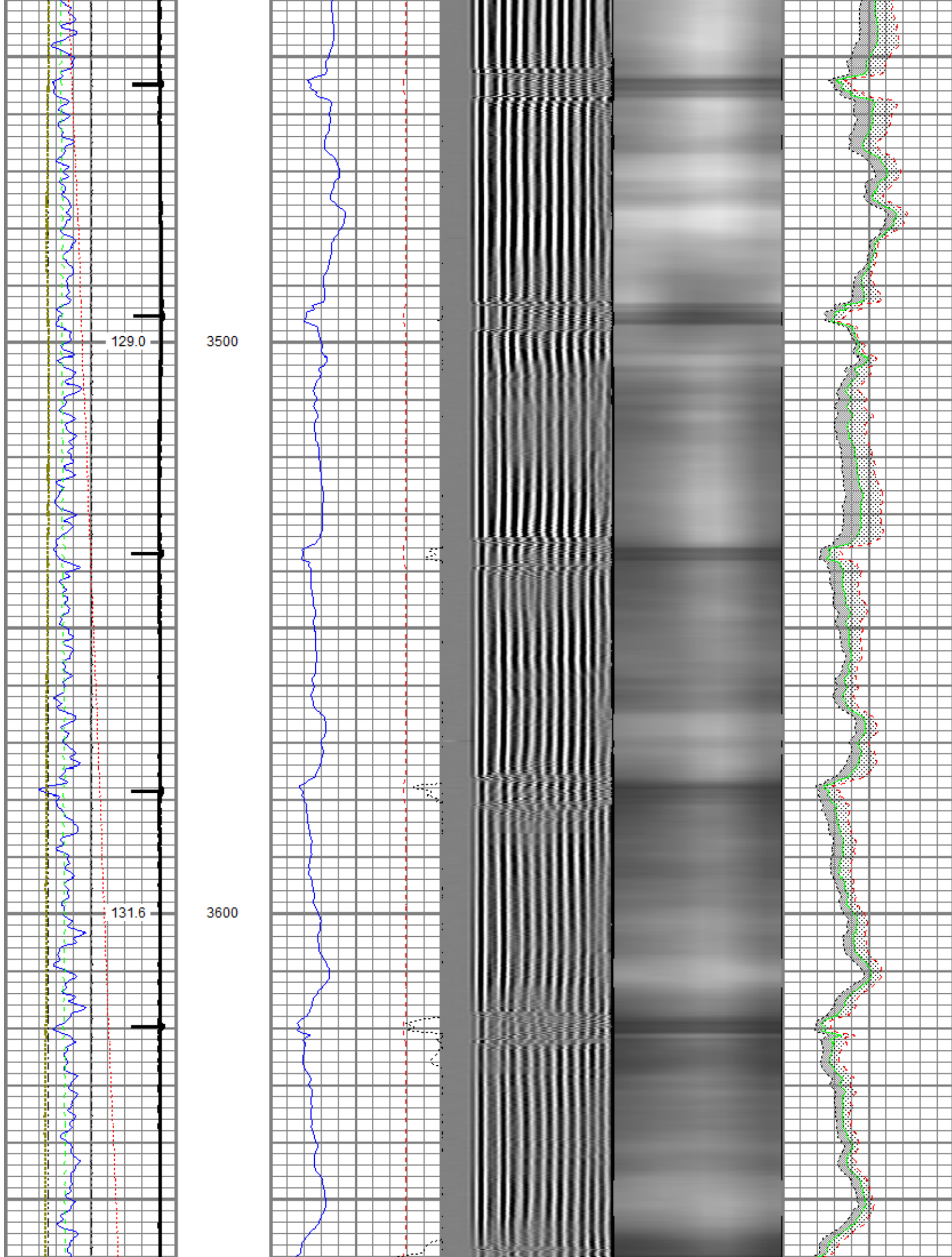


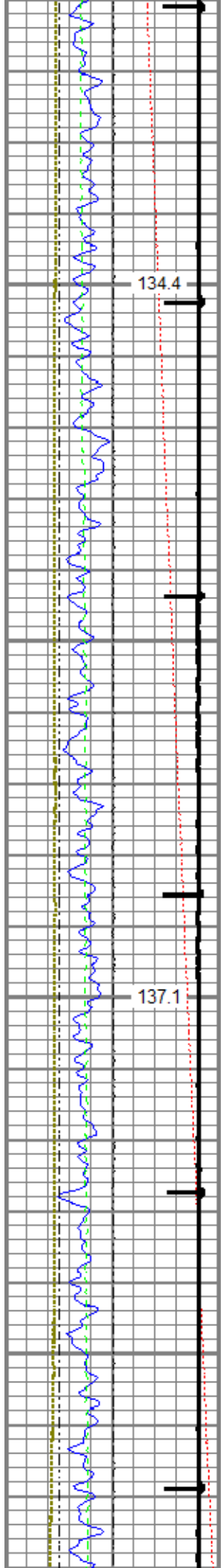






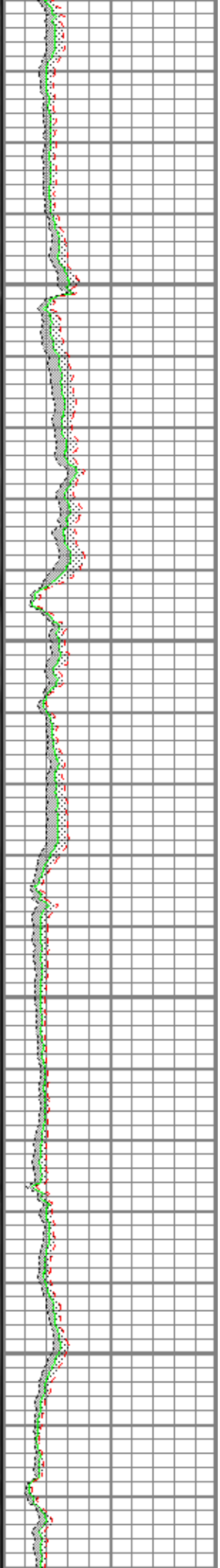
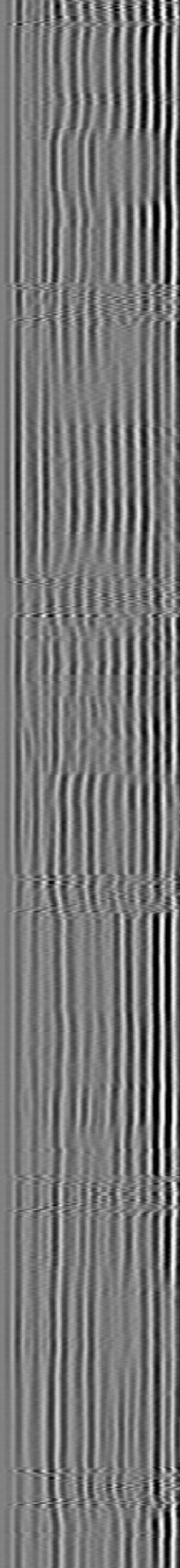
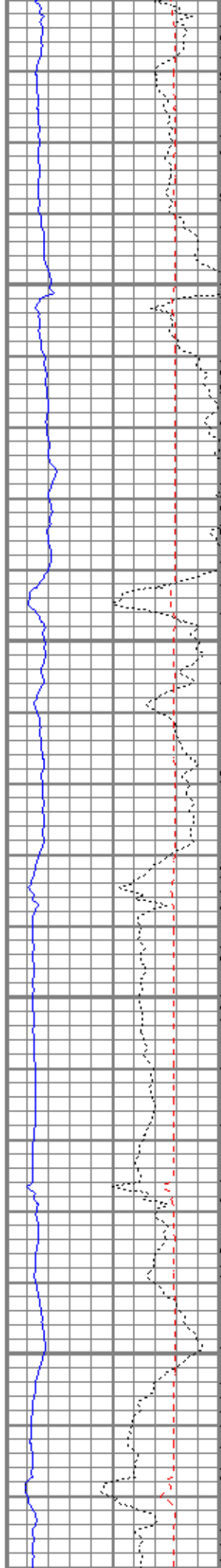




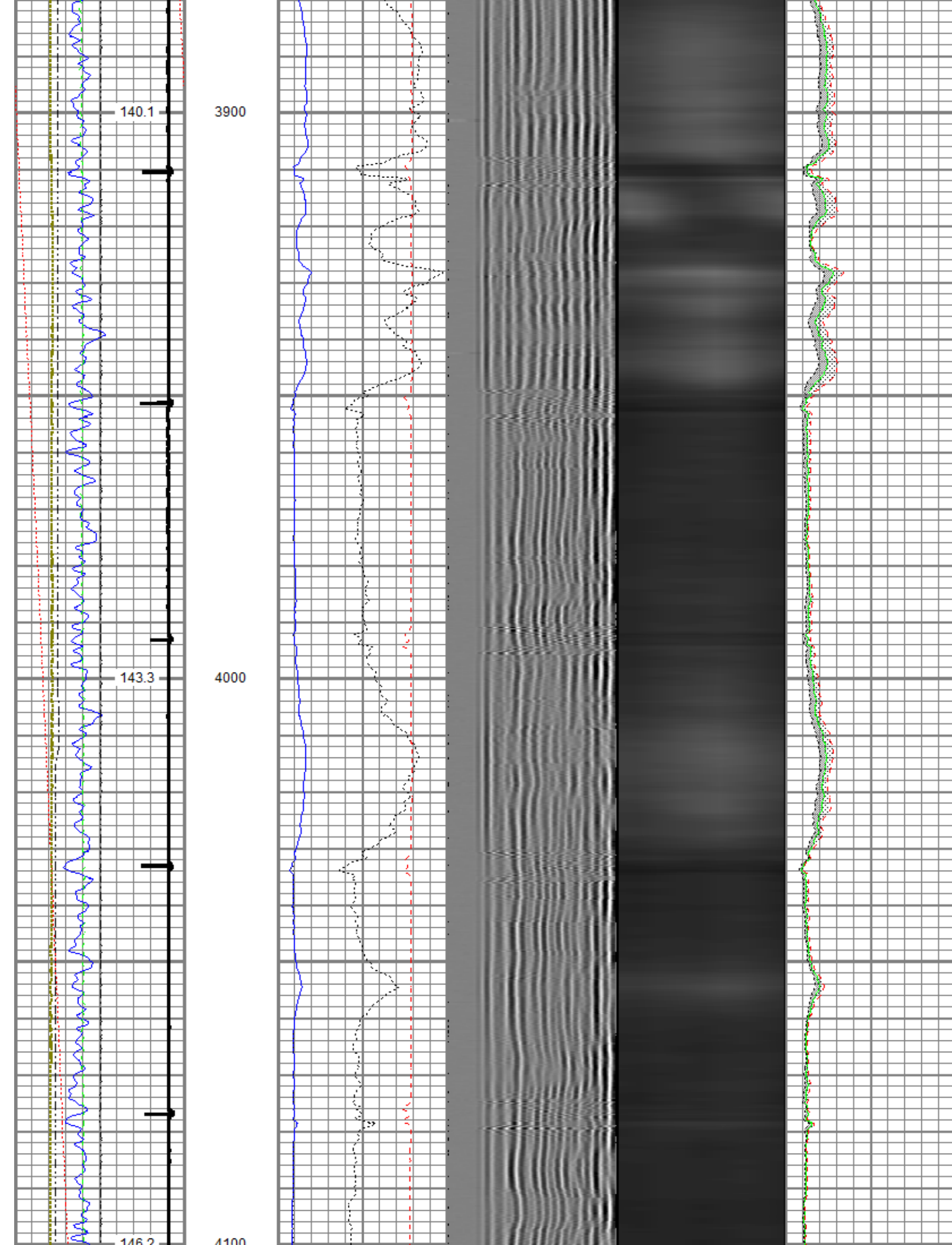


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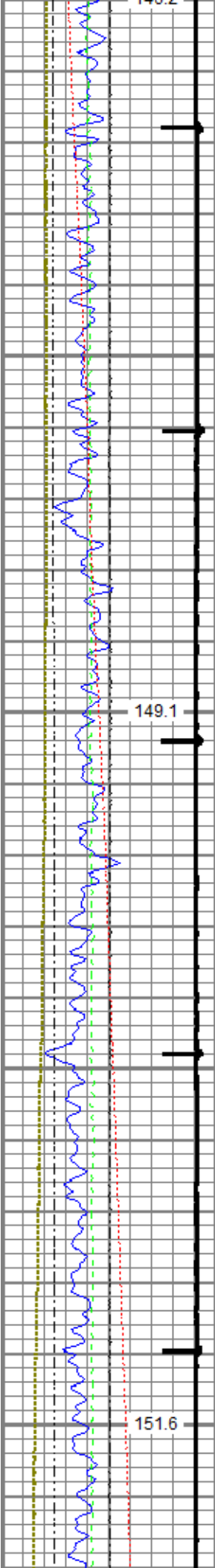
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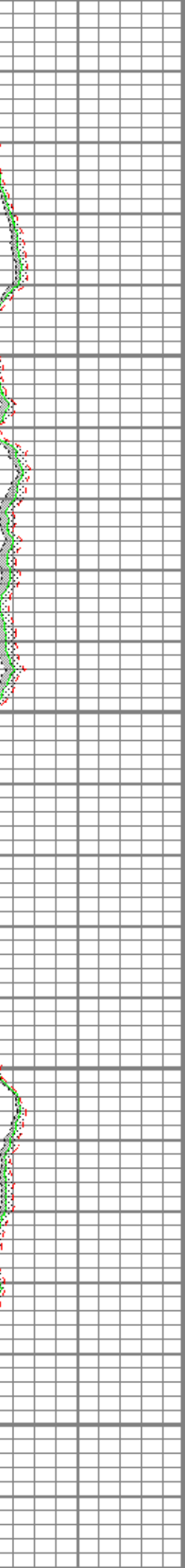
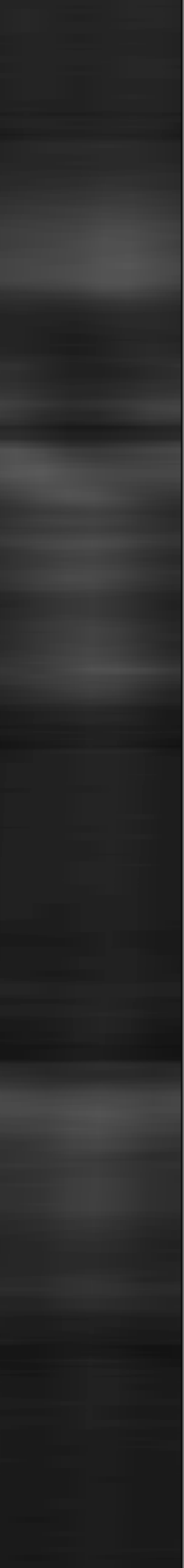
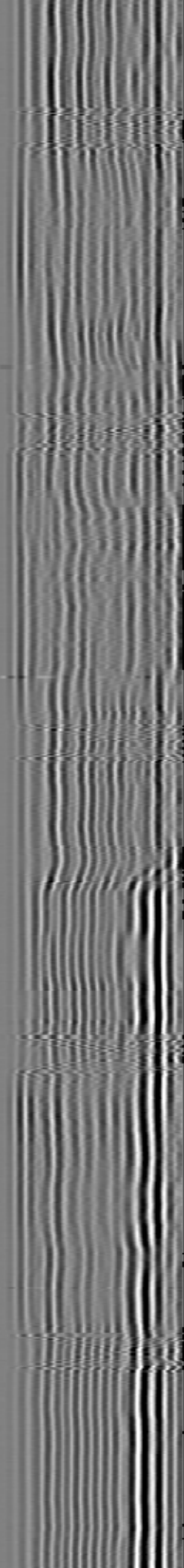
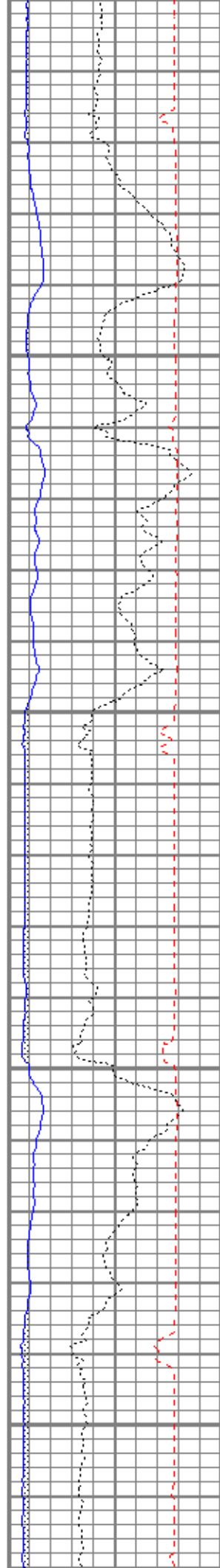


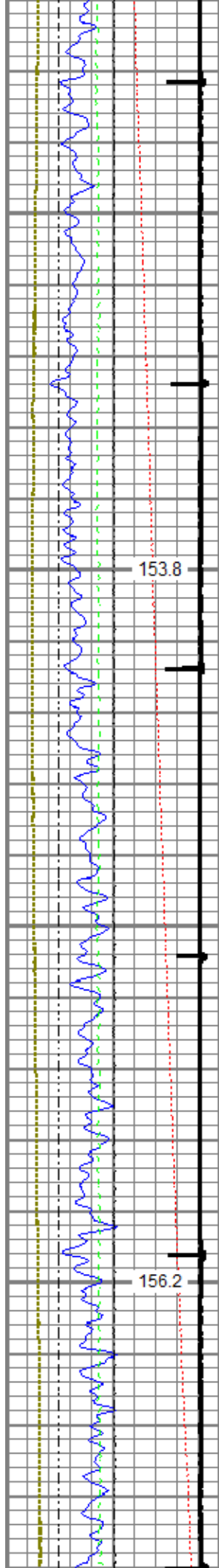






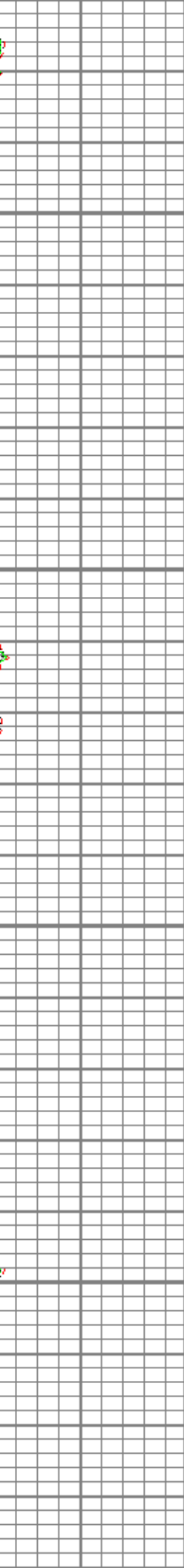
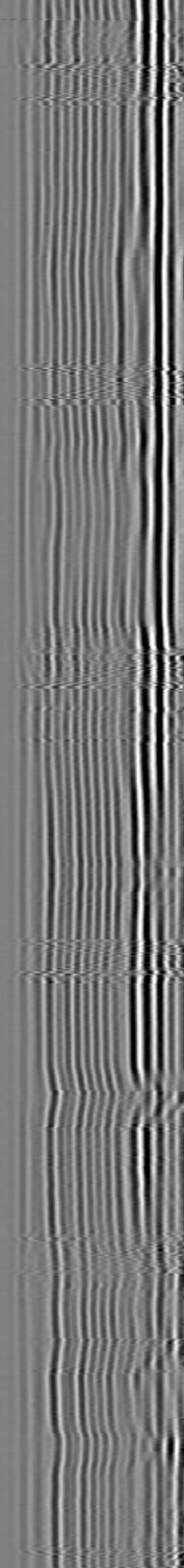
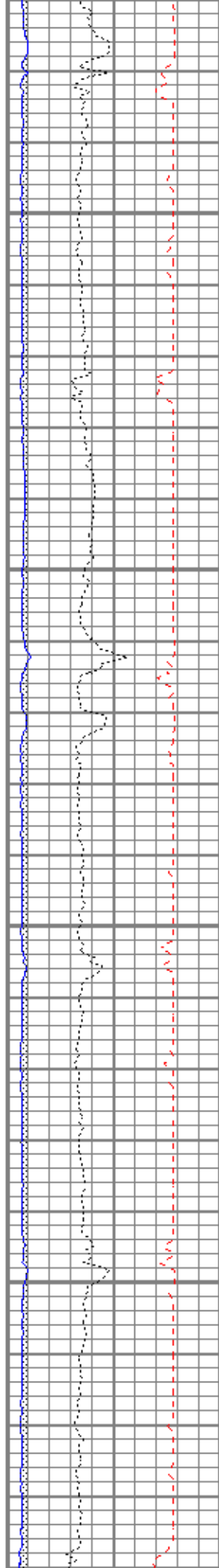
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4300

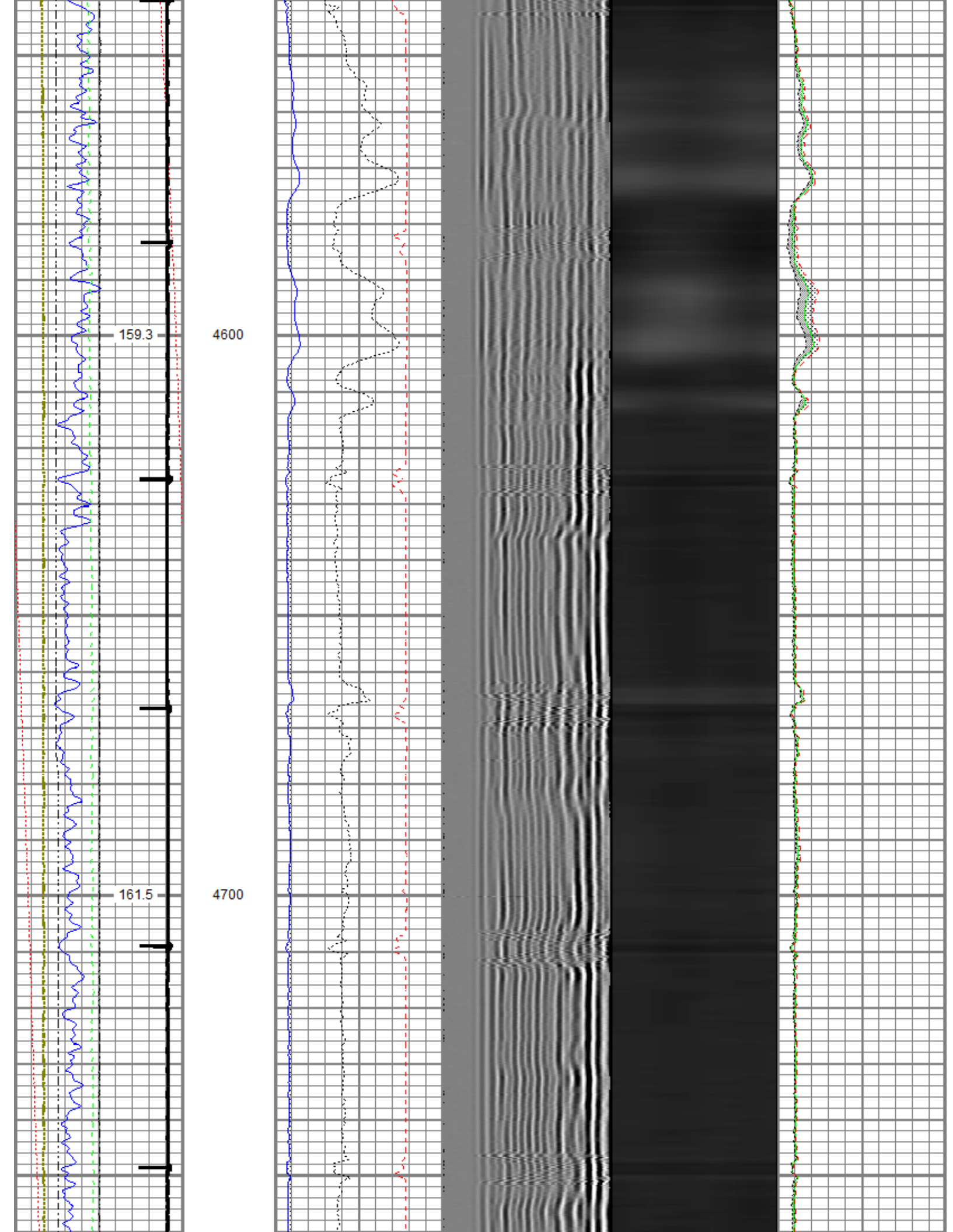


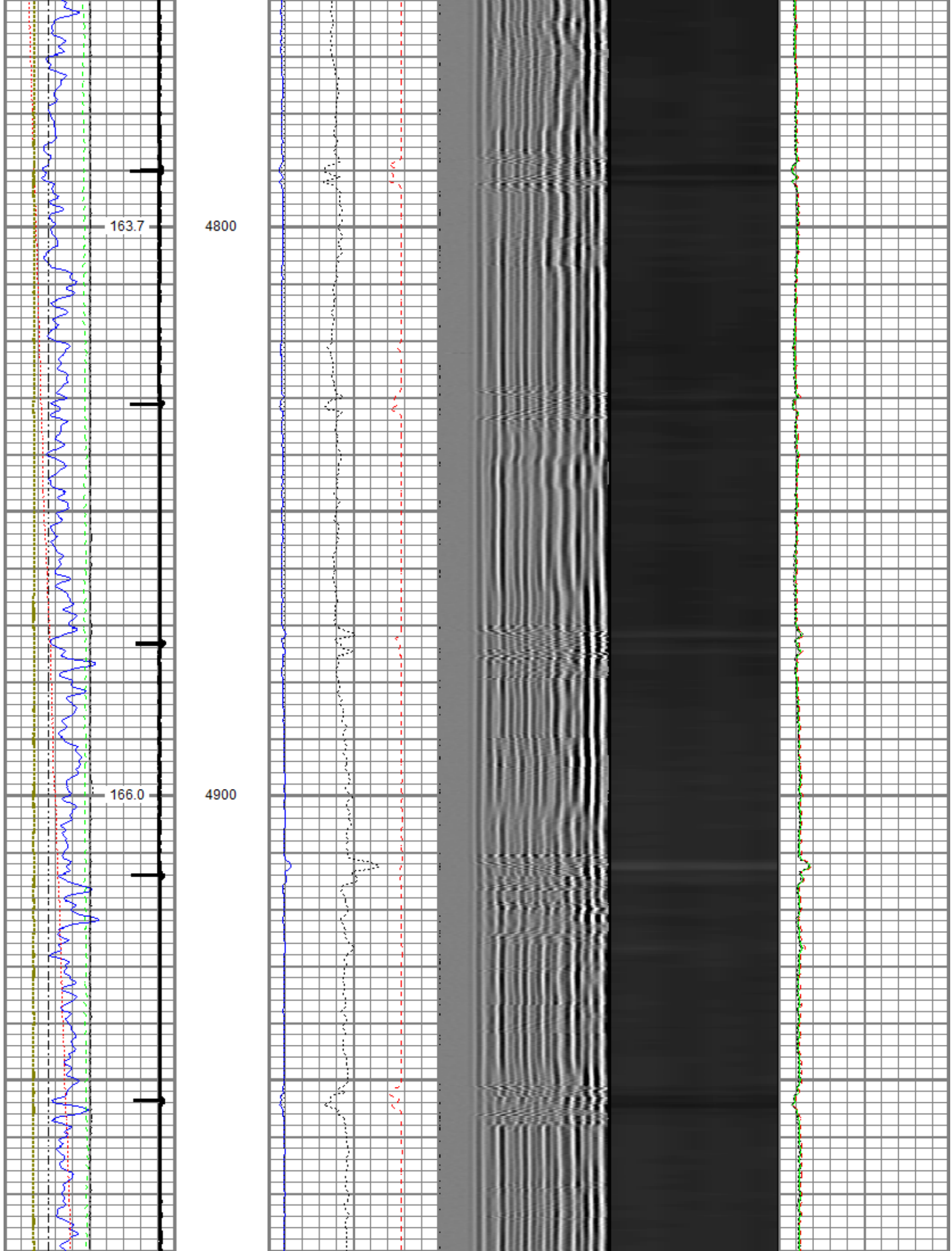


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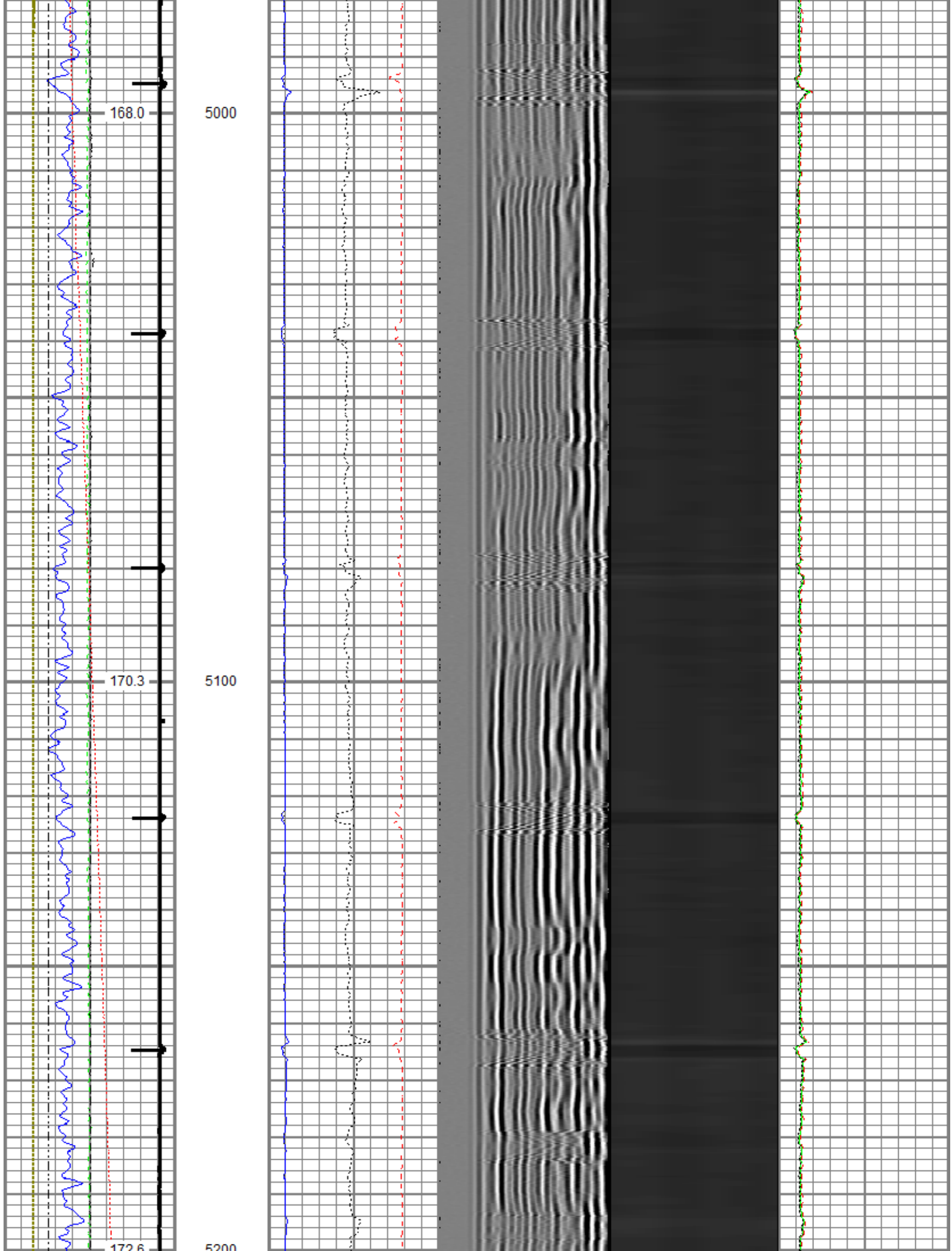
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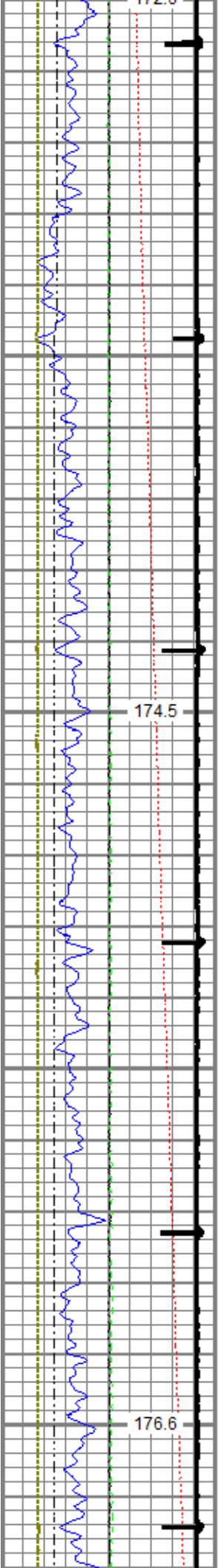






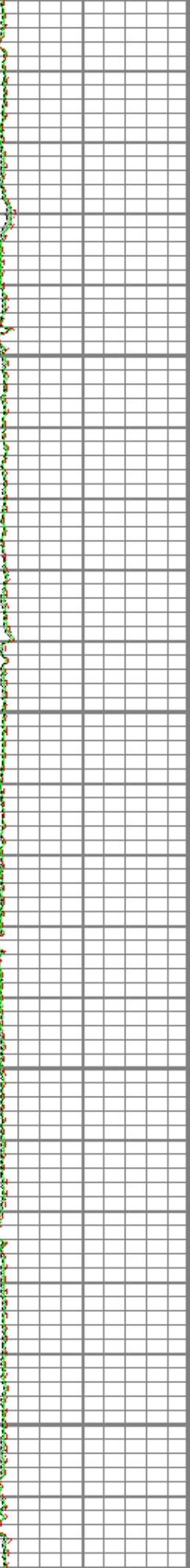
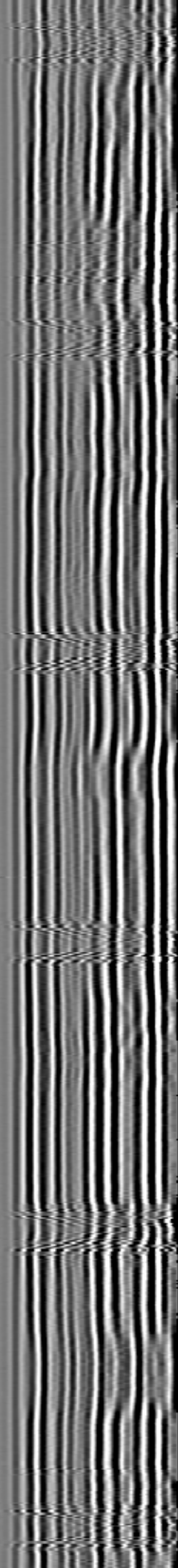
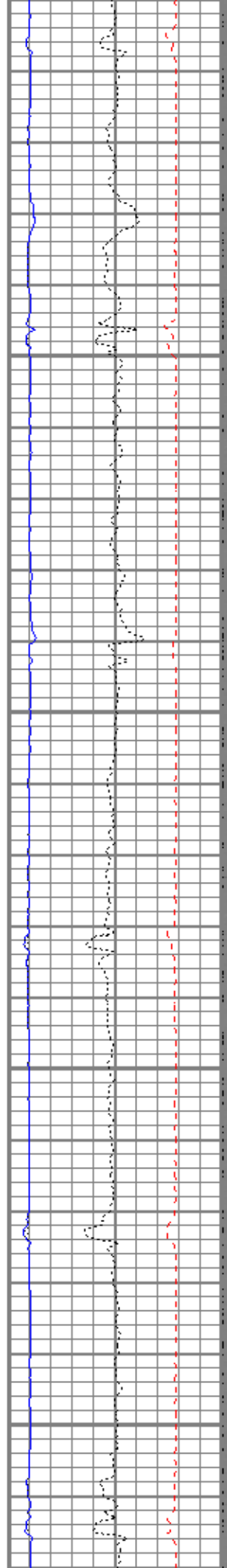


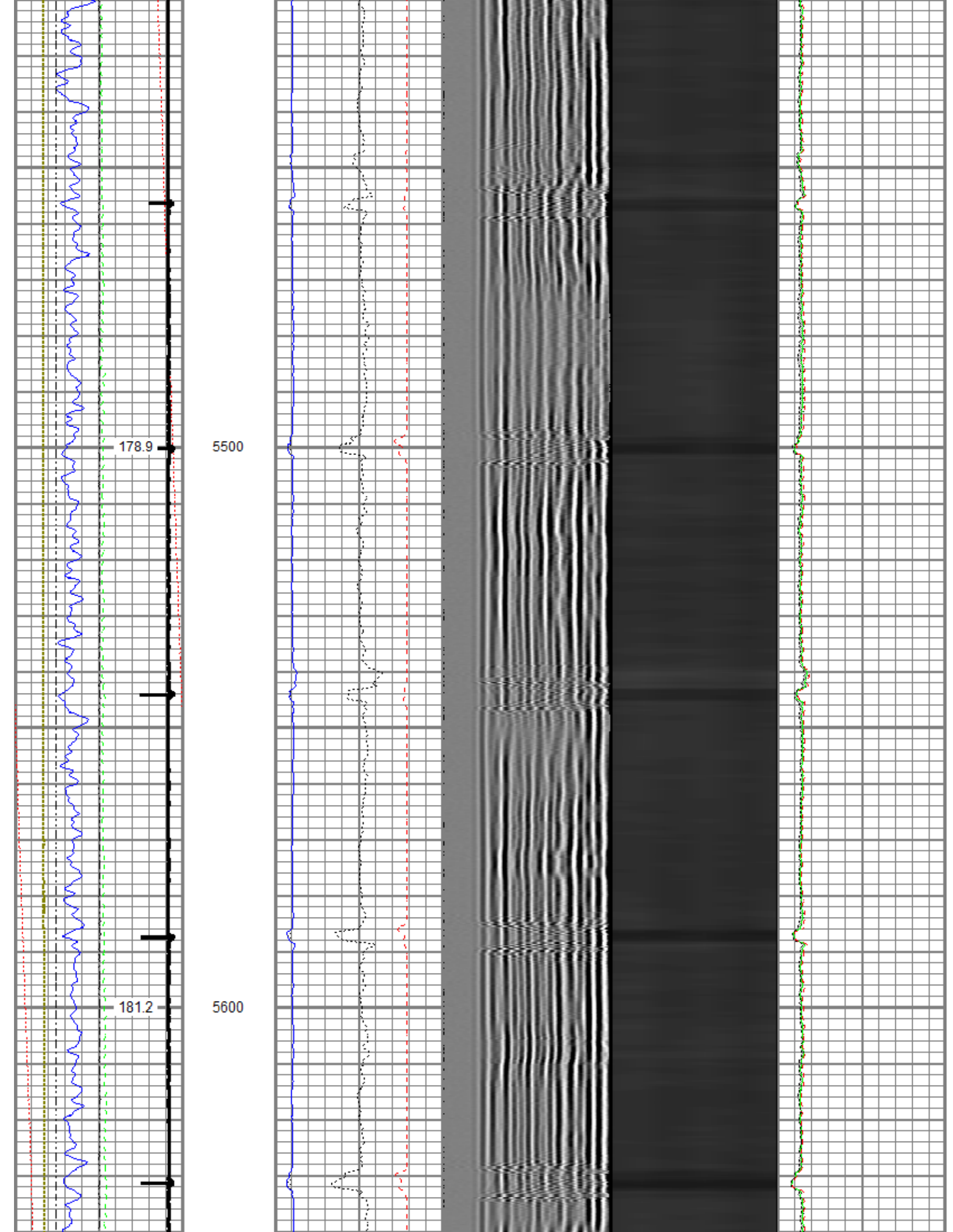


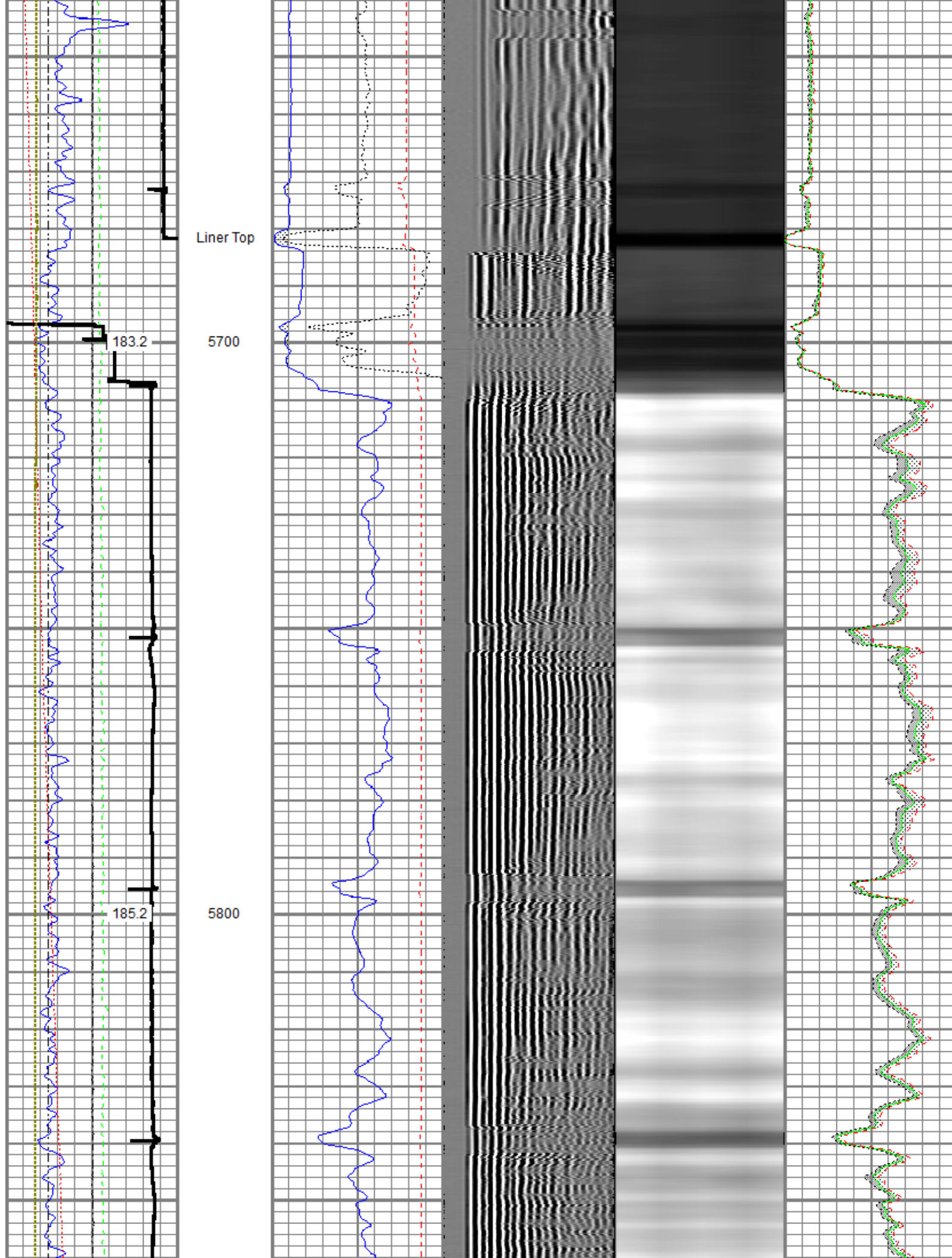


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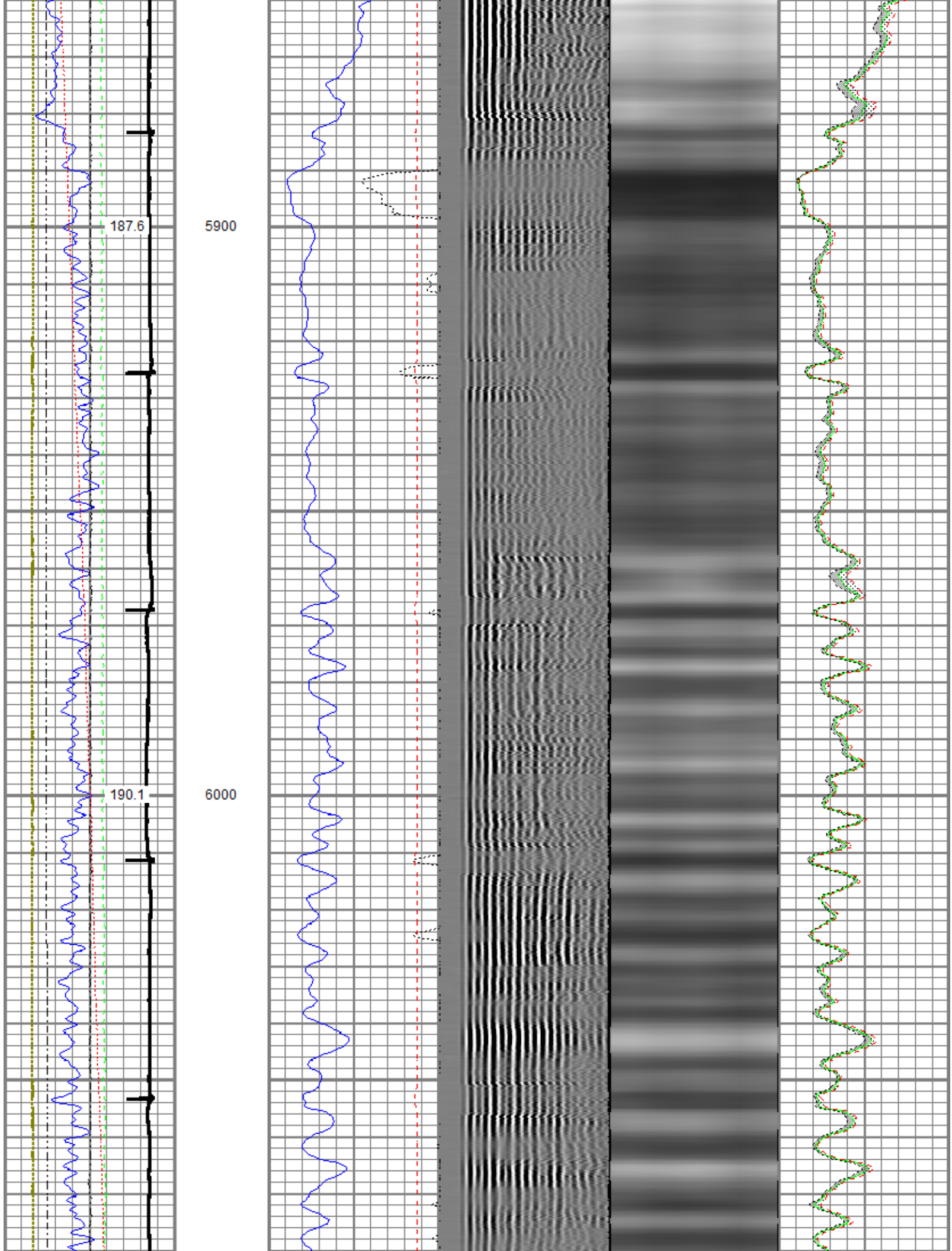
172.0  
174.5  
176.6

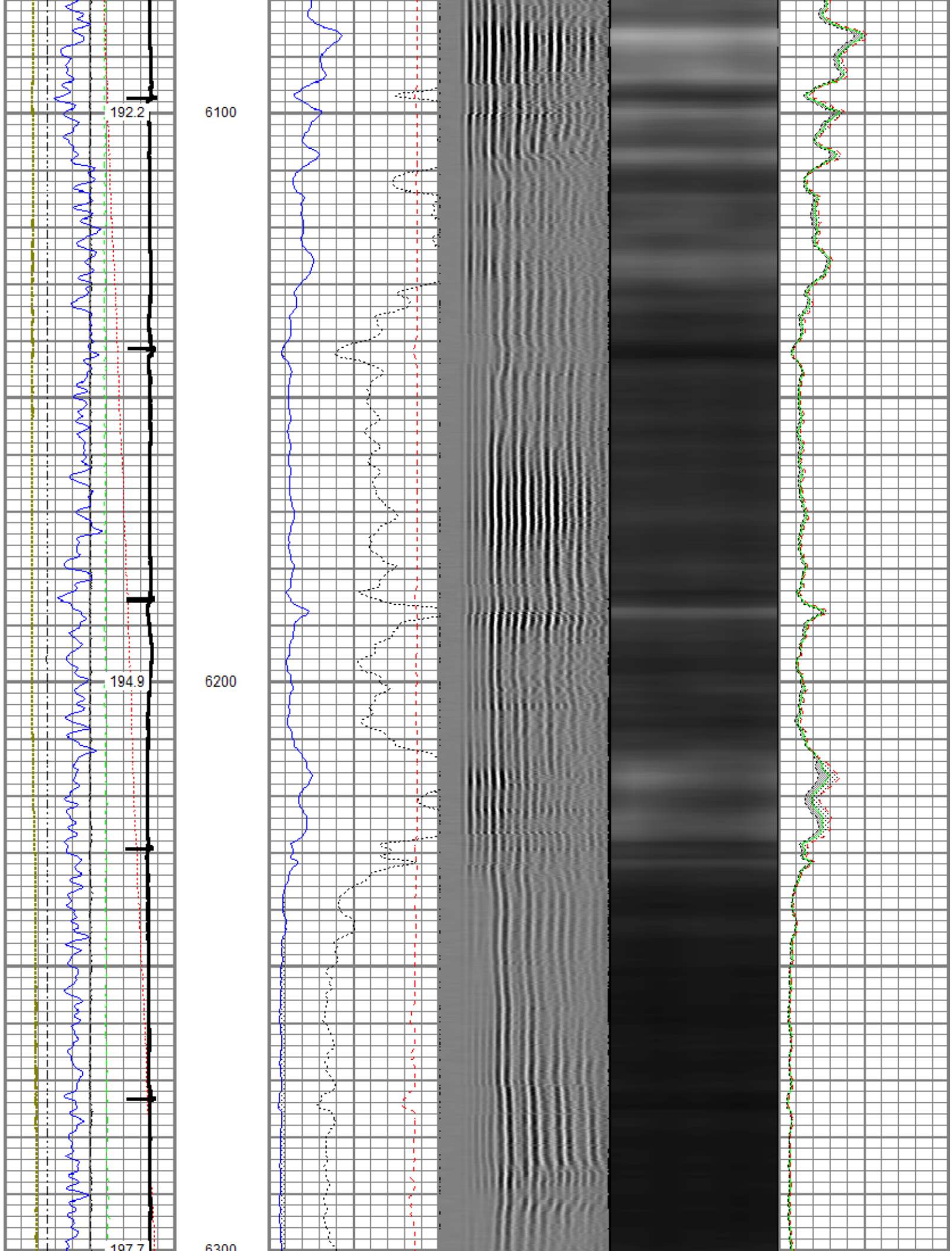


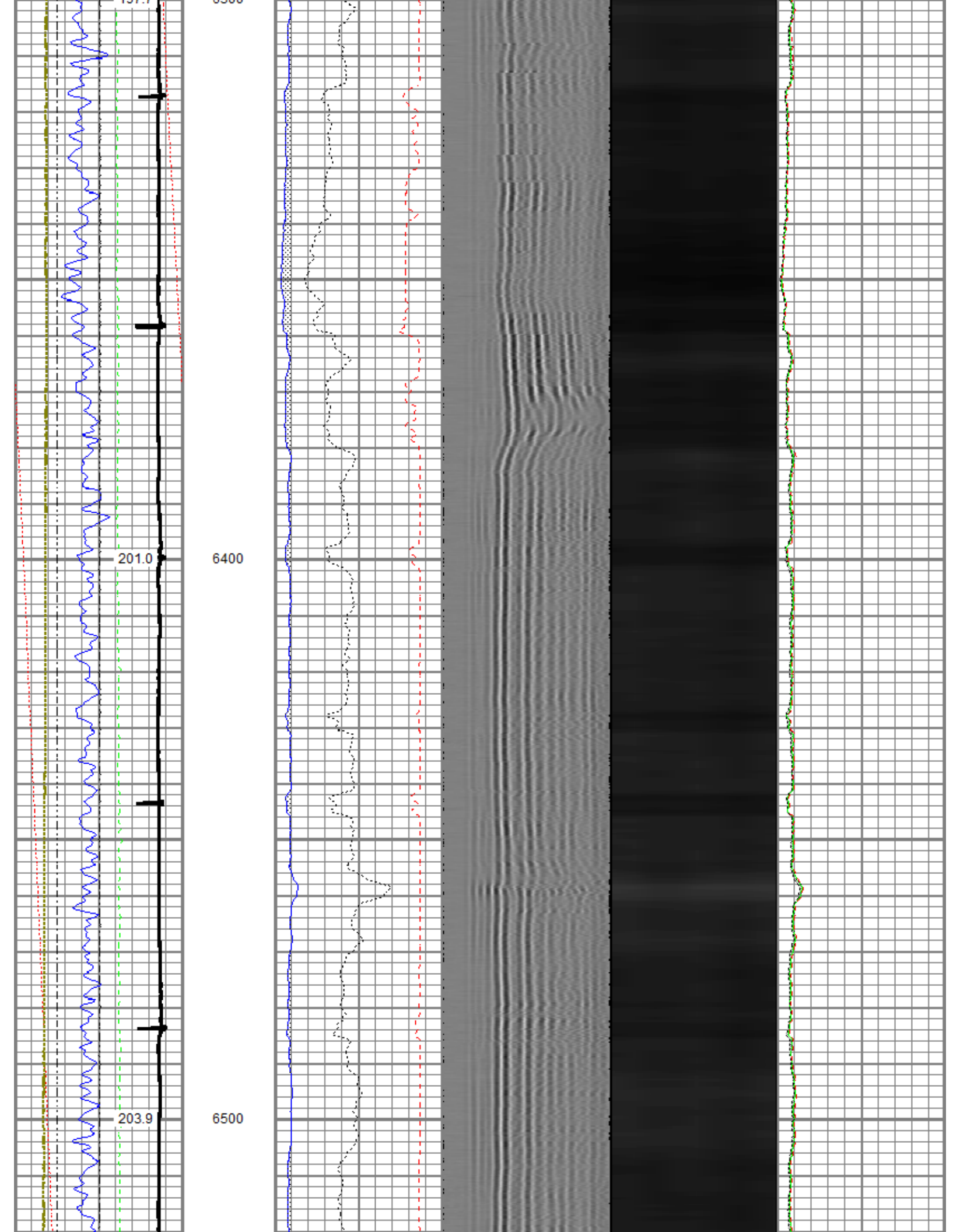


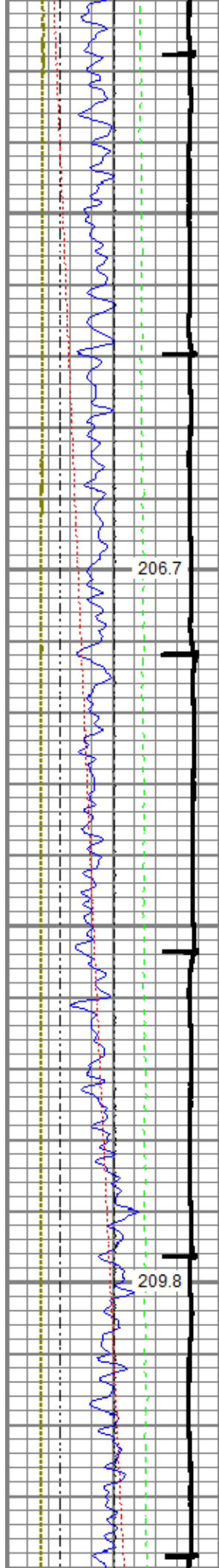






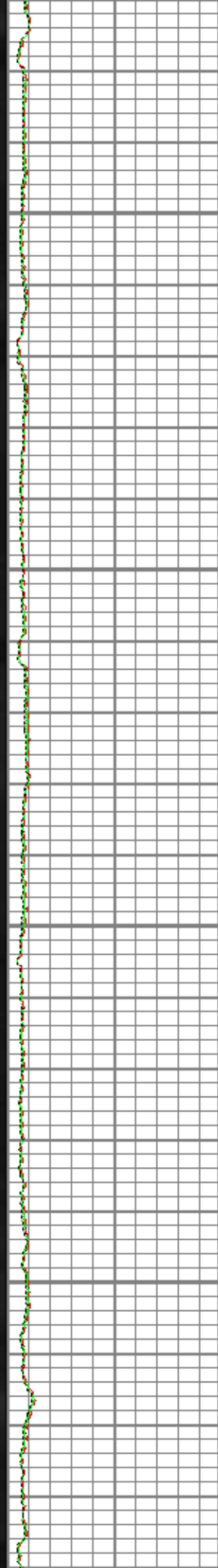
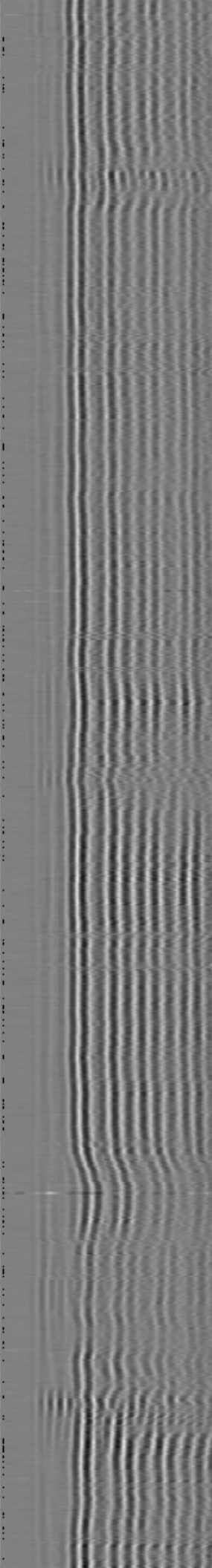
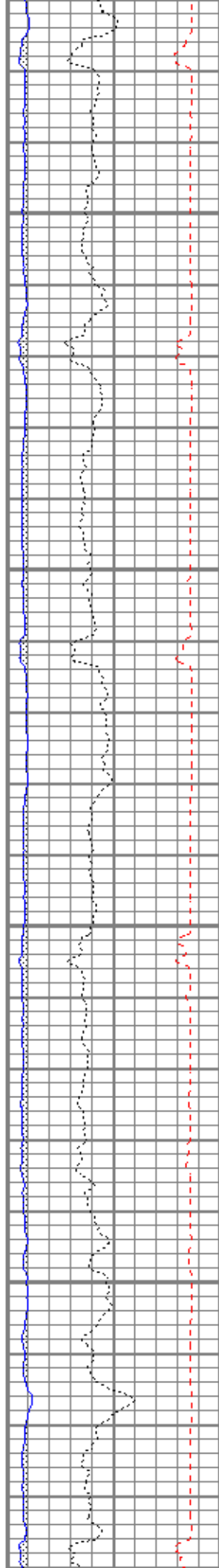




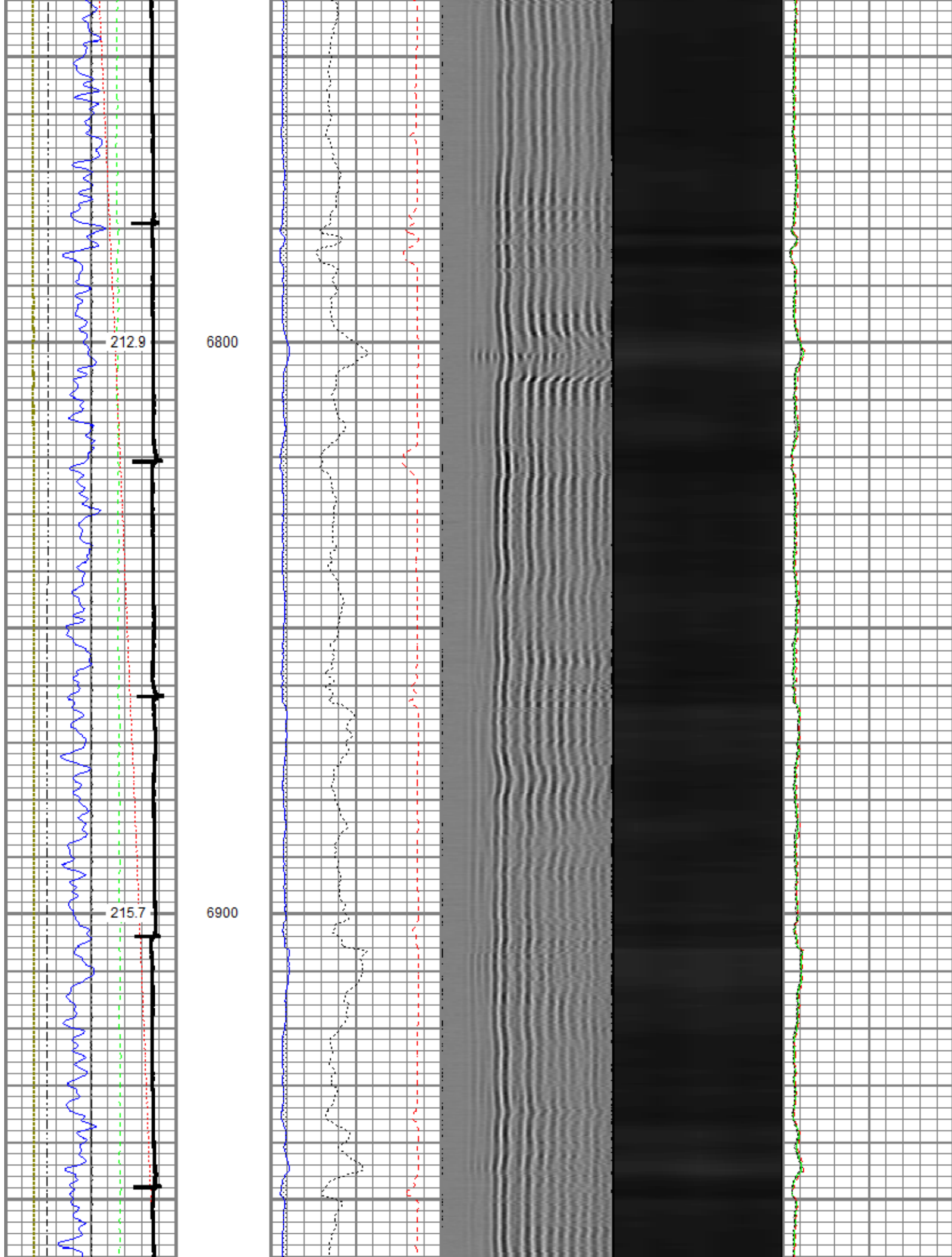


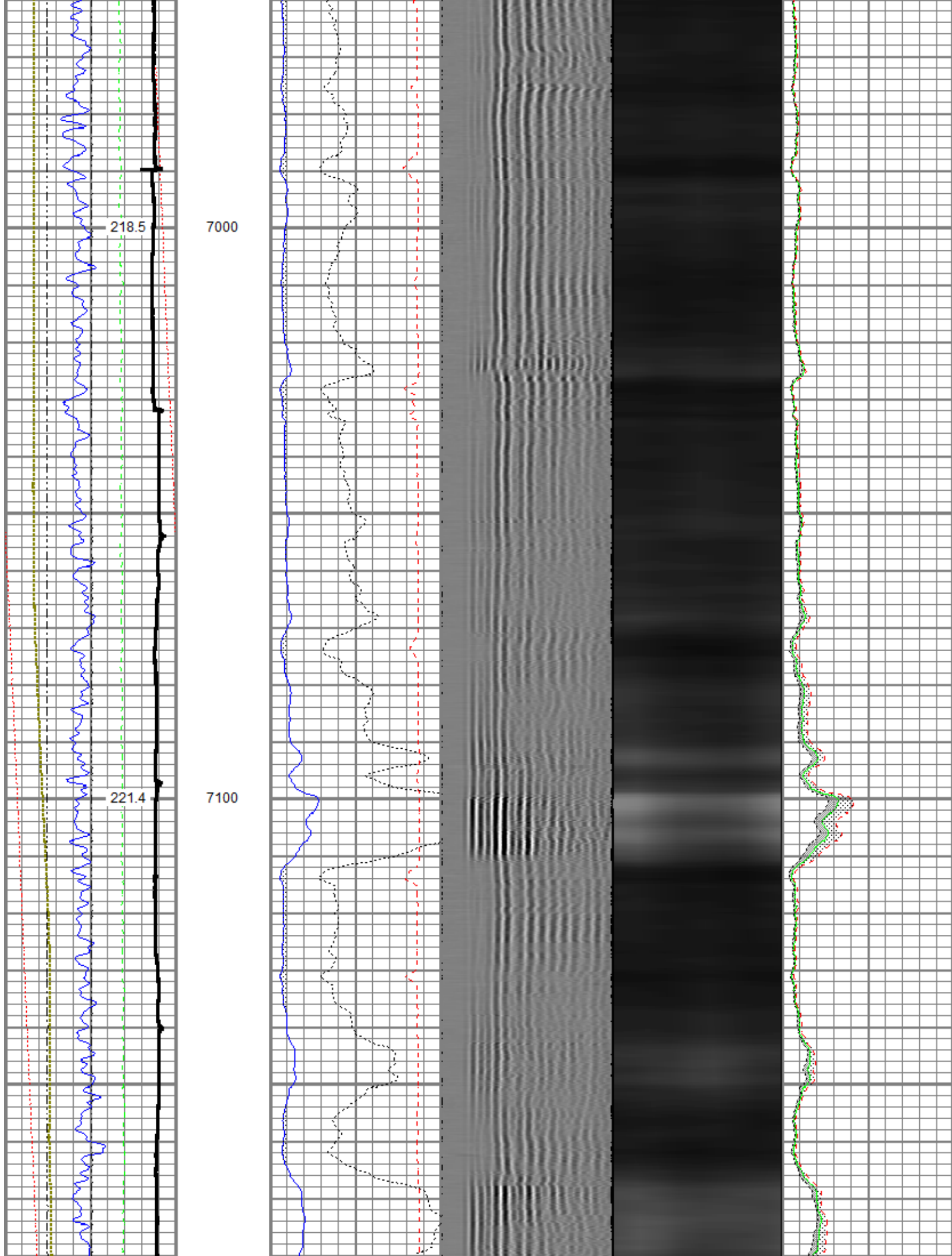
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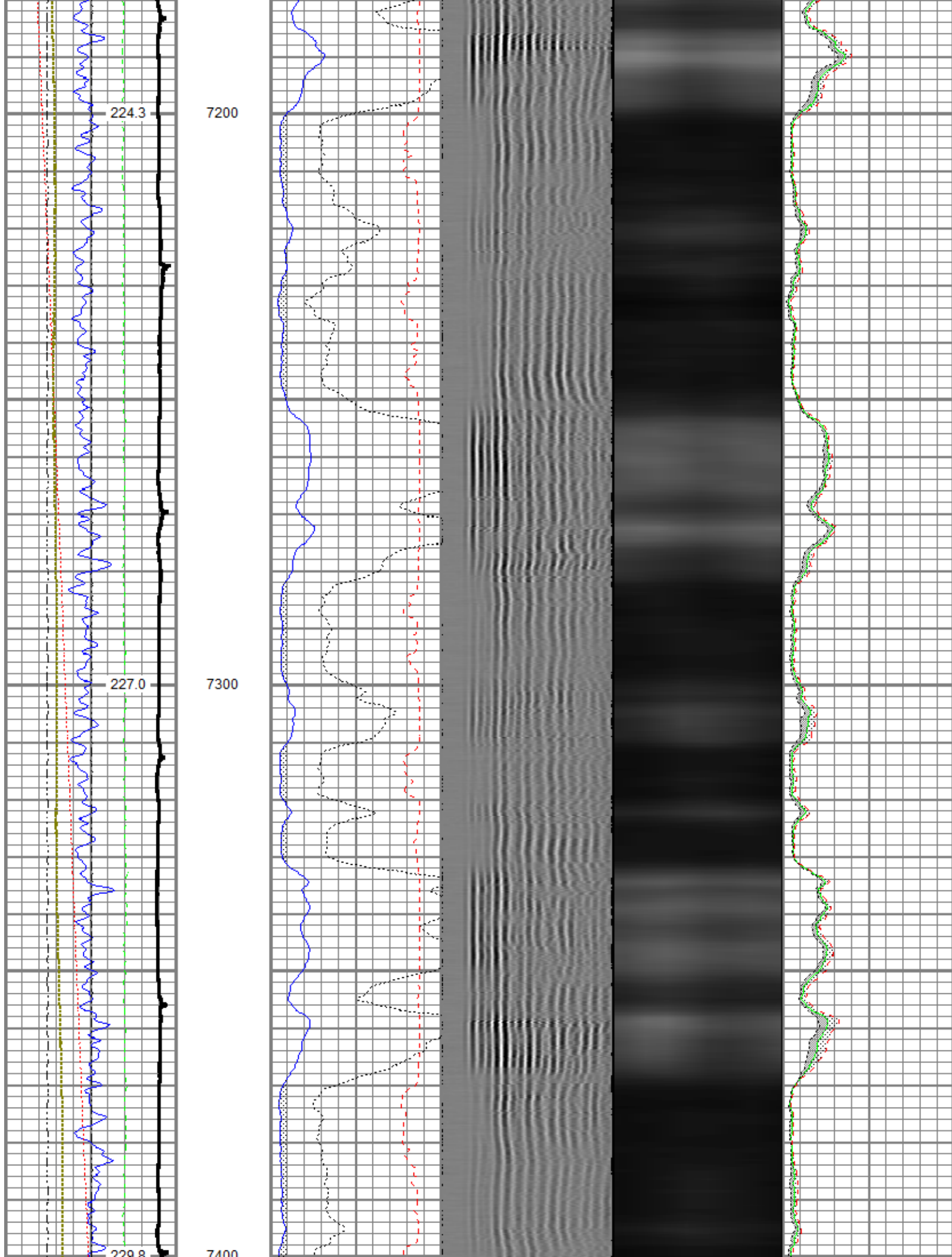
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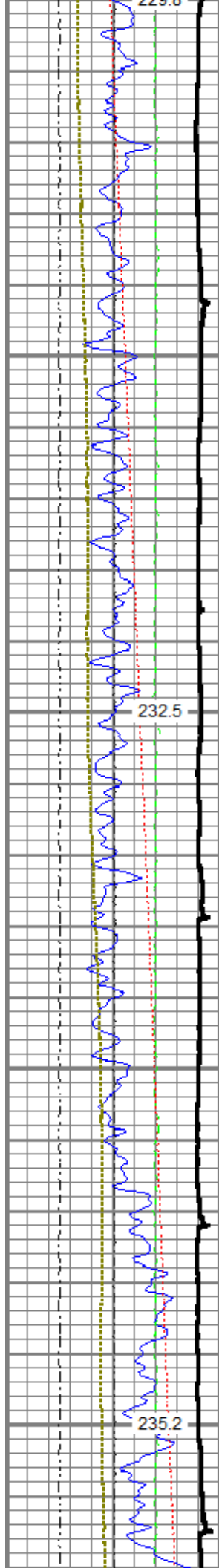








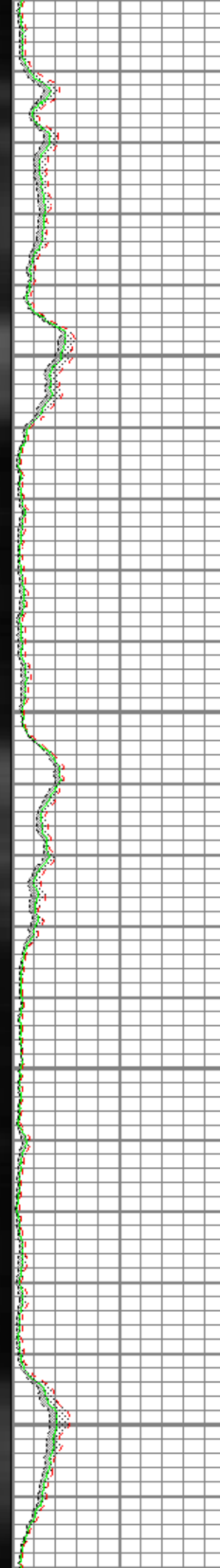
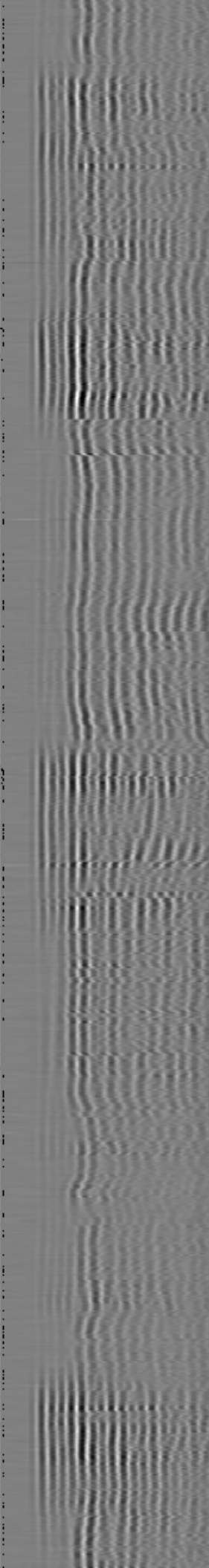
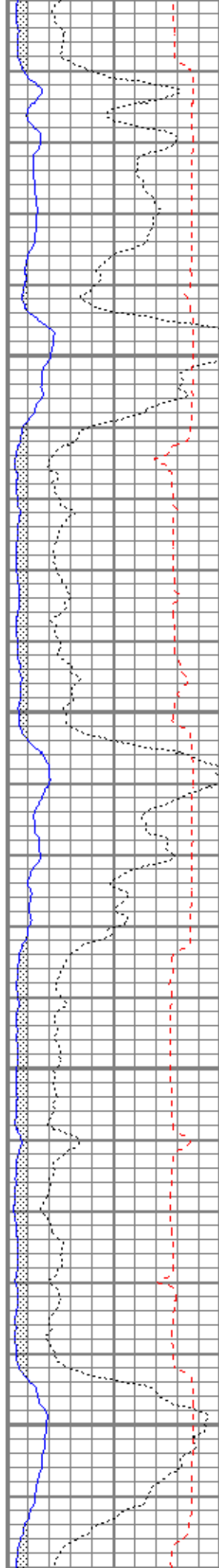




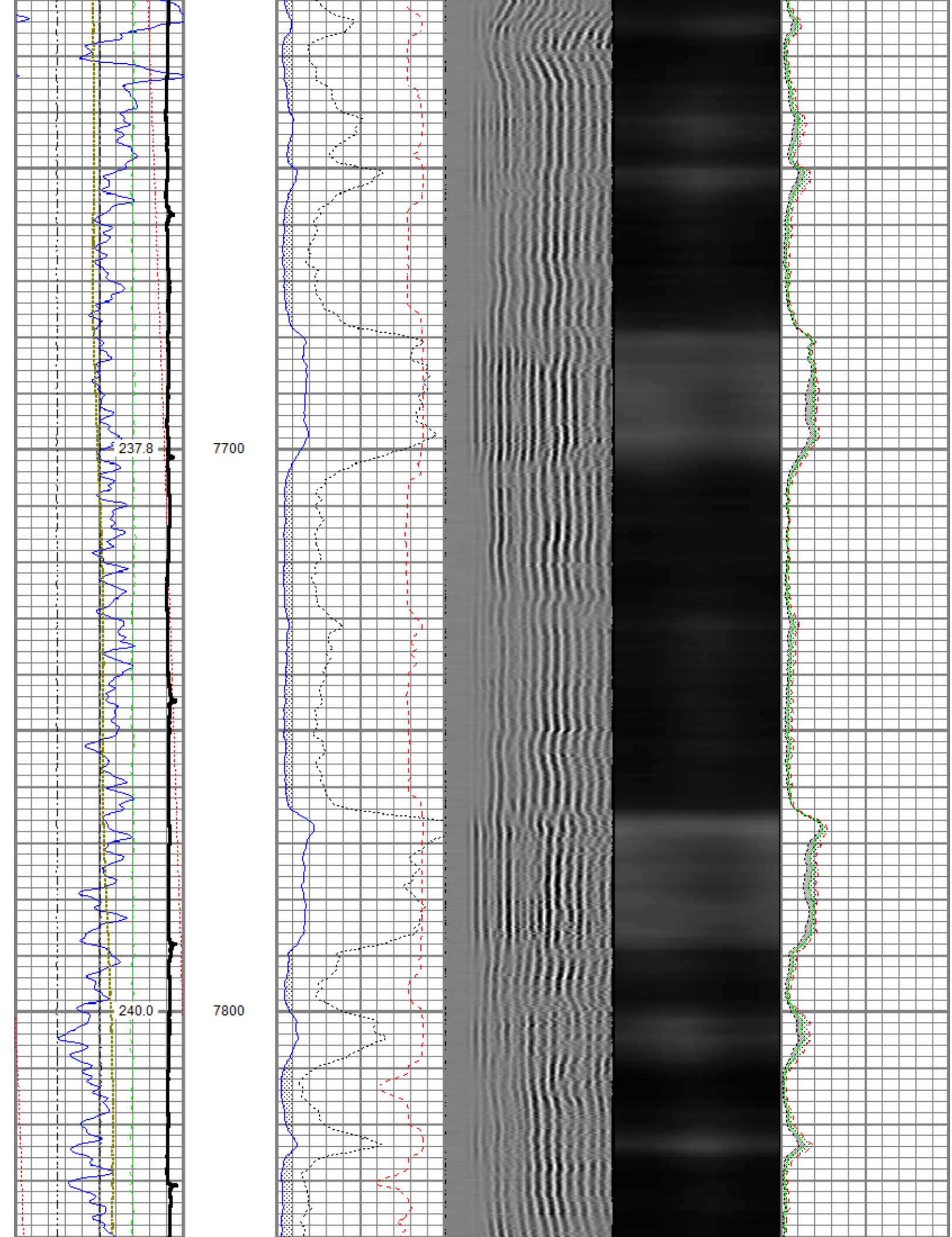
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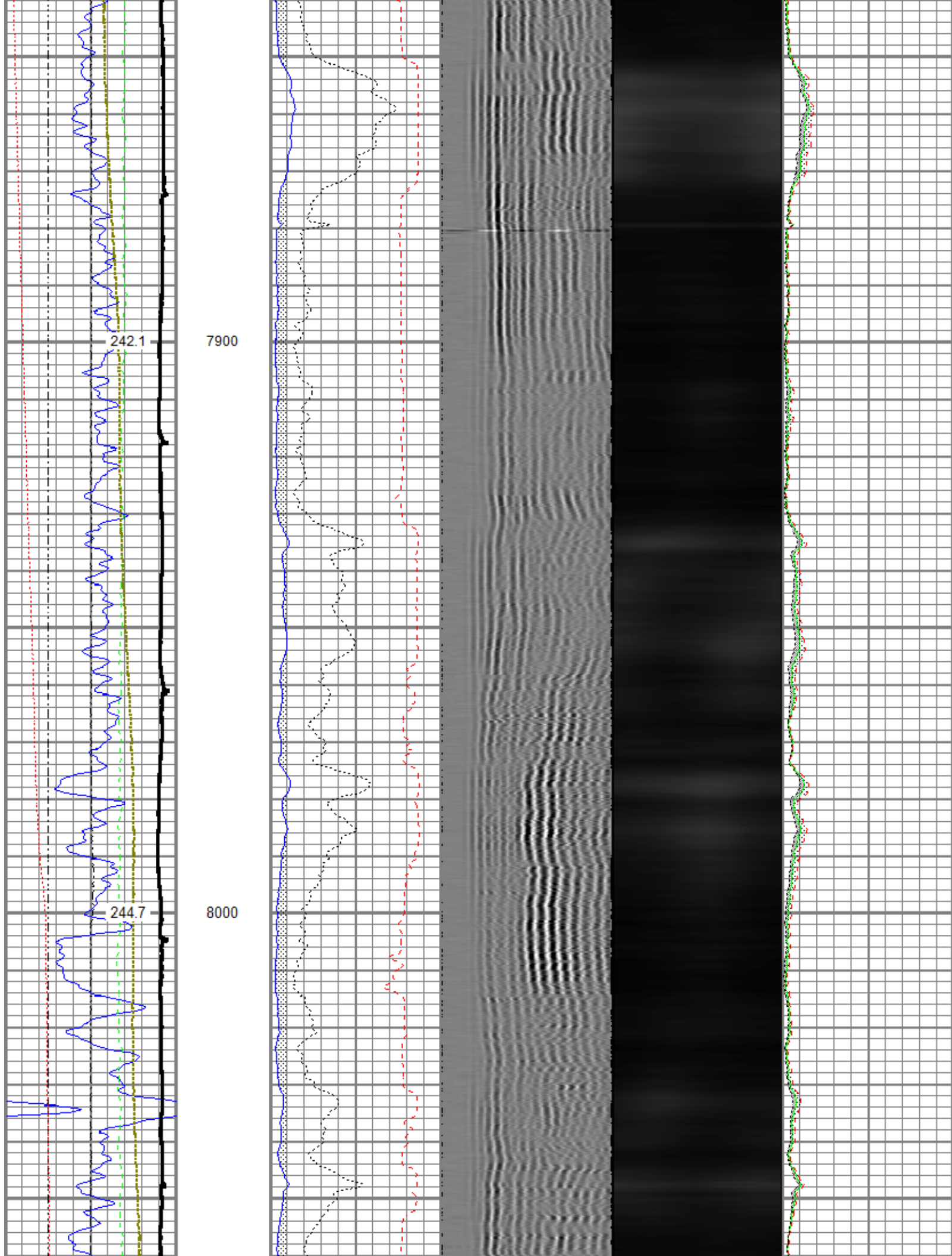
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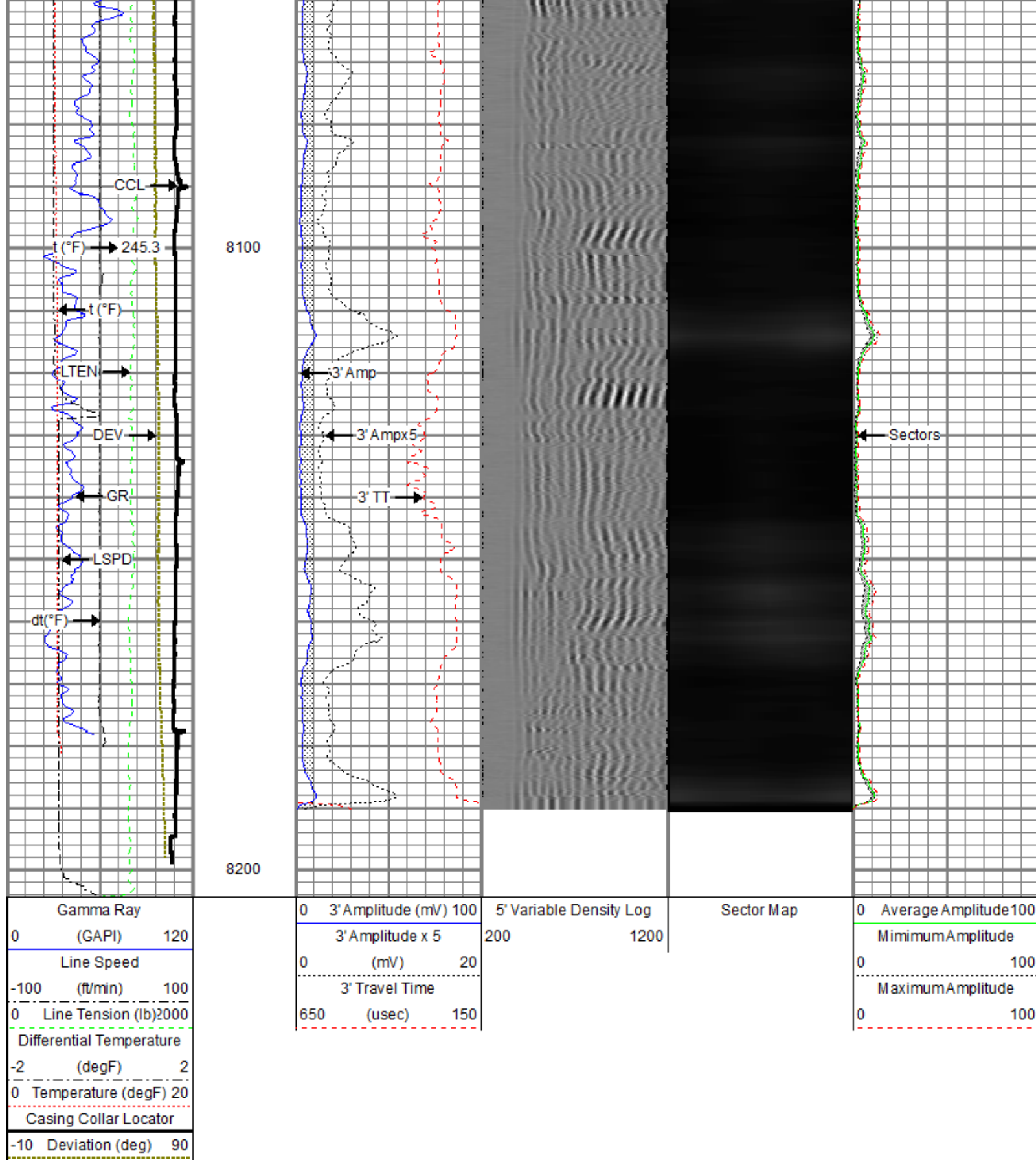
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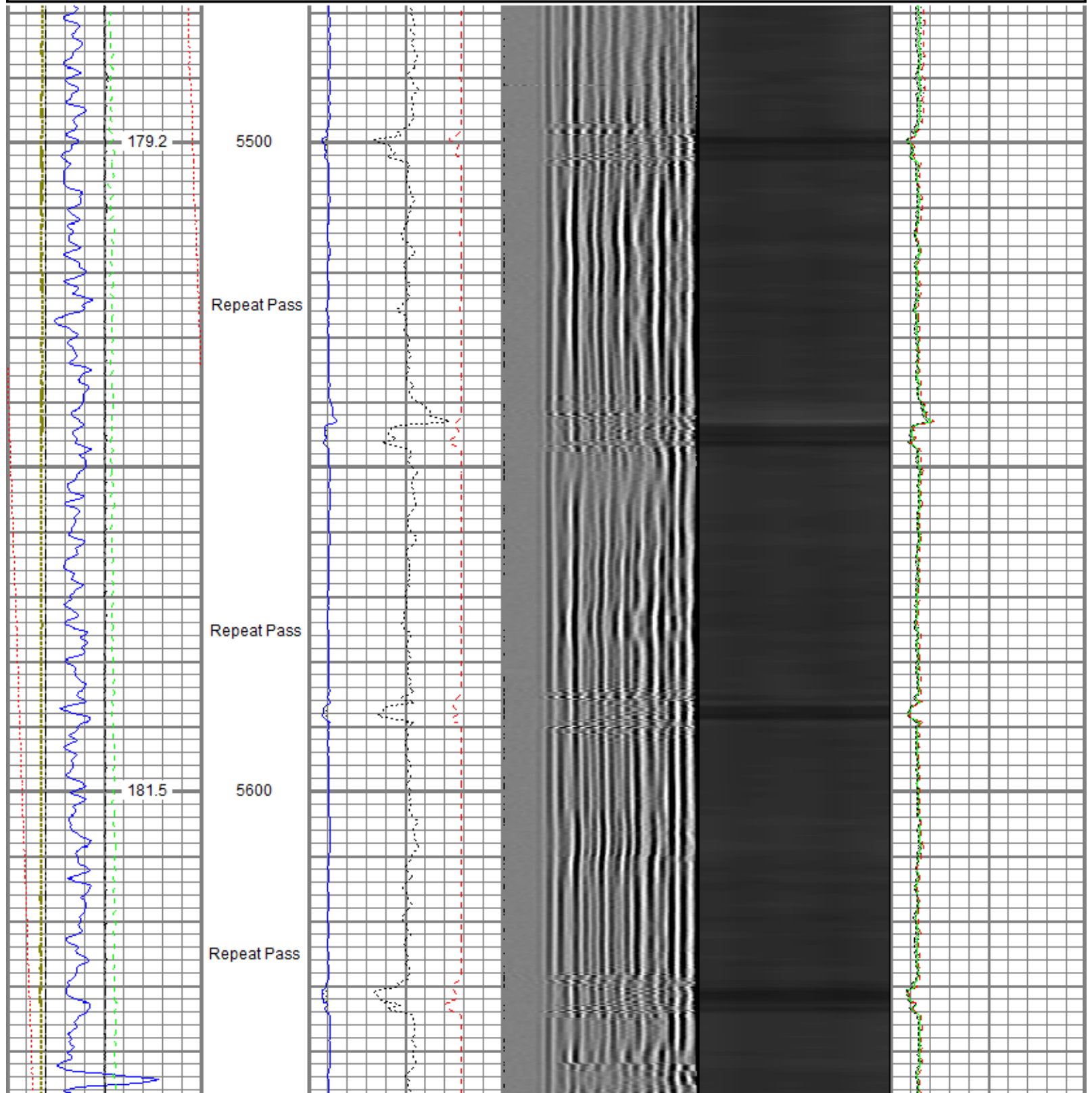




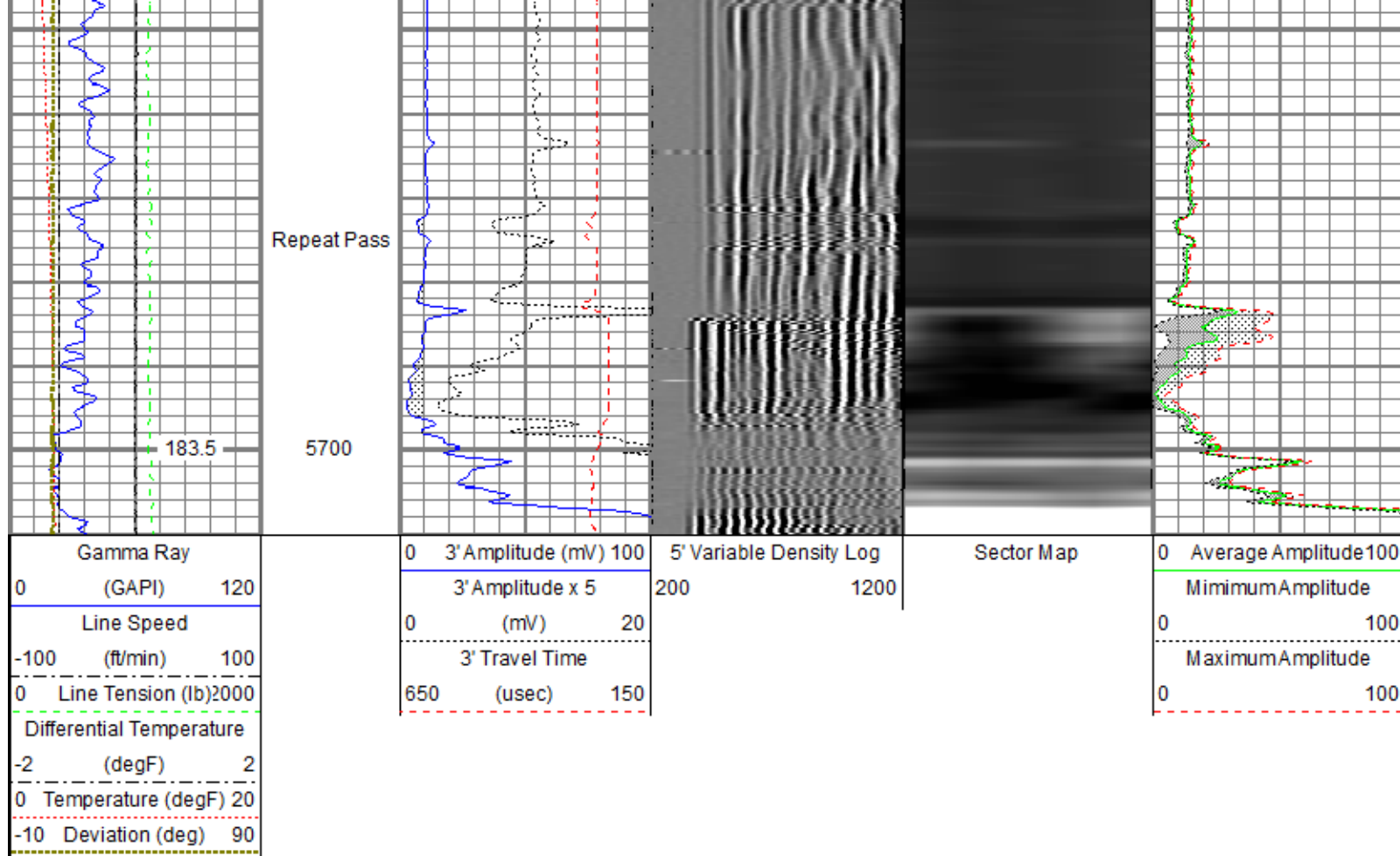
Repeat Pass

Recorded With 2800 PSI Surface Induced Pressure


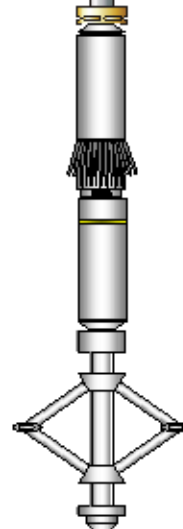
Gamma Ray		0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	0	Average Amplitude	100
0	(GAPI)	120	3' Amplitude x 5				200	1200	Minimum Amplitude
Line Speed		0	(mV)	20	200	1200	0	100	
-100	(ft/min)	100	3' Travel Time				Maximum Amplitude		
0	Line Tension (lb)	2000	650	(usec)	150	0	100		
Differential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







Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	23.58		Titan CHD-14375 GO	1.03	1.44	3.60
			Titan 1-7/16" Assembled Electric Cable Head w/ 1" Fishing Neck			
			UW AGS-001 (211461) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW XTU-002 (10017430) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW PGR-020 (211727) Production Gamma Ray	1.92	1.69	9.50
TEMP	22.18		UW PRT-016 (10025100) Platinum Resistance Thermometer	1.04	1.69	5.20
			UW CENT-DSS RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
CBLROT	15.15		UW RBT-004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.48	3.13	140.00
WVFS8	15.15					
WVFS7	15.15					
WVFS6	15.15					
WVFS5	15.15					

WVFS4	15.15		UW CENT-DSS RAC 5 Arm 2-3/4" Roller Centralizer	2.55	2.75	32.00
WVFS3	15.15					
WVFS2	15.15					
WVFS1	15.15					
WVF3FT	15.15					
WVF5FT	14.15					
CBLTEMP	10.02					
MIT	5.27		UW MIT-40 027 (211111) 40 Multifinger Imaging Tool	4.54	2.75	65.00
			UW CENT-PRC 057 4 Arm 2-3/4" Production Roller Centralizer	2.71	2.75	32.00
TSTAMP	0.00		UW BUL-006 (031422) Sondex Ultrawire Bullnose Terminator Sub	0.22	1.69	1.20
Dataset: 0512345498_Anadarko_Yellowhammer 34C-17HZ_RBL_02-18-18.db: field/well/run1/pass8.3 Total length: 27.83 ft Total weight: 328.00 lb O.D.: 3.13 in						

Calibration Report			
Database File	C:\ProgramData\Warrior\Data\Anadarko_Yellowhammer 34C-17HZ\0512345498_Anadarko_Yellowhammer 34C-17HZ_RBL_02		
Dataset Pathname	pass8.3		
Dataset Creation	Sun Feb 18 16:50:39 2018		
Multifinger Imaging Tool Calibration Report			
Serial Number:		211111	
Number of Fingers:		40	
Tool Model:		40 027	
Inclinometer Calibration Report			
Performed:		Mon Nov 18 15:31:59 2013	
Calibration Angle:		46	
		Inc X	Inc Y
Vertical:		1931	1952
Finger 1 up:		1959	2266
Finger 31 up:		1608	1962
Finger 21 up:		1927	1623
Finger 11 up:		2253	1930
Sensitivity ratio:	1.0031		
X-axis angle:	272.845		
Deviation const.:	311.818		

Finger Calibration Report						
	Performed: Sun Feb 18 11:10:31 2018					
Ring size:	4	5	6	7		
(in)	Sens	Sens	Sens			
Finger 01:	962	1349	1762	2192		
Finger 02:	1056	1447	1850	2266		
Finger 03:	1091	1473	1874	2280		
Finger 04:	1037	1424	1829	2244		
Finger 05:	1060	1446	1846	2251		

Finger 06:	1046	398.0	1444	408.0	1852	419.0	2271
Finger 07:	1166	356.0	1522	368.0	1890	383.0	2273
Finger 08:	1077	379.0	1456	401.0	1857	417.0	2274
Finger 09:	1049	389.0	1438	402.0	1840	416.0	2256
Finger 10:	1100	334.0	1434	345.0	1779	358.0	2137
Finger 11:	1075	390.0	1465	398.0	1863	415.0	2278
Finger 12:	1214	396.0	1610	403.0	2013	416.0	2429
Finger 13:	1164	361.0	1525	379.0	1904	403.0	2307
Finger 14:	1248	343.0	1591	349.0	1940	368.0	2308
Finger 15:	1119	405.0	1524	409.0	1933	428.0	2361
Finger 16:	1186	372.0	1558	390.0	1948	397.0	2345
Finger 17:	1133	381.0	1514	405.0	1919	428.0	2347
Finger 18:	1100	384.0	1484	406.0	1890	436.0	2326
Finger 19:	1119	386.0	1505	409.0	1914	439.0	2353
Finger 20:	1174	370.0	1544	389.0	1933	415.0	2348
Finger 21:	1181	382.0	1563	405.0	1968	433.0	2401
Finger 22:	1113	379.0	1492	403.0	1895	431.0	2326
Finger 23:	909	354.0	1263	398.0	1661	442.0	2103
Finger 24:	1185	369.0	1554	391.0	1945	412.0	2357
Finger 25:	1411	398.0	1809	414.0	2223	436.0	2659
Finger 26:	1217	336.0	1553	359.0	1912	392.0	2304
Finger 27:	1312	366.0	1678	388.0	2066	410.0	2476
Finger 28:	1126	373.0	1499	399.0	1898	427.0	2325
Finger 29:	1377	348.0	1725	360.0	2085	368.0	2453
Finger 30:	1228	351.0	1579	374.0	1953	387.0	2340
Finger 31:	1277	351.0	1628	366.0	1994	381.0	2375
Finger 32:	1264	349.0	1613	368.0	1981	369.0	2350
Finger 33:	1016	328.0	1344	359.0	1703	386.0	2089
Finger 34:	1124	356.0	1480	378.0	1858	385.0	2243
Finger 35:	1321	359.0	1680	356.0	2036	376.0	2412
Finger 36:	1424	420.0	1844	427.0	2271	425.0	2696
Finger 37:	1104	353.0	1457	373.0	1830	392.0	2222
Finger 38:	1430	395.0	1825	397.0	2222	396.0	2618
Finger 39:	1222	360.0	1582	364.0	1946	371.0	2317
Finger 40:	1046	386.0	1432	403.0	1835	411.0	2246

Segmented Cement Bond Log Calibration Report						
Serial Number:		10013454				
Tool Model:		004				
Calibration Casing Diameter:		7.000	in			
Calibration Depth:		-23.563	ft			
Master Calibration, performed (Derived):						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.002	0.712	0.800	62.165	85.886	0.979
5FT	-0.002	0.882	0.800	62.165	69.388	0.968
S1	-0.001	0.750	0.000	100.000	133.155	0.118
S2	-0.001	0.730	0.000	100.000	136.738	0.144
S3	-0.001	0.741	0.000	100.000	134.716	0.179
S4	-0.000	0.789	0.000	100.000	126.724	0.031
S5	-0.001	0.784	0.000	100.000	127.444	0.098
S6	-0.004	0.764	0.000	100.000	130.183	0.540
S7	-0.002	0.760	0.000	100.000	131.308	0.265
S8	-0.000	0.779	0.000	100.000	128.377	0.019

Temperature Calibration Report				
Serial Number:		10025100		
Tool Model:		016		
Performed:		Sun Nov 12 14:30:03 2017		
Point #	Reading	Reference		
1	13249.00	cps	68.00	degF
2	18454.00	cps	104.00	degF
3	29735.00	cps	176.00	degF

4	41457.00	cps	248.00	degF
5	52851.00	cps	320.00	degF
6	59128.00	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:	020	
Performed:	Sun Nov 12 06:37:04 2017	
Calibrator Value:	637.0	GAPI
Background Reading:	78.8	cps
Calibrator Reading:	1069.9	cps
Sensitivity:	0.6427	GAPI/cps



<b>Company</b>	Kerr-McGee Oil & Gas Onshore, L.P.
<b>Well</b>	Yellowhammer 34C-17HZ
<b>Field</b>	Wattenberg
<b>County</b>	Weld
<b>State</b>	Colorado