

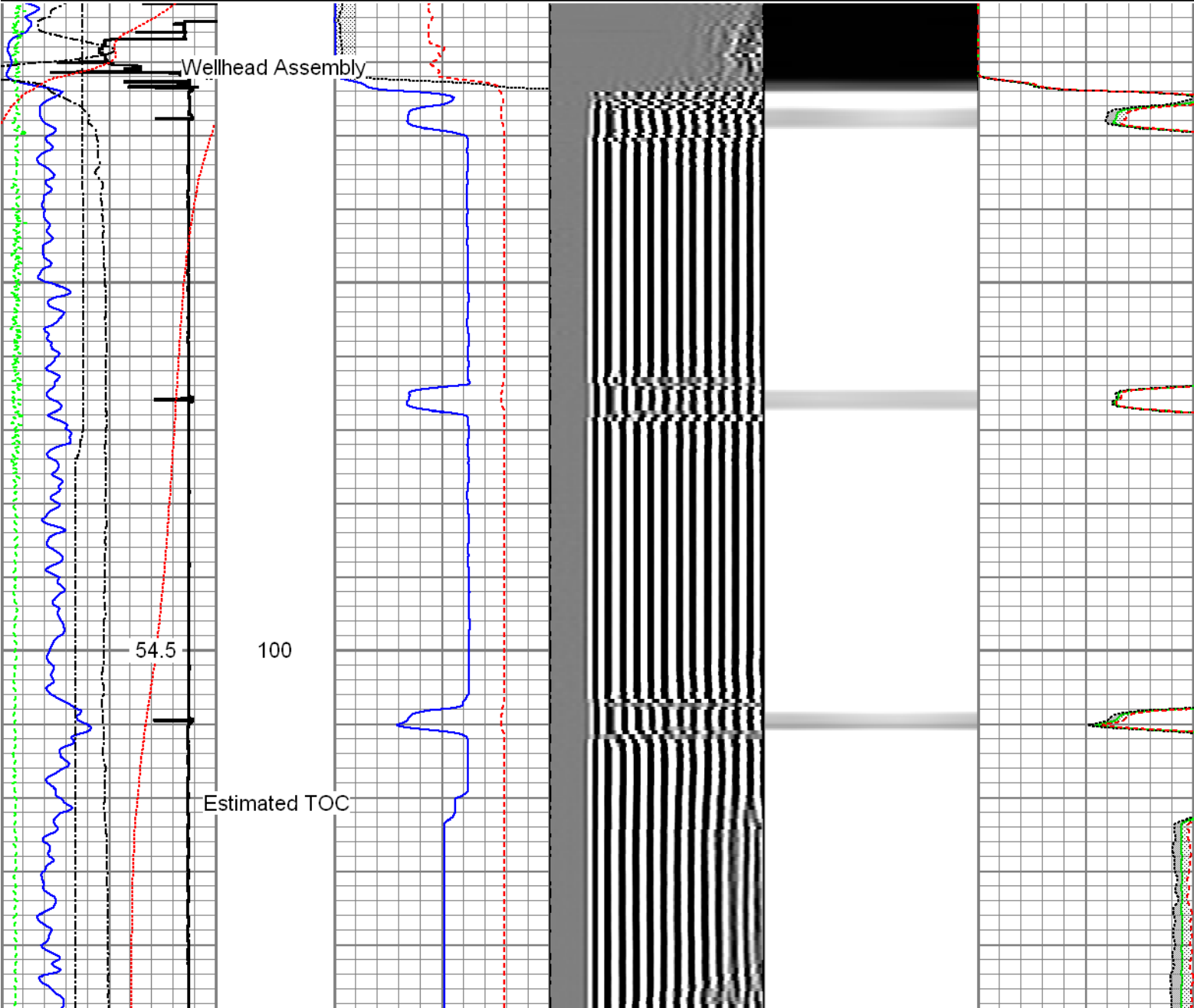


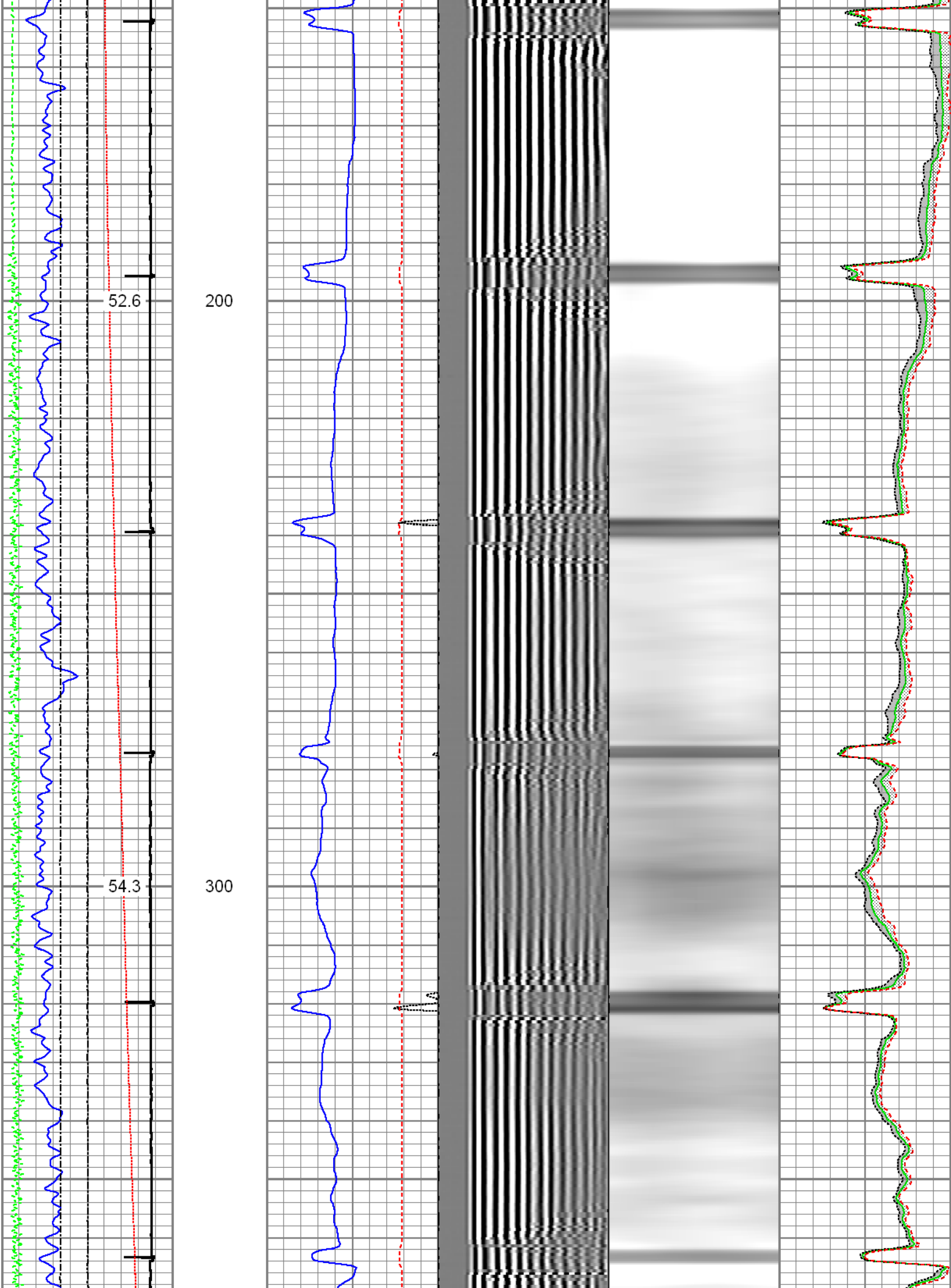
<<< Fold Here >>>
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible 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 Kelly Bushing of 24 FT Log ran from just above Liner Top to surface Recorded with 2500 PSI surface induced pressure Logging tools were coated with debris upon completion of operations Thank you for choosing FMC Technologies Completion Services, Inc.!!

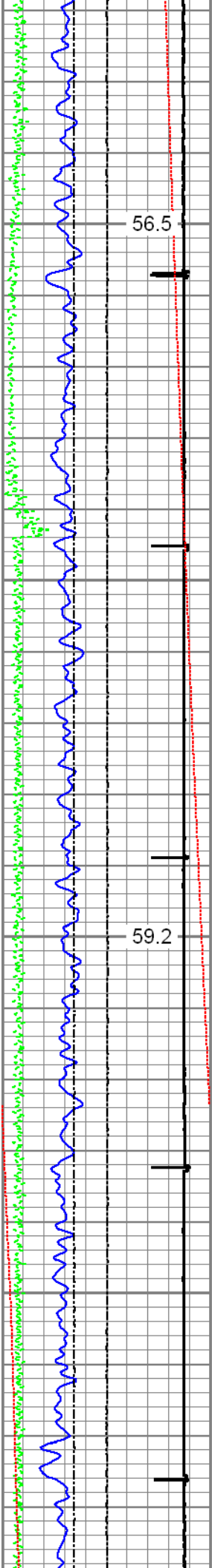


Database File: processed_10-12-15_noble energy_wells ranch ae32-635_mit_rbl_cnl.db
Dataset Pathname: main3.10
Presentation Format: rbt4_mit
Dataset Creation: Fri Oct 16 11:52:05 2015 by Calc SCH 120430
Charted by: Depth in Feet scaled 1:240

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





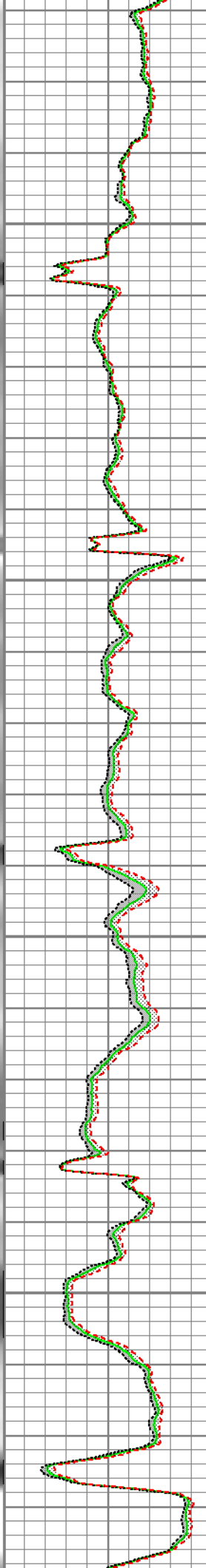
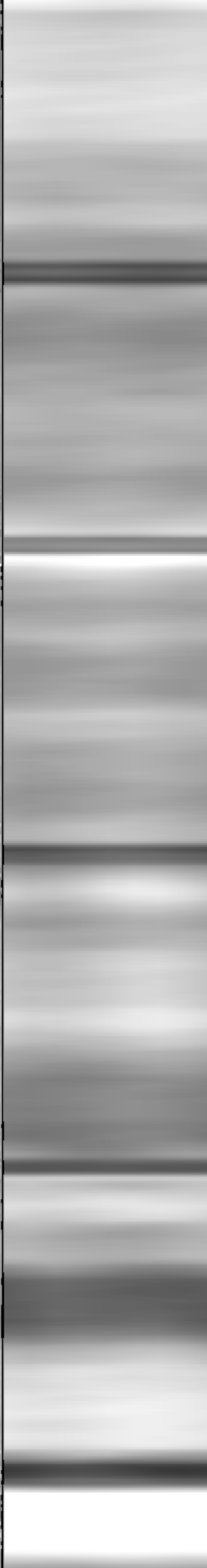
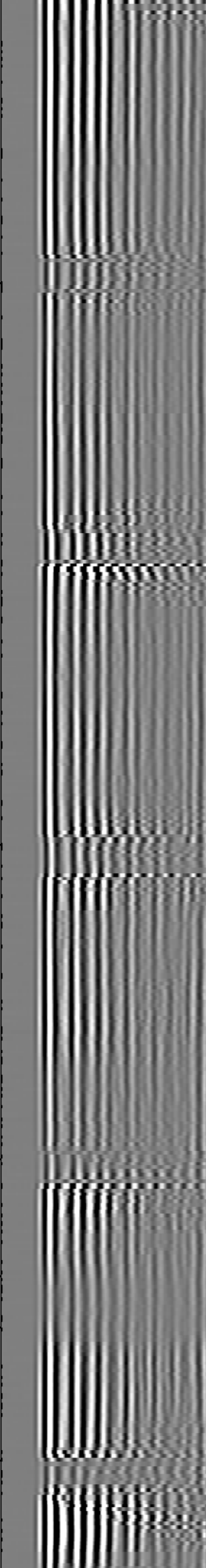
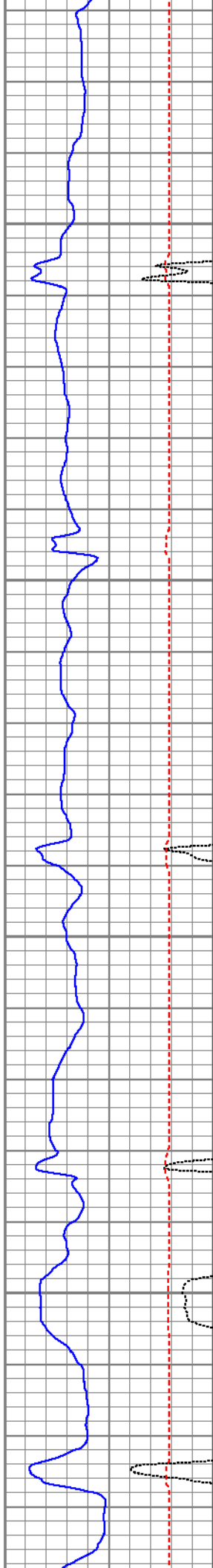


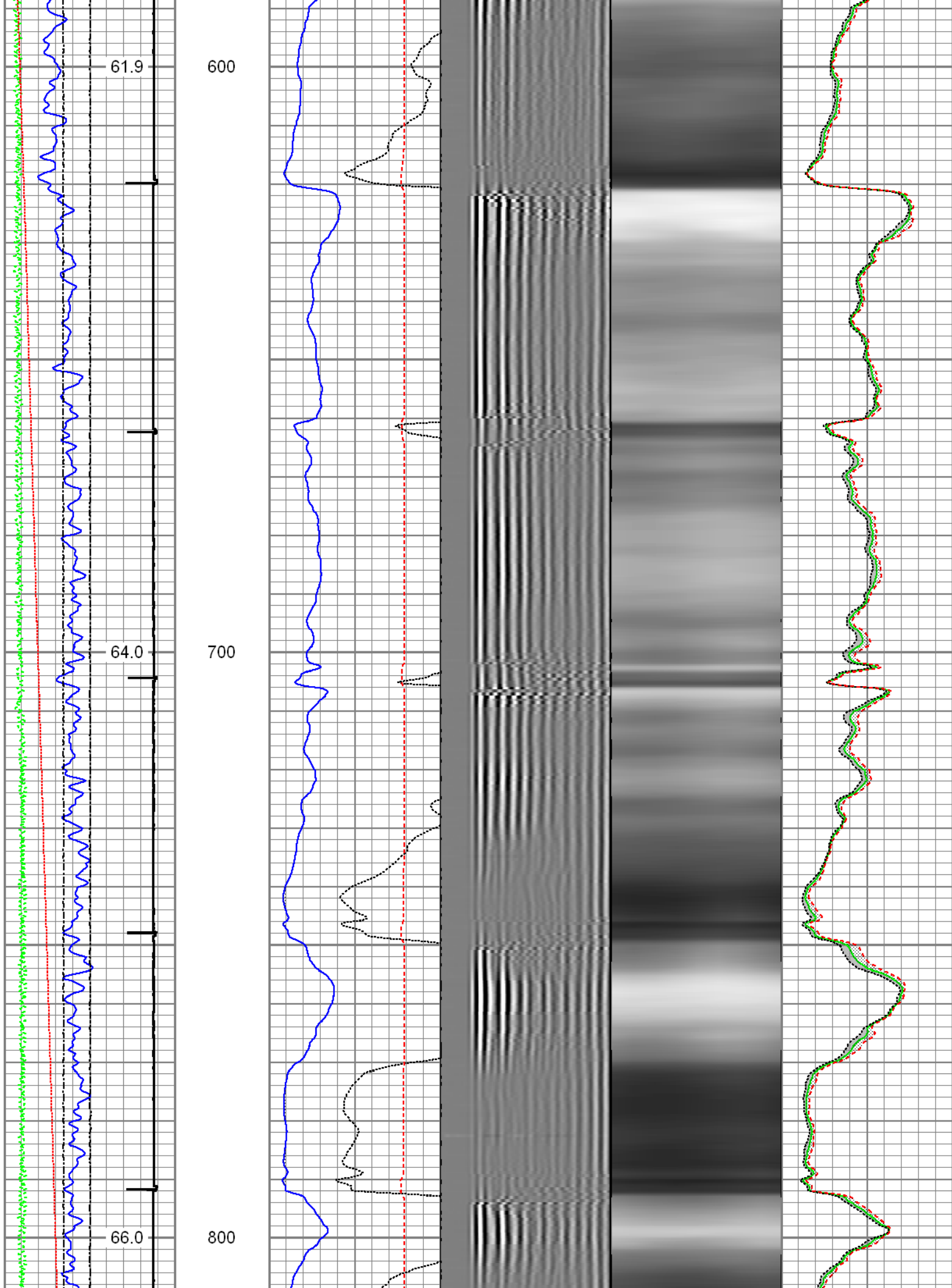
56.5

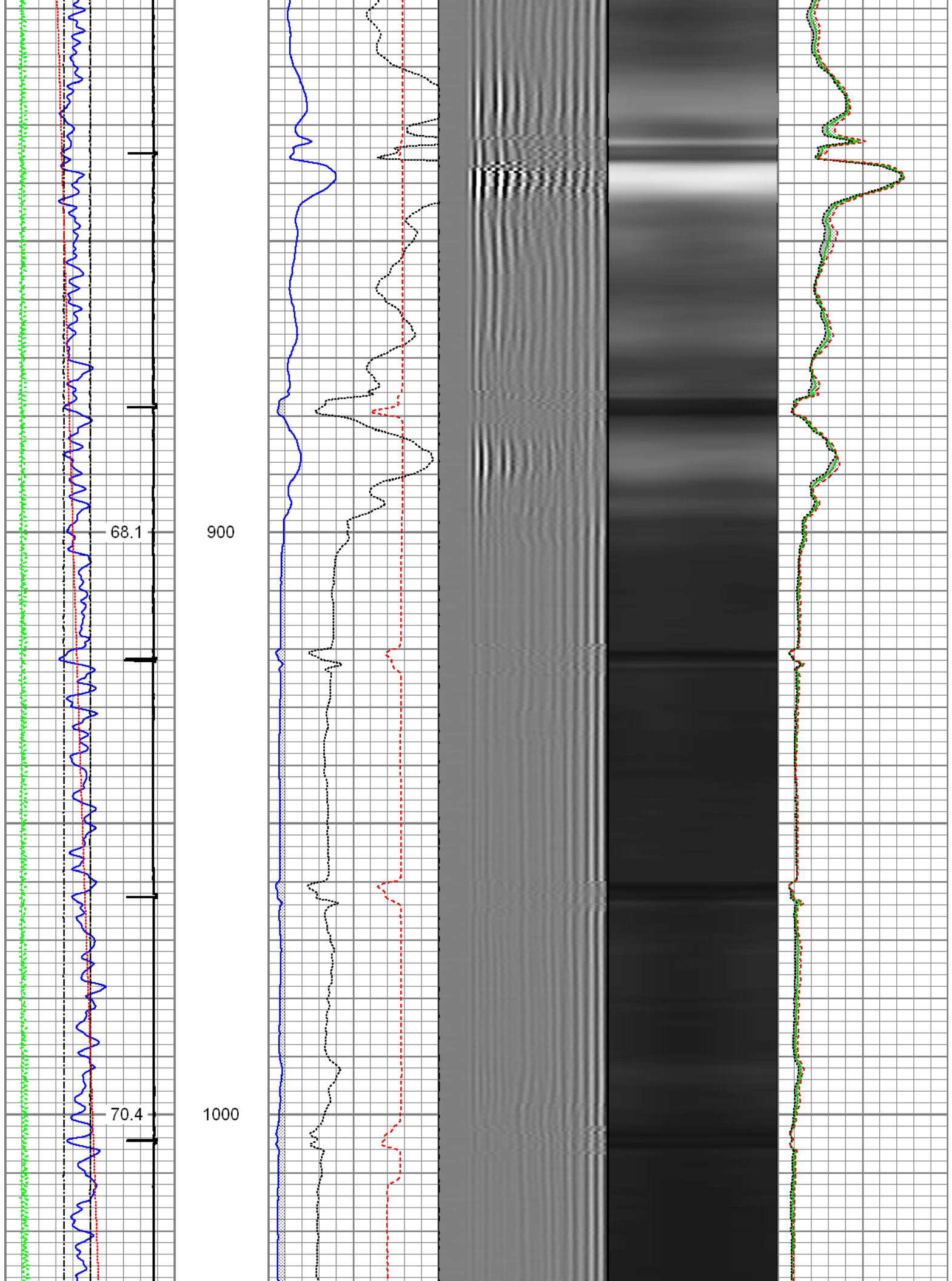
400

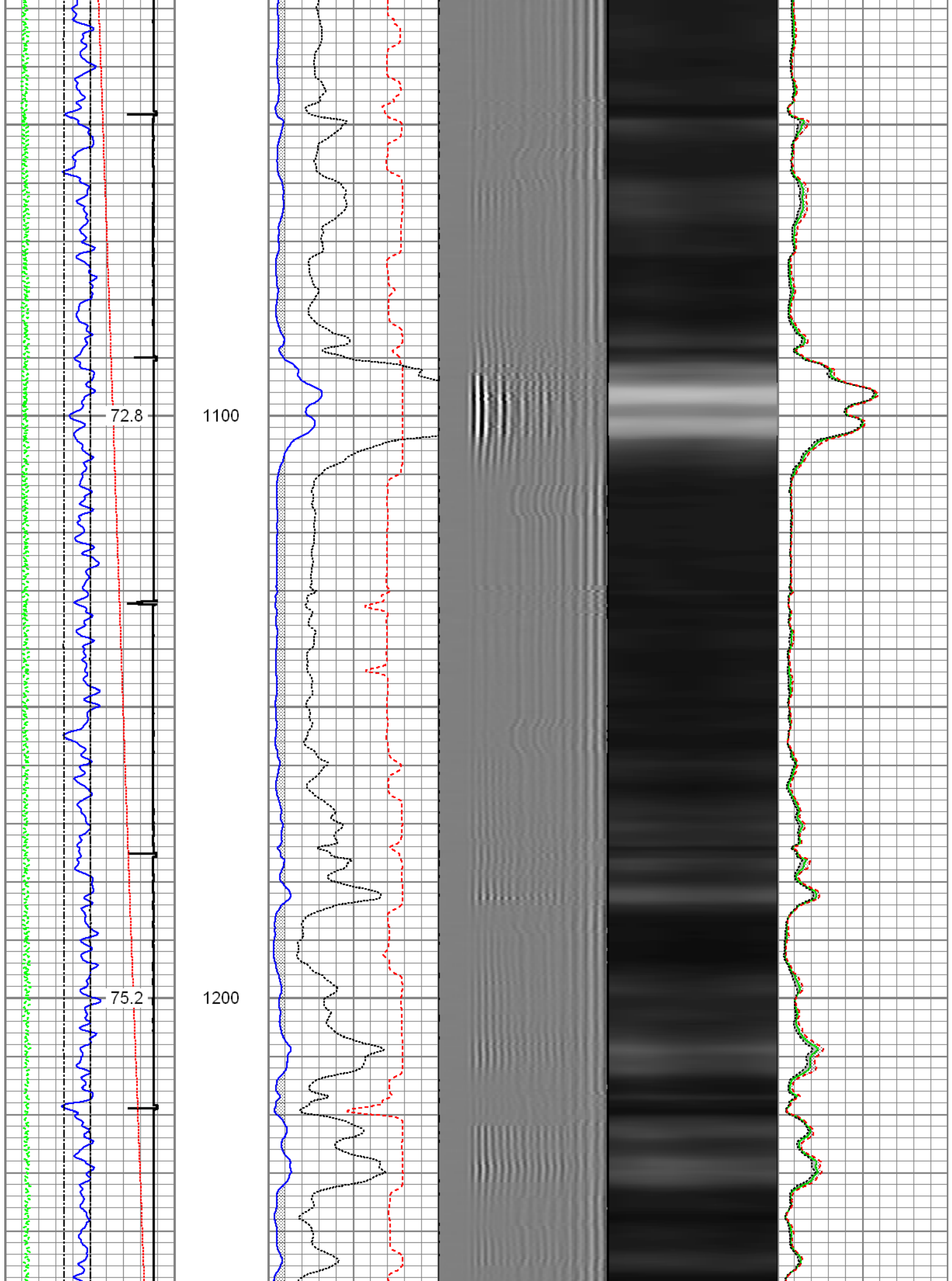
59.2

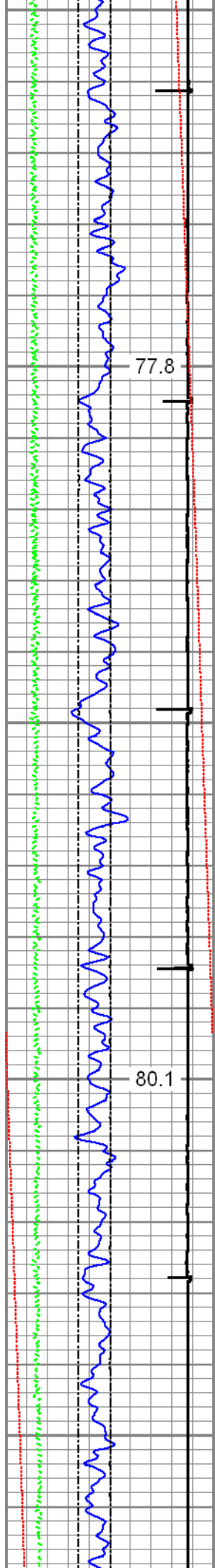
500





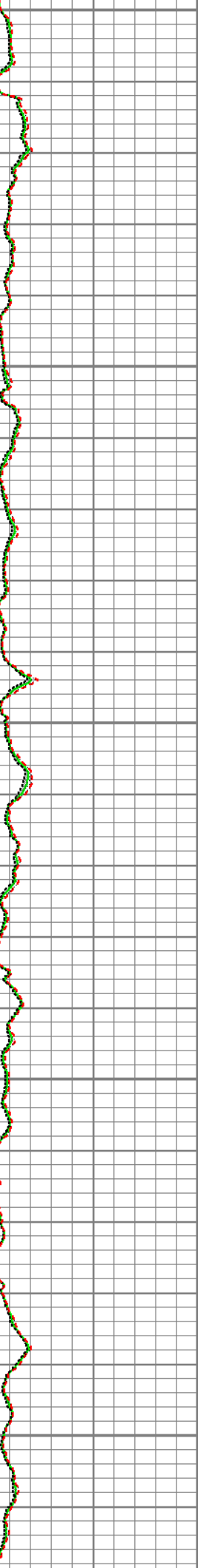
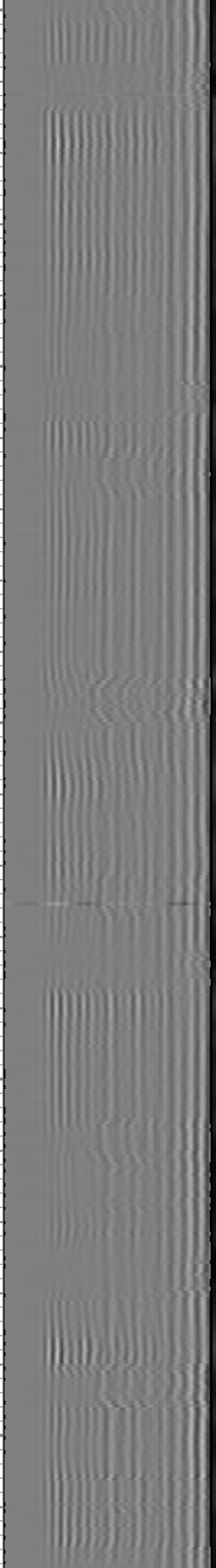
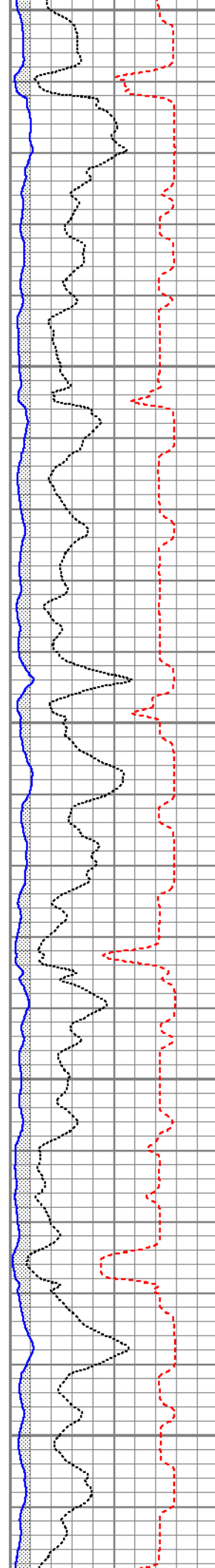


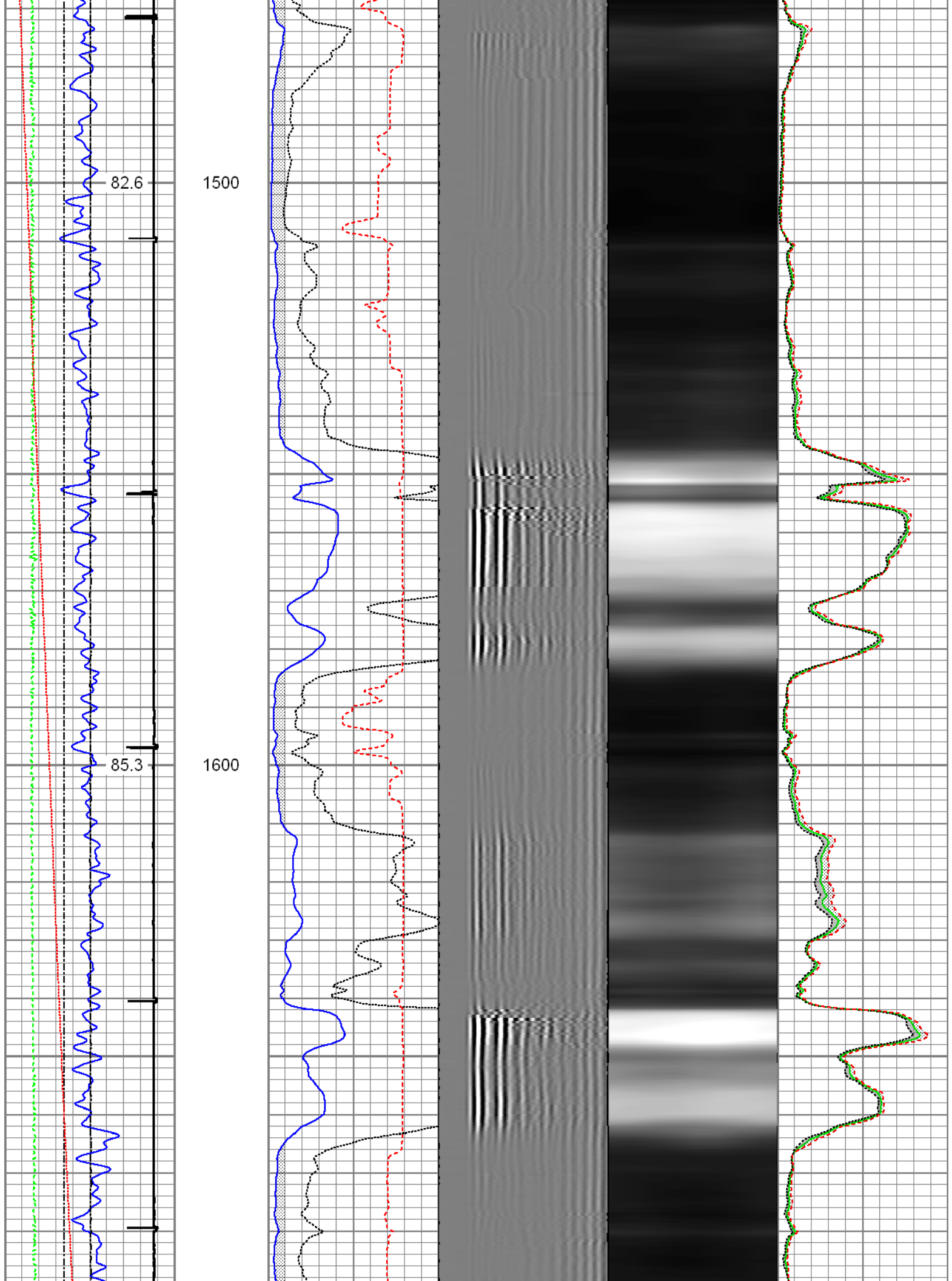


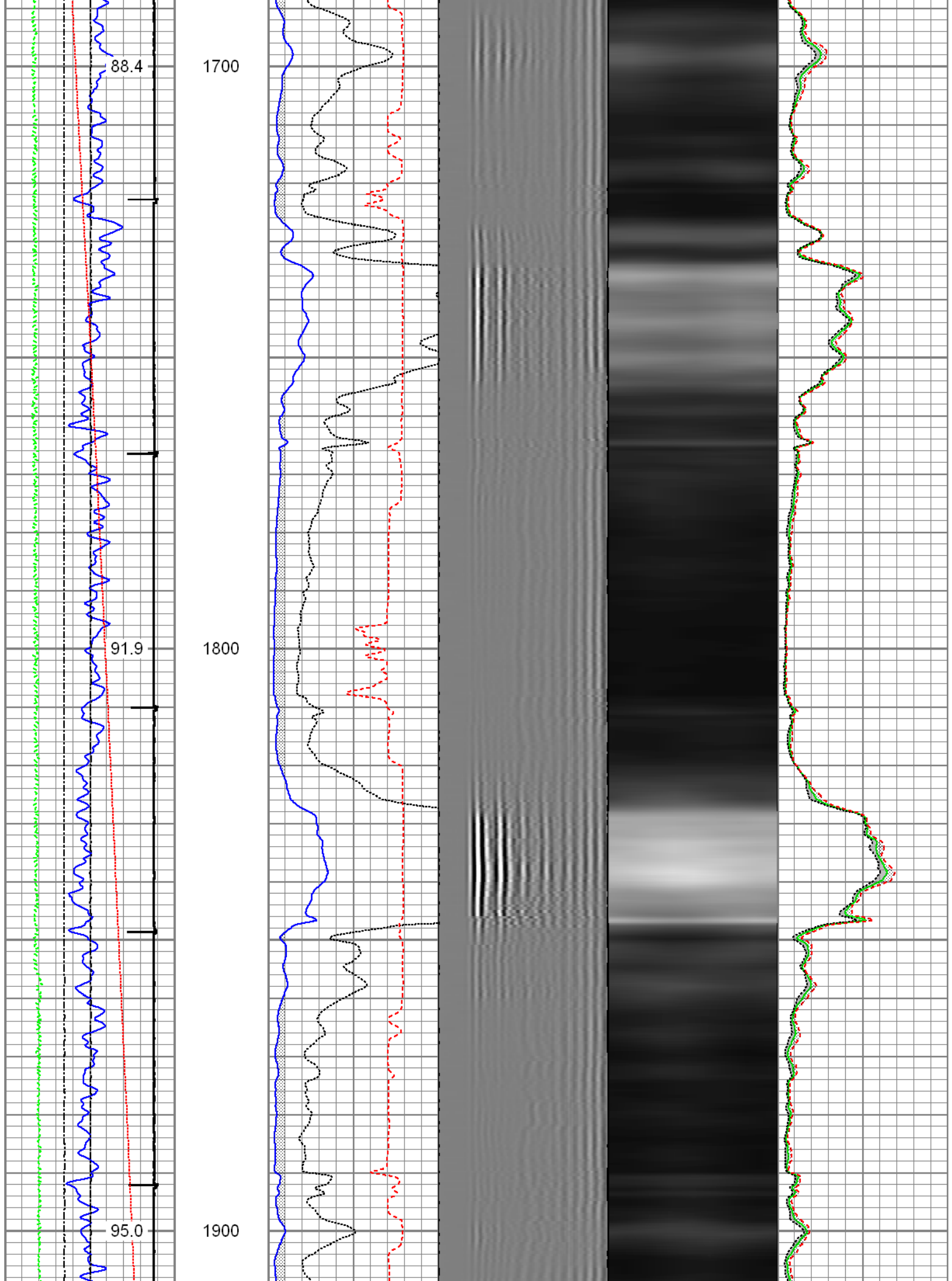


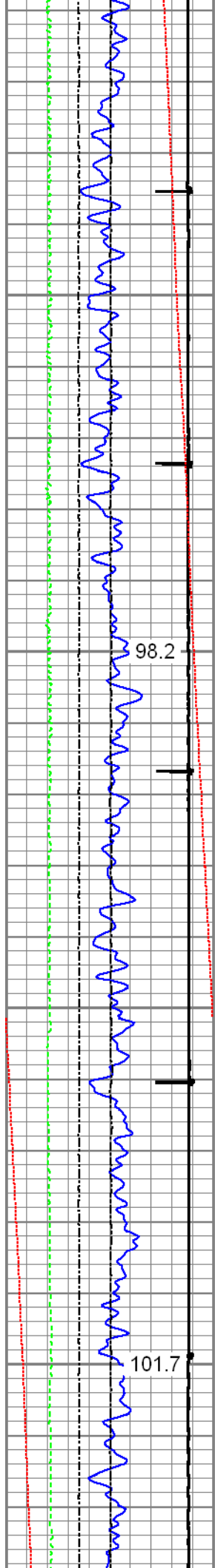
1300

1400



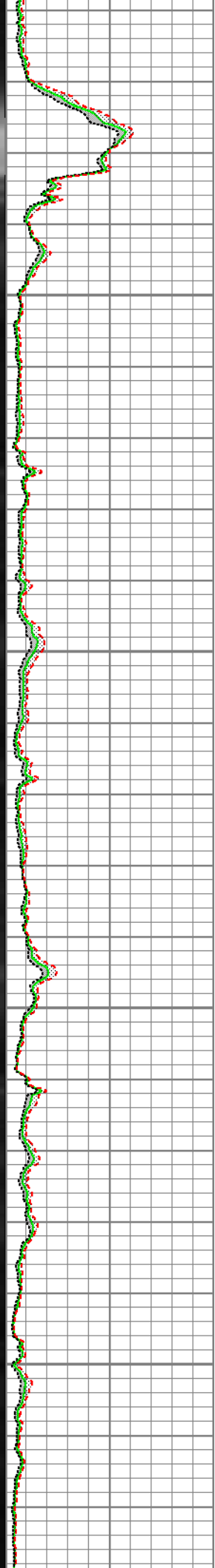
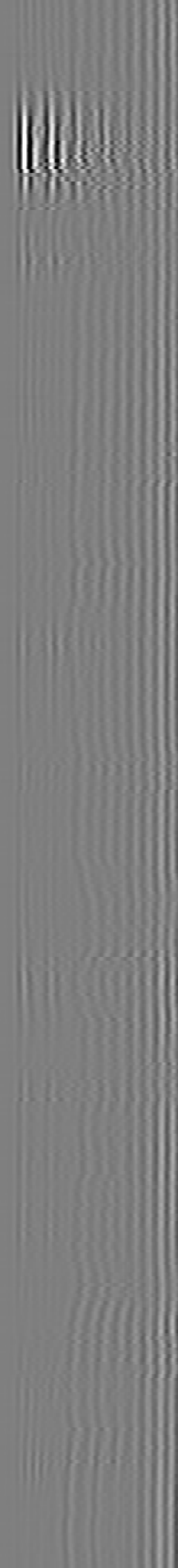
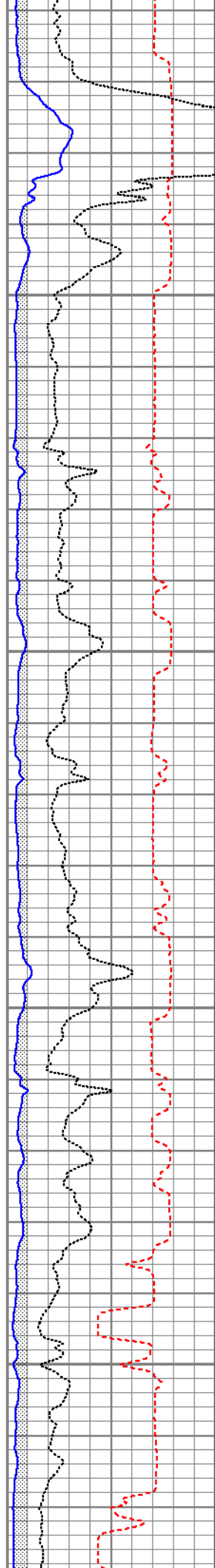


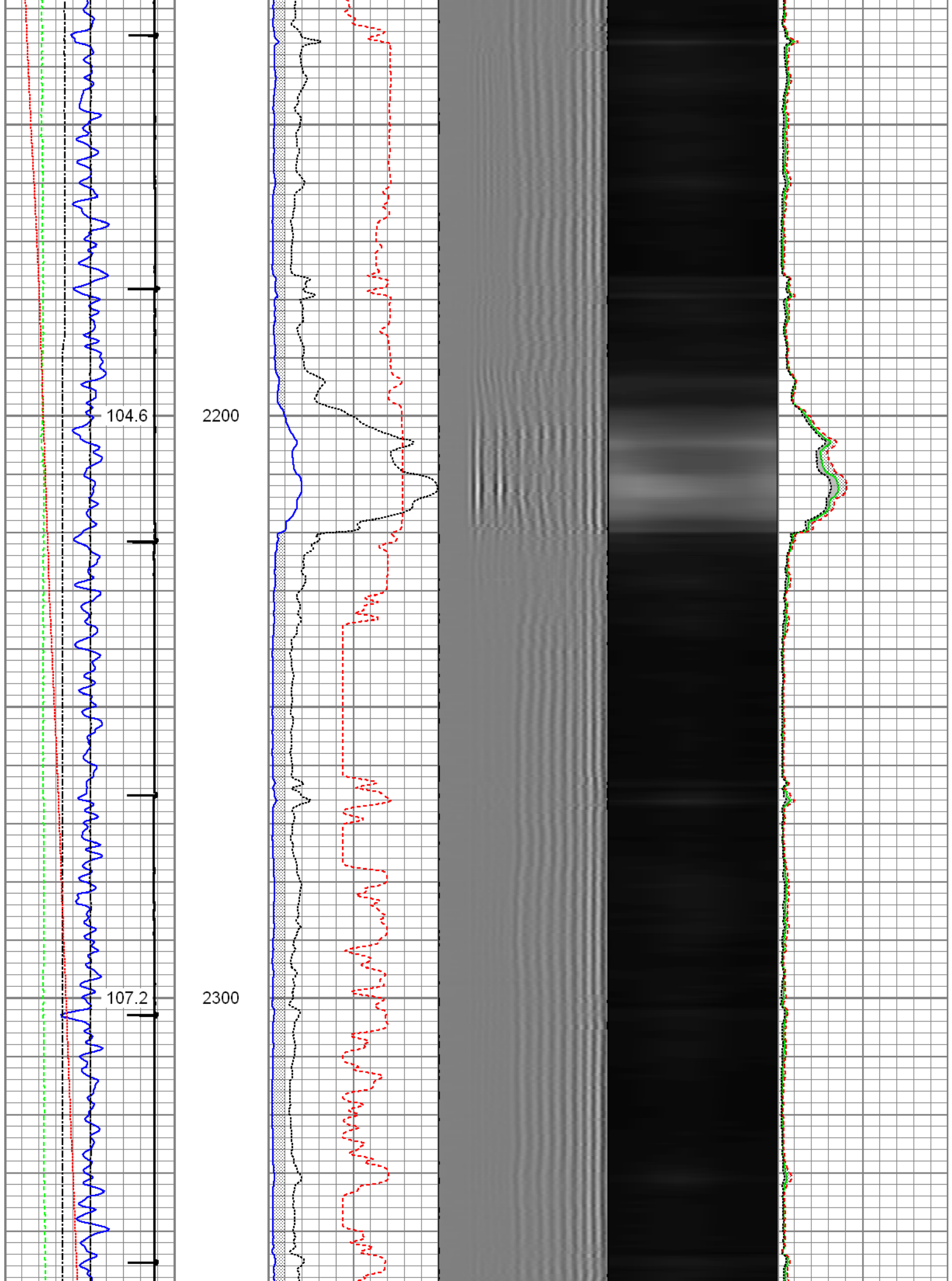


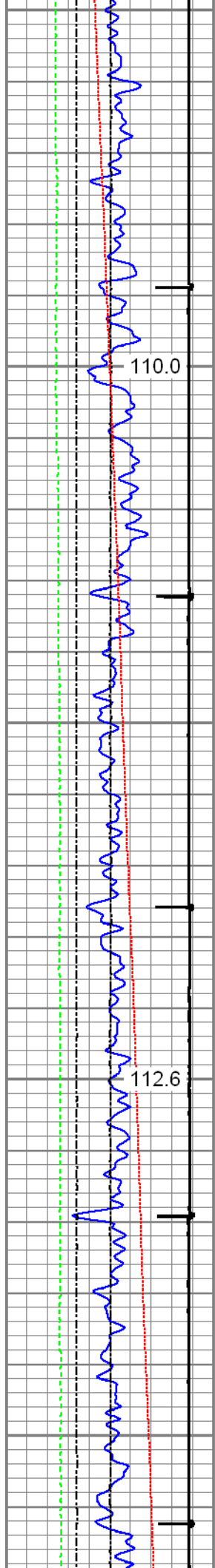


2000

2100

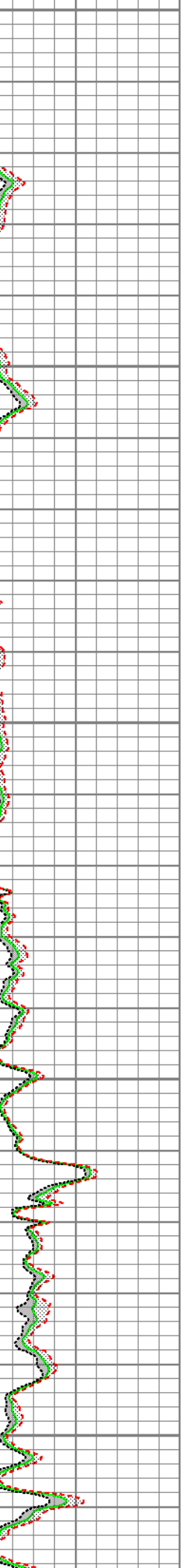
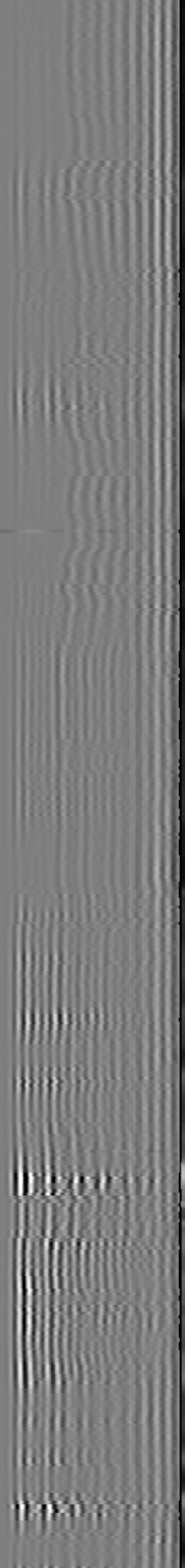
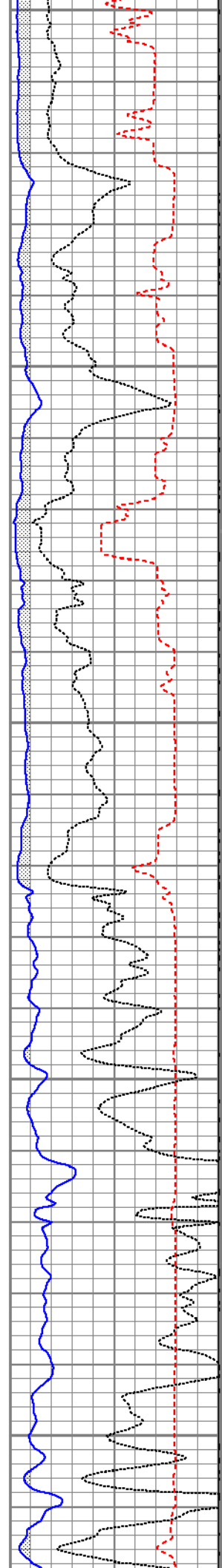


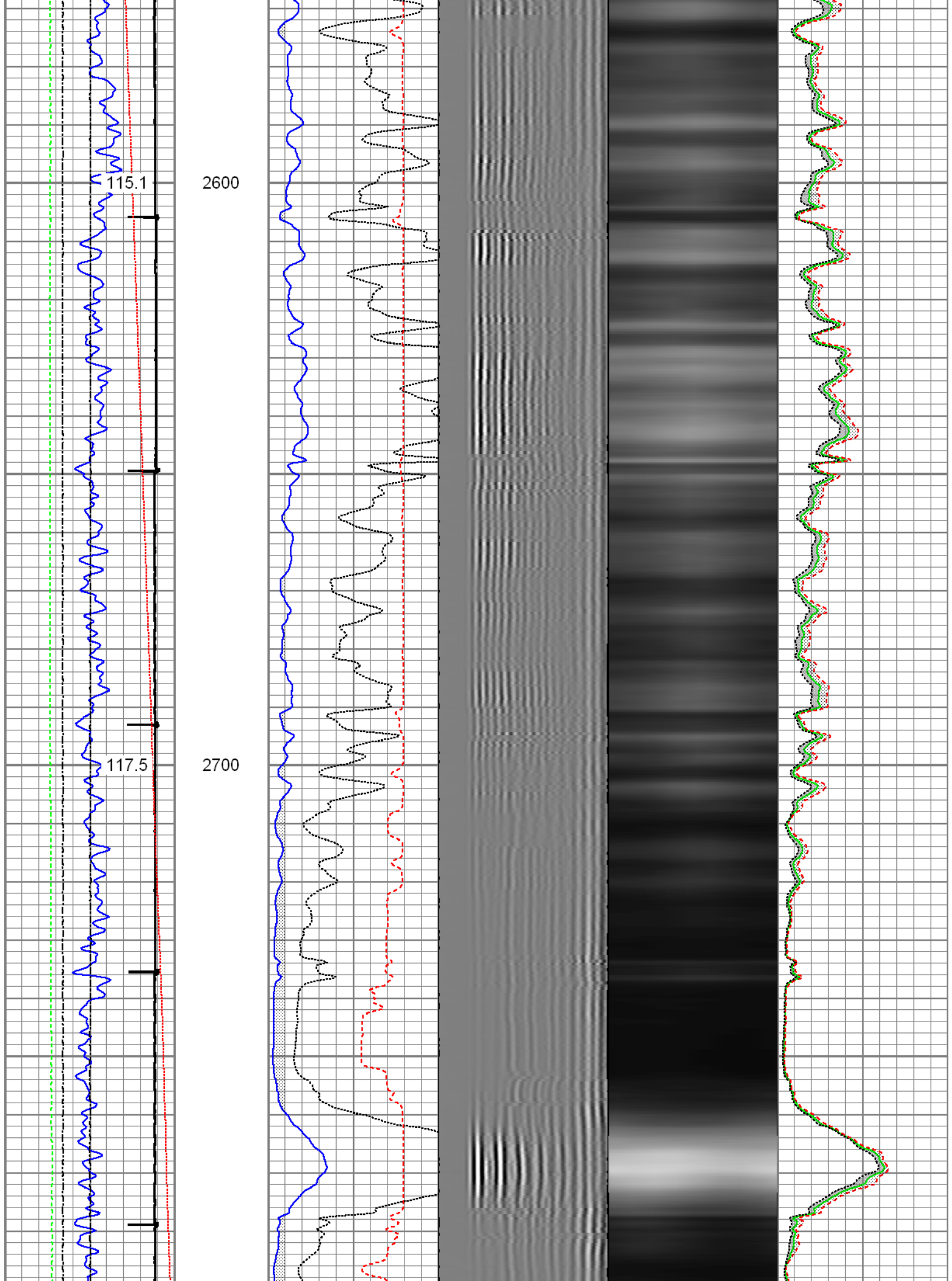


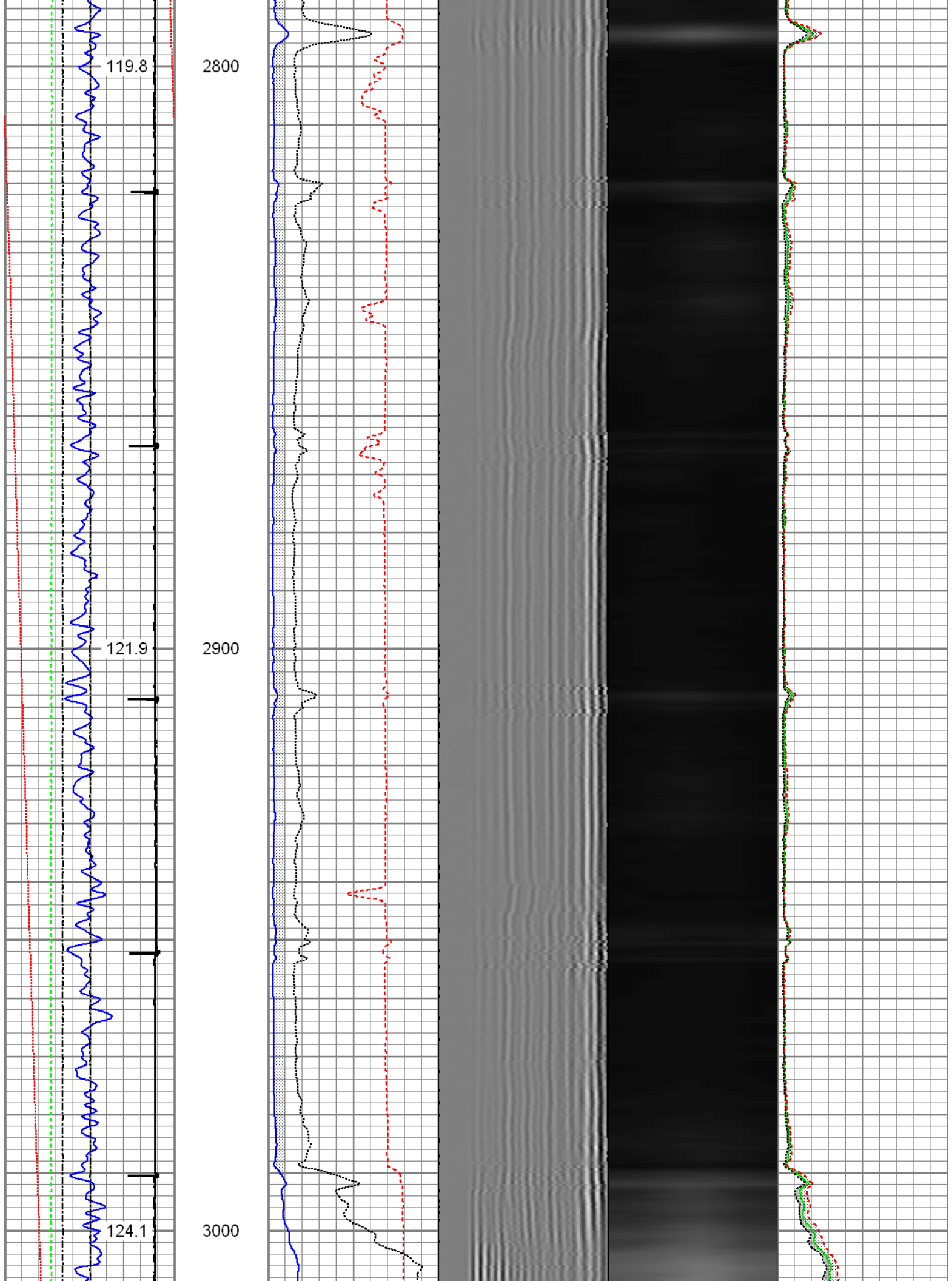


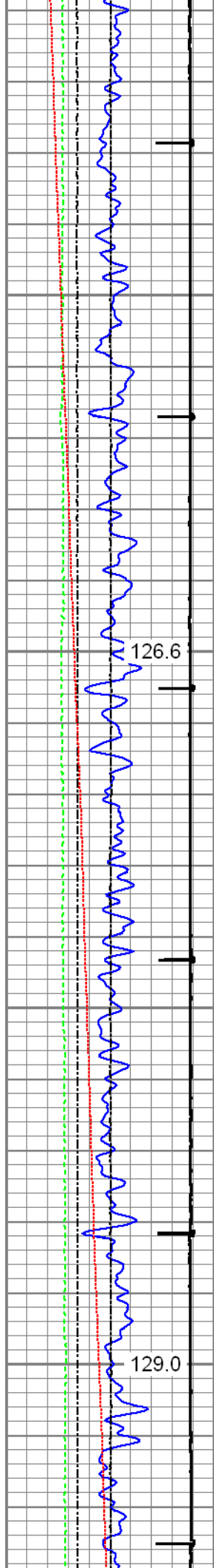
2400

2500



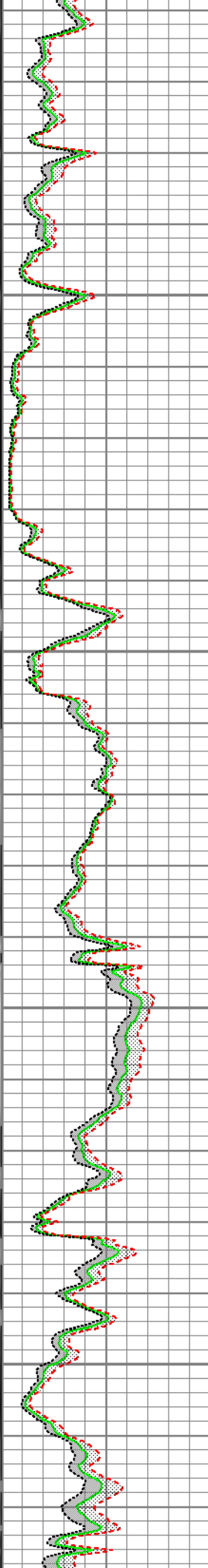
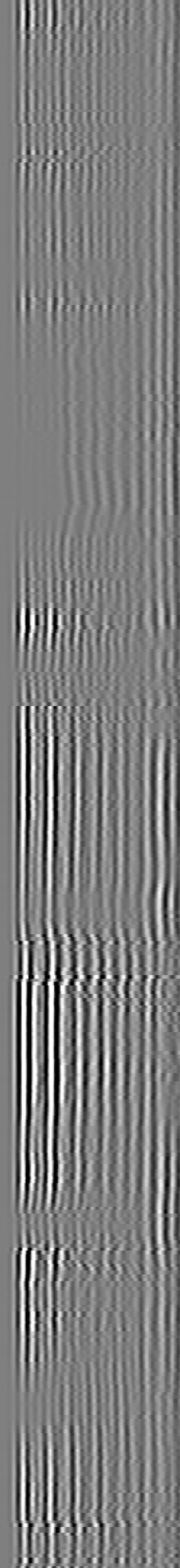
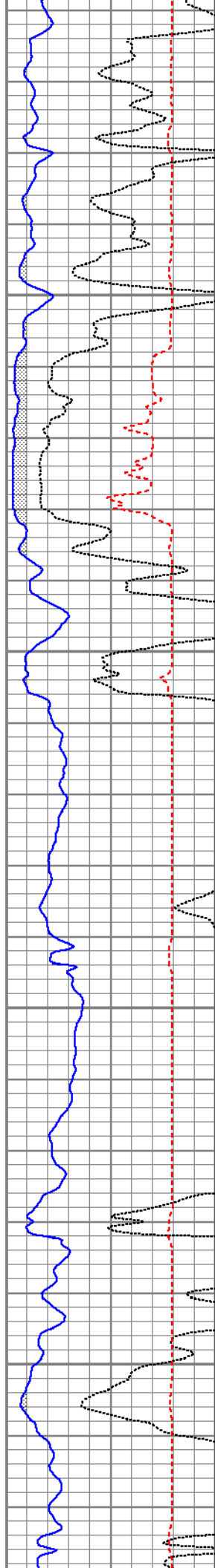


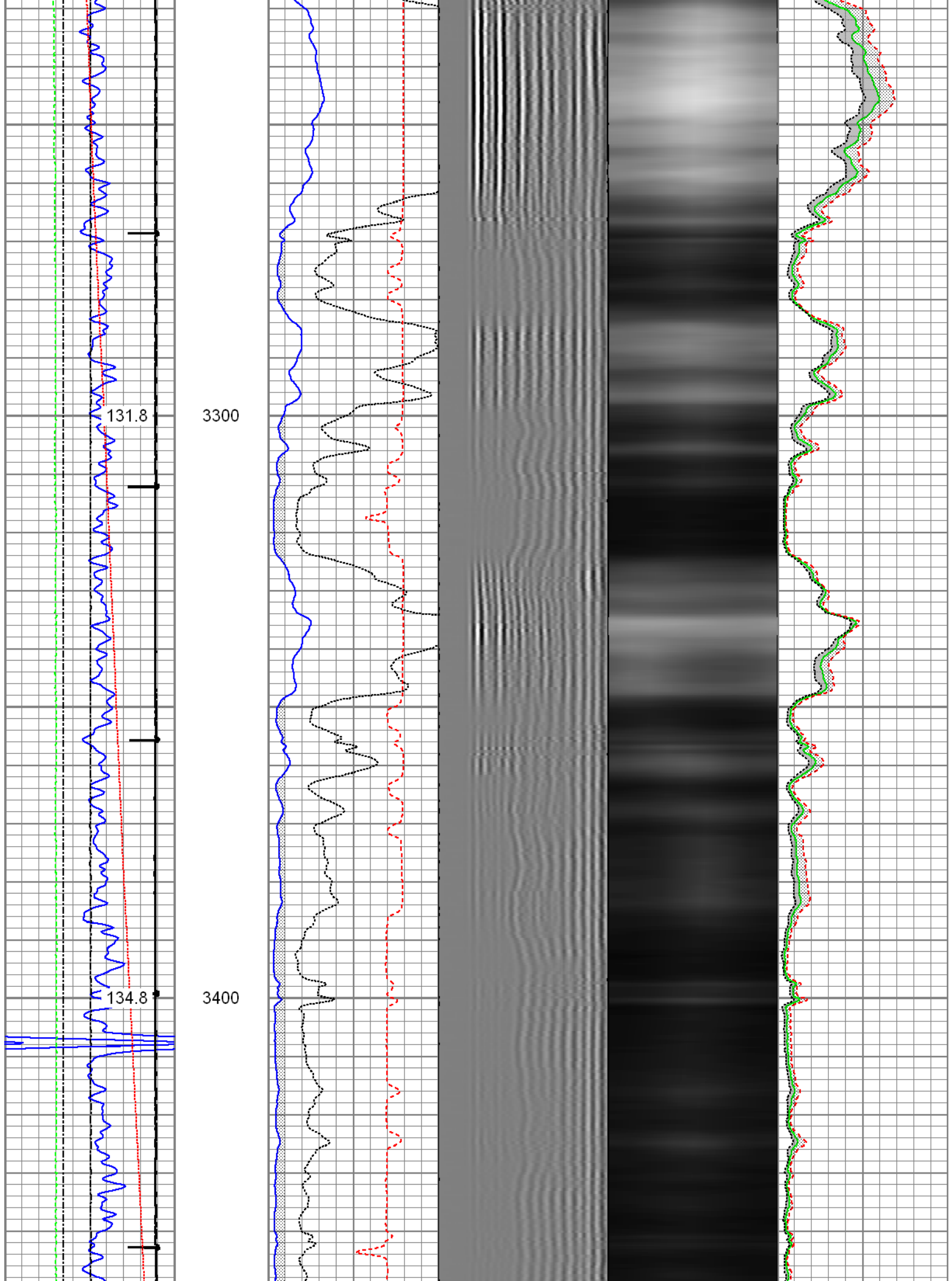


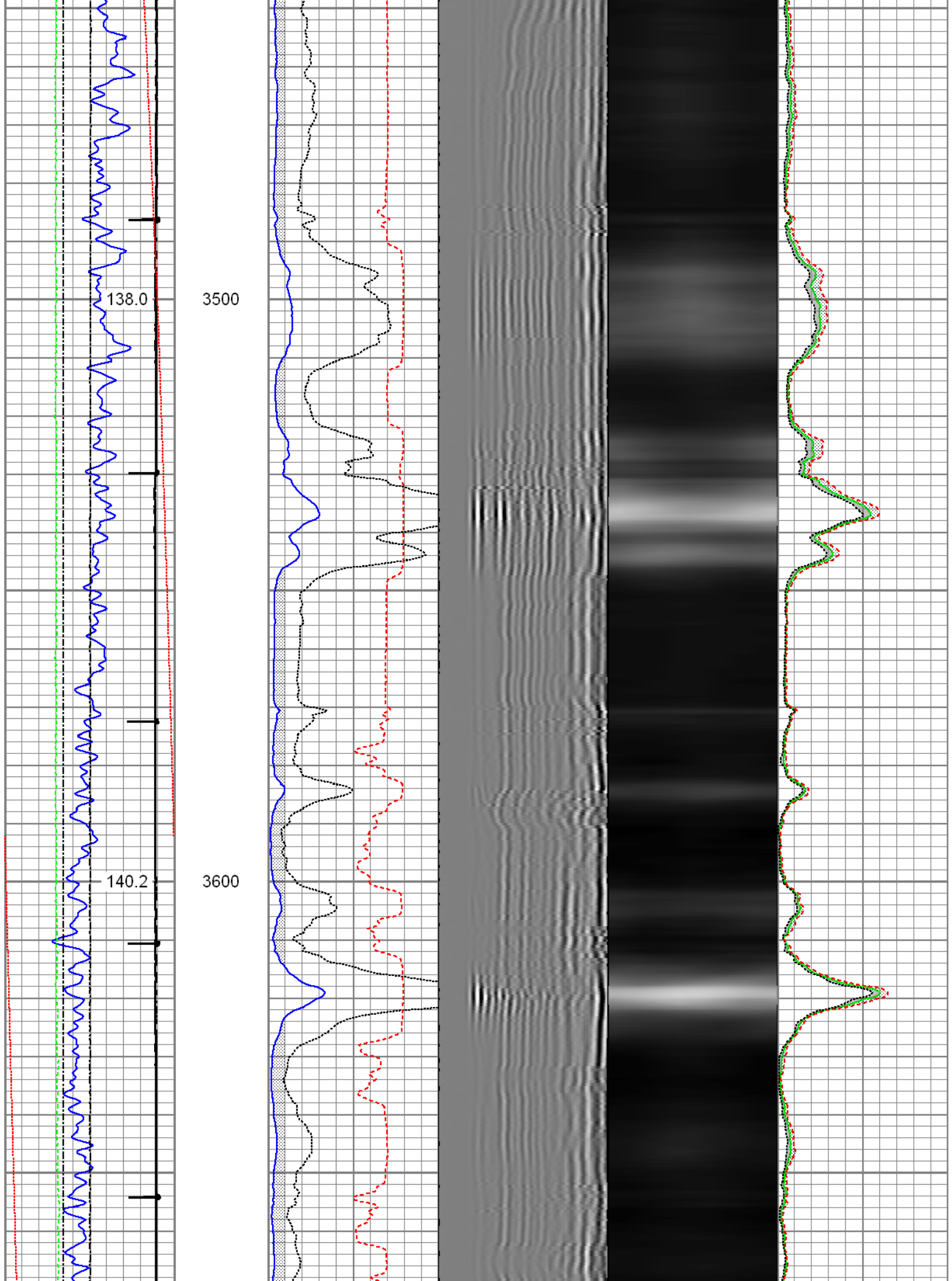


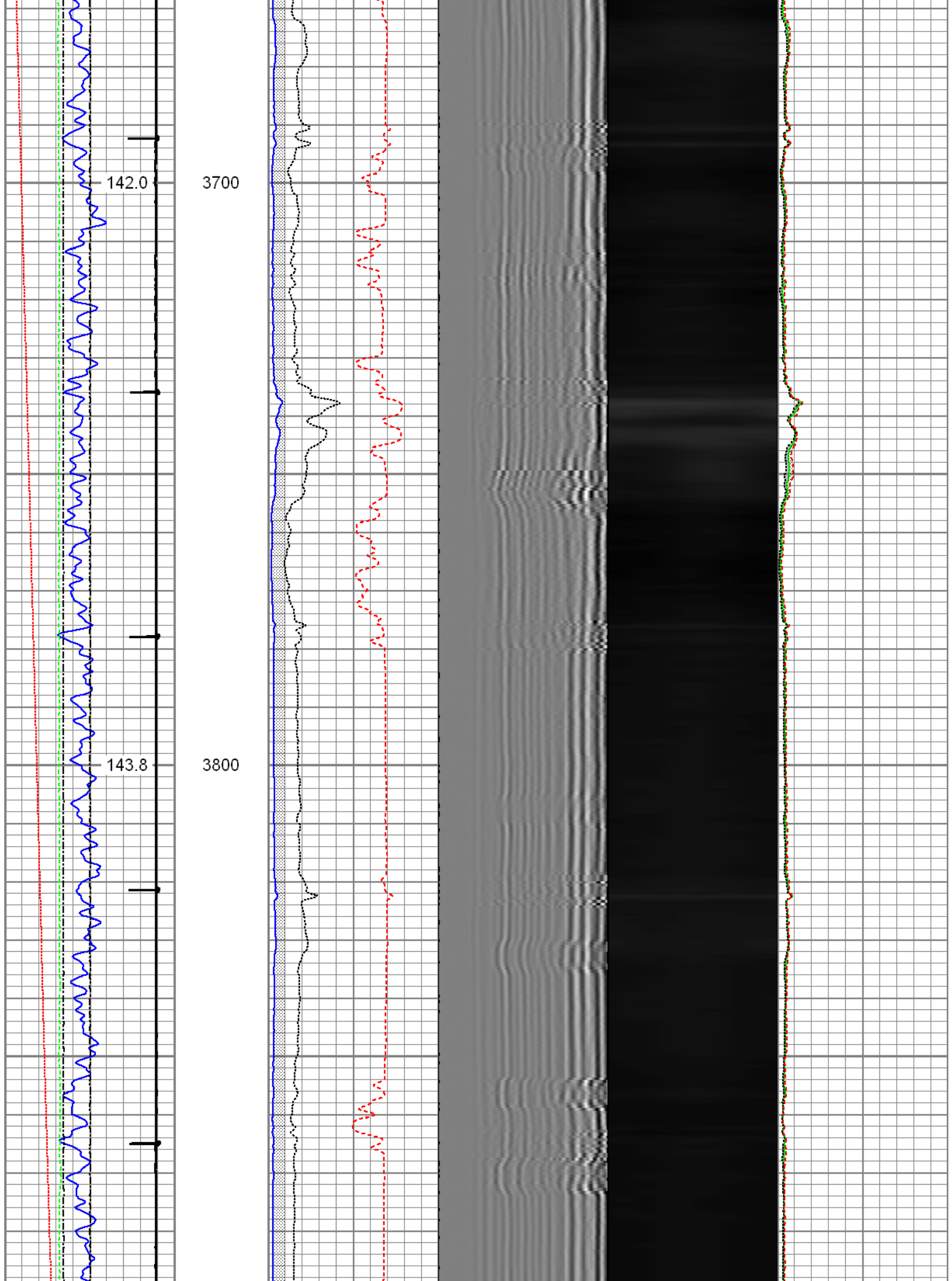
3100

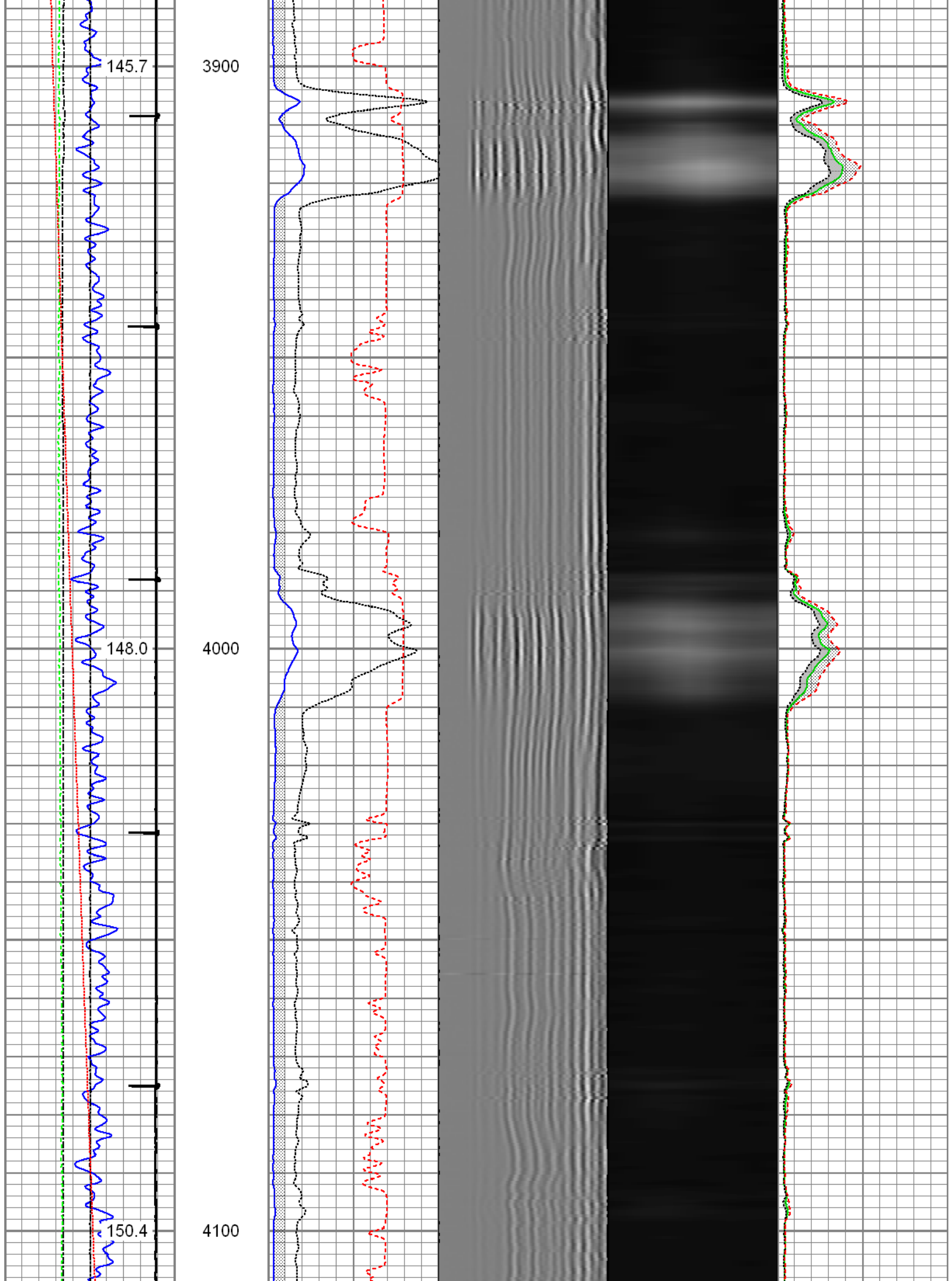
3200

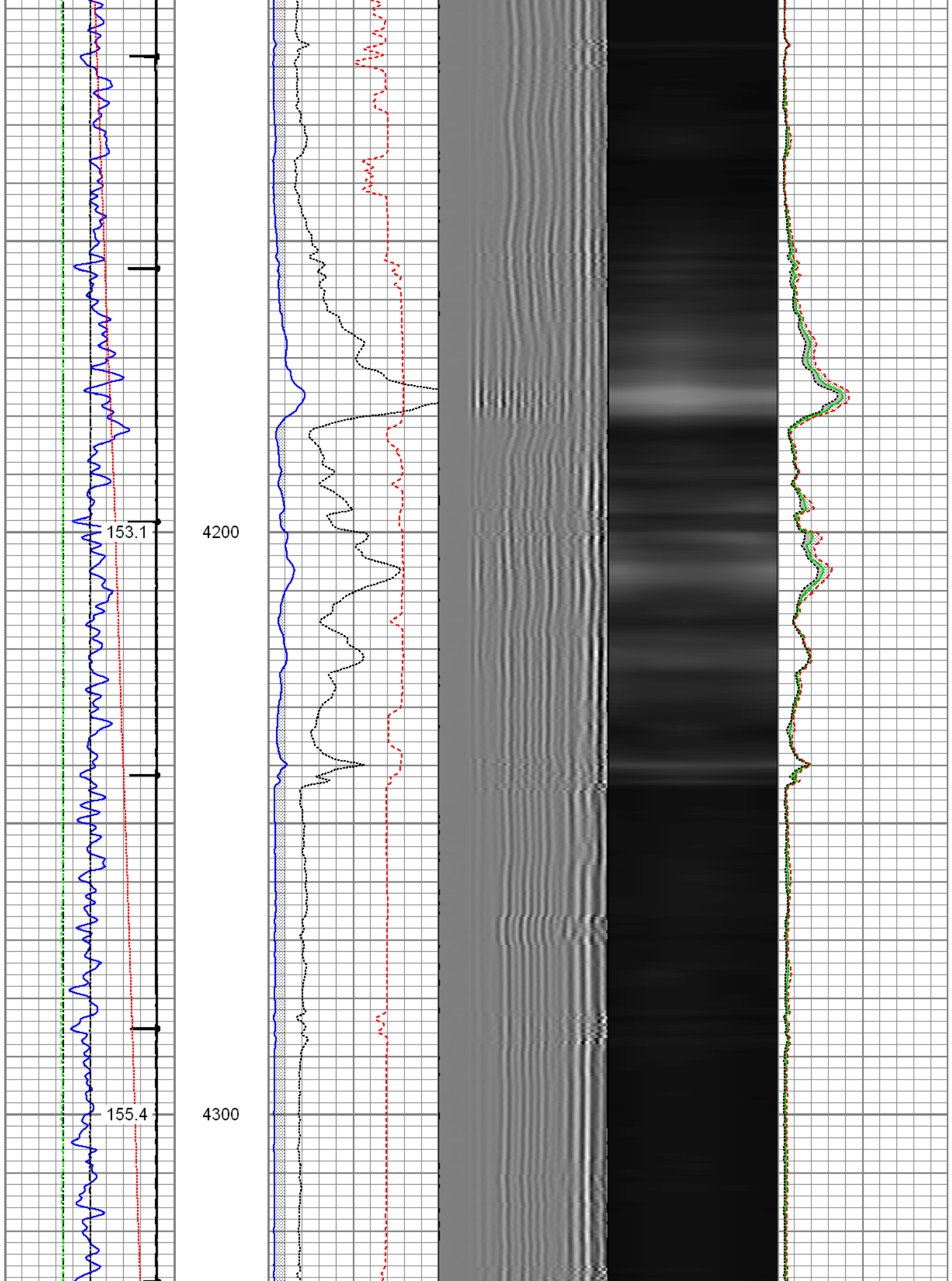


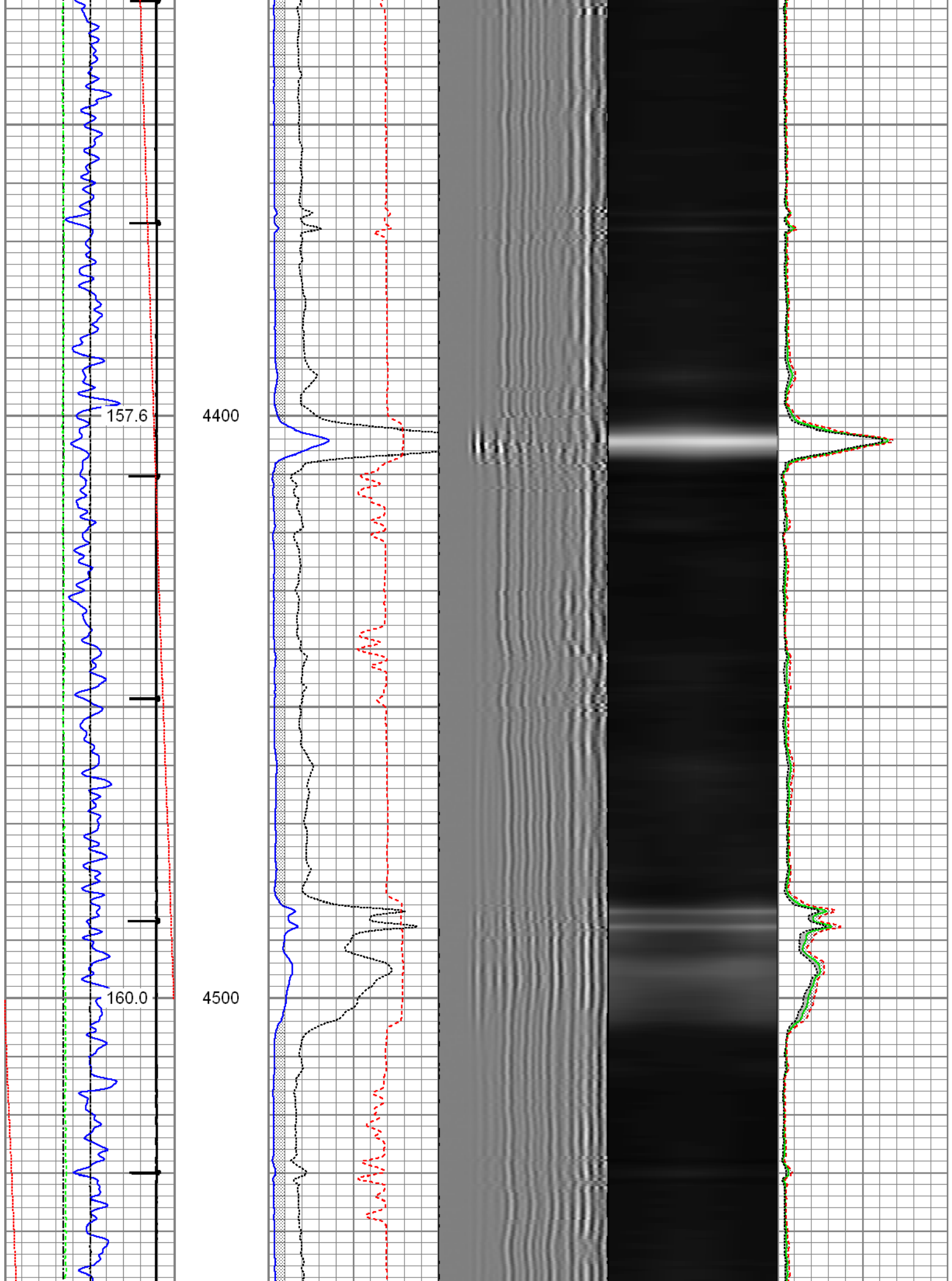


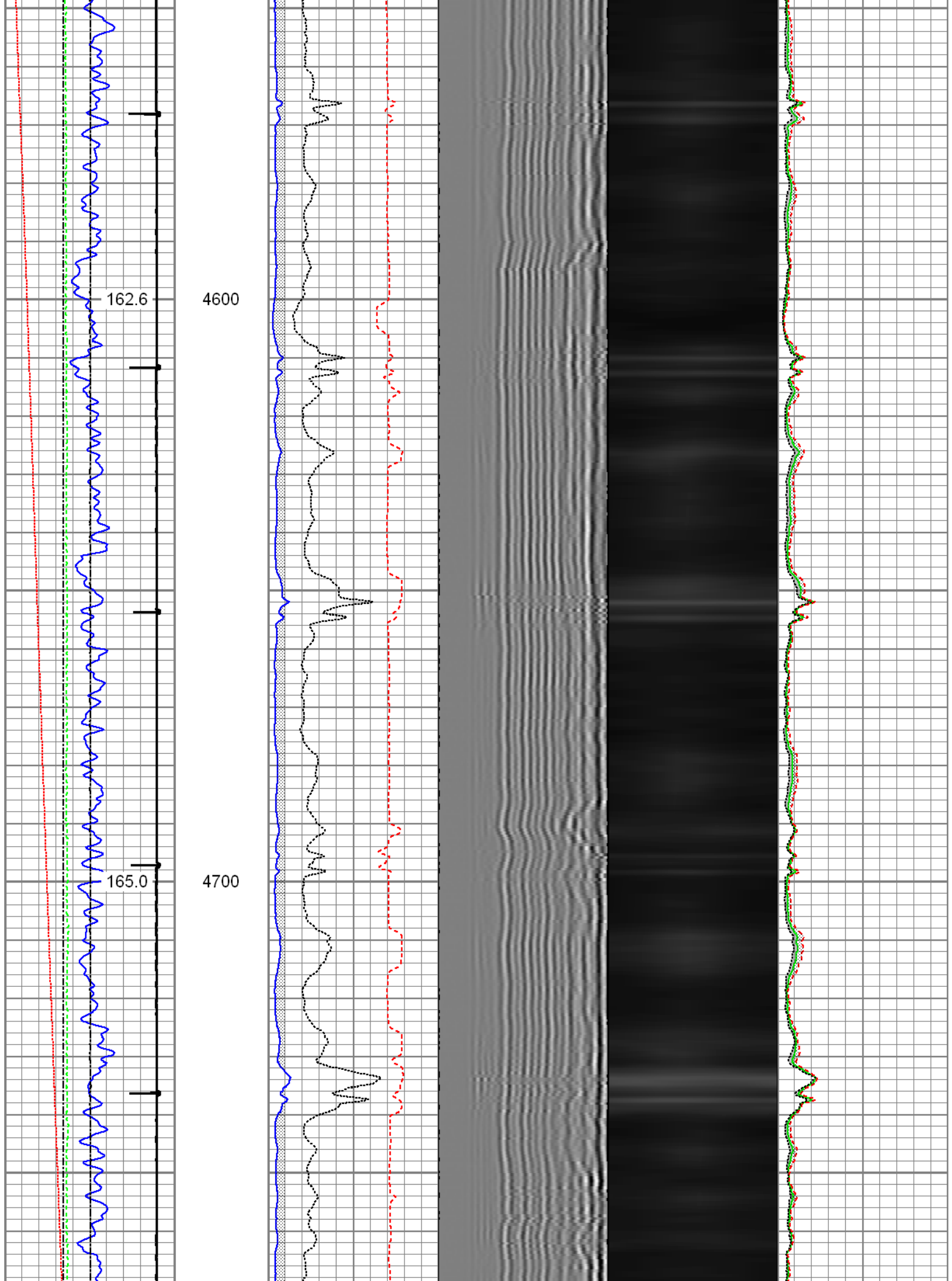


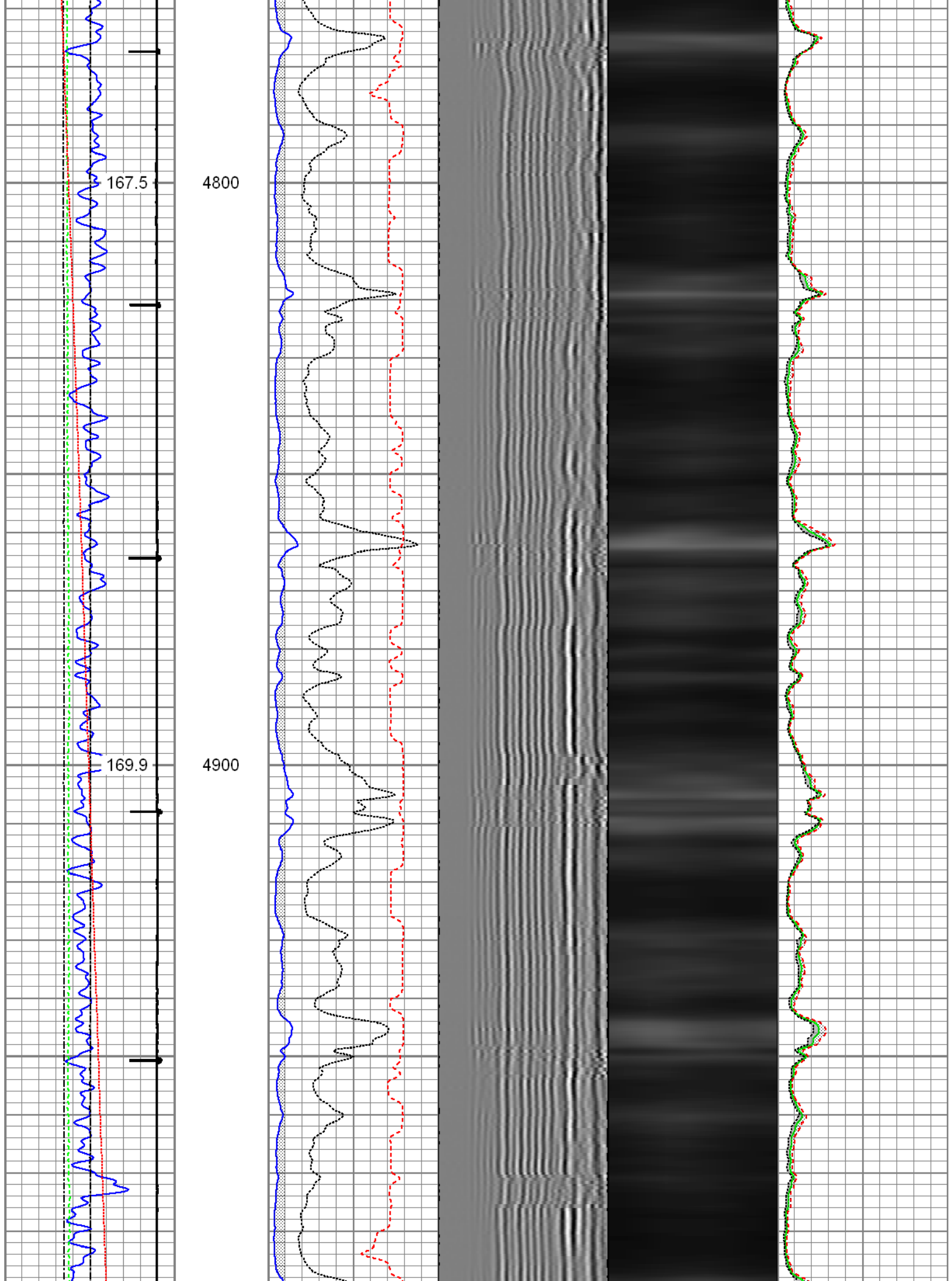


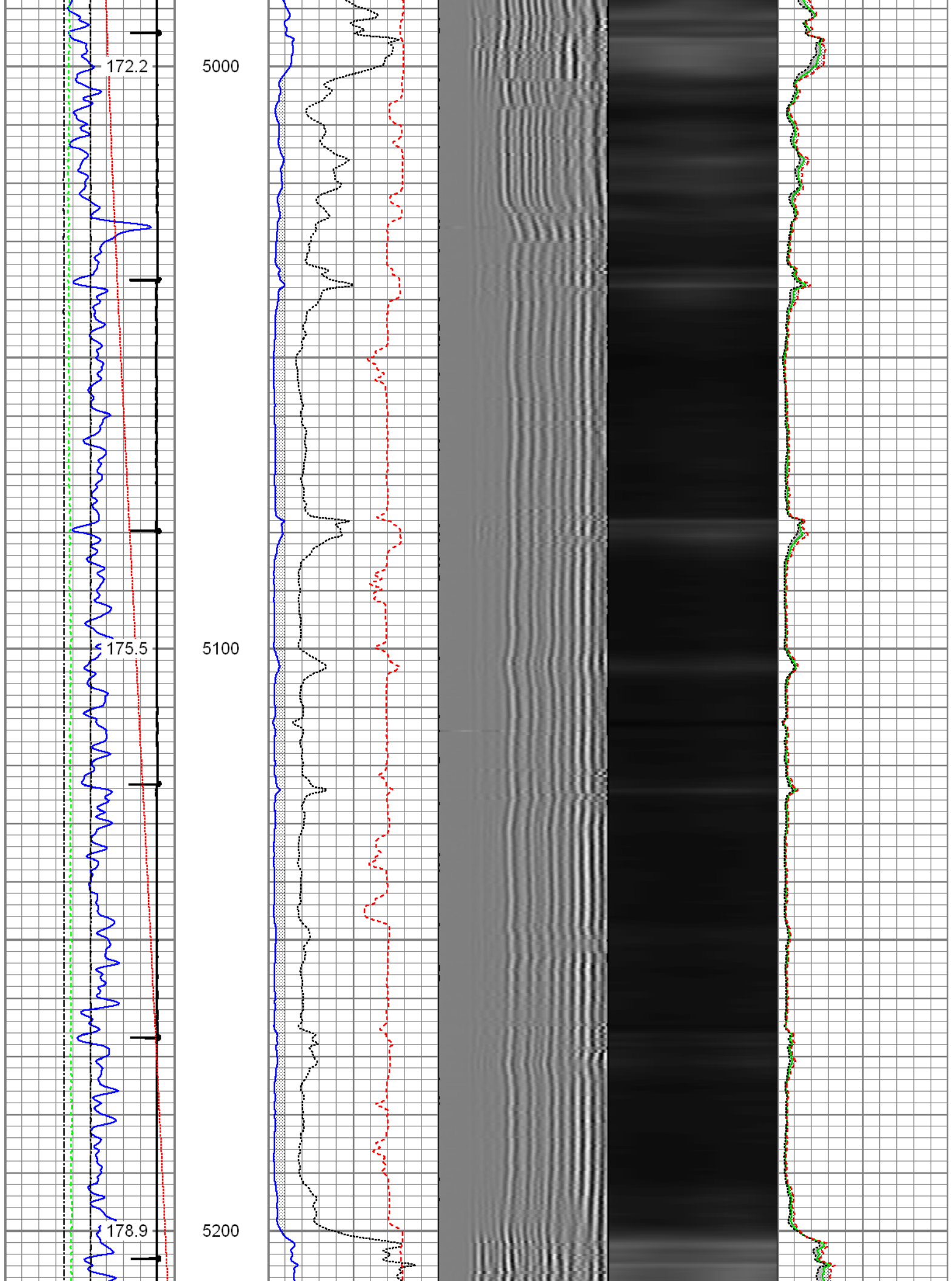


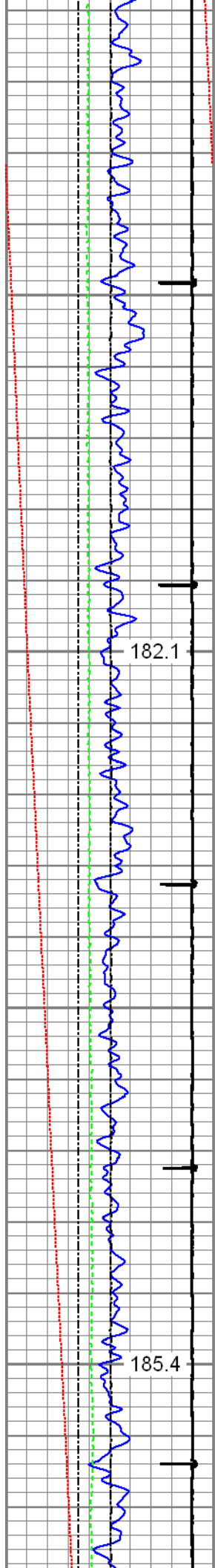






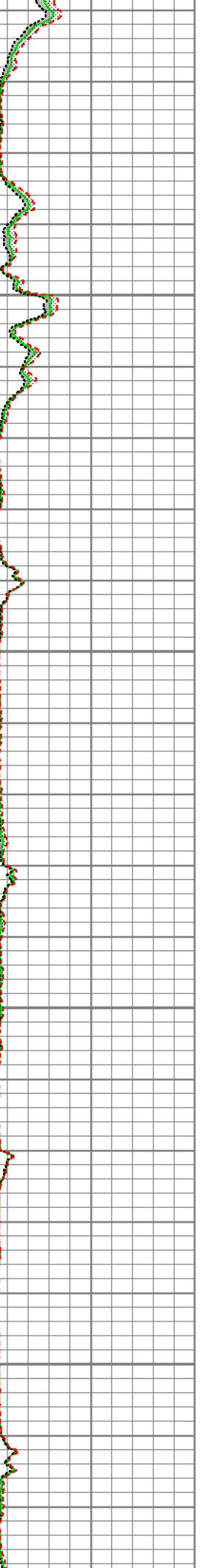
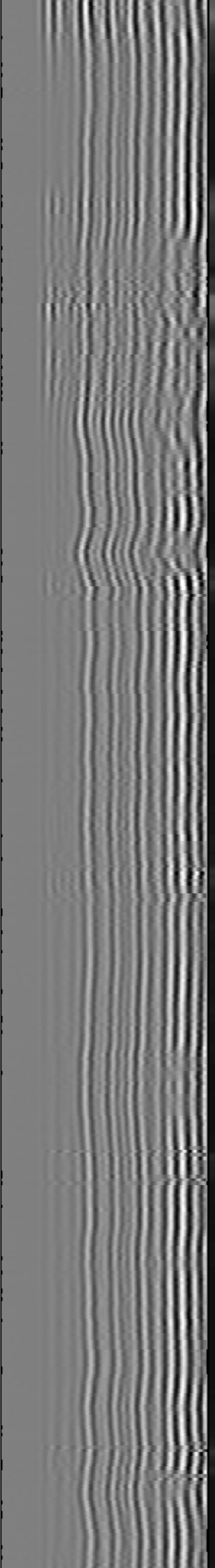
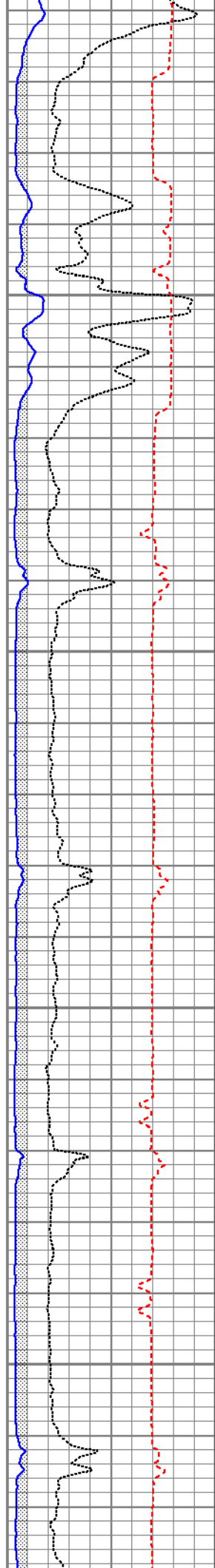


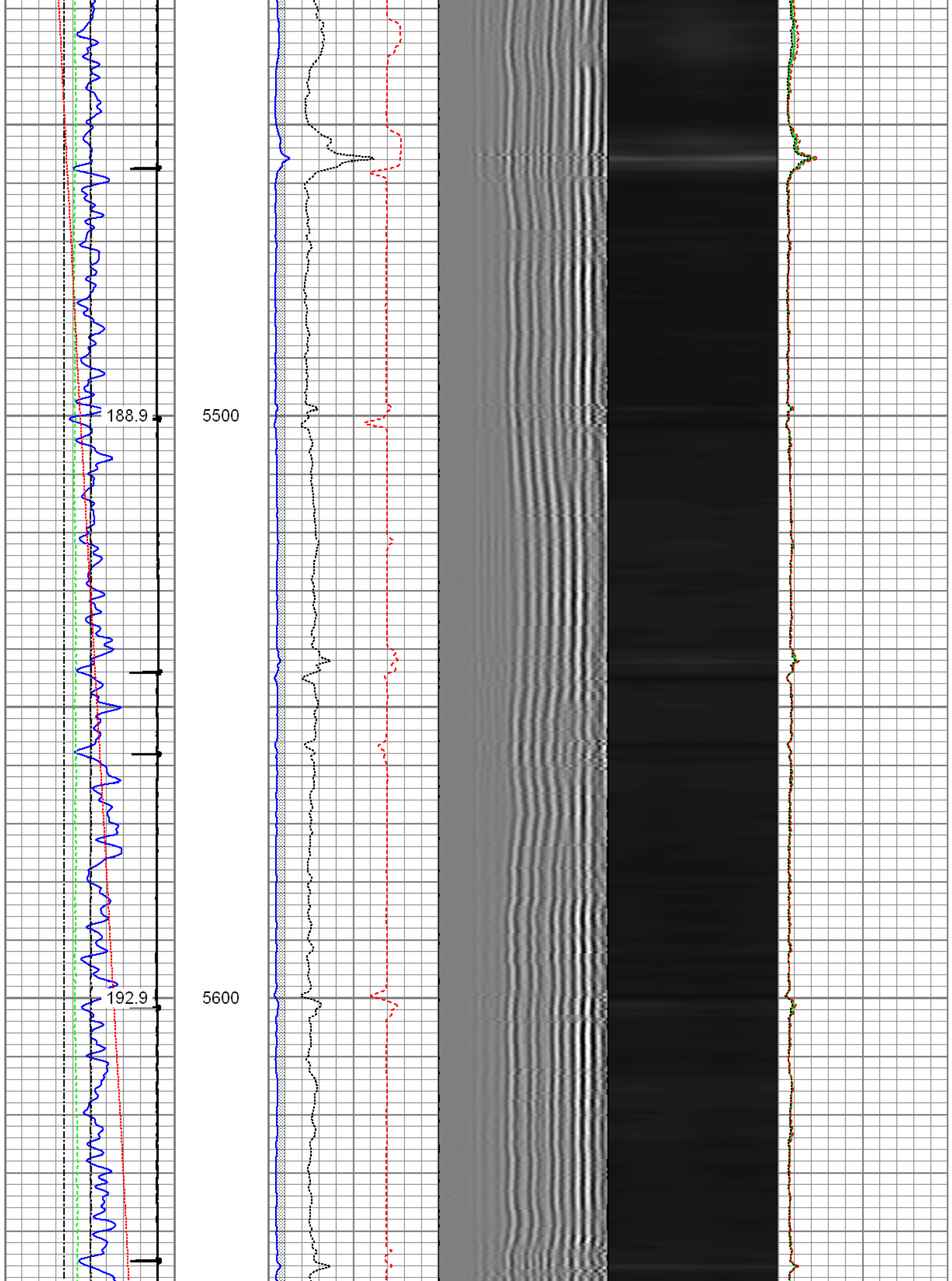


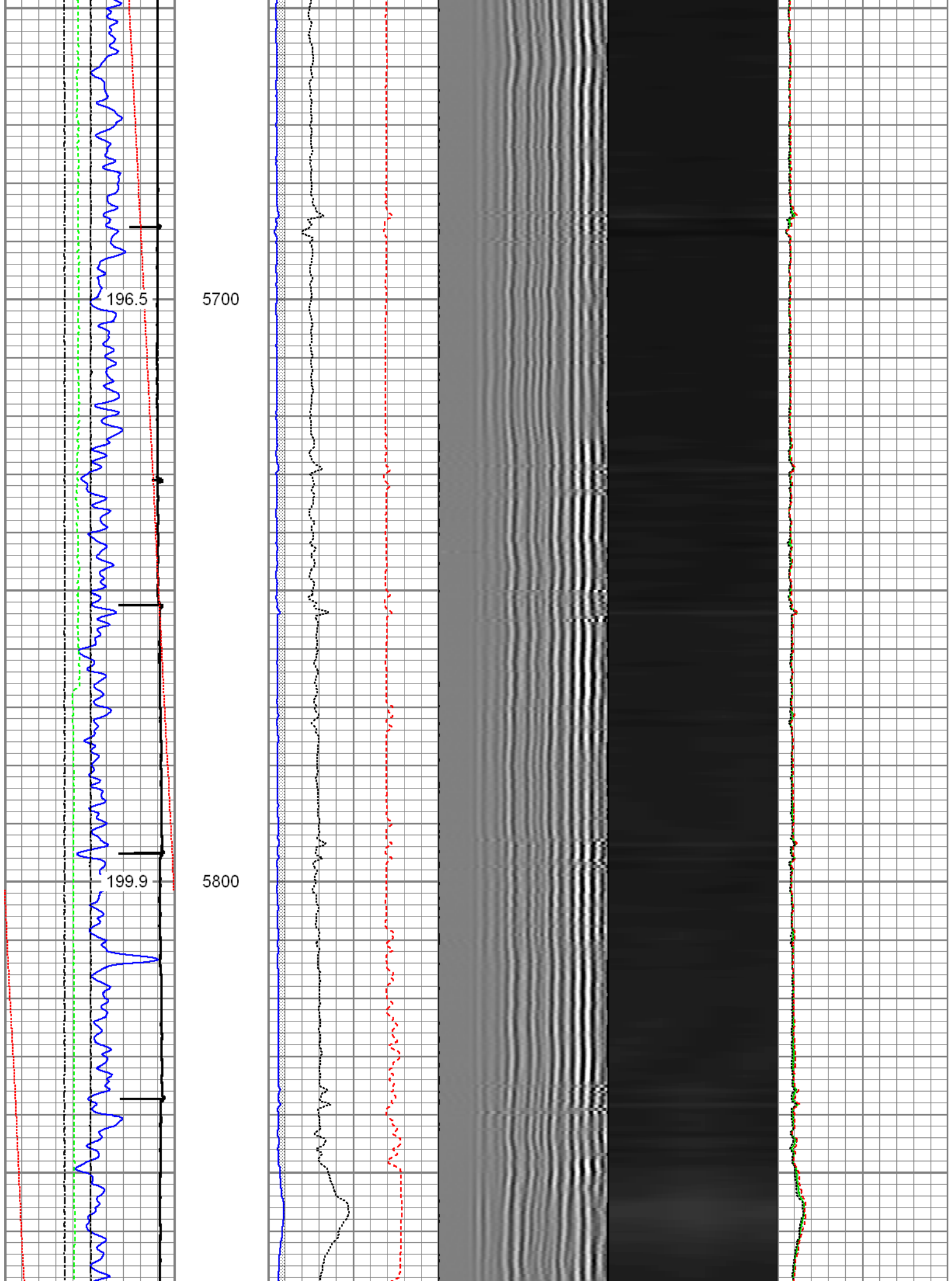


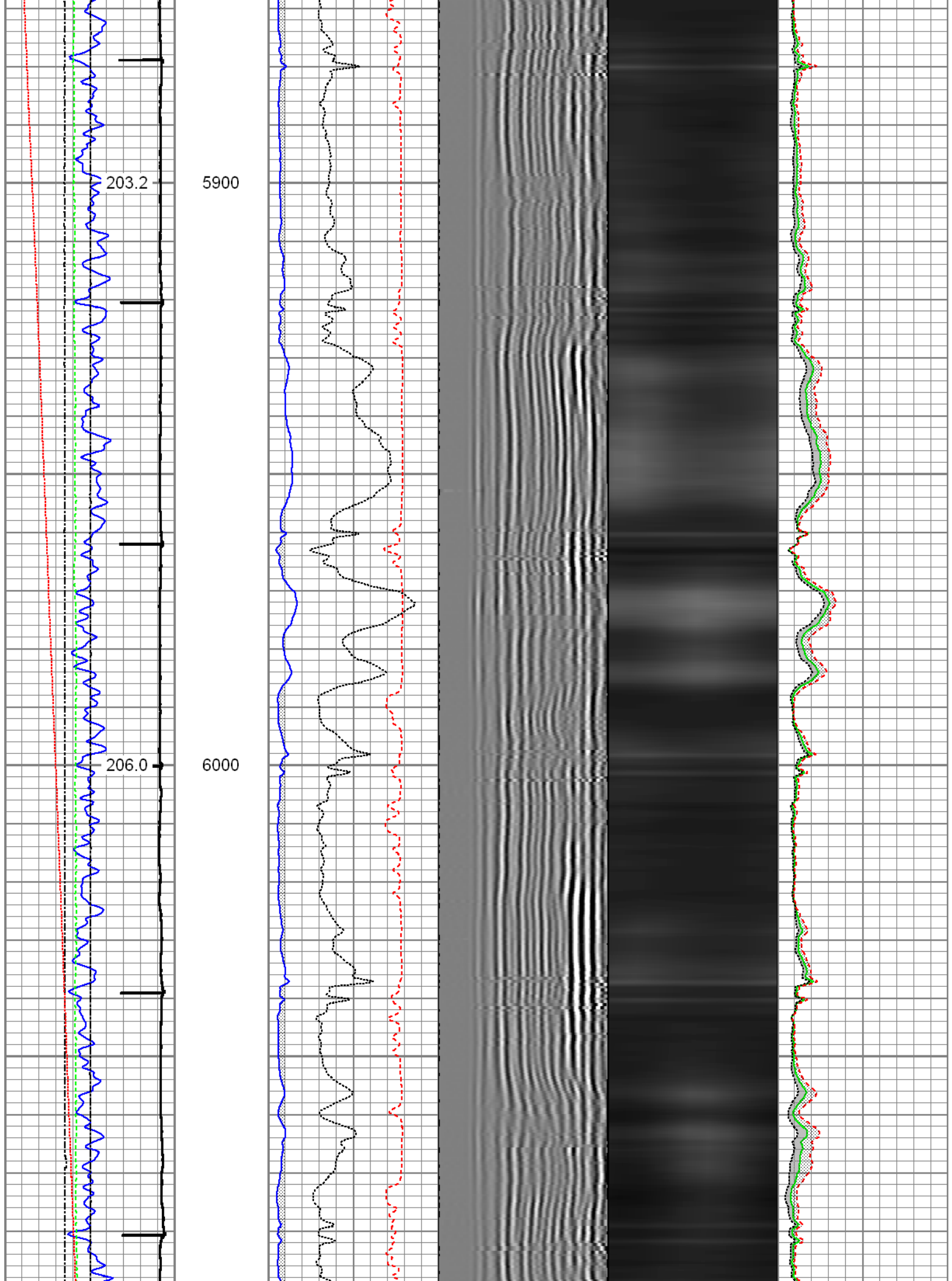
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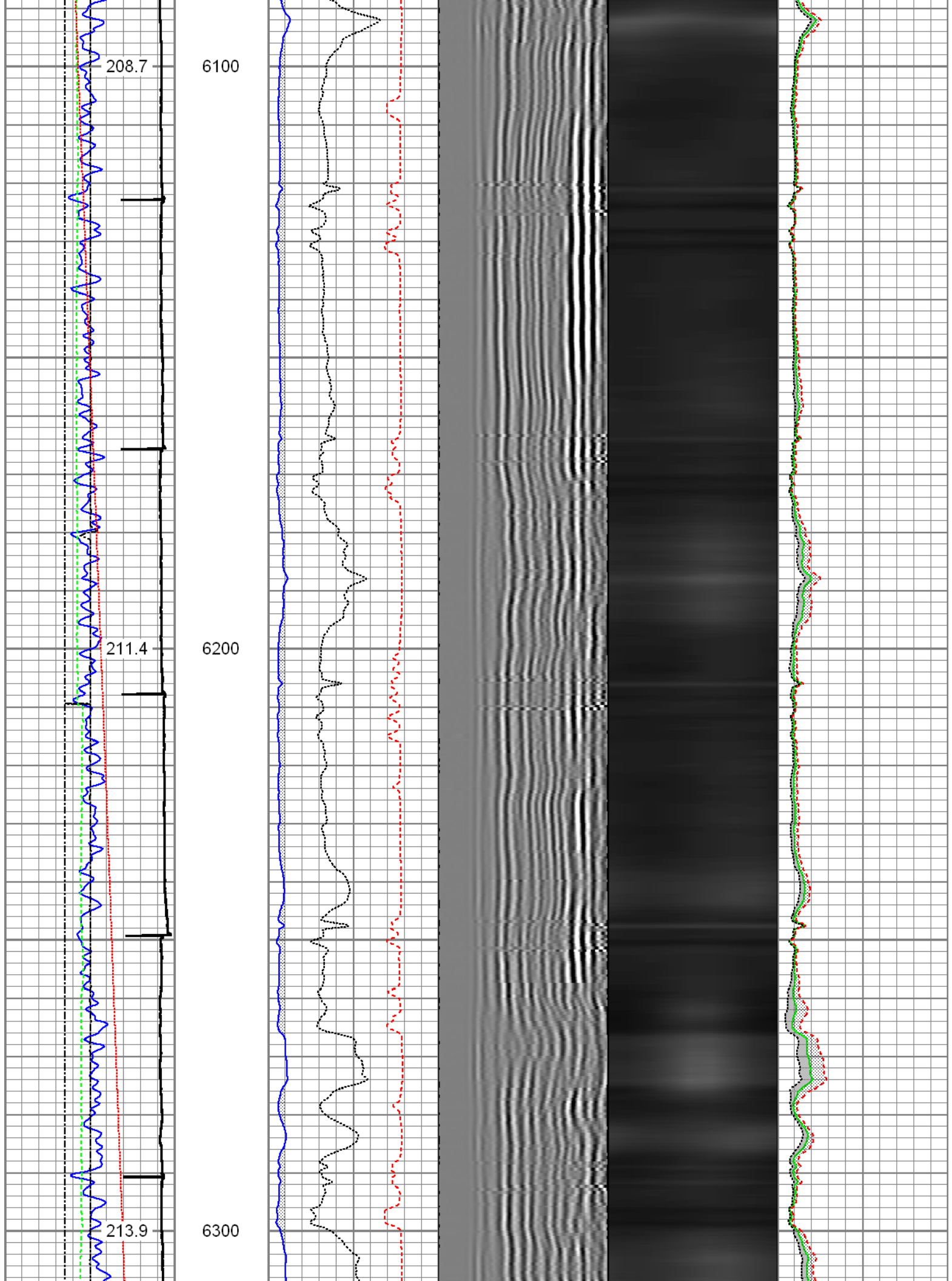
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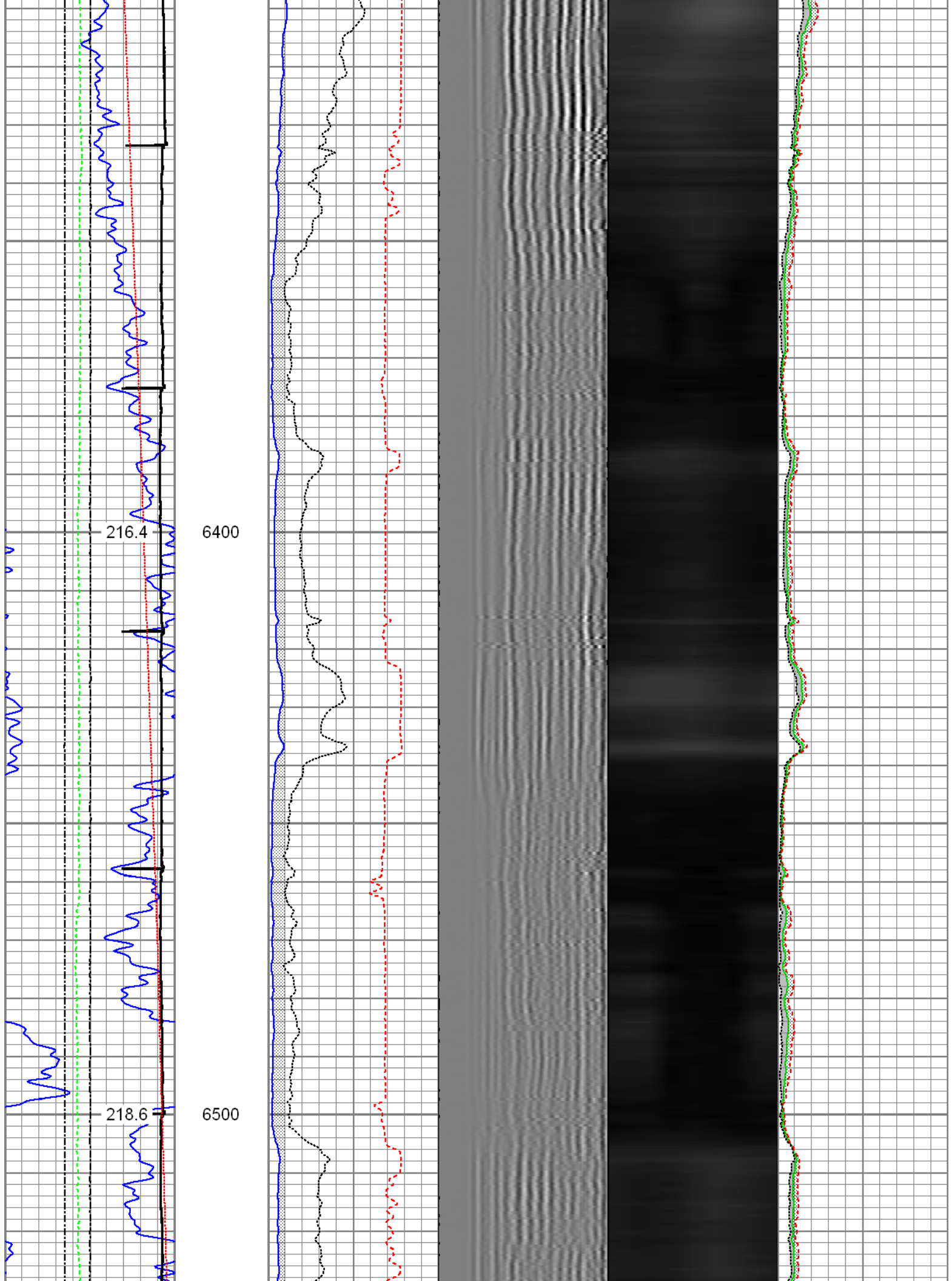


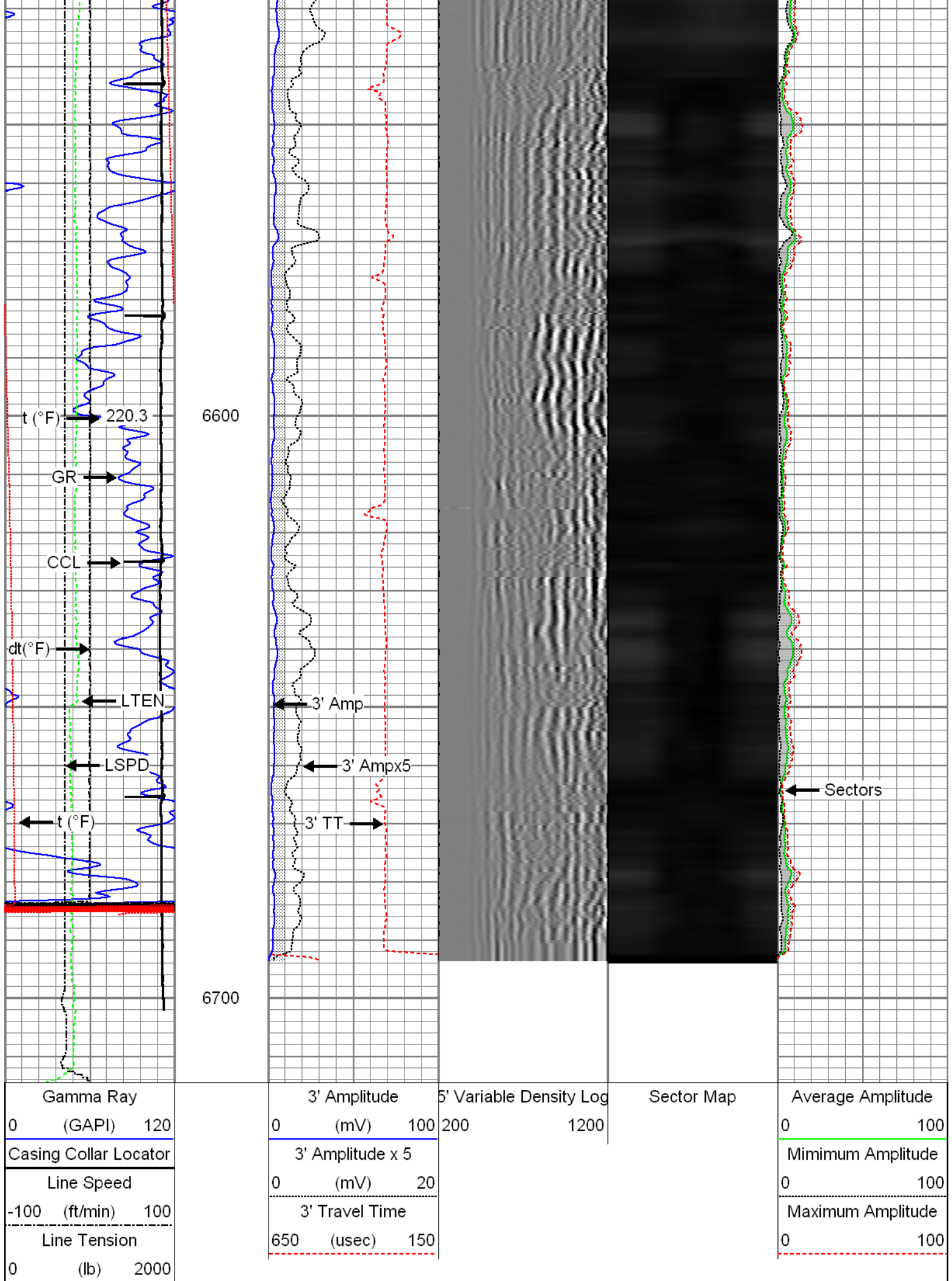













Differential Temperature		
-2	(degF)	2
Temperature		
0	(degF)	20

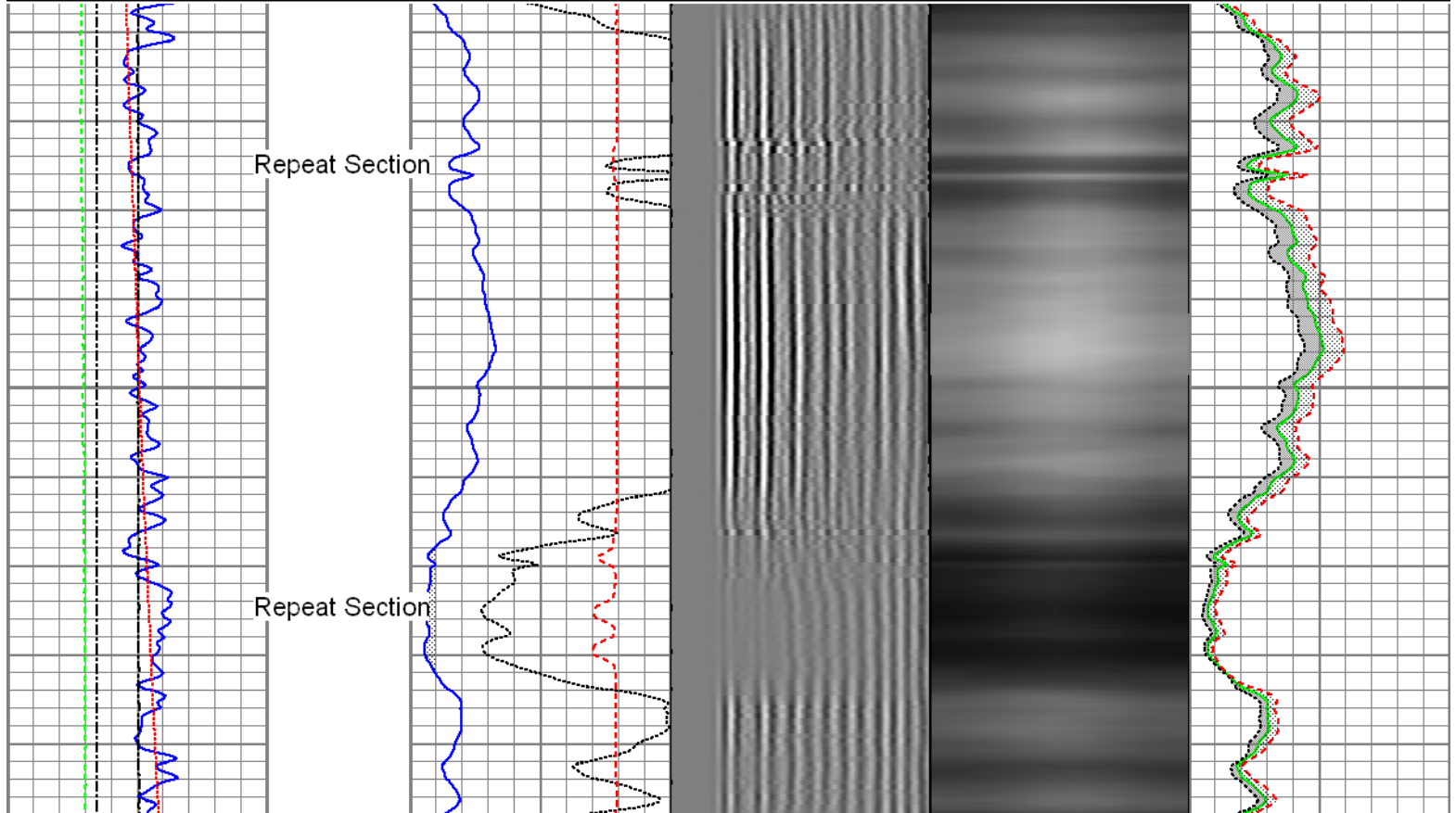


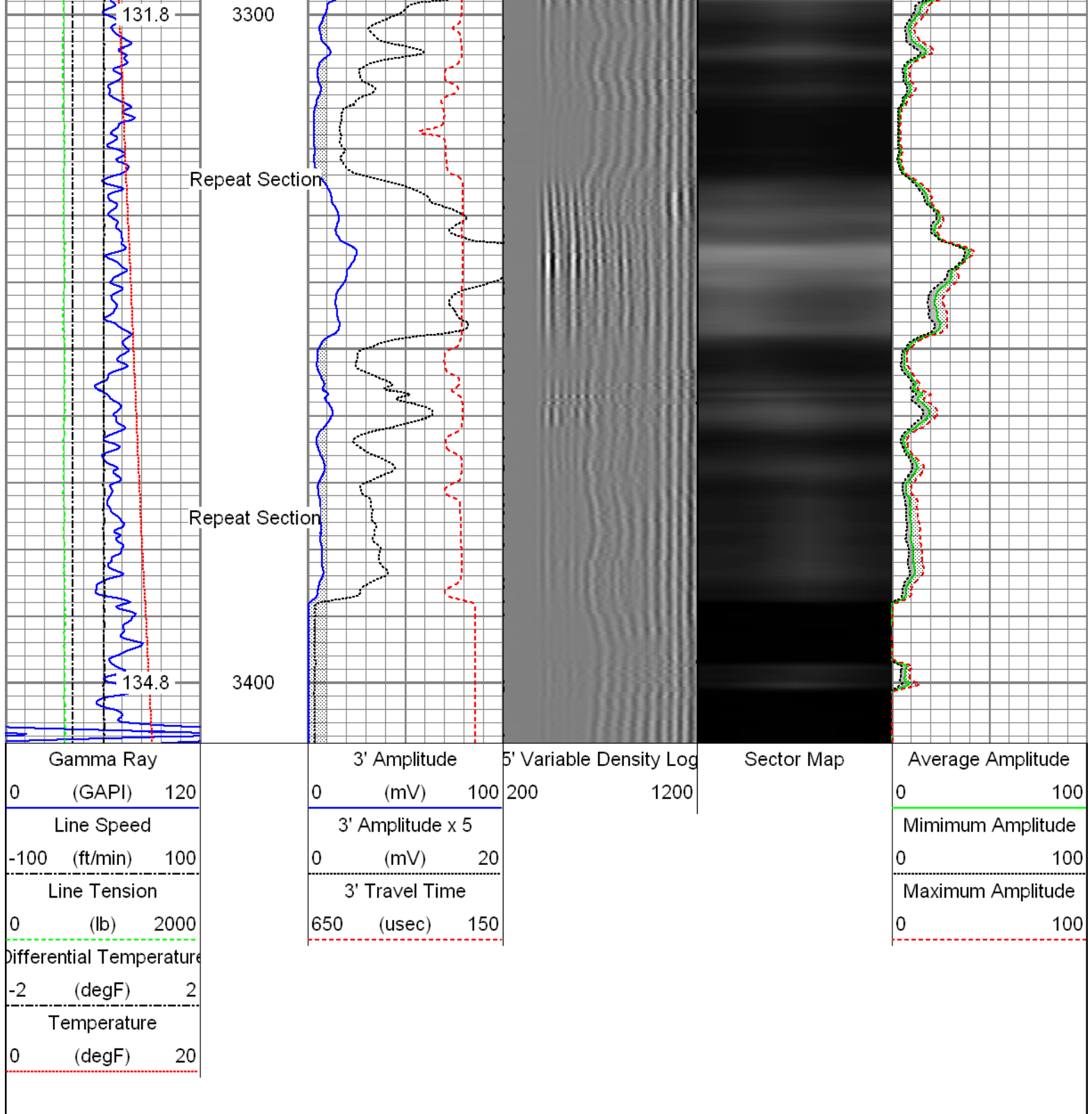
Repeat Pass

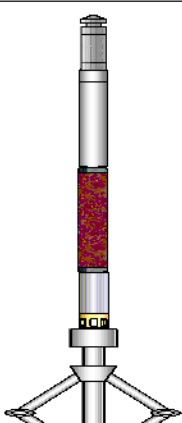
Recorded With 2500 PSI Surface Induced Pressure


Database File: processed_10-12-15_noble energy_wells ranch ae32-635_mit_rbl_cnl.db
Dataset Pathname: repeat.2
Presentation Format: rbt4_mit
Dataset Creation: Fri Oct 16 12:04:21 2015 by Calc SCH 120430
Charted by: Depth in Feet scaled 1:240

<div>Gamma Ray</div> <div>0 (GAPI) 120</div> <div>Line Speed</div> <div>-100 (ft/min) 100</div> <div>Line Tension</div> <div>0 (lb) 2000</div> <div>Differential Temperature</div> <div>-2 (degF) 2</div> <div>Temperature</div> <div>0 (degF) 20</div>	<div>3' Amplitude</div> <div>0 (mV) 100</div> <div>3' Amplitude x 5</div> <div>0 (mV) 20</div> <div>3' Travel Time</div> <div>650 (usec) 150</div>	<div>5' Variable Density Log</div> <div>200 1200</div>	<div>Sector Map</div>	<div>Average Amplitude</div> <div>0 100</div> <div>Minimum Amplitude</div> <div>0 100</div> <div>Maximum Amplitude</div> <div>0 100</div>
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Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR TEMP	30.67		T_CH14375_1_GO Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck	1.03	1.44	4.00
			UW_AGS-UW_AGS_001 (215017) Sondex Adapter - GO Box to Sondex Pin	0.21	1.69	1.00
			UW_XTU-UW_XTU_002 (211461) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
			UW_PGR-UW_PGR_020 (10024770) Production Gamma Ray	1.93	1.69	9.50
			UW_PRT-UW_PRT_016 (10025097) Platinum Resistance Thermometer	1.04	1.69	5.20
			UW_PRC #3 -UW_PRC_057 (1038)	2.98	2.75	32.00

			Sondex 2-3/4" 4-Arm Production Roller Centraliser			
WVF3FT	21.81		UW_RBT-UW_RBT_004 (10013454) Sondex Ultrawire 3-1/8" Radial Bond Tool	9.47	3.13	140.00
WVFS1	21.81					
WVFS2	21.81					
WVFS3	21.81					
WVFS4	21.81					
WVFS5	21.81					
WVFS6	21.81					
WVFS7	21.81					
WVFS8	21.81					
CBLTEMP	21.81		UW_PRC-DSSRAC (080) 2-3/4" DSS 5 Arm Roller Centralizer	2.55	2.75	32.00
CBLROT	21.81					
WVF5FT	20.81					
MIT	11.80		UW_MIT-UW_MIT40_042 (10012912) 40 Multifinger Imaging Tool	4.54	2.75	61.10
			UW_PRC #4 -UW_PRC_057 (1101) Sondex 2-3/4" 4-Arm Production Roller Centraliser	2.98	2.75	32.00
			CNL-007 (1004) Compensated Neutron Logging Tool	6.61	1.69	30.00
CNLSC	1.53					
CNSSC	1.12					
TSTAMP	0.00					
Dataset: processed_10-12-15_noble energy_wells ranch ae32-635_mit_rbl_cnl.db: field/well/run1/main3.10 Total Length: 34.92 ft Total Weight: 353.30 lb O.D. 3.13 in						

Calibration Report	
Database File:	processed_10-12-15_noble energy_wells ranch ae32-635_mit_rbl_cnl.db
Dataset Pathname:	main3.10
Dataset Creation:	Fri Oct 16 11:52:05 2015 by Calc SCH 120430
Compensated Neutron Calibration Report	
Serial Number:	1004
Tool Model:	007
Master Calibration	Tue Jun 03 14:35:57 2014

Detector		Readings	
Short Space		241.46	cps
Long Space		300.95	cps
Ratio		Measured	Reference
CNRAT Gain K		0.8150	Sleeve: 1.0000
		1.0158	

Before Survey			
Detector		Readings	
Short Space			cps
Long Space			cps
Ratio		Measured	Reference

After Survey			
Detector		Readings	
Short Space			cps
Long Space			cps
Ratio		Measured	Reference

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:			
				Mon Oct 12 08:57:58 2015			
Ring size:	4	5	6	7			
(in)							
	Sens	Sens	Sens				
Finger 01:	1027	394.0	1421	388.0	1809	410.0	2219
Finger 02:	1156	397.0	1553	388.0	1941	400.0	2341
Finger 03:	1035	404.0	1439	409.0	1848	429.0	2277
Finger 04:	1076	400.0	1476	395.0	1871	419.0	2290
Finger 05:	1086	413.0	1499	400.0	1899	416.0	2315
Finger 06:	1092	401.0	1493	401.0	1894	418.0	2312
Finger 07:	1032	390.0	1422	404.0	1826	439.0	2265
Finger 08:	1107	395.0	1502	399.0	1901	418.0	2319
Finger 09:	1069	390.0	1459	396.0	1855	414.0	2269
Finger 10:	1058	387.0	1445	393.0	1838	413.0	2251
Finger 11:	1152	401.0	1553	398.0	1951	411.0	2362
Finger 12:	1052	375.0	1427	392.0	1819	410.0	2229


Finger 13:	1083	380.0	1463	383.0	1846	400.0	2246
Finger 14:	1060	389.0	1449	394.0	1843	412.0	2255
Finger 15:	1019	393.0	1412	402.0	1814	423.0	2237
Finger 16:	1051	391.0	1442	404.0	1846	428.0	2274
Finger 17:	948	365.0	1313	384.0	1697	421.0	2118
Finger 18:	1077	372.0	1449	381.0	1830	402.0	2232
Finger 19:	1069	378.0	1447	392.0	1839	410.0	2249
Finger 20:	1027	380.0	1407	394.0	1801	428.0	2229
Finger 21:	1032	384.0	1416	392.0	1808	411.0	2219
Finger 22:	1009	388.0	1397	396.0	1793	423.0	2216
Finger 23:	1010	393.0	1403	404.0	1807	432.0	2239
Finger 24:	1050	396.0	1446	386.0	1832	399.0	2231
Finger 25:	990	387.0	1377	403.0	1780	431.0	2211
Finger 26:	1114	382.0	1496	372.0	1868	396.0	2264
Finger 27:	1055	387.0	1442	396.0	1838	422.0	2260
Finger 28:	1074	384.0	1458	378.0	1836	403.0	2239
Finger 29:	1013	396.0	1409	394.0	1803	424.0	2227
Finger 30:	1042	392.0	1434	392.0	1826	419.0	2245
Finger 31:	1098	391.0	1489	387.0	1876	408.0	2284
Finger 32:	1037	398.0	1435	399.0	1834	423.0	2257
Finger 33:	1176	395.0	1571	374.0	1945	383.0	2328
Finger 34:	1056	382.0	1438	383.0	1821	410.0	2231
Finger 35:	1032	408.0	1440	436.0	1876	432.0	2308
Finger 36:	1034	399.0	1433	398.0	1831	425.0	2256
Finger 37:	1120	401.0	1521	391.0	1912	408.0	2320
Finger 38:	1146	396.0	1542	385.0	1927	393.0	2320
Finger 39:	1157	395.0	1552	383.0	1935	396.0	2331
Finger 40:	1063	401.0	1464	400.0	1864	415.0	2279

Segmented Cement Bond Log Calibration Report						
Serial Number:		10013454				
Tool Model:		UW_RBT_004				
Calibration Casing Diameter:		5.500	in			
Calibration Depth:		-103.369	ft			
Master Calibration, performed Fri Oct 16 11:52:03 2015:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.002	0.747	0.800	67.000	88.767	0.660
5FT	-0.003	0.848	0.800	67.000	77.796	1.009
S1	0.004	0.700	0.000	100.000	143.523	-0.515
S2	0.003	0.726	0.000	100.000	138.199	-0.370
S3	0.003	0.732	0.000	100.000	137.312	-0.479
S4	0.002	0.725	0.000	100.000	138.302	-0.217
S5	0.001	0.703	0.000	100.000	142.441	-0.136
S6	0.000	0.687	0.000	100.000	145.705	-0.037
S7	0.001	0.668	0.000	100.000	149.976	-0.165
S8	0.001	0.676	0.000	100.000	148.178	-0.150

Temperature Calibration Report						
Serial Number:				10025097		
Tool Model:				UW_PRT_016		
Performed:				Wed Feb 11 13:44:44 2015		
Point #		Reading		Reference		
1		13053.00	cps	68.00	degF	
2		18014.00	cps	104.00	degF	
3		29668.00	cps	176.00	degF	

4	41181.00	cps	248.00	degF
5	52983.00	cps	320.00	degF
6	58931.00	cps	356.00	degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

Gamma Ray Calibration Report				
Serial Number:	10024770			
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	Noble Energy Inc.
	Well	Wells Ranch AE32-635
	Field	Wattenberg
	County	Weld
	State	Colorado